

A modern Audio DSP, designed for battery operated, high-performance, audio and voice applications.

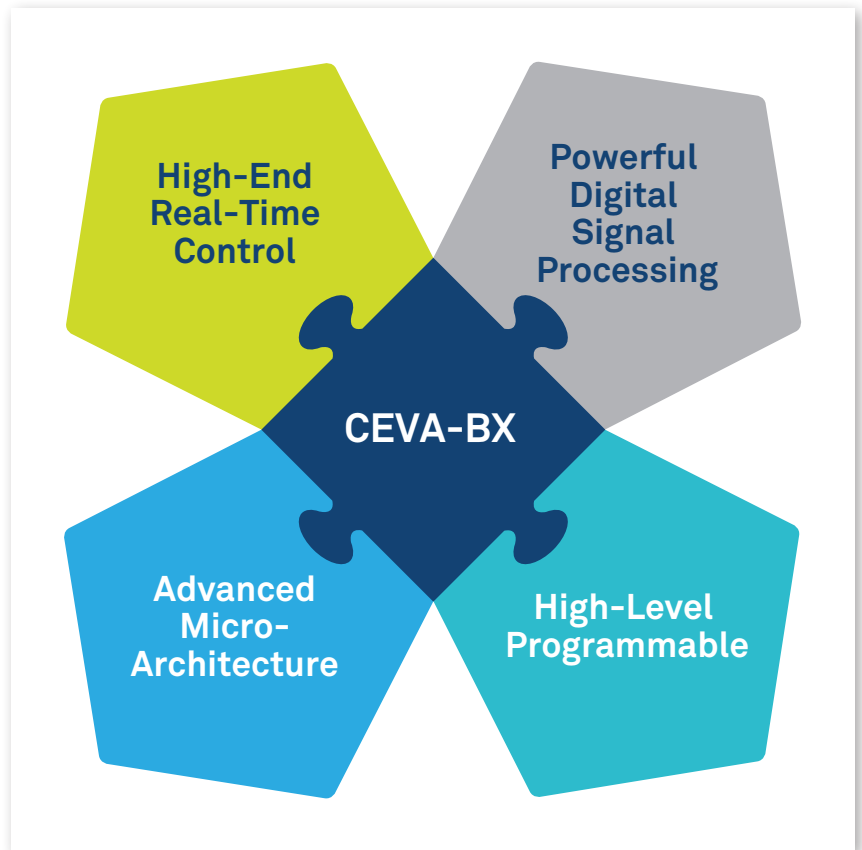
**CEVA-BX1** is an ultra-low-power Audio DSP, designed for Bluetooth earbuds and headsets using audio over BLE/BTDM, Voice controlled IoT with always-on speech recognition, Sound sensing in wearables, Audio codecs and high quality Audio post processing.

**Key Benefits**

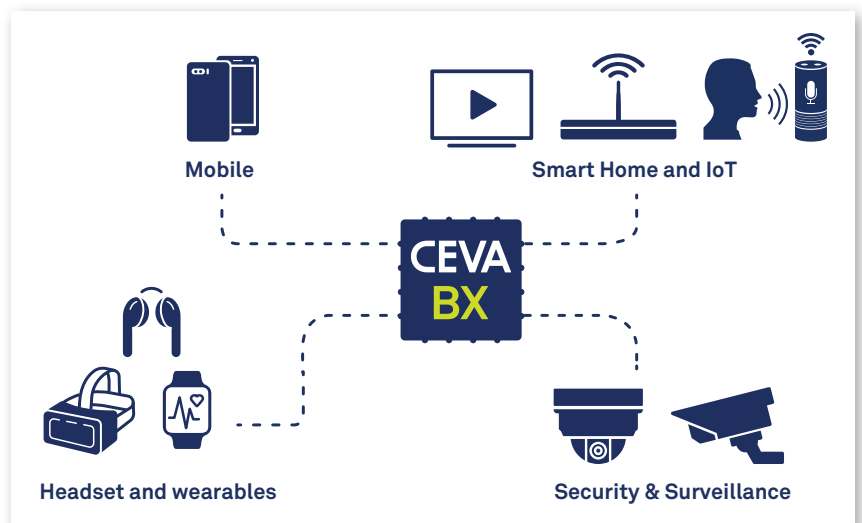
- > **Low power and compact code size** using built-in mechanisms
- > **Advanced Neural Network** support for speech recognition and sound sensing at the edge
- > **Fast software bring up** using a comprehensive tool chain and DSP libraries

**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**



## Low power Sound DSP

The CEVA-BX1 architecture delivers excellent all-round performance for a new generation of voice activated, battery operated 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

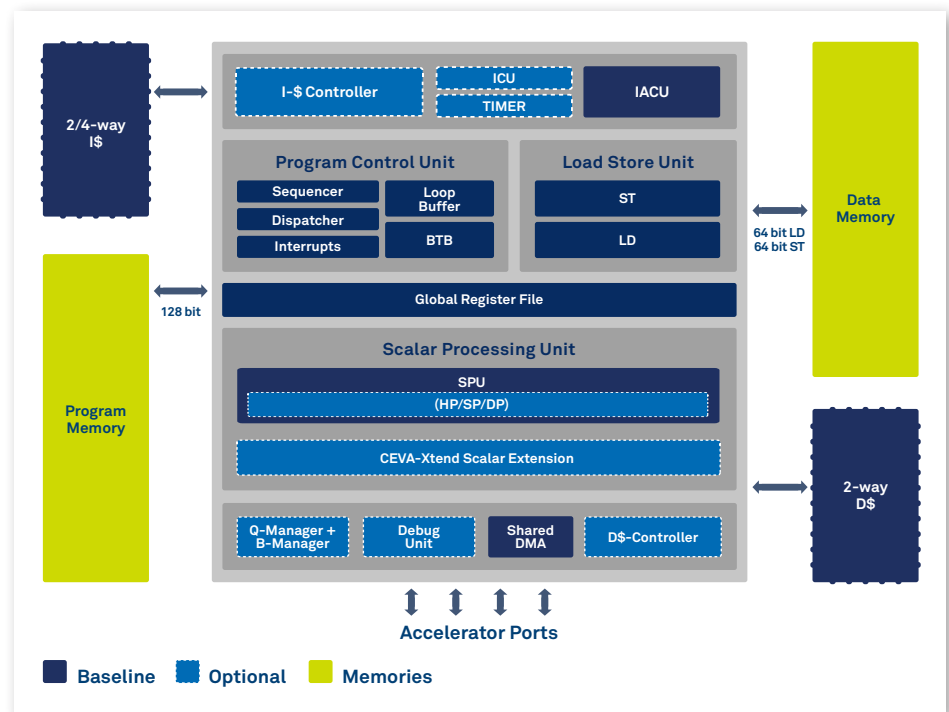
- 4-way VLIW
- 8/16/32/64-bit data types
- Dual 32x32 MAC
- Quad 16x16 MAC
- 16x8 and 8x8 Neural Network support
- Half, single and double precision IEEE floating point units

### > High performance controller

- 4.41 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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