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Zacks Small-Cap Research

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O2Micro International Ltd (OIIM-NASDAQ)

OIIM: Company Cuts Q1 Guidance as Inventory Corrections Linger

Using an industry average value to trailing 12-month sales of 5.5 times and OIIM's $62.7 m trailing 12-month revenue, we would calculate an enterprise value of $341 million, a market cap of $380 million and a price of **$14.28 per share**, if the company could reach breakeven.

OUTLOOK

O_2Micro International is a fabless semiconductor firm that designs, develops and markets high performance integrated circuits primarily for power management and battery management for TV backlighting, LED lighting, and portable tools and appliances, and smartphones. It has struggled to reach profitability and cash flow breakeven. The company trades at an **enterprise value of less than a million dollars**, well below the value of its non-cash assets.

Current Price (04/02/19)	$1.51
Valuation	**$14.28**

SUMMARY DATA

52-Week High	**$2.37**
52-Week Low	**$1.33**
One-Year Return (%)	**8.6**
Beta	**0.8**
Average Daily Volume (sh)	**16,161**
Shares Outstanding (mil)	**26**
Market Capitalization ($mil)	**$39**
Short Interest Ratio (days)	**1.1**
Institutional Ownership (%)	**41**
Insider Ownership (%)	**8**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**-2.1**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/M**
P/E using 2018 Estimate	**N/M**
P/E using 2019 Estimate	**N/M**

Risk Level	**Above Average**
Type of Stock	**Small-Value**
Industry	**Elec Comp-Semis**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2017	15.0 A	14.5 A	15.5 A	15.2 A	60 A
2018	14.1 A	15.2 A	16.8 A	16.6 A	63 A
2019	12.8 E	14.2 E	16.1 E	16.8 E	60 E
2020					66 E

Earnings Per Share
(non-GAAP EPS before non-recurring items)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2017	-$0.04 A	-$0.04 A	-$0.04 A	-$0.06 A	-$0.18 A
2018	-$0.09 A	-$0.05 A	-$0.05 A	-$0.05 A	-$0.24 A
2019	-$0.12 E	-$0.08 E	-$0.05 E	-$0.05 E	-$0.28 E
2020					-$0.24 E

Zacks Projected EPS Growth Rate - Next 5 Years % **8**

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WHAT'S NEW

Company Lower Guidance as Inventory Correction at Customers Continues

O2Micro announced that it would miss its revenue guidance for Q1 2019, which had been a range of down 12%, plus or minus 4% sequentially with a midpoint for revenues of $14.7 million, which would have been be up 4% over last year. It now has lowered and tightened that guidance to approximately $12.5 million to $13 million in revenues while keeping gross margin guidance at 50% to 50.5%. As a result we are lowering estimates. Weakness is mainly in TV build but all products such as power tools that experienced wafer shortages last year have been affected. Due to the shortages, customers over ordered as they were on allocation and once supply caught up to demand, they were left with too much inventory. O2Micro claims that customers are now maintaining lower than average inventories. O2Micro still expects revenues to accelerate in the latter half as design wins convert to ramping production.

Other News in Q1

O2Micro continues its extensive R&D efforts and in Q1 it was awarded three new patents in battery management:

On Feb. 07, 2019, O2Micro announced the grant of a key Battery Pack Protection patent. It was issued 20 claims under US patent number 8,922,218 for the invention of a set of protection circuits for lithium ion battery cells. The protection circuits must be operating continuously, from the moment of connection to the cells, thus these circuits must have very low current drain enabling long battery life. This invention enables a very low current drain with continuous safety protection at a low cost, and differentiates its product from the competition.

Detection circuits for batteries

Abstract
A detection circuit includes a sensing unit, a signal reference source, and a detecting unit. The sensing unit provides a sensed signal by sensing an input signal representing a status of a battery. The signal reference source comprises a reference node and determines a signal reference at the reference node, and receives and is biased by the sensed signal at the same reference node to generate a trigger signal indicative of a difference between the sensed signal and the signal reference. The detecting unit is coupled to the signal reference source and generates an output signal according to the trigger signal to indicate an abnormal condition is present in the battery.

On February 20, 2019, O2Micro was issued 20 claims under United States patent number 9,291,680 for the invention of protection circuits for lithium ion battery packs. The self-compensation method adapts to component variability and changes over the lifetime of the battery pack. This invention enables high accuracy and safety even with minor variations during pack manufacture and throughout the product lifetime.

Circuits and methods for measuring a cell voltage in a battery

Abstract
A circuit measures a cell voltage of a cell in a battery. The circuit includes a measurement circuit and a current generator. The measurement circuit includes a first terminal coupled to a positive terminal of a cell via a first resistive element and includes a second terminal coupled to a negative terminal of the cell via a second resistive element. The measurement circuit consumes a first current. The current generator generates a first compensation current according to the first current. The first current and the first compensation current flow from the positive terminal through the first resistive element to the first

terminal. The measurement circuit calculates the cell voltage according to a first voltage difference between the first and second terminals when the first compensation current is disabled and according to a second voltage difference between the first and second terminals when the first compensation current is enabled.

On March 06, 2019, O_2Micro announced the granting of a key battery pack protection patent. O_2Micro was issued 20 claims under United States patent number 9,368,981 for the invention of protection circuits for lithium ion battery packs. High voltage batteries are usually composed of stacked battery modules. This invention ensures battery pack modules are equally balanced by measuring and controlling the current between modules. Unequal modules may not deliver full energy and may result in shorter battery life. This invention helps enable multi-module lithium ion battery packs to maximize energy storage and battery life.

System and methods for current balancing

Abstract
A battery module includes: a battery pack including multiple cells; control circuits corresponding to the cells, each control circuit including a control unit for managing the corresponding cell and a compensation unit for generating a corresponding compensation current such that the sum of the corresponding consumed current and the corresponding compensation current is equal to a target total current, where the control circuits include a first control circuit and a second control circuit, where the first control circuit includes a first control unit operating with a first consumed current, the second control circuit includes a second control unit operating with a second consumed current, and where the first control circuit conditionally generates a first compensation current and the second control circuit conditionally generates a second compensation current based on a comparison of the first consumed current and the second consumed current.

VALUATION

Company Has Significant Upside If It Can End Cash Burn

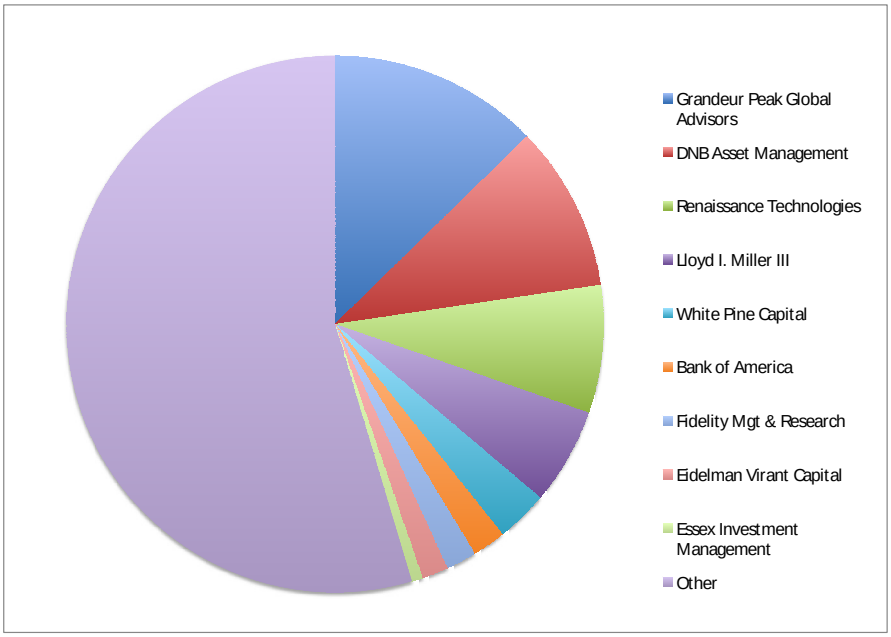
The company trades at an **enterprise value of $688,690**. Last year the company looked as if it had turned the corner and was approaching profitability but panel shortages for TVs nixed that progress and the valuation of the company slipped. Panel shortages ended but now the company is suffering from an inventory correction in the industry due to the end of shortages of wafers. At the end of 2018, the company had $38.6 million (or $1.49 per ADS) in cash and equivalents, no debt, and valuable real estate in China and California. In California it owns a 37,180 square foot building where it has its USA operations, which was bought for $4.6 million in May 2004 and believe it is now worth at least $7 million. Plus it also owns other real estate in China. Also on the balance sheet are long-term investments in other companies, including approximately 2.8 million shares of stock in Excelliance MOS (worth $3.9 million.) The company has a very high liquidation as well as acquisition value. Activists had tried to encourage a transaction with an acquirer, but the company has no interest in a sale and due to restrictions, it is difficult to force one.

In May, Microchip Technology bought Microsemi for $10.15 billion, which was a valuation of 5.5 times its trailing twelve-month revenues of $1.845 billion. Two other comparable companies we had been using, Intersil and Linear Technology, were acquired at very high valuations. Intersil was acquired by Renesas for $3.2 billion at a valuation of 5.9xs the company's trailing $542.1 million in revenue. Analog Devices acquired linear Technology for $14.8 billion. This was 9.9 times its trailing four quarters of revenue of $1.5 billion.

Were we to use the average enterprise value to trailing twelve-month sales of 5.4 times and apply it to OIIM's trailing 12-month $62.7 million revenues, we would calculate an enterprise value of $341 million. Adding to it $38.6 million in cash gives us a market cap of $380 million or **$14.28 per share**. We believe that once the company shows sustainable revenue growth and cash breakeven, the market should afford it a valuation closer to this price.

	Competitors	EV	TTM Sales	EV/Sales
Monolithic Power Systems	**MPWR**	5,440	582	9.3
Cree Inc.	**CREE**	5,920	1,590	3.7
Microchip Technology	**MCHP**	29,770	5,020	5.9
Maxim	**MXIM**	13,570	2,500	5.4
Texas Instruments	**TXN**	102,790	15,780	6.5
Cirrus Logic	**CRUS**	2,140	1,250	1.7
	Average			5.4

OWNERSHIP



RISKS

- O_2Micro has high exposure to the global demand for TVs, which can be hurt in recessions. It is depending on free dimming and high power LED lighting, 4K and 8K and other high end TVs, battery management, and successful penetration of and volume sales to the smartphone market to give it revenue and margin growth.

- It may be difficult for the company to capture market share in smartphones and tablets as a new entrant in an established field competing primarily with giant Texas Instruments and other larger firms.

- The firm is currently not at GAAP breakeven, is still cash flow negative, and has recently been unable to grow revenues faster than low single digits.

- Given its large number of patents, litigation risk is a possibility as the company enforces its patents.

- It also has geopolitical risk as countries move to adjust tariffs for various products.

INCOME STATEMENT

	March Q1 18	June Q2 18	Sept Q3 18	Dec Q4 18	March Q1 19E	June Q2 19E	Sept Q3 19E	Dec Q4 19E	2017	2018	2019E	2020E
REVENUE												
Net Revenue	14.1	15.2	16.8	16.6	12.8	14.2	16.1	16.8	60.2	62.7	59.9	65.9
Yr-to-yr Gr.	-6%	5%	8%	9%	-9%	-7%	-4%	1%	6%	4%	-4%	10%
OPERATING EXPENSES												
Cost of goods sold	6.9	7.3	8.3	8.2	6.4	7.1	7.9	8.3	29.4	30.7	29.6	32.3
Gross Margin	7.2	7.9	8.5	8.3	6.4	7.2	8.2	8.5	30.8	32.0	30.3	33.6
% of Sales	51.2%	52.1%	50.5%	50.3%	50.3%	50.4%	50.9%	50.6%	51.1%	51.0%	50.6%	51.0%
R&D	4.8	4.7	5.2	5.0	5.0	5.0	5.0	5.0	18.0	19.8	20.0	20.5
SG&A	5.0	5.0	4.9	5.4	5.0	4.9	5.0	5.2	19.0	20.3	20.1	20.8
One-time expenses & Adj.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.0)	(0.0)	0.0	0.0
Tot Operating Exp.	9.8	9.7	10.2	10.4	10.0	9.9	10.0	10.2	37.0	40.1	40.1	41.3
Operating Income	(2.5)	(1.8)	(1.7)	(2.1)	(3.6)	(2.8)	(1.8)	(1.7)	(6.2)	(8.1)	(9.8)	(7.7)
Interest income	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.3
Unrealized fair value on LT Investment	9.8	3.1	(1.7)	(1.4)	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0
Foreign exchange loss	(0.2)	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Gain on sale of real estate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other (rent) - net	0.3	0.1	0.1	0.5	0.3	0.3	0.3	0.3	0.7	1.0	2.1	0.9
Total other Income	10.0	3.6	(1.5)	(0.7)	0.4	0.4	0.4	0.4	1.1	11.4	2.4	1.2
Pretax Income	7.5	1.7	(3.2)	(2.8)	(3.2)	(2.4)	(1.4)	(1.3)	(5.1)	3.3	(7.4)	(6.5)
Pretax margin	52.8%	11.5%	-18.9%	-16.6%	-24.7%	-16.7%	-8.8%	-7.8%	-8.5%	5.2%	-12.4%	-9.9%
Taxes	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	1.0	1.1	1.3	1.1
Tax Rate	3.6%	15.2%	-8.9%	-12.0%	-10.4%	-9.5%	-15.9%	-17.1%	-19.7%	34.9%	-17.8%	-16.9%
GAAP Net Income	7.2	1.5	(3.5)	(3.1)	(3.5)	(2.6)	(1.6)	(1.5)	(6.1)	2.1	(8.7)	(7.6)
Non-GAAP Net Income	(2.2)	(1.3)	(1.4)	(1.4)	(3.1)	(2.2)	(1.3)	(1.2)	(4.6)	(6.3)	(7.1)	(6.0)
GAAP EPS-Basic	$0.28	$0.06	($0.13)	($0.12)	($0.13)	($0.10)	($0.06)	($0.06)	($0.24)	$0.08	($0.34)	($0.30)
GAAP EPS-Fully dil.	$0.27	$0.06	($0.13)	($0.12)	($0.13)	($0.10)	($0.06)	($0.06)	($0.24)	$0.08	($0.34)	($0.30)
Non-GAAP	**($0.08)**	**($0.05)**	**($0.05)**	**($0.05)**	**($0.12)**	**($0.08)**	**($0.05)**	**($0.05)**	**($0.18)**	**($0.24)**	**($0.28)**	**($0.24)**
Share Out	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	25.8	26.0	25.6	25.2
Fully diluted shares	26.5	26.5	26.5	26.6	26.6	26.5	26.5	26.5	25.8	26.6	25.6	25.2
Yr-to-yr Gr.	2%	2%	3%	4%	0%	0%	0%	0%	1%	3%	-4%	-2%

BALANCE SHEET

	Dec 31, 2018	Sept 30, 2018	Dec-Sept % Change	Dec 31, 2017	Yr-to-Yr % Change
CURRENT ASSETS					
Cash and cash equivalents	$32,414	$33,856	-4.3%	$28,520	13.7%
Restricted cash	34	34	0.0%	35	-2.9%
Short-term investments	6,172	7,331	-15.8%	17,601	-64.9%
Accounts receivable, net	11,388	11,291	0.9%	9,184	24.0%
Inventories	10,288	9,960	3.3%	9,330	10.3%
Prepaid expenses and other current assets	2,276	2,326	-2.1%	1,245	82.8%
Total current assets	**62,572**	**64,798**	-3.4%	**65,915**	-5.1%
LONG-TERM INVESTMENTS	10,445	13,104	-20.3%	3,112	235.6%
PROPERTY AND EQUIPMENT, NET	13,714	13,703	0.1%	13,755	-0.3%
OTHER ASSETS	2,578	2,132	20.9%	2,300	12.1%
Total other assets	26,737	28,939	-7.6%	19,167	39.5%
TOTAL ASSETS	89,309	93,737	-4.7%	85,082	5.0%
CURRENT LIABILITIES					
Notes and accounts payable	4,582	5,138	-10.8%	2,460	86.3%
Income tax payable	413	435	-5.1%	341	21.1%
Accrued expenses and other current liabilities	4,181	4,654	-10.2%	4,379	-4.5%
Total current liabilities	9,176	10,227	-10.3%	7,180	27.8%
OTHER LONG-TERM LIABILITIES					
Accrued pension liabilities	321	333	-3.6%	355	-9.6%
Deferred tax liabilities	681	1,099	-38.0%	906	-24.8%
Other liabilities	85	86	-1.2%	86	-1.2%
Total long-term liabilities	1,087	1,518	-28.4%	1,347	-19.3%
Total liabilities	10,263	11,745	-12.6%	8,527	20.4%
SHAREHOLDERS EQUITY					
Ordinary shares	33	33	0.0%	33	0.0%
Additional paid-in capital	143,115	142,794	0.2%	142,946	0.1%
Retained earnings (accumulated deficits)	(45,912)	(42,780)	7.3%	(47,517)	-3.4%
Accumulated other comprehensive income	4,674	4,759	-1.8%	5,337	-12.4%
Treasury stock	(22,864)	(22,814)	0.2%	(24,244)	-5.7%
Total shareholders equity	79,046	81,992	-3.6%	76,555	3.3%
TOTAL LIABILITIES AND SHAREHOLDERS EQUITY	89,309	93,737	-4.7%	85,082	5.0%
Cash and equivalents	$38,586	$41,187	-6.3%	$46,121	-16.3%
Change in cash and equivalents	(2,226)	375	-693.6%	(55)	3947.3%
Market value	43,935,480	43,425,560	1.2%	42,434,700	3.5%
Enterprise value	5,315,480	2,204,560	141.1%	(3,721,300)	-242.8%
DSO	62	60	3.3%	54	14.8%
Inventory Days	111	108	2.8%	119	-6.7%

ANNUAL CASH FLOW

	12 Months Ended December 31,				
	2017	2016	2015	2014	2013
OPERATING ACTIVITIES					
Net loss	$ (6,145)	$ (2,986)	$ (21,095)	$ (15,057)	$ (19,099)
Adjustments to reconcile net loss to net cash used in operating activities:					
Depreciation and amortization	1,667	1,682	2,446	3,718	4,685
Stock-based compensation	1,589	1,606	1,912	2,120	2,609
Loss on asset write-off	0	0	0	82	
Inventory write-downs	642	1,527	913	1,538	900
Gain on sale of long-term investments	(20)	(948)	(8)	(436)	
Impairment loss on long-term investments	0	0	4,953	83	
Gain on disposal of property & equipment, net	(137)	(1,726)	(738)	(428)	(106)
Deferred income taxes	40	(1,231)	1,989	78	41
Other, net	0	0	0	(36)	(1)
Changes in operating assets and liabilities:					
Accounts receivable, net	(1,979)	(2,008)	1,592	3,235	(1,251)
Inventories	(697)	(1,140)	(1,933)	(2,963)	(200)
Prepaid expenses and other current assets	(139)	(6)	191	130	510
Deferred charges	(553)	(375)	(416)	(985)	(1,366)
Notes and accounts payable	(1,869)	996	1,202	(2,038)	413
Income tax payable	161	(2,065)	1,595	412	(124)
Accrued expenses and other current liabilities	186	(1,064)	(1,039)	577	(1,083)
Accrued pension liabilities	13	(4)	(11)	(12)	(25)
Other liabilities	3	(56)	(168)	(346)	(8,893)
Net cash used in operating activities	(7,238)	(7,798)	(8,615)	(10,328)	(22,990)
Acquisition of:					
Short-term investments	(8,505)	(28,797)	(7,128)	(22,346)	(15,496)
Long-term investments	0	0			(250)
Property and equipment	(704)	(673)	(724)	(1,004)	(743)
Decrease (increase) in:					
Restricted assets	0	0			10,000
Restricted cash	0	0	132	(1)	1
Other assets	22	40	82	116	108
Proceeds from:					
Sale of short-term investments	12,635	18,331	16,755	34,333	52,131
Sale of long-term investments	0	5,982	167	1,304	0
Return of capital from LT investment	1,163	17	370	0	
Disposal of property and equipment	145	3,837	3,205	1,982	166
Net cash provided by investing activities	4,756	(1,263)	12,859	14,384	45,917
FINANCING ACTIVITIES					
Acquisition of treasury stock	(708)	(619)	(3,233)	(4,965)	(8,279)
Proceeds from:					
Exercise of stock options	29	2	31	44	25
Issuance of ordinary shares under the Employee Stock Purchase Plan	84	73	180	258	335
Net cash used in financing activities	(595)	(544)	(3,022)	(4,663)	(7,919)
EFFECTS OF CHANGES IN FOREIGN EXCHANGE RATE	265	(262)	(1,092)	(617)	(613)
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(2,812)	(9,867)	130	(1,224)	14,395
CASH AND CASH EQUIVALENTS AT BEGINNING OF THE YEAR	31,332	41,199	41,069	42,293	27,898
CASH AND CASH EQUIVALENTS AT END OF THE YEAR	28,520	31,332	41,199	41,069	42,293
SUPPLEMENTAL DISCLOSURES OF CASH FLOWS					
Cash paid for tax	$ 818	$ 4,349	$ 1,068	$ 697	$ 1,064
Cash Flow	(2,364)	(2,076)	(9,628)	(8,338)	(10,971)
Free cash flow	(3,068)	(2,749)	(10,352)	(9,342)	(11,714)

HISTORICAL STOCK PRICE



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