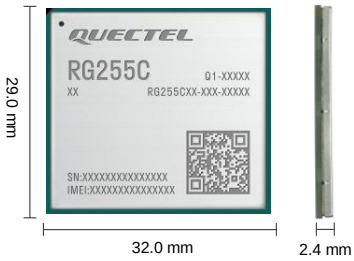
Quectel RG255C-GL

5G RedCap Sub-6 GHz LGA Module



Quectel RG255C-GL is a 5G Sub-6 GHz LGA module. Adopting the 3GPP Rel-17 RedCap technology, with features of 5G LAN/ URLLC/ Slicing, the module supports a theoretical peak data rate of 220 Mbps in the downlink and 120 Mbps in the uplink. The module supports LTE Cat 4 and 5G Sub-6 SA mode, and is backward compatible with Rel-15 and Rel-16 networks. The module is partially compatible with Quectel 4G module EG2x series modules with smaller sizes, which can meet customers' different application demands for medium speed, large capacity, low latency, high reliability, etc., and is convenient for customers to design.

RG255C-GL supports Qualcomm® IZat™ location technology Gen 9VT (GPS, GLONASS, BDS and Galileo). The integrated GNSS receiver greatly simplifies product design and provides quicker, more accurate and more dependable positioning capability.

A rich set of Internet protocols, industry-standard interfaces (USB 2.0, PCIe 2.0, PCM, UART, SGMII, SPI, etc.) and abundant functionalities (USB drivers for Windows 8/ 8.1/ 10/ 11, Linux and Android) extend the applicability of the module to a wide range of RedCap applications.

Key Features

- LGA form factor, small size
- Worldwide 5G/ 4G coverage
- 5G SA mode, with 5G LAN/ URLLC/ Slicing features
- Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment (optional)
- Feature refinements: DFOTA and VoNR/ VoLTE (optional)
- PCIe 2.0 interface for Wi-Fi/ Bluetooth

5G NR Sub-6 GHz

LTE Cat 4

Quectel Enhanced AT Commands

Embedded Abundant Protocols

LGA Form Factor

Multi-constellation GNSS (optional)

USB 2.0 High Speed Interface

PCIe 2.0 Interface

VoNR/ VoLTE (optional)

Version: 1.0.0| Status: Preliminary

Quectel RG255C-GL

5G Sub-6		RG255C-GL
Region/Operator		Global
Dimensions (mm)		32 × 29 × 2.4
Weight (g)		Approx. 5.2 g
Temperature Range		
Operating Temperature		-30 °C to +75 °C
Extended Temperature		-40 °C to +85 °C
Frequency Bands		
5G	5G NR	3GPP Release 17 RedCap SA operation, Sub-6 GHz
	5G NR SA	n1/ 2/ 3/ 5/ 7/ 8/ 12/ 13/ 14/ 18/ 20/ 25/ 26/ 28/ 30/ 38/ 40/ 41/ 48/ 66/ 70/ 71/ 77/ 78/ 79
LTE	LTE-FDD	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 30/ 66/ 70/ 71
	LTE-TDD	B34/ 38/ 39/ 40/ 41/ 42/ 43/ 48
GNSS (Optional)		GPS/ GLONASS/ BDS/ Galileo
Certifications		
Regulatory		CE*/ RCM*/ FCC*/ IC*
Carrier		TBD
Others		RoHS
Data Rates (Max.) ①		
5G SA Sub-6 (64QAM)		150 Mbps (DL)/ 50 Mbps (UL)
5G SA Sub-6 (256QAM) (Optional)		220 Mbps (DL)/ 120 Mbps (UL)
LTE		150 Mbps (DL)/ 50 Mbps (UL)
Interfaces		
(U)SIM		× 2
UART		× 2
SGMII		× 1
USB 2.0		× 1
PCIe 2.0		× 1
PCM*		× 1
I2C		× 1
SPI		× 1
ADC		●
RESET_N		●
GPIOs (QuecOpen®)		●
Antennas		Cellular: × 2; GNSS: × 1
Voice		
Voice		Digital Audio and VoNR/VoLTE (Voice over NR and LTE) (optional)
Enhanced Features		
eSIM		o
DTMF*		●
DFOTA		●
(U)SIM Card Detection		●
Drivers		
USB Serial Driver		Windows 8/8.1/10/11; Linux 2.6–6.5; Android 4.x–13.x
RIL Driver		Android 4.x–13.x
PCIe MHI Driver		Linux 3.10–6.5
USB NDIS Driver		Windows 8/8.1/10/11
USB MBIM Driver		Windows 10/11; Linux 3.18–6.5
USB GobiNet Driver		Linux 2.6–6.5
USB QMI_WWAN Driver		Linux 3.4–6.5
Electrical Features		
Supply Voltage Range		3.3–4.3 V, typ. 3.8 V
Power Consumption		TBD

NOTE:
1. ①: Theoretical only; actual values depend on network conditions.
2. *: Under development/In progress.
3. ●: Supported.
4. o: Optional.
5. TBD: To be determined.

HQ address: Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China
Tel: +86 21 51086236 Email: info@quectel.com