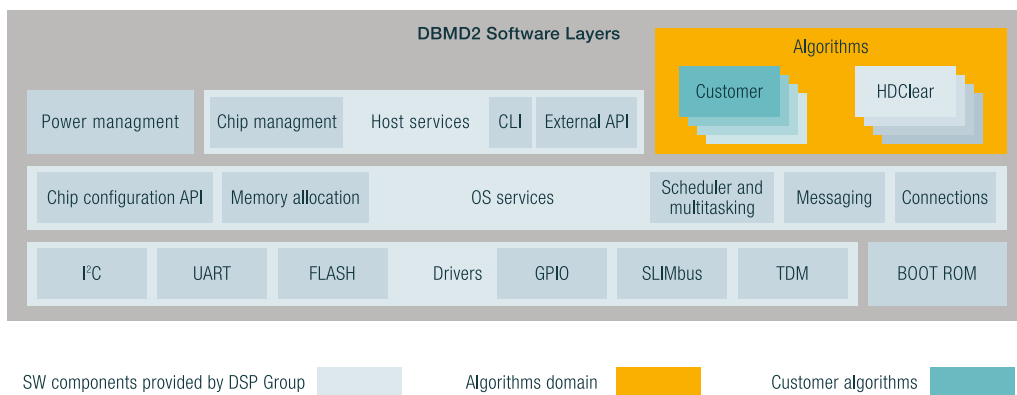


Software Framework

- Comprehensive software framework
- Real-time operating system
- Drivers for all processor peripherals
- Stand-alone master or slave with external master mode option
- “Internal host” for management and communication with external master processor
- Easy connection with external processor running Linux OS
- Linux/Android drivers interface with DBMD2
- Dynamic Power Management



Benefits

- High-performance, low-power audio DSP platform
- CEVA TeakLite-III programmable DSP Core
 - Application processor off-loading
 - Autonomous operation while host is either in sleep mode or performing other tasks
- Rich set of interfaces
- Small footprint
- Comprehensive software framework for fast time-to-market
- Ideal for HDClear™

Applications

- Mobile devices, tablets, headsets
- Smart TVs
- Notebook PCs
- Game consoles
- DSP-based applications

DSP Group®, Inc. (NASDAQ: DSPG) is a leading global provider of wireless chipset solutions for converged communications. Delivering semiconductor system solutions with software and reference designs, DSP Group enables OEMs/ODMs, consumer electronics (CE) manufacturers and service providers to cost-effectively develop new revenue-generating products with fast time to market. At the forefront of semiconductor innovation and operational excellence for over two decades, DSP Group provides a broad portfolio of wireless chipsets integrating DECT/CAT-iq, DECT ULE, Wi-Fi, PSTN, HDClear™, video and VoIP technologies. DSP Group enables converged voice, audio, video and data connectivity across diverse mobile, consumer and enterprise products – from mobile devices, connected multimedia screens, and home automation & security to cordless phones, VoIP systems, and home gateways. Leveraging industry-leading experience and expertise, DSP Group partners with CE manufacturers and service providers to shape the future of converged communications at home, office and on the go.

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Overview

DSP Group's® DBMD2 is a high-performance, low-power audio DSP platform with a small footprint - making it ideal for portable devices. Enabling application processor off-loading, DBMD2 operates autonomously while the host processor is either in sleep mode or performing other tasks. DBMD2 includes a programmable DSP Core processor and a rich set of interfaces. Equipped with a comprehensive software framework, it enables easy software development for fast time-to-market.

Features

DSP Audio/Voice Processing

- CEVA TeakLite-III DSP Core
- 32-bit MAC or 16-bit Dual MAC
- Power management mechanism
- Audio/Voice Pre and Post processing capability
- Advance Audio Processing for enhancing audio recorded and play back
- Narrowband, Wideband and Super Wideband Signal Processing
- Up to 3 microphone inputs voice processing

Package

- 36-pin UFBGA
- Dimensions: 3.0 mm x 3.0 mm x 0.65 mm
- Ball pitch: 0.4 mm

Interfaces and Connectivity Modes

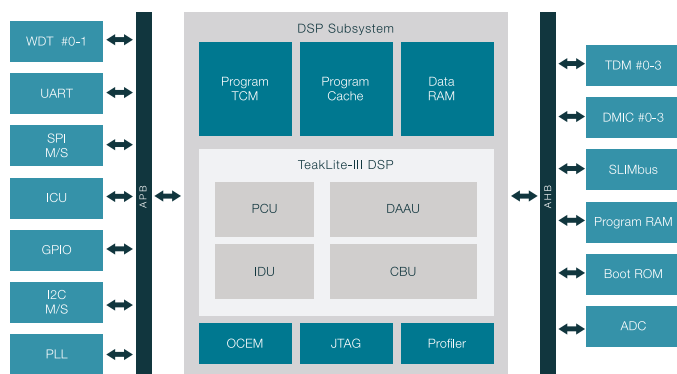
- I2C up to 400 KHz operation: master or slave
- UART with 128-byte RX/TX FIFO buffers supporting up to 1 Mbps
- SPI with up to 25 MHz (master) and 18.75 MHz (slave) clocks
- Up to 13 GPIOs, each usable as interrupt trigger
- JTAG-based debug port
- Two 32-bit timers
- Four TDM interfaces, each configurable as master or slave
- Digital interface for two dual-digital microphone inputs (up to a total of four digital microphones)
- SLIMbus interface
- Clock management unit supports up to three clock sources
- Microphone input followed by an ADC

On-Chip Memory

- Program
 - TCM, zero wait state
 - Instruction cache
 - Level 2
- Data
 - Data RAM

HDClear Highlights

- Non-stationary and stationary noise elimination for both transmit and receive sides
- Maximize Automatic Speech Recognition (ASR) accuracy rate
- Acoustic Echo Cancellation (AEC)
- Automatic Gain Control (AGC)
- FlexiSpeech™ – User adjustable speech rate
- Flexible Listening Enhancement (FLE)
- Voice Equalizer



Development Tools

Hardware Boards

- DBMD2 chip with debug interfaces
 - JTAG connector for hardware-related and real-time code debugging
 - UART connector for data logging
- Host connections
 - Host connector with data and control interfaces
 - USB controller for PC connection

Audio connections

- Codec connected to DBMD2 with line-in/line-out audio jack, analog microphones and speaker connectors
- Digital microphone connection to DBMD2

Software Tools

- Complete IDE provided by CEVA including:
 - C compiler, editor, linker, symbolic debugger
 - instruction set and cycle accurate simulators, profiler