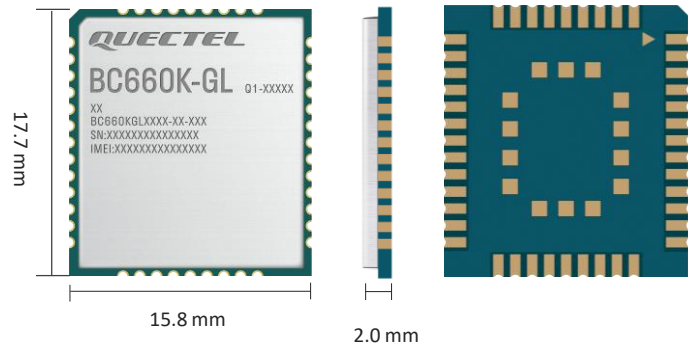


Quectel BC660K-GL

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/ 2/ 3/ 4/ 5/ 8/ 12/ 13/ 17/ 18/ 19/ 20/ 25/ 28/ 66/ 70/ 85 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, smart safety, asset tracking, home appliances, agricultural and environmental monitoring. 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 × 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



Embedded Internet Service Protocols



Quectel Enhanced AT Commands

Quectel BC660K-GL

LTE NB2		BC660K-GL	
Region/Operator	Global		
General Features			
Pins	58		
Package	LCC		
Dimensions (mm)	17.7 × 15.8 × 2.0		
Weight (g)	1.0 ± 0.2		
Temperature Range			
Operating Temperature	-35 °C to +75 °C		
Extended Temperature	-40 °C to +85 °C		
Frequency Bands			
Cat NB2	B1/ 2/ 3/ 4/ 5/ 8/ 12/ 13/ 17/ 18/ 19/ 20/ 25/ 28/ 66/ 70/ 85		
Certifications			
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)		
Carrier	ICASA (South Africa)		
	JATE/TELEC (Japan)		
	NCC (China Taiwan)		
	Vodafone/ Deutsche Telekom (Europe)		
	Verizon/ AT&T /T-Mobile (America)		
	KT/ LGU+ (South Korea)		
	Telefónica (Spain)		
	Orange (France)		
	Telstra/Optus (Australia)		
	Spark (New Zealand)		
Data Rates			
Single-tone (kbps)	25.5 (DL)/ 16.7 (UL)		
Multi-tone (kbps)	127 (DL)/ 158.8 (UL)		
Interfaces			
USIM	× 1		
UART	× 2 (for QuecOpen® version, × 3, only one for debug)		
RI	× 1		
ADC	× 1 (for QuecOpen® version, × 2)		
RESET_N	× 1		
BOOT	× 1		
NETLIGHT	× 1		
Antenna	× 1		
GRFC	× 2		
GPIO	× 4 (for QuecOpen® version, × 16)		
PSM_EINT	× 1 (for QuecOpen® version, × 2)		
SPI	× 1 (for QuecOpen® version only)		
I2C	× 1 (for QuecOpen® version only)		
PWM	× 1 (for QuecOpen® version only)		
SMS			
Short Message Service (Point-to-point MO and MT)	Text Mode		

Quectel BC660K-GL

LTE NB2	BC660K-GL
Enhanced Features	
DFOTA: Delta Firmware Upgrade Over-The-Air	●
RAI: Release Assistance Indication	●
eSIM: Embedded SIM ^①	●
Software Features	
Protocol Stacks	UDP/ TCP/ PING/ LwM2M/ SNTP/ COAP/ COAPS*/ HTTP/ HTTPS*/ MQTT/ MQTTS/ SSL/ TLS
Download Methods	Main UART/ DFOTA
AT Commands	3GPP TS 27.007 3GPP TS 27.005 Quectel Enhanced AT Commands
Electrical Characteristics	
Supply Voltage Range	2.2–4.3 V, typical 3.3 V ^②
Maximum Output Power	23 dBm ±2.7 dB
Sensitivity	-116 dBm
Power Consumption (Typical) ^③	800 nA @ PSM 0.22 mA @ Idle (DRX = 1.28 s, ECL = 0) 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

Notes:

- ①: eSIM is reserved but not included by default.
- ②: 3GPP performance for QCX212 chipset is guaranteed from VBAT supply 3.0–4.3 V.
- ③: Reference data provided by baseband chip platform.
- : Supported.
- *: Under development/ planning.