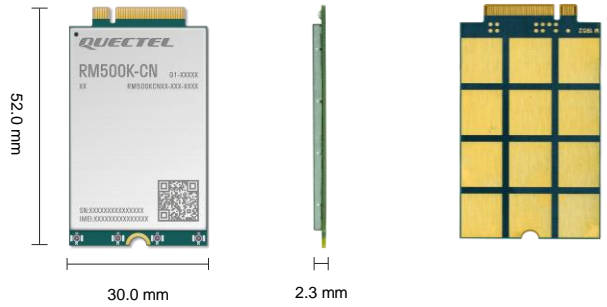


Quectel RM500K-CN

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



Quectel RM500K-CN is a 5G Sub-6 GHz module optimized specially for IoT/ eMBB applications. Adopting the 3GPP Release 15 technology, it supports both 5G NSA and SA modes.

RM500K-CN is an industrial-grade module for industrial and commercial applications only.

A rich set of Internet protocols, industry-standard interfaces and abundant functionalities (USB drivers for Windows, Linux and PCIe driver for Linux) extend the applicability of the module to a wide range of eMBB and IoT applications such as industrial router, home gateway, set-top boxes, industrial PDA, rugged tablet PC, video transmission and digital signage, etc.



Key Features

- ✓ 5G/ 4G/ 3G multi-mode module with M.2 form factor, optimized for IoT and eMBB applications
- ✓ Worldwide 5G, LTE-A and WCDMA coverage
- ✓ Both NSA and SA modes supported
- ✓ Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment
- ✓ Feature refinements: FOTA, VoLTE (optional) and eSIM*(optional)



5G NR Sub-6 Bands Supported



Max. 400 Mbps (DL)
Max. 75 Mbps (UL)



Max. 42 Mbps (DL)
Max. 11.5 Mbps (UL)



Embedded Abundant Protocols



M.2 Form Factor



Multi-constellation GNSS



USB 3.0/ PCIe 3.0 High Speed Interface



Quectel Enhanced AT Commands

5G Sub-6	RM500K-CN
Region/ Operator	China/ India
Dimensions (mm)	52.0 × 30.0 × 2.3
Weight (g)	About 5.55
Temperature Range	
Operating Temperature	-20 °C ~ +60 °C
Extended Temperature	-40 °C ~ +85 °C
Frequency Bands	
5G NR NSA	n 41/ 78/ 79
5G NR SA	n1/ 28/ 41/ 78/ 79
5G DL 4 × 4 MIMO	n1/ 41/ 78/ 79
5G UL 2 × 2 MIMO	n41/ 78/ 79
LTE-FDD	B1/ 3/ 5/ 8/ 28
LTE-TDD	B34/ 39/ 40/ 41
LTE DL 4 × 4 MIMO	B1/ 41
WCDMA	B1/ 8
GNSS	GPS/ GLONASS/ BDS/ Galileo/ QZSS
Certifications	
Carrier	China: China mobile
Regulatory	China: CCC/ SRRC/ NAL
Others	RoHS
Data Rate	
5G SA Sub-6 GHz	2CC (200 MHz): 4.0 Gbps (DL)/ 1.0 Gbps (UL)
5G NSA Sub-6 GHz	2.2 Gbps (DL)/ 575 Mbps (UL)
LTE	400 Mbps (DL)/ 75 Mbps (UL)
WCDMA	42 Mbps (DL)/ 11.5 Mbps (UL)
Interfaces	
Antenna	Cellular: × 4
(U)SIM	× 2 (Dual SIM Single Standby)
USB 2.0	× 1
USB 3.0	× 1
PCIe 3.0	× 1
Enhanced Features	
eSIM*	○
FOTA	●
(U)SIM Detection	●
Electrical & RF Features	
Supply Voltage Range	3.135~4.4 V, Typ: 3.8 V
	95 uA @ Power off
Power Consumption	58 mA @ WCDMA PF = 64 (USB active) 59 mA @ LTE-FDD PF = 64 (USB active) 59 mA @ LTE-TDD PF = 64 (USB active)
Output Power	5G NR: n41/ 78/ 79: Class 2 (26 dBm +2/-3 dB) Other Sub-6 bands: Class 3 (23 dBm ±2 dB) LTE: bands: Class 3 (23 dBm ±2 dB) WCDMA: Class 3 (23 dBm ±2 dB)

Note:

- * : Under development/ In progress.
- : Optional.
- : Supported.