

HARMONIC INC  
Form 10-Q  
November 09, 2016  
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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

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Form 10-Q

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(Mark One)

Quarterly report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934  
For the Quarterly Period Ended September 30, 2016

Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934  
Commission File No. 000-25826

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HARMONIC INC.  
(Exact name of registrant as specified in its charter)

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Delaware 77-0201147  
(State or other jurisdiction of (I.R.S. Employer  
incorporation or organization) Identification Number)  
4300 North First Street  
San Jose, CA 95134  
(408) 542-2500

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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

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

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

Large accelerated filer  Accelerated filer

Non-accelerated filer  (Do not check if a smaller reporting company) Smaller reporting company

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

The number of shares of the registrant's Common Stock, \$.001 par value, outstanding on November 2, 2016 was 78,347,865.

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## PART I

## FINANCIAL INFORMATION

## ITEM 1. FINANCIAL STATEMENTS

## HARMONIC INC.

## CONDENSED CONSOLIDATED BALANCE SHEETS

(Unaudited, in thousands, except per share data)

	September 30, 2016	December 31, 2015
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$44,741	\$126,190
Short-term investments	7,931	26,604
Accounts receivable, net	99,078	69,515
Inventories	35,828	38,819
Prepaid expenses and other current assets	38,519	25,003
Total current assets	226,097	286,131
Property and equipment, net	35,145	27,012
Goodwill	239,880	197,781
Intangibles, net	33,121	4,097
Other long-term assets	31,218	9,936
Total assets	\$565,461	\$524,957
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Other debts and capital lease obligations, current	\$6,825	\$—
Accounts payable	31,407	19,364
Income taxes payable	545	307
Deferred revenue	54,319	33,856
Accrued liabilities	50,369	31,354
Total current liabilities	143,465	84,881
Convertible notes, long-term	101,964	98,295
Other debts and capital lease obligations, long-term	15,949	—
Income taxes payable, long-term	2,863	3,886
Deferred tax liabilities, long-term	2,163	—
Other non-current liabilities	17,604	9,727
Total liabilities	284,008	196,789
Commitments and contingencies (Note 18)		
Stockholders' equity:		
Preferred stock, \$0.001 par value, 5,000 shares authorized; no shares issued or outstanding	—	—
Common stock, \$0.001 par value, 150,000 shares authorized; 78,311 and 76,015 shares issued and outstanding at September 30, 2016 and December 31, 2015, respectively	78	76
Additional paid-in capital	2,249,857	2,236,418
Accumulated deficit	(1,965,779)	(1,903,908)
Accumulated other comprehensive loss	(2,703)	(4,418)
Total stockholders' equity	281,453	328,168
Total liabilities and stockholders' equity	\$565,461	\$524,957

The accompanying notes are an integral part of these condensed consolidated financial statements.

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## HARMONIC INC.

## CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(Unaudited, in thousands, except per share data)

	Three months ended		Nine months ended	
	September	October	September	October 2,
	30, 2016	2, 2015	30, 2016	2015
Revenue:				
Product	\$70,285	\$57,245	\$205,342	\$215,165
Services	31,121	26,060	87,467	75,259
Total net revenue	101,406	83,305	292,809	290,424
Cost of revenue:				
Product	34,460	23,584	105,698	95,021
Services	15,583	13,490	44,054	39,759
Total cost of revenue	50,043	37,074	149,752	134,780
Total gross profit	51,363	46,231	143,057	155,644
Operating expenses:				
Research and development	24,202	21,679	74,272	65,824
Selling, general and administrative	36,112	28,966	105,498	91,443
Amortization of intangibles	3,009	1,446	9,606	4,338
Restructuring and related charges	(27)	) 397	4,488	626
Total operating expenses	63,296	52,488	193,864	162,231
Loss from operations	(11,933)	) (6,257)	) (50,807)	) (6,587)
Interest (expense) income, net	(2,734)	) 30	(7,806)	) 102
Other income (expense), net	(328)	) 148	(5)	) (299)
Loss on impairment of long-term investment	(1,259)	) —	(2,735)	) (2,505)
Loss before income taxes	(16,254)	) (6,079)	) (61,353)	) (9,289)
Provision for (benefit from) income taxes	(242)	) (1,268)	) 518	) (827)
Net loss	\$(16,012)	) \$(4,811)	) \$(61,871)	) \$(8,462)
Net loss per share:				
Basic and diluted	\$(0.21)	) \$(0.05)	) \$(0.80)	) \$(0.10)
Shares used in per share calculation:				
Basic and diluted	78,092	87,991	77,475	88,359

The accompanying notes are an integral part of these condensed consolidated financial statements.

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## HARMONIC INC.

## CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

(Unaudited, in thousands)

	Three months ended		Nine months ended	
	September	October	September	October
	30, 2016	2, 2015	30, 2016	2, 2015
Net loss	\$(16,012)	\$(4,811)	\$(61,871)	\$(8,462)
Other comprehensive income (loss) before tax:				
Change in unrealized gains (losses) on cash flow hedges:				
Unrealized gains (losses) arising during the period	121	(550 )	279	(218 )
Losses (gains) reclassified into earnings	(47 )	(127 )	53	(314 )
	74	(677 )	332	(532 )
Change in unrealized gains (losses) on available-for-sale securities:				
Unrealized gains (losses) arising during the period	(1,208 )	(928 )	(1,178 )	17
Loss reclassified into earnings	1,259	—	2,735	—
	51	(928 )	1,557	17
Change in foreign currency translation adjustments	523	(364 )	(154 )	(766 )
Other comprehensive income (loss) before tax	648	(1,969 )	1,735	(1,281 )
Less: Provision for (benefit from) income taxes	(3 )	12	20	6
Other comprehensive income (loss), net of tax	651	(1,981 )	1,715	(1,287 )
Total comprehensive losses	\$(15,361)	\$(6,792)	\$(60,156)	\$(9,749)

The accompanying notes are an integral part of these condensed consolidated financial statements.

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HARMONIC INC.  
 CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS  
 (Unaudited, in thousands)

	Nine months ended	
	September	October
	30, 2016	2, 2015
Cash flows from operating activities:		
Net loss	\$(61,871)	\$(8,462)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities:		
Amortization of intangibles	12,711	4,971
Depreciation	13,198	10,143
Stock-based compensation	8,542	11,845
Amortization of discount on convertible debt	3,669	—
Restructuring, asset impairment and loss on retirement of fixed assets	1,476	354
Loss on impairment of long-term investment	2,735	2,505
Provision for excess and obsolete inventories	6,246	1,234
Allowance for doubtful accounts, returns and discounts	1,222	576
Other non-cash adjustments, net	251	—
Changes in operating assets and liabilities, net of effects of acquisition:		
Accounts receivable	(12,869)	) 9,440
Inventories	2,225	(7,936)
Prepaid expenses and other assets	(5,938)	) (13,817)
Accounts payable	2,505	1,772
Deferred revenue	20,038	5,237
Income taxes payable	(827)	) (1,372)
Accrued and other liabilities	(6,230)	) (7,926)
Net cash (used in) provided by operating activities	(12,917)	) 8,564
Cash flows from investing activities:		
Acquisition of business, net of cash acquired	(75,669)	) —
Purchases of investments	—	(20,714)
Proceeds from maturities of investments	18,692	26,534
Purchases of property and equipment	(11,423)	) (10,393)
Purchases of long-term investments	—	(85)
Restricted cash	—	(1,091)
Net cash used in investing activities	(68,400)	) (5,749)
Cash flows from financing activities:		
Payment of convertible debt issuance costs	(582)	) —
Proceeds from other debts and capital leases	5,968	—
Repayment of other debts and capital leases	(8,038)	) —
Payments for repurchase of common stock	—	(20,007)
Proceeds from common stock issued to employees	3,736	9,255
Payment of tax withholding obligations related to net share settlements of restricted stock units	(1,313)	) (3,288)
Net cash used in financing activities	(229)	) (14,040)
Effect of exchange rate changes on cash and cash equivalents	97	(236)
Net decrease in cash and cash equivalents	(81,449)	) (11,461)
Cash and cash equivalents at beginning of period	126,190	73,032
Cash and cash equivalents at end of period	\$44,741	\$61,571
The accompanying notes are an integral part of these condensed consolidated financial statements.		



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HARMONIC INC.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

NOTE 1: BASIS OF PRESENTATION AND SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements, in the opinion of management, include all adjustments (consisting only of normal recurring adjustments) which Harmonic Inc. (“Harmonic,” or the “Company”) considers necessary for a fair statement of the results of operations for the interim periods covered and the consolidated financial condition of the Company at the date of the balance sheets. This Quarterly Report on Form 10-Q should be read in conjunction with the Company’s audited consolidated financial statements contained in the Company’s Annual Report on Form 10-K, which was filed with the Securities and Exchange Commission on March 24, 2016 (the “2015 Form 10-K”). The interim results presented herein are not necessarily indicative of the results of operations that may be expected for the full fiscal year ending December 31, 2016, or any other future period. The Company’s fiscal quarters are based on 13-week periods, except for the fourth quarter, which ends on December 31.

The condensed consolidated financial statements include the accounts of the Company and its subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation. The year-end condensed balance sheet was derived from audited financial statements, but does not include all disclosures required by accounting principles generally accepted in the United States of America (“U.S. GAAP”).

Use of Estimates

The preparation of the condensed consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Business Combination

The Company applies the acquisition method of accounting for business combinations to its acquisition of Thomson Video Networks (“TVN”), which closed on February 29, 2016. (See Note 3, “Business Acquisition” for additional information on TVN acquisition). Under this method of accounting, all assets acquired and liabilities assumed are recorded at their respective fair values at the date of the completion of the transaction. Determining the fair value of assets acquired and liabilities assumed requires management’s judgment and often involves the use of significant estimates and assumptions, including assumptions with respect to future cash inflows and outflows, discount rates, intangibles and other asset lives, among other items. Fair value is defined as the price that would be received in a sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (an exit price). Market participants are assumed to be buyers and sellers in the principal (most advantageous) market for the asset or liability. Additionally, fair value measurements for an asset assume the highest and best use of that asset by market participants. As a result, the Company may have been required to value the acquired assets at fair value measurements that do not reflect its intended use of those assets. Use of different estimates and judgments could yield different results. Any excess of the purchase price over the fair value of the net assets acquired is recognized as goodwill.

The accounting for the TVN acquisition is based on currently available information and is subject to continued evaluation of certain liabilities and tax estimates. Although the Company believes that the assumptions and estimates it has made are reasonable and appropriate, they are based in part on historical experience and information that may be obtained from the management of the acquired company and are inherently uncertain. Unanticipated events and circumstances may occur that may affect the accuracy or validity of such assumptions, estimates, or actual results. As a result, during the measurement period, which may be up to one year from the acquisition date, the Company may record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded in the Company’s Condensed Consolidated Statements of Operations.

Significant Accounting Policies

The Company's significant accounting policies are described in Note 2 to its audited Consolidated Financial Statements included in the 2015 Form 10-K. There have been no significant changes to these policies during the nine months ended September 30, 2016.

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NOTE 2: RECENT ACCOUNTING PRONOUNCEMENTS

New standards to be implemented

In May 2014, the Financial Accounting Standards Board (“FASB”) issued new authoritative guidance for revenue recognition, requiring an entity to recognize the amount of revenue that reflects the consideration to which it expects to be entitled for the transfer of promised goods or services to customers. The updated standard will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective and permits the use of either the retrospective or cumulative effect transition method. The original effective date for this new standard would have required the Company to adopt it beginning in its first quarter of fiscal 2017. In August 2015, the FASB issued an accounting standard update for the deferral of the effective date by one year to December 15, 2017 for interim and annual reporting periods beginning after that date and permits early adoption, but not before the original effective date of December 15, 2016. Accordingly, the Company may adopt the standard in either its first quarter of fiscal 2017 or fiscal 2018. The new revenue standard may be applied retrospectively to each prior period presented or retrospectively with the cumulative effect recognized as of the date of adoption. The Company is currently evaluating the timing of its adoption and the impact of this new revenue standard on its consolidated financial statements. In addition, the FASB issued ASU 2016-08, ASU 2016-10, and ASU 2016-12 in March 2016, April 2016, and May 2016, respectively, to help provide interpretive clarifications on the new guidance in ASC Topic 606, Revenue from Contracts with Customers. The Company is in the process of assessing the impact these interpretive clarifications will have upon adoption, including determining the adoption method.

In July 2015, the FASB issued an accounting standard update that requires inventory to be measured at the lower of cost and net realizable value. Net realizable value is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. This accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2017 and early adoption is permitted. The Company is currently evaluating the impact of this accounting standard update on its consolidated financial statements.

In January 2016, the FASB issued an accounting standard update which requires equity investments to be measured at fair value with changes in fair value recognized in net income and simplifies the impairment assessment of equity investments without readily determinable fair values by requiring a qualitative assessment to identify impairment. The accounting standard update also updates certain presentation and disclosure requirements. This accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2018 and early adoption is permitted. The Company is currently evaluating the impact of this accounting standard update on its consolidated financial statements.

In February 2016, the FASB amended the existing accounting standard for lease accounting. Under this guidance, lessees and lessors should apply a “right-of-use” model in accounting for all leases (including subleases) and eliminate the concept of operating leases and off-balance sheet leases. This new accounting standard requires a modified retrospective transition approach for all leases existing at, or entered into after, the date of initial application, with an option to use certain transition relief. The new standard will be effective for the Company beginning in the first quarter of fiscal 2019 and early adoption is permitted. The Company is currently evaluating the methods and impact of adopting this new accounting standard on its consolidated financial statements.

In March 2016, the FASB issued an accounting standard update to clarify the requirements for assessing whether contingent call (put) options that can accelerate the payment of principal on debt instruments are clearly and closely related to their debt hosts. An entity performing the assessment under the amendments is required to assess the embedded call (put) options solely in accordance with the four-step decision sequence. The standard will be effective for the Company beginning in the first quarter of fiscal 2017 and early adoption is permitted. The adoption of this accounting standard update is not expected to have any impact on the financial statements of the Company.

In March 2016, the FASB issued an accounting standard update for the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities and classification on the statement of cash flows. This accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2017 and early adoption is permitted. The Company is currently evaluating the methods and impact of adopting the new accounting standard on its consolidated financial statements.

In June 2016, the FASB issued new guidance that changes the impairment model for most financial assets and certain other instruments. For trade receivables and other instruments, the Company will be required to use a new forward-looking “expected loss” model. Additionally, credit losses on available-for-sale debt securities should be recorded through an allowance for credit losses limited to the amount by which fair value is below amortized cost. The new guidance will be effective for the Company beginning in the first quarter of fiscal 2019 and early adoption is permitted. The Company is currently evaluating the impact of adopting this new accounting guidance on its consolidated financial statements.

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In August 2016, the FASB issued an accounting standard update that addresses eight specific cash flow issues with the objective of reducing the existing diversity in practice. This accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2018 and early adoption is permitted. The Company is currently evaluating the methods and impact of adopting the new accounting standard on its consolidated financial statements.

In October 2016, the FASB issued an accounting standard update which removes the prohibition in ASC 740 against the immediate recognition of the current and deferred income tax effects of intra-entity transfers of assets other than inventory. This accounting standard update is intended to reduce the complexity of U.S. GAAP and diversity in practice related to the tax consequences of certain types of intra-entity asset transfers, particularly those involving intellectual property. This accounting standard update will be effective for the Company beginning in the first quarter of fiscal 2018 and early adoption is permitted. The Company is currently evaluating the impact of adopting the new accounting standard on its consolidated financial statements.

### Standards Implemented

In April 2015, the FASB issued an accounting standard update that requires debt issuance costs to be presented as a direct deduction from the carrying amount of the related debt liability, consistent with the presentation of debt discounts. Prior to this accounting update, debt issuance costs were required to be presented as deferred charge assets, separate from the related debt liability. This accounting standard update does not change the recognition and measurement requirements for debt issuance costs. The Company early-adopted this accounting standard update as of the end of its fiscal 2015 in connection with the issuance of convertible senior notes in December 2015 (see Note 11, "Convertible Notes, Other Debts and Capital Leases"), resulting in the classification of \$3.2 million of unamortized debt issuance costs as a deduction from long-term liability on its Consolidated Balance Sheet at December 31, 2015. Other than this transaction, the adoption of this accounting standard update did not have an impact on the Company's consolidated financial statements.

In April 2015, the FASB issued an accounting standard update on whether a cloud computing arrangement includes a software license. The guidance requires the accounting for a cloud computing arrangement that includes a software license element to be consistent with the accounting for acquisition of other software licenses. Cloud computing arrangement without software licenses are to be accounted for as a service contract. The Company adopted this accounting standard update beginning in the first quarter of fiscal 2016. The adoption of this standard update did not have a material impact on the Company's consolidated financial statements.

In November 2015, the FASB issued an accounting standard update that all deferred tax assets and liabilities, along with any related valuation allowance, be classified as non-current on the balance sheet. The Company prospectively early-adopted this accounting standard update as of the end of its fiscal 2015, resulting in \$15.9 million of net deferred tax assets, along with its related valuation allowance, being classified as non-current on its Consolidated Balance Sheet at December 31, 2015. Other than this reclassification, the adoption of this accounting standard update did not have an impact on the Company's consolidated financial statements.

In September 2015, the FASB issued new guidance related to business combinations. The new guidance requires that any adjustments to provisional amounts in a business combination be recorded in the period such adjustments are determined, rather than retrospectively adjusting previously reported amounts. The Company adopted the amendments beginning in the first quarter of fiscal 2016. The adoption did not have a material impact on the Company's consolidated financial statements.

### NOTE 3: BUSINESS ACQUISITION

On February 29, 2016, the Company, through its wholly-owned subsidiary Harmonic International AG, completed its acquisition of 100% of the share capital and voting rights of TVN, a global leader in advanced video compression solutions headquartered in Rennes, France. In the first quarter of 2016, the Company recorded a provisional purchase price of \$84.6 million, including an estimated contingent consideration of approximately \$8.0 million. In the second quarter of 2016, the Company recorded a \$2.1 million reduction to the contingent consideration upon finalizing the

pending post-closing adjustments and as a result, the purchase price was reduced to \$82.5 million. Pursuant to the Securities Purchase Agreement entered into between the Company and the other parties thereto, dated February 11, 2016 (“TVN Purchase Agreement”), \$13.5 million of the purchase consideration may remain in escrow for a period of up to 18 months and relates to certain indemnification obligations of TVN’s former equity holders. The TVN acquisition was primarily funded with cash proceeds from the issuance of convertible senior notes by the Company in December 2015. (See Note 11, “Convertible Notes, Other Debts and Capital Leases” for additional information on the notes).

The Company believes that its acquisition of TVN has strengthened, and will continue to strengthen, the Company’s competitive position in the video infrastructure market as well as to enhance the depth and scale of the Company’s research and

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development (“R&D”) and service and support capabilities in the video arena. The Company believes that the combined product portfolios, R&D teams and global sales and service personnel will allow the Company to accelerate innovation for its customers while leveraging greater scale to drive operational efficiencies.

The TVN acquisition has been accounted for using the acquisition method of accounting in accordance with ASC 805, Business Combinations, which requires, among other things, that the assets acquired and liabilities assumed be recognized at their acquisition date fair values, with any excess of the consideration transferred over the estimated fair values of the identifiable net assets acquired recorded as goodwill. The accounting for this business combination is based on currently available information and is subject to continued evaluation of certain liabilities and tax estimates.

The provisional purchase price has been allocated on a preliminary basis to tangible and intangible assets acquired and liabilities assumed on the basis of their respective estimated fair values on the acquisition date. The Company will continue to evaluate certain liabilities and tax estimates that are subject to change within the measurement period (up to one year from the acquisition date).

The Company’s preliminary allocation of the estimated purchase consideration as of September 30, 2016 was as follows (in thousands):

## Assets:

Cash and cash equivalents	\$6,843
Accounts receivable, net	14,933
Inventories	3,462
Prepaid expenses and other current assets	2,412
Property and equipment, net	9,942
French R&D tax credit receivables <sup>(1)</sup>	26,421
Other long-term assets	2,134
Total assets	\$66,147

## Liabilities:

Other debts and capital leases, current	8,362
Accounts payable	12,494
Deferred revenue	2,504
Accrued liabilities	18,365
Other debts and capital leases, long-term	16,087
Other long-term liabilities	6,467
Deferred tax liabilities	2,126
Total liabilities	\$66,405

Goodwill	41,670
Intangibles	41,100
Total purchase consideration	\$82,512

(1) See Note 8, “Balance Sheet Components-Prepaid expenses and other current assets” for more information on French R&D tax credit receivables.

The following table presents details of the intangible assets acquired through this business combination (in thousands, except years):

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	Estimated Useful Life (in years)	Fair Value
Backlog	6 months	\$3,600
Developed technology	4 years	21,700
Customer relationships	5 years	15,200
In-process research and development <sup>(1)</sup>	N/A	—
Trade name	4 years	600
		\$41,100

(1) By the end of the second quarter of 2016, the Company completed the TVN in-process research and development activities and as a result, the in-process research and development of \$1.1 million was reclassified to developed technology.

Acquired identifiable intangible assets were valued using the income method and are amortized on a straight line basis over their respective estimated useful lives. Goodwill of \$41.7 million arising from the acquisition was derived from expected benefits from the business synergies to be derived from the combined entities and the experienced workforce who joined the Company in connection with the acquisition. The goodwill will be assigned to the Company's video reporting unit and it is not expected to be deductible for income tax purposes.

The amortization for the developed technology is recorded in "Cost of revenues" for product and the amortization for the remaining intangibles is recorded in "Amortization of intangibles", which are part of operating expenses, on the Condensed Consolidated Statement of Operations. The intangibles assets acquired will be assigned to the Company's video reporting unit and are not expected to be deductible for income tax purposes.

The Company also acquired an indefinite lived asset of \$1.1 million which represents the fair value of in-process research and development activities that were estimated to be completed within six months of the acquisition date. The related research and development efforts were completed by the end of the second quarter of 2016 and the Company determined that it has become a finite lived intangible asset (developed technology) with an estimated useful life of four years.

The results of operations of TVN are included in the Company's Condensed Consolidated Statements of Operations beginning February 29, 2016. For the three months ended September 30, 2016, \$19.0 million of revenue and \$7.6 million of gross profit from TVN were included in the Company's Condensed Consolidated Statement of Operations. For the nine months ended September 30, 2016, \$40.2 million of revenue and \$14.7 million of gross profit from TVN were included in the Company's Condensed Consolidated Statement of Operations. Since the Company is in the process of integrating TVN's operations, the Company believes it is impracticable to determine TVN's stand-alone income (loss) from operations and net income (loss) and these measures are not meaningful representations of TVN's stand-alone performance.

#### Acquisition-and integration-related expenses

As a result of the TVN acquisition, the Company incurred acquisition-and integration-related expenses in aggregate of \$5.3 million and \$11.8 million for the three and nine months ended September 30, 2016, respectively. These costs consisted of acquisition-related costs which include outside legal, accounting and other professional services as well as integration-related costs which include incremental costs resulting from the TVN acquisition that are not expected to generate future benefits once the integration is fully consummated. These costs are expensed as incurred.

Acquisition-and integration-related expenses for the TVN acquisition is summarized in the table below (in thousands):



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	Acquisition-related		Integration-related	
	Three months ended September 30, 2016	Nine months ended September 30, 2016	Three months ended September 30, 2016	Nine months ended September 30, 2016
Product cost of revenue	\$ —	\$ —	\$ 119	\$ 610
Research and development	—	—	152	702
Selling, general and administrative	534	3,855	4,365	6,502
Total acquisition- and integration-related expenses in operating expenses	534	3,855	4,636	7,814
Interest income (expense), net	—	—	98	98
Total acquisition- and integration-related expenses	\$ 534	\$ 3,855	\$ 4,734	\$ 7,912

## Pro Forma Financial Information

The following unaudited pro forma summary presents consolidated information of the Company as if the acquisition of TVN had occurred on January 1, 2015, the beginning of the comparable prior annual period. The unaudited pro forma combined results are provided for illustrative purpose only and are not indicative of the Company's actual consolidation results.

The pro forma adjustments primarily relate to the amortization of acquired intangibles and interest expense related to financing arrangements. In addition, the unaudited pro forma net loss for the three and nine months ended October 2, 2015 was adjusted to include \$5.3 million and \$11.8 million of acquisition- and integration- related expenses, respectively; and \$0.8 million and \$2.5 million reduction in revenue related to the fair value adjustment of deferred revenue. The unaudited pro forma net loss for the nine months ended September 30, 2016 was adjusted to exclude \$11.8 million of acquisition- and integration- related expenses. These adjustments exclude the income tax impact.

	Three months ended October 2, 2015	Nine months ended September 30, 2016	Three months ended October 2, 2015
	(in millions, except per share amounts)		
Net revenue	\$ 100.3	\$ 301.5	\$ 344.2
Net loss	(17.5 )	(49.9 )	(45.1 )
Net loss per share-basic and diluted	\$(0.20 )	\$(0.64 )	\$(0.51 )

## NOTE 4: SHORT-TERM INVESTMENTS

The following table summarizes the Company's short-term investments (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
As of September 30, 2016				
Corporate bonds	\$ 7,932	\$ 1	\$ (2 )	\$ 7,931
Total short-term investments	\$ 7,932	\$ 1	\$ (2 )	\$ 7,931
As of December 31, 2015				
Corporate bonds	\$ 25,557	\$ —	\$ (52 )	\$ 25,505

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Commercial paper	1,099	—	—	1,099
Total short-term investments	\$ 26,656	\$ —	\$ (52 )	\$ 26,604

The following table summarizes the maturities of the Company's short-term investments (in thousands):

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	September 30, 2016	December 31, 2015
Less than one year	\$ 7,931	\$ 19,642
Due in 1 - 2 years	—	6,962
Total short-term investments	\$ 7,931	\$ 26,604

These available-for-sale investments are presented as “Current Assets” in the Condensed Consolidated Balance Sheets as they are available for current operations. Realized gains and losses from the sale of investments for each of the three and nine months ended September 30, 2016 and October 2, 2015 were not material.

The Company’s investments in equity securities of other privately and publicly held companies were \$4.1 million and \$5.4 million as of September 30, 2016 and December 31, 2015, respectively, and such investments were considered as long-term investments and were included in “Other long-term assets” in the Condensed Consolidated Balance Sheet. (See Note 5, “Investments in Other Equity Securities” for additional information).

**Impairment of Short-term Investments**

The Company monitors its investment portfolio for impairment on a periodic basis. In the event that the carrying value of an investment exceeds its fair value and the decline in value is determined to be other-than-temporary, an impairment charge is recorded and a new cost basis for the investment is established. A decline of fair value below amortized costs of debt securities is considered other-than-temporary if the Company has the intent to sell the security or it is more likely than not that the Company will be required to sell the security before recovery of the entire amortized cost basis. At the present time, the Company does not intend to sell its investments that have unrealized losses in accumulated other comprehensive loss. In addition, the Company does not believe that it is more likely than not that it will be required to sell its investments that have unrealized losses in accumulated other comprehensive loss before the Company recovers the principal amounts invested. The Company believes that the unrealized losses are temporary and do not require an other-than-temporary impairment, based on its evaluation of available evidence as of September 30, 2016.

As of September 30, 2016, there were no individual available-for-sale securities in a material unrealized loss position and the amount of unrealized losses on the total investment balance was insignificant.

**NOTE 5: INVESTMENTS IN OTHER EQUITY SECURITIES**

From time to time, the Company may acquire certain equity investments for the promotion of business objectives and these investments are classified as long-term investments and included in “Other long-term assets” in the Condensed Consolidated Balance Sheet.

On September 2, 2014, the Company acquired a 3.3% interest in Vislink plc (“Vislink”), a U.K. public company listed on the AIM exchange in London, for \$3.3 million. The investment in Vislink is being accounted for as a cost method investment as the Company does not have significant influence over the operational and financial policies of Vislink. Since the Vislink investment is also an available-for-sale security, its value is marked to market for the difference in fair value at period end. The carrying value of Vislink was \$0.5 million and \$1.8 million at September 30, 2016 and December 31, 2015, respectively, and Vislink’s accumulated unrealized loss, net of taxes was \$1.5 million at December 31, 2015.

The Company assessed this available-for-sale investment that was in a gross unrealized loss position on an individual basis to determine if the decline in fair value was other than temporary. The assessment as to the nature of a decline in fair value is based on, among other things, the length of time and the extent to which the market value has been less than the Company’s cost basis; the financial condition and near-term prospects of the investment; and the Company’s intent and ability to retain the investment for a period of time sufficient to allow for any anticipated recovery in market value. As a result of these assessments, it was determined that the decline in fair value of Vislink investment at December 31, 2015 was not other than temporary primarily due to the relatively short duration in which the fair value

of the Vislink investment was less than the Company's cost basis, and, as a result, the Company did not record any impairment charges as of December 31, 2015. Vislink's \$1.5 million accumulated unrealized loss, net of taxes, at December 31, 2015 was included in the Condensed Consolidated Balance Sheets as a component of "Accumulated other comprehensive income (loss)".

By May 2016, Vislink's stock price had continued to be below the Company's cost basis for approximately seven months. The prolonged decline in Vislink's stock price led the Company to conclude the impairment was other than temporary. Furthermore, the Company's assessment of Vislink's near-term prospects based on Vislink's recent financial performance suggest that Vislink's stock price may not recover to the Company's original cost basis in 2016. As a result, the Company recorded an impairment charge in the first quarter of 2016 of \$1.5 million reflecting the new reduced cost basis of the Vislink investment at

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April 1, 2016. As of September 30, 2016, Vislink's stock price had declined an additional 70% from the stock price as of April 1, 2016. The Company further observed several recent adverse changes in Vislink's financial and liquidity conditions. Based on the Company's assessment of the positive and negative factors of Vislink's financial and business conditions, the Company believes that more likely-than-not, Vislink's stock price will not recover to the Company's cost basis established at April 1, 2016. As a result, the Company recorded an additional impairment charge in the third quarter of 2016 of \$1.3 million reflecting the new reduced cost basis of the Vislink investment at September 30, 2016. The Company's remaining maximum exposure to loss from the Vislink investment at September 30, 2016 was limited to its reduced investment cost of \$0.5 million.

## Unconsolidated Variable Interest Entities

## VJU

On September 26, 2014, the Company acquired a 19.8% interest in VJU iTV Development GmbH ("VJU"), a software company based in Austria, for \$2.5 million. Since VJU's equity is deemed not sufficient to permit it to finance its activities without additional support from its shareholders, VJU is considered a variable interest entity ("VIE"). The Company determined that it is not the primary beneficiary of VJU because its financial interest in VJU's equity and its research and development agreement with VJU do not empower the Company to direct VJU's activities that will most significantly impact VJU's economic performance. VJU is accounted for as a cost method investment as the Company does not have significant influence over the operational and financial policies of VJU.

The Company attended a VJU board meeting on March 5, 2015 as an observer. At that meeting, the Company was made aware of significant decreases in VJU's business prospects, VJU's existing working capital and prospects for additional funding, compared to the prior information the Company had received from VJU. Based on the Company's assessment, the Company determined that its investment in VJU was impaired on an other-than-temporary basis. Factors considered included the severity of the impairment and recent events specific to VJU. Based on the Company's assessment of VJU's expected cash flows, the entire investment is expected to be non-recoverable. As a result, the Company recorded an impairment charge of \$2.5 million in the first quarter of 2015. The Company has no remaining loss exposure from the VJU investment at September 30, 2016.

At VJU's shareholders meeting held on October 15, 2015, additional contributions by existing shareholders were approved. The Company did not provide additional contributions to VJU, and as a result, the Company's equity interest in VJU decreased from to 19.8% to 9.9%.

## EDC

On October 22, 2014, the Company acquired an 18.4% interest in Encoding.com, Inc. ("EDC"), a video transcoding service company headquartered in San Francisco, California, for \$3.5 million by purchasing EDC's Series B preferred stock. Since EDC's equity is deemed not sufficient to permit it to finance its activities without additional support from its shareholders, EDC is considered a VIE. The Company determined that it is not the primary beneficiary of EDC because its financial interest in EDC's equity does not empower the Company to direct EDC's activities that will most significantly impact EDC's economic performance. In addition, the Company determined that its investment in EDC's Series B preferred stock does not have the risk and reward characteristics that are substantially similar to EDC's common stock. Therefore, Harmonic does not hold an investment in EDC's common stock or in-substance common stock. According to the applicable accounting guidance, the EDC investment is accounted for as a cost-method investment. The Company determined that there were no indicators existing at September 30, 2016 that would indicate that the EDC investment was impaired.

The following table presents the carrying values and maximum exposure of the unconsolidated VIEs as of September 30, 2016 (in thousands):

Carrying Value	Maximum exposure to loss <sup>(1)</sup>
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VJU	\$ —	\$ —
EDC <sup>(2)</sup>	3,593	3,593
Total	\$ 3,593	\$ 3,593

(1) The Company did not provide financial support to any of its unconsolidated VIEs and as of September 30, 2016, there were no explicit arrangements or implicit variable interests that could require the Company to provide financial support to any of its unconsolidated VIEs.

(2) The Company's maximum exposure to loss with respect to EDC as of September 30, 2016 was limited to a total investment cost of \$3.6 million, including \$0.1 million of transaction costs.

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Each reporting period, the Company reviews all of its unconsolidated VIE investments to determine whether there are any reconsideration events that may result in the Company being a primary beneficiary of any unconsolidated VIE which would then require the Company to consolidate the VIE. The Company also reviews all of its cost-method investments in each reporting period to determine whether a significant event of change in circumstances has occurred that may have an adverse effect on the fair value of each investment.

**NOTE 6: DERIVATIVES AND HEDGING ACTIVITIES**

The Company uses forward contracts to manage exposures to foreign currency exchange rates. The Company's primary objective in holding derivative instruments is to reduce the volatility of earnings and cash flows associated with fluctuations in foreign currency exchange rates and the Company does not use derivative instruments for trading purposes. The use of derivative instruments expose the Company to credit risk to the extent that the counterparties may be unable to meet their contractual obligations, as such, the potential risk of loss with any one counterparty is closely monitored by the Company.

**Derivatives Designated as Hedging Instruments (Cash Flow Hedges)**

Beginning in December 2014, the Company entered into forward currency contracts to hedge forecasted operating expenses and service costs related to employee salaries and benefits denominated in Israeli shekels ("ILS") for its subsidiaries in Israel. These ILS forward contracts mature generally within 12 months and are designated as cash flow hedges. For derivatives that are designated as hedges of forecasted foreign currency denominated operating expenses and service costs, the Company assesses effectiveness based on changes in spot currency exchange rates. Changes in spot rates on the derivative are recorded as a component of "Accumulated other comprehensive income (loss)" ("AOCI") in the Condensed Consolidated Balance Sheets until such time as the hedged transaction impacts earnings. The change in fair value of the forward points, which reflects the interest rate differential between the two countries on the derivative, is excluded from the effectiveness assessment. Gains or losses on the derivative representing either hedge ineffectiveness or hedge components excluded from the assessment of effectiveness are recognized in current earnings.

**Derivatives Not Designated as Hedging Instruments (Balance Sheet Hedges)**

Balance sheet hedges consist of foreign currency forward contracts, mature generally within three months, are carried at fair value and they are used to minimize the short-term impact of foreign currency exchange rate fluctuation on cash and certain trade and inter-company receivables and payables. Changes in the fair value of these foreign currency forward contracts are recognized in "Other income (expense), net" in the Condensed Consolidated Statement of Operations and are largely offset by the changes in the fair value of the assets or liabilities being hedged.

The locations and amounts of designated and non-designated derivative instruments' gains and losses reported in the Company's Accumulated Other Comprehensive Income (Loss) and Condensed Consolidated Statements of Operations were as follows (in thousands):

Financial Statement Location	Three months ended		Nine months ended		
	September 30, 2016	October 2, 2015	September 30, 2016	October 2, 2015	
Derivatives designated as hedging instruments:					
Gains (losses) in AOCI on derivatives (effective portion)	AOCI	\$ 121	\$ (550 )	\$ 279	\$ (218 )
Gains (losses) reclassified from AOCI into income (effective portion)	Cost of Revenue	\$ 6	\$ 18	\$ (7 )	\$ 44
	Operating Expense	41	109	(46 )	270
	Total	\$ 47	\$ 127	\$ (53 )	\$ 314
Losses recognized in income on derivatives (ineffectiveness portion and amount excluded from effectiveness testing)	Other income (expense),	\$ (8 )	\$ (5 )	\$ (57 )	\$ (57 )

net

Derivatives not designated as hedging instruments:

Other

Gains (losses) recognized in income

income (expense), \$ (162 ) \$ (165 ) \$ (496 ) \$ 220

net

The Company anticipates the AOCI balance of \$86,000 at September 30, 2016, relating to net unrealized gains from cash flow hedges, will be reclassified to earnings within the next twelve months.

The U.S. dollar equivalents of all outstanding notional amounts of foreign currency forward contracts are summarized as follows (in thousands):

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	September 30, 2016	December 31, 2015
Derivatives designated as cash flow hedges:		
Purchase	\$ 2,945	\$ 12,984
Derivatives not designated as hedging instruments:		
Purchase	\$ 4,824	\$ 6,942
Sell	\$ 17,594	\$ 11,332

The locations and fair value amounts of the Company's derivative instruments reported in its Condensed Consolidated Balance Sheets are as follows (in thousands):

	Balance Sheet Location	Asset Derivatives		Balance Sheet Location	Derivative Liabilities	
		September 30, 2016	December 31, 2015		September 30, 2016	December 31, 2015
Derivatives designated as hedging instruments:						
Foreign currency contracts	Prepaid expenses and other current assets	\$ 60	\$ 13	Accrued Liabilities	\$ —	\$ 281
		\$ 60	\$ 13		\$ —	\$ 281
Derivatives not designated as hedging instruments:						
Foreign currency contracts	Prepaid expenses and other current assets	\$ 172	\$ 100	Accrued Liabilities	\$ 17	\$ 90
		\$ 172	\$ 100		\$ 17	\$ 90
Total derivatives		\$ 232	\$ 113		\$ 17	\$ 371

## Offsetting of Derivative Assets and Liabilities

The Company recognizes all derivative instruments on a gross basis in the Condensed Consolidated Balance Sheets. However, the arrangements with its counterparties allows for net settlement, which are designed to reduce credit risk by permitting net settlement with the same counterparty. As of September 30, 2016, information related to the offsetting arrangements was as follows (in thousands):

	Gross Amounts of Derivatives	Gross Amounts of Derivatives Offset in the Condensed Consolidated Balance Sheets	Net Amounts of Derivatives Presented in the Condensed Consolidated Balance Sheets	Gross Amounts of Derivatives Not Offset in the Condensed Consolidated Balance Sheets		
				Financial Instrument	Cash Collateral Pledged	Net Amount
Derivative Assets	\$ 232	—	\$ 232	\$ (17 )	—	\$ 215
Derivative Liabilities	\$ 17	—	\$ 17	\$ (17 )	—	\$ —

In connection with foreign currency derivatives entered in Israel, the Company's subsidiaries in Israel are required to maintain a compensating balance with their bank at the end of each month. The compensating balance arrangements do not legally restrict the use of cash and as of September 30, 2016, the total compensating balance maintained was

\$2.5 million.

**NOTE 7: FAIR VALUE MEASUREMENTS**

The applicable accounting guidance establishes a framework for measuring fair value and requires disclosure about the fair value measurements of assets and liabilities. This guidance requires the Company to classify and disclose assets and liabilities measured at fair value on a recurring basis, as well as fair value measurements of assets and liabilities measured on a nonrecurring basis in periods subsequent to initial measurement, in a three-tier fair value hierarchy as described below.

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The guidance defines fair value as the exchange price that would be received for an asset or paid to transfer a liability, in the principal or most advantageous market for the asset or liability, in an orderly transaction between market participants on the measurement date.

Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The guidance describes three levels of inputs that may be used to measure fair value:

Level 1 — Observable inputs that reflect quoted prices for identical assets or liabilities in active markets.

Level 2 — Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. The Company primarily uses broker quotes for valuation of its short-term investments. The forward exchange contracts are classified as Level 2 because they are valued using quoted market prices and other observable data for similar instruments in an active market.

Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The Company uses the market approach to measure fair value for its financial assets and liabilities. The market approach uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities. The fair value of the Company's convertible notes is influenced by interest rates, the Company's stock price and stock market volatility. The estimated fair value of the Company's convertible notes based on a market approach was approximately \$161.2 million and \$123.1 million as of September 30, 2016 and December 31, 2015, respectively, and represents a Level 2 valuation. The Company's other debts and capital leases assumed from the TVN acquisition are classified within Level 2 because these borrowings are not actively traded and the majority of them have a variable interest rate structure based upon market rates currently available to the Company for debt with similar terms and maturities. Additionally, the Company considers the carrying amount of its capital lease obligations to approximate their fair value because the weighted average interest rate used to formulate the carrying amounts approximates current market rates. The other debts and capital leases outstanding as of September 30, 2016 were \$22.8 million in the aggregate. (See Note 11, "Convertible Notes, Other debts and Capital Leases" for additional information).

The Company's liabilities for the TVN contingent consideration under the TVN Purchase Agreement were fully paid as of August 31, 2016, of which \$3.5 million was paid in the second quarter of 2016 and the remaining \$2.5 million was paid in the third quarter of 2016. As of September 30, 2016, there were no amounts of TVN contingent consideration which remained outstanding. The liabilities for the assumed TVN employee equity plans of approximately \$2.9 million were fully paid in the second quarter of 2016 and there were no other outstanding amounts under these plans at September 30, 2016.

During the nine months ended September 30, 2016, there were no nonrecurring fair value measurements of assets and liabilities subsequent to initial recognition.

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The following table sets forth the fair value of the Company's financial assets and liabilities measured at fair value on a recurring basis based on the three-tier fair value hierarchy (in thousands):

	Level 1	Level 2	Level 3	Total
As of September 30, 2016				
Cash equivalents				
Money market funds	\$6,276	\$—	\$—	—\$6,276
Short-term investments				
Corporate bonds	—	7,931	—	7,931
Prepays and other current assets				
Time deposit pledged for credit card facility	—	580	—	580
Derivative assets	—	232	—	232
Other assets				
Long-term investment	530	—	—	530
Total assets measured and recorded at fair value	\$6,806	\$8,743	\$—	—\$15,549
Accrued liabilities				
Derivative liabilities	—	17	—	17
Total liabilities measured and recorded at fair value	\$—	\$17	\$—	—\$17
	Level 1	Level 2	Level 3	Total
As of December 31, 2015				
Cash equivalents				
Money market funds	\$53,434	\$—	\$—	—\$53,434
U.S. Treasury bills	24,998	—	—	24,998
Short-term investments				
Corporate bonds	—	25,505	—	25,505
Commercial paper	—	1,099	—	1,099
Prepays and other current assets				
Time deposit pledged for credit card facility	—	580	—	580
Derivative assets	—	113	—	113
Other assets				
Long-term investment	1,840	—	—	1,840
Total assets measured and recorded at fair value	\$80,272	\$27,297	\$—	—\$107,569
Accrued liabilities				
Derivative liabilities	\$—	\$371	\$—	—\$371
Total liabilities measured and recorded at fair value	\$—	\$371	\$—	—\$371

## NOTE 8: BALANCE SHEET COMPONENTS

The following tables provide details of selected balance sheet components (in thousands):

	September 30, 2016	December 31, 2015
Accounts receivable, net:		
Accounts receivable	\$103,511	\$73,855
Less: allowances for doubtful accounts, returns and discounts	(4,433 )	(4,340 )
Total	\$99,078	\$69,515

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	September 30, 2016	December 31, 2015
Prepaid expenses and other current assets:		
Prepaid inventories to contract manufacturer <sup>(1)</sup>	\$ 4,736	\$ 8,500
Prepaid maintenance, royalty, rent and property taxes	7,003	5,974
Other Prepayments	4,730	2,762
Deferred cost of revenue	10,470	4,601
French R&D tax credits receivable <sup>(2)</sup>	6,279	—
Restricted cash <sup>(3)</sup>	1,341	1,093
Other	3,960	2,073
Total	\$ 38,519	\$ 25,003

(1) From time to time, the Company makes advance payment to a supplier for future inventory in order to secure more favorable pricing. As of September 30, 2016, the Company had \$8.5 million of prepaid inventory and accounts payable of approximately \$3.8 million with one of its suppliers. Based on the agreement with this supplier, the Company has the right to set off the amount owed with the amount owed by the supplier, and in October 2016, according to the terms of the supplier agreement, the Company notified the supplier of its intent to net the balances in the fourth quarter of 2016. Based on the guidance in ASC 210-20, as of September 30, 2016, the Company took a net position on the balance sheet and elected to net \$3.8 million of prepaid inventories with accounts payable.

(2) The Company's acquired TVN subsidiary in France (the "TVN French Subsidiary") participates in the French Crédit d'Impôt Recherche ("CIR") program (the "R&D tax credits") which allows companies to monetize eligible research expenses. The French R&D tax credits can be used to offset against income tax payable to the French government in each of the four years after being incurred, or if not utilized, are recoverable in cash. The amount of French R&D tax credits recoverable are subject to audit by the French government and during the second quarter of 2016, the French government approved the 2012 claim and refunded \$5.8 million to the TVN French Subsidiary. The remaining R&D tax credit receivables at September 30, 2016 were approximately \$25.1 million and are expected to be recoverable from 2017 through 2020 with \$6.3 million reported under "Prepaid and other Current Assets" and \$18.8 million reported under "Other Long-term Assets" on the Company's Condensed Consolidated Balance Sheets. Pursuant to the TVN Purchase Agreement, the Company is indemnified by the selling shareholders with respect to the validity and recoverability of the outstanding TVN French Subsidiary R&D tax credit receivables.

(3) The restricted cash balances are primarily held as cash collateral security for certain bank guarantees. These restricted funds are invested in bank deposits and cannot be withdrawn from the Company's accounts without the prior written consent of the applicable secured party. Additionally, as of September 30, 2016, the Company recorded approximately \$1.1 million of restricted cash for the bank guarantee associated with the TVN French Subsidiary's office building lease. This amount is reported under "Other Long-term Assets" on the Company's Condensed Consolidated Balance Sheets.

	September 30, 2016	December 31, 2015
Inventories:		
Raw materials	\$ 9,417	\$ 5,421
Work-in-process	1,328	1,950
Finished goods	13,397	19,827
Service-related spares	11,686	11,621
Total	\$ 35,828	\$ 38,819

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	September 30, 2016	December 31, 2015
Property and equipment, net:		
Furniture and fixtures	\$ 9,110	\$ 7,808
Machinery and equipment	99,172	93,010
Capitalized software	34,703	29,391
Leasehold improvements	14,005	10,000
Property and equipment, gross	156,990	140,209
Less: accumulated depreciation and amortization	(121,845 )	(113,197)
Total	\$ 35,145	\$ 27,012
	September 30, 2016	December 31, 2015
Accrued Liabilities:		
Accrued employee compensation and related expenses	\$ 18,420	\$ 12,083
Accrued sales and use tax and property taxes	1,861	1,743
Accrued warranty	5,079	3,913
Accrued royalty payments	2,597	873
Contingent inventory reserves	2,485	1,315
Customer deposits	5,020	953
Others	14,907	10,474
Total	\$ 50,369	\$ 31,354

The TVN acquisition was subject to post-closing adjustments capped at (i) the difference between €76 million (approximately \$83.3 million as converted from euros into U.S. dollars using an agreed upon average exchange rate) and \$75 million, with respect to an adjustment based on TVN's 2015 revenue, and (ii) up to \$5 million with respect to an adjustment based on TVN's 2015 backlog that ships during the first half of 2016. The Company paid \$3.5 million upon the finalization of the revenue and working capital adjustments in the second quarter of 2016 and \$2.5 million upon the finalization of the backlog adjustment in the third quarter of 2016. As of September 30, 2016, there were no amounts of TVN contingent consideration which remained outstanding.

**NOTE 9: GOODWILL AND IDENTIFIED INTANGIBLE ASSETS****Goodwill**

Goodwill represents the difference between the purchase price and the estimated fair value of the identifiable assets acquired and liabilities assumed. The Company tests for goodwill impairment at the reporting unit level on an annual basis, or more frequently, if events or changes in circumstances indicate that the asset is more likely than not impaired. The Company's annual goodwill impairment test is performed in the fiscal fourth quarter, with a testing date at the end of October.

In the first quarter of 2016, the Company preliminary recorded additional goodwill of \$39.2 million related to the TVN acquisition based on the preliminary allocation of the estimated purchase consideration. Following the first quarter of 2016, the Company made further updates to the valuation of certain assets, liabilities and tax estimate and goodwill was adjusted to \$41.7 million at end of September 30, 2016 primarily due to an approximate \$4.6 million reduction to the fair value of tangible and intangible assets acquired and liabilities assumed, offset in part by a \$2.1 million reduction in the estimate of the contingent purchase consideration. (See Note 3, "Business Acquisition" for additional information). The Company will continue to evaluate certain assets, liabilities and tax estimates that are subject to change within the measurement period (up to one year from the acquisition date). Goodwill from the TVN acquisition was assigned to the Video reporting unit.

The following table presents goodwill by reportable segments (in thousands):

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	Video	Cable Edge	Total
As of December 31, 2015	\$136,904	\$60,877	\$197,781
Preliminary estimate of goodwill from TVN acquisition	41,670	—	41,670
Foreign currency translation adjustment	515	(86 )	429
As of September 30, 2016	\$179,089	\$60,791	\$239,880

The Company performs its annual goodwill impairment review of its two reporting units, which are the same as its operating segments, during the fourth fiscal quarter of 2015. The 2015 annual testing concluded that goodwill was not impaired as the Video and Cable Edge reporting units had estimated fair values in excess of their carrying value by approximately 87% and 42%, respectively.

A significant decline in a company's stock price may suggest that an adverse change in the business climate may have caused the fair value of one or more reporting units to fall below their carrying value. During the second quarter of 2016, the sustained decline in the Company's stock price led to a triggering event for goodwill impairment assessment. As of July 1, 2016, with a closing stock price of \$3.01 on the NASDAQ stock exchange, the Company's market capitalization was approximately \$235 million. As this market capitalization was less than the Company's net book value, further analysis was performed to determine if an impairment exists. When assessing goodwill for impairment, the Company used multiple valuation methodologies to determine its enterprise value. The valuation methods used included the Company's market capitalization adjusted for a control premium and the Company's discounted cash flow analysis, which involves making significant assumptions and estimates, including expectations of the Company's future financial performance, the Company's weighted average cost of capital and the Company's interpretation of currently enacted tax laws. Based on the impairment test performed, management determined that the Company's goodwill was not impaired as of July 1, 2016. As of September 30, 2016, the Company's closing stock price was \$5.93.

The Company has not recorded any impairment charges related to goodwill for any prior periods.

#### Intangible Assets

In the nine months ended September 30, 2016, the gross amount for intangible assets increased \$41.8 million of which \$41.1 million was due to the TVN acquisition and the remainder \$0.7 million was due to foreign exchange effect. The following is a summary of intangible assets (in thousands):

	Weighted Average Remaining Life (Years)	September 30, 2016			December 31, 2015		
		Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Developed core technology	3.4	\$33,057	\$(14,112 )	\$ 18,945	\$10,987	\$(10,987 )	\$ —
Customer relationships/contracts	4.4	44,659	(31,004 )	13,655	29,200	(25,752 )	3,448
Trademarks and trade names	3.4	610	(89 )	521	—	—	—
Maintenance agreements and related relationships	N/A	5,500	(5,500 )	—	5,500	(4,851 )	649
Order Backlog	N/A	3,661	(3,661 )	—	—	—	—
Total identifiable intangibles		\$87,487	\$(54,366 )	\$ 33,121	\$45,687	\$(41,590 )	\$ 4,097

The TVN in-process research and development efforts were completed by the end of the second quarter of 2016 and the Company determined that it has become a finite lived intangible asset (developed technology) with an estimated useful life of four years.

Amortization expense for the identifiable purchased intangible assets for the three and nine months ended September 30, 2016 and October 2, 2015 was allocated as follows (in thousands):

	Three months ended		Nine months ended	
	September 30, 2016	October 2, 2015	September 30, 2016	October 2, 2015
Included in cost of revenue	\$ 1,380	\$ 86	\$ 3,105	\$ 633
Included in operating expenses	3,009	1,446	9,606	4,338
Total amortization expense	\$ 4,389	\$ 1,532	\$ 12,711	\$ 4,971

The estimated future amortization expense of purchased intangible assets with definite lives is as follows (in thousands):

	Cost of Revenue	Operating Expenses	Total
Year ended December 31,			
2016 (remaining three months)	\$ 1,380	\$ 811	\$ 2,191
2017	5,517	3,244	8,761
2018	5,517	3,244	8,761
2019	5,517	3,244	8,761
2020	1,014	3,117	4,131
Thereafter	—	516	516
Total future amortization expense	\$ 18,945	\$ 14,176	\$ 33,121

#### NOTE 10: RESTRUCTURING AND RELATED CHARGES

The Company implemented several restructuring plans in the past few years. The goal of these plans was to bring operational expenses to appropriate levels relative to its net revenues, while simultaneously implementing extensive company-wide expense control programs.

The Company accounts for its restructuring plans under the authoritative guidance for exit or disposal activities. The restructuring and asset impairment charges are included in “Product cost of revenue” and “Operating expenses-restructuring and related charges” in the Condensed Consolidated Statements of Operations. The following table summarizes the restructuring and asset impairment charges (in thousands):

	Three months ended		Nine months ended	
	September 30, 2016	October 2, 2015	September 30, 2016	October 2, 2015
Restructuring and asset impairment charges in:				
Product cost of revenue	\$(1 )	\$ 113	\$(24 )	\$ 113
Operating expenses-Restructuring and related charges	(27 )	397	4,488	626
Total restructuring and related charges	\$(28 )	\$ 510	\$ 4,464	\$ 739

#### Harmonic 2016 Restructuring

In the first quarter of 2016, the Company implemented a new restructuring plan (the “Harmonic 2016 Restructuring Plan”) to streamline the corporate organization, thereby reducing operating costs by consolidating duplicative resources in connection with the acquisition of TVN. The planned activities have primarily resulted, and will primarily result, in cash expenditures related to severance and related benefits and exiting certain operating facilities and disposing of excess assets. In the second quarter of 2016, as part of the Company’s 2016 restructuring initiative, the Company also initiated a voluntary departure plan in France to streamline the organization of the TVN French Subsidiary (the “TVN VDP”). The Company anticipates incurring approximately \$31 million to \$33 million restructuring and TVN acquisition- and integration-related expenses, in aggregate, including the TVN VDP expenses, primarily in 2016. These activities are expected to take at least 12 months to complete. Approximately \$3 million of the anticipated restructuring expenses is non-cash related and the majority of the remaining cash



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amounts are expected to be paid in 2016. The Company has estimated synergies from these restructuring activities and the TVN integration effort to be approximately \$24 million to \$25 million on an annualized basis.

The Company recorded \$(28,000) and \$4.5 million of restructuring and related charges under the Harmonic 2016 Restructuring Plan, in the three and nine months ended September 30, 2016, respectively. The restructuring and related charges in the nine months ended September 30, 2016 consisted of \$1.4 million of costs related to the Company exiting an excess facility at its U.S. headquarters and \$3.1 million of severance and benefits for the termination of 22 employees worldwide. The Company incurred \$5.3 million and \$11.8 million of TVN acquisition- and integration-related expenses in the three and nine months ended September 30, 2016, respectively. (See Note 3, “Business Acquisition” for additional information on TVN acquisition- and integration-related expenses). No charges were recorded for the TVN VDP in the three and nine months ended September 30, 2016 as none of the employee voluntary termination applications had been approved, and final acceptance by the employees had not occurred as of September 30, 2016.

TVN VDP

In the second quarter of 2016, the Company initiated a consultative process with the works council for the French Subsidiary and applicable union representatives to establish a voluntary departure plan to enable French employees of TVN to voluntarily terminate with certain benefits. The Company finalized the consultation process and the terms of the voluntary departure plan in the third quarter of 2016. Following approval of the TVN VDP by the applicable French authorities in September 2016, employees were invited to apply for the voluntary termination benefits detailed in the TVN VDP. Employee applications are subject to approval by the Company, and the termination benefits are subject to final acceptance by the employees, and such steps are expected to be fully completed by December 31, 2016. Upon such approval and acceptance, the Company will also settle its retirement obligations under the TVN defined benefit pension plan for the terminating employees through payment of these obligations and/or voluntary termination benefits (See Note 12, “Employee Benefit Plans and Stock-based Compensation”).

The Company accounts for these special termination benefits in accordance with ASC 712, “Compensation - Nonretirement Postemployment Benefits,” which requires that the special termination benefits be recognized as a liability and a loss beginning when an employee accepts the offer of voluntary termination and the amount can be reasonably estimated. Where an employee is required to work beyond a minimum statutory notice period, the cost of the special termination benefit is recognized as an expense over the employee’s remaining service period. Where the employee is not required to work beyond a minimum statutory notice period, the cost of the special termination benefit is recognized upon the date the employee accepts the offer of voluntary termination, provided that the amount of the benefit can be estimated.

As of the September 30, 2016, none of the employee applications had been approved, and final acceptance by the employees had not occurred. Accordingly, the Company did not record any charges relating to the special termination benefits in the three and nine months ended September 30, 2016. The Company anticipates the total termination benefits, net of the amounts expected to be settled under the TVN defined benefit pension plan for the employees who applied for the TVN VDP as of September 30, 2016, will amount to approximately \$11 million which it expects to expense in the fourth quarter of 2016 and the first three quarters of 2017. The Company anticipates more employees will apply for the TVN VDP in the fourth quarter of 2016.

Excess Facility in San Jose, California

In January 2016, the Company exited an excess facility at its U.S. headquarters in San Jose, California and recorded \$1.4 million in facility exit costs. The Company accounts for facility exit costs in accordance with ASC 420, “Exit or Disposal Cost Obligations”, which requires that a liability for such costs be recognized and measured initially at fair value on the cease-use date based on remaining lease rentals, adjusted for the effects of any prepaid or deferred items recognized, reduced by the estimated sublease rentals that could be reasonably obtained even if it is not the intent to sublease. The fair value of these liabilities is based on a net present value model using a credit-adjusted risk-free

rate. The liability will be paid out over the remainder of the leased properties' terms, which continue through August 2020. Actual sublease terms may differ from the estimates originally made by the Company. Any future changes in the estimates or in the actual sublease income could require future adjustments to the liabilities, which would impact net income in the period the adjustment is recorded. As of the cease-use date, the fair value of this restructuring liability totaled \$2.5 million. Offsetting these charges was an adjustment for deferred rent liability relating to this space of \$1.1 million.

The following table summarizes the activity in the Company's restructuring accrual related to the Harmonic 2016 Restructuring Plan during the nine months ended September 30, 2016 (in thousands):

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	Excess facilities	Severance and benefits (1)	Other charges	Total
Charges for 2016 Harmonic Restructuring Plan	\$ 1,445	\$ 3,171	\$ 246	\$ 4,862
Adjustments to restructuring provisions	—	(87 )	—	(87 )
Reclassification of deferred rent	1,087	—	—	1,087
Cash payments	(705 )	(3,061 )	—	(3,766 )
Non-cash write-offs	—	—	(246 )	(246 )
Foreign exchange gain (loss)	—	(12 )	—	(12 )
Balance at September 30, 2016	\$ 1,827	\$ 11	\$ —	\$ 1,838

(1) The Company anticipates that the remaining severance and benefits accrual at September 30, 2016 will be fully paid by the first quarter of 2017.

**Harmonic 2015 Restructuring**

In the fourth quarter of 2014, the Company implemented a restructuring plan (the “Harmonic 2015 Restructuring Plan”) to reduce 2015 operating costs and the planned restructuring activities involve headcount reduction, exiting certain operating facilities and disposing of excess assets. The Company recorded \$2.2 million and \$1.5 million of restructuring and impairment charges under the Harmonic 2015 Restructuring Plan in fiscal 2014 and 2015, respectively, consisting primarily of severance and benefits for the termination of 56 employees worldwide as well as a fixed asset impairment charge related to software development costs incurred for a discontinued information technology (“IT”) project. No new activities are anticipated in 2016 for the Harmonic 2015 Restructuring Plan and the remaining restructuring accrual for this plan is expected to be fully settled in the fourth quarter of 2016.

The following table summarizes the activity in the Company’s restructuring accrual related to the Harmonic 2015 Restructuring Plan during the nine months ended September 30, 2016 (in thousands):

	Severance and benefits (2)
Balance at December 31, 2015	\$ 264
Adjustments to restructuring provisions	(65 )
Cash payments	(194 )
Balance at September 30, 2016	\$ 5

(2) The Company anticipates that the remaining restructuring accrual as of September 30, 2016 will be fully paid by the end of 2016.

**NOTE 11: CONVERTIBLE NOTES, OTHER DEBTS AND CAPITAL LEASES****4.00% Convertible Senior Notes**

In December 2015, the Company issued \$128.25 million aggregate principal amount of unsecured convertible senior notes due 2020 (the “offering” or “Notes”, as applicable) through a private placement with a financial institution. The Notes do not contain any financial covenants. The Notes bear interest at a fixed rate of 4.00% per year, payable semiannually in arrears on June 1 and December 1 of each year, beginning on June 1, 2016. The Notes will mature on December 1, 2020, unless earlier repurchased or converted. The Company incurred approximately \$4.1 million of debt issuance cost, of which \$3.5 million was paid in 2015 and the remainder was paid in the first quarter of 2016.

Concurrent with the closing of the offering, the Company used \$49.9 million of the net proceeds to repurchase 11.1 million shares of the Company’s common stock from purchasers of the offering in privately negotiated transactions effected through the initial purchaser or its affiliate as the Company’s agent. Additionally, the Company used the

remaining net proceeds from the offering to fund the TVN acquisition, which closed on February 29, 2016. Subject to satisfaction of certain conditions and during certain periods, the Notes will be convertible at the option of holders into cash, shares of the Company's common stock or a combination thereof, at the Company's election, at an initial conversion rate of 173.9978 shares of Common Stock per \$1,000 principal amount of Notes (which is equivalent to an initial conversion price of approximately \$5.75 per share). The conversion rate and the corresponding conversion price will be subject to

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adjustment upon the occurrence of certain events.

Prior to September 1, 2020, the Notes will be convertible only under the following circumstances: (1) during any fiscal quarter commencing after the fiscal quarter ending on April 1, 2016 (and only during such fiscal quarter), if the last reported sale price of the Company's common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding fiscal quarter is greater than or equal to 130% of the conversion price of the Notes on each applicable trading day; (2) during the five business day period after any five consecutive trading day period (the "measurement period") in which the trading price per \$1,000 principal amount of Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate on each such trading day; or (3) upon the occurrence of specified corporate events. Commencing on September 1, 2020 until the close of business on the second scheduled trading day immediately preceding the maturity date, the Notes will be convertible in multiples of \$1,000 principal amount regardless of the foregoing circumstances.

If a fundamental change occurs, holders of the Notes may require the Company to purchase all or any portion of their Notes for cash at a repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date. In addition, if specific corporate events occur prior to the maturity date, the conversion rate may be increased for a holder who elects to convert the Notes in connection with such a corporate event.

In accounting for the issuance of the Notes, the Company separated the Notes into liability and equity components. The carrying amount of the liability component was calculated by measuring the fair value of a similar liability that does not have an associated convertible 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 initial proceeds of the Notes as a whole. The difference between the initial proceeds of the Notes and the liability component (the "debt discount") of \$26.9 million is amortized to interest expense using the effective interest method over the term of the Notes. The equity component of the Notes is included in additional paid-in capital in the Consolidated Balance Sheets and is not remeasured as long as it continues to meet the conditions for equity classification.

In accounting for the transaction costs related to the issuance of the Notes, the Company allocated the total amount of \$4.1 million incurred to the liability and equity components using the same proportions as the proceeds from the Notes. Transaction costs attributable to the liability component were \$3.2 million and were recorded as a direct deduction from the carrying amount of the debt liability in long-term liability in the Condensed Consolidated Balance Sheets and are being amortized to interest expense in the Condensed Consolidated Statements of Operations using the effective interest method over the term of the Notes. Transaction costs attributable to the equity component were \$0.9 million and were netted with the equity component of the Notes in additional paid-in capital in the Condensed Consolidated Balance Sheets.

The following table presents the components of the Notes as of September 30, 2016 and December 31, 2015 (in thousands, except for years and percentages):

	September 30, 2016	December 31, 2015	
<b>Liability:</b>			
Principal amount	\$128,250	\$128,250	
Less: Debt discount, net of amortization	(23,458 )	(26,732 )	
Less: Debt issuance costs, net of amortization	(2,828 )	(3,223 )	
Carrying amount	\$101,964	\$98,295	
Remaining amortization period (years)	4.2	4.9	
Effective interest rate on liability component	9.94	% 9.94	%
<b>Equity:</b>			
Value of conversion option	\$26,925	\$26,925	
Less: Equity issuance costs	(863 )	(863 )	
Carrying amount	\$26,062	\$26,062	

The following table presents interest expense recognized for the Notes (in thousands):

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	Three months ended		Nine months ended	
	September 30, 2016	October 2, 2015	September 30, 2016	October 2, 2015
Contractual interest expense	\$ 1,283	\$ —	—\$3,848	\$ —
Amortization of debt discount	1,117	—	3,274	—
Amortization of debt issuance costs	135	—	395	—
Total interest expense recognized	\$ 2,535	\$ —	—\$7,517	\$ —

## Other Debts and Capital Leases

In connection with the TVN acquisition, the Company assumed a variety of debt and credit facilities in France to satisfy the financing requirements of TVN operations. These arrangements are summarized in the table below (in thousands):

	September 30, 2016	
Financing from French government agencies related to various government incentive programs <sup>(1)</sup>	\$	19,153
Term loans <sup>(2)</sup>	1,564	
Secured borrowings <sup>(3)</sup>	—	
Obligations under capital leases	2,057	
Total debt obligations	22,774	
Less: current portion	(6,825	)
Long-term portion	\$	15,949

Other than the 4.00% Notes, the Company did not have any other indebtedness as of December 31, 2015.

(1) As of September 30, 2016, the Company's TVN French Subsidiary had an aggregate of \$19.2 million of loans due to various financing programs of French government agencies, \$15.6 million of which is related to loans backed by French R&D tax credit receivables. As of September 30, 2016, the TVN French Subsidiary had an aggregate of \$25.1 million of R&D tax credit receivables from the French government from 2017 through 2020. (See Note 8, "Balance Sheet Components-Prepaid expenses and other current assets" for more information). The R&D tax loans have a fixed rate of 0.6%, plus EURIBOR 1 month + 1.3% and matures between 2017 through 2019. The remaining loans of \$3.6 million at September 30, 2016 primarily relates to financial support from French government agencies for R&D innovation projects at minimal interest rates and these loans mature between 2020 through 2023.

(2) One of the term loans with a certain financial institution contains annual covenants that require the TVN French Subsidiary to maintain a minimum working capital balance and various other financial covenants and restrictions that limit the French Subsidiary's ability to incur additional indebtedness. The annual covenant is based on French statutory year-end results and the French subsidiary was in compliance for 2015.

(3) The TVN French Subsidiary obtained advances under a credit line with BPI France against a pool of eligible receivables with recourse. The maximum advance under this credit line for receivables is €2 million (approximately \$2.2 million as converted using the exchange rate at September 30, 2016), less applicable fees, and €200,000 (approximately \$0.2 million as converted using the exchange rate at September 30, 2016) of cash is pledged for this program. This credit line was renewed in July 2016 for an additional year with no material change to the terms of the credit agreement. The TVN French Subsidiary also entered into an accounts receivable financing agreement with GE

Capital Cofacredit, (“GE”) on September 27, 2013, which is subject to automatic renewal unless cancelled. GE advances up to 90% of qualified customer invoices and holds the remaining 10% as a guarantee fund with a minimum of €80,000 (approximately \$0.1 million as converted using the exchange rate at September 30, 2016). In addition, another 10% of outstanding receivables is set aside in a holdback receivable and released upon payments received from the customers. These arrangements are treated as secured borrowings in accordance with FASB ASC 860, Transfers and Servicing.

Future minimum repayments

The table below shows the future minimum repayments of debts and capital lease obligations as of September 30, 2016 (in thousands):

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Years ending December 31,	Capital lease obligations	Other Debt obligations
2016 (remaining three months)	\$ 299	\$ 129
2017	1,130	5,691
2018	534	5,849
2019	68	6,743
2020	26	673
Thereafter	—	1,632
Total	\$ 2,057	\$ 20,717

## Credit Facilities

The Company's credit agreement with JPMorgan expired on February 20, 2016 and the Company did not renew the agreement or enter into any new credit agreement.

## NOTE 12: EMPLOYEE BENEFIT PLANS AND STOCK-BASED COMPENSATION

The Company's stock benefit plans include the employee stock purchase plan and current active stock plans adopted in 1995 and 2002 as well as one stock plan in connection with an acquisition in 2010. See Note 13, "Employee Benefit Plans and Stock-based Compensation" of Notes to Consolidated Financial Statements in the 2015 Form 10-K for details pertaining to each plan. The Company also assumed two existing TVN's employee equity benefit plans in connection with the TVN acquisition.

## Stock Options, RSUs and PSUs

In connection with the Company's acquisition of TVN, the Company agreed to make grants of restricted stock units ("RSUs") with respect to a total of up to 1,750,000 shares (taking into account the share count provision for RSUs in the Company's 1995 Stock Plan). The Company's stockholders approved an amendment to the 1995 Stock Plan at the Company's 2016 annual meeting of stockholders ("2016 Annual Meeting") which increased the number of shares of common stock reserved for issuance under the 1995 Stock Plan by 2,000,000 shares.

In August 2016, the Company granted 898,533 shares of performance-based restricted stock units ("PSUs") under the 1995 Stock Plan to fund a portion of its 2016 incentive bonus payment obligations to its key executives and other eligible employees. The vesting of the PSUs is based on the achievement of certain financial and non-financial operating goals of the Company. The Company's Compensation Committee has the discretion to amend the performance goals and the vesting of the PSUs. The vesting of the PSUs is anticipated to occur within the next three to six months.

The following table summarizes the Company's stock option, RSU and PSU activities during the nine months ended September 30, 2016 (in thousands, except per share amounts):

	Stock Options Outstanding			Restricted Stock Units Outstanding*	
	Shares Available for Grant	Number of Shares	Weighted Average Exercise Price	Number of Units	Weighted Average Grant Date Fair Value
Balance at December 31, 2015	6,150	5,674	\$ 6.56	2,182	\$ 6.99
Authorized	2,000	—	—	—	—
Granted	(5,046	) 916	3.14	3,053	3.55
Options exercised	—	(148	) 4.80	—	—
Shares released	—	—	—	(1,269	) 6.82
Forfeited or cancelled	1,833	(1,388	) 6.44	(304	) 5.73

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Balance at September 30, 2016	4,937	5,054	\$ 6.03	3,662	\$ 4.18
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\* The preceding table includes PSUs activities during the nine months ended September 30, 2016.

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The following table summarizes information about stock options outstanding as of September 30, 2016 (in thousands, except per share amounts):

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Vested and expected to vest	4,826	\$ 6.08	4.0	\$ 3,015
Exercisable	3,063	6.63	3.0	750

The intrinsic value of options vested and expected to vest and exercisable as of September 30, 2016 is calculated based on the difference between the exercise price and the fair value of the Company's common stock as of September 30, 2016. The intrinsic value of options exercised is calculated based on the difference between the exercise price and the fair value of the Company's common stock as of the exercise date. The intrinsic value of options exercised during the three and nine month periods ended October 2, 2015 was \$28,000 and \$1.7 million, respectively. The intrinsic value of options exercised during both the three and nine month periods ended September 30, 2016 was \$0.1 million.

The following table summarizes information about RSUs and PSUs outstanding as of September 30, 2016 (in thousands, except per share amounts):

	Number of Shares Underlying Restricted Stock Units	Weighted Average Remaining Vesting Period (Years)	Aggregate Fair Value
Vested and expected to vest	2,740	0.9	\$ 16,250

The fair value of RSUs and PSUs vested and expected to vest as of September 30, 2016 is calculated based on the fair value of the Company's common stock as of September 30, 2016.

**Employee Stock Purchase Plan**

The Company's stockholders approved an amendment to the 2002 Employee Stock Purchase Plan (the "ESPP") at the 2016 Annual Meeting which increased the number of shares of common stock reserved for issuance under the ESPP by 1,500,000 shares. As of September 30, 2016, the number of shares of common stock available for issuance under the "ESPP" was 906,390. In the event that there are insufficient shares in the plan to fully fund the issuance, the available shares will be allocated across all participants based on their contributions relative to the total contributions received for the offering period.

**TVN Employee Equity Benefit Plan**

TVN's existing employee equity benefit plans consist of the French Employee Incentive plan and the Overseas Long Term Incentive plan. The Company's acquisition of TVN gave rise to a change-in-control event which causes both plans to become fully vested and the settlement of both plans have to be made in cash according to the agreements. The payment was made in full in the second quarter of 2016 in the amount of approximately \$2.9 million upon finalizing the closing adjustments to the TVN purchase price.

**TVN Retirement Benefit Plan**

As part of the TVN acquisition the Company assumed obligations under defined benefit pension plans which were unfunded as of the acquisition date. Under French law, the TVN French Subsidiary is required to make certain payments to employees upon their retirement from the Company. These payments are based on the retiring employee's salary for a number of months that varies according to the employee's period of service and position. Salary used in the calculation is the employee's average monthly salary for the twelve months prior to retirement. The payments are made in one lump-sum at the time of retirement.

The present value of the company's obligation for these lump-sum payments is determined on an actuarial basis and the actuarial valuation takes into account the employees' age and period of service with the company; projected mortality rates, mobility rates and increases in salaries; and a discount rate of 2% per annum.

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The present value of the Company's defined benefit pension plan obligations as of September 30, 2016 and changes to the Company's defined benefit pension plan obligations are shown below (in thousands):

	September 30, 2016
Projected benefit obligation:	
Acquired from TVN acquisition	\$ 5,907
Service cost	164
Interest cost	68
Foreign currency translation adjustment	102
As of September 30, 2016	\$ 6,241
Presented on the Condensed Consolidated Balance Sheets under:	
Current portion (presented under "Accrued liabilities")	\$ 248
Long-term portion (presented under "Other non-current liabilities")	\$ 5,993

The plan was unfunded as of September 30, 2016. There were no amounts recognized in accumulated other comprehensive loss as of September 30, 2016. There are no contributions to the plan required by any laws or funding regulations, discretionary contributions or non-cash contributions expected to be made. Net periodic costs for the three and nine months ended September 30, 2016 were \$99,000 and \$233,000, respectively. The accumulated benefit obligation as of September 30, 2016 was \$5.0 million.

The following assumptions were used in determining the Company's pension obligation:

	September 30, 2016	
Discount rate	2.0	%
Mobility rate	2.2	%
Salary progression rate	2.0	%

The Company evaluates the discount rate assumption annually. The discount rate used for the Company's valuation study was based on the rate of long-term Euro zone AA rated 10 years corporate bonds as of December 31, 2015, which yielded 2.0%.

The Company also evaluates other assumptions related to demographic factors, such as retirement age, mortality rates and turnover periodically, updating them to reflect experience and expectations for the future. The mortality assumption related to the Company's defined benefit pension plan used mortality tables published in January 2016 by the French National Institute of Statistics and Economic Studies.

Future benefits expected to be paid in each of the next five years, and in the aggregate for the five year period thereafter are as follows (in thousands):

Years ending December 31,	
2016 (remaining three months)	\$24
2017	117
2018	227
2019	366
2020	433
2021 - 2025	2,310
	\$3,477

As indicated in Note 10, "Restructuring and Related Charges", the Company finalized the terms of the TVN VDP for TVN employees in the third quarter of 2016. Employee applications are subject to approval by the Company, and the termination benefits are subject to final acceptance by the employees, which is expected to be fully completed by December 31, 2016. Upon such approval and acceptance, the Company will also settle its retirement obligations under the TVN defined benefit pension plan for the terminating employees through payment of these obligations and/or

voluntary termination benefits. The Company accounts for these settlements in accordance with ASC 715, “Compensation - Retirement Benefits”, which requires that the settlement be

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accounted for when an employee accepts the offer of voluntary termination. The Company anticipates that approximately \$1.6 million of its retirement obligations for the employees who applied under the TVN VDP and the TVN defined benefit pension plan as of September 30, 2016 will be settled by December 31, 2016.

**401(k) Plan**

The Company has a retirement/savings plan for the U.S. employees which qualifies as a thrift plan under Section 401(k) of the Internal Revenue Code. This plan allows participants to contribute up to the applicable Internal Revenue Code limitations under the plan. The Company has made discretionary contributions to the plan of 25% of the first 4% contributed by eligible participants, up to a maximum contribution per participant of \$1,000 per year. The contributions for the nine months ended September 30, 2016 and October 2, 2015 were \$316,000 and \$342,000, respectively.

**Stock-based Compensation**

The following table summarizes stock-based compensation expense for all plans (in thousands):

	Three months ended		Nine months ended	
	September 30, 2016	October 2, 2015	September 30, 2016	October 2, 2015
Stock-based compensation in:				
Cost of revenue	\$360	\$ 433	\$1,011	\$ 1,383
Research and development expense	771	1,074	2,581	3,249
Selling, general and administrative expense	1,549	2,320	4,950	7,213
Total stock-based compensation in operating expense	2,320	3,394	7,531	10,462
Total stock-based compensation	\$2,680	\$ 3,827	\$8,542	\$ 11,845

As of September 30, 2016, the Company had approximately \$11.7 million of unrecognized stock-based compensation expense related to the unvested portion of its stock options, RSUs and PSUs that is expected to be recognized over a weighted-average period of approximately 1.8 years.

As part of its equity incentive program, the Company grants PSUs, the vesting of which depends on the achievement of certain financial and non-financial goals of the Company. The Company assesses the expected achievement levels of the performance goals at the end of each reporting period. The grant date fair value of the PSUs expected to vest based on the Company's best estimate of its performance against the performance goals is recognized as compensation expense. As of September 30, 2016, the Company believes it is probable that certain performance conditions will be met and has recognized compensation expense accordingly.

**Valuation Assumptions**

The Company estimates the fair value of employee stock options and stock purchase rights under the ESPP using a Black-Scholes option valuation model. The value of the stock purchase rights under the ESPP consists of: (1) the 15% discount on the purchase of the stock; (2) 85% of the fair value of the call option; and (3) 15% of the fair value of the put option. The call option and put option were valued using the Black-Scholes option pricing model. At the date of grant, the Company estimated the fair value of each stock option grant and stock purchase right granted under the ESPP using the following weighted average assumptions:

	Employee Stock Options			
	Three months ended		Nine months ended	
	September 30, 2016	October 2, 2015	September 30, 2016	October 2, 2015
Expected term (years)	4.30	4.60	4.30	4.70
Volatility	39 %	37 %	36 %	38 %
Risk-free interest rate	1.0 %	1.5 %	1.4 %	1.6 %
Expected dividends	0.0 %	0.0 %	0.0 %	0.0 %



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	ESPP Purchase Period Ending			
	December 31, 2016	July 1, 2016	December 31, 2015	June 30, 2015
Expected term (years)	0.50	0.50	0.50	0.50
Volatility	62 %	54 %	32 %	35 %
Risk-free interest rate	0.4 %	0.4 %	0.1 %	0.1 %
Expected dividends	0.0 %	0.0 %	0.0 %	0.0 %
Estimated weighted average fair value per share at purchase date	\$0.98	\$1.19	\$1.64	\$1.75

The expected term of the employee stock options represents the weighted-average period that the stock options are expected to remain outstanding. The computation of expected term was determined based on historical experience of similar awards, giving consideration to the contractual terms of the stock-based awards, vesting schedules and expectations of future employee behavior. The expected term of the stock purchase rights under the ESPP represents the period of time from the beginning of the offering period to the purchase date. The Company uses its historical volatility for a period equivalent to the expected term of the options to estimate the expected volatility. The risk-free interest rate that the Company uses in the Black-Scholes option valuation model is based on U.S. Treasury zero-coupon issues with remaining terms similar to the expected term. The Company has never declared or paid any cash dividends and does not plan to pay cash dividends in the foreseeable future, and, therefore, used an expected dividend yield of zero in the valuation model.

The Company is required to estimate forfeitures at the time of grant and revise those estimates in subsequent periods if actual forfeitures differ from those estimates. The Company uses historical data to estimate pre-vesting option forfeitures and records stock-based compensation expense only for those awards that are expected to vest. All stock-based payment awards are amortized on a straight-line basis over the requisite service periods of the awards, which are generally the vesting periods.

The weighted-average fair value per share of options granted was \$1.00 and \$2.01 for the three months ended September 30, 2016 and October 2, 2015, respectively. The weighted-average fair value per share of options granted was \$0.97 and \$2.63 for the nine months ended September 30, 2016 and October 2, 2015, respectively.

The fair value of all stock options vested during the three months ended September 30, 2016 and October 2, 2015 was \$0.4 million and \$0.6 million, respectively. The fair value of all stock options vested during the nine months ended September 30, 2016 and October 2, 2015 was \$1.8 million and \$2.5 million, respectively.

There were no realized tax benefits attributable to stock options exercised in jurisdictions where this expense is deductible for tax purposes for the three and nine months ended September 30, 2016 and October 2, 2015, respectively.

The aggregate fair value of all RSUs issued during the three months ended September 30, 2016 and October 2, 2015 was \$1.6 million and \$2.2 million, respectively. The aggregate fair value of all RSUs issued during the nine months ended September 30, 2016 and October 2, 2015 was \$8.6 million and \$9.9 million, respectively.

**NOTE 13: INCOME TAXES**

The Company reported the following operating results for the periods presented (in thousands):

	Three months ended		Nine months ended	
	September 30, 2016	October 2, 2015	September 30, 2016	October 2, 2015
Loss before income taxes	\$(16,254)	\$(6,079)	\$(61,353)	\$(9,289)
Provision for (benefit from) income taxes	(242)	(1,268)	518	(827)
Effective income tax rate	1.5 %	20.9 %	(0.8 %)	8.9 %

The Company operates in multiple jurisdictions and its profits are taxed pursuant to the tax laws of these jurisdictions. The Company's effective income tax rate may be affected by changes in, or interpretations of tax laws and tax agreements in any given jurisdiction, utilization of net operating loss and tax credit carry forwards, changes in geographical mix of income and expense, and changes in management's assessment of matters such as the ability to realize deferred tax assets. The Company's

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effective tax rate varies from year to year primarily due to the absence of several onetime, discrete items that benefited or decremented the tax rates in the previous years.

The Company's effective income tax rate of (0.8)% for the nine months ended September 30, 2016 was different from the U.S. federal statutory rate of 35%, primarily due to favorable tax rates associated with certain earnings from operations in lower-tax jurisdictions, favorable resolutions of uncertain tax positions, and the tax benefit from the realization of certain deferred tax assets as a result of the TVN acquisition, partially offset by the increase in the valuation allowance against U.S. federal, California and other state deferred tax assets, detriment from non-deductible stock-based compensation, non-deductible amortization of foreign intangibles, and the net of various discrete tax adjustments.

The Company's effective income tax rate of 8.9% for the nine months ended October 2, 2015 was different from the U.S. federal statutory rate of 35% primarily due to a difference in foreign tax rates. U.S. losses generated for the nine months ended October 2, 2015 received no tax benefit as a result of a full valuation allowance against all of the Company's U.S. deferred tax assets as well as adjustments relating to its 2014 U.S. federal tax return filed in September 2015 and the reversal of uncertain tax positions resulting from expiration of the statute of limitations. The impairment of the VJU investment received no tax benefit.

The Company files U.S. federal and state, and foreign income tax returns in jurisdictions with varying statutes of limitations during which such tax returns may be audited and adjusted by the relevant tax authorities. The 2012 through 2015 tax years generally remain subject to examination by most state tax authorities in the United States. In the quarter ended September 30, 2016, the U.S. Internal Revenue Service concluded its examination of the Company's income tax return for the tax year 2012, which commenced in August 2015. The Company's 2013 through 2015 tax years remain open and subject to examination by the U.S. federal tax authority. In significant foreign jurisdictions, the 2007 through 2015 tax years generally remain subject to examination by their respective tax authorities. A subsidiary of the Company is under audit for the 2012 and 2013 tax years, which commenced in the first quarter of 2015, by the Israel tax authority. If, upon the conclusion of these audits, the ultimate determination of taxes owed in the United States or Israel is for an amount in excess of the tax provision the Company has recorded in the applicable period, the Company's overall tax expense, effective tax rate, operating results and cash flow could be materially and adversely impacted in the period of adjustment.

On July 27, 2015, the U.S. Tax Court issued an opinion in *Altera Corp. v. Commissioner*, 145 T.C. No. 3 (2015) related to the treatment of stock-based compensation expense in an intercompany cost-sharing arrangement. A final decision was entered by the U.S. Tax Court on December 1, 2015. On February 19, 2016, the U.S. Internal Revenue Service filed a notice of appeal in *Altera Corp. v. Commissioner*, 145 T.C. No. 3 (2015), to the Ninth Circuit Court of Appeal. The Ninth Circuit will decide whether a regulation that mandates that stock-based compensation costs related to the intangible development activity of a qualified cost sharing arrangement (a "QCSA") must be included in the joint cost pool of the QCSA (the "all costs rule") is consistent with the arm's length standard as set forth in Section 482 of the Internal Revenue Code. The Company concluded that no adjustment to the consolidated financial statements as of December 31, 2015 is appropriate at this time due to the uncertainties with respect to the ultimate resolution of this case.

The Company's operations in Switzerland are subject to a reduced tax rate under the Switzerland tax holiday which requires various thresholds of investment and employment in Switzerland. The Company has met these various thresholds and the Switzerland tax holiday is effective through the end of 2018.

As of September 30, 2016, the total amount of gross unrecognized tax benefits, including interest and penalties, was approximately \$15.1 million, of which \$2.9 million would affect the Company's effective tax rate if the benefits are eventually recognized. The remaining gross unrecognized tax benefit does not affect the Company's effective tax rate as it relates to positions that would be settled with tax attributes such as net operating loss carryforward or tax credits previously subject to a valuation allowance. The Company recognizes interest and penalties related to unrecognized tax positions in income tax expense. The Company had \$0.4 million of gross interest and penalties accrued as of September 30, 2016. The Company will continue to review its tax positions and provide for, or reverse, unrecognized tax benefits as issues arise. As of September 30, 2016, the Company anticipates that the balance of gross unrecognized tax benefits will remain substantially unchanged over the next 12 months.



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## NOTE 14: INCOME (LOSS) PER SHARE

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

	Three months ended		Nine months ended	
	September 30, 2016	October 2, 2015	September 30, 2016	October 2, 2015
Numerator:				
Net loss	\$(16,012)	\$(4,811)	\$(61,871)	\$(8,462)
Denominator:				
Weighted average number of common shares outstanding				
Basic and diluted	78,092	87,991	77,475	88,359
Net loss per share:				
Basic and diluted	\$(0.21)	\$(0.05)	\$(0.80)	\$(0.10)

The diluted net loss per share is the same as basic net loss per share for the three and nine months ended September 30, 2016 and October 2, 2015 because potential common shares are only considered when their effect would be dilutive. The following table sets forth the potential weighted common shares outstanding that were excluded from the computation of basic and diluted net loss per share calculations (in thousands):

	Three months ended		Nine months ended	
	September 30, 2016	October 2, 2015	September 30, 2016	October 2, 2015
Stock options	5,193	6,095	5,389	6,674
RSUs	2,800	2,198	2,273	2,237
Stock purchase rights under the ESPP	1,212	524	641	492
Warrants <sup>(1)</sup>	43	—	14	—
Total	9,248	8,817	8,317	9,403

(1) On September 26, 2016, in connection with the execution of a product supply agreement pursuant to which an affiliate of Comcast Corporation (together with Comcast Corporation, “Comcast”) may, in its sole discretion, purchase from the Company licenses to certain of the Company’s software products, the Company granted Comcast a warrant to purchase shares of its common stock. (See Note 15, “Warrants” for additional information on the Comcast warrants).

Also excluded from the table above are the Notes, which are convertible under certain conditions into an aggregate of 22,304,348 shares of common stock. (See Note 11, “Convertible Notes, Other Debts and Capital Leases” for additional information on the Notes). Since the Company’s intent is to settle the principal amount of the Notes in cash, the treasury stock method is being used to calculate any potential dilutive effect of the conversion spread on diluted net income per share, if applicable. The conversion spread will have a dilutive impact on diluted net income per share when the Company’s average market price of its common stock for a given period exceeds the conversion price of \$5.75 per share.

## NOTE 15: WARRANTS

On September 26, 2016, the Company granted a warrant to purchase shares of common stock (the “Warrant”) to Comcast pursuant to which Comcast may, subject to certain vesting provisions, purchase up to 7,816,162 shares (the “Shares”) of the Company’s common stock subject to adjustment in accordance with the terms of the Warrant, for a per share exercise price of \$4.76. Comcast may exercise the Warrant for cash or on a net share basis. The Warrant expires on September 26, 2023 or the prior consummation of a change of control of the Company.

Comcast's right to purchase 781,617 shares was vested as of the issuance date as an incentive to enter into the software license product supply agreement. Comcast's rights to purchase an additional 1,954,042 shares vest upon achievement of milestones that occur upon or prior to Comcast's election for enterprise license pricing for certain of the Company's software products. Such pricing would obligate Comcast to make certain total payments to the Company over the term of the product supply agreement. These rights are expected to vest in 2017. Comcast's rights to purchase an additional 1,172,425 shares vest when Comcast exceeds specified cumulative purchase amounts from the Company under the product supply agreement. Comcast's

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rights to purchase the remaining 3,908,081 shares vest in specified tranches at the earlier of Comcast's enterprise license pricing election (if completed by a certain date) or achievement of specified cumulative purchase amounts from the Company.

The Warrant is considered an incentive for Comcast to purchase certain of the Company's products. Therefore the value of the Warrant will be recorded as a reduction in the Company's net revenues to the extent such value does not exceed net revenues from pertinent sales to Comcast. The portion of the Warrant vested as of September 30, 2016 is deemed a customer incentive paid upfront, and has been recorded as an asset and included in "Other long-term assets" on the Company's Condensed Consolidated Balance Sheet as of September 30, 2016. The Company considers this asset to be recoverable based on the expectation of Comcast's future purchase of the pertinent products. The asset will be assessed for impairment if no longer deemed recoverable. Comcast is not expected to make any pertinent purchases prior to 2017. The Company is currently in the process of determining how the cost of the Warrant will be attributed to various periods in which sales to Comcast occur.

The \$1.6 million value of the vested portion of the Warrant has been determined using the Black-Scholes option valuation model using the following assumptions: expected term of 7 years, volatility of 42%, risk-free interest rate of 1.4%, and expected dividends of 0.0%. The Warrant is considered indexed to the Company's common stock and classified as stockholders' equity based on its terms. Accordingly, the vested Warrant amount was included in "Additional paid-in capital" on the Company's Condensed Consolidated Balance Sheet as of September 30, 2016 and will not be remeasured in the future periods.

## NOTE 16: STOCKHOLDERS' EQUITY

## Accumulated Other Comprehensive Income (Loss) ("AOCI")

The components of AOCI, on an after-tax basis where applicable, were as follows (in thousands):

	Foreign Currency Translation Adjustments	Unrealized Gains (Losses) on Cash Flow Hedges	Unrealized Gains (Losses) on Available-for-Sale Investments	Total
Balance as of December 31, 2015	\$ (2,634 )	\$ (246 )	\$ (1,538 )	\$ (4,418 )
Other comprehensive income (loss) before reclassifications	(154 )	279	(1,178 )	(1,053 )
Amounts reclassified from AOCI	—	53	2,735	2,788
Provision for income taxes	—	—	(20 )	(20 )
Balance as of September 30, 2016	\$ (2,788 )	\$ 86	\$ (1 )	\$ (2,703 )

The effects of amounts reclassified from AOCI into the Condensed Consolidated Statement of Operations were as follows (in thousands):

	Three months ended	Nine months ended
	September 30, 2016	September 30, 2016
Gains (losses) on cash flow hedges from foreign currency contracts:		
Cost of revenue	\$6 \$ 18	\$(7 ) \$ 44
Operating expenses	41 109	(46 ) 270
Total reclassifications from AOCI	\$47 \$ 127	\$(53) \$ 314

The loss on available-for-sale securities of \$2.7 million reclassified from AOCI into the Condensed Consolidated Statement of Operations during the nine months ended September 30, 2016 was included under “Loss on impairment of long-term investment.”

**Common Stock Repurchases**

On April 24, 2012, the Company’s board of directors (the “Board”) approved a stock repurchase program that provided for the repurchase of up to \$25 million of the Company’s outstanding common stock. Under the program, the Company is authorized to repurchase shares of common stock in open market transactions or pursuant to any trading plan that may be adopted in

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accordance with Rule 10b5-1 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). From time to time, the Board may approve further increases to the program and the amount approved for this program was increased to \$300 million periodically through May 2014 and the repurchase period has been extended through the end of 2016. The timing and actual number of shares repurchased, if any, will depend on a variety of factors, including the price and availability of our shares, trading volume and general market conditions. The purchases are funded from available working capital. The program may be suspended or discontinued at any time without prior notice.

There were no stock repurchases in the nine months ended September 30, 2016 and the remaining authorized amount for stock repurchases under this program was \$45.7 million as of September 30, 2016. For additional information, see “Item 2 - Unregistered sales of equity securities and use of proceeds” of this Quarterly Report on Form 10-Q.

**NOTE 17: SEGMENT INFORMATION**

Operating segments are defined as components of an enterprise that engage in business activities for which separate financial information is available and evaluated by the Company’s Chief Operating Decision Maker ( the “CODM”), which for Harmonic is its Chief Executive Officer, in deciding how to allocate resources and assess performance. Based on our internal reporting structure, the Company consists of two operating segments: Video and Cable Edge, and prior to the fourth quarter of 2014, the Company operated its business in only one reportable segment. The operating segments were determined based on the nature of the products offered. The Video segment sells video processing and production and playout solutions and services worldwide to broadcast and media companies, streaming new media companies, cable operators, and satellite and telecommunications (telco) Pay-TV service providers. The Cable Edge segment sells cable edge solutions and related services to cable operators globally.

The Company does not allocate amortization of intangibles, stock-based compensation, restructuring and related charges, TVN acquisition- and integration-related costs, and certain other non-recurring charges to the operating income for each segment because management does not include this information in the measurement of the performance of the operating segments. A measure of assets by segment is not applicable as segment assets are not included in the discrete financial information provided to the CODM.

On February 29, 2016, the Company completed its acquisition of 100% of the outstanding equity of TVN and assigned TVN to its Video operating segment.

The following tables provide summary financial information by reportable segment (in thousands):

	Three months ended		Nine months ended	
	September 30, 2016	October 2, 2015	September 30, 2016	October 2, 2015
Net revenue:				
Video	\$91,353	\$71,889	\$246,949	\$219,378
Cable Edge	10,053	11,416	45,860	71,046
Total consolidated net revenue	\$101,406	\$83,305	\$292,809	\$290,424
Operating income (loss):				
Video	\$4,886	\$3,575	\$(1,943)	\$8,386
Cable Edge	(4,767)	(3,963)	(7,118)	2,582
Total segment operating income (loss)	119	(388)	(9,061)	10,968
Unallocated corporate expenses <sup>(1)</sup>	(4,983)	(510)	(20,493)	(739)
Stock-based compensation	(2,680)	(3,827)	(8,542)	(11,845)
Amortization of intangibles	(4,389)	(1,532)	(12,711)	(4,971)
Loss from operations	(11,933)	(6,257)	(50,807)	(6,587)
Non-operating income (expense)	(4,321)	178	(10,546)	(2,702)

Loss before income taxes                    \$(16,254 ) \$(6,079 ) \$(61,353 ) \$(9,289 )

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(1) Unallocated corporate expenses include certain corporate-level operating expenses and charges such as restructuring and related charges and excess facilities charges. Additionally, the unallocated corporate expenses in 2016 include TVN acquisition- and integration-related costs (see Note 3, "Business Acquisition" for additional information) and an inventory obsolescence charge of approximately \$4.4 million recorded in the nine months ended September 30, 2016 for some older Cable Edge product lines in accordance with the Company's policy for excess and obsolete inventory and also as part of our strategic plan to re-position and dedicate the Company's primary Cable Edge resources to its new CableOS™ products.

## NOTE 18: COMMITMENTS AND CONTINGENCIES

## Leases

Future minimum lease payments under non-cancelable operating leases as of September 30, 2016 are as follows (in thousands):

Years ending December 31,

2016 (remaining three months)	\$3,320
2017	12,641
2018	11,952
2019	10,318
2020	7,598
Thereafter	10,551
Total	\$56,380

## Warranties

The Company accrues for estimated warranty costs at the time of product shipment. Management periodically reviews the estimated fair value of its warranty liability and records adjustments based on the terms of warranties provided to customers, historical and anticipated warranty claims experience, and estimates of the timing and cost of warranty claims. Activity for the Company's warranty accrual, which is included in accrued liabilities, is summarized below (in thousands):

	Three months ended		Nine months ended	
	September 30, 2016	October 2, 2015	September 30, 2016	October 2, 2015
Balance at beginning of period	\$ 5,095	\$ 4,167	\$3,913	\$ 4,242
Balance assumed from TVN acquisition	—	—	1,012	—
Accrual for current period warranties	1,552	1,182	4,527	4,308
Changes in liability related to pre-existing warranties	(99 )	—	(173 )	(93 )
Warranty costs incurred	(1,469 )	(1,448 )	(4,200 )	(4,556 )
Balance at end of period	\$ 5,079	\$ 3,901	\$5,079	\$ 3,901

## Purchase Obligations

The Company relies on a limited number of contract manufacturers and suppliers to provide manufacturing services for a substantial majority of its products. Obligations to purchase inventory and other commitments are generally expected to be fulfilled within one year. The Company had approximately \$21.7 million of non-cancelable commitment to purchase inventories and other commitments as of September 30, 2016.

## Standby Letters of Credit and Guarantees

The Company's financial guarantees consisted of standby letters of credit and bank guarantees. As of September 30, 2016, the Company had \$0.7 million of standby letters of credit outstanding primarily related to its credit card facility in Switzerland and, to a lesser extent, performance bond and state requirements imposed on employers. In addition, the Company had \$1.9 million of bank guarantees outstanding as of September 30, 2016, of which \$1.3 million was related to a building lease for the TVN French Subsidiary, \$0.4 million was related to the building leases in Israel, and the remaining amount was mostly related to performance bonds issued to customers of the TVN French Subsidiary.

## Indemnification



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Harmonic is obligated to indemnify its officers and the members of its Board of Directors (the “Board”) pursuant to its bylaws and contractual indemnity agreements. Harmonic also indemnifies some of its suppliers and most of its customers for specified intellectual property matters pursuant to certain contractual arrangements, subject to certain limitations. The scope of these indemnities varies, but, in some instances, includes indemnification for damages and expenses (including reasonable attorneys’ fees). There have been no amounts accrued in respect of these indemnification provisions through September 30, 2016.

### Contingencies

The TVN acquisition was subject to post-closing adjustments capped at (i) the difference between €76 million (approximately \$83.3 million as converted from euros into U.S. dollars using an agreed upon average exchange rate) and \$75 million, with respect to an adjustment based on TVN’s 2015 revenue, and (ii) up to \$5 million with respect to an adjustment based on TVN’s 2015 backlog that ships during the first half of 2016. The Company paid \$3.5 million upon the finalization of the revenue and working capital adjustments in the second quarter of 2016 and \$2.5 million upon the finalization of the backlog adjustment in the third quarter of 2016. As of September 30, 2016, there were no amounts of TVN contingent consideration which remained outstanding.

### Legal proceedings

From time to time, the Company is involved in lawsuits as well as subject to various legal proceedings, claims, threats of litigation, and investigations in the ordinary course of business, including claims of alleged infringement of third-party patents and other intellectual property rights, commercial, employment, and other matters. The Company assesses potential liabilities in connection with each lawsuit and threatened lawsuits and accrues an estimated loss for these loss contingencies if both of the following conditions are met: information available prior to issuance of the financial statements indicates that it is probable that a liability has been incurred at the date of the financial statements and the amount of loss can be reasonably estimated. While certain matters to which the Company is a party specify the damages claimed, such claims may not represent reasonably possible losses. Given the inherent uncertainties of litigation, the ultimate outcome of these matters cannot be predicted at this time, nor can the amount of possible loss or range of loss, if any, be reasonably estimated.

In October 2011, Avid Technology, Inc. (“Avid”) filed a complaint in the United States District Court for the District of Delaware alleging that the Company’s Media Grid product infringes two patents held by Avid. A jury trial on this complaint commenced on January 23, 2014 and, on February 4, 2014, the jury returned a unanimous verdict in favor of the Company, rejecting Avid’s infringement allegations in their entirety. On May 23, 2014, Avid filed a post-trial motion asking the court to set aside the jury’s verdict, and the judge issued an order on December 17, 2014, denying the motion. On January 5, 2015, Avid filed an appeal with respect to the jury’s verdict with the Federal Circuit, which was docketed on January 9, 2015, as Case No. 2015-1246. Avid filed its opening brief with respect to this appeal on March 24, 2015, the Company filed its response brief on May 7, 2015, and Avid filed its reply brief on June 16, 2015. Oral arguments were held on December 11, 2015. On January 29, 2016, the Federal Circuit issued an order vacating the verdict of noninfringement and remanding the case to the trial court for a new trial on infringement. On February 26, 2016, Harmonic filed a request for rehearing and rehearing en banc at the Federal Circuit. On March 31, 2016, the Federal Circuit denied the request for rehearing and rehearing en banc and a mandate issued on April 8, 2016. A status conference was held with the District Court on April 14, 2016. The court conducted a supplemental claim construction hearing on May 27, 2016 and issued a claim construction order on June 29, 2016. There are currently no deadlines.

In June 2012, Avid served a subsequent complaint in the United States District Court for the District of Delaware alleging that the Company’s Spectrum product infringes one patent held by Avid. The complaint seeks injunctive relief and unspecified damages. In September 2013, the U.S. Patent Trial and Appeal Board (“PTAB”) authorized an inter partes review to be instituted as to claims 1-16 of the patent asserted in this second complaint. A hearing before the PTAB was conducted on May 20, 2014. On July 10, 2014, the PTAB issued a decision finding claims 1-10 invalid and claims 11-16 not invalid. The Company filed an appeal with respect to the PTAB’s decision on claims 11-16 on September 11, 2014. The appeal was docketed with the Federal Circuit on October 22, 2014, as Case No. 2015-1072,

and the Company filed its opening brief with respect to this appeal on January 29, 2015. Avid and PTAB each filed a response brief on April 27, 2015, and the Company filed a reply brief on May 28, 2015. Oral arguments were held on October 8, 2015. The Federal Circuit issued an order on March 1, 2016, affirming the PTAB's decision and a mandate issued on April 7, 2016. On July 25, 2016, the court issued a scheduling order for the case and set the trial date for November 6, 2017.

The Company is unable to predict the outcome of these lawsuits and therefore is unable to estimate an amount or range of any reasonably possible losses resulting from them. An unfavorable outcome on any litigation matter could require that the Company pay substantial damages, or, in connection with any intellectual property infringement claims, could require that the Company pay ongoing royalty payments or could prevent the Company from selling certain of its products. As a result, a

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settlement of, or an unfavorable outcome on, any of the matters referenced above or other litigation matters could have a material adverse effect on the Company's business, operating results, financial condition and cash flows.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The terms "Harmonic," the "Company," "we," "us," "its," and "our," as used in this Quarterly Report on Form 10-Q (this "Form 10-Q"), refer to Harmonic, Inc. and its subsidiaries and its predecessors as a combined entity, except where the context requires otherwise.

Some of the statements contained in this Form 10-Q are forward-looking statements that involve risk and uncertainties. The statements contained in this Form 10-Q that are not purely historical are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, including, without limitation, statements regarding our expectations, beliefs, intentions or strategies regarding the future. In some cases, you can identify forward-looking statements by terminology such as, "may," "will," "should," "expects," "plans," "anticipates," "believes," "intends," "estimates," "predicts," "continue" or the negative of these terms or other comparable terminology. These forward-looking statements include, but are not limited to, statements regarding:

- developing trends and demands in the markets we address, particularly emerging markets;
- economic conditions, particularly in certain geographies, and in financial markets;
- new and future products and services;
- capital spending of our customers;
- our strategic direction, future business plans and growth strategy;
- industry and customer consolidation;
- expected demand for and benefits of our products and services;
- seasonality of revenue and concentration of revenue sources;
- expectations regarding the impact of our TVN acquisition;
- the potential impact of our continuing stock repurchase plan;
- potential future acquisitions and dispositions;
- anticipated results of potential or actual litigation;
- our competitive environment;
- the impact of governmental regulation;
- anticipated revenue and expenses, including the sources of such revenue and expenses;
- expected impacts of changes in accounting rules;
- use of cash, cash needs and ability to raise capital; and
- the condition of our cash investments.

These statements are subject to known and unknown risks, uncertainties and other factors, any of which may cause our actual results to differ materially from those implied by the forward-looking statements. Important factors that may cause actual results to differ from expectations include those discussed in "Risk Factors" beginning on page 52 of this Form 10-Q. All forward-looking statements included in this Form 10-Q are based on information available to us on the date thereof, and we assume no obligation to update any such forward-looking statements.

OVERVIEW

We design, manufacture and sell versatile and high performance video infrastructure products and system solutions that enable our customers to efficiently create, prepare and deliver a full range of video and broadband services to consumer devices, including televisions, personal computers, laptops, tablets and smart phones. We do business in three geographic regions: the Americas, EMEA, and APAC and operate in two segments, Video and Cable Edge. Our Video business sells video processing

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and production and playout solutions and services worldwide to cable operators and satellite and telecommunications (telco) Pay-TV service providers, which we refer to collectively as “service providers,” as well as to broadcast and media companies, including streaming new media companies. Our Cable Edge business sells cable edge solutions and related services, primarily to cable operators globally.

### Acquisition of TVN

On February 29, 2016, through our wholly-owned subsidiary Harmonic International AG, we completed our acquisition of 100% of the share capital and voting rights of TVN, a global leader in advanced video compression solutions headquartered in Rennes, France. In the first quarter of 2016, we recorded a provisional purchase price of \$84.6 million, including an estimated contingent consideration of approximately \$8.0 million. In the second quarter of 2016, we recorded a \$2.1 million reduction to the contingent consideration upon finalizing the pending post-closing adjustments and in the third quarter of 2016, we finally determined the contingent consideration and the final purchase price of \$82.5 million. Pursuant to the TVN Purchase Agreement, \$13.5 million of the purchase consideration may remain in escrow for a period of up to 18 months and relates to certain indemnification obligations of TVN’s former equity holders. The TVN acquisition was primarily funded with cash proceeds from the issuance of the Notes in December 2015.

TVN is now a part of our Video segment and its results of operations are included in our Condensed Consolidated Statements of Operations beginning March 1, 2016. The acquisition of TVN is intended to strengthen our competitive position in the video infrastructure market as well as to enhance the depth and scale of our research and development and service and support capabilities in the video arena. We believe that the combined product portfolios, research and development teams and global sales and service personnel of Harmonic and TVN will allow us to accelerate innovation for its customers while leveraging greater scale to drive operational efficiencies. (See Note 3, “Business Acquisition,” of the notes to our Condensed Consolidated Financial Statements for additional information on the acquisition).

Historically, our revenue has been dependent upon capital spending in the cable, satellite, telco, broadcast and media industries, including streaming media. Our customers’ capital spending patterns are dependent on a variety of factors, including but not limited to: economic conditions in the U.S. and international markets; access to financing; annual budget cycles of each of the industries we serve; impact of industry consolidations; and customers suspending or reducing capital spending in anticipation of new products or new standards, new industry trends and/or technology shifts. If our product portfolio and product development plans do not position us well to capture an increased portion of the capital spending in the markets in which we compete, our revenue may decline. As we attempt to further diversify our customer base in these markets, we may need to continue to build alliances with other equipment manufacturers, content providers, resellers and system integrators, managed services providers and software developers; adapt our products for new applications; take orders at prices resulting in lower margins; and build internal expertise to handle the particular operational, payment, financing and/or contractual demands of our customers, which could result in higher operating costs for us. Implementation issues with our products or those of other vendors have caused in the past, and may cause in the future, delays in project completion for our customers and delay our recognition of revenue.

A majority of our revenue has been derived from relatively few customers, due in part to the consolidation of our service provider customers. Sales to our ten largest customers during the three and nine months ended September 30, 2016 accounted for approximately 28% and 30% of our net revenue, respectively, compared to 28% and 34% for the corresponding periods in 2015. Although we are attempting to broaden our customer base by penetrating new markets and further expanding internationally, we expect to see continuing industry consolidation and customer concentration. During each of the three and nine months ended September 30, 2016, no customer accounted for more than 10% of our net revenue. During the three months ended October 2, 2015, no customer accounted for more than 10% of our net

revenue and during the nine months ended October 2, 2015, revenue from Comcast accounted for approximately 13% of our net revenue. No other customers accounted for more than 10% of our net revenue in those periods in 2016 and 2015. The loss of any significant customer, any material reduction in orders by any significant customer, or our failure to qualify our new products with a significant customer could materially and adversely affect our operating results, financial condition and cash flows.

Our net revenue increased \$18.1 million, or 22%, in the three months ended September 30, 2016, compared to the corresponding period in 2015, primarily due to a \$19.5 million increase in our Video segment revenue, offset in part by a \$1.4 million decrease in our Cable Edge segment revenue. The increase in our Video segment revenue was primarily due to the acquisition of TVN, and, to a lesser extent, improved demand for our video products and services in the EMEA region. Overall, we continue to experience a softer spending environment for video infrastructure due to several ongoing significant technology transitions and evolving Pay-TV business models. The decrease in our Cable Edge segment revenue was principally related to a technology transition in the industry from legacy EdgeQAM consumption used to deliver broadcast Pay-TV services to a new

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architecture that is capable of delivering converged video and IP data services, which we plan to begin shipping in the fourth quarter of 2016.

Our net revenue increased \$2.4 million, or 1%, in the nine months ended September 30, 2016, compared to the corresponding period in 2015, primarily due to a \$27.6 million increase in our Video segment revenue, offset in part by a \$25.2 million decrease in our Cable Edge segment revenue. The decrease in our Cable Edge revenue was primarily due to the technology transition described above. The increase in our Video segment revenue was primarily due to our acquisition of TVN, partially offset by softer demand from both our service provider and broadcast and media customers described below, particularly within the EMEA and APAC regions.

We continue to experience a global slow-down in spending from both our service provider and broadcast and media customers, impacting our revenue, as our customers delay purchasing new solutions in anticipation of the adoption of next-generation technologies and architectures. Our Video segment customers continue to be cautious with investments in new technologies, such as next-generation IP architecture, Ultra HD and 4K. We believe a material and growing portion of the opportunities for our video business are linked to a migration by our customers to IP workflows and the distribution of linear and on-demand, over-the-top, and new mobile video services. We believe we are well positioned to address these opportunities as we continue to steadily transition our video business away from legacy and customized computing hardware to more software-centric solutions, enabling video compression and processing through our VOS software platform running on standard off-the-shelf servers, data centers and in the cloud.

Our Cable Edge strategy is to become a major player in the approximately \$2 billion CCAP market by delivering innovative new DOCSIS 3.1 CMTS technology, which we refer to as CableOS™. In the meantime, our Cable Edge segment is experiencing weaker demand as some of our customers have decreased spending on current Cable Edge products as they prepare to make investments in new converged data and video DOCSIS 3.1 CMTS solutions. While these trends present near-term challenges for us, we believe we have made significant progress on the development of our DOCSIS 3.1 CMTS solutions and we anticipate addressing this market opportunity beginning with our first CableOS shipments in the fourth quarter of 2016.

As a result of the continued uncertainty regarding the timing of our customers' investment decisions, we implemented restructuring plans to bring our operating expenses more in line with net revenues, while simultaneously implementing an extensive Company-wide expense control program. (See Note 10, "Restructuring and Related Charges" of the Notes to our Condensed Consolidated Financial Statements for additional information).

Our quarterly revenue has been, and may continue to be, affected by seasonal buying patterns. Typically, revenue in the first quarter of the year is seasonally lower than other quarters, as our customers often are still finalizing their annual budget and capital spending projections for the year. Further, we often recognize a substantial portion of our quarterly revenues in the last month of each quarter. We establish our expenditure levels for product development and other operating expenses based on projected revenue levels for a specified period, and expenses are relatively fixed in the short term. Accordingly, even small variations in timing of revenue, particularly from large individual transactions, can cause significant fluctuations in operating results in a particular quarter.

### CRITICAL ACCOUNTING POLICIES, JUDGMENTS AND ESTIMATES

Our unaudited condensed consolidated financial statements and the related notes included elsewhere in this report are prepared in accordance with U. S. GAAP. The preparation of these unaudited condensed consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Our critical accounting policies, judgements and estimates are disclosed in in our 2015 Annual Report on Form 10-K, as filed with the SEC. In the nine months ended September 30, 2016, we added the following policy to our critical accounting policies.

**Business Combination**

We applied the acquisition method of accounting for business combinations to our acquisition of TVN, which closed on February 29, 2016. (See Note 3, “Business Acquisition” for additional information on TVN acquisition). Under this method of accounting, all assets acquired and liabilities assumed are recorded at their respective fair values at the date of the completion of the transaction. Determining the fair value of assets acquired and liabilities assumed requires management’s judgment and often involves the use of significant estimates and assumptions, including assumptions with respect to future cash inflows and outflows, discount rates, intangibles and other asset lives, among other items. Fair value is defined as the price that would be received in a sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (an exit price). Market participants are assumed to be buyers and sellers in the principal (most advantageous)

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market for the asset or liability. Additionally, fair value measurements for an asset assume the highest and best use of that asset by market participants. As a result, we may have been required to value the acquired assets at fair value measurements that do not reflect its intended use of those assets. Use of different estimates and judgments could yield different results. Any excess of the purchase price over the fair value of the net assets acquired is recognized as goodwill.

The accounting for the TVN acquisition is based on currently available information and is considered preliminary. Although we believe that the assumptions and estimates we made are reasonable and appropriate, they are based in part on historical experience and information that may be obtained from the management of the acquired company and are inherently uncertain. Unanticipated events and circumstances may occur that may affect the accuracy or validity of such assumptions, estimates or actual results. As a result, during the measurement period, which may be up to one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded in our Condensed Consolidated Statements of Operations.

**ACCOUNTING PRONOUNCEMENTS**

For a summary of recent accounting pronouncements applicable to our consolidated condensed financial statements see

Note 2 to the Condensed Consolidated Financial Statements in Item 1, which is incorporated herein by reference.

**RESULTS OF OPERATIONS****Net Revenue**

The following table presents the breakdown of revenue by segment for the three and nine months ended September 30, 2016 and October 2, 2015 (in thousands, except percentages):

	Three months ended			Nine months ended		
	September 30, 2016	October 2, 2015	Q3 FY16 vs Q3 FY15	September 30, 2016	October 2, 2015	Q3 FY16 YTD vs Q3 FY15 YTD
Segment:						
Video	\$91,353	\$71,889	\$19,464 27 %	\$246,949	\$219,378	\$27,571 13 %
Cable Edge	10,053	11,416	(1,363 )(12)%	45,860	71,046	(25,186 )(35)%
Total	\$101,406	\$83,305	\$18,101 22 %	\$292,809	\$290,424	\$2,385 1 %

Segment revenue as a % of total net revenue:

Video	90	% 86	%	84	% 76	%
Cable Edge	10	% 14	%	16	% 24	%

The following table presents the breakdown of revenue by geographical region for the three and nine months ended September 30, 2016 and October 2, 2015 (in thousands, except percentages):

	Three months ended			Nine months ended		
	September 30, 2016	October 2, 2015	Q3 FY16 vs Q3 FY15	September 30, 2016	October 2, 2015	Q3 FY16 YTD vs Q3 FY15 YTD
Geography:						
Americas	\$47,856	\$44,926	\$2,930 7 %	\$154,513	\$165,786	\$(11,273)(7) %
EMEA	32,405	19,269	13,136 68%	85,716	71,302	14,414 20 %
APAC	21,145	19,110	2,035 11%	52,580	53,336	(756 )(1) %
Total	\$101,406	\$83,305	\$18,101 22%	\$292,809	\$290,424	\$2,385 1 %

Regional revenue as a % of total net revenue:

Americas	47	% 54	%	53	% 57	%
EMEA	32	% 23	%	29	% 25	%
APAC	21	% 23	%	18	% 18	%

Our Video segment net revenue increased 27% in the three months ended September 30, 2016, compared to the corresponding period in 2015, primarily due to a \$14.7 million increase in video product revenue and a \$4.8 million increase in video service revenue. This increase was primarily due to our acquisition of TVN, which led to improved demand from our service provider

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customers for video distribution infrastructure in the APAC and Americas regions and improved production and playout demand from our broadcast and media customers in the EMEA region. Our Video segment net revenue increased 13% in the nine months ended September 30, 2016, compared to the corresponding period in 2015, due to a \$15.7 million increase in video service revenue and an \$11.9 million increase in video product revenue. The increase in video product revenue in the nine months ended September 30, 2016 was primarily due to the acquisition of TVN. While demand for video infrastructure from our customers in the Americas and EMEA regions improved, overall demand trends were impacted due to several significant ongoing technology transitions and evolving Pay-TV business models. The increase in our service revenue was primarily due to an increase in the installed base of equipment being serviced for our customers.

Our Cable Edge segment net revenue decreased 12% and 35%, respectively, in the three and nine months ended September 30, 2016, compared to the corresponding periods in 2015, primarily due to lower revenue in the Americas, and to a lesser extent in the APAC and EMEA regions. The decreases were primarily due to lower spending associated with a decrease in demand as some of our customers are deferring purchases as they plan migration to next generation DOCSIS 3.1 technologies and CCAP architectures. Several of our cable customers have started planning for the transition from DOCSIS 3.0 to DOCSIS 3.1 technologies, which will improve high speed data services and enable our customers' networks to adopt new CCAP architectures. We are currently developing solutions based on DOCSIS 3.1 technologies and the CCAP architecture, with our first shipments scheduled for the fourth quarter of 2016.

Net revenue in the Americas increased 7% in the three months ended September 30, 2016, compared to the corresponding period in 2015, primarily due to improved Video product and service revenue, which more than offset soft Cable Edge demand from our service provider customers. Net revenue in the Americas decreased 7% in the nine months ended September 30, 2016 compared to the corresponding period in 2015, primarily due to the pending transition to new DOCSIS 3.1 technologies, which has impacted our Cable Edge business in the near-term, offset in part by improved service provider spending for our Video products and services.

Net revenue in the EMEA region increased 68% in the three months ended September 30, 2016, compared to the corresponding period in 2015, primarily due to improved video infrastructure demand from our service provider and broadcast and media customers. Net revenue in the EMEA region increased 20% in the nine months ended September 30, 2016 compared to the corresponding period in 2015, primarily due to improved Video product and service revenue, which was partially offset by the decline in service provider demand for our Cable Edge products as they prepare to transition to new DOCSIS 3.1 technologies.

Net revenue in the APAC region increased 11% in the three months ended September 30, 2016, compared to the corresponding period in 2015, due to improved service provider spending on video infrastructure and services which offset softer demand from our broadcast and media customers and Cable Edge products. Net revenue in the APAC region decreased 1% in the nine months ended September 30, 2016, compared to the corresponding period in 2015 primarily due to softer demand for our Cable Edge products pending the transition to DOCSIS 3.1 technologies, partially offset by increased Video product and service revenue from our service provider customers.

**Gross Profit**

The following table presents the gross profit and gross profit as a percentage of net revenue ("gross margin") for the three and nine months ended September 30, 2016 and October 2, 2015 (in thousands, except percentages):

	Three months ended			Nine months ended		
	September 30, 2016	October 2, 2015	Q3 FY16 vs Q3 FY15	September 30, 2016	October 2, 2015	Q3 FY16 YTD vs Q3 FY15 YTD
Gross profit	\$51,363	\$46,231	\$5,132 11%	\$143,057	\$155,644	\$(12,587)(8)%
As a percentage of net revenue ("gross margin")	50.7	% 55.5	%	48.9	% 53.6	%

Our gross margins are dependent upon, among other factors, achievement of cost reductions, mix of software sales, product mix, customer mix, product introduction costs, and price reductions granted to customers.

Gross margin decreased 4.7% in each of the three and nine months ended September 30, 2016, compared to the corresponding periods in 2015. The decreases in gross margin were primarily due to the inclusion of TVN's operating results which decreased our gross margins due to higher material, labor and overhead costs from the additional headcount and facilities acquired in connection with the TVN acquisition and, to a lesser extent, the increase in amortization expense related to intangibles acquired from the TVN acquisition and an unfavorable product mix. Additionally, the gross margin in the nine months ended

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September 30, 2016 was also unfavorably impacted by an inventory obsolescence charge of approximately \$4.4 million for some older Cable Edge product lines, recorded in the second quarter of 2016, in accordance with our policy for excess and obsolete inventory and also as part of our strategic plan to re-position and dedicate our primary resources to our new CableOS product. These unfavorable margin impacts were offset in part by higher gross margin from increased service and support revenue in the three and nine months ended September 30, 2016, compared to the corresponding periods in 2015.

In the three and nine months ended September 30, 2016, \$1.4 million and \$3.1 million, respectively, of amortization of intangibles were included in cost of revenue, compared to \$0.1 million and \$0.6 million, respectively, in the corresponding periods in 2015. The increases were primarily related to intangibles acquired from the TVN acquisition.

**Research and Development**

The following table presents the research and development expenses and the expenses as a percentage of net revenue for the three and nine months ended September 30, 2016 and October 2, 2015 (in thousands, except percentages):

	Three months ended			Nine months ended		
	September 30, 2016	October 2, 2015	Q3 FY16 vs Q3 FY15	September 30, 2016	October 2, 2015	Q3 FY16 YTD vs Q3 FY15 YTD
Research and development	\$24,202	\$21,679	\$2,523 12%	\$74,272	\$65,824	\$8,448 13%
As a percentage of net revenue	23.9 %	26.0 %		25.4 %	22.7 %	

Our research and development expenses consist primarily of employee salaries and related expenses, contractors and outside consultants, supplies and materials, equipment depreciation and facilities costs, all associated with the design and development of new products and enhancements of existing products.

Research and development expenses in the three and nine months ended September 30, 2016 increased 12% and 13%, respectively, compared to the corresponding periods in 2015. The increases were primarily due to the inclusion of TVN's post-acquisition research and development expenses and higher expenses for CableOS development. Such increases were offset in part by approximately \$2.2 million and \$3.8 million reimbursement of engineering spending by one of our large customers, as well as approximately \$1.6 million and \$3.9 million of R&D tax credits, in the three and nine months ended September 30, 2016, respectively.

Our TVN French Subsidiary participates in the French CIR program which allows companies to monetize eligible research expenses. We recognize R&D tax credits receivable from the French government for spending on innovative research and development as an offset to research and development expenses.

**Selling, General and Administrative**

The following table presents the selling, general and administrative expenses and the expenses as a percentage of net revenue for the three and nine months ended September 30, 2016 and October 2, 2015 (in thousands, except percentages):

	Three months ended			Nine months ended		
	September 30, 2016	October 2, 2015	Q3 FY16 vs Q3 FY15	September 30, 2016	October 2, 2015	Q3 FY16 YTD vs Q3 FY15 YTD
Selling, general and administrative	\$36,112	\$28,966	\$7,146 25%	\$105,498	\$91,443	\$14,055 15%
As a percentage of net revenue	35.6 %	34.8 %		36.0 %	31.5 %	

Selling, general and administrative expenses in the three and nine months ended September 30, 2016 increased 25% and 15%, respectively, compared to the corresponding periods in 2015, primarily due to the inclusion of TVN's post-acquisition selling, general and administrative expenses, as well as TVN acquisition- and integration-related costs. Such increases were offset in part by lower variable employee compensation related expenses mainly due to a decrease in headcount and lower commission expense.

**Segment Operating Income (Loss)**

The following table presents a breakdown of operating income (loss) by segment for the three and nine months ended September 30, 2016 and October 2, 2015 (in thousands, except percentages):

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	Three months ended			Nine months ended		
	September 30, 2016	October 2, 2015	Q3 FY16 vs Q3 FY15	September 30, 2016	October 2, 2015	Q3 FY16 YTD vs Q3 FY15 YTD
Video	\$4,886	\$3,575	\$1,311 37 %	\$(1,943)	\$8,386	\$(10,329)(123)%
Cable Edge	(4,767 )	(3,963 )	(804 )20 %	(7,118 )	2,582	(9,700 )(376)%
Total segment operating income (loss)	\$119	\$(388 )	\$507 (131)%	\$(9,061)	\$10,968	\$(20,029)(183)%
Segment operating income (loss) as a % of segment revenue:						
Video	5.3 %	5.0 %		(0.8 )%	3.8 %	
Cable Edge	(47.4 )%	(34.7 )%		(15.5 )%	3.6 %	

Video segment operating margin increased from 5.0% to 5.3% in the three months ended September 30, 2016, compared with the corresponding period in 2015. The increase in Video segment gross margin in the three months ended September 30, 2016, compared with the corresponding period in 2015, was primarily driven by a 27.1% increase in Video segment revenue in the three months ended September 30, 2016. Video segment operating margin decreased from 3.8% to (0.8)% in the nine months ended September 30, 2016 despite a 12.6% increase in Video segment revenue, compared with the corresponding period in 2015, primarily due to unfavorable product mix and the inclusion of TVN's lower gross margins in the nine months ended September 30, 2016 and higher headcount-related and facilities costs acquired from TVN.

Cable Edge segment operating margin decreased from (34.7)% to (47.4)% in the three months ended September 30, 2016, compared with the corresponding period in 2015, and in the nine months ended September 30, 2016, Cable Edge segment operating margin decreased from 3.6% to (15.5)% compared with the corresponding period in 2015. The decreases were primarily due to an 11.9% and 35.5% decrease in Cable Edge segment revenue for the three and nine month periods ended September 30, 2016, respectively.

The following table presents a reconciliation of total segment operating income (loss) to consolidated loss before income taxes (in thousands):

	Three months ended		Nine months ended	
	September 30, 2016	October 2, 2015	September 30, 2016	October 2, 2015
Total segment operating income (loss)	\$119	\$(388 )	\$(9,061 )	\$10,968
Unallocated corporate expenses	(4,983 )	(510 )	(20,493 )	(739 )
Stock-based compensation	(2,680 )	(3,827 )	(8,542 )	(11,845 )
Amortization of intangibles	(4,389 )	(1,532 )	(12,711 )	(4,971 )
Loss from operations	(11,933 )	(6,257 )	(50,807 )	(6,587 )
Non-operating income (expense)	(4,321 )	178	(10,546 )	(2,702 )
Loss before income taxes	\$(16,254)	\$(6,079 )	\$(61,353)	\$(9,289 )

Amortization of Intangibles

The following table presents the amortization of intangible assets charged to operating expenses and the expense as a percentage of net revenue for the three and nine months ended September 30, 2016 and October 2, 2015 (in thousands, except percentages):

	Three months ended			Nine months ended		
	September 30, 2016	October 2, 2015	Q3 FY16 vs Q3 FY15	September 30, 2016	October 2, 2015	Q3 FY16 YTD vs Q3 FY15 YTD
Amortization of intangibles	\$3,009	\$1,446	\$1,563 108%	\$9,606	\$4,338	\$5,268 121%
As a percentage of net revenue	3.0 %	1.7 %		3.3 %	1.5 %	

The increase in amortization of intangibles expense in the three and nine months ended September 30, 2016, compared to the corresponding periods in 2015, were primarily due to the amortization of certain intangibles related to

the acquisition of TVN, which closed on February 29, 2016.

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## Restructuring and related Charges

We implemented several restructuring plans in the past few years. The goal of these plans was, and continues to be, to bring operational expenses to appropriate levels relative to our net revenues, while simultaneously implementing extensive company-wide expense control programs.

We account for our restructuring plans under the authoritative guidance for exit or disposal activities. The restructuring and asset impairment charges are included in “Product cost of revenue” and “Operating expenses-restructuring and asset impairment charges” in the Condensed Consolidated Statement of Operations. The following table summarizes the restructuring and asset impairment charges (in thousands):

	Three months ended		Nine months ended	
	September 30, 2016	October 2, 2015	September 30, 2016	October 2, 2015
Restructuring and related charges in:				
Product cost of revenue	\$(1 )	\$ 113	\$(24 )	\$ 113
Operating expenses-Restructuring and related charges	(27 )	397	4,488	626
Total restructuring and related charges	\$(28 )	\$ 510	\$4,464	\$ 739

## Harmonic 2016 Restructuring

In the first quarter of 2016, we implemented a new restructuring plan (the “Harmonic 2016 Restructuring Plan”) to streamline the corporate organization, thereby reducing operating costs by consolidating duplicative resources in connection with the acquisition of TVN. The planned activities have primarily resulted, and will primarily result, in cash expenditures related to severance and related benefits and exiting certain operating facilities and disposing of excess assets. In the second quarter of 2016, as part of our 2016 restructuring initiative, we also initiated a voluntary departure plan in France to streamline the organization of the TVN French Subsidiary (the “TVN VDP”). We anticipate incurring approximately \$31 million to \$33 million restructuring and TVN acquisition- and integration-related expenses, in aggregate, including the TVN VDP expenses, primarily in 2016. These activities are expected to take at least 12 months to complete. Approximately \$3 million of the anticipated restructuring expenses is non-cash related and the majority of the remaining cash amounts will be paid in 2016. We estimated synergies from these restructuring activities and the TVN integration effort to be approximately \$24 million to \$25 million on an annual basis.

We recorded \$(28,000) and \$4.5 million of restructuring and related charges under the Harmonic 2016 Restructuring Plan, in the three and nine months ended September 30, 2016, respectively. The restructuring and related charges in the nine months ended September 30, 2016 consisted of \$1.4 million of costs related to the Company exiting an excess facility at its U.S. headquarters, and \$3.1 million of severance and benefits for the termination of 22 employees worldwide. We incurred \$5.3 million and \$11.8 million of TVN acquisition- and integration-related expenses in the three and nine months ended September 30, 2016, respectively. (See Note 3, “Business Acquisition” for additional information on TVN acquisition- and integration-related expenses). No charges were recorded for the TVN VDP in the three and nine months ended September 30, 2016 as none of the employee voluntary termination applications had been approved, and final acceptance by the employees has not occurred as of September 30, 2016.

## TVN VDP

In the second quarter of 2016, we initiated a consultative process with the works council for the acquired TVN French Subsidiary and applicable union representatives to establish a voluntary departure plan to enable French employees of TVN to voluntarily terminate with certain benefits. We finalized the consultation process and the terms of the voluntary departure plan in the third quarter of 2016. Following approval of the TVN VDP by the applicable French authorities in September 2016, employees were invited to apply for the voluntary termination benefits detailed in the plan. Employee applications are subject to approval by the Company, and the termination benefits are subject to final acceptance by the employees, and such steps are expected to be fully completed by December 31, 2016. Upon such approval and acceptance, we will also settle its retirement obligations under the TVN defined benefit pension plan for

the terminating employees through payment of these obligations and/or voluntary termination benefits (See Note 12, "Employee Benefit Plans and Stock-based Compensation").

We account for these special termination benefits in accordance with ASC 712, "Compensation - Nonretirement Postemployment Benefits," which requires that the special termination benefits be recognized as a liability and a loss beginning when an employee accepts the offer of voluntary termination and the amount can be reasonably estimated. Where an employee is required to work beyond a minimum statutory notice period, the cost of the special termination benefit is recognized as an expense over the

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employee's remaining service period. Where the employee is not required to work beyond a minimum statutory notice period, the cost of the special termination benefit is recognized upon the date the employee accepts the offer of voluntary termination, provided that the amount of the benefit can be estimated.

As of the September 30, 2016, none of the employee applications had been approved, and final acceptance by the employees had not occurred. Accordingly, we did not record any charges relating to the special termination benefits in the three and nine months ended September 30, 2016. We anticipate the total termination benefits, net of the amounts expected to be settled under the TVN defined benefit pension plan, for the employees who applied for the TVN VDP as of September 30, 2016 will amount to approximately \$11 million which it expects to expense in the fourth quarter of 2016 and the first three quarters of 2017. We anticipate more employees will apply for the TVN VDP in the fourth quarter of 2016.

Excess Facility in San Jose, California

In January 2016, we exited an excess facility at our U.S. headquarters in San Jose, California and recorded \$1.4 million in facility exit costs. We account for facility exit costs in accordance with ASC 420, "Exit or Disposal Cost Obligations", which requires that a liability for such costs be recognized and measured initially at fair value on the cease-use date based on remaining lease rentals, adjusted for the effects of any prepaid or deferred items recognized, reduced by the estimated sublease rentals that could be reasonably obtained even if it is not the intent to sublease. The fair value of these liabilities is based on a net present value model using a credit-adjusted risk-free rate. The liability will be paid out over the remainder of the leased properties' terms, which continue through August 2020. Actual sublease terms may differ from the estimates originally made by us. Any future changes in the estimates or in the actual sublease income could require future adjustments to the liabilities, which would impact net income in the period the adjustment is recorded. As of the cease-use date, the fair value of this restructuring liability totaled \$2.5 million. Offsetting these charges was an adjustment for deferred rent liability relating to this space of \$1.1 million.

For a complete discussion of the restructuring actions related to the 2015 restructuring plan and the charges in 2015, see Note 11, "Restructuring and Asset Impairment Charges," of the notes to Consolidated Financial Statements in the 2015 Form 10-K.

Loss on Impairment of Long-term Investment

By May 2016, Vislink's stock price had continued to be below the cost basis for approximately seven months. The prolonged decline in Vislink's stock price led the Company to conclude the impairment was other than temporary. Furthermore, the Company's assessment of Vislink's near-term prospects based on Vislink's recent financial performance suggest that Vislink's stock price may not recover to our original cost basis in 2016. As a result, we recorded an impairment charge in the first quarter of 2016 of \$1.5 million reflecting the new reduced cost basis of the Vislink investment at April 1, 2016. As of September 30, 2016, Vislink's stock price had declined by an additional 70% from the stock price as of April 1, 2016. We further observed several recent adverse changes in Vislink's financial and liquidity conditions. Based on our assessment of the positive and negative factors of Vislink's financial and business conditions, the Company believes that more likely-than-not, Vislink's stock price may not recover to the Company's cost basis established at April 1, 2016. As a result, we recorded an additional impairment charge in the third quarter of 2016 of \$1.3 million reflecting the new reduced cost basis of the Vislink investment at September 30, 2016. The remaining maximum exposure to loss from the Vislink investment at September 30, 2016 was limited to its reduced investment cost of \$0.5 million.

Interest (Expense) Income, Net

Interest (expense) income, net was \$(2.7) million and \$30,000, for the three months ended September 30, 2016 and October 2, 2015, respectively. Interest (expense) income, net was \$(7.8) million and \$102,000, for the nine months ended September 30, 2016 and October 2, 2015, respectively. Interest expense increased in the three and nine months ended September 30, 2016 primarily due to the additional interest expense associated with the Notes issued in December 2015. (See Note 11, "Convertible Notes, Other Debts and Capital Leases," of the notes to our Condensed

Consolidated Financial Statements for additional information on the notes and the associated interest).

Other Income (Expense), Net

Other income (expense), net is primarily comprised of foreign exchange gains and losses on cash, accounts receivable and inter-company balances denominated in currencies other than the U.S. dollar.

Other income (expense), net was \$(0.3) million and \$0.1 million, for the three months ended September 30, 2016 and October 2, 2015, respectively. The increase in other expense, net in the three months ended September 30, 2016 was primarily

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related to unfavorable foreign exchange impact resulting from the volatility of the Brazil Reals and the Euro against the U.S. dollars on the inter-company balances between the TVN entities.

Other income (expense), net was \$(5,000) and \$(0.3) million, for the nine months ended September 30, 2016 and October 2, 2015, respectively. The \$(0.3) million other expense, net in the nine months ended October 2, 2015 was primarily due to the unfavorable foreign exchange impact in the first quarter of 2015 resulting from the weakening of the Euro against the U.S. dollar on our various monetary assets. The unfavorable foreign exchange impact resulting from the volatility of the Brazil Real and the Euro against the U.S. dollar on the inter-company balances between the TVN entities for the nine months ended September 30, 2016 was not material.

To mitigate the volatility related to fluctuations in foreign exchange rates, we may enter into various foreign currency forward contracts (See Note 6, "Derivatives and Hedging Activities," of the notes to our Condensed Consolidated Financial Statements for additional information).

**Income Taxes**

The following table presents the provision for income taxes and the effective income tax rate for the three and nine months ended September 30, 2016 and October 2, 2015 (in thousands, except percentages):

	Three months ended			Nine months ended		
	September 30, 2016	October 2, 2015	Q3 FY16 vs Q3 FY15	September 30, 2016	October 2, 2015	Q3 FY16 YTD vs Q3 FY15 YTD
Provision for (benefit from) income taxes	\$(242)	\$(1,268)	\$1,026(81)%	\$518	\$(827)	\$1,345(163)%
Effective income tax rate	1.5 %	20.9 %		(0.8) %	8.9 %	

We operate in multiple jurisdictions and our profits are taxed pursuant to the tax laws of these jurisdictions. Our effective income tax rate may be affected by changes in, or interpretations of tax laws and tax agreements in any given jurisdiction, utilization of net operating loss and tax credit carry forwards, changes in geographical mix of income and expense, and changes in management's assessment of matters such as the ability to realize deferred tax assets, as well as recognition of uncertain tax benefits, the effects of the statute of limitations, or settlement with tax authorities. Our effective income tax rate of (0.8)% for the nine months ended September 30, 2016 was different from the U.S. federal statutory rate of 35%, primarily due to favorable tax rates associated with certain earnings from operations in lower-tax jurisdictions, favorable resolutions of uncertain tax positions, and the tax benefit from the realization of certain deferred tax assets as a result of the TVN acquisition, partially offset by the increase in the valuation allowance against U.S. federal, California and other state deferred tax assets, detriment from non-deductible stock-based compensation, non-deductible amortization of foreign intangibles, and the net of various discrete tax adjustments. Our effective income tax rate of 8.9% for the nine months ended October 2, 2015 was different from U.S. federal statutory rate of 35% primarily due to a difference in foreign tax rates. U.S. losses generated for the nine months ended October 2, 2015 received no tax benefit as a result of a full valuation allowance against all of our U.S. deferred tax assets and the impairment of the VJU investment.

**Liquidity and Capital Resources**

As of September 30, 2016, our principal sources of liquidity consisted of cash and cash equivalents of \$44.7 million, short-term investments of \$7.9 million, net accounts receivable of \$99.1 million and borrowings from the capital markets as well as financing from French government agencies. We assumed certain debts as a result of the TVN acquisition which were primarily related to long-term financing arrangements with French government agencies, and to a lesser extent, financing obtained from other financing institutions and the aggregate balances of these debts was \$22.8 million as of September 30, 2016. Our principal uses of cash will include repayments of debt and related interest, purchases of inventory, payroll, restructuring expenses and TVN acquisition- and integration-related expenses and other operating expenses related to the development, marketing of our products, purchases of property and equipment and other contractual obligations for the foreseeable future. We believe that our cash and cash equivalents

and short-term investments of \$52.7 million at September 30, 2016 will be sufficient to fund our principal uses of cash for at least the next 12 months. However, if our expectations are incorrect, we may need to raise additional funds to fund our operations, to take advantage of unanticipated strategic opportunities or to strengthen our financial position. In the future, we may enter into other arrangements for potential investments in, or acquisitions of, complementary businesses, services or technologies, which could require us to seek additional equity or debt financing. Additional funds may not be available on terms favorable to us or at all.

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As of September 30, 2016, \$31.9 million of the cash and cash equivalents balance was held in our foreign subsidiaries. At present, such foreign funds are considered to be indefinitely reinvested in foreign countries to the extent of indefinitely reinvested foreign earnings. In the event funds from foreign operations are needed to fund cash needs in the United States and if U.S. taxes have not already been previously accrued, we would be required to accrue and pay additional U.S. taxes in order to repatriate these funds.

In December 2015, we issued \$128.25 million aggregate principal amount of the Notes. We incurred approximately \$4.1 million of debt issuance cost, of which \$3.5 million was paid in 2015 and the remaining \$0.6 million was paid in the first quarter of 2016. The Notes bear interest at a fixed rate of 4.00% per year, payable semiannually in arrears on June 1 and December 1 of each year, beginning on June 1, 2016 and mature on December 1, 2020. (See Note 11, “Convertible Notes, Other Debts and Capital Leases” for additional information on the Notes). Concurrent with the issuance of the Notes, we used \$49.9 million of the net proceeds from the Notes to repurchase 11.1 million shares of our common stock. The remaining net proceeds from the Notes were used to fund our acquisition of TVN, which closed on February 29, 2016.

Additionally, our credit agreement with JPMorgan expired on February 20, 2016 and we did not renew the agreement or enter into any new credit agreement.

The table below sets forth selected cash flow data for the periods presented (in thousands):

	Nine months ended	
	September	October
	30, 2016	2, 2015
Net cash provided by (used in):		
Operating activities	\$(12,917)	\$8,564
Investing activities	(68,400 )	(5,749 )
Financing activities	(229 )	(14,040 )
Effect of foreign exchange rate changes on cash	97	(236 )
Net decrease in cash and cash equivalents	\$(81,449)	\$(11,461)

**Operating Activities**

Net cash used in operations increased \$21.5 million in the nine months ended September 30, 2016, compared to the corresponding period in 2015, primarily due to a \$53.4 million increase in net loss, primarily attributable to a lower operating margin and the inclusion of TVN’s post-acquisition expenses, offset in part by less cash used in net working capital. Additionally, we made an advance payment in the amount of \$14.2 million to a supplier in the first quarter of 2015 in order to secure more favorable pricing from the supplier and the arrangement and advance payment was not repeated in the first nine months of 2016.

We expect that cash provided by operating activities may fluctuate in future periods as a result of a number of factors, including fluctuations in our operating results, shipment linearity, accounts receivable collections performance, inventory and supply chain management, income tax reserves adjustments, and the timing and amount of compensation and other payments. We usually pay our annual incentive compensation to employees in the first quarter.

**Investing Activities**

Net cash used in investing activities increased \$62.7 million in the nine months ended September 30, 2016, compared to the corresponding period in 2015, primarily due to the \$75.7 million cash paid for the TVN acquisition during the first nine months of 2016, offset, in part, by lower cash used for purchases of marketable investments.

**Financing Activities**

Net cash used in financing activities decreased \$13.8 million in the nine months ended September 30, 2016, compared to the corresponding period in 2015, primarily because no cash was used for share repurchases in the first nine months of 2016 compared to \$20.0 million used in the corresponding period in 2015, offset in part by lower net cash proceeds from the issuance of common stock to employees, as well as net cash used to repay TVN debts in the nine months

ended September 30, 2016.

Contractual Obligations and Commitments

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Future payments under contractual obligations and other commercial commitments, as of September 30, 2016 are as follows (in thousands):

	Payments due in each fiscal year				
	Total Amounts Committed	2016 (remaining three months)	2017 and 2018	2019 and 2020	Thereafter
Convertible debt	\$ 128,250	\$ —	\$—	\$ 128,250	\$ —
Interest on convertible debt	23,085	2,565	10,260	10,260	—
Other debts	20,717	129	11,540	7,416	1,632
Capital Lease	2,057	299	1,664	94	—
Operating leases	56,380	3,320	24,593	17,916	10,551
Purchase commitments	21,706	20,279	1,427	—	—
Total contractual obligations	\$ 252,195	\$ 26,592	\$ 49,484	\$ 163,936	\$ 12,183
Other commercial commitments:					
Standby letters of credit	\$ 699	\$ 531	\$ 168	\$—	\$ —
Total commercial commitments	\$ 699	\$ 531	\$ 168	\$—	\$ —

## Off-Balance Sheet Arrangements

We did not have any off-balance sheet arrangements as of September 30, 2016.

## ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market risk represents the risk of loss that may impact our operating results, financial position or liquidity due to adverse changes in market prices and rates. We are exposed to market risk because of changes in interest rates, foreign currency exchange rates, when other currencies held by our subsidiaries are measured against the U.S. dollar, and to changes in the value of financial instruments held by us.

## Foreign Currency Exchange Risk

We operate in international markets, which expose us to market risk associated with foreign currency exchange rate fluctuations between the U.S. dollar and various foreign currencies.

As a result of the TVN acquisition, our international operations have become more significant. The functional currency of each foreign subsidiary is generally the local currency, except for our subsidiaries in Israel and Switzerland where the functional currency is the U.S. dollar. The reported results of our foreign subsidiaries may be affected by currency exchange rates when their operating results and financial positions are translated into U.S. dollars. Our primary currency translation exposure is related to our subsidiaries that have functional currencies denominated in the Euro. A 10% change in the Euro to U.S. dollar exchange applied to the results of our foreign subsidiaries that have the Euro as their functional currency would change our net income by approximately \$2 million over the course of a year, and this estimated impact may differ upon completing the integration of TVN's international operations.

Our U.S. dollar functional subsidiaries have certain international customers who are billed in local currency, primarily the Euro, British pound and Japanese yen. Net billings denominated in foreign currencies representing approximately 12% and 10% of total net billings in the first nine months of 2016 and 2015, respectively. In addition, a portion of our operating expenses, primarily the cost of personnel to deliver technical support for our products and to provide professional services, sales and sales support and research and development, are denominated in foreign currencies, primarily the Israeli shekel. We use derivative instruments, primarily forward contracts, to manage foreign currency rate exposures and we do not enter into foreign currency forward contracts for trading purposes.

Derivatives Designated as Hedging Instruments (Cash Flow Hedges)

Beginning December 2014, we entered into forward currency contracts to hedge forecasted operating expenses and service cost related to employee salaries and benefits denominated in Israeli shekels (“ILS”) for our subsidiaries in Israel. These ILS forward contracts mature generally within 12 months and are designated as cash flow hedges. The effective portion of the gains or losses on the derivative is reported as a component of “Accumulated other comprehensive loss” (“AOCI”) in the Condensed

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Consolidated Balance Sheets and subsequently reclassified into earnings in the same period in which the hedged transactions are recognized in earnings. If the hedge program becomes ineffective or if the underlying forecasted transaction does not occur for any reason, or it becomes probable that it will not occur, the gain or loss on the related derivative will be reclassified from AOCI to earnings immediately.

## Derivatives Not Designated as Hedging Instruments (Balance Sheet Hedges)

We also enter into forward currency contracts to hedge foreign currency denominated monetary assets and liabilities. These derivative instruments are marked to market through earnings each accounting period and mature generally within three months. Changes in the fair value of these foreign currency forward contracts are recognized in “Other income (expense), net” in the Condensed Consolidated Statement of Operations, net and are largely offset by the changes in the fair value of the underlying assets or liabilities being hedged.

The U.S. dollar equivalents of all outstanding notional amounts of foreign currency forward contracts are summarized as follows (in thousands):

	September 30, 2016	December 31, 2015
Derivatives designated as cash flow hedges:		
Purchase	\$ 2,945	\$ 12,984
Derivatives not designated as hedging instruments:		
Purchase	\$ 4,824	\$ 6,942
Sell	\$ 17,594	\$ 11,332

## Interest rate risk

Our exposure to market risk for changes in interest rates relates primarily to our investment portfolio of marketable investment securities; and outstanding debt arrangements with variable rate interests.

As of September 30, 2016, our cash, cash equivalents and short-term investments totaled \$52.7 million. These amounts are held for working capital purposes and we do not hold derivative instruments in our investment portfolio. Our investment portfolio consists of fixed income securities that are classified as “available-for-sale securities”. These securities, like all fixed income instruments, are subject to interest rate risk and will change in value if market interest rates change. We attempt to limit this exposure by investing primarily in short-term and investment-grade instruments with original maturities of less than two years. Due to the short duration and conservative nature of our investment portfolio, a movement of 10% in market interest rates would not have a material impact on our operating results, nor the total value of the portfolio over the next fiscal year. If overall interest rates had decreased by 10% during the third quarter of 2016, our interest income on our cash, cash equivalents and short-term investments would have declined by less than \$0.1 million assuming a constant investment balance over the time period.

As a result of the TVN acquisition, we assumed various debt instruments. The aggregate debt balance of such instruments at September 30, 2016 was \$22.8 million, of which \$2.1 million relates to obligations under capital leases with fixed interest rates. The remaining \$20.7 million are debt instruments primarily financed by French government agencies, and to a lesser extent, term loans from other financing institutions. These debt instruments have maturities ranging from three to eight years. A majority of the loans are tied to the 1 month EURIBOR rate plus spread. (See Note 11, “Convertible notes, Other Debts and Capital Leases” of the notes to our Condensed Consolidated Financial Statements for additional information). As of September 30, 2016, a hypothetical 1.0% increase in market interest rates on our debts subject to variable interest rate fluctuations would increase our interest expense by less than \$0.1 million annually.

As of September 30, 2016, we had \$128.25 million aggregate principal amount of the Notes outstanding, which have a fixed 4.0% coupon rate.



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ITEM 4. CONTROLS AND PROCEDURES

Evaluation of disclosure controls and procedures

We maintain “disclosure controls and procedures,” as such term is defined in Rule 13a-15(e) under the Exchange Act, that are designed to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating our disclosure controls and procedures, management recognized that disclosure controls and procedures, no matter how well conceived and operated, can provide only reasonable, and not absolute, assurance that the objectives of the disclosure controls and procedures are met. Additionally, in designing disclosure controls and procedures, our management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible disclosure controls and procedures. The design of any disclosure controls and procedures also is based, in part, upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions.

Based on their evaluation as of the end of the period covered by this Form 10-Q, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures were effective at a reasonable assurance level.

Changes in Internal Control over Financial Reporting

Our Chief Executive Officer and Chief Financial Officer evaluated the changes in our internal control over financial reporting that occurred during the quarterly period covered by this Form 10-Q. Except as described below, based on their evaluation, it is concluded that there had been no change in our internal control over financial reporting during the quarter ended September 30, 2016 that have materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. Under guidelines established by the SEC, companies are allowed to exclude acquisitions from their assessment of internal control over financial reporting during the first year of an acquisition while integrating the acquired company. We acquired TVN on February 29, 2016 and are in the process of integrating the acquired business into our overall internal control over financial reporting process. TVN’s post acquisition revenue included in the nine months ended September 30, 2016 accounted for approximately 14% of our consolidated net revenue for the nine months ended September 30, 2016 and TVN’s total assets as of September 30, 2016 accounted for approximately 13% of our consolidated total assets as of September 30, 2016. We expect to exclude the TVN business from the assessment of internal control over financial reporting until after December 31, 2016.

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PART II

OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

From time to time, we are involved in lawsuits as well as subject to various legal proceedings, claims, threats of litigation, and investigations in the ordinary course of business, including claims of alleged infringement of third-party patents and other intellectual property rights, commercial, employment, and other matters. While certain matters to which we are a party may specify the damages claimed, such claims may not represent reasonably possible losses. Given the inherent uncertainties of litigation, the ultimate outcome of these matters cannot be predicted at this time, nor can the amount of possible loss or range of loss, if any, be reasonably estimated.

In October 2011, Avid Technology, Inc. (“Avid”) filed a complaint in the United States District Court for the District of Delaware alleging that the Company’s Media Grid product infringes two patents held by Avid. A jury trial on this complaint commenced on January 23, 2014 and, on February 4, 2014, the jury returned a unanimous verdict in favor of the Company, rejecting Avid’s infringement allegations in their entirety. On May 23, 2014, Avid filed a post-trial motion asking the court to set aside the jury’s verdict, and the judge issued an order on December 17, 2014, denying the motion. On January 5, 2015, Avid filed an appeal with respect to the jury’s verdict with the Federal Circuit, which was docketed on January 9, 2015, as Case No. 2015-1246. Avid filed its opening brief with respect to this appeal on March 24, 2015, the Company filed its response brief on May 7, 2015, and Avid filed its reply brief on June 16, 2015. Oral arguments were held on December 11, 2015. On January 29, 2016, the Federal Circuit issued an order vacating the verdict of noninfringement and remanding the case to the trial court for a new trial on infringement. On February 26, 2016, Harmonic filed a request for rehearing and rehearing en banc at the Federal Circuit. On March 31, 2016, the Federal Circuit denied the request for rehearing and rehearing en banc and a mandate issued on April 8, 2016. A status conference was held with the District Court on April 14, 2016. The court conducted a supplemental claim construction hearing on May 27, 2016 and issued a claim construction order on June 29, 2016. There are currently no deadlines.

In June 2012, Avid served a subsequent complaint in the United States District Court for the District of Delaware alleging that the Company’s Spectrum product infringes one patent held by Avid. The complaint seeks injunctive relief and unspecified damages. In September 2013, the U.S. Patent Trial and Appeal Board (“PTAB”) authorized an inter partes review to be instituted as to claims 1-16 of the patent asserted in this second complaint. A hearing before the PTAB was conducted on May 20, 2014. On July 10, 2014, the PTAB issued a decision finding claims 1-10 invalid and claims 11-16 not invalid. The Company filed an appeal with respect to the PTAB’s decision on claims 11-16 on September 11, 2014. The appeal was docketed with the Federal Circuit on October 22, 2014, as Case No. 2015-1072, and the Company filed its opening brief with respect to this appeal on January 29, 2015. Avid and PTAB each filed a response brief on April 27, 2015, and the Company filed a reply brief on May 28, 2015. Oral arguments were held on October 8, 2015. The Federal Circuit issued an order on March 1, 2016, affirming the PTAB’s decision and a mandate issued on April 7, 2016. On July 25, 2016, the court issued a scheduling order for the case and set the trial date for November 6, 2017.

We are unable to predict the outcome of these lawsuits and therefore are unable to estimate an amount or range of any reasonably possible losses resulting from them. An unfavorable outcome on any litigation matter could require us to pay substantial damages, or, in connection with any intellectual property infringement claims, could require that we pay ongoing royalty payments or could prevent us from selling certain of our products. As a result, a settlement of, or an unfavorable outcome on, any of the matters referenced above or other litigation matters could have a material adverse effect on our business, operating results, financial condition and cash flows.

ITEM 1A. RISK FACTORS

We depend on cable, satellite and telco, and broadcast and media industry capital spending for our revenue and any material decrease or delay in capital spending in any of these industries would negatively impact our operating results,

financial condition and cash flows.

Our revenue has been derived from worldwide sales to service providers and broadcast and media companies, as well as, more recently, emerging streaming media companies. We expect that these markets will provide our revenue for the foreseeable future. Demand for our products will depend on the magnitude and timing of capital spending by customers in each of these markets for the purpose of creating, expanding or upgrading their systems. These capital spending patterns are dependent on a variety of factors, including:

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- the impact of general economic conditions, actual and projected;
- access to financing;
- annual capital spending budget cycles of each of the industries we serve;
- the impact of industry consolidation;
- customers suspending or reducing capital spending in anticipation of: (i) new standards, such as HEVC and DOCSIS 3.1; (ii) industry trends and technology shifts, such as virtualization, and (iii) new products, such as products based on the VOS™ software platform or the CCAP architecture;
- federal, state, local and foreign government regulation of telecommunications, television broadcasting and streaming media;
- overall demand for communication services and consumer acceptance of new video and data technologies and services;
- competitive pressures, including pricing pressures;
- the impact of fluctuations in currency exchange rates; and
- discretionary end-user customer spending patterns.

In the past, specific factors contributing to reduced capital spending have included:

- weak or uncertain economic and financial conditions in the U.S. or one or more international markets;
- uncertainty related to development of digital video industry standards;
- delays in evaluations of new services, new standards and systems architectures by many operators;
- emphasis by operators on generating revenue from existing customers, rather than from new customers, through construction, expansion or upgrades;
- a reduction in the amount of capital available to finance projects of our customers and potential customers;
- proposed and completed business combinations and divestitures by our customers and the length of regulatory review of each;
- completion of a new system or significant expansion or upgrade to a system; and
- bankruptcies and financial restructuring of major customers.

In the past, adverse economic conditions in one or more of the geographies in which we offer our products have adversely affected our customers' capital spending in those geographies and, as a result, our business. During challenging economic times, and in tight credit markets, many customers may delay or reduce capital expenditures. This could result in reductions in revenue from our products, longer sales cycles, difficulties in collection of accounts

receivable, slower adoption of new technologies and increased price competition. If global economic and market conditions, or economic conditions in the U.S., Europe or other key markets, deteriorate, we could experience a material and adverse effect on our business, results of operations, financial condition and cash flows. Additionally, since most of our international revenue is denominated in U.S. dollars, global economic and market conditions may impact currency exchange rates and cause our products to become relatively more expensive to customers in a particular country or region, which could lead to delayed or reduced capital spending in those countries or regions, thereby negatively impacting our business and financial condition.

In addition, industry consolidation has in the past constrained, and may in the future constrain or delay, capital spending by our customers. Further, if our product portfolio and product development plans do not position us well to capture an increased portion of the capital spending of customers in the markets on which we focus, our revenue may decline.

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As a result of these capital spending issues, we may not be able to maintain or increase our revenue in the future, and our operating results, financial condition and cash flows could be materially and adversely affected.

The markets in which we operate are intensely competitive.

The markets for our products are extremely competitive and have been characterized by rapid technological change and declining average sales prices in the past. Our competitors in our Video business segment include vertically integrated system suppliers, such as Arris Group, Cisco Systems and Ericsson, and, in certain product lines, other companies including ATEME and Sumavision Technologies. With respect to production and playout products, competitors include Evertz Microsystems, EVS, Grass Valley (a Belden brand) and Imagine Communications. Our competitors in our Cable Edge business include Arris, Casa Systems and Cisco Systems.

Many of our competitors are substantially larger, or as a result of consolidation activity have become larger, and have greater financial, technical, marketing and other resources than we have, and have been in operation longer than we have. Consolidation in the industry has led to the acquisition of a number of our historic competitors over the last several years. For example, Motorola Home, BigBand Networks and C-Cor were acquired by Arris; NDS and Scientific Atlanta were acquired by Cisco Systems; Envivio and Tandberg Television were acquired by Ericsson; Elemental Technologies was acquired by Amazon; and Miranda Technologies and Grass Valley were acquired by Belden Inc.

In addition, some of our larger competitors have more long-standing and established relationships with domestic and foreign customers. Many of these large enterprises are in a better position to withstand any significant reduction in capital spending by customers in our markets. They often have broader product lines and market focus, and may not be as susceptible to downturns in a particular market. These competitors may also be able to bundle their products together to meet the needs of a particular customer, and may be capable of delivering more complete solutions than we are able to provide. To the extent large enterprises that currently do not compete directly with us choose to enter our markets by acquisition or otherwise, competition would likely intensify.

Further, some of our competitors that have greater financial resources have offered, and in the future may offer, their products at lower prices than we offer for our competing products or on more attractive financing or payment terms, which has in the past caused, and may in the future cause, us to lose sales opportunities and the resulting revenue or to reduce our prices in response to that competition. Also, some competitors that are smaller than we are have engaged in, and may continue to engage in, aggressive price competition in order to gain customer traction and market share. Reductions in prices for any of our products could materially and adversely affect our operating margins and revenue.

Additionally, certain customers and potential customers have developed, and may continue to develop, their own solutions that may cause such customers or potential customers to not consider our product offerings or to displace our installed products with their own solutions. The growing availability of open source codecs and related software, as well as new server chipsets that incorporate encoding technology, has, in certain respects, lowered the barriers to entry for the video processing industry. The development of solutions by potential and existing customers and the reduction of the barriers to entry to enter the video processing industry could result in increased competition and adversely affect our results of operations and business.

If any of our competitors' products or technologies were to become the industry standard, our business could be seriously harmed. If our competitors are successful in bringing their products to market earlier than us, or if these products are more technologically capable than ours, our revenue could be materially and adversely affected.

We need to develop and introduce new and enhanced products in a timely manner to meet the needs of our customers and to remain competitive.

All of the markets we address are characterized by continuing technological advancement, changes in customer requirements and evolving industry standards. To compete successfully, we must continually design, develop, manufacture and sell new or enhanced products that provide increasingly higher levels of performance and reliability and meet our customers changing needs. However, we may not be successful in those efforts if, among other things, our products:

- are not cost effective;
- are not brought to market in a timely manner;
- are not in accordance with evolving industry standards;

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- fail to meet market acceptance or customer requirements; or
- are ahead of the needs of their markets.

We are currently developing and marketing products based on the latest video compression standards, such as HEVC, which provides significantly greater compression efficiency, thereby making more bandwidth available to operators. At the same time, we continue to devote development resources to enhance the existing MPEG-4 AVC/H.264 compression of our products, which many of our customers continue to require. There can be no assurance that these efforts will be successful in the near future, or at all, or that our competitors will not take significant market share in encoding or transcoding.

In order to attempt to meet fast paced, dynamic, evolving standards and customer requirements, we are intensifying our development efforts on a number of our product solutions in our Video and Cable Edge businesses. Our VOS solution is a software-based, fully virtualized platform that we are developing to unify the entire media processing chain, from ingest to delivery, and which is designed to operate on common server hardware in data center environments. Electra XVM is our first video media processing and encoding product family based on this platform, with the latest version supporting HEVC compression. We believe some of our customers have been delaying their purchase decisions as they consider transitioning to virtualized solutions or wait for new products based on our VOS software platform, which has adversely affected our revenue from video products in recent periods. In our Cable Edge business, we continue to develop our CableOS software-based CCAP solution based on a distributed access architecture, and we continue to develop, market and sell our NSG Pro centralized CCAP product solutions.

Many of these products and initiatives are intended to integrate existing and new features and functions in response to shifts in customer demands in the relevant market, as well as to general technology trends (such as virtualized and cloud-based computing, and integrated QAM and CMTS functionality in CCAP-based products) that we believe will significantly impact our industry. The success of these significant and costly development efforts will be predicated, for certain products and initiatives, on the timing of market adoption of the new standards on which the resulting products are based, and for other products, the timing of customer adoption of our products and solutions, as well as our ability to timely develop the features and capabilities of our products and solutions. If new standards or some of our new products are adopted later than we predict or not adopted at all, or if adoption occurs earlier than we are able to deliver the applicable products or functionality, we risk spending significant research and development time and dollars on products or features that may never achieve market acceptance or that miss the customer demand window and thus do not produce the revenue that a timely introduction would have likely produced.

If we fail to develop and market new and enhanced products on a timely basis, our operating results, financial condition and cash flows could be materially and adversely affected.

Our CCAP-based product initiatives expose us to certain technology transition risks that may adversely impact our operating results, financial condition and cash flows.

In the last few years, the cable industry has begun to develop and promulgate the CCAP architecture for next-generation cable edge solutions, which combines edge QAM and CMTS functions in a single system in order to combine resources for video and data delivery. We believe CCAP-based systems, both centralized and remote PHY solutions, will significantly reduce cable headend costs and increase operational efficiency, and are an important step in cable operators' transition to all-IP networks. We market and sell CCAP-based products, and are developing CMTS capabilities to make our products fully-compliant with current and future CCAP architecture standards. If we are unsuccessful in developing these capabilities in a timely manner, or are otherwise delayed in making such capabilities available to our customers, our business may be adversely impacted, particularly if our competitors develop and

market fully compliant products before we do.

We believe CCAP-based systems may, over time, replace and make obsolete current cable edge QAM solutions, including our cable edge QAM products, as well as current CMTS solutions, which is a market our products have previously not addressed. If demand for our CCAP-based systems is weaker than expected, or sales of our CCAP-based systems do not adequately offset the expected decline in demand for our non-CCAP cable edge products, or the decline in demand for our non-CCAP cable edge products is more rapid and precipitous than expected, our near and long-term operating results, financial condition and cash flows could be adversely impacted. Moreover, if a new or competitive architecture for next-generation cable edge solutions is promulgated that renders our CCAP-based systems obsolete, our business may be adversely impacted.

Our future growth depends on market acceptance of several broadband services, on the adoption of new broadband technologies, and on several other broadband industry trends.

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Future demand for many of our products will depend significantly on the growing market acceptance of emerging broadband services, including digital video, VOD, HDTV, IP video services (particularly streaming to tablet computers, connected TVs and mobile devices) and very high-speed data services. The market demand for such emerging services is rapidly growing, with many custom or proprietary systems in use, which increases the challenge of delivering interoperable products intended to address the requirements of such services.

The effective delivery of these services will depend, in part, on a variety of new network architectures, standards and devices, such as:

- the adoption of advanced video compression standards, such as next generation H.264 compression and HEVC;
- the CCAP architecture;
- fiber to the premises, or FTTP, networks designed to facilitate the delivery of video services by telcos;
- the greater use of protocols such as IP;
- the further adoption of bandwidth-optimization techniques, such as DOCSIS 3.0 and DOCSIS 3.1; and
- the introduction of new consumer devices, such as advanced set-top boxes, DVRs and network DVRs, connected TVs, tablet computers, and a variety of smart phone mobile devices.

If adoption of these emerging services and/or technologies is not as widespread or as rapid as we expect, or if we are unable to develop new products based on these technologies on a timely basis, our operating results, financial condition and cash flows could be materially and adversely affected.

Furthermore, other technological, industry and regulatory trends and requirements may affect the growth of our business.

These trends and requirements include the following:

- convergence, whereby network operators bundle video, voice and data services to consumers, including mobile delivery options;
- the increasing availability of traditional broadcast video content and video-on-demand on the Internet;
- adoption of high-bandwidth technology, such as DOCSIS 3.x, next generation LTE and FTTP;
- the use of digital video by businesses, governments and educational institutions;
- efforts by regulators and governments in the U.S. and internationally to encourage the adoption of broadband and digital technologies, as well as to regulate broadband access and delivery;
- consumer interest in higher resolution video such as Ultra HD or retina-display technologies on mobile devices;
- the need to develop partnerships with other companies involved in video infrastructure workflow and broadband services;

- the continued adoption of the television viewing behaviors of consumers in developed economies by the growing middle class across emerging economies;
- the extent and nature of regulatory attitudes towards issues such as network neutrality, competition between operators, access by third parties to networks of other operators, local franchising requirements for telcos to offer video, and other new services, such as mobile video; and
- the outcome of disputes and negotiations between content owners and service providers regarding rights of service providers to store and distribute recorded broadcast content, which outcomes may drive adoption of one technology over another in some cases.

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If we fail to recognize and respond to these trends, by timely developing products, features and services required by these trends, we are likely to lose revenue opportunities and our operating results, financial condition and cash flows could be materially and adversely affected.

We depend significantly on our international revenue and are subject to the risks associated with international operations, including those of our resellers, contract manufacturers and outsourcing partners, which may negatively affect our operating results.

Revenue derived from customers outside of the U.S. in the nine months ended of September 30, 2016 and October 2, 2015 represented approximately 56% and 52% of our revenue, respectively. Although no assurance can be given with respect to international sales growth in any one or more regions, we expect that international revenue will likely continue to represent, from year to year, a majority, and potentially increasing, percentage of our annual revenue for the foreseeable future. A significant percentage of our revenue is generated from sales to resellers, value-added resellers (“VARs”) and systems integrators, particularly in emerging market countries. Furthermore, a significant percentage of our employees are based in our international offices and locations, and most of our contract manufacturing occurs outside of the U.S. In addition, we outsource a portion of our research and development activities to certain third party partners with development centers located in different countries, particularly Ukraine and India.

Our international operations, the international operations of our resellers, contract manufacturers and outsourcing partners, and our efforts to maintain and increase revenue in international markets are subject to a number of risks, which are generally greater with respect to emerging market countries, including the following:

- growth and stability of the economy in one or more international regions;
- fluctuations in currency exchange rates;
- changes in foreign government regulations and telecommunications standards;
- import and export license requirements, tariffs, taxes and other trade barriers;
- our significant reliance on resellers and others to purchase and resell our products and solutions, particularly in emerging market countries;
- availability of credit, particularly in emerging market countries;
- greater difficulty in enforcing contracts and accounts receivable collection and longer collection periods, especially from smaller customers and resellers, particularly in emerging market countries;
- compliance with the U.S. Foreign Corrupt Practices Act (the “FCPA”), the U.K. Bribery Act and/or similar anti-corruption and anti-bribery laws, particularly in emerging market countries and import and export control laws, tariffs, trade barriers, economic sanctions and other regulatory or contractual limitations on our ability to sell our products and solutions in certain foreign markets, and the risks and costs of non-compliance;
- the burden of complying with a wide variety of foreign laws, treaties and technical standards;
- fulfilling “country of origin” requirements for our products for certain customers;
- difficulty in staffing and managing foreign operations;

- business and operational disruptions or delays caused by political, social and economic instability and unrest, including risks related to terrorist activity, particularly in emerging market countries (e.g., recent significant civil, political and economic disturbances in Russia and Ukraine);
- changes in economic policies by foreign governments, including the imposition and potential continued expansion of economic sanctions by the U.S. and the European Union on the Russian Federation; and the effects and any resulting negative economic impact of the U.K.'s referendum to exit the European Union; and
- business and economic disruptions and delays caused by outbreaks of disease, epidemics and potential pandemics.

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We have certain international customers who are billed in their local currency, primarily the Euro, British pound and Japanese yen, which subjects us to foreign currency risk. In addition, a portion of our operating expenses relating to the cost of certain international employees, are denominated in foreign currencies, primarily the Israeli shekel, British pound, Euro, Singapore dollar, Chinese yuan and Indian rupee, although we do hedge against the Israeli shekel. Gains and losses on the conversion to U.S. dollars of accounts receivable, accounts payable and other monetary assets and liabilities arising from international operations may contribute to fluctuations in our operating results. Furthermore, payment cycles for international customers are typically longer than those for customers in the U.S. Unpredictable payment cycles could cause us to fail to meet or exceed the expectations of security analysts and investors for any given period.

Most of our international revenue is denominated in U.S. dollars, and fluctuations in currency exchange rates could cause our products to become relatively more expensive to customers in a particular country or region, leading to a reduction in revenue or profitability from sales in that country or region. The potential negative impact of a strong U.S. dollar on our business may be exacerbated by the significant devaluation of a number of foreign currencies. Also, if the U.S. dollar were to weaken against many foreign currencies, there can be no assurance that a weaker dollar would lead to growth in capital spending in foreign markets.

Our operations outside the U.S. also require us to comply with a number of U.S. and international regulations that prohibit improper payments or offers of payments to foreign governments and their officials and political parties for corrupt purposes. For example, our operations in countries outside the U.S. are subject to the FCPA and similar laws, including the U.K. Bribery Act. Our activities in certain emerging countries create the risk of unauthorized payments or offers of payments by one of our employees, consultants, sales agents or channel partners that could be in violation of various anti-corruption laws, even though these parties may not be under our control. Under the FCPA and U.K. Bribery Act, companies may be held liable for the corrupt actions taken by their directors, officers, employees, channel partners, sales agents, consultants, or other strategic or local partners or representatives. We have internal control policies and procedures with respect to FCPA compliance, have implemented FCPA training and compliance programs for our employees, and include in our agreements with resellers a requirement that those parties comply with the FCPA. However, we cannot provide assurances that our policies, procedures and programs will prevent violations of the FCPA or similar laws by our employees or agents, particularly in emerging market countries, and as we expand our international operations. Any such violation, even if prohibited by our policies, could result in criminal or civil sanctions against us.

The effect of one or more of these international risks could have a material and adverse effect on our business, financial condition, operating results and cash flows.

We purchase several key components, subassemblies and modules used in the manufacture or integration of our products from sole or limited sources, and we rely on contract manufacturers and other subcontractors.

Many components, subassemblies and modules necessary for the manufacture or integration of our products are obtained from a sole supplier or a limited group of suppliers. For example, we depend on two suppliers for certain video encoding chips which are incorporated into several products. Our reliance on sole or limited suppliers, particularly foreign suppliers, and our reliance on contractors for manufacturing and installation of our products, involves several risks, including a potential inability to obtain an adequate supply of required components, subassemblies or modules; reduced control over costs, quality and timely delivery of components, subassemblies or modules; supplier discontinuation of components, subassemblies or modules we require; and timely installation of products.

These risks could be heightened during a substantial economic slowdown, because our suppliers and subcontractors are more likely to experience adverse changes in their financial condition and operations during such a period.

Further, these risks could materially and adversely affect our business if one of our sole sources, or a sole source of one of our suppliers or contract manufacturers, is adversely affected by a natural disaster. While we expend resources to qualify additional component sources, consolidation of suppliers and the small number of viable alternatives have limited the results of these efforts. Managing our supplier and contractor relationships is particularly difficult during time periods in which we introduce new products and during time periods in which demand for our products is increasing, especially if demand increases more quickly than we expect.

Plexus Services Corp., which manufactures our products at its facilities in Malaysia, currently serves as our primary contract manufacturer, and currently provides us with a substantial majority, by dollar amount, of the products that we purchase from our contract manufacturers. Most of the products manufactured by our Israeli operations are outsourced to another third party manufacturer in Israel. From time to time we assess our relationship with our contract manufacturers, and we do not generally maintain long-term agreements with any of our suppliers or contract manufacturers. Our agreement with Plexus has automatic annual renewals, unless prior notice is given by either party, and has been automatically renewed until October 2016.

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Difficulties in managing relationships with any of our current contract manufacturers, particularly Plexus, that manufacture our products off-shore, or any of our suppliers of key components, subassemblies and modules used in our products, could impede our ability to meet our customers' requirements and adversely affect our operating results. An inability to obtain adequate and timely deliveries of our products or any materials used in our products, or the inability of any of our contract manufacturers to scale their production to meet demand, or any other circumstance that would require us to seek alternative sources of supply, could negatively affect our ability to ship our products on a timely basis, which could damage relationships with current and prospective customers and harm our business and materially and adversely affect our revenue and other operating results. Furthermore, if we fail to meet customers' supply expectations, our revenue would be adversely affected and we may lose sales opportunities, both short and long term, which could materially and adversely affect our business and our operating results, financial condition and cash flows. Increases, from time to time, in demand on our suppliers and subcontractors from our customers or from other parties have, on occasion, caused delays in the availability of certain components and products. In response, we may increase our inventories of certain components and products and expedite shipments of our products when necessary. These actions could increase our costs and could also increase our risk of holding obsolete or excess inventory, which, despite our use of a demand order fulfillment model, could materially and adversely affect our business, operating results, financial condition and cash flows.

The loss of one or more of our key customers, a failure to continue diversifying our customer base, or a decrease in the number of larger transactions could harm our business and our operating results.

Historically, a significant portion of our revenue has been derived from relatively few customers, due in part to the consolidation of the ownership of cable television and direct broadcast satellite system companies. Sales to our top ten customers in the nine months ended September 30, 2016 and October 2, 2015 accounted for approximately 30% and 34% of revenue, respectively. Although we have broadened our customer base by further penetrating new markets and expanding internationally, we expect to see continuing industry consolidation and customer concentration.

No customers accounted for more than 10% of our revenue in the nine months ended September 30, 2016. In the nine months ended October 2, 2015, Comcast accounted for approximately 13% of our revenue, and further consolidation in the cable industry could lead to additional revenue concentration for us. The loss of Comcast or any other significant customer, any material reduction in orders by Comcast or any other significant customer, or our failure to qualify our new products with a significant customer could materially and adversely affect, either long term or in a particular quarter, our operating results, financial condition and cash flows. In addition, we are involved in most quarters in one or more relatively large individual transactions. A decrease in the number of the relatively larger individual transactions in which we are involved in any quarter could materially and adversely affect our operating results for that quarter.

As a result of these and other factors, we may be unable to increase our revenues from some or all of the markets we address, or to do so profitably, and any failure to increase revenues and profits from these customers could materially and adversely affect our operating results, financial condition and cash flows.

We rely on resellers, VARs and systems integrators for a significant portion of our revenue, and disruptions to, or our failure to develop and manage our relationships with these customers or the processes and procedures that support them could adversely affect our business.

We generate a significant percentage of our revenue through sales to resellers, VARs and systems integrators that assist us with fulfillment or installation obligations. We expect that these sales will continue to generate a significant percentage of our revenue in the future. Accordingly, our future success is highly dependent upon establishing and maintaining successful relationships with a variety of channel partners.

We generally have no long-term contracts or minimum purchase commitments with any of our reseller, VAR or system integrator customers, and our contracts with these parties do not prohibit them from purchasing or offering products or services that compete with ours. Our competitors may provide incentives to any of our reseller, VAR or systems integrator customers to favor their products or, in effect, to prevent or reduce sales of our products. Any of our reseller, VAR or systems integrator customers may independently choose not to purchase or offer our products. Many of our resellers, and some of our VARs and system integrators are small, are based in a variety of international locations, and may have relatively unsophisticated processes and limited financial resources to conduct their business. Any significant disruption of our sales to these customers, including as a result of the inability or unwillingness of these customers to continue purchasing our products, or their failure to properly manage their business with respect to the purchase of, and payment for, our products, could materially and adversely affect our business, operating results, financial condition and cash flows. In addition, our failure to continue to establish or maintain successful relationships with reseller, VAR and systems integrator customers could likewise materially and adversely affect our business, operating results, financial condition and cash flows.

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We have made, and may continue to make, acquisitions, and any acquisition could disrupt our operations, cause dilution to our stockholders and materially and adversely affect our business, operating results, cash flows and financial condition.

As part of our business strategy, from time to time we have acquired, and we may continue to acquire, businesses, technologies, assets and product lines that we believe complement or expand our existing business. For example, on February 29, 2016, we announced the closing of our acquisition of TVN, which is headquartered in Rennes, France. Acquisitions involve numerous risks, including the following:

- unanticipated costs or delays associated with an acquisition;
- difficulties in the assimilation and integration of acquired operations, technologies and/or products;
- potential disruption of our business and the diversion of management's attention from the regular operations of the business during the acquisition process;
- the challenges of managing a larger and more geographically widespread operation and product portfolio after the closing of the acquisition;
- potential adverse effects on new and existing business relationships with suppliers, contract manufacturers, resellers, partners and customers;
- compliance with regulatory requirements, such as local employment regulations and organized labor in France;
- risks associated with entering markets in which we may have no or limited prior experience;
- the potential loss of key employees of acquired businesses and our own business as a result of integration;
- difficulties in bringing acquired products and businesses into compliance with applicable legal requirements in jurisdictions in which we operate and sell products;
- impact of known potential liabilities or unknown liabilities, including litigation and infringement claims, associated with companies we acquire;
- substantial charges for acquisition costs or for the amortization of certain purchased intangible assets, deferred stock compensation or similar items;
- substantial impairments to goodwill or intangible assets in the event that an acquisition proves to be less valuable than the price we paid for it;
- difficulties in establishing and maintaining uniform financial and other standards, controls, procedures and policies;
- delays in realizing, or failure to realize, the anticipated benefits of an acquisition; and
- the possibility that any acquisition may be viewed negatively by our customers or investors or the financial markets.

Competition within our industry for acquisitions of businesses, technologies, assets and product lines has been, and is likely to continue to be, intense. As such, even if we are able to identify an acquisition that we would like to

consummate, we may not be able to complete the acquisition on commercially reasonable terms or because the target chooses to be acquired by another company. Furthermore, in the event that we are able to identify and consummate any future acquisitions, we may, in each of those acquisitions:

- issue equity securities which would dilute current stockholders' percentage ownership;
- incur substantial debt to finance the acquisition or assume substantial debt in the acquisition;
- incur significant acquisition-related expenses;
- assume substantial liabilities, contingent or otherwise; or

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- expend significant cash.

These financing activities or expenditures could materially and adversely affect our operating results, cash flows and financial condition or the price of our common stock. Alternatively, due to difficulties in the capital or credit markets at the time, we may be unable to secure capital necessary to complete an acquisition on reasonable terms, or at all. Moreover, even if we were to obtain benefits from acquisitions in the form of increased revenue and earnings per share, there may be a delay between the time the expenses associated with an acquisition are incurred and the time we recognize such benefits.

In addition to the risks outlined above, the success of the TVN acquisition will depend, in part, on our ability to successfully integrate TVN's business and operations, including the successful implementation of the Harmonic 2016 Restructuring Plan and the TVN VDP to streamline our corporate organization, thereby reducing operating costs by consolidating duplicative resources in connection with the TVN acquisition, address product and customer overlaps between the two entities and fully realize the anticipated benefits and potential synergies from combining our business with TVN's business. If we are unable to achieve these objectives, the anticipated benefits and potential synergies of the acquisition may not be realized fully or at all or may take longer to realize than expected. Any failure to timely realize these anticipated benefits would have a material adverse effect on our business, operating results and financial condition. Additionally, the integration process could result in the loss of key employees or key customers, decreases in revenues and increases in operating costs, as well as the disruption of each company's ongoing businesses, any or all of which could limit our ability to achieve the anticipated benefits and synergies of the acquisition and could have an adverse effect on our business, operating results and financial condition. Further, if we are unable to successfully receive payment of any significant portion of TVN's existing French R&D tax credit receivables from the French tax authority as expected, or are unable to successfully apply for or otherwise obtain the financial benefit of new French R&D tax credits in future years, our ability to achieve the anticipated benefits of the acquisition as well as our business, operating results and financial condition could be adversely affected.

As of September 30, 2016, we had approximately \$239.9 million of goodwill recorded on our balance sheet associated with prior acquisitions. In the event we determine that our goodwill is impaired, we would be required to write down all or a portion of such goodwill, which could result in a material non-cash charge to our results of operations in the period in which such write-down occurs.

If we are unable to successfully address one or more of these risks, our business, operating results, financial condition and cash flows could be materially and adversely affected.

We may not be able to effectively manage our operations.

We have grown significantly, principally through acquisitions, and expanded our international operations. For example, upon the closing of our acquisition of TVN on February 29, 2016, we added 438 employees, most of who are based in France.

As of September 30, 2016, we had 891 employees in our international operations, representing approximately 63% of our worldwide workforce. Our ability to manage our business effectively in the future, including with respect to any future growth, our operation as both a hardware and increasingly software-centric business, the integration of any acquisition efforts such as our recent acquisition of TVN, and the breadth of our international operations, will require us to train, motivate and manage our employees successfully, to attract and integrate new employees into our overall operations, to retain key employees and to continue to improve and evolve our operational, financial and management systems. There can be no assurance that we will be successful in any of these efforts, and our failure to effectively manage our operations could have a material and adverse effect on our business, operating results, cash flows and

financial condition.

We face risks associated with having outsourced engineering resources located in Ukraine.

We outsource a portion of our research and development activities to a third-party partner with engineering resources located in Ukraine. Political, social and economic instability and unrest or violence in Ukraine, including the ongoing conflict with Russian-backed separatists or conflict with the Russian Federation directly, could cause disruptions to the business and operations of our outsourcing partner, which could slow or delay the development work our partner is undertaking for us. Instability, unrest or conflict could limit or prevent our employees from traveling to, from, or within Ukraine to direct and coordinate our outsourced engineering teams, or cause us to shift all or portions of the development work occurring in Ukraine to other locations or countries. The resulting delays could negatively impact our product development efforts, operating results and our business.

We face risks associated with having facilities and employees located in Israel.

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As of September 30, 2016, we maintained facilities in Israel with a total of 182 employees, or approximately 13% of our worldwide workforce. Our employees in Israel engage in a number of activities, including research and development, product development, and supply chain management for certain product lines and sales activities.

As such, we are directly affected by the political, economic and military conditions affecting Israel. Any significant conflict involving Israel could have a direct effect on our business or that of our Israeli contract manufacturers, in the form of physical damage or injury, restrictions from traveling or reluctance to travel to from or within Israel by our Israeli and other employees or those of our subcontractors, or the loss of Israeli employees to active military duty. Most of our employees in Israel are currently obligated to perform annual reserve duty in the Israel Defense Forces, and approximately 7% of those employees were called for active military duty in 2015. In the event that more of our employees are called to active duty, certain of our research and development activities may be significantly delayed and adversely affected. Further, the interruption or curtailment of trade between Israel and its trading partners, as a result of terrorist attacks or hostilities, conflicts between Israel and any other Middle Eastern country or organization, or any other cause, could significantly harm our business. Additionally, current or future tensions or conflicts in the Middle East could materially and adversely affect our business, operating results, financial condition and cash flows.

Our operating results are likely to fluctuate significantly and, as a result, may fail to meet or exceed the expectations of securities analysts or investors, causing our stock price to decline.

Our operating results have fluctuated in the past and are likely to continue to fluctuate in the future, on an annual and a quarterly basis, as a result of several factors, many of which are outside of our control. Some of the factors that may cause these fluctuations include:

- the level and timing of capital spending of our customers in the U.S., Europe and in other foreign markets;
- economic and financial conditions specific to each of the cable, satellite and telco, and broadcast and media industries, as well as general economic and financial market conditions;
- changes in market acceptance of and demand for our products or our customers' services or products;
- the timing and amount of orders, especially from large individual transactions and transactions with our significant customers;
- the mix of our products sold and the effect it has on gross margins;
- the timing of revenue recognition, including revenue recognition on sales arrangements and from transactions with significant service and support components, which may span several quarters;
- the timing of completion of our customers' projects;
- the length of each customer product upgrade cycle and the volume of purchases during the cycle;
- competitive market conditions, including pricing actions by our competitors;
- the level and mix of our domestic and international revenue;
- new product introductions by our competitors or by us;

- uncertainty in both the U.K. and the European Union due to the U.K.'s referendum to exit the European Union, which could adversely affect our results, financial condition and prospects;
- changes in domestic and international regulatory environments affecting our business;
- the evaluation of new services, new standards and system architectures by our customers;
- the cost and timely availability to us of components, subassemblies and modules;
- the mix of our customer base, by industry and size, and sales channels;

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- changes in our operating and extraordinary expenses;
- the timing of acquisitions and dispositions by us and the financial impact of such transactions;
- impairment of our goodwill and intangibles;
- the impact of litigation, such as related litigation expenses and settlement costs;
- write-downs of inventory and investments;
- changes in our effective federal tax rate, including as a result of changes in our valuation allowance against our deferred tax assets, and changes in our effective state tax rates, including as a result of apportionment;
- changes to tax rules related to the deferral of foreign earnings and compliance with foreign tax rules;
- the impact of applicable accounting guidance on accounting for uncertainty in income taxes that requires us to establish reserves for uncertain tax positions and accrue potential tax penalties and interest; and
- the impact of applicable accounting guidance on business combinations that requires us to record charges for certain acquisition related costs and expenses and generally to expense restructuring costs associated with a business combination subsequent to the acquisition date.

The timing of deployment of our products by our customers can be subject to a number of other risks, including the availability of skilled engineering and technical personnel, the availability of third party equipment and services, our customers' ability to negotiate and enter into rights agreements with video content owners that provide the customers with the right to deliver certain video content, and our customers' need for local franchise and licensing approvals.

We often recognize a substantial portion of our quarterly revenue in the last month of the quarter. We establish our expenditure levels for product development and other operating expenses based on projected revenue levels for a specified period, and expenses are relatively fixed in the short term. Accordingly, even small variations in the timing of revenue, particularly from relatively large individual transactions, can cause significant fluctuations in operating results in a particular quarter.

As a result of these factors and other factors, our operating results in one or more future periods may fail to meet or exceed the expectations of securities analysts or investors. In that event, the trading price of our common stock would likely decline.

Fluctuations in our future effective tax rates could affect our future operating results, financial condition and cash flows.

We are required to periodically review our deferred tax assets and determine whether, based on available evidence, a valuation allowance is necessary. The realization of our deferred tax assets, which are predominantly in the U.S., is dependent upon the generation of sufficient U.S. and foreign taxable income in the future to offset these assets. Based on our evaluation, a history of operating losses in recent years has led to uncertainty with respect to our ability to realize certain of our net deferred tax assets, and as a result we recorded a net increase in valuation allowance of \$29.0 million and \$3.1 million in 2014 and 2015, respectively, against U.S. net deferred tax assets.

The calculation of tax liabilities involves dealing with uncertainties in the application of complex global tax regulations. We recognize potential liabilities for anticipated tax audit issues in the U.S. and other tax jurisdictions based on our estimate of whether, and the extent to which, additional taxes will be due. In the event we determine that it is appropriate to create a reserve or increase an existing reserve for any such potential liabilities, the amount of the additional reserve is charged as an expense in the period in which it is determined. If payment of these amounts ultimately proves to be unnecessary, the reversal of the liabilities would result in tax benefits being recognized in the period when we determine the liabilities are no longer necessary. If the estimate of tax liabilities proves to be less than the ultimate tax assessment for the applicable period, a further charge to expense in the period such short fall is determined would result. Either such charge to expense could have a material and adverse effect on our operating results for the applicable period.

We continue to be in the process of expanding our international operations and staffing to better support our expansion into international markets. This expansion involves the implementation of an international structure that includes, among other things, an international support center in Europe, research and development cost sharing arrangements, and certain licenses and other contractual arrangements between us and our wholly-owned domestic and foreign subsidiaries. As a result of these

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changes, we anticipate that our consolidated pre-tax income will be subject to foreign tax at relatively lower tax rates when compared to the U.S. federal statutory tax rate and, as a consequence, our effective income tax rate is expected to be lower than the U.S. federal statutory rate.

Our future effective income tax rates could be adversely affected if tax authorities challenge our international tax structure or if the relative mix of U.S. and international income changes for any reason. Accordingly, there can be no assurance that our income tax rate will be less than the U.S. federal statutory rate in future periods.

We or our customers may face intellectual property infringement claims from third parties.

Our industry is characterized by the existence of a large number of patents and frequent claims and related litigation regarding patent and other intellectual property rights. In particular, leading companies in the telecommunications industry have extensive patent portfolios. Also, patent infringement claims and litigation by entities that purchase or control patents, but do not produce goods or services covered by the claims of such patents (so-called “non-practicing entities” or “NPEs”), have increased rapidly over the last decade or so. From time to time, third parties, including NPEs, have asserted, and may assert in the future, patent, copyright, trademark and other intellectual property rights against us or our customers. For example, in October 2011, Avid Technology, Inc. filed a complaint against us in the United States District Court for the District of Delaware alleging that our MediaGrid product infringes two patents held by Avid. In February 2014, a jury determined that we had not infringed on either of these patents. Avid filed an appeal with respect to the jury’s verdict and in January 2016, the Federal Circuit issued an order vacating the verdict of noninfringement and remanding the case to the trial court for a new trial on infringement. On February 26, 2016, Harmonic filed a request for rehearing and rehearing en banc at the Federal Circuit. On March 31, 2016, the Federal Circuit denied the request for rehearing and rehearing en banc and a mandate issued on April 8, 2016. A status conference was held with the District Court on April 14, 2016. The court conducted a supplemental claim construction hearing on May 27, 2016 and issued a claim construction order on June 29, 2016. There are currently no deadlines. Our suppliers and their customers, including us, may have similar claims asserted against them. A number of third parties, including companies with greater financial and other resources than us, have asserted patent rights to technologies that are important to us.

Any intellectual property litigation, regardless of its outcome, could result in substantial expense and significant diversion of the efforts of our management and technical personnel. An adverse determination in any such proceeding could subject us to significant liabilities and temporary or permanent injunctions and require us to seek licenses from third parties or pay royalties that may be substantial. Furthermore, necessary licenses may not be available on terms satisfactory to us, or at all. An unfavorable outcome on any such litigation matter could require that we pay substantial damages, could require that we pay ongoing royalty payments, or could prohibit us from selling certain of our products. Any such outcome could have a material and adverse effect on our business, operating results, financial condition and cash flows.

Our suppliers and customers may have intellectual property claims relating to our products asserted against them. We have agreed to indemnify some of our suppliers and most of our customers for patent infringement relating to our products. The scope of this indemnity varies, but, in some instances, includes indemnification for damages and expenses (including reasonable attorney’s fees) incurred by the supplier or customer in connection with such claims. If a supplier or a customer seeks to enforce a claim for indemnification against us, we could incur significant costs defending such claim, the underlying claim or both. An adverse determination in either such proceeding could subject us to significant liabilities and have a material and adverse effect on our operating results, cash flows and financial condition.

We may be the subject of litigation which, if adversely determined, could harm our business and operating results.

We may be subject to claims arising in the normal course of business. The costs of defending any litigation, whether in cash expenses or in management time, could harm our business and materially and adversely affect our operating results and cash flows. An unfavorable outcome on any litigation matter could require that we pay substantial damages, or, in connection with any intellectual property infringement claims, could require that we pay ongoing royalty payments or prohibit us from selling certain of our products. In addition, we may decide to settle any litigation, which could cause us to incur significant settlement costs. A settlement or an unfavorable outcome on any litigation matter could have a material and adverse effect on our business, operating results, financial condition and cash flows.

We may sell one or more of our product lines, from time to time, as a result of our evaluation of our products and markets, and any such divestiture could adversely affect our continuing business and our expenses, revenues, results of operation, cash flows and financial position.

We periodically evaluate our various product lines and may, as a result, consider the divestiture of one or more of those product lines. For example, in February 2013, we entered into an Asset Purchase Agreement with Aurora Networks pursuant to which

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we agreed to sell our cable access HFC Business for \$46 million in cash. Any such divestiture could adversely affect our continuing business and expenses, revenues, results of operations, cash flows and financial position.

Divestitures of product lines have inherent risks, including the expense of selling the product line, the possibility that any anticipated sale will not occur, delays in closing any sale, the risk of lower-than-expected proceeds from the sale of the divested business, unexpected costs associated with the separation of the business to be sold from the seller's information technology and other operating systems, and potential post-closing claims for indemnification or breach of transition services obligations of the seller. Expected cost savings, which are offset by revenue losses from divested businesses, may also be difficult to achieve or maximize due to the seller's fixed cost structure, and a seller may experience varying success in reducing fixed costs or transferring liabilities previously associated with the divested business.

Our operating results could be adversely affected by natural disasters affecting the Company or impacting our third-party manufacturers, suppliers, resellers or customers.

Our corporate headquarters is located in California, which is prone to earthquakes. We have employees, consultants and contractors located in regions and countries around the world. In the event that any of our business, sales or research and development centers or offices in the U.S. or internationally are adversely affected by an earthquake or by any other natural disaster, we may sustain damage to our operations and properties, which could cause a sustained interruption or loss of affected operations, and cause us to suffer significant financial losses.

We rely on third-party contract manufacturers for the production of our products. Any significant disruption in the business or operations of such manufacturers or of their or our suppliers could adversely impact our business. Our principal contract manufacturers and several of their and our suppliers and our resellers have operations in locations that are subject to natural disasters, such as severe weather, tsunamis, floods and earthquakes, which could disrupt their operations and, in turn, our operations.

In addition, if there is a natural disaster in any of the locations in which our significant customers are located, we face the risk that our customers may incur losses or sustained business interruption, or both, which may materially impair their ability to continue their purchase of products from us. Accordingly, natural disaster in one of the geographies in which we, or our third-party manufacturers, their or our suppliers or our customers, operate could have a material and adverse effect on our business, operating results, cash flows and financial condition.

In order to manage our growth, we must be successful in addressing management succession issues and attracting and retaining qualified personnel.

Our future success will depend, to a significant extent, on the ability of our management to operate effectively, both individually and as a group. We must successfully manage transition and replacement issues that may result from the departure or retirement of members of our executive management. We cannot provide assurances that changes of management personnel in the future would not cause disruption to operations or customer relationships or a decline in our operating results.

We are also dependent on our ability to retain and motivate our existing highly qualified personnel, in addition to attracting new highly qualified personnel. Competition for qualified management, technical and other personnel is often intense, and we may not be successful in attracting and retaining such personnel. Competitors and others have in the past attempted, and are likely in the future to attempt, to recruit our employees. While our employees are required to sign standard agreements concerning confidentiality and ownership of inventions, we generally do not have employment contracts or non-competition agreements with any of our personnel. The loss of the services of any of our key personnel, the inability to attract or retain highly qualified personnel in the future or delays in hiring such

personnel, particularly senior management and engineers and other technical personnel, could negatively affect our business and operating results.

We could be negatively affected as a result of a future proxy contest and the actions of activist stockholders.

If a proxy contest with respect to election of our directors is initiated in the future, or if other activist stockholder activities occur, our business could be adversely affected because:

- responding to a proxy contest and other actions by activist stockholders can be costly and time-consuming, disrupting our operations and diverting the attention of management and our employees;

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- perceived uncertainties as to our future direction caused by activist activities may result in the loss of potential business opportunities, and may make it more difficult to attract and retain qualified personnel and business partners; and
- if individuals are elected to our Board of Directors (the “Board”) with a specific agenda, it may adversely affect our ability to effectively and timely implement our strategic plans.

Our failure to adequately protect our proprietary rights and data may adversely affect us.

At September 30, 2016, we held 69 issued U.S. patents and 42 issued foreign patents, and had 90 patent applications pending. Although we attempt to protect our intellectual property rights through patents, trademarks, copyrights, licensing arrangements, maintaining certain technology as trade secrets and other measures, we can give no assurances that any patent, trademark, copyright or other intellectual property rights owned by us will not be invalidated, circumvented or challenged, that such intellectual property rights will provide competitive advantages to us, or that any of our pending or future patent applications will be issued with the scope of the claims sought by us, if at all. We can give no assurances that others will not develop technologies that are similar or superior to our technologies, duplicate our technologies or design around the patents that we own. In addition, effective patent, copyright and trade secret protection may be unavailable or limited in certain foreign countries in which we do business or may do business in the future.

We generally enter into confidentiality or license agreements with our employees, consultants, and vendors and our customers, as needed, and generally limit access to, and distribution of, our proprietary information. Nevertheless, we cannot provide assurances that the steps taken by us will prevent misappropriation of our technology. In addition, we have taken in the past, and may take in the future, legal action to enforce our patents and other intellectual property rights, to protect our trade secrets, to determine the validity and scope of the proprietary rights of others, or to defend against claims of infringement or invalidity. Such litigation could result in substantial costs and diversion of management time and other resources, and could materially and adversely affect our business, operating results, financial condition and cash flows.

Recently reported hacking attacks on government and commercial computer systems, particularly attacks sponsored by foreign governments or enterprises, raise the risks that such an attack may compromise, in a material respect, one or more of our computer systems and permit hackers access to our proprietary information and data. If such an attack does, in fact, allow access to or theft of our proprietary information or data, our business, operating results, financial condition and cash flows could be materially and adversely affected.

Our products include third-party technology and intellectual property, and our inability to acquire new technologies or use third-party technology in the future could harm our business.

In order to successfully develop and market certain of our planned products, we may be required to enter into technology development or licensing agreements with third parties. Although companies with technology useful to us are often willing to enter into technology development or licensing agreements with respect to such technology, we cannot provide assurances that such agreements may be negotiated on commercially reasonable terms, or at all. The failure to enter, or a delay in entering, into such technology development or licensing agreements, when necessary or desirable, could limit our ability to develop and market new products and could materially and adversely affect our business.

We incorporate certain third-party technologies, including software programs, into our products, and, as noted, intend to utilize additional third-party technologies in the future. In addition, the technologies that we license may not operate properly or as specified, and we may not be able to secure alternatives in a timely manner, either of which could harm

our business. We could face delays in product releases until alternative technology can be identified, licensed or developed, and integrated into our products, if we are able to do so at all. These delays, or a failure to secure or develop adequate technology, could materially and adversely affect our business, operating results, financial condition and cash flows.

Our use of open source software in some of our products may expose us to certain risks.

Some of our products contain software modules licensed for use from third-party authors under open source licenses. Use and distribution of open source software may entail greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the code. Some open source licenses contain requirements that we make available source code for modifications or derivative works we create based upon the type of open source software we use. If we combine our proprietary software with open source software in a certain manner, we could, under certain of the open source licenses, be required to release the source code of our

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proprietary software to the public. This could allow our competitors to create similar products with lower development effort and in less time and ultimately could result in a loss of product sales for us.

Although we monitor our use of open source closely, it is possible our past, present or future use of open source has triggered or may trigger the foregoing requirements. Furthermore, the terms of many open source licenses have not been interpreted by U.S. courts, and there is a risk that such licenses could be construed in a manner that could impose unanticipated conditions or restrictions on our ability to commercialize our products. In such event, we could be required to seek licenses from third parties in order to continue offering our products, to re-engineer our products or to discontinue the sale of our products in the event re-engineering cannot be accomplished on a timely basis, any of which could materially and adversely affect our operating results, financial condition and cash flows.

We cannot assure you that our stock repurchase program will result in repurchases of our common stock or enhance long term stockholder value, and repurchases, if any, could affect our stock price and increase its volatility and will diminish our cash reserves.

In April 2013, our Board approved a modified “Dutch Auction” tender offer to repurchase up to \$100 million of shares of our common stock. The tender offer expired on May 24, 2013, and resulted in our repurchasing approximately 12 million shares of our common stock, at \$6.25 per share, for an aggregate purchase price of approximately \$75 million.

Following the tender offer, we resumed purchases under our stock repurchase program. Under the program, we are authorized to repurchase up to \$300 million of our common stock in open market transactions or pursuant to any trading plan that may be adopted in accordance with Rule 10b5-1 of the Exchange Act. As of September 30, 2016, we had purchased an aggregate of \$254.3 million of our common stock under this program, including under the tender offer. The timing and actual number of shares repurchased, if any, will depend on a variety of factors, including the price and availability of our shares, trading volume, general market conditions and projected cash positions. The program was suspended prior to the announcement of the tender offer, and may be suspended or discontinued at any time in the future without prior notice.

Repurchases pursuant to our tender offer and our stock repurchase program could affect our stock price and increase its volatility and will reduce the market liquidity for our stock. Additionally, these repurchases will diminish our cash reserves, which could impact our ability to pursue possible future strategic opportunities and acquisitions and would result in lower overall returns on our cash balances. There can be no assurance that any stock repurchases will, in fact, occur, or, if they occur, that they will enhance stockholder value because the market price of our common stock may decline below the levels at which we repurchased shares of stock. Although our tender offer and our stock repurchase program are intended to enhance long-term stockholder value, short-term stock price fluctuations could reduce the effectiveness of these repurchases.

We are subject to import and export control and trade and economic sanction laws and regulations that could subject us to liability or impair our ability to compete in international markets.

Our products are subject to U.S. export control laws, and may be exported outside the U.S. only with the required export license or through an export license exception, in most cases because we incorporate encryption technology into our products. We are also subject to U.S. trade and economic sanction regulations which include prohibitions on the sale or supply of certain products and services to U.S. embargoed or sanctioned countries, governments, persons and entities. In addition, various countries regulate the import of certain technology and have enacted laws that could limit our ability to distribute our products, or could limit our customers’ ability to implement our products, in those countries. Although we take precautions to prevent our products and services from being provided in violation of such laws, our products may have been in the past, and could in the future be, provided inadvertently in violation of such laws, despite the precautions we take. If we fail to comply with these laws, we and certain of our employees could be

subject to civil or criminal penalties, including the possible loss of export privileges, monetary penalties, and, in extreme cases, imprisonment of responsible employees for knowing and willful violations of these laws. Additionally, our business and operating results be adversely affected through penalties, reputational harm, loss of access to certain markets, or otherwise.

In addition, we may be subject to customs duties that could have a significant adverse impact on our operating results or, if we are able to pass on the related costs in any particular situation, would increase the cost of the related product to our customers. As a result, the future imposition of significant increases in the level of customs duties or the creation of import quotas on our products in Europe or in other jurisdictions, or any of the limitations on international sales described above, could have a material adverse effect on our business, operating results, financial condition and cash flows. Further, some of our customers in Europe have been, or are being, audited by local governmental authorities regarding the tariff classifications used for importation of our products. Import duties and tariffs vary by country and a different tariff classification for any of our products

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may result in higher duties or tariffs, which could have an adverse impact on our operating results and potentially increase the cost of the related products to our customers.

We may need additional capital in the future and may not be able to secure adequate funds on terms acceptable to us.

We have been engaged in the design, manufacture and sale of a variety of video products and system solutions since inception, which has required, and will continue to require, significant research and development expenditures.

We believe that our existing cash and short-term investments of approximately \$52.7 million at September 30, 2016, even as it may be reduced through possible future repurchases of our common stock under the stock repurchase program discussed above, will satisfy our cash requirements for at least the next 12 months. However, we may need to raise additional funds to take advantage of presently unanticipated strategic opportunities, satisfy our other cash requirements from time to time, or strengthen our financial position. Our ability to raise funds may be adversely affected by a number of factors, including factors beyond our control, such as weakness in the economic conditions in markets in which we sell our products and continued uncertainty in financial, capital and credit markets. There can be no assurance that equity or debt financing will be available to us on reasonable terms, if at all, when and if it is needed.

We may raise additional financing through public or private equity offerings, debt financings, or corporate partnership or licensing arrangements. To the extent we raise additional capital by issuing equity securities or convertible debt, our stockholders may experience dilution. To the extent that we raise additional funds through collaboration and licensing arrangements, it may be necessary to relinquish some rights to our technologies or products, or grant licenses on terms that are not favorable to us. To the extent we raise capital through debt financing arrangements, we may be required to pledge assets or enter into covenants that could restrict our operations or our ability to incur further indebtedness and the interest on such debt may adversely affect our operating results.

If adequate capital is not available, or is not available on reasonable terms, when needed, we may not be able to take advantage of acquisition or other market opportunities, to timely develop new products, or to otherwise respond to competitive pressures.

Our business and industry are subject to various laws and regulations that could adversely affect our business, operating results, cash flows and financial condition.

Our business and industry are regulated under various federal, state, local and international laws. For example, we are subject to environmental regulations such as the European Union's Waste Electrical and Electronic Equipment (WEEE) and Restriction on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) directives and similar legislation enacted in other jurisdictions worldwide. Our failure to comply with these laws could result in our being directly or indirectly liable for costs, fines or penalties and third-party claims, and could jeopardize our ability to conduct business in such regions and countries. We expect that our operations will be affected by other new environmental laws and regulations on an ongoing basis. Although we cannot predict the ultimate impact of any such new laws and regulations, they would likely result in additional costs, and could require that we redesign or change how we manufacture our products, any of which could have a material and adverse effect on our operating results, financial condition and cash flows.

We are subject to the Sarbanes-Oxley Act of 2002 which, among other things, requires an annual review and evaluation of our internal control over financial reporting. If we conclude in future periods that our internal control over financial reporting is not effective or if our independent registered public accounting firm is unable to provide an unqualified attestation as of future year-ends, we may incur substantial additional costs in an effort to correct such problems, and investors may lose confidence in our financial statements, and our stock price may decrease in the short

term, until we correct such problems, and perhaps in the long term, as well.

We are subject to requirements under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 that require us to conduct research, disclose, and report whether or not our products contain certain conflict minerals sourced from the Democratic Republic of Congo or its surrounding countries. The implementation of these new requirements could adversely affect the sourcing, availability, and pricing of the materials used in the manufacture of components used in our products. In addition, we may incur certain additional costs to comply with the disclosure requirements, including costs related to conducting diligence procedures to determine the sources of conflict minerals that may be used or necessary to the production of our products and, if applicable, potential changes to products, processes or sources of supply as a consequence of such verification activities. It is also possible that we may face reputational harm if we determine that certain of our products contain minerals not determined to be conflict-free and/or we are unable to alter our products, processes or sources of supply to avoid such materials.

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Changes in telecommunications legislation and regulations in the U.S. and other countries could affect our sales and the revenue we are able to derive from our products. In particular, “net neutrality” rules issued by the U.S. Federal Communications Commission (FCC) or regulations dealing with access by competitors to the networks of incumbent operators could slow or stop infrastructure and services investments or expansion by service providers. Increased regulation of our customers’ pricing or service offerings could limit their investments and, consequently, revenue from our products. The impact of new or revised legislation or regulations could have a material adverse effect on our business, operating results, financial condition and cash flows.

Some anti-takeover provisions contained in our certificate of incorporation and bylaws, as well as provisions of Delaware law, could impair a takeover attempt.

We have provisions in our certificate of incorporation and bylaws that could have the effect of rendering more difficult or discouraging an acquisition deemed undesirable by our Board. These include provisions:

- authorizing blank check preferred stock, which could be issued with voting, liquidation, dividend and other rights superior to our common stock;
- limiting the liability of, and providing indemnification to, our directors and officers;
- limiting the ability of our stockholders to call, and bring business before, special meetings;
- requiring advance notice of stockholder proposals for business to be conducted at meetings of our stockholders and for nominations of candidates for election to our Board;
- controlling the procedures for conducting and scheduling of Board and stockholder meetings; and
- providing the Board with the express power to postpone previously scheduled annual meetings and to cancel previously scheduled special meetings.

These provisions could delay hostile takeovers, changes in control of the Company or changes in our management. As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the Delaware General Corporation Law, which prevents some stockholders holding more than 15% of our outstanding common stock from engaging in certain business combinations without approval of the holders of substantially all of our outstanding common stock. Any provision of our certificate of incorporation or bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

The conditional conversion feature of our convertible senior notes, if triggered, may adversely affect our financial condition and operating results.

In December 2015, we issued the Notes through a private placement with a financial institution. The Notes bear interest at 4.00% per annum, which is payable semiannually in arrears on June 1 and December 1 of each year, commencing June 1, 2016. In the event the conditional conversion feature of the Notes is triggered, holders of the Notes will be entitled to convert the Notes at any time during specified periods at their option. If one or more holders elect to convert their Notes, unless we elect to satisfy our conversion obligation by delivering solely shares of our common stock (other than paying cash in lieu of delivering any fractional share), we would be required to settle a portion or all of our conversion obligation through the payment of cash, which could adversely affect our liquidity. In addition, even if holders do not elect to convert their Notes, we could be required under applicable accounting rules to

reclassify all or a portion of the outstanding principal of the Notes as a current rather than long-term liability, which would result in a material reduction of our net working capital.

The accounting method for convertible debt securities that may be settled in cash, such as the Notes, could have a material effect on our reported financial results.

In May 2008, FASB issued FASB Staff Position No. APB 14-1, "Accounting for Convertible Debt Instruments That May Be Settled in Cash Upon Conversion (Including Partial Cash Settlement)", which has subsequently been codified as Accounting Standards Codification 470-20, Debt with Conversion and Other Options, which we refer to as ASC 470-20. Under ASC 470-20, an entity must separately account for the liability and equity components of the convertible debt instruments (such as the Notes) that may be settled entirely or partially in cash upon conversion in a manner that reflects the issuer's economic interest cost. The effect of ASC 470-20 on the accounting for the Notes is that the equity component is required to be included

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in the additional paid-in capital section of stockholders' equity on our consolidated balance sheet, and the value of the equity component would be treated as debt discount for purposes of accounting for the debt component of the Notes. As a result, we will be required to record a greater amount of non-cash interest expense in current and future periods presented as a result of the amortization of the discounted carrying value of the Notes to their face amount over the term of the Notes. We will report lower net income in our financial results because ASC 470-20 will require interest to include both the current period's amortization of the debt discount and the instrument's non-convertible interest rate, which could adversely affect our reported or future financial results, the trading price of our common stock and the trading price of the Notes.

In addition, under certain circumstances, convertible debt instruments (such as the Notes) that may be settled entirely or partly in cash are currently accounted for utilizing the treasury stock method, the effect of which is that the shares issuable upon conversion of the Notes are not included in the calculation of diluted earnings per share except to the extent that the conversion value of the Notes exceeds their principal amount. Under the treasury stock method, for diluted earnings per share purposes, the transaction is accounted for as if the number of shares of common stock that would be necessary to settle such excess, if we elected to settle such excess in shares, are issued. We cannot be sure that the accounting standards in the future will continue to permit the use of the treasury stock method or that circumstances would not change such that we would no longer be permitted to use the treasury stock method. If we are unable to use the treasury stock method in accounting for the shares issuable upon conversion of the Notes, then our diluted earnings per share would be adversely affected.

Our common stock price, and therefore the price of our Notes, may be extremely volatile, and the value of an investment in our stock may decline.

Our common stock price has been highly volatile. We expect that this volatility will continue in the future due to factors such as:

- general market and economic conditions;
- actual or anticipated variations in operating results;
- increases or decreases in the general stock market or to the stock prices of technology companies;
- announcements of technological innovations, new products or new services by us or by our competitors or customers;
- changes in financial estimates or recommendations by stock market analysts regarding us or our competitors;
- announcements by us or our competitors of significant acquisitions, dispositions, strategic partnerships, joint ventures or capital commitments;
- announcements by our customers regarding end user market conditions and the status of existing and future infrastructure network deployments;
- the repurchase of over 40% of our outstanding shares since 2012 pursuant to our ongoing stock repurchase program and the tender offer we completed in 2013, as well as in connection with our convertible note offering in 2015, and any future repurchases under our stock repurchase program;
- additions or departures of key personnel; and
- future equity or debt offerings or our announcements of these offerings.

In addition, in recent years, the stock market in general, and the NASDAQ Stock Market and the securities of technology companies in particular, have experienced extreme price and volume fluctuations. These fluctuations have often been unrelated or disproportionate to the operating performance of individual companies. These broad market fluctuations have in the past, and may in the future, materially and adversely affect our stock price, regardless of our operating results. In these circumstances, investors may be unable to sell their shares of our common stock at or above their purchase price over the short term, or at all.

Our stock price may decline if additional shares are sold in the market or if analysts drop coverage of or downgrade our stock.

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Future sales of substantial amounts of shares of our common stock by our existing stockholders in the public market, or the perception that these sales could occur, may cause the market price of our common stock to decline. In addition, we issue additional shares upon exercise of stock options, including under our ESPP, and in connection with grants of RSUs on an ongoing basis. To the extent we do not elect to pay solely cash upon conversion of our Notes, we will also be required to issue additional shares of common stock upon conversion. Increased sales of our common stock in the market after exercise of outstanding stock options or grants of restricted stock units could exert downward pressure on our stock price. These sales also might make it more difficult for us to sell equity or equity-related securities in the future at a time and price we deem appropriate.

The trading market for our common stock relies in part on the availability of research and reports that third-party industry or securities analysts publish about us. If one or more of the analysts who do cover us downgrade our stock, our stock price may decline. If one or more of these analysts cease coverage of us, we could lose visibility in the market, which in turn could cause the liquidity of our stock and our stock price to decline.

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ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

On April 24, 2012, our Board of Directors approved a stock repurchase program that provided for the repurchase of up to \$25 million of our outstanding common stock during the term of the program. Under the program, the Company is authorized to repurchase shares of common stock in open market transactions or pursuant to any trading plan that may be adopted in accordance with Rule 10b5-1 of the Exchange Act. From time to time, the Board may approve further increases to the program and the amount approved for this program was increased to \$300 million periodically through May 2014 and the repurchase period has been extended through the end of 2016. The timing and actual number of shares repurchased, if any, will depend on a variety of factors, including the price and availability of our shares, trading volume and general market conditions. The purchases are funded from available working capital. The program may be suspended or discontinued at any time without prior notice.

On December 8, 2015, our Board of Directors approved the use of part of the proceeds from the sale and issuance of our 4.00% convertible senior notes due 2020 (“the Notes” or “the offering”, as applicable), issued on December 14, 2015, to repurchase shares of our common stock from purchasers of the Notes in privately negotiated transactions effected through the initial purchaser or its affiliate as our agent. (See Note 11, “Convertible Notes, Other Debts and Capital Leases” for additional information on the Notes). Concurrent with the issuance of the Notes, we used \$49.9 million of the net proceeds from the Notes to repurchase 11.1 million shares of our common stock at a price of \$4.49 per share. There were no stock repurchases in the nine months ended September 30, 2016 and the remaining authorized amount for stock repurchases under this program was \$45.7 million as of September 30, 2016.

On September 26, 2016 the Company granted a warrant to purchase shares of common stock of the Company to Comcast pursuant to which Comcast may purchase up to 7,816,162 shares of the Company’s common stock, par value \$0.001 per share, subject to adjustment in accordance with the terms of the Warrant, for a per Share exercise price of \$4.76, which was the weighted-average trading price of the Company’s common stock for the 10 trading days prior to the issue date.

Comcast’s right to exercise the Warrant is subject to certain vesting triggers relating to the execution of the Warrant, certain pricing elections by Comcast, the successful completion of field trials of certain of the Company’s products, and certain payments by Comcast for the Company’s products and services. The offer and sale of such securities were made only to “accredited investors” (as defined by Rule 501 under the Securities Act) in reliance upon exemptions from registration under the Securities Act afforded by Section 4(a)(2) of the Securities Act and corresponding provisions of state securities laws. Reliance on Section 4(2) is based on the nature of the offering and sale and the representations made by Comcast in the Warrant with respect to its investment experience and intent.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

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Exhibit  
Number Exhibit Index

- 4.1(i)† Warrant to Purchase Shares of Common Stock of Harmonic, Inc.
- 10.1(ii) Registration Rights Agreement, dated September 26, 2016, by and between the Company and Comcast.
- 31.1 Section 302 Certification of Principal Executive Officer
- 31.2 Section 302 Certification of Principal Financial Officer
- 32.1\* Section 906 Certification of Principal Executive Officer
- 32.2\* Section 906 Certification of Principal Financial Officer
- 101 The following materials from Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2016, formatted in Extensible Business Reporting Language (XBRL) includes:
- (i) Condensed Consolidated Balance Sheets at September 30, 2016 and December 31, 2015, (ii) Condensed Consolidated Statements of Operations for the three and nine months ended September 30, 2016 and October 2, 2015 (iii) Condensed Consolidated Statements of Comprehensive Income (Loss) for the three and nine months ended September 30, 2016 and October 2, 2015, (iv) Condensed Consolidated Statements of Cash Flows for the nine months ended September 30, 2016 and October 2, 2015, and (v) Notes to Condensed Consolidated Financial Statements.
- (i) Previously filed as an Exhibit to the Company's Current Report on Form 8-K dated September 26, 2016.
- (ii) Previously filed as an Exhibit to the Company's Current Report on Form 8-K dated September 26, 2016.

† Registrant has omitted portions of this exhibit and filed such exhibit separately with the Securities and Exchange Commission pursuant to a grant of confidential treatment under Rule 406 promulgated under the Securities Act.

\* The certifications attached as Exhibits 32.1 and 32.2 that accompany this Quarterly Report on Form 10-Q, are deemed furnished and not filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Harmonic Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Quarterly Report on Form 10-Q, irrespective of any general incorporation language contained in such filing.

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SIGNATURES

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

HARMONIC INC.

By: /s/ Harold Covert

Harold Covert

Chief Financial Officer

Date: November 9, 2016