Lexiwave Technology (Hong Kong) Ltd.
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LW116M 433.92MHz FSK RF Transmitter Module
Preliminary DataSheet
Subject to change without prior notice

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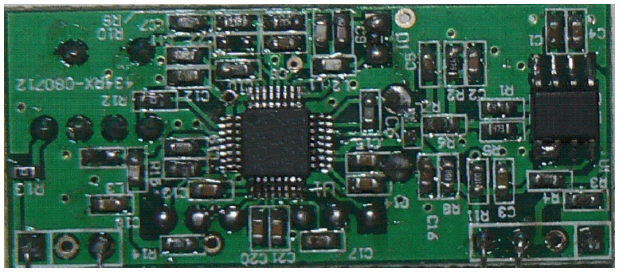


1.0 Introduction

LW116M is a compact FSK RF receiver module for the 433MHz ISM band. Consisting of a complete, LNA, local oscillator made of phase locked loop, signal detector and mixer, LW116M simplifies the OEM's design effort and assures successful field operation. The module works with LW216M FSK RF transmit module and also works well with standard data encoding/decoding chip to provide seamless and transparent RF communication. LW116M is made to be a drop-in module for seamless integration, easy operation and fast time-to-market.
The module is ideal for short-range remote control applications where cost is a primary concern. The receiver module requires no external RF components except for the antenna. The super-heterodyne design exhibits exceptional sensitivity at a reasonable price. The receiver module has SAW filter at the antenna input for improved selectivity. When pairing with LW216M FSK transmitter module, it is suitable to applications in which robust performance is required.

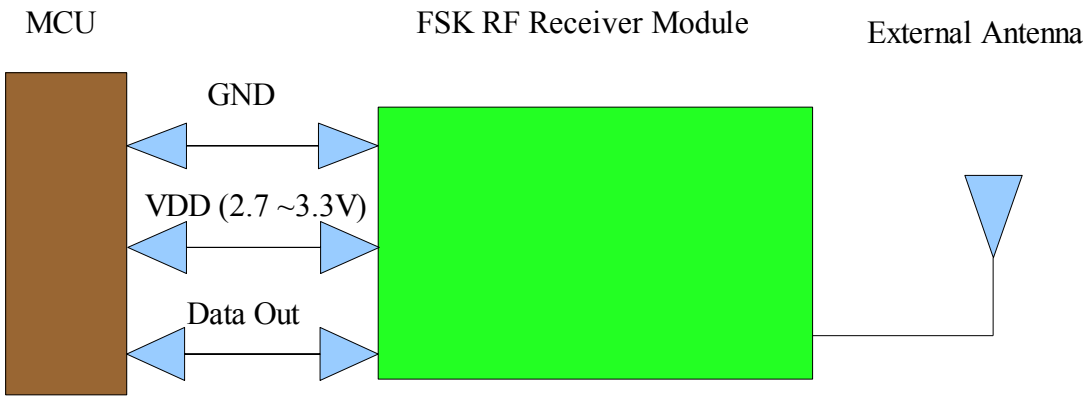
2.0 Features

RF Frequency	433.92MHz Phase Locked Loop
Modulation	FSK / OOK
RF sensitivity	-100 dBm (3V@2kbps)
Data Rate	300 ~ 4kbps
Maximum operating current	9 mA
Power Supply	2.7 ~ 3.3V
Operating temperature	-40°C ~ +80°C

3.0 Applications

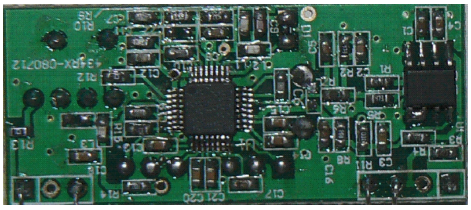
- Toys
- Remote Lighting control
- Car alarms
- Wireless data modem
- Wireless alarm and security systems
- Wireless mouse, keyboard, joystick
- Remote keyless entry (RKE)
- Telemetry

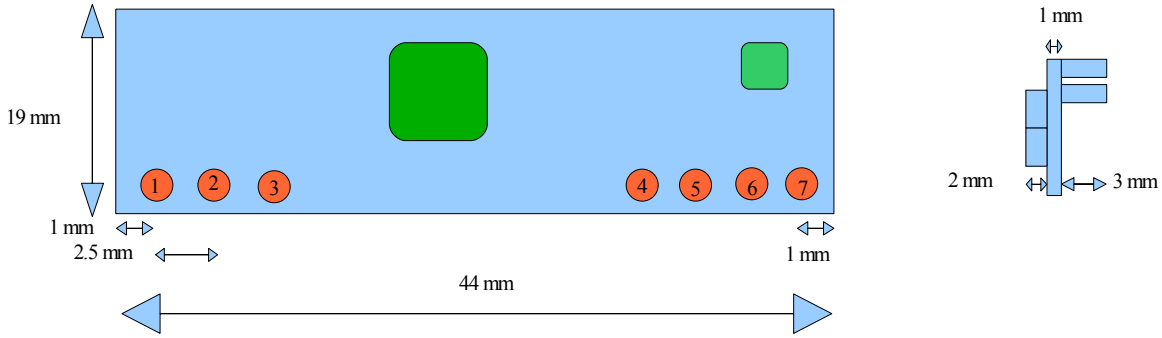
4.0 Application Circuit



- 40 x 19 x 10 mm
- RoHS compliance
- Electrical sensitive device
- Avoid ultrasonic exposure

5.0 Mechanical Drawing





6.0 Pin Descriptions

Pin Number	*Pin Name*	*Description*
1	ANT	50Ω antenna input
2	GND	Ground
3	GND	Ground
4	VDD	Provide operating voltage for the receiver. VDD should be bypassed with a 0.1μF ceramic capacitor and filtered with a 4.7μF tantalum capacitor. Noise on the power supply will degrade receiver sensitivity.
5 & 6	DATA	Data output. This output is capable of driving one TTL or CMOS load. It is a CMOS compatible output. Pin 5 and 6 are internally connected.
7	GND	Ground

7.0 Absolute Maximum Ratings

Characteristic	*Symbol*	*Min*	*Max*	*Unit*
Power Supply Voltage	VDD	-0.3	3.3	V
Ground	Vss	0	0	V
Operating Junction Temperature Range	TOPR	-40	80	°C
Storage Temperature Range	TSTG	-40	125	°C
Output Voltage	Vo	Vss	VDD	V

NOTE 1 : Maximum ratings are for design aid only, not subject to production testing. Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

8.0 Electrical Characteristics

Parameter	*Symbol*	*Min*	*Typ*	*Max*	*Unit*
Supply Voltage	VDD	2.7	3.0	3.3	V
Supply Current	ICC		9		mA
Sensitivity (VDDBWIF=230kHz)	Psens		-100		dBm
Low level output voltage	VOL	Vss	0	0.3	V
High level output voltage	VOH	VDD-0.3	VDD	VDD	V
Data rate		300	1000	4000	bps

9.0 Power Supply

LW116M is designed to operate with a 3V power supply. The power supply should be bypassed using a 0.01μF low-ESR ceramic capacitor and a 4.7μF tantalum capacitor for higher sensitivity. Those capacitors should be placed as close to the power pins as possible.

10 Antenna Guide

The antenna port is matched to 50Ω impedance. It will support most antenna types with different performances. The antenna can be a single-core wire of approximately 17cm length or a PCB trace with a 50Ω microstrip trace of length longer than 1/8th wavelength.

11 IMPORTANT NOTICE

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