Avago Technologies Announces FBAR Filter Design Wins in 15 Smart Phone Frequency Bands

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New Challenging Filtering Requirements in Multi-Band Smart Phones Have Led to the Rapid and Widespread Adoption of FBAR Technology in Phones for All Regions of the World

SAN JOSE, Calif. and SINGAPORE, Oct. 9, 2012 (GLOBE NEWSWIRE) -- Avago Technologies (Nasdaq:AVGO), a leading supplier of analog interface components for wireless, wireline, and industrial applications, today announced design wins for multiple products based on their Film Bulk Acoustic Resonator (FBAR) filter technology, supporting operation in 15 different frequency bands.

Phones that need to operate on many different frequency bands, in multiple regions of the world, and that support high speed LTE voice and data transmissions are increasingly using Avago FBAR technology to solve difficult filtering problems. 4G/LTE capable phones often operate on newly allocated frequency spectrum adjacent to pre-existing radio services, with the potential for interference between these services. The steep filter skirts and superior out-of-band rejection of filters based on FBAR technology allow today's smart phones to function in congested spectrum while avoiding interactions that would otherwise decrease or interrupt data throughput. Additionally, the low loss of FBAR filters helps compensate for the higher losses associated with combining multiple bands in a radio front end, improving signal reception and battery life. As multi-band smart phones become more popular, these advantages are leading to the rapid adoption of FBAR technology throughout the mobile phone ecosystem.

"FBAR technology has gone mainstream. Three years ago, when most applications were 3G based, only 4-5 different bands benefited from using FBAR filtering," said Bryan Ingram, Sr. Vice President and General Manager of Avago Wireless Semiconductor Division. "Now, as worldwide carriers move to 4G/LTE, filter specifications are much more stringent, and in many cases FBAR filters are the best solution to meet the requirements. To fulfill this demand, Avago now supports as many as 15 different frequency bands with FBAR products."

The requirements of Band 7, one of Europe's main LTE deployment bands, provide an example of how FBAR filtering can improve smart phone operation. Band 7 (2600 MHz) is located just above the frequencies used for WiFi in Europe. WiFi is a service that often operates simultaneously with a 4G/LTE session, for example when using a smart phone as a WiFi hotspot. Without superior filtering, the WiFi transceiver can potentially be "blocked" or overwhelmed by the LTE transmission on Band 7. The Avago ACMD-6107 duplexer provides sufficient protection to allow operation on even the highest frequency (closest) WiFi channels without interference. Competing filters do not provide the required out-of-band attenuation as effectively, possibly rendering the upper WiFi channels unusable. Used in conjunction with an Avago ACPF-7124 WiFi coexistence filter, the combination provides unparalleled performance that meets or exceeds system requirements.

A second example of the value FBAR filters offer is provided by the circumstances around the use of Band 13 in the US. This spectrum, used by Verizon for LTE service, is only 2 MHz away from a new Public Safety Radio (PSR) band that is starting to be used by police, fire and other emergency response agencies. To avoid interfering with PSR operation, the LTE standard can require handsets operating on Band 13 to back off on transmitted power by as much as 12 dB – down to 4% of the signal strength they might otherwise transmit. Such a back off has a major impact on network efficiency, reducing the number of customers that can be served, as well as on the quality of service, greatly decreasing data throughput or even resulting in dropped calls. By combining a temperature compensated, extremely fast roll-off FBAR duplexer with a highly linear power amplifier in the well controlled environment of an integrated Front End Module (FEM), Avago has created a product capable of allowing B13 handsets to operate at full power without interfering with PSR operation. The performance of the FBAR duplexer is a critical enabler for this product.

Many more examples can be found worldwide. FBAR filters can bring better performance to smart phones in the US, in the 700 MHz bands and the AWS spectrum as well as at higher frequencies. Phones operating on any of the main European LTE deployment bands can benefit. The same can be said for phones for new Asian TD-LTE bands as well as FDD bands. Even supporting radio systems like GPS and WiFi are improved. As new filtering challenges emerge, FBAR is increasingly being selected to provide the answer.

U.S. Pricing and Availability

A wide variety of FBAR-based devices are available now. Contact your local Avago sales representative or distributor for product pricing or for help in selecting the correct product for your application.

Further information on Avago FBAR products is available online at www.avagotech.com/fbar

About Avago Technologies

Avago Technologies is a leading supplier of analog interface components for wireless, wireline, and industrial applications. By leveraging its core competencies in III-V compound and silicon semiconductor design and processing, the company provides an extensive range of analog, mixed signal and optoelectronics components and subsystems to approximately 40,000 end customers. Backed by strong customer service support, the company's products serve three diverse end markets: wireless communications, wired infrastructure, industrial and automotive electronics. Avago has a global employee presence and heritage of technical innovation dating back 50 years to its Hewlett-Packard roots. Information about Avago is available on the Web at www.avagotech.com.

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