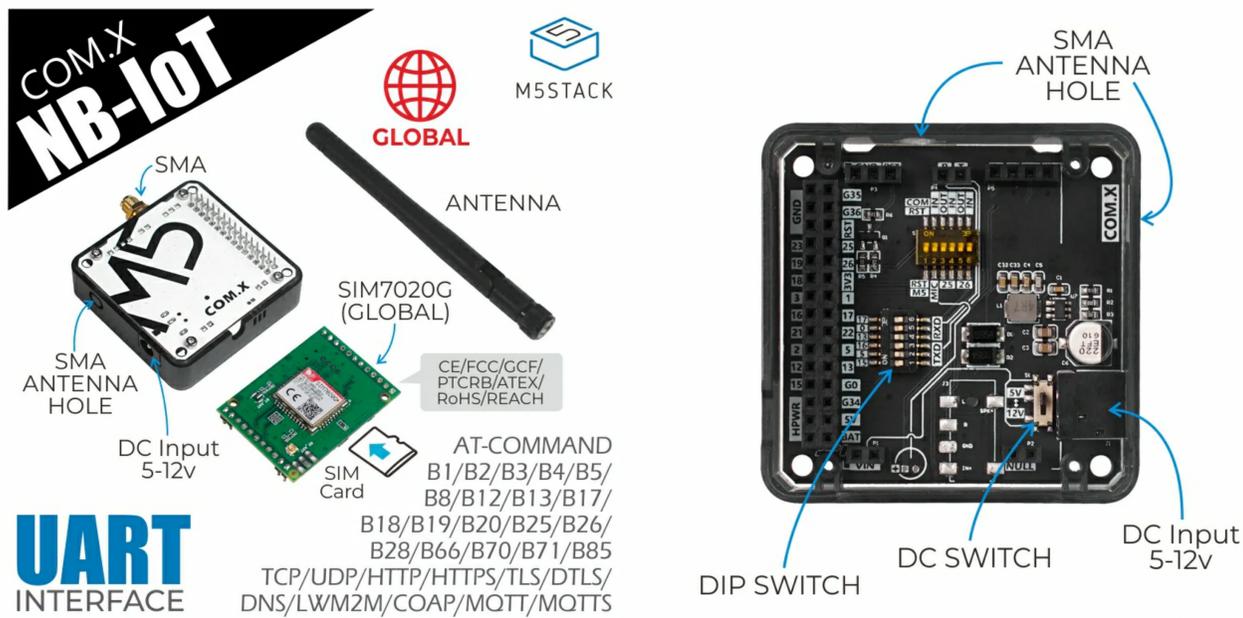# COM.NB-IoT

Description

COM.NB-IoT is a stackable multi-band NB-IoT wireless communication module with built-in SIM7020G communication module. The module supports PSM and eDRX low power consumption modes.

The COM.NB-IoT module has a wide coverage signal. Compared to GSM, NB-IoT has a strong gain, which also enables the product to have wireless communication capabilities in locations such as basements.

The module has a DC power input and can provide 5V-12V power supply through an external power supply. In order to facilitate the user to configure the pin, the DIP switch is used to set the pin. The SIM7020G module is the optimal solution for low latency, low power consumption, and low throughput applications. It is very suitable for IoT applications such as metering, remote control, asset tracking, remote monitoring, telemedicine, and ride sharing.

Notice

When used with the **FIRE** main control, due to the PSRAM pin conflict, please switch the DIP switch pins of the module base to TX(0/13), RX(5/15), and the device can use USB/ External DC is used for power supply.

When used with **Core2** series main control, due to the different order of the base pin array, COM.X base pins TX(16), RX(17) correspond to the actual pins TX(14), RX of the Core2 main control (13) The equipment needs to use external DC for power supply.

Note: When using the CORE2 or CORE2-FOR-AWS main control to drive the module, please use the DC power input of the base and set the power mode to input mode (refer to the code below), otherwise it will not start normally

```
//mbus_mode_t:
```

```
//kMBusModeOutput: Use USB or battery power
//kMBusModeInput: Use external power supply 5V, or DC interface

M5.begin(true, true, true, false, kMBusModeInput);

//Initialize Serial according to the actual connected pins
Serial2.begin(115200, SERIAL_8N1, 13, 14);
```

The module base has a DC power input interface. Please strictly follow the input range (5-12V) to prevent damage to the module when using this interface to connect to the power supply. The internal power DIP switch can adjust the voltage level of the internal terminal VIN to adapt to different modules.

5.5mm
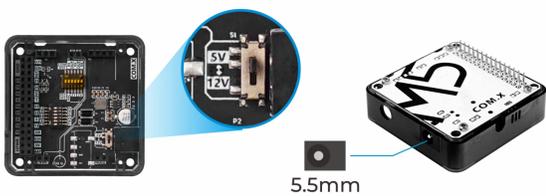
Product Features

○ Stackable design

○ Support low power consumption mode

○ Strong signal access capability

○ Independent external power supply

○ AT command control

○ SIM card type: MicroSIM

○ Status signal: two LED indicators

○ External antenna: SMA antenna

○ Serial communication: UART 115200bps

○ Frequency band:

   ○ B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B26/B28/B66/B70/B71/B85

○ Data transmission speed: Upload:150Kbps Download:126Kbps

○ Protol: TCP/UDP/HTTP/HTTPS/TLS/DTLS/DNS/ NTP/PING/LWM2M/COAP/MQTT/MQTTS

Include

○ 1x COM.NB-IoT module
○ 1x SMA antenna

Applications

○ Smart meter
○ Smart parking

○ Municipal management

Certification

- CE/FCC/GCF/PTCRB/ATEX

- RoHS/REACH

- Telstra*(on going)

- Vodafone

- Deutsche Telekom

Specification

Resources	Parameter
Frequency band	B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B26/B28/B66/B70/B71/B85
Network protocol	TCP/UDP/HTTP/HTTPS/TLS/DTLS/DNS/ NTP/PING/LWM2M/COAP/MQTT/MQTTS
Communication	UART 115200bps
DC interface specifications	5.5mm
Net weight	40g
Gross weight	75g
Product Size	54.2*54.2*13.2mm
Package Size	165*60*36mm

Operator frequency bands in some countries

The following content is for reference only.

North America	B4 (1700), B12 (700), B66 (1700), B71 (600), B26 (850)
Asia Pacific	B1(2100), B3(1800), B5(850), B8(900), B18(850), B20(800), B26(850),B28(700)
Europe:	B3 (1800), B8 (900) , B20 (800)
Latin America	B2(1900), B3(1800), B5(850), B28(700)
Commonwealth of Independent States	B3 (1800), B8 (900), B20 (800)
Sub-Saharan Africa	B3(1800), B8(900)
Middle East, North Africa	B8(900), B20(800)

EasyLoader

EasyLoader is a concise and fast program writer, which has a built-in case program related to the product. It can be burned to the main control by simple steps to perform a series of function verification.

> **Description:**
>
> Check signal strength,Register to the network,5 and 13 of the DIP switch are set to ON.

Related Link

- **Datasheet**
  - SIM7020 Series datasheet
  - SIM7020 Series_Ayla_Application Note_V1.03
  - SIM7020 Series_CTBURST_Application Note_V1.01
  - SIM7020 Series_CoAP_Application Note_V1.03
  - SIM7020 Series_EAT_Environment & Compilation & Burning Guide_V1.02.
  - SIM7020 Series_FOTA_Application_Note_V1.02
  - SIM7020 Series_HTTP(S)_Application Note_V1.04
  - SIM7020 Series_LWM2M_Application Note_V1.03
  - SIM7020 Series_Low Power Mode_Application Note_V1.05
  - SIM7020 Series_MQTT(S)_Application Note_V1.05
  - SIM7020 Series_NVRAM_Application Note_V1.02
  - SIM7020 Series_SAT_Application Note_V1.01
  - SIM7020 Series_SNTP_Application Note_V1.03
  - SIM7020 Series_TCPIP_Application Note_V1.04
- **AT Command**
  - SIM7020 Series_AT Command Manual_V1.05

Schematic
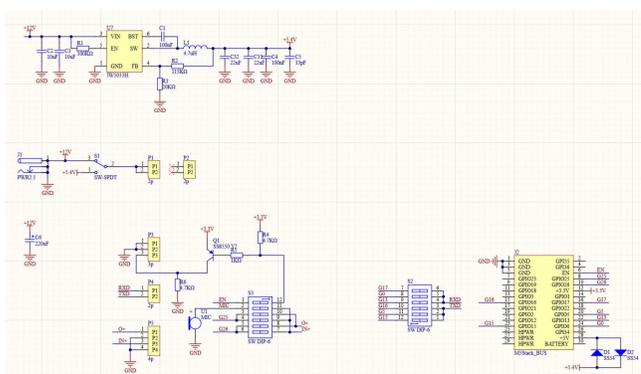
PinMap

M5Stack	TX(GPIO0/13/17)	RX(GPIO5/15/16)	5V	GND
COM.NB-IoT	RX	TX	VIN	GND

Example

To get complete code, please click here

Last updated: 2020-12-24