

Micron Technology F2Q Miss

Specialty DRAM Weakness Overwhelms Impressive Cost Reductions, Reit Buy

Summary: MU missed F2Q estimates on specialty DRAM weakness to mobile handset applications which overshadowed significant cost reductions amid market price strength during the period. The quarter was disappointing and I am lowering my estimates and 12-month target price to \$10 from \$12, but I reiterate my Buy recommendation for investors with very high tolerance for risk. I continue to believe MU is well positioned to benefit from increasing memory market prices, cost reductions and production expansion associated with technology migrations, and significant future capacity enhancements despite current macroeconomic weakness.

F2Q Overview: *Micron missed F2Q expectations due to significant weakness from specialty DRAMs into portable handset applications.* Mobility end-market bit shipments declined by 57%, and this adversely shifted the mix of DRAM products to lower priced and less profitable commodity PC offerings resulting in lower DRAM ASPs pressuring both revenue and margin. The metric of lower DRAM ASPs is especially surprising given market price strength over the last couple of months, but is simply an artifact of severe specialty DRAM weakness.

Unfortunately, this weakness overshadowed extremely significant DRAM and NAND cost reductions as DRAM products continued to migrate to 50nm technology from 78 and 68nm, and NAND products migrate to 34nm technology from 50nm. Also favorable were bit shipment declines somewhat less than expected during holiday slowdowns amid market price weakness which, by the way, yielded market share gains for the company amid an industry-wide decline of -10-15%.

F2Q Review: F2Q revenue of \$993M declined by 29% sequentially and missed my Street estimate of \$1.1B and just barely cleared the low-end of published expectations at \$990M. Gross margin improved by 510 basis points to -26.9%, but declined by 1,430 basis points to -31.2% adjusting for inventory write-offs across both periods, and missed my estimate by over 10 percentage points. The GAAP loss was (\$0.97) per share, but the (\$0.82) loss in the adjacent table corrects for \$234M in inventory write-downs, a \$277M benefit from previous inventory write-downs, restructuring charges of \$105M, and \$58M of image sensor goodwill impairment. Also included in COGS was a \$60M charge for idle manufacturing capacity at joint-venture Inotera (due to former partner Qimonda's default on wafer purchases) and a smaller share from IM Flash in Singapore. This charge is expected to decrease moving forward.

| Metric | FY2Q09 | |
|------------------------|----------|----------|
| | Estimate | Actual |
| DRAM Bits Shipped | -10.0% | 0.0% |
| NAND Bits Shipped | -10.0% | -8.0% |
| DRAM ASP change | -10.0% | -30.0% |
| NAND ASP change | -10.0% | -13.0% |
| DRAM Cost/bit change * | 0.0% | -12.0% |
| NAND Cost/bit change * | -13.0% | -23.0% |
| Revenue (\$ mil) | 1,134 | 993 |
| Revenue Growth | -19.1% | -29.2% |
| Gross Margin * | -20.4% | -31.2% |
| Opn Expenses (\$ mil)* | 269 | 278 |
| Taxes (\$ mil) | 10 | 4 |
| Diluted Shares (mil) | 773.3 | 773.9 |
| EPS (excl. charges) | (\$0.67) | (\$0.82) |

*adjusted for inventory revaluation and charges

Cash flow from operations was positive at \$339M, although the cash balance declined by \$96M to \$932M. Cap ex totaled \$139M, receivables fell by \$377M to \$654M, inventory was trimmed by \$24M to \$859 (net of write-offs), and debt remains at just under \$3B. Nine months ago the Boise 200mm fabs were running half DRAM and half NAND, but the MLC NAND was stripped-out during the first restructuring, and the most recent restructuring cut the remaining SLC NAND and specialty and filler DRAM. Wafer output declined by 20% last quarter amid the restructuring and holiday slowdown, but is expected to rebound by a couple percent this quarter.

DRAM Bits: DRAM revenue declined by 30% due to a 30% cut in ASPs on flat bit shipments. Bit production declined in the mid- to high-single digit range (7% in my spreadsheet), and cost per bit declined by 12%. (The difference between bit sales and production is inventory.) As previously noted, the 30% cut in ASPs was very much a surprise in the current environment of firming prices, but was an artifact of a significant mix shift towards lower ASP and margin PC DRAMs with the 57% decline in specialty DRAM sales to mobile handset applications.

Specialty DRAMs are higher-performance devices that face less competition and greater profitability in smaller end-market opportunities used in networks, servers, consumer electronics, communication equipment and certain computer peripherals. Low-power devices go in to portable handheld markets that include smartphones, PDAs, GPSs, and digital cameras. Some of these parts are legacy in generation and most are smaller-density than the mainstream, PC-based DRAMs. Specialty DRAMs had accounted for half of DRAM sales, or one-quarter of total

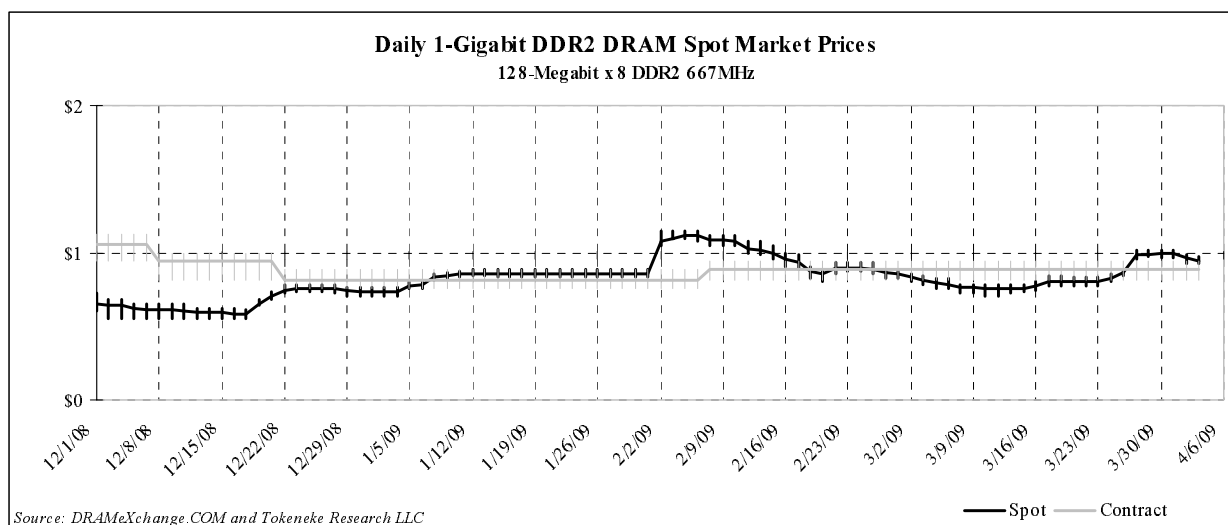
sales, but this percentage likely shifted last quarter. My earnings model consolidates both PC-based and specialty DRAMs into a single revenue and gross margin profile, mostly due to the difficulty in obtaining pricing and competitive information from the many market niches served by numerous different DRAM device configurations covered under the specialty DRAM umbrella. Unfortunately, this lack of transparency snapped the quarter.

Core PC/server DRAM sales grew by 5% amid seasonal industry weakness of -10-15%, resulting in market share gains. DRAM content per box continues to grow towards 4GB. Server sales of DRAM remained flat at 20%. The DDR3 conversion from DDR2 is occurring slower than originally expected, although DDR3 at 50nm experienced 125% bit growth and accounted for 20% of DRAM sales. Networking declined by 10% and mobile business cratered by 57%, although multi-chip modules (MCPs) within this segment grew by 73%. Micron serves the mobile segment with a variety of offerings, and is seeing increasing opportunities from OEMs due to competitor adversities. 50nm DRAM now accounts for fewer than 10% of wafer starts in Manassas and will grow to 50% by calendar year-end. TECH still needs to convert to 50nm DRAM technology. The migration to 50nm is driving cost reductions and bit growth in the company's financial model.

The big issue in the DRAM market remains consolidation, and while market share leader Samsung is probably best-positioned, Micron argues it is better positioned in terms of cash, debt, capacity and technology than the rest of the field. Management estimates DRAM market prices need to get to \$2 from currently half that before shuttered competitor capacity is reenergized in order to offset cash costs of manufacturing. DRAM bottomed around \$0.50 per Gb and industry market bit growth this year is now expected around 15%. Management estimates industry DRAM wafer capacity cuts at 20-25% in 1Q and 30-35% in 2Q.

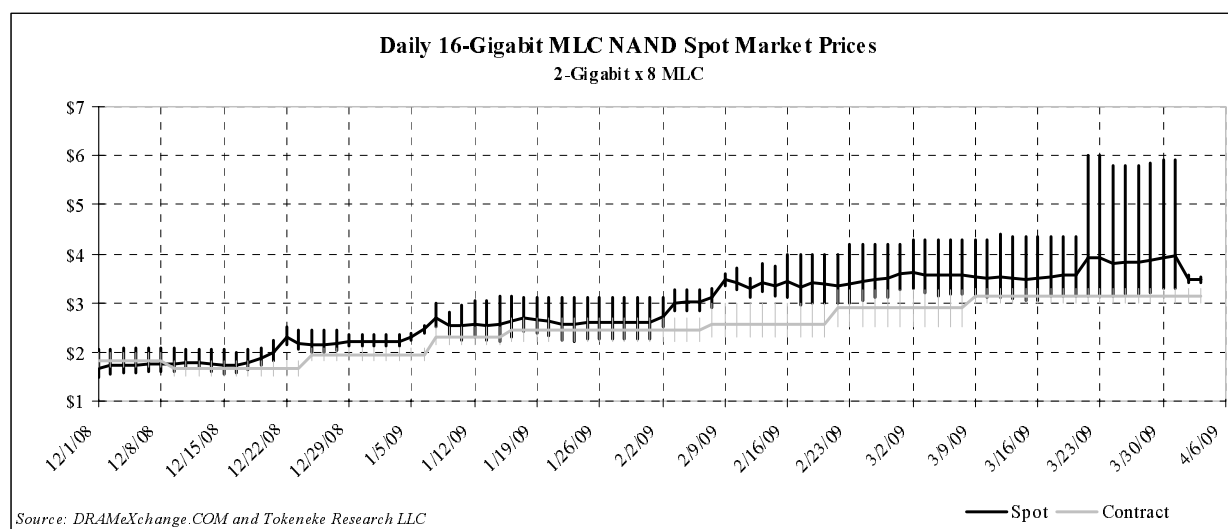
Inotera Interest: Taiwanese joint-venture fab Inotera (with partners Nanya/Formosa) is still manufacturing former partner Qimonda's trench technology DRAMs, and has only recently established a pilot line running Micron's stack technology. Qimonda's bankruptcy and failure to continue to accept deliveries lead to idle capacity at Inotera and most of the \$60M COGS charge at MU last quarter. Management is hopeful that publicly-traded Inotera will finance its own conversion to Micron's stack technology, but it sounds like there is no guarantee of that. Also, Micron was very careful NOT to identify a timeframe when it could begin to receive manufacturing output from Inotera. Clearly this depends on Inotera's financing, technology conversion and production ramp. But eventually Micron should enjoy a meaningful boost to DRAM output.

Trashing TMC: Management does not see any benefits to doing a deal with the recently formed Taiwan Memory Corp. (TMC) at this time, although continues to talk and will certainly entertain one that makes sense. It sounds to me like Micron is currently content and committed with Nanya and Inotera, a deal isn't going to happen with TMC, but management has gathered lots of interesting competitive information in the process and is increasingly confident in its relative competitive position. Micron largely considers Taiwan's DRAM suppliers to be unstable in terms of debt and cash with inferior technology at the 70nm node running at nearly twice the cost of Micron's 50nm technology.



The Promised NAND: NAND sales declined by 20% on an 8% reduction in bits shipped and a 13% drop in ASPs, although bit production only declined by 5% amid the holiday slowdown and restructuring. Percent of total sales remains at 38%. The really good news was a cost reduction of 23% that is expected to continue in the mid- to high-teens percent this quarter. The majority of NAND product will be in 34nm technology by F3Q09, and this technology migration is driving cost reductions and bit production growth. Recall Micron's NAND business is a joint-venture with Intel called IM Flash where both companies share development costs and manufacturing output. Intel typically takes half the output at a price close to cost.

NAND prices bottomed around \$0.70 per Gb and industry bit growth this year is now expected around 40-50% consistent with Toshiba's (and partner SanDisk) announced manufacturing cuts of 30%, Hynix's discontinued expansion of previously planned 300mm wafer fabs, and the retiring of older 200mm wafer fab operations by both Hynix and Samsung. Micron has also announced the closing of its 200mm fabs in Boise and the suspension of its new 300mm fab in Singapore. Like DRAM, NAND is also going through extremely difficult times, although market prices have improved considerably in recent weeks. NAND flash is used in USB, flash-drives, solid-state drives, and various memory card configurations for use in PCs, digital cameras, MP3 and MP4 players, and cell phone handsets.



CMOS Sensors Crushed: CMOS image sensors got crushed last quarter on cell phone handset weakness: revenue cratered 54% sequentially to 8% of total sales from 13%, and gross margin fell to 2.8% from 29.4% primarily due to lower sales. Management had guided for a decline and I modeled that as -20% in sales with a 440 basis point cut to gross margin. With the benefit of hindsight, I should have been able to model this shortfall more accurately following competitor OmniVision's January-ended fiscal quarter announcement where it reported a sequential revenue decline of -51%. Nevertheless, this product line remains the smallest component of Micron's business and management expects a meaningful recovery this quarter. Micron structured this business—named Aptina—last October as a wholly owned subsidiary pre-positioned for divestiture with some kind of residual exposure likely.

Management Guidance: For F3Q, NAND bit production is expected to grow in the high-teens percent; NAND cost reductions are expected in the mid- to high-teens percent (and next quarter as well); and ASPs would increase approximately 10% if current market prices were to hold for the next two months. DRAM bit production is expected to grow in the high-single-digit percentage range; DRAM cost reductions are expected in the mid- to high-single digit percent; and ASPs for commodity-oriented PC DRAMs would increase in the mid-teens percent if current market prices were to hold for the rest of the period. SG&A is expected at \$85-90M, R&D at \$175-180M (up due to product qualifications, but expected to retreat next quarter), and FY09 capital expenditure expectations have been lowered to \$650-700M from \$650-750M last quarter.

Lowering Estimates: My earnings model incorporates management guidance for operating costs, and then breaks down revenue and COGS by DRAM, NAND and image sensors. For image sensors I make assumptions for revenue growth and gross margin for each quarter. For DRAM and NAND I make assumptions for bit growth (or manufacturing output), ASP changes (average selling prices), and manufacturing cost per bit changes. My assumptions by quarter are spelled out in the financial model on page 7, and the table below summarizes the changes in my updated model. Basically, last quarter's revenue and gross margin weakness trickles downstream.

| FYE August \$ in millions | FY3Q09 | | FY2009 | | FY2010 | |
|-------------------------------|----------|----------|----------|----------|----------|--------|
| | Previous | Update | Previous | Update | Previous | Update |
| Total Revenue | 1,513 | 1,264 | 5,853 | 5,156 | 8,585 | 7,384 |
| Revenue Growth | 33.4% | 27.3% | 0.2% | -11.7% | 46.7% | 43.2% |
| Gross Margin | -2.4% | -10.8% | -10.0% | -15.7% | 14.7% | 16.7% |
| Operating Expenses | 269 | 285 | 1,030 | 1,225 | 1,076 | 1,104 |
| Taxes | 10 | 10 | 43 | 37 | 40 | 40 |
| Diluted Shares (<i>mil</i>) | 773.3 | 773.9 | 773.3 | 773.8 | 773.3 | 773.9 |
| Diluted EPS | (\$0.41) | (\$0.54) | (\$2.18) | (\$2.72) | \$0.19 | \$0.19 |

Still Attractive, Nevertheless: I am maintaining my Buy recommendation but lowering my 12-month target price to \$10 from \$12. My target price is still based on a slightly less than historical average, two-times price-sales ratio based on lower expected revenue this year, divided by nearly 1B shares which includes the anti-dilutive potential common shares that totaled 219.1M two quarters ago.

MU shares continue to trade at record or near-record low valuation levels based on historical trailing price-sales and price-book ratios, as well as lower than average price-sales ratios relative to two separate peer groups identified on page 8. The shares continue to be very attractive from a fundamental valuation perspective.

However, this attraction comes with ample risk worth repeating: significant expected financial losses over the next couple quarters; nearly \$3B in debt against less than \$1B in cash; a dominant and financially robust competitor in Samsung; and participation in two of the most volatile and competitive product markets in the semiconductor industry—NAND and DRAM.

Mitigating factors include: demonstrated and expected positive operating cash flow; multiple joint-venture partner capital expenditure and development subsidies; deep-pocketed partners in Intel and Formosa Plastics; significantly more financially strained competitors across most of the rest of the field in both NAND and DRAM; and significantly improving spot market prices in both of these product areas over the last several weeks.

I continue to believe there is a significantly favorable risk-reward opportunity in MU shares at current price levels, but it is certainly NOT for the faint of heart.

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Income Statement

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

| | FY06 | FY2007 | | | | FY07 | FY2008 act | | | | FY08 | FY2009 est | | | | FY09 | FY2010 | | | | FY10 |
|----------------------------|--------|--------|----------|----------|----------|----------|------------|----------|----------|----------|----------|------------|----------|----------|----------|----------|----------|----------|--------|---------|--------|
| | | Q1 | Q2 | Q3 | Q4 | | Q1 | Q2 | Q3 | Q4 | | Q1A | Q2A | Q3 | Q4 | | Q1 | Q2 | Q3 | Q4 | |
| Total Revenue | 5,272 | 1,530 | 1,427 | 1,294 | 1,437 | 5,688 | 1,535 | 1,359 | 1,498 | 1,449 | 5,841 | 1,402 | 993 | 1,264 | 1,496 | 5,156 | 1,749 | 1,692 | 1,901 | 2,043 | 7,384 |
| COGS | 4,072 | 1,088 | 1,070 | 1,188 | 1,264 | 4,610 | 1,530 | 1,402 | 1,450 | 1,514 | 5,896 | 1,851 | 1,260 | 1,401 | 1,454 | 5,966 | 1,497 | 1,486 | 1,578 | 1,590 | 6,151 |
| Gross Profit | 1,200 | 442 | 357 | 106 | 173 | 1,078 | 5 | (43) | 48 | (65) | (55) | (449) | (267) | (137) | 42 | (810) | 252 | 206 | 323 | 453 | 1,233 |
| SG&A | 460 | 180 | 153 | 134 | 143 | 610 | 112 | 120 | 116 | 107 | 455 | 102 | 90 | 88 | 88 | 368 | 88 | 88 | 88 | 88 | 352 |
| R&D | 656 | 183 | 243 | 195 | 184 | 805 | 163 | 180 | 170 | 167 | 680 | 178 | 168 | 177 | 168 | 691 | 168 | 168 | 168 | 168 | 672 |
| Restructuring | - | - | - | - | 19 | 19 | 13 | 471 | 8 | 4 | 496 | (66) | 163 | - | - | 97 | - | - | - | - | - |
| Other | (266) | (31) | (5) | (28) | (12) | (76) | (23) | (42) | (21) | (5) | (91) | 9 | 20 | 20 | 20 | 69 | 20 | 20 | 20 | 20 | 80 |
| Operating Expenses | 850 | 332 | 391 | 301 | 334 | 1,358 | 265 | 729 | 273 | 273 | 1,540 | 223 | 441 | 285 | 276 | 1,225 | 276 | 276 | 276 | 276 | 1,104 |
| Operating Income | 350 | 110 | (34) | (195) | (161) | (280) | (260) | (772) | (225) | (338) | (1,595) | (672) | (708) | (422) | (234) | (2,035) | (24) | (70) | 47 | 177 | 129 |
| Interest Income | 76 | 40 | 31 | 17 | 15 | 103 | 9 | 3 | (6) | (9) | (3) | (20) | (31) | - | - | (51) | - | - | - | - | - |
| Other Non-Opn Inc. | 7 | 3 | 5 | 1 | - | 9 | (1) | (6) | - | (6) | (13) | (14) | (3) | - | - | (17) | - | - | - | - | - |
| Tax Expense | 18 | 9 | 6 | 9 | 6 | 30 | 7 | (4) | 13 | 2 | 18 | 13 | 4 | 10 | 10 | 37 | 10 | 10 | 10 | 10 | 40 |
| Minority Interest | (7) | (29) | (48) | (39) | (6) | (122) | (3) | (6) | 8 | 11 | 10 | 13 | (5) | 15 | 15 | 38 | 15 | 15 | 15 | 15 | 60 |
| Net Income | 408 | 115 | (52) | (225) | (158) | (320) | (262) | (777) | (236) | (344) | (1,619) | (706) | (751) | (417) | (229) | (2,102) | (19) | (65) | 52 | 182 | 149 |
| EPS-basic | \$0.59 | \$0.15 | (\$0.07) | (\$0.29) | (\$0.20) | (\$0.42) | (\$0.34) | (\$1.01) | (\$0.31) | (\$0.45) | (\$2.10) | (\$0.91) | (\$0.97) | (\$0.54) | (\$0.30) | (\$2.72) | (\$0.03) | (\$0.08) | \$0.07 | \$0.23 | \$0.19 |
| Shares-basic | 691.7 | 767.0 | 768.7 | 769.9 | 770.9 | 769.1 | 771.9 | 772.4 | 772.8 | 772.9 | 772.5 | 773.3 | 773.9 | 773.9 | 773.9 | 773.8 | 773.9 | 773.9 | 773.9 | 773.9 | 773.9 |
| EPS-diluted | \$0.56 | \$0.15 | (\$0.07) | (\$0.29) | (\$0.20) | (\$0.42) | (\$0.34) | (\$1.01) | (\$0.31) | (\$0.45) | (\$2.10) | (\$0.91) | (\$0.97) | (\$0.54) | (\$0.30) | (\$2.72) | (\$0.03) | (\$0.08) | \$0.07 | \$0.23 | \$0.19 |
| Shares-diluted | 725.1 | 779.6 | 768.7 | 769.9 | 770.9 | 769.1 | 771.9 | 772.4 | 772.8 | 772.9 | 772.5 | 773.3 | 773.9 | 773.9 | 773.9 | 773.8 | 773.9 | 773.9 | 773.9 | 773.9 | 773.9 |
| EPS-pro forma | | | | (\$0.18) | (\$0.39) | (\$0.26) | (\$0.41) | (\$0.31) | (\$0.28) | (\$1.25) | (\$0.72) | (\$0.82) | | | | | | | | | |
| Margin Analysis | | | | | | | | | | | | | | | | | | | | | |
| Gross Margin | 22.8% | 28.9% | 25.0% | 8.2% | 12.0% | 19.0% | 0.3% | -3.2% | 3.2% | -4.5% | -0.9% | -32.0% | -26.9% | -10.8% | 2.8% | -15.7% | 14.4% | 12.2% | 17.0% | 22.2% | 16.7% |
| SG&A | 8.7% | 11.8% | 10.7% | 10.4% | 10.0% | 10.7% | 7.3% | 8.8% | 7.7% | 7.4% | 7.8% | 7.3% | 9.1% | 7.0% | 5.9% | 7.1% | 5.0% | 5.2% | 4.6% | 4.3% | 4.8% |
| R&D | 12.4% | 12.0% | 17.0% | 15.1% | 12.8% | 14.2% | 10.6% | 13.2% | 11.3% | 11.5% | 11.6% | 12.7% | 16.9% | 14.0% | 11.2% | 13.4% | 9.6% | 9.9% | 8.8% | 8.2% | 9.1% |
| Operating Expense | 16.1% | 21.7% | 27.4% | 23.3% | 23.2% | 23.9% | 17.3% | 53.6% | 18.2% | 18.8% | 26.4% | 15.9% | 44.4% | 22.5% | 18.4% | 23.8% | 15.8% | 16.3% | 14.5% | 13.5% | 15.0% |
| Operating Income | 6.6% | 7.2% | -2.4% | -15.1% | -11.2% | -4.9% | -16.9% | -56.8% | -15.0% | -23.3% | -27.3% | -47.9% | -71.3% | -33.4% | -15.6% | -39.5% | -1.4% | -4.1% | 2.5% | 8.7% | 1.8% |
| Interest/Other Income | 1.6% | 2.8% | 2.5% | 1.4% | 1.0% | 2.0% | 0.5% | -0.2% | -0.4% | -1.0% | -0.3% | -2.4% | -3.4% | 0.0% | 0.0% | -1.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Tax Rate | 4.2% | 5.9% | 300.0% | -5.1% | -4.1% | -17.9% | -2.8% | 0.5% | -5.6% | -0.6% | -1.1% | -1.8% | -0.5% | -2.4% | -4.3% | -1.8% | -40.8% | -14.3% | 21.2% | 5.7% | 30.9% |
| Net Income | 7.7% | 7.5% | -3.6% | -17.4% | -11.0% | -5.6% | -17.1% | -57.2% | -15.8% | -23.7% | -27.7% | -50.4% | -75.6% | -33.0% | -15.3% | -40.8% | -1.1% | -3.8% | 2.7% | 8.9% | 2.0% |
| Qtr-to-Qtr Growth | | | | | | | | | | | | | | | | | | | | | |
| Revenue | | | -6.7% | -9.3% | 11.1% | | 6.8% | -11.5% | 10.2% | -3.3% | | -3.2% | -29.2% | 27.3% | 18.3% | | 16.9% | -3.3% | 12.4% | 7.4% | |
| Operating Expenses | | | 17.8% | -23.0% | 11.0% | | -20.7% | 175.1% | -62.6% | 0.0% | | -18.3% | 97.8% | -35.4% | -3.2% | | 0.0% | 0.0% | 0.0% | 0.0% | |
| Operating Income | | | -130.9% | 473.5% | -17.4% | | 61.5% | 197% | -70.9% | 50.2% | | 98.8% | 5.4% | -40.4% | -44.6% | | -90% | 185.8% | -167% | 276% | |
| Net Income | | | -145.2% | 332.7% | -29.8% | | 65.8% | 197% | -69.6% | 45.8% | | 105.2% | 6.4% | -44.5% | -45.2% | | -91% | 233.5% | -180% | 249% | |
| EPS | | | -145.9% | 332.0% | -29.9% | | 65.6% | 196% | -69.6% | 45.7% | | 105.1% | 6.3% | -44.5% | -45.2% | | -91% | 233.5% | -180% | 249% | |
| Year-to-Year Growth | | | | | | | | | | | | | | | | | | | | | |
| Revenue | | | | | | 7.9% | 0.3% | -4.8% | 15.8% | 0.8% | 2.7% | -8.7% | -26.9% | -15.6% | 3.3% | -11.7% | 25% | 70% | 50.4% | 36.5% | 43.2% |
| Operating Expenses | | | | | | 59.8% | -20.2% | 86.4% | -9.3% | -18.3% | 13.4% | -15.8% | -39.5% | 4.4% | 1.1% | -20.5% | 23.8% | -37.4% | -3.2% | 0.0% | -9.9% |
| Operating Income | | | | | | -180% | -336% | 2171% | 15.4% | 110% | 470% | 158% | -8.3% | 87.5% | -30.9% | 27.6% | -96.4% | -90.1% | -111% | -175.7% | -106% |
| Net Income | | | | | | -178% | -328% | 1394% | 4.9% | 118% | 406% | 169% | -3.3% | 76.6% | -33.5% | 29.9% | -97.2% | -91.3% | -112% | -179.5% | -107% |
| EPS | | | | | | -174% | -330% | 1387% | 4.5% | 117% | 404% | 169.0% | -3.5% | 76.4% | -33.6% | 29.7% | -97.2% | -91.3% | -112% | -179.5% | -107% |

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4/2/09

Micron Technology

Balance Sheet

dollars in millions

Fiscal year ends August

| | FY2007 | FY2008 | F4Q07 | F1Q08 | F2Q08 | F3Q08 | F4Q08 | F1Q09 | F1Q09 |
|--------------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Assets | | | | | | | | | |
| Cash and equivalents | 2,616 | 1,362 | 2,616 | 2,031 | 1,853 | 1,584 | 1,362 | 1,028 | 932 |
| Net accounts receivable | 994 | 1,032 | 994 | 1,067 | 894 | 995 | 1,032 | 1,031 | 654 |
| Quick Assets | 3,610 | 2,394 | 3,610 | 3,098 | 2,747 | 2,579 | 2,394 | 2,059 | 1,586 |
| Inventory | 1,532 | 1,291 | 1,532 | 1,443 | 1,449 | 1,453 | 1,291 | 883 | 859 |
| Other | 92 | 94 | 92 | 111 | 108 | 97 | 94 | 95 | 78 |
| Current Assets | 5,234 | 3,779 | 5,234 | 4,652 | 4,304 | 4,129 | 3,779 | 3,037 | 2,523 |
| Property, plant and eqt, net | 8,279 | 8,811 | 8,279 | 8,576 | 8,634 | 8,721 | 8,811 | 8,460 | 7,910 |
| Goodwill and intangibles | 916 | 364 | 916 | 515 | 58 | 433 | 364 | 354 | 354 |
| Long-term equities | 0 | 84 | 0 | 0 | 0 | 0 | 84 | 432 | 0 |
| Other | 389 | 392 | 389 | 755 | 789 | 333 | 392 | 393 | 1,093 |
| Total Assets | 14,818 | 13,430 | 14,818 | 14,498 | 13,785 | 13,616 | 13,430 | 12,676 | 11,526 |
| Liabilities and Shareholders Equity | | | | | | | | | |
| Current portion lt. debt | 423 | 275 | 423 | 281 | 244 | 262 | 275 | 343 | 353 |
| Accounts payable | 1,385 | 1,111 | 1,385 | 1,317 | 1,299 | 1,374 | 1,111 | 943 | 950 |
| Deferred Income | 84 | 114 | 84 | 84 | 0 | 80 | 114 | 192 | 0 |
| Other | 134 | 98 | 134 | 254 | 177 | 68 | 98 | 157 | 334 |
| Current Liabilities | 2,026 | 1,598 | 2,026 | 1,852 | 1,720 | 1,784 | 1,598 | 1,635 | 1,637 |
| Long-term debt | 1,987 | 2,451 | 1,987 | 1,936 | 2,162 | 2,159 | 2,451 | 2,523 | 2,542 |
| Other | 446 | 338 | 446 | 449 | 357 | 354 | 338 | 332 | 261 |
| Total Liabilities | 4,459 | 4,387 | 4,459 | 4,237 | 4,239 | 4,297 | 4,387 | 4,490 | 4,440 |
| Minority Interest | 2,607 | 2,865 | 2,607 | 2,760 | 2,808 | 2,811 | 2,865 | 2,702 | 2,344 |
| Common stock | 6,595 | 6,642 | 6,595 | 6,634 | 6,634 | 6,634 | 6,642 | 6,650 | 6,650 |
| Retained earnings | 1,164 | (456) | 1,164 | (112) | (112) | (112) | (456) | (1,162) | (1,162) |
| Other | (7) | (8) | (7) | (7) | (14) | (8) | (8) | (4) | (4) |
| Total Shareholders Equity | 7,752 | 6,178 | 7,752 | 7,501 | 6,738 | 6,508 | 6,178 | 5,484 | 4,742 |
| Total Liabilities and Equity | 14,818 | 13,430 | 14,818 | 14,498 | 13,785 | 13,616 | 13,430 | 12,676 | 11,526 |
| Sales and Income | | | | | | | | | |
| Revenue | 5,688 | 5,841 | 1,437 | 1,535 | 1,359 | 1,498 | 1,449 | 1,402 | 993 |
| COGS | 4,610 | 5,896 | 1,264 | 1,530 | 1,402 | 1,450 | 1,514 | 1,851 | 1,260 |
| Net income | (320) | (1,619) | (158) | (262) | (777) | (236) | (344) | (706) | (751) |
| Other | | | | | | | | | |
| Capital Expenditures | 4,090 | 2,916 | | 887 | 693 | 577 | 759 | 334 | 139 |
| Depreciation and Amortization | 1,718 | 2,060 | | 504 | 511 | 513 | 532 | 594 | 540 |
| Shares (weighted average diluted) | 769 | 773 | 770.9 | 771.9 | 772.4 | 772.8 | 772.9 | 773.3 | 773.9 |
| Employees (units) | | 23,509 | | | | | 23,509 | 21,888 | 20,794 |
| Cash Flow from Operations | 937 | 1,018 | 144 | 276 | 282 | 217 | 243 | 359 | 339 |
| Ratios | | | | | | | | | |
| Liquidity | | | | | | | | | |
| Quick Ratio | 1.78 | 1.50 | 1.78 | 1.67 | 1.60 | 1.45 | 1.50 | 1.26 | 0.97 |
| Current Ratio | 2.58 | 2.36 | 2.58 | 2.51 | 2.50 | 2.31 | 2.36 | 1.86 | 1.54 |
| Leverage | | | | | | | | | |
| Debt Ratio | 0.30 | 0.33 | 0.30 | 0.29 | 0.31 | 0.32 | 0.33 | 0.35 | 0.39 |
| Long-term Debt/Capital | 0.16 | 0.21 | 0.16 | 0.16 | 0.18 | 0.18 | 0.21 | 0.23 | 0.24 |
| Asset Management | | | | | | | | | |
| Fixed Asset Turnover | 1.4 | 0.7 | 0.69 | 0.72 | 0.63 | 0.69 | 0.66 | 0.65 | 0.49 |
| Total Asset Turnover | 0.8 | 0.4 | 0.39 | 0.42 | 0.39 | 0.88 | 0.43 | 0.43 | 0.33 |
| Receivables DSO | 63 | 64 | 62 | 63 | 59 | 60 | 64 | 66 | 59 |
| Inventory Days | 120 | 79 | 109 | 85 | 93 | 90 | 77 | 43 | 61 |
| Inventory Turnover | 6.0 | 4.2 | 3.30 | 4.24 | 3.87 | 3.99 | 4.41 | 6.81 | 5.79 |
| Annual Revenue/Employee | | | | | | | | 0.247 | 0.186 |
| Profitability | | | | | | | | | |
| Gross Margin | 19.0% | -0.9% | 12.0% | 0.3% | -3.2% | 3.2% | -4.5% | -32.0% | -26.9% |
| Net Margin | -5.6% | -27.7% | -11.0% | -17.1% | -57.2% | -15.8% | -23.7% | -50.4% | -75.6% |
| Return on Assets | -4.3% | -11.5% | -8.5% | -14.5% | -45.1% | -13.9% | -10.2% | -21.6% | -24.8% |
| Return on Equity | -8.3% | -23.2% | -16.3% | -27.9% | -92.3% | -29.0% | -21.7% | -48.4% | -58.8% |
| Per Share Data | | | | | | | | | |
| Book Value/Share | \$10.08 | \$8.00 | \$10.06 | \$9.72 | \$8.72 | \$8.42 | \$7.99 | \$7.09 | \$6.13 |
| Tangible Book Value/Share | \$8.89 | \$7.53 | \$8.87 | \$9.05 | \$8.65 | \$7.86 | \$7.52 | \$6.63 | \$6.13 |
| Cash/Share (gross) | \$3.40 | \$1.76 | \$3.39 | \$2.63 | \$2.40 | \$2.05 | \$1.76 | \$1.33 | \$1.20 |
| Cash/Share (net) | \$0.27 | (\$1.77) | \$0.27 | (\$0.24) | (\$0.72) | (\$1.08) | (\$1.76) | (\$2.38) | (\$2.54) |
| Earnings/Share | (\$0.42) | (\$2.10) | (\$0.20) | (\$0.34) | (\$1.01) | (\$0.31) | (\$0.45) | (\$0.91) | (\$0.97) |

Micron Technology

Financial Model
dollars in millions
fiscal year ends August

| | FY2008 act | | | | FY2009 est | | | | FY2010 | | | | FY2011 | | | |
|-----------------------|------------|---------|---------|---------|------------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | 1Q | 2Q | 3Q | 4Q | 1QA | 2QA | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| DRAM | | | | | | | | | | | | | | | | |
| Bits Sold | 25.0% | 0.0% | 10.0% | -5.0% | 35.0% | 0.0% | 8.0% | 10.0% | 15.0% | 30.0% | 15.0% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% |
| ASP change | -20.0% | -15.0% | -5.0% | 0.0% | -34.0% | -30.0% | 15.0% | 0.0% | 0.0% | -5.0% | -5.0% | -5.0% | -5.0% | -5.0% | -5.0% | -5.0% |
| Revenue | 859.5 | 748.4 | 802.7 | 763.9 | 689.2 | 482.5 | 599.2 | 659.1 | 758.0 | 936.2 | 1,022.7 | 1,068.8 | 1,116.9 | 1,167.1 | 1,219.6 | 1,274.5 |
| Royalties (included) | 5.0 | - | - | 38.0 | 36.0 | 33.0 | - | - | - | - | - | - | - | - | - | - |
| Revenue growth | - | -12.9% | 7.3% | -4.8% | -4.8% | -9.8% | -30.0% | - | - | - | - | - | - | - | - | - |
| Revenue % (incl roy) | 56.0% | 55.1% | 53.6% | 52.7% | 49.2% | 48.7% | - | - | - | - | - | - | - | - | - | - |
| Production Bits | - | 0.0% | 15.0% | 15.0% | 23.0% | -7.0% | - | - | - | - | - | - | - | - | - | - |
| DDR2/3 Revenue | 491.2 | 407.7 | 449.4 | 405.7 | 350.5 | - | - | - | - | - | - | - | - | - | - | - |
| DDR2/3 Revenue % | 32.0% | 30.0% | 30.0% | 28.0% | 25.0% | - | - | - | - | - | - | - | - | - | - | - |
| Cost/bit change | -10.0% | -15.0% | -15.0% | -5.0% | -12.0% | -12.0% | -7.0% | -9.0% | -9.0% | -9.0% | -8.0% | -8.0% | -8.0% | -8.0% | -8.0% | -8.0% |
| Gross Margin | 5.0% | 2.6% | 12.1% | 17.7% | -13.0% | -31.8% | -16.0% | -8.5% | -0.2% | 3.3% | 6.0% | 8.7% | 11.6% | 14.5% | 17.4% | 20.5% |
| Gross Profit | 43.0 | 19.7 | 97.4 | 135.5 | (89.4) | (153.3) | - | - | - | - | - | - | - | - | - | - |
| COGS | 816.5 | 728.6 | 705.3 | 628.4 | 778.6 | 635.7 | 695.3 | 715.1 | 759.9 | 905.3 | 961.6 | 975.4 | 987.7 | 998.3 | 1,006.9 | 1,013.3 |
| NAND | | | | | | | | | | | | | | | | |
| Bits Sold | 60.0% | 30.0% | 40.0% | 10.0% | 40.0% | -8.0% | 18.0% | 20.0% | 20.0% | -10.0% | 25.0% | 20.0% | 20.0% | -15.0% | 25.0% | 20.0% |
| ASP change | -30.0% | -30.0% | -20.0% | -20.0% | -24.0% | -13.0% | 10.0% | 5.0% | 0.0% | -15.0% | -7.5% | -7.5% | 0.0% | -15.0% | -7.5% | -7.5% |
| Revenue | 506.6 | 475.7 | 524.3 | 507.2 | 532.8 | 426.4 | 553.5 | 697.4 | 836.9 | 640.2 | 740.2 | 821.7 | 986.0 | 712.4 | 823.7 | 914.3 |
| Revenue growth | - | -6.1% | 10.2% | -3.3% | 5.0% | -20.0% | - | - | - | - | - | - | - | - | - | - |
| Revenue % | 33.0% | 35.0% | 35.0% | 35.0% | 38.0% | 38.0% | - | - | - | - | - | - | - | - | - | - |
| Production Bits | - | 30.0% | 55.0% | 12.0% | 17.0% | -5.0% | - | - | - | - | - | - | - | - | - | - |
| Cost/bit change | -15.0% | -25.0% | -25.0% | -15.0% | -14.0% | -23.0% | -17.0% | -17.0% | -15.0% | -15.0% | -15.0% | -15.0% | -12.0% | -12.0% | -12.0% | -12.0% |
| Gross Margin | -6.7% | -18.4% | -18.4% | -24.9% | -34.9% | -30.4% | -10.4% | 10.1% | 26.6% | 23.8% | 31.6% | 40.0% | 56.8% | 49.3% | 54.7% | 60.3% |
| gm est | (34.0) | (80.7) | (108.4) | (128.5) | (200.6) | (129.5) | - | - | - | - | - | - | - | - | - | - |
| Gross Profit | (34.0) | (80.7) | (108.4) | (128.5) | (200.6) | (129.5) | - | - | - | - | - | - | - | - | - | - |
| COGS | 540.5 | 556.4 | 632.7 | 635.6 | 733.4 | 555.9 | 611.0 | 627.0 | 614.3 | 488.1 | 506.0 | 492.7 | 425.6 | 361.1 | 373.3 | 363.4 |
| Memory Revenue | | | | | | | | | | | | | | | | |
| Revenue | 1,366.0 | 1,224.0 | 1,327.0 | 1,271.0 | 1,222.0 | 908.9 | - | - | - | - | - | - | - | - | - | - |
| Revenue Growth | - | -10.4% | 8.4% | -4.2% | -3.9% | -25.6% | - | - | - | - | - | - | - | - | - | - |
| Revenue % | 89.0% | 90.1% | 88.6% | 87.7% | 87.2% | 91.7% | - | - | - | - | - | - | - | - | - | - |
| Gross Profit | (39.0) | (76.0) | (11.0) | (115.0) | (502.0) | (282.77) | - | - | - | - | - | - | - | - | - | - |
| Adjusted Gross Profit | 9.0 | (61.0) | (11.0) | 77.0 | (290.0) | (325.77) | - | - | - | - | - | - | - | - | - | - |
| Gross Margin | 0.7% | -5.0% | -0.8% | 6.1% | -23.7% | -35.8% | - | - | - | - | - | - | - | - | - | - |
| COGS | 1,357.0 | 1,285.0 | 1,338.0 | 1,194.0 | 1,512.0 | 1,234.7 | - | - | - | - | - | - | - | - | - | - |
| Image Sensors | | | | | | | | | | | | | | | | |
| Revenue | 169.0 | 135.0 | 171.0 | 178.0 | 180.0 | 82.8 | 111.8 | 139.7 | 153.7 | 115.3 | 138.3 | 152.2 | 167.4 | 133.9 | 160.7 | 176.7 |
| Revenue growth | - | -20.1% | 26.7% | 4.1% | 1.1% | -54.0% | 35.0% | 25.0% | 10.0% | -25.0% | 20.0% | 10.0% | 10.0% | -20.0% | 20.0% | 10.0% |
| Revenue % | 11.0% | 9.9% | 11.4% | 12.3% | 12.8% | 8.3% | - | - | - | - | - | - | - | - | - | - |
| Gross Profit | 44.0 | 33.0 | 59.0 | 50.0 | 53.0 | - | - | - | - | - | - | - | - | - | - | - |
| Gross Margin | 26.0% | 24.4% | 34.5% | 28.1% | 29.4% | 2.8% | 15.0% | 20.0% | 20.0% | 20.0% | 20.0% | 20.0% | 20.0% | 20.0% | 20.0% | 20.0% |
| COGS | 125.0 | 102.0 | 112.0 | 128.0 | 127.0 | 80.5 | 95.0 | 111.8 | 123.0 | 92.2 | 110.7 | 121.7 | 133.9 | 107.1 | 128.5 | 141.4 |
| TOTAL | | | | | | | | | | | | | | | | |
| Revenue | 1,535.0 | 1,359.0 | 1,498.0 | 1,449.0 | 1,402.0 | 991.7 | 1,264.5 | 1,496.3 | 1,748.6 | 1,691.6 | 1,901.3 | 2,042.6 | 2,270.3 | 2,013.4 | 2,204.0 | 2,365.6 |
| Royalty | 5.0 | - | - | 38.0 | 36.0 | 33.0 | - | - | - | - | - | - | - | - | - | - |
| Revenue growth | - | -11.5% | 10.2% | -3.3% | -3.2% | -29.3% | 27.5% | 18.3% | 16.9% | -3.3% | 12.4% | 7.4% | 11.1% | -11.3% | 9.5% | 7.3% |
| COGS | 1,482.0 | 1,387.0 | 1,450.0 | 1,392.0 | 1,639.0 | 1,315.1 | 1,401.3 | 1,453.9 | 1,497.1 | 1,485.7 | 1,578.3 | 1,589.8 | 1,547.2 | 1,466.5 | 1,508.7 | 1,518.1 |
| Gross Profit | 53.0 | (28.0) | 48.0 | 57.0 | (237.0) | (323.5) | (136.8) | 42.4 | 251.5 | 206.0 | 323.1 | 452.8 | 723.1 | 546.9 | 695.3 | 847.5 |
| Gross Margin | 3.5% | -2.1% | 3.2% | 3.9% | -16.9% | -32.6% | -10.8% | 2.8% | 14.4% | 12.2% | 17.0% | 22.2% | 31.8% | 27.2% | 31.5% | 35.8% |
| Reported | | | | | | | | | | | | | | | | |
| Revenue | 1,535.0 | 1,359.0 | 1,498.0 | 1,449.0 | 1,402.0 | 993.0 | - | - | - | - | - | - | - | - | - | - |
| COGS | 1,530.0 | 1,402.0 | 1,450.0 | 1,514.0 | 1,851.0 | 1,260.0 | - | - | - | - | - | - | - | - | - | - |
| Gross Margin | 0.3% | -3.2% | 3.2% | -4.5% | -32.0% | -26.9% | - | - | - | - | - | - | - | - | - | - |
| Adjusted COGS | 1,482.0 | 1,387.0 | 1,450.0 | 1,392.0 | 1,639.0 | 1,303.0 | - | - | - | - | - | - | - | - | - | - |
| Adjusted Gross Margin | 3.5% | -2.1% | 3.2% | 3.9% | -16.9% | -31.2% | - | - | - | - | - | - | - | - | - | - |

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4/2/09

Micron Technology

Valuation

Relative Valuation

| Company | Ticker | Price 4/2/2009 | 52-Week | | CY EPS | | | | CY P/E | | | | Diluted Shares(mil) | CAP (\$ mil) | Price-Sales | | | FY Ends | |
|------------------------------|--------|-------------------|---------|-------|--------|-------|-------|-------|--------|------|------|------|------------------------|-----------------|-------------|--------|--------|------------|--|
| | | | Low | High | 2007 | 2008 | 2009 | 2010 | 2007 | 2008 | 2009 | 2010 | | | TTM | Cur FY | Nxt FY | | |
| Micron Technology | MU | 4.63 | 1.59 | 8.97 | -0.80 | NA | -1.69 | 0.45 | NM | NA | NM | 10.3 | 774 | 3,583 | 0.7 | 0.7 | 0.5 | Aug | |
| Advanced Micro Devices | AMD | 3.16 | 1.62 | 7.98 | -2.59 | -1.96 | -2.01 | -1.40 | NM | NM | NM | NM | 609 | 1,924 | 0.3 | 0.5 | 0.4 | Dec | |
| Atmel | ATML | 3.84 | 2.50 | 4.69 | 0.16 | 0.17 | -0.08 | 0.12 | 24.0 | 22.6 | NM | 32.0 | 467 | 1,793 | 1.1 | 1.5 | 1.3 | Dec | |
| Intel | INTC | 15.70 | 12.05 | 25.29 | 1.16 | 0.93 | 0.45 | 0.63 | 13.5 | 16.9 | 34.9 | 24.9 | 5,623 | 88,281 | 2.3 | 3.0 | 2.8 | Dec | |
| STMicroelectronics | STM | 5.42 | 3.73 | 13.74 | 0.44 | 0.18 | -0.68 | -0.01 | 12.3 | 30.1 | NM | NM | 878 | 4,759 | 0.5 | 0.7 | 0.6 | Dec-ADR | |
| Texas Instruments | TXN | 16.47 | 13.38 | 33.00 | 1.80 | 1.51 | 0.40 | 0.91 | 9.2 | 10.9 | 41.2 | 18.1 | 1,289 | 21,230 | 1.7 | 2.6 | 2.5 | Dec | |
| Average | | | | | | | | | 14.8 | 20.1 | 38.0 | 25.0 | | | | 1.2 | 1.6 | 1.5 | |
| Company | Ticker | Price 4/2/2009 | 52-Week | | CY EPS | | | | CY P/E | | | | Diluted Shares(mil) | CAP (\$ mil) | Price-Sales | | | FY Ends | |
| | | | Low | High | 2007 | 2008 | 2009 | 2010 | 2007 | 2008 | 2009 | 2010 | | | TTM | Cur FY | Nxt FY | | |
| Micron Technology | MU | 4.63 | 1.59 | 8.97 | -0.8 | NA | -1.69 | 0.45 | NM | NA | NM | 10.3 | 774 | 3,583 | 0.7 | 0.7 | 0.5 | Aug | |
| Integrated Silicon Solutions | ISSI | 1.65 | 1.31 | 6.34 | 0.49 | 0 | -0.71 | -0.5 | 3.4 | NM | NM | NM | 26 | 42 | 0.2 | 0.3 | 0.3 | Sep | |
| OmniVision | OVTI | 7.78 | 4.12 | 17.65 | 1.47 | 0.47 | -0.55 | -0.39 | 5.3 | 16.6 | NM | NM | 50 | 389 | 0.7 | 0.8 | 1.1 | Apr | |
| SanDisk | SNDK | 13.30 | 5.07 | 33.17 | 1.72 | -2.13 | -1.79 | -0.26 | 7.7 | NM | NM | NM | 226 | 3,007 | 0.9 | 1.2 | 1.1 | Dec | |
| SMART Modular | SMOD | 1.50 | 0.76 | 6.60 | 0.86 | NA | -0.03 | 0.18 | 1.7 | NA | NM | 8.3 | 63 | 95 | 0.2 | 0.2 | 0.2 | Aug | |
| STEC | STEC | 8.13 | 3.42 | 14.25 | 0.23 | 0.31 | 0.45 | 0.71 | 35.3 | 26.2 | 18.1 | 11.5 | 51 | 411 | 1.8 | 1.7 | 1.4 | Dec | |
| Average | | | | | | | | | 10.7 | 21.4 | 18.1 | 9.9 | | | | 0.7 | 0.8 | 0.8 | |

Source: First Call as of 4/2/09

Historical Valuation

| Company | Ticker | Price 4/2/2009 | Trailing 12-month | | | | | | | | |
|-------------------|--------|-------------------|-------------------|-------------|-------------|-------------|------------|-------------|--|--|--|
| | | | Price/Earnings | | Price/Sales | | Price/Book | | | | |
| | | | Current | Historical* | Current | Historical* | Current | Historical* | | | |
| Micron Technology | MU | \$4.63 | NM | | 0.7 | | 0.8 | | | | |
| | | | Average | 50.6 | Average | 2.7 | Average | 2.5 | | | |
| | | | High | 568.0 | High | 9.0 | High | 9.8 | | | |
| | | | Low | 4.6 | Low | 0.8 | 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

- *Monthly Newsletter:* A summarized review of noteworthy industry business developments, sales statistics, and sector equity market performance, as well as a near-term and annual outlook for sector business fundamentals and share prices. This report typically includes two pages of text and a handful of recurring charts and tables. It is intended for relatively broad-based distribution.
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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 Fahnestock & 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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