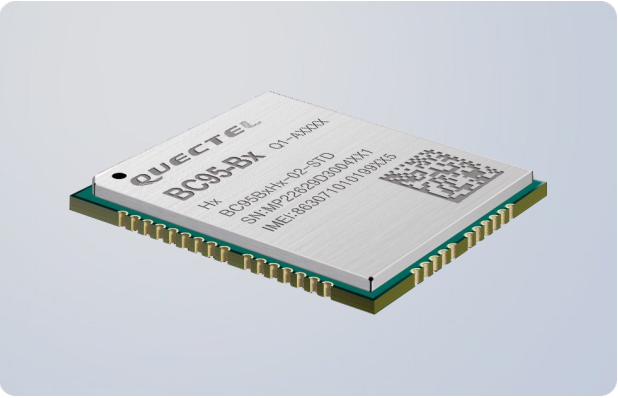
Quectel BC95

Compact NB-IoT Module with Ultra-low Power Consumption



BC95 is a high-performance NB-IoT module with extremely low power consumption. The ultra-compact 23.6mm × 19.9mm × 2.2mm profile makes it a perfect choice for size sensitive applications. Designed to be compatible with Quectel GSM/GPRS M95 module in the compact and unified form factor, it provides a flexible and scalable platform for migrating from GSM/GPRS to NB-IoT network.

BC95 adopts surface mounted technology, making it an ideal solution for durable and rugged designs. The low profile and small size of LCC package allow BC95 to be easily embedded into space-constrained applications and provide reliable connectivity with the applications. This kind of package is ideally suited for large-scale manufacturing which has strict requirements for cost and efficiency.

Due to compact form factor, ultra-low power consumption and extended temperature range, BC95 is the best choice 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 client-side demands.

Key Benefits

- Compact-sized NB-IoT module
- Ultra-low power consumption
- Super high sensitivity
- LCC package makes it easy for large volume manufacturing
- Compatible with Quectel GSM/GPRS module, easy for future upgrading
- Embedded with abundant Internet service protocols
- Fast time-to-market:
  Reference designs, evaluation tools and timely technical support minimize design-in time and development efforts

Compact Size

B8/B5/B20/B28

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

LCC

LCC Package

Multiple Serial Ports

Ultra-low Power Consumption

AT

Quectel Enhanced AT Commands

Embedded Internet Services Protocols

Rev.: V1.4 | Status: Released

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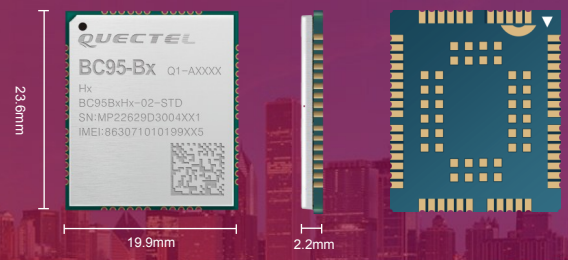

Frequency Bands

BC95-B8: 900MHz

BC95-B5: 850MHz

BC95-B20: 800MHz

BC95-B28: 700MHz

Data

Data Transmission:

DL: 21.25Kbps @Single Tone

UL: 15.625kbps @Single Tone

Protocol Stacks:

IPv4

UDP

CoAP

LwM2M

Non-IP

DTLS*

Download Method:

UART

DFOTA

SMS

Point-to-point MO and MT

Text* /PDU Mode

Electrical Characteristics

Maximum Output Power:

23dBm±2dB

Sensitivity:

-129dBm±1dB

Power Consumption (Typical):

3.6uA @PSM

2mA @Idle Mode, DRX=1.28s

LTE Cat NB1 Connectivity:

220mA @Radio Transmission, 23dBm (B8/B5/B20)

250mA @Radio Transmission, 23dBm (B28)

100mA @Radio Transmission, 12dBm (B8/B5/B20/B28)

70mA @Radio Transmission, 0dBm (B8/B5/B20/B28)

65mA @Radio Reception

Enhanced Features

DFOTA: Delta Firmware Upgrade Over-the-air

RAI: Release Assistance Indication

Interfaces

USIM × 1

UART × 2

ADC* × 1

RESET × 1

Antenna pad × 1

General Features

LCC Package

94 Pins

Supply Voltage Range:

3.1V~4.2V, 3.6V Typ.

Temperature Range:

-40°C ~ +85°C

Dimension:

23.6mm × 19.9mm × 2.2mm

Weight:

1.8g±0.2g

AT Command:

3GPP TS 27.007 V14.3.0 (2017-03) and Quectel Enhanced AT Commands

Approvals

RoHS Compliant

CCC/SRRC/NAL (China)

CE/GCF/Deutsche Telekom (Europe)

RCM (Australia)

NBTC (Thailand)

* Under Development

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