



Quectel SG885G-WF Smart Module

Introduction

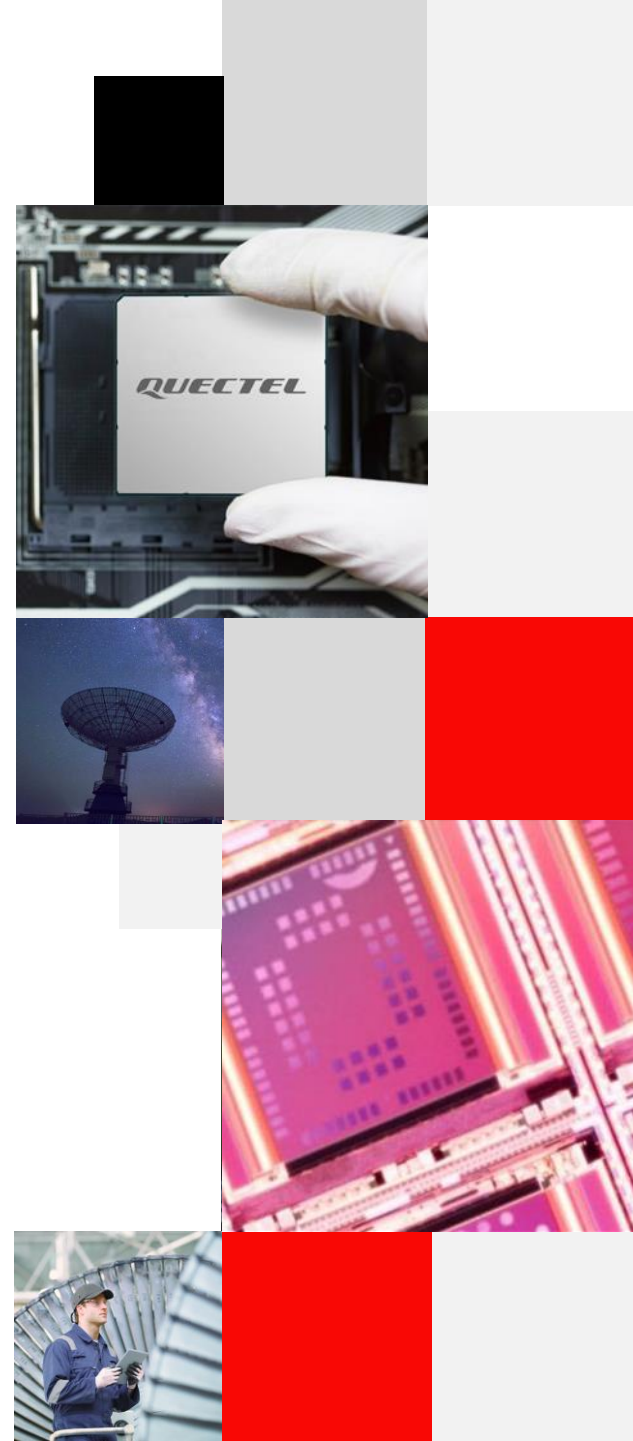
Build a Smarter World



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Smart Solution Introduction

Smart Module Portfolio

Specifications & Timelines

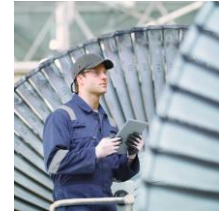
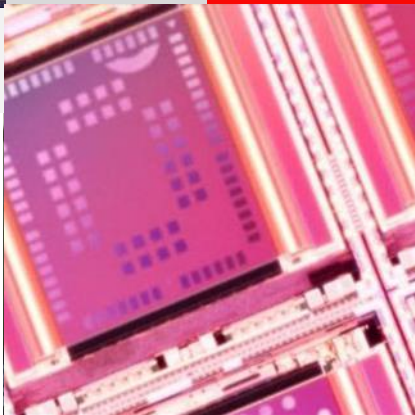
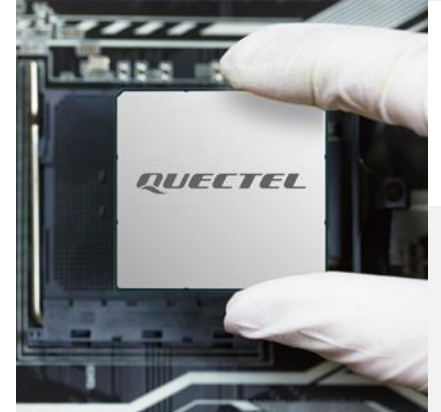
Enhancements

Typical Applications

Customer Support

Feature & Comparison

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Quectel Smart Solution Advantages

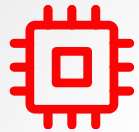


SoC Platforms



Open Android or Linux

Multi-Mode: 5G/ LTE/ UMTS/ GSM



High-performance CPU/ GPU/
NPU/ DSP

Built-in Wi-Fi/ Bluetooth/ GNSS



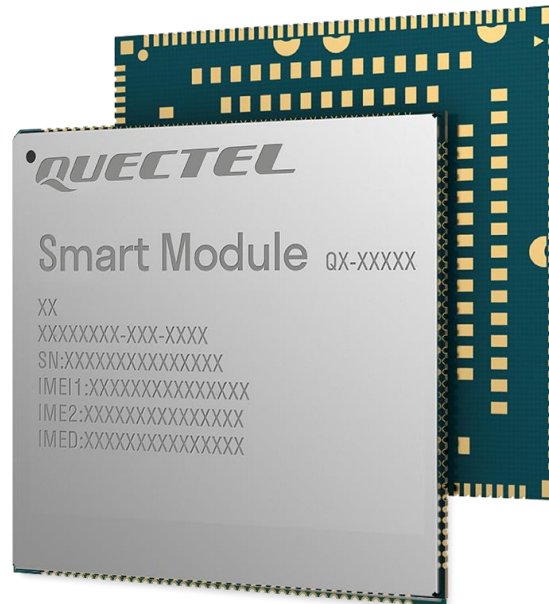
Various Multimedia Functions:
LCD/ Audio/ Camera/ Video

Abundant Peripheral Interfaces

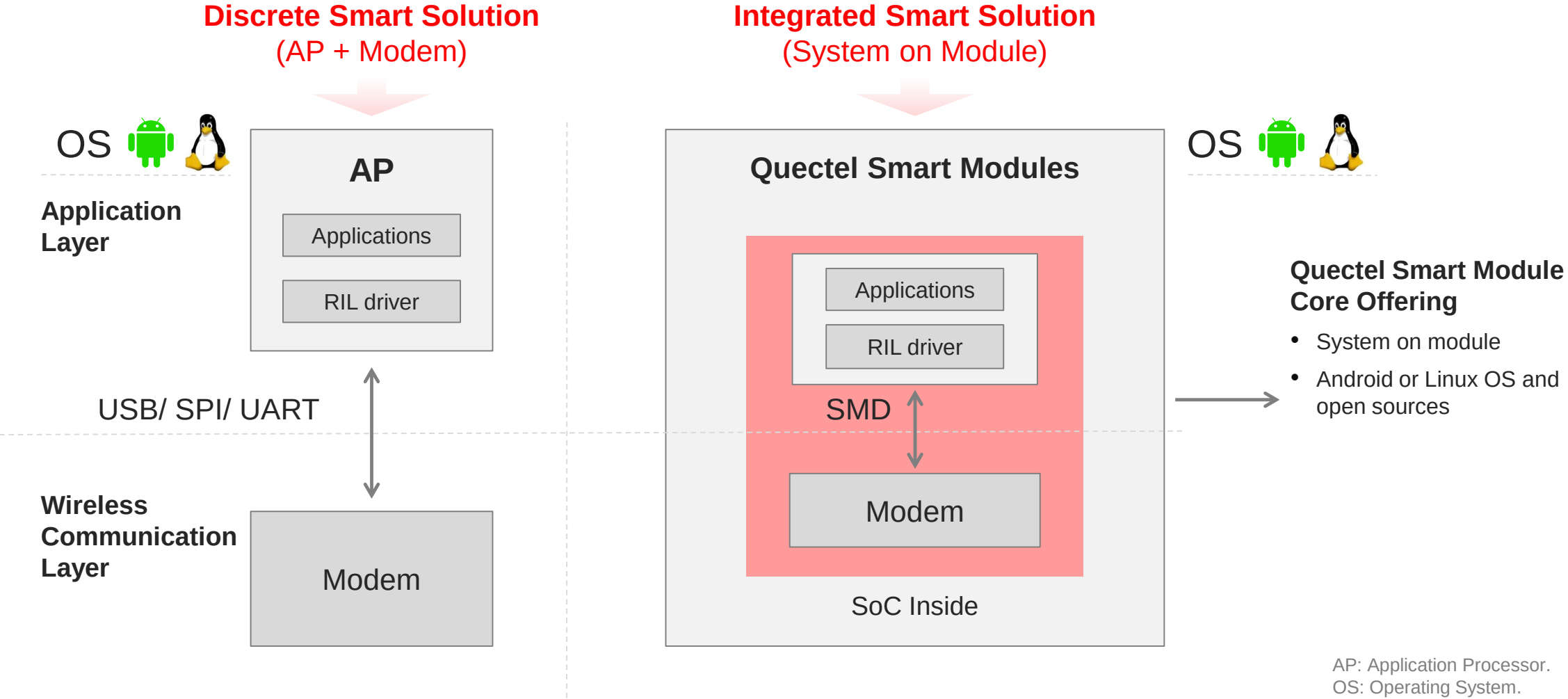


Global Certifications

Strong Customer Support



Smart Solution Architecture Comparison



AP: Application Processor.
OS: Operating System.
SMD: Shared Memory Driver.
SoC: System On a Chip.



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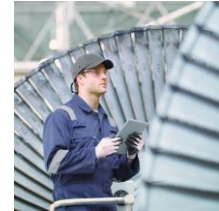
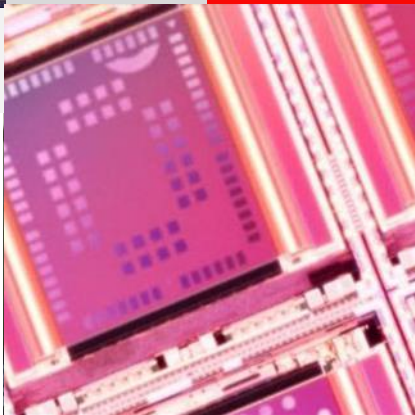
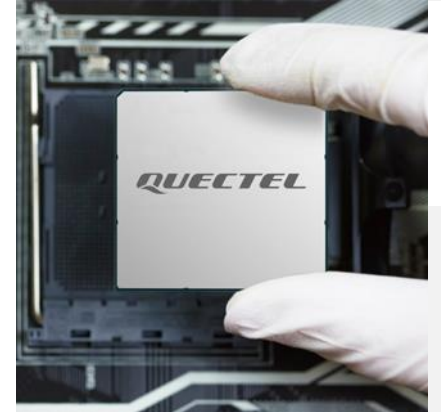
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Smart Module Portfolio



Premium Level	 SG865W • QCS8250 ① • CPU: 8x Kryo585 2.84 GHz • GPU: Adreno 650 • Camera: 64 MP • Video: 4K @ 240 fps/ 8K @ 60 fps • Wi-Fi: 2 × 2 11ax; Bluetooth 5.1	 SG885G • QCS8550 ① • CPU: 1 + 4 + 3 Kryo™ CPU (3.2/ 2.8/ 2.0 GHz) • GPU: Adreno™ 740 • Camera: 64 MP • Video: 4K @ 240 fps / 8K @ 60 fps • Wi-Fi: 2.4 & 5 & 6 GHz, Wi-Fi 7; Bluetooth 5.3				
High Level	 SC600T • MSM8953 ① • CPU: 8x A53 2.0 GHz • GPU: Adreno 506 • Camera: 24 MP • Video: 4K @ 30 fps • Wi-Fi: 11ac; Bluetooth 4.2 • Modem: LTE Cat 6 • GNSS: L1	 SC66 • SDM660 ① • CPU: 4 + 4 Kryo260 2.2/ 1.8 GHz • GPU: Adreno 512 • Camera: 24 MP • Video: 4K @ 30 fps • Wi-Fi: 2 × 2 11ac; Bluetooth 5.0 • Modem: LTE Cat 6 • GNSS: L1	 SC668S • QCM6125 ① • CPU: 4 + 4 Kryo260 2.0/ 1.8 GHz • GPU: Adreno 610 • Camera: 24 MP • Video: 4K @ 30 fps • Wi-Fi: 11ac; Bluetooth 5.0 • Modem: LTE Cat 4 • GNSS: L1	 SG560D 5G • QCM6490 ① • CPU: 1 + 3 + 4 Kryo670 (2.7/ 2.4/ 1.9 GHz) • GPU: Adreno 643 • Camera: 64 MP • Video: 4K30D/ 4K30E • Wi-Fi: 2 × 2 11ax DBS; Bluetooth 5.2 • Modem: 5G Sub 6/ LTE Cat 18 • GNSS: L1 + L5	 SC606T • MSM8953 ① • CPU: 8x A53 2.0 GHz • GPU: Adreno 506 • Camera: 24 MP • Video: 4K @ 30 fps • Wi-Fi: 11ac; Bluetooth 4.2 • Modem: LTE Cat 6 • GNSS: L1	 SC696S • QCM6125 ① • CPU: 4 + 4 Kryo260 2.0/ 1.8 GHz • GPU: Adreno 610 • Camera: 24 MP • Video: 4K @ 30 fps • Wi-Fi: 11ac; Bluetooth 5.0 • Modem: LTE Cat 4 • GNSS: L1
Medium Level	 SC600Y • SDM450 ① • CPU: 8x A53 1.8 GHz • GPU: Adreno 506 • Camera: 21 MP • Video: 1080P @ 60 fps • Wi-Fi: 11ac; Bluetooth 4.2 • Modem: LTE Cat 6 • GNSS: L1	 SC200K • UIS581E ② • CPU: 8x A55 1.6 GHz • GPU: GE8322 • Camera: 16 MP • Video: 1080P @ 60 fps • Wi-Fi: 11ac; Bluetooth 5.0 • Modem: LTE Cat 4 • GNSS: L1	 SC680A • QCM4290 ① • CPU: 4 + 4 Kryo260 2.0/ 1.8 GHz • GPU: Adreno 610 • Camera: 25 MP • Video: 1080P @ 60 fps • Wi-Fi: 11ac; Bluetooth 5.1 • Modem: LTE Cat 6 • GNSS: L1	 SG520B 5G • QCM4490 ① • CPU: 2 + 6 Kryo CPU (2.4/ 2.0 GHz) • GPU: Adreno 613 • Camera: 25 MP • Video: 1080P @ 60fps • Wi-Fi: 2 × 2 11ax DBS; Bluetooth 5.2 • Modem: 5G Sub 6/ LTE Cat 15 • GNSS: L1	 SC686A • QCM4290 ① • CPU: 4+4 Kryo260 2.0/ 1.8 GHz • GPU: Adreno 610 • Camera: 25 MP • Video: 1080P @ 60 fps • Wi-Fi: 11ac; Bluetooth 5.1 • Modem: LTE Cat 6 • GNSS: L1	
Entry Level	 SC200R • QCM2150 ① • CPU: 4x A53 1.3 GHz • GPU: Adreno 308 • Camera: 13 MP • Video: 1080P @ 30 fps • Wi-Fi: 11n; Bluetooth 4.2 • Modem: LTE Cat 4 • GNSS: L1	 SC200L • SL8541E ② • CPU: 4x A53 1.4GHz • GPU: Mali-T820 • Camera: 8 MP • Video: 1080P @ 30 fps • Wi-Fi: 11ac; Bluetooth 5.0 • Modem: LTE Cat 4 • GNSS: L1	 SC200E • QCM2290 ① • CPU: 4x A53 2.0 GHz • GPU: Adreno 702 • Camera: 25 MP • Video: 1080P @ 30 fps • Wi-Fi: 11ac; Bluetooth 5.0 • Modem: LTE Cat 4 • GNSS: L1	 SG150H • SL8521E ② • CPU: 2x A53 1.3GHz • GPU: Mali-T820 • Camera: 5 MP • Video: 720P @ 30 fps • Wi-Fi: 11n; Bluetooth 4.2 • Modem: LTE Cat 4 • GNSS: L1	 SC20 • MSM8909 ① • CPU: 4x A7 1.1GHz • GPU: Adreno 304 • Camera: 8 MP • Video: 1080P @ 30 fps • Wi-Fi: 11n; Bluetooth 4.2 • Modem: LTE Cat 4 • GNSS: L1	 SC206E • QCM2290 ① • CPU: 4x A53 2.0 GHz • GPU: Adreno 702 • Camera: 25 MP • Video: 1080P @ 30 fps • Wi-Fi: 11ac; Bluetooth 5.0 • Modem: LTE Cat 4 • GNSS: L1



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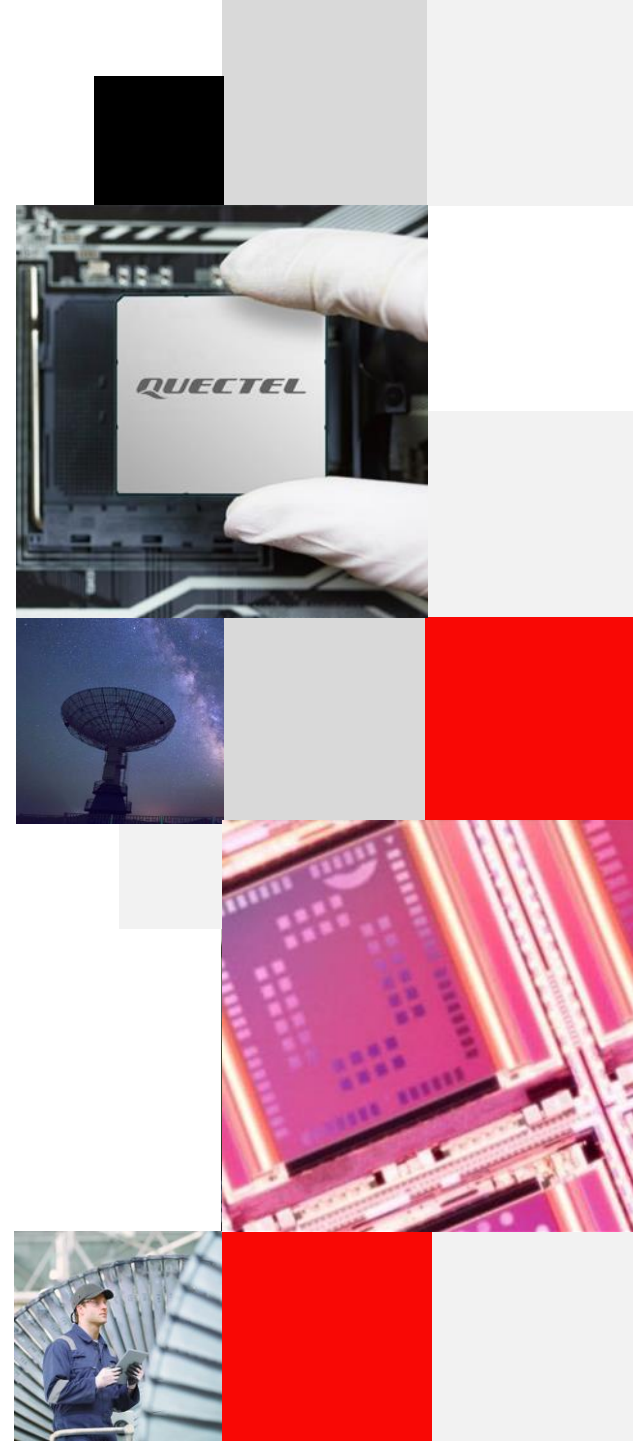
Enhancements

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SG885G-WF Highlights



Multiple Variants:

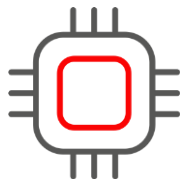
- Multi-region variants with global certifications
- Multiple memory configuration



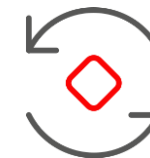
LGA Form Factor: 51.0 × 49.0 × 4.15 mm



Android OS:
Android 13*



Chipset platform: QCS8550, Up to 48 TOPS (Tera Operations Per Second)
Premium system performance, multimedia functionality, Wi-Fi 7 (2 × 2 MIMO), Bluetooth



Long life time:
Till the year of 2033

* : In progress.

SG885G-WF Specification



Variant	SG885G-WF
Region	Global
Wi-Fi/ Bluetooth	Supported
Certification*	Regulatory: SRRC/ FCC/ IC
Project Stage	ES

SG885G-WF Features and Interfaces



Key Features		Interfaces	
CPU	QCS8550, 1 × Kryo Prime @ 3.2 GHz + 4 × Kryo Gold @ 2.8 GHz + 3 × Kryo Silver @ 2.0 GHz	LCM	Adreno DPU 1295 • 2 groups of 4-lane MIPI_DSI • Data rate: up to 2.5 Gbps/lane • Support up to 5120 × 2880 @ 60 fps or 3480 × 2160 @ 120 fps or 3360 × 1600 @ 144 fps or 2520 × 1200 @ 240 fps
GPU	Adreno™ 740	Camera	• 6 groups of 4-lane MIPI_CSI, up to 7 cameras • Data rate: up to 2.5 Gbps/lane • 3 × Full ISP + 2 × Lite ISP, 36 MP + 36 MP + 36 MP or 64 MP + 36 MP or 108M @ 30 fps ZSL
DPU	Adreno DPU 1295, 2 × 4-lane MIPI DSI, (3480 × 2160 at 120 Hz, 3360 × 1600 at 144 Hz) + 2 × DP (MST Mode), 4K @ 60		
VPU	Adreno VPU 8550	Audio	SWR, Digital Microphone, MI2S interfaces, Hi-Fi I2S
NPU	Compute Hexagon DSP with: • 4 × HVX Vector co-processor optimized for pixel processing • 1 × HMX Matrix co-processor optimized for deep neural network processing • Other Hexagon coprocessor	Touch Panel	Capacitive-screen, I2C controls
Video	Encoder: 4K @ 120 fps; 8K @ 30 fps Native encode support for H.265 Main 10, H.265 Main, H.264 High formats Decoder: 4K @ 240 fps; 8K @ 60 fps Native decode support for H.265 Main 10, H.265 Main, H.264 High, and VP9 profile 2	USB	× 1 USB 3.1/ 2.0 compliant
Memory	12 GB LPDDR5X + 256 GB UFS 4.0 (default) 8 GB LPDDR5X + 128 GB UFS 4.0 (optional)	PCIe	× 1 ^① • PCIe1: 2-lane, Gen4 Or × 2 ^① • PCIe2: 2-lane, Gen3 • PCIe3: 1-lane, Gen3
OS	Android 13*	UART	× 10 Max ^② , including 1 × debug UART
WLAN	2.4 & 5 & 6 GHz, 802.11a/ b/ g/ n/ ac/ ax/ be, 2 × 2 MIMO DBS, HBS Wi-Fi 7	SD Card	× 1 SD 3.0
Bluetooth	Bluetooth 5.3 (BR/ EDR + BLE)	I2C/ I2S/ SPI/ ADC/ GPIO/ PWRKEY	Supported
Charging Management	Supports battery voltage detection, fuel gauge, battery temperature detection	Ethernet 0^①	Supported SGMII/ USXGMII 0
		Ethernet 1^①	Supported SGMII/ USXGMII 1 or RGMII
Modem	Support Quectel 2G/ 3G/ 4G/ 5G modules	Antenna	× 2 Wi-Fi/ Bluetooth and Wi-Fi MIMO antenna interfaces

* : In progress. ① : Different OCs support different configurations: 1) supporting PCIe2, PCIe3 and Ethernet functions and 2) supporting PCIe1 only. ② : Include multiplex interfaces.

SG885G-WF Timelines



2023												2024		
Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.

SG885G-WF



Certification



ES: Engineering samples ready. Basic functions are available for customers’ simple demo purpose.
CS: Commercial samples ready. Stable hardware design and quite stable software design. New software features can be added upon request.
MP: Hardware and software ready for mass production. For certification status, please refer to the “certification schedule”.



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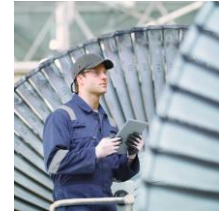
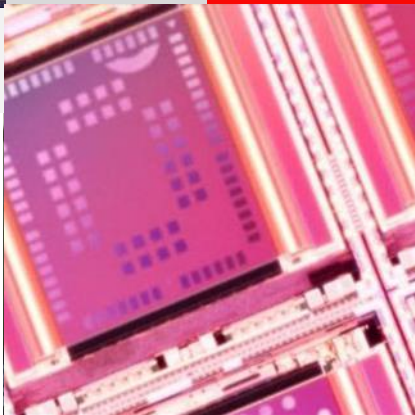
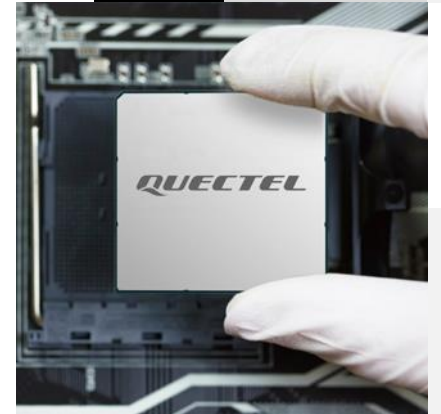
Enhancements

Typical Applications

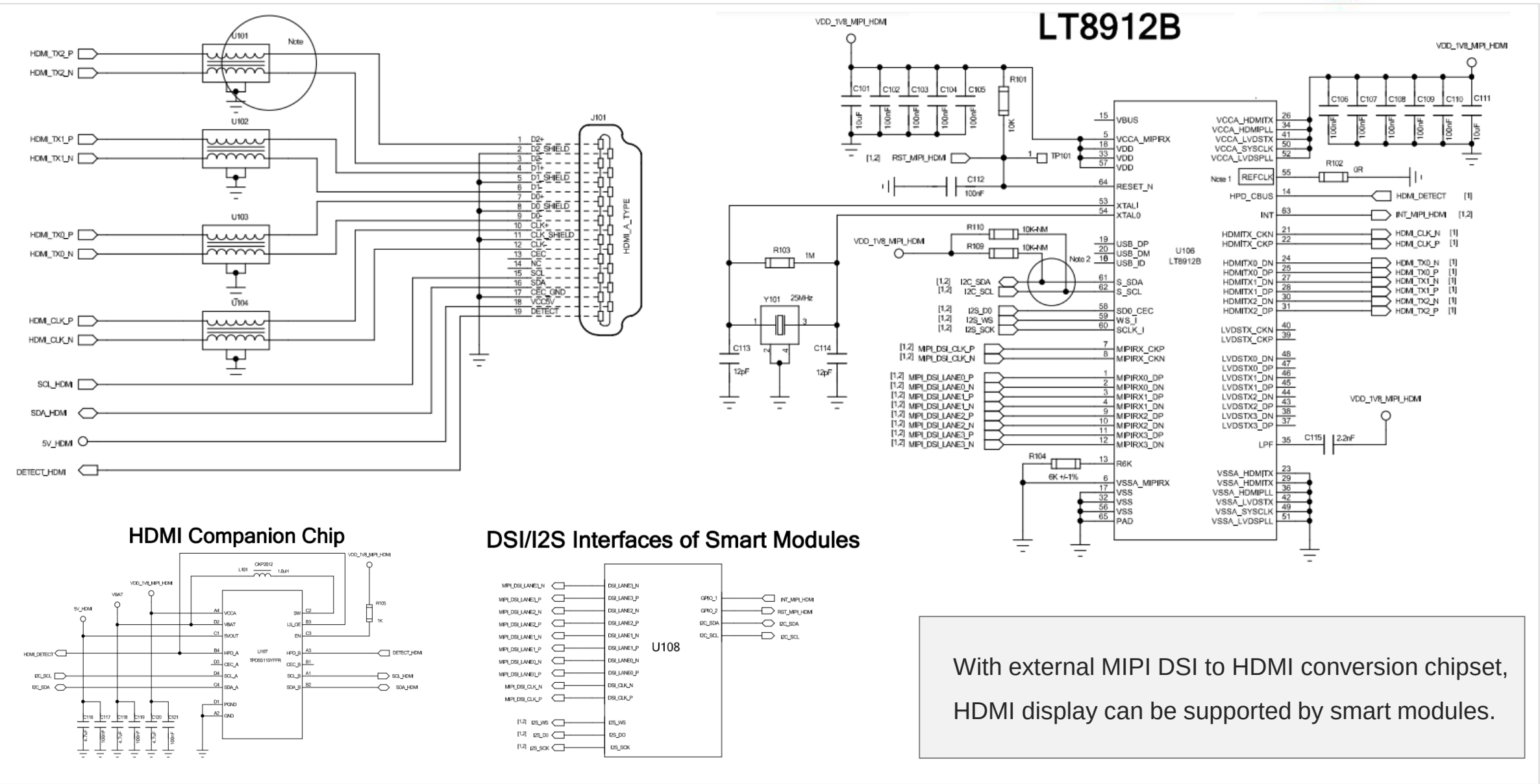
Customer Support

Feature & Comparison

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Extensive Function – MIPI DSI to HDMI



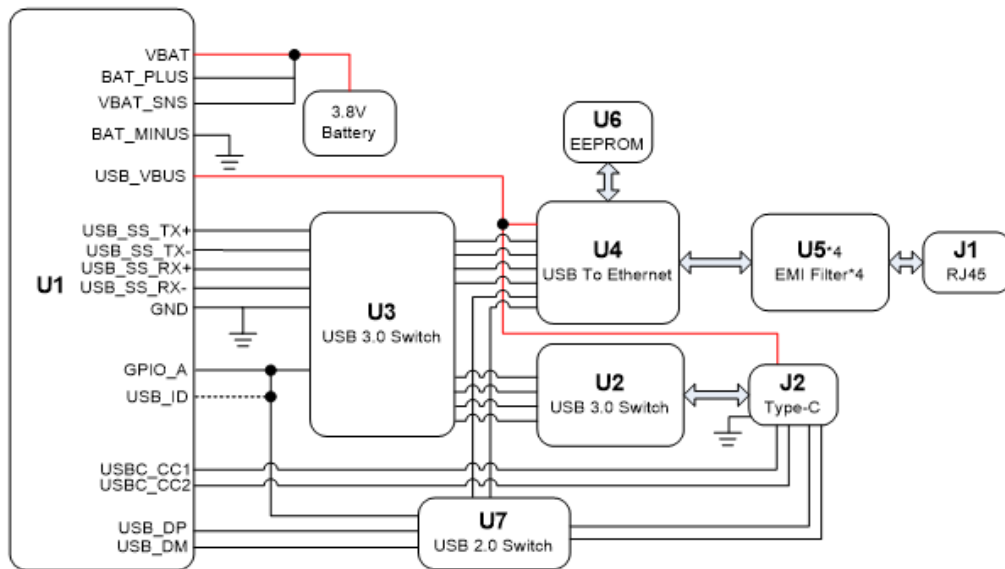
With external MIPI DSI to HDMI conversion chipset, HDMI display can be supported by smart modules.

Extensive Function – USB to Ethernet

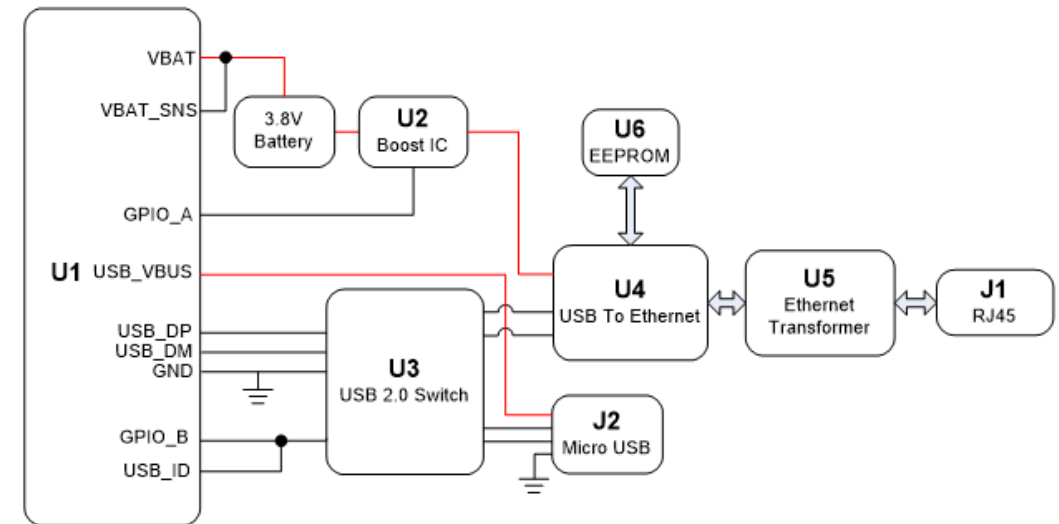


Smart modules have no Ethernet interface, while the USB can be converted to Ethernet when the smart modules work in Host mode. External conversion chipset is needed for the conversion.

USB 3.0 to 10/ 100/ 1000M Ethernet



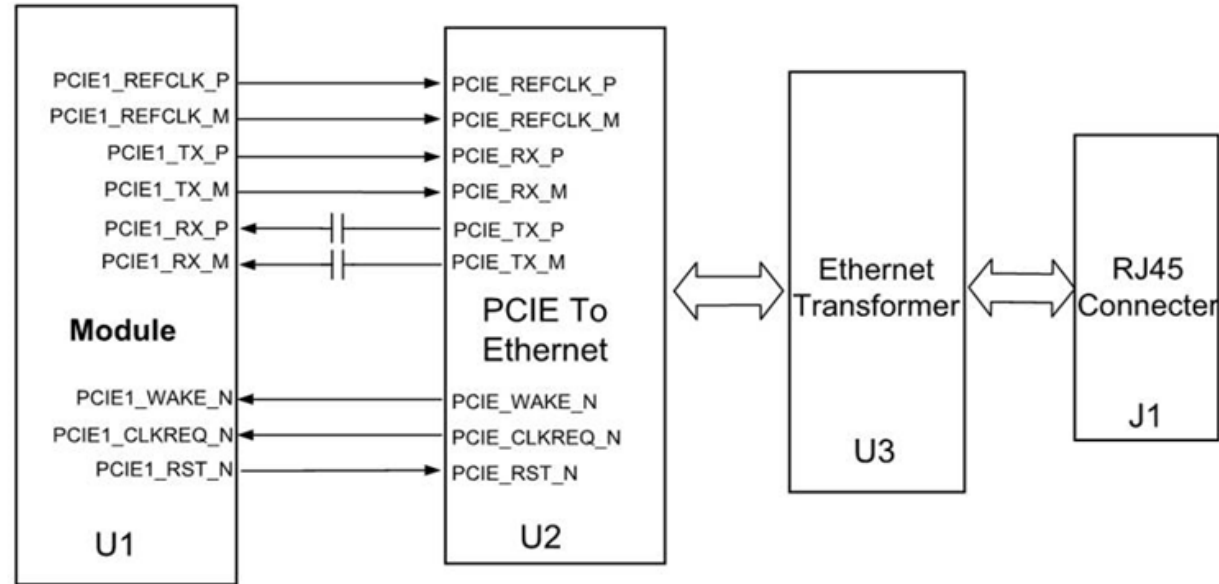
USB 2.0 to 10/ 100M Ethernet



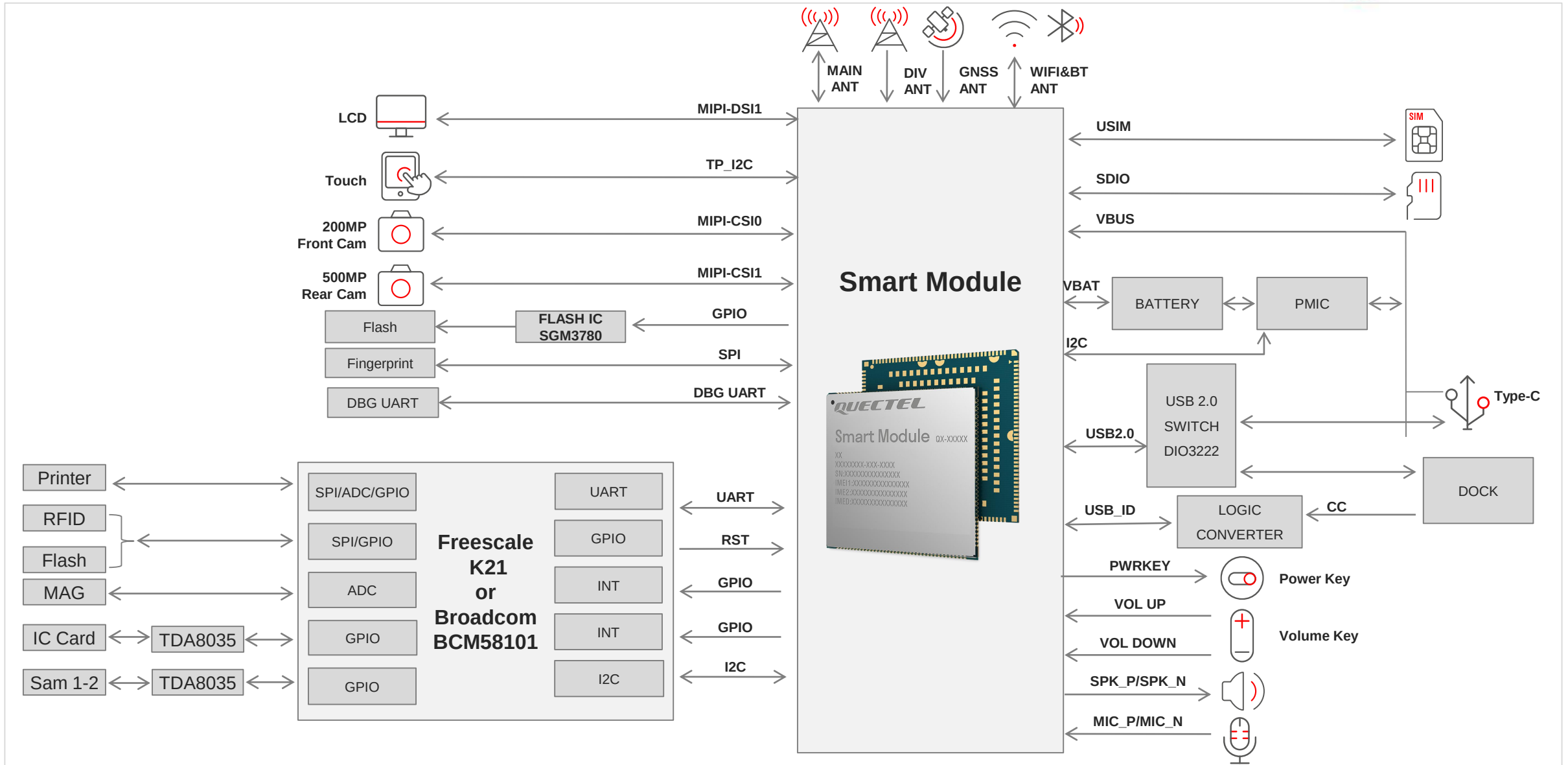
Extensive Function – PCIe to Ethernet



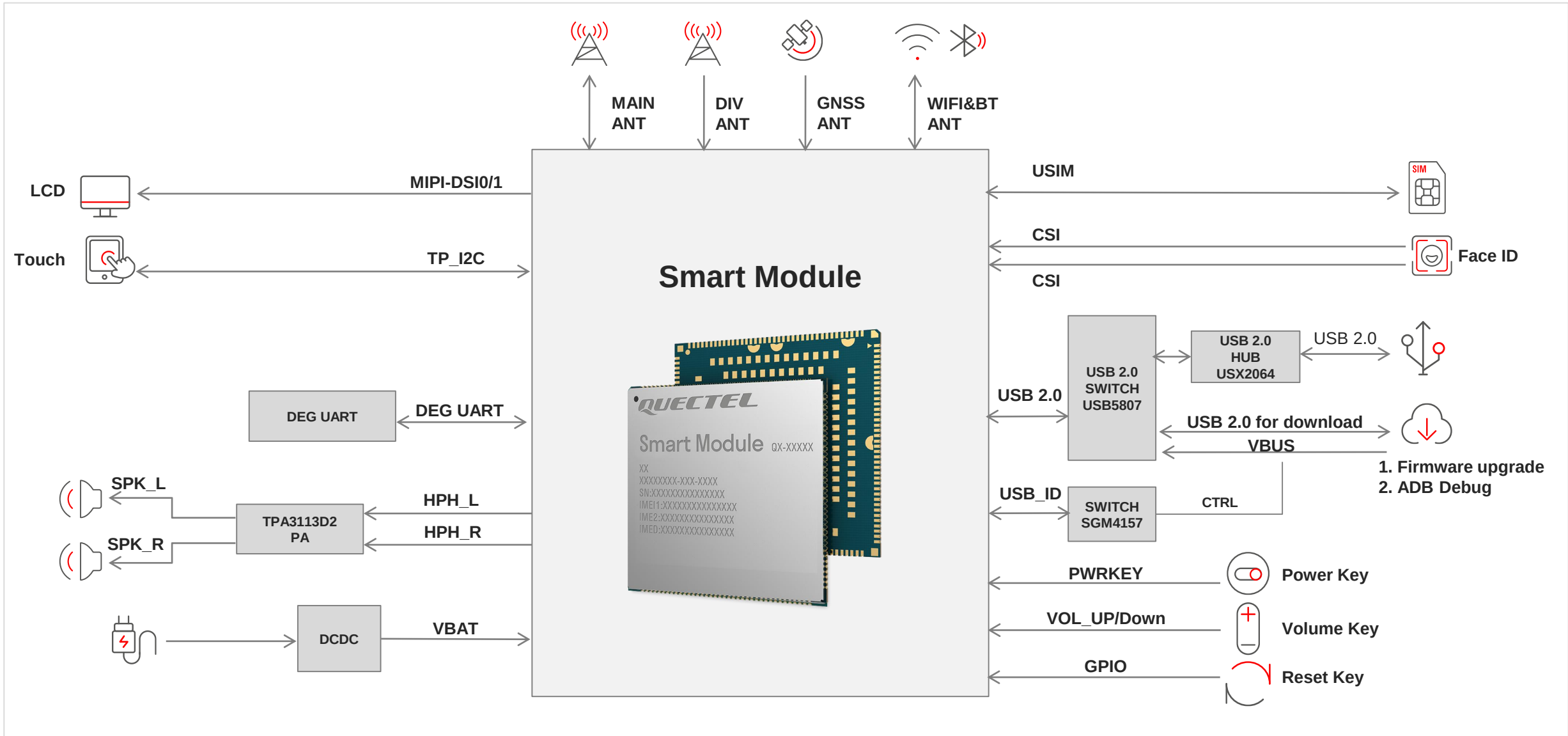
Smart modules have no Ethernet interface, while the PCIe can be converted to Ethernet. External conversion chipset is needed for the conversion.



Typical Solution – POS



Typical Solution – Access Control



Support Package

EVB



SA800UEVBKIT: SG885G



Smart Solution Introduction

Smart Module Portfolio

Specifications & Timelines

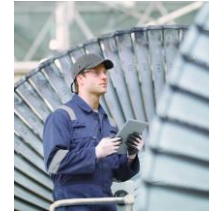
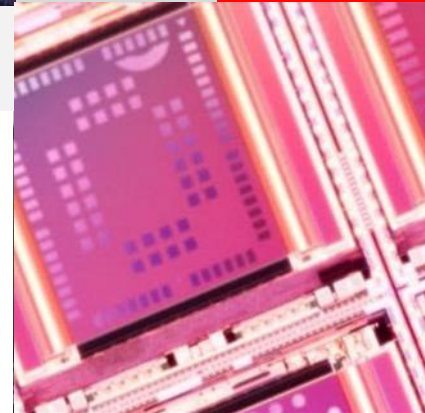
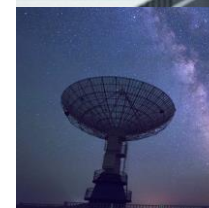
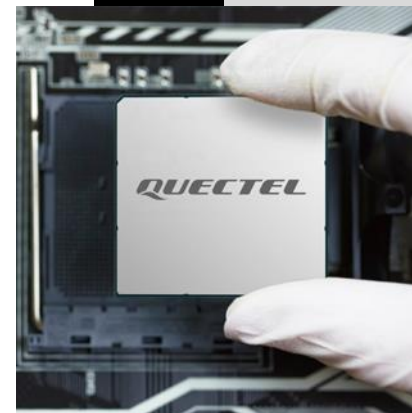
Enhancements

Typical Applications

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Feature & Comparison

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Livestreaming and Video Conferences



Live shopping and B2B live broadcast have become the new normal of world's e-commerce development. Video conference system enables people to join the meeting remotely just the same as the off-line meeting. Smart modules provide the premium system performance and are very suitable to be the platforms to design these types of products.



Supported functionalities



Multi-function



Mic



Virtual background



Multi app



Multi shot switching



App store

Configuration

- Android
- Processor: Octa-Core CPU
- Memory: 8 GB + 256 GB or higher
- Camera: 21M or higher pixels
- Video: 4K,1080p
- TOPS: 3.5–12.5 TOPS
- Display: 10", 32/43" with touch
- 4G/ Wi-Fi/ Bluetooth/ GNSS
- Speaker, Mic
- Remote control

Recommended Smart Modules





Application Scenarios



Reception



Airport guider



Bank guider



Lawn
mower



Hospital
guider



Hotel
reception



Logistics

Configuration

- Android or Linux
- Processor: Octa-Core CPU
- TOPS: 3.5–12.5 TOPS
- Memory: 8 GB + 256 GB or higher
- Camera: 21M or higher pixels
- Video: 4K, 1080p, 720p
- Display: 10" or larger with touch
- 4G/ Wi-Fi/ Bluetooth/ GNSS
- Speaker, Mic
- Battery
- Machinery parts

Recommended Smart Modules





Augmented Reality

Augmented reality overlays computer-generated images on the view of the natural world with the camera on smart phones, tablets, or other mobile devices. Quectel works hard to bring the vision of lightweight and stylish AR glasses to life.

Virtual Reality

Through cutting-edge graphics, best-in-class hardware, and artistically rendering experiences, VR lets us explore new worlds, defy obstacles. VR has enormous potential to transform how we play, work, learn, communicate, and experience the world around us.

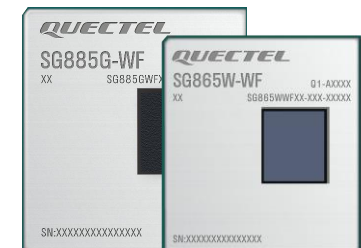
3D Scanner

3D measurement scanners can measure cross-sections, thickness, and perform GD&T measurements in a single scan.

Configuration

- Android or Linux
- Memory: 8 GB + 64 GB or higher
- TOPS: 12.5 TOPS

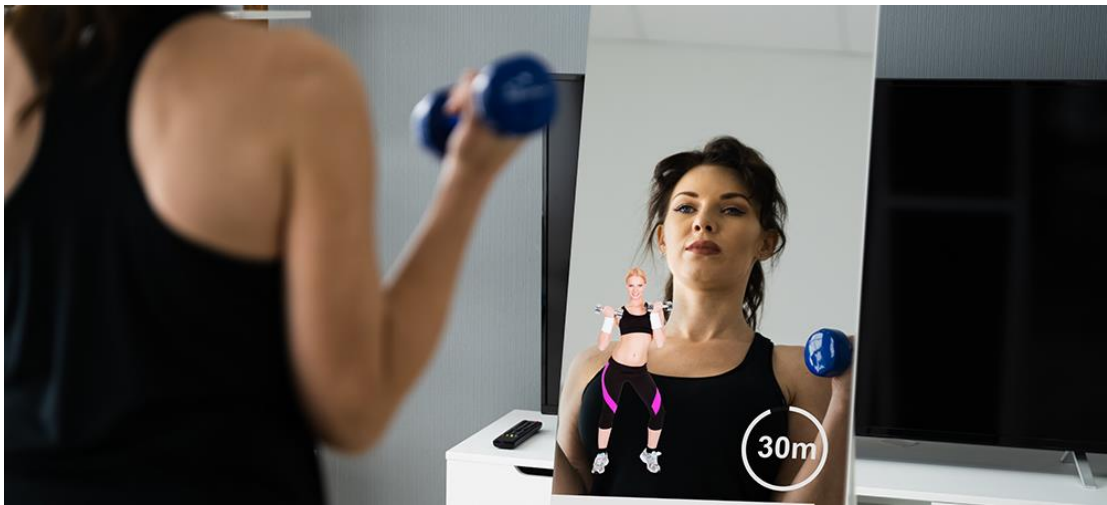
Recommended Smart Modules



Intelligent Fitness Mirror



Intelligent fitness mirror is the product of home fitness needs. It can play fitness course videos and the virtual coaches can correct users' fitness movements in real time.



Installation method and supported functionalities



Floor standing



Wall mount



Full HD IPS



Touch



Infrared sensor



Camera

Configuration

- Android
- Processor: Octa-Core CPU
- Memory: 4 GB + 64 GB or higher
- Camera: 21M or higher pixels
- Video: 4K,1080p
- TOPS: 3.5–12.5 TOPS
- Display: 43" or 55" with touch
- Wi-Fi/ Bluetooth
- Speaker, Mic
- Adapter
- Machinery parts

Recommended Smart Modules



ARM Based SoC Array Server



Mobile applications mushroom and the demands for edging computing increase with the rapid development of mobile Internet. The ARM based SoC array server, instead of the traditional x86 architecture, can be well compatible with mobile applications since most mobile applications are developed based on the ARM architecture.



Application Scenarios



Distributed storage



Distributed computing



Edge computing

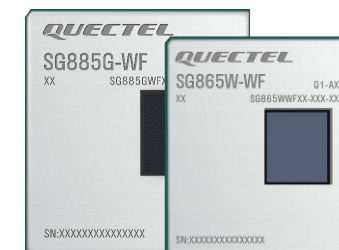


Operation management

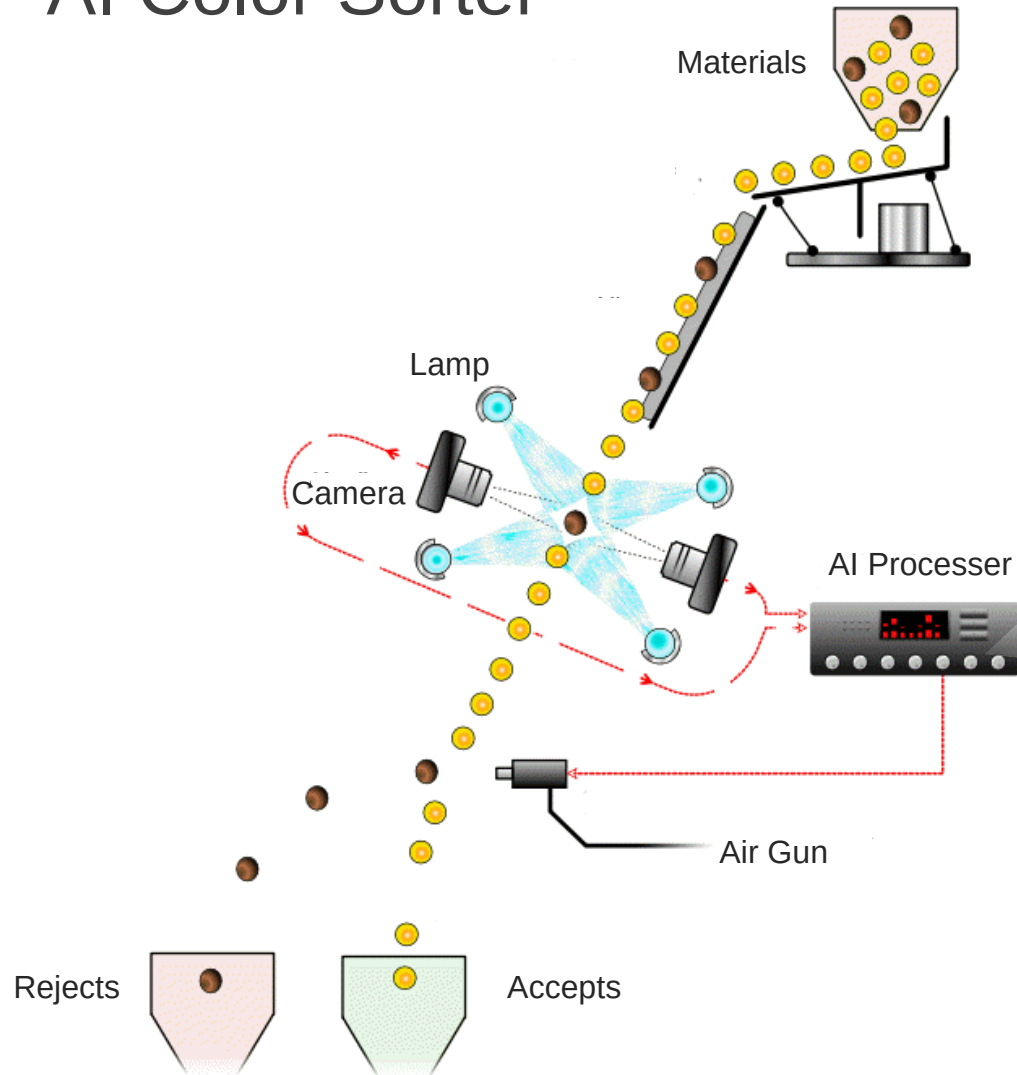
Configuration

- Android or Linux
- ARM Based SoC Array Server
- Memory: 8 GB + 64 GB or higher
- Blade quantity: 16
- Net work: 1 Gbps or higher
- TOPS: 12.5 TOPS
- Power supply: AC 100–240 V
- Heat dissipation: Fan or Sink

Recommended Smart Modules



AI Color Sorter



rice



soya bean



millet



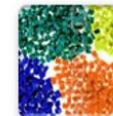
peanut



sunflower
seeds



pecan



plastic



quartz sand



ore



Oolong
tea



Pu'er
tea



Green
tea

Industrial Visual Inspection



Quectel Changzhou automatic production line



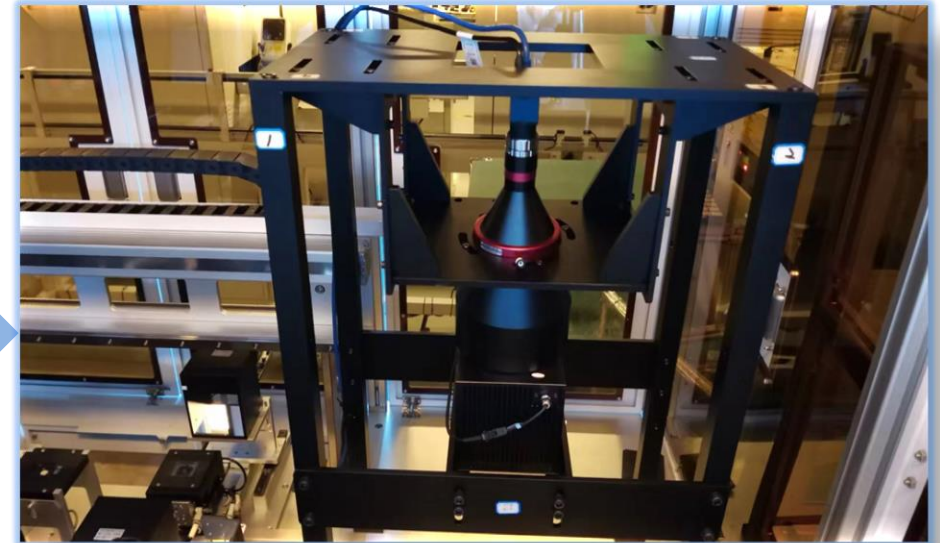
1 SMT + Splitting



2 Function Test Unit



3 Visual Inspection



6 Real Time Monitoring System



5 Packaging



4 Baking





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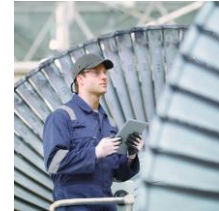
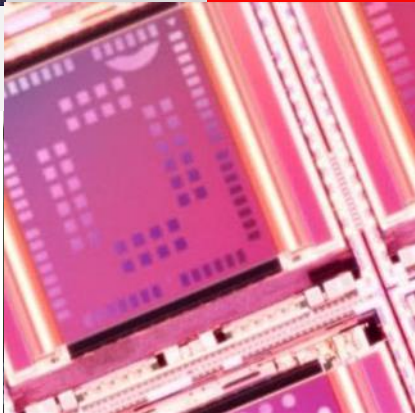
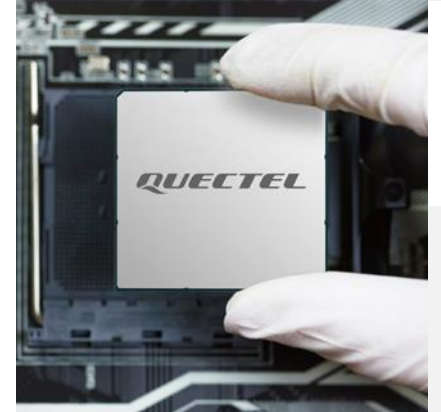
Enhancements

Typical Applications

Customer Support

Feature & Comparison

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360 Degree Support



1. System Evaluation

- Analyzing customer requirements
- Recommending the right module for the customer
- Evaluating antenna placement
- Designing antennas



2. Design In

- Recommending referenced hardware designs
- Checking schematics and layouts
- Providing software design support

3. Prototype

- Providing design validation testing
- Recommending suppliers

4. Testing Service

- RF testing
- Power consumption testing
- Audio testing
- Reliability & environmental testing
- ESD testing
- Certification testing
- Antenna debugging

5. Mass Production

- Providing assembly and testing guidelines
- Providing after-sales services



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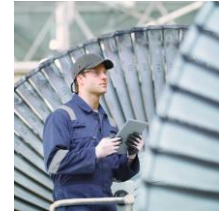
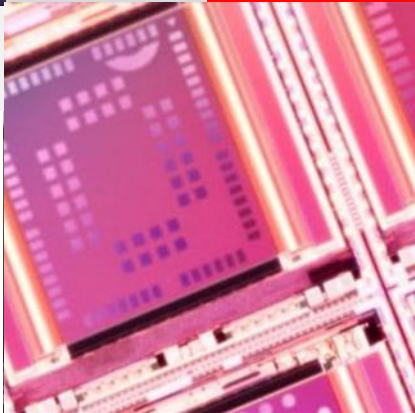
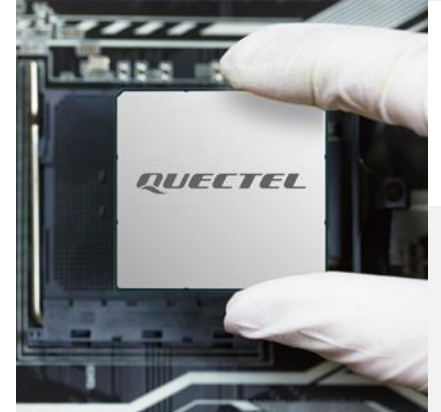
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Entry Level Features & Comparison



	Entry Level					
Item	SC20 Series	SC200R Series	SC200E Series	SC206E Series	SC200L Series	SG150H Series
Dimensions	40.5 × 40.5 × 2.8 mm	40.5 × 40.5 × 2.85 mm	40.5 × 40.5 × 2.85 mm	40.5 × 40.5 × 2.85 mm	40.5 × 40.5 × 2.85 mm	35 × 31 × 2.65 mm
Form-factor	LCC + LGA	LCC + LGA	LCC + LGA	LCC + LGA	LCC + LGA	LGA
SKUs	-CE/ -E/ -A/ -AU/ -J/ -W/ -EL/ -EX/ -AL/ -AX/ -WL	-CE/ -EM/ -NA/ -WF/ -JP ^①	-CE/ -EM/ -NA/ -WF/ -JP/ -GL	-EM/ -NA/ -WF/ -GL	-CE/ -EU/ -AU/ -WF	-EU/ -AU
Memory	1 GB + 8 GB/ 2 GB + 16 GB	1 GB + 8 GB/ 2 GB +16 GB	2 GB + 16 GB / 3 GB + 32 GB	2 GB + 16 GB / 3 GB + 32 GB	1 GB + 8 GB/ 2 GB +16 GB	256 MB LPDDR2 + 512 MB NAND
Platform	MSM8909	QCM2150	QCM2290	QCM2290	SL8541E	SL8521E
Process	28 nm	28 nm	11 nm	11 nm	28 nm	28 nm
Modem	LTE Cat 4	LTE Cat 4	LTE Cat 4	LTE Cat 4	LTE Cat 4	LTE Cat 4
OS	Android 7.1/ 8.1/ Linux ^①	Android 10	Android 12/ 13/ 14 ^②	Yocto Linux	Android 10	Yocto Linux
CPU	4 × A7 @ 1.1 GHz	4 × A53 @ 1.3 GHz	4 × A53 @ 2.0 GHz	4 × A53 @ 2.0 GHz	4 × A53 @ 1.4 GHz	2 × A53 @ 1.3 GHz
GPU	Adreno 304 @ 409.6 MHz	Adreno 308 @ 485 MHz	Adreno 702 @ 845 MHz	Adreno 702 @ 845 MHz	Mali-T820 MP1 @ 680 MHz	Mali-T820 MP1 @ 384 MHz
Display	1 × MIPI DSI HD (1280 × 720)	1 × MIPI DSI HD+ (1440 × 720)	1 × MIPI DSI HD+ (1680 × 720)	1 × MIPI DSI HD+ (1680 × 720)	1 × MIPI DSI HD+ (1440 × 720)	1 × MIPI DSI: 640 × 480 SPI: 320 × 240
Camera	1 × ISP Max. 8 MP @ 1 × ISP	2 × ISP 8 MP @ 1 × ISP + 8 MP @ 1 × ISP Max. 13 MP @ 2 × ISP	2 × ISP 13 MP @ 1 × ISP + 13 MP @ 1 × ISP Max. 25 MP @ 2 × ISP	2 × ISP 13 MP @ 1 × ISP + 13 MP @ 1 × ISP Max. 25 MP @ 2 × ISP	1 × ISP Max. 8 MP + 2 MP	1 × ISP Max. 5 MP
Video	Encode: 720p30, H.264 Decode: 1080p30, H.264, H.265	Encode: 1080p30, H.264 Decode: 1080p30, H.264, H.265	Encode/ Decode: 1080p30, H.264, H.265	Encode/ Decode: 1080p30, H.264, H.265	Encode: 1080p30, H.264 Decode: 1080p30, H.264, H.265	Encode: 720p30, H.264 Decode: 720p30, H.264
Bluetooth	Bluetooth 4.2/ BLE	Bluetooth 4.2/ BLE	Bluetooth 5.0/ BLE	Bluetooth 5.0/ BLE	Bluetooth 5.0/ BLE	Bluetooth 4.2/ BLE
Wi-Fi	2.4 & 5 GHz, 802.11a/ b/ g/ n	2.4 & 5 GHz, 802.11a/ b/ g/ n	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac	2.4 GHz, 802.11a/ b/ g/ n
GNSS	GPS/ GLONASS/ BDS	GPS/ GLONASS/ BDS/ Galileo	GPS/ GLONASS/ BDS/ Galileo/ QZSS/ SBAS/ NavIC (supported by SC200E-NA)	GPS/ GLONASS/ BDS/ Galileo/ QZSS/ SBAS/ NavIC (supported by SC206E-NA)	GPS/ GLONASS/ BDS	GPS/ GLONASS or GPS/ BDS
USB	1 × USB 2.0	1 × USB 2.0	1 × USB 2.0/ 3.1 (Type-C)	1 × USB 2.0/ 3.1 (Type-C)	2 × USB 2.0	1 × USB 2.0
Lifetime	2025	2028	2030	2030	2027	2027
Antutu(V6.3.3) benchmark	21,036 (AOS 7.1, 1 + 8 GB) 26,945 (AOS 7.1, 2 + 16 GB)	35,115 (AOS 10, 1 + 8 GB) 35,940 (AOS 10, 2 + 16 GB)	58,766 (AOS 12, 3 + 32 GB, 69, 139 if test with Antutu V7.2.8)	-	35,101 (AOS 10, 1 + 8 GB) 35,195 (AOS 10, 2 + 16 GB)	TBD

Medium Level Features & Comparison



	Medium Level				
Item	SC600Y Series	SC680A Series	SC686A Series	SG520B Series*	SC200K Series
Dimensions	43.0 × 44.0 × 2.85 mm	43.0 × 44.0 × 2.85 mm	43.0 × 44.0 × 2.85 mm	42.5 × 56.5 × 2.95 mm	40.5 × 40.5 × 2.85 mm
Form-factor	LCC + LGA	LCC + LGA	LCC + LGA	LGA	LCC + LGA
SKUs	-EM/ -NA/ -JP/ -WF	-EM/ -NA/ -WF/ -JP	-EM/ -NA/ -WF	-CN*/ -EM*/ -NA*/ -WF*	-CE/ -WF/ -EU ^①
Memory	2 GB + 16 GB	4 GB + 64 GB	4 GB + 64 GB	4 GB + 64 GB	2 GB + 32 GB/ 3 GB + 32 GB/ 4 GB + 64 GB
Platform	SDM450	QCM4290	QCM4290	QCM4490	UIS8581E
Process	14 nm	11 nm	11 nm	4nm	28 nm
Modem	LTE Cat 6	LTE Cat 6	LTE Cat 6	5G (3GPP Release 16) & LTE Cat 15	LTE Cat 4
OS	Android 9/ 10	Android 12/ 13/ 14 ^①	Yocto Linux	Android 13/ 14 ^① / 15 ^① / 16 ^① / 17 ^① / 18 ^①	Android 10
CPU	8 × A53 @ 1.8 GHz	4 × Kryo Gold 260 @ 2.0 GHz + 4 × Kryo Silver 260 @ 1.8 GHz	4 × Kryo Gold 260 @ 2.0 GHz + 4 × Kryo Silver 260 @ 1.8 GHz	2 × Kryo Gold (A78) @ 2.4 GHz + 6 × Kryo Silver (A55) @ 2.0 GHz	4 × A55 @ 1.6 GHz 4 × A55 @ 1.2 GHz
GPU	Adreno 506 @ 600 MHz	Adreno 610 @ 950 MHz	Adreno 610 @ 950 MHz	Adreno 613	GE8322 @ 550 MHz
Display	2 × MIPI_DSI WUXGA (1920 × 1200) FHD (1920 × 1080)	1 × MIPI_DSI FHD+ (1080 × 2520)	1 × MIPI_DSI FHD+ (1080 × 2520)	1 × MIPI_DSI FHD+ (2600 × 1200) @ 120Hz	1 × MIPI_DSI FHD+ (2160 × 1080)
Camera	2 × ISP 13 MP @ 1 × ISP + 13 MP @ 1 × ISP Max. 21 MP @ 2 × ISP	3 × ISP 13 MP @ 1 × ISP + 13 MP @ 1 × ISP Max. 25 MP @ 2 × ISP	3 × ISP 13 MP @ 1 × ISP + 13 MP @ 1 × ISP Max. 25 MP @ 2 × ISP	2 × ISP 16 MP @ 1 × ISP + 16 MP @ 1 × ISP Max. 25 MP @ 2 × ISP	2 × ISP 13 MP @ 1 × ISP + 5 MP @ 1 × ISP Max. 16 MP @ 2 × ISP
Video	Encode/ Decode: 1080p60, H.264, H.265	Encode/ Decode: 1080p60, H.264, H.265	Encode/ Decode: 1080p60, H.264, H.265	Encode/ Decode: 1080p60, H.264, H.265	Encode/ Decode: 1080p30, H.264, H.265
Bluetooth	Bluetooth 4.2/ BLE	Bluetooth 5.1/ BLE	Bluetooth 5.1/ BLE	Bluetooth 5.2	Bluetooth 5.0/ BLE
Wi-Fi	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac/ ax-ready	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac	2.4 & 5 & 6 GHz, 2 × 2 MIMO,DBS 802.11a/ b/ g/ n/ ac/ ax, Wi-Fi 6E	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac
GNSS	GPS/ GLONASS/ BDS/ Galileo	GPS/ GLONASS/ BDS/ Galileo/ NavIC/ QZSS/ SBAS	GPS, GLONASS, BDS, Galileo, NavIC, QZSS, SBAS	GPS/ BDS/ GLONASS/ Galileo/ NavIC/ QZSS/ SBAS	GPS/ GLONASS/ BDS
USB	1 × USB 2.0/ 3.0 (Type-C)	1 × USB 2.0/ 3.1 (Type-C)	1 × USB 2.0/ 3.1 (Type-C)	1 × USB 3.1 (Type-C)	2 × USB 2.0
Lifetime	2025	2028	2028	2030	2027
Antutu(V7.2.8) benchmark	72,427 (AOS9, 2 + 16 GB) 74,216 (AOS10, 2 + 16 GB)	141,064 (AOS12, 4 + 64 GB)	-	321,284 (AOS13, 4 + 64 GB, tested with Antutu V9.3.5, about equivalent to 231,860 with Antutu V7.2.8)	99,553 (AOS10, 2 + 32 GB, tested with Antutu V8.4.6, about equivalent to 76,861 with Antutu V7.2.8)

High Level Features & Comparison



	High Level					
Item	SC600T Series	SC606T Series	SC66 Series	SC668S Series	SC696S Series	SG560D Series
Dimensions	43.0 × 44.0 × 2.85 mm	43.0 × 44.0 × 2.85 mm	43.0 × 44.0 × 2.85 mm	43.0 × 44.0 × 2.85 mm	43.0 × 44.0 × 2.85 mm	42.5 × 56.5 × 2.95 mm
Form-factor	LCC + LGA	LCC + LGA	LCC + LGA	LCC + LGA	LCC + LGA	LGA
SKUs	-EM/ -NA/ -JP/ -WF	-EM/ -NA/ -JP ^① / -WF	-CE/ -E/ -A/ -J/ -MW	-CN/ -EM/ -NA/ -JP /-WF	-EM/ -NA/ -WF	-CE [*] / -EM [*] / -NA [*] / -WF
Memory	2 GB + 16 GB	2 GB + 16 GB	3 GB + 32 GB/ 4 GB + 64 GB	3 GB + 32 GB/ 4 GB + 64 GB	2 GB + 16 GB	4 GB + 64 GB
Platform	MSM8953	MSM8953	SDM660	QCM6125	QCM6125	QCM6490
Process	14 nm	14 nm	14 nm	11 nm	11 nm	6 nm
Modem	LTE Cat 6	LTE Cat 6	LTE Cat 6	LTE CAT 4	LTE CAT 4	5G & LTE Cat 18
OS	Android 9/ 10	Yocto Linux	Android 9/ 10	Android 10/ 11/ 13	Yocto Linux	Android 12/ 13 [*] / 14 ^① / 15 ^① / 16 ^①
CPU	8 × A53 @ 2.0 GHz	8 × A53 @ 2.0 GHz	4 × Kryo Gold 260 @ 2.2 GHz + 4 × Kryo Silver 260 @ 1.8 GHz	4 × Kryo Gold 260 @ 2.0 GHz + 4 × Kryo Silver 260 @ 1.8 GHz	4 × Kryo Gold 260 @ 2.0 GHz + 4 × Kryo Silver 260 @ 1.8 GHz	1 × Kryo Gold Plus @ 2.7 GHz + 3 × Kryo Gold @ 2.4 GHz + 4 × Kryo Silver @ 1.9 GHz
GPU	Adreno 506 @ 650 MHz	Adreno 506 @ 650 MHz	Adreno 512 @ 650 MHz	Adreno 610 @ 950 MHz	Adreno 610 @ 950 MHz	Adreno 643 @ 812 MHz
Display	2 × MIPI DSI,WUXGA (1920 × 1200), FHD (1920 × 1080)	2 × MIPI DSI,WUXGA (1920 × 1200), FHD (1920 × 1080)	2 × MIPI DSI, WQXGA (2560 × 1600) WQXGA (2560 × 1600)	1 × MIPI DSI, WUXGA(1920 × 1200)/ 1080 × 2520	1 × MIPI DSI, WUXGA(1920 × 1200)/ 1080 × 2520	MIPI: 1200 × 2520 @ 144 fps & DP: 4K (3840 × 2160) @ 60 fps Wi-Fi: 4K @ 60fps
Camera	2 × ISP,13 MP @ 1 × ISP + 13 MP @ 1 × ISP, Max. 24 MP @ 2 × ISP	2 × ISP,13 MP @ 1 × ISP + 13 MP @ 1 × ISP, Max. 24 MP @ 2 × ISP	2 × ISP,16 MP @ 1 × ISP + 16 MP @ 1 × ISP, Max. 24 MP @ 2 × ISP	2 × ISP, 16 MP @ 1 × ISP + 16 MP @ 1 × ISP, Max. 24 MP @ 2 × ISP	2 × ISP, 16 MP @ 1 × ISP + 16 MP @ 1 × ISP, Max. 24 MP @ 2 × ISP	4 × 4-lane MIPI CSI, Supports up to 2.5 Gbps/ lane; 3 × ISP, 3 × 27 MP @ 24 fps; or 3 × 22MP @ 30 fps ; or 36 MP + 27 MP @24 fps; or 36MP + 22MP @ 30 fps; or Max. 1 × 64 MP @ 30 fps
Video	Encode/ Decode: 4K30, 1080p60, H.264, H.265	Encode/ Decode: 4K30, 1080p60, H.264, H.265	Encode/ Decode: 4K30, 1080p60, H.264, H.265	Encode/ Decode: 4K30, 1080p60, H.264, H.265	Encode/ Decode: 4K30, 1080p60, H.264, H.265	Encode: 4K (H.264/ H.265) @ 30 fps Decode: 4K (H.264/ H.265/ VP9) @ 60 fps
Bluetooth	Bluetooth 4.2/ BLE	Bluetooth 4.2/ BLE	Bluetooth 5.0/ BLE	Bluetooth 5.0/ BLE	Bluetooth 5.0/ BLE	Bluetooth 5.2
Wi-Fi	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac	2.4 & 5 GHz, 2 × 2 MIMO 802.11a/ b/ g/ n/ ac	2.4 & 5 GHz 802.11a/ b/ g/ n/ ac	2.4 & 5 GHz 802.11a/ b/ g/ n/ ac	2.4 & 5 & 6 GHz, 2 × 2 MU-MIMO 802.11a/ b/ g/ n/ ac/ ax, Wi-Fi 6E
GNSS	GPS/ GLONASS/ BDS/ Galileo	GPS/ GLONASS/ BDS/ Galileo	GPS/ GLONASS/ BDS/ Galileo/ QZSS/ SBAS	GPS/ GLONASS/ BDS/ Galileo/ QZSS/ SBAS	GPS/ GLONASS/ BDS/ Galileo/ QZSS/ SBAS	GPS/ GLONASS/ BDS/ NavIC/ Galileo/ QZSS/ SBAS
USB	1 × USB 2.0/ 3.0 (Type-C)	1 × USB 2.0/ 3.0 (Type-C)	1 × USB 3.1 (DP over Type-C) + 1 × USB 2.0	1 × USB 2.0/ 3.1 (Type-C/ Native DP)	1 × USB 2.0/ 3.1 (Type-C/ Native DP)	1 × USB 3.1 (DP over Type-C) + 1 × USB 2.0
PCIe	-	-	-	-	-	1 × 2-lane PCIe Gen 3
Lifetime	2025	2025	2028	2028	2028	2036
Antutu(V7.2.8) benchmark	80,712 (AOS 9, 2 + 16 GB) 82,273 (AOS 10, 2 + 16 GB)	-	141,958 (AOS 10, 3 + 32 GB) 142,754 (AOS 10, 4 + 64 GB)	140,546 (AOS 10, 4 + 64 GB)	-	398,155 (AOS 12, 4 + 64 GB. will be 547,276 when tested with Antutu V9.3.5)

Premium Level Features & Comparison



	Premium Level	
Item	SG865W-WF	SG885G-WF*
Dimensions	42.0 × 46.0 × 2.95 mm	49.0 × 51.0 × 4.15 mm
Form-factor	LGA	LGA
SKUs	-WF	-WF
Memory	8 GB + 64 GB/ 12 GB + 256 GB	12 GB + 256 GB
Platform	QCS8250	QCS8550
Process	7 nm	4 nm
Modem	Wi-Fi/ Bluetooth only	Wi-Fi/ Bluetooth only
OS	Android 10/ Ubuntu 18.04	Android 13*
CPU	1 × Kryo 585 Gold prime @ 2.842 GHz + 3 × Kryo 585 Gold @ 2.419 GHz + 4 × Kryo 585 Silver @ 1.805 GHz	1 × Kryo Prime @ 3.2 GHz + 4 × Kryo Gold @ 2.8 GHz + 3 × Kryo Silver @ 2.0 GHz
GPU	Adreno 650 @ 587 MHz	Adreno™ 740
NPU	NPU230	Dual eNPU V3
DSP	Compute Hexagon DSP with: 4 × HVX Vector co-processor - Other Hexagon coprocessor	Compute Hexagon DSP with: 4 × HVX Vector co-processor optimized for pixel processing 1 × HMX Matrix co-processor optimized for deep neural network processing - Other Hexagon coprocessor
Display	Adreno DPU 995 2 × MIPI DSI + 1 × DP (MST Mode), 4K (5040 × 2160)	Adreno DPU 1295 2 × 4-lane MIPI DSI (3480 × 2160 at 120 Hz, 3360 × 1600 at 144 Hz) + 2 × DP (MST Mode), 4K @ 60
Camera	2 × ISP + 2 × Lite ISP 25 MP @ 1 × ISP + 25 MP @ 1 × ISP Max. 64 MP @ 2 × ISP	6 groups of 4-lane MIPI_CSI, up to 7 cameras - Data rate: up to 2.5 Gbps/lane 3 × Full ISP + 2 × Lite ISP, 36 MP + 36 MP + 36 MP or 64 MP + 36 MP or 108M @ 30 fps ZSL
Video	Encode: 4K120/ 8K30, H.264, H.265, VP8, VP9 Decode: 4K240/ 8K60, H.264, H.265, VP8	Encode: 4K120/ 8K30, H.265, H.264 Decode: 4K240/ 8K60, H.265, H.264, VP9
Bluetooth	Bluetooth 5.1/ BLE	Bluetooth 5.3 (BR/ EDR + BLE)
Wi-Fi	2.4 & 5 GHz, 2 × 2 MIMO, 802.11a/ b/ g/ n/ ac/ ax, Wi-Fi 6	2.4 & 5 & 6 GHz, 802.11a/ b/ g/ n/ ac/ ax/ be, 2 × 2 MIMO DBS, HBS Wi-Fi 7
USB	1 × USB 3.1 (DP over type-C) + 1 × USB 3.1	1 × USB 3.1 (DP over Type-C) + 1 × USB 2.0
PCIe	2 × 2-lane PCIe Gen 3	× 1 ^② PCIe1: 2-lane, Gen 4 × 2 ^② PCIe2: 2-lane, Gen 3 + PCIe3: 1-lane, Gen 3
Lifetime	2036 ^①	2033
Antutu(V7.2.8) benchmark	441,954 (AOS 10, 8 + 64 GB)	TBD

*: Under development/ in progress/ planning ①: TBD (To Be Determined) ②: Different OCs support different configurations: 1) supporting PCIe2&PCIe3, and 2) supporting PCIe1 only.



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