

UHF Narrow Band Multi Channel Transceiver STD-302Z 429MHz

The UHF FM narrow band semi-duplex radio module STD-302Z 429MHz is suitable for industrial remote control application and telemetry application operated in 429MHz 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

- 10 mW RF power, 3.0 V
- Programmable RF channel
- Receiver sensitivity -120 dBm
- Excellent vibration and shock resistance / Mechanical durability
- FM narrow band
- 419, 434, 447, 458, 869 MHz available

Applications

- Industrial remote control system
- Telemetry system
- Data transmission



General

Parameter	Specification
Communication form	Half duplex
Frequency	429.25 to 429.7375 MHz
Channel step	12.5 kHz Channel programmable (PLL IC:Fujitsu MB15E03)
Frequency stability	+/- 3.5 ppm (-20 to + 60 degree C)
Data rate	4,800 bps max (Pulse width min. 200 us, max 20ms)
PLL reference frequency	21.25 MHz (TCXO)
PLL response	30 ms typ. (from PLL setting to LD out)
Modulation	FSK
Supply voltage	3.0 to 5.5 V
Supply current	44 mA typ (TX) 28 mA 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

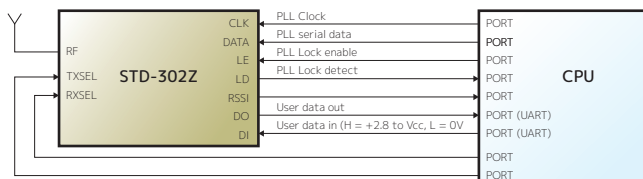
Parameter	Specification
Transmitter type	PLL synthesizer
RF output power	9 mW at 50 ohm
Deviation	+/- 2.0 kHz (PN9, 4800bps)
DI input level	L = GND, H = 3 V to Vcc
Residual FM noise	0.17 kHz
Spurious emission	- 27 dBm max.
Adjacent CH power	40 dBc (PN9 4800 bps)

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 (12 dB SINAD) - 120 dBm (BER 1%) - 115 dBm (0 error / 2556 bits)
Spurious response rejection	70 dB (1st Mix), 55 dB (2nd Mix)
Adjacent channel selectivity	50 dB (+/- 12.5 kHz)
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



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