Quectel EG120K-EA

IoT/M2M-optimized LTE-A Cat 12 LGA Module

37.0 mm

39.5 mm

2.8 mm
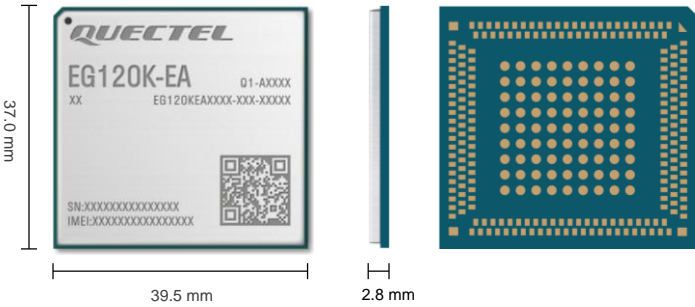
Quectel EG120K-EA is an LTE Advanced category 12 module optimized specially for M2M and IoT applications. Adopting the 3GPP Rel-12 LTE technology, it delivers M2M-optimized speeds of 600 Mbps downlink and 150 Mbps uplink peak data rates.

Designed in an LGA form factor, EG120K-EA is compatible with Quectel module EG06/EG12/EG18 (Cat 6/12/18), which will help customers to migrate between different categories.

EG120K-EA supports Qualcomm® IZat™ location technology gpsOne 9HT (GPS, GLONASS, BDS 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 7/8/8.1/10/11, Linux, Android) extend the applicability of the module to a wide range of M2M and IoT applications such as industrial routers, home gateways, set-top boxes, industrial PDAs, rugged tablet PCs, video surveillance and digital signage, etc.

Key Features

- ✔ LTE-A Cat 12 module with an LGA form factor, optimized for M2M and IoT applications
- ✔ Supports LTE-A carrier aggregation
- ✔ Worldwide LTE-A and UMTS/HSPA+/DC-HSDPA coverage
- ✔ Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment
- ✔ Feature refinements: supports DFOTA and DTMF
- ✔ MIMO technology meets demands for data rate and link reliability in modem wireless communication systems

4G LTE
LTE Cat 12
Max. 600 Mbps (DL)
Max. 150 Mbps (UL)

3G HSPA+
Max. 42 Mbps (DL)
Max. 5.76 Mbps (UL)

LGA
LGA Package

Embedded Abundant Protocols

VoLTE
Voice over LTE

Multi-constellation GNSS

USB 2.0/3.0 Interface

USB Drivers

AT
Quectel Enhanced AT Commands

LTE Cat 12	EG120K-EA
Region/Operator	EMEA, APAC, Brazil
Dimensions (mm)	37.0 × 39.5 × 2.8
Temperature Range	
Operating 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/B40/B41 (Optional)/B42 (Optional)/B43 (Optional)
WCDMA	B1/B3/B5/B8
GNSS	GPS/GLONASS/BDS/Galileo
Certifications	
Regulatory	**Europe:** CE **Australia/ New Zealand:** RCM
Carrier	TBD
Others	WHQL
Data Rate (Max.)	
LTE-FDD (Mbps)	600 (DL) / 150 (UL)
LTE-TDD (Mbps)	430 (DL)/ 90 (UL)
DC-HSDPA/HSUPA (Mbps)	42 (DL)/ 5.76 (UL)
WCDMA (kbps)	384 (DL)/ 384 (UL)
Interfaces	
(U)SIM (1.8/3.0 V)	× 2
eSIM (Optional)	× 1
UART	× 3 (Bluetooth UART*, multiplexed from SPI)
SPI	× 1 (Master mode only)
PCM	× 1
PCIe	× 1 (RC: PCIe Gen 2, for Wi-Fi, Ethernet functions)
USB 2.0/3.0	× 1 (Master mode* and slave mode)
ADC	× 2
SDIO*	× 1
I2C	× 1
Voice	
VoLTE	Digital Audio and VoLTE (Voice over LTE)
Enhanced Features	
DTMF	●
DFOTA	●
QMI/Rmnet	●
MIMO (2 × 2 , 4 × 2 , 4 × 4, DL)	●
(U)SIM Detection	●

Notes:
1. *: under development.
2. ●: supported.

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LTE Cat 12		EG120K-EA
Software Features		
Protocols		QMI/MBIM/NITZ/HTTP/HTTPS/FTP/LwM2M*/PING*
Drivers	**RIL Driver**	Android 4.x–12.x
	USB MBIM Driver	Windows 8/8.1/10/11 Linux 3.18–5.15
	USB NDIS Driver	Windows 7/8/8.1/10/11
	USB ECM Driver	Linux 2.6–5.15
	USB GobiNet Driver	Linux 2.6–5.15
	USB QMI_WWAN Driver	Linux 3.4–5.15
	USB Serial Driver	Windows 7/8/8.1/10/11 WinCE 5.0/6.0/7.0* Linux 2.6–5.15 Android 4.x–12.x
Electrical Features		
Supply Voltage Range		3.3–4.4 V, typ. 3.8 V
Power Consumption (Typical)		12 µA @ Power off 3.4 mA @ Sleep (LTE-FDD PF = 64) 1.9 mA @ Sleep (LTE-FDD PF = 128) 10.2 mA @ Idle (LTE-FDD PF = 64)

Note:
*: under development