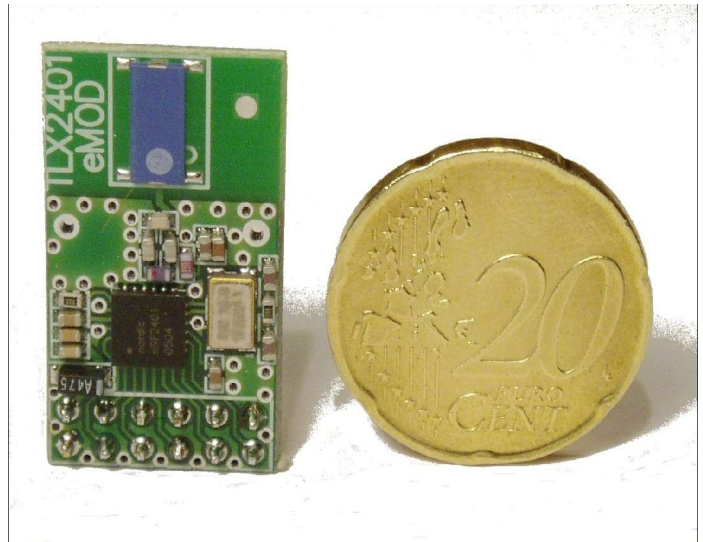


## TLX2401 - 2,4GHz low power data transceiver module

The TLX2401 is miniature 2,4GHz radio module capable of half duplex data transmission at speeds up to 1000kbit/s over distances of 50 meters. The module integrates a low power, true single chip transceiver and all necessary passive components. The high data rates and fast TX/RX changeover make the TLX2401 transceiver ideal for high integrity one to one links / multi-node packet switch networks. Rapid RX power up allows effective duty cycle power saving of the receiver for battery powered applications. The ShockBurst™ technology uses on-chip FIFO to clock in data at a low data rate and transmit at a very high rate thus enabling extremely power reduction.

When operating the TLX2401 in ShockBurst™, you gain access to the high data rates (1 Mbps) offered by the 2.4 GHz band without the need of a costly, high-speed microcontroller (MCU) for data processing. Since the TLX2401 is doing all the low level protocol handling, like bit sampling, address checking and CRC calculation the microcontroller will not be loaded with this kind of work. In receive mode, the microcontroller will be notified by the TLX2401 when a valid packet has arrived, and can then clock out the data at its own speed. There are no need for precise timing or high speed operation. This will give the user the possibility to utilise a low cost microcontroller with a internal RC oscillator, removing the need for an external crystal on the microcontroller. Since the TLX2401 is doing all the low level protocol handling, like bit sampling, address checking and checksum calculation the microcontroller will not be loaded with this kind of work. The TLX2401 can facilitate simultaneous reception of two parallel independent frequency channels at the maximum data rate. This means TLX 2401 can receive data from two 1 Mbps transmitters 8 MHz (8 frequency channels) apart through one antenna interface. The output from the two data channels is fed to two separate MCU interfaces. The TLX2401 technology provides 2 separate dedicated data channels for RX and replaces the need for two, stand alone receiver systems.



### FEATURES

- Data rate 0 to 1Mb/s
- 125 channels
- Address and CRC computation
- Simultaneous dual receiver
- Integrated antenna
- Low supply current
- Small package

### APPLICATIONS

- Alarm and Security Systems
- Remote Control
- Telemetry
- Industrial sensors
- Home automation
- Wireless data communication
- Keyless entry

## Quick reference data

Operating frequency	2400-2524 MHz
Modulation	GFSK
Frequency deviation	±156 kHz
Maximum output power	0 dBm (software controlled)
Sensitivity, BR=250kbit/s, BER<0,1%	-90 dBm
Maximum bit rate	1000 kbit/s
Supply voltage	1,9 - 3,6 V
Supply current in receive mode	20 mA
Supply current @ 0dBm output power	13 mA
Supply current @ -20dBm output power	8,8 mA
Average Supply current @ -5dBm output power in ShockBurst, effective data rate 10kbit/s	0,8 mA
Average Supply current in stand-by mode	32 µA
Average Supply current in power down mode	1 µA
Dimensions	29,0 mm * 16,5 mm
Weight	3 g

## Mechanical dimensions / Pin Out

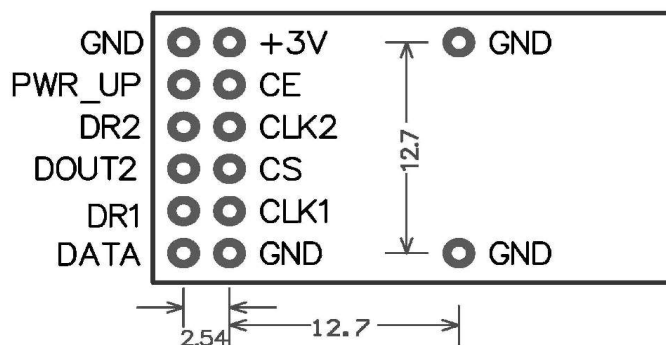


Fig. 1 TLX905 (top view)

## Pin Description

Name	Description
GND	Ground
+3V	Power supply 1,9...3,6 V
PWR_UP	Power up (0 - power down)
CE	Chip enable activates RX or TX mode
DR2	RX data ready at channel #2 (only ShockBurst mode)
CLK2	Clock output/input for RX data channel #2
DOUT2	RX data channel #2
CS	Chip select activates configuration mode
DR1	RX data ready at channel #1 (only ShockBurst mode)
CLK1	Clock output (TX) & output/input for RX data channel #1
DATA	RX data channel #1 / TX data input