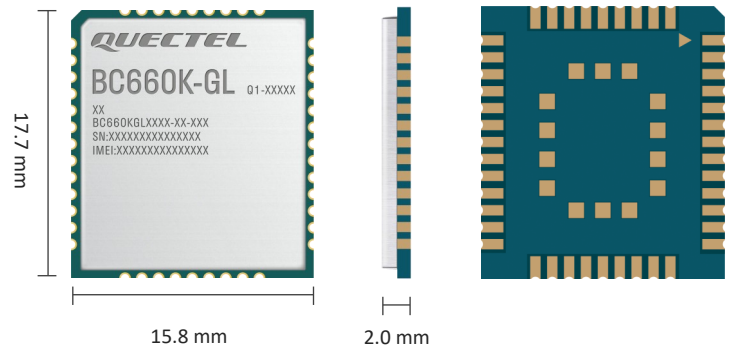




Quectel BC660K-GL

Compact NB-IoT Module with Ultra-low Power Consumption



BC660K-GL is a high-performance LTE Cat NB2 module which supports multiple frequency bands of B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B28/B66/B70/B85 with extremely low power consumption. The module's ultra-compact profile (17.7 mm × 15.8 mm × 2.0 mm) makes it a perfect choice for size-sensitive applications. Designed to be compatible with Quectel GSM/GPRS M66 module and NB-IoT BC66/BC66-NA, BC65 and BC68-GV modules, it provides a flexible and scalable platform for the migration from GSM/GPRS to NB-IoT networks.

BC660K-GL adopts the surface-mount technology, which makes it an ideal solution for durable and rugged designs. The module's small LCC package allows it to be easily embedded into space-constrained applications and to enjoy reliable connection with the applications. This kind of package suits well large-scale manufacturing which has strict requirements on cost and efficiency.

Due to the ultra-compact profile, super-low power consumption and extended temperature range, BC660K-GL is one of the best choices for a wide range of IoT applications, such as smart metering, bike sharing, smart parking, smart city, security and asset tracking, home appliances, agricultural and environmental monitoring, etc. It is able to provide a complete range of SMS and data transmission services to meet various user demands.



Key Features

- ✓ Compact-sized, multi-band LTE Cat NB2 module
- ✓ Ultra-low power consumption
- ✓ Ultra-low cost
- ✓ eSIM reserved with 2.552 x 2.722 mm package
- ✓ Wide power supply range: 2.2–4.3 V
- ✓ LCC package facilitating large-volume manufacturing
- ✓ Compatible with Quectel GSM/GPRS M66 and NB-IoT BC66/BC66-NA, BC65 and BC68-GV modules, which means easier future upgrading
- ✓ Embedded with abundant Internet service protocols
- ✓ Multi-band and rich external interfaces ensuring convenient application



Compact Size



Multi-Band
NB-IoT



Extended Temperature
Range: -40 °C to +85 °C



LCC Package



Multiple Serial
Ports



Ultra-low Power
Consumption



Quectel Enhanced
AT Commands



Embedded Internet
Service Protocols

Version: 1.6 | Status: Released

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Frequency Bands

Cat NB2:

B1/B2/B3/B4/B5/B8/B12/B13/B17/

B18/B19/B20/B25/B28/B66/B70/B85

Data

Cat NB2 Data Transmission:

Single-tone:

DL: 25.5 kbps

UL: 16.7 kbps

Multi-tone:

DL: 127 kbps

UL: 158.5 kbps

Protocol Stacks:

UDP/TCP/PING/LwM2M/SNTP/COAP/COAPS/

HTTP/HTTPS/MQTT/MQTTS/SSL/TLS

Download Methods:

Main UART

DFOTA

SMS

Text Mode

Electrical Characteristics

Maximum Output Power:

23 dBm \pm 2 dB

Sensitivity:

-116 dBm

Power Consumption (Typical) :

800 nA @ PSM^①

0.11 mA @ Idle (DRX = 2.56 s, ECL = 0)

0.038 mA @ Idle (eDRX = 40.96 s, PTW = 10.24 s,

ECL = 0)

67 mA @ Connected Tx 0 dBm

330 mA @ Connected Tx 23 dBm

Interfaces

USIM \times 1

UART \times 2 (for QuecOpen[®] version, \times 3)

RI \times 1

ADC \times 1 (for QuecOpen[®] version, \times 2)

RESET_N \times 1

BOOT \times 1

NETLIGHT \times 1

Antenna \times 1

GRFC \times 2

GPIO \times 4 (for QuecOpen[®] version, \times 16)

PSM_ENIT \times 1 (for QuecOpen[®] version, \times 2)

SPI \times 1 (for QuecOpen[®] version only)

I2C \times 1 (for QuecOpen[®] version only)

PWM \times 1 (for QuecOpen[®] version only)

General Features

LCC Package

58 Pins

Supply Voltage Range:

2.2–4.3 V, typical. 3.3 V

Temperature Range:

Operating: -35 °C to +75 °C

Extended: -40 °C to +85 °C

Dimensions:

17.7 mm \times 15.8 mm \times 2.0 mm

Weight:

1.0 \pm 0.2 g

AT Command:

3GPP TS 27.007 V14.3.0 (2017-03)

Quectel Enhanced AT Commands

Approvals

Carrier:

Vodafone/ Deutsche Telekom (Europe)

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

KT/ LGU+ (South Korea)

Telefónica (Spain)

Orange (France)

Telstra/Optus (Australia)

Spark (New Zealand)

Regulatory:

GCF (Global)

PTCRB (North America)

CE/ATEX (Europe)

FCC (America)

IC (Canada)

Anatel (Brazil)

KC (South Korea)

RCM (Australia/New Zealand)

IMDA (Singapore)

NBTC (Thailand)

ICASA (South Africa)

JATE/TELEC (Japan)

Note:

①: Reference data provided by baseband chip platform

*: Under Development/Ongoing