

High level programmable, modern processor architecture for a broad range of signal processing and control workloads

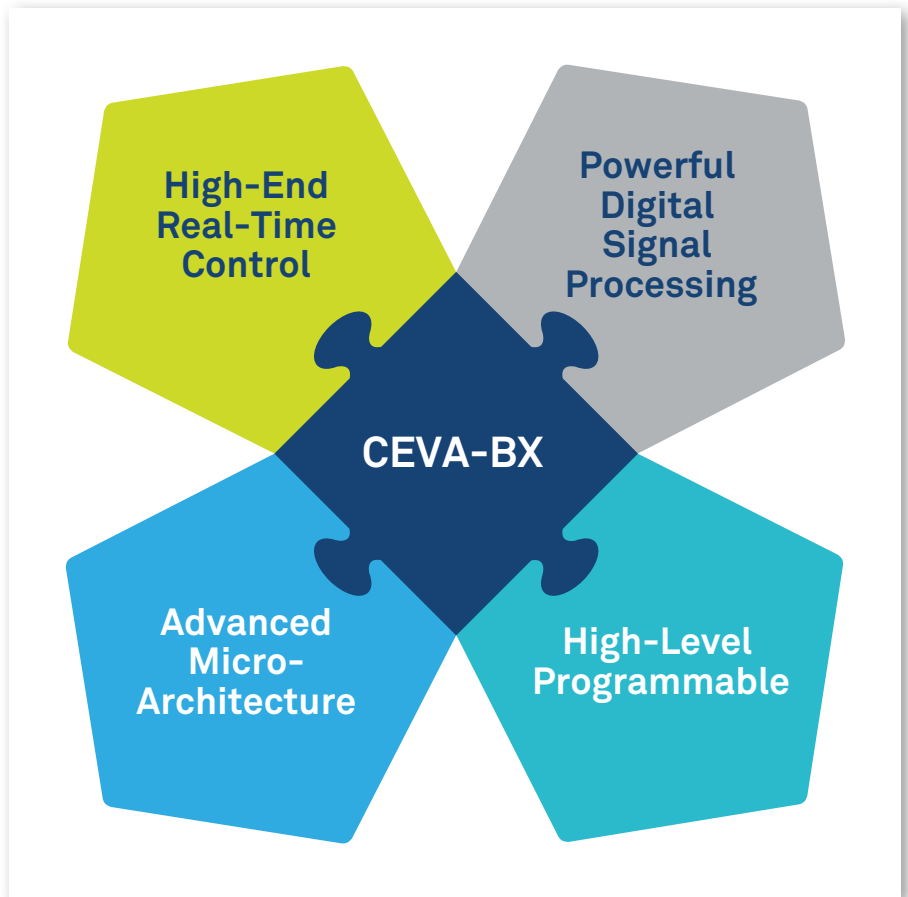
CEVA-BX1 is a multipurpose hybrid DSP and Controller designed for the inherent low power requirements of DSP kernels with high-level programming and compact code size requirements of a large control code base.

Key Benefits

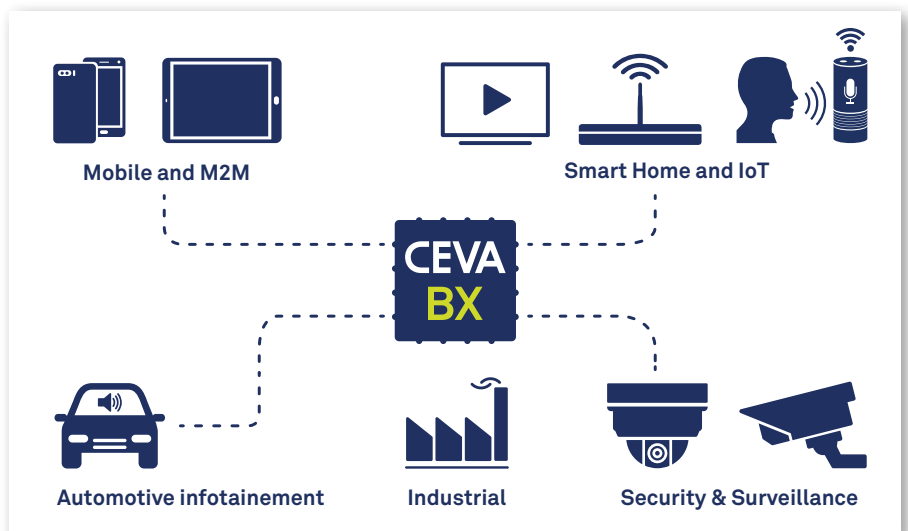
- **Perfect alternative** for special purpose DSPs and MCUs with DSP co-processors, allowing efficient handling of today's diverse algorithm needs
- **Fast software bring up** using a comprehensive tool chain and DSP libraries
- **Advanced Neural Network** support for deep learning at the edge
- **Compact code size and low power** using inbuilt mechanisms

Tools and Software Availability

- **Application specific ISA and software:**
 - **ClearVox** - multi-mic noise reduction
 - **WhisPro** - speech recognition
 - **Cellular IoT and GNSS** ISA
- DSP and neural network compute libraries
- Common neural network frameworks support
- Advanced LLVM compiler
- Eclipse based debugger
- RTOS



Target Markets



Multipurpose DSP/Controller

The CEVA-BX1 architecture delivers excellent all-round performance for a new generation of smart devices by offering a high performance hybrid architecture that is a single compute island for all DSP and control workloads.



Architecture Highlights

> Powerful DSP performance

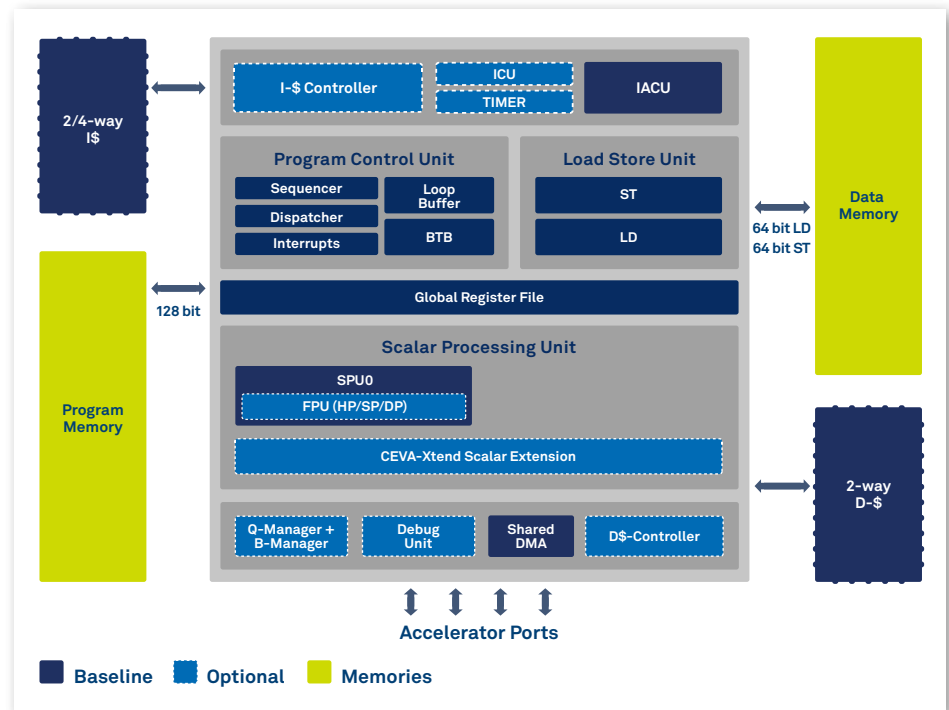
- 4-way VLIW
- 8/16/32/64-bit data types
- Single 32x32 MAC
- Quad 16x16 MAC
- 16x8 and 8x8 Neural Network support
- Half, single and double precision IEEE floating point units

> High performance controller

- 3.73 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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