Enphase Energy, Inc.
Form 10-Q
November 06, 2018
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-Q

(Mark One)
x QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended September 30, 2018
or
¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to
Commission File Number: 001-35480

Enphase Energy, Inc.
(Exact name of registrant as specified in its charter)

Delaware	20-4645388
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
47281 Bayside Parkway Fremont, CA	94538
(Address of principal executive offices)	(Zip Code)

(707) 774-7000
(Registrant’s telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No ¨
Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes x No ¨
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an “emerging growth company.” See the definitions of “large accelerated filer,” “accelerated filer, ” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act:

Large accelerated filer	¨	Accelerated filer	¨
Non-accelerated filer	x	Smaller reporting company	x
Emerging growth Company	¨		

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

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

As of November 1, 2018, there were 106,328,107 shares of the registrant's common stock outstanding, $0.00001 par value per share.

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements (Unaudited)

ENPHASE ENERGY, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(In thousands, except par value)
(Unaudited)

	September 30, 2018	December 31, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	$ 116,164	$ 29,144
Accounts receivable, net of allowances of $2,167 and $2,378 at September 30, 2018 and December 31, 2017, respectively	54,117	65,346
Inventory	17,886	25,999
Prepaid expenses and other assets	21,631	9,957
Total current assets	209,798	130,446
Property and equipment, net	20,331	26,483
Intangible assets, net	36,078	515
Goodwill	24,783	3,664
Other assets	35,520	8,039
Total assets	$ 326,510	$ 169,147
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 28,103	$ 28,747
Accrued liabilities	41,562	22,447
Deferred revenues, current	32,015	15,691
Warranty obligations, current (includes $4,110 and $2,240 measured at fair value at September 30, 2018 and December 31, 2017, respectively)	9,117	7,427
Debt, current	24,125	17,429
Total current liabilities	134,922	91,741
Long-term liabilities:		
Deferred revenues, noncurrent	74,065	29,941
Warranty obligations, noncurrent (includes $9,456 and $7,551 measured at fair value at September 30, 2018 and December 31, 2017, respectively)	23,067	22,389
Other liabilities	2,393	1,880
Debt, noncurrent	87,907	32,322
Total liabilities	322,354	178,273
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, $0.00001 par value, 10,000 shares authorized; none issued and outstanding	—	—
Common stock, $0.00001 par value, 150,000 shares and 125,000 shares authorized; and 106,322 and 85,914 shares issued and outstanding at September 30, 2018 and December 31, 2017, respectively	1	1
Additional paid-in capital	351,173	287,256
Accumulated deficit	(347,011)	(295,727)
Accumulated other comprehensive loss	(7)	(656)

Total stockholders’ equity (deficit)	4,156	(9,126)
Total liabilities and stockholders’ equity	$ 326,510	$ 169,147

See notes to condensed consolidated financial statements.

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ENPHASE ENERGY, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share data)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Net revenues	$78,002	$77,038	$223,870	$206,492
Cost of revenues	52,738	60,577	157,589	169,438
Gross profit	25,264	16,461	66,281	37,054
Operating expenses:				
Research and development	8,165	7,397	25,247	24,949
Sales and marketing	7,375	5,453	20,430	18,186
General and administrative	7,510	5,441	21,423	16,238
Restructuring charges	2,588	4,071	2,588	14,927
Total operating expenses	25,638	22,362	69,688	74,300
Loss from operations	(374)	(5,901)	(3,407)	(37,246)
Other expense, net				
Interest expense	(2,469)	(1,760)	(7,031)	(5,979)
Other income (expense)	(379)	623	(1,077)	1,771
Total other expense, net	(2,848)	(1,137)	(8,108)	(4,208)
Loss before income taxes	(3,222)	(7,038)	(11,515)	(41,454)
Income tax (provision) benefit	(248)	184	(821)	(798)
Net loss	$(3,470)	$(6,854)	$(12,336)	$(42,252)
Net loss per share:				
Basic and diluted	$(0.03)	$(0.08)	$(0.13)	$(0.52)
Shares used in per share calculation:				
Basic and diluted	102,798	84,862	97,257	81,993

See notes to condensed consolidated financial statements.

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ENPHASE ENERGY, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(In thousands)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Net loss	$(3,470)	$(6,854)	$(12,336)	$(42,252)
Other comprehensive loss:				
Foreign currency translation adjustments	346	(296)	649	(173)
Comprehensive loss	$(3,124)	$(7,150)	$(11,687)	$(42,425)

See notes to condensed consolidated financial statements.

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ENPHASE ENERGY, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)
(Unaudited)

	Nine Months Ended September 30,	
	2018	2017
Cash flows from operating activities:		
Net loss	$(12,336)	$(42,252)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Depreciation and amortization	6,950	6,763
Provision for doubtful accounts	668	911
Asset impairment charges	1,636	1,638
Amortization of debt issuance costs	1,880	1,337
Stock-based compensation	9,911	5,277
Changes in operating assets and liabilities:		
Accounts receivable	10,671	(8,761)
Inventory	8,112	6,644
Prepaid expenses and other assets	(3,995)	(5,110)
Intangible assets	(6,000)	—
Accounts payable, accrued and other liabilities	4,672	3,051
Warranty obligations	2,368	(1,062)
Deferred revenues	(10,280)	5,036
Net cash provided by (used in) operating activities	14,257	(26,528)
Cash flows from investing activities:		
Purchases of property and equipment	(2,384)	(3,609)
Acquisition	(9,000)	—
Net cash used in investing activities	(11,384)	(3,609)
Cash flows from financing activities:		
Proceeds from issuance of common stock, net of issuance costs	19,771	26,425
Proceeds from debt	68,352	24,240
Principal payments on term debt	(5,664)	—
Payments under revolving credit facility	—	(10,100)
Proceeds from issuance of common stock under employee stock plans	2,151	174
Net cash provided by financing activities	84,610	40,739
Effect of exchange rate changes on cash	(463)	512
Net increase in cash and cash equivalents	87,020	11,114
Cash and cash equivalents—Beginning of period	29,144	17,764
Cash and cash equivalents—End of period	$116,164	$28,878
Supplemental disclosures of non-cash investing and financing activities:		
Acquisition funded by issuance of common stock	$19,219	$—
Acquisition funded by accrued liabilities	$6,000	$—
Purchases of fixed assets included in accounts payable	$125	$871
Warrants issued in connection with debt	$—	$1,447

See notes to condensed consolidated financial statements.

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ENPHASE ENERGY, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. DESCRIPTION OF BUSINESS AND BASIS OF PRESENTATION

Description of Business

Enphase Energy, Inc. and subsidiaries (the "Company") deliver simple, innovative and reliable energy management solutions that advance the worldwide potential of renewable energy. The Company's semiconductor-based microinverter system converts direct current (DC) electricity to alternating current (AC) electricity at the individual solar module level and brings a system-based, high technology approach to solar energy generation leveraging the Company's design expertise across power electronics, semiconductors, networking, and cloud-based software technologies. Since inception, the Company has shipped over 18 million microinverters, representing over 4 gigawatts of solar photovoltaic (PV) generating capacity, and more than 820,000 Enphase residential and commercial systems have been deployed in over 120 countries.

Basis of Presentation and Consolidation

The accompanying condensed consolidated financial statements are presented in accordance with accounting principles generally accepted in the U.S, or GAAP. The condensed consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

Unaudited Interim Financial Information

These accompanying unaudited condensed consolidated financial statements have been prepared pursuant to the rules and regulations of the Securities and Exchange Commission (the "SEC") for interim financial reporting. In the opinion of management, these unaudited condensed consolidated financial statements reflect all adjustments, consisting of normal recurring items, considered necessary to present fairly the Company's financial condition, results of operations, comprehensive loss and cash flows for the interim periods indicated. The results of operations for the three and nine months ended September 30, 2018 are not necessarily indicative of the operating results for the full year. Certain information and footnote disclosures typically included in annual consolidated financial statements have been condensed or omitted. Accordingly, these unaudited interim condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and related notes included in the Company's Annual Report on Form 10-K for the year ended December 31, 2017.

Other than as discussed in Note 2. "Revenue Recognition," Note 11. "Stock-based Compensation" and Note 14. "Acquisition," there have been no material changes in the Company's significant accounting policies during the nine months ended September 30, 2018, as compared to the significant accounting policies described in the Company's Annual Report on Form 10-K for the year ended December 31, 2017. Reference is made to the disclosures therein for a summary of the Company's significant accounting policies.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of income and expenses during the reporting period. Significant estimates and assumptions reflected in the financial statements include revenue recognition, inventory valuation and accrued warranty obligations. These estimates are based on information available as of the date of the financial statements; therefore, actual results could differ materially from management's estimates using different assumptions or under different conditions.

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Recently Adopted Accounting Pronouncements

In May 2014, the FASB issued Accounting Standards Update No. ("ASU") 2014-09, "Revenue from Contracts with Customers," amending revenue recognition guidance and requiring more detailed disclosures to enable users of financial statements to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. The amended guidance, herein referred to as Topic 606, is effective for annual and interim reporting periods beginning after December 15, 2017, with early adoption permitted for public companies effective for annual and interim reporting periods beginning after December 15, 2016. The Company has adopted Topic 606 effective January 1, 2018, using the modified retrospective transition method. The Company recognized the cumulative effect of applying the new revenue standard as an adjustment to the opening balance of retained earnings on January 1, 2018. The comparative information has not been restated and continues to be reported under the accounting standards in effect for the period presented. See Note 2, "Revenue Recognition," for additional accounting policy and transition disclosures.

In January 2016, the FASB issued ASU 2016-01, "Recognition and Measurement of Financial Assets and Financial Liabilities," which amends certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. Changes to the current guidance include the accounting for equity investments, the presentation and disclosure requirements for financial instruments, and the assessment of valuation allowance on deferred tax assets related to available-for-sale securities. In addition, ASU 2016-01 establishes an incremental recognition and disclosure requirement related to the presentation of fair value changes of financial liabilities for which the fair value option has been elected. Under this guidance, an entity would be required to separately present in other comprehensive income the portion of the total fair value change attributable to instrument-specific credit risk as opposed to reflecting the entire amount in earnings. ASU 2016-01 is effective for fiscal years and interim periods beginning after December 15, 2017, and upon adoption, an entity should apply the amendments by means of a cumulative-effect adjustment to the balance sheet at the beginning of the first reporting period in which the guidance is effective. Early adoption was not permitted except for the provision to record fair value changes for financial liabilities under the fair value option resulting from instrument-specific credit risk in other comprehensive income. The standard, which was adopted in the first quarter of 2018, did not have a material impact on the condensed consolidated financial statements.

In November 2016, the FASB issued ASU 2016-18, "Statement of Cash Flows," which requires companies to include amounts generally described as restricted cash and restricted cash equivalents in cash and cash equivalents when reconciling beginning-of-period and end-of-period total amounts shown on the statement of cash flows. ASU 2016-18 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017. The standard, which was adopted prospectively in the first quarter of 2018, did not have a material impact on the condensed consolidated financial statements.

In May 2017, the FASB issued ASU 2017-09, "Compensation - Stock Compensation." ASU 2017-09 was issued to provide clarity and reduce both 1) diversity in practice and 2) cost and complexity when applying the guidance in Topic 718 to a change in the terms or conditions of a share-based payment award. ASU 2017-09 provides guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting under Topic 718. ASU 2017-09 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2017. The standard, which was adopted in the first quarter of 2018, did not have a material impact on the condensed consolidated financial statements.

Recently Issued Accounting Pronouncements Not Yet Effective

In February 2016, the FASB issued ASU 2016-02, Leases ("ASU 2016-02"). The guidance will require lessees to recognize all leases, with certain exceptions, on their balance sheets, whether operating or financing, while continuing to recognize the expenses on their income statements in a manner similar to current practice. The guidance states that a lessee would recognize a lease liability for the obligation to make lease payments and a right-to-use asset for the right to use the underlying asset for the lease term. The guidance will be effective for the Company beginning January 1, 2019 and early adoption is permitted. The Company will adopt ASU 2016-02 on January 1, 2019 and intends to elect the available practical expedients upon adoption. Upon adoption, the Company expects the consolidated balance sheet to include a right of use asset and a corresponding lease liability related to substantially all of the Company’s lease arrangements. The Company is evaluating the accounting, transition and disclosure requirements of the standard.

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2. REVENUE RECOGNITION

On January 1, 2018, the Company adopted Topic 606 and applied the modified retrospective method to all contracts that were not completed as of January 1, 2018. Results for reporting periods beginning after January 1, 2018 are presented under Topic 606, while prior period amounts are not adjusted and continue to be reported under the accounting standards in effect in the prior period. The Company recorded a net reduction to opening equity of $38.9 million on January 1, 2018 for the cumulative effect of adopting Topic 606. The impact to net revenues from the adoption of Topic 606 for the nine months ended September 30, 2018 was a net increase of $2.8 million.

Changes in accounting policies as a result of adopting Topic 606 and nature of goods

The most significant impacts upon adoption of Topic 606 were how the Company accounts for revenue related to its Envoy communications device and related Enlighten service and the timing of when certain sales incentives are recognized. Under ASC 605 the Company's Envoy communications device and Enlighten service were considered two units of accounting, and the portion of the consideration related to the hardware was recognized at the time of sale with the remaining consideration deferred and recognized over the estimated service period. Under ASC 606 the full consideration for these products represents a single performance obligation and is deferred and recognized over the estimated service period. This treatment resulted in a gross increase to deferred revenue of $77.5 million, an increase in deferred costs of $43.4 million and a net increase in accumulated deficit of $34.1 million upon adoption of ASC 606.

The Company previously sold its Envoy communications device to certain customers under a long-term financing arrangement. Under ASC 605, this arrangement resulted in the recording of both deferred revenue and unbilled receivables on the Company's condensed consolidated balance sheets. The Company's opening entries related to ASC 606 included the netting of approximately $6.4 million of unbilled receivables against deferred revenue. Thus, the $77.5 million increase to deferred revenue noted above was partially offset by a $6.4 million reclassification of unbilled receivables to deferred revenue.

Under ASC 605 the Company recorded certain contra revenue promotions at the later of the date revenue was recognized or the date at which the promotional offer was extended. Under ASC 606 all such contra revenue programs are treated as variable consideration and recognized at the time the related revenue is recorded. This change in timing resulted in an increase in accrued liabilities of approximately $5.6 million and an increase to accumulated deficit of the same amount upon adoption of ASC 606. This change in timing is not expected to have a material impact in subsequent periods.

Topic 606 requires upfront contract acquisition costs, such as sales commissions, to be capitalized and amortized over the estimated life of the asset. For contracts that have a duration of less than one year, the Company follows the Topic 606 practical expedient and expenses these costs when incurred. Commissions related to the Company's sale of monitoring hardware and service are capitalized and amortized over the period of the associated revenue, which is 6.5 years. This treatment resulted in an increase in deferred costs of approximately $0.8 million and a decrease in accumulated deficit of the same amount upon adoption of ASC 606.

Revenues are recognized when control of the promised goods or services are transferred to the Company's customers in an amount that reflects the consideration that is expected to be received in exchange for those goods or services. The Company generates all of its revenues from contracts with its customers. A description of principal activities from which the Company generates revenues follows.

Products Delivered at a Point in Time

The Company sells its products to customers in accordance with the terms of the related customer contracts. The Company generates revenues from sales of its microinverter systems, which include microinverter units and related accessories, an Envoy communications gateway and Enlighten service, communications accessories and AC Battery storage solutions to distributors, large installers, OEMs and strategic partners. Microinverter units, microinverter accessories, and AC Battery storage solutions are delivered to customers at a point in time, and in accordance with Topic 606, the Company recognizes revenue for these products when the Company transfers control of the product to the customer, which is generally upon shipment.

Products Delivered Over Time

The sale of an Envoy communications gateway includes the Company’s Enlighten cloud-based monitoring service. Under Topic 606 the full consideration for these products represents a single performance obligation and is deferred at the sale date and recognized over the estimated service period, which is 6.5 years.
The Company also sells certain communication accessories that are delivered over time. The revenue from these products is recognized over the related service period, which is typically 5 or 12 years.

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Disaggregation of Revenue

The Company has one business activity, which is the design, manufacture and sale of microinverter systems for the solar photovoltaic industry. The following table provides information about disaggregated revenue by primary geographical market and timing of revenue recognition for the Company's single product line (in thousands):

	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2018
Primary geographical markets:		
United States	$ 54,880	$ 148,268
International	23,122	75,602
Total	$ 78,002	$ 223,870
Timing of revenue recognition:		
Products transferred at a point in time	$ 68,256	$ 193,564
Products and services transferred over time	9,746	30,306
Total	$ 78,002	$ 223,870

Contract Balances

As of September 30, 2018, receivables, contract assets and contract liabilities from contracts with customers consist of the following (in thousands):

	September 30, 2018
Receivables	$ 54,117
Short-term contract assets (Prepaid expenses and other assets)	12,876
Long-term contract assets (Other assets)	32,967
Short-term contract liabilities (Deferred revenues)	32,015
Long-term contract liabilities (Deferred revenues)	74,065

The Company receives payments from customers based upon contractual billing schedules. Accounts receivable are recorded when the right to consideration becomes unconditional. Contract assets include deferred product costs and commissions associated with the deferred revenue and will be amortized along with the associated revenue. The Company had no asset impairment charges related to contract assets in the nine months ended September 30, 2018. Contract liabilities are recorded as deferred revenue on the accompanying condensed consolidated balance sheets and include payments received in advance of performance obligations under the contract and are realized when the associated revenue is recognized under the contract.

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Significant changes in the balances of contract liabilities (deferred revenues) and contract assets (prepaid expenses and other assets) during the period are as follows (in thousands):

Contract Liabilities	
Balance on January 1, 2018	$116,830
Revenue recognized	(36,283)
Increase due to billings	25,533
Balance as of September 30, 2018	$106,080
Short-term contract liabilities (Deferred revenues)	32,015
Long-term contract liabilities (Deferred revenues)	74,065

Contract Assets	
Balance on January 1, 2018	$47,862
Amount recognized	(11,741)
Increase	9,722
Balance as of September 30, 2018	$45,843

Remaining Performance Obligations

The following table includes estimated revenue expected to be recognized in future periods related to performance obligations that are unsatisfied or partially unsatisfied at the end of the reporting period (in thousands).

	September 30, 2018
2018 (remaining 3 months)	$ 8,922
2019	30,505
2020	24,352
2021	18,162
2022	13,112
Thereafter	11,027
Total	$ 106,080

Practical Expedients and Exemptions

The Company generally expenses sales commissions related to products delivered at a point in time when the commissions are incurred because the amortization period would have been less than one year. The Company records these costs as sales and marketing expense. The Company expenses shipping and handling costs as incurred.

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Impact of Adoption of Topic 606

In accordance with Topic 606, the disclosure of the impact of adoption to the Company's condensed consolidated statements of operations and condensed consolidated balance sheets was as follows (in thousands):

	Three Months Ended September 30, 2018			Nine Months Ended September 30, 2018		
	As Reported	Adjustments	Without Adoption of Topic 606	As Reported	Adjustments	Without Adoption of Topic 606
Net revenues	$78,002	$ 323	$77,679	$223,870	$ 2,781	$221,089
Cost of revenues	52,738	413	52,325	157,589	1,409	156,180
Gross profit	25,264	(90)	25,354	66,281	1,372	64,909
Operating expenses:		—			—	
Research and development	8,165	—	8,165	25,247	—	25,247
Sales and marketing	7,375	—	7,375	20,430	58	20,372
General and administrative	7,510	—	7,510	21,423	—	21,423
Restructuring charges	2,588	—	2,588	2,588	—	2,588
Total operating expenses	25,638	—	25,638	69,688	58	69,630
Loss from operations	(374)	(90)	(284)	(3,407)	1,314	(4,721)
Other expense, net						
Interest expense	(2,469)	—	(2,469)	(7,031)	—	(7,031)
Other expense	(379)	—	(379)	(1,077)	—	(1,077)
Total other expense, net	(2,848)	—	(2,848)	(8,108)	—	(8,108)
Loss before income taxes	(3,222)	(90)	(3,132)	(11,515)	1,314	(12,829)
Income tax provision	(248)	—	(248)	(821)	—	(821)
Net loss	$(3,470)	$ (90)	$(3,380)	$(12,336)	$ 1,314	$(13,650)
Net loss per share:						
Basic and diluted	$(0.03)	$ —	$(0.03)	$(0.13)	$ 0.01	$(0.14)
Shares used in per share calculation:						
Basic and diluted	102,798	—	102,798	97,257	—	97,257

	September 30, 2018		
	As Reported	Adjustments	Without Adoption of Topic 606
Prepaid expenses and other	$21,631	$ 9,465	$12,166
Other assets	35,520	28,450	7,070
Accrued liabilities	41,562	5,372	36,190
Deferred revenues	32,015	19,369	12,646
Deferred revenues, noncurrent	74,065	50,804	23,261
Accumulated deficit	(347,011)	(37,630)	(309,381)

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3. INVENTORY

Inventory as of September 30, 2018 and December 31, 2017 consists of the following (in thousands):

	September 30, 2018	December 31, 2017
Raw materials	$ 1,467	$ 2,341
Finished goods	16,419	23,658
Total inventory	$ 17,886	$ 25,999

4. WARRANTY OBLIGATIONS

The Company's warranty activities during the three and nine months ended September 30, 2018 and 2017 were as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Warranty obligations, beginning of period	$31,642	$31,613	$29,816	$31,414
Accruals for warranties issued during period	689	1,009	2,222	2,913
Changes in estimates	1,997	(1,046)	4,825	(826)
Settlements	(2,467)	(1,494)	(6,242)	(5,092)
Increase due to accretion expense	514	549	1,453	1,542
Other	(191)	(279)	110	401
Warranty obligations, end of period	$32,184	$30,352	$32,184	$30,352
Less current portion			$(9,117)	$(7,151)
Noncurrent			$23,067	$23,201

As of September 30, 2018, the $32.2 million of warranty obligations included $13.6 million measured at fair value. See Note 5, "Fair Value Measurements" for additional information.

5. FAIR VALUE MEASUREMENTS

The accounting guidance defines fair value as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities recorded at fair value, the Company considers the principal or most advantageous market in which it would transact and considers assumptions that market participants would use when pricing the asset or liability, such as inherent risk, transfer restrictions, and risk of nonperformance.

The fair value hierarchy requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. An asset's or liability's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement. Three levels of inputs may be used to measure fair value:

- Level 1—Valuations based on quoted prices in active markets for identical assets or liabilities that the Company is able to access. Since valuations are based on quoted prices that are readily and regularly available in an active market, valuation of such assets or liabilities do not entail a significant degree of judgment.
- Level 2—Valuations based on one or more quoted prices in markets that are not active or for which all significant inputs are observable, either directly or indirectly.
- Level 3—Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

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The following table presents the Company’s liabilities that were measured at fair value on a recurring basis and its categorization within the fair value hierarchy at September 30, 2018 and December 31, 2017 (in thousands):

	Fair Value Hierarchy	September 30, 2018	December 31, 2017
Warranty obligations	Level 3	$ 13,566	$ 9,790
Third party option to purchase receivables at a discount	Level 3	—	700

Fair Value Option for Warranty Obligations Related to Microinverters Sold Since January 1, 2014

The Company’s warranty obligations related to microinverters sold since January 1, 2014 provide the Company the right, but not the requirement, to assign its warranty obligations to a third-party. Under ASC 825, “Financial Instruments,” (“fair value option”), an entity may choose to elect the fair value option for such warranties at the time it first recognizes the eligible item. The Company made an irrevocable election to account for all eligible warranty obligations associated with microinverters sold since January 1, 2014 at fair value. This election was made to reflect the underlying economics of the time value of money for an obligation that will be settled over an extended period of up to 25 years.

The Company estimates the fair value of warranty obligations by calculating the warranty obligations in the same manner as for sales prior to January 1, 2014 and applying an expected present value technique to that result. The expected present value technique, an income approach, converts future amounts into a single current discounted amount. In addition to the key estimates of failure rates, claim rates and replacement costs, the Company used certain Level 3 inputs which are unobservable and significant to the overall fair value measurement. Such additional assumptions included a discount rate based on the Company’s credit-adjusted risk-free rate and compensation comprised of a profit element and risk premium required of a market participant to assume the obligation.

The following table provides information regarding changes in nonfinancial liabilities related to the Company’s warranty obligations measured at fair value on a recurring basis using significant unobservable inputs (Level 3) for the periods indicated (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Balance at beginning of period	$12,836	$12,564	$9,790	$10,332
Accruals for warranties issued during period	689	867	2,222	2,760
Changes in estimates	853	(1,452)	2,848	(2,051)
Settlements	(1,135)	(530)	(2,857)	(1,265)
Increase due to accretion expense	514	549	1,453	1,542
Other	(191)	(279)	110	401
Balance at end of period	$13,566	$11,719	$13,566	$11,719

Quantitative and Qualitative Information about Level 3 Fair Value Measurements

As of September 30, 2018, the significant unobservable inputs used in the fair value measurement of the Company’s liabilities designated as Level 3 are as follows:

Item Measured at Fair Value	Valuation Technique	Description of Significant Unobservable Input	Percent Used (Weighted-Average)
Warranty obligations for microinverters sold since January 1, 2014	Discounted cash flows	Profit element and risk premium	16%
		Credit-adjusted risk-free rate	16%

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As of December 31, 2017, the significant unobservable inputs used in the fair value measurement of the Company's liabilities designated as Level 3 are as follows:

Item Measured at Fair Value	Valuation Technique	Description of Significant Unobservable Input	Percent Used (Weighted-Average)
Warranty obligations for microinverters sold since January 1, 2014	Discounted cash flows	Profit element and risk premium	17%
		Credit-adjusted risk-free rate	17%
Third party option to purchase receivables at a discount	Discounted cash flows	Counter party credit-adjusted risk-free rate	4%

Sensitivity of Level 3 Inputs

Warranty Obligations

Each of the significant unobservable inputs is independent of the other. The profit element and risk premium are estimated based on requirements of a third-party participant willing to assume the Company's warranty obligations. The credit-adjusted risk free rate ("discount rate") is determined by reference to the Company's own credit standing at the fair value measurement date. Increasing the profit element and risk premium input by 100 basis points would result in a $0.1 million increase to the liability. Decreasing the profit element and risk premium by 100 basis points would result in a $0.1 million reduction of the liability. Increasing the discount rate by 100 basis points would result in a $0.6 million reduction of the liability. Decreasing the discount rate by 100 basis points would result in a $0.6 million increase to the liability.

6. GOODWILL AND INTANGIBLE ASSETS

The following table presents the details of the Company's goodwill and purchased intangible assets as of September 30, 2018 and December 31, 2017 (in thousands):

	September 30, 2018				December 31, 2017		
	Gross	Additions	Accumulated Amortization	Net	Gross	Accumulated Amortization	Net
Goodwill	$3,664	$21,119	$ —	$24,783	$3,664	$ —	$3,664
Intangible assets:							
Other indefinite-lived intangibles	$286	$—	$ —	$286	$286	$ —	$286
Intangible assets with finite lives:							
Patents and licensed technology	1,665	—	(1,665)	—	1,665	(1,436)	229
Developed technology	—	13,100	(408)	12,692	—	—	—
Customer relationships	—	23,100	—	23,100	—	—	—
Total purchased intangible assets	$1,951	$36,200	$ (2,073)	$36,078	$1,951	$ (1,436)	$515

In July 2014, the Company purchased certain patents related to system interconnection and photovoltaic AC module construction. The patents were amortized over their legal life of 3 years. In October 2015, the Company licensed certain technology related to ASIC development for a 3 year term, which is also its estimated useful life. As of September 30, 2018, these patents were fully amortized.

In August 2018, the Company acquired certain finite-lived intangible assets in its acquisition of SunPower Corporation's ("SunPower") microinverter business pursuant to an Asset Purchase Agreement ("APA"), primarily developed technology and customer relationships. See Note 14. "Acquisition" for additional information related to this acquisition.

For the three and nine months ended September 30, 2018 and September 30, 2017, amortization expense related to finite-lived intangible assets was $0.5 million, $0.6 million, $0.1 million and $0.4 million, respectively.

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7. RESTRUCTURING

2018 Plan

In the third quarter of 2018, the Company began implementing restructuring actions (the “2018 Plan”) to lower its operating expenses. The restructuring actions include reorganization of the Company’s global workforce, elimination of certain non-core projects and consolidation of facilities. The Company expects to complete this restructuring in 2019.

The following table presents the details of the Company’s restructuring charges under the 2018 Plan for the periods indicated (in thousands):

	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2018
Redundancy and employee severance and benefit arrangements	$ 613	$ 613
Asset impairments	1,636	1,636
Lease loss reserves	339	339
Total restructuring	$ 2,588	$ 2,588

The following table provides information regarding changes in the Company’s 2018 Plan accrued restructuring balance for the periods indicated (in thousands):

	Redundancy and Employee Severance and Benefits	Lease Loss Reserves and Contractual Obligations	Total
Charges	$ 613	$ 339	$952
Cash payments	(297)	—	(297)
Non-cash settlement and other	—	10	10
Balance as of September 30, 2018	$ 316	$ 349	$665

2016 Plan

In the third quarter of 2016, the Company began implementing restructuring actions (the “2016 Plan”) to lower its operating expenses. The restructuring actions have included reductions in the Company’s global workforce, the elimination of certain non-core projects, consolidation of office space at the Company’s corporate headquarters and the engagement of management consultants to assist the Company in making organizational and structural changes to improve operational efficiencies and reduce expenses. The Company substantially completed its restructuring activities in 2017.

The following table presents the details of the Company’s restructuring charges under the 2016 Plan for the periods indicated (in thousands):

	Three Months Ended September 30, 2017	Nine Months Ended September 30, 2017
Employee severance and benefit arrangements	$ 1,111	$ 2,826
Asset impairments	—	522
Consultants engaged in restructuring activities	3,100	10,100
Lease loss reserves and contract termination costs	(140)	1,479
Total restructuring	$ 4,071	$ 14,927

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The following table provides information regarding changes in the Company's 2016 Plan accrued restructuring balance for the periods indicated (in thousands):

	Employee Severance and Benefits	Lease Loss Reserves and Contractual Obligations	Total
Balance as of December 31, 2017	$ 229	$ 1,094	$1,323
Cash payments and receipts, net	(229)	707	478
Non-cash settlement	—	—	—
Balance as of September 30, 2018	$ 0	$ 1,801	$1,801

8. DEBT

Long-term debt was comprised of the following at September 30, 2018 and December 31, 2017 (in thousands):

	September 30, 2018	December 31, 2017
Convertible Notes due 2023	$ 65,000	$ —
Less unamortized issuance costs	(2,492)	—
Carrying amount of Convertible Notes due 2023	62,508	—
Term loan	44,336	50,000
Less unamortized discount and issuance costs	(1,299)	(2,111)
Carrying amount of term loan	43,037	47,889
Sale of long term financing receivable recorded as debt	6,487	2,562
Less value of future purchase option	—	(700)
Carrying amount of sale of long term financing receivable recorded as debt	6,487	1,862
Total carrying amount of debt	112,032	49,751
Less current portion term loan	(21,387)	(15,715)
Less current portion of long term financing receivable recorded as debt	(2,738)	(1,714)
Long-term debt	$ 87,907	$ 32,322

Convertible Notes

In August 2018, the Company sold $60.0 million aggregate principal amount of convertible senior notes due 2023 (the "Convertible Notes") in a private placement. Additionally, an individual who is a member of the Company's Board of Directors and a stockholder, Thurman John Rodgers, purchased $5.0 million aggregate principal amount of convertible senior notes due 2023 (the "Affiliate Notes" and together with the Convertible Notes, the "Notes") in a concurrent private placement. The Company received net proceeds of $62.4 million, after deducting the underwriters' fees of approximately $2.0 million and other issuance costs of approximately $0.6 million.

The Notes are senior, unsecured and bear interest at a rate of 4.0% per year, payable semi-annually on February 1 and August 1 of each year, beginning on February 1, 2019. The Notes will mature on August 1, 2023, unless earlier repurchased by the Company or converted at the option of the holders. The Company may not redeem the Notes prior to the maturity date, and no sinking fund is provided for the Notes.

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The Notes are convertible, at a holder's election, in multiples of $1,000 principal amount, into shares of the Company's common stock, based on the applicable conversion rate. The initial conversion rate for the Notes is 180.0180 shares of common stock per $1,000 principal amount of Notes (which is equivalent to an initial conversion price of approximately $5.5600 per share). The conversion rate and the corresponding conversion price are subject to adjustment upon the occurrence of certain events, but will not be adjusted for any accrued and unpaid interest. Holders of the Notes who convert their Notes in connection with a make-whole fundamental change (as defined in the Indenture) are, under certain circumstances, entitled to an increase in the conversion rate. Additionally, in the event of a fundamental change, holders of the Notes may require the Company to repurchase all or a portion of their Notes at a price equal to 100% of the principal amount of Notes, plus any accrued and unpaid interest, including any additional interest to, but excluding, the repurchase date. Holders may convert all or any portion of their Notes at their option at any time prior to the close of business on the business day immediately preceding the maturity date, in multiples of $1,000 principal amount.

As of September 30, 2018, there were unamortized issuance costs and debt discounts of approximately $2.5 million, which were recorded as a direct deduction from the Notes on the condensed consolidated balance sheets.

Term Loan

In July 2016, the Company entered into a Loan and Security Agreement (the "Original Term Loan Agreement") with lenders that are affiliates of Tennenbaum Capital Partners, LLC (the "Lenders" or "TCP"). Under the agreement, the Lenders committed to advance a term loan in an aggregate principal amount of up to $25.0 million with a maturity date of July 1, 2020. The Company borrowed the entire $25.0 million of term loan commitments on the loan closing date. Monthly payments due through June 30, 2017 were interest only, followed by consecutive equal monthly payments of principal plus accrued interest that were to begin on July 1, 2017 and continue through the maturity date. The term loan provided for an interest rate per annum equal to the higher of (i) 10.25% or (ii) LIBOR plus 9.5625%, subject to a 1.0% reduction if the Company achieves minimum levels of Revenue and EBITDA (each as defined in the Original Term Loan Agreement) for the twelve-consecutive month period ending June 30, 2017 as set forth in the Original Term Loan Agreement. In addition, the Company paid a commitment fee of 3.3% of the loan amount upon closing and a closing fee of 10.0% of the loan amount is payable in four equal installments at each anniversary of the closing date. The Company could elect to prepay the loan by incurring a prepayment fee between 1% and 3% of the principal amount of the term loan depending on the timing and circumstances of prepayment.

In February 2017, the Company entered into an Amended and Restated Loan and Security Agreement (the "Loan Agreement") that amended and restated the Original Term Loan Agreement. The Loan Agreement provides for a $25.0 million secured term loan to the Company (the "New Term Loan"), which is in addition to the $25.0 million secured term loan borrowed by the Company under the Original Term Loan Agreement (together with the "New Term Loan" the "Term Loans"). The New Term Loan has the same July 1, 2020 maturity date that was applicable to the Original Term Loan Agreement. The New Term Loan was fully drawn at closing, with approximately $10.3 million of the proceeds used to repay existing combined principal and interest due under the Company's Revolver with Wells Fargo. Upon the repayment of loans under the Wells Fargo Revolver, the Wells Fargo Revolving Credit Agreement was terminated. The Company used the remainder of the proceeds from the New Term Loan for general corporate purposes.

Monthly payments under the Term Loans through February 28, 2018 are interest only, followed by consecutive equal monthly payments of principal plus accrued interest beginning on March 1, 2018 and continuing through the maturity date. Interest on the Term Loans is the greater of (a) 10.3125%, and (b) a fluctuating rate of interest per annum equal to the three-month LIBOR Rate (rounded up to the nearest 1/16th of one percent) plus 9.25%. In addition, the Company paid a commitment fee of 3.0% of the New Term Loan amount upon closing and a closing fee of 4.0% of the New Term Loan amount, which is payable with the closing fee under the Original Term Loan Agreement in four equal installments at each anniversary of the closing date of the Original Term Loan Agreement. The Company may elect to prepay the Term Loans by incurring a prepayment fee between 1% and 3% of the principal amount of the Term Loans depending on the timing and circumstances of prepayment.

On February 28, 2018, the Company entered into a Second Amendment to the Term Loans. The Second Amendment decreased by 50% the amount of principal repayments required under the Loan Agreement for the period from March

1, 2018 through December 31, 2018 and provided that the Company shall not prepay any part of the Term Loans during that same period without the Collateral Agent's prior written consent.

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The Term Loans are secured by a first-priority security interest on substantially all assets of the Company; provided, however, that the security interest in the Company's intellectual property may be released if the Company satisfies certain requirements. The Company's obligations under the Term Loans are not guaranteed by any of the Company's existing subsidiaries, nor have any existing subsidiaries of the Company pledged any of their assets to secure the Term Loans.

The Loan Agreement requires that (i) at all times from the closing date to and including March 31, 2018, the Company, and any future guarantors, have Unrestricted Cash (as defined in the Loan Agreement) of at least $10.0 million; (ii) at all times from the closing date to and including March 31, 2018, that the aggregate amount of Consolidated Unrestricted Cash, plus the value of Consolidated Receivables, plus the value of Consolidated Inventory (each as defined in the Loan Agreement) divided by the outstanding principal amount of Term Loans, shall equal or exceed 1.5; and (iii) at all times from April 1, 2018 and thereafter, that the aggregate amount of Consolidated Unrestricted Cash, plus the value of Consolidated Receivables, plus the value of Consolidated Inventory divided by the outstanding principal amount of Term Loans, shall equal or exceed 1.75. In addition, the Loan Agreement is subject to customary affirmative and negative covenants including restrictions on creation of liens, dispositions of assets, mergers, changing the nature of its business and dividends and other distributions, in each case subject to certain exceptions. The Loan Agreement also contains certain customary events of default including, but not limited to, failure to pay interest, principal and fees or other amounts when due, material breach of any representation or warranty, covenant defaults, cross defaults to other material indebtedness, events of bankruptcy and the occurrence of a material adverse change (as defined in the agreement) to the Company's business. The Term Loan Agreement offers TCP customary rights and remedies in any event of default, including the ability to declare all amounts outstanding immediately due and payable.

In connection with the New Term Loan, the Company issued to the Lenders warrants to purchase an aggregate 1,220,000 shares of the Company's Common Stock at an exercise price of $1.05 per share. The warrants have a term of seven years and contain a "cashless exercise" feature that allows the holder to exercise the warrant without a cash payment upon the terms set forth therein.

The Company estimated the fair value of the warrants by using the Black-Scholes approach and the following assumptions: stock price of $1.56; strike price of $1.05; volatility of 85.9%, risk-free rate of 2.23%; dividend yield of 0%; and a 7 year term. The resulting fair value was used to allocate the proceeds from the Term Loan between liability and equity components.

The Company classified the warrants as equity and allocated the proceeds from the Term Loan and warrants using the relative fair value method. Using this method, the Company allocated $1.4 million to the warrants, which was recorded as equity. This amount represents debt discount that will be amortized to interest expense over the term of the loan. The Lenders converted the warrants into 912,067 shares of the Company's common stock in a cashless exercise in the first quarter of 2018.

As of September 30, 2018, the estimated schedule of principal payments due on the term loan is as follows (in thousands):

Year	Amounts
2018 (remaining 3 months)	$ 2,545
2019	25,497
2020	16,294
Total	$ 44,336

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Sale of Long Term Financing Receivables

The Company entered into an agreement with a third party in the fourth quarter of 2017 to sell certain current and future receivables at a discount. In December 2017, the third party made an initial purchase of receivables that resulted in net proceeds to the Company of $2.8 million. This transaction was recorded as debt on the accompanying consolidated balance sheets, and the debt balance will be relieved by January 2019 as the underlying receivables are settled. During the nine months ended September 30, 2018, the third party made three additional purchases of receivables that resulted in total net proceeds to the Company of $5.6 million. These transactions were recorded as debt on the accompanying condensed consolidated balance sheets, and the total associated debt balance will be relieved by September 2021 as the underlying receivables are settled. After the initial purchase, the buyer had the option to purchase certain additional future receivables at various fixed discounts. This option was valued at $0.7 million and was recorded as a liability with a corresponding offset to debt as of December 31, 2017. As of September 30, 2018, all purchases relating to this option had been made, and the liability has been relieved. See Note 5, “Fair Value Measurements” for additional information.

Revolving Credit Facility

The Company had a $50.0 million revolving credit facility with Wells Fargo Bank, N.A. (“Wells Fargo”) that was entered into in November 2012. The Revolver had a balance of $10.1 million as of December 31, 2016 and was fully repaid and terminated in February 2017.

9. COMMITMENTS AND CONTINGENCIES

From time to time, the Company may be involved in litigation relating to claims arising out of its operations. The Company is not currently involved in any material legal proceedings. The Company may, however, be involved in material legal proceedings in the future. Such matters are subject to uncertainty and there can be no assurance that such legal proceedings will not have a material adverse effect on its business, results of operations, financial position or cash flows.

The Company was previously involved in a dispute with a supplier regarding purchase volume commitments for which the Company recorded a liability of $1.8 million in the first quarter of 2018. The matter was resolved in the second quarter of 2018 for approximately $1.8 million.

On April 12, 2018, the Company entered into a lease agreement for its corporate headquarters in Fremont, California. This lease commenced on September 1, 2018 and has a term of approximately 5 years with a five year renewal option. As of September 30, 2018, $2.2 million remain on this facility lease obligation.

On August 9, 2018, the Company completed the acquisition of SunPower’s microinverter business pursuant to an APA by which the Company acquired certain assets and liabilities of SunPower relating to the research and development and manufacturing of microinverters. Pursuant to the APA, the Company will make an additional cash payment of $10.0 million to SunPower on the earlier of the 4 month anniversary of the Closing and December 28, 2018. See Note 14, “Acquisition,” for additional information related to this acquisition.

10. SALE OF COMMON STOCK

On February 4, 2018, the Company entered into a Securities Purchase Agreement with an investor pursuant to which the Company, in a private placement, issued and sold to the investor 9,523,809 shares of the Company’s common stock at a price per share of $2.10, for gross proceeds of $20.0 million.

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11. STOCK-BASED COMPENSATION

The Company has adopted certain equity incentive and stock purchase plans as described in the consolidated financial statements and related notes included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2017.

Equity Awards Activity

Stock Options

The following is a summary of stock option activity for the nine months ended September 30, 2018 (in thousands, except per share data):

	Number of Shares Outstanding	Weighted-Average Exercise Price per Share
Outstanding at December 31, 2017	8,426	$ 1.77
Granted	213	4.43
Exercised	(1,185)	1.70
Canceled	(292)	3.59
Outstanding at September 30, 2018	7,162	1.78
Vested and expected to vest at September 30, 2018	6,727	1.80
Exercisable at September 30, 2018	4,572	1.90

The intrinsic value of options exercised in the nine months ended September 30, 2018 was $4.6 million. As of September 30, 2018, the intrinsic value of options outstanding was $23.4 million based on the closing price of the Company’s stock as of September 30, 2018.

Restricted Stock Units and Performance Stock Units

The following is a summary of restricted stock unit (“RSU”) and performance stock unit (“PSU”) activity for the nine months ended September 30, 2018 (in thousands, except per share data):

	Number of Shares Outstanding	Weighted Average Fair Value per Share at Grant Date
Outstanding at December 31, 2017	3,505	$ 2.03
Granted	4,126	3.67
Vested	(1,060)	2.63
Canceled	(825)	1.91
Outstanding at September 30, 2018	5,746	3.11
Expected to vest at September 30, 2018	4,791	3.08

The total intrinsic value of RSUs and PSUs that vested in the nine months ended September 30, 2018 was $4.8 million. As of September 30, 2018, the intrinsic value of RSUs and PSUs outstanding was $27.9 million based on the closing price of the Company’s stock as of September 30, 2018.

Stock-based compensation expense is measured at the grant date based on the fair value of the award. During the second quarter of 2018 the Company issued a PSU grant of 1.4 million shares, of which 720 thousand shares include market conditions. Each grantee is granted a target award of PSUs and may earn between 0% and 150% of the target award depending on the Company’s performance against the performance goals. For PSUs, the grant date fair value is recognized as expense when the performance condition is probable of being achieved, and then on a graded basis over the requisite service period. The fair value of awards containing market conditions was determined using a Monte Carlo simulation model based upon the terms of the conditions, the expected volatility of the underlying security, and other relevant factors. The weighted average estimated fair value of the PSUs without market conditions was $4.57 per share, and the weighted average estimated fair value of the PSUs with market conditions was $4.54 per share. During the three months ended September 30, 2018, no RSU or PSU shares were granted.

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On April 3, 2017, the Company commenced a Tender Offer (the "Offer") to exchange out of the money stock options for restricted stock units. The Offer expired on Monday, May 1, 2017. Pursuant to the Offer, the Company accepted elections to exchange options to purchase 2,362,470 shares of common stock and issued replacement awards of RSUs for 733,559 shares of common stock. As the transaction approximated a value-for-value exchange, it did not have a material impact on the Company's stock-based compensation expense.

Stock-based Compensation Expense

Compensation expense for all stock-based awards expected to vest is measured at fair value on the date of grant and recognized ratably over the requisite service period. The following table summarizes the components of total stock-based compensation expense included in the condensed consolidated statements of operations for the periods presented (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Cost of revenues	$330	$347	$945	$796
Research and development	878	607	2,645	1,994
Sales and marketing	1,151	226	2,509	889
General and administrative	1,692	547	3,812	1,598
Total	$4,051	$1,727	$9,911	$5,277

The following table summarizes the various types of stock-based compensation expense for the periods presented (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Stock options and RSUs and PSUs	$3,708	$1,473	$9,001	$4,363
Employee stock purchase plan	343	254	910	914
Total	$4,051	$1,727	$9,911	$5,277

The following table presents the weighted-average grant date fair value of options granted for the periods presented and the assumptions used to estimate those values using a Black-Scholes option pricing model:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Weighted average grant date fair value	**	$0.69	$2.83	$0.70
Expected term (in years)	**	4.2	4.0	4.4
Expected volatility	**	83.8 %	88.5 %	84.4 %
Annual risk-free rate of return	**	1.6 %	2.6 %	1.8 %
Dividend yield	**	0.0 %	0.0 %	0.0 %

** No options were granted during the three months ended September 30, 2018.

As of September 30, 2018, there was approximately $16.3 million of total unrecognized compensation expense related to unvested equity awards expected to be recognized over a weighted-average period of 2.4 years.

12. INCOME TAXES

The Company used the discrete tax approach in calculating the tax expense for the three and nine months ended September 30, 2018 and 2017 due to the fact that a relatively small change in the Company's projected pre-tax net income (loss) could result in a volatile effective tax rate. Under the discrete method, the Company determines its tax (expense) benefit based upon actual results as if the interim period was an annual period. The tax provision recorded was primarily related to income taxes attributable to its foreign operations.

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13. NET LOSS PER SHARE

Basic net loss per share is computed by dividing net loss by the weighted average number of shares of common stock outstanding during the period. Diluted loss per share is computed in a similar manner, but it also includes the effect of potential common shares outstanding during the period, when dilutive. Potential common shares include outstanding in-the-money stock options, restricted stock units, shares to be purchased under the Company's employee stock purchase plan, warrants to purchase common stock, and the Notes. The dilutive effect of potentially dilutive common shares is reflected in diluted earnings per share by application of the treasury stock method. To the extent these potential common shares are antidilutive, they are excluded from the calculation of diluted net loss per share.

The following table presents the computation of basic and diluted net loss per share for the periods presented (in thousands, except per share data):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Numerator:				
Net loss	$(3,470)	$(6,854)	$(12,336)	$(42,252)
Denominator:				
Weighted average common shares outstanding	102,798	84,862	97,257	81,993
Net loss per share, basic and diluted	$(0.03)	$(0.08)	$(0.13)	$(0.52)

As the Company incurred a net loss for all periods presented, potential dilutive securities from employee stock options, restricted stock units, warrants, and convertible notes have been excluded from the diluted net loss per share computations because the effect of including such shares would have been anti-dilutive.

The following outstanding shares of common stock equivalents were excluded from the calculation of the diluted net loss per share attributable to common stockholders because their effect would have been anti-dilutive (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Employee stock options	7,404	7,844	7,971	8,121
RSUs and PSUs	5,924	3,306	5,106	1,959
Warrants to purchase common stock	—	1,220	—	1,033
Total	13,328	12,370	13,077	11,113

The conversion of the Notes will have a dilutive impact when the average market price of the Company's common stock for a given period exceeds the conversion price of $5.56 per share. The Notes are convertible at the holder's option at 180.0180 shares per $1,000 note.

14. ACQUISITION

On August 9, 2018, the Company completed its acquisition of SunPower's microinverter business pursuant to an APA by which the Company acquired certain assets and liabilities of SunPower relating to the research and development and manufacturing of microinverters. The acquisition was accounted for as a business combination and, accordingly, the total purchase price was allocated to the preliminary net tangible and intangible assets and liabilities based on their preliminary fair values on the acquisition date.

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In conjunction with the APA, the Company entered into a Master Supply Agreement (“MSA”) with SunPower. Pursuant to the terms of the MSA, the Company becomes the exclusive supplier of Module Level Power Electronics (“MLPEs”) for SunPower’s Residential Business in U.S for a period of five years. The resulting customer relationship intangible is accounted for as a distinct transaction from the acquired business.

The acquisition date fair value of the consideration transferred was approximately $57.3 million, which consisted of the following (in thousands):

Cash consideration	$25,000
Common stock issued	32,319
Total	$57,319

On the closing date, the Company paid $15.0 million of cash purchase price to SunPower. In addition, $10.0 million of the cash purchase price is to be paid to SunPower on December 10, 2018 and is included as part of accrued liabilities on the Company’s condensed consolidated balance sheet as of September 30, 2018.

The fair value of the Company’s 7.5 million shares of common stock issued, valued at $32.3 million, was determined based on the closing market price of the Company’s common stock on the acquisition date, less a discount of 14% to 30% (depending on the year) for lack of marketability as the shares issued are subject to a restriction that limits their trade or transfer with a lock-up period of six months and restrictions on the number of shares that can be transferred by SunPower in each six-month period following the lock-up period.

The following table summarizes the preliminary estimated fair values of the assets acquired and liabilities assumed at the acquisition date (in thousands):

Intangible assets	$36,200
Goodwill	21,119
Net assets acquired	$57,319

The excess of the consideration paid over the fair values assigned to the assets acquired and liabilities assumed represents the goodwill resulting from the acquisition. The $21.1 million of goodwill recognized is attributable primarily to the benefits the Company expects to derive from enhanced scale and efficiency to better serve its markets. Goodwill is expected to be deductible over the next 15 years for income tax purposes.

The fair values assigned to tangible and identifiable intangible assets acquired are based on management’s estimates and assumptions. The fair values of assets acquired are preliminary and may be subject to change within the measurement period as the fair value assessments are finalized.

The following table shows the fair value of the separately identifiable intangible assets at the time of acquisition and the period over which each intangible asset will be amortized:

	Preliminary fair value (in thousands)	Useful life (in years)
Developed technology	$ 13,100	6
Customer relationship	23,100	9
Total identifiable intangible assets	$ 36,200	

The developed technology acquired is embedded in the microinverters that SunPower sells to its customers. The Company already has developed microinverter technology and the Company will supply its microinverters to SunPower through the term of the MSA. The Company does not intend to actively use the developed technology acquired from SunPower, but does plan to hold the developed technology to prevent other potential competitors from obtaining access to the technology, therefore the Company will account for the developed technology as a defensive intangible asset. The Company expects to realize the benefits of the developed technology over the period of time in which the Company will supply microinverters to SunPower. The Company does expect changes in microinverter technology during the life of the customer relationship with SunPower and expects to benefit from preventing competitors access to the technology over a period of six years, therefore, the Company will amortize the value of the developed technology intangible asset over a period of six years.

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The SunPower microinverter business' contributions to revenue and income for the period from the date of acquisition to September 30, 2018 were not material. The MSA was negotiated together with the APA and provides the Company with the exclusive right to supply SunPower with MLPEs for a period of five years, with options for renewals. The exclusivity arrangement extends throughout the term of the MSA, which comprises all of the expected cash flows from the customer relationship intangible asset, and was a condition to, and was an essential part of the acquisition of the microinverter business by the Company. As the fair value ascribed to the customer relationship intangible asset represents payments to a customer, the Company will amortize the value of the customer relationship intangible asset as a reduction to revenue using a pattern of economic benefit method over a useful life of nine years.

The table below shows estimated fair values of the assets acquired funded by cash and issuance of common stock at the acquisition date (in thousands):

	Cash Purchase Price	Issuance of Common Stock	Total Consideration	% of Total Consideration	
Developed technology and goodwill	$ 15,000	$ 19,219	$ 34,219	60	%
Customer relationship	10,000	13,100	23,100	40	%
Total consideration	$ 25,000	$ 32,319	$ 57,319	100	%

The Company allocated $6.0 million of the $15.0 million paid of the cash purchase price to cash flows from operating activities and the remaining $9.0 million to cash used in investing activities in the condensed consolidated statements of cash flows for the nine months ended September 30, 2018. The allocation was based on the valuation of the customer relationship relative to the overall consideration. In addition, the Company disclosed $19.2 million from issuance of common stock and $6.0 million of cash purchase price accrued to be paid for the developed technology and goodwill as non-cash investing activities in the condensed consolidated statements of cash flows for the nine months ended September 30, 2018.

Total acquisition related costs were approximately $0.8 million, which were included in general and administrative expenses.

The Company determined it is impractical to include such pro forma information given the difficulty in obtaining the historical financial information for the SunPower microinverter business as the business was part of SunPower and did not have discrete financial information prior to the acquisition. Inclusion of such information would require the Company to make estimates and assumptions regarding the acquired business's historical financial results that the Company believes may ultimately prove inaccurate.

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

Forward-Looking Statements

The following discussion and analysis of our financial condition and results of operations should be read together with our condensed consolidated financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q. This discussion contains forward-looking statements reflecting our current expectations and involves risks and uncertainties. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "expect," "plan," "anticipate," "believe," "estimate," "predict," "intend," "potential" or "continue" or the negative of or other comparable terminology. For example, statements regarding our expectations as to future financial performance, expense levels, liquidity sources, timing of new product releases, the impact of tariffs and other government actions with respect to the solar industry and international trade, and the anticipated benefits and risks relating to the transaction with SunPower Corporation are forward-looking statements. Our actual results and the timing of events may differ materially from those discussed in our forward-looking statements as a result of various factors, including those discussed below and those discussed in the section entitled "Risk Factors" included in this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K for the year ended December 31, 2017.

Overview

We deliver simple, innovative and reliable energy management solutions that advance the worldwide potential of renewable energy. Our semiconductor-based microinverter system converts direct current (DC) electricity to alternating current (AC) electricity at the individual solar module level, and brings a system-based, high technology approach to solar energy generation leveraging our design expertise across power electronics, semiconductors, networking, and cloud-based software technologies. Our technology was designed to increase energy production, simplify design and installation, improve system uptime and reliability, reduce fire risk, and provide a platform for intelligent energy management. Since inception, we have shipped over 18 million microinverters representing over 4 gigawatts of solar PV generating capacity, and more than 820,000 Enphase residential and commercial systems have been deployed in over 120 countries.

We sell our microinverter systems primarily to distributors who resell them to solar installers. We also sell directly to large installers and through original equipment manufacturers ("OEMs") and strategic partners.

On August 9, 2018, pursuant to the Asset Purchase Agreement ("APA") with SunPower Corporation ("SunPower"), we completed the purchase of assets primarily relating to SunPower's microinverter business (the "Business"). Upon the closing of the transactions under the APA on August 9, 2018 ("Closing"), we acquired intellectual property, technology and other assets primarily relating to the Business and assumed certain intellectual property and customer relationship of the Business for the following consideration: (i) $15.0 million payable in cash at Closing; (ii) 7.5 million shares of our common stock issued to SunPower at Closing ("Closing Shares"); and (iii) an additional cash payment of $10.0 million payable to SunPower on December 10, 2018. In addition, as conditions to the Closing, we and SunPower entered into (i) a Master Supply Agreement under which SunPower will exclusively procure module level power electronics and related equipment for use in the United States ("U.S.") residential market from us for a period of five years and (ii) a Stockholders Agreement to establish certain SunPower rights and obligations related to the Closing Shares, including SunPower's right to appoint one person to our board of directors, a six-month lock-up period, certain additional transfer restrictions on the Closing Shares, registration rights, and voting, standstill and other undertakings by SunPower.

New Products

Enphase IQ Microinverter System

The Enphase IQ microinverter is a key component of the Enphase Home Energy Solution™, which can also include our Envoy™ Communications Gateway with IQ Combiner+, Enphase Enlighten™, a cloud-based energy management platform, and our Enphase AC Battery™. System owners can use Enphase Enlighten to monitor their home's solar generation, energy storage and consumption from any web-enabled device.

In the first quarter of 2018, we began shipping IQ 7,our seventh-generation Enphase IQ™ microinverters for the Enphase Home Energy Solution with IQ™, our next-generation integrated solar, storage and energy management system with a single world-wide SKU, to distributors in the United States. In the second quarter of 2018, we began shipping IQ 7 to Europe, representing Enphase's entry into the German and Austrian solar markets, while expanding our presence in other solar markets such as France, Benelux, United Kingdom, and Switzerland. We also began selling IQ 7 in Australia and New Zealand during the second quarter of 2018.

The Enphase IQ 7 Micro™ and Enphase IQ 7+ Micro™ support high-powered 60-cell and 72-cell solar modules and integrate with AC modules. During the second quarter of 2018, we began shipping our IQ 7X microinverter to solar distributors in the United States. The Enphase IQ 7X Micro™, the highest power and highest efficiency variant of our seventh-generation family of microinverters, supports and can be integrated with 96-cell modules.

Our next-generation system, IQ 8, is built on our grid-agnostic "always on" Ensemble™ technology. The IQ 8 ASIC is fully functional, which demonstrates the technological feasibility of Ensemble. This ASIC is made in 55nm technology at TSMC, enabling very high speed digital signal processing. We are continuing to commercialize IQ 8 and expect to introduce our off-grid solution in the fourth quarter of 2018, followed by a grid-agnostic solution in 2019.

Enphase Energized AC Modules

We began shipping Enphase Energized AC Modules in North America in 2017. The Enphase Energized AC Modules with IQ utilize our sixth- and seventh-generation microinverters and are produced through our AC module partnerships with LG Electronics Inc., JinkoSolar Technology and Waaree Energies Ltd. In 2018, we announced new AC Module partnerships with SunPower, Panasonic Corporation of North America and Solaria Corporation.

Components of Condensed Consolidated Statements of Operations

Net Revenues

We primarily generate net revenues from sales of our microinverter systems and related accessories, which can include our AC Battery storage systems, our Envoy communications gateway and Enlighten cloud-based monitoring service as well as other accessories.

Our revenue is affected by changes in the volume and average selling prices of our microinverter systems and related accessories, supply and demand, sales incentives, and competitive product offerings. Our revenue growth is dependent on our ability to compete effectively in the marketplace by remaining cost competitive, developing and introducing new products that meet the changing technology and performance requirements of our customers, the diversification and expansion of our revenue base, and our ability to market our products in a manner that increases awareness for microinverter technology and differentiates us in the marketplace.

Cost of Revenues and Gross Profit

Cost of revenues is comprised primarily of product costs, warranty, manufacturing personnel and logistics costs, freight costs, depreciation and amortization of test equipment and hosting services costs. Our product costs are impacted by technological innovations, such as advances in semiconductor integration and new product introductions, economies of scale resulting in lower component costs, and improvements in production processes and automation. Certain costs, primarily personnel and depreciation and amortization of test equipment, are not directly affected by sales volume.

We outsource our manufacturing to third-party contract manufacturers and generally negotiate product pricing with them on a quarterly basis. We believe our contract manufacturing partners have sufficient production capacity to meet the anticipated demand for our products for the foreseeable future. However, shortages in the supply of certain key raw materials could adversely affect our ability to meet customer demand for our products. We contract with third parties, including one of our contract manufacturers, to serve as our logistics providers by warehousing and delivering our products in the United States, Europe and Asia.

Gross profit may vary from quarter to quarter and is primarily affected by our average selling prices, product cost, product mix, warranty costs and sales volume fluctuations resulting from seasonality.

Operating Expenses

Operating expenses consist of research and development, sales and marketing, general and administrative and restructuring expenses. Personnel-related costs are the most significant component of each of these expense categories other than restructuring expense and include salaries, benefits, payroll taxes, sales commissions, incentive compensation and stock-based compensation.

Research and development expense includes personnel-related expenses, third-party design and development costs, testing and evaluation costs, depreciation expense and other indirect costs. Research and development employees are primarily engaged in the design and development of power electronics, semiconductors, powerline communications, networking and software functionality, and storage. We devote substantial resources to research and development programs that focus on enhancements to, and cost efficiencies in, our existing products and timely development of new products that utilize technological innovation to drive down product costs, improve functionality, and enhance reliability. We intend to continue to invest appropriate resources in our research and development efforts because we believe they are critical to maintaining our competitive position.

Sales and marketing expense consists primarily of personnel-related expenses such as salaries, commissions, stock-based compensation, employee benefits and travel. It also includes trade shows, marketing, customer support and other indirect costs. We expect to continue to make the necessary investments to enable us to execute our strategy to increase our market penetration geographically and enter into new markets by expanding our customer base of distributors, large installers, OEMs and strategic partners. We currently offer microinverter systems targeting the residential and commercial markets in the United States, Canada, Mexico and certain Central American markets, the United Kingdom, France, the Benelux region, certain other European markets, Australia, New Zealand, India and certain other Asian markets. We expect to continue to expand the geographic reach of our product offerings and explore new sales channels in addressable markets in the future.

General and administrative expense consists primarily of salaries, incentive compensation, stock-based compensation and employee benefits for personnel related to our executive, finance, human resources, information technology and legal organizations. General and administrative expense also includes facilities costs and fees for professional services, which consist primarily of outside legal, accounting and information technology consulting costs.

Restructuring charges are the net charges resulting from restructuring initiatives implemented in 2016- 2017 (the “2016 Plan”) and 2018 (the “2018 Plan”) to improve operational performance and reduce overall operating expenses. Under the 2016 Plan, costs included in restructuring primarily consist of fees paid to management consultants engaged to assist us in making organizational and structural changes to improve operational efficiencies and reduce expenses, severance for workforce reduction actions, non-cash charges related to the disposition of assets and impairment of property and equipment, and the establishment of lease loss reserves. The net charge for the 2016 Plan included a gain on the divestiture of our services business. Charges related to our 2016 Plan were largely completed in 2017. Under the 2018 Plan, costs included in restructuring primarily consist of fees paid to management consultants engaged to assist us in making organizational and structural changes to improve operational efficiencies and reduce expenses, severance for workforce reduction actions, non-cash charges related to impairment of property and equipment, and the establishment of lease loss reserves. See Note 7, “Restructuring” to the condensed consolidated financial statements for additional information.

Other Expense, Net

Other expense, net primarily consists of interest expense and commitment fees under our term loans and non-cash interest expense related to the amortization of deferred financing costs. Other expense, net also includes gains or losses upon conversion of foreign currency transactions into U.S. dollars.

Provision for Income Taxes

We are subject to income taxes in the countries where we sell our products. Historically, we have primarily been subject to taxation in the U.S. because we have sold the majority of our products to customers in the U.S. As we have expanded the sale of products to customers outside the U.S., we have become subject to taxation based on the foreign statutory rates in the countries where these sales took place. As sales in foreign jurisdictions increase in the future, our effective tax rate may fluctuate accordingly. Due to the history of losses we have generated in the U.S. since inception, we believe that it is more-likely-than-not that all of our U.S. and state deferred tax assets will not be realized as of September 30, 2018.

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Results of Operations for the Three Months Ended September 30, 2018 and 2017

Net Revenues

	Three Months Ended September 30,		Change in		Nine Months Ended September 30,		Change in	
	2018	2017	$	%	2018	2017	$	%
	(dollars in thousands)				(dollars in thousands)			
Net revenues	$78,002	$77,038	$964	1%	$223,870	$206,492	$17,378	8%

Three Months Ended September 30, 2018 and 2017

Net revenues increased by 1% for the three months ended September 30, 2018, as compared to the same period in 2017. The increase was due to $3.3 million of revenue earned under a joint development arrangement, was partially offset by a decrease in product revenue due to a decline in volume of microinverter units sold. We sold 665 thousand microinverter units in the three months ended September 30, 2018, as compared to 790 thousand units in the same period in 2017. The impact of the lower sales volume was largely offset by an increase in average selling price per microinverter of approximately 15% due to the transition to our IQ 7 microinverter, which was introduced in the first quarter of 2018 and comprised 78% of our inverter sales in the current quarter. See Note 2, “Revenue Recognition” to the condensed consolidated financial statements.

Nine Months Ended September 30, 2018 and 2017

Net revenues increased by 8% for the nine months ended September 30, 2018, as compared to the same period in 2017 due primarily to an increase in the average selling price per inverter combined with $5.3 million of revenue earned under a joint development agreement. We sold 2.0 million microinverter units in the nine months ended September 30, 2018, as compared to 2.1 million units in the same period in 2017. The impact of the lower sales volume was more than offset by an increase in average selling price per microinverter due to the transition to our IQ series of microinverters and pricing management. See Note 2, “Revenue Recognition” to the condensed consolidated financial statements.

Cost of Revenues and Gross Profit

	Three Months Ended September 30,		Change in		Nine Months Ended September 30,		Change in	
	2018	2017	$	%	2018	2017	$	%
	(dollars in thousands)				(dollars in thousands)			
Cost of revenues	$52,738	$60,577	$(7,839)	(13)%	$157,589	$169,438	$(11,849)	(7)%
Gross profit	25,264	16,461	8,803	53 %	66,281	37,054	29,227	79 %
Gross margin	32.4 %	21.4 %			29.6 %	17.9 %		

Three Months Ended September 30, 2018 and 2017

Cost of revenues decreased by 13% for the three months ended September 30, 2018, as compared to the same period in 2017. The decrease in cost of revenues was primarily attributable to a 13% decrease in the average product cost combined with the decrease in volume of microinverter units sold. Gross margin increased by 11 percentage points for the three months ended September 30, 2018, as compared to the same period in 2017. The increase in gross margin was primarily attributable to an increase in product margins as a result of the transition to the IQ 7 microinverter and $3.3 million of revenue earned under a joint development agreement. The increase in gross margin was partially offset by an increase in other cost of goods sold. Our ability to reduce product costs and the timing of product cost reductions relative to declines in the selling prices of our products can have a significant impact on our gross margin.

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Nine Months Ended September 30, 2018 and 2017

Cost of revenues decreased by 7% for the nine months ended September 30, 2018, as compared to the same period in 2017, primarily due to an 11% decrease in the average cost. Gross margin increased by 11.7 percentage points for the nine months ended September 30, 2018, as compared to the same period in 2017. The increase in gross margin was primarily attributable to increased product margins as a result of the transition to our IQ7 microinverter as well as our other product cost management efforts. The improvement in margin due to the $5.3 million in revenue under a joint development arrangement was offset by an increase in other cost of goods sold. Our ability to reduce product costs and the timing of product cost reductions relative to declines in the selling prices of our products can have a significant impact on our gross margin.

Research and Development

	Three Months Ended September 30,		Change in		Nine Months Ended September 30,		Change in	
	2018	2017	$	%	2018	2017	$	%
	(dollars in thousands)				(dollars in thousands)			
Research and development	$8,165	$7,397	$768	10%	$25,247	$24,949	$298	1%

Three Months Ended September 30, 2018 and 2017

Research and development expense increased by 10% for the three months ended September 30, 2018, as compared to the same period in 2017. The increase is primarily due to an increase in personnel-related expenses and development costs combined with a decrease in the capitalization of labor costs incurred in the development of internal-use software. The increase was partially offset by lower expenses associated with the introduction and qualification of new products. In addition, facility costs and equipment costs were also lower. Personnel-related expenses increased primarily due to an increase in stock-based compensation, bonus expenses and other employee-related costs, partially offset by lower payroll expenses associated with moving certain functions to lower cost locations as part of the restructuring actions taken in 2017 and 2018.

Nine Months Ended September 30, 2018 and 2017

Research and development expense increased by 1% for the nine months ended September 30, 2018, as compared to the same period in 2017. The increase is due to an increase in research and development costs combined with a decrease in the capitalization of labor costs incurred in the development of internal-use software. The increase was partially offset by lower personnel-related expenses, equipment costs and professional expenses associated with the development, introduction and qualification of new products. Personnel-related expenses decreased primarily due to a cumulative decrease in labor costs associated with moving certain functions to lower cost locations as part of restructuring actions taken in 2017 and 2018 and was partially offset by higher bonus and stock-based compensation expense.

Sales and Marketing

	Three Months Ended September 30,		Change in		Nine Months Ended September 30,		Change in	
	2018	2017	$	%	2018	2017	$	%
	(dollars in thousands)				(dollars in thousands)			
Sales and marketing	$7,375	$5,453	$1,922	35%	$20,430	$18,186	$2,244	12%

Three Months Ended September 30, 2018 and 2017

Sales and marketing expense increased by 35% for the three months ended September 30, 2018, as compared to the same period in 2017. The increase was primarily due an increase in personnel related expenses and professional fees. The increase was partially offset by a decrease in bad debt expense. The increase in personnel related expenses was primarily due to higher stock-based compensation expense and higher payroll expense due to expansion of our sales team.

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Nine Months Ended September 30, 2018 and 2017

Sales and marketing expense increased by 12% for the nine months ended September 30, 2018, as compared to the same period in 2017. The increase was due an increase in personnel related expenses, professional fees, equipment costs, and advertising and marketing expenses. The increase was partially offset by a decrease in bad debt expense and facilities costs. The increase in personnel related expenses include higher stock-based compensation expense, payroll expenses due to increasing our sales team and recruiting fees. The increase was partially offset by lower spending on contractors and temporary employees.

General and Administrative

	Three Months Ended September 30,		Change in		Nine Months Ended September 30,		Change in	
	2018	2017	$	%	2018	2017	$	%
	(dollars in thousands)				(dollars in thousands)			
General and administrative	$7,510	$5,441	$2,069	38%	$21,423	$16,238	$5,185	32%

Three Months Ended September 30, 2018 and 2017

General and administrative expense increased 38% for the three months ended September 30, 2018, as compared to the same period in 2017. The increase is primarily due to an increase in personnel-related expenses, professional fees, acquisition-related costs, and facility costs. The increase was partially offset by lower legal fees. The increase in personnel-related expenses was primarily attributable to higher stock-based compensation, which was partially offset by lower employee recruitment costs.

Nine Months Ended September 30, 2018 and 2017

General and administrative expense increased 32% for the nine months ended September 30, 2018, as compared to the same period in 2017. The increase is primarily due to an increase in personnel-related expenses, $1.8 million paid to resolve a dispute with a supplier, professional fees, and $0.8 million of acquisition-related expenses. The increase was partially offset by lower legal fees and equipment costs. The increase in personnel-related expenses was primarily attributable to higher stock-based compensation expense.

Restructuring Charges

	Three Months Ended September 30,		Change in		Nine Months Ended September 30,		Change in	
	2018	2017	$	%	2018	2017	$	%
	(dollars in thousands)				(dollars in thousands)			
Restructuring charges	$2,588	$4,071	$(1,483)	(36)%	$2,588	$14,927	$(12,339)	(83)%

Three Months Ended September 30, 2018 and 2017

We implemented restructuring plans in the third quarter of 2018 and in 2016. Both restructuring plans were implemented to lower operating expenses. The 2018 restructuring plan included a realignment of our global workforce to lower cost locations and a relocation of our corporate offices. Restructuring expense for the three months ended September 30, 2018 primarily include a $1.6 million asset impairment charge, a $0.6 million of one-time termination benefits and other employee-related expenses and a $0.3 million charge to establish a lease loss reserve. We expect to incur additional restructuring charges in the near-term.

Restructuring charges for the three months ended September 30, 2017 primarily include $3.1 million of consulting services and $1.1 million of employee-related expenses.

Nine Months Ended September 30, 2018 and 2017

Restructuring expense for the three months ended September 30, 2018 primarily include a $1.6 million asset impairment charge, a $0.6 million of one-time termination benefits and other employee-related expenses and a $0.3 million charge to establish a lease loss reserve.

Restructuring charges for the nine months ended September 30, 2017 primarily include $10.1 million of consulting services, $2.8 million in cash-based severance and related benefits and $2.0 million in charges for asset impairments, contract termination costs and lease loss reserves.

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Other Expense, Net

	Three Months Ended September 30,		Change in		Nine Months Ended September 30,		Change in	
	2018	2017	$	%	2018	2017	$	%
	(dollars in thousands)				(dollars in thousands)			
Other expense, net	$(2,848)	$(1,137)	$(1,711)	150%	$(8,108)	$(4,208)	$(3,900)	93%

Three Months Ended September 30, 2018 and 2017

Other expense, net for the three months ended September 30, 2018 includes $2.5 million of interest expense related to our term loan and convertible notes and a $0.4 million loss due to foreign currency exchange and remeasurement. Other expense, net for the three months ended September 30, 2017 includes $1.8 million of interest expense related to our term loan, and was offset by a $0.6 million gain related to foreign currency exchange and remeasurement.

Nine Months Ended September 30, 2018 and 2017

Other expense, net for the nine months ended September 30, 2018 includes $7.0 million of interest expense related to our term loan and convertible notes, and a $1.1 million loss due foreign currency exchange and remeasurement. Other expense, net for the nine months ended September 30, 2017 includes $6.0 million of interest expense related to our term loan, which was partially, offset by a $1.8 million gain related to foreign currency exchange and remeasurement.

Liquidity and Capital Resources

Sources of Liquidity

As of September 30, 2018, we had $116.2 million in cash and cash equivalents and working capital of $74.9 million. Cash and cash equivalents held in the United States ("U.S.") were $100.9 million and consisted primarily of U.S. Government money market mutual funds and non-interest-bearing checking deposits, with the remainder held in various foreign subsidiaries. We consider amounts held outside the U.S. to be accessible and have provided for the estimated U.S. income tax liability associated with our foreign earnings.

In August 2018, we sold $60.0 million aggregate principal amount of convertible senior notes due 2023 (the "Convertible Notes") in a private placement. Additionally, an affiliate of ours who is a director and stockholder, Thurman John Rodgers, purchased $5.0 million aggregate principal amount of convertible senior notes due 2023 (the "Affiliate Notes" and together with the Convertible Notes, the "Notes") in a concurrent private placement. We received net proceeds of $62.4 million, after deducting the underwriters' fees of $2.0 million and other issuance costs of $0.6 million. The Notes are senior, unsecured and bear interest at a rate of 4.0% per year, payable semi-annually on February 1 and August 1 of each year, beginning on February 1, 2019. The Notes will mature on August 1, 2023, unless earlier repurchased by the Company or converted at the option of the holders.

In February, 2018, we entered into a securities purchase agreement with an investor pursuant to which we, in a private placement, issued and sold to the investor 9,523,809 shares of our common stock, at a price per share of $2.10, resulting in gross proceeds of $20.0 million.

In December of 2016, we entered into an At The Market Issuance Sales Agreement ("ATM") under which we sold shares of our common stock up to a gross aggregate offering price of $17.0 million. We realized the full $17.0 million of gross proceeds available under the ATM in the first quarter of 2017.

In January 2017, we completed a private placement of common stock that resulted in gross proceeds of $10.0 million.

In July 2016, we entered into a loan and security agreement (the "Term Loan Agreement" or "Original Term Loan Agreement") with lenders that are affiliates of Tennenbaum Capital Partners, LLC ("TCP"), which has subsequently been amended and modified as discussed below and in Note 8, "Debt" to the condensed consolidated financial statements. Under the agreement, the lenders committed to advance a term loan in an aggregate principal amount of up to $25.0 million with a maturity date of July 1, 2020. We drew down the $25.0 million term loan commitment at closing.

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Payments under the Original Term Loan Agreement were interest only through June 30, 2017, followed by consecutive equal monthly payments of principal plus accrued interest beginning on July 1, 2017 and continuing through the maturity date. In addition, we paid a commitment fee of 3.3% of the loan amount upon closing and a closing fee of 10.0% of the loan amount is payable in four equal installments at each anniversary of the closing date. We may elect to prepay the loan by incurring a prepayment fee between 1% and 3% of the principal amount of the term loan depending on the timing and circumstances of prepayment.

The Term Loan Agreement is subject to customary affirmative and negative covenants including restrictions on creation of liens, dispositions of assets, dividends, mergers, or changing the nature of its business, in each case, subject to certain customary exceptions. In addition, the Term Loan Agreement contains certain customary events of default including, but not limited to, failure to pay interest, principal and fees or other amounts when due, material breach of any representation or warranty, covenant defaults, cross defaults to other material indebtedness, events of bankruptcy and the occurrence of a material adverse change (as defined in the agreement) to our business. The Term Loan Agreement offers TCP customary rights and remedies in any event of default, including the ability to declare all amounts outstanding immediately due and payable. We were in compliance with all financial and other covenants under the Term Loan Agreement as of September 30, 2018.

In February 2017, we amended and restated our loan and security agreement with TCP to provide an additional $25 million in principal (together with the Term Loan Agreement the “Combined Term Loans”). We simultaneously terminated our revolving credit facility with Wells Fargo Bank, N.A. (the “Revolver”), and the combined principal and interest balance of $10.3 million under the Revolver was fully repaid.

The Combined Term Loans have the same July 1, 2020 maturity date as the Original Term Loan Agreement. Monthly payments under the Combined Term Loans were interest only through February 28, 2018, followed by consecutive equal monthly payments of principal plus accrued interest beginning on March 1, 2018 and continuing through the maturity date. Interest on the Combined Term Loans is the greater of (a) 10.3125%, and (b) a fluctuating rate of interest per annum equal to the three-month LIBOR Rate (rounded up to the nearest 1/16th of one percent) plus 9.25%.

In February 2018, the Combined Term Loans were modified again to provide for the deferral of 50% of the scheduled principal payments in 2018. The term loans under our amended and restated loan and security agreement with TCP are secured by a first-priority security interest on substantially all of our assets; provided, however, that the security interest in our intellectual property may be released when we satisfy certain requirements.

The following table summarizes our cash flows for the periods indicated (in thousands):

	Nine Months Ended September 30,	
	2018	2017
Net cash provided by (used in) operating activities	$14,257	$(26,528)
Net cash used in investing activities	(11,384)	(3,609)
Net cash provided by financing activities	84,610	40,739

Operating Activities

For the nine months ended September 30, 2018, net cash provided by operating activities of $14.3 million was primarily attributable to a net loss of $12.3 million offset by non-cash charges of $21.0 million and net cash inflows from changes in operating assets and liabilities of $5.6 million. Non-cash charges included $9.9 million of stock-based compensation, $7.0 million of depreciation and amortization, $1.9 million of non-cash interest expense, $1.6 million asset impairment and a $0.7 million provision for doubtful accounts.

The primary drivers of cash inflows from changes in operating assets and liabilities were a $10.7 million decrease in accounts receivable due to the impact of cash management efforts as well as the timing of revenue, an $8.1 million decrease in inventory due to a combination of supply chain management efforts and the impact of component shortages, $4.7 million increase in accounts payable as a result of lower inventory levels and the timing of vendor payments, and a $2.4 million increase in warranty obligations, partially offset by a $10.3 million decrease in deferred revenues (“contract liabilities”) due to the timing of revenue recognition under Accounting Standards Codification (“ASC”) Topic 606 (“ASC 606”), $6.0 million increase in intangible assets related to the acquisition of SunPower’s microinverter business and a $4.0 million increase in prepaid expenses and other assets (“contract assets”).

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For the nine months ended September 30, 2017, net cash used in operating activities of $26.5 million was primarily attributable to a net loss of $42.3 million, partially offset by non-cash charges of $15.9 million. Non-cash charges included $6.8 million of depreciation and amortization, $5.3 million of stock-based compensation, $1.6 million in asset impairment and restructuring charges, $1.3 million of non-cash interest expense, and a $0.9 million provision for doubtful accounts.

The primary drivers of cash outflows from changes in operating assets and liabilities included an $8.8 million increase in accounts receivable primarily due to timing of sales within the quarter, an increase in prepaid expenses and other assets of $5.1 million primarily due to prepaid inventory items, and a decrease in warranty obligations of $1.1 million, partially offset by a $6.6 million decrease in inventory due to our inventory management efforts, a $5.0 million increase in deferred revenue, and a $3.2 million increase in accounts payable primarily due to the timing of inventory receipts.

Investing Activities

For the nine months ended September 30, 2018, net cash used in investing activities of $11.4 million primarily resulted from a $9.0 million payment related to the acquisition of SunPower's microinverter business and $2.4 million for purchases of test and assembly equipment and capitalized costs related to internal-use software.

For the nine months ended September 30, 2017, net cash used in investing activities of $3.6 million primarily resulted from purchases of test and assembly equipment and capitalized costs related to internal-use software.

Financing Activities

For the nine months ended September 30, 2018, net cash provided by financing activities of $84.6 million consisted of $62.4 million from issuance of convertible debt, $19.8 million in net proceeds from sales of common stock and $5.6 million in net proceeds from the sale of certain long-term financing receivables and $2.2 million proceeds from issuance of common stock under our employee stock plans, partially offset by a $5.7 million principal payment on our term loan.

For the nine months ended September 30, 2017, net cash provided by financing activities of $40.7 million which primarily consisted of net proceeds from sales of common stock of $26.5 million, which included proceeds from the private placement and ATM offering described above, and net proceeds from the term loan of $24.2 million, partially offset by the repayment of principal on our revolving credit facility of $10.1 million.

Contractual Obligations

Other than as described below, there were no material changes during the three months ended September 30, 2018 to our contractual commitments as presented in "Management's Discussion and Analysis of Financial Condition and Results of Operations" of our 2017 Form 10 K. See Note 9, "Commitments and Contingencies" of the condensed consolidated financial statements.

On April 12, 2018, we entered into a lease agreement for our corporate headquarters in Fremont, California. This lease commenced on September 1, 2018 and has a term of approximately 5 years with a five year renewal option. As of September 30, 2018, $2.2 million remain on this facility lease obligation, of which $0.1 million will be paid during the remaining three months of 2018.

On August 9, 2018, we completed the acquisition of SunPower's microinverter business pursuant to an APA by which we acquired certain assets and liabilities of SunPower relating to the research and development and manufacturing of microinverters. Pursuant to the APA, we will make an additional cash payment of $10.0 million to SunPower on December 10, 2018. See Note 14, "Acquisition" of the condensed consolidated financial statements for additional information related to this acquisition.

In August 2018, we sold $60.0 million aggregate principal amount of convertible senior notes due 2023 (the "Convertible Notes") in a private placement. Additionally, an affiliate of ours who is a director and stockholder, Thurman John Rodgers, purchased $5.0 million aggregate principal amount of convertible senior notes due 2023 (the "Affiliate Notes" and together with the Convertible Notes, the "Notes") in a concurrent private placement. See Note 8, "Debt" of the condensed consolidated financial statements for additional information related to these Notes.

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Off-Balance Sheet Arrangements

As of September 30, 2018, we did not have any off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of SEC Regulation S-K.

Critical Accounting Policies

Our condensed consolidated financial statements are prepared in accordance with accounting principles generally accepted in the U.S., or GAAP. In connection with the preparation of our condensed consolidated financial statements, we are required to make assumptions and estimates about future events and apply judgments that affect the reported amounts of assets, liabilities, revenue, expenses and related disclosures. We base our assumptions, estimates and judgments on historical experience, current trends and other factors that management believes to be relevant at the time our consolidated financial statements are prepared. On a regular basis, we review the accounting policies, assumptions, estimates and judgments to ensure that our condensed consolidated financial statements are presented fairly and in accordance with GAAP. However, because future events and their effects cannot be determined with certainty, actual results could differ from our assumptions and estimates. To the extent that there are material differences between these estimates and actual results, our future financial statement presentation, financial condition, results of operations and cash flows will be affected.

We consider an accounting policy to be critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, and if different estimates that reasonably could have been used, or changes in the accounting estimates that are reasonably likely to occur periodically, could materially impact the condensed consolidated financial statements.

Other than as described in Note 2. “Revenue Recognition,” Note 11. “Stock-based Compensation,” and Note 14, “Acquisition,” to the Notes to Condensed Consolidated Financial Statements under Item 1, there have been no significant changes during the nine months ended September 30, 2018 to the items that we disclosed as our critical accounting policies and estimates in Management’s Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K for the year ended December 31, 2017.

Recently Issued Accounting Pronouncements Not Yet Effective

See Note 1. “Description of Business and Basis of Presentation” to the Notes to Condensed Consolidated Financial Statements under Item 1 for recently issued accounting pronouncements not yet effective.

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Item 3. Quantitative and Qualitative Disclosures About Market Risk

For quantitative and qualitative disclosures about market risk, see Item 7A, “Quantitative and Qualitative Disclosures About Market Risk” of our annual report on Form 10-K for the year ended December 31, 2017. Our exposures to market risk have not changed materially since December 31, 2017.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our chief executive officer and chief financial officer, evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2018. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, includes, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Based on the evaluation of our disclosure controls and procedures as of September 30, 2018, our chief executive officer and chief financial officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Changes in Internal Control

There were no changes in our internal control over financial reporting identified in management’s evaluation pursuant to Rules 13a-15(d) or 15d-15(d) of the Exchange Act during the period covered by this Quarterly Report that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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PART II. OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we may be involved in litigation relating to claims arising out of our operations. We are not currently involved in any material legal proceedings, and our management believes there are currently no claims or actions pending against us, the ultimate disposition of which could have a material adverse effect on our operations, financial condition, or cash flows. We may, however, be involved in material legal proceedings in the future. Such matters are subject to uncertainty and there can be no assurance that such legal proceedings will not have a material adverse effect on our business, results of operations, financial position or cash flows.

Item 1A. Risk Factors

We have identified the following risks and uncertainties that may have a material adverse effect on our business, financial condition or results of operations. The risks described below are not the only ones we face. Additional risks not presently known to us or that we currently believe are not material may also significantly impair our business operations. Our business could be harmed by any of these risks. The trading price of our common stock could decline due to any of these risks, and you may lose all or part of your investment. In assessing these risks, you should also refer to the other information contained in this Quarterly Report on Form 10-Q, including our condensed consolidated financial statements and related notes.

We have marked with an asterisk (*) those risks described below that reflect substantive changes from, or additions to, the risks described in our Annual Report on Form 10-K for the year ended December 31, 2017.

*We have a history of losses which may continue in the future, and we cannot be certain that we will achieve or sustain profitability.

We have incurred substantial net losses since our inception, including a net loss of $3.5 million for three months ended September 30, 2018, and we may continue to incur additional losses in the future. For the years ended December 31, 2017, 2016 and 2015, we incurred net losses of $45.2 million, $67.5 million and $22.1 million, respectively. At September 30, 2018, we had an accumulated deficit of $347.0 million. Our revenue growth may slow or revenue may decline for a number of reasons, many of which are outside our control, including a decline in demand for our offerings, increased competition, a decrease in the growth of the solar industry or our market share, future declines in average selling prices of our products, the impact of trade tariffs established in 2018 by President Trump, the imposition of additional tariffs applicable to our industry or our products, or our failure to capitalize on growth opportunities. If we fail to generate sufficient revenue to support our operations, we may not be able to achieve or sustain profitability.

*We may not be able to raise additional capital to execute on our current or future business opportunities on favorable terms, if at all, or without dilution to our stockholders.

We believe that our existing cash and cash equivalents and cash flows from our operating activities will be sufficient to meet our anticipated cash needs for at least the next 12 months. However, we may need to raise additional capital or debt financing to execute on our current or future business strategies, including to:

- provide additional cash reserves to support our operations;
- invest in our research and development efforts;
- expand our operations into new product markets and new geographies;
- acquire complementary businesses, products, services or technologies; or
- otherwise pursue our strategic plans and respond to competitive pressures, including adjustments to our business to mitigate the effects of any tariffs that might apply to us or our industry.

We do not know what forms of financing, if any, will be available to us. If financing is not available on acceptable terms, if and when needed, our ability to fund our operations, enhance our research and development and sales and marketing functions, develop and enhance our products, respond to unanticipated events, including unanticipated opportunities, or otherwise respond to competitive pressures would be significantly limited. In any such event, our business, financial condition and results of operations could be materially harmed, and we may be unable to continue our operations. Moreover, if we raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of our stockholders could be significantly diluted, and these newly issued securities may have rights, preferences or privileges senior to those of existing stockholders.

*U.S. government actions with regard to the solar energy sector or international trade could materially harm our business, financial condition and results of operations.

The current U.S. presidential administration has created and may continue to create regulatory uncertainty in the clean energy sector generally and the solar energy sector in particular. If the administration or the U.S. Congress takes action to eliminate or reduce legislation, regulations and incentives supporting solar energy, such actions may result in a decrease in demand for solar energy in the United States and other geographical markets, which could materially harm our business, financial condition and results of operations.

On January 23, 2018, President Donald Trump signed a proclamation establishing tariffs on certain solar equipment manufactured outside of the U.S., and the administration subsequently announced tariffs on additional classes of products. On September 24, 2018 the U.S. began assessing 10% tariffs on our microinverter products and related accessories which are manufactured in China, and the administration has announced that these tariffs are expected to increase to 25% on January 1, 2019. Such tariffs could have a negative impact on the overall demand for solar products in the U.S., and for our products in particular. Unless we obtain exemptions or take other actions to avoid them, such tariffs will continue to apply to our microinverters and other products. Such tariffs could hurt the demand for these products and materially harm our business, financial condition and results of operations. There is no guarantee that we will be successful in obtaining exemptions or that any actions that we may pursue with respect to the organization and operation of our business will effectively mitigate the effects of any tariffs that apply to our business. If we are not able to avoid or mitigate the effects of such tariffs, the tariffs (or mitigating actions we might take) could result in material additional costs to us and our suppliers, and our results of operations could be negatively impacted as a result.

Furthermore, a significant portion of our business activities are conducted in foreign countries, including Mexico, Canada and elsewhere. During the 2016 election campaign, then-candidate Trump made comments suggesting that he was not supportive of certain existing international trade agreements, including the North American Free Trade Agreement (“NAFTA”). The U.S., Mexico and Canada are in the process of renegotiating NAFTA and replacing it with the United States-Mexico-Canada Agreement (“USMCA”). At this time, the final version of the USMCA remains unclear. If the USMCA, or any other trade action taken by the administration, imposes any additional border tariff or takes any other actions making it more difficult for us to sell our products across international boundaries, our business, financial condition and results of operations could be adversely affected.

The rapidly changing solar industry makes it difficult to evaluate our current business and future prospects.

The rapidly changing solar industry makes it difficult to evaluate our current business and future prospects. We have encountered and will continue to encounter risks and difficulties frequently experienced by growing companies in rapidly changing industries, including increased expenses as we continue to grow our business. If we do not manage these risks and overcome these difficulties successfully, our business will suffer.

Since we began commercial shipments of our products, our revenue, gross profit and results of operations have varied and are likely to continue to vary from quarter to quarter due to a number of factors, many of which are not within our control. It is difficult for us to accurately forecast our future revenue and gross profit and plan expenses accordingly and, therefore, it is difficult for us to predict our future results of operations.

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If demand for solar energy solutions does not grow or grows at a slower rate than we anticipate, our business will suffer.

Our microinverter and AC Battery storage systems are utilized in solar photovoltaic, or PV, installations, which provide on-site distributed power generation. As a result, our future success depends on continued demand for solar energy solutions and the ability of solar equipment vendors to meet this demand. The solar industry is an evolving industry that has experienced substantial changes in recent years, and we cannot be certain that consumers and businesses will adopt solar PV systems as an alternative energy source at levels sufficient to continue to grow our business. Traditional electricity distribution is based on the regulated industry model whereby businesses and consumers obtain their electricity from a government regulated utility. For alternative methods of distributed power to succeed, businesses and consumers must adopt new purchasing practices. The viability and continued growth in demand for solar energy solutions, and in turn, our products, may be impacted by many factors outside of our control, including:

- market acceptance of solar PV systems based on our product platform;
- cost competitiveness, reliability and performance of solar PV systems compared to conventional and non-solar renewable energy sources and products;
- availability and amount of government subsidies and incentives to support the development and deployment of solar energy solutions;
- the extent to which the electric power industry and broader energy industries are deregulated to permit broader adoption of solar electricity generation;
- the cost and availability of key raw materials and components used in the production of solar PV systems;
- prices of traditional utility-provided energy sources;
- levels of investment by end-users of solar energy products, which tend to decrease when economic growth slows; and
- the emergence, continuance or success of, or increased government support for, other alternative energy generation technologies and products.

If demand for solar energy solutions does not grow, demand for our customers' products as well as demand for our products will decrease, which would have an adverse impact on our ability to increase our revenue and grow our business.

Short-term demand and supply imbalances, especially for solar module technology, have recently caused prices for solar technology solutions to decline rapidly. Furthermore, competition in the solar industry has increased due to the emergence of lower-cost manufacturers along the entire solar value chain causing further price declines, excess inventory and oversupply. These market disruptions may continue to occur and may increase pressure to reduce prices, which could adversely affect our business and financial results.

The loss of, or events affecting, one of our major customers could reduce our sales and have a material adverse effect on our business, financial condition and results of operations.

In 2017, two customers accounted for approximately 15% and 11% of total net revenues. Our customers’ decisions to purchase our products are influenced by a number of factors outside of our control, including retail energy prices and government regulation and incentives, among others. Although we have agreements with some of our largest customers, these agreements generally do not have long-term purchase commitments and are generally terminable by either party after a relatively short notice period. In addition, these customers may decide to no longer use, or to reduce the use of, our products and services for other reasons that may be out of our control. The loss of, or events affecting, one or more of our large customers have had, could have and could continue to have a material adverse effect on our business, financial condition and results of operations.

*The failure to successfully integrate our products with those of SunPower could have a material adverse effect on our business, financial condition and results of operations.

On August 9, 2018, we entered into a Master Supply Agreement with SunPower Corporation, from whom we also purchased certain intellectual property and other assets as part of the APA transaction. Our failure to successfully integrate our microinverter products and software with SunPower’s solar modules could frustrate the purposes of our acquisition of SunPower’s assets, negatively impact our revenue projections, and otherwise have a material adverse effect on our business, financial condition and results of operations.

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*We may fail to realize some or all of the anticipated benefits of the SunPower transaction, and the closing of the SunPower transaction will result in a change in the composition of our board of directors, which may result in conflicts between us and SunPower.

Our ability to realize the anticipated benefits of the SunPower transaction will depend, to a large extent, on our ability to implement the Master Supply Agreement . The post-closing implementation could be a complex and time-consuming process, and our management may face challenges in the implementation of these arrangements. Any delay, failure or breach of our obligations under the Master Supply Agreement could adversely impact the expected benefits of the transaction and could otherwise have a material adverse effect on our business, financial condition and results of operations.

Additionally, in connection with the APA transaction, SunPower has the right to designate one member of our board of directors. Through its share ownership and board seat, SunPower may have the ability to directly or indirectly influence our business, and conflicts may arise between us and SunPower regarding corporate priorities and strategic objectives.

*Future acquisitions could materially and adversely affect our results of operations.

In addition to the SunPower transaction, we may in the future seek to expand our business through further acquisitions and strategic transactions. Such transactions involve a number of risks that could harm our business or result in us not achieving anticipated benefits, including issues with integrating acquired businesses, the diversion of management time and attention, failures in due diligence or in identifying financial and legal liabilities and other risks, transaction related impairments or financial charges and the assumption of liabilities. In our future transactions, we may also decide to pay all or a portion of the transaction consideration through dilutive equity issuances, and our future acquisitions may require significant reductions in our available cash or the incurrence of indebtedness, all of which could harm our operating results.

*Our gross profit may fluctuate over time, which could impair our ability to achieve or maintain profitability.

Our gross profit has varied in the past and is likely to continue to vary significantly from period to period. Our gross profit may be adversely affected by numerous factors, some of which are beyond our control, including:

- changes in customer, geographic or product mix;
- increased price competition, including the impact of customer and competitor discounts and rebates;
- our ability to reduce and control product costs, including our ability to make product cost reductions in a timely manner to offset declines in our product prices;
- warranty costs and reserves, including changes resulting from changes in estimates related to the long-term performance of our products, product replacement costs and warranty claim rates;
- loss of cost savings due to changes in component or raw material pricing or charges incurred due to inventory holding periods if product demand is not correctly anticipated;
- introduction of new products;
- ordering patterns from our distributors;
- price reductions on older products to sell remaining inventory;
- component shortages and related expedited shipping costs;
- our ability to reduce production costs, such as through technology innovations, in order to offset price declines in our products over time;
- changes in shipment volume;
- changes in distribution channels;
- excess and obsolete inventory and inventory holding charges;
- expediting costs incurred to meet customer delivery requirements;
- tariffs assessed on our products imported to the US and elsewhere; and
- fluctuations in foreign currency exchange rates.

Fluctuations in gross profit may adversely affect our ability to manage our business or achieve or maintain profitability.

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We are under continuous pressure to reduce the prices of our products, which has adversely affected, and may continue to adversely affect, our gross margins.

The solar power industry has been characterized by declining product prices over time. We have reduced the prices of our products in the past, and we expect to continue to experience pricing pressure for our products in the future, including from our major customers. In addition, we have reduced our prices ahead of planned cost reductions of our products, which has adversely affected our gross margins. When seeking to maintain or increase their market share, our competitors may also reduce the prices of their products. In addition, our customers may have the ability or seek to internally develop and manufacture competing products at a lower cost than we would otherwise charge, which would add additional pressure on us to lower our selling prices. If we are unable to offset any future reductions in our average selling prices by increasing our sales volume, reducing our costs and expenses or introducing new products, our gross margins would continue to be adversely affected.

Given the general downward pressure on prices for our products driven by competitive pressure and technological change, a principal component of our business strategy is reducing the costs to manufacture our products to remain competitive. If our competitors are able to drive down their manufacturing costs faster than we can or increase the efficiency of their products, our products may become less competitive even when adjusted for efficiency, and we may be forced to sell our products at a price lower than our cost. Further, if raw materials costs and other third-party component costs were to increase, we may not meet our cost reduction targets. If we cannot effectively execute our cost reduction roadmap, we may not be able to remain price competitive, which would result in lost market share and lower gross margins.

*The inverter industry is highly competitive and we expect to face increased competition as new and existing competitors introduce products, which could negatively impact our results of operations and market share.

The market for PV inverter solutions is highly competitive. To date, we have competed primarily against central and string inverter manufacturers, but as the solar industry rapidly grows, new solutions and technologies are emerging that will directly compete with our business. We believe that a number of companies have developed or are developing microinverters and other products that will compete directly with our microinverter systems in the module-level power electronics market. Competitors in the inverter market include, amongst others, SolarEdge Technologies, Inc., SMA Solar Technology AG, Huawei Technologies Co. Ltd., Fronius International GmbH and ABB Ltd. Other existing or emerging companies may also begin offering alternative microinverter, DC to DC optimizer and other power electronic solutions.

Several of our existing and potential competitors are significantly larger than we are and may have greater financial, marketing, distribution, and customer support resources, and may have significantly broader brand recognition, especially in certain markets. In addition, some of our competitors have more resources and experience in developing or acquiring new products and technologies and creating market awareness for these offerings. Further, certain competitors may be able to develop new products more quickly than we can and may be able to develop products that are more reliable or that provide more functionality than ours. In addition, some of our competitors have the financial resources to offer competitive products at aggressive or below-market pricing levels, which could cause us to lose sales or market share or require us to lower prices of our products in order to compete effectively. Suppliers of solar products, particularly solar modules, have experienced eroding prices over the last several years and as a result many have faced margin compression and declining revenues. If we have to reduce our prices by more than we anticipate, or if we are unable to offset any future reductions in our average selling prices by increasing our sales volume, reducing our costs and expenses or introducing new products, our revenues and gross profit would suffer.

We also may face competition from some of our customers or potential customers who evaluate our capabilities against the merits of manufacturing products internally. Other solar module manufacturers could also develop or acquire competing inverter technology or attempt to develop components that directly perform DC to AC conversion in the module itself. Due to the fact that such customers may not seek to make a profit directly from the manufacture of these inverter products, they may have the ability to manufacture competitive products at a lower cost than we would charge such customers. As a result, these customers or potential customers may purchase fewer of our microinverter systems or sell products that compete with our microinverter systems, which would negatively impact our revenue and gross profit.

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Developments in alternative technologies or improvements in distributed solar energy generation may have a material adverse effect on demand for our offerings.

Significant developments in alternative technologies, such as advances in other forms of distributed solar PV power generation, storage solutions such as batteries, the widespread use or adoption of fuel cells for residential or commercial properties or improvements in other forms of centralized power production may have a material adverse effect on our business and prospects. Any failure by us to adopt new or enhanced technologies or processes, or to react to changes in existing technologies, could result in product obsolescence, the loss of competitiveness of our products, decreased revenue and a loss of market share to competitors.

Our PV systems, including our AC Battery storage solution, integrated AC Module and recently introduced seventh-generation IQ microinverters, may not achieve broader market acceptance, which would prevent us from increasing our revenue and market share.

If we fail to achieve broader market acceptance of our products, including international acceptance of our seventh-generation IQ microinverters, there would be an adverse impact on our ability to increase our revenue, gain market share and achieve and sustain profitability. Our ability to achieve broader market acceptance for our products will be impacted by a number of factors, including:

- our ability to produce PV systems that compete favorably against other solutions on the basis of price, quality, reliability and performance;
- our ability to timely introduce and complete new designs and timely qualify and certify our products;
- whether installers, system owners and solar financing providers will continue to adopt our systems, which have a relatively limited history with respect to reliability and performance;
- whether installers, system owners and solar financing providers will adopt our AC Battery storage solution, which is a relatively new technology with a limited history with respect to reliability and performance;
- the ability of prospective system owners to obtain long-term financing for solar PV installations based on our product platform on acceptable terms or at all;
- our ability to develop products that comply with local standards and regulatory requirements, as well as potential in-country manufacturing requirements; and
- our ability to develop and maintain successful relationships with our customers and suppliers.

In addition, our ability to achieve increased market share will depend on our ability to increase sales to established solar installers, who have traditionally sold central or string inverters, or who currently sell DC-to-DC optimizers. These installers often have made substantial investments in design, installation resources and training in traditional central or string inverter systems or DC optimizers, which may create challenges for us to achieve their adoption of our microinverter systems.

The reduction, elimination or expiration of government subsidies and economic incentives for on-grid solar electricity applications could reduce demand for solar PV systems and harm our business.

The market for on-grid applications, where solar power is used to supplement a customer’s electricity purchased from the utility network or sold to a utility under tariff, depends in large part on the availability and size of government and economic incentives that vary by geographic market. Because our customers’ sales are typically into the on-grid market, the reduction, elimination or expiration of government subsidies and economic incentives for on-grid solar electricity may negatively affect the competitiveness of solar electricity relative to conventional and non-solar renewable sources of electricity, and could harm or halt the growth of the solar electricity industry and our business.

In general, the cost of solar power currently exceeds retail electricity rates, and we believe this tendency will continue in the near term. As a result, national, state and local government bodies in many countries, including the United States, have provided incentives in the form of feed-in tariffs, or FiTs, rebates, tax credits and other incentives to system owners, distributors, system integrators and manufacturers of solar PV systems to promote the use of solar electricity in on-grid applications and to reduce dependency on other forms of energy. Many of these government incentives expire, phase out over time, terminate upon the exhaustion of the allocated funding, require renewal by the applicable authority or are being changed by governments due to changing market circumstances or changes to national, state or local energy policy.

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Electric utility companies or generators of electricity from other non-solar renewable sources of electricity may successfully lobby for changes in the relevant legislation in their markets that are harmful to the solar industry. Reductions in, or eliminations or expirations of, governmental incentives in regions that we focus our sales efforts could result in decreased demand for and lower revenue from solar PV systems there, which would adversely affect sales of our products. In addition, our ability to successfully penetrate new geographic markets may depend on new countries adopting and maintaining incentives to promote solar electricity, to the extent such incentives are not currently in place. Additionally, electric utility companies may establish pricing structures or interconnection requirements that could adversely affect our sales and be harmful to the solar and distributed rooftop solar generation industry.

*If we do not forecast demand for our products accurately, we may experience product shortages, delays in product shipment, excess product inventory, difficulties in planning expenses or disputes with suppliers, any of which will adversely affect our business and financial condition.

We manufacture our products according to our estimates of customer demand. This process requires us to make multiple forecasts and assumptions relating to the demand of our distributors, their end customers and general market conditions. Because we sell most of our products to distributors, who in turn sell to their end customers, we have limited visibility as to end-customer demand. We depend significantly on our distributors to provide us visibility into their end-customer demand, and we use these forecasts to make our own forecasts and planning decisions. If the information from our distributors turns out to be incorrect, then our own forecasts may also be inaccurate. Furthermore, we do not have long-term purchase commitments from our distributors or end customers, and our sales are generally made by purchase orders that may be canceled, changed or deferred without notice to us or penalty. As a result, it is difficult to forecast future customer demand to plan our operations.

If we overestimate demand for our products, or if purchase orders are canceled or shipments are delayed, we may have excess inventory that we cannot sell. We may have to make significant provisions for inventory write-downs based on events that are currently not known, and such provisions or any adjustments to such provisions could be material. We may also become involved in disputes with our suppliers who may claim that we failed to fulfill forecast or minimum purchase requirements. Conversely, if we underestimate demand, we may not have sufficient inventory to meet end-customer demand, and we may lose market share, damage relationships with our distributors and end customers and forgo potential revenue opportunities. Obtaining additional supply in the face of product shortages may be costly or impossible, particularly in the short term and in light of our outsourced manufacturing processes, which could prevent us from fulfilling orders in a timely and cost-efficient manner or at all. In addition, if we overestimate our production requirements, our contract manufacturers may purchase excess components and build excess inventory. If our contract manufacturers, at our request, purchase excess components that are unique to our products and are unable to recoup the costs of such excess through resale or return or build excess products, we could be required to pay for these excess parts or products and recognize related inventory write-downs.

In addition, we plan our operating expenses, including research and development expenses, hiring needs and inventory investments, in part on our estimates of customer demand and future revenue. If customer demand or revenue for a particular period is lower than we expect, we may not be able to proportionately reduce our fixed operating expenses for that period, which would harm our operating results for that period.

Our focus on a limited number of specific markets increases risks associated with the modification, elimination or expiration of governmental subsidies and economic incentives for on-grid solar electricity applications.

To date, we have generated the majority of our revenues from North America and expect to continue to generate a substantial amount of our revenues from North America in the future. There are a number of important incentives that are expected to phase-out or terminate in the future, which could adversely affect sales of our products. A substantial majority of our revenues come from the United States, which has both federal and state incentives. For instance, the Renewable Energy and Job Creation Act of 2008 currently provides a 30% federal tax credit for residential and commercial solar installations through December 31, 2019 and reduced tax credits of 26% and 22% through December 31, 2020 and 2021 respectively, before being reduced to 10% for commercial installations and 0% for residential installations beginning in 2022. These tax credits could be reduced or eliminated as part of tax code changes or regulatory reform initiatives by the current Congress and presidential administration.

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In addition, net energy metering tariffs are being evaluated and, in some instances modified, which may have a negative impact on future inverter sales. We derive a significant portion of our revenues from California's residential solar market and the existing California net energy metering tariff has been very successful in incentivizing the installation of residential solar systems. California, however, is re-evaluating existing incentives, tariffs and rates for residential systems in order to accommodate a sustainable growth trajectory for residential solar and to also encourage the adoption of other distributed energy resources, such as energy storage, that provide additional benefits to the consumer and the electricity grid. There is a risk that future regulatory changes will not adequately stimulate future growth in the residential solar market.

We also sell our products in Europe. A number of European countries, including Germany, Belgium, Italy and the United Kingdom have adopted reductions or concluded their FiT programs. Certain countries have proposed or enacted taxes levied on renewable energy. These and related developments have significantly impacted the solar industry in Europe and may adversely affect the future demand for the solar energy solutions in Europe.

We also sell our products in Australia. In 2012 Australia enacted a Renewable Energy Target (RET) that is intended to ensure that 33,000 Gigawatt-hours of Australia's electricity comes from renewable sources by 2020. In 2016, Australia re-elected its conservative national government, which revised national energy policy in October of 2017 with the introduction of the National Energy Guarantee. The National Energy Guarantee imposes a reliability obligation and an emissions reduction expectation on energy retailers and a small number of large electricity users. Energy retailers will have to have a mix in their portfolio: generation from dispatchable sources and from low-emissions sources, to meet their regulatory obligations. The Direct Action Plan previously put into place remains and has been renamed the Emissions Reduction Fund. This plan primarily provides funding to corporations to reduce emissions. The Emissions Reduction Fund is the central component in the Australian government's policy suite to reduce emissions and operates alongside existing programs such as the Renewable Energy Target, the National Carbon Offset Standard and energy efficiency standards on appliances, equipment and buildings. The objective of the Emissions Reduction Fund is to help achieve Australia's 2020 emissions reduction target of 5% below 2000 levels by 2020 and 26-28% below 2005 emissions by 2030. The Australian government has provided $2.55 billion of funding toward the Emissions Reduction Fund, with further funding to be considered in future budgets. States and territories in Australia have different FiTs, and the gradual reduction of FiTs in some states may reduce the incentive for homeowners to export unused solar energy produced back to the grid.

We also sell our products in Ontario, Canada. The government of Ontario has the authority to modify, suspend, or discontinue the FiT program at any time and has currently suspended it. Suspension of the FiT program in Ontario directly impacted and could continue to impact our business. Furthermore, any future suspension or modification of the program could negatively affect our business, financial condition and results of operations.

We believe the Federal and State tax credits, applicable federal and state grants, applicable tariffs and other incentive programs have had a positive effect on our sales since inception. However, unless these programs are further extended or modified to allow for continued growth in the residential solar market, the phase-out of such programs could adversely affect sales of our products in the future. The reductions in incentives and uncertainty around future energy policy, including local content requirements, have negatively affected and may continue to negatively affect our business, financial condition, and results of operations as we seek to increase our business domestically and abroad. Additionally, as we further expand to other countries, changes in incentive programs or electricity policies could negatively affect returns on our investments in those countries as well as our business, financial condition, and results of operations.

Changes in current laws or regulations or the imposition of new laws or regulations, or new interpretations thereof, by federal or state agencies or foreign governments could impair our ability to compete in international markets.

Changes in current laws or regulations applicable to us or the imposition of new laws and regulations in the United States, Canada, Mexico and certain Central American markets, France, the Benelux region, certain other European markets, Australia, India, New Zealand and certain other Asian markets, could materially and adversely affect our business, financial condition and results of operations. In addition, changes in our products or changes in export and import laws and implementing regulations may create delays in the introduction of new products in international markets, prevent our customers from deploying our products internationally or, in some cases, prevent the export or import of our products to certain countries altogether.

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For example, several states or territories, including California, Hawaii and Queensland, Australia, have either implemented or are considering implementing new restrictions on incentives or rules regulating the installation of solar systems that we may not be able to currently comply with. In the event that we cannot comply with these or other new regulations or implement a solution to such noncompliance as they arise, the total market available for our microinverter products in such states, and our business as a result, may be adversely impacted.

While we are not aware of any other current or proposed export or import regulations that would materially restrict our ability to sell our products in countries where we offer our products for sale, any change in export or import regulations or related legislation, shift in approach to the enforcement or scope of existing regulations, or change in the countries, persons or technologies targeted by these regulations, could result in decreased use of our products by, or in our decreased ability to export or sell our products to, existing or potential customers with international operations. In such event, our business and results of operations could be adversely affected.

The threat of global economic, capital markets and credit disruptions, including sovereign debt issues, pose risks for our business.

The threat of global economic, capital markets and credit disruptions pose risks for our business. These risks include slower economic activity and investment in projects that make use of our products and services. These economic developments, particularly decreased credit availability, have in the past reduced demand for solar products. For instance, the European sovereign debt crisis in recent years has caused and may continue to cause European governments to reduce, eliminate or allow to expire government subsidies and economic incentives for solar energy, which could limit our growth or cause our net sales to decline and materially and adversely affect our business, financial condition, and results of operations. These conditions, including reduced incentives, continued decreases in credit availability, as well as continued economic instability, have and may continue to adversely impact our business, financial condition and results of operations as we seek to increase our sales internationally.

Natural disasters, terrorist or cyber attacks, or other catastrophic events could harm our operations.

Our worldwide operations could be subject to natural disasters and other business disruptions, which could harm our future revenue and financial condition and increase our costs and expenses. For example, our corporate headquarters in Fremont, California is located near major earthquake fault lines and our Petaluma, California facility is near fault lines and the sites of recent catastrophic wild fires. Further, a terrorist attack, including one aimed at energy or communications infrastructure suppliers or our cloud-based monitoring service, could hinder or delay the development and sale or performance of our products. In the event that an earthquake, fire, tsunami, typhoon, terrorist or cyber attack, or other natural, manmade or technical catastrophe were to destroy any part of our facilities or those of our contract manufacturer, destroy or disrupt vital infrastructure systems or interrupt our operations or services for any extended period of time, our business, financial condition and results of operations would be materially and adversely affected.

Any unauthorized access to, or disclosure or theft of personal information we gather, store or use could harm our reputation and subject us to claims or litigation.

We receive, store and use certain personal information of our customers, and the end-users of our customers' solar PV systems, including names, addresses, e-mail addresses, credit information and energy production statistics. We also store and use personal information of our employees. We take steps to protect the security, integrity and confidentiality of the personal information we collect, store and transmit, but there is no guarantee that inadvertent or unauthorized use or disclosure will not occur or that third parties will not gain unauthorized access to this information despite our efforts. Because techniques used to obtain unauthorized access or sabotage systems change frequently and generally are not identified until they are launched against a target, we and our suppliers or vendors may be unable to anticipate these techniques or to implement adequate preventative or mitigation measures.

Effective May 25, 2018, the European Union, or EU, implemented the General Data Protection Regulation, or GDPR, a broad data protection framework that expands the scope of current EU data protection law to non-European Union entities that process, or control the processing of, the personal information of EU subjects. The GDPR allows for the imposition of fines and corrective action on entities that improperly use or disclose the personal information of EU subjects, including through a data security breach. On June 27, 2018, the state of California enacted the California Consumer Privacy Act of 2018 or CCPA, which contains requirements similar to GDPR for the handling of personal information of California residents, commencing on January 1, 2020.

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Our and our collaborators' and contractors' failure to fully comply with GDPR, CCPA and other laws could lead to significant fines and require onerous corrective action. In addition, data security breaches experienced by us, our collaborators or contractors could result in the loss of trade secrets or other intellectual property, public disclosure of sensitive commercial data, and the exposure of personally identifiable information (including sensitive personal information) of our employees, customers, collaborators and others.

Unauthorized use or disclosure of, or access to, any personal information maintained by us or on our behalf, whether through breach of our systems, breach of the systems of our suppliers or vendors by an unauthorized party, or through employee or contractor error, theft or misuse, or otherwise, could harm our business. If any such unauthorized use or disclosure of, or access to, such personal information was to occur, our operations could be seriously disrupted, and we could be subject to demands, claims and litigation by private parties, and investigations, related actions, and penalties by regulatory authorities. In addition, we could incur significant costs in notifying affected persons and entities and otherwise complying with the multitude of foreign, federal, state and local laws and regulations relating to the unauthorized access to, or use or disclosure of, personal information. Finally, any perceived or actual unauthorized access to, or use or disclosure of, such information could harm our reputation, substantially impair our ability to attract and retain customers and have an adverse impact on our business, financial condition and results of operations.

We may be subject to disruptions or failures in information technology systems and network infrastructures that could have a material adverse effect on our business and financial condition.

We rely on the efficient and uninterrupted operation of complex information technology systems and network infrastructures to operate our business. In addition, our Enlighten web-based monitoring service, which our customers use to track and monitor the performance of their solar PV systems, is dependent on cloud-based hosting services, along with the availability of internet services at end-user premises. A disruption, infiltration or failure of our information technology systems, third-party cloud hosting platforms or end-user internet services as a result of software or hardware malfunctions, system implementations or upgrades, computer viruses, cyber-attacks, third-party security breaches, employee error, theft or misuse, malfeasance, power disruptions, natural disasters or accidents could cause breaches of data security, failure of our Enlighten service, loss of intellectual property and critical data and the release and misappropriation of sensitive competitive information and partner, customer and employee personal data. We have been and may in the future be subject to fraud attempts from outside parties through our electronic systems (such as "phishing" e-mail communications to our finance, technical or other personnel), which could put us at risk for harm from fraud, theft or other loss if our internal controls do not operate as intended. Any of these events could harm our competitive position, result in a loss of customer confidence, cause us to incur significant costs to remedy any damages and ultimately materially adversely affect our business and financial condition.

A drop in the retail price of electricity derived from the utility grid or from alternative energy sources, or a change in utility pricing structures, may harm our business, financial condition and results of operations.

We believe that a system owner's decision to purchase a solar PV system is strongly influenced by the cost of electricity generated by solar PV installations relative to the retail price of electricity from the utility grid and the cost of other renewable energy sources, including electricity from solar PV installations using central inverters. Decreases in the retail prices of electricity from the utility grid would make it more difficult for all solar PV systems to compete. In particular, growth in unconventional natural gas production and an increase in global liquefied natural gas capacity are expected to keep natural gas prices relatively low for the foreseeable future. Persistent low natural gas prices, lower prices of electricity produced from other energy sources, such as nuclear power or coal-fired plants, or improvements to the utility infrastructure could reduce the retail price of electricity from the utility grid, making the purchase of solar PV systems less economically attractive and lowering sales of our products. In addition, energy conservation technologies and public initiatives to reduce demand for electricity also could cause a fall in the retail price of electricity from the utility grid. Moreover, technological developments by our competitors in the solar components industry, including manufacturers of central inverters and DC-to-DC optimizers, could allow these competitors or their partners to offer electricity at costs lower than those that can be achieved from solar PV installations based on our product platform, which could result in reduced demand for our products. Additionally, as increasing adoption of distributed generation places pressure on traditional utility business models or utility infrastructure, utilities may change their pricing structures to make installation or operation of solar distributed generation more costly. Such measures can include grid access fees, costly or lengthy interconnection studies, limitations on distributed generation penetration levels, or other measures. If the cost of electricity generated by solar PV installations incorporating our microinverter systems is high relative to the cost of electricity from other sources, our business, financial condition and results of operations may be harmed.

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Problems with product quality or product performance may cause us to continue to incur additional warranty expenses and may damage our market reputation and cause our revenue and gross profit to decline.

We have offered 15-year limited warranties for our first and second generation microinverters and offer a limited warranty of up to 25 years on each subsequent generation microinverters. Our limited warranties cover defects in materials and workmanship of our microinverters under normal use and service conditions for up to 25 years following installation. As a result, we bear the risk of warranty claims long after we have sold the product and recognized revenue. Our estimated costs of warranty for previously sold products may change to the extent future products are not compatible with earlier generation products under warranty.

While we offer warranties of up to 25 years, our microinverters have only been in use since mid-2008, when we first commenced commercial sales of our products. Although we conduct accelerated life cycle testing to measure performance and reliability, our microinverter systems have not been tested over the full warranty cycle and do not have a sufficient operating history to confirm how they will perform over their estimated useful life. In addition, under real-world operating conditions, which may vary by location and design, as well as insolation, soiling and weather conditions, a typical solar PV installation may perform in a different way than under standard test conditions. If our products perform below expectations or have unexpected reliability problems, we may be unable to gain or retain customers and could face substantial warranty expense.

We are required to make assumptions and apply judgments, based on our accelerated life cycle testing and the limited operating history of our products, regarding a number of factors, including the durability and reliability of our products, our anticipated rate of warranty claims and the costs of replacement of defective products. Our assumptions have proved and could in the future prove to be materially different from the actual performance of our products, which has caused and may in the future cause us to incur substantial expense to repair or replace defective products. Increases in our estimates of future warranty obligations due to actual product failure rates, field service obligations and rework costs incurred in correcting product failures have caused and could in the future cause us to materially increase the amount of warranty obligations, and have had and may have in the future a corresponding negative impact on our results of operations.

We also depend significantly on our reputation for reliability and high-quality products and services, exceptional customer service and our brand name to attract new customers and grow our business. If our products and services do not perform as anticipated or we experience unexpected reliability problems or widespread product failures, our brand and reputation could be significantly impaired, and we may lose, or be unable to gain or retain, customers.

Defects and poor performance in our products could result in loss of customers, decreased revenue and unexpected expenses, and we may face warranty, indemnity and product liability claims arising from defective products.

Our products must meet stringent quality requirements and may contain undetected errors or defects, especially when first introduced or when new generations are released. Errors, defects or poor performance can arise due to design flaws, defects in raw materials or components or manufacturing difficulties, which can affect both the quality and the yield of the product. These errors or defects may be dangerous, as defective power components may cause power overloads, potentially resulting in explosion or fire. As we develop new generations of our products and enter new markets, we face higher risk of undetected defects because our testing protocols may not be able to fully test the products under all possible operating conditions. In the past, we have experienced defects in our products due to certain errors in the manufacturing and design process. Any actual or perceived errors, defects or poor performance in our products could result in the replacement or recall of our products, shipment delays, rejection of our products, damage to our reputation, lost revenue, diversion of our engineering personnel from our product development efforts in order to address or remedy any defects and increases in customer service and support costs, all of which could have a material adverse effect on our business and operations.

Furthermore, defective, inefficient or poorly performing power components may give rise to warranty, indemnity or product liability claims against us that exceed any revenue or profit we receive from the affected products. We could incur significant costs and liabilities if we are sued and if damages are awarded against us. We currently maintain a moderate level of product liability insurance, and there can be no assurance that this insurance will provide sufficient coverage in the event of a claim. Also, we cannot predict whether we will be able to maintain this coverage on acceptable terms, if at all, or that a product liability claim would not harm our business or financial condition. Costs or payments we may make in connection with warranty and product liability claims or product recalls may adversely affect our financial condition and results of operations.

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Our Enlighten web-based monitoring service, which our customers use to track and monitor the performance of their solar PV systems based on our product platform, may contain undetected errors, failures, or bugs, especially when new versions or enhancements are released. We have from time to time found defects in our service and new errors in our existing service may be detected in the future. Any errors, defects, disruptions in service or other performance problems with our monitoring service could harm our reputation and may damage our customers' businesses.

*If we are unable to effectively manage our workforce, our business and operating results may suffer.

We have experienced, and expect to experience in the future, volatility in our sales and operations. Our historical growth and our more recent cost reduction initiatives have placed, and are expected to continue to place, significant demands on our management as well as our financial and operational resources, to:

- manage a dynamic organization;
- expand third-party manufacturing, testing and distribution capacity;
- execute on our cost reduction efforts and product initiatives with reduced headcount;
- build additional custom manufacturing test equipment;
- manage an increasing number of relationships with customers, suppliers and other third parties;
- manage acquired businesses or technologies and integration efforts related to acquisitions;
- increase our sales and marketing efforts;
- train and manage a dynamic and increasingly international employee base;
- broaden our customer support capabilities; and
- implement new and upgrade existing operational and financial systems.

We cannot assure you that our current and planned operations, personnel, systems, internal procedures and controls will be adequate to support our future operations. If we cannot manage our sales and operations effectively, we may be unable to take advantage of market opportunities, execute our business strategies or respond to competitive pressures, any of which could have a material adverse effect on our financial condition, results of operations, business or prospects.

Our recent and planned expansion into new markets could subject us to additional business, financial and competitive risks.

We currently offer PV systems targeting the residential and commercial markets in the United States, Canada, Mexico and certain Central American markets, the United Kingdom, France, the Benelux region, certain other European markets, Australia, India, New Zealand and certain other Asian markets. We intend to expand into other international markets, including the remainder of Europe and South America. Our success in these new geographic and product markets will depend on a number of factors, such as:

- acceptance of microinverters in markets in which they have not traditionally been used;
- our ability to compete in new product markets to which we are not accustomed;
- our ability to manage manufacturing capacity and production;
- willingness of our potential customers to incur a higher upfront capital investment than may be required for competing solutions;
- timely qualification and certification of new products;
- our ability to reduce production costs in order to price our products competitively over time;
- availability of government subsidies and economic incentives for solar energy solutions;
- accurate forecasting and effective management of inventory levels in line with anticipated product demand; and
- our customer service capabilities and responsiveness.

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Further, new geographic markets and the larger commercial and utility-scale installation markets have different characteristics from the markets in which we currently sell products, and our success will depend on our ability to properly address these differences. These differences may include:

- differing regulatory requirements, including tax laws, trade laws, labor, safety, local content, recycling and consumer protection regulations, tariffs, export quotas, customs duties or other trade restrictions;
- limited or unfavorable intellectual property protection;
- risk of change in international political or economic conditions;
- restrictions on the repatriation of earnings;
- fluctuations in the value of foreign currencies and interest rates;
- difficulties and increased expenses in complying with a variety of U.S. and foreign laws, regulations and trade standards, including the Foreign Corrupt Practices Act and UK Bribery Act;
- potentially longer sales cycles;
- higher volume requirements;
- increased customer concentrations;
- warranty expectations and product return policies; and
- cost, performance and compatibility requirements.

Failure to develop and introduce these new products successfully, to generate sufficient revenue from these products to offset associated research and development, marketing and manufacturing costs, or to otherwise effectively anticipate and manage the risks and challenges associated with our potential expansion into new product and geographic markets, could adversely affect our revenues and our ability to achieve or sustain profitability.

Ordering patterns from our distributors may cause our revenue to fluctuate significantly from period to period.

Our distributors place purchase orders with us based on their assessment of end-customer demand and their forecasts. Because these forecasts may not be accurate, channel inventory held at our distributors may fluctuate significantly due to the difference between their forecasts and actual demand. As a result, distributors may adjust their purchase orders placed with us in response to changing channel inventory levels, as well as their assessment of the latest market demand trends. We have limited visibility into future end customer demand. A significant decrease in our distributors' channel inventory in one period may lead to a significant rebuilding of channel inventory in subsequent periods, or vice versa, which may cause our quarterly revenue and operating results to fluctuate significantly. This fluctuation may cause our results to fall short of analyst or investor expectations in a certain period, which may cause our stock price to decline.

We depend upon a small number of outside contract manufacturers. Our operations could be disrupted if we encounter problems with these contract manufacturers.

We do not have internal manufacturing capabilities, and rely upon a small number of contract manufacturers to build our products. In particular, we rely on contract manufacturers for the manufacture of microinverter products, cabling and our communications gateway related to our microinverter systems. Our reliance on a small number of contract manufacturers makes us vulnerable to possible capacity constraints and reduced control over component availability, delivery schedules, manufacturing yields and costs. We do not have long-term supply contracts with our other manufacturing partners. Consequently, these manufacturers are not obligated to supply products to us for any period, in any specified quantity or at any certain price.

The revenues that our contract manufacturers generate from our orders may represent a relatively small percentage of their overall revenues. As a result, fulfilling our orders may not be considered a priority in the event of constrained ability to fulfill all of their customer obligations in a timely manner. In addition, the facilities in which the vast majority of our microinverters, related cabling and communications gateway products are manufactured are located outside of the United States. We believe that the location of these facilities outside of the United States increases supply risk, including the risk of supply interruptions or reductions in manufacturing quality or controls.

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If any of our contract manufacturers were unable or unwilling to manufacture our products in required volumes and at high quality levels or renew existing terms under supply agreements, we would have to identify, qualify and select acceptable alternative contract manufacturers. An alternative contract manufacturer may not be available to us when needed or may not be in a position to satisfy our quality or production requirements on commercially reasonable terms, including price. Any significant interruption in manufacturing would require us to reduce our supply of products to our customers, which in turn would reduce our revenues, harm our relationships with our customers and damage our relationships with our distributors and end customers and cause us to forgo potential revenue opportunities.

*Manufacturing problems could result in delays in product shipments to customers and could adversely affect our revenue, competitive position and reputation.

We may experience delays, disruptions or quality control problems in our manufacturing operations. Our product development, manufacturing and testing processes are complex and require significant technological and production process expertise. Such processes involve a number of precise steps from design to production. Any change in our processes could cause one or more production errors, requiring a temporary suspension or delay in our production line until the errors can be researched, identified and properly addressed and rectified. This may occur particularly as we introduce new products, modify our engineering and production techniques, and expand our capacity. In addition, our failure to maintain appropriate quality assurance processes could result in increased product failures, loss of customers, increased production costs and delays. Any of these developments could have a material adverse effect on our business, financial condition, and results of operations.

A disruption could also occur in our manufacturing partner’s fabrication facility due to any number of reasons, such as equipment failure, contaminated materials or process deviations, which could adversely impact manufacturing yields or delay product shipments. As a result, we could incur additional costs that would adversely affect our gross profit, and product shipments to our customers could be delayed beyond the shipment schedules requested by our customers, which would negatively affect our revenue, competitive position and reputation.

Additionally, manufacturing yields depend on a number of factors, including the stability and manufacturability of the product design, manufacturing improvements gained over cumulative production volumes and the quality and consistency of component parts. Capacity constraints, raw materials shortages, logistics issues, labor shortages, and changes in customer requirements, manufacturing facilities or processes have historically caused, and may in the future cause, reduced manufacturing yields, negatively impacting the gross profit on, and our production capacity for, those products. Component shortages have required us and may continue to require us to incur expedited shipping costs to meet delivery schedules, which also impacts our revenues and gross profit. Moreover, an increase in the rejection and rework rate of products during the quality control process before, during or after manufacture would result in our experiencing lower yields, gross profit and production capacity.

The risks of these types of manufacturing problems are further increased during the introduction of new product lines, which has from time to time caused, and may in the future cause, temporary suspension of production lines while problems are addressed or corrected. Since our business is substantially dependent on a limited number of product lines, any prolonged or substantial suspension of manufacturing production lines could result in a material adverse effect on our revenue, gross profit, competitive position, and distributor and customer relationships.

We depend on sole-source and limited-source suppliers for key components and products. If we are unable to source these components on a timely basis, we will not be able to deliver our products to our customers.

We depend on sole-source and limited-source suppliers for key components of our products. For example, our ASICs are purchased from a sole source supplier or developed for us by sole source suppliers. Any of the sole-source and limited-source suppliers upon whom we rely could experience quality and reliability issues, could stop producing our components, cease operations or be acquired by, or enter into exclusive arrangements with, our competitors. We generally do not have long-term supply agreements with our suppliers, and our purchase volumes may currently be too low for us to be considered a priority customer by most of our suppliers. As a result, most of these suppliers could stop selling to us at commercially reasonable prices, or at all. Any such quality or reliability issue, or interruption or delay may force us to seek similar components or products from alternative sources, which may not be available on commercially reasonable terms, including price, or at all. Switching suppliers may require that we redesign our products to accommodate new components, and may potentially require us to re-qualify our products, which would be costly and time-consuming. Any interruption in the quality or supply of sole-source or limited-source components for our products would adversely affect our ability to meet scheduled product deliveries to our customers and could result in lost revenue or higher expenses and would harm our business.

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If we or our contract manufacturers are unable to obtain raw materials in a timely manner or if the price of raw materials increases significantly, production time and product costs could increase, which may adversely affect our business.

The manufacturing and packaging processes used by our contract manufacturers depend on raw materials such as copper, aluminum, silicon and petroleum-based products. From time to time, suppliers may extend lead times, limit supplies or increase prices due to capacity constraints or other factors. Certain of our suppliers have the ability to pass along to us directly or through our contract manufacturers any increases in the price of raw materials. If the prices of these raw materials rise significantly, we may be unable to pass on the increased cost to our customers. While we may from time to time enter into hedging transactions to reduce our exposure to wide fluctuations in the cost of raw materials, the availability and effectiveness of these hedging transactions may be limited. Due to all these factors, our results of operations could be adversely affected if we or our contract manufacturers are unable to obtain adequate supplies of raw materials in a timely manner or at reasonable cost. In addition, from time to time, we or our contract manufacturers may need to reject raw materials that do not meet our specifications, resulting in potential delays or declines in output. Furthermore, problems with our raw materials may give rise to compatibility or performance issues in our products, which could lead to an increase in customer returns or product warranty claims. Errors or defects may arise from raw materials supplied by third parties that are beyond our detection or control, which could lead to additional customer returns or product warranty claims that may adversely affect our business and results of operations.

If potential owners of solar PV systems based on our product platform are unable to secure financing on acceptable terms, we could experience a reduction in the demand for our solar PV systems.

Many owners of solar PV systems depend on financing to purchase their systems. The limited use of microinverters to date, coupled with our relatively smaller size and capitalization compared to some of our competitors, could result in lenders refusing to provide the financing necessary to purchase solar PV systems based on our product platform on favorable terms, or at all. Moreover, in the case of debt financed projects, even if lenders are willing to finance the purchase of these systems, an increase in interest rates or a change in tax incentives could make it difficult for owners to secure the financing necessary to purchase a solar PV system on favorable terms, or at all. In addition, we believe that a significant percentage of owners purchase solar PV systems as an investment, funding the initial capital expenditure through a combination of upfront cash and financing. Difficulties in obtaining financing for solar PV systems on favorable terms, or increases in interest rates or changes in tax incentives, could lower an investor's return on investment in a solar PV system, or make alternative solar PV systems or other investments more attractive relative to solar PV systems based on our product platform. Any of these events could result in reduced demand for our products, which could have a material adverse effect on our financial condition and results of operations. In addition, a significant share of residential solar installations has been provided through third-party financing structures, such as power purchase or lease agreements. Our sales growth may depend on sales to developers of third-party solar finance offerings who provide solar as a service via power purchase agreements or leasing structures. The third-party finance market for residential solar in the United States and elsewhere is or may become highly concentrated, with a few significant finance companies and several smaller entrants. If we are unable develop relationships and gain a significant share of inverter sales to the major finance companies or new entrants, our overall sales growth could be constrained.

We rely primarily on distributors, installers and providers of solar financing to assist in selling our products, and the failure of these customers to perform as expected could reduce our future revenue.

We sell our microinverter systems primarily through distributors, as well as through direct sales to solar equipment installers and sales to developers of third party solar finance offerings. We do not have exclusive arrangements with these third parties and, as a result, many of our customers also use or market and sell products from our competitors, which may reduce our sales. Our customers may generally terminate their relationships with us at any time, or with short notice. Our customers may fail to devote resources necessary to sell our products at the prices, in the volumes and within the time frames that we expect, or may focus their marketing and sales efforts on products of our competitors. In addition, participants in the solar industry are becoming increasingly focused on vertical integration of the solar financing and installation process, which may lead to an overall reduction in the number of potential parties

who may purchase and install our products.
Our future performance depends on our ability to effectively manage our relationships with our existing customers, as well as to attract additional customers that will be able to market and support our products effectively, especially in markets in which we have not previously distributed our products. Termination of agreements with current customers, failure by these customers to perform as expected, or failure by us to cultivate new customer relationships, could hinder our ability to expand our operations and harm our revenue and operating results.

We may fail to capture customers in the new product and geographic markets that we are pursuing.

We are pursuing opportunities in energy management and energy storage which are highly competitive markets. We have made investments in our infrastructure, increased our operating costs and forgone other business opportunities in order to seek opportunities in these areas and will continue to do so. Any new product is subject to certain risks, including component sourcing, strategic partner selection and execution, customer acceptance, competition, product differentiation, market timing, challenges relating to economies of scale in component sourcing and the ability to attract and retain qualified personnel. There can be no assurance that we will be able to develop and grow these or any other new concepts to a point where they will become profitable, or generate positive cash flow. If we fail to execute on our plan with respect to new product introductions, these new potential business segments fail to translate into revenue in the quantities or timeline projected, thus, having a materially adverse impact on our revenue, operating results and financial stability. In addition, we are pursuing new geographic markets. The inability to capture new customers in the high-growth geographic markets could have a material adverse effect on our business, financial condition or results of operations.

Our success in “AC module” versions of our microinverter system may depend in part upon our ability to continue to work closely with leading solar module manufacturers.

We continue to work on variants of our microinverter systems that enable direct attachment of the microinverter to solar modules. The market success of such “AC Module” solutions will depend in part on our ability to continue to work closely with SunPower and other solar module manufacturers to design solar modules that are compatible with such direct attachment of our microinverter. We may not be able to encourage solar module manufacturers to work with us on the development of such compatible solutions combining our microinverter system and solar modules for a variety of reasons, including differences in marketing or selling strategy, competitive considerations, lack of competitive pricing, and technological compatibility. In addition, our ability to form effective partnerships with solar module manufacturers may be adversely affected by the substantial challenges faced by many of these manufacturers due to declining prices and revenues from sales of solar modules and the new tariffs in the U.S.

If we fail to retain our key personnel or if we fail to attract additional qualified personnel, we may not be able to achieve our anticipated level of growth and our business could suffer.

Our future success and ability to implement our business strategy depends, in part, on our ability to attract and retain key personnel, and on the continued contributions of members of our senior management team and key technical personnel, each of whom would be difficult to replace. All of our employees, including our senior management, are free to terminate their employment relationships with us at any time. Competition for highly skilled technical people is extremely intense, and we face challenges identifying, hiring and retaining qualified personnel in many areas of our business. If we fail to retain existing or recruit new senior management and other key personnel or if we fail to attract additional qualified personnel, we may not be able to achieve our strategic objectives and our business could suffer.

If we fail to protect, or incur significant costs in defending, our intellectual property and other proprietary rights, our business and results of operations could be materially harmed.

Our success depends to a significant degree on our ability to protect our intellectual property and other proprietary rights. We rely on a combination of patent, trademark, copyright, trade secret and unfair competition laws, as well as confidentiality and license agreements and other contractual provisions, to establish and protect our intellectual property and other proprietary rights. We have applied for patent and trademark registrations in the United States and in certain other countries, some of which have been issued. We cannot guarantee that any of our pending applications will be approved or that our existing and future intellectual property rights will be sufficiently broad to protect our proprietary technology, and any failure to obtain such approvals or finding that our intellectual property rights are invalid or unenforceable could force us to, among other things, rebrand or re-design our affected products. In countries where we have not applied for patent protection or where effective intellectual property protection is not available to the same extent as in the United States, we may be at greater risk that our proprietary rights will be misappropriated, infringed or otherwise violated.

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To protect our unregistered intellectual property, including our trade secrets and know-how, we rely in part on trade secret laws and confidentiality and invention assignment agreements with our employees and independent consultants. We also require other third parties who may have access to our proprietary technologies and information to enter into non-disclosure agreements. Such measures, however, provide only limited protection, and we cannot assure that our confidentiality and non-disclosure agreements will prevent unauthorized disclosure or use of our confidential information, especially after our employees or third parties end their employment or engagement with us, or provide us with an adequate remedy in the event of such disclosure. Furthermore, competitors or other third parties may independently discover our trade secrets, in which case we would not be able to assert trade secret rights, copy or reverse engineer our products or portions thereof or develop similar technology. If we fail to protect our intellectual property and other proprietary rights, or if such intellectual property and proprietary rights are infringed, misappropriated or otherwise violated, our business, results of operations or financial condition could be materially harmed.

In the future, we may need to take legal action to prevent third parties from infringing upon or misappropriating our intellectual property or from otherwise gaining access to our technology. Protecting and enforcing our intellectual property rights and determining their validity and scope could result in significant litigation costs and require significant time and attention from our technical and management personnel, which could significantly harm our business. In addition, we may not prevail in such proceedings. An adverse outcome of any such proceeding may reduce our competitive advantage or otherwise harm our financial condition and our business.

Third parties may assert that we are infringing upon their intellectual property rights, which could divert management's attention, cause us to incur significant costs and prevent us from selling or using the technology to which such rights relate.

Our competitors and other third parties hold numerous patents related to technology used in our industry, and claims of patent or other intellectual property right infringement or violation have been litigated against certain of our competitors. From time to time we may also be subject to such claims and litigation. Regardless of their merit, responding to such claims can be time consuming, divert management's attention and resources and may cause us to incur significant expenses. While we believe that our products and technology do not infringe in any material respect upon any valid intellectual property rights of third parties, we cannot be certain that we would be successful in defending against any such claims. Furthermore, patent applications in the United States and most other countries are confidential for a period of time before being published, so we cannot be certain that we are not infringing third parties' patent rights or that we were the first to conceive or protect inventions covered by our patents or patent applications. An adverse outcome with respect to any intellectual property claim could invalidate our proprietary rights and force us to do one or more of the following:

- obtain from a third party claiming infringement a license to sell or use the relevant technology, which may not be available on reasonable terms, or at all;
- stop manufacturing, selling, incorporating or using our products that embody the asserted intellectual property;
- pay substantial monetary damages;
- indemnify our customers pursuant to indemnification obligations under some of our customer contracts; or
- expend significant resources to redesign the products that use the infringing technology and to develop or acquire non-infringing technology.

Any of these actions could result in a substantial reduction in our revenue and could result in losses over an extended period of time.

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Our failure to obtain the right to use necessary third-party intellectual property rights on reasonable terms, or our failure to maintain, and comply with the terms and conditions applicable to these rights, could harm our business and prospects.

From time to time we have licensed, and in the future we may choose to or be required to license, technology or intellectual property from third parties in connection with the development of our products. We cannot assure that such licenses will be available to us on commercially reasonable terms, or at all, and our inability to obtain such licenses could require us to substitute technology of lower quality or of greater cost. In addition, we incorporate open source software code in our proprietary software. Use of open source software can lead to greater risks than use of third-party commercial software since open source licensors generally do not provide warranties or controls with respect to origin, functionality or other features of the software. Some open source software licenses require users who distribute open source software as part of their products to publicly disclose all or part of the source code in their software and make any derivative works of the open source code available for limited fees or at no cost. Although we monitor our use of open source software, open source license terms may be ambiguous, and many of the risks associated with the use of open source software cannot be eliminated. If we were found to have inappropriately used open source software, we may be required to release our proprietary source code, re-engineer our software, discontinue the sale of certain products in the event re-engineering cannot be accomplished on a timely basis or take other remedial action. Furthermore, if we are unable to obtain or maintain licenses from third parties or fail to comply with applicable open source licenses, we may be subject to costly third party claims of intellectual property infringement or ownership of our proprietary source code. Any of the foregoing could harm our business and put us at a competitive disadvantage.

Our business has been and could continue to be affected by seasonal trends and construction cycles.

We have been and could continue to be subject to industry-specific seasonal fluctuations, particularly in climates that experience colder or rainier weather during the winter months, such as northern Europe, Canada, and the United States. In general, we expect our products in the second, third, and fourth quarters will be positively affected by seasonal customer demand trends, including solar economic incentives, weather patterns and construction cycles, preceded by a seasonally softer first quarter. In the United States, customers will sometimes make purchasing decisions towards the end of the year in order to take advantage of tax credits or for budgetary reasons. In addition, construction levels are typically slower in colder and wetter months. In European countries with FiTs, the construction of solar PV systems may be concentrated during the second half of the calendar year, largely due to the annual reduction of the applicable minimum FiT and the fact that the coldest winter months are January through March. Accordingly, our business and quarterly results of operations could be affected by seasonal fluctuations in the future.

*Covenants in our term loan agreements may limit our flexibility in responding to business opportunities and competitive developments and increase our vulnerability to adverse economic or industry conditions.

We are a party to a term loan agreement with affiliates of Tennenbaum Capital Partners, LLC. This agreement restricts our ability to take certain actions such as incurring additional debt, encumbering our tangible or intangible property, paying dividends, or engaging in certain transactions, such as mergers and acquisitions, investments and asset sales. These restrictions may limit our flexibility in responding to business opportunities, competitive developments and adverse economic or industry conditions. In addition, our obligations under these agreements are secured by substantially all of our assets, which limits our ability to provide collateral for additional financing. A breach of any of these covenants, or a failure to pay interest or indebtedness when due under any of our credit facilities, could result in a variety of adverse consequences, including the acceleration of our indebtedness and the forfeiture of our assets subject to security interests in favor of the lenders.

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*If we fail to maintain an effective system of internal controls or are unable to remediate any deficiencies in our internal controls, we might not be able to report our financial results accurately or prevent fraud; in that case, our stockholders could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our stock.

Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud. In addition, Section 404 of the Sarbanes-Oxley Act requires us to establish and maintain internal control over financial reporting and disclosure controls procedures. The process of implementing our internal controls and complying with Section 404 of the Sarbanes-Oxley Act has required, and will continue to require, significant attention of management. We will be required to provide an auditor's attestation report on management's assessment of the effectiveness of our internal control over financial reporting, under Section 404(b) of the Sarbanes-Oxley Act, in conjunction with our Annual Report on Form 10-K for 2018. If we or our independent registered public accounting firm discover a material weakness in our internal controls over financial reporting, the disclosure of that fact, even if quickly remedied, could reduce the market's confidence in our financial statements and harm our stock price. To the extent any material weaknesses in our internal control over financial reporting are identified, we could be required to expend significant management time and financial resources to correct such material weaknesses or to respond to any resulting regulatory investigations or proceedings.

*Our ability to use net operating losses to reduce future tax payments may be limited by provisions of the Internal Revenue Code and may be subject to further limitation as a result of future transactions.

Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the "Code"), contain rules that limit the ability of a company that undergoes an "ownership change," generally defined as a more than 50 percentage point increase in the percentage of its stock owned by certain stockholders over a three-year period, to utilize its net operating loss and tax credit carryforwards and certain built-in losses recognized in the years after the ownership change. These rules generally operate by focusing on ownership changes involving stockholders who directly or indirectly own 5% or more of the stock of a company and any change in ownership arising from a new issuance of stock by the company. Generally, if an ownership change occurs, the yearly taxable income limitation on the use of net operating loss and tax credit carryforwards is equal to the product of the applicable long-term tax exempt rate and the value of the company's stock immediately before the ownership change. If these limitations apply, we may be unable to offset our taxable income with net operating losses, or our tax liability with credits, before these losses and credits expire. We are in the process of updating our study to assess whether an ownership change has occurred or whether there have been multiple ownership changes since we became a loss corporation under the Code. We do not anticipate these limitations will significantly impact our ability to utilize the net operating losses and tax credit carryforwards.

In addition, it is possible that future transactions (including issuances of new shares of our common stock and sales of shares of our common stock or other equity-linked securities) will cause us to undergo one or more additional ownership changes. In that event, we generally would not be able to use our net operating losses from periods prior to this ownership change to offset future taxable income in excess of the annual limitations imposed by Sections 382 and 383 and those attributes that are already subject to limitations (as a result of our prior ownership changes) may be subject to more stringent limitations.

*Comprehensive tax reform laws could adversely affect our business and financial condition.

The U.S. government recently enacted comprehensive tax legislation (the Tax Cuts and Jobs Act of 2017, or Tax Reform Act) that includes significant changes to the taxation of business entities. These changes include, among others, (i) a permanent reduction to the corporate income tax rate from 35% to 21%, (ii) a partial limitation on the deductibility of business interest expense, (iii) a shift of the U.S. taxation of multinational corporations from a tax on worldwide income to a territorial system (along with certain rules designed to prevent erosion of the U.S. income tax base) and (iv) a one-time tax on accumulated offshore earnings held in cash and illiquid assets, with the latter taxed at a lower rate. On December 22, 2017, the Securities and Exchange Commission issued Staff Accounting Bulletin (SAB 118) which provides a measurement period of no more than a year from the Tax Act enactment date for companies to complete the accounting under Accounting Standards Codification 740 (ASC 740). Given our current taxable loss position, we do not expect the new tax legislation to have a material cash tax impact on our business other than reducing the net operating loss carryforwards, which are offset by a valuation allowance. The Tax Reform Act could adversely affect our business and financial condition.

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We are dependent on ocean transportation to deliver our products in a cost-efficient manner. If we are unable to use ocean transportation to deliver our products, our business and financial condition could be materially and adversely impacted.

We rely on commercial ocean transportation for the delivery of a large percentage of our products to our customers in North America, Europe, Australia and other markets. We also rely on more expensive air transportation when ocean transportation is not available or compatible with the delivery time requirements of our customers. Our ability to deliver our products via ocean transportation could be adversely impacted by shortages in available cargo capacity, changes by carriers and transportation companies in policies and practices, such as scheduling, pricing, payment terms and frequency of service or increases in the cost of fuel, taxes and labor; and other factors, such as labor strikes and work stoppages, not within our control. If we are unable to use ocean transportation and are required to substitute more expensive air transportation, our financial condition and results of operations could be materially and adversely impacted. Material interruptions in service or stoppages in transportation, whether caused by strike, work stoppage, lock-out, slowdown or otherwise, could materially and adversely impact our business, results of operations and financial condition.

The market price of our common stock may be volatile or may decline regardless of our operating performance.

The market price of our common stock has been and could be subject to wide fluctuations in response to, among other things, the risk factors described in this Quarterly Report on Form 10-Q, and other factors beyond our control, such as fluctuations in the valuation of companies perceived by investors to be comparable to us. Furthermore, the stock markets have experienced price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions, such as recessions, interest rate changes or international currency fluctuations, may negatively affect the market price of our common stock. In the past, many companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may become the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

*Our financial results may vary significantly from quarter to quarter due to a number of factors, which may lead to volatility in our stock price.

Our quarterly revenue and results of operations have varied in the past and may continue to vary significantly from quarter to quarter. This variability may lead to volatility in our stock price as research analysts and investors respond to these quarterly fluctuations. These fluctuations are due to numerous factors, including:

- seasonal and other fluctuations in demand for our products;
- the timing, volume and product mix of sales of our products, which may have different average selling prices or profit margins;
- changes in our pricing and sales policies or the pricing and sales policies of our competitors;
- our ability to design, manufacture and deliver products to our customers in a timely and cost-effective manner and that meet customer requirements;
- our ability to manage our relationships with our contract manufacturers, customers and suppliers;
- quality control or yield problems in our manufacturing operations;
- the anticipation, announcement or introductions of new or enhanced products by our competitors and ourselves;
- reductions in the retail price of electricity;
- changes in laws, regulations and policies applicable to our business and products, particularly those relating to government incentives for solar energy applications;
- the impact of tariffs on the solar industry in general and our products in particular;
- unanticipated increases in costs or expenses;
- the amount and timing of operating costs and capital expenditures related to the maintenance and expansion of our business operations;

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- the impact of government-sponsored programs on our customers;
- our exposure to the credit risks of our customers, particularly in light of the fact that some of our customers are relatively new entrants to the solar market without long operating or credit histories;
- our ability to estimate future warranty obligations due to product failure rates, claim rates or replacement costs;
- our ability to forecast our customer demand and manufacturing requirements, and manage our inventory;
- fluctuations in our gross profit;
- our ability to predict our revenue and plan our expenses appropriately;
- fluctuations in foreign currency exchange rates;
- announcement of acquisitions or dispositions of our assets or business operations;
- changes in our management; and
- analyst reports or other news articles.

The foregoing factors are difficult to forecast, and these, as well as other factors, could materially and adversely affect our quarterly and annual results of operations. Any failure to adjust spending quickly enough to compensate for a revenue shortfall could magnify the adverse impact of this revenue shortfall on our results of operations. Moreover, our results of operations may not meet our announced guidance or the expectations of research analysts or investors, in which case the price of our common stock could decrease significantly. There can be no assurance that we will be able to successfully address these risks.

If research analysts do not publish research about our business or if they issue unfavorable commentary or downgrade our common stock, our stock price and trading volume could decline.

The trading market for our common stock depends in part on the research and reports that research analysts publish about us and our business. The price of our common stock could decline if one or more research analysts downgrade our stock or if those analysts issue other unfavorable commentary or cease publishing reports about us or our business. If one or more of the research analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our common stock could decrease, which could cause our stock price or trading volume to decline.

*Techniques employed by manipulative short sellers may drive down the market price of our common stock.

Short selling is the practice of selling securities that the seller does not own, but rather has borrowed from a third party with the intention of buying identical securities back at a later date to return to the lender. Short sellers hope to profit from a decline in the value of the securities between the sale of the borrowed securities and the purchase of the replacement shares, as the short seller expects to pay less in that purchase than it received in the sale. As it is in the short seller’s best interests for the price of the stock to decline, some short sellers publish, or arrange for the publication of, negative opinions regarding the issuer and its business prospects in order to create negative market momentum and generate profits for themselves after selling a stock short. The use of the Internet, social media, and blogging have allowed short sellers to publicly attack a company’s credibility, strategy and veracity by means of so-called “research reports” that mimic the type of investment analysis performed by legitimate securities research analysts. These short attacks have in the past led to stock price declines and significant selling activity. Issuers with limited trading volumes or substantial retail shareholder bases can be particularly susceptible to higher volatility levels, and can be particularly vulnerable to such short attacks.

Short seller publications are not regulated by any governmental, self-regulatory organization or other official authority in the U.S., are not subject to the certification requirements imposed by the Securities and Exchange Commission in Regulation AC (Regulation Analyst Certification) and, accordingly, the opinions they express may be based on distortions of actual facts or, in some cases, outright fabrications. In light of the limited risks involved in publishing such information, and the significant profits that can be made from running successful short attacks, short sellers will likely continue to issue such reports. Such short-seller attacks may cause our stock to suffer a decline in market price.

If we fail to meet the continued listing standards of Nasdaq, our common stock may be delisted, which could have a material adverse effect on the liquidity and market price of our common stock.

Our common stock is currently traded on the Nasdaq Global Market. The Nasdaq Stock Market LLC ("Nasdaq") has requirements that a company must meet in order to remain listed. There can be no assurance that we will continue to meet these requirements in the future. If we fail to meet any such requirements, Nasdaq may initiate delisting processes. If our common stock were to be delisted, the liquidity of our common stock would be adversely affected and the market price of our common stock could decrease.

Our affiliated stockholders, executive officers and directors own a significant percentage of our stock, and they may take actions that our other stockholders may not view as beneficial.

Our affiliated stockholders, executive officers and directors collectively own a significant percentage of our common stock. This significant concentration of share ownership may adversely affect the trading price for our common stock because investors often perceive disadvantages in owning stock in companies with controlling stockholders. Also, as a result, these stockholders, acting together, may be able to control our management and affairs and matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions, such as mergers, consolidations or the sale of substantially all of our assets. Consequently, this concentration of ownership may have the effect of delaying or preventing a change in control, including a merger, consolidation or other business combination involving us, or discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control, even if this change in control would benefit our other stockholders.

*Sales of a substantial number of shares of our common stock in the public market by our existing stockholders could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that sales may have on the prevailing market price of our common stock. All of the outstanding shares of our common stock are eligible for sale in the public market, subject in some cases to the volume limitations and manner of sale requirements of Rule 144 under the Securities Act. Sales of stock by our stockholders could have a material adverse effect on the trading price of our common stock.

Certain holders of our securities are entitled to rights with respect to the registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act. For instance, we have agreed to register for resale 7,500,000 shares of our common stock that were issued to SunPower upon the closing of the APA transaction. Any sales of securities by SunPower or other stockholders with registration rights could have a material adverse effect on the trading price of our common stock.

We currently do not intend to pay dividends on our common stock and, consequently, your only opportunity to achieve a return on your investment is if the price of our common stock appreciates.

We currently do not plan to declare dividends on shares of our common stock in the foreseeable future. In addition, our term loan agreement restricts our ability to pay dividends. Consequently, an investor's only opportunity to achieve a return on its investment in our company will be if the market price of our common stock appreciates and the investor sells its shares at a profit.

Our charter documents and Delaware law could prevent a takeover that stockholders consider favorable and could also reduce the market price of our stock.

Our certificate of incorporation and our bylaws contain provisions that could delay or prevent a change in control of our company. These provisions could also make it more difficult for stockholders to elect directors and take other corporate actions, including effecting changes in our management. These provisions include:

- providing for a classified board of directors with staggered, three-year terms, which could delay the ability of stockholders to change the membership of a majority of our board of directors;
- not providing for cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
-

authorizing our board of directors to issue, without stockholder approval, preferred stock rights senior to those of common stock, which could be used to significantly dilute the ownership of a hostile acquiror;

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- prohibiting stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- requiring the affirmative vote of holders of at least 66 2/3% of the voting power of all of the then outstanding shares of voting stock, voting as a single class, to amend provisions of our certificate of incorporation relating to the management of our business, our board of directors, stockholder action by written consent, advance notification of stockholder nominations and proposals, forum selection and the liability of our directors, or to amend our bylaws, which may inhibit the ability of stockholders or an acquiror to effect such amendments to facilitate changes in management or an unsolicited takeover attempt;
- requiring special meetings of stockholders may only be called by our chairman of the board, if any, our chief executive officer, our president or a majority of our board of directors, which could delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors; and
- requiring advance notification of stockholder nominations and proposals, which may discourage or deter a potential acquiror from conducting a solicitation of proxies to elect the acquiror's own slate of directors or otherwise attempting to obtain control of us.

In addition, the provisions of Section 203 of the Delaware General Corporate Law may prohibit large stockholders, in particular those owning 15% or more of our outstanding common stock, from engaging in certain business combinations, without approval of substantially all of our stockholders, for a certain period of time.

These provisions in our certificate of incorporation, our bylaws and under Delaware law could discourage potential takeover attempts, reduce the price that investors might be willing to pay for shares of our common stock in the future and result in the market price being lower than it would be without these provisions.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Except as previously disclosed on Form 8-K, there were no unregistered sales of common stock or other equity securities during the three months ended September 30, 2018.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

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Item 6. Exhibits

A list of exhibits filed with this report or incorporated herein by reference is found in the Exhibit Index below.

Exhibit Number	Description
3.1	Amended and Restated Certificate of Incorporation of Enphase Energy, Inc.(1)
3.2	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of Enphase Energy, Inc.(2)
3.3	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of Enphase Energy, Inc.(3)
3.4	Amended and Restated Bylaws of Enphase Energy, Inc.(4)
4.1	Specimen Common Stock Certificate of Enphase Energy, Inc.(5)
4.2	Indenture, dated August 17, 2018, between Enphase Energy, Inc. and U.S. Bank National Association.(6)
4.3	Form of 4.00% Convertible Senior Note due 2023 (included in Exhibit 4.1).(7)
10.1	Purchase Agreement, dated August 14, 2018, by and between Enphase Energy, Inc. and Credit Suisse Securities (USA) LLC, as representative of the several Initial Purchasers named therein.(8)
10.2	Securities Purchase Agreement, dated August 14, 2018, by and between Enphase Energy, Inc. and the Rodgers Massey Revocable Trust dtd 4/4/11.(9)
10.3	Stockholders Agreement, dated as of August 9, 2018, by and between Enphase Energy, Inc. and SunPower Corporation.(10)
10.4	Master Supply Agreement, dated August 9, 2018, between Enphase Energy, Inc. and SunPower Corporation (portions of this exhibit have been omitted pursuant to a request for confidential treatment filed with the Securities and Exchange Commission).(11)
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a)/15d-14(a).
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a)/15d-14(a).
32.1*	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document

101.LAB XBRL Taxonomy Extension Label Linkbase Document.

101.PRE XBRL Taxonomy Extension Presentation Document.

(1) Previously filed as Exhibit 3.1 to the Current Report on Form 8-K (File No. 001-35480), filed with the Securities and Exchange Commission on April 6, 2012, and incorporated by reference herein.
(2) Previously filed as Exhibit 3.1 to the Quarterly Report on Form 10-Q (File No. 001-35480), filed with the Securities and Exchange Commission on August 9, 2017, and incorporated by reference herein.
(3) Previously filed as Exhibit 3.3 to the Quarterly Report on Form 10-Q (File No. 001-35480), filed with the Securities and Exchange Commission on August 6, 2018, and incorporated by reference herein.
(4) Previously filed as Exhibit 3.5 to Amendment No. 7 to the Registration Statement on Form S-1/A (File No. 333-174925), filed with the Securities and Exchange Commission on March 12, 2012, and incorporated by reference herein.

(5) Previously filed as Exhibit 4.1 to Amendment No. 7 to the Registration Statement on Form S-1/A (File No. 333-174925), filed with the Securities and Exchange Commission on March 12, 2012, and incorporated by reference herein.

(6) Previously filed as Exhibit 4.1 to the Current Report on Form 8-K (File No. 001-35480), filed with the Securities and Exchange Commission on August 17, 2018, and incorporated by reference herein.

(7) Previously filed as Exhibit 4.2 to the Current Report on Form 8-K (File No. 001-35480), filed with the Securities and Exchange Commission on August 17, 2018, and incorporated by reference herein.

(8) Previously filed as Exhibit 10.1 to the Current Report on Form 8-K (File No. 001-35480), filed with the Securities and Exchange Commission on August 17, 2018, and incorporated by reference herein.

(9) Previously filed as Exhibit 10.2 to the Current Report on Form 8-K (File No. 001-35480), filed with the Securities and Exchange Commission on August 17, 2018, and incorporated by reference herein.

(10) Previously filed as Exhibit 99.2 to the Current Report on Schedule 13D (File No. 005-86790), filed with the Securities and Exchange Commission on August 20, 2018, and incorporated by reference herein.

(11) Previously filed as Exhibit 99.1 to Amendment No. 1 to the Current Report on Form 8-K/A (File No. 001-35480), filed with the Securities and Exchange Commission on October 23, 2018, and incorporated by reference herein.

* The certifications attached as Exhibit 32.1 accompany this quarterly report on Form 10-Q pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed “filed” by Enphase Energy, Inc. for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this Quarterly Report on Form 10-Q to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: November 6, 2018

ENPHASE ENERGY, INC.

By: /s/ Eric Branderiz
Eric Branderiz
Vice President and Chief Financial Officer
(Duly Authorized Officer)