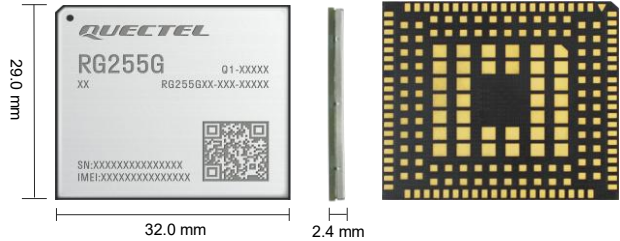


Quectel RG255G Series

5G RedCap Sub-6 GHz LGA Module



Quectel RG255G series module is a 5G Redcap Sub-6 GHz LGA module. Adopting the 3GPP Rel-17 RedCap technology, with features of URLLC/ Slicing, up to 256 QAM DL/ UL and LTE & NR-FR1 (20 MHz), the module supports a theoretical peak data rate of 227 Mbps in the downlink and 122 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 LTE module EG2x/ EC2x 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.

RG255G series module is an industrial-grade module for industrial and commercial applications only. It can be widely used in smart grid, video network, Internet of Vehicles, POS machines, industrial automation ITT, medium and low-speed FWA and other scenarios.

RG255G series module can support RTOS system of IoT devices with less RAM and flash memory. The module supports the GNSS function (optional), which integrates a dual-band multi-constellation GNSS (GPS, GLONASS, BDS, Galileo, NavIC and QZSS) receiver. It helps to simplify the product design and can achieve high-precision, fast, and dependable positioning.

A rich set of Internet protocols, industry-standard interfaces (USB 2.0, PCIe 1.0*, PCM*, UART, SPI*, etc.) and abundant functionalities (USB drivers for Windows 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 URLLC/ Slicing features
- ✓ Multi-constellation GNSS receiver available for applications requiring fast and accurate positioning in any environment (optional)
- ✓ Feature refinement: FOTA*
- ✓ PCIe 1.0 * interface supports EP mode

 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 Interface	 PCIe 1.0 Interface	

Quectel RG255G Series

5G RedCap Sub-6		RG255G-GL	RG255G-NA
Region/ Operator		Global	North America
Dimensions (mm)		32.0 × 29.0 × 2.4	32.0 × 29.0 × 2.4
Weight (g)		Approx. 4.85	Approx. 4.85
Temperature Range			
Operating Temperature		-30 °C to +75 °C	-30 °C to +75 °C
Extended Temperature		-40 °C to +85 °C	-40 °C to +85 °C
Frequency Bands			
5G	5G NR	3GPP Release 17 RedCap SA operation, Sub-6 GHz	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/ 71/ 77/ 78/ 79 ^① / 85	n2/ 5/ 7/ 12/ 13/ 14/ 25/ 26/ 30/ 38/ 41/ 48/ 66/ 71/ 77/ 78/ 85
LTE	LTE-FDD	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 30/ 66/ 71	B2/ 4/ 5/ 7/ 12/ 13/ 14/ 17/ 25/ 26/ 30/ 66/ 71
	LTE-TDD	B34/ 38/ 39/ 40/ 41/ 42/ 43/ 48	B38/ 41/ 42/ 43/ 48
GNSS (Optional)		GPS/ GLONASS/ BDS/ Galileo/ NavIC/ QZSS	GPS/ GLONASS/ BDS/ Galileo/ NavIC/ QZSS
Certifications			
Regulatory/ Conformance		Global: GCF* Europe: CE ^② North America: PTCRB* America: FCC* Canada: IC* Australia/ New Zealand: RCM ^②	Global: GCF* North America: PTCRB* America: FCC* Canada: IC*
Carrier		America: AT&T*/ T-Mobile*	America: AT&T*/ T-Mobile*
Others		RoHS	RoHS
Data Rates (Max.) ^③			
5G SA Sub-6 GHz (256 QAM)		227 Mbps (DL)/ 122 Mbps (UL)	227 Mbps (DL)/ 122 Mbps (UL)
LTE (64 QAM)		150 Mbps (DL)/ 75 Mbps (UL)	150 Mbps (DL)/ 75 Mbps (UL)
Interfaces			
(U)SIM		× 2	× 2
UART		× 2	× 2
USB 2.0		× 1	× 1
PCIe 1.0* (EP mode)		× 1	× 1
I2C*		× 1	× 1
SPI*		× 1	× 1
ADC		× 1	× 1
RESET_N		●	●
GPIOs		●	●
Antennas		Cellular: × 2; GNSS: × 1	Cellular: × 2; GNSS: × 1
Enhanced Features			
FOTA*		●	●
(U)SIM Card Detection		●	●
Drivers			
USB Serial Driver		Windows 10/ 11; Linux 2.6–6.17; Android 4.x–14.x	Windows 10/ 11; Linux 2.6–6.17; Android 4.x–14.x
RIL Driver		Android 4.x–16.x	Android 4.x–16.x
PCIe MHI Driver*		Linux 3.0–6.12	Linux 3.0–6.12
USB MBIM Driver		Windows 10/ 11; Linux 4.4–6.17	Windows 10/ 11; Linux 4.4–6.17
USB ECM Driver		Linux 2.6–6.17	Linux 2.6–6.17
USB NCM Driver		Linux 3.4–6.17	Linux 3.4–6.17
USB RNDIS Driver		Windows 10/ 11; Linux 2.6–6.17	Windows 10/ 11; Linux 2.6–6.17
Electrical Features			
Supply Voltage Range		3.3–4.3 V, typ. 3.8 V	3.3–4.3 V, typ. 3.8 V
Power Consumption		Typ. 1.86 mA @ Sleep mode Typ. 20.44 mA @ Idle mode	Typ. 1.58 mA @ Sleep mode Typ. 20 mA @ Idle mode

- NOTE:
- ①: Optional.
 - * : Under development/ In progress.
 - ②: Based on actual business cases.
 - ③: Theoretical only; actual values depend on network conditions.
 - : Supported.
 - TBD: To be determined.

