

## N515AS, CC1120 PA Module, +24dBm



### N515AS Module Introduce

N515AS CC1120 transceiver narrowband module designed for 169M, 433M, 868M and 915MHz ISM band. Up to +24 dBm output power and down to -120 dBm sensitivity at 1.2kbps.

N515AS is a low-cost and small size spi RF transceiver module for transmitting and receiving digital data via radio frequency. All of the N515's electronics (don't including an antenna) reside on a single PCB, and all operational power is derived from a single supply voltage.

The transceiver module design consists of a CC1120 low-power, integrated sub 1G transceiver RF chip. The module available frequency is from 169 to 960 Mhz, The hardware is designed for maximum range, 1500m + Range (Line of Sight).

N515AS module based TI CC1120 transceiver and PA LNA, the module leads out all pins of CC1120 chip, The interface of the module is SPI port and RF pin. The module is packaged with small size SMD, it is suitable for SMT production. Rapid development without understanding RF. The module supports Arduino.

N515AS is suitable for ISM band in China, EU and USA.

### N515AS Module Parameter

Model	N515AS
Module Interface	SPI
Frequency	160-175 MHz, 410-480 Mhz, 860-960 Mhz
RF Data Rate	0-200 kbps

Transmitting Power	+24 dBm
Receiving Sensitivity	-126 dBm
TX Current	200 mA
RX Current	18 mA
Frequency Deviation	+/- 1 khz
Communication Distance	10 – 1500 m(Visual distance)
Antenna Interface	RF pin
Installation Mode	SMD
Volume (mm)	19 mm x 17 mm x 3 mm
Operating Voltage	2 - 3.6 V
PA Operating Voltage	3 - 6 V (5V type)
Working Temperature and Humidity Environment	Temperature: -40-80 °C; Humidity 10-95 %RH
Storage Temperature and Humidity Environment	Temperature: -40-80 °C; Humidity 10-95 %RH
Weight (kg)	≈10g

### N515AS Module Pinout

Pin Number	Function	Describe
1	RF	RF pin
2	GND	
3	GND	
4	VCCPA	3V to 6V
5	VCC	1.8V to 3.6V
6	VTC	TCXO power supply, Connected to MCU IO port or VCC.
7	LNAC	Connected to MCU IO port
8	LNAEN	LNA enable
9	PAEN	PA enable
10	RESET	Reset pin
11	GPIO3	Connected to MCU IO port

12	GPIO2	Connected to MCU IO port
13	MOSI	SPI
14	SCK	SPI
15	MISO	SPI
16	GPIO0	Connected to MCU IO port
17	CS	SPI
18	GND	

### Application Area

Ultra low-power wireless applications

Operating in the 315/433/868/915 MHz ISM/SRD bands

Wireless alarm and security systems

Industrial monitoring and control

Wireless sensor networks

AMR – Automatic Meter Reading

Home and building automation

Wireless MBUS

Arduino

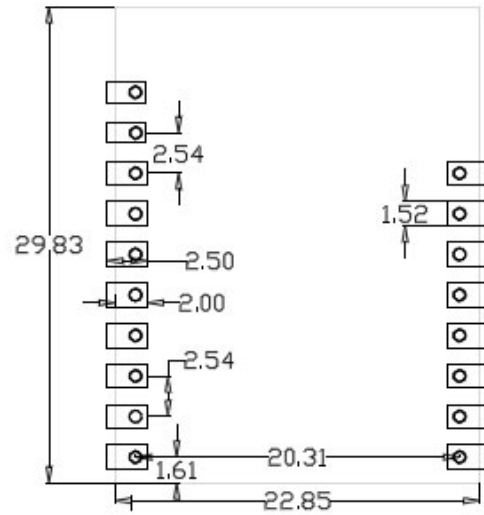
### N515AS Logic (mm)

	VTC	LENC	PAEN	LNAEN
TX	1	1	1	0
RX	1	0	0	1
Sleep	0	1	0	0

### N515AS Layout (mm)

RF	1		
GND	2		
GND	3	18	GND
VCCPA	4	17	CS
VCC	5	16	GPI00
TCXOEN	6	15	MISO
LNAC	7	14	SCK
LNAEN	8	13	MOSI
PAEN	9	12	GPI02
RST	10	11	GPI03

PIN define



PCB LAYOUT(mm)

### Ordering Information

N515AS-169M	RF Module	N515AS-169M	+24 dBm – 160-175Mhz
N515AS-433M	RF Module	N515AS-433M	+24 dBm – 410-510Mhz
N515AS-868M	RF Module	N515AS-868M	+24 dBm – 860-960Mhz

More information please contact with us.