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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 29, 2018

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	**95-4812784**
State or other jurisdiction of incorporation or organization	(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)

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

Title of each class	Name of each exchange on which registered
Common Stock, par value $0.001 per share	None

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

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 every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting 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 ☒
			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 aggregate market value of voting and non-voting common equity held by non-affiliates as of June 30, 2018, the last business day of the registrant's most recently completed second fiscal quarter, was approximately $16.1 million. [(A)]

(A) Excludes 10.8 million shares of common stock held by directors, executive officers and persons whose beneficial ownership exceeds ten percent of the shares outstanding at June 30, 2018. Exclusion of shares held by any person should not be construed to indicate that such person possesses the power, directly or indirectly, to direct or cause the direction of the management or policies of the registrant, or that such person is controlled by or under common control with the registrant.

As of March 15, 2019, there were 140,020,665 outstanding shares of the registrant's common stock.

DOCUMENTS INCORPORATED BY REFERENCE

None.

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report 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 or 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 report include statements about, among other things:

- *our beliefs regarding the market and demand for our products or the component products we resell;*
- *our ability to develop and launch new products that are attractive to the market and stimulate customer demand for these products;*
- *our plans relating to our intellectual property, including our goals of monetizing, licensing, expanding and defending our patent portfolio;*
- *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 expectations with respect to any strategic partnerships or other similar relationships we may pursue;*
- *the competitive landscape of our industry;*
- *general market, economic and political conditions;*
- *our business strategies and objectives;*
- *our expectations regarding our future operations and financial position, including 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; and*
- *the impact of the above factors and other future events on the market price and trading volume of our common stock.*

All forward-looking statements reflect management's present assumptions, expectations and beliefs regarding future events and are subject to known and unknown risks, uncertainties and other factors that could cause actual results to differ materially from those expressed in or implied by any forward-looking statements. These risks, uncertainties and other factors include those described in Item 1A. Risk Factors of this report. In addition, we operate in a competitive and rapidly evolving industry in which new risks emerge from time to time, and it is not possible for us to predict all of the risks we may face, nor can we assess the impact of all factors on our business or the extent to which any factor or combination of factors could cause actual results to differ from our expectations. In light of these risks, uncertainties and other factors, our forward-looking statements should not be relied on as predictions of future events. All forward-looking statements reflect our assumptions, expectations and beliefs only as of the date they are made, and except as required by law, we undertake no obligation to revise or update any forward-looking statements for any reason.

We qualify all of our forward-looking statements by this cautionary note.

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Unless the context indicates otherwise, all references to "Netlist," our "Company," "we," "us," or "our" in this report refer to Netlist, Inc., together with its consolidated subsidiaries, and all cross-references to notes in this Form 10-K refer to the identified note contained in our consolidated financial statements included in Part IV, Item 15 of this Form 10-K. We own registered or unregistered trademark rights to NVvault®, HyperCloud®, HybriDIMM™, EXPRESSvault™, PreSight™, "memory at storage capacities, storage at memory speeds"™, Netlist® and our company logo. Although we do not use the "®" or "™" symbol in each instance in which one of our registered or common law trademarks appears in this report, this should not be construed as any indication that we will not assert our rights thereto to the fullest extent under applicable law. Any other service marks, trademarks or trade names appearing in this report are the property of their respective owners.

PART I

Item 1. Business

Overview

We provide high-performance modular memory subsystems to customers in diverse industries that require enterprise and storage class memory solutions to empower critical business decisions. We have a 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, in-memory databases, high performance computing and advanced data storage solutions. We also resell NAND flash, DRAM products and other component products to end-customers that are not reached in the distribution models of the component manufacturers, including storage customers, appliance customers, system builders and cloud and datacenter customers.

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, we have dedicated substantial resources to the development, protection and enforcement of technology innovations we believe are essential to our business. Our early pioneering work in these areas has been broadly adopted in industry-standard registered dual in-line memory modules ("RDIMM"), LRDIMM and 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 sales 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.

Our Industry

The global high-performance memory module market is driven by increasing demand from data center and enterprise storage applications for improved input/output performance, lower latency and data retention capabilities in the event of unexpected system failure. The proliferation of mobile devices, social media platforms, cognitive/artificial intelligence systems and cloud-based software applications is resulting in the creation of unprecedented amounts of unstructured data. In order to manage and analyze this data, we believe new computing and memory architectures need to be developed to satisfy the needs in the industry.

In high-performance computing environments, such as cloud-based computing and Big Data applications, a system's overall processing speed is limited to the ability of the central processing unit ("CPU") to access data cached in memory. Memory speeds have failed to keep pace with improvements in CPU processing speeds, resulting in buffering delays encountered in highly intensive computing environments. To mitigate challenges arising from differences in CPU and memory clock speeds, data center operators have increased the number of servers in their facilities as well as the memory content in each server. Memory capacity is expanded through the use of DIMMs, generally incorporating up to 16 GB of DRAM per module with today's technology and moving up to 64/128 GB of DRAM per module and beyond. Our technology enables an intelligent controller to be integrated onto the DIMM, in order to manage the rapid flow of data between the CPU and memory. The number of DIMMs incorporated into a server increases in correlation with the number of processing cores in the CPU. DDR4 DIMMs incorporate our load-reduction technology to mitigate the trade-off between operating speed and memory capacity inherent in prior generations of server DIMM. These load-reduced DIMMs, or LRDIMMs, are now the predominant memory technology used in high-capacity servers and high-performance computing clusters.

Technical challenges arising from the production of DRAM using leading edge semiconductor manufacturing processes is limiting the material's long-term viability as the high-speed memory of choice in demanding computing environments. Conversely, NAND flash, while characterized by lower access speeds, is scaling down in cost and scaling up in density at a significantly better rate than DRAM. This has led the industry to explore alternative computer architectures and new memory materials capable of bridging DRAM's superior access speed with NAND flash's lower cost and higher densities. We expect memory subsystems relying on intelligent controller technology to leverage NAND flash will most effectively address the industry's growing need for high-speed data management and analytics.

Technology

Our portfolio of proprietary technologies and design techniques includes:

HybriDIMM Technology

HybriDIMM technology is, we believe, a breakthrough that allows for data that lives on a slower media, such as NAND flash, to coexist on the memory channel without breaking the deterministic nature of the memory channel. A proprietary software protocol controls the movement of data between DRAM and NAND flash on the DIMM while maintaining the integrity of the memory channel. HybriDIMM technology is material and protocol agnostic, allowing for leverage of future storage and memory technologies on the DIMM.

In developing this technology, we partnered with Samsung Electronics Co., Ltd. ("Samsung") in November 2015 through a joint development and license agreement ("JDLA") 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. 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.

Distributed Buffer Architecture

We invented the distributed buffer architecture that enables the buffering of data signals along the bottom edge of the memory module using multiple data buffer devices distributed between the edge connector and the DRAM. The result is shorter data paths, improved signal integrity, and reduced latency compared to the industry-standard design for DDR3 LRDIMM. The memory industry has widely adopted our distributed architecture for DDR4 LRDIMM. Our HyperCloud product was our first LRDIMM product built on this distributed buffer architecture.

Design Expertise

We have designed special algorithms that can be implemented in stand-alone integrated circuits or integrated into other functional blocks in application-specific integrated circuits ("ASICs"). We utilize these algorithms in our HybriDIMM product to incorporate load reduction functionality. We also incorporate these algorithms in our NVvault product line, which is also known in the industry as NVDIMM-N.

Proprietary PCB Designs

We utilize advanced techniques to optimize electronic signal strength and integrity within a printed circuit board ("PCB"). These techniques include the use of 10-layer or 12-layer boards, matching conductive trace lengths, a minimized number of conductive connectors, or vias, and precise load balancing to, among other benefits, help reduce noise and crosstalk between adjacent traces. In addition, our proprietary designs for the precise placement of intra-substrate components allow us to assemble memory subsystems with significantly smaller physical size, enabling original equipment manufacturers ("OEMs") to develop products with smaller footprints for their customers.

Very Low Profile Designs

We believe we were the first company to create memory subsystems in a form factor of less than one inch in height. Our innovative very low profile ("VLP") DIMMs provide developers of server blades, storage bridge bay applications, telecommunications servers, switches and routers with a wide range of high performance memory options where efficient use of motherboard space is critical. Our technology has allowed us to decrease the system board space required for memory, and improve thermal performance and operating speeds, by enabling our customers to use alternative methods of component layout.

Thermal Management Designs

We design our memory subsystems to ensure effective heat dissipation. We use thermal simulation and data to obtain thermal profiles of the memory subsystem during the design phase, allowing us to rearrange components to enhance thermal characteristics and, if necessary, replace components that do not meet specifications. We also develop and use proprietary heat spreaders to enhance the thermal management characteristics of our memory subsystems.

Products

Our commercially available memory subsystem products and other products that we sell include:

Component and Other Product Resales

Due to our relationships with memory channel customers, in addition to our own products, we resell certain component products that we purchase for the purpose of resale. We have purchased certain of these products, including NAND flash and DRAM products, from Samsung under the terms of the JDLA. We have also sourced these products from other suppliers to the extent sufficient product is not available from Samsung to meet customer demand or in the event of other Samsung supply issues. In 2018 and 2017, resales of these products represented approximately 75% and 85% of our net product revenues, respectively. Additionally, we sell excess component inventory to distributors and other users of memory integrated circuits.

Storage Class Memory

Using an industry standard DDR4 LRDIMM interface, we believe HybriDIMM is the industry's first storage class memory product capable of operating in existing Intel x86 servers without BIOS and hardware changes. HybriDIMM unifies DRAM and NAND flash in a plug-and-play module, delivering terabyte storage capacities operating at DRAM-like nanosecond memory speeds. HybriDIMM's architecture combines an on-DIMM co-processor with our software-defined data management algorithm. HybriDIMM's feature set encompasses the NVDIMM functionalities adopted by the industry. HybriDIMM dramatically improves application performance by reducing data access latency by up to 1,000 times versus the fastest existing storage solution known to us.

We publicly demonstrated a HybriDIMM prototype in August 2016 and we sampled HybriDIMM to select customers in the second half of 2017. We are now working with certain customers to transition to volume production.

Nonvolatile Memory

Our Vault product line enables customers to accelerate data running through their servers and storage and reliably protect enterprise-level cache, metadata and log data by providing near instantaneous recovery in the event of a system failure or power outage. Our nonvolatile memory offering includes:

EXPRESSvault PCIe (“EV3”). EV3 is a plug-and-play memory card for server appliances which provides data acceleration and data protection. It is compatible with industry standard PCIe 3.0 x8 lane slots, eliminating the need for proprietary hardware and extra motherboard space. EXPRESSvault ships with Linux and Windows drivers compatible with standard PCIe peripheral command sets.

NVvault DDR4 NVDIMM (“NV4”). NV4 is an NVDIMM-N that provides data acceleration and protection in a JEDEC standard DDR4 interface. It is designed to be integrated into industry standard server or storage solutions.

Specialty DIMMs and Embedded Flash

A small portion of our net product revenues is from OEM sales of specialty memory modules and flash-based products, the majority of which are utilized in data center and industrial applications. When developing custom modules for an OEM system launch, we engage with our OEM customers from the earliest stages of new product development definition, providing us valuable insight into their full range of system architecture and performance requirements. This close collaboration has also allowed us to develop a significant level of systems expertise. We leverage a portfolio of proprietary technologies and design techniques, including efficient planar design, alternative packaging techniques and custom semiconductor logic, to deliver memory subsystems with persistence, high density, small form factor, high signal integrity, attractive thermal characteristics, reduced power consumption and low cost per bit.

Intellectual Property

We believe the strength of our intellectual property rights will be important to the success of our business. We utilize patent and trade secret protection, confidentiality agreements with customers and partners, disclosure and invention assignment agreements with employees and consultants and other contractual provisions to protect our technologies and other proprietary information. As of December 29, 2018, we had 86 U.S. and foreign issued patents and 28 pending U.S and foreign patent applications. Assuming they are properly maintained and are not invalidated by reexamination proceedings, our patents will expire at various dates between 2022 and 2035. Our issued patents cover various aspects of our innovations and include various claim scopes and, as a result, we believe our business is not materially dependent on any one claim in any of our existing patents or pending patent applications.

We have devoted significant resources to develop and enforce our intellectual property portfolio. For instance, we have taken 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"), U.S. district court and the courts of Germany and the People’s Republic of China (“PRC”). In our two separate ITC actions, we have requested exclusion orders that direct U.S. Customs and Border Protection to stop allegedly infringing SK hynix RDIMM and LRDIMM products from entering the United States. Although our first ITC action has been resolved with a final determination of no infringement of the patents asserted in this action, and is currently under appeal, our second ITC action, which relates to different patents, remains ongoing. In our U.S. district court and international court proceedings, we are primarily seeking damages. All of our patents involved in these proceedings cover key features of RDIMM and LRDIMM products.

Customers

We resell certain component products that we purchase for the purpose of resale to certain end-customers that are not reached in the distribution models of the component manufacturers, including storage customers, appliance customers, system builders and cloud and datacenter customers. We also market and sell our memory subsystem products, primarily to OEMs in the server, high-performance computing and communications markets.

Our target markets are characterized by a limited number of large companies, and consolidation in one or more of our target markets may further increase this concentration. As a result, 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. See Note 11 to our consolidated financial statements included elsewhere in this annual report for more information about our customer concentrations.

We do not have long-term agreements with any of our customers. Instead, our product sales are made primarily pursuant to stand-alone 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, which reduces our backlog of firm orders. Customers are generally allowed limited rights of return for up to 30 days, except for sales of excess inventories, which contain no right-of-return privileges.

Additionally, we offer warranties on our memory subsystems generally ranging from one to three years, depending on the product and negotiated terms of purchase orders from our customers. These warranties require us to repair or replace defective products returned to us during such warranty period at no cost to the customer.

Sales and Marketing

We primarily market and sell our products and the component products we resell through a direct sales force and a network of independent sales representatives. Our sales activities focus primarily on developing strong relationships at the technical, marketing and executive management levels within existing and prospective customers in our target markets.

We utilize well-trained, highly technical program management teams to drive new product development and quickly respond to our customers' needs and expectations. Our program management teams provide quick response times and act as a single point-of-contact for customer’s issues that may arise during the sales process. Additionally, they help us address the long-term business and technology goals of our customers. We employ a team approach to business development whereby our sales team and independent representatives identify, qualify and prioritize customer prospects through offices in a number of locations worldwide.

Manufacturing and Supply

Manufacturing

We manufacture memory subsystem products at our facility in the PRC, which is certified in International Organization for Standardization (“ISO”) 9001:2008 Quality Management Systems and ISO 14001:2004 Environmental Management Standards. Our in-house manufacturing function, combined with our engineering and design capabilities, allows us to assemble our memory subsystems quickly and in high volume. Our manufacturing facility is capable of surface mount assembly, subsystem testing, system-level burn-in testing, programming, marking, labeling and packaging. Manufacturing cycle times for our memory subsystem products, from receipt of order, are typically one week or less and in some cases as short as two days.

We schedule production based on purchase order commitments and anticipated orders. We release raw materials to the manufacturing floor by means of an online shop floor control system, which allows for internal quality analysis, direct access to inventory information and production floor material tracking. We have a flexible manufacturing workforce, which allows us to manage unforecasted demand.

We perform ongoing reliability testing on our memory subsystems and share the results of that testing with our customers. In addition, we have implemented procedures that require all of our memory subsystems to undergo functional and system burn-in testing prior to delivery to a customer. We also supplement our test capabilities with advanced imaging technology to inspect the quality of our assemblies.

Supply

We acquire components and materials, such as field-programmable gate arrays (“FPGAs”), ASICs, DRAM ICs and NAND flash, directly from integrated circuit manufacturers and assemble them into our finished subsystem products. We also purchase some of these component products from Samsung under the terms of the JDLA, and from alternative suppliers, for the purpose of resale to customers directly.

We have developed supplier relationships with several manufacturers of these component products, and we typically qualify our memory subsystem products with our customers using multiple component manufacturers . However, our actual purchases of component products, both for integration into our products and for resale, are concentrated in a small number of suppliers, including Memorysolution GmbH from which we obtained 17% and 10% of our total inventory purchases in 2018 and 2017, respectively, EG Electronics from which we obtained 15% of our total inventory purchases in 2018, and an affiliate of Samsung, from which we obtained 13% and 60% of our total inventory purchases in 2018 and 2017, respectively. See Note 11 to our consolidated financial statements included elsewhere in this annual report for more information about our supplier concentrations.

We order component products based primarily on forecasts of customer demand, which subjects us to certain inventory risks in the event our forecasts are not accurate. In order to mitigate these inventory risks, we seek to resell to distributors and other users of memory integrated circuits excess quantities of the component inventories we have purchased for integration in our memory subsystem products.

Our quality assurance engineers work with our suppliers to ensure that the raw materials we receive meet our quality standards. These engineers also perform on-site supplier factory audits and use our internal test and inspection systems to verify that purchased components and materials meet our specifications. Our supplier quality program and incoming material quality control program are important aspects of our manufacturing and sale processes.

Competition

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. 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. Additionally, some of our significant suppliers could choose to sell component products to customers directly, which would adversely affect our ability to resell these products, or may be choose to manufacture competitive memory subsystem products themselves or reduce our supply of essential components of our products, which could adversely affect our ability to manufacture and sell our memory subsystems.

We believe the principal competitive factors in the selection of memory subsystems or the component products we resell by existing and potential future customers are:

- price;
- timeliness of new value-add product introductions;
- development of advanced technologies;
- fulfillment capability and flexibility;
- understanding of system and business requirements;

- design characteristics and performance;
- quality and reliability;
- track record of volume delivery; and
- credibility with the customer

We believe we compete favorably with respect to these factors. However, our target markets could disagree, or circumstances could change with respect to one or more of these competitive factors. Further, we believe our ability to compete in our current target markets and potential future markets will depend in part on our ability to successfully and timely develop, introduce and sell at attractive prices new and enhanced products or technologies and otherwise respond to changing market requirements, which we may not be able to do faster and better than our competitors. Moreover, many of our competitors have substantially greater financial, technical, marketing, distribution and other resources, broader product lines, lower cost structures, greater brand recognition, more influence on industry standards, more extensive or established patent portfolios and longer standing relationships with customers and suppliers. We may not be able to compete effectively against any of these organizations. If we are unable to compete effectively, then our market position and prospects could deteriorate and our revenues could decline.

Research and Development

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

To this end, we have assembled a team of engineers with expertise in computer architectures, system memory, subsystem design and memory software, as well as PCB design, VLP design and thermal management. Our engineers also focus on developing and incorporating new techniques, methodologies and processes for testing and manufacturing our products, and also collaborate with our customers to provide us with insights into and expertise in systems architecture, power budget, performance requirements, operating environment (such as air flow and operating temperature) and any mechanical constraints.

We have invested significant resources in our product research and development efforts. Our customers typically do not separately compensate us for design and engineering work involved in developing application-specific products for them.

Employees

As of December 29, 2018, we had 78 employees (including 60 full-time employees and 18 temporary employees). In addition to our employees, a significant portion of our workforce consists of contract personnel. We are not party to any collective bargaining agreements with any of our employees. We have never experienced a work stoppage, and we believe our employee relations are good.

Compliance with Environmental and Other Laws

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 also may be subject to a variety of laws and regulations relating to other matters, including workplace health and safety, labor and employment, foreign business practices (including the U.S. Foreign Corrupt Practices Act and applicable foreign anti-bribery laws), data protection, 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. Any changes to existing regulations or adoption of new regulations may result in significant additional expense to us or our customers. 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.

General Information

We were incorporated in Delaware in June 2000 and commenced operations in September 2000. Our principal executive offices are located at 175 Technology Drive, Suite 150, Irvine, California 92618 and our telephone number at that address is (949) 435-0025. Our corporate website address is *www.netlist.com* .

We file reports with the Securities and Exchange Commission ("SEC") and make available, free of charge, on or through our website, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy and information statements and amendments to these reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. All SEC filings are also available at the SEC's website at *www.sec.gov* . Our website also contains copies of our corporate governance guidelines, code of business conduct and ethics, insider trading policy and whistleblower policy, as well as copies of the charters for our Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee.

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 consolidated financial statements and the related notes, and the other filings we make with the Securities and Exchange Commission ("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 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 not be sustained and stockholders may not be able to sell their shares at a desired time or a desired price.

The market price at which our common stock trades may be influenced by many factors, including, among others, the following:

- the results of legal proceedings in which we are involved;

- our operating and financial performance and prospects;
- investor perceptions of us and the industry in which we operate;
- our ability to meet investor and analyst expectations for our operating results;
- the availability and level of research coverage of and market-making in our common stock;
- changes in 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;
- general political, economic and market conditions, including volatility or uncertainty in these conditions; and
- the other risk factors described in this report.

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. Further, following periods of volatility in the overall market and the market price of a particular company's securities, securities litigation can sometimes be instituted against the company. Securities litigation, like other types of litigation, is expensive and time-consuming, and if such litigation is instituted against us in the future, we may incur substantial costs, management's attention and resources may be diverted, and we could be subject to damages in the event of unfavorable results.

There is a limited market for our common shares, and the trading price of our common shares is subject to volatility.

Netlist common shares began trading on the OTCQX in October 2018, following the decision to move trading of our common stock from The Nasdaq Capital Market. Because our stock is no longer listed on a registered national securities exchange, we are subject to certain "blue sky" laws of the various states which impose restrictions on our ability to offer and sell our securities. These "blue sky" laws may make it more difficult for us to raise capital or to issue our common stock for equity compensation or other strategic purposes, which could adversely affect our ability to fund our operations or to attract and retain employees. In addition, our stock may be defined as a "penny stock" under Rule 3a51-1 under the Exchange Act. "Penny stocks" are subject to Rule 15g-9, which imposes additional sales practice requirements on broker-dealers that sell low-priced securities to persons other than established customers and institutional accredited investors. For transactions covered by this rule, a broker-dealer must make a special suitability determination for the purchaser and have received the purchaser's written consent to the transaction prior to sale. Consequently, the rule may affect the ability of broker-dealers to sell our common stock and affect the ability of holders to sell their shares of our common stock in the secondary market. To the extent our common stock is subject to the penny stock regulations, the market liquidity for the shares will be adversely affected.

Future issuances of our common stock or rights to purchase our common stock, including pursuant to our equity incentive plans, could result in additional dilution to the percentage ownership of our stockholders and could cause the price of our common stock to decline.

We have historically funded our operations in large part with proceeds from equity and convertible debt financings, and we expect to continue to do so in the future. In addition to capital-raising purposes, we may also issue securities from time to time at prices and on other terms as we determine for acquiring other businesses or assets in exchange for shares of our common stock or other securities, issuing securities to collaborators in connection with strategic partnerships, attracting and retaining employees with equity compensation, or other purposes. If we sell common stock or other equity or convertible debt securities in the future, our then-existing stockholders could be materially diluted by such issuances and new investors could gain rights, preferences and privileges senior to the holders of our common stock, which could cause the price of our common stock to decline.

Sales of our common stock, or the perception that such sales could occur, could cause the market price of our stock to drop significantly, regardless of the state of our business.

As of December 29, 2018, there were 139,282,639 shares of our common stock outstanding 8,186,086 shares of our common stock subject to outstanding stock options, 15,010,012 shares of our common stock subject to outstanding warrants, and 19,225,270 shares of our common stock subject to outstanding convertible notes. All outstanding shares of our common stock are eligible for sale in the public market under applicable federal securities laws, subject in certain cases to the requirements of Rule 144 under the Securities Act of 1933, as amended, and shares issued upon the exercise or conversion of outstanding stock options, warrants or convertible notes may also be eligible for sale in the public market, to the extent permitted by Rule 144 or other applicable securities laws and the provisions of the applicable stock option, warrant and convertible note agreements. If these shares are sold, or if it is perceived that they may be sold, in the public market, the trading price of our common stock could fall.

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 March 15, 2019, 9.2% of our outstanding common stock was held by our directors and officers, including 8.6% held by Chun K. Hong, our President, 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 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, including:

- 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. In addition, these anti-takeover provisions could reduce the price that investors are willing to pay for shares of our common stock.

We do not currently intend to pay dividends on our common stock, and any return to investors is expected to result, 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 all decisions about dividends are at the discretion of our board of directors, we have never declared or paid cash dividends on our capital stock in the past, and we have no intention of declaring or paying any such dividends in the foreseeable future. As a result, any return to investors is expected to result, if at all, only from potential increases in the price of our common stock.

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 will 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, increased demand for our memory subsystems and other product offerings and our ability to monetize our intellectual property. We may not be successful in any of these pursuits, and we may never achieve profitability or sustain profitability if achieved.

Our results of operations fluctuate significantly and are difficult to predict.

Our operating results have fluctuated significantly in the past, and we expect they will continue to fluctuate from period to period 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. Moreover, these fluctuations in our operating results could cause our performance in any particular period to fall below the expectations of investors or securities analysts or any guidance we have provided to the public, which could negatively affect the trading price of our common stock.

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.

To support our activities in the near term, we expect to rely on cash provided by our operations and proceeds from issuances of debt and equity securities, and borrowing availability under our credit facility with Silicon Valley Bank (“SVB”). Taking into account our planned activities and sources of capital, we believe 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 further deplete our capital without immediate, or any, cash returns.

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

- the costs associated with maintaining, defending and enforcing our intellectual property rights;
- the acceptance of, and demand for, our products and the component products we resell to customers;
- 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;
- 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 or other strategic transactions or relationships in which we engage, if any; and
- the costs associated with the continued operation, and any future growth, of our business.

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, legal proceedings, 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. Additionally, because our common stock is no longer listed on The Nasdaq Capital Market, the challenges and risks of equity financings may significantly increase, including potentially increasing the dilution of any such financing or decreasing our ability to effect such a financing at all. 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 may be unsuccessful in monetizing our intellectual property portfolio.

We dedicate substantial resources to developing technology innovations we believe are essential to our business. We intend to pursue monetization avenues for our intellectual property portfolio, potentially including licensing, royalty or other revenue-producing arrangements. However, we have not generated any such revenue stream from our intellectual property to date, and we may never be successful in achieving this objective.

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 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 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.

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, among others, 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. Even if we are able to secure these revenues, they may be negatively affected by factors that are entirely or partially outside our control, including reductions in our customers' sales prices, sales volumes and the general state of their business, as well as the terms of the license arrangements.

If we are not successful in monetizing our intellectual property portfolio, we may never recoup our investments of time, capital and other resources in the development, maintenance, defense and enforcement of this portfolio, which could materially harm our financial condition and prospects.

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 Samsung Venture Investment Co. ("SVIC"), our credit facility with SVB, and our funding arrangement with TR Global Funding V, LLC, an affiliate of TRGP Capital Management ("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 legal proceedings at the ITC to try to stop allegedly infringing SK hynix RDIMM and LRDIMM products from entering the United States, as well as legal proceedings in U.S. and international courts 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.

We have taken 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”), U.S. district court and the courts of Germany and the People’s Republic of China (the “PRC”). In our two separate ITC actions, we have requested exclusion orders that direct U.S. Customs and Border Protection to stop allegedly infringing SK hynix registered dual in-line memory modules (“RDIMM”) and load reduced dual in-line memory modules (“LRDIMM”) products from entering the United States. In our U.S. district court and international court proceedings, we are primarily seeking damages.

Our first ITC action was resolved in January 2018 with a final determination of no infringement of the patents asserted in this action. The Company is appealing this final determination to the Court of Appeals for the Federal Circuit. In our second ITC action, the ITC terminated the investigation in April 2018, but then restarted the investigation in May 2018 following a Remand order from the ITC Commission and it remains ongoing. Although our U.S. and international court proceedings remain ongoing, the loss of the first ITC action could negatively impact our prospects for positive results in these other proceedings. The decision to pursue an appeal in the first ITC action, or to continue pressing forward with the second ITC action, will require significant resources, including capital expenditures and management attention. Moreover, if we are not successful in the appeal of the first ITC action, or if we do not achieve a positive result in the second ITC action, then we will have invested significant time and funds in these ITC actions that will not be recovered with any cash returns.

On January 31, 2019, the Munich District Court (the "Court") dismissed an action brought by us against SK hynix Inc. and Hewlett-Packard GmbH regarding the infringement of our German utility model. In its judgment the Court followed a different claim construction than advocated by us whereby it did not find our utility model to be infringed. We plan to appeal the Court's decision.

Our remaining proceedings against SK hynix, as with any intellectual property litigation, are expensive and time-consuming, regardless of the merits of the claims, and could divert management's attention from our other activities. Even if we are successful at the ITC, we would then need to enforce the order, which could also be expensive, time-consuming and a diversion to management. In addition, lawsuits in the ITC and in courts are subject to inherent uncertainties due to the complexity of the technical issues involved and various other factors, and we may not be successful in any of our actions. For example, 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 taken steps intended 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 second 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 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. Further, our arrangement with TRGP only covers fees incurred in connection with certain of our outstanding proceedings against SK hynix, and we are responsible for funding costs related to our other outstanding proceedings and any future actions we may file. As a result, our ability to fund all of our proceedings against SK hynix may be limited to our own cash resources, in which case we may be forced to severely limit our pursuit of these claims and/or our other operations.

In addition, in April 2017, we adopted a rights agreement to implement a standard "poison pill." In general terms, for so long as the rights issued under the rights agreement are outstanding, 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. The rights agreement expires on the earlier of the complete resolution of all our proceedings against SK hynix and April 17, 2019. 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 are and expect to continue to be involved in other 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 we are infringing others’ intellectual property rights also have been and may in the future be brought against us.

Our business strategy includes litigating claims against others, such as our competitors and customers, 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. Further, any legal disputes with customers could cause them to cease buying or using our products or the component products we resell or delay their purchase of these products and could substantially damage our relationship with them.

Moreover, our ability to continue to pursue this strategy depends on our ability to obtain and protect patents, which is governed by an uncertain process. In addition to the patent issuance process established by law and the procedures of the USPTO, we must also 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. Any failure to comply with the USPTO’s or JEDEC’s administrative procedures could jeopardize our ability to claim that our patents have been infringed.

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 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 on 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 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 on technologies and other intellectual property rights 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;
- receive little or no returns for our time and capital investments in the litigation;

- 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, involves a significant dedication of resources, including time and capital, and diverts management's attention from our other activities. As a result, any current or future infringement claims or patent challenges by or against third parties, whether or not eventually decided in our favor or settled, could materially adversely affect our business, financial condition and results of operations. Additionally, the outcome of pending or future litigation and related patent reviews and reexaminations, as well as any delay in their resolution, could affect our ability to continue to sell our products, protect against competition in the current and expected markets for our products or license or otherwise monetize our intellectual property rights in the future.

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

The vast majority of our revenues in recent periods have been generated from resales of component products, including NAND flash and DRAM products. We resell these component products to end-customers that are not reached in the distribution models of the component manufacturers, including storage customers, appliance customers, system builders and cloud and datacenter customers.

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, changing customer requirements or preferences, 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 (including from the manufacturer directly), customers reducing their need for these products generally, or the other risk factors described in this report. We have no long-term agreements or other commitments with respect to sales of these or any of the other products we sell. As a result, any decrease in demand for these products from us would reduce our sale levels and could materially adversely impact our revenues.

We may experience supply shortages at any time and for a variety of reasons, including, among others, spikes in customer demand that cannot be satisfied, any problems that arise with Samsung's manufacturing operations or facilities that cause disruptions or delays, or any failure to comply with the terms of the JDLA regarding the supply of these products. If we choose, or if we are forced, to seek to supply the component products we resell from other suppliers, we may not be able to identify other suppliers that are available and able to produce the particular components with the specific product specifications and in the quantities our customers require, or we may not be able to make arrangements with any other suppliers in a timely manner to avoid delays in satisfying customer orders. Further, even if we are able to make arrangements with other suppliers for sufficient component products to replace any undersupply from Samsung, we may not be able to make these arrangements on financial and other terms comparable to those we have negotiated with Samsung under the JDLA. As a result, any inability to obtain sufficient component products from Samsung could increase our cost of sales for component product resales if we are forced to pay higher prices to obtain the products from other suppliers. Moreover, all of our supply arrangements for these component products, including the terms of the JDLA and any arrangements we may establish with other suppliers, are subject to the other supply and manufacturing risks discussed elsewhere in these risk factors.

Increased reliance on product resales also has a substantial impact on our results of operations. Because the cost of the component products we purchase for resale is added to our cost of sales for these products, our gross margin on resales of component products is significantly lower than our gross margin on sales of our own memory subsystem products. As a result, increased resales of component products as a percentage of our total product revenues have a significant negative impact on our gross margin and gross profit. This gross margin and gross profit differential between memory product sales and component product resales would be amplified if our costs to purchase component products were to increase.

The occurrence of any one or more of these risks could cause our performance to materially suffer.

We are subject to risks relating to our focus on developing our HybriDIMM and NVvault products for our target customer markets.

We have historically derived revenues from sales of our high-performance modular memory subsystems to OEMs in the server, high-performance computing and communications markets. 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 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 capital in the design of ASIC and hybrid devices, including our NVvault family of products and our next-generation HybriDIMM memory subsystem. These products are subject to significant risks, including:

- we are dependent on a limited number of suppliers for the DRAM ICs, 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 these products as a result of issues that are specific to our suppliers or the industry as a whole;

- HybriDIMM and some of our other next-generation products may require additional time including the services and attention of key employees who have competing demands on their available time and may require capital investment to bring the products to market;

- our development and commercialization strategies for these products;

- we are required to demonstrate the quality and reliability of our products to and qualify them with our customers before purchases are made, which requires investments of time and resources in significant and unpredictable amounts prior to the receipt of any revenues from these customers; and

- 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.

These and other risks associated with 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 developing these technologies.

Additionally, if the demand for servers deteriorates, if the demand for our products to be incorporated in servers continues to decline, or if demand for our products deteriorates because customers in our other target markets change their requirements or preferences or otherwise reduce their need for these types of products generally, our operating results would be adversely affected, and we would be forced to diversify our product portfolio and our target customer markets in order to try to replace revenues lost from the further decreases in product sales. We may not be able to achieve this diversification, and any inability to do so may adversely affect our business, operating performance and prospects.

Sales to a small number of 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.

Our target markets are characterized by a limited number of large companies, and consolidation in one or more of these markets may further increase this concentration. As a result, sales to small numbers of customers have historically represented a substantial portion of our net product revenues, and we expect this concentration to continue. 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. We believe our performance depends in significant part on our ability to establish and maintain relationships with and effect substantial sales to our large customers.

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 decrease, delay or discontinue their purchase of our products or the component products we resell. In addition, the prices customers pay for products are subject to fluctuations, and large or key customers may exert pressure on us to make concessions in the prices at which we sell products to them. 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, our net product revenues and operating results could be materially adversely affected by the loss of any of our customers, particularly our large or key customers, a decrease in product sales to any of our customers, including as a result of normal fluctuations in demand or other factors, reductions in the prices at which we sell products to any of our customers, including as a result of price concessions or general declines in average sale prices, or difficulties collecting payments from any of our customers.

Our ability to maintain or increase our product sales 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, our customers' continued incorporation of our products or the component products we resell into their systems, and our customers' sales activity and business results. 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 memory subsystem products, as well as orders for the component products we resell, is dependent on a sufficient supply of FPGAs, ASICs, DRAM ICs and NAND flash, which are essential components of our memory subsystems. 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 component products purchased for resale and our total inventory purchases in 2017. We also use consumables and other components, including 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 certain of our memory subsystem products, and we have been forced to procure the component products we resell from other suppliers to the extent sufficient product is not available from Samsung to meet customer demand or in the event of other Samsung supply issues. 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 or failures 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 could 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 components from alternative suppliers and are not able to negotiate favorable terms with these suppliers, or we may be forced to cease our sales of products dependent on the components or resales of the 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 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 of allocating their products to customers with the highest regular demand.

Frequent technology changes and the introduction of next-generation versions of 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. Even 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, as qualification does not ensure product sales. As a result, we could receive no or limited revenues from a customer even after our investment of time and resources in the qualification process with this customer, 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. Our net product revenues to these customers can decline significantly during this re-qualification process.

Likewise, changes in our products, our manufacturing facilities, our production processes or our component suppliers may require a new qualification process. For example, if our memory, NAND flash and DRAM component suppliers discontinue production of these 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 forecasts 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 pace with rapid technology change or new competitive products. If we experience delays 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 excess and obsolete inventory that we may not be able to sell to another customer 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 achieve customer and market acceptance or technologies we can monetize, our revenues and prospects 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 the continued and timely development of new products and technologies and improvement of existing products and technologies 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 memory subsystems and our key technology competencies;
- identify and adjust to the changing requirements and preferences of our existing and potential future customers and markets;
- 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 on which we rely to produce new products or product enhancements;
- 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 or product enhancements we may develop, 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 commercialization and 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 technologies 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, gain market acceptance or attract monetization opportunities, as our product and technology development efforts are inherently risky due to the challenges of foreseeing changes or developments in technology, predicting changes in customer requirements or preferences or anticipating the adoption of new industry standards. Moreover, we have invested significant resources in our product and technology development efforts, which would be lost if we fail to generate revenues from these efforts. If any if these risks occur, our 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. Additionally, some of our significant suppliers could choose to sell component products to customers directly, which would adversely affect our ability to resell these products, or may choose to manufacture competitive memory subsystem products themselves or reduce our supply of essential components of our products, which could adversely affect our ability to manufacture and sell our memory subsystems.

We believe our ability to compete in our current target markets and potential future markets will depend in part on our ability to successfully and timely develop, introduce and sell at attractive prices new and enhanced products or technologies and otherwise respond to changing market requirements, which we may not be able to do faster and better than our competitors. Moreover, many of our competitors have substantially greater financial, technical, marketing, distribution and other resources, broader product lines, lower cost structures, greater brand recognition, more influence on industry standards, more extensive or established patent portfolios and longer standing relationships with customers and suppliers. We may not be able to compete effectively against any of these organizations. If we are unable to compete effectively, then our market position and prospects could deteriorate and our revenues could decline.

If our proprietary rights are not protected, 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 and other proprietary rights. We have submitted a number of patent applications regarding our proprietary processes and technology, many of which have resulted in issued patents. For our pending patent applications, it is uncertain when or if any of the claims in these applications will be allowed or result in issued patents, in which case the technologies or processes sought to be patented would remain unprotected from use by third parties. In addition, although we intend to continue filing patent applications with respect to new processes and technologies we develop, patent protection may not be available for some of these processes or technologies. Further, even if we are successful in obtaining patent protection, these protections could be limited in scope by the USPTO, a court or applicable foreign authorities or challenged by third parties by way of review or reexamination proceedings and subsequently invalidated, which would reduce the protections these patents are able to provide. Moreover, patent protection is limited as to duration and all of our issued patents will eventually expire, at which time the previously protected technologies would become widely available for use by third parties, including our competitors.

Despite our efforts to protect our intellectual property rights, these efforts 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.

Moreover, monitoring for any unauthorized use of our technologies is costly, time-consuming and difficult. This is particularly true in foreign countries, such as the 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, if any of our issued patents or other intellectual property protections are limited, invalidated or circumvented by third parties, or if we are not able to obtain extensions of existing patents upon their expiration or issuance of new patents to maintain protections provided by expiring patents, we could face increased competition for our products and technologies 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.

Changes in domestic and global economic and political conditions make it 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 the products we resell.

In addition, sales of our products and the products we resell are dependent on demand by customers in our target markets. These markets are characterized by wide fluctuations in product supply and demand and have been cyclical in the past, which may result in substantial period-to-period fluctuations in our operating results. In addition, these markets have in the past 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 sale prices decline, all of which would materially adversely impact our business and operating results. 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 demand and sales, our gross margins and cash flows would be negatively impacted. Further, such a downturn could decrease the perceived value of our intellectual property portfolio and reduce our ability to pursue our intellectual property monetization objectives.

During challenging economic times, our customers may face challenges gaining timely access to sufficient credit, which could impair their ability to make timely payments to us. This may negatively affect 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 customer 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. 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, our product sales are made primarily pursuant to stand-alone 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 our customers' ability to 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. These facts, combined with the short turnaround times that apply to most orders, makes it difficult to predict our production and inventory needs and allocate production capacity and capital for inventory purchases effectively. 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 any 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 component or finished goods inventory, 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 components, the value of our inventory would fall and we may be required to write-down the value of our component inventory, which may result in a significant increase in our cost of sales and decrease in our gross margin. In the past, we have had to write-down inventory due to obsolescence, excess quantities and declines in market value below our costs. As a result, 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. If we underestimate customer demand, we may not have sufficient inventory of necessary components on hand to meet that demand and we may need to try to procure additional quantities, which may not be available or may only be available at high prices or on otherwise unfavorable terms. We also may not have sufficient manufacturing capacity at any given time to meet any demands for rapid increases in production of our memory subsystem products. Any shortages of inventory or manufacturing capacity could lead to delays in the delivery of products, which may force us to forego sales opportunities, reduce our net product revenues and damage our customer relationships.

In addition, if our product demand forecasts are wrong, we may understate or overstate the provision required for excess and obsolete inventory. 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 the 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 the inventories are sold.

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

Our industry has historically been characterized by declines in average sale prices. If sale price declines are not offset by corresponding decreases in costs or increases in sales volume or sales of products with higher margins, these sale price declines could have a material adverse effect on our operating results.

The prices customers pay for the products we sell can fluctuate due to many factors, including, among others, competitive conditions in our key customer markets, changes in customer requirements or preferences, volatility in the market prices for DRAM ICs, NAND flash and other component products, and changes in manufacturing efficiencies or capacities. Market prices for component products have historically 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. As a result, fluctuations in the prices for these component products, due to overcapacity in worldwide supply or increased manufacturing efficiencies, implementation of new manufacturing processes or expansion of manufacturing capacity by component suppliers, among other factors, significantly impact our costs to sell our products or component products.

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 through 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 sudden price increases. Alternatively, if there are declines in the prices of these components, we may be required to reduce our selling prices for subsequent purchase orders, which may result in a decline in our net product revenues.

Our manufacturing operations involve significant risks.

We maintain a manufacturing facility in the PRC at which we produce most of our products. These 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 new and more complex products, the risk of encountering delays, difficulties or higher costs increases. In addition, 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 gross margin, decrease our control over manufacturing processes, limit our ability to satisfy customer requirements and 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 occur, our operations, performance and customer relationships could be severely harmed.

We also may need to expand our existing manufacturing facility or establish a new facility in the future. 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 components for our products and the component products we resell, which exposes us to risks.

Components that are used in our products, as well as all of the component products we resell, are designed and manufactured by third parties. In addition, some of our memory subsystem products rely on significantly customized components. The ability and willingness of third parties to enter into these engagements with us and perform in accordance with these engagements is largely outside 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 the components we use in our products or the components we resell, 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, even if an alternative manufacturer is available, we may not be able to engage the manufacturer on acceptable terms, which could result in increased costs, timing requirements or other adverse changes. 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 manufacture the products with a new design or manufacturing partner. Such an occurrence could force us to stop selling certain of our products 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 infringement or 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 at an acceptable cost and to allocate a portion of their manufacturing capacity sufficient to meet our needs. However, these component manufacturers may not be able to achieve these tasks. 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 customer qualifications of our products are based. 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 the products fail to meet these standards, our customers may discontinue purchases from us until we are able to resolve the quality issues that are causing these failures, which we may not be able to do. These “quality holds” can be costly and time-consuming to resolve. In addition, if the products we sell 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, 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 “quality holds,” 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, performance and financial condition, as well as our ability to attract and retain customers.

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.

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 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, the duration of these indemnities is generally perpetual after execution of an agreement, and the maximum potential amount of future payments we could be required to make under these indemnities 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 have a material adverse effect on our business and results of operations.

We depend on certain 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 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 continue to provide their services could delay the development and introduction of new or enhanced products or technologies, 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 our employees other than Chun K. Hong, our President, Chief Executive Officer and Chairman of our board of directors, and as a result most of our employees may terminate their employment with us at any time. 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 these 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 personnel 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 and technologies would be negatively impacted, which could harm our business. In addition, a general shortage of experienced engineers or other technical personnel could lead to increased recruiting, relocation and compensation costs to attract new recruits, which may increase our operating expenses or make these hires more difficult or impossible if increased recruiting costs exceed our resources.

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 to 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 or technologies, 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 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.

Our 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 effectively market and support our products or the component products we resell, 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 or any 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 on 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.

We are exposed to additional business, regulatory, political, operational, financial and economic risks related to our international sales and operations.

We sell products to foreign corporations and deliver 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 that performs most of the manufacturing activities for our memory subsystem products.

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 and that may impose materially different requirements. Further, the geographic distance from our headquarters in Irvine, California, compounds the difficulties of maintaining 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 or costs. Moreover, we will need to continue to overcome language and cultural barriers to effectively conduct these international operations. Failures in any of these areas could result in legal consequences or production delays and increased turnaround times, which could adversely affect our business. In addition, changes to the labor or other laws of the PRC or the economic and political conditions in the PRC, including increased industrialization in recent years, could increase the costs of employing a local workforce or conducting our manufacturing operations in the PRC. Any of these factors could negatively impact any cost savings we experience from locating our manufacturing facility in the PRC. Additionally, our management has limited experience creating or overseeing foreign operations generally, and the ongoing administration and operation of our PRC facility may require substantial amounts of time and attention by our management team, 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, and any failure to so comply 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. taxes. In addition, fluctuations in the exchange rate between RMB and U.S. dollars may adversely affect our expenses, the value of our assets and liabilities and the comparability of our period-to-period results.

Our international operations and sales are subject to a number of additional risks, including, among others, timing and availability of export licenses; difficulties in accounts receivable collections; difficulties managing distributors; lack of a significant local sales presence in a number of markets; difficulties obtaining government approvals; compliance with anti-bribery, data protection and other applicable U.S. and foreign laws, including the U.S. Foreign Corrupt Practices Act and similar anti-bribery laws in the non-U.S. jurisdictions in which we operate, as well as a wide variety of other complex foreign laws, regulations 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 on the importation or exportation of our products or the component products we resell, which could lead to a reduction in sales and profitability in that country. This risk of increased trade barriers or charges has become more pronounced because the trade policies of the current U.S. presidential administration, including withdrawal from the Trans-Pacific Partnership, imposition of tariffs on Chinese goods and services and recent revisions 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 same manner and at the same costs as we have in the past. The recent implementation of tariffs by the United States on goods manufactured in other countries, including PRC, could cause the costs of our products to increase, which could significantly impair the gross profit we receive and thereby harm our operating results significantly.

In addition, international turmoil and the threat of future terrorist attacks 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 volatile in recent years, resulting in significant fluctuations in local currencies and other instabilities. These conditions could continue or worsen, which could adversely affect our foreign operations and our performance.

The occurrence of any of these risks related 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 many of the component products we resell, 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 product manufacture and sale and cause significant delays in product shipments, which could harm our customer relationships, financial condition and results of operations. In the past, our PRC facility has suffered water damage as a result of heavy rains and floods, which forced us to temporarily halt manufacturing at the facility while necessary repairs or equipment replacements were made. This incident caused us to incur additional expenses because we were forced to shift our manufacturing activities to a third-party facility in the PRC to mitigate the disruption in product shipments to our customers. If manufacturing at the PRC facility is disrupted for similar or other reasons in the future, we may again be subject to increased expenses in order to engage a third-party manufacturer, or, if we are not able to secure alternative manufacturing capabilities, our ability to sell products and our relationships with our customers could be materially harmed. Additionally, we may be forced to bear significant costs in order to repair any damage to our manufacturing equipment and facility. Any of these outcomes could have a material adverse effect on our business and results of operations.

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

We store key 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. Any failure or malfunctioning of our global information technology systems, errors or misuse by system users, difficulties 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 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 processes, such as maintenance of our disclosure controls and procedures and internal control over financial reporting.

While our information technology systems include security measures designed to prevent unauthorized access, employee error, employee malfeasance or other causes, including intentional misconduct by computer hackers, could circumvent these measures and result in unauthorized access to these systems. Because the techniques used to gain unauthorized access to information technology systems evolve frequently and often are not recognized until successful, we may be unable to anticipate these techniques or implement adequate preventative measures in a timely manner. Any security breach could require significant resources to correct, if correction is possible, and could result in disruption to our business, misappropriation or loss of data, loss of confidence in us by our customers, damage to our reputation and legal liability. Further, any failure to implement appropriate security measures to protect our information or any breach or other failure of our systems that results in unauthorized access, manipulation, disclosure or loss of this information could result in our violation of any U.S. or foreign data protection laws that are applicable to us. These laws and their interpretation and application are constantly evolving, and they could be interpreted and applied in a manner that is inconsistent with our current practices or they could become more stringent over time. Efforts to comply with applicable data protection laws or any new interpretations of their application could involve significant time and substantial costs or require us to change our business practices and compliance procedures, and any failures to so comply could subject us to substantial civil or criminal fines or sanctions. Any of these outcomes could have a material negative impact on our business, performance and prospects.

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 also may be subject to a variety of laws and regulations relating to other matters, including workplace health and safety, labor and employment, foreign business practices (including the U.S. Foreign Corrupt Practices Act and applicable foreign anti-bribery laws), data protection, 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 or our customers. 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.

The U.S. Congress has enacted laws, and the SEC has 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. These laws and 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 laws and disclosure rules. To comply, 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 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 verifying the origins of the minerals used in our products or their manufacture. 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 we implement, we may not be able to satisfy customer preferences or requirements regarding the use of conflict minerals in the products they purchase, 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 fiscal year. In addition, if and when we are no longer a "smaller reporting company" under applicable SEC rules, Section 404 will require us to obtain an attestation report from our independent registered public accounting firm as to our internal control over financial reporting.

Effective internal control is necessary for us to produce accurate and reliable financial reports and is important in our efforts 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 significant deficiencies or material weaknesses, we may be unable to produce accurate and reliable financial reports or prevent fraud, which could result in a loss of customer or investor confidence in us or our public disclosures and negatively impact our stock price. Any of these outcomes could harm our financial condition and results of operations.

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, involve significant time and costs and negatively impact our financial reporting functions during the transition, any of which could have a material negative effect on our results of operations and financial condition.

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, which we may not be able to do in a timely or cost-effective manner. In addition, our management team has relatively limited experience managing a rapidly growing business. As a result, they may not be able to manage any future growth we may experience. A 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 and results of operations.

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

From time to time, we evaluate opportunities to acquire businesses or technologies or pursue other strategic transactions or relationships, including collaboration or joint development arrangements, 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 or relationships entail a number of risks that could adversely affect our business and operating results, including, among others:

- difficulties 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 our business;
- insufficient increases in revenues to offset increased expenses associated with an acquisition or strategic transaction or relationship;
- difficulties retaining business relationships with our existing suppliers and customers or the suppliers and customers of an acquired company;
- overestimation of potential synergies or other benefits, or a delay in realizing these synergies or other benefits;
- 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 establish a strategic relationship, or dilution of existing stockholders or increased leverage relative to our earnings or to our equity capitalization if we issue debt or equity securities for these purposes;
- 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 occur, we may not be able to realize the intended benefits of an acquisition or strategic transaction or relationship, and our operating results, financial condition and business prospects could be materially negatively affected.

Item 1B. Unresolved Staff Comments .

Not applicable.

Item 2. Properties

Our corporate headquarters is located in approximately 8,200 square feet of space in Irvine, California, under a lease that expires in July 2020. We also lease approximately 42,200 square feet of space for our manufacturing facility in the PRC under a lease that expires in June 2019. We believe our current facilities are adequate for our current and expected operations for the next 12 months and that additional space could be obtained if needed.

Item 3. Legal Proceedings

Certain legal proceedings in which we are involved are discussed in Part IV, Item 15 of this Form 10-K in the Notes to Consolidated Financial Statements in Note 8, "Commitments and Contingencies" under the heading "Litigation and Patent Reexaminations," and are incorporated herein by reference.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securitie s

Our common stock began trading on The Nasdaq Global Market under the symbol "NLST" on November 30, 2006 and was transferred to The Nasdaq Capital Market effective on January 14, 2016. On September 27, 2018, our common stock was transferred to the OTCQX ® Best Market.

Holders

As of March 15, 2019, there were approximately 13 holders of record of our shares of common stock, plus an indeterminate number of additional stockholders whose shares of our common stock are held on their behalf by brokerage firms or other agents.

Dividend Policy

We have never declared or paid cash dividends on our capital stock in the past, and we have no intention of declaring or paying any such dividends in the foreseeable future. Additionally, our credit facility with SVB prohibits the payment of cash dividends without obtaining SVB's prior consent. Any declaration or payment of dividends in the future will be at the discretion of our board of directors, and will depend on our results of operations, capital requirements, legal and contractual restrictions and other factors deemed relevant by our board of directors.

Item 6. Selected Financial Data

Not applicable.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operation s

The following discussion and analysis should be read in conjunction with our audited consolidated financial statements and the related notes included in Part IV, Item 15 of this Form 10-K, and all cross-references to notes in this discussion and analysis refer to the identified note contained in such consolidated financial statements. This discussion contains forward-looking statements that reflect our plans, estimates and beliefs and involve numerous risks and uncertainties, including, but not limited to, those described in the "Risk Factors" section of this Form 10-K. Actual results may differ materially from those contained in any forward-looking statements. You should carefully read the "Cautionary Note Regarding Forward-Looking Statements" and "Risk Factors" sections of this Form 10-K.

Overview

We provide high-performance modular memory subsystems to customers in diverse industries that require enterprise and storage class memory solutions to empower critical business decisions. We have a 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, in-memory databases, high performance computing and advanced data storage solutions. We publicly demonstrated a HybriDIMM prototype in August 2016 and we sampled HybriDIMM to select customers in the second half of 2017, and we are now working with certain customers to transition to volume production. We also resell NAND flash, DRAM products and other component products to end-customers that are not reached in the distribution models of the component manufacturers, including storage customers, appliance customers, system builders and cloud and datacenter customers.

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, we have dedicated substantial resources to the development, protection and enforcement of technology innovations we believe are essential to our business. Our early pioneering work in these areas has been broadly adopted in industry-standard registered dual in-line memory modules ("RDIMM"), 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 sales 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.

For the years ended December 29, 2018 and December 30, 2017, we recorded total net revenues of $33.5 million and $38.3 million, gross profit of $2.3 million and $2.5 million, and net losses of $17.1 million and $13.4 million, respectively. We have historically financed our operations primarily with revenues generated from operations, proceeds from issuances of equity and debt securities and a non-recurring engineering ("NRE") fee from our November 2015 joint development and license agreement ("JDLA") with Samsung Electronics Co., Ltd ("Samsung"). We have also funded our operations with a revolving line of credit and term loans under a bank credit facility, and a funding arrangement for costs associated with certain of our legal proceedings against SK hynix, Inc. a South Korean memory semiconductor supplier ("SK hynix"). See "Liquidity and Capital Resources" below for more information.

2018-2019 Developments

Developments relating to SK hynix Proceedings

We have taken 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”), U.S. district court and the courts of Germany. On January 31, 2019, the court in Germany found there was no infringement of the Utility Model asserted and dismissed the case. Netlist will appeal this ruling. In our two separate ITC actions against SK hynix, we have requested exclusion orders that direct U.S. Customs and Border Protection to stop allegedly infringing SK hynix RDIMM and LRDIMM products from entering the United States. In our U.S. district court and international court proceedings, we are primarily seeking damages. All of our patents involved in these proceedings cover key features of RDIMM and LRDIMM products.

On January 16, 2018, the ITC issued a final determination regarding our first ITC action against SK hynix filed in September 2016, in which it concluded there was no infringement of the patents in this action and terminated the ITC’s investigation related to these proceedings. We are appealing this final determination to the Court of Appeals for the Federal Circuit. In our second ITC action against SK hynix, on April 12, 2018, the ITC granted SK hynix’s motion for summary determination of non-infringement and terminated the investigation in its entirety. On April 23, 2018, the Company filed a petition seeking ITC review of this decision. On May 29, 2018, the ITC Commission remanded the Second ITC Action back to the ALJ to resolve the parties’ claim construction disputes and continue the investigation. On June 14, 2018, the ITC extended the target date for the final determination to August 5, 2019, with a final initial determination due by April 5, 2019. Based on this extended target date, the ITC scheduled a hearing on the merits to begin on December 14, 2018 and conclude on December 21, 2018. On September 13, 2018, the ITC rescheduled the hearing on the merits to begin on January 14, 2019 and conclude on January 18, 2019. On January 29, 2019, due to the government shutdown, the ITC again rescheduled the hearing on the merits to begin on March 11, 2019 and conclude on March 15, 2019. On March 12, 2019 the ALJ postponed the trial due to reasons unrelated to the dispute between the parties. A new trial schedule is expected to be issued in March 2019; however, as with all legal proceedings, the timing and outcomes of the ITC action are inherently uncertain and subject to change.

Amendments to SVB Credit Agreement

On March 20, 2018, we entered into an amendment to a credit agreement with Silicon Valley Bank (“SVB”) (“SVB Credit Agreement”) to among other things, (i) extend the maturity date of advances under the SVB Credit Agreement to March 31, 2019 and (ii) revise certain inventory reporting requirements under the SVB Credit Agreement. On August 29, 2018, the SVB Credit Agreement was amended to increase the borrowing base of accounts receivable to 85% from 80% or $5.0 million, subject to certain adjustments set forth in the SVB Credit Agreement. On March 21, 2019, the SVB Credit Agreement was amended further to (i) extend the maturity date of the advances to March 30, 2020 and (ii) delete the inventory reporting requirements.

Completion of the ATM Program

On August 29, 2018, we completed the offering under an At Market Issuance Sales Agreement (“Sales Agreement”) with B. Riley FBR, Inc. (the “Agent”) entered into on November 14, 2017 after raising net proceeds of approximately $8.6 million through the sale of 40,680,368 shares of our common stock, after deducting sales commissions and other offering expenses paid by us. The Sales Agreement allowed us to raise the aggregated gross proceeds up to $9.0 million, through an “at-the-market” equity offering program under which the Agent would act as sales agent. During the year ended December 29, 2018, we received net proceeds of approximately $5.8 million through the sale of 31,786,146 shares of our common stock, after deducting sales commissions and other offering expenses paid by us.

Issuance of Iliad Note

On August 27, 2018, we entered into a Securities Purchase Agreement with Iliad Research and Trading, L.P. ("Iliad") (the "Iliad Purchase Agreement"), pursuant to which we issued an unsecured convertible promissory note in the principal amount of $2.3 million (the "Iliad Note") with an original issue discount of $0.2 million (including a fee paid to Iliad). The Iliad Note bears interest at an annual rate of 8% and matures on August 27, 2020, unless earlier repurchased, redeemed or converted in accordance with its terms.

The Iliad Note provides Iliad with the right to convert, at any time, all or any part of the outstanding principal and accrued but unpaid interest into shares of our common stock at a conversion price of $0.36 per share ("Lender Conversion Price"). Further, beginning on April 1, 2019, the Iliad Note also provides Iliad with the right to redeem all or any portion of the Iliad Note ("Redemption Amount") up to a maximum monthly amount of $0.35 million. The payments of each Redemption Amount may either be made in cash, by converting such Redemption Amount into shares of our common stock ("Redemption Conversion Shares"), or a combination thereof, at our election.
The number of Redemption Conversion Shares equals the portion of the applicable Redemption Amount being converted divided by the lesser of the Lender Conversion Price or the Market Price, that is 85% of our lowest closing bid price during the 20 trading days immediately preceding the applicable redemption date, provided that the Market Price shall not be less than $0.11 per share (the "Redemption Price Floor"). In the event any applicable redemption conversion price is below the Redemption Price Floor then either: (i) we will honor the redemption conversion at the then effective redemption conversion price for a Redemption Amount not to exceed $0.15 million if the redemption conversion price is equal to or greater than $0.06 or (ii) we will pay the applicable Redemption Amount up to $0.15 million in cash and not in Redemption Conversion Shares.

On February 28, 2019 and March 7, 2019, Iliad converted the principal and accrued interest on the Iliad Note totaling $0.1 million and $0.2 million to 277,778 shares and 416,667 shares, respectively, of our common stock at the Lender Conversion Price.

2018 Offering

On September 12, 2018, we entered into a Securities Purchase Agreement with certain investors, pursuant to which we issued and sold to the investors in a registered offering ("2018 Offering") an aggregate of 22,222,220 shares of our common stock and warrants to purchase up to an aggregate of 11,111,110 shares of our common stock at a per share purchase price of $0.45 per share. The 2018 Offering closed on September 14, 2018. The net proceeds to us from the 2018 Offering were approximately $9.2 million, after deducting placement agent fees and offering costs paid by us. The warrant becomes exercisable 181 days following the date of its issuance, has a term of five years commencing on the date when it first becomes exercisable, and has an exercise price of $0.655 per share. The exercise price and the number of warrant shares issuable upon exercise of warrant are subject to adjustment in the event of, among other things, certain transactions affecting our common stock (including without limitation stock splits and stock dividends), and certain fundamental transactions (including without limitation a merger or other sale-of-company transaction).

Listing Transfer to OTCQX

On September 25, 2018, we received a determination letter from the Nasdaq Hearings Panel (the "Panel") notifying us that our common stock would be delisted from The Nasdaq Capital Market and that suspension of trading in our common stock would be effective at the open of business on September 27, 2018. The Panel made the determination to delist our common stock because we did not demonstrate compliance with the minimum $1 bid price, and the delisting was completed by the filing of a Form 25 Notification of Delisting with the SEC on January 8, 2019. Our shares of common stock commenced trading on the OTCQX ® Best Market on September 27, 2018 under our current ticker symbol of "NLST." We intend to apply to relist on a major exchange in the future upon meeting the applicable new listing standards of that exchange.

Key Business Metrics

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

Net Sales

Net product sales consist of resales of certain component products, including NAND flash and DRAM products, 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. Product sales are made primarily pursuant to stand-alone purchase orders, which generally have no cancellation or rescheduling penalty provisions. Our 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 then-current price of relevant component products, including DRAM ICs and NAND flash. We often ship products to our customers' international manufacturing sites, but all of our sales to date have been denominated in U.S. dollars.

The component products we resell include products we purchase for the purpose of resale, as well as excess component inventory we purchase for, but do not use in, our memory subsystems. 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 sales.

We also sell our memory subsystem products, primarily to original equipment manufacturers ("OEMs"). Sales of our memory subsystem products have declined in recent periods, and we expect these declines could continue unless and until our next-generation products gain significantly greater customer and market acceptance.

Cost of Sales and Gross Margin

Our cost of sales includes the cost of materials (including component products), 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, including NAND flash and DRAM products, cost of sales includes the cost of the products we purchase for resale. We purchase these products from Samsung under the terms of the JDLA and from other suppliers on the terms we negotiate with these suppliers. For sales of our memory subsystem products, cost of sales also includes the DRAM ICs and NAND flash we purchase and incorporate into these products. As a result, the DRAM ICs and NAND flash we purchase for resale or for use in our products constitute a significant portion of our cost of sales in any period. Our cost of sales fluctuates between periods based on the cost to us to purchase DRAM ICs and NAND flash. We attempt to pass through these DRAM IC and NAND flash cost fluctuations to our customers, but any inability to do so negatively impacts our gross margin.

Research and Development

Research and development expenses consist primarily of employee and independent contractor compensation and related costs, stock-based compensation expenses, NRE fees that we pay to third parties, 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.

Intellectual Property Legal Fees

Intellectual property legal fees consist of legal fees incurred for patent filings, protection and enforcement. Intellectual property legal fees are generally expensed as incurred. Although we expect intellectual property legal fees to generally increase over time as we continue to protect, defend and enforce and seek to expand our patent portfolio, these increases may not be linear but may occur in lump sums depending on the due dates of patent filings and their associated fees and the arrangements we may make with our legal advisors in connection with enforcement proceedings, which may include fee arrangements such as with TRGP (see Note 8) or contingent fee arrangements in which we would pay these legal advisors on a scaled percentage of any negotiated fees, settlements or judgments awarded to us based on if, how and when the fees, settlements or judgments are obtained.

We expect our intellectual property legal fees may show different trends for so long as the TRGP Agreement (as defined below) remains in effect. Pursuant to the terms of the TRGP Agreement, the legal expenses we incur that are paid directly by TRGP are excluded in their entirety from our financial statements in each period in which the agreement remains in effect. In addition, any settlement or other cash proceeds we may recover in the future in connection with the SK hynix proceedings funded by TRGP would be reduced by the aggregate amount of legal expenses we exclude as a result of TRGP's payment of these expenses, plus the premium amount due to TRGP under the terms of the TRGP Agreement at the time of any such recovery. Additionally, we expect our intellectual property legal fees would be significantly higher in the period in which a recovery from the SK hynix proceedings covered by the TRGP Agreement, if any, 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. Selling expenses also includes the cost of materials and overhead related to products manufactured for customer qualifications, since working through the product approval and qualification process with OEMs and other potential customers of our memory subsystem products can comprise a significant portion of our selling effort for these products. Selling, general and administrative expenses are generally expensed as incurred.

Provision for Income Taxes

Our net deferred tax assets consist primarily of net operating loss carryforwards. Because we provide a full valuation allowance against net deferred tax assets, our effective tax rate differs from the federal statutory rate and we do not recognize an income tax benefit related to losses incurred.

Factors Affecting Our Performance

Trends in Net Sales

We are and, in the past, have been substantially dependent on sales of single products or product categories. For instance, we have historically been dependent on sales of our memory subsystem products, and in recent periods, we have been dependent on our resales of component products. Demand for any of these products could increase or decrease at any time for a number of reasons, including new customer qualifications, changing customer requirements or preferences, product obsolescence, introduction of more advanced or otherwise superior products by us or our competitors, the ability of our customers to obtain these products or substitute products from alternate sources, customers increasing or reducing their need for these products generally, or a variety of other factors. We have no long-term agreements or other commitments with respect to sales of any of these products. As a result, any fluctuations in demand for these products from us would impact our sale levels and net product revenues.

We have also experienced declines in demand for and sales of our memory subsystem products in recent periods, and these declines could continue or intensify in the future.

Contrastingly, we have experienced marked increases in component product resales in recent years. Because the cost of the component products we purchase for resale is added to our cost of sales for these products, our gross margin on resales of component products is significantly lower than our gross margin on sales of our memory subsystem products. As a result, increases or decreases in component product resales as a percentage of our total product revenues have a significant impact on our gross margins.

HybriDIMM and some of our other next-generation products may require additional time and capital investments in order to commercialize, and our development and commercialization strategies for these products, including, for instance, our JDLA with Samsung relating to the joint development of new storage class memory technologies and our work with JEDEC to facilitate broad industry adoption of this new technology, may not be successful. Our ability to obtain customer or market acceptance of these next-generation products will materially impact our net product revenues and gross profits, as well as our ability to recoup our investments in developing these products.

Customer Composition and Concentrations

Our target markets are characterized by a limited number of large companies, and consolidation in one or more of these target markets may further increase this concentration. As a result, sales to small numbers of customers have historically represented a substantial portion of our net product revenues, and we expect this concentration to continue. 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. We believe our performance depends in significant part on our ability to establish and maintain relationships with and effect substantial sales to our large customers. 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 increase, accelerate, decrease, delay or discontinue their purchase of our products or the component products we resell. These fluctuations in customer demand and concentrations could significantly impact our net product revenues.

Product Sale Prices

The prices customers pay for the products we sell can fluctuate due to many factors, including, among others, competitive conditions in our key customer markets, changes in customer requirements or preferences, volatility in the market prices for DRAM ICs, NAND flash and other component products, and changes in manufacturing efficiencies or capacities. Our industry has historically been characterized by declines in average sale prices. If sale price declines are not offset by corresponding decreases in costs or increases in sales volume or sales of products with higher margins, these sale price declines could have a material adverse effect on our operating results.

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 through 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 sudden price increases. Alternatively, if there are declines in the prices of these components, we may be required to reduce our selling prices for subsequent purchase orders, which may result in a decline in our net product revenues.

In addition, because a large percentage of our product revenues are often from sales to a small number of customers, these customers may exert pressure on us to make concessions in the prices at which we sell products to them. These sale price concessions could have a material effect our net product revenues.

Component Product Supply

Our ability to fulfill customer orders for our memory subsystem products or the component products we resell is dependent on a sufficient supply of DRAM ICs, NAND flash and other component products. We have no long-term supply contracts for any of these component products. There are a relatively small number of suppliers of these components, and we typically purchase from only a subset of these suppliers.

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 certain of our memory subsystem products, and we have been forced to procure the component products we resell from other suppliers to the extent sufficient product is not available from Samsung to meet customer demand or in the event of other Samsung supply issues. Supply shortages can occur at any time and for a variety of reasons, including, among others, spikes in customer demand that cannot be satisfied by our suppliers, any problems that arise with the supplier's manufacturing operations or facilities that cause disruptions or delays, or any failure by the supplier to comply with the terms of its supply arrangements with us. If we are not able to obtain components in the amounts needed, on a timely basis and at commercially reasonable prices, we may lose customers due to order delivery interruptions or failures, which could impact our net product revenues, and we may experience increases in our cost of sales if we are forced to procure components from alternative suppliers and are not able to negotiate favorable terms with these suppliers. For example, with respect to Samsung, any inability to obtain sufficient component products from Samsung could increase our cost of sales for component product resales because we may not be able to make arrangements with other suppliers on financial and other terms comparable to those we have negotiated with Samsung under the JDLA. As described above, we may or may not be able to pass any such cost increases through to our customers, in which case they could materially adversely impact our results by increasing our cost of sales without a corresponding increase in our net sales.

Product Demand Forecasting

Because of the short-term nature of the commitments by many of our customers and the short turnaround times that apply to most orders, as well as our customers' ability to cancel or defer purchase orders for any reason, we are required to make component procurement decisions based on forecasts of customer demand for the products we sell.

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 component or finished goods inventory, 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 components, the value of our inventory would fall and we may be required to write-down the value of our component inventory, which may result in a significant increase in our cost of sales and decrease in our gross margins. In the past, we have had to write-down inventory due to obsolescence, excess quantities and declines in market value below our costs. As a result, 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. If we underestimate customer demand, we may not have sufficient inventory of necessary components on hand to meet that demand and we may need to try to procure additional quantities, which may not be available or may only be available at high prices or on otherwise unfavorable terms. We also may not have sufficient manufacturing capacity at any given time to meet any demands for rapid increases in production of our memory subsystem products. Any shortages of inventory or manufacturing capacity could lead to delays in the delivery of products, which may reduce our net product revenues.

In addition, if our product demand forecasts are wrong, we may understate or overstate the provision required for excess and obsolete inventory. 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 the 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 the inventories are sold.

Intellectual Property Protection, Enforcement and Monetization

We dedicate substantial resources to developing technology innovations we believe are essential to our business. We intend to pursue monetization avenues for our intellectual property portfolio, potentially including licensing, royalty or other revenue-producing arrangements. However, we have not generated any such revenue stream from our intellectual property to date. If we are not successful in monetizing our intellectual property portfolio, we may never recoup our investments of time, capital and other resources in the development, maintenance, defense and enforcement of this portfolio, which could materially adversely affect our results of operations.

We also dedicate substantial resources to protecting and enforcing our intellectual property rights, including with patent infringement proceedings we file against third parties and defense of our patents against challenges made by way of reexamination and review proceedings at relevant government agencies. We expect these activities to continue for the foreseeable future, with no guarantee that any ongoing or future patent protection or litigation activities will be successful. We are also subject to litigation based on claims that we have infringed the intellectual property rights of others. Any litigation, regardless of its outcome, is inherently uncertain, involves a significant dedication of resources, including time and capital, and diverts management's attention from our other activities. As a result, any current or future infringement claims or patent challenges by or against third parties, whether or not eventually decided in our favor or settled, could materially adversely affect our business, financial condition and results of operations. Additionally, the outcome of pending or future litigation and related patent reviews and reexaminations, as well as any delay in their resolution, could affect our ability to continue to sell our products, protect against competition in the current and expected markets for our products or license or otherwise monetize our intellectual property rights in the future.

Business Risks and Uncertainties

Our business, financial condition and prospects are exposed to a number of risks and uncertainties. See the discussion in Item 1A. Risk Factors of this report for more information.

Critical Accounting Policies

The preparation of our consolidated financial statements in conformity with accounting principles generally accepted in the United States requires management 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 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. Accordingly, actual results could differ materially from our estimates. To the extent that there are material differences between these estimates and actual results, our financial condition or results of operations will be affected. We base our estimates and assumptions on our historical experience, knowledge of current conditions and our beliefs of what could occur in the future considering available information. We evaluate our estimates and assumptions on an ongoing basis. We refer to accounting estimates of this type as critical accounting policies and estimates, which we discuss further below. We have reviewed our critical accounting policies and estimates with the audit committee of our board of directors

See Notes to Consolidated Financial Statements included in Part IV, Item 15 of this Form 10-K for a summary of significant accounting policies and the effect on our financial statements.

Revenue Recognition

We derive revenue primarily from: (i) resales of NAND flash, DRAM products and other component products to end-customers that are not reached in the distribution models of the component manufacturers, including storage customers, appliance customers, system builders and cloud and datacenter customers and (ii) sales of high-performance modular memory subsystems primarily to OEMs in the server, high-performance computing and communications markets. Revenues are recognized when control is transferred to customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods and services.

Fair Value of Financial Instruments

We follow Accounting Standards Codification ("ASC") Topic 820, *Fair Value Measurement* ("Topic 820") to account for the fair value of certain assets and liabilities. Topic 820 defines fair value, establishes a framework for measuring fair value and expands disclosures about fair value measurements. Topic 820 emphasizes that fair value is a market-based measurement, not an entity-specific measurement, and therefore, a fair value measurement should be determined based on the assumptions that market participants would use in pricing the asset or liability. As a basis for considering market participant assumptions in fair value measurements, Topic 820 establishes a fair value hierarchy that distinguishes between market participant assumptions based on market data obtained from sources independent of the reporting entity (observable inputs that are classified within Levels 1 and 2 of the hierarchy) and the reporting entity's own assumptions about market participant assumptions (unobservable inputs classified within Level 3 of the hierarchy).

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that we have the ability to access. An active market is defined as a market in which transactions for the assets or liabilities occur with sufficient frequency and volume to provide pricing information on an ongoing basis. Level 2 inputs are inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly. Level 2 inputs may include quoted prices for similar assets and liabilities in active markets, as well as inputs that are observable for the asset or liability (other than quoted prices), such as interest rates, foreign exchange rates and yield curves that are observable at commonly quoted intervals. Level 3 inputs are unobservable inputs for the asset or liability, which are typically based on an entity's own assumptions, as there is little, if any, related market activity. In instances where the determination of the fair value measurement is based on inputs from different levels of the fair value hierarchy, the level in the fair value hierarchy within which the entire fair value measurement falls is based on the lowest level input that is significant to the fair value measurement in its entirety. Our assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the asset or liability.

Our financial instruments consist principally of cash and cash equivalents, restricted cash, accounts receivable, accounts payable, accrued expenses, a revolving line of credit, and convertible promissory notes. We consider the carrying values of cash and cash equivalents, restricted cash, accounts receivable, accounts payable, and accrued expenses to approximate the fair value for these financial instruments based upon an evaluation of the underlying characteristics, market data and because of the short period of time between origination of the instruments and their expected realization. We estimate the fair values of our revolving line of credit and convertible promissory notes by using current applicable rates for similar instruments as of the balance sheet date and an assessment of its credit rating. The carrying value of our revolving line of credit at December 29, 2018 and December 30, 2017 approximates fair value because our interest rate yield is near current market rates for comparable debt instruments. We estimate the fair value of our convertible promissory notes by using a discounted cash flow analysis using borrowing rates available to us for debt instruments with similar terms and maturities. We have determined that the valuation of our convertible promissory notes is classified in Level 2 of the fair value hierarchy.

Allowance for Doubtful Accounts

We perform credit evaluations of our customers' financial condition and limit the amount of credit extended to our customers as deemed necessary, but generally require no collateral. We evaluate the collectability of accounts receivable based on a combination of factors. In cases where we are aware of circumstances that may impair a specific customer's ability to meet its financial obligations subsequent to the original sale, we will record an allowance against amounts due, and thereby reduce the net recognized receivable to the amount we reasonably believe will be collected. For all other customers, we record 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 our historical experience. Uncollectible accounts are charged against the allowance for doubtful accounts when all cost-effective commercial means of collection have been exhausted. Generally, our credit losses have been within expectations and the provisions established. However, we cannot guarantee that we will continue to experience credit loss rates similar to those experienced in the past.

Our accounts receivable are generally 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 our accounts receivable, liquidity and future operating results.

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, we evaluate our ending inventory quantities on hand and on order and record a provision for excess quantities and obsolescence. Among other factors, we consider historical demand and forecasted demand in relation to inventory on hand, competitiveness of product offerings, market conditions and product life cycles when determining obsolescence and net realizable value. In addition, we consider changes in the market value of components in determining the net realizable value of our inventory. Once established, lower of cost or net realizable value write-downs are considered permanent adjustments to the cost basis of the excess or obsolete inventories.

Impairment of Long-Lived Assets

We evaluate the recoverability of the carrying value of long-lived assets held and used by us in our 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, we compare 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 our customers and reductions in average sale 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.

Warranty Liability

We offer product warranties generally ranging from one to three years, depending on the product and negotiated terms of any purchase agreements with our customers. Such warranties require us to repair or replace defective product returned to us during the warranty period at no cost to the customer. Warranties are not offered on sales of component products. We record an estimate for warranty-related costs at the time of sale based on our historical and estimated future product return rates and expected repair or replacement costs. 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 us, requiring additional warranty reserves, and could adversely affect our gross profit and gross margins.

Stock-Based Compensation

Stock-based awards are comprised principally of stock options and restricted stocks. Stock-based compensation cost is measured at the grant date based on the fair value of the award and is recognized as an expense over the requisite service period, which is the vesting period, on a straight-line basis, net of estimated forfeitures. We use the Black-Scholes option pricing model to determine the grant date fair value of stock options. The model requires us to estimate the expected volatility and expected term of the stock options, which are highly complex and subjective variables. The expected volatility is based on the historical volatility of our common stock. The expected term is computed using the simplified method as our best estimate given our lack of actual exercise history. 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 our history and management's expectation regarding dividend payouts. The grant-date fair value of restricted stocks equals the closing price of our common stock on the grant date.

Prior to the adoption of Financial Accounting Standards Board ("FASB") Accounting Standards Update ("ASU") No. 2018-07, *Compensation – Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting* ("ASU 2018-07" or "Topic 718") in the second quarter of 2018, we accounted for equity-based awards to non-employees in accordance with ASC Topic 505, *Equity* . All transactions in which goods or services were the consideration received for the issuance of equity instruments were accounted for based on the fair value of the consideration received or the fair value of the equity instrument issued, whichever was more reliably measurable. The measurement date used to determine the estimated fair value of the equity instrument issued was the earlier of the date on which the third-party performance was complete or the date on which it was probable that performance would occur. Upon the adoption of ASU No. 2018-07, we account for all stock-based awards in accordance with Topic 718.

Income Taxes

Deferred income tax assets and liabilities are recognized for temporary differences between the financial statement carrying amounts of assets and liabilities and the amounts that are reported in the income tax returns. Deferred taxes are evaluated for realization on a jurisdictional basis. We record valuation allowances to reduce deferred tax assets to the amount that is more likely than not to be realized. In making this assessment, management analyzes future taxable income, reversing temporary differences and ongoing tax planning strategies. Should a change in circumstances lead to a change in judgment about the realizability of deferred tax assets in future years, we will adjust related valuation allowances in the period that the change in circumstances occurs, along with a corresponding increase or charge to income.

We recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained upon examination by the taxing authorities based on the technical merits of our position. The tax benefit recognized in the financial statements for a particular tax position is based on the largest benefit that is more likely than not to be realized. The amount of unrecognized tax benefits is adjusted as appropriate for changes in facts and circumstances, such as significant amendments to existing tax laws, new regulations or interpretations by the taxing authorities, new information obtained during a tax examination, or resolution of an examination. We recognize both accrued interest and penalties associated with uncertain tax positions as a component of provision for income taxes in the consolidated statements of operations.

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 our estimates, which could require us to record additional tax liabilities or to reduce previously recorded tax liabilities, as applicable.

Impact of Certain Recent Accounting Pronouncements

See our discussion about the impact of certain recent accounting pronouncements in Part IV, Item 15 of this Form 10-K in the Notes to Consolidated Financial Statements in Note 2, “Summary of Significant Accounting Policies” under the headings “Adoption of New Accounting Pronouncements” and “Recent Accounting Pronouncements.”

Results of Operations

The table below presents each line item of our consolidated statements of operations as a percentage of total sales for the years ended December 29, 2018 and December 30, 2017. Historical results are not indicative of the results to be expected in the current period or any future period.

	Year Ended	
	December 29, 2018	December 30, 2017
Net sales	100 %	100 %
Cost of sales	93	94
Gross profit	7	6
Operating expenses:		
Research and development	9	14
Intellectual property legal fees	27	7
Selling, general and administrative	20	19
Total operating expenses	56	40
Operating loss	(49)	(34)
Other expense, net:		
Interest expense, net	(2)	(1)
Other (expense) income, net	—	—
Total other expense, net	(2)	(1)
Loss before (benefit) provision for income taxes	(51)	(35)
(Benefit) provision for income taxes	—	—
Net loss	(51)%	(35)%

Net Sales, Cost of Sales, and Gross Profit

The following table presents net sales, cost of sales and gross profit for the years ended December 29, 2018 and December 30, 2017 (in thousands, except percentages):

	Year Ended			
	December 29, 2018	December 30, 2017	Change	% Change
Net sales	$ 33,529	$ 38,322	$ (4,793)	(13)%
Cost of sales	31,228	35,866	(4,638)	(13)%
Gross profit	$ 2,301	$ 2,456	$ (155)	(6)%
Gross margin	6.9%	6.4%	0.5 %	

Net Sales

Net sales are comprised of sales from resales of component products and sales of memory subsystem products. In 2018 and 2017, resales of component products represented 75% and 85% of net sales, respectively.

The decrease in net sales in 2018 compared to 2017 resulted primarily from the decrease of $7.8 million in resales of the NAND flash products, $0.5 million in sales of the EXPRESSvault ("EV3") products, and $0.1 million in our very low profile ("VLP") memory subsystem products. These decreases were partially offset by the increase of $3.7 million in the sales of other small outline dual in-line memory module ("SODIMM") and RDIMM products.

Net sales in 2018 and 2017 were impacted by fluctuating customer concentrations. In 2018 and 2017, our largest customer accounted for 18% and 8% of net sales, respectively. Our second and third largest customer in 2018, which accounted for an aggregate of 16% of net sales, accounted for an aggregate of 4% of net sales in 2017. In 2017, four of our five largest customers accounted for an aggregate of 23% of net sales; however, in 2018, these four customers accounted for an aggregate of 2% of net sales.

Cost of Sales, Gross Profit and Gross Margin.

The decrease in cost of sales and gross profit in 2018 compared to 2017 resulted primarily from the decrease in net sales. However, gross margin (or gross profit as a percentage of revenue) in 2018 compared to 2017 increased primarily as a result of the increased margin on the SODIMM and RDIMM products.

Research and Development

The following table presents research and development expenses for the years ended December 29, 2018 and December 30, 2017 (in thousands, except percentages):

	Year Ended			
	December 29, 2018	December 30, 2017	Change	% Change
Research and development	$ 2,899	$ 5,231	$ (2,332)	(45)%

The decrease in research and development expenses in 2018 compared to 2017 resulted primarily from decreases of $2.0 million in headcount costs and related overhead and travel expenses and $0.3 million in product research expenses.

Intellectual Property Legal Fees

The following table presents intellectual property legal fees for the years ended December 29, 2018 and December 30, 2017 (in thousands, except percentages):

	Year Ended			
	December 29, 2018	December 30, 2017	Change	% Change
Intellectual property legal fees	$ 8,918	$ 2,705	$ 6,213	230 %

The increase in intellectual property legal fees in 2018 compared to 2017 resulted primarily from an increase in legal expenses incurred for our second ITC action, which was not subject to the TRGP agreement and costs to defend our patent portfolio internationally.

Selling, General and Administrative

The following table presents selling, general and administrative expenses for the years ended December 29, 2018 and December 30, 2017 (in thousands, except percentages):

	Year Ended			
	December 29, 2018	December 30, 2017	Change	% Change
Selling, general and administrative	$ 6,856	$ 7,374	$ (518)	(7)%

The decrease in selling, general and administrative expenses in 2018 compared to 2017 resulted primarily from decreases of $0.7 million in sales and marketing headcount costs and related overhead and travel expenses and $0.1 million in sales commissions, partially offset by increases of $0.2 million in outside consulting expenses and $0.1 million in advertising and product evaluation costs.

Other Expense, Net

The following table presents other expense, net for the years ended December 29, 2018 and December 30, 2017 (in thousands, except percentages):

	Year Ended			
	December 29, 2018	December 30, 2017	Change	% Change
Interest expense, net	$ (739)	$ (564)	$ (175)	(31)%
Other (expense) income, net	(11)	4	(15)	375 %
Total other expense, net	$ (750)	$ (560)	$ (190)	(34)%

Interest expense, net, in 2018 and 2017 consisted primarily of interest expense on a revolving line of credit under the SVB Credit Agreement, the $15 million senior secured convertible note issued to Samsung Venture Investment Co. (“SVIC”) (“SVIC Note”) in November 2015 and the Iliad Note issued in August 2018. Interest expense also includes the accretion of debt discounts and amortization of debt issuance costs on the SVIC Note and Iliad Note. The increase in 2018 compared to 2017 was primarily driven by the accretion of debt discount and amortization of debt issuance costs related to the Iliad Note issued in August 2018.

The decrease in other (expense) income, net, in 2018 compared to 2017, which resulted primarily from exchange rate losses, was not significant.

(Benefit) Provision for Income Taxes

The following table presents the (benefit) provision for income taxes for the years ended December 29, 2018 and December 30, 2017 (in thousands, except percentages):

	Year Ended			
	December 29, 2018	December 30, 2017	Change	% Change
(Benefit) provision for income taxes	$ (2)	$ 6	$ (8)	(133)%

(Benefit) provision for income taxes was immaterial in 2018 and 2017.

The federal statutory rate was 21% and 34% in 2018 and 2017, respectively. In both years, we provided a full valuation allowance against net deferred tax assets, which consist primarily of net operating loss carryforwards. Our effective tax rate differed from the statutory rate primarily due to the valuation allowance on newly generated loss carryforwards in these years.

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 operating expenses and working capital requirements, to make required payments of principal and interest under outstanding debt instruments and, to a lesser extent, to fund capital expenditures.

Working Capital

A summary of our working capital is as follows (in thousands):

	December 29, 2018	December 30, 2017
Current assets(1)	$ 23,192	$ 16,925
Current liabilities	13,113	9,289
Working capital	$ 10,079	$ 7,636

(1) Includes cash and cash equivalents of $14.8 million and $6.7 million as of December 29, 2018 and December 30, 2017, respectively.

Working capital increased by $2.4 million in 2018. Current assets increased by $6.3 million, primarily from an increase in cash and cash equivalents by $8.1 million, partially offset by decreases in inventories by $1.2 million and in restricted cash by $1.0 million. During the year ended December 29, 2018, the Company received net proceeds of $9.2 million from the 2018 Offering, $5.8 million in net proceeds from the ATM Program, $2.1 million from the Iliad Note issuance, and $0.8 million from the issuance of common stock to a trust controlled by our President, Chief Executive Officer and Chairman of the Board. The decrease in inventories reflects the lower product sales, and the decrease in restricted cash was due to the reduction in the standby letters of credit with vendors secured by cash.

Current liabilities increased by $3.8 million primarily from a $3.4 million increase in accounts payable from legal expense to defend our intellectual property, a $0.4 million increase in note payable to finance insurance policies and a $0.3 million increase in a revolving line of credit, partially offset by a $0.2 million decrease in accrued payroll and related liabilities due to a decrease in employee headcount.

Cash Flows

A summary of cash flow activities is as follows (in thousands):

	Year Ended	
	December 29, 2018	December 30, 2017
Net cash provided by (used in):		
Operating activities	$ (10,568)	$ (11,345)
Investing activities	(74)	(94)
Financing activities	17,774	8,383
Net change in cash, cash equivalents and restricted cash	$ 7,132	$ (3,056)

Operating Activities

Net cash used in operating activities for the year ended December 29, 2018 was primarily the result of a net loss of $17.1 million, adjusted for net non-cash charges of $1.7 million. These non-cash charges primarily consisted of stock-based compensation, interest accrued on convertible notes, depreciation and amortization and amortization of debt discounts. The net loss is offset by net cash inflows from changes in working capital balance of $4.8 million driven predominantly from an increase in accounts payable due to an increase in legal fees.

Net cash used in operating activities for the year ended December 30, 2017 was primarily the result of a net loss of $13.4 million and $2.0 million in net non-cash operating expenses, mainly comprised of depreciation and amortization, amortization of debt discount, accrued interest on outstanding debt and stock-based compensation. The increase in inventories from December 31, 2016 to December 30, 2017 was primarily due to the purchase of additional inventory to support the increase in net product revenues. The increase in accounts receivable from December 31, 2016 to December 30, 2017 was primarily due to the increase in net product revenues. The increase in accounts payable between periods was primarily due to increased purchases of inventory.

Investing Activities

Net cash used in investing activities for the years ended December 29, 2018 and December 30, 2017 was primarily the result of purchases of property and equipment during the periods.

Financing Activities

Net cash provided by financing activities for the year ended December 29, 2018 primarily consisted of $9.2 million in net proceeds from the 2018 Offering, $5.8 million in net proceeds from the ATM Program, $2.1 million from the issuance of the Iliad Note, $0.8 million from the issuance of common stock to a trust controlled by our President, Chief Executive Officer and Chairman of the Board, and $0.3 million in net borrowings under the SVB Credit Agreement, partially offset by $0.3 million in payments of outstanding debt.

Net cash provided by financing activities for the year ended December 30, 2017 was primarily the result of net proceeds of $4.4 million from the 2017 Offering, net proceeds of $2.8 million from the ATM Program, net proceeds of $1.3 million from borrowings under our line of credit with SVB, and net proceeds of $0.2 million from cash exercises of equity awards, partially offset by $0.4 million in payments on debt.

Capital Resources

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

2018 Offering

On September 12, 2018, we entered into a Securities Purchase Agreement with certain investors, pursuant to which we issued and sold to the investors in the 2018 Offering an aggregate of 22,222,220 shares of our common stock and warrants to purchase up to an aggregate of 11,111,110 shares of our common stock at a per share purchase price of $0.45 per share. The 2018 Offering closed on September 14, 2018. The net proceeds to us from the 2018 Offering were $9.2 million, after deducting placement agent fees and offering costs paid by us.

Iliad Note

On August 27, 2018, we entered into the Iliad Purchase Agreement with Iliad, pursuant to which we issued a $2.3 million Iliad Note with an original debt discount of $0.2 million. The Iliad Note bears interest at an annual rate of 8% and matures on August 27, 2020, unless earlier repurchased, redeemed or converted in accordance with its terms.

Share Purchase Agreement

On May 17, 2018, we entered into a Board approved arm’s length Share Purchase Agreement with a trust controlled by C.K. Hong, our President, Chief Executive Officer and Chairman of the Board, pursuant to which we sold to the trust 5,405,405 shares of our common stock at a price per share of $0.148 (the closing price of our common stock as of the signing of the agreement). The net proceeds received by us were $0.8 million.

2017 ATM Program

In November 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 $9.0 million, from time to time, through an “at-the-market” equity offering program under which the Agent will act as sales agent (the “ATM Program”). On August 29, 2018, we completed the offering under the ATM Program after raising net proceeds of $8.6 million through the sale of 40,680,368 shares of our common stock.

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 Agreemen **t***

On May 3, 2017, we entered into a funding agreement (the “TRGP Agreement”), which generally provided that TRGP will directly fund the costs incurred by us or on our behalf in connection with our first ITC action and our U.S. district court proceedings against SK hynix. For the years ended December 29, 2018 and December 30, 2017, TRGP directly paid $1.7 million and $10.2 million on our behalf incurred in connection with these proceedings.

SVB Credit Agreement

On October 31, 2009, we entered into a SVB Credit Agreement, which provides us with the borrowing of up to the lesser of 85% of eligible accounts receivable (increased from 80% as of August 29, 2018) or $5.0 million, subject to certain adjustments as set forth in the SVB Credit Agreement. The borrowings under the SVB Credit Agreement bear interest at the Wall Street Journal “prime rate” plus 2.75% per annum. Pursuant to the amendment dated March 20, 2018, the maturity date was extended to March 31, 2019. On March 21, 2019, the SVB Credit Agreement was amended further to extend the maturity date to March 30, 2020.

As of December 29, 2018 and December 30, 2017, the outstanding borrowings under the SVB Credit Agreement were $2.3 million and $2.0 million, respectively, with additional borrowing availability of $0.2 million and $0.1 million, respectively. During the years ended December 29, 2018 and December 30, 2017, we made net borrowings of $0.3 million and $1.3 million, respectively, under the SVB Credit Agreement.

SVIC Note

On November 18, 2015, we issued the SVIC Note, which 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. Partial proceeds from the SVIC Note were used to repay a former loan from a different lender.

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; our levels of net product sales 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 rely in the near term on our existing cash balance, cash provided by our operations 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. We may not be able to obtain capital when needed, 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 7A. Quantitative and Qualitative Disclosures About Market Risk

Not applicable.

Item 8. Financial Statements and Supplementary Dat a

The information required by this item is incorporated herein by reference to our consolidated financial statements included in Item 15. Exhibit and Financial Statements Schedules beginning on page F-2.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosur e

None.

Item 9A. Controls and Procedure s

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed by us in reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and 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.

Our management conducted an evaluation, with the participation of our principal executive officer and principal financial officer, of the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. Based on this evaluation, our principal executive officer and our principal financial officer concluded that our disclosure controls and procedures were effective as of December 29, 2018.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting for our Company, as such term is defined in Rule 13a-15(f) under the Exchange Act. Our management conducted an evaluation, with the participation of our principal executive officer and principal financial officer, of the effectiveness of our internal control over financial reporting as of December 29, 2018, based on the criteria set forth in the *2013 Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, our management concluded that our internal control over financial reporting was effective as of December 29, 2018.

This report does not include an attestation report of our independent registered public accounting firm regarding our internal control over financial reporting, in accordance with applicable SEC rules that permit us to provide only management's report in this report.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting during the most recently completed fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Disclosure Controls and Procedures and Internal Control Over Financial Reporting

In designing our disclosure controls and procedures and internal control over financial reporting, management recognizes that any control system, no matter how well-designed and operated, can provide only reasonable, not absolute, assurance of achieving the desired control objectives. Further, the design of our controls and procedures must reflect the fact that there are resource constraints, and management necessarily applies its judgment in evaluating the benefits of possible controls and procedures relative to their costs. Because of the inherent limitations, our disclosure and internal controls may not prevent or detect all instances of fraud, misstatements or other control issues, and our evaluations of disclosure and internal controls cannot provide assurance that all such control issues have been detected.

In addition, projections of any evaluation of the effectiveness of disclosure or internal controls to future periods are subject to risks, including, among others, that controls may become inadequate because of changes in conditions or that compliance with policies or procedures may deteriorate.

Item 9B. Other Informatio n

On March 21, 2019, we and SVB entered into an amendment to the SVB Credit Agreement to modify certain terms of the SVB Credit Agreement, in order to (i) extend the maturity date of advances under the SVB Credit Agreement from March 31, 2019 to March 30, 2020 and (ii) delete inventory reporting requirements under the SVB Credit Agreement.

PART II I

Item 10. Directors, Executive Officers and Corporate Governanc e

Each member of our Board of Directors (referred to as our "Board" or "Board of Directors") is elected annually at a meeting of our stockholders and serves for a one-year term until the next annual meeting of our stockholders and until his or her successor is elected and qualified, or until an earlier resignation or removal. Each of our executive officers is appointed by, and serves at the direction of, our Board, subject to the terms of our employment agreement with our President and Chief Executive Officer, which is described under "Employment Agreements" in Item 11 of this Form 10-K, and which establishes, among other things, such executive officer's term of office.

The table and narrative below provide, for our current directors and executive officers, each such individual's name; age as of March 15, 2019; current position(s) with our Company; tenure in such position(s); information about such individual's business experience and qualifications, including principal occupation or employment and principal business of the employer, if any, for at least the past five years, and involvement in certain legal or administrative proceedings, if any; and, for each of our directors, other public company director positions held currently or at any time in the last five years and the experiences, qualifications, attributes and skills that led to the conclusion that such individual should serve as a director of our Company. Additionally, for each of our directors, and in addition to each such individual's specific qualifications and skills described below, we believe each such individual brings a strong and unique background and set of skills to our Board of Directors, which gives our Board competence and experience in a wide variety of areas, including corporate governance and board service, executive management, financial reporting, law and regulation, the memory systems market, the semi-conductor industry, licensing, and worldwide customer and manufacturer management. There is no arrangement or understanding between any director or executive officer and any other person(s) pursuant to which such director or executive officer was or is to be selected as a director or executive officer of our Company, and there are no family relationships between any of our directors or executive officers.

Name	Age	Position(s)
Chun K. Hong	58	President, Chief Executive Officer and Chairman of the Board
Jun S. Cho	59	Lead Independent Director
Kiho Choi	63	Director
Blake A. Welcher	57	Director
Gail Sasaki	62	Vice President, Chief Financial Officer and Secretary

Chun K. Hong is one of the founders of Netlist and has been our President and Chief Executive Officer and a director since our inception in June 2000. Mr. Hong assumed the title of Chairman of the Board of Directors in January 2004. Prior to his tenure at Netlist, Mr. Hong has served in various other executive positions including President and Chief Operating Officer of Infinilink Corporation, a DSL equipment company, as Executive Vice President of Viking Components, Inc., a memory subsystems manufacturing company, and as General Manager of Sales at LG Semicon Co., Ltd., a public semiconductor manufacturing company in South Korea. Mr. Hong received his Bachelor of Science degree in economics from Virginia Commonwealth University and his Master of Science degree in technology management from Pepperdine University's Graduate School of Management. As one of our founders and as our Chief Executive Officer, Mr. Hong brings to the Board extensive knowledge of our organization and our market.

Jun S. Cho joined the Netlist Board in November 2014 and became the Lead Independent Director of the Board in December 2017. Mr. Cho currently serves as General Counsel to Fiat Chrysler Automobiles ("FCA") Asia Pacific and Vice President and Assistant General Counsel to FCA US LLC (formerly, Chrysler Group LLC), a global automobile company. Mr. Cho has more than 19 years of experience as legal counsel for the FCA and over 12 years of experience in the Asia Pacific region leading FCA's initiatives in technology licensing, product distribution, M&A transactions and joint ventures, from his bases in Beijing and Shanghai. Prior to FCA, Mr. Cho specialized in international financing and corporate transactions working for global-reaching law firms including Debevoise & Plimpton in New York, Kim & Chang in Seoul, Korea and Arnold & Porter in Washington D.C. Mr. Cho holds a Juris Doctorate degree from the New York University School of Law and is admitted to the bar in the state of New York and in Washington D.C. He received his undergraduate degree in economics from the College of William and Mary. Mr. Cho brings to Netlist's Board of Directors his considerable legal background and extensive experience with complex organizations and transactions.

Kiho Choi joined the Netlist Board in May 2017. In 2005, Mr. Choi established CKP, LLP (formerly, Choi, Kim & Park, LLP), the largest Korean American full service CPA firm in the United States, and is currently the Managing Partner of the firm. In this role, Mr. Choi is responsible for directing the publicly-held and international company audit service and management and financing consulting practices of the firm. Mr. Choi also currently serves on the Board of Directors of Hanmi Financial Corporation and Hanmi Bank. Mr. Choi began his public accounting career in 1989 in the Assurance and Consulting Division of Watkins, Meegan, Drury & Co, LLC in Washington D.C., a full service regional accounting and consulting firm specializing in government, financial institutions, and non-profit organizations. As a director in-charge of the resolution services division, Mr. Choi had responsibility for auditing banks and government contractors and worked closely with Resolution Trust Corporation and Federal Deposit Insurance Corporation. In 1995, Mr. Choi joined Kim & Lee, LLP, a Korean-American CPA firm, as a partner responsible for the firm's audit and consulting practice. Mr. Choi is a graduate of the University of Illinois, at Chicago, receiving both a Bachelor and Master of Science degrees in Accounting. Mr. Choi brings to Netlist's Board of Directors his significant accounting and financial expertise, as well as his extensive senior management experience.

Blake A. Welcher joined the Netlist Board in August 2013. Mr. Welcher currently serves as General Counsel for PSI Services LLC, an assessment and testing development and administration company. Mr. Welcher served as Executive Vice President, General Counsel and Corporate Secretary of DTS, Inc. ("DTS"), a consumer electronics company, until December 2016, when DTS was sold to Tessera Technologies. Mr. Welcher had been a member of the DTS executive team since March 2000. As General Counsel at DTS, he managed the licensing operations and was instrumental in building key assets that have led to DTS' success. Mr. Welcher led DTS' legal licensing functions, collaborated with key partners and worked to establish DTS as a global name in consumer electronics. Mr. Welcher holds a bachelor's degree in Aeronautical Engineering from California Polytechnic State University at San Luis Obispo, a Juris Doctorate and Masters of Intellectual Property degree from Franklin Pierce Law Center (University of New Hampshire School of Law) and is a U.S. licensed Patent Attorney. Mr. Welcher brings more than 20 years of industry experience to Netlist's Board of Directors with his extensive background in worldwide licensing operations, corporate governance, risk management, intellectual property and legal affairs.

Gail Sasaki has been our Vice President and Chief Financial Officer since January 2008 and our Secretary since August 2007. From 2006 to January 2008, Ms. Sasaki served as our Vice President of Finance. Prior to her tenure at Netlist, Ms. Sasaki served in various senior financial roles, including Chief Financial Officer of eMaiMai, Inc., a commercial technology company based in Hong Kong and mainland China; Chief Financial Officer, Senior Vice President of Finance, Secretary and Treasurer of eMotion, Inc. (a Kodak subsidiary and formerly Cinebase Software), a developer of business-to-business media management software and services, and Chief Financial Officer of MicroNet Technology, Inc., a leader in storage technology. Ms. Sasaki also spent seven years in public accounting leaving as an audit manager with Arthur Young (now known as Ernst &Young LLP). Ms. Sasaki earned a Bachelor's degree from the University of California at Los Angeles, and also earned a Master of Business Administration degree from the University of Southern California.

Board Committees

Our Board has established a standing Audit Committee, Compensation Committee, and Nominating and Corporate Governance Committee, each of which is described below and operates pursuant to a written charter adopted by our Board and available on our website (www.netlist.com). The table below shows the membership of these committees during our fiscal year ended December 29, 2018 ("Fiscal 2018") and our current fiscal year ending December 28, 2019 ("Fiscal 2019") to date. Our Board may also create additional committees from time to time, including committees relating to pending litigation proceedings or other significant corporate matters or committees to approve financing or other strategic transactions.

Name	Audit(1)	Compensation(2)	Nominating and Corporate Governance(3)
Jun S. Cho	•		•
Kiho Choi (4)	Chair	•	
Blake A. Welcher	•	Chair	Chair

(1) Mr. Choi has served as the Chair of this committee at all times during Fiscal 2018 and Fiscal 2019 to date; Mr. Cho has served as a member of this committee since August 2018; and Mr. Welcher has served as a member of this committee at all times during Fiscal 2018 and Fiscal 2019 to date. In addition, the membership

of this committee previously included our former director, Mr. Jeffrey Benck, who served on our Board and this committee during Fiscal 2018 until the end of his term in August 2018.

(2) Mr. Welcher has served as the Chair of this committee since August 2018; Mr. Choi has served as a member of this committee at all times during Fiscal 2018 and Fiscal 2019 to date. In addition, the membership of this committee previously included Mr. Cho, who served on this committee during Fiscal 2018 until August 2018.

(3) Messrs. Welcher (Chair) and Cho have served on this committee at all times during Fiscal 2018 and Fiscal 2019 to date.

(4) Our Board has determined that Mr. Choi qualifies as an "audit committee financial expert" in accordance with applicable SEC rules.

Audit Committee

The primary functions of our Audit Committee are, among other things, to:

- oversee our financial reporting process, including discussing with our independent registered public accounting firm the scope and plans for all annual audits and discussing with management and our independent registered public accounting firm the adequacy and effectiveness of our accounting and financial controls, systems to monitor and manage business risk, and legal and ethical compliance programs;
- review with management and our independent registered public accounting firm all of our audited and interim financial statements;
- review and approve in advance any transactions by us with related parties;
- appoint, terminate, replace, ensure the independence of and oversee our independent registered public accounting firm;
- pre-approve all audit services and, subject to a "de minimus" exception, all permissible non-audit services to be performed by the independent registered public accounting firm;
- be responsible for setting the corporate tone for quality financial reporting and sound business risk practices and ethical behavior; and
- establish procedures for the confidential and anonymous submission, receipt, retention and treatment of concerns or complaints regarding accounting, internal accounting controls and auditing matters.

Compensation Committee

The primary functions of our Compensation Committee are, among other things, to:

- review and approve, or make recommendations to the Board regarding, our programs and arrangements for our Section 16 executive officers, including salary, incentive compensation, equity compensation and perquisite programs;
- review the evaluation process and compensation structure for our non-Section 16 executive officers;
- assist the Board in developing and evaluating potential candidates for executive positions and oversee the development of executive succession plans; and
- review and act as administrator of our incentive compensation and other stock-based plans.

Nominating and Corporate Governance Committee

The primary functions of our Nominating and Corporate Governance Committee are, among other things, to:

- lead the search for individuals qualified to become members of the Board and select director nominees to be presented at our annual meetings of stockholders;
- review the standards to be applied by the Board in making determinations as to whether a director satisfies applicable independence requirements;
- review the Board's structure and the Board's committee structure and make recommendations as appropriate, including recommending to the Board the directors to serve as members of each Board committee;
- conduct an annual performance evaluation of the Board and its committees;
- advise the Board on candidates for the positions of Chairman of the Board, Lead Independent Director, Chief Executive Officer and other executive officer positions;
- develop, recommend to the Board and review a set of corporate governance guidelines and a code of business conduct and ethics; and
- review changes in legislation, regulations and other developments impacting corporate governance and make recommendations to the Board with respect to these matters and corporate governance matters generally.

Code of Business Conduct and Ethics

Our Board has adopted a Code of Business Conduct and Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, as well as all of our other executive officers and employees and all of our directors. Shareholders may download a free copy of our Code of Business Conduct and Ethics from our website (www.netlist.com). We intend to disclose on our website any amendments to or waivers from this code by posting the relevant material on our website (www.netlist.com) in accordance with SEC rules.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires our executive officers and directors and persons who beneficially own more than 10% of our common stock to file with the SEC reports of ownership on Form 3 and changes in ownership on Forms 4 or 5. These executive officers, directors and 10% beneficial owners are also required by SEC rules to furnish us with copies of all such reports they file. To our knowledge, based solely on our review of the copies of such reports received by us or written representations from persons subject to Section 16(a) of the Exchange Act, we believe our executive officers, directors and 10% beneficial owners complied with all applicable Section 16(a) filing requirements in Fiscal 2018.

Item 11. Executive Compensatio n

Executive Compensation

The table below provides information about the compensation awarded to, earned by or paid to each of the following individuals, which we refer to collectively as our "named executive officers," for Fiscal 2018 and our fiscal year ended December 30, 2017 ("Fiscal 2017"): each person serving at any time during Fiscal 2018 as our principal executive officer (our President and Chief Executive Officer, Mr. Hong); and our only other executive officer serving as such at any time during Fiscal 2018 (our Vice President, Chief Financial Officer and Secretary, Ms. Sasaki).

Summary Compensation Table

Name and Principal Position	**Fiscal Year**	**Salary($)**	**Stock Option Awards($) (1)**	**Restricted Stock Awards($) (2)**	**All Other Compensation($) (3)**	**Total($)**
Chun K. Hong	2018	323,000	—	75,780	47,328	446,108
President and Chief Executive Officer	2017	323,000	224,412	—	52,899	600,311
Gail Sasaki	2018	200,000	—	18,945	1,385	220,330
Vice President, Chief Financial Officer and Secretary	2017	200,000	56,103	—	5,382	261,485

(1) Represents the grant date fair value of awards granted in the applicable fiscal year, measured in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, Compensation—Stock Compensation ("ASC 718"). The assumptions used in the calculations for these amounts are described in Note 2—Summary of Significant Accounting Policies—Stock-Based Compensation and Note 9—Stockholders' Equity—Stock-Based Compensation to our consolidated financial statements included in this Form 10-K. The material terms of each stock option award granted in Fiscal 2018 and Fiscal 2017 are described below under "Outstanding Equity Awards at Fiscal Year End."

(2) Represents the grant date fair value of the restricted stock awards granted during the year calculated in accordance with ASC 718. The grant date fair value was determined using the fair value of the underlying shares of our common stock.

(3) For Fiscal 2018, the amount consists of (a) for Mr. Hong, $15,816 for automobile rental payments, $3,554 for other vehicle-related costs, $21,302 for a country club membership, $2,482 for a health club membership, and $4,174 for income tax and estate planning costs incurred on Mr. Hong's behalf, and (b) for Ms. Sasaki, the amount of our matching contributions under our savings plan qualified under Section 401(k) of the Internal Revenue Code (the "Code"). For Fiscal 2017, the amount consists of (a) for Mr. Hong, $12,317 for automobile rental payments, $6,479 for other vehicle-related costs, $20,927 for a country club membership, $7,411 for a health club membership, and $5,765 for income tax and estate planning costs incurred on Mr. Hong's behalf, and (b) for Ms. Sasaki, the amount of our matching contributions under our savings plan qualified under Section 401(k) of the Code.

Employment Agreements

We entered into an employment agreement with our President and Chief Executive Officer, Mr. Hong, in September 2006. This agreement provides for an initial base salary of $323,000 plus other specified benefits, including the reimbursement of professional fees and expenses incurred in connection with income and estate tax planning and preparation, income tax audits and the defense of income tax claims; the reimbursement of membership fees and expenses for professional organizations and one country club; the reimbursement of employment-related legal fees; automobile rental payments and other vehicle-related expenses; and the reimbursement of health club membership fees and other similar health-related expenses. Mr. Hong may earn annual cash performance bonuses, at the discretion of our Compensation Committee or our Board, of up to 100% of his base salary based upon the achievement of individual and Company performance objectives.

Mr. Hong's employment agreement automatically renews for additional one-year periods unless we provide or Mr. Hong provides notice of termination six months prior to the renewal date, but at all times Mr. Hong may terminate his employment upon six months' advance written notice to us and we may terminate Mr. Hong's employment upon 30 days' advance written notice to Mr. Hong. If we terminate Mr. Hong's employment without cause or if he resigns from his employment for good reason, which includes a termination or resignation upon a change of control of our Company, Mr. Hong would be entitled to receive continued payments of his base salary for one year, reimbursement of medical insurance premiums during that period unless he becomes employed elsewhere, a pro-rated portion of his annual performance bonus, and, if any severance payment is deemed to be an "excess parachute payment" within the meaning of Section 280G of the Code, an amount equal to any excise tax imposed under Section 4999 of the Code. In addition, upon any such termination or resignation, any unvested stock options held by Mr. Hong would immediately become fully vested and exercisable as of the effective date of the termination or resignation. If Mr. Hong's employment is terminated due to death or disability, he or his estate would receive a lump-sum payment equal to half of his annual base salary and any stock options held by Mr. Hong would vest to the same extent as they would have vested one year thereafter. Additionally, if Mr. Hong's employment is terminated due to death or disability, 25% of the shares subject to outstanding stock options, or such lesser amount as is then unvested, would immediately vest and become exercisable. If Mr. Hong resigns without good reason or is terminated for cause, we would have no further obligation to him other than to pay his base salary or other amounts earned by him through the date of resignation or termination.

For purposes of Mr. Hong's employment agreement:

- "cause" means a reasonable determination by the Board, acting in good faith based upon actual knowledge at the time, that Mr. Hong has (i) materially breached the terms of his employment agreement, or any other material agreement between us and Mr. Hong, including an arbitration agreement and a proprietary information and invention assignment agreement, (ii) committed gross negligence or engaged in serious misconduct in the execution of his assigned duties, (iii) been convicted of a felony or other serious crime involving moral turpitude, (iv) materially refused to perform any lawful duty or responsibility consistent with Mr. Hong's position with our Company, or (v) materially breached his fiduciary duty or his duty of loyalty to our Company;

- "good reason" means (i) the assignment to Mr. Hong, without his consent, of duties inconsistent with his position so as to constitute a diminution of status with our Company, including an assignment of Mr. Hong to a position other than President and Chief Executive Officer of our Company, (ii) our reduction of Mr. Hong's base salary as in effect at any time without Mr. Hong's consent, other than a decrease of up to (and including) 10% in connection with an adverse change in the business operations or financial condition of our Company, (iii) the occurrence of a change of control, or (iv) a requirement that Mr. Hong relocate (or report on a regular basis) to an office outside of Orange County without his consent; and

- a "change of control" means the occurrence of any of the following: (i) any person or entity is or becomes the beneficial owner (within the meaning of Rule 13d-3 under the Exchange Act), directly or indirectly, of securities of our Company representing a percentage of the combined voting power of our then-outstanding securities that is greater than 50%, (ii) the following individuals cease for any reason to constitute a majority of the number of directors then serving: individuals who, on the date of Mr. Hong's employment agreement, constituted our Board and any new director (other than a director whose initial assumption of office is in connection with an actual or threatened election contest, including but not limited to a consent solicitation, relating to the election of directors of our Company) whose appointment or election by the Board or nomination for election by our stockholders is approved or recommended by a vote of at least two-thirds of the directors then still in office who either were directors on the date of Mr. Hong's employment agreement or whose appointment, election or nomination for election was previously so approved or recommended; (iii) there is consummated a merger or consolidation of our Company in which our Company does not survive or our Company survives but the shares of our common stock outstanding immediately prior to such merger or consolidation represent 50% or less of the voting power of our Company after such merger or consolidation; or (iv) our stockholders approve a plan of our complete liquidation or dissolution or there is consummated an agreement for our sale or disposition of all or substantially all of our assets, other than a sale or disposition of all or substantially all of our assets to an entity, at least 50% of the combined voting power of the voting securities of which are owned by our stockholders in substantially the same proportions as their ownership of our Company immediately prior to such sale.

We have not entered into an employment agreement with Ms. Sasaki, our Vice President, Chief Financial Officer and Secretary. For Fiscal 2018 and Fiscal 2017, Ms. Sasaki received an annualized base salary of $200,000. If

Ms. Sasaki's employment is terminated due to death or disability, any stock options held by Ms. Sasaki would vest to the same extent as they would have vested one year thereafter. Additionally, if Ms. Sasaki's employment is terminated due to death or disability, 25% of the shares subject to outstanding stock options, or such lesser amount as is then unvested, would immediately vest and no additional shares would vest thereafter. Ms. Sasaki is eligible for a target cash bonus of 75% of her base salary, which is to be determined by our Board in its discretion based on various factors.

Cash Bonuses

No cash bonuses were paid to either Mr. Hong or Ms. Sasaki for Fiscal 2018 and Fiscal 2017.

Retirement Benefits

We maintain a savings plan that qualifies as a defined contribution plan under Section 401(k) of the Code, to which all of our employees, including our named executive officers, are able to contribute up to the limit prescribed by applicable tax rules on a before-tax basis. All of these employee contributions are fully-vested upon contribution. In addition, we may make matching contributions on the contributions of our employees on a discretionary basis, and during Fiscal 2018 and Fiscal 2017, we made matching contributions equal to 50% of the first 6% of pay that was contributed by employees, including our named executive officers, to the plan. Effective for pay periods beginning April 15, 2018, we no longer make these matching contributions.

Outstanding Equity Awards at Fiscal Year End

The following table shows information about the equity awards held by our named executive officers as of the end of Fiscal 2018:

		Option Awards				Stock Awards	
Name	**Grant Date**	**Number of Securities Underlying Unexercised Options Exercisable(#)(1)**	**Number of Securities Underlying Unexercised Options Unexercisable(#)(1)**	**Option Exercise Price($)**	**Option Expiration Date**	**Number of Shares That Have Not Vested(#)(2)**	**Market Value of Shares That Have Not Vested($)(2)**
Chun K. Hong	6/10/2009	50,000	—	0.33	6/10/2019	—	—
	3/17/2011	300,000	—	2.21	3/17/2021	—	—
	2/27/2012	300,000	—	3.59	2/27/2022	—	—
	2/11/2013	300,000	—	0.71	2/11/2023	—	—
	2/21/2014	300,000	—	2.05	2/21/2024	—	—
	1/6/2015	281,250	18,750	0.84	1/6/2025	—	—
	1/8/2016	206,250	93,750	0.70	1/18/2026	—	—
	2/14/2017	131,250	168,750	1.02	2/14/2027	—	—
	4/13/2018	—	—	—	—	300,000	75,780
Gail Sasaki	6/10/2009	18,750	—	0.33	6/10/2019	—	—
	3/17/2011	75,000	—	2.21	3/17/2021	—	—
	2/27/2012	75,000	—	3.59	2/27/2022	—	—
	2/11/2013	75,000	—	0.71	2/11/2023	—	—
	2/21/2014	75,000	—	2.05	2/21/2024	—	—
	1/6/2015	70,312	4,688	0.84	1/6/2025	—	—
	1/18/2016	51,562	23,438	0.70	1/18/2026	—	—
	2/14/2017	32,812	42,188	1.02	2/14/2027	—	—
	4/13/2018	—	—	—	—	75,000	18,945

(1) Represents stock option awards granted under the Netlist, Inc. Amended and Restated 2006 Equity Incentive Plan (the "Equity Plan"). These stock option awards that are not fully exercisable vest in 16 equal quarterly

installments, subject to continued service on each vesting date, subject to accelerated vesting in certain circumstances as described under "Employment Agreements" above.

(2) Represents restricted stock awards granted under the Equity Plan. Restrictions on shares lapse equally on the first and second anniversaries of their grant date.

Director Compensation

Non-Employee Director Compensation

Our non-employee directors receive annual cash compensation of $30,000, which is paid in four equal quarterly installments, and additional cash payments of $1,000 for each regularly scheduled Board meeting and each Board committee meeting not held on the same day as a Board meeting that is attended by the director. The Lead Independent Director and the Chair of our Audit Committee each receive additional cash compensation of $5,000 per year. All of our directors, including our non-employee directors, are also reimbursed for their reasonable out-of-pocket expenses incurred in attending Board and Board committee meetings.

In addition, each of our non-employee directors is granted a stock option award to purchase up to 25,000 shares of our common stock upon his or her initial appointment or election to the Board, and a stock option award to purchase up to 20,000 shares of our common stock each year in which he or she continues to serve as a director. For awards granted to non-employee directors before Fiscal 2017, all stock options vest in 16 equal quarterly installments, and for awards granted to non-employee directors in Fiscal 2017 and thereafter, all stock options vest in one installment on the, earlier of, the one-year anniversary of the award or the day prior to the next annual shareholders meeting, in all cases subject to continued service on each vesting date. All stock option awards granted to non-employee directors are granted under our equity compensation plans then in effect and have an exercise price equal to the fair market value of our common stock on the grant date of the award.

Directors who are our employees receive no additional compensation for their service as directors.

Director Compensation Table

The following table shows the compensation of our non-employee directors for Fiscal 2018. Mr. Hong, our President and Chief Executive Officer, is not included in this table because he is an employee of our Company and receives no additional compensation for his service as a director. The compensation received by Mr. Hong as an employee of our Company is described in this Item 11 above.

Name	Fees Earned or Paid in Cash($)	Option Awards($)(1)	Total($)
Jeff Benck (3)	23,750	—	23,750
Jun S. Cho	40,004	1,987(2)	41,991
Kiho Choi	43,004	1,987(2)	44,991
Blake A. Welcher	39,000	1,987(2)	40,987

(1) Represents the grant date fair value of stock option awards granted in Fiscal 2018, measured in accordance with ASC Topic 718. The assumptions used in the calculations for these amounts are described in Note 2—Summary of Significant Accounting Policies—Stock-Based Compensation and Note 9—Stockholders' Equity—Stock-Based Compensation to our consolidated financial statements included in this Form 10-K. At the end of Fiscal 2018, each individual named in the table held stock options to purchase the following number of shares of our common stock: (i) Mr. Cho, 105,000; (ii) Mr. Choi, 45,000; and (iii) Mr. Welcher, 125,000.

(2) Represents a stock option award granted on August 20, 2018 to purchase 20,000 shares of our common stock at an exercise price of $0.12 per share, which will vest and become fully exercisable on August 20, 2019.

(3) Mr. Benck’s term of services as a director expired on August 15, 2018. As a result, Mr. Benck’s outstanding and unvested stock options as of such date, relating to 12,500 shares of our common stock, were forfeited upon his resignation, and Mr. Benck’s outstanding and vested stock options as of such date, relating to 32,500 shares of our common stock, were forfeited on November 13, 2018 because these stock options were not exercised on or before such date.

Equity Compensation Plans

We currently maintain one equity incentive plan, the Equity Plan. The Equity Plan initially became effective in 2006, was amended and restated in 2010, 2016 and 2019. Our Board and, when required, our stockholders have previously approved the Equity Plan, including all amendments and restatements of such plan. The terms of the Equity Plan are summarized below.

Share Reserve and Share Limits

Each January 1, the number of shares reserved for issuance under the Equity Plan will continue to be automatically increased by the lesser of (i) 2.5% of the shares then issued and outstanding, or (ii) 1,200,000 shares. As of March 15, 2019, there were 13,805,566 total shares reserved for issuance under the Equity Plan, including 8,949,383 shares subject to outstanding equity awards granted under this plan.

Any shares subject to an award or portion of an award which is forfeited, canceled or expires shall be deemed not to have been issued for purposes of determining the maximum aggregate number of shares which may be issued under the Equity Plan. Shares that have been issued under the Equity Plan pursuant to an award generally shall not be returned to the reserve under the Equity Plan and shall not become available for future issuance under the Equity Plan, except that if unvested shares are forfeited, or repurchased by us at the lower of their original purchase price or their fair market value at the time of repurchase, such shares shall become available for future grant under the Equity Plan. Shares tendered or withheld in payment of an option exercise price shall not be returned to or become available for future issuance under the Equity Plan.

The maximum number of shares with respect to which options and stock appreciation rights may be granted to a participant during a calendar year is 1,000,000 shares (with an additional 1,000,000 shares of stock in connection with the participant’s initial employment). For awards of restricted stock, restricted stock units, and performance units that are intended to be performance-based compensation under Section 162(m) of the Code, the maximum number of shares granted to a participant during a calendar year is 1,000,000 shares.

Administration

The Equity Plan is administered, with respect to grants of awards to employees, directors, officers, and consultants, by the administrator, which is defined as the Board or one or more committees designated by the Board. With respect to grants to officers and directors, the committee shall be constituted in such a manner as to satisfy applicable laws, including Rule 16b-3 under the Exchange Act and Section 162(m) of the Code. The Equity Plan is administered by the Compensation Committee of our Board, the composition of which satisfies such tax and SEC rules, subject to such committee’s delegation to management to grant awards to certain eligible persons of up to 25,000 shares.

Eligibility

Persons eligible to receive awards under the Equity Plan include directors, officers and other employees of and consultants and advisors to our Company or any of our subsidiaries. As of December 29, 2018, approximately 70 officers and other employees of our Company and our subsidiaries (including all of the named executive officers) and each of our four non-employee directors are eligible to receive awards under the Equity Plan.

Vesting

Although the Equity Plan provides the administrator with the discretion to determine the vesting schedule of any awards granted under the plan, stock option awards granted to employees under the Equity Plan typically vest over four years in either 16 equal quarterly installments or one installment of 25% of the shares subject to the award on the one-year anniversary of the grant date and 12 equal quarterly installments thereafter, subject to continued service on each vesting date.

Adjustments Upon Corporate Transactions

The Equity Plan provides that, in the event of an "acquisition," as defined in the Equity Plan, the administrator may provide for the termination of outstanding awards under the Equity Plan, unless awards are assumed or replaced by the successor entity in the acquisition. Except as provided in an individual award agreement, for the portion of each award that is not assumed or replaced by the successor entity, such portion of the award may be vested and become exercisable in full or be released from any repurchase or forfeiture rights before the effective date of the acquisition, provided that the participant's continuous service has not terminated before such date.

Amendment, Suspension and Termination

The Equity Plan will be for a term of 10 years from its 2016 amendment and restatement, unless sooner terminated by the Board. The Board may at any time amend, suspend or terminate the Equity Plan, subject to obtaining stockholder approval for any amendment to the extent necessary to comply with applicable laws and rules .

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matter s

Security Ownership of Certain Beneficial Owners and Management

The table below sets forth information regarding the ownership of our common stock, as of March 15 2019 (the "Table Date") unless otherwise indicated in the footnotes to the table, by (i) all persons known by us to beneficially own more than 5% of our common stock, (ii) each of our current directors, (iii) each of our named executive officers, and (iv) all of our directors and executive officers as a group. Unless otherwise indicated, each person named below possesses sole voting and investment power over all shares of common stock shown as beneficially owned by such person. Unless otherwise indicated, the address for each person named below is c/o Netlist, Inc., 175 Technology Drive, Suite 150, Irvine, CA 92618.

Name of Beneficial Owner	Shares Beneficially Owned	Percent of Class(1)
Chun K. Hong (2)	12,206,276	8.6%
Gail Sasaki (3)	581,249	*
Jun S. Cho (4)	276,750	*
Kiho Choi (5)	25,000	*
Blake A. Welcher (6)	101,250	*
All executive officers and directors as a group (5 persons) (7)	13,190,525	9.2%

* Represents beneficial ownership of less than 1%.

(1) All ownership percentages are based on 140,020,665 shares of our common stock outstanding as of the Table Date.

(2) Represents (i) 1,962,500 shares of common stock issuable upon the exercise of stock options that are or will be vested and exercisable within 60 days after the Table Date, (ii) 9,943,776 outstanding shares of common stock, of which 9,858,208 shares are held by Mr. Hong and his wife, Won K. Cha, as co-trustees of the Hong-Cha Community Property Trust. Mr. Hong and Ms. Cha possess shared voting and investment power over the shares of common stock held by the Hong-Cha Community Property Trust, and each disclaims beneficial ownership of such shares except to the extent of his or her pecuniary interest therein, and (iii) 300,000 shares of restricted

stock that are forfeitable until vested (restrictions on the shares of restricted stock lapse equally on April 12, 2019 and April 12, 2020).

(3) Represents 496,874 shares of common stock issuable upon the exercise of stock options that are or will be vested and exercisable within 60 days after the Table Date, 9,375 outstanding shares of common stock and 75,000 shares of restricted stock that are forfeitable until vested (restrictions on the shares of restricted stock lapse equally on April 12, 2019 and April 12, 2020).

(4) Represents 81,250 shares of common stock issuable upon the exercise of stock options that are or will be vested and exercisable within 60 days after the Table Date, 276,750 outstanding shares of common stock, of which 175,500 are held in 401(k) and other investment accounts.

(5) Represents 25,000 shares of common stock issuable upon the exercise of stock options that are vested and exercisable within 60 days after the Table Date.

(6) Represents 101,250 shares of common stock issuable upon the exercise of stock options that are or will be vested and exercisable within 60 days after the Table Date.

(7) Represents 2,666,874 shares of common stock issuable upon the exercise of stock options that are or will be vested and exercisable within 60 days after the Table Date, 10,148,651 outstanding shares of common stock, and 375,000 shares of restricted stock.

Securities Authorized for Issuance under Equity Compensation Plans

The following table provides information as of December 29, 2018 about compensation plans under which our equity securities are authorized for issuance:

	Equity Compensation Plan Information		
Plan Category	**Number of securities to be issued upon exercise of outstanding options, warrants and rights**	**Weighted-average exercise price of outstanding options, warrants and rights($)**	**Number of securities remaining available for future equity compensation plans**
Equity compensation plans approved by security holders	7,086,086(1)	1.32	2,811,339(1)
Equity compensation plans not approved by security holders	1,100,000(2)	0.39	—
Total	8,186,086	1.18	2,811,339

(1) Subject to certain adjustments, as of December 29, 2018, we were authorized to issue a maximum of 12,605,566 shares of our common stock pursuant to awards granted under the Equity Plan.

(2) Consists of 1,100,000 stock option awards outstanding as of December 29, 2018.

Item 13. Certain Relationships and Related Transactions, and Director Independenc e

Related Party Transactions

Except as described below and except for employment arrangements and compensation for Board service, which are described in Item 11 above, since January 3, 2016, there has not been, nor is there currently proposed, any transaction or series of transactions in which our Company was or is to be a participant, in which the amount involved exceeds the lesser of $120,000 or 1% of the average of our total assets at year-end for our last two completed fiscal years, and in which any director, officer or beneficial owner of more than 5% of our common stock, or member of any such person's immediate family, had or will have a direct or indirect material interest.

On May 21, 2018, a trust controlled by Chun K. Hong, our President, Chief Executive Officer and Chairman of the Board, purchased 5,405,405 shares of our common stock, par value $0.001 per share, at a price per share of $0.148 for $800,000 pursuant to a Board approved arm's length Share Purchase Agreement entered into with our Company on May 17, 2018.

Our Vice President of Operations, Paik K. Hong, is the brother of Chun K. Hong, our President, Chief Executive Officer and Chairman of the Board. For Fiscal 2018, Mr. P. K. Hong earned cash salary of $200,000 and was granted 75,000 shares of restricted stock with grant date fair value of $18,945 measured in accordance with ASC 718. For Fiscal 2017, Mr. Paik. K. Hong earned cash salary of $200,000 and was granted a stock option award to purchase up to 75,000 shares of our common stock at an exercise price of $1.02. The total grant date fair value of the stock option awards granted to Mr. Paik. K. Hong in Fiscal 2017 measured in accordance with ASC 718 was $56,103. The assumptions used in the calculations for these amounts are described in Note 2—Summary of Significant Accounting Policies—Stock-Based Compensation and Note 9—Stockholders' Equity—Stock-Based Compensation to our consolidated financial statements included in this Form 10-K.

We have entered into indemnification agreements with each of our directors and executive officers. In general, these agreements require us to indemnify each such individual to the fullest extent permitted under Delaware law against certain liabilities that may arise by reason of their service for us, and to advance expenses incurred as a result of any such proceeding as to which any such individual could be indemnified.

Policies and Procedures for Review and Approval of Related Party Transactions

Pursuant to its written charter and in accordance with applicable Nasdaq rules, our Audit Committee is responsible for reviewing and approving in advance any transactions with a related party. The Audit Committee intends to approve only those related party transactions that are considered to be in the best interests of our Company and our stockholders. In considering whether to approve any transaction, the Audit Committee considers such factors as it deems appropriate, which may include: the related party's relationship with our Company and interest in the transaction; the material facts of the transaction, including the value of the transaction, or in the case of indebtedness, the principal amount that would be involved; the benefits of the transaction to our Company; an assessment of whether the transaction is on terms that are comparable to the terms that may be available in a similar transaction with an unrelated party; the impracticability or cost of securing alternative arrangements; and such other factors as the Audit Committee deems relevant.

Director Independence

Our common stock was listed on The Nasdaq Capital Market until September 27, 2018. On September 27, 2018, our common stock began trading on the OTCQX ® Best Market. OTCQX ® Best Market does not require that a majority of the board of directors be independent. Our Board has continued to consider the independence of our directors under the listing standards of The Nasdaq Capital Market. Our Board has determined that each of our current directors and each of our directors serving at any time in Fiscal 2018, other than our President and Chief Executive Officer, Mr. Hong, is independent. In addition, our Board has determined that each director serving currently or at any time in Fiscal 2018 as a member of our Audit Committee, Compensation Committee or Nominating and Corporate Governance Committee were independent under the listing standards of The Nasdaq Capital Market.

Further, our Board determined that each of our directors and each of our directors serving at any time in Fiscal 2017, other than our President and Chief Executive Officer, Mr. Hong, is independent. In addition, our Board determined that each director serving currently or at any time in Fiscal 2017 as a member of our Audit Committee, Compensation Committee or Nominating and Corporate Governance Committee were independent under the listing standards of The Nasdaq Capital Market.

Item 14. Principal Accounting Fees and Service s

Fees Paid to Independent Registered Public Accounting Firm

The following table presents the aggregate fees billed to us by our independent registered public accounting firm, KMJ Corbin & Company LLP ("KMJ"), for the indicated services performed during Fiscal 2018 and Fiscal 2017:

	Fiscal 2018($)	Fiscal 2017($)
Audit Fees (1)	137,600	152,640
Audit-Related Fees (2)	—	—
Tax Fees (2)	—	—
All Other Fees (2)	—	—
Total Fees	137,600	152,640

(1) Audit fees consist of fees billed to us for professional services rendered for the audit of our annual consolidated financial statements and the review of our interim condensed consolidated financial statements included in our quarterly reports. These fees also include fees billed to us for professional services that are normally provided in connection with statutory and regulatory filings or engagements, including the review of our registration statements on Form S-3 and Form S-8 and certain other related matters, such as the delivery of comfort letters and consents in connection with these registration statements.

(2) KMJ did not bill to us any audit-related fees, tax fees or other fees in Fiscal 2018 or Fiscal 2017.

Pre-Approval Policies and Procedures

Our Audit Committee's charter requires our Audit Committee to pre-approve all audit and permissible non-audit services to be performed for us by our independent registered public accounting firm, except for certain "de minimus" non-audit services that may be ratified by the Audit Committee in accordance with applicable SEC rules, in order to assure that the provision of such services is compatible with maintaining the independence of our independent registered public accounting firm. Our Audit Committee pre-approved all services performed by KMJ in Fiscal 2018 and Fiscal 2017 .

PART IV

Item 15. Exhibits, Financial Statement Schedule s

(a)(1) **Consolidated Financial Statements.**

The following financial statements are included immediately following the signature page to this report and are filed in Part II, Item 8 of this report:

(a)(2) **Financial Statement Schedules.**

All financial statement schedules have been omitted, as they are not required, not applicable, or the required information is otherwise included.

(a)(3) Exhibits.

EXHIBIT INDEX

			Incorporated by Reference			
Exhibit No.	**Description**	**Filed Herewith**	**Form**	**File No.**	**Exhibit**	**Filing Date**
3.1	Restated Certificate of Incorporation of Netlist, Inc.		10-Q	001-33170	3.1	August 15, 2017
3.1.1	Certificate of Amendment to the Restated Certificate of Incorporation of Netlist, Inc.		10-Q	001-33170	3.1.1	August 15, 2017
3.1.2	Certificate of Amendment of the Restated Certificate of Incorporation of Netlist, Inc.		8-K	001-33170	3.1	August 17, 2018
3.1.3	Certificate of Designation of the Series A Preferred Stock of Netlist, Inc.		10-Q	001-33170	3.1.2	August 15, 2017
3.2	Amended and Restated Bylaws of Netlist, Inc.		8-K	001-33170	3.1	December 20, 2012
3.2.1	Certificate of Amendment to Amended and Restated Bylaws of Netlist, Inc.		8-K	001-33170	3.1	December 29, 2017
4.1	Form of Warrant issued pursuant to the Securities Purchase Agreement, dated July 17, 2013		8-K	001-33170	4.1	July 18, 2013
4.2	Senior Secured Convertible Promissory Note, dated November 18, 2015, issued by Netlist, Inc. to SVIC No. 28 New Technology Business Investment LLP		8-K	001-33170	4.1	November 19, 2015
4.3	Stock Purchase Warrant, dated November 18, 2015, issued by Netlist, Inc. to SVIC No. 28 New Technology Business Investment LLP		8-K	001-33170	4.2	November 19, 2015
4.4	Stock Purchase Warrant, dated November 18, 2015, issued by Netlist, Inc.		10-K	001-33170	4.4	March 31, 2017
4.5	Rights Agreement, dated as of April 17, 2017, by and between Netlist, Inc. and Computershare Trust Company, N.A., as rights agent		8-K	001-33170	4.1	April 17, 2017
4.6	Amendment No. 1 to Rights Agreement, dated as of April 16, 2018, by and between Netlist, Inc. and Computershare Trust Company, N.A., as rights agent.		8-K	001-33170	4.1	April 17, 2018
4.7	Form of Warrant Agreement to Purchase Common Stock issued pursuant to the Securities Purchase Agreement, dated September 12, 2018.		8-K	001-33170	4.1	September 14, 2018
10.1#	Form of Indemnity Agreement for officers and directors		S-1	333-136735	10.12	August 18, 2006
10.2#	Employment Agreement, dated September 5, 2006, between Netlist, Inc. and Chun K. Hong		S-1	333-136735	10.13	September 27, 2006
10.3#	Amended and Restated 2006 Equity Incentive Plan of Netlist, Inc.	X				

Exhibit No.	Description	Filed Herewith	Incorporated by Reference			
			Form	File No.	Exhibit	Filing Date
10.4#	Form of Restricted Stock Award Agreement issued pursuant to the Amended and Restated 2006 Equity Incentive Plan of Netlist, Inc.		10-Q	001-33170	10.2	May 17, 2010
10.5#	Form of Stock Option Award Agreement issued pursuant to the Amended and Restated 2006 Equity Incentive Plan of Netlist, Inc.		10-K	001-33170	10.6	March 31, 2017
10.6	Loan and Security Agreement, dated October 31, 2009, between Silicon Valley Bank and Netlist, Inc.		8-K	001-33170	10.1	November 2, 2009
10.7	Intercompany Subordination Agreement, dated October 31, 2009, among Silicon Valley Bank, Netlist, Inc., and Netlist Technology Texas, L.P.		8-K	001-33170	10.2	November 2, 2009
10.8	Guarantor Security Agreement, dated October 31, 2009, between Silicon Valley Bank and Netlist Technology Texas LP		8-K	001-33170	10.3	November 2, 2009
10.9	Intellectual Property Security Agreement, dated October 31, 2009, between Silicon Valley Bank and Netlist, Inc.		8-K	001-33170	10.4	November 2, 2009
10.10	Amendment to Loan Documents, dated March 24, 2010, between Silicon Valley Bank and Netlist, Inc.		10-Q	001-33170	10.1	May 7, 2010
10.11	Amendment to Loan Documents, dated June 30, 2010, between Silicon Valley Bank and Netlist, Inc.		10-Q	001-33170	10.2	August 12, 2010
10.12	Amendment to Loan Documents, dated September 30, 2010, between Silicon Valley Bank and Netlist, Inc.		10-Q	001-33170	10.1	November 16, 2010
10.13	Amendment to Loan Documents, dated May 11, 2011, between Silicon Valley Bank and Netlist, Inc.		10-Q	001-33170	10.1	May 12, 2011
10.14	Amendment to Loan Documents, dated August 10, 2011, between Silicon Valley Bank and Netlist, Inc.		10-Q	001-33170	10.1	August 15, 2011
10.15	Amendment to Loan Documents, dated May 14, 2012, between Silicon Valley Bank and Netlist, Inc.		10-Q	001-33170	10.1	May 15, 2012
10.16	Forbearance to Loan and Security Agreement, dated March 27, 2013, between Netlist, Inc. and Silicon Valley Bank		10-K	001-33170	10.32	March 29, 2013
10.17	Amendment to Loan Documents, dated July 17, 2013, between Netlist, Inc. and Silicon Valley Bank		10-Q	001-33170	10.6	November 12, 2013
10.18	Amendment to Loan Documents, dated September 30, 2014, between Netlist, Inc. and Silicon Valley Bank		10-K	001-33170	10.24	March 27, 2015

Exhibit No.	Description	Filed Herewith	Incorporated by Reference			
			Form	File No.	Exhibit	Filing Date
10.19	Senior Secured Convertible Promissory Note and Warrant Purchase Agreement, dated November 18, 2015, between Netlist, Inc. and SVIC No. 28 New Technology Business Investment LLP		8-K	001-33170	10.1	November 19, 2015
10.20	Registration Rights Agreement, dated November 18, 2015, between Netlist, Inc. and SVIC No. 28 New Technology Business Investment LLP		8-K	001-33170	10.2	November 19, 2015
10.21	Amendment to Loan Documents, dated January 29, 2016, between Netlist, Inc. and Silicon Valley Bank		8-K	001-33170	10.1	February 1, 2016
10.22	Amendment to Loan and Security Agreement, dated March 27, 2017, between Netlist, Inc. and Silicon Valley Bank		8-K	001-33170	10.1	March 29, 2017
10.23	Amendment to Loan and Security Agreement, dated April 12, 2017, by and between Netlist, Inc. and Silicon Valley Bank		10-Q	001-33170	10.1	August 15, 2017
10.24	Amendment to Loan and Security Agreement, dated March 20, 2018, by and between Netlist, Inc. and Silicon Valley Bank		8-K	001-33170	10.1	March 26, 2018
10.25	Amendment to Loan and Security Agreement, dated March 21, 2019, by and between Netlist, Inc. and Silicon Valley Bank	X				
10.26§	Investment Agreement, dated May 3, 2017, by and between Netlist, Inc. and TR Global Funding V, LLC		10-Q	001-33170	10.2	August 15, 2017
10.27	Security Agreement, dated May 3, 2017, by and between Netlist, Inc. and TR Global Funding V, LLC		10-Q	001-33170	10.3	August 15, 2017
10.28	Intercreditor Agreement, dated May 3, 2017, by and between SVIC No. 28 New Technology Business Investment L.L.P. and TR Global Funding V, LLC and consented and agreed to by Netlist, Inc.		10-Q	001-33170	10.4	August 15, 2017
10.29	Intercreditor Agreement, dated May 3, 2017, by and between Silicon Valley Bank and TR Global Funding V, LLC and consented and agreed to by Netlist, Inc.		10-Q	001-33170	10.5	August 15, 2017
10.30	Amended and Restated Intercreditor Agreement, dated April 20, 2017, by and between SVIC No. 28 New Technology Business Investment L.L.P and Silicon Valley Bank and consented and agreed to by Netlist, Inc.		10-Q	001-33170	10.6	August 15, 2017

Exhibit No.	Description	Filed Herewith	Incorporated by Reference			
			Form	File No.	Exhibit	Filing Date
10.31	Securities Purchase Agreement, dated as of August 27, 2018, by and between Netlist, Inc. and Iliad Research and Trading, L.P.		8-K	001-33170	10.1	August 31, 2018
10.32	Convertible Promissory Note, dated as of August 27, 2018, by and between Netlist, Inc. and Iliad Research and Trading, L.P.		8-K	001-33170	10.2	August 31, 2018
10.33	Form of Securities Purchase Agreement dated September 12, 2018, by and among Netlist, Inc. and the purchasers identified therein.		8-K	001-33170	10.1	September 14, 2018
10.34	Placement Agent Agreement dated September 12, 2018 by and between Netlist, Inc. and Roth Capital Partners, LLC.		8-K	001-33170	10.2	September 14, 2018
21.1	Subsidiaries of Netlist, Inc.	X				
23	Consent of KMJ Corbin & Company LLP	X				
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a)	X				
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a)	X				
32+	Certification by Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350	X				
101.INS	XBRL Instance Document	X				
101.SCH	XBRL Taxonomy Extension Schema Document	X				
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	X				
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	X				
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	X				
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	X				

+ Furnished herewith.
# Management contract or compensatory plan or arrangement.
§ Confidential treatment has been granted with respect to portions of this exhibit.

Item 16. Form 10-K Summary.

None.

SIGNATURE S

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: March 22, 2019

Netlist, Inc.

By: /s/ Chun K. Hong
Chun K. Hong
President, Chief Executive Officer and Chairman of the Board

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

Signature	Title	Date
/s/ Chun K. Hong Chun K. Hong	President, Chief Executive Officer and Chairman of the Board (Principal Executive Officer)	March 22, 2019
/s/ Gail Sasaki Gail Sasaki	Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	March 22, 2019
/s/ Jun S. Cho Jun S. Cho	Director	March 22, 2019
/s/ Kiho Choi Kiho choi	Director	March 22, 2019
/s/ Blake A. Welcher Blake A. Welcher	Director	March 22, 2019

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Netlist, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Netlist, Inc. and subsidiaries (the "Company") as of December 29, 2018 and December 30, 2017, the related consolidated statements of operations, stockholders' deficit, and cash flows for each of the years then ended, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 29, 2018 and December 30, 2017, and the results of their operations and their cash flows for each of the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.
We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KMJ Corbin & Company LLP

We have served as the Company's auditor since 2005.

Costa Mesa, California
March 22, 2019

NETLIST, INC. AND SUBSIDIARIES
Consolidated Balance Sheet s
(in thousands, except par value amounts)

	December 29, 2018	December 30, 2017
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 14,802	$ 6,720
Restricted cash	1,850	2,800
Accounts receivable, net of reserves of $39 (2018) and $44 (2017)	2,917	2,997
Inventories	2,946	4,105
Prepaid expenses and other current assets	677	303
Total current assets	23,192	16,925
Property and equipment, net	279	459
Other assets	1,394	1,406
Total assets	$ 24,865	$ 18,790
LIABILITIES AND STOCKHOLDERS' DEFICIT		
Current Liabilities:		
Accounts payable	$ 9,497	$ 6,120
Revolving line of credit	2,293	2,024
Accrued payroll and related liabilities	604	807
Accrued expenses and other current liabilities	343	338
Note payable	376	—
Total current liabilities	13,113	9,289
Convertible promissory notes and accrued interest, net of debt discounts	17,346	14,766
Long-term warranty liability	78	61
Total liabilities	30,537	24,116
Commitments and contingencies		
Stockholders' deficit:		
Preferred stock, $0.001 par value—10,000 shares authorized: Series A preferred stock, $0.001 par value; 1,000 shares authorized; none issued and outstanding	—	—
Common stock, $0.001 par value — 300,000 shares authorized; 139,283 (2018) and 79,314 (2017) shares issued and outstanding	139	80
Additional paid-in capital	169,355	152,640
Accumulated deficit	(175,166)	(158,046)
Total stockholders' deficit	(5,672)	(5,326)
Total liabilities and stockholders' deficit	$ 24,865	$ 18,790

See accompanying notes to consolidated financial statements.

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

	Year Ended	
	December 29, 2018	December 30, 2017
Net sales	$ 33,529	$ 38,322
Cost of sales(1)	31,228	35,866
Gross profit	2,301	2,456
Operating expenses:		
Research and development(1)	2,899	5,231
Intellectual property legal fees	8,918	2,705
Selling, general and administrative(1)	6,856	7,374
Total operating expenses	18,673	15,310
Operating loss	(16,372)	(12,854)
Other expense, net:		
Interest expense, net	(739)	(564)
Other (expense) income, net	(11)	4
Total other expense, net	(750)	(560)
Loss before (benefit) provision for income taxes	(17,122)	(13,414)
(Benefit) provision for income taxes	(2)	6
Net loss	$ (17,120)	$ (13,420)
Net loss per common share:		
Basic and diluted	$ (0.16)	$ (0.20)
Weighted-average common shares outstanding:		
Basic and diluted	107,071	65,513

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

Cost of sales	$ 26	$ 40
Research and development	236	348
Selling, general and administrative	475	829
Total stock-based compensation	$ 737	$ 1,217

See accompanying notes to consolidated financial statements.

NETLIST, INC. AND SUBSIDIARIES
Consolidated Statements of Stockholders' Deficit
(in thousands)

	Series A Preferred Stock		Common Stock		Additional Paid-in	Accumulated	Total Stockholders'
	Shares	Amount	Shares	Amount	Capital	Deficit	Deficit
Balance, December 31, 2016	—	$ —	61,653	$ 62	$ 144,035	$ (144,626)	$ (529)
Stock-based compensation	—	—	—	—	1,217	—	1,217
Exercise of stock options	—	—	267	1	181	—	182
Issuance of common stock, net	—	—	17,394	17	7,207	—	7,224
Net loss	—	—	—	—	—	(13,420)	(13,420)
Balance, December 30, 2017	—	—	79,314	80	152,640	(158,046)	(5,326)
Stock-based compensation	—	—	—	—	737	—	737
Exercise of stock options	—	—	30	—	11	—	11
Issuance of restricted stock	—	—	525	—	—	—	—
Issuance of common stock, net	—	—	59,414	59	15,703	—	15,762
Warrants issued in lieu of payments	—	—	—	—	74	—	74
Estimated fair value of conversion option, in connection with convertible debt	—	—	—	—	190	—	190
Net loss	—	—	—	—	—	(17,120)	(17,120)
Balance, December 29, 2018	—	$ —	139,283	$ 139	$ 169,355	$ (175,166)	$ (5,672)

See accompanying notes to consolidated financial statements.

NETLIST, INC. AND SUBSIDIARIES
Consolidated Statements of Cash Flow s
(in thousands)

	Year Ended December 29, 2018	Year Ended December 30, 2017
Cash flows from operating activities:		
Net loss	$ (17,120)	$ (13,420)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	254	280
Interest accrued on convertible promissory notes	361	299
Amortization of debt discounts	334	216
Stock-based compensation	737	1,217
Provision for bad debt	—	10
Issuance of warrant in lieu of payment	74	—
Changes in operating assets and liabilities:		
Accounts receivable	80	(1,256)
Inventories	1,159	(945)
Prepaid expenses and other assets	359	347
Accounts payable	3,375	2,092
Accrued payroll and related liabilities	(203)	(278)
Accrued expenses and other liabilities	22	93
Net cash used in operating activities	(10,568)	(11,345)
Cash flows from investing activities:		
Acquisition of property and equipment	(74)	(94)
Net cash used in investing activities	(74)	(94)
Cash flows from financing activities:		
Net borrowings under line of credit	269	1,348
Proceeds from issuance of debt	2,100	—
Debt issuance costs	(23)	—
Payments on debt	(345)	(371)
Proceeds from issuance of common stock, net	15,762	7,224
Proceeds from exercise of stock options and warrants	11	182
Net cash provided by financing activities	17,774	8,383
Net change in cash, cash equivalents and restricted cash	7,132	(3,056)
Cash, cash equivalents and restricted cash at beginning of period	9,520	12,576
Cash, cash equivalents and restricted cash at end of period	$ 16,652	$ 9,520
Reconciliation of cash, cash equivalents and restricted cash at end of period:		
Cash and cash equivalents	$ 14,802	$ 6,720
Restricted cash	1,850	2,800
Cash, cash equivalents and restricted cash at end of period	$ 16,652	$ 9,520

See accompanying notes to consolidated financial statements.

NETLIST, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1—Description of Business

Netlist, Inc. and its wholly owned subsidiaries (collectively the “Company” or “Netlist”) provides high-performance modular memory subsystems to customers in diverse industries that require enterprise and storage class memory solutions to empower critical business decisions. The Company has a 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, in-memory databases, high performance computing and advanced data storage solutions. The Company also resells NAND flash, DRAM products and other component products to end-customers that are not reached in the distribution models of the component manufacturers, including storage customers, appliance customers, system builders and cloud and datacenter customers.

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, protection and enforcement of technology innovations it believes are essential to its business. The Company’s early pioneering work in these areas has been broadly adopted in industry-standard registered dual in-line memory module (“RDIMM”) LRDIMM and 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 sales and licensing, royalty or other revenue-producing arrangements, which may result from joint development or similar partnerships or defense of the Company’s patents through enforcement actions against parties it believes are infringing them.

Netlist was incorporated in June 2000 and is headquartered in Irvine, California. The Company has established a manufacturing facility in the People’s Republic of China (“PRC”), which became operational in July 2007.

Liquidity

The Company incurred net losses of $17.1 million and $13.4 million for the fiscal years ended December 29, 2018 and December 30, 2017, respectively. The Company has historically financed its operations primarily with revenues generated from operations, including product sales, proceeds from issuances of equity and debt securities including convertible debt and a non-recurring engineering (“NRE”) fee from its Joint Development and License Agreement (“JDLA”) with Samsung Electronics Co., Ltd. (“Samsung”) (see Note 6). The Company has also funded its operations with a revolving line of credit under a bank credit facility, and a funding arrangement for costs associated with certain of its legal proceedings (see Notes 5, 6 and 8).

On August 22, 2017, the Company completed an underwritten 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.

On November 14, 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 its common stock, with aggregate gross proceeds of up to $9.0 million, from time to time, through an “at-the-market” equity offering program under which the Agent acted as sales agent (the “ATM Program”) (see Note 9). On August 29, 2018, the Company completed the offering under the

ATM Program after raising net proceeds of approximately $8.6 million through the sale of 40,680,368 shares of its common stock, after deducting sales commissions and other offering expenses paid by the Company.

On May 17, 2018, the Company entered into a Board approved arm's length Share Purchase Agreement with a trust controlled by C.K. Hong, its President, Chief Executive Officer and Chairman of the Board, pursuant to which the Company sold to the trust 5,405,405 shares of its common stock at a price per share of $0.148 (the closing price of its common stock as of the signing of the agreement) (See Note 9). The net proceeds received by the Company were $0.8 million.

On August 27, 2018, the Company entered into a Securities Purchase Agreement with Iliad Research and Trading, L.P. ("Iliad") ("Iliad Purchase Agreement"), pursuant to which the Company issued a convertible promissory note in the principal amount of $2.3 million ("Iliad Note") with an original issue discount of $0.2 million. The Iliad Note bears interest at an annual rate of 8% and matures on August 27, 2020, unless earlier repurchased, redeemed or converted in accordance with its terms (See Note 6).

On September 12, 2018, the Company entered into a Securities Purchase Agreement with certain investors, pursuant to which the Company issued and sold to the investors in a registered offering an aggregate of 22,222,220 shares of its common stock and warrants to purchase up to an aggregate of 11,111,110 shares of its common stock at a per share purchase price of $0.45 per share (See Note 9). The net proceeds to the Company from this offering were approximately $9.2 million, after deducting placement agent fees and offering costs paid by the Company. The warrant becomes exercisable 181 days following the date of its issuance, has a term of five years commencing on the date when it first becomes exercisable, and has an exercise price of $0.655 per share.

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 5) and funds raised through the debt and equity offerings, 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

Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP").

Principles of Consolidation

The consolidated financial statements include the accounts of the Company. 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. The 2018 and 2017 fiscal years ended on December 29, 2018 and December 30, 2017, respectively, and consisted of 52 weeks.

Use of Estimates

The preparation of the accompanying 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 disclosures of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of net sales and expenses during the reporting period. Significant items subject to such estimates and assumptions include provisions for uncollectible receivables and sales returns, warranty liability, valuation of inventories, fair value of financial instruments, useful lives and impairment of property and equipment, the fair value of the Company's equity-based compensation awards and convertible debt instruments and the realization of deferred tax assets. Actual results may differ materially from these estimates. On an ongoing basis, the Company evaluates its estimates compared to historical experience and trends, which form the basis for making judgments about the carrying value of assets and liabilities.

Reclassifications

Certain reclassifications have been made to the prior year consolidated financial statements and the accompanying notes to conform to the current year presentation. Effective December 31, 2017, the Company adopted Financial Accounting Standard Board ("FASB") Accounting Standards Update ("ASU") No. 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash (a consensus of the FASB Emerging Issues Task Force)* ("ASU 2016-18"), and as a result, the Company reclassified the presentation of its statement of cash flows for the year ended December 30, 2017 to conform with the new cash guidance. See below *Adoption of New Accounting Pronouncements* .

Segments

The Company's chief operating decision maker is its chief executive officer, and the Company has determined that it 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 and component products purchased for the purpose of resale. Therefore, results of its operations are reported on a consolidated basis for purposes of segment reporting, consistent with internal management reporting.

Revenue Recognition

The Company recognizes revenues when control is transferred to customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods and services. See Note 3 for further discussion on revenues.

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

The Company's restricted cash consists of cash to secure standby letters of credit (see Note 5).

Fair Value of Financial Instruments

The Company follows Accounting Standards Codification ("ASC") Topic 820, *Fair Value Measurement* ("Topic 820") to account for the fair value of certain assets and liabilities. Topic 820 defines fair value, establishes a framework for measuring fair value and expands disclosures about fair value measurements. Topic 820 emphasizes that fair value is a market-based measurement, not an entity-specific measurement, and therefore, a fair value measurement should be determined based on the assumptions that market participants would use in pricing the asset or liability. As a basis for considering market participant assumptions in fair value measurements, Topic 820 establishes a fair value hierarchy that distinguishes between market participant assumptions based on market data obtained from sources independent of the reporting entity (observable inputs that are classified within Levels 1 and 2 of the hierarchy) and the reporting entity's own assumptions about market participant assumptions (unobservable inputs classified within Level 3 of the hierarchy).

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the Company has the ability to access. An active market is defined as a market in which transactions for the assets or liabilities occur with sufficient frequency and volume to provide pricing information on an ongoing basis. Level 2 inputs are inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly. Level 2 inputs may include quoted prices for similar assets and liabilities in active markets, as well as inputs that are observable for the asset or liability (other than quoted prices), such as interest rates, foreign exchange rates and yield curves that are observable at commonly quoted intervals. Level 3 inputs are unobservable inputs for the asset or liability, which are typically based on an entity's own assumptions, as there is little, if any, related market activity. In instances where the determination of the fair value measurement is based on inputs from different levels of the fair value hierarchy, the level in the fair value hierarchy within which the entire fair value measurement falls is based on the lowest level input that is significant to the fair value measurement in its entirety. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the asset or liability.

The Company's financial instruments consist principally of cash and cash equivalents, restricted cash, accounts receivable, accounts payable, accrued expenses, a revolving line of credit, and convertible promissory notes. The Company considers the carrying values of cash and cash equivalents, restricted cash, accounts receivable, accounts payable, and accrued expenses to approximate the fair value for these financial instruments based upon an evaluation of the underlying characteristics, market data and because of the short period of time between origination of the instruments and their expected realization. The Company estimates the fair values of its revolving line of credit and convertible promissory notes by using current applicable rates for similar instruments as of the balance sheet date and an assessment of its credit rating. The carrying value of the Company's revolving line of credit at December 29, 2018 and December 30, 2017 approximates fair value because the Company's interest rate yield is near current market rates for comparable debt instruments. The Company estimates the fair value of its convertible promissory notes by using a discounted cash flow analysis using borrowing rates available to the Company for debt instruments with similar terms and maturities. The Company has determined that the valuation of its convertible promissory notes is classified in Level 2 of the fair value hierarchy. The carrying value and estimated fair value of the senior secured convertible promissory note as of December 29, 2018 were $14.3 million and $11.7 million, respectively. The carrying value and estimated fair value of the senior secured convertible promissory note as of December 30, 2017 were $14.1 million and $12.3 million, respectively. The carrying value and estimated fair value of the unsecured convertible note, issued on August 27, 2018, were $2.0 million and $1.7 million as of December 29, 2018, respectively.

Accounts Receivable, net

The Company extends credit to its customers. An allowance for doubtful accounts is maintained for estimated losses resulting from the inability of the Company's customers to make required payments. The Company specifically analyzes the age of customer balances, historical bad debt experiences, customer credit-worthiness and changes in customer payment terms when making estimates of the collectability of the Company's accounts receivable balances. If the Company determines that the financial condition of any of its customers has deteriorated, whether due to customer specific or general economic issues, an increase in the allowance may be made. After all attempts to collect a receivable have failed, the receivable is written off.

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 original equipment manufacturers ("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 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 11), 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 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. At the point of the write-down recognition, a new, lower cost basis for that inventory is established, and subsequent changes in facts and circumstances do not result in the restoration or increase in that newly established cost basis.

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 income, net.

Debt Issuance 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 consolidated balance sheets. The Company amortizes debt issuance costs over the expected term of the related debt using the 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 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 sales 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 management believes there is no impairment of long-lived assets as of December 29, 2018 and December 30, 2017.

Warranty Liability

The Company offers standard product warranties generally ranging from one to three years to its memory subsystem products customers, depending on the negotiated terms of any purchase agreements, and has no other post-shipment obligations or separately priced extended warranty or product maintenance contracts. These 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 component products. 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 4). Estimated future warranty costs are recorded in the period in which the sale is recorded and are included in cost of sales in the accompanying consolidated statements of operations.

Stock-Based Compensation

Stock-based awards are comprised principally of stock options and restricted stock. Stock-based compensation cost is measured at the grant date based on the fair value of the award and is recognized as an expense over the requisite service period, which is the vesting period, on a straight-line basis, net of estimated forfeitures. The Company uses the Black-Scholes option pricing model to determine the grant date fair value of stock options. The model requires the Company to estimate the expected volatility and expected term of the stock options, which are highly complex and subjective variables. The expected volatility is based on the historical volatility of the Company's common stock. The expected term is computed using the simplified method as the Company's best estimate given its lack of actual exercise history. 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. The grant-date fair value of restricted stocks equals the closing price of the Company's common stock on the grant date.

Prior to the adoption of FASB ASU No. 2018-07, *Compensation – Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting* ("ASU 2018-07" or "Topic 718") in the second quarter of 2018, the Company accounted for equity-based awards to non-employees in accordance with ASC Topic 505, *Equity* . All transactions in which goods or services were the consideration received for the issuance of equity instruments were accounted for based on the fair value of the consideration received or the fair value of the equity instrument issued, whichever was more reliably measurable. The measurement date used to determine the estimated fair value of the equity instrument issued was the earlier of the date on which the third-party performance was complete or the date on which it was probable that performance would occur. Upon the adoption of ASU No. 2018-07, the Company accounts for all stock-based awards in accordance with Topic 718.

Income Taxes

Deferred income tax assets and liabilities are recognized for temporary differences between the financial statement carrying amounts of assets and liabilities and the amounts that are reported in the income tax returns. Deferred taxes are evaluated for realization on a jurisdictional basis. The Company records valuation allowances to reduce deferred tax assets to the amount that is more likely than not to be realized. In making this assessment, management analyzes future taxable income, reversing temporary differences and ongoing tax planning strategies. Should a change in circumstances lead to a change in judgment about the realizability of deferred tax assets in future years, the Company will adjust related valuation allowances in the period that the change in circumstances occurs, along with a corresponding increase or charge to income.

The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained upon examination by the taxing authorities based on the technical merits of the Company's position. The tax benefit recognized in the financial statements for a particular tax position is based on the largest benefit that is more likely than not to be realized. The amount of unrecognized tax benefits is adjusted as appropriate for changes in facts and circumstances, such as significant amendments to existing tax laws, new regulations or interpretations by the taxing authorities, new information obtained during a tax examination, or resolution of an examination. The Company recognizes both accrued interest and penalties associated with uncertain tax positions as a component of provision for income taxes in the consolidated statements of operations.

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.

Contingent Legal Expenses

Contingent legal fees are expensed in the consolidated statements of operations in the period that the related revenues are recognized. In instances where there are no recoveries from potential infringers, no contingent legal fees are paid; however, the Company may be liable for certain out of pocket legal costs incurred pursuant to the underlying legal services agreement.

Research and Development Expenses

Research and development expenditures are expensed in the period incurred.

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 in 2018 or 2017.

Net Loss Per Share

The Company computes net loss per share using the two-class method required for participating securities. The Company considers restricted stock awards to be participating securities because holders of such shares have nonforfeitable dividend rights in the event of the Company's declaration of a dividend for common shares. Under the two-class method, undistributed earnings are allocated to common stock and the participating securities according to their respective participating rights in undistributed earnings, as if all the earnings for the period had been distributed. No allocation of undistributed earnings to participating securities was performed for periods with net losses as such securities do not have a contractual obligation to share in the losses of the Company.

Basic net loss per share is calculated by dividing net loss by the weighted-average common shares outstanding during the period following the two-class method. 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 of outstanding stock options and warrants computed using the treasury stock method, shares issuable under the conversion feature of convertible notes using the "if-converted" method, and shares issuable upon the vesting of restricted stock awards. In periods of losses, basic and diluted loss per share are the same, as the effect of stock options, warrants, convertible notes and unvested restricted stock awards on loss per share is anti-dilutive.

Adoption of New Accounting Pronouncements

On December 31, 2017, the Company adopted ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)* and all related amendments ("Topic 606"), which requires an entity to recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The adoption of Topic 606 did not have a material impact on the Company's consolidated financial statements. See Note 3 for further discussion.

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. In November 2016, the FASB issued ASU 2016-18, which enhances and clarifies the guidance on the classification and presentation of restricted cash in the statement of cash flows. The Company adopted these standards in the first quarter of 2018 by using the retrospective transition method, which required the following disclosures and changes to the presentation of its consolidated financial statements: cash, cash equivalents and restricted cash reported on the consolidated statements of cash flows now includes restricted cash of $2.8 million and $3.1 million as of December 30, 2017 and December 31, 2016, respectively, as well as previously reported cash and cash equivalents.

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, including interim periods therein with early application permitted. The Company adopted ASU 2016-16 in the first quarter of 2018 by using the modified retrospective transition approach, which did not have an impact on its consolidated financial statements.

In May 2017, the FASB issued ASU No. 2017-09, *Compensation – Stock Compensation (Topic 718): Scope of Modification Accounting* ("ASU 2017-09"), which provides clarity and reduces diversity in practice, costs and complexity when calculating stock compensation, on a change to the terms and conditions of a share-based award. ASU 2017-09 is effective beginning after December 15, 2017 for annual reporting periods, and interim periods within those annual periods. The Company adopted ASU 2017-09 in the first quarter of 2018, which did not have an impact on its consolidated financial statements.

In June 2018, the FASB issued ASU 2018-07, *Compensation – Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting* , which expands the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees, which is currently addressed in FASB ASC Topic 505, Equity. ASU 2018-07 specifies that Topic 718 applies to all share-based payment transactions in which a grantor acquires goods or services to be used or consumed in a grantor's own operations by issuing share-based payment awards. The amendments also clarify that Topic 718 does not apply to share-based payments used to effectively provide (1) financing to the issuer or (2) awards granted in conjunction with selling goods or services to customers as part of a contract accounted for under Topic 606. ASU 2018-07 is effective for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. Early adoption is permitted, but no earlier than an entity's adoption date of Topic 606, Revenue from Contracts with Customers. The Company adopted ASU 2018-07 on April 1, 2018, which did not have a material impact on its consolidated financial statements.

Recent Accounting Pronouncements

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract (a consensus of the FASB Emerging Issues Task Force)* ("ASU 2018-15"), which amends the accounting for implementation, setup, and other upfront costs in a hosting arrangement that is a service contract. ASU 2018-15 is effective for fiscal years beginning after December 15, 2019 and interim periods within those fiscal years.

Early adoption is permitted including adoption in any interim period. The Company does not expect a significant impact from adopting this update on its consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement* (“ASU 2018-13”), which removes, modifies, and adds various disclosure requirements on fair value measurements in Topic 820. ASU 2018-13 is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2019. The amendments on changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements, and the narrative description of measurement uncertainty should be applied prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption. All other amendments should be applied retrospectively to all periods presented upon their effective date. Early adoption is permitted upon issuance of this update. An entity is permitted to early adopt any removed or modified disclosures upon issuance of this update and delay adoption of the additional disclosures until their effective date. The Company does not expect a significant impact from adopting this update on its consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)* , as amended ("ASC 842"), which modifies lease accounting for lessees to increase transparency and comparability by recording lease assets and liabilities for operating leases and disclosing key information about leasing arrangements. The Company adopted ASC 842 effective December 30, 2018 using a modified retrospective method and will not restate comparative periods. As permitted under the transition guidance, the Company will carry forward the assessment of whether its contracts contain or are leases, classification of its leases and remaining lease terms. Based on the lease portfolio as of December 29, 2018, the Company will recognize a preliminary estimate of approximately $1.4 million of lease assets and liabilities on its consolidated balance sheet upon adoption, primarily relating to real estate. The Company is substantially complete with its implementation efforts.

Note 3—Revenue Recognition

In May 2014, the FASB issued Topic 606, which modifies how all entities recognize revenue. The Company adopted Topic 606 on December 31, 2017 using the modified retrospective transition method. For the years ended December 29, 2018 and December 30, 2017, the vast majority of the net sales was derived from the sale of tangible products for which the Company recognizes revenue at a point in time. The contracts that relate to these product shipments are predominantly purchase orders that have firm purchase commitments generally only for a short period of time. As a result, the adoption of Topic 606 did not have a material effect on the accompanying consolidated financial statements, and no cumulative catch-up adjustment to the opening balance of accumulated deficit was required. The Company used the related practical expedients that allowed it to omit disclosure of the transaction price allocated to remaining unsatisfied obligations and an explanation of when it expects to recognize the related revenue. In adopting Topic 606, the Company applied the new guidance only to contracts that were not completed on December 30, 2017.

Revenues are recognized when control is transferred to customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods and services. Revenue recognition is evaluated through the five steps outlined within the guidance.

Nature of Goods and Services

The Company derives revenue primarily from: (i) resales of NAND flash, DRAM products and other component products to end-customers that are not reached in the distribution models of the component manufacturers, including storage customers, appliance customers, system builders and cloud and datacenter customers; (ii) sales of high-performance modular memory subsystems primarily to OEMs in the server, high-performance computing and communications markets; and (iii) engineering services. However, the Company had no engineering services revenues for the fiscal years ended December 29, 2018 and December 30, 2017.

Substantially all of the Company’s net sales relate to products sold at a point in time through ship-and-bill performance obligations. At contract inception, an assessment of the goods and services promised in the contracts with customers is performed and a performance obligation is identified for each distinct promise to transfer to the customer a good or service (or bundle of goods or services). To identify the performance obligations, the Company considers all of the goods or services promised in the contract regardless of whether they are explicitly stated or are implied by customary business practices. Contracts with customers are comprised of customer purchase orders, invoices (including the Company's standard terms and conditions), and written contracts.

Disaggregation of Net Sales

The following table shows disaggregated net sales by major source (in thousands):

	Year Ended	
	December 29, 2018	December 30, 2017
Resales of third-party products	$ 25,148	$ 32,554
Sale of the Company's modular memory subsystems	8,381	5,768
Total net sales	$ 33,529	$ 38,322

Net sales by country presented below are based on the billing location of the customer. Sales from external customers were as follows (in thousands):

	Year Ended	
	December 29, 2018	December 30, 2017
United States	$ 23,533	$ 23,336
China(1)	4,151	9,288
Other countries	5,845	5,698
Total net sales	$ 33,529	$ 38,322

(1) China includes Hong Kong and Taiwan.

The United States and China were the only countries that accounted for more than 10% of the Company's net sales during the years ended December 29, 2018 and December 30, 2017.

Performance Obligations

Net product revenues and related cost of sales are primarily the result of promises to transfer products to customers. For performance obligations related to substantially all of the ship-and-bill products, control transfers at a point in time when title transfers upon shipment of the product to the customer, and for some sales, control transfers when title is transferred at time of receipt by the customer. Once a product has shipped or has been delivered, the customer is able to direct the use of, and obtain substantially all of the remaining benefits from, the asset. The Company considers control to have transferred upon shipment or delivery, because the Company has a present right to payment at that time, the customer has legal title to the asset, the Company has transferred physical possession of the asset, and the customer has the significant risks and rewards of ownership of the asset.

Amounts billed to its customers for shipping and handling are recorded in net product revenues. Shipping and handling costs incurred by the Company are included in cost of sales in the accompanying condensed consolidated statements of operations.

Significant Payment Terms

For ship-and-bill type contracts with customers, the invoice states the final terms of the sale, including the description, quantity, and price of each product purchased. Payment terms are typically due within 30 days after delivery but, in limited instances, can range up to 60 days after delivery. Accordingly, the Company's contracts with customers do not include a significant financing component.

Variable Consideration

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. Product returns give rise to variable consideration that decreases the transaction price. Estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of the anticipated performance and all information (historical, current and forecasted) that is reasonably available.

Returns for products sold are estimated using the expected value method and are recorded as a reduction in reported revenues at the time of sale based upon historical product return experience and is adjusted for known trends to arrive at the amount of consideration to which the Company expects to receive. Estimated amounts are included in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved.

Contract Assets and Contract Liabilities

Typically, the Company invoices the customer and recognizes revenue once the Company has satisfied its performance obligation. Generally, the Company does not have material amounts of contract assets since revenue is recognized as control of goods is transferred or as services are performed. Contract liabilities are recorded when cash payments are received in advance of the Company's performance. There were no such contract liabilities as of December 29, 2018.

Practical Expedients and Exemptions

The Company has elected the following practical expedients allowed under Topic 606:

- Payment terms with its customers, which are one year or less, are not considered a significant financing component.

- Shipping and handling fees and costs incurred in connection with products sold are recorded in cost of sales and are not considered a performance obligation to its customers.

- Performance obligations on its orders are generally satisfied within one year from a given reporting date and, therefore, the Company omits disclosure of the transaction price allocated to remaining performance obligations on open orders.

- The Company expenses incremental direct costs of obtaining a contract (sales commissions) when incurred because the amortization period is generally 12 months or less. The Company does not incur costs to fulfill a customer contract that meet the requirements for capitalization.

- The Company has applied the portfolio approach to its ship-and-bill contracts that have similar characteristics as it reasonably expects that the effects on the financial statements of applying this guidance to the portfolio of contracts would not differ materially from applying this guidance to the individual contracts within the portfolio.

Note 4—Supplemental Financial Information

Inventories

Inventories consisted of the following (in thousands):

	December 29, 2018	December 30, 2017
Raw materials	$ 1,072	$ 768
Work in process	25	88
Finished goods	1,849	3,249
	$ 2,946	$ 4,105

Property and Equipment, net

Property and equipment, net consisted of the following (in thousands):

	December 29, 2018	December 30, 2017
Machinery and equipment	$ 8,850	$ 8,823
Computer equipment and software	3,878	4,017
Leasehold improvements	878	878
Furniture and fixtures	375	375
	13,981	14,093
Less: accumulated depreciation and amortization	(13,702)	(13,634)
	$ 279	$ 459

Substantially all the Company's property and equipment, net, are located within the United States as of December 29, 2018 and December 30, 2017.

Other Assets

Other assets consisted of the following (in thousands):

	December 29, 2018	December 30, 2017
Refundable withholding tax	$ 1,320	$ 1,320
Other assets	74	86
	$ 1,394	$ 1,406

Refundable withholding tax represents the amount of tax withheld by the Company's customer in the Republic of Korea in November 2015 and is determined to be refundable from the Korean tax authority.

Warranty Liability

The following table summarizes activities related to warranty liability (in thousands):

	Year Ended December 29, 2018	Year Ended December 30, 2017
Beginning balance	$ 152	$ 89
Estimated cost of warranty claims charged to cost of sales	253	221
Cost of actual warranty claims	(211)	(158)
Ending balance	194	152
Less: current portion	(116)	(91)
Long-term warranty liability	$ 78	$ 61

The allowance for warranty liabilities expected to be incurred within one year is included in accrued expenses and other current liabilities in the accompanying 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 consolidated balance sheets.

Computation of Net Loss Per Share

The following table sets forth the computation of basic and diluted net loss per share of common stock (in thousands, except per share data):

	Year Ended December 29, 2018	Year Ended December 30, 2017
Net loss per share—basic and diluted:		
Numerator: Net loss	$ (17,120)	$ (13,420)
Denominator: Weighted-average common shares outstanding—basic and diluted	107,071	65,513
Net loss per share—basic and diluted	$ (0.16)	$ (0.20)

No allocation of undistributed earnings to participating securities was performed for periods with net losses as such securities do not have a contractual obligation to share in the losses of the Company.

The table below sets forth potentially dilutive weighted average common share equivalents, consisting of shares issuable upon the exercise of outstanding stock options and warrants using the treasury stock method, shares issuable upon conversion of the SVIC Note and the Iliad Note (see Note 6) using the "if-converted" method, and the vesting of restricted stock awards. These potential weighted average common share equivalents have been excluded from the diluted net loss per share calculations above as their effect would be anti-dilutive (in thousands):

	Year Ended December 29, 2018	Year Ended December 30, 2017
Weighted average common share equivalents	15,125	12,855

Cash Flow Information

The following table sets forth supplemental disclosures of cash flow information and non-cash financing activities (in thousands):

	Year Ended	
	December 29, 2018	December 30, 2017
Supplemental disclosure of cash flow information:		
Cash paid during the year for:		
Interest	$ 55	$ 61
Income taxes	$ —	$ 4
Supplemental disclosure of non-cash financing activities:		
Debt financing of insurance	$ 721	$ 220
Iliad debt discount	$ 190	$ —

Note 5—Credit Agreements

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) 85% of its eligible accounts receivable (increased from 80% as of August 29, 2018), 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 consolidated balance sheets. As of December 29, 2018 and December 30, 2017, (i) outstanding letters of credit were $1.9 million and $2.8 million, respectively, (ii) outstanding borrowings were of $2.3 million and $2.0 million, respectively, and (iii) availability under the revolving line of credit was $0.2 million and $0.1 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 9), 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 8). On March 20, 2018, 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 March 31, 2019 and (ii) revise certain inventory reporting requirements under the SVB Credit Agreement. On August 29, 2018, the SVB Credit Agreement was amended to increase the borrowing based of accounts receivable to 85% from 80% or $5.0 million, subject to certain adjustments set forth in the SVB Credit Agreement. On March 21, 2019, the SVB Credit Agreement was amended further to (i) extend the maturity date of the advances to March 30, 2020 and (ii) delete the inventory reporting requirements.

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 Samsung Venture Investment Co., ("SVIC") (see Note 6). 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 Inc., a South Korean memory semiconductor supplier ("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 the SK hynix proceedings. See Note 8 for additional information.

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 December 29, 2018, the Company was in compliance with its covenants under the SVB Credit Agreement.

Note 6— Debt

The following table sets forth the summary of the Company's outstanding indebtedness (in thousands):

	December 29, 2018	December 30, 2017
Senior secured convertible note, due December 2025, including accrued interest of $934 and $634 at 2018 and 2017, respectively	$ 15,934	$ 15,634
Unsecured convertible note, due August 2020, including accrued interest of $62	2,332	—
Note payable	376	—
Unamortized debt discounts and issuance costs	(920)	(868)
	17,722	14,766
Less: current portion	(376)	—
	$ 17,346	$ 14,766

Senior Secured Convertible Note

On November 18, 2015, in connection with entering into the JDLA with Samsung, the Company issued to SVIC a senior secured convertible note ("SVIC Note") and stock purchase warrant ("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 $1.2 million, based on its relative fair value, and was recorded as a debt discount. The Company also recorded $0.2 million of debt issuance costs as a debt discount for professional services fees rendered in connection with the transaction. These amounts are being amortized to interest expense over the term of the SVIC Note using the interest method. For the fiscal years ended December 29, 2018 and December 30, 2017, the Company amortized $0.2 million and $0.2 million, respectively, to interest expense in the accompanying consolidated statements of operations. As of December 29, 2018 and December 30, 2017, the outstanding principal and accrued interest on the SVIC Note was $15.9 million and $15.6 million, respectively, and the outstanding SVIC Note balance, net of unamortized debt discounts and issuance costs, was $15.2 million and $14.8 million, respectively.

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 December 29, 2018, the Company was in compliance with its covenants under the SVIC Note.

Unsecured Convertible Note

On August 27, 2018, the Company entered into the Iliad Purchase Agreement, pursuant to which the Company issued the $2.3 million Iliad Note with an original issue discount of $0.2 million. The Iliad Note bears interest at an annual rate of 8% and matures on August 27, 2020, unless earlier repurchased, redeemed or converted in accordance with its terms.

The Iliad Note provides Iliad with the right to convert, at any time, all or any part of the outstanding principal and accrued but unpaid interest into shares of the Company's common stock at a conversion price of $0.36 per share ("Lender Conversion Price"). Further, beginning on April 1, 2019, the Iliad Note also provides Iliad with the right to redeem all or any portion of the Iliad Note ("Redemption Amount") up to a maximum monthly amount of $0.35 million. The payments of each Redemption Amount may either be made in cash, by converting such Redemption Amount into shares of the Company's common stock ("Redemption Conversion Shares"), or a combination thereof, at the Company's election.

The number of Redemption Conversion Shares equals the portion of the applicable Redemption Amount being converted divided by the lesser of the Lender Conversion Price or the Market Price, that is 85% of the Company's lowest closing bid price during the 20 trading days immediately preceding the applicable redemption date, provided that the Market Price shall not be less than $0.11 per share (the "Redemption Price Floor"). In the event any applicable redemption conversion price is below the Redemption Price Floor then either: (i) the Company will honor the redemption conversion at the then effective redemption conversion price for a Redemption Amount not to exceed $0.15 million if the redemption conversion price is equal to or greater than $0.06 or (ii) the Company will pay the applicable Redemption Amount up to $0.15 million in cash and not in Redemption Conversion Shares.

The $2.1 million of proceeds received from the issuance of the Iliad Note was initially allocated between long-term debt (the liability component) at $1.9 million and additional paid-in capital (the equity component) at $0.2 million, in the consolidated balance sheet. The carrying amount of the liability component was calculated using the fair value of a similar liability without a conversion feature. The carrying amount of the equity component, representing the conversion option, was determined by deducting the fair value of the liability component from the proceeds received. The amount allocated to the equity component along with the original issue discount and fees paid to Iliad is amortized to interest expense over the expected life of 14 months using the interest method. The equity component is not remeasured as long as it continues to meet the conditions for equity classification. The issuance costs incurred related to the issuance of the Iliad Note was not material.

As of December 29, 2018, the outstanding principal and accrued interest on the Iliad Note was $2.3 million, and the outstanding Iliad Note balance, net of unamortized debt discounts and issuance cost, was $2.0 million.

On February 28, 2019 and March 7, 2019, Iliad converted the principal and accrued interest on the Iliad Note totaling $0.1 million and $0.2 million to 277,778 shares and 416,667 shares, respectively, of the Company's common stock at the Lender Conversion Price.

The Iliad Note is not secured and does not have any financial covenants requirements the Company needs to comply. The Company makes certain customary representations and warranties and has agreed to customary covenants and obligations. The Iliad Purchase Agreement and Iliad Note contain customary events of default upon the occurrence and during the continuance of which all obligations under the Iliad Purchase Agreement and Iliad Note may be declared immediately due and payable.

Contractual Maturities of Debt Obligations

The aggregate contractual maturities of all borrowings due subsequent to December 29, 2018, including accrued interests, are as follows (in thousands):

Fiscal Year	**Amount**
2019	$ 376
2020	2,332
2021	15,934
Total	$ 18,642

Note 7—Income Taxes

United States and foreign loss before (benefit) provision for income taxes was as follows (in thousands):

	Year Ended	
	December 29, 2018	**December 30, 2017**
United States	$ (16,568)	$ (12,871)
Foreign	(554)	(543)
	$ (17,122)	$ (13,414)

The (benefit) provision for income taxes consisted of the following (in thousands):

	Year Ended	
	December 29, 2018	**December 30, 2017**
Current:		
Federal	$ —	$ —
State	(2)	6
Total current	(2)	6
Deferred:		
Federal	(2,133)	10,678
State	(1,760)	2,577
Foreign	(74)	342
Change in valuation allowance	3,967	(13,597)
Total deferred	—	—
(Benefit) provision for income taxes	$ (2)	$ 6

Income taxes differ from the amounts computed by applying the U.S. federal statutory income tax rate of 21% for 2018 and 34% for 2017. The reconciliation of this difference is as follows (in thousands):

	Year Ended	
	December 29, 2018	December 30, 2017
Income tax benefit at federal statutory rate	$ (3,596)	$ (4,494)
Change in valuation allowance	3,234	4,096
Other	360	404
(Benefit) provision for income taxes	$ (2)	$ 6

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets and liabilities are as follows (in thousands):

	December 29, 2018	December 30, 2017
Deferred tax assets:		
Reserves and allowances	$ 505	$ 843
Depreciation and amortization	100	56
Other accruals	134	152
Stock-based compensation	458	1,216
Basis difference in warrant value	—	9
Other	30	31
Tax credit carryforwards	3,578	4,169
Operating loss carryforward	29,365	23,475
Foreign operating loss carryforward	925	851
Total deferred tax assets	35,095	30,802
Deferred tax liabilities:		
Prepaid expenses	(171)	(36)
Basis difference in warrant and note	(191)	—
Total deferred tax liabilities	(362)	(36)
Net deferred tax assets	34,733	30,766
Valuation allowance	(34,733)	(30,766)
	$ —	$ —

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. As of December 29, 2018 and December 30, 2017, a valuation allowance of $34.7 million and $30.8 million, respectively, has been provided based on the Company's assessment that it is more likely than not that sufficient taxable income will not be generated to realize the tax benefits of the temporary differences. The valuation allowance increased by $3.9 million and decreased by $13.6 million during the years ended December 29, 2018 and December 30, 2017, respectively. The increase in the year ended December 29, 2018 primarily relates to the increase in the net operating loss ("NOL") carryforward, and the decrease in the year ended December 30, 2017 primarily relates to the revaluing of the deferred tax assets due to the change in U.S. federal tax law discussed below.

On December 27, 2017, the U.S. enacted the Tax Cuts and Jobs Act (the "Act") that, among other things, lowered the Company's U.S. statutory federal income tax rate from 34% to 21%. In addition, as a result of the Act, the Company remeasured certain deferred tax assets and liabilities based on the revised rates at which they are expected to reverse and reduced its deferred tax assets and corresponding valuation allowance by $14.7 million as of December 30, 2017. Because the Company's existing deferred tax assets are currently fully offset by a valuation allowance, the changes by the Act did not have any net impacts on the accompanying consolidated balance sheet. However, if and when the Company becomes profitable, it would receive a reduced benefit from its deferred tax assets.

As of December 29, 2018, the Company had (i) $121.9 million of federal NOL carryforwards, of which $104.2 million will expire from 2019 through 2037, and $17.7 million of which will be carried forward indefinitely, (ii) $64.5 million of state NOL carryforwards, which begin to expire in 2019, (iii) federal tax credit carryforwards of $1.7 million, which begin to expire in 2026, and (iv) state tax credit carryforwards of $1.8 million, which will be carried forward indefinitely. In addition, as of December 29, 2018, the Company had $3.7 million of foreign NOL carryforwards from various jurisdictions, which begin to expire in 2019. Utilization of the NOL and tax credit carryforwards is subject to an annual limitation due to the ownership percentage change limitations provided by Section 382 of the Internal Revenue Code (the "Code") and similar state and foreign law provisions. Under Section 382 of the Code, substantial changes in our ownership may limit the amount of NOL and tax credit carryforwards that are available to offset taxable income. The annual limitation would not automatically result in the loss of NOL and tax credit carryforwards but may limit the amount available in any given future period. Additional limitations on the use of these tax attributes could occur in the event of possible disputes arising in examination from various taxing authorities.

The Company files income tax returns with federal, state and foreign jurisdictions. The Company is no longer subject to Internal Revenue Service ("IRS") or state examinations for periods prior to 2013, although certain carryforward attributes that were generated prior to 2013 may still be adjusted by the IRS.

The Company includes interest and penalties related to uncertain tax positions within the provision for income taxes. As of December 29, 2018 and December 30, 2017, the interest or penalties accrued related to unrecognized tax benefits were insignificant, and during the years ended December 29, 2018 and December 30, 2017, the interest and penalties related to uncertain tax position recorded were insignificant. As of December 29, 2018, the Company had no unrecognized tax benefits that would significantly change in the next 12 months.

Note 8—Commitments and Contingencies

Operating Leases

The Company leases certain of its facilities and equipment under non-cancelable operating leases that expire at various dates through 2020. Rental expense, net for the fiscal years ended December 29, 2018 and December 30, 2017 was $0.6 million and $0.5 million, respectively.

A summary of future minimum lease payments under operating lease as of December 29, 2018 is as follows (in thousands):

Fiscal Year	Amount
2019	$ 399
2020	208
Total minimum lease payments	$ 607

Contingent Legal Expenses

The Company may retain the services of law firms that specialize in patent licensing and enforcement and patent law in connection with its licensing and enforcement activities. These law firms may be retained on a contingent fee basis whereby such law firms are paid on a scaled percentage of any negotiated fee, settlements or judgments awarded based on how and when the fees, settlements or judgments are obtained.

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 legal proceedings against SK hynix (see "Litigation and Patent Reexaminations" in this Note 8 below), including costs incurred since January 1, 2017 and costs to be incurred in the future in the Company's first action in the U.S. International Trade Commission ("ITC") and its U.S. district court proceedings, but excluding the Company's second 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. During the years ended December 29, 2018 and December 30, 2017, the Company excluded legal expenses of $1.8 million and $10.2 million, respectively, 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 various aspects of the Company's innovations and includes 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 and enforcing its intellectual property rights, including with patent infringement proceedings it files against third parties and defense of 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"). The Company expects these activities to continue for the foreseeable future, with no guarantee that any ongoing or future patent protection or 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 based on claims that it has infringed on the intellectual property rights of others.

Any litigation, regardless of its outcome, is inherently uncertain, involves a significant dedication of resources, including time and capital, and diverts management's attention from other activities of the Company. As a result, any current or future infringement claims or patent challenges by or against third parties, whether or not eventually decided in the Company's favor or settled, could materially adversely affect the Company's business, financial condition and results of operations. Additionally, the outcome of pending or future litigation and related patent reviews and 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 or otherwise monetize its intellectual property rights 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. On January 31, 2019 the PTAB, in response to Google's rehearing request, denied rehearing of the PTAB's previous decision upholding the validity of claims in Netlist's '912 patent. Google has until mid April 2019 to appeal this decision.

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. On June 1, 2018, the PTAB reversed the Examiner and found the pending amended claims to be patentable. On July 2, 2018, Google requested rehearing of the PTAB’s decision. On January 31, 2019 the PTAB, in response to Google’s rehearing request, denied rehearing of the PTAB’s previous decision upholding the validity of claims in Netlist’s ‘912 patent. Google has 60 days from this decision to file an appeal. 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. On June 1, 2018, the PTAB reversed the Examiner and found the pending amended claims to be patentable. Smart Modular did not appeal this decision to the Federal Circuit. On October 3, 2018, the USPTO issued a Notice of Intent to Issue a Reexam Certificate, and on November 5, 2018, the USPTO issued Reexamination Certificate No. 7,864,627 C1. 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. On October 6, 2017, Netlist appealed the decision to the Court of Appeals for the Federal Circuit, which Netlist dismissed on March 19, 2018, thereby terminating the proceedings with the rejection of all '274 patent claims becoming final. 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

On September 13, 2012, 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. Accruals have not been recorded for loss contingencies related to Smart Modular's complaint because it is not probable that a loss has been incurred and the amount of any such loss cannot be reasonably estimated.

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. On December 12, 2017, the PTAB agreed with the examiner and found all pending claims to be unpatentable. Smart Modular appealed the PTAB's decision to the Court of Appeals for the Federal Circuit. On March 28, 2018, the Eastern District Court stayed the proceedings related to the '295 patent. On January 18, 2019 the Company and Smart Modular filed a Joint Motion to Dismiss with Prejudice, terminating the proceedings related to the '295 patent in the Eastern District Court.

Smart Modular and SanDisk Litigation

On July 1 and August 23, 2013, the Company filed complaints against Smart Modular, SMART Storage Systems (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. More particularly, the Company asserted claims from U.S. Patent Nos. 7,881,150; 8,001,434; 8,081,536; 8,301,833; 8,359,501; 8,516,185; and 8,516,187 (the "Asserted Patents").

On August 23, 2013, Smart Modular and Diablo each filed a complaint in the Oakland Division of the Northern District Court seeking declaratory judgment of non-infringement and invalidity of the Asserted Patents. 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 all claims against Smart Modular without prejudice. On

April 15, 2014, the Northern District Court granted the parties' joint stipulation dismissing all claims against Smart Worldwide 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 ("IPR") of the Company's Asserted Patents. On April 9, 2015, the Northern District Court stayed the proceedings as to the Company's patent infringement claims pending resolution of all outstanding IPRs. The trade secret misappropriation and trademark infringement claims against Diablo were fully adjudicated on August 17, 2016 (during the pendency of the IPR's) and are no longer pending.

All of the IPRs filed by SanDisk, Diablo and SMART Modular associated with the Asserted Patents with Patent Nos. ending in '185, '187 and '833 have been resolved in the Company's favor and are no longer pending. The IPRs associated with the Asserted Patents with Patent Nos. ending in '150, '434, '501 and '536, and the appeals therefrom, have also concluded, with the Board confirming the patentability of several asserted claims. The litigation, however, remains stayed pending resolution of IPRs filed by Hynix on the same or related patents. On December 8, 2017, Diablo filed for bankruptcy, and on November 9, 2018, the Northern District Court dismissed all claims against Diablo without prejudice. The Company's patent infringement claims as to all Asserted Patents remain pending against SMART Storage Systems and SanDisk, subject to the stay.

SK hynix Litigation

On September 1, 2016, the Company filed legal proceedings for patent infringement against SK hynix in the ITC (the "First ITC Action") and the Central District Court. These proceedings are based on the alleged infringement by SK hynix's RDIMM and LRDIMM enterprise memory products of six of the Company's U.S. patents. On October 31, 2017, the Company filed additional legal proceedings for patent infringement against SK hynix in the ITC (the "Second ITC Action") based on the alleged infringement by SK hynix's RDIMM and LRDIMM products of two additional U.S. patents owned by the Company. In all of the ITC proceedings, the Company has requested exclusion orders that direct 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 in connection with the First ITC Action, and held a hearing on the merits of the investigation from May 8, 2017 until May 11, 2017. On November 14, 2017, the ITC issued a final initial determination for the First ITC Action, finding no infringement of the asserted patents and no violation of Section 337 of the Tariff Act, and on January 16, 2018, the ITC issued a final determination for the First ITC Action, affirming the findings of no infringement and no violation and terminating the investigation. The Company is appealing this final determination to the Court of Appeals for the Federal Circuit.

On January 11, 2018, the ITC set a 19-month target date of July 3, 2019 for an investigation related to the Second ITC Action, with a final initial determination for the Second ITC Action being filed no later than March 1, 2019. Based on this target date, the ITC scheduled a hearing on the merits of the investigation related to the Second ITC Action to begin on November 9, 2018 and conclude on November 19, 2018. On April 12, 2018, the ITC granted SK hynix's motion for summary determination of non-infringement and terminated the Second ITC Action in its entirety. On April 23, 2018, the Company filed a petition seeking ITC review of this decision. On May 29, 2018, the ITC Commission remanded the Second ITC Action back to the ALJ to resolve the parties' claim construction disputes and continue the investigation. On June 14, 2018, the ITC extended the target date for the final determination to August 5, 2019, with a final initial determination due by April 5, 2019. Based on this extended target date, the ITC scheduled a hearing on the merits to begin on December 14, 2018 and conclude on December 21, 2018. On September 13, 2018, the ITC rescheduled the hearing on the merits to begin on January 14, 2019 and conclude on January 18, 2019. On January 29, 2019, due to the government shutdown, the ITC again rescheduled the hearing on the merits to begin on March 11, 2019 and conclude on March 15, 2019. On February 8, 2019 Chief Administrative Law Judge of the ITC issued an Order in Investigation No. 337-TA-1089 denying SK hynix's motion for "Summary Determination of Non Infringement of Netlist's U.S. Patent No. 9,535,623 Based On Issue Preclusion." On March 12, 2019 the ALJ postponed the trial due to reasons unrelated to the dispute between the parties. A new trial schedule is expected to be issued in March 2019.

Between December 30, 2016 and January 20, 2017, SK hynix filed numerous petitions in the USPTO requesting IPR of certain of the Company's patents, including the patents asserted in the First ITC Action and the Central District Court proceedings, which have now concluded and certain of which are now on appeal to the Court of Appeals for the Federal Circuit. Between December 19, 2017 and February 7, 2018, SK hynix filed additional petitions in the USPTO requesting IPR of the patents asserted in the Second ITC Action, which are now proceeding and are scheduled to conclude no later than August, 2019.

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.

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 products of certain of the Company's patents in those jurisdictions. On January 25, 2018, the court in Germany held a preliminary hearing and then held the trial on December 6, 2018. In December 2017, SK hynix filed petitions challenging the validity of the patents asserted by the Company in Germany and the PRC. On June 3, 2018, the patent asserted in the PRC was found to be invalid. On June 19, 2018, the Company withdrew the patent infringement suits filed in the PRC. On January 31, 2019, the court in Germany dismissed the infringement action, and ordered the Company to bear the costs of the action. On March 5, 2019, Netlist filed an Appeal Notice of the German courts finding.

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, among others: (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 TRGP, SVIC, SVB and Iliad pertaining to all obligations, demands, claims, and liabilities claimed or asserted by any other party in connection with transactions contemplated by the applicable investment or loan documents, as applicable; 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 consolidated balance sheets.

Note 9—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 December 29, 2018 or December 30, 2017.

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 8).

On April 16, 2018, the Company entered into an amendment (the “Amendment”) to the Rights Agreement. The Amendment amends the definition of “Expiration Date” in the Rights Agreement to incorporate all of the Company’s legal proceedings against SK hynix, and amends the definition of “Final Expiration Date” in the Rights Agreement to mean the close of business on April 17, 2019. Accordingly, the Amendment extends the final expiration of the Rights issued pursuant to the Rights Agreement from April 17, 2018 to April 17, 2019. As a result, and pursuant to the Amendment, the Rights will expire and become unexercisable on or before, in accordance with the terms of the Rights Agreement, the close of business on April 17, 2019.

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 Restated Certificate of Incorporation (“Amended Certificate of Incorporation”) to increase the number of shares of the Company’s common stock authorized for issuance from 90,000,000 to 150,000,000. The Amended Certificate of Incorporation was amended further to increase the number of shares of the common stock authorized for issuance to 300,000,000 upon the approval by the stockholders on August 15, 2018.

On August 22, 2017, the Company completed an underwritten 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.

On November 14, 2017, the Company entered into the Sales Agreement with the Agent to sell shares of its common stock, with aggregate gross proceeds of up to $9.0 million, from time to time, through the ATM Program. Under the Sales Agreement, the Company set the parameters for the sale of shares, including the number of shares to be issued, the time period during which sales were requested to be made, limitation on the number of shares that could be sold in any one trading day and any minimum price below which sales could be made. On August 29, 2018, the Company completed the offering under the ATM Program after raising net proceeds of approximately $8.6 million through the sale of 40,680,368 shares of its common stock, after deducting sales commissions and other offering expenses paid by the Company. During the year ended December 29, 2018, the Company received net proceeds of approximately $5.8 million through the sale of 31,786,146 shares of its common stock, after deducting sales commissions and other offering expenses paid by the Company.

On May 17, 2018, the Company entered into a Board approved arm's length Share Purchase Agreement with a trust controlled by C.K. Hong, its President, Chief Executive Officer and Chairman of the Board, pursuant to which the Company sold to the trust 5,405,405 shares of its common stock, par value $0.001 per share, at a price per share of $0.148 (the closing price of its common stock as of the signing of the purchase agreement). The net proceeds received by the Company were $0.8 million.

On September 12, 2018, the Company entered into a Securities Purchase Agreement with certain investors, pursuant to which the Company issued and sold to the investors in a registered offering ("2018 Offering") an aggregate of 22,222,220 shares of its common stock and warrants to purchase up to an aggregate of 11,111,110 shares of its common stock at a per share purchase price of $0.45 per share (see below *Warrants*). The 2018 Offering closed on September 14, 2018. The net proceeds to the Company from the 2018 Offering were approximately $9.2 million, after deducting placement agent fees and offering costs paid by the Company. The warrant becomes exercisable 181 days following the date of its issuance, has a term of five years commencing on the date when it first becomes exercisable, and has an exercise price of $0.655 per share. The exercise price and the number of warrant shares issuable upon exercise of warrant are subject to adjustment in the event of, among other things, certain transactions affecting the Company's common stock (including without limitation stock splits and stock dividends), and certain fundamental transactions (including without limitation a merger or other sale-of-company transaction).

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 its stockholders on June 8, 2016 (the "Amended 2006 Plan"), under which a variety of stock-based awards, including stock options and restricted stock, 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 December 29, 2018, the Company was authorized to issue a maximum of 12,605,566 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 December 29, 2018, the Company had 2,811,339 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 Company uses the Black-Scholes option pricing model to determine the grant date fair value of stock options. The weighted-average assumptions used in the option valuation model and the resulting weighted-average grant date fair value of stock options granted were as follows:

	Year Ended December 29, 2018	Year Ended December 30, 2017
Expected term (in years)	6.20	6.52
Expected volatility	108 %	87 %
Risk-free interest rate	2.75 %	2.05 %
Expected dividends	$ —	$ —
Weighted-average grant date fair value per share	$ 0.21	$ 0.73

Stock option activity for the year ended December 29, 2018 is as follows:

	Number of Shares (in thousands)	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 30, 2017	8,745	$ 1.39	6.11	$ —
Granted	1,655	$ 0.25		
Exercised	(30)	$ 0.37		
Expired or forfeited	(2,184)	$ 1.32		
Outstanding at December 29, 2018	8,186	$ 1.18	5.88	$ 223
Exercisable at December 29, 2018	5,794	$ 1.45	4.74	$ 26
Vested and expected to vest at December 29, 2018	7,794	$ 1.22	5.73	$ 181

There was no significant intrinsic value of options exercised during the years ended December 29, 2018 and December 30, 2017.

The grant-date fair value of restricted stock equals the closing price of the Company's common stock on the grant date. Restricted stock awards vest annually on each anniversary of the grant date over a two-year term. Restricted stock awards activity for the year ended December 29, 2018 is as follows:

	Number of Shares (in thousands)	Weighted-Average Grant-Date Fair Value per Share
Balance nonvested at December 30, 2017	—	$ —
Granted	525	$ 0.25
Vested	—	$ —
Forfeited	—	$ —
Balance nonvested at December 29, 2018	525	$ 0.25

As of December 29, 2018, the Company had approximately $0.8 million, net of estimated forfeitures, of unearned stock-based compensation, which it expects to recognize over a weighted-average period of approximately 2.1 years.

Warrants

In April and July 2018, the Company issued warrants to purchase up to 50,000 shares and 150,000 shares of its common stock at an exercise price of $0.25 to $0.15 per share, respectively, to a consulting firm as partial consideration for their services rendered. Separately, in July 2018, the Company issued warrants to purchase up to 300,000 shares of its common stock at an exercise price of $0.11 per share to a software development company as partial consideration to enter into a joint software development agreement. The aggregate fair value of the warrants issued to these firms, calculated using the Black-Scholes option pricing model, was not significant. In September 2018, in connection with the 2018 Offering, the Company issued warrants to purchase up to an aggregate of 11,111,110 shares of its common stock at a per share purchase price of $0.655 per share (see above *Common Stock*).

Warrant activity for the year ended December 29, 2018 is as follows:

	Number of Shares (in thousands)	Weighted Average Exercise Price
Outstanding at December 30, 2017	4,924	$ 0.66
Granted	11,611	$ 0.63
Exercised	—	$ —
Expired	(1,525)	$ 0.89
Outstanding at December 29, 2018	15,010	$ 0.62

Note 10—401(k) Plan

The Company has a defined contribution plan under Section 401(k) of the Code (“401(k)”) covering full-time domestic employees who meet certain eligibility requirements. Under the 401(k) plan, eligible employees may contribute up to 100% of their eligible compensation on either a pre-tax or after-tax Roth 401(k) basis, or up to the annual maximum allowed by the IRS. The Company may make matching contributions on the contributions of a participant on a discretionary basis. For the year ended December 30, 2017, the Company recognized a contribution expense of $0.1 million. For the year ended December 29, 2018, the contribution expense was insignificant.

Note 11—Major Customers, Suppliers and Products

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

	Year Ended	
	December 29, 2018	December 30, 2017
Customer A	18 %	* %

* less than 10% of total net product sales

As of December 29, 2018, two customers represented approximately 22% and 15% of aggregate gross accounts receivable, respectively. As of December 30, 2017, three customers represented approximately 15%, 13% and 12% of aggregate gross accounts receivable, 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 sales and adversely affect its operating results. The Company mitigates risks associated with foreign receivables by purchasing comprehensive foreign credit insurance.

The Company resells certain component products to end-customers that are not reached in the distribution models of the component manufacturers, including storage customers, appliance customers, system builders and cloud and datacenter customers. Historically, the Company has obtained the majority of the component products it resells from Samsung. Beginning in 2018, the Company increased the amount of the product sourcing from alternate suppliers. For the years ended December 29, 2018 and December 30, 2017, resales of these products represented approximately 75% and 85%, respectively, of the Company's net sales.

The Company's purchases are typically concentrated in a small number of suppliers. The following table sets forth the percentage of the Company's purchases made from suppliers that each comprise 10% or more of the Company's total purchases:

	Year Ended	
	December 29, 2018	December 30, 2017
Supplier A	17 %	10 %
Supplier B	15 %	* %
Supplier C	13 %	60 %

* Less than 10% of purchases during the period

While the Company believes alternative suppliers may be available, its dependence on a small number of suppliers and the lack of any guaranteed sources for the essential components of its products and the components it resells exposes the Company to several risks, including the inability to obtain an adequate supply of these components, increases in their costs, delivery delays and poor quality. If the Company is not able to obtain these components in the amounts needed on a timely basis and at commercially reasonable prices, it may not be able to develop or introduce new products, it may experience significant increases in its cost of sales if it is forced to procure components from alternative suppliers and is not able to negotiate favorable terms with these suppliers, it may experience interruptions or failures in the delivery of its products, or it may be forced to cease sales of products dependent on the components or resales of the components it resells to customers directly. The occurrence of any of these risks could have a material adverse effect on the Company's business, prospects, and financial condition and operating results.

Note 12—Subsequent Events

The Company has evaluated subsequent events through the filing date of this Annual Report on Form 10-K and determined that no subsequent events have occurred that would require recognition in the consolidated financial statements or disclosures in the notes thereto other than as discussed in the accompanying notes.

Note 13—Quarterly Summary (Unaudited)

The following quarterly consolidated statements of operations for the years ended December 29, 2018 and December 30, 2017 are unaudited, and have been prepared on a basis consistent with the Company's audited consolidated annual financial statements, and include, in the opinion of management, all normal recurring adjustments necessary for the fair statement of the financial information contained in those statements. The results of operations of any quarter are no necessarily indicative of the results that may be expected for any future period. All quarterly information is presented in 13-week periods. Quarterly and year-to-date computation of net loss per common share are calculated independently, and as a result, the sum of the per share amounts for the quarters may not agree with the per share amounts for the year (in thousands, except per share amounts).

	Three Months Ended			
	December 29, 2018	September 29, 2018	June 30, 2018	March 31, 2018
Net sales	$ 9,021	$ 7,203	$ 8,426	$ 8,879
Cost of sales	8,167	6,617	7,944	8,500
Gross profit	854	586	482	379
Operating expenses:				
Research and development	573	535	783	1,008
Intellectual property legal fees	2,559	2,760	1,388	2,211
Selling, general and administrative	1,835	1,745	1,585	1,691
Total operating expenses	4,967	5,040	3,756	4,910
Operating loss	(4,113)	(4,454)	(3,274)	(4,531)
Other expense, net:				
Interest expense, net	(276)	(183)	(133)	(147)
Other income (expense), net	1	(7)	(10)	5
Total other expense, net	(275)	(190)	(143)	(142)
Loss before provision for income taxes	(4,388)	(4,644)	(3,417)	(4,673)
Provision for income taxes	(2)	—	—	—
Net loss	$ (4,386)	$ (4,644)	$ (3,417)	$ (4,673)
Net loss per common share:				
Basic and diluted	$ (0.03)	$ (0.04)	$ (0.04)	$ (0.06)
Weighted-average common shares outstanding:				
Basic and diluted	138,737	115,402	91,685	82,461

	Three Months Ended			
	December 30, 2017	September 30, 2017	July 1, 2017	April 1, 2017
Net sales	$ 8,482	$ 9,010	$ 11,404	$ 9,426
Cost of sales	8,075	8,285	10,760	8,746
Gross profit	407	725	644	680
Operating expenses:				
Research and development	1,089	1,159	1,487	1,496
Intellectual property legal fees	575	749	915	466
Selling, general and administrative	1,729	1,780	1,951	1,914
Total operating expenses	3,393	3,688	4,353	3,876
Operating loss	(2,986)	(2,963)	(3,709)	(3,196)
Other expense, net:				
Interest expense, net	(143)	(135)	(138)	(148)
Other income, net	2	—	—	2
Total other expense, net	(141)	(135)	(138)	(146)
Loss before provision for income taxes	(3,127)	(3,098)	(3,847)	(3,342)
Provision for income taxes	6	—	—	—
Net loss	$ (3,133)	$ (3,098)	$ (3,847)	$ (3,342)
Net loss per common share:				
Basic and diluted	$ (0.04)	$ (0.05)	$ (0.06)	$ (0.05)
Weighted-average common shares outstanding:				
Basic and diluted	72,882	65,644	61,844	61,681

EXHIBIT 10.25

AMENDMENT
TO
LOAN AND SECURITY AGREEMENT

THIS **AMENDMENT TO LOAN AND SECURITY AGREEMENT** (this "Amendment") is entered into as of March _21, 2019, by and between SILICON VALLEY BANK ("Bank" or "Silicon") and NETLIST, INC., a Delaware corporation ("Borrower"). Borrower's chief executive office is located at 175 Technology Drive, Suite 150, Irvine, CA 92618

RECITALS

A. Bank and Borrower are parties to that certain Loan and Security Agreement with an Effective Date of October 31, 2009 (as the same may from time to time be amended, modified, supplemented or restated, the "Loan Agreement").

B. Bank has extended credit to Borrower for the purposes permitted in the Loan Agreement.

C. Borrower has requested that Bank amend the Loan Agreement to (i) extend the Revolving Line Maturity Date and (ii) make certain other revisions to the Loan Agreement as more fully set forth herein.

D. Bank has agreed to so amend certain provisions of the Loan Agreement and to provide its consent, but only to the extent, in accordance with the terms, subject to the conditions and in reliance upon the representations and warranties set forth below.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing recitals and other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, and intending to be legally bound, the parties hereto agree as follows, effective as of the date hereof:

1. Definitions. Capitalized terms used but not defined in this Amendment shall have the meanings given to them in the Loan Agreement.

2. Amendments to Loan Agreement.

2.1 Deletion of Inventory Reporting. Section 6.2(e) of the Loan Agreement that currently reads as follows:

> (e) within 30 days after the end of each month, a monthly perpetual inventory report for Inventory valued on an average cost basis which approximates cost on a first-in, first-out basis or such other inventory reports as are requested by Bank in its good faith business judgment;

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is hereby amended to read as follows:

(e) [intentionally omitted] ;

2.2 Modified Definition of Revolving Line Maturity Date. The definition of "Revolving Line Maturity Date" set forth in Section 13.1 of the Loan Agreement is hereby deleted in its entirety and replaced with the following:

" **Revolving Line Maturity Date** " is March 30, 2020.

3. Limitation of Amendments.

3.1 The amendments set forth in Section 2, above, are effective for the purposes set forth herein and shall be limited precisely as written and shall not be deemed to (a) be a consent to any amendment, waiver or modification of any other term or condition of any Loan Document, or (b) otherwise prejudice any right or remedy which Bank may now have or may have in the future under or in connection with any Loan Document.

3.2 This Amendment shall be construed in connection with and as part of the Loan Documents and all terms, conditions, representations, warranties, covenants and agreements set forth in the Loan Documents, except as herein amended, are hereby ratified and confirmed and shall remain in full force and effect.

4. Representations and Warranties. To induce Bank to enter into this Amendment, Borrower hereby represents and warrants to Bank as follows:

4.1 Immediately after giving effect to this Amendment (a) the representations and warranties contained in the Loan Documents are true, accurate and complete in all material respects as of the date hereof (except to the extent such representations and warranties relate to an earlier date, in which case they are true and correct as of such date), and (b) no Event of Default has occurred and is continuing;

4.2 Borrower has the power and authority to execute and deliver this Amendment and to perform its obligations under the Loan Documents, as amended by this Amendment;

4.3 The organizational documents of Borrower delivered to Bank on the Effective Date remain true, accurate and complete and have not been amended, supplemented or restated and are and continue to be in full force and effect;

4.4 The execution and delivery by Borrower of this Amendment and the performance by Borrower of its obligations under the Loan Documents, as amended by this Amendment, have been duly authorized;

4.5 The execution and delivery by Borrower of this Amendment and the performance by Borrower of its obligations under the Loan Documents, as amended by this

Amendment, do not and will not contravene (a) any law or regulation binding on or affecting Borrower, (b) any contractual restriction with a Person binding on Borrower, (c) any order, judgment or decree of any court or other governmental or public body or authority, or subdivision thereof, binding on Borrower, or (d) the organizational documents of Borrower;

4.6 The execution and delivery by Borrower of this Amendment and the performance by Borrower of its obligations under the Loan Documents, as amended by this Amendment, do not require any order, consent, approval, license, authorization or validation of, or filing, recording or registration with, or exemption by any governmental or public body or authority, or subdivision thereof, binding on Borrower, except as already has been obtained or made; and

4.7 This Amendment has been duly executed and delivered by Borrower and is the binding obligation of Borrower, enforceable against Borrower in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, liquidation, moratorium or other similar laws of general application and equitable principles relating to or affecting creditors' rights.

5. Release by Borrower . Borrower hereby agree as follows:

5.1 FOR GOOD AND VALUABLE CONSIDERATION , Borrower hereby forever relieves, releases, and discharges Bank and its present or former employees, officers, directors, agents, representatives, attorneys, and each of them, from any and all claims, debts, liabilities, demands, obligations, promises, acts, agreements, costs and expenses, actions and causes of action, of every type, kind, nature, description or character whatsoever, whether known or unknown, suspected or unsuspected, absolute or contingent, arising out of or in any manner whatsoever connected with or related to facts, circumstances, issues, controversies or claims existing or arising from the beginning of time through and including the date of execution of this Amendment (collectively " **Released Claims** "). Without limiting the foregoing, the Released Claims shall include any and all liabilities or claims arising out of or in any manner whatsoever connected with or related to the Loan Documents, the Recitals hereto, any instruments, agreements or documents executed in connection with any of the foregoing or the origination, negotiation, administration, servicing and/or enforcement of any of the foregoing.

5.2 In furtherance of this release, Borrower expressly acknowledges and waives any and all rights under Section 1542 of the California Civil Code, which provides as follows:

> **"A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS THAT THE CREDITOR OR RELEASING PARTY DOES NOT KNOW OR EXPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE AND THAT, IF KNOWN BY HIM OR HER, WOULD HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY."** (Emphasis added.)

5.3 By entering into this release, Borrower recognizes that no facts or representations are ever absolutely certain and it may hereafter discover facts in addition to or different from those which it presently knows or believes to be true, but that it is the intention of Borrower hereby to fully, finally and forever settle and release all matters, disputes and differences, known or unknown, suspected or unsuspected; accordingly, if Borrower should subsequently discover that any fact that it relied upon in entering into this release was untrue, or that any understanding of the facts was incorrect, Borrower shall not be entitled to set aside this release by reason thereof, regardless of any claim of mistake of fact or law or any other circumstances whatsoever. Borrower acknowledges that it is not relying upon and has not relied upon any representation or statement made by Bank with respect to the facts underlying this release or with regard to any of such party's rights or asserted rights.

5.4 This release may be pleaded as a full and complete defense and/or as a cross-complaint or counterclaim against any action, suit, or other proceeding that may be instituted, prosecuted or attempted in breach of this release. Borrower acknowledges that the release contained herein constitutes a material inducement to Bank to enter into this Amendment, and that Bank would not have done so but for Bank's expectation that such release is valid and enforceable in all events.

5.5 Borrower hereby represents and warrants to Bank, and Bank is relying thereon, as follows:

(a) Except as expressly stated in this Amendment, neither Bank nor any agent, employee or representative of Bank has made any statement or representation to Borrower regarding any fact relied upon by Borrower in entering into this Amendment.

(b) Borrower has made such investigation of the facts pertaining to this Amendment and all of the matters appertaining thereto, as it deems necessary.

(c) The terms of this Amendment are contractual and not a mere recital.

(d) T his Amendment has been carefully read by Borrower, the contents hereof are known and understood by Borrower, and this Amendment is signed freely, and without duress, by Borrower

(e) Borrower represents and warrants that it is the sole and lawful owner of all right, title and interest in and to every claim and every other matter which it releases herein, and that it has not heretofore assigned or transferred, or purported to assign or transfer, to any person, firm or entity any claims or other matters herein released. Borrower shall indemnify Bank, defend and hold it harmless from and against all claims based upon or arising in connection with prior assignments or purported assignments or transfers of any claims or matters released herein

6. Ratification of Intellectual Property Security Agreement . Borrower hereby ratifies, confirms and reaffirms, all and singular, the terms and conditions of a certain Intellectual Property Security Agreement dated as of October 31, 2009 between Borrower and Bank, and acknowledges, confirms and agrees that said Intellectual Property Security Agreement

(a) contains an accurate and complete listing of all Intellectual Property Collateral (as defined therein) and (b) shall remain in full force and effect.

7. Ratification of Perfection Certificate . Borrower hereby ratifies, confirms and reaffirms, all and singular, the terms and disclosures contained in a certain Perfection Certificate dated as of January 25, 2017, and acknowledges, confirms and agrees that the disclosures and information Borrower provided to Bank in such Perfection Certificate have not changed, as of the date hereof.

8. Integration . This Amendment and the Loan Documents represent the entire agreement about this subject matter and supersede prior negotiations or agreements. All prior agreements, understandings, representations, warranties, and negotiations between the parties about the subject matter of this Amendment and the Loan Documents merge into this Amendment and the Loan Documents.

9. Counterparts. This Amendment may be executed in any number of counterparts and all of such counterparts taken together shall be deemed to constitute one and the same instrument.

10. Bank Expenses. Borrower shall pay to Bank, when due, all Bank Expenses (including reasonable attorneys' fees and expenses), when due, incurred in connection with or pursuant to this Amendment.

11. Effectiveness . This Amendment shall be deemed effective upon (a) the due execution and delivery to Bank of this Amendment by each party hereto and (b) Borrower's payment of an amendment fee with respect to the renewal of the Loan Agreement in an amount equal to $15,000. The above-mentioned fee shall be fully earned and payable concurrently with the execution and delivery of this Amendment and shall be non-refundable and in addition to all interest and other fees payable to Bank under the Loan Documents. Bank is authorized to charge such fees to Borrower's loan account.

[Signature page follows.]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed and delivered as of the date first written above.

BANK		**BORROWER**	
Silicon Valley Bank		Netlist, Inc.	
By:	/ s/ ANDREW SKALITZY	By:	/ s/ GAIL SASAKI
Name:	Andrew Skalitzy	Name:	Gail Sasaki
Title:	VP	Title:	CFO, VP, Secretary

EXHIBIT 10.3

NETLIST, INC.

AMENDED AND RESTATED 2006 EQUITY INCENTIVE PLAN

Re-Approved by the Stockholders on June 8, 2016

1. Purpose

This Plan is intended to encourage ownership of Stock by employees, consultants, advisors and directors of the Company and its Affiliates and to provide additional incentive for them to promote the success of the Company's business through the grant of Awards of, or pertaining to, shares of the Company's Stock. This Plan is intended to be an incentive stock option plan within the meaning of Section 422 of the Code, but not all Awards are required to be Incentive Options. This Plan shall not become effective until the Effective Date.

2. Definitions

As used in this Plan, the following terms shall have the following meanings:

2.1 *Accelerate, Accelerated, and Acceleration* , means: (a) when used with respect to an Option or Stock Appreciation Right, that as of the time of reference the Option or Stock Appreciation Right will become exercisable with respect to some or all of the shares of Stock for which it was not then otherwise exercisable by its terms; (b) when used with respect to Restricted Stock or Restricted Stock Units, that the Risk of Forfeiture otherwise applicable to the Stock or Units shall expire with respect to some or all of the shares of Restricted Stock or Units then still otherwise subject to the Risk of Forfeiture; and (c) when used with respect to Performance Units, that the applicable Performance Goals shall be deemed to have been met as to some or all of the Units.

2.2 *Acquisition* means (i) a merger or consolidation of the Company with or into another person, (ii) the sale, transfer, or other disposition of all or substantially all of the Company's assets to one or more other persons in a single transaction or series of related transactions, or (iii) the acquisition of beneficial ownership (determined pursuant to Securities and Exchange Commission Rule 13d-3 promulgated under the Securities Exchange Act of 1934, as amended and in effect from time to time) by any person of more than 50% of the Company's outstanding common stock pursuant to a tender or exchange offer made directly to the Company's stockholders, other than an underwriter temporarily holding common stock pursuant to an offering of such common stock. Notwithstanding the foregoing, a transaction shall not constitute an "Acquisition" if its sole purpose is to change the state of the Company's incorporation or to create a holding company that will be owned in substantially the same proportions by the persons who held the Company's securities immediately prior to such transaction.

2.3 *Affiliate* means any corporation, partnership, limited liability company, business trust, or other entity controlling, controlled by or under common control with the Company.

2.4 *Award* means any grant pursuant to the Plan of Options, Stock Appreciation Rights, Performance Units, Restricted Stock, Restricted Stock Units or Stock Grants.

2.5 *Award Agreement* means an agreement between the Company and the recipient of an Award, setting forth the terms and conditions of the Award.

2.6 *Board* means the Company's Board of Directors.

2.7 *California Participant* means a Participant who resides in the State of California.

2.8 *Code* means the Internal Revenue Code of 1986, as amended from time to time, or any successor statute thereto, and any regulations issued from time to time thereunder.

2.9 *Committee* means the Compensation Committee of the Board, which in general is responsible for the administration of the Plan, as provided in Section 5 of the Plan. For any period during which no such committee is in existence "Committee" shall mean the Board and all authority and responsibility assigned to the Committee under the Plan shall be exercised, if at all, by the Board.

2.10 *Company* means Netlist, Inc., a corporation organized under the laws of the State of Delaware.

2.11 *Covered Employee* means an employee who is a "covered employee" within the meaning of Section 162(m) of the Code.

2.12 *Effective Date* means the date on which the Company's registration statement on Form S-1, initially filed with the Securities and Exchange Commission on August 18, 2006 in connection with the initial public offering of its common stock in a firm commitment underwriting, as amended, is declared effective by the Securities and Exchange Commission.

2.13 *Grant Date* means the date as of which an Option is granted, as determined under Section 7.1(a).

2.14 *Incentive Option* means an Option which by its terms is to be treated as an "incentive stock option" within the meaning of Section 422 of the Code.

2.15 *Market Value* means the value of a share of Stock on a particular date determined by such methods or procedures as may be established by the Committee. Unless otherwise determined by the Committee, the Market Value of Stock as of any date is the closing price for the Stock as quoted on the NCM (or on any other national securities exchange on which the Stock is then listed) for that date or, if no closing price is reported for that date, the closing price on the next preceding date for which a closing price was reported. For purposes of Awards effective as of the effective date of the Company's initial public offering, Market Value of Stock shall be the price at which the Company's Stock is offered to the public in its initial public offering.

2.16 *NCM* means the NASDAQ Capital Market.

2.17 *Nonstatutory Option* means any Option that is not an Incentive Option.

2.18 *Option* means an option to purchase shares of Stock.

2.19 *Optionee* means a Participant to whom an Option shall have been granted under the Plan.

2.20 *Participant* means any holder of an outstanding Award under the Plan.

2.21 *Performance Criteria* means the criteria that the Committee selects for purposes of establishing the Performance Goal or Performance Goals for a Participant for a Performance Period. The Performance Criteria used to establish Performance Goals are limited to: (i) cash flow (before or after dividends), (ii) earnings per share (including, without limitation, earnings before interest, taxes, depreciation and amortization), (iii) stock price, (iv) return on equity, (v) stockholder return or total stockholder return, (vi) return on capital (including, without limitation, return on total capital or return on invested capital), (vii) return on investment, (viii) return on assets or net assets, (ix) market capitalization, (x) economic value added, (xi) debt leverage (debt to capital), (xii) revenue, (xiii) sales or net sales, (xiv) backlog, (xv) income, pre-tax income or net income, (xvi) operating income or pre-tax profit, (xvii) operating profit, net operating profit or economic profit, (xviii) gross margin, operating margin or profit margin, (xix) return on operating revenue or return on operating assets, (xx) cash from operations, (xxi) operating ratio, (xxii) operating revenue, (xxiii) market share improvement, (xxiv) general and administrative expenses or (xxv) customer service.

2.22 *Performance Goals* means, for a Performance Period, the written goal or goals established by the Committee for the Performance Period based upon the Performance Criteria. The Performance Goals may be expressed in terms of overall Company performance or the performance of a division, business unit, subsidiary, or an individual. either individually, alternatively or in any combination, applied to either the Company as a whole or to a business unit or Affiliate, either individually, alternatively or in any combination, and measured either quarterly, annually or cumulatively over a period of years, on an absolute basis or relative to a pre-established target, to previous years' results or to a designated comparison group, in each case as specified by the Committee. The Committee will, in the manner and within the time prescribed by Section 162(m) of the Code in the case of Qualified Performance-Based Awards, objectively define the manner of calculating the Performance Goal or Goals it selects to use for such Performance Period for such Participant. To the extent consistent with Section 162(m) of the Code, the Committee may appropriately adjust any evaluation of performance against a Performance Goal to exclude any of the following events that occurs during a performance period: (i) asset write-downs, (ii) litigation, claims, judgments or settlements, (iii) the effect of changes in tax law, accounting principles or other such laws or provisions affecting reported results, (iv) accruals for reorganization and restructuring programs and (v) any significant, unusual, or infrequently occurring items.

2.23 *Performance Period* means the one or more periods of time, which may be of varying and overlapping durations, selected by the Committee, over which the attainment of one or more Performance Goals will be measured for purposes of determining a Participant's right to, and the payment of, a Performance Unit.

2.24 *Performance Unit* means a right granted to a Participant under Section 7.5, to receive cash, Stock or other Awards, the payment of which is contingent on achieving Performance Goals established by the Committee.

2.25 *Plan* means this 2006 Equity Incentive Plan of the Company, as amended from time to time, and including any attachments or addenda hereto.

2.26 *Qualified Performance-Based Awards* means Awards intended to qualify as "performance-based compensation" under Section 162(m) of the Code.

2.27 *Restricted Stock* means a grant or sale of shares of Stock to a Participant subject to a Risk of Forfeiture.

2.28 *Restriction Period* means the period of time, established by the Committee in connection with an Award of Restricted Stock or Restricted Stock Units, during which the shares of Restricted Stock or Restricted Stock Units are subject to a Risk of Forfeiture described in the applicable Award Agreement.

2.29 *Risk of Forfeiture* means a limitation on the right of the Participant to retain Restricted Stock or Restricted Stock Units, including a right in the Company to reacquire shares of Restricted Stock at less than their then Market Value, arising because of the occurrence or non-occurrence of specified events or conditions.

2.30 *Restricted Stock Units* means rights to receive shares of Stock at the close of a Restriction Period, subject to a Risk of Forfeiture.

2.31 *Stock* means common stock, par value $0.001 per share, of the Company, and such other securities as may be substituted for Stock pursuant to Section 8.

2.32 *Stock Appreciation Right* means a right to receive any excess in the Market Value of shares of Stock (except as otherwise provided in Section 7.2(c)) over a specified exercise price.

2.33 *Stock Grant* means the grant of shares of Stock not subject to restrictions or other forfeiture conditions.

2.34 *Survivor* means a deceased Participant's legal representatives and/or any person who acquired the Participant's rights to an Award by will or by the laws of descent and distribution.

2.35 *Ten Percent Owner* means a person who owns, or is deemed within the meaning of Section 422(b)(6) of the Code to own, stock possessing more than 10% of the total combined voting power of all classes of stock of the Company (or any parent or subsidiary corporations of the Company, as defined in Sections 424(e) and (f), respectively, of the Code). Whether a person is a Ten Percent Owner shall be determined with respect to an Option based on the facts existing immediately prior to the Grant Date of the Option.

3. Term of the Plan

Unless the Plan shall have been earlier terminated by the Board, Awards may be granted under this Plan at any time in the period commencing on the date of approval of the Plan by the Board and ending immediately prior to the tenth anniversary of the earlier of the amendment of the Plan by the Board or re-approval of the Plan by the Company's stockholders in 2016. Awards granted pursuant to the Plan within that period shall not expire solely by reason of the termination of the Plan. Awards of Incentive Options granted prior to stockholder approval of the Plan are expressly conditioned upon such approval, but in the event of the failure of the stockholders to approve the Plan shall thereafter and for all purposes be deemed to constitute Nonstatutory Options.

4. Stock Subject to the Plan

At no time shall the number of shares of Stock issued pursuant to or subject to outstanding Awards granted under the Plan (including, without limitation, pursuant to Incentive Options), nor the number of shares of common stock issued pursuant to Incentive Options, exceed the sum of (a) 500,000 shares of Stock plus (b) an annual increase to be added on the first day of each calendar year beginning on or after January 1, 2007 equal to the lesser of (i) 500,000 shares of Stock, and (ii) such lesser number as the Board may approve for the fiscal year; *provided, however* , that beginning on January 1, 2010, the annual increase to the number of shares of Stock that may be issued pursuant to the Plan shall be equal to the lesser of (x) 5.0% of the number of shares of Stock that are issued and outstanding as of the first day of the calendar year, and (y) 1,200,000 shares of Stock; *provided, further* , that beginning on January 1, 2017, the annual increase to the number of shares of Stock that may be issued pursuant to the Plan shall be equal to the lesser of (x) 2.5% of the number of shares of Stock that are issued and outstanding as of the first day of the calendar year, and (y) 1,200,000 shares of Stock; *provided, further* that the annual increases shall continue only until such time as the total number of securities provided for or issuable upon exercise of all Awards grantable under this Section 4 or outstanding is less than 30% of the securities of the Company (on an as-converted basis) then outstanding; *subject, however* , to the provisions of Section 8 of the Plan. For purposes of applying the foregoing limitation, (a) if any Option or Stock Appreciation Right expires, terminates, or is cancelled for any reason without having been exercised in full, or if any other Award is forfeited by the recipient or repurchased at less than its Market Value, the shares not purchased by the Optionee or which are forfeited by the recipient or repurchased shall again be available for Awards to be granted under the Plan and (b) if any Option is exercised by delivering previously-owned shares in payment of the exercise price therefor, including in a "net exercise", all shares with request to which the Option is exercised shall be considered to have been issued pursuant to an Award granted under the Plan. In addition, settlement of any Award shall not count against the foregoing limitations except to the extent settled in the form of Stock. Shares of Stock issued pursuant to the Plan may be either authorized but unissued shares or shares held by the Company in its treasury. Following approval of the Plan by the stockholders in 2016, no more than 50% of the shares of Stock reserved for issuance under the Plan may be issued pursuant to Awards of Restricted Stock, Restricted Stock Units, Performance Units or Stock Grants.

5. Administration

The Plan shall be administered by the Committee; *provided, however* , that at any time and on any one or more occasions the Board may itself exercise any of the powers and responsibilities assigned the Committee under the Plan and when so acting shall have the benefit of all of the provisions of the Plan pertaining to the Committee's exercise of its authorities hereunder; and *provided further, however* , that the Committee may delegate to an executive officer or officers the authority to grant Awards hereunder to employees who are not officers, and to consultants and advisors, in accordance with such guidelines as the Committee shall set forth at any time or from time to time. Subject to the provisions of the Plan, the Committee shall have complete authority, in its discretion, to make or to select the manner of making all determinations with respect to each Award to be granted by the Company under the Plan including the employee, consultant, advisor or director to receive the Award and the form of Award. In making such determinations, the Committee may take into account the nature of the services rendered by the respective employees, consultants, advisors and directors, their present and potential contributions to the success of the Company and its Affiliates, and such other factors as the Committee in its discretion shall deem relevant. Subject to the provisions of the Plan, the Committee shall also have complete authority to interpret the Plan, to prescribe, amend and rescind rules and regulations relating to it, to determine the terms and provisions of the respective Award Agreements (which need not be identical), and to make all other determinations necessary or advisable for the administration of the Plan, including, but not limited to, the cancellation, amendment, reclassification or exchange of outstanding Options and other Awards, subject to the provisions of Section 14. Notwithstanding the foregoing, the Committee may not, without stockholder approval, reduce the exercise price of an Option or Stock Appreciation Right awarded under the Plan or cancel, in each case, without stockholder approval, an Option or Stock Appreciation Right at a time when its exercise price exceeds the Market Value of the underlying shares, in exchange for another Option, SAR, Restricted Stock, or another Award or for cash. The Committee's determinations made in good faith on matters referred to in the Plan shall be final, binding and conclusive on all persons having or claiming any interest under the Plan or an Award made pursuant hereto.

6. Authorization of Grants

6.1 *Eligibility* . The Committee may grant from time to time and at any time prior to the termination of the Plan one or more Awards, either alone or in combination with any other Awards, to any employee of, or consultant or advisor to, one or more of the Company and its Affiliates or to any non-employee member of the Board or of any board of directors (or similar governing authority) of any Affiliate. However, only employees of the Company, and of any parent or subsidiary corporations of the Company, as defined in Sections 424(e) and (f), respectively, of the Code, shall be eligible for the grant of an Incentive Option

6.2 *General Terms of Awards* . Each grant of an Award shall be subject to all applicable terms and conditions of the Plan (including but not limited to any specific terms and conditions applicable to that type of Award set out in the following Section), and such other terms and conditions, not inconsistent with the terms of the Plan, as the Committee may prescribe. No prospective Participant shall have any rights with respect to an Award, unless and until such Participant shall have complied with the applicable terms and conditions of such Award (including, if applicable, delivering a fully-executed copy of any agreement evidencing an Award to the Company).

6.3 *Effect of Termination of Employment, Etc* . Unless the Committee shall provide otherwise with respect to any Award, if the Participant's employment or other association with the Company and its Affiliates ends for any reason, including because of the Participant's employer ceasing to be an Affiliate, (a) any outstanding Option or Stock Appreciation Right of the Participant shall cease to be exercisable in any respect not later than 90 days following that event and, for the period it remains exercisable following that event, shall be exercisable only to the extent exercisable at the date of that event, and (b) any other outstanding Award of the Participant shall be forfeited or otherwise subject to return to, or repurchase by, the Company on the terms specified in the applicable Award Agreement. For Options granted to California Participants for so long as the common stock is not deemed a covered security pursuant to Section 18(b)(1) of the Securities Act of 1933, as amended, a Participant (or, in the case of termination due to death, a Participant's Survivor) may exercise such rights for (a) at least six (6) months from the date of termination of service due to death or disability, (b) at least thirty (30) days from the date of termination of service other than for Cause or due to death or disability, but in no event later than the originally prescribed term of the Option. Military or sick leave or other bona fide leave shall not be deemed a termination of employment or other association, provided that it does not exceed the longer of 90 days or the period during which the absent Participant's reemployment rights, if any, are guaranteed by statute or by contract.

6.4 *Transferability of Awards* . Except as otherwise provided in this Section 6.4, Awards shall not be transferable, and no Award or interest therein may be sold, transferred, pledged, assigned, or otherwise alienated or hypothecated, other than by will or by the laws of descent and distribution. The foregoing sentence shall not limit the transferability of Stock Grants or of Restricted Stock that is no longer subject to a Risk of Forfeiture. All of a Participant's rights in any Award may be exercised during the life of the Participant only by the Participant or the Participant's legal representative. However, the Committee may, at or after the grant of an Award of a Nonstatutory Option, or shares of Restricted Stock, provide that such Award may be transferred by the recipient to a family member; *provided, however* , that any such transfer is without payment of any consideration whatsoever and that no transfer shall be valid unless first approved by the Committee, acting in its sole discretion. *Provided, further* , for California Participants, for so long as the common stock is not deemed a covered security pursuant to Section 18(b)(1) of the Securities Act of 1933, as amended, a right to acquire Stock under the Plan shall not be transferable by the Participant other than by the laws of descent and distribution, to a revocable trust, or as permitted by Rule 701 of the Securities Act of 1933, as amended. For this purpose, "family member" means any child, stepchild, grandchild, parent, stepparent, spouse, former spouse, sibling, niece, nephew, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, including adoptive relationships, any person sharing the employee's household (other than a tenant or employee), a trust in which the foregoing persons have more than 50% of the beneficial interests, a foundation in which the foregoing persons (or the Participant) control the management of assets, and any other entity in which these persons (or the Participant) own more than 50% of the voting interests.

7. Specific Terms of Awards

7.1 *Options* .

(a) *Date of Grant* . The granting of an Option shall take place at the time specified in the Award Agreement. Only if expressly so provided in the applicable Award Agreement shall the Grant Date be the date on which the Award Agreement shall have been duly executed and delivered by the Company and the Optionee.

(b) *Exercise Price* . The price at which shares of Stock may be acquired under each Option shall be not less than 100% of the Market Value of Stock on the Grant Date, or not less than 110% of the Market Value of Stock on the Grant Date of an Incentive Option if the Optionee is a Ten Percent Owner.

(c) *Option Period* . No Option may be exercised on or after the tenth anniversary of the Grant Date, or on or after the fifth anniversary of the Grant Date of an Incentive Option if the Optionee is a Ten Percent Owner.

(d) *Exercisability* . An Option may be immediately exercisable or become exercisable in such installments, cumulative or non-cumulative, as the Committee may determine. In the case of an Option not otherwise immediately exercisable in full, the Committee may Accelerate such Option in whole or in part at any time; *provided, however* ; that in the case of an Incentive Option, any such Acceleration of the Option would not cause the Option to fail to comply with the provisions of Section 422 of the Code or the Optionee consents to the Acceleration.

(e) *Method of Exercise* . An Option may be exercised by the Optionee giving written notice, in the manner provided in Section 16, specifying the number of shares with respect to which the Option is then being exercised. The notice shall be accompanied by payment in the form of cash or check payable to the order of the Company in an amount equal to the exercise price of the shares to be purchased or, subject in each instance to the Committee's approval, acting in its sole discretion, and to such conditions, if any, as the Committee may deem necessary to avoid adverse accounting effects to the Company) by delivery to the Company of

(i) shares of Stock having a Market Value equal to the exercise price of the shares to be purchased, or

(ii) unless prohibited by applicable law, the Optionee's executed promissory note in the principal amount equal to the exercise price of the shares to be purchased and otherwise in such form as the Committee shall have approved.

If the Stock is traded on an established market, payment of any exercise price may also be made through and under the terms and conditions of any formal cashless exercise program authorized by the Company entailing the sale of the Stock subject to an Option in a brokered transaction (other than to the Company). Receipt by the Company of such notice and payment in any authorized, or combination of authorized, means shall constitute the exercise of the Option. Within thirty (30) days thereafter but subject to the remaining provisions of the Plan, the Company shall deliver, or cause to be delivered, to the Optionee or his agent a certificate or certificates for the number of shares then being purchased. Such shares shall be fully paid and nonassessable.

(f) *Limit on Incentive Option Characterization* . An Incentive Option shall be considered to be an Incentive Option only to the extent that the number of shares of Stock for which the Option first becomes exercisable in a calendar year do not have an aggregate Market Value (as of the date of the grant of the Option) in excess of the "current limit". The current limit for any Optionee for any calendar year shall be $100,000 minus the aggregate Market Value at the date of grant of the number of shares of Stock available for purchase for the first time in the same year under each other Incentive Option previously granted to the Optionee under the Plan, and under each other incentive stock option previously granted to the Optionee under any other incentive stock option plan of the Company and its Affiliates, after December 31, 1986. Any shares of Stock which would cause the foregoing limit to be violated shall be deemed to have been granted under a separate Nonstatutory Option, otherwise identical in its terms to those of the Incentive Option.

(g) *Notification of Disposition* . Each person exercising any Incentive Option granted under the Plan shall be deemed to have covenanted with the Company to report to the Company any disposition of such shares prior to the expiration of the holding periods specified by Section 422(a)(1) of the Code (currently the later of two years from the Grant Date and one year from the date of exercise of the Incentive Option) and, if and to the extent that the realization of income in such a disposition imposes upon the Company federal, state, local or other withholding tax requirements, or any such withholding is required to secure for the Company an otherwise available tax deduction, to remit to the Company an amount in cash sufficient to satisfy those requirements.

7.2 *Stock Appreciation Rights* .

(a) *Tandem or Stand-Alone* . Stock Appreciation Rights may be granted in tandem with an Option (at or, in the case of a Nonstatutory Option, after the award of the Option), or alone and unrelated to an Option. Stock Appreciation Rights in tandem with an Option shall terminate to the extent that the related Option is exercised, and the related Option shall terminate to the extent that the tandem Stock Appreciation Rights are exercised.

(b) *Exercise Price* . Stock Appreciation Rights shall have such exercise price that is not less than 100% of the Market Value of the stock on the Grant Date. In the case of Stock Appreciation Rights in tandem with Options, the exercise price of the Stock Appreciation Rights shall equal the exercise price of the related Option.

(c) *Other Terms* . No Stock Appreciation Rights may be exercised on or after the tenth anniversary of the Grant Date. Except as the Committee may deem inappropriate or inapplicable in the circumstances, Stock Appreciation Rights shall be subject to terms and conditions substantially similar to those applicable to a Nonstatutory Option. In addition, a Stock Appreciation Right related to an Option which can only be exercised during limited periods following a Change in Control may entitle the Participant to receive an amount based upon the highest price paid or offered for Stock in any transaction relating to the Change in Control or paid during the thirty (30) day period immediately preceding the occurrence of the Change in Control in any transaction reported in the stock market in which the Stock is normally traded.

7.3 *Restricted Stock* .

(a) *Purchase Price* . Shares of Restricted Stock shall be issued under the Plan for such consideration, in cash, other property or services, or any combination thereof, as is determined by the Committee.

(b) *Issuance of Certificates* . Each Participant receiving a Restricted Stock Award, subject to subsection (c) below, shall be issued a stock certificate in respect of such shares of Restricted Stock. Such certificate shall be registered in the name of such Participant, and, if applicable, shall bear an appropriate legend referring to the terms, conditions, and restrictions applicable to such Award substantially in the following form:

> The transferability of this certificate and the shares represented by this certificate are subject to the terms and conditions of the Netlist, Inc. 2006 Equity Incentive Plan and an Award Agreement entered into by the registered owner and Netlist, Inc. Copies of such Plan and Agreement are on file in the offices of Netlist, Inc.

(c) *Escrow of Shares* . The Committee may require that the stock certificates evidencing shares of Restricted Stock be held in custody by a designated escrow agent (which may but need not be the Company) until the restrictions thereon shall have lapsed, and that the Participant deliver a stock power, endorsed in blank, relating to the Stock covered by such Award.

(d) *Restrictions and Restriction Period* . During the Restriction Period applicable to shares of Restricted Stock, such shares shall be subject to limitations on transferability and a Risk of Forfeiture arising on the basis of such conditions related to the performance of services, Company or Affiliate performance or otherwise as the Committee may determine and provide for in the applicable Award Agreement. Any such Risk of Forfeiture may be waived or terminated, or the Restriction Period shortened, at any time by the Committee on such basis as it deems appropriate.

(e) *Rights Pending Lapse of Risk of Forfeiture or Forfeiture of Award* . Except as otherwise provided in the Plan or the applicable Award Agreement, at all times prior to lapse of any Risk of Forfeiture applicable to, or forfeiture of, an Award of Restricted Stock, the Participant shall have all of the rights of a stockholder of the Company, including the right to vote, and the right to receive any dividends with respect to, the shares of Restricted Stock. The Committee, as determined at the time of Award, may permit or require the payment of cash dividends to be deferred and, if the Committee so determines, reinvested in additional Restricted Stock to the extent shares are available under Section 4.

(f) *Lapse of Restrictions* . If and when the Restriction Period expires without a prior forfeiture of the Restricted Stock, the certificates for such shares shall be delivered to the Participant promptly if not previously delivered.

7.4 *Restricted Stock Units* .

(a) *Character* . Each Restricted Stock Unit shall entitle the recipient to a share of Stock at a close of such Restriction Period as the Committee may establish and be subject to a Risk of Forfeiture arising on the basis of such conditions relating to the performance of services, Company or Affiliate performance or otherwise as the Committee may determine and provide for in the applicable Award Agreement. Any such Risk of Forfeiture may be waived or terminated, or the Restriction Period shortened, at any time by the Committee on such basis as it deems appropriate.

(b) *Form and Timing of Payment* . Payment of earned Restricted Stock Units shall be made in a single lump sum following the close of the applicable Restriction Period. At the discretion of the Committee, Participants may be entitled to receive payments equivalent to any dividends declared with respect to Stock referenced in grants of Restricted Stock Units but only following the close of the applicable Restriction Period and then only if the underlying Stock shall have been earned. Unless the Committee shall provide otherwise, any such dividend equivalents shall be paid, if at all, without interest or other earnings.

7.5 *Performance Units* .

(a) *Character* . Each Performance Unit shall entitle the recipient to the value of a specified number of shares of Stock, over the initial value for such number of shares, if any, established by the Committee at the time of grant, at the close of a specified Performance Period to the extent specified Performance Goals shall have been achieved.

(b) *Earning of Performance Units* . The Committee shall set Performance Goals in its discretion which, depending on the extent to which they are met within the applicable Performance Period, will determine the number and value of Performance Units that will be paid out to the Participant. After the applicable Performance Period has ended, the holder of Performance Units shall be entitled to receive payout on the number and value of Performance Units earned by the Participant over the Performance Period, to be determined as a function of the extent to which the corresponding Performance Goals have been achieved.

(c) *Form and Timing of Payment* . Payment of earned Performance Units shall be made in a single lump sum following the close of the applicable Performance Period. At the discretion of the Committee, Participants may be entitled to receive any dividends declared with respect to Stock which have been earned in connection with grants of Performance Units, subject to the vesting of the underlying Performance Units which have been earned, but not yet distributed to Participants. The Committee may permit or, if it so provides at grant, require a Participant to defer such Participant's receipt of the payment of cash or the delivery of Stock that would otherwise be due to such Participant by virtue of the satisfaction of any requirements or goals with respect to Performance Units. If any such deferral election is permitted or required, the Committee shall establish rules and procedures for such payment deferrals.

7.6 *Stock Grants* . Stock Grants shall be awarded solely in recognition of significant contributions to the success of the Company or its Affiliates, in lieu of compensation otherwise already due and in such other limited circumstances as the Committee deems appropriate. Stock Grants shall be made without forfeiture conditions of any kind.

7.7 *Qualified Performance-Based Awards* .

(a) *Purpose* . The purpose of this Section 7.7 is to provide the Committee the ability to qualify Awards as "performance-based compensation" under Section 162(m) of the Code. If the Committee, in its discretion, decides to grant an Award as a Qualified Performance-Based Award, the provisions of this Section 7.7 will control over any contrary provision contained in the Plan.

In the course of granting any Award, the Committee may specifically designate the Award as intended to qualify as a Qualified Performance-Based Award. However, no Award shall be considered to have failed to qualify as a Qualified Performance-Based Award solely because the Award is not expressly designated as a Qualified Performance-Based Award if the Award otherwise satisfies the provisions of this Section 7.7 and the requirements of Section 162(m) of the Code and the regulations thereunder applicable to "performance-based compensation."

(b) *Authority* . All grants of Awards intended to qualify as Qualified Performance-Based Awards and determination of terms applicable thereto shall be made by the Committee or, if not all of the members thereof qualify as "outside directors" within the meaning of applicable IRS regulations under Section 162 of the Code, a subcommittee of the Committee consisting of such of the members of the Committee as do so qualify. Any action by such a subcommittee shall be considered the action of the Committee for purposes of the Plan.

(c) *Applicability* . This Section 7.7 will apply only to those Covered Employees, or to those persons who the Committee determines are reasonably likely to become Covered Employees in the period covered by an Award, selected by the Committee to receive Qualified Performance-Based Awards. The Committee may, in its discretion, grant Awards to Covered Employees that do not satisfy the requirements of this Section 7.7.

(d) *Discretion of Committee with Respect to Qualified Performance-Based Awards* . Options may be granted as Qualified Performance-Based Awards in accordance with Section 7.1, except that the exercise price of any Option intended to qualify as a Qualified Performance-Based Award shall in no event be less that the Market Value of the Stock on the date of grant. With regard to other Awards intended to qualify as Qualified Performance-Based Awards, such as Restricted Stock, Restricted Stock Units, or Performance Units, the Committee will have full discretion to select the length of any applicable Restriction Period or Performance Period, the kind and/or level of the applicable Performance Goal, and whether the Performance Goal is to apply to the Company, a Subsidiary or any division or business unit or to the individual. Any Performance Goal or Goals applicable to Qualified Performance-Based Awards shall be objective, shall be established not later than ninety (90) days after the beginning of any applicable Performance Period (or at such other date as may be required or permitted for "performance-based compensation" under Section 162(m) of the Code) and shall otherwise meet the requirements of Section 162(m) of the Code, including the requirement that the outcome of the Performance Goal or Goals be substantially uncertain (as defined in the regulations under Section 162(m) of the Code) at the time established. For California Participants for so long as the Common Stock is not deemed a covered security pursuant to Section 18(b)(1) of the Securities Act of 1933, as amended, each Qualified Performance-Based Award shall be issued within ten (10) years from the date the Plan is adopted or approved by the Company's stockholders.

(e) *Payment of Qualified Performance-Based Awards* . A Participant will be eligible to receive payment under a Qualified Performance-Based Award which is subject to achievement of a Performance Goal or Goals only if the applicable Performance Goal or Goals period are achieved within the applicable Performance Period, as determined by the Committee. In determining the actual size of an individual Qualified Performance-Based Award, the Committee may reduce or eliminate the amount of the Qualified Performance-Based Award earned for the

Performance Period, if in its sole and absolute discretion, such reduction or elimination is appropriate.

(f) *Individual Limitations on Awards* . Individual Limit for Options and Stock Appreciation Rights . The maximum number of shares with respect to which Options and Stock Appreciation Rights may be granted to any Participant in any calendar year shall be 1,000,000 Shares. In connection with a Participant's commencement of Continuous Service, a Participant may be granted Options and Stock Appreciation Rights for up to an additional 1,000,000 Shares which shall not count against the limit set forth in the previous sentence. The foregoing limitations shall be adjusted proportionately in connection with any change in the Company's capitalization pursuant to Section 8, below. To the extent required by Section 162(m) of the Code or the regulations thereunder, in applying the foregoing limitations with respect to a Participant, if any Option or Stock Appreciation Right is canceled, the canceled Option or Stock Appreciation Right shall continue to count against the maximum number of Shares with respect to which Options and Stock Appreciation Rights may be granted to the Participant. For this purpose, the repricing of an Option (or in the case of a Stock Appreciation Right, the base amount on which the stock appreciation is calculated is reduced to reflect a reduction in the Fair Market Value of the Common Stock) shall be treated as the cancellation of the existing Option or Stock Appreciation Right and the grant of a new Option or Stock Appreciation Right.

(i) Individual Limit for Restricted Stock, Performance Units and Restricted Stock Units . For awards of Restricted Stock, Performance Units and Restricted Stock Units that are intended to be Qualified Performance-Based Awards, the maximum number of shares with respect to which such Awards may be granted to any Participant in any calendar year shall be 1,000,000 shares. The foregoing limitation shall be adjusted proportionately in connection with any change in the Company's capitalization pursuant to Section 8, below.

(g) *Limitation on Adjustments for Certain Events* . No adjustment of any Qualified Performance-Based Award pursuant to Section 8 shall be made except on such basis, if any, as will not cause such Award to provide other than "performance-based compensation" within the meaning of Section 162(m) of the Code.

7.8 *Awards to Participants Outside the United States* . The Committee may modify the terms of any Award under the Plan granted to a Participant who is, at the time of grant or during the term of the Award, resident or primarily employed outside of the United States in any manner deemed by the Committee to be necessary or appropriate to conform that Award to laws, regulations, and customs of the country in which the Participant is then resident or primarily employed, or so that the value and other benefits of the Award to the Participant, as affected by foreign tax laws and other restrictions applicable as a result of the Participant's residence or employment abroad, shall be comparable to the value of such an Award to a Participant who is resident or primarily employed in the United States. The Committee may establish supplements to, or amendments, restatements, or alternative versions of, the Plan for the purpose of granting and administrating any such modified Award. No such modification, supplement, amendment, restatement or alternative version may increase the share limit of Section 4.

8. Adjustment Provisions

8.1 *Adjustment for Corporate Actions* . All of the share numbers set forth in the Plan reflect the capital structure of the Company as of the Effective Date. Subject to Section 8.2, if subsequent to that date the outstanding shares of Stock (or any other securities covered by the Plan by reason of the prior application of this Section) are increased, decreased, or exchanged for a different number or kind of shares or other securities, or if additional shares or new or different shares or other securities are distributed with respect to shares of Stock, through a merger, consolidation, sale of all or substantially all the property of the Company, reorganization, recapitalization, reclassification, stock dividend, stock split, reverse stock split, or other similar distribution with respect to such shares of Stock, an appropriate and proportionate adjustment will be made in (i) the maximum numbers and kinds of shares provided in Section 4, (ii) the numbers and kinds of shares or other securities subject to the then outstanding Awards, (iii) the exercise price for each share or other unit of any other securities subject to then outstanding Options and Stock Appreciation Rights (without change in the aggregate purchase price as to which such Options or Rights remain exercisable), and (iv) the repurchase price of each share of Restricted Stock then subject to a Risk of Forfeiture in the form of a Company repurchase right.

8.2 *Treatment in Certain Acquisitions* .

(a) Subject to any provisions of then outstanding Awards granting greater rights to the holders thereof, in the event of an Acquisition, the Committee may, either in advance of the Acquisition or at the time thereof and upon such terms as it may deem appropriate, provide for the Acceleration of any then outstanding Awards in full if, and only if, such Awards are not assumed or replaced by comparable Awards referencing shares of the capital stock of the successor or acquiring entity or parent thereof, and after a reasonable period following such Acceleration, as determined by the Committee, such Accelerated Awards and all other then outstanding Awards not assumed or replaced by comparable Awards shall terminate. As to any one or more outstanding Awards which are not otherwise Accelerated in full by reason of such Acquisition, the Committee may also, either in advance of an Acquisition or at the time thereof and upon such terms as it may deem appropriate, provide for the Acceleration of such outstanding Awards in the event that the employment of the Participants should subsequently terminate following the Acquisition. Each outstanding Award that is assumed in connection with an Acquisition, or is otherwise to continue in effect subsequent to the Acquisition, will be appropriately adjusted, immediately after the Acquisition, as to the number and class of securities and other relevant terms in accordance with Section 8.1.

(b) For the purposes of this Section 8.2, an Award shall be considered assumed or replaced by a comparable Award if, following the Acquisition, the Award confers the right to purchase, for each share of Stock subject to the Award immediately prior to the Acquisition, the consideration (whether stock, cash or other securities or property) received in the Acquisition by holders of Stock on the effective date of the Acquisition (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding shares of Stock); *provided, however* , that if such consideration received in the Acquisition was not solely common stock of the successor corporation or its parent or subsidiary, the Committee may, with the consent of the successor corporation, provide for the consideration to be received upon the exercise of the Award for each share of Stock subject to the Award to be solely common stock of the successor corporation or its parent or subsidiary equal in fair market value to the per share consideration received by holders of Stock in the Acquisition, or any combination of cash and common stock, (including the payment of cash equal to the net of Market Value over the exercise price of the shares of Stock subject to the Award) so approved by the Committee with the consent of the successor corporation; and *provided further* that such Award may continue to be subject to the same vesting requirements or Risks of Forfeiture after the Acquisition.

8.3 *Dissolution or Liquidation* . Upon the dissolution or liquidation of the Company, other than as part of an Acquisition or similar transaction, each outstanding Option and Stock Appreciation Right shall terminate, but the Optionee or Stock Appreciation Right holder shall have the right, immediately prior to the dissolution or liquidation, to exercise the Option or Stock Appreciation Right to the extent exercisable on the date of the dissolution or liquidation.

8.4 *Adjustment of Awards Upon the Occurrence of Certain Unusual or Nonrecurring Events* . In the event of any corporate action not specifically covered by the preceding Sections, including but not limited to an extraordinary cash distribution on Stock, a corporate separation or other reorganization or liquidation, the Committee may make such adjustment of outstanding Awards and their terms, if any, as it, in its sole discretion, may deem equitable and appropriate in the circumstances. The Committee may make adjustments in the terms and conditions of, and the criteria included in, Awards in recognition of unusual or nonrecurring events (including, without limitation, the events described in this Section) affecting the Company or the financial statements of the Company or of changes in applicable laws, regulations, or accounting principles, whenever the Committee determines that such adjustments are appropriate in order to prevent the dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan.

8.5 *Related Matters* . Any adjustment in Awards made pursuant to this Section 8 shall be determined and made, if at all, by the Committee and shall include any correlative modification of terms, including of Option exercise prices, rates of vesting or exercisability, Risks of Forfeiture, applicable repurchase prices for Restricted Stock, and Performance Goals and other financial objectives which the Committee may deem necessary or appropriate so as to ensure the rights of the Participants in their respective Awards are not substantially diminished nor enlarged as a result of the adjustment and corporate action other than as expressly contemplated in this Section 8. No fraction of a share shall be purchasable or deliverable upon exercise, but in the event any adjustment hereunder of the number of shares covered by an Award shall cause such number to include a fraction of a share, such number of shares shall be adjusted to the nearest smaller whole number of shares. No adjustment of an Option exercise price per share pursuant to this Section 8 shall result in an exercise price which is less than the par value of the Stock.

9. Settlement of Awards

9.1 *In General* . Options and Restricted Stock shall be settled in accordance with their terms. All other Awards may be settled in cash, Stock, or other Awards, or a combination thereof, as determined by the Committee at or after grant and subject to any contrary Award Agreement. The Committee may not require settlement of any Award in Stock pursuant to the immediately preceding sentence to the extent issuance of such Stock would be prohibited or unreasonably delayed by reason of any other provision of the Plan.

9.2 *Violation of Law* . Notwithstanding any other provision of the Plan or the relevant Award Agreement, if, at any time, in the reasonable opinion of the Company, the issuance of shares of Stock covered by an Award may constitute a violation of law, then the Company may delay such issuance and the delivery of a certificate for such shares until (i) approval shall have been obtained from such governmental agencies, other than the Securities and Exchange Commission, as may be required under any applicable law, rule, or regulation and (ii) in the case where such issuance would constitute a violation of a law administered by, or a regulation of, the Securities and Exchange Commission, one of the following conditions shall have been satisfied:

(a) the shares are at the time of the issue of such shares effectively registered under the Securities Act of 1933, as amended; or

(b) the Company shall have determined, on such basis as it deems appropriate (including an opinion of counsel in form and substance satisfactory to the Company) that the sale, transfer, assignment, pledge, encumbrance or other disposition of such shares or such beneficial interest, as the case may be, does not require registration under the Securities Act of 1933, as amended, or any applicable State securities laws.

The Company shall make all reasonable efforts to bring about the occurrence of said events.

9.3 *Corporate Restrictions on Rights in Stock* . Any Stock to be issued pursuant to Awards granted under the Plan shall be subject to all restrictions upon the transfer thereof which may be now or hereafter imposed by the certificate of incorporation and by-laws (or similar charter documents) of the Company.

9.4 *Investment Representations* . The Company shall be under no obligation to issue any shares covered by any Award unless the shares to be issued pursuant to Awards granted under the Plan have been effectively registered under the Securities Act of 1933, as amended, or the Participant shall have made such written representations to the Company (upon which the Company believes it may reasonably rely) as the Company may deem necessary or appropriate for purposes of confirming that the issuance of such shares will be exempt from the registration requirements of that Act and any applicable state securities laws and otherwise in compliance with all applicable laws, rules and regulations, including but not limited to that the Participant is acquiring the shares for his or her own account for the purpose of investment and not with a view to, or for sale in connection with, the distribution of any such shares.

9.5 *Registration* . If the Company shall deem it necessary or desirable to register under the Securities Act of 1933, as amended or other applicable statutes any shares of Stock issued or to be issued pursuant to Awards granted under the Plan, or to qualify any such shares of Stock for exemption from the Securities Act of 1933, as amended, or other applicable statutes, then the Company shall take such action at its own expense. The Company may require from each recipient of an Award, or each holder of shares of Stock acquired pursuant to the Plan, such information in writing for use in any registration statement, prospectus, preliminary prospectus or offering circular as is reasonably necessary for that purpose and may require reasonable indemnity to the Company and its officers and directors from that holder against all losses, claims, damage and liabilities arising from use of the information so furnished and caused by any untrue statement of any material fact therein or caused by the omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances under which they were made. In addition, the Company may require of any such person that he or she agree that, without the prior written consent of the Company or the managing underwriter in any public offering of shares of Stock, he or she will not sell, make any short sale of, loan, grant any option for the purchase of, pledge or otherwise encumber, or otherwise dispose of, any shares of Stock during the 180 day period commencing on the effective date of the registration statement relating to the underwritten public offering of securities. Without limiting the generality of the foregoing provisions of this Section 9.5, if in connection with any underwritten public offering of securities of the Company the managing underwriter of such offering requires that the Company's directors and officers enter into a lock-up agreement containing provisions that are more restrictive than the provisions set forth in the preceding sentence, then (a) each holder of shares of Stock acquired pursuant to the Plan (regardless of whether such person has complied or complies with the provisions of clause (b) below) shall be bound by, and shall be deemed to have agreed to, the same lock-up terms as those to which the Company's directors and officers are required to adhere; and (b) at the request of the Company or such managing underwriter, each such person shall execute and deliver a lock-up agreement in form and substance equivalent to that which is required to be executed by the Company's directors and officers.

9.6 *Placement of Legends; Stop Orders; etc* . Each share of Stock to be issued pursuant to Awards granted under the Plan may bear a reference to the investment representation made in accordance with Section 9.4 in addition to any other applicable restriction under the Plan, the terms of the Award and if applicable under the Stockholders' Agreement and to the fact that no registration statement has been filed with the Securities and Exchange Commission in respect to such shares of Stock. All certificates for shares of Stock or other securities delivered under the Plan shall be subject to such stock transfer orders and other restrictions as the Committee may deem advisable under the rules, regulations, and other requirements of any stock exchange upon which the Stock is then listed, and any applicable federal or state securities law, and the Committee may cause a legend or legends to be put on any such certificates to make appropriate reference to such restrictions.

9.7 *Tax Withholding* . Whenever shares of Stock are issued or to be issued pursuant to Awards granted under the Plan, the Company shall have the right to require the recipient to remit to the Company an amount sufficient to satisfy federal, state, local or other withholding tax requirements if, when, and to the extent required by law (whether so required to secure for the Company an otherwise available tax deduction or otherwise) prior to the delivery of any certificate or certificates for such shares. The obligations of the Company under the Plan shall be conditional on satisfaction of all such withholding obligations and the Company shall, to the extent permitted by law, have the right to deduct any such taxes from any payment of any kind otherwise due to the recipient of an Award. However, in such cases Participants may elect, subject to the approval of the Committee, to satisfy an applicable withholding requirement, in whole or in part, by having the Company withhold shares to satisfy their tax obligations. Participants may only elect to have Shares withheld having a Market Value on the date the tax is to be determined equal to the minimum statutory total tax which could be imposed on the transaction. All elections shall be irrevocable, made in writing, signed by the Participant, and shall be subject to any restrictions or limitations that the Committee deems appropriate.

10. Reservation of Stock

The Company shall at all times during the term of the Plan and any outstanding Awards granted hereunder reserve or otherwise keep available such number of shares of Stock as will be sufficient to satisfy the requirements of the Plan (if then in effect) and the Awards and shall pay all fees and expenses necessarily incurred by the Company in connection therewith.

11. Limitation of Rights in Stock; No Special Service Rights

A Participant shall not be deemed for any purpose to be a stockholder of the Company with respect to any of the shares of Stock subject to an Award, unless and until a certificate shall have been issued therefor and delivered to the Participant or his agent. Nothing contained in the Plan or in any Award Agreement shall confer upon any recipient of an Award any right with respect to the continuation of his or her employment or other association with the Company (or any Affiliate), or interfere in any way with the right of the Company (or any Affiliate), subject to the terms of any separate employment or consulting agreement or provision of law or corporate articles, by-laws or similar charter documents to the contrary, at any time to terminate such employment or consulting agreement or to increase or decrease, or otherwise adjust, the other terms and conditions of the recipient's employment or other association with the Company and its Affiliates.

12. Unfunded Status of Plan

The Plan is intended to constitute an "unfunded" plan for incentive compensation, and the Plan is not intended to constitute a plan subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended. With respect to any payments not yet made to a Participant by the Company, nothing contained herein shall give any such Participant any rights that are greater than those of a general creditor of the Company. In its sole discretion, the Committee may authorize the creation of trusts or other arrangements to meet the obligations created under the Plan to deliver Stock or payments with respect to Options, Stock Appreciation Rights and other Awards hereunder, *provided, however* , that the existence of such trusts or other arrangements is consistent with the unfunded status of the Plan.

13. Nonexclusivity of the Plan

Neither the adoption of the Plan by the Board nor the submission of the Plan to the stockholders of the Company shall be construed as creating any limitations on the power of the Board to adopt such other incentive arrangements as it may deem desirable, including without limitation, the granting of stock options and restricted stock other than under the Plan, and such arrangements may be either applicable generally or only in specific cases.

14. Termination and Amendment of the Plan

The Board may at any time terminate the Plan or make such modifications of the Plan as it shall deem advisable. Unless the Board otherwise expressly provides, no amendment of the Plan shall affect the terms of any Award outstanding on the date of such amendment.

The Committee may amend the terms of any Award theretofore granted, prospectively or retroactively, provided that the Award as amended is consistent with the terms of the Plan. Also within the limitations of the Plan, the Committee may modify, extend or assume outstanding Awards or may accept the cancellation of outstanding Awards or of outstanding stock options or other equity-based compensation awards granted by another issuer in return for the grant of new Awards for the same or a different number of shares and on the same or different terms and conditions (including but not limited to the exercise price of any Option). Furthermore, the Committee may at any time (a) offer to buy out for a payment in cash or cash equivalents an Award previously granted, subject to the stockholder approval requirements of Section 5, or (b) authorize the recipient of an Award to elect to cash out an Award previously granted, in either case at such time and based upon such terms and conditions as the Committee shall establish.

No amendment or modification of the Plan by the Board, or of an outstanding Award by the Committee, shall impair the rights of the recipient of any Award outstanding on the date of such amendment or modification or such Award, as the case may be, without the Participant's consent; *provided, however* , that no such consent shall be required if (i) the Board or Committee, as the case may be, determines in its sole discretion and prior to the date of any Acquisition that such amendment or alteration either is required or advisable in order for the Company, the Plan or the Award to satisfy any law or regulation, including without limitation the provisions of Section 409A of the Code or to meet the requirements of or avoid adverse financial accounting consequences under any accounting standard, or (ii) the Board or Committee, as the case may be, determines in its sole discretion that such amendment or alteration is not reasonably likely to significantly diminish the benefits provided under the Award, or that any such diminution has been adequately compensated.

15. Notices and Other Communications

Any notice, demand, request or other communication hereunder to any party shall be deemed to be sufficient if contained in a written instrument delivered in person or duly sent by first class registered, certified or overnight mail, postage prepaid, or telecopied with a confirmation copy by regular, certified or overnight mail, addressed or telecopied, as the case may be, (i) if to the recipient of an Award, at his or her residence address last filed with the Company and (ii) if to the Company, at its principal place of business, addressed to the attention of its Treasurer, or to such other address or telecopier number, as the case may be, as the addressee may have designated by notice to the addressor. All such notices, requests, demands and other communications shall be deemed to have been received: (i) in the case of personal delivery, on the date of such delivery; (ii) in the case of mailing, when received by the addressee; and (iii) in the case of facsimile transmission, when confirmed by facsimile machine report.

16. Governing Law

The Plan and all Award Agreements and actions taken thereunder shall be governed, interpreted and enforced in accordance with the laws of the State of Delaware, without regard to the conflict of laws principles thereof.

EXHIBIT 21.1

SUBSIDIARIES OF NETLIST, INC.

Each of the following is a wholly owned direct subsidiary of Netlist, Inc.:

Entity Name	Jurisdiction of Organization
Netlist Electronics (Suzhou) Co., Ltd	People's Republic of China
Netlist HK Limited	Hong Kong
Netlist Luxembourg S.a r.l.	Luxembourg

EXHIBIT 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in Registration Statement Nos. 333-139435, 333-146141, 333-151644, 333-161832, 333-161834, 333-164261, 333-165916, 333-168330, 333-173646, 333-179776, 333-193862, 333-211658, 333-221655, 333-224287, and 333-228349 on Form S-8 and in Registration Statement Nos. 333-164290, 333-177118, 333-199446, 333-227291 and 333-228348 on Form S-3 of our report dated March 22, 2019, relating to the consolidated financial statements of Netlist, Inc. and subsidiaries, appearing in this Annual Report on Form 10-K of Netlist, Inc. for the year ended December 29, 2018.

/s/ KMJ Corbin & Company LLP

Costa Mesa, California
March 22, 2019

EXHIBIT 31.1

CERTIFICATION PURSUANT TO RULE 13A-14 OF THE SECURITIES EXCHANGE ACT OF 1934
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Chun K. Hong, certify that:

1. I have reviewed this Annual Report on Form 10-K for the fiscal year ended December 29, 2018 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 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 quarter (the Registrant's fourth 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.

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.

Date: March 22, 2019

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

EXHIBIT 31.2

CERTIFICATION PURSUANT TO RULE 13A-14 OF THE SECURITIES EXCHANGE ACT OF 1934 AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Gail Sasaki, certify that:

1. I have reviewed this Annual Report on Form 10-K for the fiscal year ended December 29, 2018 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 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 quarter (the Registrant's fourth 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.

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.

Date: March 22, 2019

/s/ Gail Sasaki

Gail Sasaki
Vice President and Chief Financial Officer
(Principal Financial Officer)

EXHIBIT 32

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 Annual Report on Form 10-K of Netlist, Inc., a Delaware corporation ("Netlist") for the fiscal year ended December 29, 2018, as filed with the Securities and Exchange Commission on March 22, 2019 (the "Report"), Chun K. Hong, president, chief executive officer and chairman of the board of Netlist, and Gail 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) or 15(d) 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.

Date: March 22, 2019

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

Date: March 22, 2019

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