

November 7, 2016



# Resonant Expands Licensing Agreement with Existing Customer

*New Designs Include Three Duplexers Targeting Difficult Bands; Agreement Brings Total Products Under Development Utilizing Resonant Technology Across All Customers to Nineteen*

GOLETA, Calif.--(BUSINESS WIRE)-- Resonant Inc. (NASDAQ: RESN), a developer of software tools and intellectual property and design services provider of filters for radio frequency front-ends (RFFE) that specializes in delivering solutions for difficult bands and complex requirements, today announced a significant extension to its development and licensing agreement with an existing customer, adding three new duplexers based on early development successes with previous engagements.

The expansion encompasses the development and licensing of three duplexers targeting difficult bands. Resonant now has 7 products in development with this customer utilizing its patented technology and design tools. These designs will leverage Resonant's patented ISN Software Tools, which we believe can be instrumental in RFFE design for next-generation 5G devices. Resonant has published a whitepaper titled "[RF Innovation and the Transition to 5G Wireless Technology](#)" that provides more information on how its technology can be used in 5G RFFE.

Upfront payments, milestone payments and royalty terms have been agreed upon, but will not be disclosed due to the confidential nature of such agreements.

"As we continue to attract new customers, our current customers are demonstrating their confidence in our ability to design complex and competitive RF front-end filters by extending their agreements into new products," said Terry Lingren, CEO and Co-Founder of Resonant Inc. "Their confidence in our software tools, IP libraries and advanced design capabilities are driving our product portfolio growth and future licensing potential.

"The demand for more filter designs continues to increase in this fast-growing market. Band proliferation and the urgency to boost data-rates remains a key driver for additional RF content, and, in particular additional filters for mobile phones. The difficult designs we are focused on are high-value, high-volume bands, which ultimately represent significant future licensing potential. With a total of 19 products now in development under formal development and licensing agreements, Resonant is moving closer to commercializing our innovative filter design capability and creating the potential for recurring royalty revenues," concluded Lingren.

## About Resonant Inc.

Resonant is creating software tools and intellectual property that enable the development of innovative filter designs for the RF front-end, or RFFE, for the mobile device industry. The

RFFE is the circuitry in a mobile device responsible for the radio frequency signal processing and is located between the device's antenna and its digital baseband. Filters are a critical component of the RFFE that selects the desired radio frequency signals and rejects unwanted signals and noise. For more information, please visit [www.resonant.com](http://www.resonant.com).

### **About Resonant's ISN® Technology**

Resonant can create designs for hard bands and complex requirements that we believe have the potential to be manufactured for half the cost and developed in half the time of traditional approaches. The Company's large suite of proprietary mathematical methods, software design tools and network synthesis techniques enable it to explore a much bigger set of possible solutions and quickly derive the better ones. These improved filters still use existing manufacturing methods (i.e. SAW) and can perform as well as those using higher cost methods (i.e. BAW). While most of the industry designs surface acoustic wave filters using a coupling-of-modes model, Resonant uses circuit models and physical models. Circuit models are computationally much faster, and physical models are highly accurate models based entirely on fundamental material properties and dimensions. Resonant's method delivers excellent predictability, enabling achievement of the desired product performance in roughly half as many turns through the fab. In addition, because Resonant's models are fundamental, integration with its foundry and fab customers is eased because its models 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 development of filter designs under the agreement, the capabilities of our filter designs and technologies, and future growth and licensing potential for our designs. 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; 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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Source: Resonant Inc.