Quectel EG21-G

IoT/M2M-optimized
LTE Cat 1 Module

Quectel EG21-G is an LTE Cat 1 module optimized specially for M2M and IoT applications. Adopting the 3GPP Rel-11 LTE technology, it delivers maximum data rates up to 10 Mbps downlink and 5 Mbps uplink. Designed in the compact and unified form factor, EG21-G is compatible with Quectel UMTS/HSPA+ module and multi-mode LTE Standard EC2x series (EC25 series, EC21 series and EC20-CE)/EC200A series/EG25-G modules, which allows for flexible migration among them in design and use.

EG21-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.

EG21-G supports Qualcomm® IZat™ location technology Gen8C Lite (GPS, GLONASS, BDS, 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 7/8/8.1/10/11, Linux, Android) extend the applicability of the module to a wide range of M2M and IoT applications such as smart metering, wearable devices, environmental monitoring, asset tracking, fleet management, smart safety and alarm systems.

Key Features

- LTE Cat 1 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
**Quectel EG21-G**

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**LTE Cat 1 Module**

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**Frequency Bands**

**EG21-G:**

- LTE-FDD: B1 / 2 / 3 / 4 / 5 / 7 / 8 / 12 / 13 / 18 / 19 / 20 / 25 / 26 / 28
- LTE-TDD: B39 / 39 / 40 / 41
- WCDMA: B1 / 2 / 4 / 5 / 6 / 8 / 19
- GSM: B2 / 3 / 5 / 8

**Data**

- LTE:
  - LTE-FDD: Max. 10 Mbps (DL)/ Max. 5 Mbps (UL)
  - LTE-TDD: Max. 8.96 Mbps (DL)/ Max. 3.1 Mbps (UL)

**UMTS:**

- HSDPA: Max. 42 Mbps
- HSUPA: Max. 2.6 Mbps
- HSUPA: Max. 384 kbps (UL)

**GPS/ GLONASS/ GNSS:**

- BDS/ Galileo/ QZSS (Optional)

**Speech Codec Modes:**

- HR/ FR/ EFR/ AMR/ AMR-WB

**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: 1.8/3.0 V (U)SIM Interface
- USB × 1: USB 2.0 with High Speed up to 480 Mbps
- UART × 2: Main UART and Debug UART

**Enhanced Features**

- Audio Playback/Audio Recording
- QueLocator
- (U)SIM Card Detection
- DFO TA:
- Delta Firmware Upgrade Over-The-Air

**GNSS:**

- GPS/ GLONASS/ BDS/ Galileo/ QZSS (Optional)

**Enhanced Features**

- Audio Playback/Audio Recording
- QueLocato®
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**GNSS:**

- GPS/ GLONASS/ BDS/ Galileo/ QZSS (Optional)

**Electrical Characteristics**

**Output Power:**

- GSM/EDGE: Class 4 (33 dBm ±2 dB)
- WCDMA: Class 4 (30 dBm ±2 dB)
- PC51900: Class 1 (30 dBm ±2 dB)
- G8/S800: 8-PSK: Class E2 (27 dBm ±3 dB)
- EGSM900 8-PSK: Class E2 (27 dBm ±3 dB)
- DCS1800 8-PSK: Class E2 (26 dBm ±3 dB)
- PC51900 8-PSK: Class E2 (26 dBm ±3 dB)
- WCDMA: Class 3 (24 dBm +1/-3 dB)
- LTE-TDD: Class 3 (23 dBm ±2 dB)
- Consumption:
  - 13 mA @ Power off
  - 1.8 mA @ Sleep, Typ.
  - 22 mA @ Idle

**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: 1.8/3.0 V (U)SIM Interface
- PCM × 1: Digital Audio through PCM (Optional)
- I2C × 1
- NETLIGHT × 2 (NET_STATUS and NET_MODE)
- ADC × 2
- SD Card × 1
- SGMII × 1
- RES (Active Low)
- PWKKEY (Active Low)
- STATUS
- USB_BOOT
- Solder Pads for Primary, Rx-diversity and GNSS
- Antennas

**Enhanced Features**

- DTMF
- Audio Playback/Audio Recording
- QueLocato®
- (U)SIM Card Detection
- DFO TA:
- Delta Firmware Upgrade Over-The-Air

**GNSS:**

- GPS/ GLONASS/ BDS/ Galileo/ QZSS (Optional)

**USB GobiNet Driver:**

- Windows 7/ 8/ 8.1/ 10/ 11
- Linux 2.6-6.5

**USB QMI_WWAN Driver:**

- Linux 3.4-6.5

**Protocols:**

- TCP/ UDP/ PPP/ FTP/ HTTP/ NTP/ PING/ QMI/ NITZ/ SMTP/ MQTT/ CMUX/ HTTPS/ FTPS/ SMPTPS/ SSL/ MMS/ FILE

**General Features**

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

**Certification**

- Deutsche Telekom (Europe)
- Verizon/ AT&T/ T-Mobile/ Sprint/ U.S. Cellular (America)
- Telus (Canada)
- GCF (Global)
- CE (Europe)
- FCC (America)
- PTCRB (North America)
- IC (Canada)
- Anatel (Brazil)
- IFETEL (Mexico)
- CCC (China)
- KC (South Korea)
- NCC (Taiwan, China)
- JATE/ TELEC (Japan)
- RCM (Australia)
- ICASA (South Africa)
- Others:
  - RoHS
  - WHQL

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