

SIMG 1Q Exceeds on MHL Adoption

Operating Expense Constraint Helps as Well. Raising Estimates, Reiterate Buy.

Diluted Shares(mil):	78.4	Closing Price 4/30/13	fye Dec	2012 act	2013	2014
Market Cap(\$mil):	\$387	\$4.93	Revenue(\$mil)	\$252.4	\$295.1	\$343.5
Avg Volume(,000):	692.4		EPS (pf)	\$0.22	\$0.32	\$0.49
Net Cash/Share:	\$4.49	Recommendation/Target	Price/Sales	1.5	1.3	1.1
Tangible Book/Share:	\$1.77	Buy/\$8.50 from \$8	Price/EPS	22.4	15.4	10.1

Silicon Image provides discrete ICs and IP for HDMI, MHL and WirelessHD high-definition video display communication standards.

Summary: SIMG exceeded 1Q guidance and expectations due to revenue upside and operating expense constraint. Sales growth was driven by increasing MHL product adoption by smartphone and tablet mobile markets as well as digital TV and home theater consumer applications. Management guidance for 2Q also exceeded expectations and I am raising my estimates and 12-month target price to \$8.50 from \$8 based on two-times revised 2014 sales. The big picture of the company's HD video 'Standards Plus' strategy, new management, and technology refresh remains intact, in my opinion. I continue to believe that upside potential significantly exceeds downside risk at the current price level and I reiterate my Buy recommendation on the shares.

1Q13 Review: SIMG exceeded 1Q guidance and expectations due to a combination of revenue upside and operating expense control. Revenue of \$62M exceeded the high-end of guidance and grew by +4.1% sequentially with \$48.2M of product sales up by +7.5% on MHL strength to both mobile and consumer markets more than offsetting \$11.8M of license revenue that declined by -8.6% on seasonal consumer weakness. Product revenue included mobile at 67% up by 12%; consumer at 27% up by 14%; and PC at 6% off by -35%. Consumer represents the bulk of license revenue at 96% and declined by -5%, although mobile dropped by -50% and PC crashed by -76% to a de minimus \$19K. Customer Samsung accounted for over a third of total sales. Pro forma gross margin fell by 160bps to 58.6% on license revenue weakness and operating expenses of \$32.2M grew by +17% but came in below guidance of \$34.5M due to a new product tape-out delay and lower-than expected trade show costs. The company delivered pro forma and GAAP EPS of \$0.04 and a loss of (\$0.01), respectively; free cash flow totaled \$8.2M; and it received 750,000 shares of common stock pursuant to its accelerated repurchase agreement.

FYE Dec, in millions	1Q13			Guidance	Consensus	Range
	Estimate	Actual	EPS Impact			
Product Revenue	\$48.2	\$50.3	\$0.01			
Product Gross Margin	48.5%	49.5%				
License Revenue	\$11.8	\$11.7				
License Revenue %	19.6%	18.9%				
Total Revenue	\$60.0	\$62.0		\$59-61M	\$60.2	\$60.0-60.8M
Revenue Growth	0.6%	4.1%		-1.0+2.3%	1.0%	+0.7+2.0%
Gross Margin	58.3%	58.6%		58.0%		
Operating Expenses	\$34.4	\$32.2	\$0.02	\$34.5		
Restruct/Amortization	\$0.0	\$3.4		\$3.0		
Interest/Other	\$0.3	\$0.4		\$0.3		
Tax Rate	30.0%	30.0%		30.0%		
Diluted Shares	77.0	78.4		77.0		
EPS (pro forma)	\$0.01	\$0.04	\$0.03		\$0.01	\$0.00-\$0.01

Unit shipments grew by +10% to 57M of which over 40M were MHL that accounted for two-thirds of total product sales into smartphones and tablets. ASPs continued their decline to \$0.88 from \$0.92 on a richer mix of these lower-priced mobile products, although next-generation HDMI (2.0?) and MHL (3.0?) are likely to emerge from standards bodies this year that could offset natural market price erosion beginning later next year. Management continues to expect MHL penetration into smartphones to reach 30% this year up from 20% last year, which appears likely given design wins at Samsung (Galaxy S4 and Note8), HTC, Huawei, Sony, ZTE, Lenovo, and others—not to mention a MediaTek quad-core baseband reference design. The consumer business appears to be stabilizing as MHL rolls out into digital TVs and home theaters offsetting legacy HDMI declines. MHL digital TV penetration is expected to approach 30% this year. SIMG is now broadly sampling its UltraGig 6400 transmitter—its 60GHz wireless offering targeted at smartphones and tablets and including the transceiver, broadband and antenna in a single IC package—will tape-out a production revision shortly, and hopes to be in production at a couple customers by year-end.

Management Guidance: Management guidance for 2Q13 includes: revenue of \$71-73M, gross margin at 58%, GAAP op ex of \$37-38M, pro forma op ex of \$34-35M, a pro forma tax rate of 30%, interest income of \$300K, and diluted shares of 78.8M. R&D is increasing due to a new product tape-out that was delayed from original expectations last quarter. The long-term (pro forma) model calls for annual revenue growth of +15+20% at 80-85% product sales and 15-20% license revenue, total gross margin of 55%, product gross margin of 45%, op ex at 35-40%, operating profit at 15-20%, and DSOs at 50-55 days. Seasonality tracks to consumer markets: 2Q is up sequentially, 3Q is a peak, 4Q is down, and 1Q is a trough.

Raising Estimates: My revised estimates are consistent with the mid-points of 2Q guidance. My updated revenue growth profile now more comfortably accommodates longer term annual revenue growth of +15+20% due to the strength expected this quarter. My tempered gross margin over the next two years reflects a slightly richer mix of product sales over license revenue.

FYE Dec, in millions	2Q13		2013		2014	
	Previous	Update	Previous	Update	Previous	Update
Product Revenue	\$54.0	\$60.4	\$222.2	\$245.0	\$251.2	\$287.2
Product Gross Margin	48.0%	49.5%	47.8%	49.1%	46.6%	47.5%
License Revenue	\$13.2	\$12.0	\$57.0	\$50.0	\$68.5	\$56.2
License Revenue %	19.6%	16.6%	20.4%	17.0%	21.4%	16.4%
Total Revenue	\$67.2	\$72.5	\$279.2	\$295.1	\$319.7	\$343.5
Revenue Growth	12.0%	16.8%	10.7%	16.9%	14.5%	16.4%
Gross Margin	57.9%	57.6%	58.2%	57.4%	57.7%	55.7%
Operating Expenses	\$34.4	\$34.4	\$137.2	\$136.9	\$139.2	\$137.5
Restruct/Amortization	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Interest/Other	\$0.3	\$0.3	\$1.2	\$1.3	\$1.2	\$1.2
Tax Rate	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Diluted Shares	77.9	78.8	77.9	78.5	77.9	78.3
EPS (pro forma)	\$0.04	\$0.07	\$0.24	\$0.32	\$0.43	\$0.49

Attractive Valuation: Valuation tables for SIMG are shown on Page 7 of this report. The bottom table, Historical Valuation, captures the weekly averages since its IPO of trailing 12-month price-earnings, price-sales, and price-book ratios. Unfortunately, these historical averages remain unrealistically high given the equity market environment at this time. The top table, Relative Valuation, is considerably more relevant. I have chosen a peer group of fables, ASSP (application-specific standard product) semiconductor companies that includes AMCC, ENTR, OVTI, POWI, SIMO and VLTR. Products, markets, and financial metrics among this set of comparables does vary, but I consider it a relevant set whose composite average provides a meaningful baseline of targets.

SIMG attraction based on valuation is limited compared to its peers in terms of price-earnings: it ranks above average on a trailing basis, average for this year, but then somewhat below average for 2014 when it hits stride in terms of earnings. However, it is much more attractive on a price-sales basis where it is below average and the third or fourth lowest in the group for all three periods. I also consider the TTM price-sales ratio group average of 2.0-times to be an appropriate fundamental valuation level in the current market environment.

I am raising my 12-month target price for SIMG to \$8.50 from \$8 based on 2.0-times my revised 2014 sales. The big picture of SIMG's HD video 'Standards Plus' strategy, new management, and technology refresh remains intact, in my opinion. I continue to believe that upside potential significantly exceeds downside risk at the current price level and reiterate my Buy recommendation on the shares.

pro forma EPS	2Q13	2013	2014
Tokeneke-revised	\$0.07	\$0.32	\$0.49
Tokeneke-previous	\$0.04	\$0.24	\$0.43
Consensus-previous	\$0.07	\$0.31	\$0.49
Highest Est-previous	\$0.09	\$0.36	\$0.50
Lowest Est-previous	\$0.05	\$0.28	\$0.47

Revenue (5 est)	2Q13	2013	2014
Tokeneke-revised	\$72.5	\$295.1	\$343.5
Tokeneke-previous	\$67.2	\$279.2	\$319.7
Consensus-previous	\$71.1	\$291.5	\$332.3
Highest Est-previous	\$74.9	\$300.0	\$340.0
Lowest Est-previous	\$68.1	\$280.1	\$324.5

—Dan K. Scovel
Semiconductor Analyst

Silicon Image

1140 East Arques Ave, Sunnyvale, CA 94085

408-616-4000

Income Statement

www.siliconimage.com

dollars in thousands, except per share data
fiscal year ends December

				2012 act				2013 est					2014					
	2009	2010	2011	Q1	Q2	Q3	Q4	2012	Q1A	Q2	Q3	Q4	2013	Q1	Q2	Q3	Q4	2014
Product Revenue	122,668	152,841	174,234	43,024	51,458	62,197	46,808	203,487	50,341	60,409	68,866	65,423	245,040	60,189	69,218	83,061	74,755	287,223
License Revenue	27,921	38,506	46,775	11,979	12,380	11,722	12,796	48,877	11,698	12,049	11,687	14,609	50,044	13,148	13,543	13,137	16,421	56,249
Total Revenue	150,589	191,347	221,009	55,003	63,838	73,919	59,604	252,364	62,039	72,458	80,554	80,033	295,084	73,338	82,761	96,198	91,176	343,472
Product COGS	67,588	76,922	89,365	22,881	25,747	30,488	23,506	102,622	25,413	30,507	35,122	33,693	124,734	31,298	36,339	44,022	39,246	150,907
Product Gross Profit	55,080	75,919	84,869	20,143	25,711	31,709	23,302	100,865	24,928	29,903	33,745	31,730	120,305	28,891	32,878	39,039	35,509	136,317
License COGS	1,212	269	794	125	182	99	220	626	267	241	234	292	1,034	263	271	263	328	1,125
R&D	61,977	52,682	62,759	20,547	19,770	17,036	16,434	73,787	17,540	20,346	20,346	20,346	78,579	20,346	20,346	20,346	20,346	81,386
SG&A	44,137	42,558	50,201	14,227	13,334	13,710	11,079	52,350	14,631	14,046	14,046	13,624	56,347	14,987	13,788	13,788	13,512	56,075
Amortization	-	-	-	-	-	(201)	-	(201)	-	-	-	-	-	-	-	-	-	-
Restructuring	-	-	(814)	(1,528)	(1,528)	-	-	(3,056)	-	-	-	-	-	-	-	-	-	-
Total Opn Exp	174,914	172,431	202,305	56,252	57,505	61,132	51,239	226,128	57,851	65,140	69,748	67,956	260,695	66,895	70,744	78,419	73,433	289,492
Operating Income	(24,325)	18,916	18,704	(1,249)	6,333	12,787	8,365	26,236	4,188	7,318	10,806	12,077	34,389	6,443	12,016	17,778	17,742	53,980
Interest/Other	3,005	3,624	1,918	538	245	323	555	1,661	391	300	300	300	1,291	300	300	300	300	1,200
Pre-tax Income	(21,320)	22,540	20,622	(711)	6,578	13,110	8,920	27,897	4,579	7,618	11,106	12,377	35,680	6,743	12,316	18,078	18,042	55,180
Taxes	(724)	3,827	3,597	(353)	1,835	3,791	2,676	7,949	1,374	2,286	3,332	3,713	10,704	2,023	3,695	5,424	5,413	16,554
Minority Interest	0	(1,366)	(630)	(466)	(460)	(475)	(1,401)	-	-	-	-	-	-	-	-	-	-	-
Net Income	(20,596)	17,347	16,395	(824)	4,283	8,844	6,244	18,547	3,205	5,333	7,774	8,664	24,976	4,720	8,621	12,655	12,630	38,626
EPS-basic	(\$0.27)	\$0.23	\$0.20	(\$0.01)	\$0.05	\$0.11	\$0.08	\$0.23	\$0.04	\$0.07	\$0.10	\$0.11	\$0.32	\$0.06	\$0.11	\$0.16	\$0.16	\$0.50
Shares-basic	74,912	76,957	80,603	82,722	82,719	82,504	79,564	81,872	77,421	77,821	77,321	77,321	77,471	77,321	77,321	77,321	77,321	77,321
EPS-diluted	(\$0.27)	\$0.22	\$0.20	(\$0.01)	\$0.05	\$0.11	\$0.08	\$0.22	\$0.04	\$0.07	\$0.10	\$0.11	\$0.32	\$0.06	\$0.11	\$0.16	\$0.16	\$0.49
Shares-diluted	74,912	78,277	83,195	82,722	83,444	83,353	80,389	82,477	78,433	78,821	78,321	78,321	78,474	78,321	78,321	78,321	78,321	78,321
EPS-GAAP	(\$1.72)	\$0.10	(\$0.14)	(\$0.12)	(\$0.01)	\$0.00	\$0.00	(\$0.14)	(\$0.01)	\$0.04	\$0.07	\$0.08	\$0.19	\$0.03	\$0.08	\$0.13	\$0.13	\$0.38
Margin Analysis																		
Product Gross Margin	44.9%	49.7%	48.7%	46.8%	50.0%	51.0%	49.8%	49.6%	49.5%	49.5%	49.0%	48.5%	49.1%	48.0%	47.5%	47.0%	47.5%	47.5%
Total Gross Margin	54.3%	59.7%	59.2%	58.2%	59.4%	58.6%	60.2%	59.1%	58.6%	57.6%	56.1%	57.5%	57.4%	57.0%	55.8%	54.0%	56.6%	55.7%
License Revenue %	18.5%	20.1%	21.2%	21.8%	19.4%	15.9%	21.5%	19.4%	18.9%	16.6%	14.5%	18.3%	17.0%	17.9%	16.4%	13.7%	18.0%	16.4%
R&D	41.2%	27.5%	28.4%	37.4%	31.0%	23.0%	27.6%	29.2%	28.3%	28.1%	25.3%	25.4%	26.6%	27.7%	24.6%	21.2%	22.3%	23.7%
SG&A	29.3%	22.2%	22.7%	25.9%	20.9%	18.5%	18.6%	20.7%	23.6%	19.4%	17.4%	17.0%	19.1%	20.4%	16.7%	14.3%	14.8%	16.3%
Operating Income	-16.2%	9.9%	8.5%	-2.3%	9.9%	17.3%	14.0%	10.4%	6.8%	10.1%	13.4%	15.1%	11.7%	8.8%	14.5%	18.5%	19.5%	15.7%
Pre-tax Income	-14.2%	11.8%	9.3%	-1.3%	10.3%	17.7%	15.0%	11.1%	7.4%	10.5%	13.8%	15.5%	12.1%	9.2%	14.9%	18.8%	19.8%	16.1%
Tax Rate	3.4%	17.0%	17.4%	49.6%	27.9%	28.9%	30.0%	28.5%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Net Income	-13.7%	9.1%	7.4%	-1.5%	6.7%	12.0%	10.5%	7.3%	5.2%	7.4%	9.7%	10.8%	8.5%	6.4%	10.4%	13.2%	13.9%	11.2%
Qtr-to-Qtr Growth																		
Revenue				-6.4%	16.1%	15.8%	-19.4%		4.1%	16.8%	11.2%	-0.6%		-8.4%	12.8%	16.2%	-5.2%	
Operating Expenses				7.2%	2.2%	6.3%	-16.2%		12.9%	12.6%	7.1%	-2.6%		-1.6%	5.8%	10.8%	-6.4%	
Operating Income				-120%	-607%	102%	-34.6%		-49.9%	74.7%	47.7%	11.8%		-46.6%	86.5%	48.0%	-0.2%	
Pre-tax Income				-111%	-1025%	99.3%	-32.0%		-48.7%	66.4%	45.8%	11.4%		-45.5%	82.6%	46.8%	-0.2%	
Net Income				-117%	-620%	106%	-29.4%		-48.7%	66.4%	45.8%	11.4%		-45.5%	82.6%	46.8%	-0.2%	
EPS				-117%	-615%	107%	-26.8%		-47.4%	65.6%	46.7%	11.4%		-45.5%	82.6%	46.8%	-0.2%	
Year-to-Year Growth																		
Revenue	-45.1%	27.1%	15.5%	12.3%	19.2%	23.8%	1.5%	14.2%	12.8%	13.5%	9.0%	34.3%	16.9%	18.2%	14.2%	19.4%	13.9%	16.4%
Operating Expenses	-30.3%	-1.4%	17.3%	20.9%	17.1%	12.8%	-2.4%	11.8%	2.8%	13.3%	14.1%	32.6%	15.3%	15.6%	8.6%	12.4%	8.1%	11.0%
Operating Income	-203.0%	-177.8%	-1.1%	-151%	42.3%	130%	34.0%	40.3%	-435%	15.6%	-15.5%	44.4%	31.1%	53.8%	64.2%	64.5%	46.9%	57.0%
Pre-tax Income	-171.4%	-205.7%	-8.5%	-125%	29.3%	116%	34.6%	35.3%	-744%	15.8%	-15.3%	38.8%	27.9%	47.3%	61.7%	62.8%	45.8%	54.7%
Net Income	-149.3%	-184.2%	-5.5%	-134%	2.7%	77.5%	29.8%	13.1%	-489%	24.5%	-12.1%	38.8%	34.7%	47.3%	61.7%	62.8%	45.8%	54.7%
EPS	-150.5%	-180.6%	-11.1%	-134%	2.4%	77.7%	34.7%	14.1%	-510%	31.8%	-6.4%	42.4%	41.5%	47.5%	62.7%	62.8%	45.8%	55.0%

Silicon Image

Balance Sheet

(dollars in thousands)

Fiscal year ends December

	2009	2010	2011	2012	1Q12	2Q12	3Q12	4Q12	1Q13
Assets									
Cash and equivalents	29,756	29,942	37,125	29,069	34,471	31,111	34,178	29,069	45,964
Short-term investments	120,866	160,538	124,301	78,398	116,842	116,242	111,084	78,398	70,522
Net accounts receivable	21,664	22,598	27,368	37,936	37,288	37,032	41,927	37,936	40,515
Quick Assets	172,286	213,078	188,794	145,403	188,601	184,385	187,189	145,403	157,001
Inventory	7,746	10,212	10,062	11,268	12,223	17,047	18,503	11,268	14,281
Other	27,796	7,523	9,809	8,946	8,639	6,527	6,125	8,946	7,657
Current Assets	207,828	230,813	208,665	165,617	209,463	207,959	211,817	165,617	178,939
Property, plant and eqt, net	14,449	11,404	12,772	14,840	13,074	13,079	14,561	14,840	14,125
Goodwill and intangibles	825	0	30,561	33,098	30,065	29,569	32,103	33,098	32,396
Deferred Tax	2,336	4,795	4,706	4,144	4,066	4,066	4,014	4,144	4,144
Other	0	3,607	9,369	9,043	13,349	13,080	5,494	9,043	10,625
Total Assets	225,438	250,619	266,073	226,742	270,017	267,753	267,989	226,742	240,229
Liabilities and Shareholders Equity									
Accounts payable	10,141	10,615	10,133	10,690	17,322	17,408	16,342	10,690	19,826
Accrued and other liabilities	28,150	17,771	26,116	19,600	22,204	21,540	23,375	19,600	16,605
Deferred distribution margin	2,944	13,484	7,809	10,340	11,251	14,713	10,418	10,340	13,215
Deferred license revenue	3,111	4,197	2,684	2,185	3,599	2,699	3,279	2,185	2,310
Current Liabilities	44,346	46,067	46,742	42,815	54,376	56,360	53,414	42,815	51,956
Long-term debt	0	0	0	0	0	0	0	0	0
Deferred licenses, other	9,573	13,356	14,815	16,827	15,844	16,019	16,785	16,827	17,024
Total Liabilities	53,919	59,423	61,557	59,642	70,220	72,379	70,199	59,642	68,980
Common stock	464,220	476,898	505,165	511,804	511,487	513,575	517,887	511,804	511,804
Retained earnings	(186,139)	(177,957)	(189,600)	(200,792)	(199,176)	(200,119)	(200,527)	(200,792)	(200,792)
Treasury stock	(106,562)	(107,745)	(111,049)	(143,912)	(112,514)	(118,082)	(119,570)	(143,912)	(139,763)
Total Shareholders Equity	171,519	191,196	204,516	167,100	199,797	195,374	197,790	167,100	171,249
Total Liabilities and Equity	225,438	250,619	266,073	226,742	270,017	267,753	267,989	226,742	240,229
Sales and Income									
Revenue	150,589	191,347	221,009	252,364	55,003	63,838	73,919	59,604	62,039
COGS	69,786	78,109	90,829	110,441	23,224	26,033	30,859	30,325	26,065
Net income	(129,109)	8,182	(11,643)	(11,192)	(9,576)	(943)	(408)	(265)	(581)
Other									
Capital Expenditures	4,124	4,666	7,821	8,885	2,191	1,759	2,684	2,251	835
Depreciation	8,960	7,674	6,416	6,107	1,591	1,469	1,476	1,571	1,573
Shares (weighted average diluted)	74,912	78,277	80,603	81,872	82,722	83,444	83,353	79,564	78,433
Employees (units)	526	432	521	623	599	600	609	623	643
Stock Repurchased, \$	0	0	0	39,684	0	5,118	1,283	33,283	653
Shares Repurchased (,000)			0	2,222		1,200	271	751	750
Ratios									
Liquidity									
Quick Ratio	3.89	4.63	4.04	3.40	3.47	3.27	3.50	3.40	3.02
Current Ratio	4.69	5.01	4.46	3.87	3.85	3.69	3.97	3.87	3.44
Leverage									
Debt Ratio	0.24	0.24	0.23	0.26	0.26	0.27	0.26	0.26	0.29
Long-term Debt/Capital	0.04	0.05	0.06	0.07	0.06	0.06	0.06	0.07	0.07
Asset Management									
Fixed Asset Turnover	8.90	14.80	18.28	18.28	17.02	19.53	21.39	16.22	17.13
Total Asset Turnover	0.55	0.80	0.86	1.02	0.82	0.95	1.10	0.96	1.06
Receivables DSO	52	43	45	54	61	52	51	57	59
Inventory Days	40	47	40	37	47	59	54	33	49
Inventory Turnover	6.80	8.70	8.96	10.36	8.34	7.12	6.94	8.15	8.16
Revenue/Employee	265	399	464	441	393	426	489	387	392
Profitability									
Gross Margin	53.7%	59.2%	58.9%	56.2%	57.8%	59.2%	58.3%	49.1%	58.0%
Net Margin	-85.7%	4.3%	-5.3%	-4.4%	-17.4%	-1.5%	-0.6%	-0.4%	-0.9%
Return on Assets	-46.8%	3.4%	-4.5%	-4.5%	-14.3%	-1.4%	-0.6%	-0.4%	-1.0%
Return on Equity	-57.3%	4.5%	-5.9%	-6.0%	-18.9%	-1.9%	-0.8%	-0.6%	-1.4%
Per Share Data									
Book Value/Share	\$2.29	\$2.44	\$2.54	\$2.04	\$2.42	\$2.34	\$2.37	\$2.10	\$2.18
Tangible Book Value/Share	\$2.28	\$2.44	\$2.16	\$1.64	\$2.05	\$1.99	\$1.99	\$1.68	\$1.77
Cash/Share (gross)	\$2.01	\$2.43	\$2.00	\$1.31	\$1.83	\$1.77	\$1.74	\$1.35	\$1.49
Cash/Share (net)	\$2.01	\$2.43	\$2.00	\$1.31	\$1.83	\$1.77	\$1.74	\$1.35	\$1.49
Earnings/Share	(\$1.72)	\$0.10	(\$0.14)	(\$0.14)	(\$0.12)	(\$0.01)	(\$0.00)	(\$0.00)	(\$0.01)

Silicon Image

Sales Analysis

(dollars in thousands)

Fiscal year ends December

	2009	2010	2011	2012	2011				2012				2013	
					1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	
By Market														
Mobile Product	2,683	10,525	65,789	120,936	6,171	16,960	21,516	21,142	22,256	29,871	38,712	30,097	33,603	
Consumer Product	97,502	118,192	87,922	62,236	26,255	19,436	22,381	19,850	16,511	15,927	17,843	11,955	13,667	
PC Product	22,483	24,124	20,523	20,315	5,631	5,623	5,232	4,037	4,257	5,660	5,642	4,756	3,071	
Product Revenue	122,668	152,841	174,234	203,487	38,057	42,019	49,129	45,029	43,024	51,458	62,197	46,808	50,341	
Mobile License			1,313	2,564	118	307	521	367	319	463	825	957	478	
Consumer License			43,811	45,862	10,176	10,960	9,649	13,026	11,402	11,756	10,943	11,761	11,201	
PC License			1,651	451	648	267	425	311	258	161	(46)	78	19	
License	27,921	38,506	46,775	48,877	10,942	11,534	10,595	13,704	11,979	12,380	11,722	12,796	11,698	
Total Revenue	150,589	191,347	221,009	252,364	48,999	53,553	59,724	58,733	55,003	63,838	73,919	59,604	62,039	
Mobile Product %	2.2%	6.9%	37.8%	59.4%	16.2%	40.4%	43.8%	47.0%	51.7%	58.0%	62.2%	64.3%	66.8%	
Consumer Product %	79.5%	77.3%	50.5%	30.6%	69.0%	46.3%	45.6%	44.1%	38.4%	31.0%	28.7%	25.5%	27.1%	
PC Product %	18.3%	15.8%	11.8%	10.0%	14.8%	13.4%	10.6%	9.0%	9.9%	11.0%	9.1%	10.2%	6.1%	
Product Revenue %	81.5%	79.9%	78.8%	80.6%	77.7%	78.5%	82.3%	76.7%	78.2%	80.6%	84.1%	78.5%	81.1%	
Mobile License %			2.8%	5.2%	1.1%	2.7%	4.9%	2.7%	2.7%	3.7%	7.0%	7.5%	4.1%	
Consumer License %			93.7%	93.8%	93.0%	95.0%	91.1%	95.1%	95.2%	95.0%	93.4%	91.9%	95.8%	
PC License %			3.5%	0.9%	5.9%	2.3%	4.0%	2.3%	2.2%	1.3%	-0.4%	0.6%	0.2%	
License Revenue %	18.5%	20.1%	21.2%	19.4%	22.3%	21.5%	17.7%	23.3%	21.8%	19.4%	15.9%	21.5%	18.9%	
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Mobile Prod Growth		292.3%	525.1%	83.8%		174.8%	26.9%	-1.7%		5.3%	34.2%	29.6%	-22.3%	11.6%
Consumer Product Growth		21.2%	-25.6%	-29.2%		-26.0%	15.2%	-11.3%		-16.8%	-3.5%	12.0%	-33.0%	14.3%
PC Product Growth		7.3%	-14.9%	-1.0%		-0.1%	-7.0%	-22.8%		5.4%	33.0%	-0.3%	-15.7%	-35.4%
Product Rev Growth		24.6%	14.0%	16.8%		10.4%	16.9%	-8.3%		-4.5%	19.6%	20.9%	-24.7%	7.5%
Mobile License Growth				95.3%		160.2%	69.7%	-29.6%		-13.1%	45.1%	78.2%	16.0%	-50.1%
Consumer License Growth				4.7%		7.7%	-12.0%	35.0%		-12.5%	3.1%	-6.9%	7.5%	-4.8%
PC License Growth				-72.7%		-58.8%	59.2%	-26.8%		-17.0%	-37.6%	-128.6%	-269.6%	-75.6%
License Growth		37.9%	21.5%	4.5%		5.4%	-8.1%	29.3%		-12.6%	3.3%	-5.3%	9.2%	-8.6%
Total Growth		27.1%	15.5%	14.2%		9.3%	11.5%	-1.7%		-6.4%	16.1%	15.8%	-19.4%	4.1%
By Territory (Customer HQ)														
Korea	18,423	40,892	66,800	102,107	9,760	13,412	21,372	22,256	22,022	23,114	32,281	24,690		
Taiwan	33,615	42,157	57,854	61,626	12,382	18,300	15,227	11,945	12,179	17,804	19,073	12,570		
Japan	48,172	65,361	44,156	37,467	15,938	9,776	9,948	8,494	9,462	10,491	9,551	7,963		
US	19,675	15,810	19,226	18,686	3,404	3,513	4,905	7,404	3,048	4,129	5,498	6,011		
Europe	15,012	11,225	13,555	16,138	2,629	4,051	3,592	3,283	3,975	3,536	3,658	4,969		
China	12,902	14,533	17,553	14,912	4,407	4,055	4,049	5,042	3,917	4,385	3,557	3,053		
other	2,790	1,369	1,865	1,428	479	446	631	309	400	379	301	348		
Total Revenue	150,589	191,347	221,009	252,364	48,999	53,553	59,724	58,733	55,003	63,838	73,919	59,604	-	
Korea %	12.2%	21.4%	30.2%	40.5%	19.9%	25.0%	35.8%	37.9%	40.0%	36.2%	43.7%	41.4%		
Taiwan %	22.3%	22.0%	26.2%	24.4%	25.3%	34.2%	25.5%	20.3%	22.1%	27.9%	25.8%	21.1%		
Japan %	32.0%	34.2%	20.0%	14.8%	32.5%	18.3%	16.7%	14.5%	17.2%	16.4%	12.9%	13.4%		
US %	13.1%	8.3%	8.7%	7.4%	6.9%	6.6%	8.2%	12.6%	5.5%	6.5%	7.4%	10.1%		
Europe %	10.0%	5.9%	6.1%	6.4%	5.4%	7.6%	6.0%	5.6%	7.2%	5.5%	4.9%	8.3%		
China %	8.6%	7.6%	7.9%	5.9%	9.0%	7.6%	6.8%	8.6%	7.1%	6.9%	4.8%	5.1%		
other %	1.9%	0.7%	0.8%	0.6%	1.0%	0.8%	1.1%	0.5%	0.7%	0.6%	0.4%	0.6%		
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
Korea Growth		122.0%	63.4%	52.9%		37.4%	59.3%	4.1%		-1.1%	5.0%	39.7%	-23.5%	
Taiwan Growth		25.4%	37.2%	6.5%		47.8%	-16.8%	-21.6%		2.0%	46.2%	7.1%	-34.1%	
Japan Growth		35.7%	-32.4%	-15.1%		-38.7%	1.8%	-14.6%		11.4%	10.9%	-9.0%	-16.6%	
US Growth		-19.6%	21.6%	-2.8%		3.2%	39.6%	50.9%		-58.8%	35.5%	33.2%	9.3%	
Europe Growth		-25.2%	20.8%	19.1%		54.1%	-11.3%	-8.6%		21.1%	-11.0%	3.5%	35.8%	
China Growth		12.6%	20.8%	-15.0%		-8.0%	-0.1%	24.5%		-22.3%	11.9%	-18.9%	-14.2%	
other Growth		-50.9%	36.2%	-23.4%		-6.9%	41.5%	-51.0%		29.4%	-5.3%	-20.6%	15.6%	
Total Growth		27.1%	15.5%	14.2%		9.3%	11.5%	-1.7%		-6.4%	16.1%	15.8%	-19.4%	
By Customer														
Samsung	7.5%	17.0%	23.4%	35.0%	13.1%	20.3%	30.8%		34.3%	30.2%	38.3%		>35%	
Edom (disti)	5.9%	9.0%	13.8%	10.3%	10.5%	20.5%	13.3%		8.9%	14.2%	10.7%			
Weikeng Int'l (disti)	10.3%	9.9%	10.2%		10.8%	11.7%	10.2%		7.3%	8.0%	9.6%			
InnoTech (disti)	7.3%	11.3%			13.4%									
Microtek (disti)	11.9%	11.0%			10.0%									
Top 5 Customers	44.2%	58.3%	61.4%	64.4%	57.7%	64.3%	66.8%		62.8%	64.7%	68.3%			
Distributors, total	59.2%	61.1%	50.1%	38.4%	58.5%	56.0%	46.0%	41.6%	36.2%	43.8%	40.0%	32.7%	30.2%	
Other														
Units Shipped (mil.)		103	140	148	30	32	40	38	38	48	62	52	57	
Unit Growth			35.9%	5.7%	3.4%	6.7%	25.0%	-5.0%	0.0%	26.3%	29.2%	-16.1%	10.0%	
ASP		\$1.48	\$1.24	\$1.37	\$1.27	\$1.31	\$1.23	\$1.18	\$1.13	\$1.07	\$1.00	0.92	\$0.88	

Silicon Image

Company Summary

Standard	Other legacy	DVI legacy	HDMI current	MHL ramping	Wireless HD in development	Intellectual Property	
Organizations	<u>Serial ATA (SATA)</u>	<u>DDWG/DVI lead by:</u> Intel Fujitsu Hewlett-Packard IBM NEC Silicon Image	<u>HDMI Consortium</u> Hitachi Matsushita (Panasonic) Philips Sony Technicolor (Thomson) Toshiba Silicon Image Simplay Labs testing (SIMG)	<u>MHL Consortium</u> Nokia Samsung Sony Toshiba Silicon Image Simplay Labs testing (SIMG)	<u>Wireless HD Consortium</u> Broadcom Intel LG Electronics NEC Panasonic Philips Samsung Sony Toshiba SIBEAM (Silicon Image)	<u>SPMT Consortium</u> ARM Hynix LG Electronics Samsung Marvell Silicon Image (mobile DRAM technology) SPMT LLC (SIMG)	<u>WISA Advisory Board</u> Aperion Audio DEI Holdings (Polk Audio) Hansong Klipsch Mellon Pioneer Sharp Summit Semiconductor Silicon Image (wireless audio technology)
Product Offering	<u>TV Processors</u> port processors <u>Storage Products</u> bridges parallel ATA controllers SATA controllers SATA port multiplier RAID storage processors	DVI transmitters DVI receivers ITMDS transmitters ITMDS receivers LCD panel controllers	HDMI transmitters HDMI receivers HDMI port processors ITMDS transmitters ITMDS receivers LCD panel controllers InstaPrevue InstaPort ViaPort ClearView (UltraHD 4Kx2K) HDMI Licensing, LLC (SIMG)	MHL transmitters MHL port processors MHL bridges (to HDMI) MHL Licensing, LLC (SIMG)	Network processors Wireless video-area network --transmitters --receivers	Camera processor IP cores DVI cores HDMI IP cores and PHY RAID controller IP cores SATA cores and PHY Digital video decoder IP cores MHL cores and PHY Digital video processing IP cores	
Markets	<u>Primary:</u> <u>Secondary:</u> <u>Legacy:</u> <u>Future:</u>		Consumer Mobile PC	Mobile Consumer		Consumer Mobile PC Consumer and Mobile	
Competitors	Acaro Atmel J-Micron Marvell <u>Integrated Chipsets</u> AMD Intel NVIDIA SIS VIA	DisplayPort/VESA (STMicro) <u>PC Processors and Chipsets</u> AMD Intel NVIDIA	DisplayPort/VESA (STMicro) <u>Discrete HDMI</u> Analog Devices Analogix Parade MediaTek Explore Qualcomm Texas Instruments NXP NVIDIA <u>Integrated HDMI</u> Broadcom Intel MediaTek MStar Marvell Trident STMicroelectronics in-house electronics OEMs	USB 3.0, WiFi, WiGig, Bluetooth, AirPlay, DisplayPort <u>MHL Discrete and/or Integrated</u> Explore Parade MediaTek Qualcomm Texas Instruments NVIDIA STEricsson in-house electronics OEMs			
Customers	legacy	legacy	1,166 companies adopted over 2.4 billion units installed	(over 90 adpoters, see table)	Various Applications Smartphones DTVs/DVRs Pico Projectors Home Theaters Roku Streaming Stick		
Primary Markets		PC	Consumer	Mobile			
Applications		Desktop PCs Notebook PCs Flat Panel Monitors Storage other	DVD players Blu-Ray players Settop Boxes (STB) Digital TVs (DTV) Audio-Video Receivers (AVR) Digial Video Recorders (DVR) Home Theaters Projectors Video Games	Smartphones Tablets Pico-Projectors Digital Still Cameras (DSC) Camcorders		<u>Home Theaters</u> Onkyo Sony Denon Sharp	

table MHL Adopters by application	
<u>Smartphones</u>	<u>DTVs/AVRs</u>
Acer	Acer
Asus	Best Buy
Fujitsu	Insignia
Google	LG
HTC	Philips
Huawei	Samsung
Lenovo	Sharp
LG	Sony
Meizu	Toshiba
Pantec	
Samsung	
Sharp	<u>Pico Projectors</u>
Sony	Samsung
TCL	3M
ZTE	Aiptek
Xaomi	

Silicon Image

Valuation

Relative Valuation

Company	Ticker	Price 4/30/2013	52-Week		CY EPS				CY P/E				Shares (mil)	CAP (\$ mil)	Price-Sales			FY Ends
			Low	High	2011	2012	2013	2014	2011	2012	2013	2014			TTM	Cur FY	Nxt FY	
Silicon Image*	SIMG	4.93	3.53	6.04	0.20	0.23	0.32	0.49	24.7	21.4	15.4	10.1	78	387	1.5	1.3	1.1	Dec
Applied Micro	AMCC	7.46	4.28	9.64	0.05	-0.54	0.01	0.37	NM	NM	NM	20.2	69	511	2.6	2.1	1.7	Mar
Entropic Communications	ENTR	4.24	3.40	6.64	0.63	0.38	0.14	0.32	6.7	11.2	30.3	13.3	92	391	1.2	1.2	1.0	Dec
OmniVision*	OVTI	13.41	11.82	18.55	2.03	1.30	1.55	2.08	6.6	10.3	8.7	6.4	57	758	0.6	0.5	0.5	Apr
Power Integrations	POWI	41.41	27.20	46.12	1.44	1.81	2.10	2.31	28.8	22.9	19.7	17.9	29	1,217	4.0	3.6	3.3	Dec
Silicon Motion	SIMO	10.90	9.90	17.07	1.34	1.73	1.84	2.08	8.1	6.3	5.9	5.2	35	376	1.4	1.2	1.1	Dec-ADR
Volterra	VLTR	13.00	12.28	33.07	1.11	1.25	1.10	1.12	11.7	10.4	11.8	11.6	26	335	2.0	2.1	2.0	Dec
Average									12.4	12.2	15.3	12.4			2.0	1.8	1.6	

* Tokeneke estimate

Source: consensus as of 4/29/13

Historical Valuation

Company	Ticker	Price 4/30/2013	Trailing 12-month					
			Price/Earnings		Price/Sales		Price/Book	
			Current	Historical*	Current	Historical*	Current	Historical*
Silicon Image	SIMG	\$4.93	17.6		1.5		2.3	
			Average	98.5	Average	3.7	Average	6.2
			High	885.0	High	27.0	High	53.3
			Low	13.9	Low	0.7	Low	0.6

* weekly since 2000

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.
- *Industry Reports:* A publication offering insight and perspective to industry-wide, multi-year forecast updates; periodic sub-sector product type and/or end-market reviews; fundamental and valuation perspectives on sector equity relationships; and an industry introduction and overview. These are more detailed reports with varying shelf-lives, and are intended for narrow distribution to interested clients.
- *Company Reports:* Fundamental equity research including earnings estimates and customized valuation analysis.
- *Consulting:* Special projects of limited or extended duration, as well as periodic access of varying frequency.

Publications are distributed via email in .pdf format, unless otherwise requested. Client confidentiality and customized research exclusivity accommodated. Rates vary with the nature, duration, and terms of offerings.

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.

—**Dan K. Scovel**
Semiconductor Analyst

Tokeneke Research LLC

Rowayton, CT 06853

dscovel@tokenekeresearch.com

www.tokenekeresearch.com

203-554-4621

Copyright © 2013 Tokeneke Research LLC. All rights reserved. This report is for information purposes only and does not constitute a solicitation or an offer to buy or sell any security or to participate in any investment or trading strategy. Opinions expressed in this report reflect the judgment of Tokeneke Research LLC on the topics addressed as of the date of the report, and are subject to change without notice. Tokeneke Research LLC makes every effort to use reliable and comprehensive information but makes no representation that the information in this report is accurate or complete, nor does it undertake to update or revise this report at any time or for any reason. This report contains forward-looking statements that involve risks and uncertainties, both known and unknown, as well as assumptions that, if they do not fully materialize or prove incorrect, could cause actual results to differ materially from those expressed or implied by such forward-looking statements. Actual results and trends may differ materially from historical results or those projected in any such forward-looking statements depending on a variety of factors. This report does not provide individually tailored investment advice and has been prepared without regard to the specific individual financial situation, objectives and needs of those who receive it. Securities discussed in this report may not be suitable for the reader. Tokeneke Research LLC and/or Dan Scovel may have a long or short position in the securities of a company or companies mentioned in this report and, at any time, may change that position. Tokeneke Research LLC accepts no liability whatsoever for any loss or damage of any kind arising out of the use of any part, or all, of this report. All company and product names mentioned in this report may be trademarks or registered trademarks of their respective holders and are used for identification purposes only. Reproduction or distribution of this report, even for internal distribution, is strictly prohibited unless specifically authorized by Tokeneke Research LLC.