TYTERA TH-UV8000D frequency bands mod

*There might be a newer version of this document. First of all, **download the latest revision**.*
All comments are welcome. You can post them on my blog by clicking here.

Content of this document

This document explains how to access to a wider frequency band in VHF as well as in UHF.
To do so, you'll only need to use the genuine CPS from TYTERA (and maybe an hex editor).
Since no softpots other than TX power can be modified with the CPS, you should keep in mind that the overall performances outside the initial band plan are likely to be execrable.

Links to the CPS and other related articles/softwares are avaliable at the last page of this document.

Frequency bands mod

1st method : apply the mod without losing your custom parameters

Open the CPS, read your radio and save the file on your hard drive.

Open HexCmp2, open the radio settings file and replace the highlighted bytes with the following values :

OFFSET	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
000011B0	FF	FF	FF	FF	C0	0D	E0	10	00	00	00	FF	BD	F6	F8	65
000011C0	94	16	00	0C	00	F5	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
000011D0	FF	FF	FF	FF	FF	F1	32	D0	EF	1A	F5	FF	00	0F	FF	FF
000011E0	00	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
000011F0	FF	FF	FF	FF	FF	FF	FF	FF	50	54	43	38	38	FF	15	00
00001200	00	5A	62	02	00	75	19	03	C0	77	CC	00	00	8E	0C	01
00001210	00	2D	31	01	80	BA	8C	01	00	00	00	00	00	00	00	00
00001220	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
00001230	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
00001240	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
00001250	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
00001260	E3	07	03	1B	13	03	2F	FF	FF	FF	FF	FF	FF	FF	FF	FF
00001270	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
00001280	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
00001290	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

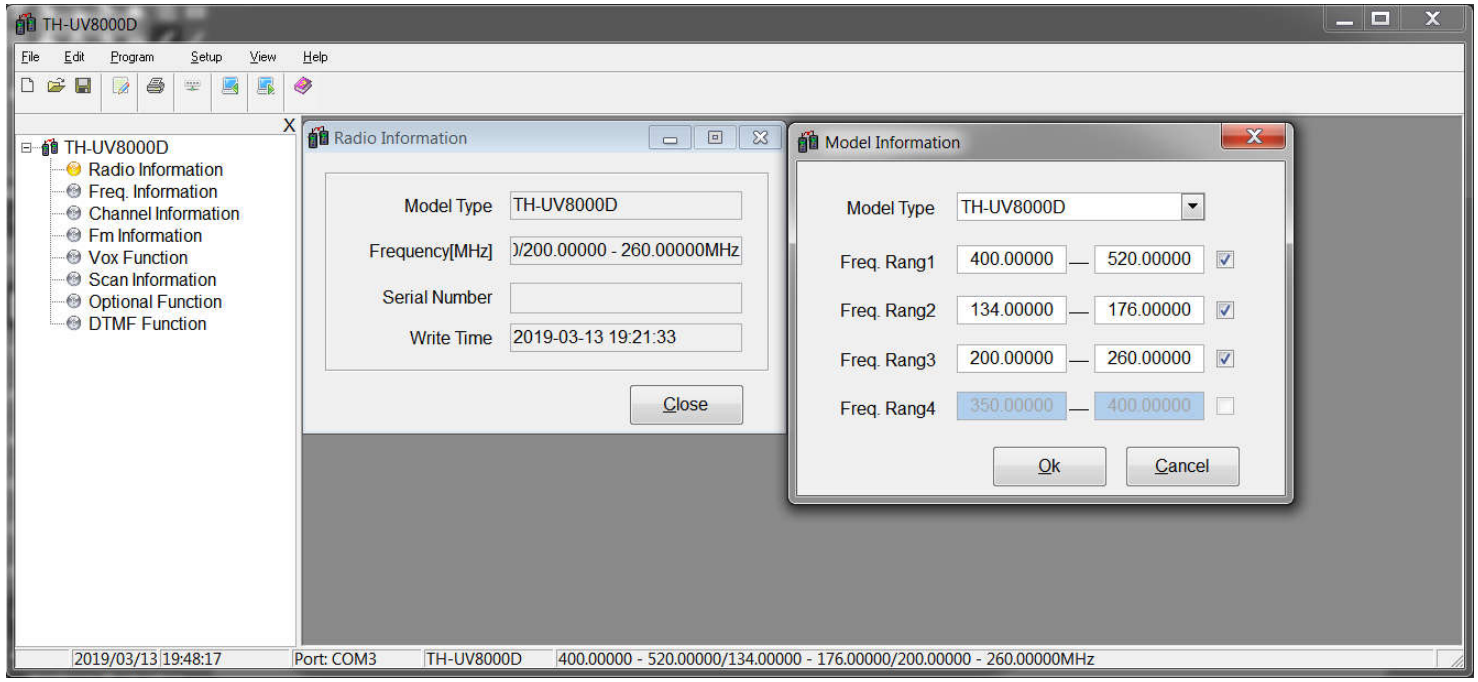
Take care to edit the exact same address offset and don't edit any other byte.

Save the modified file with a new name, just in case you made a mistake while editing the file content.

Go back to the CPS, open your modified file and upload it to the radio.

2nd method : apply the mod with all parameters reset to default values

Open the CPS, click on « Setup » then « Model Information ».
Edit the « Freq. Rang » fields with the following values :

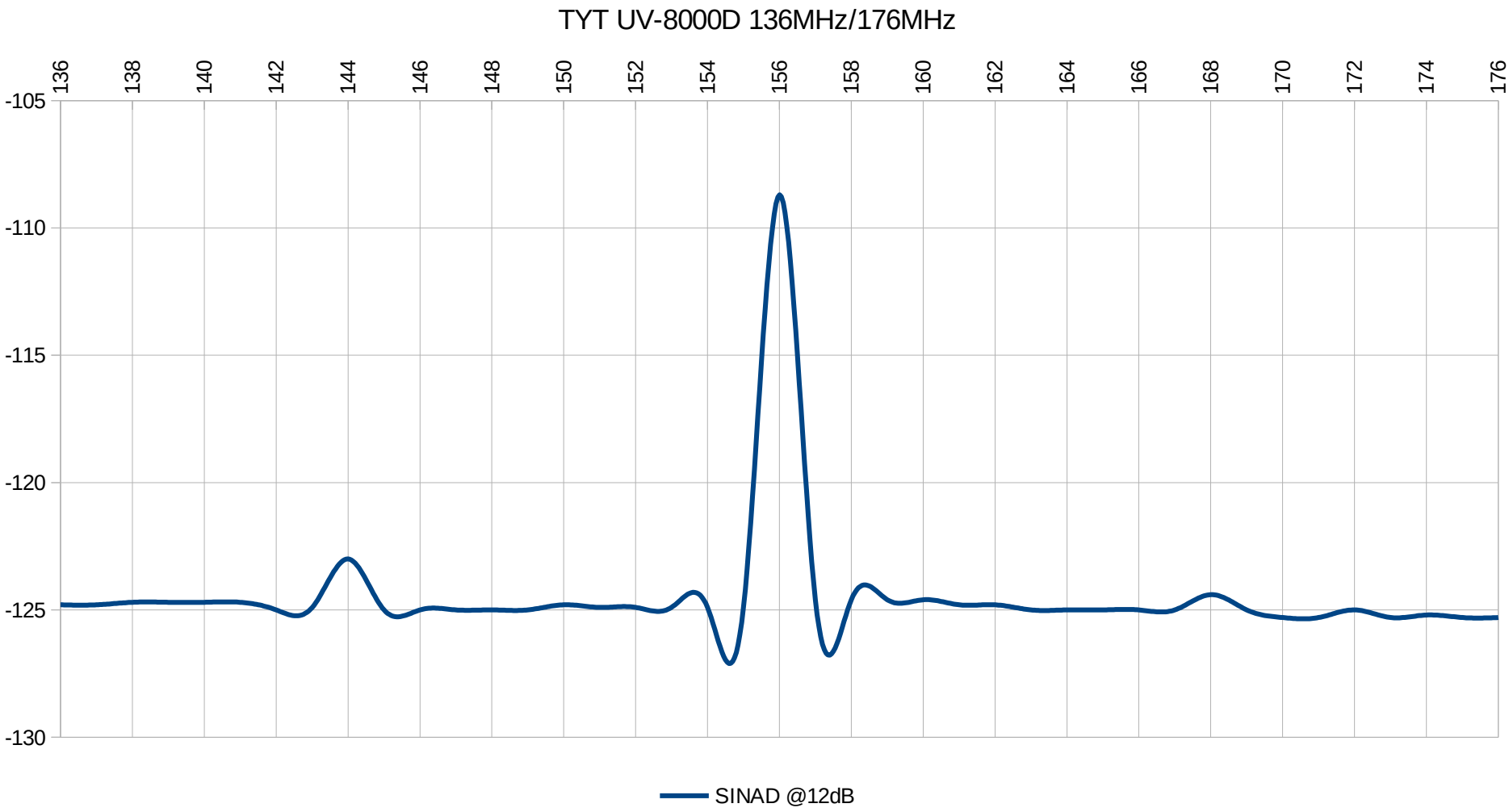


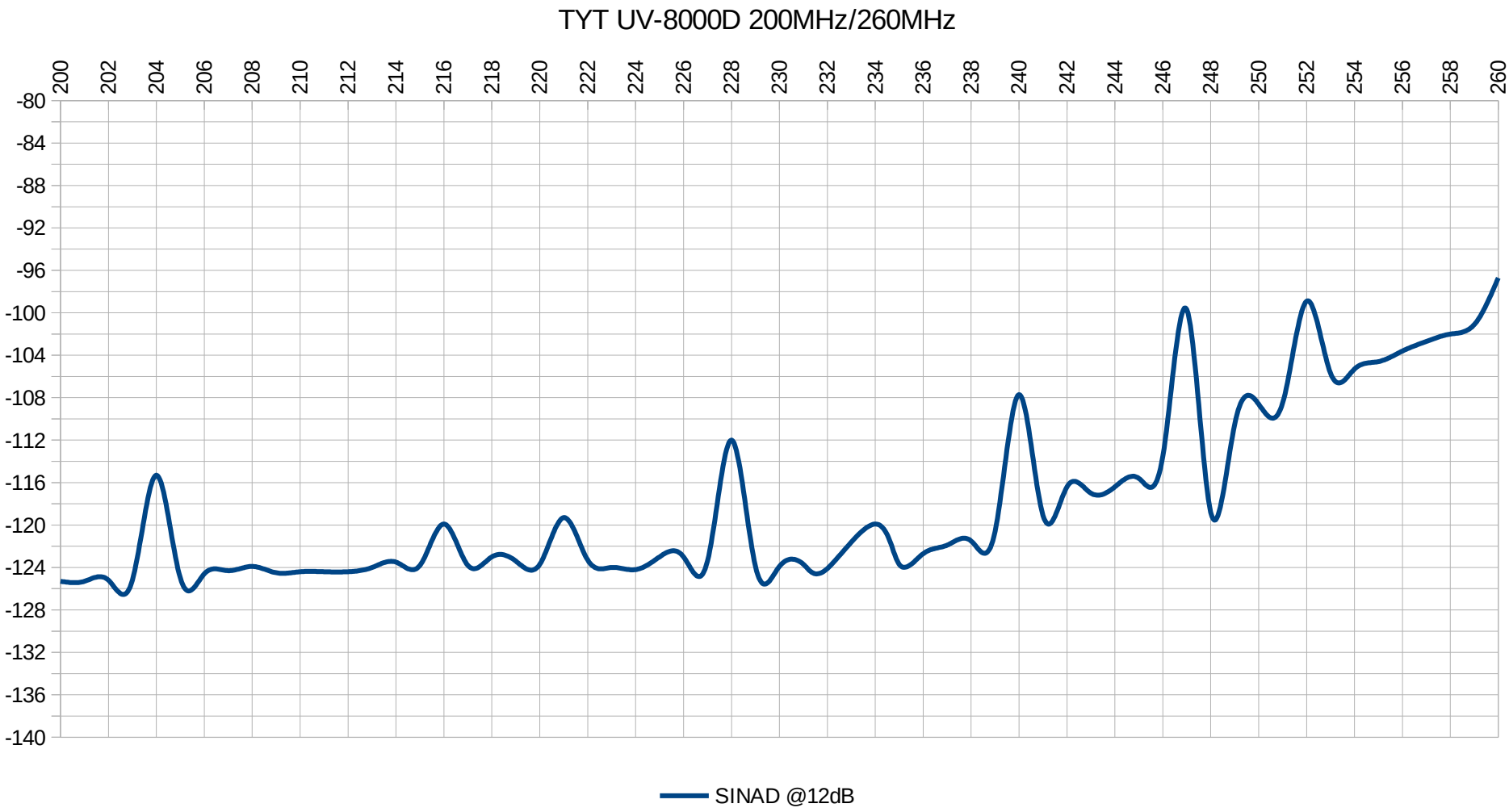
Click « Ok » then upload the data to the radio.

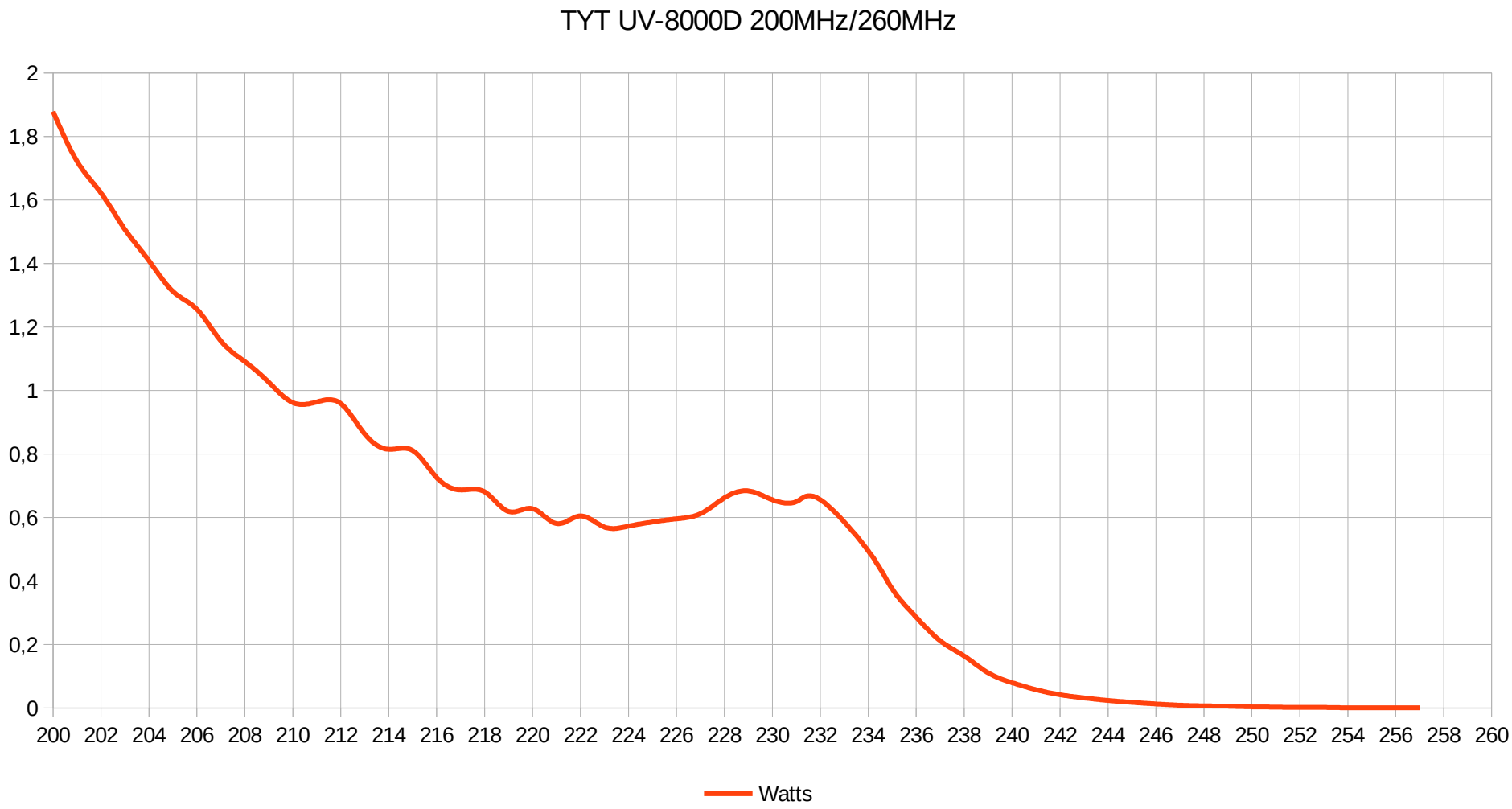
SINAD measurements

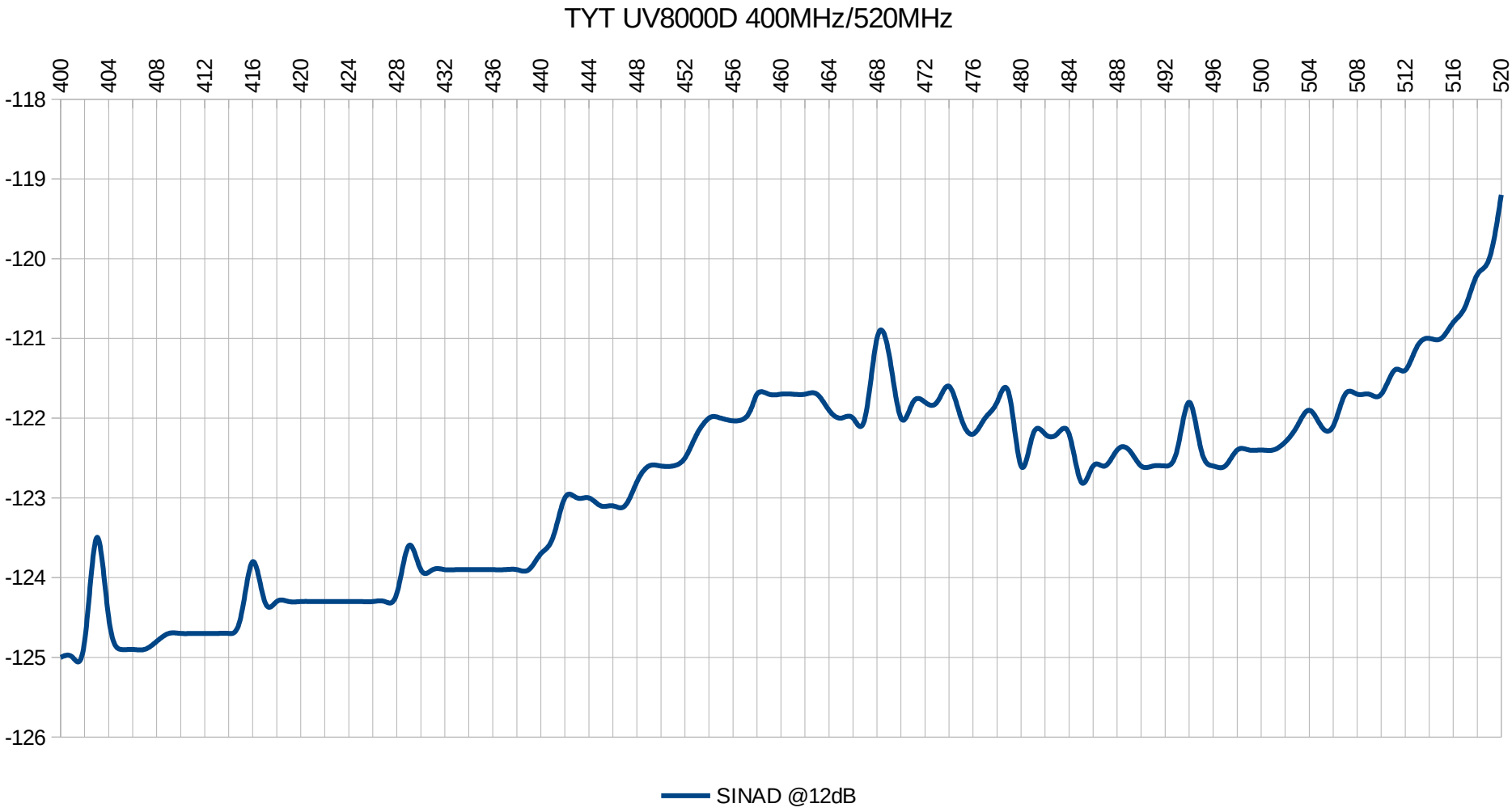
The following measurements have been performed with a Rohde&Schwarz CMS50 Radiocommunication Service Monitor.

Peaks on the SINAD values are due to internal reference oscillator interferences, which increases the noise floor on specific frequencies and inevitabley degrades the receiver’s sensitivity.


TYT UV-8000D 136MHz/176MHz
136
138
140
142
144
146
148
150
152
154
156
158
160
162
164
166
168
170
172
174
176
-105
-110
-115
-120
-125
-130
SINAD @12dB


TYT UV-8000D 200MHz/260MHz
200
202
204
206
208
210
212
214
216
218
220
222
224
226
228
230
232
234
236
238
240
242
244
246
248
250
252
254
256
258
260
-80
-84
-88
-92
-96
-100
-104
-108
-112
-116
-120
-124
-128
-132
-136
-140
SINAD @12dB


TYT UV-8000D 200MHz/260MHz
2
1,8
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
200 202 204 206 208 210 212 214 216 218 220 222 224 226 228 230 232 234 236 238 240 242 244 246 248 250 252 254 256 258 260
Watts


TYT UV8000D 400MHz/520MHz
400
404
408
412
416
420
424
428
432
436
440
444
448
452
456
460
464
468
472
476
480
484
488
492
496
500
504
508
512
516
520
-118
-119
-120
-121
-122
-123
-124
-125
-126
SINAD @12dB

Links :

Softwares

TH-UV8000D CPS V1.0 (11/22/2014)
HexCmp2 (mirror link)