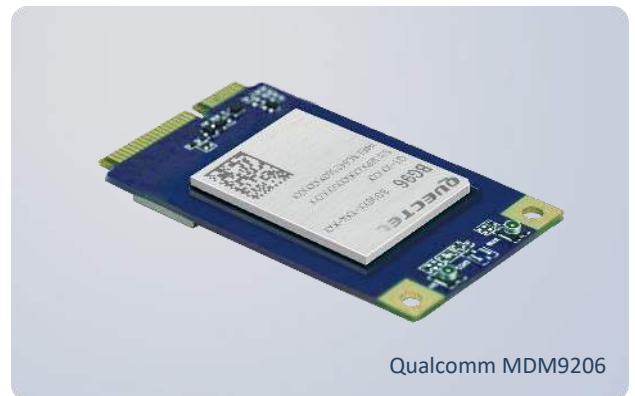


Quectel BG96 Mini PCIe

LTE Cat M1 & Cat NB1 & EGPRS Module



BG96 Mini PCIe is a multi-band LTE Cat M1/Cat NB1/EGPRS module adopting standard PCI Express® Mini Card form factor (Mini PCIe). It offers a maximum data rate of 375Kbps downlink and 375Kbps uplink.

With high integration level and a cost-effective SMT form factor of 51.0mm × 30.0mm × 4.9mm, BG96 enables integrators and developers to easily design their applications and take advantage from the module's low power consumption and mechanical intensity.

A rich set of Internet protocols, industry-standard interfaces and abundant functionalities (USB drivers for Windows 7/8/8.1/10, Linux, etc.) extend the applicability of the module to a wide range of M2M applications such as wireless POS, smart metering, tracking, etc.



Key Benefits

- ✓ Multi-band LTE Cat M1/Cat NB1/EGPRS module with global coverage
- ✓ Standard PCI Express® Mini Card form factor (Mini PCIe) ideal for manufacturers to easily integrate wireless connectivity into their devices
- ✓ Easy migration from Quectel LTE Mini PCIe modules
- ✓ Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment
- ✓ Fast time-to-market: reference designs, evaluation tools and timely technical support minimize design-in time and development efforts
- ✓ Robust mounting and interfaces



LTE Cat M1 & Cat NB1



EGPRS



Mini PCIe Package



Embedded Abundant Protocols



DFOTA



USB 2.0 High Speed Interface



USB Drivers



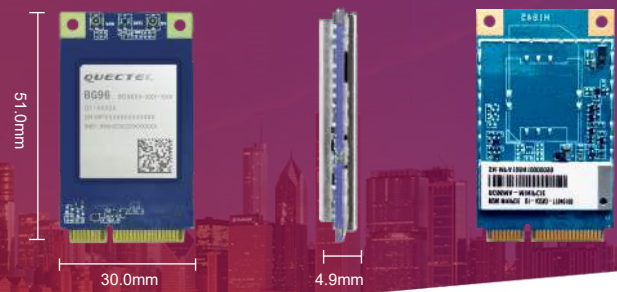
Quectel Enhanced AT Commands



Multi-constellation GNSS

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Variant for the Global

BG96 Mini PCIe

Cat M1/Cat NB1:

LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/
B19/B20/B25/B26*/B28

LTE TDD: B39 (For Cat M1 Only)

EGPRS:

850/900/1800/1900MHz

Data

Cat M1:

Max. 375Kbps (DL), Max. 375Kbps (UL)

Cat NB1:

Max. 32Kbps (DL), Max. 70Kbps (UL)

EDGE:

Max. 296Kbps (DL), Max. 236.8Kbps (UL)

GPRS:

Max. 107Kbps (DL), Max. 85.6Kbps (UL)

Voice

VoLTE (For Cat M1 Only. Support Realtek ALC
5616 Codec by Default Firmware)

SMS

Point-to-point MO and MT

SMS Cell Broadcast

Text and PDU Mode

Interfaces

USB 2.0 with High Speed up to 480Mbps

Digital Audio through PCM (Optional)

1.8V/3.0V (U)SIM Card Interface

LED_WWAN# for Network Status Indication

W_DISABLE# for Disabling RF Function

UART × 1

PERST# for Module Resetting

I2C × 1

Enhanced Features

GNSS (Optional):

GPS, GLONASS, BeiDou/Compass, Galileo, QZSS

Firmware Upgrade:

via USB interface

DFOTA:

Delta Firmware Upgrade Over the Air

Processor:

ARM A7 Processor

Electrical Characteristics

Output Power:

Max. Power: 23dBm

Consumption @LTE Cat M1 (Typical):

Idle State: 19mA @Instrument

LTE Connected Mode (Avg.):

323mA @Max Power

Consumption @LTE Cat NB1 (Typical):

Idle State: 19mA @Instrument

LTE Connected Mode (Avg.):

479mA @Max Power

Sensitivity:

LTE Cat M1 : -106.4dBm

LTE Cat NB1 : -112.5dBm

Software Features

USB Serial Driver:

Windows 7/8/8.1/10, Windows CE 5.0/6.0/7.0,

Linux 2.6/3.x/4.1~4.14,

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

ECM Driver*: Linux 2.6/3.x/4.1~4.14

Gobinet Driver*: Linux 2.6/3.x/4.1~4.14

QMI_WWAN Driver*:

Linux 3.x(3.4 or later)/4.1~4.14

Protocols:

PPP/TCP/UDP/SSL/TLS/FTP(S)/HTTP(S)/NITZ/

PING/MQTT

General Features

3GPP E-UTRA Release 13

Temperature Range: -40°C ~ +80°C

Dimensions: 51.0mm × 30.0mm × 4.9mm

Mini PCIe Package

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

3GPP TS27.007, 3GPP TS 27.005 and Quectel

Enhanced AT Commands

Approvals

Carrier:

Verizon*/AT&T*/T-Mobile* (North America)

Bell*/Telus* (Canada)

SKT* (Korea)

Softbank/KDDI (Japan)

Telstra* (Australia)

Regulatory:

GCF (Global)

CE* (Europe)

FCC/PTCRB (North America)

IC* (Canada)

CCC* (China)

KC* (Korea)

JATE/TELEC (Japan)

RCM* (Australia)

IFETEL* (Mexico)

Others:

RoHS Compliant

* Under Development/Ongoing