

CEVA Xpert-TeakLite-II

Target Markets

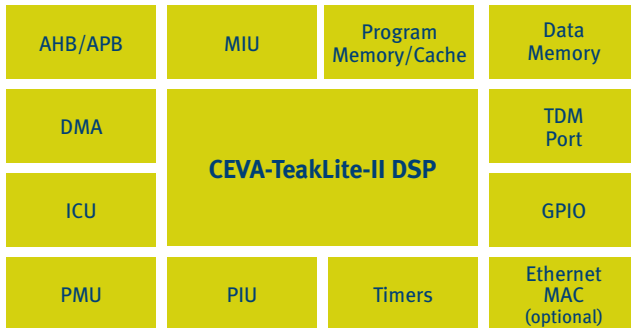
- › Cellular Handsets
- › Consumer/professional Audio Markets
- › VoIP/VoCable/VoDSL/VoPON applications
- › Dual mode cellular/VoWiFi applications

Overview

Embedded audio and telephony devices are evolving at a tremendous pace. Devices are shrinking in size while simultaneously growing in complexity. This often requires the DSP to handle multiple tasks while ensuring consistently high performance and prolonged battery life. In addition, the shortening of product design cycles places further pressure on developers and device manufacturers to create robust solutions in record time.

In order to respond to market demands, CEVA has created Xpert-TeakLite-II™, a low cost, programmable DSP-based platform with a very low power requirement - ideally suited for the embedded application market. Xpert-TeakLite-II, is based on the programmable CEVA-TeakLite-II™ DSP core and is packaged with many pre-integrated hardware peripherals. With its fully synthesizable, process independent, licensable design, it can be further incorporated into highly integrated SoC environments.

Xpert-TeakLite-II incorporates various advanced features including on-chip program cache and data memories, a high performance Direct Memory Access (DMA) controller, Buffered Time Division Multiplexing Port (BTDM), standard AMBA bridges (AHB & APB) and Ethernet MAC capability. Combining the core with off-the-shelf software provided by CEVA and its technology partners optimizes the Xpert-TeakLite-II for a variety of DSP-driven applications such as VoIP, audio, speech and cellular. Xpert-TeakLite-II is offered as a complete DSP platform licensable IP, which can be embedded into highly integrated SoC designs.



Xpert-TeakLite-II Functional Block Diagram

Benefits

- › Xpert-TeakLite-II is available as a complete licensable DSP platform IP
- › Embedded programmable single MAC CEVA-TeakLite-II DSP Core
- › Small area and low power design - ideal for cost-sensitive applications
- › Open architecture allows future upgradeability, feature enhancements and customer-specific proprietary features in software and hardware
- › Fully synthesizable, soft core and process-independent DSP platform
- › Advanced and comprehensive SW development tools and HW development environment, supporting the Xpert-TeakLite-II platform

Xpert-TeakLite-II Features

- › High-Performance, Low-Power, Fixed Point TeakLite-II DSP Core based Platform
- › Configurable on-chip memory sub-system:
 - 2k or 8k word on-chip program cache
 - 8k, 12k, 16k or 32K word on-chip data RAM
- › Three channels of Direct Memory Access (DMA) for data and program transfers
- › Buffered Time Division Multiplexing Ports (BTDMP)

- › AHB and APB standard bridges allow easy integration of Xpert-TeakLite-II and other AHB/APB system elements
- › Flexible Processor Interface Unit
- › Power management unit, Interrupt Control Unit, timers, JTAG, On-Chip Emulation Module and other on-chip peripherals
- › Evaluation board and complete SW development tools supporting the Xpert-TeakLite-II platform

CEVA-TeakLite-II DSP Core Highlights

- › 16-bit Fixed point programmable DSP
- › Single MAC
- › Control attributes/instructions
- › High code density, using 16-bit instruction width
- › Four 36-bit Accumulators
- › Barrel Shifter
- › Single cycle Exponent Unit
- › Bit Field Operations
- › Broad set of addressing modes including Direct, Indirect, Base/Index, and Stack
- › Ultra-low power dissipation

Optional DSP Application SW

- › CEVA-Audio Application Platform
 - Home Entertainment Audio (including Dolby Digital, HE-AAC, AC3 and more)
 - Portable audio players (including MP3/AAC/WMA and more)
- › CEVA-VoP Application Platform
 - VoIP/VoCable/VoDSL/VoPON
 - All telephony and signaling functions
- › Image processing (JPEG)

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