

# UHF Narrow Band Multi Channel Transceiver

## LMD-400-R 438-442 MHz / 458-462 MHz

LMD-400 is a synthesized multi channel transceiver module designed to meet European standard EN300113. 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

- EN300113 compliant
- 438 - 442 MHz for Swedish / Norwegian national frequencies
- 458 - 462 MHz version available
- (Specific frequency model with 4 MHz switching band is possible)
- Programmable RF channel with 12.5 kHz channel space
- 10 mW, GFSK, 4800 bps
- Low power operation 3 - 5.5 V, 52 mA / TX, 42 mA / RX
- Small size 50 x 30 x 9 mm
- Excellent vibration & shock resistance / Mechanical durability
- Wide operation range -20 to + 60 degree C



### Applications

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



### General

Parameter	Specification (All ratings at 25 degree C unless otherwise noted)
Applicable standard	EN300113
Communication form	Half-duplex
Emission class	F1D
Modulation	GFSK
Frequency	438 to 442 MHz or 458 to 462 MHz Ask for other specific frequency in 400 MHz with 4MHz coverage
Channel spacing	12.5 kHz / Channel programmable
Frequency stability	+/- 2.5 ppm (-20 to +60 degree C)
Aging rate	+/-1 ppm / year
Data rate	4800 bps max. (Pulse width min.200 us, max. 15 ms)
Operating temp. range	-20 to +60 C (Storage -30 to + 75 C )
TX/RX switching time	15 ms typ. (DI vs DO)
Supply voltage	3.0 to 5.5 V
Supply current	52 mA (TX), 42 mA (RX)
Dimension	50 X 30 X 9 mm
Weight	25 g

### Transmitter part

Parameter	Specification
RF output power	10 mW at 50 ohm (25 degree C)
Deviation	2.4 kHz (PN9, 4800 bps)
DI input level	L = GND, H = 3 V to Vcc

### Receiver part

Parameter	Specification
Receiver type	Double superheterodyne
IF	21.7 MHz (1st), 450 kHz (2nd)
Maximum input level	10 dBm
Receiver sensitivity	-110 dBm typ.(12 dB SINAD ) -110 dBm typ.(BER 1%)
Co-channel rejection	-7 dB (D/U ratio)
Spurious response rejection	70 dB
Adjacent CH selectivity	60 dB (12.5 kHz ch)
Blocking	84 dB
DO output level	L = GND, H = 2.8 V
RSSI rising time	30 ms (25 kHz shift), 50 ms (at power on)
Time until valid Data-out	50 ms (25 kHz shift), 70 ms (at power on)
RSSI out	270 mV at -100 dBm, 200 mV at -110 dBm

Specifications are subject to change without prior notice