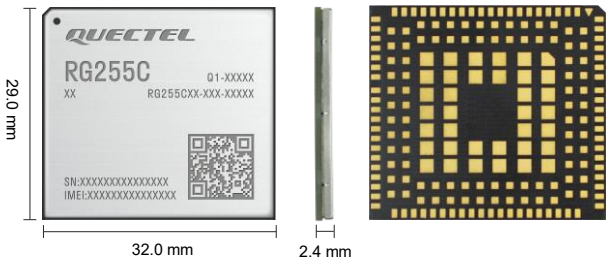
Quectel RG255C-NA

5G RedCap Sub-6 GHz LGA Module



Quectel RG255C-NA is a 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-NA is an industrial-grade module for industrial and commercial applications only.

RG255C-NA supports Qualcomm® IZat™ location technology Gen 9VT (GPS, GLONASS, NavIC*, BDS, QZSS 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 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 | Status: Released

Quectel RG255C-NA

		RG255C-NA
Region/Operator		North America
Dimensions (mm)		29.0 × 32.0 × 2.4
Weight		Approx. 5.2 g
Temperature Range		
Operating Temperature		-35 °C to +75 °C
Extended Temperature		-40 °C to +85 °C
Frequency Bands		
5G	**5G NR**	**3GPP Rel-17 RedCap SA operation, Sub-6 GHz**
	5G NR SA	n2/ 5/ 7/ 12/ 13/ 14/ 25/ 26/ 30/ 38/ 41/ 48/ 66/ 70/ 71/ 77/ 78
	DL 2 × 2 MIMO	n2/ 5/ 7/ 12/ 13/ 14/ 25/ 26/ 30/ 38/ 41/ 48/ 66/ 70/ 71/ 77/ 78
LTE	**LTE-FDD**	B2/ 4/ 5/ 7/ 12/ 13/ 14/ 17/ 25/ 26/ 30/ 66/ 71
	LTE-TDD	B38/ 41/ 42/ 43/ 48
	DL 2 × 2 MIMO	B2/ 4/ 5/ 7/ 12/ 13/ 14/ 17/ 25/ 26/ 30/ 38/ 41/ 42/ 43/ 48/ 66/ 71
GNSS (Optional)		GPS/ GLONASS/ BDS/ Galileo/ NavIC*/ QZSS
Certifications		
Regulatory		PTCRB②/ FCC②/ IC②
Carrier		AT&T②/ Verizon②/ T-Mobile②
Others		RoHS
Data Rates (Max.) ①		
5G SA Sub-6 GHz		223 Mbps (DL)/ 123 Mbps (UL)
LTE		200 Mbps (DL)/ 105 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 (optional)
Enhanced Features		
eSIM		○
DTMF		●
DFOTA		●
(U)SIM Card Detection		●
Drivers		
USB Serial Driver		Windows 10/11; Linux 2.6–6.7; Android 4.x–14.x
RIL Driver		Android 4.x–14.x
PCIe MHI Driver		Linux 3.10–6.12
USB MBIM Driver ③		Windows 10/11; Linux 3.18–6.7
USB RNDIS Driver		Windows 10/11; Linux 2.6–6.7
USB GobiNet Driver		Linux 2.6–3.4
USB QMI_WWAN Driver		Linux 3.4–6.7
Electrical Features		
Supply Voltage Range		3.3–4.3 V, typ. 3.8 V
Power Consumption		Typical 2.5 mA @ Sleep Typical 27 mA @ Idle

NOTE:

1. ①: Theoretical only; actual values depend on network conditions.
2. ②: Arrange testing based on actual business opportunity.
3. ③: Optional (a license is required to use this driver).
4. *: Under development/In progress.
5. ●: Supported; ○: Optional.
6. TBD: To be determined.

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