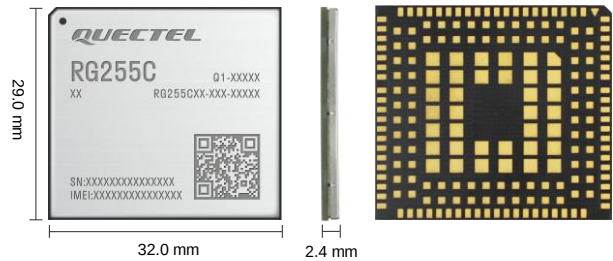


Quectel RG255C Series

5G RedCap Sub-6 GHz LGA Module



Quectel RG255C is a series of 5G Redcap 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 223 Mbps in the downlink and 123 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 series module is an industrial-grade module for industrial and commercial applications only.

RG255C series module contains three variants: RG255C-GL, RG255C-NA and RG255C-EU. It supports Qualcomm® IZat™ location technology Gen 9VT (GPS, GLONASS, NavIC, 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 8.1/ 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)

Quectel RG255C Series

	RG255C-GL	RG255C-NA*	RG255C-EU*
Region/Operator	Global	North America	EMEA/APAC ^① /Brazil
Dimensions (mm)	29.0 × 32.0 × 2.4	29.0 × 32.0 × 2.4	29.0 × 32.0 × 2.4
Weight	Approx. 5.2 g	Approx. 5.2 g	Approx. 5.2 g
Temperature Range			
Operating Temperature	-30 °C to +75 °C	-30 °C to +75 °C	-30 °C to +75 °C
Extended Temperature	-40 °C to +85 °C	-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/ 70/ 71/ 77/ 78/ 79	n1/ 3/ 5/ 7/ 8/ 20/ 26/ 28/ 38/ 40/ 41/ 77/ 78
	DL 2 × 2 MIMO	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	n1/ 3/ 5/ 7/ 8/ 20/ 26/ 28/ 38/ 40/ 41/ 77/ 78
LTE	LTE-FDD	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 30/ 66/ 70/ 71	B1/ 3/ 5/ 7/ 8/ 20/ 26/ 28
	LTE-TDD	B34/ 38/ 39/ 40/ 41/ 42/ 43/ 48	B38/ 40/ 41/ 42/ 43
	DL 2 × 2 MIMO	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 30/ 34/ 38/ 39/ 40/ 41/ 42/ 43/ 48/ 66/ 70/ 71	B1/ 3/ 5/ 7/ 8/ 20/ 26/ 28/ 38/ 40/ 41/ 42/ 43
GNSS (Optional)	GPS/ GLONASS/ BDS/ Galileo/ NavIC	GPS/ GLONASS/ BDS/ Galileo/ NavIC	GPS/ GLONASS/ BDS/ Galileo/ NavIC
Certifications			
Regulatory	CE*/ RCM*/ FCC*/ IC*/ GCF*/ PTCRB*	FCC*/ IC*/ PTCRB*	CE*/ RCM*
Carrier	AT&T*/ Verizon*/ T-Mobile*	TBD	TBD
Others	RoHS	RoHS	RoHS
Data Rates (Max.) ^②			
5G SA Sub-6 GHz	223 Mbps (DL)/ 123 Mbps (UL)	223 Mbps (DL)/ 123 Mbps (UL)	223 Mbps (DL)/ 123 Mbps (UL)
LTE	195 Mbps (DL)/ 105 Mbps (UL)	195 Mbps (DL)/ 105 Mbps (UL)	195 Mbps (DL)/ 105 Mbps (UL)
Interfaces			
(U)SIM	× 2	× 2	× 2
UART	× 2	× 2	× 2
SGMII	× 1	× 1	× 1
USB 2.0	× 1	× 1	× 1
PCIe 2.0	× 1	× 1	× 1
PCM	× 1	× 1	× 1
I2C	× 1	× 1	× 1
SPI	× 1	× 1	× 1
ADC	●	●	●
RESET_N	●	●	●
GPIOs (QuecOpen®)	●	●	●
Antennas	Cellular: × 2; GNSS: × 1	Cellular: × 2; GNSS: × 1	Cellular: × 2; GNSS: × 1
Voice			
Voice	Digital Audio and VoNR/VoLTE (optional)	Digital Audio and VoNR/VoLTE (optional)	Digital Audio and VoNR/VoLTE (optional)
Enhanced Features			
eSIM	○	○	○
DTMF*	●	●	●
DFOTA	●	●	●
(U)SIM Card Detection	●	●	●
Drivers			
USB Serial Driver	Windows 8.1/10/11; Linux 2.6–6.7; Android 4.x–13.x	Windows 8.1/10/11; Linux 2.6–6.7; Android 4.x–13.x	Windows 8.1/10/11; Linux 2.6–6.7; Android 4.x–13.x
RIL Driver	Android 4.x–13.x	Android 4.x–13.x	Android 4.x–13.x
PCIe MHI Driver	Linux 3.10–6.7	Linux 3.10–6.7	Linux 3.10–6.7
USB MBIM Driver*	Windows 10/11; Linux 3.18–6.7	Windows 10/11; Linux 3.18–6.7	Windows 10/11; Linux 3.18–6.7
USB RNDIS Driver	Windows 8.1/10/11; Linux 2.6–6.7	Windows 8.1/10/11; Linux 2.6–6.7	Windows 8.1/10/11; Linux 2.6–6.7
USB GobiNet Driver	Linux 2.6–6.7	Linux 2.6–6.7	Linux 2.6–6.7
USB QMI_WWAN Driver	Linux 3.4–6.7	Linux 3.4–6.7	Linux 3.4–6.7
Electrical Features			
Supply Voltage Range	3.3–4.3 V, typ. 3.8 V	3.3–4.3 V, typ. 3.8 V	3.3–4.3 V, typ. 3.8 V
Power Consumption	Typical 2 mA @ Sleep Typical 26 mA @ Idle	TBD	TBD

NOTE:

1. ①: Excl. China/Japan.

2. ②: Theoretical only; actual values depend on network conditions.

3. *: Under development/In progress.
4. ●: Supported; ○: Optional.

5. TBD: To be determined.

