



QorIQ Qonverge Platform

# QorIQ Qonverge BSC9132 for Picocell Base Station Solutions

## A new dimension in wireless processing

### Overview

The BSC9132 is a highly integrated device that targets evolving microcell, picocell and enterprise femto base station applications. The BSC9132 device combines two e500 cores, built on Power Architecture® technology, and two StarCore SC3850 cores with MAPLE-B2P baseband acceleration processing elements to address the need for a high-performance, cost-effective, integrated solution that handles all required processing layers without the need for an external device (except for an RF transceiver).

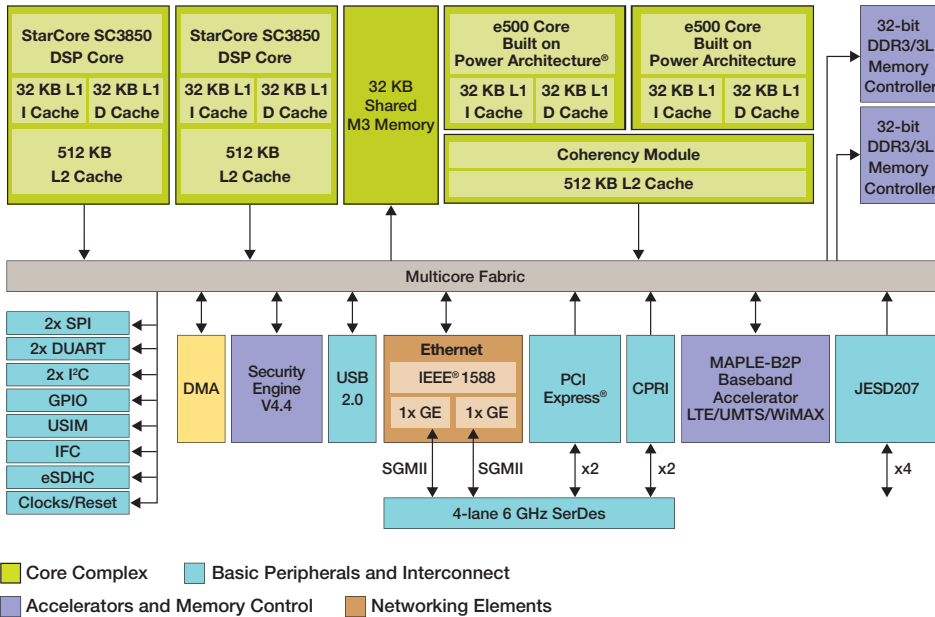
With primary target air interfaces for LTE-FDD/TDD, WCDMA (HSPA+) and WiMAX, the BSC9132 programmable device supports the performance and cost requirements of up to 20 MHz single sector LTE-FDD/TDD by handling 150 Mb/s downlink and 75 Mb/s uplink rates, and 5 MHz HSPA+ by handling 42 Mb/s downlink and 23 Mb/s uplink. The BSC9132 supports multimode operation that enables it to process LTE-FDD/TDD and WCDMA (HSPA+) users simultaneously.

### Target Applications

Picocell: Small cell wireless base stations supporting the following standards:

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

### QorIQ Qonverge BSC9132 Processor



## QorIQ Qonverge Features

The BSC9132 is a highly integrated device combining Power, StarCore and MAPLE architectures. The device includes the following features:

<b>Core</b>	<ul style="list-style-type: none"> <li>Power Architecture technology including two e500 processors with 512 KB shared L2 cache</li> </ul>
<b>DSP</b>	<ul style="list-style-type: none"> <li>Two StarCore SC3850 DSP subsystems, each with a 512 KB private L2 cache</li> </ul>
<b>Baseband Acceleration</b>	<ul style="list-style-type: none"> <li>The MAPLE-B2P multi-accelerator platform engine supports functions that enable LTE-FDD/TDD, WiMAX and WCDMA (HSPA+) wireless standards</li> </ul>
<b>Memory</b>	<ul style="list-style-type: none"> <li>32 KB of shared M3 memory</li> <li>Two DDR3/3L memory interfaces with 32-bit data width (40 bits including ECC), up to 1333 MHz data rate</li> <li>Integrated flash memory controller</li> </ul>
<b>Security</b>	<ul style="list-style-type: none"> <li>Dedicated security engine featuring trusted boot</li> </ul>
<b>RF Interface</b>	<ul style="list-style-type: none"> <li>Three full-duplex and one half-duplex JESD207 RF interfaces</li> <li>Two CPRI interfaces for remote radio head integration</li> </ul>
<b>Connectivity</b>	<ul style="list-style-type: none"> <li>Two DMA controllers. One with four bi-directional channels and the other with 16 bi-directional channels—one controller serves both the Power Architecture cores and DSP domains with the other controller used mainly for DSP operations.</li> <li>Two triple-speed Gigabit Ethernet controllers featuring network acceleration, including IEEE® 1588 v2 hardware support for two SGMII ports</li> <li>USB 2.0 host and device controller</li> <li>Two DUART, two SPI and two I<sup>2</sup>C controllers</li> <li>96 GPIO, TDM with 512 channels</li> <li>USIM interface</li> <li>Enhanced Secure Digital Host Controller (eSDHC) interface to MMC, SD and SDIO cards</li> </ul>
<b>Interfaces</b>	<ul style="list-style-type: none"> <li>Four-lane SerDes PHY that multiplexes the following:               <ul style="list-style-type: none"> <li>Two CPRI controller lanes</li> <li>Two SGMII interfaces</li> <li>Two PCIe lanes</li> </ul> </li> </ul>

Freescale will provide comprehensive and commercial L1, L2, L3 and transport software, integrated and tested on BSC9132 platforms:

- LTE-FDD/TDD and WCDMA (HSPA+) VortiQa L1 baseband software licensed by Freescale
- LTE PHY Conformance (LPC) and Test Toolkit 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



For more information about Freescale's QorIQ Qonverge BSC913x family, visit [freescale.com/QorIQQonverge](http://freescale.com/QorIQQonverge)

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