Zacks Small-Cap Research

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Akoustis Tech (AKTS-OTCQB)

AKTS: Ends FYQ2 With First Bookings, Now Has $11 Million in Cash. Look for an Uplisting.

We believe the stock could be worth $10.53 per share based on an industry average of 4.4X EV to sales by FY 2019 if sales targets are met and given its current production schedule and cash needs.

Current Price (02/22/17)	$6.00
Valuation	**$10.53**

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 has signed two customers and expects product delivery later this year. 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	**$1.51**
One-Year Return (%)	**297**
Beta	**-0.7**
Average Daily Volume (sh)	**5,971**
Shares Outstanding (mil)	**18.2**
Market Capitalization ($mil)	**$108**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**15.0**
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	**High**
Type of Stock	**Small-Growth**
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 A	$0.1 A	$0.1 E	$0.1 E	$0.6 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 A	-$0.12 A	-$0.06 E	-$0.09 E	-$0.43 E
2018					-$0.39 E

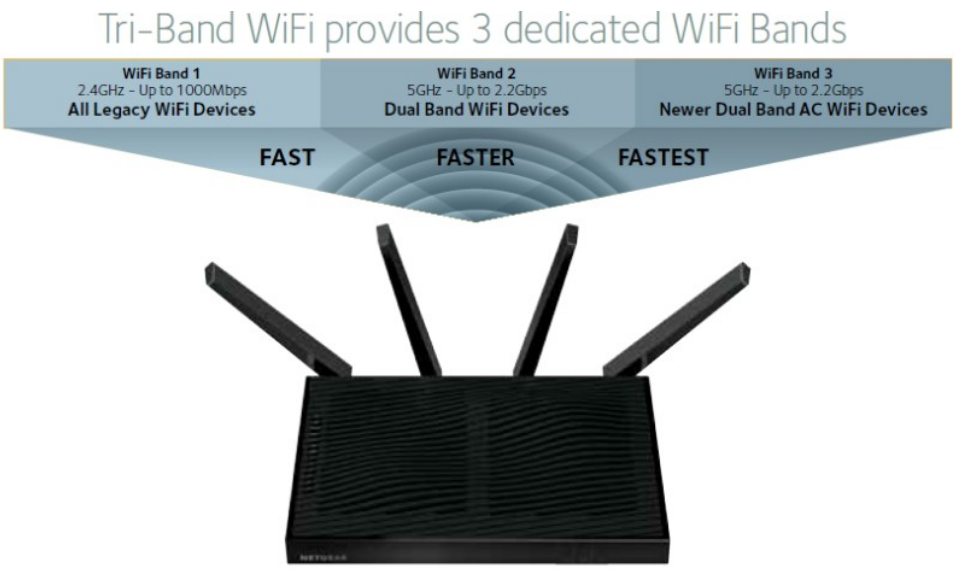
Zacks Projected EPS Growth Rate - Next 5 Years % **N/A**

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WHAT'S NEW

Akoustis is continuing to make progress with new customers in the mobile phone space in China including both RF front-end makers and mobile phone OEMs. There are now four potential new customers. The front-end makers are primarily using SAW filters and looking for BAW solutions for their customers.

A new market is developing that Akoustis is eager to pursue. It is high band (5GHz and above) tri-band routers. The company has now talked to all the Wi-Fi vendors of either chips or routers including Tier one OEMS for enterprise and retail markets. Akoustis believes it's single crystal BAW technology has potential to delivery the highest quality, small form factor solution, for the 5GHz and above bands. These new routers, which are just beginning to come to market, use 2.5GHz, 5.2 GHz, and now 5.7GHz bands and are sold to both residential and commercial customers. In addition to the performance challenge for current vendors to hit the 5.7GHz band with their technology, competitive chips are 8 x 5 mms in size. The Akoustis' proposed solution is estimated to be 5-6 times smaller. This new tri-band router market has potential to utilize tens-of-millions of units per year. It is possible that the company could sign customers in this market and then be shipping product in twelve to fifteen months, just shortly behind current customers. The possibility for sales in this market has caused the company to explore higher production capacity than it had previously planned.



December 31, 2016 - Q2 2017 Results

The highlights of Akoustis' December quarter was its first booking of revenue, and a capital raise of $2.1 million. As another product milestone was hit, the company posted its first bookings. This was for design work and masks for the military customer for $29,000. As it is contractually owed, it was accounted for as deferred revenues. Also in an accounting change to reflect industry norms, the company is now posting money received as grants as revenue as it expects these grants to be an ongoing part of business. In Q2 2017, the company received $159,000 in grant income and we expect it to receive another payment in Q3 2017.

The operating loss was $2.8 million versus $1.1 million due mostly to increased stock-based compensation in SG&A. In other income there was a $712,000 loss from change in fair value of derivative liability due to the

large increase in the stock price versus last year's price. This resulted in a loss of $3.4 million versus a loss of $800,000 last year or a non-GAAP loss of $0.12 compared to a loss of $0.08 a year ago.

In December, Akoustis sold stock in a private placement offering for 411,000 shares at $5.00 per share. Aggregate gross proceeds before deducting expenses of the offering were $2,055,000. Combined with the shares sold on November 25, of 322,000, this brings total number of shares subscribed for to 733,000 shares, for aggregate gross proceeds before expenses of $3,665,000. On January 18, 2017, after the quarter closed, Akoustis sold another 1,258,996 shares of stock at $5.00 for gross proceeds of $6,294,980 before deducting commissions and fees of $605,195. As of February 7, 2017 it had **$11 million in cash on the balance sheet**. The company believes that is enough cash to fund operations until March 2018, but will still have to raise more cash until it reaches profitability. It also fulfills the listing requirement for uplisting the stock to NASDAQ.

Update on Current Customers

Akoustis still **expects to ramp production in the second-half of 2017** for the non-consumer customer. In addition to the one program already won, the company is hoping to be designed into a second program with the possibility of additional filters for the second program. These two programs are expected to use the same BAW filter product. We expect Akoustis to book NRE (non-recurring development) revenues from this company in the June quarter with production ramping in FY2018.

Akoustis expects to deliver samples to its Chinese RF front-end customer by the end of March, and hopefully product in the Q2/Q3 time frame to be built into September/October products. For the mobile market, the company is now focusing on Band 41 product that is now the hottest band in China and it is hard for the SAW manufacturers to serve this market.

New Board Director

On January 12, 2017, Akoustis increased the size of the board of directors to six with the election of **John T. Kurtzweil**. He is currently VP Finance of **Cree, Inc.** a company that develops, manufactures, and sells LEDs, lighting, and semiconductor products for power and RF applications, and also serves as CFO of Wolfspeed, a Cree company and provider of wide-band-gap semiconductor technology for power semiconductors and RF power amplifiers. He is also on the board of Axcelis Technologies. From 2012 to 2014, John was SVP, CFO, and Special Advisor to the CEO of Extreme Networks, Inc. From 2006 to 2012, he was EVP, Finance, and as CFO and Treasurer of Cree, during which time Cree as it grew from $396 million to $1.2 billion in revenues. From 2004 - 2006, he was SVP and CFO of Cirrus Logic, Inc., the fabless semiconductor company. From 2002-2003, he served as SVP and CFO of ON Semiconductor. John is a CPA and CMA and has an MBA from the University of St. Thomas in St. Paul, Minn. and a BA in Accounting from Arizona State University.

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 targeting the market for BAW RF filters used in smartphones and high end Wi-Fi routers.
- 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 $104 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

- Uplisting to NASDAQ
- 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 $104 million up from $87 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 2.9x to 5.7x enterprise value to sales with an average of 4.4 times estimated 2017 calendar year sales. We believe that Akoustis could reach $60 million in sales by FY 2020. Therefore by the end of FY 2019, we believe

the stock could be worth $10.53 per share given the cash and debt levels on the balance sheet at that point are similar to today as well as the share count.

Company	Ticker	Calendar Revenue 2017E	LTM	EBIDTA Margin	Enterprise Value / Sales 2017E	Enterprise Value / Sales LTM	Included in Average?	Enterprise Value
Broadcom	AVGO	16,700	13,240	38%	5.7	7.1	y	94,490
MediaTek	2454.TW	NA	275,510	11%	NA	0.9	n	256,640
Murata Manufacturing	MRAAY	NA	9,910	28%	NA	2.8	n	27,830
Qorvo	QRVO	3,088	3,000	28%	2.9	3.0	y	8,980
Resonant	RESN	0	0	NM	NM	419.6	n	48
Skyworks Solutions	SWKS	3,664	3,280	42%	4.5	5.0	y	16,470
Average				36%	4.4	5.1		39,980

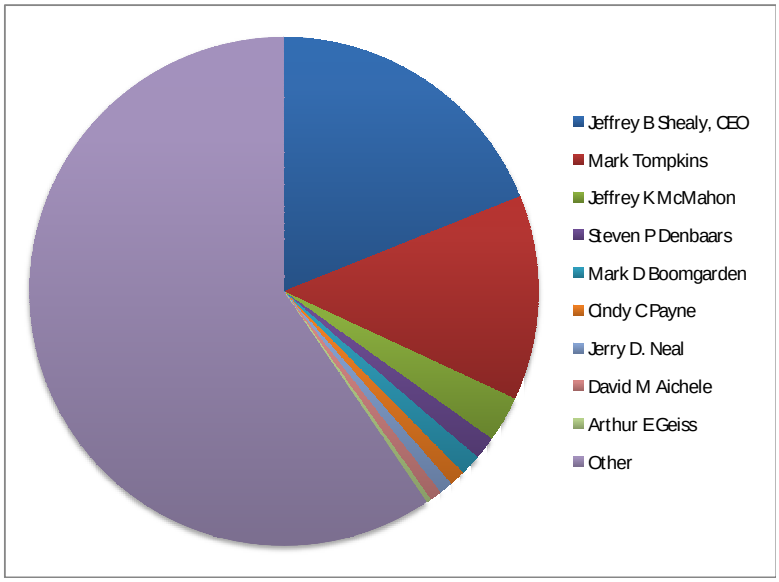
	Projected Revenue 2020E	Projected Revenue 2019E	EBITDA Margin	Enterprise Value / Sales 2020E	Enterprise Value / Sales 2019E	Valuation Range Low	Valuation Range High
Akoustis	60	25	NM	4.4	5.1	126	261
YoY growth							

Conclusion of Enterprise Value	**$193,742,780**
Market Value	**$198,347,418**
Shares All In	18,842,000
Price per Share	**$10.53**

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 the second half of 2017 at the earliest.
- Although the company has enough cash to funds plans through March 2018, 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 two customers and those customers may not generate meaningful revenues until 2018.

OWNERSHIP As of February 21, 2017



INCOME STATEMENT

	Q1 Sep. 30, 2015	Q2 Dec. 31, 2015	Q3 Mar 31, 2016	Q4 June 30, 2016	Q1 Sep. 30, 2016	Q2 Dec. 30, 2016	Q3 Mar 31, 2017E	Q4 June 30, 2017E	FY 2016	FY 2017E	FY 2018E
Revenue	$0	$0	$0	$0							
Product revenue					$0	$0	$0	$100,000	$0	$100,000	$8,500,000
Grant income	0	0	234,334	20,500	0	159,068	147,600	0	254,834	306,668	0
Total revenue			**234,334**	**20,500**		**159,068**	**147,600**	**100,000**	**254,834**	**406,668**	**8,500,000**
Cost of goods	0	0	0	0	0	0	0	$90,000	0	90,000	6,980,000
Gross margin	0	0	234,334	20,500	0	0	147,600	$10,000	254,834	316,668	1,520,000
Percent of sales	100%	100%	100%	100%	100%	100%	100%	10%	100%	78%	18%
Operating expenses											
R&D	321,720	351,892	354,667	709,314	652,576	775,984	850,000	$ 1,100,000	1,758,701	3,378,560	4,400,000
G&A	761,323	724,481	501,869	968,734	1,263,243	2,066,768	2,100,000	2,100,000	2,935,299	7,530,011	8,400,000
Total operating expenses	1,083,043	1,076,373	856,536	1,678,048	1,915,819	2,842,752	2,950,000	3,200,000	4,694,000	10,908,571	12,800,000
Loss from operations	(1,083,043)	(1,076,373)	(856,536)	(1,657,548)	(1,915,819)	(2,842,752)	(2,802,400)	(3,190,000)	(4,439,166)	(10,591,903)	(11,280,000)
Operating margin			-366%	-8086%		-1787%	-1899%	-3190%	-1742%	-2605%	-133%
Other income											
Other income	0	0	500	0	0	0	0	0	500	0	0
Interest income	496	352	305	186	90	209	300	250	1,339	849	850
Change in fair value of der liab	14,015	5,414	(127,994)	(860,275)	(157,216)	(712,246)	(50,000)	0	(968,840)	(919,462)	0
Total other income	14,511	0	107,145	(839,589)	(157,126)	(552,969)	97,900	250	(712,167)	(611,945)	850
Net loss	(1,068,532)	(1,070,607)	(749,391)	(2,497,137)	(2,072,945)	(3,395,721)	(2,704,500)	(3,189,750)	(5,151,333)	(11,203,848)	(11,279,150)
Net loss per share	**$ (0.09)**	**$ (0.09)**	**$ (0.05)**	**$ (0.17)**	**$ (0.13)**	**$ (0.21)**	**$ (0.15)**	**$ (0.18)**	**$ (0.39)**	**$ (0.69)**	**$ (0.62)**
Shares outstanding	12,392,115	12,768,358	14,000,000	15,111,088	15,701,709	15,892,503	18,171,000	18,171,000	13,349,482	16,219,075	18,171,000
Yr-to-yr Growth	126%	132%	155%	93%	27%	24%	30%	20%	114%	21%	12%
Share based compensation	28,275	81,423	331,492	435,642	704,220	1,543,642	1,543,642	1,543,642	849,625	4,227,146	4,227,146
Non-GAAP Loss	(1,026,242)	(983,770)	(545,893)	(1,201,220)	(1,368,725)	(1,852,079)	(1,160,858)	(1,646,108)	(4,301,708)	(6,976,702)	(7,052,004)
Non-GAAP EPS	**$ (0.08)**	**$ (0.08)**	**$ (0.04)**	**$ (0.08)**	**$ (0.09)**	**$ (0.12)**	**$ (0.06)**	**$ (0.09)**	**$ (0.32)**	**$ (0.43)**	**$ (0.39)**
EBITDA	(1,020,182)	(979,998)	(406,381)	(1,624,492)	(1,354,400)	(1,837,159)	(1,145,847)	(1,631,147)	(4,262,202)	(5,961,898)	(4,614,153)

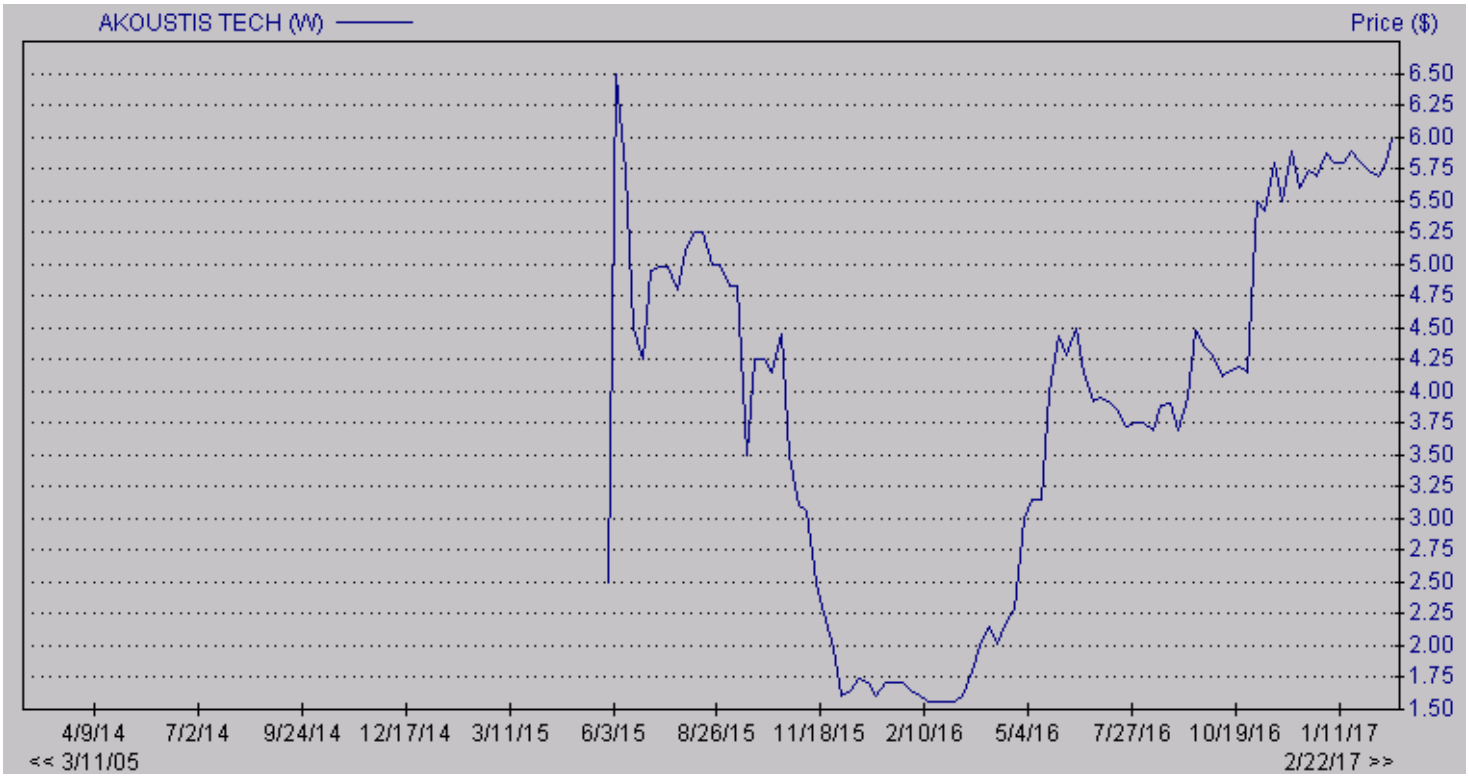
BALANCE SHEET

	Dec. 31, 2016	Sept 30, 2016	% Change
Assets:			
Cash and cash equivalents	$ 5,001,466	$ 3,054,308	64%
Accounts receivable	$ 29,000	$ 0	NM
Inventory	43,185	43,544	-1%
Prepaid expenses	93,249	93,699	0%
Total current assets	5,166,900	3,191,551	62%
Property and equipment, net	625,580	214,393	192%
Intangibles, net	107,771	83,607	29%
Other assets	20,715	130,715	-84%
Total Assets	5,920,966	3,620,266	64%
Current Liabilities:			
Accounts payable and accrued expenses	918,370	837,116	10%
Deferred revenue	29,000	0	NM
Total current liabilities	947,370	837,116	13%
Long-term Liabilities:			
Derivative liabilities	396,828	1,479,945	-73%
Total Liabilities	1,344,198	2,317,061	-42%
Stockholders' Equity			
Common Stock	16,570	15,829	5%
Additional paid in capital	16,703,677	10,035,134	66%
Accumulated deficit	(12,143,479)	(8,747,758)	39%
Total Stockholders' Equity	4,576,768	1,303,205	251%
Total Liabilities and Stockholders' Equity	5,920,966	3,620,266	64%
Net cash	$5,001,466	$3,054,308	64%
Current ratio	5.5	3.8	43%
Quick ratio	5.4	3.8	44%
Cash as % of assets	84%	84%	0%
Working Capital	4,219,530	2,354,435	79%
Market cap	107,208,900	88,687,094	21%
Enterprise value	102,604,262	87,112,731	18%
Stock price	5.9	5.6	5%

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	3 Months Ended 30-Sep-16	3 Months Ended 31-Dec-16
Net loss	$ (822,297)	$ (1,068,532)	$ (1,070,607)	$ (749,391)	$ (2,517,637)	$ (2,072,945)	$ (3,395,721)
Adjustments to reconcile net loss to net cash used in operating activities:							
Depreciation	2,632	4,530	8,456	10,417	11,425	12,885	12,949
Amortization of intangibles	506	1,034	378	796	1,131	1,350	1,762
Share-based compensation	198,454	28,275	81,423	331,492	435,642	704,220	1,543,642
Change in fair value of derivative liabilities	(1,571)	(14,015)	(5,414)	127,994	860,275	157,216	712,246
Changes in operating assets and liabilities:							
Accounts receivable	0	0	0	0	0	0	(29,000)
Inventory	30,521	0	0	(43,544)	0	0	359
Prepaid expenses	(40,812)	5,190	(13,265)	8,426	4,643	(38,881)	450
Other assets	(8,000)	(8,100)	(42,155)	50,255	0	(120,000)	110,000
Accounts payable and accrued expenses	64,075	255,373	131,730	(243,372)	104,179	289,036	(44,927)
Deferred revenue	0	0	0	0	0	0	29,000
Net Cash Used In Operating Activities	(576,492)	(796,245)	(909,454)	(506,927)	(1,100,342)	(1,067,119)	(1,059,240)
CASH FLOWS FROM INVESTING ACTIVITIES:							
Cash paid for machinery and equipment	(18,761)	(103,957)	(19,450)	(1,265)	(35,500)	(20,293)	(424,136)
Cash paid for intangibles	(4,617)	(14,873)	(2,028)	(14,879)	(11,715)	(13,724)	(25,926)
Net Cash Used In Investing Activities	(23,378)	(118,830)	(21,478)	(16,144)	(47,215)	(34,017)	(450,062)
CASH FLOWS FROM FINANCING ACTIVITIES:							
Borrowings from promissory note	0	0	0	0	0	0	0
Repayment of promissory note	0	0	0	0	0	0	0
Proceeds from the exercise of warrants	0	0	0	0	10,000	0	0
Proceeds from issuance of Common Stock	4,241,627	0	0	769,687	2,562,896	0	3,456,460
Net Cash Provided By Financing Activities	4,241,627	0	0	769,687	2,572,896	0	3,456,460
Net Increase in Cash	3,641,757	(915,075)	(930,932)	8,426	1,425,339	(1,101,136)	1,947,158
Cash - Beginning of Period	687,739	4,329,496	3,414,421	2,483,489	2,730,105	4,155,444	3,054,308
Cash - End of Period	4,329,496	3,414,421	2,483,489	2,730,105	4,155,444	3,054,308	5,001,466
Cash Paid During the Period for:							
Income taxes	0	0	0	0	0	0	0
Interest	0	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	74,457	134,242
Warrants issued for stock issuance costs	206,715	0	0	0	165,719	0	107,432
Conversion of convert notes into Common Stock	655,000	0	0	0	0	0	0
Reclassification of der. liab. to add paid in capital	0	0	0	0	16,974	0	1,795,363
Cash flow	(622,276)	(1,048,708)	(985,764)	(278,692)	(1,209,164)	(1,197,274)	(1,125,122)
Free cash flow	(645,654)	(1,167,538)	(1,007,242)	(294,836)	(1,256,379)	(1,231,291)	(1,575,184)

HISTORICAL STOCK PRICE



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