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 150Mbps downlink and 50Mbps uplink. Designed in the compact and unified form factor, EG25-G is compatible with Quectel UMTS/HSPA+ UC20/UC200T module and multi-mode LTE Standard EC2x (EC25, EC21, EC20, EC20 R2.0 and EC20 R2.1)/EG21-G module, 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/eCall*) 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, eCall* and DTMF
- MIMO technology meets demands for data rate and link reliability in modern wireless communication systems

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<th>4G LTE</th>
<th>3G HSPA+</th>
<th>LGA Package</th>
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<td>LTE Cat 4 Max 150Mbps (DL) Max 50Mbps (UL)</td>
<td>Max 42Mbps (DL) Max 5.76Mbps (UL)</td>
<td>LGA Package</td>
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![image](image-url)
### Variant for Global

**EG25-G:**
- LTE-TDD: B38/B39/B40/B41
- GSM: B2/B3/B5/B8

### Data

**LTE:**
- LTE-FDD: Max 150Mbps (DL)/Max 50Mbps (UL)
- LTE-TDD: Max 130Mbps (DL)/Max 30Mbps (UL)

**UMTS:**
- DC-HSDPA: Max 42Mbps (DL)
- HSPA: Max 5.76Mbps (UL)
- WCDMA: Max 384kbps (DL)/Max 384kbps (UL)
- GSM: EDGE: Max 296kbps (DL)/Max 236.8kbps (UL)

**GPS/GLONASS/BeiDou (Compass)/Galileo/QZSS:**
- GPS: 99.9dBm (10MHz)
- GLONASS: 99.5dBm (10MHz)
- BeiDou (Compass): 99dBm (10MHz)
- Galileo: 99.5dBm (10MHz)
- QZSS: 99.5dBm (10MHz)

**GNSS:**
- Bandwidth: 1.4/3/5/10/15/20MHz
- 3GPP E-UTRA Release 11
- Bandwidth: 1.4/3/5/10/15MHz
- 3GPP TS27.007, 27.005 and Enhanced AT Commands

### 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** x 2:
- Main UART and Debug UART
- USB x 1: USB 2.0 with High Speed up to 480Mbps (U)SIM x 1: 1.8V/3.0V (U)SIM Interface
- PCM x 1: Digital Audio through PCM (Optional)
- I2C x 1
- NETLIGHT x 2 (NET_STATUS and NET_MODE)
- ADC x 2
- SDIO x 2 (for Wi-Fi and SD card)
- SGMII x 1
- BT x 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 BT4.0 Function
- eCall*
- DTMF
- Audio Playback/Audio Recording
- QuecFile*
- QuecLocator*
- Downlink MIMO (Supports Rx-diversity Antenna)
- (USIM Card Detection
- DTOTA: Delta Firmware Upgrade Over-The-Air

**GNSS:**
- GPS/GLONASS/BeiDou (Compass)/Galileo/QZSS (Optional)

### Electrical Characteristics

**Output Power:**
- Class 4 (33dBm±2dB) for GSM850
- Class 4 (33dBm±2dB) for EGSM900
- Class 1 (30dBm±2dB) for DCS1800
- Class 1 (30dBm±2dB) for PCS1900
- Class E2 (27dBm±3dB) for GSM850 5-PSK
- Class E2 (27dBm±3dB) for EGSM900 8-PSK
- Class E2 (26dBm±3dB) for DCS1800 6-PSK
- Class E2 (26dBm±3dB) for PCS1900 8-PSK
- Class 3 (24dBm±1-3dB) for WCDMA bands
- Class 3 (23dBm±2dB) for LTE-FDD bands
- Class 3 (23dBm±2dB) for LTE-TDD bands

**Consumption:**
- 20μA @ Power off
- 3mA @ Sleep, Typ.
- 22mA @ Idle

**Sensitivity:**
- LTE B1: -99.5dBm (10MHz)
- LTE B2: -99.9dBm (10MHz)
- LTE B3: -99.7dBm (10MHz)
- LTE B4: -99.7dBm (10MHz)
- LTE B5: -99.6dBm (10MHz)
- LTE B7: -99.2dBm (10MHz)
- LTE B8: -99.8dBm (10MHz)
- LTE B12: -99.2dBm (10MHz)
- LTE B13: -99.2dBm (10MHz)
- LTE B18: -100dBm (10MHz)
- LTE B19: -99.9dBm (10MHz)
- LTE B20: -99.8dBm (10MHz)
- LTE B25: -100dBm (10MHz)
- LTE B26: -99.5dBm (10MHz)
- LTE B28: -99.6dBm (10MHz)
- LTE B38: -99dBm (10MHz)
- LTE B39: -99.5dBm (10MHz)
- LTE B40: -99.2dBm (10MHz)
- LTE B41: -99dBm (10MHz)
- WCDMA B1: -109.2dBm
- WCDMA B2: -110dBm
- WCDMA B4: -109.7dBm
- WCDMA B5: -110.4dBm
- WCDMA B6: -110.5dBm
- WCDMA B8: -110.5dBm
- WCDMA B19: -110.1dBm
- EGSM850: -108dBm
- EGSM900: -110.1dBm
- DCS1800: -110.5dBm
- DCS1900: -107.5dBm

### Protocols

**QMI_WWAN Driver:**
- Linux 2.6~5.4

**GobiNet Driver:**
- QMI_WWAN Driver:
  - Linux 2.6~5.4
- Protocols:
  - TCP/UDP/PPP/FTP/HTTP/NTP/PNG/QMI/NITZ/SMT/PQTT/CMUX/HTTPS/FTPS/SMTPS/SSL/MMSS.FILE*

**General Features**

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

### Approvals

**Carrier:**
- Deutsche Telekom (Europe)
- Verizon/AT&T/Sprint/U.S. Cellular/T-Mobile*
  (North America)
- Telus/Rogers* (Canada)

**Regulatory:**
- GCF (Global)
- CE (Europe)
- FCC/PTCRB (North America)
- IC (Canada)
- Anatel (Brazil)
- IFETEL (Mexico)
- SRC/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.