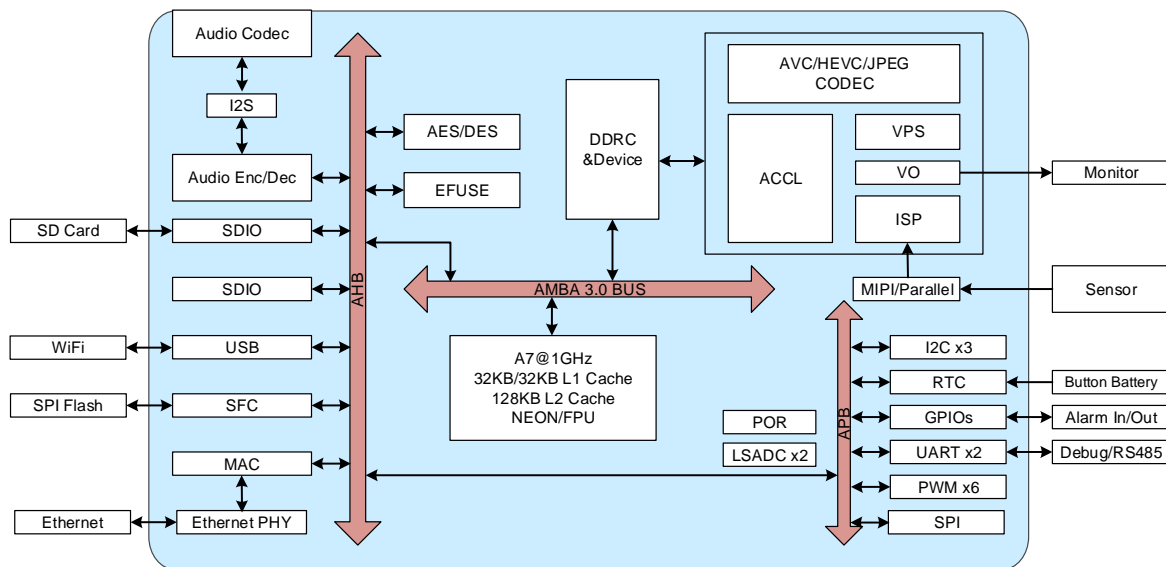


XS7302 is a digital SoC designed specifically for smart IPC (IP Camera) applications in consumer electronics. It features advanced ISP technology and state-of-the-art H.265 (HEVC), H.264, and JPEG encoders. The chip integrates USB 2.0, POR, RTC, Audio Codec, and EPHY, with a memory chip of 512 Mb. It also supports a wide range of interfaces, including MIPI, I2C, SPI, GPIO, and UART, and provides output for commonly used peripheral clocks. The built-in intelligent module processor can be used for detection including face, human, and license plate, and major smart applications such as border and line crossing warning.



● **Processor**

- Single-core ARM Cortex-A7@1GHz, 32KB I-Cache, 32KB D-Cache, and 128KB L2 Cache
- Integrated FPU. Supports NEON acceleration.

● **Video Encoding**

- Real-time multi-stream H.265/H.264 encoding capability: Up to (4M + D1)@30 fps
- Supports CBR/VBR bitrate control.
- Supports ROI encoding
- Supports smart encoding

● **JPEG Encoding**

- Supports JPEG Baseline encoding: Snapping up to 4M@5 fps

● **Audio Encoding**

- Supports audio codec of G711 A/U, G721, and AAC

● **Intelligent Analysis**

- Built-in smart processing for deep learning of 0.5T computing capability
- Detection for face, human, and vehicle; border and line crossing warning

● **Video and Image Processing**

- Supports frame rate control of 1 to 60 fps
- Supports image cropping and scaling from 1/16x to

● **ISP**

- Supports static & dynamic bad pixel correction and black level correction
- Supports 2D and 3D noise reduction
- Supports digital gain control, lens shading correction, and strong light suppression
- Supports 3A (AE, AWB, and AF)
- Supports 2F-1 HDR and LWDR
- Supports GIC, color correction, and GAMMA correction
- Supports edge enhancement, defogging, and digital light supplement

● **Video Interface**

- Supports 1 × 2 lane MIPI and parallel interface input
- Supports 1-ch 8-bit LCD output

● **Audio Interface**

- Built-in audio codec. Supports up to 24-bit, 96kHz sampling
- Supports I2S interface for external audio codec

● **Network Interface**

16x

- Supports privacy masking for up to 8 independent regions
  - Supports OSD and BMP graphic overlay
  - Supports image rotation and flipping (mirroring)
- Built-in 10/100M Ethernet PHY
  - **Packaging**
  - 9 mm × 9 mm and QFN88