

An aerial night view of a city with a glowing network overlay. The network consists of numerous blue nodes connected by thin lines, creating a complex web that spans across the cityscape. The city buildings are illuminated with various lights, and the overall scene is dominated by blue and white tones.

QUECTEL

Quectel Smart Module Product Overview

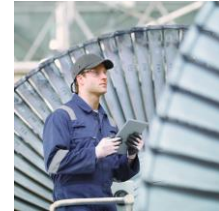
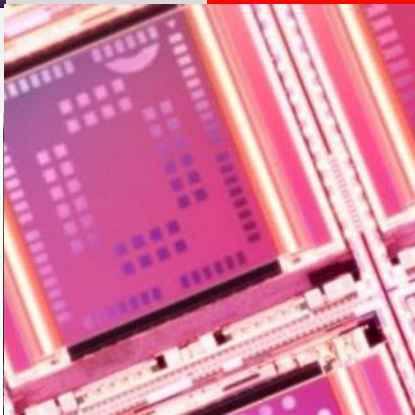
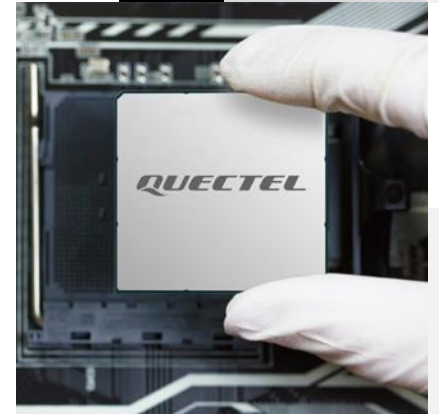
Build a Smarter World



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Smart Solution Introduction

Smart Module Portfolio

Features & Comparison

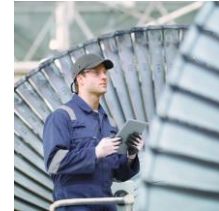
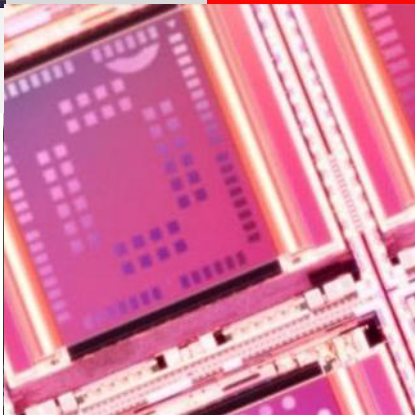
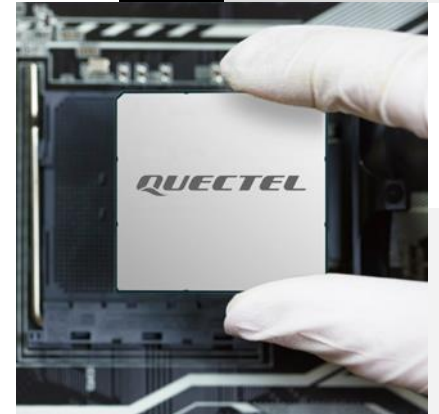
Typical Applications

Customer Support

Enhancements

Specifications & Timelines

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Quectel Smart Solution Advantages



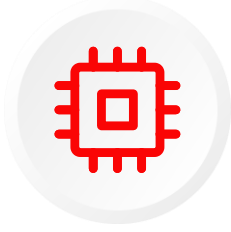
SoC Platforms



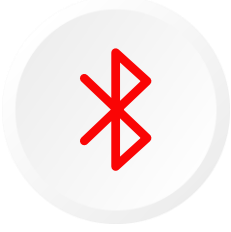
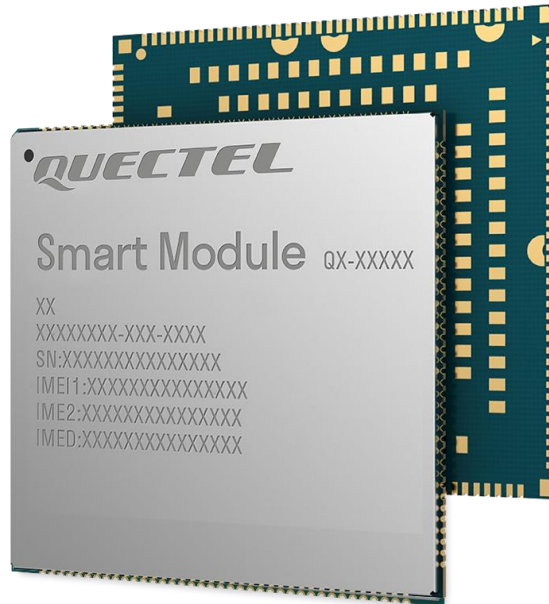
Open Android or Linux



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



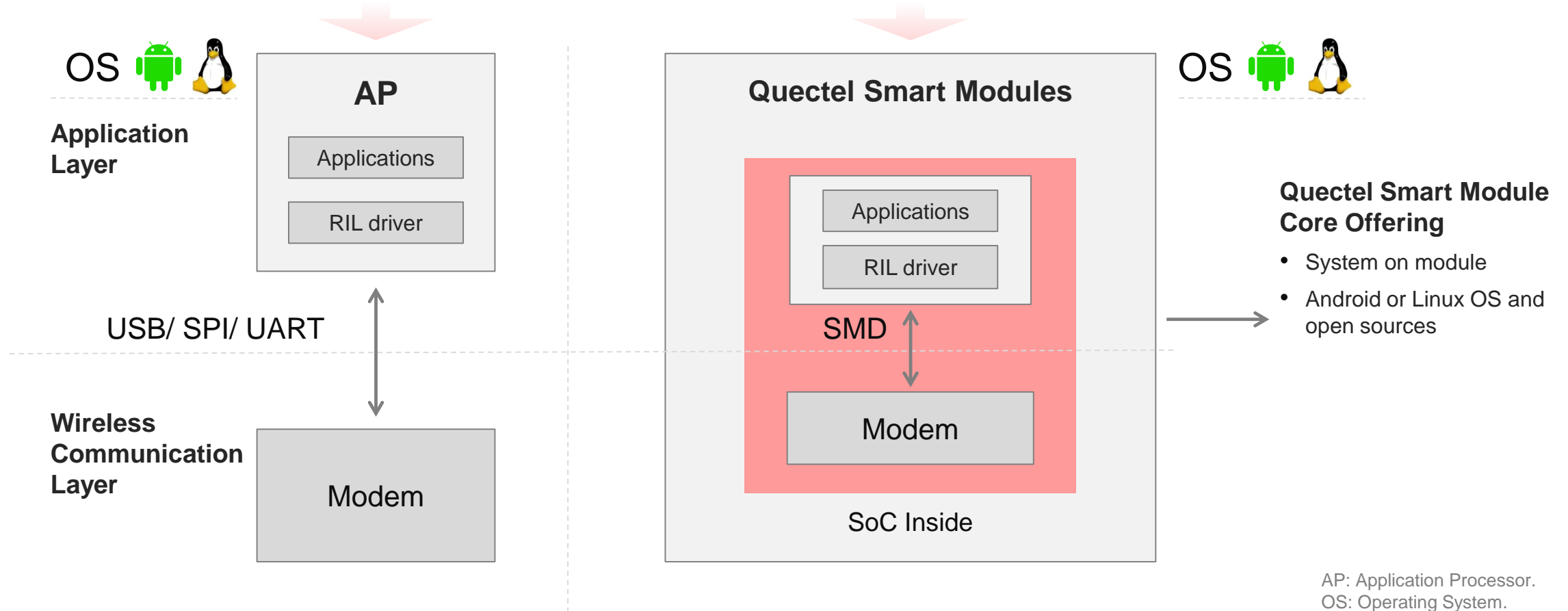
Strong Customer Support

Smart Solution Architecture Comparison



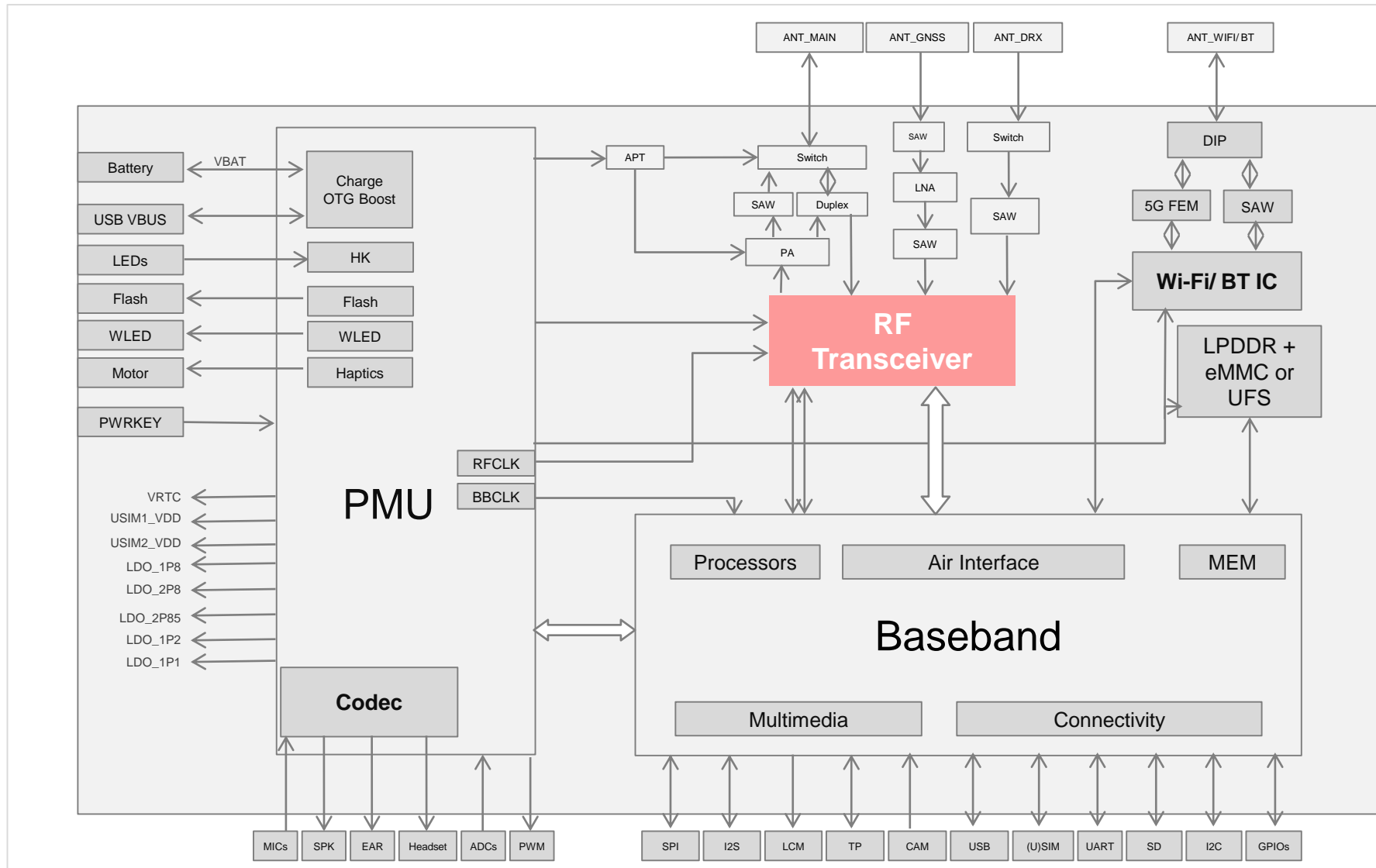
Discrete Smart Solution (AP + Modem)

Integrated Smart Solution (System on Module)



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

Smart Module Hardware Block Diagram

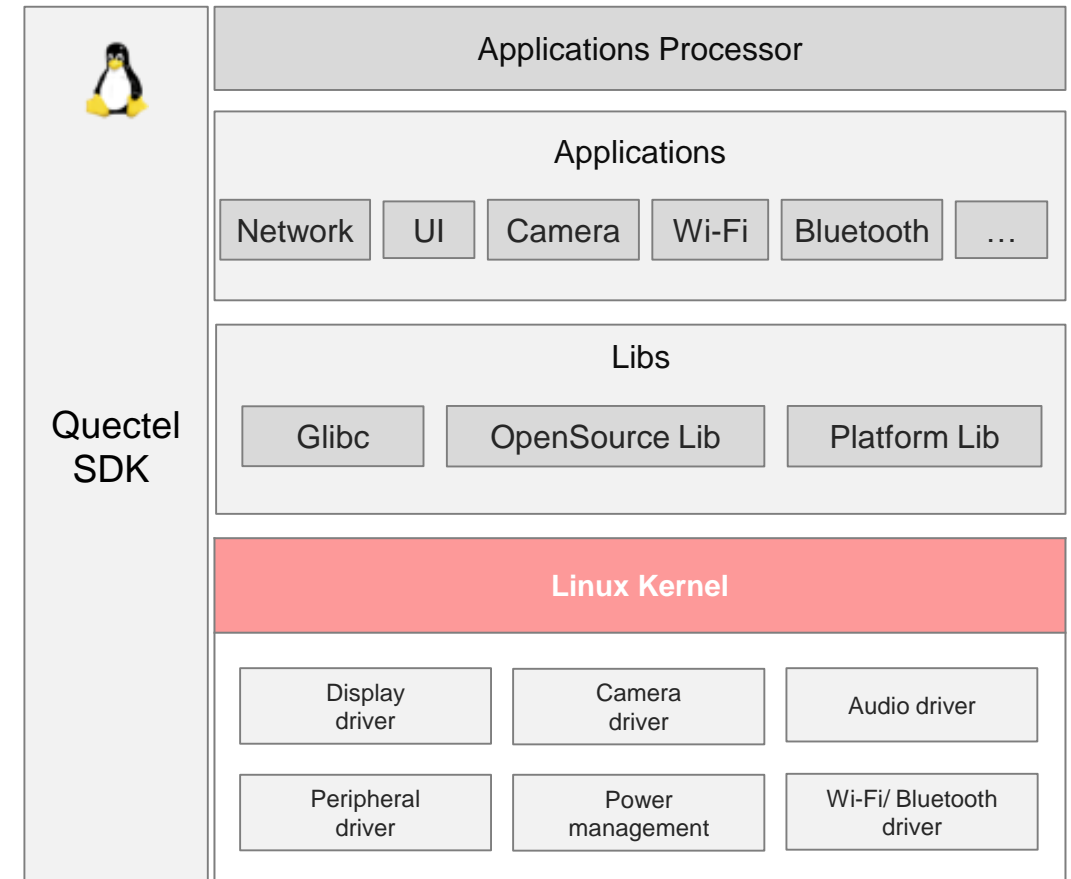
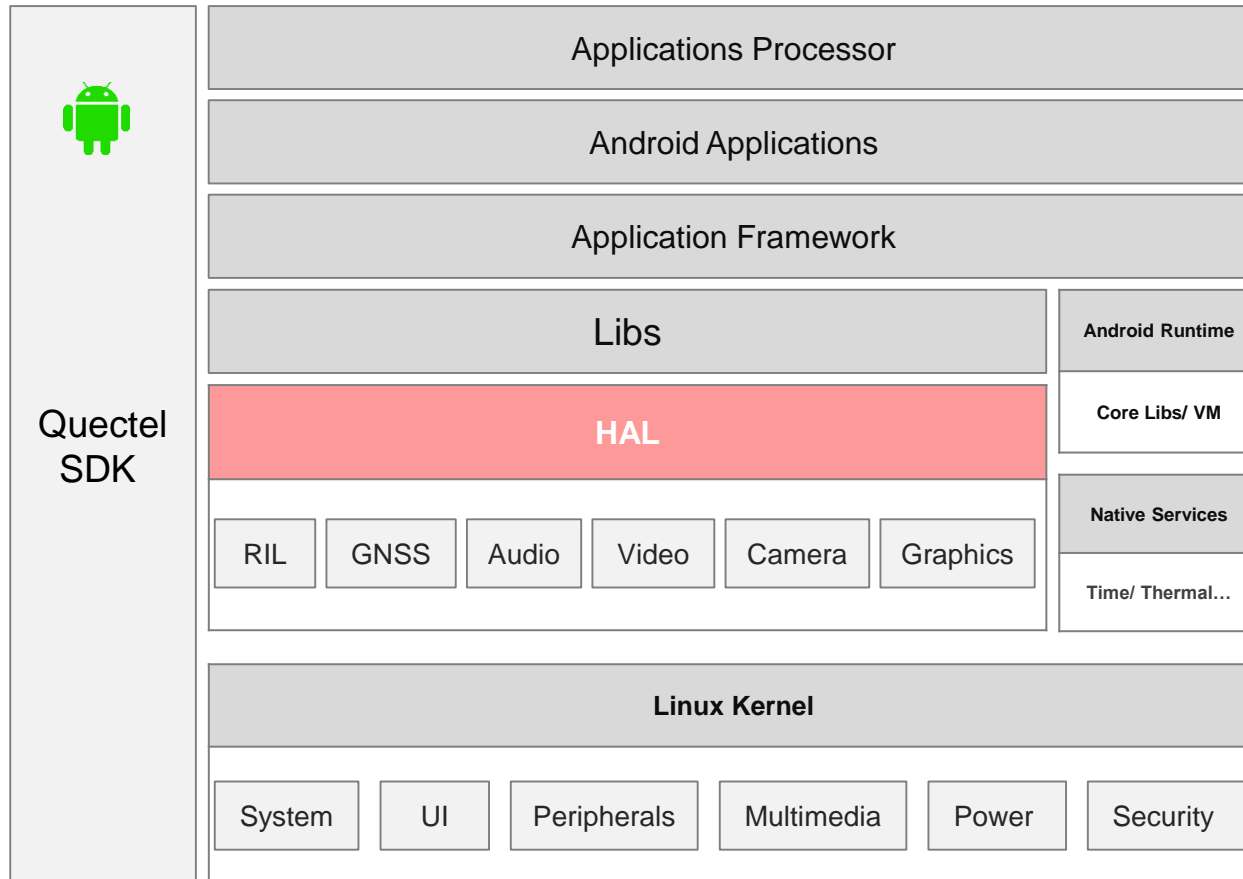


- Baseband: SoC with CPU, GPU, DSP, NPU processors, multimedia and other digital peripherals
- PMU: Provides power supply internally; some PMUs have codec inside
- RF Transceiver: Implements 2G/ 3G/ 4G/ 5G and GNSS functionalities
- Wi-Fi/ Bluetooth IC: Implements Wi-Fi/ Bluetooth functionalities
- LPDDR + eMMC or UFS: Internal DDR and storage

Smart Module SDK System Architecture



Quectel provides Android AOSP or Linux SDK which include libs and source codes to customers under NDA.





Smart Solution Introduction

Smart Module Portfolio

Features & Comparison

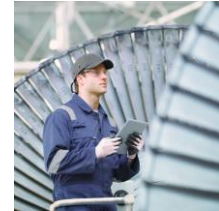
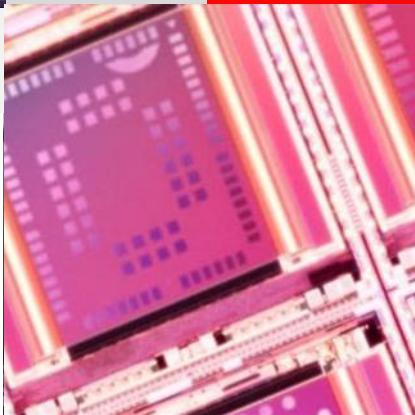
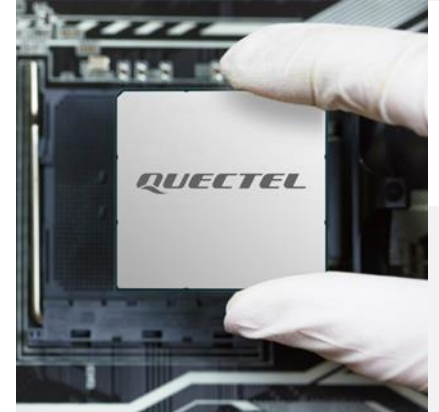
Typical Applications

Specifications & Timelines

Enhancements



















Customer Support

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Smart Module Portfolio



<p>Premium Level</p>	 <p>SG865W</p> <ul style="list-style-type: none"> • QCS8250 ① • CPU: 8x Kryo585 2.84 GHz • GPU: Adreno 650 • Camera: 64 MP • Video: 4K @ 240fps/ 8K @ 60fps • Wi-Fi: 2 × 2 11ax; Bluetooth 5.1 	 <p>SG885G</p> <ul style="list-style-type: none"> • QCS8550 ① • CPU: 1 + 4 + 3 Kryo™ CPU (3.2/2.8/2.0GHz) • GPU: Adreno 740 – 4K 120 fps UI • Camera: 64 MP • Video: 4K @ 240fps / 8K @ 60fps • Wi-Fi: 2.4 & 5 & 6 GHz, Wi-Fi 7; Bluetooth 5.3 				
<p>High Level</p>	 <p>SC600T</p> <ul style="list-style-type: none"> • MSM8953 ① • CPU: 8x A53 2.0 GHz • GPU: Adreno 506 • Camera: 24 MP • Video: 4K @ 30fps • Wi-Fi: 11ac; Bluetooth 4.2 • Modem: LTE Cat 6 • GNSS: L1 	 <p>SC66</p> <ul style="list-style-type: none"> • SDM660 ① • CPU: 4 + 4 Kryo260 2.2/ 1.8 GHz • GPU: Adreno 512 • Camera: 24 MP • Video: 4K @ 30fps • Wi-Fi: 2 × 2 11ac; Bluetooth 5.0 • Modem: LTE Cat 6 • GNSS: L1 	 <p>SC668S</p> <ul style="list-style-type: none"> • QCM6125 ① • CPU: 4 + 4 Kryo260 2.0/ 1.8 GHz • GPU: Adreno 610 • Camera: 24 MP • Video: 4K @ 30fps • Wi-Fi: 11ac; Bluetooth 5.0 • Modem: LTE Cat 4 • GNSS: L1 	 <p>SG560D 5G</p> <ul style="list-style-type: none"> • 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 	 <p>SC606T</p> <ul style="list-style-type: none"> • MSM8953 ① • CPU: 8x A53 2.0 GHz • GPU: Adreno 506 • Camera: 24 MP • Video: 4K @ 30fps • Wi-Fi: 11ac; Bluetooth 4.2 • Modem: LTE Cat 6 • GNSS: L1 	 <p>SC696S</p> <ul style="list-style-type: none"> • QCM6125 ① • CPU: 4 + 4 Kryo260 2.0/ 1.8 GHz • GPU: Adreno 610 • Camera: 24 MP • Video: 4K @ 30fps • Wi-Fi: 11ac; Bluetooth 5.0 • Modem: LTE Cat 4 • GNSS: L1
<p>Medium Level</p>	 <p>SC600Y</p> <ul style="list-style-type: none"> • SDM450 ① • CPU: 8x A53 1.8 GHz • GPU: Adreno 506 • Camera: 21 MP • Video: 1080P @ 60fps • Wi-Fi: 11ac; Bluetooth 4.2 • Modem: LTE Cat 6 • GNSS: L1 	 <p>SC200K</p> <ul style="list-style-type: none"> • UIS8581E ② • CPU: 8x A55 1.6 GHz • GPU: GE8322 • Camera: 16 MP • Video: 1080P @ 60fps • Wi-Fi: 11ac; Bluetooth 5.0 • Modem: LTE Cat 4 • GNSS: L1 	 <p>SC680A</p> <ul style="list-style-type: none"> • QCM4290 ① • CPU: 4 + 4 Kryo260 2.0/ 1.8 GHz • GPU: Adreno 610 • Camera: 25 MP • Video: 1080P @ 60fps • Wi-Fi: 11ac; Bluetooth 5.1 • Modem: LTE Cat 6 • GNSS: L1 + L5 	 <p>SC686A</p> <ul style="list-style-type: none"> • QCM4290 ① • CPU: 4+4 Kryo260 2.0/ 1.8 GHz • GPU: Adreno 610 • Camera: 25 MP • Video: 1080P @ 60fps • Wi-Fi: 11ac; Bluetooth 5.0 • Modem: LTE Cat 6 • GNSS: L1 + L5 		
<p>Entry Level</p>	 <p>SC200R</p> <ul style="list-style-type: none"> • QCM2150 ① • CPU: 4x A53 1.3 GHz • GPU: Adreno 308 • Camera: 13 MP • Video: 1080P @ 30fps • Wi-Fi: 11n; Bluetooth 4.2 • Modem: LTE Cat 4 • GNSS: L1 	 <p>SC200L</p> <ul style="list-style-type: none"> • SL8541E ② • CPU: 4x A53 1.4GHz • GPU: Mali-T820 • Camera: 8 MP • Video: 1080P @ 30fps • Wi-Fi: 11ac; Bluetooth 5.0 • Modem: LTE Cat 4 • GNSS: L1 	 <p>SC200E</p> <ul style="list-style-type: none"> • QCM2290 ① • CPU: 4x A53 2.0 GHz • GPU: Adreno 702 • Camera: 25 MP • Video: 1080P @ 30fps • Wi-Fi: 11ac; Bluetooth 5.0 • Modem: LTE Cat 4 • GNSS: L1 	 <p>SG150H</p> <ul style="list-style-type: none"> • SL8521E ② • CPU: 2x A53 1.3GHz • GPU: Mali-T820 • Camera: 5 MP • Video: 720P @ 30fps • Wi-Fi: 11n; Bluetooth 4.2 • Modem: LTE Cat 4 • GNSS: L1 	 <p>SC20</p> <ul style="list-style-type: none"> • MSM8909 ① • CPU: 4x A7 1.1GHz • GPU: Adreno 304 • Camera: 8 MP • Video: 1080P @ 30fps • Wi-Fi: 11n; Bluetooth 4.2 • Modem: LTE Cat 4 • GNSS: L1 	 <p>SC206E</p> <ul style="list-style-type: none"> • QCM2290 ① • CPU: 4x A53 2.0 GHz • GPU: Adreno 702 • Camera: 25 MP • Video: 1080P @ 30fps • Wi-Fi: 11ac; Bluetooth 5.0 • Modem: LTE Cat 4 • GNSS: L1



Smart Solution Introduction

Smart Module Portfolio

Features & Comparison

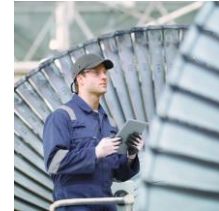
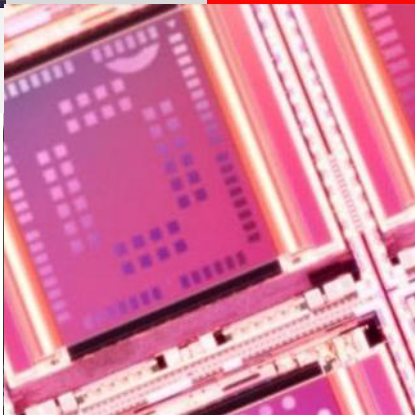
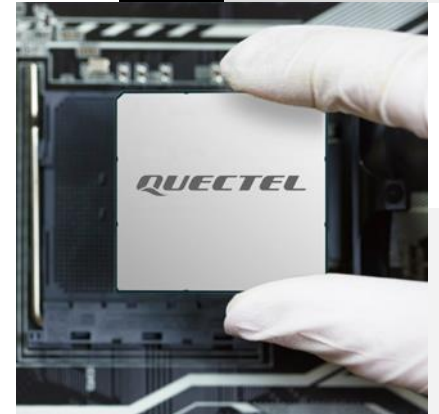
Typical Applications

Specifications & Timelines

Enhancements

Customer Support

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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	2028	2028	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	SC200K Series
Dimensions	43.0 × 44.0 × 2.85 mm	43.0 × 44.0 × 2.85 mm	43.0 × 44.0 × 2.85mm	40.5 × 40.5 × 2.85 mm
Form-factor	LCC + LGA	LCC + LGA	LCC + LGA	LCC + LGA
SKUs	-EM/ -NA/ -JP/ -WF	-EM/ -NA/ -WF/ -JP ^①	-EM/ -NA/ -WF	-CE/ -WF/ -EU ^①
Memory	2 GB + 16 GB	4 GB + 64 GB	4 GB + 64 GB/ 2 GB + 16 GB	2 GB + 32 GB/ 3 GB + 32 GB/ 4 GB + 64 GB
Platform	SDM450	QCM4290	QCM4290	UIS8581E
Process	14 nm	11 nm	11 nm	28 nm
Modem	LTE Cat 6	LTE Cat 6	LTE Cat 6	LTE Cat 4
OS	Android 9/ 10	Android 12/ 13* / 14 ^①	Yocto Linux	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	4 × A55 @ 1.6 GHz 4 × A55 @ 1.2 GHz
GPU	Adreno 506 @ 600 MHz	Adreno 610 @ 950 MHz	Adreno 610 @ 950 MHz	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+ (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 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: 1080p30, H.264, H.265
Bluetooth	Bluetooth 4.2/ BLE	Bluetooth 5.1/ BLE	Bluetooth 5.1/ BLE	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 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/ 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)	2 × USB 2.0
Lifetime	2025	2028	2028	2027
Antutu(V7.2.8) benchmark	72,427 (AOS9, 2+16GB) 74,216 (AOS10, 2+16GB)	141,064 (AOS12, 4+64GB)	-	99,553 (AOS10, 2+32GB, 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 ^① / -WF	-EM/ -NA/ -WF	-CE ^① / -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) @ 30 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	2025	2028 ^①	2028 ^①	2028
Antutu(V7.2.8) benchmark	80,712 (AOS9, 2+16GB) 82,273 (AOS10, 2+16GB)	-	141,958 (AOS10, 3+32GB) 142,754 (AOS10, 4+64GB)	140,546 (AOS10, 4+64GB)	-	398,155 (AOS12, 4+64GB. 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 × 4.25 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 Gold 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: <ul style="list-style-type: none"> • 4 × HVX Vector co-processor • Other Hexagon coprocessor 	Compute Hexagon DSP with: <ul style="list-style-type: none"> • 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), 4K60
Camera	2 × ISP + 2 × Lite ISP 25 MP @ 1 × ISP + 25 MP @ 1 × ISP Max. 64 MP @ 2 × ISP	6 × 4-lane MIPI CSI. Connect up to 14x/20x cameras, 5x concurrent 3 × ISP + 2 × Lite ISP. some ZSL example are: (36 M + 36 M + 36 M) @ 30 fps - triple camera or (64 M + 36 M) @ 30 fps - dual camera or 108 M @ 30 fps - single camera
Video	Encode: 4K120/ 8K30, H.264, H.265, VP8, VP9 Decode: 4K240/ 8K60, H.264, H.265, VP8	Encoder: 4K120/ 8K30, H.265, H.264 Decoder: 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, Wi-Fi 7, 802.11a/ b/ g/ n/ ac/ ax/ be, 2 × 2 Wi-Fi MIMO
USB	1 × USB 3.1 (DP over type-C) + 1 × USB 3.1	1 × USB 3.1 (DP over type-C)
PCIe	2 × 2-lane PCIe Gen 3	1 × 2-lane PCIe Gen 3 + 1 × 1-lane PCIe Gen 3
Lifetime	2029 ^①	2030
Antutu(V7.2.8) benchmark	441,954 (AOS10, 8 + 64 GB)	TBD



Smart Solution Introduction

Smart Module Portfolio

Features & Comparison

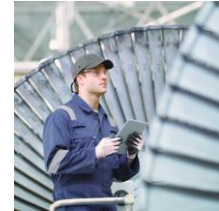
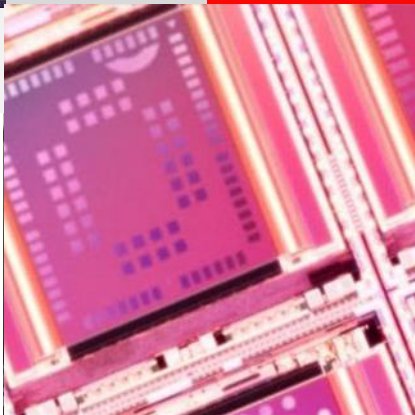
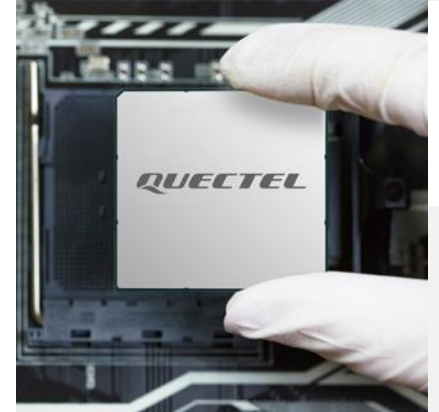
Typical Applications

Customer Support

Enhancements

Specifications & Timelines

Build a Smarter World



POS and Payment Terminal



Vending Machine



Electronic Cash Register and Kiosk



Configuration

- Magnetic strip cards, IC cards, contactless/ NFC, 1D & 2D codes reader
- Android
- Processor: Quad-Core or Octa-Core
- Memory: eMCP, 1 GB + 8 GB or higher
- Camera: 2 MP or higher
- Display: HD with touchscreen
- 5G/ 4G/ 3G/ Wi-Fi/ Bluetooth/ GNSS
- SAM, SIM Cards
- Audio
- USB ports

Recommended Smart Modules



Industrial Handheld



Different Industrial Applications



Retail



Transportation



Manufacturing



Field Mobility



Warehouse Management



Hospitality

Configuration

- Android
- Processor: Quad-Core or Octa-Core CPU
- Memory: 2 GB + 16 GB or higher
- Camera: 20MP or higher pixel cameras
- Display: 5" HD with touch or higher
- 5G/ 4G/ 3G/ Wi-Fi/ Bluetooth/ GNSS
- RFID
- Scanner
- Audio
- Battery
- IP Sealing: IP68
- TUMBLE: Meet IEC tumble spec
- Drop: Multiple 1.8 m drops to concrete per MIL STD 810H

Recommended Smart Modules



Vehicle Aftermarket — Infotainment & DashCam



Smart modules provide flexible, reliable, safe, and secure integration for In-Vehicle Infotainment and DashCam products.



Supported functionalities



360 reversing camera



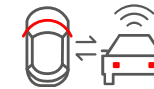
Voice recognition



Real time navigation



App store



Multi-view



CarPlay

Configuration

- Android
- Processor: Quad-Core or Octa-Core CPU
- Memory: 2 GB + 16 GB or higher
- Camera: AHD 2M or higher pixel reversing cameras
- Display: 10" HD with touch
- 5G/ 4G/ 3G/ Wi-Fi/ Bluetooth/ GNSS
- DSP audio, speaker power amplifier, Mic
- 360 cameras input
- CAN bus protocol interface
- USB ports spec

Recommended Smart Modules



Vehicle Aftermarket — 2-Wheeler, Small Electric Car



Supported functionalities



Real time navigation



Music



Voice recognition



Call

Configuration

- Android
- Processor: Quad-Core or Octa-Core CPU
- Memory: 2 GB + 16 GB or higher
- Display: 7" HD with touch
- 4G/ Wi-Fi/ Bluetooth/ GNSS
- Speaker, Mic
- USB ports
- Mileage: 80–100 km
- Battery: 48 V or higher

Recommended Smart Modules



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



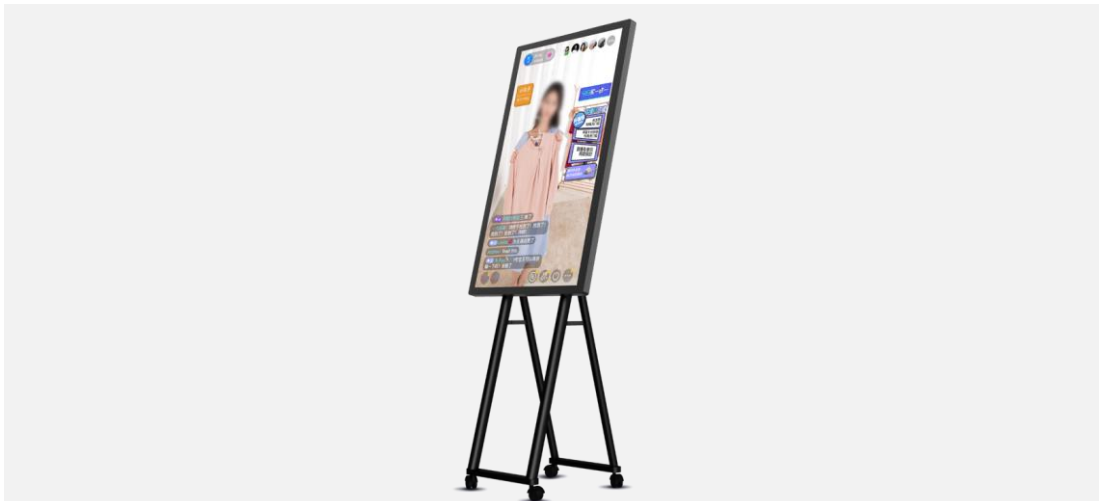
Multi app



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

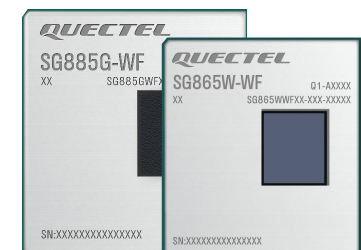
3D measurement scanners can measure cross-sections, thickness, and perform GD&T measurements in a single scan.



Configuration

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

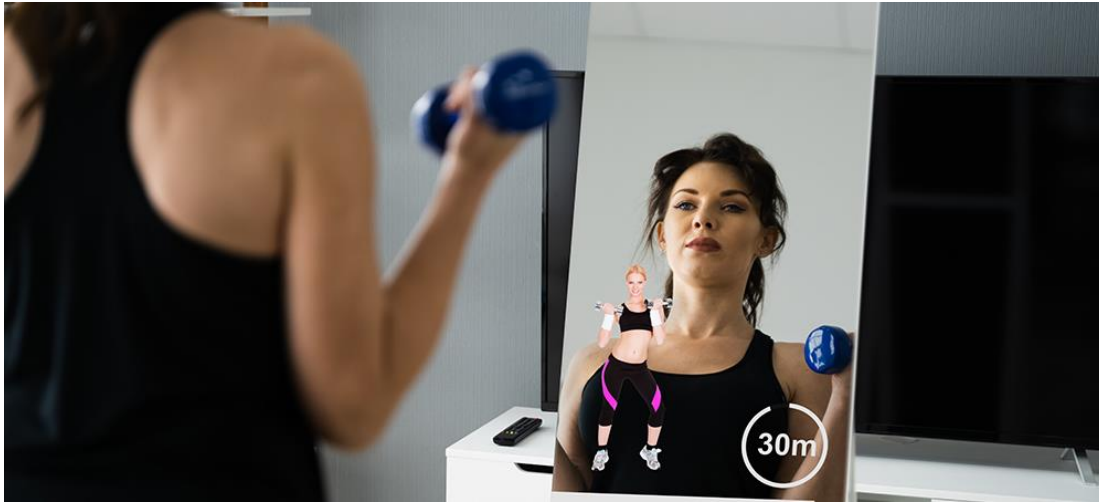
Recommended Smart Modules



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 end-cloud architecture 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



Cloud game



Distributed computing



Cloud mobile phone



Distributed storage



Edge computing

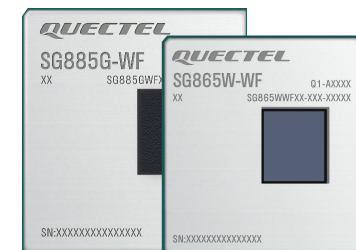


Operation management

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





Smart Solution Introduction

Smart Module Portfolio

Features & Comparison

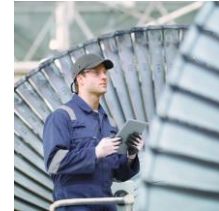
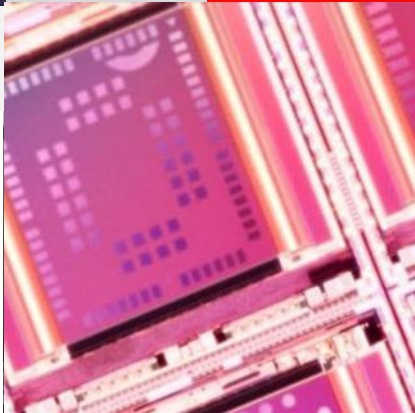
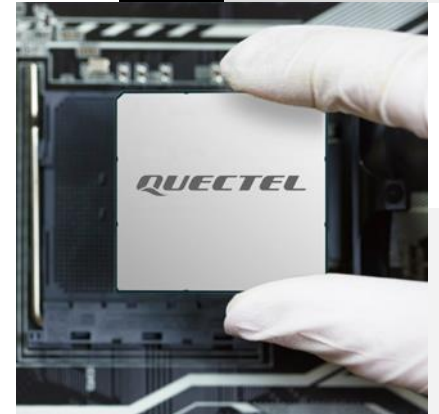
Typical Applications

Customer Support

Enhancements

Specifications & Timelines

Build a Smarter World

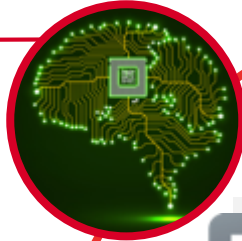


360 Degree Support



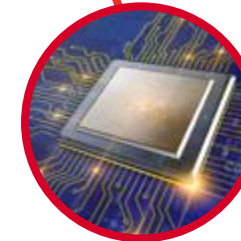
1. System Evaluation

- 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

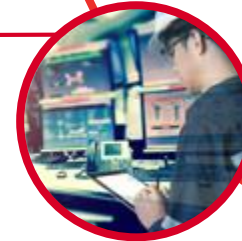


3. Prototype

- Providing design validation testing
- Recommending suppliers

5. Mass Production

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



4. Testing Service

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



Smart Solution Introduction

Smart Module Portfolio

Features & Comparison

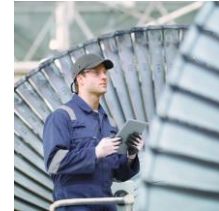
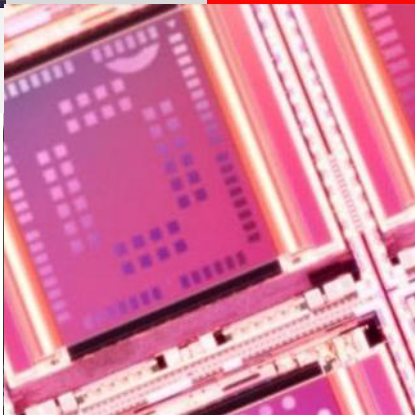
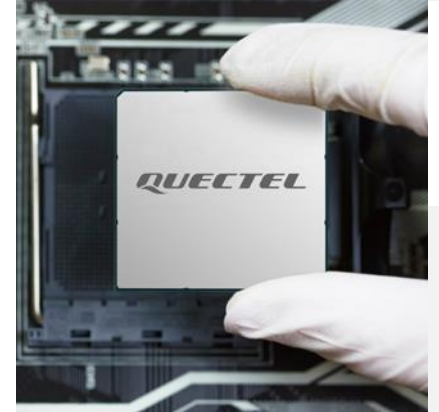
Typical Applications

Customer Support

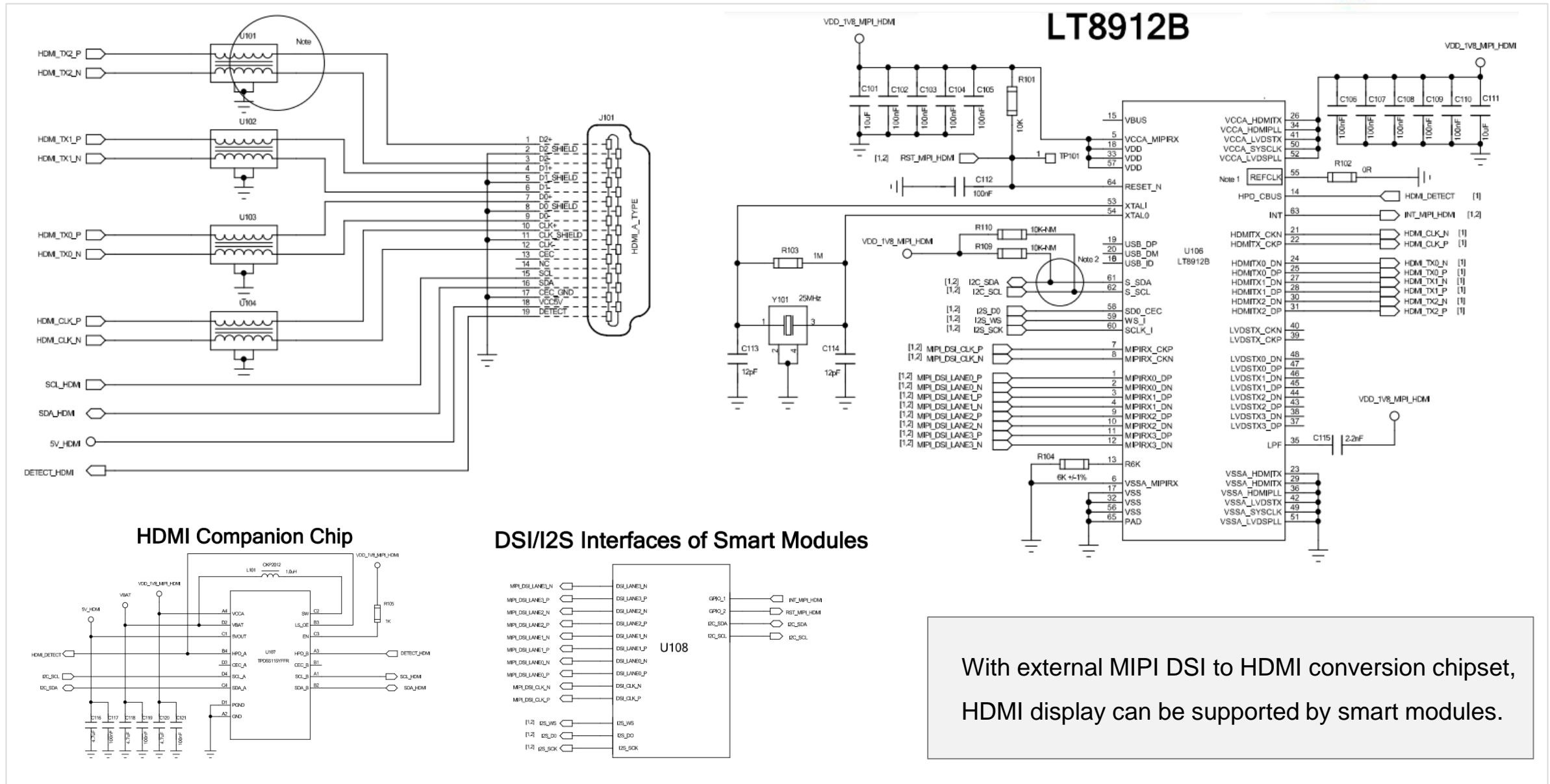
Enhancements

Specifications & Timelines

Build a Smarter World



Extensive Function – MIPI DSI to HDMI



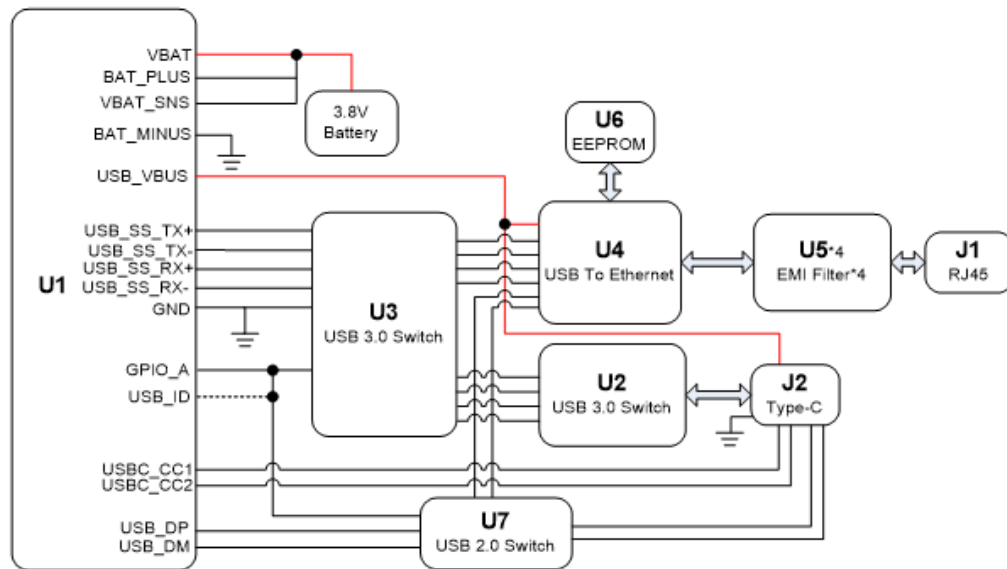
With external MIPI DSI to HDMI conversion chipset, HDMI display can be supported by smart modules.

Extensive Function – USB to Ethernet

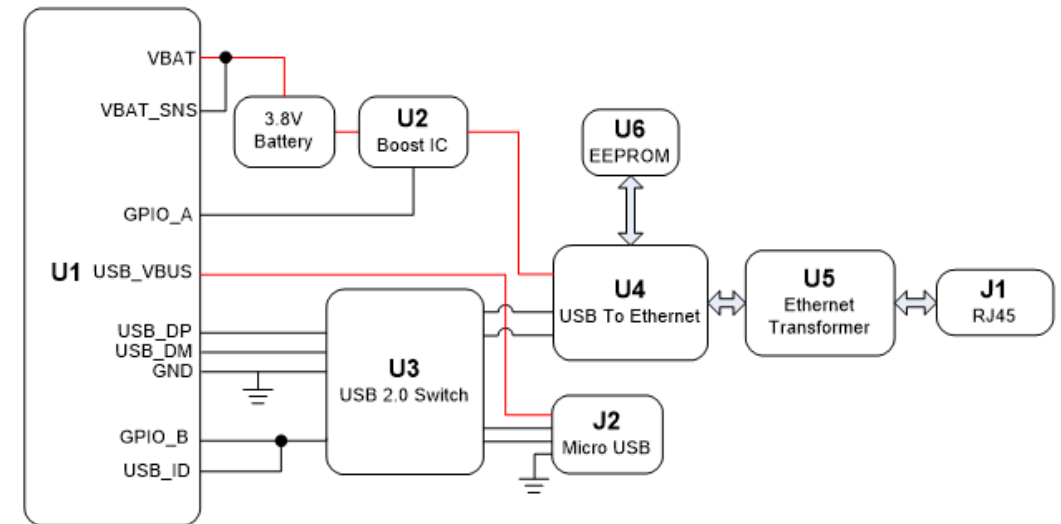


Smart modules have no Ethernet interface, while the USB can be converted to Ethernet when the smart modules work in Host mode. External conversion chipset is needed for the conversion.

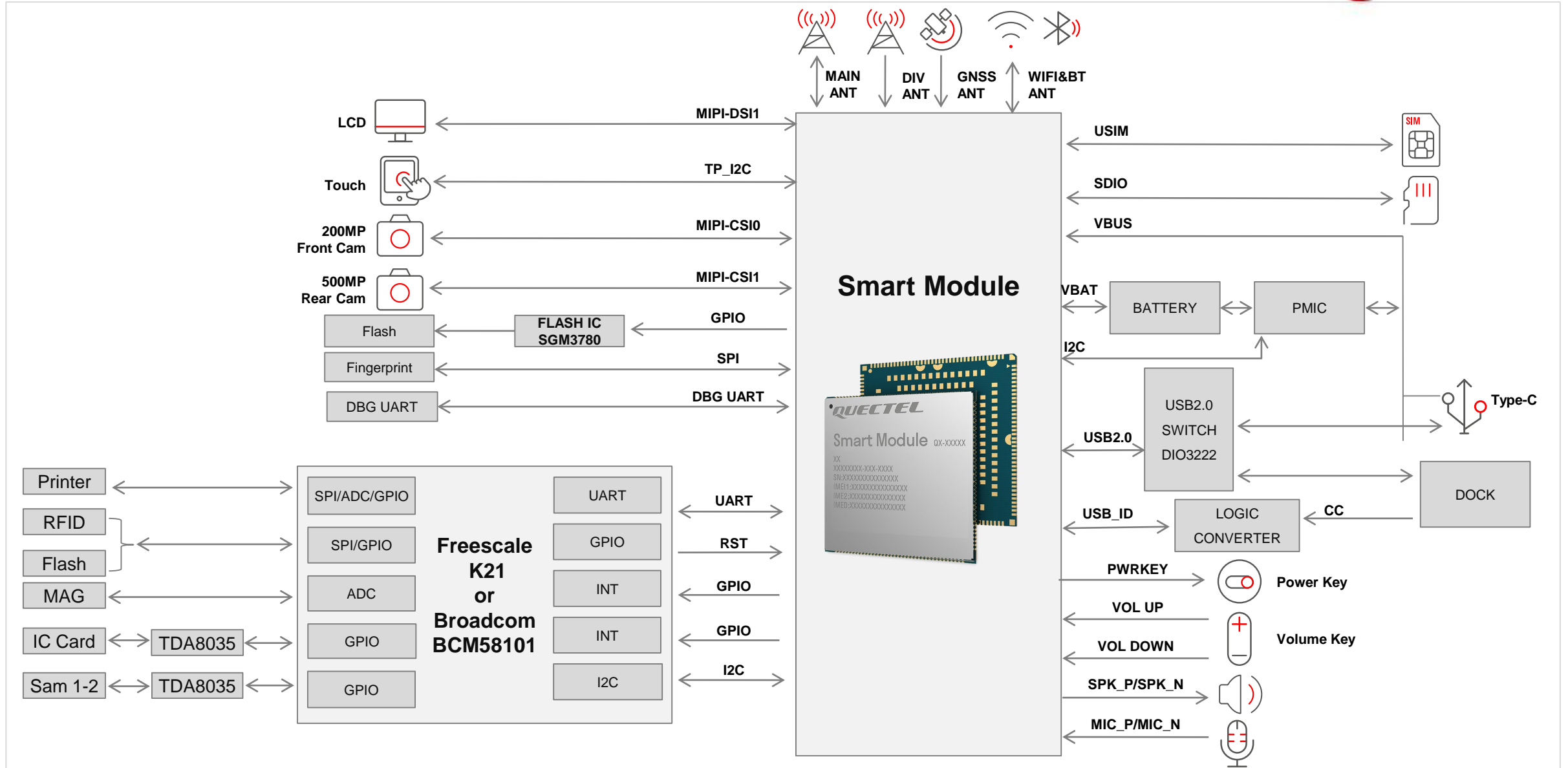
USB 3.0 to 10/ 100/ 1000M Ethernet



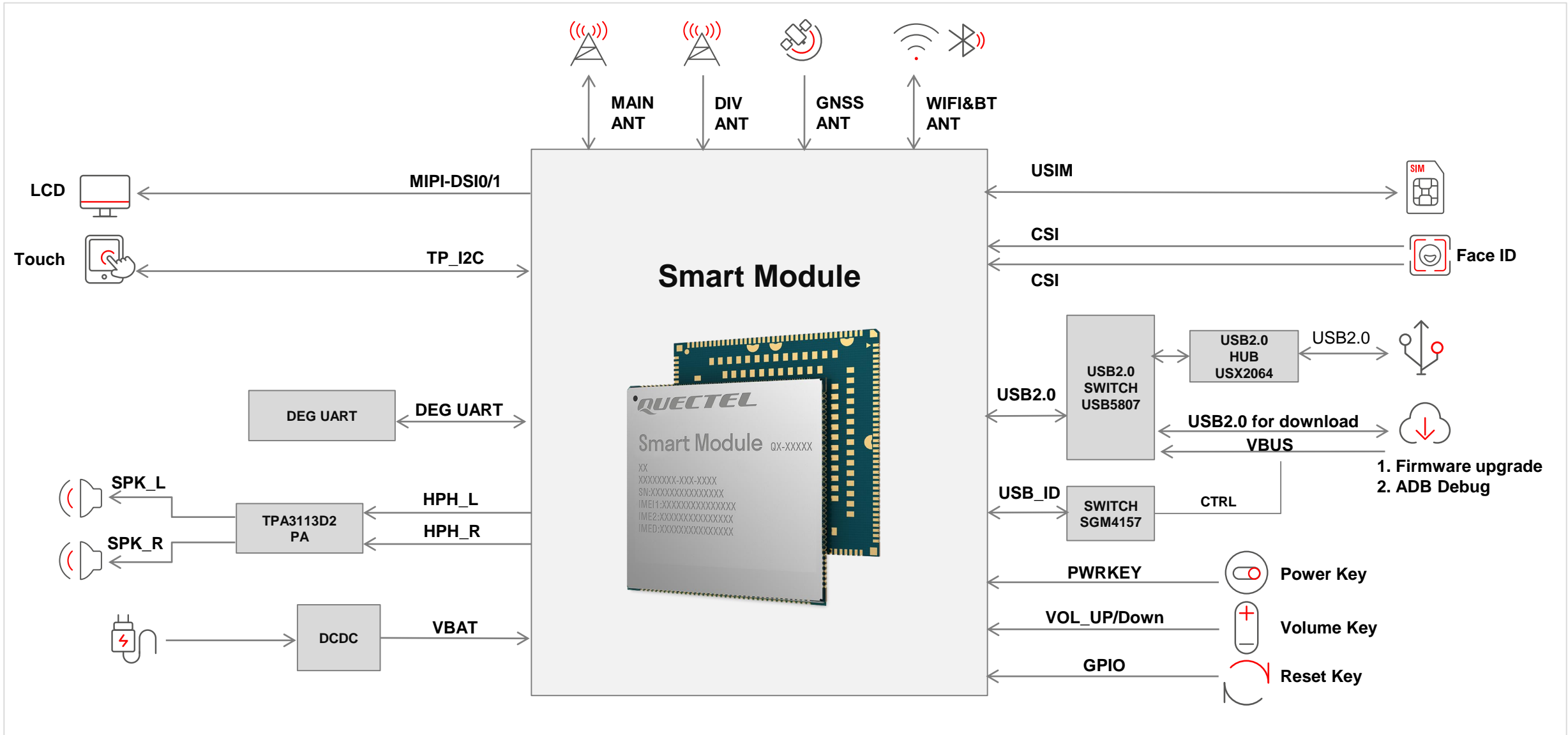
USB 2.0 to 10/ 100M Ethernet



Typical Solution – POS



Typical Solution – Access Control



Support Package



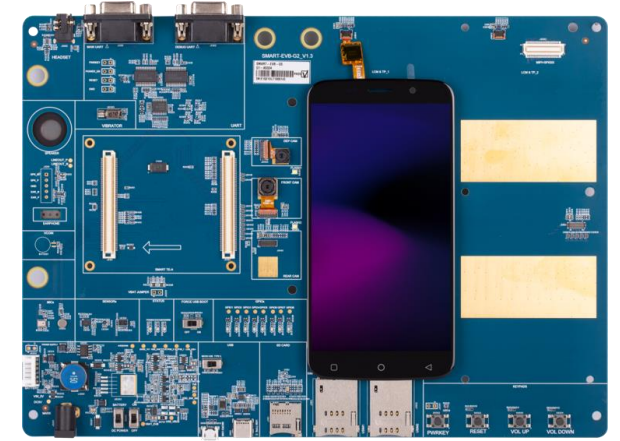
EVB



SMARTEVB-INT-KIT: SC20



SMARTEVB-DL-INT-KIT: SC600/ SC606T/ SC66



SMARTEVB-SLNC-INT-KIT: SC200R
SMARTEVB-G5-INT-KIT: SC200E/ SC206E/ SC200K/
SG150H/ SC200L/ SC680A/ SC686A/ SC668S/ SC696S



SMART5GEVB-INT-KIT: SG560D



SA800UEVBKIT: SG865W/ SG885G

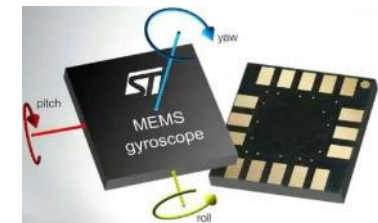
Key Components Supply Services



Customers may face difficulties in finding key components used in their board locally. To accelerate customers' development and shorten the time to market, Quectel will use the supply chain to provide the key components to customers.

✓ Main key components:

- LCM + TP
- Camera module
- Sensors, NFC ICs, extension ICs, etc.





Smart Solution Introduction

Smart Module Portfolio

Features & Comparison

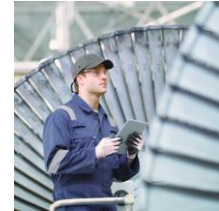
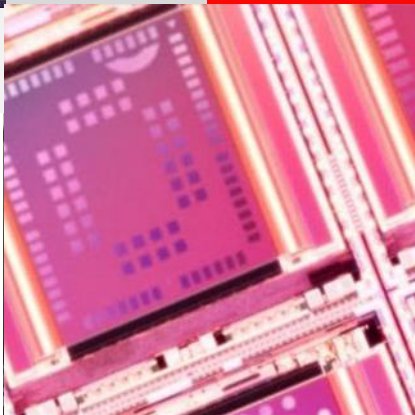
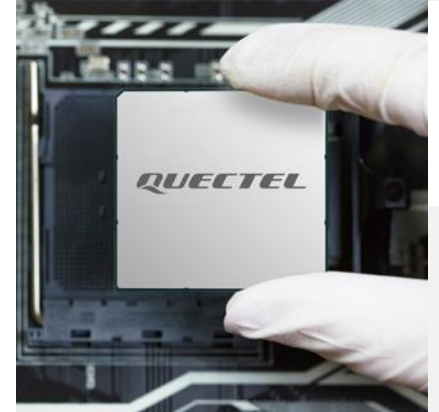
Typical Applications

Customer Support

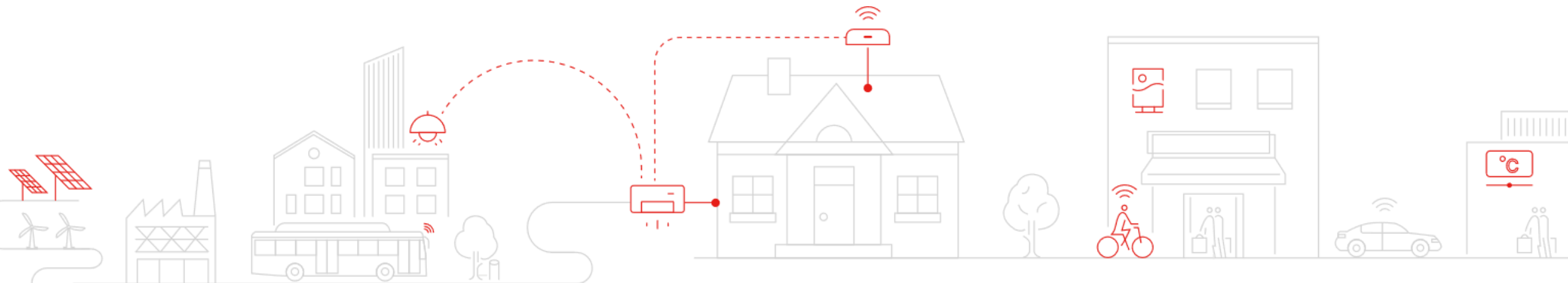
Enhancements

Specifications & Timelines

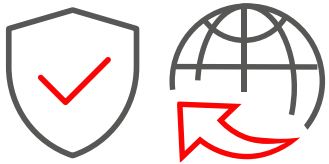
Build a Smarter World



Entry Level



SC200E/ SC206E Series Highlights

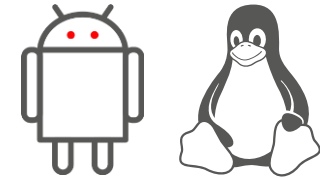


Multiple Variants:

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

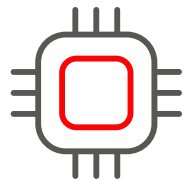


LCC + LGA Form Factor: 40.5 × 40.5 × 2.85 mm



Android or Linux OS:

- Android 12/ 13* / 14^① for SC200E
- Yocto Linux (Kernel 5.4) for SC206E



Chipset platform: QCM2290.
Entry level SoC chipset supporting multimedia, LTE Cat 4, Wi-Fi 802.11ac, Bluetooth and GNSS



Long life time:
Till the year of 2028



Compatible with SC20, SC200R, SC200L, SC200K series

SC200E/ SC206E Series Specifications



Variant		SC200E-GL/ SC206E-GL*	SC200E-EM/ SC206E-EM	SC200E-NA/ SC206E-NA	SC200E-JP	SC200E-CE	SC200E-WF/ SC206E-WF
Region		Global	EMEA/ Korea/ South Asia/ Latin America/ India/ Australia/ New Zealand/ South Africa	North America	Japan	China	Global
LTE	FDD Band	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 66/ 71	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 20/ 28	B2/ 4/ 5/ 7/ 12/ 13/ 14/ 17/ 25/ 26/ 66/ 71	B1/ 3/ 5/ 8/ 11/ 18/ 19/ 21/ 26/ 28	B1/ 3/ 5/ 8	-
	TDD Band	B34/ 38/ 39/ 40/ 41	B38/ 40/ 41	B41	B41	B34/ 38/ 39/ 40/ 41	-
UMTS	WCDMA Band	B1/ 2/ 4/ 5/ 6/ 8/ 19	B1/ 2/ 4/ 5/ 8	-	B1/ 6/ 8/ 19	B1/ 8	-
EVDO/ CDMA		-	-	-	-	BC0	-
GSM/ EDGE		Quad-band	Quad-band	-	-	900/ 1800 MHz	-
GNSS		Supported	Supported	Supported	Supported	Supported	-
Wi-Fi/ Bluetooth		Supported	Supported	Supported	Supported	Supported	Supported
Certification		Regulatory ^① : KC/ CE/ UKCA/ FCC/ IC/ JATE/ TELEC/ RCM/ Anatel	Carrier: Telstra ^① Regulatory: CE/ RCM/ GCF/ UKCA/ KC/ Anatel ^②	SC200E-NA Carrier: Verizon*/ AT&T/ T-Mobile Regulatory: FCC/ IC/ GCF/ PTCRB SC206E-NA Carrier *: Verizon/ AT&T/ T-Mobile Regulatory: FCC/ IC/ GCF/ PTCRB	Carrier: NTT DOCOMO* Regulatory: JATE/ TELEC	Regulatory: CCC/ SRRC/ NAL	Regulatory: KC/ IC/ FCC/ CE/ UKCA/ NCC/ JATE/ TELEC/ RCM/ NBTC ^{①②}
Project Stage		ES	MP	SC200E-NA: MP SC206E-NA: CS	CS	MP	MP

SC200E/ SC206E Series Features and Interfaces



Key Features		Interfaces	
CPU	QCM2290, Quad-core ARM Cortex-A53 64-bit CPU @ 2.0 GHz	LCM	4-lane MIPI_DSI, HD+ (1680 × 720) @ 60 fps
GPU	Qualcomm® Adreno™ 702 Graphics Processing Unit (GPU) with 64-bit addressing	Camera	2 groups of 4-lane MIPI_CSI, up to 2.5 Gbps/ lane Support 2 or 3 cameras, up to 25 MP or 13 MP + 13 MP with dual ISP
Video	Encode: 1080P 8-bit H.264/ H.265 @ 30 fps Decode: 1080P 8-bit H.264/ H.265 VP9 @ 30 fps	Touch Panel	Capacitive touch panel, controlled by I2C
Memory	2 GB LPDDR4X + 16 GB eMMC (Default) 3 GB LPDDR4X + 32 GB eMMC (Optional)	Audio	Analog channels: 3 inputs: MIC1, MIC2, MIC3 (including one noise-canceling MIC) 3 outputs: Line Out, earpiece, headphone
OS	Android 12/ 13* / 14 ^① for SC200E Yocto Linux (kernel 5.4) for SC206E	USB	× 1 USB 2.0/ 3.1 (Type-C)
Wi-Fi	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac 433 Mbps, STA/ AP/ P2P	(U)SIM	× 2 Support 1.8/ 2.95 V (U)SIM cards, with (U)SIM card detection function DSDS supported
Bluetooth	Bluetooth 2.1 EDR/ 3.0 HS/ 4.2 LE/ 5.0 LE	UART	× 3 Up to 4 Mbps, one of them supports hardware flow control
GNSS^②	GPS/ BDS/ GLONASS/ Galileo/ QZSS/ SBAS	SD Card	× 1 SD 3.0, 4-bit SDIO
Modem	3GPP Release 10	I2C/ SPI/ ADC/ GPIO/ PWRKEY	Supported
Battery Charge	Supported	Antenna	× 4 Main/ Rx-diversity/ GNSS/ Wi-Fi & Bluetooth

*: in progress

①: TBD.

②: GNSS is not supported on SC200E-WF/ SC206E-WF; GNSS (L1 + L5) is supported on SC200E-NA/ SC206E-NA and SC200E-GL only.

SC200E-EM/ -NA Timelines



2022									2023						
Apr.	May	Jun.	Jul.	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar.	Apr.	May	Jun.	Jul.

SC200E-EM

MP

Certification

Carrier	Telstra	-----	TBD
Regulatory	GCF/ CE/ RCM/ KC/ UKCA/ Anatel	-----	Completed

SC200E-NA

MP

Certification

Carrier	Verizon	-----	●	-----	Complete (Planned)
			Start	----->	
	AT&T/ T-Mobile	-----			Completed
Regulatory	GCF/ PTCRB/ FCC/ IC	-----			Completed

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".

SC200E-JP/ GL Timelines



2022					2023									
Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.

SC200E-JP

Project Schedule



Certification

JATE/ TELEC/ NTT DOCOMO Completed

SC200E-GL

Project Schedule



Certification

KC/ CE/ UKCA/ FCC/ IC/ JATE/ TELEC/ RCM/ Anatel TBD

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".

SC206E-NA/ GL Timelines



2022					2023								
Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.

SC206E-NA

Project Schedule



Certification



SC206E-GL

Project Schedule



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.

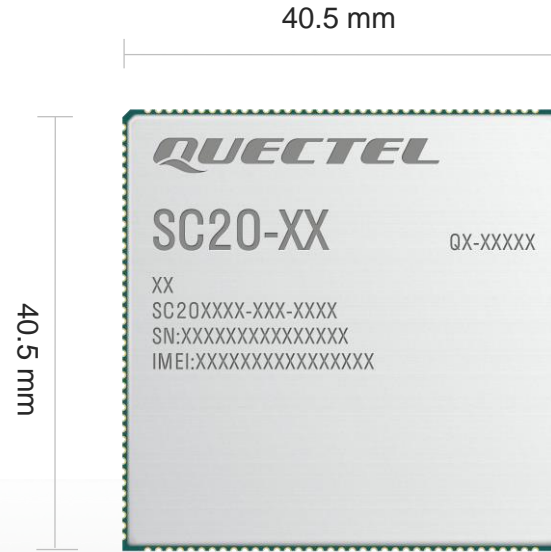
MP: Hardware and software ready for mass production. For certification status, please refer to the "certification schedule".

SC20 Series Highlights

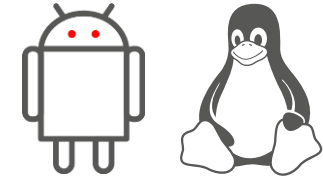


Multiple Variants:

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

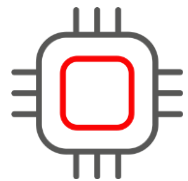


LCC + LGA Form Factor: 40.5 × 40.5 × 2.8 mm



Android or Linux OS:

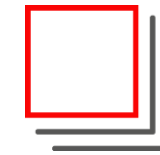
- Android 7.1/ 8.1
- Yocto Linux (Kernel 3.18)



Chipset platform: MSM8909.
Entry level SoC chipset supporting multimedia, LTE Cat 4, Wi-Fi 802.11n, Bluetooth and GNSS



Long life time:
Till the year of 2025



Compatible with SC200R, SC200E, SC206E, SC200L, SC200K series

SC20 Series Specifications



Variant		SC20-E/ -EL/ -EX ^①	SC20-A/ -AL/ -AX ^①	SC20-J	SC20-AU	SC20-CE	SC20-W/ -WL ^①
Region		EMEA/ Korea/ Thailand/ India/ Vietnam	North America	Japan	Australia/ Brazil	China	Global
LTE	FDD Band	B1/ 3/ 5/ 7/ 8/ 20	B2/ 4/ 5/ 7/ 12/ 13/ 25/ 26	B1/ 3/ 8/ 18/ 19/ 26	B1/ 3/ 5/ 7/ 8/ 28	B1/ 3/ 5/ 8	-
	TDD Band	B38/ 40/ 41	-	B41	B40	B38/ 39/ 40/ 41	-
UMTS	WCDMA Band	B1/ 5/ 8	B1/ 2/ 4/ 5/ 8 ^②	B1/ 6/ 8/ 19	B1/ 2/ 5/ 8	B1/ 8	-
	TD-SCDMA Band	-	-	-	-	B34/ 39	-
EVDO/ CDMA		-	-	-	-	BC0	-
GSM/ EDGE		Quad-band	850/ 1900 MHz ^②	-	Quad-band	900/ 1800 MHz	-
Embedded GNSS		Supported	Supported	Supported	Supported	Supported	-
Wi-Fi/ Bluetooth		Supported	Supported	Supported	Supported	Supported	Supported
Certification		Regulatory: SC20-E: GCF/ CE/ UKCA/ KC/ NBTC SC20-EL: GCF/ CE/ UKCA/ RCM SC20-EX: GCF/ CE/ UKCA/ RCM	Carrier: SC20-A: Verizon/ AT&T/ T-Mobile [®] / Rogers/ Telus [®] SC20-AL: Verizon/ AT&T SC20-AX: Verizon/ AT&T Regulatory: SC20-A: GCF/ PTCRB/ FCC/ IC SC20-AL: GCF/ PTCRB/ FCC/ IC SC20-AX: GCF/ PTCRB/ FCC/ IC	Carrier: NTT DOCOMO/ SoftBank/ KDDI Regulatory: JATE/ TELEC	Carrier: Telstra Regulatory: GCF/ CE/ Anatel/ NCC/ RCM	Regulatory: SRRC/ NAL/ CCC	Regulatory: SC20-W: CE/ FCC/ UKCA/ IC/ Anatel/ JATE/ TELEC/ RCM SC20-WL: CE/ FCC/ UKCA/ IC/ Anatel/ JATE/ TELEC/ RCM
Project Stage		MP	MP	MP	MP	MP	MP

①: SC20-EL/ -EX/ -AL/ -AX/ -WL are variants with Yocto Linux OS inside.

②: SC20-AX doesn't support 2G or 3G bands.

③: T-Mobile/ Telus for Data Only version only.

SC20 Series Features and Interfaces



Key Features		Interfaces	
CPU	MSM8909, Quad-core A7, up to 1.1 GHz	LCM	4-lane MIPI_DSI, 1.5 Gbps/ lane, HD (720P) @ 60 fps Support MIPI to RGB, MIPI to LVDS and MIPI to HDMI
GPU	Qualcomm® Adreno™ 304 Graphics Processing Unit (GPU), up to 409.6 MHz	Camera	2-lane rear camera and 1-lane front camera or 4-lane rear camera only MIPI_CSI, 1.5 Gbps/ lane, up to 8 MP, Bayer/ YUV format
Video	Encode: <ul style="list-style-type: none"> 720P (H.264) @ 30 fps WVGA (MPEG-4/ VP8) @ 30 fps Decode: <ul style="list-style-type: none"> 1080P (H.264/ MPEG-4/ VP8/ H.265/ DivX4/ 5/ 6) @ 30 fps WVGA (H.263) @ 30 fps 	Touch Panel	Capacitive touchscreen, I2C controls
Memory	1 GB LPDDR3 + 8 GB eMMC 2 GB LPDDR3 + 16 GB eMMC 512 MB LPDDR2 + 512 MB NAND FLASH (only for SC20-EX/ -AX)	Audio	Analog channels: Two inputs: MIC1, MIC2 Three outputs: speaker, earpiece, headphone
OS	Android 7.1/ 8.1 in SC20-E/ -A/ -J/ -AU/ -CE/ -W Yocto Linux (Kernel 3.18) in SC20-EL/ -EX/ -AL/ -AX/ -WL	USB	× 1 USB 2.0, supports USB OTG, High Speed 480 Mbps
Wi-Fi	2.4 & 5 GHz; 802.11a/ b/ g/ n 150 Mbps; STA/ AP/ P2P	(U)SIM	× 2 Support 1.8/ 3 V (U)SIM cards, with (U)SIM card detection function DSDS supported
Bluetooth	Bluetooth 2.1 EDR/ 3.0 HS/ 4.2 LE Support a maximum of 10 ACL/ EL/ SCO links	UART	× 2 Support up to 4 Mbps with hardware flow control
GNSS ①	GPS/ BDS/ GLONASS	SD Card	× 1 SD 3.0, 4-bit SDIO
Modem	3GPP Release 10 compliant	I2C/ SPI/ ADC/ GPIO/ PWRKEY	Supported
Battery Charge	Supported	Antenna	× 4 Main/ Rx-diversity/ GNSS/ Wi-Fi & Bluetooth

SG150H Series Highlights



Multiple Variants:

- Multi-region variants with global certifications



35 mm

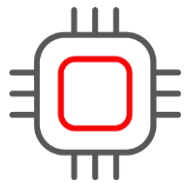
31 mm

LGA Form Factor : 35 × 31 × 2.65 mm

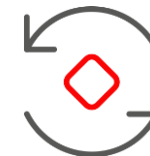


Android OS:

Yocto Linux (Kernel 4.14)



Chipset platform: SL8521E (Unisoc)
Powerful system performance, multimedia,
LTE Cat 4
Wi-Fi 4 (802.11b/g/n), Bluetooth, GNSS



Long life time:
Till the year of 2027

* : In progress. ①: TBD.

SG150H Series Specification



Variants		SG150H-EU	SG150H-AU
Region		EMEA/APAC	Latin America
LTE	LTE-FDD	B1/ 3/ 5/ 7/ 8/ 20	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 28
	LTE-TDD	B38/ 40/ 41	-
WCDMA		B1/ 5/ 8	B1/ 2/ 4/ 5/ 8
GSM/EDGE		900/ 1800 MHz	Quad-band
GNSS		GPS/ GLONASS or GPS/ BDS	GPS/ GLONASS or GPS/ BDS
Wi-Fi/ Bluetooth		Supported	Supported
Certification		CE	Anatel
Project Stage		MP	MP

SG150H Series Features and Interfaces



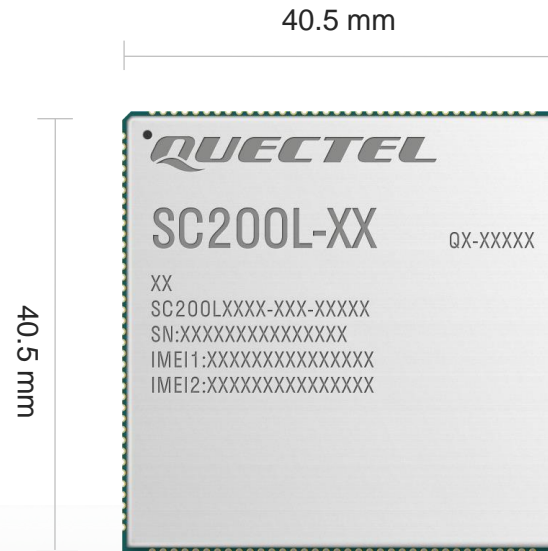
Key Features		Interfaces	
CPU	SL8521E, dual-core ARM Cortex-A53 64-bit CPU @ 1.3GHz	LCM	MIPI_DSI interface supports 640 × 480 SPI interface supports 320 × 240
GPU	Mali-T820 MP1 @ 384 MHz	Camera	1 groups of 2-lane MIPI_CSI, 1 × ISP support Max. 5MP camera
Video	Encode: • 720P (H.264) @ 30 fps Decode: • 720P (H.264) @ 30 fps	Touch Panel	Capacitive touch panel, I2C controls
Memory	256 MB LPDDR2 + 512 MB NAND	Audio	Analog channels: • 2 inputs: MIC1, MIC2 • 1 outputs: speaker
OS	Yocto Linux (Kernel 4.14)	USB	× 1 USB 2.0, supports USB OTG
Wi-Fi	2.4 GHz, 802.11b/g/n	(U)SIM	× 2
Bluetooth	Bluetooth 2.1 EDR/ 3.0 HS/ 4.2 LE	UART	× 3 one of them supports hardware flow control
GNSS	GPS/ GLONASS or GPS/ BDS	SD Card	× 2 SDIO • 1 group general purpose SDIO • 1 group SDIO interface share with LCD SPI interface
Modem	3GPP Release 10 compliant	I2C/ SPI/ ADC/ GPIO/ PWRKEY	Supported
Battery Charge	Supported	Antenna	× 3 Main/ GNSS/ Wi-Fi & Bluetooth

SC200L Series Highlights



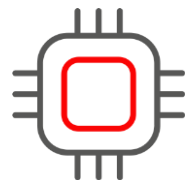
Multiple Variants:

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



Android OS:
Android 10

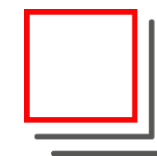
LCC + LGA Form Factor: 40.5 × 40.5 × 2.85 mm



Chipset platform: SL8541E.
Entry level SoC chipset supporting multimedia, LTE Cat 4, Wi-Fi 802.11n, Bluetooth and GNSS



Long life time:
Till the year of 2027



Compatible with SC20, SC200R, SC200E, SC206E, SC200K series

SC200L Series Specifications



Variant		SC200L-EU	SC200L-AU	SC200L-CE	SC200L-WF
Region		EMEA/ APAC	Latin America	China/ India	Global
LTE	FDD Band	B1/ 3/ 5/ 7/ 8/ 20/ 28	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 28	B1/ 3/ 5/ 8	-
	TDD Band	B38/ 40/ 41	B38	B34/ 38/ 39/ 40/ 41	-
UMTS	WCDMA Band	B1/ 5/ 8	B1/ 2/ 4/ 5/ 8	B1/ 8	-
EVDO/ CDMA		-	-	-	-
GSM/ EDGE		900/ 1800 MHz	Quad-band	900/1800 MHz	-
Embedded GNSS		Supported	Supported	Supported	-
Wi-Fi/ Bluetooth		Supported	Supported	Supported	Supported
Certification		Regulatory: CE/ GCF	Regulatory: Anatel	Regulatory: CCC/ SRRC ^① / NAL ^①	Regulatory: CE ^① / FCC ^① / IC ^① / RCM ^①
Project Stage		MP	MP	MP	MP

SC200L Series Features and Interfaces



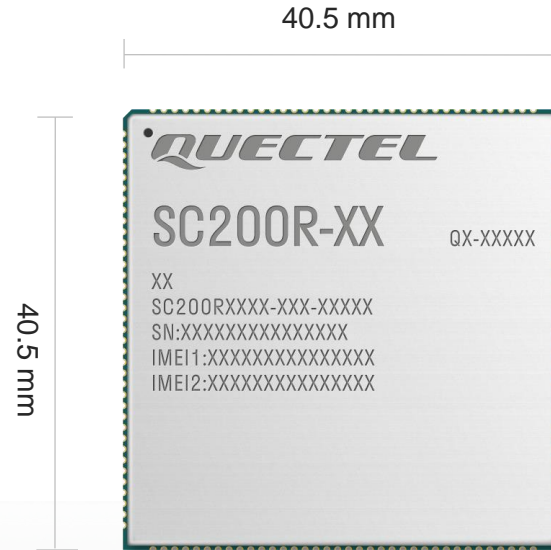
Key Features		Interfaces	
CPU	SL8541E, Quad-core ARM Cortex-A53 64-bit CPU @ 1.4 GHz	LCM	4-lane MIPI_DSI, HD+ (1440 × 720) @ 60 fps
GPU	ARM Mali-T820 as 3D graphics accelerator, up to 680 MHz	Camera	2 groups of MIPI_CSI (2-lane + 1-lane), up to 1.5 Gbps/ lane 1 × ISP, 8 MP for rear camera (2-lane) and 2 MP for front camera (1-lane)
Video	Encode: <ul style="list-style-type: none"> • 1080P (H.264) @ 30 fps • WVGA (MPEG-4/ VP8) @ 30 fps Decode: <ul style="list-style-type: none"> • 1080P (H.264/ MPEG-4/ VP8/ H.265/ DivX4/5/6) @ 30 fps • WVGA (H.263) @ 30 fps 	Touch Panel	Capacitive touch panel, I2C controls
Memory	1 GB LPDDR3 + 8 GB eMMC 2 GB LPDDR3 + 16 GB eMMC	Audio	Analog channels: 3 inputs: MIC1, MIC2, MIC3 (including one noise-canceling MIC) 3 outputs: speaker, earpiece, headphone
OS	Android 10	USB	× 2 USB 2.0 USB1 supports USB OTG, does not support USB hub; up to 480 Mbps USB2 supports USB Host mode and USB hub; up to 100 Mbps
Wi-Fi	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac 433 Mbps; STA/ AP/ P2P	(U)SIM	× 2 Support 1.8/ 2.95 V (U)SIM cards, with (U)SIM card detection function DSDS supported
Bluetooth	Bluetooth 2.1 EDR/ 3.0 HS/ 4.2 LE/ 5.0 LE Support a maximum of 10 ACL/ EL/ SCO links	UART	× 2 Up to 3.25 Mbps; UART0 supports hardware flow control
GNSS^①	GPS/ GLONASS or GPS/ BDS	SD Card	× 1 SD 3.0, 4-bit SDIO
Modem	3GPP Release 10 compliant	I2C/ SPI/ ADC/ GPIO/ PWRKEY	Supported
Battery Charge	Supported	Antenna	× 4 Main/ Rx-diversity/ GNSS/ Wi-Fi & Bluetooth

SC200R Series Highlights



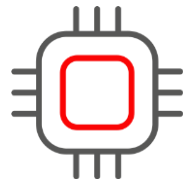
Multiple Variants:

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



Android OS:
Android 10

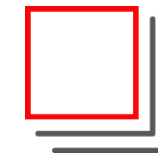
LCC + LGA Form Factor: 40.5 × 40.5 × 2.85 mm



Chipset platform: QCM2150.
Entry level SoC chipset supporting multimedia, LTE Cat 4, Wi-Fi 802.11n, Bluetooth and GNSS



Long life time:
Till the year of 2028



Compatible with SC20, SC200E, SC206E, SC200L, SC200K series

SC200R Series Specifications



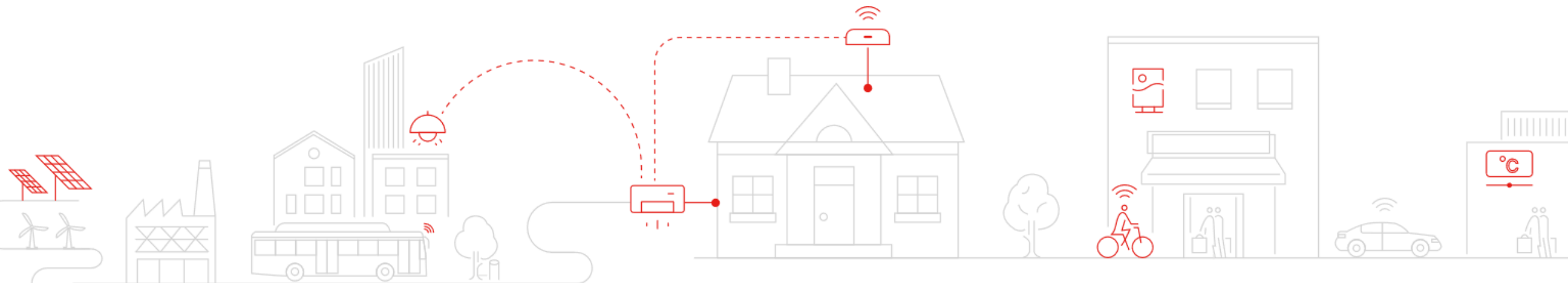
Variant		SC200R-EM	SC200R-NA	SC200R-CE	SC200R-WF
Region		EMEA/ India/ Korea/ South Asia/ Latin America/ Australia/ New Zealand/ South Africa	North America	China	Global
LTE	FDD Band	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 20/ 28	B2/ 4/ 5/ 7/ 12/ 13/ 14/ 17/ 25/ 26/ 66/ 71	B1/ 3/ 5/ 8	-
	TDD Band	B38/ 40/ 41	B41	B34/ 38/ 39/ 40/ 41	-
UMTS	WCDMA Band	B1/ 2/ 4/ 5/ 8	B2/ 4/ 5	B1/ 8	-
EVDO/ CDMA		-	-	BC0	-
GSM/ EDGE		Quad-band	-	900/ 1800 MHz	-
Embedded GNSS		Supported	Supported	Supported	-
Wi-Fi/ Bluetooth		Supported	Supported	Supported	Supported
Certification		Carrier: Telstra Regulatory: GCF/ CE/ RCM/ Anatel/ KC	Carrier: Verizon/ AT&T/ T-Mobile ^① Regulatory: GCF/ PTCRB/ FCC/ IC	Regulatory: CCC/ SRRC/ NAL ^①	Regulatory: CE/ FCC/ IC/ RCM
Project Stage		MP	MP	MP	MP

SC200R Series Features and Interfaces



Key Features		Interfaces	
CPU	QCM2150, Quad-core ARM Cortex-A53 64-bit CPU @ 1.3 GHz	LCM	4-lane MIPI_DSI, HD+ (1440 × 720) @ 60 fps Wi-Fi display: 1080P @ 30 fps (UBWC)
GPU	Qualcomm® Adreno™ 308 Graphics Processing Unit (GPU) with 64-bit addressing, up to 485 MHz	Camera	2 groups of 4-lane MIPI_CSI, up to 2.1 Gbps/ lane, 2 × ISP Support 2 or 3 cameras, up to 13 MP with dual ISP
Video	Encode: <ul style="list-style-type: none"> 1080P (H.264) @ 30 fps WVGA (MPEG-4/ VP8) @ 30 fps Decode: <ul style="list-style-type: none"> 1080P (H.264/ MPEG-4/ VP8/ H.265/ DivX4/ 5/ 6) @ 30 fps WVGA (H.263) @ 30 fps 	Touch Panel	Capacitive touch panel, I2C controls
Memory	1 GB LPDDR3 + 8 GB eMMC 2 GB LPDDR3 + 16 GB eMMC	Audio	Analog channels: 3 inputs: MIC1, MIC2, MIC3 (including one noise-canceling MIC) 3 outputs: speaker, earpiece, headphone
OS	Android 10	USB	× 1 USB 2.0, supports USB OTG
Wi-Fi	2.4 & 5 GHz, 802.11a/ b/ g/ n 150 Mbps; STA/ AP/ P2P	(U)SIM	× 2 Support 1.8/ 2.95 V (U)SIM cards, with (U)SIM card detection function DSDS supported
Bluetooth	Bluetooth 2.1 EDR/ 3.0 HS/ 4.2 LE Support a maximum of 10 ACL/ BEL/ SCO links	UART	× 3 Up to 4 Mbps, one of them supports hardware flow control
GNSS^①	GPS/ BDS/ GLONASS or GPS/ BDS/ Galileo	SD Card	× 1 SD 3.0, 4-bit SDIO
Modem	3GPP Release 10 compliant	I2C/ SPI/ ADC/ GPIO/ PWRKEY	Supported
Battery Charge	Supported	Antenna	× 4 Main/ Rx-diversity/ GNSS/ Wi-Fi & Bluetooth

Medium Level

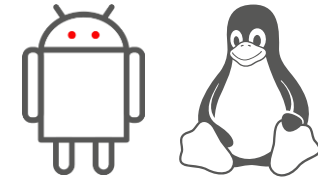


SC680A/ SC686A Series Highlights



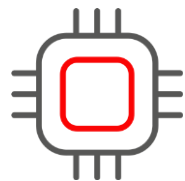
Multiple Variants:

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



Android or Linux OS:

- Android 12/ 13/ 14^① for SC680A
- Yocto Linux (Kernel 5.4) for SC686A



Chipset platform: QCM4290.
Powerful system performance,
multimedia, LTE Cat 6, Wi-Fi
802.11ac, Bluetooth, GNSS L1+L5



Long life time:
Till the year of 2028



Compatible with SC600Y,
SC600T, SC606T, SC66,
SC668S, SC696S series

* : In progress

①: TBD.

SC680A/ SC686A Series Specifications



Variant		SC680A-EM/ SC686A-EM	SC680A-NA/ SC686A-NA	SC680A-JP*	SC680A-WF/ SC686A-WF
Region		EMEA/ Korea/ South Asia/ Latin America/ India/ Australia/ New Zealand/ South Africa	North America	Japan	Global
LTE	FDD Band	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 20/ 28	B2/ 4/ 5/ 7/ 12/ 13/ 14/ 17/ 25/ 26/ 66/ 71	B1/ 3/ 5/ 8/ 11/ 18/ 19/ 21/ 26/ 28	-
	TDD Band	B38/ 40/ 41	B41	B41	-
UMTS	WCDMA Band	B1/ 2/ 4/ 5/ 8	-	B1/ 6/ 8/ 19	-
GSM/ EDGE		Quad-band	-	-	-
GNSS		Supported	Supported	Supported	-
Wi-Fi/ Bluetooth		Supported	Supported	Supported	Supported
Certification		Carrier: Telstra ^① Regulatory: GCF/ CE/ UKCA/ KC/ RCM	Carrier: SC680A-NA: Verizon*/ AT&T/ T-Mobile SC686A-NA: Verizon*/ AT&T*/ T-Mobile* Regulatory: FCC/ IC/GCF/ PTCRB	Carrier: NTT DOCOMO*/ KDDI* Regulatory: JATE*/ TELEC*	Regulatory: CE/ UKCA/ KC/ FCC/ IC/ JATE/ TELEC/ RCM
Project Stage		MP	MP	Developing	MP

* : In progress or planning.

①: TBD.

SC680A/ SC686A Series Features and Interfaces



Key Features		Interfaces	
CPU	QCM4290, A customized 64-bit Arm v-8.0 compliant applications processor (Qualcomm® Kryo™ 260 CPU) Kryo 260 Gold: quad high-performance cores 2.0 GHz Kryo 260 Silver: quad low-power cores 1.8 GHz	LCM	4-lane MIPI_DSI; DSI D-PHY 1.2; Split link supported FHD+ (1080 × 2520) aspect ratio, up to 10 bpc QSEED4, 4 L, Q-SYNC, SVI, CABL, and FOSS
GPU	Qualcomm® Adreno™ GPU 610 graphics processing unit (GPU) at 950 MHz	Camera	3 × ISP, (13 MP + 13 MP) or (25 MP + 5 MP) at 30 fps or (16 MP + 16 MP) @ 24 fps 3 groups of 4-lane MIPI_CSI, up to 2.1 Gbps/ lane Support 3 or 4 cameras, up to 25 MP with dual ISP
Video	Encode: • 1080p60 8 bit H.265 • 1080p60 8 bit H.264 Decode: • 1080p60 8 bit H.265, VP9 • 1080p60 8 bit H.264	Touch Panel	Capacitive touch panel, I2C controls
Memory	4 GB LPDDR4X + 64 GB eMMC 4 GB LPDDR4X + 64 GB UFS (for SC680A-JP/ WF) 3 GB LPDDR4X + 32 GB eMMC 2 GB LPDDR4X + 16 GB eMMC(for SC686A only)	Audio	Analog channels: 3 inputs: MIC1, MIC2, MIC3 (including one noise-canceling MIC) 3 outputs: speaker, earpiece, headphone
OS	Android 12/ 13/ 14 ^① for SC680A Yocto Linux (kernel 5.4) for SC686A	USB	× 1 USB 2.0/ 3.1 (Type-C)
Wi-Fi	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac	(U)SIM	× 2 Support 1.8/ 2.95 V (U)SIM cards, with (U)SIM card detection function DSDS supported
Bluetooth	Bluetooth 2.1 EDR/ 3.0 HS/ 4.2 LE/ 5.1 LE	UART	× 3 Up to 4 Mbps, one of them supports hardware flow control
GNSS^①	• GPS/ BDS/ GLONASS/ Galileo/ NavIC/ QZSS/ SBAS • L1 + L5	SD Card	× 1 SD 3.0, 4-bit SDIO
Modem	3GPP Release 10 with selected Release 12 features	I2C/ SPI/ ADC/ GPIO/ PWRKEY	Supported
Battery Charge	Supported	Antenna	× 4 Main/ Rx-diversity/ GNSS/ Wi-Fi & Bluetooth

SC680A Series Timelines



2022				2023									
Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.

SC680A-NA/ EM/ WF MP

SC680A-NA Certification



SC680A-EM Certification



SC680A-WF Certification



SC680A-JP Timeline



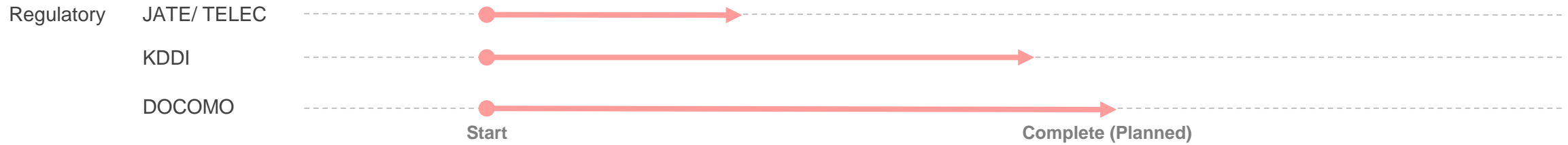
2023									2024				
Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May

SC680A-JP

Project Schedule



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".

SC686A-NA Timeline

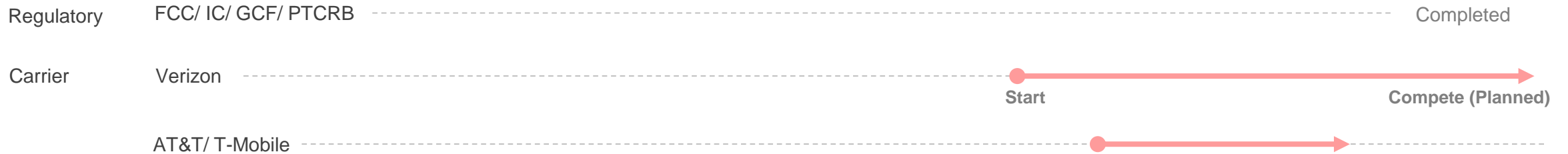


2022							2023							
Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.

SC686A-NA

MP

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.

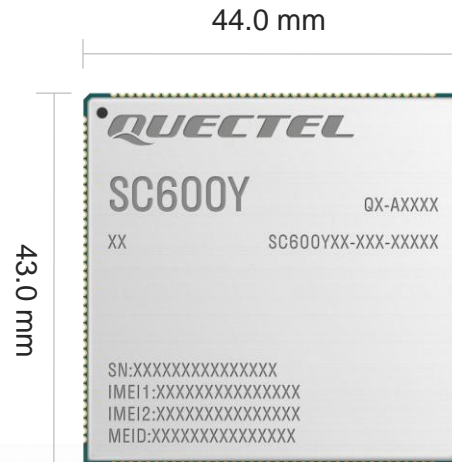
MP: Hardware and software ready for mass production. For certification status, please refer to the "certification schedule".

SC600Y Series Highlights



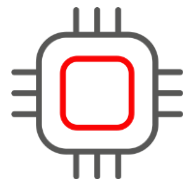
Multiple Variants:

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



Android
Android 9/ 10

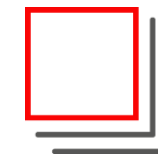
LCC + LGA Form Factor: 43.0 × 44.0 × 2.85 mm



Chipset platform: SDM450
Powerful system performance,
multimedia, LTE Cat 6, Wi-Fi 802.11ac,
Bluetooth, GNSS



Long life time:
Till the year of 2025



Compatible with SC600T,
SC606T, SC66, SC680A,
SC686A, SC668S, SC696S
series

SC600Y Series Specifications



Variant		SC600Y-EM	SC600Y-NA	SC600Y-JP	SC600Y-WF
Region		EMEA/ India/ Korea/ South Asia/ Latin America/ Australia/ New Zealand/ South Africa	North America	Japan	Global
LTE	FDD Band	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 20/ 28	B2/ 4/ 5/ 7/ 12/ 13/ 14/ 17/ 25/ 26/ 66/ 71	B1/ 3/ 5/ 8/ 11/ 18/ 19/ 21/ 26/ 28	-
	TDD Band	B38/ 39/ 40/ 41	B41	B41	-
UMTS	WCDMA Band	B1/ 2/ 4/ 5/ 8	B2/ 4/ 5	B1/ 6/ 8/ 19	-
	TD-SCDMA Band	-	-	-	-
CDMA		-	-	-	-
GSM/ EDGE		Quad-band	-	-	-
Embedded GNSS		Supported	Supported	Supported	-
Wi-Fi/ Bluetooth		Supported	Supported	Supported	Supported
Certification		Carrier: Telstra Regulatory: GCF/ CE/ UKCA/ Anatel/ KC/ NCC/ RCM	Carrier: Verizon/ AT&T/ T-Mobile/ Sprint Regulatory: GCF/ PTCRB/ FCC/ IC/ IFETEL	Carrier: NTT DOCOMO/ KDDI Regulatory: JATE/ TELEC	Regulatory: CE/ FCC/ IC/ KC/ JATE/ TELEC/ RCM/ UKCA
Project Stage		MP	MP	MP	MP

SC600Y Series Features and Interfaces



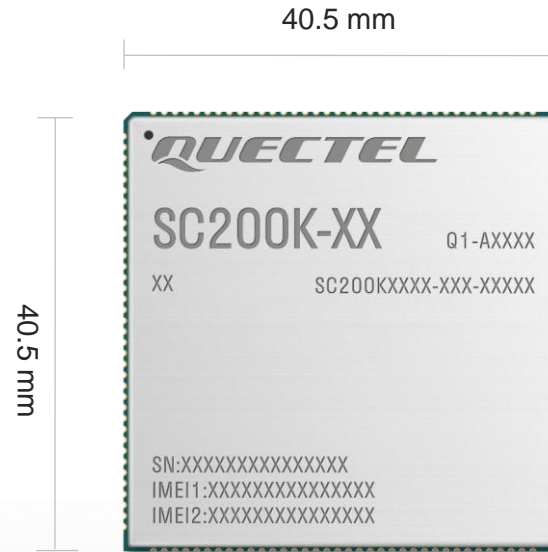
Key Features		Interfaces	
CPU	SDM450, Octa-core ARM Cortex-A53 64-bit CPU @ 1.8 GHz	LCM	Dual LCDs for independent display: dual 4-lane MIPI_DSI; WUXGA (1920 × 1200) @ 60 fps for primary display and FHD (1920 × 1080) @ 60 fps for secondary display Wi-Fi display: 1080P @ 30 fps (UBWC)
GPU	Qualcomm® Adreno™ 506 graphics processing unit (GPU) with 64-bit addressing	Camera	3 groups of 4-lane MIPI_CSI, up to 2.1 Gbps per lane. 2 × ISP Support three cameras (4-lane + 4-lane + 4-lane) or four cameras (4-lane + 4-lane + 2-lane + 1-lane) Up to 21 MP with dual ISP
Video	Encode and Decode: <ul style="list-style-type: none"> Up to 1080P @ 60 fps High frame rate encoder: 720P @ 120 fps; 60 Mbps; Maximum 972000 macro block/s 1080P @ 60 fps decode + 1080P @ 30 fps encode 	Touch Panel	× 2 Capacitive touchscreen, I2C controls
Memory	2 GB LPDDR3X + 16 GB eMMC	Audio	Analog channels: Three inputs: MIC1, MIC2, MIC3 (including one noise-canceling MIC) Three outputs: speaker, earpiece, headphone
OS	Android 9/ 10	USB	× 1 USB 2.0/ 3.0 (Type-C), USB OTG + Charge
Wi-Fi	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac 433 Mbps, STA/ AP/ P2P	(U)SIM	× 2 Support 1.8/ 2.95 V (U)SIM cards, with (U)SIM card detection function DSDS supported
Bluetooth	Bluetooth 2.1 EDR/ 3.0 HS/ 4.2 LE Support a maximum of 10 ACL/ EL/ SCO links	UART	× 4 Up to 4 Mbps, two of them support hardware flow control
GNSS^①	GPS/ BDS/ GLONASS or GPS/ BDS/ Galileo	SD Card	SD 3.0, 4-bit SDIO
Modem	3GPP Release 10 compliant	I2C/ SPI/ ADC/ GPIO/ PWRKEY	Supported
Battery Charge	Supported	Antenna	× 4 Main/ Rx-diversity/ GNSS/ Wi-Fi & Bluetooth

SC200K Series Highlights



Multiple Variants:

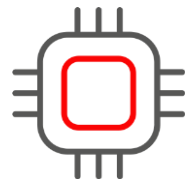
- Multi-region variants with regional certifications
- Multiple memory configuration



LCC + LGA Form Factor: 40.5 × 40.5 × 2.85 mm



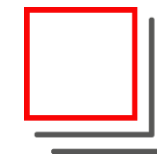
Android OS:
Android 10



Chipset platform: UIS8581E.
Powerful system performance,
multimedia, LTE Cat 4, Wi-Fi
802.11ac, Bluetooth, GNSS



Long life time:
Till the year of 2027



Partly compatible with SC20,
SC200R, SC200E, SC206E,
SC200L series

SC200K Series Specifications



Variant		SC200K-EU ^①	SC200K-CE	SC200K-WF
Region		EMEA/ APAC	China/ India	Global
LTE	FDD Band	B1/ 3/ 5/ 7/ 8/ 20/ 28	B1/ 3/ 5/ 8	-
	TDD Band	B38/ 40/ 41	B34/ 38/ 39/ 40/ 41	-
UMTS	WCDMA Band	B1/ 5/ 8	B1/ 8	-
GSM/ EDGE		900/ 1800 MHz	900/ 1800 MHz	-
GNSS		Supported	Supported	Supported
Wi-Fi/ Bluetooth		Supported	Supported	Supported
Certification		Regulatory: GCF/ CE	Regulatory: SRRC/ NAL/CCC	Regulatory ^① : CE/ UKCA/ KC/ NCC/ JATE/ TELEC/ NBTC
Project Stage		Planning	MP	MP

* : In progress.

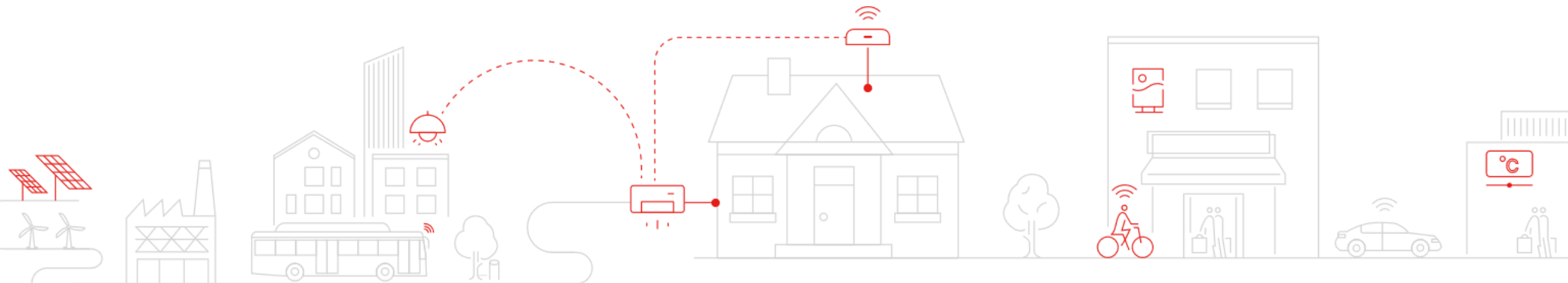
①: TBD.

SC200K Series Features and Interfaces



Key Features		Interfaces	
CPU	Unisoc UIS8581E, 4 × A55 @ 1.6 GHz; 4 × A55 @ 1.2 GHz	LCM	4-lane MIPI_DSI, FHD+ (2160 × 1080) @ 60 fps
GPU	PowerVR Fentale GE8322	Camera	2 groups of 4-lane MIPI_CSI Support 2 or 3 cameras, up to 16 MP with dual ISP
Video	Encode: <ul style="list-style-type: none"> • 1080P (H.264) @ 30 fps • WVGA (MPEG-4/ VP8) @ 30 fps Decode: <ul style="list-style-type: none"> • 1080P (H.264/ MPEG-4/ VP8/ H.265/ DivX4/ 5/ 6) @ 30 fps • WVGA (H.263) @ 30 fps 	Touch Panel	Capacitive touch panel, I2C controls
Memory	2 GB LPDDR4X + 32 GB eMMC 3 GB LPDDR4X + 32 GB eMMC 4 GB LPDDR4X + 64 GB eMMC	Audio	Analog channels: 3 inputs: MIC1, MIC2, MIC3 (including one noise-canceling MIC) 3 outputs: speaker, earpiece, headphone
OS	Android 10	USB	× 2 USB 2.0 USB1 supports USB OTG, does not support USB hub, up to 480 Mbps USB2 only supports USB Host mode, supports USB hub, up to 100 Mbps
Wi-Fi	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac	(U)SIM	× 2 Support 1.8/ 2.95 V (U)SIM cards, with (U)SIM card detection function, DSDS supported
Bluetooth	Bluetooth 2.1 EDR/ 3.0 HS/ 4.2 LE/ 5.0 LE	UART	× 3 Up to 3 Mbps, one of them supports hardware flow control
GNSS	GPS/ GLONASS or GPS/ BDS	SD Card	× 1 SD 3.0, 4-bit SDIO
Modem	3GPP Release 12	I2C/ SPI/ ADC/ GPIO/ PWRKEY	Supported
Battery Charge	Supported	Antenna	× 4 Main/ Rx-diversity/ GNSS/ Wi-Fi & Bluetooth

High Level



SG560D Series Highlights



Multiple Variants:

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

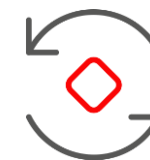


Android OS:

Android 12/ 13*/ 14^①/ 15^①/ 16^①



Chipset platform: QCM6490.
Powerful system performance, multimedia,
5G Sub-6 GHz/ LTE Cat 18,
Wi-Fi 6E (2 × 2 MIMO/ 802.11ax), Bluetooth, GNSS



Long life time:
Till the year of 2028

* : In progress.

①: TBD.

SG560D Series Specifications



Variant		SG560D-EM*	SG560D-CE ^①	SG560D-NA*	SG560D-WF
Region		EMEA	China/ India	North America	Global
5G NR	5G NR	3GPP Release 15 NSA/ SA Operation, Sub-6 GHz	3GPP Release 15 NSA/ SA Operation, Sub-6 GHz	3GPP Release 15 NSA/ SA Operation, Sub-6 GHz	-
	SA/ NSA Bands	n1/ 3/ 5/ 7/ 8 / 20/ 28/ 38/ 40/ 41/ 77/ 78/ 79	n1/ 3/ 5/ 8/ 28/ 41/ 78/ 79	n2/ 5/ 7/ 12/ 13/ 14/ 25/ 26/ 29/ 30/ 38/ 41/ 48/ 66/ 71/ 70/ 77/ 78	-
	DL 4 × 4 MIMO	n1/ 3/ 7/ 38/ 40/ 41/ 77/ 78/ 79	n1/ 41/ 78/ 79	n2/ 7/ 25/ 30/ 38/ 41/ 48/ 66/ 70/ 77/ 78	-
	UL 2 × 2 MIMO	n41/ 77/ 78/ 79	n41/ 78/ 79	n38/ 41/ 48/ 77/ 88	-
LTE	LTE Category	Cat 18	Cat 18	Cat 18	-
	LTE Bands	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 17/ 18/ 19/ 20/ 26/ 28/ 32/ 34/ 38/ 39/ 40/ 41/ 42	B1/ 3/ 5/ 8/ 34/ 38/ 39/ 40/ 41	B2/ 4/ 5/ 7/ 12/ 13/ 14/ 17/ 25/ 26/ 29/ 30/ 38/ 41/ 42/ 43/ 46/ 48/ 66/ 71	-
	DL 4 × 4 MIMO	B1/ 3/ 7/ 38/ 40/ 41/ 42	B1/ 41	B2/ 4/ 7/ 25/ 30/ 38/ 41/ 42/ 43/ 48/ 66	-
UMTS	WCDMA Band	B1/ 2/ 4/ 5/ 6/ 8/ 19	B1/ 5/ 8	-	-
GSM		B2/ 3/ 5/ 8	-	-	-
Embedded GNSS		Supported	Supported	Supported	-
Wi-Fi/ Bluetooth		Supported	Supported	Supported	Supported
Certification		Regulatory ^① : CE/ RCM/ GCF/ UKCA/ ANATEL	Regulatory ^① : SRRC/ NAL/ CCC	Carrier ^① : Verizon/ AT&T/ T-Mobile Regulatory ^① : GCF/ PTCRB/ FCC/ IC	Regulatory: CE/ RCM/ UKCA/ FCC/ IC
Project Stage		Developing	Developing	Developing	MP

SG560D Series Features and Interfaces



Key Features		Interfaces	
CPU	QCM6490, 6 nm Kryo 670, 1 × Gold Plus @ 2.7 GHz, 3 × Gold @ 2.4 GHz, 4 × Silver @ 1.9 GHz	LCM	1 × 4-lane MIPI_DSI, support up to 2.5 Gbps/ lane, 1200 × 2520 @ 144 fps 1 × DP over Type C, support up to 4K (3840 × 2160) @ 60 fps Support Wi-Fi Miracast 4K @ 60fps
GPU	Qualcomm® Adreno™ 643 @ 812 MHz	Camera	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: 4K (H.264/ H.265) @ 30 fps Decode: 4K (H.264/ H.265/ VP9) @ 60 fps	Touch Panel	Capacitive touchscreen, I2C controls
Memory	4 GB LPDDR4X + 64 GB UFS	Audio	Needs external audio codec
OS	Android 12/ 13*/ 14 ^① / 15 ^① / 16 ^①	USB	× 2 USB 3.1 Type-C with DisplayPort 1.4, compatible with USB 2.0 USB 2.0 Host
Wi-Fi	2.4 & 5 & 6 GHz, 802.11a/ b/ g/ n/ ac/ ax Wi-Fi 6E, 2 × 2 MU-MIMO, DBS	PCIe	× 1 2-lane PCIe Gen 3 for NVMe
Bluetooth	Bluetooth 2.1 EDR/ 3.0 HS/ 4.2 LE/ 5.2 LE	(U)SIM	× 2 Support 1.8/ 2.95 V (U)SIM cards, with (U)SIM card detection function; Support DSDS
GNSS^②	<ul style="list-style-type: none"> GPS/ GLONASS/ BDS/ NavIC/ Galileo/ QZSS/ SBAS L1 + L5 	UART	× 3 Support 4 Mbps with hardware flow control
Modem	5G: 3GPP Release 15	SD Card	× 1 SD 3.0, 4-bit SDIO
	LTE: 3GPP Release 15	I2C/ SPI/ ADC/ GPIO/ PWRKEY	Supported
Battery Charge	Supported	Antenna	Cellular antenna (-CE/ EM/ NA × 5), Wi-Fi/ Bluetooth antenna × 1, Wi-Fi MIMO antenna × 1, GNSS antenna × 1

SG560D-CE/ EM/ NA Timelines



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

SG560D-CE

Project Schedule



Certification TBD

SG560D-EM

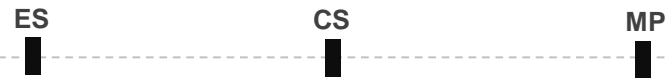
Project Schedule



Certification TBD

SG560D-NA

Project Schedule



Certification TBD

SC600T/ SC606T Series Highlights

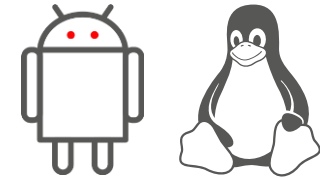


Multiple Variants:

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

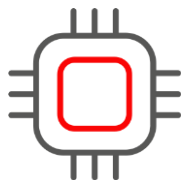


LCC + LGA Form Factor: 43.0 × 44.0 × 2.85 mm



Android or Linux OS:

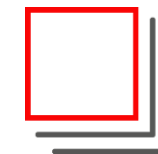
- Android 9/ 10 for SC600T
- Yocto Linux (Kernel 4.9) for SC606T



Chipset platform: MSM8953.
Powerful system performance,
multimedia, LTE Cat 6, Wi-Fi 802.11ac,
Bluetooth, GNSS



Long life time:
Till the year of 2025



Compatible with SC600Y,
SC66, SC680A, SC686A,
SC668S, SC696S series

SC600T/ SC606T Series Specifications



Variant		SC600T-EM/ SC606T-EM	SC600T-NA/ SC606T-NA	SC600T-JP/ SC606T-JP	SC600T-WF/ SC606T-WF
Region		EMEA/ India/ Korea/ South Asia/ Latin America/ Australia/ New Zealand/ South Africa	North America	Japan	Global
LTE	FDD Band	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 20/ 28	B2/ 4/ 5/ 7/ 12/ 13/ 14/ 17/ 25/ 26/ 66/ 71	B1/ 3/ 5/ 8/ 11/ 18/ 19/ 21/ 26/ 28	-
	TDD Band	B38/ 39 ^① / 40/ 41	B41	B41	-
UMTS	WCDMA Band	B1/ 2/ 4/ 5/ 8	B2/ 4/ 5	B1/ 6/ 8/ 19	-
	TD-SCDMA Band	-	-	-	-
CDMA		-	-	-	-
GSM/ EDGE		Quad-band	-	-	-
Embedded GNSS		Supported	Supported	Supported	-
Wi-Fi/ Bluetooth		Supported	Supported	Supported	Supported
Certification^②		Carrier: Telstra Regulatory: GCF/ CE/ UKCA/ Anatel/ KC/ NCC/ RCM	Carrier: Verizon/ AT&T/ T-Mobile/ Sprint Regulatory: GCF/ PTCRB/ FCC/ IC/ IFETEL	Carrier: NTT DOCOMO/ KDDI Regulatory: JATE/ TELEC	Regulatory: CE/ FCC/ IC/ KC/ JATE/ TELEC/ RCM/ UKCA ^③
Project Stage		MP	MP	SC600T-JP: MP SC606T-JP: Planning	MP

①: B39 is not supported in SC606T-EM.

②: Certification for SC600T series only; cannot be shared by SC606T series.

③: TBD.

SC600T/ SC606T Series Features and Interfaces



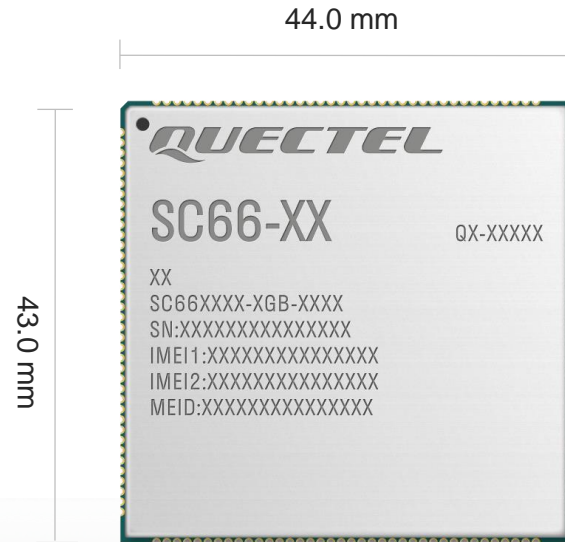
Key Features		Interfaces	
CPU	SC600T/ SC606T: MSM8953, Octa-core ARM Cortex-A53 64-bit CPU @ 2.0 GHz	LCM	Dual LCDs for independent display: dual 4-lane MIPI_DSI; WUXGA (1920 × 1200) @ 60 fps for primary display and FHD (1920 × 1080) @ 60 fps for secondary display Wi-Fi display: 1080P @ 30 fps (UBWC)
GPU	Qualcomm® Adreno™ 506 graphics processing unit (GPU) with 64-bit addressing	Camera	3 groups of 4-lane MIPI_CSI, up to 2.1 Gbps per lane. 2 × ISP Support three cameras (4-lane + 4-lane + 4-lane) or four cameras (4-lane + 4-lane + 2-lane + 1-lane) Up to 24 MP with dual ISP
Video	Encode and Decode: <ul style="list-style-type: none"> Up to 4K @ 30 fps High frame rate encode: <ul style="list-style-type: none"> 720P @ 120 fps; 60 Mbps; Maximum 972000 macro block/s 1080P @ 60 fps Decode + 1080P @ 30 fps Encode 	Touch Panel	× 2 Capacitive touchscreen, I2C controls
Memory	2 GB LPDDR3X + 16 GB eMMC	Audio	Analog channels: Three inputs: MIC1, MIC2, MIC3 (including one noise-canceling MIC) Three outputs: speaker, earpiece, headphone
OS	Android 9/ 10 for SC600T Yocto Linux (kernel 4.9) for SC606T	USB	× 1 USB 2.0/ 3.0 (Type-C), USB OTG + Charge
Wi-Fi	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac 433 Mbps, STA/AP/P2P	(U)SIM	× 2 Support 1.8/ 2.95 V (U)SIM cards, with (U)SIM card detection function DSDS supported
Bluetooth	Bluetooth 2.1 EDR/ 3.0 HS/ 4.2 LE Support a maximum of 10 ACL/ EL/ SCO links	UART	× 4 Up to 4 Mbps, two of them support hardware flow control
GNSS^①	GPS/ BDS/ GLONASS or GPS/ BDS/ Galileo	SD Card	SD 3.0, 4-bit SDIO
Modem	3GPP Release 10 compliant	I2C/ SPI/ ADC/ GPIO/ PWRKEY	Supported
Battery Charge	Supported in SC600T	Antenna	× 4 Main/ Rx-diversity/ GNSS/ Wi-Fi & Bluetooth

SC66 Series Highlights



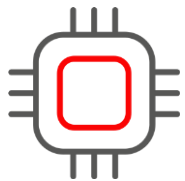
Multiple Variants:

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



Android OS:
Android 9/ 10/ 12 ^①

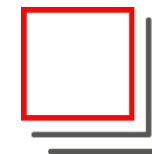
LCC + LGA Form Factor: 43.0 × 44.0 × 2.85 mm



Chipset platform: SDM660.
Powerful system performance,
multimedia, LTE Cat 6,
Wi-Fi (2 × 2 MIMO/ 802.11ac),
Bluetooth, GNSS



Long life time:
Till the year of 2025



Compatible with SC600Y,
SC600T, SC606T, SC680A,
SC686A, SC668S, SC696S
series

①: TBD.

SC66 Series Specifications



Variant		SC66-E	SC66-A	SC66-J	SC66-CE	SC66-MW
Region		Europe/ India/ Korea/ South Asia/ Latin America/ Australia/ South Africa	North America	Japan	China	Global
LTE	FDD Band	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 20/ 28(A+B)	B2/ 4/ 5/ 7/ 12/ 13/ 14/ 17/ 25/ 26/ 66/ 71	B1/ 3/ 5/ 8/ 11/ 18/ 19/ 21/ 26/ 28(A+B)	B1/ 3/ 5/ 8	-
	TDD Band	B38/ 39/ 40/ 41 ^①	B41 ^①	B41 ^②	B34/ 38/ 39/ 40/ 41 ^②	-
UMTS	WCDMA Band	B1/ 2/ 4/ 5/ 8	B2/ 4/ 5	B1/ 6/ 8/ 19	B1/ 8	-
	TD-SCDMA Band	-	-	-	B34/ 39	-
EVDO/CDMA		-	-	-	BC0	-
GSM/ EDGE		Quad-band	-	-	900/1800 MHz	-
Embedded GNSS		Supported	Supported	Supported	Supported	-
Wi-Fi/ Bluetooth		Supported (MIMO supported)	Supported (MIMO supported)	Supported (MIMO supported)	Supported (MIMO not supported)	Supported (MIMO supported)
Certification		Carrier: Telstra ^③ Regulatory: GCF/ CE/ UKCA/ KC/ NCC/ RCM/ Anatel ^③	Carrier: Verizon/ AT&T/ T-Mobile Regulatory: GCF/ PTCRB/ FCC/ IC	Carrier: NTT DOCOMO ^③ Regulatory: JATE/ TELEC	Regulatory: SRRC/ NAL/ CCC	Regulatory: CE/ FCC/ IC/ KC/ RCM
Project Stage		MP	MP	MP	MP	MP

①: B41 of SC66-E/ SC66-A only supports 200 MHz bandwidth.

②: B41 of SC66-J/ SC66-CE only supports 120 MHz bandwidth.

③: TBD.

SC66 Series Features and Interfaces



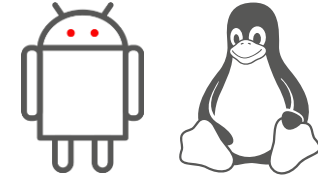
Key Features		Interfaces	
CPU	SDM660, Customized 64-bit ARM v8.0-compliant AP (Kryo 260 CPU): Kryo Gold Quad high-performance cores targeting 2.2 GHz, L2 – 1 MB Kryo Silver Quad low-power cores targeting 1.843 GHz, L2 – 1 MB	LCM	2 × 4-lane MIPI DSI Default: MIPI_DSI (2560 × 1600 @ 60 fps) + DP over USB Type-C (4096 × 2160 @ 30 fps) Optional: MIPI_DSI0 (1920 × 1080 @ 60 fps) + MIPI_DSI1 (1920 × 1080 @ 60 fps) Wi-Fi display: 1080P @ 30 fps
GPU	Qualcomm® Adreno 512 @ 650 MHz, OpenGL ES3.1 + AEP, DX12_FL12, Vulkan, OpenCL2.0 FP, RenderScript	Camera	3 × 4-lane CSIs (4/ 4/ 4 or 4/ 4/ 2/ 1) D-PHY 1.2 @ 2.1 Gbps/ lane, or 3 × 3-lane C-PHY 1.0 at 17 Gbps (2.5 G symbols per trio per second) 2 × ISP: 16 MP (30 fps ZSL) @ 1 × ISP + 16 MP (30 fps ZSL) @ 1 × ISP; Max. 24 MP (30 fps ZSL) @ 2 × ISP
Video	Decode: 4K @ 30 fps; H.264, VP8, VP9 and H.265 Encode: 4K @ 30 fps; H.265, H264, VP8 and MPEG-4	Touch Panel	Capacitive touch panel, I2C controls
Memory	3 GB LPDDR4X + 32 GB eMMC 4 GB LPDDR4X + 64 GB eMMC	Audio	Analog channels: 3 inputs: MIC1, MIC2, MIC3 (including one noise-canceling MIC) 3 outputs: speaker, earpiece, headphone
OS	Android 9/ 10/ 12 ^③	USB	× 2 1 × USB 3.1, supports DP over Type-C, compatible with USB 2.0 1 × USB 2.0, only supports USB Host mode
Wi-Fi ①	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac 2 × 2 MIMO Wi-Fi	(U)SIM	× 2 Support 1.8/ 2.95 V (U)SIM cards, with (U)SIM card detection function DSDS supported
Bluetooth	Bluetooth 2.1 EDR/ 3.0 HS/ 4.2 LE/ 5.0 LE	UART	× 3 Up to 3 Mbps, one of them is used for debugging only
GNSS^②	GPS/ GLONASS/ BDS/ Galileo/ QZSS/ SBAS	SD Card	× 1 SD 3.0, 4-bit SDIO
Modem	3GPP Release 12	I2C/ SPI/ ADC/ GPIO/ PWRKEY	Supported
Battery Charge	Supported	Antenna	× 4 Main/ Rx-diversity/ GNSS/ Wi-Fi & Bluetooth

SC668S/ SC696S Series Highlights



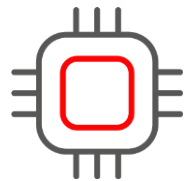
Multiple Variants:

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



Android or Linux OS:

- Android 10/ 11/ 13 for SC668S
- Yocto Linux (Kernel 4.14) for SC696S



Chipset platform: QCM6125.
Powerful system performance,
multimedia, LTE Cat 4, Wi-Fi
802.11ac, Bluetooth, GNSS



Long life time:
Till the year of 2028^①



Compatible with SC600Y,
SC600T, SC606T, SC66,
SC680A and SC686A series

SC668S/ SC696S Series Specifications



Variant		SC668S-EM/ SC696S-EM	SC668S-NA/ SC696S-NA	SC668S-WF/ SC696S-WF	SC668S-JP	SC668S-CN
Region		EMEA/ Korea/ South Asia/ Latin America/ India/ Australia/ New Zealand/ South Africa	North America	Global	Japan	China/ India
LTE	FDD Band	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 20/ 28	B2/ 4/ 5/ 7/ 12/ 13/ 14/ 17/ 25/ 26/ 66/ 71	-	B1/ 3/ 5/ 8/ 11/ 18/ 19/ 21/ 26/ 28	B1/ 3/ 5/ 8
	TDD Band	B38/ 39/ 40/ 41 (200 MHz)	B41 (200 MHz)	-	B41	B34/ 38/ 39/ 40/ 41 (200 MHz)
UMTS	WCDMA Band	B1/ 2/ 4/ 5/ 8	-	-	B1/ 6/ 8/ 19	B1/ 8
EVDO/ CDMA		-	-	-	-	BC0
GSM/ EDGE		Quad Band	-	-	-	900/ 1800 MHz
GNSS		Supported	Supported	-	Supported	Supported
Wi-Fi/ Bluetooth		Supported	Supported	Supported	Supported	Supported
Certification ①		Regulatory: CE/ RCM/ UKCA	Carrier: Verizon*/ AT&T*/ T-Mobile* Regulatory: FCC/ IC/ GCF*/ PTCRB*	Regulatory: CE/ FCC/ IC/ RCM/ UKCA	Regulatory: TELEC*/ JATE*	Regulatory: SRRRC/ NAL/ CCC
Project Stage		SC668S-EM: MP SC696S-EM: ES	SC668S-NA: MP SC696S-NA: ES	SC668S-WF: MP SC696S-WF: ES	ES	MP

SC668S/ SC696S Series Features and Interfaces



Key Features		Interfaces	
CPU	QCM6125, custom 64-bit ARM v8.0 application processor (Qualcomm® Kryo™ 260 CPU) <ul style="list-style-type: none"> • Kryo Gold quad-core high-performance processor @ 2.0 GHz • Kryo Silver Quad Core Low Power Processor @ 1.8 GHz 	LCM	1 set of 4-lane MIPI DSI supporting up to 1920 × 1200 @ 60 fps or 1080 × 2520 @ 60 fps + Native DP supporting 1920 × 1200 @ 60 fps
GPU	Qualcomm® Adreno™ 610 graphics processing unit (GPU) at 950 MHz	Camera	<ul style="list-style-type: none"> • 3 sets of 4-lane MIPI CSI up to 2.1 Gbps/ lane • Each group of 4-lane can be disassembled into 2-lane + 1-lane, which can support up to 6 cameras and open up to 2 cameras at the same time • Dual ISP, supports up to two simultaneous 16 MP + 16 MP or single 24 MP
Video	<ul style="list-style-type: none"> • Decode: 4K @ 30 fps; HEVC/H.264/VP8/VP9 1080P @ 30 fps; MPEG-2 • Encode: 4K @ 30 fps; HEVC/H.264/VP8 	Touch Panel	Capacitive touch panel
Memory	<ul style="list-style-type: none"> • 3 GB LPDDR4X + 32 GB eMMC • 4 GB LPDDR4X + 64 GB eMMC (for SC668S only) • 4 GB LPDDR4X + 64 GB UFS (for SC668S only) • 2 GB LPDDR4X + 16 GB eMMC (for SC696S only) 	Audio	Analog channels: 3 inputs: MIC1, MIC2, MIC3 (including one noise-canceling MIC) 3 outputs: Line Out, earpiece, headphone
OS	Android 10/ 11/ 13 for SC668S Yocto Linux (Kernel4.14) for SC696S	USB	× 1, supports USB 3.1 Type-C interface, compatible with USB 2.0, support native DP
Wi-Fi	2.4 & 5 GHz, 802.11a/ b/ g/ n/ ac	(U)SIM	× 2, supports 1.8/ 2.95 V (U)SIM cards; supports (U)SIM card hot swap detection and dual-SIM dual-standby
Bluetooth	Bluetooth 2.1 + EDR/ 3.0/ 4.1 LE/ 4.2 BLE/ 5.0 LE	UART	× 3 Debug UART: 2-wire serial port, specialized for debugging use UART03: 2-wire serial port UART00: 4-wire serial port, supports RTS and CTS hardware flow control with maximum data rate of 4 Mbps
GNSS^②	GPS/ GLONASS/ BDS/ Galileo/ QZSS	SD Card	× 1, SD 3.0, supports 4-bit SDIO
Modem	3GPP Release 12	I2C/ SPI/ ADC/ GPIO/ PWRKEY	Supported
Battery Charge	Not supported	Antenna	× 4, Main, Rx-diversity, GNSS, Wi-Fi/ Bluetooth antennas respectively (SC668S-WF/ SC696S-WF: × 1, Wi-Fi/ Bluetooth antenna)

SC668S-NA/ -JP Timelines



2022			2023											
Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.

SC668S-NA MP

Certification



SC668S-JP

Project Schedule



Certification TBD

SC696S-EM/ -NA/ -WF Timelines



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

SC696S-EM

Project Schedule

ES

CS

MP

Certification TBD

SC696S-NA

Project Schedule

ES

CS

MP

Certification TBD

SC696S-WF

Project Schedule

ES

CS

MP

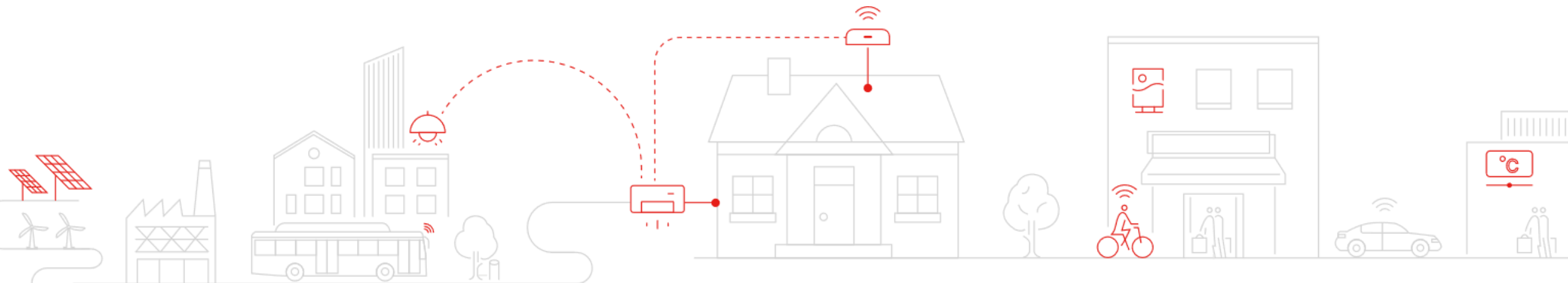
Certification TBD

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".

Premium Level

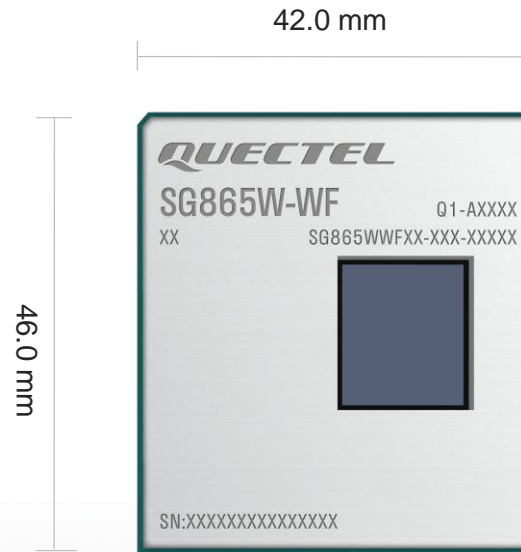


SG865W Highlights



Multiple Variants:

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

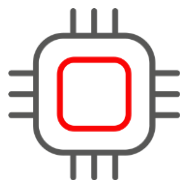


LGA Form Factor: 46.0 × 42.0 × 2.95 mm

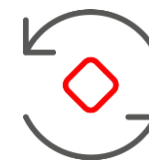


Android OS:

Android 10/ Ubuntu 18.04



Chipset platform: QCS8250.
Premium system performance, multimedia
functionality, Wi-Fi 6 (2 × 2 MIMO)^①, Bluetooth^①



Long life time:
Till the year of 2029^②

SG865W Series Specifications



Variant	SG865W-WF	SG865W-AP
Region	Global	Global
Wi-Fi/ Bluetooth	Supported	NA
Certification	Regulatory: CE/ FCC/ IC/ KC	Regulatory: CE*/ KC*
Project Stage	MP	MP

* : In progress.

SG865W Series Features and Interfaces



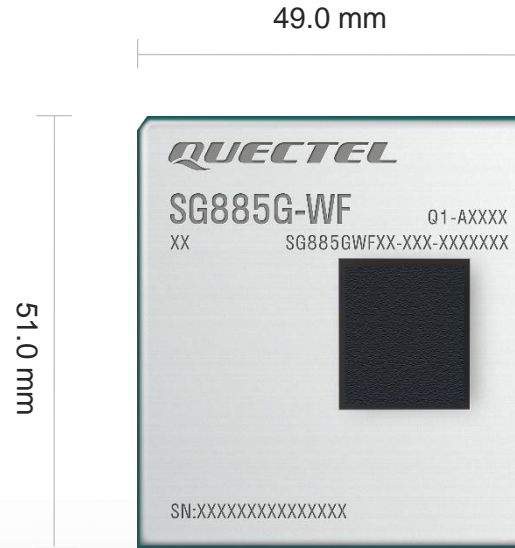
Key Features		Interfaces	
CPU	QCS8250, 64-bit application processors (Kryo 585) with 4 MB L3 cache: 1 × Kryo 585 Gold prime core @ 2.842 GHz – with 512 KB L2 cache 3 × Kryo 585 Gold cores @ 2.419 GHz – with 256 KB L2 cache per core 4 × Kryo 585 Silver cores @ 1.805 GHz – with 128 KB L2 cache per core	LCM	2 × 4-lane MIPI DSI 5040 × 2160 @ 60 fps with 8-lane MIPI 2 × (2560 × 2560 @ 60 fps with 4-lane MIPI) 2 × 4K @ 60 fps over DP (MST Mode) Wi-Fi display: 4K @ 60 fps
GPU	Adreno 650 at 587 MHz– 4K 60 fps UI or 2 × 2K 60 fps UI	Camera	6 × 4-lane MIPI CSI 2 × Full ISP + 2 × Lite ISP 2 × Front-end input: 25 MP (4:3 aspect ratio) or 18 MP (16:9 aspect ratio) 2 × Front-end input: Mono/ YUV interface Max. 64 MP @ 30 fps ZSL @ 2 × ISP
NPU	NPU230	Touch Panel	Capacitive-screen, I2C controls
Video	Encode: 4K @ 120 fps; 8K @ 30 fps Decode: 4K @ 240 fps; 8K @ 60 fps H.264 High Profile, H.265 Main 10 Profile, VP8, HDR 10-bit video playback (HLG, HDR10), HDR 10-bit capture (HLG)	USB	× 2 USB 3.1, compatible with USB 2.0, one of them supports DisplayPort v1.4
Memory	SG865W-WF: 8 GB LPDDR5 + 64 GB UFS 2.1 SG865W-AP: 12 GB LPDDR5 + 256 GB UFS 2.1	PCIe	× 2 2-lane PCIe Gen 3
OS	Android 10/ Ubuntu 18.04	UART	× 3, Up to 3 Mbps, one of them is used for debugging only
WLAN ^①	2.4 & 5 GHz, 2 × 2 MIMO, 802.11a/ b/ g/ n/ ac/ ax, Wi-Fi 6, DBS	SD Card	× 1 SD 3.0, 4-bit SDIO
Bluetooth ^①	Bluetooth 2.1 EDR/ 3.0 HS/ 4.2 LE/ 5.1 LE	I2C/ SPI/ ADC/ GPIO/ PWRKEY	Supported
Modem	Support Quectel 2G/ 3G/ 4G/ 5G modules	Antenna	× 2 ^① Wi-Fi & Bluetooth antenna connectors
Audio	Needs external audio codec		

SG885G-WF Highlights

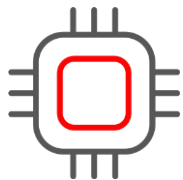


Multiple Variants:

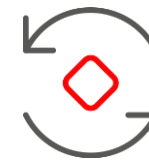
- Multi-region variants with global certifications
- Multiple memory configuration



Android OS:
Android 13*



Chipset platform: QCS8550.
Premium system performance, multimedia functionality, Wi-Fi 7 (2 × 2 MIMO), Bluetooth



Long life time:
Till the year of 2030

* : In progress.

SG885G-WF Features and Interfaces



Key Features		Interfaces	
CPU	QCS8550, 1 × Kryo Gold prime @ 3.2 GHz + 4 × Kryo Gold @ 2.8 GHz + 3 × Kryo Silver @ 2.0 GHz	LCM	Adreno DPU 1295 2 × 4-lane MIPI DSI (3480 × 2160 @ 120 Hz, 3360 × 1600 @ 144 Hz) + 2 × DP (MST Mode), 4K60
GPU	Adreno 740 – 4K 120 fps UI	Camera	6 × 4-lane MIPI CSI, Connect up to 14x/20x cameras, 5x concurrent, 3 × ISP + 2 × Lite ISP. some ZSL example are: (36 M + 36 M + 36 M) @ 30 fps - triple camera, or (64 M + 36 M) @ 30 fps - dual camera, or 108 M @ 30 fps - single camera
DPU	Adreno 1295 DPU, 2 × 4-lane MIPI DSI, 3480 x 2160 at 120 Hz, 3360 x 1600 at 144 Hz + 2 x DP (MST Mode), 4K60		
VPU	Adreno VPU 8550	Audio	SWR, Digital Microphone, MI2S interfaces, HIFI I2S
NPU	Dual eNPU V3	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	PCIe	× 2 • PCIe1: 2-lane, Gen3 • PCIe2: 1-lane, Gen3
OS	Android 13*	UART	× 1, Debug UART
WLAN	2.4 & 5 & 6 GHz, Wi-Fi 7, 802.11a/ b/ g/ n/ ac/ ax/ be, 2 × 2 Wi-Fi MIMO	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	• Support 10 M/100 M/1000 M/2.5 G/5 Gbps/ 10 Gbps • Support UXGMII/ SGMII (Cannot be used with RGMII), or RGMII (Cannot be used with UXGMII/ SGMII)
Modem	Support Quectel 2G/ 3G/ 4G/ 5G modules	Antenna	× 2 Wi-Fi/ Bluetooth and Wi-Fi MIMO antenna interfaces

SG885G-WF Timeline



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

SG885G-WF

Project Schedule

ES

CS

MP

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We are a global IoT solutions provider, backed by outstanding support and services, to deliver a smarter world.

- Unbeatable choice from the broadest module portfolio in the world
- High quality range of off-the-shelf and customized antennas
- Providing Connectivity-as-a-Service
- Superb support with the largest R&D team in the industry
- Continuous innovation – in 5G, LPWA, CV2X, Smart Modules
- A passionate, dedicated team of “Quectelers” ensure our customers always come first

Thank You

Build a Smarter World

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