BeiQi RK1808 AIoT 96Boards Compute SoM

SKU 102110278

The TB-96AIoT is a low-power, high-powered core board for the AIoT field. It is equipped with a powerful neural network processing unit (NPU) and is compatible with a variety of mainstream inference models such as caffe and tensor flow. Together with the bottom board CarrierBoard developed, it can form a complete development board or evaluation board; the base board that can be customized according to the actual needs of the customer can directly from the industrial application board, which can meet the sweeping robot, drone, smart speaker. , automotive products, smart wear, security monitoring, AI computing modules and other areas of demand.

TB-96AI uses RK3399Pro as the main control chip, TB-96AIoT uses RK1808 as the main control chip.

Features

- Dual-core ARM Cortex-A53 CPU for ultra-low power consumption
- Includes vfp v4 hardware that supports single and double precision operations.
- ARM Neon Advanced SIMD (Single Instruction, Multiple Data) supports accelerated media and signal processing calculations.
- Built-in neural network processor NPU, super high AI computing power
- Compatible with Caffe/Mxnet/TensorFlow model, support multi-class framework, support mainstream layer type, easy to add custom layer

- Provide easy-to-use development tools, PC-side model conversion, performance estimation, and accuracy verification
- AI APPlication Develop Flow
- Video decoder
- Support H.264/AVC BASE/MAIN/HIGH@LEVEL4.2
- Up to 1920×1080@60fp
- Video encoder
- Support H.264 video encoder BP/MP/HP@4.2 level
- Up to 1920×1080@60fps
- Camera interface
- MIPI-CSI×1, Built-in ISP image processor
- Maximum support input resolution 1920×1080
- Display output interface
- MIPI-DSI×1
- Supports up to 1920×1080@60fps display output
- Audio port
- Sperker×1
- Headphone×1
- Mic×1
- I2S×1
- PCIE×1
- USB2.0 HOST×1；
- Type-C DRM×1；
- I2C×3
- LAN×1，1000M ETH
- UART Debug×1
- SPI×1
- SD Card ×1
- PWM×1
- ADC×1, One for key input and the other for headphone insertion detection
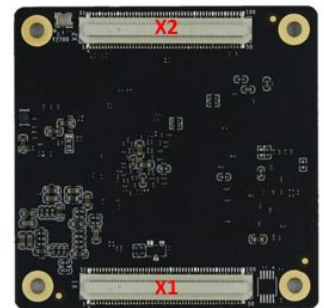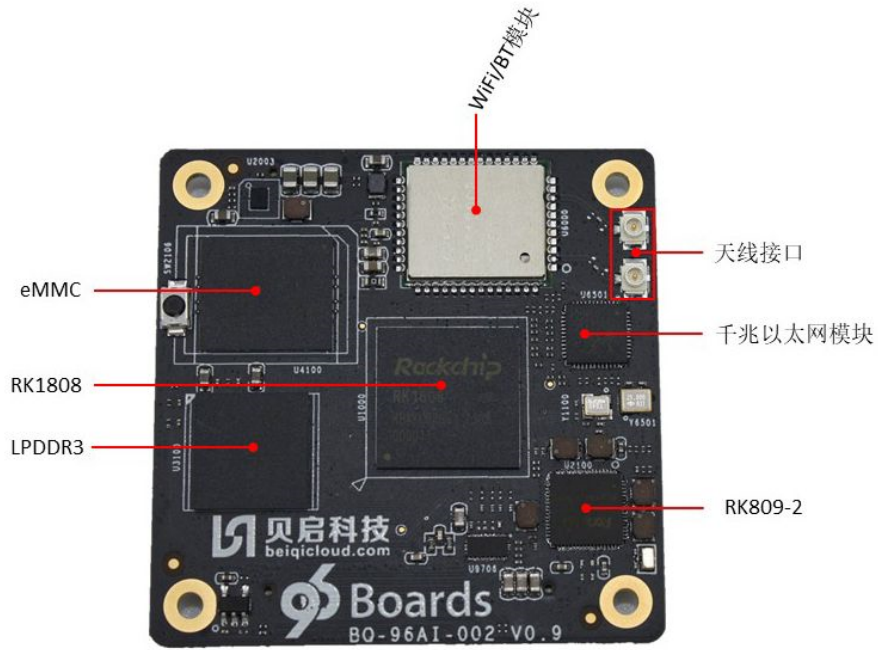
Specifications

Basic Parameters	
SoC	Rockchip RK1808(22nm FD-SOI)
CPU	Dual Cortex-A35@1.6GHz
NPU	Support 8bit/16bit operation, computing power up to 3.0TOPS Support TensorFlow, Caffe model

VPU	1080p@60P H.264 Decoder 1080p@30P H.264 Encoder
RAM	1GB LPDDR3
Flash	16GB eMMC
Hardware Characteristics	
Ethernet	Built-in Gigabit Ethernet PHY chip, 10/100/1000Mbps adaptive
WiFi/BT	Built-in WiFi/BT module, reserved antenna holder, can be directly inserted into the antenna
SoC	Rockchip RK1808(22nm FD-SOI)
Camera Interface	MIPI-CSI,　Maximum support 1920 × 1080 resolution USB camera
Display Interface	One MIPI-DSI interface, up to 1920×1080@60fps display output
Audio Port	Sperker×1 Headphone×1 Mic×1 I2S×1
Type-C	USB3.0 DRM ×1
USB	USB2.0 HOST ×1

Extension Port	PCIE×1 I2C×3 SPI×2 SD Card ×1 PWM×1 ADC×2
Power input	DC 5V

ECCN/HTS

ECCN	3A991.a
HSCODE	8543709990
USHSCODE	85177000
UPC	

RK1808

WiFi/BT模块

eMMC

RK1808

LPDDR3

天线接口

千兆以太网模块

RK809-2

X2

X1

U2003

SW2104

U4100

U1000

U6501

Y1100

Y6501

U2100

U6708

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beiqicloud.com

96 Boards
BQ-96AI-002 V0.9

TB-96AIoT

CarrierBoard

https://www.seeedstudio.com/BeiQi-RK1808-AIoT-96Boards-Compute-SoM-p-4074.html/9-13-19