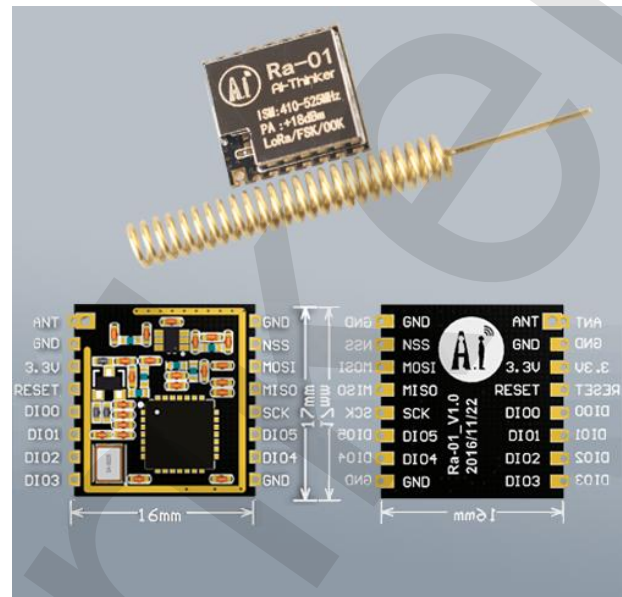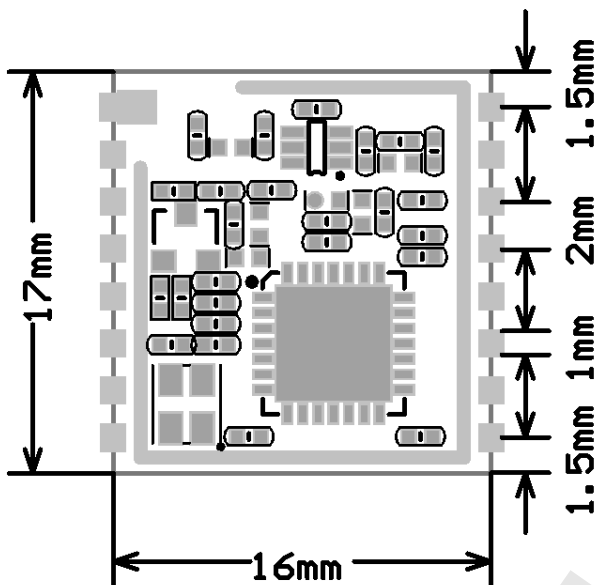# Ra-01 LoRa Module

Features

- LoRa ™spread spectrum modulation technology

- Receive sensitivity as low as -141 dBm

- Excellent resistance to blocking

- Supports preamble detection

- Supports half-duplex SPI communication

- Programmable bit rate up to 300Kbps

- Supports FSK, GFSK, MSK, GMSK, LoRa ™ and OOK modulation modes

- Supports automatic RF signal detection, CAD mode and ultra high speed AFC

- Packets with CRC, up to 256 bytes

- Small package with double volume stamps

Overview

Ra-01 can be used for ultra-long distance spread spectrum communication, and compatible FSK remote modulation and demodulation quickly, to solve the traditional wireless design can not take into account the distance, anti-interference and power consumption.

Ra-01 can be widely used in a variety of networking occasions, for automatic meter reading, home building automation, security systems, remote irrigation systems, is the ideal solution for things networking applications.

Ra-01 is available in SMD package and can be used for rapid production by standard SMT equipment. It provides customers with high reliability connection mode.

Product Specifications

Module Model	Ra-01
Package	SMD-16
Size	17*16*(3.2 ± 0.1) mm
Interface	SPI
Programmable bit rate	UP to 300Kbps
Frequency Range	410-525 MHz
Antenna	Spring antenna with gain of 2.5 dBi
Max Transmit Power	18±1 dBm

Power (Typical Values)	433MHz:
	    TX:93mA RX:12.15mA Standby:1.6mA
	470MHZ:
	    TX:97mA RX:12.15mA Standby:1.5mA

Power Supply	2.5~3.7V，Typical 3.3V
Operating Temperature	-30 ℃ ~ 85 ℃
Storage Environment	-40 ℃ ~ 90 ℃ , < 90%RH
Weight	0.45g

Receive Sensitivity

Frequency	Spread factor	SNR	Sensitivity
433MHz	7	-7	-125
	10	-15	-134
	12	-20	-141
470MHz	7	-7	-126
	10	-15	-135
	12	-20	-141

Note: The above data are measured by the Semtech Shenzhen laboratory. The test conditions: power output 20dBm, bandwidth 125KHz.

Contact US

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