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I recently purchased a USB signal generator on E-Bay from Robert Yarbrough. Paul W1GHZ bought one so I figured I could not go wrong. Price was \$350 on E-bay. A cheaper one is available without the FM input and step attenuator. Version 5.

The generator goes from 35 MHz to 4.4 GHz, + 10 dBm output with a built in attenuator to -55 dBm, 10 MHz reference input, a FM modulator input and buffered 10 MHz output.

It has a built in sweeper. It is rich in harmonics and is easily heard at 10 GHz. with just a WA5VJB log periodic

**Trinity Power Incorporated RF Signal
Generator Version 4.0**



<http://www.rf-consultant.com/>



The software loaded easily on my laptop, but had problems with my main computer, will have to try a powered USB hub. A small amount of frequency drift was detected when changing power level, this should go away when locked to an external 10 MHz.



Some of the specs for the synthesizer are:

Analog Devices PLL integrated circuit ADF4351.

Output frequency range: 35 MHz to 4400 MHz

Fractional-N synthesizer and integer-N synthesizer

Low phase noise VCO (1GHz 10Khz offset = -91dBc/Hz)(2.4GHz = -86dBc/Hz)

Typical rms jitter: <0.4 ps rms

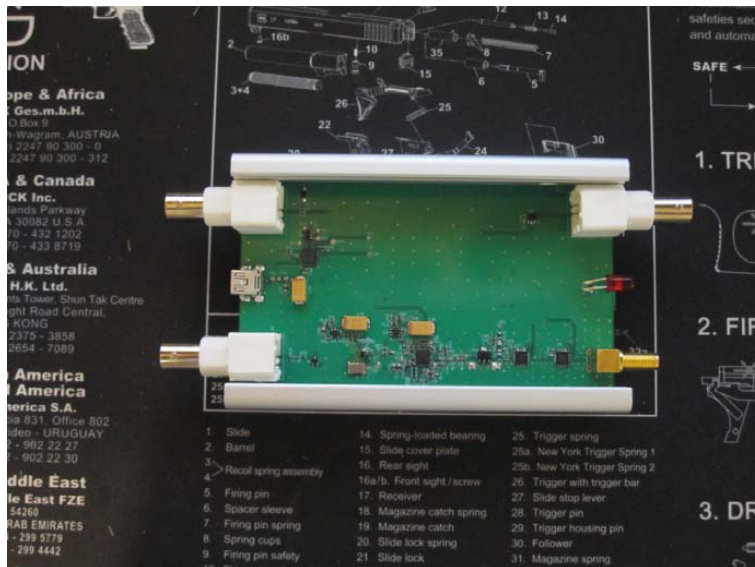
Programmable output power level

Cycle slip reduction

The internal reference is a 10 MHz Temperature Compensated Clock Oscillator at +/-2.5 ppm over temperature range -30 to 85C and +/- 1.5ppm at room temperature

The unit has been calibrated and RF Output Power (35MHz to 4GHz) is accurate within +/-1.5dBm with 90% of all readings within 1dB of reported power.

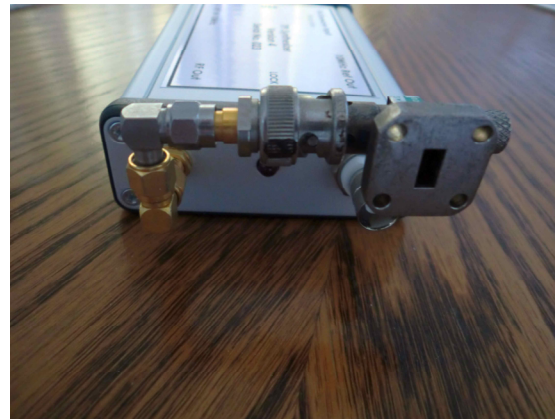
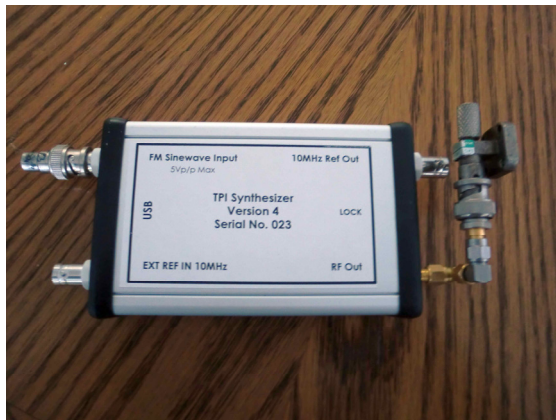
Housing dimensions are approximately 4.75 x 3.00 x 1.00 (inches).



Information is from the manual

<http://www.rf-consultant.com/wp-content/uploads/2013/02/Product-Description-Version-4.0-with-Digital-Attenuation1.pdf>

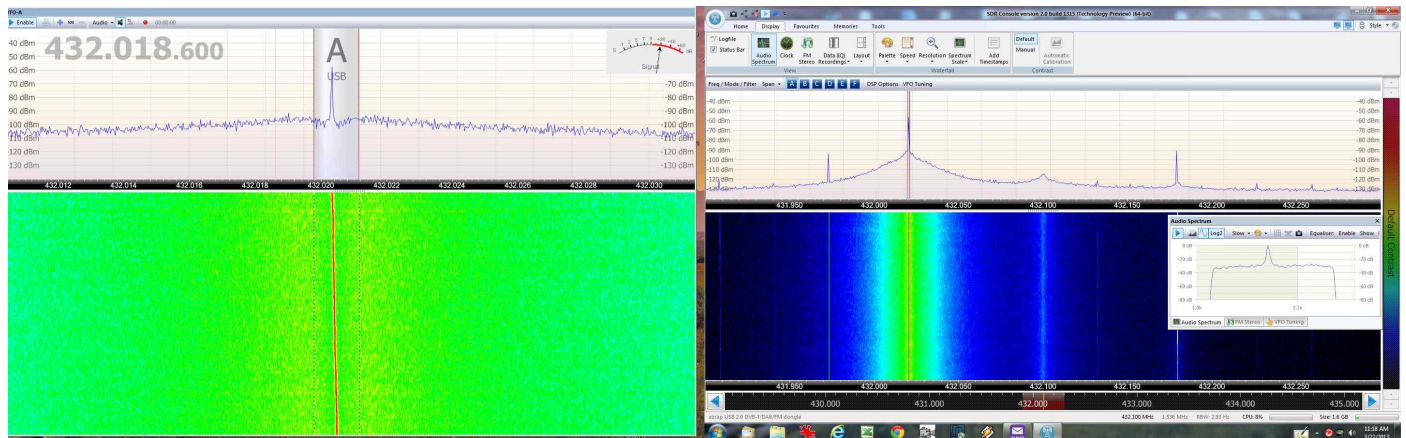
I have done some other test with the signal generator using a WR28 diode detector backward to generate higher harmonics. Output level of generator set to +10 dBm. Distance between signal source and transverter about 1.5 mtrs.



I used one of the \$20 ultra-cheap Software Defined Radio (RTL2832 DVB-T USB dongles) as the receiver so I could look at wider bandwidth.



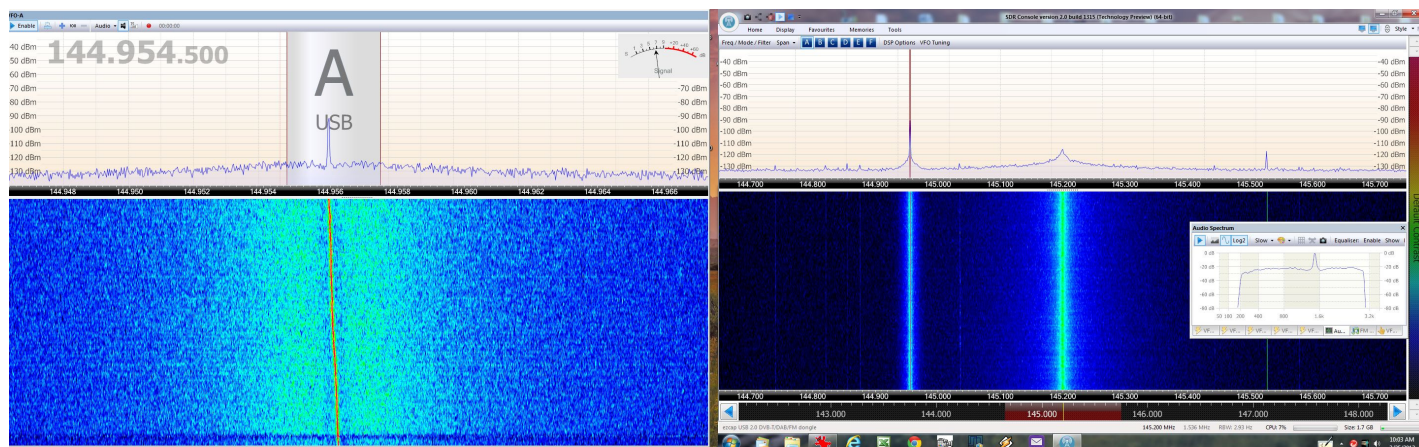
Dongle Software SDR Console V2



$3456 \text{ MHz} \times 7 = 24192.0 \text{ MHz}$ IF = 432 MHz (Home brew Transverter)

The 2 extraneous signals either side of peak are in the dongle

The pedestal is phase noise at 24 GHz



3924.080 MHz X 12 = 47088.960 MHz IF 144 MHz (DB6NT Transverter)
 I moved the frequency away from a birdie on 144 MHz (note only 5.5 Kc off)
 You can see the phase noise but not bad

Conclusion:

I find Ver. 4 to be a very good signal source for the money. I have a HP 8341a sweeper that I think is time to retire.. I will try it at 78 GHz when I have time...