

UHF Narrowband Multi Channel Transceiver

LMD-401 458 - 462.5 MHz

LMD-401 458 to 462.5 MHz is a synthesized multi channel transceiver module designed to meet FCC Part 90 and ISSED RSS-119 for the US market and Canada respectively. This small, highly integrated and fully shielded module is designed for embedding in user equipment. The module is suitable for various low power industrial telecontrol and telemetry applications.

Features

- FCC and ISSED compliant
- 458.0 to 462.5 MHz band
- Programmable RF channel with 12.5 kHz channel space
- 10 mW, GFSK 4,800 bps
- Low power operation 3.0 to 5.5 V, 46 mA (TX), 36 mA (RX)
- Small size 50 x 30 x 9 mm
- Excellent vibration and shock resistance / Mechanical durability
- Wide operation range -20 to +65 C

Applications

- Industrial remote control
- Remote monitoring / SCADA / Security
- Telemetry
- Data acquisition



General

Parameter	Specification (All ratings at 25 C unless otherwise noted)
Applicable standard	FCC Part 90.217 / ISSED RSS-119
Communication method	Simplex, Half duplex
Emission type	F1D (GFSK narrow)
Frequency	458.0 to 462.5 MHz
Channel spacing	12.5 kHz (programmable)
Frequency stability	+/-2.5 ppm or less (-20 to +60 C)
RF bit rate	4,800 bps max. (Pulse width min. 200 us, max. 15 ms)
Operating temperature	-20 to +65 C
TX / RX switching time	15 ms typ. (DI vs DO)
Supply voltage	3.0 to 5.5 V
Supply current	46 mA (TX), 36 mA (RX)
Dimensions	50 x 30 x 9 mm
Weight	25 g

Transmitter part

Parameter	Specification
Oscillation system	PLL controlled VCO
RF output power	10 mW at 50 ohm
Deviation	+/-2.4 kHz (PN9 4,800 bps)
Data input	Digital L = GND, H = 3 V to Vcc
Spurious emission	< -37 dBm (Frequencies below 1000 MHz) < -31 dBm (Frequencies above 1000 MHz)
Adjacent channel leakage power	< -20 dBm (+/-12.5 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)	-116 dBm typ.
Sensitivity (BER 1%)	-116 dBm typ. (PN9 4,800 bps)
Co-channel rejection	-7 dB typ. (D / U ratio)
Spurious response rejection	> -44 dBm (1st mix, 2nd mix, 2 signal method)
Blocking	> -20 dBm (+/-2 MHz, +/-10 MHz, +/-5%, 2 signal method)
Data output	Digital L = GND, H = 2.8 V
Adjacent channel selectivity	> -50 dBm (+/-12.5 kHz, 2 signal method)

Specifications are subject to change without prior notice