Zacks Small-Cap Research

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Akoustis Tech (AKTS-OTCQB)

AKTS: Continued Performance Improvement Spurs Increasing Customer Interest

We believe the stock could be worth $10.20 per share based on an industry average of 3.9X EV to sales by FY 2019 if sales targets are met and given its current production schedule and cash needs.

Current Price (10/31/16)	$5.14
Valuation	**$10.02**

OUTLOOK

Akoustis is a pre-revenue start-up. It has started to penetrate the high growth market for RF filters with its technical advantages against the competition. Its seasoned management, IP protection, and progress to date, should allow it is able to bring its product to market and capture market share. It announced further improvements to its technology and expects product deliver in January. Investors may benefit either through stock appreciation as the business takes shape and generates sales, or via an acquisition of the company by strategic investors seeking a leading edge IP-protected BAW solution to fill in their product lines or provide a competitive advantage.

SUMMARY DATA

52-Week High	**$5.14**
52-Week Low	**$1.51**
One-Year Return (%)	**68.1**
Beta	**-0.6**
Average Daily Volume (sh)	**11,902**
Shares Outstanding (mil)	**15.8**
Market Capitalization ($mil)	**$81**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**19.7**
Insider Ownership (%)	**32.0**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**N/A**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/M**
P/E using 2017 Estimate	**N/M**
P/E using 2018 Estimate	**N/M**

Risk Level	**Above Average**
Type of Stock	**N/A**
Industry	**Semi-Radio Freq**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Sep)	Q2 (Dec)	Q3 (Mar)	Q4 (Jun)	Year (Jun)
2015	$0.0 A	$0.0 A	$0.0 A	$0.0 A	$0.0 A
2016	$0.0 A	$0.0 A	$0.0 A	$0.0 A	$0.0 A
2017	$0.0 E	$0.0 E	$0.2 E	$0.3 E	$0.5 E
2018					$8.5 E

Earnings per Share
(EPS is non-GAAP earnings before non-recurring items)

	Q1 (Sep)	Q2 (Dec)	Q3 (Mar)	Q4 (Jun)	Year (Jun)
2015	-$0.03 A	-$0.03 A	-$0.01 A	-$0.08 A	-$0.16 A
2016	-$0.08 A	-$0.08 A	-$0.04 A	-$0.08 A	-$0.34 A
2017	-$0.09 E	-$0.09 E	-$0.10 E	-$0.13 E	-$0.41 E
2018					-$0.42 E

Zacks Projected EPS Growth Rate - Next 5 Years % **N/A**

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WHAT'S NEW

Akoustis Announces Even Higher Performance of its BAW Product

Today the company announced today that it achieved a 40% performance improvement in its single-crystal BAW technology since August. It has now reached **a quality factor (Q) of 2,914 and a technology figure-of-merit (FOM) of 152**, and thinks it can surpass even this performance going forward. This performance level satisfies resonator requirements to produce commercial, high-band RF filters, including 4G/LTE, Wi-Fi, emerging 5G and other wireless applications. According to its press release, the results reported were for 72-ohm resonators operating at approximately 2.5GHz with a range of K-squared values from 5.2% to 7.1%, which were obtained from experimental devices targeting Q improvement. Such K-squared values are *de-embedded*, meaning that any effect of on-chip passive circuit elements present in our RF filter process is subtracted. These performance numbers have given the company even visibility in the market and stirred considerable interest by potential customers.

Company Hires Industry Veteran from Qorvo to Run Engineering

Yesterday, Akoustis announced that **Rohan Houlden joined the company as Vice President of Engineering**. He will oversee the development and qualification of Akoustis' high-band RF BAW filter product portfolio. Rohan has 29 years of experience in design, development and management in the RF and wireless industry. He comes from **Qorvo**'s Connectivity business unit, where he was responsible for CPE Wi-Fi, Smart Energy, and Automotive product lines, and managed the product development and production ramp of custom Front End Modules (FEMs) and BAW filters for leading enterprise, retail OEMs, and automotive suppliers. Before that he spent seven year as the General Manager of the Wireless Connectivity group at RF Micro Devices. His hiring is a key addition to the company as it moves from development to the product production phase. Investors should gain confidence not only that an extremely qualified veteran is in charge of development and scaling the product line, but that a knowledgeable industry insider has confidence in the company's technology and product plans.

Production Update

The company continues on track to deliver finalized samples to its Chinese customer in January and believes it may be providing product to the military for use in radar and communications products in the March time frame. In China, its RF-filter product will be used in a RF front-end module to compete with Skyworks Solutions and Qorvo. Product going to China will be much higher volume than that going to the military, but the unique capabilities making it the sole source supplier of the military product will allow it to sell to the government at much higher ASPs.

June 30, 2016 Quarterly Results Show A Ramp in Expenses

The company changed its fiscal year from March to June and reported its June quarter results yesterday. In addition it has restated its annual financials and we have adjusted out model accordingly. The company spent $1.7 million in the June quarter, significantly more than the $1.1 million we had expected. However this increase was not due to cash spending, but due to a reset of RSUs that were granted to consultants back in 2015. Since the stock price moved up considerably from Q3 2016 to Q4 2016, those expenses were revalued. The cash burn for the quarter was closer to $1.1 million that the $1.6 million a simple calculation would show. The company has enough cash to last through March and we expect it to raise more funds by year-end to support its production ramp and R&D efforts as well as to allow it to reach the criteria to uplist its stock. We expect funds to continue to be raised through PIPE offerings.

KEY POINTS

- Akoustis is a pre-revenue start-up created to penetrate the rapidly growing Bulk Acoustic Wave (BAW) RF Filter market with innovate IP-protected technology that should improve performance at lower cost.
- It is specifically targeting the market for BAW RF filters used in smartphones.
- Its seasoned management and directors come from the companies it seeks to displace. Members of the team have already successfully created, and then sold, other start-ups.
- The BAW market is projected to grow at ~20% per year for the next five years, as more and more RF filters per phone will be needed to support faster and faster networks.
- The BAW market, dominated by Broadcom (AVGO), is ripe for disruption due to limited innovation and high prices derived from an IP-protected near-monopoly.
- Akoustis stock is a way for public company investors to participate in a technology start-up venture that could grow into a major player, or be an attractive acquisition for a large RF filter or semiconductor manufacturer selling to the smartphone market that would like a proprietary BAW solution. **The company's current enterprise value is $79 million** and we believe it should be able to capture significant market share in the multi-billion dollar high growth BAW filter market it is entering.

OVERVIEW

Industry executives, and scientists from University of California at Santa Barbara (UCSB) and Cornell University founded Akoustis as a start-up in 2014. It is located in Huntersville, North Carolina and currently employs 15 direct people and 12 contractors. It was created to commercialize and manufacture its patent-pending Bulk ONE™ acoustic wave technology. Bulk Acoustic Wave (BAW) resonators are used in RF filters found in the high-band transmit-receive section of LTE smartphones (4G and above). Akoustis' technology improves the functionality of BAW filters by using **single crystal** piezoelectric materials rather than the thin film **polycrystalline** technology that is used by the rest of the industry. This single crystal method results in filters that provide **wider bandwidth and lower insertion loss than currently available products resulting in next generation smartphones with less dropped calls and longer battery life**. Additionally, Akoustis' single crystal approach is unique; it is differentiated from the polycrystalline technology currently in use that is patent protected and results in limited competition. The company is designing its products but relies on an outside foundry to produce them. The market for RF filters in mobile phones using BAW resonators was a $1.6B market in 2015 and is expected to grow to $3.7 billion by 2020, a 18.3% CAGR, according to Mobile Experts 2015 Report.

FUTURE MILESTONES

By December 31, 2016

- Uplisting to NASDAQ
- Additional PIPE transaction to raise cash

Early 2017

- Production release of the first BAW filter products to its Chinese customer
- Deliver product to the military
- Off the shelf product available

VALUATION

Akoustis is currently trading at an enterprise value of $79 million up from $58 million at our last report. As a start-up we believe that Akoustis should be valued first on revenues to enterprise value focusing on later years. Its competitors are much larger companies and are trading in a range of 2.6x to 5.1x enterprise value to sales with an average of 3.9 times estimated 2016 calendar year sales. We believe that Akoustis could reach $60 million in sales by FY 2020 and have raised upwards of another $10 million resulting in issuing at another 1.9 million shares based on the current stock price. Therefore by the end of FY 2019, we believe the stock could be worth $10.19 per share given the cash and debt levels on the balance sheet at that point are similar to today. This is an increase in our price target solely due to the increase in the stock price with in turn lowers the number of shares needed to be sold in the future to fund losses.

Company	Ticker	Calendar Revenue 2016E	LTM	EBIDTA Margin	Enterprise Value / Sales 2016E	Enterprise Value / Sales LTM	Included in Average?	Enterprise Value
Broadcom	AVGO	15,500	10,940	38%	5.1	7.3	y	79,410
MediaTek	2454.TW	NA	24,711	12%	NA	10.7	n	264,680
Murata Manufacturing	MRAAY	NA	1,190	302%	NA	24.5	n	29,150
Qorvo	QRVO	2,986	2,640	27%	2.6	2.9	y	7,660
Resonant	RESN	0	0	NM	NM	392.3	n	35
Skyworks Solutions	SWKS	3,300	3,330	41%	4.1	4.0	y	13,450
Average				36%	3.9	4.7		33,507

	Projected Revenue 2020E	Projected Revenue 2019E	EBITDA Margin	Enterprise Value / Sales 2020E	Enterprise Value / Sales 2019E	Valuation Range Low	Valuation Range High
Akoustis	60	25	NM	3.9	4.7	118	235
YoY growth							

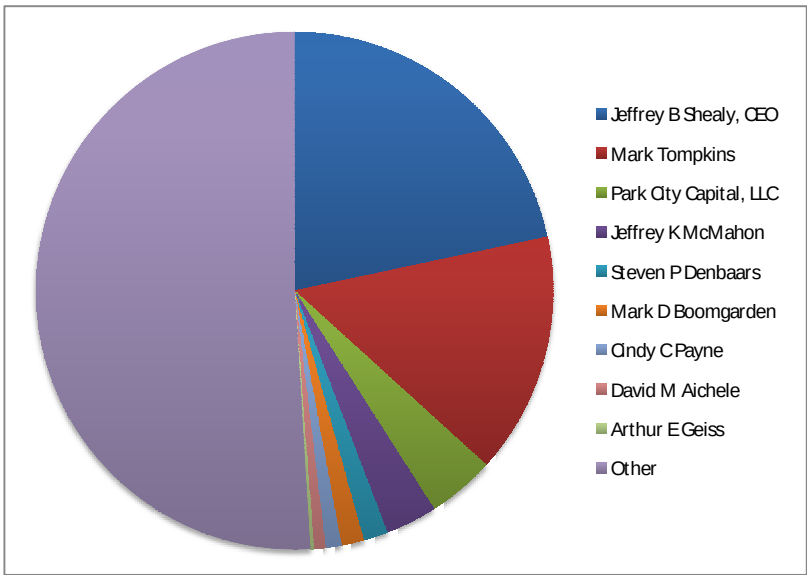
Conclusion of Enterprise Value	**$176,806,373**
Market Value	**$181,806,373**
Shares All In	17,836,981
Price per Share	**$10.19**

RISKS

- The company is a start-up and is pre-revenue. Investors should not expect any revenues from RF filters or resonators to be generated until 2017 at the earliest.
- The company will need to raise more cash in addition to receiving government grants to sustain its business until it can reach breakeven which will dilute current investors.

- There is no assurance the company can successfully scale up production of its products to achieve commercial volumes.
- Most of the company's intellectual property is in filed patents that have not yet been granted and there can be no assurance they will be granted.
- Its competitors are multi-billion companies with much greater resources and proven products.
- The company has signed only one customer and that customer may not generate revenues until 2017.

OWNERSHIP



INCOME STATEMENT

	Q4 June 30, 2015	Q1 Sep. 30, 2015	Q2 Dec. 31, 2015	Q3 Mar 31, 2016	Q4 June 30, 2016	Q1 Sep. 30, 2016E	Q2 Dec. 30, 2016E	Q3 Mar 31, 2017E	Q4 June 30, 2017E	FY 2015	FY 2016	FY 2017E	FY 2018E
Revenue	$0	$0	$0	$0	$0	$0	$0	$150,000	$300,000	$0	$0	$450,000	$8,500,000
Cost of goods	0	0	0	0	0	0	0	135,000	$270,000	0	0	405,000	6,980,000
Gross margin	0	0	0	0	0	0	0	15,000	$30,000	0	0	45,000	1,520,000
Percent of sales	100%	100%	100%	100%	100%	100%	100%	10%	10%			10%	18%
Operating expenses													
R&D	228,125	321,720	351,892	354,667	709,314	800,000	900,000	1,000,000	$ 1,100,000	470,987	1,758,701	3,800,000	4,400,000
G&A	625,917	761,323	724,481	501,869	968,734	1,000,000	1,100,000	1,200,000	1,500,000	920,031	2,935,299	4,800,000	6,000,000
Total operating expenses	854,042	1,083,043	1,076,373	856,536	1,678,048	1,800,000	2,000,000	2,200,000	2,600,000	1,391,018	4,694,000	8,600,000	10,400,000
Loss from operations	(854,042)	(1,083,043)	(1,076,373)	(856,536)	(1,678,048)	(1,800,000)	(2,000,000)	(2,185,000)	(2,570,000)	(1,391,018)	(4,694,000)	(8,555,000)	(8,880,000)
Operating margin								-1457%	-857%			-1901%	-104%
Other income													
Grant income	29,999	0	0	234,334	20,500	0	147,600	147,600	0	167,499	254,834	295,200	0
Other income	0	0	0	500	0	0	0	0	0	0	500	0	0
Interest income	175	496	352	305	186	200	200	200	200	175	1,339	800	800
Change in fair value of der liab	1,571	14,015	5,414	(127,994)	(860,275)	0	0	0	0	1,571	(968,840)	0	0
Total other income	31,745	14,511	0	107,145	(839,589)	200	147,800	147,800	200	169,245	(712,167)	296,000	800
Net loss	(822,297)	(1,068,532)	(1,070,607)	(749,391)	(2,517,637)	(1,799,800)	(1,852,200)	(2,037,200)	(2,569,800)	(1,223,519)	(5,406,167)	(8,259,000)	(8,879,200)
Net loss per share	**$ (0.11)**	**$ (0.09)**	**$ (0.09)**	**$ (0.05)**	**$ (0.17)**	**$ (0.09)**	**$ (0.09)**	**$ (0.12)**	**$ (0.15)**	**$ (0.20)**	**$ (0.40)**	**$ (0.52)**	**$ (0.53)**
Shares outstanding	7,823,683	12,392,115	12,768,358	14,000,000	15,111,088	15,836,981	15,836,981	16,807,855	16,807,855	6,240,780	13,349,482	15,898,226	16,807,855
Yr-to-yr Growth		126%	132%	155%	93%	28%	24%	20%	11%		114%	19%	6%
Share based compensation	198,454	28,275	81,423	331,492	435,642	440,000	440,000	440,000	440,000	231,909	849,625	1,755,642	1,755,642
Non-GAAP Loss	(623,843)	(1,026,242)	(983,770)	(545,893)	(1,221,720)	(1,359,800)	(1,412,200)	(1,597,200)	(2,129,800)	(991,610)	(4,556,542)	(6,503,358)	(7,123,558)
Non-GAAP EPS	**$ (0.08)**	**$ (0.08)**	**$ (0.08)**	**$ (0.04)**	**$ (0.08)**	**$ (0.09)**	**$ (0.09)**	**$ (0.10)**	**$ (0.13)**	**$ (0.16)**	**$ (0.34)**	**$ (0.41)**	**$ (0.42)**

BALANCE SHEET

	June 30, 2016	Mar. 31, 2016	% Change
Assets:			
Cash and cash equivalents	$ 4,155,444	$ 2,730,105	52%
Inventory	43,544	43,544	0%
Prepaid expenses	54,818	59,461	-8%
Total current assets	4,253,806	2,833,110	50%
Property and equipment, net	206,985	182,910	13%
Intangibles, net	71,233	60,649	17%
Other assets	10,715	10,715	0%
Total Assets	4,542,739	3,087,384	47%
Current Liabilities:			
Accounts payable and accrued expenses	543,646	367,290	48%
Total current liabilities	543,646	367,290	48%
Long-term Liabilities:			
Derivative liabilities	1,322,729	313,709	322%
Total Liabilities	1,866,375	680,999	174%
Stockholders' Equity			
Common Stock	15,376	13,615	13%
Additional paid in capital	9,335,801	6,549,946	43%
Accumulated deficit	(6,674,813)	(4,157,176)	61%
Total Stockholders' Equity	2,676,364	2,406,385	11%
Total Liabilities and Stockholders' Equity	4,542,739	3,087,384	47%
Net cash	$4,155,444	$2,730,105	52%
Current ratio	7.8	7.7	1%
Quick ratio	7.7	7.6	2%
Cash as % of assets	91%	88%	3%
Working Capital	3,710,160	2,465,820	50%
Market cap	81,560,452	60,755,108	34%
Enterprise value	78,727,737	58,338,712	35%

CASH FLOWS

	3 Months Ended 30-Jun-15	3 Months Ended 30-Sep-15	3 Months Ended 31-Dec-15	3 Months Ended 31-Mar-16	3 Months Ended 30-Jun-16	Year Ending 30-Jun-16
Net loss	$ (822,297)	$ (1,068,532)	$ (1,070,607)	$ (749,391)	$ (2,517,637)	$ (5,406,167)
Adjustments to reconcile net loss to net cash used in operating activities:						
Depreciation	2,632	4,530	8,456	10,417	11,425	34,828
Amortization of intangibles	506	1,034	378	796	1,131	3,339
Share-based compensation	198,454	28,275	81,423	331,492	435,642	849,625
Change in fair value of derivative liabilities	(1,571)	(14,015)	(5,414)	127,994	860,275	968,840
Changes in operating assets and liabilities:						
Inventory	30,521	0	0	(43,544)	0	(43,544)
Prepaid expenses	(40,812)	5,190	(13,265)	8,426	4,643	4,994
Other assets	(8,000)	(8,100)	(42,155)	50,255	0	0
Accounts payable and accrued expenses	64,075	255,373	131,730	(243,372)	104,179	275,116
Net Cash Used In Operating Activities	(576,492)	(796,245)	(909,454)	(506,927)	(1,100,342)	(3,312,969)
CASH FLOWS FROM INVESTING ACTIVITIES:						
Cash paid for machinery and equipment	(18,761)	(103,957)	(19,450)	(1,265)	(35,500)	(160,172)
Cash paid for intangibles	(4,617)	(14,873)	(2,028)	(14,879)	(11,715)	(43,495)
Net Cash Used In Investing Activities	(23,378)	(118,830)	(21,478)	(16,144)	(47,215)	(203,667)
CASH FLOWS FROM FINANCING ACTIVITIES:						
Borrowings from promissory note	0	0	$ 0	$ 0	0	0
Repayment of promissory note	0	0	$ 0	$ 0	0	0
Proceeds from the exercise of warrants					10,000	10,000
Proceeds from issuance of Common Stock	4,241,627	0	0	769,687	2,562,896	3,332,584
Net Cash Provided By Financing Activities	4,241,627	0	0	769,687	2,572,896	3,342,584
Net Increase in Cash	3,641,757	(915,075)	(930,932)	8,426	1,425,339	(174,052)
Cash - Beginning of Period	687,739	4,329,496	3,414,421	2,483,489	2,730,105	4,329,496
Cash - End of Period	4,329,496	3,414,421	2,483,489	2,730,105	4,155,444	4,155,444
Cash Paid During the Period for:						
Income taxes	0	0	0	0	0	0
Interest	0	0	0	0	0	0
SUPPLEMENTARY DISCLOSURE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:						
Stock compensation payable	27,206	37,450	24,942	11,447	72,177	146,016
Warrants issued for stock issuance costs	206,715	0	0	0	165,719	165,719
Conversion of convertible notes into Common Stock	655,000	0	$ 0	0	0	0
Reclassification of der. liab. to add paid in capital					16,974	0
Cash flow	(622,276)	(1,048,708)	(985,764)	(278,692)	(1,209,164)	(3,549,535)
Free cash flow	(645,654)	(1,167,538)	(1,007,242)	(294,836)	(1,256,379)	(3,753,202)

HISTORICAL STOCK PRICE



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