



February 26, 2016

CURRENT PRICE: \$11.64
RATING: HOLD
PRICE TARGET: N/A
CURRENT YIELD: 2.0%

EPS Estimates

	DEC 15A	DEC 16E
1Q	(\$0.11)	(\$0.07)
2Q	\$0.15	\$0.09
3Q	\$0.05	\$0.11
4Q	\$0.08	\$0.17
	\$0.22	\$0.30

Trading Data

52-WEEK PRICE RANGE: **\$13.84-\$9.14**
SHARES OUTSTANDING: **27.1(M)**
MARKET CAP: **\$315.4(M)**
AVG. DAILY TRADING VOLUME: **0.93(M)**
S&P 500: **1,948**

Valuation Data

BOOK VALUE: **\$8.95**
PRICE TO BOOK: **1.30x**
DIVIDEND: **\$0.24**

COHU, Inc. (NSDQ: COHU)

Reports 4Q15 & FY15 earnings

Highlights

- 4Q15 earnings of \$0.08 vs. 4Q14's \$0.20/share
- Developing new testing products for chip manufacturers
- Moving handler production to Malaysia to lower costs
- COHU expects revenue ramp up in 2016 & 2017
- Initiating coverage with a HOLD rating

Investment Thesis

Use of integrated circuits throughout the world continues to accelerate as it finds its way into more products. A few decades integrated circuits were only associated with computers. However, their use has now spread into cellphones, automobiles, mobility items (i-Pads, Kindles, FitBit, etc.), communications, industrial robotics, solid state lighting (LED), and high speed memory. The current annual integrated circuit market is estimated to be \$11 billion with expectations of growing to \$20 billion by 2020. One way for investors to invest in this growth area is through shares of COHU.

Company Summary

COHU is headquartered in the greater San Diego Metropolitan area (Poway CA) and has 1,600 employees. Formerly known as Cohu Electronics, the company changed its name to Cohu, Inc. in 1972 and was originally founded in 1947. The company develops, manufactures, sells, and services products used by the semiconductor industry to automate the testing of integrated circuits, wafer-level packages (WLPs) and light-emitting diodes (LEDs) found in many consumer products (i.e., cellphones, automobile sensors, computers, i-pads, automobile sensors, and other products). The company is comprised of four operating units: 1) Delta Design, 2) Rasco, 3) Ismeca, and 4) Integrated Test Solutions (ITS).

For Important Disclosure information regarding the Firm's rating system, valuation methods and potential conflicts of interest, please refer to the last two pages of this report.



COMPANY PRODUCTS

Cohu's products include semiconductor test handling and back-end finishing systems, micro-electronic mechanical systems (MEMS) test modules, thermal subsystems for burn-in and system level test of integrated circuits (ICs), and test contactors. COHU's products are used in the back-end of the semiconductor manufacturing process by global-semiconductor manufacturers and test subcontractors to automate the testing of ICs. This testing determines the quality of performance of the ICs prior to shipment to customers.

The company is comprised of four operating units: 1) Delta Design, 2) Rasco, 3) Ismecca, and 4) ITS.

Delta sells "pick & place" and "thermal sub-systems" used for burn-in and system level testing. This unit sells its Pyramid, Matrix, Eclipse, T-Core, and Linx products to semiconductor manufacturers and test subcontractors. The ICs tested with COHU's products go into the mobile markets (phones, tablets, etc.), computing, the automotive area, and high-performance memory.

Rasco was purchased by COHU in 2008 and sells "gravity feed", "test-in-strip", and "micro-electronic mechanical systems" (MEMS) test solutions. Test handlers sold by this unit include Jupiter, Saturn, and Jaguar. ICs tested by these products are used in mobile products, "internet of things", and magnetic and pressure sensors used in automotive applications.

Ismecca, purchased in 2013 by COHU, sells "current-based test handling" and "back-end finishing equipment". This unit's products include NY20 and NX32 used for IC testing, LEDs, discrete devices, and sensors. ICs tested by these handlers are used in mobile products, "internet of things", solid state lighting, portable wearable items (e.g., Apple Watches & Fitbit wrist bands), and cyber security.

ITS provides high performance products for the test contactor markets was created in 2014 to drive growth in this sector. Growth of the test contactor market has made it vital for COHU to supply an integrated solution for power semiconductor testing in automotive, industrial, and LED markets. The company designs, manufactures, sells, and provides support for various lines of test contractor solutions. These are consumable electro-mechanical assemblies connecting the device under test, inside COHU's test handlers, and the automotive test equipment.

COHU'S MANUFACTURING FACILITIES

- Poway, CA : 338,000 square feet (sold/leased back)
- Kolbermoor, Germany: 40,000 square feet (owned)
- Malacca, Malaysia: 50,000 square feet (leased)
- Calamba City, Laguna, Philippines: 51,000 square feet (leased)
- La Chaux-de-Fonds, Switzerland: 34,000 square feet (leased)
- Suzhou, China: 6,000 square feet (leased)



SEMICONDUCTOR INDUSTRY'S USE OF COHU PRODUCTS:

Back-end testing includes the final test of an IC by manufacturers, or subcontractors, before end use in cellphones, computers, tablets, wearable internet products, solid state lighting products, automotive vehicles, and cybersecurity items. COHU provides test handling equipment to automate test the final test of ICs, reducing the likelihood of faulty product shipment by semiconductor manufacturers.

The problem for IC manufacturers is the more functions a chip is asked to perform, the more heat it generates which could potentially shut-down the IC and its ability to do its programmed tasks. COHU's thermal-control products controls/lowers the temperature of these multi-function chips during the testing process, solving the "heat problem", thus allowing the manufacturer to produce more ICs for sales to its customers. The more chips making it through the testing period is known as "increasing yield" and increases sales/profits for IC manufacturers.

MANAGEMENT'S OPERATING GOALS

1) Increase market share in the ~\$940 million test handling market. COHU plans to leverage its leading "handler" market position, broad product portfolio, and thermal control technology to optimize test yield and increase its market share. 2) Expand total available market to ~\$2 billion with expansion into Wafer Level Package (WLP) probe and test contacting. 3) Continuously lowering product costs and expand COHU's gross margins by moving more of its manufacturing to Asia 4) Hit its 3-5 year financial targets of \$400 million in annual revenues, non-GAAP gross margins of 40%, and 17% adjusted EBITDA.

REVENUE/PROFIT GROWTH OPPORTUNITIES:

COHU's success is directly tied to the semi-conductor industry and the proliferating use of integrated circuits/chips in various consumer products such as cell phones, i-pads, computing products, automobiles/vehicles, consumer products, and the growing connectivity of individuals into the internet. This provides three potential sources of revenue growth for COHU:

GROWTH OF THE OVERALL SEMICONDUCTOR INDUSTRY. In 2014 this industry grew 9.9% to \$336 billion, according to the Semiconductor Industry Association (SIA). COHU could piggy-back its own revenue growth with the semiconductor market as this sector grows into the future.

COHU COULD EXPAND MARKET SHARE IN ITS CORE MARKETS. Increasing its share in growing segments (mobility/automotive/LED), from optimizing test yields of ICs through new technologies, such as COHU's active thermal control/vision inspection.



EXPAND TOTAL AVAILABLBE MARKET TO ~\$2 BILLION FROM INCREASED SALES INTO TEST CONTACTING & WLP PROBE MARKETS. COHU introduced its new business unit, ITS, in 2014 to help increase revenues in the ~\$650 million test contactor market. The company's test handlers include test contactors which until recently only focused on selling the test handler. COHU's new strategy is to focus on selling both the handlers and test contactors and believes this could increase its market share of the test contractor market.

Additionally, 20% of semiconductors remain as WLPs and are not subject to traditional IC assembly and final test. These WLPs are only visually inspected and cannot be tested by traditional "test-handlers" and automated test equipment. However, COHU is developing products to test WLPs, and solve this issue, which potentially opens up an additional revenue stream in a market estimated to approximately ~\$250 million in size. To this end, the company recently announced it achieved a major milestone in this strategy after receiving its first customer order for its WLP probe product.

TRADING INFLUENCES ON COHU'S STOCK:

COHU's stock is very volatile, mirroring movements of semiconductor stocks. By modern day views, COHU would be viewed as a momentum, or growth stock, subject to potentially wide fluctuations in its share price. There are two things which tend to dictate the direction of COUH's share price movement. First, is the directional movement of semiconductor stocks. This occurs since COHU gets its orders from the semiconductor industry and as the anticipation of profits in this sector rises and falls, so do investor expectations regarding stocks in this sector. Thus both bullish and bearish Wall Street expectations associated with this sector drives the direction of trading in these stocks, as well as COHU's.

Second, is the amount of revenues generated on a quarterly basis. Being a small company, investors judge COHU's growth prospects upon increasing revenues on a quarter-to-quarter basis. Growing quarterly revenues, or new orders from COHU's customers, could be seen as positive and cause increased buying in its stock. Conversely, the opposite is true should revenues decline or customers delay/halt orders. Thus, management's forward guidance regarding expectations often times influences the direction of COHU's stock price movement.



EQUITY RESEARCH

Recent Earnings

COHU reported 4Q15 GAAP earnings of \$0.08/share vs. \$0.20/share during 4Q14. When comparing the two quarters, revenues declined to \$63.5 million from \$90.6 million. Both earnings and revenues were in line with prior company guidance. Operating expenses (including a \$3.2 million gain from sale of COHU's San Diego facility), declined to \$61.3 million from \$83.3 million. Income from continuing operations declined to \$2.3 million from \$5.3 million and the loss from discontinued operations fell to \$341,000 from \$5.5 million. Net income rose to \$1.95 million from \$250,000 due to the absence of the \$5.5 million loss generated by discontinued operations. 4Q15 non-GAAP earnings were \$0.09/share vs. \$0.33/share during 4Q15. GAAP to non-GAAP adjustments during 4Q15 included \$1.7 million in stock based compensation, \$1.8 million purchased intangible amortization expense, and \$400,000 of restructuring costs. COHU's FY15 GAAP earnings decreased to \$0.22/share vs. \$0.57 share and non-GAAP earnings declined to \$0.58/share vs. \$1.09/share.

4Q15 CONFERENCE CALL TAKEAWAYS

During the earnings conference call COHU noted 4Q15 revenues (\$63.5 million) and operating expenses (\$19 million) met previous guidance. Profitability was better than expected due to increased gross profit margins (34.5%) resulting from higher margin sales of more complex storage/gravity feed systems.

Management noted shipments for "Eclipse" product orders were delayed until 1Q16 due to customer requests. Additionally, "Eclipse" orders have gained traction and forced COHU to produce the product out of its San Diego facility versus its Malaysian factory-reducing margins by approximately 150 basis points. Full Malaysian production of this product, per management's plans, should occur in 2Q16 and should track along COHU's financial model.

COHU outlined its three goals for 2016: 1) increase market share of the mobility, automotive, and solid state markets. 2) Implement plans to expand /serve available markets in test contacting and growth in wafer-level packaging (WLP). 3) Potentially make acquisitions and partnership.

The company discussed customer demand for its products. COHU did increase share in the automotive and solid-state markets after landing a new customer. Orders were received for COHU's tri-temperature pick & place handler for testing automotive semiconductors-displacing a competitor's products with expectations of one or two additional new customers during 1Q16. New orders were placed for NY32W wafer turrent handler for high-power LEDs. There were higher sales of "gravity feed" and "turret-based " products during 4Q15.

Management anticipates the WLP market, market size of approximately \$250 million, could become a new and growing revenue stream for COHU. Currently, 20% of semiconductors remain as WLPs and are not subject to traditional IC assembly and final tess. These WLPs are only visually inspected and cannot be tested by traditional "test-handlers" and automated test equipment. COHU is developing product s for this specific market and plans to discuss the rollout of these WLP products later this year.



During FY15 COHU's revenue stream was split between Automotive/Industrial (40%), Mobility (33%), Computing/Memory (18%), and Solid State Lighting (9%).

COHU's revenues from the automotive/industrial segment declined to 40% from 45% during 2014 due to the consolidation of 2 major customers in the auto sector. Going forward, management anticipates order trends and business from this sector should stabilize and return towards growth later in 2016. This is based on increased product demand coming from a growing amount of driver assist programs being placed into automotive vehicles by various car/truck manufacturers.

Given the broad based application of its products in the mobility market, COHU believes a potential slowdown in the cellphone market will not hurt sales. Contactor revenues were 6% for 2015 and management sees the potential for meaningful growth in 2016-2020 and could generate a 20% growth rate.

Management provided 1Q16 guidance of approximately \$64 million in sales and gross profit margins of approximately 32%. No guidance was provided for the balance of 2016. Additionally, COHU is projecting to spend about \$2million of operating expense in 2016 to implement a global ERP system. Presently, Malaysia produces 70% of handler volumes and plans are to raise it to 90%.

Our Thoughts

COHU offers a compelling way for small cap growth investors to get involved in the evolving semiconductor industry. Potentially, as integrated circuits become more and more common place in the products we use every day (automobiles, cellphones, computing, lighting, etc.), the semiconductor business could grow from \$11 billion to \$20 billion by 2020. Accordingly, as this market grows, so could COHU's revenues/profits as more of its products are bought by the semiconductor industry seeking to improve their own chip yield and profitability. We believe the company's revenues will begin to ramp up in 2016 and 2017 as more semi's purchase both its new and existing testing products in order to meet ever increasing amounts of chip production.

Given the volatility of COHU's stock (see chart) investors should await appropriate entry points before taking positions in this growth story. After hitting a recent low of \$9.27/share this past August, COHU's stock rallied over 40% and may be over extended at this time. Thus, we rate COHU a HOLD and recommend investors buy this stock at lower levels. Furthermore, forward revenue guidance provided by management is likely to create short-term buying/selling waves (volatility) based on either bullish, or bearish, guidance. Our 2016 earnings estimate is \$0.30/share.



Risks

There are no guarantees COHU will be able to grow future earnings. Declining customer orders, increasing commodity prices, and rising operating costs could negatively affect the company's profits. Economic slowdowns, downturns in the semiconductor industry, and political change in Europe and Asia could have adverse effects on earnings. Currency fluctuations could influence earnings. New products from competitors, or changing industry trends/technology, are risks for COHU's ability to sell its products. Negative equity markets, rising interest rates, terrorist attacks, and failure to comply with the Sarbanes Oxley Act could cause a decline in COHU's share price. Given the relatively small amount of daily trading activity in COHU's stock, any increase in trading volume could significantly accelerate the volatility of its share price movement.

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COHU, Inc.
(dollars in figures, except for per share figures)

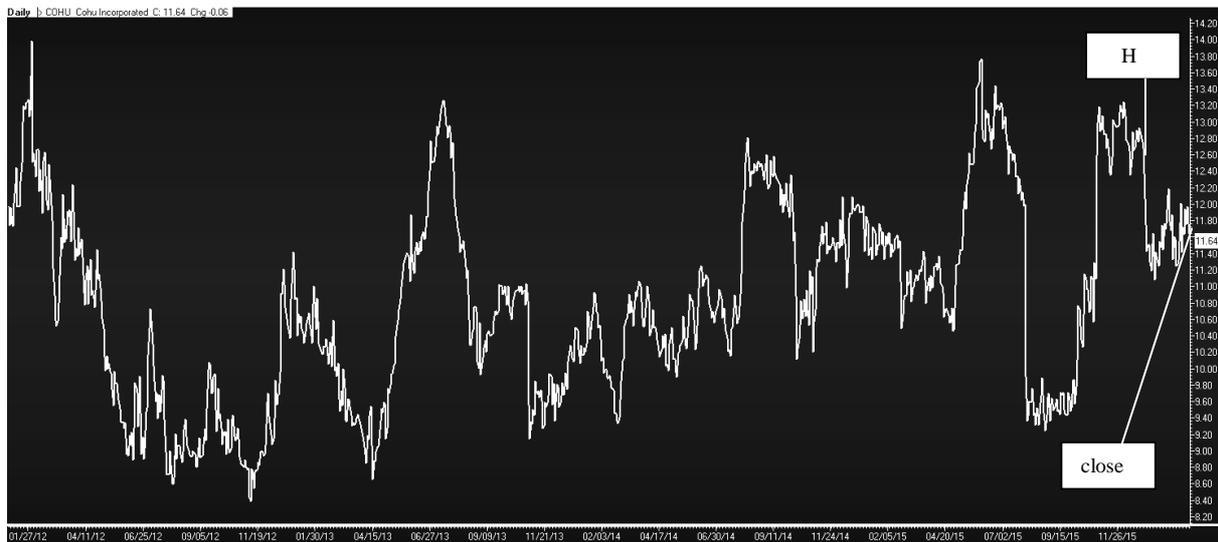
	1Q15	2Q15	3Q15	4Q15	FY15	1Q16e	2Q16e	3Q16e	4Q16e	FY16e
Revenues	\$68,068	\$75,211	\$67,512	\$63,484	\$269,654	\$64,368	\$75,308	\$76,154	\$85,664	\$301,494
Cost of Sales	46,039	49,509	44,718	43,087	180,616	43,771	50,456	50,261	57,395	201,883
Research & Development	9,629	7,731	8,605	8,206	33,107	8,217	8,191	8,243	8,315	32,966
Selling, general, & Administrative	13,835	13,811	11,923	13,134	51,170	13,663	13,417	13,663	13,814	54,557
Impairment of goodwill/assets										
Gain on sale of facility				3,198	3,198					
Total costs/expenses	69,773	71,051	65,246	61,259	261,695	\$65,651	72,064	72,167	79,524	289,406
Gain/(loss) from Operations	-1,705	4,160	2,266	2,225	7,959	-1,283	3,244	3,987	6,140	12,088
Interest & other, net	6	4	9	25	44	11	8	6	14	39
Gain/(loss) from Cont. operations pre-tax	-1,699	4,164	2,275	2,250	8,003	-1,272	3,252	3,993	6,154	12,127
Income tax/benefit	1,041	277	940	40	2,211	772	878	998	1,539	4,187
Gain/(loss) from Cont. operations	-2,740	3,887	1,335	2,290	5,792	-1,983	2,374	2,995	4,615	8,001
Discontinued operations										
Income from dis. Ops pre-tax		-3,959	-222	-341	-5,536	-145	-221	-192	-218	-776
Income tax					6					
Income from dis. Ops		-3,959	-222	-341	-5,542	-145	-221	-192	-218	-776
Net Gain/(loss)	-2,740	-72	\$1,113	1,949	250	-2,128	2,153	2,803	4,397	7,225
Income from Discontinued Ops.	(\$0.11)	(\$0.15)	(\$0.01)	(\$0.01)	(\$0.21)	(\$0.01)	(\$0.01)	(\$0.01)	(\$0.01)	(\$0.04)
Diluted earnings per share (GAAP)	(\$0.11)	\$0.15	\$0.04	\$0.08	\$0.22	(\$0.07)	\$0.09	\$0.11	\$0.17	\$0.30
Non-GAAP earnings per share	\$0.03	\$0.27	\$0.17	\$0.09	\$0.58					



EQUITY RESEARCH

Important Disclosures

Daily | CDHU Cofu Incorporated © 11.64 Chg 0.06



12/31/15 \$12.07 initiate with HOLD rating

Ratings-

BUY: B

HOLD: H

SELL: S

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