

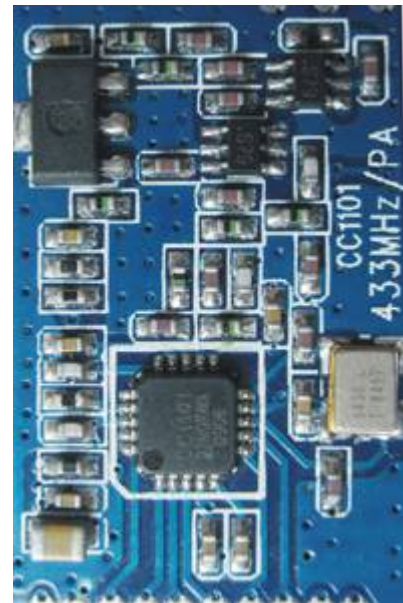


General description

The VT-CC1101PA-433M RF module is a low-cost, highly integrated UHF transceiver, designed for long-range wireless applications. 433MHz for the ISM (Industrial, Scientific and Medical) and SRD (short range device) frequency bands for you to shorten the product development cycle, saving costs for your input.

Key features

- Multi-channel transceiver @433MHz
- Output power greater than 20dBm, transmission distance can reach more than 800M
- Supports FSK, GFSK, ASK/OOK and MSK
- Configurable data rates 1.2k to 500 kbps
- Separate 64 byte RX and TX data FIFOs
- Wake-on-Radio functionality
- Digital RSSI output
- Programmable Carrier Sense indicator
- Optional Forward Error Correction function
- Support automatic Clear Channel Assessment
- SPI interface
- Low power 1.8~3.6V supply
- Small size only 23*15mm



Applications

- Ultra low power UHF wireless transceivers
- 315/433/868 and 915 MHz ISM/SRD band systems
- Home and building automation
- Wireless alarm and security systems
- AMR – Automatic Meter Reading
- Remote gate control
- Car alarm system
- Two-way RKE –Remote Keyless Entry
- Low power telemetry
- Industrial monitoring and control
- Wireless sensor networks



Electrical Characteristics

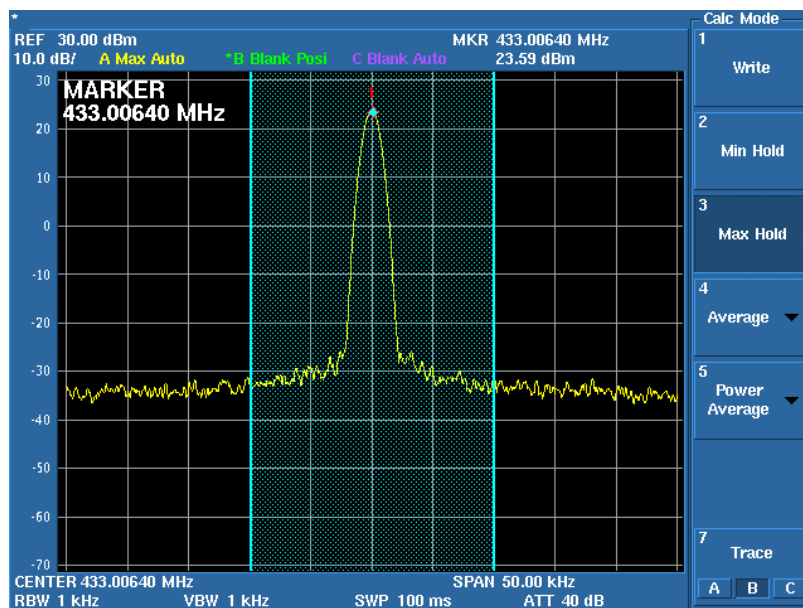
NO	TEST ITEM	TEST CRITERIA & REQUIREMENT	REMARKS
1	Modulation mode	ASK/ OOK /2-FSK/GFSK /MSK	
2	Center frequency	433MHz	Programmable
3	Frequency error	+/-10KHz	
4	Transmission power	-30~+24dBm(250mW)	Programmable
5	Receiving sensitivity	-110dBm	2.4Kdata rate.
6	Data rate	1.2~500Kbps	Programmable
7	Transmitting current	≥94mA at 20dBm	at 3V
8	Receiving current	≤22mA	
9	Sleeping current	≤2uA	
10	Bandwidth	58~650KHz	26M Crystal
11	Reliable transmit distance	800M	at open area
12	Power supply	2.8-3.6VDC	
13	operating temperature	-20°C~75°C	

Ta = 25°C unless otherwise specified

Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacture.

The VT-CC1101PA-433M RF module frequency spectrum

- The RF carrier test at 433MHz 10dBm, frequency error is +/-10KHz Limit.





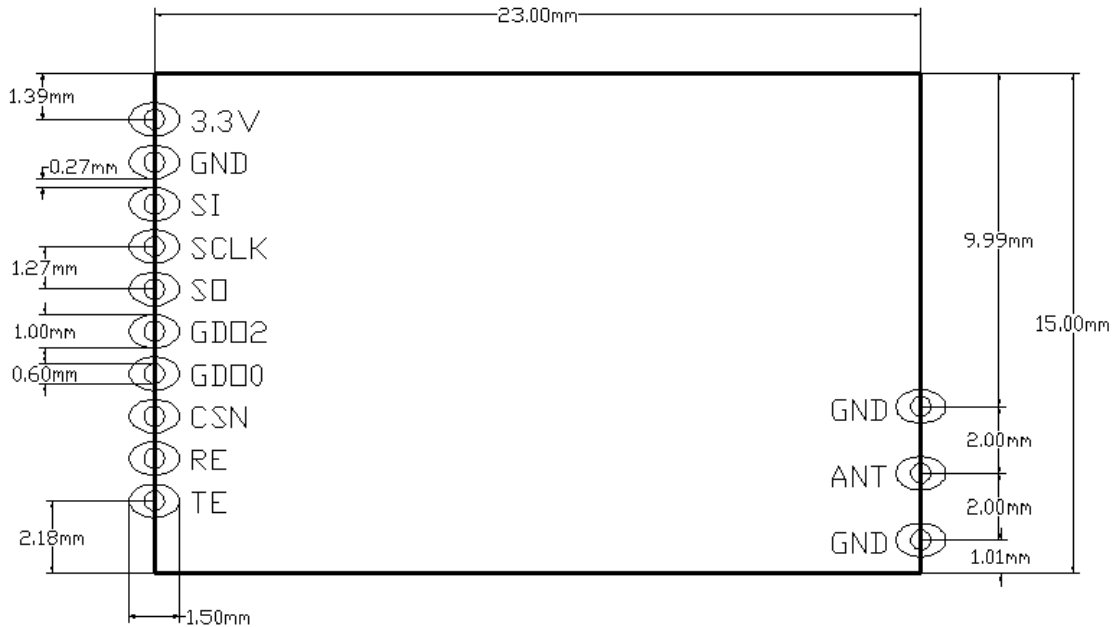
Pin Assignment



Pin name	Pin type	Description
VCC	Power	DC1.8-3.6V power supply
GND	Ground	
SI	Digital Input	Serial configuration interface, data input
SCLK	Digital Input	Serial configuration interface, data input
SO	Digital Output	Serial configuration interface, data output. Optional general output pin when CSn is high
GDO2	Digital Output	Digital output pin for general use: <ul style="list-style-type: none"> • Test signals • FIFO status signals • Clear Channel Indicator • Clock output, down-divided from XOSC • Serial output RX data
GDO0	Digital I/O	Digital output pin for general use: <ul style="list-style-type: none"> • Test signals • FIFO status signals • Clear Channel Indicator • Clock output, down-divided from XOSC • Serial output RX data • Serial input TX data Also used as analog test I/O for prototype/production testing
CSN	Digital Input	Serial configuration interface, chip select
RE	TxRx Control	RF in RX Model: RE=0(Low), TE=1(High)
TE	TxRx Control	RF in TX Model: RE=1(High), TE=0(Low)
ANT	Antenna	Spring Antenna / Glue-stick Antenna



Mechanical dimension and pad size (mm)



Typical application circuit

