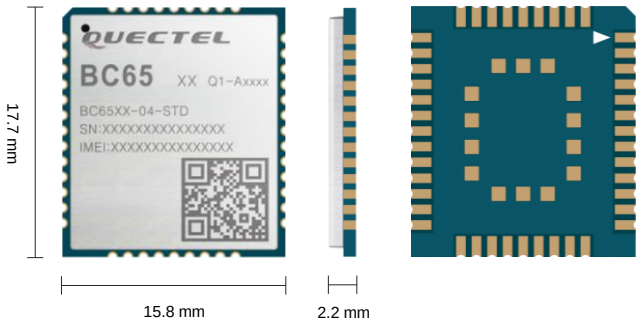
Quectel BC65

Compact NB-IoT Module with Ultra-low Power Consumption



BC65 is a high-performance multi-band NB-IoT module with extremely low power consumption. The ultra-compact 17.7 mm × 15.8 mm × 2.2 mm profile makes it a perfect choice for size sensitive applications. Designed to be compatible with Quectel GSM/GPRS M66, NB-IoT BC66, BC66-NA and BC68 modules in the compact and unified form factor, BC65 provides great convenience for migrating from GSM/GPRS to NB-IoT network.

Adopting surface-mount technology, BC65 is an ideal solution for durable and rugged designs. The low profile and small size of LCC package allow the module to be easily embedded into space-constrained applications and provide reliable connectivity with applications.

Due to its compact form factor, ultra-low power consumption and extended operating temperature range, BC65 is one of the 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 provides a complete range of SMS* and data transmission services to meet client-side demands.

Key Features

- Power saving design ensures ultra-low power consumption
- Specialized PSM_EINT for easy module wake-up via external interrupt
- Built-in eSIM reserved
- Multi-band and rich external interfaces ensuring convenient application
- Compatible with Quectel GSM/GPRS M66, NB-IoT BC66, BC66-NA and BC68 modules, easy for future upgrading and migration
- Embedded with abundant Internet service protocols

Compact Size

Multi Frequency Bands

Operating Temperature: -25 °C to +75 °C

LCC Package

Multiple Serial Ports

Ultra-low Power Consumption

Quectel Enhanced AT Commands

Embedded Internet Services Protocols

Version: 1.3 | Status: Released

Quectel BC65

LTE Cat NB2	BC65
Region/Operator	Global
Dimensions (mm)	17.7 × 15.8 × 2.2
Temperature Range	
Operating Temperature	-25 °C to +75 °C
Extended Temperature	-40 °C to +85 °C
Frequency Bands	
LTE-FDD	B1*/B3/B5/B8/B20/B28
Certifications	
Carrier	**Europe:** Vodafone/Deutsche Telekom
Regulatory	**Global**: GCF **Europe:** CE **Australia & New Zealand:** RCM
Data Rate (Max.)	
LTE Cat NB1	**Single-Tone:** DL: 25.5 kbps UL: 16.7 kbps **Multi-Tone:** DL: 25.5 kbps UL: 62.5 kbps
LTE Cat NB2	DL: 127 kbps UL: 158.5 kbps
Interfaces	
(U)SIM	× 1
PSM_EINT	× 1 (wake up device via external interrupt)
UART	× 3 (Main/Debug/Auxiliary UART)
RESET	× 1
PWRKEY	× 1
NETLIGHT	× 1
Antenna	× 1
ADC	× 1 (10 bits)
RI	× 1
Enhanced Features	
PSM_EINT for Module Wake-up	●
ECID: Enhanced Cell ID	●
RAI: Release Assistance Indication	●
OTDOA: **Observed Time Difference of Arrival**	●
DFOTA: **Delta Firmware Upgrade Over-The-Air**	●
(U)SIM Detection	●
Software Features	
Protocol Stacks	UDP/TCP/SNTP/MQTT/CoAP*/PPP/TLS/DTLS
AT Command	3GPP Rel-13/Rel-14 Quectel Enhanced AT Commands
Electrical Features	
Supply Voltage Range	3.2–4.2 V, typ. 3.8 V
Power Consumption (Typical)	4 μA @ PSM 1.0 mA @ Idle Mode, DRX = 2.56 s, ECL0

Notes:
1. *: under development.
2. ●: Supported.

HQ address: Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China
Tel: +86 21 51086236 Email: info@quectel.com