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Resonant Inc. Expands Strategic Partnership with Murata Manufacturing Co., Ltd., the World's Leading RF Module and Filter Provider

Resonant's XBAR[®] Technology to be Leveraged Across Additional Bands

AUSTIN, Texas, Oct. 6, 2021 /PRNewswire/ -- Resonant Inc. (NASDAQ: RESN), a provider of radio frequency (RF) filter solutions developed on a robust intellectual property platform, designed to connect People and Things, has expanded its multi-year commercial partnership with Murata Manufacturing Co., Ltd., the world's largest RF filter manufacturer, for the development of 5G XBAR[®] RF filters.



The expanded agreement targets RF filter designs utilizing Resonant's proprietary XBAR[®] technology across additional bands.

"Extending our agreement with Murata is a tremendous validation of our partnership and XBAR[®] technology as we continue working together to build a high-volume manufacturing platform," said George B. Holmes, Chairman and CEO of Resonant. "Murata continues to be an excellent strategic partner to leverage our XBAR[®] technology, specifically developed to meet the exacting demands of the wide bandwidth, high frequency RF market required by next generation wireless networks. This agreement brings us one step closer towards XBAR[®] technology reaching the market with dominant scale and solving many of the challenges next-generation networks face today."

About Resonant Inc.

Resonant (NASDAQ: RESN) is transforming the market for RF front-ends (RFFE) by disrupting the RFFE supply chain through the delivery of solutions that leverage our WaveX[™] design software tools platform, capitalize on the breadth of our IP portfolio, and are delivered through our services offerings. In a market that is critically constrained by limited designers, tools and capacity, Resonant addresses these critical problems by providing customers with ever increasing design efficiency, reduced time to market and lower unit costs. Customers leverage Resonant's disruptive capabilities to design cutting edge filters and modules, while capitalizing on the added stability of a diverse supply chain through Resonant's fabless ecosystem-the first of its kind. Working with Resonant, customers enhance the connectivity of current mobile devices, while preparing for the demands of emerging 5G applications.

To learn more about Resonant, view the series of videos published on its website that explain Resonant's technologies and market positioning:

- [Resonant Corporate Video](#)
- [WaveX™ Design Technology and XBAR®: Speeding the Transition to 5G](#)
- [Expert Insights on Unlocking the Potential of 5G](#)
- [The Technology Enabling the Transition to 5G](#)

For more information, please visit www.resonant.com.

Resonant uses its website (<https://www.resonant.com>) and LinkedIn page (<https://www.linkedin.com/company/resonant-inc-/>) as channels of distribution of information about its products, its planned financial and other announcements, its attendance at upcoming investor and industry conferences, and other matters. Such information may be deemed material information, and Resonant may use these channels to comply with its disclosure obligations under Regulation FD. Therefore, investors should monitor the company's website and its social media accounts in addition to following the company's press releases, SEC filings, public conference calls, and webcasts.

About Murata

Murata Manufacturing Co., Ltd. (OTCMKTS: MRAAY) is a worldwide leader in the design, manufacture and sale of ceramic-based passive electronic components & solutions, communication modules and power supply modules. Murata is committed to the development of advanced electronic materials and leading edge, multi-functional, high-density modules. The company has employees and manufacturing facilities throughout the world.

About Resonant's XBAR® Filter Technology

Resonant pioneered a novel Bulk Acoustic Wave (BAW) filter technology, XBAR®, to meet the challenging and complex RF front-end requirements of next-generation 5G, Wi-Fi and UWB networks and beyond. 4G BAW filter structures have traditionally been used at frequencies up to 3GHz and adapted to filter higher frequency bands, which has presented significant performance and capability challenges. Using WaveX™, Resonant evaluated various resonator, filter building blocks for wide-bandwidth, high-frequency and high-power filter designs. XBAR® was the result of these extensive studies – the optimal next-generation filter technology.

XBAR® is the first and only RF filter solution that has natively demonstrated the performance necessary to fully realize the potential of next-generation wireless technologies, including 5G and Wi-Fi 6/6E. In addition, future wireless networks will continue to move to wider bandwidths, higher frequencies and added complexity, which will further increase the demand for XBAR® filters. Unlike traditional BAW filters which require complex, multi-step manufacturing processes. XBAR® filters are much simpler to manufacture and hence can leverage SAW foundries.

Resonant continues to protect XBAR® technology through the fundamental patents and trade secrets associated with a disruptive technology, in addition to the intellectual property associated with know-how and expertise developed subsequently.

About Resonant's WaveX™ Design Technology


Resonant creates designs for difficult RF frequency bands and modules that meet challenging and complex 5G, Wi-Fi and UWB RF front-end requirements. Using WaveX™, Resonant's designs have the potential to be developed in half the time and manufactured at a lower cost than traditional approaches. WaveX™ is a suite of proprietary algorithms, software design tools and network synthesis techniques that enables Resonant to explore a much larger set of possible design solutions.

Resonant delivers rapid design simulations to its customers, which they manufacture in their captive fabs or have manufactured by one of Resonant's foundry partners. These improved solutions still use Surface Acoustic Wave (SAW) or Temperature Compensated Surface Acoustic Wave (TC-SAW) technologies with the performance of higher cost manufacturing methods like Bulk Acoustic Wave (BAW).

Resonant's WaveX™ delivers excellent predictability, enabling achievement of the desired product performance in roughly half as many turns through the fab. In addition, Resonant's simulations model fundamental material and structure properties, which makes integration with foundry and fab customers much more intuitive, because they speak the "fab language" of basic material properties and dimensions.

Safe Harbor / Forward-Looking Statements

This press release contains forward-looking statements, which include the following subjects, among others: the capabilities of our filter designs and software tools, and the timing and amount of future payments under our expanded agreement with Murata. Forward-looking statements are made as of the date of this document and are inherently subject to risks and uncertainties which could cause actual results to differ materially from those in the forward-looking statements, including, without limitation, the following: our limited operating history; our ability to complete designs that meet customer specifications; the ability of our customers (or their manufacturers) to fabricate our designs in commercial quantities; our customers' ability to sell products incorporating our designs to their OEM customers; changes in our expenditures and other uses of cash; the ability of our designs to significantly lower costs compared to other designs and solutions; the risk that the intense competition and rapid technological change in our industry renders our designs less useful or obsolete; our ability to find, recruit and retain the highly skilled personnel required for our design process in sufficient numbers to support our growth; our ability to manage growth; and general market, economic and business conditions. Additional factors that could cause actual results to differ materially from those anticipated by our forward-looking statements are under the captions "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our most recent Annual Report (Form 10-K) or Quarterly Report (Form 10-Q) filed with the Securities and Exchange Commission. Forward-looking statements are made as of the date of this release, and we expressly disclaim any obligation or undertaking to update forward-looking statements.

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