Semiconductor Industry Analysis and Insight

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## Micron F3Q Exceeds on AI and Consumer Strength

MU	25 est.	Micron Tech	1	FY25rev:	42%
Qtr:	F3Q	Grade:	В	Growth	(qtr-qtr)
Rev:	9,301	Rev:	+++	Rev:	15.5%
GM:	39.0%	EPS:	+++	Fcst:	+12+18%
EPS:	\$1.91	Fcst:	++	Div:	\$0.115

Micron Technology (MU \$126.00 -1.25 on 6/26/25)

*F3Q Earnings:* MU announced May-ended F3Q results late yesterday above expectations and guidance due to continuing growth in AI data centers from both DRAM and NAND, as well as a significant ramp of DRAMs to a smartphone customer. Revenue growth and profit expansion are expected to persist this quarter driven by DRAMs.

*F3Q Results:* Revenue and EPS exceeded the high-end of guidance and expectations as DRAM consumer shipments turbocharged persistent AI server growth across both DRAM and NAND. Gross margin improved by 110 basis points as declining market prices were less than expected despite a richer mix of lower priced and less profitable consumer business. Operating cash flow was \$4.6B, cap ex was \$2.7B and free cash flow was \$1.9B.

Compute and Networking Business Unit (CNBU) revenue set a record and was 54.5% of total sales, growing by +11% with an operating profit of 43% vs. 42% the prior quarter on the continuing ramp of AI servers including nearly +50% growth of HBM DRAM as well as growth from high-capacity and low-power DDR5 DRAMs and NAND SSDs. Server units are expected to grow in the mid-single digits in CY25 driven by strong growth for AI servers with increasing memory content. HBM revenue has achieved a \$6B annual run rate.

PC units are expected to grow in the low single-digit range CY2025 and future growth is expected due to AI PCs with increasing DRAM content and the Windows 11 upgrade.

**Mobile** (MBU) was 17% of sales, up by +45% with an operating profit of 14% vs. 6% primarily due to DRAM content growth amid customer inventory depletion. Smartphone units are expected to grow in the low single digits this year with AI phone DRAM content of at least 12GB—well above the current 8GB standard.

**Embedded** (EBU) was 13% of sales, up by +20% at an operating profit of 8% vs. 0% on strength from industrial and consumer embedded markets.

**Storage** (SBU) was 16% of sales, up by +4% with an operating loss of -0.6% vs. a profit of +1.7% primarily due to consumer growth.

**DRAM:** DRAM was 76% of revenue and increased by +15.5% sequentially as bit shipments grew by over +20% while prices decreased in the low single-digit percentage range on the richer mix of consumer/smartphone business.

The big story in DRAM remains AI server use of HBM, or High Bandwidth Memory, which is a very high-performance module of eight DRAM dies stacked on top of a controller interface chip. Current generation HBM3E is migrating to a 12-high stack and next-generation HBM4 is currently being designed into systems for expected delivery sometime next year. The larger die in these highly priced—and very costly—modules structurally lowers industry DRAM capacity. Most of this business goes to Nvidia for use in its AI processor cards and racks, although the big cloud server customers customize their Nvidia-based systems with ASIC controller chips that require unique HBM configurations. Micron's DRAM competitor SK Hynix owns the HBM market, but Micron has carved out a 15-20% share of this year's \$35B TAM. Competitor Samsung continues its struggle to qualify parts. Micron also supplies high-capacity DDR5 and low-power LPDDR5 DRAMs—as well as SSD NAND—into AI servers.

Micron's next generation  $1\gamma$  (1-gamma) DRAM technology node employs EUV (extreme ultraviolet lithography) and provides a 30% improvement in bit density, over 20% lower power, and 15% higher performance compared to the current  $1\beta$  (1-beta) node.  $1\gamma$  yield is ramping faster than  $1\beta$  did and the company shipped it's first qualification sample of a  $1\gamma$ -based LPDDR5 DRAM last quarter.

*NAND*: NAND was 23% of revenue and increased by +16% sequentially on bit shipments growing in the mid-20% range and prices decreasing in the high single digits.

The G9 NAND technology node continues to ramp consistent with demand, the company delivered a record mix of QLC bits and started qualifications for new SSD products based on G9 2Tb QLC NAND devices.

(Verbiage continues on Page 3)

## **MU Financials**

FYE August	EV24	Ev22	- Freeza			FY2024	40	5/24		FY2025	
\$ milions <b>Product Revenue</b>	FY21	FY22	FY23	1Q	2Q	3Q	4Q	FY24	1Q	2Q	3Q
DRAM	20,039	22,386	10,978	3,427	4,158	4,692	5,326	17,603	6,400	6,123	7,071
NAND	7,007	7,811	4,206	1,230	1,567	2,065	2,365	7,227	2,241	1,855	2,155
NOR/other	659	561	356	69	99	54	59	281	68	75	75
Total Revenue	27,705	30,758	15,540	4,726	5,824	6,811	7,750	25,111	8,709	8,053	9,301
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non-GAAP	40.007		(4.405)	27	4 4 6 2	4.047	2 025	5 0 4 0	2 4 4 4	2 052	2 522
Gross Profit	10,987	14,113	(1,196)	37	1,163	1,917	2,826	5,943	3,441	3,053	3,623
Gross Margin	39.7%	45.9%	-7.7%	0.8%	20.0%	28.1%	36.5%	23.7%	39.5%	37.9%	39.0%
Operating Profit	7,667	10,281	(4,819)	(955)	204	941	1,745	1,935	2,394	2,007	2,169
Operating Margin	27.7%	33.4%	-31.0%	-20.2%	3.5%	13.8%	22.5%	7.7%	27.5%	24.9%	23.3%
EDC (CAAD)	F 14	7 75	(5.24)	(1.12)	0.71	0.30	0.70	0.70	1.67	1 11	1.60
EPS (GAAP)	5.14	7.75	(5.34)	(1.12)			0.79	0.70	1.67	1.41	1.68
EPS (non-GAAP)	6.06	8.35	(4.45)	(0.95)	0.42	0.62	1.18	1.30	1.79	1.56	1.91
Dividend per Share		0.43	0.46	0.115	0.115	0.115	0.115	0.46	0.115	0.115	0.115
Shares Repurchased	15.6	35.4	8.6	0	0	0	3.2	3.2	0	0	0
Our doort Or was not											
Product Percent											
DRAM	72.3%	72.8%	70.6%	72.5%	71.4%	68.9%	68.7%	70.1%	73.5%	76.0%	76.0%
NAND	25.3%	25.4%	27.1%	26.0%	26.9%	30.3%	30.5%	28.8%	25.7%	23.0%	23.2%
NOR/other	2.4%	1.8%	2.3%	1.5%	1.7%	0.8%	0.8%	1.1%	0.8%	0.9%	0.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Product Growth											
DRAM		11.7%	-51.0%	24.4%	21.3%	12.8%	13.5%	60.3%	20.2%	-4.3%	15.5%
NAND		11.5%	-46.2%	2.1%	27.4%	31.8%	14.5%	71.8%	-5.2%	-17.2%	16.2%
NOR/other		-14.9%	-36.5%	38.0%	43.5%	-45.5%	9.3%	-21.1%	15.3%	10.3%	0.0%
Total	<b>-</b>	11.0%	-49.5%	17.9%	23.2%	16.9%	13.8%	61.6%	12.4%	-7.5%	15.5%
13(0)		11.0/0	-45.5%	17.5%	23.2/0	10.5/0	13.0/0	01.0/0	12.4/0	-7.3/0	13.3/0
Business Segment			1								
CNBU	12,280	13,693	5,710	1,737	2,185	2,573	3,018	9,513	4,395	4,564	5,069
MBU	7,203	7,260	1 1	1,737	2,185 1,598	2,573 1,588		6,354	4,395 1,527		1,551
			3,630				1,875			1,068	
EBU	4,209	5,235	3,637	1,037	1,111	1,294	1,172	4,614	1,052	1,025	1,227
SBU	3,973	4,553	2,553	653	905	1,353	1,681	4,592	1,731	1,392	1,451
other	40	17	10	6	25	3	4	38	4	4	3
Total Revenue	27,705	30,758	15,540	4,726	5,824	6,811	7,750	25,111	8,709	8,053	9,301
Segment Percent											
CNBU	44.3%	44.5%	36.7%	36.8%	37.5%	37.8%	38.9%	37.9%	50.5%	56.7%	54.5%
MBU	26.0%	23.6%	23.4%	27.4%	27.4%	23.3%	24.2%	25.3%	17.5%	13.3%	16.7%
EBU	15.2%	17.0%	23.4%	21.9%	19.1%	19.0%	15.1%	18.4%	12.1%	12.7%	13.2%
SBU	14.3%	14.8%	16.4%	13.8%	15.5%	19.9%	21.7%	18.3%	19.9%	17.3%	15.6%
other	0.1%	0.1%	0.1%	0.1%	0.4%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Segment Growth											
CNBU		11.5%	-58.3%	44.8%	25.8%	17.8%	17.3%	66.6%	45.6%	3.8%	11.1%
MBU		0.8%	-50.0%	6.8%	23.6%	-0.6%	18.1%	75.0%	-18.6%	-30.1%	45.2%
EBU		24.4%	-30.5%	20.6%	7.1%	16.5%	-9.4%	26.9%	-10.2%	-2.6%	19.7%
SBU		14.6%	-43.9%	-11.6%	38.6%	49.5%	24.2%	79.9%	3.0%	-19.6%	4.2%
other		-57.5%	-41.2%	#DIV/0!	316.7%	-88.0%	33.3%	280.0%	0.0%	0.0%	-25.0%
Total		11.0%	-49.5%	17.9%	23.2%	16.9%	13.8%	61.6%	12.4%	-7.5%	15.5%
Operating Margin											
CNBU	35.0%	42.7%	-10.2%	-22.9%	1.3%	17.2%	30.1%	10.3%	38.9%	42.0%	43.0%
MBU	30.2%	29.8%	-48.2%	-53.1%	-0.6%	19.0%	27.1%	1.8%	21.4%	5.6%	14.0%
EBU	23.9%	33.5%	10.5%	1.0%	-0.1%	9.6%	5.6%	4.3%	1.0%	0.3%	8.0%
SBU	4.4%	11.3%	-73.9%	-75.0%	-24.0%	5.6%	16.0%	-7.9%	20.0%	1.7%	-0.6%
other	50.0%	70.6%	80.0%	66.7%	84.0%	-66.7%	-150.0%	44.7%	-50.0%	25.0%	-10633%
Total (GAAP)	27.7%	33.4%	-24.7%	-33.0%	-3.1%	13.8%	22.5%	3.8%	27.5%	24.9%	23.3%
Total (GAAP)	27.770	33.470	-24.776	-33.0%	-3.1/0	13.6/0	22.3/0	3.6/0	27.370	24.5/0	23.3/0
Market Percent				<u>1Q</u>	<u>6mo</u>	<u>9mo</u>			<u>10</u>	<u>6mo</u>	<u>9mo</u>
Mobile	25%	25%	25%	25%	25%	25%		25%	20%	15%	15%
Auto/Ind/Consmer	15%	15%	25%	20%	20%	20%		20%	10%	10%	15%
Client & Graphics	20%	20%	15%	20%	30%	25%		25%	15%	15%	15%
Ent/Cloud Server	20%	20%	10%	15%	25%	30%		35%	55%	55%	55%
SSD & other storage	15%	15%	15%	15%							
Total	95%	95%	90%	95%	100%	100%	0%	105%	100%	95%	100%
Regional Percent											
US	43.9%	52.1%	50.2%					52.4%			
Taiwan	23.8%	20.1%	17.4%					18.7%			
China	8.9%	10.8%	14.0%					12.1%			
Japan	6.0%	5.5%	6.4%					3.3%			
APAC	5.1%	4.0%	4.8%					5.3%			
Europe	2.1%	1.6%	4.4%					3.3%			
Hong Kong	9.3%	5.4%	2.2%					4.3%			
other	0.9%	0.5%	0.6%					0.5%			
Total	100.0%	100.0%	100.0%					100.0%			
>10% Customers			1								
Kingston		12%	1								
WPG	13%	11%	1					10%			
0	13/0	11/0	ı l					10/0			

Manufacturing: Near term, Micron's bit supply growth is expected to be below industry bit demand growth for non-HBM DRAM and NAND. And this year's efficient technology node conversion in NAND is resulting in 10% lower wafer capacity. Also, since NAND technology transitions significantly increase overall bit output, the company will manage node conversions at a measured pace consistent with market demand.

The company recently announced plans to invest \$200 billion in the U.S over the next 20-plus years, which includes an incremental \$30B over previously announced plans. These plans include: two wafer fabs in Boise, Idaho; a new wafer fab in upstate New York; expanding and modernizing its fab in Manassas, Virginia; and bringing advanced packaging capabilities to the U.S. to support long-term HBM growth.

Guidance: F4Q non-GAAP revenue at \$10.7B +/-300M with growth weighted towards DRAM; gross margin of 42% +/-100 basis points on favorable product mix and manufacturing cost reductions; operating expenses of \$1.2B +/-20M on increasing R&D and HBM product development; tax rate approximating 13%; cap ex up sequentially to support the FY25 goal of \$14B; and EPS of 2.50 + 50.15 based on 1.15B shares.

Growth and Momentum Upside: MU's business continues to be highly leveraged to DRAM market dynamics primarily from HBM in AI server applications and is well positioned for significant growth in both revenue and profitability over the next several quarters. While much of this is already priced into the shares at the current price level, accelerating growth could easily drive incremental share price upside, in my opinion. The shares are currently trading at 2.9-times book value, 4-times consensus FY25 sales and 3.1-times FY26 sales, and 16.5-times FY25 EPS and 10.5-times FY26 EPS of \$12. However, it is trading at only 2-times sales at the highest FY26 consensus estimate of \$54.04B and 8.2-times earnings at the highest FY26 consensus estimate of \$15.41.

> —Dan K. Scovel Semiconductor Analyst

h-end of the range		Grade			
, within the high-end of the range	Α	all +++			
nsensus	В	all +			
	С	all o/+			
neanelle	D	mixed /a/+			

above consensus, slightly above cons met consensus slightly below consensus missed consensus, within the low-end of the range Ε all o/-F missed the low-end of the range

LEGEND

exceeded the high

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