

MU F2Q Exceeds, Guidance is Outstanding

MU		Micron Technology		
Qtr:	F2Q	Grade:	B	Growth(qtr-qtr)
Rev:	4,648	Rev:	+	Rev: +17.1%
GM:	38.5%	EPS:	+++	Fcst: +12+21%
EPS:	\$0.90	Fcst:	+++	Div:

Micron Technology (MU, \$26.47 +0.41, Rated Buy in my latest Chip Investment Ideas)

F2Q Exceeds: MU announced February-ended F2Q results late yesterday. Revenue beat consensus and earnings exceeded the high-end of the range of expectations due to DRAM market price strength, NAND bit growth and manufacturing cost reductions. F3Q guidance for \$1.50 EPS and 46% gross margin on \$5.4B in sales is well above the high-end of expectations reflecting an expected continuation of very favorable supply-demand conditions.

DRAM revenue grew by +22% to 64% of total sales on bit growth of +1% and a 21% increase in prices as continued gains from clients/PCs were supplemented by gains from mobile, cloud, and enterprise. Gross margin increased 16 percentage points to 44%. Mobile accounted for the high-20% range of DRAM sales; PCs 25%; server 25% (up from the high-teens on 20nm DDR4s); and specialty DRAM (networking, graphics, automotive, and other embedded) was in the low-20% range. Networking growth continued from 20nm 4Gb DDR3 and 8Gb DDR4 products to key Asian OEMs. Total automotive sales were at a record level for the fourth straight quarter.

Trade NAND revenue grew by +11% to 30% of total sales on bit growth of +18% and an ASP decrease of -6% primarily due to a higher density product mix, since like-for-like prices increased across nearly all segments. Gross margin increased 8 percentage points to 31% as cost per bit declined by -15% due to an increasing percentage of lower-cost 3D TLC NAND. Consumer (memory cards, USB, components) accounted for 40% of trade NAND sales; mobile (eMCPs) 20%; SSDs in the mid-20% range (up from the mid-teens on larger-capacity and customized products for OEM cloud and enterprise markets); and automotive/industrial/multi-market/other embedded applications were in the high-teens. Most of the balance of total sales goes to NAND partner Intel at cost.

Growth: 2HFY17 DRAM bit growth is expected at +10% and trade NAND bit growth at +30%. DRAMs are transitioning from 20nm to 'meaningful' output of lower-cost next-gen 1Xnm by August. Micron is ramping 32-layer 3D NAND and deploying lower-cost next-gen 64-layer with 'meaningful' output expected by August when 3D is expected to account for 75% of NAND bits. Initial revenue of 3D XPoint memory is expected late-2017. 20nm DDR4 DRAMs are ramping at cloud and enterprise markets while next-gen offerings have begun to ship. 1Xnm DRAMs began shipping to Nvidia for the high-performance graphics GeForce 1080Ti and Micron announced its next-gen GDDR5X offering. Micron plans to introduce 20 new MCP designs over the next 12 months for smartphone customers with increasing density requirements. Design activity remains strong for 20nm DDR and LP-DDR DRAMs in automotive, consumer, connected home, and Internet of Things gateway applications, while its latest generation of automotive-grade NAND also continues to win designs. The NAND replacement of HDDs with SSDs is in early innings and Micron's Fab 10X expansion continues to ramp and a 5100 SATA SSD drive with PCIE and NVMe is coming soon. Management sees this upturn as across multiple end-markets and more content-than unit-driven, while supply is constrained by capital intensity and technological complexity across few suppliers.

—Dan K. Scovel
Semiconductor Analyst

Tokeneke Research LLC
Rowayton, CT 06853
dscovel@tokenekeresearch.com
www.tokenekeresearch.com
203-554-4621

LEGEND		Grade	
+++	exceeded the high-end of the range	A	all +++
++	above consensus, within the high-end of the range	B	all +
+	slightly above consensus	C	all o/+
o	met consensus	D	mixed -/o/+
-	slightly below consensus	E	all o/-
--	missed consensus, within the low-end of the range	F	all -
---	missed the low-end of the range		

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