CIRCUIT DESIGN, INC.

Narrowband radio transceiver

STD-601 434 MHz

The STD-601 434 MHz is a miniature 434 MHz band transceiver designed for industrial remote control applications. This module conforms to the EN 300 220 standard.

The STD-601 434 MHz has a simple serial interface and allows own communication protocol to be used. The RF power, data rate and channel can be set through the use of dedicated serial commands.

Features

- Small 20 x 32 x 5 mm SMD
- Low current consumption
  - 26 mA (TX 10 mW)
  - 19 mA (RX)
- Transparent interface for data input and output
- CE marking

Applications

- Industrial telecontrol
- Telemetry systems

General

Parameter	Specification
Applicable standard	EN 300 220
Communication method	Simplex, Half duplex
Emission type	F1D (2-GFSK)
Frequency	433.0750 to 434.7750 MHz
Number of RF channels	137 ch
Frequency stability	+/-3 ppm or less
RF bit rate	4,800 / 9,600 bps
Supply voltage	3.0 to 5.0 V
Supply current	26 mA typ. (TX 10 mW), 19 mA typ. (RX)
Operating temperature	-20 to +65 C
Dimensions	20 x 32 x 5 mm
Weight	4.5 g

Transmitter part

Parameter	Specification
RF output power	10 / 5 / 1 mW at 50 ohm
Spurious emission	< -54 dBm (47 to 74, 87.5 to 118, 174 to 230, 470 to 862 MHz)
	< -37 dBm (Other frequencies below 1000 MHz)
	< -30 dBm (Frequencies above 1000 MHz)
Adjacent channel leakage power	< -37 dBm (CH 25 kHz / BW 16 kHz / PN9 9,600 bps)

Receiver part

Parameter	Specification
Sensitivity (BER 1%)	-113 dBm (PN9 9,600 bps)
	-117 dBm (PN9 4,800 bps)
Adjacent channel selectivity	> 50 dB (+/-12.5 kHz 4,800 bps)
	> 50 dB (+/-25 kHz 9,600 bps)
Blocking	> 70 dB (+/-2 MHz, +/-10 MHz)

Timing

Parameter	Specification
Power on to TX / RX	350 ms typ.
TX / RX switching time	10 ms typ.

Interface

Parameter	Specification
Data interface (DI / DO)	Digital L = GND, H = Vcc (Asynchronous)
Command interface (TXD / RXD)	UART 9,600 / 19,200 / 38,400 bps
	Data length: 8 bit, Parity: None, Stop bit: 1

* Unless otherwise specified, specifications are typical values obtained under 9,600 bps, 10 mW, 25 C, 434 MHz, 3 V

Specifications are subject to change without prior notice

CIRCUIT DESIGN, INC.
https://www.circuitdesign.jp
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Sales Division
7557-1 Hotaka, Azumino, Nagano 399-8303, Japan
Tel:+81-(0)263-82-1024 Fax:+81-(0)263-82-1016