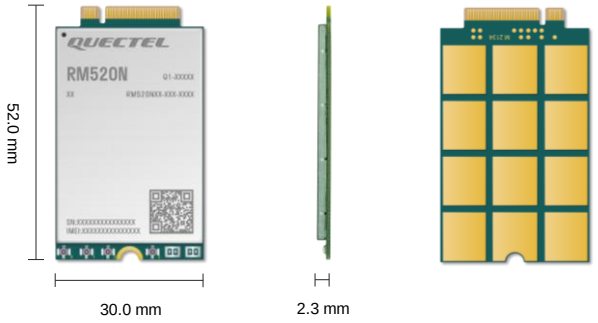
Quectel RM520N-GL

IoT/eMBB-Optimized 5G Sub-6 GHz M.2 Module



Quectel RM520N-GL is a 5G module optimized specially for IoT/eMBB applications. Adopting the 3GPP Rel-16 technology, it supports both 5G NSA and SA modes. Designed in an M.2 form factor, RM520N-GL is compatible with Quectel 5G module RM50xQ-AE, LTE-A Cat6 module EM06, Cat 12 modules EM12-G/EM12xR-GL and Cat 16 module EM160R-GL, which facilitates customers' migration from LTE-A to 5G.

RM520N-GL is an industrial-grade module for industrial and commercial applications only.

The Global version RM520N-GL nearly covers all the mainstream carriers worldwide. The module supports Qualcomm® IZat™ location technology Gen9C Lite (GPS, GLONASS, BDS and Galileo). The integrated GNSS receiver greatly simplifies the product design and provides quicker, more accurate and more dependable positioning capability.

A rich set of Internet protocols, industry-standard interfaces and abundant functionalities (USB and PCIe drivers for Windows 7/8/8.1/10, Linux, Android) extend the applicability of the module to a wide range of eMBB and IoT applications such as industrial router, home gateway, STB, industrial laptop, consumer laptop, industrial PDA, rugged tablet PC, video surveillance and digital signage.

Key Features

- 5G/4G/3G multi-mode module with M.2 form factor, optimized for IoT and eMBB applications
- Worldwide 5G and LTE-A coverage
- Both NSA and SA modes 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 Bands Supported

DL: LTE Cat 19
UL: LTE Cat 18

DL: max. 42 Mbps
UL: max. 5.76 Mbps

Embedded Abundant Protocols

M.2 Form Factor

Multi-constellation GNSS

USB 3.1/PCIe 4.0 Super Speed Interface

Voice over LTE (Optional)

Quectel Enhanced AT Commands

Version: 1.0.0 | Status: Preliminary

Quectel RM520N-GL

5G Sub-6		RM520N-GL
Region/Operator		Global
Dimensions (mm)		30.0 × 52.0 × 2.3
Weight (g)		Approx. 8.7
Supply Voltage Range		3.135–4.4 V, typical 3.7 V
Power Consumption		TBD @ Power down TBD @ Sleep TBD @ USB 2.0, Idle TBD @ USB 3.0, Idle
Temperature Range		
Operation Temperature		-30 °C to +75 °C
Extended Temperature		-40 °C to +85 °C
Frequency Bands		
5G NR	NSA	n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n29/n30/n38/n40/n41/n48/n66/n70/n71/n75/n76/n77/n78/n79
	SA	n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n29/n30/n38/n40/n41/n48/n66/n70/n71/n75/n76/n77/n78/n79
LTE	LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71
	LTE-TDD	B34/B38/B39/B40/B41/B42/B43/B48
	LAA	B46 (only support 2 × 2 MIMO)
UMTS	WCDMA	B1/B2/B4/B5/B8/B19
GNSS		GPS/GLONASS/BDS/Galileo
Certifications		
Regulatory*		**Global:** GCF **Europe:** CE **North America:** PTCRB **America:** FCC **Canada:** IC **Japan:** JATE/TELEC **Australia/New Zealand:** RCM
Carrier		TBD
Others		RoHS/WHQL*
Data Rate (Max.) ①		
5G SA Sub-6		DL 2.4 Gbps; UL 900 Mbps
5G NSA Sub-6		DL 2.8 Gbps; UL 550 Mbps
LTE		DL 1.6 Gbps; UL 200 Mbps
WCDMA		DL 42 Mbps; UL 5.76 Mbps
Interface		
(U)SIM		× 2
USB 2.0		× 1
USB 3.0/3.1		× 1
PCIe 4.0		× 1
Antenna		× 4
Voice		
Digital Audio & VoLTE		○
Enhanced Features		
eSIM*		○
DTMF*		●
DFOTA*		●
(U)SIM Card Detection		●

Notes:

1. ①: The presented data rates are theoretical only, and the actual value depends on network conditions.
2. ●: Supported; ○: Optional.
3. *: Under development/in progress.
4. TBD: To Be Determined.

HQ address: Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China
Tel: +86 21 51086236 Email: info@quectel.com