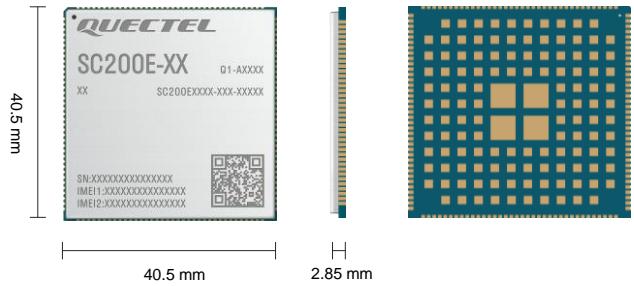


# Quectel SC200E Series

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



SC200E series is Quectel’s new generation of multi-mode Smart LTE Cat 4 module. Based on Qualcomm 64-bit quad-core Cortex-A53 processors with built-in Adreno™ 702 GPU, it is ideal for both industrial and consumer applications requiring high data rate, multimedia functions and long lifetime support. SC200E series is available in six variants: SC200E-CE, SC200E-EM, SC200E-NA, SC200E-JP, Wi-Fi & Bluetooth only version SC200E-WF and Global operator version SC200E-GL.

SC200E series supports multiple-input multiple-output (MIMO) technology. The use of multiple antennas at the receiver end on the same frequency band greatly minimizes errors and improves the data speed. This module also combines high-speed wireless connectivity with embedded multi-constellation and high-sensitivity GNSS receiver supporting GPS, BDS, GLONASS, Galileo, QZSS, SBAS (SC200E-NA supports NavIC and L1 + L5) for positioning.

A rich set of interfaces (such as LCM, Camera, Touch Panel, MIC, Line Out, 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, video streaming and entertainment systems, etc.

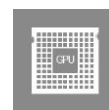


### Key Features

- ✓ Exceptional application and system performance based on the quad-core Cortex-A53 64-bit processor
- ✓ Enhanced mobile rendering APIs for image and video applications via Adreno™ 702 GPU
- ✓ Worldwide LTE, UMTS/ HSPA+ and GSM/ GPRS/ EDGE coverage
- ✓ Dual ISPs and up to 25 MP camera @ 30 fps
- ✓ Recording and playback of 1080P videos @ 30 fps
- ✓ Multi-constellation GNSS receiver for applications requiring fast and accurate fixes in any environment



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



Qualcomm®  
Adreno™ 702 GPU



Android OS



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



IEEE 802.11  
a/ b/ g/ n/ ac



Bluetooth 5.0  
(BR/ EDR + BLE)



GPS/ BDS/ GLONASS/  
Galileo/ QZSS/ SBAS  
(SC200E-NA supports  
NavIC and L1 + L5)



Powerful Multimedia  
Functions



LCC + LGA  
Package

# Quectel SC200E Series

LTE Cat 4	SC200E-CE	SC200E-EM	SC200E-NA	SC200E-JP	SC200E-WF	SC200E-GL
<b>Region/Operator</b>	China	EMEA/ Korea/ South Asia/ Latin America/ India/ Australia/ New Zealand/ South Africa	North America	Japan	Global	Global
<b>CPU</b>	QCM2290, Quad-core ARM Cortex-A53 64-bit CPU @ 2.0 GHz	QCM2290, Quad-core ARM Cortex-A53 64-bit CPU @ 2.0 GHz	QCM2290, Quad-core ARM Cortex-A53 64-bit CPU @ 2.0 GHz	QCM2290, Quad-core ARM Cortex-A53 64-bit CPU @ 2.0 GHz	QCM2290, Quad-core ARM Cortex-A53 64-bit CPU @ 2.0 GHz	QCM2290, Quad-core ARM Cortex-A53 64-bit CPU @ 2.0 GHz
<b>Memory</b>	2 GB LPDDR4X + 16 GB eMMC 3 GB LPDDR4X + 32 GB eMMC	2 GB LPDDR4X + 16 GB eMMC 3 GB LPDDR4X + 32 GB eMMC	2 GB LPDDR4X + 16 GB eMMC 3 GB LPDDR4X + 32 GB eMMC	2 GB LPDDR4X + 16 GB eMMC 3 GB LPDDR4X + 32 GB eMMC	2 GB LPDDR4X + 16 GB eMMC 3 GB LPDDR4X + 32 GB eMMC	2 GB LPDDR3 + 16 GB eMMC 3 GB LPDDR4X + 32 GB eMMC
<b>OS</b>	Android 12/ 13	Android 12/ 13	Android 12/ 13	Android 12/ 13	Android 12/ 13	Android 12/ 13
<b>Dimensions (mm)</b>	40.5 × 40.5 × 2.85	40.5 × 40.5 × 2.85	40.5 × 40.5 × 2.85	40.5 × 40.5 × 2.85	40.5 × 40.5 × 2.85	40.5 × 40.5 × 2.85
<b>Package</b>	LCC + LGA	LCC + LGA	LCC + LGA	LCC + LGA	LCC + LGA	LCC + LGA
<b>Weight (g)</b>	Approx. 10.3	Approx. 10.3	Approx. 10.3	Approx. 10.3	Approx. 10.1	Approx. 10.6
<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	-35 °C to +75 °C
<b>Frequency Bands</b>						
<b>LTE-FDD</b>	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	-	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 66/ 71
<b>LTE-TDD</b>	B34/ 38/ 39/ 40/ 41	B38/ 40/ 41	B41	B41	-	B34/ 38/ 39/ 40/ 41
<b>WCDMA</b>	B1/ 8	B1/ 2/ 4/ 5/ 8	-	B1/ 6/ 8/ 19	-	B1/ 2/ 4/ 5/ 6/ 8/ 19
<b>EVDO/CDMA</b>	BC0	-	-	-	-	-
<b>GSM/EDGE</b>	900/ 1800 MHz	Quad-band	-	-	-	Quad-band
<b>WLAN</b>	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 & 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
<b>Bluetooth<sup>①</sup></b>	2.1 EDR/ 3.0 HS/ 4.2 LE/ 5.0 LE	2.1 EDR/ 3.0 HS/ 4.2 LE/ 5.0 LE	2.1 EDR/ 3.0 HS/ 4.2 LE/ 5.0 LE	2.1 EDR/ 3.0 HS/ 4.2 LE/ 5.0 LE	2.1 EDR/ 3.0 HS/ 4.2 LE/ 5.0 LE	2.1 EDR/ 3.0 HS/ 4.2 LE/ 5.0 LE
<b>GNSS</b>	GPS/ BDS/ GLONASS/ Galileo/ QZSS/ SBAS, L1	GPS/ BDS/ GLONASS/ Galileo/ QZSS/ SBAS, L1	GPS/ BDS/ GLONASS/ Galileo/ QZSS/ SBAS/ NavIC, L1 + L5	GPS/ BDS/ GLONASS/ Galileo/ QZSS/ SBAS, L1	-	GPS/ BDS/ GLONASS/ Galileo/ QZSS/ SBAS/ NavIC, L1 + L5
<b>Certifications</b>						
<b>Carrier</b>	TBD	Australia: Telstra*	America: Verizon*/AT&T/ T-Mobile	Japan: NTT DOCOMO	-	TBD
<b>Regulatory</b>	China: CCC/ SRRC/ NAL	Global: GCF Europe: CE UK: UKCA Brazil: Anatel South Korea: KC Australia/ New Zealand: RCM	Global: GCF North America: PTCRB America: FCC Canada: IC	Japan: JATE/ TELEC	Europe: CE UK: UKCA South Korea: KC Taiwan, China: NCC Japan: JATE/ TELEC Australia/ New Zealand: RCM Thailand: NBTC*	America: FCC* Canada: IC* Europe: CE* Australia/ New Zealand: RCM* Japan: JATE*/ TELEC* South Korea: KC* Brazil: Anatel*
<b>Others</b>	RoHS/REACH	RoHS/REACH	RoHS/REACH	RoHS/REACH	RoHS/REACH	RoHS*/REACH*
<b>Data Rate</b>						
<b>LTE-FDD (Mbps)</b>	150 (DL)/ 50 (UL)	150 (DL)/ 50 (UL)	150 (DL)/ 50 (UL)	150 (DL)/ 50 (UL)	-	150 (DL)/ 50 (UL)
<b>LTE-TDD (Mbps)</b>	130 (DL)/ 30 (UL)	130 (DL)/ 30 (UL)	130 (DL)/ 30 (UL)	130 (DL)/ 30 (UL)	-	130 (DL)/ 30 (UL)
<b>DC-HSDPA/HSUPA (Mbps)</b>	42 (DL)/ 5.76 (UL)	42 (DL)/ 5.76 (UL)	-	42 (DL)/ 5.76 (UL)	-	42 (DL)/ 5.76 (UL)
<b>WCDMA (kbps)</b>	384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)	-	384 (DL)/ 384 (UL)	-	384 (DL)/ 384 (UL)
<b>EVDO (Mbps)</b>	3.1 (DL)/ 1.8 (UL)	-	-	-	-	-
<b>EDGE (kbps)</b>	296 (DL)/ 236.8 (UL)	296 (DL)/ 236.8 (UL)	-	-	-	296 (DL)/ 236.8 (UL)
<b>GPRS (kbps)</b>	107 (DL)/ 85.6 (UL)	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	-	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	-	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>Firmware Upgrade via OTA</b>	●	●	●	●	●	●

\*: under development/ ongoing/ planning.

●: supported.

①: The module is compliant with all mandatory Bluetooth 5.0 features, but does not support Bluetooth 5.0 optional features like 2 Mbps BLE, Advanced Advertising Extension, etc.

# Quectel SC200E Series

LTE Cat 4	General Features of SC200E Series
<b>Interfaces</b>	
LCM	1 group of 4-lane MIPI DSI, HD+ (1680 × 720) @ 60 fps
Camera	2 groups of 4-lane MIPI CSI, up to 2.5 Gbps/ lane Supports 2 or 3 cameras, up to 25 MP or 13 MP + 13 MP with dual ISP
Touch Panel	Capacitive touch panel
Audio	3 analog inputs: MIC1, MIC2, MIC3 (including one noise-canceling MIC) 3 analog outputs: Line Out, earpiece, headphone
Video	Encoder: 1080P 8-bit H.264/ H.265 (HEVC) @ 30 fps Decoder: 1080P 8-bit H.264/ H.265 (HEVC)/ VP9 @ 30 fps
USB	× 1, compliant with USB 2.0/ 3.1, supports USB OTG, charge, etc.
(U)SIM	× 2, supports 1.8/ 2.95 V (U)SIM cards, with (U)SIM card detection function, DSDS supported
UART	× 3, up to 4 Mbps, supports hardware flow control
SD Card	× 1, SD 3.0, supports 4-bit SDIO
ADC	× 1, general-purpose ADC interface
I2C	× 4
SPI	× 1 (multiplexed)
PWRKEY	Pulled up internally to 1.1 V
GPIO	× 33
Antenna	× 4, Main/ Rx-diversity/ GNSS/ Wi-Fi & Bluetooth antenna interface respectively (SC200E-WF: × 1, Wi-Fi & Bluetooth antenna interface)
<b>Electrical Features</b>	
Supply Voltage Range	3.55–4.4 V, typ. 3.8 V
Power Consumption	80 μA @ power off, typ. 4.5 mA @ sleep mode