Quectel SC60

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

SC60 is Quectel's new generation of multi-mode Smart LTE Cat 6 module with built-in Android 7.1 Nougat OS. Based on Qualcomm Octa-core and 64-bit high-performance processors, SC60 is designed to support leading performance, rich multimedia features and Quick Charge 3.0 technology. It is ideal for both industrial and consumer applications requiring high data-rate and multimedia functions.

SC60 supports multiple-input multiple-output (MIMO) technology, a cutting edge antenna technology transmitting multiple data streams on multiple transmitters to multiple receivers. The antennas at each end of the communications circuit are combined to minimize errors and optimize data speed. The module also combines high-speed wireless connectivity with embedded multi-constellation and high-sensitivity GNSS (GPS, GLONASS and BeiDou) 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 such as smart cash register, tax controller, security monitoring, on-board equipment, high-level information collection equipment, intelligent robot, smart home, intelligent hardware, intelligent industrial handhelds, intelligent industrial PAD, drones, high-level police enforcement instrument, intelligent intercom devices, smart wearables, vending machine, logistics cabinet, etc.

Key Benefits

✔ LTE Cat 6 modem supporting 2x20MHz carrier aggregation, with maximum download speeds up to 300Mbps

✔ Worldwide LTE, UMTS/HSPA+ and GSM/GPRS/EDGE coverage

✔ Dual LCDs and dual touch panels for independent display and operation: 1920x1200 @60fps for primary display and 1920x1080 @60fps for secondary display

✔ Support maximally four cameras, with two of them working simultaneously

✔ Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment

✔ Support recording and playback of 1080p videos at 60fps

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

Qualcomm® Adreno™ 506 GPU

Cat 6 Max 300Mbps (DL) Max 50Mbps (UL)

IEEE 802.11 a/b/g/n/ac

BT4.2 (BR/EDR+BLE)

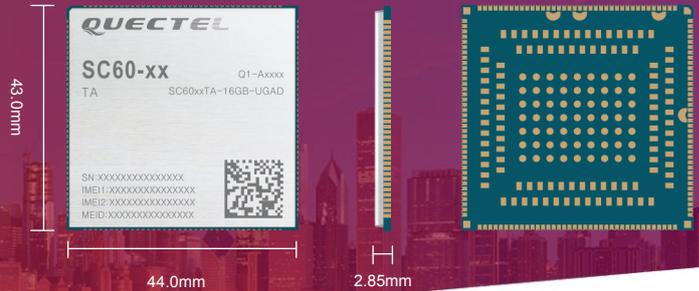GPS+GLONASS+ BeiDou

16GB EMMC +2GB LPDDR3

Android 7.1

LCC+LGA Package

Rev.: V1.1 | Status: Released

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QUECTEL

SC60-xx   Q1–Axxxx
TA   SC60xxTA-16GB-UGAD

SN:XXXXXXXXXXXXXX
IMEI1:XXXXXXXXXXXXXX
IMEI2:XXXXXXXXXXXXXX
MEID:XXXXXXXXXXXXXX

43.0mm
44.0mm
2.85mm

Variant for China/India

SC60-CE:

LTE FDD: B1/B3/B5/B8

LTE TDD: B34/B38/B39/B40/B41

WCDMA: B1/B8

TD-SCDMA: B34/B39

CDMA: BC0

GSM: 900/1800MHz

Variant for EMEA/Korea/Thailand

SC60-E:

LTE FDD: B1/B3/B5/B7/B8/B20

LTE TDD: B38/B39/B40/B41

WCDMA: B1/B2/B5/B8

GSM: 850/900/1800/1900MHz

Variant for North America

SC60-A*:

LTE FDD: B2/B4/B5/B7/B12/B13/B14/B25/B26

LTE TDD: B41

WCDMA: B1/B2/B4/B5

GSM: 850/1900MHz

Variant for Australia/Taiwan/Brazil

SC60-AU*:

LTE FDD: B1/B3/B5/B7/B8/B28

LTE TDD: B40

WCDMA: B1/B2/B5/B8

GSM: 850/900/1800/1900MHz

Variant for Japan

SC60-J*:

LTE FDD: B1/B3/B8/B18/B19/B26

LTE TDD: B41

WCDMA: B1/B6/B8/B19

Variant for Global

SC60-W:

Only Wi-Fi & BT

Data

LTE:

Cat 6 FDD: Max 300Mbps (DL)/50Mbps (UL)

Cat 6 TDD: Max 265Mbps (DL)/35Mbps (UL)

Cat 4 FDD: Max 150Mbps (DL)/50Mbps (UL)

Cat 4 TDD: Max 130Mbps (DL)/35Mbps (UL)

UMTS:

DC-USDPA: Max 42Mbps (DL)

DC-HSUPA: Max 11.2Mbps (UL)

WCDMA: Max 384Kbps (DL/UL)

TD-SCDMA:

Max 4.2Mbps (DL)/2.2Mbps (UL)

CDMA2000:

EVDO : Max 3.1Mbps (DL)/1.8Mbps (UL)

1X Advanced: Max 307.2Kbps (DL/UL)

GSM

EDGE: Max 296Kbps (DL)/236.8Kbps (UL)

GPRS: Max 107Kbps (DL)/85.6Kbps (UL)

Audio & Voice

Crystal Clear VoLTE with Ultra HD Voice and SRVCC/CSFB

High Fidelity Music Playback of 24-bit/192kHz

Interfaces

LCM:

4-lane MIPI_DSI0 + 4-lane MIPI_DSI1

WUXGA (1920×1200) @60fps

Camera:

3 Groups of 4-lane MIPI_CSI, up to 2.1Gbps/lane

Support 3 or 4 Cameras

Up to 21MP with Dual ISPs

Touch Panel:

Capacitive Touch Panel

Audio:

Speaker, Earpiece, Headphone, and 3 MICs for Analog Audio

Support One Noise-canceling MIC

Video:

Video Encoding/Decoding up to 1080P at 60fps

Wi-Fi Display Support up to 1080P at 30fps for Encoding and 1080P at 60fps for Decoding

USB:

USB 3.0 and 2.0 Compliant

Support USB OTG

I2C: × 5

(U)SIM: × 2 (1.8V/2.95V)

UART: × 3 (Support 4Mbps with Hardware Flow Control)

SD Card: × 1 (3.0, 4-bit SDIO)

PWRKEY: 1.8V, Pulled-up Internally

SPI: × 2 (Can be Multiplexed into UART and I2S Respectively, and I2S Supports Both Tx and Rx)

ADC: × 2

GPIO: × 19

Motor Drive: × 1

Flash Driver: × 2

LED Sink: × 4

Antenna: 4 Solder Pads for Main/Rx-diversity/GNSS/Wi-Fi&BT Antenna, Respectively

Enhanced Features

Cat 6 Modem with 2x20MHz CA

BT: BT2.1+EDR/3.0/4.1 LE/4.2 BLE

WLAN: 2.4G/5G, 802.11a/b/g/n/ac

GNSS: GPS/GLONASS/BeiDou

Build-in Charge IC & Fuel Gauge

Qualcomm Quick Charge 3.0

Support Dual LCDs for Independent Display

Dual SIM Dual Standby

Firmware Upgrade over USB Interface

Electrical Characteristics

Output Power: TBD (3GPP Compliant)

Consumption: TBD

Sensitivity: TBD (3GPP Compliant)

General Features

3GPP E-UTRA Release 12

Bandwidth: 1.4/3/5/10/15/20MHz

Antenna: DL MIMO 2 × 2, Support Rx-diversity

Extended Temperature: -40°C ~ +75°C

Dimensions: 43.0mm × 44.0mm × 2.85mm

LCC+LGA Package

Weight: Approx. 13.0g

Supply Voltage: 3.55V~4.4V, 3.8V Typ.

* Under Development

QUECTEL®