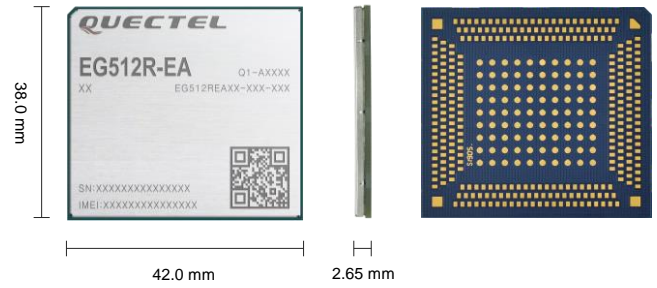


Quectel EG512R-EA

IoT/eMBB-Optimized LTE-A Cat 12 LGA Module



Quectel EG512R-EA is an LTE Advanced Category 12 module specially optimized for IoT/eMBB applications. Adopting the 3GPP Release 14 LTE technology, it delivers eMBB-optimized speeds of 600 Mbps downlink and 90 Mbps uplink peak data rates.

EG512R-EA supports Qualcomm® IZat™ location technology Gen9-VT (GPS, GLONASS, BeiDou/Compass, and Galileo). The integrated GNSS greatly simplifies 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 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 4G router, CPE, wireless POS terminal, consumer laptop, industrial PDA, rugged tablet PC and video surveillance.



Key Features

- ✓ LTE Cat 12 module in LGA package
- ✓ Optimized for IoT/eMBB applications, 4G/3G supported
- ✓ Multiple function supported, such as DFOTA
- ✓ MIMO technology meets demands for data rate and link reliability in modem wireless communication systems



Max. DL 600 Mbps
Max. UL 90 Mbps



Max. DL 42 Mbps
Max. UL 5.76 Mbps



Quectel Enhanced AT
Command



Embedded Abundant
Protocols



LGA Package



VoLTE



USB 3.0/PCIe 2.0/
RGMII

Quectel EG512R-EA

LTE Cat 12		EG512R-EA
Region/Operator	EMEA/Australia/Brazil	
Dimensions (mm)	38.0 × 42.0 × 2.65	
Temperature Range		
Operation Temperature	-30 °C to +75 °C	
Extended Temperature	-40 °C to +85 °C	
Frequency Bands		
LTE-FDD	B1/B3/B5/B7/B8/B20/B28/B32	
LTE-TDD	B38/B41/B42/B43	
DL 2CA	Intra-band and Inter-band	
DL 3CA	Intra-band and Inter-band	
DL 4 × 4 MIMO	B1/B3/B7/B32/B38/B41/B42/B43	
DL 256 QAM	Supported	
UL 2CA	Intra-band contiguous	
UL 64 QAM	Supported	
WCDMA	B1/B3/B5/B8	
Certifications		
Regulatory	Global: GCF Europe: CE Australia/New Zealand: RCM	
Carrier	TBD	
Others	RoHS	
Data Rate (Max.)		
LTE	DL 600 Mbps/ UL 90 Mbps	
	DC-HSDPA	DL 42 Mbps
UMTS	HSUPA	UL 5.76 Mbps
	WCDMA	DL/UL 384 kbps
Interfaces		
(U)SIM	× 2	
PCM* (Digital Audio)	× 1	
USB 2.0/3.0	× 1	
PCIe 2.0*	× 1	
I2C	× 1	
ADC	× 1	
I2S*	× 1	
UART*	× 4	
SD Card*	× 1	
SPI	× 1	
RGMII	× 1	
Voice		
VoLTE	Voice over LTE	

Notes:

1. *: Under development/in progress.
2. TBD: To Be Determined.

Quectel EG512R-EA

LTE Cat 12	EG512R-EA
Enhanced Features	
DFOTA	Supported
Software Features	
Protocols	QMI/TCP*/UDP*/FTP*/HTTP*/NTP*/PING*/HTTPS*/SMTP*/MMS*/FTPS*/SMTPS*/SSL* protocols
Drivers	USB Driver Windows 7/8/8.1/10 Linux 2.6–5.4 Android 4.x/5.x/6.x/7.x/9.x
	RIL Driver Android 4.x/5.x/6.x/7.x/8.x/9.x
	NDIS Driver Windows 7/8/8.1/10
	MBIM Driver Windows 8/8.1/10 Linux 3.18–5.4
	GobiNet Driver Linux 2.6–5.4
	QMI_WWAN Driver Linux 3.4–5.4
	Electrical Features
Supply Voltage Range	3.3–4.3 V, typ. 3.8 V
Power Consumption (Typical)	50 μ A @ Power Off 2.15 mA @ Sleep (PF = 64) 8 mA @ Idle

Note:

*: Under development/in progress.