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Trio combine for Wi-Fi/cellular handset ref design

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LONDON — Quorum Systems, Inc., TTPCom Ltd and Analog Devices Inc. have collaborated on a GSM/Voice-over-Wi-Fi dual-mode handset reference design.

Dubbed the Sereno UM-1 and housed in a small form-factor clam-shell design, the reference design incorporates Quorum's QS2000 single-chip bulk-CMOS multi-mode transceiver, ADI's Blackfin SoftFone EDGE chipset and TTPCom's protocol stack and architecture.

The companies suggest phones that support Wi-Fi and cellular will become one of the fastest growing market segments, and would reach over 100 million units by 2010.

Until now, cellular and Wi-Fi functionality was only available in \$500 smartphone devices. The companies suggest that with the UM-1, dual-mode GSM/VoWi-Fi capability is now available at a sub-\$100 price-point.

All three companies will be demonstrating the reference design at next month's 3GSM Congress in Barcelona, Spain.

The handset will enable simultaneous multi-mode functionality and seamless hand-off for operation in the office, home and everywhere between. The hardware platform can support SIP and Unlicensed Mobile Access (UMA) modes of operation for VoIP.

Quorum says the Multi-Access Technology (QMAT) at the heart of its Sereno device more than doubles the Wi-Fi range for voice applications when compared to today's cordless VoIP. In cellular mode, the QS2000 is said to increase talk-time and standby capacity of the UM-1 by 10 percent and 20 percent respectively without compromising GSM/GPRS/EDGE and Wi-Fi radio performance.

The technology allows the QS2000's radio resource to be shared, enabling simultaneous multi-mode functionality while maximizing the reuse of external circuitry. The tightly integrated transceiver is made with low power, low cost CMOS technology.

Quorum also says physical antenna placement and interference issues that have previously plagued the design of converged handsets have also been eliminated as a result of its Intellectual Property.

"This is a truly significant step towards accelerating the adoption of converged Wi-Fi/cellular handsets," said Bernard Xavier, President and CEO of Quorum Systems, in a statement.

"Together, our companies have effectively designed a ready-made converged handset that allows customers to get a high-quality product into production and into the market in the shortest possible period of time, all while saving a considerable amount on bill of materials and development costs," adds Xavier.

Key features of the reference design include active interference mitigation during full Wi-Fi transmit power; co-location of multiple antenna(s) with no performance degradation; true Quad-band GSM operation for USGSM850, EGSM900, DCS1800, PCS1900; and multimedia capabilities such as 64 tone polyphonic ringer, SMS/EMS/MMS messaging client, customizable MMI based on TTPCom's Architecture, and 262K color main display WAP2.0 compliant browser.

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