

# Quectel BG600L-M3

## LTE Cat M1/Cat NB2/EGPRS Module



BG600L-M3 is a multi-mode LTE Cat M1/Cat NB2/EGPRS module with integrated GNSS functionality. It is fully compliant with 3GPP Rel. 14 specification and offers a maximum data rate of 589Kbps downlink and 1.12Mbps uplink in CatM1. It features ultra-low power consumption by leveraging the integrated RAM/flash as well as the ARM Cortex A7 processor supporting ThreadX, achieving up to 70% reduction in PSM leakage and 85% reduction in eDRX current consumption compared to its predecessor.

BG600L-M3 boasts a comprehensive set of hardware-based security features and enables trusted applications to run directly on the Cortex A7 TrustZone engine. Additionally, BG600L-M3 is compatible with Quectel GSM/GPRS/GNSS module MC60, providing customers a convenient solution for network migration.

With a cost-effective SMT form factor of 18.7mm × 16.0mm × 2.1mm and high integration level, BG600L-M3 enables integrators and developers to easily design their applications and take advantage from the module's low power consumption and mechanical intensity. Its advanced package allows fully automated manufacturing for high-volume applications. A rich set of Internet protocols, industry-standard interfaces (USB/UART/PCM/STATUS) and abundant functions (e.g. USB drivers for Windows 7/8/8.1/10, Linux and Android, etc.) extend the applicability of the module to a wide range of M2M applications such as wireless POS, smart metering, tracking, wearable devices, etc.

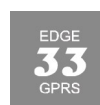


### Key Benefits

- ✓ LTE Cat M1/Cat NB2/EGPRS module with ultra-low power consumption
- ✓ Easy migration from Quectel GSM/GPRS, UMTS/HSPA and LTE standard modules
- ✓ Super slim profile in LGA package
- ✓ Integrated RAM and flash in the baseband chipset
- ✓ Comprehensive set of hardware-based security features
- ✓ Fast time-to-market: reference designs, evaluation tools and timely technical support minimize design-in time and development efforts
- ✓ Compact SMT form factor ideal for size-constrained applications with tight space
- ✓ Robust mounting and interfaces



LTE Cat M1/  
Cat NB2



EGPRS



LGA Package



Embedded Abundant  
Protocols



DFOTA



USB 2.0 High Speed  
Interface



Ultra-low Power  
Consumption



Quectel Enhanced  
AT Commands

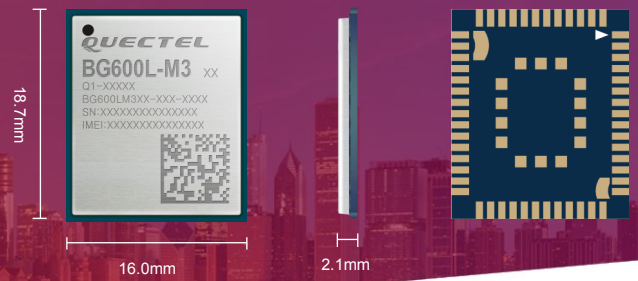


Integrated RAM/  
Flash in Chipset

Rev.: V1.0 | Status: Preliminary

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## LTE Cat M1/Cat NB2/EGPRS Module



### Variant for the Global

#### BG600L-M3

##### Cat M1/Cat NB2:

LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B14<sup>①</sup>/  
B18/B19/B20/B25/B26\*/B27<sup>①</sup>/B28/  
B66/B71<sup>②</sup>/B85

##### EGPRS:

850/900/1800/1900MHz

### Data

##### Cat M1:

Max. 589Kbps (DL), Max. 1.12Mbps (UL)

##### Cat NB2:

Max. 136Kbps (DL), Max. 150Kbps (UL)

##### EDGE:

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

##### GPRS:

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

### Voice\*

VoLTE for LTE Cat M1

CS Voice for GSM

### SMS \*

Point-to-point MO and MT

SMS Cell Broadcast

Text and PDU Mode

### Interfaces

USB 2.0 × 1

UART × 3

PCM × 1

ADC × 1

PWRKEY × 1

I2C\* × 1

RESET\* × 1

GPIO (Configurable)

(U)SIM × 1 (1.8V only)

NETLIGHT × 1 (For Network Status Indication)

Antenna × 2 (For LTE & GNSS Antennas)

### Enhanced Features

#### GNSS\* :

GPS, GLONASS, BeiDou, Galileo, QZSS

#### Firmware Upgrade:

via USB interface

#### DFOTA\*:

Delta Firmware Upgrade Over-the-Air

#### Processor:

ARM A7 Processor

#### Quecopen\*\* :

Simplifies the Development of Embedded Applications

#### QuecLocator™\*:

Support Cell ID Positioning

### Electrical Characteristics

#### Output Power:

Max. Power: 20dBm @ LTE Bands

#### Consumption @LTE Cat M1 (Typical):

Power Saving Mode: TBD

Idle State: TBD

Sleep State: TBD

LTE Connected Mode (Avg.): TBD

#### Consumption @LTE Cat NB2 (Typical):

Power Saving Mode: TBD

Idle State: TBD

Sleep State: TBD

LTE Connected Mode (Avg.): TBD

#### Sensitivity:

TBD

### Software Features

#### USB Serial Driver\*:

Windows 7/8/8.1/10,

Linux 2.6/3.x/4.1~4.15,

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/4.1~4.15

Gobinet Driver\*: Linux 2.6/3.x/4.1~4.15

#### QMI\_WWAN Driver\*:

Linux 3.x(3.4 or later)/4.1~4.15

#### Protocols\*:

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

PING/ MQTT/ CoAP

### General Features

3GPP E-UTRA Release 14

Temperature Range: -40°C ~ +85°C

Dimensions: 18.7mm × 16.0mm × 2.1mm

Weight: TBD

Package: LGA

#### Supply Voltage:

3.3V~4.3V, 3.8V Typ.

#### AT Commands:

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

Enhanced AT Commands

### Approvals\*

#### Carrier:

Vodafone (Global)

Deutsche Telekom/Telefónica (Europe)

#### Regulatory:

GCF (Global)

CE (Europe)

CCC (China)

NCC

#### Others:

RoHS Compliant

\* Under Development

① Cat M1 Bands Only

② Cat NB2 Bands Only