

# UHF Narrow Band Multi Channel Transceiver STD-302Z 447MHz

The UHF FM narrow band semi-duplex radio module STD-302Z 447MHz is suitable for industrial remote control application and telemetry application operated in 447MHz ISM band. SAW filter and narrow band technique provides reliable data communication in industrial applications where interference rejection and practical distance range is required. Suitable for feedback systems.

## Features

- 10mW RF power, 3.0V
- Programmable RF channel
- Receiver sensitivity -120dBm
- Excellent vibration and shock resistance / Mechanical durability
- FM narrow band
- 419, 429, 434, 458, 869 MHz available

## Applications

- Industrial remote control system
- Telemetry system
- Data transmission



## General

Parameter	Specification
Communication form	Half duplex
Frequency	447.275 to 447.9875 MHz
Channel step	12.5 kHz Channel programmable (PLL IC:Fujitsu MB15E03)
Frequency stability	+/- 4 ppm (-20 to +60 degree C)
Data rate	4800 bps max (Pulse width min. 200 us, max 20ms)
PLL reference frequency	21.25 MHz (TCXO)
PLL response	30ms typ. (from PLL setting to LD out)
Supply voltage	3.0 to 5.5 V
Supply current	44mA typ (TX) 28mA typ (RX)
Operating temp. range	- 20 to + 60 degree C (Storage : - 30 to + 75 degree C)
TX/RX switching time	15 ms typ. (DI vs valid DO at the same frequency)
Dimension	30 X 50 X 9 mm
Weight	25g

## Transmitter part

Parameter	Specification
Transmitter type	PLL synthesizer
RF output power	10 mW at 50 ohm
Deviation	+/- 2.2 kHz (PN9, 4800bps)
DI input level	L = GND, H = 3 V to Vcc
Residual FM noise	0.17 kHz
Spurious emission	- 37 dBm typ.
Adjacent CH leakage power	40 dBc (PN9 4800 bps)
Occupied freq. bandwidth	8.5 kHz max. (PN9 4800 bps)

## Receiver part

Parameter	Specification
Receiver type	Double superheterodyne
IF	21.7 MHz (1st), 450 kHz (2nd)
Maximum input level	10 dBm
Receiver sensitivity	- 120 dBm typ. (12 dB SINAD)
	- 120 dBm typ. (BER 1%)
	- 115 dBm typ. (0 error / 2556 bits)
Spurious response rejection	55 dB (1st Mix), 50 dB (2nd Mix)
Adjacent channel selectivity	45 dB ( +/- 12.5 kHz)
Blocking	75 dB
Intermodulation	50 dB (f - 200 kHz + f - 100 kHz)
Spurious radiation	- 54 dBm max.
DO output level	L = GND, H = 2.8 V

Specifications are subject to change without prior notice

Interface voltage H = +2.8V, L=0V  
Vcc and GND omitted for simplification

## Interface

