Mobile eXtreme Convergence Platforms

MXC300-30

Overview

Freescale Semiconductor's leadership in 3G continues with the MXC300-30 platform. Based on the revolutionary Mobile eXtreme Convergence (MXC) architecture, MXC300-30 provides a comprehensive platform solution that speeds time to market by simplifying development for manufacturers. By reducing component count and cost, the MXC300-30 platform enables consumers to have handsets that are slim, sleek and stylish. Integrated world-class power amplifier and power management technology helps reduce dropped calls and extend battery life. Advanced packaging techniques put the MXC architecture in a package the size of a postage stamp, literally providing more room to innovate.

First 3G Single-Core Modem

The single-core processor at the heart of the MXC300-30 platform combines a StarCore™ SC140e Digital Signal Processor (DSP) operating at up to 250 MHz and an ARM1136™ applications processor core operating at up to 532 MHz. The single-core modem handles the signaling protocol layers (L1, L2 and L3) for 2.5G, 2.75G and 3G standards including GSM, GPRS, EDGE class 12 and WCDMA.

Applications processing technology is integrated into the chip with a shared memory system and shared peripherals. This eliminates the need for an additional external applications processor and helps to reduce cost. The modem and applications domains run on the same piece of silicon, which means more efficient interprocessor communication, higher performance, exceptional power management and reduced complexity.

Create Applications Faster

While the modem and applications share hardware, they are separated by software. This clean separation dramatically reduces complexity and simplifies software development. Designers can create new applications as quickly as they need to, without touching the modem core—speeding time to market by as much as six months. This separation gives manufacturers comprehensive scalability and flexibility across their portfolios—making it possible to increase functions, decrease development time and free up critical engineering resources. MXC architecture helps reduce part count, size and system costs, while enhancing multimedia and communications processing performance.

Benefits

Low power

- Communications functions on a single core
- Dedicated hardware accelerators
- Internal memories and caches

Cost effective

- Shared external memory approach
- Single-core modem architecture
- High integration with fewer discrete parts

High performance

- Dedicated accelerators
- L1, L2 caches
- High speed: 250 MHz DSP, 532 MHz microcontroller unit (MCU)

Speeds development time and simplifies effort

- Strict separation of modem and apps provides simpler software development and integration
- Modem software runs entirely on the DSP
- Run open operating systems such as Linux® OS and Symbian OS™ on the MCU

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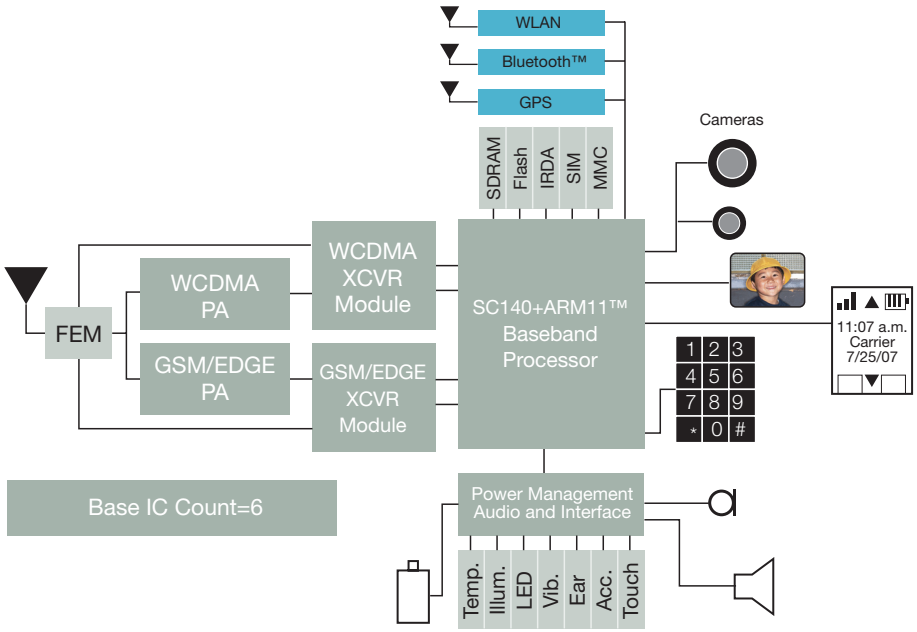
MXC300-30 Mobile eXtreme Convergence Platform



MXC300-30 Platform Features

- StarCore™ SC140e DSP up to 250 MHz
- ARM11™ applications processor up to 532 MHz
- Quad-band GSM 850/900/1800/1900 MHz
- WCDMA tri-band 850/1900/2100 MHz
- Universal Mobile Telecommunications System (UMTS) data rates (max)—download 384 Kbps, upload 384 Kbps
- HSDPA 1.8 Mbps (download)
- GSM EDGE Radio Access Network (GERAN) data rates (max)—download 236 Kbps, upload 118 Kbps
- GPRS/EGPRS (EDGE) slot up to class 12 (4d/4u)
- Supports Dynamic Synchronous Transfer Mode (DTM) class 5–11
- DigRF interface support
- AMR-NB, HR, FR and EFR vocoders
- Hardware with f8/f9, A5/1–4 and GEA1–4 cipher algorithms
- Optimized for open operating systems such as Linux and Symbian without the addition of any processor or accelerator
- Compressed and non-compressed mode
- Single antenna interference cancellation for Gaussian minimum shift keying (GMSK)
- Secure boot
- Run-time integrity checker (RTIC)
- Videoconferencing and MPEG-4 CIF encoder
- Integrated imaging processing unit (IPU) video accelerator:
  - Camera and display interfaces
  - Rotation, scaling, pre/post-processing
- Wireless connectivity features
  - A-GPS (network assisted) interface support
  - Bluetooth™ interface support
  - Wireless local area network (WLAN) 802.11a/b/g interface support

Key Multimedia Features

- Video playback
  - MPEG-4/H.263 CIF 30 fps, 384 Kbps
  - H.264 Decode, CIF 30 fps, 384 Kbps
  - WMV9 Decode, QCIF 30 fps, 384 Kbps
- Video capture
  - MPEG-4 Encode CIF 30 fps, 384 Kbps
  - H.264 Encode QCIF 15 fps, 128 Kbps
- Videoconferencing
  - H.323/324 CIF 30 fps
- Audio codecs
  - eAAC+, AMR-NB, AMR-WB, AAC, AAC+, MP3 and MIDI
- Other capabilities
  - Push to talk
  - See what I see

Learn More: For more information about our Mobile eXtreme Convergence vision, the MXC architecture and our wireless portfolio, including a list of specific MXC architecture features, visit us at **www.freescale.com/mxc**

For more information about 3G visit us at **www.freescale.com/3G.**

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