

Introduction

The Air780EU is a versatile 4G CAT1 communication module designed for use in Europe, the Middle East, Russia, Thailand, Africa, and other regions. Operating within the **LTE-FDD B1/B3/B7/B8/B20/B28 frequency bands**, it offers high-speed connectivity and streamlined network integration. Equipped with essential network protocols, a simplified UART interface, and efficient power management, the Air780EU is an ideal choice for IoT projects and development boards.

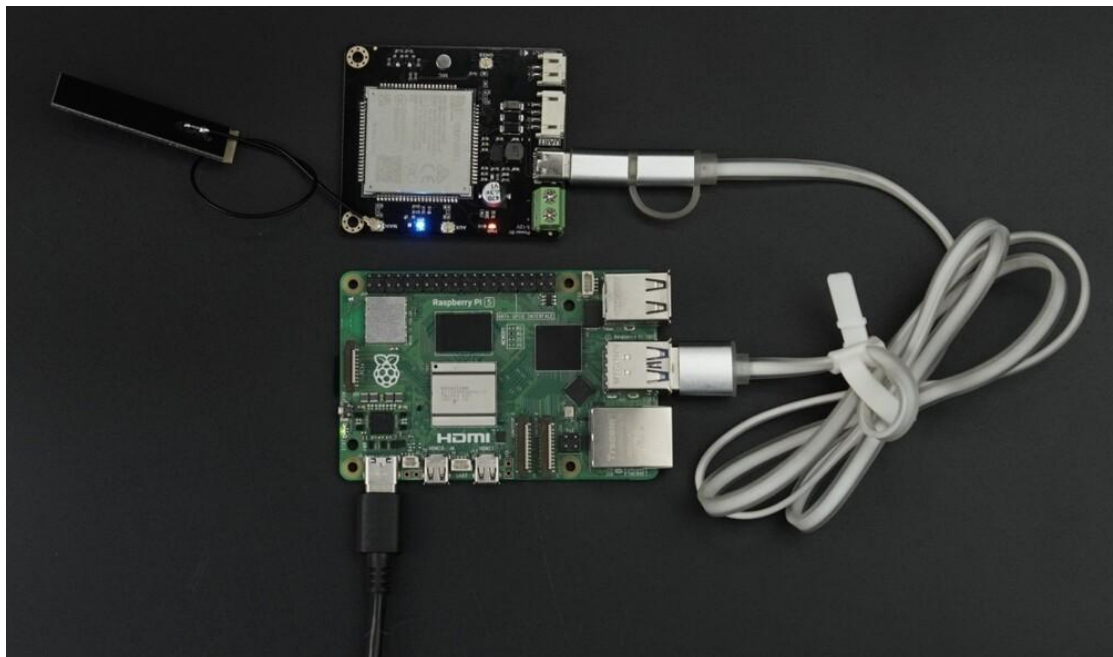
The Air780EU communication module supports a maximum communication rate of up to 10Mbps (downlink) and up to 5Mbps (uplink). It comes integrated with a rich set of network protocols including TCP/UDP/PPP/HTTP/NITZ/NDIS/NTP/HTTPS/MQTT, and employs a standard serial port for data transmission and reception. This converts the previously complex communication methods into simple serial port programming, significantly reducing software development costs and facilitating rapid IoT project development.

Additionally, the module features a low power consumption mode of 0.6mA during sleep mode, UART serial port data wake-up, and periodic interrupt wake-up. If data is reported every 5 minutes, a 500mA battery can last up to 26 days in PRO mode and 36 days in STD mode, greatly benefiting IoT projects sensitive to power consumption.

The Air780EU module includes a built-in USB network card function, using a TYPE-C interface for connection. Through practical testing, this series of modules supports driver-free USB network card functionality on PC, [Raspberry Pi](#), [UNIHIKER](#), and [LattePanda](#), allowing for the rapid addition of 4G communication capabilities to your development boards. Additionally, the onboard UART communication interface and AT command usage facilitate easy connections to various MCU or development boards for swift development of projects based on 4G communication networks.



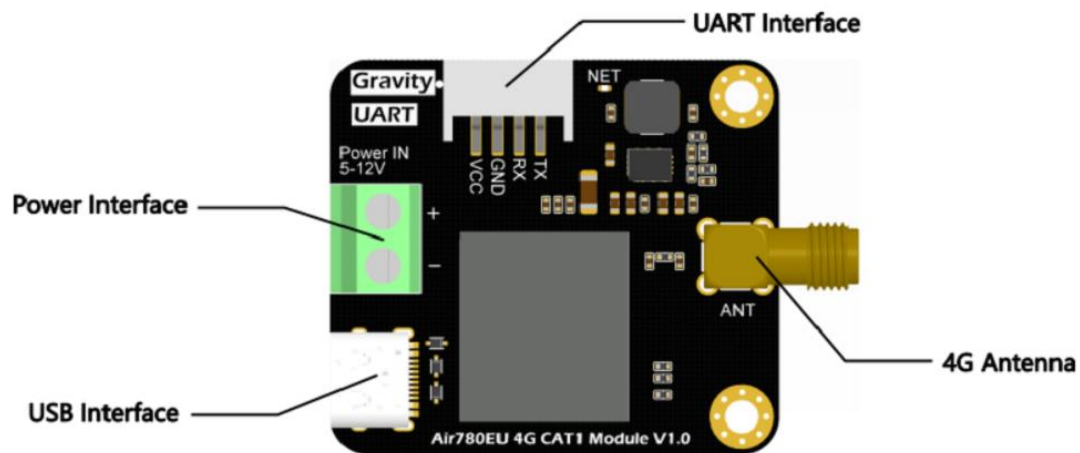
Connection Diagram of 4G CAT1 communication module and LattePanda 3 Delta single board computer



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The SIM series wireless communication modules offer multiple products to choose from. This series of 4G products is differentiated by communication rates and satellite

positioning capabilities. Click here to check the [selection guide of 4G communication modules](#).



Functional Diagram of 4G CAT1 communication module

Features

- Supports LTE-FDD B1/B3/B7/B8/B20/B28 frequency bands.
- Offers 4G CAT1 communication with maximum data rates of up to 10Mbps (downlink) and up to 5Mbps (uplink).
- Integrates network protocols such as TCP/UDP/PPP/HTTP/NITZ/NDIS/NTP/HTTPS/MQTT, eliminating the need for low-level development.
- Features a UART interface with AT command control for standard serial communication, ensuring ease of use.
- Equipped with a TYPE-C interface and USB network card functionality, supporting driver-free USB network capabilities on PC, Raspberry Pi, UNIHAKER, and LattePanda.
- Includes a low-power mode, with serial data wake-up and periodic interrupt wake-up features.
- Compatible with 3.3V and 5V logic level.
- Supports a power supply voltage range of 5V-12V.

Applications

- Agricultural and forestry monitoring
- Industrial pollution environmental detection

- Remote lighting control
- Mobile payment networks
- External 4G communication for industrial PC
- Interactive communication
- Warehouse and building IoT projects
- Home IoT projects

Specification

- Applicable regions: Europe, the Middle East, Russia, Thailand, Africa, and other regions.
- Supported bands: LTE-FDD B1/B3/B7/B8/B20/B28
- Supported protocols: TCP/UDP/PPP/HTTP/NITZ/NDIS/NTP/HTTPS/MQTT
- Speed: 10Mbps (downlink) / 5Mbps (uplink)
- Low power consumption: As low as 0.6mA in sleep mode, supports UART serial data wake-up and periodic interrupt wake-up
- Development mode: AT commands
- Communication interface: UART (PH2.0-4P Gravity interface)
- SIM card slot: Nano SIM card Level compatibility: 3.3V/5V
- Antenna interface: SMA female connector (external thread, internal pin)
- Antenna specifications: 4G/LTE 50mm elbow rubber stick antenna, SMA-J interface (SMA internal thread, internal pin)
- Power supply voltage:
USB port: 5V
Terminal block: 5V-12V (recommended for long-term deployment)
UART interface: 3.3V-5V (this interface has lower power and may not ensure normal communication, only for testing)
- Operating Temperature: -40°C ~ 85°C
- PCB size: 42mm×37mm

Documents

- [Product wiki](#)

- [Schematic](#)
- [AT_Command_Set](#)
- [2D_CAD](#)
- [3D_STP](#)

Shipping List

- Gravity: Air780EU 4G CAT1 Communication Module ×1
- 4G Stick Antenna ×1
- UART PH2.0-4P Connecting Cable ×1