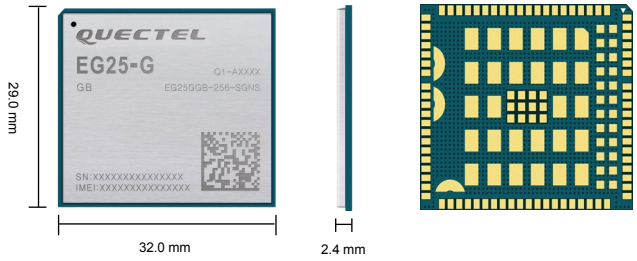
Quectel EG25-G

IoT/M2M-optimized
LTE Cat 4 Module



Quectel EG25-G is an LTE Cat 4 module optimized specially for M2M and IoT applications. Adopting the 3GPP Rel.11 LTE technology, it delivers maximum data rates up to 150 Mbps downlink and 50 Mbps uplink. Designed in the compact and unified form factor, EG25-G is compatible with Quectel UMTS/HSPA+ UC200T series module and multi-mode LTE Standard EC2x series (EC25, EC21 and EC20 R2.1)/EG21-G modules, which allows for flexible migration among them in design and use.

EG25-G is backward-compatible with existing EDGE and GSM/GPRS networks, ensuring that it can be connected even in remote areas devoid of 4G or 3G coverage.

EG25-G supports Qualcomm® IZat™ location technology Gen8C Lite (GPS, GLONASS, BeiDou/Compass, Galileo and QZSS). The integrated GNSS greatly simplifies product design, and provides quicker, more accurate and more dependable positioning.

A rich set of Internet protocols, industry-standard interfaces and abundant functionalities (USB serial drivers for Windows 7/8/8.1/10, Linux, Android) extend the applicability of the module to a wide range of M2M and IoT applications such as industrial router, industrial PDA, rugged tablet PC, video surveillance, and digital signage.

Key Benefits

- LTE Cat 4 module optimized for M2M and IoT applications
- Worldwide LTE, UMTS/HSPA(+) and GSM/GPRS/EDGE 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

LTE Cat 4
Max. 150 Mbps (DL)
Max. 50 Mbps (UL)

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

LGA Package

Wi-Fi

BT

USB 2.0 High Speed Interface

Embedded Abundant Protocols

Multi-constellation GNSS

Quectel Enhanced AT Commands

USB Drivers

Rev.: V1.3 | Status: Released

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Variant for Global
EG25-G:
LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28
LTE-TDD: B38/B39/B40/B41
WCDMA: B1/B2/B4/B5/B6/B8/B19
GSM: B2/B3/B5/B8

Data
LTE:
LTE-FDD: Max. 150 Mbps (DL)/Max. 50 Mbps (UL)
LTE-TDD: Max. 130 Mbps (DL)/Max. 30 Mbps (UL)
UMTS:
DC-HSDPA: Max. 42 Mbps (DL)
HSUPA: Max. 5.76 Mbps (UL)
WCDMA: Max. 384 kbps (DL)/Max. 384 kbps (UL)
GSM:
EDGE: Max. 296 kbps (DL)/Max. 236.8 kbps (UL)
GPRS: Max. 107 kbps (DL)/Max. 85.6 kbps (UL)

Voice
Speech Codec Modes:
HR/FR/EFR/AMR/AMR-WB
Echo Arithmetic:
Echo Cancellation/Noise Suppression
Audio:
Digital Audio and VoLTE (Voice over LTE) (Optional)

Interfaces
UART × 2 : Main UART and Debug UART
USB × 1: USB 2.0 with High Speed up to 480 Mbps
(U)SIM × 1: 1.8V/3.0V (U)SIM Interface
PCM × 1: Digital Audio through PCM (Optional)
I2C × 1
NETLIGHT × 2 (NET_STATUS and NET_MODE)
ADC × 2
SDIO × 2 (for Wi-Fi and SD Card)
SGMII × 1
BT × 1
RESET (Active Low)
PWRKEY (Active Low)
STATUS
USB_BOOT
Solder Pads for Primary, Rx-diversity and GNSS Antennas

Enhanced Features
SDIO Interface for Wi-Fi Function (Optional)
UART/PCM Interfaces for BT 4.0 Function*
DTMF
Audio Playback/Audio Recording
QuecFile*
QuecLocator®
QuecOpen®
Downlink MIMO (Supports Rx-diversity Antenna)
(U)SIM Card Detection
DFOTA:
Delta Firmware Upgrade Over-The-Air
GNSS:
GPS/GLONASS/BeiDou (Compass)/Galileo/QZSS (Optional)

Electrical Characteristics
Output Power:
Class 4 (33 dBm ±2 dB) for GSM850
Class 4 (33 dBm ±2 dB) for EGSM900
Class 1 (30 dBm ±2 dB) for DCS1800
Class 1 (30 dBm ±2 dB) for PCS1900
Class E2 (27 dBm ±3 dB) for GSM850 8-PSK
Class E2 (27 dBm ±3 dB) for EGSM900 8-PSK
Class E2 (26 dBm ±3 dB) for DCS1800 8-PSK
Class E2 (26 dBm ±3 dB) for PCS1900 8-PSK
Class 3 (24 dBm +1/-3 dB) for WCDMA bands
Class 3 (23 dBm ±2 dB) for LTE-FDD bands
Class 3 (23 dBm ±2 dB) for LTE-TDD bands
Consumption:
15 μA @ Power off
1.8 mA @ Sleep, Typ.
22 mA @ Idle
Sensitivity:
LTE B1: -99.5 dBm (10 MHz)
LTE B2: -99.9 dBm (10 MHz)
LTE B3: -99.7 dBm (10 MHz)
LTE B4: -99.7 dBm (10 MHz)
LTE B5: -99.9 dBm (10 MHz)
LTE B7: -99.2 dBm (10 MHz)
LTE B8: -99.8 dBm (10 MHz)
LTE B12: -99.8 dBm (10 MHz)
LTE B13: -99.5 dBm (10 MHz)
LTE B18: -100 dBm (10 MHz)
LTE B19: -99.9 dBm (10 MHz)
LTE B20: -99.8 dBm (10 MHz)
LTE B25: -100 dBm (10 MHz)
LTE B26: -99.5 dBm (10 MHz)
LTE B28: -99.6 dBm (10 MHz)
LTE B38: -99 dBm (10 MHz)
LTE B39: -99.5 dBm (10 MHz)
LTE B40: -99.2 dBm (10 MHz)
LTE B41: -99 dBm (10 MHz)
WCDMA B1: -109.2 dBm
WCDMA B2: -110 dBm
WCDMA B4: -109.5 dBm
WCDMA B5: -110.4 dBm
WCDMA B6: -110.5 dBm
WCDMA B8: -109.5 dBm
WCDMA B19: -110.1 dBm
GSM850: -108 dBm
EGSM900: -108 dBm
DCS1800: -107.4 dBm
PCS1900: -107.5 dBm

Software Features
USB Serial Driver:
Windows 7/8/8.1/10,
Linux 2.6–5.4,
Android 4.x–9.x
GNSS Driver:
Android 4.x–9.x
RIL Driver:
Android 4.x–10.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

Protocols:
TCP/UDP/PPP/FTP/HTTP/NTP/PING/QMI/NITZ/SMTP/MQTT/CMUX/HTTPS/FTPS/SMTPS/SSL/MMS/FILE

General Features
Operating Temperature Range: -35 to +75 °C
Extended Temperature Range: -40 to +85 °C
Dimensions: 29.0 mm x 32.0 mm x 2.4 mm
Weight: Approx. 4.9 g
LGA Package①
Supply Voltage: 3.3–4.3 V, 3.8 V Typ.
3GPP E-UTRA Release 11
Bandwidth: 1.4/3/5/10/15/20 MHz
3GPP TS27.007, 27.005 and Enhanced AT Commands

Approvals
Carrier:
Deutsche Telekom (Europe)
Verizon/AT&T/Sprint/U.S. Cellular/T-Mobile* (America)
Telus/Rogers* (Canada)
Regulatory:
GCF (Global)
CE (Europe)
PTCRB (North America)
FCC (America)
IC (Canada)
Anatel (Brazil)
IFETEL (Mexico)
SRRC/CCC/NAL (China)
KC (South Korea)
NCC (Taiwan, China)
JATE/TELEC (Japan)
RCM (Australia & New Zealand)
FAC* (Russia)
NBTC (Thailand)
IMDA (Singapore)
ICASA (South Africa)
Others:
RoHS
WHQL

* Under Development

① means EG25-G includes LGA and LCC form factors. LGA is default, while LCC is recommended only in the compatible design.

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EC21JFA-MINIPCIE LC86GLAMD EG21GGB-MINIPCIE EP06ALA-512-SGAD YF0007BA
EC200UEUAC-N05-SNNSA FC66EAAMD FC900EABM2 L86-M33 UC200AGLAA-N06-SNNSA YC0010AA
EC25JFA-MINIPCIE YCGO014AA EC20CEHDLG-MINIPCIE-CB EC25EUGA-512-SGNS
EC600NCNLA-N05-SNNSA EG25GGD-256-SGNS FC21SDTEA-Q93 BC28FFA-04-STD
EC600UCNLC-N05-SNNSA2 EG25GGB-256-SGNS