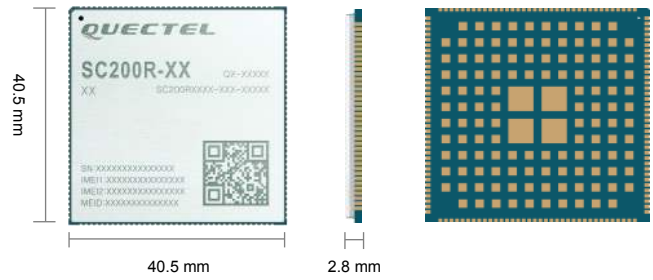




# Quectel SC200R Series

## 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 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\* and Wi-Fi & BT only version SC200R-WF.

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, BeiDou, GLONASS and 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, security surveillance, PDA & tablets, vending machines, delivery lockers, police and law enforcement equipment, in-car video streaming and entertainment systems, etc.



### 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



BT 4.2  
(BR/EDR + BLE)



GPS, BeiDou,  
GLONASS, Galileo



Powerful Multimedia  
Functions



LCC + LGA  
Package

Version: 1.2 | Status: Released

# Quectel SC200R Series

LTE Cat 4	SC200R-CE	SC200R-EM	SC200R-NA	SC200R-JP*	SC200R-WF
<b>Region/Operator</b>	China	EMEA/India/Korea/South Asia/ Latin America/Australia/ New Zealand/South Africa	North America	Japan	Global
<b>CPU</b>	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
<b>Memory</b>	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	1 GB LPDDR3 + 8 GB eMMC 2 GB LPDDR3 + 16 GB eMMC	1 GB LPDDR3 + 8 GB eMMC 2 GB LPDDR3 + 16 GB eMMC
<b>OS</b>	Android 10.0	Android 10.0	Android 10.0	Android 10.0	Android 10.0
<b>Dimensions (mm)</b>	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
<b>Temperature Range</b>					
<b>Operating Temperature</b>	-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
<b>Frequency Bands</b>					
<b>LTE-FDD</b>	B1/B3/B5/B8	B1/B2/B3/B4/B5/B7/B8/B20/B28	B2/B4/B5/B7/B12/B13/B14/B17/ B25/B26/B66/B71	B1/B3/B5/B8/B11/B18/B19/B21/ B26/B28	-
<b>LTE-TDD</b>	B34/B38/B39/B40/B41	B38/B40/B41	B41	B41	-
<b>WCDMA</b>	B1/B8	B1/B2/B4/B5/B8	B2/B4/B5	B1/B6/B8/B19	-
<b>EVDO/CDMA</b>	BC0	-	-	-	-
<b>GSM</b>	900/1800 MHz	850/900/1800/1900 MHz	-	-	-
<b>WLAN</b>	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
<b>Bluetooth</b>	BT 2.1+EDR/3.0/4.1 LE/4.2 BLE	BT 2.1+EDR/3.0/4.1 LE/4.2 BLE	BT 2.1+EDR/3.0/4.1 LE/4.2 BLE	BT 2.1+EDR/3.0/4.1 LE/4.2 BLE	BT 2.1+EDR/3.0/4.1 LE/4.2 BLE
<b>GNSS</b>	GPS/BeiDou/GLONASS or GPS/BeiDou/Galileo	GPS/BeiDou/GLONASS or GPS/BeiDou/Galileo	GPS/BeiDou/GLONASS or GPS/BeiDou/Galileo	GPS/BeiDou/GLONASS or GPS/BeiDou/Galileo	-
<b>Certifications</b>					
<b>Carrier</b>	TBD	<b>Australia:</b> Telstra*	<b>America:</b> Verizon*/AT&T*/T-Mobile*	<b>Japan:</b> NTT DOCOMO*	TBD
<b>Regulatory</b>	<b>China:</b> CCC/SRRC*/NAL*	<b>Global:</b> GCF <b>Europe:</b> CE <b>Australia/New Zealand:</b> RCM	<b>Global:</b> GCF <b>America:</b> FCC <b>Canada:</b> IC <b>North America:</b> PTCRB*	<b>Japan:</b> JATE*/TELEC*	<b>Europe:</b> CE* <b>America:</b> FCC* <b>Canada:</b> IC* <b>Australia/New Zealand:</b> RCM*
<b>Others</b>	RoHS/REACH	RoHS/REACH	RoHS/REACH	RoHS/REACH	RoHS/REACH
<b>Data Transmission</b>					
<b>LTE-FDD Data Rate (Mbps)</b>	150 (DL)/50 (UL)	150 (DL)/50 (UL)	150 (DL)/50 (UL)	150 (DL)/50 (UL)	-
<b>LTE-TDD Data Rate (Mbps)</b>	130 (DL)/30 (UL)	130 (DL)/30 (UL)	130 (DL)/30 (UL)	130 (DL)/30 (UL)	-
<b>DC-HSPA+ Data Rate (Mbps)</b>	42 (DL)/11.2 (UL)	42 (DL)/11.2 (UL)	42 (DL)/11.2 (UL)	42 (DL)/11.2 (UL)	-
<b>WCDMA Data Rate (kbps)</b>	384 (DL)/384 (UL)	384 (DL)/384 (UL)	384 (DL)/384 (UL)	384 (DL)/384 (UL)	-
<b>EVDO Data Rate (Mbps)</b>	3.1 (DL)/1.8 (UL)	-	-	-	-
<b>EDGE Data Rate (kbps)</b>	296 (DL)/236.8 (UL)	296 (DL)/236.8 (UL)	-	-	-
<b>GPRS Data Rate (kbps)</b>	107 (DL)/85.6 (UL)	107 (DL)/85.6 (UL)	-	-	-
<b>Enhanced Features</b>					
<b>3GPP E-UTRA</b>	Release 10	Release 10	Release 10	Release 10	-
<b>Bandwidth</b>	1.4/3/5/10/15/20 MHz	1.4/3/5/10/15/20 MHz	1.4/3/5/10/15/20 MHz	1.4/3/5/10/15/20 MHz	-
<b>Rx-diversity</b>	●	●	●	●	-
<b>DL MIMO 2 × 2</b>	●	●	●	●	-
<b>(U)SIM Detection</b>	●	●	●	●	-
<b>Dual SIM Dual Standby</b>	●	●	●	●	-
<b>Firmware Upgrade via USB</b>	●	●	●	●	●
<b>OTA</b>	●	●	●	●	●
<b>General Features</b>					
<b>Supply Voltage Range</b>	3.55–4.2 V, Typ. 3.8 V				
<b>Power Consumption</b>	13 µA @ power off, Typ. 3.2 mA @ sleep mode				
<b>Package</b>	LCC + LGA				
<b>Weight</b>	Approx. 10.2 g				
<b>Interfaces</b>					
<b>LCM</b>	× 1, 4-lane MIPI_DSI, HD+ (1440 × 720) @ 60 fps				
<b>Camera</b>	2 groups of 4-lane MIPI_CSI, up to 2.1 Gbps/lane Support 2 or 3 cameras, up to 13 MP with dual ISP				
<b>Touch Panel</b>	Capacitive touch panel				
<b>Audio</b>	3 analog inputs: MIC1, MIC2, MIC3 (including one noise-canceling MIC) 3 analog outputs: speaker, earpiece, headphone				
<b>Video</b>	Video encoding + decoding: 720P @ 30 fps + 1080P @ 30 fps Encoding up to 1080P @ 30 fps, decoding up to 1080P @ 30 fps				
<b>USB 2.0</b>	× 1, compliant with USB 2.0, support USB OTG, USB OTG + charge, etc.				
<b>(U)SIM</b>	× 2, support 1.8/2.95 V (U)SIM cards, with (U)SIM card detection function, DSDS supported				
<b>UART</b>	× 3, up to 4 Mbps, one of them supports hardware flow control				
<b>SD Card</b>	× 1, SD 3.0, support 4-bit SD mode				
<b>ADC</b>	× 1, general-purpose ADC interface				
<b>I2C</b>	× 4				
<b>I2S</b>	× 2, can be multiplexed from GPIO interfaces				
<b>SPI</b>	× 3, can be multiplexed from UART and GPIO interfaces				
<b>PWRKEY</b>	1.8 V, pulled up internally				
<b>GPIO</b>	× 35				
<b>Antenna</b>	× 4, Main/Rx-diversity/GNSS/Wi-Fi & BT Antenna respectively (SC200R-WF: × 1, Wi-Fi & BT Antenna)				

**Notes:**

- \* means under development/planning/ongoing.
- means supported.