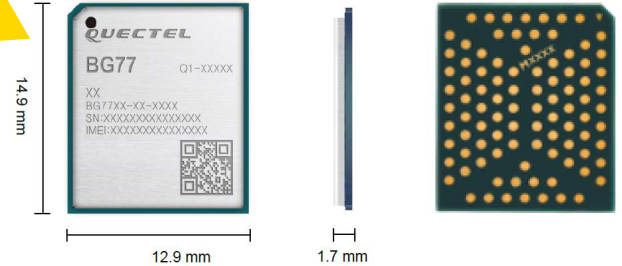




10 yrs/500 MB
250 SMS
Data Plan
included

IoT²BRK3V3_eSIM

BG77 LTE-M/NB2 Breakout Board



IoT²BRK3V3 is the simplest way to add a cellular connectivity and GNSS to your application. It is based on the ultra-compact LTE cat M1/cat NB2 BG77 module. This 1-inch square board comes with an on-board GNSS low-noise amplifier front-end with integrated pre and post SAW filters and a GNSS ceramic antenna. External active and passive GNSS antennas can be used via the U.FL connector. The BG77 is an ultra-compact LPWA module supporting LTE Cat M1, LTE Cat NB2 and integrated GNSS. It is fully compliant with 3GPP Rel-14 specification and provides maximum data rates of 588 kbps downlink and 1119 kbps uplink. It features ultra-low power consumption by leveraging the integrated RAM/flash as well as the ARM Cortex A7 processor supporting ThreadX, achieving up to 70% reduction in PSM leakage and 85% reduction in eDRX current consumption compared to its predecessor.

Key

Benefits

- ✓ SWAP (Size, Weight, and Power) IoT solution
- ✓ Robust mounting and interface
- ✓ 3 GNSS antenna options
- ✓ On-Board eSIM
- ✓ LTE antenna U.FL connector
- ✓ USB-C interface
- ✓ Module and Network status LEDs

Applications

- ✓ Asset Management
- ✓ Logistics
- ✓ Tracking
- ✓ Geo-Fence
- ✓ Wearables
- ✓ Smart Energy
- ✓ Medical Devices
- ✓ PPPoS/Hotspot

Key

Features

Cellular Technology	Cat M1: LTE-FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85* Cat NB2: LTE-FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85*
Data	Cat M1: Max. 588 kbps (DL)/1119 kbps (UL) Cat NB2: Max. 127 kbps (DL)/158.5 kbps (UL)
Voice	VoLTE (Cat M1 Only)
SMS	Point-to-point MO and MT SMS Cell Broadcast Text and PDU Mode
Interface	USB-C UART GPIO NET_STATUS STATUS Antennas
GNSS	GPS/GLONASS/BeiDou/Galileo/QZSS QuecLocator (Cell ID Positioning)
GNSS SAW/LNA/SAW	Signal gain: 17 dB Out-of-band rejection: +80 dBc, 1627 to 1660 MHz Low current consumption: 3.1 mA
Firmware Upgrade	Via USB-C interface DFOTA (Delta Firmware Upgrade Over-the-Air)
Power Supply	1- USB-C Receptacle 2- 2.7 V – 3.6 V (typ. 3.3 V) at the header
I/O Voltage	2.7 V – 3.6 V
Electrical Characteristics	Output Power: 21 dBm (Max.) Consumption @ LTE CAT M1 (typical): Power Saving Mode: 3.2 μ A Idle State: TBD

	<p>Sleep State: 1.63 mA @ DRX = 1.28 s 0.76 mA @ e-I-DRX = 81.92 s, PTW = 20.48 s LTE Connected Mode: 228 mA @ 21dBm, GNSS off</p> <p>Consumption @ LTE CAT NB2 (typical): Power Saving Mode: 3.2 μA Idle State: TBD Sleep State: 1.5 mA @ DRX = 1.28 s 0.79 mA @ e-I-DRX = 81.92 s, PTW = 20.48 s</p> <p>LTE Connected Mode: 165 mA @ 21dBm, GNSS off</p> <p>GNSS: TBD</p>
Protocols	PPP/TCP/UDP/SSL/TLS/FTP(S)/HTTP(S)/NITZ/PING/MQTT/LwM2M/CoAP/IPv6*
Operating Temperature	-35 °C to +75 °C
Dimensions	1 inch x 1 inch (25.4 mm x 25.4 mm)
Approvals	<p>Carrier:</p> <ul style="list-style-type: none"> Vodafone* (Global) Deutsche Telekom* (Europe) Sprint/Verizon*/AT&T*/T-Mobile* (North America) Telus* (Canada) China Telecom*/China Mobile*/China Unicom* (China) SKT* (South Korea) NTT DOCOMO*/SoftBank*/KDDI* (Japan) Telstra* (Australia) <p>Regulatory:</p> <ul style="list-style-type: none"> GCF* (Global) CE (Europe) FCC/PTCRB* (North America) IC* (Canada) SRRC*/NAL*/CCC* (China) KC* (South Korea) NCC* (Taiwan, China) JATE/TELEC (Japan) RCM (Australia/New Zealand) NBTC* (Thailand)

* Means development/on-going/plannin