

UHF Narrow Band Multi Channel Transceiver

STD-302N-R 869MHz

The UHF FM narrow band semi-duplex radio module STD-302N-R 869MHz is suitable for industrial remote control application and telemetry application operated in 869MHz European harmonized band. Custom made SAW filter and narrow band technique provides reliable data communication in industrial application where its interference rejection and practical distance range is required. Suitable for feedback system

Feature

- 5 mW RF power, 3.0 V @ 46 mA
- Programmable RF channel
- Receiver sensitivity -116 dBm
- Excellent vibration & shock resistance / Mechanical durability
- R&TTE (EN 300 220) / RoHS compliance
- FM narrow band

Application

- Industrial remote control system
- Telemetry system
- Data transmission



Common

Item	Specification (All ratings at 25 degree C unless otherwise noted)
Communication form	Half-duplex
Frequency	868 to 870 MHz
Channel step	25kHz Channel programmable (PLL IC: Fujitsu MB15E03)
Frequency stability	+/- 3.4 ppm (-10 to +55 degree C) +/- 4 ppm (-20 to 60 degree C)
Data rate	9600 bps max. (Pulse width min.100us, max. 15ms)
PLL reference frequency	21.25 MHz (TCXO)
PLL response	30 ms typ. (from PLL setting to LD out)
Supply voltage	3.0 to 5.5 V
Supply current	46 mA (TX) 28 mA (RX)
Operating temp. range	-20 to +60 C (Storage -30 to + 75 C)
TX/RX switching time	15 ms typ. (DI vs valid DO at the same frequency)
Dimension	30 * 50 * 9 mm
Weight	25 g

Transmitter part

Transmitter type	PLL synthesizer
RF output power	5 mW at 50 ohm
Deviation	2.75 kHz (PN9, 9600 bps)
DI input level	L = GND, H = 3 V to Vcc
Residual FM noise	0.35 kHz
Spurious emission	< -54 dBm (47M - 74M, 87.5M - 118M, 174M - 230M, 470M - 862MHz) < -36 dBm (Other frequencies below 1000 MHz) < -30 dBm (Frequencies above 1000 MHz)
Adjacent CH power	-37 dBm (CH 25 kHz, BW = 16kHz, PN9, 9600bps)

Receiver part

Receiver type	Double superheterodyne
IF	21.7 MHz (1st), 450 kHz (2nd)
Maximum input level	10 dBm
Receiver sensitivity	-116 dBm (12dB SINAD) -113 dBm (BER 1%) -107 dBm (0 error / 2556 bits)
Spurious response rejection	60 dB (1st Mix), 60 dB (2nd Mix)
Adjacent CH selectivity	45 dB (+/ 25kHz)
Intermodulation	50 dB (f-200 kHz + f-100 kHz)
Spurious radiation	-57 dBm (below 1000MHz) , -47dBm (above 1000MHz)
DO output level	L = GND, H = 2.8V

Specifications are subject to change without prior notice

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