

Long Range Sub-1 GHz USB Dongle



Key Features

- Ultra low power Sub-1 GHz
- Supports 433, 470 to 510, 868, and 902 to 928 MHz ISM bands
- Powerful Cortex-M4F MCU for your IoT products
 - Clock Speed: up to 48MHz
 - Up to 352KB of In-System-Programmable Flash
 - 80KB of Ultra-Low-Leakage SRAM
- RF performance
 - TX power: Up to +14 dBm
 - RX sensitivity: up to -121 dBm using Long-Range Mode, -110 dBm at 50 kbps (Sub-1 GHz)
- Communication range
 - 700 meters (LOS)
- USB to UART bridge
 - Full speed USB device, USB 2.0 compliant
 - Full duplex UART
 - Support 300 baud ~ 3Mbaud
- Antenna: Integrated FPC antenna
- Size
 - 80.2 mm x 32.2 mm x 12.5 mm
- FCC, CE, RoHS compliant

Descriptions

BDE-USB216 is an ultra-low power, long-range Sub-1 GHz USB dongle targeted at low power sensors and long range applications.

BDE-USB216 integrates a high performance RF core and also a powerful ARM cortex-M4F processor, which makes it suitable for certain products that need high performance MCU to deal with difficult applications. It features a USB to UART Bridge, which makes it easy to use in PC terminal.

The USB dongle supports 433, 470 to 510, 868, and 902 to 928 MHz ISM bands, with the maximum output power up to 14 dBm, along with its Long-Range Mode feature, the USB dongle is to be the best choice for IoT products which require long range communication.

Applications

- Long-range sensor applications
- Smart grid and automatic meter reading
- Wireless healthcare applications
- Industry monitoring and control
- Home and building automation
- Energy-harvesting applications

Block Diagram

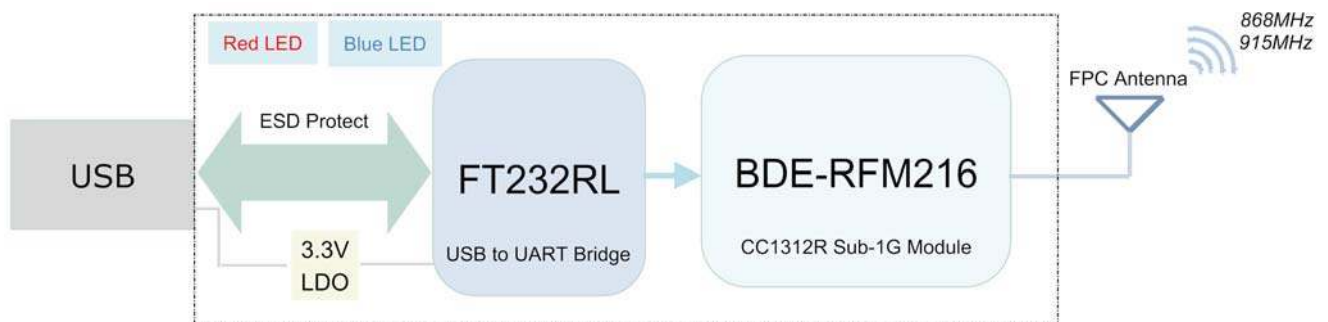


Fig. 1: The Block Diagram of BDE-USB216

Electrical Characteristics

- Absolute maximum rating

| Rating | Min | Typ | Max | Unit |
|---------------------|------|-----|-----|------|
| Storage Temperature | -40 | - | 125 | °C |
| Input | -0.5 | - | 6 | V |

■ Recommended operating conditions

| Rating | Min | Typ | Max | Unit |
|-----------------------|-----|-----|------|------|
| Operating Temperature | -40 | - | 85 | °C |
| Input | 4 | 5 | 5.25 | V |

Dimensions

Fig. 2 shows the overall dimensions of BDE-USB216. The USB dongle measures 80.2 mm long by 32.2 mm wide by 12.5 mm high.



Fig. 2: Overall Dimensions of BDE-USB216

USB to UART Bridge, FT232RL driver download link:

<https://www.ftdichip.com/Drivers/VCP.htm>

Contacts

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