

# TRITOM BC66 mini PCIe Modem Card for Telecom NB-IoT Connectivity.

Tri Cascade Inc. TRITOM BC66 is a high-performance NB-IoT module with extremely low power consumption. It is designed to communicate with infrastructures of mobile network operators through NB-IoT radio protocols (3GPP Rel.13 and 3GPP Rel.14.)



BC66 is an SMD type module with LCC package and has an ultra-compact profile of 17.7mm × 15.8mm × 2.0mm. These make it can be easily embedded into size-constrained applications and provide reliable connectivity with the applications. BC66 provides abundant external interfaces (UART, SPI\*, ADC\*, NETLIGHT\*, etc.) and protocol stacks (UDP/TCP, LwM2M, MQTT, etc.), which provide great convenience for customers' 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, such as smart metering, bike sharing, smart wearables, smart parking, smart city, home appliances, security and asset tracking, agricultural and environmental monitoring, etc. It can provide a complete range of SMS\* and data transmission services to meet customers' demands.

**TRITOM BC66 mini PCIe card specifications:**

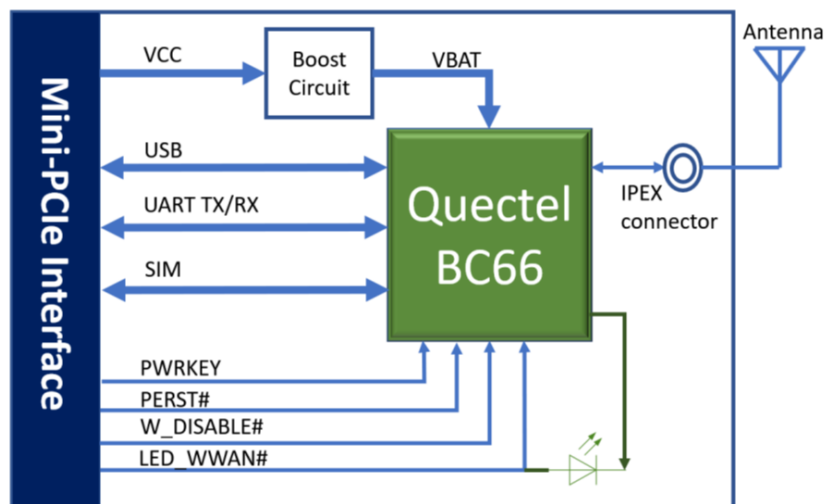
**Table 1: Supported Bands Functions of BC66 Mini PCIe**

Mode	BC66
H-FDD	B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B26*/B28/B66

**Table 2: BC66 Key Features**

Feature	Details
Power Supply	<ul style="list-style-type: none"> <li>● Supply voltage: 2.1V ~ 3.63V</li> <li>● Typical supply voltage: 3.3V</li> </ul>
Power Saving	<ul style="list-style-type: none"> <li>● Maximum power consumption: 5µA</li> <li>● Typical power consumption: 3.5µA</li> </ul>
Frequency bands	<p><b>LTE Cat NB1:</b></p> <ul style="list-style-type: none"> <li>● B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B26*/B28/B66</li> </ul>
Transmitting Power	<ul style="list-style-type: none"> <li>● 23dBm±2dB</li> </ul>
USIM Interface	<ul style="list-style-type: none"> <li>● Support 1.8V USIM card</li> </ul>
UART Interfaces	<p><b>Main UART Port:</b></p> <ul style="list-style-type: none"> <li>● Used for AT command communication and data transmission.</li> <li>● By default, the module is in auto-baud mode, and it supports automatic baud rates not exceeding 115200bps. When powering on the module, the MCU has to send <b>AT</b> command consecutively to synchronize baud rate with the module. When <b>OK</b> is returned, it indicates the baud rate has been synchronized successfully. When the module is woken up from PSM or idle mode, the baud rate synchronized during start-up will be used directly.</li> <li>● Also can be used for firmware upgrade, and in such case, the baud rate is 921600bps by default.</li> </ul> <p><b>Debug UART Port:</b></p> <ul style="list-style-type: none"> <li>● Used for firmware debugging</li> <li>● Default baud rate: 115200bps</li> </ul> <p><b>Auxiliary UART Port:</b></p> <ul style="list-style-type: none"> <li>● Used for firmware debugging</li> <li>● Default baud rate: 115200bps</li> </ul>
Network Protocols	<ul style="list-style-type: none"> <li>● UDP/TCP/LwM2M/MQTT/CoAP*/PPP*/TLS*/DTLS*/HTTP*/HTTPS*</li> </ul>
SMS*	<ul style="list-style-type: none"> <li>● Text/PDU Mode</li> </ul>
Data Transmission Features	<ul style="list-style-type: none"> <li>● Single-tone: 25.5kbps (DL)/16.7kbps (UL)</li> <li>● Multi-tone: 25.5kbps (DL )/62.5kbps (UL)</li> </ul>
AT Commands	<ul style="list-style-type: none"> <li>● 3GPP TS 27.005/3GPP TS 27.007 AT commands (3GPP Rel. 13/Rel.14*) and Quectel Enhanced AT commands</li> </ul>
Firmware Update	<ul style="list-style-type: none"> <li>● Upgrade firmware via main UART port or DFOTA</li> </ul>

## Functional Diagram



## Pin Assignment

The following figure shows the pin assignment of BC66 Mini PCIe module. The top side contains BC66 module and antenna connectors.

