

# Financial results

FQ2 2024



# Safe harbor statement

During the course of this meeting, we may make projections or other forward-looking statements regarding market demand and supply, pricing, cost reductions, expected product volume production, expected product announcements, future events or the future financial performance or expected financial projections of the Company and the industry. We wish to caution you that such statements are predictions, and that actual events or results may differ materially. We refer you to the documents the Company files from time to time with the Securities and Exchange Commission, including the Company's most recent Form 10-K and Form 10-Q. These documents contain and identify important factors that could cause the actual results for the Company to differ materially from those contained in our projections or forward-looking statements. These certain factors can be found at [investors.micron.com/risk-factor](https://investors.micron.com/risk-factor). Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance, or achievements. We are under no duty to update any of the forward-looking statements to conform these statements to actual results.

This presentation includes Non-GAAP financial measures. Non-GAAP financial measures represent GAAP measures, excluding the impact of certain activities, which management excludes in analyzing our operating results and understanding trends in our earnings, adjusted free cash flow, and business outlook. Further information regarding Micron's use of non-GAAP measures and reconciliations between GAAP and non-GAAP measures are included in the Appendix.

# Sanjay Mehrotra

President and CEO

March 20, 2024



# Overview

- In fiscal Q2, Micron delivered revenue, gross margin, and EPS well above the high end of guidance. Micron has returned to profitability and delivered a positive operating margin a quarter ahead of expectation.
- Micron drove robust price increases as the supply-demand balance tightened. This improvement in market conditions was due to a confluence of factors, including strong AI server demand, a healthier demand environment in most end markets, and supply reductions across the industry.
- AI server demand is driving rapid growth in HBM, DDR5 (D5) and data center SSDs, which is tightening leading-edge supply availability for DRAM and NAND. This is resulting in a positive ripple effect on pricing across all memory and storage end markets.
- We expect DRAM and NAND pricing levels to increase further throughout calendar year 2024 and expect record revenue and much improved profitability now in fiscal year 2025.

# Technology

- Over 3/4s of our DRAM bits are now on leading-edge 1-alpha and 1-beta nodes, and over 90% of our NAND bits are on 176-layer and 232-layer nodes.
- Expect FY24 front end cost reductions, excl. the impact of HBM, in line with our long-term expectations of mid-to-high single digits in DRAM and low teens in NAND.
- Achieved equivalent yield and quality on 1-alpha as well as 1-beta nodes between EUV and non-EUV flows. Begun 1-gamma DRAM pilot production using EUV and on track for volume production in CY25.
- Development of our next-gen NAND node is on track, with volume production planned for calendar 2025.

# End markets overview

- Inventories for memory and storage have improved significantly in the data center, and we continue to expect normalization in the first half of calendar 2024.
- In PC and smartphone, there were some strategic purchases in CQ4 in anticipation of a return to unit growth.
- Inventories remain near normal levels for auto, industrial, and other markets.
- We are in the very early innings of a multi-year growth phase driven by AI as this disruptive technology will transform every aspect of business and society.

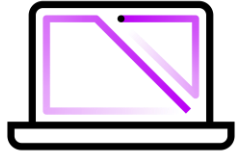
# End market highlights



## Data center

- In data center, total industry server unit shipments are expected to grow mid- to high-single digits in calendar 2024, driven by strong growth for AI servers and a return to modest growth for traditional servers.
- **HBM:** We commenced volume production and recognized our first revenue from HBM3E in fiscal Q2 and now have begun high-volume shipments of our HBM3E product. Customers continue to give strong feedback that our HBM3E solution has a 30% lower power consumption compared to competitors' solutions. Our HBM3E product will be a part of Nvidia's H200 Tensor Core GPUs, and we are making progress on additional platform qualifications with multiple customers. We are on track to generate several hundred million dollars of revenue from HBM in fiscal 2024 and expect HBM revenues to be accretive to our DRAM and overall gross margins starting in the fiscal third quarter. Our HBM is sold out for calendar 2024 and the overwhelming majority of our 2025 supply has already been allocated. We continue to expect HBM bit share equivalent to our overall DRAM bit share sometime in calendar 2025.
- **HBM (continued):** Earlier this month, we sampled our 12-high HBM3E product, which provides 50% increased capacity of DRAM per cube to 36 GB. We expect 12-high HBM3E will start ramping in high volume production and increase in mix throughout 2025.
- **128GB Modules:** During the quarter, we completed validation of the industry's first mono-die based 128GB server DRAM module. We see strong customer pull and expect a robust volume ramp for our 128GB product, with several hundred million dollars of revenue in the second half of fiscal 2024.
- **256GB MRDIMM:** We also started sampling our 256GB MCRDIMM module, which further enhances performance and increases DRAM content per server.
- **Data center SSDs:** We achieved record revenue share in the data center SSD market in calendar 2023. During the quarter, we grew our revenue by over 50% QoQ for our 232-layer based 6500 30TBs SSDs, which offer best-in-class performance, reliability, and endurance for AI data lake applications.

# End market highlights



## PC

- **PC:** Unit volumes are expected to grow modestly in the low single-digit range for calendar 2024. We expect next-gen AI PC units to grow and become a meaningful portion of total PC units in calendar 2025.
- At CES, Micron launched the industry's first low power compression attached memory module or LPCAMM2 for PC applications. LPCAMM2 brings a modular form factor, with a maximum capacity point of 64GB for PC module and 128GB for server module, along with a number of benefits such as higher bandwidth, lower power and smaller form factor.
- During the quarter, we launched our 232-layer based Crucial T705 Gen 5 consumer SSD, which won several editor choice awards and was recognized by a leading publisher as the "fastest M.2 SSD ever". We increased our client SSD QLC bit shipments to record levels, with QLC representing nearly 2/3rds of our client SSD shipments, firmly establishing Micron as the leader in client QLC SSDs.



## Mobile and intelligent edge

- **Mobile:** Smartphone unit volumes in calendar 2024 remain on track to grow low-to-mid single digits. We expect AI phones to carry 50 to 100% greater DRAM content compared to non-AI flagship phones today. In DRAM, we are now sampling our second generation, 1-beta LPDRAM LP5x product which delivers the industry's highest performance at improved power for flagship smartphones. And in NAND, we announced our second generation of 232-layer NAND UFS4.0 devices.
- **Automotive:** We experienced strong growth with partners who are driving the most advanced capabilities within the automobile's increasingly intelligent and connected digital cockpits. Adoption of Level 2+ ADAS capabilities continues to gain momentum, further expanding content per vehicle.
- **Industrial:** Fundamentals for memory are also healthy, with improving distributor inventory, book to bill and demand visibility improvements, as well as pricing benefits from the tight supply for products, especially those built on leading-edge nodes.

# Outlook and Capex plan

- **Demand:** Calendar 2023 DRAM bit demand growth was in the low double-digit percentage range, and NAND bit demand growth was in the low-20s percentage range - both a few percentage points higher than previous expectations.
- We forecast calendar 2024 bit demand growth for the industry to be near the long-term CAGR for DRAM and around mid-teens for NAND. Given the higher baseline of 2023 demand, these expectations of 2024 bit growth have driven an increase in the absolute level of 2024 bit demand in our model for DRAM and NAND versus our prior expectations.
- Over the medium term, we expect bit demand growth CAGRs of mid-teens in DRAM and low-20s percentage range in NAND.
- **Supply:** We expect calendar 2024 industry supply to be below demand for both DRAM and NAND. Micron's bit supply growth in fiscal 2024 remains below our demand growth for both DRAM and NAND, and we expect to decrease our days of inventory in FY24.
- We are now fully utilized on our high-volume manufacturing nodes and are maximizing output against the structurally lowered capacity. We project to end fiscal 2024 with low double digit percentage less wafer capacity in both DRAM and NAND than our peak levels in fiscal 2022.
- Industry-wide, HBM3E consumes approximately three times the wafer supply as D5 to produce a given number of bits in the same technology node. With increased performance and packaging complexity, across the industry, we expect the trade ratio for HBM4 to be even higher than the trade ratio for HBM3E.

## Capex plan:

- Micron's fiscal 2024 capex plan remains unchanged at a range between \$7.5 and \$8.0 billion.
- We continue to project our WFE spending will be down year on year in fiscal 2024.
- Announced projects in China, India, and Japan are proceeding as planned. On potential US expansion plans, we have assumed CHIPS grants in our capex plans for fiscal 2024.
- Our planned Idaho and New York projects require Micron to receive the combination of sufficient CHIPS grants, investment tax credits, and local incentives to address the cost difference compared to overseas expansion.



# Mark Murphy

Chief Financial Officer

March 20, 2024



# FQ2-24 revenue

# \$5.8B

Revenue up 23% Q/Q  
and up 58% Y/Y

# Performance by technology

## DRAM FQ2-24

- \$4.2 billion, representing 71% of total revenue
- Revenue increased 21% Q/Q
- Bit shipments increased by a low-single digit percentage Q/Q
- ASPs increased by high teens Q/Q

## NAND FQ2-24

- \$1.6 billion, representing 27% of total revenue
- Revenue increased 27% Q/Q
- Bit shipments decreased by a low-single digit percentage Q/Q
- ASPs increased by over 30% Q/Q

# Revenue by business unit

Amounts in millions	FQ2-24	FQ1-24	Q/Q % Change	FQ2-23	Y/Y % Change
<b>Compute and Networking (CNBU)</b>	\$2,185	\$1,737	26%	\$1,375	59%
<b>Mobile (MBU)</b>	\$1,598	\$1,293	24%	\$945	69%
<b>Embedded (EBU)</b>	\$1,111	\$1,037	7%	\$865	28%
<b>Storage (SBU)</b>	\$905	\$653	39%	\$507	79%

# FQ2-24

## Non-GAAP operating results

**Revenue:** \$5.8 billion

**Gross margin:** 20%

**Operating expenses:** \$959 million

**Operating income:** \$204 million

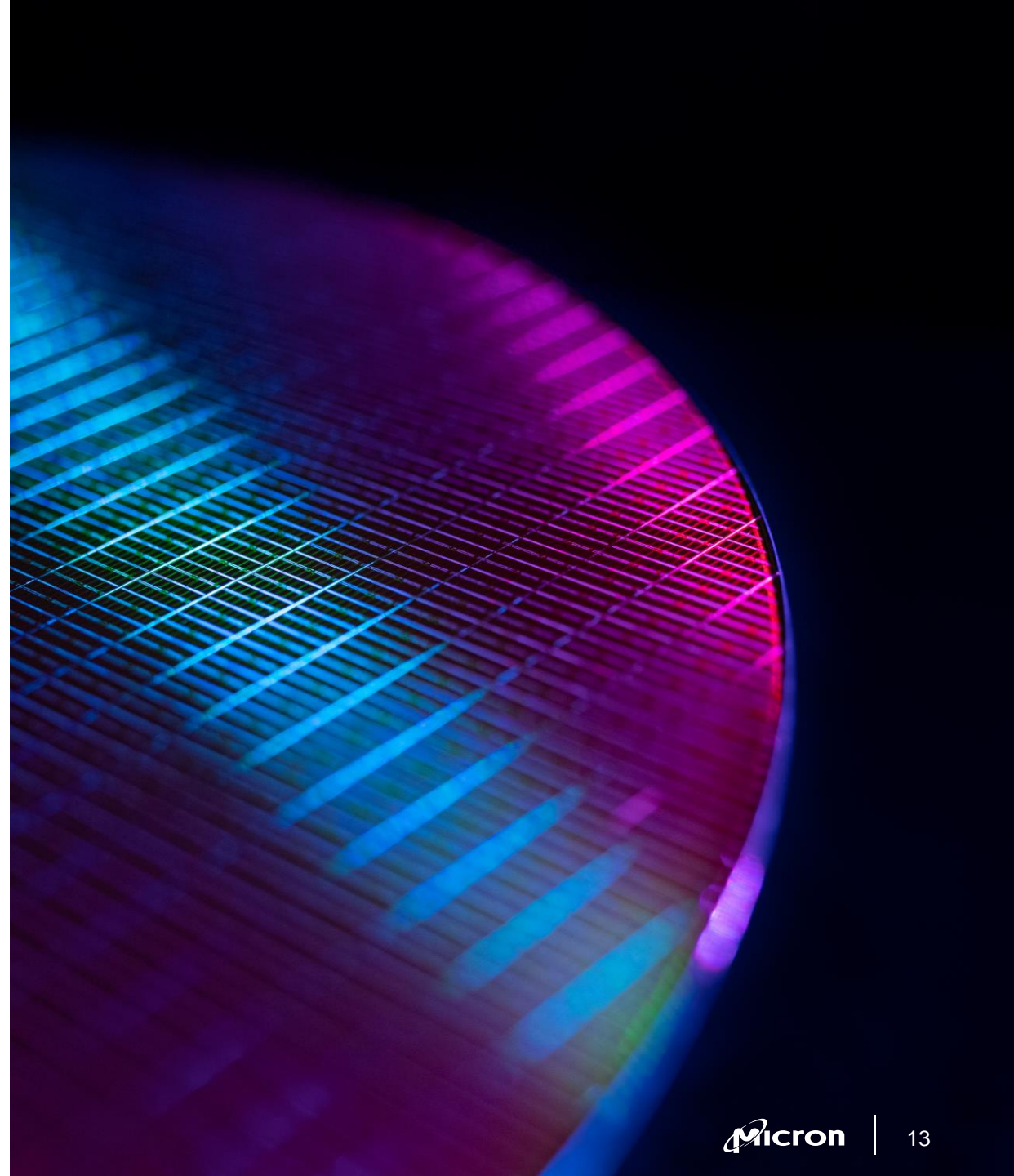
**Net income:** \$476 million

**Diluted earnings per share:** \$0.42

**Cash from operations (GAAP):** \$1.2 billion

See non-GAAP reconciliations in Appendix

March 20, 2024



# Cash flow and capital allocation

## From FY-21 to FQ2-24:

\$5.3 billion returned to shareholders from share repurchases and dividends, including \$4.1 billion used to repurchase 60 million shares

<b>Cash flow from operations</b>	FQ2-24: \$1.2B (21% of revenue)
<b>Net CapEx<sup>1</sup></b>	FQ2-24: CapEx of \$1.2B FY-24: CapEx guidance between \$7.5B and \$8.0B
<b>Adjusted FCF*</b>	FQ2-24: Negative \$29M
<b>Buybacks</b>	FQ2-24: Temporarily suspended
<b>Dividends</b>	Dividend payment of \$0.115 per share will be paid on April 16th
<b>Liquidity<sup>2</sup></b>	\$12.2B in liquidity at end of FQ2-24

<sup>1</sup>CapEx net of proceeds from government incentives and proceeds from sales of property, plant, and equipment.

<sup>2</sup>Cash, short-term and long-term marketable investments, restricted cash, and undrawn revolver capacity.

\*Adjusted free cash flow is a non-GAAP measure defined as net cash provided by operating activities less investments in capital expenditures net of proceeds from government incentives and proceeds from sales of property, plant, and equipment. See non-GAAP reconciliations in Appendix.

# FQ3-24 guidance

## Non-GAAP

<b>Revenue</b>	\$6.60 billion ± \$200 million
<b>Gross margin</b>	26.5% ± 1.5%
<b>Operating expenses</b>	\$990 million ± \$15 million
<b>Diluted earnings per share*</b>	\$0.45 ± \$0.07

\*Based on ~1.14 billion diluted shares.  
See non-GAAP reconciliations in Appendix.

# Appendix



# Financial summary

## Non-GAAP

Amounts in millions, except per share	FQ2-24	% of Revenue	FQ1-24	% of Revenue	FQ2-23	% of Revenue
Revenue	\$5,824	100%	\$4,726	100%	\$3,693	100%
Gross margin	1,163	20%	37	1%	(1,161)	(31%)
Operating income (loss)	204	4%	(955)	(20%)	(2,077)	(56%)
Income tax (provision) benefit	294		(59)		(53)	
Net income (loss)	476	8%	(1,048)	(22%)	(2,081)	(56%)
Diluted earnings (loss) per share	0.42		(0.95)		(1.91)	
Cash provided by operating activities (GAAP)	1,219		1,401		343	
Cash, marketable investments, and restricted cash (GAAP)	9,718		9,839		12,119	

See non-GAAP reconciliations.

March 20, 2024

# Non-GAAP financial data and guidance

% of Revenue	FQ2-24
DRAM	71%
NAND	27%

% Sales Volume Change	FQ2-24 Q/Q
DRAM	Increased by a low-single digit percentage
NAND	Decreased by a low-single digit percentage

% ASP Change	FQ2-24 Q/Q
DRAM	Increased by high teens
NAND	Increased by over 30 percent

	FQ2-24 Non-GAAP (amounts in millions, except per share)	FQ3-24 Non-GAAP Guidance
Revenue	\$ 5,824	\$6.60 billion ± \$200 million
Gross margin	20%	26.5% ± 1.5%
Operating expenses	\$ 959	\$990 million ± \$15 million
Diluted earnings per share	\$ 0.42	\$0.45 ± \$0.07

	FQ2-24 Non-GAAP (amounts in millions)	FQ3-24 Non-GAAP Estimates
Diluted shares	1,134	~1.14 billion
Income tax (provision) benefit	\$ 294	~(\$240) million
Cash from operations (GAAP)	\$ 1,219	—
Investments in capex, net (capital cash flow)	\$ (1,248)	FY-24: between \$7.5 billion and \$8.0 billion

See non-GAAP reconciliations.

March 20, 2024

# Revenue by technology

Amounts in millions	FQ2-24	% of Revenue	FQ1-24	% of Revenue	FQ2-23	% of Revenue
DRAM	\$ 4,158	71%	\$ 3,427	73%	\$ 2,722	74%
NAND	1,567	27%	1,230	26%	885	24%
Other (primarily NOR)	99	2%	69	1%	86	2%
<b>Total</b>	<b>\$ 5,824</b>	<b>100%</b>	<b>\$ 4,726</b>	<b>100%</b>	<b>\$ 3,693</b>	<b>100%</b>

Percentages of total revenue may not total 100% due to rounding.

# Non-GAAP reconciliations

# Consolidated results

## Non-GAAP reconciliations

Amounts in millions	FQ2-24	FQ1-24	FQ2-23
<b>GAAP gross margin</b>	\$ 1,079	\$ (35)	\$ (1,206)
Stock-based compensation	80	67	41
Other	4	5	4
<b>Non-GAAP gross margin</b>	<b>\$ 1,163</b>	<b>\$ 37</b>	<b>\$ (1,161)</b>
<b>GAAP operating expenses</b>	\$ 888	\$ 1,093	\$ 1,097
Stock-based compensation	(129)	(115)	(95)
Restructure and asset impairments	—	—	(86)
Patent cross-license agreement gain	200	—	—
Other	—	14	—
<b>Non-GAAP operating expenses</b>	<b>\$ 959</b>	<b>\$ 992</b>	<b>\$ 916</b>
<b>GAAP operating income (loss)</b>	\$ 191	\$ (1,128)	\$ (2,303)
Stock-based compensation	209	182	136
Restructure and asset impairments	—	—	86
Patent cross-license agreement gain	(200)	—	—
Other	4	(9)	4
<b>Non-GAAP operating income (loss)</b>	<b>\$ 204</b>	<b>\$ (955)</b>	<b>\$ (2,077)</b>

# Consolidated results

## Non-GAAP reconciliations

Amounts in millions	FQ2-24	FQ1-24	FQ2-23
<b>GAAP cost of goods sold</b>	\$ 4,745	\$ 4,761	\$ 4,899
Stock-based compensation	(80)	(67)	(41)
Other	(4)	(5)	(4)
<b>Non-GAAP cost of goods sold</b>	<b>\$ 4,661</b>	<b>\$ 4,689</b>	<b>\$ 4,854</b>
<b>GAAP research and development</b>	\$ 832	\$ 845	\$ 788
Stock-based compensation	(77)	(68)	(59)
Other	—	14	—
<b>Non-GAAP research and development</b>	<b>\$ 755</b>	<b>\$ 791</b>	<b>\$ 729</b>
<b>GAAP selling, general, and administrative</b>	\$ 280	\$ 263	\$ 231
Stock-based compensation	(52)	(47)	(36)
<b>Non-GAAP selling, general, and administrative</b>	<b>\$ 228</b>	<b>\$ 216</b>	<b>\$ 195</b>

# Consolidated results

## Non-GAAP reconciliations

Amounts in millions	FQ2-24	FQ1-24	FQ2-23
<b>GAAP net income (loss)</b>	\$ 793	\$ (1,234)	\$ (2,312)
Stock-based compensation	209	182	136
Restructure and asset impairments	—	—	86
Patent cross-license agreement gain	(200)	—	—
Other	2	(10)	8
Estimated tax effects of above and other tax adjustments	(328)	14	1
<b>Non-GAAP net income (loss)</b>	<b>\$ 476</b>	<b>\$ (1,048)</b>	<b>\$ (2,081)</b>
<b>GAAP income tax (provision) benefit</b>	<b>\$ 622</b>	<b>\$ (73)</b>	<b>\$ (54)</b>
Estimated tax effects of non-GAAP adjustments and other tax adjustments	(328)	14	1
<b>Non-GAAP income tax (provision) benefit</b>	<b>\$ 294</b>	<b>\$ (59)</b>	<b>\$ (53)</b>

# Consolidated results

## Non-GAAP reconciliations

Amounts in millions, except per share	FQ2-24	FQ1-24	FQ2-23
<b>GAAP shares used in diluted EPS calculation</b>	1,114	1,100	1,091
Adjustment for stock-based compensation	20	—	—
<b>Non-GAAP shares used in diluted EPS calculation</b>	<b>1,134</b>	<b>1,100</b>	<b>1,091</b>
<b>GAAP diluted earnings (loss) per share</b>	<b>\$ 0.71</b>	<b>\$ (1.12)</b>	<b>\$ (2.12)</b>
Effects of non-GAAP adjustments	(0.29)	0.17	0.21
<b>Non-GAAP diluted earnings (loss) per share</b>	<b>\$ 0.42</b>	<b>\$ (0.95)</b>	<b>\$ (1.91)</b>
<b>Net cash provided by operating activities</b>	<b>\$ 1,219</b>	<b>\$ 1,401</b>	<b>\$ 343</b>
Expenditures for property, plant, and equipment	(1,384)	(1,796)	(2,205)
Payments on equipment purchase contracts	(26)	(56)	(29)
Proceeds from sales of property, plant, and equipment	13	33	17
Proceeds from government incentives	149	85	62
<b>Investments in capital expenditures, net</b>	<b>(1,248)</b>	<b>(1,734)</b>	<b>(2,155)</b>
<b>Adjusted free cash flow</b>	<b>\$ (29)</b>	<b>\$ (333)</b>	<b>\$ (1,812)</b>



# FQ3-24 guidance

## Non-GAAP reconciliations

	GAAP	Adjustments		Non-GAAP
Revenue	\$6.60 billion ± \$200 million	—		\$6.60 billion ± \$200 million
Gross margin	25.5% ± 1.5%	1.0%	A	26.5% ± 1.5%
Operating expenses	\$1.11 billion ± \$15 million	\$123 million	B	\$990 million ± \$15 million
Diluted earnings per share*	\$0.17 ± \$0.07	\$0.28	A, B, C	\$0.45 ± \$0.07

### Non-GAAP Adjustments (amounts in millions)

A	Stock-based compensation – cost of goods sold	\$	78
A	Other – cost of goods sold		4
B	Stock-based compensation – research and development		76
B	Stock-based compensation – selling, general, and administrative		47
C	Tax effects of the above items and other tax adjustments		107
		\$	<u>312</u>

\*GAAP earnings per share based on approximately 1.11 billion diluted shares and non-GAAP earnings per share based on approximately 1.14 billion diluted shares.

The above guidance does not incorporate the impact of any potential business combinations, divestitures, additional restructuring activities, balance sheet valuation adjustments, strategic investments, financing transactions, and other significant transactions. The timing and impact of such items are dependent on future events that may be uncertain or outside of our control.



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