

# N513AS, CC1120 UART Module



## **N513AS Introduce**

N513AS Radio module based TI CC1120 transceiver, ST MCU, PA and LNA.

N513AS CC1120 transceiver module designed for 169M, 433M, 868MHz and 915M narrowband. Up to 24dBm output power and down to -126dBm sensitivity. AT command used.

N513AS based TI CC1120, ST MCU, PA and LNA. 169M, 433M, 868MHz and 915M narrowband used. Up to 24dBm output power and down to -126dBm sensitivity. AT command used. The module is mainly for Internet of things, intelligent home, wireless meter reading, scientific research and medical treatment, and medium and long-distance wireless communication equipment. CC1120 module leads all pins out for secondary development. AT commands support.

N513AS leads uart pins out of for secondary development. Rapid development without understanding RF.

N513AS is suitable for free frequency band in EU and USA.

## **CC1120 Device Introduce**

The CC1120 device is a fully integrated single-chip radio transceiver designed for high performance at very low-power and low-voltage operation in cost-effective wireless systems. All filters are integrated, thus removing the need for costly external SAW and IF filters. The device is mainly intended for the ISM (Industrial, Scientific, and Medical) and SRD (Short Range Device) frequency bands at 164–192 MHz, 274–320 MHz, 410–480 MHz, and 820–960 MHz.

The CC1120 device provides extensive hardware support for packet handling, data buffering, burst transmission, clear channel assessment, link quality indication, and Wake-On-Radio. The main operating parameters of the CC1120 device can be controlled through an SPI interface. In a typical system, the CC1120 device will be used with a microcontroller and only a few external passive components.

## **ISM Frequency supported by N513AS module**

169M band: 169 MHz to 170 MHz (China, EU)

433M band: 433 MHz to 435 MHz (China, EU)

470M band: 470 MHz to 480 MHz (China)

868M band: 868 MHz to 870 MHz (China, EU, USA)

888 MHz to 889 MHz (Australia)

915M band: 902 MHz to 928 MHz (USA)

## **APPLICATIONS**

Sigfox network or point-to-point long distance transmission.

Narrowband system  
 Arduino device  
 Narrowband Ultra-Low-Power Wireless Systems  
 IEEE 802.15.4g Systems  
 With Channel Spacing Down to 12.5 kHz  
 Wireless Alarm and Security Systems  
 169-, 315-, 433-, 868-, 915-, 920-, 950-MHz  
 Industrial Monitoring and Control ISM/SRD Band  
 Wireless Healthcare Applications  
 Wireless Metering and Wireless Smart Grid (AMR and AMI)  
 Wireless Sensor Networks and Active RFID  
 Private Mobile Radios  
 Home and Building Automation

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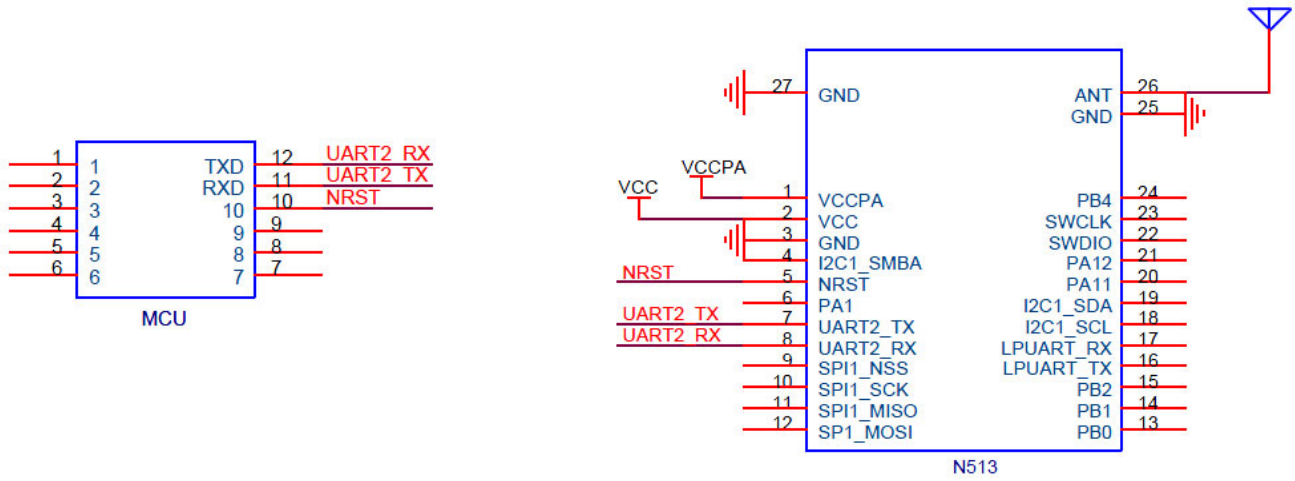
### N513AS Para

RF Interface	Parameter
Frequency	169M, 433M, 868M, 915M
Output Power	+24dBm
Sensitivity	-126dBm
Symbol Rate	0.3-200kbps
Deviation	+/-1kHz
Distance	7000m

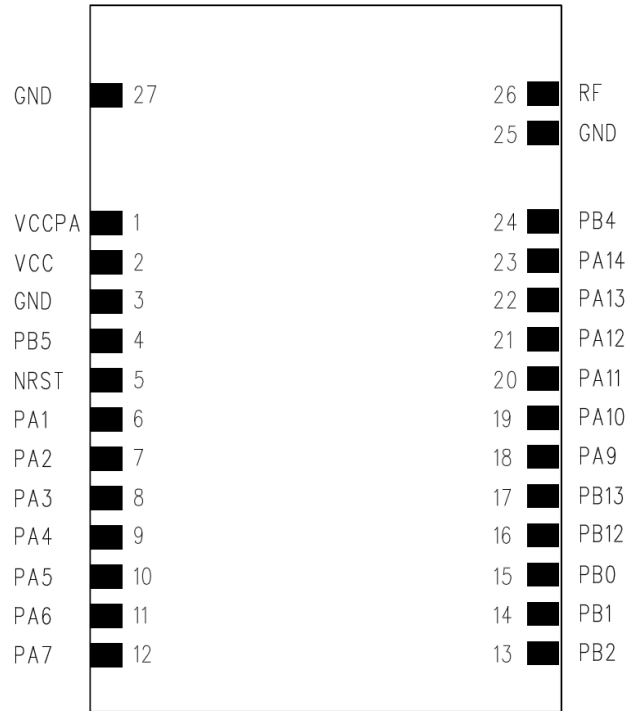
Hardware parameters	Value
Size	36 x 24 x 3mm
Antenna Interface	IPEX, RF pin
Communication Interface	UART, SPI
Package	SMD

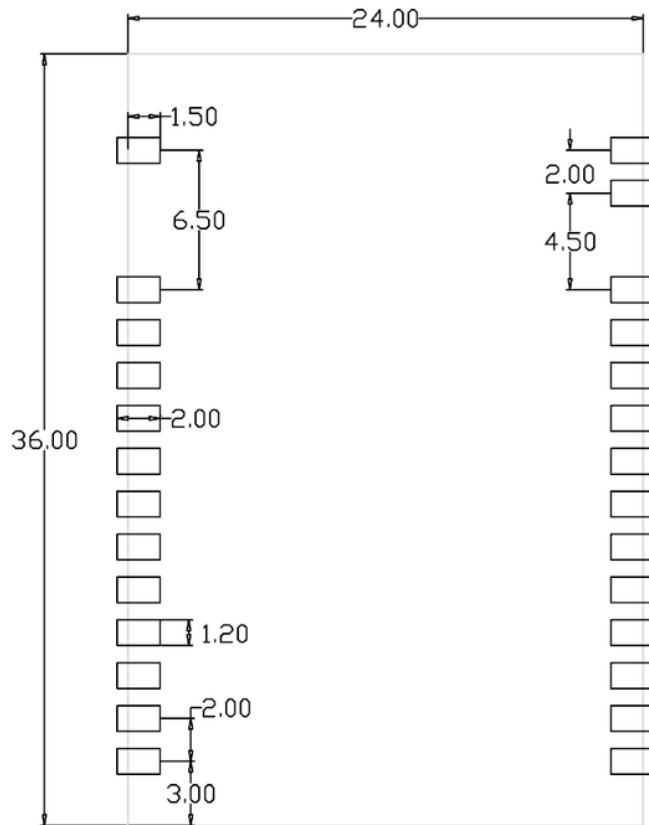
Electrical Parameters	Minimum	Typical	Maximum
Volt	1.8V	3.3V	3.9V
PA Volt	2.5V	5V	6V
Emission Current		200mA	
Receiving Current		35mA	
Sleep current		2uA	
Working Temperature	-40°C		85°C

N513AS typical circuit



N513AS Pinout Definition





**Ordering information**

N513AS-169M	CC1120, MCU	Narrowband, 24dBm, 160M - 175MHz
N513AS-433M	CC1120, MCU	Narrowband, 24dBm, 410M - 480MHz
N513AS-868M	CC1120, MCU	Narrowband, 24dBm, 860M - 880MHz
N513AS-915M	CC1120, MCU	Narrowband, 24dBm, 910M - 960MHz

More information please contact with us.