

Narrow band radio transceiver

STD-601 400 MHz

The STD-601 400 MHz is a miniature transceiver designed for industrial applications. This module has selectable bands in a wide frequency range in the region of 400 MHz, conforming to the ISM bands in various countries.

The STD-601 400 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
- Selectable bands possible within wide frequency range.
 - 429 / 434 / 447 / 458 MHz
- Maximum RF Power 50 mW
- Transparent interface for data input and output

Applications

- Industrial remote control systems
- Telemetry systems



General

Parameter	Specification	Remark
Communication form	One Way, Half Duplex	
Emission class	F1D (2-GFSK)	
Supply voltage	3.0 - 5.0 V	
Guaranteed operating temp. range	-20 C to +65 C	
Maximum operating temp. range	-30 C to +75 C	
Frequency stability	+/- 3 ppm (-20 C to +65 C)	
Dimensions	20 x 32 x 5 mm	
Weight	4.5 g	

RF

Parameter	Specification	Remark
Frequency	(429 MHz band) 429.1750 - 429.7375 MHz (434 MHz band) 433.0750 - 434.7750 MHz (447 MHz band) 447.2750 - 447.9875 MHz (458 MHz band) 458.5000 - 459.1750 MHz	(47 ch) (137 ch) (59 ch) (28 ch)
Data rate	1200 / 2400 / 4800 / 9600 / 19200 bps	
TX current consumption	35 mA typ. 58 mA typ.	RF 10 mW RF 50 mW
RX current consumption	19 mA	
Transmission power	50 / 25 / 20 / 10 / 5 / 1 mW	Nominal
Spurious emission (TX)	-54 dBm (47 M - 74 M, 87.5 M - 118 M, 174 M - 230 M, 470 M - 862 MHz) -37 dBm (Other frequencies below 1000 MHz) -30 dBm (Frequencies above 1000 MHz)	
Adjacent CH leakage power (ACP)	-37 dBm	(PN9-9600 bps) Ch25 kHz BW:16 kHz
Receiver sensitivity	-9600 bps -113 dBm BER (1 % error) -4800 bps -117 dBm BER (1 % error)	PN9 PN9
Adjacent channel selectivity	50 dB (+/-12.5 kHz) @ 4800 bps 50 dB (+/-25 kHz) @ 9600 bps	2 signal method, PN9, 1 % error 2 signal method, PN9, 1 % error
Spurious radiation (RX)	-57 dBm (< 1000 MHz) -47 dBm (> 1000 MHz)	
Blocking	70 dB	+/- 2 MHz, +/- 10 MHz

Timing

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

Interface

Parameter	Specification	Remark
Data Interface (DI / DO)	L=GND H=VCC, Asynchronous	Transparent interface
Command interface (TXD / RXD)	UART 9600 / 19200 / 38400 bps, 8 data bit, No parity, 1 stop bit	

* Unless otherwise specified, specifications are typical values obtained under 9600 bps, 10 mW, 25 C, 434 MHz, 3V
* Specifications are subject to change without prior notice