



**THE DATASHEET OF
BSC9131NSE1KHKB**





QorIQ Qonverge Platform

QorIQ Qonverge BSC9131 for Femtocell Base Station Solutions

Target Applications

Femtocell: Home or small office cellular base stations supporting the following standards:

- LTE-FDD/TDD
- WCDMA (HSPA+)
- CDMA2K
- TD-SCDMA

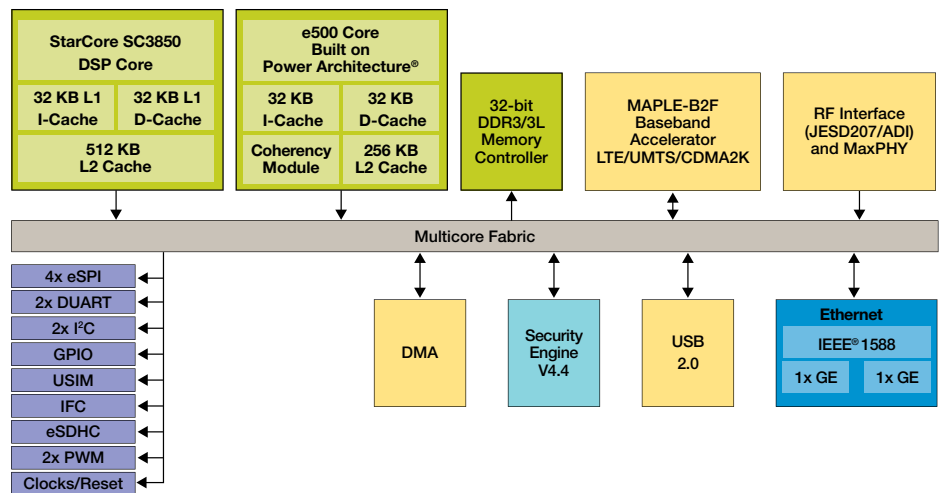
Overview

The QorIQ Qonverge BSC9131 processor is a highly integrated device that targets evolving femto and enterprise femto applications. The BSC9131 combines Power Architecture® e500 and StarCore SC3850 core technologies with MAPLE-B2F baseband acceleration processing, addressing the need for a high-performance,

cost-effective, integrated solution that handles all the digital baseband processing required for femtocells.

The programmable BSC9131 device, targeted at LTE/FDD/TDD, WCDMA (HSPA+) and CDMA2K, supports multiple air interface standards and can support two concurrent standards.

QorIQ Qonverge BSC9131 Processor



QorIQ Qonverge Features

The BSC9131 is a highly integrated device combining Power, StarCore and MAPLE architectures. The device includes the following features:

Core	<ul style="list-style-type: none"> Power Architecture® subsystem including one e500 processor and 256 KB shared L2 cache
DSP	<ul style="list-style-type: none"> StarCore SC3850 DSP subsystem including 512 KB private L2 cache
Baseband Acceleration	<ul style="list-style-type: none"> MAPLE-B2F multi-accelerator platform engine supports functions that enable LTE-FDD/TDD, WCDMA (HSPA+) and CDMA2K wireless standards
Memory	<ul style="list-style-type: none"> DDR3 memory interface with 32-bit data width (40 bits including ECC), up to 800 MHz data rate Integrated flash controller for NOR, NAND and FPGA support
Security	<ul style="list-style-type: none"> Dedicated security engine featuring trusted boot
RF Interface	<ul style="list-style-type: none"> Antenna interface controller supporting three industry standard JESD207/three custom ADI RF interfaces (two dual port and one single port) Two pulse width modulators (PWM) for control of external components Three MAXIMs MaxPhy serial interfaces
Connectivity	<ul style="list-style-type: none"> Two triple-speed Gigabit-Ethernet controllers featuring network acceleration including IEEE® Std 1588v2™ hardware support USB 2.0 host and device controller DMA controller with four bidirectional channels that serves both Power Architecture cores and DSP domains UART, SPI, eSDHC, USIM and I²C controllers GPIO, 16 32-bit timers

Freescale will provide commercial L1 and transport software. L2, L3 will be provided through our partner stack vendors:

- LTE-FDD/TDD and WCDMA (HSPA+) L1 software—licensed by Freescale
- L2/L3 software for LTE-FDD/TDD and WCDMA (HSPA+)—via partners
- Development tools and operating system software through Freescale and its ecosystem partners



BSC9131 Reference Design Board



For more information about the QorIQ Qonverge BSC913x family, visit freescale.com/QorIQQonverge

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