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

Form 10-Q

(Mark one)

☒**QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the quarterly period ended June 29, 2019

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: 000-50307

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

Delaware	**13-3711155**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

7005 Southfront Road, Livermore, California 94551
(Address of principal executive offices, including zip code)

(925) 290-4000
(Registrant's telephone number, including area code)

Securities registered pursuant to Section12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, $0.001 par value	**FORM**	**Nasdaq Global Select Market**

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

Indicate by check mark whether the registrant submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of the 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 and post such files). Yes ☒ No ☐

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

Large Accelerated Filer	☒	Accelerated Filer	☐
Non-accelerated Filer (Do not check if a smaller reporting company)	☐	Smaller Reporting Company	☐
Emerging Growth Company	☐		

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

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

As of July 31, 2019, 75,185,253 shares of the registrant’s common stock, par value $0.001 per share, were outstanding.

FORMFACTOR, INC.
FORM 10-Q FOR THE QUARTERLY PERIOD ENDED JUNE 29, 2019
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PART I - FINANCIAL INFORMATION

Item 1. *Financial Statements*

FORMFACTOR, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share amounts)
(Unaudited)

	June 29, 2019	December 29, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 124,810	$ 98,472
Marketable securities	52,071	50,531
Accounts receivable, net of allowance for doubtful accounts of $189 and $185	71,289	95,333
Inventories, net	83,852	77,706
Restricted cash	818	849
Refundable income taxes	524	1,260
Prepaid expenses and other current assets	14,282	13,669
Total current assets	347,646	337,820
Restricted cash	1,066	1,225
Operating lease, right-of-use-assets	33,274	—
Property, plant and equipment, net of accumulated depreciation of $270,566 and $263,102	54,436	54,054
Goodwill	189,121	189,214
Intangibles, net	53,404	67,640
Deferred tax assets	77,279	77,301
Other assets	1,343	968
Total assets	$ 757,569	$ 728,222
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 26,252	$ 40,006
Accrued liabilities	29,500	27,731
Current portion of term loan, net of unamortized issuance cost of $93 and $160	33,657	29,840
Deferred revenue	7,198	4,941
Operating lease liabilities	6,203	—
Total current liabilities	102,810	102,518
Term loan, less current portion, net of unamortized issuance cost of $0 and $29	12,500	34,971
Deferred tax liabilities	2,339	2,355
Long-term operating lease liabilities	31,173	—
Other liabilities	4,645	8,214
Total liabilities	153,467	148,058
Stockholders' equity:		
Preferred stock, $0.001 par value:		
10,000,000 shares authorized; no shares issued and outstanding	—	—
Common stock, $0.001 par value:		
250,000,000 shares authorized; 74,691,781 and 74,139,712 shares issued and outstanding	75	74
Additional paid-in capital	875,024	862,897
Accumulated other comprehensive income	159	780
Accumulated deficit	(271,156)	(283,587)
Total stockholders' equity	604,102	580,164
Total liabilities and stockholders' equity	$ 757,569	$ 728,222

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

FORMFACTOR, INC.
CONDENSED CONSOLIDATED STATEMENTS OF INCOME
(In thousands, except per share amounts)
(Unaudited)

	Three Months Ended		Six Months Ended	
	June 29, 2019	June 30, 2018	June 29, 2019	June 30, 2018
Revenues	$ 138,018	$ 135,509	$ 270,231	$ 253,799
Cost of revenues	82,666	79,291	162,358	152,452
Gross profit	55,352	56,218	107,873	101,347
Operating expenses:				
Research and development	20,074	19,675	39,797	37,721
Selling, general and administrative	26,283	25,232	51,467	48,681
Total operating expenses	46,357	44,907	91,264	86,402
Operating income	8,995	11,311	16,609	14,945
Interest income	684	326	1,264	583
Interest expense	(522)	(910)	(1,117)	(1,877)
Other income (expense), net	81	50	(3)	(462)
Income before income taxes	9,238	10,777	16,753	13,189
Provision for income taxes	2,290	1,654	4,322	1,941
Net income	$ 6,948	$ 9,123	$ 12,431	$ 11,248
Net income per share:				
Basic	$ 0.09	$ 0.12	$ 0.17	$ 0.15
Diluted	$ 0.09	$ 0.12	$ 0.16	$ 0.15
Weighted-average number of shares used in per share calculations:				
Basic	74,478	73,157	74,483	72,991
Diluted	76,189	74,533	76,061	74,427

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

FORMFACTOR, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In thousands)
(Unaudited)

	Three Months Ended		Six Months Ended	
	June 29, 2019	**June 30, 2018**	**June 29, 2019**	**June 30, 2018**
Net income	$ 6,948	$ 9,123	$ 12,431	$ 11,248
Other comprehensive income (loss), net of tax:				
Translation adjustments and other	689	(3,449)	(228)	(1,283)
Unrealized gains (losses) on available-for-sale marketable securities	142	40	293	(134)
Unrealized gains (losses) on derivative instruments	(73)	(85)	(686)	87
Other comprehensive income (loss), net of tax	758	(3,494)	(621)	(1,330)
Comprehensive income	$ 7,706	$ 5,629	$ 11,810	$ 9,918

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

FORMFACTOR, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands)
(Unaudited)

	Shares	Common Stock	Additional Paid-in Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total
	Six Months Ended June 29, 2019					
Balances, December 29, 2018	74,139,712	$ 74	$ 862,897	$ 780	$ (283,587)	$ 580,164
Issuance of common stock under the Employee Stock Purchase Plan	301,497	—	3,670	—	—	3,670
Issuance of common stock pursuant to exercise of options for cash	19,207	—	90	—	—	90
Issuance of common stock pursuant to vesting of restricted stock units, net of stock withheld for tax	231,365	1	(2,157)	—	—	(2,156)
Stock-based compensation	—	—	10,524	—	—	10,524
Other comprehensive loss	—	—	—	(621)	—	(621)
Net income	—	—	—	—	12,431	12,431
Balances, June 29, 2019	74,691,781	$ 75	$ 875,024	$ 159	$ (271,156)	$ 604,102
	Three Months Ended June 29, 2019					
Balances, March 30, 2019	74,488,498	$ 74	$ 871,617	$ (599)	$ (278,104)	$ 592,988
Issuance of common stock pursuant to vesting of restricted stock units, net of stock withheld for tax	203,283	1	(1,855)	—	—	(1,854)
Stock-based compensation	—	—	5,262	—	—	5,262
Other comprehensive income	—	—	—	758	—	758
Net income	—	—	—	—	6,948	6,948
Balances, June 29, 2019	74,691,781	$ 75	$ 875,024	$ 159	$ (271,156)	$ 604,102
	Six Months Ended June 30, 2018					
Balances, December 30, 2017	72,532,176	$ 73	$ 843,116	$ 3,021	$ (387,573)	$ 458,637
Issuance of common stock under the Employee Stock Purchase Plan	341,670	1	3,704	—	—	3,705
Issuance of common stock pursuant to exercise of options for cash	105,610	—	1,049	—	—	1,049
Issuance of common stock pursuant to vesting of restricted stock units, net of stock withheld for tax	378,652	—	(2,453)	—	—	(2,453)
Stock-based compensation	—	—	7,862	—	—	7,862
Adoption of ASU 2017-12	—	—	—	—	(50)	(50)
Other comprehensive loss	—	—	—	(1,330)	—	(1,330)
Net income	—	—	—	—	11,248	11,248
Balances, June 30, 2018	73,358,108	$ 74	$ 853,278	$ 1,691	$ (376,375)	$ 478,668
	Three Months Ended June 30, 2018					
Balances, March 31, 2018	73,013,842	$ 74	$ 851,249	$ 5,185	$ (385,498)	$ 471,010
Issuance of common stock pursuant to vesting of restricted stock units, net of stock withheld for tax	344,266	—	(2,096)	—	—	(2,096)
Stock-based compensation	—	—	4,125	—	—	4,125
Other comprehensive loss	—	—	—	(3,494)	—	(3,494)
Net income	—	—	—	—	9,123	9,123
Balances, June 30, 2018	73,358,108	$ 74	$ 853,278	$ 1,691	$ (376,375)	$ 478,668

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

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

	Six Months Ended	
	June 29, 2019	**June 30, 2018**
Cash flows from operating activities:		
Net income	$ 12,431	$ 11,248
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	8,289	6,893
Amortization	14,169	14,364
Amortization (accretion) of discount on investments	(180)	36
Amortization of operating lease, right-of-use assets	2,620	—
Stock-based compensation expense	10,584	7,884
Amortization of debt issuance costs	96	235
Deferred income tax provision	38	70
Provision for excess and obsolete inventories	5,304	4,593
Loss on disposal of long-lived assets	262	48
Loss on derivative instruments	34	—
Foreign currency transaction gains	(423)	(109)
Changes in assets and liabilities:		
Accounts receivable	24,177	(3,330)
Inventories	(11,574)	(13,687)
Prepaid expenses and other current assets	(872)	(4,760)
Refundable income taxes	737	925
Other assets	(572)	663
Accounts payable	(11,115)	6,239
Accrued liabilities	(309)	(3,541)
Income tax payable	1,839	(281)
Other liabilities	41	2,540
Deferred revenues	2,216	28
Operating lease liabilities	(2,416)	—
Net cash provided by operating activities	55,376	30,058
Cash flows from investing activities:		
Acquisition of property, plant and equipment	(11,460)	(8,545)
Proceeds from sale of a subsidiary	56	41
Purchases of marketable securities	(20,776)	(10,715)
Proceeds from maturities of marketable securities	19,710	12,257
Net cash used in investing activities	(12,470)	(6,962)
Cash flows from financing activities:		
Proceeds from issuances of common stock	3,870	4,754
Tax withholdings related to net share settlements of equity awards	(2,157)	(2,453)
Principal repayments on term loan	(18,750)	(21,250)
Net cash used in financing activities	(17,037)	(18,949)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	279	(58)
Net increase in cash, cash equivalents and restricted cash	26,148	4,089
Cash, cash equivalents and restricted cash, beginning of period	100,546	92,726
Cash, cash equivalents and restricted cash, end of period	$ 126,694	$ 96,815
Non-cash investing and financing activities:		
Change in accounts payable and accrued liabilities related to property, plant and equipment purchases	$ (2,497)	$ 982
Operating lease, right-of-use assets obtained in exchange for lease obligations	35,885	—
Supplemental disclosure of cash flow information:		
Cash paid for income taxes, net	$ 1,700	$ 1,182
Cash paid for interest	778	1,617

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

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

Note 1 — Basis of Presentation and New Accounting Pronouncements

Basis of Presentation

The accompanying condensed consolidated financial information of FormFactor, Inc. is unaudited and has been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") and pursuant to the rules and regulations of the Securities and Exchange Commission. However, such information reflects all adjustments, consisting only of normal recurring adjustments, which are, in the opinion of management, necessary for a fair presentation of the financial position, results of operations and cash flows for the interim periods. The financial information as of December 29, 2018 is derived from our 2018 Annual Report on Form 10-K. The condensed consolidated financial statements included herein should be read in conjunction with the consolidated financial statements and the notes thereto included in our 2018 Annual Report on Form 10-K. The results of operations for the interim periods presented are not necessarily indicative of the results to be expected for the full year.

Fiscal Year

We operate on a 52/53 week fiscal year, whereby the fiscal year ends on the last Saturday of December. Fiscal 2019 and 2018 each contain 52 weeks and the six months ended June 29, 2019 and June 30, 2018 each contained 26 weeks. Fiscal 2019 will end on December 28, 2019.

Reclassifications

Certain immaterial reclassifications were made to the prior period financial statements to conform to the current period presentation.

Critical Accounting Policies

Our critical accounting policies have not changed during the six months ended June 29, 2019 from those disclosed in our Annual Report on Form 10-K for the year ended December 29, 2018.

New Accounting Pronouncements

ASU 2018-15

In August 2018, the Financial Accounting Standard Board ("FASB") issued Accounting Standards Update ("ASU") 2018-15, "*Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract.*" The new guidance clarifies the accounting for implementation costs in cloud computing arrangements. ASU 2018-15 is effective for fiscal years, including interim periods within those fiscal years, beginning after December 15, 2019. Early adoption is permitted. ASU 2018-15 should be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. We have not yet determined the impact of this standard on our financial statements.

ASU 2016-02, ASU 2018-10, ASU 2018-11 and ASU 2019-01

In February 2016, the FASB issued ASU 2016-02, "*Leases (Topic 842)*," which requires the recognition of right-of-use assets and lease liabilities for all long-term leases, including operating leases, on the balance sheet. ASU 2016-02 was amended in July 2018 by both ASU 2018-10, "*Codification Improvements to Topic 842, Leases*," and ASU 2018-11, "*Leases (Topic 842): Targeted Improvements*" and in March 2019 by ASU 2019-01, "*Leases (Topic 842): Codification Improvements.*" ASU 2016-02 provides additional guidance on the measurement of the right-of-use assets and lease liabilities and requires enhanced disclosures about our leasing arrangements. We adopted Topic 842 and all related amendments on December 30, 2018, the first day of fiscal 2019, using the modified transition approach. The modified transition approach permits a company to use its effective date as the date of initial application to apply the standard to its leases, and, therefore, not restate comparative prior period financial information. Consequently, prior period financial information is not updated, and the disclosures required under the new standard will not be provided for dates and periods before December 30, 2018. The standard provides several optional practical expedients in transition. We elected the 'package of practical expedients,' which permits us to not reassess, under the new standard, our prior conclusions about lease identification, lease classification and initial direct costs. We did not elect the use-of-hindsight or the practical expedient pertaining to land easements; the latter not being applicable to us. The new standard also provides practical expedients for an entity's ongoing accounting. We elected the short-term lease recognition exemption. This means, for those leases that qualify, we will not recognize a right-of-use asset or lease liability, and this includes not recognizing right-of-use assets or lease liabilities for existing short-term leases of those assets in transition. We also elected the practical expedient to not separate lease and non-lease components for all our leases. The adoption of the lease standard did not have any effect on our previously reported Condensed

Consolidated Statements of Income and did not result in a cumulative catch-up adjustment to opening equity. See Note 12 for additional information.

Note 2 — Concentration of Credit and Other Risks

Each of the following customers accounted for 10% or more of our revenues for the periods indicated:

	Three Months Ended		Six Months Ended	
	June 29, 2019	**June 30, 2018**	**June 29, 2019**	**June 30, 2018**
Intel Corporation	26.1%	15.1%	23.8%	14.6%
Samsung Electronics., LTD.	11.1	*	12.4	*
Micron Technology, Inc.	10.1	*	*	*
SK Hynix Inc.	*	11.5	*	10.9
	47.3%	26.6%	36.2%	25.5%

*Represents less than 10% of total revenues.

At June 29, 2019, two customers accounted for 17.3% and 11.3% of gross accounts receivable, respectively. At December 29, 2018, two customers accounted for 27.8% and 13.0% of gross accounts receivable, respectively.

Note 3 — Inventories, net

Inventories are stated at the lower of cost (principally standard cost, which approximates actual cost on a first in, first out basis) or net realizable value.

Inventories, net, consisted of the following (in thousands):

	June 29, 2019	December 29, 2018
Raw materials	$ 43,143	$ 43,380
Work-in-progress	26,022	20,431
Finished goods	14,687	13,895
	$ 83,852	$ 77,706

Note 4 — Goodwill and Intangible Assets

Goodwill by reportable segment was as follows (in thousands):

	Probe Cards	Systems	Total
Goodwill, gross, as of December 30, 2017	$ 172,482	$ 17,438	$ 189,920
Foreign currency translation	—	(706)	(706)
Goodwill, gross, as of December 29, 2018	172,482	16,732	189,214
Foreign currency translation	—	(93)	(93)
Goodwill, gross, as of June 29, 2019	$ 172,482	$ 16,639	$ 189,121

We have not recorded any goodwill impairments as of June 29, 2019.

Intangible assets were as follows (in thousands):

Other Intangible Assets	June 29, 2019 Gross	June 29, 2019 Accumulated Amortization	June 29, 2019 Net	December 29, 2018 Gross	December 29, 2018 Accumulated Amortization	December 29, 2018 Net
Existing developed technologies	$ 143,334	$ 106,513	$ 36,821	$ 143,408	$ 97,111	$ 46,297
Trade name	12,014	11,256	758	12,023	9,173	2,850
Customer relationships	40,123	24,298	15,825	40,146	21,653	18,493
	$ 195,471	$ 142,067	$ 53,404	$ 195,577	$ 127,937	$ 67,640

Amortization expense was included in our Condensed Consolidated Statements of Income as follows (in thousands):

	Three Months Ended June 29, 2019	Three Months Ended June 30, 2018	Six Months Ended June 29, 2019	Six Months Ended June 30, 2018
Cost of revenues	$ 4,711	$ 5,138	$ 9,430	$ 10,295
Selling, general and administrative	2,368	2,032	4,739	4,069
	$ 7,079	$ 7,170	$ 14,169	$ 14,364

The estimated future amortization of intangible assets is as follows (in thousands):

Fiscal Year	Amount
Remainder of 2019	$ 12,189
2020	23,358
2021	12,616
2022	3,493
2023	1,748
	$ 53,404

Note 5 — Accrued Liabilities

Accrued liabilities consisted of the following (in thousands):

	June 29, 2019	December 29, 2018
Accrued compensation and benefits	$ 16,374	$ 15,600
Accrued employee stock purchase plan contributions withheld	3,210	3,174
Accrued warranty	1,827	2,102
Accrued income and other taxes	5,080	4,222
Other accrued expenses	3,009	2,633
	$ 29,500	$ 27,731

Note 6 — Restructuring Charges

Restructuring charges in the first two quarters of fiscal 2019 consisted of costs related to employee termination benefits, cost of long-lived asset abandonment and inventory write downs.

Restructuring charges were included in our Consolidated Statement of Income as follows (in thousands):

	Three Months Ended		Six Months Ended	
	June 29, 2019	June 30, 2018	June 29, 2019	June 30, 2018
Cost of revenues	$ 138	$ —	$ 257	$ —
Selling, general and administrative	88	—	175	—
	$ 226	$ —	$ 432	$ —

Changes to the restructuring accrual in the six months ended June 29, 2019 were as follows (in thousands):

	Employee Severance and Benefits	Other Costs	Total Accrual
December 29, 2018	$ 20	$ —	$ 20
Restructuring charges	162	270	432
Cash payments	(73)	—	(73)
Non-cash settlement	—	(270)	(270)
June 29, 2019	$ 109	$ —	$ 109

Note 7 — Fair Value and Derivative Instruments

Whenever possible, the fair values of our financial assets and liabilities are determined using quoted market prices of identical securities or quoted market prices of similar securities from active markets. The three levels of inputs that may be used to measure fair value are as follows:

- Level 1 valuations are obtained from real-time quotes for transactions in active exchange markets involving identical securities;
- Level 2 valuations utilize significant observable inputs, such as quoted prices for similar assets or liabilities, quoted prices near the reporting date in markets that are less active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities; and
- Level 3 valuations utilize unobservable inputs to the valuation methodology and include our own data about assumptions market participants would use in pricing the asset or liability based on the best information available under the circumstances.

We did not have any transfers of assets or liabilities measured at fair value on a recurring basis to or from Level 1, Level 2 or Level 3 during the three and six months ended June 29, 2019 or the year ended December 29, 2018.

The carrying values of Cash, Accounts receivable, net, Restricted cash, Prepaid expenses and other current assets, Accounts payable, Accrued liabilities, and Term loan approximate fair value due to their short maturities.

No changes were made to our valuation techniques during the first three and six months of fiscal 2019.

Assets and Liabilities Measured at Fair Value on a Recurring Basis
Assets and liabilities measured at fair value on a recurring basis were as follows (in thousands):

June 29, 2019	**Level 1**	**Level 2**	**Total**
Assets:			
Cash equivalents:			
Money market funds	$ 5,248	$ —	$ 5,248
Commercial paper	324	—	324
	5,572	—	5,572
Marketable securities:			
U.S. treasuries	17,072	—	17,072
Certificates of deposit	—	540	540
U.S. agency securities	—	14,299	14,299
Corporate bonds	—	19,667	19,667
Commercial paper	—	493	493
	17,072	34,999	52,071
Foreign exchange derivative contracts	—	5	5
Interest rate swap derivative contracts	—	189	189
Total assets	$ 22,644	$ 35,193	$ 57,837
Liabilities:			
Foreign exchange derivative contracts	$ —	$ 216	$ 216

December 29, 2018	**Level 1**	**Level 2**	**Total**
Assets:			
Cash equivalents:			
Money market funds	$ 1,184	$ —	$ 1,184
Marketable securities:			
U.S. treasuries	7,997	—	7,997
Certificates of deposit	—	957	957
U.S. agency securities	—	8,608	8,608
Corporate bonds	—	30,674	30,674
Commercial paper	—	2,295	2,295
	7,997	42,534	50,531
Interest rate swap derivative contracts	—	871	871
Total assets	$ 9,181	$ 43,405	$ 52,586

We did not have any liabilities measured at fair value on a recurring basis at December 29, 2018.

Cash Equivalents
The fair value of our cash equivalents is determined based on quoted market prices for similar or identical securities.

Marketable Securities
We classify our marketable securities as available-for-sale and value them utilizing a market approach. Our investments are priced by pricing vendors who provide observable inputs for their pricing without applying significant judgment. Broker pricing is used mainly when a quoted price is not available, the investment is not priced by our pricing vendors or when a broker price is more reflective of fair value. Our broker-priced investments are categorized as Level 2 investments because fair value is based on similar assets without applying significant judgments. In addition, all investments have a sufficient trading volume to demonstrate that the fair value is appropriate.

Unrealized gains and losses were immaterial and were recorded as a component of Accumulated other comprehensive income in our Condensed Consolidated Balance Sheets. We did not have any other-than-temporary unrealized gains or losses at either period end included in these financial statements.

Interest Rate Swaps
The fair value of our interest rate swap contracts are determined at the end of each reporting period based on valuation models that use interest rate yield curves as inputs. For accounting purposes, our interest rate swap contracts qualify for, and are designated as, cash flow hedges. The cash flows associated with the interest rate swaps are reported in Net cash provided by operating activities in our Condensed Consolidated Statements of Cash Flows and the fair value of the interest rate swap contracts are recorded within Prepaid expenses and other current assets and Other assets in our Condensed Consolidated Balance Sheets.

The impact of the interest rate swaps on our Condensed Consolidated Statements of Income was as follows (in thousands):

	Amount of Gain or (Loss) Recognized in Accumulated OCI on Derivative	Location of Gain or (Loss) Reclassified from Accumulated OCI into Income	Amount of Gain or (Loss) Reclassified from Accumulated OCI into Income	Location of Gain or (Loss) Recognized in Income on Derivative (Ineffective Portion)	Amount of Gain or (Loss) Recognized in Income on Derivative (Ineffective Portion)
Three Months Ended June 29, 2019	$ (62)	Interest expense	$ 175	Interest expense	$ —
Three Months Ended June 30, 2018	$ 101	Interest expense	$ 186	Interest expense	$ —
Six Months Ended June 29, 2019	$ (90)	Interest expense	$ 383	Interest expense	$ —
Six Months Ended June 30, 2018	$ 356	Interest expense	$ 318	Interest expense	$ —

Foreign Exchange Derivative Contracts
We operate and sell our products in various global markets. As a result, we are exposed to changes in foreign currency exchange rates. We utilize foreign currency forward contracts to hedge against future movements in foreign exchange rates that affect certain existing foreign currency denominated assets and liabilities and forecasted foreign currency revenue and expense transactions. Under this program, our strategy is to have increases or decreases in our foreign currency exposures mitigated by gains or losses on the foreign currency forward contracts in order to mitigate the risks and volatility associated with foreign currency transaction gains or losses.

We do not use derivative financial instruments for speculative or trading purposes. For accounting purposes, certain of our foreign currency forward contracts are not designated as hedging instruments and, accordingly, we record the fair value of these contracts as of the end of our reporting period in our Condensed Consolidated Balance Sheets with changes in fair value recorded within Other income (expense), net in our Condensed Consolidated Statement of Income for both realized and unrealized gains and losses. Certain of our foreign currency forward contracts are designated as cash flow hedges, and, accordingly, we record the fair value of these contracts as of the end of our reporting period in our Condensed Consolidated Balance Sheets with changes in fair value recorded as a component of accumulated other comprehensive income and reclassified into earnings in the same period in which the hedged transaction affects earnings, and in the same line item on the Condensed Consolidated Statements of Income as the impact of the hedge transaction. At June 29, 2019, we expect to reclassify $0.2 million of the amount accumulated in other comprehensive income (loss) to earnings during the next 12 months, due to the recognition in earnings of the hedged forecasted transactions.

The fair value of our foreign exchange derivative contracts was determined based on current foreign currency exchange rates and forward points. All of our foreign exchange derivative contracts outstanding at June 29, 2019 will mature in the first quarter of fiscal 2020.

The following table provides information about our foreign currency forward contracts outstanding as of June 29, 2019 (in thousands):

Currency	Contract Position	Contract Amount (Local Currency)	Contract Amount (U.S. Dollars)
Euro Dollar	Buy	(1,339)	$ (1,262)
Japanese Yen	Sell	2,279,204	21,163
Korean Won	Buy	(2,531,829)	(2,192)
Total USD notional amount of outstanding foreign exchange contracts			$ 17,709

Our foreign currency contracts are classified within Level 2 of the fair value hierarchy as they are valued using pricing models that utilize observable market inputs.

The impact of foreign exchange derivative contracts not designated as cash flow hedges on our Condensed Consolidated Statements of Income was as follows (in thousands):

		Amount of Gain Recognized on Derivatives			
		Three Months Ended		Six Months Ended	
Derivatives Not Designated as Hedging Instruments	**Location of Gain Recognized on Derivatives**	**June 29, 2019**	**June 30, 2018**	**June 29, 2019**	**June 30, 2018**
Foreign exchange forward contracts	Other expense, net	$587	$1,079	$ 273	$ 217

The impact of foreign exchange derivative contracts designated as cash flow hedges on our Condensed Consolidated Statements of Income was as follows (in thousands):

	Amount of Loss Recognized in Accumulated OCI on Derivative	Location of Loss Reclassified from Accumulated OCI into Income	Amount of Loss Reclassified from Accumulated OCI into Income
Three Months Ended June 29, 2019	$ 213	Cost of revenues	$ 139
		Research and development	12
		Selling, general and administrative	32
			$ 183
Three Months Ended June 30, 2018	$ —		$ —
Six Months Ended June 29, 2019	$ 213	Cost of revenues	$ 171
		Research and development	19
		Selling, general and administrative	51
			$ 241
Six Months Ended June 30, 2018	$ —		$ —

Assets and Liabilities Measured at Fair Value on a Non-Recurring Basis

We measure and report goodwill and intangible assets at fair value on a non-recurring basis if we determine these assets to be impaired or in the period when we make a business acquisition. There were no assets or liabilities measured at fair value on a nonrecurring basis during the three and six months ended June 29, 2019 or June 30, 2018.

Note 8 — Warranty

We offer warranties on certain products and record a liability for the estimated future costs associated with warranty claims at the time revenue is recognized. The warranty liability is based upon historical experience and our estimate of the level of future costs. While we engage in product quality programs and processes, our warranty obligation is affected by product failure rates, material usage and service delivery costs. We continuously monitor product returns for warranty and maintain a reserve for the related expenses based upon our historical experience and any specifically identified failures. As we sell new products to our customers, we must exercise considerable judgment in estimating the expected failure rates. This estimating process is based on historical experience of similar products, as well as various other assumptions that we believe to be reasonable under the circumstances.

We provide for the estimated cost of product warranties at the time revenue is recognized as a component of Cost of revenues in our Condensed Consolidated Statement of Income.

Changes in our warranty liability were as follows (in thousands):

	Six Months Ended	
	June 29, 2019	June 30, 2018
Balance at beginning of period	$ 2,102	$ 3,662
Accruals	1,648	2,868
Settlements	(1,923)	(3,681)
Balance at end of period	$ 1,827	$ 2,849

Note 9 — Stockholders' Equity and Stock-Based Compensation

Common Stock Repurchase Program

In February 2017, our Board of Directors authorized a program to repurchase up to $25 million of outstanding common stock to offset potential dilution from issuances of common stock under our employee stock purchase plan and equity incentive plan. The share repurchase program will expire on February 1, 2020. Repurchased shares are retired upon the settlement of the related transactions with the excess of cost over par value charged to additional paid-in capital. All repurchases are made in compliance with Rule 10b-18 under the Securities Exchange Act of 1934, as amended.

During the six months ended June 29, 2019, we did not repurchase any shares. As of June 29, 2019, $6.0 million remained available for future repurchases.

Restricted Stock Units

Restricted stock unit ("RSU") activity under our equity incentive plan was as follows:

	Units	Weighted Average Grant Date Fair Value
RSUs at December 29, 2018	3,102,226	$ 12.79
Awards granted	1,461,055	14.98
Awards vested	(355,768)	9.91
Awards forfeited	(82,370)	12.91
RSUs at June 29, 2019	4,125,143	13.81

The total fair value of RSUs vested during the six months ended June 29, 2019 was $6.0 million.

Performance Restricted Stock Units

We may grant Performance RSUs ("PRSUs") to certain executives, which vest based upon us achieving certain market performance criteria.

On June 4, 2019, we granted a total of 273,000 PRSUs to certain senior executives for a total grant date fair value of $4.4 million, which will be recognized ratably over the requisite service period. The performance criteria are based on a metric called Total Shareholder Return ("TSR") for the period from July 1, 2019 to June 30, 2022, relative to the TSR of the companies identified as being part of the S&P Semiconductor Select Industry Index (FormFactor peer companies) as of June 29, 2019.

There were no other PRSUs granted during the six months ending June 29, 2019. PRSUs are included as part of the RSU activity above.

Stock Options

Stock option activity under our equity incentive plan was as follows:

	Options Outstanding	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life in Years	Aggregate Intrinsic Value
Outstanding at December 29, 2018	524,725	$ 8.00		
Options exercised	(19,207)	4.69		
Outstanding at June 29, 2019	505,518	$ 8.12	2.63	$ 3,815,874
Vested and expected to vest at June 29, 2019	505,518	$ 8.12	2.63	$ 3,815,874
Exercisable at June 29, 2019	505,518	$ 8.12	2.63	$ 3,815,874

Employee Stock Purchase Plan

Information related to activity under our Employee Stock Purchase Plan ("ESPP") was as follows:

	Six Months Ended June 29, 2019
Shares issued	301,497
Weighted average per share purchase price	$ 12.18
Weighted average per share discount from the fair value of our common stock on the date of issuance	$ 4.85

Stock-Based Compensation

Stock-based compensation was included in our Condensed Consolidated Statements of Income as follows (in thousands):

	Three Months Ended		Six Months Ended	
	June 29, 2019	June 30, 2018	June 29, 2019	June 30, 2018
Cost of revenues	$ 964	$ 813	$ 1,914	$ 1,733
Research and development	1,582	1,256	3,101	2,558
Selling, general and administrative	2,743	2,059	5,569	3,593
Total stock-based compensation	$ 5,289	$ 4,128	$ 10,584	$ 7,884

Unrecognized Compensation Costs

At June 29, 2019, the unrecognized stock-based compensation was as follows (dollars in thousands):

	Unrecognized Expense	Average Expected Recognition Period in Years
Restricted stock units	$ 32,804	2.27
Performance restricted stock units	8,623	2.38
Employee stock purchase plan	244	0.59
Total unrecognized stock-based compensation expense	$ 41,671	2.29

Note 10 — Net Income per Share

The following table reconciles the shares used in calculating basic net income per share and diluted net income per share (in thousands):

	Three Months Ended		Six Months Ended	
	June 29, 2019	June 30, 2018	June 29, 2019	June 30, 2018
Weighted-average shares used in computing basic net income per share	74,478	73,157	74,483	72,991
Add potentially dilutive securities	1,711	1,376	1,578	1,436
Weighted-average shares used in computing diluted net income per share	76,189	74,533	76,061	74,427
Securities not included as they would have been antidilutive	263	76	252	49

Note 11 — Commitments and Contingencies

Leases
See Note 12.

Contractual Commitments and Purchase Obligations
Our purchase obligations and other contractual obligations have not materially changed as of June 29, 2019 from those disclosed in our Annual Report on Form 10-K for the year ended December 29, 2018.

Legal Matters
From time to time, we may be subject to legal proceedings and claims in the ordinary course of business. As of June 29, 2019, and as of the filing of this Quarterly Report on Form 10-Q, we were not involved in any material legal proceedings.

Note 12 — Leases

We lease real estate space under non-cancelable operating lease agreements for commercial and industrial space, as well as our corporate headquarters located in Livermore, California. Our leases have remaining terms of 1 to 9 years, and some leases include options to extend up to 20 years. We also have operating leases for automobiles with remaining lease terms of 1 to 4 years. We did not include any of our renewal options in our lease terms for calculating our lease liability as the renewal options allow us to maintain operational flexibility and we are not reasonably certain we will exercise these options at this time. The weighted-average remaining lease term for our operating leases was 8 years at June 29, 2019 and the weighted-average discount rate was 4.7%.

The components of lease expense were as follows (in thousands):

	Three Months Ended		Six Months Ended	
	June 29, 2019	June 30, 2018	June 29, 2019	June 30, 2018
Lease expense:				
Operating lease expense	$ 1,734	$ —	$ 3,479	$ —
Short-term lease expense	31	—	48	—
Variable lease expense	249	—	668	—
	$ 2,014	$ —	$ 4,195	$ —

Future minimum payments under our non-cancelable operating leases were as follows as of June 29, 2019 (in thousands):

Fiscal Year	Amount
Remainder of 2019	$ 3,327
2020	6,717
2021	5,902
2022	4,897
2023	4,435
Thereafter	20,407
	$ 45,685

Note 13 — Revenue

Transaction price allocated to the remaining performance obligations: On June 29, 2019, we had $3.8 million of remaining performance obligations, which were comprised of deferred service contracts and extended warranty contracts not yet delivered. We expect to recognize approximately 71% of our remaining performance obligations as revenue in the remainder of fiscal 2019, and approximately 29% in fiscal 2020 and thereafter. The foregoing excludes the value of other remaining performance obligations as they have original durations of one year or less, and also excludes information about variable consideration allocated entirely to a wholly unsatisfied performance obligation.

Contract balances: The timing of revenue recognition may differ from the timing of invoicing to customers. Accounts receivable is recorded at the invoiced amount, net of an allowance for doubtful accounts. A receivable is recognized in the period we deliver goods or provide services or when our right to consideration is unconditional. A contract asset is recorded when we have performed under the contract but our right to consideration is conditional on something other than the passage of time. Contract assets as of June 29, 2019 and December 29, 2018 were $0.9 million and $0.3 million, respectively, and are reported on the Condensed Consolidated Balance Sheets as a component of Prepaid expenses and other current assets.

Contract liabilities include payments received in advance of performance under a contract and are satisfied as the associated revenue is recognized. Contract liabilities are reported on the Condensed Consolidated Balance Sheets on a contract-by-contract basis at the end of each reporting period as a component of Deferred revenue and Other liabilities. Contract liabilities as of June 29, 2019 and December 29, 2018 were $7.9 million and $5.7 million, respectively. During the three and six months ended June 29, 2019, we recognized $0.9 million and $2.9 million of revenue, respectively, that was included in contract liabilities as of December 29, 2018.

Costs to obtain a contract: We generally expense sales commissions when incurred as a component of Selling, general and administrative expense as the amortization period is typically less than one year.

Revenue by Category: Refer to Note 14 of Notes to Consolidated Financial Statements for further details.

Note 14 — Operating Segments and Enterprise-Wide Information

Our chief operating decision maker ("CODM") is our Chief Executive Officer, who reviews operating results to make decisions about allocating resources and assessing performance for the entire company. We operate in two reportable segments consisting of the Probe Cards segment and the Systems segment. The following table summarizes the operating results by reportable segment (dollars in thousands):

	Three Months Ended							
	June 29, 2019				June 30, 2018			
	Probe Cards	Systems	Corporate and Other	Total	Probe Cards	Systems	Corporate and Other	Total
Revenues	$ 113,637	$ 24,381	$ —	$ 138,018	$ 111,586	$ 23,923	$ —	$ 135,509
Gross profit	$ 48,492	$ 12,672	$ (5,812)	$ 55,352	$ 50,543	$ 11,626	$ (5,951)	$ 56,218
Gross margin	42.7%	52.0%	—%	40.1%	45.3%	48.6%	—%	41.5%

	Six Months Ended							
	June 29, 2019				June 30, 2018			
	Probe Cards	Systems	Corporate and Other	Total	Probe Cards	Systems	Corporate and Other	Total
Revenues	$ 221,740	$ 48,491	$ —	$ 270,231	$ 206,514	$ 47,285	$ —	$ 253,799
Gross profit	$ 93,785	$ 25,688	$ (11,600)	$ 107,873	$ 90,614	$ 22,761	$ (12,028)	$ 101,347
Gross margin	42.3%	53.0%	—%	39.9%	43.9%	48.1%	—%	39.9%

Operating results provide useful information to our management for assessment of our performance and results of operations. Certain components of our operating results are utilized to determine executive compensation along with other measures.

Corporate and Other includes unallocated expenses relating to amortization of intangible assets, share-based compensation, and restructuring charges, net, which are not used in evaluating the results of, or in allocating resources to, our reportable segments.

Certain revenue category information by reportable segment was as follows (in thousands):

	Three Months Ended					
	June 29, 2019			June 30, 2018		
	Probe Cards	Systems	Total	Probe Cards	Systems	Total
Market:						
Foundry & Logic	$ 73,442	$ —	$ 73,442	$ 62,111	$ —	$ 62,111
DRAM	36,044	—	36,044	38,090	—	38,090
Flash	4,151	—	4,151	11,385	—	11,385
Systems	—	24,381	24,381	—	23,923	23,923
Total	$ 113,637	$ 24,381	$ 138,018	$ 111,586	$ 23,923	$ 135,509
Timing of revenue recognition:						
Products transferred at a point in time	$ 113,028	$ 23,339	$ 136,367	$ 111,041	$ 22,966	$ 134,007
Services transferred over time	609	1,042	1,651	545	957	1,502
Total	$ 113,637	$ 24,381	$ 138,018	$ 111,586	$ 23,923	$ 135,509
Geographical region:						
United States	$ 32,072	$ 6,297	$ 38,369	$ 28,473	$ 4,757	$ 33,230
South Korea	27,360	811	28,171	24,187	1,805	25,992
China	16,304	4,051	20,355	11,035	3,578	14,613
Japan	12,867	3,226	16,093	10,833	2,710	13,543
Taiwan	12,826	2,046	14,872	26,858	3,152	30,010
Europe	4,474	6,174	10,648	4,109	5,410	9,519
Asia-Pacific[1]	6,262	1,421	7,683	5,666	1,288	6,954
Rest of the world	1,472	355	1,827	425	1,223	1,648
Total	$ 113,637	$ 24,381	$ 138,018	$ 111,586	$ 23,923	$ 135,509

	Six Months Ended					
	June 29, 2019			June 30, 2018		
	Probe Cards	Systems	Total	Probe Cards	Systems	Total
Market:						
Foundry & Logic	$ 145,022	$ —	$ 145,022	$ 120,549	$ —	$ 120,549
DRAM	64,930	—	64,930	68,357	—	68,357
Flash	11,788	—	11,788	17,608	—	17,608
Systems	—	48,491	48,491	—	47,285	47,285
Total	$ 221,740	$ 48,491	$ 270,231	$ 206,514	$ 47,285	$ 253,799
Timing of revenue recognition:						
Products transferred at a point in time	$ 220,519	$ 46,481	$ 267,000	$ 205,475	$ 45,372	$ 250,847
Services transferred over time	1,221	2,010	3,231	$ 1,039	$ 1,913	2,952
Total	$ 221,740	$ 48,491	$ 270,231	$ 206,514	$ 47,285	$ 253,799
Geographical region:						
United States	$ 59,727	$ 12,905	$ 72,632	$ 54,961	$ 11,132	$ 66,093
South Korea	52,378	2,516	54,894	$ 38,103	$ 2,879	40,982
China	34,455	7,743	42,198	20,062	6,825	26,887
Taiwan	34,083	3,176	37,259	$ 52,829	$ 4,903	57,732
Japan	18,167	8,358	26,525	$ 20,965	$ 6,250	27,215
Europe	9,847	10,294	20,141	$ 9,682	$ 11,339	21,021
Asia-Pacific[1]	9,052	1,894	10,946	$ 9,156	$ 2,613	11,769
Rest of the world	4,031	1,605	5,636	$ 756	$ 1,344	2,100
Total	$ 221,740	$ 48,491	$ 270,231	$ 206,514	$ 47,285	$ 253,799

[1] Asia-Pacific includes all countries in the region except China, Japan, South Korea, and Taiwan, which are disclosed separately.

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

Cautionary Statement Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of the Securities Exchange Act of 1934 and the Securities Act of 1933, which are subject to risks and uncertainties. The forward-looking statements include statements concerning, among other things, our business strategy, financial and operating results, gross margins, liquidity and capital expenditure requirements, impact of accounting standards and our share repurchase plan. In some cases, you can identify these statements by forward-looking words, such as "may," "might," "will," "could," "should," "expect," "plan," "anticipate," "believe," "estimate," "predict," "intend" and "continue," the negative or plural of these words and other comparable terminology.

The forward-looking statements are only predictions based on our current expectations and our projections about future events. All forward-looking statements included in this Quarterly Report on Form 10-Q are based upon information available to us as of the filing date of this Quarterly Report on Form 10-Q. You should not place undue reliance on these forward-looking statements. We have no obligation to update any of these statements. These forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from those expressed or implied by these statements, including risks related to general market trends, our ability to execute our business strategy and other risks discussed in the section titled "Risk Factors" and elsewhere in our Annual Report on Form 10-K for the year ended December 29, 2018 and in this Quarterly Report on Form 10-Q. You should carefully consider the numerous risks and uncertainties described under these sections.

The following discussion and analysis should be read in conjunction with our condensed consolidated financial statements and the accompanying notes contained in this Quarterly Report on Form 10-Q. Unless expressly stated or the context otherwise requires, the terms "we," "our," "us" and "FormFactor" refer to FormFactor, Inc. and its subsidiaries.

Overview

FormFactor, Inc., headquartered in Livermore, California, is a leading provider of electrical test and measurement technologies. We provide a broad range of high-performance probe cards, analytical probes, probe stations and thermal sub-systems to both semiconductor companies and scientific institutions. Our products provide electrical information from a variety of semiconductor and electro-optical devices and integrated circuits from research, to development through production. Customers use our products and services to lower production costs, improve yields, and enable development of their complex next-generation products.

We operate in two reportable segments consisting of the Probe Cards segment and the Systems segment. Sales of our probe cards and analytical probes are included in the Probe Cards segment, while sales of our probe stations and thermal sub-systems are included in the Systems segment.

We generated net income of $12.4 million in the first six months of fiscal 2019 as compared to $11.2 million in the first six months of fiscal 2018. The increase in net income was primarily due to higher revenues, partially offset by higher operating expenses and a higher effective income tax rate.

Critical Accounting Policies and the Use of Estimates

Management's Discussion and Analysis and Note 2 to the Consolidated Financial Statements in our 2018 Annual Report on Form 10-K describe the significant accounting estimates and critical accounting policies used in preparation of the Consolidated Financial Statements. Actual results in these areas could differ from management's estimates. During the three and six months ended June 29, 2019, there were no significant changes in our critical accounting policies or estimates from those reported in our Annual Report on Form 10-K for the year ended December 29, 2018, which was filed with the Securities and Exchange Commission on February 26, 2019.

Results of Operations

The following table sets forth our operating results as a percentage of revenues for the periods indicated:

	Three Months Ended		Six Months Ended	
	June 29, 2019	June 30, 2018	June 29, 2019	June 30, 2018
Revenues	100.0 %	100.0 %	100.0 %	100.0 %
Cost of revenues	59.9	58.5	60.1	60.1
Gross profit	40.1	41.5	39.9	39.9
Operating expenses:				
Research and development	14.6	14.5	14.7	14.9
Selling, general and administrative	19.0	18.6	19.1	19.2
Total operating expenses	33.6	33.1	33.8	34.1
Operating income	6.5	8.4	6.1	5.8
Interest income	0.5	0.2	0.5	0.2
Interest expense	(0.4)	(0.7)	(0.4)	(0.7)
Other income (expense), net	0.1	0.1	—	(0.3)
Income before income taxes	6.7	8.0	6.2	5.0
Provision for income taxes	1.7	1.3	1.6	0.8
Net income	5.0 %	6.7 %	4.6 %	4.2 %

Revenues by Segment and Market

	Three Months Ended		Six Months Ended	
	June 29, 2019	June 30, 2018	June 29, 2019	June 30, 2018
	(In thousands)			
Probe Cards	$ 113,637	$ 111,586	$ 221,740	$ 206,514
Systems	24,381	23,923	48,491	47,285
	$ 138,018	$ 135,509	$ 270,231	$ 253,799

	Three Months Ended					
	June 29, 2019	% of Revenues	June 30, 2018	% of Revenues	$ Change	% Change
	(Dollars in thousands)					
Probe Cards Markets:						
Foundry & Logic	$ 73,442	53.2%	$ 62,111	45.8%	$ 11,331	18.2 %
DRAM	36,044	26.1	38,090	28.1	(2,046)	(5.4)
Flash	4,151	3.0	11,385	8.4	(7,234)	(63.5)
Systems Market:						
Systems	24,381	17.7	23,923	17.7	458	1.9
Total revenues	$ 138,018	100.0%	$ 135,509	100.0%	$ 2,509	1.9 %

	Six Months Ended					
	June 29, 2019	% of Revenues	June 30, 2018	% of Revenues	$ Change	% Change
	(Dollars in thousands)					
Probe Cards Markets:						
Foundry & Logic	$ 145,022	53.7%	$ 120,549	47.5%	$ 24,473	20.3 %
DRAM	64,930	24.0	68,357	26.9	(3,427)	(5.0)
Flash	11,788	4.4	17,608	7.0	(5,820)	(33.1)
Systems Market:						
Systems	48,491	17.9	47,285	18.6	1,206	2.6
Total revenues	$ 270,231	100.0%	$ 253,799	100.0%	$ 16,432	6.5 %

The increases in Foundry & Logic product revenue for the three and six months ended June 29, 2019, compared to the three and six months ended June 30, 2018, were primarily the result of lower demand in the prior year from one major customer as a result of delays in its node transitions. This major customer accounted for 26.1% and 23.8%, respectively, of total revenues for the three and six months ended June 29, 2019, compared to 15.1% and 14.6%, respectively, for the three and six months ended June 30, 2018.

The decreases in DRAM and Flash product revenue for the three and six months ended June 29, 2019, compared to the three and six months ended June 30, 2018, were driven by decreased unit sales as a result of decreased customer demand.

The increases in Systems product revenue for the three and six months ended June 29, 2019, compared to the three and six months ended June 30, 2018, were driven by increased sales of probe stations, which includes a new 200mm platform, partially offset by lower revenue from thermal sub-systems.

Revenues by Geographic Region

	Three Months Ended				Six Months Ended			
	June 29, 2019	% of Revenue	June 30, 2018	% of Revenue	June 29, 2019	% of Revenue	June 30, 2018	% of Revenue
	(Dollars in thousands)							
United States	$ 38,369	27.8%	$ 33,230	24.5%	$ 72,632	26.9%	$ 66,093	26.0%
South Korea	28,171	20.4	25,992	19.2	54,894	20.3	40,982	16.1
China	20,355	14.7	14,613	10.8	42,198	15.6	26,887	10.6
Japan	16,093	11.7	13,543	10.0	26,525	9.8	27,215	10.7
Taiwan	14,872	10.8	30,010	22.1	37,259	13.8	57,732	22.7
Europe	10,648	7.7	9,519	7.0	20,141	7.5	21,021	8.3
Asia-Pacific[1]	7,683	5.6	6,954	5.1	10,946	4.1	11,769	4.6
Rest of the world	1,827	1.3	1,648	1.2	5,636	2.1	2,100	0.8
Total revenues	$ 138,018	100.0%	$ 135,509	100.0%	$ 270,231	100.0%	$ 253,799	100.0%

[1] Asia-Pacific includes all countries in the region except China, Japan, South Korea and Taiwan, which are disclosed separately.

Geographic revenue information is based on the location to which we ship the product. For example, if a certain South Korean customer purchases through their U.S. subsidiary and requests the products to be shipped to an address in South Korea, this sale will be reflected in the revenue for South Korea rather than the U.S.

Changes in revenue by geographic region for the three and six months ended June 29, 2019 compared to the three and six months ended June 30, 2018 were primarily attributable to changes in customer demand, shifts in customer regional manufacturing strategies, and product sales mix.

Cost of Revenues and Gross Margins

Cost of revenues consists primarily of manufacturing materials, compensation and benefits, shipping and handling costs, manufacturing-related overhead and amortization of certain intangible assets. Our manufacturing operations rely on a limited number of suppliers to provide key components and materials for our products, some of which are a sole source. We order materials and supplies based on backlog and forecasted customer orders. Tooling and setup costs related to changing manufacturing lots at our suppliers are also included in the cost of revenues. We expense all warranty costs, inventory provisions and amortization of certain intangible assets as cost of revenues.

Our gross profit and gross margin were as follows (dollars in thousands):

	Three Months Ended			
	June 29, 2019	June 30, 2018	$ Change	% Change
Gross profit	$ 55,352	$ 56,218	$ (866)	(1.5)%
Gross margin	40.1%	41.5%		

	Six Months Ended			
	June 29, 2019	June 30, 2018	$ Change	% Change
Gross profit	$ 107,873	$ 101,347	$ 6,526	6.4 %
Gross margin	39.9%	39.9%		

Our gross profit and gross margin by segment were as follows (dollars in thousands):

	Three Months Ended							
	June 29, 2019				June 30, 2018			
	Probe Cards	Systems	Corporate and Other	Total	Probe Cards	Systems	Corporate and Other	Total
Gross profit	$ 48,492	$ 12,672	$ (5,812)	$ 55,352	$ 50,543	$ 11,626	$ (5,951)	$ 56,218
Gross margin	42.7%	52.0%	—%	40.1%	45.3%	48.6%	—%	41.5%

	Six Months Ended							
	June 29, 2019				June 30, 2018			
	Probe Cards	Systems	Corporate and Other	Total	Probe Cards	Systems	Corporate and Other	Total
Gross profit	$93,785	$ 25,688	$ (11,600)	$ 107,873	$90,614	$ 22,761	$ (12,028)	$101,347
Gross margin	42.3%	53.0%	—%	39.9%	43.9%	48.1%	—%	39.9%

Probe Cards

For the three months ended June 29, 2019, gross profit decreased compared to the three months ended June 30, 2018 primarily due to less favorable product mix, offset by increased sales and higher factory utilization. For the six months ended June 29, 2019, gross profit increased compared to the six months ended June 30, 2018 primarily due to increased sales and factory utilization. Gross margins decreased due to less favorable product mix.

Systems

For the three and six months ended June 29, 2019, gross profit and gross margin increased compared to the three and six months ended June 30, 2018 due to increased sales and a favorable product mix.

Corporate and Other

Corporate and Other includes unallocated expenses relating to amortization of intangible assets, share-based compensation expense, and restructuring charges, net, which are not used in evaluating the results of, or in allocating resources to, our reportable segments.

Overall

Gross profit and gross margin fluctuate with revenue levels, product mix, selling prices, factory loading and material costs. For the three months ended June 29, 2019, compared to the three months ended June 30, 2018, gross profit and gross margin decreased due to product mix, offset by increased sales. For the three and six months ended June 29, 2019, compared to the three and six months ended June 30, 2018, gross profit increased due to higher unit sales and favorable product mix, primarily within our Systems segment.

Cost of revenues included stock-based compensation expense as follows (in thousands):

	Three Months Ended		Six Months Ended	
	June 29, 2019	June 30, 2018	June 29, 2019	June 30, 2018
Stock-based compensation	$ 964	$ 813	$ 1,914	$ 1,733

Future gross margins may be adversely impacted by lower revenues, unfavorable product mix and lower factory utilization even though we have taken significant steps to reduce our operating cost structure. Our gross margins may also be adversely affected if we are required to record additional inventory write-downs for estimated average selling prices that are below cost.

Research and Development

	Three Months Ended			
	June 29, 2019	June 30, 2018	$ Change	% Change
	(Dollars in thousands)			
Research and development	$ 20,074	$ 19,675	$ 399	2.0%
% of revenues	14.6%	14.5%		

	Six Months Ended			
	June 29, 2019	June 30, 2018	$ Change	% Change
	(Dollars in thousands)			
Research and development	$ 39,797	$ 37,721	$ 2,076	5.5%
% of revenues	14.7%	14.9%		

The increases in research and development expenses in the three and six months ended June 29, 2019 when compared to the corresponding periods in the prior year were primarily driven by annual compensation and benefit adjustments, partially offset by a decrease in project material costs. The increase for the three months ended June 29, 2019 when compared to the corresponding period in the prior year was partially offset by a decrease in employee incentive compensation and benefit adjustments.

A detail of the change is as follows (in millions):

	Three Months Ended June 29, 2019 compared to Three Months Ended June 30, 2018	Six Months Ended June 29, 2019 compared to Six Months Ended June 30, 2018
Employee compensation costs	$ 0.2	$ 1.5
Stock-based compensation	0.3	0.5
Project material costs	(0.4)	(0.5)
Depreciation	0.1	0.3
Other general operations	0.2	0.3
	$ 0.4	$ 2.1

Research and development included stock-based compensation expense as follows (in thousands):

	Three Months Ended		Six Months Ended	
	June 29, 2019	June 30, 2018	June 29, 2019	June 30, 2018
Stock-based compensation	$ 1,582	$ 1,256	$ 3,101	$ 2,558

Selling, General and Administrative

	Three Months Ended			
	June 29, 2019	June 30, 2018	$ Change	% Change
	(Dollars in thousands)			
Selling, general and administrative	$ 26,283	$ 25,232	$ 1,051	4.2%
% of revenues	19.0%	18.6%		

	Six Months Ended			
	June 29, 2019	June 30, 2018	$ Change	% Change
	(Dollars in thousands)			
Selling, general and administrative	$ 51,467	$ 48,681	$ 2,786	5.7%
% of revenues	19.1%	19.2%		

The increases in selling, general and administrative in the three and six months ended June 29, 2019 when compared to the corresponding periods in the prior year were primarily due to higher stock-based compensation related to the timing of annual grants, and annual compensation and benefit adjustments. The increase for the three months ended June 29, 2019 when compared to the corresponding periods in the prior year was offset partially by a decrease in employee incentive compensation and a reduction in consulting fees.

A detail of the change is as follows (in millions):

	Three Months Ended June 29, 2019 compared to Three Months Ended June 30, 2018	Six Months Ended June 29, 2019 compared to Six Months Ended June 30, 2018
Stock-based compensation	$ 0.7	$ 2.0
Consulting fees	(0.3)	(1.3)
Employee compensation	—	1.1
Amortization of intangibles	0.3	0.7
General operating expenses	0.3	0.3
	$ 1.0	$ 2.8

Selling, general and administrative included stock-based compensation expense as follows (in thousands):

	Three Months Ended		Six Months Ended	
	June 29, 2019	June 30, 2018	June 29, 2019	June 30, 2018
Stock-based compensation	$ 2,743	$ 2,059	$ 5,569	$ 3,593

Interest Income and Interest Expense

	Three Months Ended		Six Months Ended	
	June 29, 2019	June 30, 2018	June 29, 2019	June 30, 2018
	(Dollars in thousands)			
Interest Income	$ 684	$ 326	$ 1,264	$ 583
Weighted average balance of cash and investments	$ 177,380	$ 142,807	$ 164,416	$ 138,221
Weighted average yield on cash and investments	2.11%	1.34%	2.07%	1.42%
Interest Expense	$ 522	$ 910	$ 1,117	$ 1,877
Average debt outstanding	$ 57,253	$ 97,225	$ 61,044	$ 101,641
Weighted average interest rate on debt	4.49%	3.93%	4.50%	3.77%

Interest income is earned on our cash, cash equivalents, restricted cash and marketable securities. The increases in interest income for the three and six months ended June 29, 2019 compared with the corresponding periods of the prior year were attributable to higher investment yields, as well as higher average investment balances.

Interest expense primarily includes interest on our term loan and interest-rate swap derivative contracts, as well as term loan issuance costs amortization charges. The decreases in interest expense for the three and six months ended June 29, 2019 compared to the same periods of the prior year were primarily due to lower outstanding debt balances as a result of principal payments made, partially offset by higher interest rates.

Other Expense, Net
Other expense, net, primarily includes the effects of foreign currency impact and various other gains and losses.

Provision for Income Taxes

	Three Months Ended		Six Months Ended	
	June 29, 2019	June 30, 2018	June 29, 2019	June 30, 2018
	(In thousands, except percentages)			
Provision for income taxes	$ 2,290	$ 1,654	$ 4,322	$ 1,941
Effective tax rate	24.8%	15.3%	25.8%	14.7%

Provision for income taxes reflects the tax provision on our operations in foreign and U.S. jurisdictions, offset by tax benefits from lapsing of statute of limitations related to uncertain tax positions in foreign jurisdictions. In the fourth quarter of fiscal 2018, we released our valuation allowance against certain U.S. deferred tax assets as sufficient positive evidence existed to support the realization of such deferred tax assets, resulting in an increase in our effective tax rate for the three and six months ended June 29, 2019 compared to the three and six months ended June 30, 2018.

Liquidity and Capital Resources

Capital Resources
Our working capital was $244.8 million at June 29, 2019, compared to $235.3 million at December 29, 2018.

Cash and cash equivalents primarily consist of deposits held at banks and money market funds. Marketable securities primarily consist of U.S. treasuries, U.S. agency securities and corporate bonds. We typically invest in highly-rated securities with low probabilities of default. Our investment policy requires investments to be rated single A or better, and limits the types of acceptable investments, issuer concentration and duration of the investment.

Our cash, cash equivalents and marketable securities totaled approximately $176.9 million at June 29, 2019, compared to $149.0 million at December 29, 2018. We believe that we will be able to satisfy our working capital requirements and scheduled term loan repayments for at least the next twelve months with the liquidity provided by our existing cash, cash equivalents, marketable securities and cash provided by operations. To the extent necessary, we may consider entering into short and long-term debt obligations, raising cash through a stock issuance, or obtaining new financing facilities, which may not be available on terms favorable to us. Our future capital requirements may vary materially from those now planned.

If we are unsuccessful in maintaining or growing our revenues, maintaining or reducing our cost structure (in response to an industry demand downturn or other event), or increasing our available cash through debt or equity financings, our cash, cash equivalents and marketable securities may decline in fiscal 2019.

We utilize a variety of tax planning and financing strategies to manage our worldwide cash and deploy funds to locations where needed. As part of these strategies, we indefinitely reinvest a portion of our foreign earnings. Should we require additional capital in the United States, we may elect to repatriate indefinitely-reinvested foreign funds or raise capital in the United States.

Cash Flows

The following table sets forth our net cash flows from operating, investing and financing activities:

	Six Months Ended	
	June 29, 2019	**June 30, 2018**
	(In thousands)	
Net cash provided by operating activities	$ 55,376	$ 30,058
Net cash used in investing activities	(12,470)	(6,962)
Net cash used in financing activities	(17,037)	(18,949)

Operating Activities

Net cash provided by operating activities for the six months ended June 29, 2019 was primarily attributable to net income of $12.4 million and $40.8 million of net non-cash expenses, offset by operating assets and liabilities using $2.2 million of cash as discussed in more detail below.

Accounts receivable, net, decreased $24.0 million to $71.3 million at June 29, 2019, compared to $95.3 million at December 29, 2018, as a result of changes in customer sales mix, timing of customer shipments and timing of customer payments.

Inventories, net, increased $6.1 million to $83.9 million at June 29, 2019, compared to $77.7 million at December 29, 2018, as a result of increased inventory purchases to shorten lead time and improve pricing, and timing of customer demand.

Accounts payable decreased $13.8 million to $26.3 million at June 29, 2019, compared to $40.0 million at December 29, 2018, as a result of timing of vendor payments.

Investing Activities

Net cash used in investing activities for the six months ended June 29, 2019 was primarily related to $11.5 million of cash used in the acquisition of property, plant and equipment, as well as $1.1 million of net purchases of marketable securities.

Financing Activities

Net cash used in financing activities for the six months ended June 29, 2019 primarily related to $18.8 million of principal payments made towards the repayment of our term loan and $2.2 million related to tax withholdings associated with the net share settlements of our equity awards, partially offset by $3.9 million of proceeds received from issuances of common stock under our employee stock purchase plan and stock option plans.

Debt Facility

On June 24, 2016, we entered into a credit agreement (the “Credit Agreement”) with HSBC Bank USA, National Association ("HSBC"). Pursuant to the Credit Agreement, the lenders provided us with a senior secured term loan facility of $150 million (the “Term Loan”). The proceeds of the Term Loan were used to finance a portion of the purchase price paid in connection with the acquisition of Cascade Microtech.

The Term Loan bears interest at a rate equal to, at our option, (i) the applicable London Interbank Offered Rate ("LIBOR") rate plus 2.00% per annum or (ii) Base Rate (as defined in the Credit Agreement) plus 1.00% per annum. We have currently elected to pay interest at 2.00% over the one-month LIBOR rate. Interest payments are payable in monthly installments over a five-year period.

On July 25, 2016, we entered into an interest rate swap agreement with HSBC and other lenders to hedge the interest payments on the Term Loan for the notional amount of $95.6 million. As future levels of LIBOR over the life of the loan are uncertain, we entered into these interest-rate swap agreements to hedge the exposure in interest rate risks associated with movement in LIBOR rates. By entering into the agreements, we convert a floating rate interest at one-month LIBOR plus 2% into a fixed rate interest at 2.939%. As of June 29, 2019, the notional amount of the loan that is subject to this interest rate swap is $33.8 million. See Note 7 of Notes to Condensed Consolidated Financial Statements for additional information.

The Term Loan amortizes in equal quarterly installments, which began June 30, 2016, in annual amounts equal to 5% for year one, 10% for year two, 20% for year three, 30% for year four and 35% for year five. The Credit Agreement allows voluntary prepayment to be made at any time to prepay the Term Loan in whole or in part without penalty or premium. As of June 29, 2019, we have made prepayments of $40.0 million in addition to scheduled installments per the Credit Agreement. For the three and six months ended June 29, 2019, we did not make any prepayments in addition to scheduled installments.

The obligations under the Term Loan are guaranteed by substantially all of our assets and the assets of our domestic subsidiaries, subject to certain customary exceptions.

The Credit Agreement contains negative covenants customary for financing of this type, as well as certain financial maintenance covenants. As of June 29, 2019, the balance outstanding pursuant to the Term Loan was $46.3 million at an interest rate of 4.1% and we were in compliance with all covenants under the Credit Agreement.

Stock Repurchase Program

In February 2017, our Board of Directors authorized a program to repurchase up to $25 million of outstanding common stock to offset potential dilution from issuances of common stock under our stock-based compensation plans. The share repurchase program will expire on February 1, 2020. During the six months ended June 29, 2019, we did not repurchase any shares of common stock. As of June 29, 2019, $6.0 million remained available for future repurchases.

Repurchased shares are retired upon the settlement of the related trade transactions with the excess of cost over par value charged to additional paid-in capital. All repurchases were made in compliance with Rule 10b-18 under the Securities Exchange Act of 1934, as amended.

Contractual Obligations and Commitments

Other than our operating lease commitments as disclosed in Note 12 of Notes to Condensed Consolidated Financial Statements, our contractual obligations and commitments have not materially changed as of June 29, 2019 from those disclosed in our Annual Report on Form 10-K for the year ended December 29, 2018.

Off-Balance Sheet Arrangements

Historically, we have not participated in transactions that have generated relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. As of June 29, 2019, we were not involved in any such off-balance sheet arrangements.

Recent Accounting Pronouncements

See Note 1 of Notes to Condensed Consolidated Financial Statements.

Item 3. *Quantitative and Qualitative Disclosures about Market Risk*

For financial market risks related to changes in interest rates and foreign currency exchange rates, reference is made to Item 7A "Quantitative and Qualitative Disclosures about Market Risk" contained in Part II of our Annual Report on Form 10-K for the fiscal year ended December 29, 2018. Our exposure to market risk has not changed materially since December 29, 2018.

Item 4. *Controls and Procedures*

Evaluation of Disclosure Controls and Procedures

Based on our management's evaluation (with the participation of our principal executive officer and principal financial officer), as of the end of the period covered by this report, our principal executive officer and principal financial officer have concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, (the "Exchange Act")) are effective to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms and is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the period covered by this Quarterly Report on Form 10-Q that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on the Effectiveness of Controls

Control systems, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control systems' objectives are being met. Further, the design of any control systems must reflect the fact that there are resource constraints, and the benefits of all controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within our company have been detected. These inherent limitations include the realities that judgments in decision making can be faulty and that breakdowns can occur because of a simple error or mistake. Control systems can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based, in part, on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

CEO and CFO Certifications

We have attached as exhibits to this Quarterly Report on Form 10-Q the certifications of our Chief Executive Officer and Chief Financial Officer, which are required in accordance with the Exchange Act. We recommend that this Item 4 be read in conjunction with the certifications for a more complete understanding of the subject matter presented.

PART II - OTHER INFORMATION

Item 1A. ***Risk Factors***

There have been no material changes during the six months ended June 29, 2019 to the risk factors discussed in our Annual Report on Form 10-K for the year ended December 29, 2018. If any of the identified risks actually occur, our business, financial condition and results of operations could suffer. The trading price of our common stock could decline and you may lose all or part of your investment in our common stock. The risks and uncertainties described in our Annual Report on Form 10-K for the year ended December 29, 2018 are not the only ones we face. Additional risks that we currently do not know about or that we currently believe to be immaterial may also impair our business operations.

Item 6. ***Exhibits***

The following exhibits are filed herewith and this list constitutes the exhibit index.

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Date	Number	Filed Herewith
3.1	Amended and Restated Certificate of Incorporation of the Registrant as filed with the Delaware Secretary of State on June 17, 2003	S-1	October 20, 2003	3.01	
3.2	Amended and Restated Bylaws of the Registrant	8-K	July 22, 2016	3.2	
31.01	Certification of Chief Executive Officer pursuant to 15 U.S.C. Section 7241, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				X
31.02	Certification of Chief Financial Officer pursuant to 15 U.S.C. Section 7241, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				X
32.01	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				X
101.SCH	XBRL Taxonomy Extension Schema Document				X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document				X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document				X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document				X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document				X

* This exhibit shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934 or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934, whether made before or after the date hereof and irrespective of any general incorporation language in any filings.

SIGNATURE

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

		FormFactor, Inc.
Date: August 6, 2019	By:	/s/ SHAI SHAHAR
		Shai Shahar
		Chief Financial Officer
		(Duly Authorized Officer, Principal Financial Officer, and Principal Accounting Officer)

Exhibit 31.01

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO 15 U.S.C. SECTION 7241, AS
ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Michael D. Slessor, certify that:

1. I have reviewed the quarterly report on Form 10-Q of FormFactor, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in the quarterly report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting.

5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: August 6, 2019

/s/ MICHAEL D. SLESSOR

Michael D. Slessor
Chief Executive Officer
(Principal Executive Officer and Director)

Exhibit 31.02

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO 15 U.S.C. SECTION 7241,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Shai Shahar, certify that:

1. I have reviewed the quarterly report on Form 10-Q of FormFactor, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in the quarterly report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 6, 2019

/s/ SHAI SHAHAR
Shai Shahar
Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

Exhibit 32.01

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

In connection with the Quarterly Report on Form 10-Q of FormFactor, Inc., a Delaware corporation, for the period ended June 29, 2019, as filed with the Securities and Exchange Commission, each of the undersigned officers of FormFactor, Inc. certifies pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to his respective knowledge:

1. The quarterly report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the quarterly report fairly presents, in all material respects, the financial condition and results of operations of FormFactor, Inc. for the periods presented therein.

Date:	August 6, 2019	/s/ MICHAEL D. SLESSOR
		Michael D. Slessor *Chief Executive Officer* *(Principal Executive Officer and Director)*
Date:	August 6, 2019	/s/ SHAI SHAHAR
		Shai Shahar *Chief Financial Officer* *(Principal Financial Officer and Principal Accounting Officer)*