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Understanding Embedded - Microprocessors

Embedded microprocessors are specialized computing chips designed to perform specific tasks within an embedded system. Unlike general-purpose microprocessors found in personal computers, embedded microprocessors are tailored for dedicated functions within larger systems, offering optimized performance, efficiency, and reliability. These microprocessors are integral to the operation of countless electronic devices, providing the computational power necessary for controlling processes, handling data, and managing communications.

Applications of Embedded - Microprocessors

Embedded microprocessors are utilized across a broad spectrum of applications, making them indispensable in

Details		
Product Status	Active	
Core Processor	-	
Number of Cores/Bus Width	-	
Speed	-	
Co-Processors/DSP	-	
RAM Controllers	-	
Graphics Acceleration	-	
Display & Interface Controllers	-	
Ethernet	-	
SATA	-	
USB	-	
Voltage - I/O	-	
Operating Temperature	-	
Security Features	-	
Package / Case	-	
Supplier Device Package	-	
Purchase URL	https://www.e-xfl.com/pro/item?MUrl=&PartUrl=bsc9131njn1hhhb	

Email: info@E-XFL.COM

Address: Room A, 16/F, Full Win Commercial Centre, 573 Nathan Road, Mongkok, Hong Kong





Target Applications

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

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

QorlQ Qonverge Platform

QorlQ Qonverge BSC9131 for Femtocell Base Station Solutions

A new dimension in wireless processing

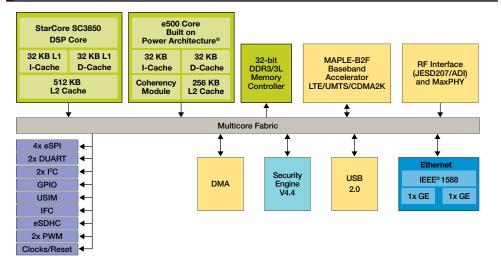
Overview

The QorlQ 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.

QorlQ Qonverge BSC9131 Processor







QorlQ Qonverge Features

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

Core	Power Architecture® subsystem including one e500 processor and 256 KB shared L2 cache	
DSP	StarCore SC3850 DSP subsystem including 512 KB private L2 cache	
Baseband Acceleration	MAPLE-B2F multi-accelerator platform engine supports functions that enable LTE-FDD/TDD, WCDMA (HSPA+) and CDMA2K wireless standards	
Memory	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	Dedicated security engine featuring trusted boot	
RF Interface	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	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 I ² C 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 QorlQ Qonverge BSC913x family, visit freescale.com/QorlQQonverge



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