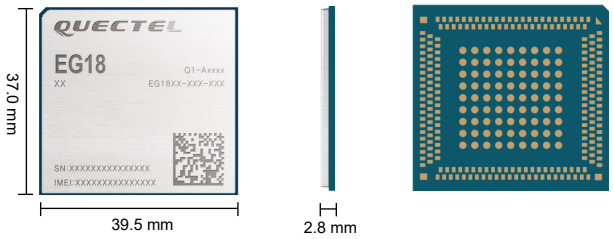
Quectel EG18 Series

IoT/M2M-optimized

LTE Cat 18 Module in LGA Package



Quectel EG18 series refers to a series of LTE category 18 modules optimized specially for M2M and IoT applications. Using the 3GPP Rel-12 LTE technology, it delivers M2M-optimized speeds of 1.2 Gbps downlink and 150 Mbps uplink. Designed in an LGA form factor, EG18 series is compatible with Quectel LTE Cat 6 module EG06 series and LTE Cat 12 module EG12 series, thereby helping customers to rapidly and flexibly design and upgrade products.

EG18 series includes two variants (EG18-EA and EG18-NA) which are designed for different target regions and nearly meet requirements of all the mainstream carriers worldwide.

EG18 series supports Qualcomm® IZat™ location technology: Gen8C Lite (GPS, GLONASS, BeiDou, Galileo and QZSS). The integrated GNSS greatly simplifies product designs, and provides quicker, more accurate and more dependable positioning functions.

A rich set of Internet protocols, industry-standard interfaces and abundant functionalities (USB serial drivers for Windows, Linux and Android) extend the applicability of the module to a wide range of M2M and IoT applications such as business router, home gateway, STB, industrial laptop, consumer laptop, industrial PDA, rugged tablet PC and video surveillance.

Key Features

- LTE Cat 18 module in LGA package, optimized for M2M and IoT applications
- DL 5× carrier aggregation, 256 QAM and 4 × 4 MIMO
- Worldwide LTE-A and UMTS/HSPA+ coverage
- Multi-constellation GNSS receiver meeting requirements of fast and accurate fixes in any environment
- Refined Features: DFOTA and DTMF
- MIMO technology meeting requirements for data rates and link reliability in modem wireless communication systems

LTE Cat 18
Max 1.2 Gbps (DL)
Max 150 Mbps (UL)

Max 42 Mbps (DL)
Max 11.5 Mbps (UL)

LGA Package

Embedded Abundant Protocols

Voice over LTE

Multi-constellation GNSS

USB 3.0/PCIe High Speed Interface

USB/PCIe Drivers

Quectel Enhanced AT Commands

Rev.: V1.0 | Status: Released

Quectel EG18 Series

LTE Cat 18	EG18-EA	EG18-NA
Region/Operator	EMEA/APAC①/Brazil	North America
Dimensions (mm)	37.0 × 39. 5 × 2.8	37.0 × 39. 5 × 2.8
Temperature Range		
Operating Temperature	-30 °C to +70 °C	-30 °C to +70 °C
Extended Temperature	-40 °C to +85 °C	-40 °C to +85 °C
Frequency Bands		
LTE-FDD	B1/B3/B5/B7/B8/B20/B28	B2/B4/B5/B7/B12/B13/B14/B17②/B25/B26/B29③/B30/B66/B71
LTE-TDD	B38/B40/B41	B41
WCDMA	B1/B3/B5/B8	B2/B4/B5
GNSS	GPS/GLONASS/BeiDou (Compass)/Galileo/QZSS	GPS/GLONASS/BeiDou (Compass)/Galileo/QZSS
Certifications		
Carrier	**Australia:** Telstra	**America:** Verizon*/AT&T*/T-Mobile*/U.S. Cellular*
Regulatory	**Global:** GCF **Europe:** CE **Australia & New Zealand:** RCM	**Global:** GCF **North America:** PTCRB **America:** FCC **Canada:** IC
Others	RoHS/WHQL	RoHS/WHQL
Data Transmission		
LTE-FDD Data Rate	1.2 Gbps (DL)/150 Mbps (UL))	1.2 Gbps (DL)/150 Mbps (UL))
LTE-TDD Data Rate	545 Mbps (DL)/90.6 Mbps (UL)	545 Mbps (DL)/90.6 Mbps (UL)
DC-HSPA+ Data Rate	42 Mbps (DL)/11.5 Mbps (UL)	42 Mbps (DL)/11.5 Mbps (UL)
WCDMA Data Rate	384 kbps (DL)/384 kbps (UL)	384 kbps (DL)/384 kbps (UL)
Interfaces		
USB 2.0/3.0	× 1 (Support Master* and Slave Modes)	× 1 (Support Master* and Slave Modes)
PCM (Digital Audio)	× 1	× 1
(U)SIM	× 2（1.8/3.0 V）	× 2 (1.8/3.0 V)
UART	× 3	× 3
SPI* (multiplexing BT UART interface)	× 1	× 1
I2C	× 1	× 1
ADC	× 2	× 2
PCIe * (PCIe Gen 2, for Wi-Fi*/Ethernet* Functions)	× 1	× 1
GPIO	× 5	× 5
SDIO*	× 1	× 1
Antenna Tuner Control Interface*	× 2	× 2
USB_BOOT	× 1	× 1
Antennas	× 1 (Main Antenna) × 3 (Diversity Antennas) × 1 (GNSS Antenna)	× 1 (Main Antenna) × 3 (Diversity Antennas) × 1 (GNSS Antenna)
Voice		
Speech Codec Modes	AMR/AMR-WB	AMR/AMR-WB
Echo Arithmetic	Echo Cancellation/Noise Suppression	Echo Cancellation/Noise Suppression
VoLTE	CSFB and VoLTE (Voice over LTE) (Optional)	CSFB and VoLTE (Voice over LTE) (Optional)
Enhanced Features		
MIMO (2 x 2, 4 x 2, 4 x 4 DL)	●	●
DFOTA (Delta Firmware Upgrade Over-the-Air)	●	●
DTMF (Dual-tone Multi-frequency)	●	●
Digital Audio and VoLTE (Voice over LTE)	Optional	Optional
Ethernet*/Wi-Fi* Function through PCIe Interface	●	●
GNSS	●	●
(U)SIM Card Detection	●	●
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	Windows 7/8/8.1/10, Linux 2.6 ~ 5.4, Android 4.x/5.x/6.x/7.x/9.x
GNSS Driver	Android 4.x/5.x/6.x/7.x/8.x/9.x	Android 4.x/5.x/6.x/7.x/8.x/9.x
RIL Driver	Android 4.x/5.x/6.x/7.x/8.x/9.x/10.x	Android 4.x/5.x/6.x/7.x/8.x/9.x/10.x
NDIS Driver	Windows 7/8/8.1/10	Windows 7/8/8.1/10
MBIM Driver	Windows 8/8.1/10, Linux 3.18 ~ 5.4	Windows 8/8.1/10, Linux 3.18 ~ 5.4
GobiNet Driver	Linux 2.6 ~ 5.4	Linux 2.6 ~ 5.4
QMI_WWAN Driver	Linux 3.4 ~ 5.4	Linux 3.4 ~ 5.4
Electrical Features		
Supply Voltage Range	3.3 to 4.3 V, 3.8 V Typ.	3.3 to 4.3 V, 3.8 V Typ.
Power Consumption	20 μA @ Power off 2.96 mA @ Sleep (PF = 64) 9.13 mA @ Idle	15 μA @ Power off 3.49 mA @ Sleep (PF = 64) 9.25 mA @ Idle

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Notes:
1. ① means Japan and CMCC are excluded.
2. ② means LTE-FDD B17 is implemented through MFBI+B12.
3. ③ means LTE-FDD B29 supports Rx only and is only applicable to secondary component in CA mode.
4. * means under development.
5. ● means supported functions.