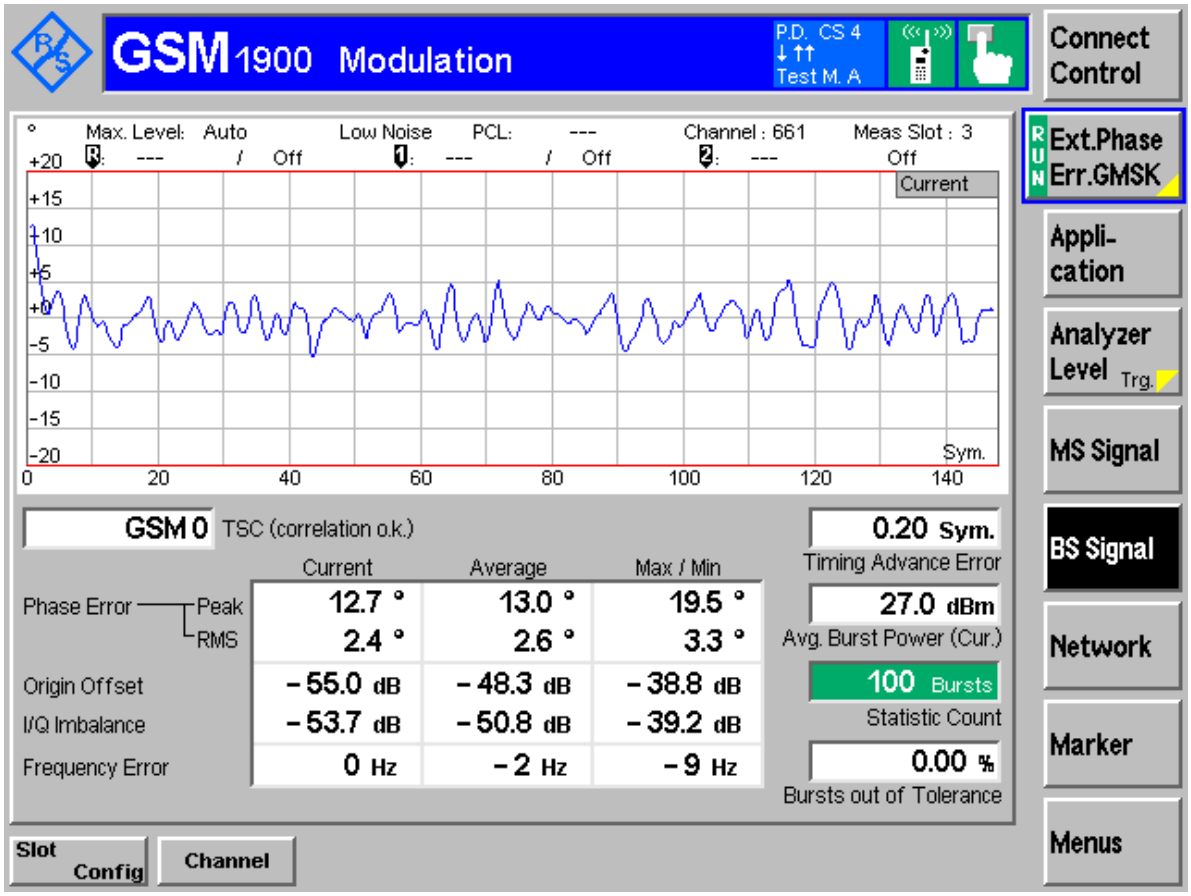
Appendix A

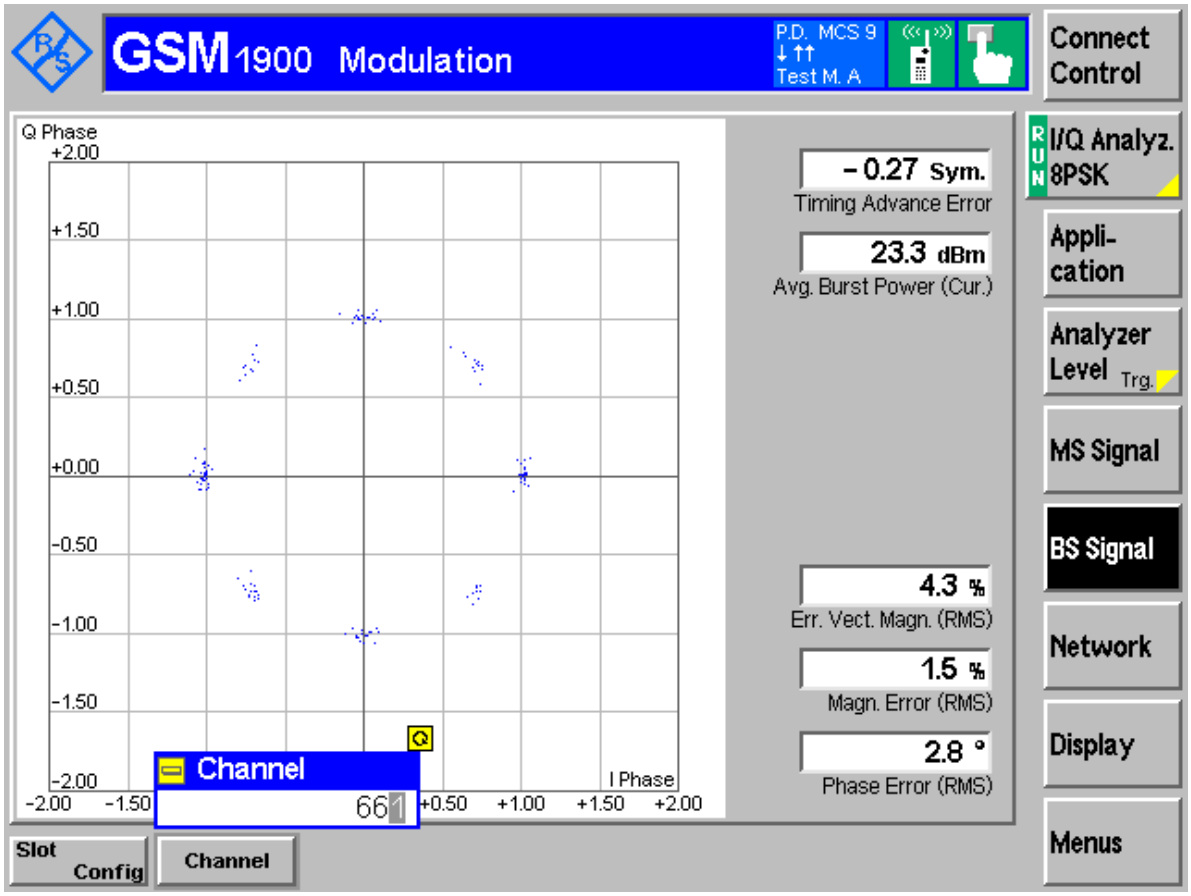
Modulation Characteristics

According to FCC Part 2.1047 & Part24 Subpart E &RSS-133

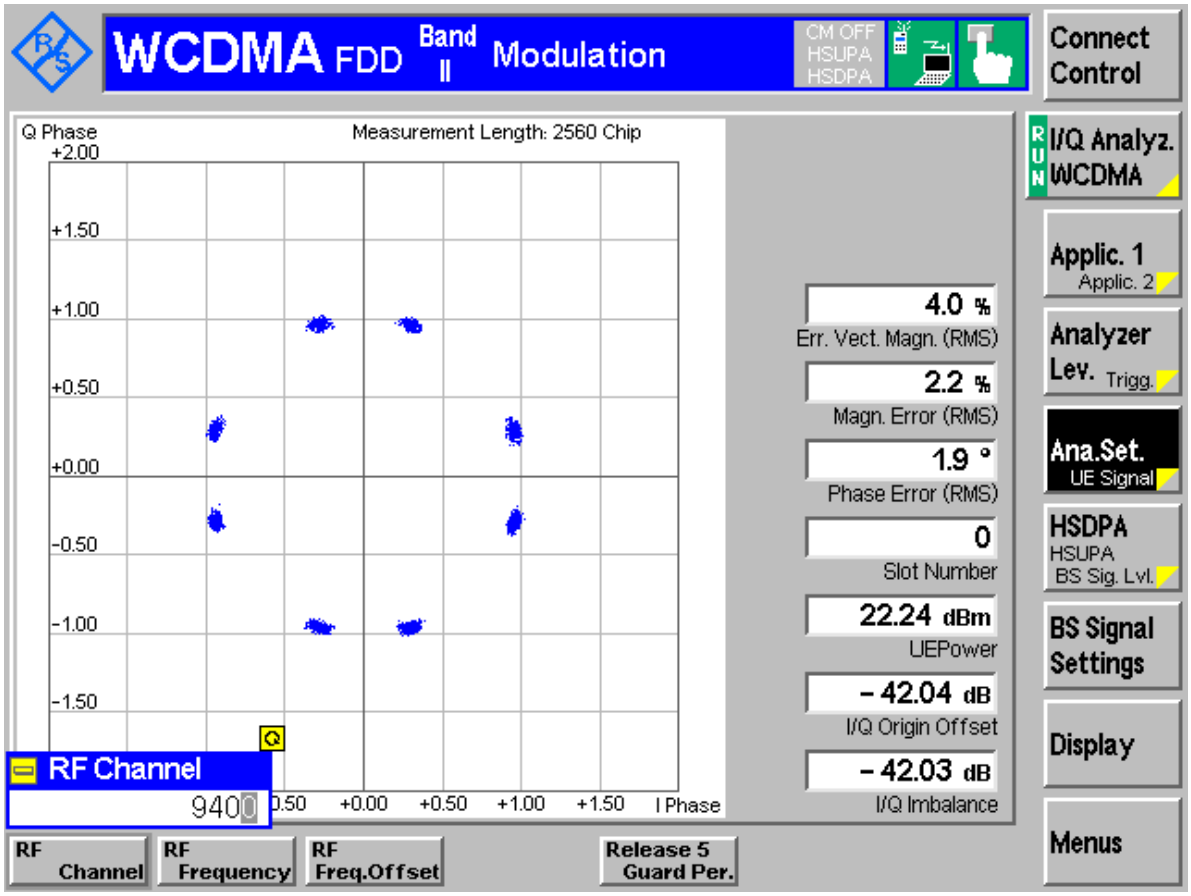
TM1:GPRS/GSM
Channel 661



TM2:EDGE
Channel 661



TM3: WCDMA
Channel 9400

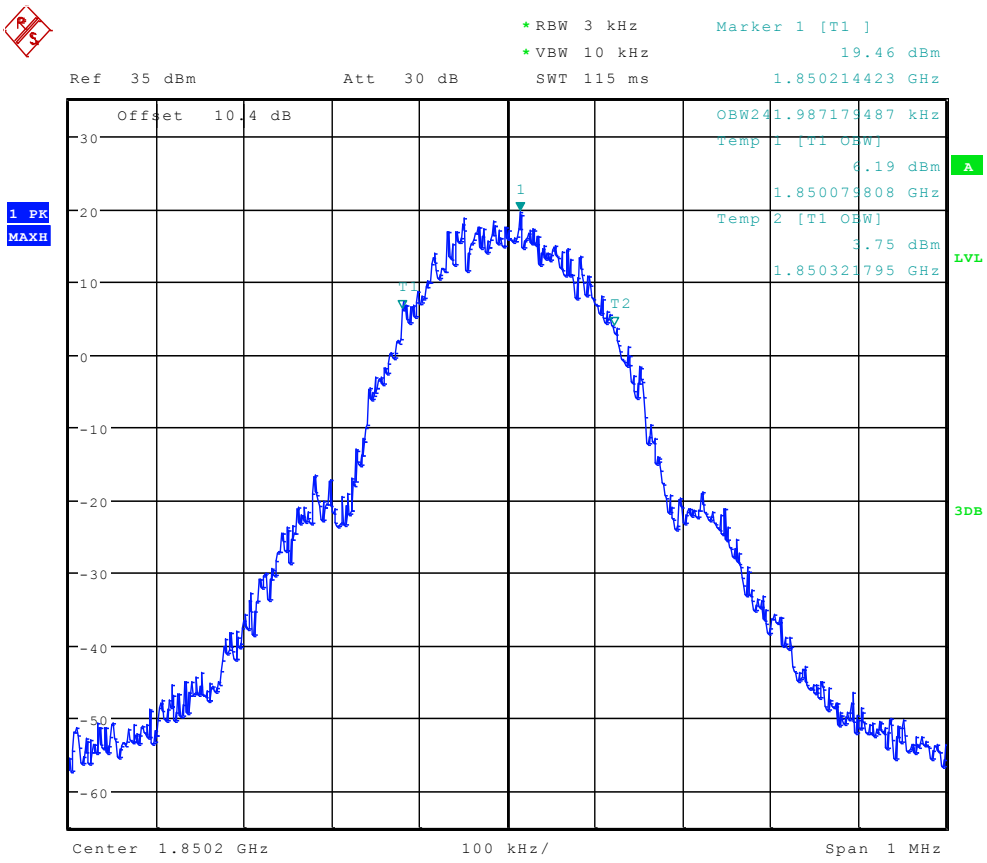


Appendix B

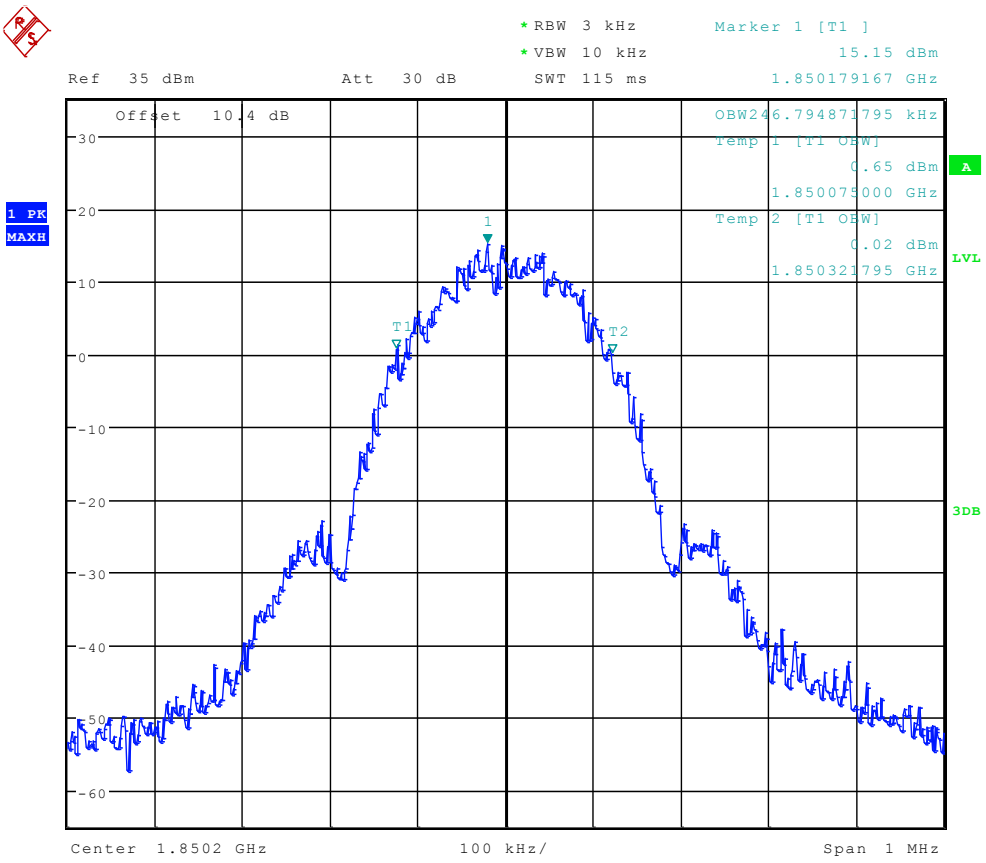
Occupied Bandwidth

According to FCC Part 2.1049 & Part24 Subpart E &RSS-133

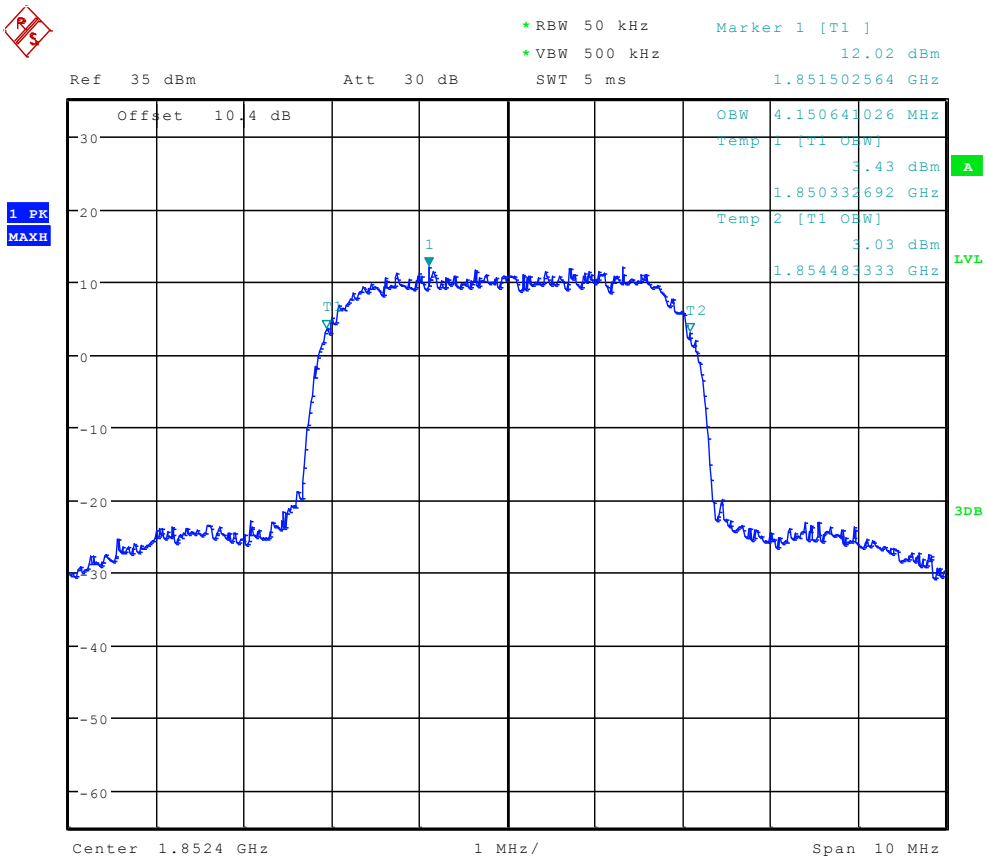
TM1:GPRS/GSM
Channel 512



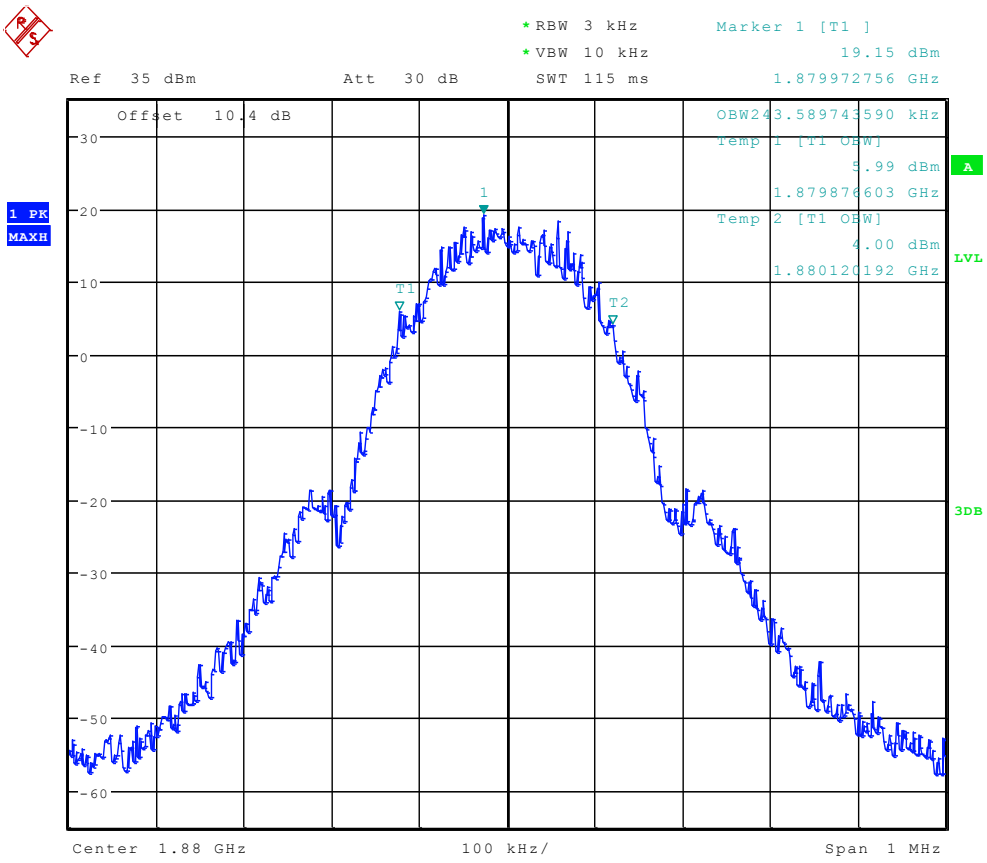
TM2:EDGE
Channel 512



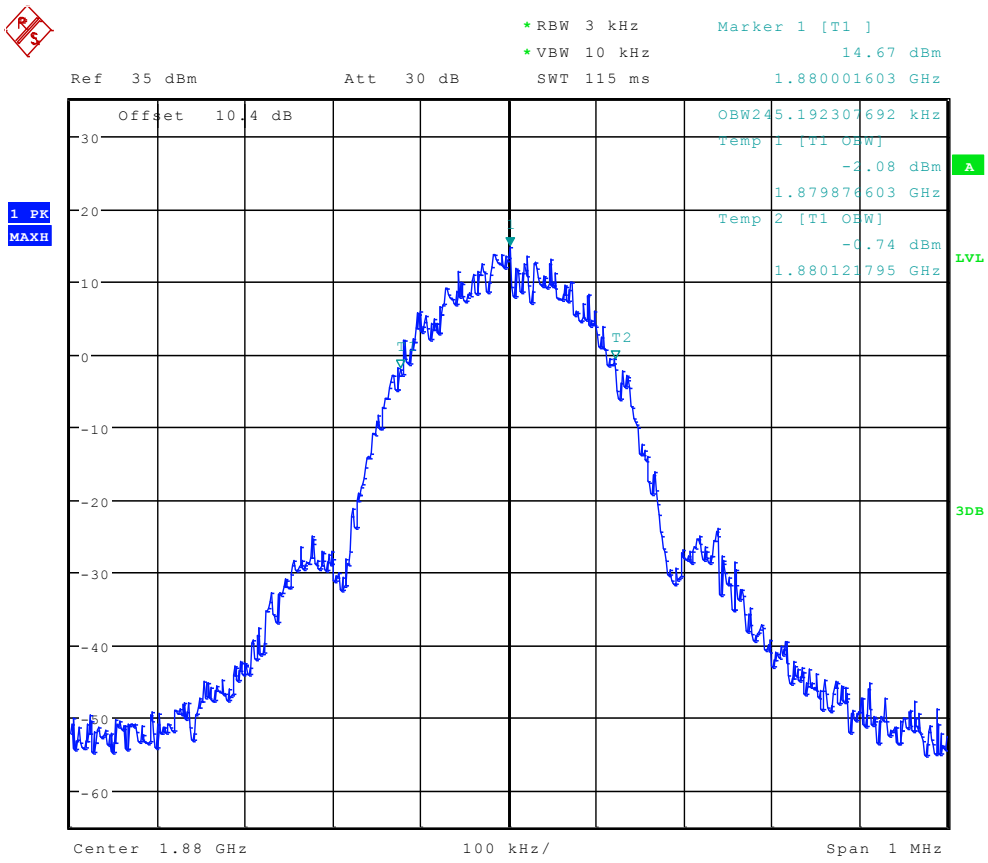
TM3: WCDMA
Channel 9262



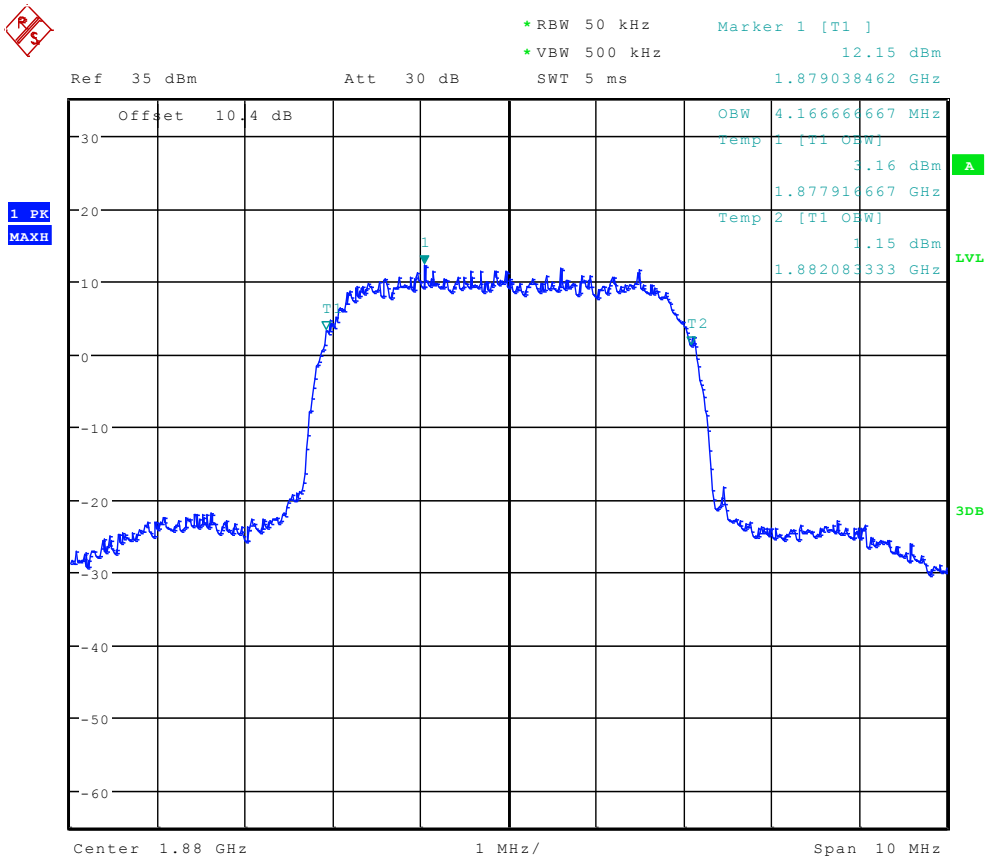
TM1:GPRS/GSM
Channel 661



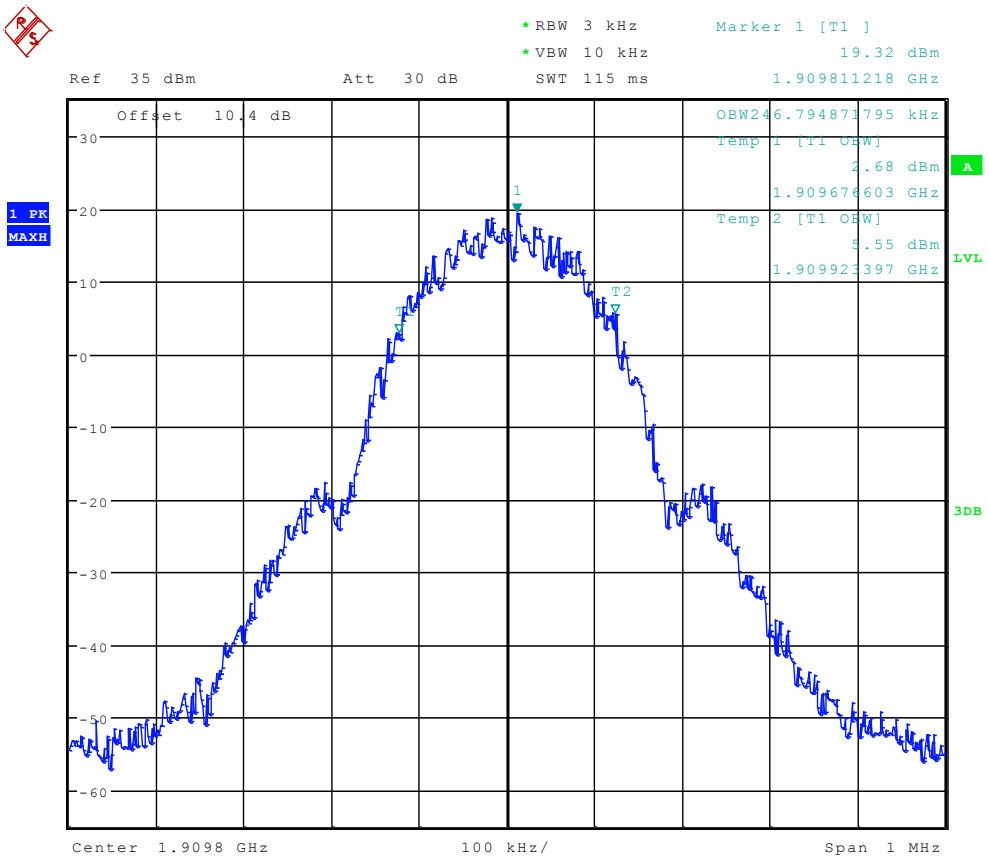
TM2:EDGE
Channel 661



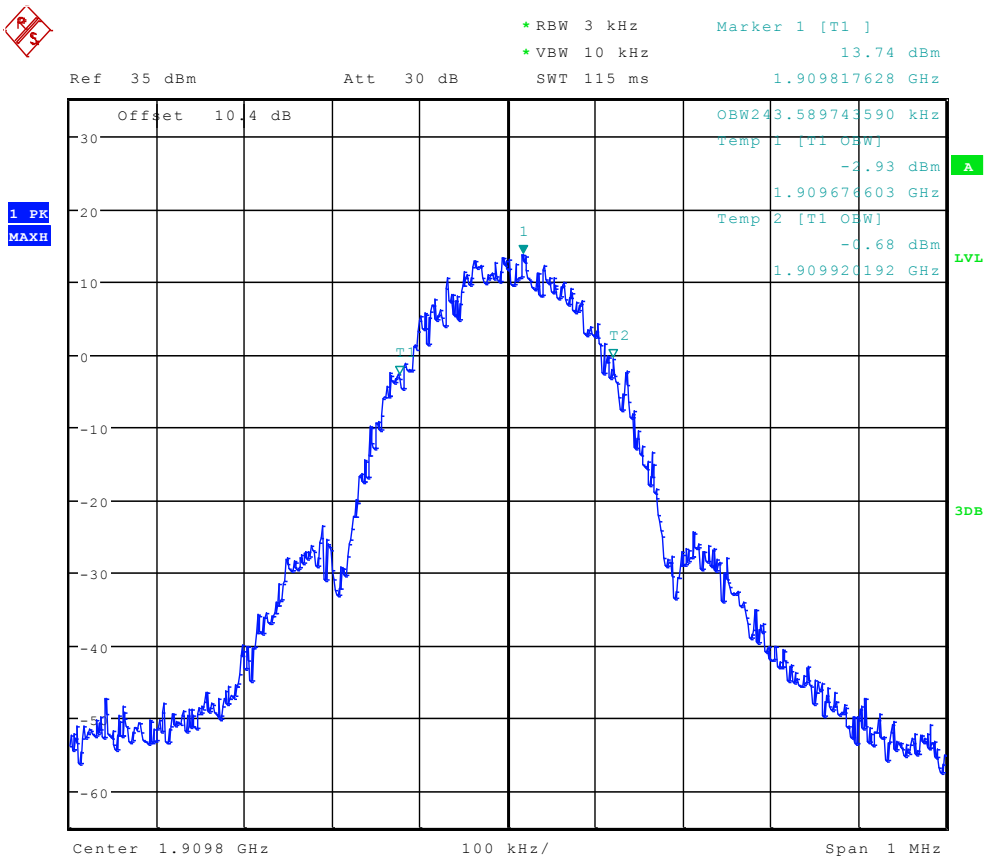
TM3: WCDMA
Channel 9400



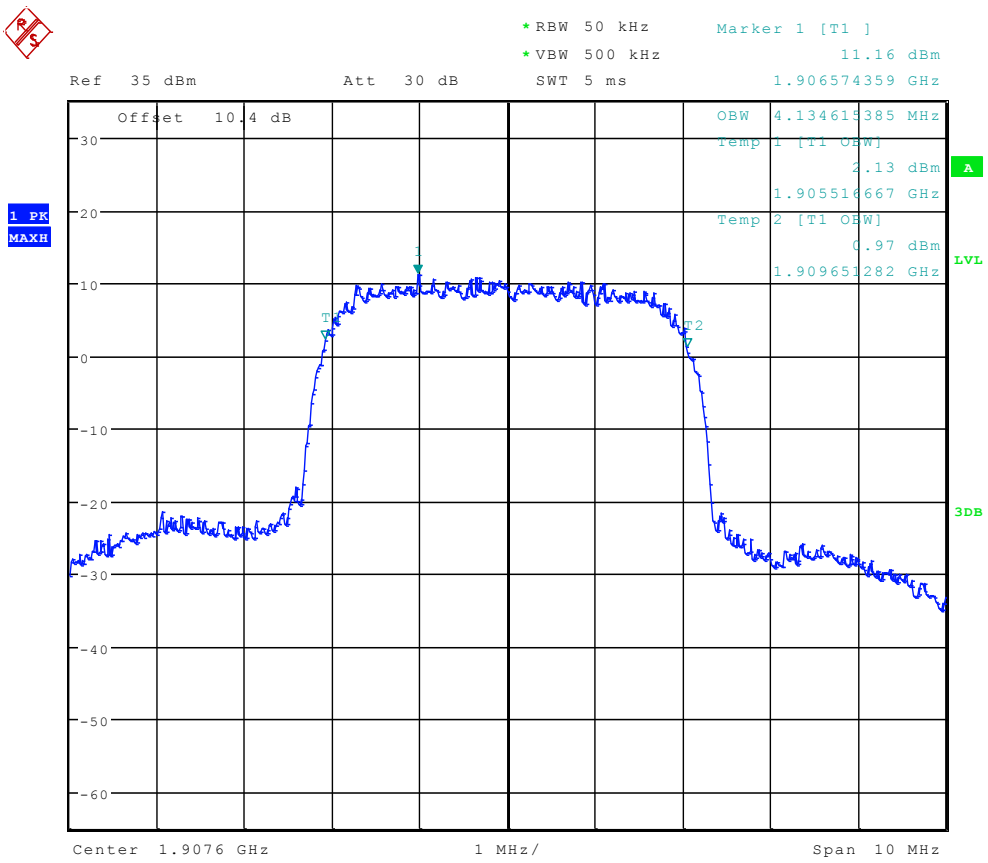
TM1:GPRS/GSM
Channel 810



TM2:EDGE
Channel 810



TM3: WCDMA
Channel 9538

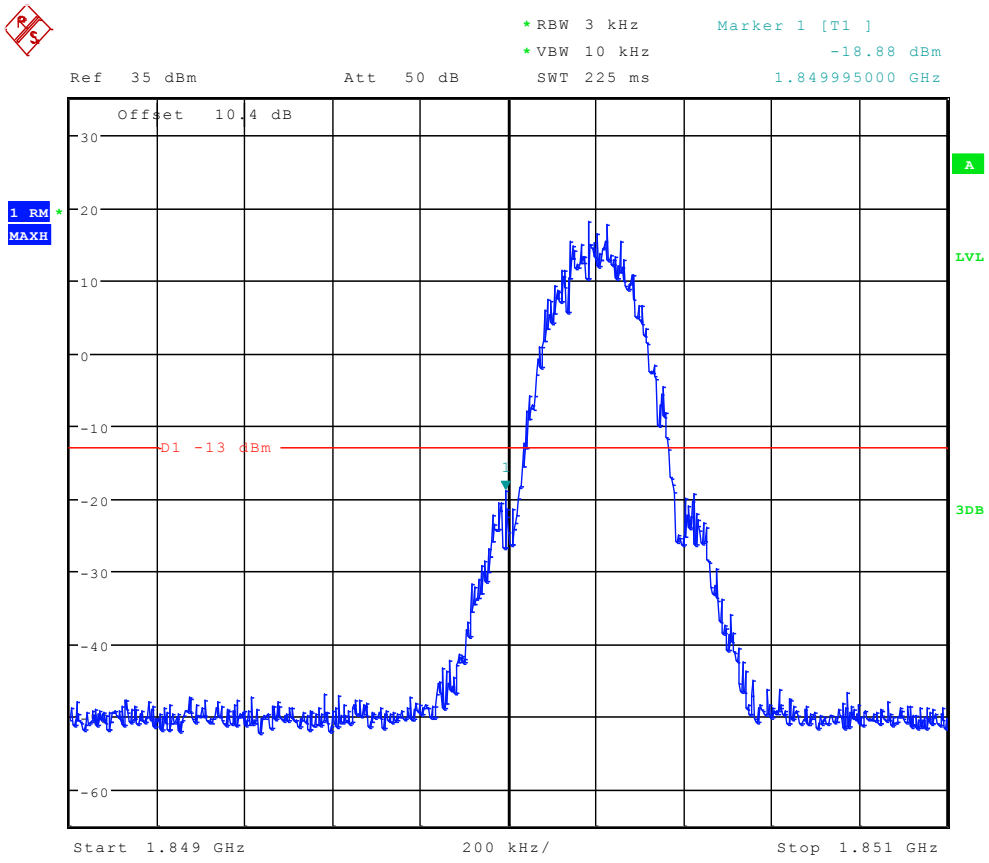


Appendix C

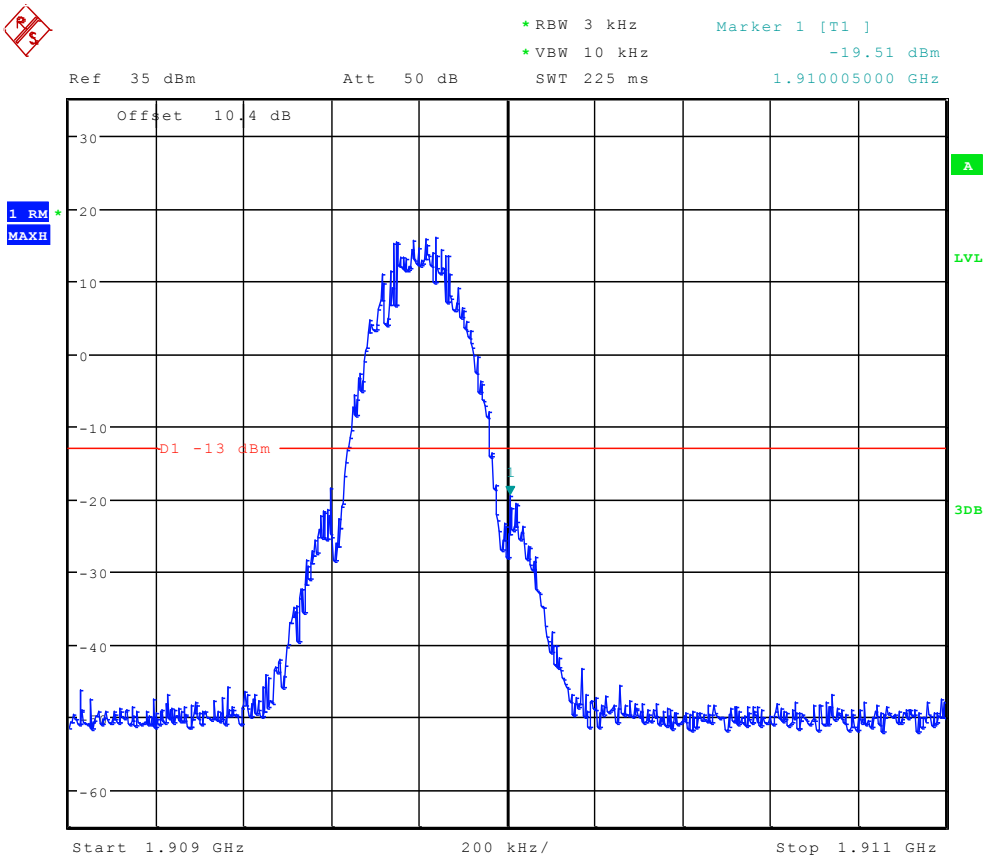
Band Edges Compliance

According to FCC Part 2.1051 & Part24 Subpart E &RSS-133

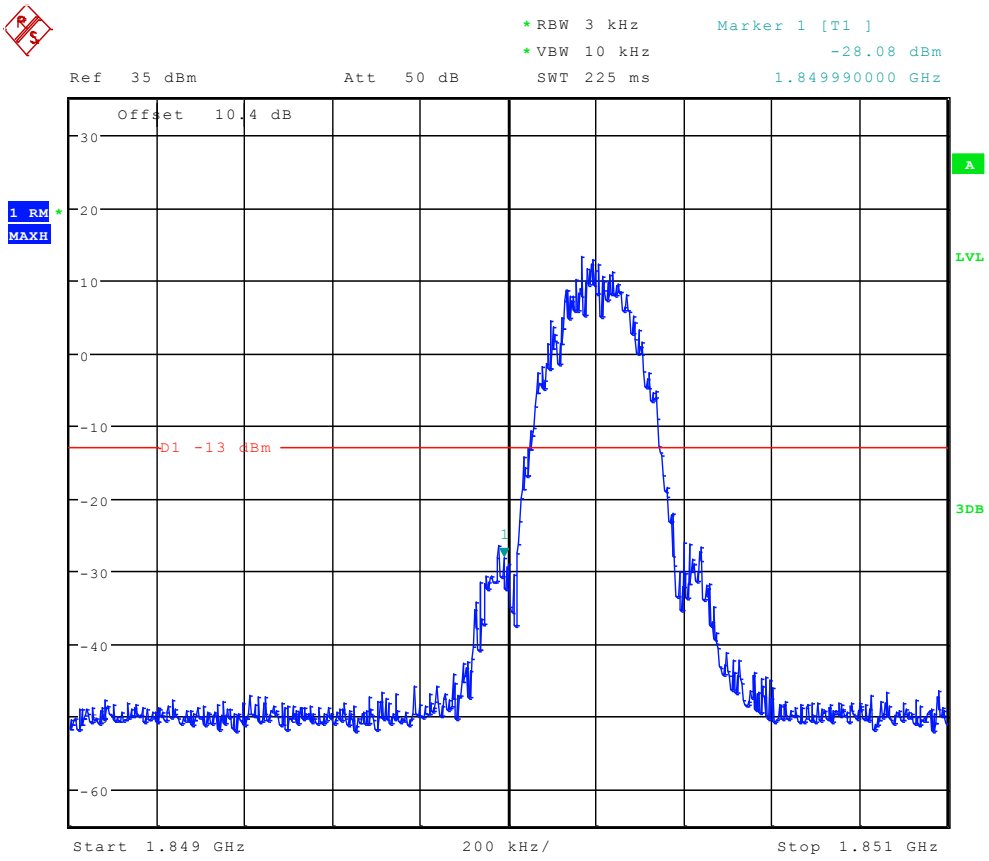
TM1:GPRS/GSM
Left Edge
Channel 512



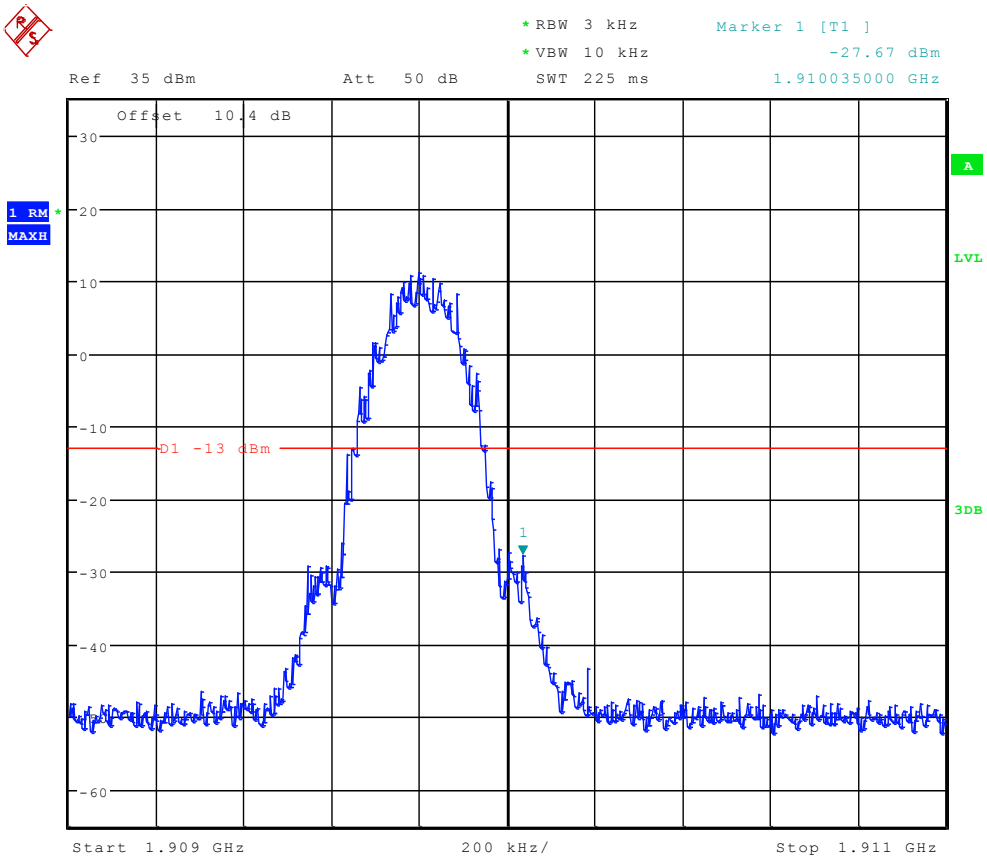
Right Edge
Channel 810



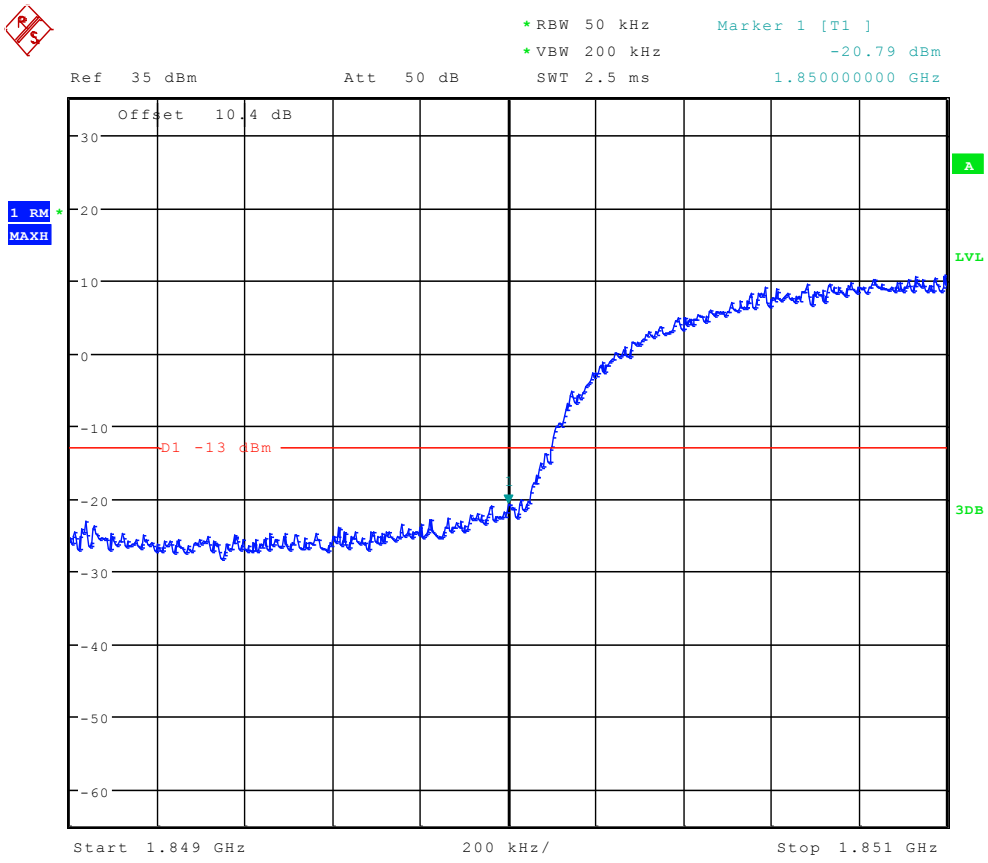
TM2:EDGE
Left Edge
Channel 512



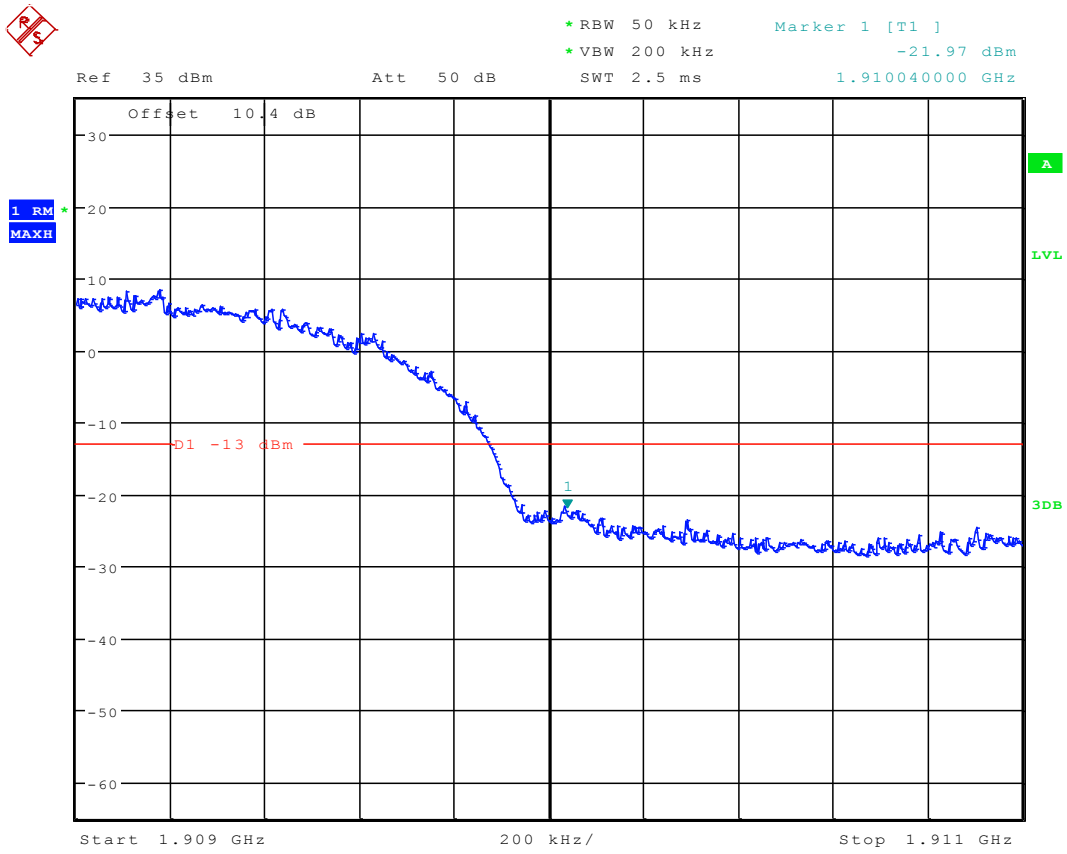
Right Edge
Channel 810



TM3: WCDMA
Left Edge
Channel 9262



Right Edge
Channel 9538



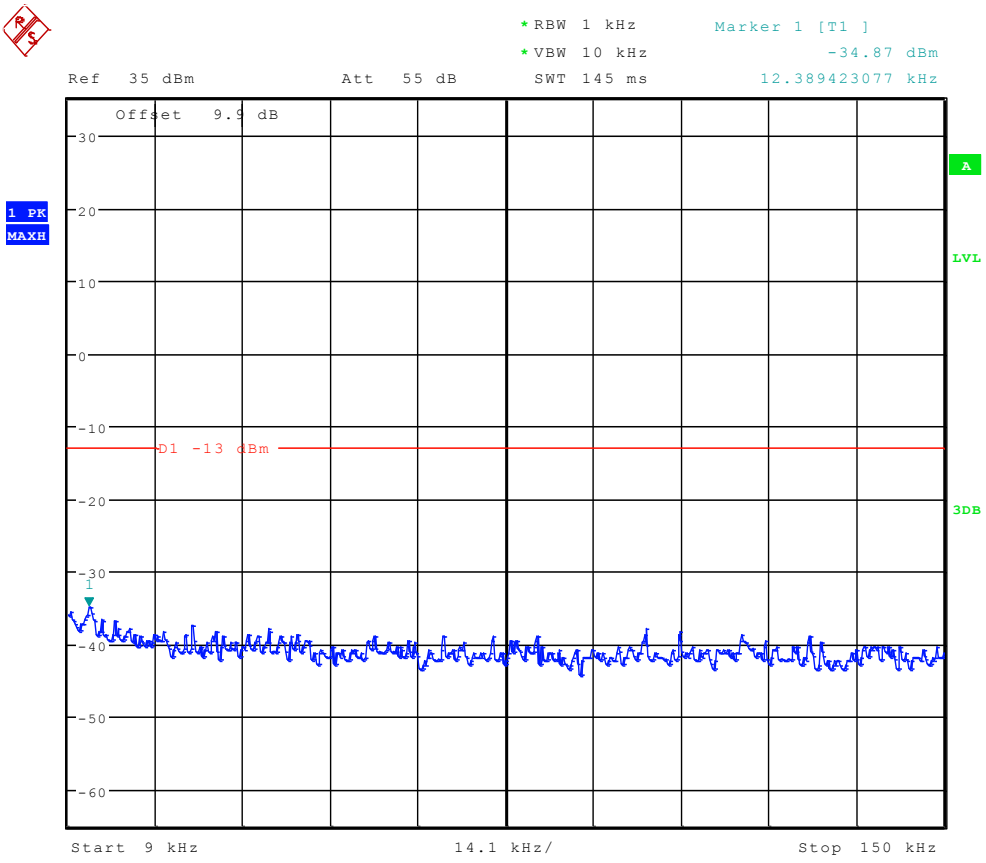
Appendix D

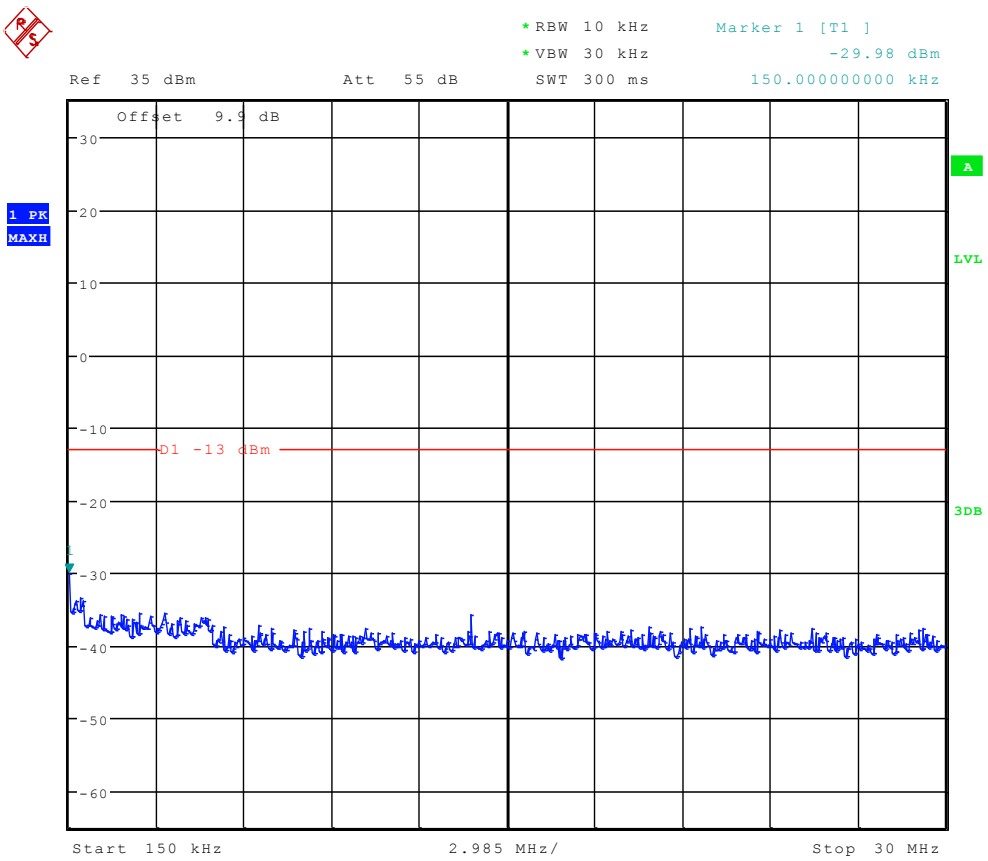
Spurious Emission at Antenna Terminal

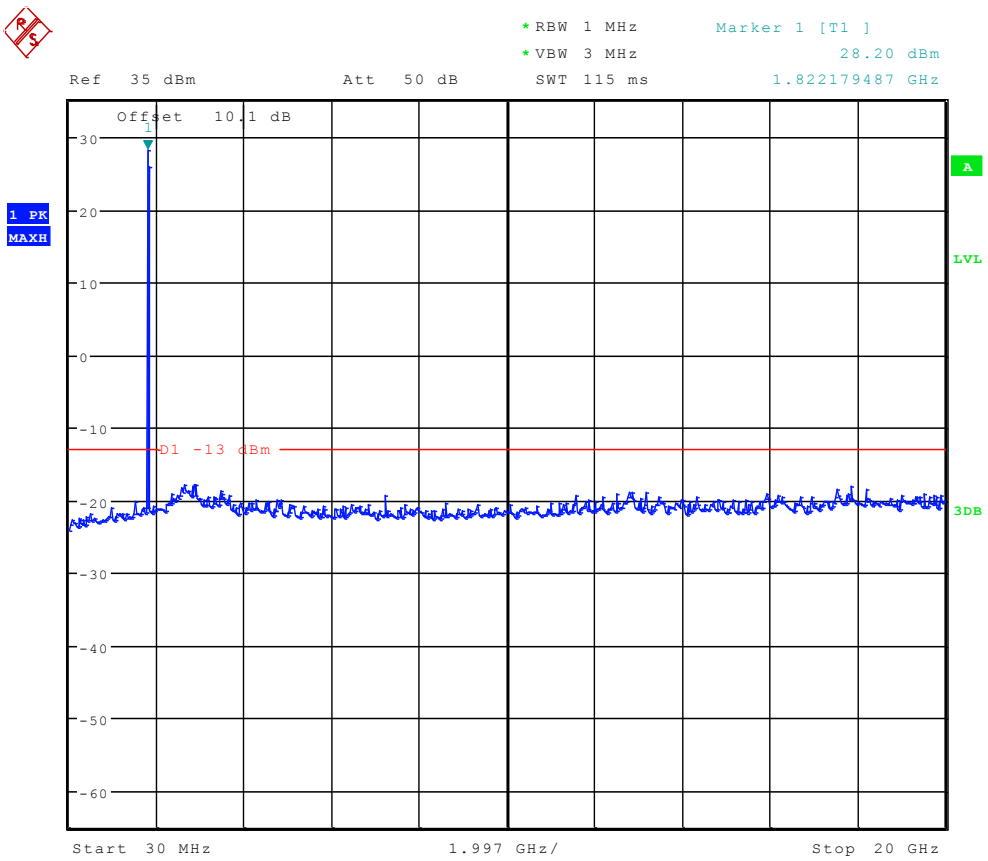
According to FCC Part 2.1051 & Part24 Subpart E &RSS-133

TM1:GPRS/GSM

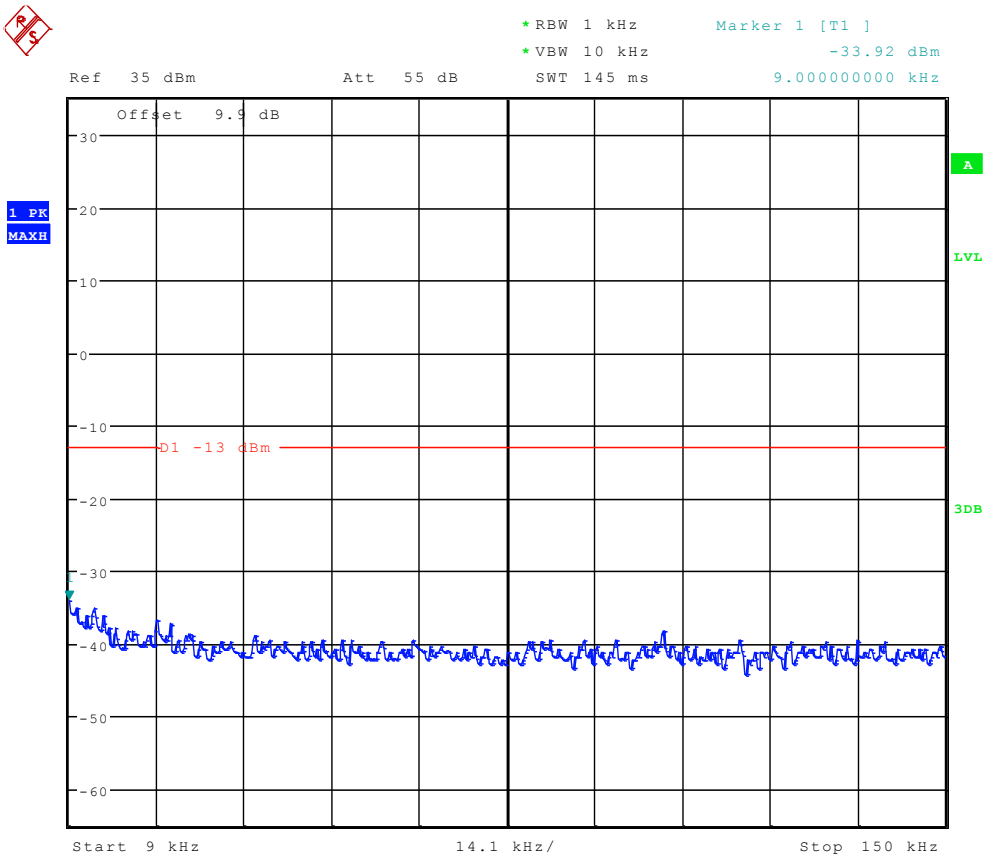
Channel 512

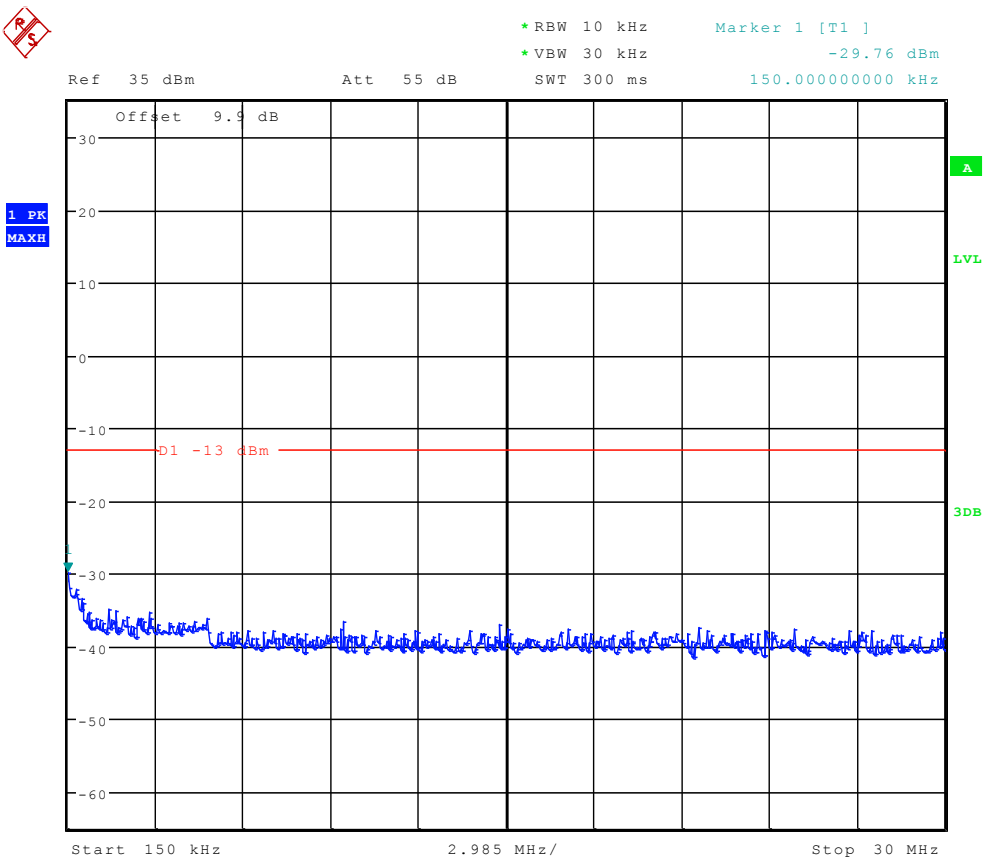


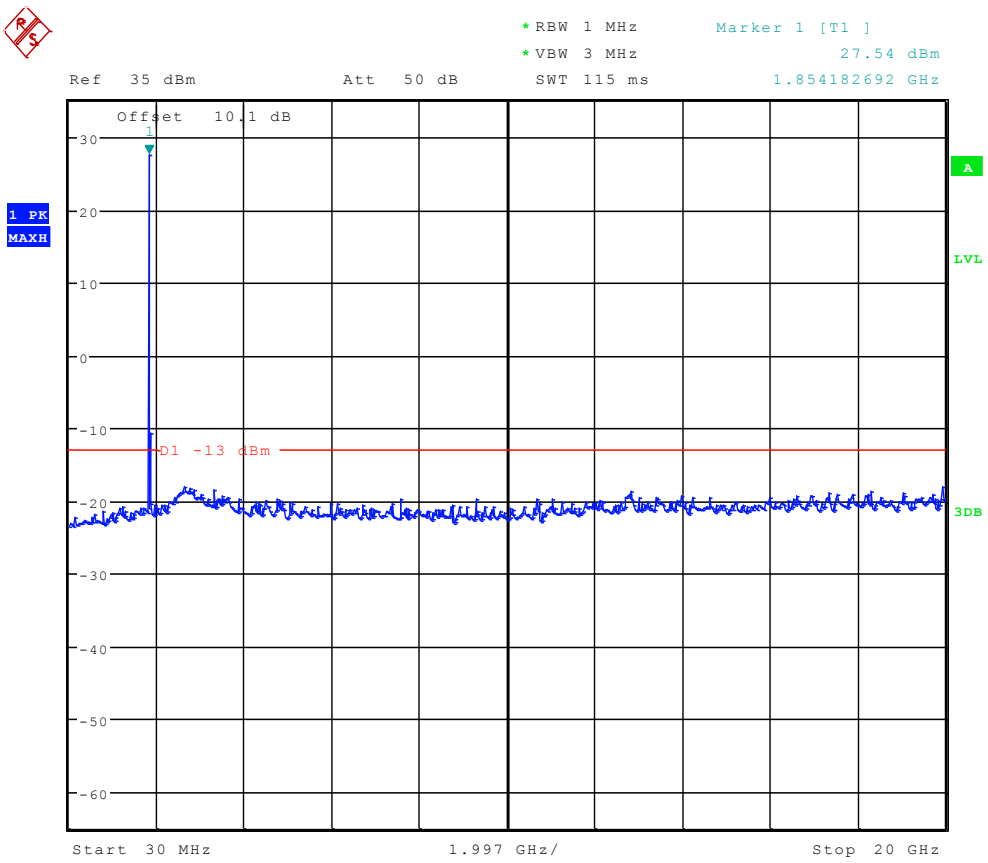

*RBW 10 kHz
*VBW 30 kHz
SWT 300 ms
Marker 1 [T1]
-29.98 dBm
150.000000000 kHz
Ref 35 dBm
Att 55 dB
Offset 9.9 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 150 kHz
2.985 MHz/
Stop 30 MHz


RBW 1 MHz
VBW 3 MHz
SWT 115 ms
Marker 1 [T1]
28.20 dBm
1.822179487 GHz
Ref 35 dBm
Att 50 dB
Offset 10.1 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 30 MHz
1.997 GHz/
Stop 20 GHz

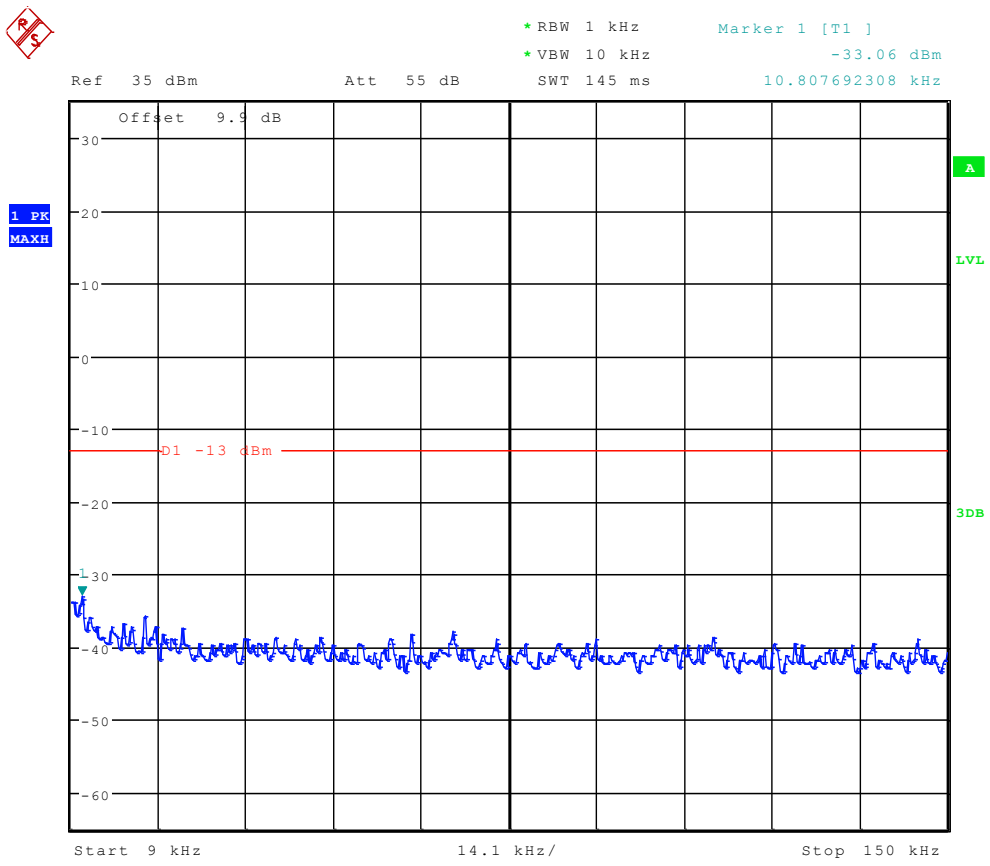
Channel 661

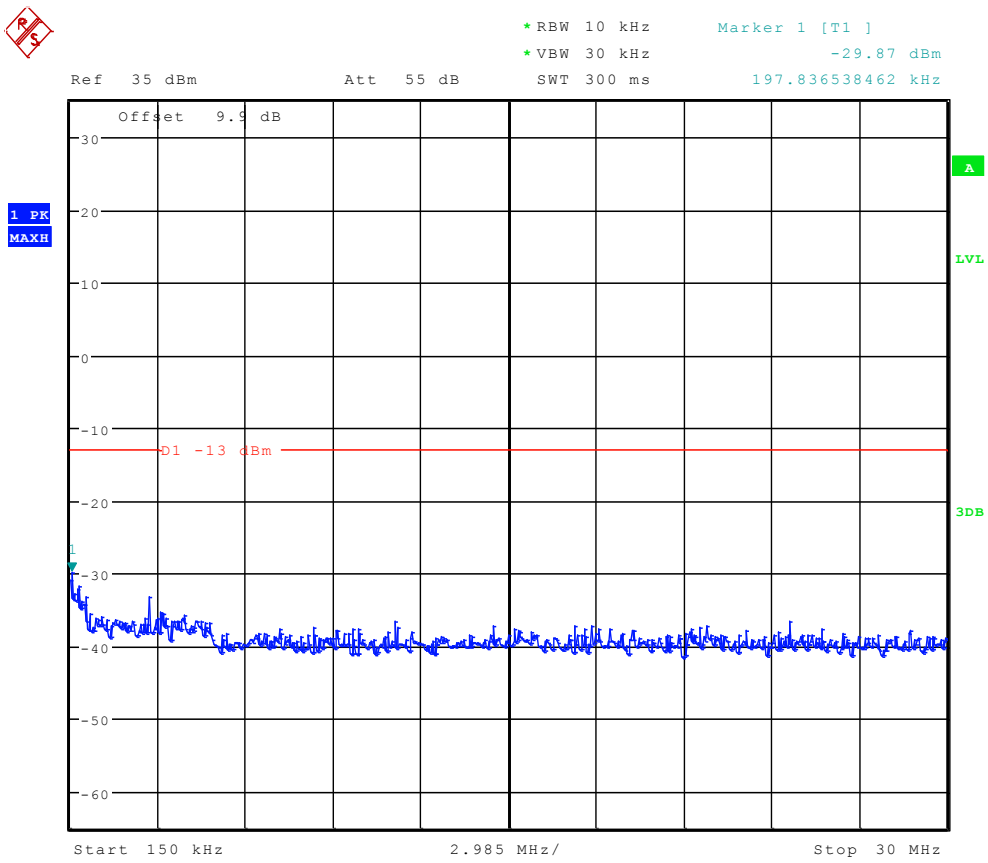

RBW 1 kHz
VBW 10 kHz
SWT 145 ms
Marker 1 [T1]
-33.92 dBm
9.000000000 kHz
Ref 35 dBm
Att 55 dB
Offset 9.9 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 9 kHz
14.1 kHz/
Stop 150 kHz

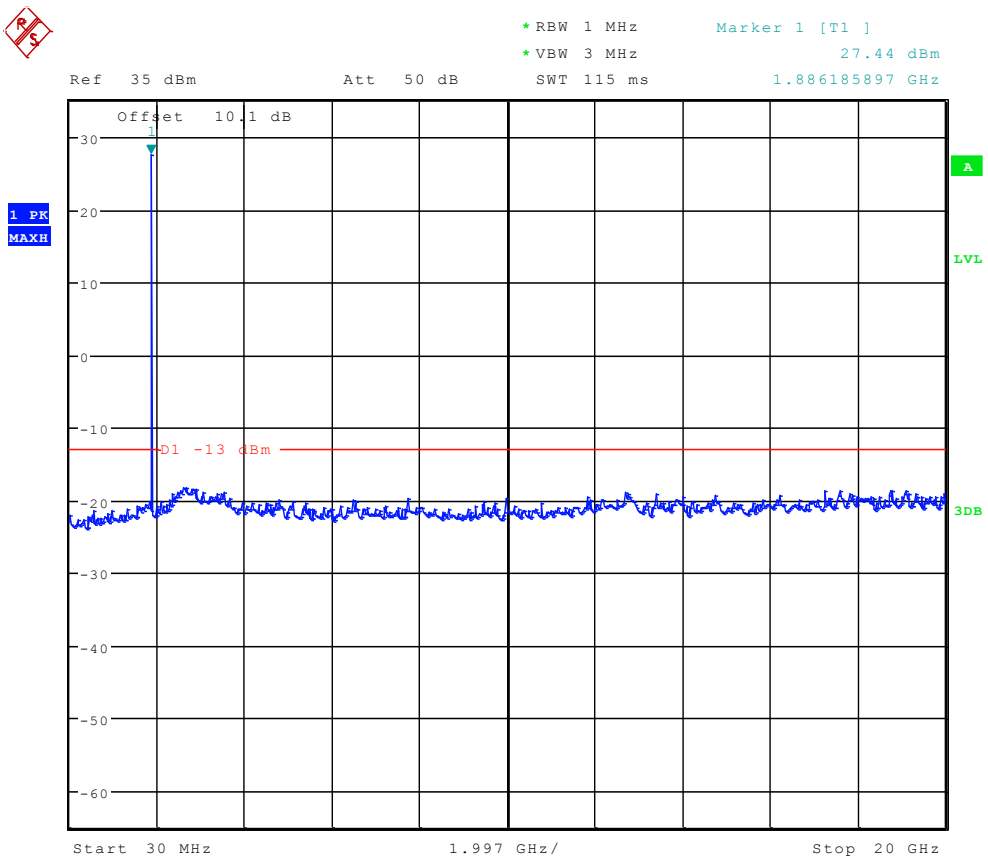

RBW 10 kHz
VBW 30 kHz
SWT 300 ms
Marker 1 [T1]
-29.76 dBm
150.000000000 kHz
Ref 35 dBm
Att 55 dB
Offset 9.9 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 150 kHz
2.985 MHz/
Stop 30 MHz


* RBW 1 MHz
* VBW 3 MHz
SWT 115 ms
Marker 1 [T1]
27.54 dBm
1.854182692 GHz
Ref 35 dBm
Att 50 dB
Offset 10.1 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 30 MHz
1.997 GHz/
Stop 20 GHz

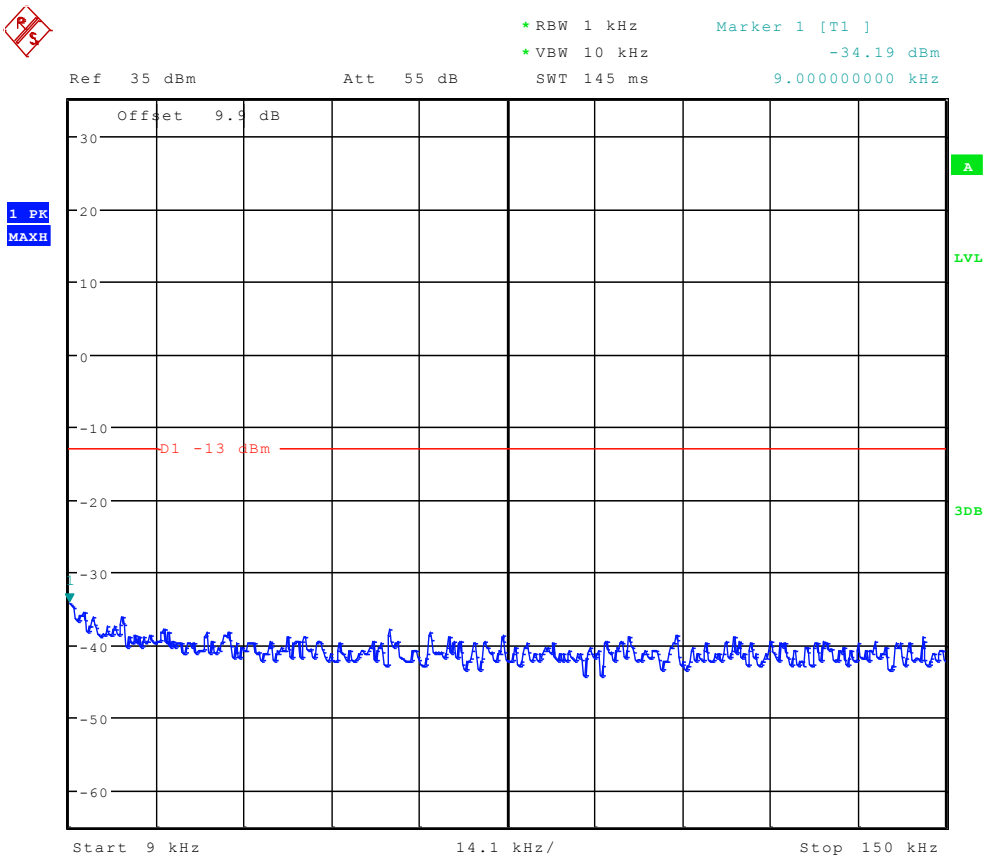
Channel 810

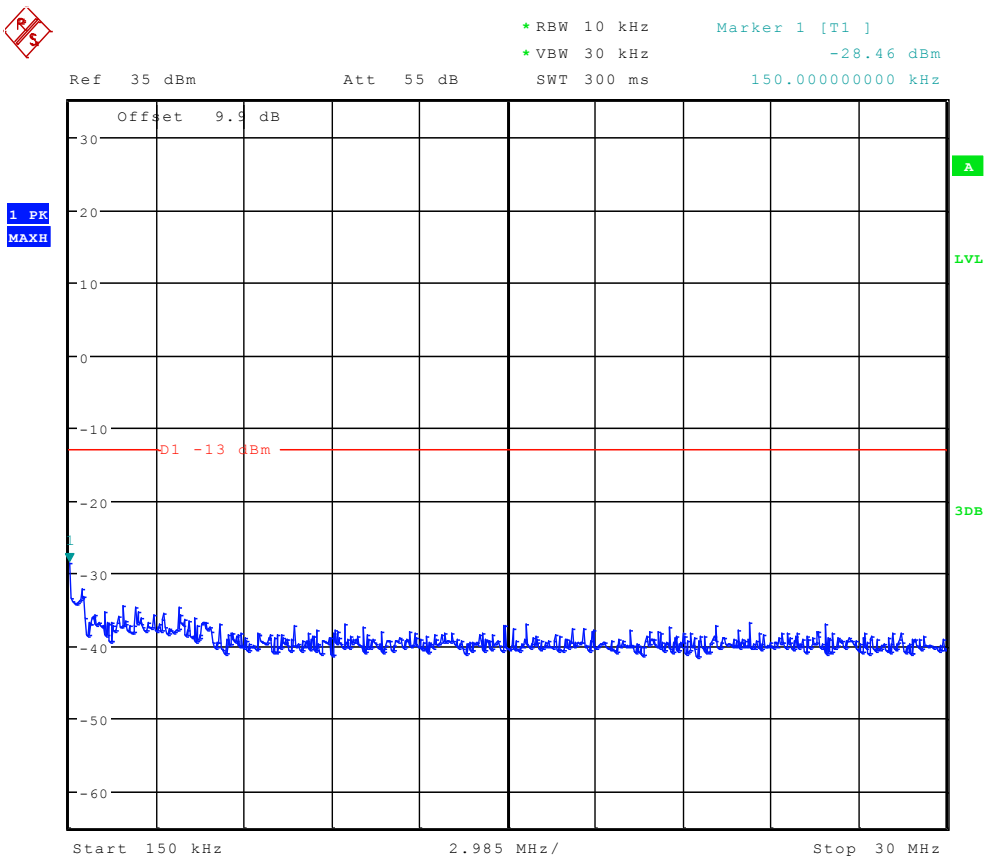

RBW 1 kHz
VBW 10 kHz
SWT 145 ms
Marker 1 [T1]
-33.06 dBm
10.807692308 kHz
Ref 35 dBm
Att 55 dB
Offset 9.9 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 9 kHz
14.1 kHz/
Stop 150 kHz

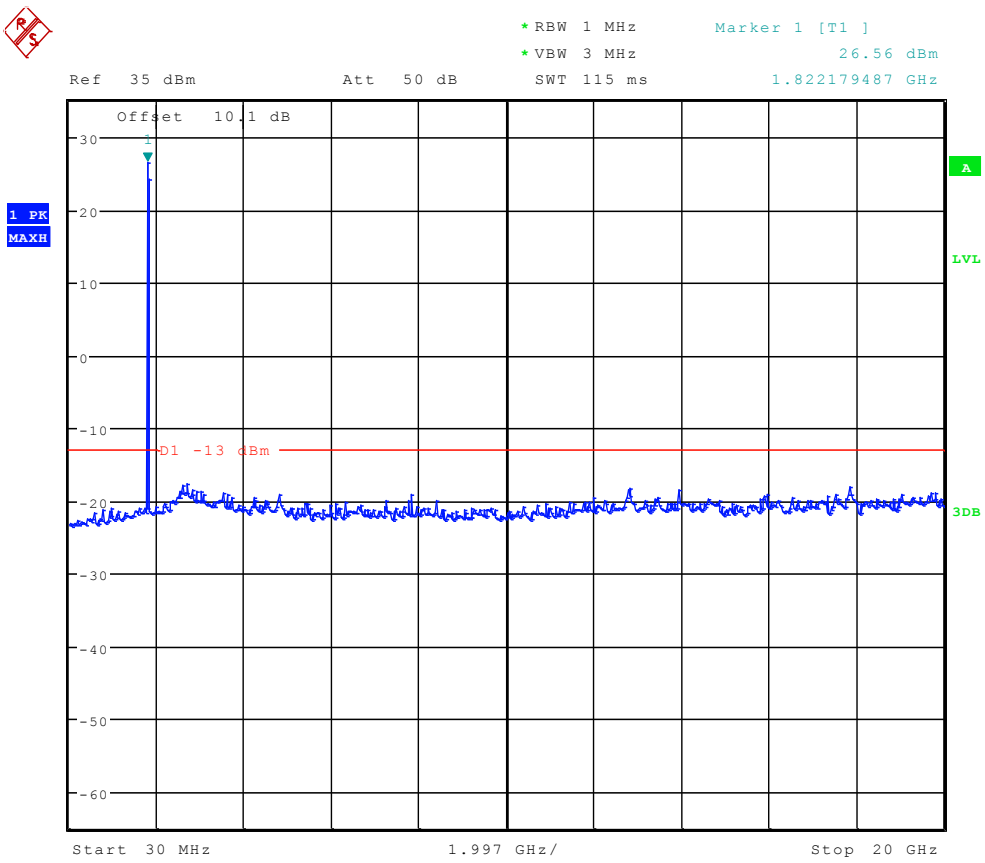

RBW 10 kHz
VBW 30 kHz
SWT 300 ms
Marker 1 [T1]
-29.87 dBm
197.836538462 kHz
Ref 35 dBm
Att 55 dB
Offset 9.9 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 150 kHz
2.985 MHz/
Stop 30 MHz


RBW 1 MHz
VBW 3 MHz
SWT 115 ms
Marker 1 [T1]
27.44 dBm
1.886185897 GHz
Ref 35 dBm
Att 50 dB
Offset 10.1 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 30 MHz
1.997 GHz/
Stop 20 GHz

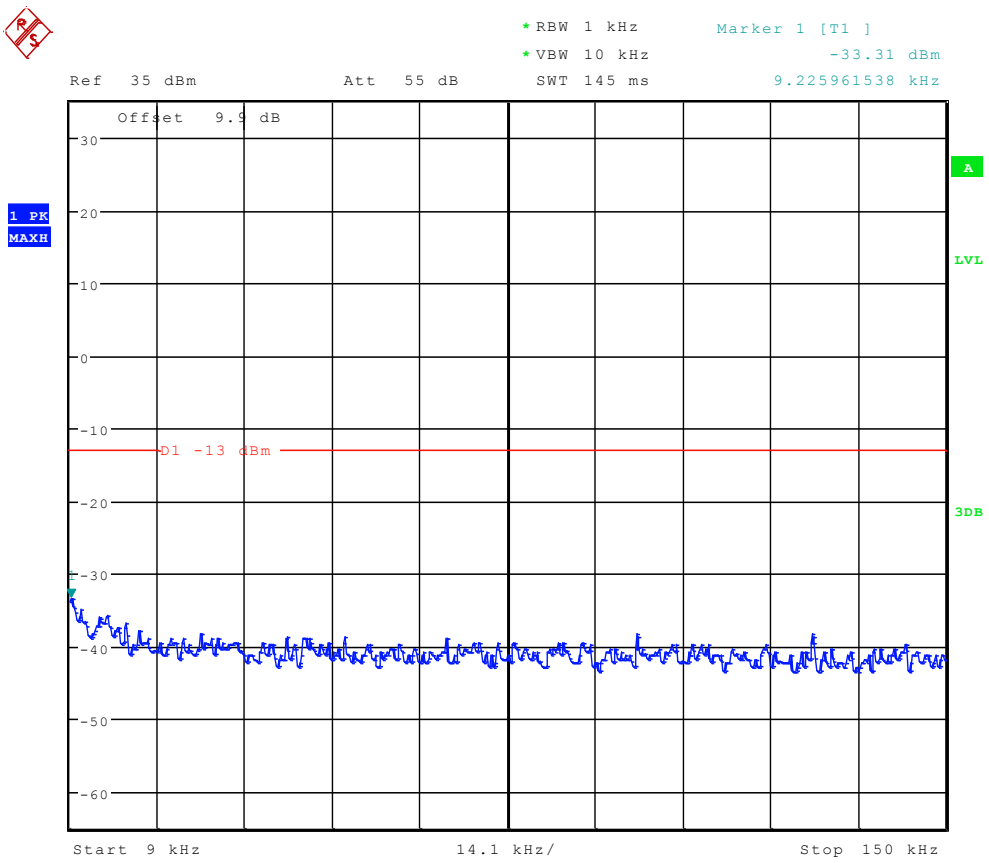
TM2:EDGE
Channel 512

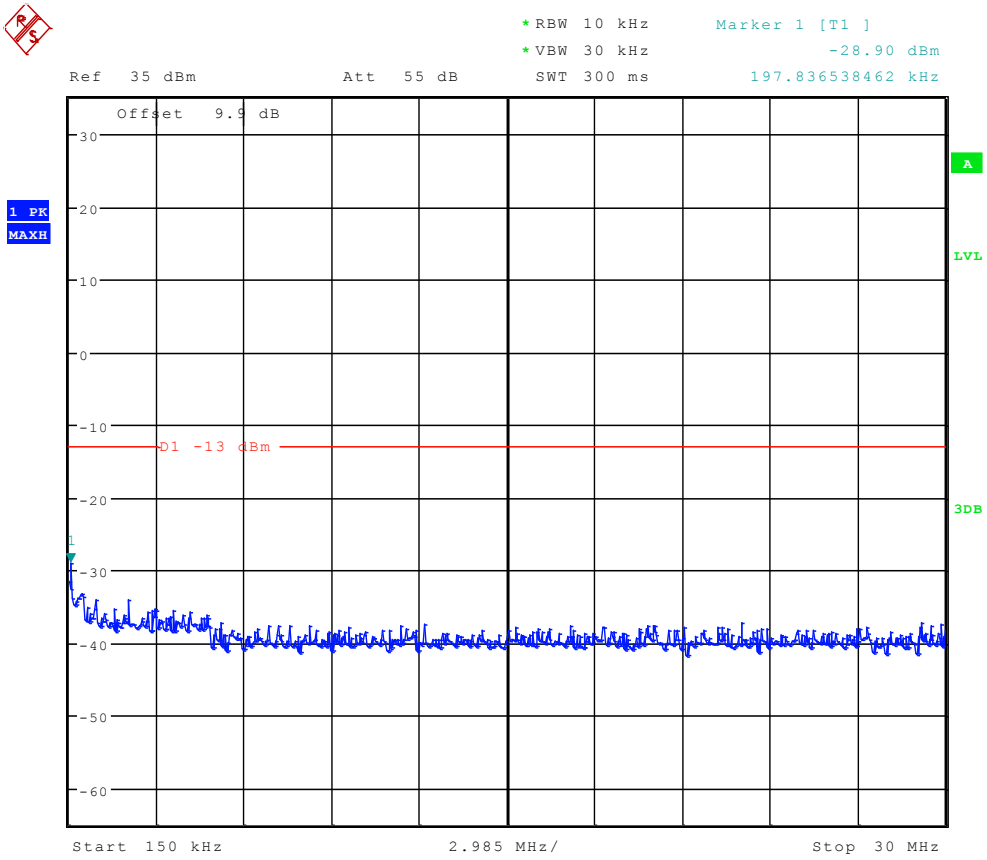


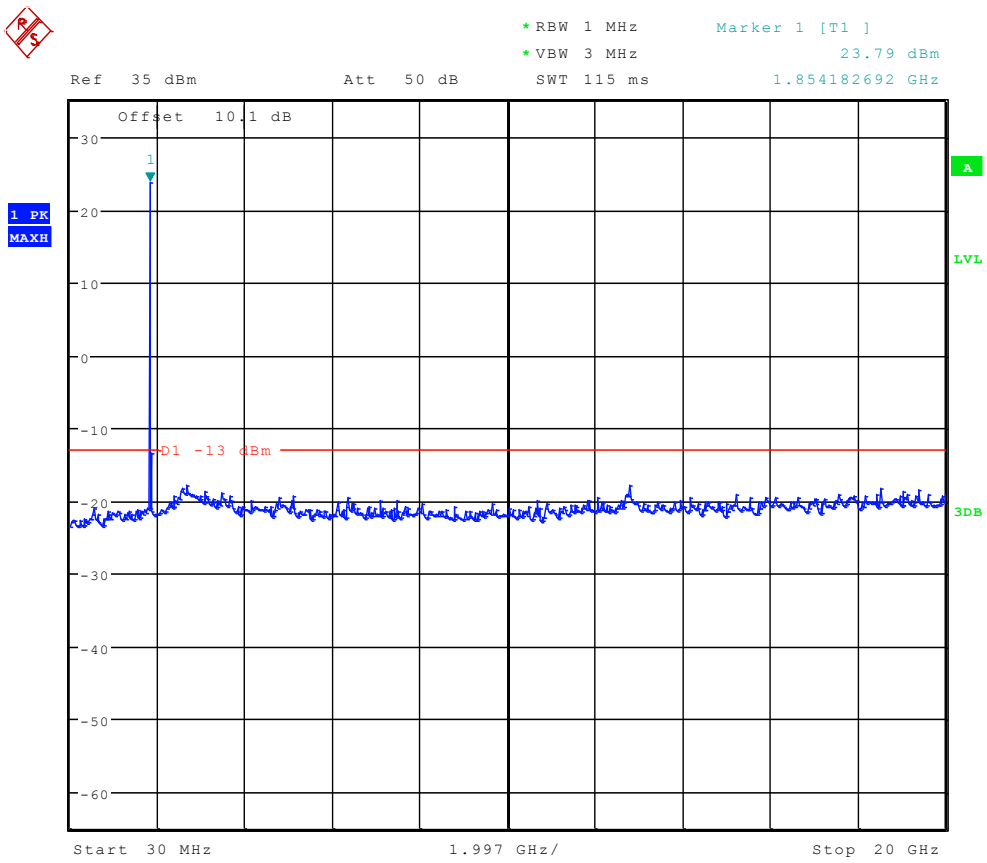

* RBW 10 kHz
* VBW 30 kHz
SWT 300 ms
Marker 1 [T1]
-28.46 dBm
150.000000000 kHz
Ref 35 dBm
Att 55 dB
Offset 9.9 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 150 kHz
2.985 MHz/
Stop 30 MHz


RBW 1 MHz
VBW 3 MHz
SWT 115 ms
Marker 1 [T1]
26.56 dBm
1.822179487 GHz
Ref 35 dBm
Att 50 dB
Offset 10.1 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 30 MHz
1.997 GHz/
Stop 20 GHz

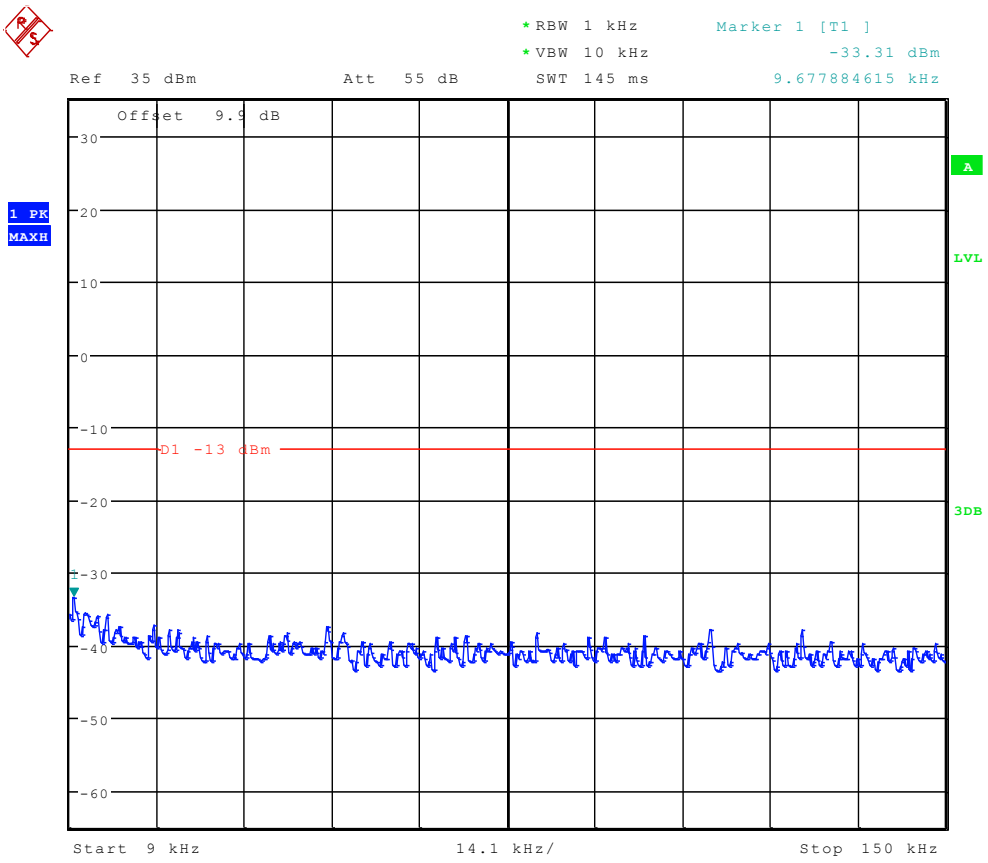
Channel 661

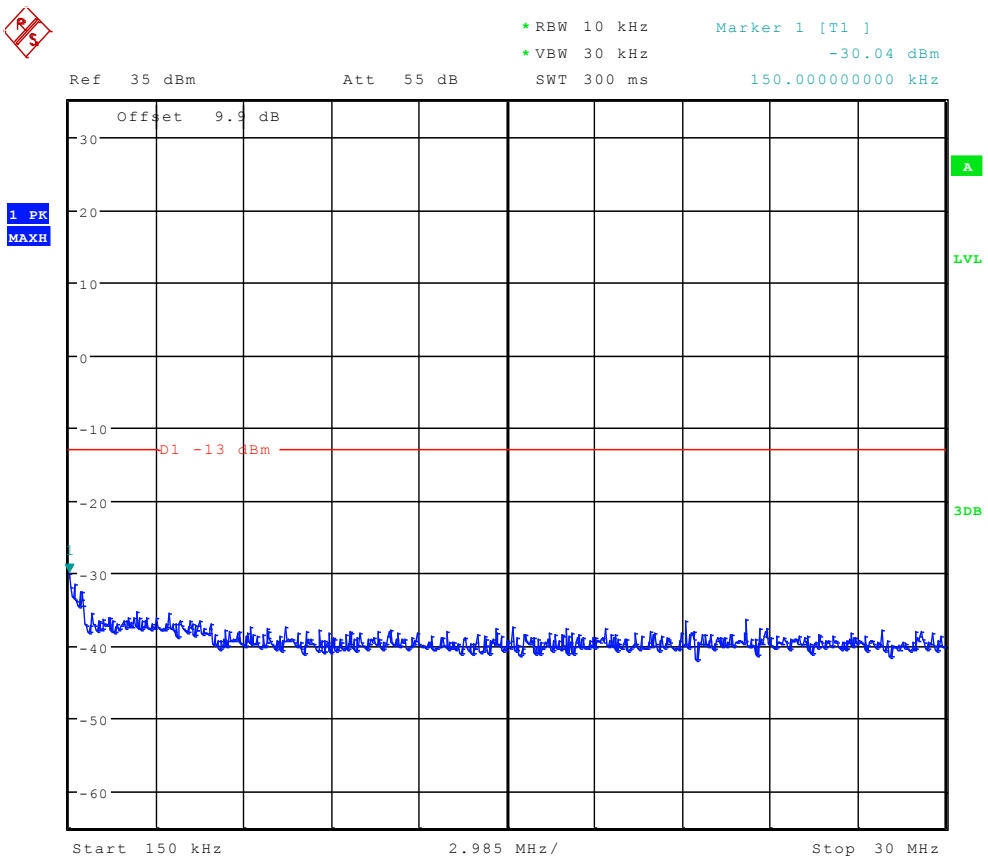

* RBW 1 kHz
* VBW 10 kHz
SWT 145 ms
Marker 1 [T1]
-33.31 dBm
9.225961538 kHz
Ref 35 dBm
Att 55 dB
Offset 9.9 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 9 kHz
14.1 kHz/
Stop 150 kHz

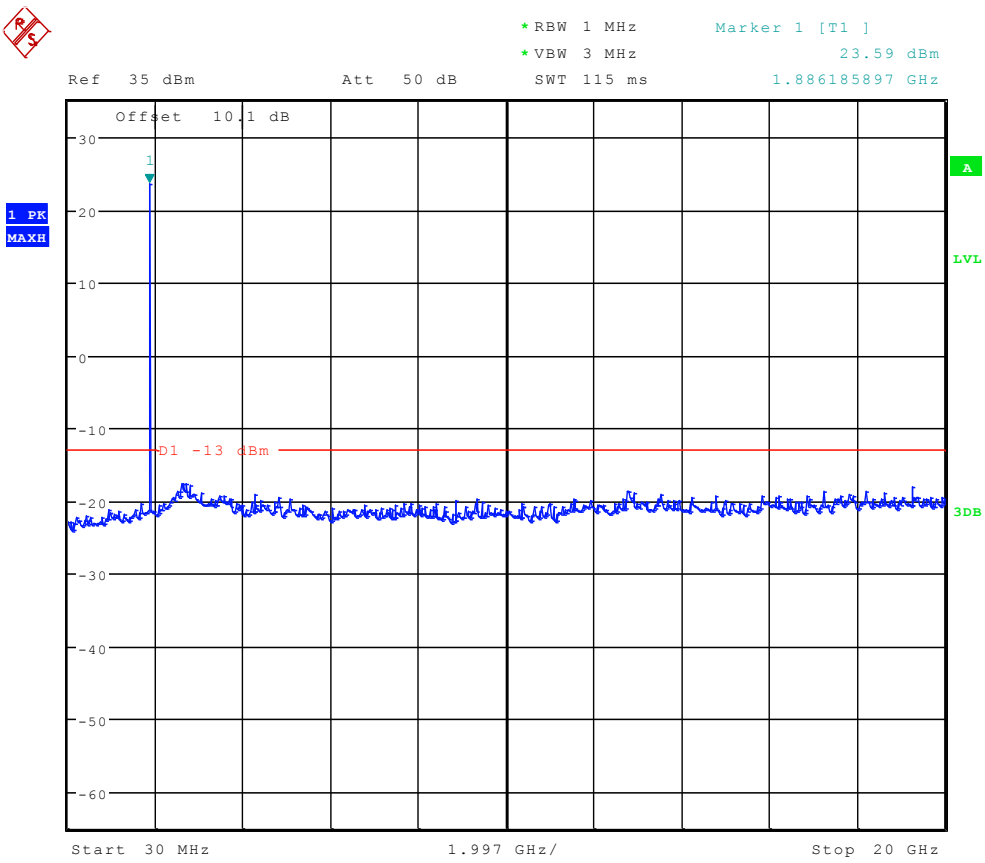

* RBW 10 kHz
* VBW 30 kHz
SWT 300 ms
Marker 1 [T1]
-28.90 dBm
197.836538462 kHz
Ref 35 dBm
Att 55 dB
Offset 9.9 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 150 kHz
2.985 MHz/
Stop 30 MHz


RBW 1 MHz
VBW 3 MHz
SWT 115 ms
Marker 1 [T1]
23.79 dBm
1.854182692 GHz
Ref 35 dBm
Att 50 dB
Offset 10.1 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 30 MHz
1.997 GHz/
Stop 20 GHz

Channel 810

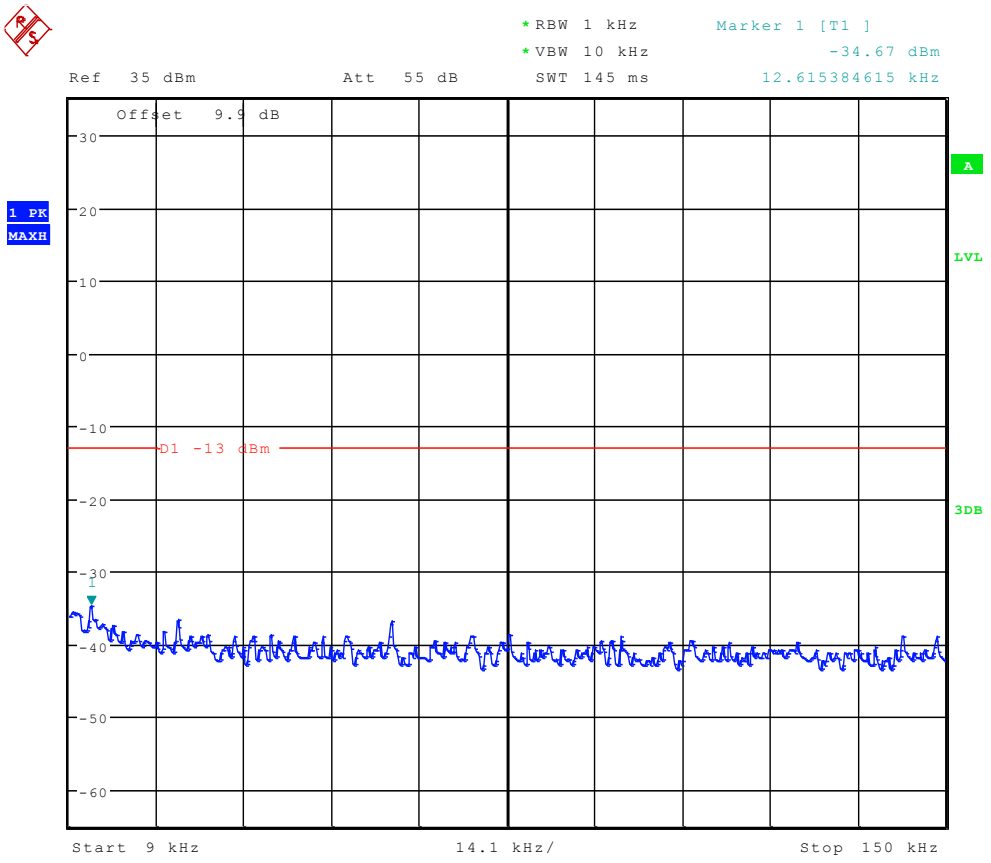

RBW 1 kHz
VBW 10 kHz
SWT 145 ms
Marker 1 [T1]
-33.31 dBm
9.677884615 kHz
Ref 35 dBm
Att 55 dB
Offset 9.9 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 9 kHz
14.1 kHz/
Stop 150 kHz

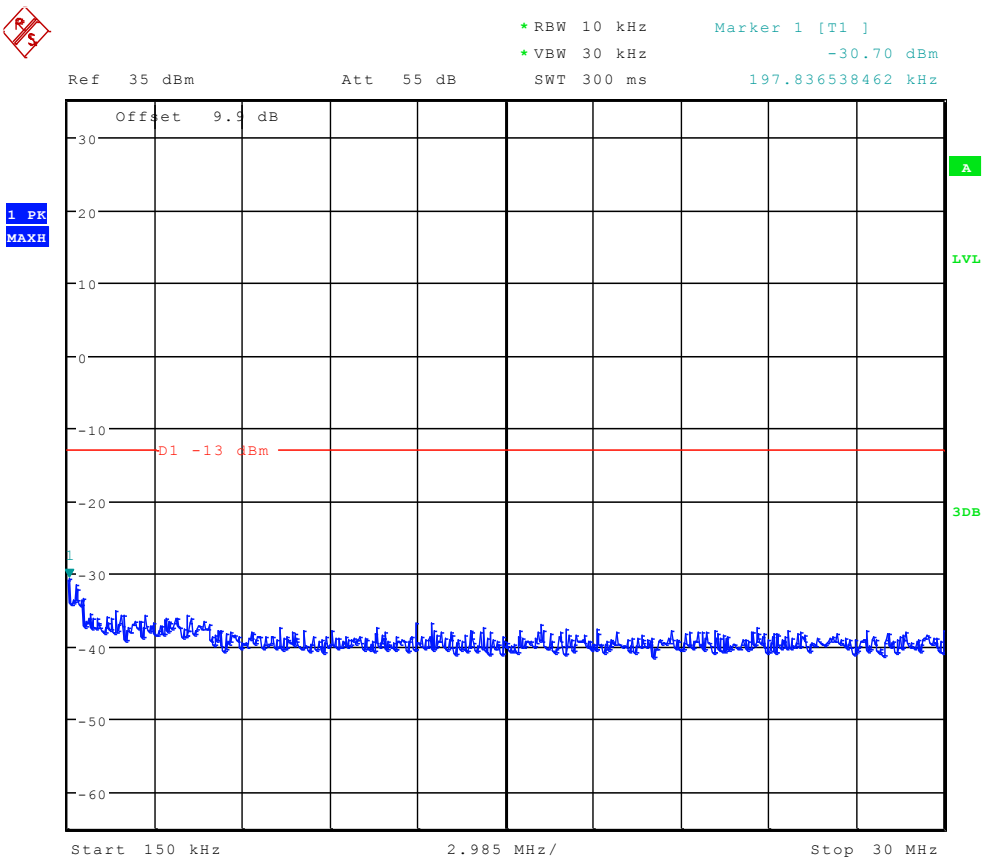

RBW 10 kHz
VBW 30 kHz
SWT 300 ms
Marker 1 [T1]
-30.04 dBm
150.000000000 kHz
Ref 35 dBm
Att 55 dB
Offset 9.9 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 150 kHz
2.985 MHz/
Stop 30 MHz

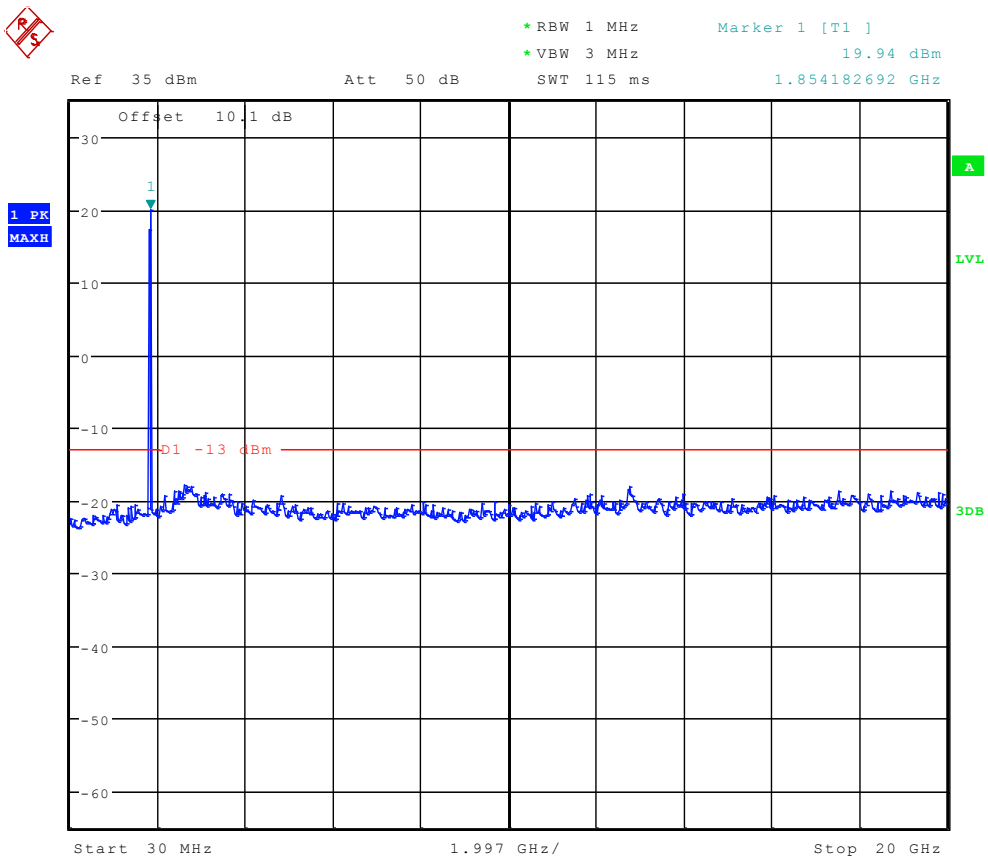

RBW 1 MHz
VBW 3 MHz
SWT 115 ms
Marker 1 [T1]
23.59 dBm
1.886185897 GHz
Ref 35 dBm
Att 50 dB
Offset 10.1 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 30 MHz
1.997 GHz/
Stop 20 GHz

TM3: WCDMA

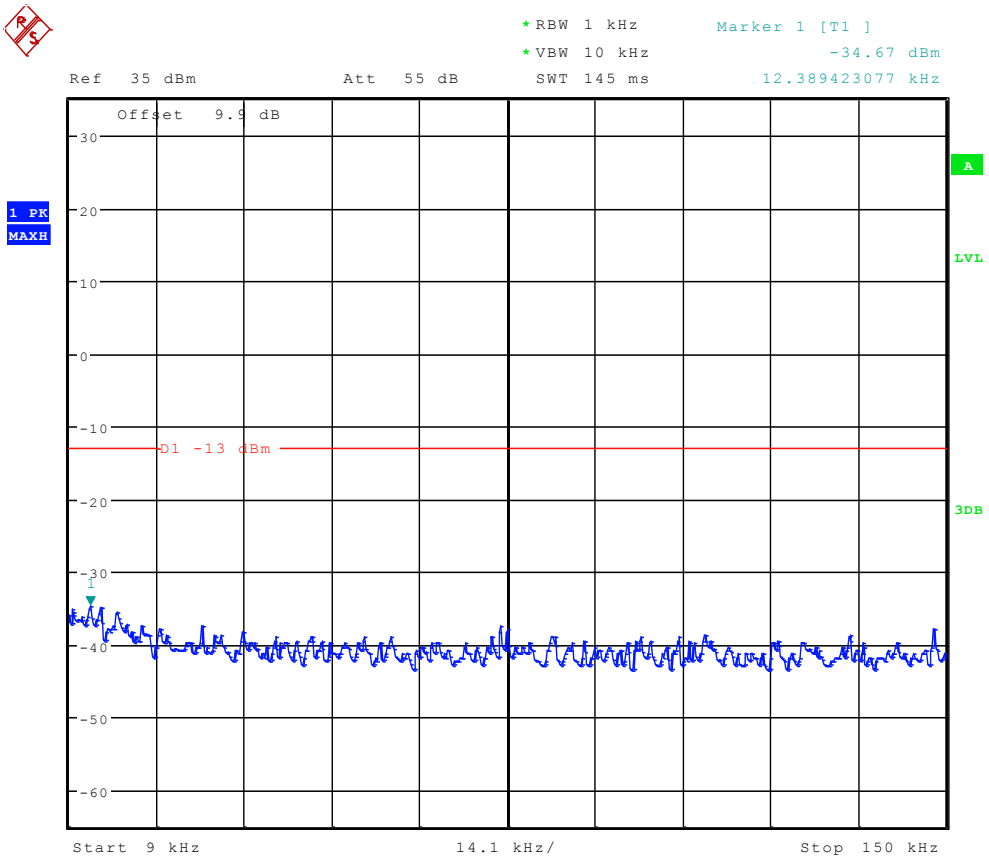
Channel 9262

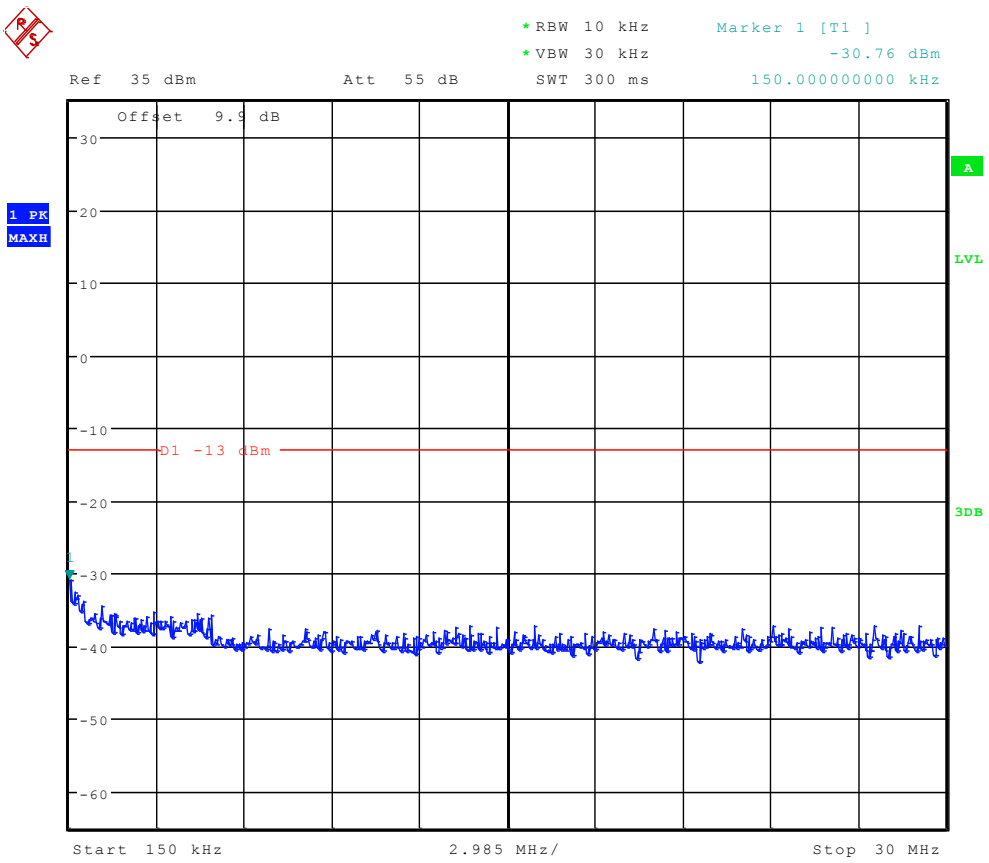


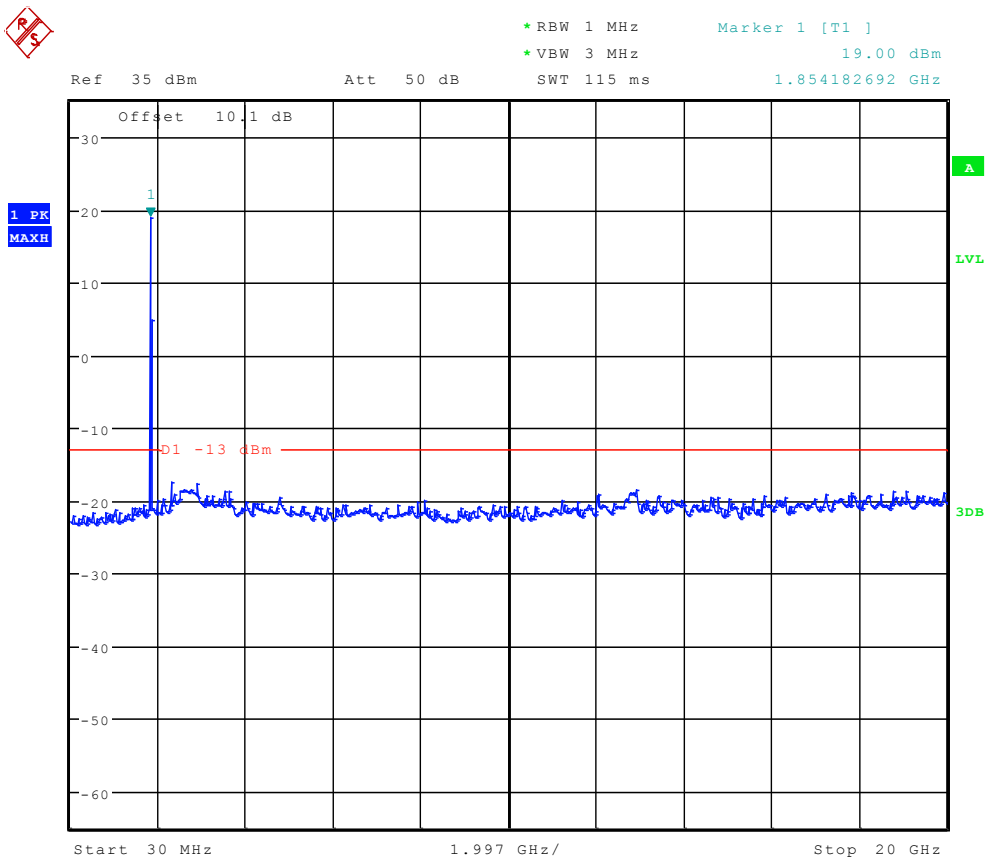

RBW 10 kHz
VBW 30 kHz
SWT 300 ms
Marker 1 [T1]
-30.70 dBm
197.836538462 kHz
Ref 35 dBm
Att 55 dB
Offset 9.9 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 150 kHz
2.985 MHz/
Stop 30 MHz


RBW 1 MHz
VBW 3 MHz
SWT 115 ms
Marker 1 [T1]
19.94 dBm
1.854182692 GHz
Ref 35 dBm
Att 50 dB
Offset 10.1 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 30 MHz
1.997 GHz/
Stop 20 GHz

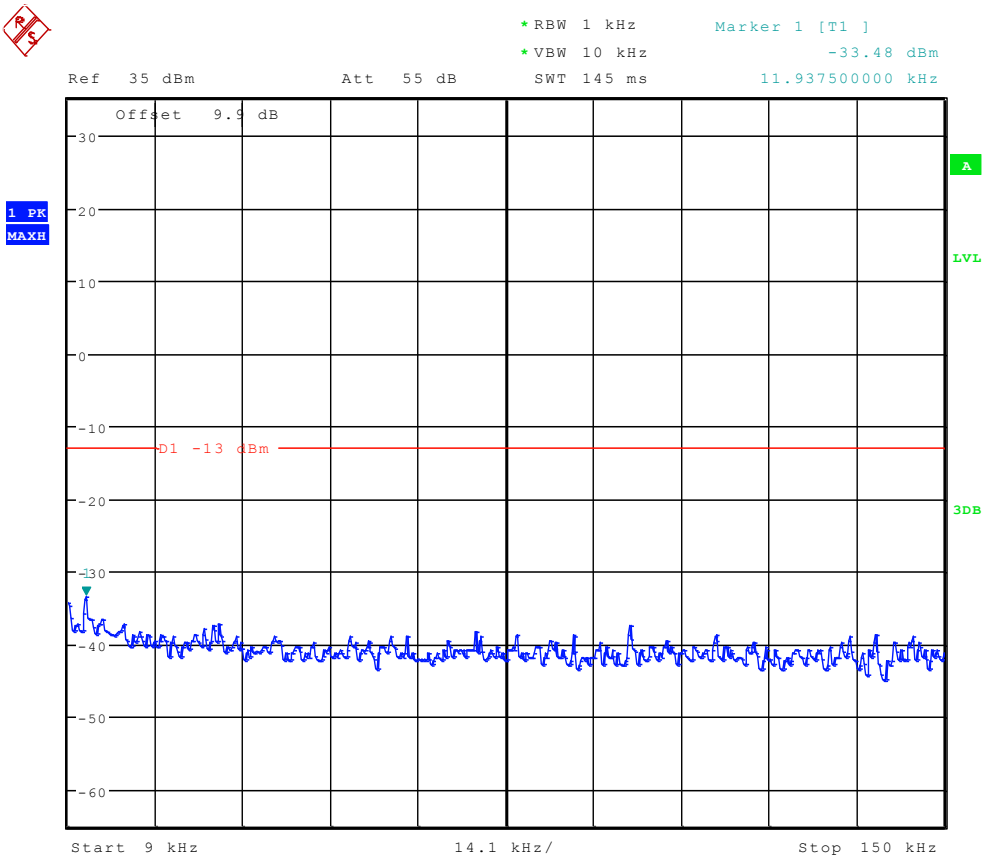
Channel 9400

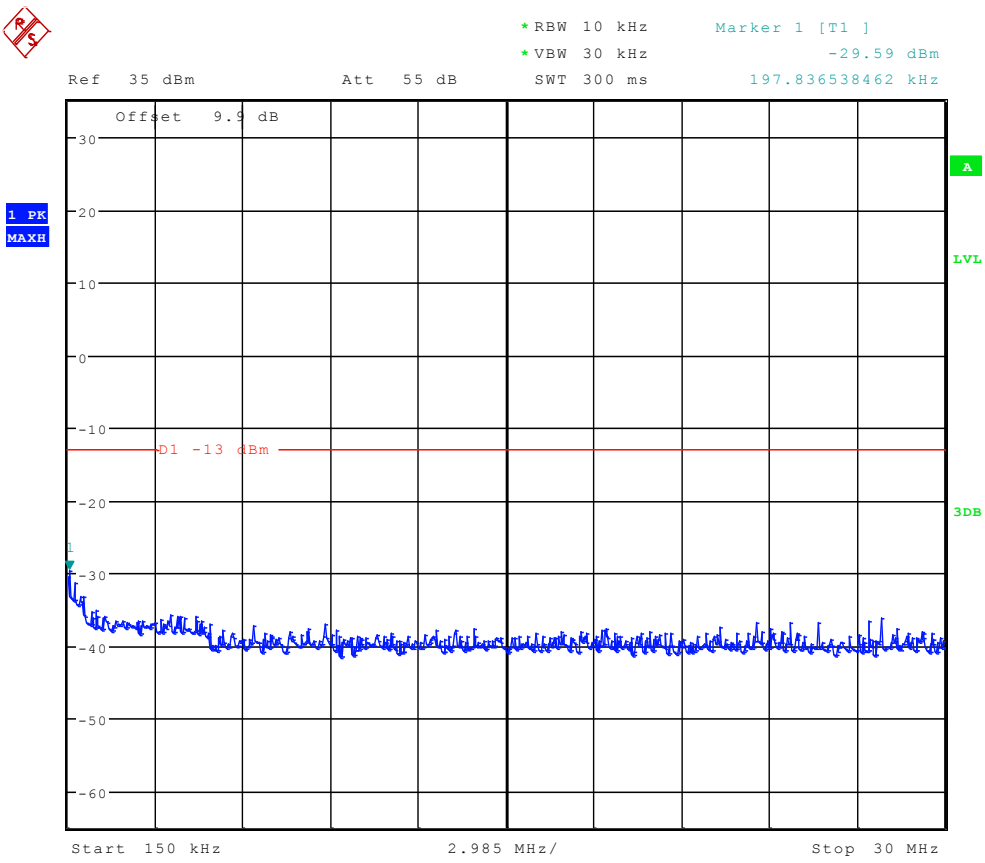


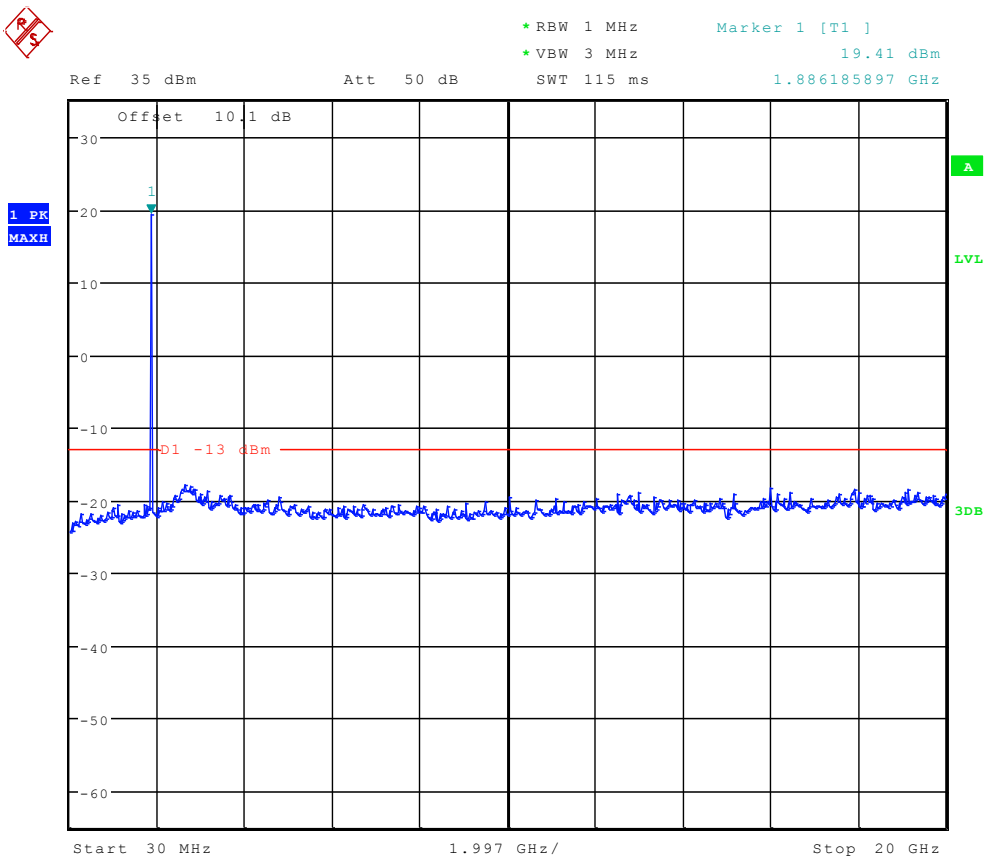

* RBW 10 kHz
* VBW 30 kHz
SWT 300 ms
Marker 1 [T1]
-30.76 dBm
150.000000000 kHz
Ref 35 dBm
Att 55 dB
Offset 9.9 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 150 kHz
2.985 MHz/
Stop 30 MHz


RBW 1 MHz
VBW 3 MHz
SWT 115 ms
Marker 1 [T1]
19.00 dBm
1.854182692 GHz
Ref 35 dBm
Att 50 dB
Offset 10.1 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 30 MHz
1.997 GHz/
Stop 20 GHz

Channel 9538




RBW 10 kHz
VBW 30 kHz
SWT 300 ms
Marker 1 [T1]
-29.59 dBm
197.836538462 kHz
Ref 35 dBm
Att 55 dB
Offset 9.9 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 150 kHz
2.985 MHz/
Stop 30 MHz


* RBW 1 MHz
* VBW 3 MHz
SWT 115 ms
Marker 1 [T1]
19.41 dBm
1.886185897 GHz
Ref 35 dBm
Att 50 dB
Offset 10.1 dB
1 PK
MAXH
A
LVL
3DB
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
Start 30 MHz
1.997 GHz/
Stop 20 GHz

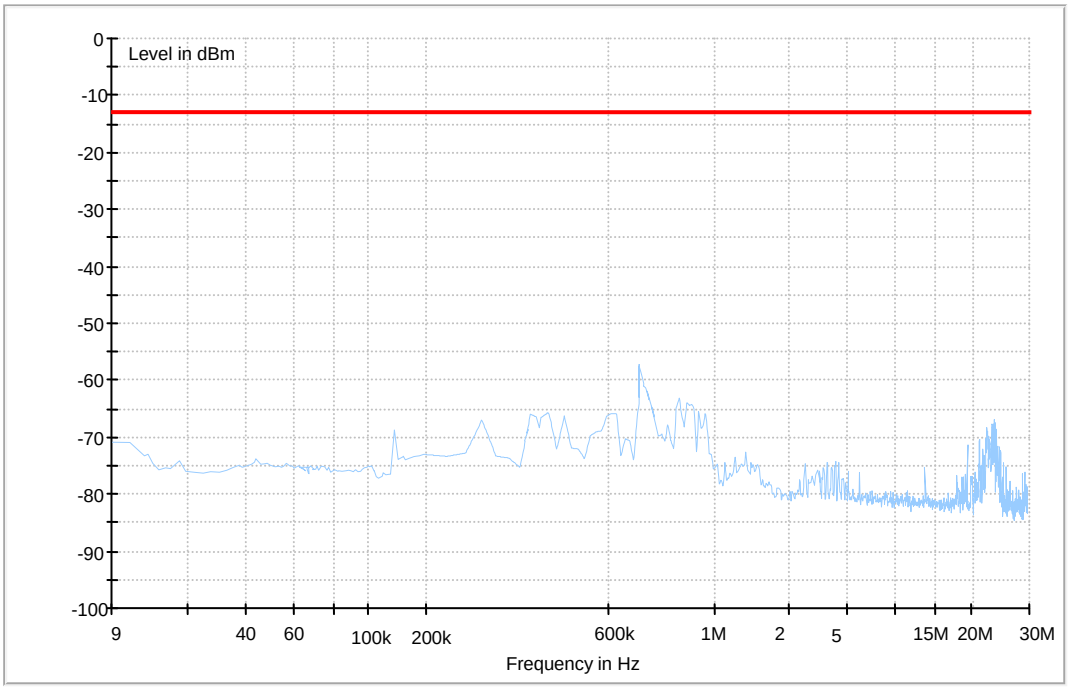
AppendixE

Field Strength of Spurious Emissions

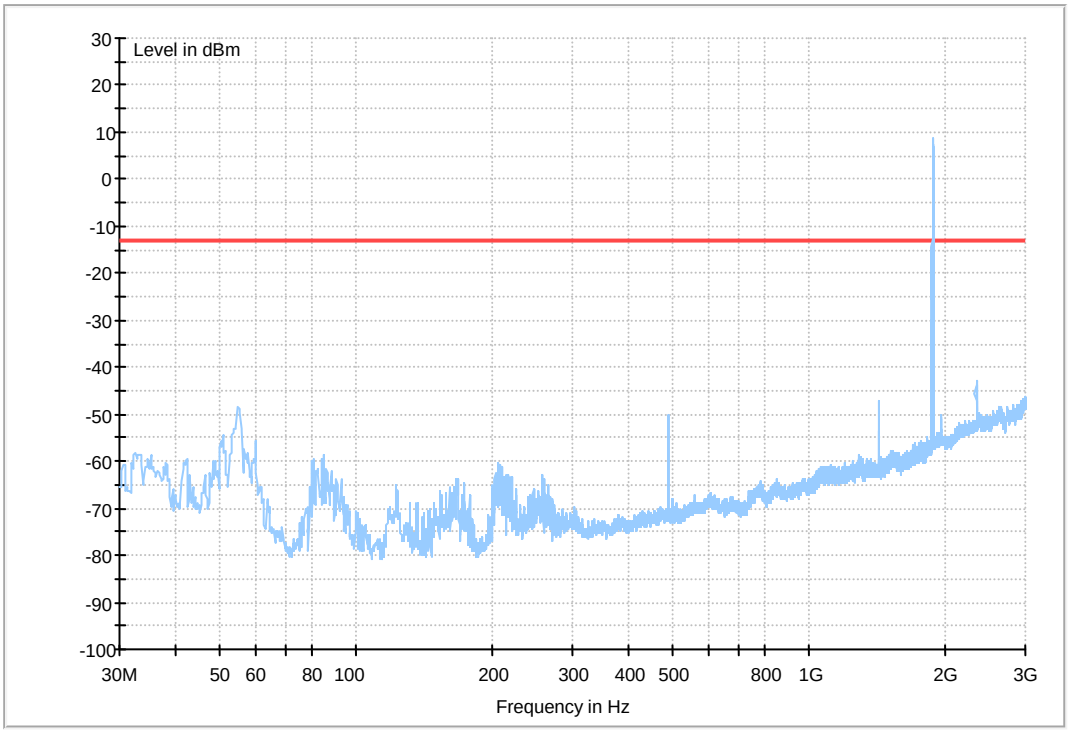
According to FCC Part 2.1053 & Part24.238 & RSS-133

GPRS 1900

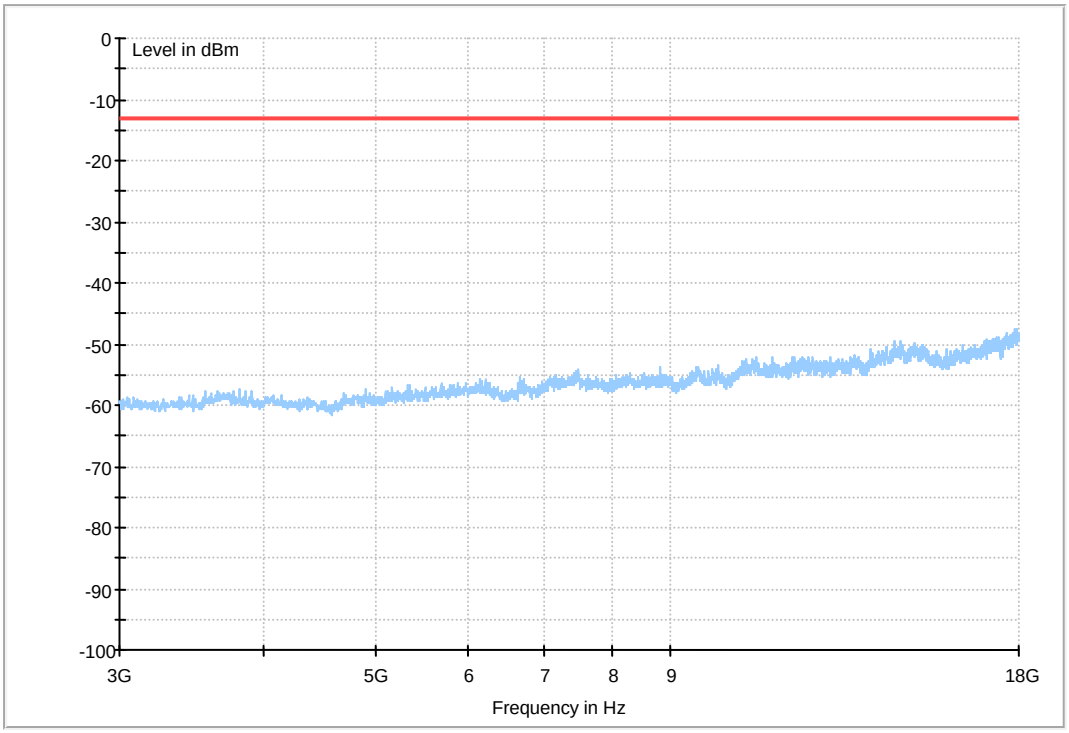
Traffic Mode (9kHz-30MHz)



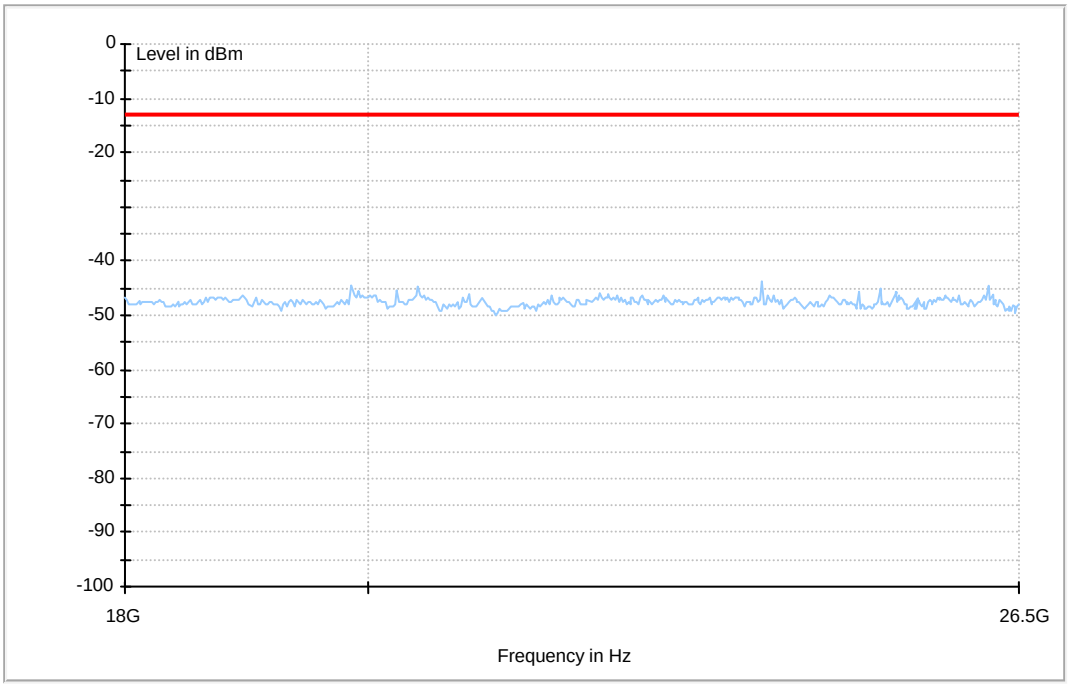
Traffic Mode (30MHz-3GHz)



Traffic Mode (3GHz-18GHz)

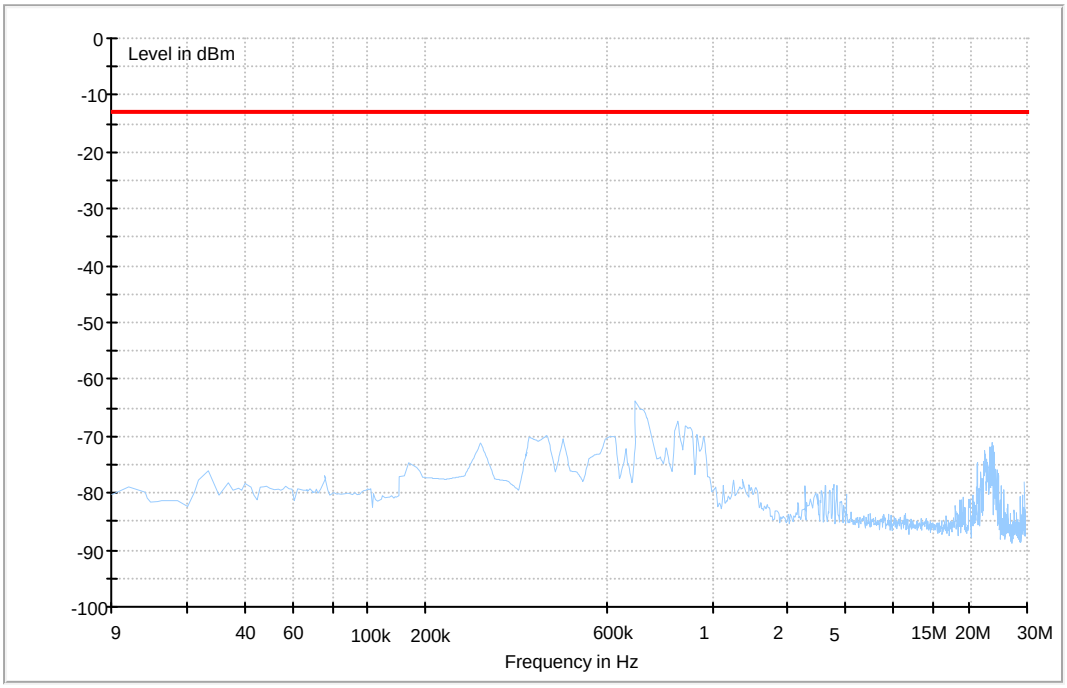


Traffic Mode (18GHz-26.5GHz)

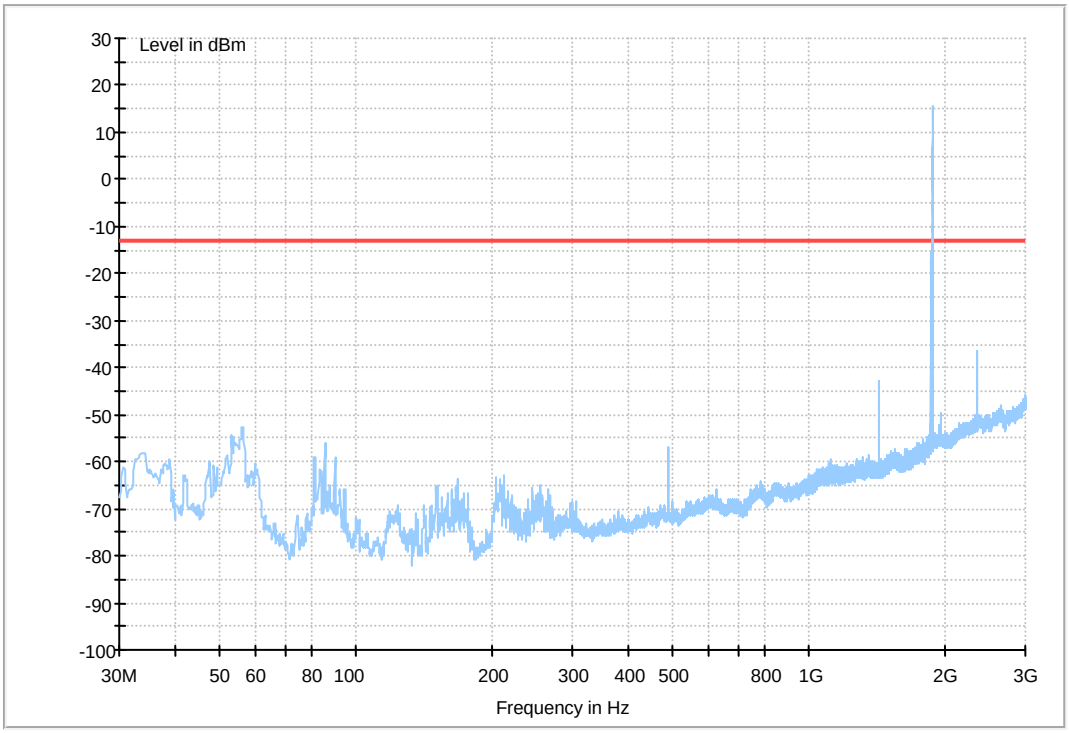


EDGE1900

Traffic Mode (9kHz-30MHz)

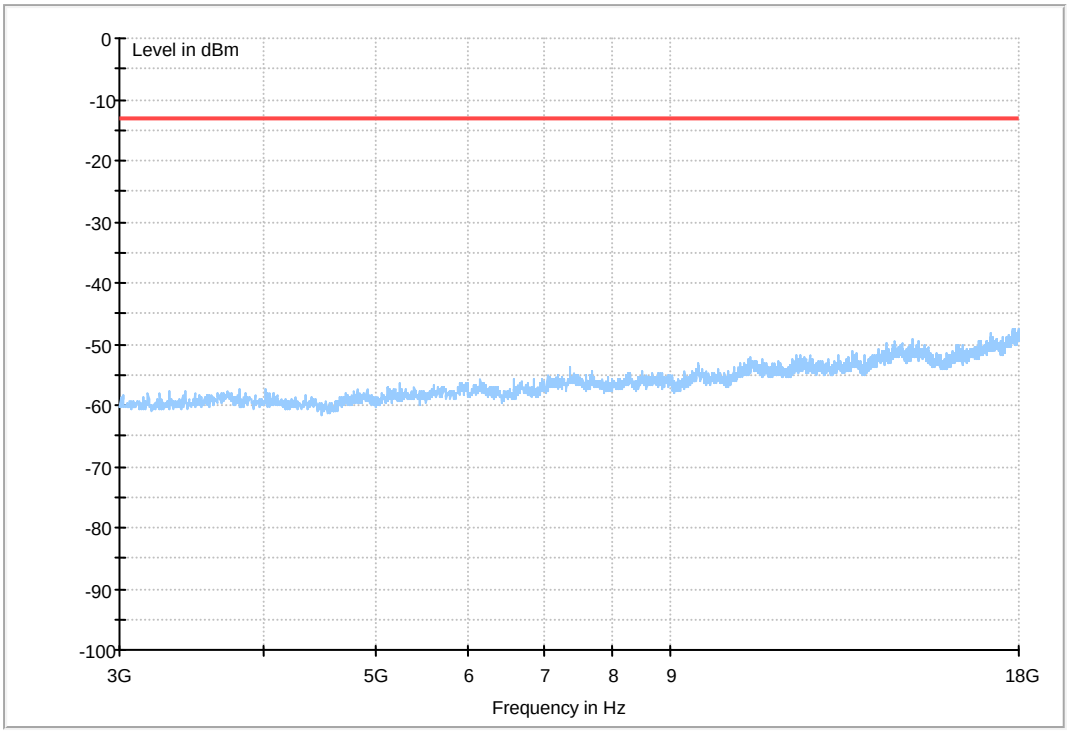


Traffic Mode (30MHz-3GHz)

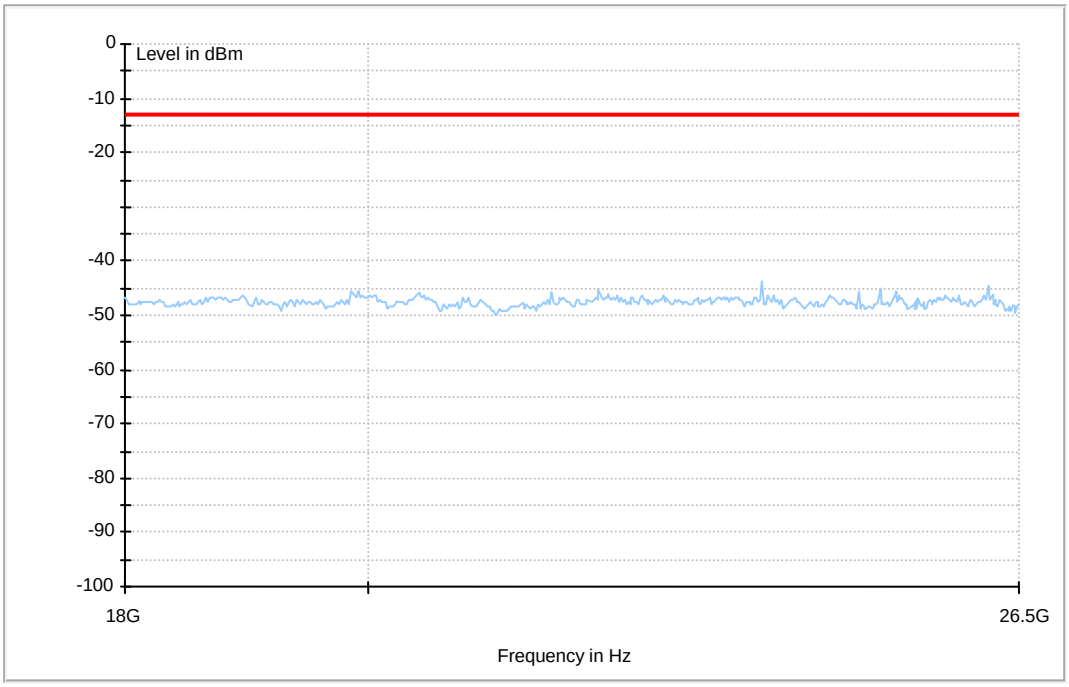


Z

Traffic Mode (3GHz-18GHz)

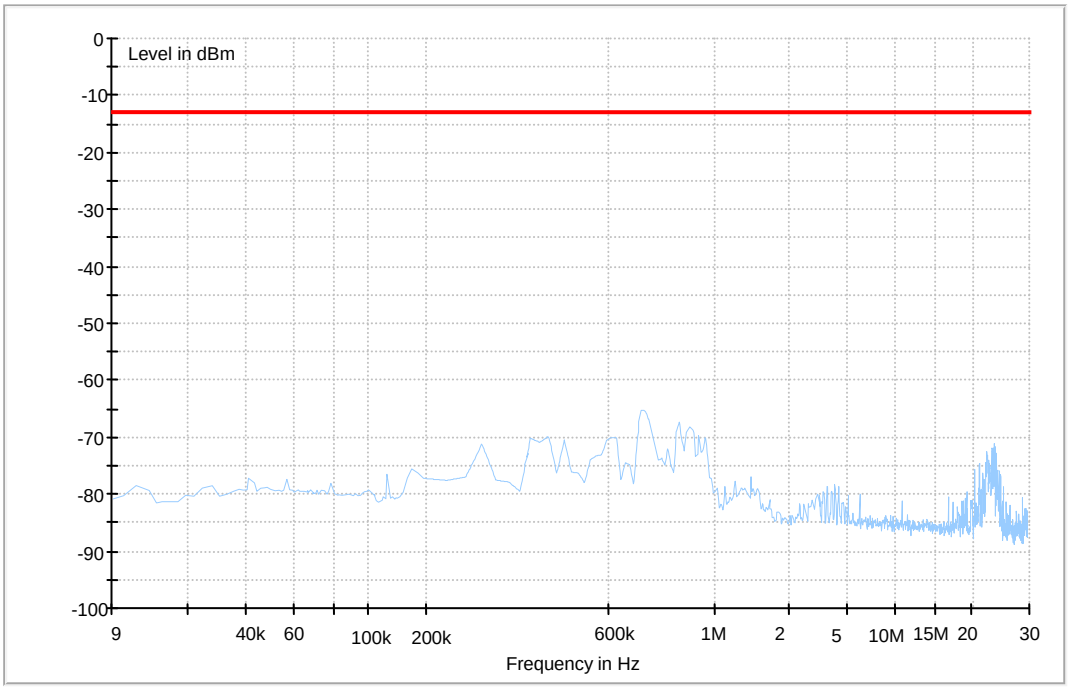


Traffic Mode (18GHz-26.5GHz)

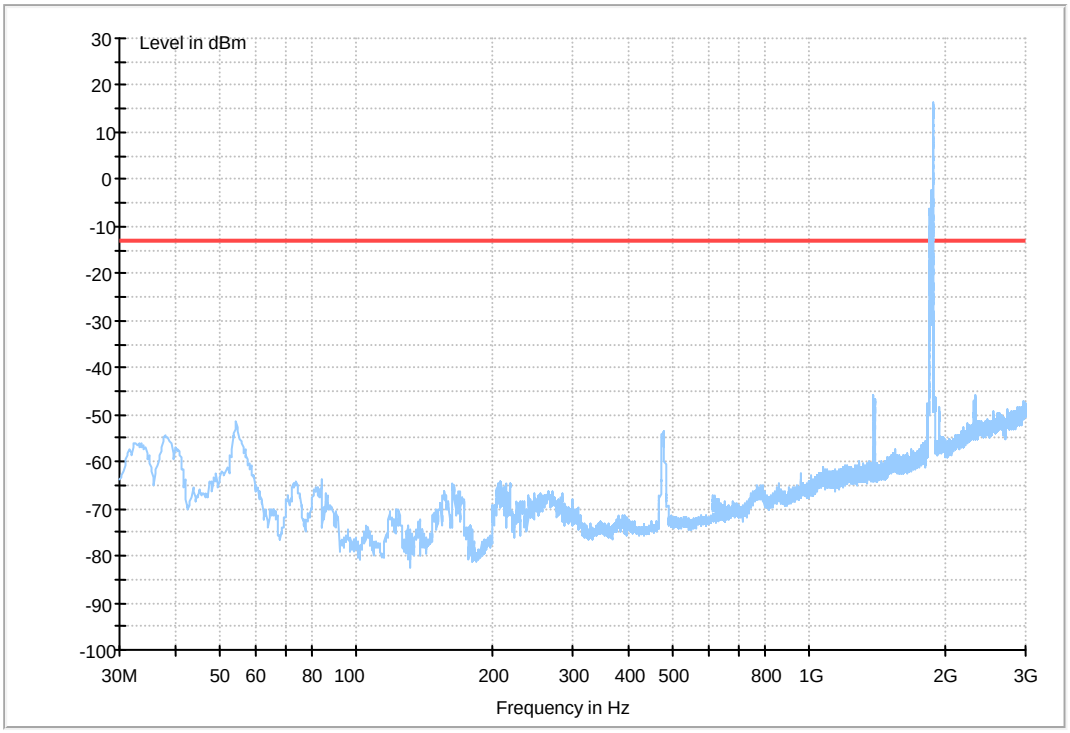


WCDMA 1900

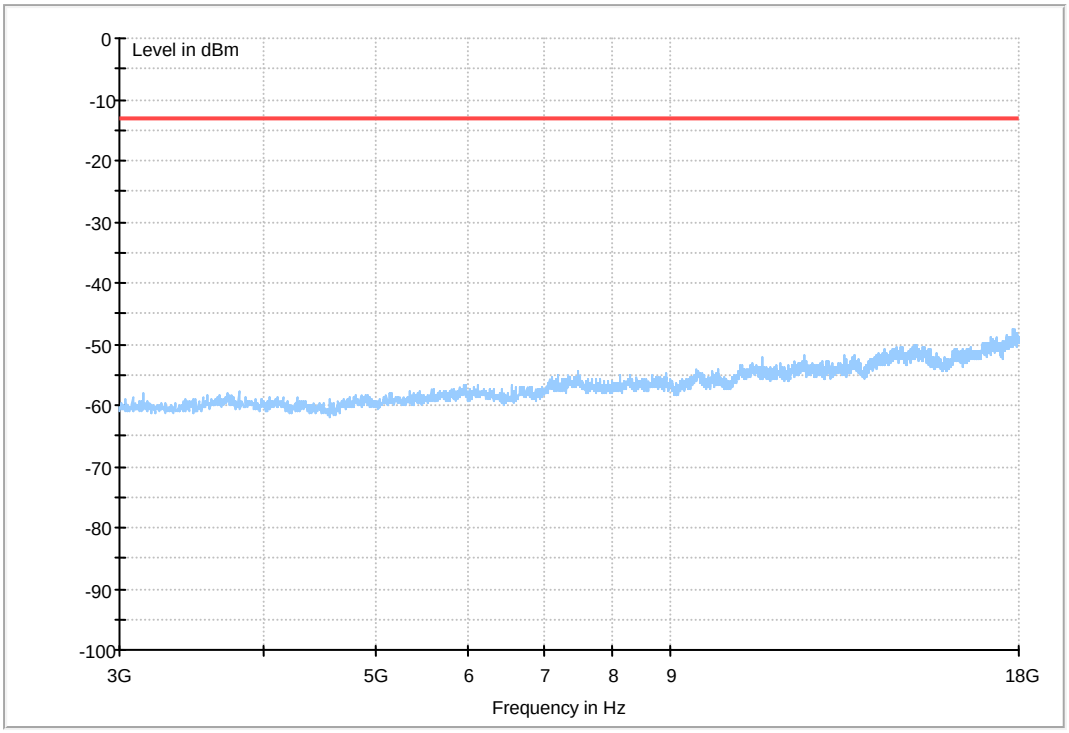
Traffic Mode (9kHz-30MHz)



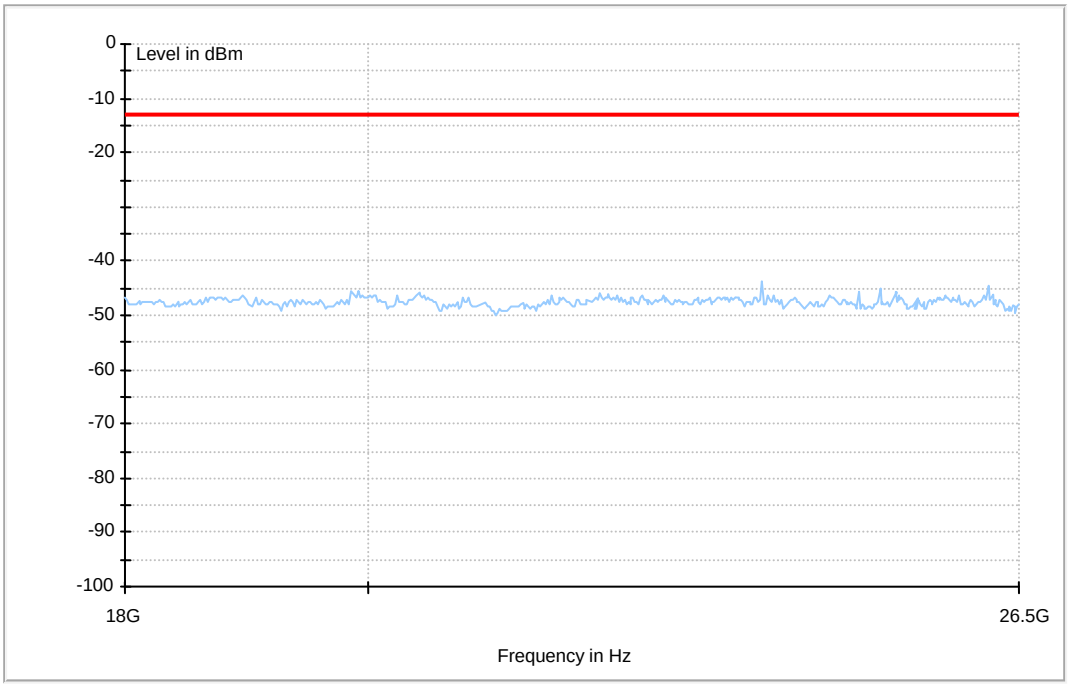
Traffic Mode (30MHz-3GHz)



Traffic Mode (3GHz-18GHz)

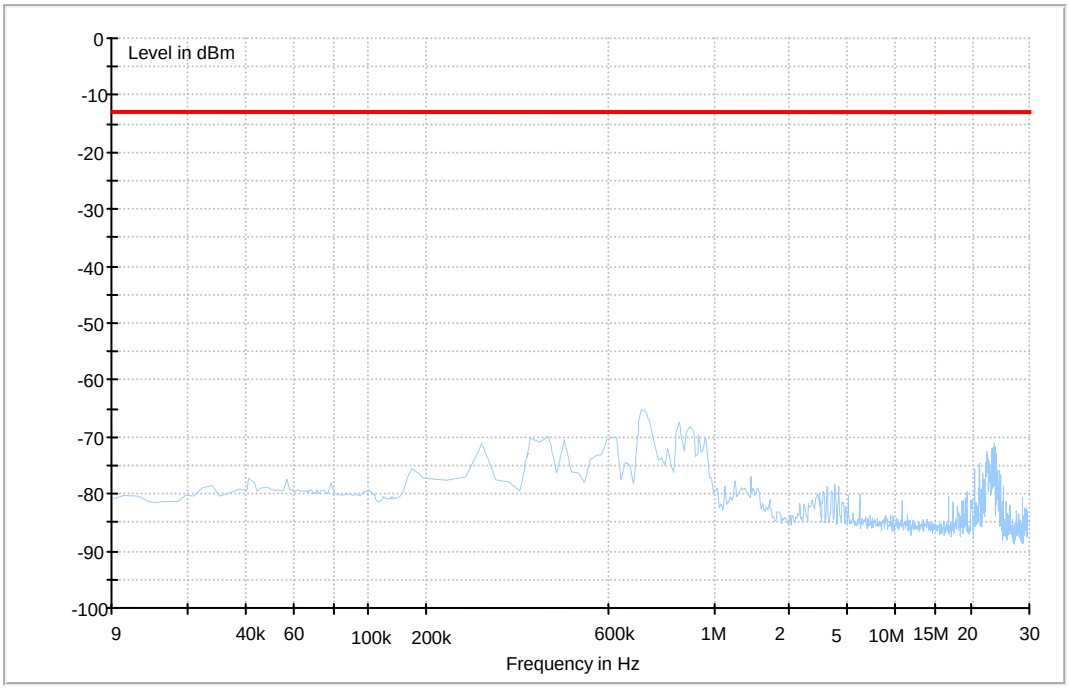


Traffic Mode (18GHz-26.5GHz)

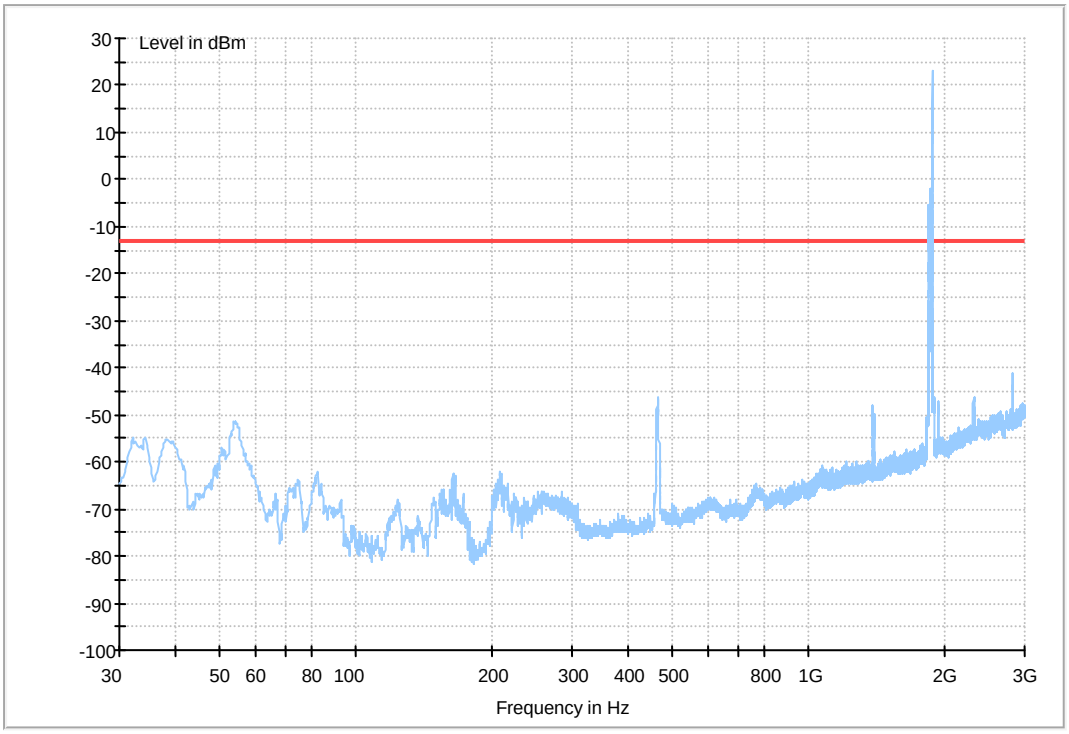


HSUPA 1900

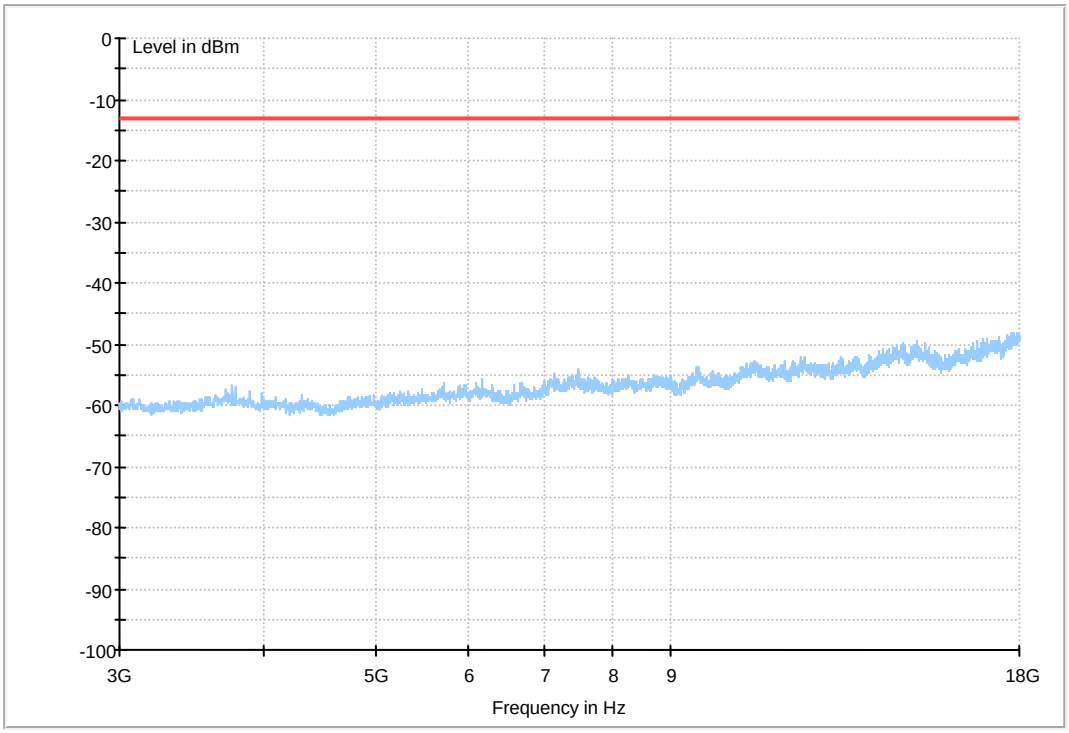
Traffic Mode (9kHz-30MHz)



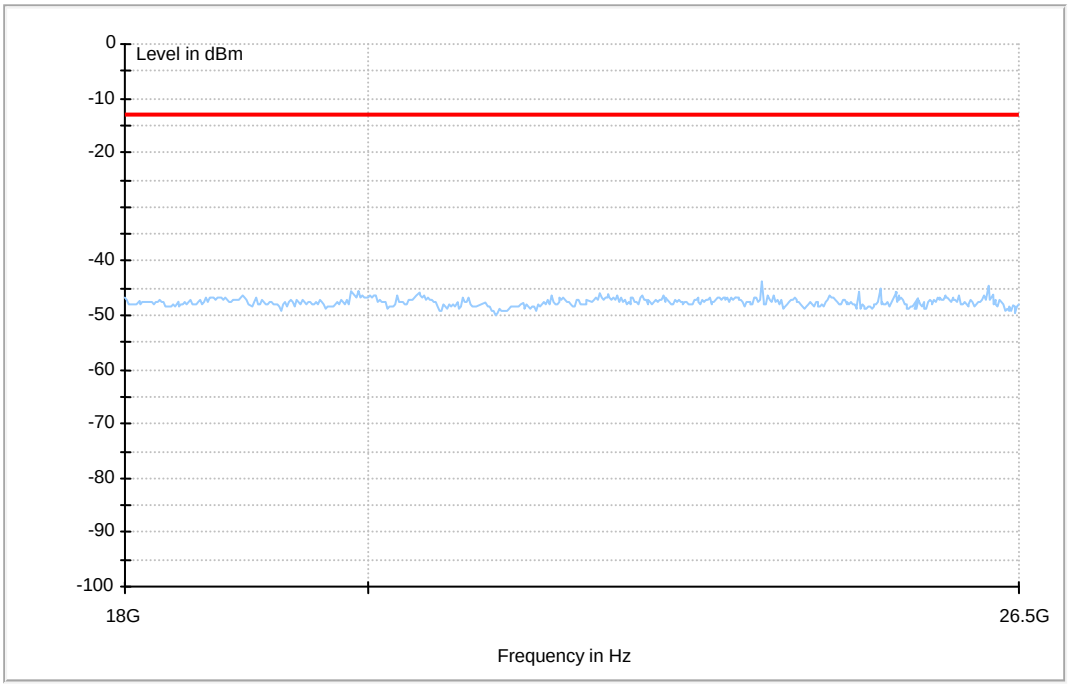
Traffic Mode (30MHz-3GHz)



Traffic Mode (3GHz-18GHz)

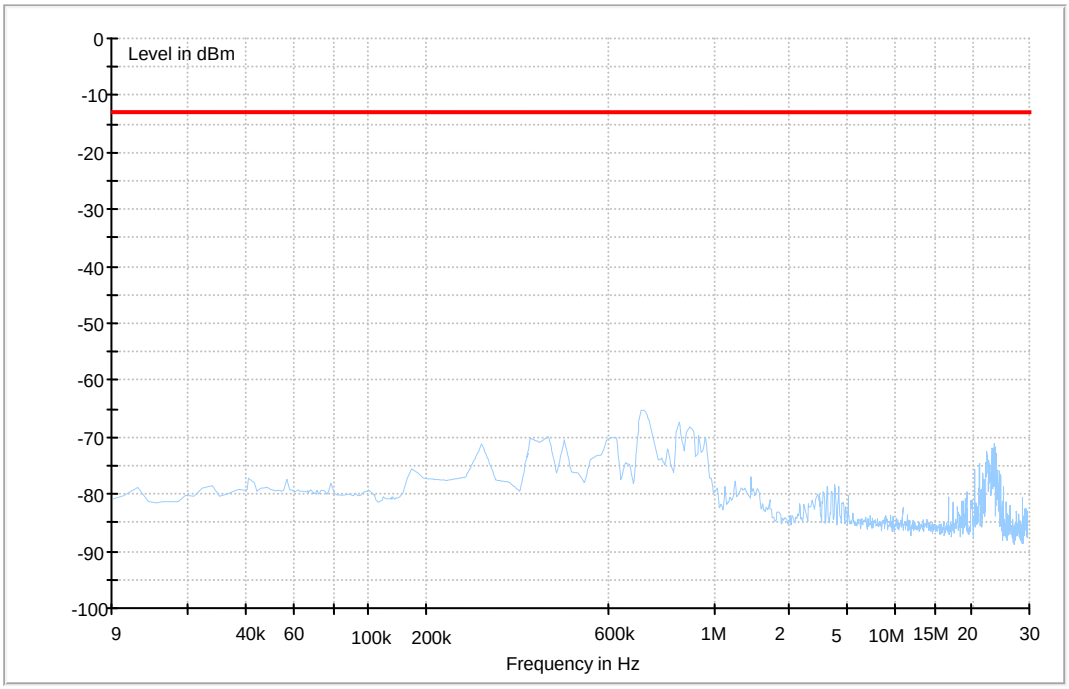


Traffic Mode (18GHz-26.5GHz)

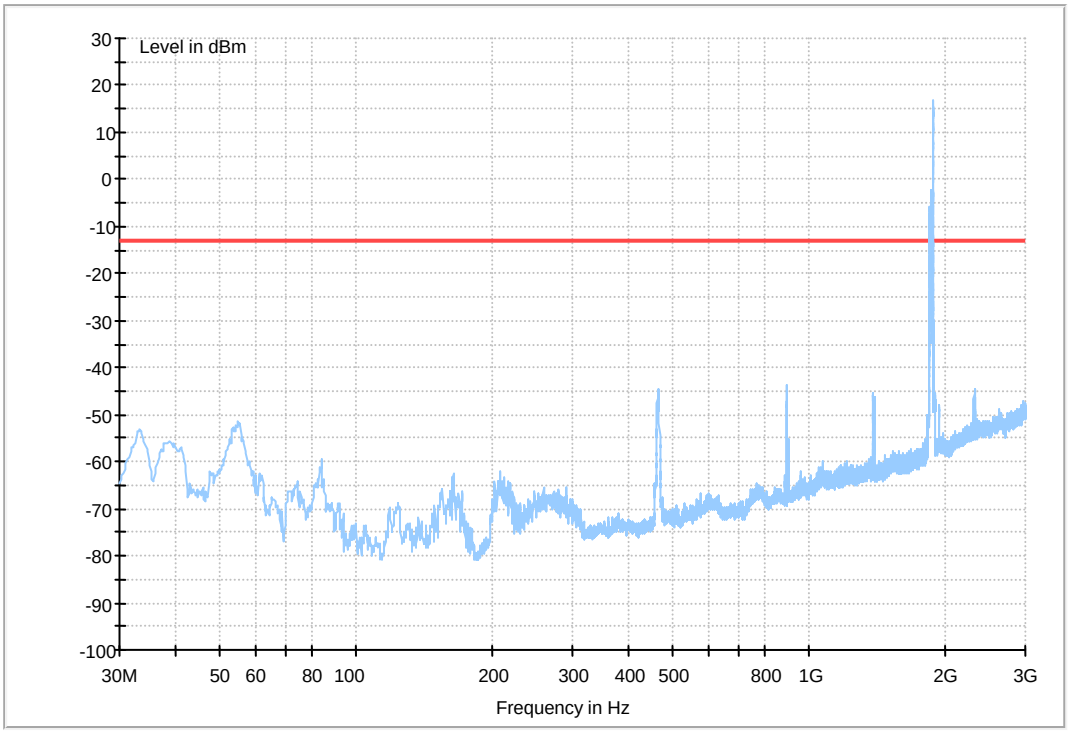


HSDPA 1900

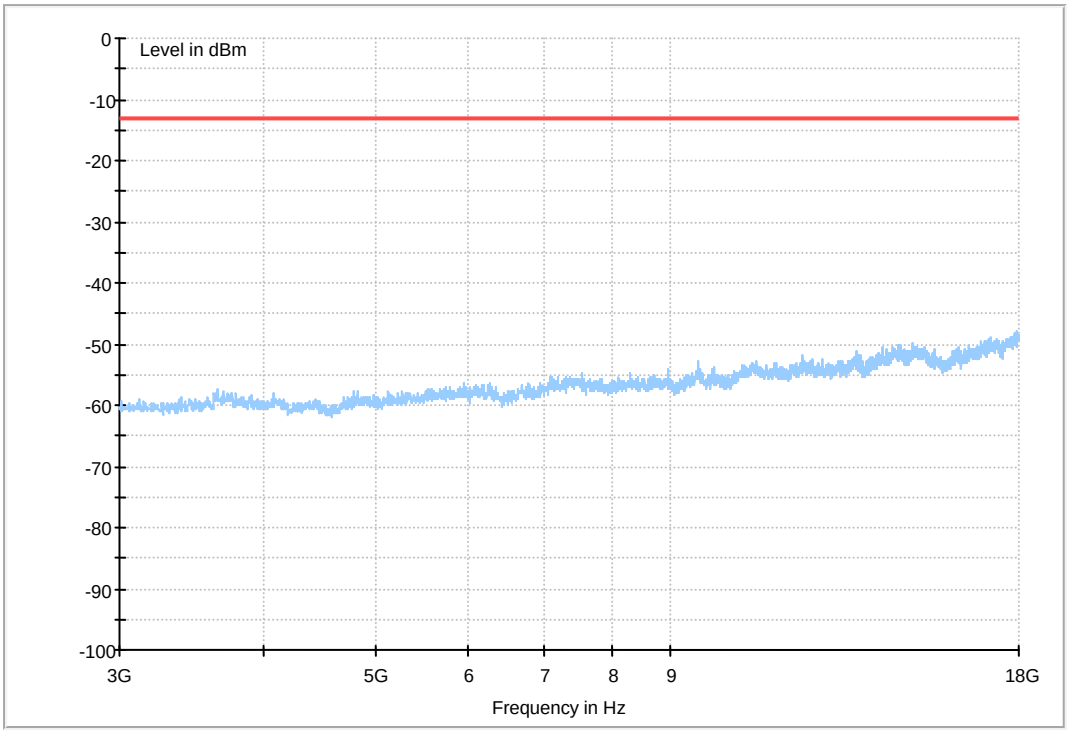
Traffic Mode (9kHz-30MHz)



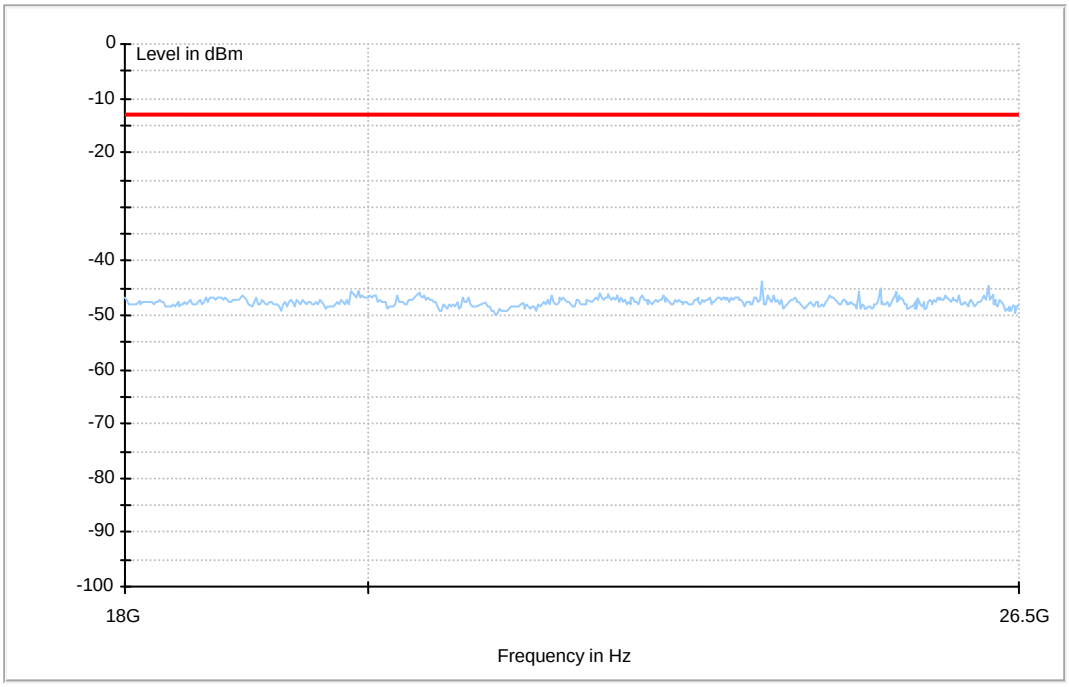
Traffic Mode (30MHz-3GHz)



Traffic Mode (3GHz-18GHz)



Traffic Mode (18GHz-26.5GHz)



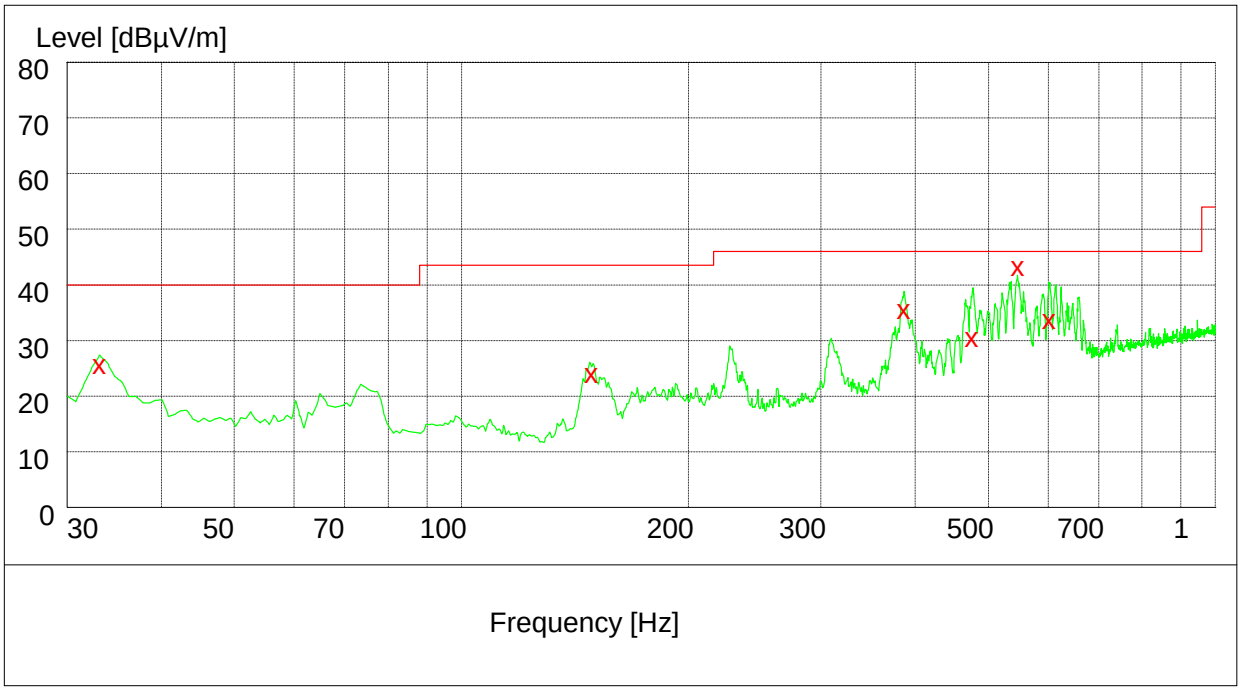
Appendix F

Receiver Spurious Emissions

According to RSS-132

This test was carried out in all the test modes, Here only the worst test result was shown.

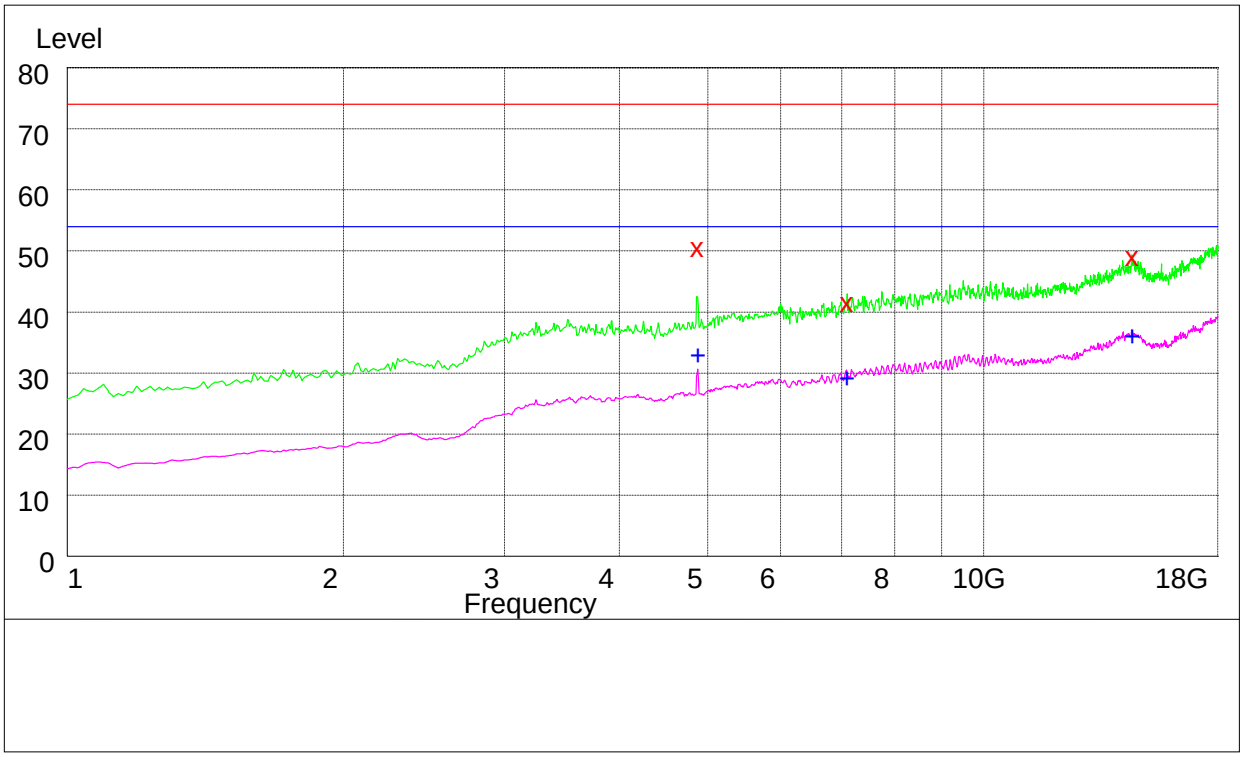
30MHz-1GHz



MEASUREMENT RESULT: QP Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarisation
33.600000	26.50	11.8	40.0	13.5	100.0	56.00	HORIZONTAL
158.300000	23.10	9.7	43.5	20.4	100.0	120.00	HORIZONTAL
386.760000	36.10	17.8	46.0	9.9	100.0	324.00	HORIZONTAL
476.700000	30.80	19.5	46.0	15.2	100.0	282.00	HORIZONTAL
547.620000	42.70	21.3	46.0	3.3	100.0	125.00	HORIZONTAL
602.280000	34.30	22.5	46.0	11.7	100.0	226.00	HORIZONTAL

1GHz-18GHz



MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarisation
4876.500000	50.50	-3.5	74.0	23.5	161.0	206.00	HORIZONTAL
7094.000000	41.90	1.3	74.0	32.1	165.0	316.00	HORIZONTAL
14524.00000	49.40	14.9	74.0	24.6	100.0	291.00	VERTICAL

MEASUREMENT RESULT: AV Detector

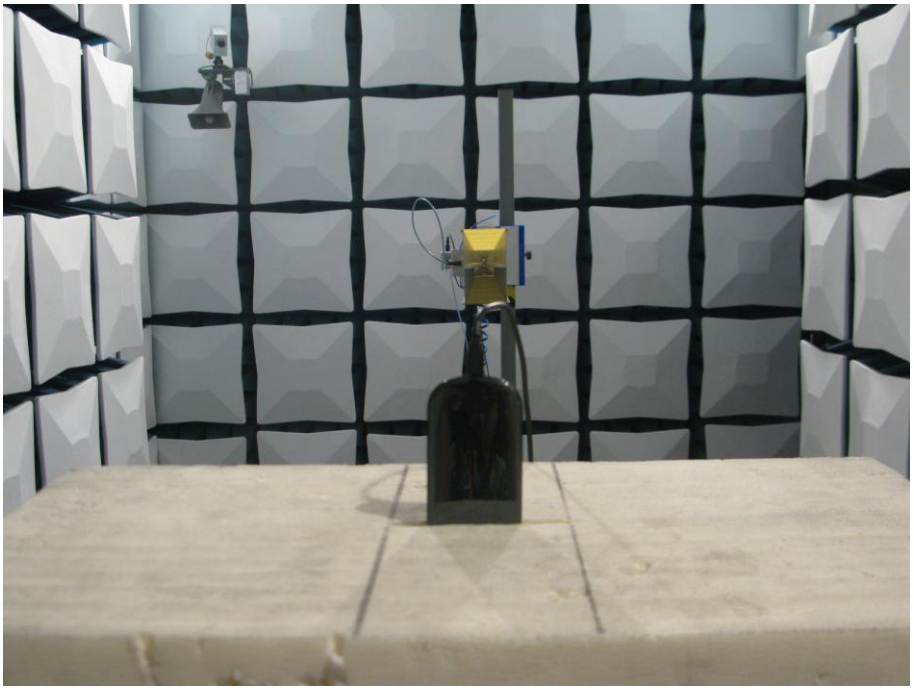
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarisation
4872.500000	33.20	-3.3	54.0	20.8	100.0	33.00	VERTICAL
7086.000000	29.40	1.5	54.0	24.6	102.0	48.00	HORIZONTAL
14519.00000	36.40	14.9	54.0	17.6	100.0	186.00	VERTICAL

Appendix G

Photos of Test Setup

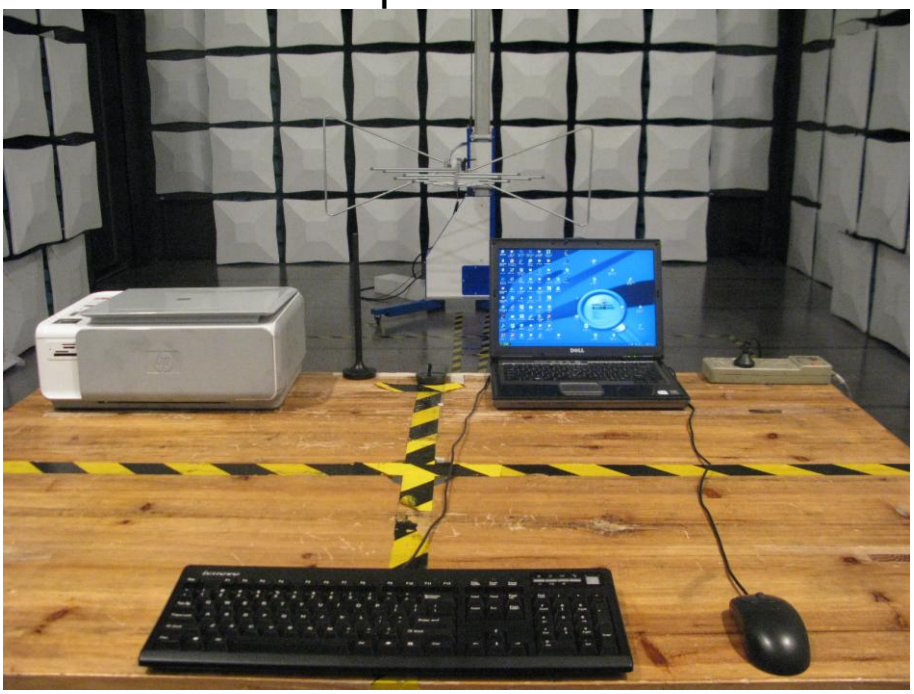
Field Strength of Spurious Emissions

Radiated Spurious Emission (below 3GHz)

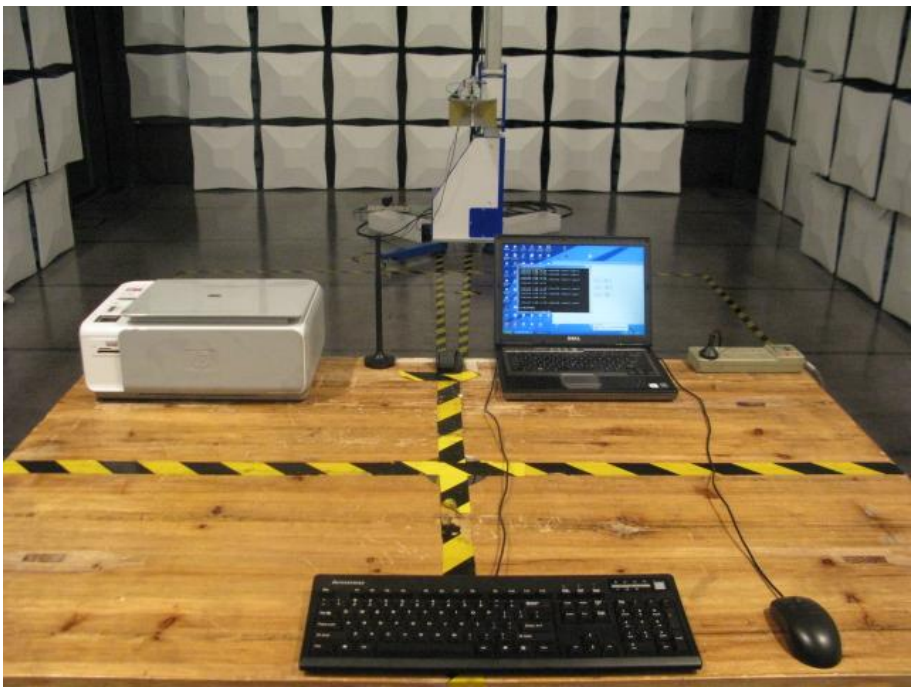


Radiated Spurious Emission (3GHz to18GHz)

Receiver Spurious Emissions



Radiated Disturbance Emissions (30MHz-1GHz)



Radiated Disturbance Emissions (above 1GHz)