

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT  
Pursuant to Section 13 or 15(d) of the  
Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): October 9, 2023

**Bionano Genomics, Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of incorporation)

**001-38613**  
(Commission File Number)

**26-1756290**  
(IRS Employer Identification No.)

**9540 Towne Centre Drive, Suite 100**  
**San Diego, California**  
(Address of principal executive offices)

**92121**  
(Zip Code)

Registrant's telephone number, including area code: **(858) 888-7600**

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.0001 par value per share	BNGO	The Nasdaq Stock Market LLC

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

*Securities Purchase Agreement*

On October 11, 2023, Bionano Genomics, Inc. (the “Company,” “we,” “us,” and “our”) entered into a securities purchase agreement (the “Purchase Agreement”) with High Trail Special Situations LLC (the “Purchaser”) pursuant to which the Company agreed to issue and sell, (i) in a registered offering by the Company directly to the Purchaser (the “Offering”) (a) \$45.0 million aggregate principal amount of senior secured convertible notes due 2025 (the “Registered Notes”) initially convertible by the Purchaser into 15,713,663 shares of the Company’s common stock and (b) warrants to purchase up to 21,660,650 shares of the Company’s common stock (the “Registered Warrants”), and (ii) in a concurrent private placement (the “Private Placement”), \$35.0 million aggregate principal amount of senior secured convertible notes due 2025 initially convertible by the Purchaser into 12,221,738 shares of the Company’s common stock (the “Private Placement Notes” and together with the Registered Notes, the “Notes”). Pursuant to the Purchase Agreement, the Company also granted the Purchaser an option to purchase up to an additional \$25.0 million aggregate principal amount of Private Placement Notes initially convertible into 8,729,813 shares of the Company’s common stock (the “Subsequently Purchased Notes”) and warrants (the “Private Placement Warrants” and together with the Registered Warrants, the “Warrants”) to purchase up to 6,768,953 shares of the Company’s common stock in a subsequent private placement on the same terms as the Notes and the Registered Warrants (any such subsequent private placement, a “Subsequent Private Placement”). The Offering and Private Placement are expected to close on October 13, 2023, subject to customary closing conditions.

The Company estimates that the net proceeds from the sale of the Notes and the Registered Warrants will be approximately \$75.6 million, after deducting the estimated Offering and Private Placement expenses payable by the Company and the fee of the Placement Agents (as defined below) in connection with the closing of the Offering and the Private Placement (the “Initial Closing”). Following the Initial Closing, the Company plans to use such net proceeds and the net proceeds from any Subsequent Private Placement, together with its existing cash and cash equivalents and available-for-sale securities, for working capital and general corporate purposes, including research and development expenses and capital expenditure. The Purchaser will be entitled to certain registration rights with respect to the Private Placement Notes and the Private Placement Warrants. The Purchase Agreement provides that for 30 calendar days after the effectiveness of the resale registration statement registering the Private Placement Notes, the Private Placement Warrants and the shares issuable upon conversion or exercise, as applicable, thereof, neither the Company nor any of its subsidiaries may directly or indirectly issue, offer, sell, grant any option or right to purchase, or otherwise dispose of (or register or amend any outstanding registration statements or file any shelf registration statements or announce any issuance, offer, sale, grant of any option or right to purchase or other disposition of) any equity security or any equity-linked or related security, subject to limited exceptions, including without limitation, sales pursuant to an “at-the-market” sales program (an “ATM Sales Program”).

So long as the Notes are outstanding, the Purchase Agreement provides that the Company will not, directly or indirectly, offer, sell, grant any option to purchase, or otherwise dispose of (or announce any offer, sale, grant or any option to purchase or other disposition of) any of its or any of its subsidiaries’ equity, equity-linked, equity equivalent securities or securities convertible into or exercisable for equity (excluding offerings of common stock issued pursuant to an equity line of credit or through an ATM Sales Program (other than an issuance through an ATM Sales Program in which a single investor or group of related investors purchase in excess of \$3,000,000 of common stock)) unless the Company offers certain participation rights to the holders of the Notes as set forth in the Securities Purchase Agreement, subject to limited exceptions.

In addition, so long as any Notes remain outstanding, the Purchase Agreement provides that the Company and each of its subsidiaries may not effect or enter into any “Variable Rate Transaction.” “Variable Rate Transaction” is generally defined to mean a transaction involving the issuance of convertible securities with a conversion price, exercise price or exchange rate or other price that is based on trading prices of the Company’s common stock or varies based on changes in the trading price of the Company’s common stock or is subject to being reset at a future date upon the occurrence of specified or contingent events (not including customary structural adjustments). Sales of our common stock pursuant to an approved equity line of credit or an ATM Sales Program will not be considered Variable Rate Transactions.

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The Purchase Agreement contains customary representations, warranties, covenants and agreements by the Company, conditions to closing, termination provisions and indemnification obligations.

The offering of the Registered Notes and Registered Warrants is being made pursuant to an effective shelf registration statement on Form S-3 filed with the U.S. Securities and Exchange Commission (“SEC”) on March 10, 2023 and declared effective by the SEC on May 10, 2023 (File No. 333-270459), including the prospectus supplement, dated October 11, 2023, filed by the Company with the SEC pursuant to Rule 424(b) under the Securities Act of 1933, as amended (the “Securities Act”). The Private Placement Notes to be issued in the Private Placement have not been registered under the Securities Act, or the securities laws of any state or other jurisdiction in the United States, and may not be offered, pledged, sold, delivered or otherwise transferred, directly or indirectly, in the United States except pursuant to registration under the Securities Act or an applicable exemption from the registration requirements of the Securities Act and, in each case, in compliance with other applicable securities laws.

A copy of the Purchase Agreement is included in this Current Report on Form 8-K as Exhibit 10.1 and is incorporated herein by reference. The foregoing description of the terms of the Purchase Agreement in this report are qualified in its entirety by reference to Exhibit 10.1.

#### *Placement Agent Agreement*

Cowen and Company, LLC and Stifel, Nicolaus & Company, Incorporated acted as co-lead placement agents. BTIG, LLC acted as placement agent (collectively, the “Placement Agents”) for the Offering and the Private Placement. On October 11, 2023, the Company entered into a placement agent agreement (the “Placement Agent Agreement”) with the Placement Agents pursuant to which the Company agreed to pay the Placement Agents a cash fee equal (i) \$2.7 million and (ii) for any Subsequent Private Placement, 6.0% of the gross proceeds from the sale of the Subsequently Purchased Notes and Private Placement Warrants in such Subsequent Private Placement. The Placement Agent Agreement contains customary representations, warranties and agreements by the Company and indemnification obligations.

#### *Senior Secured Convertible Notes*

The Notes will not bear regular interest and will mature on September 1, 2025 (the “Maturity Date”), unless earlier repurchased, redeemed or converted. The Notes will be sold at an issue price of 100% of their principal amount, and when the Company repays principal of the Notes at maturity pursuant to the terms of the Notes, it will be required to pay 115% of the principal amount repaid (the “Repayment Price”). Holders of the Notes will have the option to partially redeem a portion of the principal amount of the Notes on the first day of each month beginning on November 1, 2023 (a “Partial Redemption Date”), at the Repayment Price. On the earlier to occur of (i) the date that no principal amount remains outstanding or (ii) the Maturity Date, the Company will be required to pay by wire transfer of immediately available funds a fee to the holders of the Notes equal to the product of (x) with respect to the Registered Notes, (a) \$2,812,500 multiplied by (b) a fraction, whose numerator is an amount equal to \$45,000,000 less the aggregate principal amount of such Registered Notes converted into shares of the Company’s common stock, and whose denominator is \$45,000,000; (y) with respect to the Private Placement Notes, (a) \$2,187,500 multiplied by (b) a fraction, whose numerator is an amount equal to \$35,000,000 less the aggregate principal amount of such Private Placement Notes converted into shares of the Company’s common stock, and whose denominator is \$35,000,000; and (z) with respect to any Subsequently Purchased Notes, (a) an amount equal to 6.25% of the initial principal amount of such Subsequently Purchased Notes multiplied by (b) a fraction, whose numerator is an amount equal to the initial principal amount of such Subsequently Purchased Notes less the aggregate principal amount of such Subsequently Purchased Notes converted into shares of the Company’s common stock, and whose denominator is an amount equal to the initial principal amount of such Subsequently Purchased Notes. \$35,000,000 of the aggregate purchase price of the Notes will be deposited into a bank account subject to a “holder directed” account control agreement that does not provide the Company or its subsidiaries access to the amounts in such account and only permits funds to be released from such account not more than once per calendar month upon the satisfaction of certain funding conditions specified in the Notes.

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Holders of the Notes will be permitted to convert their Notes into shares of the Company's common stock at any time prior to the close of business on the second scheduled trading day (or, if earlier, the standard settlement period for the primary eligible exchange (measured in terms of trading volume for the Company's common stock) on which the common stock is traded) immediately before the Maturity Date. The initial conversion rate for the Notes will be 349.1925 shares of the Company's common stock per \$1,000 principal amount of Notes, equivalent to an initial conversion price of approximately \$2.8638 per share of the Company's common stock. The conversion rate will be subject to customary anti-dilution adjustments and adjustments for certain corporate events. Subject to certain conditions, at the Company's option, the Company can require conversion of all, but not less than all, the Notes if the last reported sale price of its common stock exceeds 175% of the conversion price for at least 20 VWAP trading days (as defined in the Notes) in any 30 consecutive trading day period.

Subject to terms, conditions and certain exceptions set forth in the Notes, the Company will have the right to redeem all (but not less than all) of the then outstanding principal amount of the Notes for a cash redemption price equal to the greater of (A) 120% of the outstanding principal amount of the Notes, plus accrued and unpaid interest; and (B) the sum of (i) 120% of the product of (a) the applicable conversion rate; (b) the total then outstanding principal amount (expressed in thousands) of the Notes; and (c) the highest daily volume weighted average price ("VWAP") per share of the Company's common stock during the period beginning on, and including, the fifth VWAP trading day prior to the date that the redemption notice is delivered and ending on, and including, the VWAP trading day immediately preceding the redemption date; and (ii) the accrued and unpaid interest on the Notes.

Holders of the Notes may require the Company to repurchase the Notes upon a fundamental change (as defined in the Notes) for a cash amount equal to the greater of (A) 115% of the outstanding principal amount of the Notes to be repurchased, plus accrued and unpaid interest on such Notes; and (B) the sum of (i) 115% of the product of (a) the applicable conversion rate; (b) the total then outstanding principal amount (expressed in thousands) of the Notes to be repurchased; and (c) the average of the five Daily VWAPs per share of the Company's common stock during the five consecutive VWAP trading days ending on, and including, the VWAP trading day immediately preceding the effective date of such fundamental change; and (ii) accrued and unpaid interest on such Notes.

The Notes will be secured by a first-priority lien, subject only to certain permitted liens, on substantially all of the Company's and its subsidiaries' (other than certain foreign subsidiaries) tangible and intangible assets, whether now owned or hereafter acquired (other than certain excluded property).

The Notes will be the Company's senior secured obligations, will rank pari passu with any Subsequently Purchased Notes, senior in right of payment to all of the Company's indebtedness that is expressly subordinated to the Notes in right of payment, effectively senior to all of the Company's unsecured indebtedness to the extent of the collateral securing the Notes, effectively junior to all of the Company's indebtedness secured by permitted liens, to the extent of the value of the assets subject to such permitted liens and to the extent such permitted liens have lien priority by contract or law and structurally junior to all indebtedness and other liabilities (including trade payables) of the Company's subsidiaries that are not party to the security documents. The Notes include customary covenants, including certain minimum liquidity requirements, certain cash spending restrictions, and requirements related to the accessibility of an ATM Sales Program or equity line of credit. The Notes also set forth certain events of default after which the Notes may be declared immediately due and payable and sets forth certain types of bankruptcy or insolvency events of default involving the Company and its subsidiaries after which the Notes become automatically due and payable. The following events are considered "events of default" under the Notes:

- a default in the payment when due of any partial redemption payment (as defined in the Notes) (or applicable portion thereof), principal amount, maturity principal amount (as defined in the Notes), fundamental change repurchase price (as defined in the Notes), or the retirement fee (as defined in the Notes);
  - a default in the Company's obligation to issue shares of its common stock within three trading days of the applicable conversion settlement date;
  - a default in the Company's obligation to timely deliver a notice of a fundamental change or a compliance certificate (as defined in the Notes), and such default continues for three business days, or the delivery of a materially false or inaccurate notice of a fundamental change, conversion notice, a compliance certificate, restricted cash request (as defined in the Notes) or notice of the Company's intent to exercise an optional redemption;
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- a default in the Company's obligation to timely deliver a notice of an event of default or the delivery of a materially false or inaccurate certification as to whether an event of default has occurred or whether the conditions pertaining to a forced conversion or optional redemption have been satisfied;
  - certain defaults in the performance of any of the Company's obligations or agreements under the Notes or the other transaction documents related to the Notes, or a breach of any representation or warranty in any material respect (other than representations or warranties subject to material adverse effect or materiality, which may not be breached in any respect) of any transaction document as of the date when made (except for representations and warranties that speak as of a specific date, which shall be true and correct as of such specific date); provided, however, that if such default or breach can be cured, then such default or breach will not be an event of default unless the Company has failed to cure such default within 20 days after its occurrence;
  - any provision of any transaction document related to the Notes at any time for any reason (other than pursuant to the express terms thereof) ceases to be valid and binding on or enforceable against the parties thereto, or the validity or enforceability thereof is contested, directly or indirectly, by the Company or any of its subsidiaries, or a proceeding is commenced by us or any of our subsidiaries or any governmental authority having jurisdiction over any of them, seeking to establish the invalidity or unenforceability thereof;
  - the Company fails to comply with certain specified covenants;
  - the suspension from trading or failure of the Company's common stock to be trading or listed on the Company's primary eligible exchange (as defined in the Notes) (measured in terms of trading volume for the Company's common stock) on which the Company's common stock is traded for a period of five consecutive trading days;
  - (i) the Company's failure or the failure of any of the Company's subsidiaries to pay when due or within any applicable grace period any of the Company's or such subsidiary's indebtedness having an individual principal amount in excess of at least \$250,000 (or its foreign currency equivalent) in the aggregate; or (ii) the occurrence of any breach or default under any terms or provisions of any of the Company's or any of the Company's subsidiaries' other indebtedness of at least \$250,000 (or its foreign currency equivalent) in the aggregate, if the effect of such failure or occurrence is to cause or to permit the holder or holders of any such indebtedness, to cause, indebtedness having an individual principal amount in excess of \$250,000 to become or be declared due prior to its stated maturity;
  - one or more final judgments, orders or awards (or any settlement of any litigation or other proceeding that, if breached, could result in a judgment, order or award) for the payment of at least \$250,000 (or its foreign currency equivalent) in the aggregate (excluding any amounts covered by insurance pursuant to which the insurer has been notified and has not denied coverage), is rendered against the Company or the Company's subsidiaries and remains unsatisfied and (i) enforcement proceedings shall have been commenced by any creditor upon any such judgment, order, award or settlement or (ii) there shall be a period of 15 consecutive trading days after entry thereof during which (A) a stay of enforcement thereof is not in effect or (B) the same is not vacated, discharged, stayed or bonded pending appeal;
  - the Company fails to timely file its quarterly reports on Form 10-Q or its annual reports on Form 10-K with the SEC in the manner and within the time periods required by the U.S. Securities Exchange Act of 1934, as amended ("Exchange Act") (it being understood that such time periods include any permitted filing deadline extension under Rule 12b-25 under the Exchange Act), or (B) the Company withdraws or restates (solely with respect to a "Big R" Restatement and not a "little r" restatement) any such quarterly report or annual report previously filed with the SEC or (C) the Company at any time ceases to satisfy the eligibility requirements set forth under Section I.A of the General Instructions to Form S-3;
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- any security document related to the Notes shall for any reason fail or cease to create a separate valid and perfected and, except to the extent permitted by the terms of the Notes or thereof, first priority lien on the collateral securing the Notes, in each case, in favor of the collateral agent in accordance with the terms thereof, or any material provision of any such security document shall at any time for any reason cease to be valid and binding on or enforceable against the Company or the validity or enforceability thereof shall be contested by any party thereto, or a proceeding shall be commenced by the Company or any governmental authority having jurisdiction over the Company, seeking to establish the invalidity or unenforceability thereof;
- (A) any material damage to, or loss, theft or destruction of, any material portion of the collateral securing the Notes (provided that any damage, loss, theft or destruction of such collateral that reduces the value of such collateral by \$500,000 or more shall be deemed to be material), whether or not insured, or (B) any strike, lockout, labor dispute, embargo, condemnation, act of God or public enemy, or other casualty which causes, for more than 15 consecutive days, the cessation or substantial curtailment of revenue producing activities at any facility of the Company or any subsidiary of the Company, if in each case ((A) and (B)) any such event or circumstance could reasonably be expected to have a material adverse effect (as defined in the Purchase Agreement);
- with respect to the Registered Notes, at any time any shares of the Company's common stock issuable pursuant to the Notes are not freely tradable (as defined in the Notes);
- certain events of bankruptcy, insolvency or reorganization of the Company or any of the Company's significant subsidiaries; or
- with respect to the Private Placement Notes, the Company fails to remove any restrictive legend on any certificate or any shares of the Company's common stock issued to the holder pursuant to any Securities (as defined in the Purchase Agreement) acquired by the holder under the Purchase Agreement (including the Private Placement Notes) as and when required by such Securities or the Purchase Agreement, unless otherwise then prohibited by applicable federal securities laws and such failure continues for more than five trading days.

A copy of the form of Note is included in this Current Report on Form 8-K as Exhibit 4.1 and is incorporated herein by reference. The foregoing description of the terms of the Note in this report is qualified in its entirety by reference to Exhibit 4.1.

#### *Warrants*

Each Warrant will be exercisable for one share of the Company's common stock with an exercise price of \$3.1855 per share and will expire on the fifth anniversary of the date of issuance. Each Warrant is immediately exercisable upon issuance, provided that the holder will be prohibited, subject to certain exceptions, from exercising the Warrant for shares of the Company's common stock to the extent that immediately after giving effect to such exercise, the holder, together with its affiliates and other attribution parties, would own more than 4.99% of the total number of shares of the Company's common stock then issued and outstanding, which percentage may be changed at the holders' election to a higher or lower percentage not in excess of 9.99% upon 61 days' notice to us subject to the terms of the Warrants.

A copy of the form of Warrant is included in this Current Report on Form 8-K as Exhibit 4.2 and is incorporated herein by reference. The foregoing description of the terms of the Warrant in this report is qualified in its entirety by reference to Exhibit 4.2.

#### **Item 2.02. Results of Operations and Financial Condition.**

On October 11, 2023, the Company issued a press release announcing certain preliminary performance results for the third quarter of 2023. A copy of the press release is attached hereto as Exhibit 99.1 and incorporated herein by reference.

The information in this Item 2.02 and the related exhibit are being furnished and shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or incorporated by reference in any filing under the Securities Act or the Exchange Act whether made before or after the date of this report, except as shall be expressly set forth by specific reference in such a filing.

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**Item 2.03      Creation of a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement of a Registrant.**

The information required by this Item 2.03 relating to the Notes is set forth under Item 1.01 of this Current Report on Form 8-K and is incorporated herein by reference.

**Item 2.05      Costs Associated with Exit or Disposal Activities.**

On October 9, 2023, the Company committed to a corporate reorganization plan, including a reduction in force (the "Reduction") intended to decrease expenses and maintain a streamlined organization to support key clinical programs that are expected to drive long-term growth. As part of the Reduction, the Company expects to reduce its overall headcount by approximately 66 employees, which represents 17% of its full-time employees. Along with other planned cost-saving measures, including reducing facility costs and discretionary spending unrelated to headcount and combined with the cost savings from the reduction in force the Company initiated in May 2023, the Reduction is expected to provide annual savings of non-GAAP total expenses, excluding stock-based compensation, of approximately \$33.0 million starting in 2024. This is comprised of an expected reduction on an annualized basis starting in 2024 in non-GAAP operating expenses of approximately \$31.6 million, excluding savings in stock-based compensation, and an expected reduction in cost of goods sold of approximately \$1.4 million. The Company expects to incur non-recurring charges of approximately \$0.8 million to \$1.0 million related to the Reduction, consisting primarily of cash severance payments, employee benefits and related costs. Of the total charges, substantially all charges are expected to be future cash expenditures. The Company expects the Reduction will be substantially completed by the end of the fourth quarter of 2023.

The estimates of the charges that the Company expects to incur in connection with the Reduction, and the timing thereof, are subject to a number of assumptions and actual amounts may differ materially from estimates. In addition, the Company may incur other charges or cash expenditures not currently contemplated due to unanticipated events that may occur, including in connection with the implementation of the Reduction.

**Non-GAAP Financial Measure**

We refer to non-GAAP total expenses and non-GAAP operating expenses in this report but we do not provide guidance for the most directly comparable GAAP measures, total expenses and operating expenses, and similarly we cannot provide a reconciliation between our most directly comparable GAAP measures, total expenses and operating expenses without unreasonable effort due to the unavailability of reliable estimates for certain components including stock-based compensation, which are not within our control and may vary greatly between periods and could significantly impact our financial results calculated in accordance with GAAP.

**Item 3.02      Unregistered Sales of Equity Securities.**

The information required by this Item 3.02 relating to the Private Placement Notes and the shares of common stock underlying the Private Placement Notes is set forth under Item 1.01 of this Current Report on Form 8-K and is incorporated herein by reference. The Private Placement Notes and the shares of common stock underlying the Private Placement Notes were issued in reliance upon Rule 506 of Regulation D promulgated under the Securities Act, as a transaction not requiring registration under the Securities Act and was made without general solicitation or advertising. Pursuant to the Purchase Agreement, the Purchaser represented that it is an accredited investor and that it is acquiring the securities for investment purposes only and not with a view to any resale, distribution or other disposition of such securities in violation of the Securities Act.

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On October 11, 2023, the Company issued a press release announcing the pricing of the Offering and the Private Placement. A copy of the press release is attached hereto as Exhibit 99.2.

As of June 30, 2023, the Company had \$77.1 million in cash, cash equivalents and short-term investments. Based on the Company's current business plans, the Company believes that the net proceeds from the Offering and Private Placement, together with its existing cash, cash equivalents and short-term investments, will be sufficient to fund its operating expenses and capital expenditure requirements through at least 2024. However, this estimate assumes the inclusion of \$35.0 million that the Company is required to hold as restricted cash in an account control agreement under the terms of the Purchase Agreement, which the Company is only able to access upon meeting certain funding conditions as described in the Purchase Agreement and the Notes, including (1) having an average daily dollar trading volume of its common stock of at least \$3,500,000 during the ten trading days prior to each of the date on which a Restricted Cash Request (as defined in the Notes) is delivered and the Restricted Cash Release Date (as defined in the Notes) to which such Restricted Cash Request relates and (2) certain indebtedness, as provided in the Notes, being less than 25% of the Company's daily market capitalization as calculated on each trading day during the 20 consecutive trading day period ending on the trading day immediately prior to the Restricted Cash Release Date. The Company expects these funding conditions may be difficult to achieve, and there is no assurance that the Company will be able to meet these funding conditions and access such restricted cash. Excluding this amount of restricted cash, the Company expects that the net proceeds from the Offering and Private Placement, together with its existing cash, cash equivalents and short-term investments will only be sufficient to fund its operating expenses and capital expenditure requirements through at least into the third quarter of 2024.

In either situation described above, the net proceeds from the Offering and Private Placement, together with the Company's existing cash and cash equivalents and available-for-sale securities, will not be sufficient for the Company to achieve cash-flow break even and the Company expects to need to seek additional capital based on favorable market conditions or strategic considerations alternatives in the future. The Company has based this estimate on assumptions that may prove to be wrong, and it could use its capital resources sooner than it currently expects, requiring the Company to seek additional funds sooner than planned, through public or private equity or debt financings or other sources, such as strategic collaborations.

The information in this Item 7.01 and the related exhibit are being furnished and shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or incorporated by reference in any filing under the Securities Act or the Exchange Act whether made before or after the date of this report, except as shall be expressly set forth by specific reference in such a filing.

### **Forward-Looking Statements**

This Current Report on Form 8-K contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 that involve risks and uncertainties. Words such as "believe," "can," "could," "may" "potential" and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances and the negatives thereof) convey uncertainty of future events or outcomes and are intended to identify these forward-looking statements. Forward-looking statements include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, the preliminary measures of our financial performance for the third quarter of 2023, statements regarding the anticipated cash runway including and excluding the amounts held as restricted cash, statements regarding the anticipated charges and cost savings in connection with the Reduction, the timing and process for completion of the Reduction and the Company's ability to decrease expenses, maintain a streamlined organization to support key clinical programs, and drive long-term growth, the ability to close the Offering, Private Placement and any Subsequent Private Placement, expected net proceeds, and timing for the closing of the Offering, Private Placement and any Subsequent Private Placement.

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Actual results or developments may differ materially from those projected or implied in these forward-looking statements. Factors that may cause such a difference include the risks and uncertainties associated with: adjustments to these preliminary measures of financial performance resulting from, among other things, the completion of our end-of-period review and reporting processes; the Company's ability to meet the funding conditions to gain access to the minimum cash amount held as restricted cash in an account control agreement under the terms of the Purchase Agreement and the Notes, the impact of adverse geopolitical and macroeconomic events, such as recent and future bank failures, the ongoing Ukraine-Russia conflict, related sanctions and any global pandemics, on our business and the global economy; challenges inherent in developing, manufacturing and commercializing products; our ability to further deploy new products and applications and expand the markets for our technology platforms; our expectations and beliefs regarding future growth of the business and the markets in which we operate; changes in our strategic and commercial plans; our ability to obtain sufficient financing to fund our strategic plans and commercialization efforts; and including the risks and uncertainties described in our filings with the SEC, including, without limitation, our Annual Report on Form 10-K for the year ended December 31, 2022 and in other filings subsequently made by us with the SEC. All forward-looking statements contained in this report speak only as of the date on which they were made and are based on management's assumptions and estimates as of such date. We are under no duty to update any of these forward-looking statements after the date they are made to conform these statements to actual results or revised expectations, except as required by law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date the statements are made. Moreover, except as required by law, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements contained in this report.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits

<b>Exhibit No.</b>	<b>Description</b>
<a href="#">4.1*</a>	Form of Note, representing the Company's Senior Secured Convertible Notes due 2025
<a href="#">4.2*</a>	Form of Warrant to Purchase Common Stock
<a href="#">5.1</a>	Opinion of Morris, Nichols, Arsht & Tunnell LLP
<a href="#">10.1*</a>	Securities Purchase Agreement, dated October 11, 2023, by and among the Company and the Purchaser named therein
<a href="#">23.1</a>	Consent of Morris, Nichols, Arsht & Tunnell LLP (included in Exhibit 5.1)
<a href="#">99.1</a>	Preliminary Q3 2023 Results Press Release dated October 11, 2023
<a href="#">99.2</a>	Pricing Press Release dated October 11, 2023
104	Inline XBRL for the cover page of this Current Report on Form 8-K

\* Certain schedules to this agreement have been omitted pursuant to Item 601(a)(5) of Regulation S-K. The Company agrees to furnish a copy of all omitted schedules to the SEC upon its request. Portions of this exhibit have been omitted pursuant to Item 601(b)(2)(ii) of Regulation S-K. The Company agrees to furnish supplementally an unredacted copy of the Exhibits to the SEC upon its request.

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

**Bionano Genomics, Inc.**

Date: October 11, 2023

By: /s/ R. Erik Holmlin, Ph.D.  
R. Erik Holmlin, Ph.D.  
President and Chief Executive Officer  
(Principal Executive Officer)

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**BIONANO GENOMICS, INC.**

**Form of Senior Secured Convertible Note due 2025**

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Senior Secured Convertible Note due 2025

Certificate No. A-[ ● ]

Bionano Genomics, Inc., a Delaware corporation (the “**Company**”), for value received, promises to pay to [\*\*\*] (the “**Initial Holder**”), or its registered assigns, the amount equal to the product of (x) the principal sum of \$45,000,000 (such principal sum, the “**Principal Amount**”), multiplied by (y) 1.15 (such Principal Amount multiplied by 1.15, the “**Maturity Principal Amount**”) on September 1, 2025, and to pay any outstanding interest thereon, as provided in this Note, in each case, as provided in and subject to the other provisions of this Note, including the earlier redemption, repurchase or conversion of this Note.

Unless otherwise indicated, references herein to “dollars” or “\$” are to U.S. dollars.

Additional provisions of this Note are set forth on the other side of this Note.

**[The Remainder of This Page Intentionally Left Blank; Signature Page Follows]**

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**IN WITNESS WHEREOF**, Bionano Genomics, Inc. has caused this instrument to be duly executed as of the date set forth below.

Bionano Genomics, Inc.

Date: [ • ]

By: \_\_\_\_\_

Name: [ • ]

Title: [ • ]

(Signature Page to Senior Secured Convertible Note due 2025, Certificate No. A-[ • ])

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## Senior Secured Convertible Note due 2025

This Note (this “**Note**” and, collectively with any Note issued in exchange therefor or in substitution thereof, the “**Notes**”) is issued by Bionano Genomics, Inc., a Delaware corporation (the “**Company**”), and designated as its “Senior Secured Convertible Notes due 2025.”

**Section 1. DEFINITIONS.**

“**Adjusted Indebtedness**” means (A) total Indebtedness of the Company at the time a Restricted Cash Request is delivered, less (B) an amount equal to the difference of (i) the balance of the Restricted Cash Account (as defined in the Securities Purchase Agreement) at the time a Restricted Cash Request is delivered less (ii) the amount of such Restricted Cash Request.

“**Affiliate**” has the meaning set forth in Rule 144 under the Securities Act.

“**ATM Program**” means an “at-the-market” offering within the meaning of Rule 415(a)(4) of the Securities Act.

“**Attribution Parties**” means, collectively, the following Persons and entities: (i) any investment vehicle, including, any funds, feeder funds or managed accounts, currently, or from time to time after the Issue Date, directly or indirectly managed or advised by the Holder’s investment manager or any of its Affiliates or principals, (ii) any direct or indirect Affiliates of the Holder or any of the foregoing, (iii) any Person acting or who could be deemed to be acting as a “group” (within the meaning of Section 13(d)(3) of the Exchange Act) together with the Holder or any of the foregoing and (iv) any other Persons whose beneficial ownership of the Common Stock would or could be aggregated with the Holder’s and the other Attribution Parties for purposes of Section 13(d) of the Exchange Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

“**Authorized Denomination**” means, with respect to the Notes, a Principal Amount thereof equal to \$1,000 or any integral multiple of \$1,000 in excess thereof, or, if such Principal Amount then-outstanding is less than \$1,000, then such outstanding Principal Amount.

“**Available Cash**” means, as of any date of determination, (A) the sum of (i) the Cash and Cash Equivalents of the Company and its Wholly Owned Subsidiaries, (ii) any Cash paid by the Company to the Holder pursuant to this Note and any Other Note during the Liquidity Cash Burn Period (in the case of **Section 8(J)**) or the Quarterly Cash Burn Period (in the case of **Section 8(X)**), and (iii) any Cash paid by the Company or any Wholly Owned Subsidiary of the Company in respect of Covered Milestone Payments during the Liquidity Cash Burn Period (in the case of **Section 8(J)**) or the Quarterly Cash Burn Period (in the case of **Section 8(X)**), less (B) any Cash actually received pursuant to any financings or series of related financings during the Liquidity Cash Burn Period (in the case of **Section 8(J)**) or the Quarterly Cash Burn Period (in the case of **Section 8(X)**), including for the avoidance of doubt, from the sale and issuance of the Company’s Capital Stock, Convertible Securities, Equity-Linked Securities or Indebtedness (including, for the avoidance of doubt, Cash actually received in connection with the exercise or settlement of any Convertible Securities or Equity-Linked Securities).

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“**Bankruptcy Law**” means Title 11, United States Code, or any similar U.S. federal or state or non-U.S. law for the relief of debtors.

“**Board of Directors**” means the board of directors of the Company or a committee of such board duly authorized to act on behalf of such board.

“**Business Combination Event**” has the meaning set forth in **Section 9**.

“**Business Day**” means any day other than a Saturday, a Sunday or any day on which commercial banks in The City of New York are authorized or required by law or executive order to close or be closed; *provided, however*, for clarification, commercial banks in The City of New York shall not be deemed to be authorized or required by law or executive order to close or be closed due to “stay at home”, “shelter-in-place”, “non-essential employee” or any other similar orders or restrictions or the closure of any physical branch locations at the direction of any governmental authority so long as the electronic funds transfer systems (including for wire transfers) of commercial banks in The City of New York are open for use by customers on such day.

“**Capital Lease**” means, with respect to any Person, any leasing or similar arrangement conveying the right to use any property, whether real or personal property, or a combination thereof, by that Person as lessee that, in conformity with GAAP, is required to be accounted for as a capital lease on the balance sheet of such Person.

“**Capital Lease Obligation**” means, at the time any determination is to be made, the amount of the liability in respect of a Capital Lease that would at that time be required to be capitalized on a balance sheet prepared in accordance with GAAP, and the stated maturity thereof shall be the date of the last payment of rent or any other amount due under such lease prior to the first date upon which such lease may be prepaid by the lessee without payment of a penalty.

“**Capital Stock**” of any Person means any and all shares of, interests in, rights to purchase, warrants or options for, participations in, or other equivalents of, in each case however designated, the equity of such Person, but excluding any debt securities convertible into such equity.

“**Cash**” means all cash and liquid funds.

“**Cash Equivalents**” means, as of any date of determination, any of the following: (A) marketable securities (i) issued or directly and unconditionally guaranteed as to interest and principal by the United States Government, or (ii) issued by any agency of the United States the obligations of which are backed by the full faith and credit of the United States, in each case maturing within one year after such date; (B) marketable direct obligations issued by any state of the United States of America or any political subdivision of any such state or any public instrumentality thereof, in each case maturing within one year after such date and having, at the time of the acquisition thereof, a rating of at least A-1 from Standard & Poor’s Corporation or at least P-1 from Moody’s Investors Service; (C) commercial paper maturing no more than one year from the date of creation thereof and having, at the time of the acquisition thereof, a rating of at least A-1 from Standard & Poor’s Corporation or at least P-1 from Moody’s Investors Service; (D) certificates of deposit or bankers’ acceptances maturing within one year after such date and issued or accepted by any commercial bank organized under the laws of the United States of America or any State, or the District of Columbia that (i) is at least “adequately capitalized” (as defined in the regulations of its primary federal banking regulator), and (ii) has Tier 1 capital (as defined in such regulations) of not less than \$5,000,000,000; and (E) shares of any money market mutual fund that (i) has substantially all of its assets invested continuously in the types of investments referred to in clauses (A) and (B) above, (ii) has net assets of not less than \$5,000,000,000, and (iii) has the highest rating obtainable from either Standard & Poor’s Corporation or Moody’s Investors Service.

“**Close of Business**” means 5:00 p.m., New York City time.

“**Collateral**” has the meaning set forth in the Security Agreements.

“**Collateral Agent**” means [\*\*\*] in its capacity as collateral agent for the Holder and each Other Holder, together with any successor thereto in such capacity.

“**Commission**” means the U.S. Securities and Exchange Commission.

“**Common Stock**” means the common stock, par value \$0.0001 per share, of the Company, subject to **Section 7(I)**.

“**Common Stock Change Event**” has the meaning set forth in **Section 7(I)(i)(4)**.

“**Company Redemption**” has the meaning set forth in **Section 4(C)(i)**.

“**Company Redemption Date**” has the meaning set forth in **Section 4(C)(i)**

“**Company Redemption Equity Conditions**” will be deemed to be satisfied as of any date if all of the following conditions are satisfied as of such date and on each of the 30 previous VWAP Trading Days (A) the Holder is not in possession of any material non-public information provided by or on behalf of the Company or by or on behalf of any of its employees, agents or advisors; (B) such shares will satisfy **Section 7(F)(i)**; (C) no pending, proposed or intended Fundamental Change has occurred that has not been abandoned, terminated or consummated; and (D) the shares issuable pursuant to this Note are Freely Tradeable.

“**Company Redemption Equity Conditions Period**” has the meaning set forth in **4(C)(iii)**.

“**Company Redemption Notice**” has the meaning set forth in **Section 4(C)(i)**.



**“Company Redemption Price”** Unless prior to the Company Redemption Date, (i) any Default has occurred and is continuing or Event of Default has occurred hereunder that has not been waived by the Required Holders or (ii) any event or circumstance has occurred and is continuing which, with the giving of notice or passage of time or both, could constitute an Event of Default and has not been waived by the Required Holders (such circumstances constituting collectively a “Company Default Redemption”), means a cash amount equal to the greater of (A) 120% of the then outstanding Principal Amount of this Note, plus accrued and unpaid interest on this Note and (B) the sum of (i) 120% of the product of (a) the Conversion Rate in effect as of the Trading Day immediately preceding such Company Redemption Date; (b) the total then outstanding Principal Amount (expressed in thousands) of this Note; and (c) the highest Daily VWAP per share of Common Stock during the period beginning on, and including, the fifth VWAP Trading Day prior to the date that the Company Redemption Notice is delivered and ending on, and including, the VWAP Trading Day immediately preceding such Company Redemption Date and (ii) the accrued and unpaid interest on this Note. In the event of a Company Default Redemption, Company Redemption Price shall mean, a cash amount equal to the greater of (A) the sum of (i) 110% of 115% of the then outstanding Principal Amount of this Note and (ii) the accrued and unpaid interest on this Note and (B) the sum of (i) 120% of the product of (a) the Conversion Rate in effect as of the Trading Day immediately preceding such Company Redemption Date; (b) the total then outstanding Principal Amount (expressed in thousands) of this Note; and (c) the greater of (x) the highest Daily VWAP per share of Common Stock occurring during the 30 consecutive VWAP Trading Days ending on, and including, the VWAP Trading Day immediately before the date the Company delivers such notice and (y) the average of the five Daily VWAPs per share of Common Stock occurring during the five consecutive VWAP Trading Days ending on, and including, the VWAP Trading Day immediately before the date the applicable Event of Default occurred (or the date on which the Default underlying such Event of Default initially occurred, or the date on which the event or circumstance occurred which, with the giving of notice or passage of time or both, could constitute an Event of Default, if different than the date on which the Event of Default occurred) and (ii) the accrued and unpaid interest on this Note.

**“Compliance Certificate”** has the meaning set forth in **Section 8(X)(ii)**.

**“Contingent Obligation”** means, as applied to any Person, any direct or indirect liability, contingent or otherwise, of that Person with respect to (A) any Indebtedness or other obligations of another Person, including any such obligation directly or indirectly guaranteed, endorsed, co-made or discounted or sold with recourse by that Person, or in respect of which that Person is otherwise directly or indirectly liable; (B) any obligations with respect to undrawn letters of credit, corporate credit cards or merchant services issued for the account of that Person; and (C) all obligations arising under any interest rate, currency or commodity swap agreement, interest rate cap agreement, interest rate collar agreement, or other agreement or arrangement designated to protect a Person against fluctuation in interest rates, currency exchange rates or commodity prices; provided, however, that the term “Contingent Obligation” shall not include endorsements for collection or deposit in the ordinary course of business. The amount of any Contingent Obligation shall be deemed to be an amount equal to the stated or determined amount of the primary obligation in respect of which such Contingent Obligation is made or, if not stated or determinable, the maximum reasonably anticipated liability in respect thereof as determined by such Person in good faith; provided, however, that such amount shall not in any event exceed the maximum amount of the obligations under the guarantee or other support arrangement.

**“Control Agreement”** has the meaning set forth in the Security Agreements.

**“Controlled Account”** has the meaning set forth in **Section 8(J)**.

**“Conversion Consideration”** has the meaning set forth in **Section 7(E)(i)**.

**“Conversion Date”** means the first Business Day on which the requirements set forth in **Section 7(C)(i)** or **Section 7(D)(i)** (as applicable) to convert this Note are satisfied.

“**Conversion Price**” means, as of any time, an amount equal to (A) \$1,000 *divided by* (B) the Conversion Rate in effect at such time.

“**Conversion Rate**” initially means 349.1925 shares of Common Stock per \$1,000 Principal Amount of Notes; *provided, however*, that the Conversion Rate is subject to adjustment pursuant to **Section 7**; *provided, further*, that whenever this Note refers to the Conversion Rate as of a particular date without setting forth a particular time on such date, such reference will be deemed to be to the Conversion Rate immediately after the Close of Business on such date.

“**Conversion Settlement Date**” has the meaning set forth in **Section 7(E)(iii)**.

“**Convertible Securities**” means any capital stock or other security of the Company or any of its Subsidiaries that is at any time and under any circumstances directly or indirectly convertible into, exercisable or exchangeable for, or which otherwise entitles the holder thereof to acquire, any capital stock or other security of the Company (including, without limitation, Common Stock) or any of its Subsidiaries.

“**Copyright License**” means any written agreement granting any right to use any Copyright or Copyright registration, now owned or hereafter acquired by the Company or in which the Company now holds or hereafter acquires any interest.

“**Copyrights**” means all copyrights, whether registered or unregistered, held pursuant to the laws of the United States, any State thereof, or of any other country.

“**Covered Milestone Payments**” means milestone payments paid by the Company pursuant to (i) that certain Agreement and Plan of Merger, dated as of November 23, 2022, by and among Bionano Genomics, Inc., Mazdan Merger Sub, Inc., Purigen Biosystems, Inc. and Shareholder Representative Services LLC, as the Shareholders’ Representative, and (ii) that certain Agreement and Plan of Merger, dated October 8, 2021, by and among Bionano Genomics, Inc., Starship Merger Sub I, Inc., Starship Merger Sub II, LLC, BioDiscovery, Inc., and Soheil Shams, as the Securityholders’ Representative, as amended by that certain First Amendment to Agreement and Plan of Merger, dated as of March 4, 2023, as such agreements are in effect as of the date of the Securities Purchase Agreement.

“**Covering Price**” has the meaning set forth in **Section 7(E)(iv)**.

“**Daily Market Capitalization**” means, with respect to the date of determination, the product of (x) the total number of non-restricted shares of Common Stock issued and outstanding beneficially owned by persons or entities other than Affiliates of the Company, and (y) the Daily VWAP on such date.

“**Daily VWAP**” means, for any VWAP Trading Day, the per share volume-weighted average price of the Common Stock on The Nasdaq Stock Market (or the principal, in terms of volume, Eligible Exchange on which the Common Stock is listed for trading) as displayed under the heading “Bloomberg VWAP” on Bloomberg page “BNGO <EQUITY> VAP” (or, if such page is not available, its equivalent successor page) in respect of the period from the scheduled open of trading until the scheduled close of trading of the primary trading session on such VWAP Trading Day (or, if such volume-weighted average price is unavailable, the market value of one share of Common Stock on such VWAP Trading Day, determined, using a volume-weighted average price method, by a nationally recognized independent investment banking firm selected by the Company). The Daily VWAP will be determined without regard to after-hours trading or any other trading outside of the regular trading session.

“**Default**” means any event that is (or, after notice, passage of time or both, would be) an Event of Default.

“**Default Interest**” has the meaning set forth in **Section 10(D)**.

“**Deferred Partial Redemption Payment**” has the meaning set forth in **Section 4(A)**.

“**Disqualified Stock**” means, with respect to any Person, any Capital Stock that by its terms (or by the terms of any security into which it is convertible or for which it is exchangeable at the option of the holder) or upon the happening of any event:

(A) matures or is mandatorily redeemable pursuant to a sinking fund obligation or otherwise;

(B) is convertible or exchangeable for Indebtedness or Disqualified Stock (excluding Capital Stock convertible or exchangeable solely at the option of the Company or a Subsidiary of the Company; provided that any such conversion or exchange will be deemed an incurrence of Indebtedness or Disqualified Stock, as applicable); or

(C) is redeemable at the option of the holder thereof, in whole or in part,

in the case of each of clauses (A), (B) and (C), at any point prior to the one hundred eighty-first (181st) day after the Maturity Date.

“**DTC**” means The Depository Trust Company or its successor.

“**Eligible Exchange**” means any of The New York Stock Exchange, The NYSE American LLC, The Nasdaq Stock Market, The Nasdaq Capital Market, The Nasdaq Global Market or The Nasdaq Global Select Market (or any of their respective successors).

“**Equipment**” means all “**equipment**” as defined in the UCC with such additions to such term as may hereafter be made, and includes without limitation all machinery, fixtures, goods, vehicles (including motor vehicles and trailers), and any interest in any of the foregoing.

“**Equity Conditions**” will be deemed to be satisfied as of any date if all of the following conditions are satisfied as of such date and on each of the 30 previous VWAP Trading Days (A) the Holder is not in possession of any material non-public information provided by or on behalf of the Company or by or on behalf of any of its employees, agents or advisors; (B) the issuance of such shares will not be limited by **Section 7(J)**; (C) such shares will satisfy **Section 7(F)(i)**; (D) no pending, proposed or intended Fundamental Change has occurred that has not been abandoned, terminated or consummated; (E) the daily dollar trading volume (as reported on Bloomberg) of the Common Stock on The Nasdaq Stock Market is not less than \$3,500,000; (F) no Default will have occurred and be continuing and no Event of Default will have occurred which has not been waived and (G) the shares issuable pursuant to this Note are Freely Tradeable.

“**Equity Interest**” shall mean, with respect to any Person, any and all shares, interests, participations or other equivalents, including preferred stock or membership interests (however designated, whether voting or non-voting), of equity of such Person, including, if such Person is a partnership, partnership interests (whether general or limited) and including, without limitation, any “equity security” (as that term is defined under Rule 405 promulgated under the Securities Act), and any other interest or participation that confers on a Person the right to receive a share of the profits and losses of, or distributions of assets of, such partnership; provided, that the Notes shall not constitute Equity Interests.

“**Equity Line of Credit**” means an equity line of credit approved by written agreement by the Required Holders (which approval may be granted or revoked at any time by the Required Holders in their sole discretion).

“**Equity-Linked Securities**” means any rights, obligations, options or warrants to purchase or otherwise acquire (whether immediately, during specified times, upon the satisfaction of any conditions or otherwise) any shares of Common Stock.

“**ERISA**” means the Employee Retirement Income Security Act of 1974, as amended, and the regulations promulgated thereunder.

“**Event of Default**” has the meaning set forth in **Section 10(A)**.

“**Event of Default Acceleration Amount**” means, with respect to the delivery of a notice pursuant to **Section 10(B)(ii)** declaring this Note to be due and payable immediately on account of an Event of Default, a cash amount equal to the greater of (A) the sum of (i) 110% of 115% of the then outstanding Principal Amount of this Note (or such lesser principal amount accelerated pursuant to such notice) and (ii) the accrued and unpaid interest on this Note and (B) the sum of (i) 115% of the product of (a) the Conversion Rate in effect as of the Trading Day immediately preceding the date that the Holder delivers such notice pursuant to **Section 10(B)(ii)**; (b) the total then outstanding Principal Amount (expressed in thousands) of this Note; and (c) the greater of (x) the highest Daily VWAP per share of Common Stock occurring during the 30 consecutive VWAP Trading Days ending on, and including, the VWAP Trading Day immediately before the date the Holder delivers such notice pursuant to **Section 10(B)(ii)** and (y) the average of the five Daily VWAPs per share of Common Stock occurring during the five consecutive VWAP Trading Days ending on, and including, the VWAP Trading Day immediately before the date the applicable Event of Default occurred (or the date on which the Default underlying such Event of Default initially occurred, if different than the date on which the Event of Default occurred) and (ii) the accrued and unpaid interest on this Note.

“**Event of Default Notice**” has the meaning set forth in **Section 10(C)**.

“**Ex-Dividend Date**” means, with respect to an issuance, dividend or distribution on the Common Stock, the first date on which shares of Common Stock trade on the applicable exchange or in the applicable market, regular way, without the right to receive such issuance, dividend or distribution (including pursuant to due bills or similar arrangements required by the relevant stock exchange). For the avoidance of doubt, any alternative trading convention on the applicable exchange or market in respect of the Common Stock under a separate ticker symbol or CUSIP number will not be considered “regular way” for this purpose.

“**Excess Shares**” has the meaning set forth in **Section 7(J)**.

“**Exchange Act**” means the U.S. Securities Exchange Act of 1934, as amended.

“**Expiration Date**” has the meaning set forth in **Section 7(G)(i)(5)**.

“**Expiration Time**” has the meaning set forth in **Section 7(G)(i)(5)**.

“**Fiscal Half**” means each six-month period ending March 31, June 30, September 30 and December 31.

“**Fiscal Quarter**” means each three-month period ending March 31, June 30, September 30, and December 31.

“**Forced Conversion**” has the meaning set forth in **Section 7(D)(i)**.

“**Forced Conversion Trigger**” means (A) the Last Reported Sale Price exceeds 175% of the Conversion Price on at least 20 VWAP Trading Days in any 30 consecutive Trading Day period beginning on any VWAP Trading Day after the effective date with respect to the registration statement registering the resale of the Initial Private Placement Notes and the Underlying Shares issuable pursuant to the Initial Private Placement Notes (as such terms are defined in the Securities Purchase Agreement) and ending on the date upon which the Company Conversion Notice is delivered by the Company to the Holder and (B) the Equity Conditions are satisfied on the date the Company Conversion Notice is delivered by the Company to the Holder.

“**Foreign Subsidiary**” means any Subsidiary that is organized under the laws of a jurisdiction other than the United States of America, any state thereof or the District of Columbia.

“**Freely Tradable**” means, with respect to any shares of Common Stock issued or issuable pursuant to this Note, that (A) such shares are (or, when issued, will be) issued by the Company pursuant to an effective registration statement and would not constitute “restricted securities” within the meaning of Rule 144 under the Securities Act and without any requirement for registration under any state securities or “blue sky” laws; (B) such shares are (or, when issued, will be) (i) represented by book-entries at DTC and identified therein by an “unrestricted” CUSIP number; (ii) not represented by any certificate that bears a legend referring to transfer restrictions under the Securities Act or other securities laws; and (iii) listed and admitted for trading, without suspension or material limitation on trading, on an Eligible Exchange; and (C) no delisting or suspension by such Eligible Exchange is pending or has been threatened (with a reasonable prospect of delisting occurring after giving effect to all applicable notice, appeal, compliance and hearing periods) or reasonably likely to occur or pending as evidenced by (x) a writing by such Eligible Exchange or (y) the Company falling below the minimum listing maintenance requirements of such Eligible Exchange.

“**Fundamental Change**” means any of the following events:

(A) a “person” or “group” (within the meaning of Section 13(d)(3) of the Exchange Act), other than the Company or its Wholly Owned Subsidiaries, or the employee benefit plans of the Company or its Wholly Owned Subsidiaries, or the Holder or any of its Affiliates (including a “group” including the Holder or any of its Affiliates) has become and files any report with the Commission indicating that such person or group has become the direct or indirect “beneficial owner” (as defined below) of shares of the Company’s common equity representing more than 50% of the voting power of all of the Company’s then-outstanding common equity; provided, however, that, for these purposes, no “person” or “group” will be deemed to be the beneficial owner of any securities tendered pursuant to a tender or exchange offer made by or on behalf of such “person” or “group” until such tendered securities are accepted for purchase or exchange under such offer;

(B) the consummation of (i) any sale, lease or other transfer, in one transaction or a series of transactions, of all or substantially all of the assets of the Company and its Subsidiaries, taken as a whole, to any Person (other than solely to one or more of the Company’s Wholly Owned Subsidiaries); or (ii) any transaction or series of related transactions in connection with which (whether by means of merger, consolidation, share exchange, combination, reclassification, recapitalization, acquisition, liquidation or otherwise) all of the Common Stock is exchanged for, converted into, acquired for, or constitutes solely the right to receive, other securities, cash or other property (other than a subdivision or combination, or solely a change in par value, of the Common Stock); *provided, however*, that any merger, consolidation, share exchange or combination of the Company pursuant to which the Persons that directly or indirectly “beneficially owned” (as defined below) all classes of the Company’s common equity immediately before such transaction directly or indirectly “beneficially own,” immediately after such transaction, more than 50% of all classes of common equity of the surviving, continuing or acquiring company or other transferee, as applicable, or the parent thereof, in substantially the same proportions vis-à-vis each other as immediately before such transaction will be deemed not to be a Fundamental Change pursuant to this **clause (B)**;

(C) the Company’s stockholders approve any plan or proposal for the liquidation or dissolution of the Company; or

(D) the Common Stock ceases to be listed on any Eligible Exchange.

For the purposes of this definition, (x) any transaction or event described in both **clause (A)** and in **clause (B)(i)** or **(B)(ii)** above (without regard to the proviso in **clause (B)**) will be deemed to occur solely pursuant to **clause (B)** above (subject to such proviso); and (y) whether a Person is a “**beneficial owner**” and whether shares are “**beneficially owned**” will be determined in accordance with Rule 13d-3 under the Exchange Act.

“**Fundamental Change Notice**” has the meaning set forth in **Section 6(C)**.

“**Fundamental Change Repurchase Date**” means the date as of which this Note must be repurchased for cash in connection with a Fundamental Change, as provided in **Section 6(B)**.

**“Fundamental Change Repurchase Price”** means, with respect to this Note (or any portion of this Note to be repurchased) upon a Repurchase Upon Fundamental Change, a cash amount equal to the greater of (A) 115% of the then outstanding Principal Amount of this Note (or such lesser principal amount accelerated pursuant to such notice), plus accrued and unpaid interest on this Note to be so repurchased and (B) the sum of (i) 115% of the product of (a) the Conversion Rate in effect as of the Trading Day immediately preceding the effective date of such Fundamental Change; (b) the total then outstanding Principal Amount (expressed in thousands) of this Note; and (c) the average of the five Daily VWAPs per share of Common Stock during the five consecutive VWAP Trading Days ending on, and including, the VWAP Trading Day immediately preceding the effective date of such Fundamental Change and (ii) the accrued and unpaid interest on this Note.

**“GAAP”** means generally accepted accounting principles in the United States of America, as in effect from time to time; provided that for all purposes hereunder, any obligations of such Person that would have been treated as operating leases in accordance with Accounting Standards Codification 840 (regardless of whether or not then in effect) shall be treated as operating leases for purposes of all financial definitions, calculations and covenants, without giving effect to Accounting Standards Codification 842 requiring operating leases to be recharacterized or treated as capital leases.

**“Holder”** means the person in whose name this Note is registered on the books of the Company, which initially is the Initial Holder.

The term **“including”** means “including without limitation,” unless the context provides otherwise.

**“Holder Conversion Notice”** has the meaning set forth in **Section 7(C)(i)**.

**“Indebtedness”** means, indebtedness of any kind, including, without duplication (A) all indebtedness for borrowed money or the deferred purchase price of property or services including reimbursement and other obligations with respect to surety bonds and letters of credit, (B) all obligations evidenced by notes, bonds, debentures or similar instruments, (C) all Capital Lease Obligations, (D) all Contingent Obligations, and (E) Disqualified Stock.

**“Independent Investigator”** has the meaning set forth in **Section 8(R)**.

**“Initial Holder”** has the meaning set forth in the cover page of this Note.

**“Initially Purchased Notes”** means this Note and the Other Notes originally issued on the Initial Closing Date (as defined in the Securities Purchase Agreement).

**“Intellectual Property”** means all of the Company’s Copyrights; Trademarks; Patents; Licenses; trade secrets and inventions; mask works; the Company’s applications therefor and reissues, extensions, or renewals thereof; and the Company’s goodwill associated with any of the foregoing, together with the Company’s rights to sue for past, present and future infringement of Intellectual Property and the goodwill associated therewith.

**“Investment”** means any beneficial ownership (including stock, partnership or limited liability company interests) of or in any Person, or any loan, advance or capital contribution to any Person or the acquisition of all, or substantially all, of the assets of another Person or the purchase of any assets of another Person for greater than the fair market value of such assets to solely the extent of the amount in excess of the fair market value.

“**Issue Date**” means [ • ].

“**Last Reported Sale Price**” of the shares of Common Stock for any Trading Day means the closing sale price per share (or, if no closing sale price is reported, the average of the last bid price and the last ask price per share or, if more than one in either case, the average of the average last bid prices and the average last ask prices per share) of Common Stock on such Trading Day as reported in composite transactions for the principal U.S. national or regional securities exchange on which the shares of Common Stock are then listed. If the Common Stock is not listed on a U.S. national or regional securities exchange on such Trading Day, then the Last Reported Sale Price will be the last quoted bid price per share of Common Stock on such Trading Day in the over-the-counter market as reported by OTC Markets Group Inc. or a similar organization. If the Common Stock is not so quoted on such Trading Day, then the Last Reported Sale Price will be the average of the mid-point of the last bid price and the last ask price per share of Common Stock on such Trading Day from a nationally recognized independent investment banking firm selected by the Company. The “Last Reported Sale Price” will be determined without regard to after-hours trading or any other trading outside of the regular trading session.

“**License**” means any Copyright License, Patent License, Trademark License or other license of rights or interests.

“**Lien**” means any mortgage, deed of trust, pledge, hypothecation, assignment for security, security interest, encumbrance, levy, lien or charge of any kind, whether voluntarily incurred or arising by operation of law or otherwise, against any property, any conditional sale or other title retention agreement, and any lease in the nature of a security interest; provided, that for the avoidance of doubt, licenses, escrows and similar provisions in collaboration agreements, research and development agreements, cell line agreements, software source code agreements and other similar arrangements that do not create or purport to create a security interest, encumbrance, levy, lien or charge of any kind shall not be deemed to be Liens for purposes of this Note.

“**Liquidity Cash Burn Period**” has the meaning set forth in **Section 8(J)**.

“**Market Disruption Event**” means, with respect to any date, the occurrence or existence, during the one-half hour period ending at the scheduled close of trading on such date on the principal, in terms of volume, Eligible Exchange on which the Common Stock is listed for trading or trades, of any material suspension or limitation imposed on trading (by reason of movements in price exceeding limits permitted by the relevant exchange or otherwise) in the Common Stock or in any options contracts or futures contracts relating to the Common Stock.

“**Maturity Date**” means September 1, 2025.

“**Maturity Principal Amount**” has the meaning set forth in the cover page of this Note; *provided, however*, that the Maturity Principal Amount of this Note will be subject to reduction pursuant to **Section 4, Section 5, Section 6, and Section 7**.

“**Maximum Percentage**” has the meaning set forth in **Section 7(J)**.



“**Open of Business**” means 9:00 a.m., New York City time.

The term “**or**” is not exclusive, unless the context expressly provides otherwise.

“**Other Holder**” means any person in whose name any Other Note is registered on the books of the Company.

“**Other Notes**” means any Notes that are of the same class of this Note or are otherwise issued pursuant to the Securities Purchase Agreement and that are represented by one or more certificates other than the certificate representing this Note.

“**Partial Redemption Date**” means, with respect to this Note, (A) the first calendar day of each month commencing November 1, 2023 and (B) if not otherwise included in **clause (A)**, the Maturity Date.

“**Partial Redemption Notice**” has the meaning set forth in **Section 4(A)**.

“**Partial Redemption Payment**” means, for any date that is a Partial Redemption Date, an amount not to exceed in the aggregate, with respect to all of the Initial Purchased Notes (as defined in the Securities Purchase Agreement), \$5,175,000 as determined by Holder in its sole discretion; *provided*, that the Holder and the Company may agree to increase the size of any Partial Redemption Payment.

“**Patent License**” means any written agreement granting any right with respect to any invention covered by a Patent that is in existence or a Patent application that is pending, in which agreement the Company now holds or hereafter acquires any interest.

“**Patents**” means all letters patent of, or rights corresponding thereto, in the United States or in any other country, all registrations and recordings thereof, and all applications for letters patent of, or rights corresponding thereto, in the United States or any other country.

“**Permitted Indebtedness**” means (A) Indebtedness evidenced by this Note and all other Senior Secured Convertible Notes issued pursuant to the Securities Purchase Agreement; (B) Indebtedness actually disclosed pursuant to the Securities Purchase Agreement as of the date of the Securities Purchase Agreement; (C) Indebtedness to trade creditors incurred in the ordinary course of business consistent with past practices; (D) Subordinated Indebtedness of the Company; (E) reimbursement obligations in connection with letters of credit or similar instruments that are secured by Cash or Cash Equivalents and issued on behalf of the Company or a Subsidiary thereof in an aggregate amount not to exceed \$500,000 at any time outstanding; (F) Indebtedness constituting Permitted Investments under clause (G) thereof; (G) Indebtedness in respect of the financing of insurance premiums in the ordinary course of business; (H) Indebtedness outstanding at any time secured by a Lien described in clause (M) of the defined term “Permitted Liens,” provided such Indebtedness does not exceed the cost of the Equipment or real property interests and related expenses financed with such Indebtedness or in the form of purchase money Indebtedness (whether in the form of a loan or a lease) used solely to acquire Equipment or real property interests used in the ordinary course of business and secured only by such equipment and sale and insurance proceeds in respect thereof; provided that the total amount of Permitted Indebtedness described in this clause (H) may not exceed \$1,000,000; (I) Indebtedness owed to any Person providing worker’s compensation, health, disability or other employee benefits or property, casualty or liability insurance to the Company or any Subsidiary incurred in connection with such Person providing such benefits or insurance pursuant to customary reimbursement or indemnification obligations to such Person; (J) guarantees (or liabilities as a surety, endorser, accommodation endorser or otherwise) in respect of performance, surety, statutory, appeal or similar obligations incurred in the ordinary course of business but excluding guaranties with respect to any obligations for borrowed money; (K) Indebtedness in respect of payment processing services, netting services, overdrafts and related liabilities arising from treasury, depository and cash management services incurred in the ordinary course of business; (L) Indebtedness in respect of business credit card programs in an aggregate amount not to exceed \$400,000 at any time; (M) Indebtedness in respect of hedging agreements entered into for bona fide hedging purposes in the ordinary course and not for speculative purposes; (N) performance based royalty or milestone obligations, in each case, characterized as such and arising expressly out of purchase and sale contracts, development arrangements or licensing arrangements not otherwise prohibited hereunder, and (O) Contingent Obligations that are guarantees of Indebtedness described in clauses (A) through (N); provided that the aggregate amount of Indebtedness specified in clauses (F), (G), (I), (J), (K) and (O) may not collectively exceed \$2,000,000 at any time in the aggregate.

**“Permitted Intellectual Property Licenses”** means (A) Intellectual Property licenses actually disclosed pursuant to the Securities Purchase Agreement as of the date of the Securities Purchase Agreement, and (B) non-perpetual Intellectual Property licenses granted in the ordinary course of business on arm’s length terms consisting of the licensing of technology, the development of technology or the providing of technical support which may include licenses with unlimited renewal options solely to the extent such options require mutual consent for renewal or are subject to financial or other conditions as to the ability of licensee to perform under the license; provided such license was not entered into during an Event of Default or continuance of a Default.

**“Permitted Investment”** means: (A) Investments actually disclosed pursuant to the Securities Purchase Agreement, as in effect as of the Issue Date; (B) Investments in Cash and Cash Equivalents; (C) Investments accepted in connection with Permitted Transfers; (D) Investments (including debt obligations) received in connection with the bankruptcy or reorganization of customers or suppliers and in settlement of delinquent obligations of, and other disputes with, customers or suppliers arising in the ordinary course of the Company’s business; (E) Investments consisting of notes receivable of, or prepaid royalties and other credit extensions, to customers and suppliers in the ordinary course of business and consistent with past practice, provided that this clause (E) shall not apply to Investments of the Company in any Subsidiary thereof; (F) Investments consisting of (i) loans not involving the net transfer on a substantially contemporaneous basis of cash proceeds to employees, officers or directors relating to the purchase of capital stock of the Company pursuant to employee stock purchase plans or other similar agreements approved by the Company’s Board of Directors and (ii) travel advances and employee relocation loans and other employee loans and advances in the ordinary course of business; provided that the aggregate of all such loans outstanding may not exceed \$50,000 at any time; (G) Investments in Wholly Owned Subsidiaries, subject to **Section 8(Y)**; (H) Permitted Intellectual Property Licenses; (I) extensions of credit to customers or advances, deposits or payment to or with suppliers, lessors or utilities or for workers’ compensation, in each case, that are incurred in the ordinary course of business; and (J) additional Investments that do not exceed \$500,000 in the aggregate in any 12 month period.

**“Permitted Liens”** means any and all of the following: (A) Liens in favor of Holder or the Collateral Agent; (B) Liens deemed to be disclosed pursuant to the Securities Purchase Agreement, as in effect as of the Issue Date; (C) Liens for taxes, fees, assessments or other governmental charges or levies, either not delinquent or being contested in good faith by appropriate proceedings; provided, that the Company maintains adequate reserves therefor in accordance with GAAP; (D) Liens securing claims or demands of materialmen, artisans, mechanics, carriers, warehousemen, landlords and other like Persons arising in the ordinary course of business; provided, that such claims or demands are not yet delinquent; (E) Liens arising from judgments, decrees or attachments in circumstances which do not constitute a Default or an Event of Default hereunder; (F) the following deposits, to the extent made in the ordinary course of business: deposits under workers’ compensation, unemployment insurance, social security and other similar laws, or to secure the performance of bids, tenders or contracts (other than for the repayment of borrowed money) or to secure indemnity, performance or other similar bonds for the performance of bids, tenders or contracts (other than for the repayment of borrowed money) or to secure statutory obligations (other than Liens arising under ERISA or environmental Liens) or surety or appeal bonds, or to secure indemnity, performance or other similar bonds; (G) leasehold interests in leases or subleases and licenses granted in the ordinary course of the Company’s business and not interfering in any material respect with the business of the licensor; (H) Liens in favor of customs and revenue authorities arising as a matter of law to secure payment of custom duties that are promptly paid on or before the date they become due; (I) Liens on insurance proceeds securing the payment of financed insurance premiums that are promptly paid on or before the date they become due (provided that such Liens extend only to such insurance proceeds and not to any other property or assets); (J) Liens, statutory and common law rights of set-off and other similar rights as to deposits of cash and securities in favor of banks, other depository institutions and brokerage firms; (K) easements, zoning restrictions, rights-of-way and similar encumbrances on real property imposed by law or arising in the ordinary course of business so long as they do not materially impair the value or marketability of the related property; (L) Liens on Cash or Cash Equivalents securing obligations permitted under clauses (E), (K), (L) and (M) of the definition of Permitted Indebtedness; (M) purchase money Liens, Liens in respect of equipment leases, or Liens securing Indebtedness under clause (H) of the definition of “Permitted Indebtedness”, if the Lien is confined to the property and improvements and the proceeds of the equipment; (N) any other Liens, solely to the extent not securing Indebtedness for borrowed money, in an amount not to exceed collectively \$1,000,000 at any time in the aggregate; (O) Permitted Intellectual Property Licenses; and (P) Liens incurred in connection with the extension, renewal or refinancing of the Indebtedness secured by Liens of the type described in clauses (C) through (O) above (other than any Indebtedness repaid with the proceeds of this Note); provided, that any extension, renewal or replacement Lien shall be limited to the property encumbered by the existing Lien and the principal amount of the Indebtedness being extended, renewed or refinanced (as may have been reduced by any payment thereon) does not increase.

“**Permitted Transfers**” means (A) dispositions of Cash or Cash Equivalents in the ordinary course of business, (B) dispositions of inventory, goods and other assets, leases, assignments or subleases of any personal property in the ordinary course of business, (C) entry into Permitted Intellectual Property Licenses, (D) dispositions of worn-out, obsolete or surplus property in the ordinary course of business; provided that if any individual piece of property with a fair market value equal to or greater than \$25,000 is disposed of in reliance on this clause (D), such disposition shall be made for fair market value consideration, (E) the abandonment or other disposition of Intellectual Property that is, in the reasonable judgment of the Company, no longer profitable, economically practicable to maintain or useful in the conduct of the business of the Company and its Subsidiaries, taken as a whole; (F) dispositions of accounts or payment intangibles (each as defined in the UCC) resulting from the compromise or settlement thereof in the ordinary course of business for less than the full amount thereof; (G) transfers consisting of Permitted Investments in Wholly Owned Subsidiaries under clause (G) of Permitted Investments; (H) other transfers of assets to any Person other than to a joint venture and which have a fair market value of not more than \$50,000 in the aggregate in any 12 month period; (I) dispositions in connection with Permitted Liens; (J) the disposition of all or substantially all of the assets of the Company and its Subsidiaries in a manner permitted pursuant to **Section 9** and any disposition that constitutes a Fundamental Change; and (K) subleases of real property leased by the Company as of the Issue Date.

“**Person**” or “**person**” means any individual, sole proprietorship, partnership, limited liability company, joint venture, company, trust, unincorporated organization, association, corporation, institution, public benefit corporation, firm, joint stock company, estate, entity or government agency.

“**Principal Amount**” has the meaning set forth in the cover page of this Note; *provided, however*, that the Principal Amount of this Note will be subject to reduction (A) pursuant to **Section 5**, **Section 6**, and **Section 7** and (B) by an amount equal to (i) the sum of all Partial Redemption Payments (including any Deferred Partial Redemption Payments) made prior to the date of determination of the Principal Amount of the Note then outstanding, divided by (ii) 1.15.

“**Reference Property**” has the meaning set forth in **Section 7(I)(i)(4)**.

“**Reference Property Unit**” has the meaning set forth in **Section 7(I)(i)(4)**.

“**Reported Outstanding Share Number**” has the meaning set forth in **Section 7(J)**.

“**Repurchase Upon Fundamental Change**” means the repurchase of any Note by the Company pursuant to **Section 6**.

“**Required Holders**” has the meaning set forth in the Securities Purchase Agreement.

“**Required Reserve Amount**” has the meaning in **Section 8(Q)**.

“**Restricted Cash Measurement Period**” means, with respect to each Restricted Cash Release Date, the 20 consecutive Trading Day period ending on the Trading Day immediately prior to such date.

“**Restricted Cash Request**” has the meaning in **Section 22**.

“**Restricted Cash Release Date**” has the meaning in **Section 22**.

“**Retirement Fee**” means an amount equal to the product of (x) \$2,812,500 multiplied by (y) a fraction, whose numerator is an amount equal to \$45,000,000 less the aggregate Principal Amount converted into shares of Common Stock pursuant to **Section 7** during the period beginning on, and including, the Issue Date and ending on, and including, the date on which this Note ceases to be outstanding, and whose denominator is \$45,000,000.

“**Required Funding Program**” has the meaning in **Section 8(V)**.

“**Rule 144**” means Rule 144 promulgated under the Securities Act (or any successor rule thereto), as the same may be amended from time to time.

“**Scheduled Trading Day**” means any day that is scheduled to be a Trading Day on the principal U.S. national or regional securities exchange on which the Common Stock is then listed or, if the Common Stock is not then listed on a U.S. national or regional securities exchange, on the principal, in terms of volume, Eligible Exchange on which the Common Stock is listed for trading. If the Common Stock is not so listed or traded, then “Scheduled Trading day” means a Business Day.

“**Securities Act**” means the U.S. Securities Act of 1933, as amended.

“**Securities Purchase Agreement**” means that certain Securities Purchase Agreement, dated as of October 11, 2023, between the Company and [\*\*\*] providing for the issuance of this Note.

“**Security Agreements**” means those certain security agreements, dated on or about October 13, 2023, between the Company and the Collateral Agent.

“**Security Document**” has the meaning set forth in the Security Agreements.

“**Significant Subsidiary**” means, with respect to any Person, any Subsidiary of such Person that constitutes a “significant subsidiary” (as defined in Rule 1-02(w) of Regulation S-X under the Exchange Act) of such Person.

“**Spin-Off**” has the meaning set forth in **Section 7(G)(i)(3)(b)**.

“**Spin-Off Valuation Period**” has the meaning set forth in **Section 7(G)(i)(3)(b)**.

“**Subordinated Indebtedness**” means Indebtedness subordinated to the Notes pursuant to a written agreement between the Required Holders and the applicable lender in amounts and on terms and conditions satisfactory to the Required Holders in their sole discretion.

“**Subsidiary**” means, with respect to any Person, (A) any corporation, association or other business entity (other than a partnership or limited liability company) of which more than 50% of the total voting power of the Capital Stock entitled (without regard to the occurrence of any contingency, but after giving effect to any voting agreement or stockholders’ agreement that effectively transfers voting power) to vote in the election of directors, managers or trustees, as applicable, of such corporation, association or other business entity is owned or controlled, directly or indirectly, by such Person or one or more of the other Subsidiaries of such Person; and (B) any partnership or limited liability company where (i) more than 50% of the capital accounts, distribution rights, equity and voting interests, or of the general and limited partnership interests, as applicable, of such partnership or limited liability company are owned or controlled, directly or indirectly, by such Person or one or more of the other Subsidiaries of such Person, whether in the form of membership, general, special or limited partnership or limited liability company interests or otherwise; and (ii) such Person or any one or more of the other Subsidiaries of such Person is a controlling general partner of, or otherwise controls, such partnership or limited liability company.

“**Successor Corporation**” has the meaning set forth in **Section 9(A)**.

“**Successor Person**” has the meaning set forth in **Section 7(I)(i)**.

“**Tender/Exchange Offer Valuation Period**” has the meaning set forth in **Section 7(G)(i)(5)**.

“**Trademark License**” means any written agreement granting any right to use any Trademark or Trademark registration, now owned or hereafter acquired by the Company or in which the Company now holds or hereafter acquires any interest.

“**Trademarks**” means all trademarks (registered, common law or otherwise) and any applications in connection therewith, including registrations, recordings and applications in the United States Patent and Trademark Office or in any similar office or agency of the United States, any State thereof or any other country or any political subdivision thereof.

“**Trading Day**” means any day on which (A) trading in the Common Stock generally occurs on the principal U.S. national or regional securities exchange on which the Common Stock is then listed or, if the Common Stock is not then listed on a U.S. national or regional securities exchange, on the principal, in terms of volume, Eligible Exchange on which the Common Stock is listed for trading; and (B) there is no Market Disruption Event; provided that the Holder, by written notice to the Company, may waive any such Market Disruption Event. If the Common Stock is not so listed or traded, then “Trading Day” means a Business Day.

“**Transaction Documents**” has the meaning set forth in the Securities Purchase Agreement.

“**UCC**” means the Uniform Commercial Code as the same is, from time to time, in effect in the State of New York.

“**Undelivered Shares**” has the meaning set forth in **Section 7(E)(iv)**.

“**VWAP Market Disruption Event**” means, with respect to any date, (A) the failure by the principal U.S. national or regional securities exchange on which the Common Stock is then listed, or, if the Common Stock is not then listed on a U.S. national or regional securities exchange, the principal, in terms of volume, Eligible Exchange on which the Common Stock is then traded, to open for trading during its regular trading session on such date; or (B) the occurrence or existence, for more than one half hour period in the aggregate, of any suspension or limitation imposed on trading (by reason of movements in price exceeding limits permitted by the relevant exchange or otherwise) in the Common Stock or in any options contracts or futures contracts relating to the Common Stock, and such suspension or limitation occurs or exists at any time before 1:00 p.m., New York City time, on such date.

“**VWAP Trading Day**” means a day on which (A) there is no VWAP Market Disruption Event; provided that the Holder, by written notice to the Company, may waive any such VWAP Market Disruption Event; and (B) trading in the Common Stock generally occurs on the principal U.S. national or regional securities exchange on which the Common Stock is then listed or, if the Common Stock is not then listed on a U.S. national or regional securities exchange, on the principal, in terms of volume, Eligible Exchange on which the Common Stock is then traded. If the Common Stock is not so listed or traded, then “VWAP Trading Day” means a Business Day.

“**Wholly Owned Subsidiary**” of a Person means any Subsidiary of such Person all of the outstanding Capital Stock or other ownership interests of which (other than directors’ qualifying shares and other nominal shares required to be held by local nationals) are owned by such Person or one or more Wholly Owned Subsidiaries of such Person.

**Section 2. PERSONS DEEMED OWNERS.**

The Holder of this Note will be treated as the owner of this Note for all purposes.

**Section 3. REGISTERED FORM.**

This Note, and any Note issued in exchange therefor or in substitution thereof, will be in registered form, without coupons.

**Section 4. PARTIAL REDEMPTION PAYMENTS; PREPAYMENT; MATURITY DATE PAYMENT.**

(A) *Partial Redemption Payments.* If the Holder wishes to elect to require the Company to redeem all or a portion of this Note for a Partial Redemption Payment (including any Deferred Partial Redemption Payments), the Holder shall deliver to the Company a written notice of any such election (a “**Partial Redemption Notice**”), including the applicable amount of the Partial Redemption Payment (including any Deferred Partial Redemption Payment), at least ten Trading Days prior to the applicable Partial Redemption Date in order to make an effective election. The Company shall pay the Holder the Partial Redemption Payment by wire transfer of immediately available funds on the applicable Partial Redemption Date; *provided, that* the Holder shall have the right to convert any Partial Redemption Payment or Deferred Partial Redemption Payment (or any applicable portion thereof) into Common Stock pursuant to **Section 7** hereof at any time prior to the receipt of the applicable Partial Redemption Payment or Deferred Partial Redemption Payment from the Company. Notwithstanding the foregoing, the Holder may, in its sole discretion, despite such election, subsequently defer any Partial Redemption Payment (including any prior Deferred Partial Redemption Payment) (or any portion thereof) one or more times prior to the applicable Partial Redemption Date to any subsequent Partial Redemption Date (in which case such deferred Partial Redemption Payment shall become a “**Deferred Partial Redemption Payment**”), in which case, on the applicable Partial Redemption Date, the Company will pay the Holder an amount in cash equal to such Partial Redemption Payment (including any Deferred Partial Redemption Payments) to be paid on such date, *provided*, that the Holder may not defer any Partial Redemption Payment or prior Deferred Partial Redemption Payment (or any portion thereof) to the extent that, following such deferral, the total amount of Deferred Partial Redemption Payments outstanding pursuant to this Note and all other Initial Purchased Notes would exceed \$10,350,000. Any Partial Redemption Payment (including any Deferred Partial Redemption Payments) paid pursuant to this **Section 4(A)** shall reduce the Principal Amount by such paid amount divided by 1.15. If this Note (or any portion of this Note) is to be redeemed pursuant to this **Section 4(A)**, then, from and after the date the related Partial Redemption Payment is paid in full, the Principal Amount of this Note (or such portion) will cease to be outstanding and all interest will cease to accrue on this Note (or such portion).

(B) *Maturity Date Payment.* On the Maturity Date, the Company will pay the Holder an amount in cash equal to the Maturity Principal Amount for the then-outstanding Principal Amount of this Note plus any accrued and unpaid interest on this Note.

(C) *Prepayment.*

(i) The Company may redeem all (but not less than all) of the then outstanding Principal Amount of this Note (a “**Company Redemption**”), beginning on the thirtieth day following the date that the Resale Registration Statement (as defined in the Securities Purchase Agreement) became effective, on a date to be determined by the Company (any such date a “**Company Redemption Date**”), for a cash redemption price equal to the Company Redemption Price; *provided*, that the Company must provide notice of a Company Redemption, which notice shall state Company Redemption Date and the outstanding Principal Amount of this Note to be redeemed (which for the avoidance of doubt, shall not be less than all of the then outstanding Principal Amount of this Note) (“**Company Redemption Notice**”) at least 15 days prior to such Company Redemption Date and the Company must have, on or prior to 8:30 a.m., New York City time, on the Trading Day on which such Company Redemption Notice is delivered, publicly disclosed any material, non-public information regarding the Company (including the fact that the Company is redeeming the Note) on a Form 8-K or otherwise. The Holder may convert any portion of this Note prior to the payment of the Company Redemption Price. In the event there are additional notes outstanding issued pursuant to the Securities Purchase Agreement, the Company may not make a Company Redemption for this Note pursuant to this **Section 4(C)(i)** unless the Company concurrently redeems such additional notes pursuant to **Section 4(C)(i)** thereof.

(ii) If this Note is to be redeemed in full pursuant to this **Section 4(C)** then, from and after the date the related Company Redemption Price and the Retirement Fee are paid in full, this Note will cease to be outstanding.

(iii) Notwithstanding anything herein to the contrary, the Company will not have the right to, and will not, make any Company Redemption or deliver a Company Redemption Notice pursuant to this **Section 4(C)** if (i) the Company is in possession of material non-public information or (ii) the Company Redemption Equity Conditions are not satisfied during the period commencing on the date the Company Redemption Notice is delivered to the Holder and ending on, and including the Company Redemption Date (such period, the “**Company Redemption Equity Conditions Period**”) (and the Company shall certify in writing to the Holder (x) on the date of the Company Redemption Notice, within such notice, that the Company Redemption Equity Conditions were satisfied as of the date of the Company Redemption Notice and (y) on the Company Redemption Date that the Company Redemption Equity Conditions have continued to have been satisfied for the remainder of the Company Redemption Equity Conditions Period), unless such failure of the Company Redemption Equity Conditions to be so satisfied is waived in writing by the Required Holders, which waiver may be granted or withheld by the Required Holders in their sole discretion.



(D) *Retirement Fee.* On the earlier to occur of (i) the date that no Principal Amount remains outstanding (regardless of whether as a result of redemption, prepayment, payment of the Fundamental Change Repurchase Price, conversion, acceleration upon an Event of Default, or otherwise) or (ii) the Maturity Date, the Company shall pay by wire transfer of immediately available funds the Retirement Fee to the Holder.

**Section 5. METHOD OF PAYMENT; WHEN PAYMENT DATE IS NOT A BUSINESS DAY.**

(A) *Method of Payment.* The Company will pay all cash amounts due under this Note by wire transfer of immediately available funds to the account of the Holder as set forth in a written notice of an account of such Holder delivered by the Holder to the Company at least one Business Day before the date such amount is due.

(B) *Delay of Payment when Payment Date is Not a Business Day.* If the due date for a payment on this Note as provided in this Note is not a Business Day, then, notwithstanding anything to the contrary in this Note, such payment may be made on the immediately following Business Day and no interest will accrue on such payment as a result of the related delay.

**Section 6. REQUIRED REPURCHASE OF NOTE UPON A FUNDAMENTAL CHANGE.**

(A) *Repurchase Upon Fundamental Change.* Subject to the other terms of this **Section 6**, if a Fundamental Change occurs, then the Holder will have the right to require the Company to repurchase this Note (or any portion of this Note in an Authorized Denomination) on the Fundamental Change Repurchase Date for such Fundamental Change for a cash purchase price equal to the Fundamental Change Repurchase Price.

(B) *Fundamental Change Repurchase Date.* The Fundamental Change Repurchase Date for any Fundamental Change will be a Business Day of the Holder's choosing that is no more than 20 Business Days after the later of (x) the date the Company delivers to the Holder the related Fundamental Change Notice pursuant to **Section 6(C)** and (y) the effective date of such Fundamental Change.

(C) *Fundamental Change Notice.* No later than the 10th Business Day before the occurrence of any Fundamental Change, the Company will send to the Holder a written notice (the "**Fundamental Change Notice**") thereof (provided, however, in no event shall such notice be required prior to the actual public announcement of such Fundamental Change), stating the expected date such Fundamental Change will occur. No later than the fifth Business Day after the date of delivery of the Fundamental Change Notice, the Holder shall notify the Company in writing whether it will require the Company to repurchase this Note and specify the Fundamental Change Repurchase Date.

(D) *Effect of Repurchase.* If this Note (or any portion of this Note) is to be repurchased upon a Repurchase Upon Fundamental Change, then, from and after the date the related Fundamental Change Repurchase Price and the Retirement Fee are paid in full, the Principal Amount of this Note (or such portion) will cease to be outstanding and all interest will cease to accrue on this Note (or such portion).

**Section 7. CONVERSION.**

(A) *Right to Convert.*

(i) *Generally.* Subject to the provisions of this **Section 7**, the Holder may, at its option, convert all or any portion of the Principal Amount of this Note, including any portion constituting the underlying Principal Amount of a Partial Redemption Payment, into Conversion Consideration.

(ii) *Conversions in Part.* Subject to the terms of this **Section 7**, this Note may be converted in part, but only in an Authorized Denomination. Provisions of this **Section 7** applying to the conversion of this Note in whole will equally apply to conversions of any permitted portion of this Note.

(B) *When this Note May Be Converted.*

(i) *Generally.* The Holder may convert this Note immediately at any time until the Close of Business on the second Scheduled Trading Day (or, if earlier, the standard settlement period for the primary Eligible Exchange (measured in terms of trading volume for its Common Stock) on which the Common Stock is traded) immediately before the Maturity Date. For the avoidance of doubt, the Holder's right to convert this Note shall not be impacted by a prior notice or election to defer any Partial Redemption Payment delivered by the Holder pursuant to **Section 4(A)**.

(ii) *Limitations and Closed Periods.* Notwithstanding anything to the contrary in this **Section 7**, if this Note (or any portion of this Note) is to be repurchased upon a Repurchase Upon Fundamental Change, then in no event may this Note (or such portion) be converted after the Close of Business on the Scheduled Trading Day immediately before the related Fundamental Change Repurchase Date; provided, that the limitations contained in this **Section 7(B)(ii)** shall no longer apply to this Note (or such applicable portion) if the applicable Fundamental Change Repurchase Price is not delivered on the Fundamental Change Repurchase Date in accordance with **Section 6**.

(C) *Conversion Procedures.*

(i) *Generally.* To convert this Note, the Holder must complete, sign and deliver to the Company the conversion notice attached to this Note on **Exhibit A** or portable document format (.pdf) version of such conversion notice (at which time such conversion will become irrevocable) (a "**Holder Conversion Notice**"); provided that each such Holder Conversion Notice shall be complete. For the avoidance of doubt, the Holder Conversion Notice may be delivered by e-mail in accordance with **Section 13**. If the Company fails to deliver, by the related Conversion Settlement Date, any shares of Common Stock forming part of the Conversion Consideration of the conversion of this Note, the Holder, by notice to the Company, may rescind all or any portion of the corresponding Holder Conversion Notice at any time until such Undelivered Shares are delivered.

(ii) *Holder of Record of Conversion Shares.* The person in whose name any shares of Common Stock is issuable upon conversion of this Note will be deemed to become the holder of record of such shares as of the Close of Business on the Conversion Date for such conversion, conferring, as of such time, upon such person, without limitation, all voting and other rights appurtenant to such shares.

(iii) *Taxes and Duties.* If the Holder converts a Note, the Company will pay any documentary, stamp or similar issue or transfer tax or duty due on the issue of any shares of Common Stock upon such conversion; provided, however, that if any tax or duty is due because such Holder requested such shares to be registered in a name other than such Holder's name, then such Holder will pay such tax or duty and, until having received a sum sufficient to pay such tax or duty, the Company may refuse to deliver any such shares to be issued in a name other than that of such Holder.

(D) *Right of Company to Convert the Note.*

(i) *Generally.* If the Forced Conversion Trigger occurs, then, subject to **Section 7(J)**, the Company may provide written notice to the Holder in substantially the form attached hereto as **Exhibit B** (a "**Company Conversion Notice**") electing to convert all (but, for the avoidance of doubt, not less than all) of the Principal Amount into Conversion Consideration (a "**Forced Conversion**") and certifying that the Equity Conditions are satisfied on the date the Company Conversion Notice was delivered to the Holder; *provided* that (x) no Forced Conversion will be effected unless (i) the Equity Conditions are satisfied on each VWAP Trading Day from the date of the Company Conversion Notice until the corresponding Conversion Consideration is delivered and (ii) the Last Reported Sale Price exceeded 175% of the Conversion Price on at least twenty (20) VWAP Trading Days in the 30 consecutive Trading Day period (including on the last Trading Day of such period) ending on and including the date the Company Conversion Notice was delivered to the Holder, and (y) if the Company receives a Holder Conversion Notice prior to the date the Company delivers the Company Conversion Notice and any Conversion Shares due thereunder remain undelivered by the Company, the Forced Conversion may not occur until after such Conversion Shares are delivered to the Holder. The Principal Amount subject to Forced Conversion shall be subject to reduction by any Principal Amount for which the Holder has submitted a Holder Conversion Notice between the time that the Company provided its notice of Company Conversion Notice to the Holder and the completion of such Forced Conversion.

(ii) *Effect of Forced Conversion.* A Forced Conversion will have the same effect as a conversion of the applicable outstanding Principal Amount of a Note effected at a Holder's election pursuant to **Section 7(A)** with a Conversion Date occurring on the Business Day upon which the Company Conversion Notice is delivered to the Holder (*provided*, for the avoidance of doubt, that the conditions set forth in **Section 7(D)(i)** are satisfied on such date) and a Conversion Settlement Date occurring on the Business Day referred to in **Section 7(E)(iii)**.

(E) *Settlement upon Conversion.*

(i) *Generally.* The consideration (the “**Conversion Consideration**”) due in respect of each \$1,000 Principal Amount of this Note, including any portion constituting the underlying Principal Amount of a Partial Redemption Payment required to be paid by the Company on the next Partial Redemption Date or any outstanding Deferred Partial Redemption Payment, to be converted will consist of the following:

(1) subject to **Section 7(E)(ii)**, a number of shares of Common Stock equal to the Conversion Rate in effect on the Conversion Date for such conversion; and

(2) cash in an amount equal to the aggregate accrued and unpaid default interest, if any, on this Note to, but excluding, the Conversion Settlement Date for such conversion.

(ii) *Fractional Shares.* The total number of shares of Common Stock due in respect of any conversion of this Note pursuant to this **Section 7**, including any portion constituting a Partial Redemption Payment required to be paid by the Company on the next Partial Redemption Date or any outstanding Deferred Partial Redemption Payment, will be determined on the basis of the total Principal Amount of this Note to be converted with the same Conversion Date; *provided, however*, that if such number of shares of Common Stock is not a whole number, then such number will be rounded up to the nearest whole number.

(iii) *Delivery of the Conversion Consideration.* Except as otherwise provided in **Section 7(G)(i)(5)** and provided that (except in the case of a Forced Conversion) the Holder has delivered a Holder Conversion Notice, the Company will pay or deliver, as applicable, the Conversion Consideration due upon the conversion of this Note, including any portion constituting a Partial Redemption Payment required to be paid by the Company on the next Partial Redemption Date or any outstanding Deferred Partial Redemption Payment, to the Holder on or before the second Business Day (or, if earlier, the standard settlement period for the primary Eligible Exchange (measured in terms of trading volume for its Common Stock) on which the Common Stock is traded) immediately after the Conversion Date for such conversion (the “**Conversion Settlement Date**”).

(iv) *Company Failure to Timely Deliver Stock Payments.* If (x) the Company shall fail for any reason or for no reason on or prior to the applicable Conversion Settlement Date to deliver shares of Common Stock in accordance with **Section 7(C)** (following delivery by the Holder to the Company of a Holder Conversion Notice) or **Section 7(D)** (following receipt by the Company from the Holder of the DTC participant number and DTC participant name to which the shares shall be issued in connection with such conversion) (such shares to which Holder is entitled referred to as the “**Undelivered Shares**”); and (y) the Holder (whether directly or indirectly, including by any broker acting on the Holder’s behalf or acting with respect to such Undelivered Shares) purchases any shares of Common Stock (whether in the open market or otherwise) to cover any such Undelivered Shares (whether to satisfy any settlement obligations with respect thereto of the Holder or otherwise), then, without limiting the Holder’s right to pursue any other remedy available to it (whether hereunder, under applicable law or otherwise), the Holder will have the right, exercisable by notice to the Company, to cause the Company to either:

(1) pay, on or before the second (2nd) Business Day after the date such notice is delivered, cash to the Holder in an amount equal to the aggregate purchase price (including any brokerage commissions and other out-of-pocket costs) incurred to purchase such shares (such aggregate purchase price, the “**Covering Price**”); or

(2) promptly deliver, to the Holder, such Undelivered Shares in accordance with this Note, together with cash in an amount equal to the excess, if any, of the Covering Price over the product of (x) the number of such Undelivered Shares; and (y) the Daily VWAP per share of Common Stock on the applicable Conversion Date relating to such conversion.

To exercise such right, the Holder must deliver notice of such exercise to the Company, specifying whether the Holder has elected clause (1) or (2) above to apply. If the Holder has elected clause (1) to apply, then the Company’s obligation to deliver the Undelivered Shares in accordance with this Note will be deemed to have been satisfied and discharged to the extent the Company has paid the Covering Price in accordance with clause (1). Nothing herein shall limit the Holder’s right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company’s failure to timely deliver shares of Common Stock as required pursuant to the terms hereof. In addition to the foregoing, if the Company fails for any reason to deliver Common Stock to the Holder by the applicable Conversion Settlement Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each one thousand dollars (\$1,000) of Undelivered Shares (based on the Daily VWAP on the applicable Conversion Settlement Date), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day after the Conversion Settlement Date until the cash amount set forth in **Section 7(E)(iv)(1)** is paid to the Holder or the shares of Common Stock are delivered to the Holder pursuant to **Section 7(E)(iv)(2)**.

(v) *Effect of Conversion.* If this Note is converted in full, then, from and after the date the Conversion Consideration therefor is issued or delivered in settlement of such conversion and the Retirement Fee is paid in Full, the Principal Amount of this Note will cease to be outstanding and all interest will cease to accrue on this Note.

(F) *Common Stock Issued upon Conversion.*

(i) *Status of Conversion Shares; Listing.* Each share of Common Stock delivered pursuant to this Note will be a newly issued or treasury share and will be duly and validly issued, fully paid, non-assessable, free from preemptive rights and free of any Lien or adverse claim (except to the extent of any Lien or adverse claim created by the action or inaction of the Holder or the Person to whom such share will be delivered). If the Common Stock is then listed on any securities exchange, or quoted on any inter-dealer quotation system, then the Company will cause each share of Common Stock issued pursuant to this Note, when delivered, to be admitted for listing on such exchange or quotation on such system.

(ii) *Transferability of Conversion Shares.* Any shares of Common Stock issued pursuant to this Note will be issued in the form of book-entries at the facilities of DTC, identified therein by an “unrestricted” CUSIP number.

(G) *Adjustments to the Conversion Rate.*

(i) *Events Requiring an Adjustment to the Conversion Rate.* The Conversion Rate will be adjusted from time to time as follows:

(1) *Stock Dividends, Splits and Combinations.* If the Company issues solely shares of Common Stock as a dividend or distribution on all or substantially all shares of the Common Stock, or if the Company effects a stock split or a stock combination of the Common Stock (in each case excluding an issuance solely pursuant to a Common Stock Change Event, as to which **Section 7(I)** will apply), then the Conversion Rate will be adjusted based on the following formula:

$$CR_1 = CR_0 \times \frac{OS_1}{OS_0}$$

where:

$CR_0$  = the Conversion Rate in effect immediately before the Open of Business on the Ex-Dividend Date for such dividend or distribution, or immediately before the Open of Business on the effective date of such stock split or stock combination, as applicable;

$CR_1$  = the Conversion Rate in effect immediately after the Open of Business on such Ex-Dividend Date or the Open of Business on such effective date, as applicable;

$OS_0$  = the number of shares of Common Stock outstanding immediately before the Open of Business on such Ex-Dividend Date or effective date, as applicable, without giving effect to such dividend, distribution, stock split or stock combination; and

$OS_1$  = the number of shares of Common Stock outstanding immediately after giving effect to such dividend, distribution, stock split or stock combination.

If any dividend, distribution, stock split or stock combination of the type described in this **Section 7(G)(i)(1)** is declared or announced, but not so paid or made, then the Conversion Rate will be readjusted, effective as of the date the Board of Directors determines not to pay such dividend or distribution or to effect such stock split or stock combination, to the Conversion Rate that would then be in effect had such dividend, distribution, stock split or stock combination not been declared or announced.

(2) *Rights, Options and Warrants.* If the Company distributes, to all or substantially all holders of Common Stock, rights, options or warrants (other than rights issued or otherwise distributed pursuant to a stockholder rights plan, as to which the provisions set forth in **Section 7(G)(v)** will apply) entitling such holders, for a period of not more than 60 calendar days after the record date of such distribution, to subscribe for or purchase shares of Common Stock at a price per share that is less than the average of the Last Reported Sale Prices per share of Common Stock for the 10 consecutive Trading Days ending on, and including, the Trading Day immediately before the date such distribution is announced, then the Conversion Rate will be increased based on the following formula:

$$CR_1 = CR_0 \times \frac{OS + X}{OS + Y}$$

where:

- $CR_0$  = the Conversion Rate in effect immediately before the Open of Business on the Ex-Dividend Date for such distribution;
- $CR_1$  = the Conversion Rate in effect immediately after the Open of Business on such Ex-Dividend Date;
- $OS$  = the number of shares of Common Stock outstanding immediately before the Open of Business on such Ex-Dividend Date;
- $X$  = the total number of shares of Common Stock issuable pursuant to such rights, options or warrants; and
- $Y$  = a number of shares of Common Stock obtained by dividing (x) the aggregate price payable to exercise such rights, options or warrants by (y) the average of the Last Reported Sale Prices per share of Common Stock for the 10 consecutive Trading Days ending on, and including, the Trading Day immediately before the date such distribution is announced.

To the extent that shares of Common Stock are not delivered after the expiration of such rights, options or warrants (including as a result of such rights, options or warrants not being exercised), the Conversion Rate will be readjusted to the Conversion Rate that would then be in effect had the increase to the Conversion Rate for such distribution been made on the basis of delivery of only the number of shares of Common Stock actually delivered upon exercise of such rights, option or warrants. To the extent such rights, options or warrants are not so distributed, the Conversion Rate will be readjusted to the Conversion Rate that would then be in effect had the Ex-Dividend Date for the distribution of such rights, options or warrants not occurred.

For purposes of this **Section 7(G)(i)(2)**, in determining whether any rights, options or warrants entitle holders of Common Stock to subscribe for or purchase shares of Common Stock at a price per share that is less than the average of the Last Reported Sale Prices per share of Common Stock for the 10 consecutive Trading Days ending on, and including, the Trading Day immediately before the date the distribution of such rights, options or warrants is announced, and in determining the aggregate price payable to exercise such rights, options or warrants, there will be taken into account any consideration the Company receives for such rights, options or warrants and any amount payable on exercise thereof, with the value of such consideration, if not cash, to be determined by the Board of Directors in good faith.

(3) *Spin-Offs and Other Distributed Property.*

(a) *Distributions Other than Spin-Offs.* If the Company distributes shares of its Capital Stock, evidences of its indebtedness or other assets or property of the Company, or rights, options or warrants to acquire Capital Stock of the Company or other securities, to all or substantially all holders of the Common Stock, excluding:

(u) dividends, distributions, rights, options or warrants for which an adjustment to the Conversion Rate is required pursuant to **Section 7(G)(i)(1)** or **Section 7(G)(i)(2)**;

(v) dividends or distributions paid exclusively in cash for which an adjustment to the Conversion Rate is required pursuant to **Section 7(G)(i)(4)**;

(w) rights issued or otherwise distributed pursuant to a stockholder rights plan, except to the extent provided in **Section 7(G)(v)**;

(x) Spin-Offs for which an adjustment to the Conversion Rate is required pursuant to **Section 7(G)(i)(3)** **(b)**;

(y) a distribution solely pursuant to a tender offer or exchange offer for shares of Common Stock, as to which **Section 7(G)(i)(5)** will apply; and

(z) a distribution solely pursuant to a Common Stock Change Event, as to which **Section 7(I)** will apply,

then the Conversion Rate will be increased based on the following formula:

$$CR_1 = CR_0 \times \frac{SP}{SP - FMV}$$



where:

- $CR_0$  = the Conversion Rate in effect immediately before the Open of Business on the Ex-Dividend Date for such distribution;
- $CR_1$  = the Conversion Rate in effect immediately after the Open of Business on such Ex-Dividend Date;
- $SP$  = the average of the Last Reported Sale Prices per share of Common Stock for the 10 consecutive Trading Days ending on, and including, the Trading Day immediately before such Ex-Dividend Date; and
- $FMV$  = the fair market value (as determined by the Board of Directors in good faith), as of such Ex-Dividend Date, of the shares of Capital Stock, evidences of indebtedness, assets, property, rights, options or warrants distributed per share of Common Stock pursuant to such distribution;

*provided, however*, that if  $FMV$  is equal to or greater than  $SP$ , then, in lieu of the foregoing adjustment to the Conversion Rate, the Holder will receive, for each \$1,000 Principal Amount of this Note held by this Holder on the record date for such distribution, at the same time and on the same terms as holders of Common Stock, the amount and kind of shares of Capital Stock, evidences of indebtedness, assets, property, rights, options or warrants that such Holder would have received if such Holder had owned, on such record date, a number of shares of Common Stock equal to the Conversion Rate in effect on such record date.

To the extent such distribution is not so paid or made, the Conversion Rate will be readjusted to the Conversion Rate that would then be in effect had the adjustment been made on the basis of only the distribution, if any, actually made or paid.

(b) *Spin-Offs.* If the Company distributes or dividends shares of Capital Stock of any class or series, or similar equity interest, of or relating to an Affiliate, a Subsidiary or other business unit of the Company to all or substantially all holders of the Common Stock (other than solely pursuant to (x) a Common Stock Change Event, as to which **Section 7(I)** will apply; or (y) a tender offer or exchange offer for shares of Common Stock, as to which **Section 7(G)(i)(5)** will apply), and such Capital Stock or equity interest is listed or quoted (or will be listed or quoted upon the consummation of the transaction) on a U.S. national securities exchange (a “**Spin-Off**”), then the Conversion Rate will be increased based on the following formula:

$$CR_1 = CR_0 \times \frac{FMV + SP}{SP}$$

where:

- $CR_0$  = the Conversion Rate in effect immediately before the Open of Business on the Ex-Dividend Date for such Spin-Off;
- $CR_1$  = the Conversion Rate in effect immediately after the Open of Business on such Ex-Dividend Date;
- $FMV$  = the product of (x) the average of the Last Reported Sale Prices per share or unit of the Capital Stock or equity interests distributed in such Spin-Off over the 10 consecutive Trading Day period (the “**Spin-Off Valuation Period**”) beginning on, and including, such Ex-Dividend Date for such Spin-Off (such average to be determined as if references to Common Stock in the definitions of Last Reported Sale Price, Trading Day and Market Disruption Event were instead references to such Capital Stock or equity interests); and (y) the number of shares or units of such Capital Stock or equity interests distributed per share of Common Stock in such Spin-Off; and
- $SP$  = the average of the Last Reported Sale Prices per share of Common Stock for each Trading Day in the Spin-Off Valuation Period.

The adjustment to the Conversion Rate pursuant to this **Section 7(G)(i)(3)(b)** will be calculated as of the Close of Business on the last Trading Day of the Spin-Off Valuation Period but will be given effect immediately after the Open of Business on the Ex-Dividend Date for the Spin-Off, with retroactive effect. If a Note is converted and the Conversion Date occurs during the Spin-Off Valuation Period, then, notwithstanding anything to the contrary in this Note, the Company will, if necessary, delay the settlement of such conversion until the second Business Day (or, if earlier, the standard settlement period for the primary Eligible Exchange (measured in terms of trading volume for its Common Stock) on which the Common Stock is traded) after the last day of the Spin-Off Valuation Period.

To the extent any dividend or distribution of the type set forth in this **Section 7(G)(i)(3)(b)** is declared but not made or paid, the Conversion Rate will be readjusted to the Conversion Rate that would then be in effect had the adjustment been made on the basis of only the dividend or distribution, if any, actually made or paid.

(4) *Cash Dividends or Distributions.* If any cash dividend or distribution is made to all or substantially all holders of Common Stock, then the Conversion Rate will be increased based on the following formula:

$$CR_1 = CR_0 \times \frac{SP}{SP - D}$$

where:

$CR_0$  = the Conversion Rate in effect immediately before the Open of Business on the Ex-Dividend Date for such dividend or distribution;

$CR_1$  = the Conversion Rate in effect immediately after the Open of Business on such Ex-Dividend Date;

$SP$  = the Last Reported Sale Price per share of Common Stock on the Trading Day immediately before such Ex-Dividend Date; and

$D$  = the cash amount distributed per share of Common Stock in such dividend or distribution;

*provided, however,* that if  $D$  is equal to or greater than  $SP$ , then, in lieu of the foregoing adjustment to the Conversion Rate, the Holder will receive, for each \$1,000 Principal Amount of this Note held by the Holder on the record date for such dividend or distribution, at the same time and on the same terms as holders of Common Stock, the amount of cash that such Holder would have received if such Holder had owned, on such record date, a number of shares of Common Stock equal to the Conversion Rate in effect on such record date.

To the extent such dividend or distribution is declared but not made or paid, the Conversion Rate will be readjusted to the Conversion Rate that would then be in effect had the adjustment been made on the basis of only the dividend or distribution, if any, actually made or paid.

(5) *Tender Offers or Exchange Offers.* If the Company or any of its Subsidiaries makes a payment in respect of a tender offer or exchange offer for shares of Common Stock (other than solely pursuant to an odd-lot tender offer pursuant to Rule 13e-4(h)(5) under the Exchange Act), and the value (determined as of the Expiration Time by the Board of Directors in good faith) of the cash and other consideration paid per share of Common Stock in such tender or exchange offer exceeds the Last Reported Sale Price per share of Common Stock on the Trading Day immediately after the last date (the “**Expiration Date**”) on which tenders or exchanges may be made pursuant to such tender or exchange offer (as it may be amended), then the Conversion Rate will be increased based on the following formula:

$$CR_1 = CR_0 \times \frac{AC + (SP \times OS_1)}{SP \times OS_0}$$

where:

- $CR_0$  = the Conversion Rate in effect immediately before the time (the “**Expiration Time**”) such tender or exchange offer expires;
- $CR_1$  = the Conversion Rate in effect immediately after the Expiration Time;
- $AC$  = the aggregate value (determined as of the Expiration Time by the Board of Directors in good faith) of all cash and other consideration paid for shares of Common Stock purchased or exchanged in such tender or exchange offer;
- $OS_0$  = the number of shares of Common Stock outstanding immediately before the Expiration Time (including all shares of Common Stock accepted for purchase or exchange in such tender or exchange offer);
- $OS_1$  = the number of shares of Common Stock outstanding immediately after the Expiration Time (excluding all shares of Common Stock accepted for purchase or exchange in such tender or exchange offer); and
- $SP$  = the average of the Last Reported Sale Prices per share of Common Stock over the 10 consecutive Trading Day period (the “**Tender/Exchange Offer Valuation Period**”) beginning on, and including, the Trading Day immediately after the Expiration Date;

*provided, however,* that the Conversion Rate will in no event be adjusted down pursuant to this **Section 7(G)(i)(5)**, except to the extent provided in the immediately following paragraph. The adjustment to the Conversion Rate pursuant to this **Section 7(G)(i)(5)** will be calculated as of the Close of Business on the last Trading Day of the Tender/Exchange Offer Valuation Period but will be given effect immediately after the Expiration Time, with retroactive effect. If a Note is converted and the Conversion Date occurs on the Expiration Date or during the Tender/Exchange Offer Valuation Period, then, notwithstanding anything to the contrary in this Note, the Company will, if necessary, delay the settlement of such conversion until the second Business Day (or, if earlier, the standard settlement period for the primary Eligible Exchange (measured in terms of trading volume for its Common Stock) on which the Common Stock is traded) after the last day of the Tender/Exchange Offer Valuation Period.

To the extent such tender or exchange offer is announced but not consummated (including as a result of the Company being precluded from consummating such tender or exchange offer under applicable law), or any purchases or exchanges of shares of Common Stock in such tender or exchange offer are rescinded, the Conversion Rate will be readjusted to the Conversion Rate that would then be in effect had the adjustment been made on the basis of only the purchases or exchanges of shares of Common Stock, if any, actually made, and not rescinded, in such tender or exchange offer.

(ii) *No Adjustments in Certain Cases.*

(1) *Where the Holder Participates in the Transaction or Event Without Conversion.* Notwithstanding anything to the contrary in **Section 7(G)(i)**, the Company will not be obligated to adjust the Conversion Rate on account of a transaction or other event otherwise requiring an adjustment pursuant to **Section 7(G)(i)** (other than a stock split or combination of the type set forth in **Section 7(G)(i)(1)** or a tender or exchange offer of the type set forth in **Section 7(G)(i)(5)**) if the Holder participates, at the same time and on the same terms as holders of Common Stock, and solely by virtue of being the Holder of this Note, in such transaction or event without having to convert this Note and as if the Holder held a number of shares of Common Stock equal to the product of (i) the Conversion Rate in effect on the related record date; and (ii) the aggregate Principal Amount (expressed in thousands) of this Note held by this Holder on such date.

(2) *Certain Events.* The Company will not be required to adjust the Conversion Rate except as provided in **Section 7(G)** and **Section 7(I)**. Without limiting the foregoing, the Company will not be obligated to adjust the Conversion Rate on account of:

(a) except as otherwise provided in **Section 7(G)**, the sale of shares of Common Stock for a purchase price that is less than the market price per share of Common Stock or less than the Conversion Price;

(b) the issuance of any shares of Common Stock pursuant to any present or future plan providing for the reinvestment of dividends or interest payable on the Company's securities and the investment of additional optional amounts in shares of Common Stock under any such plan;

(c) the issuance of any shares of Common Stock, restricted stock or options or rights to purchase shares of Common Stock pursuant to any present or future employee, director or consultant benefit or incentive plan or program of, or assumed by, the Company or any of its Subsidiaries;

(d) the issuance of any shares of Common Stock pursuant to any option, warrant, right or convertible or exchangeable security of the Company outstanding as of the Issue Date (other than an adjustment pursuant to **Section 7(G)(i)(3)(a)** in connection with the separation of rights under the Company's stockholder rights plan existing, if any, as of the Issue Date);

(e) repurchases of shares of Common Stock, including structured or derivative transactions, that are not pursuant to a tender offer as contemplated by **Section 7(G)(i)(5)**;

(f) solely a change in the par value (or lack of par value) of the Common Stock; or

(g) accrued and unpaid interest on this Note.

(iii) *Adjustments Not Yet Effective.* Notwithstanding anything to the contrary in this Note, if:

(1) this Note is to be converted;

(2) the record date, effective date or Expiration Time for any event that requires an adjustment to the Conversion Rate pursuant to **Section 7(G)(i)** has occurred on or before the Conversion Date for such conversion, but an adjustment to the Conversion Rate for such event has not yet become effective as of such Conversion Date; and

(3) the Conversion Consideration due upon such conversion includes any whole shares of Common Stock, which shares are not entitled to participate in such event (because they were not held on the related record date or otherwise);

then, solely for purposes of such conversion, the Company will, without duplication, give effect to such adjustment on such Conversion Date. In such case, if the date on which the Company is otherwise required to deliver the consideration due upon such conversion is before the first date on which the amount of such adjustment can be determined, then the Company will delay the settlement of such conversion until the second Business Day (or, if earlier, the standard settlement period for the primary Eligible Exchange (measured in terms of trading volume for its Common Stock) on which the Common Stock is traded) after such first date.

(iv) *Conversion Rate Adjustments where the Converting Holder Participates in the Relevant Transaction or Event.* Notwithstanding anything to the contrary in this Note, if:

(1) a Conversion Rate adjustment for any dividend or distribution becomes effective on any Ex-Dividend Date pursuant to **Section 7(G)(i)**;

(2) a Note is to be converted;

(3) the Conversion Date for such conversion occurs on or after such Ex-Dividend Date and on or before the related record date;

(4) the Conversion Consideration due upon such conversion includes any whole shares of Common Stock based on a Conversion Rate that is adjusted for such dividend or distribution; and

(5) such shares would be entitled to participate in such dividend or distribution (including pursuant to **Section 7(C)(ii)**),

then (x) such Conversion Rate adjustment will not be given effect for such conversion; (y) the shares of Common Stock issuable upon such conversion based on such unadjusted Conversion Rate will not be entitled to participate in such dividend or distribution; and (z) there will be added, to the Conversion Consideration otherwise due upon such conversion, the same kind and amount of consideration that would have been delivered in such dividend or distribution with respect to such shares of Common Stock had such shares been entitled to participate in such dividend or distribution.

(v) *Stockholder Rights Plans.* If any shares of Common Stock are to be issued upon conversion of any Note and, at the time of such conversion, the Company has in effect any stockholder rights plan, then the Holder of such Note will be entitled to receive, in addition to, and concurrently with the delivery of, the Conversion Consideration otherwise payable under this Note upon such conversion, the rights set forth in such stockholder rights plan, unless such rights have separated from the Common Stock at such time, in which case, and only in such case, the Conversion Rate will be adjusted pursuant to **Section 7(G)(i)(3)(a)** on account of such separation as if, at the time of such separation, the Company had made a distribution of the type referred to in such Section to all holders of the Common Stock, subject to readjustment in accordance with such Section if such rights expire, terminate or are redeemed.

(vi) *Limitation on Effecting Transactions Resulting in Certain Adjustments.* The Company will not engage in or be a party to any transaction or event that would require the Conversion Rate to be adjusted pursuant to **Section 7(G)(i)** or **Section 7(I)** to an amount that would result in the Conversion Price per share of Common Stock being less than the par value per share of Common Stock.

(vii) *Equitable Adjustments to Prices.* Whenever any provision of this Note requires the Company to calculate the average of the Last Reported Sale Prices, or any function thereof, over a period of multiple days (including to calculate an adjustment to the Conversion Rate), the Company will make proportionate adjustments, if any, to such calculations to account for any adjustment to the Conversion Rate pursuant to **Section 7(G)(i)** that becomes effective, or any event requiring such an adjustment to the Conversion Rate where the Ex-Dividend Date or effective date, as applicable, of such event occurs, at any time during such period.

(viii) *Calculation of Number of Outstanding Shares of Common Stock.* For purposes of this **Section 7(G)**, the number of shares of Common Stock outstanding at any time will (i) include shares issuable in respect of scrip certificates issued in lieu of fractions of shares of Common Stock; and (ii) exclude shares of Common Stock held in the Company's treasury (unless the Company pays any dividend or makes any distribution on shares of Common Stock held in its treasury).

(ix) *Calculations.* All calculations with respect to the Conversion Rate and adjustments thereto will be made to the nearest 1/10,000th of a share of Common Stock (with 5/100,000ths rounded upward).

(x) *Notice of Conversion Rate Adjustments.* Upon the effectiveness of any adjustment to the Conversion Rate pursuant to **Section 7(G)(i)**, the Company will promptly send notice to the Holder containing (i) a brief description of the transaction or other event on account of which such adjustment was made; (ii) the Conversion Rate in effect immediately after such adjustment; and (iii) the effective time of such adjustment.

(H) *Voluntary Adjustments.*

(i) *Generally.* To the extent permitted by law and applicable stock exchange rules, the Company, from time to time, may (but is not required to) increase the Conversion Rate on any portion of this Note for any period of time by any amount if (i) the Board of Directors determines in good faith that such increase is either (x) in the best interest of the Company; or (y) advisable to avoid or diminish any income tax imposed on holders of Common Stock or rights to purchase Common Stock as a result of any dividend or distribution of shares (or rights to acquire shares) of Common Stock or any similar event and (ii) such increase is irrevocable for the period of time specified by the Board of Directors. The Company and the Holder agree that any such voluntary adjustment to the Conversion Rate and any conversion of any portion of the Note based upon any such voluntary adjustment shall not constitute material non-public information with respect to the Company.

(ii) *Notice of Voluntary Increases.* If the Board of Directors determines to increase the Conversion Rate pursuant to **Section 7(H)(i)**, then, no later than the first Business Day following such determination, the Company will send notice to the Holder of such increase, the amount thereof and the period during which such increase will be in effect.

(I) *Effect of Certain Recapitalizations, Reclassifications, Consolidations, Mergers and Sales.*

(i) *Generally.* If there occurs any:

(1) recapitalization, reclassification or change of the Common Stock (other than (x) changes solely resulting from a subdivision or combination of the Common Stock, (y) a change only in par value or from par value to no par value or no par value to par value and (z) stock splits and stock combinations that do not involve the issuance of any other series or class of securities);

(2) consolidation, merger, combination or binding or statutory share exchange involving the Company;

(3) sale, lease or other transfer of all or substantially all of the assets of the Company and its Subsidiaries, taken as a whole, to any Person; or



(4) other similar event,

and, in each case, as a result of such occurrence, the Common Stock is converted into, or is exchanged for, or represents solely the right to receive, other securities or other property (including cash or any combination of the foregoing) (such an event, a “**Common Stock Change Event**,” and such other securities or other property, the “**Reference Property**,” and the amount and kind of Reference Property that a holder of one share of Common Stock would be entitled to receive on account of such Common Stock Change Event (without giving effect to any arrangement not to issue fractional shares of securities or other property), a “**Reference Property Unit**”), then, notwithstanding anything to the contrary in this Note, at the effective time of such Common Stock Change Event, (x) the Conversion Consideration due upon conversion of any Note will be determined in the same manner as if each reference to any number of shares of Common Stock in this **Section 7** (or in any related definitions) were instead a reference to the same number of Reference Property Units; (y) for purposes of **Section 7(A)**, each reference to any number of shares of Common Stock in such Section (or in any related definitions) will instead be deemed to be a reference to the same number of Reference Property Units; and (z) for purposes of the definition of “Fundamental Change,” the term “Common Stock” and “common equity” will be deemed to mean the common equity (including depository receipts representing common equity), if any, forming part of such Reference Property. For these purposes, (I) the Daily VWAP of any Reference Property Unit or portion thereof that consists of a class of common equity securities will be determined by reference to the definition of “Daily VWAP,” substituting, if applicable, the Bloomberg page for such class of securities in such definition; and (II) the Daily VWAP of any Reference Property Unit or portion thereof that does not consist of a class of common equity securities, and the Last Reported Sale Price of any Reference Property Unit or portion thereof that does not consist of a class of securities, will be the fair value of such Reference Property Unit or portion thereof, as applicable, determined in good faith by the Company (or, in the case of cash denominated in U.S. dollars, the face amount thereof).

If the Reference Property consists of more than a single type of consideration to be determined based in part upon any form of stockholder election, then the composition of the Reference Property Unit will be deemed to be the weighted average of the types and amounts of consideration actually received, per share of Common Stock, by the holders of Common Stock. The Company will notify the Holder of such weighted average as soon as practicable after such determination is made.

At or before the effective date of such Common Stock Change Event, the Company and the resulting, surviving or transferee Person (if not the Company) of such Common Stock Change Event (the “**Successor Person**”) will execute and deliver such instruments or agreements that (x) provides for subsequent conversions of this Note in the manner set forth in this **Section 7(I)**; (y) provides for subsequent adjustments to the Conversion Rate pursuant to **Section 7(G)** and **Section 7(H)** in a manner consistent with this **Section 7(I)**; and (z) contains such other provisions as the Company reasonably determines are appropriate to preserve the economic interests of the Holder and to give effect to the provisions of this **Section 7(I)**. If the Reference Property includes shares of stock or other securities or assets of a Person other than the Successor Person, then such other Person will also execute such instruments or agreements and such instruments or agreements will contain such additional provisions the Company reasonably determines are appropriate to preserve the economic interests of the Holder.

(ii) *Notice of Common Stock Change Events.* As soon as practicable after learning the anticipated or actual effective date of any Common Stock Change Event, the Company will provide written notice to the Holder of such Common Stock Change Event, including a brief description of such Common Stock Change Event, its anticipated effective date and a brief description of the anticipated change in the conversion right of this Note.

(iii) *Compliance Covenant.* The Company will not become a party to any Common Stock Change Event unless its terms are consistent with this **Section 7(I)**.

(J) *Limitations on Conversions.* Notwithstanding anything to the contrary contained herein, the Company shall not effect the conversion of any portion of this Note, or otherwise issue shares pursuant to this Note, and the Holder shall not have the right to convert any portion of this Note, pursuant to the terms and conditions of this Note and any such conversion or issuance shall be null and void and treated as if never made, to the extent that after giving effect to such conversion or issuance, the Holder together with the other Attribution Parties collectively would beneficially own in the aggregate in excess of 4.99% (the “**Maximum Percentage**”) of the number of shares of Common Stock outstanding immediately after giving effect to such conversion or issuance. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and the other Attribution Parties shall include the number of shares of Common Stock held by the Holder and all other Attribution Parties plus the number of shares of Common Stock issuable upon conversion of, or otherwise pursuant to, this Note with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (A) conversion of the remaining, unconverted portion of this Note beneficially owned by the Holder or any of the other Attribution Parties and (B) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company (including, without limitation, any convertible notes or convertible preferred stock or warrants) beneficially owned by the Holder or any other Attribution Party subject to a limitation on conversion or exercise analogous to the limitation contained in this **Section 7(J)**. For purposes of this **Section 7(J)**, beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act. For purposes of this Note, in determining the number of outstanding shares of Common Stock the Holder may acquire in connection with this Note without exceeding the Maximum Percentage, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company’s most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q, Current Report on Form 8-K or other public filing with the Commission, as the case may be, (y) a more recent public announcement by the Company or (z) any other written notice by the Company or the Transfer Agent (as defined in the Securities Purchase Agreement) setting forth the number of shares of Common Stock outstanding (the “**Reported Outstanding Share Number**”). If the Company receives a notice from the Holder related to the conversion of this Note or any issuance of shares of Common Stock in connection with this Note at a time when the actual number of outstanding shares of Common Stock is less than the Reported Outstanding Share Number, the Company shall promptly notify the Holder in writing of the number of shares of Common Stock then outstanding and, to the extent that such conversion or issuance of shares of Common Stock would otherwise cause the Holder’s beneficial ownership, as determined pursuant to this **Section 7(J)**, to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of shares of Common Stock to be issued pursuant to such notice. For any reason at any time, upon the written or oral request of the Holder, the Company shall within one Trading Day confirm in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Note, by the Holder and any other Attribution Party since the date as of which the Reported Outstanding Share Number was reported. In the event that the issuance of shares of Common Stock to the Holder upon conversion of, or otherwise pursuant to, this Note results in the Holder and the other Attribution Parties being deemed to beneficially own, in the aggregate, more than the Maximum Percentage of the number of outstanding shares of Common Stock (as determined under Section 13(d) of the Exchange Act), the number of shares so issued by which the Holder’s and the other Attribution Parties’ aggregate beneficial ownership exceeds the Maximum Percentage (the “**Excess Shares**”) shall be deemed null and void and shall be cancelled ab initio, and the Holder shall not have the power to vote or to transfer the Excess Shares; provided, however that, in the event of a Forced Conversion, if the aggregate number of shares of Common Stock that would otherwise be required to be issued to the Holder pursuant to **Section 7(D)** would cause the Holder to beneficially own shares of Common Stock in excess of the Maximum Percentage, such shares of Common Stock in excess of the Maximum Percentage shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be issued such shares (and any such shares declared or made on such initial issuance or on any subsequent issuance held similarly in abeyance) to the same extent as if there had been no such limitation; provided further that notwithstanding anything to the contrary stated herein, the obligation of the Company to issue such shares hereunder shall survive the repayment in full, repurchase in full or conversion in full of this Note until such time as such shares are delivered hereunder. Upon delivery of a written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99% as specified in such notice; provided that (i) any such increase in the Maximum Percentage will not be effective until the 61st day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and the other Attribution Parties and not to any Other Holder of Notes that is not an Attribution Party of the Holder. For purposes of clarity, the shares of Common Stock issuable pursuant to the terms of this Note in excess of the Maximum Percentage shall not be deemed to be beneficially owned by the Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the Exchange Act. No prior inability to convert this Note or receive shares pursuant to this Note pursuant to this paragraph shall have any effect on the applicability of the provisions of this paragraph with respect to any subsequent determination of convertibility. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this **Section 7(J)** to the extent necessary to correct this paragraph or any portion of this paragraph which may be defective or inconsistent with the intended beneficial ownership limitation contained in this **Section 7(J)** or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitation contained in this paragraph may not be waived and shall apply to a successor holder of this Note. The Holder hereby acknowledges and agrees that the Company shall be entitled to rely on the representations and other information set forth in any notice from the Holder related to the conversion of this Note or any issuance of shares of Common Stock in connection with this Note and shall not be required to independently verify whether any issuance of Common Stock pursuant to this Note would cause the Holder (together with the other Attribution Parties) to collectively beneficially own in excess of the Maximum Percentage of the number of shares of Common Stock outstanding after giving effect to such conversion or otherwise trigger the provisions of this **Section 7(J)**.

**8. AFFIRMATIVE AND NEGATIVE COVENANTS.**

(A) *Stay, Extension and Usury Laws.* To the extent that it may lawfully do so, the Company (A) agrees that it will not at any time insist upon, plead, or in any manner whatsoever claim or take the benefit or advantage of, any stay, extension or usury law (wherever or whenever enacted or in force) that may affect the covenants or the performance of this Note; and (B) expressly waives all benefits or advantages of any such law and agrees that it will not, by resort to any such law, hinder, delay or impede the execution of any power granted to the Holder by this Note, but will suffer and permit the execution of every such power as though no such law has been enacted.

(B) *Corporate Existence.* Subject to **Section 9**, the Company will cause to preserve and keep in full force and effect:

(i) its corporate existence and the corporate existence of its Subsidiaries in accordance with the organizational documents of the Company or its Subsidiaries, as applicable; and

(ii) the material rights (charter and statutory), licenses and franchises of the Company and its Subsidiaries;

*provided, however*, that the Company need not preserve or keep in full force and effect any such rights (charter and statutory), license or franchise or existence of any of its Subsidiaries if the Board of Directors determines in good faith that (x) the preservation thereof is no longer desirable in the conduct of the business of the Company and its Subsidiaries, taken as a whole; and (y) the loss thereof is not, individually or in the aggregate, materially adverse to the Holder, *provided, further* that any Subsidiary may merge into, amalgamate or consolidate with any Subsidiary (other than a Foreign Subsidiary) and any Subsidiary may liquidate or dissolve if all of its property passes to the Company or a Subsidiary (other than a Foreign Subsidiary).

(C) *Ranking.* All payments due under this Note shall rank (i) *pari passu* with all Other Notes, (ii) effectively senior to all unsecured obligations of the Company to the extent of the value of the Collateral securing the Notes for so long as the Collateral so secures the Notes in accordance with the terms hereof and (iii) senior to any Subordinated Indebtedness.

(D) *Indebtedness; Amendments to Indebtedness.* The Company shall not and shall not permit any Subsidiary to: (a) create, incur, assume, guarantee or be or remain liable with respect to any Indebtedness, other than Permitted Indebtedness; (b) prepay any Indebtedness (other than Permitted Indebtedness) except by the conversion of Indebtedness into equity securities (other than Disqualified Stock) and the payment of cash in lieu of fractional shares in connection with such conversion or (c) amend or modify any documents or notes evidencing any Indebtedness (other than Permitted Indebtedness (excluding Permitted Indebtedness under clauses (B) and (D) of the definition thereof), which may be amended or modified so long as following such amendment or modification such documents or notes continue to constitute Permitted Indebtedness) in any manner which shortens the maturity date or any amortization, redemption or interest payment date thereof or otherwise imposes materially more burdensome terms upon the Company or its Subsidiaries than exist in such Indebtedness prior to such amendment or modification without the prior written consent of Holder. The Company shall not and shall not permit any Subsidiary to incur any Indebtedness that would cause a breach or Default under the Notes or prohibit or restrict the performance of any of the Company's or its Subsidiaries' obligations under the Notes, including without limitation, the payment of interest and principal thereon.

(E) *Liens.* The Company will not, and will not permit any of its Subsidiaries to, directly or indirectly, create, incur, assume or permit to exist any Lien of any kind on any asset now owned or hereafter acquired, except Permitted Liens.

(F) *Investments.* The Company shall not directly or indirectly acquire or own, or make any Investment in or to any Person, or permit any of its Subsidiaries so to do, other than Permitted Investments; *provided* that the Company may not make any Investment (including a Permitted Investment) or permit any of its Subsidiaries to make any Investment (including a Permitted Investment) (i) if the Note has automatically accelerated pursuant to **Section 10(B)(i)**, (ii) an Event of Default has occurred, unless the Company has delivered an Event of Default Notice to the Holder with respect to such Event of Default and the Holder has not declared this Note (or any portion thereof) to become due and payable pursuant to **Section 10(B)(ii)** within two Business Days of the delivery of such Event of Default Notice, or (iii) if any event or circumstance has occurred and is continuing which, with the giving of notice or passage of time or both, could constitute an Event of Default with respect to **Section 10(A)(iii)**, **Section 10(A)(viii)**, **Section 10(A)(ix)**, **Section 10(A)(x)** or **Section 10(A)(xiii)**.

(G) *Distributions.* The Company shall not, and shall not allow any Subsidiary to, (a) repurchase or redeem any class of stock or other Equity Interest of the Company or any of its Subsidiaries other than (i) pursuant to employee, director or consultant equity incentive, stock purchase or repurchase plans or awards granted thereunder or other similar agreements provided under plans approved by the Board of Directors; *provided*, however, in each case the repurchase or redemption price does not exceed the original consideration paid for such stock or Equity Interest, (ii) repurchases of Equity Interests deemed to occur upon the cashless or net exercise of stock options, warrants or other convertible or exchangeable securities and (iii) repurchases of Equity Interests deemed to occur upon the withholding of a portion of the Equity Interests granted or awarded to a current or former officer, director, employee or consultant to pay for the taxes payable by such person upon such grant or award (or upon vesting or exercise thereof), or (b) declare or pay any cash dividend or make a cash distribution on any class of stock or other Equity Interest of the Company or any of its Subsidiaries, except (i) that a Subsidiary of the Company may pay dividends or make distributions to the Company or a parent company that is a direct or indirect Wholly Owned Subsidiary of the Company and (ii) the Company may make payments of cash in lieu of the issuance of fractional shares, or (c) lend money to any employees, officers or directors (except as permitted under clause (F) of the definition of Permitted Investment), or guarantee the payment of any such loans granted by a third party in excess of \$50,000 in the aggregate or (d) waive, release or forgive any Indebtedness owed by any employees, officers or directors in excess of \$50,000 in the aggregate. If there are dividends or distributions made by the Company or any Subsidiary to any third party pursuant to this **Section 8(G)**, within one (1) Business Day following the date on which the Company files an Annual Report on Form 10-K or Quarterly Report on Form 10-Q with the Commission, the Company will provide the Holder with a written notice setting forth the aggregate amount of such dividends or distributions made by the Company or any Subsidiary for the period covered by such Annual Report on Form 10-K or Quarterly Report on Form 10-Q, as applicable. Notwithstanding anything herein to the contrary, the Company shall not, and shall not allow any Subsidiary to, take the actions described in clauses (a)(i), (c) and (d) of this **Section 8(G)** if (A) any Event of Default has occurred hereunder and has not been waived by the Required Holders or (B) any event or circumstance has occurred and is continuing which, with the giving of notice or passage of time or both, could constitute an Event of Default with respect to **Section 10(A)(iii)**, **Section 10(A)(v)**, **Section 10(A)(viii)**, **Section 10(A)(ix)**, **Section 10(A)(x)** or **Section 10(A)(xiii)**.

(H) *Transfers.* The Company shall not, and shall not allow any Subsidiary to, voluntarily or involuntarily transfer, sell, lease, license, lend or in any other manner convey any equitable, beneficial or legal interest in any material portion of the assets of the Company and its Subsidiaries (taken as a whole), except for Permitted Transfers and Permitted Investments.

(I) *Taxes.* The Company and its Subsidiaries shall pay when due all taxes, fees or other similar charges (together with any related interest or penalties) now or hereafter imposed or assessed against the Company and its Subsidiaries or their respective assets or upon their ownership, possession, use, operation or disposition thereof or upon their rents, receipts or earnings arising therefrom (except where the failure to pay would not, individually or in the aggregate, have a material effect on the Company or any of its Subsidiaries). The Company and its Subsidiaries shall file on or before the due date therefor all personal property tax returns (except where the failure to file would not, individually or in the aggregate, have a material effect on the Company or any of its Subsidiaries). Notwithstanding the foregoing, the Company and its Subsidiaries may contest, in good faith and by appropriate proceedings, taxes, fees and other similar charges for which they maintain adequate reserves therefor in accordance with GAAP.

(J) *Minimum Liquidity.* The Company and its Subsidiaries shall have at all times liquidity (the “**Minimum Liquidity Amount**”) calculated as unrestricted, unencumbered Cash and Cash Equivalents (and for the avoidance of doubt not including any Cash or Cash Equivalents held in the Restricted Cash Account) in one or more deposit accounts and/or securities accounts located in the United States and subject to one or more Control Agreements entered into in favor of the Collateral Agent (each a “**Controlled Account**”) in a minimum amount equal to the greater of (i) \$30,000,000 and (ii) the lesser of (x) \$50,000,000 and (y) an amount equal to the Company’s Cash and Cash Equivalents on the last calendar day of the Fiscal Half immediately preceding the most recently completed Fiscal Half less the Available Cash as of the last calendar day of the most recently completed Fiscal Half (such most recently completed Fiscal Half, the “**Liquidity Cash Burn Period**”).

(K) *Change in Nature of Business.* The Company shall not, and the Company shall cause each of its *Subsidiaries* to not, directly or indirectly, engage in any material line of business substantially different from those lines of business conducted by or publicly contemplated to be conducted by the Company and each of its Subsidiaries on the Issue Date or any business substantially related or incidental thereto.

(L) *Maintenance of Properties, Etc.* The Company shall maintain and preserve, and the Company shall cause each of its Subsidiaries to maintain and preserve, all of its tangible properties which are necessary or useful (as determined by the Company in good faith) to the conduct of its business in good working order and condition, ordinary wear and tear excepted, and comply at all times in all material respects with the provisions of all leases to which it is a party as lessee or under which it occupies property, so as to prevent any loss or forfeiture thereof or thereunder.

(M) *Maintenance of Intellectual Property.* The Company will take, and the Company shall cause each of its Subsidiaries to take, all actions necessary or advisable to maintain and preserve all of the Intellectual Property Rights (as defined in the Securities Purchase Agreement) of the Company or such Subsidiary that are necessary or material (as determined by the Company in good faith) to the conduct of its business in full force and effect.

(N) *Maintenance of Insurance.* The Company shall maintain, and the Company shall cause each of its Subsidiaries to maintain, insurance with responsible and reputable insurance companies or associations (including, without limitation, comprehensive general liability, hazard, rent and business interruption insurance) with respect to its properties (including all real properties leased or owned by it) and business, in such amounts and covering such risks as is required by any governmental authority having jurisdiction with respect thereto or as is carried generally in accordance with sound business practice by companies in similar businesses similarly situated.

(O) *Transactions with Affiliates.* Neither the Company, nor any of its Subsidiaries, shall enter into, renew, extend or be a party to, any transaction or series of related transactions (including, without limitation, the purchase, sale, lease, transfer or exchange of property or assets of any kind or the rendering of services of any kind) with any affiliate (other than the Company or any of its Wholly Owned Subsidiaries), except transactions actually disclosed pursuant to the Securities Purchase Agreement, as in effect as of the Issue Date, and any transactions for fair consideration and on terms no less favorable to it than would be obtainable in a comparable arm's length transaction with a Person that is not an affiliate thereof.

(P) *Restricted Issuances.* The Company shall not, and shall cause its Subsidiaries not to, directly or indirectly, without the prior written consent of the holders of a majority in aggregate principal amount of the Notes then outstanding, (i) issue any Notes (other than as contemplated by the Securities Purchase Agreement and the Notes) or (ii) issue any other securities or incur any Indebtedness, in each case, that would cause a breach or Default under the Notes or that by its terms would prohibit or restrict the performance of any of the Company's or its Subsidiaries' obligations under the Notes, including, without limitation, the payment of principal thereon.

(Q) *Share Reserve.* So long as this Note remains outstanding, the Company shall at all times have no less than a number of authorized but unissued shares of Common Stock equal to the sum of (i) 100% of the shares of Common Stock issuable upon the conversion of any Warrants issued under the Securities Purchase Agreement and outstanding, which shall be reserved for issuance pursuant to the terms of the Warrants (ii) a fraction, the numerator of which shall be the then outstanding principal amount of all Notes issued pursuant to the Securities Purchase Agreement, and the denominator of which shall be the Conversion Price, which shall be reserved for issuance pursuant to the terms of the Notes, and (iii) 50,000,000 shares of Common Stock, which need not be reserved for issuance pursuant to the terms of the Warrants or the Notes (the “**Required Reserve Amount**”); provided that at no time shall the number of shares of Common Stock reserved pursuant to this **Section 8(Q)** be reduced other than in connection with any stock combination, reverse stock split or other similar transaction. If at any time the number of shares of Common Stock authorized and reserved for issuance is not sufficient to meet the Required Reserve Amount, the Company will promptly take all corporate action necessary to authorize and reserve a sufficient number of shares, including, without limitation, calling a special meeting of stockholders to authorize additional shares to meet the Company’s obligations pursuant to the Transaction Documents, in the case of an insufficient number of authorized shares, obtain stockholder approval (if required) of an increase in such authorized number of shares, and voting the management shares of the Company in favor of an increase in the authorized shares of the Company to ensure that the number of authorized shares is sufficient to meet the Required Reserve Amount.

(R) *Independent Investigation.* At the request of the Required Holders at any time the Required Holders have determined in good faith that (i) an Event of Default has occurred or (ii) any event or circumstance has occurred and is continuing which, with the giving of notice or passage of time or both, could constitute an Event of Default but the Company has not timely agreed to such determination in writing, the Company shall hire an independent, reputable investment bank selected by the Company and approved by the Required Holders to investigate as to whether such Event of Default or event or circumstance has occurred (the “**Independent Investigator**”). If the Independent Investigator determines that such Event of Default or event or circumstance has occurred, the Independent Investigator shall notify the Company of such Event of Default or occurrence of such event or circumstance and the Company shall promptly deliver written notice to the Holder of such Event of Default if such Event of Default has occurred. In connection with such investigation, the Independent Investigator may, during normal business hours and upon signing a confidentiality agreement in a form reasonably acceptable to the Company, inspect all contracts, books, records, personnel, offices and other facilities and properties of the Company and its Subsidiaries and, to the extent available to the Company after the Company uses reasonable efforts to obtain them, the records of its accountants (including the accountants’ work papers) and any books of account, records, reports and other papers not contractually required of the Company to be confidential or secret, or subject to attorney-client or other evidentiary privilege, and the Independent Investigator may make such copies and inspections thereof as the Independent Investigator may reasonably request. The Company shall furnish the Independent Investigator with such financial and operating data and other information with respect to the business and properties of the Company as the Independent Investigator may reasonably request. The Company shall permit the Independent Investigator to discuss the affairs, finances and accounts of the Company with, and to make proposals and furnish advice with respect thereto to, any of the Company’s officers, directors, key employees and independent public accountants (and by this provision the Company authorizes said accountants to discuss with such Independent Investigator the finances and affairs of the Company and any Subsidiaries), all at such reasonable times, upon reasonable notice, and as often as may be reasonably requested.

(S) Upon delivery by the Company to the Holder (or receipt by the Company from the Holder) of any notice required pursuant to the terms of this Note, in the event that the Company believes that a notice contains material, non-public information relating to the Company or any of its Subsidiaries, the Company so shall indicate to the Holder explicitly in writing in such notice (or immediately upon receipt of notice from the Holder, as applicable), and in the absence of any such written indication in such notice (or notification from the Company immediately upon receipt of notice from the Holder), the Holder shall be entitled to presume that information contained in the notice does not constitute material, non-public information relating to the Company or any of its Subsidiaries. In addition, unless the Company has in good faith determined that the matters relating to such notice do not constitute material, non-public information relating to the Company or any of its Subsidiaries the Company shall on or prior to 9:00 a.m., New York City time on the Business Day immediately following such notice delivery date, publicly disclose such material, non-public information on a Form 8-K or otherwise. Nothing contained in this **Section 8(S)** shall limit any obligations of the Company, or any rights of the Holder, under the Securities Purchase Agreement.

(T) The Company acknowledges and agrees that the Holder is not a fiduciary or agent of the Company, the Holder will not have any obligations hereunder except those obligations expressly set forth herein (and in the Securities Purchase Agreement) and the Holder is acting solely in the capacity of an arm's length contractual counterparty to the Company with respect to the Note and not as a fiduciary or agent of the Company. The Company agrees that it will not assert any claim against the Holder based on an alleged breach of fiduciary duty by the Holder in connection with the Note. The Company acknowledges that the Holder shall have no obligation to (a) maintain the confidentiality of any information provided by the Company or (b) refrain from trading any securities while in possession of such information in the absence of a written non-disclosure agreement signed by an officer of the Holder that explicitly provides for such confidentiality and trading restrictions. In the absence of such an executed, written non-disclosure agreement, the Company acknowledges that the Holder may freely trade in any securities issued by the Company, may possess and use any information provided by the Company in connection with such trading activity, and may disclose any such information to any third party.

(U) The Company shall cause this Note and any shares of Common Stock issuable pursuant to this Note to be eligible to be offered, sold or otherwise transferred by the Holder pursuant to Rule 144, without any requirements as to volume, manner of sale, availability of current public information (whether or not then satisfied) or notice under the Securities Act and without any requirement for registration under any state securities or "blue sky" law, on and after the date that is six months following the Issue Date. If this Note is to be transferred, the Holder shall notify the Company and surrender this Note to the Company (or provide the Company an affidavit in a form reasonably acceptable to the Company that this Note was lost, stolen or destroyed), whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Note, registered as the Holder may request.

(V) So long as this Note remains outstanding, the Company shall at all times have access to an ATM Program, Equity Line of Credit, or similar program approved by the Required Holders with aggregate available, accessible and unused capacity to generate gross proceeds to the Company of at least \$50,000,000 (the "**Required Funding Programs**").

(W) The Company shall pay when due any and all fees and expenses owed by it under all deposit accounts located in the United States and subject to a control agreement entered into in favor of the Collateral Agent.

(X) *Minimum Cash Spend Availability.*



(i) For each Fiscal Quarter beginning with the Fiscal Quarter ending March 31, 2024 (each such period, a “**Quarterly Cash Burn Period**”), the Company’s and its Wholly Owned Subsidiaries’ Available Cash on the last calendar day of such Quarterly Cash Burn Period shall be greater than or equal to (A) the Company’s and its Wholly Owned Subsidiaries’ Cash and Cash Equivalents on the last calendar day of the immediately preceding Fiscal Quarter, less (B) \$30,000,000.

(ii) On or prior to the third (3<sup>rd</sup>) Business Day of each calendar month (or, if earlier, immediately in the event an Event of Default has occurred as a result of a breach of **Section 8(D)**, **Section 8(E)**, **Section 8(F)**, **Section 8(G)**, **Section 8(J)**, **Section 8(Q)**, **Section 8(V)**, **Section 8(X)(i)** or **Section 8(Y)** hereof), the Company shall provide to the Holder a certification, in the form attached hereto as Exhibit C, executed on behalf of the Company by the Chief Financial Officer of the Company, certifying whether or not the Company has satisfied the requirements of **Section 8(D)**, **Section 8(E)**, **Section 8(F)**, **Section 8(G)**, **Section 8(J)**, **Section 8(Q)**, or **Section 8(V)** during the immediately preceding calendar month. On or prior to the third (3<sup>rd</sup>) Business Day of each Fiscal Quarter, beginning with the Fiscal Quarter beginning April 1, 2024, the Company shall provide to the Holder a certification, executed on behalf of the Company by the Chief Financial Officer of the Company, certifying whether or not the Company has satisfied the requirements of **Section 8(X)(i)** during the immediately preceding Fiscal Quarter. Each such certification delivered pursuant to this **Section 8(X)(ii)** shall be referred to as a “**Compliance Certificate**”. If the Company determines in its sole discretion that any such information constitutes material non-public information, then the Company will so indicate in the certification provided pursuant to this **Section 8(X)(ii)** and the Company will concurrently publicly disclose such material, non-public information on a Form 8-K or otherwise.

(Y) At no time shall any Intellectual Property (regardless of the value of such Intellectual Property) or any other assets with a fair market value in excess of \$2,000,000 in the aggregate be held by Foreign Subsidiaries, unless the Holder shall have been previously granted a perfected first lien security interest in such assets pursuant to security documents, in form and substance reasonably acceptable to the Collateral Agent. Notwithstanding the foregoing, no assets shall be held by Foreign Subsidiaries in the event that holding such assets in such Subsidiaries would be in violation of the Security Documents.

**Section 9. SUCCESSORS.**

The Company will not consolidate with or merge with or into, or (directly, or indirectly through one or more of its Subsidiaries) sell, lease or otherwise transfer, in one transaction or a series of transactions, all or substantially all of the assets of the Company and its Subsidiaries, taken as a whole, to another Person, other than the Holder or any of its Affiliates (a “**Business Combination Event**”), unless:

(A) the resulting, surviving or transferee Person either (x) is the Company or (y) if not the Company, is a corporation (the “**Successor Corporation**”) duly organized and existing under the laws of the United States of America, any State thereof or the District of Columbia that expressly assumes (by executing and delivering to the Holder, at or before the effective time of such Business Combination Event, a supplement to this instrument) all of the Company’s obligations under this Note; and

(B) immediately after giving effect to such Business Combination Event, no Event of Default will have occurred that has not been waived and no Default will have occurred and be continuing which has not been waived.

At the effective time of any Business Combination Event, the Successor Corporation (if not the Company) will succeed to, and may exercise every right and power of, the Company under this Note with the same effect as if such Successor Corporation had been named as the Company in this Note, and, except in the case of a lease, the predecessor Company will be discharged from its obligations under this Note.

**Section 10. DEFAULTS AND REMEDIES**

(A) *Events of Default.* “**Event of Default**” means the occurrence of any of the following (whose occurrence, for the avoidance of doubt, may be waived, but may not be cured):

(i) a default in the payment when due of a Partial Redemption Payment (or applicable portion thereof), the Principal Amount, the Maturity Principal Amount, the Fundamental Change Repurchase Price, or the Retirement Fee under this Note;

(ii) a default in the Company’s obligation to issue shares pursuant to this Note within three Trading Days of the applicable Conversion Settlement Date;

(iii) a default in the Company’s obligation to timely deliver a Fundamental Change Notice pursuant to **Section 6(C)**, or Compliance Certificate, and such default continues for three Business Days, or the delivery of a materially false or inaccurate Fundamental Change Notice, Company Conversion Notice, Compliance Certificate, Restricted Cash Request, or notice delivered pursuant to **Section 4(C)(iii)**;

(iv) any failure to timely deliver an Event of Default Notice or a materially false or inaccurate certification as to whether any Event of Default has occurred or as to whether the Equity Conditions have been satisfied;

(v) a default in any of the Company’s obligations or agreements under this Note or the Transaction Documents (in each case, other than a default set forth in clauses **(i) – (iv)** or **(vi) – (xvii)** of this **Section 10(A)**), or a breach of any representation or warranty in any material respect (other than representations or warranties subject to material adverse effect or materiality qualifications, which may not be breached in any respect) of any Transaction Document as of the date when made (except for representations and warranties that speak as of a specific date, which shall be true and correct as of such specific date); *provided, however*, that if such default can be cured, then such default shall not be an Event of Default unless the Company has failed to cure such default within 20 days after its occurrence;

(vi) any provision of any Transaction Document at any time for any reason (other than pursuant to the express terms thereof) ceases to be valid and binding on or enforceable against the parties thereto, or the validity or enforceability thereof is contested, directly or indirectly, by the Company or any of its Subsidiaries, or a proceeding is commenced by the Company or any of its Subsidiaries or any governmental authority having jurisdiction over any of them, seeking to establish the invalidity or unenforceability thereof;

(vii) the Company fails to comply with any covenant set forth in **Section 8(D), Section 8(E), Section 8(F), Section 8(G), Section 8(H), Section 8(J), Section 8(P), Section 8(Q), Section 8(V), Section 8(X) or Section 8(Y)** of this Note;

(viii) the suspension from trading or failure of the Common Stock to be trading or listed on the Company's primary Eligible Exchange (measured in terms of trading volume for its Common Stock) on which the Common Stock is traded for a period of five consecutive Trading Days;

(ix) (i) the failure of the Company or any of its Subsidiaries to pay when due or within any applicable grace period any Indebtedness having an individual principal amount in excess of at least \$250,000 (or its foreign currency equivalent) in the aggregate of the Company or any of its Subsidiaries, whether such Indebtedness exists as of the Issue Date or is thereafter created, and whether such default has been waived for any period of time or is subsequently cured; or (ii) the occurrence of any breach or default under any terms or provisions of any other Indebtedness of at least \$250,000 (or its foreign currency equivalent) in the aggregate of the Company or any of its Subsidiaries, if the effect of such failure or occurrence is to cause or to permit the holder or holders of any such indebtedness, to cause, Indebtedness having an individual principal amount in excess of \$250,000 to become or be declared due prior to its stated maturity;

(x) one or more final judgments, orders or awards (or any settlement of any litigation or other proceeding that, if breached, could result in a judgment, order or award) for the payment of at least \$250,000 (or its foreign currency equivalent) in the aggregate (excluding any amounts covered by insurance pursuant to which the insurer has been notified and has not denied coverage), is rendered against the Company or any of its Subsidiaries and remains unsatisfied and (i) enforcement proceedings shall have been commenced by any creditor upon any such judgment, order, award or settlement or (ii) there shall be a period of 15 consecutive Trading Days after entry thereof during which (A) a stay of enforcement thereof is not in effect or (B) the same is not vacated, discharged, stayed or bonded pending appeal;

(xi) (A) the Company fails to timely file its quarterly reports on Form 10-Q or its annual reports on Form 10-K with the Commission in the manner and within the time periods required by the Exchange Act (it being understood that such time periods include any permitted filing deadline extension under Rule 12b-25 under the Exchange Act), or (B) the Company withdraws or restates (solely with respect to a "Big R" Restatement and not a "little r" restatement) any such quarterly report or annual report previously filed with the Commission or (C) the Company at any time ceases to satisfy the eligibility requirements set forth under Section I.A of the General Instructions to Form S-3;

(xii) Any Security Document shall for any reason fail or cease to create a separate valid and perfected and, except to the extent permitted by the terms hereof or thereof, first priority Lien on the Collateral, in each case, in favor of the Collateral Agent in accordance with the terms thereof, or any material provision of any such Security Document shall at any time for any reason cease to be valid and binding on or enforceable against the Company or the validity or enforceability thereof shall be contested by any party thereto, or a proceeding shall be commenced by the Company or any governmental authority having jurisdiction over the Company, seeking to establish the invalidity or unenforceability thereof;

(xiii) (A) any material damage to, or loss, theft or destruction of, any material portion of the Collateral (provided that any damage, loss, theft or destruction of the Collateral that reduces the value of such Collateral by \$500,000 or more shall be deemed to be material), whether or not insured, or (B) any strike, lockout, labor dispute, embargo, condemnation, act of God or public enemy, or other casualty which causes, for more than 15 consecutive days, the cessation or substantial curtailment of revenue producing activities at any facility of the Company or any Subsidiary, if, in each case (A) and (B)) such event or circumstance could reasonably be expected to have a Material Adverse Effect (as defined in the Securities Purchase Agreement). For clarity, an Event of Default under this **Section 10(A)(xiii)** will not require any curtailment of revenue;

- (xiv) at any time the shares of Common Stock issuable pursuant to this Note are not Freely Tradeable;
- (xv) the Company or any of its Significant Subsidiaries, pursuant to or within the meaning of any Bankruptcy Law, either:
  - (1) commences a voluntary case or proceeding;
  - (2) consents to the entry of an order for relief against it in an involuntary case or proceeding;
  - (3) consents to the appointment of a custodian of it or for any substantial part of its property;
  - (4) makes a general assignment for the benefit of its creditors;
  - (5) takes any comparable action under any foreign Bankruptcy Law; or
  - (6) generally is not paying its debts as they become due; or
- (xvi) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that either:
  - (1) is for relief against Company or any of its Significant Subsidiaries in an involuntary case or proceeding;

(2) appoints a custodian of the Company or any of its Significant Subsidiaries, or for any substantial part of the property of the Company or any of its Significant Subsidiaries;

(3) orders the winding up or liquidation of the Company or any of its Significant Subsidiaries; or

(4) grants any similar relief with respect to the Company or any of its Significant Subsidiaries under any foreign Bankruptcy

Law,

and, in each case under this **Section 10(A)(xvi)**, such order or decree remains unstayed and in effect for at least 30 days.

(xvii) the Company's stockholders approve any plan for the liquidation or dissolution of the Company.

(B) *Acceleration.*

(i) *Automatic Acceleration in Certain Circumstances.* If an Event of Default set forth in **Section 10(A)(xv)** or **Section 10(A)(xvi)** occurs with respect to the Company (and not solely with respect to a Significant Subsidiary of the Company), then the then outstanding portion of the Maturity Principal Amount of, and all accrued and unpaid interest on, this Note will immediately become due and payable without any further action or notice by any Person.

(ii) *Optional Acceleration.* If an Event of Default (other than an Event of Default set forth in **Section 10(A)(xv)** or **Section 10(A)(xvi)**) with respect to the Company and not solely with respect to a Subsidiary of the Company) occurs and has not been waived by the Holder, then the Holder, by notice to the Company, may declare this Note (or any portion thereof) to become due and payable on the Business Day immediately following the date of such notice for cash in an amount equal to the Event of Default Acceleration Amount.

(C) *Notice of Events of Default.* Promptly, but in no event later than one Business Day after an Event of Default, the Company will provide written notice of such Event of Default to the Holder (an "**Event of Default Notice**"), which Event of Default Notice shall include (i) a reasonable description of the applicable Event of Default, (ii) the date on which the Event of Default occurred and (iii) the date on which the Default underlying such Event of Default initially occurred, if different than the date on which the Event of Default occurred.

(D) *Default Interest.* If a Default or an Event of Default occurs, then in each case, to the extent lawful, interest ("**Default Interest**") will automatically accrue on the Principal Amount outstanding as of the date of such Default or Event of Default at a rate per annum equal 15%, from, and including, the date of such Default or Event of Default, as applicable, to, but excluding, the date such Default is cured and all outstanding Default Interest under this Note has been paid. Default Interest hereunder will be computed on the basis of a 360-day year comprised of twelve 30-day months and will be payable in arrears on the earlier of (i) the first day of each calendar month, (ii) the date such Default is cured, (iii) any Fundamental Change Repurchase Date, Conversion Settlement Date or any date that an Event of Default Acceleration Amount is paid by the Company to the Holder, and (iv) the Maturity Date.

**Section 11. RANKING.**

All payments due under this Note shall rank (i) *pari passu* with all Other Notes, (ii) effectively senior to all unsecured obligations of the Company to the extent of the value of the Collateral securing the Notes for so long as the Collateral so secures the Notes in accordance with the terms hereof and (iii) senior to any Subordinated Indebtedness.

**Section 12. REPLACEMENT NOTES.**

If the Holder of this Note claims that this Note has been mutilated, lost, destroyed or wrongfully taken, then the Company will issue, execute and deliver a replacement Note upon surrender to the Company of such mutilated Note, or upon delivery to the Company of evidence of such loss, destruction or wrongful taking reasonably satisfactory to the Company. In the case of a lost, destroyed or wrongfully taken Note, the Company may require the Holder to provide such security or an indemnity that is reasonably satisfactory to the Company to protect the Company from any loss that it may suffer if this Note is replaced.

**Section 13. NOTICES.**

Any notice or communication to the Company will be deemed to have been duly given if in writing and delivered in person or by first class mail (registered or certified, return receipt requested), electronic transmission (including e-mail) or other similar means of unsecured electronic communication or overnight air courier guaranteeing next day delivery, or to the other's address, which initially is as follows:

Bionano Genomics, Inc.  
9540 Towne Centre Drive, Suite 100  
San Diego, CA 92121  
Attention: Jonathan Dixon  
Email address: [\*\*\*]

With a copy (which shall not constitute notice) to:

Cooley LLP  
10265 Science Center Drive  
San Diego, CA 92121-1117  
Attention: Tom Coll  
Email address: [\*\*\*]

The Company, by notice to the Holder, may designate additional or different addresses for subsequent notices or communications.

Any notice or communication to the Holder will be by e-mail to its e-mail address, which initially are as set forth in the Securities Purchase Agreement. The Holder, by notice to the Company, may designate additional or different addresses for subsequent notices or communications.

If a notice or communication is mailed in the manner provided above within the time prescribed, it will be deemed to have been duly given, whether or not the addressee receives it.

**Section 14. SUCCESSORS AND ASSIGNS.**

All agreements of the Company in this Note will bind its successors and will inure to the benefit of the Holder's successors and assigns.

**Section 15. SEVERABILITY.**

If any provision of this Note is invalid, illegal or unenforceable, then the validity, legality and enforceability of the remaining provisions of this Note will not in any way be affected or impaired thereby.

**Section 16. HEADINGS, ETC.**

The headings of the Sections of this Note have been inserted for convenience of reference only, are not to be considered a part of this Note and will in no way modify or restrict any of the terms or provisions of this Note.

**Section 17. AMENDMENTS**

This Note may not be amended or modified unless in writing by the Company and the Required Holders, and no condition herein (express or implied) may be waived unless waived in writing by each party whom the condition is meant to benefit.

**Section 18. GOVERNING LAW; WAIVER OF JURY TRIAL.**

All questions concerning the construction, validity, enforcement and interpretation of this Note shall be governed by the internal laws of the State of Delaware, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Delaware or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of Delaware. The Company and each Holder hereby irrevocably submits to the exclusive jurisdiction of the Court of Chancery of the State of Delaware, provided that if the Court of Chancery of the State of Delaware does not have jurisdiction, then to the other courts of the State of Delaware, for the adjudication of any dispute hereunder or in connection herewith or under any of the other Transaction Documents or with any transaction contemplated hereby or thereby, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to such party at the address for such notices to it under this Note and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed or operate to preclude any Holder from bringing suit or taking other legal action against the Company in any other jurisdiction to collect on the Company's obligations to such Holder or to enforce a judgment or other court ruling in favor of such Holder. EACH PARTY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE TO, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR UNDER ANY OTHER TRANSACTION DOCUMENT OR IN CONNECTION WITH OR ARISING OUT OF THIS NOTE OR ANY OTHER TRANSACTION DOCUMENT OR ANY TRANSACTION CONTEMPLATED HEREBY OR THEREBY.

**Section 19. SUBMISSION TO JURISDICTION.**

The Company (A) agrees that any suit, action or proceeding against it arising out of or relating to this Note may be instituted in the Court of Chancery of the State of Delaware; (B) waives, to the fullest extent permitted by applicable law, (i) any objection that it may now or hereafter have to the laying of venue of any such suit, action or proceeding; and (ii) any claim that it may now or hereafter have that any such suit, action or proceeding in such a court has been brought in an inconvenient forum; and (C) submits to the nonexclusive jurisdiction of such court in any such suit, action or proceeding.

**Section 20. ENFORCEMENT FEES.**

The Company agrees to pay all costs and expenses of the Holder incurred as a result of enforcement of this Note and the collection of any amounts owed to the Holder hereunder (whether in cash, Common Stock or otherwise), including, without limitation, reasonable attorneys' fees and expenses.

**Section 21. ELECTRONIC EXECUTION.**

The words "execution," "signed," "signature," and words of similar import in the Note shall be deemed to include electronic or digital signatures or the keeping of records in electronic form, each of which shall be of the same effect, validity, and enforceability as manually executed signatures or a paper-based recordkeeping system, as the case may be, to the extent and as provided for under applicable law, including the Electronic Signatures in Global and National Commerce Act of 2000 (15 U.S.C. §§ 7001-7006), the Electronic Signatures and Records Act of 1999 (N.Y. State Tech. §§ 301-309), or any other similar state laws based on the Uniform Electronic Transactions Act.



**Section 22. RESTRICTED CASH ACCOUNT.**

The Company may request the Collateral Agent to release Cash to it from the Restricted Cash Account at any time that the Company is not in possession of material non-public information concerning the Company or any of its Subsidiaries that could reasonably be expected to have an adverse effect on the Company or its Subsidiaries or the trading price of the Common Stock, by delivering a written request duly executed by the Chief Executive Officer or Chief Financial Officer of the Company, to the Collateral Agent (a “**Restricted Cash Request**”), including the amount of Cash requested to be released and certifying to the satisfaction of the Funding Conditions (as defined below) as of the date of such request, at least two Trading Days prior to the last day of a calendar month in order to make an effective election for such calendar month. Subject to the Funding Conditions (any of which may be waived by the Collateral Agent on behalf of the Required Holders in their sole discretion) continuing to be satisfied through and including the date upon which Cash is released from the Restricted Cash Account, the Collateral Agent shall cause the amount of Cash set forth in the applicable Restricted Cash Request to be released to the Company from the Restricted Cash Account on the first Business Day of the calendar month commencing immediately following the receipt of such Restricted Cash Request (such date a “**Restricted Cash Release Date**”), provided that, if the Restricted Cash Request is delivered less than two Trading Days prior to the last day of a calendar month, the Restricted Cash Release Date shall be the first calendar day of the second calendar month following the calendar month in which the Restricted Cash Request is delivered. Unless agreed upon by the Company and the Holder, the Company may submit no more than one Restricted Cash Request per calendar month. “**Funding Conditions**” will be deemed to be satisfied as of any date if (A) the average daily dollar trading volume (as reported on Bloomberg) of the Common Stock on The Nasdaq Stock Market during the ten Trading Days prior to each of the date on which a Restricted Cash Request is delivered and the Restricted Cash Release Date to which such Restricted Cash Request relates, respectively is not less than \$3,500,000; (B) Holder is not in possession of any material non-public information concerning the Company or any of its Subsidiaries, which material non-public information was provided to the Holder by or on behalf of the Company or by or on behalf of any of its employees, agents or advisors; (C) no pending, proposed or intended Fundamental Change or Fundamental Transaction (as defined in the Securities Purchase Agreement) has occurred that has not been abandoned, terminated or consummated; (D) no Default will have occurred or be continuing and no Event of Default will have occurred; (E) the Company’s Adjusted Indebtedness is less than 25% of the Company’s Daily Market Capitalization as calculated on each Trading Day during the Restricted Cash Measurement Period, (F) the Resale Registration Statement (as defined in the Securities Purchase Agreement) registering all shares of Common Stock required to be registered pursuant to the Securities Purchase Agreement shall be effective; (G) the Common Stock (1) shall be listed on The Nasdaq Stock Market and (2) shall not have been suspended by the SEC or Nasdaq from trading on The Nasdaq Stock Market nor shall suspension by the SEC or Nasdaq have been threatened either (x) in writing by the Commission or Nasdaq or (y) by falling below the minimum maintenance requirements of Nasdaq; and (H) the Company has no reason to believe that the Required Funding Programs shall not be accessible for the foreseeable future, but in any event not less than 12 months from such date. Notwithstanding the foregoing, any waiver of the Company’s satisfaction of any Funding Condition shall only apply to the Restricted Cash Request and Restricted Cash Release Date to which such Funding Condition so waived relates.

\* \* \*

**Exhibit A**

**Form of Conversion Notice**

Bionano Genomics, Inc.

Senior Secured Convertible Note due 2025

Subject to the terms of this Note, by executing and delivering this Conversion Notice, the undersigned Holder of this Note directs the Company to convert the following Principal Amount of this Note: \$\_\_\_\_\_,000 in accordance with the following details.

Principal Amount Constituting Partial Redemption Payment

\_\_\_\_\_

Principal Amount Constituting Deferred Partial Redemption Payment

\_\_\_\_\_

Shares of Common Stock to be delivered:

\_\_\_\_\_

Accrued interest amount:

\_\_\_\_\_

DTC Participant Number:

\_\_\_\_\_

DTC Participant Name:

\_\_\_\_\_

Date:

\_\_\_\_\_

\_\_\_\_\_

(Legal Name of Holder)

By:

\_\_\_\_\_

Name:

Title:

\_\_\_\_\_

**Exhibit B**

**Form of Company Conversion Notice**

Bionano Genomics, Inc.

Senior Secured Convertible Notes due 2025

By executing and delivering this Company Conversion Notice, the Company hereby notifies the Holder of the Note of the Company's election to convert the entire principal amount of the Note identified by Certificate No. \_\_\_\_\_.

By delivering this Company Conversion Notice, the Company hereby represents and warrants that the Equity Conditions have been satisfied as of the date hereof.

BIONANO GENOMICS, INC.

Date: \_\_\_\_\_

By: \_\_\_\_\_

Name:

Title:

\_\_\_\_\_

**Exhibit C**

**Form of Compliance Certificate**

The undersigned, the duly qualified and elected Chief Financial Officer of Bionano Genomics, Inc., a Delaware corporation (the “**Company**”), does hereby certify in such capacity and on behalf of the Company, pursuant to the Senior Secured Convertible Note due 2025, issued [ ● ], 2023 (the “**Note**”), issued by the Company to [\*\*\*], that:

- (i) the Company satisfied the requirements of **Section 8(D)** of the Note during the calendar month ended [ ● ];
- (ii) the Company satisfied the requirements of **Section 8(E)** of the Note during the calendar month ended [ ● ];
- (iii) the Company satisfied the requirements of **Section 8(F)** of the Note during the calendar month ended [ ● ];
- (iv) the Company satisfied the requirements of **Section 8(G)** of the Note during the calendar month ended [ ● ];
- (v) the Company satisfied the requirements of **Section 8(J)** of the Note during the calendar month ended [ ● ];
- (vi) the Company satisfied the requirements of **Section 8(Q)** of the Note during the calendar month ended [ ● ];
- (vii) the Company satisfied the requirements of **Section 8(V)** of the Note during the calendar month ended [ ● ];
- (viii) the Company satisfied the requirements of **Section 8(Y)** of the Note during the calendar month ended [ ● ];
- (ix) the Company satisfied the requirements of **Section 8(X)(i)** of the Note during the Fiscal Quarter ended [ ● ];

Capitalized terms used herein without definition shall have the meanings given to such terms in the Note.

BIONANO GENOMICS, INC.

By: \_\_\_\_\_

Name:

Title:

Date: \_\_\_\_\_

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## FORM OF WARRANT

## BIONANO GENOMICS, INC.

## WARRANT TO PURCHASE COMMON STOCK

Warrant No.: BNGOW-1

Number of Shares of Common Stock: 21,660,650

Date of Issuance: [ ], 2023 (“**Issuance Date**”)

Bionano Genomics, Inc., a corporation organized under the laws of Delaware (the “**Company**”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [\*\*\*], the registered holder hereof or its permitted assigns (the “**Holder**”), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined below) then in effect, at any time or times on or after the Issuance Date (the “**Initial Exercisability Date**”), but not after 11:59 p.m., New York time, on the Expiration Date (as defined below), 21,660,650 duly authorized, validly issued, fully paid and non-assessable shares of Common Stock (as defined below), subject to adjustment as provided herein (the “**Warrant Shares**”). Except as otherwise defined herein, capitalized terms in this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, this “**Warrant**”), shall have the meanings set forth in Section 18. This Warrant is one of the Warrants to Purchase Common Stock (the “**Warrants**”) issued pursuant to that certain Securities Purchase Agreement (the “**Securities Purchase Agreement**”), dated as of October 11, 2023 (the “**Subscription Date**”) by and between the Company and the Holder.

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1. EXERCISE OF WARRANT.

(a) **Mechanics of Exercise.** Subject to the terms and conditions hereof (including, without limitation, the limitations set forth in Section 1(f), this Warrant may be exercised by the Holder at any time or times on or after the Initial Exercisability Date, in whole or in part, by delivery (whether via electronic mail or otherwise) of a duly completed and executed written notice, in the form attached hereto as Exhibit A (the “**Exercise Notice**”), of the Holder’s election to exercise this Warrant. Within two Trading Days (as defined below) following the delivery of the Exercise Notice, the Holder shall make payment to the Company of an amount equal to the Exercise Price in effect on the date of such exercise multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the “**Aggregate Exercise Price**”) in cash by wire transfer of immediately available funds or, if the provisions of Section 1(d) are applicable, by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 1(d)). The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder, nor shall any ink-original signature or medallion guarantee (or other type of guarantee or notarization) with respect to any Exercise Notice be required. Execution and delivery of the Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares and the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and this Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three Trading Days of the date on which the final Exercise Notice is delivered to the Company. On or before the first Trading Day following the date on which the Holder has delivered the applicable Exercise Notice, the Company shall transmit by electronic mail a duly executed and completed acknowledgment of confirmation of receipt of the Exercise Notice, in the form attached to the Exercise Notice, to the Holder and the Company’s transfer agent (the “**Transfer Agent**”). So long as the Holder delivers the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) on or prior to the second Trading Day following the date on which the Exercise Notice has been delivered (or deemed to have been delivered) to the Company, then on or prior to the earlier of (i) the second Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period, in each case following the date on which the Exercise Notice has been delivered (or deemed to have been delivered) to the Company, or, if the Holder does not deliver the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) on or prior to the second Trading Day following the date on which the Exercise Notice has been delivered (or deemed to have been delivered) to the Company, then on or prior to the first Trading Day following the date on which the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) is delivered (such earlier date, or if later, the earliest day on which the Company is required to deliver Warrant Shares pursuant to this Section 1(a), the “**Share Delivery Date**”), the Company shall (X) provided that the Transfer Agent is participating in The Depository Trust Company (“**DTC**”) Fast Automated Securities Transfer Program (“**FAST**”), credit such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with DTC through its Deposit / Withdrawal At Custodian system, or (Y) if the Transfer Agent is not participating in FAST, issue and dispatch by overnight courier to the physical address or email address as specified in the Exercise Notice, a certificate or evidence of a credit of book-entry shares, registered in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise. The Company shall be responsible for all fees and expenses of the Transfer Agent and all fees and expenses with respect to the issuance of Warrant Shares via DTC, if any, including without limitation for same day processing. Upon delivery (or deemed delivery) of the Exercise Notice, the Holder shall be deemed for all corporate purposes to have become the holder of record and beneficial owner of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date such Warrant Shares are credited to the Holder’s DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be. If this Warrant is physically delivered to the Company in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than three Trading Days after any exercise and at its own expense, issue and deliver to the Holder (or its designee) a new Warrant (in accordance with Section 7(d)) representing the right to purchase the number of Warrant Shares issuable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional Warrant Shares are to be issued upon the exercise of this Warrant, but rather the number of Warrant Shares to be issued shall be rounded to the nearest whole number. The Company shall pay any and all transfer, stamp, issuance and similar taxes, costs and expenses (including, without limitation, fees and expenses of the Transfer Agent) which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant; provided, that the Company shall not be required to pay any tax or governmental charge that may be imposed with respect to any applicable withholding or the issuance or delivery of the Warrant Shares to any Person other than the Holder, and no such issuance or delivery shall be made unless and until the Person requesting such issuance has paid to the Company the amount of any such tax or governmental charge, or has established to the satisfaction of the Company that such tax or governmental charge has been paid. The Company’s obligations to issue and deliver Warrant Shares in accordance with the terms and subject to the conditions hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof (except for consents and waivers provided pursuant to Section 9), the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination; provided, however, that the Company shall not be required to deliver Warrant Shares with respect to an exercise prior to the Holder’s delivery of the Aggregate Exercise Price (or notice of a Cashless Exercise) with respect to such exercise.

(b) Exercise Price. For purposes of this Warrant, “**Exercise Price**” means \$3.1671 per share, subject to adjustment as provided herein.

(c) Company’s Failure to Timely Deliver Securities. If the Company shall fail for any reason or for no reason on or prior to the applicable Share Delivery Date, if (x) the Transfer Agent is not participating in FAST, to issue to the Holder a certificate or evidence of a book-entry credit for the number of Warrant Shares to which the Holder is entitled and register such Common Stock on the Company’s share register or (y) the Transfer Agent is participating in FAST, to credit the Holder’s balance account with DTC, for such number of Warrant Shares to which the Holder is entitled upon the Holder’s exercise of this Warrant (such shares to which Holder is entitled being, the “**Exercise Notice Warrant Shares**”), then, in addition to all other remedies available to the Holder, if on or prior to the applicable Share Delivery Date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder’s brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a “**Buy-In**”), then the Company shall, within five Trading Days after the Holder’s request, (A) pay in cash to the Holder the amount, if any, by which (x) the Holder’s total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue by (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of the Warrant with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, written evidence of the amount of such loss. Nothing herein shall limit a Holder’s right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company’s failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof. As of the Issuance Date, the Company’s current transfer agent participates in FAST. In the event that the Company changes transfer agents while this Warrant is outstanding, the Company shall use commercially reasonable efforts to select a transfer agent that participates in FAST. While this Warrant is outstanding, the Company shall request its transfer agent to participate in FAST with respect to this Warrant. In addition to the foregoing rights, (i) if the Company fails to deliver the applicable number of Warrant Shares upon an exercise pursuant to Section 1 by the applicable Share Delivery Date, then the Holder shall have the right to rescind such exercise in whole or in part and retain and/or have the Company return, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the rescission of an exercise shall not affect the Company’s obligation to make any payments that have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise, and (ii) if a registration statement (which may be the Company’s Registration Statement on Form S-3, as amended (File number 333-270459 (the “**Registration Statement**”)) covering the issuance or resale of the Warrant Shares that are subject to an Exercise Notice is not available for the issuance or resale, as applicable of such Exercise Notice Warrant Shares and the Holder has submitted an Exercise Notice prior to receiving notice of the non-availability of such registration statement and the Company has not already delivered the Warrant Shares underlying such Exercise Notice electronically without any restrictive legend by crediting such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with DTC through its Deposit / Withdrawal At Custodian system, the Holder shall have the option, by delivery of notice to the Company, to (x) rescind such Exercise Notice in whole or in part and retain or have returned, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the rescission of an Exercise Notice shall not affect the Company’s obligation to make any payments that have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise, and/or (y) modify the Exercise Notice to provide for Cashless Exercise of some or all of the portion of the Warrant exercised. In addition to the foregoing, if the Company fails for any reason to deliver to the Holder the Warrant Shares subject to an Exercise Notice by the second Trading Day following the Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the Weighted Average Price of the Common Stock on the date of the applicable Exercise Notice), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day after the Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise.

(d) **Cashless Exercise.** Notwithstanding anything contained herein to the contrary, at any time when a registration statement (which may be the Registration Statement) covering the issuance or resale of the applicable Exercise Notice Warrant Shares is not available for the issuance or resale, as applicable of such Exercise Notice Warrant Shares, then in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, the Holder may elect to receive upon such exercise the “Net Number” of shares of Common Stock determined according to the following formula (a “**Cashless Exercise**”):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A= the total number of shares with respect to which this Warrant is then being exercised.

B= as applicable: (i) the Closing Sale Price of the Common Stock on the Trading Day immediately preceding the date of the applicable Exercise Notice if such Exercise Notice is (1) both executed and delivered pursuant to Section 1(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 1(a) hereof on a Trading Day prior to the opening of “regular trading hours” (as defined in Rule 600(b)(77) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the Weighted Average Price on the Trading Day immediately preceding the date of the applicable Exercise Notice or (z) the Bid Price of the Common Stock as of the time of the Holder’s execution of the applicable Exercise Notice if such Exercise Notice is executed during “regular trading hours” on a Trading Day and is delivered within two hours thereafter (including until two hours after the close of “regular trading hours” on a Trading Day) pursuant to Section 1(a) hereof or (iii) the Closing Sale Price of the Common Stock on the date of the applicable Exercise Notice if the date of such Exercise Notice is a Trading Day and such Exercise Notice is both executed and delivered pursuant to Section 1(a) hereof after the close of “regular trading hours” on such Trading Day.

C= the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.



If Warrant Shares are issued in such a cashless exercise, the Company acknowledges and agrees that in accordance with Section 3(a)(9) of the Securities Act of 1933, as amended, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised, and the holding period of the Warrants being exercised (and any prior securities that were exchanged for the Warrants in accordance with Section 3(a)(9) of the Securities Act) may be tacked on to the holding period of the Warrant Shares. The Company agrees not to take any position contrary to this Section 1(d). Without limiting the rights of a Holder to receive Warrant Shares on a “cashless exercise,” and to receive the cash payments contemplated pursuant to Sections 1(c) and 4(b), in no event will the Company be required to net cash settle a Warrant exercise. Any Cashless Exercise of this Warrant shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder by an amount equal to the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a Cashless Exercise and not the number of Warrant Shares actually received by the Holder.

(e) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 11.

(f) Beneficial Ownership Limitation. Notwithstanding anything to the contrary contained herein, the Company shall not effect the exercise of any portion of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to the terms and conditions of this Warrant and any such exercise shall be null and void and treated as if never made, to the extent that after giving effect to such exercise, the Holder together with the other Attribution Parties collectively would beneficially own in the aggregate in excess of 4.99% (the “**Maximum Percentage**”) of the number of shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and the other Attribution Parties shall include the number of shares of Common Stock held by the Holder and all other Attribution Parties plus the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (A) exercise of the remaining, unexercised portion of this Warrant beneficially owned by the Holder or any of the other Attribution Parties and (B) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company (including, without limitation, any convertible notes or convertible preferred stock or warrants, including any other Warrants) beneficially owned by the Holder or any other Attribution Party subject to a limitation on conversion or exercise analogous to the limitation contained in this Section 1(f). For purposes of this Section 1(f), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the “**1934 Act**”). For purposes of this Warrant, in determining the number of outstanding shares of Common Stock the Holder may acquire upon the exercise of this Warrant without exceeding the Maximum Percentage, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company’s most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q, Current Reports on Form 8-K or other public filing with the Securities and Exchange Commission (the “**SEC**”), as the case may be, (y) a more recent public announcement by the Company or (z) any other written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding (the “**Reported Outstanding Share Number**”). If the Company receives an Exercise Notice from the Holder at a time when the actual number of outstanding shares of Common Stock is less than the Reported Outstanding Share Number, the Company shall (i) notify the Holder in writing of the number of shares of Common Stock then outstanding and, to the extent that such Exercise Notice would otherwise cause the Holder’s beneficial ownership, as determined pursuant to this Section 1(f), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of Warrant Shares to be purchased pursuant to such Exercise Notice (the number of shares by which such purchase is reduced, the “**Reduction Shares**”) and (ii) as soon as reasonably practicable, the Company shall return to the Holder any exercise price paid by the Holder for the Reduction Shares. For any reason at any time, upon the written or oral request of the Holder, the Company shall within one Business Day confirm in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and any other Attribution Party since the date as of which the Reported Outstanding Share Number was reported. In the event that the issuance of Common Stock to the Holder upon exercise of this Warrant results in the Holder and the other Attribution Parties being deemed to beneficially own, in the aggregate, more than the Maximum Percentage of the number of outstanding shares of Common Stock (as determined under Section 13(d) of the 1934 Act), the number of shares so issued by which the Holder’s and the other Attribution Parties’ aggregate beneficial ownership exceeds the Maximum Percentage (the “**Excess Shares**”) shall be deemed null and void and shall be cancelled ab initio, and the Holder shall not have the power to vote or to transfer the Excess Shares. As soon as reasonably practicable after the issuance of the Excess Shares has been deemed null and void, the Company shall return to the Holder the exercise price paid by the Holder for the Excess Shares. Upon delivery of a written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99% as specified in such notice; provided that (i) any such increase in the Maximum Percentage will not be effective until the 61<sup>st</sup> day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and the other Attribution Parties and not to any other holder of Warrants that is not an Attribution Party of the Holder. For purposes of clarity, the shares of Common Stock issuable pursuant to the terms of this Warrant in excess of the Maximum Percentage shall not be deemed to be beneficially owned by the Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the 1934 Act. No prior inability to exercise this Warrant pursuant to this paragraph shall have any effect on the applicability of the provisions of this paragraph with respect to any subsequent determination of exercisability. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 1(f) to the extent necessary to correct this paragraph or any portion of this paragraph which may be defective or inconsistent with the intended beneficial ownership limitation contained in this Section 1(f) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitation contained in this paragraph may not be waived and shall apply to a successor holder of this Warrant. The Holder hereby acknowledges and agrees that the Company shall be entitled to rely on the representations and other information set forth in any Exercise Notice and shall not be required to independently verify whether any exercise of this Warrant would cause the Holder (together with the other Attribution Parties) to collectively beneficially own in excess of the Maximum Percentage of the number of shares of Common Stock outstanding after giving effect to such exercise or otherwise trigger the provisions of this Section 1(f).

(g) Required Reserve Amount. So long as this Warrant remains outstanding, the Company shall at all times keep reserved for issuance under this Warrant a number of shares of Common Stock at least equal to 100% of the maximum number of shares of Common Stock as shall be necessary to satisfy the Company's obligation to issue shares of Common Stock under the Warrants then outstanding (without regard to any limitations on exercise) (the "**Required Reserve Amount**"); provided, that at no time shall the number of shares of Common Stock reserved pursuant to this Section 1(g) be reduced other than in connection with any exercise of Warrants or such other event covered by Section 2(b). The Required Reserve Amount (including, without limitation, each increase in the number of shares so reserved) shall be allocated pro rata among the holders of the Warrants based on the number of shares of Common Stock issuable upon exercise of Warrants held by each holder thereof on the Issuance Date (without regard to any limitations on exercise) (the "**Authorized Share Allocation**"). In the event that a Holder shall sell or otherwise transfer any of such holder's Warrants, each transferee shall be allocated a pro rata portion of such Holder's Authorized Share Allocation. Any shares of Common Stock reserved and allocated to any Person which ceases to hold any Warrants shall be allocated to the remaining holders of Warrants, pro rata based on the number of shares of Common Stock issuable upon exercise of the Warrants then held by such holders thereof (without regard to any limitations on exercise). Each Warrant Share delivered upon exercise of this Warrant will be a newly issued or treasury share and will be duly and validly issued, fully paid, non-assessable, free from preemptive rights and free of any lien or adverse claim (except to the extent of any lien or adverse claim created by the action or inaction of the Holder or the Person to whom such share will be delivered). If the Common Stock is then listed on any securities exchange, or quoted on any inter-dealer quotation system, then the Company will cause each Warrant Share, when delivered upon such exercise, to be admitted for listing on such exchange or quotation on such system.

(h) Insufficient Authorized Shares. If at any time while this Warrant remains outstanding the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve for issuance the Required Reserve Amount (an “**Authorized Share Failure**”), then the Company shall promptly take all action reasonably necessary to increase the Company’s authorized shares of Common Stock to an amount sufficient to allow the Company to reserve the Required Reserve Amount for this Warrant then outstanding. Without limiting the generality of the foregoing sentence, as soon as practicable after the date of the occurrence of an Authorized Share Failure, but in no event later than 90 days after the occurrence of such Authorized Share Failure, the Company shall hold a meeting of its stockholders for the approval of an increase in the number of authorized shares of Common Stock. In connection with such meeting, the Company shall provide each stockholder with a proxy statement and shall use its reasonable best efforts to solicit its stockholders’ approval of such increase in authorized shares of Common Stock and the Company’s management shall recommend to the Company’s board of directors that it recommend to the stockholders that they approve such proposal. Notwithstanding the foregoing, if at any such time of an Authorized Share Failure, the Company is able to obtain the written consent of a majority of the shares of its issued and outstanding shares of Common Stock to approve the increase in the number of authorized shares of Common Stock, the Company may satisfy this obligation by obtaining such consent and submitting for filing with the SEC an Information Statement on Schedule 14C. In addition to the foregoing, in the event of any Authorized Share Failure that results in the failure of the Company to deliver any shares of Common Stock that would have otherwise been deliverable pursuant to an Exercise Notice (such shares the “**Authorized Shares Failure Shares**”), (1) the Company will promptly pay to the Holder, as liquidated damages and not as a penalty, cash in an amount equal (i) to the product of (x) the number of such Authorized Shares Failure Shares; and (y) the Daily VWAP per share of Common Stock on the date the Holder delivered the applicable Exercise Notice hereunder (or, if such date is not a VWAP Trading Day, the immediately preceding VWAP Trading Day), minus (ii) if such exercise is not a cashless exercise, the Aggregate Exercise Price applicable to such Authorized Shares Failure Shares, to the extent not previously paid; and (2) to the extent the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in settlement of a sale by the Holder of such Authorized Shares Failure Shares, the Company will reimburse the Holder for (x) any brokerage commissions and other out-of-pocket expenses, if any, of the Holder incurred in connection with such purchases and (y) the excess, if any, of (A) the aggregate purchase price of such purchases over (B) an amount equal to (i) the product of (I) the number of such Authorized Shares Failure Shares purchased by the Holder; and (II) the Daily VWAP per share of Common Stock on the date the Holder delivered the applicable Exercise Notice hereunder (or, if such date is not a VWAP Trading Day, the immediately preceding VWAP Trading Day), minus (ii) if such exercise is not a cashless exercise the Aggregate Exercise Price applicable to such Authorized Shares Failure Shares, to the extent not previously paid. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Authorized Shares Failure Shares and, upon request of the Company, written evidence of the amount of such loss.

2. ADJUSTMENT OF EXERCISE PRICE AND NUMBER OF WARRANT SHARES. The Exercise Price and the number of Warrant Shares shall be adjusted from time to time as follows:

(a) Voluntary Adjustment by the Company. The Company may at any time during the term of this Warrant reduce the then-current Exercise Price to any amount and for any period of time deemed appropriate by the Board of Directors of the Company.

(b) Adjustment Upon Subdivision or Combination of Common Stock. If the Company at any time on or after the Subscription Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of Warrant Shares will be proportionately increased. If the Company at any time on or after the Subscription Date combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of Warrant Shares will be proportionately decreased. Any adjustment under this Section 2(b) shall become effective at the close of business on the date the subdivision or combination becomes effective.

3. RIGHTS UPON DISTRIBUTION OF ASSETS. In addition to any adjustments pursuant to Section 2, if, on or after the Subscription Date and on or prior to the Expiration Date, the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property, options, evidence of indebtedness or any other assets by way of a dividend, spin-off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a “**Distribution**”), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that to the extent that the Holder’s right to participate in any such Distribution would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution held similarly in abeyance) to the same extent as if there had been no such limitation). Notwithstanding the foregoing, to the extent a subsidiary of the Company makes a Distribution to the Company or a parent company that is a direct or indirect wholly owned subsidiary of the Company, then the Holder shall not be entitled to participate in such Distribution.

4. PURCHASE RIGHTS; FUNDAMENTAL TRANSACTIONS.

(a) Purchase Rights. In addition to any adjustments pursuant to Section 2, if at any time on or after the Subscription Date and on or prior to the Expiration Date the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock (the “**Purchase Rights**”), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the grant, issuance or sale of such Purchase Rights (provided, however, that to the extent that the Holder’s right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation).

(b) Fundamental Transaction. The Company shall not enter into or be party to a Fundamental Transaction unless the Successor Entity assumes in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 4(b), including agreements to deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant, including, without limitation, which is exercisable for a corresponding number of shares of capital stock equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such adjustments to the number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction). Upon the consummation of each Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for the Company (so that from and after the date of the applicable Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the “Company” shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein. Upon consummation of each Fundamental Transaction, the Successor Entity shall deliver to the Holder confirmation that there shall be issued upon exercise of this Warrant at any time after the consummation of the applicable Fundamental Transaction, in lieu of the shares of Common Stock (or other securities, cash, assets or other property (except such items still issuable under Sections 3 and 4(a), which shall continue to be receivable thereafter)) issuable upon the exercise of this Warrant prior to the applicable Fundamental Transaction, such shares of common stock (or its equivalent) of the Successor Entity (including its Parent Entity) which the Holder would have been entitled to receive upon the happening of the applicable Fundamental Transaction had this Warrant been exercised immediately prior to the applicable Fundamental Transaction (without regard to any limitations on the exercise of this Warrant), as adjusted in accordance with the provisions of this Warrant. Notwithstanding the foregoing, and without limiting Section 1(f) hereof, the Holder may elect, at its sole option, by delivery of written notice to the Company to waive this Section 4(b) to permit the Fundamental Transaction without the assumption of this Warrant. In addition to and not in substitution for any other rights hereunder, prior to the consummation of each Fundamental Transaction pursuant to which holders of shares of Common Stock are entitled to receive securities or other assets with respect to or in exchange for shares of Common Stock (a “**Corporate Event**”), the Company shall make appropriate provision to insure that the Holder will thereafter have the right to receive upon an exercise of this Warrant at any time after the consummation of the applicable Fundamental Transaction but prior to the Expiration Date, in lieu of the shares of the Common Stock (or other securities, cash, assets or other property (except such items still issuable under Sections 3 and 4(a), which shall continue to be receivable thereafter)) issuable upon the exercise of the Warrant prior to such Fundamental Transaction, such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights) which the Holder would have been entitled to receive upon the happening of the applicable Fundamental Transaction had this Warrant been exercised immediately prior to the applicable Fundamental Transaction (without regard to any limitations on the exercise of this Warrant). The provision made pursuant to the preceding sentence shall be in a form and substance reasonably satisfactory to the Holder. The provisions of this Section 4(b) shall apply similarly and equally to successive Fundamental Transactions and Corporate Events. Notwithstanding the foregoing, in the event of a Change of Control, at the request of the Holder delivered before the 30th day after such Change of Control, the Company (or the Successor Entity) shall purchase this Warrant from the Holder by paying to the Holder, within five (5) Business Days after such request (or, if later, on the effective date of the Change of Control), an amount equal to the Black Scholes Value of the remaining unexercised portion of this Warrant on the effective date of such Change of Control, payable in cash; provided, however, that, if the Change of Control is not within the Company’s control, including not approved by the Company’s Board of Directors, Holder shall only be entitled to receive from the Company or any Successor Entity, as of the date of consummation of such Change of Control, the same type or form of consideration (and in the same proportion), at the Black Scholes Value of the unexercised portion of this Warrant, that is being offered and paid to the holders of Common Stock of the Company in connection with the Change of Control, whether that consideration be in the form of cash, stock or any combination thereof, or whether the holders of Common Stock are given the choice to receive from among alternative forms of consideration in connection with the Change of Control; provided, further, that if holders of Common Stock are not offered or paid any consideration in such Change of Control, such holders of Common Stock will be deemed to have received common stock of the Successor Entity (which entity may be the Company following such Change of Control) in such Change of Control.

5. NONCIRCUMVENTION. The Company hereby covenants and agrees that the Company will not, by amendment of its Certificate of Incorporation or Bylaws, or through any reorganization, transfer of assets, consolidation, merger, scheme of arrangement, dissolution, issuance or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, and will at all times in good faith carry out all of the provisions of this Warrant and take all action as may be required to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Exercise Price then in effect, (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) shall, so long as any of the Warrants are outstanding, take all action necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of the Warrants, the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of the Warrants then outstanding (without regard to any limitations on exercise).

6. WARRANT HOLDER NOT DEEMED A STOCKHOLDER. Except as otherwise specifically provided herein, the Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of capital stock of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company. Notwithstanding this Section 6, the Company shall provide the Holder with copies of the same notices and other information given to the stockholders of the Company generally, contemporaneously with the giving thereof to the stockholders.

(a) Transfer of Warrant. If this Warrant is to be transferred, the Holder shall notify the Company in writing and surrender this Warrant to the Company, whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Warrant (in accordance with Section 7(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 7(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred. The Company shall not be obligated to pay any tax or governmental charge which may be payable with respect to any transfer (or deemed transfer) arising in connection with the registration of any certificates for Warrant Shares or Warrants in the name of any Person other than the Holder.

(b) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form (but without the obligation to post a bond) and, in the case of mutilation, upon surrender and cancellation of this Warrant, the Company shall execute and deliver to the Holder a new Warrant (in accordance with Section 7(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

(c) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 7(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender.

(d) Issuance of New Warrants. Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, such new Warrant (i) shall be of like tenor with this Warrant, (ii) shall represent, as indicated on the face of such new Warrant, the right to purchase the Warrant Shares then underlying this Warrant (or in the case of a new Warrant being issued pursuant to Section 7(a) or Section 7(c), the Warrant Shares designated by the Holder which, when added to the number of shares of Common Stock underlying the other new Warrants issued in connection with such issuance, does not exceed the number of Warrant Shares then underlying this Warrant), (iii) shall have an issuance date, as indicated on the face of such new Warrant which is the same as the Issuance Date, and (iv) shall have the same rights and conditions as this Warrant.

8. NOTICES. Whenever notice is required to be given under this Warrant, including, without limitation, an Exercise Notice, unless otherwise provided herein, such notice shall be given in writing, (i) if delivered (a) from within the domestic United States, by first-class registered or certified airmail (return receipt requested), or nationally recognized overnight express courier, postage prepaid or electronic mail (including e-mail) or (b) from outside the United States, by International Federal Express or electronic mail, and (ii) will be deemed given (A) if delivered by first-class registered or certified mail domestic, three Business Days after so mailed, (B) if delivered by nationally recognized overnight carrier, one Business Day after so mailed, (C) if delivered by International Federal Express, two Business Days after so mailed and (D) at the time of transmission, if delivered by electronic mail to each of the email addresses specified in this Section 8 prior to 5:00 p.m. (New York time) on a Trading Day and (E) the next Trading Day after the date of transmission, if delivered by electronic mail to each of the email addresses specified in this Section 8 on a day that is not a Trading Day or later than 5:00 p.m. (New York time) on any Trading Day, and will be delivered and addressed as follows:

(i) if to the Company, to:

Bionano Genomics, Inc.  
9540 Towne Centre Drive, Suite 100  
San Diego, CA 92121  
Telephone: [\*\*\*]  
Attention: R. Erik Holmlin, President and Chief Executive Officer  
E-mail: [\*\*\*]

With a copy (for informational purposes only) to:

Cooley LLP  
10265 Science Center Drive  
San Diego, CA 92121  
Attention: Thomas Coll  
E-mail: [\*\*\*]

(ii) if to the Holder, at such address or other contact information delivered by the Holder to Company or as is on the books and records of the Company (provided that, with respect to the Holder, such notice may only be delivered via electronic mail),

With a copy (for informational purposes only) to:

Latham & Watkins LLP  
12670 High Bluff Drive  
San Diego, CA 92130  
Telephone: [\*\*\*]  
Attention: Michael E. Sullivan  
Email: [\*\*\*]

The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason therefor. Without limiting the generality of the foregoing, the Company will give written notice to the Holder (i) promptly upon any adjustment of the Exercise Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment, (ii) at least fifteen days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the shares of Common Stock, (B) with respect to any grants, issuances or sales of any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to holders of shares of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, dissolution or liquidation and (iii) ten Business Days (or such shorter period as is reasonably practicable under the circumstances if the Company does not have 10 Business Days' prior notice) prior to the consummation of any Fundamental Transaction; provided in each case that such information shall be made known to the public prior to or in conjunction with such notice being provided to the Holder but only to the extent the information in such notice constitutes material non-public information regarding the Company. It is expressly understood and agreed that the time of exercise specified by the Holder in each Exercise Notice shall be definitive and may not be disputed or challenged by the Company.



9. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of this Warrant may be amended or waived and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder. No waiver by any party shall operate or be construed as a waiver in respect of any failure, breach or default not expressly identified by such written waiver, whether of a similar or different character, and whether occurring before or after that waiver. No failure to exercise, or delay in exercising, any rights, remedy, power or privilege arising from this Warrant shall operate or be construed as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege.

10. GOVERNING LAW; JURISDICTION; JURY TRIAL. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of Delaware, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Delaware or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of Delaware. Each party hereto hereby irrevocably submits to the exclusive jurisdiction of the Court of Chancery of the State of Delaware, provided that if the Court of Chancery of the State of Delaware does not have jurisdiction, then to the other courts of the State of Delaware, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that such party is not personally subject to the jurisdiction of such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to such party at the address set forth with respect to such party in Section 8 or such other address as such party subsequently delivers to the other party and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed or operate to preclude a party hereto from bringing suit or taking other legal action against the other party in any other jurisdiction to collect on its obligations to the other party, to realize on any collateral or any other security for such obligations, or to enforce a judgment or other court ruling in favor of the other party. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for their reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding. **EACH PARTY HERETO HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS WARRANT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

11. DISPUTE RESOLUTION. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall submit the disputed determinations or arithmetic calculations via electronic mail within two Business Days of receipt of the Exercise Notice or other event giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation of the Exercise Price or the Warrant Shares within three Business Days of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within two Business Days submit via electronic mail (a) the disputed determination of the Exercise Price to an independent, reputable investment bank selected by the Company and approved by the Holder or (b) the disputed arithmetic calculation of the Warrant Shares to the Company's independent, outside accountant. The Company shall cause, at its expense, the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than ten Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error.

12. REMEDIES, OTHER OBLIGATIONS, BREACHES AND INJUNCTIVE RELIEF. The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant and any other Transaction Documents, at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the right of the Holder or the Company to pursue actual damages for any failure by the other party to comply with the terms of this Warrant. Each of the Company and the Holder acknowledges that a breach by such party of its obligations hereunder will cause irreparable harm to the other party and that the remedy at law for any such breach may be inadequate. The Company and the Holder therefore agree that, in the event of any such breach or threatened breach, the other party shall be entitled, in addition to all other available remedies, to an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

13. TRANSFER. This Warrant and the Warrant Shares may be offered for sale, sold, transferred, pledged or assigned without the consent of the Company.

14. SEVERABILITY; CONSTRUCTION; HEADINGS. If any provision of this Warrant is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Warrant so long as this Warrant as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s). This Warrant shall be deemed to be jointly drafted by the Company and the Holder and shall not be construed against any Person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant.

15. DISCLOSURE. Upon delivery by the Company to the Holder (or receipt by the Company from the Holder) of any notice in accordance with the terms of this Warrant, unless the Company has in good faith determined that the matters relating to such notice do not constitute material, non-public information relating to the Company or any of its subsidiaries, the Company shall on or prior to 9:00 am, New York City time on the Business Day immediately following such notice delivery date, publicly disclose such material, non-public information on a Current Report on Form 8-K or otherwise. In the event that the Company believes that a notice contains material, non-public information relating to the Company or any of its subsidiaries, the Company so shall indicate to the Holder explicitly in writing in such notice (or immediately upon receipt of notice from the Holder, as applicable), and in the absence of any such written indication in such notice (or notification from the Company immediately upon receipt of notice from the Holder), the Holder shall be entitled to presume that information contained in the notice does not constitute material, non-public information relating to the Company or any of its subsidiaries. Nothing contained in this Section 15 shall limit any obligations of the Company, or any rights of the Holder, under any other agreement by and between the Company and the Holder.

16 ABSENCE OF TRADING AND DISCLOSURE RESTRICTIONS. The Company acknowledges and agrees that the Holder is not a fiduciary or agent of the Company, the Holder will not have any obligations hereunder except those obligations expressly set forth herein (and in the Securities Purchase Agreement) and the Holder is acting solely in the capacity of an arm's length contractual counterparty to the Company with respect to this Warrant and not as a fiduciary or agent of the Company. The Company agrees that it will not assert any claim against the Holder based on an alleged breach of fiduciary duty by the Holder in connection with this Warrant. The Company acknowledges that the Holder shall have no obligation to (a) maintain the confidentiality of any information provided by the Company or (b) refrain from trading any securities while in possession of such information in the absence of a written non-disclosure agreement signed by an officer of the Holder that explicitly provides for such confidentiality and trading restrictions. In the absence of such an executed, written non-disclosure agreement, the Company acknowledges that the Holder may freely trade in any securities issued by the Company, may possess and use any information provided by the Company in connection with such trading activity, and may disclose any such information to any third party.

17. COUNTERPARTS; ELECTRONIC SIGNATURES. This Warrant may be executed in counterparts, each of which shall be deemed an original, but all of which together shall be deemed to be one and the same agreement. A signed copy of this Warrant delivered by facsimile, e-mail or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original signed copy of this Warrant. A party's electronic signature (complying with the Electronic Signatures in Global and National Commerce Act of 2000 (15 U.S.C. §§ 7001-7006), the New York Electronic Signatures and Records Act (N.Y. State Tech. §§ 301-309), as amended from time to time, or other applicable law) of this Agreement shall have the same validity and effect as a signature affixed by the party's hand.

18. CERTAIN DEFINITIONS. For purposes of this Warrant, the following terms shall have the following meanings:

(a) **"Affiliate"** means, with respect to any Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with, such Person, it being understood for purposes of this definition that "control" of a Person means the power directly or indirectly either to vote 10% or more of the stock having ordinary voting power for the election of directors of such Person or direct or cause the direction of the management and policies of such Person whether by contract or otherwise.

(b) **"Attribution Parties"** means, collectively, the following Persons and entities: (i) any investment vehicle, including, any funds, feeder funds or managed accounts, currently, or from time to time after the Subscription Date, directly or indirectly managed or advised by the Holder's investment manager or any of its Affiliates or principals, (ii) any direct or indirect Affiliates of the Holder or any of the foregoing, (iii) any Person acting or who could be deemed to be acting as a Group together with the Holder or any of the foregoing and (iv) any other Persons whose beneficial ownership of the Company's Common Stock would or could be aggregated with the Holder's and the other Attribution Parties for purposes of Section 13(d) of the 1934 Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

(c) **“Bid Price”** means, for any security as of the particular time of determination, the bid price for such security on the Principal Market as reported by Bloomberg as of such time of determination, or, if the Principal Market is not the principal securities exchange or trading market for such security, the bid price of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg as of such time of determination, or if the foregoing does not apply, the bid price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg as of such time of determination, or, if no bid price is reported for such security by Bloomberg as of such time of determination, the average of the bid prices of any market makers for such security as reported in the “pink sheets” by OTC Markets Group Inc. (formerly Pink Sheets LLC) as of such time of determination. If the Bid Price cannot be calculated for a security as of the particular time of determination on any of the foregoing bases, the Bid Price of such security as of such time of determination shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved in accordance with the procedures in [Section 11](#). All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during such period.

(d) **“Black Scholes Value”** means the value of this Warrant based on the Black-Scholes Option Pricing Model obtained from the “OV” function on Bloomberg determined as of the day immediately following the first public announcement of the applicable Change of Control, or, if the Change of Control is not publicly announced, the date the Change of Control is consummated, for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of this Warrant as of such date of request, (ii) an expected volatility equal to the greater of (a) 60% and (b) the 100-day volatility obtained from the HVT function on Bloomberg (determined utilizing a 365-day annualization factor) as of the Trading Day immediately following the public announcement of the applicable Change of Control, or, if the Change of Control is not publicly announced, the date the Change of Control is consummated, (iii) the underlying price per share used in such calculation shall be the greater of (a) the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in such Change of Control and (b) the greater of (1) the last Weighted Average Price immediately prior to the announcement of such Change of Control, (2) the Weighted Average Price immediately after the announcement of such Change of Control and (3) the last Weighted Average Price immediately prior to the consummation of such Change of Control, (iv) a remaining option time equal to the time between the date of the public announcement of the applicable Change of Control and the Expiration Date and (v) a zero cost of borrow.

(e) **“Bloomberg”** means Bloomberg Financial Markets.

(f) **“Business Day”** means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

(g) **“Change of Control”** means any Fundamental Transaction other than (i) any reorganization, recapitalization or reclassification of the Common Stock in which holders of the Company’s voting power immediately prior to such reorganization, recapitalization or reclassification continue after such reorganization, recapitalization or reclassification to hold publicly traded securities and, directly or indirectly, are, in all material respects, the holders of the voting power of the surviving entity (or entities with the authority or voting power to elect the members of the board of directors (or their equivalent if other than a corporation) of such entity or entities) after such reorganization, recapitalization or reclassification, (ii) pursuant to a migratory merger effected solely for the purpose of changing the jurisdiction of incorporation of the Company or (iii) a merger in connection with a bona fide acquisition by the Company of any Person in which (x) the gross consideration paid, directly or indirectly, by the Company in such acquisition is not equal to or greater than 50% of the Company’s market capitalization as calculated on the date of the announcement of such merger and the date of the consummation of such merger and (y) such merger does not contemplate a change to the identity of a majority of the board of directors of the Company. Notwithstanding anything herein to the contrary, any transaction or series of transactions that, directly or indirectly, results in the Company or the Successor Entity not having Common Stock or common stock, as applicable, registered under the 1934 Act and listed on an Eligible Market shall be deemed a Change of Control.

(h) **“Closing Sale Price”** means, for any security as of any date, the last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing trade price then the last trade price, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last trade price of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no last trade price is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or on the “pink sheets” by OTC Markets Group Inc. (formerly Pink Sheets LLC). If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 11. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

(i) **“Common Stock”** means (i) the Company’s Common Stock, par value \$0.0001 per share, and (ii) any capital stock into which such Common Stock shall have been changed or any capital stock resulting from a reclassification of such Common Stock.

(j) **“Convertible Securities”** means any capital stock or other security of the Company or any of its subsidiaries (other than Options) that is at any time and under any circumstances directly or indirectly convertible into, exercisable or exchangeable for, or which otherwise entitles the holder thereof to acquire, any capital stock or other security of the Company (including, without limitation, shares of Common Stock) or any of its subsidiaries.

(k) **“Daily VWAP”** means, for any VWAP Trading Day, the per share volume-weighted average price of the Common Stock on the Principal Market as displayed under the heading “Bloomberg VWAP” on Bloomberg page “BNGO <EQUITY> VAP” (or, if such page is not available, its equivalent successor page) in respect of the period from the scheduled open of trading until the scheduled close of trading of the primary trading session on such VWAP Trading Day (or, if such volume-weighted average price is unavailable, the market value of one share of Common Stock on such VWAP Trading Day, determined, using a volume-weighted average price method, by a nationally recognized independent investment banking firm selected by the Company). The Daily VWAP will be determined without regard to after-hours trading or any other trading outside of the regular trading session.

(l) **“Eligible Market”** means The Nasdaq Capital Market, the NYSE American LLC, The Nasdaq Global Select Market, The Nasdaq Global Market or The New York Stock Exchange, Inc.

(m) **“Expiration Date”** means the date that is five years after the Issuance Date or, if such date falls on a day other than a Business Day or on which trading does not take place on the Principal Market (a **“Holiday”**), the next day that is not a Holiday.

(n) **“Fundamental Transaction”** means (A) that the Company shall, directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, (i) consolidate or merge with or into (whether or not the Company is the surviving corporation) another Subject Entity, (ii) sell, assign, transfer, convey or otherwise dispose of all or substantially all of the properties or assets of the Company or any of its “significant subsidiaries” (as defined in Rule 1-02 of Regulation S-X) to one or more Subject Entities, (iii) make, or allow one or more Subject Entities to make, or allow the Company to be subject to or have its shares of Common Stock be subject to or party to one or more Subject Entities making, a purchase, tender or exchange offer that is accepted by the holders of at least either (x) 50% of the outstanding shares of Common Stock, (y) 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all Subject Entities making or party to, or Affiliated with any Subject Entities making or party to, such purchase, tender or exchange offer were not outstanding, or (z) such number of shares of Common Stock such that all Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such purchase, tender or exchange offer, become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of more than 50% of the outstanding shares of Common Stock, (iv) consummate a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with one or more Subject Entities whereby all such Subject Entities, individually or in the aggregate, acquire, either (x) more than 50% of the outstanding shares of Common Stock, (y) more than 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all the Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such stock purchase agreement or other business combination were not outstanding, or (z) such number of shares of Common Stock such that the Subject Entities become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of more than 50% of the outstanding shares of Common Stock, or (v) reorganize, recapitalize or reclassify its shares of Common Stock, (B) that the Company shall, directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, allow any Subject Entity individually or the Subject Entities in the aggregate to be or become the “beneficial owner” (as defined in Rule 13d-3 under the 1934 Act), directly or indirectly, whether through acquisition, purchase, assignment, conveyance, tender, tender offer, exchange, reduction in outstanding shares of Common Stock, merger, consolidation, business combination, reorganization, recapitalization, spin-off, scheme of arrangement, reorganization, recapitalization or reclassification or otherwise in any manner whatsoever, of either (x) more than 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock, (y) more than 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock not held by all such Subject Entities as of the Subscription Date calculated as if any shares of Common Stock held by all such Subject Entities were not outstanding, or (z) a percentage of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock or other equity securities of the Company sufficient to allow such Subject Entities to effect a statutory short form merger or other transaction requiring other stockholders of the Company to surrender their Common Stock without approval of the stockholders of the Company, or (C) directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, the issuance of or the entering into any other instrument or transaction structured in a manner to circumvent, or that circumvents, the intent of this definition in which case this definition shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this definition to the extent necessary to correct this definition or any portion of this definition which may be defective or inconsistent with the intended treatment of such instrument or transaction.

thereunder. (o) **“Group”** means a “group” as that term is used in Section 13(d) of the 1934 Act and as defined in Rule 13d-5

(p) **“Options”** means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

(q) **“Parent Entity”** of a Person means an entity that, directly or indirectly, controls the applicable Person, including such entity whose common stock or equivalent equity security is quoted or listed on an Eligible Market (or, if so elected by the Holder, any other market, exchange or quotation system), or, if there is more than one such Person or such entity, the Person or such entity designated by the Holder or in the absence of such designation, such Person or entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction or Change of Control.

(r) **“Person”** means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

(s) **“Principal Market”** means the principal securities exchange or securities market, including an over-the-counter market (in terms of volume), on which the Common Stock is then traded in the United States.

(t) **“Standard Settlement Period”** means the standard settlement period, expressed in a number of Trading Days, for the Company’s primary trading market or quotation system with respect to the Common Stock that is in effect on the date of receipt of an applicable Exercise Notice.

(u) **“Subject Entity”** means any Person, Persons or Group or any Affiliate or associate of any such Person, Persons or Group.

(v) **“Successor Entity”** means one or more Person or Persons (or, if so elected by the Holder, the Company or Parent Entity) formed by, resulting from or surviving any Fundamental Transaction or Change of Control or one or more Person or Persons (or, if so elected by the Holder, the Company or the Parent Entity) with which such Fundamental Transaction or Change of Control shall have been entered into.

(w) **“Trading Day”** means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded.

(x) **“Transaction Documents”** means any agreement entered into by and between the Company and the Holder, as applicable, in connection with or pursuant to this Warrant.

(y) **“VWAP Market Disruption Event”** means, with respect to any date, (A) the failure by the Principal Market, or, if the Common Stock is not then listed on a U.S. national or regional securities exchange, the principal other market on which the Common Stock is then traded, to open for trading during its regular trading session on such date; or (B) the occurrence or existence, for more than one half hour period in the aggregate, of any suspension or limitation imposed on trading (by reason of movements in price exceeding limits permitted by the relevant exchange or otherwise) in the Common Stock or in any options contracts or futures contracts relating to the Common Stock, and such suspension or limitation occurs or exists at any time before 1:00 p.m., New York City time, on such date.

(z) **“VWAP Trading Day”** means a day on which (A) there is no VWAP Market Disruption Event; provided that the Holder, by notice to the Company, may waive any such VWAP Market Disruption Event; and (B) trading in the Common Stock generally occurs on the principal U.S. national or regional securities exchange on which the Common Stock is then listed or, if the Common Stock is not then listed on a U.S. national or regional securities exchange, on the principal other market on which the Common Stock is then traded. If the Common Stock is not so listed or traded, then “VWAP Trading Day” means a Business Day.

(aa) **“Weighted Average Price”** means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market during the period beginning at 9:30:01 a.m., New York time (or such other time as the Principal Market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as the Principal Market publicly announces is the official close of trading), as reported by Bloomberg through its “Volume at Price” function or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York time (or such other time as such market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as such market publicly announces is the official close of trading), as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest closing bid price and the lowest closing ask price of any of the market makers for such security as reported in the OTC Link or “pink sheets” by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Weighted Average Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Weighted Average Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 11 with the term “Weighted Average Price” being substituted for the term “Exercise Price.” All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

**[Signature Page Follows]**



IN WITNESS WHEREOF, the Company has caused this Warrant to Purchase Common Stock to be duly executed as of the Issuance Date set out above.

**BIONANO GENOMICS, INC.**

By: \_\_\_\_\_  
Name:  
Title:

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## EXERCISE NOTICE

**TO BE EXECUTED BY THE REGISTERED HOLDER TO EXERCISE THIS  
WARRANT TO PURCHASE COMMON STOCK**

**BIONANO GENOMICS, INC.**

The undersigned holder hereby exercises the right to purchase \_\_\_\_\_ shares of Common Stock ("**Warrant Shares**") of Bionano Genomics, Inc., a corporation organized under the laws of Delaware (the "**Company**"), evidenced by the attached Warrant to Purchase Common Stock (the "**Warrant**"). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Exercise Price. The Holder intends that payment of the Exercise Price shall be made as:

\_\_\_\_\_ a "Cash Exercise" with respect to \_\_\_\_\_ Warrant Shares; and/or

\_\_\_\_\_ a "Cashless Exercise" with respect to \_\_\_\_\_ Warrant Shares.

2. Payment of Exercise Price. In the event that the holder has elected a Cash Exercise with respect to some or all of the Warrant Shares to be issued pursuant hereto, the holder shall pay the Aggregate Exercise Price in the sum of \$\_\_\_\_\_ to the Company in accordance with the terms of the Warrant.

3. Delivery of Warrant Shares. The Company shall deliver to the holder \_\_\_\_\_ Warrant Shares in accordance with the terms of the Warrant.

4. Maximum Percentage Representation. Notwithstanding anything to the contrary contained herein, this Exercise Notice shall constitute a representation by the Holder of the Warrant submitting this Exercise Notice that, after giving effect to the exercise provided for in this Exercise Notice, such Holder (together with the other Attribution Parties) will not have beneficial ownership of a number of shares of Common Stock in excess of the Maximum Percentage of the total outstanding shares of Common Stock of the Company as determined pursuant to the provisions of Section 1(f) of the Warrant.

Date: \_\_\_\_\_, \_\_\_\_\_

\_\_\_\_\_  
Name of Registered Holder

By: \_\_\_\_\_

Name:

Title:

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**ACKNOWLEDGMENT**

The Company hereby acknowledges this Exercise Notice and hereby directs Equiniti Trust Company, LLC to issue the above indicated number of shares of Common Stock on or prior to the applicable Share Delivery Date.

**BIONANO GENOMICS, INC.**

By: \_\_\_\_\_  
Name:  
Title:

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## MORRIS, NICHOLS, ARSHT &amp; TUNNELL LLP

1201 NORTH MARKET STREET  
P.O. Box 1347  
WILMINGTON, DELAWARE 19899-1347

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(302) 658-9200  
(302) 658-3989 FAX

October 11, 2023

Bionano Genomics, Inc.  
9540 Towne Centre Drive, Suite 100  
San Diego, CA 92121

Re: Bionano Genomics, Inc.

Ladies and Gentlemen:

We have acted as special Delaware counsel to Bionano Genomics, Inc., a Delaware corporation (the "Company"), in connection with certain matters of Delaware law relating to an offering by the Company of (i) up to \$45,000,000 aggregate principal amount of the Company's Senior Secured Convertible Notes (the "Notes") convertible into 15,713,663 shares (the "Conversion Shares") of the Company's common stock, par value \$0.0001 per share (the "Common Stock"), and (ii) warrants (the "Warrants") to purchase up to 21,660,650 shares (the "Warrant Shares") of Common Stock, pursuant to the Registration Statement on Form S-3, as amended (File No. 333-270459) (the "Registration Statement") filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), the base prospectus included in the Registration Statement (the "Base Prospectus"), and the prospectus supplement relating to the Notes and the Warrants filed with the Commission pursuant to Rule 424(b) under the Securities Act (together with the Base Prospectus, the "Prospectus").

In giving this opinion, we have examined and relied upon the following documents in the forms provided to us: (i) the form of Note to be filed as an exhibit to a Current Report on Form 8-K; (ii) the form of Warrant to be filed as an exhibit to a Current Report on Form 8-K; (iii) the Action by Unanimous Written Consent of the Board of Directors of the Company (the "Board") dated March 8, 2023; (iv) resolutions of the Board of Directors of the Company adopted at a meeting of the Board held on August 1, 2023; (v) the Action by Unanimous Written Consent of the Pricing Committee of the Board dated October 10, 2023; (vi) a certificate of an officer of the Company dated October 11, 2023; (vii) a copy of the Certificate of Conversion of the Company (then named BioNanomatrix LLC) as filed with the Secretary of State of the State of Delaware (the "State Office") on August 16, 2007; (viii) the Certificate of Incorporation of the Company (then named Bionanomarix, Inc.) as filed with the State Office on August 16, 2007; (ix) the Amended and Restated Certificate of Incorporation of the Company as filed with the State Office on August 23, 2018, as amended by the Certificates of Amendment of the Amended and Restated Certificate of Incorporation of the Company as filed with the State Office on October 2, 2020 and August 4, 2023; (x) the Amended and Restated Bylaws of the Company, as amended by the Amendment thereto dated April 13, 2023; (xi) the Registration Statement; (xii) the Prospectus; and (xiii) a certificate of good standing of the Company issued by the State Office as of a recent date.

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In such examinations, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as copies and the legal capacity of natural persons to complete the execution of documents. We have also assumed for purposes of this opinion: (i) except to the extent addressed by our opinion in paragraph 1 below, the due formation or organization, the valid existence and good standing of each entity that is a signatory to any of the documents examined by us under the laws of the jurisdiction of its respective formation or organization; (ii) except to the extent addressed by our opinion in paragraph 2 below, the due authorization, authentication, adoption, approval, certification, acknowledgement, execution, filing, indexing and delivery, as applicable, of each of the documents referenced herein; (iii) that each of the documents examined by us is in full force and effect, sets forth the entire understanding of the parties thereto with respect to the subject matter thereof and has not been amended, supplemented or otherwise modified, except as herein referenced; (iv) that there are no other documents (other than those referenced herein), facts or circumstances contrary to or inconsistent with the opinions expressed herein; (v) that each party has complied, and will comply, as applicable, with the terms and conditions set forth in the Warrants and the Notes; (vi) that upon the exercise of any Warrant, and upon the conversion of the Notes, in whole or in part, there will be a sufficient number of authorized and unissued shares of Common Stock that were not previously subscribed for, reserved or otherwise committed to be issued available for issuance upon any such exercise or conversion; and (vii) that the consideration received by the Company as a result of any conversion of any Notes or the exercise of any of the Warrants will have a value at least equal to the aggregate par value of the shares of Common Stock issued in connection with such conversion or exercise and (viii) solely with respect to the Company, that the entry into and the consummation of the transactions contemplated by each of the Notes and the Warrants will not constitute a “business combination” (as defined in Section 203 of the Delaware General Corporation Law (the “DGCL”)) with an “interested stockholder” (as defined in Section 203 of the DGCL).

We have not reviewed any documents other than those identified above in connection with this opinion. As to any facts material to our opinion, other than those assumed, we have relied, without independent investigation, on the above-referenced documents and certifications and the accuracy, as of the date hereof, of the matters therein contained. We are not regular counsel to the Company or any other party to the Warrants or Notes and are not generally informed as to their respective business affairs.

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Based upon and subject to the foregoing and to the further assumptions and qualifications set forth below, and limited in all respects to matters of Delaware law, it is our opinion that:

1. The Company is duly incorporated, validly existing and in good standing under the laws of the State of Delaware.
2. (i) When duly executed and delivered by the Company and issued and delivered to the purchasers thereof against payment therefor in accordance with the Registration Statement and the Prospectus, the Notes will constitute legally binding obligations of the Company, (ii) the Warrants, when duly delivered against payment therefor in accordance with the Registration Statement and the Prospectus, will constitute legally binding obligations of the Company, and (iii) the Conversion Shares, when issued and delivered in accordance with the terms of the Notes, and the Warrant Shares, when issued and paid for in accordance with the terms of the Warrants, will be validly issued, fully paid and nonassessable.

Our opinion is limited to the laws of the State of Delaware, and we have not considered and express no opinion on the effect of the laws of any other state or jurisdiction, including state or federal laws relating to securities or other federal laws, or the rules and regulations of stock exchanges or of any other regulatory body. In addition, we have not considered and express no opinion as to the applicability of or any compliance with any federal or state securities or blue sky laws, including, without limitation, the Delaware Securities Act, 6 *Del. C.* § 7301 *et seq.*, or any rules or regulations promulgated thereunder.

Our opinion is subject to: (a) bankruptcy, insolvency, reorganization, receivership, fraudulent conveyance, moratorium or other laws of general application relating to or affecting the enforcement of creditors' rights and remedies, as from time to time in effect; (b) application of equitable principles, including applicable law relating to fiduciary duties (regardless of whether considered in a proceeding in equity or at law); (c) considerations of public policy or the effect of applicable law relating to fiduciary duties; (d) principles of course of dealing or course of performance and standards of good faith, fair dealing, materiality and reasonableness that may be applied by a court to the exercise of rights and remedies and the possible unavailability of specific performance or injunctive relief; and (e) the discretion of the court before which any proceeding in respect of the Warrant may be brought; provided that we express no opinion with respect to the enforceability of (i) any document referenced or incorporated by reference in the Warrants or the Notes (other than the Warrants and the Notes to the extent addressed by our opinions set forth above), (ii) any purported waiver or consent granted by any party to the Warrants or the Notes except to the extent such party may so waive or consent and has effectively so waived or consented in accordance with applicable law, (iii) the Warrants and the Notes against or with respect to any person who or which is not a party thereto, (iv) any provisions of the Warrants or the Notes providing for payment of attorneys' fees to the extent such fees are in excess of those permitted by applicable law, and (v) any provision of the Warrants requiring the Company to distribute or pay cash or other property (other than Common Stock of the Company) to the extent the Company does not have funds legally available therefor.

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We hereby consent to the filing of a copy of this opinion with the Commission as an exhibit to a Current Report on Form 8-K to be filed with the Commission for incorporation by reference in the Registration Statement and the use of our name in the Prospectus under the caption "Legal Matters." In giving this consent, we do not hereby admit that we come within the category of persons whose consent is required under Section 7 of the Securities Act of 1933 or the rules and regulations of the Commission thereunder.

This opinion letter speaks only as of the date hereof and is based on our understandings and assumptions as to present facts and our review of the above-referenced documents. The above opinions are based solely upon laws, rulings and regulations in effect on the date hereof, and are subject to modification to the extent that such laws, rulings and regulations may be changed in the future. We undertake no obligation to update or supplement this opinion after the date hereof for the benefit of any person or entity with respect to any facts or circumstances that may hereafter come to our attention or any changes in facts or law that may hereafter occur or take effect.

Very truly yours,

/s/ R. Jason Russell

R. Jason Russell

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## SECURITIES PURCHASE AGREEMENT

This **SECURITIES PURCHASE AGREEMENT** (the “**Agreement**”), dated as of October 11, 2023, is by and among Bionano Genomics, Inc., a Delaware corporation with offices located at 9540 Towne Centre Drive, Suite 100, San Diego, CA 92121 (the “**Company**”), and each of the investors listed on the Schedule of Buyers attached hereto (individually, a “**Buyer**” and collectively, the “**Buyers**”).

**RECITALS**

A. The Company has authorized two new series of Senior Secured Convertible Notes in the forms attached hereto as **Exhibit A-1** and **Exhibit A-2** (the “**Notes**”), which such Notes shall under certain circumstances entitle the Buyers to receive shares of the Company’s common stock, par value \$0.0001 per share (together with any capital stock into which such common stock shall have been changed or any share capital resulting from a reclassification of such common stock, the “**Common Stock**”) (such underlying shares of Common Stock issuable pursuant to the terms of the Notes, the “**Note Shares**”).

B. The Company has also authorized the issuance of Warrants to purchase Common Stock in the form attached hereto as **Exhibit B** (the “**Warrants**”) (such underlying shares of Common Stock issuable upon exercise of a Warrant, collectively, the “**Warrant Shares**” and, together with the Notes Shares, the “**Underlying Shares**”).

C. Each Buyer wishes to purchase, and the Company wishes to sell, upon the terms and conditions stated in this Agreement, (i) the aggregate principal amount of Initial Purchased Notes (as defined below) equal to the sum of the amounts set forth opposite such Buyer’s name in column (3) and column (4) on the Schedule of Buyers and (ii) up to the aggregate principal amount of Subsequently Purchased Notes (as defined below) set forth opposite such Buyer’s name in column (8) on the Schedule of Buyers.

D. Each Buyer wishes to purchase, and the Company wishes to sell, upon the terms and conditions stated in this Agreement, (i) the Initial Purchased Warrants (as defined below) exercisable for the aggregate number of Warrant Shares set forth opposite such Buyer’s name in column (6) on the Schedule of Buyers and (ii) the Subsequently Purchased Warrants (as defined below) which shall be exercisable for the aggregate number of Warrant Shares that shall be determined on each applicable Subsequent Closing Date (as defined below) in accordance with the terms of this Agreement.

E. At the Initial Closing (as defined below), the parties hereto shall execute and deliver the Security Agreements, in the form attached hereto as **Exhibit C** (the “**Security Agreements**”), pursuant to which the Company has agreed to grant a first priority security interest to the Collateral Agent (as defined in the Security Agreements), as collateral agent for the holders of the Notes, in all tangible and intangible assets, now owned and hereafter created or acquired, of the Company and its Subsidiaries (as defined below) (excluding any Foreign Subsidiaries (as defined in the Notes) except to the extent required in order to comply with Section 8(Y) of the Notes).

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F. The Notes, Warrants and Underlying Shares are collectively referred to herein as the “**Securities.**” The Initial Registered Notes (as defined below), Initial Purchased Warrants (as defined below) and the Underlying Shares issuable pursuant to the Initial Registered Notes and Initial Purchased Warrants are collectively referred to herein as the “**Registered Securities.**” The Initial Private Placement Notes (as defined below), Subsequently Purchased Notes, Subsequently Purchased Warrants and the Underlying Shares issuable pursuant to the Initial Private Placement Notes, Subsequently Purchased Notes and Subsequently Purchased Warrants (the “**Private Placement Underlying Shares**”) are collectively referred to herein as the “**Private Placement Securities.**”

G. The Company and each Buyer is executing and delivering this Agreement with respect to the Registered Securities in reliance upon the effective registration statement on Form S-3 (Commission File No. 333-270459) (as amended, the “**Registration Statement**”) filed by the Company with the United States Securities and Exchange Commission (the “**SEC**”) pursuant to the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder (collectively, the “**1933 Act**”), for the registration of the Registered Securities, as such Registration Statement may be amended and supplemented from time to time (including pursuant to Rule 462(b) of the 1933 Act), including all documents filed as part thereof or incorporated by reference therein, and including all information deemed to be a part thereof at the time of effectiveness pursuant to Rule 430B of the 1933 Act, and the prospectus supplement and accompanying base prospectus (together, the “**Prospectus Supplement**”) complying with Rule 424(b) of the 1933 Act that is delivered by the Company to each Buyer in connection with the execution and delivery of this Agreement, including the documents incorporated by reference therein, and that is filed with the SEC. The Company and each Buyer is executing and delivering this Agreement with respect to the Private Placement Securities in reliance upon the exemption from securities registration afforded by Section 4(a)(2) of the 1933 Act, and Rule 506(b) of Regulation D (“**Regulation D**”) as promulgated by the SEC under the 1933 Act.

### **AGREEMENT**

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and each Buyer hereby agree as follows:

#### **1. PURCHASE AND SALE OF PURCHASED SECURITIES.**

(a) Purchase of Initial Purchased Securities. Subject to the satisfaction (or waiver) of the conditions set forth in Sections 6 and 7(a), as applicable, the Company shall issue and sell to each Buyer, and each Buyer severally, but not jointly, agrees to purchase from the Company at the Initial Closing the following Securities (collectively, the “**Initial Purchased Securities**”):

(i) the aggregate principal amount of Notes as is set forth opposite such Buyer’s name in column (3) on the Schedule of Buyers in the form attached hereto as **Exhibit A-1** (the “**Initial Registered Notes**”);

(ii) the aggregate principal amount of Notes as is set forth opposite such Buyer's name in column (4) on the Schedule of Buyers in the form attached hereto as **Exhibit A-2** (the "**Initial Private Placement Notes**") and, together with the Initial Registered Notes, the "**Initial Purchased Notes**"; and

(iii) a Warrant exercisable for the aggregate number of Warrant Shares as is set forth opposite such Buyer's name in column (6) on the Schedule of Buyers in the form attached hereto as **Exhibit B** (the "**Initial Purchased Warrants**").

(b) **Initial Closing.** The closing (the "**Initial Closing**") of the purchase of the Initial Purchased Securities by the Buyers shall occur by electronic transmission or other transmission as mutually acceptable to the parties. The date and time of the Initial Closing (the "**Initial Closing Date**") shall be 10:00 a.m., New York time, on the second Business Day on which the conditions to the Initial Closing set forth in Sections 6 and 7(a) are satisfied or waived (or such other date as is mutually agreed to by the Company and each Buyer). As used herein, "**Business Day**" means any day other than a Saturday, a Sunday or any day on which commercial banks in the City of New York are authorized or required by law or executive order to close or be closed; provided, however, for clarification, commercial banks in the City of New York shall not be deemed to be authorized or required by law or executive order to close or be closed due to "stay at home", "shelter-in-place", "non-essential employee" or any other similar orders or restrictions or the closure of any physical branch locations at the direction of any governmental authority so long as the electronic funds transfer systems (including for wire transfers) of commercial banks in the City of New York are open for use by customers on such day.

(c) **Initial Securities Purchase Price.** The aggregate purchase price for the Initial Purchased Securities to be purchased by each Buyer at the Initial Closing (the "**Initial Securities Purchase Price**") shall be the sum of the amounts set forth opposite such Buyer's name in column (5) and column (7) on the Schedule of Buyers.

(d) **Form of Payment for Initial Purchased Securities.** On the Initial Closing Date, (i) each Buyer shall pay its respective Initial Securities Purchase Price to the Company for the Initial Purchased Securities to be issued and sold to such Buyer at the Initial Closing Date (net of expenses payable pursuant to Section 4(g)), by wire transfer of immediately available funds in accordance with a Flow of Funds Letter (as defined below) with respect to the Initial Purchased Securities; provided that \$35,000,000 of the aggregate Initial Securities Purchase Price shall be deposited into a Controlled Account (as defined in the Notes) subject to a "holder directed" Control Agreement (as defined in the Notes) that does not provide the Company or its Subsidiaries access to the amounts in such Controlled Account and only permits funds to be released from such Controlled Accounts upon the direction of the Collateral Agent (the "**Restricted Cash Account**") and (ii) the Company shall:

(A) deliver to each Buyer the aggregate principal amount of the Initial Registered Notes as is set forth opposite such Buyer's name in column (3) of the Schedule of Buyers, duly executed on behalf of the Company and registered on the books and records of the Company in the name of such Buyer or its designee;

(B) deliver to each Buyer the aggregate principal amount of the Initial Private Placement Notes as is set forth opposite such Buyer's name in column (4) of the Schedule of Buyers, duly executed on behalf of the Company and registered on the books and records of the Company in the name of such Buyer or its designee; and

(C) deliver to each Buyer the Initial Purchased Warrants exercisable for the aggregate number of Warrant Shares as is set forth opposite such Buyer's name in column (6) on the Schedule of Buyers, duly executed on behalf of the Company and registered on the books and records of the Company in the name of such Buyer or its designee.

(e) Purchase of Investor-Elected Subsequently Purchased Securities. Subject to the satisfaction (or waiver) of the conditions set forth in Sections 6 and 7(b), as applicable, for one or more Subsequent Closings (as defined below), the Buyers may deliver to the Company a written notice setting forth a principal amount of additional Notes (the "**Subsequently Purchased Notes**"), that the Buyers are electing to purchase from the Company (a "**Subsequently Purchased Securities Notice**"), and the Company shall issue and sell to each Buyer, and each Buyer severally, but not jointly, agrees to purchase from the Company (i) such Subsequently Purchased Notes as is set forth on such Subsequently Purchased Securities Notice, provided that the maximum aggregate principal amount of Subsequently Purchased Notes issued pursuant to this Agreement shall not exceed the aggregate principal amounts as is set forth opposite such Buyer's name in column (8) on the Schedule of Buyers and (ii) a Warrant exercisable for the aggregate number of Warrant Shares equal to 75% of the aggregate principal amount of the Subsequently Purchased Notes issued pursuant to such Subsequently Purchased Securities Notice divided by the Nasdaq Minimum Price (as defined in Nasdaq Rule 5635(d) (the "**Nasdaq Minimum Price**")) on the date of this Agreement (the "**Subsequently Purchased Warrants**" and, together with the Subsequently Purchased Notes, the "**Subsequently Purchased Securities**" and, together with the Initial Purchased Securities, the "**Purchased Securities**"). For the avoidance of doubt, the decision whether to deliver (if at all) a Subsequently Purchased Securities Notice shall be made by the Buyers in their sole discretion.

(f) Subsequent Closings. The closing (each a "**Subsequent Closing**" and together with the Initial Closing, each a "**Closing**") of the purchase of Subsequently Purchased Securities by the Buyers pursuant to a Subsequently Purchased Securities Notice shall occur by electronic transmission or other transmission as mutually acceptable to the parties. The date and time of a Subsequent Closing (each a "**Subsequent Closing Date**" and together with the Initial Closing Date, each a "**Closing Date**") shall be 10:00 a.m., New York time, on the second Business Day on which the conditions to such Subsequent Closing set forth in Sections 6 and 7(b) are satisfied or waived (or such other date as is mutually agreed to by the Company and each Buyer); provided that in no event will any Subsequent Closing occur after the Maturity Date (as defined in the Notes).

(g) Securities Purchase Price. The aggregate purchase price for any issuance of Subsequently Purchased Securities to be purchased by each Buyer at any Subsequent Closing (the "**Subsequent Securities Purchase Price**") shall be 100% of the aggregate principal amount of Subsequently Purchased Notes set forth on the Subsequently Purchased Securities Notice and allocated among the Buyers based on such Buyer's pro rata portion of the aggregate principal amount of Notes purchased hereunder, but in no event will the aggregate purchase price for all issuances of Subsequently Purchased Securities exceed the sum of the amounts set forth opposite such Buyer's name in column (9) and column (10) on the Schedule of Buyers.

(h) Form of Payment for Subsequently Purchased Securities. On each Subsequent Closing Date, (i) each Buyer shall pay its respective purchase price to the Company for the Subsequently Purchased Securities to be issued and sold to such Buyer at the Subsequent Closing Date (net of expenses payable pursuant to Section 4(g)) pursuant to the applicable Subsequently Purchased Securities Notice, by wire transfer of immediately available funds in accordance with a Flow of Funds Letter (which, with respect to any Closing of Subsequently Purchased Securities, shall be the Flow of Funds Letter delivered at the Initial Closing (unless the Company shall have previously supplied the Buyers with updated wire transfer information)) with respect to such Subsequently Purchased Securities and (ii) the Company shall deliver to each Buyer the aggregate principal amount of Subsequently Purchased Notes and the Subsequently Purchased Warrants pursuant to the applicable Subsequently Purchased Securities Notice, duly executed on behalf of the Company and registered on the books and records of the Company in the name of such Buyer or its designee.

(i) Purchase Price Allocation. Each Buyer and the Company agree that the Notes and the Warrants constitute an “investment unit” for purposes of Section 1273(c)(2) of the Internal Revenue Code of 1986, as amended (the “**Code**”). The Buyers and the Company mutually agree that: the allocation of the issue price of such investment unit between the Initial Purchased Notes and the Initial Purchased Warrants in accordance with Section 1273(c)(2) of the Code and Treasury Regulation Section 1.1273-2(h) shall be as set forth on the Schedule of Buyers; the allocation of the issue price of such investment unit between the Subsequently Purchased Notes and the Subsequently Purchased Warrants in accordance with Section 1273(c)(2) of the Code and Treasury Regulation Section 1.1273-2(h) shall be consistent on a pro rata basis with the allocation of the issue price of the investment unit between the Initial Purchased Notes and the Initial Purchased Warrants or as otherwise reasonably agreed upon by the Buyers and the Company at or prior to the applicable Subsequent Closing; and neither the Buyers nor the Company shall take any position inconsistent with such allocation in any tax return or in any judicial or administrative proceeding in respect of taxes, except as may be otherwise required by GAAP (as defined below), a change in applicable law, or a “determination” within the meaning of Section 1313(a) of the Code.

## **2. BUYER’S REPRESENTATIONS AND WARRANTIES.**

Each Buyer, severally and not jointly, represents and warrants to the Company with respect to only itself that, as of the date hereof and as of the Initial Closing Date and each Subsequent Closing Date:

(a) Organization; Authority. Such Buyer is an entity duly organized, validly existing and in good standing under the laws of the jurisdiction of its organization with the requisite power and authority to enter into and to consummate the transactions contemplated by the Transaction Documents (as defined below) to which it is a party and otherwise to carry out its obligations hereunder and thereunder.

(b) No Public Sale or Distribution. Such Buyer (i) is acquiring its Initial Private Placement Notes and Subsequently Purchased Securities, and (ii) upon exercise of, or otherwise in accordance with, its Initial Private Placement Notes or Subsequently Purchased Securities, as applicable, will acquire the Underlying Shares issuable pursuant thereto, in each case, for its own account and not with a view towards, or for resale in connection with, the public sale or distribution thereof in violation of applicable securities laws, except pursuant to sales registered or exempted under the 1933 Act; provided, however, by making the representations herein, such Buyer does not agree, or make any representation or warranty, to hold any of the Securities for any minimum or other specific term and reserves the right to dispose of the Securities at any time in accordance with or pursuant to a registration statement or an exemption from registration under the 1933 Act. Such Buyer does not presently have any agreement or understanding, directly or indirectly, with any Person (as defined below) to distribute any of the Securities in violation of applicable securities laws. For purposes of this Agreement, “**Person**” means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and any Governmental Entity (as defined below) or any department or agency thereof.

(c) Accredited Investor Status. At the time such Buyer was offered the Private Placement Securities, it was and, as of the date hereof, such Buyer is an “accredited investor” as defined in Rule 501(a) of Regulation D.

(d) Reliance on Exemptions. Such Buyer understands that the Private Placement Securities are being offered and sold to it in reliance on specific exemptions from the registration requirements of United States federal and state securities laws and that the Company is relying in part upon the truth and accuracy of, and such Buyer’s compliance with, the representations, warranties, agreements, acknowledgments and understandings of such Buyer set forth herein in order to determine the availability of such exemptions and the eligibility of such Buyer to acquire the Private Placement Securities.

(e) Information. Such Buyer and its advisors, if any, have been furnished with all materials relating to the business, finances and operations of the Company and materials relating to the offer and sale of the Securities that have been requested by such Buyer. Such Buyer and its advisors, if any, have had (i) the opportunity to review the Transaction Documents and the SEC Documents (as defined below) and has been afforded the opportunity to ask such questions of the Company as it has deemed necessary of, and to receive answers from, representatives of the Company concerning the terms and conditions of the offering of the Securities and the merits and risks of investing in the Securities; (ii) access to information about the Company and its financial condition, results of operations, business, properties, management and prospects sufficient to enable it to evaluate its investment; and (iii) the opportunity to obtain such additional information that the Company possesses or can acquire without unreasonable effort or expense that is necessary to make an informed investment decision with respect to the investment. Neither such inquiries nor any other due diligence investigations conducted by such Buyer or its advisors, if any, or its representatives shall modify, amend or affect such Buyer’s right to rely on the Company’s representations and warranties contained herein. Such Buyer understands that its investment in the Securities involves a high degree of risk. Such Buyer acknowledges that it can bear the economic risk and complete loss of its investment in the Securities and has such knowledge and experience in financial or business matters that it is capable of evaluating the merits and risks of the investment contemplated hereby. Such Buyer did not learn of the investment in the Securities as a result of any general solicitation or general advertising. Such Buyer has sought such accounting, legal and tax advice as it has considered necessary to make an informed investment decision with respect to its acquisition of the Securities. Such Buyer is not relying upon, and has not relied upon, any statement, representation or warranty made by any person, except for statements, representations and warranties contained in this Agreement, in making its investment or decision to invest in the Company. Such Buyer acknowledges and agrees that neither Cowen and Company, LLC, Stifel, Nicolaus & Company, Incorporated, and BTIG, LLC (collectively, the “**Placement Agents**”), nor any affiliate or representative of the Placement Agents have provided such Buyer with any information or advice with respect to the Company or the Securities nor is such information or advice necessary or desired. Neither the Placement Agents nor any affiliate or representative of the Placement Agents has made or makes any representation as to the Company or the quality of the Securities and the Placement Agents and any affiliate or representative of the Placement Agents may have acquired non-public information with respect to the Company which such Buyer agrees need not be provided to it. In connection with the issuance of the Securities to such Buyer, neither the Placement Agents nor any of their affiliates or representatives have acted as a financial advisor or fiduciary to such Buyer.

(f) No Governmental Review. Such Buyer understands that no United States federal or state agency or any other government or governmental agency has passed on or made any recommendation or endorsement of the Securities or the fairness or suitability of the investment in the Securities nor have such authorities passed upon or endorsed the merits of the offering of the Securities.

(g) Transfer or Resale. Such Buyer understands that: (i) the Private Placement Securities have not been registered under the 1933 Act or any state securities laws, and may not be offered for sale, sold, assigned or transferred by any Buyer or any other holder of such Private Placement Securities unless (A) subsequently registered thereunder, (B) such Buyer shall have delivered to the Company (if requested by the Company) an opinion of counsel, in a form reasonably acceptable to the Company, to the effect that such Private Placement Securities to be sold, assigned or transferred may be sold, assigned or transferred pursuant to an exemption from such registration, or (C) such Buyer provides the Company with reasonable assurance that such Private Placement Securities can be sold, assigned or transferred pursuant to Rule 144 or Rule 144A promulgated under the 1933 Act (or a successor rule thereto) (collectively, "**Rule 144**"); and (ii) any sale of the Private Placement Securities made in reliance on Rule 144 may be made only in accordance with the terms of Rule 144, and further, if Rule 144 is not applicable, any resale of the Private Placement Securities under circumstances in which the seller (or the Person through whom the sale is made) may be deemed to be an underwriter (as that term is defined in the 1933 Act) may require compliance with some other exemption under the 1933 Act or the rules and regulations of the SEC promulgated thereunder. Notwithstanding the foregoing, the Private Placement Securities may be pledged in connection with a bona fide margin account or other loan or financing arrangement secured by the Private Placement Securities and such pledge of Private Placement Securities shall not be deemed to be a transfer, sale or assignment of the Private Placement Securities hereunder, and no Buyer effecting a pledge of Private Placement Securities shall be required to provide the Company with any notice thereof or otherwise make any delivery to the Company pursuant to this Agreement or any other Transaction Document, including, without limitation, this Section 2(g).

(h) Validity; Enforcement. This Agreement, the Security Agreements and the Security Documents (as defined in the Security Agreements) have been duly and validly authorized, executed and delivered on behalf of such Buyer and shall constitute the legal, valid and binding obligations of such Buyer enforceable against such Buyer in accordance with their respective terms, except as such enforceability may be limited by general principles of equity or to applicable bankruptcy, insolvency, reorganization, moratorium, liquidation and other similar laws relating to, or affecting generally, the enforcement of applicable creditors' rights and remedies.

(i) No Conflicts. The execution, delivery and performance by such Buyer of this Agreement, the Security Agreements and the Security Documents and the consummation by such Buyer of the transactions contemplated hereby and thereby will not (i) result in a violation of the organizational documents of such Buyer, or (ii) conflict with, or constitute a default (or an event which with notice or lapse of time or both would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation of, any agreement, indenture or instrument to which such Buyer is a party, or (iii) result in a violation of any law, rule, regulation, order, judgment or decree (including federal and state securities laws) applicable to such Buyer, except in the case of clauses (ii) and (iii) above, for such conflicts, defaults, rights or violations which could not, individually or in the aggregate, reasonably be expected to have a material adverse effect on the ability of such Buyer to perform its obligations hereunder.

(j) No Bad Actor Disqualification Event. Such Buyer represents, after reasonable inquiry, that none of the "Bad Actor" disqualifying events described in Rule 506(d)(1)(i) to (viii) under the 1933 Act (a "**Disqualification Event**") is applicable to such Buyer or any of its Rule 506(d) Related Parties (if any). "**Rule 506(d) Related Party**" means a person or entity that is a beneficial owner of such Buyer's securities for purposes of Rule 506(d).

### 3. REPRESENTATIONS AND WARRANTIES OF THE COMPANY.

The Company represents and warrants to each of the Buyers that, as of the date hereof and as of the Initial Closing Date and each Subsequent Closing Date, if any:

(a) Compliance with Registration Requirements. The Registration Statement has become effective under the 1933 Act. The Company has complied, to the SEC's satisfaction, with all requests of the SEC for additional or supplemental information, if any. No stop order suspending the effectiveness of the Registration Statement is in effect and no proceedings for such purpose have been instituted or, to the knowledge of the Company, are pending or threatened by the SEC. At the time the Company's most recent Annual Report on Form 10-K was filed with the SEC, the Company met the then-applicable requirements for use of Form S-3 under the 1933 Act. The documents incorporated or deemed to be incorporated by reference in the Registration Statement, at the time they were or hereafter are filed with the SEC, or became effective under the Securities Exchange Act of 1934, as amended (the "**1934 Act**"), as the case may be, complied and will comply with in all material respects with the requirements of the 1934 Act.

(b) Disclosure. The Prospectus Supplement, when filed, will comply in all material respects with the 1933 Act. Each of the Registration Statement and any post-effective amendment thereto, at the time it became or becomes effective, complied and will comply in all material respects with the 1933 Act, and did not, and at any Closing Date will not, contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. The Prospectus Supplement (including any prospectus wrapper), as of its date, did not, and at any Closing Date, will not, contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. There are no contracts or other documents required to be described in the Prospectus Supplement or to be filed as an exhibit to the Registration Statement which have not been described or filed as required. No event, liability, development or circumstance has occurred or exists, or is reasonably expected to exist or occur with respect to the Company, any of its Subsidiaries (as defined below) or any of their respective businesses, properties, liabilities, prospects, operations (including results thereof) or condition (financial or otherwise), that (i) would be required to be disclosed by the Company under applicable securities laws on a registration statement on Form S-3 filed with the SEC relating to an issuance and sale by the Company of any shares of Common Stock and which has not been publicly announced, (ii) could have a material adverse effect on any Buyer's investment hereunder or (iii) could have a Material Adverse Effect (as defined below).

(c) Organization and Qualification. Each of the Company and each of its Subsidiaries are entities duly organized and validly existing and in good standing (if a good standing concept exists in such jurisdiction) under the laws of the jurisdiction in which they are formed, and have the requisite power and authority to own their properties and to carry on their business as now being conducted. Each of the Company and each of its Subsidiaries is duly qualified as a foreign entity to do business and is in good standing (if a good standing concept exists in such jurisdiction) in every jurisdiction in which its ownership of property or the nature of the business conducted by it makes such qualification necessary, except to the extent that the failure to be so qualified or be in good standing would not reasonably be expected to have a Material Adverse Effect. As used in this Agreement, "**Material Adverse Effect**" means any material adverse effect on (i) the business, properties, assets, liabilities, operations (including results thereof) condition (financial or otherwise) or prospects of the Company or its Subsidiaries, taken as a whole, (ii) the transactions contemplated hereby or in any of the other Transaction Documents or any other agreements or instruments entered into in connection herewith or therewith or (iii) the authority or ability of the Company or any of its Subsidiaries to perform any of their respective obligations under any of the Transaction Documents. Except as set forth on Schedule 3(c), the Company has no significant Subsidiaries within the meaning of Rule 1-02(w) of Regulation S-X. "**Subsidiaries**" means any Person in which the Company, directly or indirectly, (I) owns any of the outstanding capital stock or holds any equity or similar interest of such Person or (II) controls or operates all or any part of the business, operations or administration of such Person, and each of the foregoing, is individually referred to herein as a "**Subsidiary**."



(d) Authorization; Enforcement; Validity. The Company has the requisite power and authority to enter into and perform its obligations under this Agreement and the other Transaction Documents and to issue the Securities in accordance with the terms hereof and thereof. Each Subsidiary has the requisite power and authority to enter into and perform its obligations under the Transaction Documents to which it is a party. The execution and delivery of this Agreement and the other Transaction Documents by the Company, and the consummation by the Company and its Subsidiaries of the transactions contemplated hereby and thereby (including, without limitation, the issuance of the Initial Purchased Securities and the Subsequently Purchased Securities, if any, and the reservation for issuance and the issuance of the Underlying Shares), have been duly authorized by the Company's board of directors (the "**Board of Directors**"), and (other than (i) any filings as may be required by any state or foreign securities agencies or Blue Sky laws and the rules of the Financial Industry Regulatory Authority, Inc. and (ii) a Listing of Additional Shares Notification with Nasdaq (as defined below) (collectively, the "**Required Filings**")) no further filing, consent or authorization is required by the Company, its Subsidiaries, their respective boards of directors or their stockholders or other governing body in connection therewith. This Agreement has been, and the other Transaction Documents (other than the Subsequently Purchased Securities) to which it is a party will be, duly executed and delivered by the Company prior to the Initial Closing, and each constitutes a legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its respective terms, except as such enforceability may be limited by general principles of equity or applicable bankruptcy, insolvency, reorganization, moratorium, liquidation or similar laws relating to, or affecting generally, the enforcement of applicable creditors' rights and remedies and except as rights to indemnification and to contribution may be limited by federal or state securities law. "**Transaction Documents**" means, collectively, this Agreement, the Notes, the Warrants, the perfection certificate(s), the Security Agreements, the Security Documents and the Irrevocable Transfer Agent Instructions (as defined below) and each of the other agreements and instruments entered into or delivered by any of the parties hereto in connection with the transactions contemplated hereby and thereby, as may be amended from time to time.

(e) Issuance of Securities. The issuance of the Securities is duly authorized and when paid for, issued and delivered in accordance with the terms of the Transaction Documents, the Securities shall be validly issued, fully paid and non-assessable and free from all preemptive or similar rights, mortgages, defects, claims, liens, pledges, charges, taxes, rights of first refusal, encumbrances, security interests and other encumbrances (collectively "**Liens**") with respect to the issuance thereof. As of each Closing Date, the Company shall have a number of authorized but unissued shares of Common Stock equal to the Required Reserve Amount (as defined below). The Underlying Shares (upon exercise in accordance with the Warrants or issuance pursuant to the Notes) will be validly issued, fully paid and non-assessable and free from all preemptive or similar rights or Liens with respect to the issuance thereof, with the holders being entitled to all rights accorded to a holder of Common Stock. Subject to the accuracy of the representations and warranties of the Buyers in this Agreement, the offer and issuance by the Company of the Private Placement Securities is exempt from registration under the 1933 Act.

(f) **No Conflicts.** The execution, delivery and performance of the Transaction Documents by the Company and the consummation by the Company of the transactions contemplated hereby and thereby (including, without limitation, the issuance of the Notes, the Warrants and the Underlying Shares, and the reservation of Common Stock for issuance of the Underlying Shares) will not (i) result in a violation of the Certificate of Incorporation (as defined below), Bylaws (as defined below), certificate of formation, memorandum of association, articles of association, bylaws or other organizational documents of the Company or any of its Subsidiaries, or any capital stock or other securities of the Company or any of its Subsidiaries, (ii) conflict with, or constitute a default (or an event which with notice or lapse of time or both would become a default) in any respect under, or give to others any rights of termination, amendment, acceleration or cancellation of, any agreement, indenture or instrument to which the Company or any of its Subsidiaries is a party, or (iii) assuming the accuracy of the representations and warranties in Section 2, result in a violation of any law, rule, regulation, order, judgment or decree (including, without limitation, foreign, federal and state securities laws and regulations, and the rules and regulations of The Nasdaq Capital Market (“**Nasdaq**”) and including all applicable foreign, federal and state laws, rules and regulations) applicable to the Company or any of its Subsidiaries or by which any property or asset of the Company or any of its Subsidiaries is bound or affected, assuming, with respect to clauses (ii) and (iii) above, the making of the Required Filings and except in the case of clauses (ii) and (iii) above, for such breaches, violations or conflicts as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(g) **Consents.** Neither the Company nor any Subsidiary is required to obtain any consent from, authorization or order of, or make any filing or registration with (other than the Required Filings, filings necessary to perfect the Liens granted under the Security Agreements and such consents, authorizations, filings or registrations the absence of which would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect), any Governmental Entity or any regulatory or self-regulatory agency or any other Person in order for it to execute, deliver or perform any of its respective obligations under or contemplated by the Transaction Documents, in each case, in accordance with the terms hereof or thereof. Other than the Required Filings, all consents, authorizations, orders, filings and registrations which the Company or any Subsidiary is required to obtain pursuant to the preceding sentence have been or will be obtained or effected on or prior to the Initial Closing Date, and neither the Company nor any of its Subsidiaries are aware of any facts or circumstances which might prevent the Company or any of its Subsidiaries from obtaining or effecting any of the registration, application or filings contemplated by the Transaction Documents. Except as set forth on Schedule 3(g), the Company is not in violation of the requirements of Nasdaq and has no knowledge of any facts or circumstances which could reasonably lead to delisting or suspension of the Common Stock. “**Governmental Entity**” means any nation, state, county, city, town, village, district, or other political jurisdiction of any nature, federal, state, local, municipal, foreign, or other government, governmental or quasi-governmental authority of any nature (including any governmental agency, branch, department, official, or entity and any court or other tribunal), multi-national organization or body; or body exercising, or entitled to exercise, any administrative, executive, judicial, legislative, police, regulatory, or taxing authority or power of any nature or instrumentality of any of the foregoing, including any entity or enterprise owned or controlled by a government or a public international organization or any of the foregoing.

(h) Acknowledgment Regarding Buyer's Purchase of Securities. The Company acknowledges and agrees that each Buyer is acting solely in the capacity of an arm's length purchaser with respect to the Transaction Documents and the transactions contemplated hereby and thereby and that no Buyer is (i) an officer or director of the Company or any of its Subsidiaries, (ii) an "affiliate" (as defined in Rule 144) of the Company or any of its Subsidiaries or (iii) to its knowledge, a "beneficial owner" (as defined for purposes of Rule 13d-3 of the 1934 Act) of more than 4.99% of the shares of any voting class of the Company's Common Stock. The Company further acknowledges that no Buyer is acting as a financial advisor or fiduciary of the Company or any of its Subsidiaries (or in any similar capacity) with respect to the Transaction Documents and the transactions contemplated hereby and thereby, and any advice given by a Buyer or any of its representatives or agents in connection with the Transaction Documents and the transactions contemplated hereby and thereby is merely incidental to such Buyer's purchase of the Securities. The Company further represents to each Buyer that the Company's and each Subsidiary's decision to enter into the Transaction Documents to which it is a party has been based solely on the independent evaluation by the Company, each Subsidiary and their respective representatives. The Company has not relied upon the Placement Agents or any of their affiliates or representatives for any legal, tax or accounting advice in connection with the offering and sale of the Securities.

(i) No General Solicitation; No Placement Agent. Neither the Company, nor any of its Subsidiaries or affiliates, nor any Person acting on its or their behalf, has engaged in any form of general solicitation or general advertising (within the meaning of Regulation D) in connection with the offer or sale of the Private Placement Securities. The Company shall be responsible for the payment of any placement agent's fees, financial advisory fees, or brokers' commissions (other than for Persons engaged by any Buyer or its investment advisor) relating to or arising out of the transactions contemplated hereby. Neither the Company nor any of its Subsidiaries has engaged any placement agent or other agent, other than the Placement Agents, in connection with the offer or sale of the Securities. The Company shall pay, and hold each Buyer harmless against, any liability, loss or expense (including, without limitation, attorney's fees and reasonable and documented out-of-pocket expenses) arising in connection with any claim for the payment of any placement agent's fees, financial advisory fees, or brokers' commissions (other than for Persons engaged by any Buyer) relating to or arising out of the transactions contemplated hereby.

(j) No Integrated Offering. None of the Company, its Subsidiaries or any of their affiliates, nor any Person acting on their behalf has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would require registration of the issuance of the Private Placement Securities under the 1933 Act, whether through integration with prior offerings or otherwise, or cause this offering of Securities to require approval of stockholders of the Company in connection with the offering of the Securities for purposes of the 1933 Act or under any applicable stockholder approval provisions, including, without limitation, under the rules and regulations of any exchange or automated quotation system on which any of the securities of the Company are listed or designated for quotation. None of the Company, its Subsidiaries, their affiliates nor any Person acting on their behalf has taken any action or steps that would require registration of the issuance of the Private Placement Securities under the 1933 Act or cause the offering of any of the Securities to be integrated with other offerings of securities of the Company.

(k) Dilutive Effect. The Company understands and acknowledges that the number of Underlying Shares will increase in certain circumstances described in the Notes and Warrants. The Company further acknowledges that its obligation to issue the Underlying Shares pursuant to the terms of the Notes and Warrants, as applicable, in accordance with the terms thereof and this Agreement is absolute and unconditional regardless of the dilutive effect that such issuance may have on the ownership interests of other stockholders of the Company.

(l) Application of Takeover Protections. The Company and its Board of Directors have taken or will take prior to the Initial Closing Date all necessary action, if any, in order to render inapplicable any control share acquisition, interested stockholder, business combination, poison pill, stockholder rights plan or other similar anti-takeover provision under the Certificate of Incorporation, Bylaws or other organizational documents or the laws of the jurisdiction of its incorporation which is or could become applicable to any Buyer as a result of the transactions contemplated by this Agreement, including, without limitation, the Company's issuance of the Securities and any Buyer's ownership of the Securities.

(m) SEC Documents and Financial Statements. During the one year prior to the date hereof and each Closing Date with respect to which this representation is being made, the Company has timely filed all reports, schedules, forms, proxy statements, statements and other documents required to be filed by it with the SEC (other than Section 16 ownership filings) pursuant to the reporting requirements of the 1934 Act (reports filed in compliance with the time period specified in Rule 12b-25 promulgated under the 1934 Act shall be considered timely for this purpose) (all of the foregoing filed prior to the date hereof and all exhibits and appendices included therein and financial statements, notes and schedules thereto and documents incorporated by reference therein being hereinafter referred to as the "**SEC Documents**"). The Company has delivered or has made available to the Buyers or their respective representatives true, correct and complete copies (except to the extent that the Company has redacted portions of such copies in accordance with applicable laws) of each of the SEC Documents not available on the EDGAR system. As of their respective dates, the SEC Documents complied in all material respects with the requirements of the 1934 Act and the rules and regulations of the SEC promulgated thereunder applicable to the SEC Documents, and none of the SEC Documents, at the time they were filed with the SEC, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. As of their respective dates, the financial statements of the Company included in the SEC Documents complied in all material respects with applicable accounting requirements and the published rules and regulations of the SEC with respect thereto as in effect as of the time of filing. Such financial statements have been prepared in accordance with generally accepted accounting principles ("**GAAP**"), consistently applied, during the periods involved (except (i) as may be otherwise indicated in such financial statements or the notes thereto, or (ii) in the case of unaudited interim statements, to the extent they may exclude footnotes or may be condensed or summary statements) and fairly present in all material respects the financial position of the Company as of the dates thereof and the results of its operations and cash flows for the periods then ended (subject, in the case of unaudited statements, to normal year-end audit adjustments which will not be material, either individually or in the aggregate). No other information provided by or on behalf of the Company to any of the Buyers which is not included in the SEC Documents (including, without limitation, information referred to in the disclosure schedules to this Agreement) contains any untrue statement of a material fact or omits to state any material fact necessary in order to make the statements therein not misleading, in the light of the circumstance under which they are or were made. The Company is not currently contemplating to amend or restate any of the financial statements (including, without limitation, any notes or any letter of the independent accountants of the Company with respect thereto) included in the SEC Documents (the "**Financial Statements**"), nor is the Company currently aware of facts or circumstances which would require the Company to amend or restate any of the Financial Statements, in each case, in order for any of the Financial Statements to be in material compliance with GAAP and the rules and regulations of the SEC. The Company has not been informed by its independent auditors that they recommend that the Company amend or restate any of the Financial Statements or that there is any need for the Company to amend or restate any of the Financial Statements.

(n) Absence of Certain Changes. Since the date of the Company's audited financial statements contained in the Annual Report on Form 10-K for the year ended December 31, 2022 (the "2022 Annual Report") there has been no Material Adverse Effect. Since the date of the Company's audited financial statements contained in the 2022 Annual Report, except as set forth on Schedule 3(n), neither the Company nor any of its Subsidiaries has (i) declared or paid any dividends, (ii) sold any assets, individually or in the aggregate, outside of the ordinary course of business, (iii) made any capital expenditures, individually or in the aggregate, outside of the ordinary course of business or (iv) made any revaluation of any of their respective assets, including, without limitation, writing down the value of capitalized inventory or writing off notes or accounts receivable or any sale of assets other than in the ordinary course of business.

(o) Insolvency. Neither the Company nor any of its Subsidiaries has taken any steps to seek protection pursuant to any law or statute relating to bankruptcy, insolvency, reorganization, receivership, liquidation or winding up, nor does the Company or any Subsidiary have any knowledge or reason to believe that any of their respective creditors intend to initiate involuntary bankruptcy proceedings or any actual knowledge of any fact which would reasonably lead a creditor to do so. Except as set forth on Schedule 3(o), the Company and its Subsidiaries, individually and on a consolidated basis, are not as of the date hereof and as of the Initial Closing Date and each Subsequent Closing Date, and after giving effect to the transactions contemplated hereby to occur on the Initial Closing Date and each Subsequent Closing Date, will not be Insolvent (as defined below). For purposes of this Section 3(o), "**Insolvent**" means, (i) with respect to the Company and its Subsidiaries, on a consolidated basis, (A) the present fair saleable value of the Company's and its Subsidiaries' assets is less than the amount required to pay the Company's and its Subsidiaries' total Indebtedness (as defined below), (B) the Company and its Subsidiaries are unable to pay their debts and liabilities, subordinated, contingent or otherwise, as such debts and liabilities become absolute and matured or (C) the Company and its Subsidiaries intend to incur or believe that they will incur debts that would be beyond their ability to pay as such debts mature; and (ii) with respect to the Company and each Subsidiary, individually, (A) the present fair saleable value of the Company's or such Subsidiary's (as the case may be) assets is less than the amount required to pay its respective total Indebtedness, (B) the Company or such Subsidiary (as the case may be) is unable to pay its respective debts and liabilities, subordinated, contingent or otherwise, as such debts and liabilities become absolute and matured or (C) the Company or such Subsidiary (as the case may be) intends to incur or believes that it will incur debts that would be beyond its respective ability to pay as such debts mature.

(p) Listing and Trading, Regulatory Permits. During the one year prior to the date hereof and prior to each Closing Date with respect to which this representation is being made, (i) the Common Stock has been listed or designated for quotation on Nasdaq, (ii) trading in the Common Stock has not been suspended by the SEC or Nasdaq and (iii) except as set forth on Schedule 3(g), the Company has received no communication, written or oral, from the SEC or Nasdaq regarding the suspension or delisting of the Common Stock from Nasdaq. The Company and each of its Subsidiaries possess all certificates, authorizations and permits issued by the appropriate regulatory authorities necessary to conduct their respective businesses, except where the failure to possess such certificates, authorizations or permits would not reasonably be likely to have, individually or in the aggregate, a Material Adverse Effect, and neither the Company nor any such Subsidiary has received any notice of proceedings relating to the revocation or modification of any such certificate, authorization or permit.

(q) Foreign Corrupt Practices. Neither the Company, any of the Company's Subsidiaries, nor any director, officer, employee thereof, nor, to the Company's knowledge, any agent or any other person acting for or on behalf of the foregoing (individually and collectively, a "**Company Affiliate**") have violated the U.S. Foreign Corrupt Practices Act or any other applicable anti-bribery or anti-corruption laws (individually and collectively, "**Anti-Corruption Laws**"), nor, to the Company's knowledge, has any Company Affiliate offered, paid, promised to pay, or authorized the payment of any money, or offered, given, promised to give, or authorized the giving of anything of value, to any officer, employee or any other person acting in an official capacity for any Governmental Entity to any political party or official thereof or to any candidate for political office (individually and collectively, a "**Government Official**") or to any person under circumstances where such Company Affiliate knew or was aware of a high probability that all or a portion of such money or thing of value would be offered, given or promised, directly or indirectly, to any Government Official, for the purpose of:

(i) (A) influencing any act or decision of such Government Official in his/her official capacity, (B) inducing such Government Official to do or omit to do any act in violation of his/her lawful duty, (C) securing any improper advantage, or (D) inducing such Government Official to influence or affect any act or decision of any Governmental Entity, or

(ii) assisting the Company or its Subsidiaries in obtaining or retaining business for or with, or directing business to, the Company or its Subsidiaries.

Neither of the Company nor any of its Subsidiaries will use, directly or indirectly, any part of the proceeds of the offering in any manner that would constitute a violation of Anti-Corruption Laws.

(r) Sarbanes-Oxley Act. The Company and each of its Subsidiaries is in material compliance with any and all applicable requirements of the Sarbanes-Oxley Act of 2002, as amended, and any and all applicable rules and regulations promulgated by the SEC under the Sarbanes-Oxley Act of 2002, as amended.

(s) Transactions With Affiliates. No current or former employee, partner, director, officer or shareholder (direct or indirect) of the Company or its Subsidiaries, or any associate, or, to the knowledge of the Company, any affiliate of any thereof, or any relative with a relationship no more remote than first cousin of any of the foregoing, is presently or has been (i) a party to any transaction with the Company or its Subsidiaries (including any contract, agreement or other arrangement providing for the furnishing of services by, or rental of real or personal property from, or otherwise requiring payments to, any such director, officer or shareholder or such associate or affiliate or relative Subsidiaries (other than for ordinary course services as employees, officers or directors of the Company or any of its Subsidiaries)) that would be required to be, and have not been, disclosed as related party transaction under Item 404 of Regulation S-K promulgated under the 1934 Act or (ii) the direct or indirect owner of an interest in any corporation, firm, association or business organization which is a competitor, supplier or customer of the Company or its Subsidiaries (except for a passive investment (direct or indirect) in less than 5% of the common stock or ordinary shares, as applicable, of a company whose securities are traded on or quoted through an Eligible Market (as defined below)), nor does any such Person receive income from any source other than the Company or its Subsidiaries which relates to the business of the Company or its Subsidiaries or should properly accrue to the Company or its Subsidiaries. No employee, officer, shareholder or director of the Company or any of its Subsidiaries or member of his or her immediate family is indebted to the Company or its Subsidiaries, as the case may be, nor is the Company or any of its Subsidiaries indebted (or committed to make loans or extend or guarantee credit) to any of them, other than (i) for payment of salary for services rendered, (ii) reimbursement for reasonable expenses incurred on behalf of the Company or its Subsidiaries, as the case may be, and (iii) for other standard employee benefits made generally available to all employees or executives (including share option agreements outstanding under any share option plan approved by the Board of Directors).

(t) Equity Capitalization.

(i) Authorized and Outstanding Capital Stock. As of the date of this Agreement and as of the Initial Closing, the authorized capital stock of the Company consists of (A) 400,000,000 shares of Common Stock, of which, 35,348,410 are issued and outstanding and 1,191,166 shares are reserved for issuance pursuant to Convertible Securities (as defined below) (other than the Notes and the Warrants) exercisable or exchangeable for, or convertible into, shares of Common Stock, and (B) 10,000,000 shares of preferred stock, par value \$0.0001 per share, of which no shares are issued and outstanding. “**Convertible Securities**” means any capital stock or other security of the Company or any of its Subsidiaries that is at any time and under any circumstances directly or indirectly convertible into, exercisable or exchangeable for, or which otherwise entitles the holder thereof to acquire, any capital stock or other security of the Company (including, without limitation, Common Stock and any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities (collectively, “**Options**”)) or any of its Subsidiaries.

(ii) Valid Issuance; Available Shares; Affiliates. All of the Company’s outstanding shares of capital stock are duly authorized and have been validly issued and are fully paid and non-assessable. Schedule 3(t)(ii) sets forth the number of shares of each class of common stock that are (A) reserved for issuance pursuant to Convertible Securities (other than the Initial Purchased Securities and the Subsequently Purchased Securities) as of the date hereof and as of the Initial Closing and (B) as of the date hereof and as of the Initial Closing, owned by Persons who are “affiliates” (as defined in Rule 405 of the 1933 Act and calculated based on the assumption that only officers, directors and holders of at least 10% of the Company’s issued and outstanding shares of Common Stock are “affiliates” without conceding that any such Persons are “affiliates” for purposes of federal securities laws) of the Company or any of its Subsidiaries. To the Company’s knowledge, as of the date hereof and the Initial Closing Date, no Person owns 10% or more of the Company’s issued and outstanding shares of Common Stock (calculated based on the assumption that all Convertible Securities, whether or not presently exercisable or convertible, have been fully exercised or converted (as the case may be) taking account of any limitations on exercise or conversion (including “blockers”)) contained therein without conceding that such identified Person is a 10% stockholder for purposes of federal securities laws).

(iii) Existing Securities; Obligations. Except as set forth on Schedule 3(t)(iii): (A) none of the Company's or any Subsidiary's shares, interests or capital stock is subject to preemptive rights or any other similar rights or Liens suffered or permitted by the Company or any Subsidiary; (B) other than stock options, restricted share units, performance share units, deferred share units and other stock-based awards awarded to employees, directors and consultants of the Company under equity incentive plans adopted by the Board of Directors of the Company and described in the SEC Documents, there are no outstanding options, warrants, scrip, rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities or rights convertible into, or exercisable or exchangeable for, any shares, interests or capital stock of the Company or any of its Subsidiaries, or contracts, commitments, understandings or arrangements by which the Company or any of its Subsidiaries is or may become bound to issue additional shares, interests or capital stock of the Company or any of its Subsidiaries or options, warrants, scrip, rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities or rights convertible into, or exercisable or exchangeable for, any shares, interests or capital stock of the Company or any of its Subsidiaries; (C) there are no agreements or arrangements under which the Company or any of its Subsidiaries is obligated to register the sale of any of their securities under the 1933 Act; (D) there are no outstanding securities or instruments of the Company or any of its Subsidiaries which contain any redemption or similar provisions, and there are no contracts, commitments, understandings or arrangements by which the Company or any of its Subsidiaries is or may become bound to redeem a security of the Company or any of its Subsidiaries; (E) there are no securities or instruments containing anti-dilution or similar provisions that will be triggered by the issuance of the Securities; and (F) neither the Company nor any Subsidiary has any stock appreciation rights or "phantom stock" plans or agreements or any similar plan or agreement.

(u) Organizational Documents. The Company has furnished to the Buyers true, correct and complete copies of the Company's Amended and Restated Certificate of Incorporation, as amended, and as in effect on the date hereof and each Closing Date (the "**Certificate of Incorporation**") and the Company's Amended and Restated Bylaws, each as in effect on the date hereof and each Closing Date (the "**Bylaws**"), and the terms of all Convertible Securities and the material rights of the holders thereof in respect thereto.



(v) **Indebtedness and Other Contracts.** Except as set forth on Schedule 3(v), neither the Company nor any of its Subsidiaries (i) has any outstanding debt securities, notes, credit agreements, credit facilities or other agreements, documents or instruments evidencing Indebtedness of the Company or any of its Subsidiaries or by which the Company or any of its Subsidiaries is or may become bound, (ii) has any financing statements securing obligations in any amounts filed against the Company or any of its Subsidiaries or with respect to any of their respective assets, (iii) is in violation of any term of, or in default under, any contract, agreement or instrument relating to any Indebtedness, except where such violations and defaults would not result, individually or in the aggregate, in a Material Adverse Effect, or (iv) is a party to any contract, agreement or instrument relating to any Indebtedness, the performance of which, in the judgment of the Company's officers, has or is expected to have a Material Adverse Effect. Neither the Company nor any of its Subsidiaries have any liabilities or obligations required to be disclosed in the SEC Documents which are not so disclosed in the SEC Documents, other than those incurred in the ordinary course of the Company's or its Subsidiaries' respective businesses consistent with past practices and which, individually or in the aggregate, do not or could not have a Material Adverse Effect. For purposes of this Agreement: (x) "**Indebtedness**" of any Person means, without duplication, (A) all indebtedness for borrowed money, (B) all obligations issued, undertaken or assumed as the deferred purchase price of property or services (including, without limitation, "capital leases" in accordance with GAAP) (other than trade payables entered into in the ordinary course of business consistent with past practice), (C) all reimbursement or payment obligations with respect to letters of credit, surety bonds and other similar instruments, (D) all obligations evidenced by notes, bonds, debentures or similar instruments, including obligations so evidenced incurred in connection with the acquisition of property, assets or businesses, (E) all indebtedness created or arising under any conditional sale or other title retention agreement, or incurred as financing, in either case with respect to any property or assets acquired with the proceeds of such indebtedness (even though the rights and remedies of the seller or bank under such agreement in the event of default are limited to repossession or sale of such property), (F) all monetary obligations under any leasing or similar arrangement which, in connection with GAAP, consistently applied for the periods covered thereby, is classified as a capital lease, (G) all indebtedness referred to in clauses (A) through (F) above secured by (or for which the holder of such Indebtedness has an existing right, contingent or otherwise, to be secured by) any Lien upon or in any property or assets (including accounts and contract rights) owned by any Person, even though the Person which owns such assets or property has not assumed or become liable for the payment of such indebtedness, (H) all Contingent Obligations (as defined below) in respect of indebtedness or obligations of others of the kinds referred to in clauses (A) through (G) above, (I) all Disqualified Stock (as defined below) in respect of indebtedness or obligations of others of the kinds referred to in clauses (A) through (G) above; (y) "**Contingent Obligation**" means, as to any Person, (A) any direct or indirect liability, contingent or otherwise, of that Person with respect to any Indebtedness or other obligation of another Person, including any such obligation directly or indirectly guaranteed, endorsed, co-made or discounted or sold with recourse by that Person, or in respect of which that Person is otherwise directly or indirectly liable; (B) any obligations with respect to undrawn letters of credit, corporate credit cards or merchant services issued for the account of that Person; and (C) all obligations arising under any interest rate, currency or commodity swap agreement, interest rate cap agreement, interest rate collar agreement, or other agreement or arrangement designated to protect a Person against fluctuation in interest rates, currency exchange rates or commodity prices; provided, however, that the term "Contingent Obligation" shall not include endorsements for collection or deposit in the ordinary course of business. The amount of any Contingent Obligation shall be deemed to be an amount equal to the stated or determined amount of the primary obligation in respect of which such Contingent Obligation is made or, if not stated or determinable, the maximum reasonably anticipated liability in respect thereof as determined by such Person in good faith; provided, however, that such amount shall not in any event exceed the maximum amount of the obligations under the guarantee or other support arrangement; and (z) "**Disqualified Stock**" means, with respect to any Person, any capital stock that by its terms (or by the terms of any security into which it is convertible or for which it is exchangeable at the option of the holder) or upon the happening of any event: (a) matures or is mandatorily redeemable pursuant to a sinking fund obligation or otherwise, (b) is convertible or exchangeable for Indebtedness or Disqualified Stock (excluding capital stock convertible or exchangeable solely at the option of the Company or a Subsidiary of the Company; provided that any such conversion or exchange will be deemed an incurrence of Indebtedness or Disqualified Stock, as applicable), or (c) is redeemable at the option of the holder thereof, in whole or in part; in the case of each of clauses (a), (b) and (c), at any point prior to the 181st day after the Maturity Date.

(w) Litigation. There is no material action, suit, arbitration, proceeding, inquiry or investigation before or by Nasdaq, any court, public board, other Governmental Entity, self-regulatory organization or body pending or, to the knowledge of the Company, threatened against or affecting the Company or any of its Subsidiaries (or pending or threatened by the Company or any of its Subsidiaries), the Common Stock or any of the Company's or its Subsidiaries' officers or directors, whether of a civil or criminal nature or otherwise, in their capacities as such. To the knowledge of the Company, no director, officer or employee of the Company or any of its Subsidiaries has willfully violated 18 U.S.C. §1519 or engaged in spoliation in reasonable anticipation of litigation. Without limitation of the foregoing, there has not been, and to the knowledge of the Company, there is not pending, contemplated or anticipated, any inquiry or investigation by the SEC involving the Company, any of its Subsidiaries or any current or former director or officer of the Company or any of its Subsidiaries. The SEC has not issued any stop order or other order suspending the effectiveness of any registration statement filed by the Company under the 1933 Act or the 1934 Act. After reasonable inquiry of its officers (as defined in Rule 16a-1(f) promulgated under the 1934 Act) and members of its Board of Directors, the Company is not aware of any fact which might result in or form the basis for any such action, suit, arbitration, investigation, inquiry or other proceeding. Neither the Company nor any of its Subsidiaries is subject to any order, writ, judgment, injunction, decree, determination or award of any Governmental Entity.

(x) Insurance. The Company and each of its Subsidiaries are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as management of the Company believes to be prudent and customary in the businesses in which the Company and its Subsidiaries are engaged. Neither the Company nor any of its Subsidiaries has been refused any insurance coverage sought or applied for, and neither the Company nor any of its Subsidiaries has any reason to believe that it will be unable to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not have a Material Adverse Effect.

(y) **Employee Relations.** Neither the Company nor any of its Subsidiaries is a party to any collective bargaining agreement or employs any member of a union. The Company and its Subsidiaries believe that their relations with their employees are good. No executive officer (as defined in Rule 501(f) promulgated under the 1933 Act) or other key employee of the Company or any of its Subsidiaries has notified the Company or any such Subsidiary that such officer intends to leave the Company or any such Subsidiary or otherwise terminate such officer's employment with the Company or any such Subsidiary. To the knowledge of the Company, no executive officer or other key employee of the Company or any of its Subsidiaries is, or is now expected to be, in violation of any material term of any employment contract, confidentiality, disclosure or proprietary information agreement, non-competition agreement, or any other contract or agreement or any restrictive covenant with the Company or any of its Subsidiaries, and the continued employment of each such executive officer or other key employee (as the case may be) does not subject the Company or any of its Subsidiaries to any liability with respect to any of the foregoing matters. The Company and its Subsidiaries are in material compliance with all applicable federal, state, local and foreign laws and regulations respecting labor, employment and employment practices and benefits, terms and conditions of employment and wages and hours, except where failure to be in compliance would not, either individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect.

(z) **Title.** Each of the Company and its Subsidiaries holds good title to, or a valid leasehold interest in, all real property, leases in real property, facilities or other interests in real property owned or held by the Company or any of its Subsidiaries, as applicable, that is material to the business of the Company (the "**Real Property**"). The Real Property is free and clear of all Liens and is, to the Company's knowledge, not subject to any rights of way, building use restrictions, exceptions, variances, reservations, or limitations of any nature except for (i) Liens for current taxes not yet due and (ii) zoning laws and other land use restrictions that do not impair the present or anticipated use of the property subject thereto. Any Real Property held under lease by the Company or any of its Subsidiaries are held by them under valid, subsisting and enforceable leases with such exceptions as are not material and do not interfere in any material respect with the use made and proposed to be made of such property and buildings by the Company or any of its Subsidiaries.

(aa) **Fixtures and Equipment.** Each of the Company and its Subsidiaries (as applicable) has good title to, or a valid leasehold interest in, all material tangible personal property, equipment, improvements, fixtures, and other personal property and appurtenances that are used by the Company and its Subsidiaries to conduct their respective businesses (the "**Fixtures and Equipment**"). The Fixtures and Equipment are structurally sound, are in good operating condition and repair (ordinary wear and tear excepted), are adequate for the uses to which they are being put, are not in need of maintenance or repairs except for ordinary, routine maintenance and repairs and are sufficient for the conduct of the Company's and/or its Subsidiaries' businesses (as applicable) in the manner as conducted prior to the date hereof and each Closing Date. Except as set forth on Schedule 3(aa), each of the Company and its Subsidiaries owns all of its Fixtures and Equipment free and clear of all Liens except for (i) Liens for current taxes not yet due and payable or being contested in good faith and for which reserves required by GAAP have been created in the financial statements of the Company, (ii) zoning laws and other land use restrictions that do not impair the present or anticipated use of the property subject thereto and (iii) other Permitted Liens (as defined in the Notes).

(bb) Intellectual Property Rights. The Company and each of its Subsidiaries owns or possesses adequate rights or licenses to use all material trademarks, trade names, service marks, service mark registrations, service names, patents, patent rights, copyrights, original works, inventions, licenses, approvals, governmental authorizations, trade secrets and other intellectual property rights and all applications and registrations therefor ("**Intellectual Property Rights**") necessary to conduct their respective businesses as now conducted and as presently proposed to be conducted. None of the Company's or its Subsidiaries' Intellectual Property Rights, which are necessary to conduct their respective businesses, have expired, terminated or been abandoned, or are expected to expire, terminate or be abandoned, within three years from the date of this Agreement. To the knowledge of the Company, neither the Company nor any of its Subsidiaries has, (i) infringed, misappropriated, diluted or violated the Intellectual Property Rights of others, (ii) violated any material term or provision of any contract concerning Intellectual Property Rights, (iii) violated any material right of any person (including any right to privacy or publicity), or (iv) conducted its business in a manner that would constitute unfair competition or unfair trade practices under the laws of any jurisdiction. There is no claim, action or proceeding being made or brought, or to the knowledge of the Company or any of its Subsidiaries, being threatened, against the Company or any of its Subsidiaries regarding Intellectual Property Rights of others that would reasonably be expected to have a Material Adverse Effect on the Company. The Company is not aware of any facts or circumstances which might give rise to any of the foregoing infringements or claims, actions or proceedings. The Company and each of its Subsidiaries have taken reasonable security measures to protect the secrecy, confidentiality and value of all trade secrets within the Intellectual Property Rights of the Company that are materially necessary to conduct their respective businesses. To the knowledge of the Company, no third party is infringing, violating or misappropriating any Company owned Intellectual Property Rights, and there is no claim pending or proceeding regarding any such actual or alleged infringement, misappropriation or other violation of any Company owned Intellectual Property Rights. All former and current employees, contractors and consultants of the Company who have contributed to the creation or development of the Company owned Intellectual Property Rights have executed a valid and enforceable agreement containing an irrevocable assignment to the Company of all of their ownership and other rights therein, including to any invention, improvement or discovery. The Company has not distributed, incorporated or otherwise used any "Open Source Code" (also known as "free software" (as defined by the Free Software Foundation) or "open source software" (as defined by the Open Source Initiative) or has not otherwise distributed publicly software under terms that permit modification and redistribution of such software in a manner that would require that any of the proprietary software owned by the Company or included in a Company product or service: (i) be made available or distributed in source code form; (ii) be licensed for the purpose of making derivative works; (iii) be licensed under terms that allow reverse engineering, reverse assembly or disassembly of any kind; or (iv) be redistributable at no charge. The Company is in compliance with the terms and conditions of all licenses for free or Open Source Code.

(cc) Environmental Laws. (i) The Company and its Subsidiaries (A) are in compliance with any and all Environmental Laws (as defined below), (B) have received all permits, licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses and (C) are in compliance with all terms and conditions of any such permit, license or approval where, except in each of the foregoing clauses (A), (B) and (C), where the failure to so comply or having such permits, licenses or other approval would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect. The term "**Environmental Laws**" means all federal, state, local or foreign laws or regulations relating to pollution or protection of human health or the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata), including, without limitation, laws relating to emissions, discharges, releases or threatened releases of chemicals, pollutants, contaminants, or toxic or hazardous materials, substances or wastes (collectively, "**Hazardous Materials**") into the environment, or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of, or exposure to, Hazardous Materials, as well as all authorizations, codes, decrees, demands or demand letters, injunctions, judgments, licenses, notices or notice letters, orders, permits, plans or regulations issued, entered, promulgated or approved thereunder.

(ii) No Hazardous Materials:

(A) to the Company's knowledge, have been disposed of or otherwise released from any Real Property of the Company or any of its Subsidiaries in violation of any Environmental Laws; or

(B) to the Company's knowledge, are present on, over, beneath, in or upon any Real Property or any portion thereof in quantities that would constitute a violation of any Environmental Laws or in quantities, a manner or location that would reasonably be expected to require remedial action pursuant to any Environmental Laws. No prior use by the Company or any of its Subsidiaries of any Real Property has occurred that violates any Environmental Laws, which violation would have a Material Adverse Effect.

(C) To the Company's knowledge, neither the Company nor any of its Subsidiaries knows of any other Person that has stored, treated, recycled, disposed of or otherwise located on any Real Property any Hazardous Materials, including, without limitation, such substances as asbestos and polychlorinated biphenyls.

(D) To the knowledge of the Company, none of the Real Property is on any federal or state "Superfund" list or Comprehensive Environmental Response, Compensation and Liability Information System ("**CERCLIS**") list or any state environmental agency list of sites under consideration for CERCLIS, nor subject to any environmental related Liens.

(E) Neither the Company nor its Subsidiaries is subject to any pending claim or proceeding or, to the Company and its Subsidiaries' knowledge, threatened claim or proceeding to any Environmental Laws, except for any claims or proceeding that would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect.

(dd) Tax Status. The Company and each of its Subsidiaries (i) has timely made or filed all foreign, federal and state income and all other tax returns, reports and declarations required by any jurisdiction to which it is subject through the date of this Agreement or have requested extensions thereof (except where the failure to make or file would not, individually or in the aggregate, have a Material Adverse Effect) and (ii) has timely paid all taxes and other governmental assessments and charges, shown or determined to be due on such returns, reports and declarations, except those being contested in good faith and for which reserves required by GAAP have been created in the financial statements of the Company or for cases in which the failure to pay would not have a Material Adverse Effect. There is no tax deficiency that has been assessed in writing and determined adversely to the Company or any of its Subsidiaries which has had a Material Adverse Effect, nor does the Company or its Subsidiaries have any knowledge or notice of any tax deficiency which could reasonably be expected to be determined adversely to the Company or its Subsidiaries and which could reasonably be expected to have a Material Adverse Effect.

(ee) Internal Accounting and Disclosure Controls. The Company and each of its Subsidiaries maintains internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the 1934 Act) that is effective to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP, including that (i) transactions are executed in accordance with management's general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset and liability accountability, (iii) access to assets or incurrence of liabilities is permitted only in accordance with management's general or specific authorization and (iv) the recorded accountability for assets and liabilities is compared with the existing assets and liabilities at reasonable intervals and appropriate action is taken with respect to any difference. The Company maintains disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the 1934 Act) that are effective in ensuring that information required to be disclosed by the Company in the reports that it files or submits under the 1934 Act is recorded, processed, summarized and reported, within the time periods specified in the rules and forms of the SEC, including, without limitation, controls and procedures designed to ensure that information required to be disclosed by the Company in the reports that it files or submits under the 1934 Act is accumulated and communicated to the Company's management, including its principal executive officer or officers and its principal financial officer or officers, as appropriate, to allow timely decisions regarding required disclosure. Since the filing of the Company's 2022 Annual Report, neither the Company nor any of its Subsidiaries has received any notice or correspondence from any accountant, Governmental Entity or other Person relating to any potential material weakness or significant deficiency in any part of the internal controls over financial reporting of the Company or any of its Subsidiaries.

(ff) Off Balance Sheet Arrangements. There is no transaction, arrangement, or other relationship between the Company or any of its Subsidiaries and an unconsolidated or other off balance sheet entity that is required to be disclosed by the Company in its 1934 Act filings and is not so disclosed or that otherwise could be reasonably likely to have a Material Adverse Effect.

(gg) Investment Company Status. The Company is not, and upon consummation of the sale of the Securities and the application of the proceeds thereof, will not be, an "investment company," or a company controlled by an "investment company" as such term is defined in the Investment Company Act of 1940, as amended.

(hh) Acknowledgement Regarding Buyers' Trading Activity. It is understood and acknowledged by the Company that (i) following the public disclosure of the transactions contemplated by the Transaction Documents in the Press Release (as defined below), none of the Buyers have been asked by the Company or any of its Subsidiaries to agree, nor has any Buyer agreed with the Company or any of its Subsidiaries, to desist from effecting any transactions in or with respect to (including, without limitation, purchasing or selling, long and/or short) any securities of the Company, or "derivative" securities based on securities issued by the Company or to hold any of the Securities for any specified term; (ii) any Buyer, and counterparties in "derivative" transactions to which any such Buyer is a party, directly or indirectly, presently may have a "short" position in the Common Stock which was established prior to such Buyer's knowledge of the transactions contemplated by the Transaction Documents; (iii) each Buyer shall not be deemed to have any affiliation with or control over any arm's length counterparty in any "derivative" transaction; and (iv) each Buyer may rely on the Company's obligation to timely deliver shares of Common Stock as and when required pursuant to the Transaction Documents for purposes of effecting trading in the Common Stock of the Company. The Company further understands and acknowledges that following the public disclosure of the transactions contemplated by the Transaction Documents pursuant to the Press Release, one or more Buyers may have engaged and may after the date hereof engage in hedging and/or trading activities (including, without limitation, the location and/or reservation of borrowable shares of Common Stock) at various times prior to or during the period that the Securities are outstanding, including, without limitation, during the periods that the value and/or number of the Underlying Shares deliverable with respect to the Securities are being determined and such hedging and/or trading activities (including, without limitation, the location and/or reservation of borrowable shares of Common Stock), if any, can reduce the value of the existing stockholders' equity interest in the Company both at and after the time the hedging and/or trading activities are being conducted. The Company acknowledges that such aforementioned hedging and/or trading activities do not constitute a breach of this Agreement, the Notes, the Warrants or any other Transaction Document or any of the documents executed in connection herewith or therewith.

(ii) Manipulation of Price. Neither the Company nor any of its Subsidiaries has, and, to the knowledge of the Company, no Person acting on their behalf has, directly or indirectly, (i) taken any action designed to cause or to result in the stabilization or manipulation of the price of any security of the Company or any of its Subsidiaries to facilitate the sale or resale of any of the Securities, (ii) other than the fees to be paid to the Placement Agents, sold, bid for, purchased, or paid any compensation for soliciting purchases of, any of the Securities, (iii) other than pursuant to an ATM Sales Program or other Similar Program (as defined below), paid or agreed to pay to any Person any compensation for soliciting another to purchase any other securities of the Company or any of its Subsidiaries or (iv) paid or agreed to pay any Person for research services with respect to any securities of the Company or any of its Subsidiaries.

(jj) U.S. Real Property Holding Corporation. Neither the Company nor any of its Subsidiaries is, or has ever been, and so long as any of the Securities are held by any of the Buyers, shall become, a U.S. real property holding corporation within the meaning of Section 897 of the Code, and the Company and each Subsidiary shall so certify upon any Buyer's request.

(kk) Transfer Taxes. All stock transfer or other taxes (other than income or similar taxes) which are required to be paid in connection with the issuance, sale and transfer of the Securities to be sold to each Buyer hereunder will be, or will have been, fully paid or provided for by the Company, and all laws imposing such taxes will be or will have been complied with; provided that the Company shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any Underlying Shares pursuant to the Notes and Warrants, as applicable, in a name other than that of the Buyer of such Notes and Warrants, as applicable, and the Company shall not be required to issue or deliver such Underlying Shares unless or until the Person or Persons requesting the issuance thereof shall have paid to the Company the amount of such tax or shall have established to the satisfaction of the Company that such tax has been paid.

(ll) Bank Holding Company Act. Neither the Company nor any of its Subsidiaries is subject to the Bank Holding Company Act of 1956, as amended (the “**BHCA**”), and to regulation by the Board of Governors of the Federal Reserve System (the “**Federal Reserve**”). Neither the Company nor any of its Subsidiaries owns or controls, directly or indirectly, 5% or more of the outstanding shares of any class of voting securities or 25% or more of the total equity of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve. Neither the Company nor any of its Subsidiaries exercises a controlling influence over the management or policies of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve.

(mm) Illegal or Unauthorized Payments; Political Contributions. Neither the Company nor any of its Subsidiaries nor, to the Company’s knowledge (after reasonable inquiry of its officers and directors), any of the officers, directors, employees, agents or other representatives of the Company or any of its Subsidiaries or affiliates, has, directly or indirectly, made or authorized any payment, contribution or gift of money, property, or services, whether or not in contravention of applicable law, (i) as a kickback or bribe to any Person or (ii) to any political organization, or the holder of or any aspirant to any elective or appointive public office to influence official action or secure an improper advantage, except for personal political contributions not involving the direct or indirect use of funds of the Company or any of its Subsidiaries.

(nn) Money Laundering. The operations of the Company and its Subsidiaries are and have been conducted at all times in material compliance with the USA Patriot Act of 2001 and all other applicable U.S. and non-U.S. anti-money laundering laws and regulations, including, without limitation, the laws, regulations and executive orders and sanctions programs administered by the U.S. Office of Foreign Assets Control, including, but not limited, to (i) Executive Order 13224 of September 23, 2001 entitled, “Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten to Commit, or Support Terrorism” (66 Fed. Reg. 49079 (2001)); and (ii) any regulations contained in 31 CFR, Subtitle B, Chapter V. The operations of the Company and its Subsidiaries are and have been conducted at all times in material compliance with the USA Patriot Act of 2001 and all other applicable U.S. and non-U.S. anti-money laundering laws and regulations.

(oo) Clinical Data and Regulatory Compliance. The preclinical tests and clinical trials, and other studies (collectively, “**studies**”) that are described in, or the results of which are referred to in, the Company’s periodic reports on Forms 10-K and 10-Q and current reports of Form 8-K filed by it with the SEC, if still pending, are being conducted in all material respects in accordance with the protocols, procedures and controls designed and approved for such studies and with standard medical and scientific research procedures; each description of the results of such studies is accurate and complete in all material respects and fairly presents the data derived from such studies, and the Company and its Subsidiaries have no knowledge of any other studies the results of which are inconsistent with, or otherwise call into question, the results described or referred to in the Company’s periodic reports on Forms 10-K and 10-Q and current reports of Form 8-K filed by it with the SEC; the Company and its Subsidiaries have made all such filings and obtained all such approvals certificates, authorizations and permits as may be required by the Food and Drug Administration of the U.S. Department of Health and Human Services or any committee thereof or from any other U.S. or foreign government or drug or medical device regulatory agency, or health care facility Institutional Review Board or other regulatory authority having jurisdiction over the conduct of their business (collectively, the “**Regulatory Agencies**”); neither the Company nor any of its Subsidiaries has received any notice of, or correspondence from, any Regulatory Agency requiring the termination, suspension or modification of any clinical trials that are described or referred to in the Company’s periodic reports on Forms 10-K and 10-Q and current reports of Form 8-K filed by it with the SEC; and the Company and its Subsidiaries have each operated and currently are in compliance in all material respects with all applicable rules, regulations and policies of the Regulatory Agencies.



(pp) Sanctions. None of the Company, any of its Subsidiaries or any director, officer or, to the knowledge of the Company and its Subsidiaries, employee, agent or other person acting for or on behalf of the foregoing is the subject or target of any economic or financial sanctions imposed, administered or enforced by the United States (including the U.S. Department of the Treasury Office of Foreign Assets Control and the U.S. Department of State) or other relevant sanctions authority (collectively, “**Sanctions**” and each such Person, a “**Sanctioned Person**”). The operations of the Company and its Subsidiaries are, and have been conducted within the past five years, in compliance with applicable Sanctions. Neither the Company nor any of its Subsidiaries will, directly or indirectly, use any part of the proceeds of this offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other Person, to fund or facilitate any dealings or transactions with, involving or for the benefit of any Sanctioned Person, or otherwise in any manner that would constitute or give rise to a violation of any Sanctions by any Person (including any Person participating in the offering, whether as buyer, underwriter, advisor, investor or otherwise).

(qq) Management. During the past five year period, no current or former officer or director, to the knowledge of the Company, has been the subject of:

(i) a petition under bankruptcy laws or any other insolvency or moratorium law or the appointment by a court of a receiver, fiscal agent or similar officer for such Person, or any partnership in which such person was a general partner at or within two years before the filing of such petition or such appointment, or any corporation or business association of which such person was an executive officer at or within two years before the time of the filing of such petition or such appointment;

(ii) a conviction in a criminal proceeding or a named subject of a pending criminal proceeding (excluding traffic violations that do not relate to driving while intoxicated or driving under the influence);

(iii) any order, judgment or decree, not subsequently reversed, suspended or vacated, of any court of competent jurisdiction, permanently or temporarily enjoining any such person from, or otherwise limiting, the following activities:

(A) acting as a futures commission merchant, introducing broker, commodity trading advisor, commodity pool operator, floor broker, leverage transaction merchant, any other person regulated by the United States Commodity Futures Trading Commission or an associated person of any of the foregoing, or as an investment adviser, underwriter, broker or dealer in securities, or as an affiliated person, director or employee of any investment company, bank, savings and loan association or insurance company, or engaging in or continuing any conduct or practice in connection with such activity;

(B) engaging in any particular type of business practice; or

(C) engaging in any activity in connection with the purchase or sale of any security or commodity or in connection with any violation of securities laws or commodities laws;

(iv) any order, judgment or decree, not subsequently reversed, suspended or vacated, of any authority barring, suspending or otherwise limiting for more than 60 days the right of any such person to engage in any activity described in the preceding sub paragraph, or to be associated with persons engaged in any such activity;

(v) a finding by a court of competent jurisdiction in a civil action or by the SEC or other authority to have violated any securities law, regulation or decree and the judgment in such civil action or finding by the SEC or any other authority has not been subsequently reversed, suspended or vacated; or

(vi) a finding by a court of competent jurisdiction in a civil action or by the Commodity Futures Trading Commission to have violated any federal commodities law, and the judgment in such civil action or finding has not been subsequently reversed, suspended or vacated.

(rr) Stock Option Plans. Each stock option granted by the Company was granted (i) in accordance with the terms of the applicable stock option plan of the Company and (ii) with an exercise price at least equal to the fair market value of the Common Stock on the date such stock option would be considered granted under GAAP and applicable law. To the Company's knowledge, no stock option granted under the Company's stock option plan has been backdated. The Company has not knowingly granted, and there is no and has been no policy or practice of the Company to knowingly grant, stock options prior to, or otherwise knowingly coordinate the grant of stock options with, the release or other public announcement of material information regarding the Company or its Subsidiaries or their financial results or prospects.

(ss) **Cybersecurity.** The information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases used or owned by, or leased or licensed to, the Company or any of its Subsidiaries (collectively, “**IT Systems**”) are adequate for, and operate and perform in all material respects as required in connection with the operation of the business of the Company and its Subsidiaries as currently conducted, and except as disclosed in Schedule 3(ss), to the knowledge of the Company, and are free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants. The Company and its Subsidiaries have implemented and maintained commercially reasonable physical, technical and administrative controls, policies, procedures, and safeguards designed to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and data, including “**Personal Data**,” used in connection with their businesses. “**Personal Data**” means (i) a natural person’s name, street address, telephone number, e-mail address, photograph, social security number or tax identification number, driver’s license number, passport number, credit card number, bank information, or customer or account number; (ii) any information which would qualify as “personally identifying information” under the Federal Trade Commission Act, as amended; (iii) “personal data” as defined by the European Union General Data Protection Regulation (“**GDPR**”) (EU 2016/679); (iv) any information which would qualify as “protected health information” under the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act (collectively, “**HIPAA**”); and (v) any other piece of information that allows the identification of a natural person. There have been no breaches, violations, outages or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations relating to the same. To the knowledge of the Company, there have been no breaches, violations, outages or unauthorized uses of or accesses to Personal Data that required statutory notification to individuals or governmental or regulatory authorities. The Company and its Subsidiaries are presently in material compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification.

(tt) **No Disqualification Event.** With respect to the Private Placement Securities to be offered and sold hereunder in reliance on Rule 506(b) under the 1933 Act (“**Regulation D Securities**”), none of the Company, any of its predecessors, any affiliated issuer, any director, executive officer, other officer of the Company participating in the offering contemplated hereby, or, to the Company’s knowledge, any beneficial owner of 20% or more of the Company’s outstanding voting equity securities, calculated on the basis of voting power, nor any promoter (as that term is defined in Rule 405 under the 1933 Act) connected with the Company in any capacity at the time of sale (each, an “**Issuer Covered Person**” and, together, “**Issuer Covered Persons**”) is subject to any Disqualification Event, except for a Disqualification Event covered by Rule 506(d)(2) or (d)(3). The Company has exercised reasonable care to determine whether any Issuer Covered Person is subject to a Disqualification Event. The Company has complied, to the extent applicable, with its disclosure obligations under Rule 506(e), and has furnished to the Buyers a copy of any disclosures provided thereunder.

(uu) **Other Covered Persons.** Except for fees and commissions payable by the Company to the Placement Agents in connection with this transaction, the Company is not aware of any Person that has been or will be paid (directly or indirectly) remuneration for solicitation of Buyers or potential purchasers in connection with the sale of any Regulation D Securities.

(vv) Compliance with Data Privacy Laws. The Company and its Subsidiaries are, and at all prior times were, in material compliance with all applicable state and federal data privacy and security laws and regulations, including without limitation HIPAA, and the Company and its Subsidiaries have taken commercially reasonable actions to prepare to comply with, and since May 25, 2018, have been and currently are in material compliance with, the GDPR (EU 2016/679) (collectively, the “**Privacy Laws**”). To ensure compliance with the Privacy Laws, the Company and its Subsidiaries have in place, comply with, and take appropriate steps reasonably designed to ensure compliance in all material respects with their policies and procedures relating to data privacy and security and the collection, storage, use, disclosure, handling, and analysis of Personal Data (the “**Policies**”). The Company and its Subsidiaries have at all times made all privacy disclosures to users or customers required by Privacy Laws, and none of such disclosures made or contained in any Policy have, to the knowledge of the Company, been materially inaccurate or in violation of any Privacy Laws in any material respect. Neither the Company nor any Subsidiary: (i) has received notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy Laws, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Privacy Law; or (iii) is a party to any order, decree, or agreement that imposes any obligation or liability under any Privacy Law.

(ww) Margin Stock. The application of the proceeds received by the Company from the issuance, sale and delivery of the Notes as described in the Transaction Documents will not violate Regulation T, U or X of the Board of Governors of the Federal Reserve system or any other regulation of such Board of Governors.

(xx) Disclosure. The Company confirms that neither it nor any other Person acting on its behalf has provided any of the Buyers or their agents or counsel with any information that constitutes or could reasonably be expected to constitute material, non-public information concerning the Company or any of its Subsidiaries, other than the existence of the transactions contemplated by this Agreement and the other Transaction Documents. The Company understands and confirms that each of the Buyers has relied on and will rely on the foregoing representations in effecting transactions in securities of the Company. All disclosure provided by the Company to the Buyers regarding the Company and its Subsidiaries, their businesses and the transactions contemplated hereby, including the schedules to this Agreement, furnished by or on behalf of the Company or any of its Subsidiaries is true and correct in all material respects and does not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading. All of the written information furnished after the date hereof by or on behalf of the Company or any of its Subsidiaries to each Buyer pursuant to or in connection with this Agreement and the other Transaction Documents, taken as a whole, will be true and correct in all material respects as of the date on which such information is so provided and will not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading. The Company acknowledges and agrees that no Buyer makes or has made any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in Section 2.

(yy) ATM Sales Program; Equity Line of Credit. The Company has access to an ATM Sales Program (as defined below), Equity Line of Credit (as defined in the Notes), and/or similar program approved in advance and in writing by the Required Holders (as defined below) (which approval may be revoked at any time by the Required Holders in their sole discretion being understood that the Company’s ATM Sales Program existing as of the date of this Agreement is hereby approved provided that the terms of the Company ATM Sales Program existing as of the date of this Agreement are not subsequently materially amended, modified or otherwise changed (it being understood that any amendment, modification or change that alters the size of the ATM Sales Program or how securities issued thereunder are priced shall be deemed to be material) without the prior written consent of the Required Holders) (any such approved program, a “**Similar Program**”), and, as of the date hereof and the Closing Date with respect to which this representation is being made, the ATM Sales Program, Equity Line of Credit, and/or such Similar Program has available, accessible and unused aggregate capacity to generate gross proceeds to the Company of at \$50,000,000 in the aggregate.

(zz) **Compliance with Health Care Laws.** The Company and its Subsidiaries are, and at all times have been, in material compliance with all Health Care Laws. For purposes of this Agreement, “**Health Care Laws**” means: (i) the Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 301 et seq.), the Public Health Service Act (42 U.S.C. Section 201 et seq.), and the regulations promulgated thereunder; (ii) all applicable federal, state, local and foreign health care fraud and abuse laws, including, without limitation, the Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the Civil False Claims Act (31 U.S.C. Section 3729 et seq.), the criminal false statements law (42 U.S.C. Section 1320a-7b(a)), 18 U.S.C. Sections 286 and 287, the health care fraud criminal provisions under HIPAA, the Stark Law (42 U.S.C. Section 1395nn), the civil monetary penalties law (42 U.S.C. Section 1320a-7a), the exclusion law (42 U.S.C. Section 1320a-7), the Physician Payments Sunshine Act (42 U.S.C. Section 1320-7h), and applicable laws governing government funded or sponsored healthcare programs; (iii) HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (42 U.S.C. Section 17921 et seq.); (iv) the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010; (v) licensure, quality, safety and accreditation requirements under applicable federal, state, local or foreign laws or regulatory bodies; (vi) all other local, state, federal, national, supranational and foreign laws, relating to the regulation of the Company or its Subsidiaries; and (vii) the directives and regulations promulgated pursuant to such statutes and any state or non-U.S. counterpart thereof. Neither the Company nor any of its Subsidiaries has received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or governmental or regulatory authority or third party alleging that any product operation or activity is in violation of any Health Care Laws nor, to the Company’s knowledge, is any such claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action threatened. The Company and its Subsidiaries have filed, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Health Care Laws, and all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and accurate on the date filed in all material respects (or were corrected or supplemented by a subsequent submission). Neither the Company nor any of its Subsidiaries is a party to any corporate integrity agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any governmental or regulatory authority. Additionally, neither the Company, any of its Subsidiaries nor any of their respective employees, officers, directors, or agents has been excluded, suspended or debarred from participation in any U.S. federal health care program or human clinical research or, to the knowledge of the Company, is subject to a governmental inquiry, investigation, proceeding, or other similar action that could reasonably be expected to result in debarment, suspension, or exclusion.

(aaa) No Additional Agreements. The Company does not have any agreement or understanding with any Buyer with respect to the transactions contemplated by the Transaction Documents other than as specified in the Transaction Documents.

(bbb) Shell Company Status. The Company is not, and has never been, an issuer identified in, or subject to, Rule 144(i).

#### 4. COVENANTS.

(a) Best Efforts. Each Buyer shall use its best efforts to timely satisfy each of the covenants hereunder and conditions to be satisfied by it as provided in Section 6 of this Agreement. The Company shall use its best efforts to timely satisfy each of the covenants hereunder and conditions to be satisfied by it as provided in Section 7 of this Agreement.

(b) Blue Sky. The Company shall, on or before the Initial Closing Date, take such action as the Company shall reasonably determine is necessary in order to obtain an exemption for, or to, qualify the Securities for sale to the Buyers at the Initial Closing and each Subsequent Closing pursuant to this Agreement under applicable securities or “Blue Sky” laws of the states of the United States (or to obtain an exemption from such qualification), and shall provide evidence of any such action so taken to the Buyers on or prior to the Initial Closing Date. Without limiting any other obligation of the Company under this Agreement, the Company shall timely make all filings and reports relating to the offer and sale of the Securities required under all applicable securities laws (including, without limitation, all applicable federal securities laws and all applicable “Blue Sky” laws), and the Company shall comply with all applicable foreign, federal, state and local laws, statutes, rules, regulations and the like relating to the offering and sale of the Securities to the Buyers. Notwithstanding the foregoing, the Company will not be obligated to qualify as a foreign corporation or as a dealer in securities in any jurisdiction where it would not otherwise be required to so qualify, file any general consent to service of process in any such jurisdiction or subject itself to taxation in any such jurisdiction if it is not otherwise so subject.

(c) Reporting Status. Until the later of (i) the one-year anniversary of the termination of the Notes and full exercise or expiration of the Warrants and (ii) the two-year anniversary of this Agreement (the “**Reporting Period**”), the Company shall timely file all reports required to be filed with the SEC pursuant to the 1934 Act (reports filed in compliance with the time period specified in Rule 12b-25 promulgated under the 1934 Act shall be considered timely for this purpose), and the Company shall not terminate its status as an issuer required to file reports under the 1934 Act even if the 1934 Act or the rules and regulations thereunder would no longer require or otherwise permit such termination.

(d) Use of Proceeds. The Company will use the net proceeds from the sale of the Securities for working capital and general corporate purposes, but not, directly or indirectly, for (i) the redemption or repurchase of any securities of the Company or any of its Subsidiaries or repayment of any Indebtedness or (ii) the settlement of any outstanding litigation.

(e) **Financial Information.** The Company agrees to send the following to each Buyer during the Reporting Period (i) unless the following are filed with the SEC through EDGAR and are available to the public through the EDGAR system, within one Business Day after the filing thereof with the SEC, a copy of its Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q, any interim reports or any consolidated balance sheets, income statements, stockholders' equity statements and/or cash flow statements for any period other than annual, any Current Reports on Form 8-K and any registration statements (other than on Form S-8 or Form S-4) or amendments filed pursuant to the 1933 Act, (ii) unless the following are either filed with the SEC through EDGAR or are otherwise widely disseminated via a recognized news release service (such as PR Newswire), on the same day as the release thereof, e-mail copies of all press releases issued by the Company or any of its Subsidiaries and (iii) unless the following are filed with the SEC through EDGAR, copies of any notices and other information made available or given to the stockholders of the Company generally, contemporaneously with the making available or giving thereof to the stockholders.

(f) **Listing.** The Company shall promptly secure the listing or designation for quotation (as the case may be) of all of the Underlying Shares upon each national securities exchange and automated quotation system, if any, upon which the Common Stock is then listed or designated for quotation (as the case may be) (subject to official notice of issuance) and shall maintain such listing or designation for quotation (as the case may be) of all Underlying Shares from time to time issuable under the terms of the Transaction Documents on such national securities exchange or automated quotation system. The Company shall maintain the Common Stock's listing or authorization for quotation (as the case may be) on Nasdaq, The New York Stock Exchange, the NYSE American, the Nasdaq Global Market or the Nasdaq Global Select Market (each, an "**Eligible Market**"). Neither the Company nor any of its Subsidiaries shall take any action which could be reasonably expected to result in the delisting or suspension of the Common Stock on an Eligible Market. The Company shall pay all fees and expenses in connection with satisfying its obligations under this Section 4(f).

(g) **Fees.** The Company shall pay for the reasonable and documented due diligence and legal fees and expenses incurred by the Buyers in connection with the structuring, documentation, negotiation, and closing of the transactions contemplated by the Transaction Documents (and the enforcement thereof by the Buyers), including, without limitation, all reasonable and documented consultant fees, all reasonable and documented legal fees and disbursements of Latham & Watkins LLP, counsel to the Buyers, and due diligence and regulatory filings in connection therewith (the "**Transaction Expenses**") and such Transaction Expenses, to the extent they have not already been paid to the Buyer, may be withheld by the Buyers from its Initial Securities Purchase Price and Subsequent Securities Purchase Price at the Initial Closing and each Subsequent Closing, respectively; provided, however, that the Transaction Expenses (whether paid directly or withheld) through the Initial Closing shall not exceed an aggregate amount of \$250,000. The Company shall be responsible for the payment of any placement agent's fees, financial advisory fees, transfer agent fees, The Depository Trust Company ("**DTC**") fees or broker's commissions (other than for Persons engaged by any Buyer) relating to or arising out of the transactions contemplated hereby. The Company shall pay, and hold each Buyer harmless against, any liability, loss or expense (including, without limitation, reasonable attorneys' fees and reasonable and documented out-of-pocket expenses) arising in connection with any claim relating to any such payment. Except as otherwise set forth in the Transaction Documents, each party to this Agreement shall bear its own expenses in connection with the sale of the Securities to the Buyers. The Company shall not be obligated to pay any tax which may be payable with respect to any transfer (or deemed transfer) arising in connection with the registration of any certificates for the Securities in the name of any Person other than the Buyers.

(h) Pledge of Securities. Notwithstanding anything to the contrary contained in this Agreement, the Company acknowledges and agrees that the Securities may be pledged by a Buyer in connection with a bona fide margin agreement or other loan or financing arrangement that is secured by the Securities. The pledge of Securities shall not be deemed to be a transfer, sale or assignment of the Securities hereunder, and no Buyer effecting a pledge of Securities shall be required to provide the Company with any notice thereof or otherwise make any delivery to the Company pursuant to this Agreement or any other Transaction Document, including, without limitation, Section 2(g) hereof; provided that a Buyer and its pledgee shall be required to comply with the provisions of Section 2(g) hereof in order to effect a sale, transfer or assignment of Private Placement Securities to such pledgee. The Company hereby agrees to execute and deliver such documentation as a pledgee, of the Securities may reasonably request in connection with a pledge of the Securities to such pledgee by a Buyer.

(i) Disclosure of Transactions and Other Material Information.

(i) Disclosure of Transaction. No later than 9:30 a.m., New York time, on the date of this Agreement, the Company shall issue a press release (the "**Press Release**") reasonably acceptable to the Buyers disclosing all the material terms of the transactions contemplated by the Transaction Documents. The Company agrees that the issuance of a press release for a Subsequently Purchased Securities Notice shall not be required as the delivery of a Subsequently Purchased Securities Notice shall not constitute material, nonpublic information. No later than 5:30 p.m., New York time, on the fourth Business Day after the date of this Agreement, the Company shall file a Current Report on Form 8-K describing all the material terms of the transactions contemplated by the Transaction Documents in the form required by the 1934 Act and attaching all the material Transaction Documents (the "**8-K Filing**"). From and after the issuance of the Press Release, the Company shall have disclosed all material, non-public information (if any) provided to any of the Buyers by the Company or any of its Subsidiaries or any of their respective officers, directors, employees or agents. In addition, effective upon the issuance of the Press Release, the Company acknowledges and agrees that any and all confidentiality or similar obligations under any agreement, whether written or oral, between the Company, any of its Subsidiaries or any of their respective officers, directors, affiliates, employees or agents, on the one hand, and any of the Buyers or any of their affiliates, on the other hand, shall have terminated and none of the Buyers have been subject to any such obligation since the issuance of the Press Release.



(ii) Limitations on Disclosure. Other than as required under the Transaction Documents (but subject to any other disclosure obligations of the Company with respect thereto), the Company shall not, and the Company shall cause each of its Subsidiaries and each of its and their respective officers, directors, employees and agents not to, provide any Buyer with any material, non-public information regarding the Company or any of its Subsidiaries from and after the date hereof unless prior thereto such Buyer shall have consented in writing to the receipt of such information and agreed with the Company to keep such information confidential. If any material, non-public information is required to be provided by the Company or any of its Subsidiaries to any Buyer pursuant to the Transaction Documents, the Company shall obtain each Buyer's prior written consent prior to providing such information to such Buyer, and if any Buyer fails to provide such written consent, the Company shall not be deemed to be in breach of any of the Transaction Documents as a result of the failure to provide such information. To the extent that the Company delivers any material, non-public information to a Buyer without such Buyer's prior written consent in breach of the foregoing sentence, the Company hereby covenants and agrees that such Buyer shall not have any duty of confidentiality with respect to, or a duty not to trade on the basis of, such material, non-public information, provided that the Buyer shall remain subject to applicable law. Subject to the foregoing, neither the Company, its Subsidiaries nor any Buyer shall issue any press releases or any other public statements with respect to the transactions contemplated hereby, except the Press Release and the 8-K filing; provided, however, the Company shall be entitled, without the prior approval of any Buyer, to make any press release or other public disclosure with respect to such transactions (A) in substantial conformity with the 8-K Filing and (B) as is required by applicable law and regulations (provided that in the case of clause (A) above, each Buyer shall be consulted by the Company in connection with any such press release or other public disclosure prior to its release). Without the prior written consent of the applicable Buyer (which may be granted or withheld in such Buyer's sole discretion), the Company shall not (and shall cause each of its Subsidiaries and affiliates to not) submit for publication or otherwise cause or seek to publish any information naming any Buyer or disclose the name of any Buyer in any filing, announcement, release or otherwise; provided that, nothing in the foregoing shall be construed to prohibit the Company from making any submission or filing (i) which it is required to make by applicable law or pursuant to judicial process, (ii) as required by federal securities law in connection with the filing of final Transaction Documents with the SEC, or (iii) to the extent such disclosure is required by law or regulations of the Principal Market (as defined in the Warrants); provided further, that (A) such filing or submission shall contain only such information as is necessary to comply with applicable law or judicial process and (B) unless specifically prohibited by applicable law or court order, the Company shall promptly notify the Buyers of the requirement to make such submission or filing and provide the Buyers with a copy thereof. Notwithstanding anything contained in this Agreement to the contrary and without implication that the contrary would otherwise be true, the Company expressly acknowledges and agrees that no Buyer shall have (unless expressly agreed to by a particular Buyer after the date hereof in a written definitive and binding agreement executed by the Company and such particular Buyer (it being understood and agreed that no Buyer may bind any other Buyer with respect thereto)) any duty of confidentiality with respect to, or a duty not to trade on the basis of, any material, non-public information regarding the Company or any of its Subsidiaries.

(j) Additional Issuance of Securities.

(i) The Company agrees that for the period commencing on the date hereof and ending on the date immediately following the 30<sup>th</sup> calendar day after the effectiveness of the Resale Registration Statement (as defined below) covering the resale of all Registrable Securities (as defined below) issued or issuable to the Buyers in connection with the Initial Closing Date (the “**Restricted Period**”), neither the Company nor any of its Subsidiaries shall directly or indirectly issue, offer, sell, grant any option or right to purchase, or otherwise dispose of (or register or amend any outstanding registration statements or file any shelf registration statements or announce any issuance, offer, sale, grant of any option or right to purchase or other disposition of) any equity security or any equity-linked or related security (including, without limitation, any “equity security” (as that term is defined under Rule 405 promulgated under the 1933 Act), any Convertible Securities, any preferred stock or any purchase rights). Notwithstanding the foregoing, this Section 4(j)(i) shall not apply during the Restricted Period in respect of (A) the issuance of Options or Convertible Securities issued under any Approved Stock Plan (as defined below), so long as (i) the aggregate number of shares issued and issuable pursuant thereto does not exceed 5% of the Common Stock issued and outstanding immediately prior to the date hereof and (ii) the exercise price of any such Options is not lowered and the conversion price of any such Convertible Securities is not lowered, none of such Options or Convertible Securities are amended to increase the number of shares issuable thereunder and none of the terms or conditions of any such options are otherwise materially changed in any manner that adversely affects any of the Buyers, or (B) the issuances of Underlying Shares. Notwithstanding the foregoing, this Section 4(j)(i) shall not apply to any sale or issuance of Common Stock under the ATM Sales Program occurring after the 30th day after the Initial Closing Date. An “**Approved Stock Plan**” means any security-based compensation plan which has been approved by the Board of Directors of the Company prior to the date hereof, or any security-based compensation plan which is approved by the Board of Directors or the compensation committee thereof and the stockholders of the Company after the date hereof, pursuant to which Common Stock, options to purchase Common Stock and other incentive equity awards may be issued to any employee, officer, consultant or director for services provided to the Company in their capacity as such, and not for the purpose of raising capital, pursuant to any consulting agreement, advisory agreement or independent contractor agreement approved by the Board of Directors or the compensation committee thereof.

(ii) So long as any Notes remain outstanding, the Company and each Subsidiary shall be prohibited from effecting, or entering into an agreement directly or indirectly to effect a Variable Rate Transaction. “**Variable Rate Transaction**” means a transaction in which the Company or any Subsidiary (A) issues or sells any Convertible Securities either (i) at a conversion, exercise or exchange rate or other price that is based upon and/or varies with the trading prices of or quotations for the Common Stock at any time after the initial issuance of such Convertible Securities, or (ii) with a conversion, exercise or exchange price that is subject to being reset at some future date after the initial issuance of such Convertible Securities or upon the occurrence of specified or contingent events directly or indirectly related to the business of the Company or the market for the Common Stock, other than pursuant to customary adjustments for stock splits, stock dividends, stock combinations, recapitalizations and similar events or (B) enters into any agreement (including, without limitation, an equity line of credit) whereby the Company or any Subsidiary may sell securities at a future determined price (other than standard and customary “preemptive” or “participation” rights); provided that, for avoidance of doubt, neither the entry into the agreement underlying the ATM Sales Program (the “**ATM Sales Agreement**”), Equity Line of Credit or Similar Program nor the issuance of shares of Common Stock pursuant thereto shall be considered a “Variable Rate Transaction”.

(iii) So long as any Notes or Warrants remain outstanding, the Company will not, without the prior written consent of the Required Holders, issue any Notes or Warrants (other than to the Buyers as contemplated hereby) and the Company shall not issue any other securities that would cause a breach or default under the Notes or the Warrants.

(iv) Each Buyer shall be entitled to obtain injunctive relief against the Company and its Subsidiaries to preclude any issuance prohibited by this Section 4(j), which remedy shall be in addition to any right to collect damages.

(k) Compliance with Laws. None of the Company or any of its Subsidiaries shall violate any law, ordinance or regulation of any Governmental Entity, except where such violations would not reasonably be expected to result, either individually or in the aggregate, in a Material Adverse Effect.

(l) [Reserved].

(m) Restriction on Redemption and Cash Dividends. So long as any of the Notes are outstanding, except as otherwise permitted under the Notes, the Company shall not, directly or indirectly, redeem, or declare or pay any cash dividend or distribution on, any securities of the Company without the prior express written consent of the Required Holders (other than as required by the Notes or as required by the terms thereof as in effect on the date hereof); provided, however, that such written consent shall not be required for any repurchases, forfeitures, withholdings or transfers of securities pursuant to a net exercise of a Convertible Security to cover the payment of the exercise prices or the payment of withholding of taxes associated with the exercise or vesting of equity awards under any equity compensation plan of the Company.

(n) Corporate Existence. So long as any Notes or Warrants remain outstanding, the Company shall not be party to any Fundamental Change (as defined in the Notes) or a Fundamental Transaction (as defined in the Warrants) unless the Company is in compliance with the applicable provisions governing Fundamental Changes set forth in the Notes and the applicable provisions governing Fundamental Transactions set forth in the Warrants.

(o) Issuance Procedures. The terms of the Notes and Warrants, as applicable, set forth the totality of the procedures required of the Buyers in order to receive shares of Common Stock pursuant to the Notes or by exercise of the Warrants, as applicable. No legal opinion, other information or instructions shall be required of the Buyers to receive Common Stock pursuant to the Notes or by exercise of the Warrants, as applicable. The Company shall honor an election by a Buyer to receive Common Stock pursuant to the Notes or by exercise of the Warrants, as applicable, and shall deliver the Underlying Shares in accordance with the terms, conditions and time periods set forth in the Notes or the Warrants, as applicable. Except as explicitly set forth in the Notes or the Warrants, as applicable, no legal opinion, information or instructions shall be required of the Buyers to receive Underlying Shares pursuant to the Notes or the Warrants, as applicable. The Company shall deliver the Underlying Shares in accordance with the terms, conditions and time periods set forth in the Notes and the Warrants, as applicable.

(p) Regulation M. The Company will not take any action prohibited by Regulation M under the 1934 Act in connection with the distribution of the Securities contemplated hereby.

(q) General Solicitation. None of the Company, any of its affiliates (as defined in Rule 501(b) under the 1933 Act) or any person acting on behalf of the Company or such affiliate will solicit any offer to buy or offer to sell the Private Placement Securities by means of any form of general solicitation or general advertising within the meaning of Regulation D, including: (i) any advertisement, article, notice or other communication published in any newspaper, magazine or similar medium or broadcast over television or radio; and (ii) any seminar or meeting whose attendees have been invited by any general solicitation or general advertising.

(r) Integration. None of the Company, any of its affiliates (as defined in Rule 501(b) under the 1933 Act), or any person acting on behalf of the Company or such affiliate will sell, offer for sale, or solicit offers to buy or otherwise negotiate in respect of any security (as defined in the 1933 Act) which will be integrated with the sale of the Securities in a manner which would require the registration of the Securities under the 1933 Act or require stockholder approval under the rules and regulations of Nasdaq and the Company will take all action that is appropriate or necessary to assure that its offerings of other securities will not be integrated for purposes of the 1933 Act or the rules and regulations of Nasdaq, with the issuance of Securities contemplated hereby.

(s) Rule 144. From and after the date that is six months (or any then-applicable holding period) following (x) the Initial Closing Date with respect to the Initial Private Placement Notes and the shares, if any, of Common Stock issued upon a cashless exercise of the Initial Purchased Warrants and (y) each Subsequent Closing Date, as applicable, with respect to the Subsequently Purchased Securities and the shares, if any, of Common Stock issued upon a cashless exercise of the Subsequently Purchased Warrants, at the request of any Buyer and subject to such Buyer providing reasonable assurances (in the form of customary seller and broker representation letters reasonably acceptable to the Company) that such Private Placement Securities can be sold, assigned or transferred pursuant to Rule 144, the Company shall, if the Company is then in compliance with Section 4(c) hereof (if applicable), deliver to the Company's transfer agent, an opinion of counsel to the Company, at the Company's expense, that a sale of such Private Placement Securities may otherwise be made in accordance with the terms of Rule 144.

(t) [Reserved].

(u) **Share Reserve.** So long as any of the Notes or the Warrants remain outstanding, the Company shall at all times have no less than a number of authorized but unissued shares of Common Stock equal to the sum of (i) 100% of the shares of Common Stock issuable upon the exercise of the Warrants, which shall be reserved for issuance pursuant to the terms of the Warrants, (ii) Note Share Reserve (as defined below), which shall be reserved for issuance pursuant to the terms of the Notes, and (iii) 50,000,000 shares of Common Stock, which are generally available and have not been reserved for any purpose (the “**Required Reserve Amount**”); provided that at no time shall the number of shares of Common Stock reserved pursuant to this Section 4(u) be reduced other than in connection with any stock combination, reverse stock split or other similar transaction. The amounts set forth in the definition of Required Reserve Amount (including, without limitation, each increase in the number of shares so reserved) shall be allocated pro rata among the holders of the Notes and the Warrants based on the number of shares of Common Stock issuable pursuant to the Notes or upon exercise of the Warrants held by each holder thereof on the date of issuance of the Notes and the Warrants (without regards to any limitations on exercise) (collectively, the “**Authorized Share Allocation**”). In the event that a holder shall sell or otherwise transfer any of such holder’s Notes or Warrants, each transferee shall be allocated a pro rata portion of such holder’s Authorized Share Allocation. Any Common Stock reserved and allocated to any Person which ceases to hold any Notes or Warrants shall be allocated to the remaining holders of the Notes and the Warrants, pro rata based on the number of shares of Common Stock issuable pursuant to the Notes or upon exercise of the Warrants then held by such holders thereof (without regard to any limitations on exercise). If at any time the number of shares of Common Stock authorized and reserved for issuance is not sufficient to meet the Required Reserve Amount, the Company will promptly take all corporate action necessary to authorize and reserve a sufficient number of shares, including, without limitation, calling a special meeting of stockholders to authorize additional shares to meet the Company’s obligations pursuant to the Transaction Documents, in the case of an insufficient number of authorized shares, obtain stockholder approval (if required) of an increase in such authorized number of shares, and voting the management shares of the Company in favor of an increase in the authorized shares of the Company to ensure that the number of authorized shares is sufficient to meet the Required Reserve Amount. “**Note Share Reserve**” shall mean the sum of (A) a fraction, the numerator of which shall be the aggregate amount of the then outstanding principal amount of Initial Registered Notes, and the denominator of which shall be the Conversion Price (as defined in the Initial Registered Notes), plus (B) a fraction, the numerator of which shall be the aggregate amount of the then outstanding principal amount of Initial Private Placement Notes, and the denominator of which shall be the Conversion Price (as defined in the Initial Private Placement Notes), plus (C) a fraction, the numerator of which shall be the aggregate amount of the then outstanding principal amount of Subsequently Purchased Notes, and the denominator of which shall be the Conversion Price (as defined in the Subsequently Purchased Notes).

(v) [Reserved]

(w) **Right to Participate.** Until the date following the later to occur of (I) the Maturity Date and (II) the date on which no Notes remain outstanding, the Company will not, directly or indirectly, offer, sell, grant any option to purchase, or otherwise dispose of (or announce any offer, sale, grant or any option to purchase or other disposition of) any of its or any Subsidiaries’ equity, equity-linked, equity equivalent securities or securities convertible into or exercisable for equity (excluding offerings of Common Stock issued pursuant to an Equity Line of Credit or through the ATM Sales Agreement (other than an issuance through the ATM Sales Agreement in which a single investor or group of related investors purchase in excess of \$3,000,000 of Common Stock)) (any such offer, sale, grant, disposition, reprice or announcement being referred to as a “**Subsequent Placement**”), unless the Company shall have first complied with this Section 4(w). Notwithstanding anything to the contrary herein, if any Subsequent Placement is proposed to be registered under the Securities Act (each, a “**Registered Subsequent Placement**”), the Company’s obligations under this Section 4(w) shall be subject to compliance with the Securities Act, the Exchange Act, and the rules and regulations promulgated thereunder and other applicable securities laws, and the Company and each Buyer shall cooperate in good faith to ensure such compliance with such applicable securities laws in connection with the performance of the Company’s obligations under this Section 4(w).

(i) The Company shall deliver to each Buyer an irrevocable written notice (the “**Offer Notice**”) of any proposed or intended issuance or sale or exchange (the “**Offer**”) of the securities being offered (the “**Offered Securities**”) in a Subsequent Placement, which Offer Notice shall (A) include any offering documents and definitive documentation in connection with such Offer, (B) identify and describe the Offered Securities, (C) describe the price and other terms upon which they are to be issued, sold or exchanged, and the number or amount of the Offered Securities to be issued, sold or exchanged, (D) subject to any and all confidentiality or similar obligations under any agreement, identify the persons or entities to which or with which the Offered Securities are to be offered, issued, sold or exchanged (or in the case of a Registered Subsequent Placement other than a registered direct offering, designating that such Subsequent Placement is a public offering without reference to any offerees) and (E) offer to issue and sell to or exchange with such Buyers up to an aggregate of 10% of the Offered Securities for any offering consisting solely of the Company’s Common Stock and 35% of the Offered Securities for any other Subsequent Placement, allocated among such Buyers based on such Buyer’s pro rata portion of the aggregate principal amount of Notes purchased hereunder (the “**Basic Amount**”). The terms and conditions upon which any Offer of the Offered Securities pursuant to any Offer Notice shall be identical for each Buyer. For the avoidance of doubt, each Buyer hereby acknowledges that any Offer Notice (including the existence of an Offer Notice and a contemplated Subsequent Placement) may constitute or contain material, non-public information, and each Buyer hereby consents to the receipt of any Offer Notice and any material, non-public information that may be included in an Offer Notice. If a Buyer notifies the Company that it does not consent to the receipt of an Offer Notice and any material, non-public information that may be included in an Offer Notice, then such Buyer shall be deemed to have waived its right to participate in such Subsequent Placement, and the Company shall be deemed to have complied with this Section 4(w).

(ii) To accept an Offer, in whole or in part, such Buyer must deliver a written notice to the Company prior to the end of the second Trading Day (as defined in the Notes) after such Buyer’s receipt of the Offer Notice (the “**Offer Period**”), setting forth the portion of such Buyer’s Basic Amount that such Buyer, or an affiliate of such Buyer that it designates, elects to purchase and, if such Buyer or its designee shall elect to purchase all of its Basic Amount, the amount, if any, of the other Buyers’ allocations that such Buyer is offering to purchase in the event that such other Buyers do not elect to purchase their full Basic Amounts (in either case, the “**Notice of Acceptance**”). Notwithstanding anything to the contrary contained herein, (x) in the case of a Registered Subsequent Placement, the Notice of Acceptance may be an indication of interest subject to public announcement and pricing of the Registered Subsequent Placement and otherwise in compliance with applicable securities laws, and (y) if the Company desires to modify or amend the terms and conditions of the Offer prior to the expiration of the Offer Period, the Company may deliver to the Buyers a new Offer Notice and the Offer Period shall expire at the end of the second Trading Day following such Buyer’s receipt of such new Offer Notice.

(iii) The Company shall have up to three Trading Days from the expiration of the Offer Period to offer, issue, sell or exchange all or any part of such Offered Securities as to which a Notice of Acceptance has not been given by the Buyers (the “**Refused Securities**”) pursuant to a definitive agreement (the “**Subsequent Placement Agreement**”) or, in the case of a Registered Subsequent Placement, pursuant to indications of interest, but only to the offerees described in the Offer Notice pursuant to Section 4(w)(i)(D) above (if so described therein, and it being understood that in the case of Registered Subsequent Placement, the offerees shall be potential investors in the offering) and only upon terms and conditions (including, without limitation, prices and interest rates) that are not more favorable to the acquiring Person or Persons or less favorable to the Company than those set forth in the Offer Notice and, other than in the case of a Registered Subsequent Placement, to publicly announce, to the extent such information constitutes or could reasonably be expected to constitute material, non-public information concerning the Company or any of its Subsidiaries, (I) the execution of such Subsequent Placement Agreement and (II) either (1) the consummation of the transactions contemplated by such Subsequent Placement Agreement or (2) the termination of such Subsequent Placement Agreement, which shall be filed with the SEC on a Current Report on Form 8-K with such Subsequent Placement Agreement and any documents contemplated therein filed as exhibits thereto. In the event that the Company does not, within the three Trading Day period described in the preceding sentence, publicly announce (I) the execution of such Subsequent Placement Agreement, (II) either (1) the consummation of the transactions contemplated by such Subsequent Placement Agreement or (2) the termination of such Subsequent Placement Agreement, or (III) the commencement of a Registered Subsequent Placement, the Buyers shall be entitled to rely on such failure to publicly announce as a determination by the Company that such information does not constitute material, non-public information concerning the Company or any of its Subsidiaries.

(iv) In the event the Company shall propose to sell less than all the Refused Securities (any such sale to be in the manner and on the terms specified in Section 4(w)(iii) above), then each Buyer may, at its sole option and in its sole discretion, reduce the number or amount of the Offered Securities specified in its Notice of Acceptance to an amount that shall be not less than the number or amount of the Offered Securities that such Buyer or its designee elected to purchase (or designated in an indication of interest, as applicable) pursuant to Section 4(w)(ii) above multiplied by a fraction, (A) the numerator of which shall be the number or amount of Offered Securities the Company actually proposes to issue, sell or exchange (including Offered Securities to be issued or sold to Buyers or their designees pursuant to Section 4(w)(iii) above prior to such reduction, but giving effect to the Refused Securities that the Company has determined not to issue, sell or exchange) and (B) the denominator of which shall be the original amount of the Offered Securities. In the event that any Buyer so elects to reduce the number or amount of Offered Securities specified in its Notice of Acceptance, the Company may not issue, sell or exchange more than the reduced number or amount of the Offered Securities unless and until such securities have again been offered to the Buyers in accordance with Section 4(w)(i).

(v) Upon the closing of the issuance, sale or exchange of all or less than all of the Refused Securities, the Buyers or their designees shall acquire from the Company, and the Company shall issue to the Buyers, the number or amount of Offered Securities specified in the Notices of Acceptance, as reduced pursuant to Section 4(w)(iv) above if the Buyers have so elected, upon the terms and conditions specified in the Offer. Notwithstanding anything to the contrary contained in this Agreement, if the Company does not consummate the closing of the issuance, sale or exchange of all or less than all of the Refused Securities, within three Trading Days of the expiration of the Offer Period (or the abandonment of the offering or placement, in the event of a Registered Subsequent Placement), the Company shall issue to the Buyers or their designees, the number or amount of Offered Securities specified in the Notice of Acceptance, as reduced pursuant to Section 4(w)(iv) above if the Buyers have so elected, upon the terms and conditions specified in the Offer, in a manner that complies with applicable securities laws. The purchase by the Buyers of any Offered Securities is subject to the preparation, execution and delivery by the Company and the Buyers of a separate purchase agreement or such other definitive documentation relating to such Offered Securities reasonably satisfactory in form and substance to the Buyers and their respective counsel and compatible with the manner or type of placement or offering proposed to be used by the Company and the Buyers.

(vi) Any Offered Securities not acquired by the Buyers or other persons in accordance with Section 4(w)(iii) above may not be issued, sold or exchanged until they are again offered to the Buyers under the procedures specified in this Section 4(w). For avoidance of doubt, in the case of a Registered Subsequent Placement other than a registered direct offering, such Offered Securities may be continued to be offered to the public.

(vii) The Company and the Buyers agree that if any Buyer elects to participate in the Offer, (A) neither the Subsequent Placement Agreement with respect to such Offer nor any other transaction documents related thereto shall include any term or provisions whereby any Buyer shall be required to agree to any restrictions in trading as to any securities of the Company owned by such Buyer prior to such Subsequent Placement and (B) the Buyers or their designees shall be entitled to the same registration rights, if any, provided to other investors in the Subsequent Placement. Furthermore, no Subsequent Placement Agreement shall include any term or provisions more restrictive to the investors than those contained in the Transaction Documents. In addition, the Company and each Buyer agree that, in connection with a Subsequent Placement, the transaction documents related to the Subsequent Placement shall include a requirement for the Company, or in the case of a Registered Subsequent Placement, the Company shall agree and shall cause any underwriters for the Registered Subsequent Placement to agree, to issue a widely disseminated press release by 9:30 a.m. (New York City time) on the Trading Day of execution of the transaction documents (including an underwriting agreement) in such Subsequent Placement (or, if the date of execution is not a Trading Day, or if the time of execution is after 4:00 p.m. (New York City time) on a Trading Day, on the immediately following Trading Day) that discloses the material terms of the transactions contemplated by the transaction documents in such Subsequent Placement (which material terms shall be the pricing of the transaction, in the case of a Registered Subsequent Placement, pursuant to Rule 134 under the Securities Act).



(viii) Notwithstanding anything to the contrary in this Section 4(w) and unless otherwise agreed to by the Buyers, the Company shall either confirm in writing to the Buyers that the transaction with respect to the Subsequent Placement has been abandoned or shall publicly disclose its intention to issue the Offered Securities, in either case in such a manner such that such Buyer will not be in possession of any material, non-public information, by the third Trading Day from the expiration of the Offer Period. If by such third Trading Day from the expiration of the Offer Period, no public disclosure regarding a transaction with respect to the Offered Securities has been made, and no notice regarding the abandonment of such transaction has been received by the Buyers, such transaction shall be deemed to have been abandoned and the Buyers shall not be deemed to be in possession of any material, nonpublic information with respect to the Company. Should the Company decide to pursue such transaction with respect to the Offered Securities, the Company shall provide each Buyer with another Offer Notice and each Buyer will again have the right of participation set forth in this Section 4(w)(viii). The Company shall not be permitted to deliver to the Buyers, in any 30-day period, more than one such Offer Notice, other than the Offer Notices contemplated by the last sentence of Section 4(w)(ii) of this Agreement.

(ix) The restrictions contained in this Section 4(w) shall not apply in connection with any of the following: (A) Options or Convertible Securities issued under any Approved Stock Plan, (B) the issuance of Common Stock upon the exercise of Options or warrants, the settlement or vesting of restricted stock units, stock appreciation rights or restricted stock awards (including shares of Common Stock withheld by the Company for the purpose of paying on behalf of the holder thereof the exercise price of stock options or for paying taxes due as a result of such exercise or lapse of forfeiture restrictions), or the conversion of outstanding preferred stock or other outstanding Convertible Securities which are outstanding on the Initial Closing Date or granted pursuant to an Approved Stock Plan after the Initial Closing Date, or (C) offers, sales, or other dispositions to the Company or any of its wholly owned Subsidiaries; provided, that, in the case of (B), such issuance of Common Stock upon exercise of such Options or Convertible Securities is made pursuant to the terms of either: (I) such Approved Stock Plan or (II) such Options or Convertible Securities in effect on the Initial Closing Date and, in the case of (II), such Options or Convertible Securities are not amended, modified or changed on or after the Initial Closing Date to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities.

(x) Legends. Certificates and any other instruments evidencing the Registered Securities shall not bear any restrictive or other legend.

(y) Not an Underwriter. Neither the Company nor any Subsidiary or affiliate thereof shall identify any Buyer as being an underwriter or potentially being an "underwriter" in any disclosure to, or filing with, the SEC, Nasdaq or any other Eligible Market. No Buyer shall be required to agree or admit that it is, or may be, acting as an "underwriter" in connection with the transactions contemplated hereby or agree to be named as an underwriter or as potentially being an underwriter in any public disclosure or filing with the SEC, the Nasdaq or any other Eligible Market, nor shall any Buyer be required to make any representations to, or undertake any obligations to, the SEC in connection with any registration statement filed by the Company. Any Buyer being deemed an underwriter, or potentially to be an underwriter, by the SEC shall not relieve the Company of any obligations it has under this Agreement or any other Transaction Document.

(z) Establishment of ATM Sales Program. The Company shall have established and shall have access to an ATM Sales Program, Equity Line of Credit, or Similar Program approved by the Required Holders; the ATM Sales Program, Equity Line of Credit, or such Similar Program shall have available, at all times, the aggregate available, accessible and unused capacity to generate gross proceeds to the Company of at least \$50,000,000.

(aa) Registration Rights. The Company shall:

(i) file registration statements with the SEC as soon as practicable but in no event later than (A) 15 days after the Initial Closing Date with respect to the Initial Private Placement Notes and the Underlying Shares issuable pursuant to the Initial Private Placement Notes and (B) 15 days after each Subsequent Closing Date with respect to the Subsequently Purchased Notes and Subsequently Purchased Warrants issued on such Subsequent Closing Date and the Underlying Shares issuable pursuant to the Subsequently Purchased Notes and Subsequently Purchased Warrants issued on such Subsequent Closing Date (each such date, a “**Filing Date**”) to register the resale of such Initial Private Placement Notes, Subsequently Purchased Notes, Subsequently Purchased Warrants and Underlying Shares (the “**Registrable Securities**”) on Form S-1 or Form S-3 under the 1933 Act (providing for shelf registration of such Registrable Securities under SEC Rule 415) (each such registration statement, including any preliminary prospectus, final prospectus, exhibit or amendment included in or relating to such registration statement being the “**Resale Registration Statement**”);

(ii) use its commercially reasonable efforts to cause each such Resale Registration Statement to be declared effective as soon as practicable and in any event within 30 days of the filing thereof (or, in the event the staff of the SEC (the “**Staff**”) reviews and has written comments to such Resale Registration Statement, within 60 days of the filing thereof), such efforts to include, without limiting the generality of the foregoing, preparing and filing with the SEC any financial statements or other information that is required to be filed prior to the effectiveness of such Resale Registration Statement;

(iii) not less than two Trading Days prior to the filing of each such Resale Registration Statement or any related prospectus or any amendment or supplement thereto, furnish via email to the Buyers copies of all such documents proposed to be filed, which documents (other than any document that is incorporated or deemed to be incorporated by reference therein) will be subject to the review of the Buyers. The Company shall reflect in each such document when so filed with the SEC such comments regarding the Buyers and the plan of distribution as the Buyers may reasonably and promptly propose no later than two Trading Days after the Buyers has been so furnished with copies of such documents as aforesaid;

(iv) promptly prepare and file with the SEC such amendments and supplements to each such Resale Registration Statement and the prospectus used in connection therewith as may be necessary to keep such Resale Registration Statement continuously effective and free from any material misstatement or omission to state a material fact therein until termination of such obligation as provided in Section 4(dd) below, subject to the Company’s right to suspend pursuant to Section 4(cc) below;

(v) furnish to the Buyers such number of copies of prospectuses in conformity with the requirements of the 1933 Act and such other documents as the Buyers may reasonably request, in order to facilitate the public sale or other disposition of all or any of the Registrable Securities by the Buyers;

(vi) file such documents as may be required of the Company for normal securities law clearance for the resale of the Registrable Securities in such states of the United States as may be reasonably requested by the Buyers and use its commercially reasonable efforts to maintain such blue sky qualifications during the period the Company is required to maintain effectiveness of each such Resale Registration Statement; provided, however, that the Company shall not be required in connection with this Section 4(aa)(vi) to qualify as a foreign corporation or execute a general consent to service of process in any jurisdiction in which it is not now so qualified or has not so consented;

(vii) upon notification by the SEC that a Resale Registration Statement will not be reviewed or is not subject to further review by the SEC, the Company shall within one Trading Day following the date of such notification request acceleration of such Resale Registration Statement (with the requested effectiveness date to be not more than two Trading Days later);

(viii) upon notification by the SEC that a Resale Registration Statement has been declared effective by the SEC, the Company shall file the final prospectus under Rule 424 of the 1933 Act ("**Rule 424**") within the applicable time period prescribed by Rule 424;

(ix) advise the Buyers promptly (and in any event within two Trading Days thereof):

(A) of the effectiveness of a Resale Registration Statement or any post-effective amendments thereto;

(B) of any request by the SEC for amendments to a Resale Registration Statement or amendments to the prospectus or for additional information relating thereto;

(C) of the issuance by the SEC of any stop order suspending the effectiveness of a Resale Registration Statement under the 1933 Act or of the suspension by any state securities commission of the qualification of the Registrable Securities for offering or sale in any jurisdiction, or the initiation of any proceeding for any of the preceding purposes; and;

(D) of the existence of any fact and the happening of any event that makes any statement of a material fact made in a Resale Registration Statement, the prospectus and amendment or supplement thereto, or any document incorporated by reference therein, untrue, or that requires the making of any additions to or changes in a Resale Registration Statement or the prospectus in order to make the statements therein not misleading;

(x) cause all Registrable Securities to be listed on each securities exchange, if any, on which equity securities by the Company are then listed; and

(xi) bear all expenses in connection with the procedures in paragraphs (i) through (x) of this Section 4(bb) and the registration of the Registrable Securities on each such Resale Registration Statement and the satisfaction of the blue sky laws of such states.

(bb) Registration Rights Indemnification.

(i) The Company agrees to indemnify and hold harmless the Buyers and their respective affiliates, partners, members, officers, directors, agents, brokers and representatives, and each person, if any, who controls a Buyer within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act (each, a “**Purchaser Party**” and collectively the “**Purchaser Parties**”), to the fullest extent permitted by applicable law, from and against any losses, claims, damages or liabilities (collectively, “**Losses**”) to which they may become subject (under the 1933 Act or otherwise) insofar as such Losses (or actions or proceedings in respect thereof) arise out of, or are based upon, any untrue statement or alleged untrue statement of a material fact contained in a Resale Registration Statement or any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading or arise out of any failure by the Company to fulfill any undertaking included in a Resale Registration Statement and the Company will, as incurred, reimburse the Purchaser Parties for any legal or other expenses reasonably incurred in investigating, defending or preparing to defend any such action, proceeding or claim; provided, however, that the Company shall not be liable in any such case to the extent that such Loss arises primarily out of, or is based primarily upon an untrue statement or omission made in a Resale Registration Statement in reliance upon and in conformity with written information furnished to the Company by or on behalf of the Buyers specifically for use in preparation of a Resale Registration Statement.

(ii) The Buyers agree to indemnify and hold harmless the Company and its officers, directors, affiliates, agents, brokers and representatives and each person, if any, who controls the Company within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act (each a “**Company Party**” and collectively the “**Company Parties**”), to the fullest extent permitted by applicable law, from and against any Losses to which the Company Parties may become subject (under the 1933 Act or otherwise), insofar as such Losses (or actions or proceedings in respect thereof) arise out of, or are based upon, any untrue statement or alleged untrue statement of a material fact contained in a Resale Registration Statement (or any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading in each case, on the effective date thereof), if, and only to the extent, such untrue statement or omission or alleged untrue statement or omission was made in reliance upon and in conformity with written information furnished by or on behalf of the Buyers specifically for use in preparation of a Resale Registration Statement, and the Buyers will, as incurred, reimburse each Company Party for any legal or other expenses reasonably incurred in investigating, defending or preparing to defend any such action, proceeding or claim; provided, however, that in no event shall any indemnity under this Section 4(bb) be greater in amount than the dollar amount of the net proceeds received by the Buyers upon their sale of the Registrable Securities included in the Resale Registration Statement giving rise to such indemnification obligation.

(iii) Promptly after receipt by any indemnified person of a notice of a claim or the beginning of any action in respect of which indemnity is to be sought against an indemnifying person pursuant to this Section 4(bb), such indemnified person shall notify the indemnifying person in writing of such claim or of the commencement of such action, and, subject to the provisions hereinafter stated, in case any such action shall be brought against an indemnified person and such indemnifying person shall have been notified thereof, such indemnifying person shall be entitled to participate therein, and, to the extent that it shall wish, to assume the defense thereof, with counsel reasonably satisfactory to such indemnified person. After notice from the indemnifying person to such indemnified person of its election to assume the defense thereof, such indemnifying person shall not be liable to such indemnified person for any legal expenses subsequently incurred by such indemnified person in connection with the defense thereof; provided, however, that if there exists or shall exist a conflict of interest that would make it inappropriate in the reasonable judgment of the indemnified person for the same counsel to represent both the indemnified person and such indemnifying person or any affiliate or associate thereof, the indemnified person shall be entitled to retain its own counsel at the expense of such indemnifying person. The indemnifying party shall not settle an action without the consent of the indemnified party, which consent shall not be unreasonably withheld.

(iv) If after proper notice of a claim or the commencement of any action against the indemnified party, the indemnifying party does not choose to participate, then the indemnified party shall assume the defense thereof and upon written notice by the indemnified party requesting advance payment of a stated amount for its reasonable defense costs and expenses, the indemnifying party shall advance payment for such reasonable defense costs and expenses (the “**Advance Indemnification Payment**”) to the indemnified party. In the event that the indemnified party’s actual defense costs and expenses exceed the amount of the Advance Indemnification Payment, then upon written request by the indemnified party, the indemnifying party shall reimburse the indemnified party for such difference; in the event that the Advance Indemnification Payment exceeds the indemnified party’s actual costs and expenses, the indemnified party shall promptly remit payment of such difference to the indemnifying party.

(v) If the indemnification provided for in this Section 4(bb) is held by a court of competent jurisdiction to be unavailable to an indemnified party with respect to any losses, claims, damages or liabilities referred to herein, the indemnifying party, in lieu of indemnifying such indemnified party thereunder, shall to the extent permitted by applicable law contribute to the amount paid or payable by such indemnified party as a result of such loss, claim, damage or liability in such proportion as is appropriate to reflect the relative fault of the indemnifying party on the one hand and of the indemnified party on the other, as well as any other relevant equitable considerations; provided, that in no event shall any contribution by an indemnifying party hereunder be greater in amount than the dollar amount of the proceeds received by such indemnifying party upon the sale of such Registrable Securities.

(cc) Suspensions. The Buyers acknowledge that there may be times when the Company must suspend the use of the prospectus forming a part of a Resale Registration Statement until such time as an amendment to such Resale Registration Statement has been filed by the Company and declared effective by the SEC, or until such time as the Company has filed an appropriate report with the SEC pursuant to the 1934 Act. The Buyers hereby covenant that they will not sell any Registrable Securities pursuant to said prospectus during the period commencing at the time at which the Company gives the Buyers notice of the suspension of the use of said prospectus and ending at the time the Company gives the Buyers notice that the Buyers may thereafter effect sales pursuant to said prospectus; provided, that such suspension periods shall in no event exceed 30 days in any 12 month period and that, in the good faith judgment of the Board of Directors, the Company would, in the absence of such delay or suspension hereunder, be required under state or federal securities laws to disclose any corporate development, a potentially significant transaction or event involving the Company, or any negotiations, discussions, or proposals directly relating thereto, in either case the disclosure of which would reasonably be expected to have a Material Adverse Effect upon the Company or its stockholders.

(dd) Termination of Registration Rights. The obligations of the Company pursuant to Section 4(aa) hereof shall cease and terminate, with respect to any Registrable Securities, upon such time as such Registrable Securities have been resold in a transaction pursuant to which all restrictive legends were removed from such securities.

(ee) Initial Conversion. Effective upon the completion of the Initial Closing, [\*\*\*] shall convert the maximum portion of the principal amount of the Initial Registered Note (but in no event in excess of ten million dollars) into shares of Common Stock, in accordance with the terms of the Initial Registered Note, that would not cause, after giving effect to such conversion, [\*\*\*] together with the other Attribution Parties (as defined in the Notes) collectively to beneficially own in the aggregate in excess of the Maximum Percentage (as defined in the Notes) of the number of shares of Common Stock outstanding immediately after giving effect to such conversion. As promptly as practicable after the Closing as the beneficial ownership limitation of [\*\*\*] together with the other Attribution Parties will allow, [\*\*\*] shall convert additional principal amounts of the Initial Registered Note into shares of Common Stock, in accordance with the terms of the Initial Registered Note, until the total principal amount of the Initial Registered Note converted into shares of Common Stock by [\*\*\*] shall equal ten million dollars (at which point the then holder of the Initial Registered Note shall have no obligation to convert the Initial Registered Note other than pursuant to the terms thereof).

(ff) Tax Cooperation. The Company shall consult the Buyers reasonably prior to, and incorporate each such Buyer's reasonable input in, making tax information reporting or other filing that may impact such Buyer's tax treatment of the Notes and the Warrants (e.g., regarding the amount of original issue discount or dividend or deemed dividend on the Notes).

## **5. REGISTER; TRANSFER AGENT INSTRUCTIONS.**

(a) Register. The Company shall maintain at its principal executive offices (or such other office or agency of the Company as it may designate by notice to each holder of Securities), a register for the registration of the Securities in which the Company shall record the name and address of the Person in whose name the Purchased Securities have been issued (including the name and address of each transferee), the aggregate amount of the Notes and Warrants held by such Person and the number of Underlying Shares issuable pursuant to the Notes and Warrants held by such Person. The Company shall keep the register open and available at all times during business hours for inspection of any Buyer or its legal representatives. This provision shall be construed such that the Securities and the Notes are at all times maintained in "registered form" within the meanings of Sections 163(f), 871(h)(2) and 881(c)(2) of the Code and any Treasury Regulations promulgated thereunder.

(b) Transfer Agent Instructions. The Company shall issue irrevocable instructions to its transfer agent and any subsequent transfer agent (as applicable) (the “**Transfer Agent**”) in a form acceptable to each of the Buyers (the “**Irrevocable Transfer Agent Instructions**”) to credit shares to each such Buyer’s (or its designee’s) account at DTC through its Deposit/Withdrawal At Custodian (“**DWAC**”) System, provided that the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program (“**FAST**”) and the shares are then eligible for transfer through the DWAC System, or, if the Transfer Agent is not participating in FAST or if the shares are not then eligible for transfer through the DWAC system, issue and dispatch by overnight courier to the address as specified in (i) the exercise notice of the Warrants or (ii) the notice that the Company is electing to issue Common Stock pursuant to the terms of the Notes or that the Buyers are electing to receive Common Stock pursuant to the Notes, a certificate, registered in the name of such Buyer or its designee, for the Underlying Shares to which the Buyer is entitled, for the applicable Underlying Shares in such amounts as specified from time to time by the Company or the Buyers, as the case may be, pursuant to the terms of the Notes or the exercise of the Warrants, as applicable. The Company represents and warrants that no instruction other than the Irrevocable Transfer Agent Instructions referred to in this Section 5(b), and stop transfer instructions to give effect to Section 2(g) hereof, will be given by the Company to the Transfer Agent with respect to the Securities, and that the Securities shall otherwise be freely transferable on the books and records of the Company, as applicable, to the extent provided in this Agreement and the other Transaction Documents. If a Buyer effects a sale, assignment or transfer of the Registered Securities, the Company shall permit the transfer and shall promptly instruct the Transfer Agent to issue one or more certificates or credit shares to the applicable balance accounts at DTC in such name and in such denominations as specified by such Buyer to effect such sale, transfer or assignment. If a Buyer effects a sale, assignment or transfer of any Private Placement Securities in accordance with Section 2(g), the Company shall permit the transfer and shall promptly instruct the Transfer Agent to issue one or more certificates or credit shares to the applicable balance accounts at DTC in such name and in such denominations as specified by such Buyer to effect such sale, transfer or assignment. In the event that such sale, assignment or transfer involves Private Placement Securities sold, assigned or transferred pursuant to an effective registration statement or in compliance with Rule 144, the Transfer Agent shall issue such Private Placement Securities to such Buyer, assignee or transferee (as the case may be) without any restrictive legend in accordance with Section 5(d). The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to a Buyer. Accordingly, the Company acknowledges that the remedy at law for a breach of its obligations under this Section 5(b) will be inadequate and agrees, in the event of a breach or threatened breach by the Company of the provisions of this Section 5(b), that a Buyer shall be entitled, in addition to all other available remedies, to an order and/or injunction restraining any breach and requiring immediate issuance and transfer, without the necessity of showing economic loss and without any bond or other security being required. Any fees (with respect to the Transfer Agent, counsel to the Company or otherwise) associated with the removal of any legends on any of the Securities shall be borne by the Company.

(c) Private Placement Securities Legends. Each Buyer understands that the Private Placement Securities have been issued (or will be issued in the case of the Private Placement Underlying Shares) pursuant to an exemption from registration or qualification under the 1933 Act and applicable state securities laws, and except as set forth herein, the Private Placement Securities shall bear any legend as required by the “blue sky” laws of any state and a restrictive legend in substantially the following form (and a stop-transfer order may be placed against any transfer of such stock certificates in violation of the applicable legend):

**Initial Private Placement Note Legend**

THE ISSUANCE AND SALE OF NEITHER THE SECURITIES REPRESENTED BY THIS CERTIFICATE NOR THE SECURITIES THAT MAY BE ISSUABLE PURSUANT TO THIS NOTE HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR APPLICABLE STATE SECURITIES LAWS. UNTIL THE DATE THAT IS ONE YEAR AFTER THE ISSUE DATE (AS DEFINED ON THE REVERSE OF THIS NOTE), THE SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION AND PROSPECTUS-DELIVERY REQUIREMENTS OF THE SECURITIES ACT.

**Subsequently Purchased Note Legend**

THE ISSUANCE AND SALE OF NEITHER THE SECURITIES REPRESENTED BY THIS CERTIFICATE NOR THE SECURITIES THAT MAY BE ISSUABLE PURSUANT TO THIS NOTE HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR APPLICABLE STATE SECURITIES LAWS. UNTIL THE DATE THAT IS ONE (1) YEAR AFTER THE ISSUE DATE (AS DEFINED ON THE REVERSE OF THIS NOTE) AND PROVIDED ALL REQUIREMENTS FOR AN EXEMPTION UNDER RULE 144 HAVE BEEN SATISFIED, THE SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION AND PROSPECTUS-DELIVERY REQUIREMENTS OF THE SECURITIES ACT.

**Subsequently Purchased Warrant Legend**

THE SECURITIES REPRESENTED BY THIS WARRANT, AND THE SECURITIES ISSUABLE UPON EXERCISE HEREOF, HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES HAVE BEEN ACQUIRED FOR INVESTMENT AND MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS, OR AN OPINION OF COUNSEL IN A FORM REASONABLY SATISFACTORY TO THE ISSUER THAT REGISTRATION IS NOT REQUIRED UNDER SAID ACT OR APPLICABLE STATE SECURITIES LAWS.



## Private Placement Underlying Shares Legend

THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED (I) IN THE ABSENCE OF (A) AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR (B) AN OPINION OF COUNSEL TO THE HOLDER (IF REQUESTED BY THE COMPANY), IN A FORM REASONABLY ACCEPTABLE TO THE COMPANY, THAT REGISTRATION IS NOT REQUIRED UNDER SAID ACT OR (II) UNLESS SOLD OR ELIGIBLE TO BE SOLD PURSUANT TO RULE 144 OR RULE 144A UNDER SAID ACT. NOTWITHSTANDING THE FOREGOING, THE SECURITIES MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT OR OTHER LOAN OR FINANCING ARRANGEMENT SECURED BY THE SECURITIES.

(d) Removal of Legends. Certificates evidencing the Private Placement Securities shall not be required to contain the legend set forth in Section 5(c) or any other legend (i) while a registration statement covering the resale of such Private Placement Securities is effective under the 1933 Act, (ii) following any sale of such Private Placement Securities pursuant to Rule 144 (assuming the transferor is not an affiliate of the Company), provided that a Buyer furnishes the Company with reasonable assurances (in the form of customary seller and broker representation letters reasonably acceptable to the Company) that such Private Placement Securities are eligible for sale, assignment or transfer under Rule 144, which shall not include an opinion of Buyer's counsel, (iii) if such Private Placement Securities are eligible to be sold, assigned or transferred under Rule 144 free of the current public information reporting requirement contained in Rule 144(c)(1), (iv) in connection with a sale, assignment or other transfer (other than under Rule 144), provided that such Buyer provides the Company with an opinion of counsel to such Buyer who shall be reasonably satisfactory to the Company, in a generally acceptable form, to the effect that such sale, assignment or transfer of the Private Placement Securities may be made without registration under the applicable provisions of the 1933 Act or (v) if such legend is not required under applicable requirements of the 1933 Act (including, without limitation, controlling judicial interpretations and pronouncements issued by the SEC). If a legend is not required pursuant to the foregoing, the Company shall no later than two Business Days (or such earlier date as required pursuant to the 1934 Act or other applicable law, rule or regulation for the settlement of a trade initiated on the date such Buyer delivers such legended certificate representing such Private Placement Securities to the Company) following the delivery by a Buyer to the Company or the Transfer Agent (with notice to the Company) of a legended certificate representing such Private Placement Securities (endorsed or with stock powers attached, signatures guaranteed, and otherwise in form necessary to affect the reissuance and/or transfer, if applicable), together with any other deliveries from such Buyer as may be reasonably required above in this Section 5(d) (such date, the "**Legend Removal Date**"), as directed by such Buyer, either: (A) provided that the Transfer Agent is participating in FAST, credit the applicable number of shares of Common Stock to which such Buyer shall be entitled to such Buyer's or its designee's balance account with DTC through its DWAC system or (B) if the Transfer Agent is not participating in FAST, issue and deliver (via reputable overnight courier) to such Buyer, a certificate representing such Securities that is free from all restrictive and other legends, registered in the name of such Buyer or its designee. The Company shall be responsible for any transfer agent fees or DTC fees with respect to any issuance of Securities or the removal of any legends with respect to any Private Placement Securities in accordance herewith and the Buyer shall not be required to deliver or cause to be delivered a legal opinion in connection with a sale of such Private Placement Securities pursuant to Rule 144.

(e) If the Company or the Transfer Agent fails to deliver shares to a Buyer or an applicable assignee or transferee (as the case may be) without any restrictive legend in accordance with Section 5(b) or Section 5(d), then in addition to such Buyer's other available remedies hereunder, the Company shall pay to such Buyer, in cash, (1) as partial liquidated damages and not as a penalty, for each \$1,000 of Underlying Shares (based on the Daily VWAP (as defined in the Warrants) on the date that the Buyer delivered notice of its entitlement to such shares of Common Stock on the date such Buyer delivers notice or a legended certificate, as applicable, to the Company or the Transfer Agent) for which the Company or the Transfer Agent fails to deliver shares without any restrictive legend an amount equal to \$10 per Trading Day (increasing to \$20 per Trading Day five Trading Days after such damages have begun to accrue) for each Trading Day after the Legend Removal Date until such undelivered shares are delivered without a legend; and (2) if the Company is obligated to remove the restrictive legends pursuant to Section 5(d) but fails to (a) issue and deliver (or cause to be delivered) shares to a Buyer by the Legend Removal Date that are free from all restrictive and other legends and (b) if after the Legend Removal Date a Buyer purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in settlement of a sale by the Buyer of all or any portion of the number of shares of Common Stock, or a sale of a number of shares of Common Stock equal to all or any portion of the number of shares of Common Stock, that the Buyer anticipated receiving from the Company without any restrictive legend, then an amount equal to the excess of the Buyer's total purchase price (including brokerage commissions and other out-of-pocket expenses, if any) for the Common Stock so purchased (including brokerage commissions and other out-of-pocket expenses, if any) over the product of (A) such number of shares of Common Stock that the Company was required to deliver to the Buyer by the Legend Removal Date multiplied by (B) the price at which the sell order giving rise to such purchase obligation was executed. For avoidance of doubt, this Section 5(e) shall not be duplicative with any provisions in the Notes addressing any failure to deliver shares without restrictive legends.

(f) FAST Compliance. While any Notes or Warrants remain outstanding, the Company shall maintain a transfer agent that participates in FAST.

**6. CONDITIONS TO THE COMPANY'S OBLIGATION TO SELL THE INITIAL PURCHASED SECURITIES AND SUBSEQUENTLY PURCHASED SECURITIES.**

(a) The obligation of the Company hereunder to issue and sell the Initial Purchased Securities and Subsequently Purchased Securities to each Buyer at the Initial Closing and each Subsequent Closing, if any, is subject to the satisfaction, at or before the Initial Closing Date and each Subsequent Closing Date, if any, of each of the following conditions, provided that these conditions are for the Company's sole benefit and may be waived by the Company at any time in its sole discretion by providing each Buyer with prior written notice thereof:

(i) Such Buyer shall have executed each of the other Transaction Documents to which it is a party and delivered the same to the Company.

(ii) Such Buyer and each other Buyer shall have delivered to the Company the purchase price for the Initial Purchased Securities and the Subsequently Purchased Securities being purchased by such Buyer at such Closing by wire transfer of immediately available funds in accordance with a Flow of Funds Letter with respect to the Securities to be purchased at such Closing.

(iii) Such Buyer shall have delivered to the Company a valid and properly completed and executed Internal Revenue Service Form W-9.

(iv) The representations and warranties of such Buyer shall be true and correct in all material respects (except for such representations and warranties that are qualified by materiality or material adverse effect, which shall be true and correct in all respects) as of the date when made and as of the date of each such Closing as though originally made at that time (except for representations and warranties that speak as of a specific date, which shall be true and correct as of such specific date), and such Buyer shall have performed, satisfied and complied in all material respects with the covenants, agreements and conditions required by this Agreement to be performed, satisfied or complied with by such Buyer at or prior to the date of such Closing.

## **7. CONDITIONS TO EACH BUYER'S OBLIGATION TO PURCHASE THE PURCHASED SECURITIES.**

(a) The obligation of each Buyer hereunder to purchase its Initial Purchased Securities at the Initial Closing is subject to the satisfaction, at or before the Initial Closing Date, of each of the following conditions, provided that these conditions are for each Buyer's sole benefit and may be waived by such Buyer at any time in its sole discretion by providing the Company with prior written notice thereof:

(i) The Company and each Subsidiary (as the case may be) shall have duly executed and delivered to such Buyer each of the Transaction Documents to which it is a party and the Company shall have duly executed and delivered to such Buyer the Initial Purchased Securities set forth across from such Buyer's name on the Schedule of Buyers at the Initial Closing pursuant to this Agreement.

(ii) Such Buyer shall have received the opinion of Cooley LLP, the Company's counsel, dated as of the Initial Closing Date, in the form acceptable to such Buyer.

(iii) The Company shall have delivered to such Buyer a copy of the Irrevocable Transfer Agent Instructions, dated as of the Initial Closing Date, in the form acceptable to such Buyer, which instructions shall have been delivered to and acknowledged in writing by the Transfer Agent.

(iv) The Company shall have delivered to such Buyer a certificate evidencing the formation and good standing of the Company and each of its Subsidiaries in each such entity's jurisdiction of formation issued by the Secretary of State (or comparable office) of such jurisdiction of formation as of a date within ten days of the Initial Closing Date, along with a bring-down letter certifying the good standing of the Company and each of its Subsidiaries as of the Initial Closing Date.

(v) The Company shall have delivered to such Buyer a certified copy of the Certificate of Incorporation of the Company as certified by the Delaware Secretary of State within ten days of the Initial Closing Date.

(vi) The Company shall have delivered to such Buyer a certificate, in the form acceptable to such Buyer, executed by the Secretary of the Company and dated as of the Initial Closing Date, as to (A) the resolutions consistent with Section 3(d) as adopted by the Company's Board of Directors or a duly authorized committee thereof in a form reasonably acceptable to such Buyer, (B) the Certificate of Incorporation of the Company and (C) the Bylaws of the Company, each as in effect at the Initial Closing.

(vii) Each and every representation and warranty of the Company shall be true and correct in all material respects (except for such representations and warranties that are qualified by materiality or material adverse effect, which shall be true and correct in all respects) as of the date when made and as of the Initial Closing Date as though originally made at that time (except for representations and warranties that speak as of a specific date, which shall be true and correct as of such specific date) and the Company shall have performed, satisfied and complied in all respects with the covenants, agreements and conditions required to be performed, satisfied or complied with by the Company at or prior to the Initial Closing Date. Such Buyer shall have received a certificate, duly executed by the Chief Executive Officer or Chief Financial Officer of the Company, dated as of the Initial Closing Date, to the foregoing effect and as to such other matters as may be reasonably requested by such Buyer in the form acceptable to such Buyer.

(viii) The Company shall have delivered to such Buyer a letter from the Transfer Agent certifying the number of shares of Common Stock outstanding on the Initial Closing Date immediately prior to the Initial Closing.

(ix) The Common Stock (A) shall be designated for quotation or listed (as applicable) on Nasdaq and (B) shall not have been suspended, as of the Initial Closing Date, by the SEC or Nasdaq from trading on Nasdaq nor shall suspension by the SEC or Nasdaq have been threatened, as of the Initial Closing Date, either (1) in writing by the SEC or Nasdaq or (2) by falling below the minimum maintenance requirements of Nasdaq.

(x) The Company shall have obtained all governmental, regulatory or third party consents and approvals, if any, necessary for the sale of the Initial Purchased Securities.

(xi) No statute, rule, regulation, executive order, decree, ruling or injunction shall have been enacted, entered, promulgated or endorsed by any court or Governmental Entity of competent jurisdiction that prohibits the consummation of any of the transactions contemplated by the Transaction Documents.

(xii) Since the date of execution of this Agreement, no event or series of events shall have occurred that would have or result in a Material Adverse Effect.

(xiii) The Company shall have submitted a Listing of Additional Shares Notification Form with Nasdaq relating to the issuance of the Underlying Shares as contemplated hereby and shall have not received any notice objecting to the listing of the Underlying Shares from Nasdaq.

(xiv) Such Buyer shall have received a letter on the letterhead of the Company, duly executed by the Chief Executive Officer or Chief Financial Officer of the Company, setting forth the wire amounts of each Buyer and the wire transfer instructions of the Company (a “**Flow of Funds Letter**”) with respect to the Initial Purchased Securities.

(xv) The Company shall have delivered to such Buyer the results of a recent lien, bankruptcy and judgment search in each relevant jurisdiction with respect to the Company and its Subsidiaries and such search shall reveal no Liens on any of the Collateral (as such term is defined in the Security Agreements) or other assets of the Company and its Subsidiaries except, in the case of assets other than Collateral, for Permitted Liens and except for Liens to be discharged on or prior to the Initial Closing Date pursuant to documentation reasonably satisfactory to the Buyer.

(xvi) The Company shall have delivered to Buyer a duly completed and executed perfection certificate dated no earlier than five days prior to the Initial Closing Date, in the form attached hereto as **Exhibit D**.

(xvii) The Company shall have established and then has access to an Equity Line of Credit or Similar Program or executed an ATM Sales Agreement pursuant to which the Company then has the ability to issue and sell shares of Common Stock from time to time (an “**ATM Sales Program**”); provided that the terms of any such ATM Sales Program, Similar Program or Equity Line of Credit is approved by the Required Holders prior to being established. The ATM Sales Program, Similar Program or Equity Line of Credit shall have aggregate available, accessible and unused capacity to generate gross proceeds to the Company of at least \$50,000,000.

(xviii) All costs, fees, expenses (including, without limitation, legal fees and expenses) contemplated hereby to be payable to the Buyers shall have been paid to the extent due and, in the case of expenses of the Buyers that are reimbursable in accordance herewith, invoiced at least one day prior to the Initial Closing Date.

(xix) The Company and its Subsidiaries shall have delivered to such Buyer such other documents, instruments or certificates relating to the transactions contemplated by the Transaction Documents as such Buyer or its counsel may reasonably request.

(b) The obligation of each Buyer hereunder to purchase the Subsequently Purchased Securities at each Subsequent Closing is subject to the satisfaction, at or before each Subsequent Closing Date, of each of the following conditions, provided that these conditions are for each Buyer's sole benefit and may be waived by such Buyer at any time in its sole discretion by providing the Company with prior written notice thereof:

(i) The Resale Registration Statement shall be effective and the applicable Registrable Securities shall be Freely Tradeable (as defined in the Notes).

(ii) The Company and each Subsidiary (as the case may be) shall have duly executed and delivered to such Buyer each of the Transaction Documents to which it is a party and the Company shall have duly executed and delivered to the Buyers the Subsequently Purchased Securities.

(iii) Such Buyer shall have received the opinion of Cooley LLP, the Company's counsel, dated as of each Subsequent Closing Date, in the form reasonably acceptable to such Buyer.

(iv) The Company shall have delivered to such Buyer a copy of the Irrevocable Transfer Agent Instructions, dated as of each Subsequent Closing Date, in the form acceptable to such Buyer, which instructions shall have been delivered to and acknowledged in writing by the Transfer Agent.

(v) The Company shall have delivered to such Buyer a certificate evidencing the formation and good standing of the Company and each of its Subsidiaries in each such entity's jurisdiction of formation issued by the Secretary of State (or comparable office) of such jurisdiction of formation as of a date within ten days of each Subsequent Closing Date, along with a bring-down letter certifying the good standing of the Company and each of its Subsidiaries as of such Subsequent Closing Date.

(vi) The Company shall have delivered to such Buyer a certified copy of the Certificate of Incorporation of the Company as certified by the Delaware Secretary of State within ten days of each Subsequent Closing Date.

(vii) The Company shall have delivered to such Buyer a certificate, in the form acceptable to such Buyer, executed by the Secretary of the Company and dated as of each Subsequent Closing Date, as to (A) the resolutions consistent with Section 3(d) as adopted by the Company's Board of Directors or a duly authorized committee thereof in a form reasonably acceptable to such Buyer, (B) the Certificate of Incorporation of the Company and (C) the Bylaws of the Company, each as in effect at each Subsequent Closing Date.

(viii) Each and every representation and warranty of the Company shall be true and correct in all material respects (except for such representations and warranties that are qualified by materiality or material adverse effect, which shall be true and correct in all respects) as of the date when made and as of each Subsequent Closing Date as though originally made at that time (except for representations and warranties that speak as of a specific date, which shall be true and correct as of such specific date) and the Company shall have performed, satisfied and complied in all respects with the covenants, agreements and conditions required to be performed, satisfied or complied with by the Company at or prior to each Subsequent Closing Date. Such Buyer shall have received a certificate, duly executed by the Chief Executive Officer or Chief Financial Officer of the Company, dated as of each Subsequent Closing Date, to the foregoing effect and as to such other matters as may be reasonably requested by such Buyer in the form acceptable to such Buyer.

(ix) The Company shall have delivered to such Buyer a letter from the Transfer Agent certifying the number of shares of Common Stock outstanding on each Subsequent Closing Date immediately prior to each Subsequent Closing.

(x) The Company shall have obtained all governmental, regulatory or third party consents and approvals, if any, necessary for the sale of the Subsequently Purchased Securities, including without limitation, Nasdaq having raised no objection to any of the transactions contemplated by the Transaction Documents, if any.

(xi) No statute, rule, regulation, executive order, decree, ruling or injunction shall have been enacted, entered, promulgated or endorsed by any court or Governmental Entity of competent jurisdiction that prohibits the consummation of any of the transactions contemplated by the Transaction Documents.

(xii) Since the date of execution of this Agreement, no event or series of events shall have occurred that would have or result in a Material Adverse Effect.

(xiii) The Company shall have submitted a Listing of Additional Shares Notification Form with Nasdaq relating to the issuance of the Subsequently Purchased Securities and the Underlying Shares as contemplated hereby.

(xiv) Such Buyer shall have received a Flow of Funds Letter with respect to the Subsequently Purchased Securities.

(xv) The Company shall have delivered to such Buyer the results of a recent lien, bankruptcy and judgment search in each relevant jurisdiction with respect to the Company and its Subsidiaries and such search shall reveal no Liens on any of the Collateral or other assets of the Company and its Subsidiaries except, in the case of assets other than Collateral, for Permitted Liens.

(xvi) The Company shall have delivered to Buyer a duly completed and executed perfection certificate dated no earlier than five days prior to each Subsequent Closing Date, in the form attached hereto as **Exhibit D**.

(xvii) All costs, fees, expenses (including, without limitation legal fees and expenses) contemplated hereby to be payable to the Buyers shall have been paid to the extent due and, in the case of expenses of the Buyers that are reimbursable in accordance herewith, invoiced at least one day prior to each Subsequent Closing Date.

(xviii) The Company has been, and continues to remain, in full compliance with the terms and conditions of the Notes.

(xix) No pending, proposed or intended Fundamental Change or Fundamental Transaction has occurred that has not been abandoned, terminated or consummated.

(xx) The Common Stock (1) shall be listed on Nasdaq and (2) shall not have been suspended, as of each Subsequent Closing Date, by the SEC or Nasdaq from trading on Nasdaq nor shall suspension by the SEC or Nasdaq have been threatened, as of each Subsequent Closing Date, either (I) in writing by the SEC or Nasdaq or (II) by falling below the minimum maintenance requirements of Nasdaq.

(xxi) The ATM Sales Program, Similar Program or Equity Line of Credit shall have aggregate available, accessible and unused capacity to generate gross proceeds to the Company of at least \$50,000,000.

(xxii) The Company and its Subsidiaries shall have delivered to such Buyer such other documents, instruments or certificates relating to the transactions contemplated by the Transaction Documents as such Buyer or its counsel may reasonably request.

## **8. TERMINATION.**

In the event that the Initial Closing shall not have occurred with respect to a Buyer within five Business Days of the date hereof, then such Buyer shall have the right to terminate its obligations under this Agreement with respect to itself at any time on or after the close of business on such date without liability of such Buyer to any other party; provided, however, (i) the right to terminate this Agreement under this Section 8 shall not be available to such Buyer if the failure of the transactions contemplated by this Agreement to have been consummated by such date is the result of such Buyer's breach of this Agreement and (ii) the abandonment of the sale and purchase of the Initial Purchased Securities shall be applicable only to such Buyer providing such written notice; provided further that no such termination shall affect any obligation of the Company under this Agreement to reimburse such Buyer for the expenses described in Section 4(g) above. Nothing contained in this Section 8 shall be deemed to release any party from any liability for any breach by such party of the terms and provisions of this Agreement or the other Transaction Documents or to impair the right of any party to compel specific performance by any other party of its obligations under this Agreement or the other Transaction Documents.



9. MISCELLANEOUS.

(a) Governing Law; Jurisdiction; Jury Trial. All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by the internal laws of the State of Delaware, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Delaware or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of Delaware. The Company hereby irrevocably submits to the exclusive jurisdiction of the Court of Chancery of the State of Delaware, provided that if the Court of Chancery of the State of Delaware does not have jurisdiction, then to the other courts of the State of Delaware, for the adjudication of any dispute hereunder or in connection herewith or under any of the other Transaction Documents or with any transaction contemplated hereby or thereby, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to such party at the address for such notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed or operate to preclude any Buyer from bringing suit or taking other legal action against the Company in any other jurisdiction to collect on the Company's obligations to such Buyer or to enforce a judgment or other court ruling in favor of such Buyer. **EACH PARTY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE TO, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR UNDER ANY OTHER TRANSACTION DOCUMENT OR IN CONNECTION WITH OR ARISING OUT OF THIS AGREEMENT, ANY OTHER TRANSACTION DOCUMENT OR ANY TRANSACTION CONTEMPLATED HEREBY OR THEREBY.**

(b) Counterparts; Electronic Signatures. This Agreement may be executed in two or more identical counterparts, all of which shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party. In the event that any signature is delivered by facsimile transmission or by an e-mail which contains a portable document format (.pdf) file of an executed signature page, such signature page shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such signature page were an original thereof. A party's electronic signature (complying with the New York Electronic Signatures and Records Act (N.Y. State Tech. §§ 301-309), as amended from time to time, or other applicable law) of this Agreement shall have the same validity and effect as a signature affixed by the party's hand.

(c) Headings; Gender; Interpretation. The headings of this Agreement are for convenience of reference and shall not form part of, or affect the interpretation of, this Agreement. Unless the context clearly indicates otherwise, each pronoun herein shall be deemed to include the masculine, feminine, neuter, singular and plural forms thereof. The terms "including," "includes," "include" and words of like import shall be construed broadly as if followed by the words "without limitation." The terms "herein," "hereunder," "hereof" and words of like import refer to this entire Agreement instead of just the provision in which they are found. Unless the context otherwise requires, references herein: (x) to Articles, Sections, Schedules and Exhibits mean the Articles and Sections of, and Schedules and Exhibits attached to, this Agreement; (y) to an agreement, instrument or other document means such agreement, instrument or other document as amended, supplemented and modified from time to time to the extent permitted by the provisions thereof and (z) to a statute means such statute as amended from time to time and includes any successor legislation thereto and any regulations promulgated thereunder.

(d) Severability; Maximum Payment Amounts. If any provision of this Agreement is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Agreement so long as this Agreement as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s). Notwithstanding anything to the contrary contained in this Agreement or any other Transaction Document (and without implication that the following is required or applicable), it is the intention of the parties that in no event shall amounts and value paid by the Company and/or any of its Subsidiaries (as the case may be), or payable to or received by any of the Buyers, under the Transaction Documents (including without limitation, any amounts that would be characterized as “interest” under applicable law) exceed amounts permitted under any applicable law. Accordingly, if any obligation to pay, payment made to any Buyer, or collection by any Buyer pursuant the Transaction Documents is finally judicially determined to be contrary to any such applicable law, such obligation to pay, payment or collection shall be deemed to have been made by mutual mistake of such Buyer, the Company and its Subsidiaries and such amount shall be deemed to have been adjusted with retroactive effect to the maximum amount or rate of interest, as the case may be, as would not be so prohibited by the applicable law. Such adjustment shall be effected, to the extent necessary, by reducing or refunding, at the option of such Buyer, the amount of interest or any other amounts which would constitute unlawful amounts required to be paid or actually paid to such Buyer under the Transaction Documents. For greater certainty, to the extent that any interest, charges, fees, expenses or other amounts required to be paid to or received by such Buyer under any of the Transaction Documents or related thereto are held to be within the meaning of “interest” or another applicable term to otherwise be violative of applicable law, such amounts shall be pro-rated over the period of time to which they relate.

(e) **Entire Agreement; Amendments.** This Agreement, the other Transaction Documents and the schedules and exhibits attached hereto and thereto and the instruments referenced herein and therein supersede all other prior oral or written agreements between the Buyers, the Company, its Subsidiaries, their affiliates and Persons acting on their behalf, including, without limitation, any transactions by any Buyer with respect to Common Stock or the Securities, and the other matters contained herein and therein, and this Agreement, the other Transaction Documents, the schedules and exhibits attached hereto and thereto and the instruments referenced herein and therein contain the entire understanding of the parties solely with respect to the matters covered herein and therein; provided, however, nothing contained in this Agreement or any other Transaction Document shall (or shall be deemed to) (i) have any effect on any agreements any Buyer has entered into with, or any instruments any Buyer has received from, the Company or any of its Subsidiaries prior to the date hereof with respect to any prior investment made by such Buyer in the Company or (ii) waive, alter, modify or amend in any respect any obligations of the Company or any of its Subsidiaries, or any rights of or benefits to any Buyer or any other Person, in any agreement entered into prior to the date hereof between or among the Company and/or any of its Subsidiaries and any Buyer, or any instruments any Buyer received from the Company and/or any of its Subsidiaries prior to the date hereof, and all such agreements and instruments shall continue in full force and effect. Except as specifically set forth herein or therein, neither the Company nor any Buyer makes any representation, warranty, covenant or undertaking. For clarification purposes, the Recitals are part of this Agreement. No provision of this Agreement may be amended other than by an instrument in writing signed by the Company and the Required Holders, and any amendment to any provision of this Agreement made in conformity with the provisions of this Section 9(e) shall be binding on all Buyers and holders of Securities, as applicable; provided that no such amendment shall be effective to the extent that it (A) applies to less than all of the holders of the Securities then outstanding or (B) imposes any obligation or liability on any Buyer without such Buyer's prior written consent (which may be granted or withheld in such Buyer's sole discretion). No waiver shall be effective unless it is in writing and signed by an authorized representative of the waiving party, provided that the Required Holders may waive any provision of this Agreement, and any waiver of any provision of this Agreement made in conformity with the provisions of this Section 9(e) shall be binding on all Buyers and holders of Securities, as applicable, provided that no such waiver shall be effective to the extent that it (1) applies to less than all of the holders of the Securities then outstanding (unless a party gives a waiver as to itself only) or (2) imposes any obligation or liability on any Buyer without such Buyer's prior written consent (which may be granted or withheld in such Buyer's sole discretion). No consideration (other than reimbursement of legal fees) shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of any of the Transaction Documents unless the same consideration also is offered to all of the parties to the Transaction Documents and all holders of the Purchased Securities. From the date hereof and while any Purchased Securities are outstanding, the Company shall not be permitted to receive any consideration from a Buyer or a holder of Purchased Securities that is not otherwise contemplated by the Transaction Documents in order to, directly or indirectly, induce the Company or any Subsidiary (i) to treat such Buyer or holder of Purchased Securities in a manner that is more favorable than to other similarly situated Buyers or holders of Purchased Securities, or (ii) to treat any Buyer(s) or holder(s) of Purchased Securities in a manner that is less favorable than the Buyer or holder of Purchased Securities that is paying such consideration; provided, however, that the determination of whether a Buyer has been treated more or less favorably than another Buyer shall disregard any securities of the Company purchased or sold by any Buyer. The Company has not, directly or indirectly, made any agreements with any Buyers relating to the terms or conditions of the transactions contemplated by the Transaction Documents except as set forth in the Transaction Documents. Without limiting the foregoing, the Company confirms that, except as set forth in this Agreement, no Buyer has made any commitment or promise or has any other obligation to provide any financing to the Company, any Subsidiary or otherwise. As a material inducement for each Buyer to enter into this Agreement, the Company expressly acknowledges and agrees that (x) no due diligence or other investigation or inquiry conducted by a Buyer, any of its advisors or any of its representatives shall affect such Buyer's right to rely on, or shall modify or qualify in any manner or be an exception to any of, the Company's representations and warranties contained in this Agreement or any other Transaction Document and (y) nothing contained in any of the SEC Documents shall affect such Buyer's right to rely on, or shall modify or qualify in any manner or be an exception to any of, the Company's representations and warranties contained in this Agreement or any other Transaction Document. "**Required Holders**" means (I) prior to the Initial Closing Date, each Buyer entitled to purchase Initial Purchased Securities at the Initial Closing, and (II) on or after the Initial Closing Date, holders of a majority of the Underlying Shares in the aggregate as of such time issued or issuable hereunder or pursuant to the Notes or Warrants, as applicable; provided that such majority must include [\*\*\*], so long as [\*\*\*] or any of its affiliates hold any Notes or Warrants.

(f) Notices. Any notices, consents, waivers or other communications required or permitted to be given under the terms of this Agreement must be in writing and will be deemed to have been delivered: (i) upon receipt, when delivered personally; (ii) upon receipt, when sent by electronic mail (provided that such sent e-mail is kept on file (whether electronically or otherwise) by the sending party and the sending party does not receive an automatically generated message from the recipient's e-mail server that such e-mail could not be delivered to such recipient); or (iii) one Business Day after deposit with an overnight courier service with next day delivery specified, in each case, properly addressed to the party to receive the same. The addresses and e-mail addresses for such communications shall be:

If to the Company:

Bionano Genomics, Inc.  
9540 Towne Centre Drive, Suite 100  
San Diego, CA 92121  
Telephone: [\*\*\*]  
Attention: R. Erik Holmlin, Ph.D., President & CEO  
E-Mail: [\*\*\*], with copy to [contracts@bionano.com](mailto:contracts@bionano.com)

With a copy (for informational purposes only) to:

Cooley LLP  
10265 Science Center Drive  
San Diego, CA 92121  
Attention: Thomas A. Coll  
E-mail: [\*\*\*]

If to the Transfer Agent:

Equiniti Stock Transfer Company  
6201 15th Avenue  
Brooklyn, New York 11219  
Attention: Rohan Bickram  
E-mail: [Rohan.bickram@equiniti.com](mailto:Rohan.bickram@equiniti.com)

If to a Buyer, to (i) its e-mail address set forth on the Schedule of Buyers, with copies to such Buyer's representatives as set forth on the Schedule of Buyers and (ii) to [\*\*\*], High Trail Capital, 80 River Street, Suite 4C, Hoboken, NJ 07030 (telephone: [\*\*\*]).

with a copy (for informational purposes only) to:

Latham & Watkins LLP  
12670 High Bluff Drive  
San Diego, CA 92130  
Telephone: [\*\*\*]  
Attention: Michael E. Sullivan  
E-mail: [\*\*\*]

or to such other address, e-mail address and/or to the attention of such other Person as the recipient party has specified by written notice given to each other party five days prior to the effectiveness of such change. Written confirmation of receipt (A) given by the recipient of such notice, consent, waiver or other communication, (B) electronically generated by the sender's e-mail or (C) provided by an overnight courier service shall be rebuttable evidence of personal service, receipt by e-mail or receipt from an overnight courier service in accordance with clause (i), (ii) or (iii) above, respectively.

(g) Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and their respective successors and assigns, including any purchasers of any of the Purchased Securities. The Company shall not assign this Agreement or any rights or obligations hereunder without the prior written consent of the Required Holders, including, without limitation, by way of a Fundamental Change or a Fundamental Transaction (unless the Company is in compliance with the applicable provisions governing Fundamental Changes set forth in the Notes). A Buyer may assign some or all of its rights hereunder in connection with any transfer of any of its Securities without the consent of the Company, provided such assignee agrees in writing to be bound by the provisions hereof that apply to Buyers in which event such assignee shall be deemed to be a Buyer hereunder with respect to such assigned rights.

(h) No Third Party Beneficiaries. The Placement Agents shall be the third-party beneficiaries of the representations and warranties of the Buyer in Section 2 and the representations and warranties of the Company in Section 3. This Agreement is intended for the benefit of the parties hereto and their respective permitted successors and assigns, and is not for the benefit of, nor may any provision hereof be enforced by, any other Person, except as otherwise set forth in Sections 4(bb) and 9(k) and this Section 9(h).

(i) Survival. The representations, warranties, agreements and covenants shall survive the Initial Closing and the Subsequent Closings. Each Buyer shall be responsible only for its own representations, warranties, agreements and covenants hereunder.

(j) Further Assurances. Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as any other party may reasonably request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

(k) Indemnification.

(i) In consideration of each Buyer's execution and delivery of the Transaction Documents and acquiring the Securities thereunder and in addition to all of the Company's other obligations under the Transaction Documents, the Company shall defend, protect, indemnify and hold harmless each Buyer and each holder of any Notes and/or Warrants and all of their stockholders, partners, members, officers, directors, employees and direct or indirect investors and any of the foregoing Persons' agents or other representatives (including, without limitation, those retained in connection with the transactions contemplated by this Agreement) (collectively, the "**Indemnitees**") from and against any and all actions, causes of action, suits, claims, losses, costs, penalties, fees, liabilities and damages, and expenses in connection therewith (irrespective of whether any such Indemnitee is a party to the action for which indemnification hereunder is sought), and including reasonable attorneys' fees and disbursements (the "**Indemnified Liabilities**"), incurred by any Indemnitee as a result of, or arising out of, or relating to (i) any misrepresentation or breach of any representation or warranty made by the Company or any Subsidiary in any of the Transaction Documents, (ii) any breach of any covenant, agreement or obligation of the Company or any Subsidiary contained in any of the Transaction Documents or (iii) any cause of action, suit, proceeding or claim brought or made against such Indemnitee by a third party (including for these purposes a derivative action brought on behalf of the Company or any Subsidiary) or which otherwise involves such Indemnitee that arises out of or results from (A) the execution, delivery, performance or enforcement of any of the Transaction Documents (including, without limitation, any hedging or similar activities in connection therewith), or (B) the status of such Buyer or holder of the Securities either as an investor in the Company pursuant to the transactions contemplated by the Transaction Documents or as a party to this Agreement (including, without limitation, any hedging or similar activities in connection therewith or as a party in interest or otherwise in any action or proceeding for injunctive or other equitable relief); provided, however, that the Company will not be liable in any such case to a Buyer or its related Indemnites to the extent that any such claim, loss, damage, liability or expense arise primarily out of or is based primarily upon the inaccuracy of any representations and warranties made by such Buyer herein. To the extent that the foregoing undertaking by the Company may be unenforceable for any reason, the Company shall make the maximum contribution to the payment and satisfaction of each of the Indemnified Liabilities which is permissible under applicable law.

(ii) Promptly after receipt by an Indemnitee under this Section 9(k) of notice of the commencement of any action or proceeding (including, without limitation, any governmental action or proceeding) involving an Indemnified Liability, such Indemnitee shall, if a claim in respect thereof is to be made against any indemnifying party under this Section 9(k), deliver to the indemnifying party a written notice of the commencement thereof, and the indemnifying party shall have the right to participate in, and, to the extent the indemnifying party so desires, jointly with any other indemnifying party similarly noticed, to assume control of the defense thereof with counsel mutually satisfactory to the indemnifying party and the Indemnitee; provided, however, that an Indemnitee shall have the right to retain its own counsel with the fees and expenses of such counsel to be paid by the indemnifying party if: (i) the indemnifying party has agreed in writing to pay such fees and expenses; (ii) the indemnifying party shall have failed promptly to assume the defense of such Indemnified Liability and to employ counsel reasonably satisfactory to such Indemnitee in any such Indemnified Liability; or (iii) the named parties to any such Indemnified Liability (including, without limitation, any impleaded parties) include both such Indemnitee and the indemnifying party, and such Indemnitee shall have been advised by counsel that a conflict of interest is likely to exist if the same counsel were to represent such Indemnitee and the indemnifying party (in which case, if such Indemnitee notifies the indemnifying party in writing that it elects to employ separate counsel at the expense of the indemnifying party, then the indemnifying party shall not have the right to assume the defense thereof and such counsel shall be at the expense of the indemnifying party), provided further that in the case of clause (iii) above the indemnifying party shall not be responsible for the reasonable fees and expenses of more than one separate legal counsel for such Indemnitee. The Indemnitee shall reasonably cooperate with the indemnifying party in connection with any negotiation or defense of any such action or claim by the indemnifying party and shall furnish to the indemnifying party all information reasonably available to the Indemnitee which relates to such Indemnified Liability. The indemnifying party shall keep the Indemnitee reasonably apprised at all times as to the status of the defense or any settlement negotiations with respect thereto. No indemnifying party shall be liable for any settlement of any action, claim or proceeding effected without its prior written consent; provided, however, the indemnifying party shall not unreasonably withhold, delay or condition its consent. No indemnifying party shall, without the prior written consent of the Indemnitee, consent to entry of any judgment or enter into any settlement or other compromise which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnitee of a release from all liability in respect to such Indemnified Liability, and such settlement shall not include any admission as to fault on the part of the Indemnitee. Following indemnification as provided for hereunder, the indemnifying party shall be subrogated to all rights of the Indemnitee with respect to all third parties, firms or corporations relating to the matter for which indemnification has been made. The failure to deliver written notice to the indemnifying party within a reasonable time of the commencement of any such action shall not relieve such indemnifying party of any liability to the Indemnitee under this Section 9(k), except to the extent that the indemnifying party is materially and adversely prejudiced in its ability to defend such action. The indemnification required by this Section 9(k) shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or Indemnified Liabilities are incurred. The indemnity and contribution agreements contained herein shall be in addition to (i) any cause of action or similar right of the Indemnitees against the indemnifying party or others, and (ii) any liabilities the indemnifying party may be subject to pursuant to the law.

(l) Construction. The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent, and no rules of strict construction will be applied against any party. No specific representation or warranty shall limit the generality or applicability of a more general representation or warranty. Each and every reference to share prices, shares of Common Stock and any other numbers in this Agreement that relate to the Common Stock shall be automatically adjusted for any stock splits, stock dividends, stock combinations, recapitalizations or other similar transactions that occur with respect to the Common Stock after the date of this Agreement. Notwithstanding anything in this Agreement to the contrary, for the avoidance of doubt, nothing contained herein shall constitute a representation or warranty against, or a prohibition of, any actions with respect to the borrowing of, arrangement to borrow, identification of the availability of, and/or securing of, securities of the Company in order for such Buyer (or its broker or other financial representative) to effect short sales or similar transactions in the future.

(m) Remedies. Each Buyer and in the event of assignment by Buyer of its rights and obligations hereunder, each holder of Securities, shall have all rights and remedies set forth in the Transaction Documents and all rights and remedies which such holders have been granted at any time under any other agreement or contract and all of the rights which such holders have under any law. Any Person having any rights under any provision of this Agreement shall be entitled to enforce such rights specifically (without posting a bond or other security), to recover damages by reason of any breach of any provision of this Agreement and to exercise all other rights granted by law. Furthermore, the Company recognizes that in the event that it or any Subsidiary fails to perform, observe, or discharge any or all of its or such Subsidiary's (as the case may be) obligations under the Transaction Documents, any remedy at law would be inadequate relief to the Buyers. The Company therefore agrees that the Buyers shall be entitled to specific performance and/or temporary, preliminary and permanent injunctive or other equitable relief from any court of competent jurisdiction in any such case without the necessity of proving actual damages and without posting a bond or other security. The remedies provided in this Agreement and the other Transaction Documents shall be cumulative and in addition to all other remedies available under this Agreement and the other Transaction Documents, at law or in equity (including a decree of specific performance and/or other injunctive relief).

(n) Withdrawal Right. Notwithstanding anything to the contrary contained in (and without limiting any similar provisions of) the Transaction Documents, whenever any Buyer exercises a right, election, demand or option under a Transaction Document and the Company or any Subsidiary does not timely perform its related obligations within the periods therein provided, then such Buyer may rescind or withdraw, in its sole discretion from time to time upon written notice to the Company or such Subsidiary (as the case may be), any relevant notice, demand or election in whole or in part without prejudice to its future actions and rights.

(o) Payment Set Aside; Currency. To the extent that the Company makes a payment or payments to any Buyer hereunder or pursuant to any of the other Transaction Documents or any of the Buyers enforce or exercise their rights hereunder or thereunder, and such payment or payments or the proceeds of such enforcement or exercise or any part thereof are subsequently invalidated, declared to be fraudulent or preferential, set aside, recovered from, disgorged by or are required to be refunded, repaid or otherwise restored to the Company, a trustee, receiver or any other Person under any law (including, without limitation, any bankruptcy law, foreign, state or federal law, common law or equitable cause of action), then to the extent of any such restoration the obligation or part thereof originally intended to be satisfied shall be revived and continued in full force and effect as if such payment had not been made or such enforcement or setoff had not occurred. Unless otherwise expressly indicated, all dollar amounts referred to in this Agreement and the other Transaction Documents are in United States Dollars ("**U.S. Dollars**"), and all amounts owing under this Agreement and all other Transaction Documents shall be paid in U.S. Dollars. All amounts denominated in other currencies (if any) shall be converted into the U.S. Dollar equivalent amount in accordance with the Exchange Rate on the date of calculation. "**Exchange Rate**" means, in relation to any amount of currency to be converted into U.S. Dollars pursuant to this Agreement, the U.S. Dollar exchange rate as published in the Wall Street Journal on the relevant date of calculation.

(p) Judgment Currency.

(i) If for the purpose of obtaining or enforcing judgment against the Company in connection with this Agreement or any other Transaction Document in any court in any jurisdiction it becomes necessary to convert into any other currency (such other currency being hereinafter in this Section 9(p) referred to as the "**Judgment Currency**") an amount due in U.S. Dollars under this Agreement, the conversion shall be made at the Exchange Rate prevailing on the Business Day immediately preceding:



(A) the date actual payment of the amount due, in the case of any proceeding in the Court of Chancery of the State of Delaware or in the courts of any other jurisdiction that will give effect to such conversion being made on such date; or

(B) the date on which the foreign court determines, in the case of any proceeding in the courts of any other jurisdiction (the date as of which such conversion is made pursuant to this Section 9(p)(i)(2) being hereinafter referred to as the “**Judgment Conversion Date**”).

(ii) If in the case of any proceeding in the court of any jurisdiction referred to in Section 9(p)(i)(2), there is a change in the Exchange Rate prevailing between the Judgment Conversion Date and the date of actual payment of the amount due, the applicable party shall pay such adjusted amount as may be necessary to ensure that the amount paid in the Judgment Currency, when converted at the Exchange Rate prevailing on the date of payment, will produce the amount of U.S. Dollars which could have been purchased with the amount of Judgment Currency stipulated in the judgment or judicial order at the Exchange Rate prevailing on the Judgment Conversion Date.

(iii) Any amount due from the Company under this provision shall be due as a separate debt and shall not be affected by judgment being obtained for any other amounts due under or in respect of this Agreement or any other Transaction Document.

(q) Independent Nature of Buyers’ Obligations and Rights. The obligations of each Buyer under the Transaction Documents are several and not joint with the obligations of any other Buyer, and no Buyer shall be responsible in any way for the performance of the obligations of any other Buyer under any Transaction Document. Nothing contained herein or in any other Transaction Document, and no action taken by any Buyer pursuant hereto or thereto, shall be deemed to constitute the Buyers as, and the Company acknowledges that the Buyers do not so constitute, a partnership, an association, a joint venture or any other kind of group or entity, or create a presumption that the Buyers are in any way acting in concert or as a group or entity, and the Company shall not assert any such claim with respect to such obligations or the transactions contemplated by the Transaction Documents or any matters, and the Company acknowledges that the Buyers are not acting in concert or as a group, and the Company shall not assert any such claim, with respect to such obligations or the transactions contemplated by the Transaction Documents. The decision of each Buyer to purchase Securities pursuant to the Transaction Documents has been made by such Buyer independently of any other Buyer. Each Buyer acknowledges that no other Buyer has acted as agent for such Buyer in connection with such Buyer making its investment hereunder and that no other Buyer will be acting as agent of such Buyer in connection with monitoring such Buyer’s investment in the Securities or enforcing its rights under the Transaction Documents. The Company and each Buyer confirms that each Buyer has independently participated with the Company and its Subsidiaries in the negotiation of the transaction contemplated hereby with the advice of its own counsel and advisors. Each Buyer shall be entitled to independently protect and enforce its rights, including, without limitation, the rights arising out of this Agreement or out of any other Transaction Documents, and it shall not be necessary for any other Buyer to be joined as an additional party in any proceeding for such purpose. For reasons of administrative convenience only, each Buyer and its respective counsel may choose to communicate with the Company through the legal counsel of the Placement Agents. The legal counsel of the Placement Agents does not represent any of the Buyers and only represents the Placement Agents. The use of a single agreement to effectuate the purchase and sale of the Securities contemplated hereby was solely in the control of the Company, not the action or decision of any Buyer, and was done solely for the convenience of the Company and its Subsidiaries and not because it was required or requested to do so by any Buyer. It is expressly understood and agreed that each provision contained in this Agreement and in each other Transaction Document is between the Company, each Subsidiary and a Buyer, solely, and not between the Company, its Subsidiaries and the Buyers collectively and not between and among the Buyers.

(r) Performance Date. If the date by which any obligation under any of the Transaction Documents must be performed occurs on a day other than a Business Day, then the date by which such performance is required shall be the next Business Day following such date.

(s) Enforcement Fees. The Company agrees to pay all costs and expenses of the Buyers incurred as a result of enforcement of the Transaction Documents and the collection of any amounts owed to the Buyers hereunder (whether in cash, equity or otherwise), including, without limitation, reasonable attorneys' fees and expenses.

(t) Collateral Agent.

(i) *Appointment; Authorization*. Each Buyer, together with any successors or assigns thereof, hereby irrevocably appoints, designates and authorizes [\*\*\*] as collateral agent to take such action, exercise such powers and perform such duties on its behalf under the provisions of the Notes, each Security Document and each other Transaction Document as are delegated to it by the terms of such documents, and to act as agent of such Buyer for purposes of acquiring, holding, enforcing and perfecting all Liens granted by the Company and its Subsidiaries on the Collateral to secure any of the Obligations, in each case together with such actions and powers as are reasonably incidental thereto. It is understood and agreed that the use of the term "agent" herein or in any Security Document (or any other similar term) with reference to the Collateral Agent is not intended to connote any fiduciary or other implied (or express) obligations arising under agency doctrine of any applicable law. Instead such term is used as a matter of market custom, and is intended to create or reflect only an administrative relationship between contracting parties. Notwithstanding any provision to the contrary contained elsewhere in the Notes, any Security Document or any other agreement, instrument or document related hereto or thereto, the Collateral Agent shall not have any duty or responsibility except those expressly set forth herein, and no implied covenants, functions, responsibilities, duties, obligations or liabilities shall be read into the Notes, any Security Document or any other agreement, instrument or document related hereto or thereto or otherwise exist against the Collateral Agent.

(ii) *Delegation of Duties.* The Collateral Agent may perform any and all of its duties and exercise its rights and powers hereunder or under any Security Document by or through any one or more sub-agents appointed by the Collateral Agent. The Collateral Agent and any such sub-agent may perform any and all of its duties and exercise its rights and powers by or through its Affiliates (as defined in the Notes), partners, directors, officers, employees, agents, trustees, administrators, managers, advisors and representatives, or the partners, directors, officers, employees, agents, trustees, administrators, managers, advisors and representatives of any of its Affiliates (collectively, the “**Related Parties**”). The exculpatory provisions of this Section 9(t) shall apply to any such sub-agent and to the Related Parties of the Collateral Agent and any such sub-agent. The Collateral Agent shall not be responsible for the negligence or misconduct of any sub-agents except to the extent that a court of competent jurisdiction determines in a final and non-appealable judgment that the Collateral Agent acted with gross negligence or willful misconduct in the selection of such sub-agents.

(iii) *Exculpatory Provisions.*

(A) The Collateral Agent shall not have any duties or obligations except those expressly set forth in the Security Documents, and its duties shall be administrative in nature. Without limiting the generality of the foregoing, the Collateral Agent: (i) shall not be subject to any fiduciary or other implied duties, regardless of whether a Default (as defined in the Notes) has occurred and is continuing or an Event of Default (as defined in the Notes) has occurred; (ii) shall not have any duty to take any discretionary action or exercise any discretionary powers; and (iii) shall not, except as expressly set forth in the Security Documents, have any duty to disclose, and shall not be liable for the failure to disclose, any information relating to the Company or any of its Affiliates that is communicated to or obtained by the Collateral Agent or any of its Affiliates in any capacity.

(B) The Collateral Agent shall not be liable for any action taken or not taken by it in the absence of its own gross negligence or willful misconduct as determined by a court of competent jurisdiction by final and non-appealable judgment. The Collateral Agent shall be deemed not to have knowledge of any Default or Event of Default unless and until notice describing such Default or Event of Default is given to the Collateral Agent in writing by the Company.

(C) The Collateral Agent shall not be responsible for or have any duty to ascertain or inquire into (a) any statement, warranty or representation made in or in connection with the Notes, any Security Document or any other agreement, instrument or document related hereto or thereto, (b) the contents of any certificate, report or other document delivered hereunder or thereunder or in connection herewith or therewith, (c) the performance or observance of any of the covenants, agreements or other terms or conditions set forth herein or therein or the occurrence of any Default or Event of Default, (d) the validity, enforceability, effectiveness or genuineness of the Notes, any Security Document or any other agreement, instrument or document related to the Notes or Security Documents, or (e) any failure of the Company or any other party to the Notes, any Security Agreement or any other agreement, instrument or document related to the Notes or Security Documents to perform its obligations thereunder. The Collateral Agent shall not be under any obligation to ascertain or to inquire as to the observance or performance of any of the agreements contained in, or conditions of, the Notes, any Security Document or any other agreement, instrument or document related to the Notes or Security Documents, or to inspect the properties, books or records of the Company or any Affiliate of the Company.

(iv) *Reliance by Collateral Agent.* The Collateral Agent shall be entitled to rely upon, and shall not incur any liability for relying upon, any notice, request, certificate, consent, statement, instrument, document or other writing (including any electronic message, Internet or intranet website posting or other distribution) believed by it to be genuine and to have been signed, sent or otherwise authenticated by the proper Person. The Collateral Agent also may rely upon any statement made to it orally or by telephone and believed by it to have been made by the proper Person, and shall not incur any liability for relying thereon. The Collateral Agent may consult with legal counsel, independent accountants and other experts selected by it, and shall not be liable for any action taken or not taken by it in accordance with the advice of any such counsel, accountants or experts.

(v) *Successor Agent.* The Collateral Agent may resign as the Collateral Agent at any time upon ten days' prior notice to the Buyers and the Company. If the Collateral Agent resigns under the Notes, the Required Holders shall appoint a successor agent. If no successor agent is appointed prior to the effective date of the resignation of the Collateral Agent, the Collateral Agent may appoint a successor Collateral Agent on behalf of the Buyers after consulting with the Buyers. Upon the acceptance of its appointment as successor agent hereunder, such successor agent shall succeed to all the rights, powers and duties of the retiring Collateral Agent and the term "the Collateral Agent" shall mean such successor agent, and the retiring Collateral Agent's appointment, powers and duties as the Collateral Agent shall be terminated. After the Collateral Agent's resignation hereunder as the Collateral Agent, the provisions of this Section 9(t) shall continue to inure to its benefit as to any actions taken or omitted to be taken by it while it was the Collateral Agent. If no successor agent has accepted appointment as the Collateral Agent by the date which is 30 days following a retiring Collateral Agent's notice of resignation, a retiring Collateral Agent's resignation shall nevertheless thereupon become effective and the Buyers, shall perform all of the duties of the Collateral Agent hereunder until such time as Required Holders shall appoint a successor agent as provided for above.

(vi) *Non-Reliance on the Collateral Agent.* The Buyers acknowledges that they have, independently and without reliance upon the Collateral Agent or any of its Related Parties and based on such documents and information as they have deemed appropriate, made their own credit analysis and decision to enter invest in the Notes. The Buyers also acknowledges that they will, independently and without reliance upon the Collateral Agent or any of its Related Parties and based on such documents and information as they shall from time to time deem appropriate, continue to make their own decisions in taking or not taking action under or based upon the Notes, any Security Document or any related agreement or any document furnished hereunder or thereunder.

(vii) *Collateral Matters.* The Buyers irrevocably authorize the Collateral Agent to release any Lien (as defined in the Notes) granted to or held by the Collateral Agent under any Security Document (i) when all Obligations (as defined in the Security Agreements) have been paid in full; (ii) constituting property sold or to be sold or disposed of as part of or in connection with any sale or other disposition permitted under the Notes and each other agreement, instrument or document related thereto (it being agreed and understood that the Collateral Agent may conclusively rely without further inquiry on a certificate of an officer of the Company as to the sale or other disposition of property being made in compliance with the Notes and each other agreement, instrument or document related thereto); or (iii) if approved, authorized or ratified in writing by the Buyers. In addition, if any Grantor (as defined in the Security Agreements) that is a wholly-owned Subsidiary of the Company ceases to be a wholly-owned Subsidiary or is no longer required to be a Grantor by Section 8(Y) of the Notes, unless any Default under the Notes has occurred and is continuing or Event of Default has occurred under the Notes that has not been waived by the Required Holders, the Liens granted herein or pursuant to any of the Security Agreements with respect to such Person's property shall be deemed to be automatically released and such property shall automatically revert to such Person with no further action on the part of any Person. The Collateral Agent shall have the right, in accordance with the Security Documents to sell, lease or otherwise dispose of any Collateral for cash, credit or any combination thereof, and the Collateral Agent may purchase any Collateral at public or, if permitted by law, private sale and, in lieu of actual payment of the purchase price, may credit bid and setoff the amount of such price against the Obligations.

(viii) *Reimbursement by Buyers.* To the extent that the Company for any reason fails to indefeasibly pay any amount required under Sections 4(g) or 9(k) to be paid by it to the Collateral Agent (or any sub-agent thereof) or any Related Party of the Collateral Agent (or any sub-agent thereof), the Buyers hereby agree, jointly and severally, to pay to the Collateral Agent (or any such sub-agent) or such Related Party of the Collateral Agent (or any sub-agent thereof), as the case may be, such unpaid amount.

(ix) *Marshaling; Payments Set Aside.* Neither the Collateral Agent nor the Buyers shall be under any obligation to marshal any assets in favor of the Company or any other Person or against or in payment of any or all of the Obligations. To the extent that the Company makes a payment or payments to the Collateral Agent, or the Collateral Agent enforces its Liens or exercises its rights of set-off, and such payment or payments or the proceeds of such enforcement or set-off or any part thereof are subsequently invalidated, declared to be fraudulent or preferential, set aside or required (including pursuant to any settlement entered into by the Collateral Agent in its discretion) to be repaid to a trustee, receiver or any other party in connection with any bankruptcy, insolvency or similar proceeding, or otherwise, then (i) to the extent of such recovery, the obligation under the Notes intended to be satisfied shall be revived and continued in full force and effect as if such payment had not been made or such enforcement or set-off had not occurred and (ii) the Buyers agree to pay to the Collateral Agent upon demand its share of the total amount so recovered from or repaid by the Collateral Agent to the extent paid to the Buyers.

*[signature pages follow]*

**IN WITNESS WHEREOF**, each Buyer and the Company have caused their respective signature page to this Agreement to be duly executed as of the date first written above.

**COMPANY:**

**BIONANO GENOMICS, INC.**

By: /s/ R. Erik Holmlin

Name: R. Erik Holmlin

Title: President and Chief Executive Officer

*[Signature Page to Securities Purchase Agreement]*

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**IN WITNESS WHEREOF**, each Buyer and the Company have caused their respective signature page to this Agreement to be duly executed as of the date first written above.

**BUYER:**

[\*\*\*]

By: [\*\*\*]

Name: [\*\*\*]

Title: [\*\*\*]

*[Signature Page to Securities Purchase Agreement]*

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**Exhibit C**

**Form of Security Agreements**

[Omitted pursuant to Item 601(a)(5) of Regulation S-K]

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**Exhibit D**

**Form of Perfection Certificate**

[Omitted pursuant to Item 601(a)(5) of Regulation S-K]

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**Bionano Prices \$80.0 Million Financing in Convertible Notes and Warrants, Announces Preliminary Q3 2023 Results, and Implements Streamlined Operational Plan**

- Bionano announced today that it has priced a financing to raise an aggregate of \$80.0 million in a registered offering and concurrent private placement of senior secured convertible notes due 2025 and warrants
- Preliminary Q3 revenue expected to be between \$9.1 and \$9.3 million, which would represent an estimated increase of 26% to 29% over Q3 2022 and would be at the higher end of revenue guidance of \$8.8 million to \$9.2 million provided in August 2023
- Installed base of Saphyr® systems reached 301 as of September 30, 2023, which represents growth of the installed base by 20 systems in the quarter and an increase of 39% over the 217 Saphyr systems installed as of September 30, 2022
- Preliminary number of nanochannel array flowcells sold in the quarter expected to be 6,176, which would represent an estimated increase of 55% over the 3,975 flowcells sold in the third quarter of 2022
- Company implemented initiatives intended to further reduce headcount, manufacturing costs and operating expenses for an estimated savings on non-GAAP total expenses (consisting of operating expenses and cost of goods sold) on an annual basis, excluding stock-based compensation, starting in 2024 of approximately \$33.0 million when combined with the cost savings realized from the reduction in force initiated in May 2023

SAN DIEGO, October 11, 2023 (GLOBE NEWSWIRE) – Bionano Genomics, Inc. (Nasdaq: BNGO) today reported certain business updates and unaudited preliminary financial results for the third quarter ended September 30, 2023.

### Pricing of Financing

- Earlier today, Bionano announced the pricing of an \$80.0 million registered offering and concurrent private placement comprising of (i) \$45.0 million aggregate principal amount of senior secured convertible notes due 2025 (the “Registered Notes”) and warrants (the “Registered Warrants”) to purchase 21,660,650 shares of its common stock in a registered offering, and (ii) \$35.0 million aggregate principal amount of senior secured convertible notes due 2025 (the “Private Placement Notes”) and together with the Registered Notes, the “Notes”) in a concurrent private placement, in each case to a certain accredited investor (the “Buyer”). The sale of the Notes and the Registered Warrants to the Buyer is expected to close on October 13, 2023, subject to customary closing conditions.
- Bionano has also granted the Buyer an option to purchase up to an additional \$25.0 million aggregate principal amount of senior secured notes due 2025 and warrants to purchase up to 6,768,953 shares of common stock in a subsequent private placement on substantially the same terms as the Private Placement Notes and the Registered Warrants, respectively.

### Q3 2023 Preliminary Unaudited Financial and Business Results

- **Revenues for the third quarter 2023 are expected to be in the range of \$9.1 million to \$9.3 million**, an estimated increase of 26% to 29% compared to the third quarter of 2022, which would be at the higher end of revenue guidance of \$8.8 million to \$9.2 million provided in August.
- **Installed base of Saphyr® systems totaled 301 at the end of the third quarter 2023**, which was an increase of 20 systems over the second quarter of 2023 and represents a 39% increase over the 217 installed systems reported at the end of the third quarter of 2022.
- **Nanochannel array flowcells sold in the third quarter is expected to be 6,176**, an estimated increase of 55% over the 3,975 flowcells sold during the third quarter of 2022.

**Appointed New CFO Effective September 11, 2023**

- **As previously announced, Gülsen Kama joined as the Chief Financial Officer (CFO)**, effective September 11, 2023. Ms. Kama has an extensive background in business planning and execution, especially in operating environments that demand rigorous management of expenses to enable profitable growth.

**Operating and Manufacturing Cost Reductions**

- On October 9, 2023, Bionano committed to a series of cost savings initiatives including a reduction in force and reducing facility costs and discretionary spending unrelated to headcount that, taken together with cost savings realized from the reduction in force the Company announced in May, is expected to result in a reduction of non-GAAP operating expenses by approximately \$31.6 million on an annualized basis starting in 2024, excluding savings in stock-based compensation
- Part of the savings comes from a reduction in force of 66 positions eliminated as part of the October 2023 initiatives, which, when combined with the positions eliminated since May 2023, is expected to bring the number of employees planned for December 31, 2023 to 321
- Cost of goods sold is expected to be reduced by approximately \$1.4 million on an annual basis, starting in 2024, in connection with the October 2023 initiatives, which will be a component of anticipated improvements to gross margin going forward

“We are pleased to be recognizing several significant advancements for the company today, including the addition of Gülsen Kama as CFO, preliminary results of another strong quarter of performance, a financing, and cost savings initiatives that we believe will be an important part of Bionano becoming profitable. The preliminary Q3 2023 results include strong revenues that are expected to meet and potentially exceed the guidance provided in August, reflect solid revenue growth compared to Q3 2022, and demonstrate increases in the installed base of optical genome mappers and in flowcells sold compared to Q3 2022.

Our objective in financing the company during what we believe is one of the most challenging financing environments for growth companies in health care has been to obtain enough capital to provide a meaningful extension in the cash runway, while also managing the dilutive impact. We believe we have found a good balance in the agreement we made with the Buyer and that this financing is an important step toward closing the gap to profitability,” said Erik Holmlin, PhD, president and chief executive officer of Bionano.

Gülsen Kama, CFO of Bionano, added, “Reducing our operating expense footprint is something that we felt was important to do. It’s never easy to reduce the number of employees, all of whom have contributed significantly to our progress so far, but in the face of difficult prioritization decisions in the current equity capital market environment, we believe these steps were necessary to implement alongside the financing to reduce the overall capital needed to reach profitability.”

“We feel we can continue to prioritize and invest in our highest priority programs that support the ongoing adoption of optical genome mapping (OGM) and market development for OGM including our planned product launches and regulatory development,” commented Dr. Holmlin.

Bionano has not completed preparation of its financial statements for the third quarter of 2023. The financial performance measures presented in this press release for the third quarter of 2023 are preliminary and unaudited, based on management’s initial review of the information presented, and are thus inherently uncertain and subject to change as Bionano completes its end-of-period reporting process and related activities for the third quarter of 2023. Bionano is in the process of completing its customary quarter-end close and review procedures as of and for the quarter ended September 30, 2023, and the final results for this period could differ from the preliminary estimated results disclosed in this press release. During the course of the preparation of Bionano’s unaudited consolidated financial statements and related notes as of and for the quarter ended September 30, 2023, Bionano’s independent registered public accountants may identify items that could cause final reported results to be materially different from the preliminary estimates presented herein. Additional information and disclosures would be required for a more complete understanding of Bionano’s financial position and results of operations as of and for the quarter ended September 30, 2023. Accordingly, undue reliance should not be placed on this preliminary information.

**Non-GAAP Financial Measures**

We refer to non-GAAP total expenses and non-GAAP operating expenses in this press release but we do not provide guidance for the most directly comparable GAAP measures, total expenses and operating expenses. Similarly, we cannot provide a reconciliation between our most directly comparable GAAP measures, total expenses and operating expenses without unreasonable effort due to the unavailability of reliable estimates for certain components including stock-based compensation, which are not within our control and may vary greatly between periods and could significantly impact our financial results calculated in accordance with GAAP.

**About Bionano**

Bionano is a provider of genome analysis solutions that can enable researchers and clinicians to reveal answers to challenging questions in biology and medicine. The Company's mission is to transform the way the world sees the genome through OGM solutions, diagnostic services and software. The Company offers OGM solutions for applications across basic, translational and clinical research. Through its Lineagen, Inc. d/b/a Bionano Laboratories business, the Company also provides diagnostic testing for patients with clinical presentations consistent with autism spectrum disorder and other neurodevelopmental disabilities. The Company also offers an industry-leading, platform-agnostic software solution, which integrates next-generation sequencing and microarray data designed to provide analysis, visualization, interpretation and reporting of copy number variants, single-nucleotide variants and absence of heterozygosity across the genome in one consolidated view. The Company additionally offers nucleic acid extraction and purification solutions using proprietary isotachopheresis technology. For more information, visit [www.bionano.com](http://www.bionano.com), [www.bionanolaboratories.com](http://www.bionanolaboratories.com) or [www.purigenbio.com](http://www.purigenbio.com).

*Unless specifically noted otherwise, Bionano's OGM products are for research use only and not for use in diagnostic procedures.*

## Forward-Looking Statements of Bionano

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “may,” “plan,” “will,” “should” “intend” and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances) convey uncertainty of future events or outcomes and are intended to identify these forward-looking statements. Forward-looking statements include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things: certain financial measures, such as our preliminary revenue, installed base and flowcell sales expected for the third quarter 2023; our ability to maintain continued year-over-year quarterly revenue growth; our ability to execute on our strategy and achieve our objectives; the impact and utility of our cost savings initiative including the expected amount and timing of cost savings, anticipated improvements in gross margin and ability to become profitable; the impact of our recent financing including providing a meaningful extension in the cash runway and closing the gap to profitability; the ability to close and timing for the closing of the offering of the Registered Notes and the Registered Warrants, the concurrent private placement and any subsequent private placement; and our ability to continue to drive OGM adoption by potential customers for routine use in genomic analysis to expand our OGM installed base and planned product launches and regulatory developments. Each of these forward-looking statements involves risks and uncertainties. Actual results or developments may differ materially from those projected or implied in these forward-looking statements. Factors that may cause such a difference include the risks and uncertainties associated with: adjustments to our preliminary measures of financial performance resulting from, among other things, the completion of our end-of-period review and reporting processes; the timing and amount of revenue we are able to recognize in a given fiscal period; the impact of adverse geopolitical and macroeconomic events, such as recent and future bank failures, global pandemics, inflation, supply chain disruptions and the ongoing conflict between Ukraine and Russia, on our business and the global economy; general market conditions; our ability to meet the funding conditions to gain access to the minimum cash amount held as restricted cash in an account control agreement under the financing; changes in the competitive landscape and the introduction of competitive technologies or improvements to existing technologies; changes in our strategic and commercial plans; our need and ability to obtain sufficient additional financing to fund our strategic plans and commercialization efforts, our ability to effectively manage our uses of cash, and our ability to continue as a “going concern”; the ability or potential to obtain funding to support adoption or continued use of our technologies; and the risks and uncertainties associated with our business and financial condition in general, including the risks and uncertainties described in our filings with the Securities and Exchange Commission, including, without limitation, our Annual Report on Form 10-K for the year ended December 31, 2022 and in other filings subsequently made by us with the Securities and Exchange Commission. All forward-looking statements contained in this press release speak only as of the date on which they were made and are based on management’s assumptions and estimates as of such date. We do not undertake any obligation to publicly update any forward-looking statements, whether as a result of the receipt of new information, the occurrence of future events or otherwise.

## CONTACTS

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## **Bionano Announces Pricing of \$80.0 Million Registered Offering and Concurrent Private Placement of Senior Secured Convertible Notes and Warrants**

SAN DIEGO, Oct. 11, 2023 -- Bionano Genomics, Inc. (Nasdaq: BNGO) today announced the pricing of (i) \$45.0 million aggregate principal amount of senior secured convertible notes due 2025 (the "Registered Notes") and warrants (the "Registered Warrants") to purchase 21,660,650 shares of its common stock in a registered offering, and (ii) \$35.0 million aggregate principal amount of senior secured convertible notes due 2025 (the "Private Placement Notes" and together with the Registered Notes, the "Notes") in a concurrent private placement, in each case, to a certain accredited investor (the "Buyer"). Each Registered Warrant has an exercise price of \$3.1855 per share and expires five years from the date of issuance. The gross proceeds from the registered offering and concurrent private placement to Bionano are expected to be approximately \$80.0 million, before deducting placement agent fees and offering expenses payable by Bionano. The registered offering and the concurrent private placement are each contingent upon the other. The sale of the Notes and the Registered Warrants to the Buyer is expected to close on October 13, 2023, subject to customary closing conditions.

Bionano has also granted the Buyer an option to purchase up to an additional \$25.0 million aggregate principal amount of senior secured convertible notes due 2025 (the "Additional Notes") and warrants to purchase up to 6,768,953 shares of common stock in a subsequent private placement on substantially the same terms as the Private Placement Notes and the Registered Warrants, respectively.

The Notes will not bear regular interest, and will mature on September 1, 2025 (the "Maturity Date"), unless earlier repurchased, redeemed or converted. The Notes will be sold at an issue price of 100% of their principal amount, and when Bionano repays principal of the Notes at maturity pursuant to the terms of the Notes, it will be required to pay 115% of the principal amount repaid (the "Repayment Price"). Holders of the Notes will have the option to partially redeem a portion of the principal amount of the Notes on the first day of each month beginning on November 1, 2023 (a "Partial Redemption Date"), at the Repayment Price, plus any accrued and unpaid default interest thereon.

Holders of the Notes will be permitted to convert their Notes into shares of Bionano's common stock at any time prior to the close of business on the second scheduled trading day (or, if earlier, the standard settlement period for the primary eligible exchange (measured in terms of trading volume for Bionano's common stock) on which the common stock is traded) immediately before the Maturity Date. The initial conversion rate for the Notes will be 349.1925 shares of Bionano's common stock per \$1,000 principal amount of Notes, equivalent to an initial conversion price of approximately \$2.8638 per share of Bionano's common stock. The conversion rate will be subject to customary anti-dilution adjustments and adjustments for certain corporate events. Subject to certain conditions, at Bionano's option, Bionano can require conversion of all, but not less than all, the Notes if the last reported sale price of its common stock exceeds 175% of the conversion price (as defined in the Notes) for at least 20 VWAP trading days (as defined in the Notes) in any 30 consecutive trading day period.



Subject to terms, conditions and certain exceptions set forth in the Notes, Bionano will have the right to redeem all (but not less than all) of the then outstanding principal amount of the Notes for a cash redemption price equal to the greater of (A) 120% of the then outstanding principal amount of the Notes, plus accrued and unpaid interest; and (B) the sum of (i) 120% of the product of (a) the applicable conversion rate; (b) the total then outstanding principal amount (expressed in thousands) of the Notes; and (c) the highest daily VWAP (as defined in the Notes) per share of Bionano's common stock during the period beginning on, and including, the fifth VWAP trading day prior to the date that the redemption notice is delivered and ending on, and including, the VWAP trading day immediately preceding the redemption date; and (ii) the accrued and unpaid interest on the Notes.

Holders of the Notes may require Bionano to repurchase the Notes upon a fundamental change (as defined in the Notes) for a cash amount equal to the greater of (A) 115% of the then outstanding principal amount of the Notes to be repurchased, plus accrued and unpaid interest on such Notes; and (B) the sum of (i) 115% of the product of (a) the applicable conversion rate; (b) the total then outstanding principal amount (expressed in thousands) of the Notes to be repurchased; and (c) the average of the five Daily VWAPs per share of Bionano's common stock during the five consecutive VWAP trading days ending on, and including, the VWAP trading day immediately preceding the effective date of such fundamental change; and (ii) accrued and unpaid interest on such Notes.

The Notes will be secured by a first-priority lien, subject only to certain permitted liens, on substantially all of Bionano's and its subsidiaries' (other than certain foreign subsidiaries) tangible and intangible assets, whether now owned or hereafter acquired (other than certain excluded property).

The Notes will be Bionano's senior secured obligations, will rank pari passu with any Additional Notes, senior in right of payment to all of Bionano's indebtedness that is expressly subordinated to the Notes in right of payment, effectively senior to all of Bionano's unsecured indebtedness to the extent of the collateral securing the Notes, effectively junior to all of Bionano's indebtedness secured by permitted liens, to the extent of the value of the assets subject to such permitted liens and to the extent such permitted liens have lien priority by contract or law and structurally junior to all indebtedness and other liabilities (including trade payables) of Bionano's subsidiaries that are not party to the security documents.

TD Cowen and Stifel are acting as co-lead placement agents for the offering. BTIG is acting as placement agent for the offering.

The offering of the Registered Notes and Registered Warrants is being made pursuant to an effective shelf registration statement on Form S-3 filed with the U.S. Securities and Exchange Commission ("SEC") on March 10, 2023, as amended on May 8, 2023, and declared effective by the SEC on May 10, 2023 (File No. 333-270459). The Private Placement Notes to be issued in the concurrent private placement have not been registered under the Securities Act of 1933, as amended (the "Securities Act"), or the securities laws of any state or other jurisdiction in the United States, and may not be offered, pledged, sold, delivered or otherwise transferred, directly or indirectly, in the United States except pursuant to registration under the Securities Act or an applicable exemption from the registration requirements of the Securities Act and, in each case, in compliance with other applicable securities laws.

A prospectus supplement relating to and describing the terms of the offering will be filed with the SEC and will be available on the SEC's website at [www.sec.gov](http://www.sec.gov). When available, a copy of the final prospectus supplement and the accompanying prospectus relating to the offering of the Registered Notes and Registered Warrants may be obtained from: Cowen and Company, LLC at Cowen and Company, LLC, 599 Lexington Avenue, New York, NY 10022, by email at [Prospectus\\_ECM@cowen.com](mailto:Prospectus_ECM@cowen.com) or by telephone at (833) 297-2926; or Stifel, Nicolaus & Company, Incorporated, Attention: Syndicate, One Montgomery Street, Suite 3700, San Francisco, CA 94104, by telephone at (415) 364-2720, or by email at [syndprospectus@stifel.com](mailto:syndprospectus@stifel.com).

This press release does not constitute an offer to sell or a solicitation of an offer to buy, nor will there be any sale of these securities in any state or other jurisdiction in which such offer, solicitation, or sale would be unlawful before registration or qualification under the securities laws of such state or jurisdiction.

### **About Bionano**

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### **Forward-Looking Statements**

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as "believe," "can," "could," "may" "potential" and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances and the negatives thereof) convey uncertainty of future events or outcomes and are intended to identify these forward-looking statements. Forward-looking statements include statements regarding the ability to close the offering of the Registered Notes and the Registered Warrants, the concurrent private placement and any subsequent private placement; expected gross proceeds; and the timing for the closing of the offering of the Registered Notes and the Registered Warrants, the concurrent private placement and any subsequent private placement.

Each of these forward-looking statements involves risks and uncertainties. Actual results or developments may differ materially from those projected or implied in these forward-looking statements. Factors that may cause such a difference include the risks and uncertainties associated with: the impact of geopolitical and macroeconomic developments, such as recent and future bank failures, the ongoing Ukraine-Russia conflict, related sanctions, and any global pandemics, on our business, this offering of the Registered Notes and the Registered Warrants, the concurrent private placement, any subsequent private placement and the global economy; and including the risks and uncertainties described in our filings with the Securities and Exchange Commission, including, without limitation, our Annual Report on Form 10-K for the year ended December 31, 2022 and in other filings subsequently made by us with the Securities and Exchange Commission. All forward-looking statements contained in this press release speak only as of the date on which they were made and are based on management's assumptions and estimates as of such date. We are under no duty to update any of these forward-looking statements after the date they are made to conform these statements to actual results or revised expectations, except as required by law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date the statements are made. Moreover, except as required by law, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements contained in this press release.

## CONTACTS

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