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Resonant Highlights Technologies That Conserve 4G/5G Spectrum as the Company Predicts a Significant Spectrum Deficit

Company's analysis shows mobile network operators could face a growing spectrum deficit starting in 2021 due to growing demand for high-bandwidth data

AUSTIN, Texas, Jan. 28, 2021 (GLOBE NEWSWIRE) -- Resonant Inc. (NASDAQ: RESN), a provider of radio frequency (RF) filter intellectual property connecting People and Things, today released a white paper predicting a notable spectrum deficit that could impact 4G/5G data services to consumers in the near-future. The paper, titled [*Maximizing Spectral Efficiency to Overcome A Spectrum Deficit in a 5G World*](#), also outlines the technologies that can help mobile network operators manage this spectrum deficit with minimal impact on 4G/5G data services.

The paper is available for download on the Resonant website:
<https://www.resonant.com/news-resources/white-papers>.

The white paper outlines the analysis behind Resonant's prediction that a spectrum deficit will occur, beginning in 2021 and increasing through 2025 when the deficit will total 963 MHz. This comes on the heels of the Federal Communications Commission's Auction 107, which raised more than \$80 billion for the 280MHz spectrum.

"Spectrum is the lifeblood of wireless services, and a spectrum deficit can mean reduced data speeds to consumers and delays in new high-bandwidth service offerings," said George B. Holmes, Chairman and CEO of Resonant. "While the news about spectrum deficits presents a large hurdle for connectivity, we put together our analysis, which uses inputs from the FCC's model, to show there are technologies that can help. RF filters are one of the technologies that can make a big difference to spectral efficiency by protecting valuable spectrum from degradation due to interference. At Resonant, we are continually seeking to leverage our robust IP portfolio to provide innovative solutions to the challenges posed by the ever-increasing demand for data."

Improving Spectral Efficiency

Spectral efficiency improvement, defined as how efficiently a given frequency carries a data packet, is key for mobile operators to maximize the efficacy of their licensed spectrum. RF filters with wide bandwidth are critical to realize the full potential performance of 5G and Wi-Fi. Other technologies outlined in the paper include massive MIMO antennas and offloading data traffic to unlicensed spectrum via either Wi-Fi or 5G New Radio – Unlicensed (5G NR-

U).

Resonant's XBAR[®] resonator is used to create filters that deliver performance for next generation networks. Filters developed using XBAR[®] have the features needed to maximize efficiency including bandwidth up to 1,200MHz, support for frequencies higher than 3GHz, very high-power handling and low loss.

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 Infinite Synthesized Network (ISN) 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](#)
- [ISN 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](#) and [LinkedIn page](#) 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.

Safe Harbor / Forward-Looking Statements

This press release contains forward-looking statements, which include the following subjects, among others: concerns with spectrum deficit and its consequences, and the capabilities of Resonant's filter designs and software tools. 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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Source: Resonant Inc.