Quectel RG255C Series Mini PCIe

5G RedCap Sub-6 GHz
Mini PCIe Module

50.95 mm

30.0 mm

4.95 mm
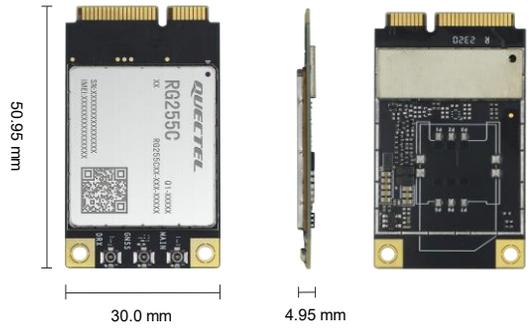
Quectel RG255C Mini PCIe is a series of 5G RedCap module adopting standard PCI Express® Mini Card form factor (Mini PCIe). Adopting the 3GPP Rel-17 RedCap technology, the module supports 5G LAN*/ Slicing/ URLLC, etc., with a theoretical peak data rate of 223 Mbps in the downlink and 123 Mbps in the uplink. The module supports LTE Cat 4 and 5G Sub-6 GHz SA modes , and is backward compatible with 3GPP Rel-15 and Rel-16 networks. The module can meet customers' different application demands for medium speed, large capacity, low latency, high reliability, etc.

RG255C Mini PCIe series module contains two variants: RG255C-GL Mini PCIe and RG255C-CN Mini PCIe. The module supports Qualcomm® IZat™ location technology Gen 9VT (GPS, GLONASS, NavIC*, QZSS, 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, PCM, UART, 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

✔ 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 (optional)

✔ Feature refinements: DFOTA and VoNR*/ VoLTE* (optional)

| 5G NR Sub-6 GHz Bands | LTE Cat 4 | Quectel Enhanced AT Commands |

| Embedded Abundant Protocols | Mini PCIe Form Factor | Multi-constellation GNSS (optional) |

| USB 2.0 High Speed Interface | VoNR*/VoLTE* (optional) |

5G RedCap Sub-6 GHz		RG255C-CN Mini PCIe	RG255C-GL Mini PCIe
Region/Operator		Chian/ India	Global
Dimensions (mm)		30.0 × 50.95 × 4.95	30.0 × 50.95 × 4.95
Weight (g)		11.0	11.0
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
	DL 2 × 2 MIMO	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/ 70/ 71
	LTE-TDD	B34/ 38/ 39/ 40/ 41	B34/ 38/ 39/ 40/ 41/ 42/ 43/ 48
	DL 2 × 2 MIMO	B1/ 3/ 5/ 8 / 34/ 38/ 39/ 40/ 41	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
GNSS (optional)		GPS/ GLONASS/ BDS/ Galileo/ NavIC*/ QZSS	GPS/ GLONASS/ BDS/ Galileo/ NavIC*/ QZSS
Certifications			
Regulatory		SRRC/ NAL/ CCC	CE[2]/ FCC[2]/ IC[2]/ RCM[2] GCF[3]/ PTCRB[3]
Carrier		TBD	AT&T[3]/ T-Mobile[3]/ Verizon[4][5]/ Boost_Mobile(DISH)
Others		RoHS	RoHS
Data Rates (Max.) [1]			
5G SA Sub-6 GHz		223 Mbps (DL)/ 123 Mbps (UL)	223 Mbps (DL)/ 123 Mbps (UL)
LTE		200 Mbps (DL)/ 105 Mbps (UL)	200 Mbps (DL)/ 105 Mbps (UL)
Interfaces			
(U)SIM		× 1	× 1
UART		× 2	× 2
USB 2.0		× 1	× 1
PCM		× 1	× 1
I2C		× 1	× 1
PERST#		●	●
Antennas		Cellular: × 2; GNSS: × 1	Cellular: × 2; GNSS: × 1
Audio* (optional)			
Audio		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 10/11; Linux 2.6–6.7; Android 4.x–14.x	Windows 10/11; Linux 2.6–6.7; Android 4.x–14.x
RIL Driver		Android 4.x–14.x	Android 4.x–14.x
USB MBIM Driver[8]		Windows 10/11; Linux 3.18–6.7	Windows 10/11; Linux 3.18–6.7
USB GobiNet Driver		Linux 2.6–3.4	Linux 2.6–3.4
USB QMI_WWAN Driver		Linux 3.4–6.7	Linux 3.4–6.7
Electrical Features			
Supply Voltage Range		3.0–3.6 V, typ. 3.3 V	3.0–3.6 V, typ. 3.3 V
Power Consumption		Typical 4.9 mA @ Sleep Typical 43 mA @ Idle	Typical 3.6 mA @ Sleep Typical 29 mA @ Idle

NOTE:

[1]: Theoretical only; actual values depend on network conditions.
[2]: CE, FCC, IC and RCM can only provide certification reports.
[3]: AT&T, T-Mobile, GCF and PTCRB can reuse RG255C-GL certification results.
[4]: Verizon requires Delta testing based on RG255C-GL to obtain Variant certification.
[5]: Arrange testing based on actual business opportunity.

[6]: Optional (a license is required to use this driver).
*: Under development/In progress.
●: Supported; ○: Optional.
TBD: To be determined.

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