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Wireless Carriers validate Quintel's LTE Advanced SON Antenna Solutions

In LTE network field trials in North America, Quintel proved its passive Adaptive Elevation Beamforming SONWav™ can outperform standard side-by-side X-Polar arrays when connected to a 2T4R Base Station

Rochester, New York. — May 21, 2013 — [Quintel®](#), a leading innovator of spectrum and space efficient antennas for wireless networks has just successfully completed two field trials of its new SONWav™ antenna in live operator LTE networks. The SONWav antenna leverages Quintel's patented QTilt™ technology which, when connected to any OEM's 4-branch Receive Base Station, provides adaptive elevation plane Beamforming that delivers a per-user Self Optimizing Network (SON) in the uplink path. This is functionality envisioned by 3GPP to only be available with Active Antenna Solutions (AAS), which are not currently practical due to size and cost. The SONWav trials confirmed that up to 80% throughput gains can be achieved for LTE vs. a standard antenna, and also demonstrated similar throughput gains with CDMA EVDO technology. Additionally, SONWav outperformed CLA-2X configurations (i.e. using dual or side-by-side X-polar array antennas) delivering significantly better throughput in nearly all scenarios tested with half the antenna surface area.

LTE 4-branch Receive combining in the 1710-2170MHz spectrum bands has gained operator and OEM interest due to increasing spectral efficiency, and hence data throughput via a simple adaptive Azimuthal Beamforming action. However, this technique has been of little interest at Lowband (e.g. 700MHz, 800MHz or 850MHz) because CLA-2X antenna products would be very wide and not practical. Quintel's SONWav dramatically changes this paradigm by delivering practical MIMO 4-branch Rx with SONWav at Lowband in a standard slimline form factor. Combining SONWav with our newly announced Pentaband Slimline Antenna platform, Quintel can provide up to 12 ports that offers one 4-branch LTE service at Lowband and two independent 4-branch LTE services at Highband, while still maintaining the conventional 12in/300mm wide form factor.

The exponential growth of wireless data traffic is challenging the industry to rapidly adopt and implement LTE to serve this growth with high quality. The Radio Access Network (RAN) will evolve from 2T2R Base Stations with basic SON features to 8T8R

Base Stations with advanced SON features. *“Quintel’s SONWav™ demonstrates that Spectral Efficiency can be enhanced through a smarter approach to Beamforming in the elevation plane; smart in the sense it is passive, uses a single X-Pol antenna array, and exploits simple 4-branch Receive combining schemes, which are available and mature,”* said David Barker, Quintel’s CTO and VP of Technology Marketing. *“The industry doesn’t have to wait for complex and costly fully active phased array AAS’s to come along to exploit the benefits of plane-wave Beamforming in Elevation. Being able to also add spectral efficiencies at Lowband Spectrum is especially valuable since Lowband spectrum is typically an order more expensive per MHz than Highband spectrum.”*

Quintel’s SONWav antenna technology is the most practical 4-branch Receive combining solution because it can be deployed in just about any standard single or multi-band antenna configuration. For example, in antenna sizes such as 4ft/~1200mm, 6ft/~1800MM, or 8ft/~2400mm Height, by 1ft/~300mm Wide, SONWav could support LTE 4-branch at Lowband and/or Highband frequencies along with legacy 2T2R services. Many of these configurations that allow like-for-like antenna replacements while supporting additional bands and 4-branch LTE are possible with Quintel’s SONWav technology. Additionally, SONWav is easily adapted to 4T4R and 8T8R solutions to further the potential improvements and gains that operators can realize.

About Quintel

Quintel is an innovative leader in wireless network antenna technology development and manufacturing solutions. The company’s products enable wireless operators to independently deploy and optimize multiple air interfaces and/or services on a single standard antenna platform. Quintel is the only antenna supplier whose products can increase a wireless network’s capacity, and the number of services, without increasing the number of antennas or size. Our core technologies originated in the United Kingdom’s Ministry of Defense, and are now deployed throughout the world. Quintel is headquartered in Rochester, New York with additional offices throughout North America, Europe and Asia. More information about Quintel is available at www.quintelsolutions.com.

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