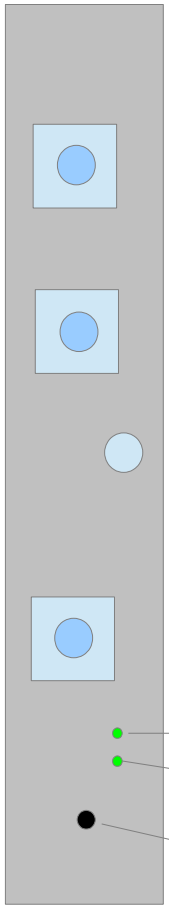
2300 / 432 MHz Transverter V1.4

Specifications

	Min.	Typ.	Max.
Frequency range RF	2300 MHz		2425MHz
Frequency range IF	430	432 MHz	440
LO Frequency:		see table	
LO Accuracy at 20 deg. C		+/- 1 ppm	
LO temp. stability -20 ...+70 deg . C		+/- 2.5 ppm	
Output Power	1.5 W	2.0 W	2.5W
Power Supply	12.0 V	12.0V	13.8 V
Current Consumption			1 A
Input Power	0.2 W		5 W
Receive Gain , Adjustable	0 dB		+10 dB
Noise Figure (Split mode)		1.5 dB	
Noise Figure (Rx/Tx mode)		1.9 dB	
Dimensions			114x104x25mm
Spurious response		< -55 dBc	

Features

2 W output power
Low noise figure , GaAs HEMT input stage
High performance UP / DOWN converters
High stability TCXO
Input for 10 MHz external reference oscillator
Internal Tx/Rx switch
Possibility to work with split Tx/Rx (selectable , required soldering)
Internal Directional Coupler
PTT can be switched by connecting PTT to ground, by RF power (RF VOX)
or by DC voltage
Output SWR indicator - bi color LED
Optimal input power indicator - bi color LED
Integrated Sequencer
4 LO frequencies , programmable by PC (RS-232 , 3.3V levels)



2300-2425 MHz Rx/Tx (or TX only in Split Mode) SMA connector

2300-2410 MHz RX only (in Split Mode) SMA connector

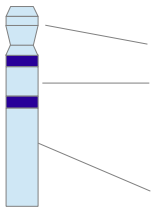
12 V power supply - DC Jack 5.5x2.1 mm
max. 1 A

\+ **GND**

IF 430-440 MHz SMA connector

Input LED
Output LED

PTT and Sequencer - 3.5 mm audio jack

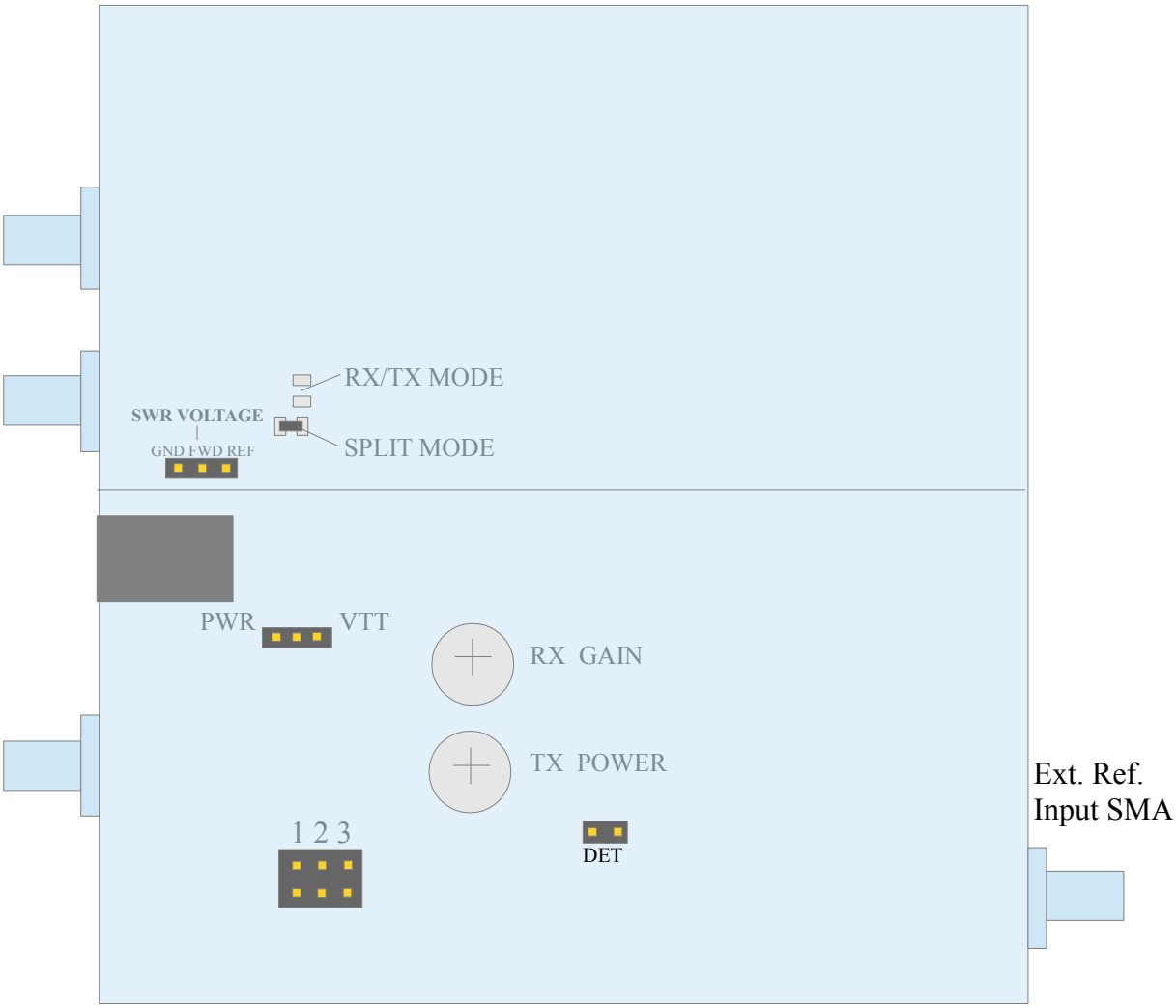


PTT - 3.5 mm audio jack , active: LOW or connect to ground
Sequencer output , open collector NPN transistor 30V/0.3A max.
Time delay: 30 mS after PTT LOW. RF power is applied to the output after additional 30 mS
Ground

Input power adjustment:

Input LED color: orange - Input power is low
green - Input power is normal
red - Input power is too high

Output LED color : green - Excellent output SWR
orange - Moderate output SWR
red - High output SWR



Trimmers

RX GAIN - You can adjust the overall gain from 0 to +10dB

TX POWER - When PTT is LOW and power supplied to the IF input , rotate until the LED lights up green

SWR Voltage

Can be measured by high impedance voltmeter

FWD - voltage of forward wave

REF - voltage of reflected wave

GND - ground

PWR / VTT

PWR ON: The Transverter can be DC powered by coaxial cable.

VTT ON: PTT can be switched on by applying DC voltage 5-15 V in coaxial cable

A bias tee is needed to insert DC power into coaxial cable.

DET

OFF - RF VOX detector time low
ON - RF VOX detector time high (0.3 - 0.5sec.)

RF VOX is always switched ON. The Transverter automatically switches to the TX mode when RF power is applied to IF (430-440 MHz input)

Jumper 3

ON - Internal frequency reference is used
OFF - Internal reference is switched OFF. External reference with 10 MHz frequency and -10...0 dBm power must be connected to **Ext Reference Input SMA**
The transverter needs **restart** to switch between two modes.

PLL unlock indicator: Blinking Input LED in Red means a PLL unlock.

Default LO Frequencies

Jumpers	1	2	LO Freq. , MHZ Rx / Tx
LO Frequency 1	off	off	1870 / 1870
LO Frequency 2	on	off	1886 / 1886
LO Frequency 3	off	on	1888 / 1888
LO Frequency 4	on	on	1968 / 1968

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