

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 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 communications). This ensures long term supply for industrial applications.

Features

- CE and FCC 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



Radio Part

Parameter	Specification	Remark
Frequency range	2402.5 ~ 2478.5 MHz	
Number of RF channels	77	
Channel spacing	1 MHz	
Data rate	9.6 k / 19.2 kbps	
Spreading code	15 Chip	M-sequence (111101010001100)
Modulation system	FSK	
Supply voltage	3.3 ~ 5.5 V	
Supply current	TX: 65 mA RX: 65 mA	
RF output power	Max. 10 mW	
Receiver sensitivity	-93 dBm	No dew condensation
Operating temp. range	-20 ~ +65 °C (storage -30 ~ +80 °C)	Not including connectors
Dimension	50 x 30 x 9 mm	
Weight	24 g	
RF connectors	RP-SMA x 2	

Interface

Parameter	Specification	Remark
Data communication (Synchronous)	DI / DO 9.6 k / 19.2 kbps	Sync: CLK terminal
Configuration setting (UART)	Serial communication (RS232C format)	
Communication method	Asynchronous	
Synchronization	TXD / RXD 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