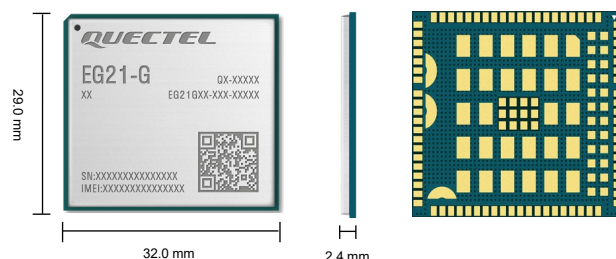




Quectel EG21-G

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



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



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



LGA Package



Embedded Abundant
Protocols



USB Drivers



Multi-constellation
GNSS (Optional)



USB 2.0 High Speed
Interface



Quectel Enhanced
AT Commands

Version: 1.5 | Status: Released

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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: B38/ 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 (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: 1.8/3.0 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

RESET (Active Low)

PWRKEY (Active Low)

STATUS

USB_BOOT

Solder Pads for Primary, Rx-diversity and GNSS
Antennas

Enhanced Features

DTMF

Audio Playback/Audio Recording

QuecFile®

QuecLocator®

(U)SIM Card Detection

DFOTA:

Delta Firmware Upgrade Over-The-Air

GNSS:

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

Electrical Characteristics

Output Power:

GSM850: Class 4 (33 dBm ±2 dB)

EGSM900: Class 4 (33 dBm ±2 dB)

DCS1800: Class 1 (30 dBm ±2 dB)

PCS1900: Class 1 (30 dBm ±2 dB)

GSM850 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)

PCS1900 8-PSK: Class E2 (26 dBm ±3 dB)

WCDMA: Class 3 (24 dBm +1/-3 dB)

LTE-FDD: Class 3 (23 dBm ±2 dB)

LTE-TDD: Class 3 (23 dBm ±2 dB)

Consumption:

13 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: -98 dBm (10 MHz)

LTE B39: -99.5 dBm (10 MHz)

LTE B40: -99.2 dBm (10 MHz)

LTE B41: -97.8 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/ 11

Linux 2.6–6.5

Android 4.x–13.x

GNSS Driver:

Android 4.x–13.x

RIL Driver:

Android 4.x–13.x

USB NDIS Driver:

Windows 7/ 8/ 8.1/ 10/ 11

USB GobiNet Driver:

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/

SMTSPS/ 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

Carrier:

Deutsche Telekom (Europe)

Verizon/ AT&T/ T-Mobile/ Sprint/ U.S. Cellular
(America)

Telus (Canada)

Regulatory:

GCF (Global)

CE (Europe)

FCC (America)

PTCRB (North America)

IC (Canada)

Anatel (Brazil)

IFETEL (Mexico)

CCC (China)

KC (South Korea)

NCC (Taiwan, China)

JATE/ TELECOM (Japan)

RCM (Australia)

ICASA (South Africa)

Others:

RoHS

WHQL