Consolidated Balance Sheet Data

(in thousands)	January 29, 2017	January 31, 2016 (1)	January 25, 2015 (1)	January 26, 2014	January 27, 2013 (2)
Cash, cash equivalents and investments	$ 297,134	$ 211,810	$ 230,328	$ 246,868	$ 236,072
Working capital	315,453	237,334	288,647	282,706	248,311
Total assets	1,011,542	911,517	929,431	948,940	1,171,013
Long term debt, less current	226,524	239,177	234,746	273,293	282,286
Non-current liabilities	283,304	279,579	270,032	302,207	318,505
Total stockholders' equity	605,263	528,051	551,358	535,843	694,826

(1)The Company acquired Triune on March 4, 2015 and select assets from EnVerv on January 13, 2015. Refer to Note3 to our Consolidated Financial Statements included in Item 8 of this report.

(2)The Company acquired Gennum on March 20, 2012 and Cycleo SAS on March 7, 2012. Both of these acquisitions occurred during our fiscal year 2013 with Gennum being the more significant of the two. As a result, fiscal year 2013 reflects almost a full year of these acquisitions in our Consolidated Statements of Income.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and operating results should be read in conjunction with Item 6 "Selected Consolidated Financial Data" and our Consolidated Financial Statements and related Notes included elsewhere in this Annual Report on Form 10-K.

This Annual Report on Form 10-K contains "forward-looking statements" within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, as amended, based on our current expectations, estimates and projections about our operations, industry, financial condition, performance, operating results, and liquidity. Forward-looking statements are statements other than historical information or statements of current condition and relate to matters such as future financial performance, future operational performance, the anticipated impact of specific items on future earnings, and our plans, objectives and expectations. Statements containing words such as "may," "believe," "anticipate," "expect," "intend," "plan," "project," "estimate," "should," "will," "designed to," "projections," or "business outlook," or other similar expressions constitute forward-looking statements. Forward-looking statements involve known and unknown risks and uncertainties that could cause actual results and events to differ materially from those projected. Please see Special Note Regarding Forward-Looking and Cautionary Statements elsewhere in this Annual Report on Form 10-K for potential factors that could cause actual results to differ materially from those in the forward-looking statements.

Overview

We are a leading global supplier of analog and mixed-signal semiconductor products and were incorporated in Delaware in 1960. We design, develop, manufacture and market a broad range of products that are sold principally into applications within the high-end consumer, industrial, enterprise computing and communications end-markets. The high-end consumer end-market includes handheld devices, smartphones, tablets, wireless charging, set-top boxes, digital televisions, digital video recorders, thunderbolt cables and other consumer equipment. Applications for the industrial market include video broadcast studio equipment, automated meter reading, smart grid, wireless charging, military and aerospace, medical, security systems, automotive, IoT, industrial and home automation and other industrial equipment. Enterprise computing end-markets include datacenter related equipment, passive optical networks, storage networks, desktops, notebooks, servers, printers, monitors and computer peripherals. Communications end-market applications include wireless base stations, long-haul optical networks, carrier networks, switches and routers, cable modems, backplane signal conditioners, wireless LAN, and other communication infrastructure equipment.

We report results on the basis of 52 and 53 week periods and our fiscal year ends on the last Sunday in January. The fiscal years ended January 29, 2017 and January 25, 2015 each consisted of 52 weeks. The fiscal year ended January 31, 2016 consisted of 53 weeks.

Our end-customers are primarily OEMs and their suppliers, including Cisco Systems, Inc., Alphabet Inc., Huawei Technologies Co. Ltd., Itron, LG Electronics, Samsung Electronics Co. Ltd., Sharp Corporation, Sonova International and ZTE Corporation.

On March 4, 2015, we completed the acquisition of Triune, a privately-held supplier of wireless charging, isolated switching and power management platforms targeted at high and low power, high efficiency applications. Under the terms of the purchase agreement, we acquired all of the outstanding equity interests of Triune for an aggregate purchase price of $45.0 million consisting of $35.0 million cash paid at closing, with an additional cash consideration of $10.0 million which has since been paid. Subject to achieving certain future financial goals ("Triune Earn-out"), up to an additional $70.0 million of additional contingent consideration could have been paid over three years if certain revenue targets were achieved in each of the fiscal years 2016 through 2018. An additional payment of up to $16.0 million could have been paid after fiscal year 2018 if certain cumulative revenue and operating income targets are achieved. The Triune Earn-out targets for fiscal year 2017 and 2016 were not met and we do not expect to make any payments with regards to these periods which represented $36.0 million of the total $70.0 million opportunity. We do not expect fiscal year 2018 targets to be achieved. See Note 3 and Note 14 to our Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K. Our primary reason for the acquisition was to broaden our existing portfolio with platforms that are very complementary to our current market focus, including Triune's isolated switching platform and wireless charging platform.

On January 13, 2015, we completed the acquisition of select assets from EnVerv, a privately-held supplier of PLC and Smart Grid solutions targeted at advanced metering infrastructure, home energy management systems and IoT applications. We paid $4.9 million in cash at closing. See Note 3 to our Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K.

We operate and account for results in one reportable segment. See Note 17 to our Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K. In fiscal year 2016, we identified a total of five operating segments. Four of these operating segments aggregate into one reportable segment, the Semiconductor Products Group. The four operating segments aggregated into our one reportable segment all exhibit similar economic characteristics and we manage that business to a targeted gross margin range which all of the aggregated product lines are expected to meet. The remaining operating segment, the Systems Innovation Group (shown as "All others"), could not be aggregated with the other operating segments and did not meet the criteria for a separate reportable segment as defined by the guidance regarding segment disclosure. As a result, the financial activity associated with the Systems Innovation Group was reported separately from our Semiconductor Products Group. This separate reporting was included in the “All others” category. On August 5, 2016, we completed the divestiture of our Snowbush IP business (previously part of our Systems Innovation Group) to Rambus for a purchase price of $32.0 million in cash along with the opportunity to receive additional payments from Rambus through 2022 based upon a percentage of sales by Rambus of new products expected to be developed by Rambus from the disposed assets. Beginning in the third quarter of fiscal year 2017, we no longer have a Systems Innovation Group or an “All others” category, and therefore we have only four operating segments that aggregate into one reportable segment, the Semiconductor Products Group.

Gross margins for our Protection Products Group and Power and High-Reliability Products Group performed below our targeted range in fiscal year 2017 as their businesses were negatively impacted by an unfavorable product mix. The Power and High-Reliability Products Group has continued its on-going strategic transition away from certain markets (i.e., the personal computer market) that are characterized by non-differentiated offerings in sectors that are highly competitive. Specifically, the Power and High-Reliability Products Group is transitioning its product offerings to better support its current target markets, which include high-end consumer and medical, space, industrial and automotive applications that have historically enjoyed higher gross margins. Additionally, we believe that the recent addition of the wireless charging and isolated switching platforms will allow us to accelerate this transition. The gross margin performance for the Protection Products Group in fiscal year 2017 was detrimentally impacted by its reliance on the handheld end-market, but showed improvement from fiscal year 2016 as a result of higher volumes driving improved absorption of fixed manufacturing costs.

Most of our sales to customers are made on the basis of individual customer purchase orders. Many customers include cancellation provisions in their purchase orders. Trends within the industry toward shorter lead-times and "just-in-time" deliveries have resulted in our reduced ability to predict future shipments. As a result, we rely on orders received and shipped within the same quarter for a significant portion of our sales. Sales made directly to customers during fiscal year 2017 were 35% of net sales. The remaining 65% of net sales were made through independent distributors.

Our business relies on foreign-based entities. Most of our subcontractors and suppliers, including third-party foundries that supply silicon wafers, are located in foreign countries, including China, Taiwan and Israel. For the fiscal year ended January 29, 2017, approximately 25% of our silicon, in terms of cost of wafers purchased, was manufactured in China. Foreign sales for fiscal year 2017 constituted approximately 91% of our net sales. Approximately 76% of foreign sales in fiscal year 2017 were to customers located in the Asia-Pacific region. The remaining foreign sales were primarily to customers in Europe, Canada and Mexico.

We use several metrics as indicators of future potential growth. The indicators that we believe best correlate to potential future revenue growth are design wins and new product releases. There are many factors that may cause a design win or new product release to not result in revenue, including a customer decision not to go to system production, a change in a customer’s perspective regarding a product’s value or a customer’s product failing in the end-market. As a result, although a design win or new product introduction is an important step towards generating future revenue, it does not inevitably result in us being awarded business or receiving a purchase commitment.

Restructuring - fiscal 2017

In fiscal year 2017, we took targeted actions to better align our global operational footprint with our updated business strategies. As a result of these actions, we recorded restructuring charges of $2.3 million for employee termination and related charges. The benefit of these actions is expected to reduce our current operating expenses by approximately $4.0 million on an annual basis.

Restructuring - fiscal 2016

On July 15, 2015, we announced a worldwide reduction in force as part of an overall plan to align operating expenses with business conditions and leverage recent infrastructure investments. The reduction in force affected approximately 8% of our global workforce and was completed in our third quarter of fiscal year 2016. As a result of the reduction in force, we recorded restructuring charges of $4.5 million in fiscal year 2016. Such costs consisted primarily of termination benefits, including severance, which have been settled in cash. The benefits from this plan, after full implementation, were expected to reduce our current operating expenses by approximately $20.0 million on an annual basis.

Restructuring - fiscal 2015

In December 2014, we made a strategic decision to reduce our investment in the defense and microwave communications markets and to make additional reductions in our investments in the long-haul optical market. As a result of these actions, we recorded restructuring charges and impairments of certain intangible assets. Additionally, certain long-lived assets were determined to be impaired. The financial impact of these actions for the twelve month period ended January 25, 2015, is presented below:

Restructuring charges

(in thousands)		
Employee terminations and related costs	$	662
Contract termination costs		623
Total restructuring charges	$	1,285

Impairment of finite-lived intangibles

(in thousands)		Finite-lived intangible assets
Intangible asset impairments	$	11,636

Other charges

(in thousands)		Cost of sales		Selling general and administrative		Product development and engineering		Total
Long-lived asset impairments	$	2,810	$	6	$	6,630	$	9,446
Contract commitments		2,983		—		—		2,983
	$	5,793	$	6	$	6,630	$	12,429

As a result of these restructuring actions, we realized operating cost savings of approximately $6.4 million in fiscal year 2016.

Results of Operations

Fiscal Year 2017 Compared With Fiscal Year 2016

All periods presented in the following summary of sales by major end-market reflect our current classification methodology (see Note1 to our Consolidated Financial Statements in this Annual Report on Form 10-K for a description of each market category):

(in thousands, except percentages)	Fiscal Years				
	2017		2016		
	Net Sales	% Net Sales	Net Sales	% Net Sales	Change
Enterprise Computing	$ 168,846	31 %	$ 145,047	30%	16 %
Industrial and Other	141,660	26 %	127,779	26%	11 %
High-End Consumer	140,887	26 %	125,033	25%	13 %
Communications	98,275	18 %	92,360	19%	6 %
Other: Warrant Shares	(5,396)	(1)%	—	—%	(100)%
Total	$ 544,272	100 %	$ 490,219	100%	11 %

Net Sales. Net sales for fiscal year 2017 were $544.3 million, an increase of 11% compared to $490.2 million for fiscal year 2016 which had benefited from an additional week compared to fiscal year 2017. The net sales from this additional week were not significant. Fiscal year2017 revenues within the enterprise computing end-market benefited from particular strength from our optical products which are well positioned for the current cycle of datacenter upgrades and increased deployments of PONs, particularly in China**.** The continued decline of 40Gbps and 100Gbps SerDes devices going into the long-haul optical market in the communications end-market was offset by strength in the wireless base station market primarily in China. Net sales increased in our high-end consumer end-market due to higher demand from our largest Korean customers as well as strong growth from our China smartphone customers.

In fiscal year 2018, activity in the communications, enterprise computing and industrial end-markets is expected to improve, due to continued demand for datacenter upgrades, and the build-out of metro communications infrastructure, including wireless base stations (specifically in China) and IoT applications.

Gross Profit. Gross profit was $324.9 million and $293.1 million in fiscal years 2017 and 2016, respectively. Our gross margin was 59.7% for fiscal year 2017, comparable with 59.8% in fiscal year 2016. Fiscal year 2017 performance benefited from a more favorable mix of higher margin product sales, the benefit of which was offset by the $5.4 million charge related to the Comcast Warrants which was reported as a reduction to revenue. We expect overall gross margins for fiscal year 2018 to remain consistent with our fiscal year 2017 performance.

Operating Costs and Expenses.

(in thousands, except percentages)	Fiscal Years 2017 Cost/Exp.	2017 % Net Sales	2016 Cost/Exp.	2016 % Net Sales	Change
Selling, general and administrative	$ 136,426	25 %	$ 136,151	28 %	— %
Product development and engineering	102,500	19 %	113,737	23 %	(10)%
Intangible amortization	25,301	5 %	25,059	5 %	1 %
Gain on disposition of business operations	(25,513)	(5)%	—	— %	(100)%
Changes in the fair value of contingent earn-out obligations	(215)	— %	(16,362)	(3)%	(99)%
Restructuring charges	2,282	— %	4,526	1 %	(50)%
Total operating costs and expenses	$ 240,781	44 %	$ 263,111	54 %	(8)%

Selling, General & Administrative Expenses

Selling, general and administrative ("SG&A") expenses for fiscal year2017 increased by $0.3 million as the benefit from the restructuring actions taken in fiscal year 2016, lower legal fees, and the non-reoccurrence of environmental reserves of $2.9 million were offset by an $8.0 million increase in share-based compensation resulting primarily from our higher stock price and a $9.5 million increase in our supplemental compensation costs associated with our improved financial performance.

Product Development and Engineering Expenses

Product development and engineering expenses for fiscal years2017 and 2016 were $102.5 million and $113.7 million, respectively or a decrease of 10%. The decrease was primarily a result of our decision to reduce our investment in the defense and microwave communications markets and to sell our Snowbush IP business to Rambus. The savings from these actions were partially offset by lower recoveries from third parties for non-recurring engineering services.

The levels of product development and engineering expenses reported in a fiscal period can be significantly impacted, and therefore experience period over period volatility, by the number of new product tape-outs and by the timing of recoveries from non-recurring engineering services which are recorded as a reduction to product development and engineering expense.

Intangible Amortization

Intangible amortization was $25.3 million and $25.1 million in fiscal years 2017 and 2016, respectively.

Gain on Disposition of Business Operations

In the third quarter of fiscal year 2017, we completed our divestiture of Snowbush IP to Rambus. As a result, we recognized a gain of $25.5 million on the disposition of this business.

Changes in the Fair Value of Contingent Earn-out Obligations

The contingent earn-out expense decreased by $16.1 million in fiscal year 2017 primarily as a result of a significant reduction in our estimate of projected revenue associated with the Triune Earn-out.

We measure contingent earn-out liabilities at fair value on a recurring basis using significant unobservable inputs classified within Level 3 of the fair value hierarchy. We use a Monte Carlo valuation method as a valuation technique to determine the value of the earn-out liability. The significant unobservable inputs used in the fair value measurements are revenue projections over the earn-out period, and the probability outcome percentages assigned to each scenario. Significant increases or decreases to either of these inputs in isolation would result in a significantly higher or lower liability, with a higher liability capped by the contractual maximum of the contingent earn-out obligation. Ultimately, the liability will be equivalent to the amount paid, and the difference between the fair value estimate and amount paid will be recorded in earnings. The Triune Earn-out targets for fiscal years 2017 and 2016 were not met and we do not expect to make any payments with regards to these periods which represented $36.0 million of the total $70.0 million opportunity.

Restructuring

We incurred $4.5 million for restructuring charges in fiscal year2016, for severance and contract cancellation liabilities related to our decision to reduce our investments in the defense and microwave communications and long-haul optical markets, realign product groupings, and align spending with anticipated demand levels. Restructuring charges in fiscal year 2017, at $2.2 million, were more limited and focused on better aligning our global operational footprint with our updated business strategies.

Interest Expense. Interest expense was $9.3 million and $7.8 million for fiscal years 2017 and 2016, respectively. The $1.5 million increase is primarily related to the write-off of $0.5 million of debt issuance costs as a result of a debt modification that was completed in the fourth quarter of fiscal year 2017 and higher interest rates.

Our interest rate under our Amended and Restated Credit Agreement dated November 15, 2016 with certain lenders (the "Lenders") and HSBC Bank USA, National Association, as administrative agent (in such capacity, the "Administrative Agent") and as swing line lender and letter of credit issuer (the "Credit Agreement") can be influenced by our consolidated leverage ratio, as defined in the Credit Agreement ("Leverage Ratio"). Our Leverage Ratio is influenced by our consolidated indebtedness and our adjusted earnings before interest, taxes, depreciation and amortization. Historically, our Leverage Ratio under the Credit Agreement and prior credit agreement has been between 1.50 and 2.25 which resulted in an interest rate margin between 1.75% and 1.88%. Primarily as a result of declining revenue, our Leverage Ratio exceeded 2.50 at the end of fiscal year 2016 and the beginning of fiscal year 2017 which resulted in our rate margin increasing to 2.25%. As of result of higher sales, we ended fiscal year 2017 with a Leverage Ratio of approximately 1.69. We believe that our Leverage Ratio will continue to improve in the first quarter of fiscal year 2018 as a result of continued strength in sales trends. The impact of the benefit of improvements to our Leverage Ratio on our total interest costs is being offset by increases in the 30 day LIBOR rate. If the 30 day LIBOR rate increases 25 basis points, our interest costs for fiscal year 2018 will increase by $0.6 million.

Interest Income and Other Expense, Net. Interest income and other expense, net was an expense of $1.7 million in fiscal year 2017 compared to $1.8 million in fiscal year 2016. Interest income earned in the past few years has been insignificant. The slightly higher expense in fiscal year 2017 was primarily related to the impact of unfavorable movements in foreign exchange rates.

Provision for Taxes. The provision for income taxes was $18.4 million for fiscal year 2017 compared to $8.9 million for fiscal year 2016. The effective tax rates for fiscal years 2017 and 2016 were a tax provision of 25.2% and 43.6%, respectively. The effective tax rates for fiscal years 2017 and 2016 reflect the adverse impact of $5.6 million and $1.8 million respectively, related to a valuation reserve against our deferred tax assets.

Our effective tax rate in fiscal year 2017 differs from the statutory federal income tax rate of 35% due primarily to a valuation reserve against our deferred tax assets and certain undistributed foreign earnings for which no U.S. taxes are provided, because such earnings are indefinitely reinvested outside of the U.S. The effective tax rate in fiscal year 2017 is lower than the statutory federal income tax rate due to regional mix of income causing a portion of the earnings to be taxed at foreign tax rates which are less than the federal rate. During fiscal year 2017, we also received an income tax rate benefit for our research and development tax credits in the United Kingdom ("U.K") and Canada.

We account for income taxes using the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts and tax basis of the assets and liabilities.

As of January 29, 2017, we have a valuation allowance against our U.S. deferred tax assets of approximately $83.0 million. We are required to assess whether a valuation allowance should be recorded against our deferred tax assets ("DTAs") based on the consideration of all available evidence, using a "more likely than not" realization standard. The four sources of taxable income that must be considered in determining whether DTAs will be realized are; (1) future reversals of existing taxable temporary differences (i.e. offset of gross deferred tax assets against gross deferred tax liabilities); (2) taxable income in prior carryback years, if carryback is permitted under the tax law; (3) tax planning strategies and (4) future taxable income exclusive of reversing temporary differences and carry-forwards.

In assessing whether a valuation allowance is required, significant weight is to be given to evidence that can be objectively verified. We have evaluated our DTAs each reporting period, including an assessment of our cumulative income or loss over the prior three-year period, to determine if a valuation allowance was required. A significant negative factor in our assessment was our three-year cumulative loss history in the U.S. as of January 29, 2017.

In fiscal years 2013 through 2015, our Canadian operations were in a cumulative loss position due to a loss generated in fiscal year 2013. However, as of the end of fiscal year 2016, Gennum was in a three year cumulative income position, since the loss that was generated in fiscal year 2013 was no longer included in the three year window for measuring income or loss. We are forecasting pretax income growth for Gennum over the next five years, and correspondingly estimated our Canadian-based taxes over the next five years. We compared the amount of taxes that we will owe in this period to our net deferred tax assets and concluded that we would be able to utilize our deferred tax assets without any concerns related to expiration.

We are forecasting pretax income growth for Gennum over the next five years, and correspondingly estimated our Canadian based taxes over the next five years. We compared the amount of taxes that we will owe in this period to our net deferred tax assets and concluded that we would be able to utilize our deferred tax assets without any concerns related to expiration.

We were able to conclude that the positive evidence related to long-term profitability and utilization of all deferred tax assets was sufficient to warrant a full release of the reserve on our Canadian deferred tax assets. As such, we released the entire reserve of approximately $7.2 million on our Canadian deferred tax asset in fiscal year 2016.

After a review of the four sources of taxable income described above and in view of our three-year cumulative loss, we were not able to conclude that it is more likely than not that our U.S. DTAs will be realized. As a result, we continue to record a full valuation allowance on our DTAs in the U.S, with a corresponding charge to the income tax provision.

As we enter fiscal year2018, we expect our tax rate to face upward pressure as a result of a less favorable mix of foreign and domestic income and our expected continued inability to benefit from U.S. deferred tax assets as a result of our recent history of tax losses in the U.S.

As a global organization, we are subject to audit by taxing authorities in various jurisdictions. To the extent that an audit, or the closure of a statute of limitations, results in our adjusting our reserves for uncertain tax positions, our effective tax rate could experience extreme volatility since any adjustment would be recorded as a discrete item in the period of adjustment.

Fiscal Year 2016 Compared With Fiscal Year 2015

All periods presented in the following summary of sales by major end-market reflect our current classification methodology (see Notel to our Consolidated Financial Statements in this Annual Report on Form 10-K for a description of each market category):

(in thousands, except percentages)	Fiscal Years 2016			Fiscal Years 2015			
		Net Sales	% Net Sales		Net Sales	% Net Sales	Change
Enterprise Computing	$	145,047	30%	$	115,812	21%	25 %
Industrial and Other		127,779	26%		147,410	26%	(13)%
High-End Consumer		125,033	25%		173,799	31%	(28)%
Communications		92,360	19%		120,864	22%	(24)%
Total	$	490,219	100%	$	557,885	100%	(12)%

Net Sales. Net sales for fiscal year 2016 were $490.2 million, a decrease of 12% from $557.9 million for fiscal year 2015. Net sales for fiscal year 2016 benefited from an additional week compared to fiscal year 2015. Fiscal year 2016 revenues within the enterprise computing end-market benefited from particular strength from our optical products which were well positioned for the current cycle of datacenter upgrades and increased deployments of PONs, particularly in China. This strength was more than offset by the further decline in the Communications market driven by the anticipated weakness in 40Gbps and 100Gbps SerDes devices going into the long-haul optical market as our customers transitioned away from our solutions and lower net sales to the 4G/LTE wireless base station market. Net sales were also lower in our high-end consumer end market due to lower demand from our largest Korean customers due to their loss of world-wide market share. Revenue from the licensing of intellectual property was $3.4 million and $0.4 million in fiscal years 2016 and 2015, respectively.

Gross Profit. Gross profit was $293.1 million and $328.8 million in fiscal years 2016 and 2015, respectively. Our gross margin was 59.8% for fiscal year 2016, up from 58.9% in fiscal year 2015. We incurred significant charges in fiscal year 2015 related to our strategic decision to reduce our investments in the long-haul optical and defense and microwave communications markets. These charges included $2.8 million of asset impairment charges and $3.0 million of charges related to settlement of contract commitments. Excluding the charges related to these business alignment decisions, our gross margin profile for fiscal years 2016 and 2015 were similar.

Operating Costs and Expenses

(in thousands, except percentages)	Fiscal Years 2016			Fiscal Years 2015			
		Cost/Exp.	% Net Sales		Cost/Exp.	% Net Sales	Change
Selling, general and administrative	$	136,151	28 %	$	127,134	23%	7 %
Product development and engineering		113,737	23 %		119,371	21%	(5)%
Intangible amortization		25,059	5 %		25,718	5%	(3)%
Intangible asset impairments		—	— %		11,636	2%	(100)%
Changes in the fair value of contingent earn-out obligations		(16,362)	(3)%		1,391	—%	(1,276)%
Restructuring charges		4,526	1 %		1,285	—%	252 %
Total operating costs and expenses	$	263,111	54 %	$	286,535	51%	(8)%

Selling, General & Administrative Expenses

Selling, general, and administrative expenses for fiscal year2016 increased by $9.0 million or 7% as a result of higher support costs related to our new enterprise resource planning ("ERP") software and the recurring amortization expense associated with our new ERP software of approximately $2.2 million per year. In fiscal year 2016, we recorded a reserve for certain environmental matters of $2.9 million and incurred approximately $6.8 million of costs associated with various legal matters, including our acquisition of Triune, our investment in MultiPhy Ltd., and our litigation actions against Active-Semi International, Inc. These costs were partially offset by $9.1 million of lower share-based compensation.

Product Development and Engineering Expenses

Product development and engineering expenses for fiscal years2016 and 2015 were $113.7 million and $119.4 million, respectively or a decrease of 5%. The decrease was primarily a result of our decision to reduce our investment in the defense and microwave communications markets and to make additional reductions in our investments in the long-haul optical market, partially offset by higher costs associated with our acquisitions of Triune and select assets from EnVerv and lower recoveries from third parties for non-recurring engineering services.

The levels of product development and engineering expenses reported in a fiscal period can be significantly impacted, and therefore experience period over period volatility, by the number of new product tape-outs and by the timing of recoveries from non-recurring engineering services which are recorded as a reduction to product development and engineering expense.

Intangible Amortization

Intangible amortization was $25.1 million and $25.7 million in fiscal years 2016 and 2015, respectively.

Intangible Asset Impairments

There were no intangible asset impairments in 2016. We recorded $11.6 million in intangible asset impairments in fiscal year 2015 related to our decision to reduce our investment in the defense and microwave communications markets and to make additional reductions in our investments in the long-haul optical market.

Changes in the Fair Value of Contingent Earn-out Obligations

The contingent earn-out expense decreased by $17.8 million in fiscal year 2016 primarily as a result of a significant reduction in our estimate of projected revenue associated with the Triune Earn-out.

We measure contingent earn-out liabilities at fair value on a recurring basis using significant unobservable inputs classified within Level 3 of the fair value hierarchy. We use a Monte Carlo valuation method as a valuation technique to determine the value of the earn-out liability. The significant unobservable inputs used in the fair value measurements are revenue projections over the earn-out period, and the probability outcome percentages assigned to each scenario. Significant increases or decreases to either of these inputs in isolation would result in a significantly higher or lower liability, with a higher liability capped by the contractual maximum of the contingent earn-out obligation. Ultimately, the liability will be equivalent to the amount paid, and the difference between the fair value estimate and amount paid will be recorded in earnings. The Triune Earn-out targets for fiscal year 2016 were not met and we do not expect to make any payments with regards to this period which represented $13.0 million of the total $70.0 million opportunity.

Restructuring

In the second quarter of fiscal year 2016, we announced a worldwide reduction in force as part of an overall plan to align operating expenses with business conditions and leverage recent infrastructure investments. As a result of the reduction in force, we recorded restructuring charges of $4.5 million in fiscal year 2016.

We incurred $1.3 million for restructuring charges in fiscal year 2015, respectively, for severance and contract cancellation liabilities related to our decision to reduce our investments in the defense and microwave communications and long-haul optical markets, realign product groupings, and align spending with anticipated demand levels.

Interest Expense. Interest expense was $7.8 million and $5.9 million for fiscal year 2016 and 2015, respectively. The $1.9 million increase is primarily related to higher levels of outstanding debt under our credit facilities and higher amortization costs associated with our interest rate hedge. Our interest rate under the Credit Agreement can be influenced by our Leverage Ratio. Our Leverage Ratio is influenced by our consolidated indebtedness and our adjusted earnings before interest, taxes, depreciation and amortization. Historically, our Leverage Ratio under the Credit Agreement has been between 1.50 and 2.25 which resulted in an interest rate margin of 1.75%. Primarily as a result of declining revenue, our Leverage Ratio exceeded 2.50 at the end of fiscal year 2016 which resulted in our rate margin increasing to 2.25%.

Interest Income and Other Expense, Net. Interest income and other expense, net was expense of $1.8 million in fiscal year 2016 compared to income of $0.2 million in fiscal year 2015. Interest income earned in the past few years has been insignificant. The higher expense in fiscal year 2016 was primarily related to the impact of unfavorable movements in foreign exchange rates and higher interest costs associated with the Cycleo Amended Earn-Out discussed in Note 14 to our Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K.

Provision for Taxes. The provision for income taxes was $8.9 million for fiscal year 2016 compared to $8.5 million for fiscal year 2015. The effective tax rates for fiscal years 2016 and 2015 were a tax provision of 43.6% and 23.4%, respectively. The effective tax rates for fiscal years 2016 and 2015 reflect the adverse impact of $1.8 million and $14.3 million respectively, related to a valuation reserve against our deferred tax assets.

Our effective tax rate in fiscal year2016 differs from the statutory federal income tax rate of 35% due primarily to a valuation reserve against our deferred tax assets and certain undistributed foreign earnings for which no U.S. taxes are provided, because such earnings are indefinitely reinvested outside of the U.S. The effective tax rate in fiscal year 2016 is higher than the statutory federal income tax rate due to additional non-cash tax expense in the U.S. resulting from the reversal of a contingent liability (discussed in Note 14 to our Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K) and its related impact on a book-tax difference in the basis of goodwill. During fiscal years 2016 and 2015, we also received an income tax rate benefit for our research and development tax credits in the U.K. and Canada.

We account for income taxes using the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts and tax basis of the assets and liabilities.

As of January 31, 2016, we have a valuation allowance against our U.S. deferred tax assets of approximately $77.4 million. We are required to assess whether a valuation allowance should be recorded against our DTAs based on the consideration of all available evidence, using a "more likely than not" realization standard. The four sources of taxable income that must be considered in determining whether DTAs will be realized are; (1) future reversals of existing taxable temporary differences (i.e. offset of gross deferred tax assets against gross deferred tax liabilities); (2) taxable income in prior carryback years, if carryback is permitted under the tax law; (3) tax planning strategies and (4) future taxable income exclusive of reversing temporary differences and carry-forwards.

In assessing whether a valuation allowance is required, significant weight is to be given to evidence that can be objectively verified. We have evaluated our DTAs each reporting period, including an assessment of our cumulative income or loss over the prior three-year period, to determine if a valuation allowance was required. A significant negative factor in our assessment was our three-year cumulative loss history in the U.S. as of January 31, 2016.

In fiscal years 2013 through 2015, our Canadian operations were in a cumulative loss position due to a loss generated in fiscal year 2013. However, as of the end of fiscal year 2016, Gennum was in a three year cumulative income position, since the loss that was generated in fiscal year 2013 was no longer included in the three year window for measuring income or loss. We are forecasting pretax income growth for Gennum over the next five years, and correspondingly estimated our Canadian based taxes over the next five years. We compared the amount of taxes that we will owe in this period to our net deferred tax assets and concluded that we would be able to utilize our deferred tax assets without any concerns related to expiration.

We are forecasting pretax income growth for Gennum over the next five years, and correspondingly estimated our Canadian based taxes over the next five years. We compared the amount of taxes that we will owe in this period to our net deferred tax assets and concluded that we would be able to utilize our deferred tax assets without any concerns related to expiration.

We were able to conclude that the positive evidence related to long-term profitability and utilization of all deferred tax assets was sufficient to warrant a full release of the reserve on our Canadian deferred tax assets. As such, in the fourth quarter of fiscal year 2016, we released the entire reserve of approximately $7.2 million on our Canadian deferred tax assets.

After a review of the four sources of taxable income described above and in view of our three-year cumulative loss, we were not able to conclude that it is more likely than not that our U.S. DTAs will be realized. As a result, we recorded a full valuation allowance on our DTAs in the U.S, with a corresponding charge to the income tax provision of approximately $9.0 million. During the fourth quarter of fiscal year 2016, we revisited our analysis of whether a valuation allowance would be appropriate for our Canadian deferred tax assets, and concluded that enough positive evidence exists to fully release the reserve, with a corresponding benefit to the income tax provision of approximately $7.2 million. This resulted in a net charge to the income tax provision of approximately $1.8 million as of January 31, 2016.

Liquidity and Capital Resources

Our capital requirements depend on a variety of factors, including but not limited to, the rate of increase or decrease in our existing business base; the success, timing and amount of investment required to bring new products to market; revenue growth or decline; and potential acquisitions. We believe that we have the financial resources necessary to meet business requirements for the next 12 months, including funds needed for working capital requirements.

As of January 29, 2017, our total stockholders' equity was$605.3 million. At that date, we also had approximately$297.1 million in cash and cash equivalents and $241.0 million of borrowings, net of debt discount.

We believe that sources and uses of cash when used in conjunction with GAAP measures provide useful information to investors in evaluating our cash flows. Our primary sources and uses of cash for the corresponding periods are presented below (non-GAAP):

	Fiscal Year Ended		
(in millions)	January 29, 2017	January 31, 2016	January 25, 2015
Sources of Cash			
Operating activities	$ 117.6	$ 102.1	$ 106.2
Proceeds from sales and maturities of available-for-sale investments	—	—	3.7
Proceeds from sales of property, plant and equipment	—	—	0.1
Proceeds from disposition of business operations	32.0	—	—
Proceeds from sale of investments	0.6	—	—
Proceeds from term loans	150.0	35.0	5.0
Proceeds from revolving line of credit	97.0	—	—
Proceeds from exercise of stock options	5.8	5.8	8.9
	$ 403.0	**$ 142.9**	**$ 123.9**
Uses of Cash			
Purchase of property, plant and equipment	(32.9)	(13.0)	(31.8)
Purchase of intangible assets	—	—	(1.1)
Purchase of investments	(13.2)	(14.6)	(7.1)
Acquisitions, net of cash acquired	—	(39.2)	(4.9)
Deferred financing costs	(2.1)	—	—
Payment for employee share-based compensation payroll taxes	(6.6)	(6.5)	(7.2)
Repurchase of outstanding common stock	(1.0)	(57.3)	(40.9)
Payments of term loans	(80.9)	(30.8)	(43.7)
Payment of revolving line of credit	(181.0)	—	—
	$ (317.7)	**$ (161.4)**	**$ (136.7)**
Net increase (decrease) in cash and cash equivalents	**$ 85.3**	**$ (18.5)**	**$ (12.8)**

In summary, our cash flows for each period were as follows:

	Fiscal Year Ended		
(in millions)	January 29, 2017	January 31, 2016	January 25, 2015
Net cash provided by operating activities	$ 117.6	$ 102.1	$ 106.2
Net cash used in investing activities	(13.5)	(66.8)	(41.1)
Net cash used in financing activities	(18.8)	(53.8)	(77.9)
Net increase (decrease) in cash and cash equivalents	**$ 85.3**	**$ (18.5)**	**$ (12.8)**

We incur significant expenditures in order to fund the development, design, and manufacture of new products. We intend to continue to focus on those areas that have shown potential for viable and profitable market opportunities, which may require additional investment in equipment and the hiring of additional design and application engineers aimed at developing new products. Certain of these expenditures, particularly the addition of design engineers, do not generate significant payback in the short-term. We plan to finance these expenditures with cash generated by our operations and our existing cash balances.

A meaningful portion of our capital resources, and the liquidity they represent, are held by our foreign subsidiaries. As of January 29, 2017, our foreign subsidiaries held approximately $224.6 million of cash and cash equivalents compared to $170.7 million at January 31, 2016. Earnings previously taxed in the U.S. of $18.1 million could be repatriated subject only to a 5% withholding tax, as we do not assert permanent reinvestment of earnings previously taxed in the U.S. As of January 29, 2017, our foreign subsidiaries had $603.0 million of unremitted earnings for which no Federal or state taxes have been provided. Those historical earnings have been and are expected to continue to be permanently reinvested.

One of our primary goals is to improve the cash flows from our existing business activities. Additionally, we will continue to seek to maintain and improve our existing business performance with capital expenditures and, potentially, acquisitions and other investments that support achievement of our business strategies. Acquisitions may be made for either cash or stock consideration, or a combination of both.

Operating Activities

Net cash provided by operating activities is primarily due to net income adjusted for non-cash items plus fluctuations in operating assets and liabilities.

Operating cash flows for fiscal years 2017 and 2016 were impacted by several significant non-cash transaction related items including, for fiscal 2017, depreciation, amortization and impairment expenses of $47.1 million and share-based compensation expense of $30.8 million. The significant non-cash transactions for fiscal 2016 included depreciation, amortization, and impairment expense of $48.9 million, share-based compensation expense of $20.5 million and the benefit of reductions in the fair value of contingent earn-out obligations of $16.4 million.

Investing Activities

Cash flows from investing activities is primarily attributable to capital expenditures, net of proceeds from sales of property, plant and equipment and proceeds from sales of investments. Investing activities are also impacted by acquisitions, net of any cash received.

On March 4, 2015, we acquired Triune, a privately-held supplier of wireless charging and power management platforms targeted at, among other things, high and low power, high-efficiency applications. Under the terms of the purchase agreement, we acquired all of the outstanding equity interest in Triune for a guaranteed minimum purchase price of $45.0 million which consisted of $35.0 million in cash paid at closing and $10.0 million to be paid at a future date ("Deferred Payment"). To fund the Triune acquisition, we borrowed $35.0 million under our prior revolving line of credit in March 2015. In September 2015, we paid $9.5 million of the Deferred Payment with the remaining $0.5 million being paid in the second quarter of fiscal year 2017. Subject to achieving certain future financial goals, up to $70.0 million of contingent consideration could have been earned if certain revenue targets were achieved through fiscal year 2018. An additional payment of up to $16.0 million could be paid after fiscal year 2018 if certain cumulative net revenue and contribution margin targets are achieved. We do not expect the Triune Earn-out targets to be achieved for fiscal year 2018 and we do not expect to pay any associated contingent consideration.

Capital expenditures were $32.9 million for fiscal year 2017 compared to $13.0 million for fiscal year 2016. On November 4, 2016, we entered into an agreement to acquire the facility we were leasing in Burlington, Ontario, Canada for $12.1 million. The transaction closed on December 2016, and we used available cash on hand to fund this purchase. In fiscal year 2017, we increased capital expenditure to support our business growth and the release of new products. In fiscal year 2018, we expect our capital expenditures to be flat compared to our fiscal year 2017 levels as our decrease in real property purchases is offset by higher investments in test and manufacturing equipment to support higher demand levels and new product introductions. If product demand were to increase significantly beyond current projections, we would expect to increase capital spending to accommodate the growth. Similarly, to the extent practical, we would expect to decrease capital spending to address market contractions.

Financing Activities

Cash provided by financing activities is primarily attributable to borrowings under our revolving commitments offset by principal and interest payments related to our long-term debt and repurchase of outstanding common stock.

On May 2, 2013, we entered into a credit agreement with certain lenders (the "Prior Lenders") and HSBC Bank USA, National Association, as administrative agent and as swing line lender and letter of credit issuer (the "Prior Credit Agreement"). In accordance with this Prior Credit Agreement, the Prior Lenders provided us with senior secured first lien credit facilities in an aggregate principal amount of $400.0 million, consisting of term loans in an aggregate principal amount of $150.0 million and revolving line of credit commitments in an aggregate principal amount of $250.0 million.

On November 15, 2016 (the "Closing Date"), we entered into the Credit Agreement to refinance the Prior Credit Agreement. We accounted for the Credit Agreement as a debt modification. Pursuant to the Credit Agreement, the Lenders provided us with senior secured first lien credit facilities in an aggregate principal amount of $400.0 million (the "Facilities"), consisting of term loans in an aggregate principal amount of $150.0 million (the "Term Loans") and revolving commitments in an aggregate principal amount of $250.0 million (the "Revolving Commitments"). Up to $40.0 million of the Revolving Commitments may be used to obtain letters of credit, up to $25.0 million of the Revolving Commitments may be used to obtain swing line loans, and up to $40.0 million of the Revolving Commitments may be used to obtain revolving loans and letters of credit in certain currencies other than U.S. Dollars ("Alternative Currencies"). Each of the Term Loans and the Revolving Commitments is scheduled to mature on November 12, 2021.

The Credit Agreement refinanced our existing $400.0 million senior secured first lien credit facilities. All of the proceeds of the new Term Loans were used to repay in full all of the obligations outstanding under the Prior Credit Agreement and to pay transaction costs in connection with such refinancing and the Credit Agreement. As of January 29, 2017 we have $146.3 million outstanding under our Term Loans and $97.0 million outstanding under our Revolving Commitments.
As of January 29, 2017, $153.0 million of the new Revolving Commitments were undrawn. The proceeds of the new revolving credit facility may be used by us for capital expenditures, permitted acquisitions, permitted dividends, working capital and general corporate purposes.

The Credit Agreement provides that, subject to certain conditions, we may request, at any time and from time to time, the establishment of one or more additional term loan facilities and/or increases to the Revolving Commitments in an aggregate principal amount not to exceed the sum of (a) $150.0 million and (b) the aggregate principal amount of all voluntary prepayments of Term Loans made prior to the date of incurrence of such additional term loan facilities and/or increases to the Revolving Commitments; however, the Lenders are not required to provide such increase upon our request.

Interest on loans made under the Credit Agreement in U.S. Dollars accrues, at our option, at a rate per annum equal to (1) the Base Rate (as defined below) plus a margin ranging from 0.25% to 1.25% depending upon our consolidated leverage ratio or (2) LIBOR (determined with respect to deposits in U.S. Dollars) for an interest period to be selected by us plus a margin ranging from 1.25% to 2.25% depending upon our consolidated leverage ratio (such margin, the "Applicable Margin"). The "Base Rate" is equal to a fluctuating rate equal to the highest of (a) the prime rate of the Administrative Agent, (b) ½ of 1% above the federal funds effective rate published by the Federal Reserve Bank of New York and (c) one-month LIBOR (determined with respect to deposits in U.S. Dollars) plus 1.00%.

Interest on loans made under the Credit Agreement in Alternative Currencies accrues at a rate per annum equal to LIBOR (determined with respect to deposits in the applicable Alternative Currency) (other than loans made in Canadian Dollars, for which a special reference rate for Canadian Dollars applies) for an interest period to be selected by us plus the Applicable Margin.

The outstanding principal balance of the Term Loans will be subject to repayment in equal quarterly installments beginning on the last day of our fiscal quarter ending closest to January 31, 2017 in an amount equal to 10.0% per annum of the original principal amount of the Term Loans on the Closing Date in the first two years after such date, 12.5% per annum in years three and four after such date, and 15.0% per annum in year five after such date, with the balance being due at maturity on November 12, 2021. No amortization is required with respect to the revolving credit facility. We may voluntarily prepay borrowings under the new credit facilities at any time and from time to time, without premium or penalty, other than customary "breakage costs" and fees for LIBOR-based loans.

The Term Loans must be mandatorily prepaid using the proceeds of certain dispositions of assets and receipt of insurance proceeds, subject to agreed upon thresholds and exceptions and customary reinvestment rights.

We currently have in effect a stock repurchase program that was initially approved by our Board of Directors in March 2008. This program represents one of our principal efforts to return value to our stockholders. During fiscal years 2017 and 2016, we repurchased shares of common stock under this program for$1.0 million and $57.3 million, respectively. As of January 29, 2017, we had repurchased $136.7 million in shares of our common stock under the program since inception and the current remaining authorization under the program is $61.7 million.

In fiscal years 2017 and 2016, we received $5.8 million in proceeds from the exercise of stock options. We do not directly control the timing of the exercise of stock options. Such exercises are independent decisions made by grantees and are influenced most directly by the stock price and the expiration dates of stock option awards. Such proceeds are difficult to forecast, resulting from several factors which are outside our control. We believe that such proceeds will remain a nominal source of cash in the future.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements, as those arrangements are defined by the SEC, that are reasonably likely to have a material effect on our financial condition, revenues or expenses, operating results, liquidity, capital expenditures or capital resources.

We do not have any unconsolidated subsidiaries or affiliated entities. We have no special purpose or limited purpose entities that provide off-balance sheet financing, liquidity or market or credit risk support. We do not engage in leasing, hedging, research and development services, or other relationships that expose us to liability that is not reflected on the face of the Consolidated Financial Statements.

Noted below under "Contractual Obligations" are various commitments we have associated with our business, such as lease commitments and open purchase obligations, which are not recorded as liabilities on our balance sheet because we have not yet received the related goods or services as of January 29, 2017.

Contractual Obligations

Presented below is a summary of our contractual obligations as of January 29, 2017.

(in thousands)	Less than 1 year	1-3 years	4-5 years	After 5 years	Total
Long-term debt	$ 15,000	$ 34,688	$ 193,563	$ —	$ 243,251
Operating leases	4,812	7,194	3,062	2,580	17,648
Open capital purchase commitments	12,241	—	—	—	12,241
Other open purchase commitments	56,941	5,129	—	—	62,070
Deferred compensation	1,732	3,424	967	17,931	24,054
Cycleo-deferred compensation	1,426	3,501	1,141	—	6,068
Share-based compensation	—	7,974	—	—	7,974
Swiss plan (1)	1,460	3,746	2,375	4,833	12,414
Total contractual cash obligations	$ 93,612	$ 65,656	$ 201,108	$ 25,344	$ 385,720

(1) Amounts include expected payments under the current Swiss plan through 2026.

The table above includes the interest payments we owe on our long-term debt. We have assumed no additional borrowings or repayments under our revolving credit facility. For debt that has variable rate interest, we have calculated future interest obligations based on the interest rate for that debt as of January 29, 2017.

Capital purchase commitments and other open purchase commitments are for the purchase of plant, equipment, raw material, supplies and services. They are not recorded as liabilities on our balance sheet as of January 29, 2017, as we have not yet received the related goods or taken title to the property.

The table above does not include earn-out payments we may owe as part of our acquisition of Triune. The Triune Earn-out targets for fiscal years 2016 and 2017 were not met and we do not expect to make any payments with regards to these periods which represented $36.0 million of the total $70.0 million opportunity. Based on our most current forecasts, we do not expect to make any earn-out payments with regards to this acquisition.

As part of our acquisition of Cycleo SAS ("Cycleo") and the terms of the amended earn-out agreement entered into with the former Cycleo stockholders, we have agreed to pay up to $16.0 million of consideration over a five year period if certain revenue and operating income targets are achieved in each of the five measurement periods. See Note 14 to our Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K.

We maintain a deferred compensation plan for certain officers and key executives that allow participants to defer a portion of their compensation for future distribution at various times permitted by the plan. Our liability for deferred compensation under this plan was $24.1 million and $19.4 million as of January 29, 2017 and January 31, 2016, respectively, and is included in accrued liabilities and other long-term liabilities on the balance sheet and in the table above. The plan provides for a discretionary Company match up to a defined portion of the employee's deferral, with any match subject to a vesting period.

We have purchased whole life insurance on the lives of some of our current and former deferred compensation plan participants. This Company-owned life insurance is held in a grantor trust and is intended to cover a majority of the costs of our deferred compensation plan. The cash surrender value of our Company-owned life insurance was$18.9 million and $16.8 million as of January 29, 2017 and January 31, 2016, respectively.

Inflation

Inflationary factors have not had a significant effect on our performance over the past several years. A significant increase in inflation would affect our future performance.

Critical Accounting Policies and Estimates

Our Consolidated Financial Statements are prepared in accordance with GAAP. In connection with the preparation of our Consolidated Financial Statements, we are required to make assumptions and estimates about future events, and apply judgments that affect the reported amounts of assets, liabilities, revenue, expenses and the related disclosures. We base our assumptions, estimates and judgments on historical experience, current trends and other factors that management believes to be relevant at the time our Consolidated Financial Statements are prepared. On a regular basis, management reviews the accounting policies, assumptions, estimates and judgments to ensure that our Consolidated Financial Statements are presented fairly and in accordance with GAAP. However, because future events and their effects cannot be determined with certainty, actual results could differ from our assumptions and estimates, and such differences could be material.

Our significant accounting policies are discussed in Note2 to our Consolidated Financial Statements, included in Item 8, of this Annual Report on Form 10-K. We believe that the following accounting estimates are the most critical to aid in fully understanding and evaluating our reported financial results, and they require our most difficult, subjective or complex judgments, resulting from the need to make estimates about the effect of matters that are inherently uncertain. We have reviewed these critical accounting estimates and related disclosures with the Audit Committee of our Board of Directors.

Revenue and Cost of Sales

We recognize product revenue when persuasive evidence of an arrangement exists, delivery has occurred, the fee is fixed or determinable and collectability is probable. Product design and engineering recoveries are recognized during the period in which services are performed and are recorded as an offset to the related expenses. Historically, these recoveries have not exceeded the cost of the related development efforts. We include revenue related to technology licenses as part of "Net sales." Historically, revenue from these arrangements has not been significant though it is part of our recurring ordinary business.

On October 5, 2016, we issued a Warrant to Comcast to purchase up to 1,086,957 Warrant Shares of our common stock. The cost of the Warrant is recognized as an offset to net sales over the respective performance period since the Warrant was issued to our customer in exchange for services.

We record a provision for estimated sales returns in the same period as the related sales are recorded. We base these estimates on historical sales returns and other known factors. Actual returns could be different from our estimates and current provisions for sales returns and allowances, resulting in future charges to earnings.

We record a provision for sales rebates in the same period as the related sales are recorded. These estimates are based on sales activity during the period. Actual rebates given could be different from our estimates and current provisions for sales rebates, resulting in future charges to earnings.

We defer revenue recognition on shipment of products to certain customers, principally distributors, under agreements which provide for limited pricing credits or product return privileges, until these products are sold through to end users or the return privileges lapse. For sales subject to certain pricing credits or return privileges, the amount of future pricing credits or inventory returns cannot be reasonably estimated given the relatively long period in which a particular product may be held by the customer. Therefore, we have concluded that sales to customers under these agreements are not fixed and determinable at the date of the sale and revenue recognition has been deferred. We estimate the deferred gross margin on these sales by

applying an average gross margin to the actual gross sales. The average gross margin is calculated for each category of material using current standard costs. The estimated deferred gross margin on these sales, where there are no outstanding receivables, is recorded within the consolidated balance sheets under the heading of "Deferred revenue." There were no significant impairments of deferred cost of revenues in fiscal years 2017 or 2016.

The following table summarizes the deferred revenue balance:

(in thousands)	January 29, 2017	January 31, 2016
Deferred revenues	$ 11,419	$ 5,991
Deferred cost of revenues	(2,246)	(1,139)
Deferred revenue, net	9,173	4,852
Deferred product design and engineering recoveries	2,886	3,776
Total deferred revenue	$ 12,059	$ 8,628

Allowances Against Accounts Receivable

We evaluate the collectability of our accounts receivable based on a combination of factors. If we are aware of a customer's inability to meet its financial obligations to us, we record an allowance to reduce the net receivable to the amount we reasonably believe we will be able to collect from the customer. For all other customers, we recognize allowances for doubtful accounts based on the length of time the receivables are past due, the current business environment, the size and number of certain large accounts and our historical experience. If the financial condition of our customers were to deteriorate or if economic conditions worsen, additional allowances may be required in the future.

The portion of the estimate for sales returns where there are outstanding receivables is recorded on the balance sheet as a reduction to accounts receivable.

The estimated sales rebate for sales for which there are no outstanding receivables is recorded on the balance sheet under the heading of "Accrued liabilities." The portion of the estimated sales rebate where there are outstanding receivables is recorded on the balance sheet as a reduction to accounts receivable.

A summary of allowances against accounts receivable are presented below:

(in thousands)	January 29, 2017	January 31, 2016
Allowance for doubtful accounts	$ (2,696)	$ (889)
Sales rebate allowance	(2,571)	(5,006)
Sales return allowance	(1,795)	(517)
Other allowances	(1,168)	(1,381)
Total	$ (8,230)	$ (7,793)

Inventory Valuation

Our inventories are stated at lower of cost or market and consist of materials, labor and overhead. We determine the cost of inventory by the first-in, first-out method. At each balance sheet date, we evaluate our ending inventories for excess quantities and obsolescence. This evaluation includes analysis of sales levels by product and projections of future demand. In order to state our inventory at lower of cost or market, we maintain specific reserves against our inventory which serve to write-down our inventories to a new cost basis. If future demand or market conditions are less favorable than our projections, a write-down of inventory may be required, and would be reflected in cost of goods sold in the period the revision is made. We write down inventory as a result of excess and obsolete inventories, or when we believe that the net realizable value of inventories is less than the carrying value.

Business Combinations

Business combinations are accounted for at fair value. Acquisition costs are expensed as incurred and recorded in general and administrative expenses; in-process research and development is recorded at fair value as an indefinite-lived intangible asset at the acquisition date; restructuring costs associated with a business combination are expensed subsequent to the acquisition date; contingent consideration obligations are recorded at fair value on the date of acquisition, with increases or decreases in the fair value arising from changes in assumptions or discount periods recorded as contingent consideration expenses in the Consolidated Statements of Income in subsequent periods; and changes in deferred tax asset valuation allowances and income tax uncertainties after the acquisition date generally affect income tax expense. All changes that do not qualify as measurement period adjustments are included in current period earnings. The fair values assigned to tangible and intangible assets acquired and liabilities assumed, including contingent consideration, are based on management's estimates and assumptions, as well as other information compiled by management, including valuations that utilize customary valuation procedures and techniques. Significant judgment is required in estimating the fair value of intangible assets acquired in a business combination and in assigning their respective useful lives. The fair value estimates are based on available historical information and on future expectations and assumptions deemed reasonable by management at the time.

We measure contingent earn-out liabilities at fair value on a recurring basis using significant unobservable inputs classified within Level 3 of the fair value hierarchy. On a quarterly basis, we use a Monte Carlo valuation method as a valuation technique to determine the value of the earn-out liability. The significant unobservable inputs used in the fair value measurements are revenue projections over the earn-out period, and the probability outcome percentages assigned to each scenario. Significant increases or decreases to either of these inputs in isolation would result in a significantly higher or lower liability, with a higher liability capped by the contractual maximum of the contingent earn-out obligation.

If the actual results differ from the estimates and judgments we utilized, the amounts recorded in the Consolidated Financial Statements could result in a possible impairment of the intangible assets and goodwill, or require acceleration of the amortization expense of finite-lived intangible assets.

Contingencies and Litigation

We record accruals for contingencies when it is probable that a liability has been incurred and the amount can be reasonably estimated. These accruals are adjusted periodically as assessments change or additional information becomes available. Individually significant contingent losses are accrued when probable and reasonably estimable.

The legal defense costs we accrue are based on reviews by outside counsel, in-house counsel and management, and some of the significant factors considered in the review of these reserves are as follows: the actual costs incurred by us; the development of our legal defense strategy and structure in light of the scope of the litigation; the number of cases being brought against us; the costs and outcomes of completed trials and the most current information regarding anticipated timing, progression, and related costs of pre-trial activities and trials in the associated litigation.

In those situations where we are unable to determine the best estimate within the range of loss, we will record the minimum amount in the identified range of probable loss.

Share-Based Compensation

We measure compensation cost for all share-based payments (including stock options) at fair value using valuation models, which consider, among other things, estimates and assumptions on the rate of forfeiture, expected life of options and stock price volatility and market value of our common stock. Additionally, for awards with a performance condition, we use financial forecasts that use assumptions that are consistent with those used for other valuation exercises, including goodwill valuation and asset impairment assessments. If any of the assumptions used in the valuation model change significantly, share-based compensation expense may differ materially in the future from that recorded in the current period and actual results may differ from estimates. See the information set forth in Part II, Item 5 of this Annual Report on Form 10-K for market information detailing the trading prices of our common stock.

Impairment of Goodwill, Other Intangibles and Long-Lived Assets

Goodwill

Goodwill is the excess of the purchase price over the fair value of identifiable net assets acquired in business combinations accounted for under the acquisition method. Goodwill is not amortized but is tested for impairment using either a qualitative assessment or a two-step method.

As part of the annual goodwill impairment test, we have the option to perform a qualitative assessment of a reporting unit's goodwill for impairment. If we choose to perform a qualitative assessment and determine the fair value more likely than not exceeds the carrying value of a reporting unit, no further evaluation is necessary.

In conducting the qualitative assessment, we consider relevant events or circumstances that affect the fair value or carrying amount of a reporting unit. Examples of events and circumstances include macroeconomic conditions, industry and market considerations, overall financial performance, events affecting a reporting unit and capital markets pricing. We place more weight on the events and circumstances that most affect the reporting unit’s fair value or the carrying amount of its net assets.

When we perform the two-step method, step one is the identification of potential impairment. This involves comparing the fair value of each reporting unit with its carrying amount, including goodwill. If the fair value of a reporting unit exceeds the carrying amount, the goodwill of the reporting unit is considered not impaired and the second step of the impairment test is unnecessary. If the carrying amount of a reporting unit exceeds its fair value, the second step of the impairment test is performed to measure the amount of impairment loss, if any. We test by reporting unit, goodwill and other indefinite-lived intangible assets for impairment at November 30 or more frequently if we believe indicators of impairment exist or if we make changes to a reporting unit with assigned goodwill.

For our two-step method annual impairment review, we primarily use an income approach, which incorporates multi-period excess earnings present value techniques (discounted cash flows) as well as other generally accepted valuation methodologies to determine the fair value of the assets using Level 3 inputs. Our assumptions incorporate judgments as to the price received to sell a reporting unit as a whole in an orderly transaction between market participants at the measurement date. Considering the integration of our operations, we have assumed that the highest and best use of a reporting unit follows an “in-use” valuation premise.

Significant management judgment is required in determining the estimations of future cash flows, which is dependent on internal forecasts, the long-term rate of growth for our business, the life over which cash flows will occur, and the weighted average cost of capital. Our calculations include sensitivity analysis of key assumptions such as a 10% increase in the weighted-average cost of capital, a 10% increase in the effective tax rate or a 5% decline in our compound annual growth rate.

The value of our intangible assets, including goodwill, could be impacted by future adverse changes such as: (i) any future declines in our operating results, (ii) a decline in the valuation of technology company stocks, including the valuation of our common stock, (iii) a significant slowdown in the worldwide economy and the semiconductor industry or (iv) any failure to meet the performance projections included in our forecasts of future operating results.

The assumptions we have used are consistent with the plans and estimates that we use to manage our business and change year to year based on operating results, competitive conditions, customer preferences, market conditions and other factors. It is possible, however, that these assumptions are incorrect. We could incur impairment charges in a future period if our actual results or the assumptions used in future impairment analysis are lower than the original assumptions used to assess the recoverability of these assets.

As of November 30, 2016, our reporting units with assigned goodwill were as follows:

(in thousands)		Balance as of November 30, 2016
Signal Integrity Products	$	261,891
Power and High-Reliability Products		49,384
Wireless and Sensing Products		18,428
Total	$	329,703

In the fourth quarter of fiscal year 2017, we completed our qualitative assessment of any potential goodwill impairment and concluded that there were no indications of impairment as of January 29, 2017. Our fiscal year 2016 quantitative assessment of potential goodwill impairment concluded that the fair value of the Signal Integrity Products Group exceeded its carrying value by 47% and the fair value of the Wireless and Sensing Products Group exceeded its carrying value by over 258%. The fair value of the Power and High-Reliability Group exceeded its carrying value by 213%.

Other Intangibles and Long-lived Assets

We review indefinite-lived intangible assets for impairment as of November 30, the date of our annual goodwill impairment review or whenever events or changes in circumstances indicate the carrying value may not be recoverable. Recoverability of indefinite-lived intangible assets is measured by comparing the carrying amount of the asset to the future discounted cash flows that asset is expected to generate.

Finite-lived intangible assets resulting from business acquisitions or technology licenses purchased are amortized on a straight-line basis over their estimated useful lives. The useful lives of acquisition-related intangible assets represent the point where over 90% of realizable undiscounted cash flows for each intangible asset are recognized. The assigned useful lives are consistent with our historical experience with similar technology and other intangible assets owned by us. The useful life of technology licenses is usually based on the term of the agreement.

Acquired in-process research and development is recorded at fair value as of the date of acquisition as an indefinite-lived intangible asset until the completion or abandonment of the associated research and development efforts or impairment. Upon completion of development, acquired in-process research and development assets are transferred to finite-lived intangible assets and amortized over their useful lives.

We record impairment losses on long-lived assets used in operations when indicators of impairment, such as reductions in demand or significant economic slowdowns in the semiconductor industry, are present. Reviews are performed to determine whether the carrying value of an asset is impaired, based on comparisons to undiscounted expected future cash flows. If this comparison indicates that there is impairment, the impaired asset is written down to fair value, which is typically calculated using: (i) quoted market prices and/or (ii) discounted expected future cash flows utilizing a discount rate. Impairment is based on the excess of the carrying amount over the fair value of those assets.

Using the cost approach, we determined fair values of individual tangible long-lived assets based upon the cost to reproduce the long-lived asset taking into account the age, condition, inflation using the U.S. Bureau of Labor Statistics and Marshall Valuation Services, and cost to ready the long-lived asset for its intended use. Additionally, we considered the potential existence of functional and economic obsolescence and quantified these elements in our cost approach as appropriate.

We recognized and allocated to tangible long-lived assets no impairment loss during the fiscal year ended January 29, 2017 and $0.6 million and $9.4 million during the fiscal years ended January 31, 2016 and January 25, 2015, respectively, which reduced the cost basis in the corresponding assets. Also, we reassessed the estimated remaining useful lives of these assets and adjusted accordingly our estimates of future depreciation expense.

For intangible long-lived assets, which consist of core technology and customer relationships, we used the multi-period excess earnings method, an income approach, or the replacement cost method (a cost approach), to determine fair value. The multi-period excess earnings method, a form of the income approach, estimates the value of the asset based on the present value of the after-tax cash flows attributable to the intangible asset, which includes our estimates of forecasted revenue, operating margins, taxes and discount rate. The replacement cost method incorporates a market participant's assumption that an in-use premise is the highest and best use of customer relationships and core technology. We estimated the cost we would incur to rebuild or re-establish the intangible asset and the associated effort required to develop it.

We recorded impairment losses related to intangible long-lived assets as summarized below. Also, we reassessed the estimated remaining useful lives of these long-lived intangible assets and adjusted accordingly our estimates of future amortization expense.

	Fiscal years		
(in thousands)	2017	2016	2015
Finite-lived intangibles	$ —	$ —	$ 14,755
Indefinite-lived intangibles	—	—	—
Total intangible asset impairment	$ —	$ —	$ 14,755

Accounting for Income Taxes

The provision for income taxes is computed using the asset and liability method, under which deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities, and for operating losses and tax credit carryforwards. Deferred tax assets and liabilities are measured using the currently enacted tax rates that apply to taxable income in effect for the years in which those tax assets and liabilities are expected to be realized or settled. We record a valuation allowance to reduce deferred tax assets to the amount that is believed more likely than not to be realized.

We evaluate whether it is more likely than not that forecasted income, including income that may be generated as a result of certain tax planning strategies, together with future reversals of existing taxable temporary differences, will be sufficient to fully recover the deferred tax assets. In the event that we determine all or part of the net deferred tax assets are not realizable in the future, we will record an adjustment to the valuation allowance that would be charged to earnings in the period such determination is made. In determining whether a valuation allowance is required, we consider projected taxable income and our historical performance. The most significant assumptions used in preparing projections of taxable income include forecasting the levels of income by region and the amount of deductible stock based compensation.

We recognize tax benefits from uncertain tax positions only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the Consolidated Financial Statements from such positions are then measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. The calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of GAAP and complex tax laws. Resolution of these uncertainties in a manner inconsistent with our expectations could have a material impact on our financial condition and operating results.

The income tax effects of share-based payments are recognized for financial reporting purposes only if such awards are expected to result in a tax deduction. We do not recognize a deferred tax asset for an excess tax benefit (that is, a tax benefit that exceeds the amount of compensation cost recognized for the award for financial reporting purposes) that has not been realized. In determining when an excess tax benefit is realized, we have elected to follow the ordering provision of the tax law.
In addition to the risks to the effective tax rate discussed above, the effective tax rate reflected in forward-looking statements is based on current enacted tax law. Significant changes in enacted tax law could materially affect these estimates.

In general, the amount of taxes we pay will differ from our reported tax provision as a result of differences between accounting for income under GAAP and accounting for taxable income. Typical book-tax differences include expense related to equity compensation, deemed dividends, depreciation, litigation expense and amortization of intangible assets. As a result of these book-tax differences, our tax payments are expected to differ from our tax provision during the next three years.
For intra-entity differences between the tax basis of an asset in the buyer's tax jurisdiction and their cost as reported in the Consolidated Financial Statements, we do not recognize a deferred tax asset. Income taxes paid on intra-entity profits on assets remaining within the group are accounted for as prepaid taxes.

We continually review our position on undistributed earnings from our foreign subsidiaries to determine whether those earnings are indefinitely reinvested offshore. Domestic and foreign operating cash flow forecasts are reviewed to determine the sources and uses of cash. Based on these forecasts, we determine the need to accrue deferred tax liabilities associated with our undistributed earnings offshore.

New Accounting Standards

New accounting standards are discussed in Note 2 to our Consolidated Financial Statements, included in Item 8, of this Annual Report on Form 10-K.