

Trickle Research

Every raging river, every great lake, every
deep blue sea starts ... with a trickle



Research Update

Summit Wireless Technologies, Inc.

(Nasdaq Stock Symbol - WISA)



Report Date: 11/17/20

12- 24 month Price Target: \$14.00

Allocation: 5

Closing Stock Price at Initiation (Closing Px: 09/28/2018; post-split): \$86.00

Closing Stock Price at This Report (Closing Px: 06/04/2019; post-split): \$26.60

Closing Stock Price at Target Downgrade (Closing Px: 07/09/2020): \$2.28

Closing Stock Price at This Report (Closing Px: 11/16/2020): \$2.49

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Trickle Research

Disclosure: Portions of this report are excerpted from Summit Wireless Inc.'s filings, website(s), presentations or other public collateral. We have attempted to identify those excerpts by *italicizing* them in the text.

We provided an extensive update of WISA about 4 months ago and part of that update included our own admission that the adoption of the *WiSA Ready* technology has been slower than we anticipated. Moreover, because of that pace, the Company has experienced marked dilution which has negatively impacted the share price since our initiation. That said, we continue to believe that the Company’s technology will gain momentum and adoption and will carve out a meaningful share of the (applicable) consumer audio market.

The Company recently presented at our Rocky Mountain Microcap Conference VI, and we thought the presentation included some telling graphics. Here are a few of those illustrations as well as some of our associated color.

Brands are integrating WiSA into higher velocity price points and across all form factors and distribution territories

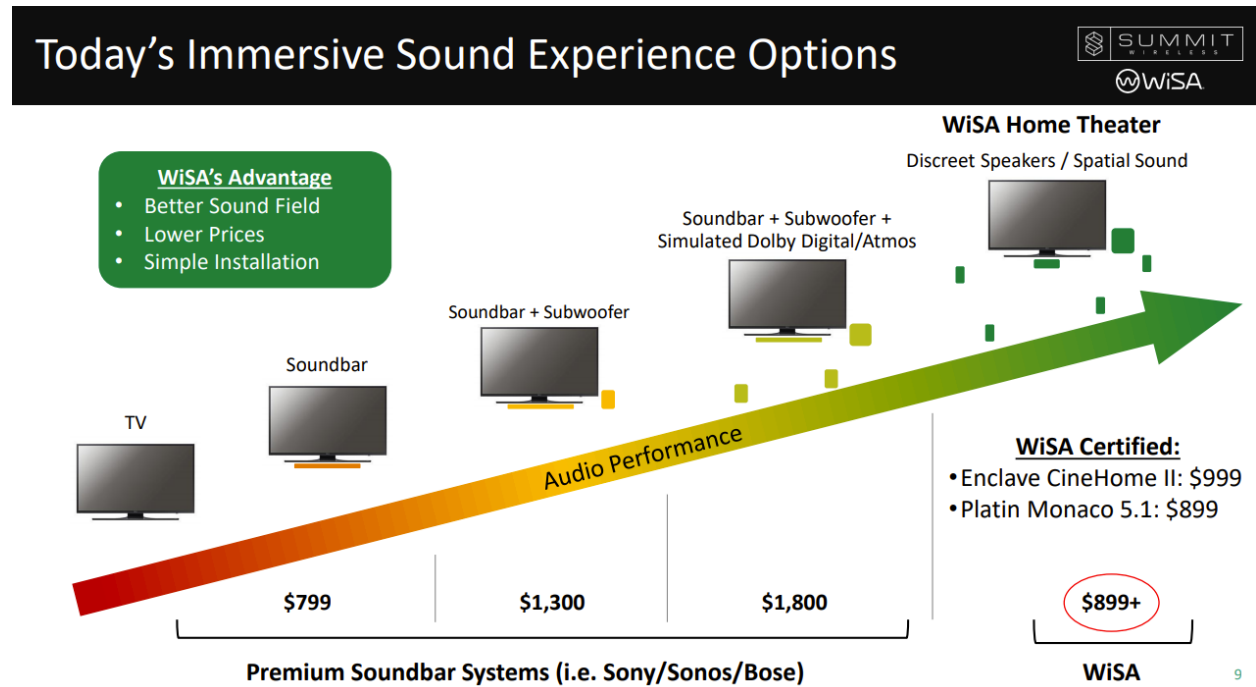
Brand	Configuration w/Tx	MSRP ¹
• Bang and Olufsen (B&O)	5.1	\$ 25,000
• System Audio Legend 60	2.0	\$ 9,000
• Bucharth A700	2.0	\$ 7,000
• Harman Citation speakers	5.1 or SB 5.1	\$ 5,500
• System Audio Legend 5	2.0	\$ 3,400
• Klipsch Reference Wireless	5.1	\$ 2,800
• Savant Smart Audio	SB 5.1	\$ 2,600
• Harman HK Surround	5.1	\$ 2,500
• Axiim Pro Bundle On Sale	5.1	\$ 2,339
• Klipsch Reference Wireless	3.1	\$ 2,100
• Enclave Audio CineHome Pro*	5.1	\$ 1,495
• Axiim Essential Bundle (On Sale)*	5.1	\$ 1,499
• Enclave Audio CineHome II (Promo)*	5.1	\$ 999
• Platin Audio Monaco with Soundsend*	5.1.2	\$ 899
• Platin Audio Monaco with Axim Link*	5.1	\$ 799
• Platin Audio Monaco with Soundsend*	3.1.2	\$ 699

* Premium Soundbar System Competitors

NASDAQ: WISA ¹Prices subject to change

Recognize, both the illustration above, and that which immediately follows are aimed at a notion we have covered extensively in the prior research. Initially, the early adopters of the WiSA technology were largely high-end audio manufacturers, which included Bang & Olufsen, Harmon and Klipsch. That made sense from a variety of perspectives. First, recall that the cost of adding WiSA receivers to a system is between \$9 and \$10 per speaker. So, for a 5.1 system the added cost is between \$50 and \$60 to the manufacturer. Obviously, adding that WiSA functionality to a \$25,000 system (or even a \$5,000 system) is a much easier decision than adding it to a \$700 system. Moreover, we think WiSA represented a significant differentiator for those high-end brands for what amounted to a small overall added cost. That said, we would qualify that statement by adding that while the addition of WiSA technology represented a relatively small cost increase, these brands depend on their high-quality performance/moniker in part to justify their price points. To translate, while the adoption of WiSA technology by these brands was perhaps minimized by the low relative cost of adding it, these brands were clearly not going to add technology that minimized their quality. In retrospect, that was a bit of the “good news and the bad news” about their early adopters. That is, those

early adopters were likely never going to sell large numbers of units, however, their adoption certainly spoke to the quality of the technology. We saw that play out in CES awards as well, which certainly helped validate our notions regarding the quality of the technology. On the other hand, CES awards do not always translate into significant sales. Again, in retrospect, we probably let our enthusiasm for the quality of their early adopters allow us to get ahead of ourselves in terms of how that might translate into sales, although we are still perplexed by the lack of marketing effort these brands apparently afforded their WiSA Ready SKU's. Regardless, we are now seeing adoption accelerate into systems with lower price points, which brings us to our next illustration.



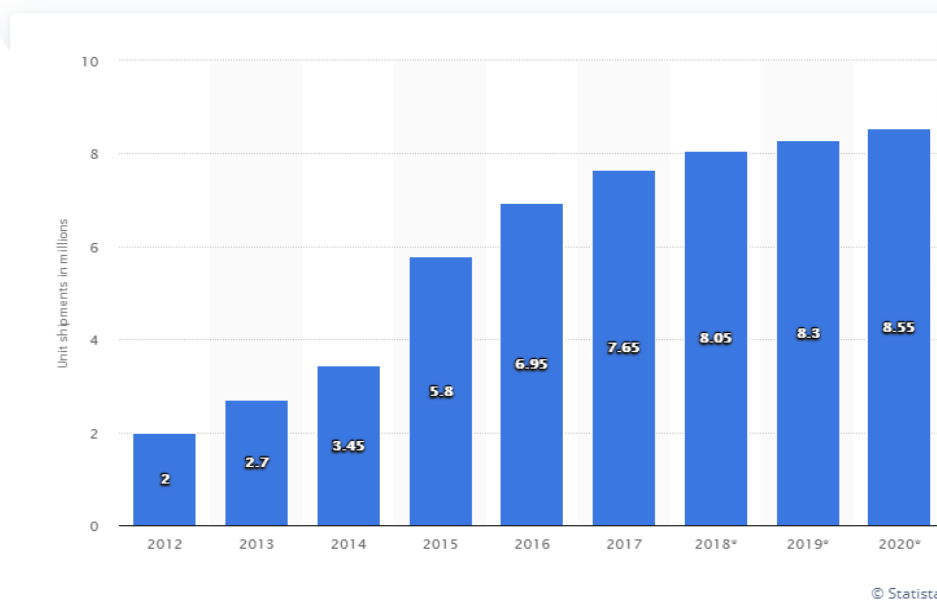
Extending the thought from above, as we said, the adoption by high end brands has in our view provided validation for the technology, and admittedly, we thought those brands alone would provide more meaningful sales than they have, however, we have also noted along the way that in order for Summit to capture a meaningful piece of the business, they would have to gain traction among manufacturers appealing to larger (lower price point) segments of the market. Recall, our thesis has always been that Summit could arrest some portion of the soundbar market with its high-quality, wireless and immersive advantages. However, we have also noted that cutting into that market would likely require price points at or near those of the alternatives: premium soundbars. As the illustration above notes, Enclave and Platin Monaco represent Summits first break into that end of the market and we think that posture is beginning to show up in sales. Again, we think SKU's in the sub \$1,000 (and ultimately perhaps close to \$500) price point(s), will provide formidable competition for traditional premium soundbar players with products that

offer clear (immersive) advantages over those products. To put that into perspective, consider the illustration below from Statista regarding the size of the soundbar market in the U.S. alone:

Technology & Telecommunications > Consumer Electronics

Sound bar unit shipments in the United States from 2012 to 2020

(in millions)



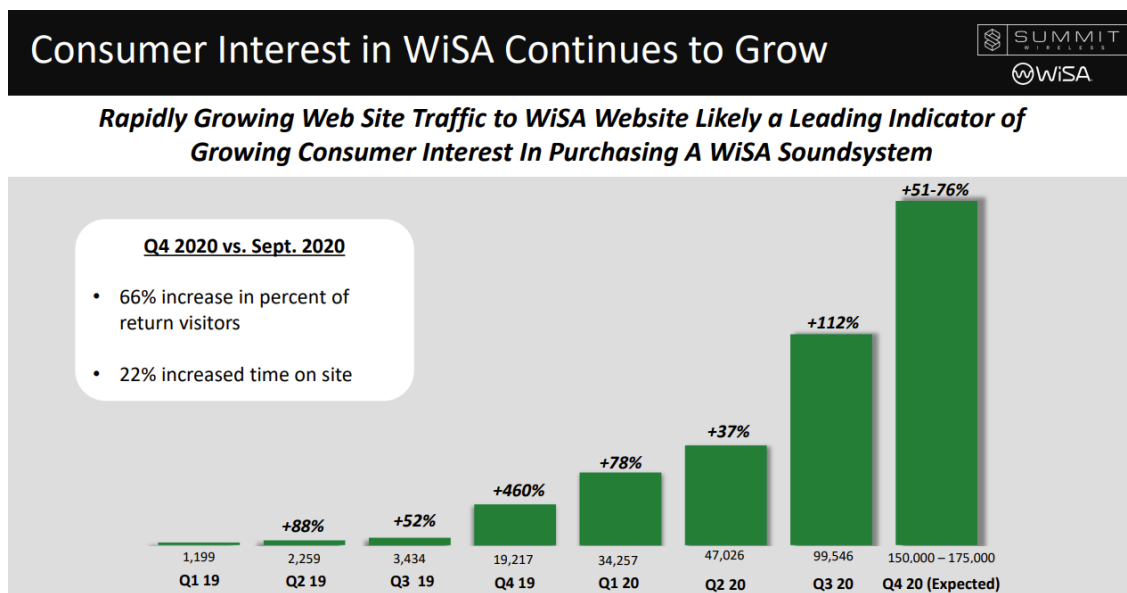
<https://www.statista.com/statistics/948733/united-states-sound-bar-unit-shipments/#:-:text=Unit%20shipments%20for%20sound%20bars%20are%20expected%20to%20continue%20rising,to%208.55%20million%20by%202020.>

Statista suggests that the current domestic soundbar market is 8.5 million units. We submit, that is a rather open-ended statistics given that the figure encompasses all soundbars, and today soundbars can range from under \$100 to several hundred dollars as illustrated above. Obviously, price point plays a role in these numbers, which gets us back to the importance of WiSA ready adopters in the sub-\$1000 price range(s). Succinctly, our thesis is that as consumers become more aware of the advantages of WiSA vis-a-vis soundbars, the greater the chance some will choose the WiSA route. On the other hand, we suspect that a significant portion of the soundbar market resided on the “value” end of the spectrum, which is another way of saying price matters, again driving home our point about why an expanding number of lower priced WiSA Sku’s should help drive Summit revenues.

Additionally, we think the Company’s new SoundSend transmitter will almost certainly expand the market of WiSA consumers. While the WiSA Association is all about standards and interoperability, that has not been the case in the aggregate. For instance, prior to the development of the SoundSend other WiSA transmitters like the Axiim Link, still required a WiSA Ready device (Xbox One and Xbox Series X|S, Windows 10 PC, Apple Mac, 2019-2021 LG OLED and NanoCell TVs). That might work fine for those who own or have just purchased one of those devices (admittedly millions of units), but it was problematic for those who might want to experience WiSA with an existing television for instance. Succinctly, SoundSend will now make any Smart television with an HDMI ARC port “WiSA Ready”. The Company believes there are “probably 800 million to 1 billion of those installed now”. In many ways, we think

SoundSend has been a missing link in the adoption equation, especially when it comes to the value end of the equation. We think this changes the game.

We remain a bit perplexed by what seems like a lackluster effort by early WiSA adopters to spread the word about WiSA functionality. When we consider the traction of companies like Sonos as well as the growth of soundbars in general, it would seem to us that companies in the speaker and/or home theater business would be looking for ways to compete with these elements and WiSA seems like a good answer to that. Regardless, as we have lamented along the way, they have been less proactive than we anticipated and its odd to us that some of them appear content to let others eat their lunch. As a result, Summit has taken some of that consumer awareness marketing into their own hands with a program they Call WiSA Wave. The campaign essentially involves driving WiSA awareness in conjunction with its existing speaker manufacturer customers. Those results have been constructive through 2020:



To summarize, over the past year, Summit has done well adding both speaker and television brands. Additionally, the breadth of the brands and the products they sell are beginning to find their way down the pricing ladder, which we believe is clearly broadening the Company’s TAM. Moreover, as the illustration above suggests, their new WiSA Wave initiative appears to be driving consumer awareness as well, which is paramount to the sell through of WiSA Ready systems. Further, we think SoundSend makes the technology far more ubiquitous and frankly simpler and easier to adopt in terms of existing platforms consumers may already own. In short, we think SoundSend removes some of the barriers/objections that may have impeded consumer adoption.

The above noted, Q3 results along with Q4 guidance suggests selling momentum at least from a YoY perspective. That said, they remain well below the expectations we have had in the past and while some of that is clearly related to Covid, some of it is also a matter of the slower adoption we have lamented along

the way. To those points, we do not know how to handicap the ongoing pandemic and regardless, visibility regarding adoption and resulting revenue remains poor. On the other hand, we think the stars are finally beginning to align at Summit and provided the pandemic does not continue to dominate the landscape we still see 2021 as a breakout year for the Company. We will revisit our targets and perhaps our allocation following 4Q numbers.

Projected Operating Model

Summit Wireless Technologies, Inc.						
Projected Operating Model						
By: Trickle Research LLC						
	(Actual)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)
	3/31/20	6/30/20	9/30/20	12/31/20	Fiscal 2020	Fiscal 2021
Revenue, net	\$ 411,480	\$ 348,062	\$ 607,004	\$ 903,168	\$ 2,269,715	\$ 7,974,000
Cost of revenue	\$ 347,800	\$ 336,045	\$ 503,000	\$ 506,426	\$ 1,693,271	\$ 5,782,450
Gross profit	\$ 63,680	\$ 12,017	\$ 104,004	\$ 396,742	\$ 576,444	\$ 2,191,550
Operating Expenses:						
Research and development	\$ 1,133,600	\$ 904,003	\$ 1,240,198	\$ 786,127	\$ 4,063,928	\$ 3,318,960
Sales and marketing	\$ 697,600	\$ 510,010	\$ 835,012	\$ 634,032	\$ 2,676,654	\$ 2,579,740
General and administrative	\$ 892,600	\$ 606,975	\$ 1,014,130	\$ 765,193	\$ 3,278,898	\$ 3,173,474
Total operating expenses	\$ 2,723,800	\$ 2,020,988	\$ 3,089,340	\$ 2,185,351	\$ 10,019,479	\$ 9,072,174
Loss from operations	\$ (2,660,120)	\$ (2,008,971)	\$ (2,985,336)	\$ (1,788,609)	\$ (9,443,035)	\$ (6,880,624)
Interest expense	\$ -	\$ 1,352,000	\$ -	\$ -	\$ 1,352,000	\$ -
Change in fair value of warrant liability	\$ 37,000	\$ (5,000)	\$ 5,000	\$ -	\$ 37,000	\$ -
Change in fair value of derivative liability	\$ 19,000	\$ -	\$ -	\$ -	\$ 19,000	\$ -
Gain on extinguishment of convertible notes payable	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other income (expense), net	\$ (2,000)	\$ (39,000)	\$ -	\$ -	\$ (41,000)	\$ -
Loss before provision for income taxes	\$ (2,680,120)	\$ (3,394,971)	\$ (2,990,336)	\$ (1,788,609)	\$ (10,854,035)	\$ (6,880,624)
Provision for income taxes	\$ -	\$ 3,000	\$ -	\$ -	\$ 3,000	\$ -
Preferred Dividend	\$ (20,000)	\$ (154,000)	\$ (20,000)	\$ -	\$ (194,000)	\$ -
Net loss Attributable to Common Shareholders	\$ (2,700,120)	\$ (3,551,971)	\$ (3,010,336)	\$ (1,788,609)	\$ (11,051,035)	\$ (6,880,624)
Net loss per common unit/share - basic and diluted	\$ (2.19)	\$ (0.90)	\$ (0.39)	\$ (0.23)	\$ (2.10)	\$ (0.87)
Weighted average number of basic common units/shares used in computing net loss per common unit/share	1,230,598	3,936,457	7,709,692	7,822,375	5,174,781	7,930,519
	1,230,598	3,936,457	8,026,974	8,503,086	5,424,279	9,682,838

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Rating System Overview:

There are no letters in the rating system (Buy, Sell Hold), only numbers. The numbers range from 1 to 10, with 1 representing 1

"investment unit" (for my performance purposes, 1 "investment unit" equals \$250) and 10 representing 10 investment units or \$2,500. Obviously, a rating of 10 would suggest that I favor the stock (at respective/current levels) more than a stock with a rating of 1. As a guideline, here is a suggestion on how to use the allocation system.

Our belief at Trickle is that the best way to participate in the micro-cap/small cap space is by employing a diversified strategy. In simple terms, that means you are generally best off owning a number of issues rather than just two or three. To that point, our goal is to have at least 20 companies under coverage at any point in time, so let's use that as a guideline. Hypothetically, if you think you would like to commit \$25,000 to buying micro-cap stocks, that would assume an investment of \$1000 per stock (using the diversification approach we just mentioned, and the 20-stock coverage list we suggested and leaving some room to add to positions around allocation upgrades. We generally start initial coverage stocks with an allocation of 4. Thus, at \$1000 invested per stock and a typical starting allocation of 4, your "investment unit" would be the same \$250 we used in the example above. Thus, if we initiate a stock at a 4, you might consider putting \$1000 into the position ($\$250 * 4$). If we later raise the allocation to 6, you might consider adding two additional units or \$500 to the position. If we then reduce the allocation from 6 to 4 you might consider selling whatever number of shares you purchased with 2 of the original 4 investment units. Again, this is just a suggestion as to how you might be able to use the allocation system to manage your portfolio.

For those attached to more traditional rating systems (Buy, Sell, Hold) we would submit the following guidelines.

A Trickle rating of 1 thru 3 would best correspond to a "Speculative Buy" although we would caution that a rating in that range should not assume that the stock is necessarily riskier than a stock with a higher rating. It may carry a lower rating because the stock is trading closer to a price target we are unwilling to raise at that point. This by the way applies to all of our ratings.

A Trickle rating of 4 thru 6 might best (although not perfectly) correspond to a standard "Buy" rating.

A Trickle rating of 7 thru 10 would best correspond to a "Strong Buy" however, ratings at the higher end of that range would indicate something that we deem as quite extraordinary..... an "Extreme Buy" if you will. You will not see a lot of these.