



Quectel SC206E Series Smart Module

Introduction

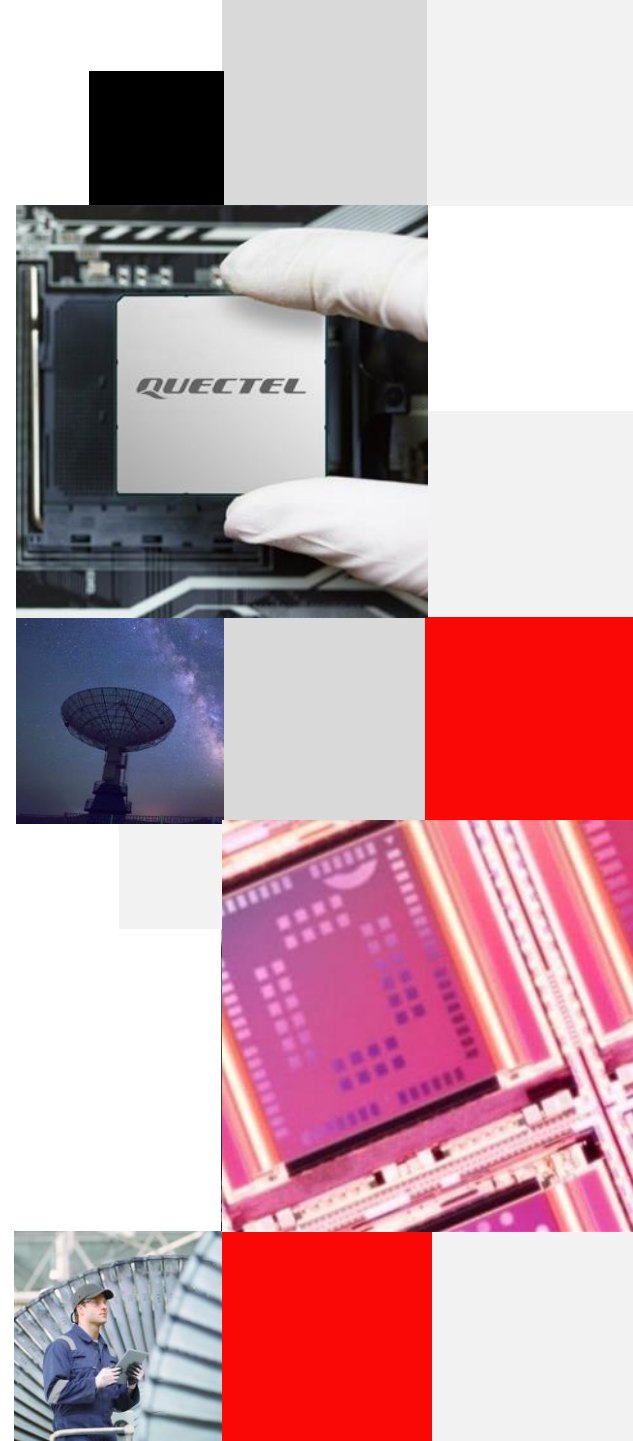
Build a Smarter World



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Smart Solution Introduction

Smart Module Portfolio

Specifications & Timelines

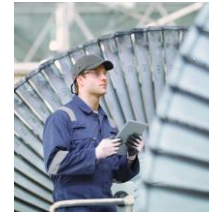
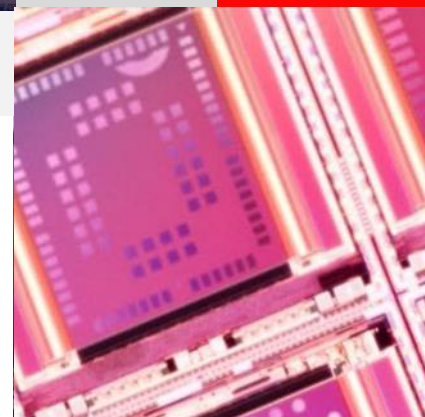
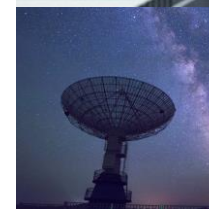
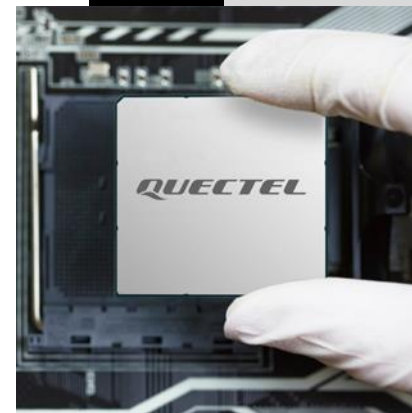
Customer Support

Enhancements

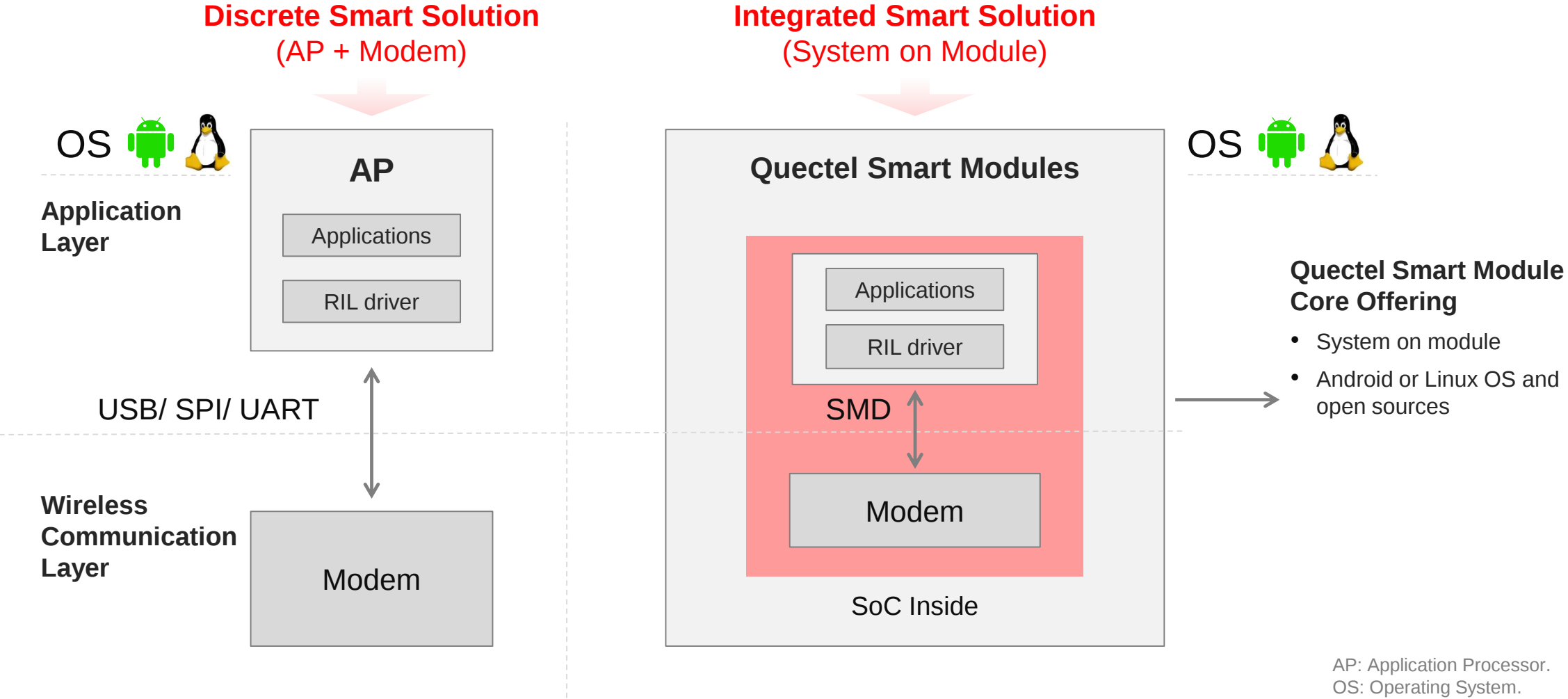
Typical Applications

Feature & Comparison

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Smart Solution Architecture Comparison



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

Quectel Smart Solution Advantages



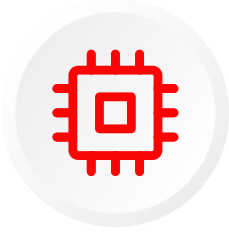
SoC Platforms



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



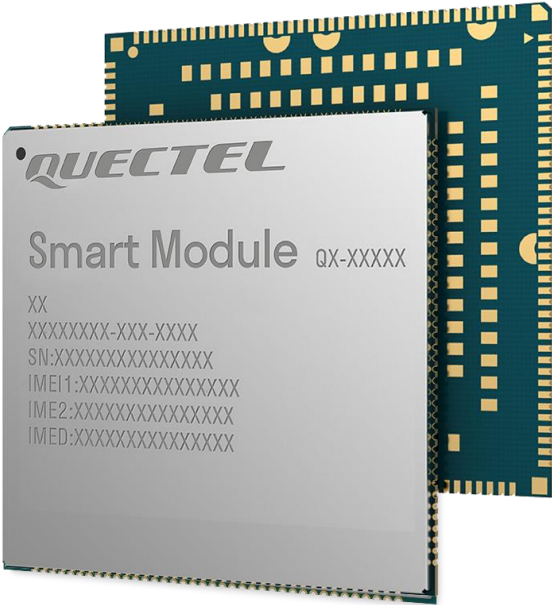
Abundant Peripheral Interfaces



Global Certifications



Strong Customer Support





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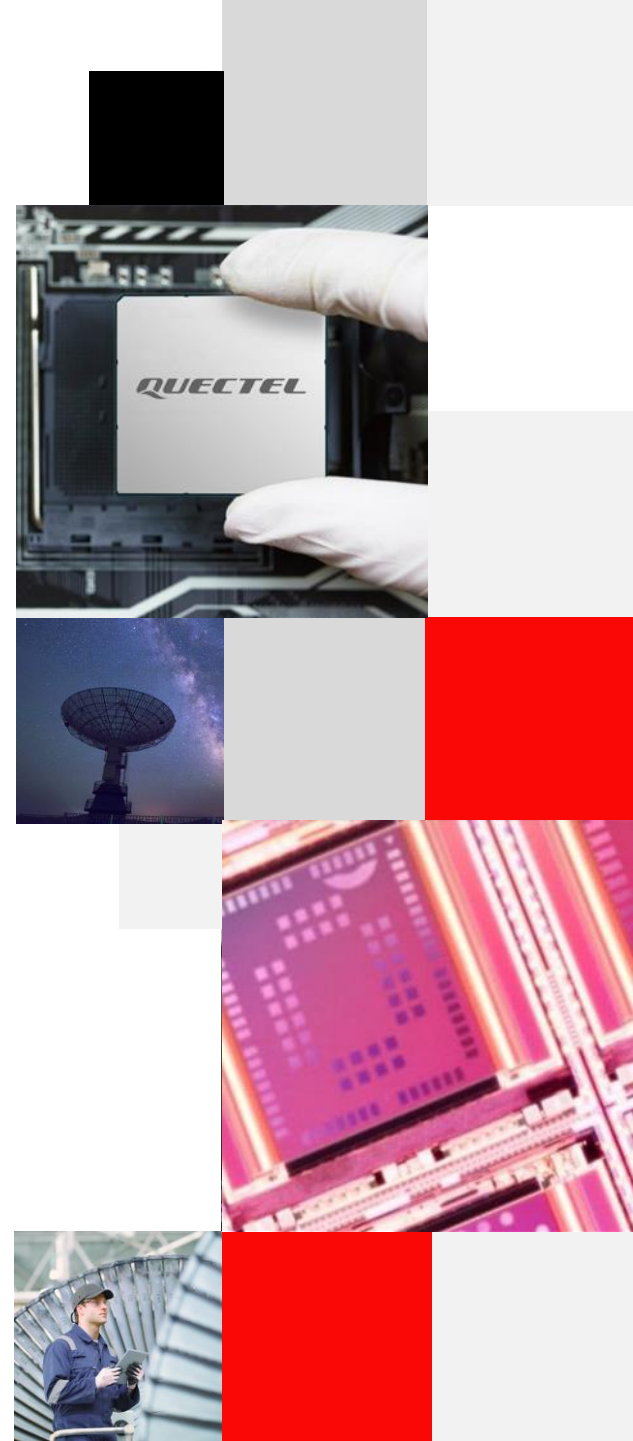
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Smart Module Portfolio



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 – 4K 120 fps UI • 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 • UIS8581E 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

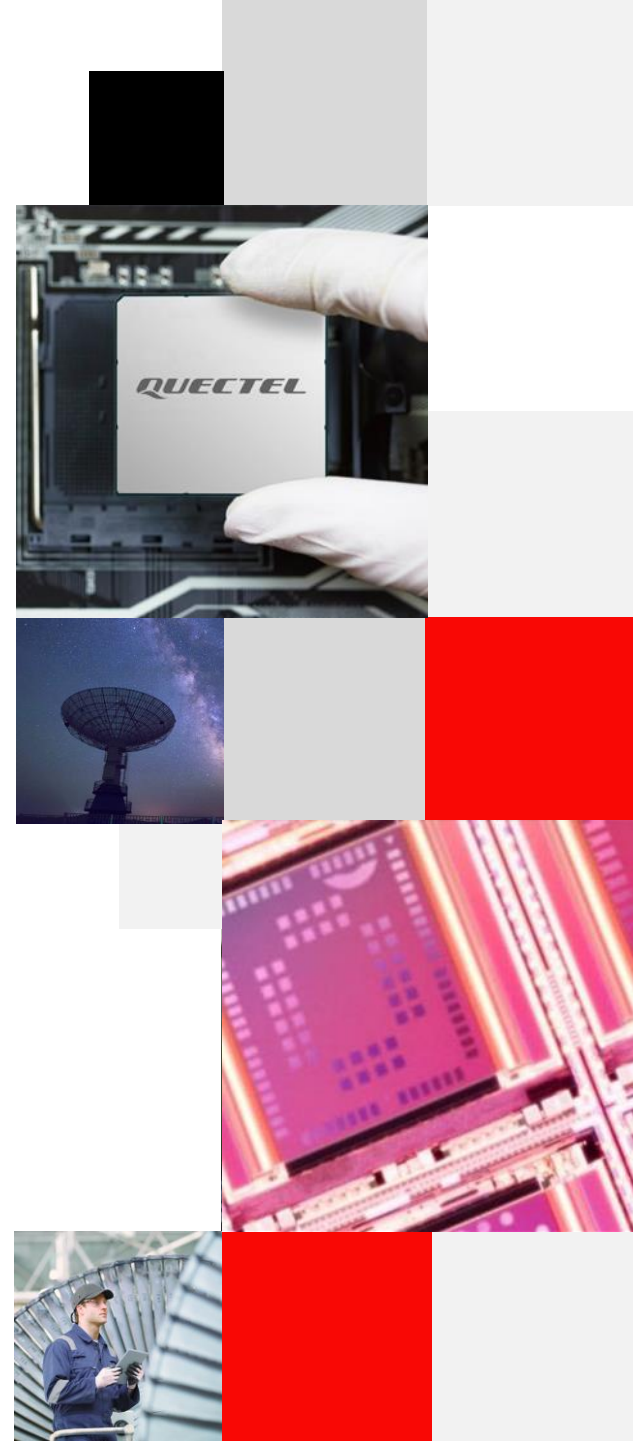


Smart Solution Introduction
Smart Module Portfolio

Specifications & Timelines

Customer Support
Enhancements
Typical Applications
Feature & Comparison

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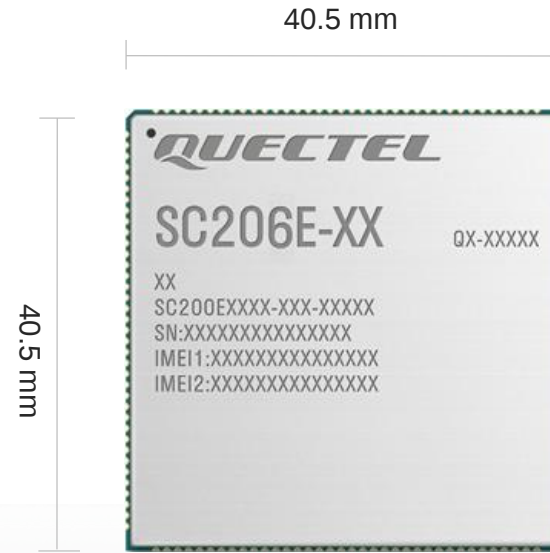


SC206E Series Highlights

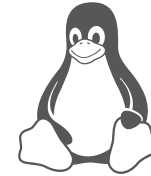


Multiple Variants:

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

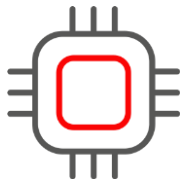


LCC + LGA Form Factor: 40.5 × 40.5 × 2.85 mm



Linux OS:

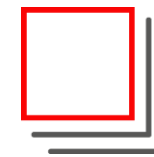
Yocto Linux (Kernel 5.4)



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 and
SC200E series

SC206E Series Specifications



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

①: TBD (To Be Determined)

*: Under development/ in progress/ planning

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 2 or 3 cameras supported, up to 25 MP or 13 MP + 13 MP with dual ISP
Video	Encode: 1080P 8-bit H.264/ H.265 (HEVC) @ 30 fps Decode: 1080P 8-bit H.264/ H.265 (HEVC)/ VP9 @ 30 fps	Touch Panel	Capacitive touch panel, I2C controls
Memory	2 GB LPDDR4X + 32 GB eMMC	Audio	Analog channels: 3 inputs: MIC1, MIC2, MIC3 (including one noise-canceling MIC) 3 outputs: Line Out, earpiece, headphone
OS	Yocto Linux (Kernel 5.4)	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	(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 ①	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

①: GNSS is not supported by SC206E-WF.

SC206E-GL Timeline



2022					2023												2024	
Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.

SC206E-GL

Project Schedule



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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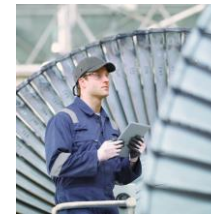
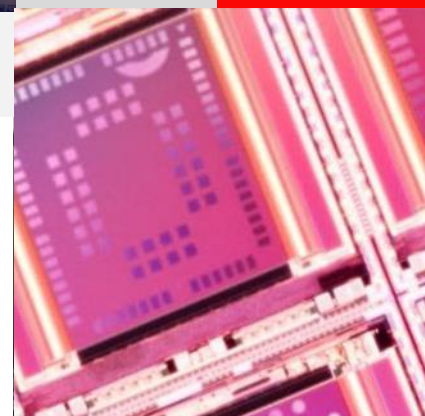
Customer Support

Enhancements

Typical Applications

Feature & Comparison

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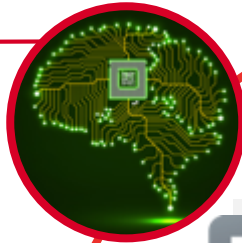


360 Degree Support



1. System Evaluation

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



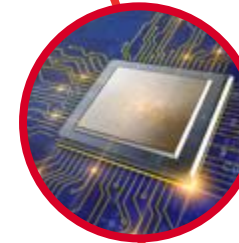
2. Design In

- 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



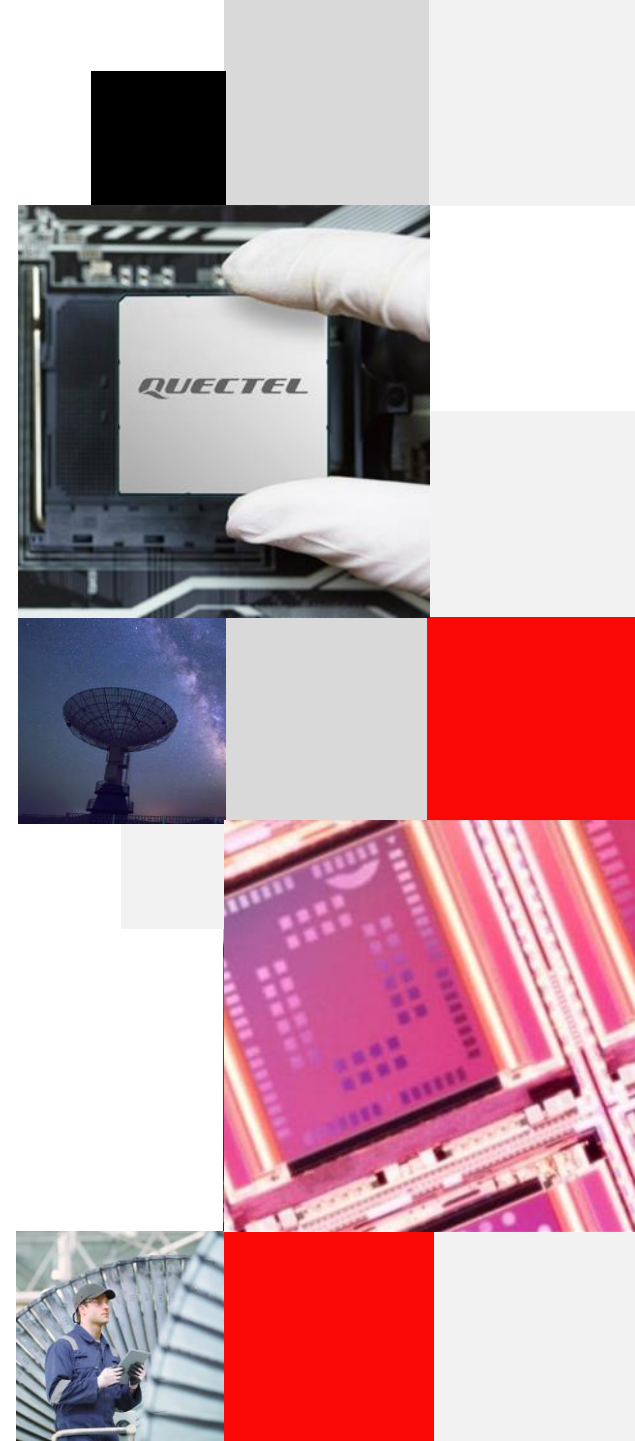


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Customer Support

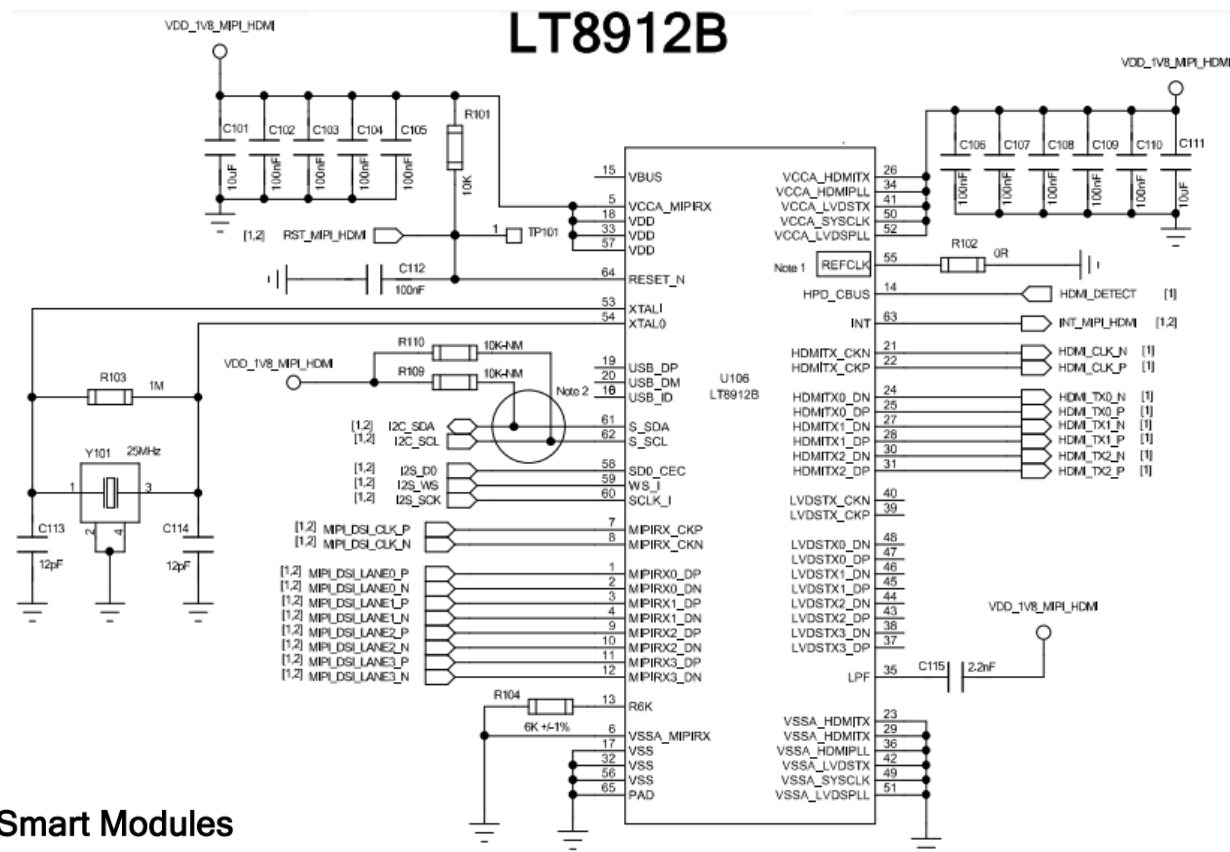
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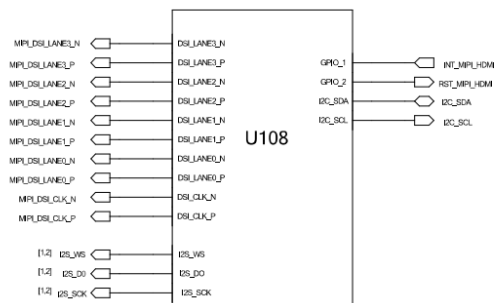
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QUECTEL



DSI/I2S Interfaces of Smart Modules



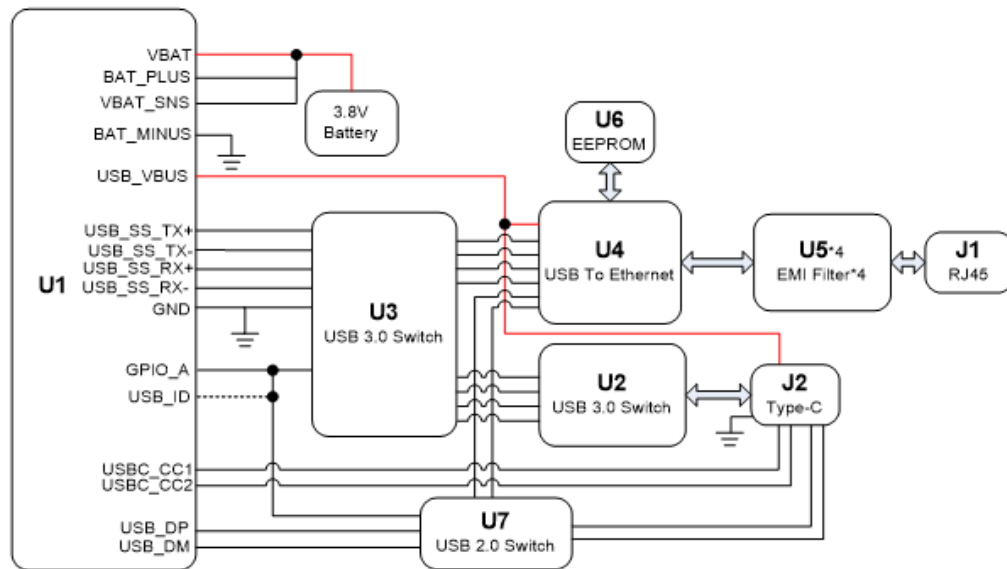
With external MIPI DSI to HDMI conversion chipset,
HDMI display can be supported by smart modules.

Extensive Function – USB to Ethernet

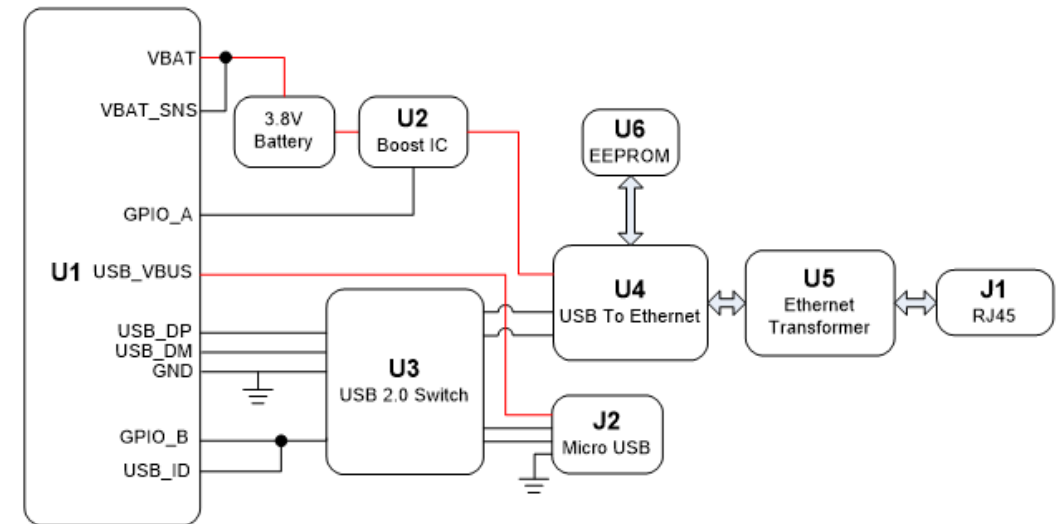


Smart modules have no Ethernet interface, while the USB can be converted to Ethernet when the smart modules work in Host mode. External conversion chipset is needed for the conversion.

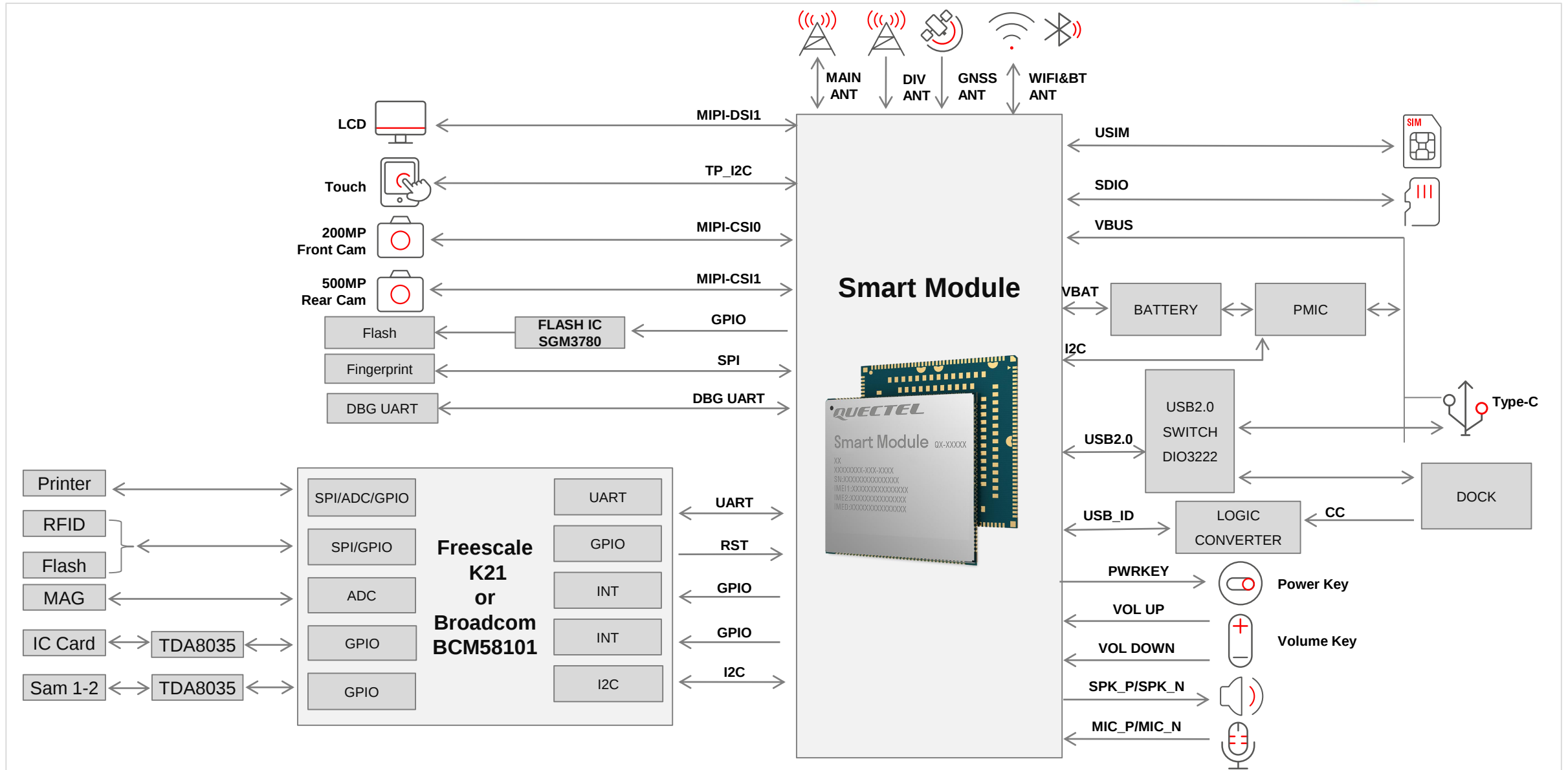
USB 3.0 to 10/ 100/ 1000M Ethernet



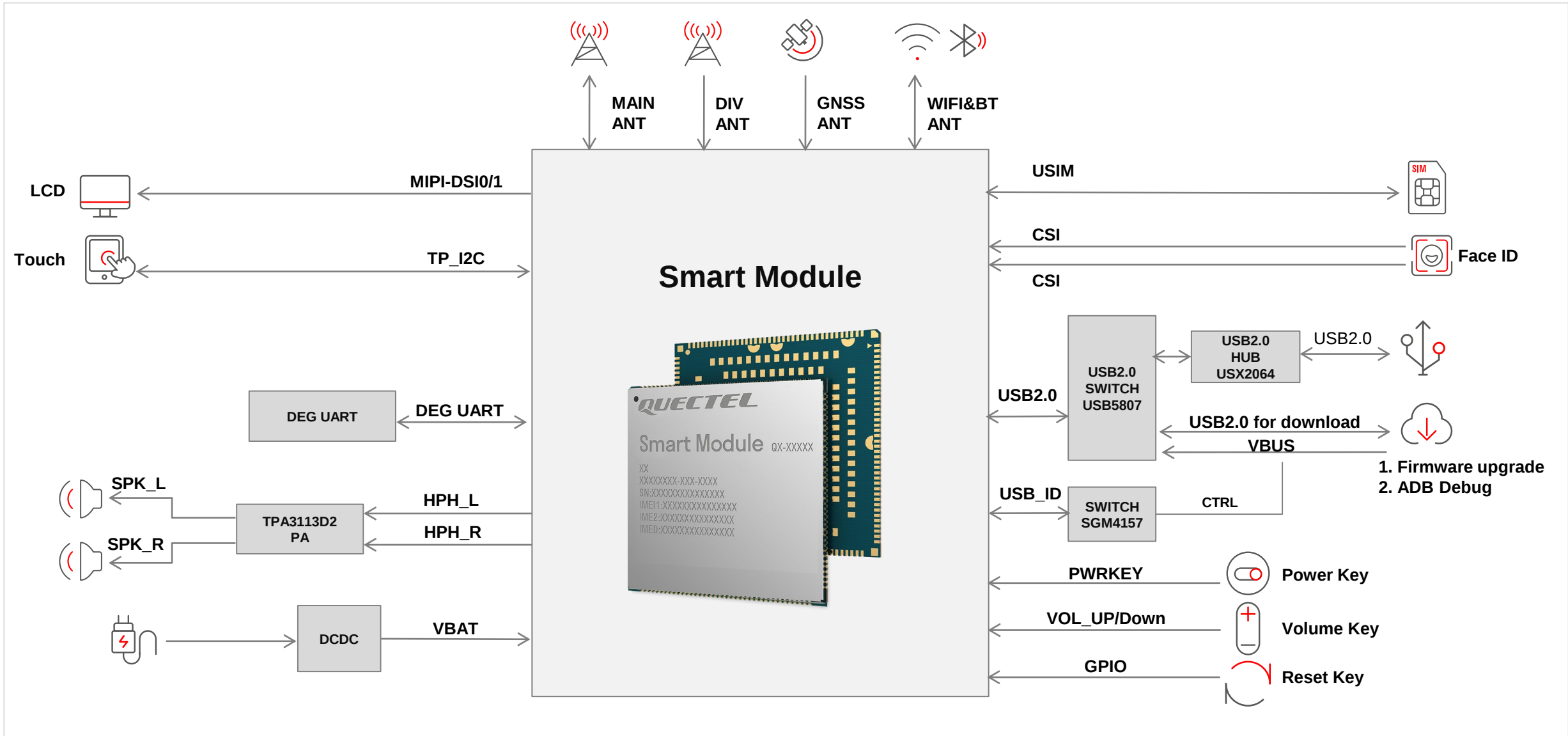
USB 2.0 to 10/ 100M Ethernet



Typical Solution – POS



Typical Solution – Access Control



Support Package

EVB Kit



SMART EVB G5



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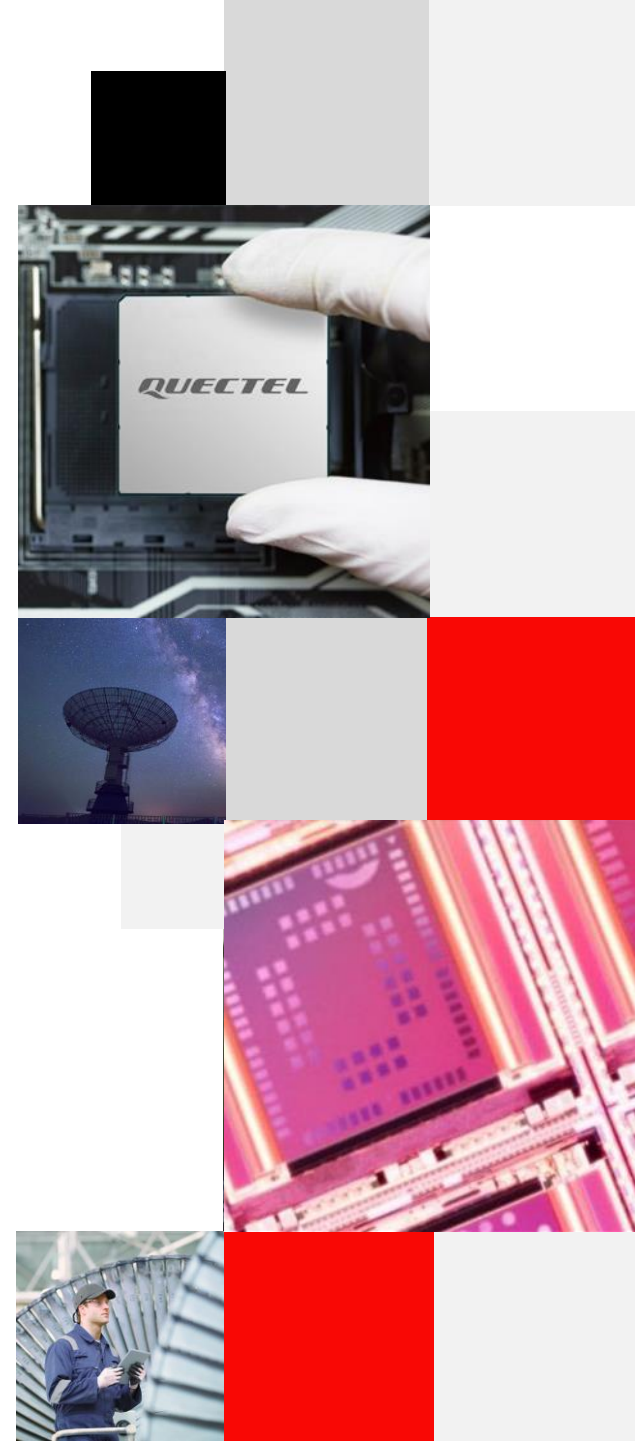
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POS and Payment Terminal



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

Vehicle Aftermarket — 2-Wheeler, Small Electric Car



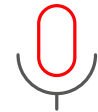
Supported functionalities



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





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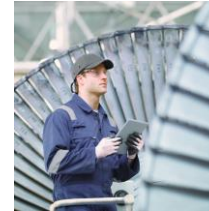
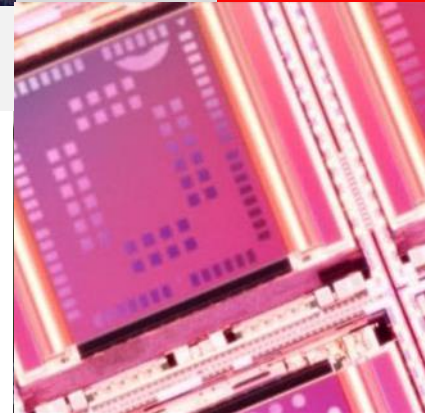
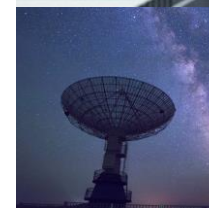
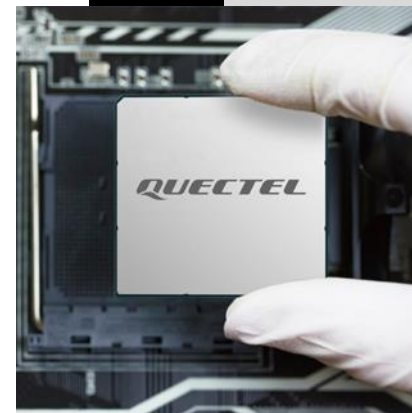
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Entry Level Features & Comparison



	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 × 4.25 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: 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), 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	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, 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	2036 ^①	2033
Antutu(V7.2.8) benchmark	441,954 (AOS 10, 8 + 64 GB)	TBD



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