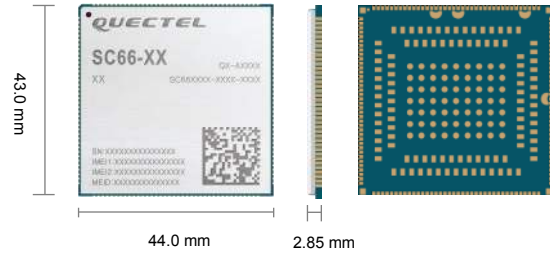


# Quectel SC66 Series

## Multi-mode Smart LTE Cat 6 Module with Wi-Fi & Bluetooth







SC66 series is Quectel’s new generation of multi-mode Smart LTE Cat 6 module with Android 9.0/10.0. Based on Qualcomm ARM Kryo™ 260 64-bit octa-core high-performance processor with built-in Adreno™ 512 GPU, it is an ideal solution for a wide range of industrial and consumer applications requiring high data rates and multimedia functions. SC66 series is available in five variants: SC66-CE, SC66-E, SC66-A, SC66-J and SC66-MW.

SC66 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. The module also combines high-speed wireless connectivity with embedded multi-constellation and high-sensitivity GNSS (GPS, GLONASS, BeiDou, QZSS and SBAS) receiver for positioning.

A rich set of interfaces (such as LCM, Camera, Touch Panel, MIC, SPK, UART, USB, I2C, SPI) extend the applicability of the module to a wide range of M2M applications, including smart POS, smart cash registers, smart home gateways, smart robots, smart wearables, security surveillance, PDA & tablets, vending machines, delivery lockers, AI, police and law enforcement equipment, in-car video streaming and entertainment systems, etc.

### Key Features

- ✓ Supports LTE Cat 6 and 2 × 20 MHz carrier aggregation, with maximum downlink speed of up to 300 Mbps
- ✓ Worldwide LTE, UMTS/HSPA+, TD-SCDMA, CDMA/EVDO and GSM/GPRS/EDGE coverage
- ✓ Supports MIPI\_DSI (up to 2560 × 1600 @ 60 fps) and DP over USB Type-C (up to 4096 × 2160 @ 30 fps) for dual independent display
- ✓ Supports MIPI\_DSI0 (1920 × 1080 @ 60 fps) and MIPI\_DSI1 (1920 × 1080 @ 60 fps) for dual independent display as an option
- ✓ Supports up to four cameras, with two of them working simultaneously
- ✓ Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment
- ✓ Supports recording and playback of 4K videos @ 30 fps

 SDM660 64-bit Processor (Octa-core)	 Qualcomm® Adreno™ 512 GPU	 Android OS
 Smart LTE Cat 6 Max. 300 Mbps (DL) Max. 50 Mbps (UL)	 IEEE 802.11 a/b/g/n/ac	 BT 5.0
 GPS/GLONASS/BeiDou/QZSS/SBAS	 Powerful Multimedia Function	 LCC + LGA Package

# Quectel SC66 Series

LTE Cat 6	SC66-CE	SC66-E	SC66-A	SC66-J	SC66-MW
<b>Region/Operator</b>	China	Europe/India/South Korea/ South Asia/Latin America/ Australia/South Africa	North America	Japan	Global
<b>CPU</b>	Kryo 260 Gold (2.2 GHz) Kryo 260 Silver (1.843 GHz)	Kryo 260 Gold (2.2 GHz) Kryo 260 Silver (1.843 GHz)	Kryo 260 Gold (2.2 GHz) Kryo 260 Silver (1.843 GHz)	Kryo 260 Gold (2.2 GHz) Kryo 260 Silver (1.843 GHz)	Kryo 260 Gold (2.2 GHz) Kryo 260 Silver (1.843 GHz)
<b>Memory</b>	32 GB eMMC + 3 GB LPDDR4X 64 GB eMMC + 4 GB LPDDR4X	32 GB eMMC + 3GB LPDDR4X 64 GB eMMC + 4GB LPDDR4X	32 GB eMMC + 3 GB LPDDR4X 64 GB eMMC + 4 GB LPDDR4X	32 GB eMMC + 3 GB LPDDR4X 64 GB eMMC + 4 GB LPDDR4X	32 GB eMMC + 3 GB LPDDR4X 64 GB eMMC + 4 GB LPDDR4X
<b>OS</b>	Android 9.0/10.0	Android 9.0/10.0	Android 9.0/10.0	Android 9.0/10.0	Android 9.0/10.0
<b>Dimensions (mm)</b>	43.0 × 44.0 × 2.85	43.0 × 44.0 × 2.85	43.0 × 44.0 × 2.85	43.0 × 44.0 × 2.85	43.0 × 44.0 × 2.85
<b>Temperature Range</b>					
<b>Operating Temperature</b>	-35 to +75 °C	-35 to +75 °C	-35 to +75 °C	-35 to +75 °C	-35 to +75 °C
<b>Frequency Bands</b>					
<b>LTE-FDD</b>	B1/B3/B5/B8	B1/B2/B3/B4/B5/B7/B8/B20/ B28(A+B)	B2/B4/B5/B7/B12/B13/B14/ B17/B25/B26/B66/B71	B1/B3/B5/B8/B11/B18/B19/B21/ B26/B28(A+B)	/
<b>LTE-TDD</b>	B34/B38/B39/B40/B41 <sup>②</sup>	B38/B39/B40/B41 <sup>①</sup>	B41 <sup>①</sup>	B41 <sup>②</sup>	/
<b>WCDMA</b>	B1/B8	B1/B2/B4/B5/B8	B2/B4/B5	B1/B6/B8/B19	/
<b>TD-SCDMA</b>	B34/B39	/	/	/	/
<b>EVDO/CDMA</b>	BC0	/	/	/	/
<b>GSM/EDGE</b>	B3/B8	B2/B3/B5/B8	/	/	/
<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
<b>Bluetooth</b>	BT 2.1+EDR/3.0/4.1 LE/4.2 BLE/ BT 5.0	BT 2.1+EDR/3.0/4.1 LE/4.2 BLE/ BT 5.0	BT 2.1+EDR/3.0/4.1 LE/4.2 BLE/ BT 5.0	BT 2.1+EDR/3.0/4.1 LE/4.2 BLE/ BT 5.0	BT 2.1+EDR/3.0/4.1 LE/4.2 BLE/ BT 5.0
<b>GNSS</b>	GPS/GLONASS/BeiDou/ QZSS/SBAS	GPS/GLONASS/BeiDou/ QZSS/SBAS	GPS/GLONASS/BeiDou/ QZSS/SBAS	GPS/GLONASS/BeiDou/ QZSS/SBAS	/
<b>Certifications</b>					
<b>Carrier</b>	/	<b>Australia:</b> Telstra <sup>③</sup>	<b>North America:</b> Verizon*/AT&T*	<b>Japan:</b> NTT DOCOMO <sup>③</sup>	/
<b>Regulatory</b>	<b>China:</b> SRRC/NAL/CCC	<b>Global:</b> GCF <b>Europe:</b> CE <b>Taiwan, China:</b> NCC <b>Australia/New Zealand:</b> RCM <b>Brazil:</b> Anatel <sup>③</sup> <b>South Korea:</b> KC <sup>③</sup>	<b>Global:</b> GCF <b>North America:</b> PTCRB <b>America:</b> FCC <b>Canada:</b> IC	<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>	300 (DL)/50 (UL)	300 (DL)/50 (UL)	300 (DL)/50 (UL)	300 (DL)/50 (UL)	/
<b>LTE-TDD Data Rate (Mbps)</b>	265 (DL)/30 (UL)	265 (DL)/30 (UL)	265 (DL)/30 (UL)	265 (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>TD-SCDMA Data Rate (Mbps)</b>	4.2 (DL)/2.2 (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 12	Release 12	Release 12	Release 12	/
<b>Bandwidth (MHz)</b>	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	/
<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>	3.55–4.4 V, Typ. 4.0 V				
<b>Power Consumption</b>	80 μA @ power off; Typ. 5.5 mA @ sleep mode				
<b>Package</b>	LCC + LGA				
<b>Weight (g)</b>	Approx. 12				
<b>Interfaces</b>					
<b>LCM</b>	2560 × 1600 @ 60 fps primary display + 4K @ 30 fps over DP; Dual MIPI_DSI				
<b>Camera</b>	3 groups of 4-lane MIPI_CSI, up to 2.1 Gbps/lane; Supports 3 or 4 cameras; Up to 24 MP with Dual ISPs				
<b>Touch Panel</b>	Capacitive touch panel				
<b>Audio</b>	Speaker, earpiece, headphone and 3 microphones (including one Noise-canceling Microphone) for analog audio				
<b>USB</b>	Supports 2 groups of USB interfaces: ● One supports USB 3.1 Type-C interface, which is compatible with USB 2.0; ● The other supports USB 2.0, which can only work in host mode.				
<b>(U)SIM</b>	× 2, Supports 1.8/2.95 V (U)SIM cards, with (U)SIM card detection function, DSDS supported				
<b>UART</b>	× 4, Each of the four UARTs supports up to 4 Mbps; One of the four UARTs supports hardware flow control				
<b>SD Card</b>	× 1, SD 3.0, 4-bit SDIO				
<b>ADC</b>	× 2, General-purpose ADC interface				
<b>I2C</b>	× 5				
<b>I2S</b>	× 2				
<b>SPI</b>	× 1,				
<b>PWRKEY</b>	× 1, 1.8 V, Pulled up internally				
<b>GPIO</b>	× 22				
<b>Antenna</b>	× 6, Main/Rx-diversity/GNSS/Wi-Fi&BT/FM*/WIFI_MIMO antenna respectively (SC66-CE: WIFI_MIMO is not supported; SC66-MW: × 2, Wi-Fi&BT/WIFI_MIMO antennas)				

## Notes:

- ① B41 of SC66-E and SC66-A only supports 200 MHz bandwidth.
- ② B41 of SC66-CE and SC66-J only supports 120 MHz bandwidth.
- ③ means TBD.
- \* means under development.
- means supported.