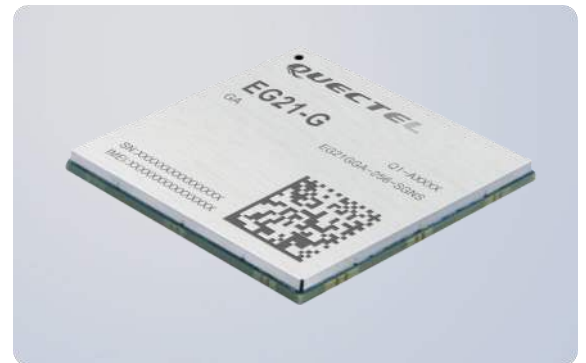


Quectel EG21-G

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 10Mbps downlink and 5Mbps uplink. Designed in the compact and unified form factor, EG21-G is compatible with Quectel UMTS/HSPA+ UC20/UC200T modules and multi-mode LTE Standard EC2x (EC25, EC21, EC20 R2.0 and EC20 R2.1)/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, 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 smart metering, wearable devices, environmental monitoring, asset tracking, fleet management, security and alarm systems, and so on.

Key Benefits

- ✓ 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, eCall* and DTMF*
- ✓ MIMO technology meets demands for data rate and link reliability in modem wireless communication systems



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



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



LGA Package



Embedded Abundant Protocols



eCall*



Multi-constellation GNSS



USB 2.0 High Speed Interface



USB Drivers



Quectel Enhanced AT Commands

Quectel EG21-G

IoT/M2M-optimized LTE Cat 1 Module



Frequency Bands

EG21-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 10Mbps (DL)/Max 5Mbps (UL)
LTE-TDD: Max 8.96Mbps (DL)/Max 3.1Mbps (UL)

UMTS:

HSDPA: Max 42Mbps (DL)
HSUPA: Max 5.76Mbps (UL)
WCDMA: Max 384Kbps (DL)/Max 384Kbps (UL)
GSM:
EDGE: Max 296Kbps (DL)/Max 236.8Kbps (UL)
GPRS: Max 107Kbps (DL)/Max 85.6Kbps (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 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
SD Card x 1
SGMII x 1
RESET (Active Low)
PWRKEY (Active Low)
STATUS
USB_BOOT
Solder Pads for Primary, Rx-diversity and GNSS
Antennas

Enhanced Features

eCall*
DTMF*
Audio Playback*/Audio Recording*
QuecFile*
QuecLocator®
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 (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 8-PSK
Class E2 (27dBm±3dB) for EGSM900 8-PSK
Class E2 (26dBm±3dB) for DCS1800 8-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: -99.9dBm (10MHz)
LTE B7: -99.2dBm (10MHz)
LTE B8: -99.8dBm (10MHz)
LTE B12: -99.8dBm (10MHz)
LTE B13: -99.5dBm (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
GSM850: -108dBm
EGSM900: -108dBm
DCS1800: -107.5dBm
PCS1900: -107.5dBm

Software Features

USB Serial Driver:

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

RIL Driver:

Android 4.x/5.x/6.x/7.x/8.x/9.x

NDIS Driver:

Windows 7/8/8.1/10

GobiNet Driver:

Linux 2.6~5.4

QMI_WWAN Driver:

Linux 2.6~5.4

Protocols:

TCP/UDP/PPP/FTP/HTTP/NTP/PING/QMI/NITZ/
SMTP/MQTT/CMUX/HTTPS/FTPS/SMTPTS/SSL/
MMS*/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: 1.4/3/5/10/15/20MHz
3GPP TS27.007, 27.005 and Enhanced AT
Commands

Approvals

Carrier:

Deutsche Telekom (Europe)
Verizon*/AT&T*/T-Mobile*/Sprint* (North
America)

Regulatory:

GCF (Global)
CE (Europe)
FCC/PTCRB (North America)
IC (Canada)
Anatel (Brazil)
IFETEL (Mexico)
KC* (South Korea)
NCC (Taiwan, China)
JATE/TELEC (Japan)
RCM (Australia)
ICASA* (South Africa)

Others:

RoHS
WHQL

* Under Development