

DSSS low power radio transceiver STD-503 2.4 GHz

The STD-503 is a 2.4 GHz transceiver enclosed in a small compact shield casing designed for industrial applications. The transceiver uses Direct Sequence Spread Spectrum (DSSS) modulation and true diversity circuit, enabling reliable communications even in the congested 2.4 GHz band.

The STD-503 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.

Low power consumption and battery operation give the STD-503 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 module's configuration 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 certification
- Uses direct sequence spread spectrum (DSSS) modulation
- Channel stepping option controlled via CHC pin
- A true diversity receiver (two built-in receiver circuits)
- Module settings using dedicated commands
- Data communication uses a transparent interface
- Low power operation
- 77 channels
- Range 300 m LOS
- Onboard temperature sensor
- FCC Part 15.247 / ISED RSS-210 / ARIB-STD-T66 / RED EN 300 440

Applications

- Industrial telecontrol
- Telemetry Systems



General

Parameter	Specification	Remarks
Applicable standard	EN 300 440 / FCC Part 15.247 ISED RSS-210 / ARIB STD-T66	
Communication method	Simplex	
Emission type	F1D (FSK)	
Frequency range	2402.5 to 2478.5 MHz	
Number of RF channels	77	
Channel spacing	1 MHz	
RF chip rate	288 kcps	
Supply voltage	3.3 to 5.5 V	
Supply current	TX:48 mA RX:55 mA Typ.	
RF output power	Max. 10 mW	EIRP
Receiver sensitivity	-93 dBm	19.2 kbps BER 0.1%
Operating temperature	-20 to +65 C (storage -30 to +80 C)	No dew condensation
Dimensions	40 x 29 x 5.5 mm	Not including connectors
Weight	10 g	
RF connectors	MHF x 2	

Interface

Parameter	Specification	Remarks
Data Interface (DI / DO)	19,200 bps	Sync: CLK terminal
Command Interface (TXD / RXD)	UART communication (RS-232C)	
- Communication method	Asynchronous	
- UART bit rate	19,200 / 38,400 / 57,600 bps	
- Flow Control	None	
- Other parameters	Data Length: 8 bit, Parity:None, Stop Bits:2	

Specifications are subject to change without prior notice