

L301 LoRa Module

Product Specification

Version	Issue date	Changes	Remark
1.0	2022/09/20	Initial Version	

IMPORTANT

This document contains important information and
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L301 LoRa Module

1 Introduction

L301 LoRa Module is a 920~925MHz 22dBm highly stable LoRa converter module. The module comprises SX1262 and a MCU with a UART interface for receiving and sending data.

2 Features

- Communicate with host via UART interface.
- Baud rate: 9600~115200 bps
- Built-in RTC calendar and backup battery
- Receiver sensitivity: -140dBm
- Communication distance: 4000 meters typ.
- Maximum output power: 22dBm
- Frequency band: 920~925MHz

3 Specification

3.1 Host interface pin definition

There is a 12 pins header for connecting to the host controller:

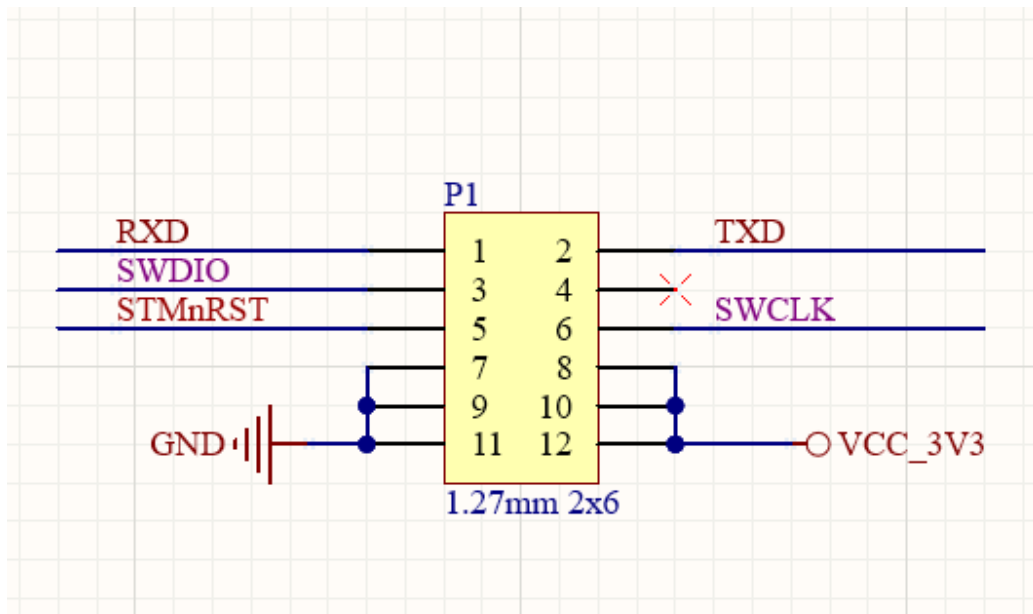


Figure 1 Header pin assignment

PIN Number	Comment
1/RXD	UART RXD
2/TXD	UART TXD
3/SWDIO	SWDIO for firmware update
4/NC	NC
5/RESET	RESET Module
6/SWCLK	SWCLK for firmware update
7/GND	GND
8/VCC	VCC, +3.3V
9/GND	GND
10/VCC	VCC, +3.3V
11/GND	GND
12/VCC	VCC, +3.3V

Table 1 Header pin definition

3.2 Host interface configuration

The following table defines the configuration parameters that could be set via UART host interface:

Para codes	Name	R/W	Description
0x0002	nwId	Y/Y	uint16, range=0001~fff0, ffff= broadcast for network setup, fff1=LoRa
0x0003	gwAddr16	Y/Y	uint16, range=0000~fff0, ffff= broadcast for network setup,
0x0005	edAddr16	Y/Y	uint16, range=0001~fff0, ffff= broadcast for network setup, fff1=LoRa
0x0006	RSSI	Y/N	int8, dBm
0x0007	Hardware version	Y/N	hex-string = 8 bytes
0x0008	Firmware version	Y/N	hex-string = 8 bytes
0x0012	System time	Y/Y	uint32, epoch timestamp, second, to 2106 maximum
0x0013	Operating mode	Y/Y	Mode = 0 for transparent communication, Mode = 1 for configuration
0x0034	UART baud rate	Y/Y	uint32, value=9600/19200/38400/57600/115200, default=9600 (must reboot)
0x0035	UART parity	Y/Y	uint8, 0=none, 1=odd, 2=even, default=0(must reboot)
0x0036	UART data bit	Y/Y	uint8, value=8/9, default=8(must reboot)

0x0037	UART stop bit	Y/Y	uint8, value=1/2, default=1(must reboot)
0x0050	LoRa freq.	Y/Y	uint32 920000000~925000000 Hz
0x0051	LoRa SF	Y/Y	uint8 6: 64, 7: 128, 8: 256, 9: 512, 10: 1024, 11: 2048, 12: 4096
0x0052	LoRa bandwidth	Y/Y	uint8 0: 125 kHz, 1: 250 kHz, 2: 500 kHz, 3: Reserved
0x0053	LoRa Tx power	Y/Y	int8 -3 ~ 22 dBm
0x0054	LoRa code rate	Y/Y	uint8 1: 4/5, 2: 4/6, 3: 4/7, 4: 4/8
0xf001	Reboot	Y/N	uint8, 0= no effect, 1= reboot

Table 2 Configuration Parameters

4 Product outlook



Figure 2 Product front view