



PMB8878

X-GOLD 608-Broadband Mobile Experience with HSDPA 7.2 Mbit/s and Multimedia Engine

WITH ITS NEW X-GOLD 608 BASEBAND, Infineon Technologies extends its well known X-GOLD baseband family to support the 3.5G mobile phone generation. The integrated dual-mode HSDPA/WCDMA/E-GPRS modem technology, together with high speed multimedia hardware accelerators and the advanced connectivity options enable X-GOLD 608 to fulfill the requirements of tomorrow's mobile phones.

INFINEON is one of the early platform vendors to support HSDPA category 8 (7.2Mbit/s). The implementation of equalizer based advanced receiver technology improves the data throughput, especially at high data rates, by up to 40%. In addition, the software programmable slot processing in the HSDPA Rx path provides further flexibility for performance enhancements. The HSDPA performance of X-GOLD 608 meets and exceeds all test cases as specified in the 3GPP standard.

INFINEON's 3.5 G physical layer architecture is future-proof and designed for an easy upgrade to higher HSDPA data rates, HSUPA and also Rx-diversity.

Key Modem Features

- HSDPA - category 8 (7.2Mbit/s)
 - Implementation of fractional chip rate equalizer
 - Configurable to lower categories / data rates
 - Option to switch off HSDPA to save power
- WCDMA
 - 384kbit/s class for uplink and downlink
 - 640kbit/s peak data rates for uplink and downlink independently
- EDGE multislot class 12
- GPRS/GSM
- FR, HR, EFR, AMR
- SAIC
- Tx diversity
- DTM class 11
- Polyphonic Ringer support for up to 64 voices at up to 48 kHz sampling rate
- Echo cancellation/noise reduction
- GTT/TTY

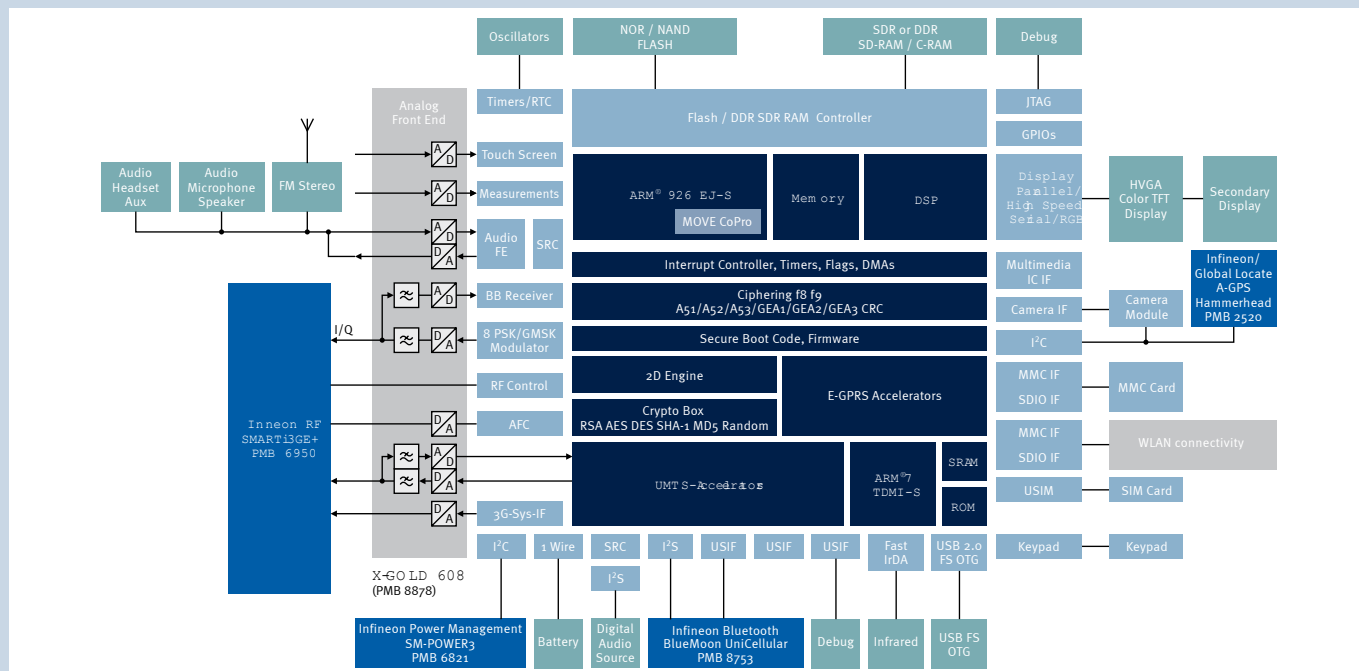
Key Application Features

- ARM 926 based single modem and application processor with cache support and fast tightly-coupled memories
- Hardware Crypto box - DRM 2.0, SIM Lock, IMEI protection
- Hardware security - E-fuse, Boot Code Protection, Secure Mode
- CPU, RGB display interface supporting high resolution color displays up to HVGA
- High-speed serial display interface for cost effective clamshell mechanics up to HVGA
- Support of cameras up to 5 MPixel
- MPEG4/H.263 hardware accelerator
- MP3, AAC, AAC+, enhanced AAC+
- 2D Graphic hardware
- Support for video telephony, streaming, recording and playback
- 2 x MMC/SD interfaces, SDIO capable
- USB 2.0 on-the-go, full speed
- Fast IRDA
- Multimedia extension interface (MMIC-IF) for support of high end graphic accelerators
- 2 bi-directional digital audio interfaces (I2S) to connect audio companion ICs and Bluetooth modules
- Dedicated NAND flash controller supporting burst mode and error detection
- Support of DDR-SDRAM devices

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Block Diagram X-GOLD 608



X-GOLD 608 with its ARM 926 CPU, capable of processing speeds of up to 312MHz, is extending the capabilities of wireless multimedia without the need for a dedicated Application Processor. The powerful multimedia engine integrated with the advanced dual-mode HSDPA/WCDMA/E-GPRS modem technology enables a wide spectrum of multimedia functionalities, mobile entertainment and office applications with high data rates of up to 7.2Mbit/s. X-GOLD 608 based platforms enable handsets to provide consumer electronic quality such as camera support of up to 5 MPixel as well as video telephony, streaming, recording and playback with up to 30 frames per second and a resolution of up to 320 x 480 pixels (HVGA) in MPEG4, H.264 or Real video formats and advanced audio codecs, like enhanced AAC+. THE OPTIMIZED X-GOLD 608 architecture makes it possible for the users to run several applications simultaneously; e. g. surf the internet, download emails or data to a SD-card with HSDPA category 8 (7.2Mbit/s) while listening to MP3 music over a stereo Bluetooth headset.

Key Benefits:

- High integration level of key multimedia features allows minimum cost of system solutions for tomorrow's feature phones
- High overall system performance with high speed ARM subsystem and double-data rate memory access
- Proven leading-edge modem technology with WCDMA, HSDPA Cat. 8 as well as third generation E-GPRS evolution
- Feature upgrade flexibility through optional companion/multimedia chips via standardized interface
- Support of connectivity modules such as Bluetooth, WLAN, A-GPS, DVB-H, FM Radio, etc.

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