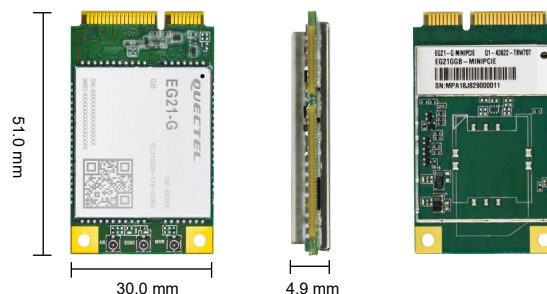




Quectel EG21-G Mini PCIe

IoT/M2M-optimized LTE Cat 1 Module



Quectel EG21-G Mini PCIe is an LTE Cat 1 module adopting standard PCI Express® Mini Card form factor (Mini PCIe). It is optimized specially for M2M and IoT applications, and delivers maximum data rates up to 10 Mbps downlink and 5 Mbps uplink.

EG21-G Mini PCIe 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 Mini PCIe 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 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 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 broadband IoT applications
- ✓ Worldwide LTE, UMTS/HSPA(+) and GSM/GPRS/EDGE coverage
- ✓ Standard PCI Express® Mini Card form factor (Mini PCIe) ideal for manufacturers to easily integrate wireless connectivity into their devices
- ✓ Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment



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



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



Mini PCIe
Package



Embedded Abundant
Protocols



USB Drivers



Multi-constellation
GNSS (Optional)



USB 2.0 High Speed
Interface



Quectel Enhanced
AT Commands

Version: 1.7 | Status: Released

Quectel

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Frequency Bands

EG21-G Mini PCIe:

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

USB × 1: USB 2.0 with High Speed up to 480 Mbps

PCM × 1: Digital Audio through PCM (Optional)

I2C × 1

(U)SIM × 1: 1.8/3.0 V (U)SIM Interface

UART × 1: Main UART

LED_WWAN# for Network Status Indication

W_DISABLE# for Disabling RF Function

PERST# for Module Resetting

Main, Rx-diversity and GNSS Antenna Connectors

Enhanced Features

DTMF

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:

2.8 mA @Sleep, Typ.

35 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: -97.5 dBm (10 MHz)

WCDMA B1: -109.2 dBm

WCDMA B2: -110 dBm

WCDMA B4: -109.7 dBm

WCDMA B5: -110.4 dBm

WCDMA B6: -110.5 dBm

WCDMA B8: -110.5 dBm

WCDMA B19: -110.1 dBm

GSM850: -108 dBm

EGSM900: -108 dBm

DCS1800: -107.5 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/

SMTPS/ SSL/ MMS/ FILE

General Features

Operating Temperature Range: -35 to +75 °C

Extended Temperature Range: -40 to +80 °C

Dimensions: 51.0 mm × 30.0 mm × 4.9 mm

Weight: Approx. 9.8 g

Mini PCIe Package

Supply Voltage: 3.0-3.6 V, 3.3 V Typ.

3GPP E-UTRA Rel-11

Bandwidth: 1.4/ 3/ 5/ 10/ 15/ 20 MHz

3GPP TS27.007 and Enhanced AT Commands

Certifications

Carrier:

Deutsche Telekom (Europe)

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

Telus (Canada)

Regulatory:

GCF (Global)

CE (Europe)

PTCRB (North America)

FCC (America)

IC (Canada)

Anatel (Brazil)

IFETEL (Mexico)

NCC (Taiwan, China)

JATE/ TELEC (Japan)

RCM (Australia)

ICASA (South Africa)

Others:

RoHS

WHQL