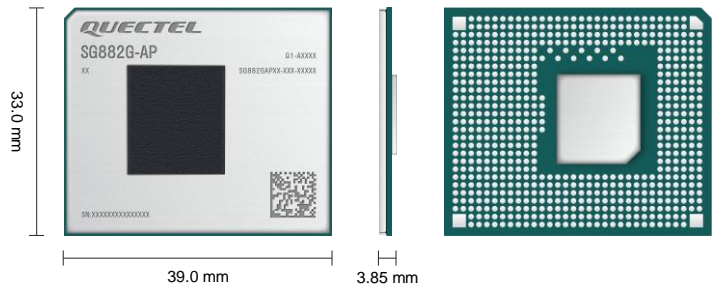


# Quectel SG882G-AP

## Smart Module



SG882G-AP is Quectel’s new generation of flagship Android/ Linux smart module. Based on Qualcomm’s flagship IoT chipset QCS8550 with built-in maximum octa-core high-performance Kryo™ CPU, Adreno™ 740 GPU, Adreno 1295 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, edge computing 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, AR/VR, intelligent retail, smart safety, etc.



### Key Features

- ✓ 1 x Kryo Prime @ 3.2 GHz + 4 x Kryo Gold @ 2.8 GHz + 3 x Kryo Silver @ 2.0 GHz
- ✓ Adreno™ 740 GPU
- ✓ Hexagon™ DSP + Hexagon Vector eXtensions (HVX) + Hexagon Matrix eXtensions (HMX)
- ✓ Spectra™ ISP
- ✓ Adreno 8550 VPU
- ✓ Adreno 1295 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 48 TOPS



Qualcomm Kryo™ CPU



Qualcomm Adreno™ 740 GPU



Android/ Linux OS



PCI Interface



VPU Multimedia Processing Engine



LGA Package

# Quectel SG882G-AP

Smart Module	SG882G-AP
Region/Operator	Global
CPU	1 × Kryo Prime @ 3.2 GHz + 4 × Kryo Gold @ 2.8 GHz + 3 × Kryo Silver @ 2.0 GHz
OS	Android 13*/ Linux (Kernel 5.15)*
Memory	8 GB + 128 GB (LPDDR5X + UFS, default) 12 GB + 256 GB (LPDDR5X + UFS, optional)
Dimensions (mm)	39.0 × 33.0 × 3.85
Package	LGA
Weight (g)	Approx. 8.6
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> <li>• 4 × CSI D-PHY-1.2 4-lane, up to 2.5 Gbps/lane</li> <li>• 2 × CSI D-PHY-1.2 4-lane, up to 2.5 Gbps/lane; or C-PHY-2.0 3-trio, up to 13.68 Gbps/trio</li> <li>• 2 × CSI D-PHY-1.2 2-lane, up to 2.5 Gbps/lane</li> <li>• 3 × Full ISP + 2 × Lite ISP</li> </ul>
Camera	<ul style="list-style-type: none"> <li>• Supports up to 8 cameras, and supports up to 3 Bayer and 2 YUV concurrently working cameras</li> <li>• ZSL examples: <ul style="list-style-type: none"> <li>- (3 × 36 MP) @ 30 fps – triple cameras</li> <li>- (64 MP + 36 MP) @ 30 fps – dual cameras</li> <li>- (1 × 108 MP) @ 30 fps – single camera</li> </ul> </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 formats
USB	× 1, compliant with USB 3.1/ 2.0
PCIe	<ul style="list-style-type: none"> <li>• PCIe0: 2-lane, Gen3</li> <li>• PCIe1: 2-lane, Gen4</li> </ul>
UART	× 17 Max. <sup>①</sup> , including 1 × debug UART
Vibrator Drive	× 1
SD Card	× 2, SD 3.0
I2C	× 36 Max. <sup>①</sup>
I2S	× 5 Max. <sup>①</sup>
ADC	× 4, general-purpose ADC interfaces
SPI	× 15 Max. <sup>①</sup>
Charging Management	Supports battery voltage detection, fuel gauge, battery temperature detection
Real Time Clock	Supported
PWRKEY	× 1
GPIO	Supported

Note:

1. \*: under development.

2. TBD: To be determined.

3. ①: Multiplex interfaces included.