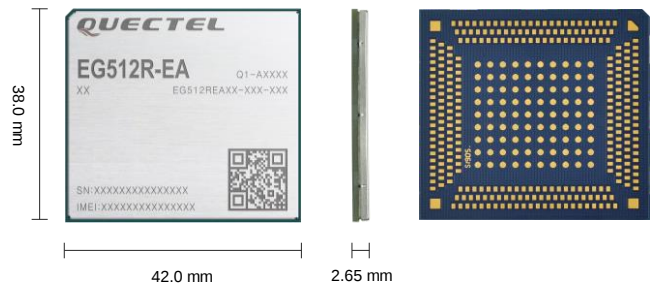




Quectel EG512R-EA

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



Quectel EG512R-EA is a series of 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



DL: LTE Cat 12
UL: LTE Cat 13



Max. 42 Mbps (DL)
Max. 5.76 Mbps (UL)



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	GCF* (Global) CE (Europe) RCM (Australia)	
Carrier	TBD	
Others	RoHS	
Data Rate (Max.)		
LTE	600 Mbps (DL)/ 90 Mbps (UL)	
	DC-HSDPA: 42 Mbps (DL)	
UMTS	HSUPA: 5.76 Mbps (UL)	
	WCDMA: 384 kbps (DL)/384 kbps (UL)	
Interfaces		
(U)SIM	× 2	
PCM* (Digital Audio)	× 1	
USB 3.0 or USB 2.0	× 1	
PCI-E* 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.