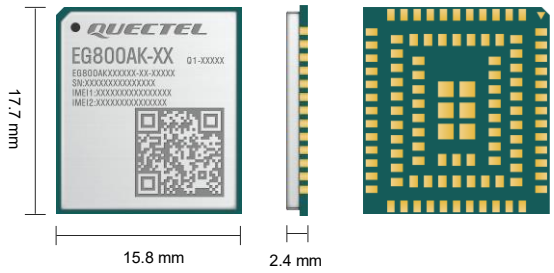
Quectel EG800AK-EU/-LA/-GL

IoT/ M2M-optimized LTE Cat 1bis Module



This document is only applicable to the EG800AK-EU, EG800AK-LA and EG800AK-GL industrial-grade modules.

EG800AK-EU/-LA/-GL is an LTE Cat 1bis wireless communication module specially designed by Quectel for M2M and IoT applications. It supports maximum data rates of 10 Mbps downlink and 5 Mbps uplink. Designed in the compact and unified form factor, EG800AK-EU/-LA/-GL is compatible with LTE Standard EC800M-CN, EC800K-CN, EG800K series and EG810M series modules in package.

The module covers the frequency band of different countries and regions, and adopts the laser engraving process to get a more fashionable appearance, strong metallic texture, better heat dissipation, durable label information, which makes it more suitable for automation requirements.

A rich set of Internet protocols, industry-standard interfaces, a variety of drivers and abundant functionalities (USB serial drivers for Windows 10/ 11, Linux, Android and other operating systems) extend the applicability of the module to a wide range of M2M and IoT applications such as tracker, POS, IPC, data card, smart safety and industrial PDA.

Key Features

- Ultra-small size, designed for M2M and IoT applications, especially for small-size terminals
- Support DFOTA
- Support Wi-Fi Scan (Optional)
- Support Dual SIM Single Standby Single Active*
- Support GNSS (Optional)*
- Super cost-effective

LTE Cat 1bis
Max. 10 Mbps (DL)
Max. 5 Mbps (UL)

LGA Package


Embedded
Abundant Protocols


USB 2.0 High Speed Interface


USB Drivers

DFOTA

Quectel Enhanced AT Commands


GNSS (Optional)


Dual SIM Single Standby Single Active (Optional)

Version: 1.0 | Status: Released

Quectel EG800AK-EU/-LA/-GL

LTE Cat 1bis	EG800AK-EU	EG800AK-LA*	EG800AK-GL*
Region/ Operator	Europe/ New Zealand/ Australia	Argentina/ Mexico/ Brazil	Global
Package	LGA	LGA	LGA
Dimensions (mm)	17.7 × 15.8 × 2.4	17.7 × 15.8 × 2.4	17.7 × 15.8 × 2.4
Weight (g)	Approx. 1.35	Approx. 1.35	Approx. 1.35
Temperature Range			
Operating Temperature	-35 °C to +75 °C	-35 °C to +75 °C	-35 °C to +75 °C
Extended Temperature	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C
Frequency Bands			
LTE-FDD	B1/ 3/ 5/ 7/ 8/ 20/ 28	B2/ 3/ 4/ 5/ 7/ 8/ 28/ 66	B1/ 2/ 3/ 4/ 5/ 7/ 8/ 12/ 13/ 14/ 17/ 18/ 19/ 20/ 25/ 26/ 28/ 66/ 71
LTE-TDD	-	-	B34/ 38/ 39/ 40/ 41
GNSS (Optional)*	GPS/ BDS/ GLONASS/ Galileo	GPS/ BDS/ GLONASS/ Galileo	-
Certifications			
Carrier	-	-	-
Regulatory/ Conformance	**Europe:** CE* **Australia/ New Zealand:** RCM*	**America**: FCC* **Brazil:** Anatel*	**Global:** GCF* **Europe:** CE* **North America:** PTCRB* **America:** FCC* **Canada:** IC* **Brazil:** Anatel* **China:** NAL*/ CCC*/ SRRC* **Japan:** JATE*/ TELEC* **Korea:** KC* **Australia/ New Zealand:** RCM* **Chinese Taiwan:** NCC*
Others	WHQL/ RoHS	WHQL/ RoHS	WHQL/ RoHS
Max. Data Rates			
LTE-FDD (Mbps)	10 (DL)/ 5 (UL)	10 (DL)/ 5 (UL)	10 (DL)/ 5 (UL)
LTE-TDD (Mbps)	-	-	8.96 (DL)/ 3.1 (UL)
Interfaces			
USIM①	× 2, 1.8/ 3.0 V	× 2, 1.8/ 3.0 V	× 2, 1.8/ 3.0 V
UART	× 3 (main, debug and auxiliary UART②)	× 3 (main, debug and auxiliary UART②)	× 3 (main, debug and auxiliary UART②)
USB 2.0	× 1	× 1	× 1
ADC	× 2	× 2	× 2
NET_STATUS	× 1	× 1	× 1
STATUS	× 1	× 1	× 1
I2C③	× 1 (QuecOpen® solution: × 2)	× 1 (QuecOpen® solution: × 2)	× 1 (QuecOpen® solution: × 2)
LCM②	× 1	× 1	× 1
SPI②	× 1	× 1	× 1
Matrix Keypad (3× 4)②	× 1	× 1	× 1
USB_BOOT	× 1	× 1	× 1
RESET_N	× 1	× 1	× 1
PWRKEY	× 1	× 1	× 1
LTE/ Wi-Fi Scan Antenna	× 1	× 1	× 1
GNSS Antenna*	× 1	× 1	-
Enhanced Features			
DFOTA	●	●	●
Wi-Fi Scan	○	○	○
QuecOpen®	●	●	●
QuecPython®	●	●	●
USIM1 Card Detection	●	●	●

NOTE:
1. *: Under development/ in progress.
2. ①: USIM2 interface only supports 1.8 V power domain.
3. ②: Only supported by QuecOpen® solution.
4. ③: The interface is under development in standard solution. While in QuecOpen® solution, the interface has been supported.
4. ●: Supported.
5. ○: Optional.

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Quectel EG800AK-EU/-LA/-GL

LTE Cat 1 bis		EG800AK-EU	EG800AK-LA*	EG800AK-GL*
Software Features				
Protocols④		TCP/ UDP/ PPP/ NTP/ NITZ/ FTP/ HTTP/ PING/ HTTPS/ FTPS/ SSL/ FILE/ MQTT	TCP/ UDP/ PPP/ NTP/ NITZ/ FTP/ HTTP/ PING/ HTTPS/ FTPS/ SSL/ FILE/ MQTT	TCP/ UDP/ PPP/ NTP/ NITZ/ FTP/ HTTP/ PING/ HTTPS/ FTPS/ SSL/ FILE/ MQTT
Drivers	**RIL**	Android 4.x–14.x	Android 4.x–14.x	Android 4.x–14.x
	USB RNDIS	Windows 10/ 11 Linux 2.6–6.7	Windows 10/ 11 Linux 2.6–6.7	Windows 10/ 11 Linux 2.6–6.7
	USB ECM	Linux 2.6–6.7	Linux 2.6–6.7	Linux 2.6–6.7
	USB Serial	Windows 10/ 11 Linux 2.6–6.7 Android 4.x–14.x	Windows 10/ 11 Linux 2.6–6.7 Android 4.x–14.x	Windows 10/ 11 Linux 2.6–6.7 Android 4.x–14.x
Electrical Features				
Supply Voltage Range		3.4–4.3 V DC，typ. 3.8 V	3.4–4.3 V DC，typ. 3.8 V	3.4–4.3 V DC，typ. 3.8 V
Power Consumption (Typical)		4.10 μA @ Power off 1.15 mA @ LTE-FDD Sleep (PF = 128) 1.07 mA @ LTE-FDD Sleep (PF = 256) 9.57 mA @ LTE-FDD Idle (PF= 64, USB disconnected) 21.11 mA @ LTE-FDD Idle (PF= 64, USB connected)	4.10 μA @ Power off 0.92 mA @ LTE-FDD Sleep (PF = 128) 0.83 mA @ LTE-FDD Sleep (PF = 256) 9.31 mA @ LTE-FDD Idle (PF= 64, USB disconnected) 20.90 mA @ LTE-FDD Idle (PF= 64, USB connected)	5.5 μA @ Power off 0.98 mA @ LTE-FDD Sleep (PF = 128) 0.90 mA @ LTE-FDD Sleep (PF = 256) 9.27 mA @ LTE-FDD Idle (PF= 64, USB disconnected) 21.06 mA @ LTE-FDD Idle (PF= 64, USB connected)

NOTE:

④: PPP, FTP, HTTP, HTTPS, FTPS and FILE protocols are optional.

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