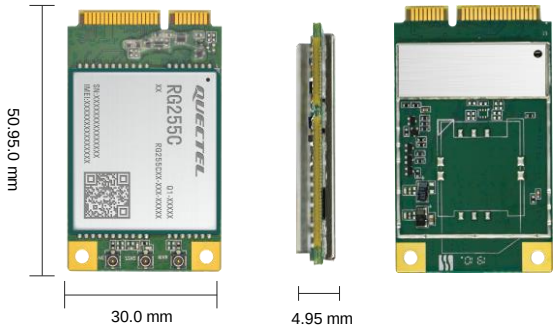
Quectel RG255C Series Mini PCIe

5G Sub-6 GHz Mini PCIe Module



Quectel RG255C series Mini PCIe is a series of 5G Sub-6 GHz modules adopting standard PCI Express® Mini Card form factor (Mini PCIe). Adopting the 3GPP Rel-17 technology, the module supports 5G LAN/ Slicing/ URLLC5G, etc., with a theoretical peak data rate of 220 Mbps in the downlink and 120 Mbps in the uplink. The module supports SA mode, and is backward compatible with 4G networks. It is in which two-antenna design and one-antenna design are available. The module 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 Mini PCIe module contains two variants: RG255C-CN Mini PCIe and RG255C-GL Mini PCIe. It supports Qualcomm® IZat™ location technology Gen 9VT (GPS, GLONASS, BDS, Galileo and QZSS). 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 7/ 8/ 8.1/ 10/ 11, Linux and Android) extend the applicability of the module to a wide range of RedCap applications.

Key Features

- Worldwide 5G/ 4G coverage
- 5G SA mode, 5G LAN/ URLLC/ Slicing supported
- Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment
- Feature refinements: DFOTA and VoLTE (Optional)

5G NR Sub-6 GHz Bands

LTE Cat 4

Multi-constellation GNSS

Embedded Abundant Protocols

Mini PCIe Form Factor

Quectel Enhanced AT Commands

USB 2.0 High Speed Interface

PCIe 2.0 Interface

Voice over LTE (Optional)

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Quectel RG255C Series Mini PCIe

5G Sub-6		RG255C-CN Mini PCIe	RG255C-GL Mini PCIe
Region/Operator		China	Global
Dimensions (mm)		30 × 50.95 × 4.95	30 × 50.95 × 4.95
Weight (g)		TBD	TBD
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/ 3/ 5/ 8/ 28/ 40/ 41/ 78/ 79	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/ 3/ 5/ 8	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 30/ 66/ 71
	LTE-TDD	B34/ 38/ 39/ 40/ 41	B34/ 38/39/40/41/42/43/48
GNSS		GPS/ GLONASS/ BDS/ Galileo/ QZSS	GPS/ GLONASS/ BDS/ Galileo/ QZSS
Certifications			
Regulatory		CCC*/ NAL*/ SRRC*	TBD
Carrier		TBD	TBD
Others		RoHS	RoHS
Data Rates (Max.) ①			
5G SA Sub-6 (64QAM)		150 Mbps (DL)/ 50 Mbps (UL)	150 Mbps (DL)/ 50 Mbps (UL)
5G SA Sub-6 (256QAM) (Optional)		220 Mbps (DL)/ 120 Mbps (UL)	220 Mbps (DL)/ 120 Mbps (UL)
LTE		150 Mbps (DL)/ 50 Mbps (UL)	150 Mbps (DL)/ 50 Mbps (UL)
Interfaces			
(U)SIM		× 2	× 2
UART		× 2	× 2
SD Card		× 1	× 1
USB 2.0		× 1	× 1
PCIe 2.0		× 1	× 1
PCM		× 1	× 1
I2S*		× 1	× 1
I2C		× 1	× 1
SPI		× 1	× 1
ADC		●	●
RESET_N		●	●
GPIOs (QuecOpen®)		●	●
Antennas		Cellular: × 2 (1T2R & 1T1R); GNSS: × 1	Cellular: × 2 (1T2R & 1T1R); GNSS: × 1
Voice			
VoLTE		Digital Audio and VoLTE (Voice over LTE) (optional)	Digital Audio and VoLTE (Voice over LTE) (optional)
Enhanced Features			
eSIM		○	○
DTMF*		●	●
DFOTA		●	●
(U)SIM Card Detection		●	●
Drivers			
USB Serial Driver		Windows 7/8/8.1/10/11; Linux 2.6–5.18; Android 4.x–12.x	Windows 7/8/8.1/10/11; Linux 2.6–5.18; Android 4.x–12.x
RIL Driver		Android 4.x–12.x	Android 4.x–12.x
PCIe MHI Driver		Linux 3.10–5.18	Linux 3.10–5.18
USB NDIS Driver		Windows 7/8/8.1/10/11	Windows 7/8/8.1/10/11
USB MBIM Driver		Windows 10/11; Linux 3.18–5.18	Windows 10/11; Linux 3.18–5.18
USB GobiNet Driver		Linux 2.6–5.18	Linux 2.6–5.18
USB QMI_WWAN Driver		Linux 3.4–5.18	Linux 3.4–5.18
Electrical Features			
Supply Voltage Range		3.3–4.4 V, typ. 3.8 V	3.3–4.4 V, typ. 3.8 V
Power Consumption		TBD	TBD

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

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