

UHF Narrowband Multi Channel Transceiver STD-302Z 447 MHz

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

Features

- 10 mW RF power
- Programmable RF channel
- Receiver sensitivity -120 dBm
- Excellent vibration and shock resistance / Mechanical durability
- FSK narrowband
- 419 MHz (China) / 429 MHz (Japan) / 434 MHz (EU) / 458 MHz (UK) / 869 MHz (EU) available

Applications

- Industrial remote control system
- Telemetry system
- Data transmission



General

Parameter	Specification
Communication method	Simplex, Half duplex
Emission type	F1D (FSK narrow)
Frequency	447.275 to 447.9875 MHz
Channel step	12.5 kHz (Programmable)
Frequency stability	+/-4 ppm or less (-20 to +60 C)
RF bit rate	4,800 bps max. (pulse width min. 200 us, max. 20 ms)
PLL reference frequency	21.25 MHz
PLL response	30 ms typ. (from PLL setting to LD out)
Supply voltage	3.0 to 5.5 V
Supply current	44 mA (TX), 28 mA (RX)
Operating temperature	-20 to +60 C
TX / RX switching time	15 ms typ. (DI vs valid DO at the same frequency)
Dimensions	30 x 50 x 9 mm
Weight	25 g

Transmitter part

Parameter	Specification
Oscillation system	PLL controlled VCO
RF output power	10 mW at 50 ohm
Deviation	+/-2.2 kHz (PN9 4,800 bps)
Data input	Digital L = GND, H = 3 V to Vcc
Spurious emission	-37 dBm
Adjacent channel leakage power	> 40 dBc (PN9 4,800 bps)
Occupied frequency bandwidth	< 8.5 kHz (PN9 4,800 bps)

Receiver part

Parameter	Specification
Receiver type	Double superheterodyne
IF frequency	21.7 MHz (1st), 450 kHz (2nd)
Maximum input level	+10 dBm
Sensitivity (12 dB SINAD)	-120 dBm
Sensitivity (BER 1%)	-120 dBm (PN9 4,800 bps)
Spurious response rejection	55 dB (1st mix), 50 dB (2nd mix)
Blocking	75 dB
Spurious radiation	< -54 dBm
Data output	Digital L = GND, H = 2.8 V
Adjacent channel selectivity	45 dB (+/-12.5 kHz)

Specifications are subject to change without prior notice