Zacks Small-Cap Research

March 3, 2016

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Akoustis Technologies (AKTS-OTCQB)

AKTS: Initiating Coverage – New Technology to Disrupt Mobile Phone RF Filters

Current Recommendation	**Buy**
Prior Recommendation	N/A
Date of Last Change	03/02/2016
Current Price (03/02/16)	$1.55
Target Price	**$7.00**

OUTLOOK

Akoustis is a pre-revenue start-up. It could successfully penetrate the high growth market for RF filters given its technological advantage and limited competition. Its seasoned management, IP protection, and progress to date could insure 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.

SUMMARY DATA

52-Week High	**$6.50**
52-Week Low	**$1.51**
One-Year Return (%)	**N/A**
Beta	**N/A**
Average Daily Volume (sh)	**13,951**
Shares Outstanding (mil)	**13**
Market Capitalization ($mil)	**$20**
Short Interest Ratio (days)	**0.3**
Institutional Ownership (%)	**21%**
Insider Ownership (%)	**36%**
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 2016 Estimate	**N/A**
P/E using 2017 Estimate	**N/A**
Zacks Rank	**N/A**

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

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Jun)	Q2 (Sep)	Q3 (Dec)	Q4 (Mar)	Year (Mar)
2014	NA	NA	NA	NA	NA
2015	NA	$0.0A	$0.0A	$0.0A	$0.0A
2016	$0.0A	$0.0A	$0.0A	$0.0E	$0.0E
2017					$0.2E

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

	Q1 (Jun)	Q2 (Sep)	Q3 (Dec)	Q4 (Mar)	Year (Mar)
2014	NA	NA	NA	NA	NA
2015	NA	-$0.01A	-$0.03A	NA	NA
2016	-$0.08A	-$0.08A	-$0.08A	-$0.07E	-$0.31E
2017					-$0.28E

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

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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 comes from the companies it seeks to displace and members of the team have already successfully created, and then sold, other start-ups.
- Board of directors comprised of seasoned Mobile Wireless industry veterans, including Jerry D. Neal, Founder of RF Micro Devices, Inc.
- 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.
- The company is currently valued at $16.7 million enterprise value, but it will need to raise at least $10 million more cash to see it through to profitability.
- 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 BAW solution.
- Based on our conservative revenue estimate of $60 million in FY 2020 and an industry average enterprise value to sales of 3.4 times, we believe AKTS common stock could be worth almost $7.00 per share in three years providing a stock appreciation of approximately 60% per year.

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.

THE MARKET

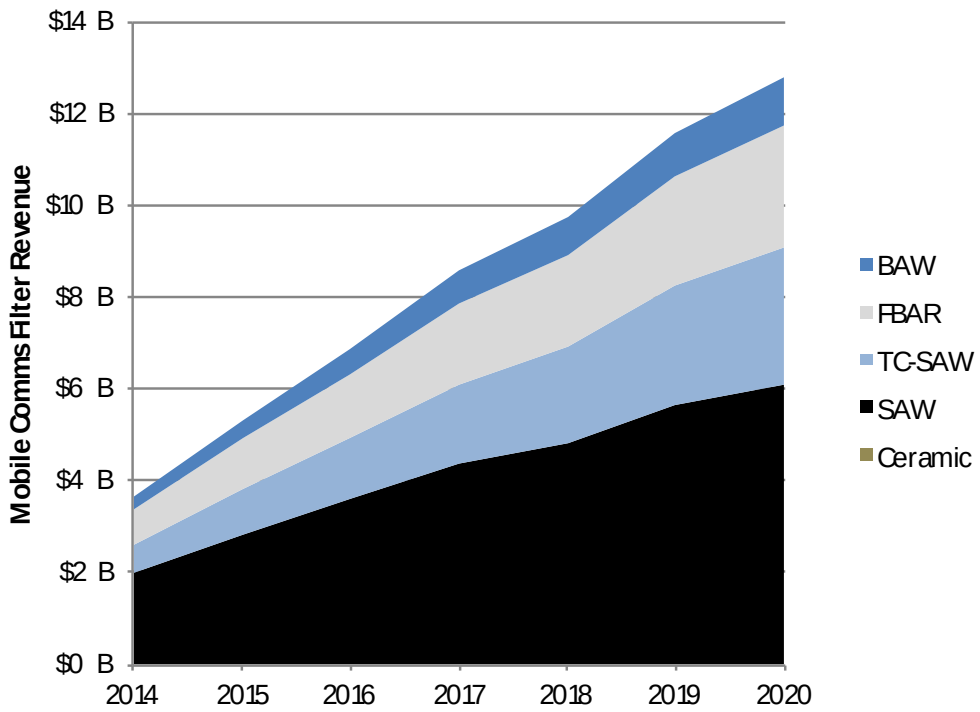
RF filters are components of smartphones and other devices. There are two types of RF filters sold to the handset manufacturers. They are called surface acoustic wave (SAW), and bulk acoustic wave (BAW).

- **Discrete SAW filters** are cheaper ($0.10 to $0.20) but they can only be used at lower bands (1.8 GHz and lower spectrum) that are useful for telecom networks that typically operate at 3G and below. There are 10 or more competitors in the SAW filter space. These types of filters are losing overall market share as telcos shift to faster and faster speeds and upgrade their networks.

- **Discrete BAW filters** cost between $0.30 and $1.00 and are used for smartphones supporting 4G/LTE and Wi-Fi that typically operate above the 1.8Ghz bands.

The total market for RF filters was $5.3 billion in 2015 of which 70% were SAW and 30% were BAW. That market, which is expected to reach $12B in 2020, could be split at 60% SAW and 40% BAW by that time. The $5.3B in revenues is derived from the sale of approximately 20-30B units or an average of $0.21 per filter.

Graph 1. Mobile Communications Filter Revenue



Source: Mobile Experts

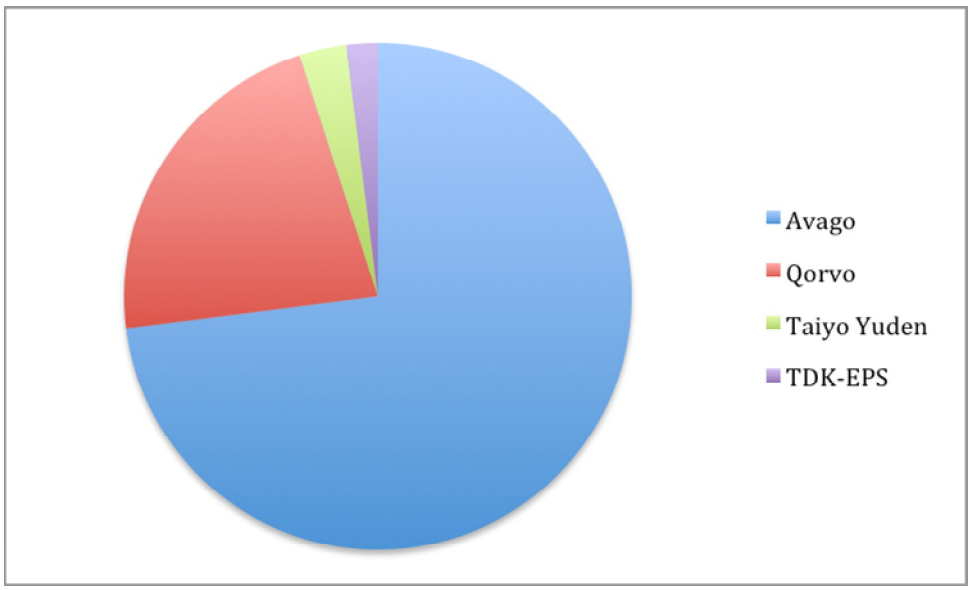
The RF filter market is growing at an 18.3% CAGR because the number of filters per handset is increasing each year as phones have to support 4G/LTE and shift to new higher bands (1.8GHz to 3.5 GHz), but also slower legacy 2G and 3G bands. To support upwards of 15 to 30 bands, these phones now require 20-50 filters per phone up from as few as five filters per phone. RF filters are a component of a RFFE (RF Front End) that connects the processor to the antenna. The RFFE market is expected to be a $19 billion US dollar opportunity by 2020 according to research firm Mobile Experts.

COMPETITION

In contrast to the SAW market, which has over ten competitors in the space, Avago Technologies and Qorvo (QRVO) control around 95% of the BAW market primarily because Avago has the best performance BAW filters and controls the IP for the filters that are most needed. Avago has 70-75% of the market while Qorvo controls 20-25% and two tiny players-- Taiyo Yuden (Japan) has 2-3% while TDK-EPC Corporation has another 2-3%. Qorvo sells a BAW product that has lower performance than Avago's and can be used only in more limited applications. Avago sells filters configured from film bulk acoustic resonators (FBAR) while Qorvo sells filters configured from surface mount resonators (SMR).

As BAW becomes more important and the market grows, there are many companies that would like to have an alternative to Avago's products, not in small part to the fact they are relatively expensive due to limited to no competition.

Graph 2: 2015 BAW Market Share by Vendor



Source: Market Insights and Akoustis

How is Akoustis Different From Resonant?

Another public company that is out to disrupt the filter market is Resonant (RSEN). It is valued at $6 million enterprise value and will need to raise money by the end of Q2, as it is also pre-revenue. Its idea is to replace expensive BAW filters with higher performing but cheaper SAW filters utilizing its Infinite Synthesizer Network (ISN) design technology and offers a tunable filter platform. Resonant came out of a company called Superconductor Technologies, Inc. (SCON) that is an industry think tank. It is going after the market by licensing its technology rather than making filters or resonators. Industry participants have been testing Resonant's technology but to date have not found it compelling versus their own in-house developed products. In addition, by pursuing SAW products it will run into the manufacturing limitations that prevent it from working above 1.8GHz. Resonant had a promising agreement with Skyworks Solutions, but failed to meet its milestones and performance hurdles. Longer term (by 2020) we believe tunable filters will not be able to compete with the performance that will be required at that time.

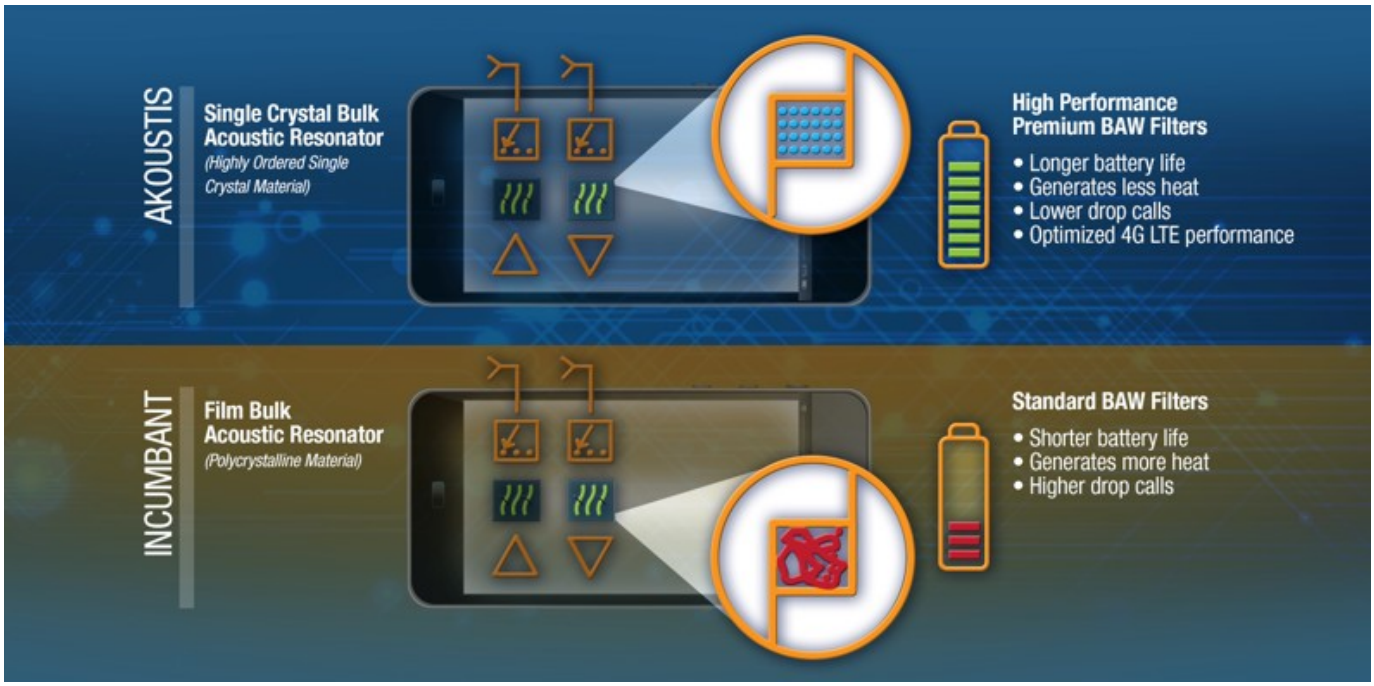
Akoustis, on the other hand, is taking proven technology that is widely used in the RF industry market and is applying it to BAW filters. Rather than license, it plans to manufacture, via an outside foundry, resonators and filters to sell to mobile phone OEMs, ODEMs and RFFE suppliers.

Potential Customers

Akoustis is marketing to mobile phone OEMs, ODMs and RF Front End (RFFE) module manufacturers. This market includes Skyworks Solutions (SKWS), Qorvo (QRVO), Murata (MRAAY), SEMCO, TDK (TTDKY), Avago/Broadcom (AVGO) and smaller Chinese players. Other potential customers could include Qualcomm (QCOM), Intel (INTC), MediaTek and Spreadstrum Communications, who have baseband but could also may want to access to BAW product. Qualcomm recently inked an agreement with TDK-EPC who has SAW products but limited BAW offering. In addition, mobile phone OEMs could benefit by integrating discrete RF BAW filters instead of Front End Modules (FEM).

Competitive Advantage

The technology market is always looking for something that is better; Akoustis' product has it. It's filter solution offers performance that uses less power and thereby extends battery life 5-15% as well as decreasing heat in smartphones. It has higher performance that will result in fewer dropped calls. In the industry, a measure of resonator performance is figure of merit (FOM). It is calculated by taking Q (aka Quality of Filter), which predicts insertion loss and filter skirt, and multiplying it by its K^2eff, which predicts bandwidth. Current industry standard for released BAW process based on polycrystalline piezoelectric exhibits Q in range of 2700-3200 and K^2eff are in range of 6.2% to 6.4%. Akoustis' goal based on superior single crystal material is to achieve a K^2eff over 7% and Q of over 3000 that puts it right in the ballpark if not out of it. Even if the company only reaches parity with the others, it will be able to sell product to mobile phone or companies who do not have access to BAW filters or RFFE manufacturers who want to compete in the high band 4G/LTE but have no BAW filters product nor an ability to get any from Avago or Qorvo who will not sell components to its competitors.



MILESTONES

March 31, 2016 - FY Q4 2016

- In February, Akoustis was awarded another National Science Foundation Phase II grant of $0.74M that will support R&D expenses associated with development of RF Filter technology. The company believes this will be followed by a Phase IIb match amount of $0.5M.
- The company is bullish on additional R&D funding coming out of the US Government and expects to announce incremental non-dilutive R&D support in 2016
- Approximately five potential customers will be sent sample resonators to evaluate. This should be out of the next two wafer lots that the company will receive from its foundry partner.

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 locked and capabilities defined
- RF Filter demonstrator samples will be 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
- Additional PIPE transaction to raise cash

Early 2017

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

MANAGEMENT

Jeffrey B. Shealy
Chairman and CEO

Jeff has over 20 years' experience in RF/Wireless focused on building businesses around solid-state materials and electron device innovation. He spent 13 years at RF Micro Devices, Inc. (now Qorvo) as VP and General Manager. He is a Howard Hughes Doctoral Fellow and spent 7 years with Hughes Electronics. His previous start-ups were RF Nitro (acquired by RFMD in 2001) and Avogy, Inc. (a Khosla Ventures company). Jeff earned an MBA from Wake Forest University in 2004, MS and PhD degrees in Electrical and Computer Engineering from University of California at Santa Barbara in 1993 and 1995, and a BS in Electrical and Computer Engineering from NC State University in 1991.

Cindy C. Payne
CFO and Treasurer

Cindy joined in Akoustis in 2015 bringing over 20 years of experience in financial management. Ms. Payne most recently served as the CFO for Amerock and before that for Tolt Service Group from 2010 until the company's sale in 2014. Her experience prior to Tolt included the role of Director of Financial Planning and Analysis in the Soft Trim Division of International Automotive Components and Controller of NewBold Corporation. Cindy graduated Magna Cum Laude from Western Carolina University with a BS in Business Administration and is a CPA, licensed in Virginia.

David Aichele
Vice President of Business Development

Dave is responsible for sales and marketing. He joined the company in May 2015 from T1Visions, a high tech software start-up company where he was EVP. Dave held Director positions at RFMD (previously Qorvo), where he was responsible for the business development and launch of new RF semiconductor products targeting the cellular market, and senior management positions at Tessera and TE Connectivity, where he led business development and sales teams. Dave earned a BSEE from Ohio University in 1988 and an MBA from the Leeds School of Business at the University of Colorado in 1994.

Mark Boomgarden
Vice President of Operations

Mark joined Akoustis in 2014 from DigitalOptics Corporation, a subsidiary of Tessera Technologies, Inc. (TSRA) where he was VP and General Manager. He was also General Manager of Tessera North America's wafer-level optics division and VP of its wafer-based camera business for mobile phones. Prior to Tessera, Mark worked at Digital Optics (private company) and Alcatel. Mark earned a BSEE from the University of North Carolina at Charlotte (UNCC) in 1999. He is a past Chairman of the Electrical and Computer Engineering (ECE) Advisory Board at UNCC. Mark is a veteran of the United States Navy Submarine Force, US Atlantic Fleet.

Rama Vetury
Chief Device Scientist

Rama joined Akoustis in September 2015, with over 18 years of experience in R&D of group III-Nitride (III-N) devices and a proven track record in technology commercialization. He comes from RFMD (and subsequently, Qorvo) where he managed RFMD's external commercial foundry business and was a principal investigator and program manager for programs with US Department of Defense (DoD)

agencies and DARPA. At RFMD, he led the development of RFMD's first GaN HEMT process from concept through qualification and for developing RFMD's first GaN HEMT based high power RF switch products. Prior to Qorvo, he worked on 40Gbit/s transceiver technology at GTRAN Inc. Rama earned a Ph.D. and M.S in electrical engineering from UC Santa Barbara in 2000 and a B.Tech from Indian Institute of Technology, Chennai.

Shawn Gibb
Chief Material Scientist

Shawn has over 18 years of experience in the epitaxial growth and processing of III-Nitride materials and devices for optoelectronic and high frequency RF applications. Prior to joining Akoustis in May 2015, he served as the VP of Engineering at Crystal IS responsible for the bulk growth, wafering, and polishing of their proprietary Aluminum Nitride (AlN) substrate materials. He also directed the epitaxial growth efforts for all Ultra Violet Light Emitting Diode (UV-LED) products, ultimately commercializing the world's first commercial products on single crystal, bulk AlN. Shawn also worked for RF Micro Devices where he was responsible for the development, and transfer to production of III-N materials and devices used in their 2.14 GHz transistor product offerings. He served as principle investigator and program manager for several III-N specific research contracts in cooperation with the Air Force Research Labs (AFRL) and the Office of Naval Research (ONR). Shawn earned a ME in Materials Engineering from Stevens Institute of Technology in 2001, BS/BE degrees in Chemistry and Chemical Engineering from NYU and Stevens Institute of Technology in 1997 respectively. He also has six patents relating to the growth and processing of wide bandgap materials and devices.

BOARD OF DIRECTORS

Jeffrey B. Shealy
Chairman

Steven P. Denbaars

Steven is a **Professor of Materials and Co-Director of the Solid-State Lighting Center at UC Santa Barbara**. Professor Denbaars joined UCSB in 1991 and currently holds the Mitsubishi Chemical Chair in Solid State Lighting and Displays. He has been in the LED business for over 25 years starting with his prior work at HP's Optoelectronics division in 1988 and involvement in over 2 LED start-ups. Specific research interests include growth of wide-band gap semiconductors (GaN based), and their application to Blue LEDs and lasers and energy efficient solid-state lighting. His research has lead to over 759 scientific publications and over 168 U.S. patents on electronic materials and devices. Steven earned a PhD in Electrical Engineering from the University of Southern California in 1988 and a BS in Metallurgical Engineering from the University of Arizona in 1984.

Jerry D. Neal

Jerry joined the board in June 2015 and was a **founder of RF Micro Devices** (Qorvo) in 1991, its EVP of Marketing and Strategic Development from January 2002 to May 31, 2012, VP of Marketing of RF Micro Devices Inc., from May 1991 to January 2000 and EVP of Sales, Marketing and Strategic Development from January 2000 to January 2002. Prior to RF Micro Devices he worked at Analog Devices for 10 years as a Marketing Engineer, Marketing Manager and Business Development Manager. Dr. Neal also founded Moisture Control Systems for the production of his patented electronic sensor for measurement of soil moisture for research, which was sold to Hancor, Inc. He has been a Director of **Jazz Semiconductor**, Inc. since November 2002 and was a Director of RF Micro Devices Inc. from February

1992 to July 1993. He also held various positions in HP. Dr. Neal received his AS in Electrical Engineering from Gaston Technical Institute and North Carolina State University, and a doctor of business management degree from Southern Wesleyan University.

Art Geiss

Art also joined the board in June 2015 and is the manager of AEG Consulting, LLC that offers guidance concerning manufacturing, operations, and process development to technology companies. Prior AEG Consulting, Mr. Geiss served as VP Wafer Fab Operations at RFMD (now Qorvo, Inc.) and responsible for the -up and operations of Gallium Arsenide epitaxial-growth and wafer-fabrication. Previous to RFMD, Mr. Geiss was with Alpha Industries, Inc. (purchased by Skyworks Solutions, Inc.) and ITT Gallium Arsenide Technology Center (purchased by Cobham) responsible for the process and device development and wafer fabrication operations. Mr. Geiss held a research position at the Xerox Palo Alto Research Center (PARC) where he investigated the structure of vitreous materials and amorphous thin-films using Raman spectroscopy. Mr. Geiss has served as a Member of the Executive Committee of the IEEE GaAs IC Symposium (now CSICS) and as a Member of the Executive Committee of the GaAs Manufacturing Technology Conference (now CS Mantech). He has numerous patents. Mr. Geiss earned degrees in Physics: a BS at Lafayette College and MS and PhD degrees from Brown University.

Jeffrey K. McMahon

Jeff is a Managing Director with North Highland, a global management-consulting firm. He has an extensive background in business and IT consulting in the financial services, energy, and telecommunications industries and 20 years experience helping Fortune 100 companies drive revenue, optimize processes, improve customer experience and manage risk. His areas of expertise include: marketing, strategy articulation and realization, strategic execution, business process management and merger integration. Prior to joining North Highland, Mr. McMahon was a manager in Accenture's process practice area. Jeff earned a BSCE from North Carolina State University in 1994.

PATENTS

Akoustis Technologies, Inc. has seven US patents filed, plus three Patent Cooperation Treaty (PCT) applications protecting its use of single crystal piezoelectric materials for the manufacturing, packaging and circuit integration of BAW filtering devices and resonators in mobile phone. The new patents were filed in of 2014. According to the patent office web site, the entire process to be granted a patent should take 26 months.

The filed patents claim:

- Mobile communication device configured with a single crystal piezo resonator structure
- Single crystal acoustic resonator and bulk acoustic filter
- Wafer scale packaging
- IC configured with two or more single crystal acoustic resonator devices
- Method of manufacture for single crystal capacitor dielectric for a resonance circuit.
- Resonance circuit with a single crystal capacitor dielectric material
- Membrane substrate structure for single crystal acoustic resonator device

It also holds exclusive rights to one US patent from Cornell and two US patents and associated foreign filings from the University of California at Santa Barbara. The patents are as follows:

Cornell University:

Single step, high temperature nucleation process for a lattice mismatched substrate

US 7250360 B2 Filed March 2, 2005

ABSTRACT
A single step process for nucleation and subsequent epitaxial growth on a lattice mismatched substrate is achieved by pre-treating the substrate surface with at least one group III reactant or at least one group II reactant prior to the introduction of a group V reactant or a group VI reactant. The group III reactant or the group II reactant is introduced into a growth chamber at an elevated growth temperature to wet a substrate surface prior to any actual crystal growth. Once the pre-treatment of the surface is complete, a group V reactant or a group VI reactant is introduced to the growth chamber to commence the deposition of a nucleation layer. A buffer layer is then grown on the nucleation layer providing a surface upon which the epitaxial layer is grown preferably without changing the temperature within the chamber.

UC Santa Barbara:

Method for enhancing growth of semi-polar (Al,In,Ga,B)N via metalorganic chemical vapor deposition

US 7687293 B2 Filed January 19, 2007

ABSTRACT
A method for enhancing growth of device-quality planar semi-polar nitride semiconductor thin films via metalorganic chemical vapor deposition (MOCVD) by using an (Al,In,Ga)N nucleation layer containing at least some indium. Specifically, the method comprises loading a substrate into a reactor, heating the substrate under a flow of nitrogen and/or hydrogen and/or ammonia, depositing an $In_xGa_{1-x}N$ nucleation layer on the heated substrate, depositing a semipolar nitride semiconductor thin film on the $In_xGa_{1-x}N$ nucleation layer, and cooling the substrate under a nitrogen overpressure.

Method for enhancing growth of semipolar (Al,In,Ga,B)N via metalorganic chemical vapor deposition

US 8405128 B2 Filed March 3, 2010

ABSTRACT
A method for enhancing growth of device-quality planar semi-polar nitride semiconductor thin films via metalorganic chemical vapor deposition (MOCVD) by using an (Al, In, Ga)N nucleation layer containing at least some indium. Specifically, the method comprises loading a substrate into a reactor, heating the substrate under a flow of nitrogen and/or hydrogen and/or ammonia, depositing an $In_xGa_{1-x}N$ nucleation layer on the heated substrate, depositing a semi-polar nitride semiconductor thin film on the $In_xGa_{1-x}N$ nucleation layer, and cooling the substrate under a nitrogen overpressure.

VALUATION

Akoustis is currently trading at an enterprise value of $17 million, which is probably less than the value of the company's IP alone. 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 2x to 6x enterprise value to sales with an average of 3.8 times estimated 2016 calendar year sales. We believe that Akoustis could reach $60 million in sales by FY 2020 and have raised upwards of $14 million resulting in issuing at least another 9 million shares. Therefore by the end of FY 2019, we believe the stock could be worth $6.87 per share given that the cash and debt levels on the balance sheet at that point are similar to today.

Company	Ticker	Calender Revenue 2016E	LTM	EBIDTA Margin	Enterprise Value / Sales 2016E	LTM	Included in Average?	Enterprise Value
Broadcom (formerly Avago)	AVGO	7,400	6,820	40%	5.4	5.9	y	39,980
MediaTek	2454.TW	NA	213,300	NA	NA	1.2	n	246,010
Murata Manufacturing	MRAAY	NA	10,730	31%	NA	2.2	n	23,480
Qorvo	QRVO	2,689	2,640	28%	2.4	2.5	y	6,500
Resonant	RESN	-	-	NM	NM	NM	n	6
Skyworks Solutions	SWKS	3,461	3,380	30%	3.5	3.5	y	11,990
Average				33%	3.8	4.0		19,490

	Projected Revenue 2020E	2019E	EBITDA Margin	Enterprise Value / Sales 2020E	2019E	Valuation Range Low	High
Akoustis	60	25	NM	3.8	4.0	99	226
YoY growth							

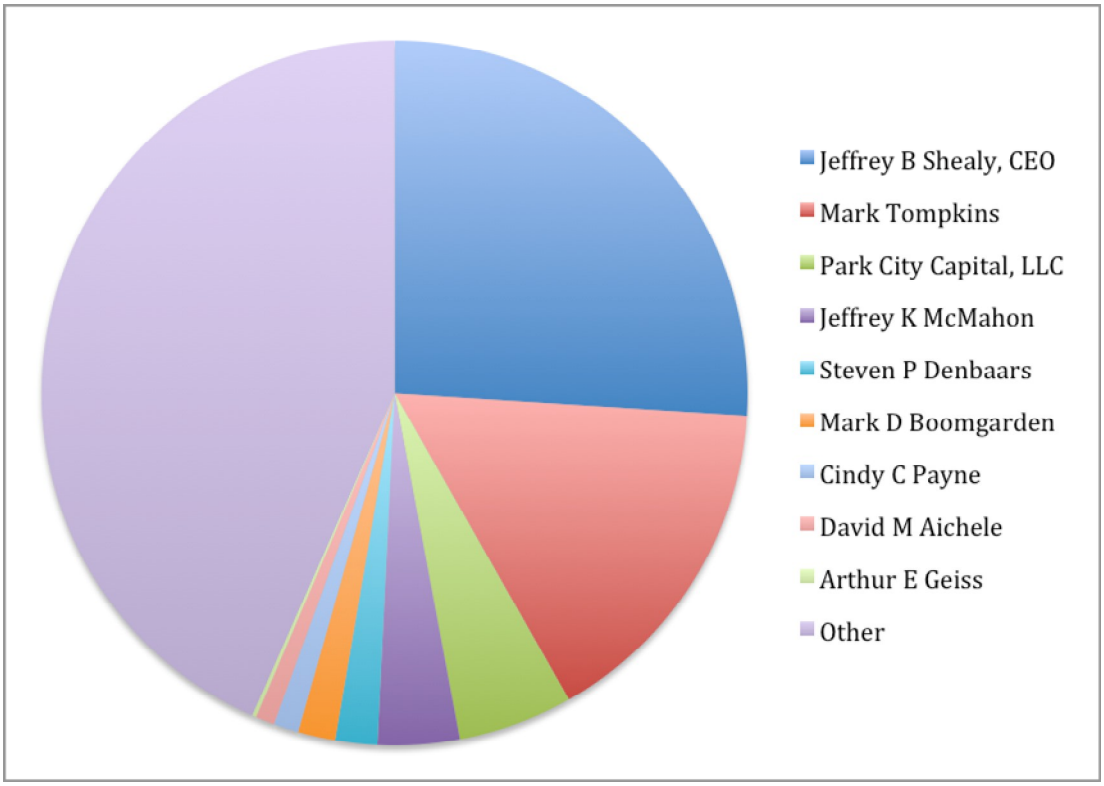
Conclusion of Enterprise Value	**$162,307,868**
Market Value	**$164,791,357**
Shares All In	24,000,000
Price per Share	**$6.87**

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. At the end of December, the company had $2.5 million on the balance sheet and had burned $1 million in cash in Q4. By keeping track of the timing of design wins and production, we can try to forecast how much dilution current investors will have to experience between now and profitability. According to its December '15 10Q, it believes it has enough cash to last through July 2016. Therefore we expect a capital raise between now and then. We are going to assume the company raises a total of $14 million between now and reaching profitability. At current prices that would result in an additional 9 million shares outstanding or a 69% dilution. We believe it may raise $4 million by June and then more as part of the process of doing an uplisting to NASDAQ at the end of 2016.

Q3 2016 Ending December 31, 2015

In the quarter just reported the company had $1.1 million in R&D and G&A expense versus spending $0.2 million last year. Non-GAAP loss (ex-stock based compensation was $989,000 resulting in a per share loss of $0.08 versus a non-GAAP loss of $157,000 or $0.03 per share. The share count from last year to this year went up 7.3 million shares or 132% due to the equity offering on September 25, 2015.

Q4 2016 Estimate

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. In this quarter we expect the company to book $184,500 in grant money.

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	FY 2019E	FY 2020E
Revenue	$0	$0	$0	$0	$0	$0	$0	$150,000	$0	$150,000	$3,800,000	$25,000,000	$60,000,000
Cost of goods	0	0	0	0	0	0	0	135,000	0	135,000	3,250,000	16,250,000	36,000,000
Gross margin	0	0	0	0	0	0	0	15,000	0	15,000	550,000	8,750,000	24,000,000
Percent of sales					100%	100%	100%	10%		10%	14%	35%	40%
Operating expenses													
R&D	193,915	321,720	351,892	380,000	400,000	400,000	420,000	450,000	1,247,527	1,670,000	3,450,000	5,175,000	6,700,000
G&A	660,127	761,323	724,481	750,000	740,000	750,000	800,000	1,250,000	2,895,931	3,540,000	5,450,000	8,720,000	10,000,000
Total operating expenses	854,042	1,083,043	1,076,373	1,130,000	1,140,000	1,150,000	1,220,000	1,700,000	4,143,458	5,210,000	8,900,000	13,895,000	16,700,000
Loss from operations	(854,042)	(1,083,043)	(1,076,373)	(1,130,000)	(1,140,000)	(1,150,000)	(1,220,000)	(1,685,000)	(4,143,458)	(5,195,000)	(8,350,000)	(5,145,000)	7,300,000
Operating margin								-1123%		-3463%	-220%	-21%	12%
Other income													
Grant income	29,999	0	0	184,500	0	147,600	0	147,600	214,499	295,200	0	0	0
Interest income	175	496	352	175	175	200	200	175	1,198	750	850	850	0
Change in fair value of der liab	1,571	14,015	5,414	0	0	0	0	0	21,000	0	0	0	0
Total other income	31,745	14,511	0	184,675	175	147,800	200	147,775	230,931	295,950	850	850	0
Net loss	(822,297)	(1,068,532)	(1,070,607)	(945,325)	(1,139,825)	(1,002,200)	(1,219,800)	(1,537,225)	(3,912,527)	(4,899,050)	(8,349,150)	(5,144,150)	7,300,000
Net loss per share	**$ (0.11)**	**$ (0.09)**	**$ (0.09)**	**$ (0.07)**	**$ (0.07)**	**$ (0.09)**	**$ (0.09)**	**$ (0.08)**	**$ (0.34)**	**$ (0.30)**	**$ (0.39)**	**$ (0.22)**	**$ 0.30**
Shares outstanding	7,823,683	12,392,115	12,768,358	13,000,000	15,580,645	15,580,645	15,580,645	19,451,613	11,496,039	16,548,387	21,189,318	23,124,802	24,000,000
		126%	132%	137%									
All in shares		13,500,620	14,506,063	14,737,705	17,318,350	17,318,350	17,318,350	21,189,318	14,248,129	18,286,092	22,000,000	23,000,000	24,000,000
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	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)	(4,824,150)	7,620,000
Non-GAAP EPS	**$ (0.08)**	**$ (0.08)**	**$ (0.08)**	**$ (0.07)**	**$ (0.07)**	**$ (0.06)**	**$ (0.07)**	**$ (0.07)**	**$ (0.31)**	**$ (0.28)**	**$ (0.38)**	**$ (0.21)**	**$ 0.32**
EBITDA	(620,530)	(1,034,197)	(979,998)										

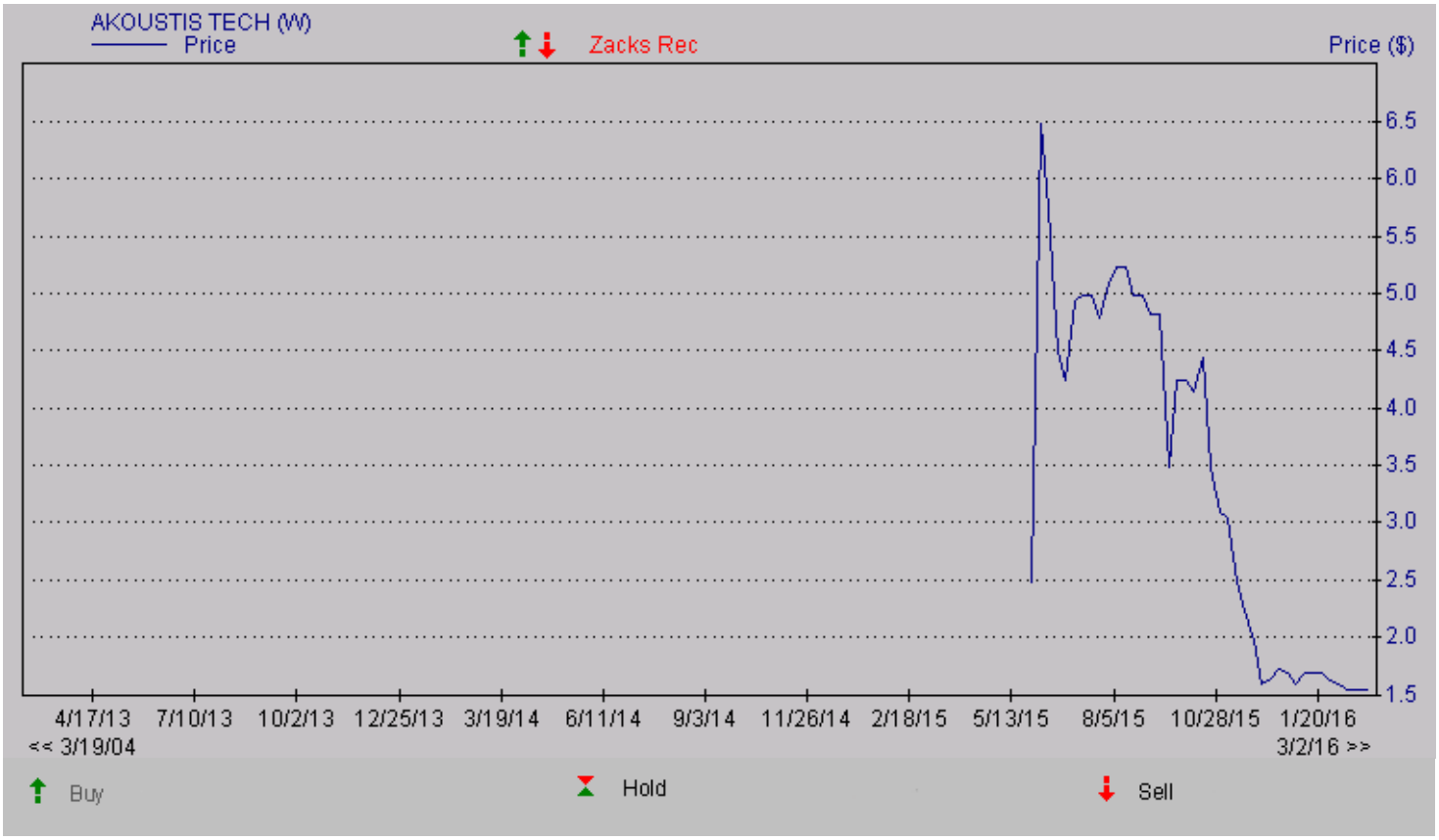
BALANCE SHEET

	Dec. 31, 2015	Sep. 30, 2015	% Change
Assets:			
Cash and cash equivalents	$ 2,483,489	$ 3,414,421	-27%
Prepaid expenses	67,887	54,622	24%
Total current assets	2,551,376	3,469,043	-26%
Property and equipment, net	192,062	181,068	6%
Intangibles, net	46,566	44,916	4%
Other assets	60,970	18,815	224%
Total Assets	2,850,974	3,713,842	-23%
Current Liabilities:			
Accounts payable and accrued expenses	509,617	377,887	35%
Total current liabilities	509,617	377,887	35%
Long-term Liabilities:			
Derivative liabilities	185,715	191,129	-3%
Total Liabilities	695,332	569,016	22%
Stockholders' Equity			
Common Stock	13,021	12,392	5%
Additional paid in capital	5,550,406	5,469,612	1%
Accumulated deficit	(3,407,785)	(2,337,178)	46%
Total Stockholders' Equity	2,155,642	3,144,826	-31%
Total Liabilities and Stockholders' Equity	2,850,974	3,713,842	-23%
Net cash	$1,973,872	$3,036,534	-35%
Current ratio	5.0	9.2	-45%
Quick ratio	5.0	9.2	-45%
Cash as % of assets	69%	82%	-15%

CASH FLOWS

	3 Months Ended 30-Jun-15	3 Months Ended 30-Sep-15	3 Months Ended 31-Dec-15
Net loss	$ (822,297)	$ (1,068,532)	$ (1,070,607)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	2,632	4,530	8,456
Amortization of intangibles	506	1,034	378
Share-based compensation	198,454	28,275	81,423
Change in fair value of derivative liabilities	(1,571)	(14,015)	(5,414)
Changes in operating assets and liabilities:			
Inventory	30,521	0	0
Prepaid expenses	(40,812)	5,190	(13,265)
Other assets	(8,000)	(8,100)	(42,155)
Accounts payable and accrued expenses	64,075	255,373	131,730
Net Cash Used In Operating Activities	(576,492)	(796,245)	(909,454)
CASH FLOWS FROM INVESTING ACTIVITIES:			
Cash paid for machinery and equipment	(18,761)	(103,957)	(19,450)
Cash paid for intangibles	(4,617)	(14,873)	(2,028)
Net Cash Used In Investing Activities	(23,378)	(118,830)	(21,478)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from issuance of Common Stock	4,241,627	0	0
Net Cash Provided By Financing Activities	4,241,627	0	0
Net Increase in Cash	3,641,757	(915,075)	(930,932)
Cash - Beginning of Period	687,739	4,329,496	3,414,421
Cash - End of Period	4,329,496	3,414,421	2,483,489
Cash Paid During the Period for:			
Income taxes	0	0	0
Interest	0	0	0
SUPPLEMENTARY DISCLOSURE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:			
Stock compensation payable	27,206	37,450	24,942
Warrants issued for stock issuance costs	206,715	0	0
Conversion of convertible notes into Common Stock	655,000	0	$ 0
Cash flow	(622,276)	(1,048,708)	(985,764)
Free cash flow	(645,654)	(1,167,538)	(1,007,242)

HISTORICAL ZACKS RECOMMENDATIONS



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