

Embedded low power radio modem

MU-2-R 434MHz

The MU-2-R is an embedded radio modem operated in the 434 MHz ISM band. Dedicated commands, specially designed for wireless application, are provided for building a range of wireless systems, from simple control systems to wide network systems. Using the commands, the user can concentrate on designing the application without needing to be aware of the radio protocol and control aspects. Reed-Solomon code is used for forward error correction (FEC) to maintain data integrity and provide highly reliable wireless communication.

Features

- UART interface with simple command control
- Narrow band FM for reliable long range communication
- 434 MHz ISM band Pre-programmed 127 channels
- 1 mW / 10 mW power selectable
- Error correction with Reed-Solomon code
- Repeater and auto answer back function
- Low power operation 42 mA at 3 V
- Robust metal housing for industrial use
- R&TTE (EN 300 220) / RoHS compliance

Applications

- Telemetry - Environment monitoring, Meter reading, Various measuring applications
- Telecontrol - Remote control for industrial equipment
- Security - Various alarm and monitoring systems



General spec.

Item	Specification	Remark
Standard	R&TTE Directive EN1999/5/EC	
RF output power	10 mW / 1 mW selectable	Contact (50 ohm)
Oscillation system	PLL synthesizer system	
Radio communication speed	4800 bps	
Frequency range	433.2000 to 434.7750 MHz	
Channel spacing	25 kHz	
Number of channels	127	Channel step 12.5 kHz
Receiver sensitivity	-110 dBm	Packet error rate 0.1%*1
	-113 dBm with error correction	Packet error rate 0.1%*1
Operating temperature	-20 to + 65 °C	
Operating voltage	3.0 to 5.0 V	Absolute max. rate 5.5 V
Consumption current	TX: 42 mA RX: 22 mA	10 mW at 3 V
	TX: 26 mA RX: 22 mA	1 mW at 3 V
External dimensions	36 x 26 x 8 mm	Not including antenna
Weight	14.5 g	

*1 (255 byte / 1 packet)

Reference data * Effective radio communication speed: About 3,400 bps (Conditions: One-way communication, no error correction, 25 °C)

* Range: About 600 m (Conditions: One-way, no error correction, 25 °C, line of sight distance, antenna height of 1.5 m, vertical antenna)

Serial interface

Item	Specification
Communication method	Serial communication (RS232C format)
Synchronization	Asynchronous / UART
Data speed	1200 / 2400 / 4800 / 9600 / 38400 / 57600 bps
Flow control	RTS / CTS hardware flow control
Parameter	Data length: 8 bit / Parity: (No, Odd, Even) / Stop bit: 1 or 2

Specifications are subject to change without prior notice

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