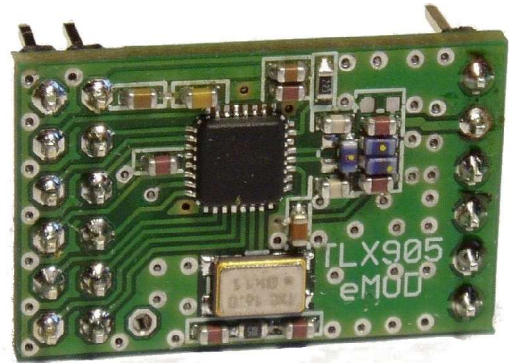


## 433/868/915MHz Multichannel RF Transceiver

TLX905 is a true single chip system with fully integrated RF transceiver. TLX905 supports all features available in the nRF905 chip including Shockburst™, which automatically handles preamble, address and CRC. The circuit has embedded voltage regulators, which provides maximum noise immunity and allows operation on a single 1.9V to 3.6V supply. By embedding all high



speed signal processing related to RF protocol in the transceiver, the internal RF parts offers the micro controller a simple SPI interface. Data rate is decided by the interface-speed the micro controller itself sets up. By allowing the digital part of the application to run at low speed, while maximizing the data rate on the RF link, the nRF905 ShockBurst™ mode reduces the average current consumption in applications. In ShockBurst™ receive mode, Address Match (AM) and Data Ready (DR) notifies the MCU when a valid address and payload is received respectively. In ShockBurst™ transmit mode, the nRF905 automatically generates preamble and CRC. Data Ready (DR) notifies the MCU that the transmission is completed. All together, this means reduced memory demand and more available resources in the MCU, as well as reduced software development time.

### FEATURES

- 433/868/915 MHz transceiver
- 50 kbit/s effective data rate
- No tuning, no adjustments
- Very easy configuration (no RF related registers)
- Single 1.9V to 3.6V supply
- Small (26,5 x 16,5 mm) package
- Internal VDD monitoring
- 2.5µA standby current
- Adjustable output power up to 8dBm
- Channel switching time less than 650us
- Low TX supply current, typical 11mA @-10dBm
- Low RX supply current typical 12.5mA peak
- Channel switching in 650 us (frequency hopping OK)
- Carrier Detect for "listen before transmit protocol"

### APPLICATIONS

- Sports and leisure equipment
- Industrial sensors
- Alarm and security system
- Remote control
- Surveillance
- Automotive
- Telemetry
- Keyless entry
- Toys

## Basic Parameters

Operating frequency	433 MHz or 868MHz / 915 MHz
Modulation	GFSK
Frequency deviation	±50 kHz
Output power	-12...8 dBm (software adjustable)
Antenna	50 ohm single ended
Effective data rate	50 kbit/s
Sensitivity, BR=50kbit/s, BER<0,1%	-100 dBm
Channel spacing @ 433MHz	100 kHz
Supply voltage	1,9 - 3,6 V
Supply current in receive mode	12,5 mA
Supply current @ 10dBm output power	30 mA
Supply current @ -10dBm output power	11 mA

## Mechanical dimensions / Pin Out

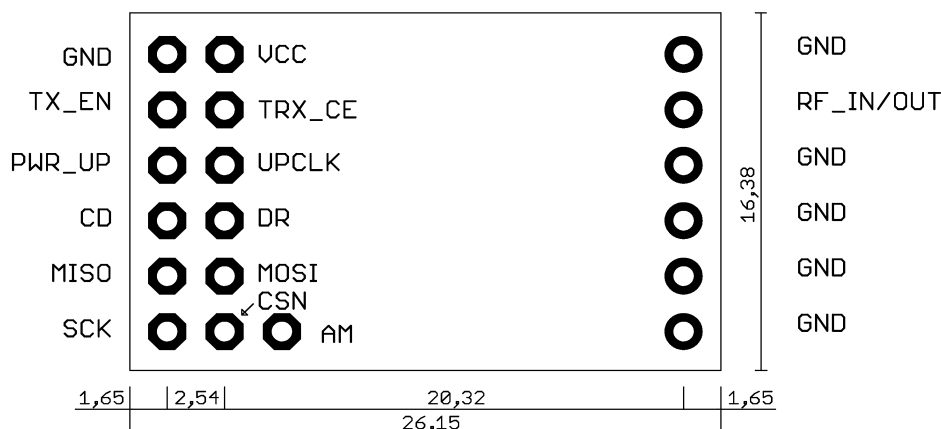


Fig. 1 TLX905 (top view)

## Pin Description

Name	Function
GND	GND (0V)
VCC	Power supply 1,9...3,6 V
TX_EN	Tx/Rx switch: Tx ("1"), Rx ("0")
TRX_CE	Chip enable: standby and programming mode ("0") normal operation ("1")
PWR_UP	Power up ("1"), sleep mode ("0")
UPCLK	Output clock for microcontroller
RF_IN/OUT	Antenna (50 ohms unbalanced)
CD	Carrier detect
DR	Data ready (Rx mode) End of transmission (Tx mode)
MISO	SPI output
MOSI	SPI input
SCK	SPI clock
CSN	SPI chip select
AM	Address match

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