

DSSS low power radio transceiver STD-502-R 2.4GHz

The STD-502-R 2.4 GHz transceiver uses direct sequence spread spectrum (DSSS) modulation and a true diversity circuit, enabling reliable communications even in the congested 2.4 GHz band.

The STD-502-R complies with the European ETSI EN300440, U.S. FCC Part 15.247, Canada IC RSSS-210 standards and Japanese ARIB STD-T66 standard, making it ready for the global market.

Low power consumption and battery operation give the STD-502-R the performance demanded for applications where long range and reliability are required.

The transceiver uses a transparent data interface to enable users to communicate using their own protocols. The modules can be set easily via the UART interface using dedicated commands.

*Circuit Design developed an onboard ASIC containing SS correlator (a key part of spread spectrum communication). This ensures long term supply for industrial applications.

Features

- CE, FCC and IC conformity certification
- ARIB STD-T66 compliant
- Uses direct sequence spread spectrum (DSSS) modulation
- A true diversity receiver with two built-in receiver circuits
- Module settings using dedicated commands
- Data communication uses a transparent interface
- Low power operation
- 77 channels
- Range 300m LOS

Applications

- Industrial telecontrol
- Telemetry systems



General

Parameter	Specification	Remark
Frequency range	2402.5 ~ 2478.5 MHz	
Number of RF channels	77	
Channel spacing	1 MHz	
RF chip rate	144 k , 288 kcps	
Modulation system	FSK	
Supply voltage	3.3 ~ 5.5 V	
Supply current	TX: 55 mA RX: 65 mA Typ.	
RF output power	Max. 10 mW (contact)	EIRP
Receiver sensitivity	-93 dBm	
Operating temp. range	-20 ~ + 65 °C (storage -30 ~ +80 °C)	No dew condensation
Dimension	50 x 30 x 9 mm	Not including connectors
Weight	24 g	
RF connectors	RP-SMA x 2	

Interface

Parameter	Specification	Remark
Data interface (DI / DO)	9.6 k / 19.2 kbps	Sync: CLK terminal
Command interface (TXD / RXD)	UART communication (RS232C format)	
- Communication method	Asynchronous	
- UART bit rate	19200, 38400, 57600 bps	
- Flow control	None	
- Other parameters	Data length: 8 bits, Parity (None), Stop bits 2	

Specifications are subject to change without prior notice