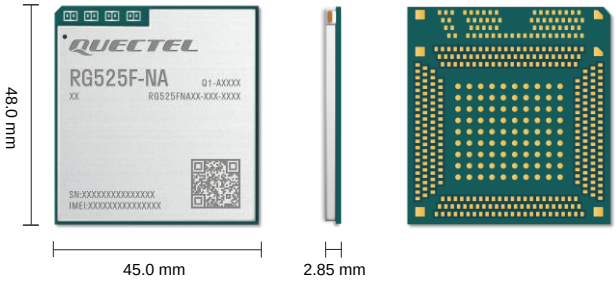
Quectel RG525F-NA

IoT/eMBB-Optimized
5G Sub-6 GHz LGA Module



Quectel RG525F-NA is a 5G Sub-6 GHz LGA module optimized specially for IoT and eMBB applications. Adopting the 3GPP Rel-16 technology, it supports both 5G NSA and SA modes with Option 3x/3a and Option 2 network architectures, which makes it backward compatible with the 4G network. It is compatible with Quectel 5G module RG50xQ series, and LTE-A module EG512R-EA (while some additional pins are added to RG525F-NA). It can meet customers' different application demands for high speed, large capacity, low latency, high reliability, etc.

RG525F-NA is an industrial-grade module for industrial and commercial applications only.

RG525F-NA supports Qualcomm® IZat™ location technology Gen9C Lite (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 2.0/3.0/3.1, PCIe 3.0, PCM, UART, 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 IoT and eMBB applications such as business routers, home gateway, STB, industrial laptops, consumer laptops, industrial PDA, rugged tablet PCs and video surveillance.

Key Features

- 5G/4G multi-band module with LGA form factor, optimized for IoT and eMBB applications
- Worldwide 5G and LTE-A coverage
- 5G NSA and SA modes
- 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 20 (DL)
LTE Cat 18 (UL)

Multi-constellation GNSS

Embedded Abundant Protocols

LGA Package

Quectel Enhanced AT Commands

USB 3.1
High Speed Interface

PCIe 3.0
Interface

Voice over LTE (Optional)

RoHS Compliant

Version: 1.1 | Status: Released

Quectel RG525F-NA

5G Sub-6		RG525F-NA
Region/Operator		North America
Dimensions (mm)		48.0 × 45.0 × 2.85
Weight (g)		TBD
Temperature Range		
Operating Temperature		-30 °C to +75 °C
Extended Temperature		-40 °C to +85 °C
Frequency Bands		
5G	**5G NR**	**3GPP Rel-16 NSA/SA operation, Sub-6 GHz**
	5G NR NSA	n2/ 5/ 7/ 12/ 13/ 14/ 25/ 26/ 29/ 30/ 38/ 41/ 48/ 66/ 70/ 71/ 77/ 78
	5G NR SA	n2/ 5/ 7/ 12/ 13/ 14/ 25/ 26/ 29/ 30/ 38/ 41/ 48/ 66/ 70/ 71/ 77/ 78
	DL 4 × 4 MIMO	n2/ 5/ 7/ 12/ 13/ 14/ 25/ 26/ 29/ 30/ 38/ 41/ 48/ 66/ 70/ 71/ 77/ 78
LTE	**LTE Category**	**Cat 20 (DL)/Cat 18 (UL)**
	LTE-FDD	B2/ 4/ 5/ 7/ 12/ 13/ 14/ 17/ 25/ 26/ 29/ 30/ 66/ 71
	LTE-TDD	B38/ 41/ 42/ 43/ 48
	LAA	B46
	DL 4 × 4 MIMO	B2/ 4/ 5/ 7/ 12/ 13/ 14/ 17/ 25/ 26/ 29/ 30/ 38/ 41/ 42/ 43/ 48/ 66/ 71
GNSS		GPS/GLONASS/BDS/Galileo/QZSS
Certifications		
Regulatory		TBD
Carrier		TBD
Others		RoHS
Data Rates (Max.) ①		
5G SA Sub-6		4.0 Gbps (DL)/900 Mbps (UL)
5G NSA Sub-6		4.0 Gbps (DL)/550 Mbps (UL)
LTE		2.0 Gbps (DL)/200 Mbps (UL)
Interfaces		
(U)SIM		× 2, 1.8/2.95 V
UART		× 4
SD Card		× 1
USB 2.0/3.0/3.1		× 1
PCIe 3.0		Gen 3, Lane × 2
PCM*		× 1
I2S*		× 1
I2C		× 1
SPI		× 1
ADC		●
RESET_N		●
GPIOs (QuecOpen®)		●
Antenna		Cellular: × 8; GNSS: × 1
Voice		
VoLTE*		Digital Audio and VoLTE (Voice over LTE) (Optional)
Enhanced Features		
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
GNSS Driver		Android 4.x–12.x
RIL Driver		Android 4.x–12.x
USB NDIS Driver		Windows 7/8/8.1/10/11
USB MBIM Driver		Windows 8/8.1/10/11; Linux 3.18–5.18
USB GobiNet Driver		Linux 2.6–5.18
USB QMI_WWAN Driver		Linux 3.4–5.18
PCIe MHI Driver		Linux 3.10–5.18
Electrical Features		
Supply Voltage Range		3.3–4.4 V, typ. 3.8 V
Output Power		TBD
Power Consumption		TBD

NOTE:
1. ①: The presented data rates are theoretical only, and the actual values depend on network conditions.
2. *: Under development.
3. ●: Supported.

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