

Amaterska radioastronomija

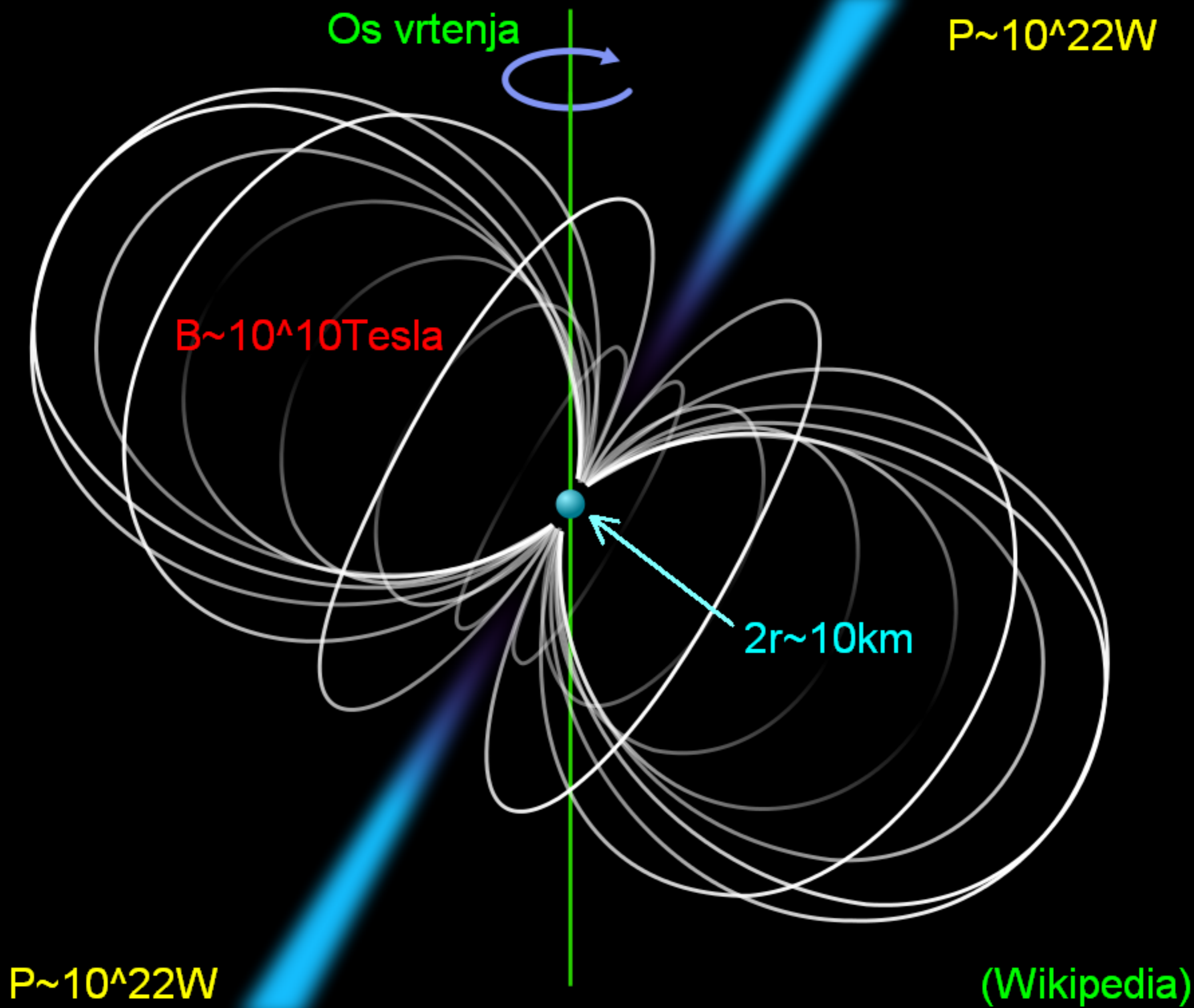
11 – Sprejem pulzarjev



Laboratorij za sevanje in optiko

Tadeja Saje, S56ZSA
&

Matjaž Vidmar, S53MV

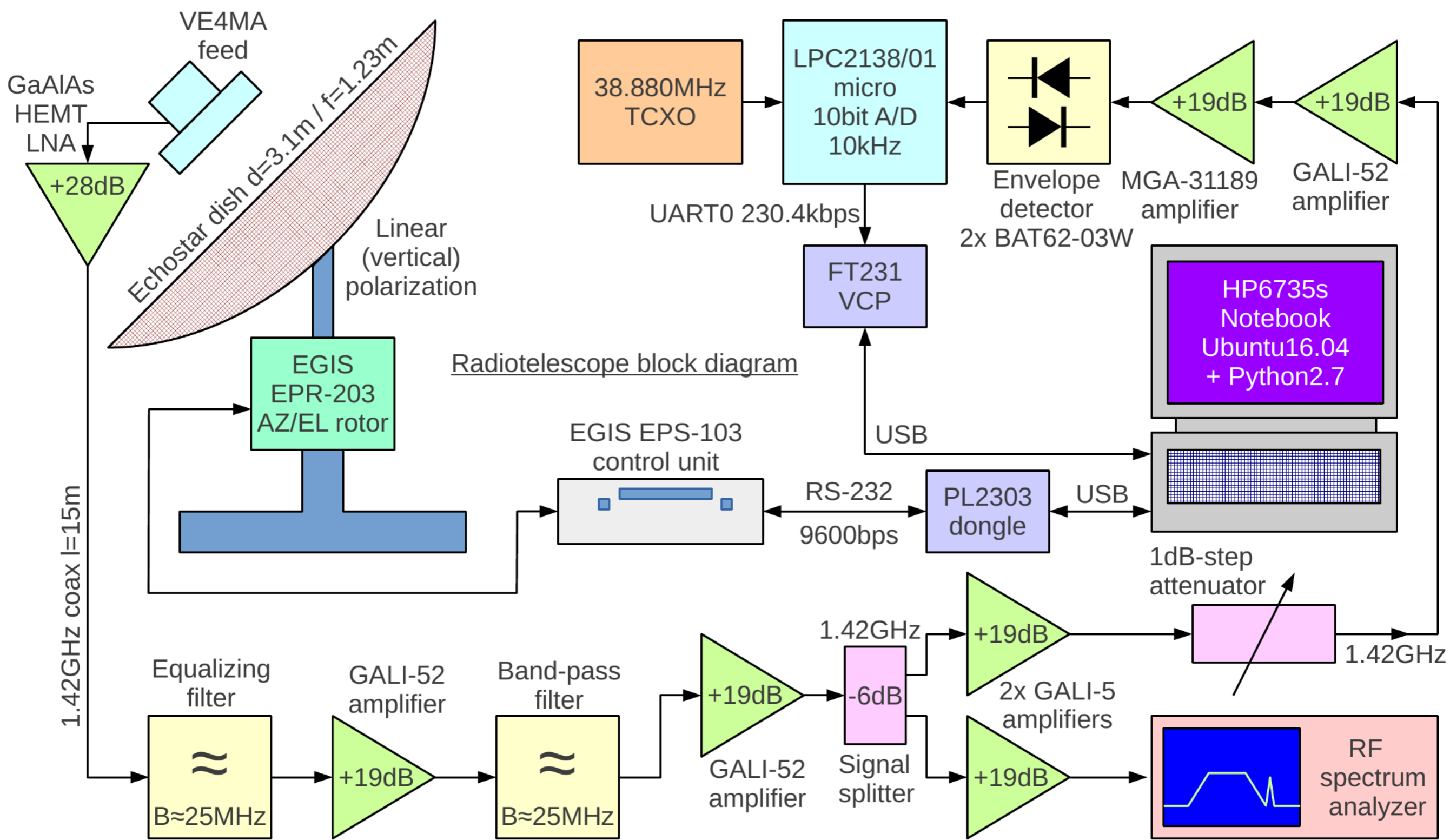


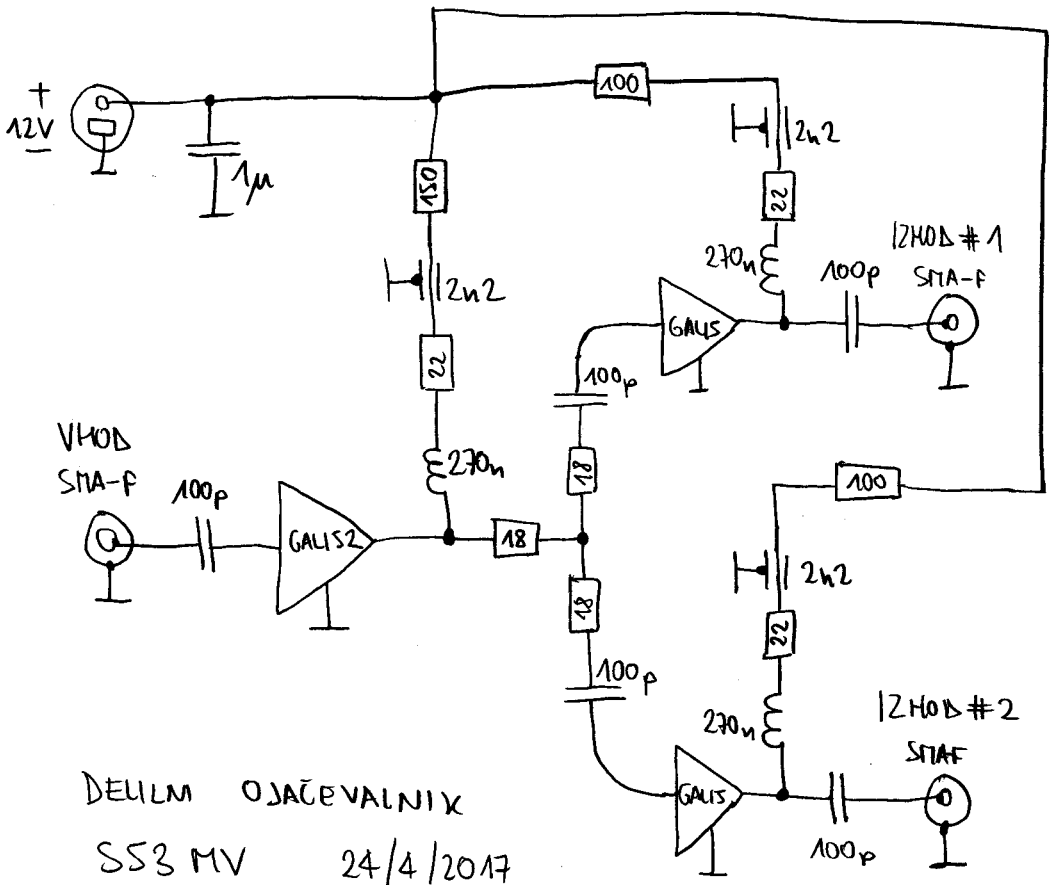
#	NAME	PSRJ	P0 (s)	DM (cm ⁻³ pc)	W50 (ms)	W10 (ms)	S400 (mJy)	S1400 (mJy)
1	B0833-45	J0835-4510	0.089328	67.99	2.100	4.500	5000.00	1100.00
2	B0329+54	J0332+5434	0.714520	26.76	6.600	31.400	1500.00	203.00
3	B1749-28	J1752-2806	0.562558	50.37	9.100	15.000	1100.00	18.00
4	J0437-4715	J0437-4715	0.005757	2.64	0.141	1.020	550.00	149.00
5	B0531+21	J0534+2200	0.033392	56.79	3.000	4.700	550.00	14.00
6	B0950+08	J0953+0755	0.253065	2.96	9.500	20.600	400.00	84.00
7	B1642-03	J1645-0317	0.387690	35.73	4.200	8.000	393.00	21.00
8	B1451-68	J1456-6843	0.263377	8.60	12.500	29.000	350.00	80.00
9	B2016+28	J2018+2839	0.557953	14.17	14.900	22.200	314.00	30.00
10	B2319+60	J2321+6024	2.256488	94.59	131.100	153.700	303.20	12.00
11	B1929+10	J1932+1059	0.226518	3.18	7.400	14.000	303.00	36.00
12	B0740-28	J0742-2822	0.166762	73.78	5.400	8.300	296.00	15.00
13	B1133+16	J1136+1551	1.187913	4.85	31.700	41.800	257.00	32.00
14	B2255+58	J2257+5909	0.368246	151.08	14.800	32.200	251.90	9.20
15	B1933+16	J1935+1616	0.358738	158.52	9.000	17.700	242.00	42.00
16	B1937+21	J1939+2134	0.001558	71.02	0.038	0.190	240.00	13.20
17	B1449-64	J1453-6413	0.179485	71.07	4.400	9.700	230.00	14.00
18	B0628-28	J0630-2834	1.244419	34.47	58.200	119.700	206.00	23.00
19	B0835-41	J0837-4135	0.751624	147.29	8.900	18.000	197.00	16.00
20	B0736-40	J0738-4042	0.374920	160.80	29.000	52.000	190.00	80.00

Najmočnejših 20 pulzarjev na 400MHz

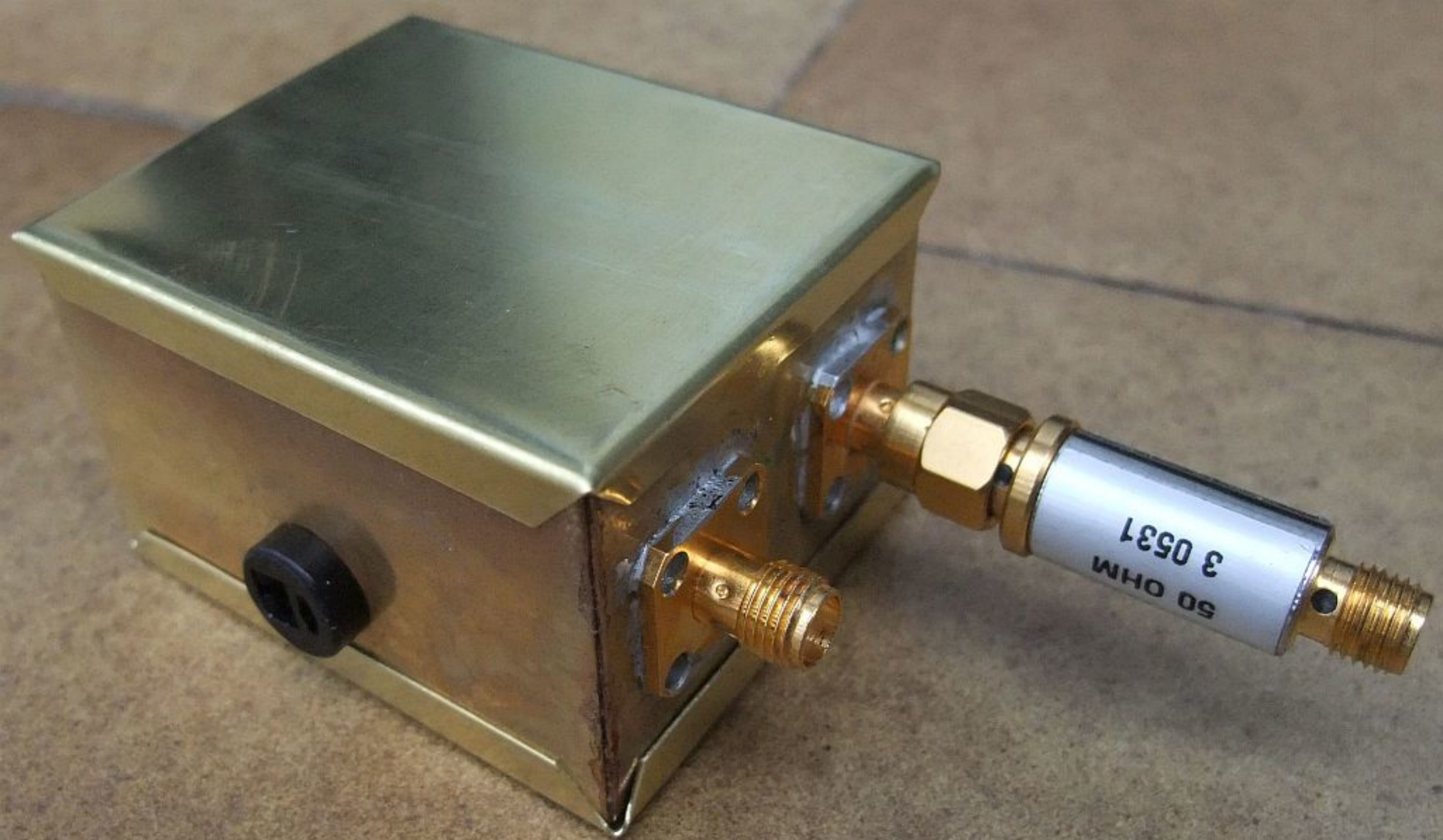
#	NAME	PSRJ	P0 (s)	DM (cm ⁻³ pc)	W50 (ms)	W10 (ms)	S400 (mJy)	S1400 (mJy)
1	B0833-45	J0835-4510	0.089328	67.99	2.100	4.500	5000.00	1100.00
2	B0329+54	J0332+5434	0.714520	26.76	6.600	31.400	1500.00	203.00
3	J0437-4715	J0437-4715	0.005757	2.64	0.141	1.020	550.00	149.00
4	B0950+08	J0953+0755	0.253065	2.96	9.500	20.600	400.00	84.00
5	B0736-40	J0738-4042	0.374920	160.80	29.000	52.000	190.00	80.00
6	B1451-68	J1456-6843	0.263377	8.60	12.500	29.000	350.00	80.00
7	B1933+16	J1935+1616	0.358738	158.52	9.000	17.700	242.00	42.00
8	B1556-44	J1559-4438	0.257056	56.10	6.000	14.000	110.00	40.00
9	B2020+28	J2022+2854	0.343402	24.64	12.000	15.800	71.00	38.00
10	B1929+10	J1932+1059	0.226518	3.18	7.400	14.000	303.00	36.00
11	B1133+16	J1136+1551	1.187913	4.85	31.700	41.800	257.00	32.00
12	B2016+28	J2018+2839	0.557953	14.17	14.900	22.200	314.00	30.00
13	B2021+51	J2022+5154	0.529197	22.65	7.400	29.400	77.00	27.00
14	B0355+54	J0358+5413	0.156382	57.14	3.900	10.800	46.80	23.00
15	B0628-28	J0630-2834	1.244419	34.47	58.200	119.700	206.00	23.00
16	B1054-62	J1056-6258	0.422447	320.30	20.000	39.000	45.00	21.00
17	B1642-03	J1645-0317	0.387690	35.73	4.200	8.000	393.00	21.00
18	B2111+46	J2113+4644	1.014685	141.26	32.100	152.800	47.20	19.00
19	B1749-28	J1752-2806	0.562558	50.37	9.100	15.000	1100.00	18.00
20	B2154+40	J2157+4017	1.525266	70.86	38.600	114.200	105.00	17.00

Najmočnejših 20 pulzarjev na 1400MHz

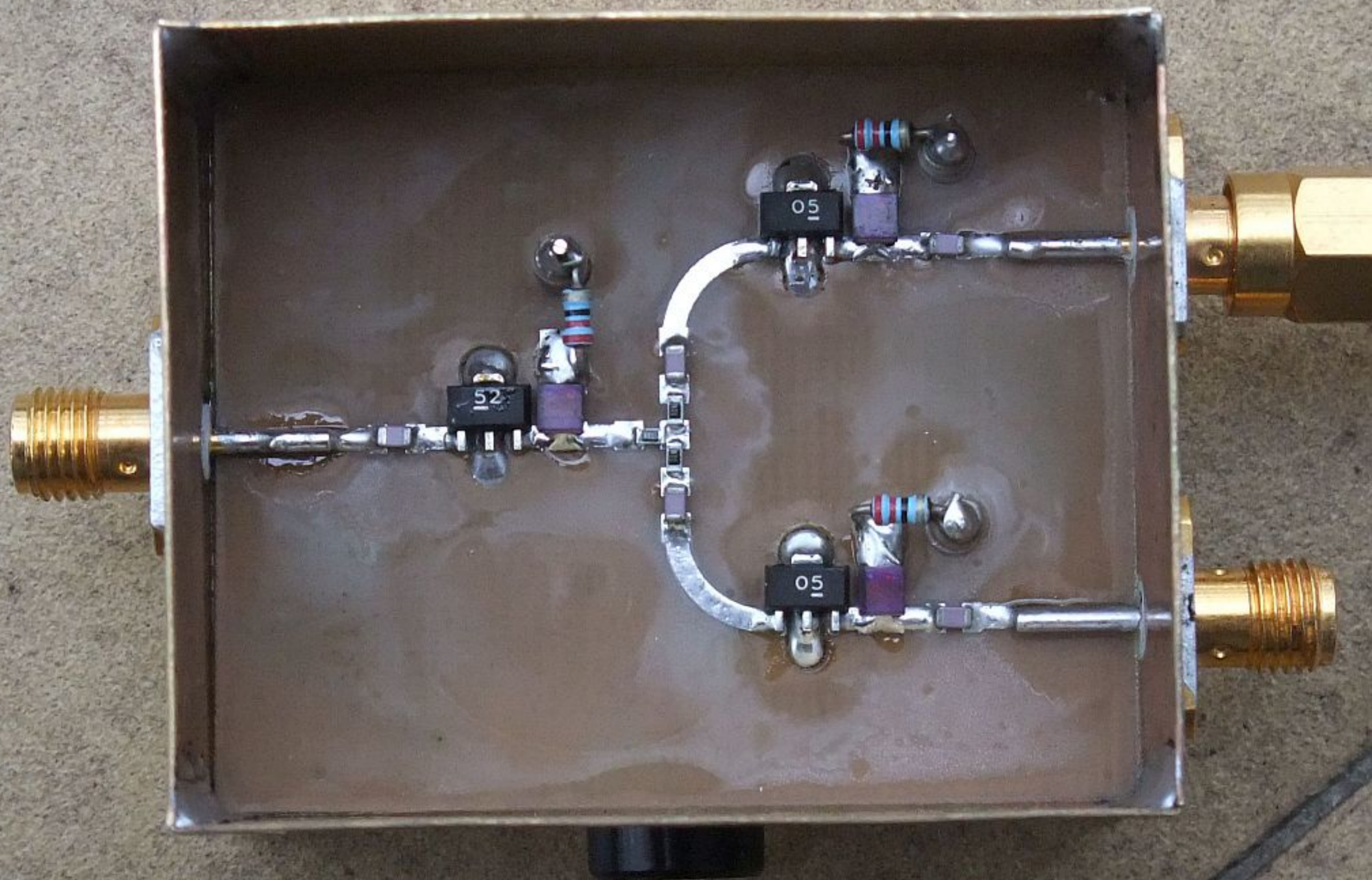


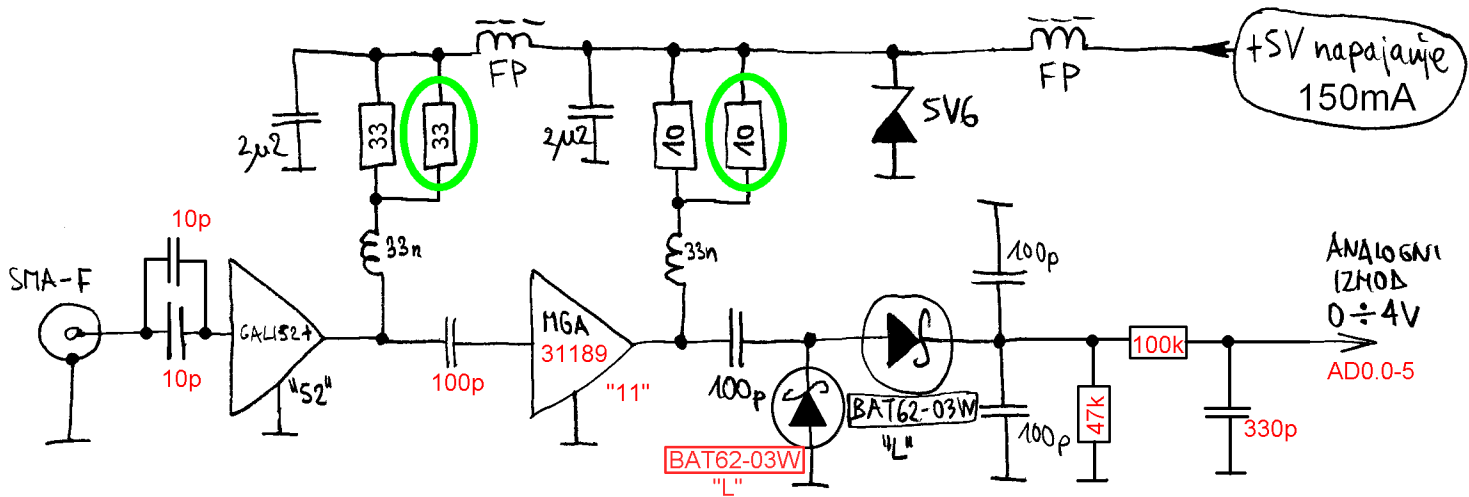


DEJLM OJAČEVALNIX
 553 MV 24/4/2017



50 OHM
3 0537



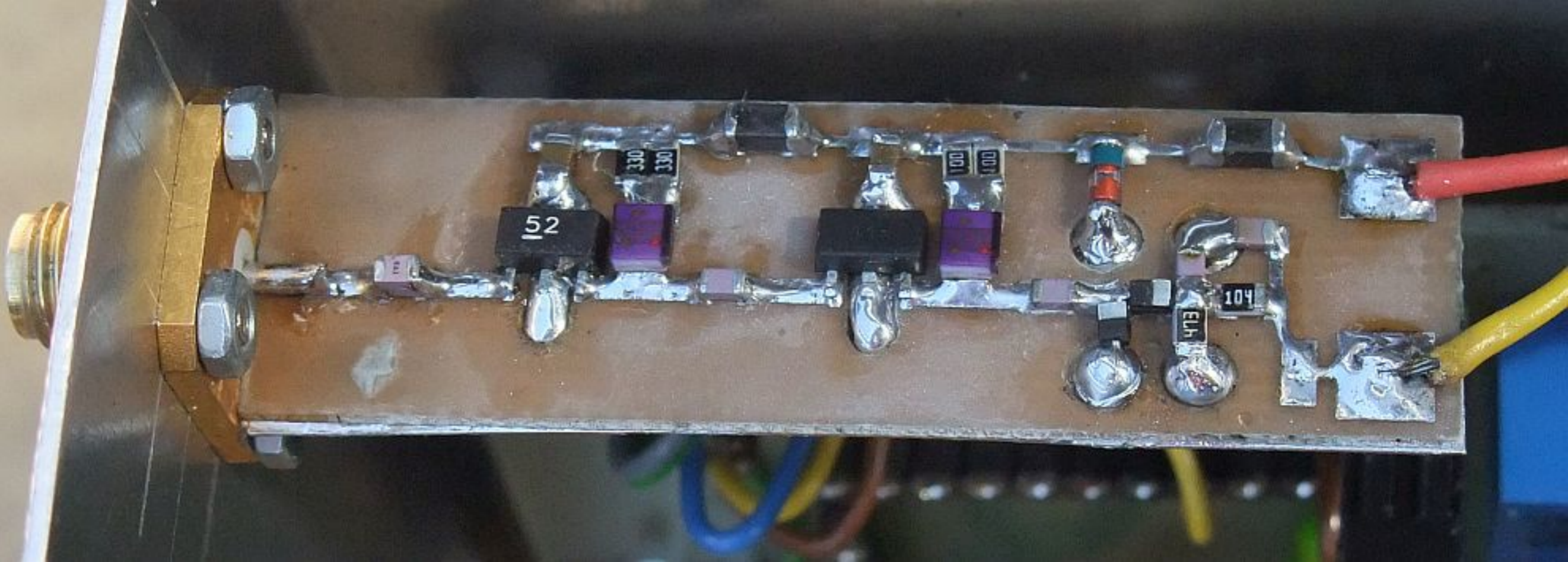


Linearni merilni sprejemnik

100MHz-2GHz

SS3MV

26.04.2017



52

330

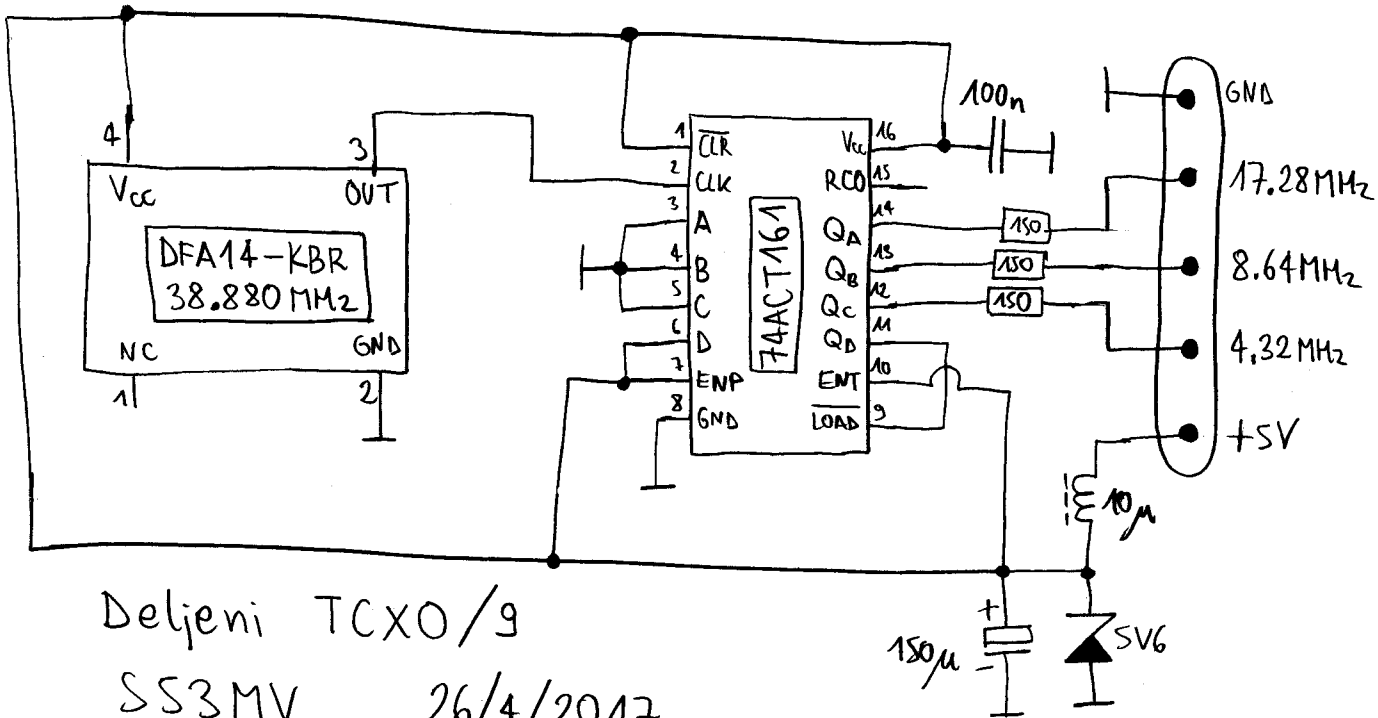
330

100

100

473

104



Deljeni TCXO/9

553MV

26/4/2017

DFEA 14-KBR
38.880 MHz
A14021 9833

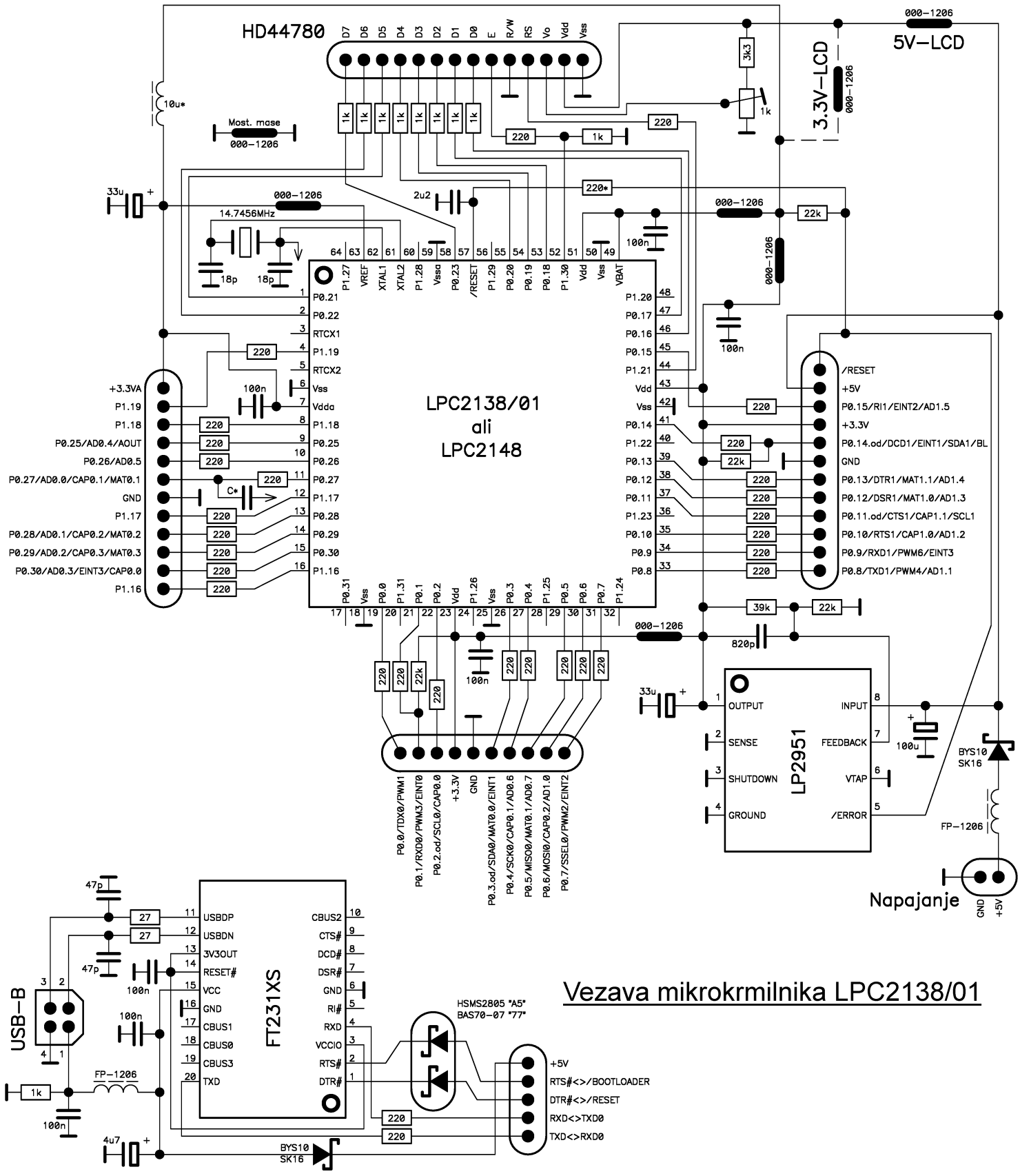
3ppm

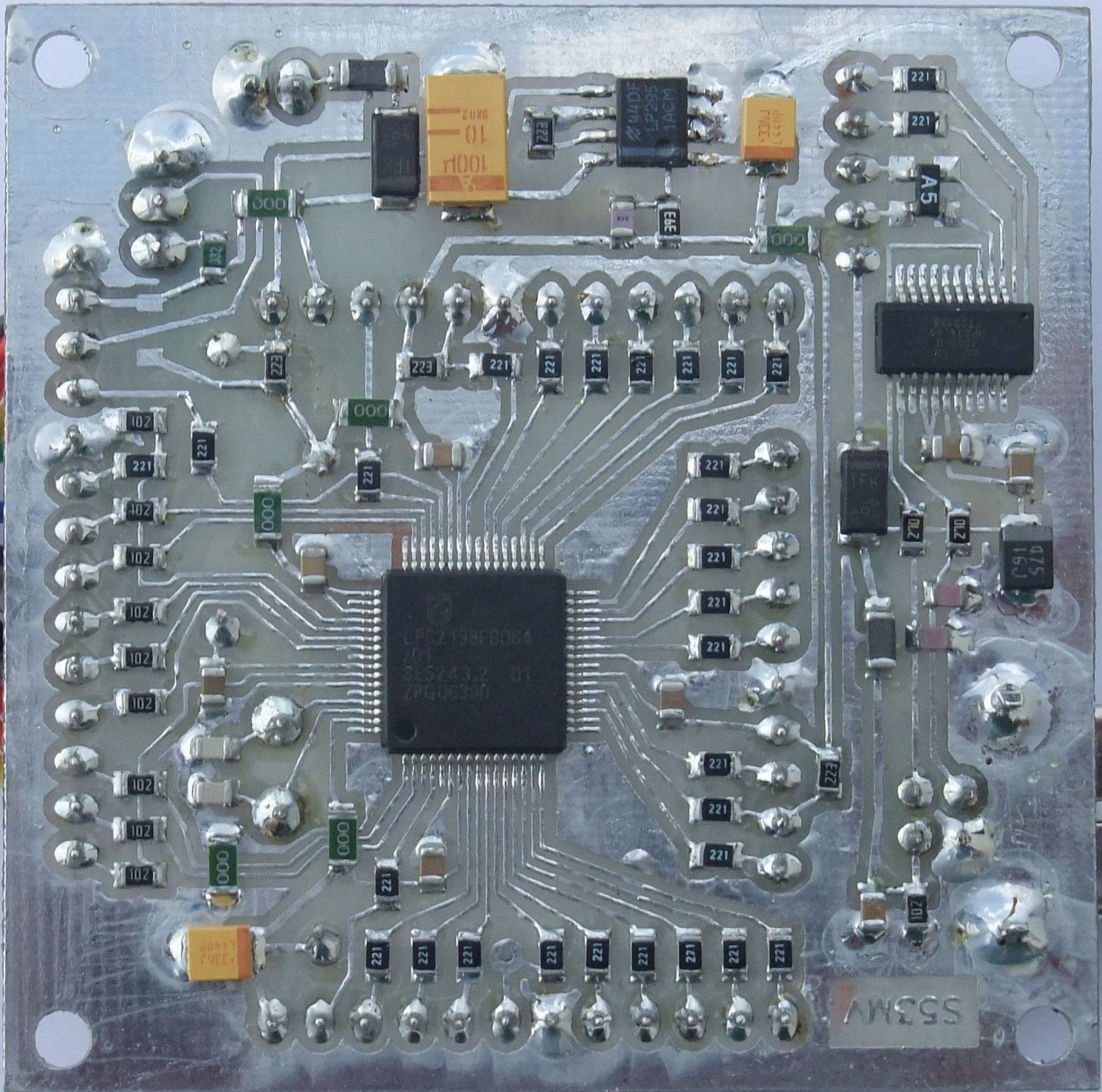


7805CT
MC

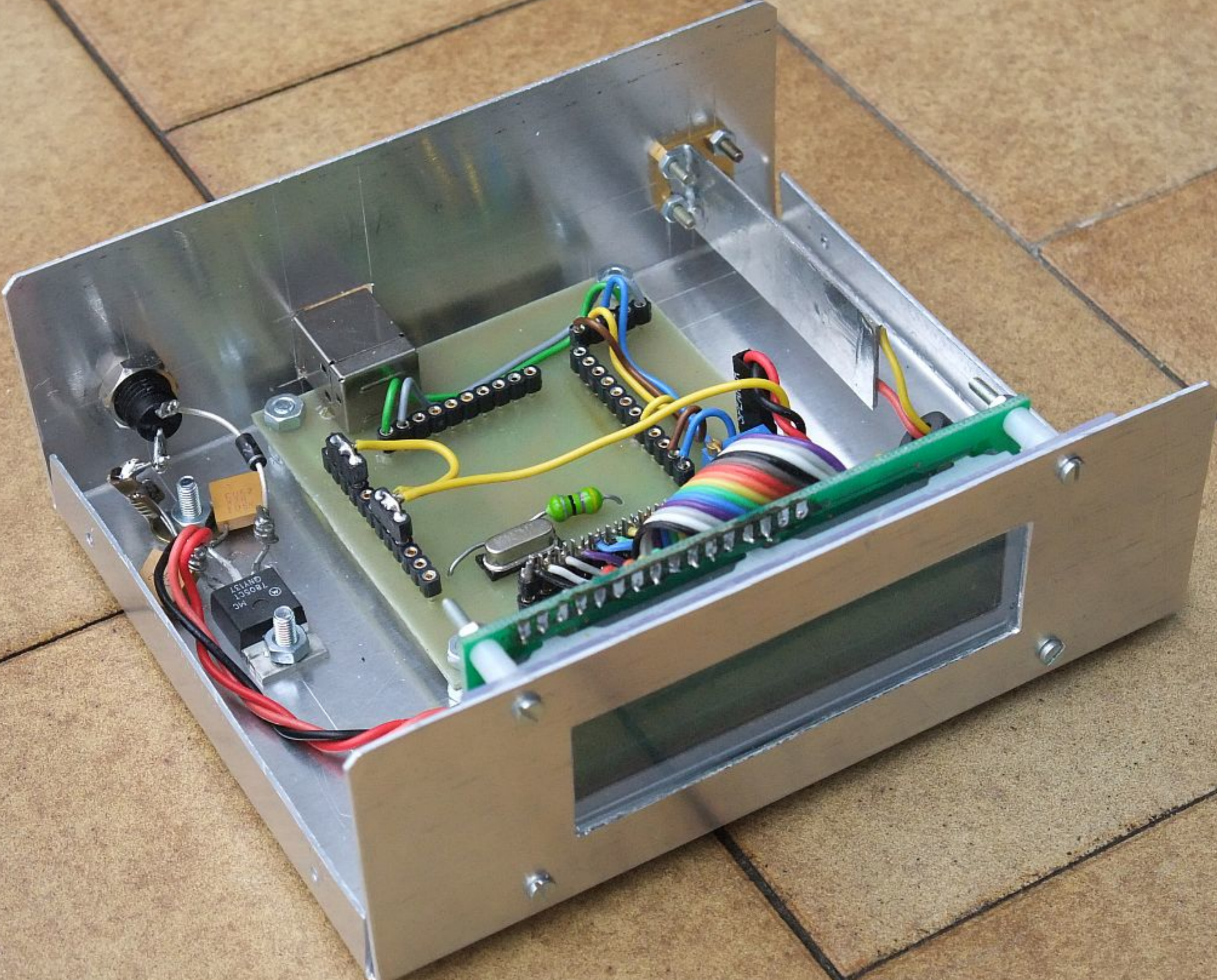
85727







S53MV





VHOD

FTDI

+12V=

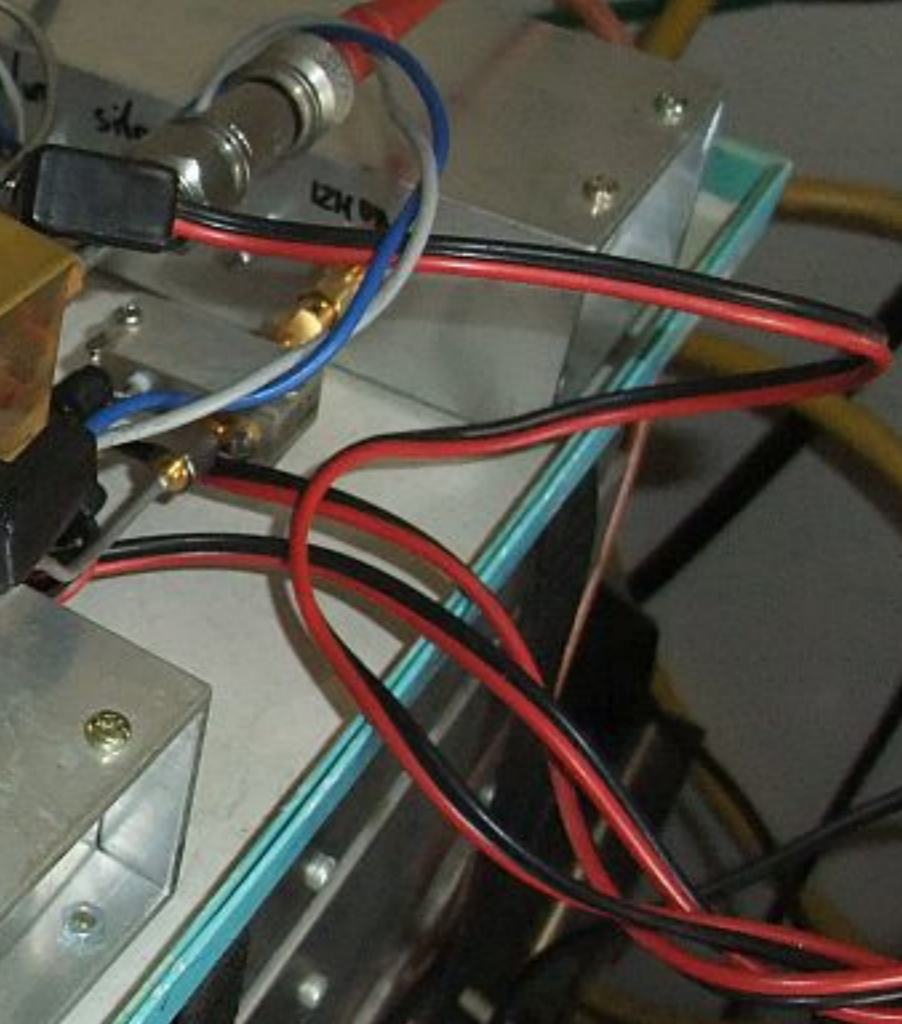
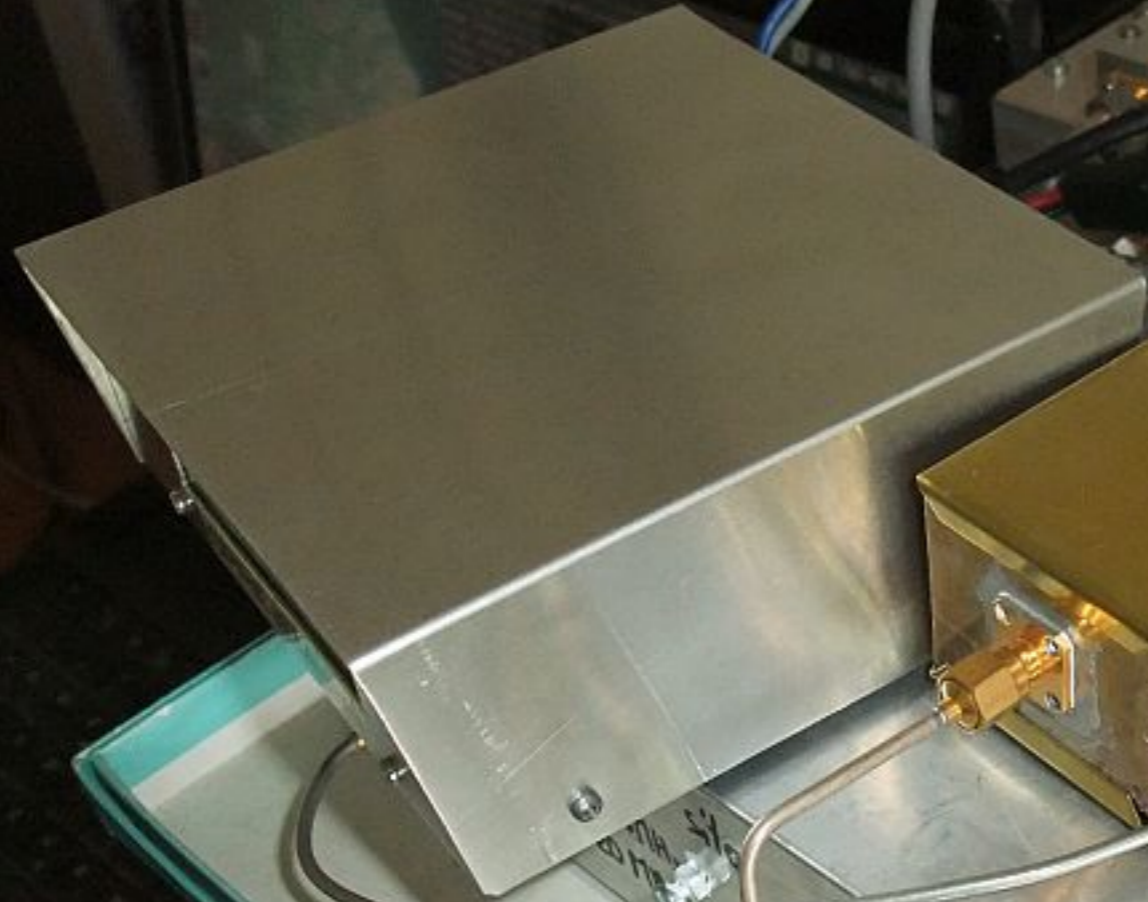
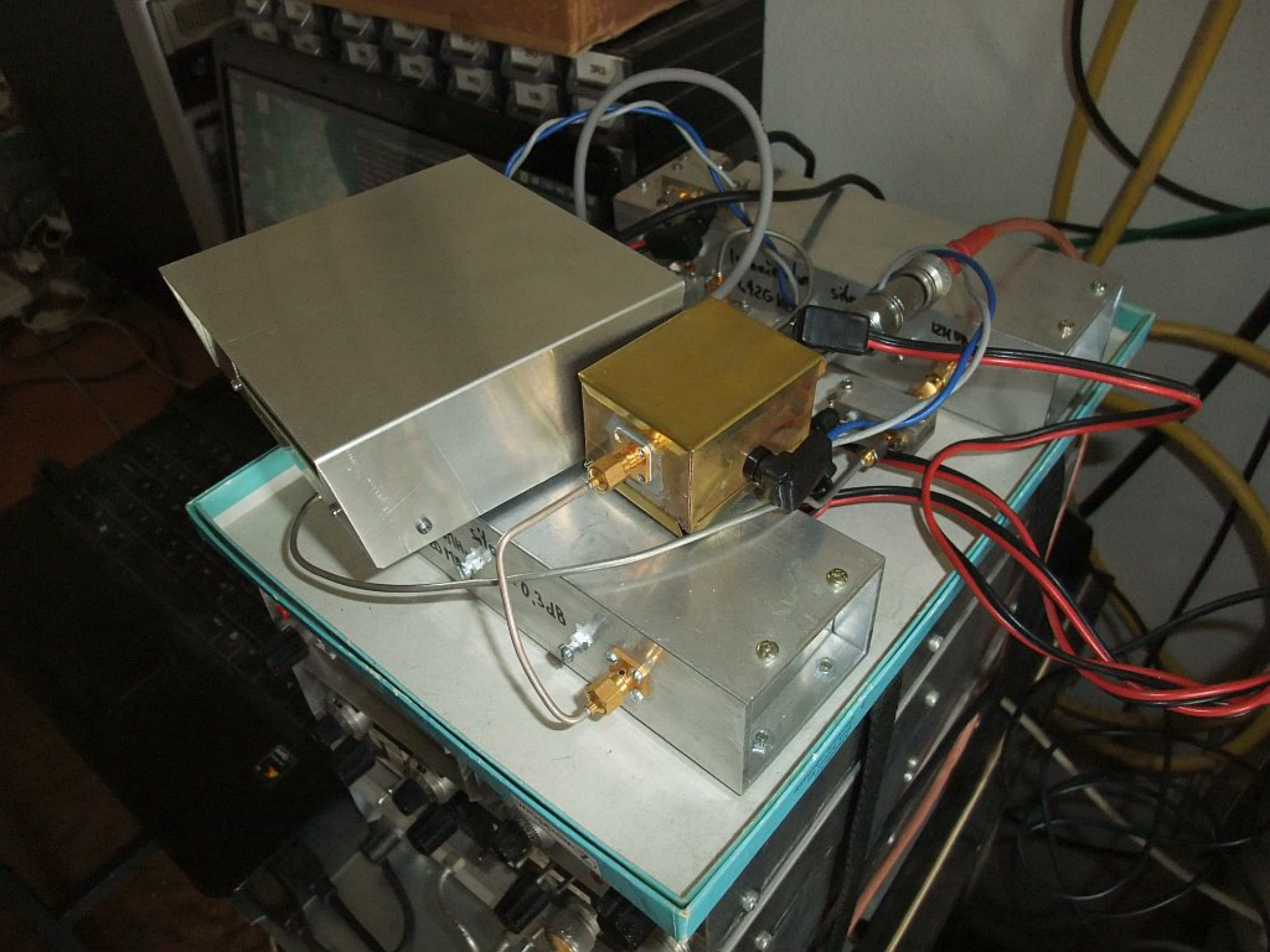
714.745b

38.880 MHz
31407

7805
QNY3

QC3
OK







1085 11966

SER N°
AAL086

Zmedkom

Fabrica para fotocopiadoras e impresoras laser

0
10
20
30

PULZNI

A=11065 ZN=123=

SPREJEMNIK

$f_0 = 1420 \text{ MHz}$
 $B = 20 \text{ MHz}$
 $a = 0.5 \text{ dB}$

3552

A4

100

Zweckform





PULZNI
SPREJEMNIK
 $f_0 = 1420 \text{ MHz}$
 $B = 20 \text{ MHz}$
 $a = 0,3, 0,8$

100 / 44 / 3552

LCD 128x64

Prepustni pas 1.42GHz

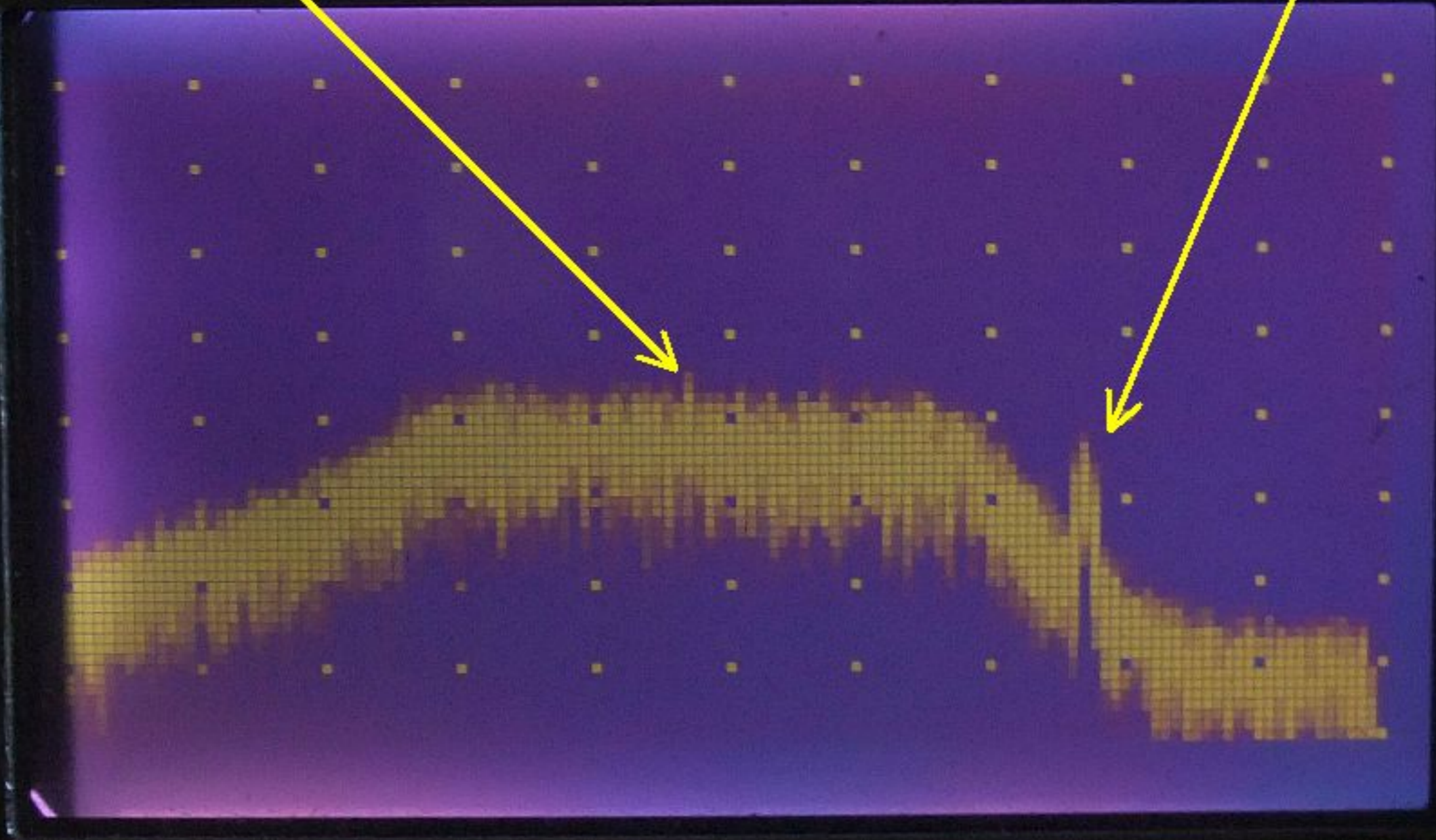
Motnja 1436MHz

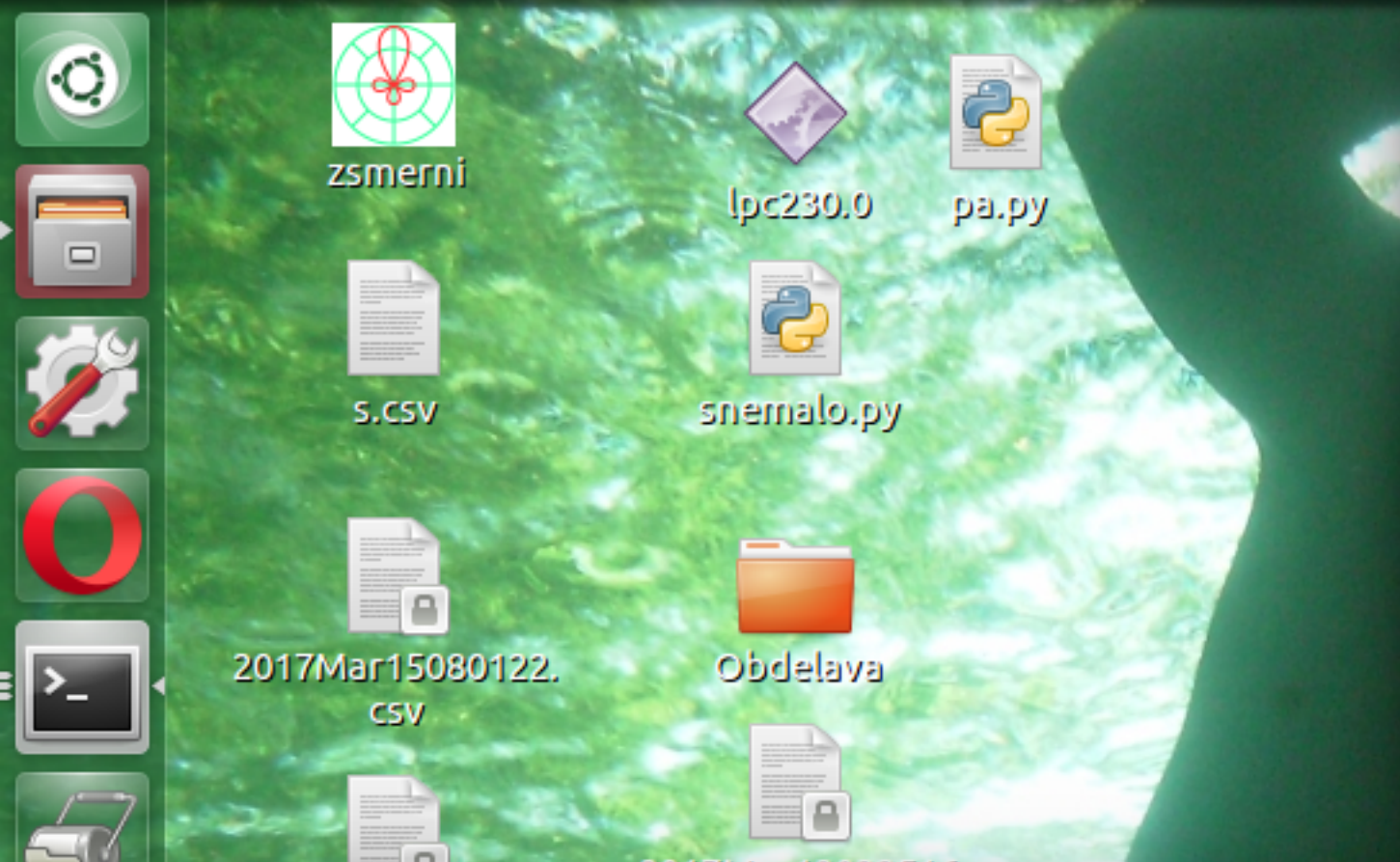
40dB-5dB/div

10dB/div

5MHz/div

2ms/div





cefizelj4@cefizelj4-HP-Compaq-6735s: ~/Desktop

```
Posnetek 4
Snemalo 200000 kbyte
Posnetek 3
Snemalo 200000 kbyte
Posnetek 2
Snemalo 200000 kbyte
Posnetek 1
Snemalo 200000 kbyte
Konec snemala...
```

```
cefizelj4@cefizelj4-HP-Compaq-6735s:~/Desktop$ sudo ./snemalo.py
```

```
##### Snemalo RS-232 230400bps/8bit - S53MV 10.05.2017 #####
```

```
Vstavi dolzino snemala v kbyte: 200000
```

```
Vstavi stevilo posnetkov: 8
```

```
Pocakaj na lenobni USB...
```

```
Posnetek 8
Snemalo 200000 kbyte
Posnetek 7
Snemalo 200000 kbyte
Posnetek 6
Snemalo 200000 kbyte
Posnetek 5
Snemalo 200000 kbyte
Posnetek 4
Snemalo 115779 kbyte
```

Terminal

```
Popravki 47.9/37.6>24.7 Ukaz vrtiljaku: &*AZ=047.88 Posnetek 5
2017-5-13 5:33:48 PSR B0329+54 47.4/38.4 Vrtiljak AZ=Snemalo 200000 kbyte
Popravki 47.9/37.6>24.8 Ukaz vrtiljaku: &*EL=024.79 Posnetek 4
2017-5-13 5:34:14 PSR B0329+54 47.4/38.4 Vrtiljak AZ=Snemalo 115779 kbyte
Popravki 48.0/37.7>24.8 Ukaz vrtiljaku: &*AZ=047.95
2017-5-13 5:34:39 PSR B0329+54 47.5/38.5 Vrtiljak AZ=048.07 EL=024.66
Popravki 48.0/37.7>24.9 Ukaz vrtiljaku: &*EL=024.88
2017-5-13 5:35:4 PSR B0329+54 47.5/38.5 Vrtiljak AZ=048.07 EL=024.84
Popravki 48.0/37.8>24.9 Ukaz vrtiljaku: &*AZ=048.03
2017-5-13 5:35:29 PSR B0329+54 47.5/38.6 Vrtiljak AZ=047.91 EL=024.84
Popravki 48.1/37.8>25.0 Ukaz vrtiljaku: &*EL=024.96
2017-5-13 5:35:55 PSR B0329+54 47.6/38.6 Vrtiljak AZ=047.91 EL=025.09
Popravki 48.1/37.9>25.0 Ukaz vrtiljaku: &*AZ=048.10
2017-5-13 5:36:20 PSR B0329+54 47.6/38.7 Vrtiljak AZ=048.22 EL=025.08
Popravki 48.1/37.9>25.1 Ukaz vrtiljaku: &*EL=025.05
2017-5-13 5:36:45 PSR B0329+54 47.6/38.7 Vrtiljak AZ=048.22 EL=024.92
Popravki 48.2/38.0>25.1 Ukaz vrtiljaku: &*AZ=048.17
2017-5-13 5:37:11 PSR B0329+54 47.7/38.8 Vrtiljak AZ=048.05 EL=024.91
Popravki 48.2/38.0>25.1 Ukaz vrtiljaku: &*EL=025.14
2017-5-13 5:37:36 PSR B0329+54 47.7/38.8 Vrtiljak AZ=048.05 EL=025.26
Popravki 48.2/38.1>25.2 Ukaz vrtiljaku: &*AZ=048.25
2017-5-13 5:38:1 PSR B0329+54 47.8/38.9 Vrtiljak AZ=048.37 EL=025.26
Popravki 48.3/38.2>25.2 Ukaz vrtiljaku: &*EL=025.22
```