

Module LoRa433 v1.1

SKU:M005-V11



Description

Module LoRa433 v1.1 is a LoRa communication module (operating at 433MHz) in the M5Stack stackable module series, using the **Ra-02 module** (chip SX1278) solution. The module comes with a **built-in SMA antenna** and also provides two additional patch MCX pad interfaces, allowing users to switch between different types of antennas as needed. Additionally, the module features a **DIP switch** for

flexible switching of communication pins, **enabling multiple stacked modules to be used simultaneously**, offering more customization possibilities and flexibility. It is suitable for applications such as remote monitoring, smart cities, home and industrial automation, and IoT devices.

Features

- Serial communication protocol: SPI
- Operating frequency: 410MHz~525MHz
- Supports FSK, GFSK, MSK, GMSK, LoRa™, and OOK modulation modes
- Receiver sensitivity: as low as -140 dBm
- Programmable bit rate up to 300Kbps
- External antenna interface
- Built-in DIP switch for pin switching
- Development platforms: Arduino, Micropython, UIFlow(Blockly)

Includes

- 1 x Module LoRa433 v1.1
- 1 x External SMA antenna

Applications

- Remote monitoring
- Smart cities
- Home and industrial automation
- IoT devices

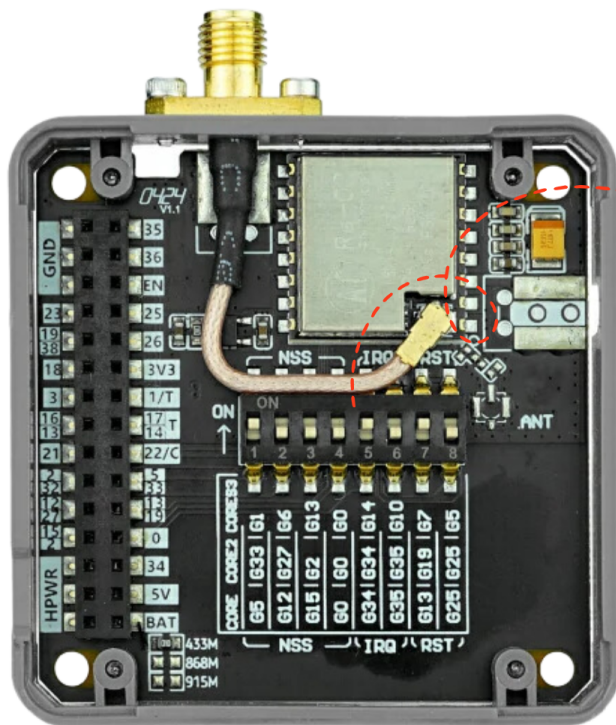
Specifications

Specification	Parameter
Frequency range	410MHz~525MHz
Communication interface	SPI
Programmable bit rate	Up to 300kbps
Antenna	Rubber duck antenna @2.5dBi, total length 110mm, SMA inner pin
Operating temperature	0-40°C
Product Size	54.0 x 54.0 x 13.1mm
Product Weight	23.1g
Package Size	95.0 x 66.0 x 26.0mm
Gross Weight	42.7g

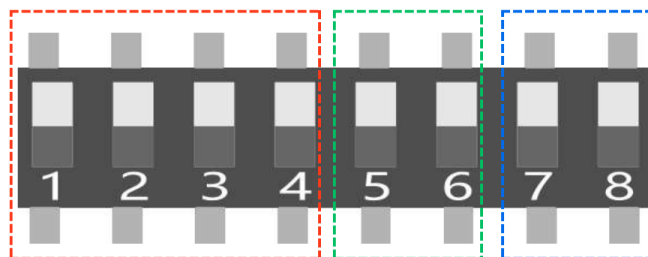
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DIP Switch Operation

When using Module LoRa433 v1.1 with different Cores, you need to toggle the corresponding DIP switches according to the diagram below; otherwise, it will not function properly.



NSS IRQ RST



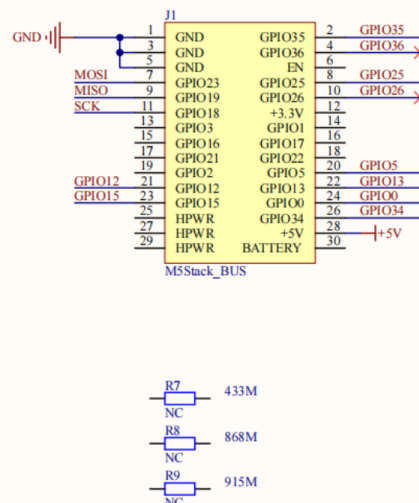
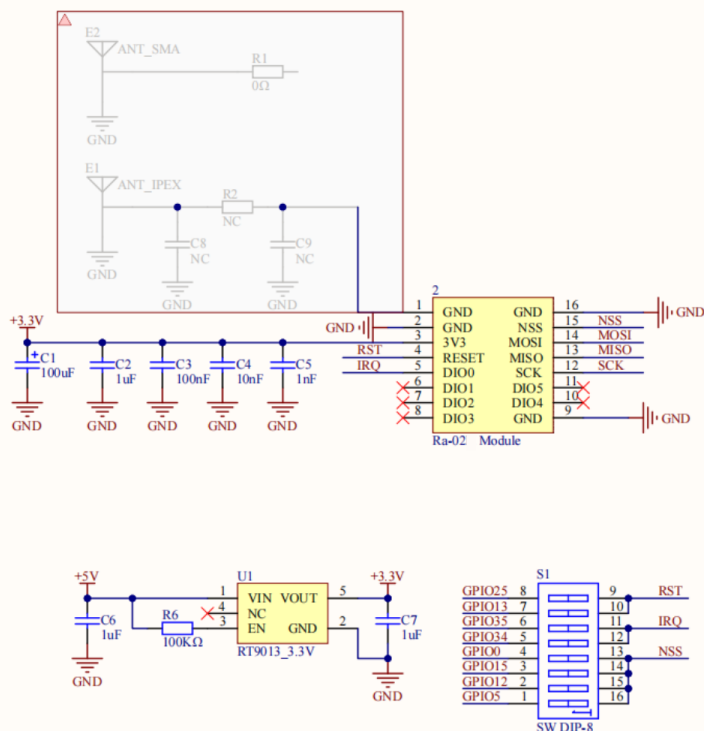
EXAMPLE



RA-02	MOSI	MISO	SCK	RST	IRQ	NSS
Core(Basic)	G23	G19	G18	G25/G13	G35/G34	G0/G15/G12/G5
Core2	G23	G38	G18	G25/G19	G35/G34	G0/G2/G27/G33
CoreS3	G37	G35	G36	G5/G17	G10/G14	G0/G13/G6/G1

In the example, the **CORE2** is paired with the **LoRa 433 Module**. Therefore, refer to the second row of the PinMap for the corresponding CORE2 pins: MOSI: G23, MISO: G38, SCK: G18
NSS, IRQ, and RST can be selected from the following: NSS: G0/G2/G27/G33, IRQ: G34/G35, RST: G19/G25
Depending on your needs, you only need to toggle one switch to the ON position on the DIP switch for each pin. For example: If NSS uses G0, toggle the 4th switch to ON. If NSS uses G2/G27/G33, toggle the corresponding switch to the OFF position (down). The same principle applies to IRQ and RST—toggle the switch for the selected pin to the ON

Schematics



PinMap

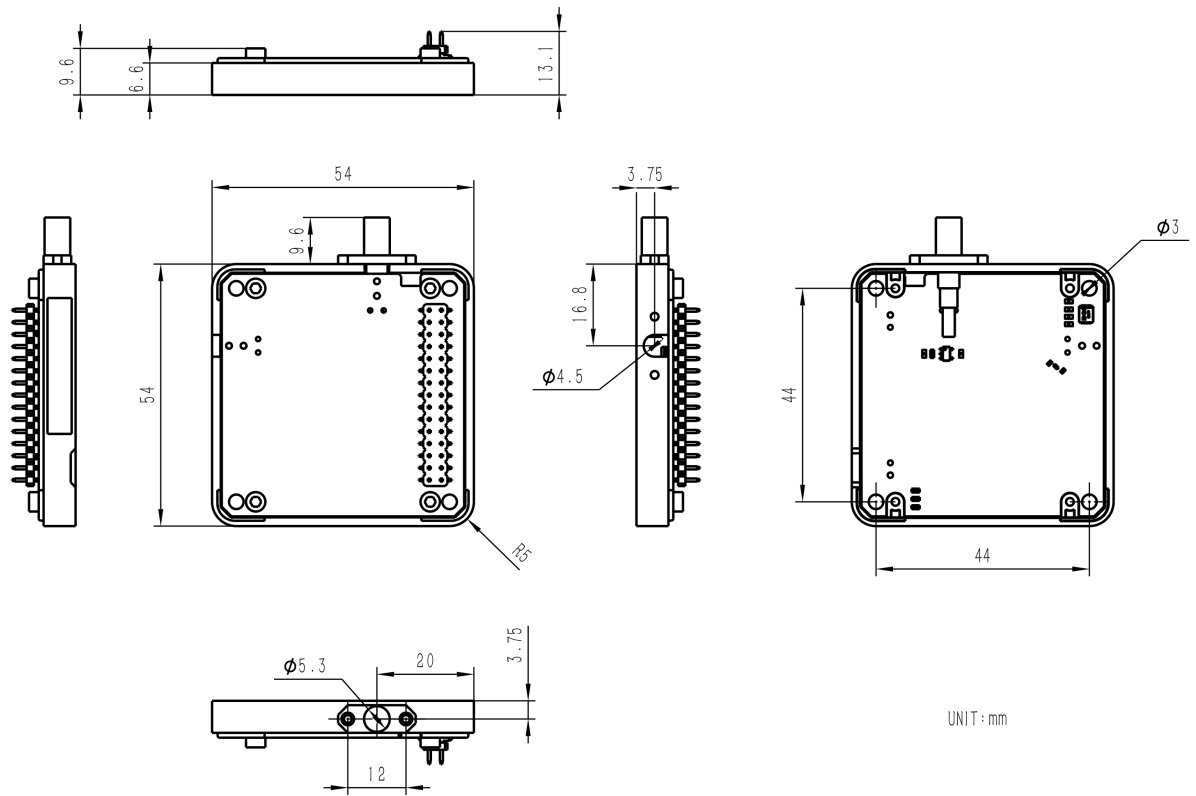
M5-Bus

DIP Switch

The pins labeled **SW** on the lower M5-Bus can be toggled via DIP switches to accommodate different controller devices.

PIN	LEFT	RIGHT	PIN
GND	1	2	IRQ (SW)
GND	3	4	
GND	5	6	
MOSI	7	8	RST (SW)
MISO	9	10	
SCK	11	12	
	13	14	
	15	16	
	17	18	
	19	20	CS (SW)
CS (SW)	21	22	RST (SW)
CS (SW)	23	24	CS (SW)
	25	26	IRQ (SW)
	27	28	5V
	29	30	

Model Size



Datasheets

- [Ra-02_CH](#)
- [Ra-02_EN](#)
- [SX127X](#)

Softwares

Arduino

- [Module LoRa433 v1.1 Arduino Library](#)
- [Module LoRa433 v1.1 Arduino Demo\(LoRaSender\)](#)
- [Module LoRa433 v1.1 Arduino Demo\(LoRaReceiver\)](#)
- [Module LoRa433 v1.1 Arduino Demo\(LoRaSetSpread\)](#)
- [Module LoRa433 v1.1 Arduino Demo\(LoRaDuplex\)](#)

UiFlow1

- [Module LoRa433 v1.1 UiFlow1 Docs](#)

Version Change

Release Date	Product Changes	Note
2024.05.17	LoRa868_V1.1 (SKU:M005_V11)	Compared with the previous version, a DIP switch was added to switch between different communication pins. Suitable for Basic/Core2/CoreS3 controllers and supports stacking multiple modules.
/	First release LoRa433 (SKU:M005)	/