



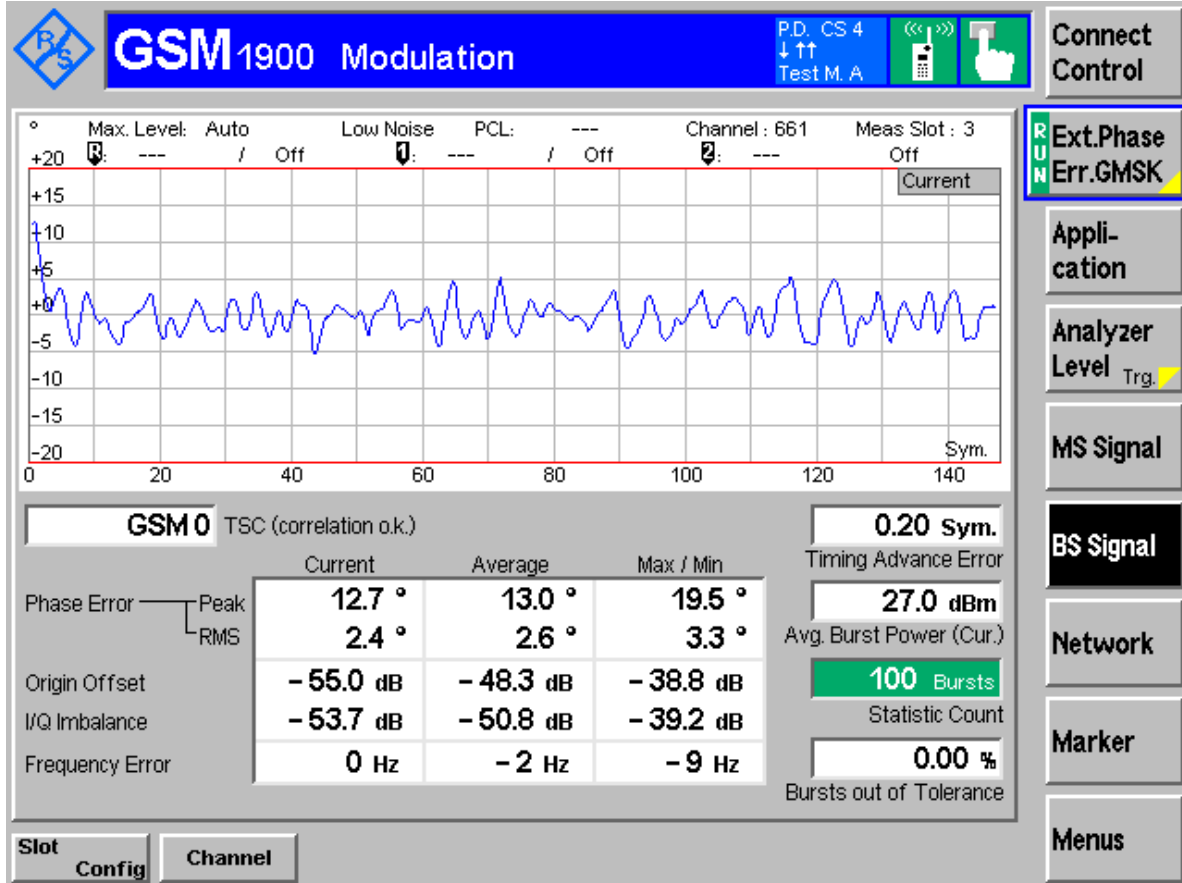
# Appendix A

## Modulation Characteristics

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

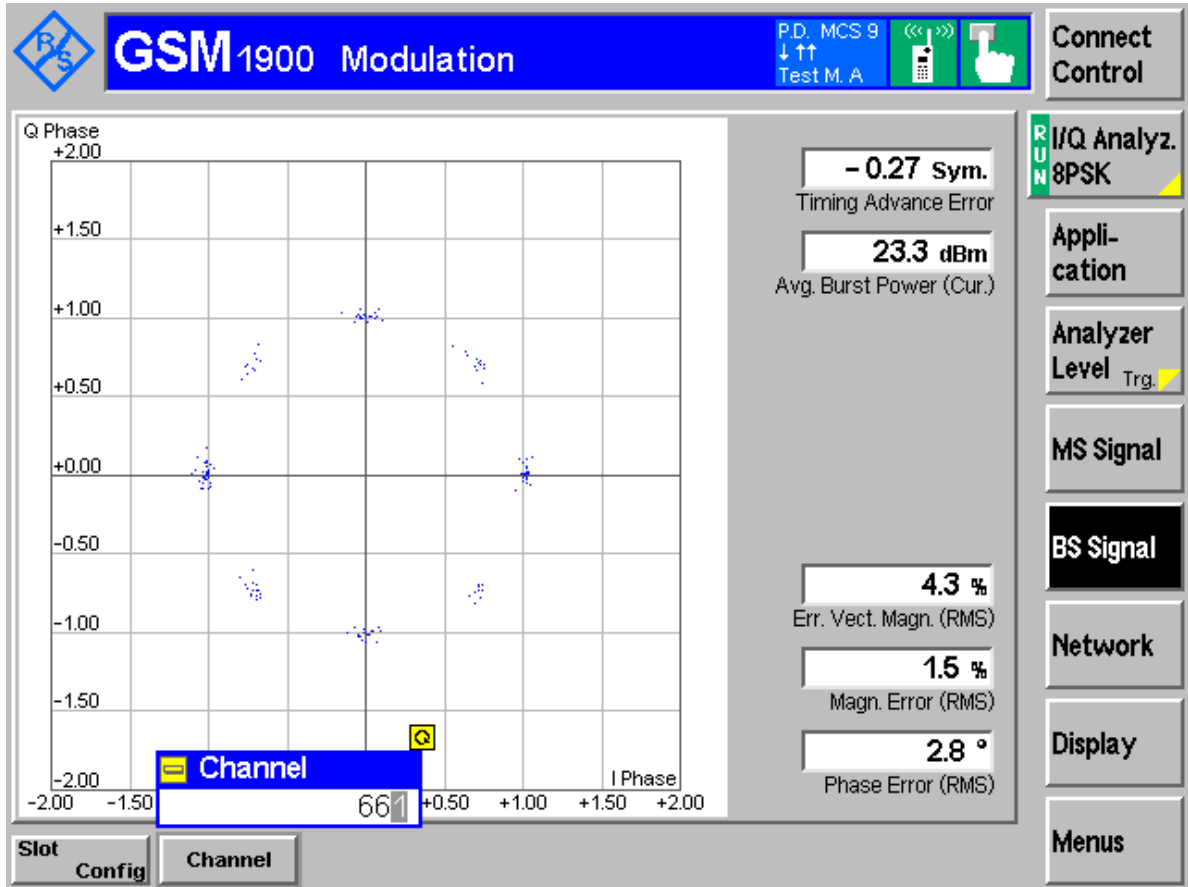


# TM1:GPRS/GSM Channel 661



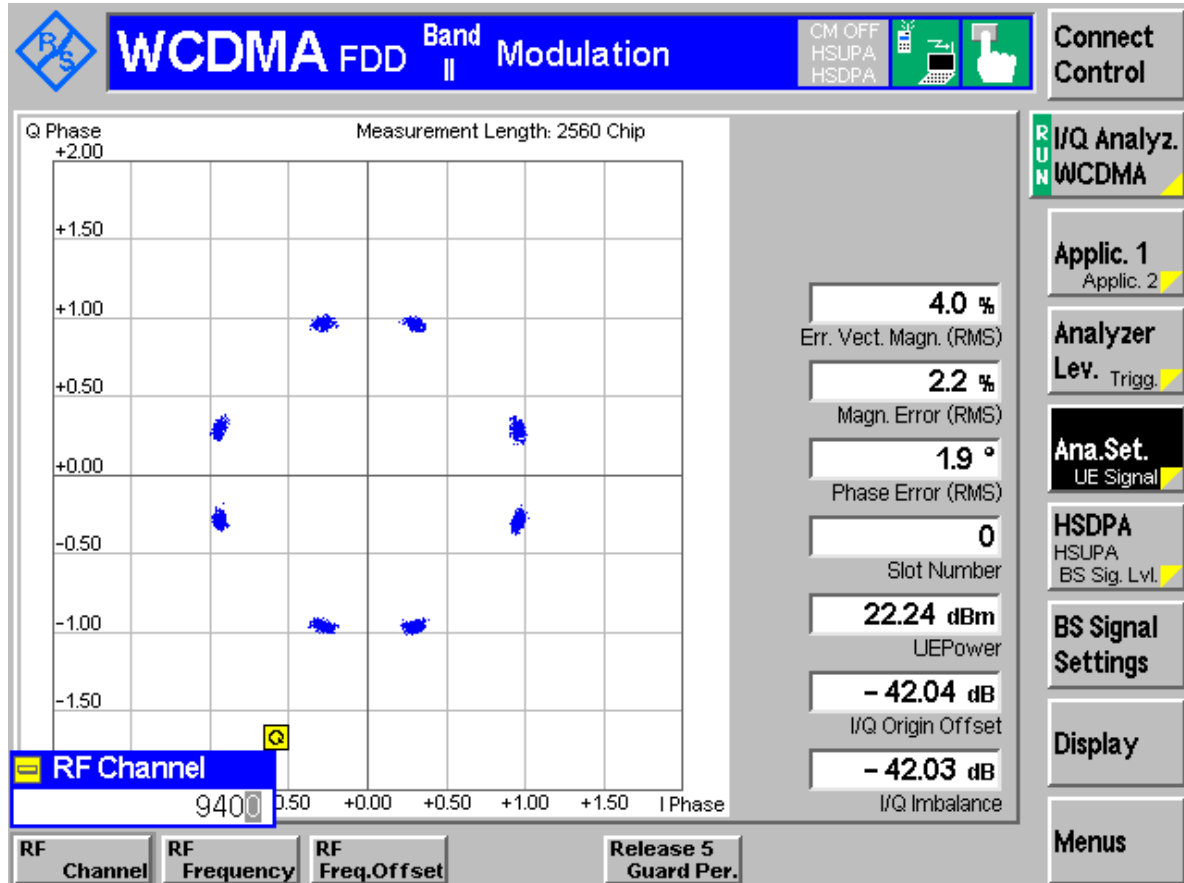


# TM2:EDGE Channel 661





# TM3: WCDMA Channel 9400





FCC Test Report of UMG587/E587u-5  
FCC ID: QISE587U-5  
IC ID: 6369A-E587U5



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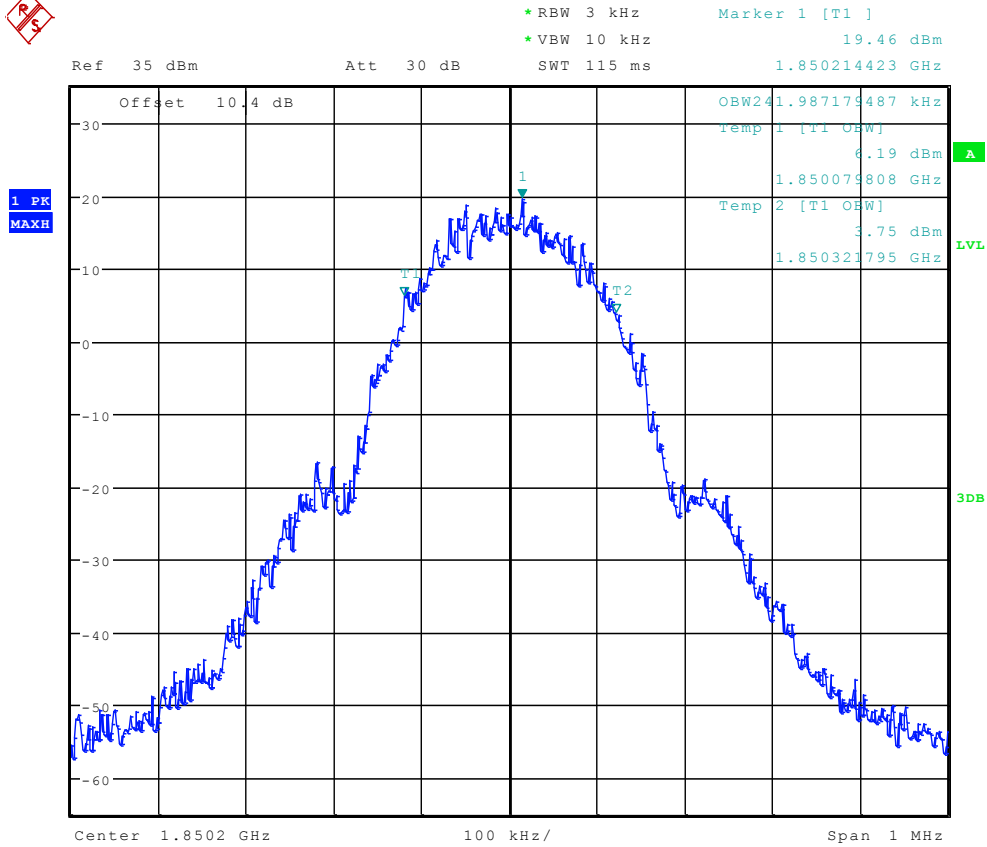
## **Appendix B**

# Occupied Bandwidth

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

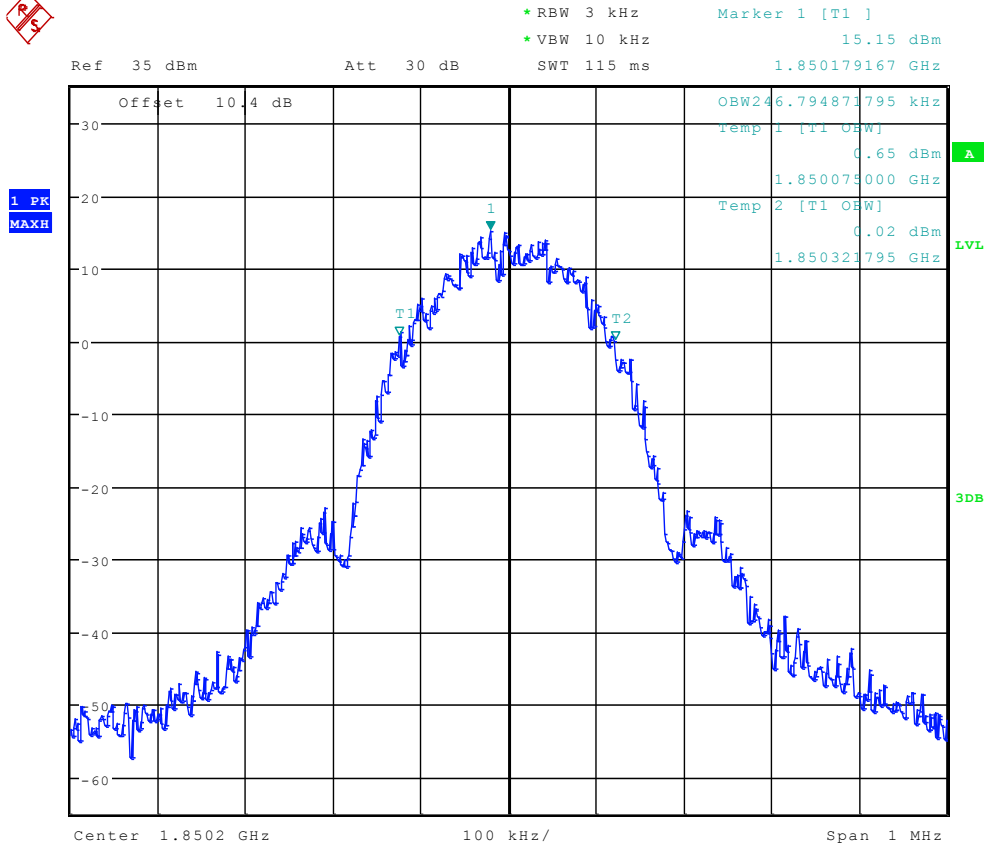


# TM1:GPRS/GSM Channel 512



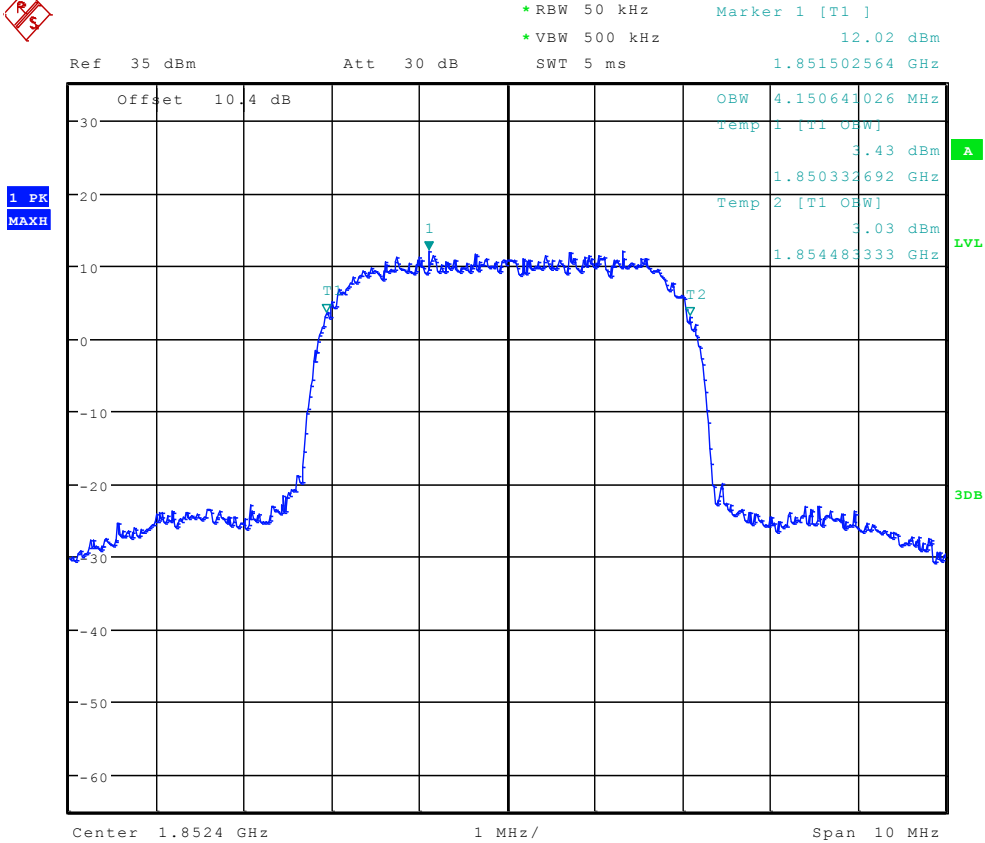


# TM2:EDGE Channel 512





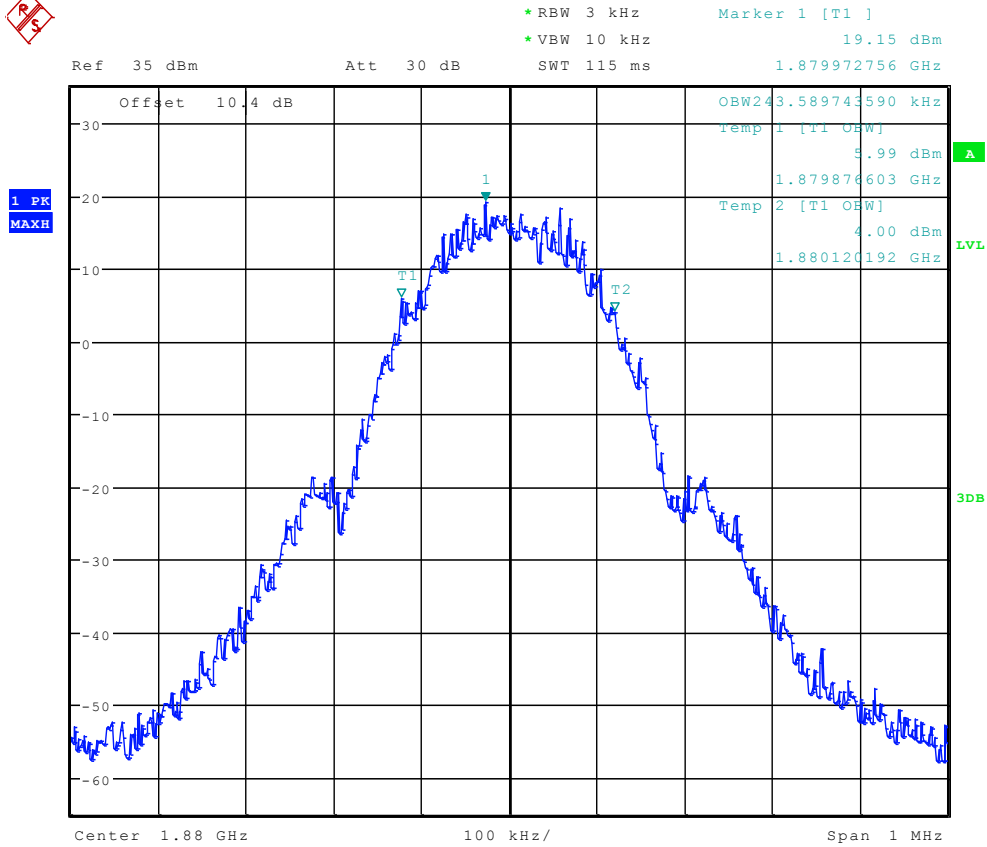
# TM3: WCDMA Channel 9262





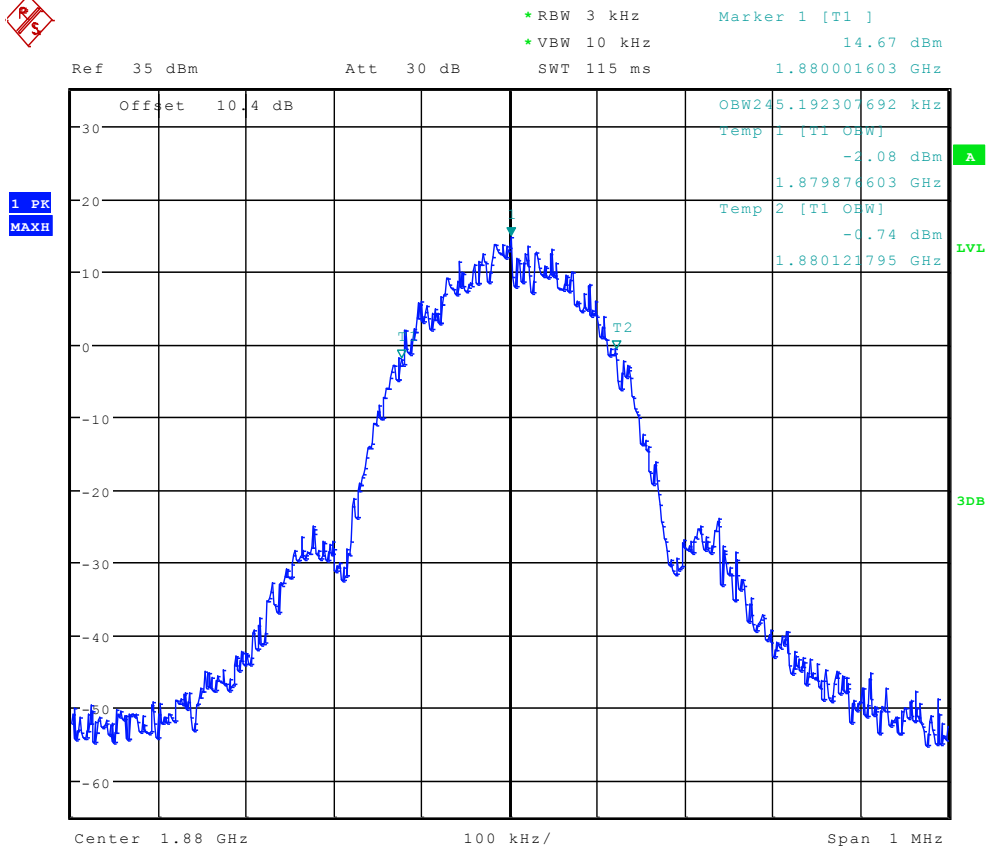


# TM1:GPRS/GSM Channel 661





# TM2:EDGE Channel 661

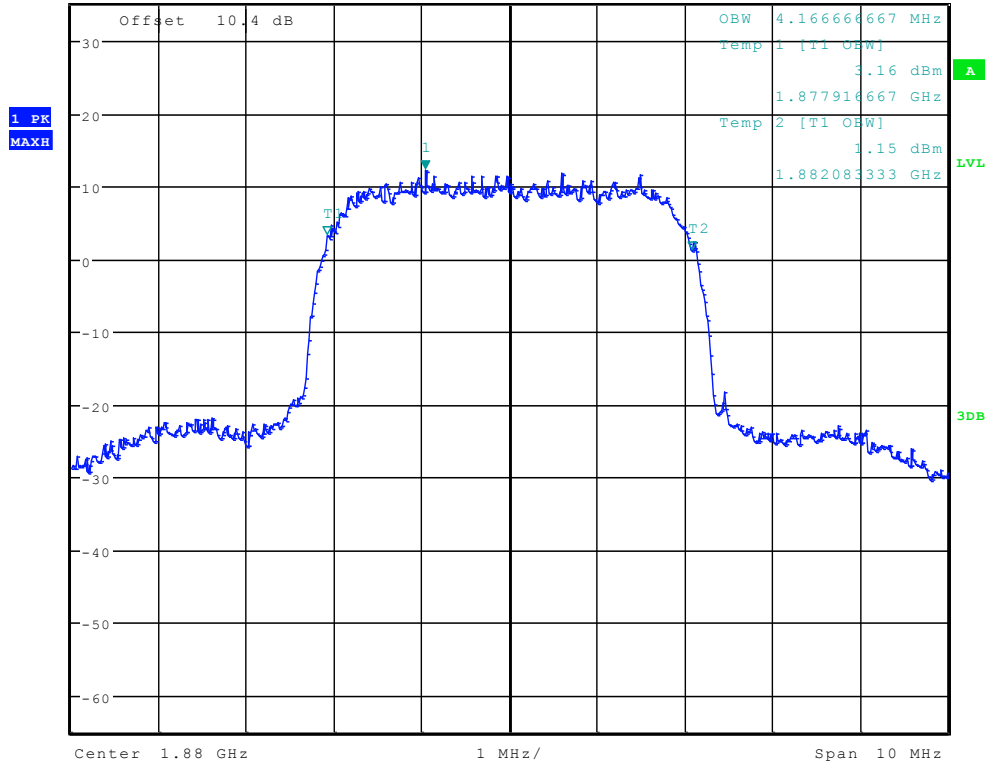




# TM3: WCDMA Channel 9400

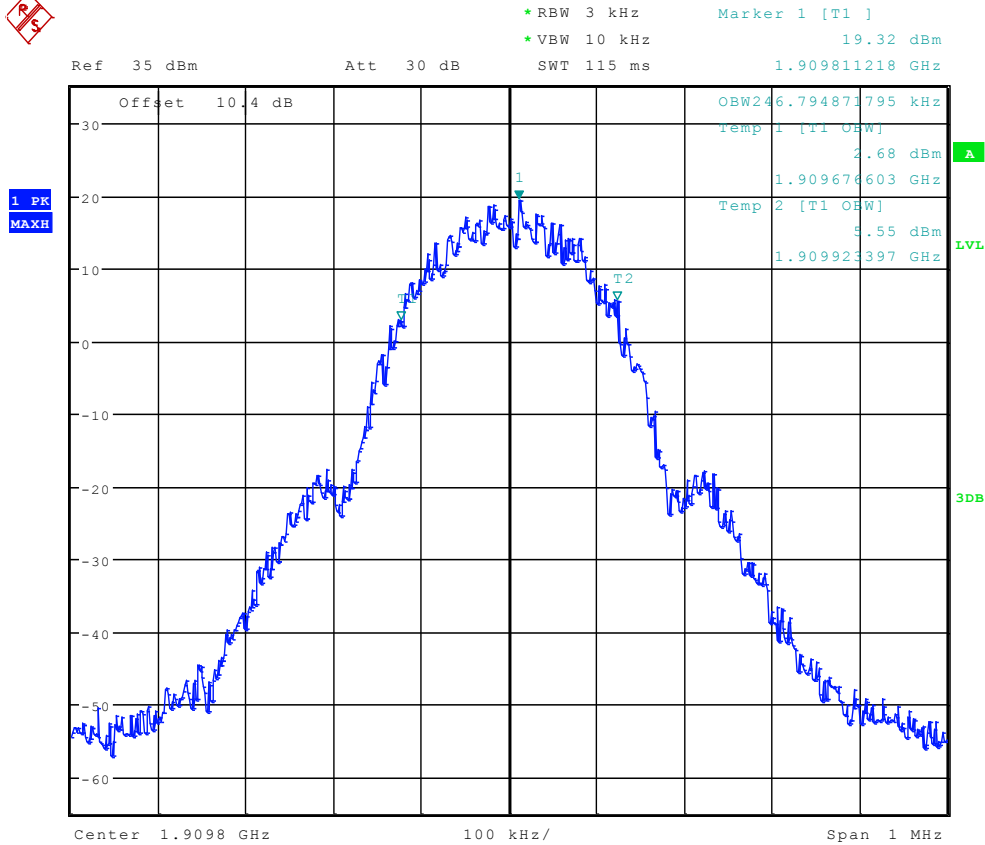


Ref 35 dBm Att 30 dB SWT 5 ms  
 \*RBW 50 kHz \*VBW 500 kHz  
 Marker 1 [T1] 12.15 dBm  
 1.879038462 GHz



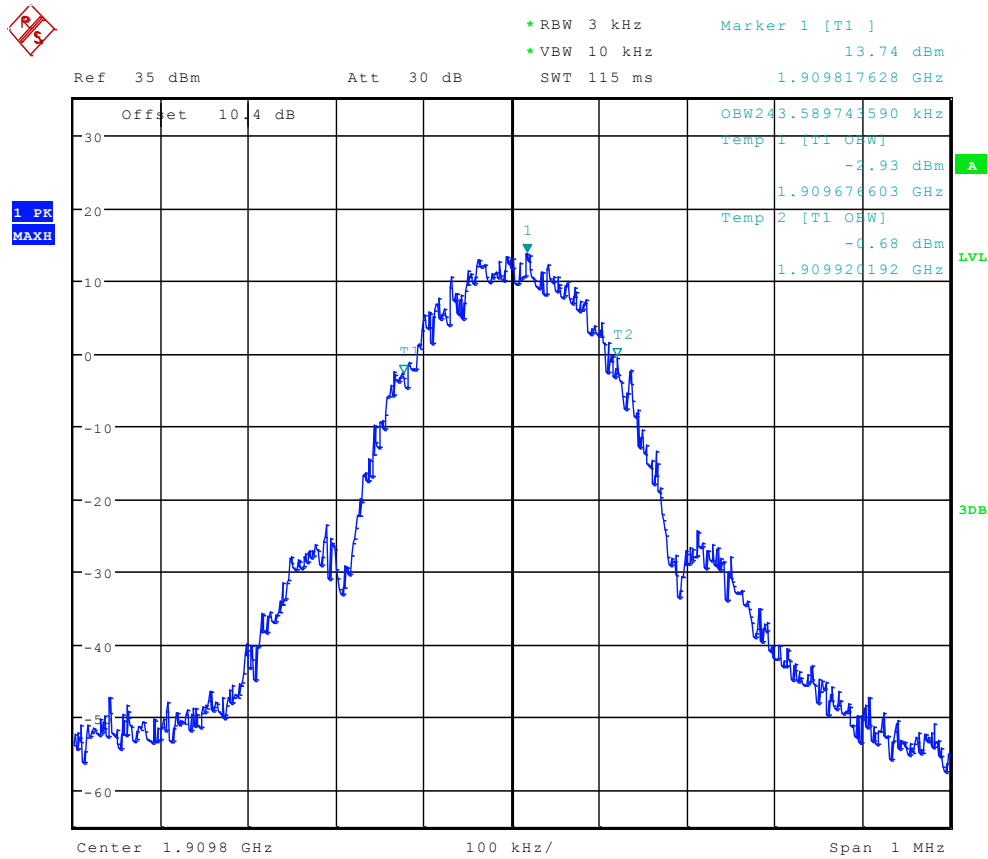


# TM1:GPRS/GSM Channel 810





# TM2:EDGE Channel 810







FCC Test Report of UMG587/E587u-5  
FCC ID: QISE587U-5  
IC ID: 6369A-E587U5



## Appendix C

### Band Edges Compliance

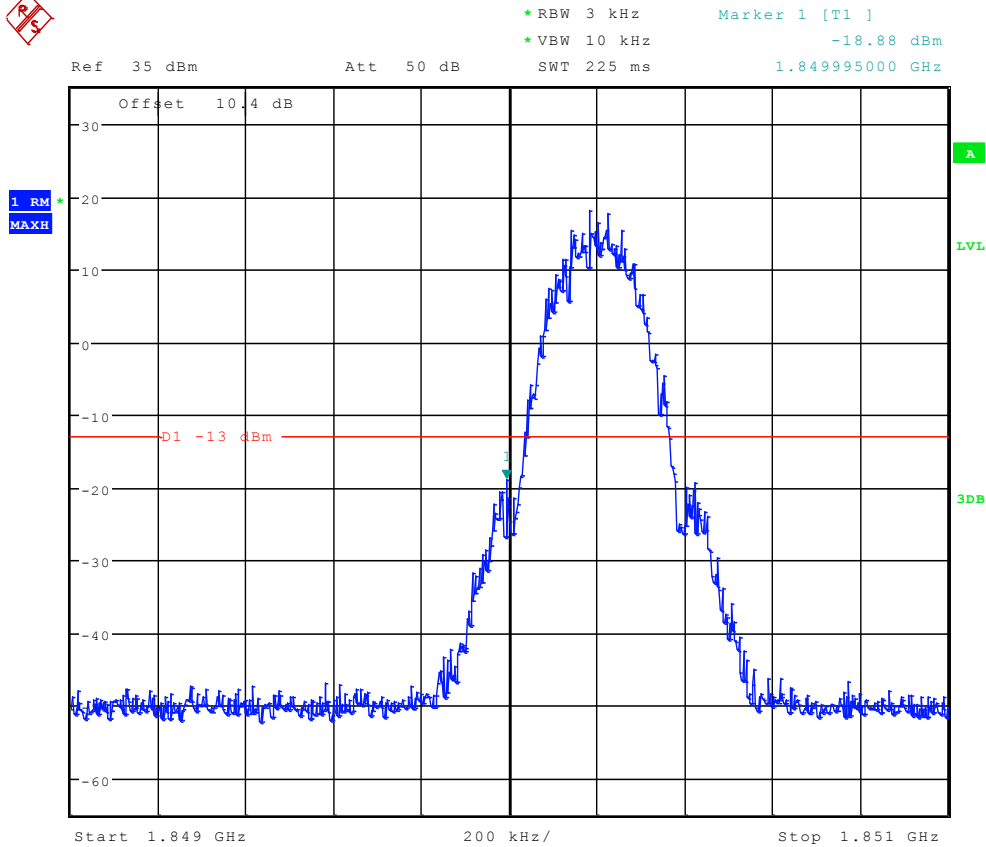
According to FCC Part 2.1051 & Part24 Subpart E  
&RSS-133



# TM1:GPRS/GSM

## Left Edge

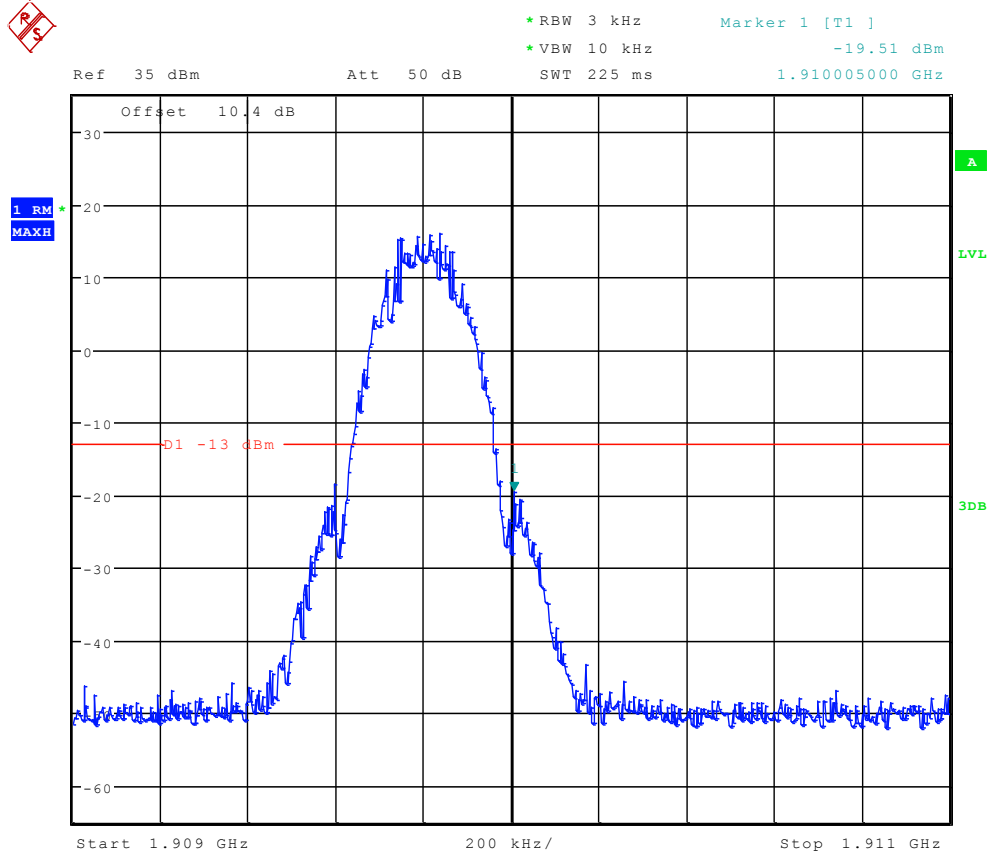
### Channel 512







## Right Edge Channel 810





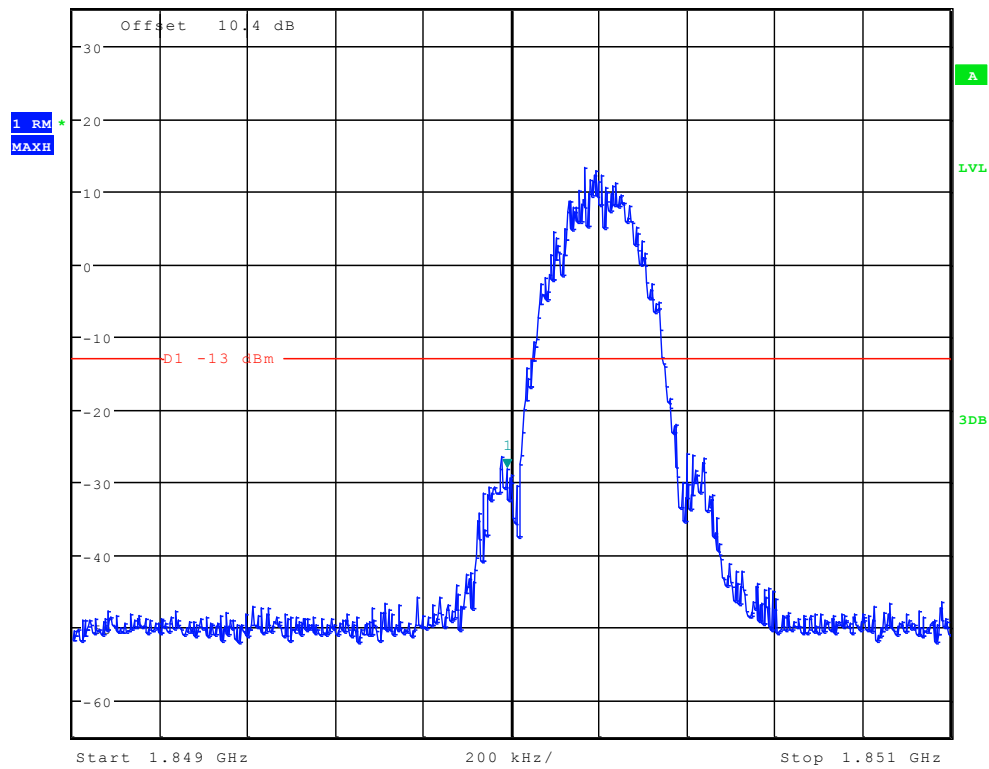
# TM2:EDGE

## Left Edge

### Channel 512

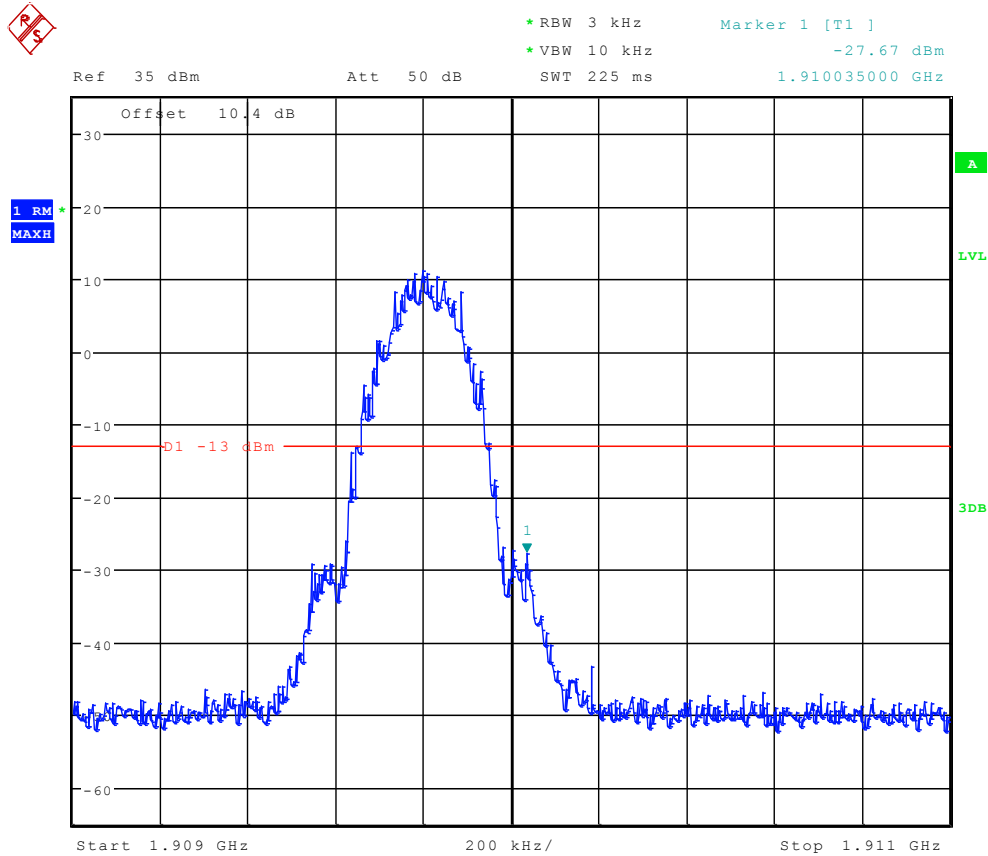


\*RBW 3 kHz      Marker 1 [T1 ]  
\*VBW 10 kHz      -28.08 dBm  
Ref 35 dBm      Att 50 dB      SWT 225 ms      1.849990000 GHz





## Right Edge Channel 810

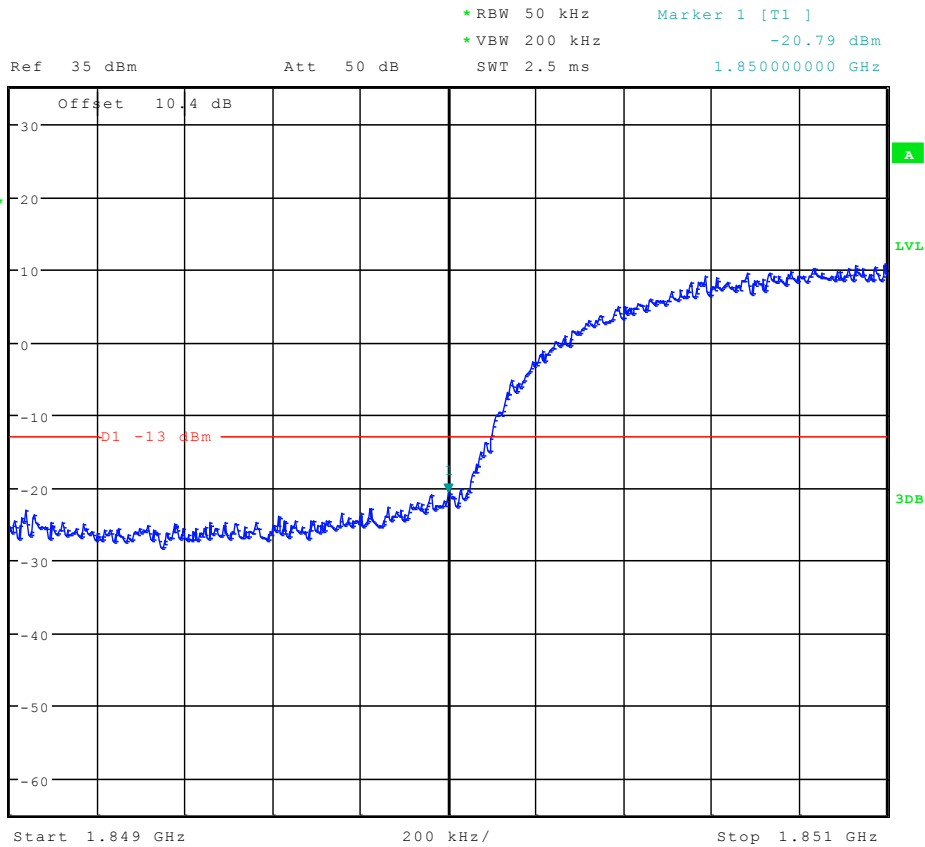




# TM3: WCDMA

## Left Edge

### Channel 9262

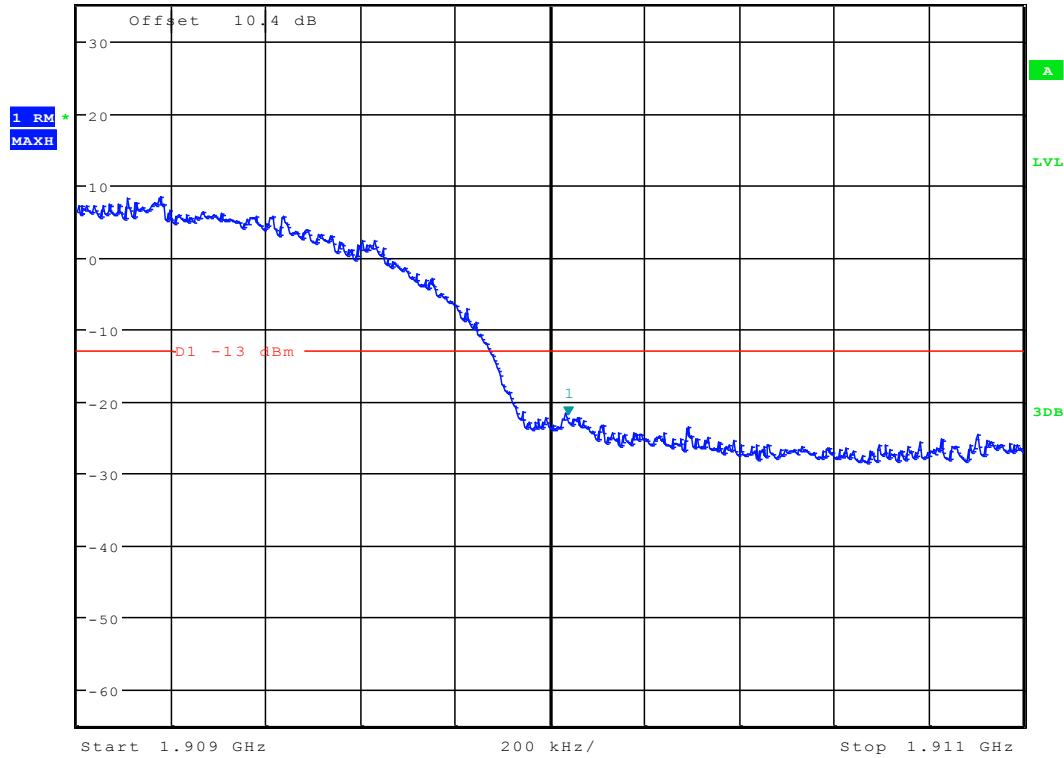




## Right Edge Channel 9538



Ref 35 dBm Att 50 dB SWT 2.5 ms  
 \*RBW 50 kHz \*VBW 200 kHz  
 Marker 1 [T1] -21.97 dBm  
 1.910040000 GHz





FCC Test Report of UMG587/E587u-5  
FCC ID: QISE587U-5  
IC ID: 6369A-E587U5



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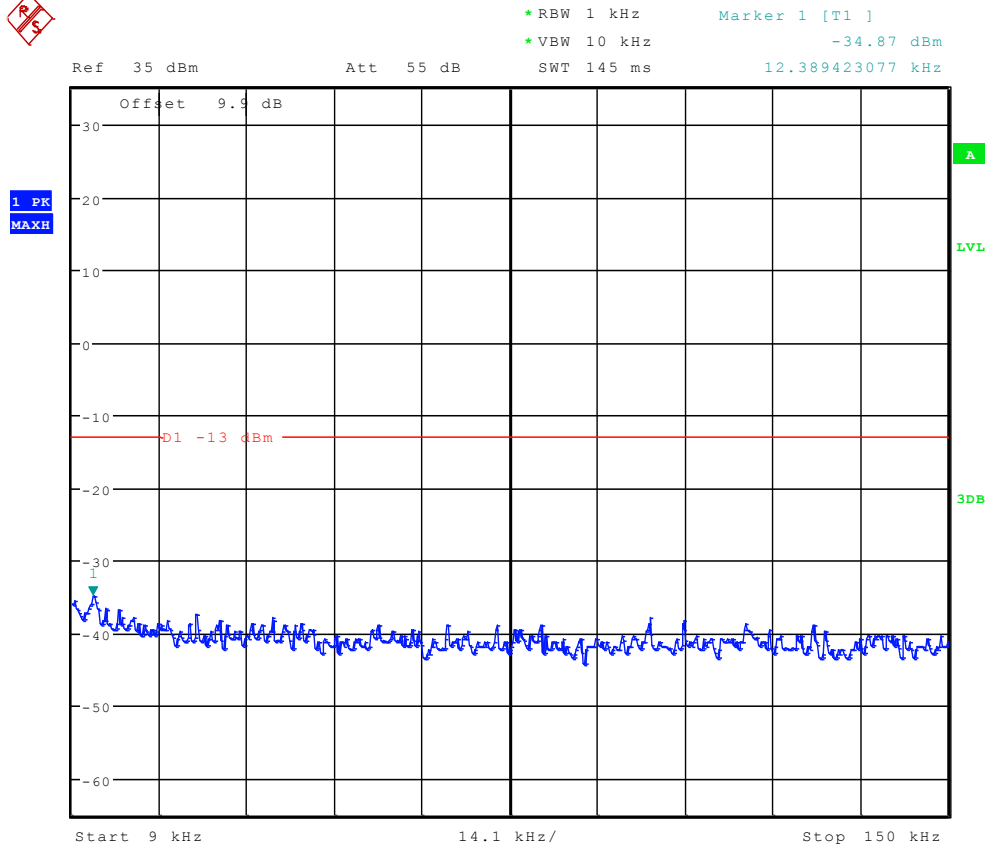
## **Appendix D**

# Spurious Emission at Antenna Terminal

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

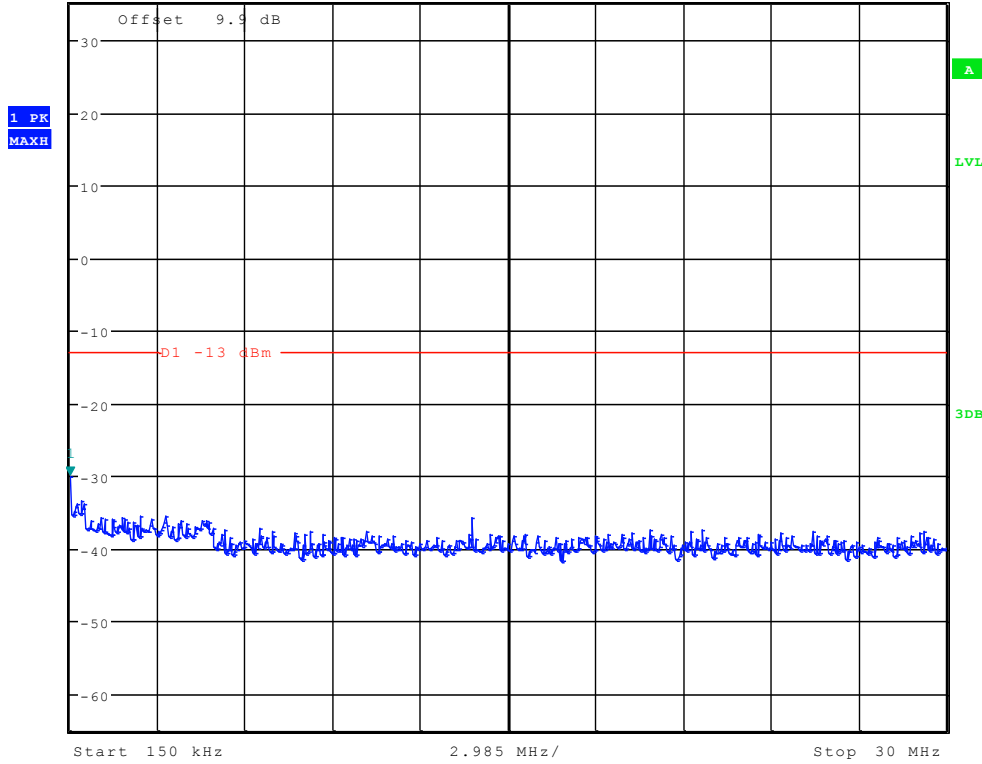


# TM1:GPRS/GSM Channel 512





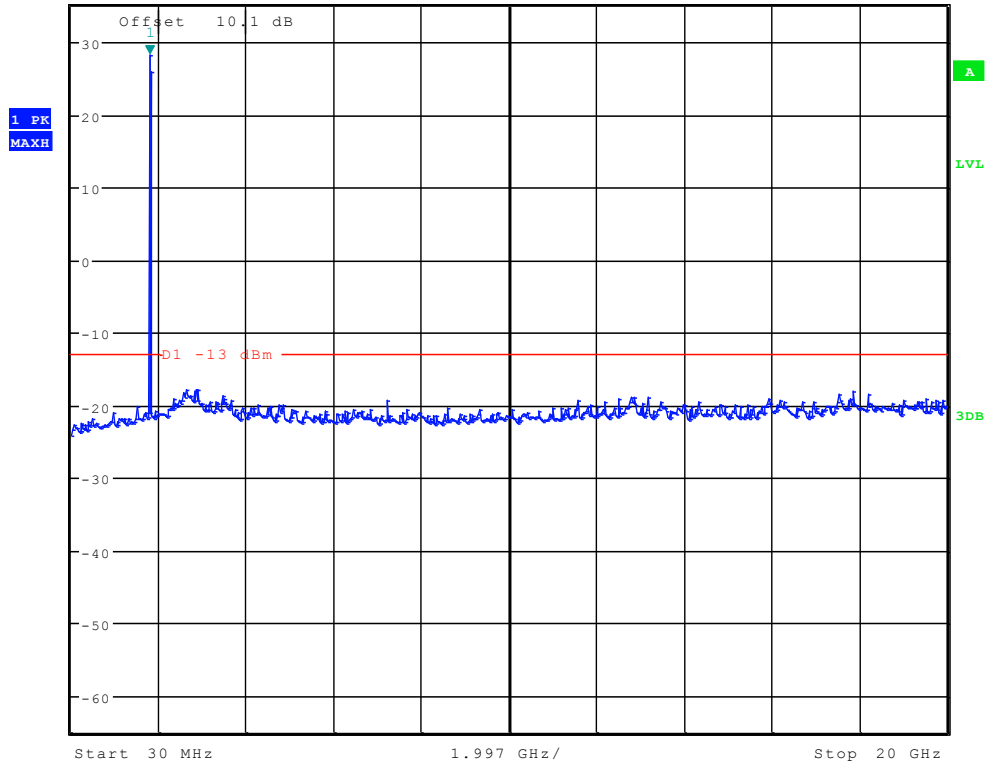
\*RBW 10 kHz      Marker 1 [T1 ]  
\*VBW 30 kHz      -29.98 dBm  
Ref 35 dBm      Att 55 dB      SWT 300 ms      150.000000000 kHz





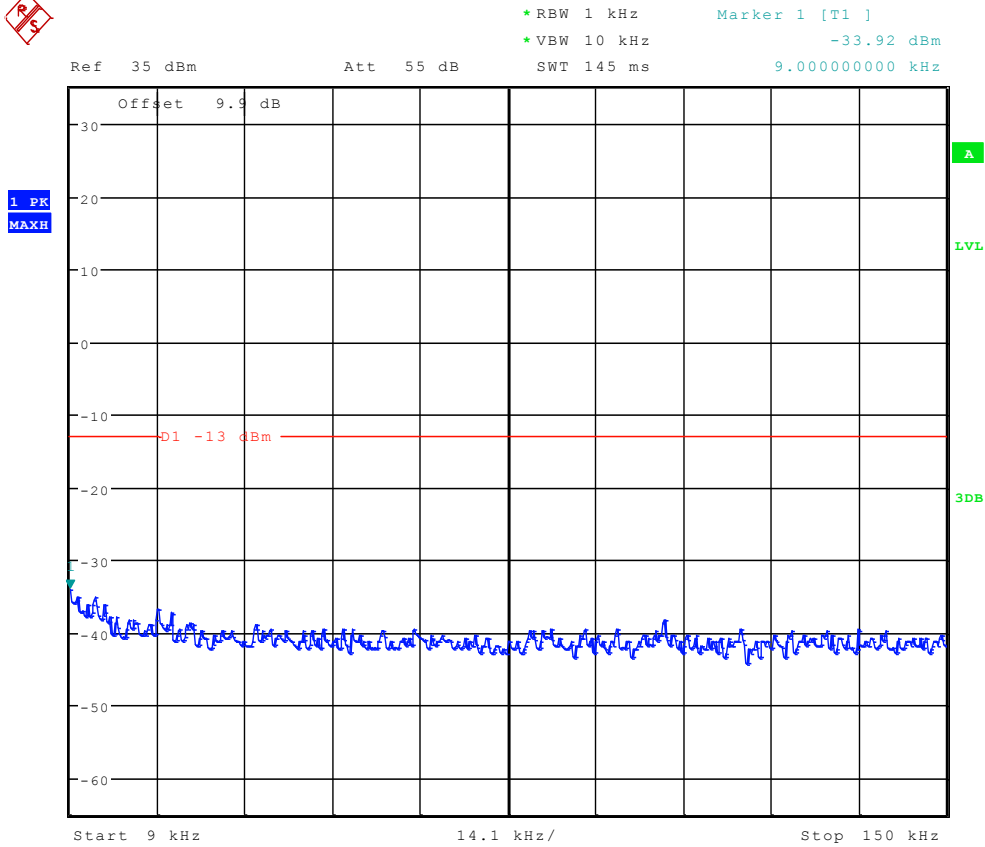


\*RBW 1 MHz      Marker 1 [T1 ]  
\*VBW 3 MHz      28.20 dBm  
Ref 35 dBm      Att 50 dB      SWT 115 ms      1.822179487 GHz



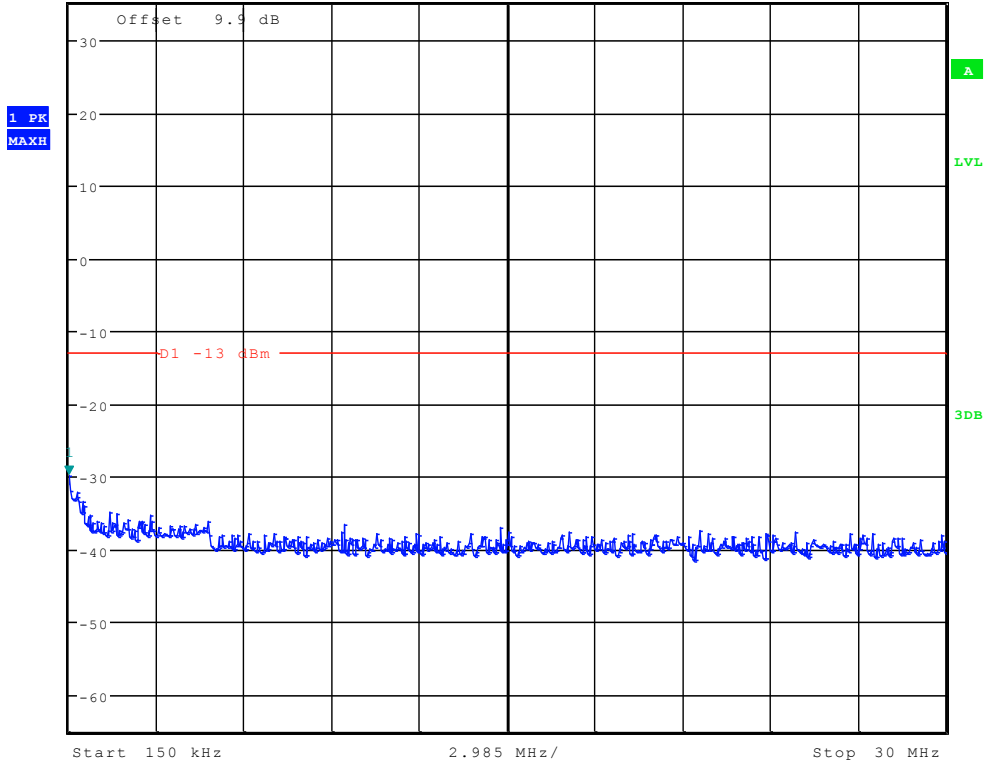


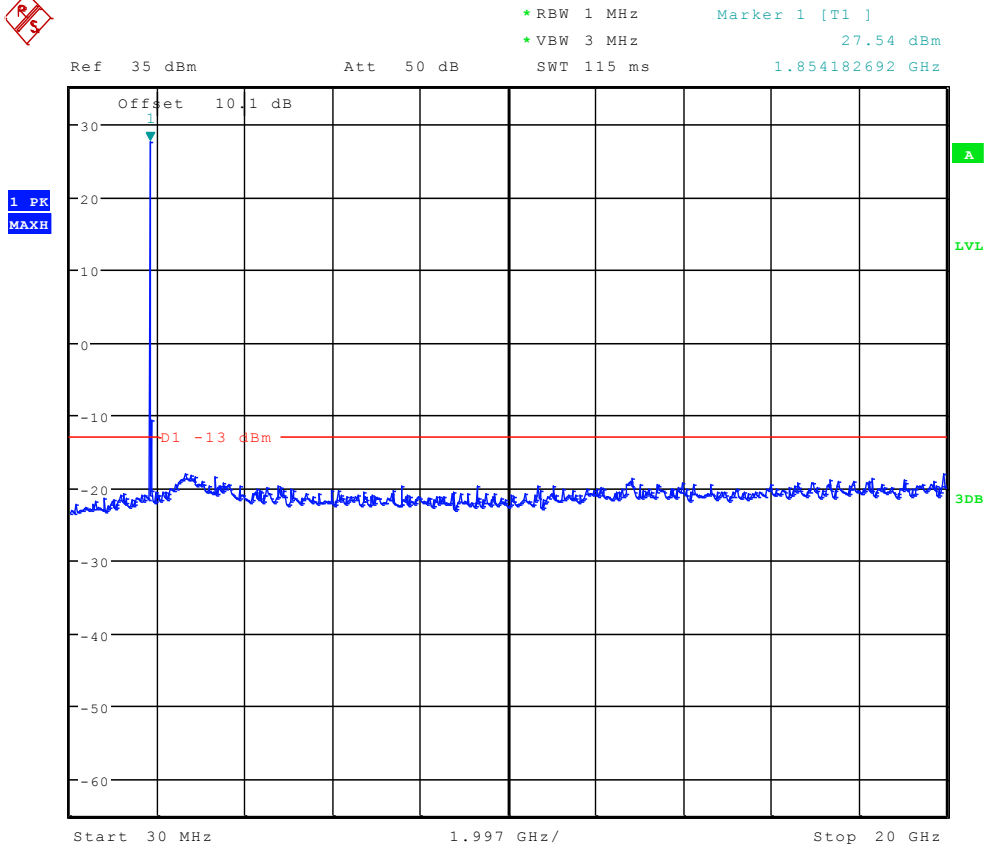
# Channel 661





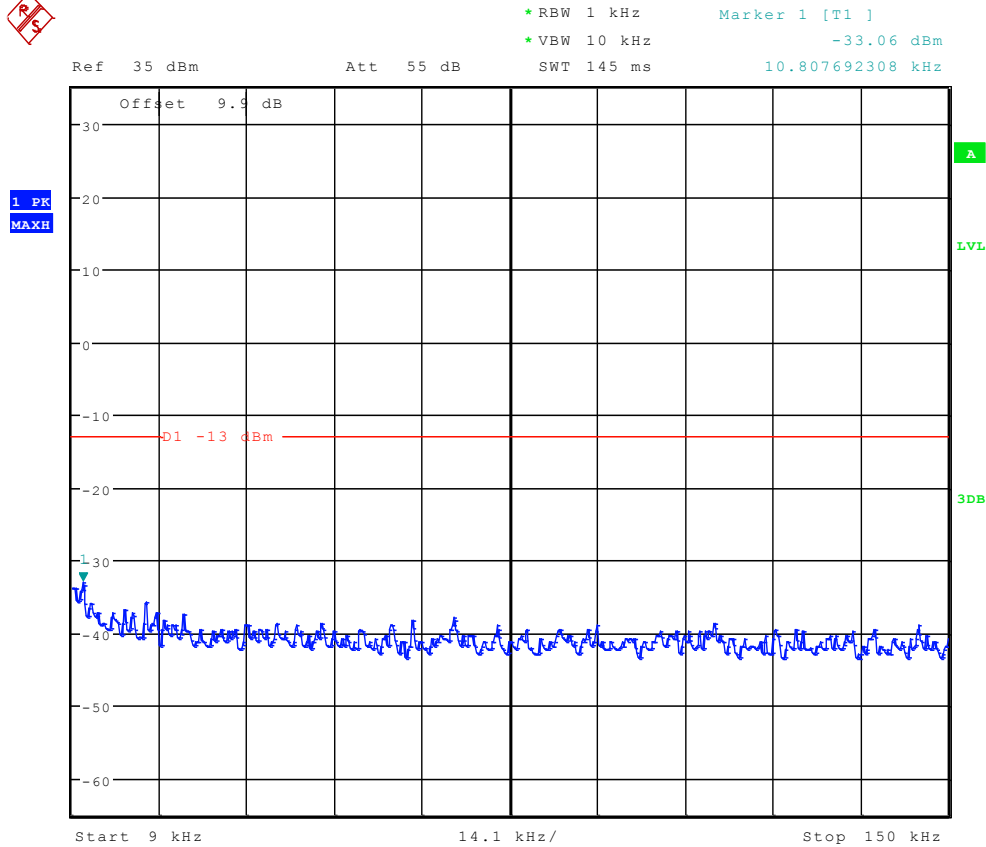
\*RBW 10 kHz      Marker 1 [T1 ]  
 \*VBW 30 kHz      -29.76 dBm  
 Ref 35 dBm      Att 55 dB      SWT 300 ms      150.00000000 kHz





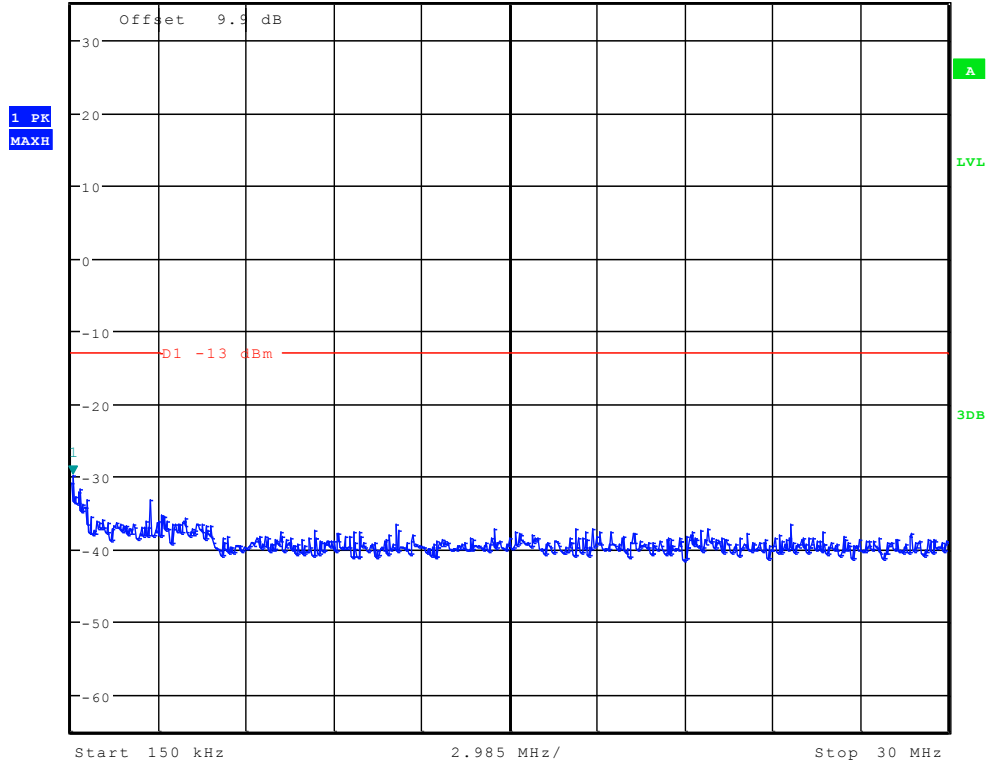


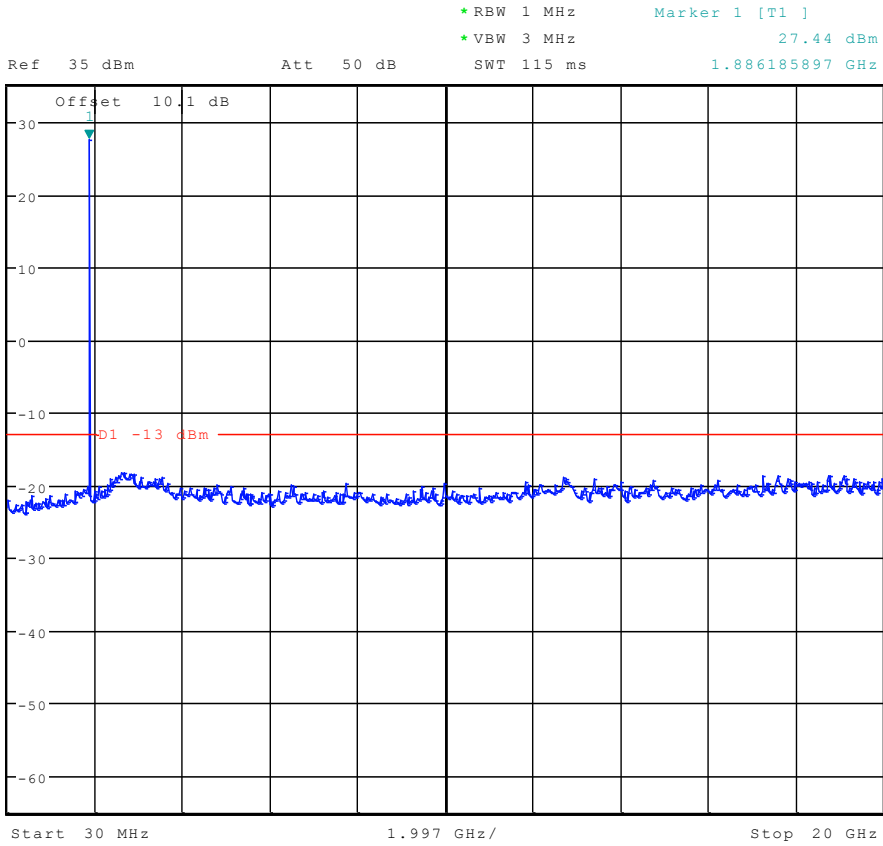
# Channel 810





\*RBW 10 kHz      Marker 1 [T1 ]  
\*VBW 30 kHz      -29.87 dBm  
Ref 35 dBm      Att 55 dB      SWT 300 ms      197.836538462 kHz



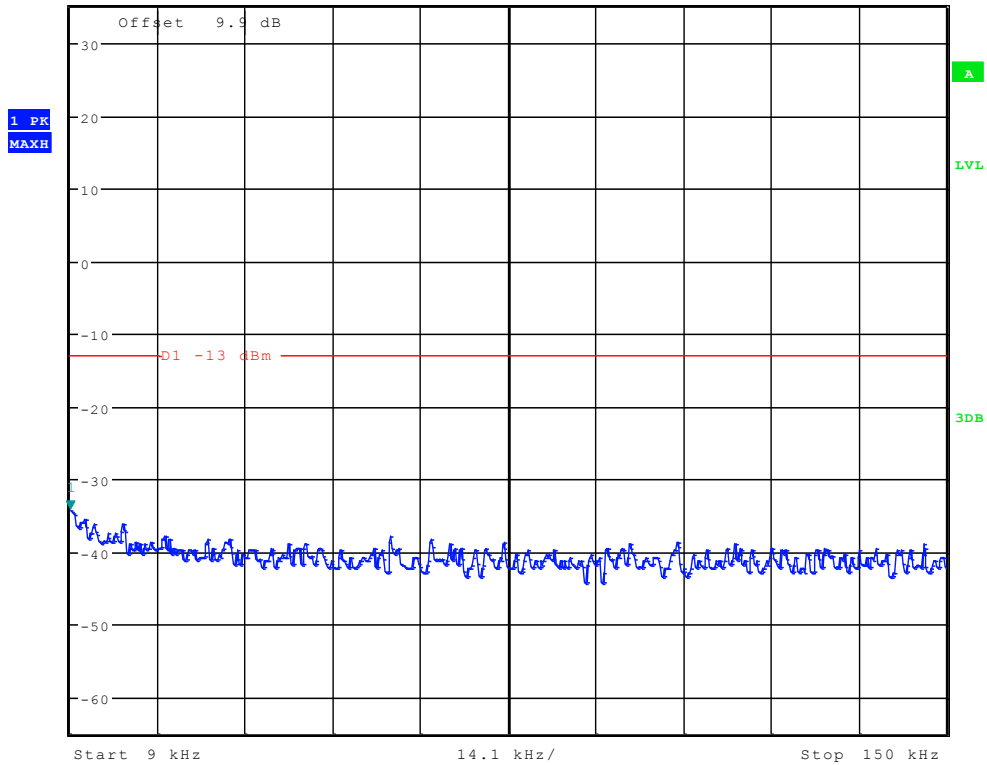




# TM2:EDGE Channel 512



\*RBW 1 kHz      Marker 1 [T1 ]  
 \*VBW 10 kHz      -34.19 dBm  
 Ref 35 dBm      Att 55 dB      SWT 145 ms      9.000000000 kHz

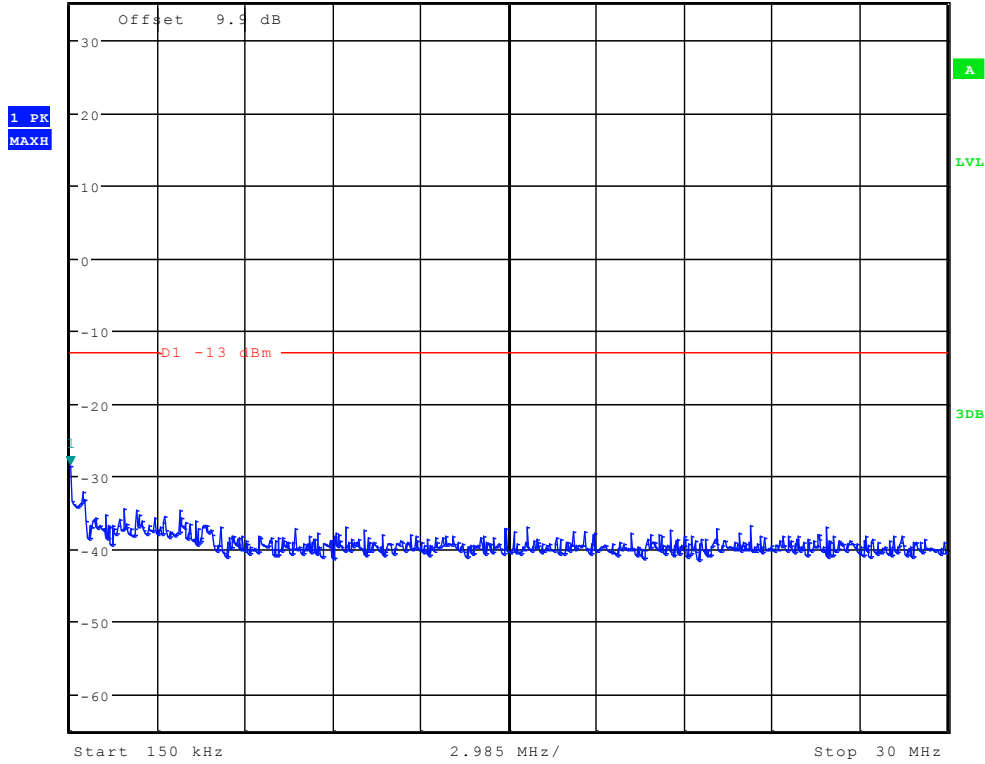






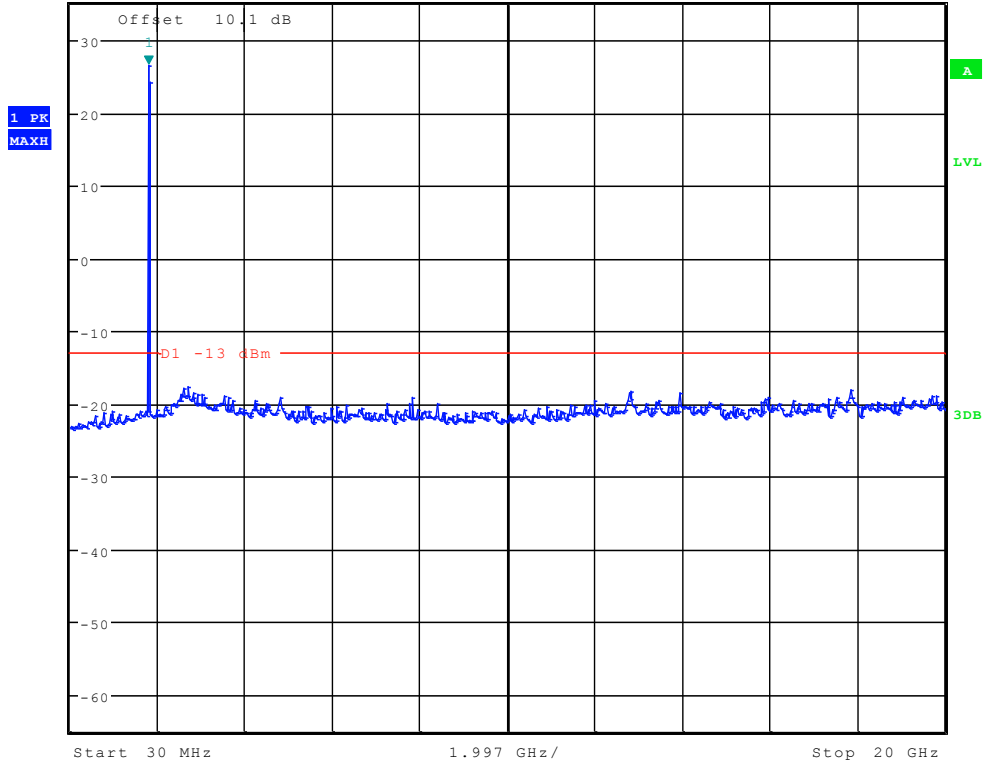
\* RBW 10 kHz      Marker 1 [T1 ]  
\* VBW 30 kHz      -28.46 dBm

Ref 35 dBm      Att 55 dB      SWT 300 ms      150.000000000 kHz





\* RBW 1 MHz      Marker 1 [T1 ]  
\* VBW 3 MHz      26.56 dBm  
Ref 35 dBm      Att 50 dB      SWT 115 ms      1.822179487 GHz

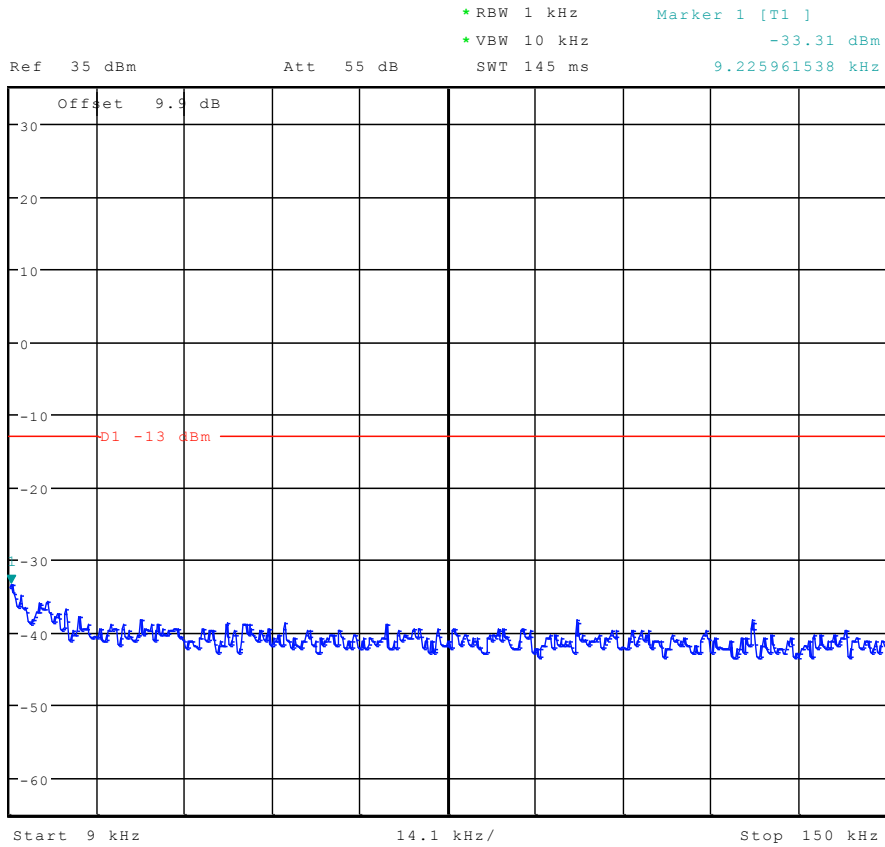




# Channel 661

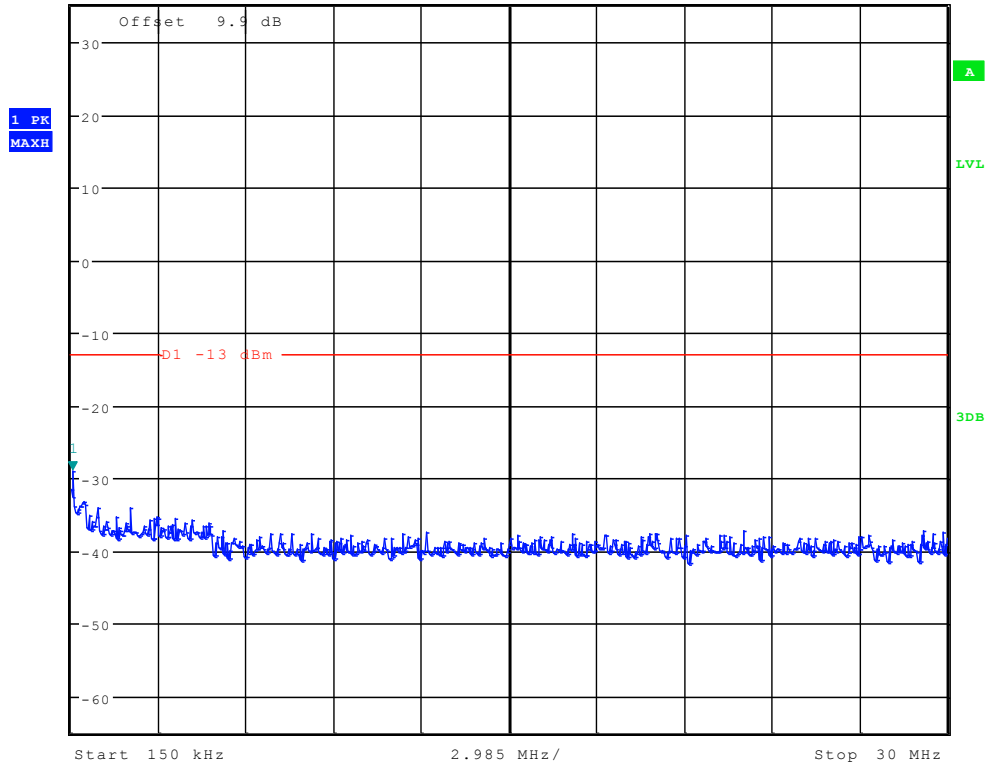


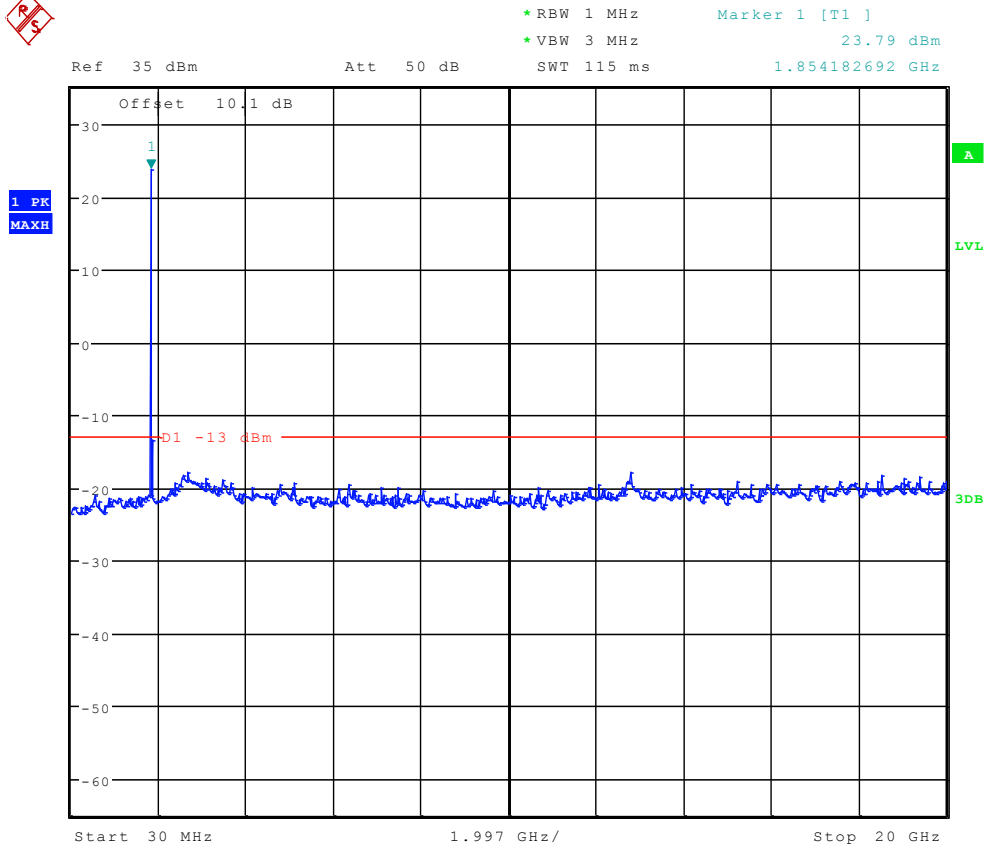
1 PK  
MAXH





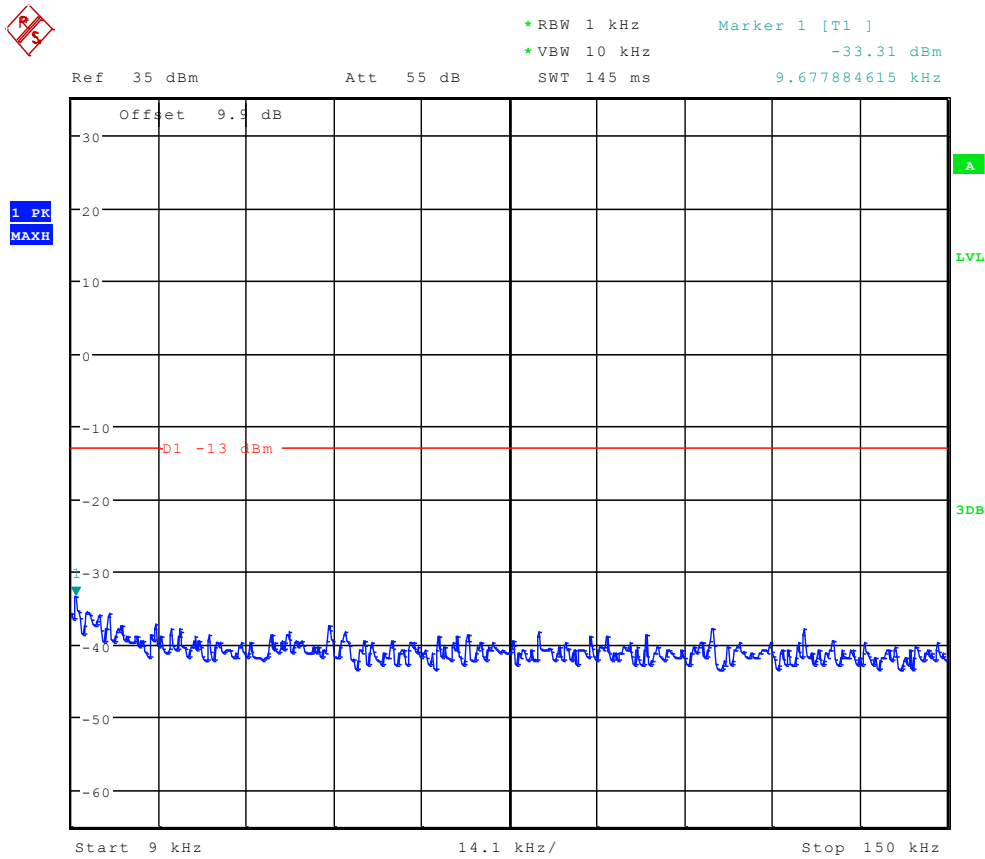
\*RBW 10 kHz      Marker 1 [T1 ]  
\*VBW 30 kHz      -28.90 dBm  
Ref 35 dBm      Att 55 dB      SWT 300 ms      197.836538462 kHz





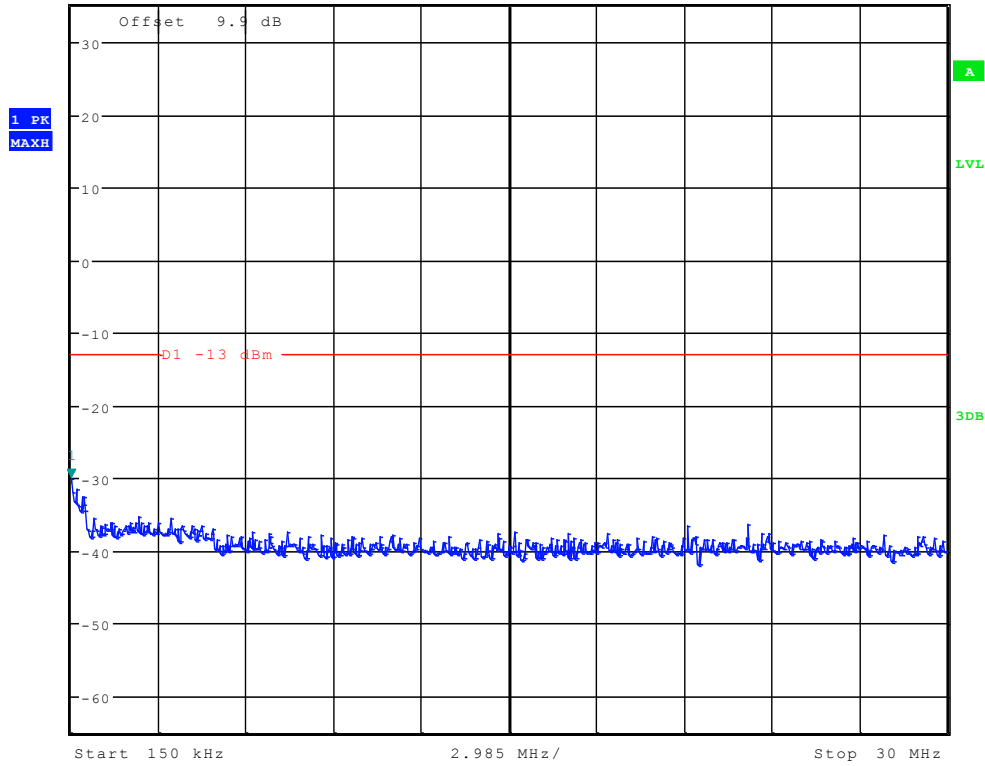


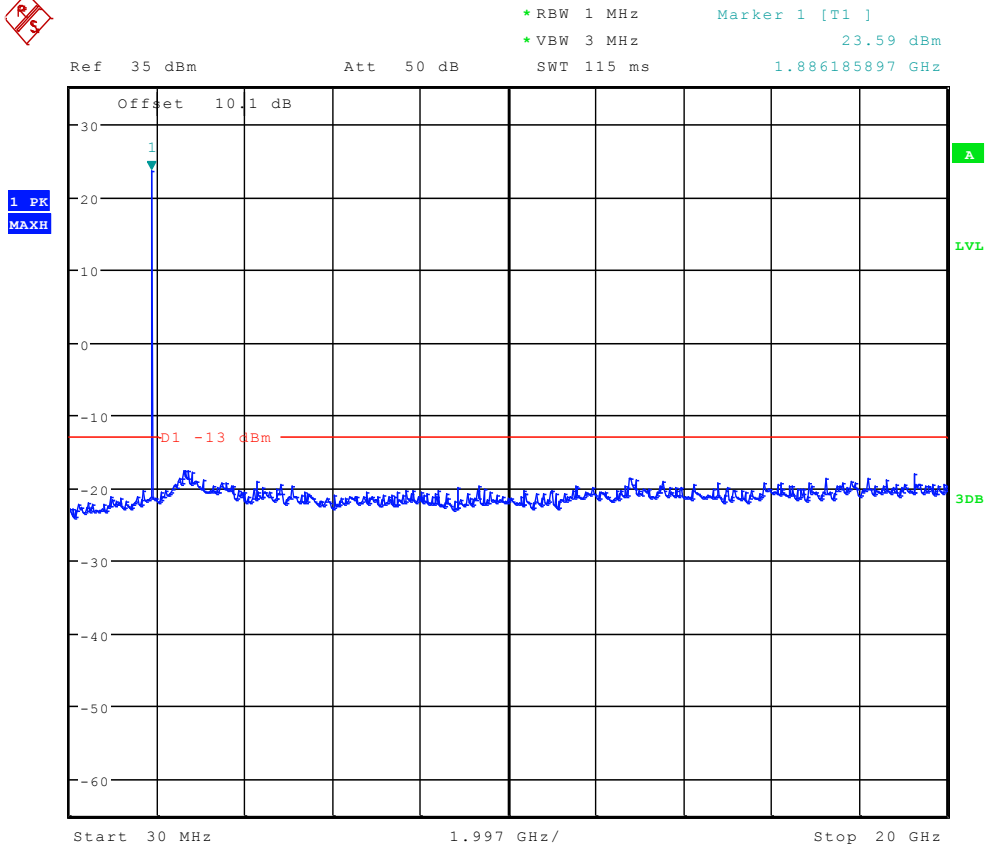
# Channel 810





\*RBW 10 kHz      Marker 1 [T1 ]  
\*VBW 30 kHz      -30.04 dBm  
Ref 35 dBm      Att 55 dB      SWT 300 ms      150.00000000 kHz



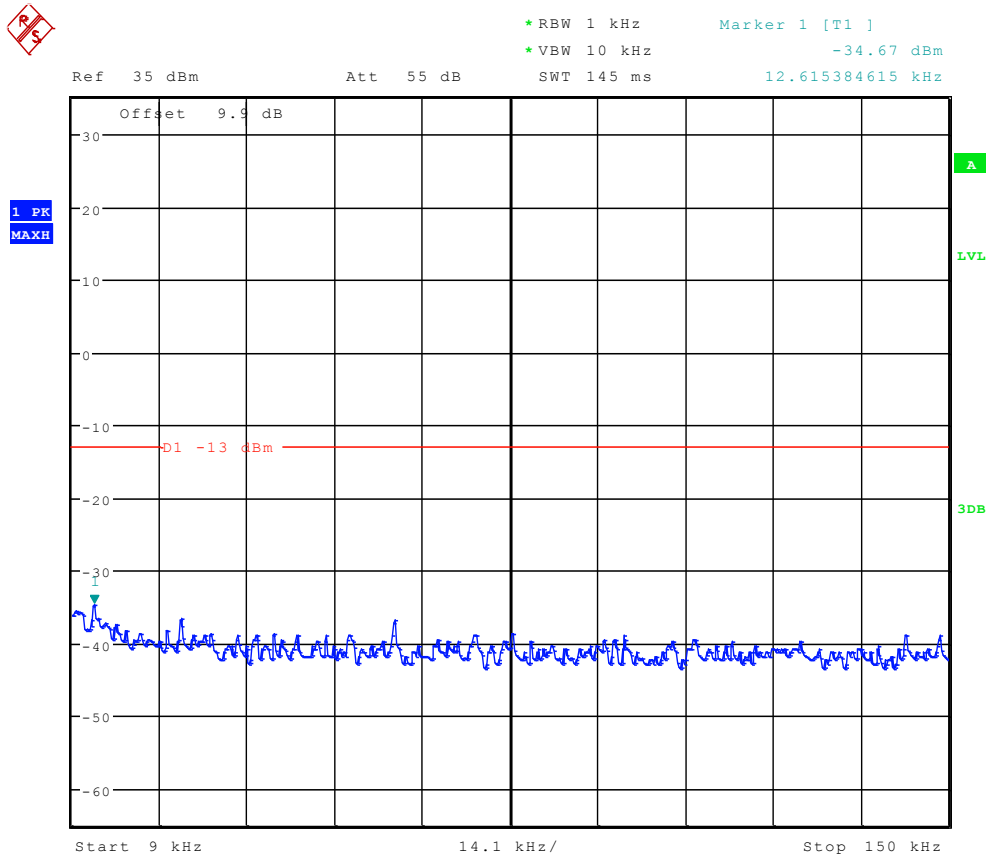






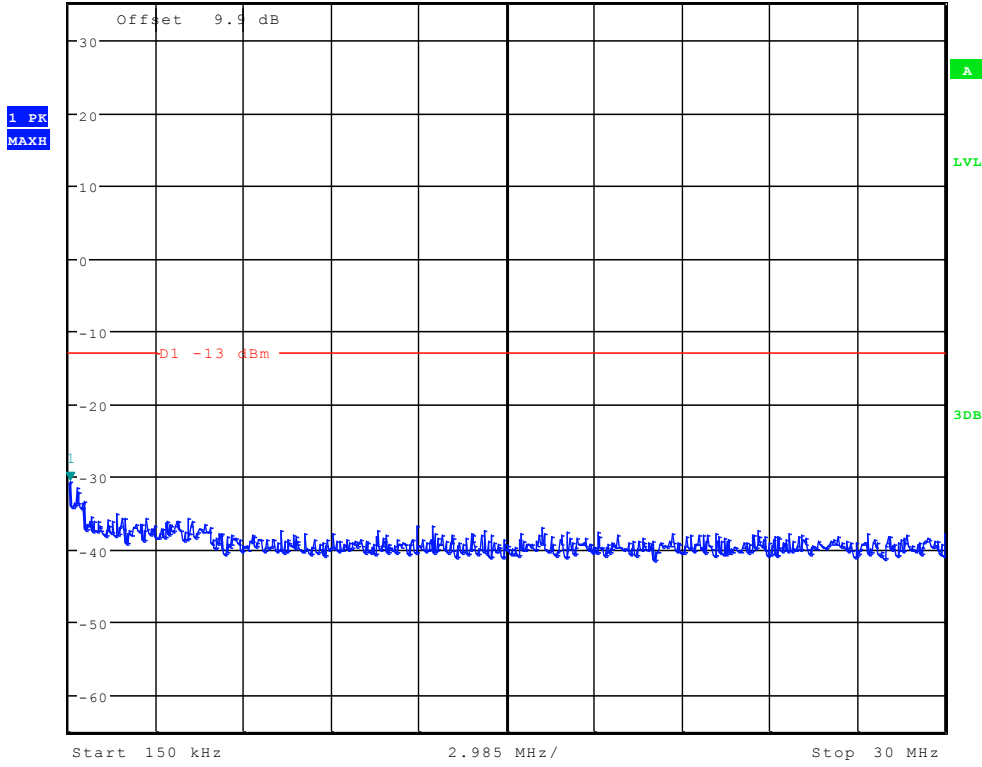
# TM3: WCDMA

## Channel 9262



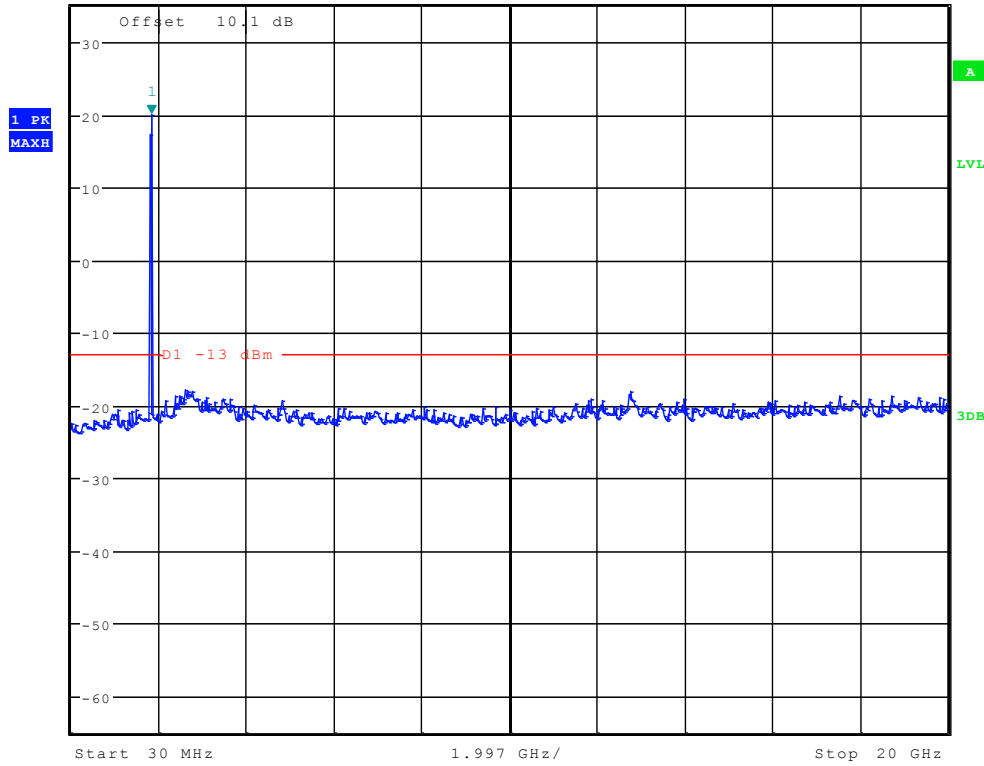


\* RBW 10 kHz      Marker 1 [T1 ]  
\* VBW 30 kHz      -30.70 dBm  
Ref 35 dBm      Att 55 dB      SWT 300 ms      197.836538462 kHz





\*RBW 1 MHz      Marker 1 [T1 ]  
\*VBW 3 MHz      19.94 dBm  
Ref 35 dBm      Att 50 dB      SWT 115 ms      1.854182692 GHz

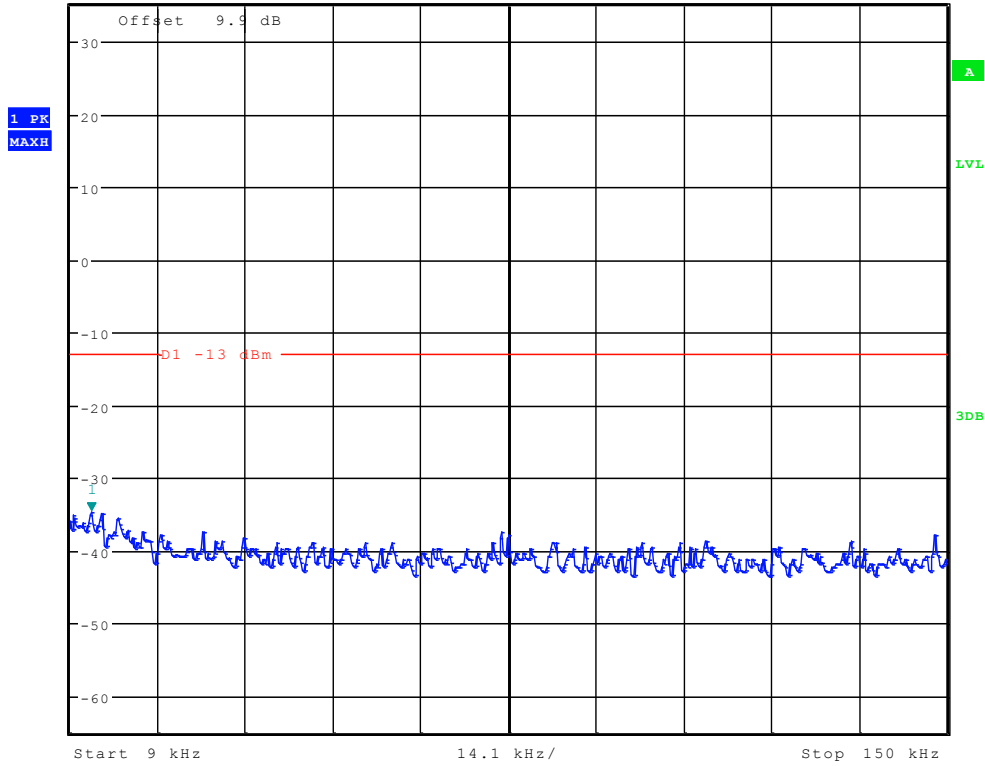




# Channel 9400

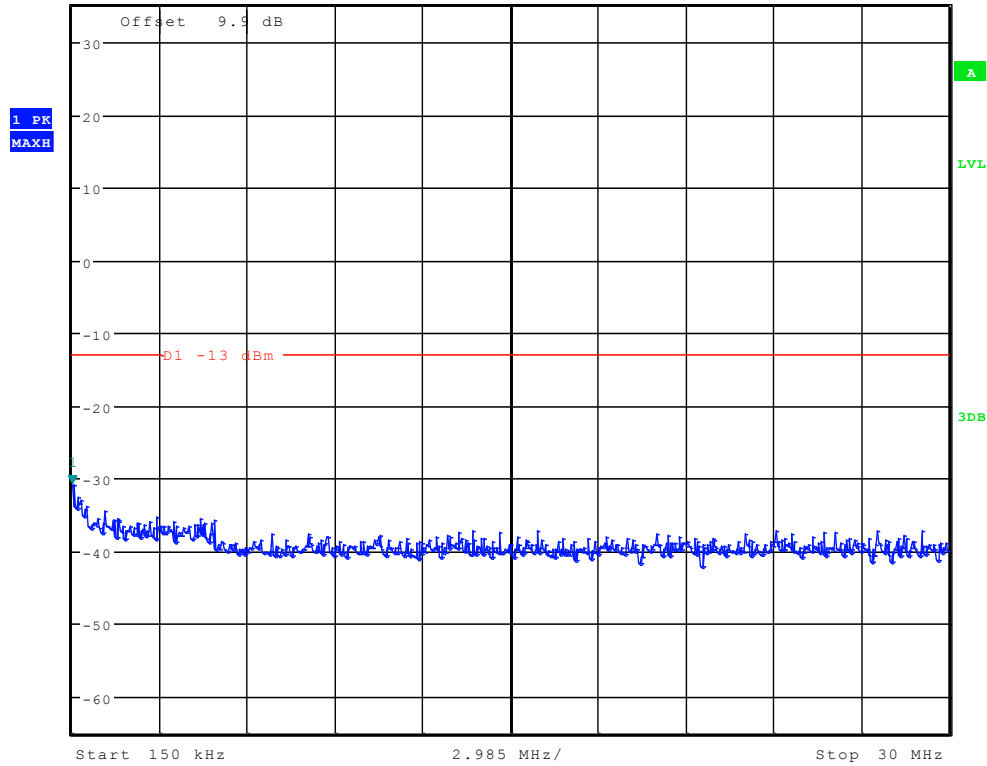


\*RBW 1 kHz      Marker 1 [T1 ]  
 \*VBW 10 kHz      -34.67 dBm  
 Ref 35 dBm      Att 55 dB      SWT 145 ms      12.389423077 kHz



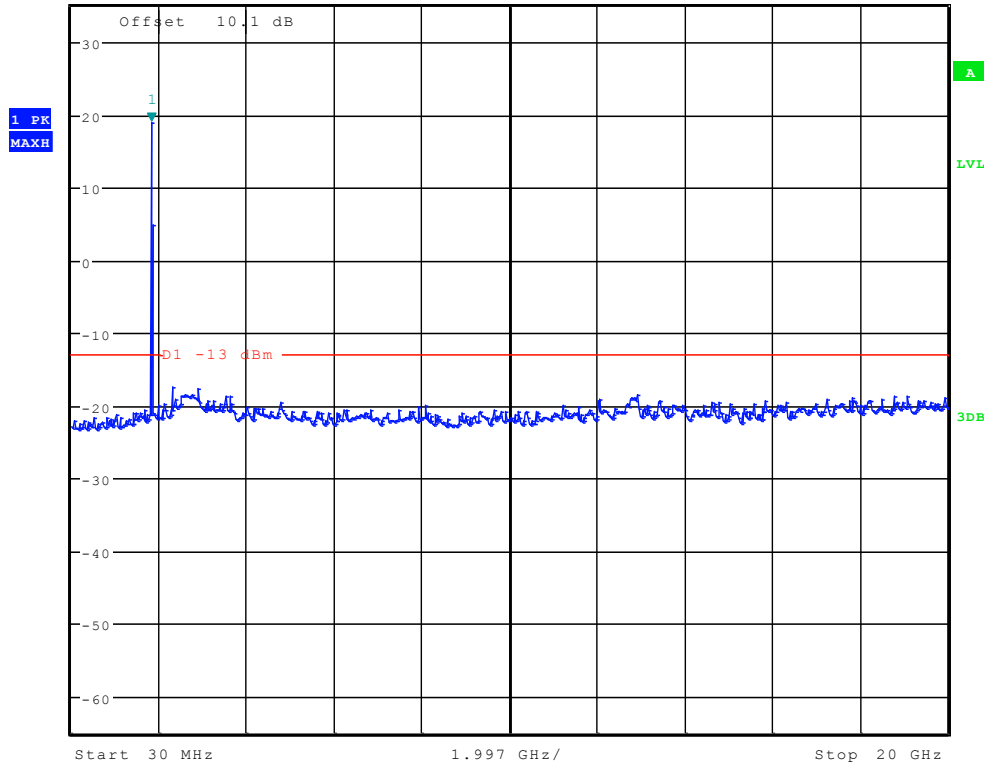


\*RBW 10 kHz      Marker 1 [T1 ]  
\*VBW 30 kHz      -30.76 dBm  
Ref 35 dBm      Att 55 dB      SWT 300 ms      150.000000000 kHz





Ref 35 dBm Att 50 dB SWT 115 ms Marker 1 [T1 ]  
\*RBW 1 MHz 19.00 dBm  
\*VBW 3 MHz 1.854182692 GHz

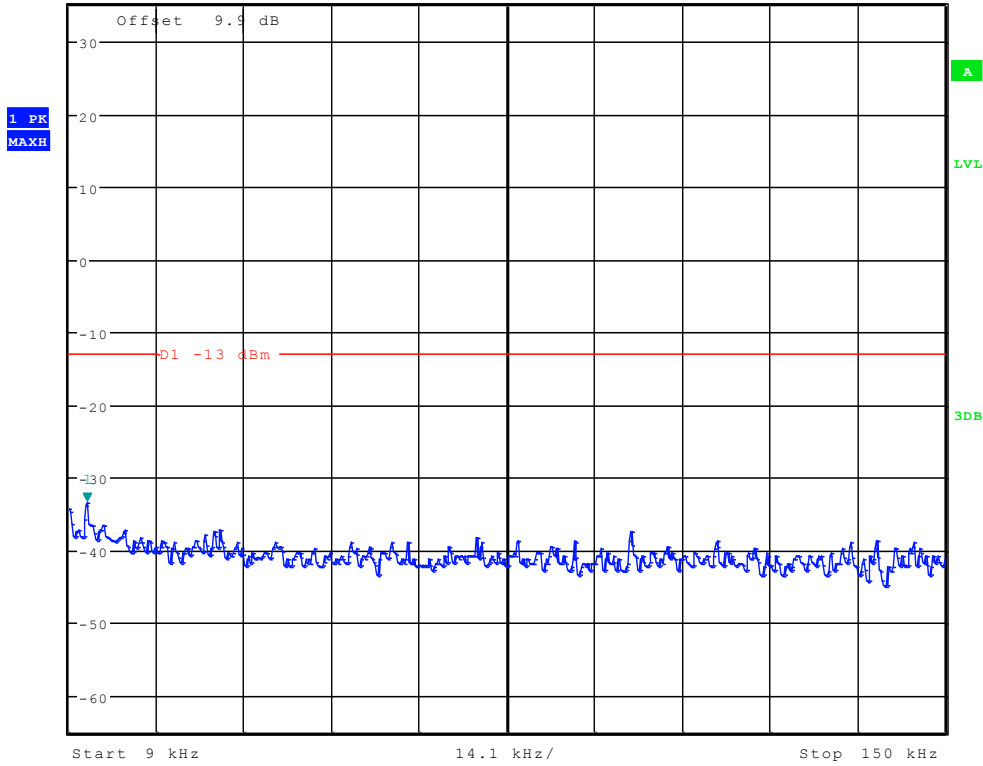




# Channel 9538

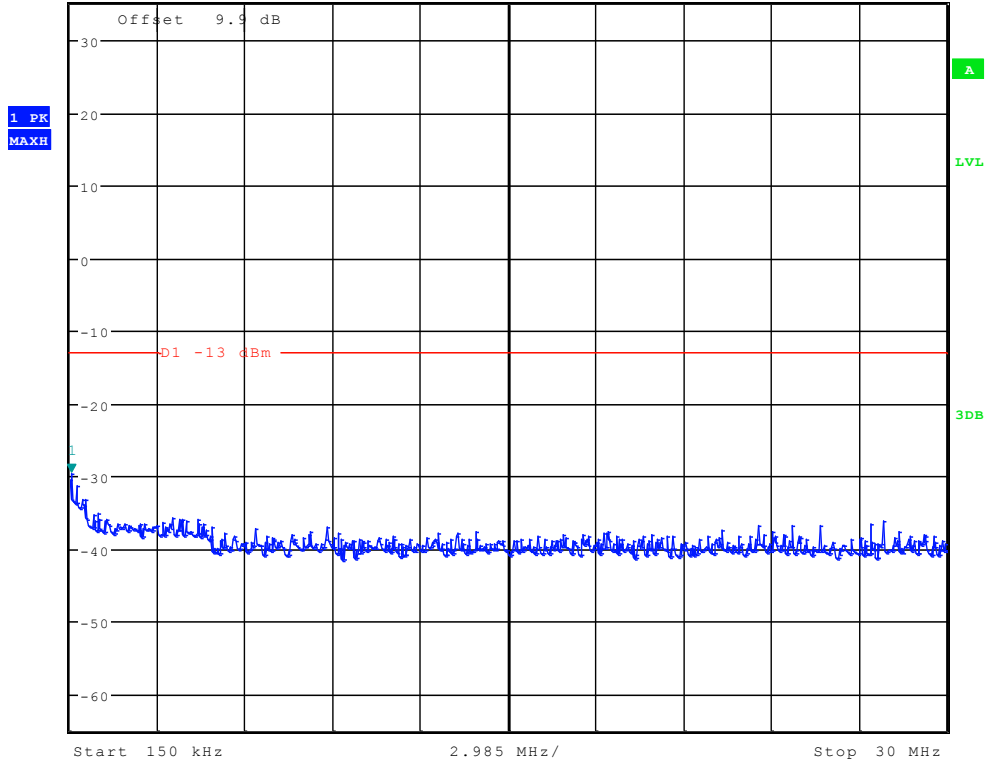


\*RBW 1 kHz      Marker 1 [T1 ]  
 \*VBW 10 kHz      -33.48 dBm  
 Ref 35 dBm      Att 55 dB      SWT 145 ms      11.937500000 kHz

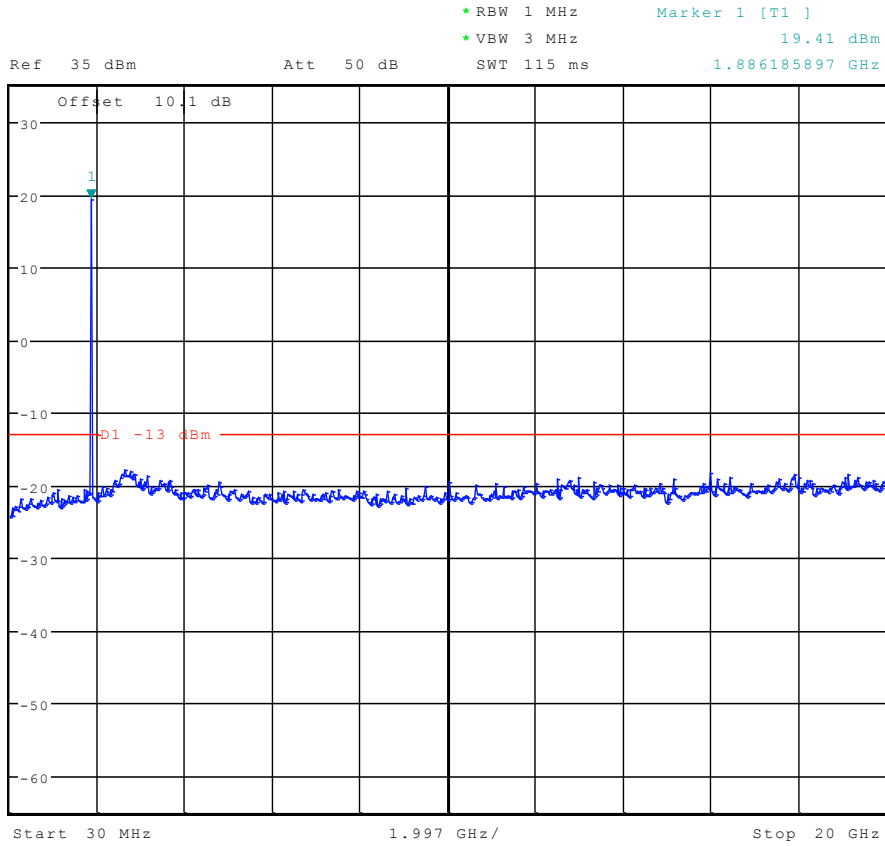




\*RBW 10 kHz      Marker 1 [T1 ]  
\*VBW 30 kHz      -29.59 dBm  
Ref 35 dBm      Att 55 dB      SWT 300 ms      197.836538462 kHz









## Appendix E

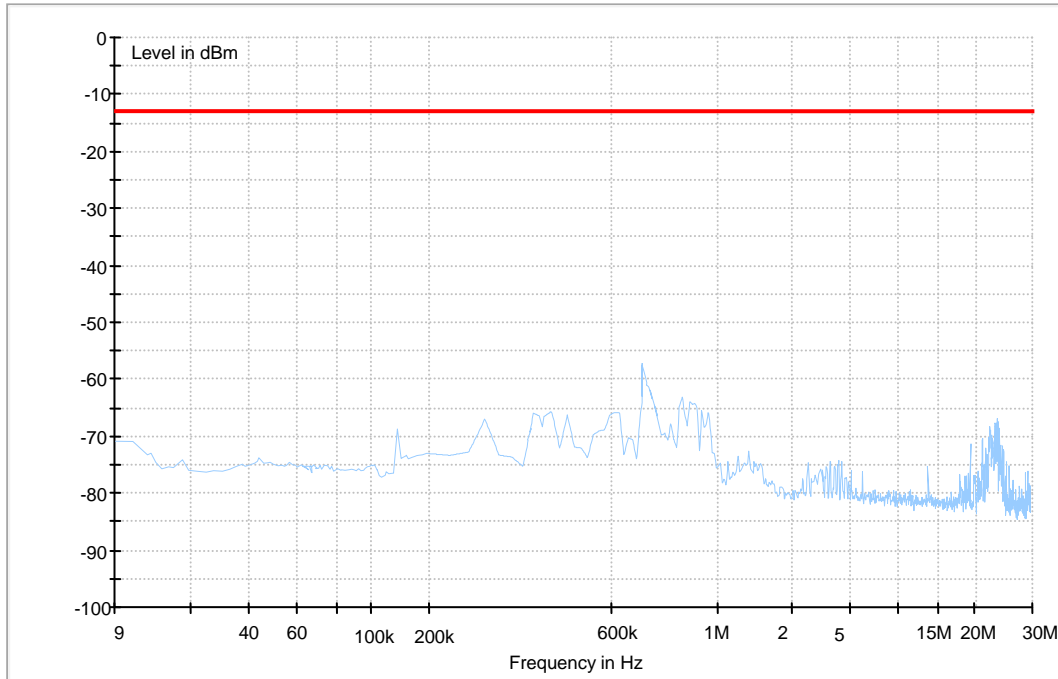
# Field Strength of Spurious Emissions

According to FCC Part 2.1053 & Part 24.238  
& RSS-133



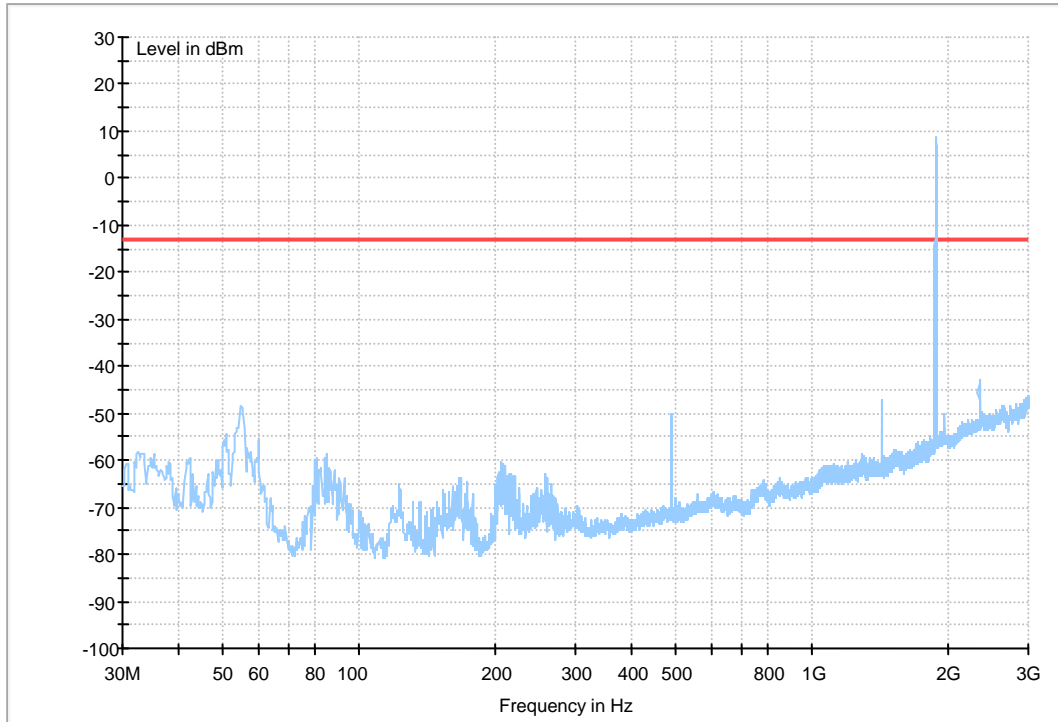
## GPRS 1900

Traffic Mode (9kHz-30MHz)



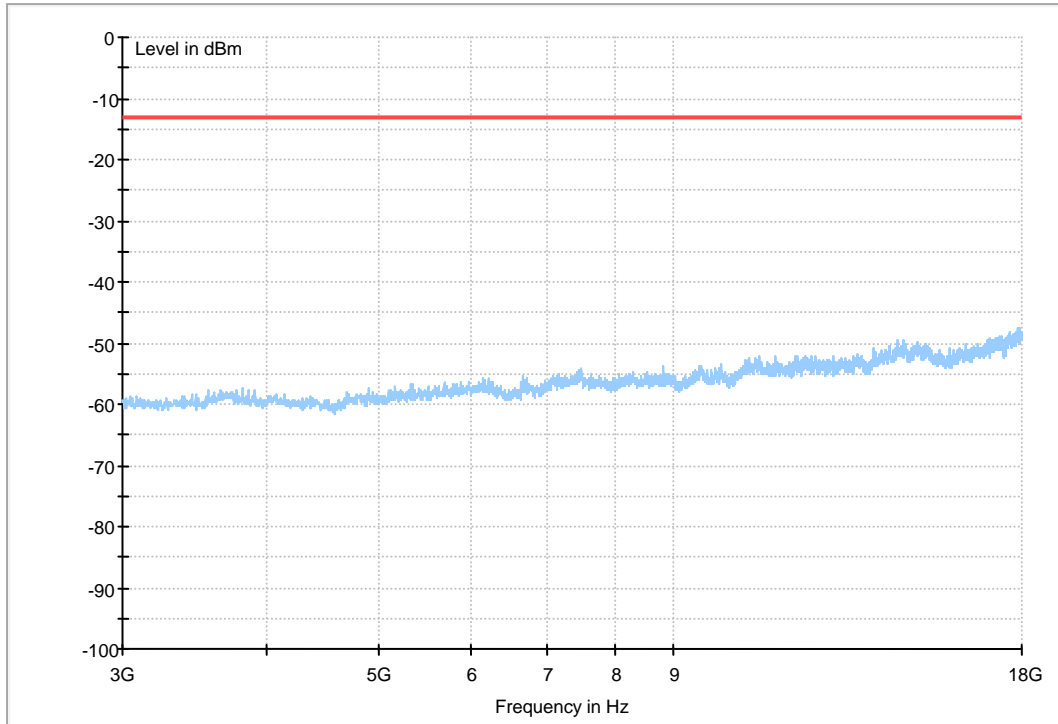


### Traffic Mode (30MHz-3GHz)



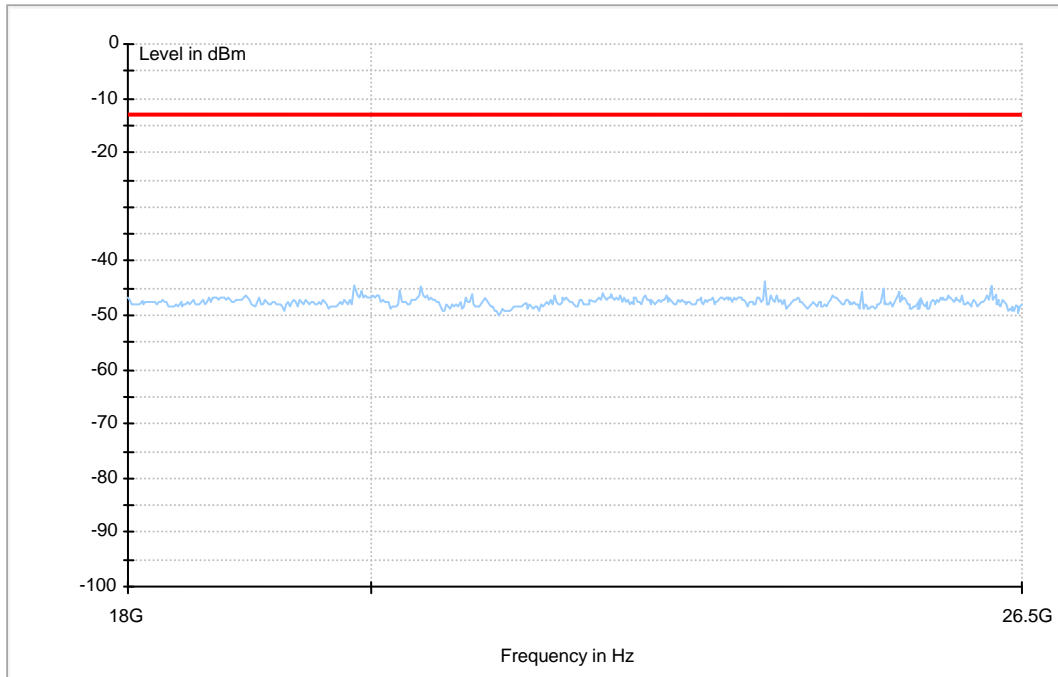


### Traffic Mode (3GHz-18GHz)





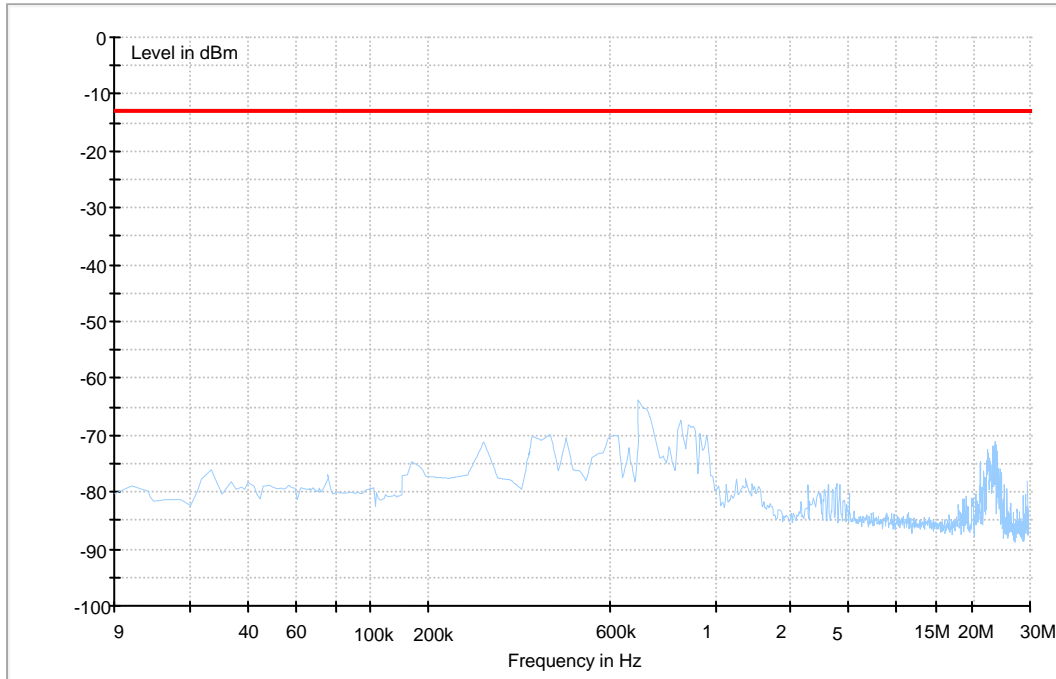
### Traffic Mode (18GHz-26.5GHz)





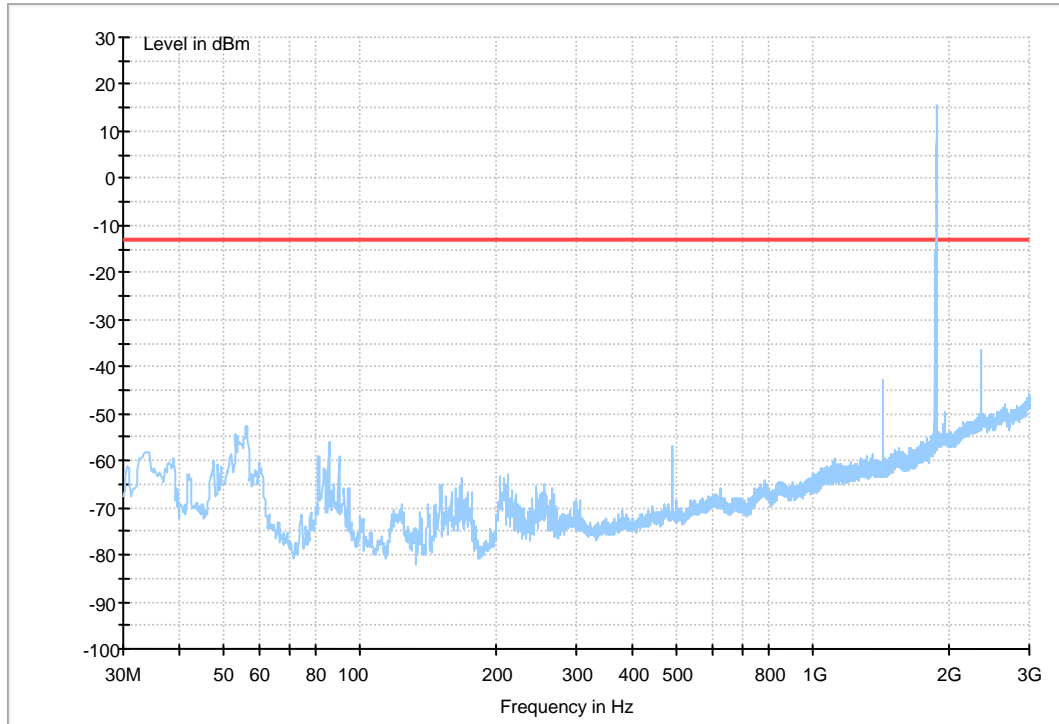
## EDGE1900

Traffic Mode (9kHz-30MHz)





### Traffic Mode (30MHz-3GHz)

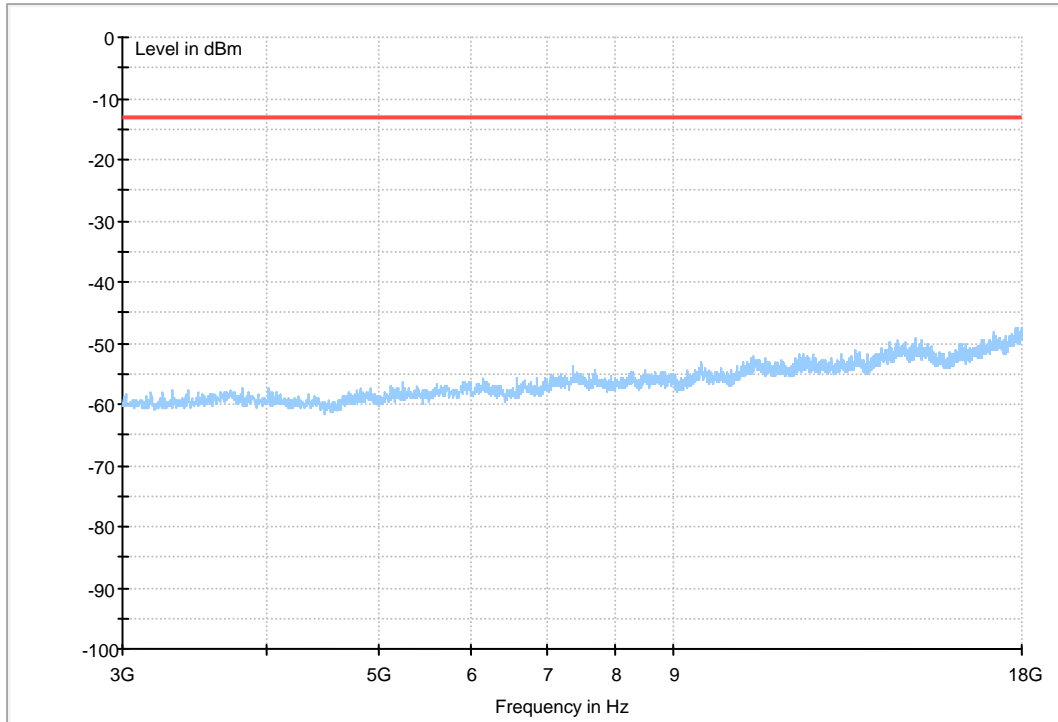


Z



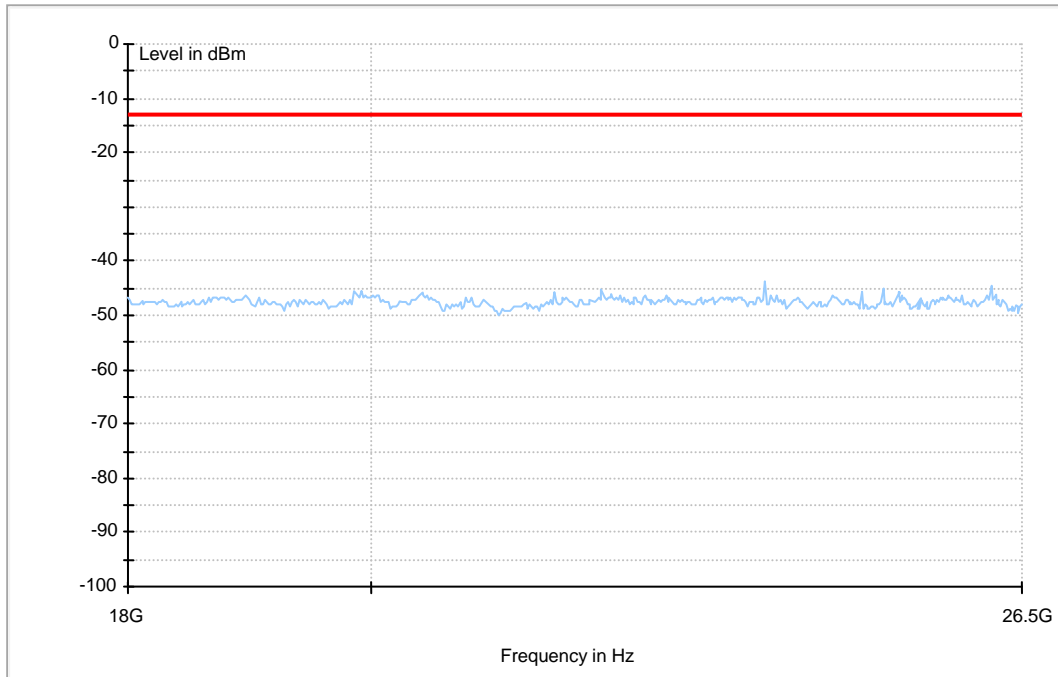


### Traffic Mode (3GHz-18GHz)





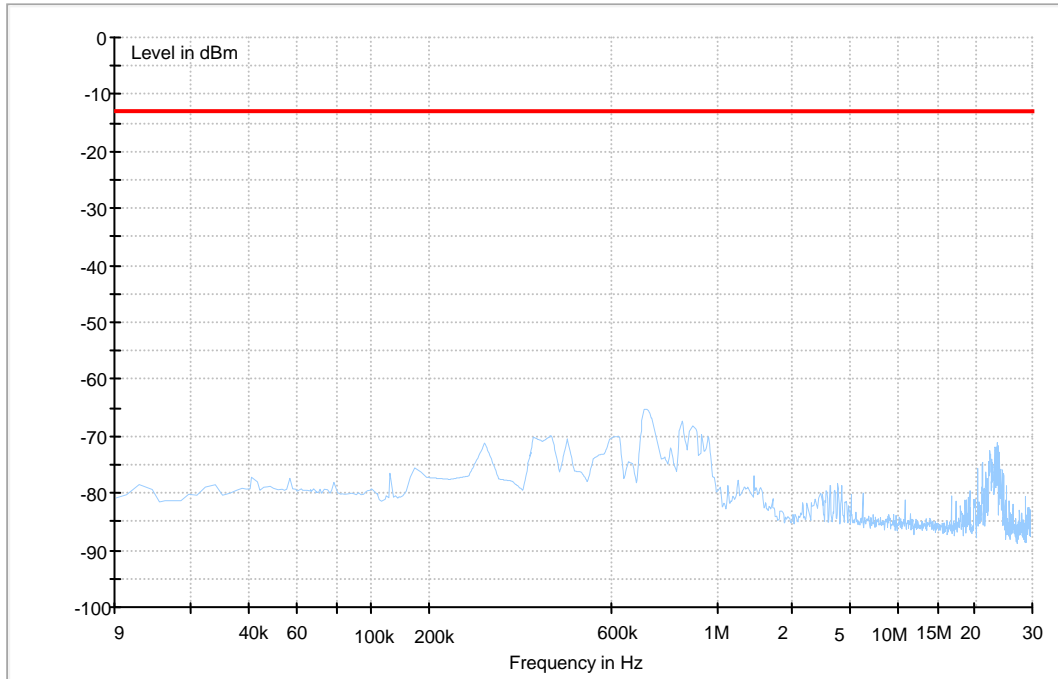
### Traffic Mode (18GHz-26.5GHz)





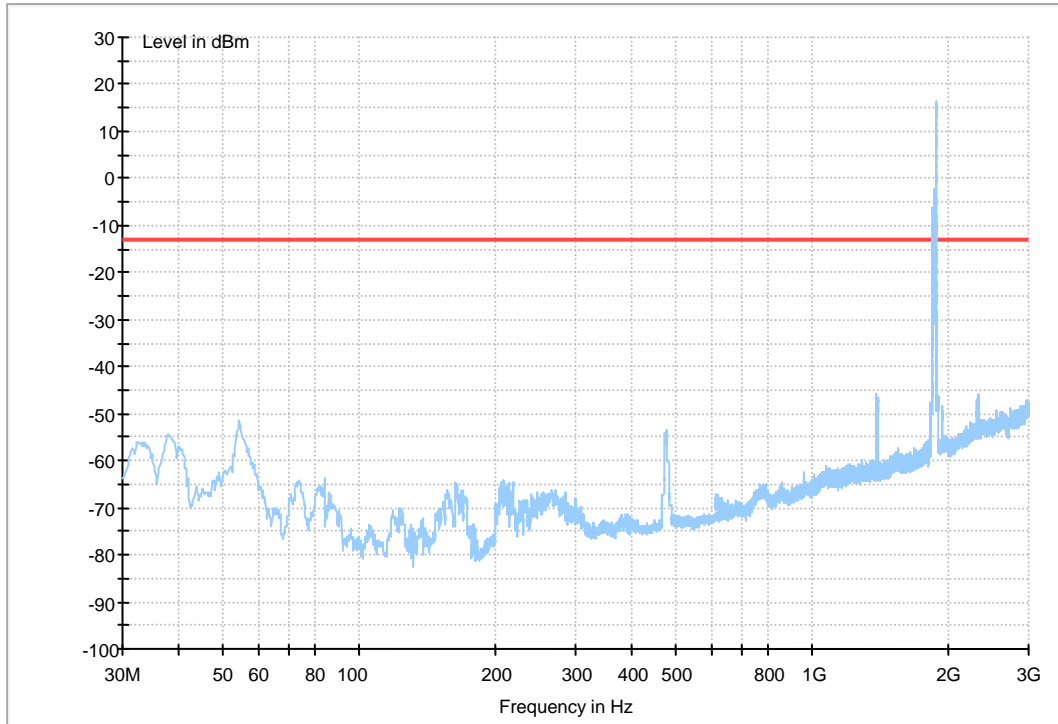
## WCDMA 1900

Traffic Mode (9kHz-30MHz)



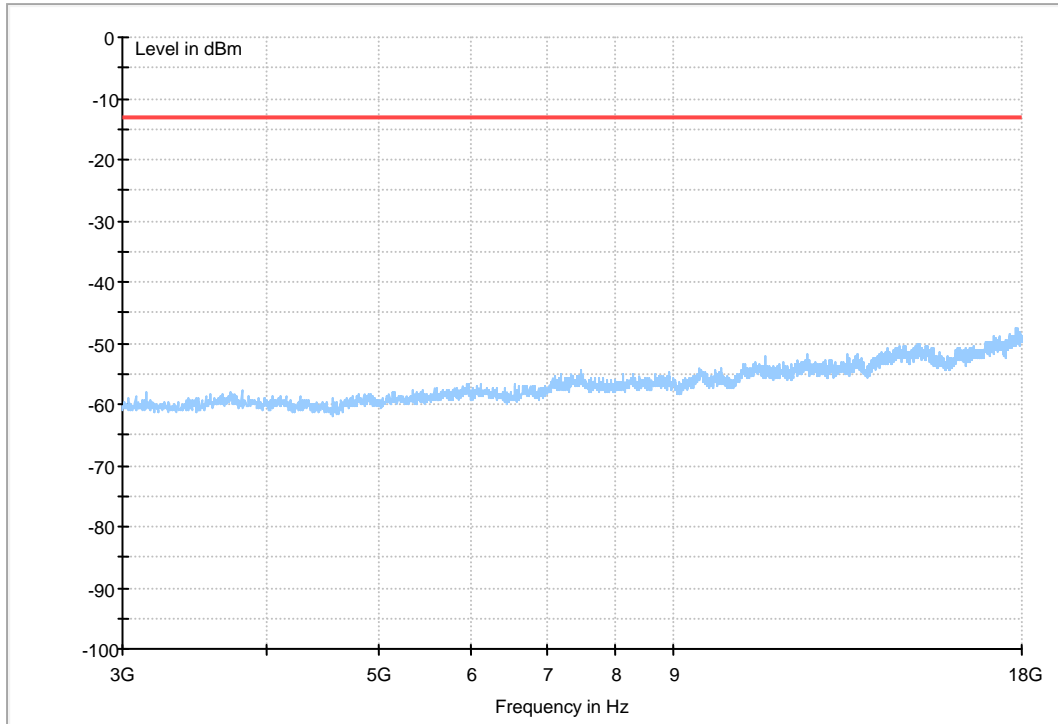


### Traffic Mode (30MHz-3GHz)



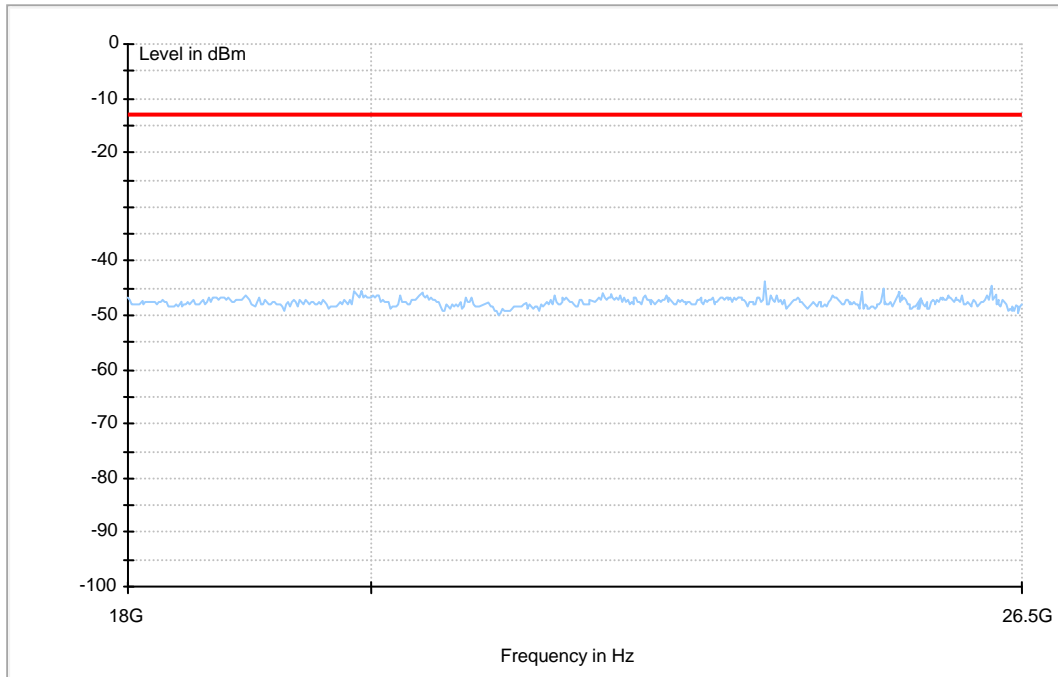


### Traffic Mode (3GHz-18GHz)





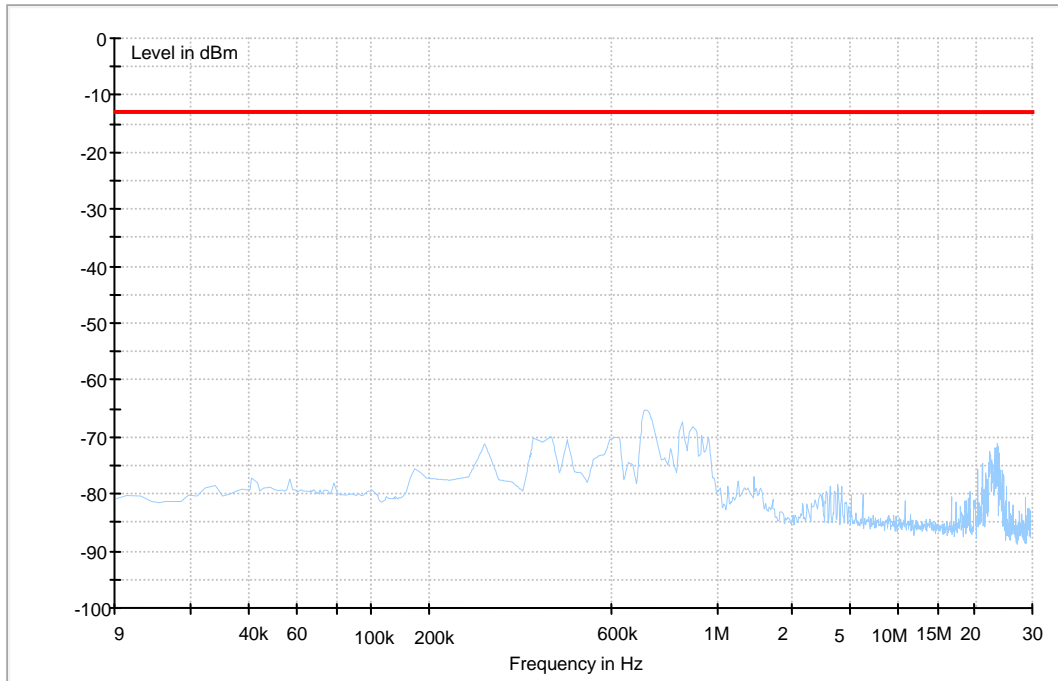
### Traffic Mode (18GHz-26.5GHz)





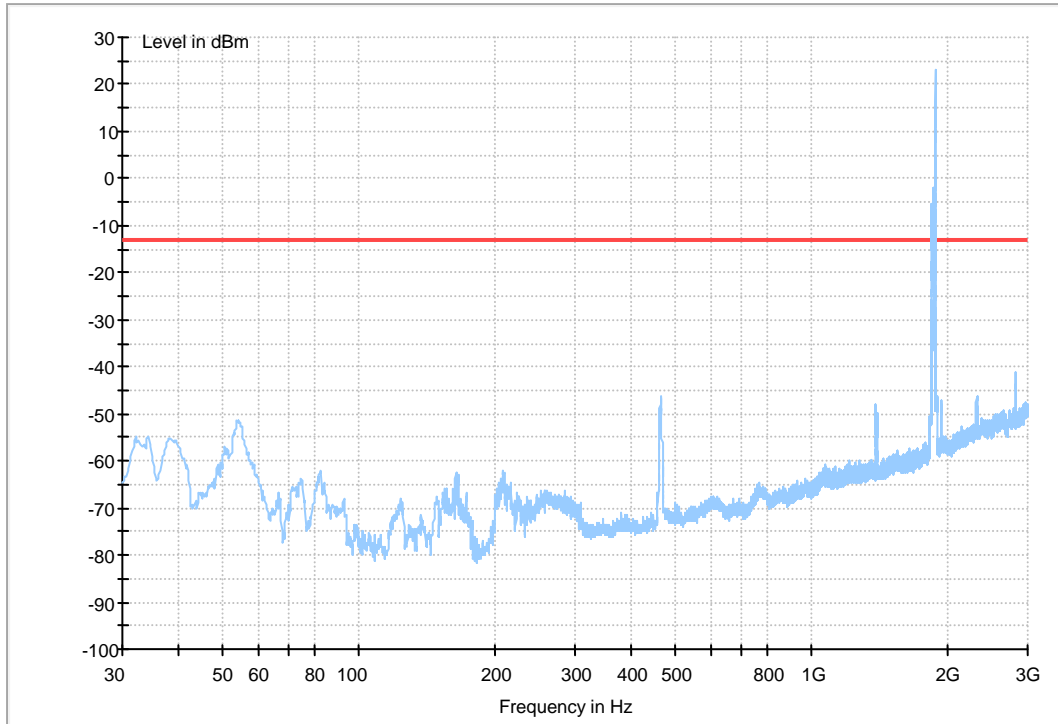
## HSUPA 1900

Traffic Mode (9kHz-30MHz)





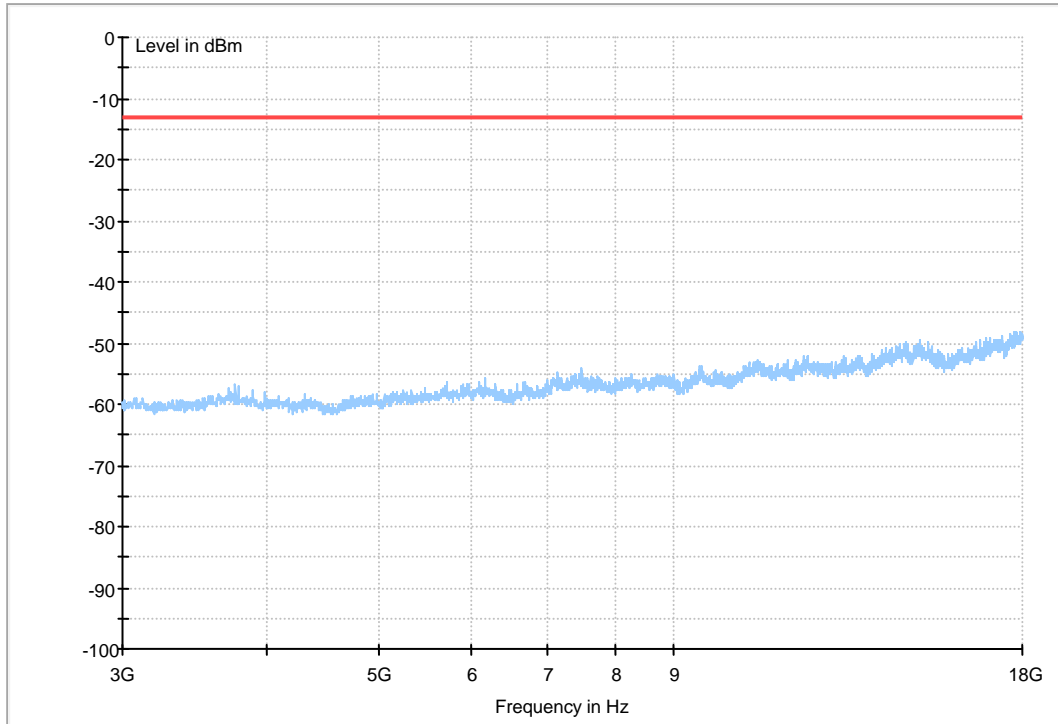
### Traffic Mode (30MHz-3GHz)





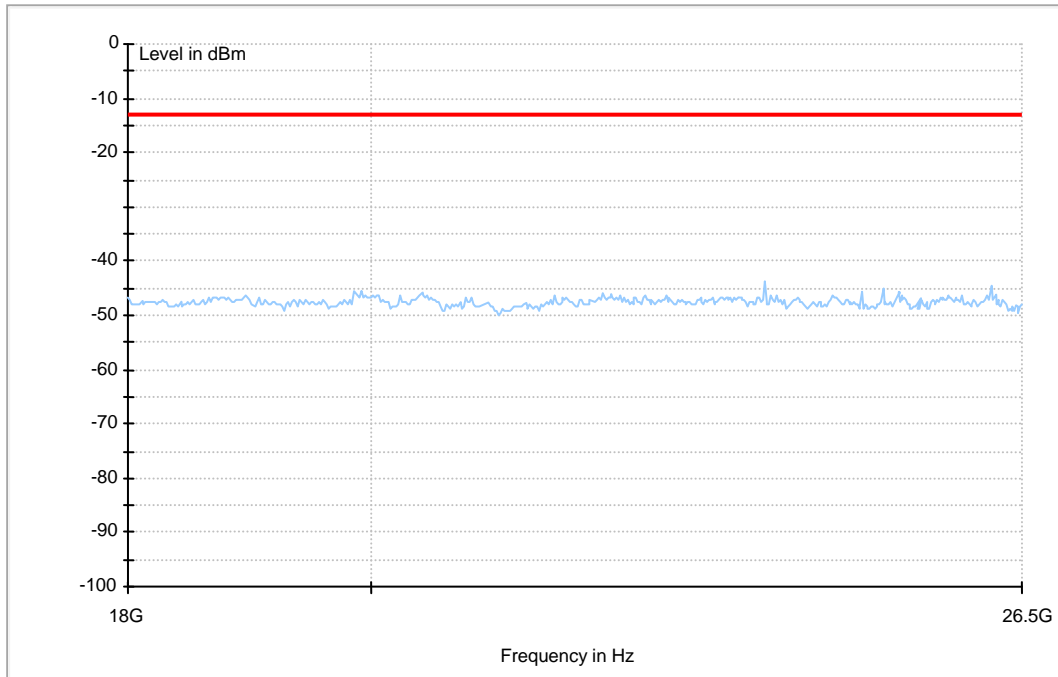


### Traffic Mode (3GHz-18GHz)





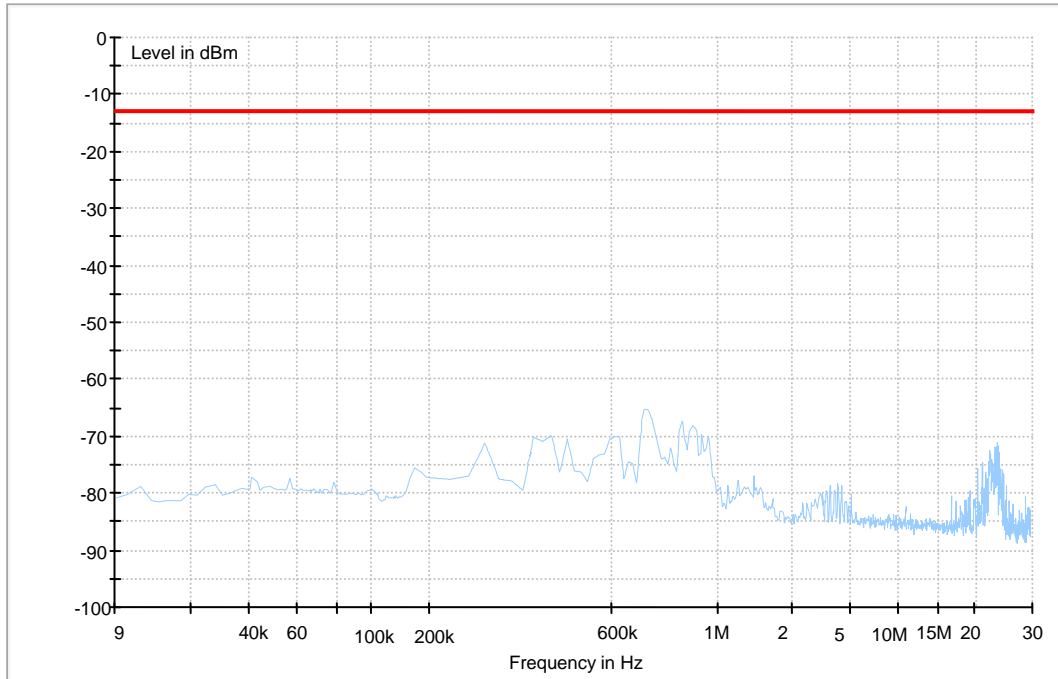
### Traffic Mode (18GHz-26.5GHz)





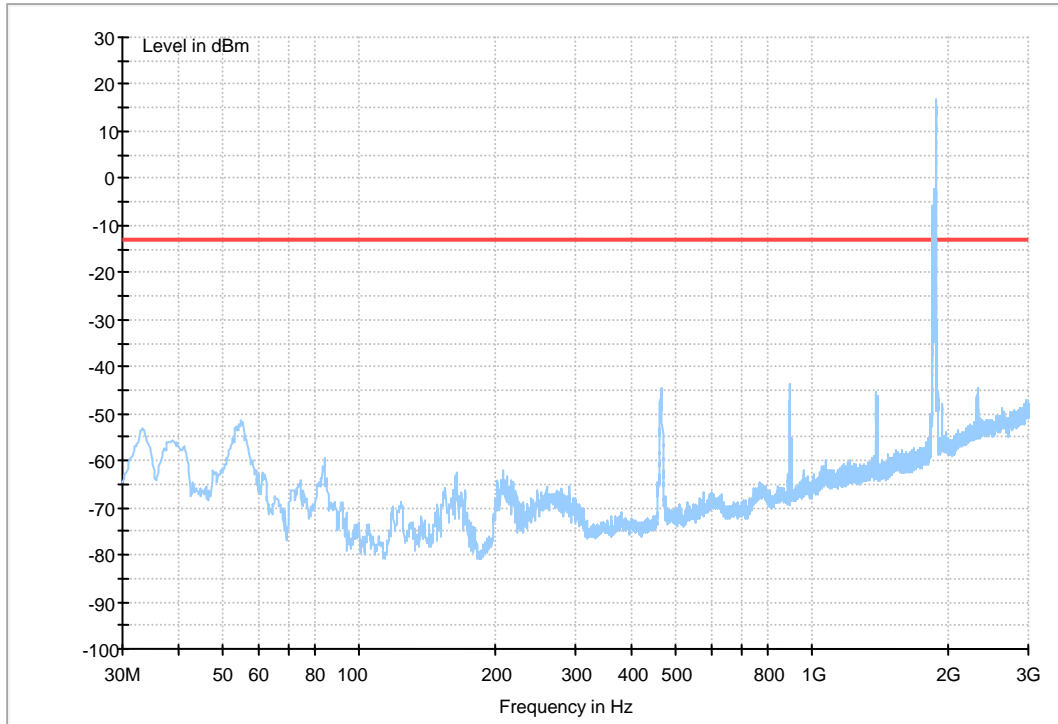
## HSDPA 1900

Traffic Mode (9kHz-30MHz)



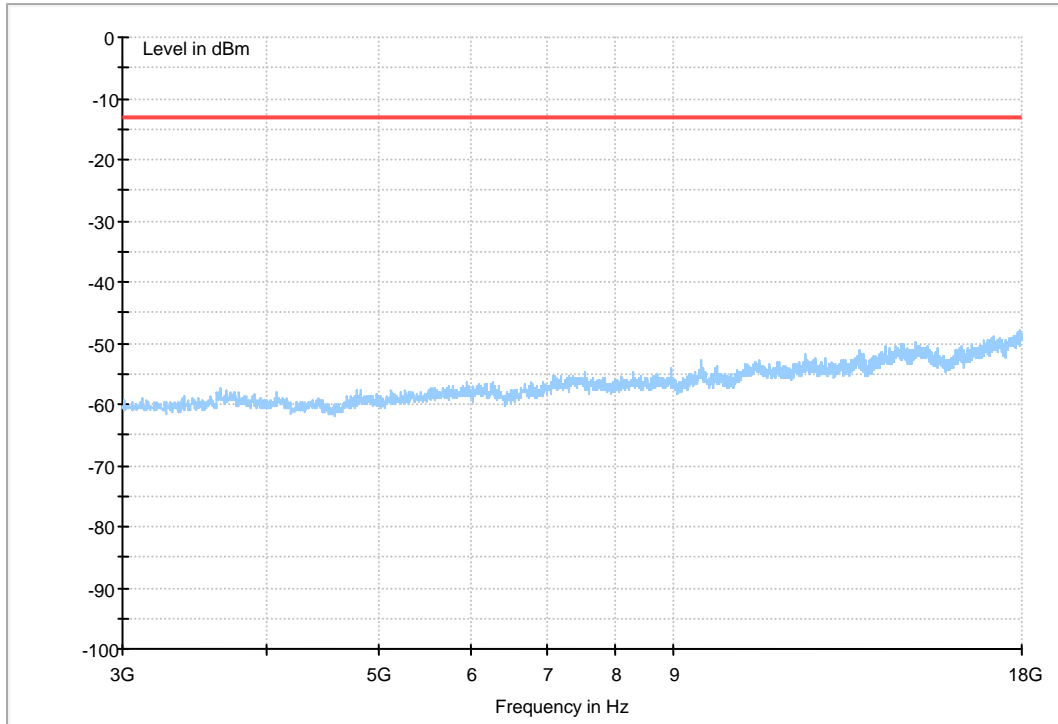


### Traffic Mode (30MHz-3GHz)



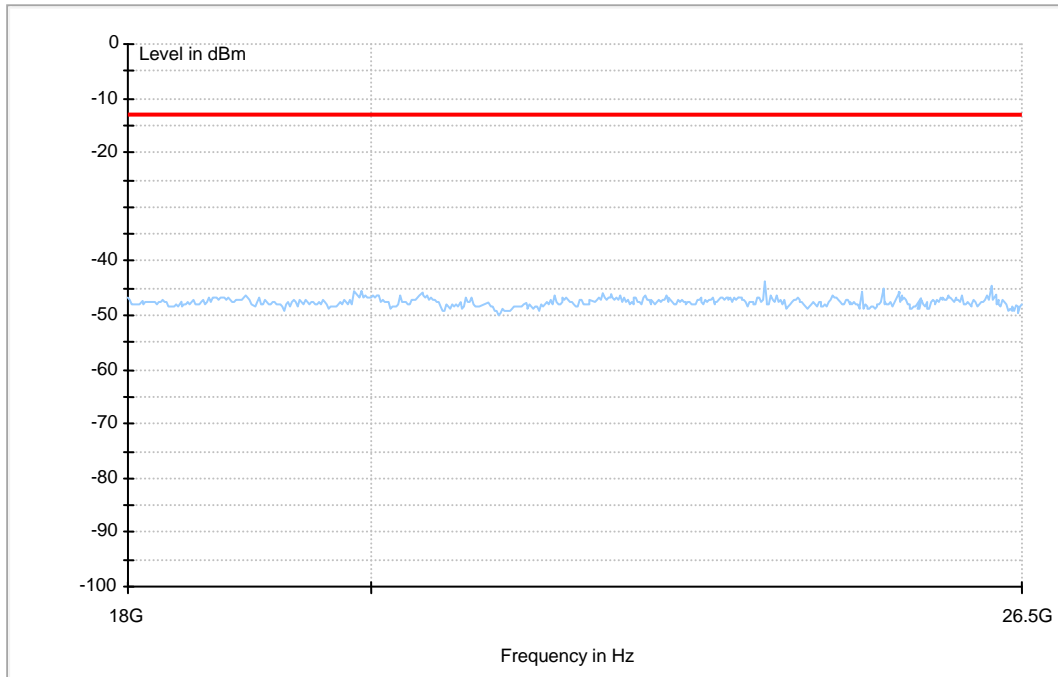


### Traffic Mode (3GHz-18GHz)





### Traffic Mode (18GHz-26.5GHz)





FCC Test Report of UMG587/E587u-5  
FCC ID: QISE587U-5  
IC ID: 6369A-E587U5



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# Appendix F

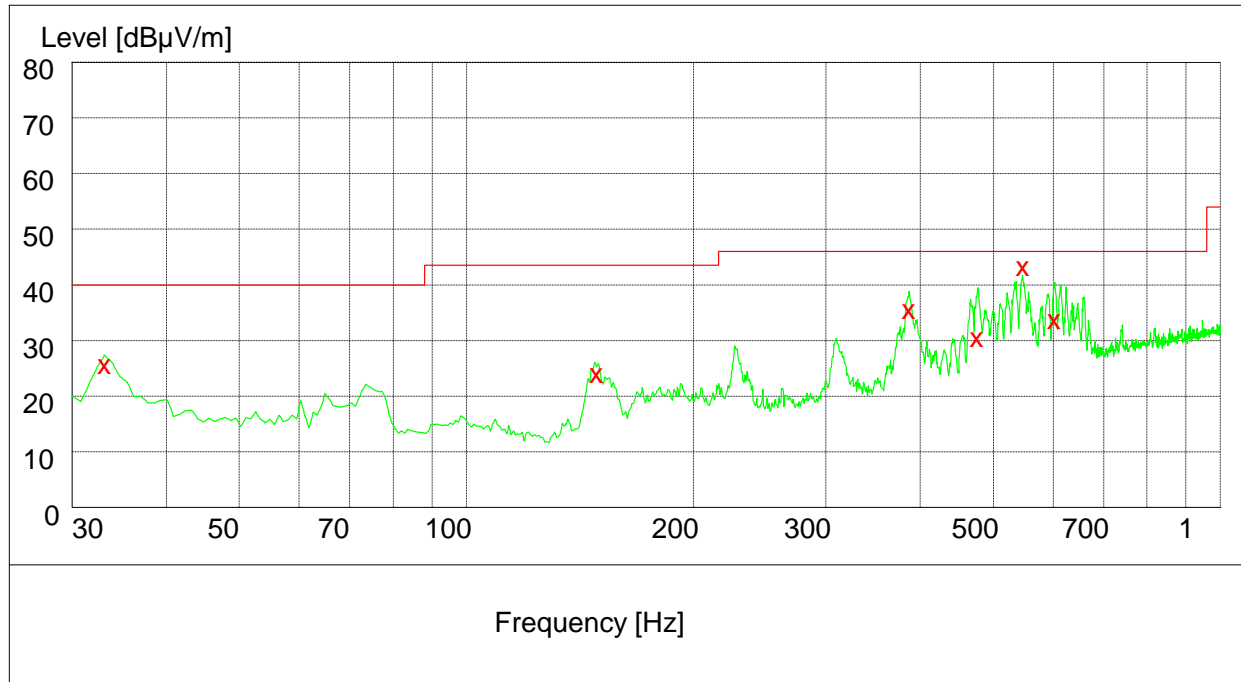
# Receiver Spurious Emissions

According to RSS-132



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

### 30MHz-1GHz



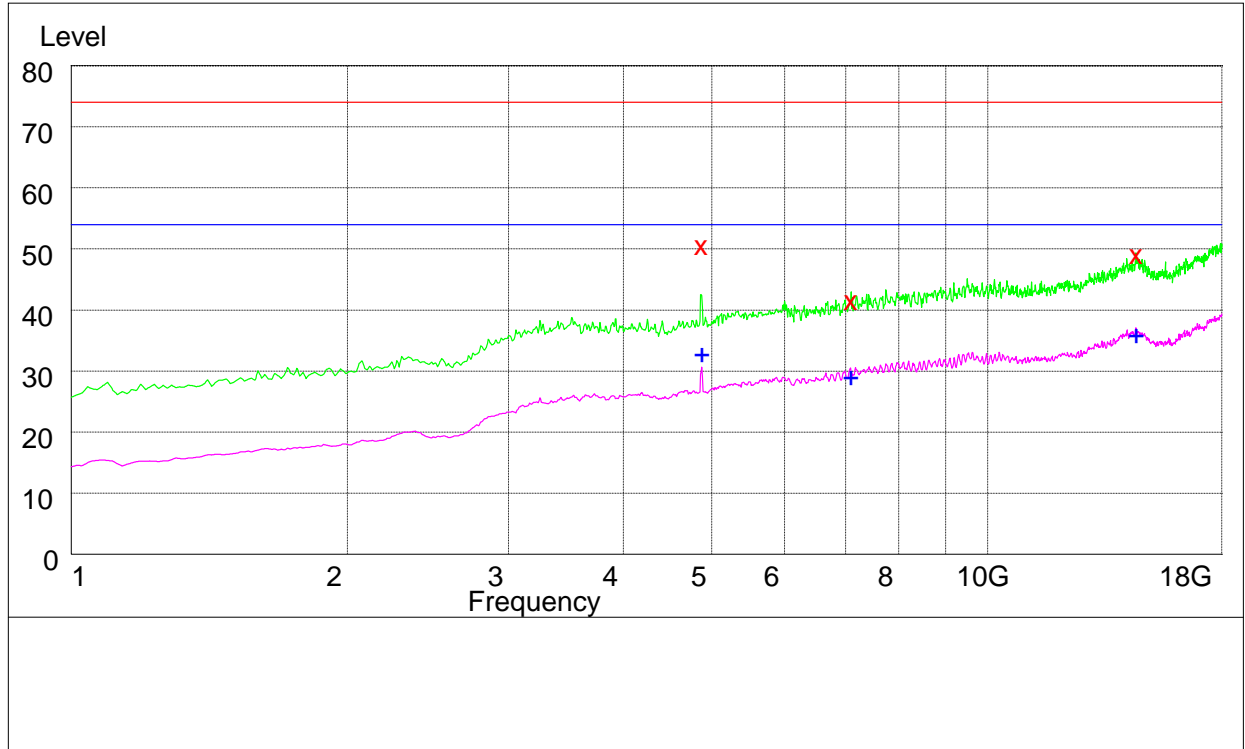
#### MEASUREMENT RESULT: QP Detector

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
14524.000000	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
14519.000000	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)



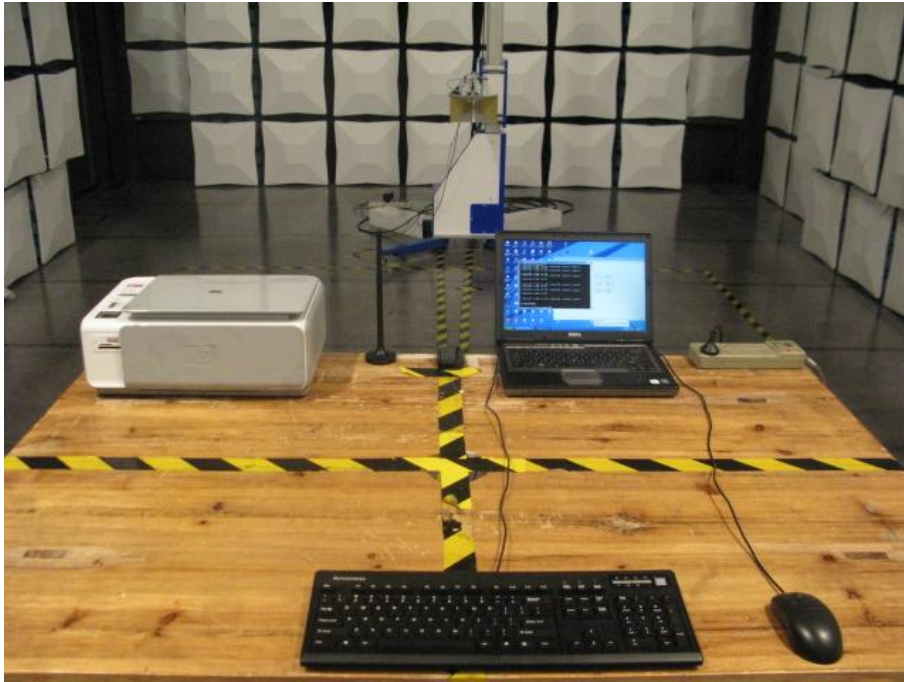
Radiated Spurious Emission (3GHz to18GHz)



## Receiver Spurious Emissions



Radiated Disturbance Emissions (30MHz-1GHz)



Radiated Disturbance Emissions (above 1GHz)