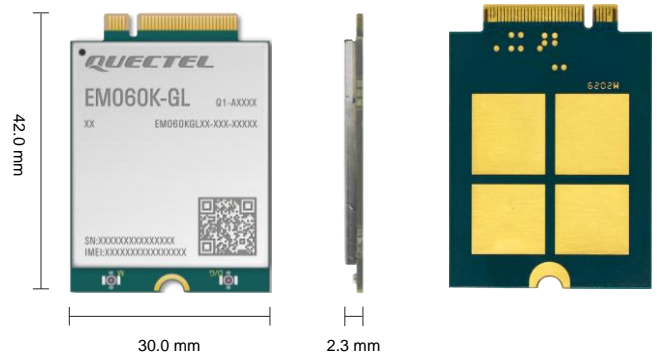




# Quectel EM060K-GL

## LTE-A Cat 6 M.2 Module



Quectel EM060K-GL is an LTE Advanced Category 6 module. Adopting the 3GPP Release 12 technology, the module supports a theoretical peak data rate of 300 Mbps in the downlink and a theoretical peak data rate of 50 Mbps in the uplink. Designed in M.2 form factor, the module is compatible with Quectel LTE-A Cat 6 module EM06 Series, Cat 12 modules EM12-G/ EM120K-GL/ EM121R-GL/ EM120R-GL, Cat 16 module EM160R-GL, and 5G modules RM500Q/ RM502Q Series, which facilitates customers' migration between different modules.

EM060K-GL is designed for the global market and nearly covers all the mainstream carriers worldwide. The module 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, Linux, Android/optional built-in eSIM) extend the applicability of the module to a wide range of applications such as industrial routers, home gateways, set-top boxes, industrial laptops, consumer laptops, industrial PDAs, rugged tablet PCs, and digital signage, etc.



### Key Features

- ✓ LTE-A Cat 6 module with M.2 form factor
- ✓ Support DL 2 Carrier Aggregation and 64QAM
- ✓ Worldwide LTE-A and UMTS/HSPA+ coverage
- ✓ Built-in eSIM (optional), DSSA
- ✓ Low power mode
- ✓ Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment
- ✓ MIMO technology meets demands for data rate and link reliability in modem wireless communication systems



Cat 6  
Max. 300 Mbps (DL)  
Max. 50 Mbps (UL)



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



M.2 Form Factor



Embedded Abundant  
Protocols



PCIe Gen2  
Interface



Multi-constellation GNSS



USB 2.0/3.0 Interface



Quectel Enhanced  
AT Commands

# Quectel EM060K-GL

LTE Cat 6		EM060K-GL
Region/Operator	Global	
Package	M.2 Package, Key-B	
Dimensions	30.0 mm × 42.0 mm × 2.3 mm	
Weight	6.2 g	
Temperature Range		
Operation Temperature	-25 °C to +75 °C	
Extended Temperature	-40 °C to +85 °C	
Frequency Bands		
LTE	LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29 <sup>①</sup> /B30/B32 <sup>①</sup> /B66/B71
	LTE-TDD	B34/B38/B39/B40/B41/B42/B43/B46 <sup>①</sup> (LAA)/B48 (CBRS)
	DL 2CA	Intra-band and Inter-band
	DL 64QAM/ UL 16QAM	●
UMTS	WCDMA	B1/B2/B3/B4/B5/B6/B8/B19
GNSS	GPS/GLONASS/BDS/Galileo	
Certifications		
Regulatory	Europe: CE; America: FCC; Canada: IC; Taiwan, China: NCC; Australia/New Zealand: RCM	
Carrier	TBD	
Others	WHQL	
Data Rate (Max.)		
LTE		300 Mbps (DL); 50 Mbps (UL)
	DC-HSDPA	42 Mbps (DL)
UMTS	HSUPA	5.76 Mbps (UL)
	WCDMA	384 kbps (DL); 384 kbps (UL)
Interfaces		
(U)SIM Interfaces (1.8/3.0 V)	× 2	
USB 2.0/3.0	× 1	
PCIe Interface (Optional)	× 1 (RC mode*: PCIe Gen 2, for Wi-Fi, ethernet functions)	
PCM*	× 1	
SPI (Optional)	× 1	
Control and Indication Interfaces*	× 6 (Airplane mode control, GNSS control, wake-up control, RF status indication, etc.)	
Cellular/WLAN COEX Interface*	× 1	
Antenna Tuner Control Interfaces*	× 2	
Configuration Pins	× 4	
Antenna Interfaces	× 2 (Main, Rx-diversity/GNSS)	
Enhanced Features		
MIMO: DL 2 × 2	●	
(U)SIM Card Detection	●	
Built-in eSIM	○	
DSSA: Dual SIM, Single Active	●	
DFOTA: Delta Firmware Over-the-Air	●	
Embedded GNSS	●	
SMS		
Point-to-point MO and MT	●	
SMS Cell Broadcast	●	
Text and PDU Mode	●	
3GPP	●	
Windows OS SMS Push Feature	●	
Software Features		
3GPP	3GPP E-UTRA Release 12	
AT Command	3GPP TS 27.007; Quectel Enhanced AT Commands	
Protocols	QMI/MBIM/NITZ/HTTP/HTTPS/FTP/Lwm2M*/PING*	
Electrical Features		
Supply Voltage Range	3.135–4.4 V, typ. 3.7 V	
Transmitting Power (USB Mode)	LTE-FDD: Class 3 (23 dBm ±2 dB); LTE-TDD: Class 3 (23 dBm ±2 dB); WCDMA: Class 3 (23 dBm ±2 dB)	
Power Consumption (USB Mode)	Power down: 0.062 mA; Sleep: 2.71 mA; Idle: 16.75 mA	

Note:

- ①: LTE-FDD B29/B32 and LTE-TDD B46 support Rx only and are only for secondary component carrier.
- \*: Under development/In progress.
- TBD: To Be Determined.
- : Supported; ○: Optional.