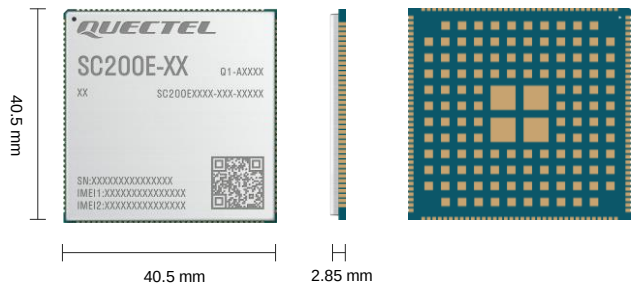


Quectel SC200E Series

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 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.

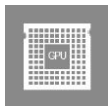


Key Features

- ✓ 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



Powerful Multimedia
Functions



LCC + LGA
Package

Quectel SC200E Series

LTE Cat 4	SC200E-CE	SC200E-EM	SC200E-NA	SC200E-JP	SC200E-WF	SC200E-GL
Region/Operator	China	EMEA/ Korea/ South Asia/ Latin America/ India/ Australia/ New Zealand/ South Africa	North America	Japan	Global	Global
CPU	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
Memory	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
OS	Android 12/ 13/ 14	Android 12/ 13/ 14	Android 12/ 13/ 14	Android 12/ 13/ 14	Android 12/ 13/ 14	Android 12/ 13/ 14
Dimensions (mm)	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
Package	LCC + LGA	LCC + LGA	LCC + LGA	LCC + LGA	LCC + LGA	LCC + LGA
Weight (g)	Approx. 10.3	Approx. 10.3	Approx. 10.3	Approx. 10.3	Approx. 10.1	Approx. 10.6
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	-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	-	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 66/ 71
LTE-TDD	B34/ 38/ 39/ 40/ 41	B38/ 40/ 41	B41	B41	-	B34/ 38/ 39/ 40/ 41
WCDMA	B1/ 8	B1/ 2/ 4/ 5/ 8	-	B1/ 6/ 8/ 19	-	B1/ 2/ 4/ 5/ 6/ 8/ 19
EVDO/CDMA	BC0	-	-	-	-	-
GSM/EDGE	900/ 1800 MHz	Quad-band	-	-	-	Quad-band
WLAN	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
Bluetooth ^①	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
GNSS	GPS/ BDS/ GLONASS/ Galileo/ QZSS/ SBAS	GPS/ BDS/ GLONASS/ Galileo/ QZSS/ SBAS	GPS/ BDS/ GLONASS/ Galileo/ QZSS/ SBAS/ NavIC	GPS/ BDS/ GLONASS/ Galileo/ QZSS/ SBAS	-	GPS/ BDS/ GLONASS/ Galileo/ QZSS/ SBAS
Certifications						
Carrier	TBD	Australia: Telstra [®]	America: Verizon/ AT&T/ T-Mobile	Japan: NTT DOCOMO	-	America: Verizon*/ AT&T*/ T-Mobile ^②
Regulatory	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 UK: UKCA [®] Global: GCF* North America: PTCRB* Australia/ New Zealand: RCM Japan: JATE/ TELEC South Korea: KC Brazil: Anatel [®]
Others	RoHS/REACH	RoHS/REACH	RoHS/REACH	RoHS/REACH	RoHS/REACH	RoHS/REACH
Data Rate						
LTE-FDD (Mbps)	150 (DL)/ 50 (UL)	150 (DL)/ 50 (UL)	150 (DL)/ 50 (UL)	150 (DL)/ 50 (UL)	-	150 (DL)/ 50 (UL)
LTE-TDD (Mbps)	130 (DL)/ 30 (UL)	130 (DL)/ 30 (UL)	130 (DL)/ 30 (UL)	130 (DL)/ 30 (UL)	-	130 (DL)/ 30 (UL)
DC-HSDPA/HSUPA (Mbps)	42 (DL)/ 5.76 (UL)	42 (DL)/ 5.76 (UL)	-	42 (DL)/ 5.76 (UL)	-	42 (DL)/ 5.76 (UL)
WCDMA (kbps)	384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)	-	384 (DL)/ 384 (UL)	-	384 (DL)/ 384 (UL)
EVDO (Mbps)	3.1 (DL)/ 1.8 (UL)	-	-	-	-	-
EDGE (kbps)	296 (DL)/ 236.8 (UL)	296 (DL)/ 236.8 (UL)	-	-	-	296 (DL)/ 236.8 (UL)
GPRS (kbps)	107 (DL)/ 85.6 (UL)	107 (DL)/ 85.6 (UL)	-	-	-	107 (DL)/ 85.6 (UL)
Enhanced Features						
3GPP E-UTRA	Release 10	Release 10	Release 10	Release 10	-	Release 10
Bandwidth	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
Rx-diversity	●	●	●	●	-	●
DL MIMO 2 × 2	●	●	●	●	-	●
(U)SIM Detection	●	●	●	●	-	●
Dual SIM Dual Standby	●	●	●	●	-	●
Firmware Upgrade via USB	●	●	●	●	●	●
Firmware Upgrade via OTA	●	●	●	●	●	●

NOTE:
*: 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.
②: TBD.



Quectel SC200E Series

LTE Cat 4 General Features of SC200E Series	
Interfaces	
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)
Electrical Features	
Supply Voltage Range	3.55–4.4 V, typ. 3.8 V
Power Consumption	80 μA @ power off, typ. 4.5 mA @ sleep mode