L703 30dBm M.2 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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L703 30dBm M.2 LoRa Module

1 Introduction

L703 is a M.2 type 850~930MHz 30dBm LoRa Module. This module comprises an power amplifier, SX1262, TCXO and T/R switch. This module can also have an MCU(optional) that could convert data from UART interface.

2 Features

- M.2 type
- MCU(optional) for LoRa converter application
- TCXO
- Receiver sensitivity: -140dBm
- Communication distance: 8000 meters typ.
- Maximum output power: 30dBm
- Frequency band: 850~930MHz

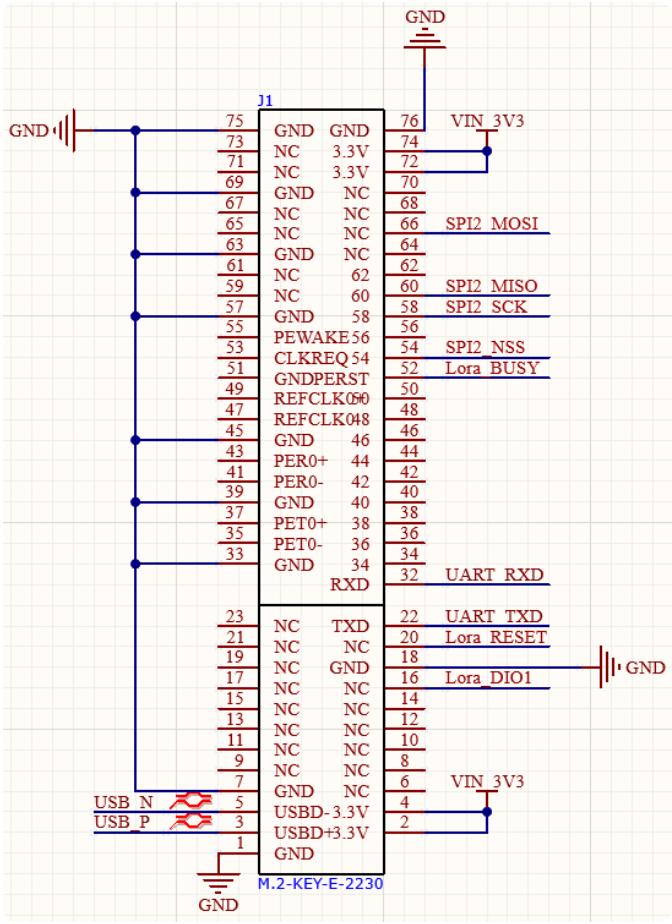
3 Product outlook

Figure 2 Product front view

4 Specification

4.1 Pin definition

There is a M.2-KEY-E-2230 header for connecting to the host controller:



Pin No.	Item	Direction	Comment
1	GND		Ground, connect to power reference ground
2	VCC		VCC, +3.3V. Supply power.
3	USBD+	Input	The M.2 USB+ control signal of MCU USB version.
4	VCC		VCC, +3.3V. Supply power.
5	USBD-	Input	The M.2 USB- control signal of MCU USB version.
6			
7	GND		Ground, connect to power reference ground
~			
16	DIO1	Output	General configure as INT output.(see sx1262 datasheet for details). Ignore this pin for MCU version.
17			
18	GND		Ground, connect to power reference ground
19			
20	RESET	Input	The module reset pin for w/o MCU version, low active.
21			

22	TXD	Input	The Uart TX signal of MCU Uart version.
~			
32	RXD	Output	The Uart RX signal of MCU Uart version.
33	GND		Ground, connect to power reference ground
~			
39	GND		Ground, connect to power reference ground
~			
45	GND		Ground, connect to power reference ground
~			
52	BUSY	Output	Busy indicator pin for w/o MCU version.
53			
54	NSS	Input	The module chip selection pin for w/o MCU version is used to start a SPI communication
~			
57	GND		Ground, connect to power reference ground
58	SCK	Input	SPI clock input pin for w/o MCU version.
59			
60	MISO	Output	SPI data output pin for w/o MCU version.
~			
63	GND		Ground, connect to power reference ground
~			
66	MOSI	Input	SPI data input pin for w/o MCU version.
~			
69	GND		Ground, connect to power reference ground
~			
72	VCC		VCC, +3.3V. Supply power.
73			
74	VCC		VCC, +3.3V. Supply power.
75	GND		Ground, connect to power reference ground
76	GND		Ground, connect to power reference ground

Table 1 Pin definition

4.2 Electric specification

Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Power supply	VCC	-0.5	3.9	V
SX1262 TX limit *1	-	0	+10 dBm	dBm

***1: **IMPORTANT** :IN w/o MCU version, Software limit SX1262 TX power below +10**

dBm. Exceed the power limit will burn out the amplifier.

Recommended Operating Conditions

Parameter	Symbol	Minimum	Typical	Maximum	Units
Power supply	VCC	3.0	3.3	3.7	V

Table 2 Configuration Parameters

Operating parameter

Main parameter		Performance			Remarks
		Min	Typical	Max	
Working temperature (℃)		-40		+85	Industrial Design
Operating frequency band (MHz)		850	868/915	930	Support ISM band
Power Consumption	TX current (mA)		700		Instantaneous power consumption
	RX current (mA)		14		
	Sleep current (μA)		0.7		Software shutdown
Max TX power（dBm）		27.5	29/30	30	
Crystal frequency		32MHz			TCXO
Packaging method		M.2-KEY-E-2230			
Dimension		22*30*2.3mm			Including shield
RF interface		IPEX			

4.3 Mechanical dimension