

General Description

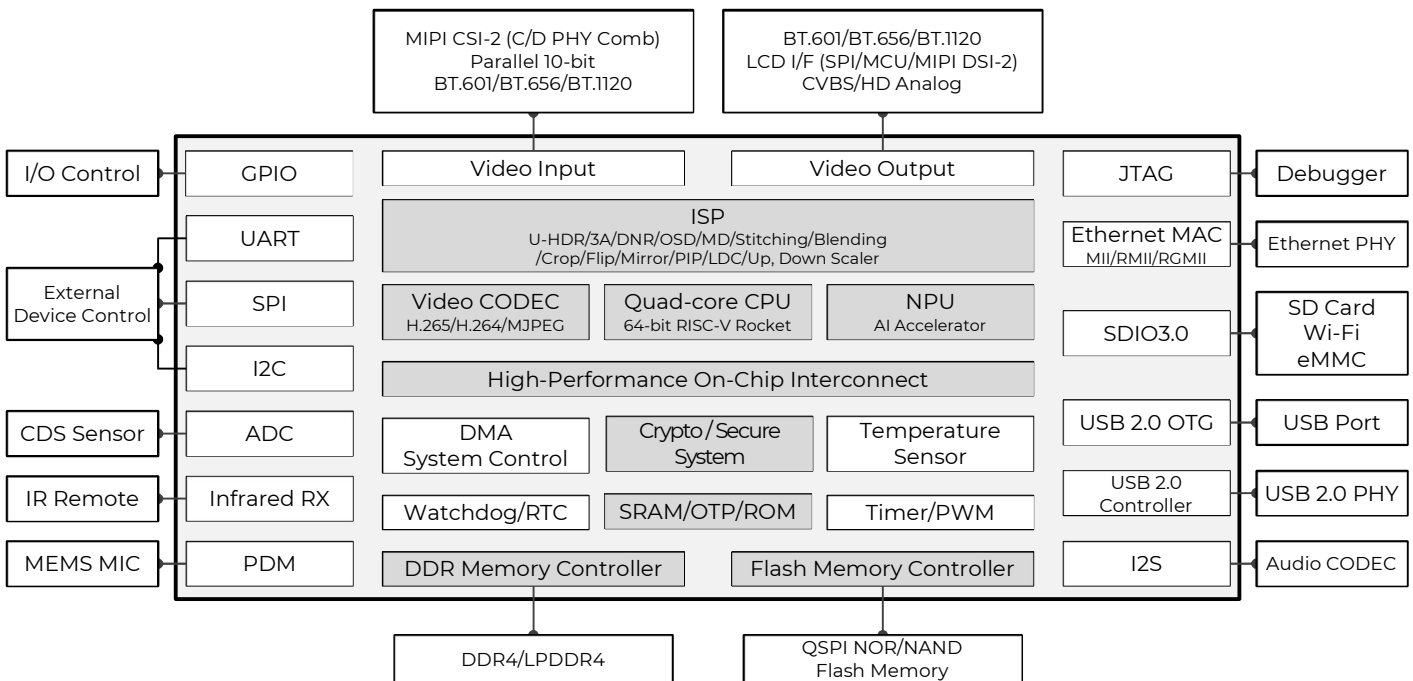


The EN683 SoC provides high-performance consumer product line and IP camera solutions.

The 5th Generation of ISP inside supports highly advanced image enhancement and noise reduction functions such as Ultra HDR and 3DNR with improvement of ghost image issue in low light. AI NPU newly adopted in EN683 can also provide “Edge Enough Capability” of doing anything on edge device. It also supports a various type of analog and digital image sensor interfaces to work and control seamlessly in image processing path. A multi-channel digital input from outside is capable, and supports PIP, Image blending function as well as LCD Interface (Parallel, SPI), CVBS and digital outputs.

The EN683 adopts H.265+, H.264+, JPEG, and MJPEG to enable encoding and decoding with multiple resolutions. This chip provides wired/wireless network, SD card, USB storage functions through USB 2.0 MAC, Ethernet MAC (10/100/1000Mbps), and SDIO. The cache-reinforced 64bit Quad-core RISC-V advanced processor is embedded in SoC to leverage performance and power consumption. Market-proven debugger and compile environment are provided for developer’s convenience. The CPU Cores would operate with separate firmware depending on their function.

SoC Block Diagram



Key Features (TBD)

Broad Platform

- Cache-reinforced 64bit Quad-core RISC-V adv. Processor
- Fully proven Linux SDK for standard-based development
- Equipped with high-performance AI and video codec

Advanced Image Signal Processor

- Ultra HDR (line-memory for clear HDR)
- 3DNR with improved ghost image issue in low light
- Appear/Disappear feature for intelligent search
- Hybrid DIS along with external EIS & ETC.
- Support flexible OSD such as octagon & line drawing

High-Efficiency Video Codec

- Real-time hard-wired H.264/265 Encoder & Decoder (4K 30fps + HD 30fps + VGA 30fps + CIF 30fps)
- JPEG Encoder/Decoder (Up to 4K 30fps, 1Channel)

5.0TOPS AI Accelerator (NPU) (TBD)

- Support SOTA Grade of Network model
- High performance/utilization NN core and GPU Accuracy
- Support 8-bit integer, PyTorch framework

Dependability Security Engine

- Support Secure boot/AES/ARIA/ECC/RSA/SHA
- Support SEI message for encryption encoding/decoding

Package information

EN683X – 14mm x 14mm FC-BGA [ES Aug. 2024]
EN683E (TBD)