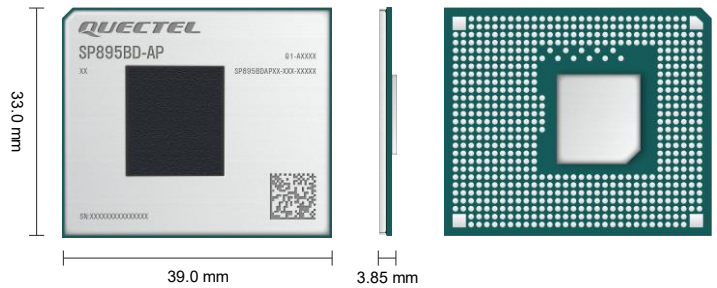


# Quectel SP895BD-AP

## Smart Module



SP895BD-AP is Quectel’s new generation of flagship Android Smart module. Based on Qualcomm’s flagship IoT chipset CQ8750-S with built-in maximum octa-core high-performance Oryon CPU, Adreno™ 830 GPU, Adreno DPU, Adreno 8550 VPU, Hexagon™ DSP, and Spectra™ ISP. Featuring powerful performance and rich multimedia functions, it is ideal for both industrial and consumer applications requiring high computing power, AI and multimedia functions.

A rich set of interfaces (such as LCM, Camera, touch panel, I2S, PCIe, UART, USB, I2C, SPI, etc.) extend the applicability of the module to a wide range of M2M applications, including video conference systems, live streaming devices, gaming, edge computing, robots, drones, AR/ VR, intelligent retail, smart safety, etc.



## Key Features

- ✓ 2 × Oryon Cpu Prime @ 4.32 GHz + 6 × Performance @ 3.52 GHz
- ✓ Adreno™ 830 GPU
- ✓ Hexagon™ DSP + Hexagon Vector eXtensions (HVX) + Hexagon Matrix eXtensions (HMX)
- ✓ Spectra™ ISP
- ✓ Adreno 8550 VPU
- ✓ Adreno DPU
- ✓ Neural processing unit
- ✓ Security processing
- ✓ Video encoder: 4K @ 120 fps; 8K @ 30 fps  
Video decoder: 4K @ 240 fps; 8K @ 60 fps
- ✓ Computing power of up to 80 TOPS



Qualcomm Oryon CPU



Qualcomm Adreno™ 830 GPU



Android/Linux OS



PCI Interface



VPU Multimedia Processing Engine

# Quectel SP895BD-AP

Specifications	SP895BD-AP
Region/Operator	Global
CPU	2 × Oryon Cpu Prime @ 4.32 GHz + 6 × Performance @ 3.52 GHz
OS	Android 15* or Linux*
Memory	12 GB LPDDR5X + 256 GB UFS* 24 GB LPDDR5X + 256 GB UFS*
Dimensions (mm)	33.0 × 39.0 × 3.85
Package	LGA
Weight (g)	TBD
Temperature Range	
Operating Temperature	-30 °C to +75 °C
Certifications	
Others	TBD
General Features	
Supply Voltage Range	3.55-4.4 V, Typ. 3.8 V
Power Consumption (Typical)	TBD
Interfaces	
Display	<ul style="list-style-type: none"><li>• 2 × 4-lane MIPI_DSI</li><li>• Data rate: up to 2.5 Gbps/lane</li><li>• 5120 × 2880 @ 60 fps or 3480 × 2160 @ 120 fps or 3360 × 1600 @ 144 fps or 2520 × 1200 @ 240 fps</li><li>• DisplayPort v1.4 over Type-C with MST (2 × 4K60 10-bit or 1 × 8K30 with DSC)</li></ul>
Camera	<ul style="list-style-type: none"><li>• 4 × 4-lane MIPI_CSI D-PHY, 2 × 3-trio MIPI_CSI C-PHY</li><li>• D-PHY up to 2.5 Gbps/lane</li><li>• 3 × Full ISP + 2 × Lite ISP, 48 MP + 48 MP + 48 MP @ 30fps ZSL or 108M @ 30 fps ZSL</li></ul>
Audio	SWR, Digital Microphone, MI2S interfaces, Hi-Fi I2S
Video	Encoder: 4K @ 120 fps; 8K @ 30 fps Decoder: 4K @ 240 fps; 8K @ 60 fps Native encode support for H.265 Main 10, H.265 Main, H.264 High formats Native decode support for H.265 Main 10, H.265 Main, H.264 High, and VP9 Profile 2
USB	× 1, compliant with USB 3.1/2.0
PCIe	1 × PCIe: 2-lane, Gen4
UART	× 10 Max. <sup>①</sup> , including 1 × debug UART
Vibrator Drive	× 1
SD Card	× 1, SD 3.0
I2C	× 21 Max. <sup>①</sup>
I2S	× 5 Max. <sup>①</sup>
ADC	× 4, General-purpose ADC interfaces
SPI	× 10 Max. <sup>①</sup>
Charging Management	Supports battery voltage detection, fuel gauge, battery temperature detection
Real Time Clock	Supported
PWRKEY	× 1
GPIO	Supported

#### Notes:

1. \*: under development.
2. TBD: To be determined.
3. ① : Multiplex interfaces included.