Zacks Small-Cap Research

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Akoustis Tech (AKTS-OTC)

AKTS: Zacks Company Report – Company Announces Industry Leading Product Performance

We believe the stock could be worth $8.50 per share based on an industry average of 3.5X EV to sales by FY 2019 if sales targets are met and given its current production schedule and cash needs.

Current Price (06/03/16)	$4.29
Valuation	**$8.50**

OUTLOOK

Akoustis is a pre-revenue start-up. It could successfully penetrate the high growth market for RF filters given its technical advantages and limited competition. Its seasoned management, IP protection, and progress to date, should allow it is able to bring its product to market and capture design wins by the end of 2016. 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	**$6.50**
52-Week Low	**$1.51**
One-Year Return (%)	**N/A**
Beta	**N/A**
Average Daily Volume (sh)	**5,643**
Shares Outstanding (mil)	**13**
Market Capitalization ($mil)	**$56**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**0**
Insider Ownership (%)	**N/A**
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/A**
P/E using 2017 Estimate	**N/M**
P/E using 2018 Estimate	**N/M**

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

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Jun)	Q2 (Sep)	Q3 (Dec)	Q4 (Mar)	Year (Mar)
2015	NA	$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	$0.0 E	$0.2 E	$0.2 E
2018					$3.8 E

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

	Q1 (Jun)	Q2 (Sep)	Q3 (Dec)	Q4 (Mar)	Year (Mar)
2015	NA	-$0.01 A	-$0.03 A	NA	NA
2016	-$0.08 A	-$0.08 A	-$0.08 A	-$0.07 E	-$0.31 E
2017	-$0.07 E	-$0.06 E	-$0.08 E	-$0.08 E	-$0.27 E
2018					-$0.43 E

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

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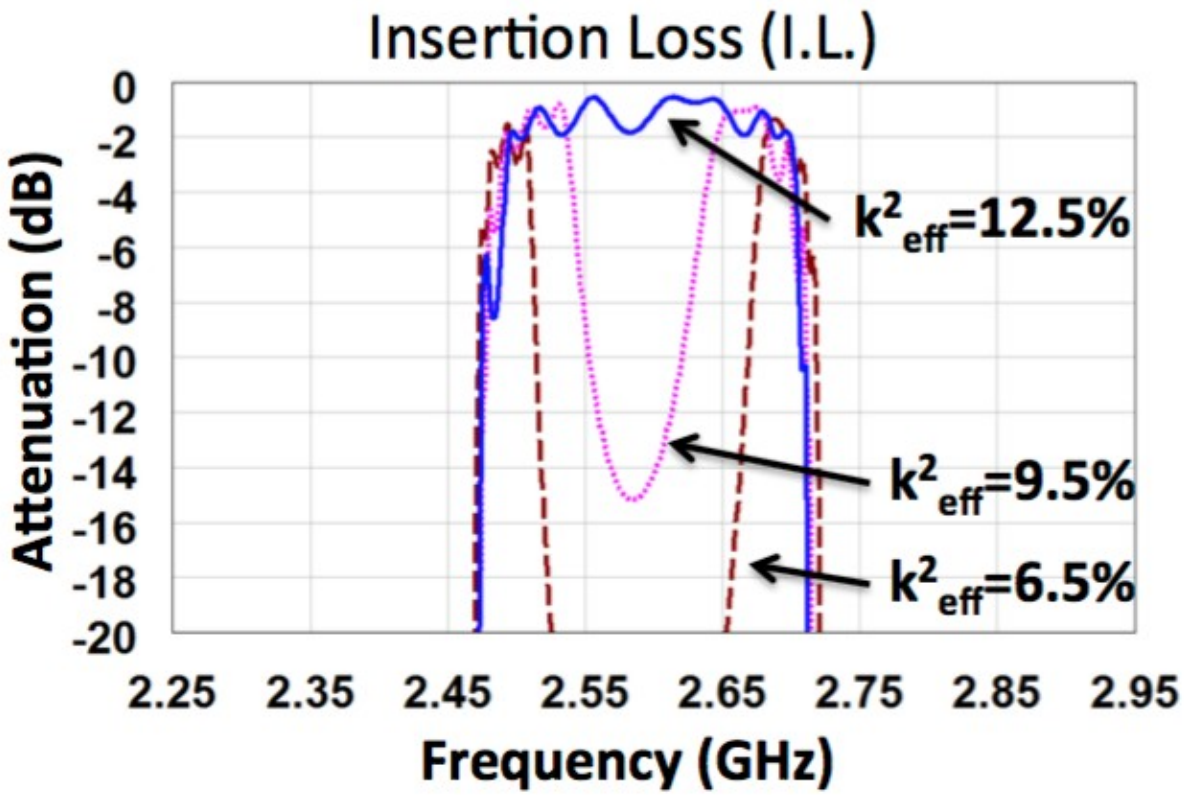
WHAT'S NEW

In May at an industry conference, Akoustis reported that **its 3.4GHz BAW resonators**, constructed from single crystal undoped aluminum nitride (AlN) piezoelectric material, **showed a record high K-squared of 12.5%.** In comparison, resonators currently on the market show K-squared performance from undoped polycrystalline AlN resonators is limited to approximately **6.5%.** In order to increase K-squared for polycrystalline AlN, the material must be doped with one or more impurities, resulting in energy losses and performance trade-offs. Akoustis' patented undoped single crystal AlN offers significantly higher filter bandwidth without the performance penalties associated with doping.

This result is important because it shows that Akoustis' technology far superior to the competition at higher frequencies and this is vital as the market moves to 5G. Since its resonator is made from a single crystal AlN, **it has significant advantages over the polycrystalline AlN competition**. The superior k-square single crystal AlN BAW technology performance offers higher bandwidth, higher frequency 4G/LTE filters to the mobile communication market with out the need of additional helper circuitry. Consequentially, the end user of new model smartphones, incorporating this advanced high band BAW-based RF filter technology, will have **improved battery life, reduced dropped calls and minimize thermal heating**. According to a 2015 report from Mobile Experts, approximately **25% of all 4G/LTE RF filter-band shipments in 2016 will require high frequency and/or high K-squared resonator building blocks**.



The industry is taking notice of Akoustis and we believe that it may be able to announce strategic partnerships with customers soon and certainly by year-end. The company is having a number of companies evaluate its product and hopes to ink a deal with a Tier 2 smartphone provider with lower volume requirements to start as it begins production and proves its ability to ramp to high volumes.

On April 14, 2016 the company announced it closed a private offering of 1,922,185 shares of stock at $1.60 per share for $3,075,496. The total gross proceeds of the offering before expenses were **$3,576,496** for 2,235,310 shares of common stock. The financing was led by management and directors and included Herald Investment Management Limited, and Montrose Capital Partners. While this is a low price compared to its current stock price we are hopeful that future offerings will be at much higher prices leading to much lower dilution for current investors.

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 Avago (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 $48 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 12 direct people and 15 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.

MILESTONES

June 30, 2016 - FY Q1 2017

- Phase IIb of the NFS grant should be received.
- After having samples 2-4 weeks, customers will provide feedback and resonators will be revised according to comments and suggestions.
- Akoustis Bulk ONE™ process was locked and capabilities were defined.
- RF Filter demonstrator samples were sent to customers for evaluation.

September 30, 2016 FY Q2 2017

- RF Filter LTE band-specific samples should be available for evaluation by quarter end.

December 31, 2016 FY Q3 2017

- First potential design-ins by customers
- Uplisting to NASDAQ
- Possible additional PIPE transaction to raise cash

Early 2017

- Production release of the first BAW filter products
- Off the shelf product available

VALUATION

Akoustis is currently trading at an enterprise value of $47.5 million, up significantly from the value of $17 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 3x to 4x enterprise value to sales with an average of 3.5 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 least another 2.4 million shares. Therefore by the end of FY 2019, we believe the stock could be worth $8.66 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 company's stock price which means it will have to dilute shareholders far less than previously thought to raise cash to make it through to cash flow breakeven.

Company	Ticker	Calender Revenue 2016E	LTM	EBIDTA Margin	Enterprise Value / Sales 2016E	LTM	Included in Average?	Enterprise Value
Broadcom (formerly Avago)	AVGO	14,800	6,960	41%	4.2	8.9	y	62,250
MediaTek	2454.TW	NA	221,620	13%	NA	1.0	n	222,970
Murata Manufacturing	MRAAY	NA	11,030	31%	NA	1.9	n	21,060
Qorvo	QRVO	2,721	2,610	28%	2.7	2.9	y	7,470
Resonant	RESN	0	0	NM	NM	1333.3	n	36
Skyworks Solutions	SWKS	3,252	3,390	40%	3.5	3.4	y	11,490
Average				36%	3.5	5.1		27,070

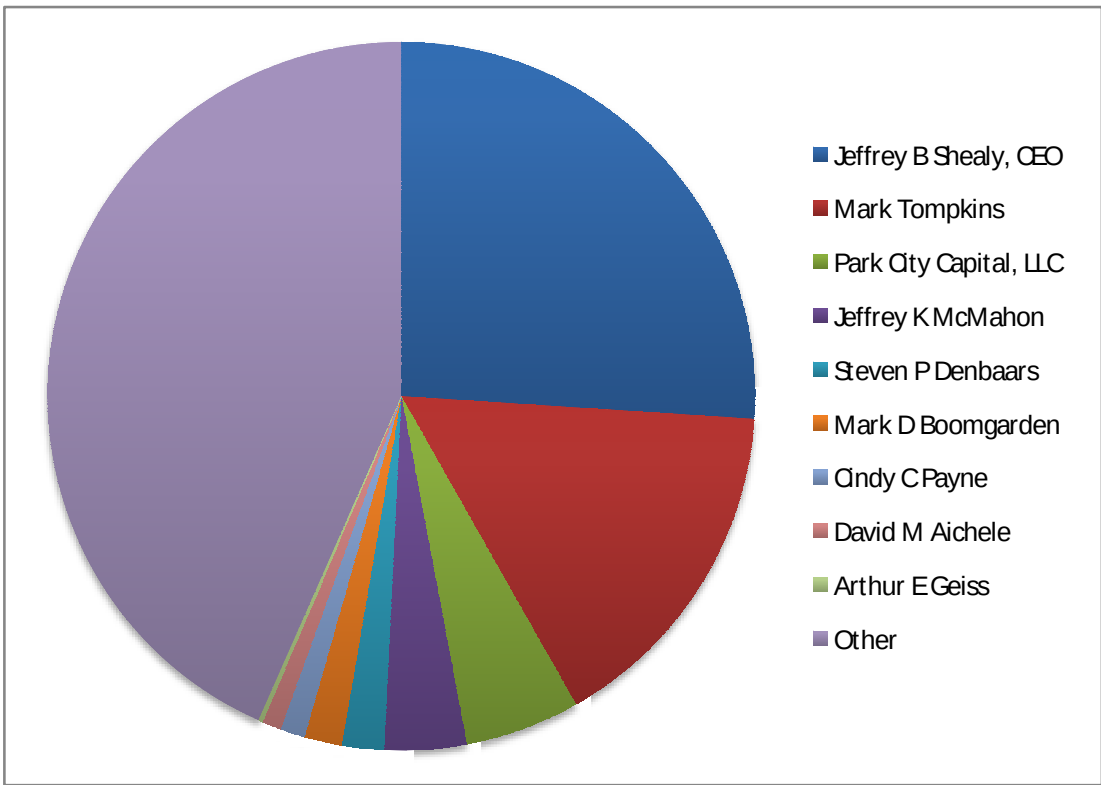
	Projected Revenue 2020E	2019E	EBITDA Margin	Enterprise Value / Sales 2020E	2019E	Valuation Range Low	High
Akoustis	60	25	NM	3.5	5.1	127	210
YoY growth							

Conclusion of Enterprise Value	**$168,160,286**
Market Value	**$173,160,286**
Shares All In	20,000,000
Price per Share	**$8.66**

RISKS

- The company is a start-up and is pre-revenue. Investors should not expect any revenues, from RF Filters, 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 no customers for its products yet.

OWNERSHIP



FINANCIALS

As a pre-revenue start-up, Akoustis needs to insure it has the cash to last until sales can support the operation. The company did a financing in April with gross proceeds of $3.5 million. With its $2.5 million on the balance sheet as of December 31, it could have almost $5 million on the balance sheet now given a $1 million per quarter burn rate. The company also hopes to receive a sizable NFS add-on grant shortly.

Q4 2016
This quarter we expect the company to book operating expenses very similar to the December quarter and are looking for a loss of $945,000 or $0.07 per share.

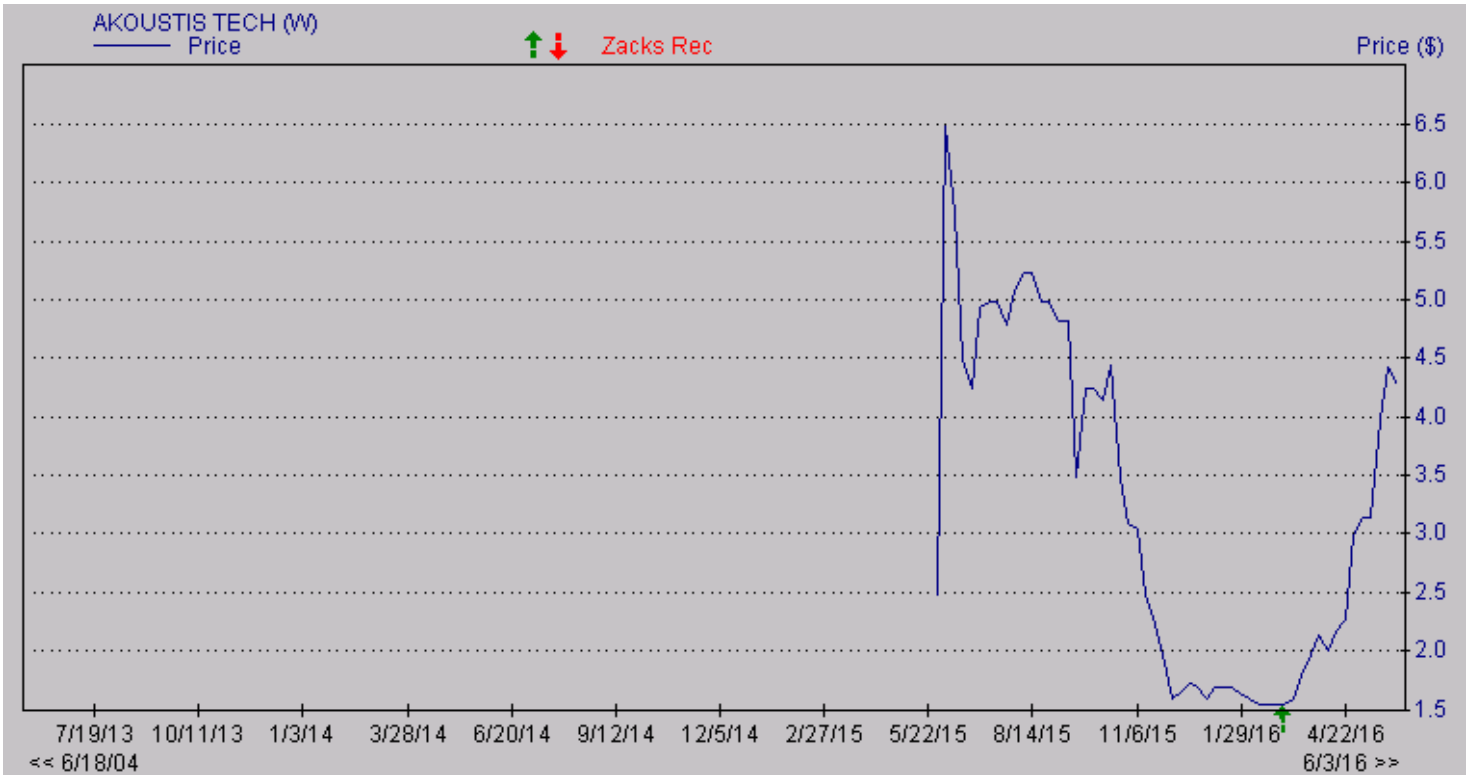
FY 2016
The fiscal year ending March 31, 2016 should show operating expense of $4.1 million and grant income of $215,000. This should result in a non-GAAP loss per share of $0.31.

FY 2017
In 2017 Akoustis should begin to book some revenue as it provides engineering services to potential customers.

INCOME STATEMENT

	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
	June 30, 2015	Sep. 30, 2015	Dec. 31, 2015	Mar 31, 2016E	June 30, 2016E	Sep. 30, 2016E	Dec. 30, 2016E	Mar 31, 2017E	FY 2016E	FY 2017E	FY 2018E
Revenue	$0	$0	$0	$0	$0	$0	$0	$150,000	$0	$150,000	$3,800,000
Cost of goods	0	0	0	0	0	0	0	135,000	0	135,000	3,250,000
Gross margin	0	0	0	0	0	0	0	15,000	0	15,000	550,000
Percent of sales					100%	100%	100%	10%		10%	14%
Operating expenses											
R&D	193,915	321,720	351,892	380,000	400,000	400,000	420,000	450,000	1,247,527	1,670,000	3,450,000
G&A	660,127	761,323	724,481	750,000	740,000	750,000	800,000	1,250,000	2,895,931	3,540,000	5,450,000
Total operating expenses	854,042	1,083,043	1,076,373	1,130,000	1,140,000	1,150,000	1,220,000	1,700,000	4,143,458	5,210,000	8,900,000
Loss from operations	(854,042)	(1,083,043)	(1,076,373)	(1,130,000)	(1,140,000)	(1,150,000)	(1,220,000)	(1,685,000)	(4,143,458)	(5,195,000)	(8,350,000)
Operating margin								-1123%		-3463%	-220%
Other income											
Grant income	29,999	0	0	184,500	0	147,600	0	147,600	214,499	295,200	0
Interest income	175	496	352	175	175	200	200	175	1,198	750	850
Change in fair value of der liab	1,571	14,015	5,414	0	0	0	0	0	21,000	0	0
Total other income	31,745	14,511	0	184,675	175	147,800	200	147,775	230,931	295,950	850
Net loss	(822,297)	(1,068,532)	(1,070,607)	(945,325)	(1,139,825)	(1,002,200)	(1,219,800)	(1,537,225)	(3,912,527)	(4,899,050)	(8,349,150)
Net loss per share	**$ (0.11)**	**$ (0.09)**	**$ (0.09)**	**$ (0.07)**	**$ (0.08)**	**$ (0.09)**	**$ (0.09)**	**$ (0.08)**	**$ (0.34)**	**$ (0.29)**	**$ (0.45)**
Shares outstanding	7,823,683	12,392,115	12,768,358	13,052,167	14,974,352	17,235,000	17,235,000	18,646,765	11,509,081	17,022,779	18,646,765
		126%	132%	138%							
All in shares		13,500,620	14,506,063	14,789,872	16,712,057	18,972,705	18,972,705	20,384,470	14,265,518	18,760,484	20,384,470
Share based compensation	198,454	28,275	81,423	80,000	80,000	80,000	80,000	80,000	320,000	320,000	320,000
Non-GAAP Loss	(623,843)	(1,040,257)	(989,184)	(865,325)	(1,059,825)	(922,200)	(1,139,800)	(1,457,225)	(3,592,527)	(4,579,050)	(8,029,150)
Non-GAAP EPS	**$ (0.08)**	**$ (0.08)**	**$ (0.08)**	**$ (0.07)**	**$ (0.07)**	**$ (0.05)**	**$ (0.07)**	**$ (0.08)**	**$ (0.31)**	**$ (0.27)**	**$ (0.43)**
EBITDA	(620,530)	(1,034,197)	(979,998)								

HISTORICAL STOCK PRICE



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