

1.0 Introduction

The LW1101M is a miniature transceiver module which uses high-performance TI-Chipcon's CC1101 radio chip for high sensitivity and reliable communication link. It has programmable output power of up to +8dBm for all the supported frequencies. With applicable antenna, transmission distance can reach 300M in open field. It is also suitable for frequency hopping systems with its fast settling frequency synthesizer.

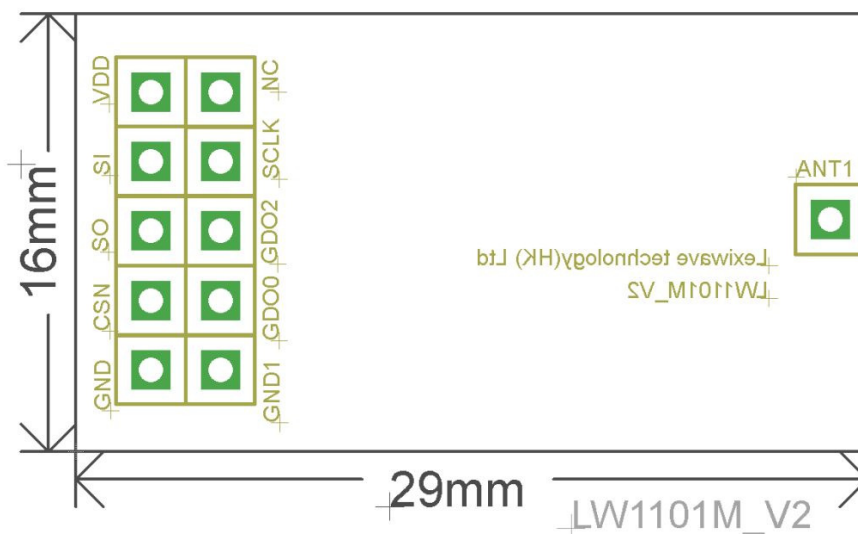
2.0 Features

- Ideal for 315/433.92/868/915MHz ISM bands
- Phase-locked loop feature
- Low operating voltage: 1.8 ~ 3.6V
- Excellent receiver selectivity and blocking performance
- 2-FSK, GFSK and MSK supported as well as OOK and flexible ASK shaping
- Flexible support for packet oriented systems: on-chip support for sync word detection, address check, flexible packet length and automatic CRC handling
- 400 nA sleep mode current consumption

3.0 Applications

- Remote controllers
- Security systems
- Remote monitoring systems
- Automatic meter reading
- Industrial monitoring and control systems
- RFID
- Wireless sensor networks

4.0 Pin Description



Pin Name	Description
VDD	Supply voltage
SI	SPI, data input
SO	SPI, data output
CSN	Chip select
GND	Ground
GND1	Ground
GDO0	Digital output for general use
GDO2	Digital output for general use
SCLK	SPI, clock input
NC	No connection
ANT1	Antenna port (matched to 50 ohm)

5.0 Electrical Characteristics

5.1 Maximum ratings

Rating	Value	Units
Power Supply	-0.3 to 3.9	V
Operating temperature	-40 to +85	°C

5.2 Operating Conditions

Parameter	Min	Max	Unit
Operating temperature	-40	85	°C
Operating supply voltage	1.8	3.6	V

5.3 General Characteristics

Parameter	Min	Typ	Max	Unit	Condition/Note
Frequency range	300	315	348	MHz	
	387	433.92	464	MHz	
	779		928	MHz	
Data rate	1.2		500	kBaud	2-FSK
	1.2		250		GFSK, OOK, and ASK
	26		500		Shaped-MSK

5.4 Receiving Characteristics

Parameter	Typ	Unit	Condition/Note
Receiver sensitivity	-109	dBm	315 MHz, 1.2 kBaud data rate, sensitivity optimized
	-86	dBm	315 MHz, 500 kBaud data rate, sensitivity optimized
	-110	dBm	433 MHz, 1.2 kBaud data rate, sensitivity optimized
	-102	dBm	433 MHz, 38.4 kBaud data rate, sensitivity optimized
	-93	dBm	433 MHz, 250 kBaud data rate, sensitivity optimized
	-109	dBm	868 MHz, 1.2 kBaud data rate, sensitivity optimized
	-101	dBm	868 MHz, 38.4 kBaud data rate, sensitivity optimized
	-91	dBm	868 MHz, 250 kBaud data rate, sensitivity optimized
	-109	dBm	915 MHz, 1.2 kBaud data rate, sensitivity optimized
	-101	dBm	915 MHz, 38.4 kBaud data rate, sensitivity optimized
	-91	dBm	915 MHz, 250 kBaud data rate, sensitivity optimized
	-85	dBm	915 MHz, 500 kBaud data rate, sensitivity optimized

5.5 Transmitting Characteristics

Parameter	Typ	Unit	Condition/Note
Output power, highest setting	+8	dBm	Output power is programmable, and full range is available in all frequency bands
Output power, lowest setting	-32	dBm	Output power is programmable, and full range is available in all frequency bands

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