

UHF Narrow Band Multi Channel Transceiver STD-302S 458MHz

The UHF FM narrow band semi-duplex radio module STD-302S 458MHz is suitable for industrial remote control application and telemetry application operated in 458MHz 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 -119dBm
- Excellent vibration and shock resistance / Mechanical durability
- FM narrow band

Applications

- Industrial remote control system
- Telemetry system
- Data transmission



General

Parameter	Specification
Communication form	Half duplex
Frequency	458.525 to 459.175 MHz
Channel step	25 kHz Channel programmable (PLL IC:Fujitsu MB15E03)
Frequency stability	+/- 4 ppm (-20 to +60 degree C)
Data rate	9600 bps max (Pulse width min. 100 us, max 15ms)
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	45mA (TX) 26mA (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	+/- 2.75 kHz (PN9, 9600bps)
DI input level	L = GND, H = 3 V to Vcc
Residual FM noise	0.17 kHz
Spurious emission	- 54 dBm (47M-74M, 87.5M-118M, 174M-230M, 470M-862 MHz) - 36 dBm (Other frequencies below 1000 MHz) - 30 dBm (Frequencies above 1000 MHz)
Adjacent CH leakage power	- 37 dBm (CH 25kHz, BW = 16kHz, PN9, 9600bps)

Receiver part

Parameter	Specification
Receiver type	Double superheterodyne
IF	21.7 MHz (1st), 450 kHz (2nd)
Maximum input level	10 dBm
Receiver sensitivity	- 119 dBm (12 dB SINAD) - 116 dBm (BER 1%) - 110 dBm (0 error / 2556 bits)
Spurious response rejection	65 dB (1st Mix), 60 dB (2nd Mix)
Adjacent channel selectivity	50 dB (+/- 25 kHz)
Intermodulation	50 dB (f - 200 kHz + f - 100 kHz)
Spurious radiation	- 57 dBm (below 1000 MHz) - 47 dBm (above 1000 MHz)
DO output level	L = GND, H = 2.8 V

Specifications are subject to change without prior notice