ADIY EC200U LTE GNSS Breakout board

Description:

The **ADIY EC200U 4G LTE GNSS Breakout Board** is a high-performance Cat 1 solution designed for reliable wireless communication. It supports multiple modes, including LTE TDD, LTE-FDD, GSM, GPRS, and EDGE, with 2G fallback capability to ensure uninterrupted connectivity when 4G is unavailable.

Two variants are available:

- **EC200U 4G Module (without GNSS):** Ideal for applications that only require stable LTE/2G connectivity.
- **EC200U 4G Module with GNSS:** Combines high-speed 4G LTE communication with integrated GNSS for precise positioning and timing, making it well-suited for asset tracking, fleet management, and navigation systems.

The **EC200U-CN** supports data rates up to **10 Mbps downlink and 5 Mbps uplink.** It provides both a **serial interface** and an on-board **USB Type-C port** enabling users to connect directly to a computer for internet access or send AT commands conveniently over USB. Compact, versatile, and powered by Quectel's proven LTE technology, this board is engineered for IoT and M2M applications that demand **seamless connectivity, flexibility, and efficiency.**

Specifications & Features:

➢ **Power Supply**

- **Supply Voltage (VBAT):** 3.7V – 4.0V
- **USB-C Input:** 3.7V – 5.0V (not for input supply, only for communication or debug)
- **Typical Supply Voltage:** 3.8V

➢ **LTE Features**

- Supports **CAT 1 FDD & TDD**
- **Data Rates:** 10 Mbps (Downlink), 5 Mbps (Uplink)
- Supported Bands:
  - **LTE-FDD:** B1 / B3 / B5 / B8
  - **LTE-TDD:** B34 / B38 / B39 / B40 / B41
  - **GSM/GPRS/EDGE:** 900 / 1800 MHz

- **Internet Protocols**
  - TCP, UDP, PPP, NTP, NITZ, FTP, HTTP, PING, CMUX
  - HTTPS, FTPS, SSL, FILE, MQTT, MMS
  - Powerful **TCP/IP protocol stack** for internet data transfer

- **UART and USB Interface**
  - For AT command communication and data transmission
  - Baud rates up to **921600 bps** (default: **115200 bps**)

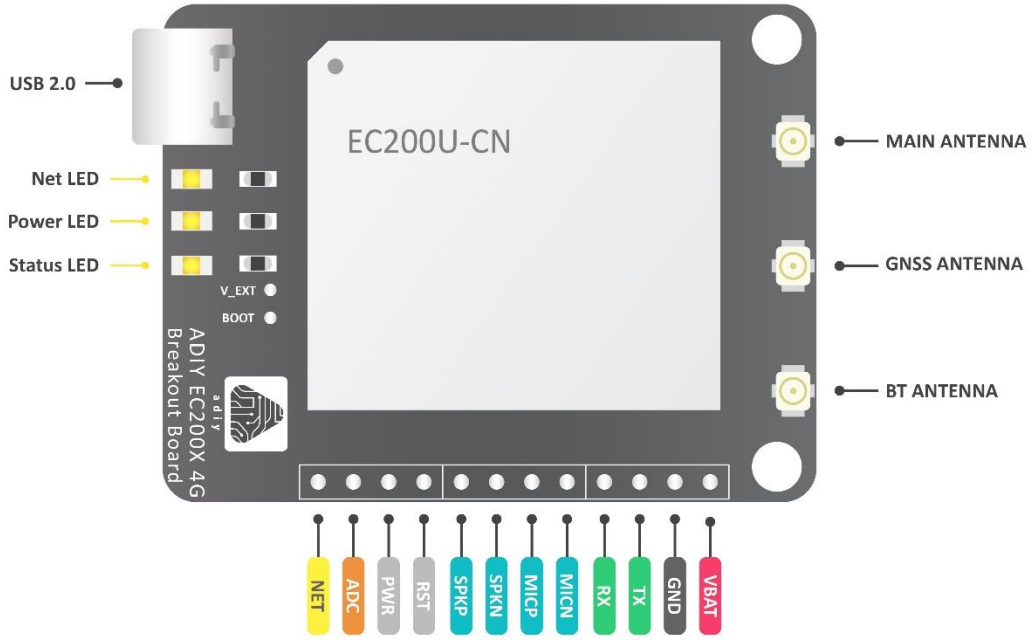
- **AT Commands**
  - Compliant with **3GPP TS 27.007 & TS 27.005**
  - Supports **Quectel enhanced AT commands**

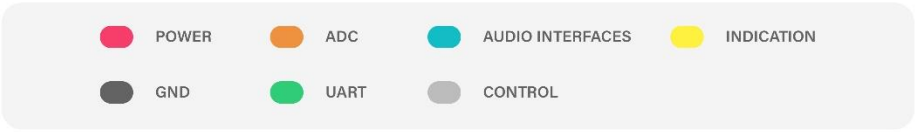
- **Antenna Interfaces**
  - **ANT_MAIN:** LTE main antenna
  - **ANT_GNSS:** GNSS antenna
  - **ANT_BT:** Bluetooth antenna
  - **Connector:** U.FL male for external antenna

- **Additional Features**
  - Control via **AT commands**
  - **Nano SIM card holder**
  - **On-board logic level conversion** for UART
  - **In-built TTS (Text-to-Speech) support**
  - **LED Indicators:** Power, Network, Status
  - **Software Functions:** FOTA, LBS, SSL
  - **Ultra-low sleep current consumption:** <25 mA

- **Interfaces**
  - **Audio:** On-board pins for Speaker & Microphone

Pin Diagram:





Application:

- **IoT Devices:** modem can be commonly used in IoT applications, such as smart metres, asset tracking, and remote sensors, to provide these devices with data transfer capabilities.
- **Wireless Routers:** modem can be integrated into portable routers and mobile hotspots to create Wi-Fi networks wherever a cellular signal is available.
- **Automotive Telematics:** modem can be used in vehicles for services like GPS navigation, vehicle diagnostics, and in-car entertainment systems.

- **Point-of-Sale (POS) Systems:** Mobile POS systems can use modem for wireless payment processing and data communication.
- **Remote Monitoring and Control:** Industrial and infrastructure applications, such as remote monitoring of equipment or control systems, can use modems to transmit data over long distances.