

Mobile World Congress: Freescale debuts its first macro basestation-on-chip

ECN Europe

[Freescale](#) [1] has debuted its first large cell basestation-on-chip based on its QorIQ Qonverge multimode platform. The QorIQ Qonverge B4860 baseband processor supports LTE, LTE Advanced and WCDMA, and integrates high performance cores, application-specific accelerators and optimal power/cost ratios.

This announcement comes a year after announcing its QorIQ small cell series as the first portfolio of multi-standard products sharing the same architecture and spanning large and small cells. The QorIQ Qonverge portfolio is built on a common architecture, integrating Power Architecture microprocessors, StarCore DSPs and wireless acceleration on a single chip.

The B4860 macrocell baseband processor uses Freescale's intelligent integration capabilities and an advanced 28nm process technology to deliver a significant leap in computational capacity, offering more than 21GHz of raw programmable performance. The macrocell SoC integrates four dual-thread 64-bit e6500 Power Architecture cores with AltiVec SIMD engines running at up to 1.8 GHz.

The e6500 core is ideal for Layer 2, control and transport processing, and incorporates an enhance version of the proven, high performance and widely adopted AntiVec vector processing unit, which boosts performance for Layer 2 scheduling algorithms. The e6500 core has achieved the highest CoreMark benchmark performance-per-watt profile ever recorded for an embedded processor. The B4860 also integrates six all-new, high performance SC3900 StarCore FVP cores running at 1.2 GHz.

The B4860 is one of the first single-chip LTE basestation products to support three sectors of 20MHz, and is designed to replace today's channel cards that can include up to six discrete devices. In addition to simplified design and board-level efficiency resulting from reduced part counts, the B4860 provides 4x cost reduction and 3x power reduction compared to similarly deployed discrete solutions. It is one of the only solutions on the market that supports a true macro base station capable of processing from antenna IQ samples to backhaul IP network, and one of the first SoCs to comply with the LTE-Advanced standard (3GPP release 10, dated March 2011). It also supports Multi-RAT (i.e. multi-standard) and Multimode (i.e. LTE-A, LTE and WCDMA) standards simultaneously.

[SOURCE](#) [2]

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