

DSSS low power radio transceiver

STD-502-R 2.4 GHz

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.

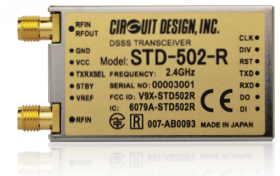
The STD-502-R complies with the European EN 300 440, U.S. FCC Part 15.247, Canadian ISED RSS-210 and Japanese ARIB STD-T66 standard, making it ready for the global market.

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, ISED and ARIB conformity
- Uses direct sequence spread spectrum (DSSS) modulation
- A true diversity receiver with two built-in receiver circuits
- Module settings using dedicated commands
- Data communication using a transparent interface
- Low power operation
- 77 RF channels
- Communication range 300 m LOS



Applications

- Industrial telecontrol
- Telemetry systems



General

Parameter	Specification
Applicable standard	EN 300 440 / FCC Part 15.247 / ISED RSS-210 / ARIB STD-T66
Communication method	Simplex, Half duplex
Emission type	F1D (FSK)
Frequency	2402.5 to 2478.5 MHz
Number of RF channels	77 ch
Channel spacing	1 MHz
RF chip rate	144 k, 288 kcps
Supply voltage	3.3 to 5.5 V
Supply current	55 mA typ. (TX), 65 mA typ. (RX)
RF output power	10 mW max. (EIRP)
Receiver sensitivity	-93 dBm (19,200 bps BER 0.1%)
Operating temperature	-20 to +65 C (No dew condensation)
Dimensions	50 x 30 x 9 mm (Not including connectors)
Weight	24 g
RF connectors	RP-SMA x 2

Interface

Parameter	Specification
Data interface (DI / DO / CLK)	9,600 / 19,200 bps (Synchronous)
Command interface (TXD / RXD)	UART 19,200 / 38,400 / 57,600 bps
	Data length: 8 bit, Parity: None, Stop bit: 1, Flow control: None

Specifications are subject to change without prior notice