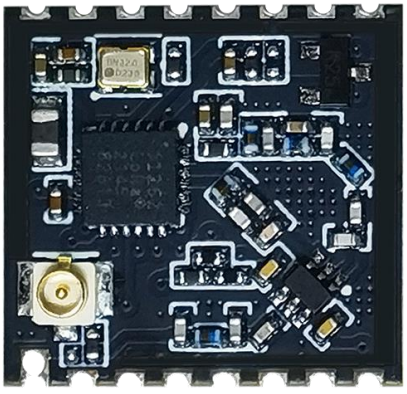
HT-RA62

LoRa module



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Document version

Version	Time	Description	Remark
Rev. 1.0	2022-8-16	Preliminary version	肖鸿
Rev. 1.1	2022-9-17	Typographic modification	Aaron

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Content

1. Description

1.1 Overview

HTIT-RA62 is a LoRa node module based on SX1262.

SX1262 sub-GHz radio transceivers are ideal for long range wireless applications. The maximum output power can reach 22dBm, support LoRa® modulation for LPWAN use cases and (G)FSK modulation for legacy use cases. Continuous frequency coverage from 150 MHz to 960 MHz allows the support of all major sub-GHz ISM bands around the world.

HT-RA62 are available in two product variants:

Table 1.1: Product model list

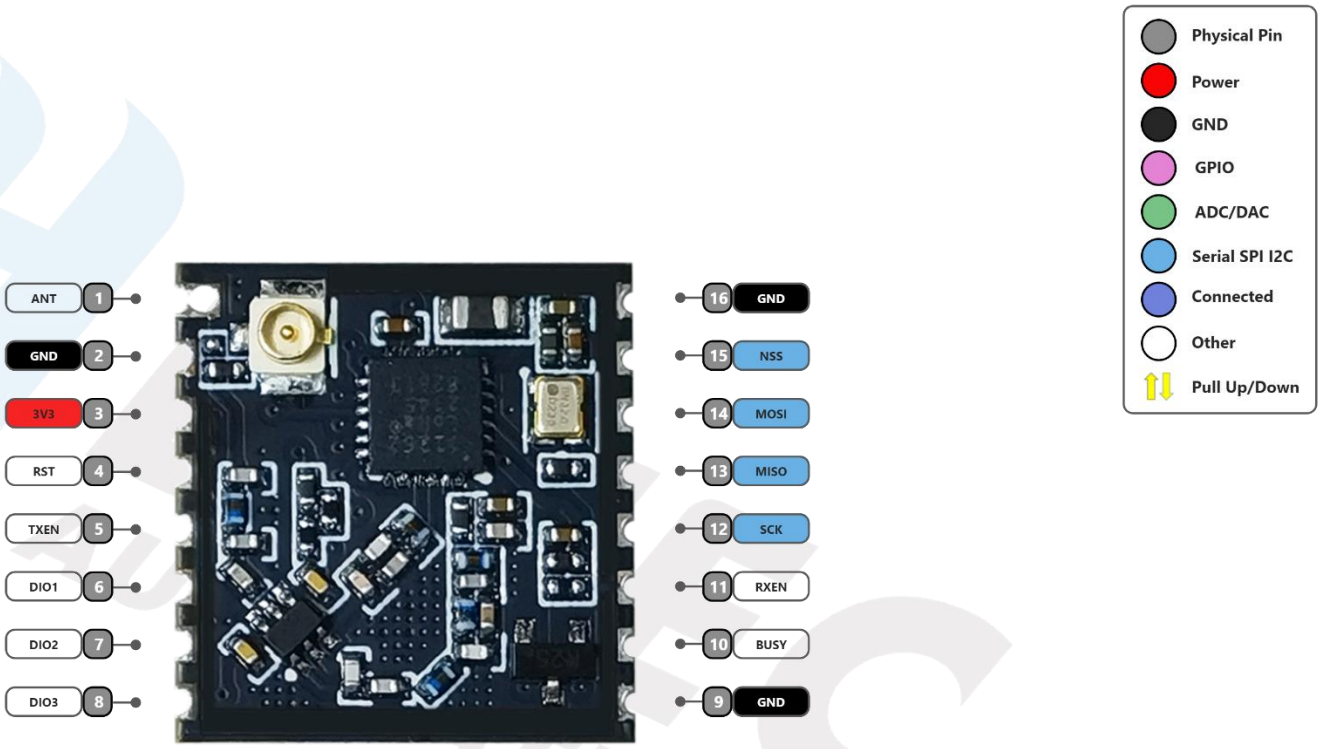
No.	Model	Description
1	HT-RA62-LF	470~510MHz working LoRa frequency, used for China mainland (CN470) LPW band.
2	HT-RA62-HF	For EU868, IN865, US915, AU915, AS923, KR920 and other LPW networks with operating frequencies between 863~928MHz.

1.2 Product features

- Support FSK, GFSK, MSK, GMSK and LoRa ™ and OOK modulation mode;
- Support frequency: 150 ~ 960 MHz;
- Maximum output power 22dBm;
- High sensitivity: as low as - 134dbm;
- Stamp hole package;
- SPI interface.

2. Pin Definition

2.1 Pin assignment



HT-RA62 Pin map

2.2 Pin description

Table 2.2: Pin description

No.	Name	Type	Function
1	ANT	O	LoRa ANT Output.
2	GND	P	Ground.
3	3V3	P	3.3V Power supply.
4	RST	I	LoRa RST.
5	TXEN	I	RF Control pin.
6	DIO1	I/O	DIO1 Configuration.
7	DIO2	I/O	DIO2 Configuration.

8	DIO3	I/O	DIO3 Configuration.
9	GND	P	Ground.
10	BUSY	I/O	LoRa BUSY.
11	RXEN	I	RF Control pin.
12	SCK	I/O	LoRa SCK.
13	MISO	I/O	LoRa MISO.
14	MOSI	I/O	LoRa MOSI.
15	NSS	I/O	LoRa NSS
16	GND	P	Ground.

3. Specifications

3.1 General specifications

Table 3.1: General specifications

Parameters	**Description**
LoRa Node Chip	SX1262
Frequency	470~510 MHz, 863~928 MHz
Max. TX Power	21 ± 1 dBm
Max. Receiving sensitivity	-134 dBm
Interface	LoRa ANT (IPEX 1.0); 1.27 spacing Stamp hole
Operating temperature	-40 ~ 85 ℃
Dimensions	16 * 17* 0.8 mm
Package	Tape & Reel Packaging

3.2 Electrical characteristics

3.2.1 Power supply

Table 3.2.1: Power supply

Power supply mode	Minimum	Typical	Maximum	Company
3V3 pin (≥150mA)	2.7	3.3	3.5	V

3.3 RF characteristics

3.3.1 Transmit power

Table3.3.1: Transmit power

Operating frequency band (MHz)	Maximum power value/[dBm]
470~510	21 ± 1
863~870	21 ± 1
902~928	21 ± 1

3.3.2 Receiving sensitivity

The following table gives typically sensitivity level of the HT-RA62.

Table3.3.2: Receiving sensitivity

Signal Bandwidth/[KHz]	Spreading Factor	Sensitivity/[dBm]
125	SF12	-139
125	SF10	-130
125	SF7	-124

3.4 Operation frequencies

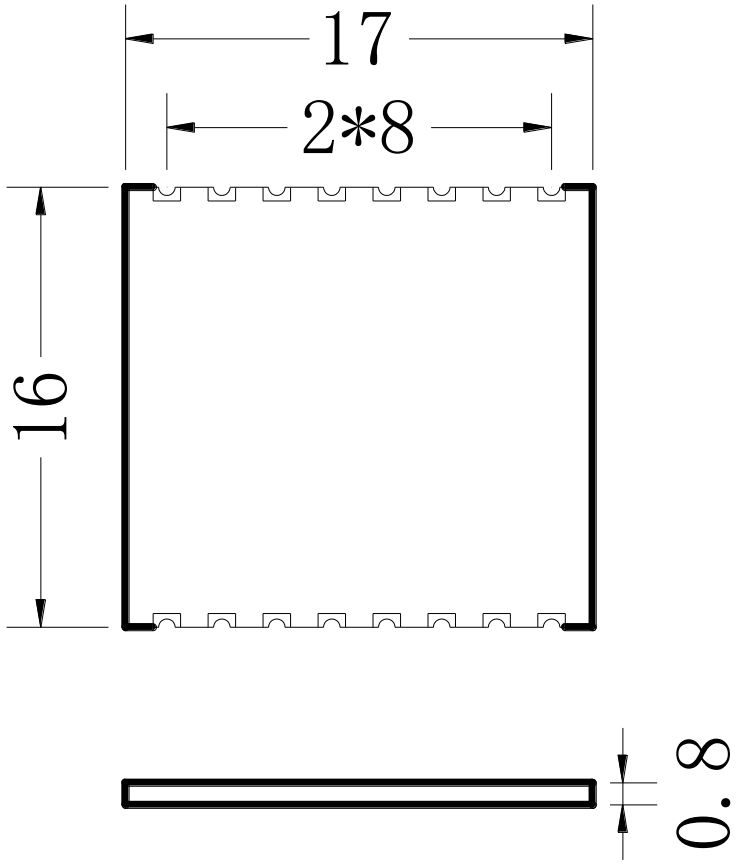
HT-RA62 supports LoRaWAN frequency channels and models corresponding table.

Table3.4: Operation frequencies

Region	Frequency (MHz)	Model
EU433	433.175~434.665	HT-RA62-LF
CN470	470~510	HT-RA62-LF
IN868	865~867	HT-RA62-HF
EU868	863~870	HT-RA62-HF
US915	902~928	HT-RA62-HF
AU915	915~928	HT-RA62-HF
KR920	920~923	HT-RA62-HF
AS923	920~925	HT-RA62-HF

4. Hardware resource

4.1 Physical dimensions



5. Resource

5.1 Relevant Resource

- Recommend hardware design
- Schematic diagram
- Pin map
- Downloadable resource
- Footprint

5.2 Contact Information

Heltec Automation Technology Co., Ltd

Chengdu, Sichuan, China

Email: support@heltec.cn

Phone: +86-028-62374838

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