
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549
FORM 10-Q

(Mark One)

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended September 30, 2017

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission file number 001-33170



NETLIST, INC.

(Exact name of registrant as specified in its charter)

Delaware

State or other jurisdiction of incorporation or organization

95-4812784

(I.R.S. Employer Identification No.)

175 Technology Drive, Suite 150

Irvine, CA 92618

(Address of principal executive offices) (Zip Code)

(949) 435-0025

(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(Do not check if a smaller reporting company)

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.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The number of shares outstanding of the registrant's common stock as of the latest practicable date:

Common Stock, par value \$0.001 per share
70,419,646 shares outstanding at November 6, 2017

NETLIST, INC. AND SUBSIDIARIES
QUARTERLY REPORT ON FORM 10-Q
FOR THE THREE AND NINE MONTHS ENDED SEPTEMBER 30, 2017

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PART I. FINANCIAL INFORMATION**Item 1. Financial Statements****NETLIST, INC. AND SUBSIDIARIES**
Condensed Consolidated Balance Sheets
(in thousands, except par value)

	September 30, 2017	December 31, 2016
	(unaudited)	(audited)
ASSETS		
Current Assets:		
Cash and cash equivalents	\$ 8,583	\$ 9,476
Restricted cash	2,400	3,100
Accounts receivable, net of reserves of \$47 (2017) and \$151 (2016)	3,080	1,751
Inventories	4,386	3,160
Prepaid expenses and other current assets	1,703	1,766
Total current assets	20,152	19,253
Property and equipment, net	509	645
Other assets	82	70
Total assets	<u>\$ 20,743</u>	<u>\$ 19,968</u>
LIABILITIES AND STOCKHOLDERS' DEFICIT		
Current Liabilities:		
Accounts payable	\$ 7,766	\$ 4,028
Revolving line of credit	2,570	676
Accrued payroll and related liabilities	650	1,085
Accrued expenses and other current liabilities	306	270
Notes payable and capital lease obligation, current	23	151
Total current liabilities	11,315	6,210
Convertible promissory note, net of debt discount, and accrued interest	14,638	14,251
Long-term warranty liability	53	36
Total liabilities	26,006	20,497
Commitments and contingencies		
Stockholders' deficit:		
Preferred stock, \$0.001 par value - 10,000 shares authorized; no shares issued and outstanding	-	-
Common stock, \$0.001 par value - 150,000 shares authorized; 70,420 (2017) and 61,653 (2016) shares issued and outstanding	70	62
Additional paid-in capital	149,580	144,035
Accumulated deficit	(154,913)	(144,626)
Total stockholders' deficit	(5,263)	(529)
Total liabilities and stockholders' deficit	<u>\$ 20,743</u>	<u>\$ 19,968</u>

See accompanying notes.

NETLIST, INC. AND SUBSIDIARIES
Unaudited Condensed Consolidated Statements of Operations
(in thousands, except per share amounts)

	Three Months Ended		Nine Months Ended	
	September 30, 2017	October 1, 2016	September 30, 2017	October 1, 2016
Net product revenues	\$ 9,010	\$ 2,589	\$ 29,840	\$ 7,260
Non-recurring engineering revenues	-	-	-	6,857
Total net revenues	9,010	2,589	29,840	14,117
Cost of sales(1)	8,285	2,580	27,791	6,996
Gross profit	725	9	2,049	7,121
Operating expenses:				
Research and development(1)	1,159	1,463	4,142	4,940
Intellectual property legal fees	749	409	2,129	2,255
Selling, general and administrative(1)	1,780	2,398	5,645	6,822
Total operating expenses	3,688	4,270	11,916	14,017
Operating loss	(2,963)	(4,261)	(9,867)	(6,896)
Other expense, net:				
Interest expense, net	(135)	(159)	(421)	(428)
Other income, net	-	19	2	17
Total other expense, net	(135)	(140)	(419)	(411)
Loss before provision for income taxes	(3,098)	(4,401)	(10,286)	(7,307)
Provision for income taxes	-	-	1	1
Net loss	\$ (3,098)	\$ (4,401)	\$ (10,287)	\$ (7,308)
Net loss per common share:				
Basic and diluted	\$ (0.05)	\$ (0.08)	\$ (0.16)	\$ (0.14)
Weighted-average common shares outstanding:				
Basic and diluted	65,644	52,454	63,056	51,301

(1) Amounts include stock-based compensation expense as follows:

Cost of sales	\$ 4	\$ 14	\$ 33	\$ 42
Research and development	78	73	258	263
Selling, general and administrative	213	246	649	789
Total stock-based compensation	\$ 295	\$ 333	\$ 940	\$ 1,094

See accompanying notes.

NETLIST, INC. AND SUBSIDIARIES
Unaudited Condensed Consolidated Statements of Cash Flows
(in thousands)

	Nine Months Ended	
	September 30, 2017	October 1, 2016
Cash flows from operating activities:		
Net loss	\$ (10,287)	\$ (7,308)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	214	210
Interest accrued on convertible promissory note	225	-
Amortization of debt discount	162	163
Stock-based compensation	940	1,094
Changes in operating assets and liabilities:		
Restricted cash	700	(700)
Accounts receivable	(1,329)	(403)
Inventories	(1,226)	(1,334)
Prepaid expenses and other assets	271	157
Accounts payable	3,738	902
Accrued payroll and related liabilities	(435)	(349)
Accrued expenses and other liabilities	53	181
Deferred revenue	-	(6,857)
Net cash used in operating activities	<u>(6,974)</u>	<u>(14,244)</u>
Cash flows from investing activities:		
Acquisition of property and equipment	(78)	(317)
Net cash used in investing activities	<u>(78)</u>	<u>(317)</u>
Cash flows from financing activities:		
Net borrowings under line of credit	1,894	-
Payments on debt	(348)	(250)
Proceeds from issuance of common stock, net	4,431	10,334
Proceeds from exercise of stock options	182	187
Net cash provided by financing activities	<u>6,159</u>	<u>10,271</u>
Net change in cash and cash equivalents	(893)	(4,290)
Cash and cash equivalents at beginning of period	9,476	19,684
Cash and cash equivalents at end of period	<u>\$ 8,583</u>	<u>\$ 15,394</u>

See accompanying notes.

NETLIST, INC. AND SUBSIDIARIES
NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
September 30, 2017

Note 1—Description of Business

Netlist, Inc. together with its wholly owned subsidiaries (hereinafter collectively referred to as the “Company” or “Netlist,” unless the context or the use of the term indicates otherwise) is a leading provider of high-performance modular memory subsystems serving customers in diverse industries that require superior memory performance to empower critical business decisions. The Company has a long history of introducing disruptive new products, such as one of the first load-reduced dual in-line memory modules (“LRDIMM”) based on its distributed buffer architecture, which has been adopted by the industry for DDR4 LRDIMM. The Company was also one of the first to bring NAND flash memory (“NAND flash”) to the memory channel with its NVvault® non-volatile dual in-line memory modules (“NVDIMM”) using software-intensive controllers and merging dynamic random access memory integrated circuits (“DRAM ICs” or “DRAM”) and NAND flash to solve data bottleneck and data retention challenges encountered in high-performance computing environments. The Company recently introduced a new generation of storage class memory products called HybriDIMM™ to address the growing need for real-time analytics in Big Data applications and in-memory databases.

Due to the ground-breaking product development of its engineering teams, Netlist has built a robust portfolio of over 100 issued and pending U.S. and foreign patents, many seminal, in the areas of hybrid memory, storage class memory, rank multiplication and load reduction. Since its inception, the Company has dedicated substantial resources to the development and protection of technology innovations essential to its business. The Company’s early pioneering work in these areas has been broadly adopted in industry-standard LRDIMM and in NVDIMM. Netlist’s objective is to continue to innovate in its field and invest further in its intellectual property portfolio, with the goal of monetizing its intellectual property through a combination of product revenues and licensing, royalty or other revenue-producing arrangements, which may result from joint development or similar partnerships or defense of our patents through enforcement actions against parties we believe are infringing them.

Netlist was incorporated in June 2000 and is headquartered in Irvine, California. In 2007, the Company established a manufacturing facility in the People’s Republic of China (the “PRC”), which became operational in July 2007 upon the successful qualification of certain key customers.

Liquidity

The Company incurred net losses of \$3.1 million and \$10.3 million for the three and nine months ended September 30, 2017, respectively, and \$11.2 million and \$20.5 million for the fiscal years ended December 31, 2016 and January 2, 2016, respectively. The Company has historically financed its operations primarily through issuances of equity and debt securities and revenues generated from operations, including product revenues and a non-recurring engineering (“NRE”) fee from its Joint Development and License Agreement (“JDLA”) with Samsung Electronics Co., Ltd. (“Samsung”), discussed below. The Company has also funded its operations with a revolving line of credit and term loans under a bank credit facility, a funding arrangement for costs associated with certain of its legal proceedings and, to a lesser extent, equipment leasing arrangements (see Notes 4, 5 and 7).

On November 12, 2015, the Company entered into the JDLA with Samsung, pursuant to which the Company and Samsung have agreed to work together to jointly develop new storage class memory technologies including a standardized product interface for NVDIMM-P memory modules in order to facilitate broad industry adoption of this new technology. The JDLA also includes comprehensive cross-licenses to the Company’s and Samsung’s patent portfolios for the purpose of developing this product interface, grants Samsung a right of first refusal to acquire the Company’s HybriDIMM technology before it offers the technology to a third party, and grants the Company access to competitively priced DRAM and NAND flash raw materials. The Company believes Samsung represents an important strategic partner with a high level of technical capability in memory that can facilitate bringing its HybriDIMM technology to market. In connection with the JDLA, the Company received an \$8.0 million NRE fee from Samsung for the joint development and received gross proceeds of \$15.0 million for its issuance of a Senior Secured Convertible Note

(“SVIC Note”) and Stock Purchase Warrant (“SVIC Warrant”) to SVIC No. 28 New Technology Business Investment L.L.P., an affiliate of Samsung Venture Investment Co. (“SVIC”) (see Note 5).

On September 23, 2016, the Company completed an underwritten registered public offering (the “2016 Offering”), pursuant to which it sold 9,200,000 shares of its common stock at a price to the public of \$1.25 per share. The net proceeds to the Company from the 2016 Offering were \$10.3 million, after deducting underwriting discounts and commissions and offering expenses paid by the Company.

On August 22, 2017, the Company completed an underwritten registered public offering (the “2017 Offering”), pursuant to which it sold 8,500,000 shares of its common stock at a price to the public of \$0.60 per share. The net proceeds to the Company from the 2017 Offering were \$4.4 million, after deducting underwriting discounts and commissions and offering expenses paid by the Company.

Inadequate working capital would have a material adverse effect on the Company’s business and operations and could cause the Company to fail to execute its business plan, fail to take advantage of future opportunities or fail to respond to competitive pressures or customer requirements. A lack of sufficient funding may also require the Company to significantly modify its business model and/or reduce or cease its operations, which could include implementing cost-cutting measures or delaying, scaling back or eliminating some or all of its ongoing and planned investments in corporate infrastructure, research and development projects, business development initiatives and sales and marketing activities, among other activities. While the Company’s estimates of its operating revenues and expenses and working capital requirements could be incorrect and the Company may use its cash resources faster than it anticipates, management believes the Company’s existing cash balance, together with cash provided by the Company’s operations and borrowing availability under a bank credit facility (see Note 4) and taking into account cash expected to be used in operations and the funding to be received for certain litigation expenses (see Note 7), will be sufficient to meet the Company’s anticipated cash needs for at least the next 12 months.

Note 2—Summary of Significant Accounting Policies

Significant Accounting Policies

Basis of Presentation

The accompanying interim unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) for interim financial information and the instructions to the Securities and Exchange Commission’s (“SEC”) Form 10-Q and Article 8 of the SEC’s Regulation S-X. These condensed consolidated financial statements do not include all of the information and footnotes required by U.S. GAAP for complete financial statements. Therefore, these unaudited condensed consolidated financial statements should be read in conjunction with the Company’s audited consolidated financial statements and notes thereto as of and for the year ended December 31, 2016, included in the Company’s Annual Report on Form 10-K filed with the SEC on March 31, 2017.

The accompanying condensed consolidated financial statements as of and for the three and nine months ended September 30, 2017 are unaudited; however, they contain all normal recurring accruals and adjustments that, in the opinion of the Company’s management, are necessary to present fairly the condensed consolidated financial position of the Company and its wholly-owned subsidiaries as of September 30, 2017 and the condensed consolidated statements of operations and statements of cash flows for the nine months ended September 30, 2017 and October 1, 2016. The results of operations for the three and nine months ended September 30, 2017 are not necessarily indicative of the results to be expected for any full year or any other interim period.

Principles of Consolidation

The accompanying condensed consolidated financial statements include the accounts of Netlist, Inc. and its wholly-owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

Fiscal Year

The Company operates under a 52 or 53-week fiscal year ending on the Saturday closest to December 31. For 2017, the Company's fiscal year is scheduled to end on December 30, 2017 and will consist of 52 weeks, and each of the Company's quarters within such fiscal year will be comprised of 13 weeks.

Use of Estimates

The preparation of the accompanying condensed consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the condensed consolidated financial statements, and the reported amounts of net revenues and expenses during the reporting period. By their nature, these estimates and assumptions are subject to an inherent degree of uncertainty. Significant estimates made by management include, among others, provisions for uncollectible receivables and sales returns, warranty liabilities, valuation of inventories, fair value of financial instruments, recoverability of long-lived assets, valuation of stock-based transactions, estimates for completion of NRE revenue milestones, and realization of deferred tax assets. The Company bases its estimates on its historical experience, knowledge of current conditions and the Company's belief of what could occur in the future considering available information. The Company reviews its estimates on an on-going basis. Actual results may differ materially from these estimates which may result in material adverse effects on the Company's consolidated operating results and financial position.

The Company believes the following critical accounting policies involve its more significant assumptions and estimates used in the preparation of the accompanying condensed consolidated financial statements: provisions for uncollectible receivables and sales returns; warranty liabilities; valuation of inventories; fair value of financial instruments; recoverability of long-lived assets; valuation of stock-based transactions; estimates for completion of NRE and other revenue milestones; and realization of deferred tax assets.

Revenue Recognition

The Company generates revenue from sales of products and performance of engineering services.

Net Product Revenues

Net product revenues primarily consist of sales of high-performance modular memory subsystems to original equipment manufacturers ("OEMs"), Hyperscale data center operators and storage vendors.

The Company recognizes revenues in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 605. Accordingly, the Company recognizes revenues when there is persuasive evidence that an arrangement exists, product delivery and acceptance have occurred, the sales price is fixed or determinable, and collectability of the resulting receivable is reasonably assured.

The Company generally uses customer purchase orders and/or contracts as evidence of an arrangement. Delivery occurs when goods are shipped for customers with shipping point terms and upon receipt for customers with destination terms, at which time title and risk of loss transfer to the customer. Shipping documents are used to verify delivery and customer acceptance. The Company assesses whether the sales price is fixed or determinable based on the payment terms associated with the transaction and whether the sales price is subject to refund. Customers are generally allowed limited rights of return for up to 30 days, except for sales of excess component inventories, which contain no right-of-return privileges. Estimated returns are provided for at the time of sale based on historical experience or specific identification of an event necessitating a reserve. The Company offers a standard product warranty to its customers and has no other post-shipment obligations. The Company assesses collectability based on the creditworthiness of the customer as determined by credit checks and evaluations, as well as the customer's payment history.

All amounts billed to customers related to shipping and handling are classified as net product revenues, while all costs incurred by the Company for shipping and handling are classified as cost of sales.

Engineering Services

The Company provides engineering services to its customers. The Company recognizes revenue from these services when all of the following conditions are met: (1) evidence existed of an arrangement with the customer, typically consisting of a purchase order or contract; (2) the Company's services were performed and risk of loss passed to the customer; (3) the Company completed all of the necessary terms of the contract; (4) the amount of revenue to which the Company was entitled was fixed or determinable; and (5) the Company believed it was probable that it would be able to collect the amount due from the customer. To the extent that one or more of these conditions has not been satisfied, the Company defers recognition of revenue.

Deferred Revenue

From time-to-time the Company receives pre-payments from its customers related to future services. Engineering development fee revenues, including NRE fees, are deferred and recognized ratably over the period the engineering work is completed.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash and short-term investments with original maturities of three months or less.

Restricted Cash

Restricted cash consists of cash to secure standby letters of credit. Restricted cash was \$2.4 million as of September 30, 2017 and related to three standby letters of credit. Restricted cash was \$3.1 million as of December 31, 2016 and related to two standby letters of credit.

Fair Value of Financial Instruments

The Company's financial instruments consist principally of cash and cash equivalents, restricted cash, accounts receivable, accounts payable, accrued expenses and debt instruments. The fair value of the Company's cash equivalents is determined based on quoted prices in active markets for identical assets or Level 1 inputs. The Company recognizes transfers between Levels 1 through 3 of the fair value hierarchy at the beginning of the reporting period. The Company believes that the carrying values of all other financial instruments approximate their current fair values due to their nature and respective durations.

Allowance for Doubtful Accounts

The Company performs credit evaluations of our customers' financial condition and limits the amount of credit extended to its customers as deemed necessary, but generally requires no collateral. The Company evaluates the collectability of accounts receivable based on a combination of factors. In cases where the Company is aware of circumstances that may impair a specific customer's ability to meet its financial obligations subsequent to the original sale, the Company will record an allowance against amounts due, and thereby reduce the net recognized receivable to the amount the Company reasonably believes will be collected. For all other customers, the Company records allowances for doubtful accounts based primarily on the length of time the receivables are past due based on the terms of the originating transaction, the current business environment, and its historical experience. Uncollectible accounts are charged against the allowance for doubtful accounts when all cost-effective commercial means of collection have been exhausted. Generally, the Company's credit losses have been within expectations and the provisions established. However, the Company cannot guarantee that it will continue to experience credit loss rates similar to those experienced in the past.

The Company's accounts receivable are highly concentrated among a small number of customers, and a significant change in the liquidity or financial position of one of these customers could have a material adverse effect on the collectability of the Company's accounts receivable, liquidity and future operating results.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist principally of cash and cash equivalents, and accounts receivable.

The Company invests its cash equivalents primarily in money market mutual funds. Cash equivalents are maintained with high quality institutions, the composition and maturities of which are regularly monitored by management. At times, deposits held with financial institutions may exceed the amount of insurance provided by the Federal Deposit Insurance Corporation and the Securities Investor Protection Corporation.

The Company's trade accounts receivable are primarily derived from sales to OEMs in the server, high-performance computing and communications markets, as well as from sales to storage customers, appliance customers, system builders and cloud and datacenter customers. The Company performs credit evaluations of its customers' financial condition and limits the amount of credit extended when deemed necessary, but generally requires no collateral. The Company believes that the concentration of credit risk in its trade receivables is moderated by its credit evaluation process, relatively short collection terms, a high level of credit worthiness of its customers (see Note 3), foreign credit insurance, and letters of credit issued in its favor. Reserves are maintained for potential credit losses, and such losses historically have not been significant and have been within management's expectations.

Inventories

Inventories are valued at the lower of actual cost to purchase or manufacture the inventory or the net realizable value of the inventory. Cost is determined on an average cost basis which approximates actual cost on a first-in, first-out basis and includes raw materials, labor and manufacturing overhead. Net realizable value is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. At each balance sheet date, the Company evaluates its ending inventory quantities on hand and on order and records a provision for excess quantities and obsolescence. Among other factors, the Company considers historical demand and forecasted demand in relation to the inventory on hand, competitiveness of product offerings, market conditions and product life cycles when determining obsolescence and net realizable value. In addition, the Company considers changes in the market value of components in determining the net realizable value of its inventory. Once established, lower of cost or market write-downs are considered permanent adjustments to the cost basis of the excess or obsolete inventories.

Property and Equipment

Property and equipment are recorded at cost and depreciated on a straight-line basis over their estimated useful lives, which generally range from three to seven years. Leasehold improvements are recorded at cost and amortized on a straight-line basis over the shorter of their estimated useful lives or the remaining lease term. Expenditures for repairs and maintenance are expensed as incurred. Upon retirement or sale, the cost and related accumulated depreciation and amortization of disposed assets are removed from the accounts and any resulting gain or loss is included in other expense, net.

Deferred Financing Costs, Debt Discount and Detachable Debt-Related Warrants

Costs incurred to issue debt are deferred and recorded as a reduction to the debt balance in the accompanying condensed consolidated balance sheets. The Company amortizes debt issuance costs over the expected term of the related debt using the effective interest method. Debt discounts relate to the relative fair value of warrants issued in conjunction with the debt and are also recorded as a reduction to the debt balance and accreted over the expected term of the debt to interest expense using the effective interest method.

Impairment of Long-Lived Assets

The Company evaluates the recoverability of the carrying value of long-lived assets held and used by the Company in its operations for impairment on at least an annual basis or whenever events or changes in circumstances indicate that their carrying value may not be recoverable. When such factors and circumstances exist, the Company compares the projected undiscounted future net cash flows associated with the related asset or group of assets over their estimated useful lives against their respective carrying amount. These projected future cash flows may vary significantly over time as a result of increased competition, changes in technology, fluctuations in demand, consolidation of the Company's customers and reductions in average selling prices. If the carrying value is determined not to be recoverable from future operating cash flows, the asset is deemed impaired and an impairment loss is recognized to the extent the carrying value exceeds the estimated fair value of the asset. The fair value of the asset or asset group is based on market value when available, or when unavailable, on discounted expected cash flows. The Company's management believes there is no impairment of long-lived assets as of September 30, 2017. However, market conditions could change or demand for the Company's products could decrease, which could result in future impairment of long-lived assets.

Warranty Liability

The Company offers product warranties generally ranging from one to three years, depending on the product and negotiated terms of any purchase agreements with its customers. Such warranties require the Company to repair or replace defective product returned to the Company during the warranty period at no cost to the customer. Warranties are not offered on sales of excess component inventory. The Company records an estimate for warranty related costs at the time of sale based on its historical and estimated future product return rates and expected repair or replacement costs (see Note 3). While such costs have historically been within management's expectations and the provisions established, unexpected changes in failure rates could have a material adverse impact on the Company, requiring additional warranty reserves and could adversely affect the Company's gross profit and gross margins.

Stock-Based Compensation

The Company accounts for equity issuances to non-employees in accordance with FASB ASC Topic 505. All transactions in which goods or services are the consideration received for the issuance of equity instruments are accounted for based on the fair value of the consideration received or the fair value of the equity instrument issued, whichever is more reliably measurable. The measurement date used to determine the estimated fair value of the equity instrument issued is the earlier of the date on which the third-party performance is complete or the date on which it is probable that performance will occur.

In accordance with FASB ASC Topic 718, employee and director stock-based compensation expense recognized during the period is based on the value of the portion of stock-based payment awards that is ultimately expected to vest during the period. Given that stock-based compensation expense recognized in the accompanying condensed consolidated statements of operations is based on awards ultimately expected to vest, it has been reduced for estimated forfeitures. The Company estimates its forfeitures at the time of grant and revises such estimates, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The Company's estimated average forfeiture rates are based on historical forfeiture experience and estimated future forfeitures.

The estimated fair value of common stock option awards to employees and directors is calculated using the Black-Scholes option pricing model. The Black-Scholes model requires subjective assumptions regarding future stock price volatility and expected time to exercise, along with assumptions about the risk-free interest rate and expected dividends, all of which affect the estimated fair values of the Company's common stock option awards. The expected term of options granted is calculated as the weighted-average of the vesting period and the contractual expiration date of the option. This calculation is in accordance with FASB ASC Topic 718, as amended by certain SEC guidance providing for a safe harbor method in instances where the vesting and exercise terms of options granted meet certain conditions and where limited historical exercise data is available. The expected volatility is based on the historical volatility of the Company's common stock. The risk-free rate selected to value any particular grant is based on the U.S. Treasury rate that corresponds to the expected term of the grant effective as of the date of the grant. The expected dividend assumption is based on the Company's history and management's expectation regarding dividend payouts.

Compensation expense for common stock option awards with graded vesting schedules is recognized on a straight-line basis over the requisite service period for the last separately vesting portion of the award, provided that the accumulated cost recognized as of any date at least equals the value of the vested portion of the award.

The Company recognizes the fair value of restricted stock awards issued to employees and outside directors as stock-based compensation expense on a straight-line basis over the vesting period for the last separately vesting portion of the awards. Fair value is determined as the difference between the closing price of the Company's common stock on the grant date and the purchase price of the restricted stock award, if any, reduced by expected forfeitures.

If there are any modifications or cancellations of the underlying vested or unvested stock-based awards, the Company may be required to accelerate, increase or cancel any remaining unearned stock-based compensation expense, or record additional expense for vested stock-based awards. Future stock-based compensation expense and unearned stock-based compensation may increase to the extent that the Company grants additional common stock options or other stock-based awards.

Income Taxes

Deferred tax assets and liabilities are recognized to reflect the estimated future tax effects, calculated at currently effective tax rates, of future deductible or taxable amounts attributable to events that have been recognized on a cumulative basis in the accompanying condensed consolidated financial statements. A valuation allowance related to a net deferred tax asset is recorded when it is more likely than not that some portion of the deferred tax asset will not be realized. Deferred tax liabilities, deferred tax assets and valuation allowances are classified as non-current in the accompanying condensed consolidated balance sheets.

ASC Topic 740 prescribes a recognition threshold and measurement requirement for the financial statement recognition of a tax position that has been taken or is expected to be taken on a tax return and also provides guidance on de-recognition, classification, interest and penalties, accounting in interim periods, disclosure, and transition. Under ASC Topic 740 the Company may only recognize or continue to recognize tax positions that meet a "more likely than not" threshold.

The application of tax laws and regulations is subject to legal and factual interpretation, judgment and uncertainty. Tax laws and regulations may change as a result of changes in fiscal policy, changes in legislation, the evolution of regulations and court rulings. Therefore, the actual liability for U.S. or foreign taxes may be materially different from the Company's estimates, which could require the Company to record additional tax liabilities or to reduce previously recorded tax liabilities, as applicable.

Research and Development Expenses

Research and development expenditures are expensed in the period incurred.

Interest Expense

Interest expense consists primarily of interest associated with our debt instruments, including fees related to the term loans, accretion of debt discounts and amortization of debt issuance costs. The Company recognizes the accretion of debt discounts and the amortization of interest costs using the effective interest method.

Risks and Uncertainties

The Company is subject to a number of risks and uncertainties, including its ability to achieve profitable operations due to the Company's history of losses and accumulated deficits, the Company's dependence on a small number of customers for a substantial portion of its net product revenues, risks related to intellectual property matters, market acceptance of and demand for the Company's products, and the risks described below. These risks could have a material adverse effect on the Company's condensed consolidated financial position, results of operations and cash flows.

The Company has dedicated substantial resources to the development and protection of technology innovations essential to its business, and the Company expects these activities to continue for the foreseeable future. The Company also intends to aggressively pursue monetization avenues for its intellectual property portfolio, potentially including licensing, royalty or other revenue-producing arrangements. However, the Company's revenues are currently generated by its product revenues, and it may never be successful in generating a revenue stream from its intellectual property, in which case the Company's investments of time, capital and other resources into its intellectual property portfolio may not provide adequate, or any, returns.

The Company also dedicates substantial resources to protecting its intellectual property, including its pending patent infringement litigation and U.S. International Trade Commission ("ITC") proceedings against SK hynix Inc., a South Korean memory semiconductor supplier ("SK hynix"), and its efforts to defend its patents against challenges made by way of reexamination and review proceedings at the U.S. Patent and Trademark Office ("USPTO") and Patent Trial and Appeal Board ("PTAB") (see Note 7). The Company expects these activities to continue for the foreseeable future, without any guarantee that any ongoing or future patent protection or litigation activities will be successful. The Company is also subject to litigation based on claims that it has infringed the intellectual property rights of others, against which the Company intends to defend itself vigorously. Moreover, any litigation, regardless of its outcome, would involve a significant dedication of resources, including time and costs, would divert management's time and attention and could negatively impact the Company's results of operations. As a result, any current or future infringement claims by or against third parties could materially adversely affect the Company's business, financial condition or results of operations.

The Company has also invested significant research and development time and costs into the design of application-specific integrated circuit ("ASIC") and hybrid devices, including its NVvault family of products and most recently its next-generation HybriDIMM memory subsystem. The Company believes that market acceptance of these products or derivative products that incorporate its core memory subsystem technology is critical to its success. However, these products are subject to increased risks as compared to the Company's legacy products. For example, the Company is dependent on a limited number of suppliers for the DRAM and ASIC devices that are essential to the functionality of these products and in the past it has experienced supply chain disruptions and shortages of DRAM and NAND flash required to create its NVvault family of products, and the Company's products are generally subject to a product approval and qualification process with customers before purchases are made and the Company has experienced a longer qualification cycle than anticipated with some of these products, including its HyperCloud memory subsystems. These and other risks attendant to the production of the Company's memory subsystem products could impair its ability to obtain customer or market acceptance of these products or obtain such acceptance in a timely manner, which would reduce the Company's achievable revenues from these products and limit the Company's ability to recoup its investments in the products.

The Company's manufacturing operations in the PRC are subject to various political, geographic and economic risks and uncertainties inherent to conducting business in the PRC. These include, among others, (i) volatility and other potential changes in economic conditions in the region, (ii) managing a local workforce and overcoming other practical barriers, such as language and cultural differences, that may subject the Company to uncertainties or unfamiliar practices or regulatory policies, (iii) risks imposed by the geographic distance between the Company's headquarters and its PRC operations, including difficulties maintaining the desired amount of control over production capacity and timing, inventory levels, product quality, delivery schedules, manufacturing yields and costs, (iv) the Company's limited experience creating and overseeing foreign operations generally, (v) changes in the laws and policies of the Chinese government that affect business practices generally or restrict local operations by foreign companies, and (vi) changes in the laws and policies of the U.S. government regarding the conduct of business in foreign countries generally or in the PRC in particular, which may be more uncertain following the results of the 2016 U.S. presidential election. Additionally, the Chinese government controls the procedures by which its local currency, the Chinese Renminbi ("RMB"), is converted into other currencies, which generally requires government consent, and imposes legal and regulatory restrictions on the movement of funds outside of the PRC. As a result, RMB may not be freely convertible into other currencies at all times and the Company may need to comply with regulatory procedures to repatriate funds from its Chinese operations. Any changes to currency conversion requirements or any failure by the Company to comply with repatriation procedures and regulations could adversely affect its operating results, liquidity and financial condition.

In addition, fluctuations in the exchange rate between RMB and U.S. dollars may adversely affect the Company's expenses and results of operations, the value of its assets and liabilities and the comparability of its period-to-period results. The liabilities of the Company's subsidiary in the PRC exceeded its assets as of September 30, 2017 and October 1, 2016.

Foreign Currency Remeasurement

The functional currency of the Company's foreign subsidiaries is the U.S. dollar. Local currency financial statements are remeasured into U.S. dollars at the exchange rate in effect as of the balance sheet date for monetary assets and liabilities and the historical exchange rate for nonmonetary assets and liabilities. Expenses are remeasured using the average exchange rate for the period, except items related to nonmonetary assets and liabilities, which are remeasured using historical exchange rates. All remeasurement gains and losses are included in determining net loss. Transaction gains and losses were not significant during the three and nine months ended September 30, 2017 and October 1, 2016.

Net Loss Per Share

Basic net loss per share is calculated by dividing net loss by the weighted-average common shares outstanding during the period, excluding unvested shares issued pursuant to restricted share awards under the Company's share-based compensation plans. Diluted net loss per share is calculated by dividing the net loss by the weighted-average shares and dilutive potential common shares outstanding during the period. Dilutive potential shares consist of dilutive shares issuable upon the exercise or vesting of outstanding stock options, warrants and restricted stock awards, respectively, computed using the treasury stock method and shares issuable upon conversion of the SVIC Note (see Note 5). In periods of losses, basic and diluted loss per share are the same, as the effect of stock options and unvested restricted share awards on loss per share is anti-dilutive.

Going Concern

In accordance with ASC Subtopic 205-40, *Presentation of Financial Statements-Going Concern*, management evaluates whether relevant conditions and events, when considered in the aggregate, indicate that it is probable the Company will be unable to meet its obligations as they become due within one year after the date that the financial statements are issued. When relevant conditions or events, considered in the aggregate, initially indicate that it is probable that the Company will be unable to meet its obligations as they become due within one year after the date that the financial statements are issued (and therefore they raise substantial doubt about the Company's ability to continue as a going concern), management evaluates whether its plans that are intended to mitigate those conditions and events, when implemented, will alleviate substantial doubt about the Company's ability to continue as a going concern. Management's plans are considered only to the extent that (1) it is probable that the plans will be effectively implemented and (2) it is probable that the plans will mitigate the conditions or events that raise substantial doubt about the Company's ability to continue as a going concern. See the discussion under "*Liquidity*" in Note 1 for information about the Company's liquidity position.

Recently Adopted Accounting Standards

In July 2015, the FASB issued Accounting Standards Update ("ASU") No. 2015-11, *Simplifying the Measurement of Inventory* ("ASU 2015-11"), which requires entities to measure inventory at the lower of cost or net realizable value. Current guidance requires inventory to be measured at the lower of cost or market, with market defined as replacement cost, net realizable value, or net realizable value less a normal profit margin. This ASU simplifies the subsequent measurement of inventory by replacing the lower of cost or market test with a lower of cost or net realizable value test. The Company adopted this guidance in the first quarter of 2017 and there was no material impact on its consolidated financial statements.

In March 2016, the FASB issued ASU No. 2016-09, *Compensation-Stock Compensation (Topic 718) Improvements to Employee Share-Based Payment Accounting* ("ASU 2016-09"), which is intended to simplify several aspects of the accounting for share-based payment award transactions. ASU 2016-09 is effective for fiscal years beginning after December 15, 2016, including interim periods. The Company adopted this guidance in the first quarter of 2017 and

elected to continue to estimate forfeitures expected to occur to determine the amount of compensation cost to be recognized in each period; as a result there was no material impact on its consolidated financial statements.

Recent Accounting Pronouncements

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers* (“ASU 2014-09”), which was subsequently amended by ASUs 2015-14, 2016-08, 2016-10, 2016-12, and 2016-20. ASU 2014-09, as amended, supersedes the revenue recognition requirements in ASC Topic 605, *Revenue Recognition*, and creates a new ASC Topic 606 (“ASC 606”). ASU 2014-9, as amended, implements a five-step process for customer contract revenue recognition that focuses on transfer of control, as opposed to transfer of risk and rewards. The amendment also requires enhanced disclosures regarding the nature, amount, timing and uncertainty of revenues and cash flows from contracts with customers. Other major provisions include the capitalization and amortization of certain contract costs, ensuring the time value of money is considered in the transaction price, and allowing estimates of variable consideration to be recognized before contingencies are resolved in certain circumstances. Entities can transition to the standard either retrospectively or as a cumulative-effect adjustment as of the date of adoption. ASC 606 is effective for public entities for annual periods beginning after December 15, 2017 (fiscal year 2018 for the Company), and interim periods within the year of adoption. The Company has not yet selected a transition method but does not anticipate the adoption of ASC 606 will have a material impact on its consolidated financial statements and disclosures.

In February 2016, the FASB issued ASU No. 2016-02, *Leases* (“ASU 2016-02”). Under ASU 2016-02, lessees will be required to recognize the following for all leases (with the exception of short-term leases) at the commencement date: a lease liability, which is a lessee’s obligation to make lease payments arising from a lease, measured on a discounted basis; and a right-of-use asset, which is an asset that represents the lessee’s right to use, or control the use of, a specified asset for the lease term. ASU 2016-02 is effective for fiscal years beginning after December 15, 2018 (fiscal year 2019 for the Company), including interim periods within those fiscal years. Early application is permitted. Lessees must apply a modified retrospective transition approach for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. The modified retrospective approach would not require any transition accounting for leases that expired before the earliest comparative period presented. Lessees may not apply a full retrospective transition approach. The Company is currently evaluating the impact of adopting ASU 2016-02 on its consolidated financial statements and disclosures.

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments* (“ASU 2016-15”), which is intended to reduce the existing diversity in practice in how certain cash receipts and cash payments are classified in the statement of cash flows. ASU 2016-15 is effective for fiscal years beginning after December 15, 2017 (fiscal year 2018 for the Company), including interim periods within those fiscal years with early adoption permitted, provided that all of the amendments are adopted in the same period. The Company is currently evaluating the impact of adopting ASU 2016-15 on its consolidated financial statements and disclosures.

In October 2016, the FASB issued ASU No. 2016-16, *Income Taxes (Topic 740), Intra-Entity Transfers of Assets Other Than Inventory* (“ASU 2016-16”), which requires entities to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. This amends current U.S. GAAP which prohibits recognition of current and deferred income taxes for all types of intra-entity asset transfers until the asset has been sold to an outside party. ASU 2016-16 is effective for fiscal years beginning after December 15, 2017 (fiscal year 2018 for the Company), including interim periods therein with early application permitted. Upon adoption, the Company must apply a modified retrospective transition approach through a cumulative-effect adjustment to retained earnings as of the beginning of the period of adoption. The Company is currently evaluating the impact of this new standard on its consolidated financial statements and disclosures, as well as its planned adoption date.

In November 2016, the FASB issued ASU No. 2016-18, *Statement of Cash Flows (Topic 230), Restricted Cash* (“ASU 2016-18”), which enhances and clarifies the guidance on the classification and presentation of restricted cash in the statement of cash flows. ASU 2016-18 is effective for fiscal periods beginning after December 15, 2018 (fiscal year 2019 for the Company), including interim periods therein with early application permitted. The Company is currently evaluating the impact of this standard on its consolidated financial statements and disclosures.

Note 3—Supplemental Financial Information

Inventories

Inventories consisted of the following as of the dates presented:

	September 30, 2017	December 31, 2016
	(in thousands)	
Raw materials	\$ 1,217	\$ 884
Work in process	276	47
Finished goods	2,893	2,229
	<u>\$ 4,386</u>	<u>\$ 3,160</u>

Warranty Liabilities

The following table summarizes activity related to warranty liabilities in the periods presented:

	Nine Months Ended	
	September 30, 2017	October 1, 2016
	(in thousands)	
Beginning balance	\$ 89	\$ 122
Estimated cost of warranty claims charged to cost of sales	162	33
Cost of actual warranty claims	(119)	(87)
Ending balance	132	68
Less current portion	(79)	(41)
Long-term warranty liability	<u>\$ 53</u>	<u>\$ 27</u>

The allowance for warranty liabilities expected to be incurred within one year is included as a component of accrued expenses and other current liabilities in the accompanying condensed consolidated balance sheets. The allowance for warranty liability expected to be incurred after one year is classified as long-term warranty liability in the accompanying condensed consolidated balance sheets.

Computation of Net Loss Per Share

The following table sets forth the computation of basic and diluted net loss per share, including the numerator and denominator used in the calculation of basic and diluted net loss per share, for the periods presented:

	Three Months Ended		Nine Months Ended	
	September 30, 2017	October 1, 2016	September 30, 2017	October 1, 2016
	(in thousands, except per share data)			
Basic and diluted net loss per share:				
Numerator: Net loss	\$ (3,098)	\$ (4,401)	\$ (10,287)	\$ (7,308)
Denominator: Weighted-average common shares outstanding, basic and diluted	65,644	52,454	63,056	51,301
Basic and diluted net loss per share	<u>\$ (0.05)</u>	<u>\$ (0.08)</u>	<u>\$ (0.16)</u>	<u>\$ (0.14)</u>

The table below sets forth potentially dilutive common share equivalents, consisting of shares issuable upon the exercise or vesting of outstanding stock options and restricted stock awards, respectively, and the exercise of warrants, computed using the treasury stock method, and shares issuable upon conversion of the SVC Note (see Note 5) using the

“if converted” method. These potential common shares have been excluded from the diluted net loss per share calculations above as their effect would be anti-dilutive for the periods presented:

	Three Months Ended		Nine Months Ended	
	September 30,	October 1,	September 30,	October 1,
	2017	2016	2017	2016
	(in thousands)		(in thousands)	
Common share equivalents	12,803	13,601	12,941	13,150

The above common share equivalents would have been included in the calculation of diluted net loss per share had the Company reported net income for the periods presented.

Major Customers and Products

The Company’s product revenues have historically been concentrated in a small number of customers. The following table sets forth the percentage of the Company’s net product revenues made to customers that each comprise 10% or more of the Company’s net product revenues in the periods presented:

Customer:	Three Months Ended		Nine Months Ended	
	September 30,	October 1,	September 30,	October 1,
	2017	2016	2017	2016
Customer A	* %	* %	* %	10 %
Customer B	* %	17 %	* %	29 %
Customer C	* %	17 %	* %	* %
Customer D	13 %	* %	* %	* %
Customer E	10 %	* %	* %	* %

* Less than 10% of net product revenues during the period.

The Company’s accounts receivable are concentrated with three customers at September 30, 2017, representing 21%, 16% and 11% of aggregate gross receivables, respectively. At December 31, 2016, two customers represented 27% and 11% of aggregate gross receivables, respectively. The loss of any of the Company’s significant customers or a reduction in sales to or difficulties collecting payments from any of these customers could significantly reduce the Company’s net product revenues and adversely affect its operating results. The Company tries to mitigate risks associated with foreign receivables by purchasing comprehensive foreign credit insurance.

The Company resells certain Samsung products that it purchases under the terms of the JDLA with Samsung to certain end-customers that are not reached in Samsung’s distribution model, including storage customers, appliance customers, system builders and cloud and datacenter customers. In the three and nine months ended September 30, 2017 and October 1, 2016, resales of these products represented approximately 75%, 86%, 53% and 51%, respectively, of the Company’s net product revenues.

Cash Flow Information

The following table sets forth supplemental disclosures of cash flow information and non-cash financing activities for the periods presented:

	Nine Months Ended	
	September 30, 2017	October 1, 2016
	(in thousands)	
Supplemental disclosure of non-cash financing activities:		
Debt financing of insurance	\$ 220	\$ 264
Acquisition of equipment through capital lease	\$ -	\$ 179
Issuance of shares for cashless warrant exercise	\$ -	\$ 1

Note 4—Credit Agreement

SVB Credit Agreement

On October 31, 2009, the Company and Silicon Valley Bank (“SVB”) entered into a credit agreement (as amended, the “SVB Credit Agreement”). Pursuant to the terms of the SVB Credit Agreement, the Company is eligible to borrow, in a revolving line of credit, up to the lesser of (i) 80% of its eligible accounts receivable, or (ii) \$5.0 million, subject to certain adjustments as set forth in the SVB Credit Agreement. The SVB Credit Agreement requires letters of credit to be secured by cash, which is classified as restricted cash in the accompanying condensed consolidated balance sheets. As of September 30, 2017 and December 31, 2016, (i) letters of credit were outstanding in the amount of \$2.4 million and \$3.1 million, respectively (ii) the Company had outstanding borrowings of \$2.6 million and \$0.7 million, respectively, and (iii) availability under the revolving line of credit was \$0.1 million and \$0.8 million, respectively.

On January 29, 2016, the Company and SVB entered into an amendment to the SVB Credit Agreement to, among other things, adjust the rate at which advances under the SVB Credit Agreement accrue interest to the Wall Street Journal “prime rate” plus 2.75% (prior to such amendment, advances accrued interest at a rate equal to SVB’s most recently announced “prime rate” plus 2.75%).

On March 27, 2017, the Company and SVB entered into another amendment to the SVB Credit Agreement to, among other things, (i) extend the maturity date of advances under the SVB Credit Agreement to April 1, 2018, (ii) modify the Company’s financial covenants under the SVB Credit Agreement to remove all prior financial standards and replace them with a liquidity ratio standard, (iii) remove or amend certain termination, anniversary and unused facility fees payable by the Company under the SVB Credit Agreement, and (iv) make certain other administrative changes. On April 12, 2017, the Company and SVB entered into a further amendment to the SVB Credit Agreement to, among other things, obtain SVB’s consent in connection with the Company’s rights agreement with Computershare Trust Company, N.A., as rights agent (see Note 8), and make certain administrative changes in connection with the Company’s funding arrangement with TR Global Funding V, LLC, an affiliate of TRGP Capital Management, LLC (“TRGP”) (see Note 7).

For all periods before April 20, 2017, all obligations under the SVB Credit Agreement were secured by a first priority security interest in the Company’s tangible and intangible assets, other than its patent portfolio, which was subject to a first priority security interest held by SVIC (see Note 5). Certain of these lien priorities were modified in April and May 2017 in connection with the Company’s establishment of a funding arrangement with TRGP for certain of the Company’s litigation expenses in connection with certain of its legal proceedings against SK hynix. On May 3, 2017, TRGP entered into an intercreditor agreement with each of SVIC and SVB, and on April 20, 2017 SVIC and SVB entered into an intercreditor agreement with each other (such intercreditor agreements, collectively, the “Intercreditor Agreements”). Pursuant to the terms of the Intercreditor Agreements, SVB’s security interests in the Company’s assets have been modified as follows: SVB has a first priority security interest in all of the Company’s tangible and intangible assets other than its patent portfolio and its claims underlying and any proceeds it may receive from the SK hynix proceedings; a second priority security interest in the Company’s patent portfolio other than the patents that are the subject of the SK hynix proceedings; and a third priority security interest in the Company’s patents that are the subject of

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the SK hynix proceedings. See Note 7 for additional information about the funding arrangement with TRGP, the Intercreditor Agreements and the Company's legal proceedings against SK hynix.

The SVB Credit Agreement subjects the Company to certain affirmative and negative covenants, including financial covenants with respect to the Company's liquidity and restrictions on the payment of dividends. As of September 30, 2017, the Company was in compliance with its covenants under the SVB Credit Agreement.

Note 5—Debt

The Company's debt consisted of the following as of the dates presented:

	September 30, 2017	December 31, 2016
	(in thousands)	
Convertible promissory note, SVIC, net of debt discount of \$922 and \$1,084 in 2017 and 2016, respectively	\$ 14,078	\$ 13,916
Accrued interest on convertible promissory note with SVIC	560	335
Notes payable and capital lease obligation	23	151
	\$ 14,661	\$ 14,402
Less current portion	(23)	(151)
	<u>\$ 14,638</u>	<u>\$ 14,251</u>

On November 18, 2015, in connection with entering into the JDLA with Samsung, the Company sold to SVIC the SVIC Note and the SVIC Warrant. The SVIC Note has an original principal amount of \$15.0 million, accrues interest at a rate of 2.0% per year, is due and payable in full on December 31, 2021, and is convertible into shares of the Company's common stock at a conversion price of \$1.25 per share, subject to certain adjustments, on the maturity date of the SVIC Note. Upon a change of control of the Company prior to the maturity date of the SVIC Note, the SVIC Note may, at the Company's option, be assumed by the surviving entity or be redeemed upon the consummation of such change of control for the principal and accrued but unpaid interest as of the redemption date. The SVIC Warrant grants SVIC a right to purchase 2,000,000 shares of the Company's common stock at an exercise price of \$0.30 per share, subject to certain adjustments, is only exercisable in the event the Company exercises its right to redeem the SVIC Note prior to its maturity date, and expires on December 31, 2025.

The SVIC Warrant was valued at \$1,165,000, based on its relative fair value, and was recorded as a debt discount. The Company also recorded \$154,000 as a debt discount for professional service fees rendered in connection with the transaction. These amounts are being amortized over the term of the SVIC Note using the effective interest method. For the three and nine months ended September 30, 2017 and October 1, 2016, the Company amortized \$54,000, \$162,000, \$55,000 and \$163,000, respectively, to interest expense in the accompanying condensed consolidated statements of operations.

In connection with the SVIC Note, SVIC was granted a first priority security interest in the Company's patent portfolio and a second priority security interest in all of the Company's other tangible and intangible assets. Upon issuance of the SVIC Note, the Company, SVB and SVIC entered into an Intercreditor Agreement pursuant to which SVB and SVIC agreed to their relative security interests in the Company's assets. In May 2017, SVIC, SVB and TRGP entered into additional Intercreditor Agreements to modify certain of these lien priorities (see Note 7). Additionally, upon issuance of the SVIC Note and the SVIC Warrant, the Company and SVIC entered into a Registration Rights Agreement pursuant to which the Company is obligated to register with the SEC, upon demand by SVIC, the shares of the Company's common stock issuable upon conversion of the SVIC Note or upon exercise of the SVIC Warrant.

The SVIC Note subjects the Company to certain affirmative and negative operating covenants. As of September 30, 2017, the Company was in compliance with its covenants under the SVIC Note.

Capital Lease and Notes Payable

The Company has purchased computer equipment through a capital lease. As of September 30, 2017, the lease requires monthly payments of approximately \$12,000 and matures in December 2017.

Interest expense, including amortization of debt discounts and debt issuance costs, net of interest income, was as follows during the periods presented:

	Three Months Ended		Nine Months Ended	
	September 30, 2017	October 1, 2016	September 30, 2017	October 1, 2016
	(in thousands)		(in thousands)	
Interest expense:				
SVB	\$ 5	\$ 13	\$ 26	\$ 31
SVIC	129	135	387	394
Others	4	14	20	16
	<u>138</u>	<u>162</u>	<u>433</u>	<u>441</u>
Interest income	(3)	(3)	(12)	(13)
	<u>\$ 135</u>	<u>\$ 159</u>	<u>\$ 421</u>	<u>\$ 428</u>

Note 6—Income Taxes

The following table sets forth the Company’s provision for income taxes, along with the corresponding effective tax rates, for the periods presented:

	Three Months Ended		Nine Months Ended	
	September 30, 2017	October 1, 2016	September 30, 2017	October 1, 2016
	(in thousands)		(in thousands)	
Provision for income taxes	\$ -	\$ -	\$ 1	\$ 1
Effective tax rate	- %	- %	(0.01)%	(0.01)%

The Company evaluates whether a valuation allowance should be established against its deferred tax assets based on the consideration of all available evidence using a “more likely than not” standard. In making such judgments, significant weight is given to evidence that can be objectively verified. Due to uncertainty of future utilization, the Company has provided a full valuation allowance as of September 30, 2017 and December 31, 2016. Accordingly, no benefit has been recognized for net deferred tax assets. The Company’s effective tax rate differs from the federal statutory tax rate of 34% for the nine months ended September 30, 2017 and October 1, 2016 due to providing the full valuation allowance against net deferred tax assets.

The Company did not have any unrecognized tax benefits as of September 30, 2017 and December 31, 2016.

Note 7—Commitments and Contingencies

TRGP Agreement and Related Intercreditor Agreements

On May 3, 2017, the Company and TRGP entered into an investment agreement (the “TRGP Agreement”), which generally provides that TRGP will directly fund the costs incurred by or on behalf of the Company in connection with certain its legal proceedings against SK hynix (see “Litigation and Patent Reexaminations” in this Note 7 below), including costs incurred since January 1, 2017 and costs to be incurred in the future in the Company’s first ITC action and its U.S. district court proceedings, but excluding the Company’s subsequent ITC action and its proceedings in international courts (all such funded costs, collectively, the “Funded Costs”). In exchange for such funding, the Company has agreed that, if the Company recovers any proceeds in connection with the funded SK hynix proceedings, it will pay to TRGP the amount of the Funded Costs paid by TRGP plus an escalating premium based on when any such proceeds

are recovered, such that the premium will equal a specified low-to-mid double-digit percentage of the amount of the Funded Costs and such percentage will increase by a specified low double-digit amount each quarter after a specified date until any such proceeds are recovered. In addition, pursuant to the terms of a separate security agreement between the Company and TRGP dated May 3, 2017 (the “Security Agreement”), the Company has granted to TRGP (i) a first priority lien on, and security in, the claims underlying the funded SK hynix proceedings and any proceeds that may be received by the Company in connection with these proceedings, and (ii) a second priority lien on, and security in, the Company’s patents that are the subject of the funded SK hynix proceedings.

The TRGP Agreement does not impose financial covenants on the Company. Termination events under the TRGP Agreement include, among others, any failure by the Company to make payments to TRGP thereunder upon receipt of recoveries in the SK hynix proceedings; the occurrence of certain bankruptcy events; certain breaches by the Company of its covenants under the TRGP Agreement or the related Security Agreement; and the occurrence of a change of control of the Company. If any such termination event occurs, subject to certain cure periods for certain termination events, TRGP would have the right to terminate its obligations under the TRGP Agreement, including its obligation to make any further payments of Funded Costs after the termination date. In the event of any such termination by TRGP, the Company would continue to be obligated to pay TRGP the portion of any proceeds the Company may recover in connection with the SK hynix proceedings that TRGP would have been entitled to receive absent such termination, as described above, and TRGP may also be entitled to seek additional remedies pursuant to the dispute resolution provisions of the TRGP Agreement.

In connection with the TRGP Agreement, in May 2017, TRGP, SVIC and SVB entered into the Intercreditor Agreements. Pursuant to the terms of the Intercreditor Agreements, TRGP, SVB and SVIC have agreed to their relative security interest priorities in the Company’s assets, such that: (i) TRGP has a first priority security interest in the Company’s claims underlying the funded SK hynix proceedings and any proceeds that may be received by the Company in connection with these proceedings, and a second priority security interest in the Company’s patents that are the subject of the funded SK hynix proceedings, (ii) SVIC has a first priority security interest in the Company’s complete patent portfolio and a second priority security interest in all of the Company’s other tangible and intangible assets (other than the Company’s claims underlying and any proceeds it may receive from the SK hynix proceedings funded under the TRGP Agreement), and (iii) SVB has a first priority security interest in all of the Company’s tangible and intangible assets other than its patent portfolio and its claims underlying and any proceeds it may receive from the SK hynix proceedings funded under the TRGP Agreement, a second priority security interest in the Company’s patent portfolio other than the patents that are the subject of the SK hynix proceedings funded under the TRGP Agreement, and a third priority security interest in the Company’s patents that are the subject of the SK hynix proceedings funded under the TRGP Agreement. The Company consented and agreed to the terms of each of the Intercreditor Agreements.

Legal expenses incurred by the Company but paid by TRGP pursuant to the terms of the TRGP Agreement are excluded from the Company’s consolidated financial statements in each period in which the TRGP Agreement remains in effect. In the nine months ended September 30, 2017, the Company excluded legal expenses of \$9.3 million as a result of TRGP’s payment of these expenses under the TRGP Agreement. Any settlement or other cash proceeds the Company may recover in the future in connection with the funded SK hynix proceedings would be reduced by the aggregate amount of legal expenses excluded by the Company as a result of TRGP’s payment of these expenses under the TRGP Agreement, plus the premium amount due to TRGP under the terms of the TRGP Agreement at the time of any such recovery.

Litigation and Patent Reexaminations

The Company owns numerous patents and continues to seek to grow and strengthen its patent portfolio, which covers different aspects of the Company’s technology innovations with various claim scopes. The Company plans to pursue avenues to monetize its intellectual property portfolio, in which it would generate revenue by selling or licensing its technology, and it intends to vigorously enforce its patent rights against alleged infringers of such rights. The Company dedicates substantial resources to protecting its intellectual property, including its efforts to defend its patents against challenges made by way of reexamination proceedings at the PTAB or USPTO. These activities are likely to continue for the foreseeable future, without any guarantee that any ongoing or future patent protection and litigation activities will be successful, or that the Company will be able to monetize its intellectual property portfolio. The

Company is also subject to litigation claims that it has infringed on the intellectual property of others, against which the Company intends to defend itself vigorously.

Litigation, whether or not eventually decided in the Company's favor or settled, is costly and time-consuming and could divert management's attention and resources. Thus, because of the nature and inherent uncertainties of litigation, even if the outcome of any proceeding is favorable, the Company's business, financial condition, results of operations or cash flows could be materially and adversely affected. Additionally, the outcome of pending litigation, and related patent reexaminations, as well as any delay in their resolution, could affect the Company's ability to continue to sell its products, protect against competition in the current and expected markets for its products or license its intellectual property in the future.

Google Litigation

On December 4, 2009, the Company filed a patent infringement lawsuit against Google, Inc. ("Google") in the U.S. District Court for the Northern District of California (the "Northern District Court"), seeking damages and injunctive relief based on Google's alleged infringement of the Company's U.S. Patent No. 7,619,912 (the "'912 patent'"), which relates generally to technologies to implement rank multiplication. In February 2010, Google answered the Company's complaint and asserted counterclaims against the Company seeking a declaration that the patent is invalid and not infringed, and claiming that the Company committed fraud, negligent misrepresentation and breach of contract based on the Company's activities in the Joint Electron Device Engineering Council ("JEDEC") standard-setting organization. The counterclaim seeks unspecified compensatory damages. Accruals have not been recorded for loss contingencies related to Google's counterclaim because it is not probable that a loss has been incurred and the amount of any such loss cannot be reasonably estimated. In October 2010, Google requested and was later granted an *Inter Partes* Reexamination of the '912 patent by the USPTO. The reexamination proceedings are described below. In connection with the reexamination request, the Northern District Court granted the Company's and Google's joint request to stay the '912 patent infringement lawsuit against Google until the completion of the reexamination proceedings.

Inphi Litigation

On September 22, 2009, the Company filed a patent infringement lawsuit against Inphi Corporation ("Inphi") in the U.S. District Court for the Central District of California (the "Central District Court"). The complaint, as amended, alleges that Inphi is contributorily infringing and actively inducing the infringement of U.S. patents owned by the Company, including the '912 patent, U.S. Patent No. 7,532,537 (the "'537 patent'"), which relates generally to memory modules with load isolation and memory domain translation capabilities, and U.S. Patent No. 7,636,274 (the "'274 patent'"), which is related to the '537 patent and relates generally to load isolation and memory domain translation technologies. The Company is seeking damages and injunctive relief based on Inphi's use of the Company's patented technology. Inphi denied infringement and claimed that the three patents are invalid. In June 2010, Inphi requested and was later granted *Inter Partes* Reexaminations of the '912, '537 and '274 patents by the USPTO. The reexamination proceedings are described below (except for the reexamination proceeding related to the '537 patent, which have concluded with the confirmation of all of the claims of such patent). In connection with the reexamination requests, Inphi filed a motion to stay the patent infringement lawsuit with the Central District Court until completion of the reexamination proceedings, which was granted.

'912 Patent Reexamination

As noted above, in April 2010, June 2010 and October 2010, Google and Inphi submitted requests for an *Inter Partes* Reexamination of the '912 patent by the USPTO, claiming that the '912 patent is invalid and requesting that the USPTO reject the patent's claims and cancel the patent. Additionally, in October 2010, Smart Modular, Inc. ("Smart Modular") submitted another such reexamination request. On January 18, 2011, the USPTO granted such reexamination requests, and in February 2011, the USPTO merged the Inphi, Google and Smart Modular '912 patent reexaminations into a single proceeding. On March 21, 2014, the USPTO issued an Action Closing Prosecution ("ACP"), an office action that states the USPTO examiner's position on patentability and closes further prosecution, and on June 18, 2014 the USPTO issued a Right of Appeal Notice ("RAN"), a notice that triggers the rights of the involved parties to file a notice of appeal to the ACP, each of which confirmed the patentability of 92 of the '912 patent's claims and rejected the

patent's 11 other claims. The parties involved filed various notices of appeal, responses and requests, and on November 24, 2015, the PTAB held a hearing on such appeals. On May 31, 2016, the PTAB issued a decision affirming certain of the examiner's decisions and reversing others. On February 9, 2017, the PTAB granted the Company's request to reopen prosecution before the USPTO examiner and remanded the consolidated proceeding to the examiner to consider the patentability of certain of the pending claims in view of the PTAB's May 31, 2016 decision and comments from the parties. On October 3, 2017, the examiner issued a determination as to the patentability of certain of the pending claims, which were found to be unpatentable. The proceeding will now return to the PTAB for reconsideration and issuance of a new decision. Accruals have not been recorded for loss contingencies related to the '912 patent reexamination proceedings because it is not probable that a loss has been incurred and the amount of any such loss cannot be reasonably estimated.

'627 Patent Reexamination

In September 2011, Smart Modular submitted a request for an *Inter Partes* Reexamination by the USPTO of the Company's U.S. Patent No. 7,864,627 (the "'627 patent'"), related to the '912 patent, claiming that the '627 patent is invalid and requesting that the USPTO reject the patent's claims and cancel the patent. On November 16, 2011, the request was granted. On March 27, 2014 and June 27, 2014, the USPTO issued an ACP and a RAN, respectively, each of which rejected all of the '627 patent's claims. The parties involved filed various notices of appeal, responses and requests, and on November 24, 2015, the PTAB held a hearing on such appeals. On May 31, 2016, the PTAB issued a decision affirming the decisions of the examiner. On February 9, 2017, the PTAB granted the Company's request to reopen prosecution before the USPTO examiner and remanded the proceeding to the examiner to consider the patentability of certain of the pending claims in view of the PTAB's May 31, 2016 decision and comments from the parties. On October 2, 2017, the examiner issued a determination as to the patentability of the pending claims, which were found to be unpatentable. The proceeding will now return to the PTAB for reconsideration and issuance of a new decision. Accruals have not been recorded for loss contingencies related to the '627 patent reexamination proceedings because it is not probable that a loss has been incurred and the amount of any such loss cannot be reasonably estimated.

'274 Patent Reexamination

As noted above, in April 2010 and June 2010, Inphi submitted requests for an *Inter Partes* Reexamination of the '274 patent by the USPTO. On August 27, 2010, the request was granted. In March 2012 and June 2012, the USPTO issued an ACP and a RAN, respectively, each of which confirmed the patentability of many of the '274 patent's claims. The parties involved filed various notices of appeal, responses and requests, and on November 20, 2013, the PTAB held a hearing on such appeals. On January 16, 2014, the PTAB issued a decision affirming the examiner in part, but reversing the examiner on new grounds and rejecting all of the patent's claims. On September 11, 2015, the USPTO examiner issued a determination rejecting the amended claims. On January 23, 2017, the USPTO granted-in-part the Company's petition to enter comments in support of its positions in the proceeding. On May 9, 2017, the PTAB issued a decision on appeal affirming the rejection of all claims. Netlist requested rehearing of the PTAB's decision on June 6, 2017. The PTAB denied the rehearing request on August 8, 2017. Netlist expects to appeal the decision to the Court of Appeals for the Federal Circuit. Accruals have not been recorded for loss contingencies related to the '274 patent reexamination proceedings because it is not probable that a loss has been incurred and the amount of any such loss cannot be reasonably estimated.

Smart Modular '295 Patent Litigation and Reexamination

In September 13, 2012, Smart Modular, Inc. ("Smart Modular") filed a patent infringement lawsuit against the Company in the U.S. District Court for the Eastern District of California (the "Eastern District Court"). The complaint alleges that the Company willfully infringes and actively induces the infringement of certain claims of U.S. Patent No. 8,250,295 ("the '295 patent") issued to Smart Modular and seeks damages and injunctive relief. The Company answered Smart Modular's complaint in October 2012, denying infringement of the '295 patent, asserting that the '295 patent is invalid and unenforceable, and asserting counterclaims against Smart Modular.

On December 7, 2012, the USPTO granted the Company's request for the reexamination of the '295 patent. On April 29, 2014, the USPTO examiner issued an ACP confirming some claims and rejecting others, and on August 4, 2015, the examiner issued a RAN confirming all pending claims. On September 4, 2015, the Company appealed to the

PTAB. The parties involved filed various notices of appeal, responses and requests, and on September 22, 2016, the PTAB held a hearing on such appeals. On November 14, 2016, the PTAB issued a decision reversing the examiner and rejected all of the pending claims. On January 23, 2017, Smart Modular filed a request to reopen prosecution. The parties had the opportunity present evidence and arguments and the examiner issued a determination on May 8, 2017, which found all pending claims to be unpatentable. The proceeding will now return to the PTAB for reconsideration and issuance of a new decision.

Smart Modular and SanDisk Litigation

On July 1 and August 23, 2013, the Company filed complaints against Smart Modular, Smart Storage Systems (“Smart Storage”) (which was subsequently acquired by SanDisk Corporation (“SanDisk”)), Smart Worldwide Holdings (“Smart Worldwide”) and Diablo Technologies (“Diablo”) in the Central District Court, seeking, among other things, damages and other relief for alleged infringement of several of the Company’s patents by the defendants based on the manufacture and sale of the ULLtraDIMM memory module, alleged antitrust violations by Smart Modular and Smart Worldwide, and alleged trade secret misappropriation and trademark infringement by Diablo. The trade secret misappropriation and trademark infringement claims against Diablo were fully adjudicated on August 17, 2016 and are no longer pending.

On August 23, 2013, Smart Modular and Diablo each filed a complaint in the San Francisco Division of the Northern District Court seeking declaratory judgment of non-infringement and invalidity of the patents asserted in the Company’s complaint. Based on various motions filed by the parties, on November 26, 2013, the Central District Court severed and transferred the patent claims related to the ULLtraDIMM memory module to the Northern District Court.

On February 12, 2014, the Northern District Court granted the parties’ joint stipulation dismissing Smart Modular without prejudice. Between June 18, 2014 and August 23, 2014, SanDisk, Diablo, and Smart Modular filed numerous petitions in the USPTO requesting *Inter Partes* Review of the Company’s asserted patents. All of the reviews associated with U.S. Patent Nos. 8,516,187; 8,301,833; 8,516,185 have been resolved in the Company’s favor and are no longer pending. The reviews associated with U.S. Patent Nos. 8,001,434; 8,359,501; 7,881,150; and 8,081,536 have concluded before the PTAB and the parties have appealed the decisions in these reviews to the Court of Appeals for the Federal Circuit and are awaiting decisions. On April 9, 2015, the Northern District Court stayed the infringement proceedings as to the Company’s patents asserted against the ULLtraDIMM pending resolution of the patent review decisions on appeal.

SK hynix Litigation

On September 1, 2016, the Company filed legal proceedings for patent infringement against SK hynix in the ITC and the Central District Court. The proceedings are based on the alleged infringement by SK hynix’s registered dual in-line memory module (“RDIMM”) and LRDIMM enterprise memory products of six of the Company’s U.S. patents. In the ITC proceedings, the Company is seeking an exclusion order that directs U.S. Customs and Border Protection to stop allegedly infringing SK hynix RDIMM and LRDIMM products from entering the United States. In the Central District Court proceedings, the Company is primarily seeking damages.

On October 3, 2016, the ITC instituted an investigation of the trade practices of SK hynix and certain of its subsidiaries related to its importation, sale for importation, and/or sale after importation of RDIMM and LRDIMM enterprise memory products. On November 10, 2016, the ITC set a 16-month target date of February 7, 2018, for the investigation with a final initial determination being filed no later than October 10, 2017. Based on this target date, the ITC scheduled a hearing on the merits of the investigation which began on May 8, 2017 and concluded on May 11, 2017. On January 4, 2017, the Central District Court issued a scheduling order setting various dates including a trial date of July 10, 2018. On August 16, 2017, the ITC extended the target date by 5 weeks to March 14, 2018, and extended the deadline for the final initial determination to November 14, 2017.

On October 5, 2016 and October 28, 2016, SK hynix filed motions in the Central District Court and the ITC, respectively, to disqualify the Company’s litigation counsel. The Company opposed both motions. On December 5,

2016, the Central District Court granted SK hynix's motion to disqualify. On December 8, 2016, the Company's substitute counsel entered appearances in the ITC and the Central District Court.

Between December 30, 2016 and January 20, 2017, SK hynix filed numerous petitions in the USPTO requesting *Inter Partes* Review of certain of the Company's patents, including the patents asserted in the ITC and Central District Court. In a series of decisions issued in May, June and July, 2017, the PTAB instituted reviews of certain of these patents, including the patents currently asserted in the ITC and Central District Court, the last of which is scheduled to conclude no later than July 2018. On July 17, 2017, the Central District Court granted in part SK hynix's request to stay the infringement proceedings pending further order of the court, and ordered the parties to file a joint status report shortly after the ITC issues its final initial determination.

On July 11, 2017, the Company filed legal proceedings for patent infringement against SK hynix and certain of its distributors in the courts of Germany and the PRC based on the alleged infringement by SK hynix's LRDIMM of the Company's patents in those jurisdictions. The courts in Germany and the PRC are currently handling service of process and have not yet issued a schedule for proceedings in either jurisdiction.

On October 31, 2017, the Company filed additional legal proceedings for patent infringement against SK hynix in the ITC based on the alleged infringement by SK hynix's RDIMM and LRDIMM products of two additional U.S. patents owned by the Company. As with the first ITC action, the Company is seeking an exclusion order that directs U.S. Customs and Border Protection to stop allegedly infringing SK hynix RDIMM and LRDIMM products from entering the United States.

Morgan Joseph Litigation

On March 31, 2016, Morgan Joseph Triartisan LLC ("Morgan Joseph") filed a complaint in the Supreme Court of the State of New York against the Company and certain of its officers for breach of contract and related causes of action. The complaint alleges that the Company refused to honor its payment obligations under a written agreement with Morgan Joseph related to the provision of financial advisory and investment banking services. Morgan Joseph is seeking compensatory damages in the amount of \$1,012,500, plus punitive damages in an amount not less than \$1 million, together with pre-judgment interest, costs, and fees.

On September 15, 2016, the Company filed a motion to dismiss Morgan Joseph's complaint for failure to state a claim. On February 15, 2017, the court granted the Company's motion to dismiss as to all causes of action brought by Morgan Joseph.

Other Contingent Obligations

In the ordinary course of its business, the Company has made certain indemnities, commitments and guarantees pursuant to which it may be required to make payments in relation to certain transactions. These include: (i) intellectual property indemnities to the Company's customers and licensees in connection with the use, sale and/or license of Company products; (ii) indemnities to vendors and service providers pertaining to claims based on the Company's negligence or willful misconduct; (iii) indemnities involving the accuracy of representations and warranties in certain contracts; (iv) indemnities to directors and officers of the Company to the maximum extent permitted under the laws of the State of Delaware; (v) indemnities to SVIC and SVB pertaining to all obligations, demands, claims, and liabilities claimed or asserted by any other party in connection with transactions contemplated by the applicable loan documents; and (vi) indemnities or other claims related to certain real estate leases, under which the Company may be required to indemnify property owners for environmental and other liabilities or may face other claims arising from the Company's use of the applicable premises. The duration of these indemnities, commitments and guarantees varies and, in certain cases, may be indefinite. The majority of these indemnities, commitments and guarantees do not provide for any limitation of the maximum potential for future payments the Company could be obligated to make. Historically, the Company has not been obligated to make significant payments as a result of these obligations, and no liabilities have been recorded for these indemnities, commitments and guarantees in the accompanying condensed consolidated balance sheets.

Note 8—Stockholders' Equity

Serial Preferred Stock

The Company's authorized capital stock includes 10,000,000 shares of serial preferred stock, with a par value of \$0.001 per share. No shares of preferred stock were outstanding at September 30, 2017 or December 31, 2016.

On April 17, 2017, the Company entered into a rights agreement (the "Rights Agreement") with Computershare Trust Company, N.A., as rights agent. In connection with the adoption of the Rights Agreement and pursuant to its terms, the Company's board of directors authorized and declared a dividend of one right (each, a "Right") for each outstanding share of the Company's common stock to stockholders of record at the close of business on May 18, 2017 (the "Record Date"), and authorized the issuance of one Right for each share of the Company's common stock issued by the Company (except as otherwise provided in the Rights Agreement) between the Record Date and the Distribution Date (as defined below).

Each Right entitles the registered holder, subject to the terms of the Rights Agreement, to purchase from the Company, when exercisable and subject to adjustment, one unit consisting of one one-thousandth of a share (a "Unit") of Series A Preferred Stock of the Company (the "Preferred Stock"), at a purchase price of \$6.56 per Unit, subject to adjustment. Subject to the provisions of the Rights Agreement, including certain exceptions specified therein, a distribution date for the Rights (the "Distribution Date") will occur upon the earlier of (i) 10 business days following a public announcement that a person or group of affiliated or associated persons (an "Acquiring Person") has acquired or otherwise obtained beneficial ownership of 15% or more of the then-outstanding shares of the Company's common stock, and (ii) 10 business days (or such later date as may be determined by the Company's board of directors) following the commencement of a tender offer or exchange offer that would result in a person or group becoming an Acquiring Person. The Rights are not exercisable until the Distribution Date and, unless earlier redeemed or exchanged by the Company pursuant to the terms of the Rights Agreement, will expire on the earlier of (i) the close of business on April 17, 2018, the first anniversary of the adoption of the Rights Agreement, and (ii) the date of any settlement, adjudication, dismissal with prejudice, abandonment by the Company or other conclusive and final resolution of the Company's legal proceedings against SK hynix (see Note 7).

In connection with the adoption of the Rights Agreement, the Company's board of directors approved a Certificate of Designation of the Series A Preferred Stock (the "Certificate of Designation") designating 1,000,000 shares of the Company's serial preferred stock as Series A Preferred Stock and setting forth the rights, preferences and limitations of the Preferred Stock. The Company filed the Certificate of Designation with the Secretary of State of the State of Delaware on April 17, 2017.

Common Stock

On May 31, 2017, the Company's stockholders approved an amendment to the Company's Restated Certificate of Incorporation to increase the number of shares of the Company's common stock that it is authorized to issue from 90,000,000 to 150,000,000.

On September 23, 2016, the Company completed the 2016 Offering, pursuant to which it sold 9,200,000 shares of its common stock at a price to the public of \$1.25 per share. The net proceeds to the Company from the 2016 Offering were \$10.3 million, after deducting underwriting discounts and commissions and offering expenses paid by the Company.

On August 22, 2017, the Company completed the 2017 Offering, pursuant to which it sold 8,500,000 shares of its common stock at a price to the public of \$0.60 per share. The net proceeds to the Company from the 2017 Offering were \$4.4 million, after deducting underwriting discounts and commissions and offering expenses paid by the Company.

Stock-Based Compensation

The Company has stock-based compensation awards outstanding pursuant to its Amended and Restated 2006 Equity Incentive Plan, as re-approved by the Company's stockholders on June 8, 2016 (the "Amended 2006 Plan"), under which a variety of stock-based awards, including stock options, may be granted to employees and non-employee service providers of the Company. In addition to awards granted pursuant to the Amended 2006 Plan, the Company periodically grants equity-based awards outside the Amended 2006 Plan to certain new hires as an inducement to enter into employment with the Company.

Subject to certain adjustments, as of September 30, 2017, the Company was authorized to issue a maximum of 10,205,566 shares of its common stock pursuant to awards granted under the Amended 2006 Plan. Pursuant to the terms of the Amended 2006 Plan, the maximum number of shares of common stock subject to the plan automatically increased on the first day of each calendar year from January 1, 2007 through January 1, 2016, by the lesser of (i) 5.0% of the number of shares of common stock issued and outstanding as of the first day of the applicable calendar year, and (ii) 1,200,000 shares of common stock, subject to adjustment for certain corporate actions. Beginning January 1, 2017, the automatic annual increase to the number of shares of common stock that may be issued pursuant to awards granted under the Amended 2006 Plan is equal to the lesser of (i) 2.5% of the number of shares of common stock issued and outstanding as of the first day of the applicable calendar year, and (ii) 1,200,000 shares of common stock, subject to adjustment for certain corporate actions. As of September 30, 2017, the Company had 995,381 shares of common stock available for issuance pursuant to future awards to be granted under the Amended 2006 Plan. Stock options granted under the Amended 2006 Plan generally vest at a rate of at least 25% per year over four years and expire 10 years from the date of grant.

The following table summarizes the Company's stock option activity in the nine months ended September 30, 2017:

	Options Outstanding	
	Number of Shares	Weighted-Average Exercise Price
	(in thousands)	
Options outstanding at December 31, 2016	8,798	\$ 1.46
Options granted	1,455	0.99
Options exercised	(267)	0.68
Options expired/forfeited	(1,339)	1.46
Options outstanding at September 30, 2017	<u>8,647</u>	<u>\$ 1.40</u>

The intrinsic value of stock options exercised in the nine months ended September 30, 2017 was \$89,000.

The following table presents the assumptions used to calculate the weighted-average grant date fair value of stock options granted by the Company during the periods presented:

	Nine Months Ended	
	September 30, 2017	October 1, 2016
Expected term (in years)	6.4	6.1
Expected volatility	87 %	106 %
Risk-free interest rate	2.03 %	1.48 %
Expected dividends	-	-
Weighted-average grant date fair value per share	\$ 0.73	\$ 0.89

As of September 30, 2017, the amount of unearned stock-based compensation estimated to be expensed from the Company's 2017 fiscal year through the Company's 2019 fiscal year related to unvested stock options is

approximately \$1.7 million, net of estimated forfeitures. The weighted-average period over which the unearned stock-based compensation is expected to be recognized is approximately 2.3 years. If there are any modifications or cancellations of the underlying unvested awards, the Company may be required to accelerate, increase or cancel any remaining unearned stock-based compensation expense or calculate and record additional expense. Future stock-based compensation expense and unearned stock-based compensation expense will increase to the extent the Company grants additional stock options or other stock-based awards.

Warrants

The following is a summary of the Company's warrant activity for the year ended December 31, 2016 and the nine months ended September 30, 2017:

	Number of Shares (in thousands)	Weighted Average Exercise Price
Warrants outstanding - January 2, 2016	7,633	\$ 0.59
Warrant granted	-	-
Warrants exercised	(2,709)	0.47
Warrants outstanding - December 31, 2016	4,924	\$ 0.66
Warrant granted	-	-
Warrants exercised	-	-
Warrants outstanding - September 30, 2017	4,924	\$ 0.66

Note 9—Segment and Geographic Information

The Company operates in one reportable segment, which is the design and manufacture of high-performance memory subsystems for the server, high-performance computing and communications markets. The Company evaluates financial performance on a Company-wide basis.

At September 30, 2017 and December 31, 2016, approximately \$61,000 and \$64,000, respectively, of the Company's long-lived assets, net of depreciation and amortization, were located in the PRC. Substantially all other long-lived assets were located in the United States.

Note 10—Subsequent Events

The Company has performed an evaluation of events occurring subsequent to September 30, 2017, through the filing date of this Quarterly Report on Form 10-Q. Based on its evaluation, there are no events, except for the matter discussed below, or discussed elsewhere in the notes hereto, which require recognition or disclosure in the condensed consolidated financial statements.

On November 13, 2017, the Company entered into an At Market Issuance Sales Agreement (the "Sales Agreement") with B. Riley FBR, Inc. (the "Agent") to sell shares of the Company's common stock, with aggregate gross proceeds of up to \$9,000,000, from time to time, through an "at-the-market" equity offering program under which the Agent will act as sales agent.

Under the Sales Agreement, the Company will set the parameters for the sale of shares, including the number of shares to be issued, the time period during which sales are requested to be made, limitation on the number of shares that may be sold in any one trading day and any minimum price below which sales may not be made. The Sales Agreement provides that the Agent will be entitled to compensation for its services in an amount equal to 3% of the gross proceeds from the sale of shares sold under the Sales Agreement. The Company has no obligation to sell any shares under the Sales Agreement and may suspend solicitation and offers under the Sales Agreement. The shares will be issued pursuant to the Company's shelf registration statement on Form S-3 and the Prospectus Supplement to be filed on November 14, 2017 with the SEC in connection with the offer and sale of the shares pursuant to the Sales Agreement.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations (the “MD&A”) should be read together with our unaudited condensed consolidated financial statements and the related notes included in Part I, Item 1 of this report, as well as the MD&A included in our Annual Report on Form 10-K for our fiscal year ended December 31, 2016, including the audited consolidated financial statements and related notes included in such report (the “2016 Annual Report”), which was filed with the Securities and Exchange Commission (the “SEC”) on March 31, 2017. In preparing this MD&A, we presume that readers have access to and have read the MD&A included in the 2016 Annual Report, pursuant to Instruction 2 to paragraph (b) of Item 303 of Regulation S-K promulgated by the SEC.

Unless the context indicates otherwise, all references to “Netlist,” the “Company,” “we,” “us,” or “our” in this MD&A and elsewhere in this report refer to Netlist, Inc., together with its majority and wholly owned subsidiaries.

Forward-Looking Statements

This discussion and analysis includes “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are statements other than historical facts and often address future events and our future performance. Words such as “anticipate,” “estimate,” “expect,” “project,” “intend,” “may,” “will,” “might,” “plan,” “predict,” “believe,” “should,” “could” and similar words or expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Forward-looking statements contained in this discussion and analysis include statements about, among other things: our plans relating to our intellectual property, including our strategy for monetizing, licensing, expanding, and defending our patent portfolio; our expectations with respect to strategic partners, including our relationship with Samsung Electronics Co., Ltd. (“Samsung”) and the potential for commercial licensing agreements; our expectations and strategies regarding outstanding legal proceedings and patent reexaminations relating to our intellectual property portfolio, including our pending proceedings against SK hynix Inc., a South Korean memory semiconductor supplier (“SK hynix”); our beliefs regarding the market and demand for our products or the component products we resell to customers directly; and our expectations regarding our strategy, business plans and objectives, our future operations and financial position, including future revenues, costs and prospects, and our liquidity and capital resources, including cash flows, sufficiency of cash resources, efforts to reduce expenses and the potential for future financings. All forward-looking statements reflect management’s present expectations regarding future events and are subject to known and unknown risks, uncertainties and assumptions that could cause actual results to differ materially from those expressed in or implied by any forward-looking statements. These risks and uncertainties include those described under “Risk Factors” in Part II, Item 1A of this report. Given these risks, uncertainties and other important factors, you should not place undue reliance on these forward-looking statements. These forward-looking statements represent our estimates and assumptions only as of the date made, and except as required by law, we undertake no obligation to revise or update any forward-looking statements for any reason.

Overview

We are a leading provider of high-performance modular memory subsystems serving customers in diverse industries that require superior memory performance to empower critical business decisions. We have a long history of introducing disruptive new products, such as one of the first load reduced dual in-line memory modules (“LRDIMM”) based on our distributed buffer architecture, which has been adopted by the industry for DDR4 LRDIMM. We were also one of the first to bring NAND flash memory (“NAND flash”) to the memory channel with our NVvault non-volatile dual in-line memory modules (“NVDIMM”) using software-intensive controllers and merging dynamic random access memory integrated circuits (“DRAM ICs” or “DRAM”) and NAND flash to solve data bottleneck and data retention challenges encountered in high-performance computing environments. We recently introduced a new generation of storage class memory products called HybriDIMM to address the growing need for real-time analytics in Big Data applications and in-memory databases.

Due to the ground-breaking product development of our engineering teams, we have built a robust portfolio of over 100 issued and pending U.S. and foreign patents, many seminal, in the areas of hybrid memory, storage class

memory, rank multiplication and load reduction. Since our inception in 2000, we have dedicated substantial resources to the development and protection of technology innovations essential to our business. Our early pioneering work in these areas has been broadly adopted in industry-standard LRDIMM and in NVDIMM. Our objective is to continue to innovate in our field and invest further in our intellectual property portfolio, with the goal of monetizing our intellectual property through a combination of product revenues and licensing, royalty or other revenue-producing arrangements, which may result from joint development or similar partnerships or defense of our patents through enforcement actions against parties we believe are infringing them.

In November 2015, we entered into a joint development and license agreement (“JDLA”) pursuant to which we and Samsung have agreed to work together to jointly develop new storage class memory technologies including a standardized product interface for NVDIMM-P memory modules in order to facilitate broad industry adoption of this new technology. The JDLA also includes comprehensive cross-licenses to our and Samsung’s patent portfolios for the purpose of developing this product interface, grants Samsung a right of first refusal to acquire our HybriDIMM technology before we offer the technology to a third party, and grants us access to competitively priced DRAM and NAND flash raw materials. The JDLA also provided for an \$8.0 million non-recurring engineering (“NRE”) fee that we received from Samsung for the joint development and calls for potential marketing collaboration and for the exchange of potential monetary consideration as progress is made towards commercialization of our storage class memory product. Moreover, we believe Samsung represents an important strategic partner with a high level of technical capability in memory that can facilitate bringing our HybriDIMM technology to market. In connection with the JDLA, we also received gross proceeds of \$15.0 million for our issuance of a Senior Secured Convertible Note (“SVIC Note”) and Stock Purchase Warrant (“SVIC Warrant”) to SVIC No. 28 New Technology Business Investment L.L.P., an affiliate of Samsung Venture Investment Co. (“SVIC”). See Note 5 to the condensed consolidated financial statements included in this report for additional information about the SVIC Note and the SVIC Warrant.

Further, in September 2016, we took action to protect and defend our innovations by filing legal proceedings for patent infringement against SK hynix and two of its subsidiaries in the U.S. International Trade Commission (“ITC”) and in U.S. district court. We filed additional legal proceedings for patent infringement against SK hynix in the ITC and in the courts of Germany and the People’s Republic of China in July and October 2017. In both of our ITC actions, we are seeking an exclusion order in the ITC that directs U.S. Customs and Border Protection to stop allegedly infringing SK hynix RDIMM and LRDIMM products from entering the United States. The evidentiary hearing in the ITC investigations occurred in May 2017, with a final initial determination expected to be issued by the ITC in November 2017. In the U.S. district court and international courts proceedings, we are primarily seeking damages. Our patents involved in the proceedings cover key features of RDIMM and LRDIMM, which we believe are strategic product lines for SK hynix that together account for a significant portion of SK hynix’s total revenue and profits. We have taken steps to solidify our position and strategy in connection with our proceedings against SK hynix, including establishing a funding arrangement for our legal costs associated with these proceedings and adopting a rights agreement to implement a standard “poison pill,” which are discussed further below. See Notes 7 and 8 to the condensed consolidated financial statements included in this report for additional information about our proceedings against SK hynix, the related funding arrangement and our poison pill implementation.

We recorded total net revenues of \$9.0 million, \$29.8 million, \$2.6 million and \$14.1 million for the three and nine months ended and September 30, 2017 and October 1, 2016, respectively, and \$19.7 million and \$8.0 million for the years ended December 31, 2016 and January 2, 2016, respectively, and we recorded gross profit of \$725,000, \$2.0 million, \$9,000 and \$7.1 million for the three and nine months ended and September 30, 2017 and October 1, 2016, respectively, and \$7.4 million and \$2.1 million for the years ended December 31, 2016 and January 2, 2016, respectively. We also incurred net losses of \$3.1 million, \$10.3 million, \$4.4 million and \$7.3 million for the three and nine months ended September 30, 2017 and October 1, 2016, respectively, and \$11.2 million and \$20.5 million for the fiscal years ended December 31, 2016 and January 2, 2016, respectively. We have historically financed our operations primarily through issuances of equity and debt securities and revenues generated from operations, including product revenues and NRE revenues from the JDLA. We have also funded our operations with a revolving line of credit and term loans under a bank credit facility, a funding arrangement for costs associated with our legal proceedings against SK hynix and, to a lesser extent, equipment leasing arrangements. See “Liquidity and Capital Resources” below for further information.

Recent Developments

2017 ATM Program

On November 13, 2017, we entered into an At Market Issuance Sales Agreement (the “Sales Agreement”) with B. Riley FBR, Inc. (the “Agent”) to sell shares of our common stock, with aggregate gross proceeds of up to \$9,000,000, from time to time, through an “at-the-market” equity offering program under which the Agent will act as sales agent.

Under the Sales Agreement, we will set the parameters for the sale of shares, including the number of shares to be issued, the time period during which sales are requested to be made, limitation on the number of shares that may be sold in any one trading day and any minimum price below which sales may not be made. The Sales Agreement provides that the Agent will be entitled to compensation for their services in an amount equal to 3% of the gross proceeds from the sale of shares sold under the Sales Agreement. We have no obligation to sell any shares under the Sales Agreement and may suspend solicitation and offers under the Sales Agreement. The shares will be issued pursuant to our shelf registration statement on Form S-3 and the Prospectus Supplement to be filed on November 14, 2017 with the SEC in connection with the offer and sale of the shares pursuant to the Sales Agreement.

2017 Offering

On August 22, 2017, we completed an underwritten registered public offering (the “2017 Offering”), pursuant to which we sold 8,500,000 shares of our common stock at a price to the public of \$0.60 per share. The net proceeds to us from the 2017 Offering were \$4.4 million, after deducting underwriting discounts and commissions and offering expenses paid by us.

Establishment of Funding Arrangement and Rights Agreement in connection with SK hynix Proceedings

In April and May of 2017, we established a funding arrangement and a rights agreement in connection with our strategy for our proceedings against SK hynix, each of which is described below.

TRGP Agreement

On May 3, 2017, we entered into an investment agreement (the “TRGP Agreement”) with TR Global Funding V, LLC, an affiliate of TRGP Capital Management, LLC (“TRGP”), which generally provides that TRGP will directly fund the costs incurred by us or on our behalf in connection with certain of our proceedings against SK hynix, including costs incurred since January 1, 2017 and costs to be incurred in the future in our first ITC action and our U.S. district court proceedings, but excluding our subsequent ITC action and our proceedings in international courts. In exchange for such funding, we have agreed that, if we recover any proceeds in connection with the funded SK hynix proceedings, we will pay to TRGP the amount of its funding plus an escalating premium based on when any such proceeds are recovered, such that the premium will equal a specified low-to-mid double-digit percentage of the amount of TRGP’s funding and such percentage will increase by a specified low double-digit amount each quarter after a specified date until any such proceeds are recovered. In addition, we have granted to TRGP a first priority security interest in the claims underlying the funded SK hynix proceedings and any proceeds we may receive in connection with these proceedings, and a second priority security interest in our patents that are the subject of these proceedings. We have established this funding arrangement in order to provide us with increased security that we will be able to vigorously pursue our claims against SK hynix through their final resolution.

Rights Agreement

On April 17, 2017, we adopted a short-term rights agreement to implement a standard “poison pill.” In general terms, for so long as the rights issued under the rights agreement are outstanding, which is expected to be no longer than 12 months, the rights agreement prevents any person or group from acquiring a significant percentage of our outstanding capital stock or attempting a hostile takeover of our Company by significantly diluting the ownership percentage of such person or group. As a result, the rights agreement has a significant anti-takeover effect. Our board of directors approved the rights agreement as part of our strategy in connection with our proceedings against SK hynix, with the intent of

disconnecting our market capitalization from the damages calculations and any settlement negotiations that may develop in connection with these proceedings.

Amendments to SVB Credit Agreement

On March 27, 2017 and April 12, 2017, we entered into amendments to our credit agreement (as amended, the “SVB Credit Agreement”) with Silicon Valley Bank (“SVB”). The amendments extend the maturity date of advances under the SVB Credit Agreement to April 1, 2018; modify our financial covenants under the SVB Credit Agreement to remove all prior financial standards and replace them with a liquidity ratio standard; remove or amend certain termination, anniversary and unused facility fees payable by us under the SVB Credit Agreement; and make certain other administrative changes.

Key Business Metrics

The following describes certain line items in our condensed consolidated statements of operations that are important to management’s assessment of our financial performance:

Net Product Revenues

Net product revenues consist of resales of certain component products, including NAND flash, and sales of our high-performance memory subsystems, net of a provision for estimated returns under our right of return policies, which generally range up to 30 days. Sales are made primarily pursuant to stand-alone purchase orders, which generally have no cancellation or rescheduling penalty provisions. We often ship products to our customers’ international manufacturing sites, but all of our sales to date have been denominated in U.S. dollars.

Sales to small numbers of customers have historically represented a substantial portion of our net product revenues. Additionally, the composition of major customers and their respective contributions to our net product revenues have fluctuated and will likely continue to fluctuate from period to period as our existing and prospective customers progress through the life cycle of the products they produce and sell and experience resulting fluctuations in their product demand. For instance, approximately 13% and 10% of our net product revenues in the three months ended September 30, 2017 were to two customers, each of which represented less than 10% of our net product revenues in the nine months ended September 30, 2017 and in all periods in 2016. Additionally, in the three and nine months ended October 1, 2016, approximately 17% and 17%, and 29% and 10% of our net product revenues in the respective periods were to two customers, neither of which purchased many products or contributed a meaningful portion of our revenues in the corresponding 2017 periods. We do not have long-term agreements with any of our customers. As a result, our product revenues can be materially impacted by fluctuating customer concentrations, as any or all of our customers could decide at any time to increase or decrease their purchase of our products or the component products we resell directly. In addition, the prices customers pay for products could change at any time. As a result, the loss of any of our customers, particularly our large or key customers, an increase or decrease in sales to or sale prices for any of them, including as a result of normal fluctuations in product demand or other factors, or difficulties collecting payments from any of them could materially impact our product revenues and operating results.

The component products we resell include products we purchase from Samsung and certain alternative suppliers for the purpose of resale, and excess component inventory we purchase for, but do not use in, our memory subsystems. We purchase certain products, including primarily NAND flash, from Samsung under the terms of our JDLA with Samsung in order to resell these products to end-customers that are not reached in Samsung’s distribution model, including storage customers, appliance customers, system builders and cloud and datacenter customers. We have also sourced these products from alternative suppliers to the extent sufficient product is not available from Samsung to meet customer demand. In the three and nine months ended September 30, 2017 and October 1, 2016, resales of these products represented 75%, 86%, 53% and 51%, respectively, of our net product revenues, respectively, and we expect resales of these products may continue to increase over time. We also resell excess component inventory to distributors and other users of memory integrated circuits, but these sales have historically been, and we expect will continue to be, a relatively small percentage of our net product revenues.

With respect to sales of our memory subsystems, our original equipment manufacturer (“OEM”) customers typically provide us with non-binding forecasts of future product demand over specific periods of time, but they generally place orders with us no more than two weeks in advance of the desired delivery date. Selling prices are typically negotiated monthly, based on competitive market conditions and the current price of key product components, including DRAM ICs and NAND flash. Sales of our memory subsystem products have declined in recent periods due in large part to the rapid decline in sales of our first-generation NVvault products following the loss of our former most significant NVvault customer, Dell, beginning in 2012, and the rate and degree of customer adoption of our next generation NVvault product extensions, which has been slower and smaller than expected to date. We expect these declines could continue in future periods unless and until our next-generation products gain significantly greater customer and market acceptance.

Engineering Services

Pursuant to the terms of our JDLA with Samsung, we provided certain engineering services for Samsung and received a NRE fee as compensation for these services. These fees from Samsung are the only such fees for engineering services that we have received to date, although we may in the future receive additional fees of this type, from Samsung or other customers, depending on the terms of the relationships we may develop.

Cost of Sales

Our cost of sales includes the cost of materials, labor and other manufacturing costs, depreciation and amortization of equipment expenses, inventory valuation provisions, stock-based compensation expenses, occupancy costs and other allocated fixed costs.

For resales of component products, our cost of sales also includes the cost of the products we purchase for resale from Samsung under the terms of the JDLA or from alternative suppliers on the terms we negotiate with these suppliers. As a result, our gross margin on the resale of component products, including Samsung products and excess component inventory, is significantly lower than our gross margin on sales of our own products. Accordingly, increased resales of component products as a percentage of our total product revenues have a significant negative impact on our gross margin. In addition, to the extent we are not able to procure sufficient component products for resale from Samsung under the terms of the JDLA to satisfy customer orders for these products, we would need to seek to procure these products from alternative suppliers, which may not be available on terms comparable to those we have negotiated with Samsung under the JDLA. As a result, any inability to source sufficient component products from Samsung could increase our cost of sales associated with resales of these products if we are forced to pay higher prices to obtain these products from other suppliers.

With respect to sales of our memory subsystem products, the DRAM ICs and NAND flash incorporated into these products constitute a significant portion of our cost of sales for the products, and thus our cost of sales will fluctuate based on the cost of DRAM ICs and NAND flash. We attempt to pass through these DRAM IC and NAND flash cost fluctuations to our memory subsystem customers by frequently renegotiating pricing prior to the placement of their purchase orders. However, the sales prices of our memory subsystems can also fluctuate due to competitive conditions in our key customer markets that are unrelated to the cost of DRAM ICs and NAND flash, which affects our gross margin. In addition, we have in the past experienced supply chain disruptions and shortages of DRAM and NAND flash required to create our HyperCloud, NVvault and Planar X VLP products, which can cause fluctuations in our net product revenues and gross profits associated with memory subsystem sales.

Any significant decrease in demand for our products or the component products we resell could result in an increase in the amount of excess inventory quantities on hand. In addition, our estimates of future product demand may prove to be inaccurate, in which case we may understate or overstate the provision required for excess and obsolete inventory. In the future, if our inventories are determined to be overvalued, we would be required to recognize additional expense in our cost of sales at the time of such determination. Conversely, if our inventories are determined to be undervalued, we may have over-reported our costs of sales in previous periods and would be required to recognize additional gross profit at the time such inventories are sold. In addition, should the market value of DRAM ICs, NAND flash or other component products decrease, we may be required to lower the selling prices of our memory subsystems or

component product resales to reflect the lower cost of these materials. If such price decreases reduce the net realizable value of our inventories to less than our cost, we would be required to recognize additional expense in our cost of sales in the same period. Although we make every reasonable effort to ensure the accuracy of our forecasts of future product demand, any significant unanticipated changes in demand, technological developments or the market value of DRAM ICs, NAND flash or other component products could have a material effect on the value of our inventories and our reported operating results.

Research and Development

Research and development expenses consist primarily of employee and independent contractor compensation and related costs, stock-based compensation expenses, NRE fees, computer-aided design software license costs, reference design development costs, depreciation or rental of evaluation equipment expenses, and occupancy and other allocated overhead costs. Also included in research and development expenses are the costs of materials and overhead related to the production of engineering samples of new products under development or products used solely in the research and development process. Our customers typically do not separately compensate us for design and engineering work involved in developing application-specific products for them. All research and development costs are expensed as incurred. We anticipate that research and development expenditures will increase in future periods as we seek to expand new product opportunities, increase our activities related to new and emerging markets and continue to develop additional proprietary technologies.

Intellectual Property Legal Fees

Intellectual property legal fees consist of legal fees incurred for patent filings, protection and enforcement. Although we anticipate that intellectual property legal fees will generally increase over time as we continue to protect and seek to expand our patent portfolio, we expect that our intellectual property legal fees may decrease or increase at a slower rate in the near term due to the impact of the TRGP Agreement on our expense related to certain of our proceedings against SK hynix. The legal expenses we incur that are paid by TRGP pursuant to the terms of the TRGP Agreement are excluded from our financial statements in each period in which the TRGP Agreement remains in effect. In the nine months ended September 30, 2017, we excluded legal expenses of \$9.3 million as a result of TRGP's payment of these expenses under the TRGP Agreement. Pursuant to the TRGP Agreement, any settlement or other cash proceeds we may recover in the future in connection with the funded SK hynix proceedings would be reduced by the aggregate amount of legal expenses we exclude as a result of TRGP's payment of these expenses under the TRGP Agreement, plus the premium amount due to TRGP under the terms of the TRGP Agreement at the time of any such recovery. As a result, we expect our intellectual property legal fees would be significantly higher in the period in which any such recovery occurs.

Selling, General and Administrative

Selling, general and administrative expenses primarily consist of employee compensation and related costs, stock-based compensation expenses, independent sales representative commissions, professional service fees, promotional and other selling and marketing expenses, and occupancy and other allocated overhead costs. A significant portion of our selling effort is directed at building relationships with OEMs and other customers and working through the product approval and qualification process with them. Therefore, the cost of material and overhead related to products manufactured for qualification is included in selling expenses.

Provision for Income Taxes

The federal statutory tax rate was 34% for the nine months ended September 30, 2017 and October 1, 2016. Our effective tax rate differs from the statutory rate because we provide a full valuation allowance against net deferred tax assets, and accordingly we did not recognize an income tax benefit related to losses incurred for the nine months ended September 30, 2017 and October 1, 2016.

Factors Affecting Our Performance and Business Risks and Uncertainties

Our performance, financial condition and prospects are affected by a number of factors and are exposed to a number of risks and uncertainties. See the discussion of certain major factors affecting our performance in the MD&A included in our 2016 Annual Report, and see the discussion of certain risks that we face under “Risk Factors” in Part II, Item 1A of this report.

Critical Accounting Policies and Use of Estimates

The preparation of our condensed consolidated financial statements included in this report in conformity with accounting principles generally accepted in the United States requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the condensed consolidated financial statements and the reported amounts of net revenues and expenses during the reporting period. By their nature, these estimates and assumptions are subject to an inherent degree of uncertainty. We base our estimates on our historical experience, knowledge of current conditions and belief of what could occur in the future considering available information. We review our estimates on an on-going basis. Actual results may differ from these estimates, which may result in material adverse effects on our consolidated operating results and financial position. We believe the following critical accounting policies involve our more significant assumptions and estimates used in the preparation of our condensed consolidated financial statements included in this report: provisions for uncollectible receivables and sales returns; warranty liabilities; valuation of inventories; fair value of financial instruments; recoverability of long-lived assets; valuation of stock-based transactions; estimates for completion of NRE and other revenue milestones; and realization of deferred tax assets.

Our critical accounting policies and estimates are discussed in Note 2 to the condensed consolidated financial statements included in this report and the MD&A included in our 2016 Annual Report. For the nine months ended September 30, 2017, there were no material changes to our critical accounting policies.

Results of Operations

The following table presents each line item of our condensed consolidated statement of operations as a percentage of total net revenues for the three and nine months ended September 30, 2017 compared to three and nine months ended October 1, 2016:

	Three Months Ended		Nine Months Ended	
	September 30, 2017	October 1, 2016	September 30, 2017	October 1, 2016
Net product revenues	100 %	100 %	100 %	51 %
NRE revenues	-	-	-	49
Total net revenues	100	100	100	100
Cost of sales	92	100	93	50
Gross profit	8	-	7	50
Operating expenses:				
Research and development	13	57	14	35
Intellectual property legal fees	8	16	7	16
Selling, general and administrative	20	93	19	48
Total operating expenses	41	165	40	99
Operating loss	(33)	(165)	(33)	(49)
Other expense, net:				
Interest expense, net	(1)	(6)	(1)	(3)
Other income, net	-	1	-	-
Total other expense, net	(1)	(5)	(1)	(3)
Loss before provision for income taxes	(34)	(170)	(34)	(52)
Provision for income taxes	-	-	-	-
Net loss	(34)%	(170)%	(34)%	(52)%

Net Product Revenues, NRE Revenues, Cost of Sales and Gross Profit

The following tables present net product revenues, NRE revenues, cost of sales and gross profit for the three and nine months ended September 30, 2017 and October 1, 2016:

	Three Months Ended		Change	% Change
	September 30, 2017	October 1, 2016		
	(in thousands, except percentages)			
Net product revenues	\$ 9,010	\$ 2,589	\$ 6,421	248 %
NRE revenues	-	-	-	- %
Total net revenues	9,010	2,589	6,421	248 %
Cost of sales	8,285	2,580	5,705	221 %
Gross profit	\$ 725	\$ 9	\$ 716	7,956 %
Gross margin	8.0%	0.3%	7.7 %	

	Nine Months Ended		Change	% Change
	September 30, 2017	October 1, 2016		
	(in thousands, except percentages)			
Net product revenues	\$ 29,840	\$ 7,260	\$ 22,580	311 %
NRE revenues	-	6,857	(6,857)	(100)%
Total net revenues	29,840	14,117	15,723	111 %
Cost of sales	27,791	6,996	20,795	297 %
Gross profit	\$ 2,049	\$ 7,121	\$ (5,072)	(71)%
Gross margin	6.9%	50.4%	(43.6)%	

Net Product Revenues

The increase in our net product revenues for the three months ended September 30, 2017 as compared to the three months ended October 1, 2016 resulted primarily from increases of \$1.3 million in sales of NAND flash, primarily sourced from Samsung, and \$4.4 million in sales of other small outline dual in-line memory module (“SODIMM”) and RDIMM products and \$0.7 million of other very low profile (VLP) product sales. The increase in our net product revenues for the nine months ended September 30, 2017 as compared with the nine months ended October 1, 2016 resulted primarily from increases of \$12.7 million in sales of NAND flash, also primarily sourced from Samsung, \$9.2 million of other SODIMM and RDIMM sales, \$0.6 million in other VLP product sales and \$0.1 million of sales of our EV3 product.

NRE Revenues

The decrease in NRE revenues for the three and nine months ended September 30, 2017 as compared to the three and nine months ended October 1, 2016 resulted from the recognition of revenues from the NRE fee for engineering services performed under our JDLA with Samsung in the 2016 period due to our completion of the engineering services required under the initial phase of the agreement in 2016.

Cost of Sales, Gross Profit and Gross Margin

The increase in our cost of sales for the three and nine months ended September 30, 2017 as compared to the three and nine months ended October 1, 2016 resulted primarily from increased costs associated with our increased net product revenues across all periods. The increase in our gross margin for the three months ended September 30, 2017 as compared to the three months ended October 1, 2016 resulted primarily because of a change in our product mix and more efficient utilization of our overhead costs. The decrease in our gross margin in the nine months ended September 30, 2017 as compared to the nine months ended October 2, 2016 resulted primarily from the decrease of NRE revenues from the JDLA, partially offset by increased product revenue margins.

Research and Development

The following tables present research and development expenses for the three and nine months ended September 30, 2017 and October 2, 2016:

	Three Months Ended		Change	% Change
	September 30, 2017	October 1, 2016		
	(in thousands, except percentages)			
Research and development	\$ 1,159	\$ 1,463	\$ (304)	(21)%

	Nine Months Ended		Change	% Change
	September 30, 2017	October 1, 2016		
	(in thousands, except percentages)			
Research and development	\$ 4,142	\$ 4,940	\$ (798)	(16)%

The decrease in research and development expenses for the three months ended September 30, 2017 as compared to the three months ended October 1, 2016 resulted primarily from decreases of (i) \$0.2 million in headcount, overhead and travel expenses and (ii) \$0.1 million in product research expenses.

The decrease in research and development expenses in the nine months ended September 30, 2017 as compared to the nine months ended October 1, 2016 resulted primarily from decreases of (i) \$0.5 million in headcount, overhead and travel expenses (ii) \$0.2 million in product research expenses and (iii) \$0.1 million in professional and outside service fees.

Intellectual Property Legal Fees

The following tables present intellectual property legal fees for the three and nine months ended September 30, 2017 and October 1, 2016:

	Three Months Ended		Change	% Change
	September 30, 2017	October 1, 2016		
	(in thousands, except percentages)			
Intellectual property legal fees	\$ 749	\$ 409	\$ 340	83 %

	Nine Months Ended		Change	% Change
	September 30, 2017	October 1, 2016		
	(in thousands, except percentages)			
Intellectual property legal fees	\$ 2,129	\$ 2,255	\$ (126)	(6)%

The increase in intellectual property legal fees for the three months ended September 30, 2017 as compared to the three months ended October 1, 2016 resulted primarily from an increase in legal expenses incurred to defend our patent portfolio internationally. The decrease in intellectual property legal fees for the nine months ended September 30, 2017 as compared to the nine months ended October 1, 2016 resulted primarily from a decrease in legal fees incurred for certain trade secret litigation and our establishment of the TRGP Agreement to finance the legal fees and costs incurred in the 2017 period in connection with certain of our legal proceedings against SK hynix.

Selling, General and Administrative

The following tables present selling, general and administrative expenses for the three and nine months ended September 30, 2017 and October 1, 2016:

	Three Months Ended		Change	% Change
	September 30, 2017	October 1, 2016		
	(in thousands, except percentages)			
Selling, general and administrative	\$ 1,780	\$ 2,398	\$ (618)	(26)%

	Nine Months Ended		Change	% Change
	September 30, 2017	October 1, 2016		
	(in thousands, except percentages)			
Selling, general and administrative	\$ 5,645	\$ 6,822	\$ (1,177)	(17)%

The decrease in selling, general and administrative expenses for the three months ended September 30, 2017 as compared to the three months ended October 1, 2016 resulted primarily from decreases of (i) \$0.4 million in sales and marketing headcount costs and related overhead and travel expenses and (ii) \$0.3 million in fees for outside services, partially offset by a \$0.1 million increase in bank fees related to the SVB Credit Agreement.

The decrease in selling, general and administrative expenses for the nine months ended September 30, 2017 as compared to the nine months ended October 1, 2016 resulted primarily from decreases of (i) \$1.0 million in sales and marketing headcount costs and related overhead and travel expenses, (ii) \$0.1 million in advertising and product evaluation costs, and (iii) \$0.1 million in fees for outside services, partially offset by a \$0.1 million increase in bank fees related to the SVB Credit Agreement.

Other Expense, Net

The following tables present other expense, net for the three and nine months ended September 30, 2017 and October 1, 2016:

	Three Months Ended		Change	% Change
	September 30, 2017	October 1, 2016		
	(in thousands, except percentages)			
Interest expense, net	\$ (135)	\$ (159)	\$ 24	15 %
Other income, net	-	19	(19)	100 %
Total other expense, net	\$ (135)	\$ (140)	\$ 5	4 %

	Nine Months Ended		Change	% Change
	September 30, 2017	October 1, 2016		
	(in thousands, except percentages)			
Interest expense, net	\$ (421)	\$ (428)	\$ 7	2 %
Other income, net	2	17	(15)	88 %
Total other expense, net	\$ (419)	\$ (411)	\$ (8)	(2) %

Interest expense, net, for the three and nine months ended September 30, 2017 and 2016 consisted primarily of interest payments under the SVIC Note and the SVB Credit Agreement, and the decrease between periods resulted primarily from lower amortization expense on the SVIC note and a reduction of interest expense on the SVB Credit Agreement, due to lower unused credit line fees.

Other income, net, for the three and nine months ended September 30, 2017 and October 1, 2016 consisted primarily of the settlement of an insurance claim in 2016 related to our facility in the PRC.

Provision for Income Taxes

Our provision for income taxes was immaterial in all periods presented

The federal statutory rate was 34% for the three and nine months ended September 30, 2017 and October 1, 2016. In all periods presented, we continued to provide a full valuation allowance against our net deferred tax assets, which consist primarily of net operating loss carryforwards. In these periods, our effective tax rate differed from the statutory rate primarily due to the valuation allowance on newly generated loss carryforwards.

Liquidity and Capital Resources

Liquidity generally refers to the ability to generate adequate amounts of cash to meet our cash needs. We require cash to fund our operating expenses and working capital requirements, to make required payments of principal and interest under our outstanding debt instruments and, to a lesser extent, to fund capital expenditures.

Working Capital

The following table presents working capital and cash and cash equivalents as of September 30, 2017 and December 31, 2016:

	September 30, 2017	December 31, 2016
	(in thousands)	
Current assets(1)	\$ 20,152	\$ 19,253
Current liabilities	11,315	6,210
Working capital(1)	\$ 8,837	\$ 13,043

(1) Includes cash and cash equivalents of \$8,583 and \$9,476 as of September 30, 2017 and December 31, 2016, respectively.

Our working capital decreased by \$4.2 million during the nine months ended September 30, 2017. Our current assets increased by \$0.9 million primarily from a \$1.2 million increase in inventory costs to support the increase in our net product revenues and a \$1.3 million increase in accounts receivable primarily related to increased product revenues, partially offset by a \$0.9 million decrease in cash and cash equivalents attributable to our use of cash to fund our operations and by the net proceeds received from the 2017 Offering and a \$0.7 million decrease in restricted cash that collateralized a standby letter of credit with one vendor. Our current liabilities increased by \$5.1 million primarily from a \$3.7 million increase in accounts payable to purchase inventory and from legal expenses to defend our intellectual property and a \$1.9 million increase in our borrowings under the SVB Credit Agreement to fund our operations, partially offset by a \$0.4 million decrease in accrued payroll and related liabilities.

Cash Flows

The following table summarizes our cash flows for the nine months ended September 30, 2017 and October 1, 2016:

	Nine Months Ended	
	September 30, 2017	October 1, 2016
	(in thousands)	
Net cash provided by (used in):		
Operating activities	\$ (6,974)	\$ (14,244)
Investing activities	(78)	(317)
Financing activities	6,159	10,271
Net change in cash and cash equivalents	\$ (893)	\$ (4,290)

Operating Activities

Net cash used in operating activities for the nine months ended September 30, 2017 was primarily the result of a net loss of \$10.3 million, partially offset by (i) \$1.5 million of net non-cash operating expenses, which primarily consisted of stock-based compensation, interest accrued on convertible debt, depreciation and amortization and amortization of debt discounts, and (ii) \$1.8 million of net cash provided by operating activities due to changes in operating assets and liabilities, which were primarily from a \$3.7 million increase in accounts payable and \$0.7 million increase in restricted cash, partially offset by a \$1.2 million increase in inventories and a \$0.4 million decrease in accrued payroll and related liabilities. The increase in accounts payable between periods was primarily due to increased purchases of inventory. The increase in restricted cash between periods was primarily due to increasing our standby letter of credit with one vendor which is secured by restricted cash. The increase in inventories between periods was primarily due to our purchase of additional inventory to support the increase in our net product revenues. The decrease in accrued payroll and related liabilities between periods was primarily due to a reduction in headcount.

Net cash used in operating activities for the nine months ended October 1, 2016 was primarily the result of a net loss of approximately \$7.3 million and approximately \$8.4 million in net cash used in operating activities during the period due to changes in operating assets and liabilities, which were primarily from changes in deferred revenue, inventories, accounts payable and accrued expenses, restricted cash and accounts receivable, partially offset by approximately \$1.5 million in net non-cash operating expenses primarily consisting of stock-based compensation, depreciation and amortization and amortization of debt discounts.

Investing Activities

Net cash used in investing activities for the nine months ended September 30, 2017 and October 1, 2016 was the result of our purchases of property and equipment during the periods.

Financing Activities

Net cash provided by financing activities for the nine months ended September 30, 2017 was primarily the result of (i) \$1.9 million in net borrowings under the SVB Credit Agreement (ii) \$4.4 million in net proceeds from the 2017 Offering and (iii) \$0.2 million in proceeds from the exercise of stock options, partially offset by \$0.3 million in payments of outstanding debt. Net cash provided by financing activities for the nine months ended October 1, 2016 was primarily the result of the 2016 Offering, as defined and discussed under “Capital Resources” below, pursuant to which we raised net proceeds of approximately \$10.3 million.

Capital Resources

Our sources of cash have historically consisted of proceeds from issuances of equity and debt securities and revenues generated from operations, including product revenues and NRE revenues from our JDLA with Samsung. We have also funded our operations with a revolving line of credit and term loans under a bank credit facility, a funding arrangement for costs associated with our legal proceedings against SK hynix and, to a lesser extent, equipment leasing arrangements.

2017 ATM Program

In November 2017, we entered into an At The Market Sales Agreement (the “Sales Agreement”) with B. Riley FBR, Inc., pursuant to which we can offer and sell our common stock, from time to time, up to aggregate sales proceeds of \$9 million. The Sales Agreement is more fully described in part II – Item 5 – Other Information.

2017 Offering

On August 22, 2017, we completed the 2017 Offering for net proceeds to us of \$4.4 million, after deducting underwriting discounts and commissions and offering expenses paid by us.

TRGP Agreement

On May 3, 2017, we entered into the TRGP Agreement, which generally provides that TRGP will directly fund the costs incurred by us or on our behalf in connection with certain of our legal proceedings against SK hynix, including costs incurred since January 1, 2017 and costs to be incurred in the future in our first ITC action and our U.S. district court proceedings, but excluding our subsequent ITC action and our proceedings in international courts. In the nine months ended September 30, 2017, TRGP directly paid \$9.3 million of legal expenses we incurred in connection with the SK hynix proceedings.

2016 Offering

On September 23, 2016, we completed an underwritten registered public offering (the “2016 Offering”), pursuant to which we sold 9,200,000 shares of our common stock at a price to the public of \$1.25 per share. The net proceeds to us from the 2016 Offering were \$10.3 million, after deducting underwriting discounts and commissions and offering expenses paid by us.

SVB Credit Agreement

On October 31, 2009, we entered into the SVB Credit Agreement, which provides that we may borrow up to the lesser of (i) 80% of eligible accounts receivable, or (ii) \$5.0 million, subject to certain adjustments as set forth in the SVB Credit Agreement. The SVB Credit Agreement expires April 1, 2018.

We made net borrowings of \$1.9 million under the SVB Credit Agreement in the nine months ended September 30, 2017, and we made no borrowings under the SVB Credit Agreement in the nine months ended October 1, 2016. As of September 30, 2017, we had outstanding borrowings under the SVB Credit Agreement of \$2.6 million. As of September 30, 2017 and December 31, 2016, we had borrowing availability under the SVB Credit Agreement of \$0.1 million and \$0.8 million, respectively.

SVIC Note and SVIC Warrant

On November 18, 2015, we issued to SVIC the SVIC Note and the SVIC Warrant. The SVIC Note has an original principal amount of \$15.0 million, accrues interest at a rate of 2.0% per year, is due and payable in full on December 31, 2021, and is convertible into shares of our common stock at a conversion price of \$1.25 per share, subject to certain adjustments, on the maturity date of the SVIC Note. The SVIC Warrant grants SVIC a right to purchase up to 2,000,000 shares of our common stock at an exercise price of \$0.30 per share, subject to certain adjustments, is only exercisable in the event we exercise our right to redeem the SVIC Note prior to its maturity date, and expires on December 31, 2025. Proceeds from the SVIC Note were used to repay a former loan from a different lender.

Equipment Leasing Arrangements

We have in the past utilized equipment leasing arrangements to finance certain capital expenditures. Although equipment leases did not contribute material cash during the periods covered by this report, they continue to be a financing alternative that we may pursue in the future.

Sufficiency of Cash Balances and Potential Sources of Additional Capital

We believe our existing cash balance, together with cash provided by our operations and borrowing availability under the SVB Credit Agreement, and taking into account cash expected to be used in our operations and the funding to be received under the TRGP Agreement, will be sufficient to meet our anticipated cash needs for at least the next 12 months. Our capital requirements will depend on many factors, including, among others: the acceptance of, and demand for, our products and the component products we resell to customers directly; our levels of net product revenues and any other revenues we may receive, including NRE, license, royalty or other fees; the extent and timing of any investments in developing, marketing and launching new or enhanced products or technologies; the costs of developing, improving and maintaining our internal design, testing and manufacturing processes; the costs associated with defending and enforcing

our intellectual property rights; and the nature and timing of acquisitions and other strategic transactions in which we participate, if any.

Although we expect to be able to rely in the near term on our existing cash balance, cash provided by our operations, payments under the TRGP Agreement and borrowing availability under the SVB Credit Agreement, our estimates of our operating revenues and expenses and working capital requirements could be incorrect, and we may use our cash resources faster than we anticipate. Further, some or all of our ongoing or planned investments may not be successful and could result in further losses. Until we can generate sufficient revenues to finance our cash requirements from our operations, which we may never do, we may need to increase our liquidity and capital resources by one or more measures, which may include, among others, reducing operating expenses, restructuring our balance sheet by negotiating with creditors and vendors, entering into strategic partnerships or alliances, raising additional financing through the issuance of debt, equity or convertible securities or pursuing alternative sources of capital, such as through asset or technology sales or licenses or other alternative financing arrangements. Further, even if our near-term liquidity expectations prove correct, we may still seek to raise capital through one or more of these financing alternatives. However, we may not be able to obtain capital when needed or desired, on terms acceptable to us or at all.

Inadequate working capital would have a material adverse effect on our business and operations and could cause us to fail to execute our business plan, fail to take advantage of future opportunities or fail to respond to competitive pressures or customer requirements. A lack of sufficient funding may also require us to significantly modify our business model and/or reduce or cease our operations, which could include implementing cost-cutting measures or delaying, scaling back or eliminating some or all of our ongoing and planned investments in corporate infrastructure, research and development projects, business development initiatives and sales and marketing activities, among other activities. Modification of our business model and operations could result in an impairment of assets, the effects of which cannot be determined. Furthermore, if we continue to issue equity or convertible debt securities to raise additional funds, our existing stockholders may experience significant dilution, and the new equity or debt securities may have rights, preferences and privileges that are superior to those of our existing stockholders. If we incur additional debt, it may increase our leverage relative to our earnings or to our equity capitalization or have other material consequences. If we pursue asset or technology sales or licenses or other alternative financing arrangements to obtain additional capital, our operational capacity may be limited and any revenue streams or business plans that are dependent on the sold or licensed assets may be reduced or eliminated. Moreover, we may incur substantial costs in pursuing any future capital-raising transactions, including investment banking, legal and accounting fees, printing and distribution expenses and other similar costs, which would reduce the benefit of the capital received from the transaction.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditure or capital resources that is material to investors.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Not applicable.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management carried out an evaluation, under the supervision and with the participation of our principal executive officer and principal financial officer, of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) as of the end of the period covered by this report. Based upon this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of September 30, 2017. Our disclosure controls and procedures are designed to provide reasonable assurance that information required to be disclosed by us in reports that we file or submit under the Exchange Act (i) is recorded, processed, summarized and reported within the

time periods specified in the rules and forms of the Securities and Exchange Commission (“SEC”) and (ii) is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosures.

Changes in Internal Control over Financial Reporting

During our fiscal quarter ended September 30, 2017, there were no changes in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Controls

A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple errors. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is also based in part upon certain assumptions about the likelihood of future events, and any design may not succeed in achieving its stated goals under all potential conditions. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

In addition, projections of any evaluation of effectiveness to future periods are subject to risks that controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with the controls.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

The information under “Litigation and Patent Reexaminations” in Note 7 to the condensed consolidated financial statements included in Part I, Item 1 of this report is incorporated herein by reference.

Item 1A. Risk Factors

Investing in our securities involves a high degree of risk. Before making any investment decision with respect to our securities, you should carefully consider each of the following risk factors and the other information in this report. Each of these risk factors, either alone or together, could adversely affect our business, operating results, financial condition, ability to access capital resources and future growth prospects, as well as the value of an investment in our securities. As a result, you could lose some or all of any investment you have made or may make in our securities. In assessing these risks, you should also review the other information contained in this report, including our condensed consolidated financial statements and the related notes, and the other filings we make with the SEC. The risks described below are not the only ones we face. Additional risks of which we are not presently aware or that we currently believe are immaterial may also impair our business operations and financial position.

Risks Related to Our Business

We have historically incurred losses and may continue to incur losses.

Since the inception of our business in 2000, we have only experienced one fiscal year (2006) with profitable results. In order to regain profitability, or to achieve and sustain positive cash flows from operations, we must reduce operating expenses and/or increase our revenues and gross margins. Although we have in the past engaged in a series of

cost reduction actions, such expense reductions alone may not make us profitable or allow us to sustain profitability if it is achieved and eliminating or reducing strategic initiatives could limit our opportunities and prospects. Our ability to achieve profitability will depend on increased revenue growth from, among other things, monetization of our intellectual property, increased demand for our memory subsystems and other product offerings and our ability to expand into new and emerging markets. We may not be successful in any of these pursuits and we may never achieve profitability or sustain profitability if achieved.

We may not have sufficient working capital to fund our planned operations, and, as a result, we may need to raise additional capital in the future, which may not be available when needed, on acceptable terms or at all.

We believe that, taking into account our planned activities and our sources of capital, we have sufficient cash resources to satisfy our capital needs for at least the next 12 months. However, our estimates of our operating revenues and expenses and working capital requirements could be incorrect, and we may use our cash resources faster than we anticipate. Further, some or all of our ongoing or planned investments may not be successful and could result in further losses.

Our capital requirements will depend on many factors, including, among others:

- the acceptance of, and demand for, our products and the component products we resell to customers directly;
- our success, and that of our strategic partners, in developing and selling products derived from our technology;
- the extent and timing of any investments in developing, marketing and launching new or enhanced products or technologies;
- the costs of developing, improving and maintaining our internal design, testing and manufacturing processes;
- the costs associated with defending and enforcing our intellectual property rights;
- our results of operations, including our levels of net product revenues and any other revenues we may receive, including non-recurring engineering (“NRE”), license, royalty or other fees;
- the amount and timing of vendor payments and the collection of receivables, among other factors affecting our working capital;
- our receipt of cash proceeds from the exercise of outstanding stock options or warrants to acquire our common stock;
- the nature and timing of acquisitions and other strategic transactions in which we participate, if any; and
- the costs associated with the continued operation, and any future growth, of our business.

We expect to rely in the near term on cash provided by our operations; funds raised pursuant to recent issuances of debt and equity securities, such as our November 2015 issuance of convertible debt to an affiliate of Samsung Venture Investment Co., Samsung Venture Investment Co. (“SVIC”), and our September 2016 and August 2017 public offerings of common stock; our new funding arrangement with TR Global Funding V, LLC, an affiliate of TRGP Capital Management, LLC (“TRGP”), for costs associated with certain of our legal proceedings; and borrowing availability under our credit facility with Silicon Valley Bank (“SVB”). However, our estimates of our operating revenues and expenses and working capital requirements could be incorrect, and we may use our cash resources faster than we

anticipate. Further, some or all of our ongoing or planned investments may not be successful and could result in further losses. Until we can generate sufficient revenues to finance our cash requirements from our operations, which we may never do, we may need to increase our liquidity and capital resources by one or more measures, which may include, among others, reducing operating expenses, restructuring our balance sheet by negotiating with creditors and vendors, entering into strategic partnerships or alliances, raising additional financing through the issuance of debt, equity or convertible securities or pursuing alternative sources of capital, such as through asset or technology sales or licenses or other alternative financing arrangements. Further, even if our near-term liquidity expectations prove correct, we may still seek to raise capital through one or more of these financing alternatives. However, we may not be able to obtain capital when needed or desired, on terms acceptable to us or at all.

Inadequate working capital would have a material adverse effect on our business and operations and could cause us to fail to execute our business plan, fail to take advantage of future opportunities or fail to respond to competitive pressures or customer requirements. A lack of sufficient funding may also require us to significantly modify our business model and/or reduce or cease our operations, which could include implementing cost-cutting measures or delaying, scaling back or eliminating some or all of our ongoing and planned investments in corporate infrastructure, research and development projects, business development initiatives and sales and marketing activities, among other activities. Modification of our business model and operations could result in an impairment of assets, the effects of which cannot be determined. Furthermore, if we continue to issue equity or convertible debt securities to raise additional funds, our existing stockholders may experience significant dilution, and the new equity or debt securities may have rights, preferences and privileges that are superior to those of our existing stockholders. If we incur additional debt, it may increase our leverage relative to our earnings or to our equity capitalization or have other material consequences. If we pursue asset or technology sales or licenses or other alternative financing arrangements to obtain additional capital, our operational capacity may be limited and any revenue streams or business plans that are dependent on the sold or licensed assets may be reduced or eliminated. Moreover, we may incur substantial costs in pursuing any future capital-raising transactions, including investment banking, legal and accounting fees, printing and distribution expenses and other similar costs, which would reduce the benefit of the capital received from the transaction.

We have incurred a material amount of indebtedness to fund our operations, the terms of which have required us to pledge substantially all of our assets as security. Our level of indebtedness and the terms of such indebtedness could adversely affect our operations and liquidity.

We have incurred debt under our convertible note issued to SVIC, our credit facility with SVB, and our new funding arrangement with TRGP. In connection with these debt and other arrangements, we have granted security interests to SVIC, SVB and TRGP in our various assets, such that all of our tangible and intangible assets, including our complete patent portfolio, are subject to one or more outstanding liens held by one or more of these parties. The SVIC and SVB debt instruments and the TRGP investment agreement contain customary representations, warranties and indemnification provisions, as well as affirmative and negative covenants that, among other things, restrict our ability to:

- incur additional indebtedness or guarantees;
- incur liens;
- make investments, loans and acquisitions;
- consolidate or merge;
- sell or exclusively license assets, including capital stock of subsidiaries;
- alter our business;
- change any provision of our organizational documents;
- engage in transactions with affiliates;

- make certain decisions regarding certain of our outstanding legal proceedings without consulting with or obtaining consent from certain of these parties; and
- pay dividends or make distributions.

The SVIC and SVB debt instruments and the TRGP investment agreement also include events of default, including, among other things, payment defaults, any breach by us of representations, warranties or covenants, certain bankruptcy events and certain material adverse changes. If an event of default were to occur under any of these instruments or agreements and we were unable to obtain a waiver for the default, the counterparties could, among other remedies, accelerate our obligations under the debt instrument or other agreement and exercise their rights to foreclose on their security interests, which would cause substantial harm to our business and prospects.

Additionally, incurrence and maintenance of this or other debt could have material adverse consequences on our business and financial condition, such as:

- requiring us to dedicate a portion of our cash flows from operations and other capital resources to debt service, thereby reducing our ability to fund working capital, capital expenditures and other cash requirements;
- increasing our vulnerability to adverse economic and industry conditions;
- limiting our flexibility in planning for or reacting to changes and opportunities in our business and industry, which may place us at a competitive disadvantage; and
- limiting our ability to incur additional debt when needed, on acceptable terms or at all.

We are and expect to continue to be involved in costly legal and administrative proceedings to enforce or protect our intellectual property rights and to defend against claims that we infringe the intellectual property rights of others.

As is common in the semiconductor industry, we have experienced substantial litigation regarding patent and other intellectual property rights. We are currently involved in litigation and proceedings at the U.S. Patent and Trademark Office (“USPTO”) and Patent Trial and Appeal Board (“PTAB”) based on alleged third-party infringement of our patents, and lawsuits claiming that we are infringing others’ intellectual property rights also have been and may in the future be brought against us.

The process of obtaining and protecting patents is inherently uncertain. In addition to the patent issuance process established by law and the procedures of the USPTO, we must comply with administrative procedures of the Joint Electron Device Engineering Council (“JEDEC”) to protect our intellectual property within its industry standard-setting process. These procedures evolve over time, are subject to variability in their application and may be inconsistent with each other. Failure to comply with the USPTO’s or JEDEC’s administrative procedures could jeopardize our ability to claim that our patents have been infringed.

Our business strategy includes litigating claims against others, such as our competitors, customers and former employees, to enforce our intellectual property, contractual and commercial rights including, in particular, our patent portfolio and our trade secrets, as well as to challenge the validity and scope of the proprietary rights of others. This or other similar proceedings could also subject us to counterclaims or countersuits against us, or the parties we sue could seek to invalidate our patents or other intellectual property rights through reexamination or similar processes at the USPTO or similar bodies. Moreover, any legal disputes with customers could cause them to cease buying or using our products or the component products we resell to customers directly or delay their purchase of these products and could substantially damage our relationship with them.

Making use of new technologies and entering new markets increases the likelihood that others might allege that our products or the component products we resell infringe on their intellectual property rights. The likelihood of this type

of lawsuit may also be increased due to the limited pool of experienced technical personnel that we can draw upon to meet our hiring needs. As a result, a number of our existing employees have worked for our existing or potential competitors at some point during their careers, and we anticipate that a number of our future employees will have similar work histories. Moreover, lawsuits of this type may be brought, even if there is no merit to the claim, as a strategy to prevent us from hiring qualified candidates, drain our financial resources and divert management's attention away from our business.

Litigation is inherently uncertain. An adverse outcome in existing or any future litigation could force us to, among other things:

- relinquish patents or other protections of our technologies if they are invalidated, which would enable our competitors and others to freely use this technology;
- compete with products that rely upon technologies and other intellectual property rights that we have developed and that we believe we have the right to protect from third-party use;
- accept terms of an arrangement to license our technologies to a third party that are not as favorable as we might expect;
- cease manufacturing and/or selling products or using certain processes that are claimed to be infringing a third party's intellectual property;
- pay damages (which in some instances may be three times actual damages), including royalties on past or future sales, if we are found to infringe a third party's intellectual property;
- seek a license from a third -party intellectual property owner to use its technology in our products or the component products we resell, which may not be available on reasonable terms or at all; or
- redesign any products that are claimed to be infringing a third party's intellectual property, which may not be possible to do in a timely manner, without incurring significant costs or at all.

Moreover, any litigation, regardless of its outcome, would involve a significant dedication of resources, including time and costs, would divert management's time and attention and could negatively impact our results of operations. As a result, any current or future infringement claims by or against third parties could materially adversely affect our business, financial condition or results of operations.

We are and expect to continue to be involved in legal proceedings at the ITC and related enforcement actions to stop allegedly infringing SK hynix RDIMM and LRDIMM products from entering the United States, as well as legal proceedings in district court to seek damages for the alleged patent infringement. Our involvement in these proceedings, as well as steps we have taken to implement certain of our strategies in connection with these proceedings, subject us to a number of risks.

On September 1, 2016, we took action to protect and defend our innovations by filing legal proceedings for patent infringement against SK hynix Inc., a South Korean memory semiconductor supplier ("SK hynix"), and two of its subsidiaries in the U.S. International Trade Commission ("ITC") and in district court. We are seeking an exclusion order in the ITC that directs U.S. Customs and Border Protection to stop allegedly infringing SK hynix registered dual in-line memory module ("RDIMM") and load reduced dual in-line memory modules ("LRDIMM") products from entering the United States. ITC investigations typically proceed on an expedited basis. The evidentiary hearing in the ITC investigation occurred in May 2017, with a final initial determination expected to be issued by the ITC in November 2017, but there can be no guarantee that our proceedings will follow such a timeline.

Intellectual property litigation is expensive and time-consuming, regardless of the merits of any claim, and could divert management's attention from operating our business. Even if we are successful at the ITC, we would then need to enforce the order which is expensive, time consuming and could divert management's attention from operating

our business. In addition, lawsuits in the ITC and in district courts are subject to inherent uncertainties due to the complexity of the technical issues involved, and we may not be successful in our actions. Moreover, if we are countersued by SK hynix and lose the suit, we could be required to pay substantial damages or lose some of our intellectual property protections. Furthermore, we may not be able to reach a settlement with SK hynix to license our patent portfolio, and even if we are able to reach a settlement, the terms of the arrangement may not be as favorable as we anticipated. Any of the foregoing could cause us to incur significant costs, decrease the perceived value of our intellectual property and materially adversely affect our business, financial condition or results of operations.

We have recently taken steps to solidify our position and strategy in connection with our proceedings against SK hynix. In May 2017, we established a funding arrangement with TRGP, which generally provides that TRGP will directly fund the costs incurred by us or on our behalf in connection with certain of our SK hynix proceedings (including our first ITC action and our U.S. district court proceedings, but excluding our subsequent ITC action and our proceedings in international courts), and in exchange for such funding, we have agreed to pay to TRGP the amount of its funding plus an escalating premium starting at a low-to-mid double-digit percentage of the amount of its funding if and when we recover any proceeds from the funded proceedings, and we have granted to TRGP a first priority lien on the claims underlying the funded proceedings and any proceeds received from the funded proceedings and a second priority lien on our patents that are the subject of the funded proceedings. We established this funding arrangement in order to provide us with increased security that we will be able to vigorously pursue our claims against SK hynix through their final resolution, but the arrangement also involves certain risks, including, among others, our obligation to use a portion of any proceeds we may receive from these proceedings to repay the funded amounts at a premium, which premium would increase the longer the proceedings remain unresolved, and our obligation to consult with or obtain consent from TRGP in connection with certain decisions or other matters relating to the SK hynix proceedings.

In addition, in April 2017, we adopted a short-term rights agreement to implement a standard “poison pill.” In general terms, for so long as the rights issued under the rights agreement are outstanding, which is expected to be no longer than 12 months, the rights agreement prevents any person or group from acquiring a significant percentage of our outstanding capital stock or attempting a hostile takeover of our Company by significantly diluting the ownership percentage of such person or group. As a result, the rights agreement has a significant anti-takeover effect. Our board of directors approved the rights agreement as part of our strategy in connection with our proceedings against SK hynix, with the intent of disconnecting our market capitalization from the damages calculations and any settlement negotiations that may develop in connection with these proceedings. However, the rights agreement may not have the intended, or any, impact on these proceedings or any related settlement negotiations, but would have the anti-takeover effect of any standard “poison pill” and thus would involve the risks associated with these anti-takeover effects, which are described elsewhere in these risk factors.

We may be unsuccessful in monetizing our intellectual property portfolio.

We have dedicated substantial resources to the development and protection of technology innovations essential to our business, and we expect these activities to continue for the foreseeable future. We also intend to aggressively pursue monetization avenues for our intellectual property portfolio, potentially including licensing, royalty or other revenue-producing arrangements. However, our revenues are currently generated by resales of component products and sales of our products and we may never be successful in generating a revenue stream from our intellectual property, in which case our investments of time, capital and other resources into our intellectual property portfolio may not provide adequate, or any, returns.

Although we may pursue agreements with third parties to commercially license certain of our products or technologies, we may never successfully enter into any such agreement. Further, the terms of any such agreements that we may reach with third-party licensees are uncertain and may not provide sufficient royalty or other licensing revenues to us to justify our costs of developing and maintaining the licensed intellectual property or may otherwise include terms that are not favorable to us. Additionally, the pursuit of licensing arrangements would require by its nature that we relinquish certain of our rights to our technologies and intellectual property that we license to third parties, which could limit our ability to base our own products on such technologies or could reduce the economic value that we receive from such technologies and intellectual property. Additionally, the establishment of arrangements to monetize our intellectual property may be more difficult or costly than expected, may require additional personnel and investments and may be a

significant distraction for management. In connection with any monetization avenues we may develop, our licenses and royalty revenue may be uncertain from period to period and we may be unable to attract sufficient licensing customers, which would materially and adversely affect our results of operations.

Our ability to establish licensing, royalty or similar revenues, and maintain or increase any such revenues we are able to establish, depends on a variety of factors, including the novelty, utility, performance, quality, breadth, depth and overall perceived value of our intellectual property portfolio, all as compared to that of our competitors, as well as our sales and marketing capabilities. If secured, licensing or royalty revenues may also be negatively affected by factors within and outside our control, including reductions in our customers' sales prices, sales volumes and the terms of the license arrangements. If we are not successful in monetizing our intellectual property portfolio, we may never recoup the costs associated with developing, maintaining, defending and enforcing this portfolio and our financial condition and prospects would be harmed.

The vast majority of our revenues in recent periods have been generated from resales of component products, including products sourced from Samsung, and any decline in our resales of these products could significantly harm our performance.

The vast majority of our revenues in recent periods have been generated from resales of component products, including primarily NAND flash that we purchase for the purpose of resale from Samsung and alternative suppliers. For our fiscal year ended December 31, 2016 and the nine months ended September 30, 2017, resales of these component products accounted for approximately 21% and 86% of our net product revenues, respectively. We purchase many of these products, including primarily NAND flash, from Samsung Electronics Co., Ltd. ("Samsung") under the terms of our Joint Development and License Agreement ("JDLA") with Samsung in order to resell these products to end-customers that are not reached in Samsung's distribution model, including storage customers, appliance customers, system builders and cloud and datacenter customers. We have also sourced these products from alternative suppliers to the extent sufficient product is not available from Samsung to meet customer demand.

These component product resales are subject to a number of risks. For example, demand for these products could decline at any time for a number of reasons, including, among others, product obsolescence, introduction of more advanced or otherwise superior competing products by our competitors, the ability of our customers to obtain these products or substitute products from alternate sources, customers reducing their need for these products generally, or the other risk factors described in this report. Further, we have no long-term purchase agreements or other commitments with respect to sales of these or any of our other products. As a result, demand for these products from us could decline at any time, and any reduced sales of these products could materially adversely impact our revenues. In addition, increased resales of component products as a percentage of our total product revenues have a significant negative impact on our gross margin, as the cost of the component products we purchase for resale from Samsung or alternative suppliers is added to our cost of sales for these products. As a result, our gross margin on the resale of component products is significantly lower than our gross margin on sales of our own products. Further, to the extent we are not able to procure sufficient component products for resale from Samsung under the terms of the JDLA to satisfy customer orders for these products, we would need to seek to procure these products from alternative suppliers, which may not be available on terms comparable to those we have negotiated with Samsung under the JDLA and may be subject to other supply and manufacturing risks discussed elsewhere in these risk factors. As a result, any inability to source sufficient component products from Samsung could increase our cost of sales associated with resales of these products if we are forced to pay higher prices to obtain these products from other suppliers. The occurrence of any one or more of these risks could cause our performance to materially suffer.

Our performance has historically been substantially dependent on sales of NVvault, and we may never be able to replace the revenues lost from the rapid decline in NVvault sales in recent periods.

We have historically been substantially dependent on sales of our NVvault non-volatile dual in-line memory modules ("NVDIMM") used in cache-protection and data-logging applications, including our NVvault battery-free, the flash-based cache system. For our fiscal years ended December 27, 2014 and January 2, 2016, sales of NVvault accounted for 44% and 20% of total net product revenues, respectively. However, we have experienced a sharp decline in NVvault sales in recent periods, and sales of NVvault accounted for only 1% and 0.3% of total net product revenues in

our fiscal year ended December 31, 2016 and the nine months ended September 30, 2017, respectively. This rapid decline has been due in large part to the loss of our former most significant NVvault customer, Dell, beginning in 2012. We recognized no NVvault sales to Dell in the year ended December 31, 2016 or the nine months ended September 30, 2017, and we expect no future demand from Dell for these products. In order to leverage our NVvault technology and secure one or more new key customers, we continue to pursue additional qualifications of NVvault with other original equipment manufacturers (“OEMs”) and to target new customer applications, such as online transaction processing, virtualization, Big Data analytics, high speed transaction processing, high-performance database applications and in-memory database applications. We also introduced EXPRESSvault in March 2011 and the next-generation of EXPRESSvault (EV3) in July 2015, and we continue to pursue qualification of the next-generation DDR3 NVvault and DDR4 NVvault with customers. Our future operating results will depend on our ability to commercialize these NVvault product extensions, as well as our other products such as HybriDIMM and other high-density and high-performance solutions. However, HybriDIMM is still under development and may require additional investment and the services and attention of key employees who have competing demands on their available time. Further, although we believe our JDLA with Samsung may advance the development of our HybriDIMM product, our partnership with Samsung and any other steps we take to further the development of this or any of our other products could fail. Moreover, the rate and degree of customer adoption of our NVvault product extensions and other next-generation products has been slower and smaller than expected to date, and these products may never gain significant customer or market acceptance. If we are not successful in expanding our qualifications or marketing any new or enhanced products, we may never be able to secure revenues sufficient to replace lost NVvault revenues and our results of operations and prospects could be materially harmed.

We are subject to risks relating to our focus on developing our HybriDIMM and NVvault products and a lack of market diversification.

We have historically derived a substantial portion of our revenues from sales of our high-performance modular memory subsystems to OEMs in the server, high-performance computing and communications markets, as well as from sales of component products to storage customers, appliance customers, system builders and cloud and datacenter customers. Although we expect these memory subsystems to continue to account for a portion of our revenues, we have experienced declines in sales of these products in recent periods and these declines could continue or intensify in the future. We believe that market acceptance of these products or derivative products that incorporate our core memory subsystem technology is critical to our success, and any continued decline in sales of these products could have a material adverse impact on our performance and long-term prospects.

We have invested significant research and development time and costs into the design of application-specific integrated circuits (“ASIC”) and hybrid devices, including our NVvault family of products and most recently our next-generation HybriDIMM memory subsystem. These products are subject to increased risks as compared to our legacy products. For example:

- we are dependent on a limited number of suppliers for the dynamic random access memory integrated circuits (“DRAM ICs” or “DRAM”), NAND flash memory (“NAND flash”) and ASIC devices that are essential to the functionality of these products, and in the past we have experienced supply chain

disruptions and shortages of DRAM and NAND flash required to create our NVvault family of products as a result of issues that are specific to our suppliers or the industry as a whole;

- our products are generally subject to a product approval and qualification process with customers before purchases are made and we have experienced a longer qualification cycle than anticipated with some of these products, including our HyperCloud memory subsystems;
- our NVvault products or other new products such as HybridIMM may contain currently undiscovered flaws, the correction of which could result in increased costs and time to market; and
- we are required to demonstrate the quality and reliability of our products to and qualify them with our customers, which requires a significant investment of time and resources prior to the receipt of any revenues from these customers.

These and other risks attendant to the production of our memory subsystem products could impair our ability to obtain customer or market acceptance of these products or obtain such acceptance in a timely manner, which would reduce our achievable revenues from these products and limit our ability to recoup our investments in the products.

Additionally, if the demand for servers deteriorates or if the demand for our products to be incorporated in servers continues to decline, our operating results would be adversely affected, and we would be forced to diversify our product portfolio and our target markets in order to replace revenues lost from decreased sales of these products. We may not be able to achieve this diversification, and our inability to do so may adversely affect our business, operating performance and prospects.

Sales to a small number of varying customers have historically represented a significant portion of our net product revenues, and the loss of, or a significant reduction in sales to, any one of these customers could materially harm our business.

Sales to small numbers of customers have historically represented a substantial portion of our net product revenues. Additionally, the composition of major customers and their respective contributions to our net product revenues have fluctuated and will likely continue to fluctuate from period to period as our existing and prospective customers progress through the life cycle of the products they produce and sell and experience resulting fluctuations in their product demand. For instance, approximately 13% and 10% of our net product revenues in the three months ended September 30, 2017 were to two customers, each of which represented less than 10% of our net product revenues in the nine months ended September 30, 2017 and in all periods in 2016. Additionally, in the three and nine months ended October 1, 2016, approximately 17% and 17%, and 29% and 10% of our net product revenues in the respective periods were to two customers, neither of which purchased many products or contributed a meaningful portion of our revenues in the corresponding 2017 periods.

We do not have long-term agreements with any of our customers and, as result, any or all of them could decide at any time to discontinue, decrease or delay their purchase of our products or the component products we resell directly. In addition, the prices customers pay for products could change at any time. Further, we may not be able to sell some of our products developed for one customer to a different customer because our products are often customized to address specific customer requirements, and even if we are able to sell these products to another customer, our margin on these products may be reduced. Additionally, although customers are generally allowed only limited rights of return after purchasing our products or the component products we resell, we may determine that it is in our best interest to accept returns from certain large or key customers even if we are not contractually obligated to accept them in order to maintain good relations with these customers. Any returns beyond our expectations could negatively impact our operating results. Moreover, because a few customers often account for a substantial portion of our net product revenues, the failure of any one of these customers to pay on a timely basis would negatively impact our cash flows. As a result, the loss of any of our customers, particularly our large or key customers, a reduction in sales to or sale prices for any of them, including as

a result of normal fluctuations in product demand or other factors, or difficulties collecting payments from any of them could significantly reduce our net product revenues and adversely affect our operating results.

Our ability to maintain or increase our net product revenues to our key customers depends on a variety of factors, many of which are beyond our control. These factors include our customers' continued sales of servers and other computing systems that incorporate our memory subsystems and our customers' continued incorporation of our products or the component products we resell to these customers directly into their systems. Because of these and other factors, sales to these customers may not continue and the amount of such sales may not reach or exceed historical levels in any future period.

We are subject to risks of disruption in the supply of component products.

Our ability to fulfill customer orders for or produce qualification samples of our products is dependent on a sufficient supply of field-programmable gate arrays ("FPGAs"), ASICs, DRAM ICs and NAND flash, which are essential components of our memory subsystems. In addition, we purchase some of these component products from Samsung under the terms of the JDLA and from alternative suppliers for the purpose of resale to end-customers that are not reached in Samsung's distribution model. We have no long-term supply contracts for any of these component products. Further, there are a relatively small number of suppliers of these components and we typically purchase from only a subset of these suppliers. As a result, our inventory purchases have historically been concentrated in a small number of suppliers, including an affiliate of Samsung, from which we obtained a large portion of our total inventory purchases in 2016 and the first nine months of 2017. We also use consumables and other components, including printed circuit boards ("PCBs"), to manufacture our memory subsystems, which we sometimes procure from single or limited sources to take advantage of volume pricing discounts.

From time to time, shortages in DRAM ICs and NAND flash have required some suppliers to limit the supply of these components. In the past, we have experienced supply chain disruptions and shortages of DRAM and NAND flash required to create our HyperCloud, NVvault and Planar X VLP products, and we have been forced to procure component products that we resell to customers directly from alternative suppliers to the extent we are not able to procure from Samsung sufficient quantities of these products to satisfy customer orders. We are continually working to secure adequate supplies of the components necessary to fill customers' orders in a timely manner. If we are unable to obtain a sufficient supply of DRAM ICs, NAND flash or other essential components to avoid interruptions in the delivery of our products as required by our customers or the delivery of these components to customers to whom we resell them directly, these customers may reduce future orders for these products or not purchase these products from us at all, which would cause our net product revenues to decline and harm our operating results. In addition, our reputation could be harmed due to failures to meet our customers' demands and, even assuming we are successful in resolving supply chain disruptions, we may not be able to replace any lost business and we may lose market share to our competitors. Further, if our suppliers are unable to produce qualification samples of our products on a timely basis or at all, we could experience delays in the qualification process with existing or prospective customers, which could have a significant impact on our ability to sell our products. Moreover, if we are not able to obtain these components in the amounts needed on a timely basis and at commercially reasonable prices, we may not be able to develop or introduce new products, we may experience significant increases in our cost of sales if we are forced to procure these components from alternative suppliers and are not able to negotiate favorable terms with these suppliers, or we may be forced to cease our resales of components we sell to customers directly.

Our dependence on a small number of suppliers and the lack of any guaranteed sources for the essential components of our products and the components we resell to customers directly expose us to several risks, including the inability to obtain an adequate supply of these components, increases in their costs, delivery delays and poor quality. Additionally, our customers qualify certain of the components provided by our suppliers for use in their systems. If one of our suppliers experiences quality control or other problems, it may be disqualified by one or more of our customers. This would disrupt our supplies of these components, and would also reduce the number of suppliers available to us and may require that we qualify a new supplier, which we may not be able to do.

Declines in customer demand for our products in recent periods have caused us to reduce our purchases of DRAM ICs and NAND flash for use as components in our products. Such declines or other fluctuations could continue

in the future. If we fail to maintain sufficient purchase levels with some suppliers, our ability to obtain supplies of these raw materials may be impaired due to the practice of some suppliers to allocate their products to customers with the highest regular demand.

Frequent technology changes and the introduction of next-generation versions of these component products may also result in the obsolescence of our inventory on-hand, which could involve significant time and costs to replace, reduce our net product revenues and gross margin and adversely affect our operating performance and financial condition.

Our customers require that our products undergo a lengthy and expensive qualification process without any assurance of sales.

Our prospective customers generally test and evaluate our memory subsystems before purchasing our products and integrating them into their systems. This extensive qualification process involves rigorous reliability testing and evaluation of our products, which may continue for nine months or longer and is often subject to delays. In addition to qualification of specific products, some of our customers may also require us to undergo a technology qualification if our product designs incorporate innovative technologies that the customer has not previously encountered. Such technology qualifications often take substantially longer than product qualifications and can take over a year to complete. Qualification by a prospective customer does not ensure any sales to that prospective customer, in which case we would receive no or limited revenues in spite of our investment of time and other resources in this qualification process, which could adversely affect our operating results.

Even after successful qualification and sales of our products to a customer, because the qualification process is both product-specific and platform-specific, our existing customers sometimes require us to re-qualify our products or to qualify our new products for use in new platforms or applications. For example, as our OEM customers transition from prior generation architectures to current generation architectures, we must design and qualify new products for use by these customers. In the past, this design and qualification process has taken up to nine months to complete, during which time our net product revenues to these customers declined significantly. Additionally, after our products are qualified with existing or new customers, the customer may take several months to begin purchasing the product or may decide not to purchase the product at all.

Likewise, changes in our products, our manufacturing facilities, our production processes or our component suppliers may require a new qualification process. For example, when our memory and NAND flash component vendors discontinue production of components, it may be necessary for us to design and qualify new products for our customers. As a result, some customers may require us, or we may decide, to purchase an estimated quantity of discontinued memory components necessary to ensure a steady supply of existing products until products with new components can be qualified. Purchases of this nature may affect our liquidity. Additionally, our estimation of quantities required during the transition may be incorrect, which could adversely impact our results of operations through lost revenue opportunities or charges related to excess and obsolete inventory.

We must devote substantial resources, including design, engineering, sales, marketing and management efforts, to qualify our products with prospective customers in anticipation of sales. Significant delays or other difficulties in the qualification process could result in an inability to keep up with rapid technology change or new, competitive products. If we delay or do not succeed in qualifying a product with an existing or prospective customer, we would not be able to sell that product to that customer, which may result in our holding excess and obsolete inventory and could reduce our net product revenues and customer base, any of which could materially harm our operating results and business.

If we are unable to timely and cost-effectively develop new or enhanced products that meet our customers' requirements and achieve market acceptance or technologies that we can monetize, our revenues and prospectus could be materially harmed.

Our industry is characterized by rapid technological change, evolving industry standards and rapid product obsolescence. As a result, continuous development of new technology, processes and product innovations is necessary in

order to be successful. We believe that the continued and timely development of new products and improvement of existing products are critical to our business and prospects for growth.

In order to develop and introduce new or enhanced products and technologies, we need to:

- retain and continue to attract new engineers with expertise in high-performance modular memory subsystems and our key technology competencies;
- identify and adjust to the changing requirements of our existing and potential future customers;
- identify and adapt to emerging technological trends and evolving industry standards in our markets;
- continue to develop and enhance our design tools, manufacturing processes and other technologies that allow us to produce attractive and competitive products;
- design and introduce cost-effective, innovative and performance-enhancing features that differentiate our products and technologies from those of our competitors;
- secure licenses to enable us to use any technologies, processes or other rights essential to the manufacture or use of any new products we may design, which licenses may not be available when needed, on acceptable terms or at all;
- maintain or develop new relationships with suppliers of components required for any new or enhanced products and technologies;
- qualify any new or enhanced products for use in our customers' products; and
- develop and maintain effective marketing strategies.

We may not be successful at any of these activities. As a result, we may not be able to successfully develop new or enhanced products or we may experience delays in this process. Failures or delays in product development and introduction could result in the loss of, or delays in generating, net products sales or other revenues and the loss of key customer relationships. Even if we develop new or enhanced products or technologies, they may not meet our customers' requirements or gain market acceptance, as our product development efforts are inherently risky due to the challenges of foreseeing changes or developments in technology or anticipating the adoption of new standards. Moreover, we have invested significant resources in our product development efforts, which would be lost if we fail to develop successful products. If any of these risks were to occur, our net product revenues, prospects and reputation could be materially adversely affected.

We face intense competition in our industry, and we may not be able to compete successfully in our target markets.

Our products are primarily targeted to OEMs in the server, high-performance computing and communications markets. In addition, we resell certain component products to storage customers, appliance customers, system builders and cloud and datacenter customers. These markets are intensely competitive, as numerous companies vie for business opportunities at a limited number of large OEMs and other customers. We face competition from DRAM suppliers, memory module providers and logic suppliers for many of our products, including EXPRESSvault, NVvault and HybriDIMM. We also face competition from the manufacturers and distributors of the component products we resell to customers, as these manufacturers and distributors could decide at any time to sell these component products to these customers directly. Additionally, if and to the extent we enter new markets or pursue licensing arrangements to monetize our technologies and intellectual property portfolio, we may face competition from a large number of competitors that produce solutions utilizing similar or competing technologies.

Some of our customers and suppliers may have proprietary products or technologies that are competitive with our products or the components we resell to them, or could develop internal solutions or enter into strategic relationships

with, or acquire, other high-density memory module or component providers. Any of these actions could reduce our customers' demand for our products or the component products we resell. Some of our significant suppliers of memory integrated circuits may be able to manufacture competitive products at lower costs by leveraging internal efficiencies, or could choose to reduce our supply of memory integrated circuits, which could adversely affect our ability to manufacture our memory subsystems on a timely basis, if at all.

Certain of our competitors have substantially greater financial, technical, marketing, distribution and other resources, broader product lines, lower cost structures, greater brand recognition and longer standing relationships with customers and suppliers. Some of our competitors may also have a greater ability to influence industry standards than we do. Additionally, some of our competitors may have more extensive or more established patent portfolios than we do. We may not be able to compete effectively against any of these organizations.

Our ability to compete in our current target markets and future markets will depend in large part on our ability to successfully develop, introduce and sell new and enhanced products or technologies on a timely and cost-effective basis and to respond to changing market requirements. We expect our competitors to continue to improve the performance of their current products and potentially reduce their prices. In addition, our competitors may develop future generations and enhancements of competitive products or new or enhanced technologies that may offer greater performance and improved pricing or render our technologies obsolete. If we are unable to match or exceed the improvements made by our competitors, our market position and prospects could deteriorate and our net product revenues could decline.

A limited number of relatively large potential customers dominate the markets for the products we sell.

Our target markets are characterized by a limited number of large companies. Consolidation in one or more of our target markets may further increase this industry concentration. As a result, we anticipate that sales of our products and the component products we resell will continue to be concentrated among a small number of large customers in the foreseeable future. We believe that our financial results will depend in significant part on our success in establishing and maintaining relationships with and effecting substantial sales to these potential customers. Even if we establish and successfully maintain these relationships, our financial results will be largely dependent on these customers' sales and business results.

If a standardized memory solution that addresses the demands of our customers is developed, our net product revenues and market share may decline.

Many of our memory subsystems are specifically designed for our OEM customers' high-performance systems. In a drive to reduce costs and assure supply of their memory module demand, our OEM customers may endeavor to design JEDEC standard DRAM modules into their new products. Although we also manufacture JEDEC modules, this trend could reduce the demand for our higher-priced customized memory solutions, which would have a negative impact on our operating results. In addition, the adoption of a JEDEC standard module instead of a previously custom module might allow new competitors to participate in a share of our customers' memory module business that previously belonged to us.

If our OEM customers were to adopt JEDEC standard modules, our future business may be limited to identifying the next generation of high-performance memory demands of OEM customers and developing solutions that address these demands. Until fully implemented, any next generation of products may constitute a significantly smaller market, which could reduce our revenues and harm our competitive position.

If we fail to protect our proprietary rights, our customers or our competitors might gain access to our proprietary designs, processes and technologies, which could adversely affect our operating results.

We rely on a combination of patent protection, trade secret laws and restrictions on disclosure to protect our intellectual property rights. We have submitted a number of patent applications regarding our proprietary processes and technology. It is not certain when or if any of the claims in our patent applications will be allowed. As of September 30, 2017, we had 70 U.S. and foreign patents issued, one German utility model and 38 pending patent applications

worldwide. Although we intend to continue filing patent applications with respect to the new processes and technologies that we develop, patent protection may not be available for some of these processes or technologies, in which case they may remain unprotected from use by third parties, including our competitors.

Our efforts to protect our intellectual property rights may not:

- prevent challenges to or the invalidation or circumvention of our intellectual property rights;
- keep our competitors or other third parties from independently developing similar products or technologies, duplicating, reverse engineering or otherwise using our products or technologies without our authorization or designing around any patents that may be issued to us;
- prevent disputes with third parties regarding ownership of our intellectual property rights;
- prevent disclosure of our trade secrets and know-how to third parties or into the public domain;
- result in valid patents, including international patents, from any of our pending or future applications; or
- otherwise adequately protect our intellectual property rights.

Monitoring for any unauthorized use of our technologies is costly, time-consuming and difficult. This is particularly true in foreign countries, such as the People's Republic of China ("PRC"), where we have established a manufacturing facility and where the laws may not protect our proprietary rights to the same extent as applicable U.S. laws.

If some or all of the claims in our patent applications are not allowed or if any of our intellectual property protections are limited in scope by the USPTO, a court or applicable foreign authorities or are circumvented by third parties, we could face increased competition for our products and be unable to execute on our strategy of monetizing our intellectual property. Any of these outcomes could significantly harm our business, operating results and prospects.

Our operating results may be adversely impacted by worldwide economic and political uncertainties and specific conditions in the markets we address and in which we or our strategic partners or competitors do business, including the cyclical nature of and volatility in the memory market and semiconductor industry.

Adverse changes in domestic and global economic and political conditions have made it extremely difficult for our customers, our vendors and us to accurately forecast and plan future business activities, and these conditions have caused and could continue to cause U.S. and foreign businesses to slow or decrease spending on our products and services and the products we resell to customers directly. For instance, the current political instability in Korea could impact our operations and financial condition as a result of our dependence on Samsung, a South Korean based company, as a key supplier and strategic partner, and our ongoing legal proceedings against SK hynix. In addition, sales of our products and the products we resell to customers directly are dependent upon demand by OEMs in the server, high-performance computing and communications markets, as well as by storage customers, appliance customers, system builders and cloud and datacenter customers. These markets are characterized by wide fluctuations in product supply and demand. Additionally, these markets have been cyclical and have experienced significant downturns, often connected with or in anticipation of maturing product cycles, reductions in technology spending and declines in general economic conditions. During these downturns, product demand diminishes, production capacity exceeds demand, inventory levels increase and average selling prices decline, all of which would materially adversely impact our business and operating results. Additionally, such a downturn could decrease the perceived value of our intellectual property portfolio and result in reduced ability to pursue our goal of monetizing this portfolio.

We may experience substantial period-to-period fluctuations in our operating results due to factors affecting the markets in which we operate. A decline or significant shortfall in demand in any of these markets could have a material adverse effect on demand for our products and the products we resell to customers directly and, consequently, on our net product revenues. In addition, because many of our costs and operating expenses are relatively fixed, if we are unable to

control our expenses adequately in response to reduced product revenues, our gross margins, operating income and cash flows would be negatively impacted.

During challenging economic times our customers may face issues gaining timely access to sufficient credit, which could impair their ability to make timely payments to us. This may impair our liquidity and cash flows and require us to increase our allowance for doubtful accounts. Furthermore, our vendors may face similar issues gaining access to credit, which may limit their ability to supply components or provide trade credit to us. We cannot predict the timing, strength or duration of any economic slowdown or subsequent economic recovery, either generally or in our markets. If the economy or markets in which we operate experience such a slowdown, our business, financial condition and results of operations could be materially and adversely affected. Additionally, the combination of our lengthy sales cycle coupled with any challenging macroeconomic conditions could compound the negative impact of any such downturn on the results of our operations.

Our lack of a significant backlog of unfilled orders and the difficulty inherent in estimating customer demand makes it difficult to forecast our short-term requirements, and any failure to optimally calibrate our production capacity and inventory levels to meet customer demand could adversely affect our revenues, gross margins and earnings.

We make significant decisions regarding the levels of business we will seek and accept, production schedules, component procurement, personnel needs and other resource requirements based on our estimates of customer demand. We do not have long-term agreements with any of our customers. Instead, sales are made primarily pursuant to standard purchase orders that we often receive no more than two weeks in advance of the desired delivery date and that may be rescheduled or cancelled on relatively short notice. The short-term nature of the commitments by many of our customers and the fact that our customers may cancel or defer purchase orders for any reason reduces our backlog of firm orders and our ability to accurately estimate future customer requirements for our products or the component products we resell to customers directly. This fact, combined with the quick turn-around times that apply to most orders, makes it difficult to forecast our production and inventory needs and allocate production capacity efficiently. As a result, we attempt to forecast the demand for the components needed to manufacture our products and to resell to customers directly, but any such forecasts could turn out to be wrong. Further, lead times for components vary significantly and depend on various factors, such as the specific supplier and the demand and supply for a component at a given time.

Our production expense and component purchase levels are to a large extent fixed in the short term. As a result, we may be unable to adjust spending on a timely basis to compensate for any unexpected shortfall in customer orders. If we overestimate customer demand, we may have excess inventory of components, which may not be able to be used in other products or resold and may become obsolete before any such use or resale. If there is a subsequent decline in the prices of these components, the value of our inventory would fall. As a result, we may need to write-down the value of our component inventory, which may result in a significant decrease in our gross margin and financial condition. Also, to the extent that we order components or manufacture our products in anticipation of future demand that does not materialize or in the event a customer cancels or reduces outstanding orders, we could experience an unanticipated increase in our component or finished goods inventory. In the past, we have had to write-down inventory due to obsolescence, excess quantities and declines in market value below our costs. Any significant shortfall of customer orders in relation to our expectations could hurt our operating results, cash flows and financial condition.

Conversely, any rapid increases in demand by our customers could strain our resources and reduce our margins. If we underestimate customer demand, we may not have sufficient inventory of necessary components on hand to meet that demand. We also may not have sufficient manufacturing capacity at any given time to meet any demands for rapid increases in production of our products. These shortages of inventory and capacity could lead to delays in the delivery of our products or the component products we resell, which may force us to forego sales opportunities, reduce our net product revenues and damage our customer relationships.

Declines in our average sales prices, driven by volatile prices for components and other factors, may result in declines in our revenues and gross profit.

Our industry is competitive and historically has been characterized by declines in average sales price, based in part on market prices for DRAM ICs, NAND flash and other component products, which historically have constituted a

substantial portion of the total cost of our memory subsystems and in recent periods have constituted the vast majority of the cost of resales of these products to customers directly. Our average sales prices may decline due to several factors, including overcapacity in the worldwide supply of these components, increased manufacturing efficiencies, implementation of new manufacturing processes and expansion of manufacturing capacity by component suppliers.

Once our prices with a customer are negotiated, we are generally unable to revise pricing with that customer until our next regularly scheduled price adjustment. As a result, if market prices for essential components increase, we generally cannot pass the price increases on to our customers for products purchased under an existing purchase order. Consequently, we are exposed to the risks associated with the volatility of prices for these components and our cost of sales could increase and our gross margins could decrease in the event of price increases. Alternatively, if there are declines in the prices of these components, we may need to reduce our selling prices for subsequent purchase orders, which may result in a decline in our net product revenues.

In addition, since a large percentage of our product revenues are to a small number of customers, these customers have exerted, and we expect they will continue to exert, pressure on us to make price concessions. If not offset by increases in volume of sales or the sales of newly-developed products with higher margins, decreases in average sales prices could have a material adverse effect on our business and operating results.

Our manufacturing operations involve significant risks.

We maintain a manufacturing facility in the PRC at which we produce most of our products. This internal manufacturing process allows us to utilize our own materials and processes, protect our intellectual property and develop the technology for manufacturing. However, our manufacturing activities require significant resources to maintain. For instance, we must continuously review and improve our manufacturing processes in order to maintain satisfactory manufacturing yields and product performance, try to lower our costs and otherwise remain competitive. As we manufacture more complex products, the risk of encountering delays, difficulties or higher costs increases. The start-up costs associated with implementing new manufacturing technologies, methods and processes, including the purchase of new equipment and any resulting manufacturing delays and inefficiencies, could negatively impact our results of operations.

Additionally, we could experience a prolonged disruption, material malfunction, interruption or other loss of operations at our manufacturing facility or we may need to add manufacturing capacity to satisfy any increased demand for our products. Under these circumstances, we may be forced to rely on third parties for our manufacturing needs, which could increase our manufacturing costs, decrease our profit margin, decrease our control over manufacturing processes, limit our ability to meet customer demand and delay new product development until we could secure a relationship with a third-party manufacturer, which we may not be able to do in a timely manner, on acceptable terms or at all. If any of these risks were to occur, our operations, performance and customer relationships could be severely harmed. In addition, we may need to expand our existing manufacturing facility or establish a new facility. Any need to expand or replace our manufacturing facility would be expensive and time-consuming and could also subject us to factory audits by our customers that could themselves result in delays, unexpected costs or customer losses if we cannot meet the standards of any such audits. Further, we may not be able to replace or increase our manufacturing capacity at all. The occurrence of any of these events could have a material adverse effect on our business, financial condition and results of operations.

We depend on third parties to design and manufacture custom components for some of our products and the component products we resell to customers directly, which exposes us to risks.

Significant customized components, such as ASICs, that are used in HyperCloud and some of our other products, as well as all of the component products we resell, are designed and manufactured by third parties. The ability and willingness of third parties to enter into these engagements with us and perform in accordance with these engagements is largely outside of our control. If one or more of our design or manufacturing partners experiences a manufacturing disruption, fails to dedicate adequate resources to the production of our products or the components we purchase for resale, experiences financial instability or otherwise fails to perform its obligations to us in a timely manner or at satisfactory quality levels, our ability to bring products to market or deliver products to our customers, as well as

our reputation, could suffer and our business and prospects could be materially harmed. In the event of any failure by our component manufacturers, we may have no readily available alternative source of supply for these components, since, in our experience, the lead time needed to establish a relationship with a new design or manufacturing partner is substantial, and the time for our OEM customers to re-qualify our products with components from a new vendor is also significant. Additionally, if we need to replace one of our component manufacturers, we may not be able to do so in a timely manner, on acceptable terms or at all. Further, we may not be able to redesign the customized components used in our products to be manufactured by a new manufacturer, in which case we could infringe on the intellectual property of our current design or manufacturing partner when we redesign the custom components. Such an occurrence could force us to stop selling certain of our products or the component products we resell or could expose us to lawsuits, license payments or other liabilities.

Our dependence on third-party manufacturers exposes us to many other risks, including, among others: reduced control over delivery schedules, quality, manufacturing yields and costs; the potential lack of adequate capacity during periods of excess demand; limited warranties on products supplied to us; and potential misappropriation of our intellectual property or the intellectual property of others. We are dependent on our manufacturing partners to manufacture components with acceptable quality and manufacturing yields, to deliver these components to us on a timely basis and to allocate a portion of their manufacturing capacity sufficient to meet our needs. However, these component manufacturers may not be able to achieve or maintain acceptable yields or deliver sufficient quantities of components on a timely basis or at an acceptable cost. Additionally, our manufacturing partners may not continue to devote adequate resources to produce our products or the component products we resell, or continue to advance the process design technologies on which the qualification and manufacturing of our products or the component products we resell are based. Further, we could be exposed to liability if component manufacturers are found to infringe the intellectual property rights of others and we are held responsible for any such infringement. Any of these risks could limit our ability to meet customer demand and materially adversely affect our business and operating results.

If our products or the component products we resell do not meet quality standards or are defective or used in defective systems, we may be subject to quality holds, warranty claims, recalls or liability claims.

Our customers require our products and the component products we resell to meet strict quality standards. If these products do not meet these standards, our customers may discontinue purchases from us until we are able to resolve the quality issues that are causing us to not meet the standards, which we may not be able to do. These “quality holds” could be costly and time-consuming to resolve and could have a significant adverse impact on our revenues and operating results.

If these products are defectively manufactured, contain defective components or are used in defective or malfunctioning systems, we could be subject to warranty and product liability claims, product recalls, safety alerts or advisory notices.

Although we generally attempt to contractually limit our exposure to incidental and consequential damages, if these contract provisions are not enforced or if liabilities arise that are not effectively limited, we could incur substantial costs in defending or settling product liability claims. While we currently have product liability insurance coverage, it may not provide coverage under certain circumstances and it may not be adequate to satisfy claims made against us. We also may be unable to maintain insurance in the future at satisfactory rates or in adequate amounts.

Warranty and product liability claims, product recalls, safety alerts or advisory notices, regardless of their coverage by insurance or their ultimate outcome, could have a material adverse effect on our business, financial condition and ability to attract and retain customers.

We may become involved in non-patent related litigation and administrative proceedings that may materially adversely affect us.

From time to time, we may become involved in various legal proceedings relating to matters incidental to the ordinary course of our business, including commercial, employment, class action, whistleblower and other litigation and claims, as well as governmental and other regulatory investigations and proceedings. Such matters can be time-consuming, divert management’s attention and resources and cause us to incur significant expenses. Furthermore,

because litigation is inherently unpredictable, the results of these actions could subject us to monetary damages or other liabilities and have a material adverse effect on our business, results of operations and financial condition.

Our indemnification obligations for the infringement by our products of the intellectual property rights of others could require us to pay substantial damages.

As is common in our industry, we have a number of agreements in which we have agreed to defend, indemnify and hold harmless our customers and suppliers from damages and costs that may arise from the infringement by our products of third-party patents, trademarks or other proprietary rights. The scope of these indemnities varies, but may, in some instances, include indemnification for damages and expenses, including attorneys' fees. The term of these indemnification obligations is generally perpetual after execution of an agreement and the maximum potential amount of future payments we could be required to make under these indemnification obligations is often unlimited. Any indemnification claims by customers could require us to incur significant legal fees and could potentially result in our payment of substantial damages, and our insurance generally would not cover these fees or damages. As a result, the occurrence of any of these risks could result in a material adverse effect on our business and results of operations.

We depend on a few key employees, and our business could be harmed if we lose the services of any of these employees or are unable to attract and retain other qualified personnel.

To date, we have been highly dependent on the experience, relationships and technical knowledge of certain key employees. We believe that our future success will be dependent on our ability to retain the services of these key employees, develop their successors and properly manage the transition of their roles should departures occur. The loss of these key employees or their inability to provide their services could delay the development and introduction of new or enhanced products, negatively impact our ability to sell our existing products, limit our ability to pursue our other business goals and strategies and otherwise harm our business. We do not have employment agreements with any of these key employees other than Chun K. Hong, our President, Chief Executive Officer and Chairman of our board of directors. We maintain "Key Man" life insurance on Mr. Hong, but we do not carry "Key Man" life insurance on any of our other employees.

Our future success also depends on our ability to attract, retain and motivate highly skilled engineering, manufacturing and other technical and sales personnel. Competition for experienced personnel is intense. We may not be successful in attracting new engineers or other technical personnel or in retaining or motivating our existing personnel. If we are unable to hire and retain engineers with the skills necessary to keep pace with the evolving technologies in our markets, our ability to continue to provide our existing products and to develop new or enhanced products will be negatively impacted, which would harm our business. In addition, a general shortage of experienced engineers could lead to increased recruiting, relocation and compensation costs to attract such engineers, which may exceed our expectations and resources. These increased costs may make hiring new engineers difficult or may increase our operating expenses.

A significant portion of our workforce consists of contract personnel. We invest considerable time and expense to train these contract personnel; however, they typically may terminate their relationships with us at any time. As a result, we may experience high turnover rates in this contract personnel workforce, which may require us to expend additional resources to attract, train and retain replacements. Additionally, if we convert any of these contract personnel into permanent employees, we may have to pay finder's fees to the contract agency. These risks associated with our contract personnel workforce may involve increased costs or delays or failures in meeting customer requirements or developing new or enhanced products, any of which could materially adversely affect our business and operating performance.

We rely on our internal and third-party sales representatives to market and sell our products and the component products we resell, and any failure by these representatives to perform as expected could reduce our sales.

We primarily market and sell our products and the component products we resell to customers directly through a direct sales force and a network of independent sales representatives. We have expended significant resources to build our internal sales and marketing function, but compared to many of our competitors, we have relatively little experience creating a sales and marketing platform and developing a team to implement it. We may be unsuccessful in these efforts.

These sales representatives generally may terminate their relationships with us at any time. As a result, our performance depends in part on our ability to retain existing and attract additional sales representatives that will be able to market and support our products or the component products we resell effectively, especially in markets in which we have not previously distributed these products. Our efforts to attract, train and retain these sales representatives to be knowledgeable about our industry, products and technologies are costly and time-consuming. If these efforts fail, our investments in these sales representatives may not produce the expected benefits and our ability to market and sell our products or the component products we resell may be limited, which could materially harm our financial condition and operating results. Further, our reliance upon independent sales representatives subjects us to risks, as we have very little control over their activities and they are generally free to market and sell other, potentially competing products. As a result, these independent sales representatives could devote insufficient time or resources to marketing our products or the component products we resell, could market them in an ineffective manner or could otherwise be unsuccessful in selling adequate quantities of these products.

Economic, geographic and political and other risks associated with our international sales and operations expose us to significant risks.

Part of our growth strategy involves making sales to foreign corporations and delivering products to facilities located in foreign countries. To facilitate this process and to meet the long-term projected demand for our products, we have established a manufacturing facility in the PRC, which performs most of our worldwide manufacturing activities. Selling and manufacturing in foreign countries subjects us to additional risks not present with our domestic operations, as we are operating in business and regulatory environments in which we have limited experience. Further, the geographic distance from our headquarters in Irvine, California, compounds the difficulties of running a manufacturing operation in the PRC. For instance, we may not be able to maintain the desired amount of control over production capacity and timing, inventory levels, product quality, delivery schedules, manufacturing yields and costs. Moreover, we will need to continue to overcome language and cultural barriers to effectively conduct these international operations. Our failure to meet applicable regulatory requirements or overcome cultural barriers could result in legal consequences or production delays and increased turnaround times, which would adversely affect our business. In addition, changes to the labor laws of the PRC could increase the cost of employing the local workforce. The increased industrialization of the PRC, as well as general economic and political conditions in the PRC, could also increase the cost of local labor or the other costs of doing business in the PRC. Any of these factors could negatively impact the cost savings we experience from locating our manufacturing facility in the PRC. Additionally, our management has limited experience creating or overseeing foreign operations, and the ongoing management of our PRC facility may require our management team to divert substantial amounts of their time and attention, particularly if we encounter operational, legal or cultural difficulties or disruptions at our PRC facility.

To date, all of our net product revenues have been denominated in U.S. dollars. In the future, however, some of our net product revenues may be denominated in Chinese Renminbi (“RMB”). The Chinese government controls the procedures by which RMB is converted into other currencies, which generally requires government consent. As a result, RMB may not be freely convertible into other currencies at all times. If the Chinese government institutes changes in currency conversion procedures or imposes additional restrictions on currency conversion, our operations and our operating results could be negatively impacted. In addition, Chinese law imposes restrictions on the movement of funds outside of the PRC. If we need or decide to repatriate funds from our Chinese operations, we would be required to comply with the procedures and regulations of applicable Chinese law. Any failure to comply with these procedures and regulations could adversely affect our liquidity and financial condition. Further, if we are able to repatriate funds from our Chinese operations, these funds would be subject to U.S. corporate income tax. In addition, fluctuations in the exchange rate between RMB and U.S. dollars may adversely affect our expenses and results of operations, the value of our assets and liabilities and the comparability of our period-to-period results.

In addition, international turmoil and the threat of future terrorist attacks, both domestically and internationally, have contributed to an uncertain political and economic climate, both in the United States and globally, and have negatively impacted the worldwide economy. The economies of the PRC and other countries in which we make sales have been highly volatile in the recent past, resulting in significant fluctuations in local currencies and other instabilities. These conditions could continue or worsen, which could adversely affect our foreign operations and some of our customers or suppliers and our performance.

Our international sales are subject to a number of additional risks, including regulatory risks, timing and availability of export licenses, difficulties in accounts receivable collections, difficulties in managing distributors, lack of a significant local sales presence, difficulties in obtaining governmental approvals, compliance with a wide variety of complex foreign laws and treaties and potentially adverse tax consequences. In addition, the United States or foreign countries may implement quotas, duties, tariffs, taxes or other charges or restrictions upon the importation or exportation of our products or the products we resell to customers directly, leading to a reduction in sales and profitability in that country. This risk of increased trade barriers or charges has become more pronounced following the results of the recent U.S. presidential election, as the trade policies of the current U.S. presidential administration, including withdrawal from the Trans-Pacific Partnership and proposed revision to the North American Free Trade Agreement, could threaten or otherwise have a significant negative effect on our ability to continue to conduct our international operations in the manner and at the costs as we have in the past. Any increased costs or regulatory obstacles with respect to our international operations, including our manufacturing facility in the PRC and our international sales, could have a material adverse effect on our business, financial condition and prospects for growth.

Our operations could be disrupted by power outages, natural disasters or other factors.

Due to the geographic concentration of our manufacturing operations in our PRC facility and our small number of component suppliers, including Samsung for the majority of the component products we resell to customers directly, a disruption resulting from equipment or power failures, quality control issues, human errors, government intervention or natural disasters, including earthquakes and floods, could require significant costs to repair and could interrupt or interfere with the manufacture of our products or the component products we resell to customers directly and cause significant delays in product shipments, which could harm our customer relationships, financial condition and results of operations. In July 2014, our PRC facility suffered water damage as a result of heavy rain and floods, which forced us to temporarily halt manufacturing at the facility while necessary repairs or replacements were made to the facility and to certain of our manufacturing equipment. This incident caused us to incur additional expenses, as we shifted our manufacturing activities to a third-party facility in the PRC to mitigate the disruption in product shipments to our customers. While we believe we were able to contain this disruption, we may not be able to secure alternative manufacturing capabilities if manufacturing at the PRC facility is disrupted in the future, in which case our relationships with our customers could be materially harmed. Additionally, while we were able to favorably resolve our claim with our insurance carrier with respect to the damage to our facility cause by the July 2014 incident, we may not experience the same outcome if a similar event occurs in the future, in which case we would be forced to bear the significant costs to repair any damage to our manufacturing equipment and facility.

Difficulties with our global information technology systems, including any unauthorized access, could harm our business.

Any failure or malfunctioning of our global information technology systems, errors or misuse by system users, difficulties in migrating stand-alone systems to our centralized systems or inadequacy of the systems in addressing the needs of our operations could disrupt our ability to timely and accurately manufacture and ship products, divert management's and key employees' attention away from other business matters and involve significant costs and other resources to repair or otherwise resolve, any of which could have a material adverse effect on our business, financial condition and results of operations. Any such event could also disrupt our ability to timely and accurately process, report and evaluate key operating metrics and key components of our results of operations, financial position and cash flows and could adversely affect our ability to complete other important business process, such as maintenance of our disclosure controls and procedures and evaluation of our internal control over financial reporting.

We store data about our business, including certain customer data, information about our and our customer's intellectual property and other proprietary information, on our global information technology systems. While our systems includes security measures designed to prevent unauthorized access, third parties may circumvent these measures and gain unauthorized access to our systems. This unauthorized access could be the result of employee error, employee malfeasance or other causes, including intentional misconduct by computer hackers. Because the techniques used to gain unauthorized access to information technology systems evolve frequently and generally are not recognized until successful, we may be unable to anticipate these techniques or to implement adequate preventative measures. Any

security breach could result in disruption to our business, misappropriation or loss of data, significant resources to correct, loss of confidence in us by our customers, damage to our reputation, legal liability and a negative impact on our performance.

Our failure to comply with environmental and other applicable laws and regulations could subject us to significant fines and liabilities or cause us to incur significant costs.

We are subject to various and frequently changing U.S. federal, state and local and foreign laws and regulations relating to the protection of the environment, including laws governing the discharge of pollutants into the air and water, the management and disposal of hazardous substances and wastes and the clean-up of contaminated sites. In particular, some of our manufacturing processes may require us to handle and dispose of hazardous materials from time to time. For example, in the past our manufacturing operations have used lead-based solder in the assembly of our products. Today, we use lead-free soldering technologies in our manufacturing processes, as this is required for products entering the European Union. We could incur substantial costs, including clean-up costs, civil or criminal fines or sanctions and third-party claims for property damage or personal injury, as a result of violations of or noncompliance with these and other environmental laws and regulations. Although we have not incurred significant costs to date to comply with these laws and regulations, new laws or changes to current laws and regulations to make them more stringent could require us to incur significant costs to remain in compliance.

We are also subject to a variety of laws and regulations relating to other matters, including workplace health and safety, labor and employment, foreign business practices, public reporting and taxation, among others. It is difficult and costly to manage the requirements of every authority having jurisdiction over our various activities and to comply with their varying standards. Additionally, any changes to existing regulations or adoption of new regulations may result in significant additional expense to us and our customers. For example, the current presidential administration and Congress have proposed to make substantial changes to the taxation of business entities, but there remains significant lack of clarity regarding the likelihood, timing and details of any such tax reform or the impact of any potential tax reform on our or our customers' respective businesses or results. Further, our failure to comply with any applicable laws and regulations may result in a variety of administrative, civil and criminal enforcement measures, including monetary penalties or imposition of sanctions or other corrective requirements, any of which could materially adversely affect our reputation and our business.

Regulations related to "conflict minerals" may cause us to incur additional expenses and could limit the supply and increase the cost of certain metals used in manufacturing our products.

In August 2012, the SEC adopted rules requiring disclosure of specified minerals, known as conflict minerals, that are necessary to the functionality or production of products manufactured or contracted to be manufactured by public companies. The rules require companies to verify and disclose whether or not such minerals, as used in a company's products or their manufacture, originate from the Democratic Republic of Congo or an adjoining country. Because our products contain certain conflict minerals and we or our manufacturers use these conflict minerals in the manufacture of our products, we are required to comply with these disclosure rules. To comply with the rules, we are required to conduct a reasonable country of origin inquiry each year and, depending on the results of that inquiry, we may be required to exercise due diligence on the source and chain of custody of conflict minerals contained in or used to manufacture our products. Such due diligence must conform to a nationally or internationally recognized due diligence framework. We are also required to file a disclosure report with the SEC of each year relating to our conflict mineral use.

The due diligence activities required to determine the source and chain of custody of minerals contained in our products or used in their manufacture are time-consuming and may result in significant costs. Due to the size and complexity of our supply chain, we face significant challenges in verifying the origins of the minerals used in our products. Further, these rules could affect the availability in sufficient quantities and at competitive prices of certain minerals used in our products and their manufacture, which could result in increased material and component costs and additional costs associated with potential changes to our products, processes or sources of supply. Additionally, if we are unable to sufficiently verify the origin of the minerals used in our products through the due diligence measures that we implement, we may not be able to satisfy customers who require that our products be certified as "conflict-free," which could place us at a competitive disadvantage.

Our internal control over financial reporting may not be effective, which could have a significant and adverse effect on our business.

Section 404 of the Sarbanes-Oxley Act of 2002 and the related rules and regulations of the SEC, which we collectively refer to as Section 404, require us to evaluate our internal control over financial reporting and require management to report on the effectiveness of this internal control as of the end of each year. Effective internal control is necessary for us to produce reliable financial reports and is important in our effort to prevent financial fraud. In the course of our Section 404 evaluations, we or our independent registered public accounting firm may identify significant deficiencies or material weaknesses in our internal control over financial reporting. If we fail to maintain an effective system of internal control over financial reporting or if management or our independent registered public accounting firm discover material weaknesses, we may be unable to produce reliable financial reports or prevent fraud, which could harm our financial condition and results of operations, result in a loss of investor confidence and negatively impact our stock price. Further, our Section 404 evaluations may lead us to conclude that enhancements, modifications or changes to our internal control over financial reporting are necessary or desirable. Implementing any such changes would divert the attention of management, could involve significant time and costs and may negatively impact our financial results.

If we do not effectively manage any future growth we may experience, our resources, systems and controls may be strained and our results of operations may suffer.

Any future growth we may experience could strain our resources, management, information and telecommunication systems and operating and financial controls. To manage future growth effectively, including any expansion of volume in our manufacturing facility in the PRC, we must be able to improve and expand our systems and controls. We may not be able to do this in a timely or cost-effective manner. In addition, our officers have relatively limited experience in managing a rapidly growing business. As a result, they may not be able to manage any future growth we may experience. Any failure to manage any growth we may experience or improve or expand our existing systems and controls, or unexpected difficulties in doing so, could harm our business.

If we acquire businesses or technologies or pursue other strategic transactions in the future, these transactions could disrupt our business and harm our operating results and financial condition.

We evaluate opportunities to acquire businesses or technologies or pursue other strategic transactions, including collaboration or joint development arrangements such as our JDLA with Samsung that might complement our current product offerings or enhance our intellectual property portfolio or technical capabilities. We have no experience acquiring other businesses or technologies. Acquisitions and other strategic transactions entail a number of risks that could adversely affect our business and operating results, including, among others:

- difficulties in integrating the operations, technologies or products of acquired companies or working with third parties with which we may partner on joint development or collaboration relationships;
- the diversion of management's time and attention from the daily operations of the business;
- insufficient increases in revenues to offset increased expenses associated with an acquisition or strategic transaction;
- difficulties retaining business relationships with our existing suppliers and customers or the suppliers and customers of an acquired company;
- overestimation of potential synergies or a delay in realizing these synergies;
- entering markets in which we have no or limited experience and in which competitors have stronger market positions;
- the potential loss of key employees of our Company or an acquired company;

- exposure to contingent liabilities of an acquired company;
- depletion of cash resources to fund an acquisition or other strategic transaction, or dilution of existing stockholders or increased leverage relative to our earnings or to our equity capitalization if we issue debt or equity securities to fund the transaction;
- adverse tax consequences; and
- incurrence of material charges, such as depreciation, deferred compensation charges, in-process research and development charges, the amortization of amounts related to deferred stock-based compensation expense and identifiable purchased intangible assets or impairment of goodwill.

If any of these risks were to occur, we may not be able to realize the intended benefits of an acquisition or strategic transaction and our operating results, financial condition and business prospects could be materially negatively affected.

Risks Related to Our Common Stock

The price and trading volume of our common stock has and may continue to fluctuate significantly.

Our common stock has been publicly traded since November 2006. The price and trading volume of our common stock are volatile and have in the past fluctuated significantly. This volatility could continue, in which case an active trading market in our common stock may never be sustained and stockholder may not be able to sell their shares at the desired time or the desired price. The market price at which our common stock trades may be influenced by many factors, including, among others, the following:

- our operating and financial performance and prospects, including our ability to achieve and sustain profitability in the future;
- investor perception of us and the industry in which we operate;
- the availability and level of research coverage of and market-making in our common stock;
- changes in earnings estimates or buy/sell recommendations by analysts;
- any financial projections we may provide to the public, any changes to these projections or our failure to meet these projections;
- our announcement of significant strategic transactions or relationships or the initiation of legal proceedings, including patent infringement actions;
- the results of legal proceedings in which we are involved;
- sales of newly issued common stock or other securities or the perception that such sales may occur; and
- general political, economic and market conditions, including volatility or uncertainty in these conditions.

In addition, shares of our common stock and the public stock markets in general have experienced, and may continue to experience, extreme price and trading volume volatility, at times irrespective of the state of the business of any particular company. These fluctuations may adversely affect the market price of our common stock.

In 2007, following a drop in the market price of our common stock, securities litigation was initiated against us. Given the historic volatility of our securities and securities in our industry, we may become engaged in this type of litigation again in the future. Securities litigation, like other types of litigation, is expensive and time-consuming and could subject us to unfavorable results.

We are not currently in compliance with certain NASDAQ listing requirements, and if we fail to regain compliance by NASDAQ's deadlines we may not be able to maintain our NASDAQ listing.

On September 26, 2017, we received a letter from the NASDAQ Stock Market ("NASDAQ") notifying us that, because the bid price of our common stock closed below \$1.00 per share for 30 consecutive business days, we are no longer in compliance with NASDAQ's minimum bid price rule, which is a requirement for continued listing on the NASDAQ Capital Market. We have also experienced several other periods of noncompliance with this rule in recent years, including during 2015 and into early 2016 and during April and May of 2017. NASDAQ's rules require that we regain compliance with the minimum bid price rule by March 26, 2018, subject to our potential eligibility for a 180-day extension of this deadline if we meet certain other NASDAQ listing standards. If we fail to regain compliance with the minimum bid price rule by the deadline, or if we regain compliance but we again fail to comply with this rule or any other NASDAQ requirement in the future, then we would receive additional deficiency letters from NASDAQ and our common stock could be delisted from trading on the NASDAQ Capital Market. Such a delisting could cause our common stock to be classified as a "penny stock," among other potentially detrimental consequences, and could severely limit the liquidity of our common stock and materially adversely affect the price of our common stock, any of which could significantly impact our stockholders' ability to sell their shares of our common stock or to sell these shares at a price that a stockholder may deem acceptable.

Our results of operations fluctuate significantly and are difficult to predict, and any failure to meet investor or analyst expectations could cause the price of our common stock to decline.

Our operating results have fluctuated significantly in the past, and we expect they will continue to fluctuate from period-to-period in the future due to a variety of factors, many of which are beyond our control. Factors relating to our business that may contribute to these fluctuations include, among others, the amount and timing of sales of products, the prices we charge for products, changes in product mix, customer mix or other similar factors, the rate and timing of our billing and collections cycles and the timing and amount of our commitments and other payments, as well as the other risk factors described in this report. In addition, our results may be impacted by events that do not recur regularly, in the same amounts or at all in other periods, including events that may result in our incurrence of cash or non-cash charges or gains in certain periods. These fluctuations in our operating results may render period-to-period comparisons less meaningful, and investors should not rely on the results of any one period as an indicator of future performance. If our results of operations in any period fall below the expectations of securities analysts or investors, the price of our common stock could decline substantially. As a result of the significant fluctuations of our operating results in prior periods, period-to-period comparisons of our operating results may not be meaningful and investors in our common stock should not rely on these comparisons.

Our principal stockholders have significant voting power and may take actions that may not be in the best interest of our other stockholders.

As of November 6, 2017, 7.2% of our outstanding common stock was held by our directors and officers, including 6.9% held by Chun K. Hong, our Chief Executive Officer and Chairman of our board of directors. As a result, Mr. Hong has the ability to exert substantial influence over all matters requiring approval by our stockholders, including the election and removal of directors, any proposed merger, consolidation or sale of all or substantially all of our assets and other significant corporate transactions. This concentration of control could be disadvantageous to other stockholders with interests different from those of Mr. Hong.

Anti-takeover provisions under our charter documents and Delaware law, as well as our recently adopted rights agreement, could delay or prevent a change of control and could also limit the market price of our common stock.

Our certificate of incorporation and bylaws contain provisions that could delay or prevent a change of control of our Company or changes in our board of directors that our stockholders might consider favorable. In addition, these anti-takeover provisions could limit the price that investors would be willing to pay for shares of our common stock. The following are examples of the anti-takeover provision that are included in our certificate of incorporation and bylaws as currently in effect:

- our board of directors is authorized, without prior stockholder approval, to designate and issue preferred stock, commonly referred to as “blank check” preferred stock, which may have rights senior to those of our common stock;
- stockholder action by written consent is prohibited;
- nominations for election to our board of directors and the submission of matters to be acted upon by stockholders at a meeting are subject to advance notice requirements; and
- our board of directors is expressly authorized to make, alter or repeal our bylaws.

In addition, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which may prohibit certain business combinations with stockholders owning 15% or more of our outstanding voting stock. Further, in April 2017, we adopted a rights agreement that would, under certain specified circumstances and for so long as the rights issued under the rights agreement are outstanding, give the holders of our common stock the right to acquire additional shares of our capital stock, which would make it more difficult for a third party to acquire a significant percentage of our outstanding capital stock or attempt a hostile takeover of our Company. These and other provisions in our certificate of incorporation and bylaws and of Delaware law, as well as the existence of our rights agreement, could make it more difficult for stockholders or potential acquirers to obtain control of our board of directors or initiate actions that are opposed by our board of directors, including a merger, tender offer, proxy contest or other change of control transaction involving our Company. Any delay or prevention of a change of control transaction or changes in our board of directors could prevent the consummation of a transaction in which our stockholders could receive a substantial premium over the then-current market price for our common stock.

We do not currently intend to pay dividends on our common stock, and any return to investors is expected to come, if at all, only from potential increases in the price of our common stock.

We intend to use all available funds to finance our operations. Accordingly, while payment of dividends rests within the discretion of our board of directors, no cash dividends on our common shares have been declared or paid by us in the past and we have no intention of paying any such dividends in the foreseeable future. Any return to investors is expected to come, if at all, only from potential increases in the price of our common stock.

Item 5. Other Information

On November 13, 2017, we entered into an At Market Issuance Sales Agreement (the “Sales Agreement”) with B. Riley FBR, Inc. (the “Agent”) to sell shares of our common stock, with aggregate gross proceeds of up to \$9,000,000, from time to time, through an “at-the-market” equity offering program under which the Agent will act as sales agent.

Under the Sales Agreement, we will set the parameters for the sale of shares, including the number of shares to be issued, the time period during which sales are requested to be made, limitation on the number of shares that may be sold in any one trading day and any minimum price below which sales may not be made. Subject to the terms and conditions of the Sales Agreement, the Agent may sell the shares by methods deemed to be an “at-the-market” offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended (the “Securities Act”), including sales made directly on or through the NASDAQ Capital Market, the existing trading market for our common stock, sales made to or through a market maker other than on an exchange or otherwise, in negotiated transactions at market prices, or any other method permitted by law. We cannot provide any assurances that we will issue any shares pursuant to the Sales Agreement. The Sales Agreement may be terminated by us upon notice to the Agent or by the Agent upon notice to us,

or at any time under certain circumstances, including but not limited to the occurrence of a material adverse change in the Company.

The Sales Agreement provides that the Agent will be entitled to compensation for its services in an amount equal to 3% of the gross proceeds from the sale of shares sold under the Sales Agreement. We have no obligation to sell any shares under the Sales Agreement, and may suspend solicitation and offers under the Sales Agreement. The shares will be issued pursuant to our shelf registration statement on Form S-3 (File No. 333-199446) and a Prospectus Supplement to be filed on November 14, 2017 with the SEC in connection with the offer and sale of the shares pursuant to the Sales Agreement. We have agreed in the Sales Agreement to provide customary indemnification and contribution to the Agent against certain liabilities, including liabilities under the Securities Act.

Item 6. Exhibits.

The information required by this Item 6 is set forth on the Exhibit Index and is incorporated herein by reference.

Exhibit No.	Description
1.1+	At Market Issuance Sales Agreement, dated November 13, 2017, between Netlist, Inc. and B. Riley FBR, Inc.
3.1	Restated Certificate of Incorporation of Netlist, Inc. (incorporated by reference to exhibit number 3.1 of the registrant's Quarterly Report on Form 10-Q filed with the SEC on August 15, 2017).
3.1.1	Certificate of Amendment to the Restated Certificate of Incorporation of Netlist, Inc. (incorporated by reference to exhibit number 3.1.1 of the registrant's Quarterly Report on Form 10-Q filed with the SEC on August 15, 2017).
3.1.2	Certificate of Designation of the Series A Preferred Stock of Netlist, Inc. (incorporated by reference to exhibit number 3.1.2 of the registrant's Quarterly Report on Form 10-Q filed with the SEC on August 15, 2017).
3.2	Amended and Restated Bylaws of Netlist, Inc. (incorporated by reference to exhibit number 3.1 of the registrant's Current Report on Form 8-K filed with the SEC on December 20, 2012).
5.1+	Opinion of Morrison & Foerster LLP.
23.1+	Consent of Morrison & Foerster LLP (included in Exhibit 5.1).
31.1+	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities and Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2+	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities and Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32*	Certification by Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS+	XBRL Instance Document
101.SCH+	XBRL Taxonomy Extension Schema Document
101.CAL+	XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB+	XBRL Taxonomy Extension Label Linkbase Document

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101.PRE+ XBRL Taxonomy Extension Presentation Linkbase Document

101.DEF+ XBRL Taxonomy Extension Definition Linkbase Document

+ Filed herewith.

* Furnished herewith.

NETLIST, INC.

Common Stock
(par value \$0.001 per share)

At Market Issuance Sales Agreement

November 14, 2017

B. Riley FBR, Inc.
299 Park Avenue
New York, NY 10171

Ladies and Gentlemen:

Netlist, Inc., a Delaware corporation (the “Company”), confirms its agreement (this “Agreement”) with B. Riley FBR, Inc. (“the Agent”) as follows:

1. Issuance and Sale of Shares. The Company agrees that, from time to time during the term of this Agreement, on the terms and subject to the conditions set forth herein, it may issue and sell through the Agent, shares (the “Placement Shares”) of the Company’s common shares, par value \$0.001 per share (the “Common Stock”); *provided however*, that in no event shall the Company issue or sell through the Agent such number of Placement Shares that exceeds the number of shares or dollar amount of Common Stock (a) registered on the effective Registration Statement (as defined below) pursuant to which the offering is being made; (b) authorized from time to time to be issued by the board of directors of the Company (the “Board”), a duly authorized committee thereof or a duly authorized executive committee; or (c) registered on the Prospectus Supplement (as defined below) (the least of (a), (b) or (c) the “Maximum Amount”). Notwithstanding anything to the contrary contained herein, the parties hereto agree that compliance with the limitations set forth in this Section 1 on the number of Placement Shares issued and sold under this Agreement shall be the sole responsibility of the Company and that the Agent shall have no obligation in connection with such compliance. The issuance and sale of Placement Shares through the Agent will be effected pursuant to the Registration Statement (as defined below), although nothing in this Agreement shall be construed as requiring the Company to use the Registration Statement to issue any Placement Shares.

The Company has filed, in accordance with the provisions of the Securities Act of 1933, as amended and the rules and regulations thereunder (the “Securities Act”), with the Securities and Exchange Commission (the “Commission”), a registration statement on Form S-3 (File No. 333-199446), including a base prospectus, relating to certain securities including the Placement Shares to be issued from time to time by the Company, and which incorporates by reference documents that the Company has filed or will file in accordance with the provisions of the Securities Exchange Act of 1934, as amended and the rules and regulations thereunder (the

“Exchange Act”). The Company has prepared a prospectus supplement to the base prospectus included as part of such registration statement specifically relating to the Placement Shares (the “Prospectus Supplement”). The Company will furnish to the Agent, for use by the Agent, copies of the base prospectus included as part of such registration statement, as supplemented by the Prospectus Supplement, relating to the Placement Shares. Except where the context otherwise requires, such registration statement, and any post-effective amendment thereto, including all documents filed as part thereof or incorporated by reference therein, and including any information contained in a Prospectus (as defined below) subsequently filed with the Commission pursuant to Rule 424(b) under the Securities Act or deemed to be a part of such registration statement pursuant to Rule 430B of the Securities Act, is herein called the “Registration Statement.” The base prospectus, including all documents incorporated or deemed incorporated therein by reference to the extent such information has not been superseded or modified in accordance with Rule 412 under the Securities Act (as qualified by Rule 430B(g) of the Securities Act), included in the Registration Statement, as it may be supplemented by the Prospectus Supplement, in the form in which such base prospectus and/or Prospectus Supplement have most recently been filed by the Company with the Commission pursuant to Rule 424(b) under the Securities Act is herein called the “Prospectus.” Any reference herein to the Registration Statement, the Prospectus or any amendment or supplement thereto shall be deemed to refer to and include the documents incorporated by reference therein, and any reference herein to the terms “amend,” “amendment” or “supplement” with respect to the Registration Statement or the Prospectus shall be deemed to refer to and include the filing after the execution hereof of any document with the Commission incorporated by reference therein (the “Incorporated Documents”).

For purposes of this Agreement, all references to the Registration Statement, the Prospectus or any amendment or supplement thereto shall be deemed to include the most recent copy filed with the Commission pursuant to its Electronic Data Gathering Analysis and Retrieval System, or if applicable, the Interactive Data Electronic Application system when used by the Commission (collectively, “EDGAR”).

2. Placements. Each time that the Company wishes to issue and sell Placement Shares hereunder (each, a “Placement”), it will notify the Agent by electronic mail (or other method mutually agreed to in writing by the parties) of the number of Placement Shares, the time period during which sales are requested to be made, any limitation on the number of Placement Shares that may be sold in any one day and any minimum price below which sales may not be made (a “Placement Notice”), the form of which is attached hereto as Schedule 1. The Placement Notice shall originate from any of the individuals from the Company set forth on Schedule 3 (with a copy to each of the other individuals from the Company listed on such schedule), and shall be addressed to each of the individuals from the Agent set forth on Schedule 3, as such Schedule 3 may be amended from time to time. The Placement Notice shall be effective immediately upon receipt by the Agent unless and until (i) the Agent declines in writing to accept the terms contained therein for any reason, in its sole discretion, (ii) the entire amount of the Placement Shares thereunder has been sold, (iii) the Company suspends or terminates the Placement Notice, which suspension and termination rights may be exercised by the Company in its sole discretion, or (iv) this Agreement has been terminated under the provisions of Section 13. The amount of any discount, commission or other compensation to be paid by the Company to

the Agent in connection with the sale of the Placement Shares shall be calculated in accordance with the terms set forth in Schedule 2. It is expressly acknowledged and agreed that neither the Company nor the Agent will have any obligation whatsoever with respect to a Placement or any Placement Shares unless and until the Company delivers a Placement Notice to the Agent and the Agent does not decline such Placement Notice pursuant to the terms set forth above, and then only upon the terms specified therein and herein. In the event of a conflict between the terms of Sections 2 or 3 of this Agreement and the terms of a Placement Notice, the terms of the Placement Notice will control.

3. Sale of Placement Shares by the Agent. Subject to the terms and conditions of this Agreement, for the period specified in a Placement Notice, the Agent will use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable state and federal laws, rules and regulations and the rules of the NASDAQ Capital Market (the “Exchange”) to sell the Placement Shares up to the amount specified in, and otherwise in accordance with the terms of, such Placement Notice. The Agent will provide written confirmation to the Company no later than the opening of the Trading Day (as defined below) immediately following the Trading Day on which it has made sales of Placement Shares hereunder setting forth the number of Placement Shares sold on such day, the compensation payable by the Company to the Agent pursuant to Section 2 with respect to such sales, and the Net Proceeds (as defined below) payable to the Company, with an itemization of the deductions made by the Agent (as set forth in Section 5(b)) from the gross proceeds that it receives from such sales. Subject to the terms of a Placement Notice, the Agent may sell Placement Shares by any method permitted by law deemed to be an “at the market offering” as defined in Rule 415 of the Securities Act. “Trading Day” means any day on which shares of Common Stock are purchased and sold on the Exchange.

4. Suspension of Sales. The Company or the Agent may, upon notice to the other party in writing (including by email correspondence to each of the individuals of the other party set forth on Schedule 3, if receipt of such correspondence is actually acknowledged by any of the individuals to whom the notice is sent, other than via auto-reply) or by telephone (confirmed immediately by verifiable facsimile transmission or email correspondence to each of the individuals of the other party set forth on Schedule 3), suspend any sale of Placement Shares (a “Suspension”); *provided, however*, that such Suspension shall not affect or impair any party’s obligations with respect to any Placement Shares sold hereunder prior to the receipt of such notice. While a Suspension is in effect, any obligation under Sections 7(l), 7(m), and 7(n) with respect to the delivery of certificates, opinions, or comfort letters to the Agent, shall be waived. Each of the parties agrees that no such notice under this Section 4 shall be effective against any other party unless it is made to one of the individuals named on Schedule 3 hereto, as such Schedule may be amended from time to time.

5. Sale and Delivery to the Agent; Settlement.

a. Sale of Placement Shares. On the basis of the representations and warranties herein contained and subject to the terms and conditions herein set forth, upon the Agent’s acceptance of the terms of a Placement Notice, and unless the sale of the Placement Shares described therein has been declined, suspended, or otherwise terminated in accordance with the terms of this Agreement, the Agent, for the period specified in the Placement Notice,

will use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable state and federal laws, rules and regulations and the rules of the Exchange to sell such Placement Shares up to the number or dollar amount specified in, and otherwise in accordance with the terms of, such Placement Notice. The Company acknowledges and agrees that (i) there can be no assurance that the Agent will be successful in selling Placement Shares, (ii) the Agent will incur no liability or obligation to the Company or any other person or entity if it does not sell Placement Shares for any reason other than a failure by the Agent to use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable state and federal laws, rules and regulations and the rules of the Exchange to sell such Placement Shares as required under this Agreement and (iii) the Agent shall be under no obligation to purchase Placement Shares on a principal basis pursuant to this Agreement, except as otherwise agreed by the Agent and the Company.

b. Settlement of Placement Shares. Unless otherwise specified in the applicable Placement Notice, settlement for sales of Placement Shares will occur on the second (2nd) Trading Day (or such earlier day as is industry practice for regular-way trading) following the date on which such sales are made (each, a “Settlement Date”). The Agent shall notify the Company of each sale of Placement Shares no later than opening day following the Trading Day that the Agent sold Placement Shares. The amount of proceeds to be delivered to the Company on a Settlement Date against receipt of the Placement Shares sold (the “Net Proceeds”) will be equal to the aggregate sales price received by the Agent, after deduction for (i) the Agent’s commission, discount or other compensation for such sales payable by the Company pursuant to Section 2 hereof, and (ii) any transaction fees imposed by any governmental or self-regulatory organization in respect of such sales.

c. Delivery of Placement Shares. On or before each Settlement Date, the Company will, or will cause its transfer agent to, electronically transfer the Placement Shares being sold by crediting the Agent’s or its designee’s account (provided the Agent shall have given the Company written notice of such designee and such designee’s account information at least one Trading Day prior to the Settlement Date) at The Depository Trust Company through its Deposit and Withdrawal at Custodian System or by such other means of delivery as may be mutually agreed upon by the parties hereto which in all cases shall be freely tradable, transferable, registered shares in good deliverable form. On each Settlement Date, the Agent will deliver the related Net Proceeds in same day funds to an account designated by the Company on, or prior to, the Settlement Date. The Company agrees that if the Company, or its transfer agent (if applicable), defaults in its obligation to deliver Placement Shares on a Settlement Date through no fault of the Agent, then in addition to and in no way limiting the rights and obligations set forth in Section 11(a) hereto, it will (i) hold the Agent harmless against any loss, claim, damage, or reasonable, documented expense (including reasonable and documented legal fees and expenses), as incurred, arising out of or in connection with such default by the Company or its transfer agent (if applicable) and (ii) pay to the Agent (without duplication) any commission, discount, or other compensation to which it would otherwise have been entitled absent such default.

d. Limitations on Offering Size. Under no circumstances shall the Company cause or request the offer or sale of any Placement Shares if, after giving effect to the sale of such Placement Shares, the aggregate number of Placement Shares sold pursuant to this

Agreement would exceed the Maximum Amount. Under no circumstances shall the Company cause or request the offer or sale of any Placement Shares pursuant to this Agreement at a price lower than the minimum price authorized from time to time by the Board, a duly authorized committee thereof or a duly authorized executive committee, and notified to the Agent in writing.

6. Representations and Warranties of the Company. Except as disclosed in the Registration Statement or Prospectus (including the Incorporated Documents), the Company represents and warrants to, and agrees with the Agent that as of the date of this Agreement and as of each Applicable Time (as defined below), unless such representation, warranty or agreement specifies a different date or time:

a. Registration Statement and Prospectus. The transactions contemplated by this Agreement meet the requirements for and comply with the conditions for the use of Form S-3 under the Securities Act. The Registration Statement has been filed with the Commission and has been declared effective under the Securities Act. The Prospectus Supplement will name the Agent as the agent in the section entitled "Plan of Distribution." The Company has not received, and has no notice of, any order of the Commission preventing or suspending the use of the Registration Statement, or threatening or instituting proceedings for that purpose. The Registration Statement and the offer and sale of Placement Shares as contemplated hereby meet the requirements of Rule 415 under the Securities Act and comply in all material respects with said Rule. Any statutes, regulations, contracts or other documents that are required to be described in the Registration Statement or the Prospectus or to be filed as exhibits to the Registration Statement have been so described or filed, as applicable. Copies of the Registration Statement, the Prospectus, and any such amendments or supplements and all documents incorporated by reference therein that were filed with the Commission on or prior to the date of this Agreement have been delivered, or are available through EDGAR, to the Agent and its counsel. The Company has not distributed and, prior to the later to occur of each Settlement Date and completion of the distribution of the Placement Shares, will not distribute any offering material in connection with the offering or sale of the Placement Shares other than the Registration Statement and the Prospectus and any Issuer Free Writing Prospectus (as defined below) to which the Agent has consented, which consent will not be unreasonably withheld or delayed, or that is required by applicable law or the listing maintenance requirements of the Exchange. The Common Stock is currently quoted on the Exchange under the trading symbol "NLST." Other than the letter received by the Company from the Exchange on September 26, 2017, the Company has not, in the 12 months preceding the date hereof, received notice from the Exchange (the "Exchange Letter") to the effect that the Company is not in compliance with the listing or maintenance requirements of the Exchange. Other than as set forth in the Exchange Letter, to the Company's knowledge, it is in compliance with all such listing and maintenance requirements.

b. No Misstatement or Omission. At each Settlement Date, the Registration Statement and the Prospectus, as of such date, will conform in all material respects with the requirements of the Securities Act. The Registration Statement, when it became or becomes effective, did not, and will not, contain an 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 and any amendment and supplement thereto, on the date thereof and

at each Applicable Time (defined below), did not or will not include an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading. The documents incorporated by reference in the Prospectus or any Prospectus Supplement did not, and any further documents filed and incorporated by reference therein will not, when filed with the Commission, contain an untrue statement of a material fact or omit to state a material fact required to be stated in such document or necessary to make the statements in such document, in light of the circumstances under which they were made, not misleading. The foregoing shall not apply to statements in, or omissions from, any such document made in reliance upon, and in conformity with, information furnished to the Company by the Agent specifically for use in the preparation thereof. Notwithstanding anything to the contrary contained in this Agreement, the representations and warranties set forth in this Section 6(b) shall not be made by the Company as of the date of this Agreement .

c. Conformity with Securities Act and Exchange Act . The Registration Statement, the Prospectus, any Issuer Free Writing Prospectus or any amendment or supplement thereto, and the Incorporated Documents, when such documents were or are filed with the Commission under the Securities Act or the Exchange Act or became or become effective under the Securities Act, as the case may be, conformed or will conform in all material respects with the requirements of the Securities Act and the Exchange Act, as applicable.

d. Financial Information . The consolidated financial statements of the Company included or incorporated by reference in the Registration Statement and the Prospectus, together with the related notes and schedules, present fairly, in all material respects, the consolidated financial position of the Company and the Subsidiaries (as defined below) as of the dates indicated and the consolidated results of operations, cash flows and changes in stockholders' equity of the Company and the Subsidiaries for the periods specified (subject, in the case of unaudited statements, to normal year-end audit adjustments which will not be material, either individually or in the aggregate) and have been prepared in compliance with the published requirements of the Securities Act and Exchange Act, as applicable, and in conformity with generally accepted accounting principles in the United States (“GAAP”) applied on a consistent basis (except (i) for such adjustments to accounting standards and practices as are noted therein and (ii) in the case of unaudited interim statements, to the extent they may exclude footnotes or may be condensed or summary statements) during the periods involved; the other financial data with respect to the Company and the Subsidiaries contained or incorporated by reference in the Registration Statement and the Prospectus, are accurately and fairly presented and prepared on a basis consistent with the financial statements and books and records of the Company; there are no financial statements (historical or pro forma) that are required to be included or incorporated by reference in the Registration Statement, or the Prospectus that are not included or incorporated by reference as required; the Company and the Subsidiaries do not have any material liabilities or obligations, direct or contingent (including any off balance sheet obligations), not described in the Registration Statement, and the Prospectus which are required to be described in the Registration Statement or Prospectus; and all disclosures contained or incorporated by reference in the Registration Statement and the Prospectus, if any, regarding “non-GAAP financial measures” (as such term is defined by the rules and regulations of the Commission) comply in all material respects with Regulation G of the Exchange Act and Item 10 of Regulation S-K under the Securities Act, to the extent applicable.

e. Conformity with EDGAR Filing. The Prospectus delivered to the Agent for use in connection with the sale of the Placement Shares pursuant to this Agreement will be identical to the versions of the Prospectus created to be transmitted to the Commission for filing via EDGAR, except to the extent permitted by Regulation S-T.

f. Organization. The Company and any subsidiary that is a significant subsidiary (as such term is defined in Rule 1-02 of Regulation S-X promulgated by the Commission) (each, a “Subsidiary,” collectively, the “Subsidiaries”), are, and will be, duly organized, validly existing and in good standing under the laws of their respective jurisdictions of organization. The Company and the Subsidiaries are duly licensed or qualified as a foreign entity for transaction of business and in good standing under the laws of each other jurisdiction in which their respective ownership or lease of property or the conduct of their respective businesses requires such license or qualification, and have all corporate power and authority necessary to own or hold their respective properties and to conduct their respective businesses as described in the Registration Statement and the Prospectus, except where the failure to be so qualified or in good standing or have such power or authority would not, individually or in the aggregate, have a material adverse effect on the assets, business, operations, condition (financial or otherwise), prospects or results of operations of the Company and the Subsidiaries taken as a whole, or prevent the Company and its Subsidiaries from consummating the transactions contemplated hereby (a “Material Adverse Effect”).

g. Subsidiaries. As of the date hereof, the Company’s only Subsidiaries are set forth on Schedule 6(g). The Company owns directly or indirectly, all of the equity interests of the Subsidiaries free and clear of any lien, charge, security interest, encumbrance, right of first refusal or other restriction, and all the equity interests of the Subsidiaries are validly issued and are fully paid, nonassessable and free of preemptive and similar rights.

h. No Violation or Default. Neither the Company nor any Subsidiary is (i) in violation of its charter or by-laws or similar organizational documents; (ii) in default, and no event has occurred that, with notice or lapse of time or both, would constitute such a default, in the due performance or observance of any term, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement or other similar agreement or instrument to which the Company or any Subsidiary is a party or by which the Company or any Subsidiary is bound or to which any of the property or assets of the Company or any Subsidiary is subject; or (iii) in violation of any law or statute or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority, except, in the case of each of clauses (ii) and (iii) above, for any such violation or default that would not, individually or in the aggregate, have a Material Adverse Effect. To the Company’s knowledge, no other party under any material contract or other agreement to which it or any Subsidiary is a party is in default in any respect thereunder where such default would have a Material Adverse Effect.

i. No Material Adverse Effect. Since the date of the most recent financial statements of the Company included or incorporated by reference in the Registration Statement and Prospectus, there has not been (i) any Material Adverse Effect, (ii) any transaction which is material to the Company and the Subsidiaries taken as a whole, (iii) any obligation or liability, direct or contingent (including any off-balance sheet obligations), incurred by the Company or the Subsidiaries, which is material to the Company and the Subsidiaries taken as a whole, (iv)

any material change in the capital stock (other than (A) the grant of additional options under the Company's existing stock option plans, (B) changes in the number of outstanding Common Stock of the Company due to the issuance of shares upon the exercise or conversion of securities exercisable for, or convertible into, Common Stock outstanding on the date hereof, (C) as a result of the issuance of Placement Shares, (D) any repurchases of capital stock of the Company, (E) as described in a proxy statement filed on Schedule 14A or a Registration Statement on Form S-4, or (F) otherwise publicly announced) or outstanding long-term indebtedness of the Company or the Subsidiaries or (v) any dividend or distribution of any kind declared, paid or made on the capital stock of the Company or any Subsidiary, other than in each case above in the ordinary course of business or as otherwise disclosed in the Registration Statement or Prospectus (including any document incorporated by reference therein).

j. Capitalization. The issued and outstanding shares of capital stock of the Company have been validly issued, are fully paid and non-assessable and, other than as disclosed in the Registration Statement or the Prospectus, are not subject to any preemptive rights, rights of first refusal or similar rights. The Company has an authorized, issued and outstanding capitalization as set forth in the Registration Statement and the Prospectus as of the dates referred to therein (other than (i) the grant of additional options under the Company's existing stock option plans, (ii) changes in the number of outstanding Common Stock of the Company due to the issuance of shares upon the exercise or conversion of securities exercisable for, or convertible into, Common Stock outstanding on the date hereof, (iii) as a result of the issuance of Placement Shares, or (iv) any repurchases of capital stock of the Company) and such authorized capital stock conforms to the description thereof set forth in the Registration Statement and the Prospectus. The description of the Common Stock in the Registration Statement and the Prospectus is complete and accurate in all material respects. Except as disclosed in or contemplated by the Registration Statement or the Prospectus, the Company did not have outstanding any options to purchase, or any rights or warrants to subscribe for, or any securities or obligations convertible into, or exchangeable for, or any contracts or commitments to issue or sell, any shares of capital stock or other securities.

k. S-3 Eligibility. At the time the Registration Statement was declared effective, and as of the date hereof, the Company met the then applicable requirements for the use of Form S-3 under the Securities Act, including, but not limited to, General Instruction I.B.1 of Form S-3.

l. Authorization; Enforceability. The Company has full legal right, power and authority to enter into this Agreement and perform the transactions contemplated hereby. This Agreement has been duly authorized, executed and delivered by the Company and is a legal, valid and binding agreement of the Company enforceable against the Company in accordance with its terms, except to the extent that (i) enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditors' rights generally and by general equitable principles and (ii) the indemnification and contribution provisions of Section 11 hereof may be limited by federal or state securities laws and public policy considerations in respect thereof.

m. Authorization of Placement Shares. The Placement Shares, when issued and delivered pursuant to the terms approved by the Board or a duly authorized committee

thereof, or a duly authorized executive committee, against payment therefor as provided herein, will be duly and validly authorized and issued and fully paid and nonassessable, free and clear of any pledge, lien, encumbrance, security interest or other claim (other than any pledge, lien, encumbrance, security interest or other claim arising from an act or omission of the Agent or a purchaser), including any statutory or contractual preemptive rights, resale rights, rights of first refusal or other similar rights, and will be registered pursuant to Section 12 of the Exchange Act. The Placement Shares, when issued, will conform in all material respects to the description thereof set forth in or incorporated into the Prospectus.

n. No Consents Required. No consent, approval, authorization, order, registration or qualification of or with any court or arbitrator or any governmental or regulatory authority is required for the execution, delivery and performance by the Company of this Agreement, and the issuance and sale by the Company of the Placement Shares as contemplated hereby, except for such consents, approvals, authorizations, orders and registrations or qualifications (i) as may be required under applicable state securities laws or by the by-laws and rules of the Financial Industry Regulatory Authority (“FINRA”) or the Exchange, including any notices that may be required by the Exchange, in connection with the sale of the Placement Shares by the Agent, (ii) as may be required under the Securities Act and (iii) as have been previously obtained by the Company.

o. No Preferential Rights. (i) No person, as such term is defined in Rule 1-02 of Regulation S-X promulgated under the Securities Act (each, a “Person”), has the right, contractual or otherwise, to cause the Company to issue or sell to such Person any Common Stock or shares of any other capital stock or other securities of the Company (other than upon the exercise of options or warrants to purchase Common Stock or upon the exercise of options that may be granted from time to time under the Company’s stock option plan), (ii) no Person has any preemptive rights, rights of first refusal, or any other rights (whether pursuant to a “poison pill” provision or otherwise) to purchase any Common Stock or shares of any other capital stock or other securities of the Company from the Company which have not been duly waived with respect to the offering contemplated hereby, (iii) no Person has the right to act as an underwriter or as a financial advisor to the Company in connection with the offer and sale of the Common Stock, and (iv) no Person has the right, contractual or otherwise, to require the Company to register under the Securities Act any Common Stock or shares of any other capital stock or other securities of the Company, or to include any such shares or other securities in the Registration Statement or the offering contemplated thereby, whether as a result of the filing or effectiveness of the Registration Statement or the sale of the Placement Shares as contemplated thereby or otherwise, except in each case for such rights as have been waived on or prior to the date hereof.

p. Independent Public Accountant. KMJ Corbin & Company LLP (the “Accountant”), whose report on the consolidated financial statements of the Company is filed with the Commission as part of the Company’s most recent Annual Report on Form 10-K filed with the Commission and incorporated into the Registration Statement, are and, during the periods covered by their report, were independent public accountants within the meaning of the Securities Act and the Public Company Accounting Oversight Board (United States). To the Company’s knowledge, the Accountant is not in violation of the auditor independence requirements of the Sarbanes-Oxley Act of 2002 (the “Sarbanes-Oxley Act”) with respect to the Company.

q. Enforceability of Agreements. All agreements between the Company and third parties expressly referenced in the Prospectus, other than such agreements that have expired by their terms or whose termination is disclosed in documents filed by the Company on EDGAR, are legal, valid and binding obligations of the Company and, to the Company's knowledge, enforceable in accordance with their respective terms, except to the extent that (i) enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditors' rights generally and by general equitable principles and (ii) the indemnification provisions of certain agreements may be limited by federal or state securities laws or public policy considerations in respect thereof, and except for any unenforceability that, individually or in the aggregate, would not have a Material Adverse Effect.

r. No Litigation. There are no legal or governmental proceedings pending or, to the Company's knowledge, threatened to which the Company or any Subsidiary is a party or to which any of the properties of the Company or any Subsidiary is subject (i) other than proceedings accurately described in all material respects in the Prospectus and proceedings that would not have a Material Adverse Effect or (ii) that are required to be described in the Registration Statement or the Prospectus and are not so described; and there are no statutes, regulations, contracts or other documents to which the Company or any Subsidiary is subject or by which the Company or any Subsidiary is bound that are required to be described in the Registration Statement or the Prospectus or to be filed as exhibits to the Registration Statement that are not described or filed as required.

s. Licenses and Permits. The Company and the Subsidiaries possess or have obtained, all licenses, certificates, consents, orders, approvals, permits and other authorizations issued by, and have made all declarations and filings with, the appropriate federal, state, local or foreign governmental or regulatory authorities that are necessary for the ownership or lease of their respective properties or the conduct of their respective businesses as currently conducted, as described in the Registration Statement and the Prospectus (the "Permits"), except where the failure to possess, obtain or make the same would not, individually or in the aggregate, have a Material Adverse Effect. Neither the Company nor any Subsidiary has received written notice of any proceeding relating to revocation or modification of any such Permit or has any reason to believe that such Permit will not be renewed in the ordinary course, except where the failure to obtain any such renewal would not, individually or in the aggregate, have a Material Adverse Effect.

t. No Material Defaults. Neither the Company nor any Subsidiary has defaulted on any installment on indebtedness for borrowed money or on any rental on one or more long-term leases, which defaults, individually or in the aggregate, would have a Material Adverse Effect. The Company has not filed a report pursuant to Section 13(a) or 15(d) of the Exchange Act since the filing of its last Annual Report on Form 10-K, indicating that it (i) has failed to pay any dividend or sinking fund installment on preferred stock or (ii) has defaulted on any installment on indebtedness for borrowed money or on any rental on one or more long-term leases, which defaults, individually or in the aggregate, would have a Material Adverse Effect.

u. Certain Market Activities. Neither the Company, nor any Subsidiary, nor, to the knowledge of the Company, any of their respective directors, officers or controlling persons has taken, directly or indirectly, any action designed, or that has constituted or would

cause or result in, under the Exchange Act or otherwise, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Placement Shares.

v. Broker/Dealer Relationships. Neither the Company nor any Subsidiary or any related entities (i) is required to register as a “broker” or “dealer” in accordance with the provisions of the Exchange Act or (ii) directly or indirectly through one or more intermediaries, controls or is a “person associated with a member” or “associated person of a member” (within the meaning set forth in the FINRA Manual).

w. No Reliance. The Company has not relied upon the Agent or legal counsel for the Agent for any legal, tax or accounting advice in connection with the offering and sale of the Placement Shares.

x. Taxes. The Company and the Subsidiaries have filed all federal, state, local and foreign tax returns which have been required to be filed and paid all taxes shown thereon through the date hereof, to the extent that such taxes have become due and are not being contested in good faith, except where the failure to do so would not have a Material Adverse Effect. Except as otherwise disclosed in or contemplated by the Registration Statement or the Prospectus, no tax deficiency has been determined adversely to the Company or any Subsidiary which has had, or would have, individually or in the aggregate, a Material Adverse Effect. The Company has no knowledge of any federal, state or other governmental tax deficiency, penalty or assessment which has been or might be asserted or threatened against it which would have a Material Adverse Effect.

y. Title to Real and Personal Property. The Company and the Subsidiaries have good and valid title in fee simple to all items of real property and good and valid title to all personal property described in the Registration Statement or Prospectus as being owned by them that are material to the businesses of the Company or such Subsidiary, in each case free and clear of all liens, encumbrances and claims, except those that (i) do not materially interfere with the use made and proposed to be made of such property by the Company and the Subsidiaries or (ii) would not, individually or in the aggregate, have a Material Adverse Effect. Any real property described in the Registration Statement or Prospectus as being leased by the Company and the Subsidiaries is held by them under valid, existing and enforceable leases, except those that (A) do not materially interfere with the use made or proposed to be made of such property by the Company or the Subsidiaries or (B) would not, individually or in the aggregate, have a Material Adverse Effect.

z. Intellectual Property.

(i) The Company and its Subsidiaries own or possess adequate enforceable rights to use all patents, patent applications, trademarks (both registered and unregistered), trade names, trademark registrations, service marks, service mark registrations, Internet domain name registrations, copyrights, copyright registrations, licenses and know-how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures) (collectively, the “Intellectual Property”), necessary for the conduct of their respective businesses as conducted as of the date hereof, except to the extent that the failure to own or possess adequate rights to use such Intellectual Property would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. The

Company and the Subsidiaries have not received any written notice of any claim of infringement or conflict which asserted Intellectual Property rights of others, which infringement or conflict, if the subject of an unfavorable decision, would result in a Material Adverse Effect. There are no pending, or to the Company's knowledge, threatened judicial proceedings or interference proceedings challenging the Company's or any Subsidiary's rights in or to the validity of the scope of any of the Company's or its Subsidiaries' patents, patent applications or proprietary information. To the Company's knowledge, no other entity or individual has any right or claim in any of the Company's or any of its Subsidiary's patents, patent applications or any patent to be issued therefrom by virtue of any contract, license or other agreement entered into between such entity or individual and the Company or any Subsidiary or by any non-contractual obligation, other than by written licenses granted by the Company or any Subsidiary. The Company has not received any written notice of any claim challenging the rights of the Company or its Subsidiaries in or to any Intellectual Property owned, licensed or optioned by the Company or any Subsidiary which claim, if the subject of an unfavorable decision, would result in a Material Adverse Effect.

(ii) The Company and its Subsidiaries have taken reasonable security measures to protect the secrecy, confidentiality and value of all of their Intellectual Property, except where failure to do so would not result in a Material Adverse Effect.

(iii) All patent applications owned by the Company or its Subsidiaries and filed with the U.S. Patent and Trademark Office (the "PTO") or any foreign or international patent authority that have resulted in patents or currently pending applications that describe inventions necessary to conduct the business of the Company or its subsidiaries in the manner described in the Registration Statement and the Prospectus (collectively, the "Company Patent Applications") have been or were duly and properly filed.

(iv) The Company and its Subsidiaries have complied in all material respects with their duty of candor and disclosure to the PTO for the Company Patent Applications. To the Company's knowledge, there are no material facts required to be disclosed to the PTO that were not disclosed to the PTO and which would preclude the grant of a patent for the Company Patent Applications. The Company has no knowledge of any facts which would preclude it from having clear title to the Company Patent Applications that have been identified by the Company as being exclusively owned by the Company.

aa. Environmental Laws. The Company and the Subsidiaries (i) are in compliance with any and all applicable federal, state, local and foreign laws, rules, regulations, decisions and orders relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants (collectively, "Environmental Laws"); (ii) have received and are in compliance with all permits, licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses as described in the Registration Statement and the Prospectus; and (iii) have not received notice of any actual or potential liability for the investigation or remediation of any disposal or release of hazardous or toxic substances or wastes, pollutants or contaminants, except, in the case of any of clauses (i), (ii) or (iii) above, for any such failure to comply or failure to receive required permits, licenses, other approvals or liability as would not, individually or in the aggregate, have a Material Adverse Effect.

bb. Disclosure Controls. The Company maintains a system of internal accounting controls designed to provide reasonable assurance 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 accountability; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. The Company is not aware of any material weaknesses in its internal control over financial reporting (other than as set forth in the Registration Statement or the Prospectus). Since the date of the latest audited financial statements of the Company included in the Prospectus, there has been no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting (other than as set forth in the Registration Statement or the Prospectus). The Company has established disclosure controls and procedures (as defined in Exchange Act Rules 13a-15 and 15d-15) that comply with the requirements of the Exchange Act. The Company's certifying officers have evaluated the effectiveness of the Company's controls and procedures as of a date within 90 days prior to the filing date of the Form 10-K for the fiscal year most recently ended (such date, the "Evaluation Date"). The Company presented in its Form 10-K for the fiscal year most recently ended the conclusions of the certifying officers about the effectiveness of the disclosure controls and procedures based on their evaluations as of the most recent Evaluation Date, and, to the knowledge of the Company, the "disclosure controls and procedures" are effective.

cc. Sarbanes-Oxley Act. There is and has been no failure on the part of the Company or, to the knowledge of the Company, any of the Company's directors or officers, in their capacities as such, to comply in all material respects with any applicable provisions of the Sarbanes-Oxley Act and the rules and regulations promulgated thereunder. Each of the principal executive officer and the principal financial officer of the Company (or each former principal executive officer of the Company and each former principal financial officer of the Company as applicable) has made all certifications required by Sections 302 and 906 of the Sarbanes-Oxley Act with respect to all reports, schedules, forms, statements and other documents required to be filed by it or furnished by it to the Commission during the past 12 months. For purposes of the preceding sentence, "principal executive officer" and "principal financial officer" shall have the meanings given to such terms in the Exchange Act Rules 13a-15 and 15d-15.

dd. Finder's Fees. Neither the Company nor any Subsidiary has incurred any liability for any finder's fees, brokerage commissions or similar payments in connection with the transactions herein contemplated, except as may otherwise exist with respect to the Agent pursuant to this Agreement.

ee. Labor Disputes. No labor disturbance by or dispute with employees of the Company or any Subsidiary exists or, to the knowledge of the Company, is threatened which would result in a Material Adverse Effect.

ff. Investment Company Act. Neither the Company nor any Subsidiary is or, after giving effect to the offering and sale of the Placement Shares, will be required to register as an "investment company" or an entity "controlled" by an "investment company," as such terms

are defined in the Investment Company Act of 1940, as amended (the “Investment Company Act”).

gg. Operations. The operations of the Company and the Subsidiaries are and have been conducted at all times in compliance with applicable financial record keeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all jurisdictions to which the Company or the Subsidiaries are subject, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency having jurisdiction over the Company (collectively, the “Money Laundering Laws”), except where the failure to be in such compliance would not result in a Material Adverse Effect; and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any Subsidiary with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

hh. Off-Balance Sheet Arrangements. There are no transactions, arrangements and other relationships between and/or among the Company, and/or, to the knowledge of the Company, any of its affiliates and any unconsolidated entity, including, but not limited to, any structured finance, special purpose or limited purpose entity (each, an “Off Balance Sheet Transaction”) that would affect materially the Company’s liquidity or the availability of or requirements for its capital resources, including those Off Balance Sheet Transactions described in the Commission’s Statement about Management’s Discussion and Analysis of Financial Conditions and Results of Operations (Release Nos. 33-8056; 34-45321; FR-61), required to be described in the Registration Statement or the Prospectus which have not been described as required.

ii. Underwriter Agreements. The Company is not a party to any agreement with an agent or underwriter for any other “at the market” or continuous equity transaction.

jj. ERISA. To the knowledge of the Company, (i) each material employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended (“ERISA”) that is maintained, administered or contributed to by the Company or any of its affiliates for employees or former employees of the Company and the Subsidiaries has been maintained in material compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations, including but not limited to ERISA and the Internal Revenue Code of 1986, as amended (the “Code”); (ii) no prohibited transaction, within the meaning of Section 406 of ERISA or Section 4975 of the Code, has occurred which would result in a material liability to the Company with respect to any such plan excluding transactions effected pursuant to a statutory or administrative exemption; and (iii) for each such plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA, no “accumulated funding deficiency” as defined in Section 412 of the Code has been incurred, whether or not waived, and the fair market value of the assets of each such plan (excluding for these purposes accrued but unpaid contributions) equals or exceeds the present value of all benefits accrued under such plan determined using reasonable actuarial assumptions, other than, in the case of (i), (ii) and (iii) above, as would not have a Material Adverse Effect.

kk. Forward-Looking Statements. No forward-looking statement (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act)

(a “ Forward-Looking Statement ”) contained in the Registration Statement and the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

ll. Margin Rules. Neither the issuance, sale and delivery of the Placement Shares nor the application of the proceeds thereof by the Company as described in the Registration Statement and the Prospectus will violate Regulation T, U or X of the Board of Governors of the Federal Reserve System.

mm. Insurance. The Company and the Subsidiaries carry, or are covered by, insurance in such amounts and covering such risks as the Company and the Subsidiaries reasonably believe are adequate for the conduct of their business.

nn. No Improper Practices. (i) Neither the Company nor, to the Company’s knowledge, the Subsidiaries, nor to the Company’s knowledge, any of their respective executive officers has, in the past five years, made any unlawful contributions to any candidate for any political office (or failed fully to disclose any contribution in violation of law) or made any contribution or other payment to any official of, or candidate for, any federal, state, municipal, or foreign office or other person charged with similar public or quasi-public duty in violation of any law or of the character required to be disclosed in the Prospectus; (ii) no relationship, direct or indirect, exists between or among the Company or, to the Company’s knowledge, the Subsidiaries or any affiliate of any of them, on the one hand, and the directors, officers and stockholders of the Company or, to the Company’s knowledge, the Subsidiaries, on the other hand, that is required by the Securities Act to be described in the Registration Statement and the Prospectus that is not so described; (iii) no relationship, direct or indirect, exists between or among the Company or the Subsidiaries or any affiliate of them, on the one hand, and the directors, officers, stockholders or directors of the Company or, to the Company’s knowledge, the Subsidiaries, on the other hand, that is required by the rules of FINRA to be described in the Registration Statement and the Prospectus that is not so described; (iv) there are no material outstanding loans or advances or material guarantees of indebtedness by the Company or, to the Company’s knowledge, the Subsidiaries to or for the benefit of any of their respective officers or directors or any of the members of the families of any of them; and (v) the Company has not offered, or caused any placement agent to offer, Common Stock to any person with the intent to influence unlawfully (A) a customer or supplier of the Company or the Subsidiaries to alter the customer’s or supplier’s level or type of business with the Company or the Subsidiaries or (B) a trade journalist or publication to write or publish favorable information about the Company or the Subsidiaries or any of their respective products or services, and, (vi) neither the Company nor the Subsidiaries nor, to the Company’s knowledge, any employee or agent of the Company or the Subsidiaries has made any payment of funds of the Company or the Subsidiaries or received or retained any funds in violation of any law, rule or regulation (including, without limitation, the Foreign Corrupt Practices Act of 1977), which payment, receipt or retention of funds is of a character required to be disclosed in the Registration Statement or the Prospectus.

oo. Status Under the Securities Act. The Company was not and is not an ineligible issuer as defined in Rule 405 under the Securities Act at the times specified in Rules 164 and 433 under the Securities Act in connection with the offering of the Placement Shares.

pp. No Misstatement or Omission in an Issuer Free Writing Prospectus. Each Issuer Free Writing Prospectus, as of its issue date and as of each Applicable Time (as defined in Section 25 below), did not, does not and will not, through the completion of the Placement or Placements for which such Issuer Free Writing Prospectus is issued, include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement or the Prospectus, including any incorporated document deemed to be a part thereof that has not been superseded or modified. The foregoing sentence does not apply to statements in or omissions from any Issuer Free Writing Prospectus based upon and in conformity with written information furnished to the Company by the Agent specifically for use therein.

qq. No Conflicts. Neither the execution of this Agreement, nor the issuance, offering or sale of the Placement Shares, nor the consummation of any of the transactions contemplated herein and therein, nor the compliance by the Company with the terms and provisions hereof and thereof will conflict with, or will result in a breach of, any of the terms and provisions of, or has constituted or will constitute a default under, or has resulted in or will result in the creation or imposition of any lien, charge or encumbrance upon any property or assets of the Company pursuant to the terms of any contract or other agreement to which the Company may be bound or to which any of the property or assets of the Company is subject, except (i) such conflicts, breaches or defaults as may have been waived and (ii) such conflicts, breaches and defaults that would not have a Material Adverse Effect; nor will such action result (x) in any violation of the provisions of the organizational or governing documents of the Company, or (y) in any material violation of the provisions of any statute or any order, rule or regulation applicable to the Company or of any court or of any federal, state or other regulatory authority or other government body having jurisdiction over the Company, except where such violation would not have a Material Adverse Effect.

rr. OFAC.

(i) Neither the Company nor any Subsidiary (collectively, the “Entity”) nor, to the Company’s knowledge, any director, officer, employee, agent, affiliate or representative of the Entity, is a government, individual, or entity (in this paragraph (rr), “Person”) that is, or is owned or controlled by a Person that is:

(a) the subject of any sanctions administered or enforced by the U.S. Department of Treasury’s Office of Foreign Assets Control (“OFAC”), the United Nations Security Council (“UNSC”), the European Union (“EU”), Her Majesty’s Treasury (“HMT”), or other relevant sanctions authority (collectively, “Sanctions”), nor

(b) located, organized or resident in a country or territory that is the subject of Sanctions.

(ii) The Entity will not, directly or indirectly, knowingly use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other Person:

(a) to fund or facilitate any activities or business of or with any Person or in any country or territory that, at the time of such funding or facilitation, is the subject of Sanctions; or

(b) in any other manner that will result in a violation of Sanctions by any Person (including any Person participating in the offering, whether as underwriter, advisor, investor or otherwise).

(iii) The Entity represents and covenants that, except as detailed in the Registration Statement and the Prospectus, for the past 5 years, it has not knowingly engaged in and is not now knowingly engaged in any dealing or transactions with any Person, or in any country or territory, that at the time of the dealing or transaction is or was the subject of Sanctions.

ss. Stock Transfer Taxes. On each Settlement Date, all material stock transfer or other taxes (other than income taxes) which are required to be paid in connection with the sale and transfer of the Placement Shares to be sold 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 fully complied with by the Company in all material respects.

Any certificate signed by an officer of the Company and delivered to the Agent or to counsel for the Agent pursuant to or in connection with this Agreement shall be deemed to be a representation and warranty by the Company, as applicable, to the Agent as to the matters set forth therein.

7. Covenants of the Company. The Company covenants and agrees with the Agent that:

a. Registration Statement Amendments. After the date of this Agreement and during any period in which a prospectus relating to any Placement Shares is required to be delivered by the Agent under the Securities Act (including in circumstances where such requirement may be satisfied pursuant to Rule 172 under the Securities Act) (the “Prospectus Delivery Period”) (i) the Company will notify the Agent promptly of the time when any subsequent amendment to the Registration Statement, other than documents incorporated by reference or amendments not related to any Placement, has been filed with the Commission and/or has become effective or any subsequent supplement to the Prospectus has been filed and of any request by the Commission for any amendment or supplement to the Registration Statement or Prospectus related to the Placement or for additional information related to the Placement, (ii) the Company will prepare and file with the Commission, promptly upon the Agent’s request, any amendments or supplements to the Registration Statement or Prospectus that, upon the advice of the Company’s legal counsel, may be necessary or advisable in connection with the distribution of the Placement Shares by the Agent (*provided, however* , that the failure of the Agent to make such request shall not relieve the Company of any obligation or liability hereunder, or affect the Agent’s right to rely on the representations and warranties made by the Company in this Agreement and provided, further, that the only remedy the Agent shall have with respect to the failure to make such filing shall be to cease making sales under this Agreement until such amendment or supplement is filed); (iii) the Company will not file any amendment or supplement to the Registration Statement or Prospectus relating to the Placement Shares or a security convertible into the Placement Shares (other than an Incorporated Document) unless a copy thereof has been submitted to the Agent within a reasonable period of time before the filing and the Agent has not reasonably objected thereto (*provided, however* , that (A) the failure of the Agent to make such objection shall not relieve the Company of any

obligation or liability hereunder, or affect the Agent's right to rely on the representations and warranties made by the Company in this Agreement and (B) the Company has no obligation to provide the Agent any advance copy of such filing or to provide the Agent an opportunity to object to such filing if the filing does not name the Agent or does not relate to the transaction herein provided; and provided, further, that the only remedy the Agent shall have with respect to the failure by the Company to obtain such consent shall be to cease making sales under this Agreement) and the Company will furnish to the Agent at the time of filing thereof a copy of any document that upon filing is deemed to be incorporated by reference into the Registration Statement or Prospectus, except for those documents available via EDGAR; and (iv) the Company will cause each amendment or supplement to the Prospectus to be filed with the Commission as required pursuant to the applicable paragraph of Rule 424(b) of the Securities Act or, in the case of any document to be incorporated therein by reference, to be filed with the Commission as required pursuant to the Exchange Act, within the time period prescribed (the determination to file or not file any amendment or supplement with the Commission under this Section 7(a), based on the Company's reasonable opinion or reasonable objections, shall be made exclusively by the Company).

b. Notice of Commission Stop Orders. The Company will advise the Agent, promptly after it receives notice or obtains knowledge thereof, of the issuance or threatened issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement, of the suspension of the qualification of the Placement Shares for offering or sale in any jurisdiction, or of the initiation or threatening of any proceeding for any such purpose; and it will use its commercially reasonable efforts to prevent the issuance of any stop order or to obtain its withdrawal if such a stop order should be issued. The Company will advise the Agent promptly after it receives any request by the Commission for any amendments to the Registration Statement or any amendment or supplements to the Prospectus or any Issuer Free Writing Prospectus or for additional information related to the offering of the Placement Shares or for additional information related to the Registration Statement, the Prospectus or any Issuer Free Writing Prospectus.

c. Delivery of Prospectus; Subsequent Changes. During the Prospectus Delivery Period, the Company will comply with all requirements imposed upon it by the Securities Act, as from time to time in force, and to file on or before their respective due dates all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Sections 13(a), 13(c), 14, 15(d) or any other provision of or under the Exchange Act. If the Company has omitted any information from the Registration Statement pursuant to Rule 430A under the Securities Act, it will use its commercially reasonable efforts to comply with the provisions of and make all requisite filings with the Commission pursuant to said Rule 430A and to notify the Agent promptly of all such filings. If during the Prospectus Delivery Period any event occurs as a result of which the Prospectus as then amended or supplemented would include an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances then existing, not misleading, or if during such Prospectus Delivery Period it is necessary to amend or supplement the Registration Statement or Prospectus to comply with the Securities Act, the Company will promptly notify the Agent to suspend the offering of Placement Shares during such period and the Company will promptly amend or supplement the Registration Statement or Prospectus (at the expense of the Company) so as to correct such statement or

omission or effect such compliance; *provided, however*, that the Company may delay the filing of any amendment or supplement, if in the judgment of the Company, it is in the best interest of the Company.

d. Listing of Placement Shares. During the Prospectus Delivery Period, the Company will use its commercially reasonable efforts to cause the Placement Shares to be listed on the Exchange and to qualify the Placement Shares for sale under the securities laws of such jurisdictions in the United States as the Agent reasonably designates and to continue such qualifications in effect so long as required for the distribution of the Placement Shares; *provided, however*, that the Company shall not be required in connection therewith to qualify as a foreign corporation or dealer in securities, file a general consent to service of process, or subject itself to taxation in any jurisdiction if it is not otherwise so subject.

e. Delivery of Registration Statement and Prospectus. The Company will furnish to the Agent and its counsel (at the reasonable expense of the Company) copies of the Registration Statement, the Prospectus (including all documents incorporated by reference therein) and all amendments and supplements to the Registration Statement or Prospectus that are filed with the Commission during the Prospectus Delivery Period (including all documents filed with the Commission during such period that are deemed to be incorporated by reference therein), in each case as soon as reasonably practicable and in such quantities as the Agent may from time to time reasonably request and, at the Agent's request, will also furnish copies of the Prospectus to each exchange or market on which sales of the Placement Shares may be made; *provided, however*, that the Company shall not be required to furnish any document (other than the Prospectus) to the Agent to the extent such document is available on EDGAR.

f. Earnings Statement. The Company will make generally available to its security holders as soon as practicable, but in any event not later than 15 months after the end of the Company's current fiscal quarter, an earnings statement covering a 12-month period that satisfies the provisions of Section 11(a) and Rule 158 of the Securities Act.

g. Use of Proceeds. The Company will use the Net Proceeds as described in the Prospectus in the section entitled "Use of Proceeds."

h. Notice of Other Sales. Without the prior written consent of the Agent, the Company will not, directly or indirectly, offer to sell, sell, contract to sell, grant any option to sell or otherwise dispose of any Common Stock (other than the Placement Shares offered pursuant to this Agreement) or securities convertible into or exchangeable for Common Stock, warrants or any rights to purchase or acquire, Common Stock during the period beginning on the date on which any Placement Notice is delivered to the Agent hereunder and ending on the third (3rd) Trading Day immediately following the final Settlement Date with respect to Placement Shares sold pursuant to such Placement Notice (or, if the Placement Notice has been terminated or suspended prior to the sale of all Placement Shares covered by a Placement Notice, the date of such suspension or termination); and will not directly or indirectly in any other "at the market" or continuous equity transaction offer to sell, sell, contract to sell, grant any option to sell or otherwise dispose of any Common Stock (other than the Placement Shares offered pursuant to this Agreement) or securities convertible into or exchangeable for Common Stock, warrants or any rights to purchase or acquire, Common Stock prior to the termination of this Agreement; *provided, however*, that such restrictions will not apply in connection with the Company's

issuance or sale of (i) Common Stock, options to purchase Common Stock or Common Stock issuable upon the exercise of options, pursuant to any stock option, or benefits plan, stock ownership plan or dividend reinvestment plan (but not Common Stock subject to a waiver to exceed plan limits in its dividend reinvestment plan) of the Company whether now in effect or hereafter implemented; (ii) Common Stock issuable upon conversion of securities or the exercise of warrants, options or other rights in effect or outstanding, and disclosed in filings by the Company available on EDGAR or otherwise in writing to the Agent, (iii) Common Stock, or securities convertible into or exercisable for Common Stock, offered and sold in a privately negotiated transaction to vendors, customers, strategic partners or potential strategic partners or other investors conducted in a manner so as not to be integrated with the offering of Common Stock hereby and (iv) Common Stock in connection with any acquisition, strategic investment or other similar transaction (including any joint venture, strategic alliance or partnership).

i. Change of Circumstances. The Company will, at any time during the pendency of a Placement Notice advise the Agent promptly after it shall have received notice or obtained knowledge thereof, of any information or fact that would alter or affect in any material respect any opinion, certificate, letter or other document required to be provided to the Agent pursuant to this Agreement.

j. Due Diligence Cooperation. During the term of this Agreement, the Company will cooperate with any reasonable due diligence review conducted by the Agent or its representatives in connection with the transactions contemplated hereby, including, without limitation, providing information and making available documents and senior corporate officers, during regular business hours and at the Company's principal offices, as the Agent may reasonably request.

k. Required Filings Relating to Placement of Placement Shares. The Company agrees that on such dates as the Securities Act shall require, the Company will (i) file a prospectus supplement with the Commission under the applicable paragraph of Rule 424(b) under the Securities Act (each and every date a filing under Rule 424(b) is made, a "Filing Date"), which prospectus supplement will set forth, within the relevant period, the amount of Placement Shares sold through the Agent, the Net Proceeds to the Company and the compensation payable by the Company to the Agent with respect to such Placement Shares, and (ii) deliver such number of copies of each such prospectus supplement to each exchange or market on which such sales were effected as may be required by the rules or regulations of such exchange or market.

l. Representation Dates; Certificate. Each time during the term of this Agreement that the Company:

(i) amends or supplements (other than a prospectus supplement relating solely to an offering of securities other than the Placement Shares) the Registration Statement or the Prospectus relating to the Placement Shares by means of a post-effective amendment, sticker, or supplement but not by means of incorporation of documents by reference into the Registration Statement or the Prospectus relating to the Placement Shares;

(ii) files an annual report on Form 10-K under the Exchange Act (including any Form 10-K/A containing amended audited financial information or a material

amendment to the previously filed Form 10-K);

(iii) files its quarterly reports on Form 10-Q under the Exchange Act; or

(iv) files a current report on Form 8-K containing amended financial information (other than information “furnished” pursuant to Items 2.02 or 7.01 of Form 8-K or to provide disclosure pursuant to Item 8.01 of Form 8-K relating to the reclassification of certain properties as discontinued operations in accordance with Statement of Financial Accounting Standards No. 144) under the Exchange Act;

(Each date of filing of one or more of the documents referred to in clauses (i) through (iv) shall be a “Representation Date.”)

the Company shall furnish the Agent (but in the case of clause (iv) above only if the Agent reasonably determines that the information contained in such Form 8-K is material) with a certificate, in the form attached hereto as Exhibit 7(1). The requirement to provide a certificate under this Section 7(1) shall be waived for any Representation Date occurring at a time at which no Placement Notice is pending, which waiver shall continue until the earlier to occur of the date the Company delivers a Placement Notice hereunder (which for such calendar quarter shall be considered a Representation Date) and the next occurring Representation Date on which the Company files its annual report on Form 10-K. Notwithstanding the foregoing, (i) upon the delivery of the first Placement Notice hereunder and (ii) if the Company subsequently decides to sell Placement Shares following a Representation Date when the Company relied on such waiver and did not provide the Agent with a certificate under this Section 7(1), then before the Agent sells any Placement Shares, the Company shall provide the Agent with a certificate, in the form attached hereto as Exhibit 7(1), dated the date of the Placement Notice.

m. Legal Opinion. On or prior to the date of the first Placement Notice given hereunder the Company shall cause to be furnished to the Agent a written opinion and a negative assurance letter of Morrison & Foerster LLP (“Company Counsel”), or other counsel reasonably satisfactory to the Agent, each in form and substance reasonably satisfactory to the Agent. Thereafter, within five (5) Trading Days of each Representation Date with respect to which the Company is obligated to deliver a certificate in the form attached hereto as Exhibit 7(1) for which no waiver is applicable, the Company shall cause to be furnished to the Agent a negative assurance letter of Company Counsel in form and substance reasonably satisfactory to the Agent; provided that, in lieu of such negative assurance for subsequent periodic filings under the Exchange Act, counsel may furnish the Agent with a letter (a “Reliance Letter”) to the effect that the Agent may rely on the negative assurance letter previously delivered under this Section 7(m) to the same extent as if it were dated the date of such letter (except that statements in such prior letter shall be deemed to relate to the Registration Statement and the Prospectus as amended or supplemented as of the date of the Reliance Letter).

n. Comfort Letter. On or prior to the date of the first Placement Notice given hereunder and within five (5) Trading Days after each subsequent Representation Date, other than pursuant to Section 7(1)(iii), the Company shall cause its independent accountants to furnish the Agent letters (the “Comfort Letters”), dated the date the Comfort Letter is delivered, which shall meet the requirements set forth in this Section 7(n). The Comfort Letter from the

Company's independent accountants shall be in a form and substance reasonably satisfactory to the Agent, (i) confirming that they are an independent public accounting firm within the meaning of the Securities Act and the PCAOB, (ii) stating, as of such date, the conclusions and findings of such firm with respect to the financial information and other matters ordinarily covered by accountants' "comfort letters" to underwriters in connection with registered public offerings (the first such letter, the "Initial Comfort Letter") and (iii) updating the Initial Comfort Letter with any information that would have been included in the Initial Comfort Letter had it been given on such date and modified as necessary to relate to the Registration Statement and the Prospectus, as amended and supplemented to the date of such letter.

o. Market Activities. The Company will not, directly or indirectly, (i) take any action designed to cause or result in, or that constitutes or would constitute, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of Common Stock or (ii) sell, bid for, or purchase Common Stock in violation of Regulation M, or pay anyone any compensation for soliciting purchases of the Placement Shares other than the Agent.

p. Investment Company Act. The Company will conduct its affairs in such a manner so as to reasonably ensure that neither it nor the Subsidiaries will be or become, at any time prior to the termination of this Agreement, an "investment company," as such term is defined in the Investment Company Act.

q. No Offer to Sell. Other than an Issuer Free Writing Prospectus approved in advance by the Company and the Agent in its capacity as agent hereunder pursuant to Section 23, neither of the Agent nor the Company (including its agents and representatives, other than the Agent in its capacity as such) will make, use, prepare, authorize, approve or refer to any written communication (as defined in Rule 405), required to be filed with the Commission, that constitutes an offer to sell or solicitation of an offer to buy Placement Shares hereunder.

r. Sarbanes-Oxley Act. The Company will maintain and keep accurate books and records reflecting its assets and maintain internal accounting controls in a manner designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP and including those policies and procedures that (i) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company, (ii) provide reasonable assurance that transactions are recorded as necessary to permit the preparation of the Company's consolidated financial statements in accordance with GAAP, (iii) that receipts and expenditures of the Company are being made only in accordance with management's and the Company's directors' authorization, and (iv) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on its financial statements. The Company will maintain disclosure controls and procedures that comply with the requirements of the Exchange Act.

8. Representations and Covenants of the Agent. The Agent represents and warrants that it is duly registered as a broker-dealer under FINRA, the Exchange Act and the applicable statutes and regulations of each state in which the Placement Shares will be offered and sold, except such states in which the Agent is exempt from registration or such registration is not

otherwise required. The Agent shall continue, for the term of this Agreement, to be duly registered as a broker-dealer under FINRA, the Exchange Act and the applicable statutes and regulations of each state in which the Placement Shares will be offered and sold, except such states in which it is exempt from registration or such registration is not otherwise required, during the term of this Agreement. The Agent shall comply with all applicable law and regulations in connection with the transactions contemplated by this Agreement, including the issuance and sale through the Agent of the Placement Shares.

9. Payment of Expenses. The Company will pay all expenses incident to the performance of its obligations under this Agreement, including (i) the preparation, filing, including any fees required by the Commission, and printing of the Registration Statement (including financial statements and exhibits) as originally filed and of each amendment and supplement thereto and each Free Writing Prospectus, in such number as the Agent shall deem reasonably necessary, (ii) the printing and delivery to the Agent of this Agreement and such other documents as may be required in connection with the offering, purchase, sale, issuance or delivery of the Placement Shares, (iii) the preparation, issuance and delivery of the certificates, if any, for the Placement Shares to the Agent, including any stock or other transfer taxes and any capital duties, stamp duties or other duties or taxes payable upon the sale, issuance or delivery of the Placement Shares to the Agent, (iv) the fees and disbursements of the counsel, accountants and other advisors to the Company, (v) the reasonable and documented out-of-pocket fees and disbursements of counsel to the Agent up to \$35,000; (vi) the fees and expenses of the transfer agent and registrar for the Common Stock, (vii) the filing fees incident to any review by FINRA of the terms of the sale of the Placement Shares, and (viii) the fees and expenses incurred in connection with the listing of the Placement Shares on the Exchange.

10. Conditions to the Agent's Obligations. The obligations of the Agent hereunder with respect to a Placement will be subject to the continuing accuracy and completeness of the representations and warranties made by the Company herein (other than those representations and warranties made as of a specified date or time), to the due performance in all material respects by the Company of its obligations hereunder, to the completion by the Agent of a due diligence review satisfactory to it in its reasonable judgment, and to the continuing reasonable satisfaction (or waiver by the Agent in its sole discretion) of the following additional conditions:

a. Registration Statement Effective. The Registration Statement shall remain effective and shall be available for the sale of all Placement Shares contemplated to be issued by any Placement Notice.

b. No Material Notices. None of the following events shall have occurred and be continuing: (i) receipt by the Company of any request for additional information from the Commission or any other federal or state governmental authority during the period of effectiveness of the Registration Statement, the response to which would require any post-effective amendments or supplements to the Registration Statement or the Prospectus; (ii) the issuance by the Commission or any other federal or state governmental authority of any stop order suspending the effectiveness of the Registration Statement or receipt by the Company of notification of the initiation of any proceedings for that purpose; (iii) receipt by the Company of any notification with respect to the suspension of the qualification or exemption from qualification of any of the Placement Shares for sale in any jurisdiction or receipt by the

Company of notification of the initiation of, or a threat to initiate, any proceeding for such purpose; or (iv) the occurrence of any event that makes any material statement made in the Registration Statement or the Prospectus or any material Incorporated Document untrue in any material respect or that requires the making of any changes in the Registration Statement, the Prospectus or any material Incorporated Document so that, in the case of the Registration Statement, it will not contain any materially untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading and, that in the case of the Prospectus or any material Incorporated Document, it will not contain any materially untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

c. No Misstatement or Material Omission. The Agent shall not have advised the Company that the Registration Statement or Prospectus, or any amendment or supplement thereto, contains an untrue statement of fact that in the Agent's reasonable opinion is material, or omits to state a fact that in the Agent's reasonable opinion is material and is required to be stated therein or is necessary to make the statements therein not misleading.

d. Material Changes. Except as contemplated in the Prospectus, or disclosed in the Company's reports filed with the Commission, there shall not have been any Material Adverse Effect, or any development that would cause a Material Adverse Effect, or a downgrading in or withdrawal of the rating assigned to any of the Company's securities (other than asset backed securities) by any "nationally recognized statistical rating organization," as such term is defined by the Commission for purposes of Rule 436(g)(2) under the Securities Act (a "Rating Organization"), or a public announcement by any Rating Organization that it has under surveillance or review its rating of any of the Company's securities (other than asset backed securities), the effect of which, in the case of any such action by a Rating Organization described above, in the reasonable judgment of the Agent (without relieving the Company of any obligation or liability it may otherwise have), is so material as to make it impracticable or inadvisable to proceed with the offering of the Placement Shares on the terms and in the manner contemplated in the Prospectus.

e. Legal Opinion. The Agent shall have received the opinion and negative assurance letter of Company Counsel required to be delivered pursuant to Section 7(m) on or before the date on which such delivery of such opinion and negative assurance letter are required pursuant to Section 7(m).

f. Comfort Letter. The Agent shall have received the Comfort Letter required to be delivered pursuant Section 7(n) on or before the date on which such delivery of such letter is required pursuant to Section 7(n).

g. Representation Certificate. The Agent shall have received the certificate required to be delivered pursuant to Section 7(1) on or before the date on which delivery of such certificate is required pursuant to Section 7(1).

h. Secretary's Certificate. On or prior to the first Representation Date, the Agent shall have received a certificate, signed on behalf of the Company by its corporate Secretary, in form and substance reasonably satisfactory to the Agent and its counsel.

i. No Suspension. Trading in the Common Stock shall not have been suspended on the Exchange and the Common Stock shall not have been delisted from the Exchange.

j. Other Materials. On each date on which the Company is required to deliver a certificate pursuant to Section 7(1), the Company shall have furnished to the Agent such appropriate further information, certificates and documents as the Agent may reasonably request and which are usually and customarily furnished by an issuer of securities in connection with a securities offering of the type contemplated hereby. All such opinions, certificates, letters and other documents will be in compliance with the provisions hereof.

k. Securities Act Filings Made. All filings with the Commission required by Rule 424 under the Securities Act to have been filed prior to the issuance of any Placement Notice hereunder shall have been made within the applicable time period prescribed for such filing by Rule 424.

l. Approval for Listing. The Placement Shares shall either have been approved for listing on the Exchange, subject only to notice of issuance, or the Company shall have filed an application for listing of the Placement Shares on the Exchange at, or prior to, the issuance of any Placement Notice.

m. No Termination Event. There shall not have occurred any event that would permit the Agent to terminate this Agreement pursuant to Section 13(a).

11. Indemnification and Contribution.

(a) Company Indemnification. The Company agrees to indemnify and hold harmless the Agent, its partners, members, directors, officers, employees and agents and each person, if any, who controls the Agent within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act as follows:

(i) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, joint or several, arising out of or based upon any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or any amendment thereto), or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading, or arising out of any untrue statement or alleged untrue statement of a material fact included in any related Issuer Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto), or the omission or alleged omission therefrom of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading;

(ii) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, joint or several, to the extent of the aggregate amount paid in settlement of any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or of any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission; provided that (subject to Section 11(d) below) any such settlement is effected with the written consent of the Company, which consent shall not unreasonably be delayed or withheld; and

(iii) against any and all expense whatsoever, as incurred (including the reasonable and documented out-of-pocket fees and disbursements of counsel), reasonably incurred in investigating, preparing or defending against any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission, to the extent that any such expense is not paid under (i) or (ii) above,

provided, however, that this indemnity agreement shall not apply to any loss, liability, claim, damage or expense to the extent arising out of any untrue statement or omission or alleged untrue statement or omission made solely in reliance upon and in conformity with written information furnished to the Company by the Agent expressly for use in the Registration Statement (or any amendment thereto), or in any related Issuer Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto).

(b) Indemnification by the Agent. The Agent agrees to indemnify and hold harmless the Company and its directors and officers, and each person, if any, who (i) controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act or (ii) is controlled by or is under common control with the Company against any and all loss, liability, claim, damage and expense described in the indemnity contained in Section 11(a), as incurred, but only with respect to untrue statements or omissions, or alleged untrue statements or omissions, made in the Registration Statement (or any amendments thereto) or in any related Issuer Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with information relating to the Agent and furnished to the Company in writing by the Agent expressly for use therein.

(c) Procedure. Any party that proposes to assert the right to be indemnified under this Section 11 will, promptly after receipt of notice of commencement of any action against such party in respect of which a claim is to be made against an indemnifying party or parties under this Section 11, notify each such indemnifying party of the commencement of such action, enclosing a copy of all papers served, but the omission so to notify such indemnifying party will not relieve the indemnifying party from (i) any liability that it might have to any indemnified party otherwise than under this Section 11 and (ii) any liability that it may have to any indemnified party under the foregoing provisions of this Section 11 unless, and only to the extent that, such omission results in the forfeiture of substantive rights or defenses by the indemnifying party. If any such action is brought against any indemnified party and it notifies the indemnifying party of its commencement, the indemnifying party will be entitled to participate in and, to the extent that it elects by delivering written notice to the indemnified party promptly after receiving notice of the commencement of the action from the indemnified party, jointly with any other indemnifying party similarly notified, to assume the defense of the action, with counsel reasonably satisfactory to the indemnified party, and after notice from the indemnifying party to the indemnified party of its election to assume the defense, the indemnifying party will not be liable to the indemnified party for any legal or other expenses except as provided below and except for the reasonable costs of investigation subsequently incurred by the indemnified party in connection with the defense. The indemnified party will have the right to employ its own counsel in any such action, but the fees, expenses and other charges of such counsel will be at the expense of such indemnified party unless (1) the employment of counsel by the indemnified

party has been authorized in writing by the indemnifying party, (2) the indemnified party has reasonably concluded (based on advice of counsel) that there may be legal defenses available to it or other indemnified parties that are different from or in addition to those available to the indemnifying party, (3) a conflict or potential conflict of interest exists (based on advice of counsel to the indemnified party) between the indemnified party and the indemnifying party (in which case the indemnifying party will not have the right to direct the defense of such action on behalf of the indemnified party) or (4) the indemnifying party has not in fact employed counsel to assume the defense of such action within a reasonable time after receiving notice of the commencement of the action, in each of which cases the reasonable and documented out-of-pocket fees, disbursements and other charges of counsel will be at the expense of the indemnifying party or parties. It is understood that the indemnifying party or parties shall not, in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the reasonable and documented out-of-pocket fees, disbursements and other charges of more than one separate firm admitted to practice in such jurisdiction at any one time for all such indemnified party or parties. All such reasonable and documented out-of-pocket fees, disbursements and other charges will be reimbursed by the indemnifying party promptly after the indemnifying party receives a written invoice relating to fees, disbursements and other charges in reasonable detail. An indemnifying party will not, in any event, be liable for any settlement of any action or claim effected without its written consent. No indemnifying party shall, without the prior written consent of each indemnified party, settle or compromise or consent to the entry of any judgment in any pending or threatened claim, action or proceeding relating to the matters contemplated by this Section 11 (whether or not any indemnified party is a party thereto), unless such settlement, compromise or consent (1) includes an unconditional release of each indemnified party from all liability arising out of such litigation, investigation, proceeding or claim and (2) does not include a statement as to or an admission of fault, culpability or a failure to act by or on behalf of any indemnified party.

(d) Contribution. In order to provide for just and equitable contribution in circumstances in which the indemnification provided for in the foregoing paragraphs of this Section 11 is applicable in accordance with its terms but for any reason is held to be unavailable from the Company or the Agent, the Company and the Agent will contribute to the total losses, claims, liabilities, expenses and damages (including any investigative, legal and other expenses reasonably incurred in connection with, and any amount paid in settlement of, any action, suit or proceeding or any claim asserted, but after deducting any contribution received by the Company from persons other than the Agent, such as persons who control the Company within the meaning of the Securities Act or the Exchange Act, officers of the Company who signed the Registration Statement and directors of the Company, who also may be liable for contribution) to which the Company and the Agent may be subject in such proportion as shall be appropriate to reflect the relative benefits received by the Company on the one hand and the Agent on the other hand. The relative benefits received by the Company on the one hand and the Agent on the other hand shall be deemed to be in the same proportion as the total Net Proceeds from the sale of the Placement Shares (before deducting expenses) received by the Company bear to the total compensation received by the Agent (before deducting expenses) from the sale of Placement Shares on behalf of the Company. If, but only if, the allocation provided by the foregoing sentence is not permitted by applicable law, the allocation of contribution shall be made in such proportion as is appropriate to reflect not only the relative benefits referred to in the foregoing

sentence but also the relative fault of the Company, on the one hand, and the Agent, on the other hand, with respect to the statements or omission that resulted in such loss, claim, liability, expense or damage, or action in respect thereof, as well as any other relevant equitable considerations with respect to such offering. Such relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or the Agent, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Agent agree that it would not be just and equitable if contributions pursuant to this Section 11(d) were to be determined by pro rata allocation or by any other method of allocation that does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, liability, expense, or damage, or action in respect thereof, referred to above in this Section 11(d) shall be deemed to include, for the purpose of this Section 11(d), any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim to the extent consistent with Section 11(c) hereof. Notwithstanding the foregoing provisions of this Section 11(d), the Agent shall not be required to contribute any amount in excess of the commissions received by it under this Agreement and no person found guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 11(d), any person who controls a party to this Agreement within the meaning of the Securities Act or the Exchange Act, and any officers, directors, partners, employees or agents of the Agent, will have the same rights to contribution as that party, and each officer who signed the Registration Statement and director of the Company will have the same rights to contribution as the Company, subject in each case to the provisions hereof. Any party entitled to contribution, promptly after receipt of notice of commencement of any action against such party in respect of which a claim for contribution may be made under this Section 11(d), will notify any such party or parties from whom contribution may be sought, but the omission to so notify will not relieve that party or parties from whom contribution may be sought from any other obligation it or they may have under this Section 11(d) except to the extent that the failure to so notify such other party materially prejudiced the substantive rights or defenses of the party from whom contribution is sought. Except for a settlement entered into pursuant to the last sentence of Section 11(c) hereof, no party will be liable for contribution with respect to any action or claim settled without its written consent if such consent is required pursuant to Section 11(c) hereof.

12. Representations and Agreements to Survive Delivery. The indemnity and contribution agreements contained in Section 11 of this Agreement and all representations and warranties of the Company herein or in certificates delivered pursuant hereto shall survive, as of their respective dates, regardless of (i) any investigation made by or on behalf of the Agent, any controlling persons, or the Company (or any of their respective officers, directors or controlling persons), (ii) delivery and acceptance of the Placement Shares and payment therefor or (iii) any termination of this Agreement.

13. Termination.

- a. The Agent may terminate this Agreement, by notice to the Company, as

hereinafter specified at any time (1) if there has been, since the time of execution of this Agreement or since the date as of which information is given in the Prospectus, any Material Adverse Effect, or any development that would have a Material Adverse Effect that, in the sole judgment of the Agent, is material and adverse and makes it impractical or inadvisable to market the Placement Shares or to enforce contracts for the sale of the Placement Shares, (2) if there has occurred any material adverse change in the financial markets in the United States or the international financial markets, any outbreak of hostilities or escalation thereof or other calamity or crisis or any change or development involving a prospective change in national or international political, financial or economic conditions, in each case the effect of which is such as to make it, in the reasonable judgment of the Agent, impracticable or inadvisable to market the Placement Shares or to enforce contracts for the sale of the Placement Shares, (3) if trading in the Common Stock has been suspended or limited by the Commission or the Exchange, or if trading generally on the Exchange has been suspended or limited, or minimum prices for trading have been fixed on the Exchange, (4) if any suspension of trading of any securities of the Company on any exchange or in the over-the-counter market shall have occurred and be continuing, (5) if a major disruption of securities settlements or clearance services in the United States shall have occurred and be continuing, or (6) if a banking moratorium has been declared by either U.S. Federal or New York authorities. Any such termination shall be without liability of any party to any other party except that the provisions of Section 9 (Payment of Expenses), Section 11 (Indemnification and Contribution), Section 12 (Representations and Agreements to Survive Delivery), Section 18 (Governing Law and Time; Waiver of Jury Trial) and Section 19 (Consent to Jurisdiction) hereof shall remain in full force and effect notwithstanding such termination. If the Agent elects to terminate this Agreement as provided in this Section 13(a), the Agent shall provide the required notice as specified in Section 14 (Notices).

b. The Company shall have the right, by giving five (5) days' notice as hereinafter specified to terminate this Agreement in its sole discretion at any time after the date of this Agreement. Any such termination shall be without liability of any party to any other party except that the provisions of Section 9 (Payment of Expenses), Section 11 (Indemnification and Contribution), Section 12 (Representations and Agreements to Survive Delivery), Section 18 (Governing Law and Time; Waiver of Jury Trial) and Section 19 (Consent to Jurisdiction) hereof shall remain in full force and effect notwithstanding such termination.

c. The Agent shall have the right, by giving five (5) days' notice as hereinafter specified to terminate this Agreement in its sole discretion at any time after the date of this Agreement. Any such termination shall be without liability of any party to any other party except that the provisions of Section 9 (Payment of Expenses), Section 11 (Indemnification and Contribution), Section 12 (Representations and Agreements to Survive Delivery), Section 18 (Governing Law and Time; Waiver of Jury Trial) and Section 19 (Consent to Jurisdiction) hereof shall remain in full force and effect notwithstanding such termination.

d. Unless earlier terminated pursuant to this Section 13, this Agreement shall automatically terminate upon the issuance and sale of all of the Placement Shares through the Agent on the terms and subject to the conditions set forth herein except that the provisions of Section 9 (Payment of Expenses), Section 11 (Indemnification and Contribution), Section 12 (Representations and Agreements to Survive Delivery), Section 18 (Governing Law and Time; Waiver of Jury Trial) and Section 19 (Consent to Jurisdiction) hereof shall remain in full force

and effect notwithstanding such termination.

e. This Agreement shall remain in full force and effect unless terminated pursuant to Sections 13(a), (b), (c), or (d) above or otherwise by mutual agreement of the parties; *provided, however*, that any such termination by mutual agreement shall in all cases be deemed to provide that Section 9 (Payment of Expenses), Section 11 (Indemnification and Contribution), Section 12 (Representations and Agreements to Survive Delivery), Section 18 (Governing Law and Time; Waiver of Jury Trial) and Section 19 (Consent to Jurisdiction) shall remain in full force and effect. Upon termination of this Agreement, the Company shall not have any liability to the Agent for any discount, commission or other compensation with respect to any Placement Shares not otherwise sold by the Agent under this Agreement.

f. Any termination of this Agreement shall be effective on the date specified in such notice of termination; *provided, however*, that such termination shall not be effective until the close of business on the date of receipt of such notice by the Agent or the Company, as the case may be. If such termination shall occur prior to the Settlement Date for any sale of Placement Shares, such Placement Shares shall settle in accordance with the provisions of this Agreement.

14. Notices. All notices or other communications required or permitted to be given by any party to any other party pursuant to the terms of this Agreement shall be in writing, unless otherwise specified, and if sent to the Agent, shall be delivered to:

B. Riley FBR, Inc.
299 Park Avenue
New York, NY 10171
Attention: General Counsel
Telephone: (212) 457-9947
Email: atmdesk@brileyfbr.com

with a copy to:

Duane Morris LLP
One Riverfront Plaza
1037 Raymond Boulevard, Suite 1800
Newark, NJ 07102
Attention: James T. Seery
Telephone: (973) 424-2088
Email: jtseery@duanemorris.com

and if to the Company, shall be delivered to:

Netlist, Inc.
175 Technology Drive, Suite 150

Irvine, California 92618
Attention: Gail Sasaki
Telephone: (949) 679-0113
Email: gsasaki@netlist.com

with a copy to:

Morrison & Foerster LLP
12531 High Bluff Drive
San Diego, California
Attention: Scott Stanton
Telephone: (858) 720-5141
Email: SStanton@mof.com

Each party to this Agreement may change such address for notices by sending to the parties to this Agreement written notice of a new address for such purpose. Each such notice or other communication shall be deemed given (i) when delivered personally, by email, or by verifiable facsimile transmission on or before 4:30 p.m., New York City time, on a Business Day or, if such day is not a Business Day, on the next succeeding Business Day, (ii) on the next Business Day after timely delivery to a nationally-recognized overnight courier and (iii) on the Business Day actually received if deposited in the U.S. mail (certified or registered mail, return receipt requested, postage prepaid). For purposes of this Agreement, “Business Day” shall mean any day on which the Exchange and commercial banks in the City of New York are open for business.

15. Successors and Assigns. This Agreement shall inure to the benefit of and be binding upon the Company and the Agent and their respective successors and the affiliates, controlling persons, officers and directors referred to in Section 11 hereof. References to any of the parties contained in this Agreement shall be deemed to include the successors and permitted assigns of such party. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement. Neither the Company nor the Agent may assign its rights or obligations under this Agreement without the prior written consent of the other party.

16. Adjustments for Stock Splits. The parties acknowledge and agree that all share-related numbers contained in this Agreement shall be adjusted to take into account any share consolidation, stock split, stock dividend, corporate domestication or similar event effected with respect to the Placement Shares.

17. Entire Agreement; Amendment; Severability. This Agreement (including all schedules and exhibits attached hereto and Placement Notices issued pursuant hereto) constitutes the entire agreement and supersedes all other prior and contemporaneous agreements and undertakings, both written and oral, among the parties hereto with regard to the subject matter hereof. Neither this Agreement nor any term hereof may be amended except pursuant to a written instrument executed by the Company and the Agent. In the event that any one or more of the provisions contained herein, or the application thereof in any circumstance, is held invalid, illegal or unenforceable as written by a court of competent jurisdiction, then such provision shall

be given full force and effect to the fullest possible extent that it is valid, legal and enforceable, and the remainder of the terms and provisions herein shall be construed as if such invalid, illegal or unenforceable term or provision was not contained herein, but only to the extent that giving effect to such provision and the remainder of the terms and provisions hereof shall be in accordance with the intent of the parties as reflected in this Agreement.

18. GOVERNING LAW AND TIME; WAIVER OF JURY TRIAL. THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAWS. SPECIFIED TIMES OF DAY REFER TO NEW YORK CITY TIME. THE COMPANY AND THE AGENT EACH HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.

19. CONSENT TO JURISDICTION. EACH PARTY HEREBY IRREVOCABLY SUBMITS TO THE NON-EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH ANY TRANSACTION CONTEMPLATED HEREBY, 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 ANY 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 (CERTIFIED OR REGISTERED MAIL, RETURN RECEIPT REQUESTED) TO SUCH PARTY AT THE ADDRESS IN EFFECT FOR 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.

20. Use of Information. The Agent may not use any information gained in connection with this Agreement and the transactions contemplated by this Agreement, including due diligence, to advise any party with respect to transactions not expressly approved by the Company.

21. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Delivery of an executed Agreement by one party to the other may be made by facsimile transmission or email of a .pdf attachment.

22. Effect of Headings. The section, Schedule and Exhibit headings herein are for convenience only and shall not affect the construction hereof.

23. Permitted Free Writing Prospectuses. The Company represents, warrants and agrees that, unless it obtains the prior consent of the Agent, and the Agent represents, warrants and agrees that, unless it obtains the prior consent of the Company, it has not made and will not make any offer relating to the Placement Shares that would constitute an Issuer Free Writing Prospectus, or that would otherwise constitute a “free writing prospectus,” as defined in Rule 405, required to be filed with the Commission. Any such free writing prospectus consented to by the Agent or by the Company, as the case may be, is hereinafter referred to as a “Permitted Free Writing Prospectus.” The Company represents and warrants that it has treated and agrees that it will treat each Permitted Free Writing Prospectus as an “issuer free writing prospectus,” as defined in Rule 433, and has complied and will comply with the requirements of Rule 433 applicable to any Permitted Free Writing Prospectus, including timely filing with the Commission where required, legending and record keeping. For the purposes of clarity, the parties hereto agree that all free writing prospectuses, if any, listed in Exhibit 23 hereto are Permitted Free Writing Prospectuses.

24. Absence of Fiduciary Relationship. The Company acknowledges and agrees that:

a. The Agent is acting solely as agent in connection with the public offering of the Placement Shares and in connection with each transaction contemplated by this Agreement and the process leading to such transactions, and no fiduciary or advisory relationship between the Company or any of its respective affiliates, stockholders (or other equity holders), creditors or employees or any other party, on the one hand, and the Agent, on the other hand, has been or will be created in respect of any of the transactions contemplated by this Agreement, irrespective of whether or not the Agent has advised or is advising the Company on other matters, and the Agent has no obligation to the Company with respect to the transactions contemplated by this Agreement except the obligations expressly set forth in this Agreement;

b. it is capable of evaluating and understanding, and understands and accepts, the terms, risks and conditions of the transactions contemplated by this Agreement;

c. The Agent has not provided any legal, accounting, regulatory or tax advice with respect to the transactions contemplated by this Agreement and it has consulted its own legal, accounting, regulatory and tax advisors to the extent it has deemed appropriate;

d. it is aware that the Agent and its affiliates are engaged in a broad range of transactions which may involve interests that differ from those of the Company and the Agent has no obligation to disclose such interests and transactions to the Company by virtue of any fiduciary, advisory or agency relationship or otherwise; and

e. it waives, to the fullest extent permitted by law, any claims it may have against the Agent for breach of fiduciary duty or alleged breach of fiduciary duty in connection with the sale of Placement Shares under this Agreement and agrees that the Agent shall not have any liability (whether direct or indirect, in contract, tort or otherwise) to it in respect of such a fiduciary duty claim or to any person asserting a fiduciary duty claim on its behalf or in right of it or the Company, employees or creditors of Company, other than in respect of the Agent’s obligations under this Agreement and to keep information provided by the Company to the Agent and its counsel confidential to the extent not otherwise publicly-available.

25. Definitions. As used in this Agreement, the following terms have the respective meanings set forth below:

“ Applicable Time ” means (i) each Representation Date and (ii) the time of each sale of any Placement Shares pursuant to this Agreement.

“ Issuer Free Writing Prospectus ” means any “issuer free writing prospectus,” as defined in Rule 433, relating to the Placement Shares that (1) is required to be filed with the Commission by the Company, (2) is a “road show” that is a “written communication” within the meaning of Rule 433(d)(8)(i) whether or not required to be filed with the Commission, or (3) is exempt from filing pursuant to Rule 433(d)(5)(i) because it contains a description of the Placement Shares or of the offering that does not reflect the final terms, in each case in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company’s records pursuant to Rule 433(g) under the Securities Act.

“ Rule 172,” “ Rule 405,” “ Rule 415,” “ Rule 424,” “ Rule 424(b),” “ Rule 430B,” and “ Rule 433 ” refer to such rules under the Securities Act.

All references in this Agreement to financial statements and schedules and other information that is “contained,” “included” or “stated” in the Registration Statement or the Prospectus (and all other references of like import) shall be deemed to mean and include all such financial statements and schedules and other information that is incorporated by reference in the Registration Statement or the Prospectus, as the case may be.

All references in this Agreement to the Registration Statement, the Prospectus or any amendment or supplement to any of the foregoing shall be deemed to include the copy filed with the Commission pursuant to EDGAR; all references in this Agreement to any Issuer Free Writing Prospectus (other than any Issuer Free Writing Prospectuses that, pursuant to Rule 433, are not required to be filed with the Commission) shall be deemed to include the copy thereof filed with the Commission pursuant to EDGAR; and all references in this Agreement to “supplements” to the Prospectus shall include, without limitation, any supplements, “wrappers” or similar materials prepared in connection with any offering, sale or private placement of any Placement Shares by the Agent outside of the United States.

[Remainder of the page intentionally left blank]

If the foregoing correctly sets forth the understanding between the Company and the Agent, please so indicate in the space provided below for that purpose, whereupon this letter shall constitute a binding agreement between the Company and the Agent.

Very truly yours,

NETLIST, INC.

By: /s/ Gail M. Sasaki

Name: Gail M. Sasaki

Title: Vice President, Chief Financial Officer, and
Secretary

ACCEPTED as of the date first-above written:

B. RILEY FBR, INC.

By: /s/ Patrice McNicoll

Name: Patrice McNicoll

Title: Co-Head of Investment Banking

SCHEDULE 1

FORM OF PLACEMENT

NOTICE

From: Netlist, Inc.

To: B. Riley FBR, Inc.

Attention: [•]

Subject: At Market Issuance--Placement Notice

Ladies and Gentlemen:

Pursuant to the terms and subject to the conditions contained in the At Market Issuance Sales Agreement between Netlist, Inc., a Delaware corporation (the “Company”), and B. Riley FBR, Inc. (the “Agent”), dated November [9], 2017, the Company hereby requests that the Agent sell up to [____] [shares][dollars] of the Company’s Common Stock, par value \$0.001 per share, at a minimum market price of \$ _____ per share, during the time period beginning [month, day, time] and ending [month, day, time].

SCHEDULE 2

Compensation

The Company shall pay to the Agent in cash, upon each sale of Placement Shares pursuant to this Agreement, an amount equal to 3.0% of the gross proceeds from each sale of Placement Shares.

SCHEDULE 3

Notice Parties

The Company

Gail Sasaki gsasaki@netlist.com

Laurie Manderscheid lmanderscheid@netlist.com

The Agent

Salomon Kamalodine skamalodine@brileyco.com

Ryan Loforte rloforte@fbr.com

Patrice McNicoll pmnicoll@fbr.com

Keith Pompliano kpompliano@fbr.com

with a copy to atmdesk@fbr.com

SCHEDULE 6(g)

Subsidiaries

Company

Netlist Electronics (Suzhou) Co., Ltd
Netlist HK Limited

Jurisdiction

People’s Republic of China
Hong Kong

EXHIBIT 7(1)

Form of Representation Date Certificate

_____, 20__

This Representation Date Certificate (this “Certificate”) is executed and delivered in connection with Section 7(1) of the At Market Issuance Sales Agreement (the “Agreement”), dated [•], 2017, and entered into between Netlist, Inc. (the “Company”) and B. Riley FBR, Inc. (the “Agent”) All capitalized terms used but not defined herein shall have the meanings given to such terms in the Agreement.

The Company hereby certifies as follows:

1. As of the date of this Certificate (i) the Registration Statement does not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading and (ii) neither the Registration Statement nor the Prospectus contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading and (iii) no event has occurred as a result of which it is necessary to amend or supplement the Prospectus in order to make the statements therein not untrue or misleading for this paragraph 1 to be true.

2. Each of the representations and warranties of the Company contained in the Agreement were, when originally made, and are, as of the date of this Certificate, true and correct in all material respects (other than representations and warranties made as of a specific date or time, in which case such representations and warranties are true and correct in all material respects as of the time specified).

3. Except as waived by the Agent in writing, each of the covenants required to be performed by the Company in the Agreement on or prior to the date of the Agreement, this Representation Date, and each such other date prior to the date hereof as set forth in the Agreement, has been duly, timely and fully performed in all material respects and each condition required to be complied with by the Company on or prior to the date of the Agreement, this Representation Date, and each such other date prior to the date hereof as set forth in the Agreement has been duly, timely and fully complied with in all material respects.

4. Subsequent to the date of the most recent financial statements in the Prospectus, and except as described in the Prospectus, including Incorporated Documents, there has been no Material Adverse Effect.

5. No stop order suspending the effectiveness of the Registration Statement or of any part thereof has been issued, and, to the Company’s knowledge, no proceedings for that purpose have been instituted or are pending or threatened by any securities or other governmental authority (including, without limitation, the Commission).

6. No order suspending the effectiveness of the Registration Statement or the qualification or registration of the Placement Shares under the securities or Blue Sky laws of any jurisdiction are in effect and, to the Company’s knowledge, no proceeding for such purpose is

pending before, or threatened in writing by, any securities or other governmental authority (including, without limitation, the Commission).

7. Morrison & Foerster LLP is entitled to rely upon this Certificate in connection with the opinions given pursuant to the Agreement.

[*Signature Page Follows*]

The undersigned has executed this Representation Date Certificate as of the date first written above.

NETLIST, INC.

By: _____

Name: _____

Title: _____

EXHIBIT 23

Permitted Issuer Free Writing Prospectuses

None.

MORRISON | FOERSTER

12531 HIGH BLUFF DRIVE
SAN DIEGO, CALIFORNIA
92130-2040TELEPHONE: 858.720.5100
FACSIMILE: 858.720.5125
WWW.MOFO.COMMORRISON FOERSTER LLP
BEIJING, BERLIN, BRUSSELS,
DENVER, HONG KONG, LONDON,
LOS ANGELES, NEW YORK,
NORTHERN VIRGINIA, PALO ALTO,
SAN DIEGO, SAN FRANCISCO, SHANGHAI, SINGAPORE,
TOKYO, WASHINGTON, D.C.

November 14, 2017

Netlist, Inc.
175 Technology Drive, Suite 150
Irvine, CA 92618

Re: Offer, Sale and Issuance of up to \$9,000,000 of Common Stock of Netlist, Inc.

Ladies and Gentlemen:

We are acting as counsel to Netlist, Inc., a Delaware corporation (the “Company”), in connection with the offer, issuance and sale, from time to time, by the Company of up to \$9,000,000 of its common stock, \$0.001 par value per share (the “Securities”), pursuant to the Registration Statement on Form S-3 (File No. 333-199446) (the “Registration Statement”) filed by the Company with the Securities and Exchange Commission (the “Commission”) under the Securities Act of 1933, as amended (the “Act”), and declared effective by the Commission on September 2, 2016, the related prospectus included therein (the “Prospectus”), and the prospectus supplement filed with the Commission pursuant to Rule 424(b) promulgated under the Act on November 14, 2017 (the “Prospectus Supplement”). All of the Securities are to be sold by the Company pursuant to the terms of the At-Market-Issuance Sales Agreement, dated November 13, 2017 (the “Sales Agreement”), by and between the Company and B. Riley FBR, Inc., acting as sales agent.

In connection with this opinion, we have examined originals or copies, certified or otherwise identified to our satisfaction, of: (i) the Restated Certificate of Incorporation of the Company, as amended through the date hereof; (ii) the Amended and Restated Bylaws of the Company, as amended through the date hereof; (iii) certain resolutions of the Board of Directors (the “Board”) of the Company and the Offering Program Committee of the Board, relating to the offer, sale, issuance and registration of the Securities; (iv) the Registration Statement; (v) the Prospectus, and (vi) the Prospectus Supplement. In addition, we have examined originals or copies, certified or otherwise identified to our satisfaction, of certain other corporate records, documents, instruments and certificates of public officials and of the Company, and we have made such inquiries of officers of the Company and considered such questions of law as we have deemed necessary for purposes of rendering the opinions set forth herein. In our examination, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals and the conformity with the originals of all documents

submitted to us as copies. Our opinion is limited to the matters stated herein and no opinion is implied or may be inferred

beyond the matters expressly stated. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not sought to independently verify such matters.

Based upon, subject to and limited by the foregoing, we are of the opinion that, when issued, delivered and paid for in the manner contemplated by the Registration Statement, the Prospectus and the Prospectus Supplement and pursuant to the terms of the Sales Agreement, the Securities will be validly issued, fully paid and nonassessable.

We express no opinion as to matters governed by any laws other than the Delaware General Corporation Law and the federal laws of the United States of America, each as in effect on the date hereof.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to the reference to our firm under the caption "Legal Matters" in the Prospectus Supplement. In giving such permission, we do not admit hereby that we come within the category of persons whose consent is required under Section 7 of the Act, or the rules and regulations of the Commission thereunder. This opinion is expressed as of the date hereof, and we disclaim any undertaking to advise you of any subsequent changes in the facts stated or assumed herein or of any subsequent changes in applicable law.

Very truly yours,

/s/ Morrison & Foerster LLP

Morrison & Foerster LLP

**CERTIFICATION PURSUANT TO RULE 13A-14(A) AND RULE 15D-14(A) OF THE SECURITIES EXCHANGE
ACT AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Chun K. Hong, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Netlist, Inc., a Delaware corporation (the “Registrant”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;
4. The Registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and we have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the Registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the Registrant’s internal control over financial reporting that occurred during the Registrant’s most recent fiscal quarter (the Registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant’s internal control over financial reporting; and
5. The Registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant’s auditors and the audit committee of the Registrant’s board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant’s ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant’s internal control over financial reporting.

November 14, 2017

/s/ Chun K. Hong
Chun K. Hong
President, Chief Executive Officer and Chairman of the Board
(Principal Executive Officer)

**CERTIFICATION PURSUANT TO RULE 13A-14(A) AND RULE 15D-14(A) OF THE SECURITIES EXCHANGE
ACT AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Gail M. Sasaki, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Netlist, Inc., a Delaware corporation (the “Registrant”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;
4. The Registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f) for the Registrant and we have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the Registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the Registrant’s internal control over financial reporting that occurred during the Registrant’s most recent fiscal quarter (the Registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant’s internal control over financial reporting; and
5. The Registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant’s auditors and the audit committee of the Registrant’s board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant’s ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant’s internal control over financial reporting.

November 14, 2017

/s/ Gail M. Sasaki
Gail M. Sasaki
Vice President and Chief Financial Officer
(Principal Financial Officer)

**CERTIFICATIONS PURSUANT TO 18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of Netlist, Inc., a Delaware corporation (“Netlist”) for the quarter ended September 30, 2017 (the “Report”), Chun K. Hong, president, chief executive officer and chairman of the board of Netlist, and Gail M. Sasaki, vice president and chief financial officer of Netlist, each hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to his or her knowledge:

(1) the Report fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Netlist, Inc.

November 14, 2017

/s/ Chun K. Hong
Chun K. Hong
President, Chief Executive Officer and Chairman of the Board
(Principal Executive Officer)

November 14, 2017

/s/ Gail M. Sasaki
Gail M. Sasaki
Vice President and Chief Financial Officer
(Principal Financial Officer)
