Global LTE Antenna Reference Design for Smartphones

Antenova Ltd., the integrated antenna and RF solutions company, announced the release of a LTE Antenna Reference Design for Smartphones which covers the global LTE bands. Antenova's extremely wideband and efficient antenna design overcomes the difficulty of covering all the LTE frequency bands without the use of switches or tunable active components, resulting in a significantly lower cost LTE MIMO (Multiple-In-Multiple-Out) antenna system for smartphones.

"LTE is the fastest developing mobile system technology ever and is on every mobile device makers' roadmap, however the goal of a truly global LTE smartphone imposes great challenges on the antenna system," stated Greg McCray, CEO of Antenova. "While the current majority of LTE user devices operate in the 700 MHz band, which has been heavily driven by the U.S. market, rollout of LTE networks in other regions now require devices to operate in the LTE frequency bands utilized in those markets as well. Antenova has been working with Tier 1 smartphone, tablet and notebook vendors and providing them with patented and novel LTE antenna solutions with both custom antenna designs and antenna reference designs."

The A10453 is a fixed frequency LTE antenna that covers LTE 700, GSM850, GSM900, DCS1800, PCS1900, WCDMA2100, LTE B7 (2500-2690 MHz), LTE B38 (2570-2620 MHz), and LTE B40 (2300 - 2400 MHz) bands. When utilized in Antenova's MIMO configuration, the antenna system provides:

-- Total efficiencies of more than 50% over all bands with an average efficiency over all bands of 61%.

-- Isolation between 2 antenna elements below -10dB over all bands

-- Return loss better than 6dB over all frequency bands and better than 10dB on LTE B7

-- Superior hand and head performance

The A10453 can be realized using flexi or LDS on a plastic carrier and customized to fit specific mechanical IDs.

McCray added, "The extremely wide frequency range and MIMO requirements of the LTE specification poses many technical challenges to the antenna design as well as bill of materials (BOM) costs as more active components are normally required to cover all the LTE bands. Antenova has overcome these challenges and can now provide device manufacturers an LTE Antenna Reference Design which provides high efficiency across all LTE bands, a lower BOM cost than active solutions and

excellent hand and head performance."

The A10453 LTE antenna is a low profile 6mm height internal corner mount antenna utilizing Antenova's innovative antenna technology, which covers the five cellular bands plus the LTE bands. This extremely wideband and efficient A10453 LTE antenna can be used as a single element for SISO (Single-In-Single-Out) applications or in pairs in a symmetric configuration for a MIMO system. Optimal performance is achieved when two A10453 antennas in a symmetric pair configuration are mounted along the short edge of the PCB in smartphone applications. A USB connector can also be fitted between the two antenna elements without affecting the performance.

For further information, please visit www.antenova.com [1].

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