

VLF level measurements several NRD-515 units and a VLF converter

Generator is pegel-sender part of W&G SPM-30 unit

0 dB level about 0.7V at 75 Ohm, adjustable with level potmeter

Equal to about 117 dBuV / 57 dBmV / 10 dBm

At -80 dB level setting S9 = 50uV adjustable = 34 dBuV and -73 dBm.

The VLF converter is wideband input with (7-part) 400 kHz low-pass, 500 kHz = about -12dB

with 1:3 N (1:9 Z) input toroid with 3F3 low-loss material, design f = 10kHz with 4x Zin

Measurement:

SPM-30 Tx setting -50 and 2x -10 dB on extra pi box. 2x NRD Rx (not ideal) parallel, if needed Tx level adjusted

on Tx SPM-30 (Rx part parallel NRD) , setting always to SPM-30 Rx 0dB level (at -80dB) if needed by Z- variations.

Rx goes deep down. To reduce 50 Hz hum sensitivity, add a 1 to 2.2 uF cap in the input.

After analysing the level drop above 250 kHz, the used axial 30uH coils appear too lossy.

Replaced with 3x FT50-61 - much better result. More low-f testing.

freq.	original	10 kHz option	25 kHz option	SA/NE612	SA/NE612	
	NRD-515	NRD-515	NRD-515	VLF converter to 24.000 MHz		
					new low-pass	LC now 3x FT50-61
1MHz via BC	to do	S 8,5	S8,5	X	X	for 250 Hz filter
						input level adjusted
500 kHz		S 9 +10	S9 +10	S8 +/-	S8,5	low-pass S = -12 to -15 dB
400 kHz					S9 + 10	
300 kHz		S 9	S 9	S 9 +	S 9 + 10	
200 kHz		S 9	S 9	S 9 + 10	S 9 + 10	
100 kHz		S 9	S 8	S 9 + 10	S 9 + 10	
75 kHz		S 8,5	S 8	S 9 + 10	S 9 + 10	
50 kHz		S 8,5	S 8	S 9 + 10	S 9 + 10	
40 kHz		S 8,5	S 8	S 9 + 10	S 9 + 10	
30 kHz		S 8,5	S 8	S 9 + 10	S 9 + 10	
20 kHz		S 8,5	S 7	S 9 + 10	S 9 + 10	
15 kHz		S 8,5	S 6	S 9 + 10	S 9 + 10	
10 kHz		S 8,5	S 3	S 9 + 10	S 9 + 10	250 Hz filter
9 kHz		S 5 ?	X	S 9	S 9 + 10	250 Hz filter
8 kHz		X	X	S 9	S 9 + 10	250 Hz filter
7 kHz		X	X	S 9	S 9 + 10	250 Hz filter
6 kHz		X	X	S 9	S 9 + 10	250 Hz filter
5 kHz		X	X	S 9	S 9 + 10	250 Hz filter
4 kHz					S 9 + 10	250 Hz filter
3 kHz					S 9 + 10	250 Hz filter
2 kHz					S 9 + 10	250 Hz filter
1 kHz					S 9 + 10	250 Hz filter
500 Hz					S9	250 Hz filter