

Lexiwave Technology (Hong Kong) Ltd.

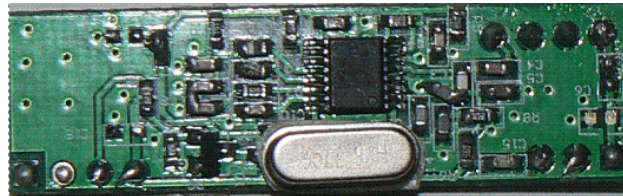
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LW216M 433.92MHz FSK RF Transmitter Module Preliminary DataSheet

Subject to change without prior notice



Rev 0.1, November, 2008



1.0 Introduction

LW216M is a compact FSK RF transmit module for the 433MHz ISM band. Consisting of a complete local oscillator made of phase locked loop, mixer and power amplifier, it simplifies the OEM's design and assures successful field operation. The module works with LW116M FSK RF receiver module and also with other standard data decoding/encoding chips to provide seamless and transparent RF communications. LW216M 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 in which cost is a primary concern. The transmitter module requires no external RF components except for the antenna. It has installed SAW filter at the antenna output to minimized LO emissions. When pairing with LW116M FSK transmitter module, it is suitable for applications in which robust performance is required.

2.0 Features

RF Frequency	433.92 MHz Phase Locked Loop
Modulation	FSK / OOK
Power Supply	2.2 ~ 3.6V
RF Output Power	6 dBm (3V@50Ω)
Data Rate	300 ~ 10kbps
Low wakeup time	less than 2ms
Maximum operating current	12.5mA
Power supply at standby mode	3 mA (Typ.)
Operating temperature	-40°C ~ +80°C

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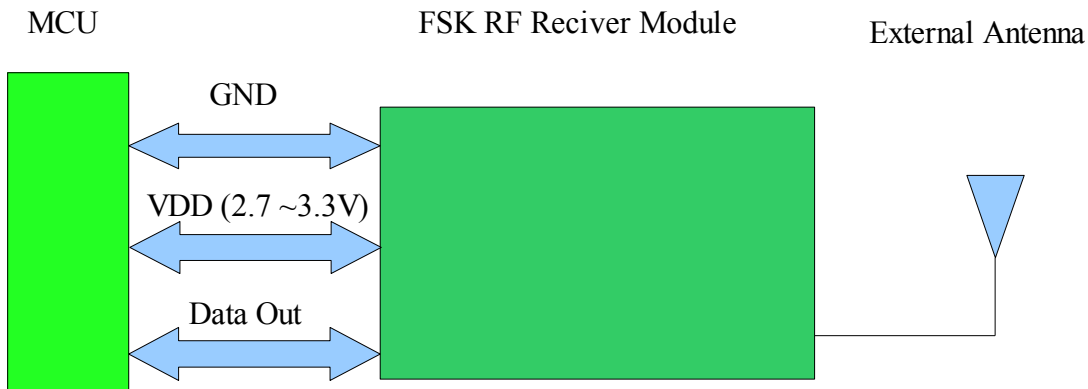


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3.0 Applications

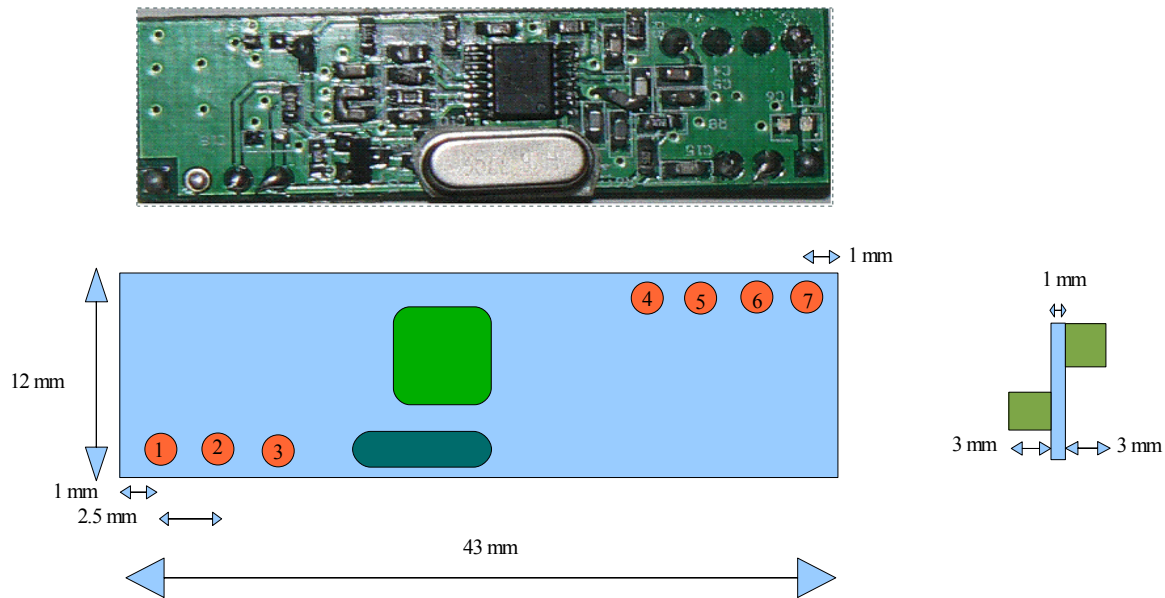
- Car alarms
- Remote Lighting control
- Wireless mouse, keyboard, joystick
- Toys
- Wireless alarm and security systems
- Telemetry
- Remote keyless entry (RKE)
- Wireless data modem

4.0 Application Circuit



- 43 x 12 x 17 mm
- RoHS compliance
- Electrical sensitive device
- Avoid ultrasonic exposure

5.0 Mechanical Drawing



6.0 Pin Descriptions

<i>Pin Number</i>	<i>Pin Name</i>	<i>Description</i>
1	GND	Ground
2	NC	No Connection
3	DATA	Data Input. This input port is capable of TTL or CMOS drive. Please refer to the electrical characteristics for the driving range
4	VDD	Provide operating voltage for the receiver. VDD should be bypassed with a 0.1 μ F ceramic capacitor and filtered with a 4.7 μ F tantalum capacitor. Noise on the power supply will degrade receiver sensitivity.
5 & 6	GND	Ground
7	ANT	50 Ω antenna input

7.0 Absolute Maximum Ratings

<i>Characteristic</i>	<i>Symbol</i>	<i>Min</i>	<i>Max</i>	<i>Unit</i>
Output Voltage	V _O	V _{SS}	V _{DD}	V
Ground	V _{SS}	0	0	V
Power Supply Voltage	V _{DD}	-0.3	3.3	V
Storage Temperature Range	T _{STG}	-40	125	°C
Operating Junction Temperature Range	T _{OPR}	-40	80	°C

NOTE 1 : Maximum ratings are for design aid only, not subject to production testing. Those values beyond which device damage can occur and 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

<i>Parameter</i>	<i>Symbol</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Unit</i>
Supply Voltage	V _{DD}	2.7	3.0	3.5	V
High level Input voltage	V _{OH}	V _{DD} -0.3	V _{DD}	V _{DD}	V
Low level Input voltage	V _{OL}	V _{SS}	0	0.3	V
Supply Current	I _{CC}		9		mA
Output Power (V _{DD} =3.0V, T _a =27°C, load=50Ω)	P _O		6		dBm
Data rate		300	1000	10000	bps

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9.0 Power Supply

LW216M is designed to operate with a 3V power supply. It is crucial that the power supply be very quiet and bypassed by a 0.01 μ F low-ESR ceramic capacitor and a 4.7 μ F tantalum capacitor. Those capacitors should be placed as close to the power pins as possible.

10.0 Antenna Guide

The antenna port is matched to 50 Ω 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 50 Ω microstrip trace of length longer than 1/8th wavelength.

11.0 IMPORTANT NOTICE

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