

# 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.

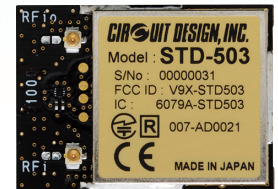
The transceiver uses a transparent data interface to enable users to communicate using their own protocols.

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
- 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 using a transparent interface
- Low power operation
- 77 RF channels
- Communication range 300 m LOS
- Onboard temperature sensor



### 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	288 kcps
Supply voltage	3.3 to 5.5 V
Supply current	48 mA typ. (TX), 55 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	40 x 29 x 5.5 mm (Not including connectors)
Weight	10 g
RF connectors	MHF x 2

### Interface

Parameter	Specification
Data interface (DI / DO / CLK)	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