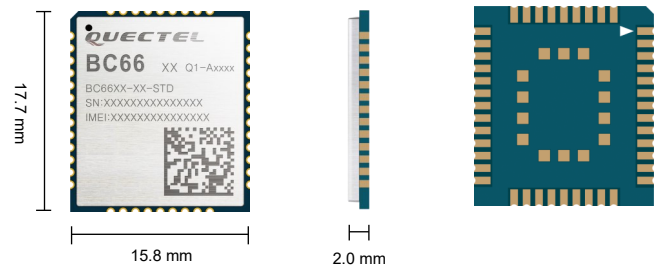


Quectel BC66

Compact LTE Cat NB1 Module with Ultra-low Power Consumption



BC66 is high-performance, multi-band LTE Cat NB1 module with extremely low power consumption. The ultra-compact 17.7 mm × 15.8 mm × 2.0 mm profile makes it perfect choice for size sensitive applications. Designed to be compatible with Quectel GSM/GPRS M66 module in the compact and unified form factor, BC66 provides a flexible and scalable platform for migrating from GSM/GPRS to NB-IoT network. Also it is compatible with Quectel NB-IoT modules BC66-NA, BC68 and BC65. BC66 provides abundant external interfaces and protocol stacks, as well as specialized PSM_EINT for easy module wake-up via the external interrupt.

BC66 adopts surface mounted technology, making it an ideal solution for durable and rugged designs. The low profile and small size of LCC package allow BC66 to be easily embedded into space-constrained applications and provide reliable connectivity with applications.

Due to compact form factor, ultra-low power consumption and extended temperature range, BC66 is a best choice for a wide range of IoT applications, ranging from smart metering, bike sharing, smart wearables, smart parking, smart city, security and asset tracking to home appliances, agricultural and environmental monitoring, etc. Additionally, it is able to provide a complete range of SMS and data transmission services to meet client-side demands.



Key Benefits

- ✓ Compact LPWA module with ultra-low power consumption
- ✓ Low power supply voltage: 2.1–3.63 V
- ✓ QuecOpen® solution minimizes application design
- ✓ Specialized PSM_EINT for easy module wake-up via external interrupt
- ✓ Build-in eSIM reserved
- ✓ Multi-band and rich external interfaces ensure convenient application
- ✓ Compatible with Quectel GSM/GPRS module, easy for future upgrading
- ✓ Embedded with abundant Internet service protocols



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 Services Protocols

Quectel BC66

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Frequency Bands

B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/
B25/B26*/B28/B66

Data Rate

Single-Tone:

Max. 25.5 kbps (DL)/16.7 kbps (UL)

Multi-Tone:

Max. 25.5 kbps (DL)/62.5 kbps (UL)

SMS*

Text/PDU Mode

Electrical Characteristics

Output Power:

23 dBm $\pm$ 2 dB

Sensitivity:

-129 dBm

Power Consumption (Typ.):

3.5 μ A @ PSM

0.24 mA @ Idle Mode (eDRX = 81.92 s)

0.35 mA @ Idle Mode (DRX = 2.56 s)

110 mA @ LTE Cat NB1, 23 dBm, Single-tone

Interfaces

USB $\times$ 1

USIM $\times$ 1

PSM_EINT $\times$ 1

UART $\times$ 3

ADC* $\times$ 1

RESET $\times$ 1

PWRKEY $\times$ 1

NETLIGHT $\times$ 1

Antenna $\times$ 1

SPI $\times$ 1 (QuecOpen® Version Only)

I2C $\times$ 1 (QuecOpen® Version Only)

I2S $\times$ 1 (QuecOpen® Version Only)

GPIO: Configurable (QuecOpen® Version Only)

Software Features

Protocol Stacks:

UDP/TCP/LwM2M/MQTT/SNTP/TLS/DTLS/PPP*/

HTTP*/HTTPS*/CoAP*

Firmware Download Methods:

UART

DFOTA

USB

General Features

58-Pin LCC Package

Supply Voltage Range:

2.1–3.63 V, 3.3 V Typ.

(GPIO Voltage Domain: 1.8 V)

Temperature Range:

Operation Temperature Range: -35 °C to +75 °C

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

Dimensions:

17.7 mm $\times$ 15.8 mm $\times$ 2.0 mm

Weight: 1.2 $\pm$ 0.2 g

AT Commands:

3GPP Rel.13 Compliant AT Commands

Quectel Enhanced AT Commands

Approvals

Carrier:

Vodafone (Global)

Deutsche Telekom/Telefónica* (Europe)

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

LGU+* (South Korea)

SoftBank/ NTT DOCOMO* (Japan)

Telstra* (Australia)

Regulatory:

GCF (Global)

CE (Europe)

FCC/PTCRB (North America)

IC (Canada)

KC (South Korea)

NCC (Taiwan)

JATE/TELEC (Japan)

RCM (Australia)

NBTC (Thailand)

IMDA (Singapore)

Others:

RoHS

ATEX (Europe)

* Under Development