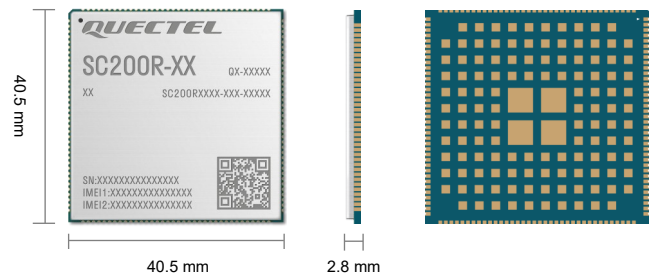




Quectel SC200R Series

Multi-mode Smart LTE Module with Wi-Fi & Bluetooth



SC200R series is Quectel's new generation of multi-mode Smart LTE Cat 4 module with built-in Android 10 OS. Based on Qualcomm quad-core ARM Cortex-A53 64-bit processor with built-in Adreno™ 308 GPU, it is an ideal solution for both industrial and consumer applications requiring high data rates and multimedia functions. SC200R series is available in five variants: SC200R-CE, SC200R-EM, SC200R-NA, SC200R-JP^① and SC200R-WF (Wi-Fi & Bluetooth only version).

SC200R series supports multiple-input multiple-output (MIMO) technology. The use of multiple antennas at the receiver end at the same time and on the same frequency band greatly minimizes errors and optimizes data speed. This module also combines high-speed wireless connectivity with embedded multi-constellation and high-sensitivity GNSS (GPS/ BDS/ GLONASS or GPS/ BDS/ Galileo) receiver for positioning.

A rich set of interfaces (such as LCM, Camera, Touch Panel, MIC, SPK, UART, USB, I2C and SPI) extend the applicability of the module to a wide range of M2M applications, including edge device, edge computing, smart POS, smart cash registers, smart home gateways, smart robots, smart wearables, smart safety, PDA & tablets, vending machines, delivery lockers, audio and video recorders, as well as in-car video streaming and entertainment systems.

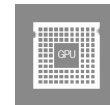


Key Features

- ✓ Exceptional application and system performance based on the quad-core A53 64-bit processor
- ✓ Enhanced mobile rendering APIs for image and video applications via Adreno™ 308 GPU
- ✓ Integrated ADSP, better DoU and user experience in DSP enabled environment
- ✓ Worldwide LTE, UMTS/ HSPA+ and GSM/ GPRS/ EDGE coverage
- ✓ Support dual ISP and up to 13 MP camera
- ✓ Support recording and playback of 1080P video at 30 fps
- ✓ Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment



ARM Cortex-A53
64-bit Processor
(Quad-core)



Qualcomm®
Adreno™ 308 GPU



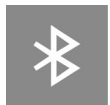
Android OS



Smart LTE Cat 4
Max. 150 Mbps (DL)
Max. 50 Mbps (UL)



IEEE 802.11
a/ b/ g/ n



Bluetooth 4.2
(BR/ EDR + BLE)



GPS/ BDS/ GLONASS
or
GPS/ BDS/ Galileo



Powerful Multimedia
Functions



LCC + LGA
Package

Version: 1.5 | Status: Released

Quectel SC200R Series

LTE Cat 4	SC200R-CE	SC200R-EM	SC200R-NA	SC200R-JP ^①	SC200R-WF
Region/ Operator	China	EMEA/ India/ South Korea/ South Asia/ Latin America/ Australia/ New Zealand/ South Africa	North America	Japan	Global
CPU	QCM2150, Quad-core ARM Cortex-A53 64-bit CPU @ 1.3 GHz	QCM2150, Quad-core ARM Cortex-A53 64-bit CPU @ 1.3 GHz	QCM2150, Quad-core ARM Cortex-A53 64-bit CPU @ 1.3 GHz	QCM2150, Quad-core ARM Cortex-A53 64-bit CPU @ 1.3 GHz	QCM2150, Quad-core ARM Cortex-A53 64-bit CPU @ 1.3 GHz
Memory	1 GB LPDDR3 + 8 GB eMMC 2 GB LPDDR3 + 16 GB eMMC 3 GB LPDDR3 + 32 GB eMMC	1 GB LPDDR3 + 8 GB eMMC 2 GB LPDDR3 + 16 GB eMMC 3 GB LPDDR3 + 32 GB eMMC	1 GB LPDDR3 + 8 GB eMMC 2 GB LPDDR3 + 16 GB eMMC	1 GB LPDDR3 + 8 GB eMMC 2 GB LPDDR3 + 16 GB eMMC	1 GB LPDDR3 + 8 GB eMMC 2 GB LPDDR3 + 16 GB eMMC
OS	Android 10	Android 10	Android 10	Android 10	Android 10
Dimensions (mm)	40.5 × 40.5 × 2.8	40.5 × 40.5 × 2.8	40.5 × 40.5 × 2.8	40.5 × 40.5 × 2.8	40.5 × 40.5 × 2.8
Package	LCC + LGA	LCC + LGA	LCC + LGA	LCC + LGA	LCC + LGA
Weight (g)	Approx. 10.2	Approx. 10.2	Approx. 10.2	Approx. 10.2	Approx. 10.2
Temperature Range					
Operating Temperature	-35 °C to +75 °C	-35 °C to +75 °C	-35 °C to +75 °C	-35 °C to +75 °C	-35 °C to +75 °C
Frequency Bands					
LTE-FDD	B1/ 3/ 5/ 8	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	-
LTE-TDD	B34/ 38/ 39/ 40/ 41	B38/ 40/ 41	B41	B41	-
WCDMA	B1/ 8	B1/ 2/ 4/ 5/ 8	B2/ 4/ 5	B1/ 6/ 8/ 19	-
EVDO/ CDMA	BC0	-	-	-	-
GSM	900/ 1800 MHz	850/ 900/ 1800/ 1900 MHz	-	-	-
WLAN	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	2.4 & 5 GHz 802.11a/ b/ g/ n	2.4 & 5 GHz 802.11a/ b/ g/ n
Bluetooth	Bluetooth 2.1 + EDR/ 3.0/ 4.1 LE/ 4.2 BLE	Bluetooth 2.1 + EDR/ 3.0/ 4.1 LE/ 4.2 BLE	Bluetooth 2.1 + EDR/ 3.0/ 4.1 LE/ 4.2 BLE	Bluetooth 2.1 + EDR/ 3.0/ 4.1 LE/ 4.2 BLE	Bluetooth 2.1 + EDR/ 3.0/ 4.1 LE/ 4.2 BLE
GNSS	GPS/BDS/GLONASS or GPS/BDS/Galileo	GPS/BDS/GLONASS or GPS/BDS/Galileo	GPS/BDS/GLONASS or GPS/BDS/Galileo	GPS/BDS/GLONASS or GPS/BDS/Galileo	-
Certifications					
Carrier	TBD	Australia: Telstra*	America: Verizon/ AT&T/ T-Mobile ^①	Japan: NTT DOCOMO ^①	TBD
Regulatory	China: CCC/ SRRC/ NAL ^①	Global: GCF Europe: CE Australia/ New Zealand: RCM South Korea: KC Brazil: Anatel	Global: GCF America: FCC Canada: IC North America: PTCRB	Japan: JATE ^① / TELEC ^①	Europe: CE America: FCC Canada: IC Australia/ New Zealand: RCM
Others	RoHS/ REACH	RoHS/ REACH	RoHS/ REACH	RoHS/ REACH	RoHS/ REACH
Data Transmission					
LTE-FDD Data Rate (Mbps)	150 (DL)/ 50 (UL)	150 (DL)/ 50 (UL)	150 (DL)/ 50 (UL)	150 (DL)/ 50 (UL)	-
LTE-TDD Data Rate (Mbps)	130 (DL)/ 30 (UL)	130 (DL)/ 30 (UL)	130 (DL)/ 30 (UL)	130 (DL)/ 30 (UL)	-
DC-HSPA+ Data Rate (Mbps)	42 (DL)/ 5.76 (UL)	42 (DL)/ 5.76 (UL)	42 (DL)/ 5.76 (UL)	42 (DL)/ 5.76 (UL)	-
WCDMA Data Rate (kbps)	384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)	-
EVDO Data Rate (Mbps)	3.1 (DL)/ 1.8 (UL)	-	-	-	-
EDGE Data Rate (kbps)	296 (DL)/ 236.8 (UL)	296 (DL)/ 236.8 (UL)	-	-	-
GPRS Data Rate (kbps)	107 (DL)/ 85.6 (UL)	107 (DL)/ 85.6 (UL)	-	-	-
Enhanced Features					
3GPP E-UTRA	Release 10	Release 10	Release 10	Release 10	-
Bandwidth (MHz)	1.4/ 3/ 5/ 10/ 15/ 20	1.4/ 3/ 5/ 10/ 15/ 20	1.4/ 3/ 5/ 10/ 15/ 20	1.4/ 3/ 5/ 10/ 15/ 20	-
Rx-diversity	●	●	●	●	-
DL MIMO 2 × 2	●	●	●	●	-
(U)SIM Detection	●	●	●	●	-
Dual SIM Dual Standby	●	●	●	●	-
Firmware Upgrade via USB	●	●	●	●	●
Firmware Upgrade via OTA	●	●	●	●	●
General Features					
Supply Voltage Range	3.55–4.2 V, Typ. 3.8 V				
Power Consumption	13 μA @ power off, Typ. 3.2 mA @ sleep mode				
Interfaces					
LCM	× 1, 4-lane MIPI DSI, HD+ (1440 × 720) @ 60 fps; Wi-Fi display: 1080P @ 30 fps (UBWC)				
Camera	Two 4-lane MIPI CSI, up to 2.1 Gbps/ lane Support 2 or 3 cameras, up to 13 MP with dual ISP				
Touch Panel	Capacitive touch panel, I2C controls				
Audio	3 analog inputs: MIC1, MIC2, MIC3 (including one noise-canceling MIC) 3 analog outputs: speaker, earpiece, headphone				
Video	Video encoding + decoding: 720P @ 30 fps + 1080P @ 30 fps Encoding up to 1080P @ 30 fps, decoding up to 1080P @ 30 fps				
USB 2.0	× 1, compliant with USB 2.0, support USB OTG, USB OTG + charge, etc.				
(U)SIM	× 2, support 1.8/ 2.95 V (U)SIM cards, with (U)SIM card detection function, DSDS supported				
UART	× 3, up to 4 Mbps, one of them supports hardware flow control				
SD Card	× 1, SD 3.0, support 4-bit SD mode				
ADC	× 1, general-purpose ADC interface				
I2C	× 4				
I2S	× 2, can be multiplexed from GPIO interfaces				
SPI	× 3, can be multiplexed from UART and GPIO interfaces				
PWRKEY	1.8 V, pulled up internally				
GPIO	× 35				
Antenna	× 4, Main/ Rx-diversity/ GNSS/ Wi-Fi & Bluetooth Antenna respectively (SC200R-WF: × 1, Wi-Fi & Bluetooth Antenna)				

NOTE:
1. *: under development/ in progress/ planning
2. TBD: to be determined
3. ①: TBD