

## 1.0 Introduction

LW433DTXM is a compact RF module for 433.93 MHz ISM band for US and European markets. It is ideal for remote control applications where low cost and longer range is required. Using a SAW stabilized resonator, the transmitter ensures accurate frequency control for best range performance without any tuning. The transmitter operates from a 1.5V ~ 12V supply, making it ideal for battery-powered applications. Output power and harmonic emissions are easy to control, making FCC and ETSI compliance easy. The low cost SIP package makes LW433DTXM suitable for high volume applications.

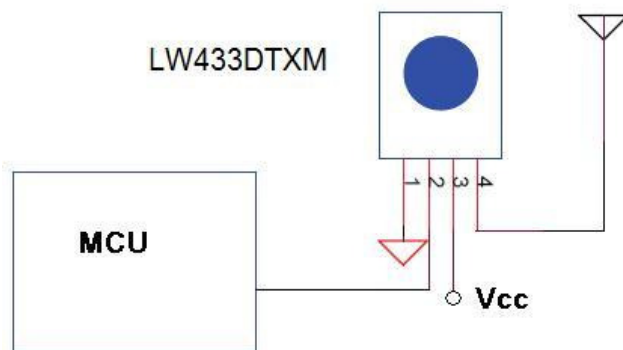
## 2.0 Features

- Frequency range 433.92 MHz
- Frequency Accuracy  $\pm 100$  KHz
- Modulation ASK / OOK
- RF output power 4 dBm @ 3V (2mW)  
12 dBm @ 5V (29mW)
- Power Supply 1.5 ~ 12V
- Power supply for RF transmit 4.9 mA @ 3V, Data = 1  
100  $\mu$ A @ 3V, Data = 0
- Data Rate 8Kbps
- Low wakeup time 1  $\mu$ s
- Input pads -0.3 ~ 12V tolerant
- Operating temperature -10°C ~ +70°C

### 3.0 Applications

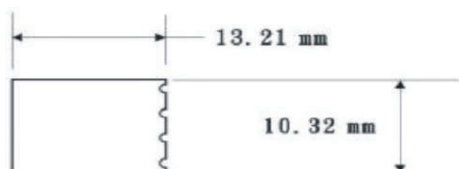
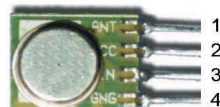
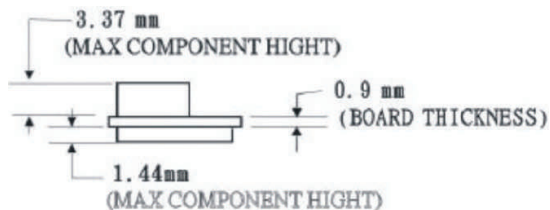
- 315/433MHz or 886/915MHz Band Systems
- Remote controllers
- Telemetry
- Wireless mouse, keyboard, joystick
- Security systems such as car alarm
- Wireless door bell
- Garage opener
- radio controlled toys
- Monitoring systems
- Local Oscillator Source
- Remote Fan/Light Control
- Toys

### 4.0 Application Circuit & Module Size



- 13.21 x 10.32 X 5.71 mm

## 5.0 Mechanical Drawing



Pin Number	Pin Name	Description
1	VSS	Ground (0V)
2	Data	Data in
3	VCC	Power Supply in
4	ANT	Antenna Out

## 6.0 Antenna Guide

The antenna port is recommended to connect to a 50 ohm antenna. The antenna port impedance affects output power and harmonic emissions. An additional L-C low-pass filter can be added to further suppress harmonic emissions. Antenna can be made of a monopole wire of approximately 17cm length or a long PCB trace.

## 7.0 Absolute Maximum Ratings

Characteristic	Symbol	Min	Max	Unit
Power Supply Voltage	VDD	-0.3	12	V
Ground	VSS	0	0	V
Output Voltage	VO	VSS	VDD	V
Input Voltage	VI	-0.3	12	V
Storage Temperature Range	TSTG	-40	125	°C
Operating Junction Temperature Range	TOPR	-20	85	°C

## 8.0 Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	VDD	1.5		12	V
Supply Current in Transmitting Data = 1	ICC		11 @ VDD = 3V		mA
Supply Current in Transmitting Data = 0	ICC		100 @ VDD = 3V		μA
Center Frequency	FC		433.92		MHz
Input Current @ Data = 1			100		μA
Input Current @ Data = 0			0		μA
Frequency Accuracy	TOL FC	-100		100	KHz
RF Output Power	Po		4dBm @ VDD =3V 12dBm @ VDD= 5V		dBm
Antenna Pin output			0.4 @ VDD = 3V		mA
Data Rate				8	Kbps
Turn On/OFF time			1	100	μs
Second Harmonic (Po=4dBm)			-25		dBc
Temperature		-10		-70	°C

### IMPORTANT NOTICE

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