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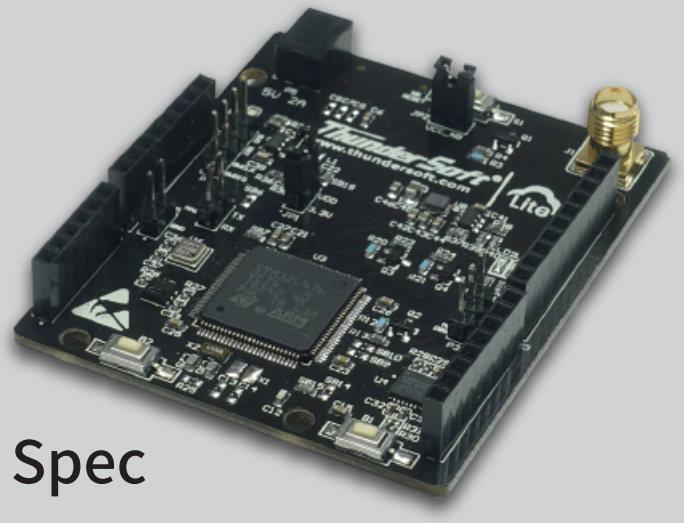


Turbox

NB-IoT Development Board Spec

As telcos around the world are rolling out their support to NB-IoT, the access to hardware becomes more critical to the ecosystem. Developers and companies who are interested in designing and producing products could purchase modules from vendors, but most of the time, they just want to quickly validate their concept. To meet this kind of demands we have seen in the market, we designed this Arduino compatible development board. We hope this board will help with boosting the product diversity in NB-IoT ecosystem.

This board borrows ideas from Arduino and is based on STM32L476 low power consumption MCU, also 3 different type of sensors have been built on the board by default, which are temp/humidity, air pressure, 6-axises IMU. The form factor of this board is similar to Arduino Uno board, which makes it very flexible to utilize existing Arduino shields boards, then you can buy any of them off the shelf very easily.

Features:

- Compatible with Arduino, with rich accessories
- ARM® Cortex®-M4 STM32L476 in LQFP100
- Rich standard interfaces: UART/I2C/SPI/GPIO
- Ultra-low power consumption
  - 8mA Consumption for MCU in run mode
  - NB-IoT Module:
    - Idle：6mA
    - PSM: 5uA，min
    - Tx , max ≈ 240mA

Specs：

- STM32 microcontroller in LQFP100 package
- 2 user LEDs
- 2 push-buttons: USER and RESET
- DC 5V power adapter for power supply
- 32.768 kHz crystal oscillator
- Extension connector support for Arduino™ Uno V3 connectivity
- MCU interface:

  SPI x1, ADC x5, PWM output x6, UART x1, I2C x1
- On-board NB-IoT module, with one ADC and two UART (one for debug)
- On-board Temperature & humidity sensor, pressure sensor, and 6-axis IMU
- Frequency Band: 800MHz, 850MHz, 900MHz

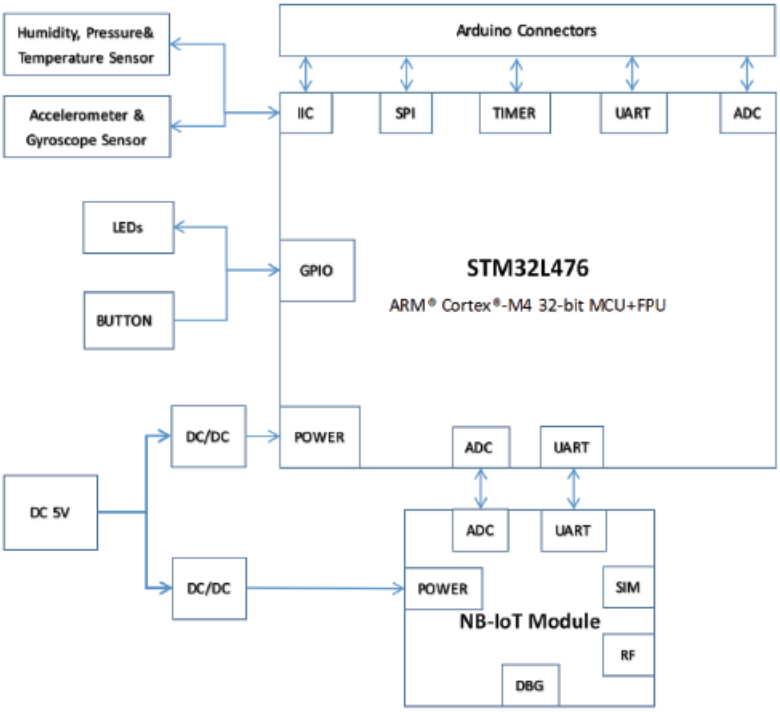
Target Markets and industries:

- Agriculture
- Healthcare
- Public Safety and Scurty
- Automtive and Logistics
- Manufacturing
- Smart City
- Energy and Utilities
- Retail
- Smart Home

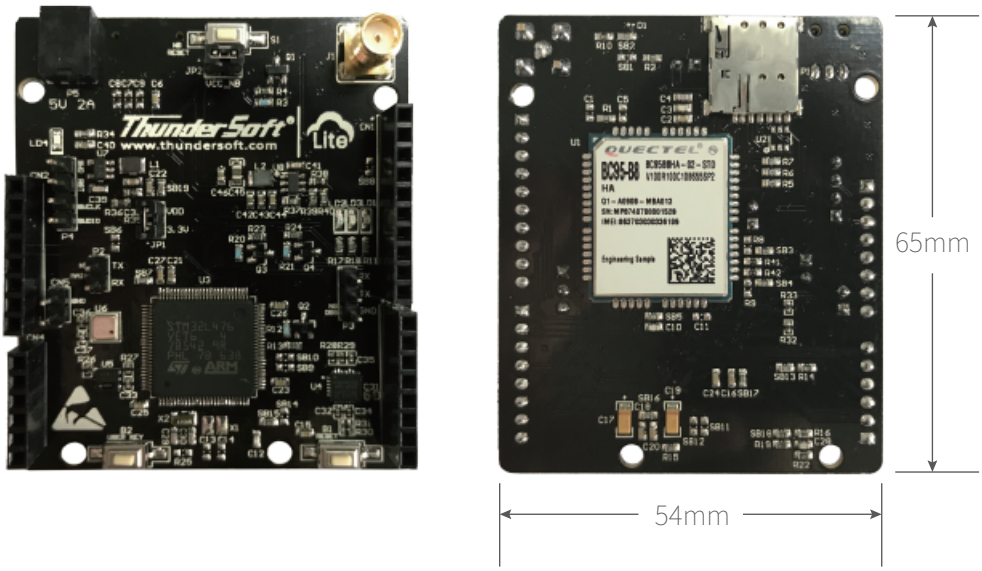
User Scenarios:

- Samrt Metering
- Smart Tracking
- Smart Sensors
- Smart Monitoring
- Assets Management
- Wearable
- Logistics Tracking

NB-IoT Development Board HW Block



NB-IoT Development Board PCB



Packaging

- NB-IoT Development Board
- DC Power Adapter (5V 2A)
- SMA Antenna
- Board Spec Page

For more reference documents
and resources, please scan QR code.