Quectel BG96
LTE Cat M1 & Cat NB1 & EGPRS Module

BG96 is an LTE Cat M1/Cat NB1/EGPRS module offering maximum data rates of 375 kbps downlink and uplink. It features global frequency bands, ultra-low power consumption, and is compatible with Quectel LTE Standard module EG91/EG95, LPWA module BC95-G/BG95, UMTS/HSPA module UG95/UG96 and GSM/GPRS module M95.

With a cost-effective SMT form factor of 26.5 mm × 22.5 mm × 2.3 mm and high integration level, BG96 enables integrators and developers to easily design their applications and take advantage from the module’s low power consumption and mechanical intensity. Its advanced LGA package allows fully automated manufacturing for high-volume applications.

A rich set of Internet protocols, industry-standard interfaces (USB/UART/I2C/Status Indicator) and abundant functionalities (USB drivers for Windows 7/8/8.1/10, Linux and Android) extend the applicability of the module to a wide range of M2M applications such as wireless POS, smart metering, tracking, etc.

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**Key Benefits**

- LTE Cat M1/Cat NB1/EGPRS module with ultra-low power consumption
- Compact SMT form factor ideal for size-constrained applications with tight space
- Easy migration from Quectel GSM/GPRS, UMTS/HSPA and LTE modules
- Super slim profile in LGA package
- Fast time-to-market: reference designs, evaluation tools and timely technical support minimize design-in time and development efforts
- Robust mounting and interfaces

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Rev.: V1.8 | Status: Released
**Variant for the Global Global**

**BG96**

Cat M1/Cat NB1:
- LTE TDD: B39 (For Cat M1 Only)
- EGPRS: 850/900/1800/1900 MHz

**Electrical Characteristics**

**Output Power:**
- Max. Power: 23 dBm
- Consumption @ LTE Cat M1 (Typical):
  - Power Saving Mode: 10 μA
  - Idle State: 15 mA @ DRX = 1.28 s
  - Sleep State: 1.5 mA @ DRX = 1.28 s
- Sleep State: 1.2 mA @ e-I-DRX = 40.96 s
- LTE Connected Mode (Avg.):
  - 128 mA @ 0 dBm
  - 140 mA @ 10 dBm
  - 205 mA @ 23 dBm

**Consumption @ LTE Cat NB1 (Typical):**
- Power Saving Mode: 10 μA
- Idle State: 15 mA @ DRX = 1.28 s
- Sleep State: 1.96 mA @ DRX = 1.28 s
- 1.1 mA @ e-I-DRX = 40.96 s
- LTE Connected Mode (Avg.):
  - 96 mA @ 0 dBm
  - 110 mA @ 10 dBm
  - 223 mA @ 23 dBm

**Sensitivity:**
- -107 dBm @ Cat M1, 1.4 MHz Bandwidth, CE Mode A
- -113 dBm @ Cat NB1, CE Level 0

**Software Features**

**USB Serial Driver:**

**GNSS/RIL Driver:**
- Android 4.x–9.x

**NDIS Driver:**
- Windows 7/8.1/10

**GobiNet Driver:**
- Linux 2.6–5.4

**QMI_WWAN Driver:**
- Linux 3.4–5.4

**Protocols:**
- PPP/TCP/UDP/SSL/TLS/FTP(S)/HTTP(S)/NITZ/PING/MQTT

**General Features**

- 3GPP E-UTRA Release 13
- Operation Temperature Range: -35 °C to +75 °C
- Extended Temperature Range: -40 °C to +85 °C
- Dimensions: 26.5 mm × 22.5 mm × 2.3 mm
- Approx. 3.1 g
- LGA Package
- Supply Voltage: 3.3–4.3 V, 3.8 V Typ.
- 3GPP TS27.007, 3GPP TS 27.005 and Quectel Enhanced AT Commands

**Approvals**

**Carrier:**
- Vodafone (Global)
- Deutsche Telekom/Telefónica (Europe)
- Verizon/AT&T/T-Mobile/Sprint/U.S. Cellular (North America)
- Rogers/Telus (Canada)
- SKT/LGU+ (South Korea)
- NTT DOCOMO/SoftBank/KDDI (Japan)
- Telstra (Australia)

**Regulatory:**
- GCF (Global)
- CE (Europe)
- FCC/PTCRB (North America)
- IC (Canada)
- Anatel (Brazil)
- IFETEL (Mexico)
- CCC (China)
- KC (South Korea)
- NCC (Taiwan, China)
- JATE/TELEC (Japan)
- RCM (Australia)
- NBTC (Thailand)
- IMDA (Singapore)

**Others:**
- RoHS

① LTE B25 Supported on BG96 with R1.2 Hardware Version.

* Under Development