

MU F4Q Exceeds on Bit Production Upside Optimizing Product Mix for Profitability: Raising Estimates, Reiterate Buy

Diluted Shares(mil):	1,203.0	Closing Price 9/25/14	FYE August	FY14	FY15	FY16
Market Cap(\$mil):	\$38,135	\$31.70	Revenue(\$mil)	\$16,358	\$17,802	\$17,483
Avg Volume(,000):	23,678		pro forma EPS	\$3.23	\$3.39	\$3.67
Net Cash/Share:	(\$1.03)	Recommendation/Target	Price/Sales	2.3	2.1	2.2
Tangible Book/Share	\$8.67	Buy/\$50 from \$45	Price/EPS	9.8	9.4	8.6

Micron Technology is a leading supplier of DRAM, NAND and NOR semiconductor memory products.

Summary: MU significantly exceeded revenue and slightly exceeded EPS expectations for its August-ended F4Q as favorable supply conditions and product mix allowed it to benefit from improving demand for DRAMs from PCs, servers and networking, as well as increasing NAND exposure to SSDs, smartphones and embedded markets. Revenue of \$4.1B grew by +6%, GAAP EPS was \$0.96, and pro forma EPS totaled \$0.82. I continue to believe MU is extremely well positioned to benefit from a favorable market environment for DRAM and NAND suppliers, and management has clearly articulated a strategy become the most profitable memory supplier—rather than the largest—by optimizing product and market sub-segment mix. I am raising my estimates and my 12-month target price to \$50 from \$45 based on 15-times FY15 earnings, and reiterate my Buy recommendation on the shares.

F4Q Review: Record quarterly revenue of \$4.23B grew by +6% sequentially and exceeded expectations on slightly better than expected bit shipments for both DRAM and NAND and despite slightly worse than expected ASP declines for NAND. DRAM cost per bit did not decline as expected, but NAND cost unexpectedly declined slightly. GAAP gross margin declined by 160 basis points to 32.8%, although would have been 250 basis points higher if not for the Tessera IP settlement and a last time sale of phase change memory at \$38M. Non-GAAP EPS of \$0.82 only slightly exceeded consensus estimates and excluded gains and charges from reported GAAP EPS of \$0.96 as noted below. Cash from operations totaled \$1.3B; capital expenditures were \$1.3B; depreciation and amortization at \$590M; and cash increased by \$544M to \$5.35B which includes \$819M in long-term marketable investments. Micron continues to recapitalize convertibles to straight debt in order to minimize share count dilution.

FYE August	4QF14					
	Estimate	Actual	EPS Impact	Guidance	Consensus	Range
DRAM Bits Shipped	3.0%	4.0%		+low 1-digit%		
DRAM ASP change	0.0%	0.0%				
DRAM Cost/bit change	-3.0%	0.0%		- low 1-digit%		
NAND Bits Shipped	12.0%	13.0%		+lo/mid teen%		
NAND ASP Change	-4.0%	-6.0%				
NAND Cost/bit change	0.0%	-2.0%		flat		
Revenue (\$ mil)	4,148	4,227	\$0.03		4,150	4,050-4,300
Revenue Growth	4.2%	6.2%			4.2%	+1.7%+8.0%
Gross Margin	35.8%	34.3%	(\$0.06)			
Opn Expenses (\$ mil)	540	538		530-550		
Restructuring/other	32	19	\$0.03			
Interest Income	(75)	(81)		(70-80)		
Minority Interest/non-opn	0	161	\$0.14			
Taxes (\$ mil)	75	35	\$0.03			
Diluted Shares (mil)	1,170.0	1,176.0				
Diluted EPS		\$0.96				
pro forma EPS	\$0.65	\$0.82	\$0.17		\$0.81	\$0.66-\$1.03

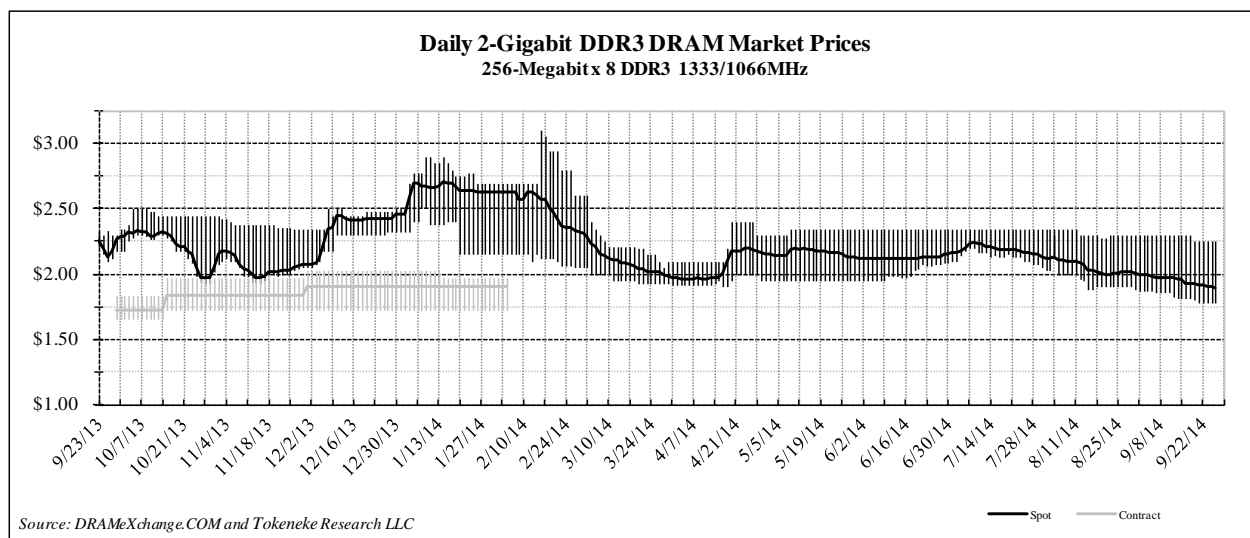
Pro Forma Adjustments: Pro forma adjustments to GAAP included the following: \$66M in COGS associated with the Tessera IP settlement; \$22M in restructuring cuts in Italy; \$17M loss associated with debt restructuring; \$37M amortization of debt discounts; \$3M loss on currency; a \$93M gain associated with joint-venture Inotera's equity offering; a gain of \$119M from partial ownership of Aptina that was acquired by ON Semiconductor at the end of the quarter; a \$4M tax adjustment associated with these items; and \$118M of non-cash deferred tax assets related to Elpida. In addition, the diluted share count was reduced by 27M due to the anti-dilutive effects of a capped-call transaction. Adjusting for these items yields a non-GAAP EPS of \$0.82 versus GAAP EPS of \$0.96.

Product Line Performance: Management changed its product line reporting last quarter to CNBU (computing and networking business unit), SBU (storage), MBU (mobile), and EBU (embedded). The new categories reflect its ‘memory system solution’ approach where it combines different memory types with advanced packaging technology as well as controllers with both firmware and software for specific applications. Both old and new categories are included in my Sales Analysis on Page 7 of this report.

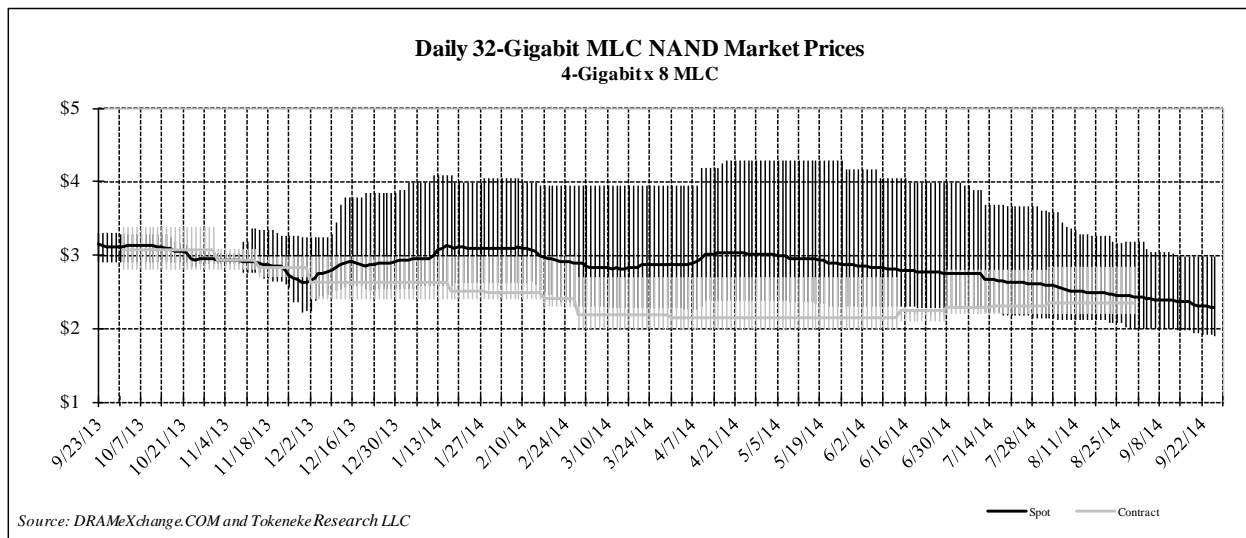
CNBU grew by +2% sequentially to \$1.9B or 45% of sales at an operating margin of 26.1% that fell by 250 basis points, with DRAM strength from PCs in pricing, servers in content growth, as well as networking associated with the LTE build-out in China. SBU grew by +5% to \$907M or 21% of sales at an operating margin of 3.0% that dropped by 330 basis points on NAND strength across devices and both client and enterprise SSDs. MBU increased by +20% to \$910M or 22% of sales at an operating margin of 22.4% that grew by 460 basis points on the back of the iPhone6 launch and increasing NAND and DRAM content in smartphones. EBU grew by +2% to \$476M or 11% of sales at an operating margin of 16.2% that declined by 440 basis points on strength from automotive in infotainment and ADAS (advanced driver assistance systems) applications, as well as IMM (industrial and multi-market) in factory automation, machine-to-machine systems, and aerospace and defense.

Dynamic RAMs: DRAM sales grew +5.3% to \$2.87B or 68% of total sales on slightly better than expected bit growth of +4%, flat ASPs as expected, and flat cost per bit that was worse than the expected reduction of -3%. Gross margin was flat in the high-30% range, but was adversely impacted by 200 basis points due to the Tessera IP settlement charge. Minority interest gains of \$119M were due to DRAM joint-venture Inotera cost savings that would have added to DRAM gross margins. 25nm devices are in production and the 20nm ramp has begun. Inotera will skip the 25nm node and migrate directly to 20nm. Management noted solid demand for PCs, servers and networking with improving ASPs and OEMs seeking longer-term supply agreements. DDR4s are in qualification at server and high-performance computer customers and GDDR5 is being adopted by graphics and gaming, while the Hybrid Memory Cube is proving popular in networking applications. Industry DRAM bit growth for 2014 is expected around 30%, for 2015 in the low- to mid-20% range, and then in the high-teens and mid-20% range thereafter—all of which the company plans to meet or slightly miss without adding incremental capacity.

Micron completed its acquisition of bankrupt DRAM competitor Elpida at the end of July last year. It paid \$750M in yen at the close of the deal (actually \$615M after currency fluctuations) for all of Elpida (now called Micron Memory Japan, or MMJ) and \$334M in NT\$ for a total of 89% of Elpida’s Rexchip joint-venture in Taiwan, now called Micron Memory Taiwan (MMT). Three quarters ago it purchased all but a remaining 0.5% of Rexchip equity on the open market for \$145M. Micron will pay Elpida bondholders \$1.75B in yen over six years beginning at the end of 2014 with annual installments of \$250M, \$250M, \$250M, \$250M, \$375M and the last \$375M in late-2019. Micron got Elpida’s market leadership in the high-growth mobile DRAM segment by way of a 300mm wafer fab in Hiroshima, assembly and test operations in Akita, and the 300mm Rexchip fab in Taiwan. The good news is that MU benefits from DRAM industry consolidation under very attractive terms, but the bad news is that it came with financial complexities that includes debt, a large currency hedge, and accounting for Elpida deferred tax assets.



NAND Flash: NAND product sales grew by +4% to \$1.14B or 27% of total revenue as trade bit shipments grew by a slightly better than expected +13%, ASP per bit declined a slightly worse than expected -6%, and cost per bit declined a slightly better than expected -2%—but would have gone down by another 3% if not for the Tessaera settlement. Gross margin was in the mid-20% range and declined by 300 basis points due to the ASP decline. MU offers a mix of NAND at 25nm, 20nm and 16nm technologies; and SLC, MLC, TLC and 3D architectures; into eMMC, SSD and embedded applications. 20nm product accounts for the bulk of production although conversion to 16nm has already begun with the ramp of its 256G device. 16nm TLC is being introduced into the consumer channel for memory cards, USB storage and embedded applications by 4QCY14; into client SSDs next spring; and then enterprise SSDs by 4QFY15; and expected to lower costs by 15-20%. The company continues controller and firmware development for PCIe and SAS SSD applications. A 256G 3D NAND device will sample 4QCY14 and remains on-track for volume production 2HCY15. MU expects to meet expected NAND industry supply bit growth for 2014 in the high-30% to low-40% range without adding capacity due to its DRAM conversion, although the industry growth is expected to include wafer capacity additions accounting for 10%. Industry bit growth in 2015 is expected in the high-30% to mid-40% range. The CAGR over the next five years is expected to fall to the high-30% to low-40% range due to 3D NAND technology manufacturing complexity.



NOR Cash Flow: NOR flash revenue grew by +9% and continues to account for 3% of total sales, or \$130M. Gross margins are expected to improve with the absence of idle fab costs from the former fab in Israel, as well as 300mm wafers in Virginia. NOR is viewed as a ‘cash-flow generation’ business opportunity.

Management Guidance: F1Q DRAM bit production is expected to grow in the mid- to high-single-digit percentage range, ASPs QTD are up in the low-single-digits, and cost per bit is expected to decline in the low single-digit percentage range. NAND bit production is expected to increase in the high-teens, ASPs QTD are down in the low- to mid-single-digit percent, and cost per bit is expected to decline in the low-single-digits. Revenue is expected at \$4.45-4.7B; SG&A at \$195-205M; R&D at \$395-405M; interest expense of \$85-95M; stock compensation of \$35-40M; and depreciation and amortization at \$680-690M. This quarter includes an extra week. Pro forma adjustments are expected to exclude: amortization of debt discounts at \$40-45M; a restructuring charge of \$5M; a debt restructuring charge of \$25M; a \$5-10M tax adjustment associated with these items; and \$20-30M of non-cash taxes associated with the Elpida acquisition. The incremental diluted share count approximates 135M shares due to debt conversion, and the spread will fall by 25M assuming the average share price remains above \$30 thanks to the capped call financial transaction. FY15 GAAP tax rate is expected in the mid-single-digit percentage range and capital expenditures for the year are expected at \$3.6-4.0B with 30% to manufacturing including tooling for system and sub-system products, 50% to DRAM and 20% to NAND.

Raising Estimates: I am raising my estimates for this quarter consistent with management guidance, and this is largely trickling through the next two fiscal years. I am ticking down my operating expense run-rate next quarter to adjust for this quarter's extra week. Other than for the current quarter's guidance, my profile of bit growth, ASP and cost trends by quarter remain unchanged through FY16. While my FY16 revenue declines slightly, increasing expected profitability makes up for the difference in EPS growth—which is consistent with management's strategy. My earnings model incorporates management guidance for operating costs, and then breaks down revenue and COGS by DRAM, NAND and NOR products. For DRAM and NAND I make assumptions for bit growth, ASP changes, and manufacturing cost per bit changes on a quarterly basis consistent with management's expected tracking to industry norms expected over the next few quarters. For NOR I assume a recovery in margin over the next several quarters. My assumptions are specified by quarter on Page 8 of this report.

FYE August \$ in millions	1QF15		FY15		FY16	
	Previous	Update	Previous	Update	Previous	Update
Total Revenue	4,169	4,485	16,552	17,802	16,263	17,483
Revenue Growth	0.5%	6.1%	1.7%	8.8%	-1.7%	-1.8%
Gross Margin	37.2%	35.1%	38.1%	36.0%	40.5%	38.4%
Operating Expenses	525	600	2,228	2,265	2,228	2,220
Non-Operating Items	(107)	(90)	(300)	(360)	(300)	(360)
Taxes	75	44	300	189	300	206
Diluted Shares (mil)	1,150.0	1,178.0	1,150.0	1,178.0	1,150.0	1,178.0
pro forma EPS	\$0.74	\$0.80	\$3.03	\$3.39	\$3.27	\$3.67

Reiterate Buy: I am maintaining my Buy recommendation and raising my 12-month target price to \$50 from \$45 based on 15-times FY15 EPS consistent with the average of its two peer groups as noted on Page 9. Recall that I converted to pro forma EPS from GAAP EPS three quarters ago consistent with management reporting, which I consider to be appropriate given the number and magnitude of business factors either one-time or non-operating in nature. Also that I shifted to a price-earnings valuation ratio from price-sales last year as the company converted to an 'earnings leverage' story from a 'revenue recovery' story.

MU shares continue to trade well below the average price-earnings ratios of its peers but generally around the average price-sales ratio of its peers. It is similarly straddling valuations on a historical basis: trading well below its own average historical trailing price-earnings ratio, consistent with its historical trailing price-sales ratio, and above its average price-book ratio—all as noted in the tables on Page 9. I continue to believe upside potential significantly exceeds that of downside risk for MU at current price levels, and reiterate my Buy Recommendation.

pro forma EPS	1QF15	FY15	FY16
Tokeneke-revised	\$0.80	\$3.39	\$3.67
Tokeneke-previous	\$0.74	\$3.03	\$3.27
Consensus-previous	\$0.85	\$3.48	
High Estimate-previous	\$1.08	\$4.54	
Low Estimate-previous	\$0.56	\$2.80	

Revenue, 26 estimates	1QF15	FY15	FY16
Tokeneke-revised	4,485	17,802	17,483
Tokeneke-previous	4,169	16,552	16,263
Consensus-previous	4,360	17,690	
High Estimate-previous	4,890	20,290	
Low Estimate-previous	3,810	16,300	

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Semiconductor Analyst

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Income Statement

www.micron.com

dollars in millions, except per share data, * restated
fiscal year ends August

	FY2013			FY2014 act					FY2015 est					FY2016				
	FY10	FY12	FY13	Q1	Q2	Q3	Q4	FY14	Q1	Q2	Q3	Q4	FY15	Q1	Q2	Q3	Q4	FY16
Total Revenue	8,402	8,234	9,073	4,042	4,107	3,982	4,227	16,358	4,485	4,452	4,443	4,423	17,802	4,403	4,371	4,363	4,344	17,483
COGS	5,809	7,266	7,185	2,650	2,662	2,614	2,776	10,702	2,911	2,861	2,833	2,795	11,400	2,756	2,706	2,677	2,638	10,778
Gross Profit	2,593	968	1,888	1,392	1,445	1,368	1,451	5,656	1,574	1,590	1,610	1,628	6,402	1,647	1,665	1,686	1,706	6,705
SG&A	464	620	562	176	177	174	180	707	200	185	185	185	755	185	185	185	185	740
R&D	624	918	931	320	344	349	358	1,371	400	370	370	370	1,510	370	370	370	370	1,480
Restructuring	(5)	5	115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	2	39	(29)	4	1	(3)	(3)	(1)	-	-	-	-	-	-	-	-	-	-
Operating Expenses	1,085	1,582	1,579	500	522	520	535	2,077	600	555	555	555	2,265	555	555	555	555	2,220
Operating Income	1,508	(614)	309	892	923	848	916	3,579	974	1,035	1,055	1,073	4,137	1,092	1,110	1,131	1,151	4,485
Interest Income	(160)	(171)	(181)	46	(33)	(75)	(81)	(143)	(90)	(90)	(90)	(90)	(360)	(90)	(90)	(90)	(90)	(360)
Other Non-Opn Inc.	54	31	(242)	(74)	5	36	43	10	-	-	-	-	-	-	-	-	-	-
Tax Expense	32	(17)	(7)	41	30	31	35	137	44	47	48	49	189	50	51	52	53	206
Minority Interest	(49)	(295)	(94)	58	124	135	118	435	100	100	100	100	400	100	100	100	100	400
Net Income	1,321	(1,032)	(201)	881	989	913	961	3,744	939	998	1,017	1,034	3,988	1,052	1,069	1,089	1,108	4,319
EPS-basic	\$1.49	(\$1.04)	(\$0.20)	\$0.84	\$0.93	\$0.86	\$0.90	\$3.53	\$0.88	\$0.93	\$0.95	\$0.97	\$3.73	\$0.99	\$1.00	\$1.02	\$1.04	\$4.04
Shares-basic	887.5	991.2	1,021.7	1,046.0	1,060.0	1,067.0	1,068.0	1,060.3	1,068.0	1,068.0	1,068.0	1,068.0	1,068.0	1,068.0	1,068.0	1,068.0	1,068.0	1,068.0
EPS-diluted	\$1.35	(\$1.04)	(\$0.19)	\$0.77	\$0.85	\$0.79	\$0.82	\$3.24	\$0.80	\$0.85	\$0.86	\$0.88	\$3.39	\$0.89	\$0.91	\$0.92	\$0.94	\$3.67
Shares-diluted	1,050.7	991.2	1,056.3	1,142.0	1,159.0	1,152.0	1,176.0	1,157.3	1,178.0	1,178.0	1,178.0	1,178.0	1,178.0	1,178.0	1,178.0	1,178.0	1,178.0	1,178.0
EPS-pro forma	\$1.35		\$0.11	\$0.77	\$0.85	\$0.79	\$0.82	\$3.23	\$0.80	\$0.85	\$0.86	\$0.88	\$3.39	\$0.89	\$0.91	\$0.92	\$0.94	\$3.67
Margin Analysis																		
Gross Margin	30.9%	11.8%	20.8%	34.4%	35.2%	34.4%	34.3%	34.6%	35.1%	35.7%	36.2%	36.8%	36.0%	37.4%	38.1%	38.6%	39.3%	38.4%
SG&A	5.5%	7.5%	6.2%	4.4%	4.3%	4.4%	4.3%	4.3%	4.5%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.3%	4.2%
R&D	7.4%	11.1%	10.3%	7.9%	8.4%	8.8%	8.5%	8.4%	8.9%	8.3%	8.3%	8.4%	8.5%	8.4%	8.5%	8.5%	8.5%	8.5%
Operating Expense	12.9%	19.2%	17.4%	12.4%	12.7%	13.1%	12.7%	12.7%	13.4%	12.5%	12.5%	12.5%	12.7%	12.6%	12.7%	12.7%	12.8%	12.7%
Operating Income	17.9%	-7.5%	3.4%	22.1%	22.5%	21.3%	21.7%	21.9%	21.7%	23.3%	23.7%	24.3%	23.2%	24.8%	25.4%	25.9%	26.5%	25.7%
Interest/Other Income	-1.3%	-1.7%	-4.7%	-0.7%	-0.7%	-1.0%	-0.9%	-0.8%	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%	-2.1%	-2.1%	-2.1%	-2.1%
Tax Rate	2.3%	2.3%	6.1%	4.7%	3.4%	3.8%	4.0%	4.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Net Income	15.7%	-12.5%	-2.2%	21.8%	24.1%	22.9%	22.7%	22.9%	20.9%	22.4%	22.9%	23.4%	22.4%	23.9%	24.5%	25.0%	25.5%	24.7%
Qtr-to-Qtr Growth																		
Revenue				42.2%	1.6%	-3.0%	6.2%		6.1%	-0.7%	-0.2%	-0.4%		-0.4%	-0.7%	-0.2%	-0.4%	
Operating Expenses				6.6%	4.4%	-0.4%	2.9%		12.1%	-7.5%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	
Operating Income				219%	3.5%	-8.1%	8.0%		6.3%	6.3%	1.9%	1.8%		1.8%	1.6%	1.9%	1.8%	
Net Income				178%	12%	-7.7%	5.3%		-2.2%	6.2%	1.9%	1.7%		1.7%	1.6%	1.9%	1.7%	
EPS				162%	11%	-7.1%	3.1%		-2.4%	6.2%	1.9%	1.7%		1.7%	1.6%	1.9%	1.7%	
Year-to-Year Growth																		
Revenue	74.9%	-6.3%	10.2%	120%	98%	71.8%	48.7%	80.3%	10.9%	8.4%	11.6%	4.6%	8.8%	-1.8%	-1.8%	-1.8%	-1.8%	-1.8%
Operating Expenses	6.4%	57.7%	-0.2%	59%	34.2%	27.8%	14.1%	31.5%	20.0%	6.3%	6.7%	3.7%	9.1%	-7.5%	0.0%	0.0%	0.0%	-2.0%
Operating Income	-197%	-181%	-150%	-1020%	-4113%	469%	227%	1058%	9.1%	12.2%	24.4%	17.2%	15.6%	12.2%	7.2%	7.2%	7.2%	8.4%
Net Income	-175%	-718%	-81%	-420%	-446%	2023%	203%	-1963%	6.6%	0.9%	11.3%	7.6%	6.5%	12.0%	7.1%	7.1%	7.1%	8.3%
EPS	-161%	-728%	-82%	-384%	-403%	1829%	178%	-1800%	3.4%	-0.7%	8.9%	7.4%	4.6%	12.0%	7.1%	7.1%	7.1%	8.3%

Micron Technology**Financial Summary**

dollars in millions

Fiscal year ends August

	FY11	FY12	FY13	FY14	4QF13	1QF14	2QF14	3QF14	4QF14
Assets									
Cash and equivalents	2,160	2,559	3,101	4,534	3,101	3,870	4,504	4,264	4,534
Net accounts receivable	<u>1,497</u>	<u>1,289</u>	<u>2,329</u>	<u>2,906</u>	<u>2,329</u>	<u>2,833</u>	<u>2,826</u>	<u>2,715</u>	<u>2,906</u>
Quick Assets	3,657	3,848	5,430	7,440	5,430	6,703	7,330	6,979	7,440
Inventory	2,080	1,812	2,649	2,455	2,649	2,459	2,462	2,532	2,455
Other	<u>95</u>	<u>98</u>	<u>832</u>	<u>350</u>	<u>832</u>	<u>207</u>	<u>199</u>	<u>194</u>	<u>350</u>
Current Assets	5,832	5,758	8,911	10,245	8,911	9,369	9,991	9,705	10,245
Property, plant and eqt, net	7,555	7,103	7,626	8,682	7,626	7,733	7,859	8,021	8,682
Goodwill and intangibles	414	371	386	343	386	368	367	343	343
Long-term mkt securities	535	374	499	819	499	538	552	545	819
Other	<u>416</u>	<u>722</u>	<u>1,696</u>	<u>2,409</u>	<u>1,696</u>	<u>1,786</u>	<u>1,846</u>	<u>1,881</u>	<u>2,409</u>
Total Assets	14,752	14,328	19,118	22,498	19,118	19,794	20,615	20,495	22,498
Liabilities and Shareholders Equity									
Current portion L-T debt	140	224	1,585	1,638	1,585	1,543	2,230	1,508	1,638
Accounts payable	1,830	1,641	2,115	2,698	2,115	2,630	2,679	2,828	2,698
Deferred Income	443	248	243	282	243	236	251	282	282
Other/Equity Purchase Contract	<u>67</u>	<u>130</u>	<u>182</u>	<u>193</u>	<u>182</u>	<u>104</u>	<u>145</u>	<u>142</u>	<u>193</u>
Current Liabilities	2,480	2,243	4,125	4,811	4,125	4,513	5,305	4,760	4,811
Long-term debt	1,861	3,038	4,452	4,955	4,452	4,260	4,317	4,137	4,955
Other	<u>559</u>	<u>630</u>	<u>535</u>	<u>1,159</u>	<u>535</u>	<u>875</u>	<u>949</u>	<u>813</u>	<u>1,159</u>
Total Liabilities	4,900	5,911	9,112	10,925	9,112	9,648	10,571	9,710	10,925
Minority Interest	1,382	717	864	802	864	927	760	845	802
Common stock	8,610	8,920	9,291	8,317	9,291	9,025	8,389	8,317	8,317
Retained earnings	(370)	(1,402)	(212)	2,454	(212)	126	836	1,579	2,454
Other	<u>230</u>	<u>182</u>	<u>63</u>		<u>63</u>	<u>68</u>	<u>59</u>	<u>44</u>	
Total MU Shareholders Equity	<u>8,470</u>	<u>7,700</u>	<u>9,142</u>	<u>10,771</u>	<u>9,142</u>	<u>9,219</u>	<u>9,284</u>	<u>9,940</u>	<u>10,771</u>
Total Liabilities and Equity	14,752	14,328	19,118	22,498	19,118	19,794	20,615	20,495	22,498
Sales and Income									
Revenue	8,788	8,234	9,073	16,358	2,843	4,042	4,107	3,982	4,227
COGS	7,030	7,266	7,226	10,921	2,135	2,761	2,704	2,614	2,842
Net income	167	(1,032)	1,190	3,045	1,708	358	731	806	1,150
Other									
Capital Expenditures	2,878	1,871	1,458	3,137	332	669	565	576	1,327
Depreciation and Amortization	2,162	2,222	1,926	2,270	572	541	561	578	590
Shares (weighted average diluted)	1,007.5	991.2	1,056.3	1,198.0	1,129.4	1,196.0	1,201.0	1,190.0	1,203.0
Employees (units)	26,100	27,400	30,900		30,900				
Cash Flow from Operations	2,484	2,114	1,811	5,699	717	1,507	1,390	1,455	1,347
Ratios									
Liquidity									
Quick Ratio	1.47	1.72	1.32	1.55	1.32	1.49	1.38	1.47	1.55
Current Ratio	2.35	2.57	2.16	2.13	2.16	2.08	1.88	2.04	2.13
Leverage									
Debt Ratio	0.33	0.41	0.48	0.49	0.48	0.49	0.51	0.47	0.49
Long-term Debt/Capital	0.16	0.26	0.26	0.27	0.26	0.26	0.26	0.24	0.27
Asset Management									
Fixed Asset Turnover	1.2	1.1	1.2	2.0	1.57	2.11	2.11	2.01	2.02
Total Asset Turnover	0.6	0.6	0.5	0.8	0.69	0.83	0.81	0.77	0.79
Receivables DSO	61	56	92	64	74	63	62	61	62
Inventory Days	107	90	132	81	112	80	82	87	78
Inventory Turnover	3.7	3.7	3.2	4.3	3.90	4.32	4.40	4.19	4.56
Annual Revenue/Employee									
Profitability									
Gross Margin	20.0%	11.8%	20.4%	33.2%	24.9%	31.7%	34.2%	34.4%	32.8%
Net Margin	1.9%	-12.5%	13.1%	18.6%	60.1%	8.9%	17.8%	20.2%	27.2%
Return on Assets	1.1%	-7.1%	7.1%	14.6%	41.2%	7.4%	14.5%	15.7%	21.4%
Return on Equity	2.0%	-12.8%	14.1%	30.6%	83.0%	15.6%	31.6%	33.5%	44.4%
Per Share Data									
Book Value/Share	\$8.41	\$7.77	\$8.65	\$8.99	\$8.09	\$7.71	\$7.73	\$8.35	\$8.95
Tangible Book Value/Share	\$8.00	\$7.39	\$8.29	\$8.70	\$7.75	\$7.40	\$7.42	\$8.06	\$8.67
Cash/Share (gross)	\$2.67	\$2.96	\$3.41	\$4.47	\$3.19	\$3.69	\$4.21	\$4.04	\$4.45
Cash/Share (net)	\$0.69	(\$0.33)	(\$2.31)	(\$1.04)	(\$2.16)	(\$1.17)	(\$1.24)	(\$0.70)	(\$1.03)
Earnings/Share	\$0.17	(\$1.04)	\$1.13	\$2.54	\$1.51	\$0.30	\$0.61	\$0.68	\$0.96

Micron Technology

Financial Model

dollars in millions
fiscal year ends August

	FY2013 act				FY2014 act				FY2015 est				FY2016			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
DRAM																
Bits Sold	2.0%	38.4%	6.0%	44.0%	69.0%	0.0%	0.6%	4.6%	7.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
ASP change	-11.9%	-9.7%	15.0%	6.0%	-0.8%	-1.0%	-1.0%	0.0%	0.0%	-5.5%	-5.5%	-5.5%	-5.5%	-5.5%	-5.5%	-5.5%
Revenue	715.3	893.9	1,089.7	1,663.4	2,788.6	2,760.7	2,748.1	2,874.5	3,075.8	3,051.9	3,028.3	3,004.8	2,981.5	2,958.4	2,935.5	2,912.7
Royalties (included)							2,748.0									
Revenue growth	-10.1%	25.0%	21.9%	52.6%												
Cost/bit change	-5.0%	-20.5%	-5.0%	4.0%	-11.0%	-6.0%	-0.4%	2.0%	-2.0%	-6.0%	-6.0%	-6.0%	-6.0%	-6.0%	-6.0%	-6.0%
Gross Margin	-8.1%	0.0%	20.7%	22.8%	35.2%	41.9%	41.1%	38.2%	41.0%	41.3%	41.5%	41.7%	42.0%	42.2%	42.5%	42.7%
Gross Profit																
COGS	773.5	894.3	864.1	1,283.7	1,805.7	1,603.2	1,619.4	1,775.0	1,814.2	1,792.9	1,771.7	1,750.7	1,730.0	1,709.4	1,689.1	1,669.0
NAND																
Bits Sold	-10.6%	9.8%	0.0%	20.0%	15.0%	35.0%	-4.9%	8.9%	17.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
ASP change	8.0%	-1.5%	6.2%	-11.0%	-7.0%	-18.0%	0.0%	-6.0%	-4.0%	-8.0%	-8.0%	-8.0%	-8.0%	-8.0%	-8.0%	-8.0%
Revenue	807.2	873.0	927.1	990.2	1,059.0	1,172.3	1,114.8	1,141.2	1,281.8	1,285.4	1,289.0	1,292.6	1,296.2	1,299.9	1,303.5	1,307.1
Revenue growth	-3.4%	8.2%	6.2%				1,115.0									
Cost/bit change	2.0%	-10.0%	5.4%	-10.0%	-7.0%	-12.0%	0.0%	-10.0%	-3.0%	-10.0%	-10.0%	-10.0%	-10.0%	-10.0%	-10.0%	-10.0%
Gross Margin	23.8%	34.2%	34.8%	32.0%	31.3%	20.6%	20.6%	24.7%	23.3%	24.8%	26.3%	27.8%	29.3%	30.9%	32.5%	34.0%
<i>gm est</i>																
Gross Profit																
COGS	614.8	574.7	604.5	673.6	727.3	930.7	885.1	859.3	983.0	966.8	950.2	933.3	916.0	898.4	880.4	862.1
DRAM, NAND Subtotal																
Revenue	1,522.5	1,766.9	2,016.8	2,653.5	3,847.5	3,933.0	3,863.0	4,015.7	4,357.6	4,337.3	4,317.3	4,297.4	4,277.7	4,258.3	4,239.0	4,219.9
Gross Profit																
Gross Margin																
Adjusted Gross Profit																
Adjusted Gross Margin																
COGS	1388.3	1469.0	1468.6	1957.3	2533.0	2533.9	2504.6	2634.3	2797.3	2759.7	2721.9	2684.0	2646.0	2607.8	2569.5	2531.1
NOR																
Revenue	220	187.0	185.0	171.0	145.0	123.0	119.0	127.0	127.0	114.3	125.7	125.7	125.7	113.2	124.5	124.5
Gross Margin	37.0%	37.0%	20.0%	9.0%	10.0%	10.0%	10.0%	10.0%	10.5%	11.0%	11.5%	12.0%	12.5%	13.0%	13.5%	14.0%
COGS	138.7	117.8	148.0	155.6	130.5	110.7	107.1	114.3	113.7	101.7	111.3	110.6	110.0	98.4	107.7	107.0
Other																
Revenue	91.7	125.0	116.0	28.0	45.0	41.0	0.0	85.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross Margin	0.0%	0.0%	-25.0%	-25.0%	-25.0%	-25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
COGS	91.7	125.0	145.0	35.0	56.3	51.3	0.0	85.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL																
Revenue	1,834.3	2,078.9	2,317.8	2,852.5	4,037.5	4,097.0	3,982.0	4,227.7	4,484.6	4,451.6	4,443.0	4,423.1	4,403.5	4,371.4	4,363.4	4,344.3
Royalty																
COGS	1,618.6	1,711.8	1,761.6	2,147.9	2,719.7	2,695.9	2,611.7	2,833.6	2,911.0	2,861.4	2,833.2	2,794.6	2,756.0	2,706.3	2,677.2	2,638.1
Gross Profit	215.6	367.2	556.2	704.6	1,317.8	1,401.1	1,370.3	1,394.1	1,573.6	1,590.2	1,609.8	1,628.5	1,647.5	1,665.1	1,686.2	1,706.2
Gross Margin	11.8%	17.7%	24.0%	24.7%	32.6%	34.2%	34.4%	33.0%	35.1%	35.7%	36.2%	36.8%	37.4%	38.1%	38.6%	39.3%
Reported																
Revenue	1,834	2,078	2,318	2,843	4,042	4,107	3,982	4,227								
COGS	1,617	1,712	1,762	2,135	2,761	2,704	2,614	2,842								
Gross Margin	11.8%	17.6%	24.0%	24.9%	31.7%	34.2%	34.4%	32.8%								
Adjusted COGS																
Adjusted Gross Margin																

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9/26/14

Micron Technology

Valuation

Relative Valuation

Company	Ticker	Price 9/25/2014	52-Week		CY EPS				CY P/E				Diluted Shares(mil)	CAP (\$ mil)	Price-Sales			FY Ends	Qtr Div/sh	Div Yield
			Low	High	2012	2013	2014	2015	2012	2013	2014	2015			TTM	Cur FY	Nxt FY			
Micron Technology *	MU	31.70	16.17	34.85	-1.12	1.15	3.26	3.48	NM	27.6	9.7	9.1	1,203	38,135	2.3	2.1	2.2	Aug		
Advanced Micro Devices	AMD	3.63	3.04	4.80	-0.16	-0.12	0.12	0.16	NM	NM	30.3	22.7	764	2,773	0.5	0.5	0.5	Dec		
Freescale	FSL	20.34	13.95	26.00	-0.08	0.45	1.51	2.00	NM	45.2	13.5	10.2	308	6,265	1.4	1.3	1.3	Dec		
Intel *	INTC	34.14	22.48	35.56	2.13	1.88	2.13	2.21	16.0	18.2	16.0	15.4	5,123	174,899	3.2	3.2	3.0	Dec	\$0.23	2.6%
STMicroelectronics	STM	7.53	7.20	10.00	-0.33	-0.23	0.19	0.53	NM	NM	39.6	14.2	895	6,742	0.9	0.9	0.8	Dec-ADR	\$0.10	5.3%
Texas Instruments*	TXN	48.14	38.92	49.77	1.50	1.79	2.43	2.83	32.1	26.9	19.8	17.0	1,086	52,280	4.2	4.0	3.7	Dec	\$0.34	2.8%
Average									24.1	30.1	23.8	15.9			2.0	2.0	1.9			3.6%

Company	Ticker	Price 9/25/2014	52-Week		CY EPS				CY P/E				Diluted Shares(mil)	CAP (\$ mil)	Price-Sales			FY Ends	Qtr Div/sh	Div Yield
			Low	High	2012	2013	2014	2015	2012	2013	2014	2015			TTM	Cur FY	Nxt FY			
Micron Technology *	MU	31.70	16.17	34.85	-1.12	1.15	3.26	3.48	NM	27.6	9.7	9.1	1,203	38,135	2.3	2.1	2.2	Aug		
Atmel	ATML	8.09	6.45	9.76	0.33	0.28	0.41	0.60	24.5	28.9	19.7	13.5	430	3,479	2.5	2.4	2.2	Dec		
Spansion	CODE	22.31	9.70	23.94	0.99	0.76	1.06	1.89	22.5	29.4	21.0	11.8	61	1,356	1.1	1.1	1.0	Dec		
Cypress Semiconductor	CY	9.98	8.61	11.30	0.55	0.40	0.54	0.69	18.1	25.0	18.5	14.5	167	1,664	2.3	2.3	2.1	Dec	\$0.11	4.4%
GSI Technology	GSIT	5.47	4.91	7.40	0.13	-0.01	-0.25	0.00	42.1	NM	NM	NM	28	150	2.7	2.5	2.0	Mar		
Integrated Silicon Solutions	ISSI	13.73	10.52	15.95	0.85	0.82	1.00	1.13	16.2	16.7	13.7	12.2	32	439	1.4	1.3	1.2	Sep	\$0.06	1.7%
Netlist	NLST	1.07	0.53	2.41	-0.49	-0.34	-0.24	-0.17	NM	NM	NM	NM	41	44	1.9	1.8	1.1	Dec		
SanDisk	SNDK	96.99	58.58	108.77	2.37	5.36	5.83	6.66	40.9	18.1	16.6	14.6	241	23,355	3.6	3.5	3.1	Dec	\$0.30	1.2%
Average									27.4	23.6	17.9	13.3			2.2	2.1	1.8			2.5%

* Tokeneke estimate
Source: consensus as of 9/24/14

Historical Valuation

Company	Ticker	Price 9/25/2014	Trailing 12-month								
			Price/Earnings		Price/Sales		Price/Book				
			Current	Historical*	Current	Historical*	Current	Historical*			
Micron Technology	MU	31.70	9.8		2.3		3.5				
			Average	47.0	Average	2.3	Average	2.3			
			High	568.0	High	9.0	High	9.8			
			Low	4.3	Low	0.3	Low	0.6			

* weekly since 1990

The Company

Tokeneke Research is an independent research firm specializing in semiconductor industry business issues, providing fundamental research focused on US equities across all market capitalizations within the sector to investors. The company was founded in 2005 and is based in Connecticut.

The Offering

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My Background

I have an electrical engineering background, nearly 12 years of semiconductor industry experience, and was on Wall Street for nearly eight years where I was selected as the Best On The Street semiconductor analyst for 2002 by The Wall Street Journal, and third-rated Best of the Best across all sectors.

I obtained my undergraduate BS degree in electrical engineering from the University of Washington, and my MBA from Santa Clara University. My industry experience consists of nearly 12 years in various technical sales and marketing roles at four different semiconductor firms located in Silicon Valley beginning with Advanced Micro Devices in 1984, followed by two small start-up companies, and ending at Cirrus Logic where I supported the firm's Japanese market development. I joined Fahnstock & Co. as a senior semiconductor analyst in 1996 and was recruited by Needham & Co. in April 2000.

My formal coverage list as a sell-side analyst included the following equities: AMD, ALSC, ALTR, ARTI, ATML, CUBE, CY, ESST, GNSS, INTC, ISSI, LSI, MOSY, MU, OIIM, OVTI, RMTR, SIII, SMSC, STEC, SVTG, TDFX, TSRA, TXN, and ZRAN.

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