



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

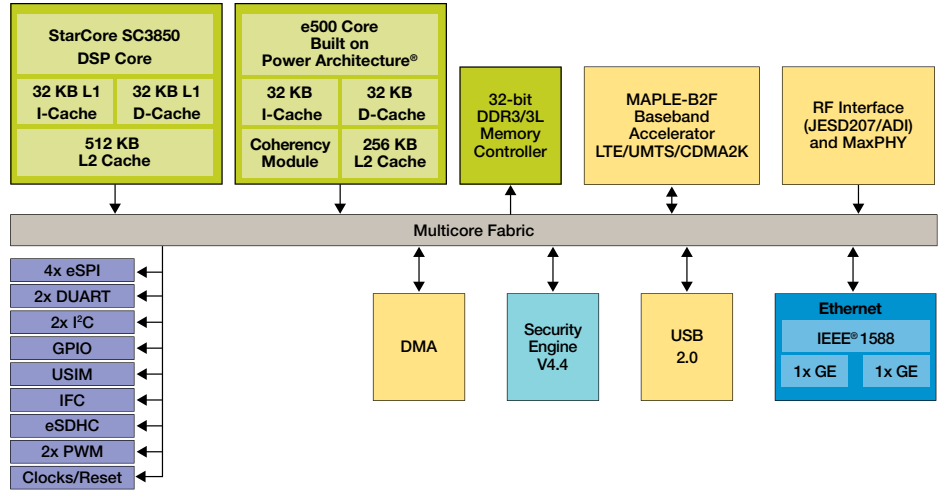
Overview

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

Freescale, the Freescale logo, QorIQ and StarCore are trademarks of Freescale Semiconductor, Inc., Reg. U.S. Pat. & Tm. Off. QorIQ Qonverge is a trademark of Freescale Semiconductor, Inc. All other product or service names are the property of their respective owners. The Power Architecture and Power.org word marks and the Power and Power.org logos and related marks are trademarks and service marks licensed by Power.org. © 2012 Freescale Semiconductor, Inc.

Document Number: QORIQPSC9131FS REV 2