

A modern, high performance Audio DSP, optimized for far-field noise reduction and Artificial Intelligence speech recognition.

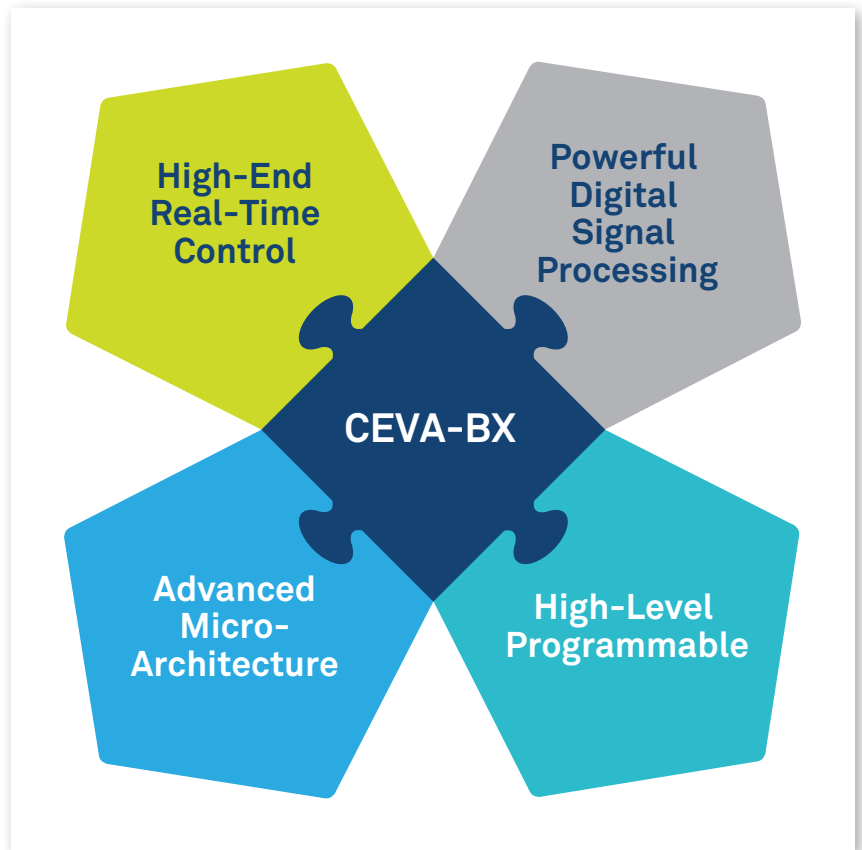
CEVA-BX2 designed for intensive Audio applications such as, Voice assistants with multi-microphone beamforming and noise reduction, Speech recognition engines (ASR) for voice trigger and commands, Object based audio rendering and 3D Audio processing, Natural Language Processing (NLP) at the edge, Sound sensing and analytics using neural networks.

Key Benefits

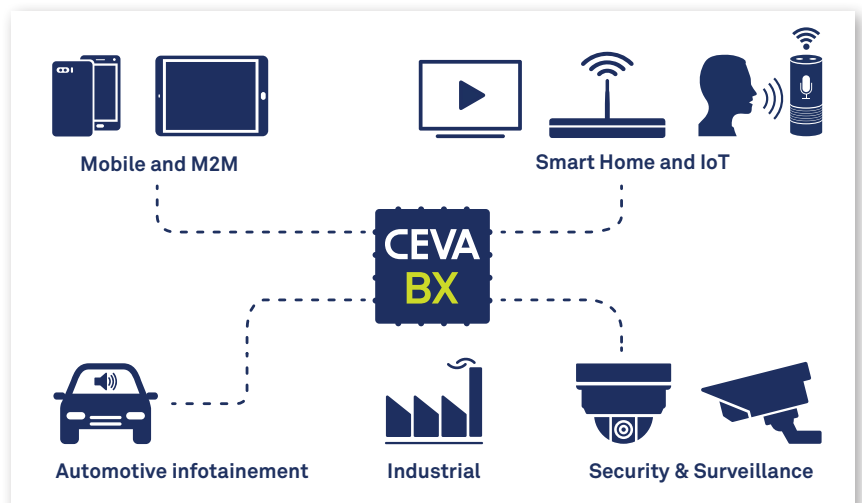
- > **Advanced Neural Network** support for deep learning at the edge
- > **Fast software bring up** using a comprehensive tool chain and DSP libraries
- > **Compact code size** and **low power** using builtin mechanisms

Tools and Software Availability

- > **Sound specific ISA**
- > **Sound software:**
 - **ClearVox** - Multi-mic noise reduction and AEC software providing enhanced speech intelligibility for voice controlled devices.
 - **WhisPro** - Multi language, always on, speech recognition SW, based on sound neural network, with customizable wake words supports.
- > DSP libraries
- > Neural network compute libraries
- > Common neural network frameworks support
- > Advanced LLVM compiler
- > Eclipse based debugger
- > RTOS
- > Large 3rd party ecosystem for sound solutions - speech recognition, voice personalization, active noise cancellation, audio postprocessing and speaker protection.



Target Markets



High performance Sound DSP

The CEVA-BX2 architecture delivers excellent all-round performance for a new generation of voice activated high performance smart devices, by offering a high performance architecture that is tailored for low power voice/audio processing and sound neural network applications.



Architecture Highlights

> Powerful DSP performance

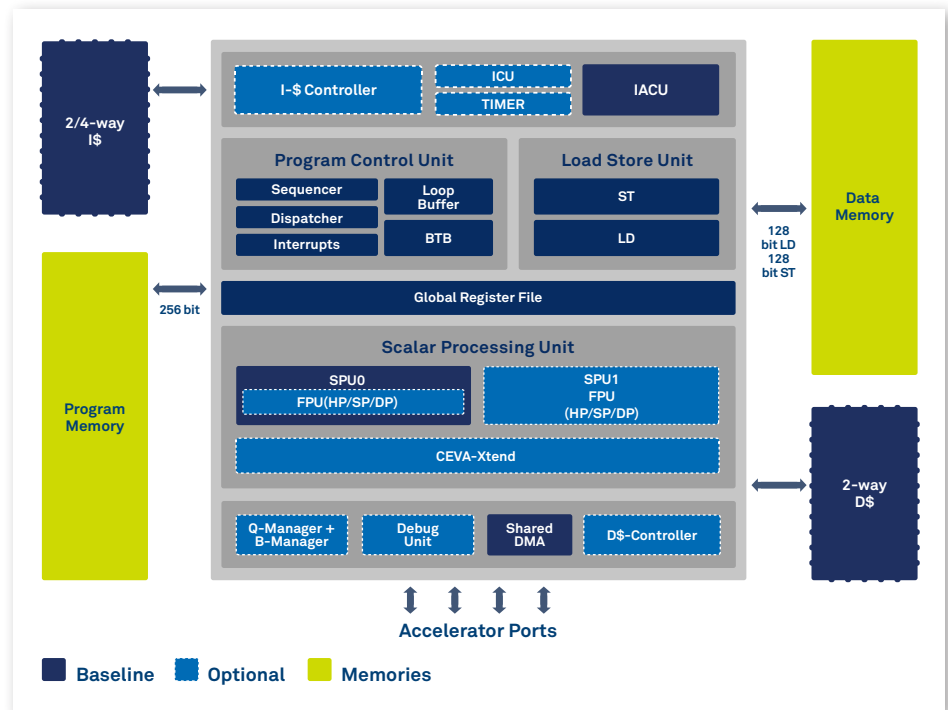
- 5-way VLIW
- 8/16/32/64-bit data types
- Quad 32x32 MACs
- Octal 16x16 MACs
- 16x8 and 8x8 Neural Network support
- Half, single and double precision IEEE floating point units

> High performance controller

- 5.46 CoreMark/MHz
- Dynamic branch prediction
- Full RTOS support
- Secured execution modes
- Compact code size

> Advanced System Control

- Automatic buffer management
- High QoS with queue managers
- Dedicated HW accelerator ports
- Advanced multi-way instruction and data cache subsystem



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