

WisLink Cellular BG96 Arduino Shield

With Quectel BG96 and Qualcomm MDM9206 LTE modem chipset at its core, the WisLink Cellular BG96 Arduino Shield is the industry leading compact embedded cellular modem.

Simultaneously supports the three cellular standards

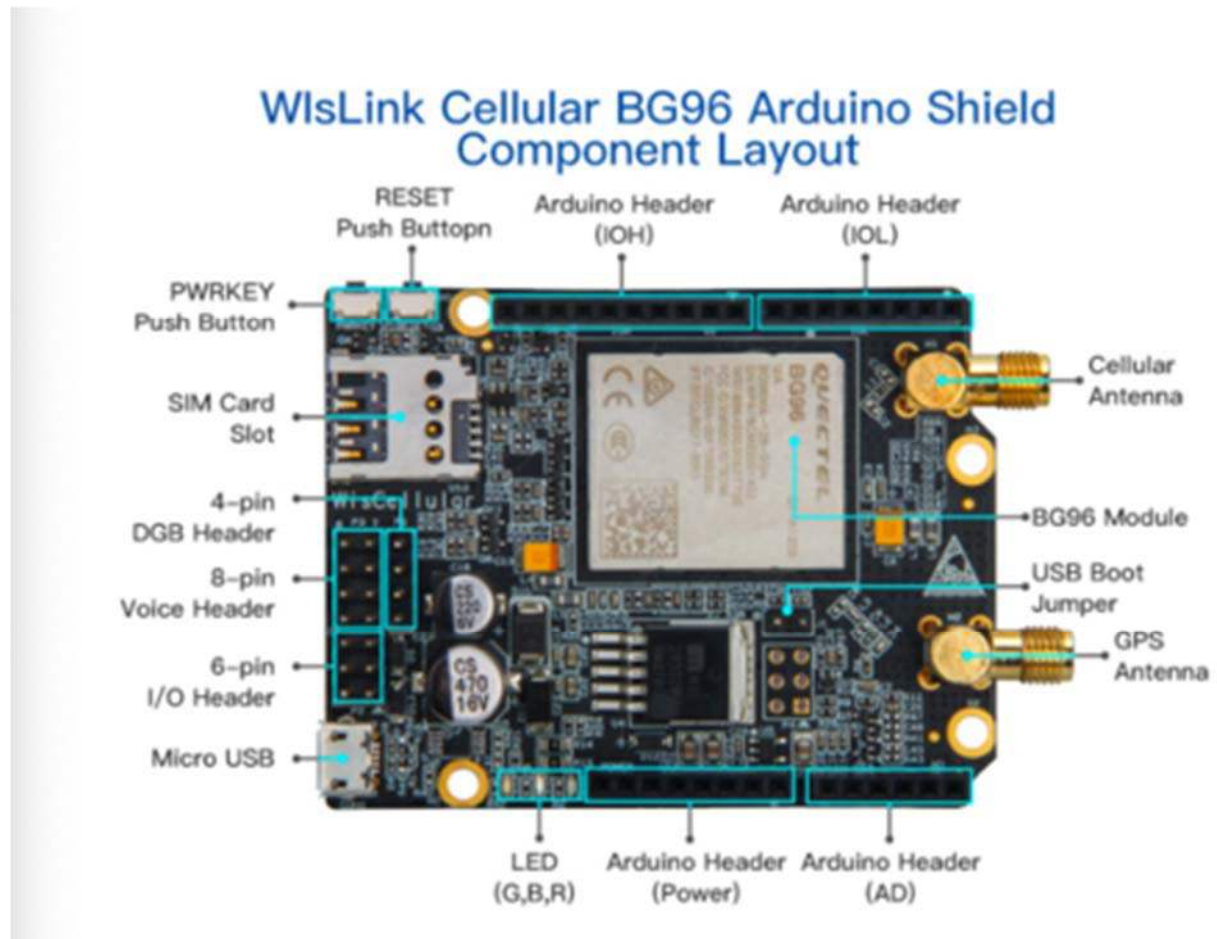
- 2G/EGPRS
- 4G/LTE Cat-M1(eMTC)
- Cat-NB1(NB-IoT)
- GPS

Packed in Arduino shield form factor to leverage well-established Arduino ecosystem, it provides LPWA IoT cellular connectivity for MCU/MPU base boards on the market with Arduino headers. This gives IoT application developers desired flexibility to choose most suitable MCU/MPU for diverse IoT applications that require LPWA IoT cellular connectivity.

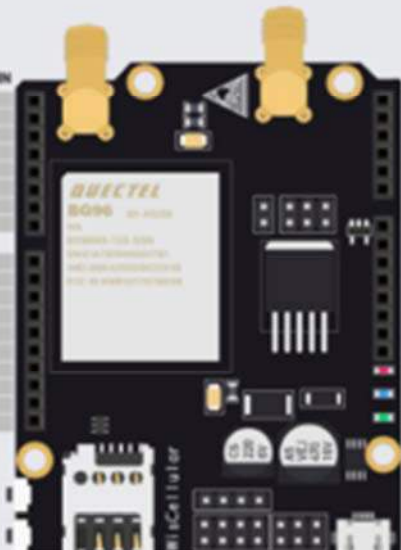
Built-in tri-mode cellular network support allows IoT developers to jump start deployment of IoT applications with 2G/EGPRS network that is mature and widely available to seamlessly migrate to 4G/LTE Cat-M1 (eMTC), Cat-NB1 (NB-IoT) networks that are being deployed and maturing access the globe without any hardware change.

Added GPS support to couple with LPWA cellular connectivity allows easy adaption to popular IoT applications such as tracker, location base services (LBS), etc.

Enhanced AT commands, built-in core protocol support and availability of basic drivers for major operating systems (Windows, Linux, android) significantly facilitate software development and system integration into any IoT applications.



WisLink Cellular BG96 Arduino Shield Pin Definition



BG96 PIN	Signal Definition	Arduino PIN	Arduino PIN	Signal Definition	BG96 PIN
PN 35	UART1_TXD	D0	A5		
PN 34	UART1_RXD	D1	A4		
PN 33	RI	D2	A3		
PN 30	DTR	D3	A2		
PN 19	AP_READY	D4	A1		
PN 16/17	RESET	D5	A0		
PN 15	PARKEY	D6		VN	
PN 20	STATUS	D7		GND	GND
				GND	GND
				5V	+5V
				3.3V	
				RESET	
				IOREF	IOREF
				RESERVED	
PN 18	W_DISABLE	D8			
PN 1	PWM_IND	D9			
		D10			
PN 26	UART3_RXD	D11			
PN 27	UART3_TXD	D12			
		D13			
	GND	GND			
		AREF			
		SDA			
		SCL			

WisLink Cellular BG96 Arduino Shield Frequency Band

3GPP Band	Transmit (MHz)	Receive (MHz)	Cat-M1	Cat-NB1	EGPRS
B1	1920-1980	2110-2170	X	X	
B2	PCS1900	1930-1990	X	X	X
B3	DCS1800	1805-1880	X	X	X
B4	1710-1755	2110-2155	X	X	
B5	GSM850	869-894	X	X	X
B8	GSM900	925-960	X	X	X
B12	699-716	728-746	X	X	
B13	777-787	746-757	X	X	
B18	815-829.9	860-874.9	X	X	
B19	830-844.9	875-889.9	X	X	
B20	832-862	791-821	X	X	
B26	814-848.9	859-893.9	X	X	
B28	703-748	758-803	X	X	
B39	1880-1920	1880-1920	X		

WisLink Cellular BG96 Arduino Shield Peripheral Interfaces

The WisLink Cellular BG96 Arduino Shield is built around the Quectel BG96 LPWA IoT cellular module and provides the following interfaces, headers, jumpers, buttons and connectors:

- Micro-B USB
- Micro SIM Card Slot
- Arduino Headers (UART1, UART3, RESET, PWRKEY, STATUS, AP-READY, DTR, RI, PSM_IDC, W_DISABLE, 5V, 3.3V)
- 2x4 PCM Voice Headers (i2C, I2S)
- 2x3 Digital/Analog I/O headers (ADC0, ADC1, GPIO0, GPIO1)
- 1x4 Debug UART Header (UART2)

- 1x2 USB BOOST Jumper

WisLink Cellular BG96 Arduino Shield has two push buttons to allow the user to power on/off and reset the board:

- Cellular (LTE/GSM) antenna (3GPP Bands) - UART1
- GPS antenna (1575.42+1.023 MHz) - UART3


BG96 Module Certification

Cat-M1	Cat-NB1	EGPRS	GNSS
LTE FDD: B1/B2/B3/B4/B5 B8/B12/B13/B18 B19/B20/B26/B28 LTE TDD: B39(For Cat-M1 Only)	LTE FDD: B1/B2/B3/B4/B5 B8/B12/B13/B18 B19/B20/B26/B28	850/1900MHz 900/1800MHz	• GPS • GLONASS • BeiDou/ Compass Galileo • QZSS

Regulatory Certification



Certification Body



Regulatory Compliance

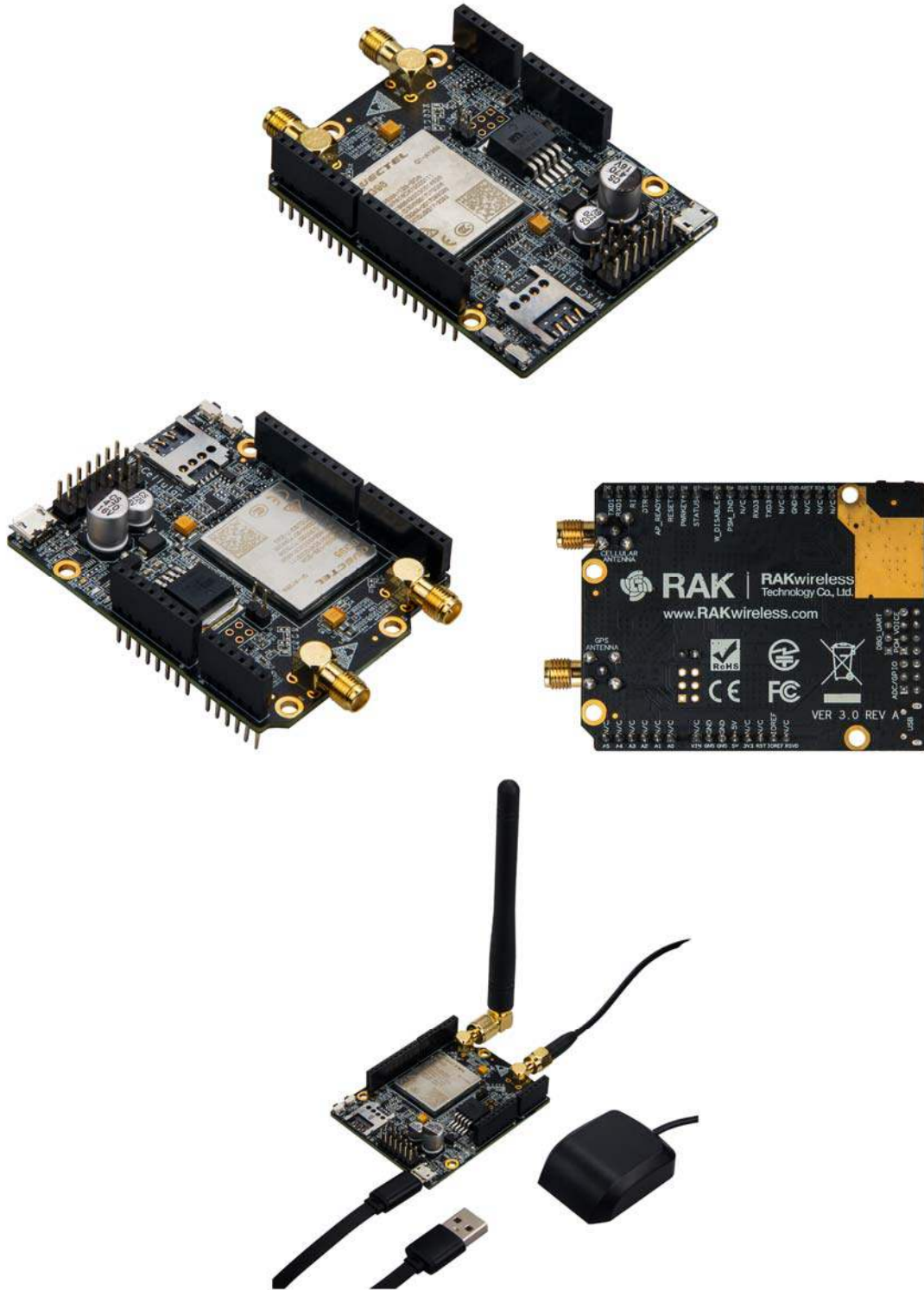
				
				
FCC part 2/15B	EN 301 489-1/17/19/52 EN 55032 EN 55035 EN 301511 EN 301 908-1 EN 300328 EN 303 413 EN 62311 EN 60950-1	Directive 2012/19/EU	RoHS Directive 2015/863/EU amending Annex II to 2011/65/EU IEC 62321-2:2013 IEC 62631-1:2013 IEC 62631-3-1:2013 IEC 62631-5:2013 IEC 62631-4:2013 IEC 62631-7-1:2015 IEC 62631-7-2:2017 IEC 62631-6:2015	Radio Equipment (R) -BG96 Module: 003-180062 Terminal Equipment (T) -BG96 Module: D180034003

Key Features

- Cellular Module
 - Quectel BG96 (based on Qualcomm MDM9206)
 - 4G/LTE Cat-M1 (eMTC)
 - 4G/LTE Cat-NB1 (NB-IoT)
 - 2G/EGPRS
- Global Bands
 - EDGE/EGPRS: 850/900/1800/1900MHz
 - LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28
 - LTE TDD: B39 (For CAT-M1 Only)
- Data Rate
 - Cat M1: Max. 300Kbps (DL), Max. 375 Kbps (UL)
 - Cat NB1: Max. 32 Kbps (DL), Max. 70 Kbps (UL)
 - EDGE: Max. 296 Kbps (DL), Max. 236.8 Kbps (UL)
 - GPRS: Max. 107 Kbps (DL), Max. 85.6 Kbps (UL)
- Voice
 - VoLTE (Cat-M1 Only)
- SMS

- Point-to-point MO and MT
- SMS Cell broadcast
- Text and PDU mode
- GNSS (Optional)
- GPS
- Peripheral interface
- Micro USB
- Arduino Headers
- 8-pin PCM Audio Header
- 6-pin Digital/Analog I/O Header
- 4-pin Debug header
- Micro SIM card slot
- LED
- Red: Board Power-on indication
- Green: Cellular Module Power-on indication
- Blue: Network Status Indication
- Power Consumption
- Min 10uA @ Power saving mode (PSM) for 4G/LTE Cat M1 and Cat NB1
- Max 190mA @23dBm for 4G/LTE Cat M1 and 78mA @23dBm for 4G/TE Cat NB1
- Software
- Enhanced AT commands
- Protocol: PP/TCP/UDP/SSL/TLS/FTP(S)/HTTP(S)/NITZ/PING/MQTT
- Driver support for Windows, Linux and Android
- Physical Dimension
- Dimension: 68.58 x 53.34 x 21mm (LxWxH)
- Weight: Approximately 1.17oz
- Temperature Range
- Operation Temperature: -35 to 75
- Extended Temperature: -40 to 85

- Storage Temperature: -40 to 90
- Standards
- 3GPP E-UTRA Release 13
- Compliance
- FCC, CE, WEEE, RoHS, Japan TELEC/JATE
Compatible with:
 - Arduino UNO R3
 - Arduino UNO WiFi
 - Arduino Leonardo
 - Arduino Leonardo Ethernet
 - Arduino Ethernet
 - Arduino 101
 - Arduino M0
 - Arduino M0 Pro
 - Arduino YUN
 - Arduino TIAN
 - Arduino Zero
 - Arduino Primo



https://uk.pi-supply.com/products/wislink-cellular-bg96-arduino-shield?_pos=1&_sid=77cb1db36&_ss=r/8-30-19