QA200RC Model: 3000



QA200RC developer kit is a high-performance Al application development board, support HUAWEI Ascend Atlas200 RC and EP switchable mode development kit, integrated Ascend 310 Al processor, providing 22T computing power, 8GB DDR4, is a convenient user rapid development, rapid verification, can be widely used in developer program verification, university education, scientific research and other scenarios.

Robot 机器人



RC/EP mode is switchable

The QA200RC enables mode switching with a simple operation, and a single development board completes the development and solution verification of both modes.

Heighly integration

Based on Huawei's Ascend 310AI processor, it integrates rich peripheral interfaces and the Mind Studio development environment, which is convenient for developers to access and develop quickly

Easy software environment

The Mind Studio has a good programming interface and graphical debugging capabilities. It can fully manage offline modelms and provide a simulation environent

Application scenarios

Embedded edge devices enable the intelligent edge



AI Every Where

QA200RC Product specification

Al chip	Ascend 310 (Atlas200)
Alcomputingpower	22TOPS INT8
, a comparing prove	16TOPS INT8
Memory specifications	LPDDR4X,8GB,total band width 51.2GB/S
	• H.264 hardware decoding, 16-channel 1080p 30FPS (2-channel 3840*2160@60 FPS)
	• H.265 hardware decoding, 16-channel 1080p 30FPS
Encoding capability	(2-channel 3840*2160@60 FPS)
	• H.264 hardware encoding, 1-channel 1080p 30 FPS
	• H.265 hardware encoding, 1-channel 1080p 30 FPS
	• JEPG decoding: 1080p 256FPS; encoding: 1080p 64 FPS; maximum resolution; 8192*4320
	 PNG decoding: 1080p 24FPS; maximum resolution: 4096*2160
operating system	• Ubuntu 18.04.3
Memory	16GB eMMC(Assessable)
	• USB: 1 USB 3.0 tyep A Virtual network for debugging
	Internet: 1 GE RJ45
	• USB: 1 USB mirco 2.0
Interface	• IO: 4x 8pin
	Restart button 1x
	• 1x PCIe 4x Gen 3.0(EP mode)
	• 1 Fan socket
Memory	• 1 SD Card slot
Power	• 12 VDC, default configuration 12V/3A adapter
Power consumption	• Max 25W
Operating temperature	• -20°C~45°C
Dimension	• 100mm*75mm*25mm





QA200EP Model: 3000



QA200EP inference card, based on Ascend 310 Al processor, single card computing power up to 22TOPS INT8, support 12 channels of HIGH-definition video realtime analysis, using PCIE x4 standard interface, support Atlas Ascend200 EP mode.

Adapt to X86, Kunpeng, Feiteng and other multibrand CPUs, convenient

Rapid user deployment, can be widely used in smart education, scientific research, smart city, intelligent manufacturing, scientific research and other scenarios.

Robot 机器人



Powered by Ascend

QA200EP Product specification

Super computing power

The single card provides 22 TOPS INT8 computing power, supports 12-channel HIGH-definition video realtime analysis (1080p 25FPS), and provides more powerful support for edge inference

Hardware encoding

Support JPEG and video hardware codec to improve the performance of image and video applications

Low latency

Large memory capacity and high bandwidth to meet the memory requirements of feature matching scenarios and reduce application latency

Application scenarios

Integrated in servers and industrial computers for AI inference



Morphology	Half height and half length PCIe card	
Al chip	Ascend 310	
Al power	22 TOPS INT8	
DDR	LPDDR4X 8 GB, bandwidth 50.2 GB/s	
Encoding capability	 H.264 hardware decoding, 16-channel 1080P 30 FPS (2-channel 3840*2160 60 FPS) H.265 hardware decoding, 16 -channel 1080P 30 FPS (2-channel 3840*2160 60FPS) H.264 hardware decoding, 1-channel 1080P 30 FPS H.265 hardware decoding, 1-channel 1080P 30 FPS JPEG decoding 1*1080P 256 FPS, decoding 1*1080P 64 FPS, maximum resolution: 8192*4320 PNG decoding 4*1080P 48 FPS, maximum resolution: 4096*2160 	

PCIe	PCIex4 Gen3.0
Power consumption	max22.5 W
Operating	-20°C~ 45℃
Dimensions	169.5 mm* 68.9 mm* 28 mm



AI Every Where



QA 200 Development Board 4K MIPI *2

Model: 3000

Real-time video analytics



QA 200 development board is a development board for high-performance AI applications and robot vision applications. It integrates Hisilicon Hi3519A and Ascend 310 AI processors, supports two line 4K realtime video analysis, provides real-time video analysis ability for robot intelligence, improves the intelligent level of robot, facilitates users' rapid development and verification, and can be widely used in developer scheme verification, college education, scientific research and other scenes.

Embedded 嵌入式

Robot 机器人

Heighly integration

Based on Huawei's Ascend 310Al processor, it integrates rich peripheral interfaces and the Mind Studio development environment, which is convenient for developers to access and develop quickly

Easy software environment

The Mind Studio has a good programming interface and graphical debugging capabilities. It can fully manage offline modelms and provide a simulation environent

Application scenarios

Developer scheme verification

Dardware design Model validation



Higher education

Introduction to Al Professional courses



intelligent robot



AGV car



Multisensor sensing fusion

QA 200 Product specification

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	16TOPS INT8
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	• H.264 hardware encoding, 1-channel 1080p 30 FPS
	• H.265 hardware encoding, 1-channel 1080p 30 FPS
	 JEPG decoding: 1080p 256FPS; encoding: 1080p 64 FPS; maximum resolution; 8192*4320
	 PNG decoding: 1080p 24FPS; maximum resolution: 4096*2160
operating system	• Ubuntu 18.04.3
Interface chip	• Hi3519AV100
	2 MIPI Sensor input: IPEX 20525-050E-02C
	Internet: 1 GE RJ45
	• USB: 1 USB mirco 2.0
Interface	• 4 UART: ATLAS200*2, Hi3519*2
	• 1 I2C
	• 1 MIC
	• 1 Fan socket
Memory	• 2 SD Card slot
Power	• 12 VDC, default configuration 12V/3A adapter
Power consumption	• Max 25W
Operating temperature	• -20°C ~45°C
Dimension	• 100mm*75mm*25mm



AI Every Where

Smart Humanoid Robot DK Model: QA200R



Dual 4K visual interaction

Promote visual interaction unmanned systems

Open source software, open hardware, platform and modular education.

Development platform and education platform of intelligent biped humanoid robot based on Atlas200 Support binocular 4K real-time video analysis; ultrasmall unmanned system that can realize visual interaction Biped humanoid intelligent robot with 17 degrees of freedom; Support multiple ommunication methods such as Lora.

Core AI motherboard QA200 product specifications

Ascend 310 (Atlas200)

AI 人工智能

Embedded 嵌入式

Alchin

Robot 机器人

QA200R	product C	Overview
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Robot body	Steering gear * 17
	Size: 270*230*110mm
	Weight: 2.1kg
	Power: lithium battery 5000mA 7.2V
	Synchronous control of 24 servo motors
Motor control board	I/O
	High-speed serial communication (UART)
	Lora wireless controller and wireless remote control
	Support three-axis gyroscope inclination sensor
	Power output: 12V3A
Vision module	Total pixels of single lens: 8Mega
	Automatic white balance and digital signal processing:
	Support AWB/AE, built-in ISP processing unit
	Application lens: 4mm fixed focus 4K lens
	Imaging device: SONY IMX334

Courses and training content

· Artificial intelligence algorithms, machine vision

- Based on Ubuntu18.04 embedded programming exercises
- Debug software environment based on Huawei Mindstudio, manage offline models and simulations
- · Image processing and robot vision algorithm exercises
- Real-time target recognition and multiple algorithm exercises
- · Exercise recognition algorithm and robot simulation control algorithm

Embedded foundation

- Electronic circuit design training
- C language python language training
- · System hardware and software debugging training

Electrical control

- Synchronous motor control based on PWM
- QA 200 and control board realize intelligent control through UART communication
- Remote control of the robot via Lora
- Keep the robot standing by the three-axis gyroscope sensor

Al Every Where

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capability	• H.264 hardware encoding, 1-channel 1080p 30 FPS	
	• H.265 hardware encoding, 1-channel 1080p 30 FPS	
	• JEPG decoding: 1080p 256FPS; encoding: 1080p 64 FPS; maximum resolution; 8192*4320	
	• PNG decoding: 1080p 24FPS; maximum resolution: 4096*2160	
operating system	• Ubuntu 16.04.3	
Interface chip	• Hi3519AV100	
	•2 MIPI Sensor input: IPEX 20525-050E-02C	
	Internet: 1 GE RJ45	
Interface	•USB: 1 USB2.0 typeAB	
menace	•4 UART: ATLAS200*2, Hi3519*2	
	•1 I2C	
	• 1 MIC	
	• 1 Fan socket	
Memory	•2 SD Card slot	
Power	•12 VDC, default configuration 12V/3A adapter	
Power consumption	• 20W	
Operating temperature	• 0°C~45°C	
Dimension	100mm*75mm*25mm	

