



# 1 Appendix 1A: Transmitter Output Power

## 1.1 Conducted Power of Transmitter

TEST CONDITIONS		RF Output Power (Conducted)					
		Channel128(L)		Channel192(M)		Channel251(H)	
		824.2MHz		837.0MHz		848.8MHz	
		dBm		dBm		dBm	
$T_{nom} / V_{nom}$	Measured	Limit	Measured	Limit	Measured	Limit	
GSM/TM1		31.93	38.5	32.08	38.5	32.12	38.5
GSM/TM2		26.39	38.5	26.45	38.5	26.58	38.5
TEST CONDITIONS		Channel4132(L)		Channel4182(M)		Channel4233(H)	
		826.4MHz		836.4MHz		846.6MHz	
		dBm		dBm		dBm	
		$T_{nom} / V_{nom}$	Measured	Limit	Measured	Limit	Measured
UMTS/TM1		23.71	38.5	23.39	38.5	23.21	38.5
UMTS/TM2	Case1	23.46	38.5	23.13	38.5	22.87	38.5
	Case2	22.22	38.5	21.85	38.5	21.61	38.5
	Case3	21.87	38.5	21.53	38.5	21.29	38.5
	Case4	21.58	38.5	21.28	38.5	21.01	38.5
UMTS/TM3	Case1	22.38	38.5	21.79	38.5	21.53	38.5
	Case2	20.33	38.5	19.98	38.5	19.77	38.5
	Case3	21.11	38.5	20.77	38.5	20.58	38.5
	Case4	20.91	38.5	20.48	38.5	20.43	38.5
	Case5	22.56	38.5	22.15	38.5	21.99	38.5



## 1.2 Effective Radiated Power of Transmitter (ERP)

Test Mode	Freq. [MHz]	Meas. Level [dBm]	Substitution Antenna Type	SGP [dBm]	Substitution Gain [dBi]	Cable Loss [dB]	Substitution Level (ERP)	FCC limit [dBm]	Result
							[dBm]		
GSM/TM1	824.2	32.78	Dipole Ant.	36.16	-2.75	0.6	32.81	38.5	Pass
GSM/TM1	837.0	32.93	Dipole Ant.	36.2	-2.87	0.6	32.73	38.5	Pass
GSM/TM1	848.8	32.97	Dipole Ant.	36.22	-2.85	0.6	32.77	38.5	Pass
GSM/TM2	824.2	27.24	Dipole Ant.	30.39	-2.75	0.6	27.04	38.5	Pass
GSM/TM2	837.0	27.3	Dipole Ant.	30.57	-2.87	0.6	27.1	38.5	Pass
GSM/TM2	848.8	27.43	Dipole Ant.	30.68	-2.85	0.6	27.23	38.5	Pass
UMTS/TM1	826.4	24.56	Dipole Ant.	27.71	-2.75	0.6	24.36	38.5	Pass
UMTS/TM1	836.4	24.24	Dipole Ant.	27.51	-2.87	0.6	24.04	38.5	Pass
UMTS/TM1	846.6	24.06	Dipole Ant.	27.31	-2.85	0.6	23.86	38.5	Pass

Note: a, For getting the ERP (Efficient Radiated Power) in substitution method, the following formula should be taken to calculate it,

$$\text{ERP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

b, SGP=Signal Generator Level



## 2 Appendix 2A: Transmitter Output Power

### 2.1 Conducted Power of Transmitter

TEST CONDITIONS		RF Output Power (Conducted)					
		Channel512(L)		Channel661(M)		Channel810(H)	
		1850.2MHz		1880.0MHz		1909.8MHz	
		dBm		dBm		dBm	
$T_{nom} / V_{nom}$		Measured	Limit	Measured	Limit	Measured	Limit
GSM/TM1		29.52	33	29.37	33	29.27	33
GSM/TM2		25.82	33	25.65	33	25.49	33
TEST CONDITIONS		Channel9262(L)		Channel9400(M)		Channel9538(H)	
		1852.4MHz		1880.0MHz		1907.6MHz	
		dBm		dBm		dBm	
		$T_{nom} / V_{nom}$		Measured	Limit	Measured	Limit
UMTS/TM1		23.55	33	23.09	33	22.98	33
UMTS/TM2	Case1	23.53	33	23.07	33	22.98	33
	Case2	22.77	33	22.31	33	22.22	33
	Case3	22.18	33	21.72	33	21.65	33
	Case4	21.95	33	21.53	33	21.39	33
UMTS/TM3	Case1	22.19	33	21.81	33	21.72	33
	Case2	20.69	33	20.13	33	20.08	33
	Case3	21.41	33	20.97	33	20.91	33
	Case4	20.99	33	20.46	33	20.31	33
	Case5	22.12	33	21.91	33	21.82	33



## 2.2 Peak-to-Average Ratio

TEST CONDITIONS		Peak-to-Average Ratio					
		Channel512(L)		Channel661(M)		Channel810(H)	
		1850.2MHz		1880.0MHz		1909.8MHz	
		dB		dB		dB	
$T_{nom} / V_{nom}$		Measured	Limit	Measured	Limit	Measured	Limit
GSM/TM1		0.5	13	0.5	13	0.4	13
GSM/TM2		3.0	13	3.1	13	3.1	13
TEST CONDITIONS		Channel9262(L)		Channel9400(M)		Channel9538(H)	
		1852.4MHz		1880.0MHz		1907.6MHz	
		dB		dB		dB	
		$T_{nom} / V_{nom}$		Measured	Limit	Measured	Limit
UMTS/TM1		3.42	13	3.29	13	3.22	13
UMTS/TM2	Case1	3.44	13	3.42	13	3.4	13
	Case2	4.12	13	4.2	13	4.05	13
	Case3	4.62	13	4.53	13	4.48	13
	Case4	4.6	13	4.62	13	4.56	13
UMTS/TM3	Case1	5.46	13	5.36	13	5.3	13
	Case2	5.32	13	5.62	13	6.05	13
	Case3	6.02	13	6.04	13	5.96	13
	Case4	6.52	13	6.54	13	6.29	13
	Case5	5.32	13	5.24	13	5.23	13



## 2.3 Effective Isotropic Radiated Power of Transmitter (EIRP)

Test Mode	Freq. [MHz]	Meas. Level [dBm]	Substitution Antenna Type	SGP [dBm]	Substitution Gain [dBi]	Cable Loss [dB]	Substitution Level (EIRP)	FCC limit [dBm]	Result
							[dBm]		
GSM/TM1	1850.2	32.52	Horn Ant.	28.82	4.5	1	32.32	33	Pass
GSM/TM1	1880.0	32.37	Horn Ant.	29.02	4.5	1	32.52	33	Pass
GSM/TM1	1909.8	32.27	Horn Ant.	28.27	4.8	1	32.07	33	Pass
GSM/TM2	1850.2	28.82	Horn Ant.	25.12	4.5	1	28.62	33	Pass
GSM/TM2	1880.0	28.65	Horn Ant.	25.26	4.5	1	28.76	33	Pass
GSM/TM2	1909.8	28.49	Horn Ant.	24.49	4.8	1	28.29	33	Pass
UMT S/TM 1	1852.4	26.55	Horn Ant.	22.85	4.5	1	26.35	33	Pass
UMT S/TM 1	1880.0	26.09	Horn Ant.	22.74	4.5	1	26.24	33	Pass
UMT S/TM 1	1907.6	25.98	Horn Ant.	22.28	4.8	1	26.08	33	Pass

Note: a, For getting the EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

$$\text{EIRP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

b, SGP=Signal Generator Level



### 3 Appendix 3A: Transmitter Output Power

#### 3.1 Conducted Power of Transmitter

TEST CONDITIONS		RF Output Power (Conducted)					
		Channel 1312(L)		Channel 1412(M)		Channel 1513(H)	
		1712.4MHz		1732.4MHz		1752.6MHz	
		dBm		dBm		dBm	
Tnom / Vnom		Measured	Limit	Measured	Limit	Measured	Limit
UMTS/TM1		23.31	30	23.23	30	23.19	30
UMTS/TM2	Case1	23.26	30	23.22	30	23.11	30
	Case2	22.48	30	22.41	30	22.34	30
	Case3	21.87	30	21.82	30	21.76	30
	Case4	21.68	30	21.54	30	21.47	30
UMTS/TM3	Case1	22.09	30	22.05	30	21.99	30
	Case2	20.21	30	20.33	30	20.27	30
	Case3	21.16	30	21.06	30	21.05	30
	Case4	20.49	30	20.62	30	20.55	30
	Case5	22.21	30	22.05	30	21.99	30



### 3.2 Peak-to-Average Ratio

TEST CONDITIONS		RF Output Power (Conducted)					
		Channel 1312(L)		Channel 1412(M)		Channel 1513(H)	
		1712.4MHz		1732.4MHz		1752.6MHz	
		dB		dB		dB	
Tnom / Vnom		Measured	Limit	Measured	Limit	Measured	Limit
UMTS/TM1		4.04	13	3.97	13	4.03	13
UMTS/TM2	Case1	3.73	13	3.65	13	3.94	13
	Case2	3.64	13	3.48	13	3.76	13
	Case3	3.44	13	3.25	13	3.54	13
	Case4	3.39	13	3.27	13	3.58	13
UMTS/TM3	Case1	3.5	13	3.46	13	3.73	13
	Case2	3.33	13	3.06	13	3.63	13
	Case3	3.49	13	3.38	13	3.75	13
	Case4	3.21	13	3.15	13	3.59	13
	Case5	3.66	13	3.54	13	3.77	13



### 3.3 Efficient Isotropic Radiated Power (EIRP)

Test Mode	Freq. [MHz]	Meas. Level [dBm]	Substitution Antenna Type	SGP [dBm]	Substitution Gain [dBi]	Cable Loss [dB]	Substitution Level (EIRP) [dBm]	Limit [dBm]	Result
UMTS/T M1	1712.4	26.31	Horn Ant.	22.61	4.5	1	26.11	30	Pass
UMTS/T M1	1732.4	26.23	Horn Ant.	22.79	4.5	1	26.29	30	Pass
UMTS/T M1	1752.6	26.19	Horn Ant.	22.19	4.8	1	25.99	30	Pass

Note: a, For getting the EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should take to calculate it,

$$\text{EIRP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

b, SGP=Signal Generator Level





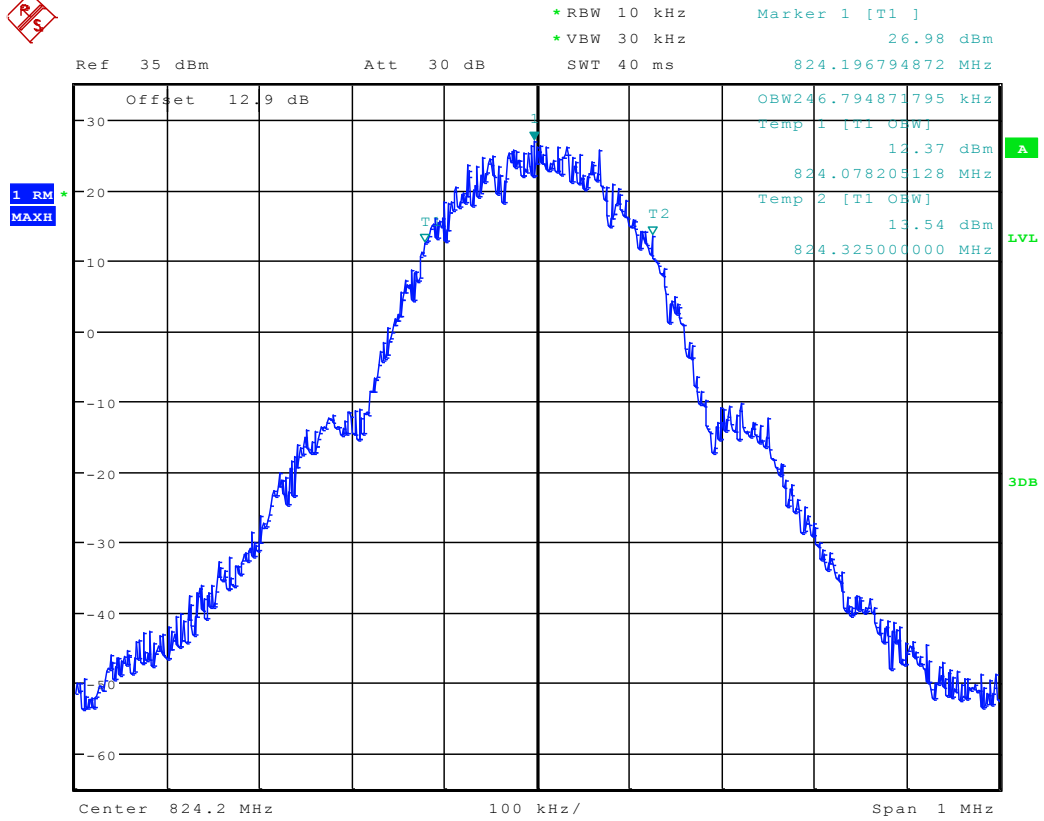
## 4 Appendix 1B: Occupied Bandwidth

### 4.1 Result Table

Test Mode	RF Channel	Occupied Bandwidth [kHz]	Verdict
GSM/TM1	128	246.79	Pass
	192	243.59	Pass
	251	240.38	Pass
GSM/TM2	128	240.38	Pass
	192	243.59	Pass
	251	241.99	Pass
Test Mode	RF Channel	Occupied Bandwidth [MHz]	Verdict
UMTS/TM1	4132	4.05	Pass
	4182	4.07	Pass
	4233	4.05	Pass



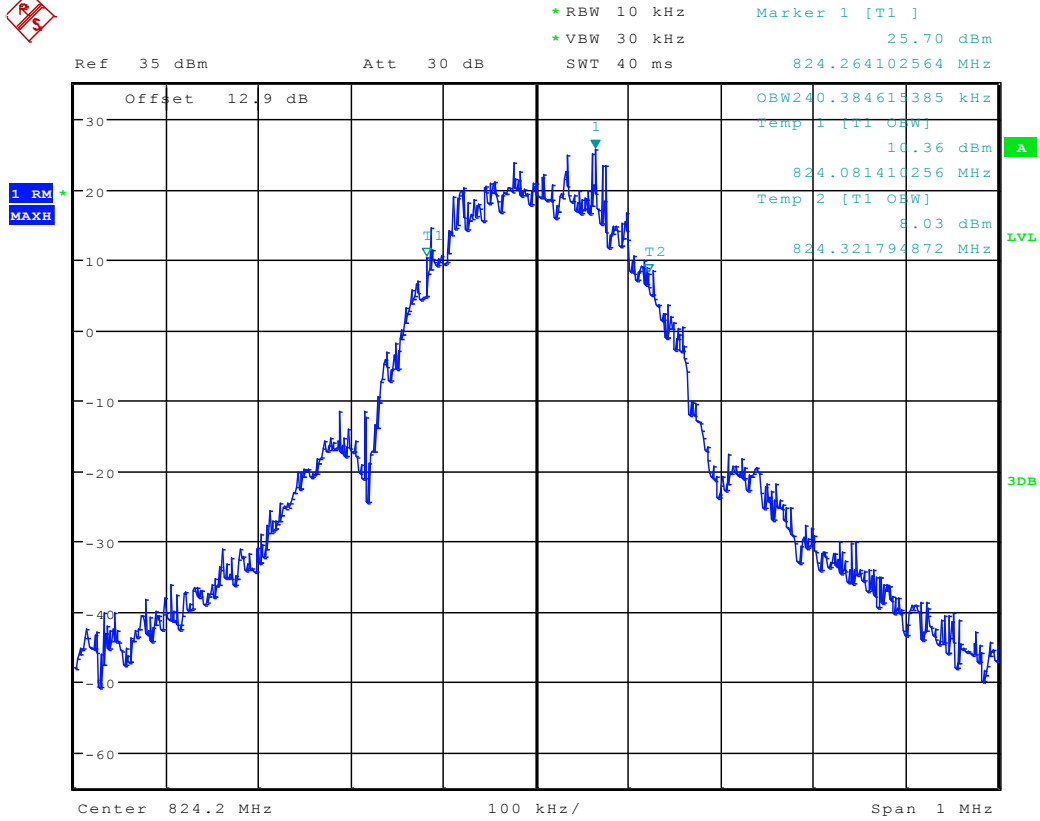
### 4.2 Channel 128 (GSM/TM1:GPRS/GSM)



Date: 14.NOV.2012 20:54:32



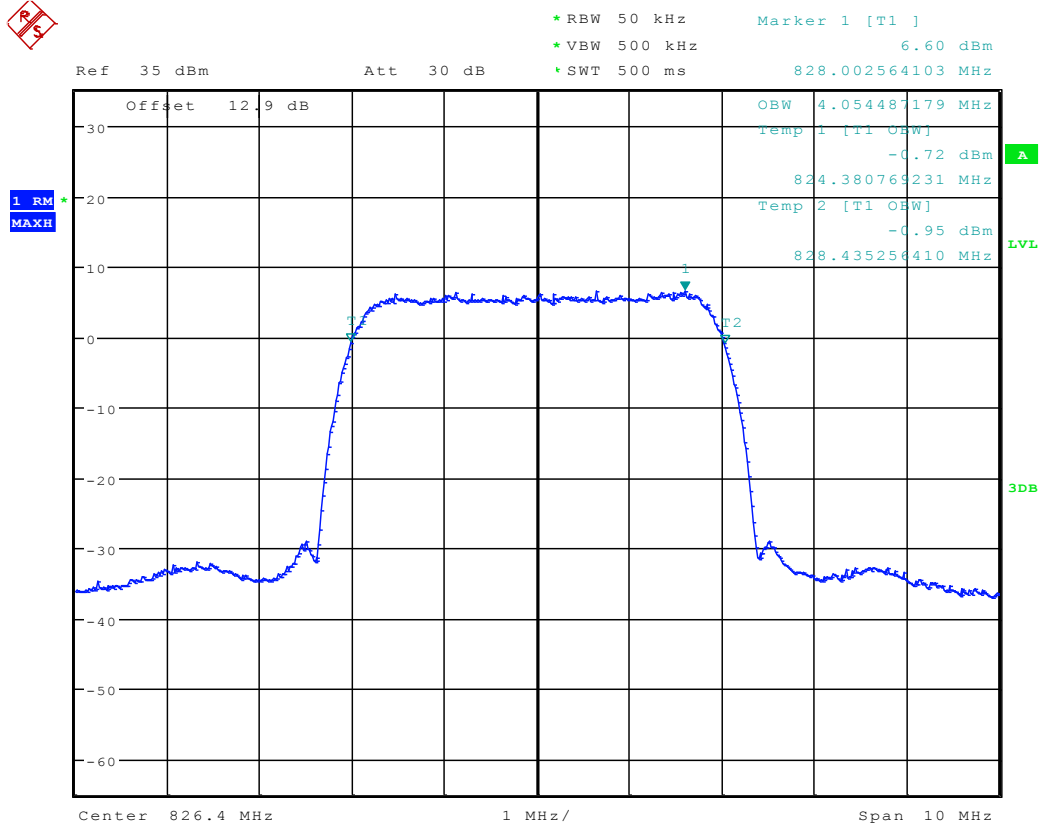
### 4.3 Channel 128 (GSM/TM2:EDGE)



Date: 14.NOV.2012 21:03:18



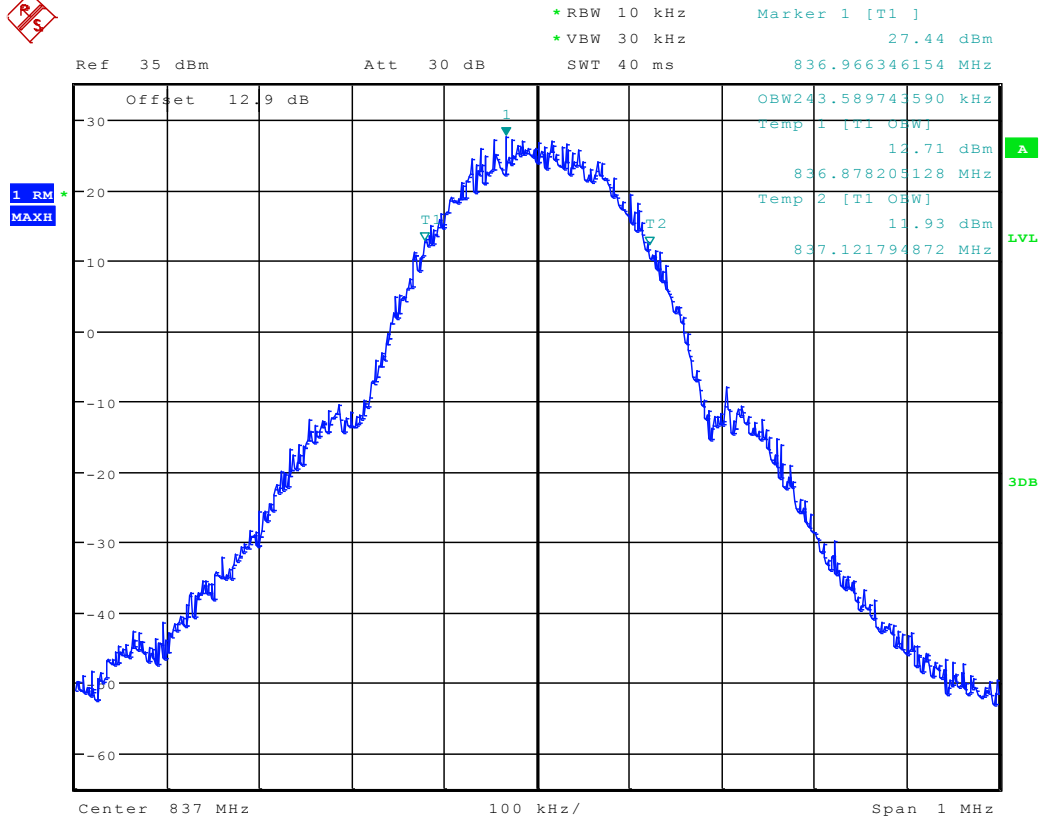
### 4.4 Channel 4132 (UMTS/TM1: WCDMA)



Date: 14.NOV.2012 21:08:04



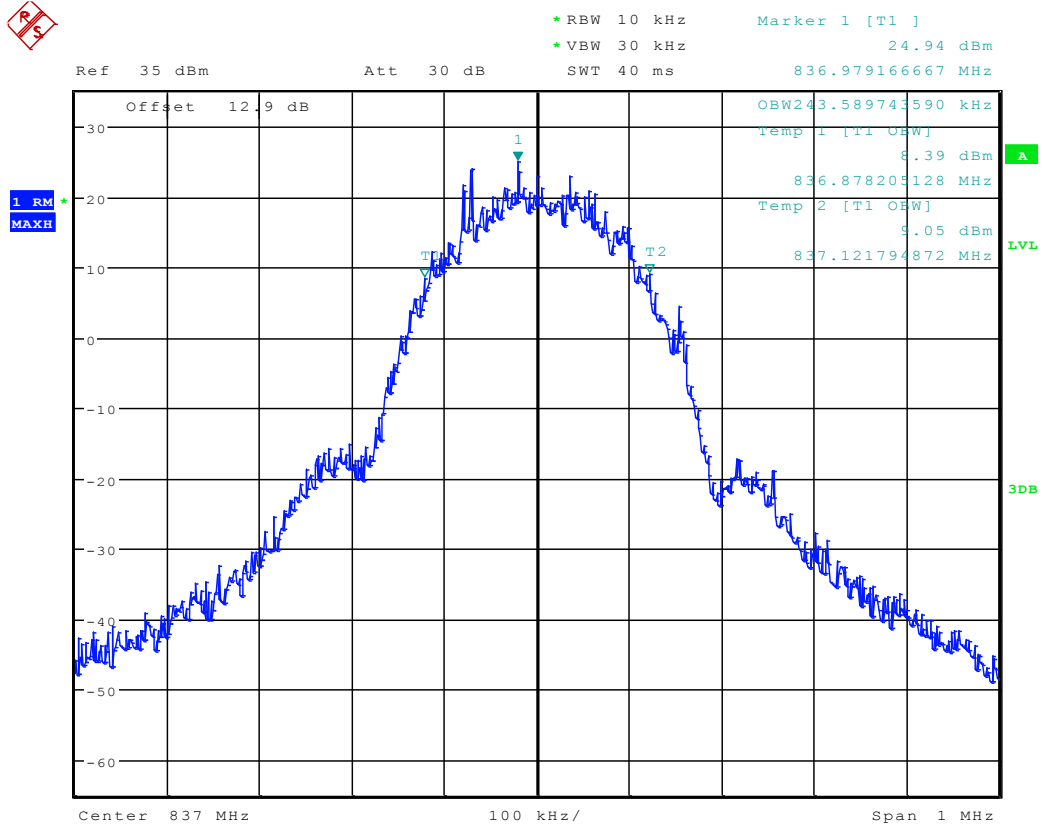
### 4.5 Channel 192 (GSM/TM1:GPRS/GSM)



Date: 14.NOV.2012 20:54:46



### 4.6 Channel 192 (GSM/TM2:EDGE)

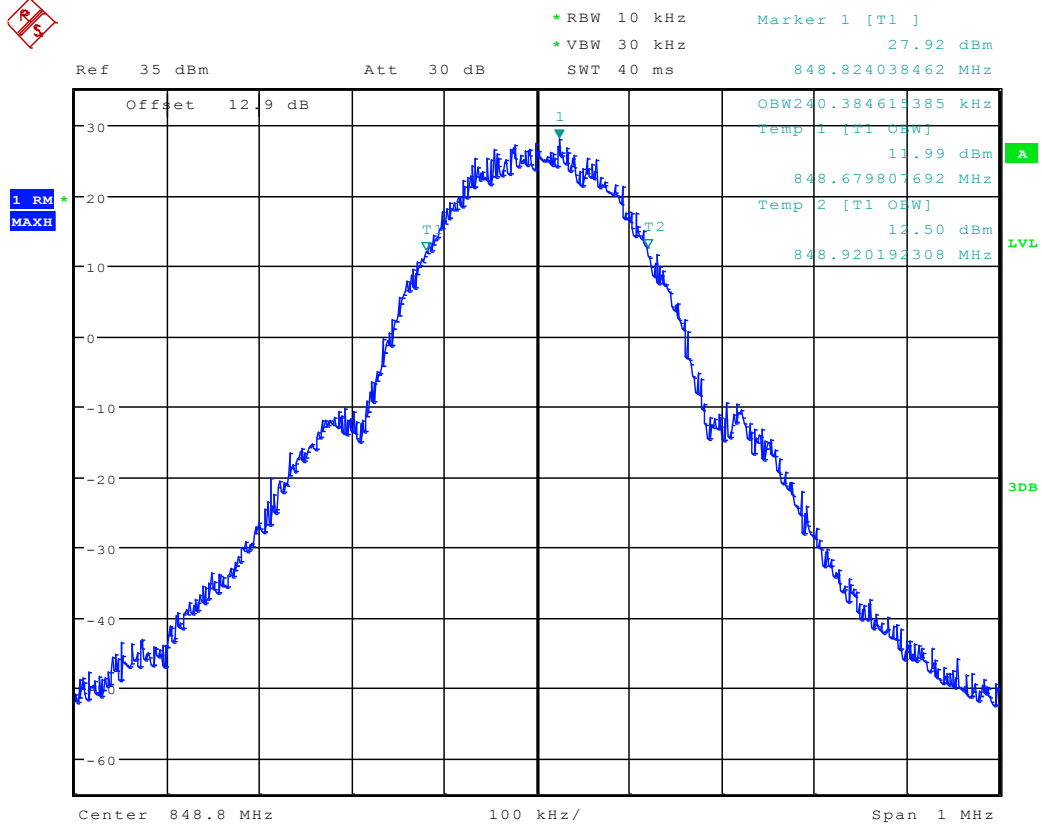


Date: 14.NOV.2012 21:03:32





### 4.8 Channel 251 (GSM/TM1:GPRS/GSM)

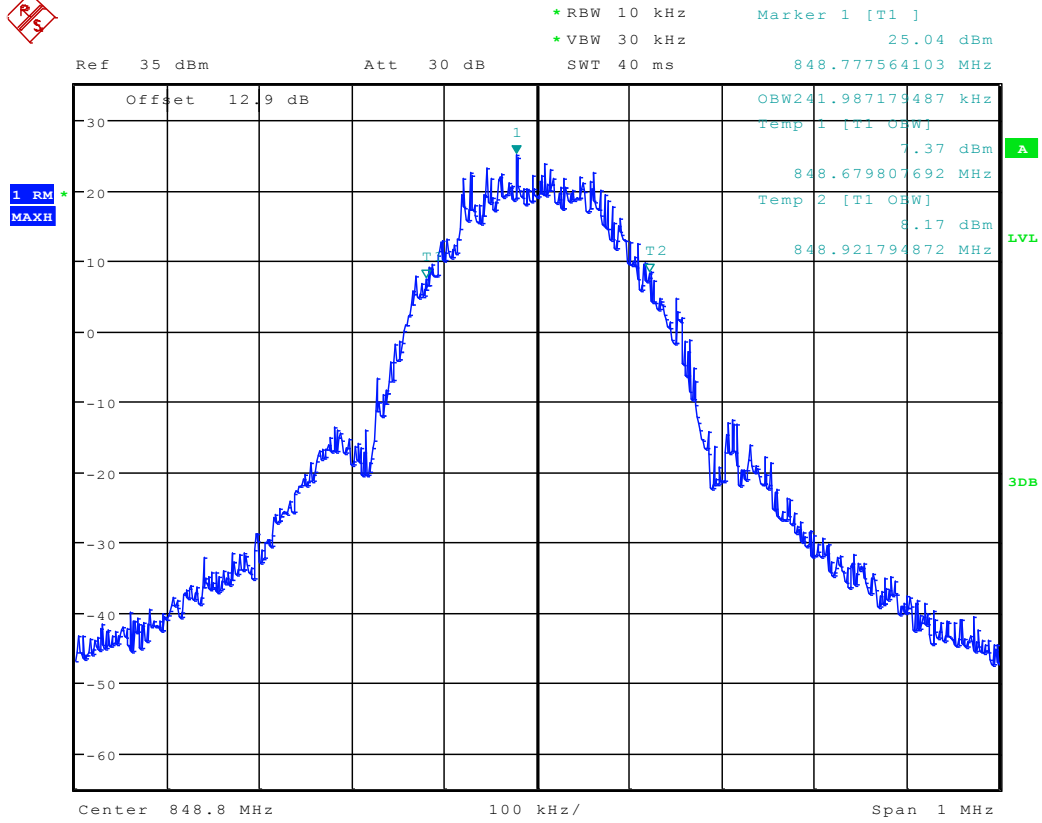


Date: 14.NOV.2012 20:54:59





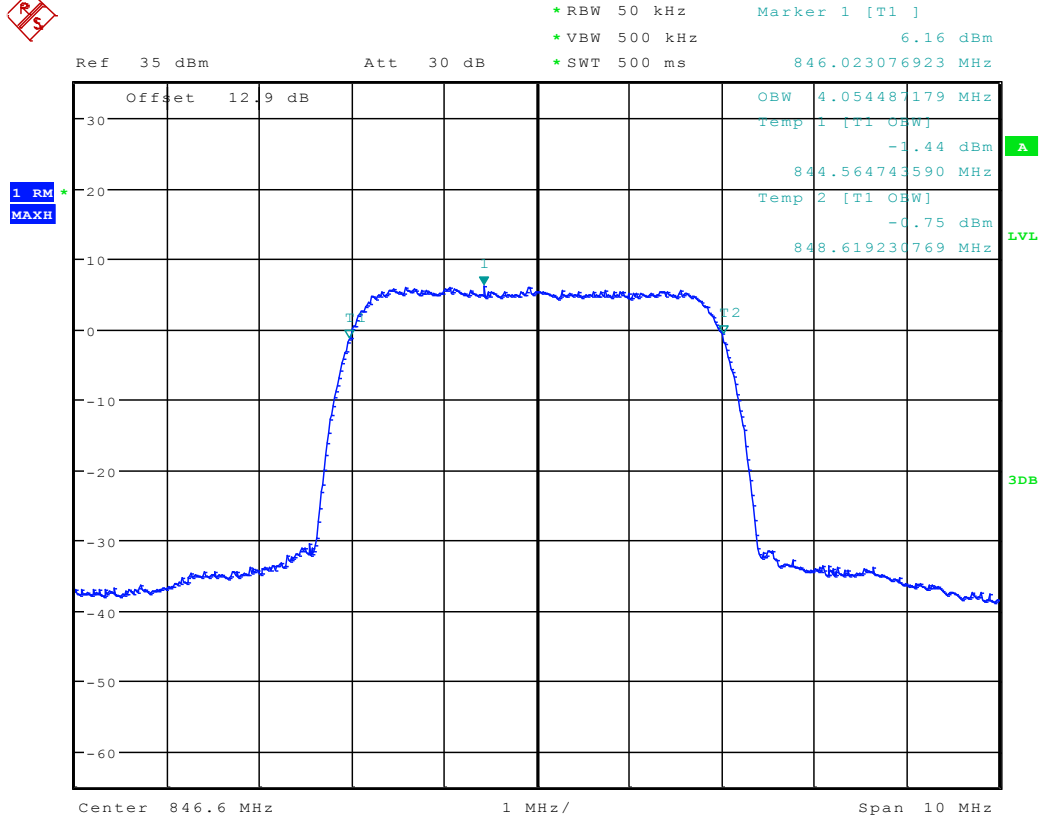
### 4.9 Channel 251 (GSM/TM2:EDGE)



Date: 14.NOV.2012 21:03:46



### 4.10 Channel 4233 (UMTS/TM1: WCDMA)



Date: 14.NOV.2012 21:08:31



## 5 Appendix 2B: Occupied Bandwidth

### 5.1 Result Table

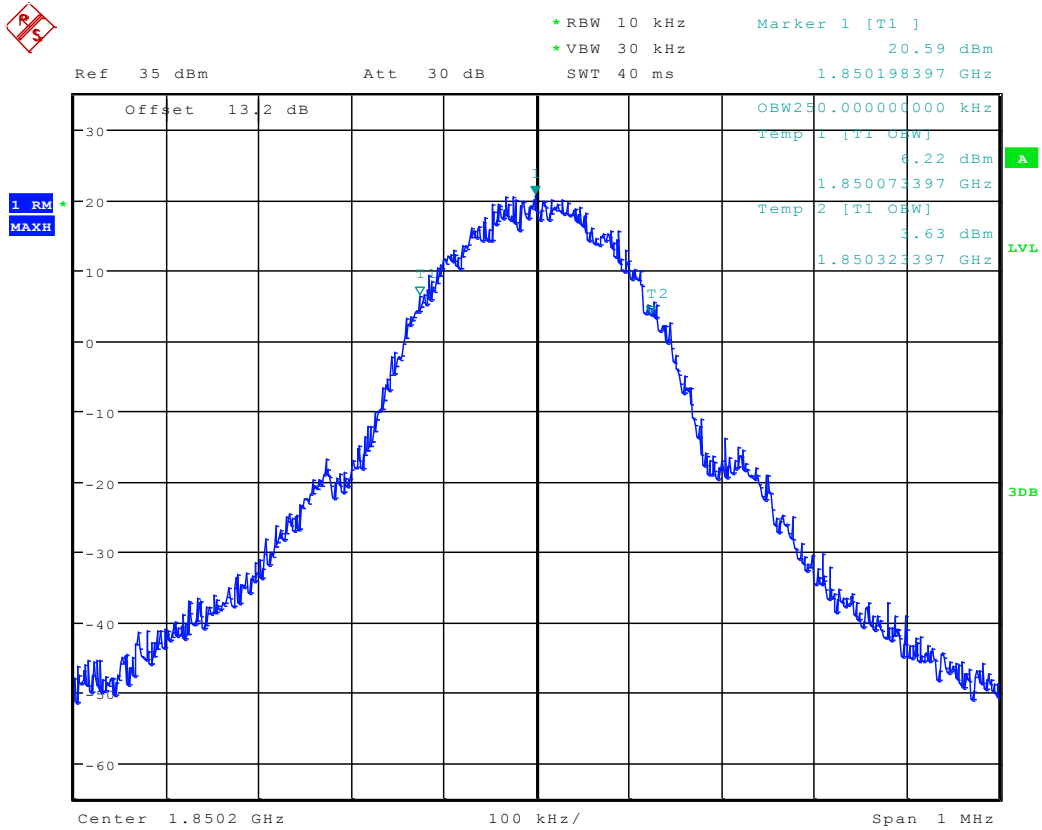
Test Mode	RF Channel	Occupied Bandwidth [kHz]	Verdict
GSM/TM1	512	243.58	Pass
	661	243.59	Pass
	810	241.99	Pass
GSM/TM2	512	250.00	Pass
	661	245.19	Pass
	810	248.40	Pass
Test Mode	RF Channel	Occupied Bandwidth [MHz]	Verdict
UMTS/TM1	9262	4.07	Pass
	9400	4.05	Pass
	9538	4.07	Pass





### 5.3 GSM/TM2:EDGE

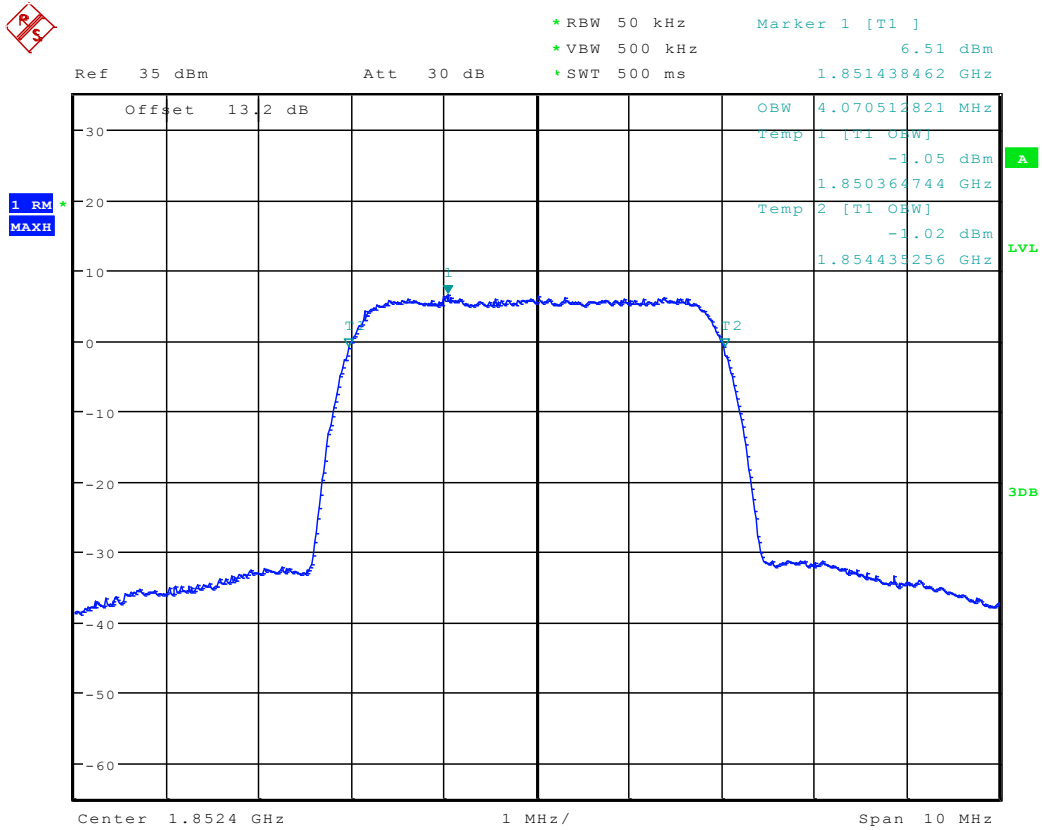
#### Channel 512



Date: 14.NOV.2012 20:44:09



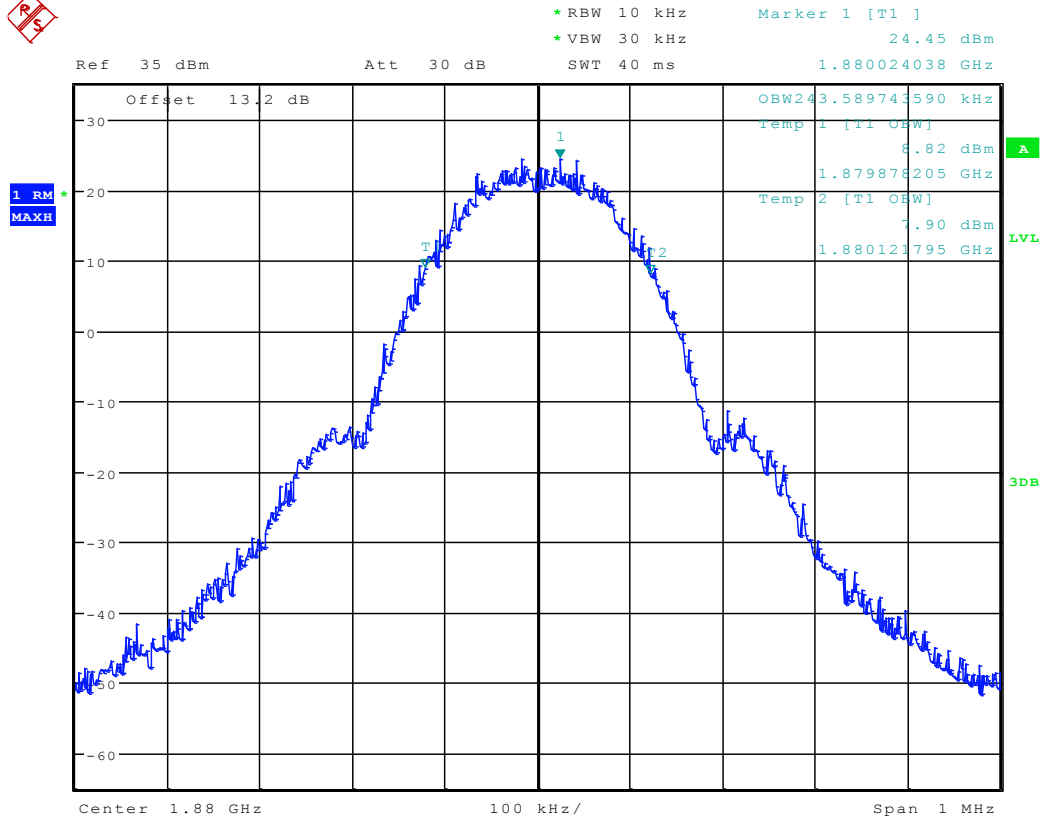
### 5.4 UMTS/TM1: WCDMA Channel 9262



Date: 14.NOV.2012 21:14:47



### 5.5 GSM/TM1:GPRS/GSM Channel 661

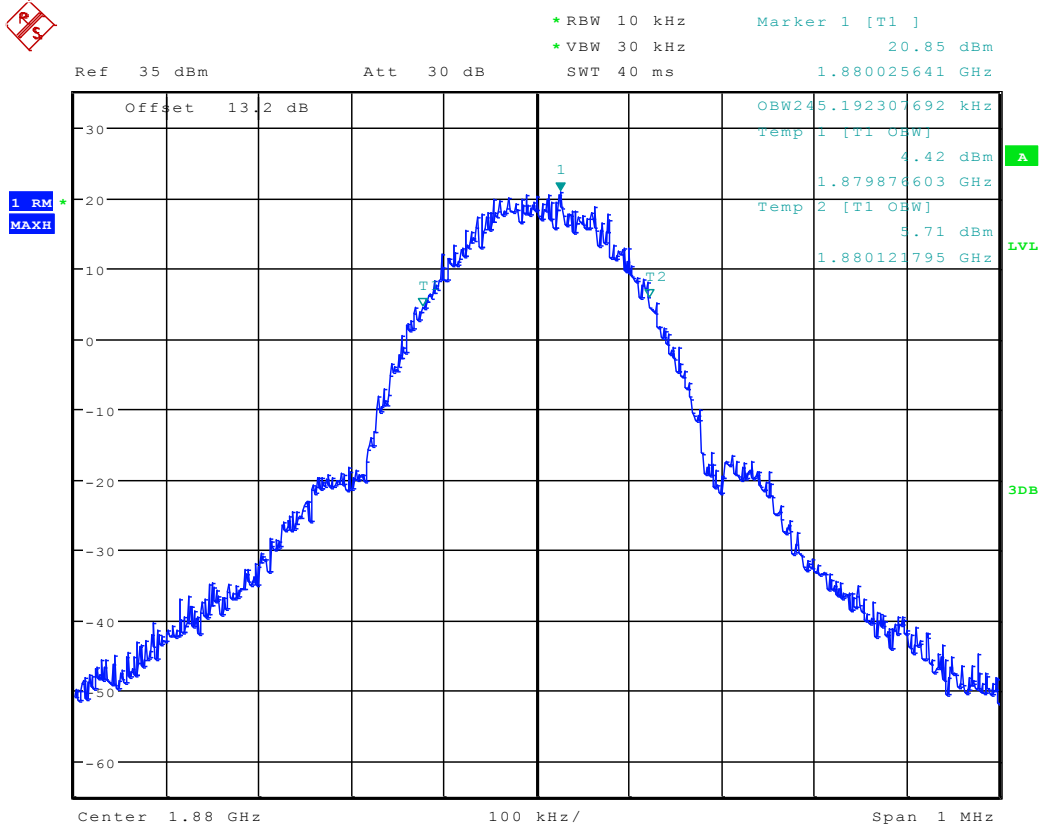


Date: 14.NOV.2012 20:38:29



### 5.6 GSM/TM2:EDGE

#### Channel 661

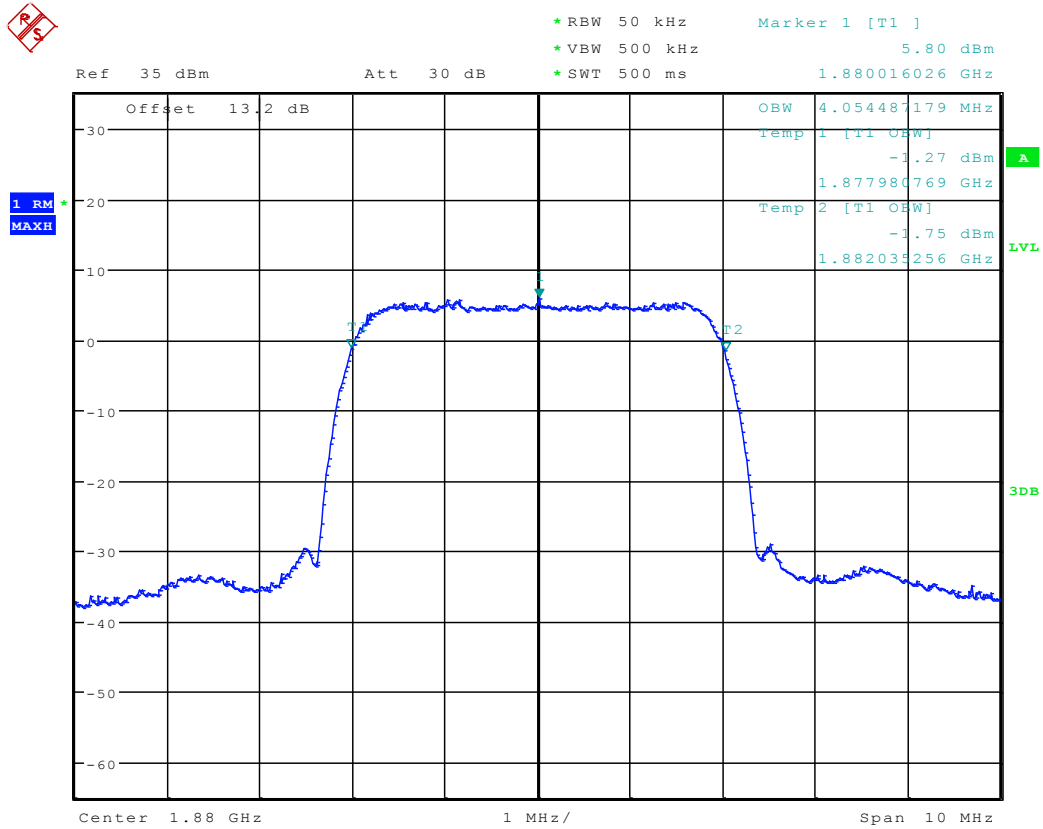


Date: 14.NOV.2012 20:44:22





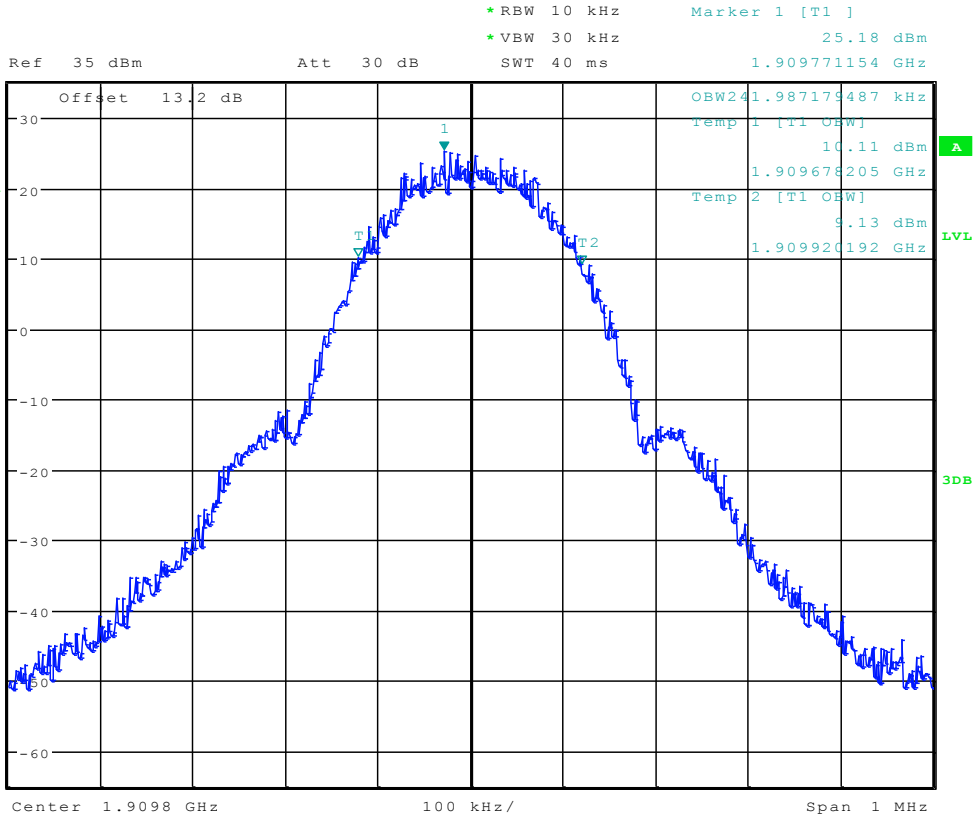
### 5.7 UMTS/TM1: WCDMA Channel 9400



Date: 14.NOV.2012 21:15:00



### 5.8 GSM/TM1:GPRS/GSM Channel 810

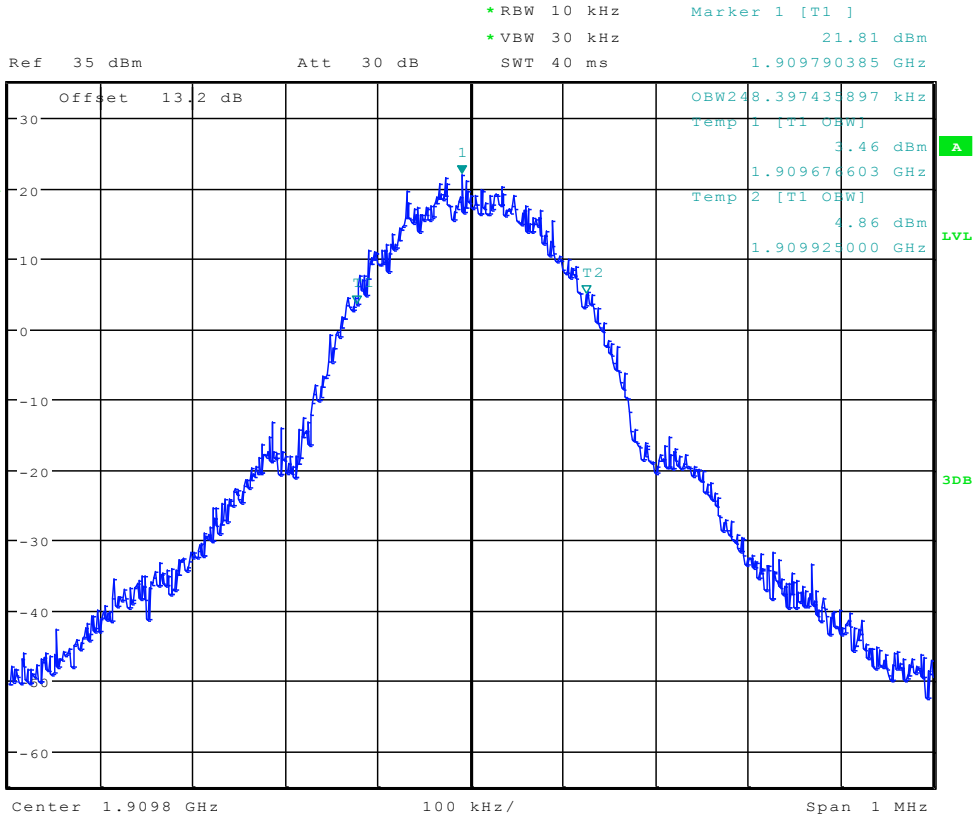


Date: 14.NOV.2012 20:38:43



### 5.9 GSM/TM2:EDGE

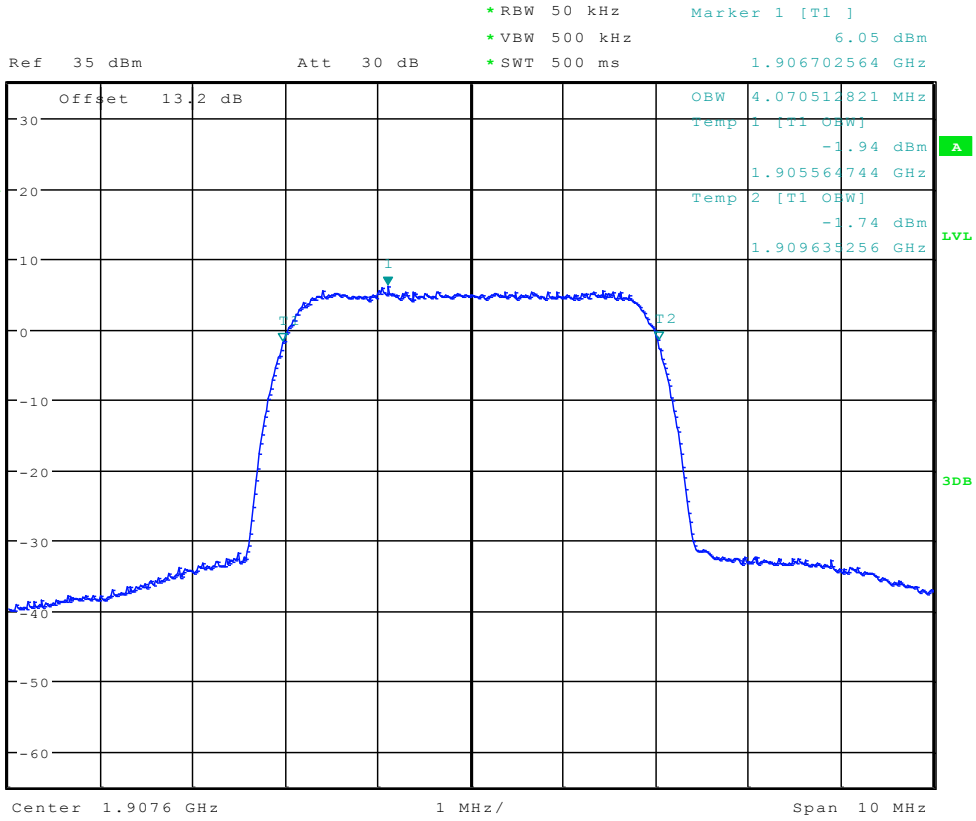
#### Channel 810



Date: 14.NOV.2012 20:44:36



### 5.10 UMTS/TM1: WCDMA Channel 9538



Date: 14.NOV.2012 21:15:14



## 6 Appendix 3B: Occupied Bandwidth

### 6.1 Result Table

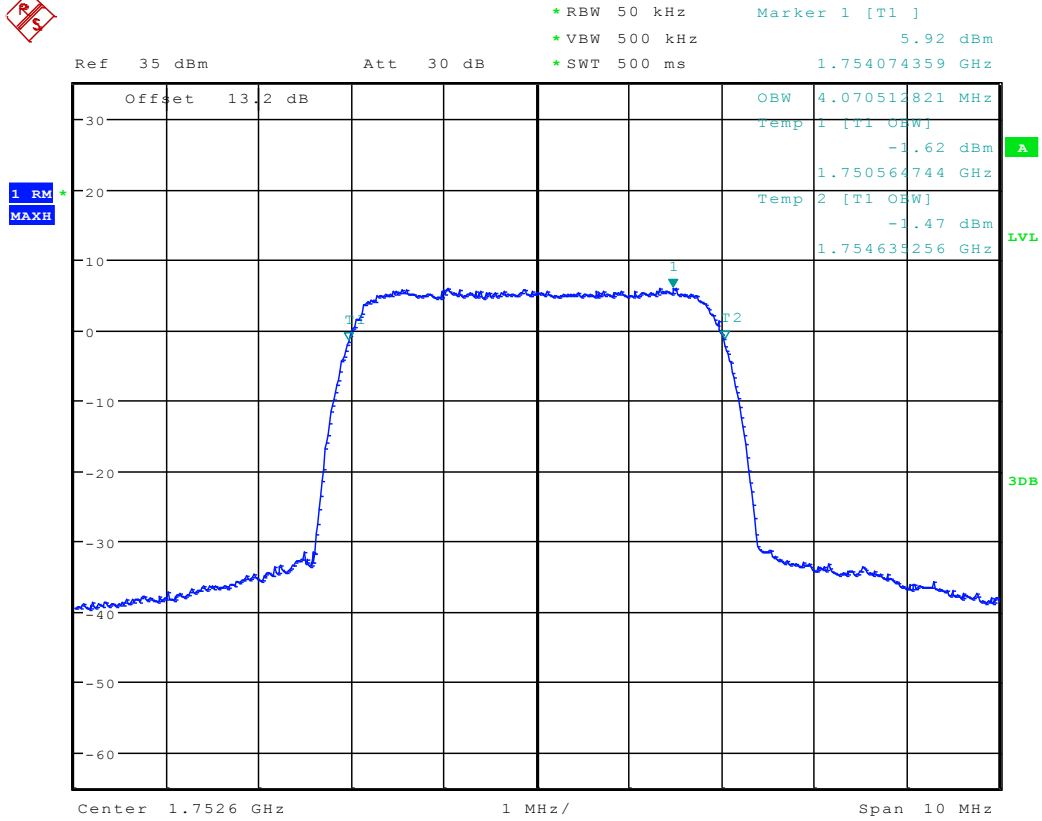
Test Mode	RF Channel	Occupied Bandwidth [MHz]	Verdict
UMTS/TM1	1312	4.07	Pass
	1412	4.07	Pass
	1513	4.07	Pass







### 6.2.3 Channel 1513



Date: 14.NOV.2012 20:49:21



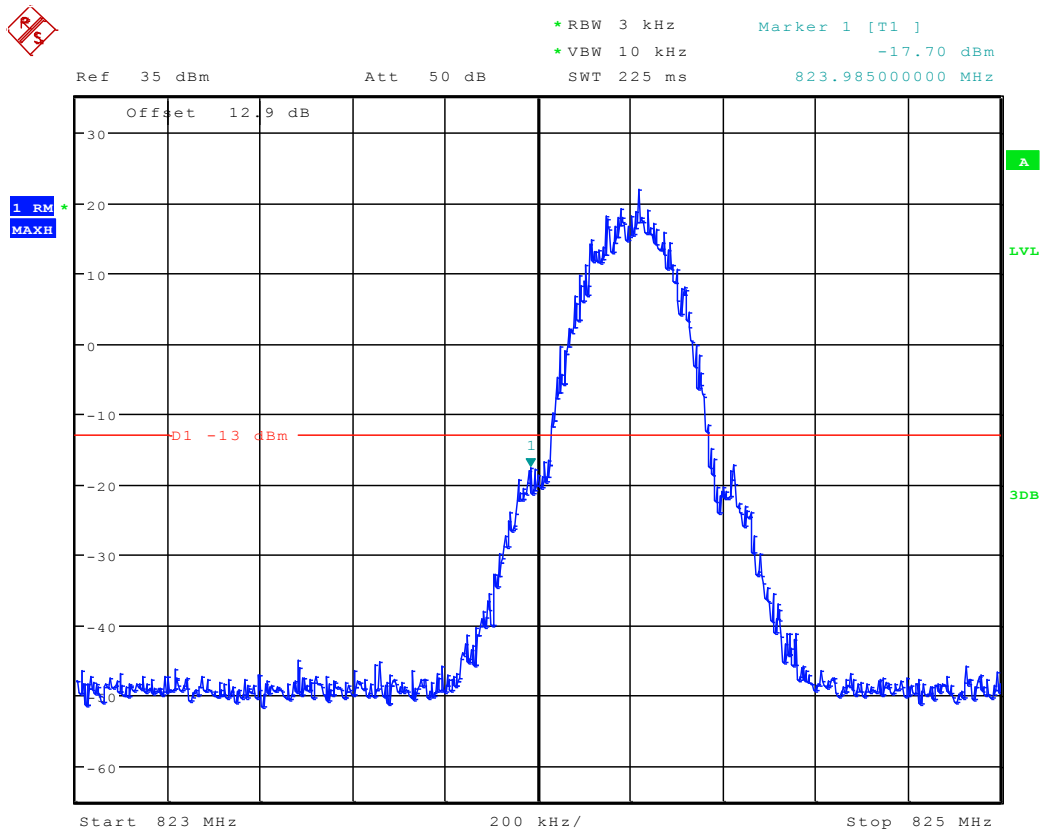


## Appendix 1C: Band Edges Compliance

### 6.3 GSM/TM1:GPRS/GSM

#### 6.3.1 Left Edge

#### Channel 128

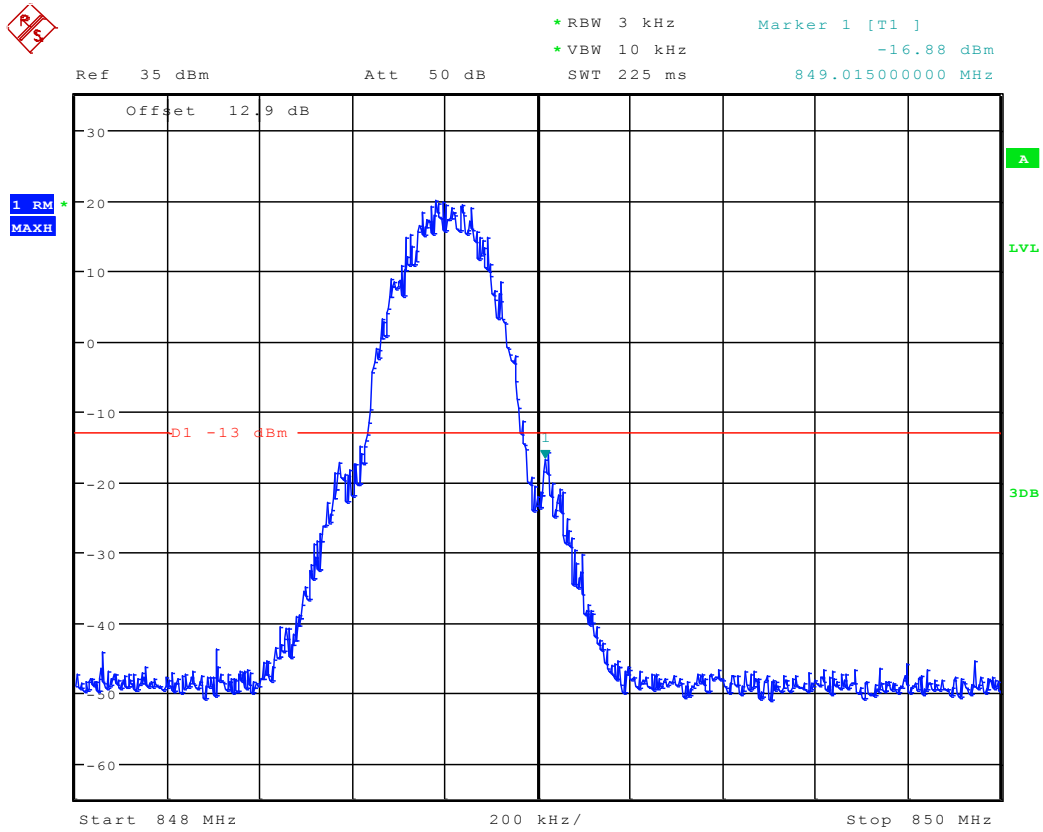


Date: 14.NOV.2012 21:00:11



### 6.3.2 Right Edge

### Channel 251



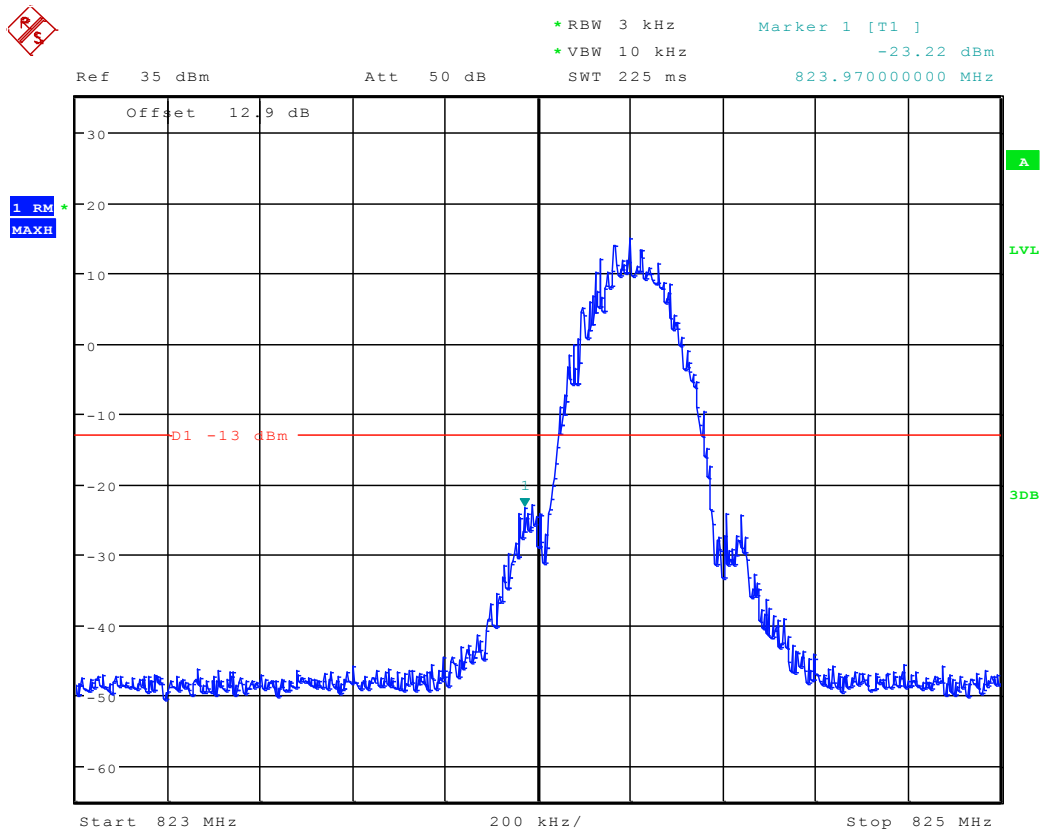
Date: 14.NOV.2012 21:00:28



## 6.4 GSM/TM2:EDGE

### 6.4.1 Left Edge

### Channel 128

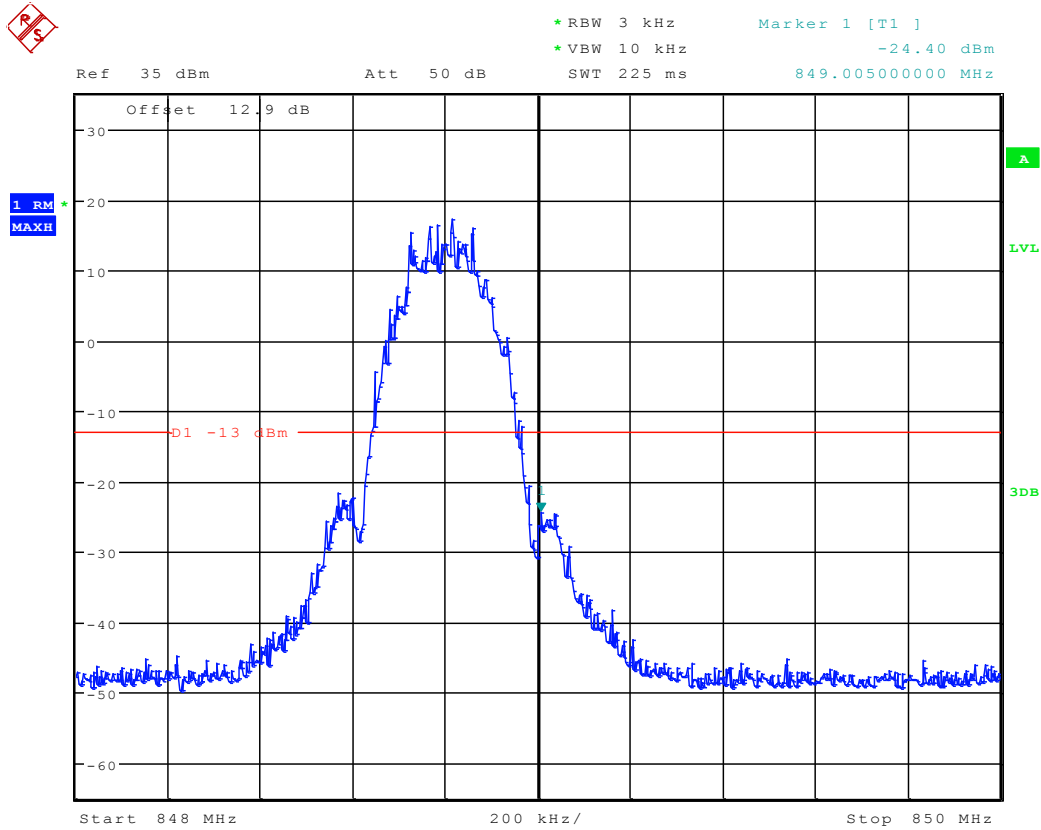


Date: 14.NOV.2012 21:02:25



### 6.4.2 Right Edge

### Channel 251



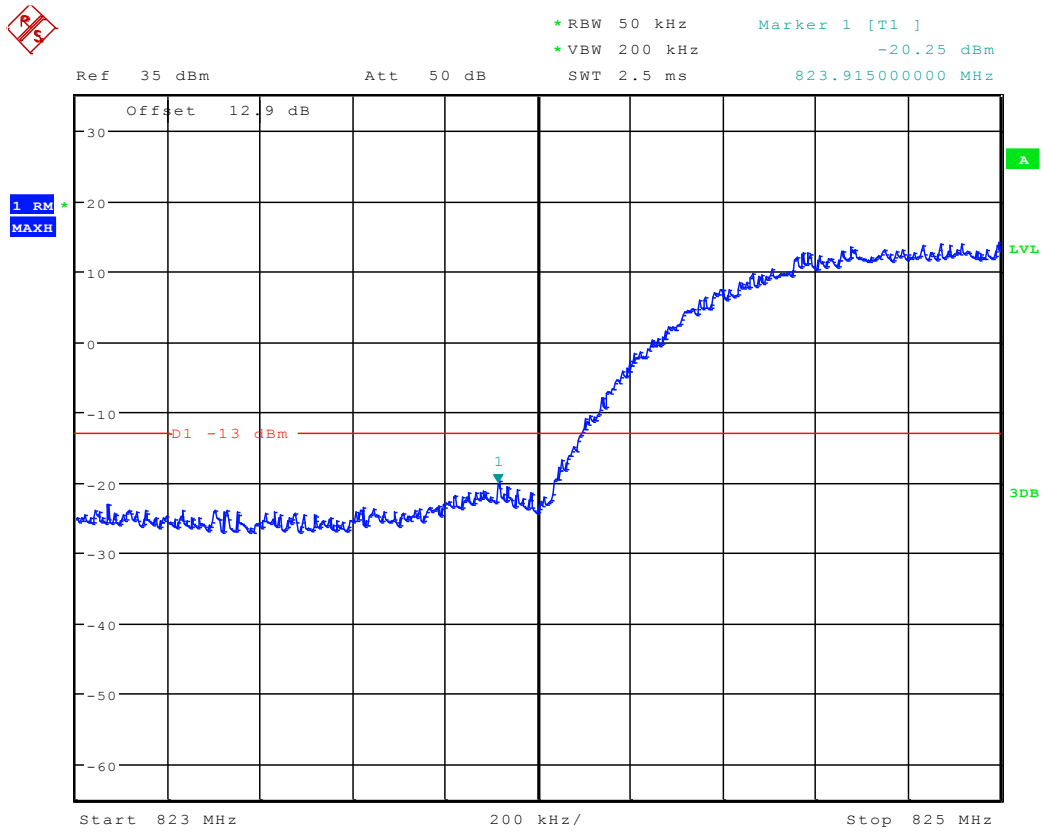
Date: 14.NOV.2012 21:03:04



## 6.5 UMTS/TM1: WCDMA

### 6.5.1 Left Edge

### Channel 4132

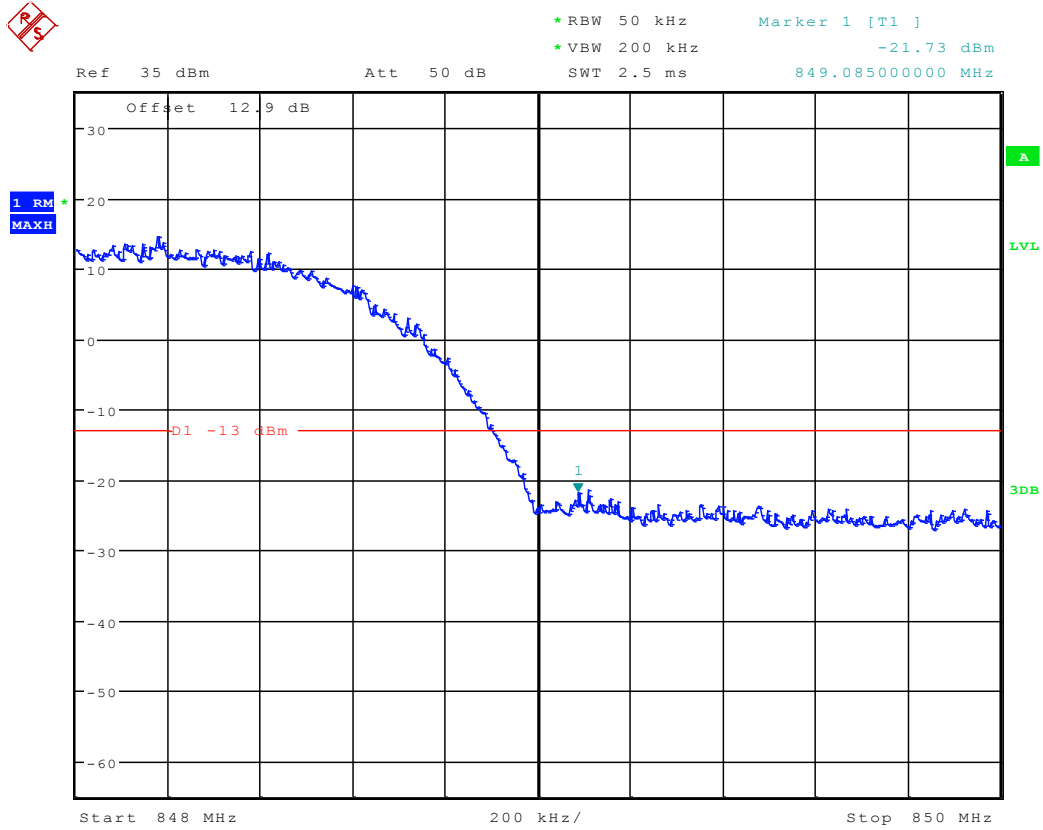


Date: 14.NOV.2012 21:08:46



### 6.5.2 Right Edge

### Channel 4233



Date: 14.NOV.2012 21:08:59

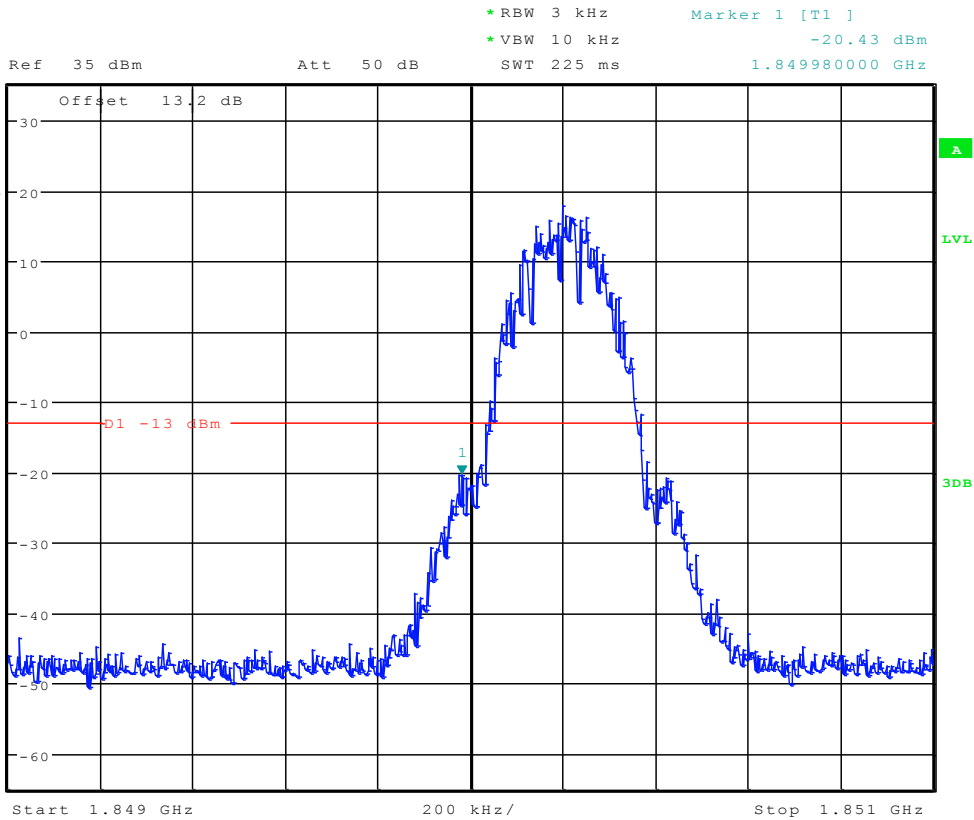


# 7 Appendix 2C: Band Edges Compliance

## 7.1 GSM/TM1:GPRS/GSM

### 7.1.1 Left Edge

Channel 512

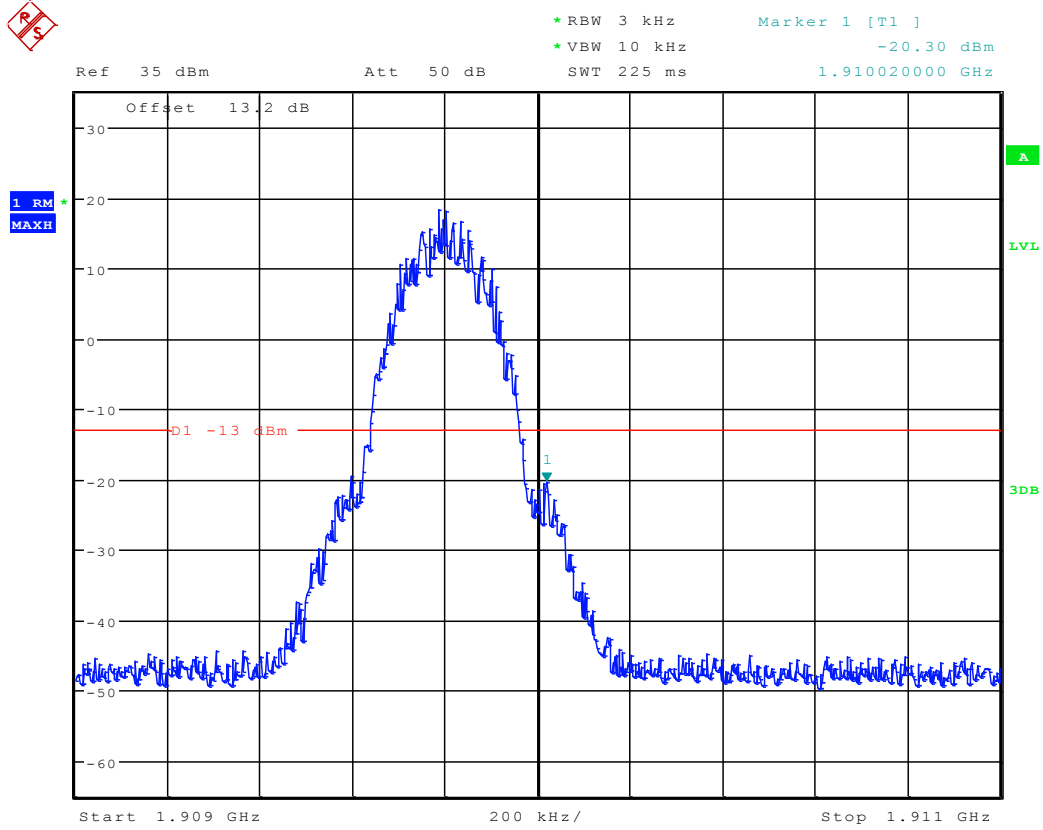


Date: 14.NOV.2012 20:41:09



### 7.1.2 Right Edge

### Channel 810



Date: 14.NOV.2012 20:41:22

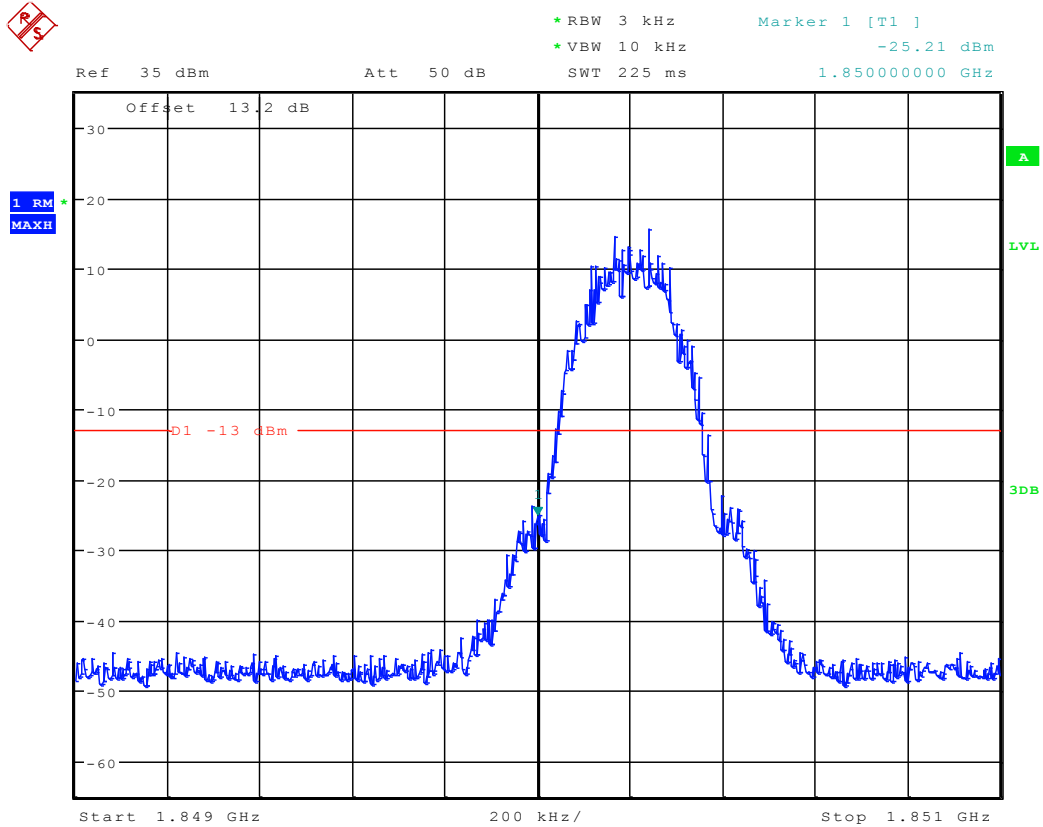




## 7.2 GSM/TM2:EDGE

### 7.2.1 Left Edge

Channel 512

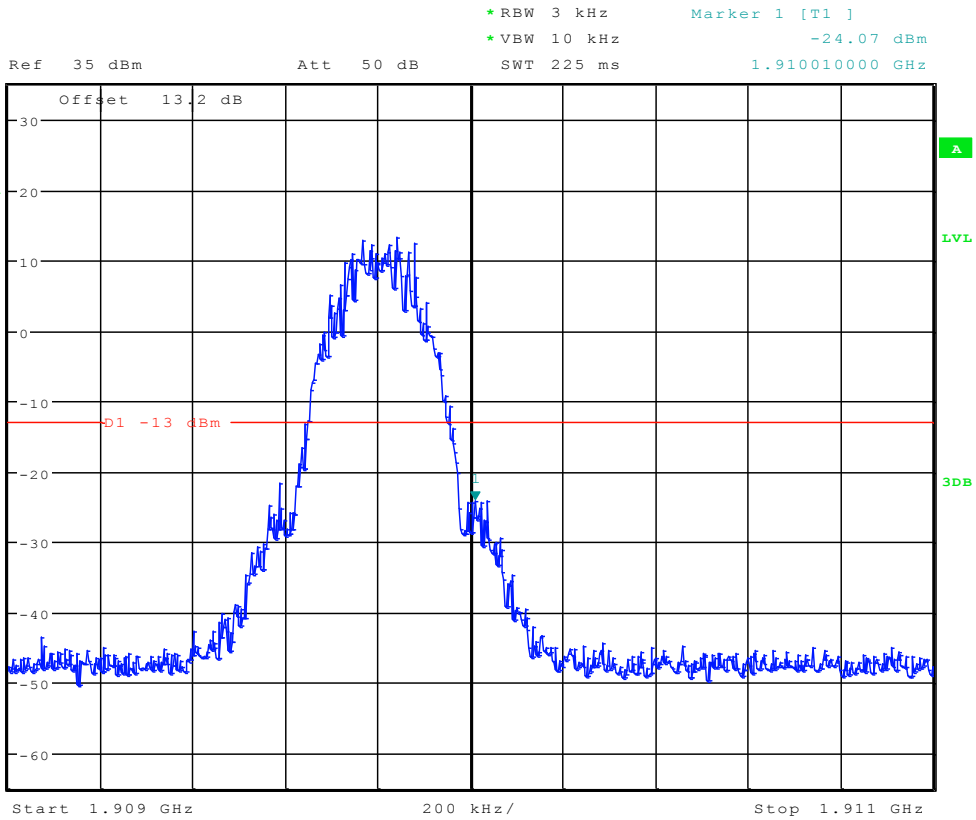


Date: 14.NOV.2012 20:43:40



## 7.2.2 Right Edge

### Channel 810



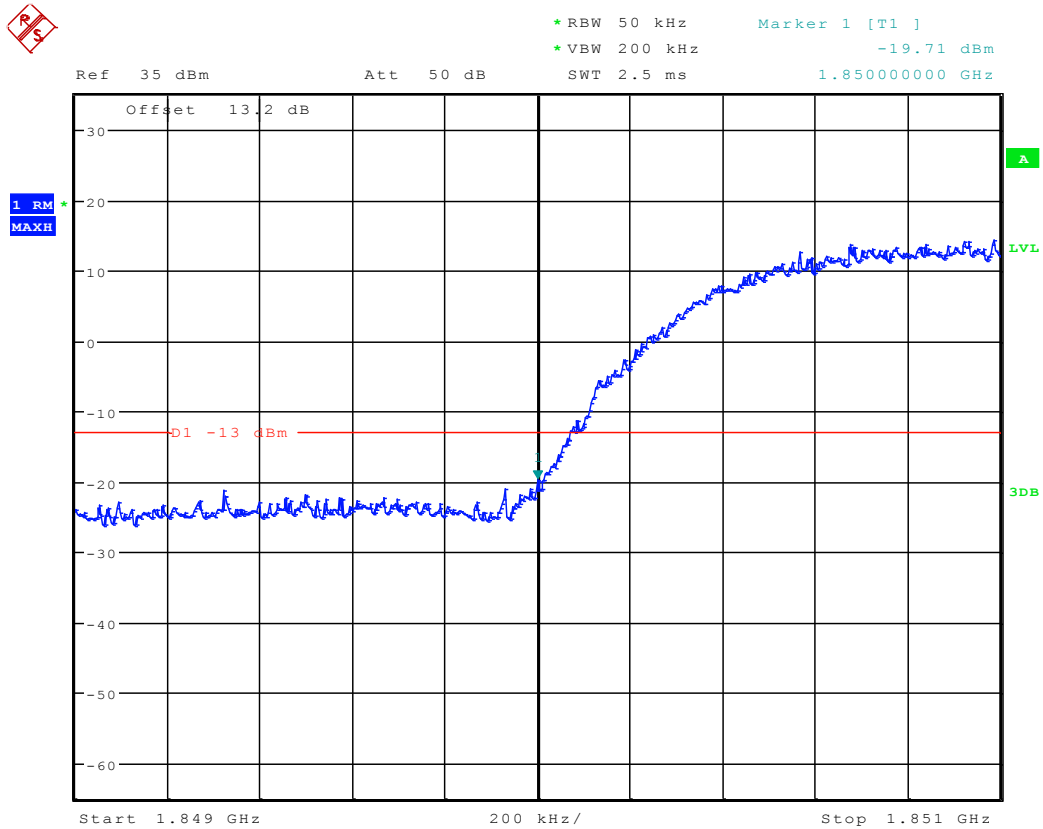
Date: 14.NOV.2012 20:43:54



### 7.3 UMTS/TM1: WCDMA

#### 7.3.1 Left Edge

Channel 9262

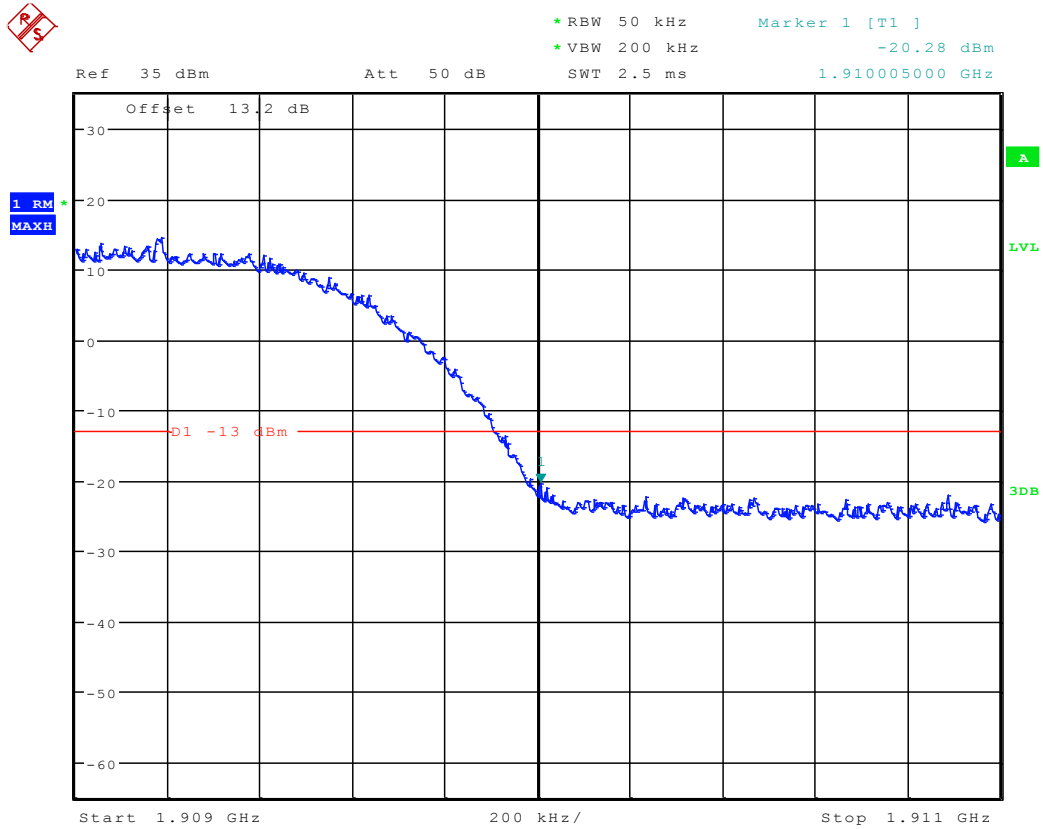


Date: 14.NOV.2012 21:15:29



### 7.3.2 Right Edge

### Channel 9538



Date: 14.NOV.2012 21:15:42

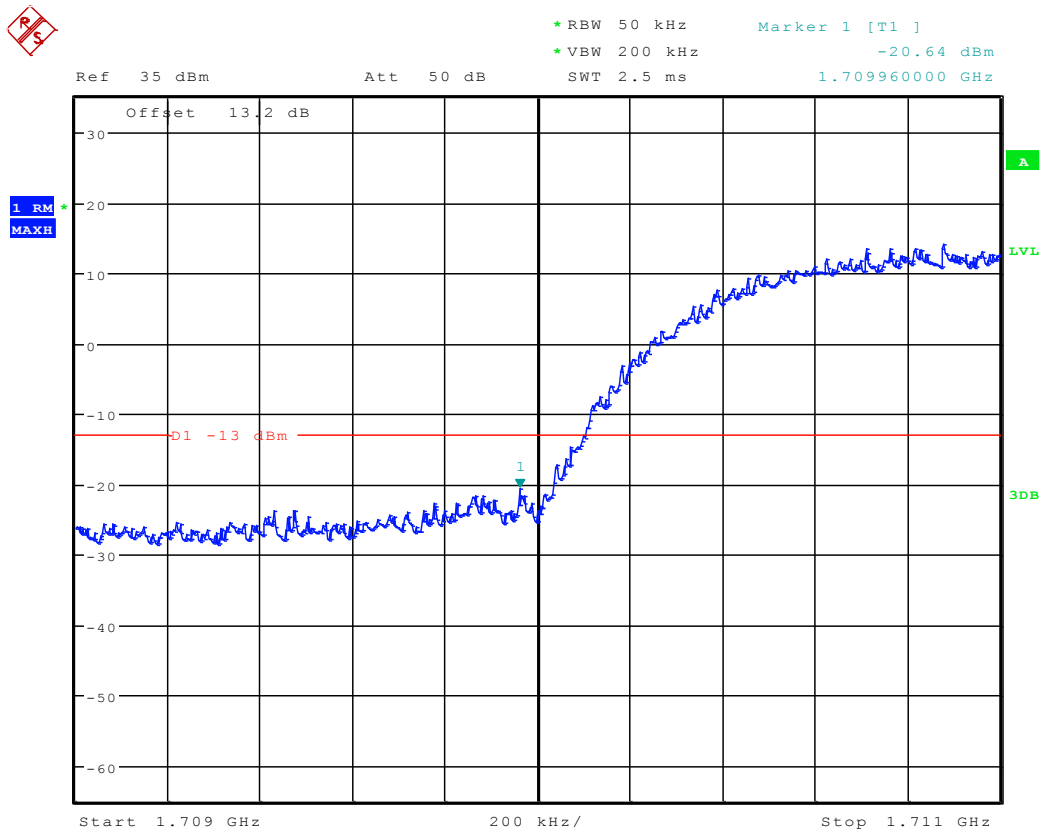


## 8 Appendix 3C: Band Edges Compliance

### 8.1 UMTS/TM1: WCDMA

#### 8.1.1 Left Edge

Channel 1312

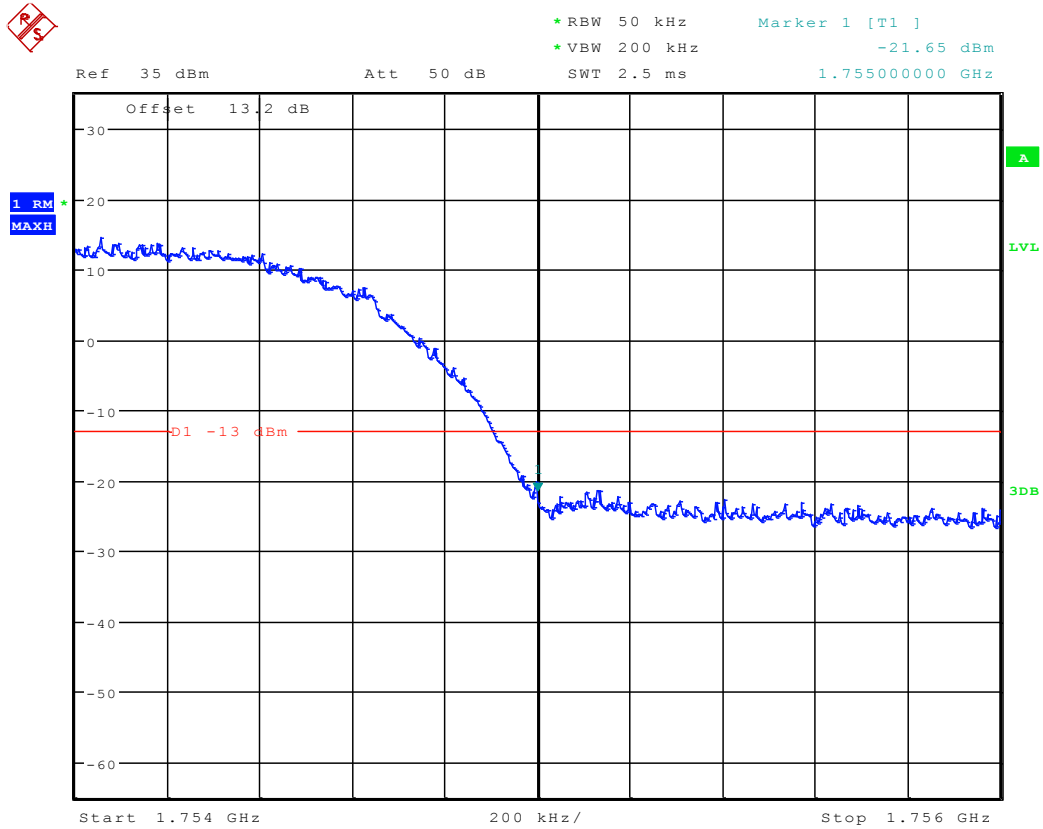


Date: 14.NOV.2012 20:49:35



### 8.1.2 Right Edge

### Channel 1513



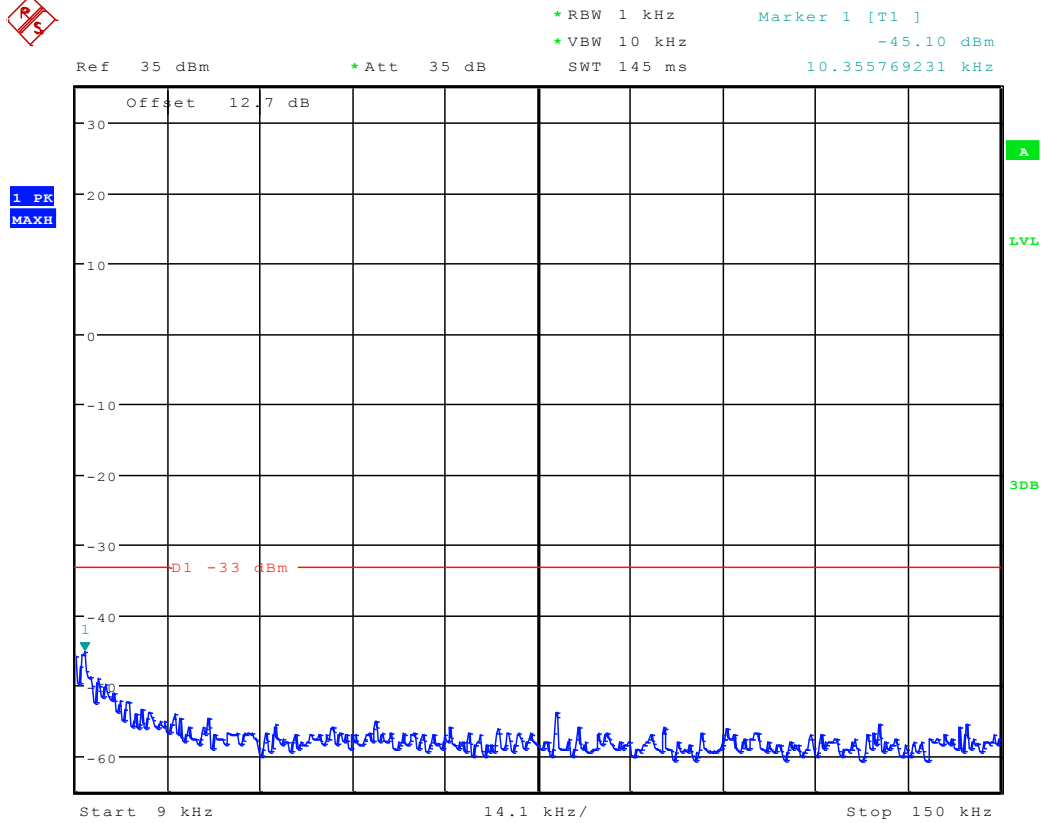
Date: 14.NOV.2012 20:49:49



## 9 Appendix 1D: Spurious Emission at Antenna Terminal

### 9.1 GSM/TM1:GPRS/GSM

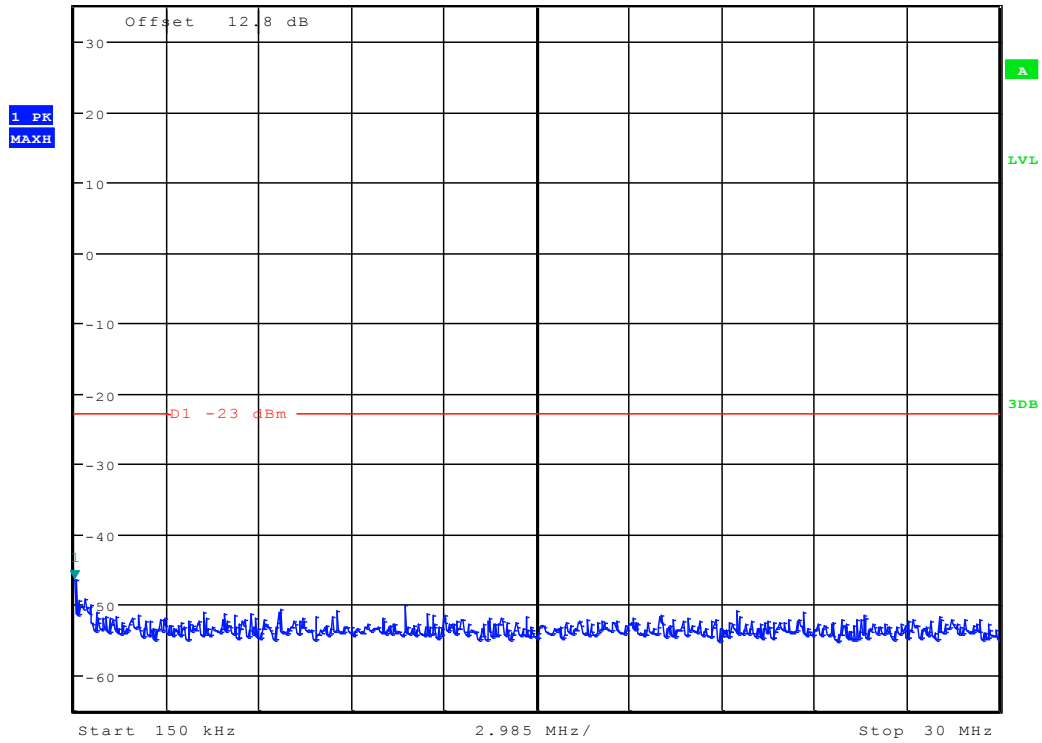
#### 9.1.1 Channel 128



Date: 14.NOV.2012 20:55:14

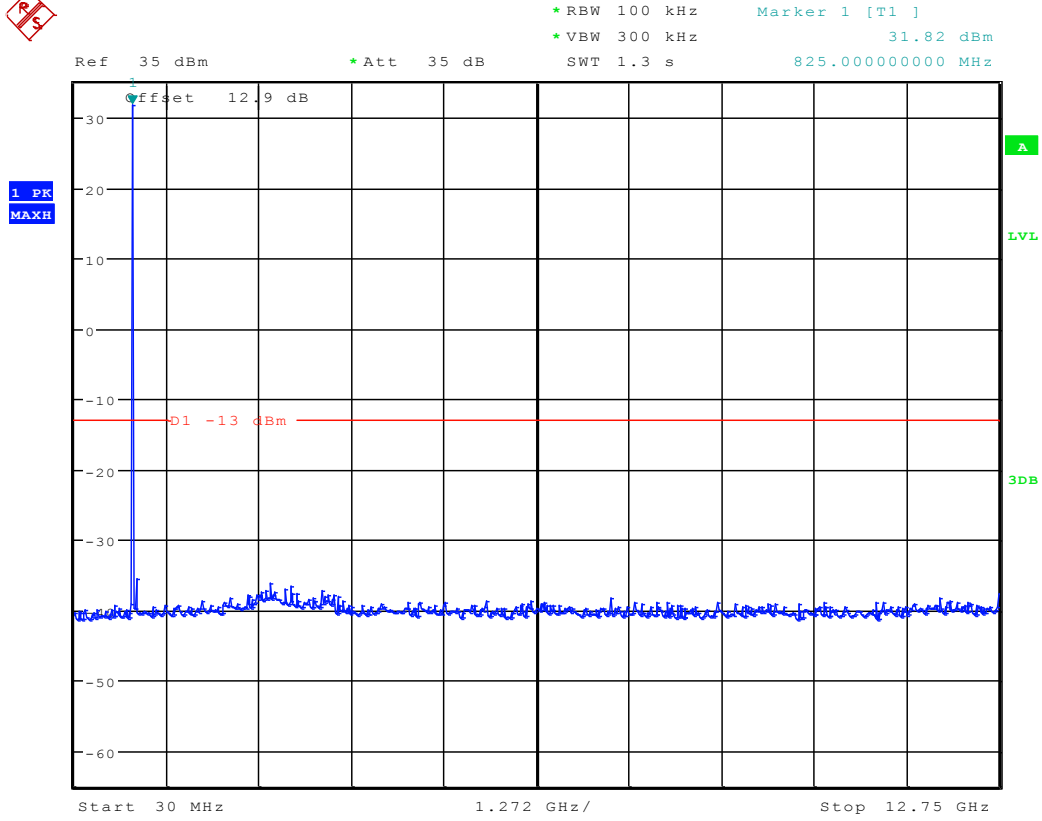


Ref 35 dBm \* Att 35 dB \* RBW 10 kHz Marker 1 [T1] \* VBW 30 kHz -46.42 dBm SWT 300 ms 150.000000000 kHz



Date: 14.NOV.2012 20:55:58

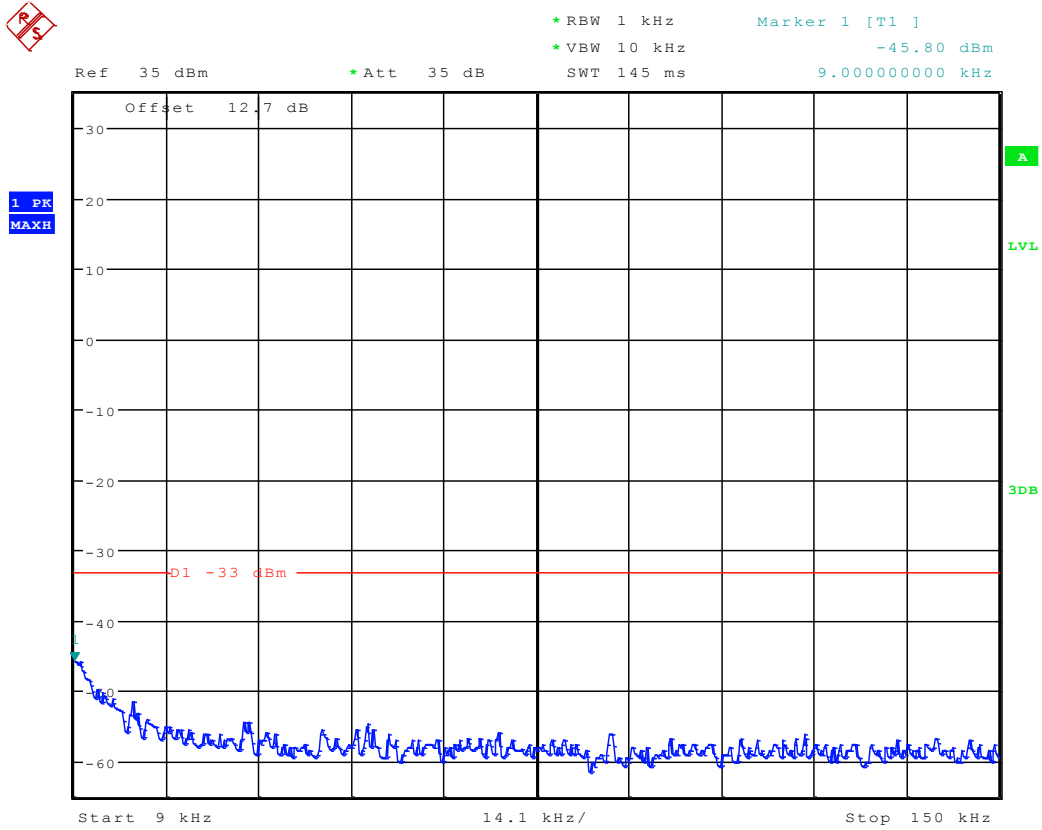




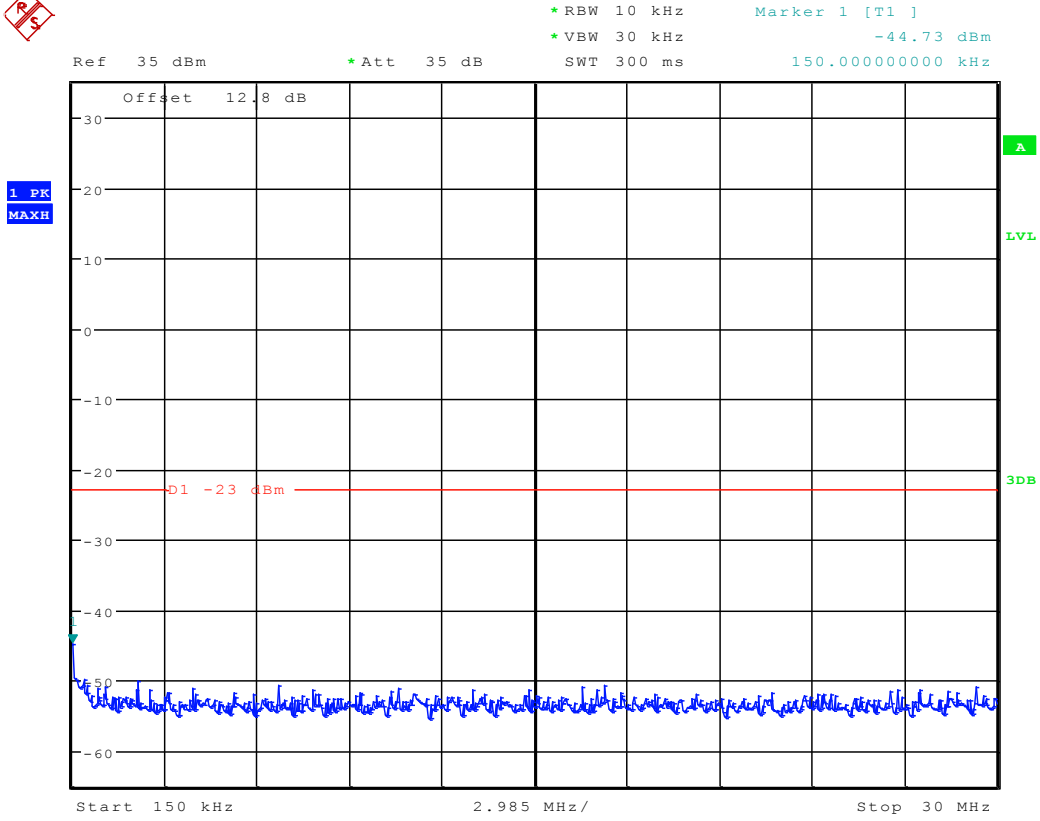
Date: 14.NOV.2012 20:57:09



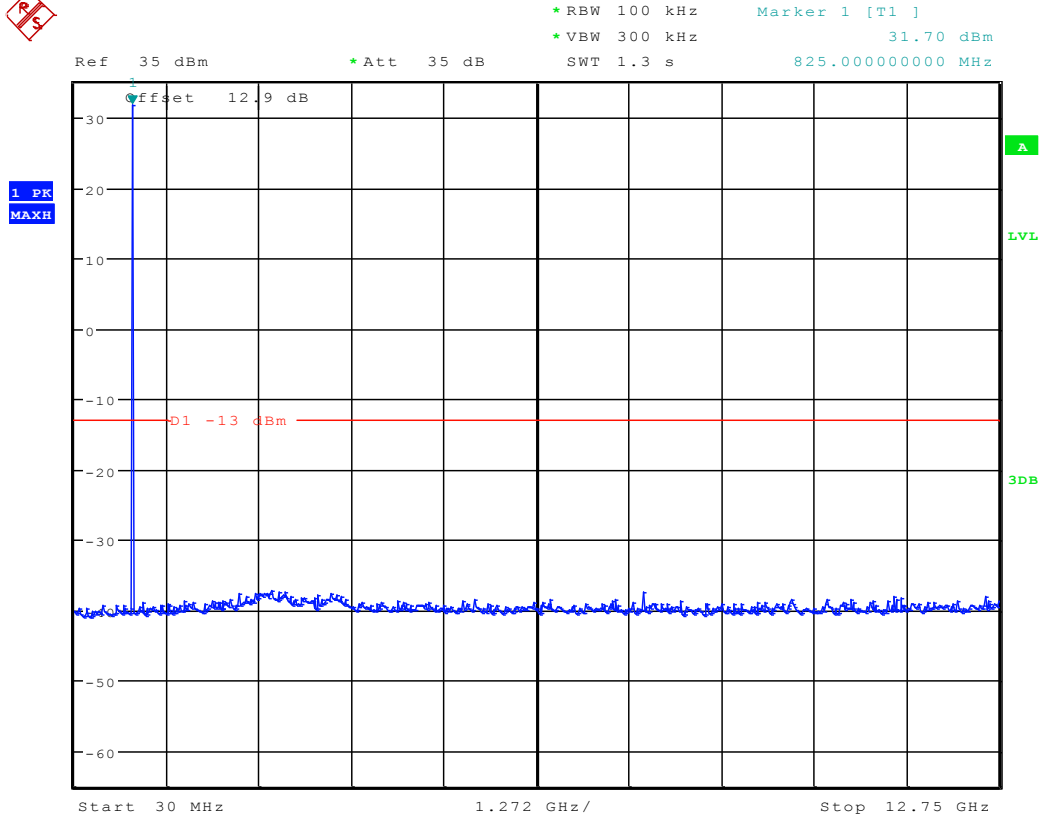
### 9.1.2 Channel 192



Date: 14.NOV.2012 20:55:29



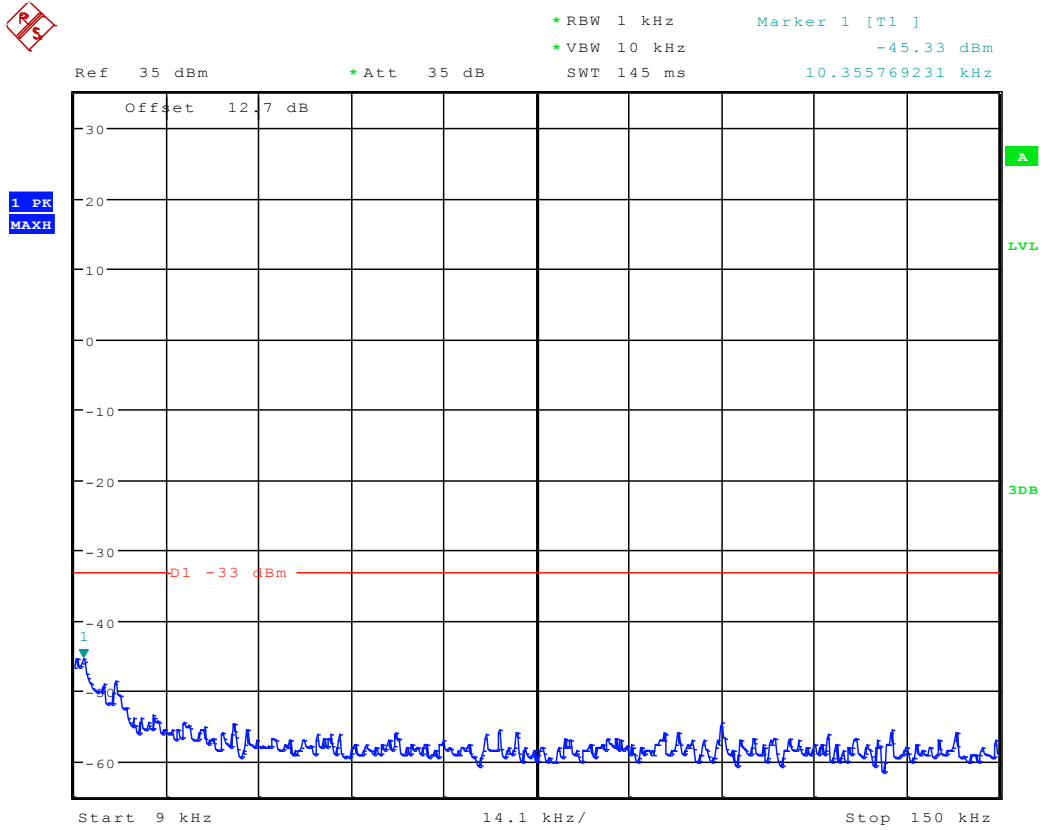
Date: 14.NOV.2012 20:56:13



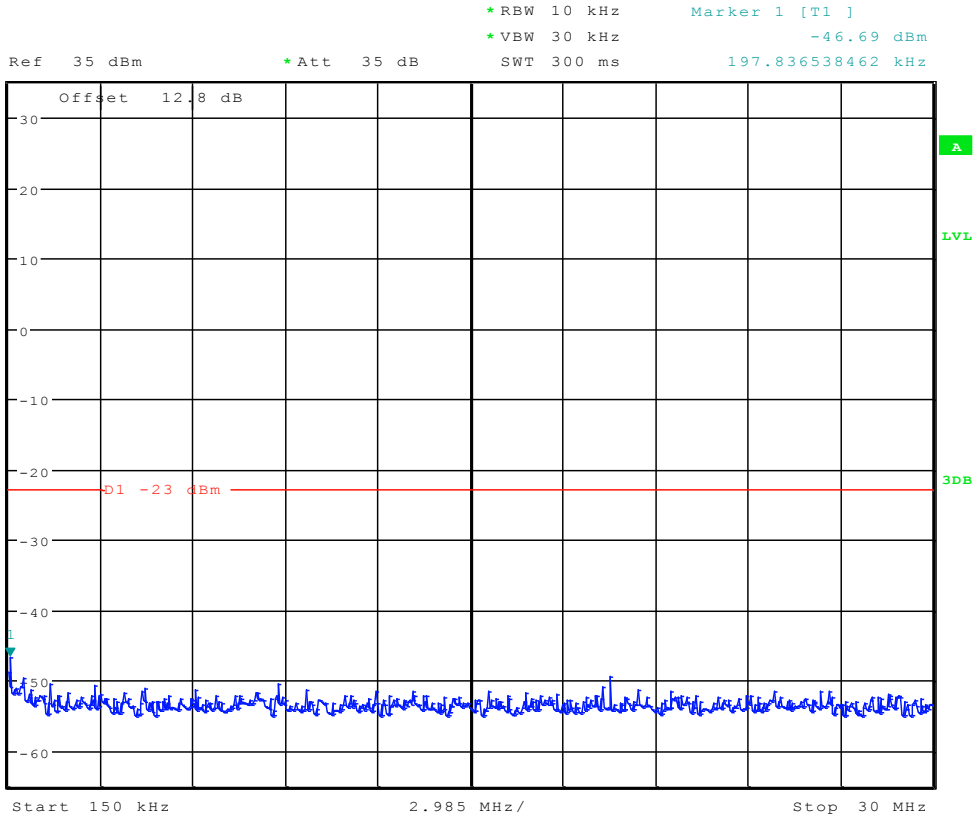
Date: 14.NOV.2012 20:58:49



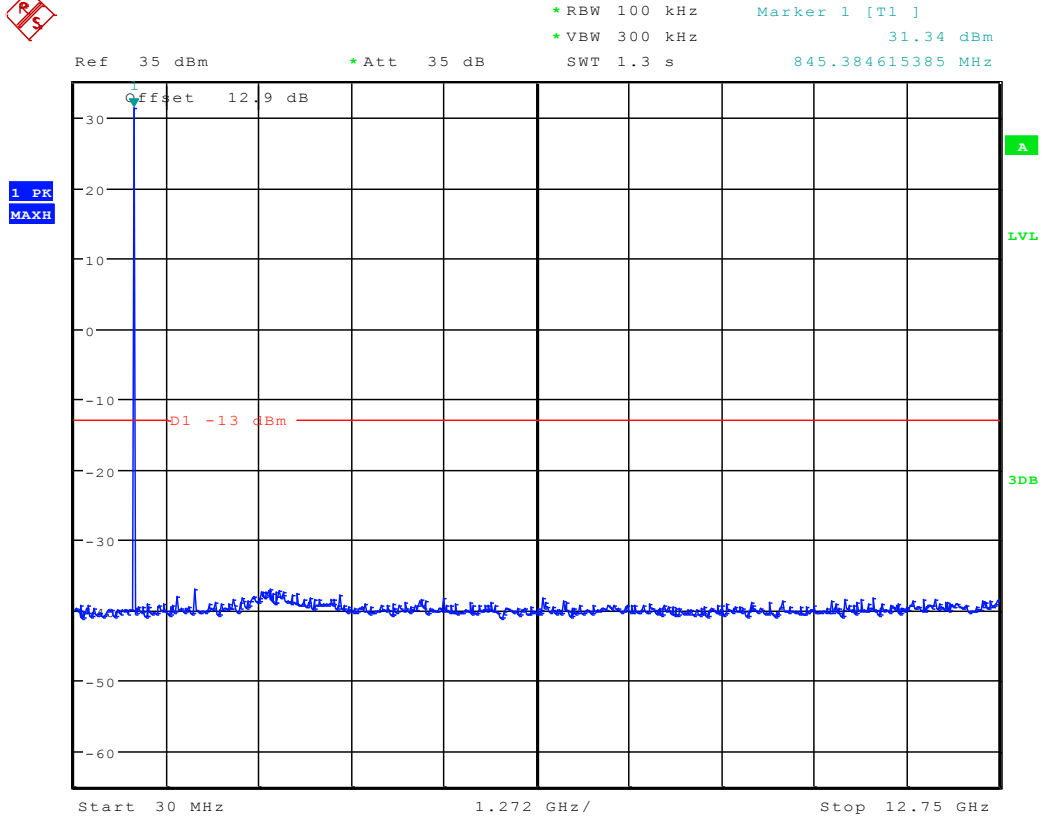
### 9.1.3 Channel 251



Date: 14.NOV.2012 20:55:43



Date: 14.NOV.2012 20:56:27

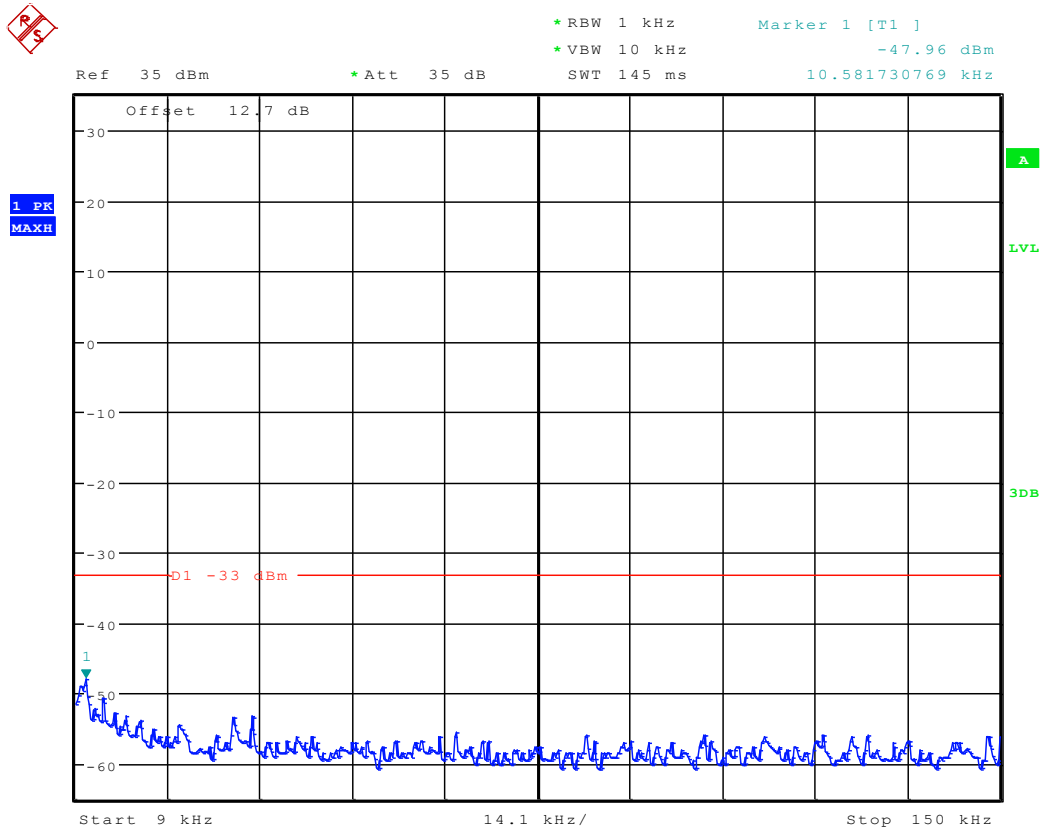


Date: 14.NOV.2012 20:59:57



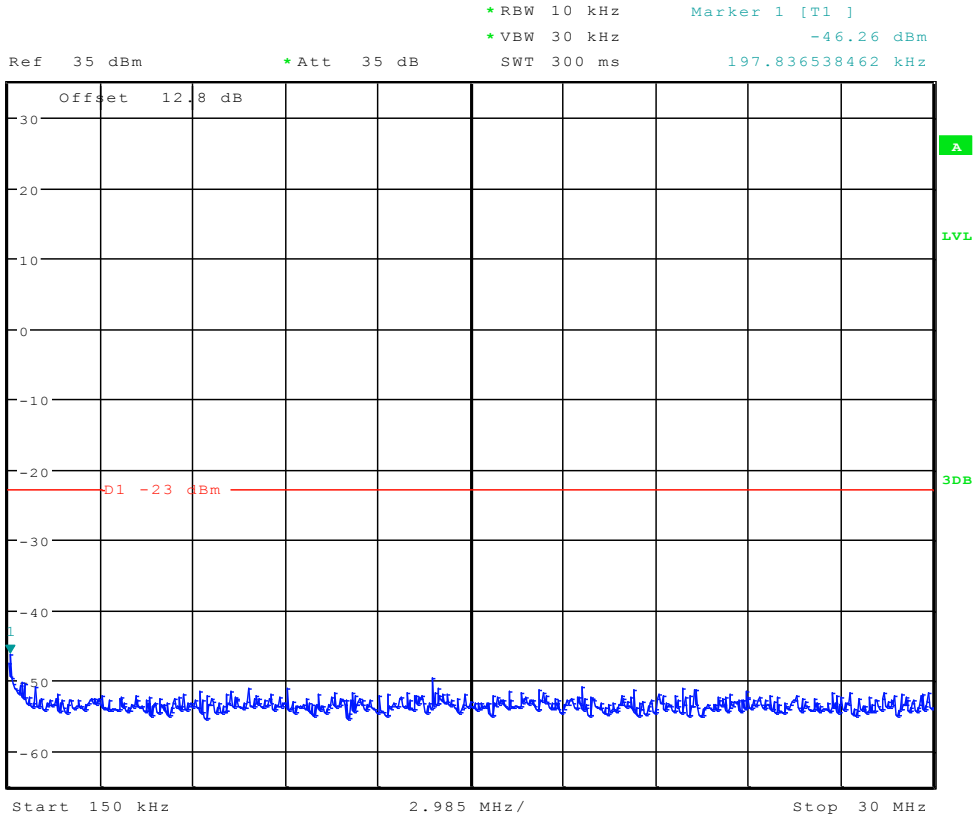
## 9.2 GSM/TM2:EDGE

### 9.2.1 Channel 128

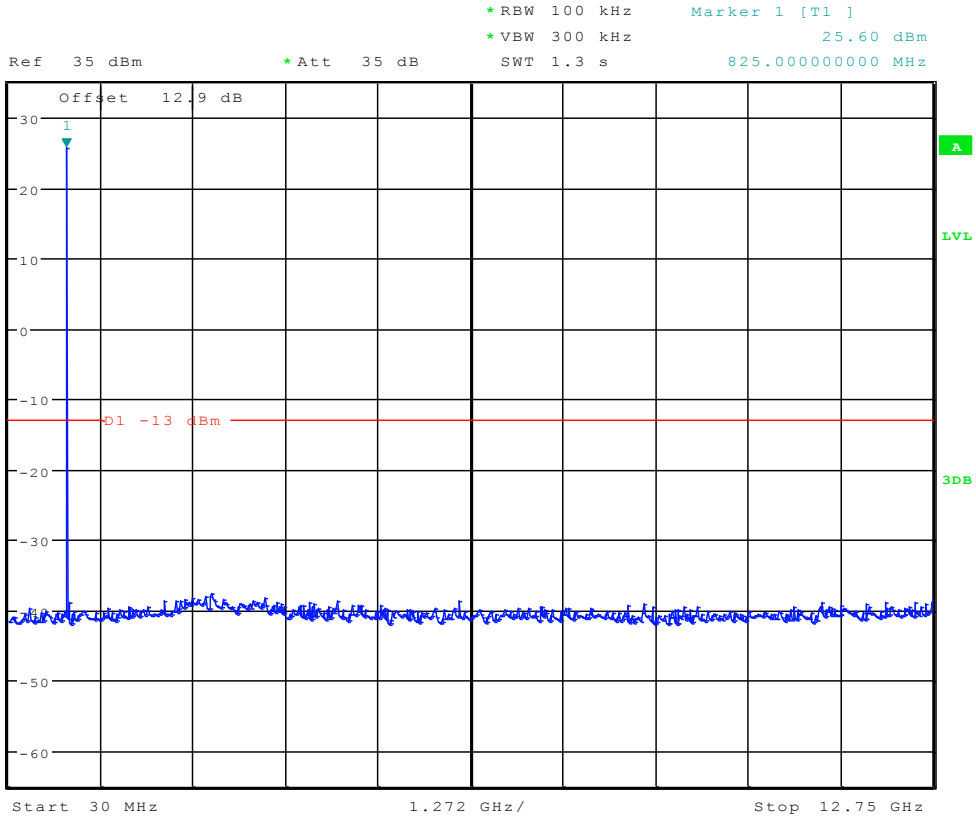


Date: 14.NOV.2012 21:04:01





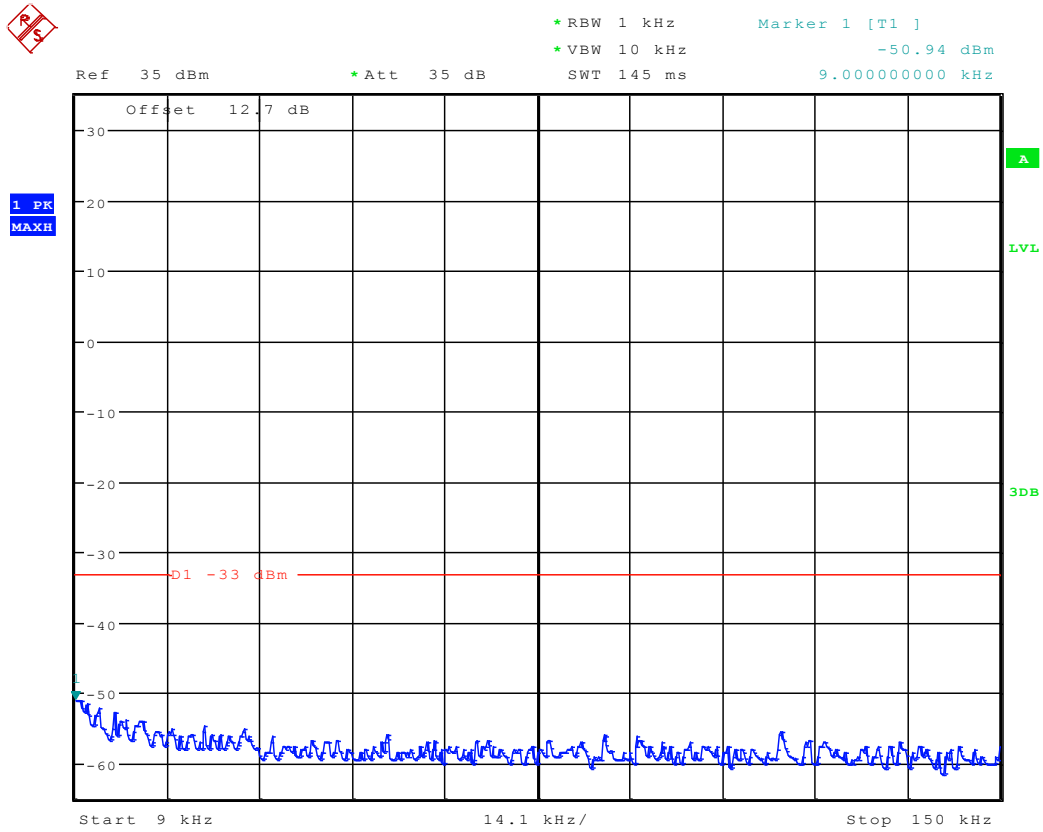
Date: 14.NOV.2012 21:04:44



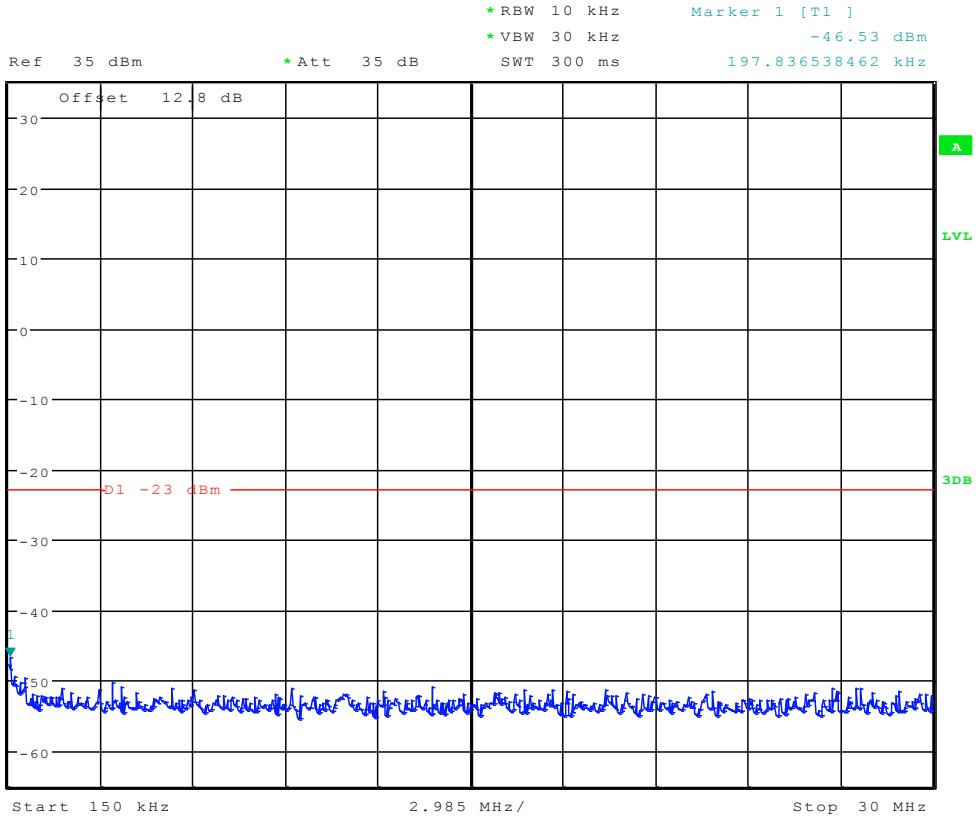
Date: 14.NOV.2012 21:05:28



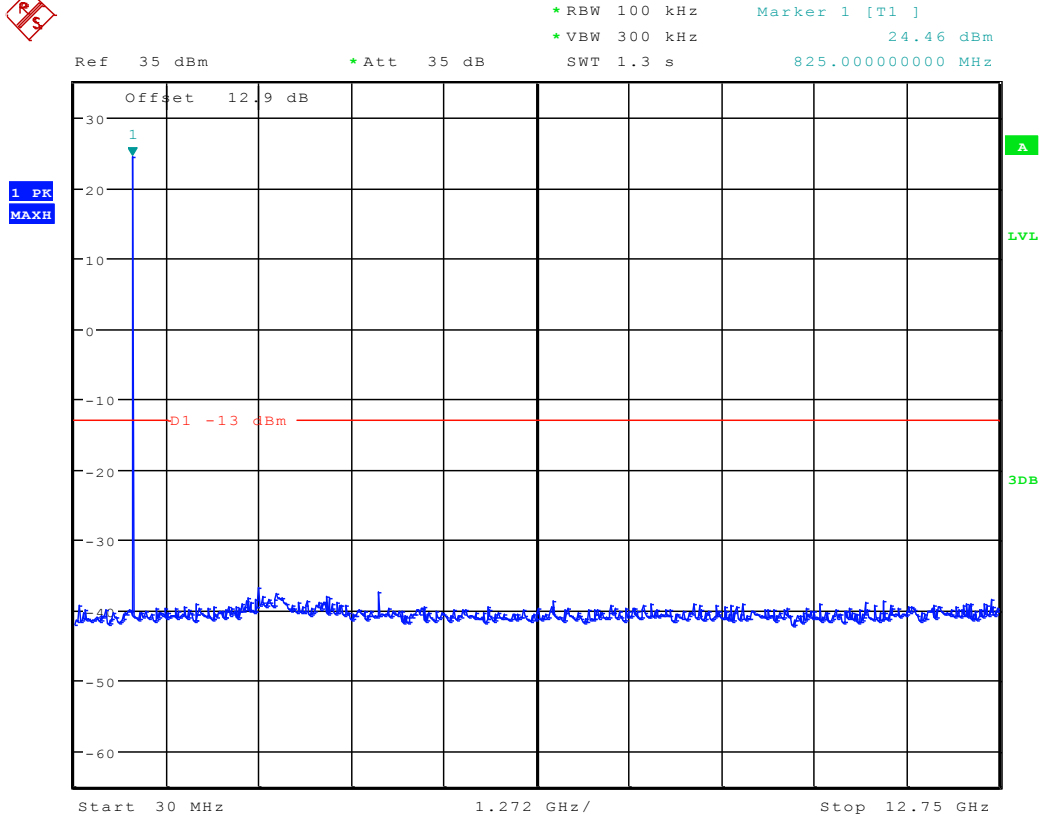
### 9.2.2 Channel 192



Date: 14.NOV.2012 21:04:15



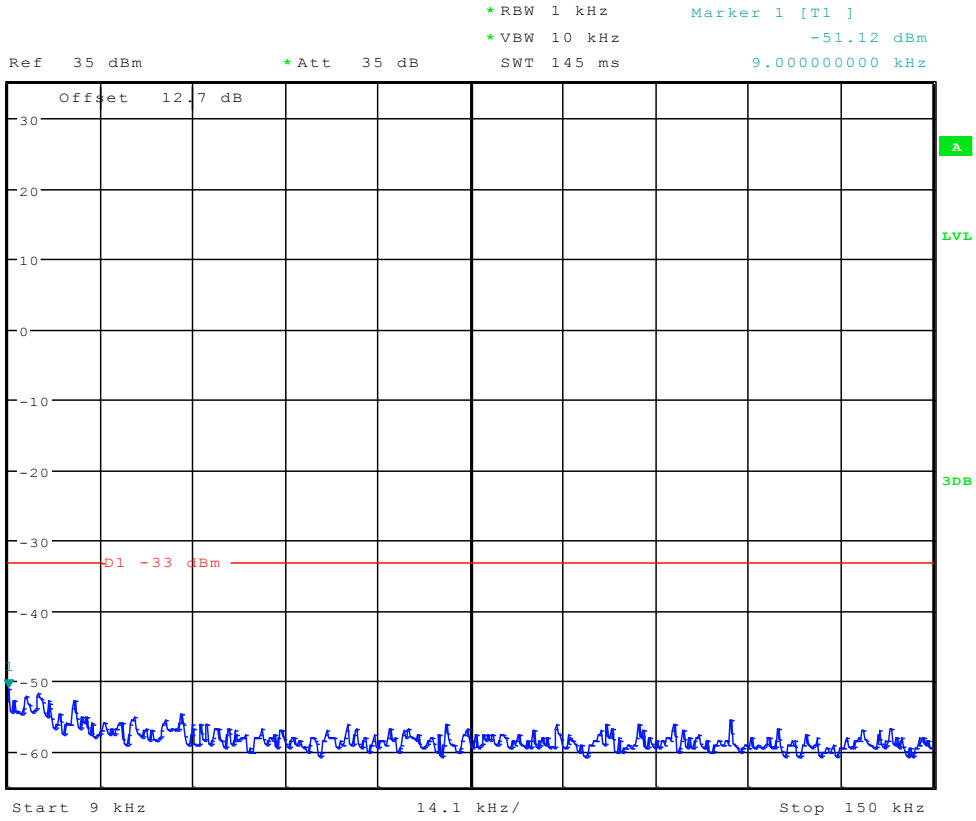
Date: 14.NOV.2012 21:04:59



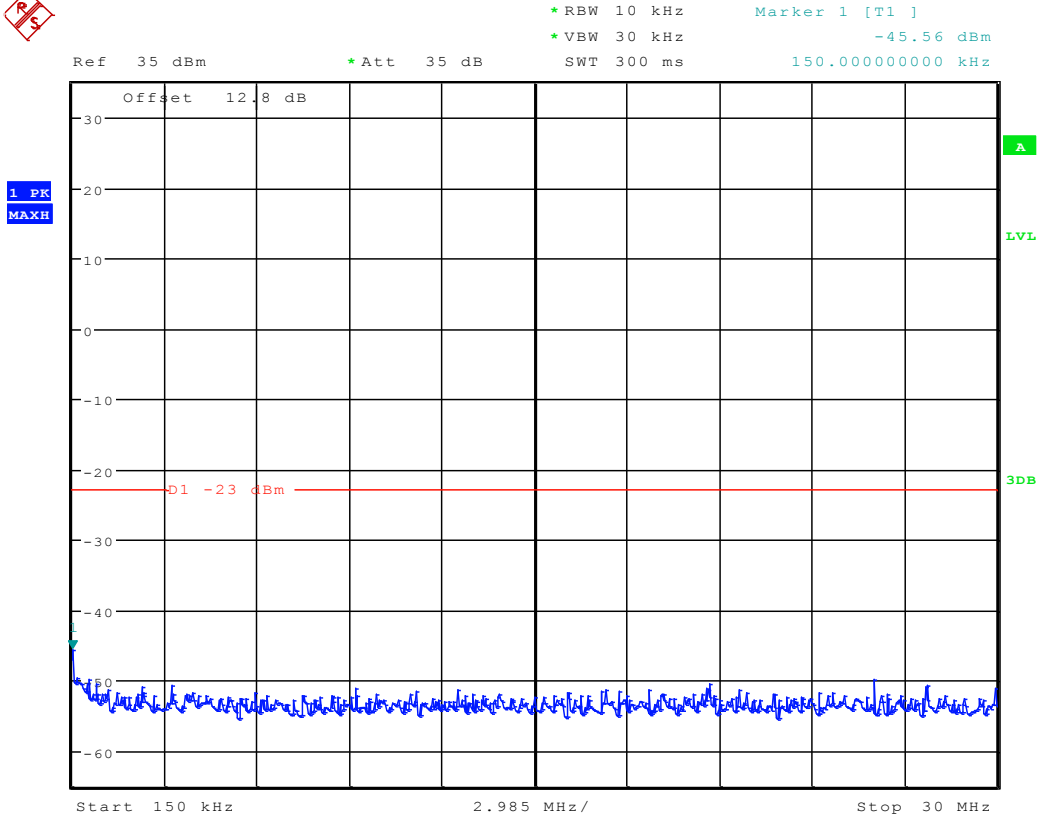
Date: 14.NOV.2012 21:05:43



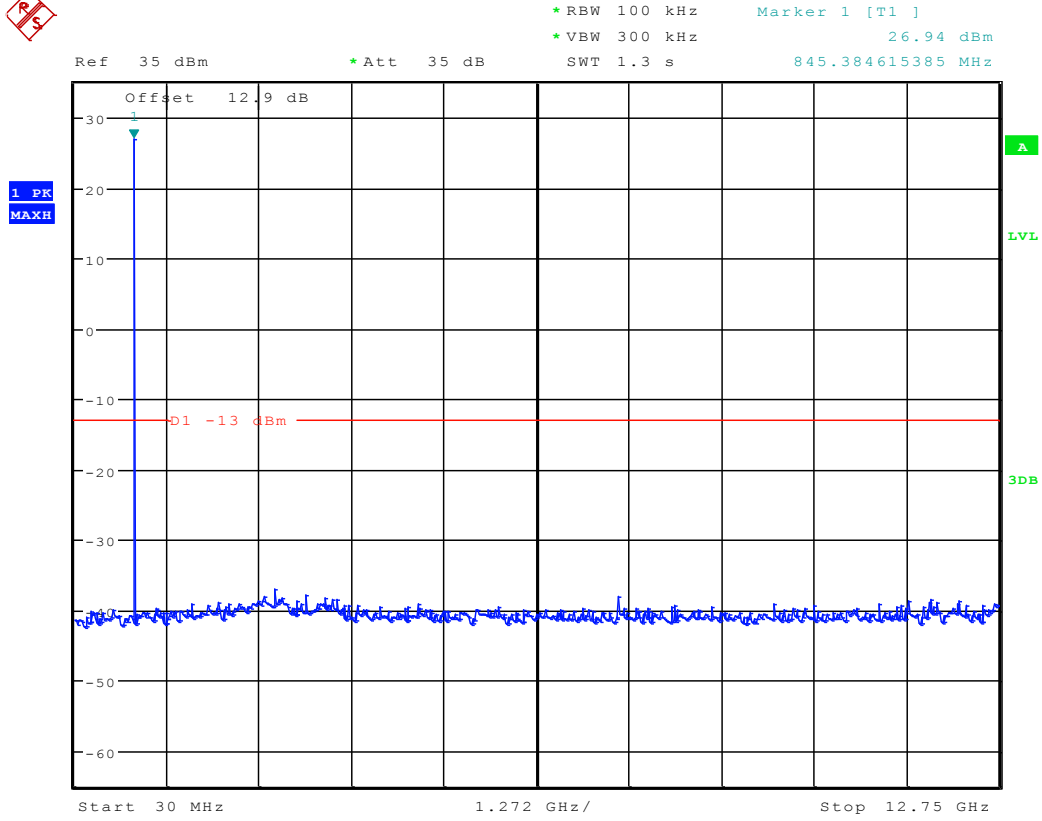
### 9.2.3 Channel 251



Date: 14.NOV.2012 21:04:29



Date: 14.NOV.2012 21:05:13



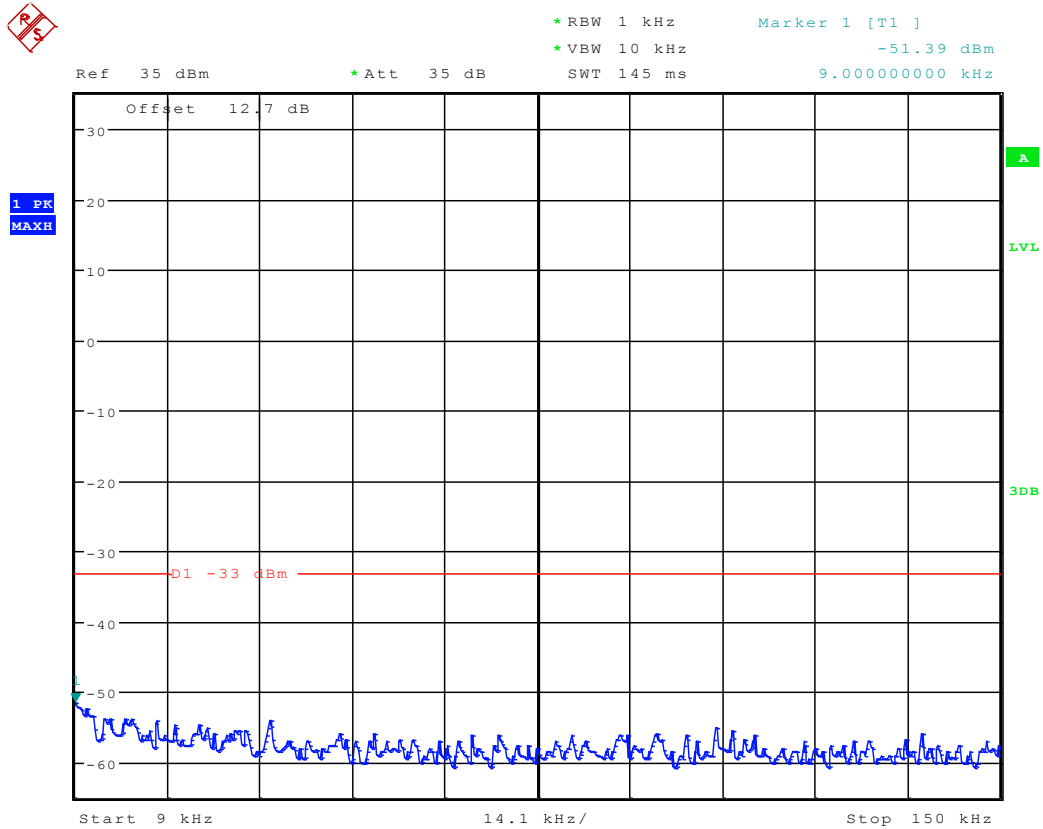
Date: 14.NOV.2012 21:05:57



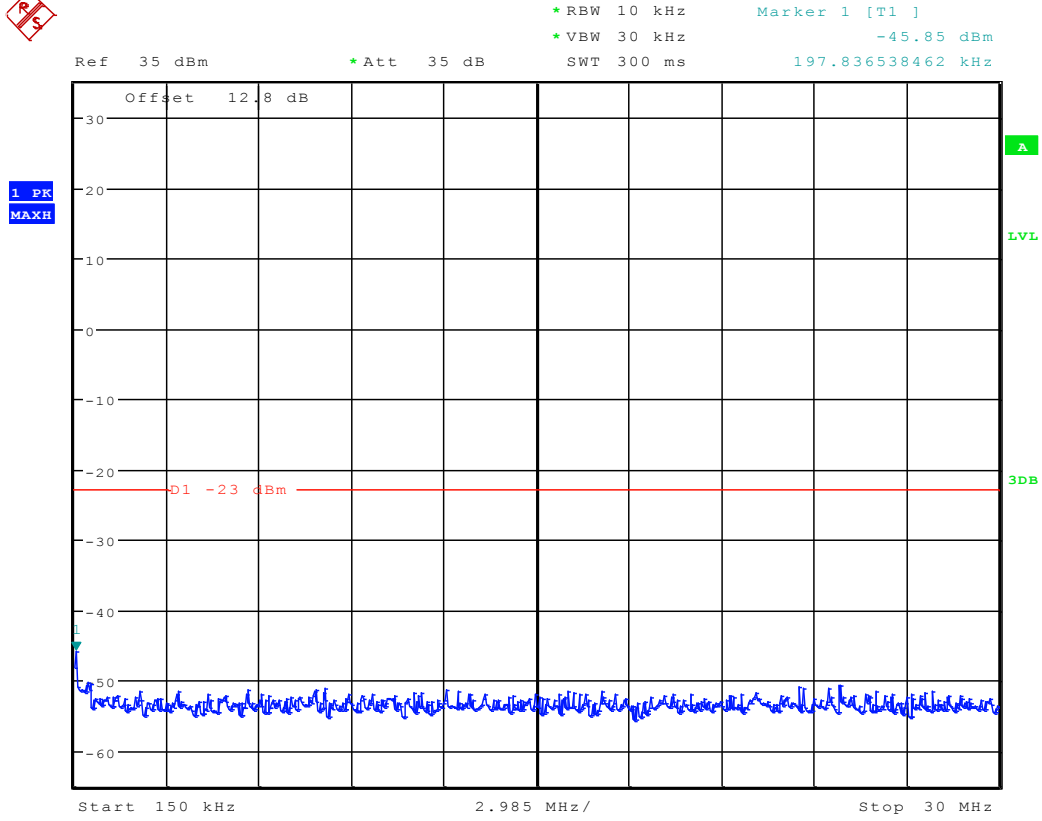


### 9.3 UMTS/TM1: WCDMA

#### 9.3.1 Channel 4132



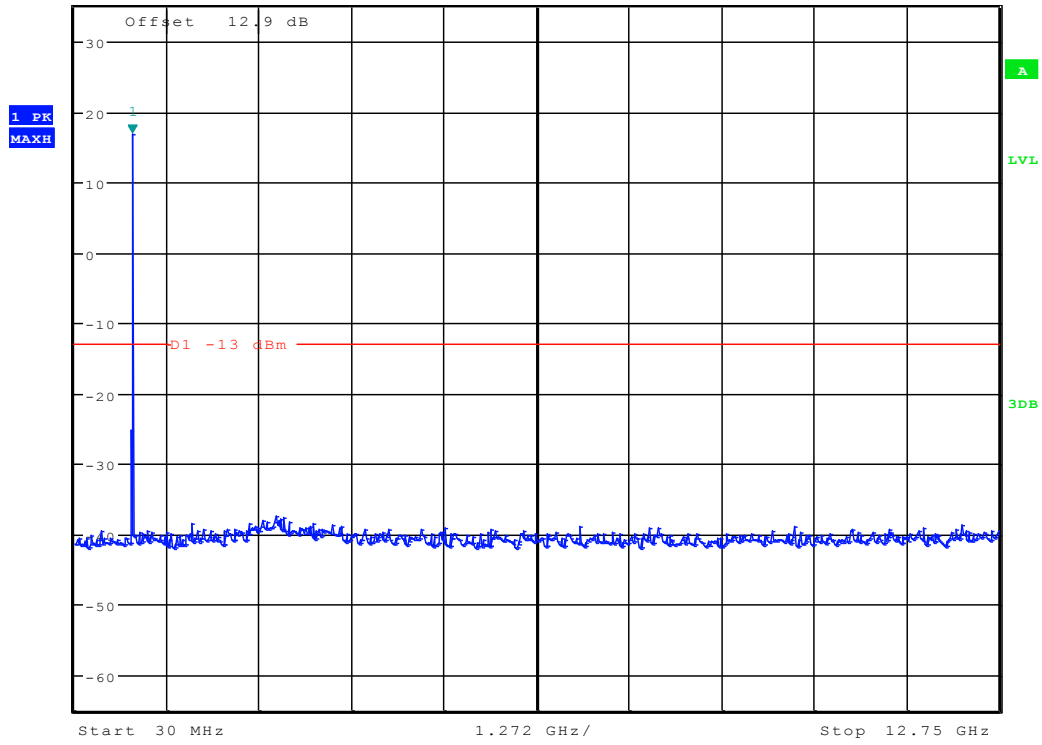
Date: 14.NOV.2012 21:09:14



Date: 14.NOV.2012 21:09:58



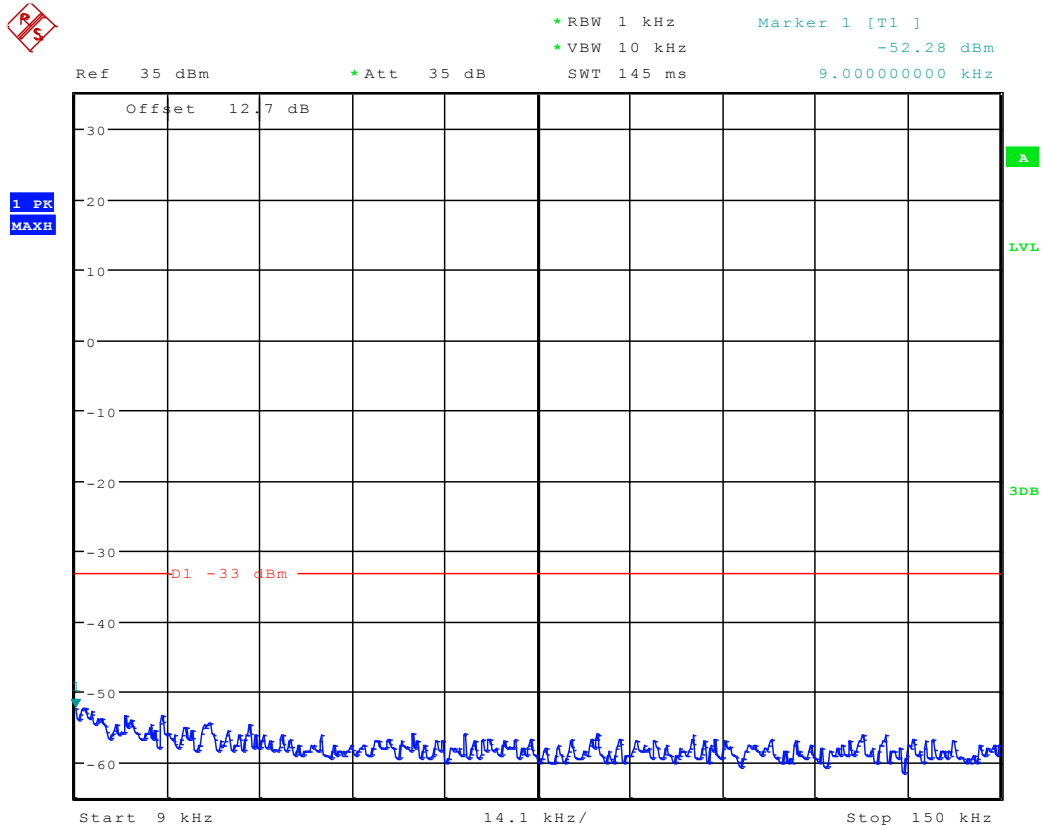
Ref 35 dBm \* Att 35 dB \* RBW 100 kHz Marker 1 [T1 ]  
\* VBW 300 kHz 16.74 dBm  
SWT 1.3 s 825.000000000 MHz



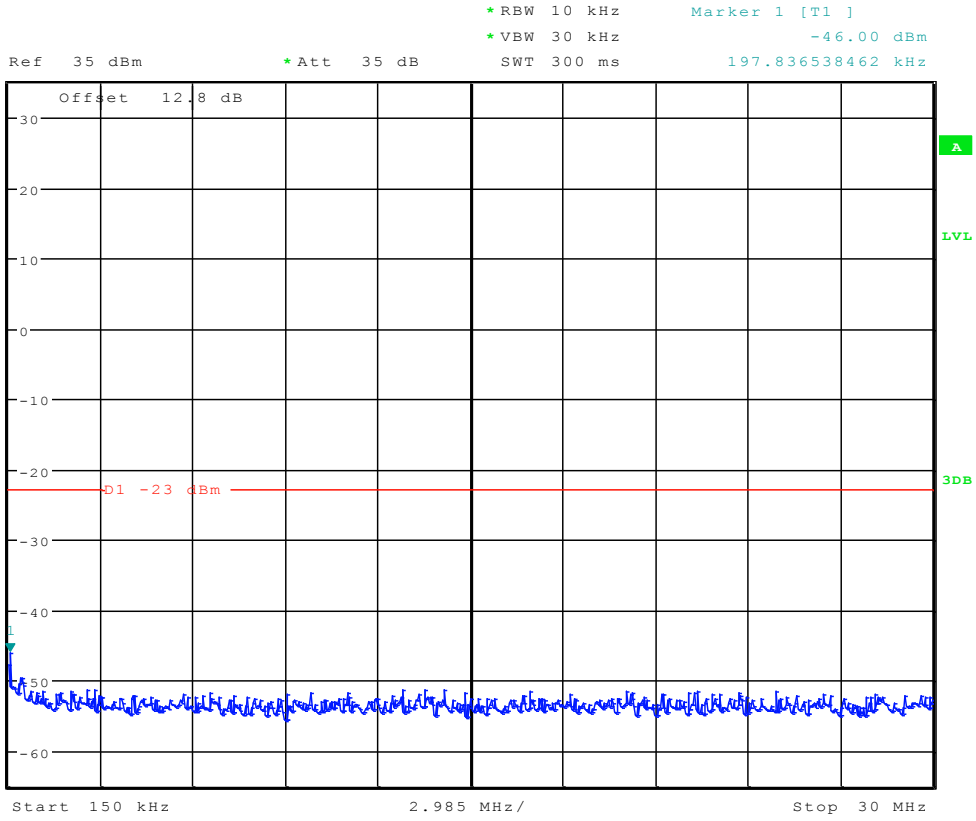
Date: 14.NOV.2012 21:10:42



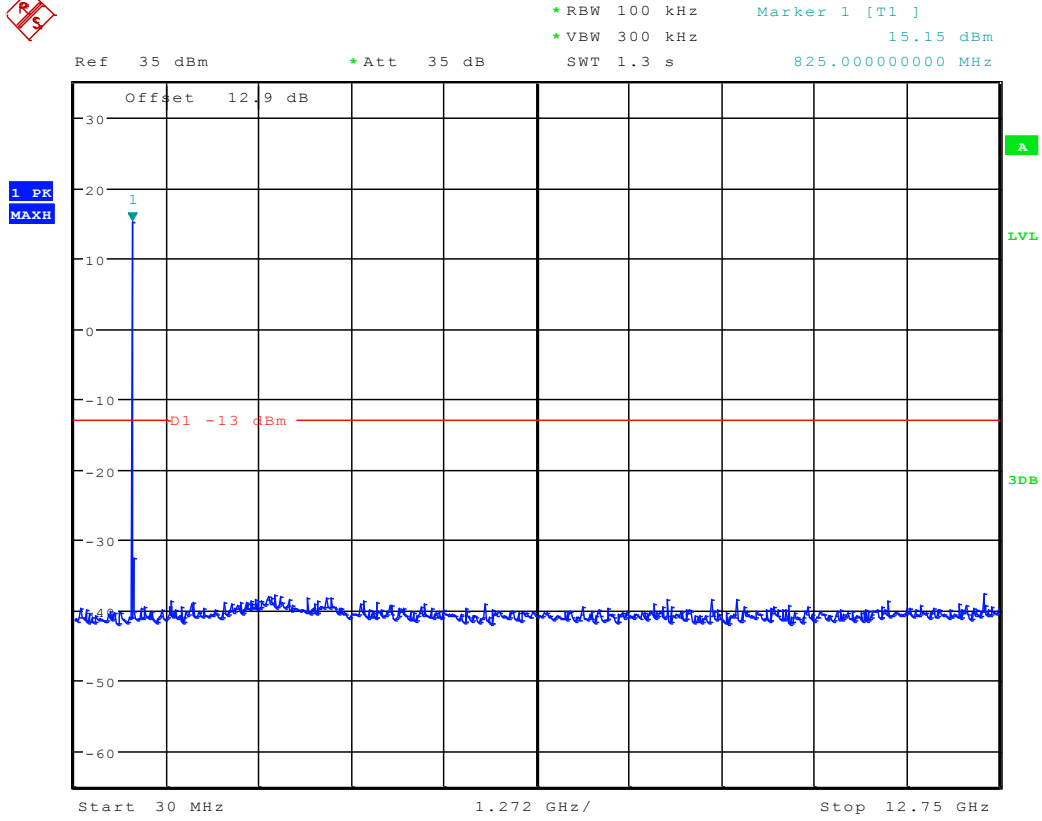
### 9.3.2 Channel 4182



Date: 14.NOV.2012 21:09:29



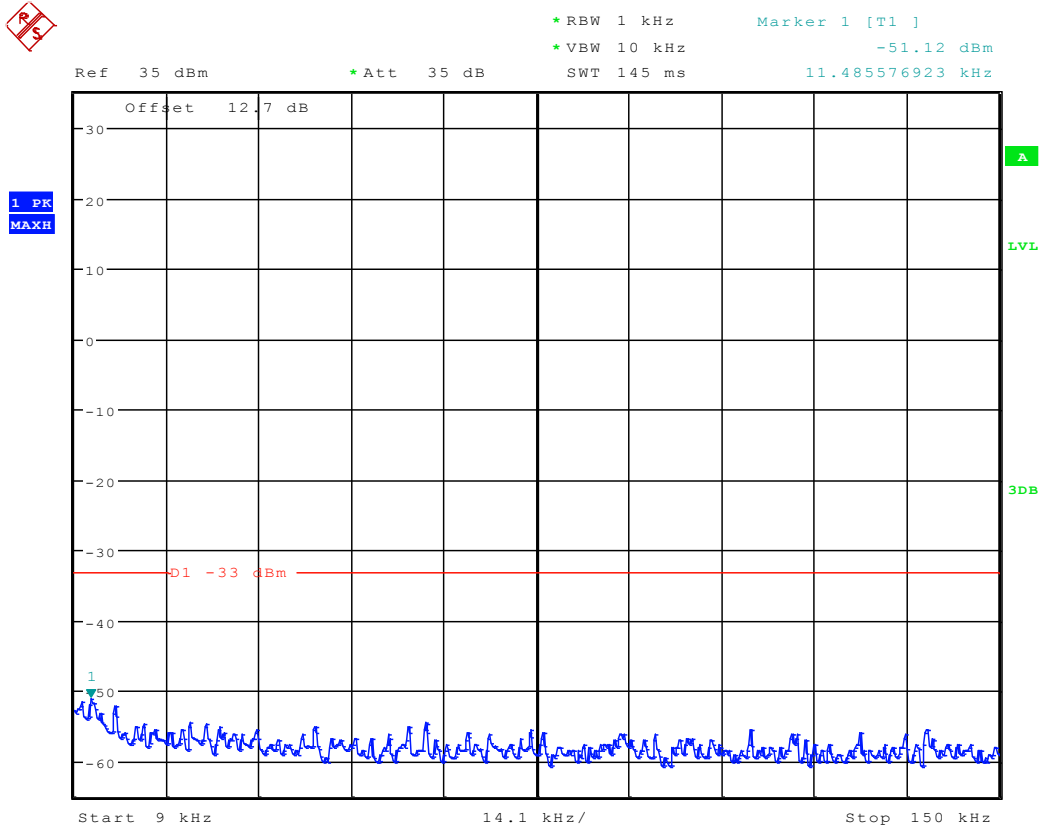
Date: 14.NOV.2012 21:10:12



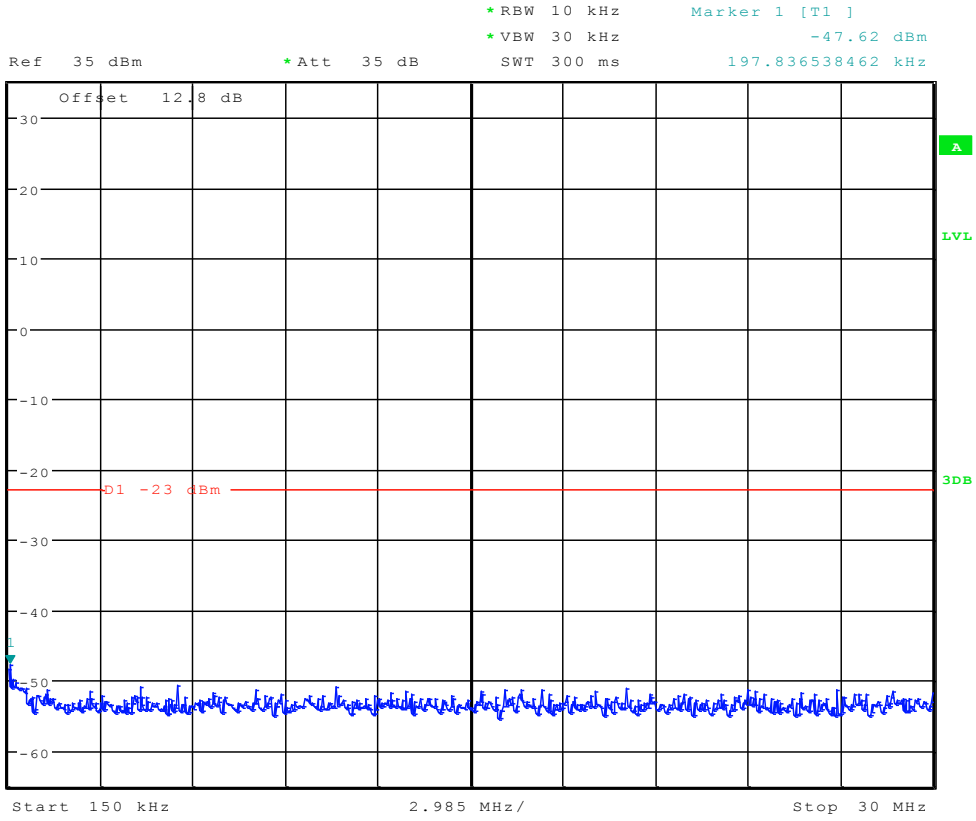
Date: 14.NOV.2012 21:10:56



### 9.3.3 Channel 4233

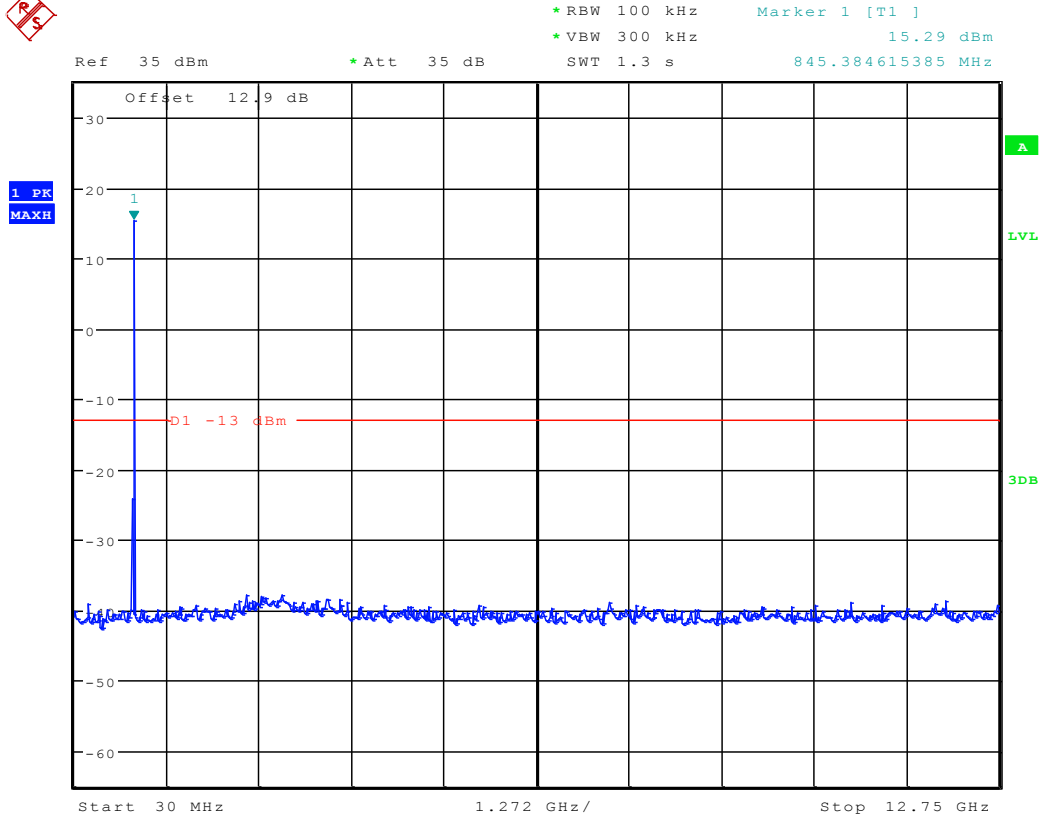


Date: 14.NOV.2012 21:09:43



Date: 14.NOV.2012 21:10:27





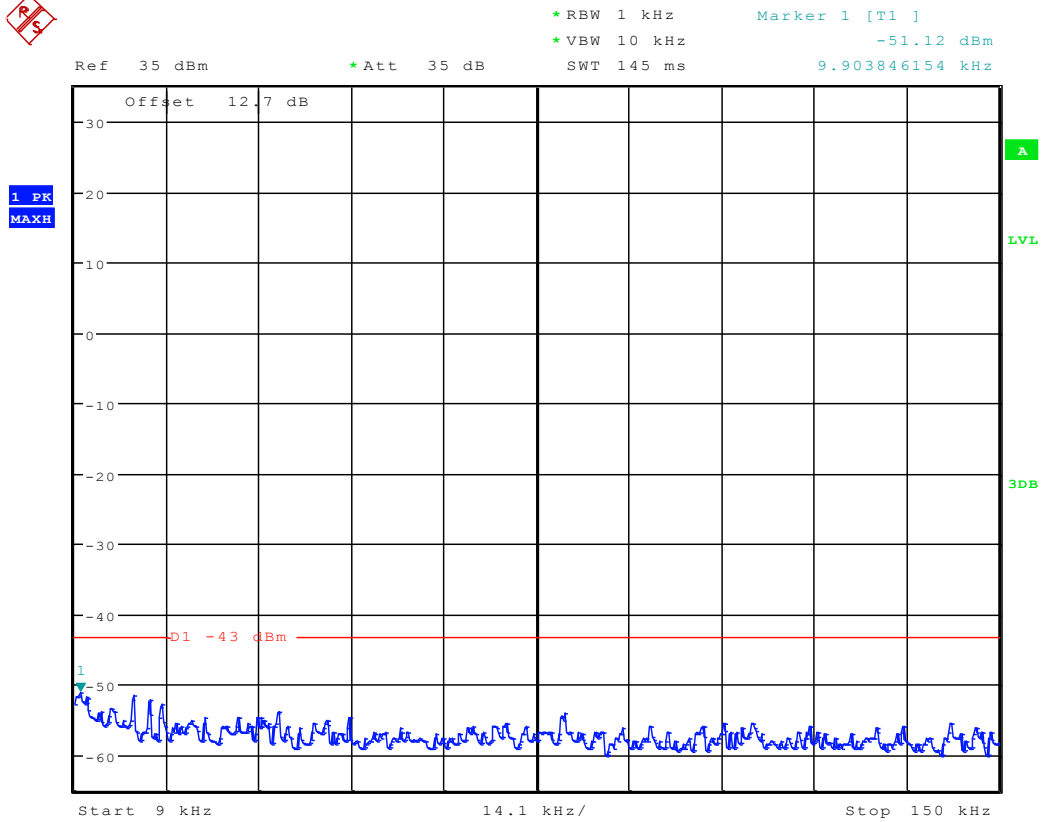
Date: 14.NOV.2012 21:11:11



# 10 Appendix 2D: Spurious Emission at Antenna Terminal

## 10.1 GSM/TM1:GPRS/GSM

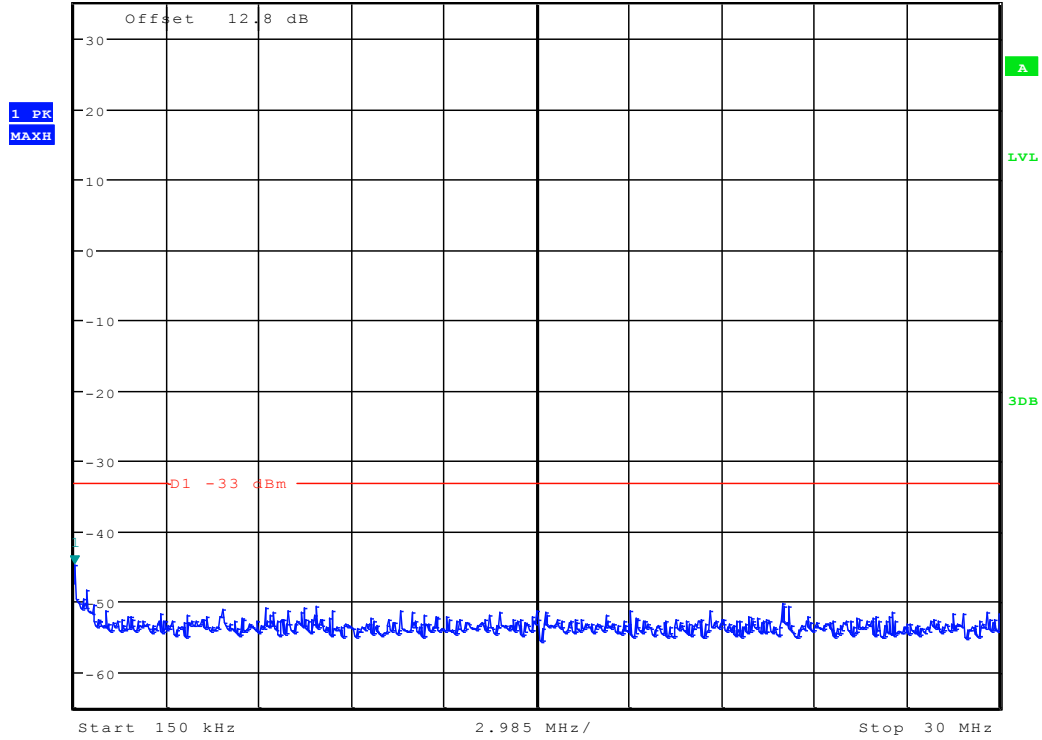
### 10.1.1 Channel 512



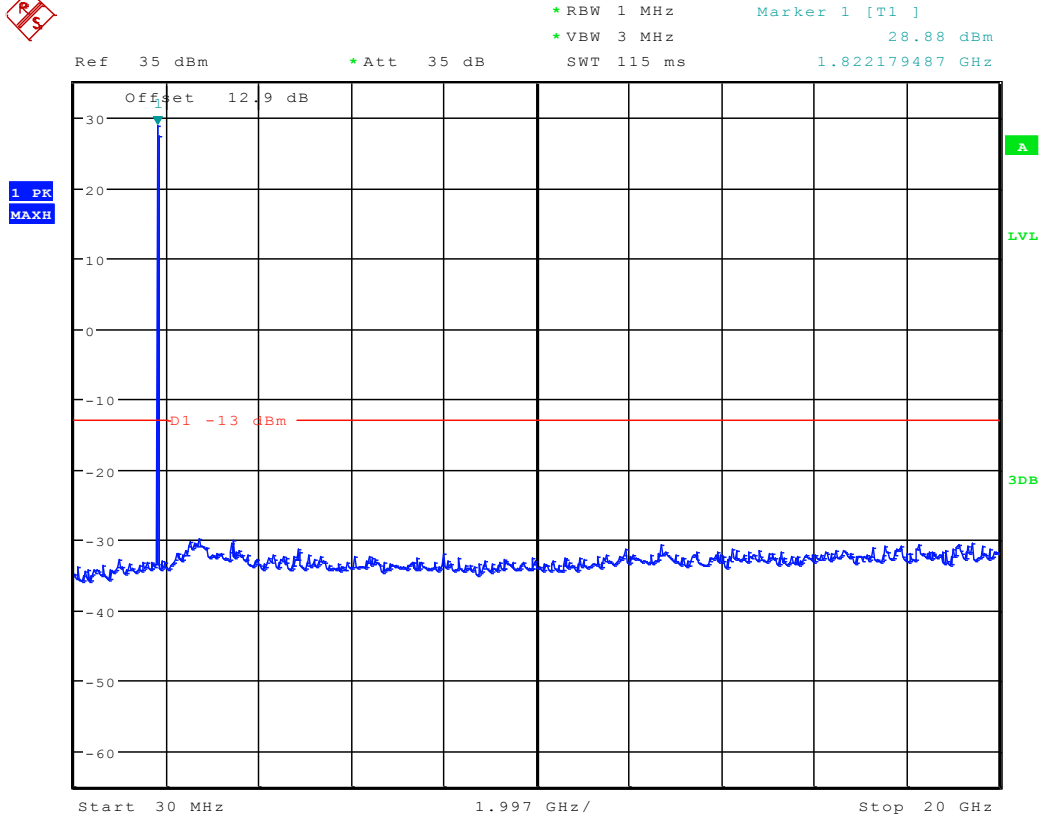
Date: 14.NOV.2012 20:38:58



Ref 35 dBm \* Att 35 dB \* RBW 10 kHz Marker 1 [T1 ]  
\* VBW 30 kHz -44.82 dBm  
SWT 300 ms 150.000000000 kHz



Date: 14.NOV.2012 20:39:42

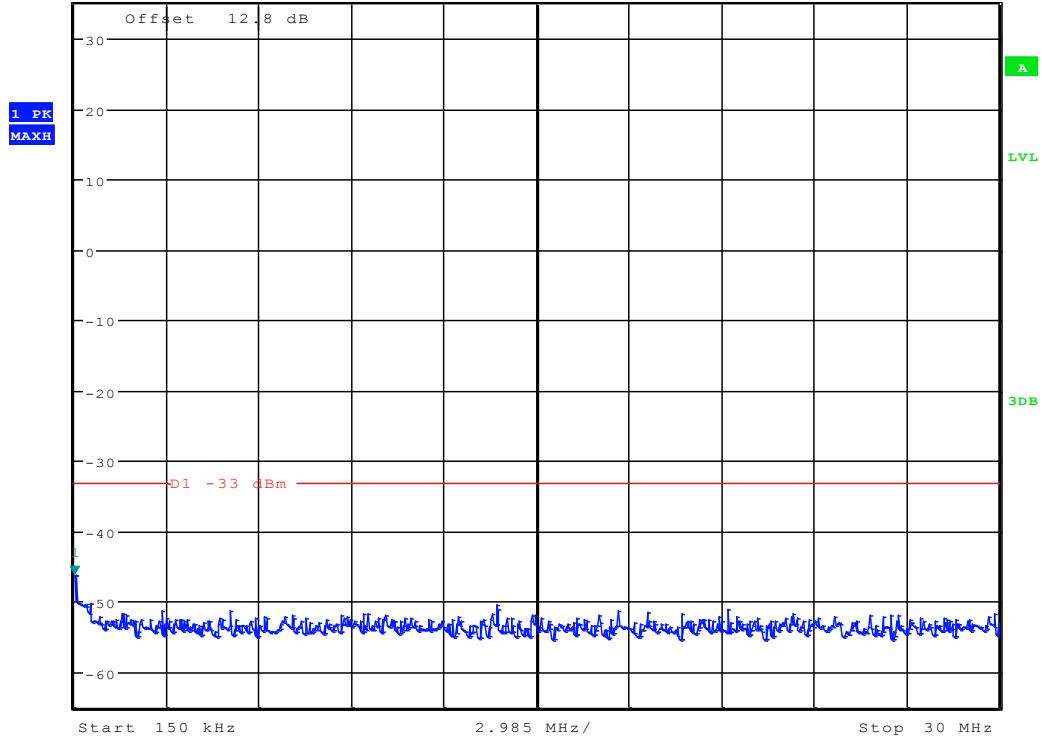


Date: 14.NOV.2012 20:40:25

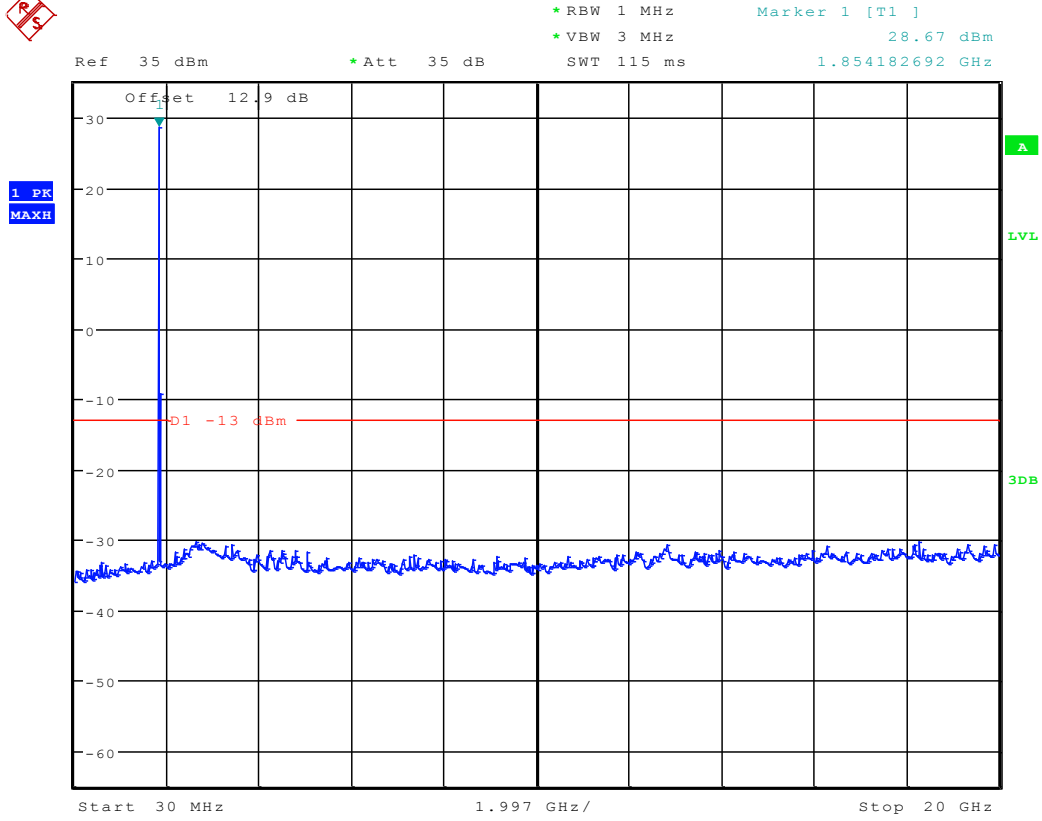




Ref 35 dBm \* Att 35 dB \* RBW 10 kHz Marker 1 [T1 ]  
\* VBW 30 kHz -46.26 dBm  
SWT 300 ms 150.000000000 kHz



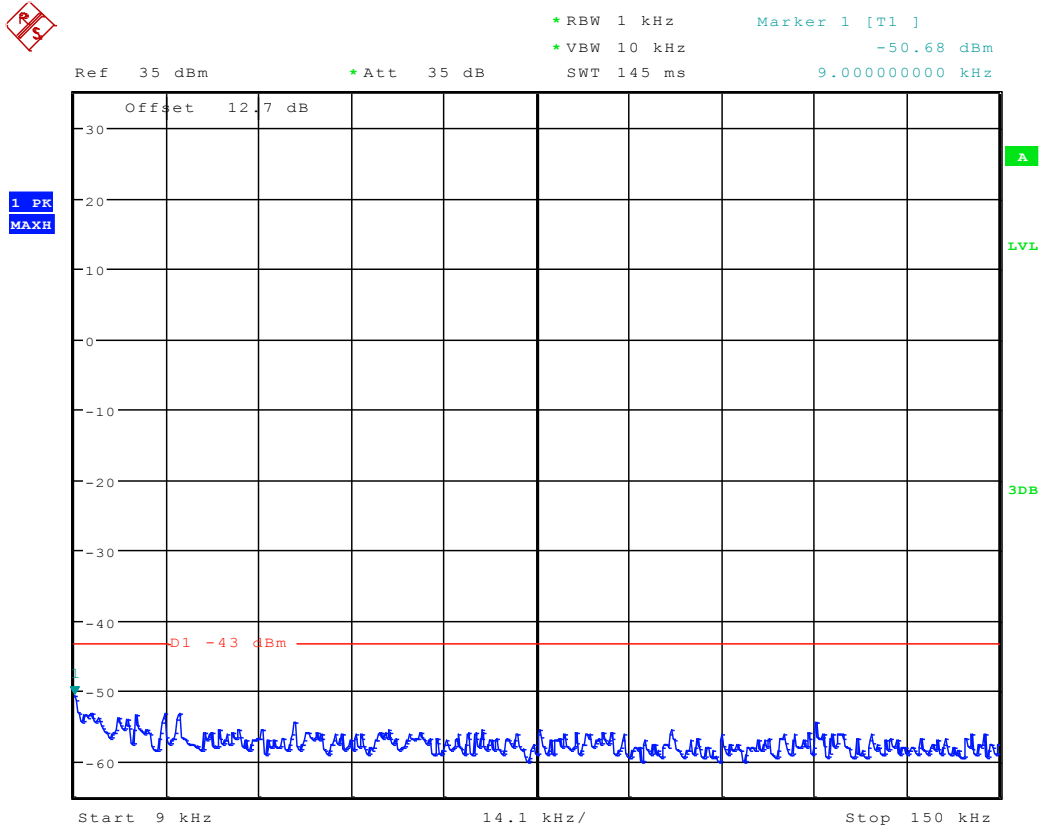
Date: 14.NOV.2012 20:39:56



Date: 14.NOV.2012 20:40:40



### 10.1.3 Channel 810

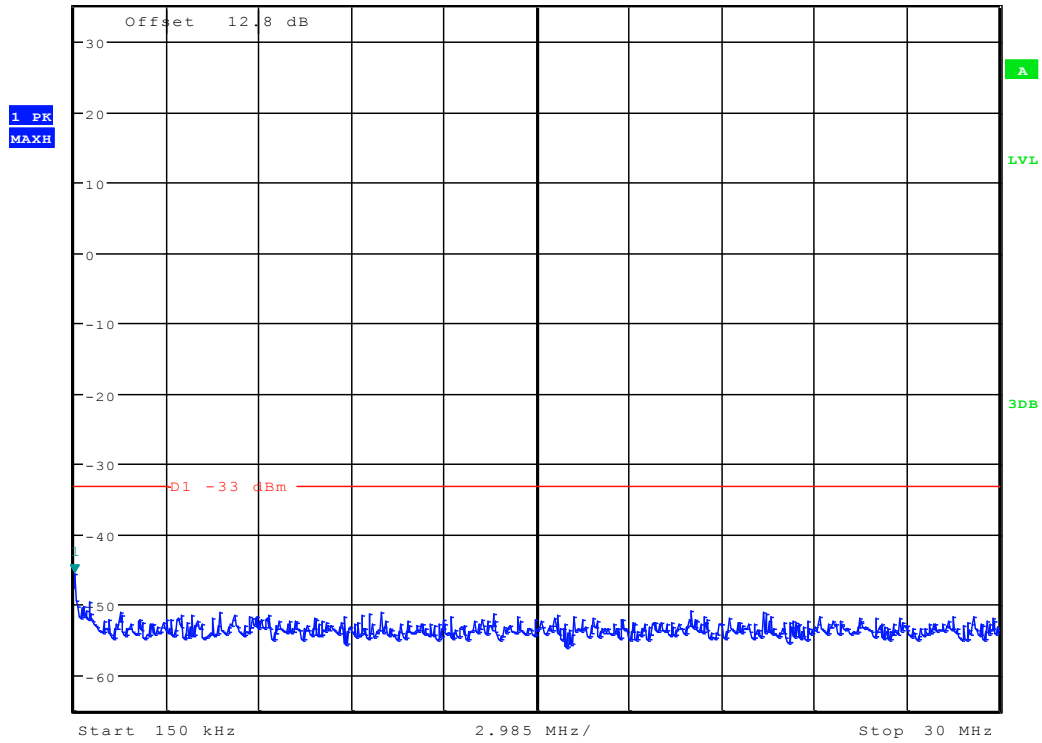


Date: 14.NOV.2012 20:39:27

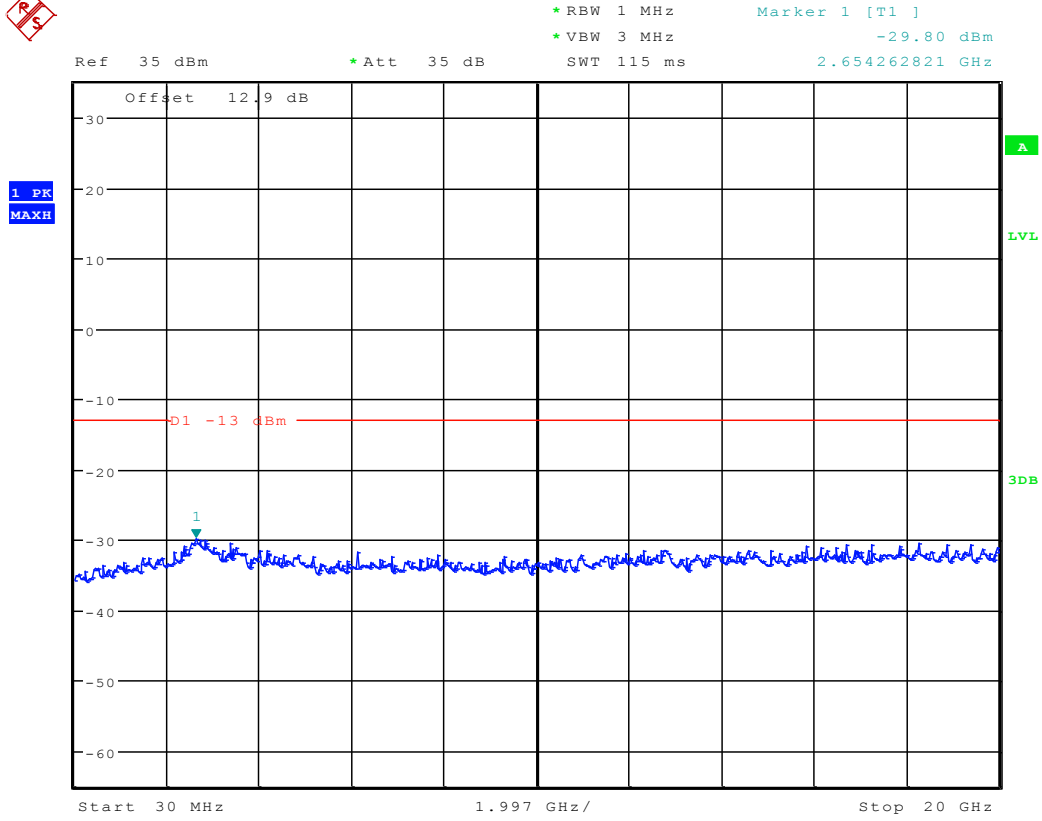




Ref 35 dBm \* Att 35 dB \* RBW 10 kHz Marker 1 [T1 ]  
\* VBW 30 kHz -45.61 dBm  
SWT 300 ms 150.00000000 kHz



Date: 14.NOV.2012 20:40:10

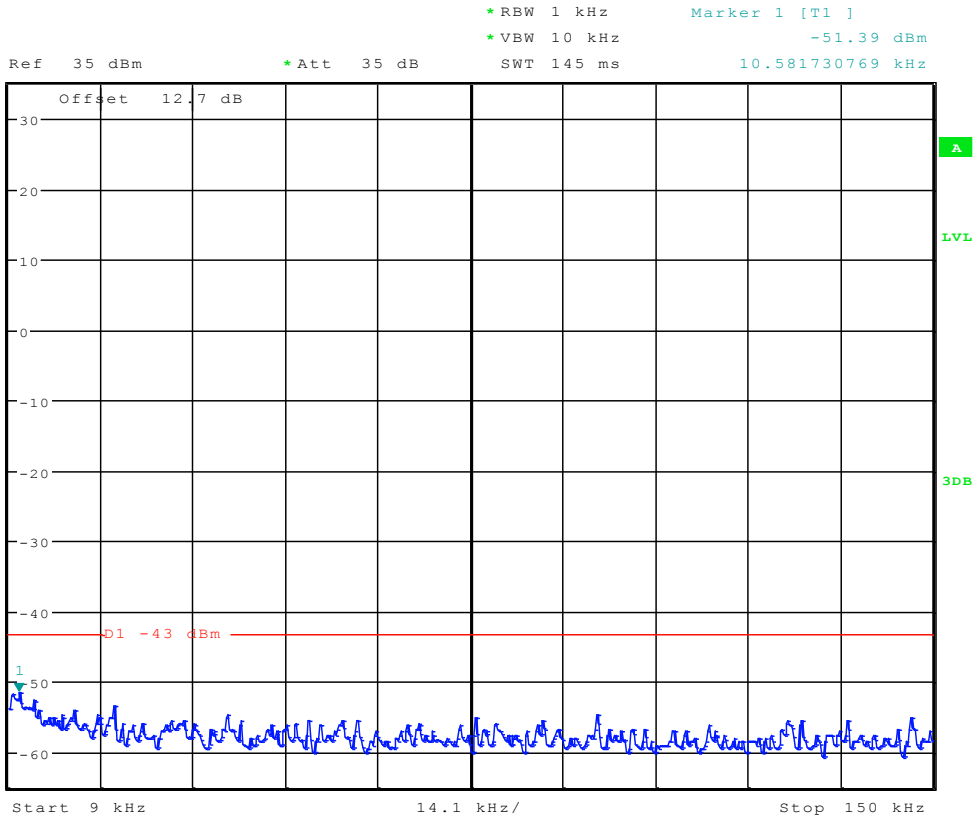


Date: 14.NOV.2012 20:40:54



## 10.2 GSM/TM2:EDGE

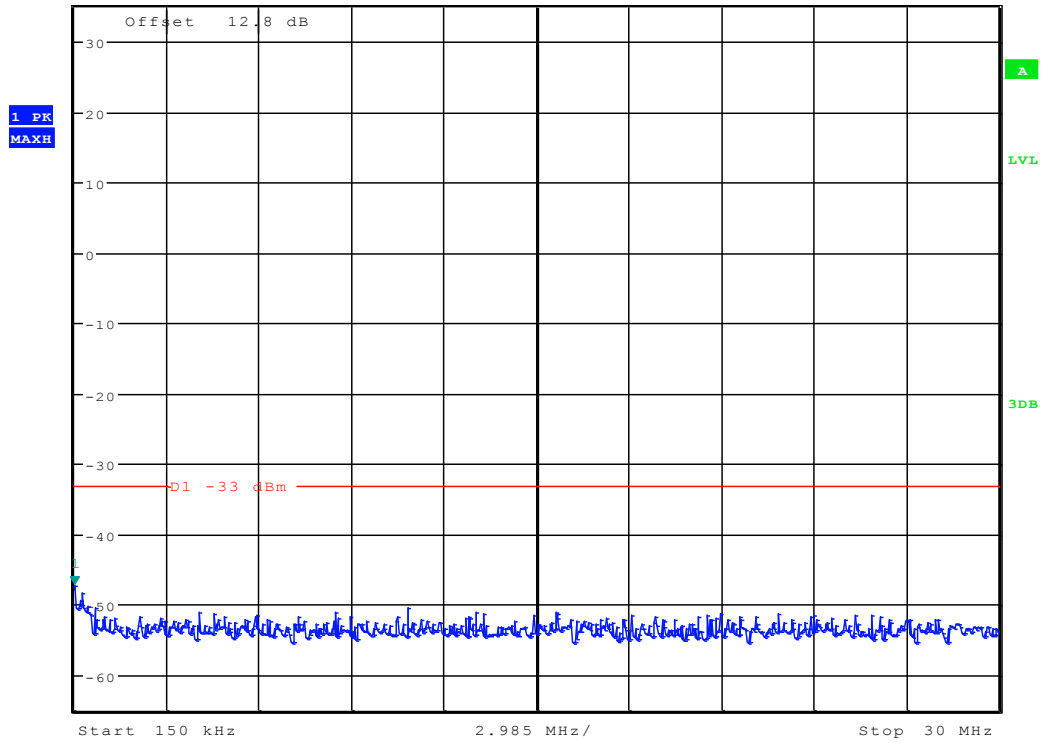
### 10.2.1 Channel 512



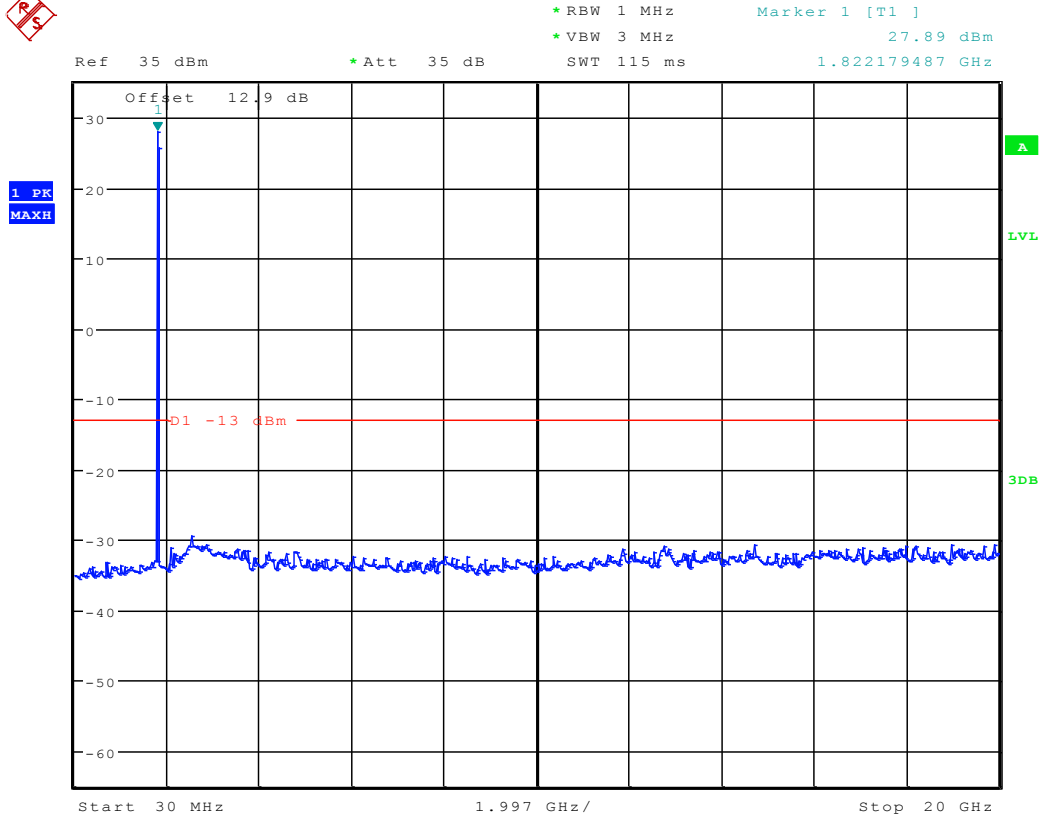
Date: 14.NOV.2012 20:44:51



\*RBW 10 kHz      Marker 1 [T1 ]  
 \*VBW 30 kHz      -47.20 dBm  
 Ref 35 dBm      \*Att 35 dB      SWT 300 ms      150.000000000 kHz



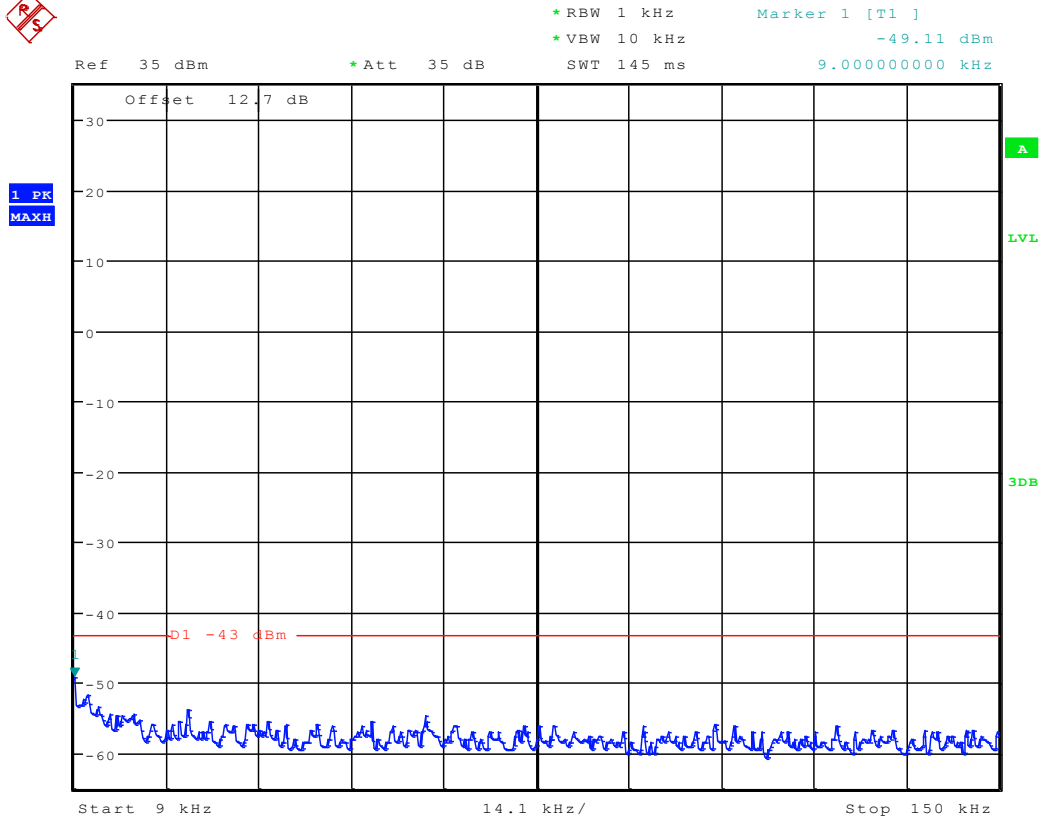
Date: 14.NOV.2012 20:45:35



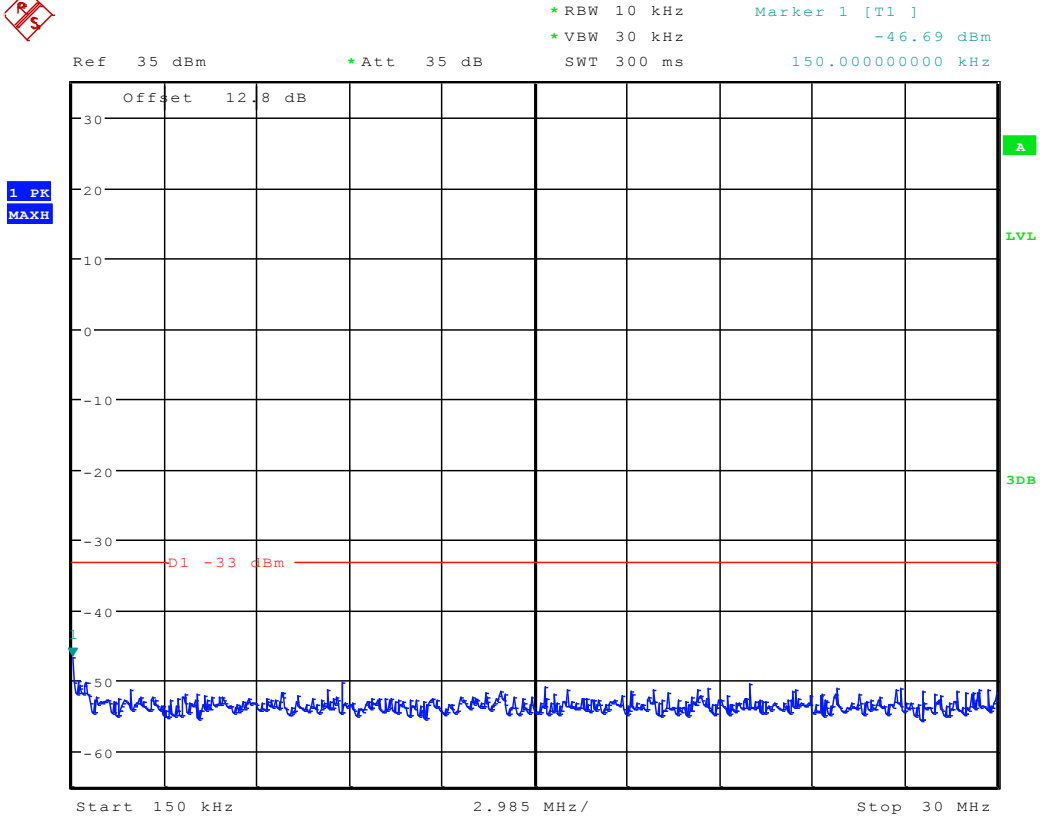
Date: 14.NOV.2012 20:46:18



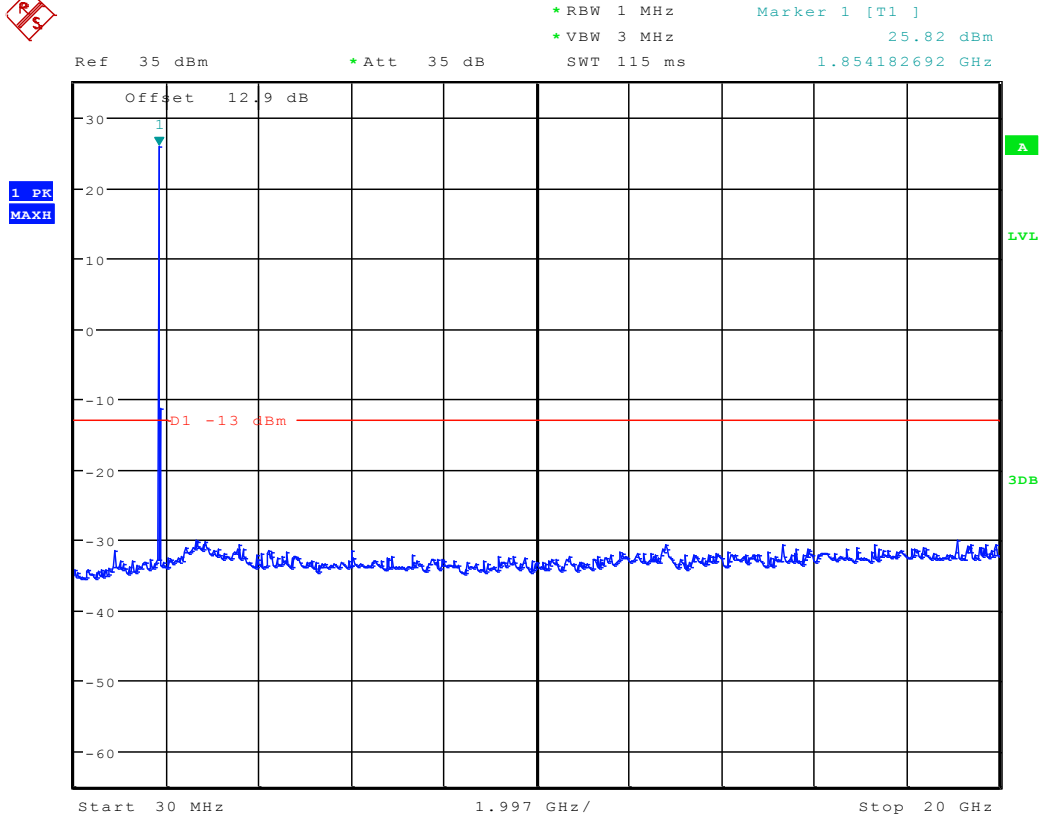
### 10.2.2 Channel 661



Date: 14.NOV.2012 20:45:05



Date: 14.NOV.2012 20:45:49

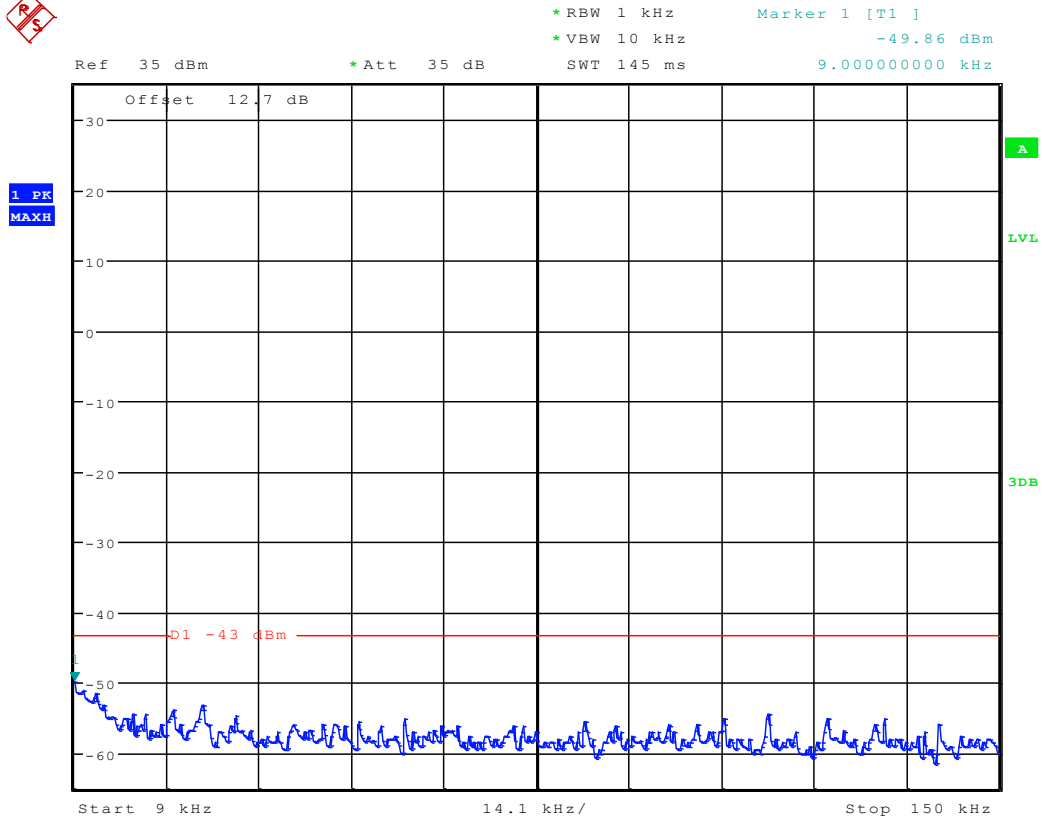


Date: 14.NOV.2012 20:46:33





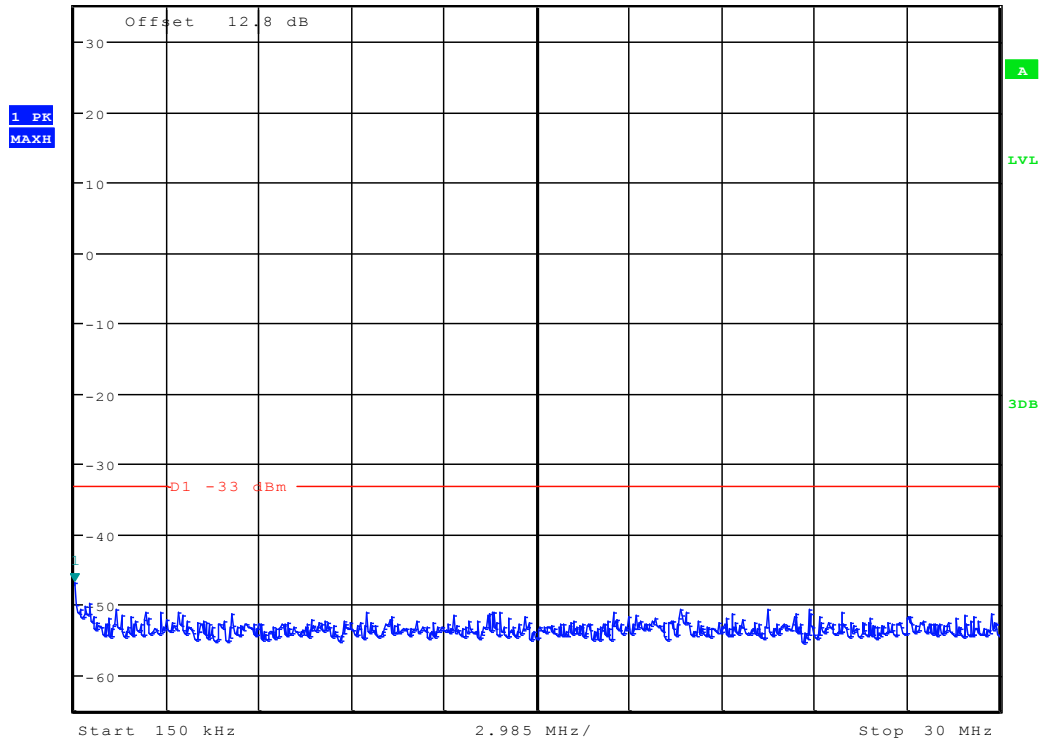
### 10.2.3 Channel 810



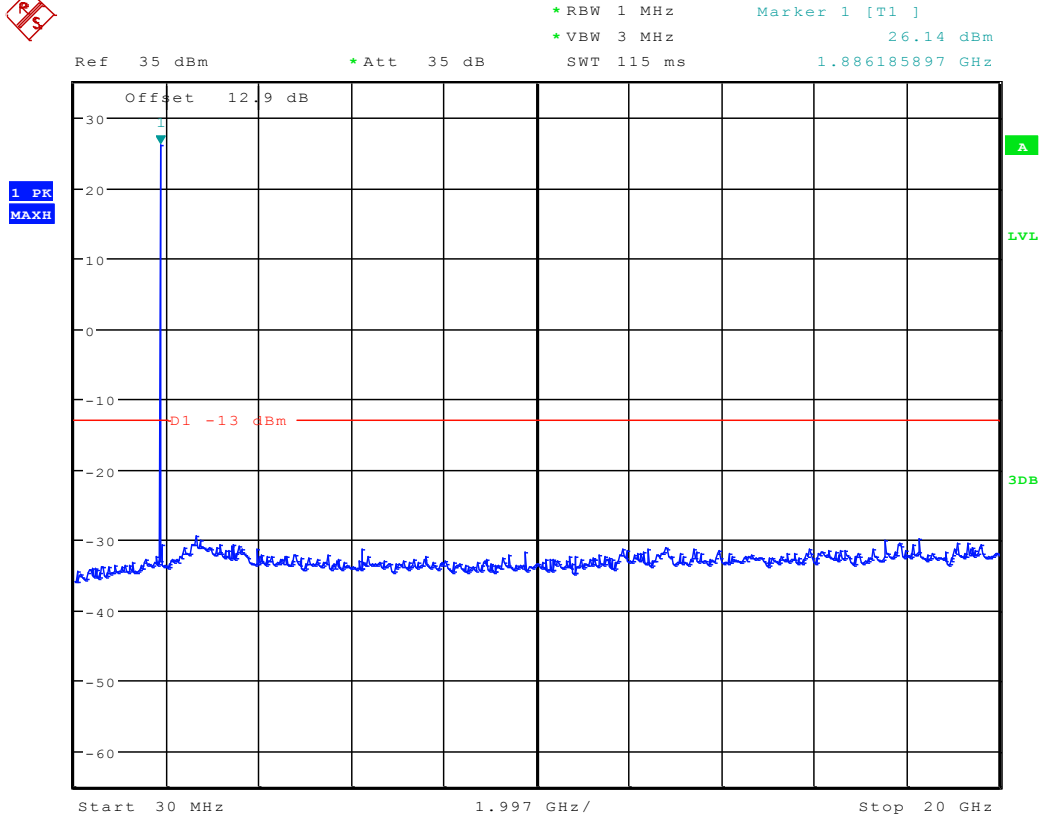
Date: 14.NOV.2012 20:45:20



Ref 35 dBm \* Att 35 dB \* RBW 10 kHz Marker 1 [T1 ]  
\* VBW 30 kHz -46.86 dBm  
SWT 300 ms 150.00000000 kHz



Date: 14.NOV.2012 20:46:03

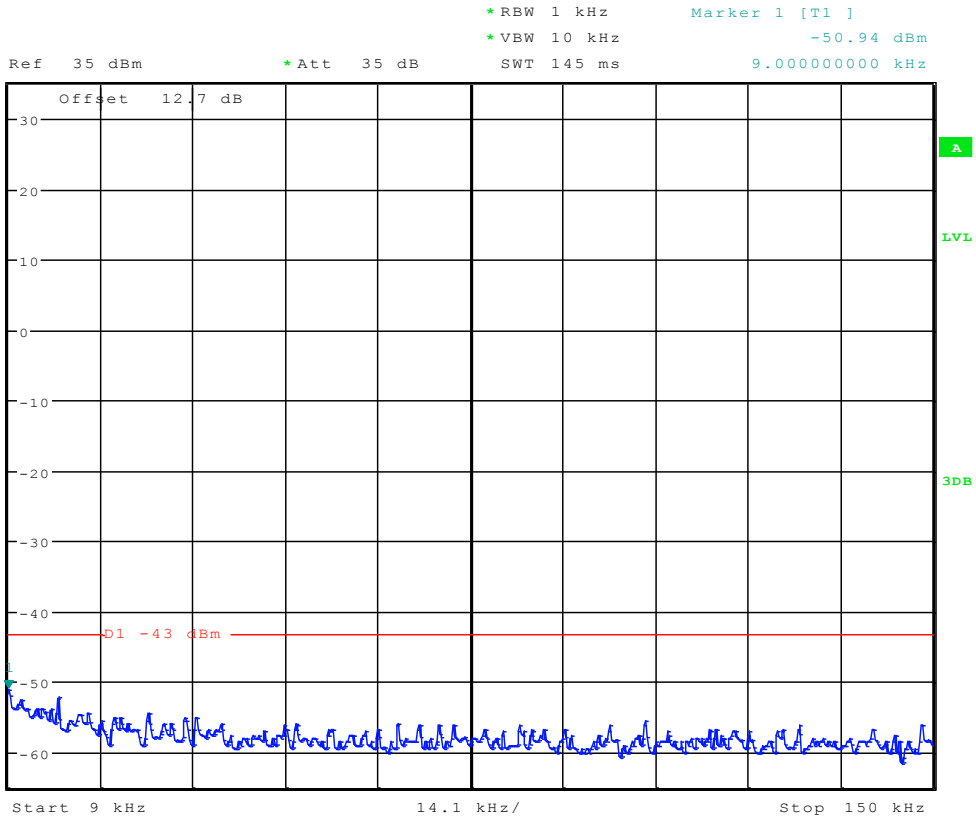


Date: 14.NOV.2012 20:46:47



## 10.3 UMTS/TM1: WCDMA

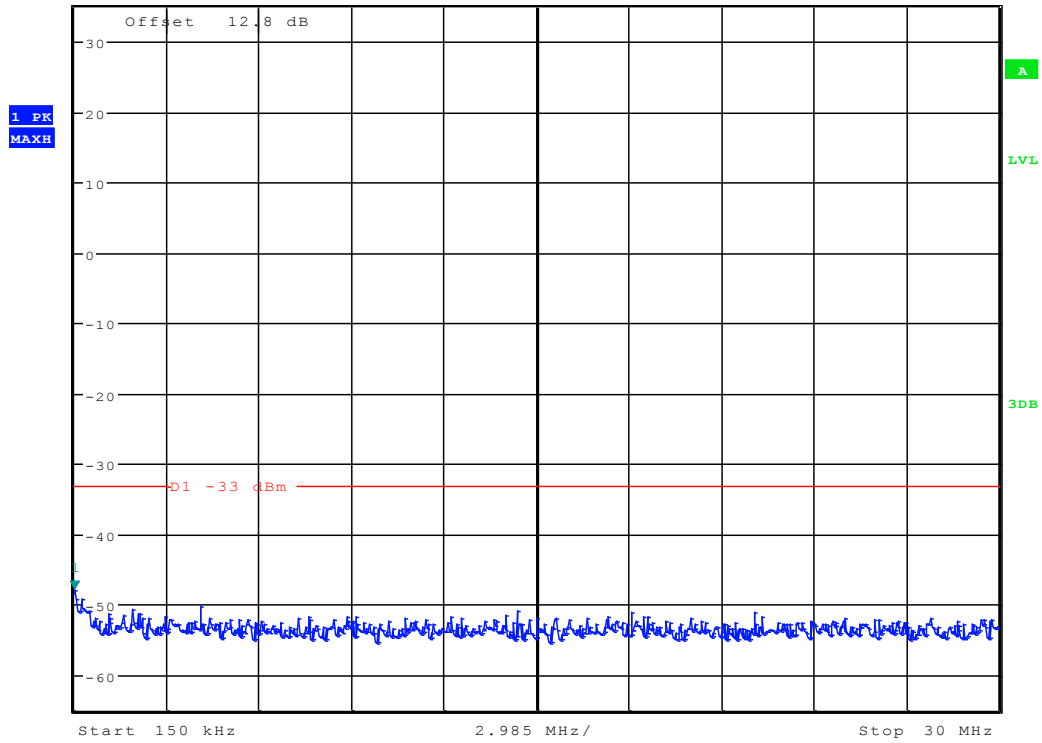
### 10.3.1 Channel 9262



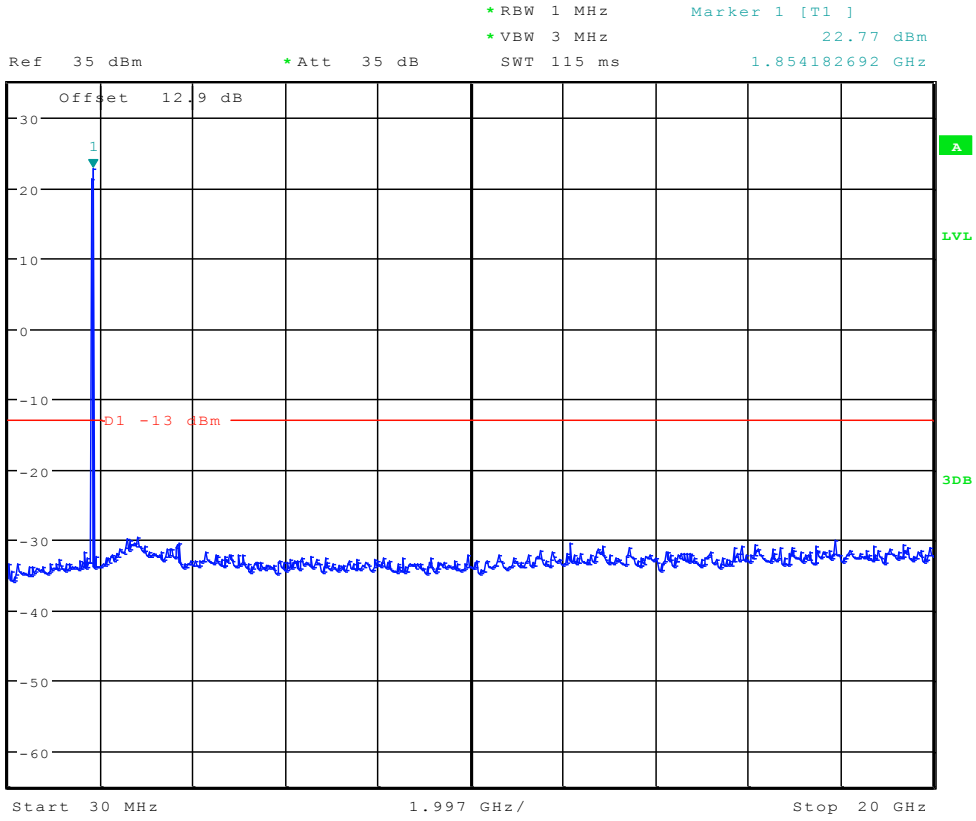
Date: 14.NOV.2012 21:15:57



Ref 35 dBm \* Att 35 dB \* RBW 10 kHz Marker 1 [T1 ]  
\* VBW 30 kHz -47.93 dBm  
SWT 300 ms 150.00000000 kHz



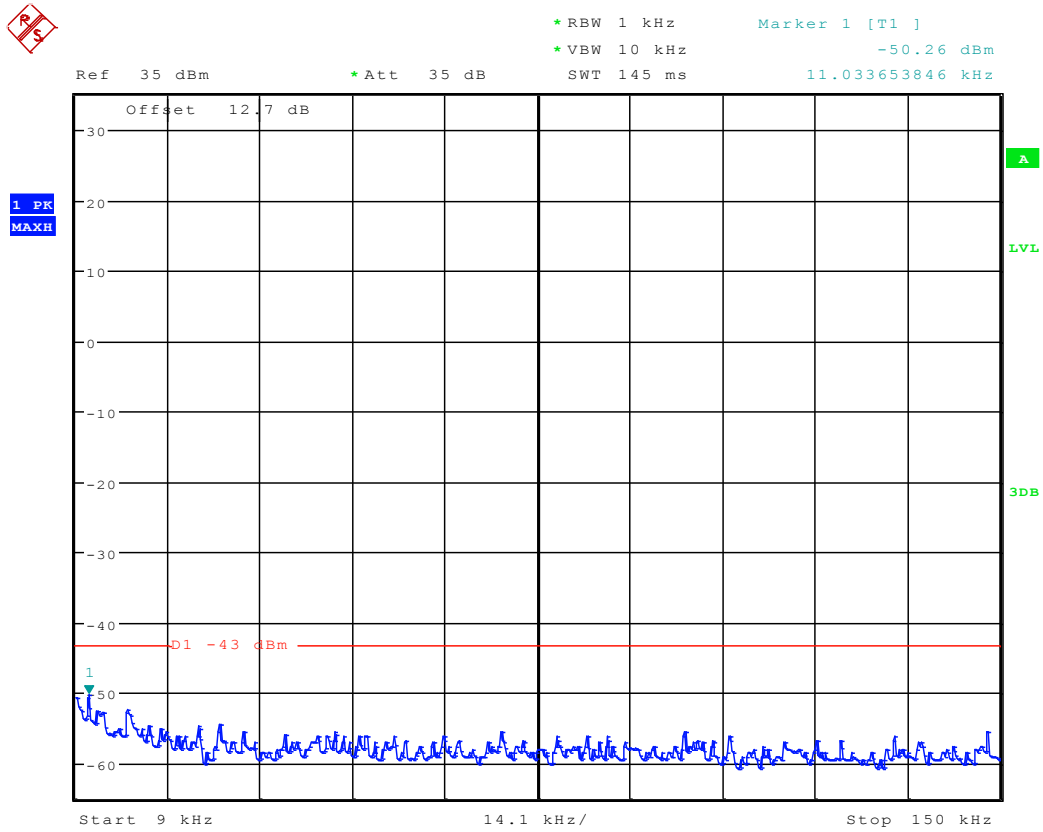
Date: 14.NOV.2012 21:16:41



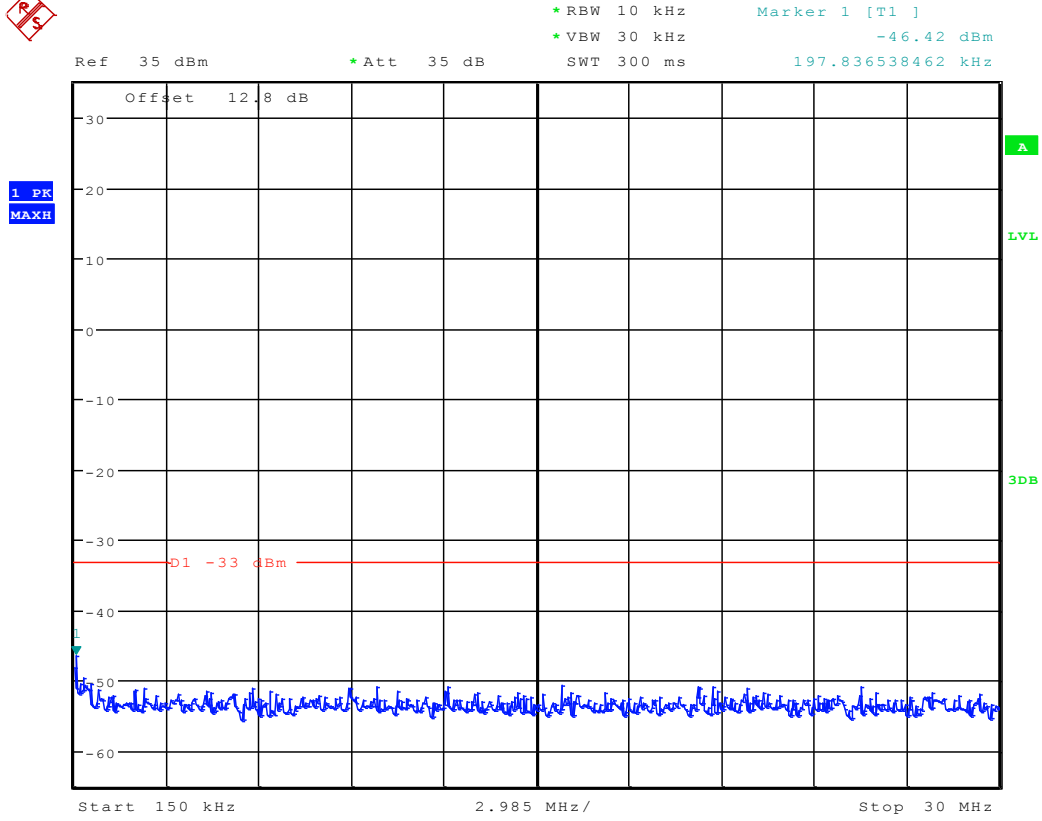
Date: 14.NOV.2012 21:17:24



### 10.3.2 Channel 9400

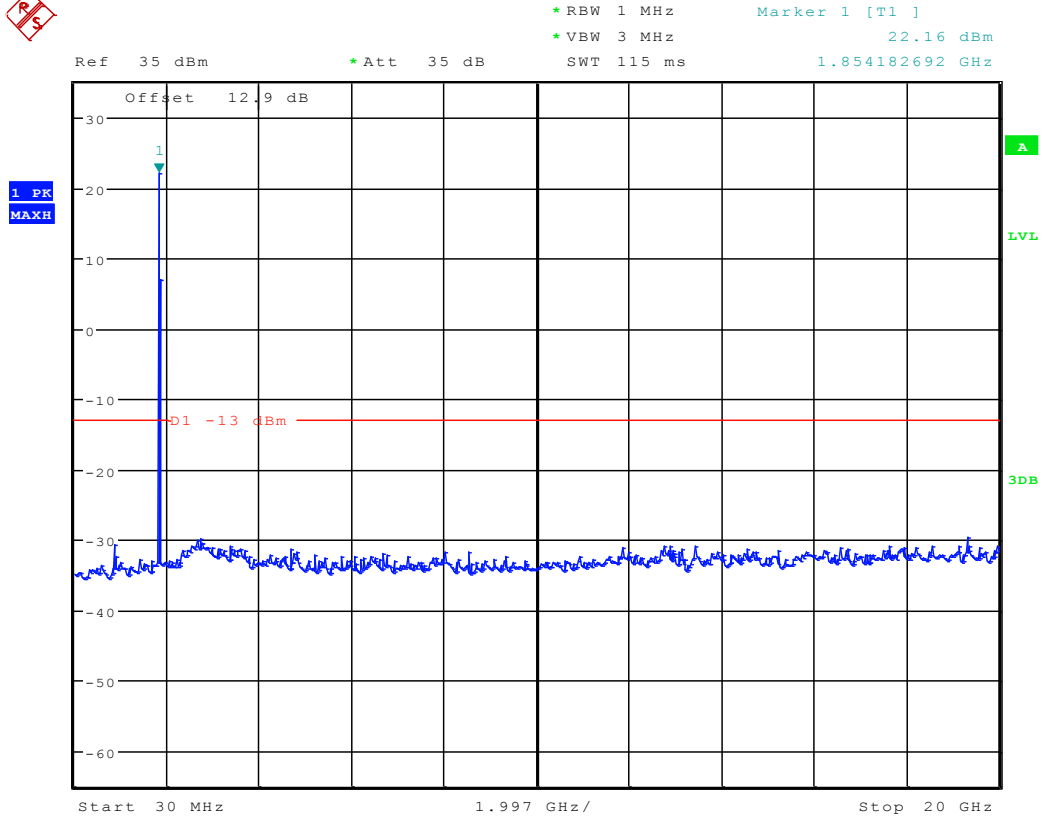


Date: 14.NOV.2012 21:16:11



Date: 14.NOV.2012 21:16:55

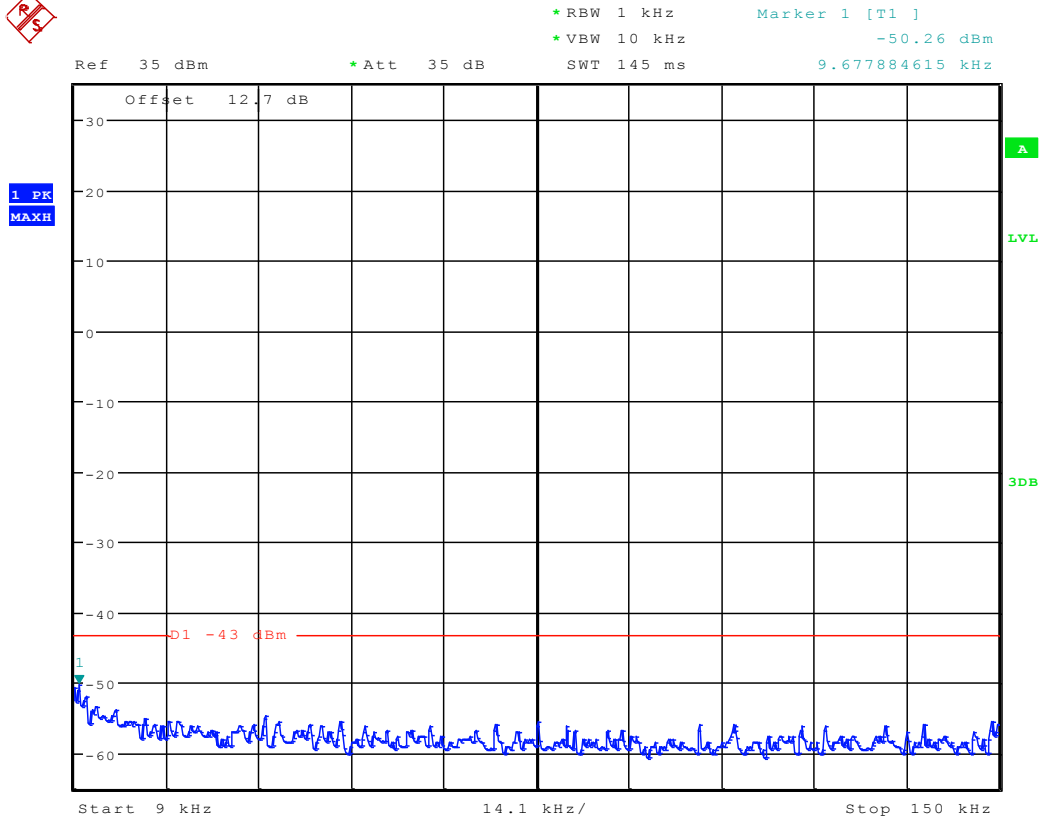




Date: 14.NOV.2012 21:17:39



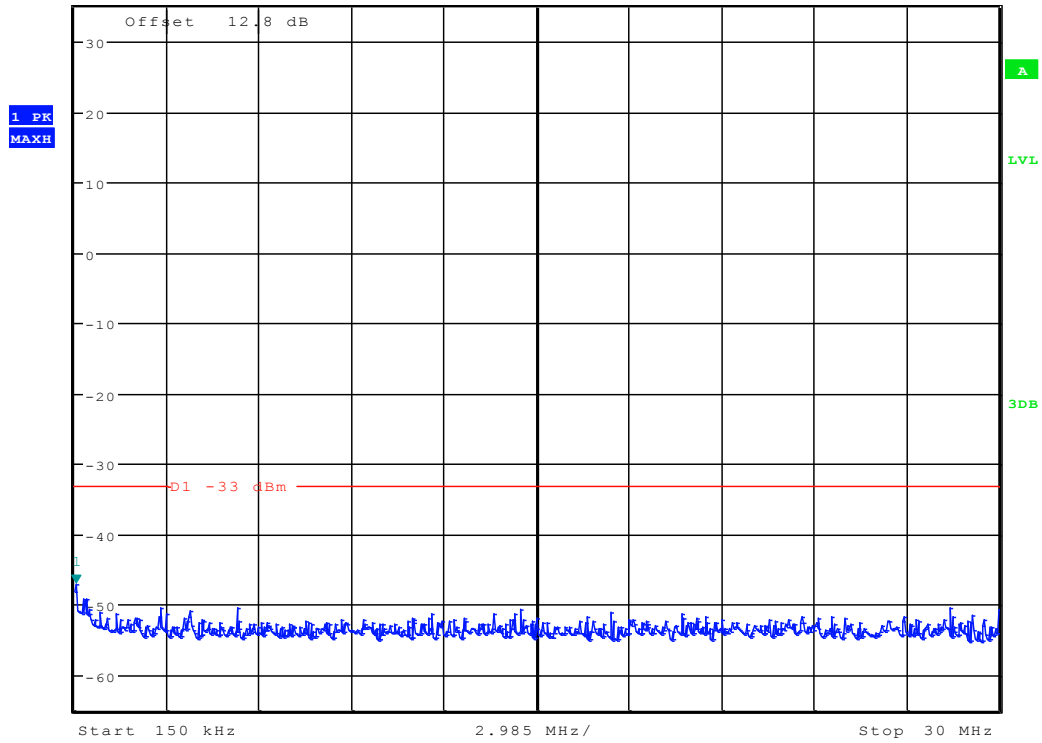
### 10.3.3 Channel 9538



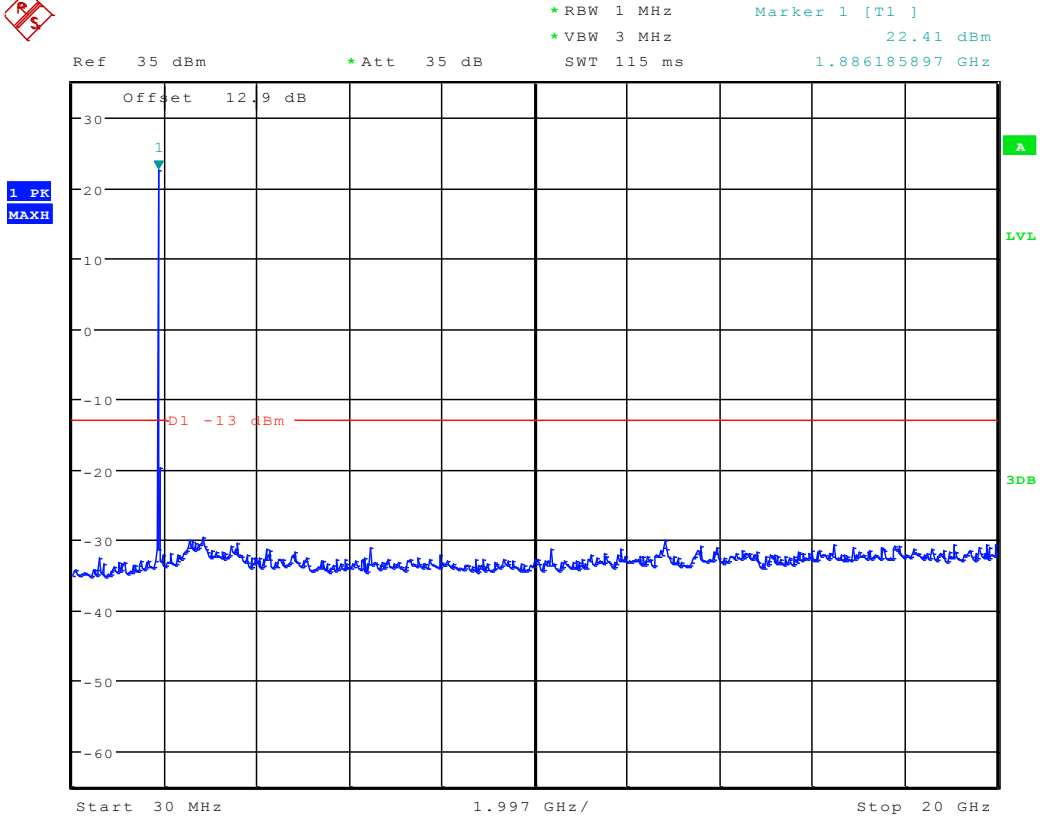
Date: 14.NOV.2012 21:16:26



Ref 35 dBm \* Att 35 dB \* RBW 10 kHz \* VBW 30 kHz \* Marker 1 [T1] -47.14 dBm  
SWT 300 ms 197.836538462 kHz



Date: 14.NOV.2012 21:17:09



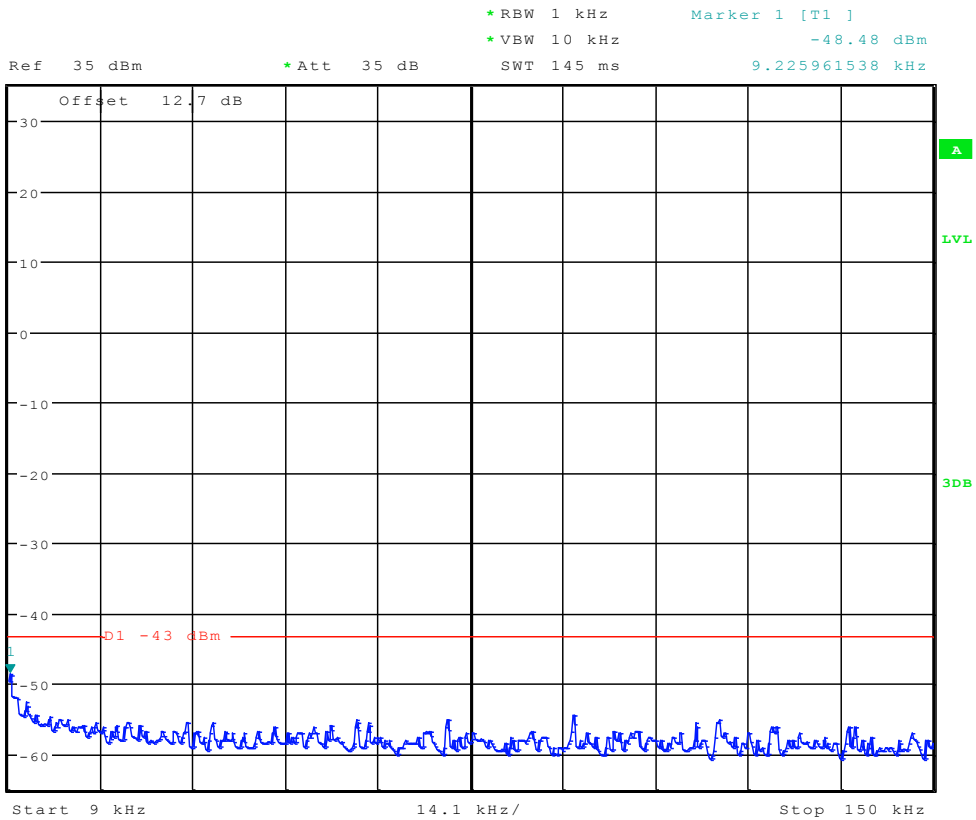
Date: 14.NOV.2012 21:17:53



# 11 Appendix 3D: Spurious Emission at Antenna Terminal

## 11.1 UMTS/TM1: WCDMA

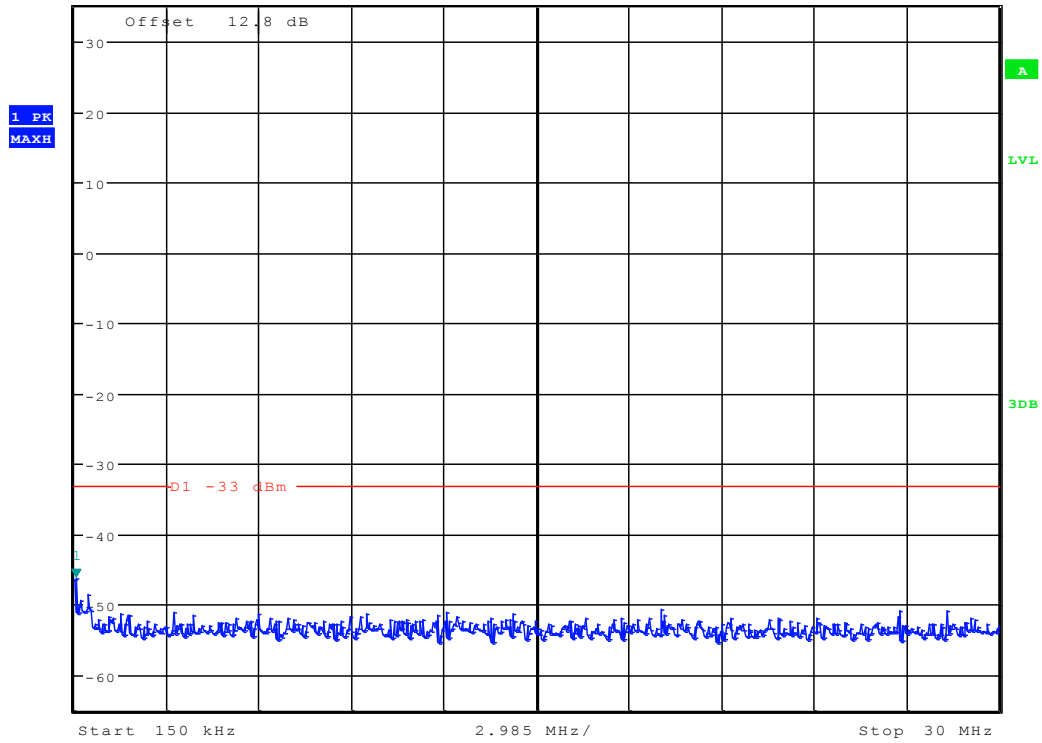
### 11.1.1 Channel 1312



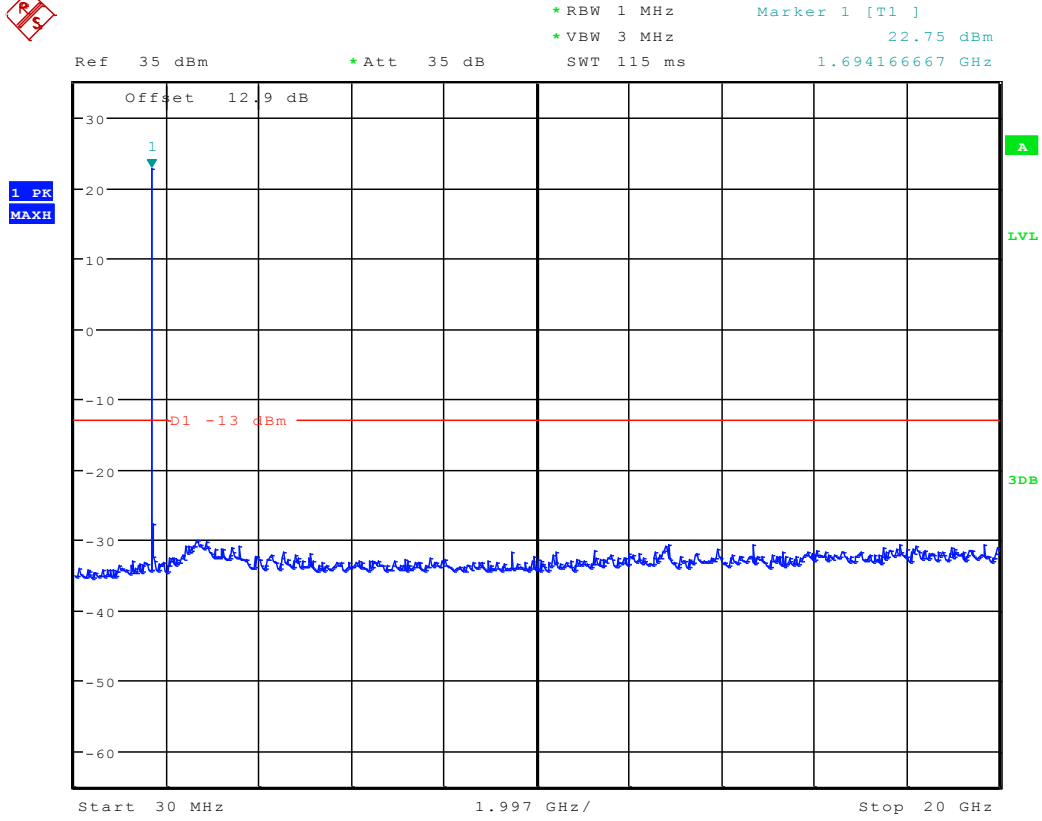
Date: 14.NOV.2012 20:50:04



\*RBW 10 kHz      Marker 1 [T1 ]  
 \*VBW 30 kHz      -46.21 dBm  
 Ref 35 dBm      \*Att 35 dB      SWT 300 ms      197.836538462 kHz



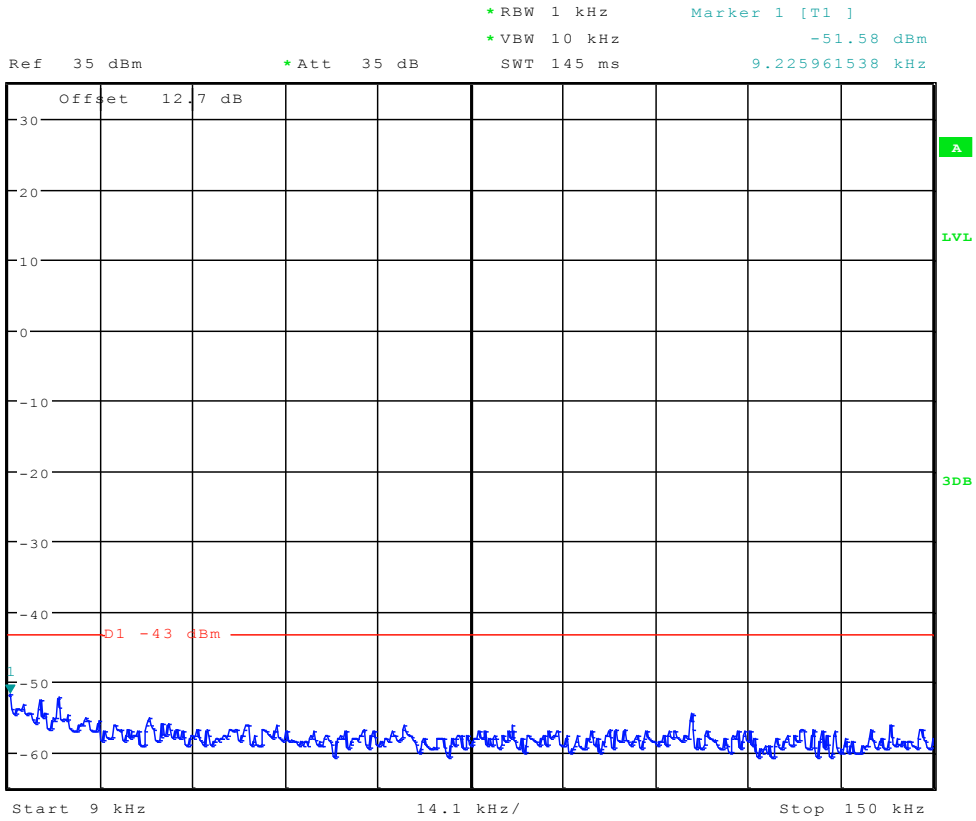
Date: 14.NOV.2012 20:50:47



Date: 14.NOV.2012 20:51:31



### 11.1.2 Channel 1412

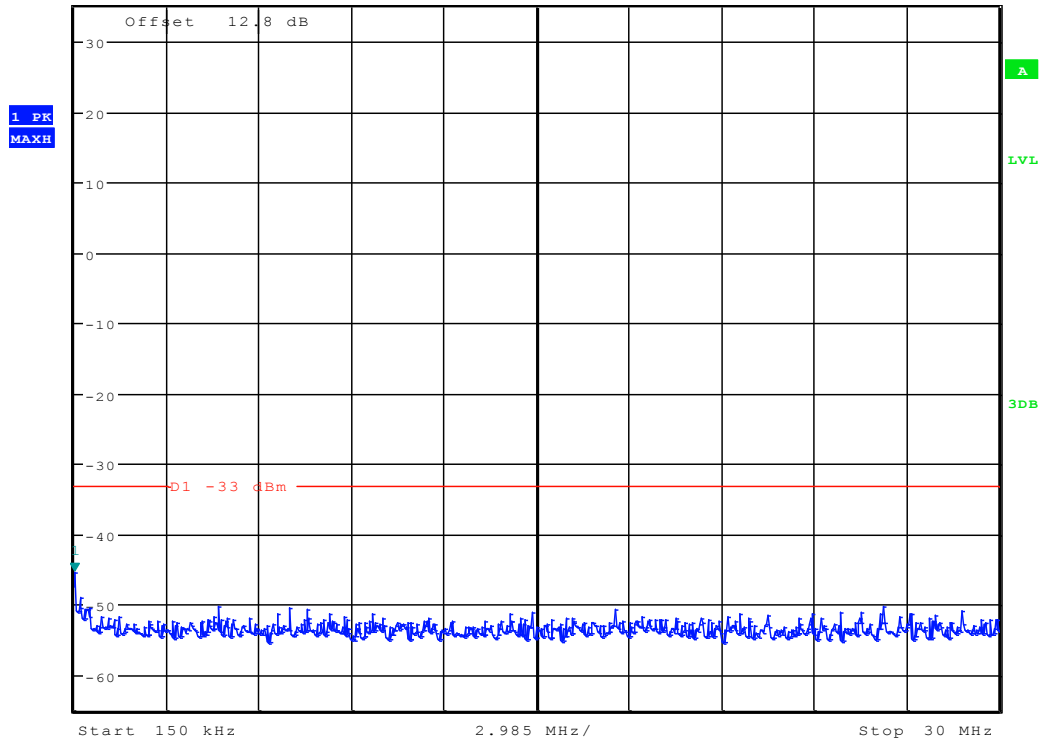


Date: 14.NOV.2012 20:50:18

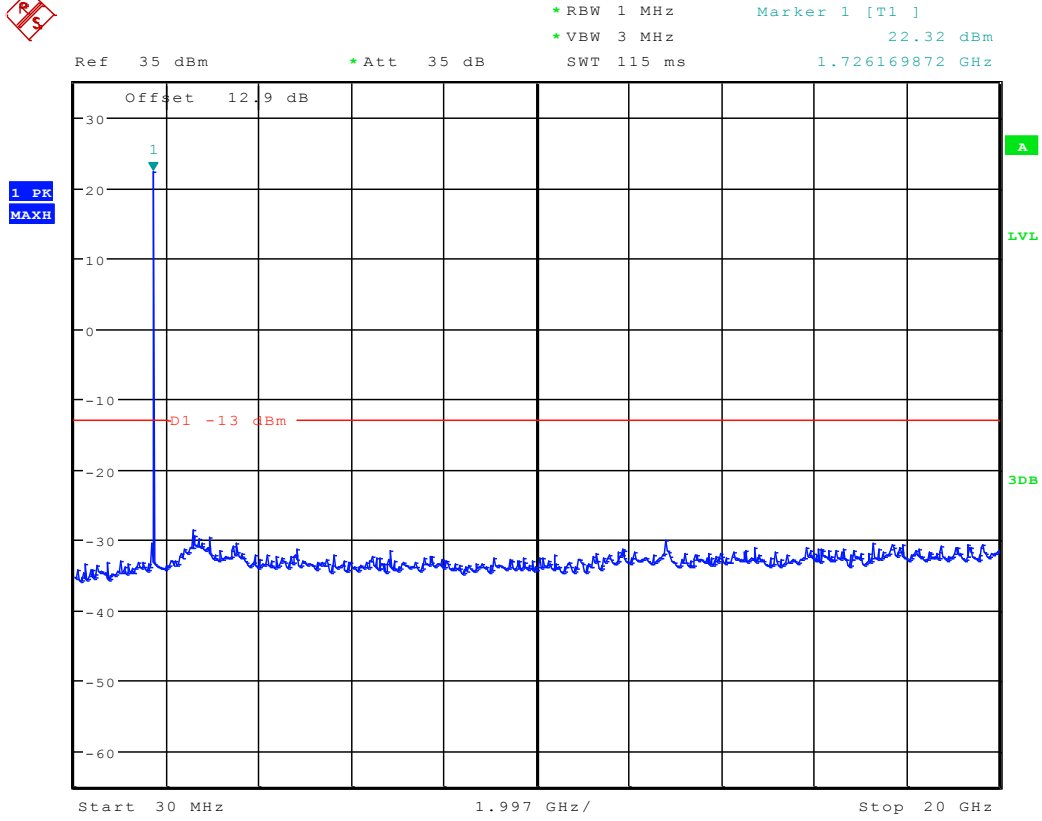




Ref 35 dBm \* Att 35 dB \* RBW 10 kHz Marker 1 [T1] \* VBW 30 kHz -45.41 dBm SWT 300 ms 150.000000000 kHz



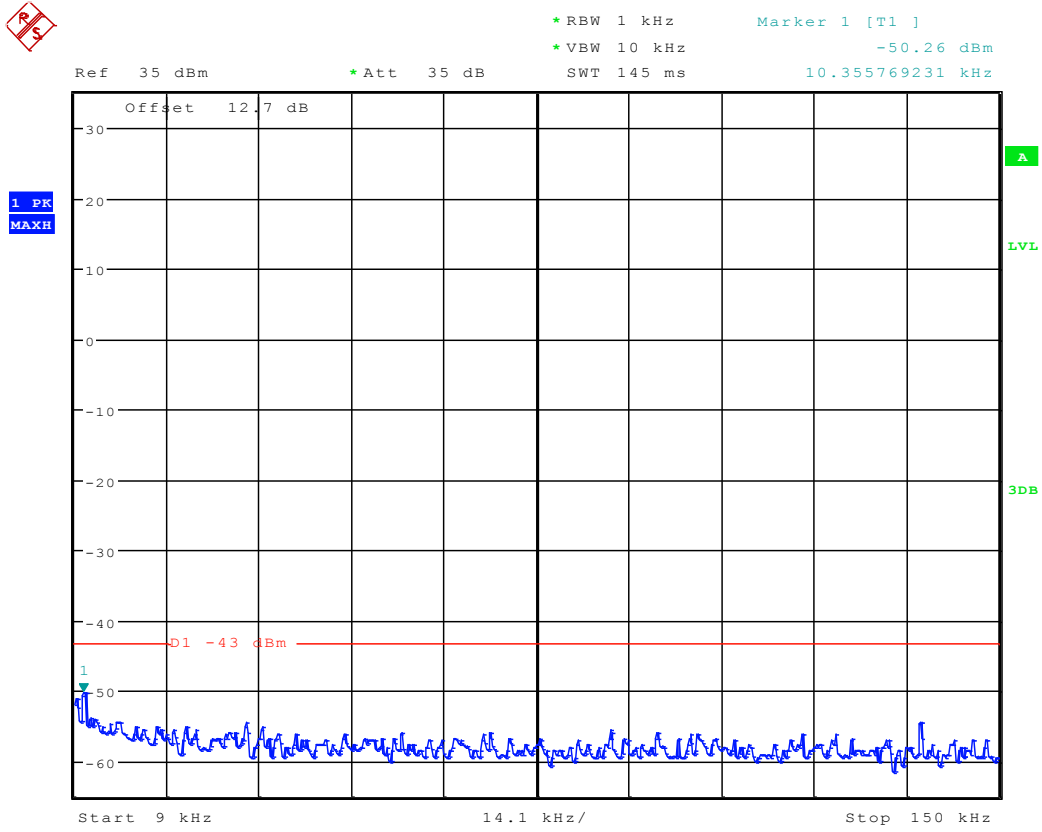
Date: 14.NOV.2012 20:51:02



Date: 14.NOV.2012 20:51:46



### 11.1.3 Channel 1513



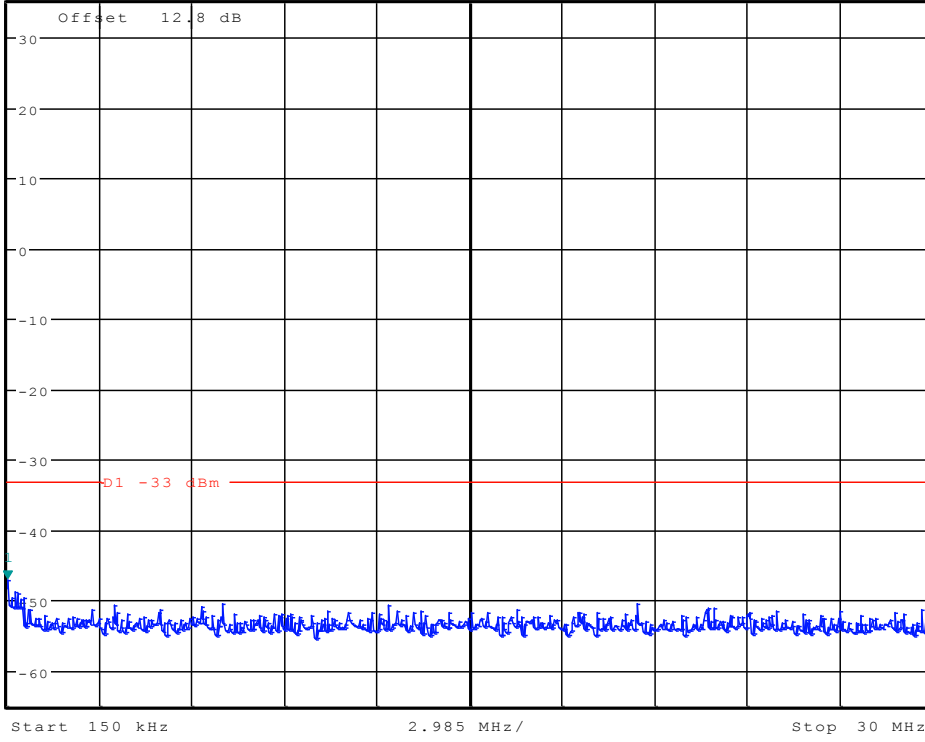
Date: 14.NOV.2012 20:50:33



\* RBW 10 kHz      Marker 1 [T1 ]  
\* VBW 30 kHz      -46.97 dBm  
SWT 300 ms      150.00000000 kHz

Ref 35 dBm

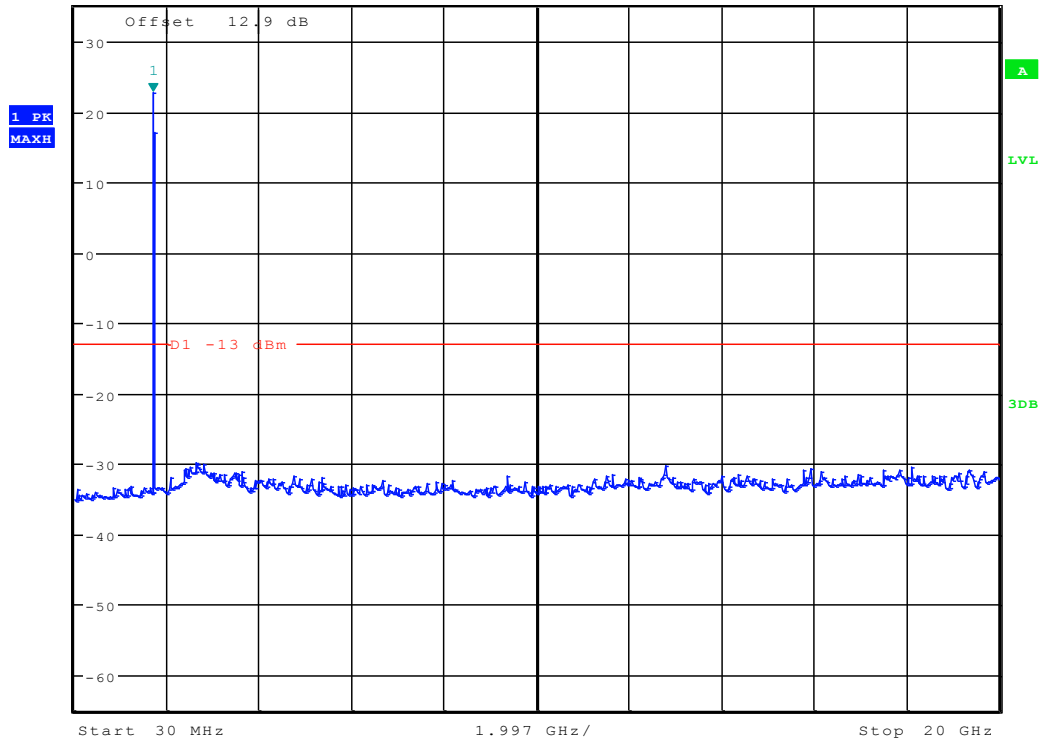
\* Att 35 dB



Date: 14.NOV.2012 20:51:16



Ref 35 dBm \* Att 35 dB \* RBW 1 MHz \* VBW 3 MHz \* Marker 1 [T1 ]  
SWT 115 ms 22.80 dBm 1.726169872 GHz



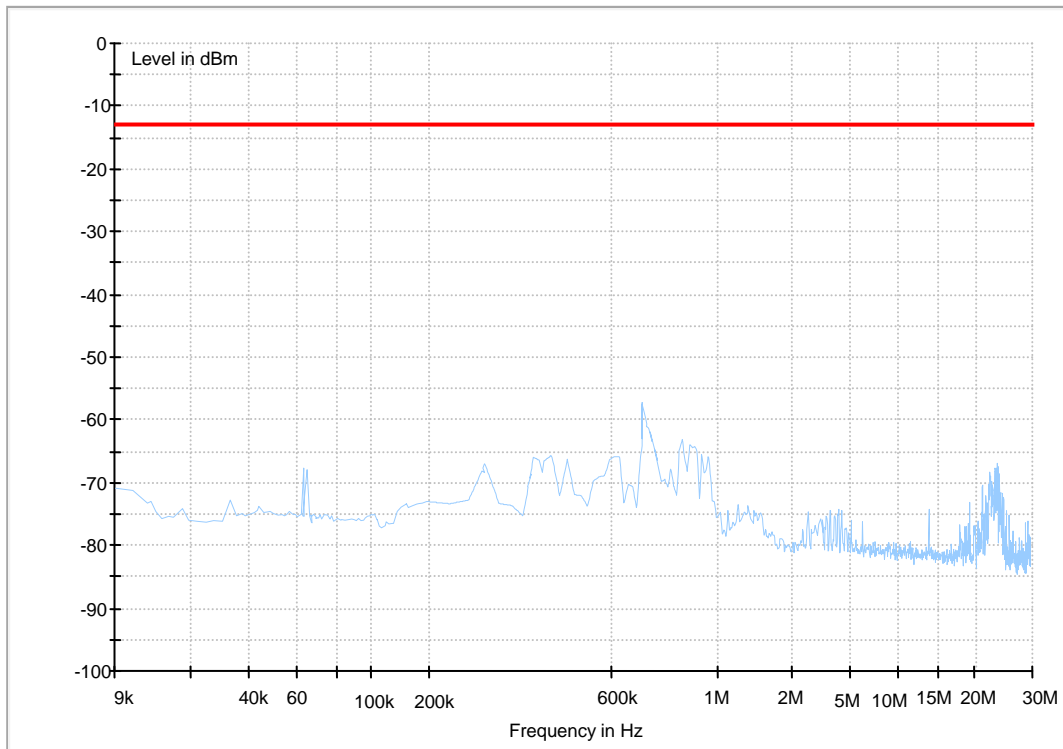
Date: 14.NOV.2012 20:52:00



## 12 Appendix 1E: Radiated spurious emission

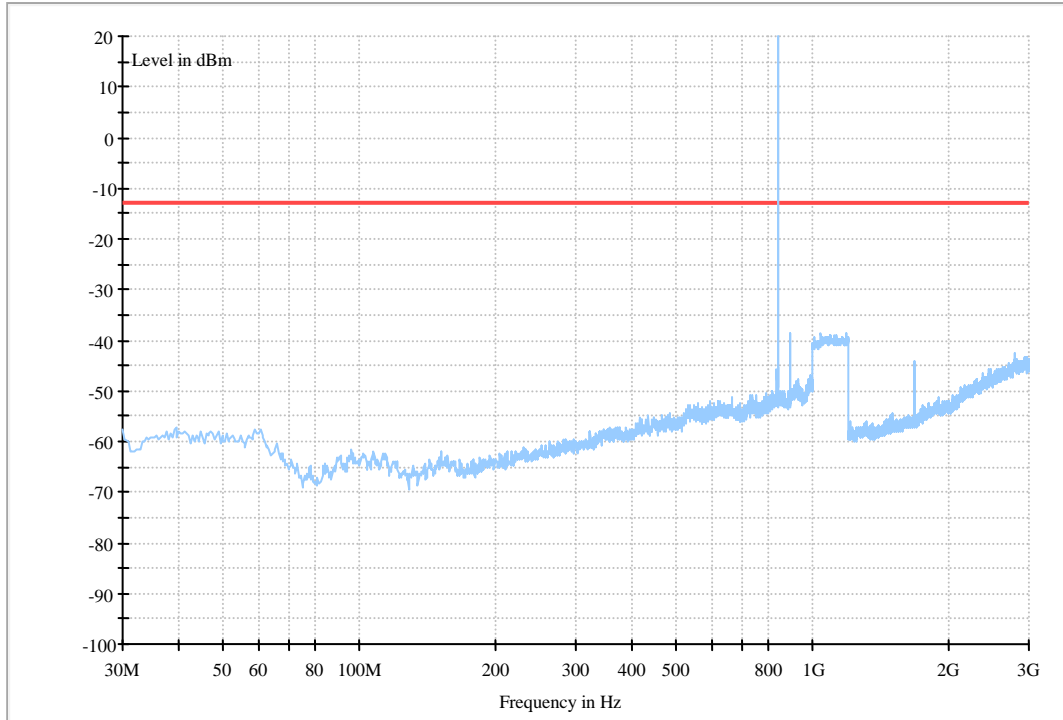
### 12.1 GPRS 850

#### 12.1.1 Traffic Mode (9kHz-30MHz)



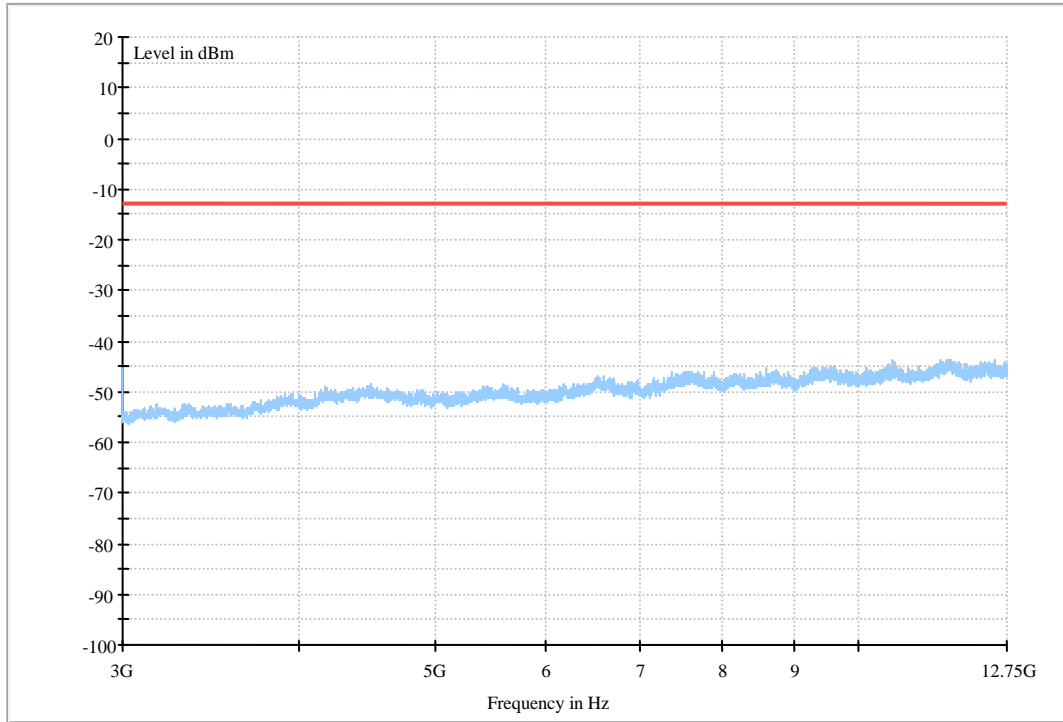


### 12.1.2 Traffic Mode (30MHz-3GHz)





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

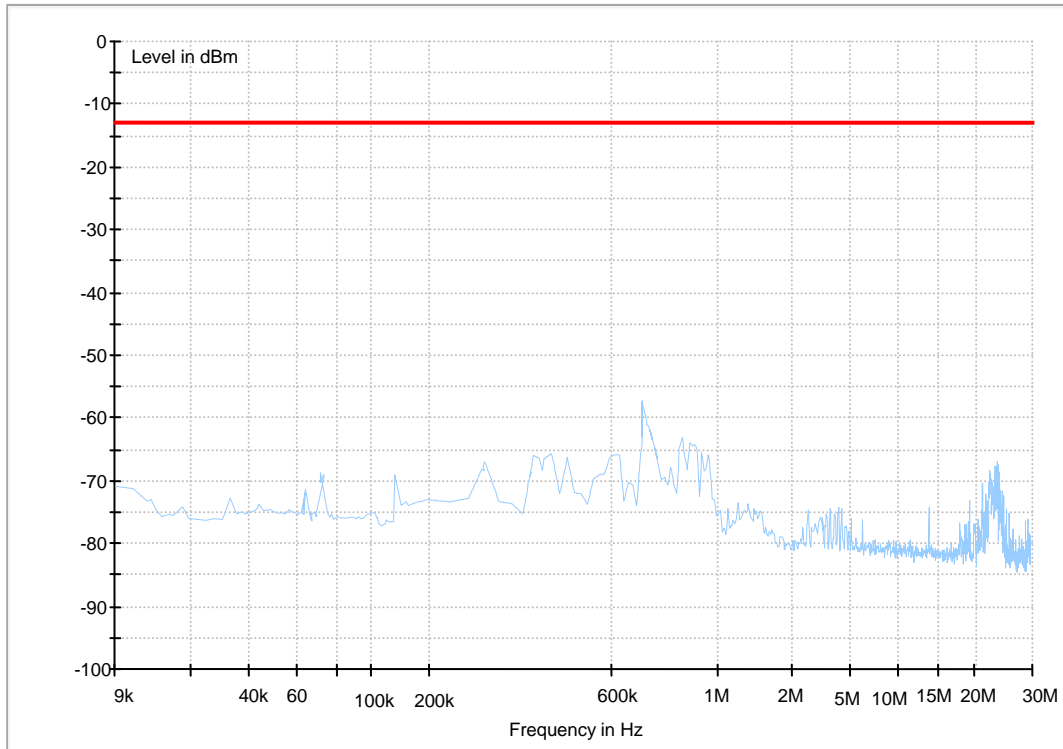






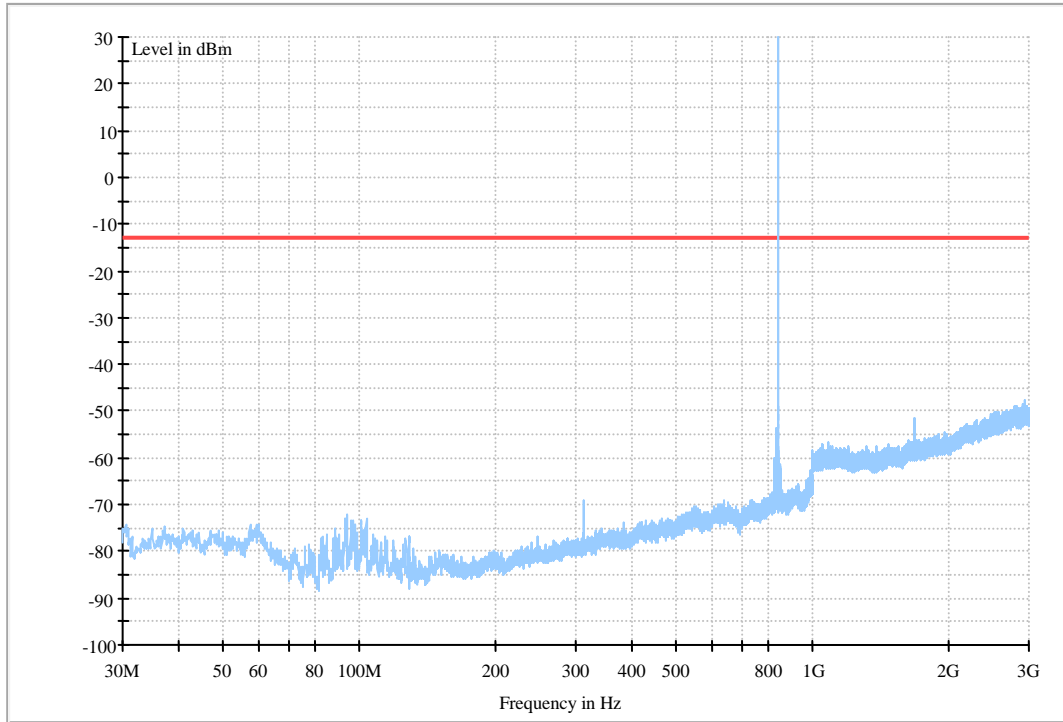
## 12.2 EDGE 850

### 12.2.1 Traffic Mode (9kHz-30MHz)



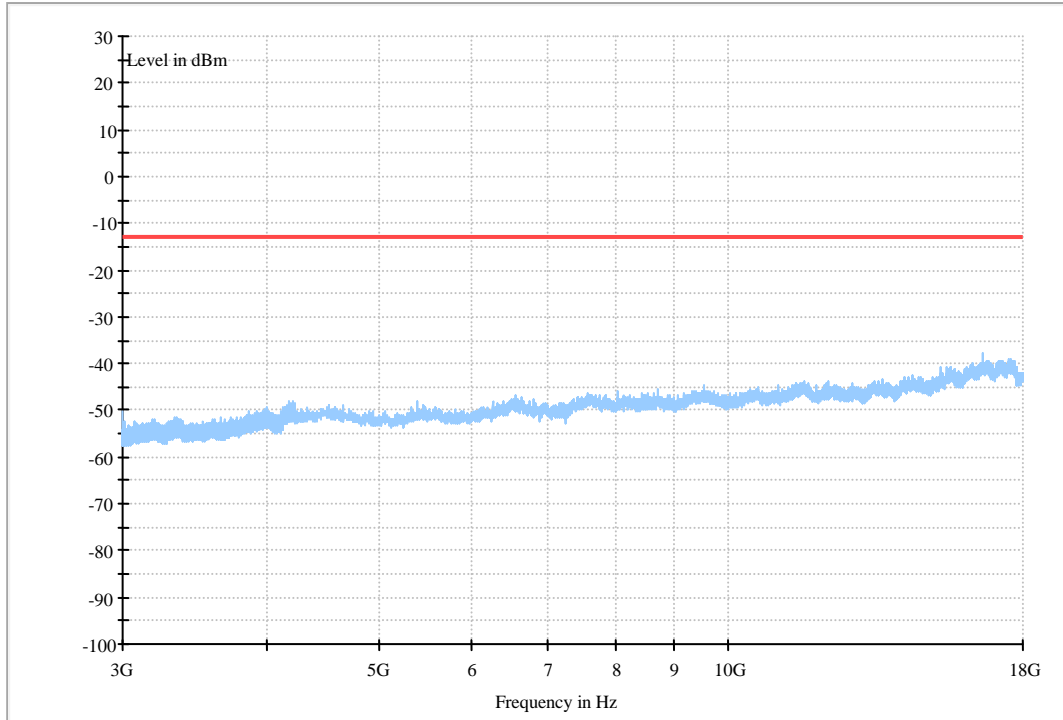


### 12.2.2 Traffic Mode (30MHz-3GHz)





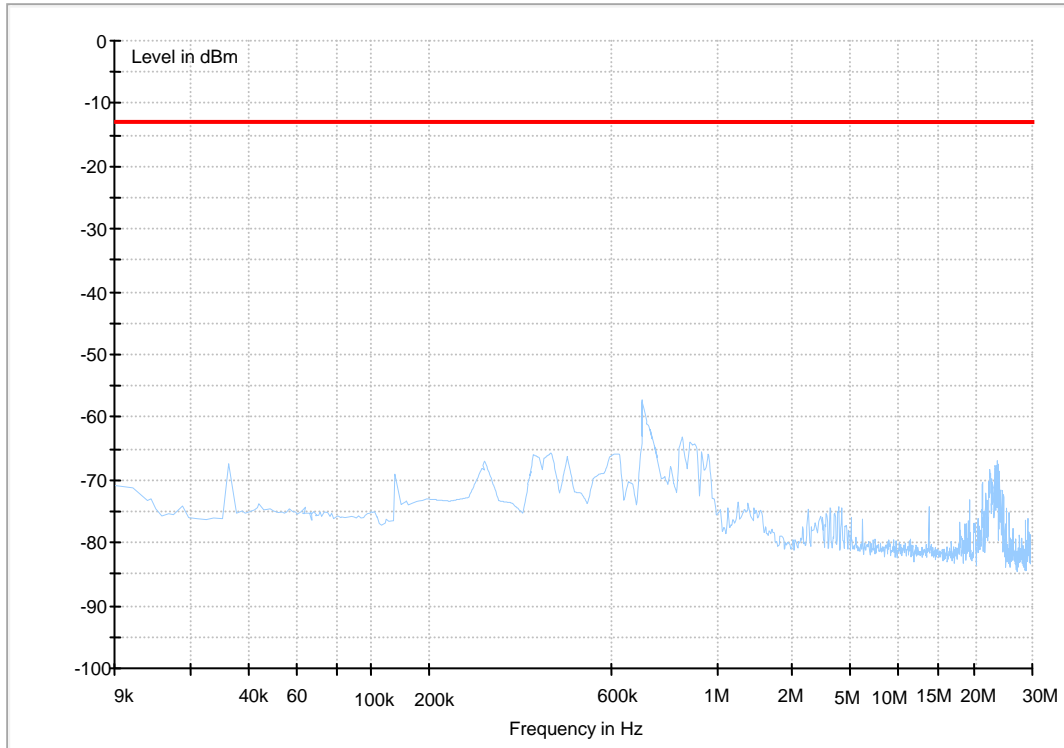
### 12.2.3 Traffic Mode (3GHz-18GHz)





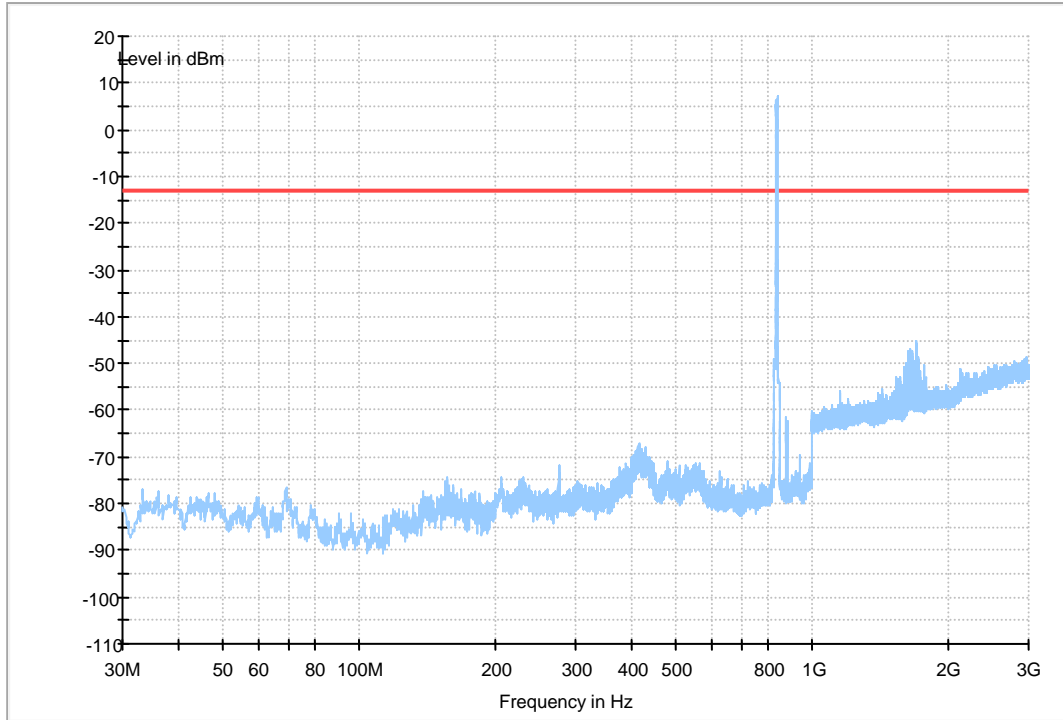
## 12.3 WCDMA BNAD V

### 12.3.1 Traffic Mode (9kHz-30MHz)



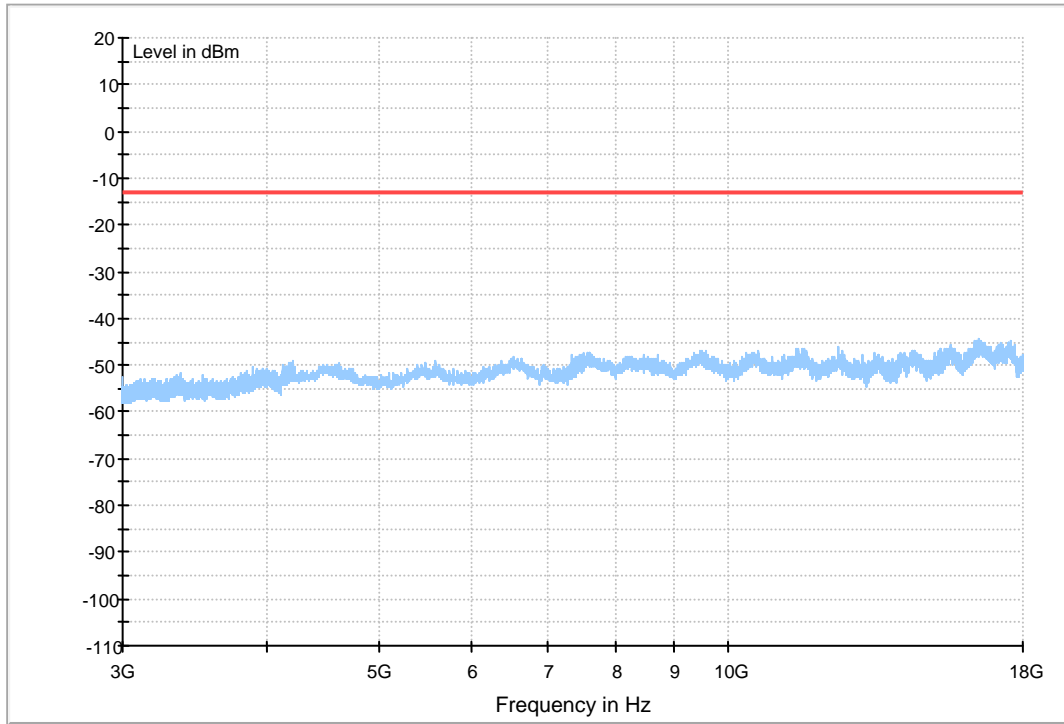


### 12.3.2 Traffic Mode (30MHz-3GHz)





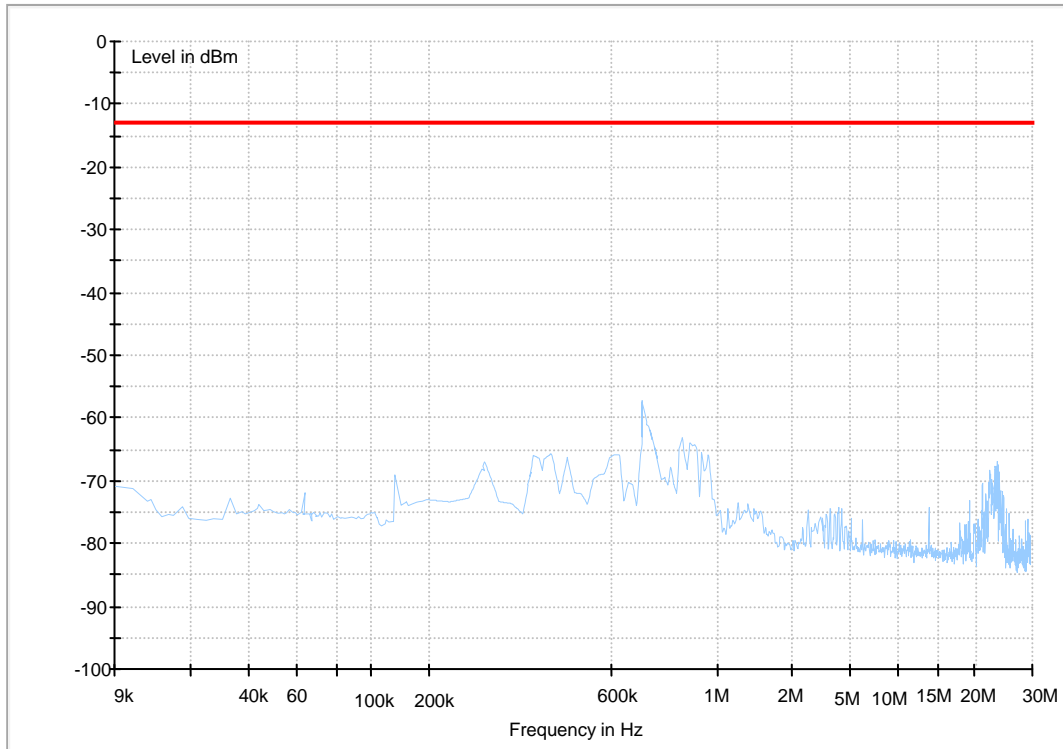
### 12.3.3 Traffic Mode (3GHz-18GHz)





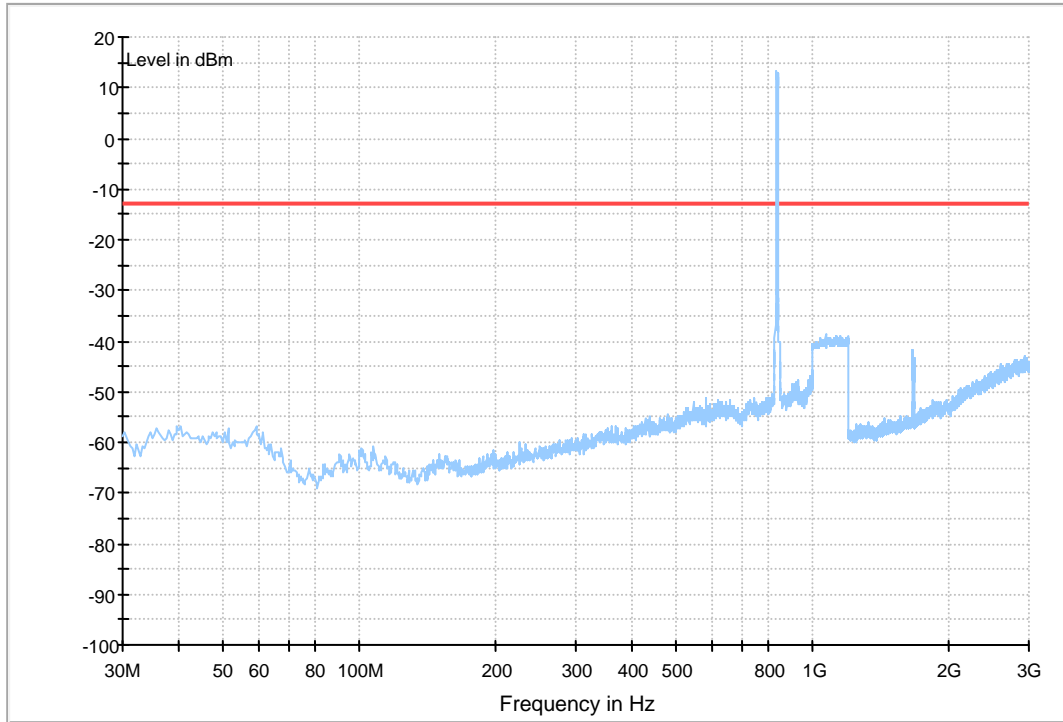
## 12.4 HSDPA BNAD V

### 12.4.1 Traffic Mode (9kHz-30MHz)





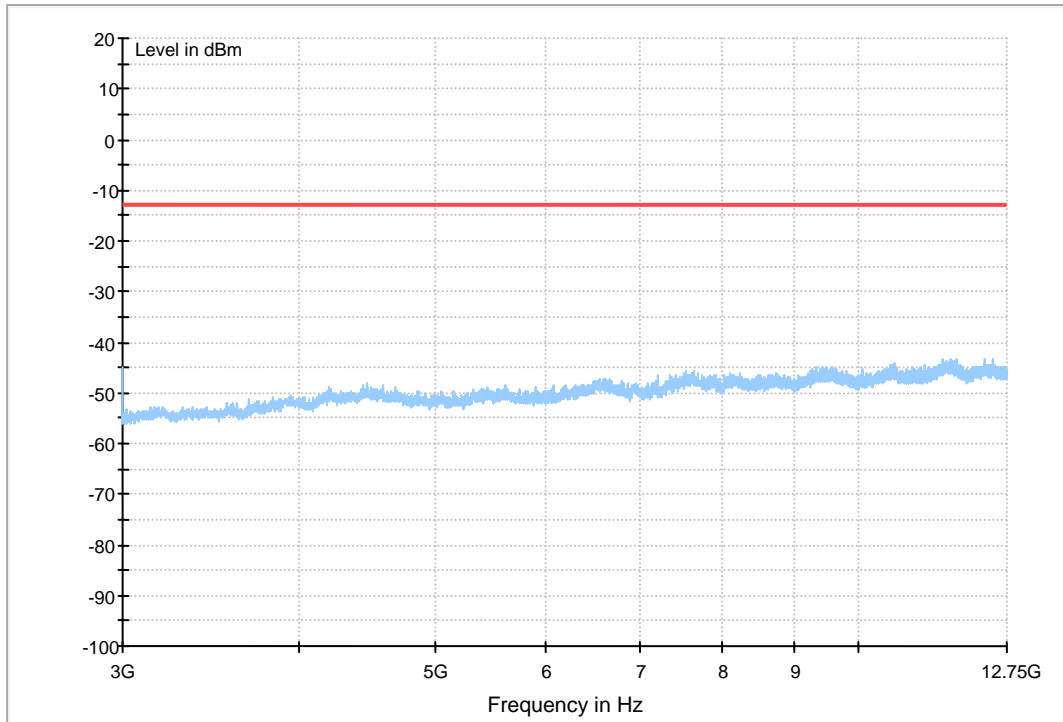
### 12.4.2 Traffic Mode (30MHz-3GHz)







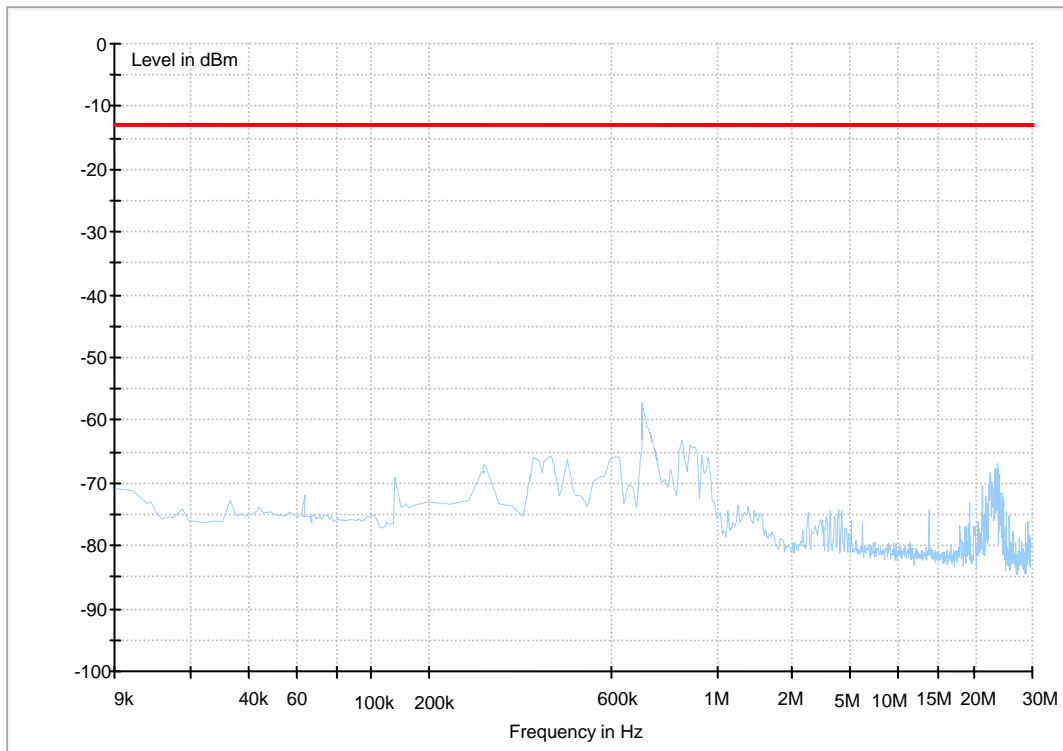
### 12.4.3 Traffic Mode (3GHz-18GHz)





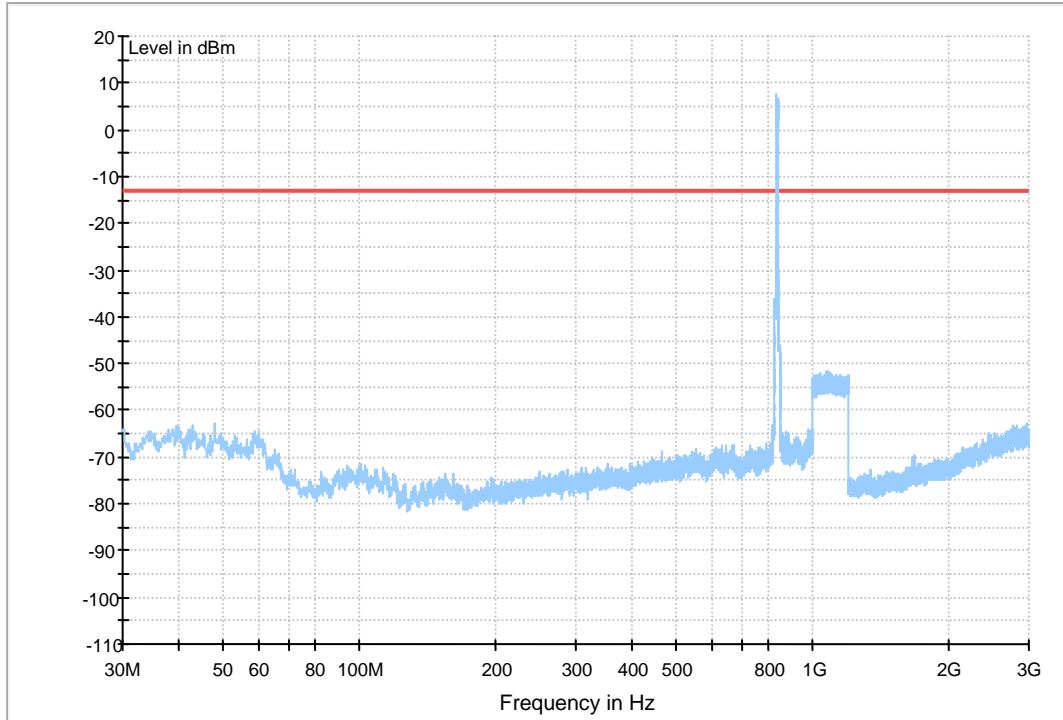
## 12.5 HSUPA BNAD V

### 12.5.1 Traffic Mode (9kHz-30MHz)



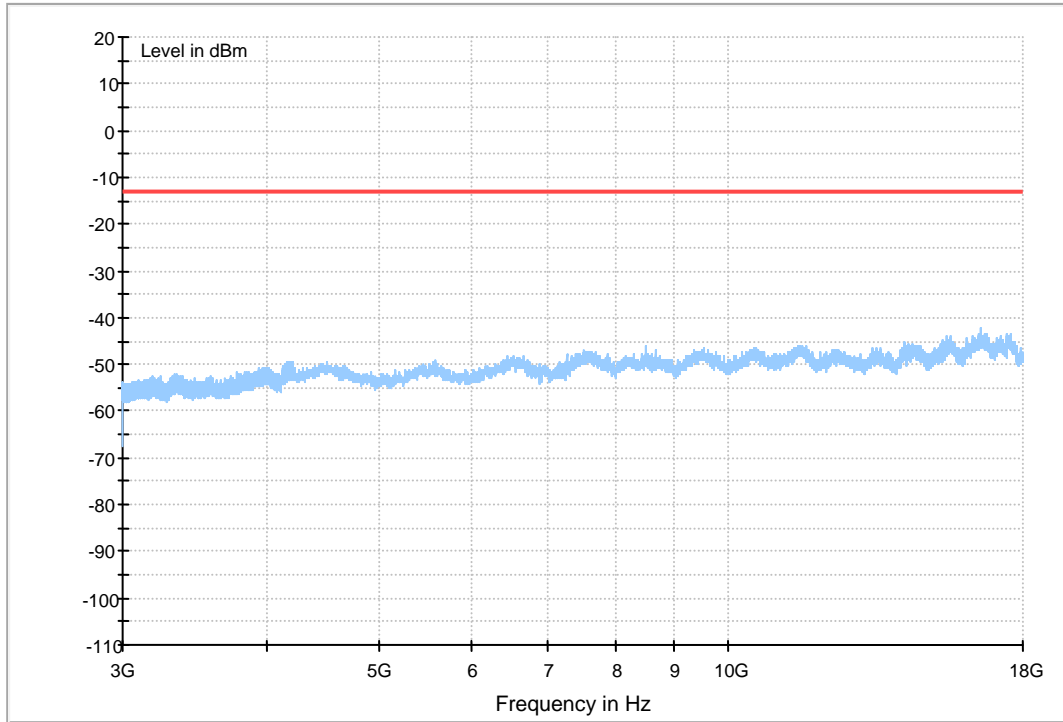


### 12.5.2 Traffic Mode (30MHz-3GHz)





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

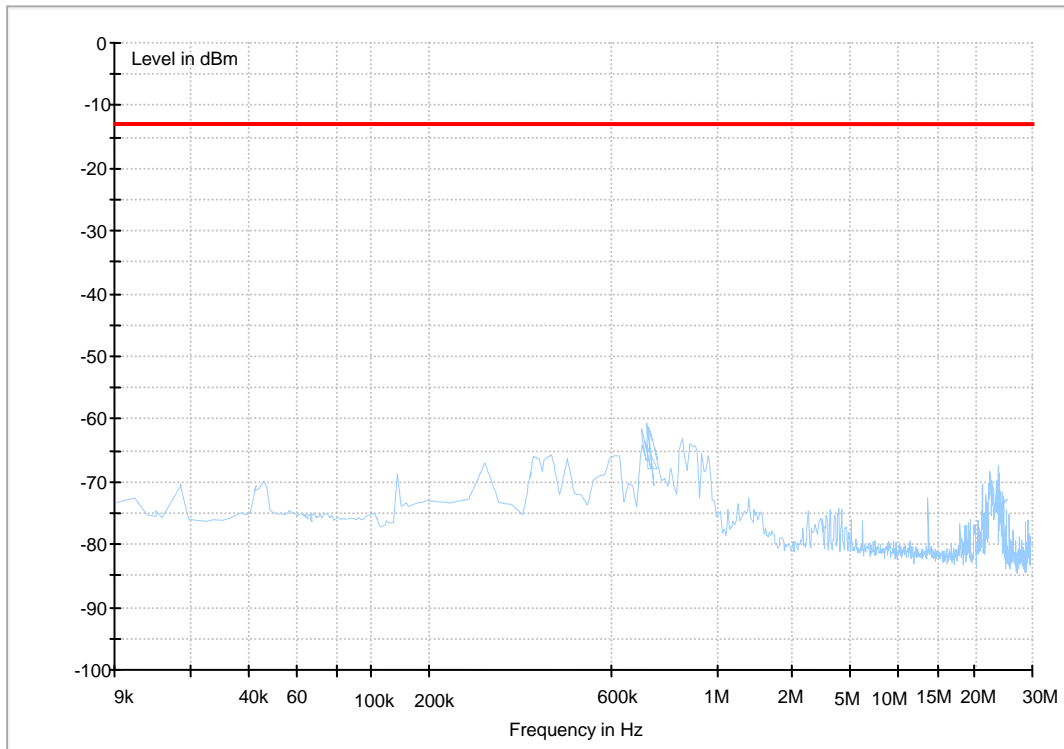




## 13 Appendix 2E: Radiated spurious emission

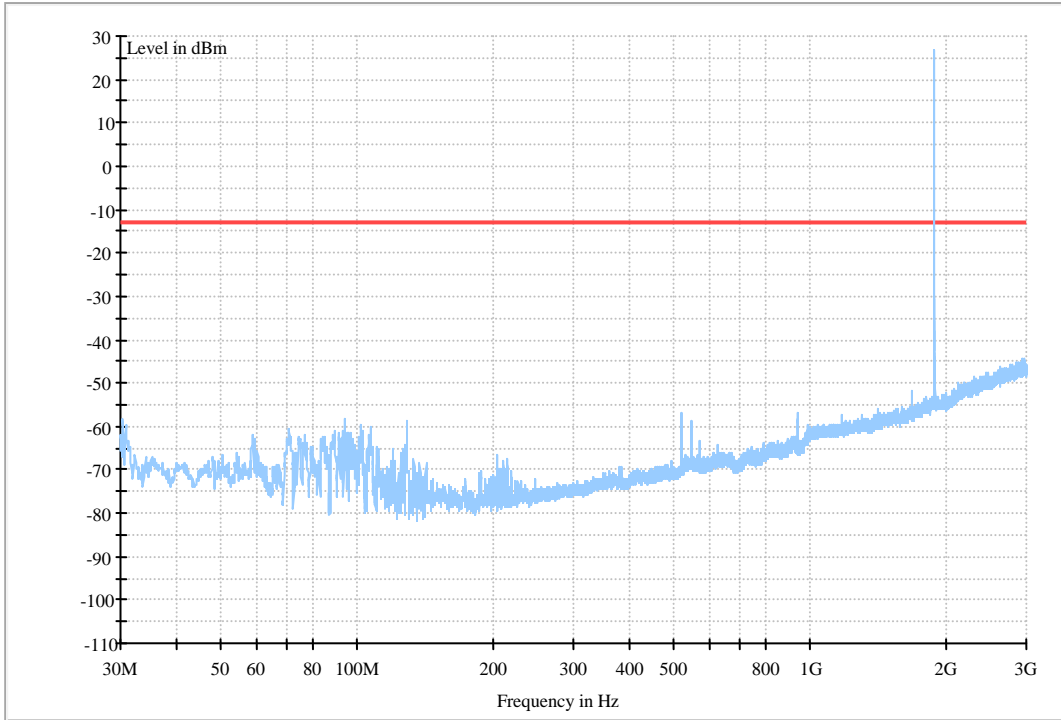
### 13.1 GPRS 1900

#### 13.1.1 Traffic Mode (9kHz-30MHz)



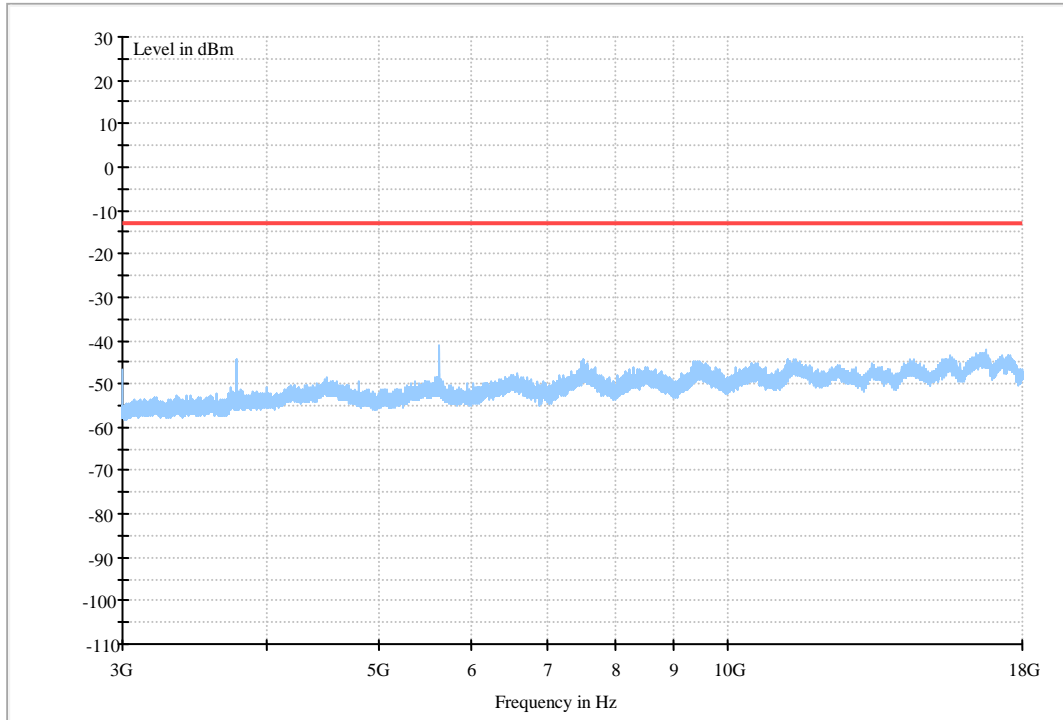


### 13.1.2 Traffic Mode (30MHz-3GHz)



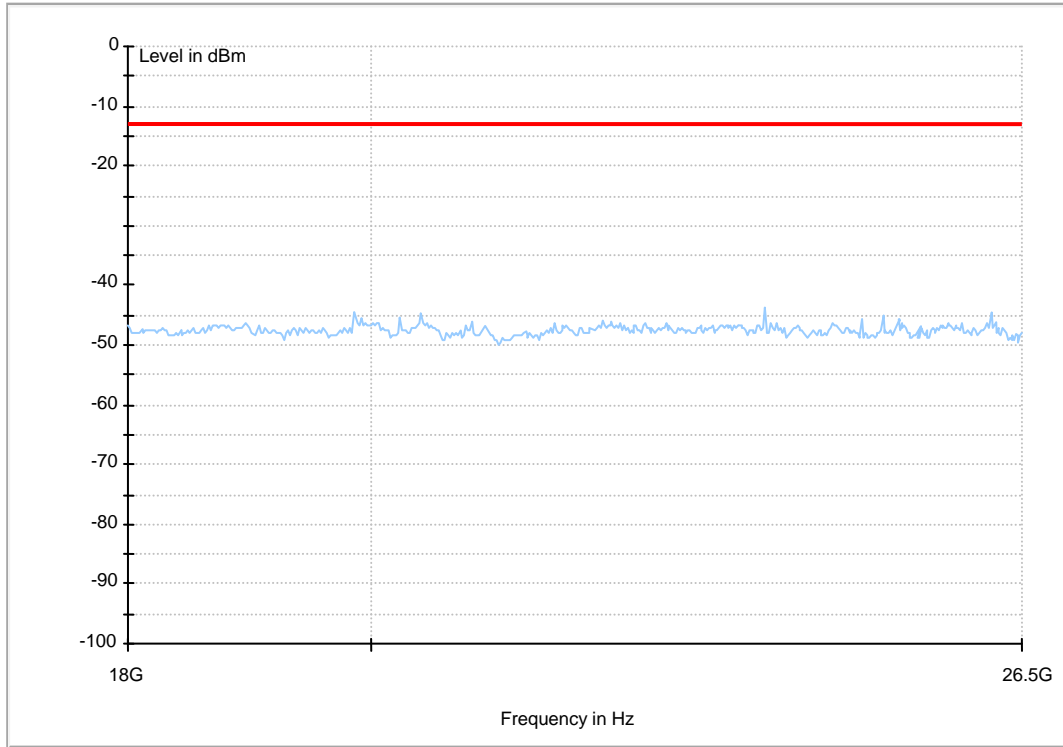


### 13.1.3 Traffic Mode (3GHz-18GHz)





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

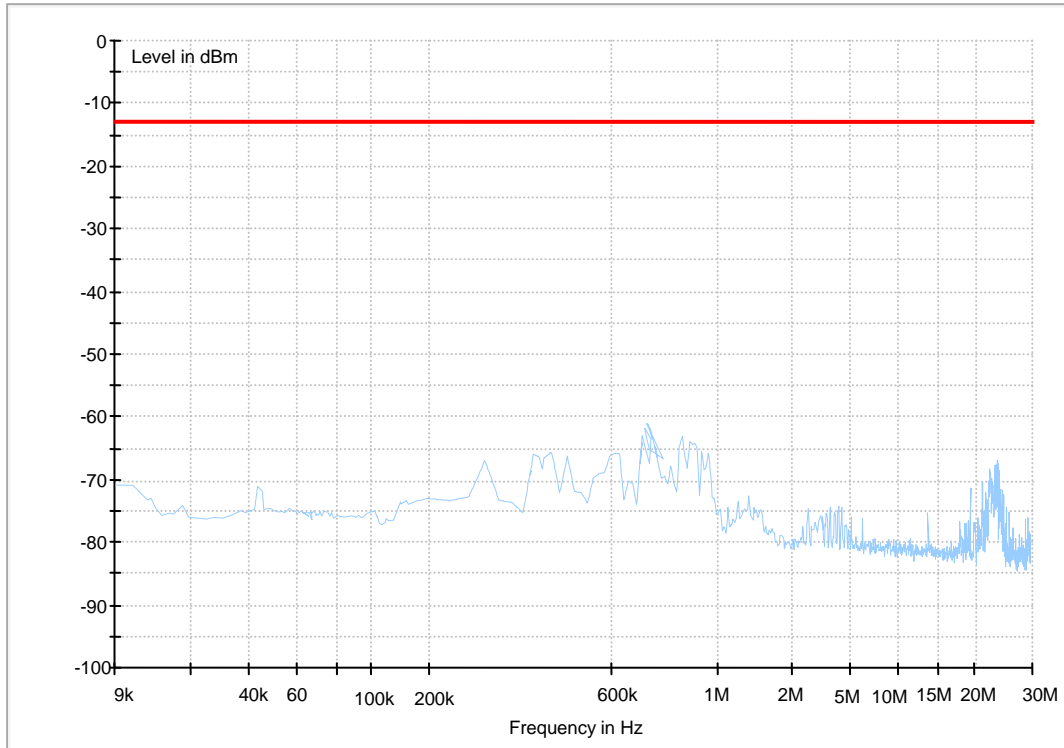






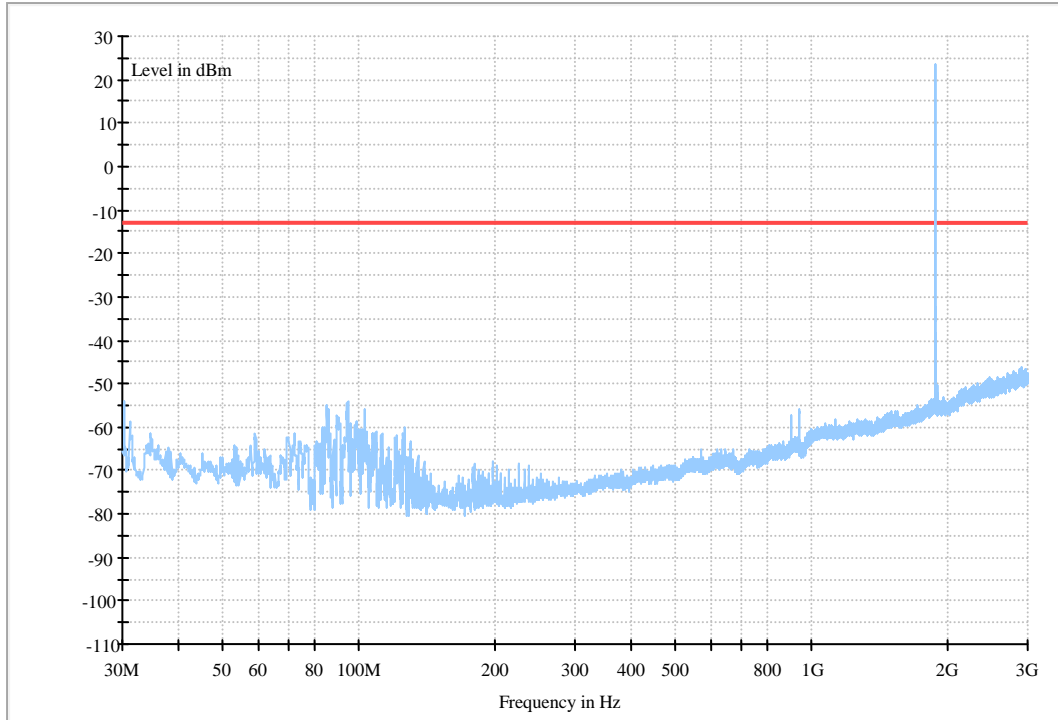
## 13.2 EDGE 1900

### 13.2.1 Traffic Mode (9kHz-30MHz)



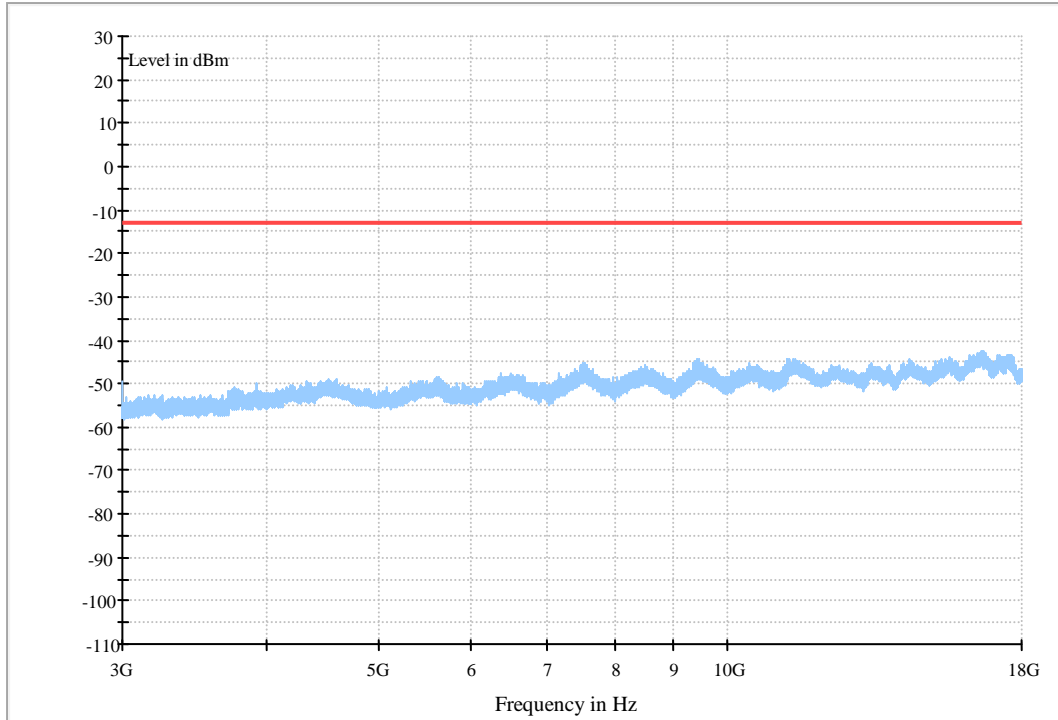


### 13.2.2 Traffic Mode (30MHz-3GHz)



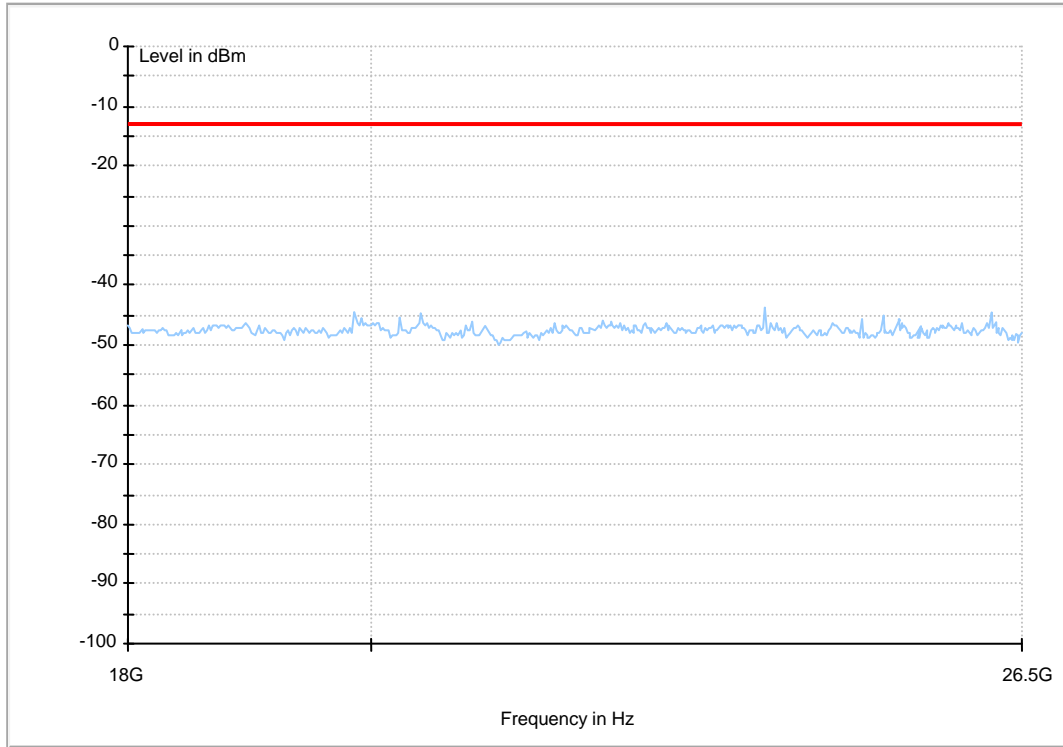


### 13.2.3 Traffic Mode (3GHz-18GHz)





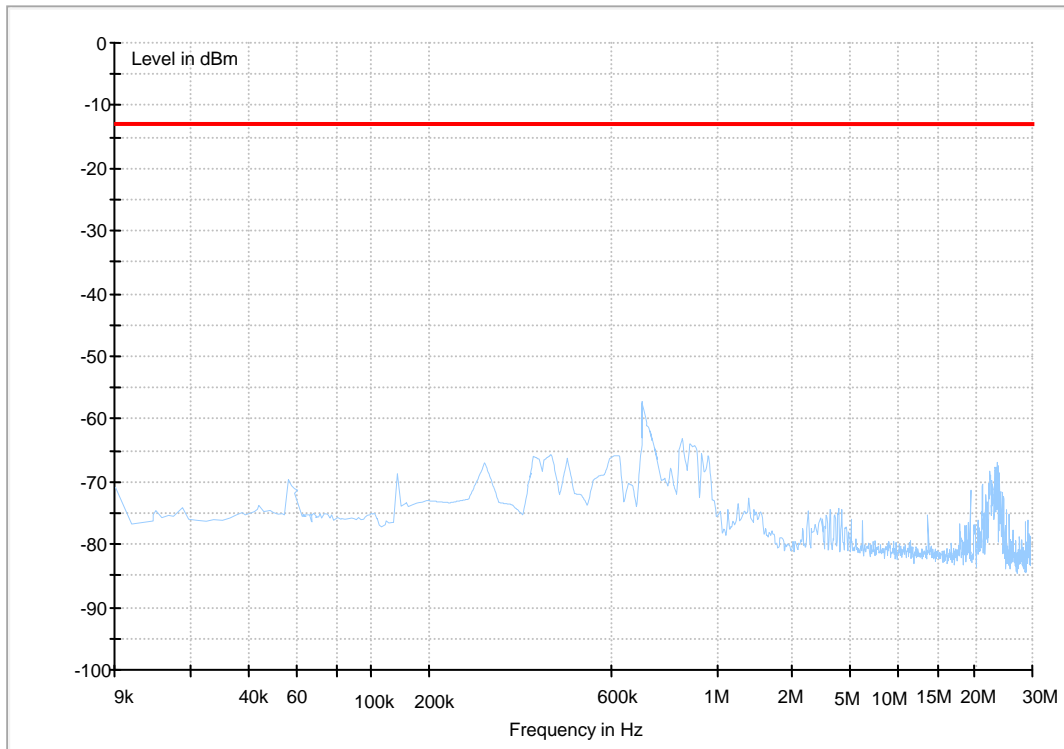
### 13.2.4 Traffic Mode (18GHz-26.5GHz)





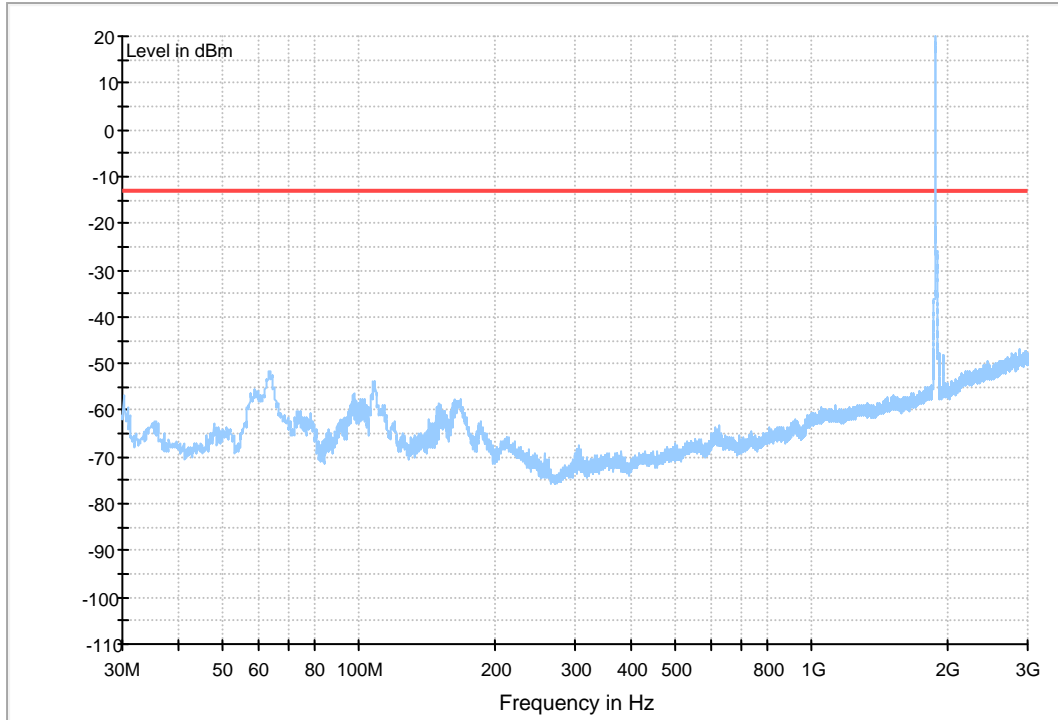
## 13.3 WCDMA BAND II

### 13.3.1 Traffic Mode (9kHz-30MHz)



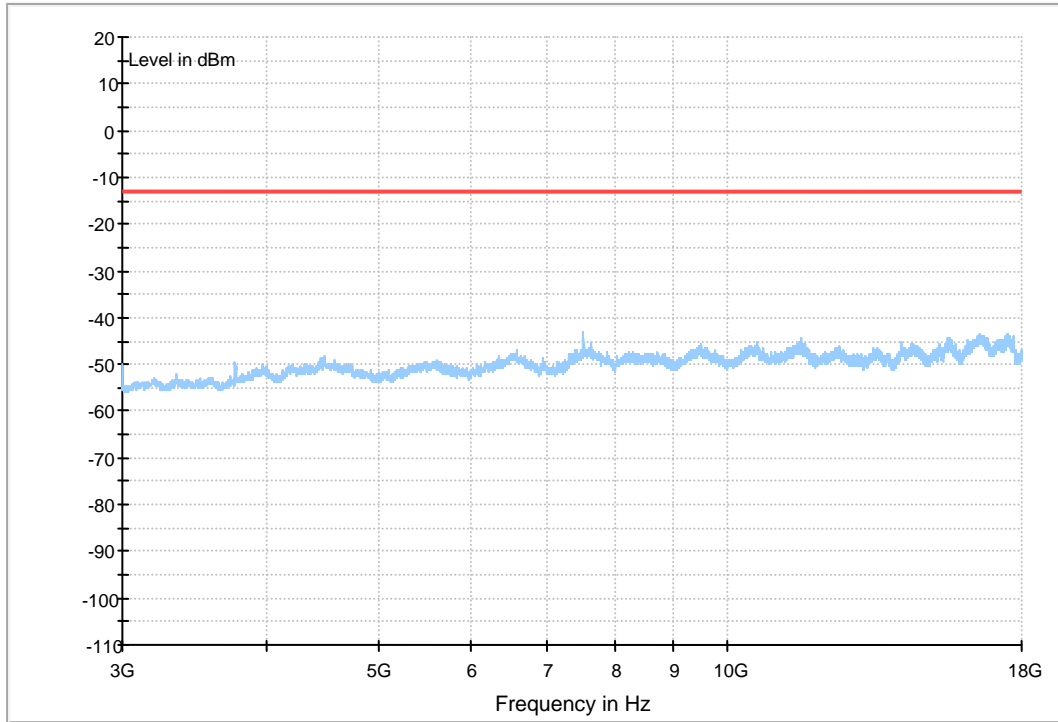


### 13.3.2 Traffic Mode (30MHz-3GHz)



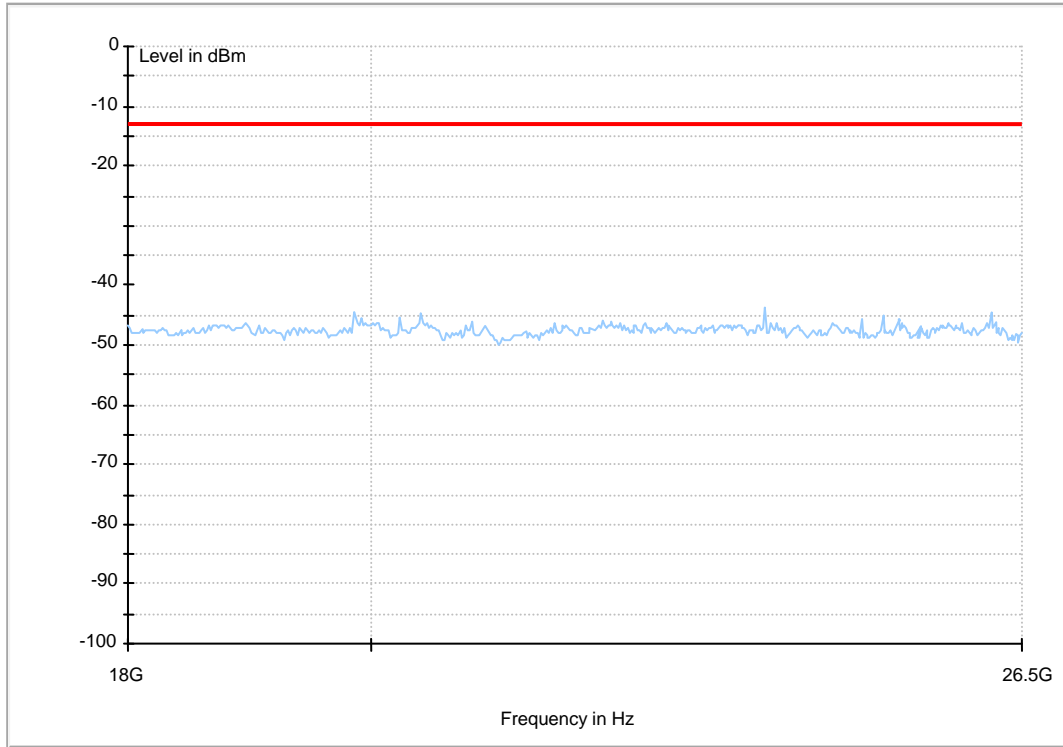


### 13.3.3 Traffic Mode (3GHz-18GHz)





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

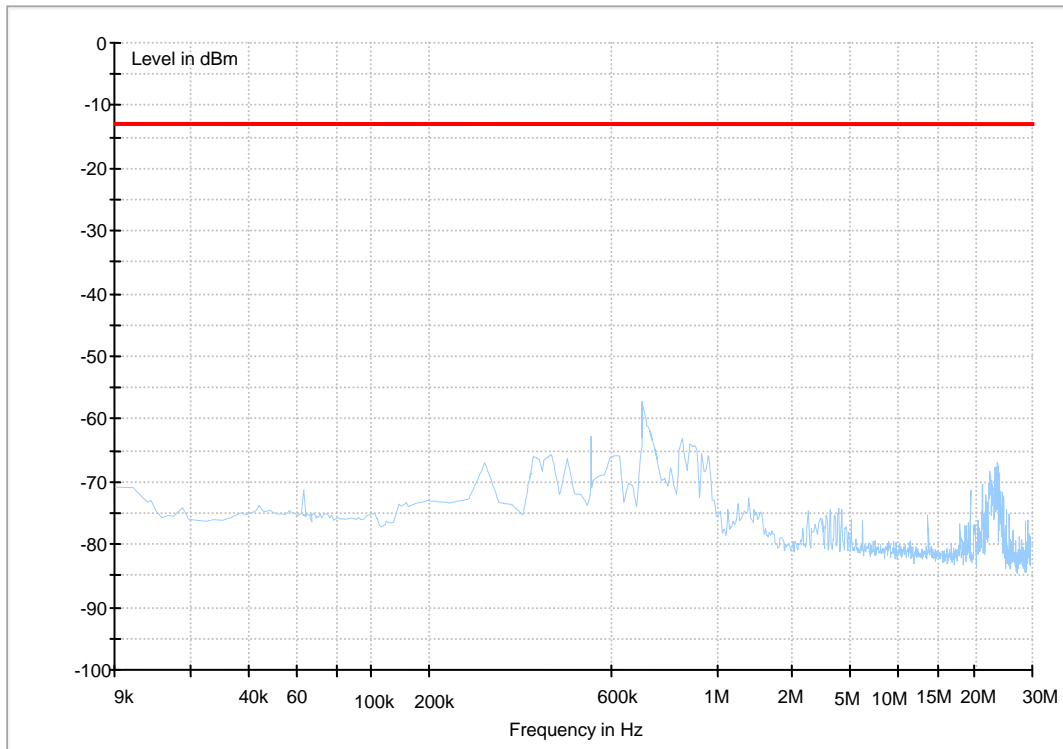






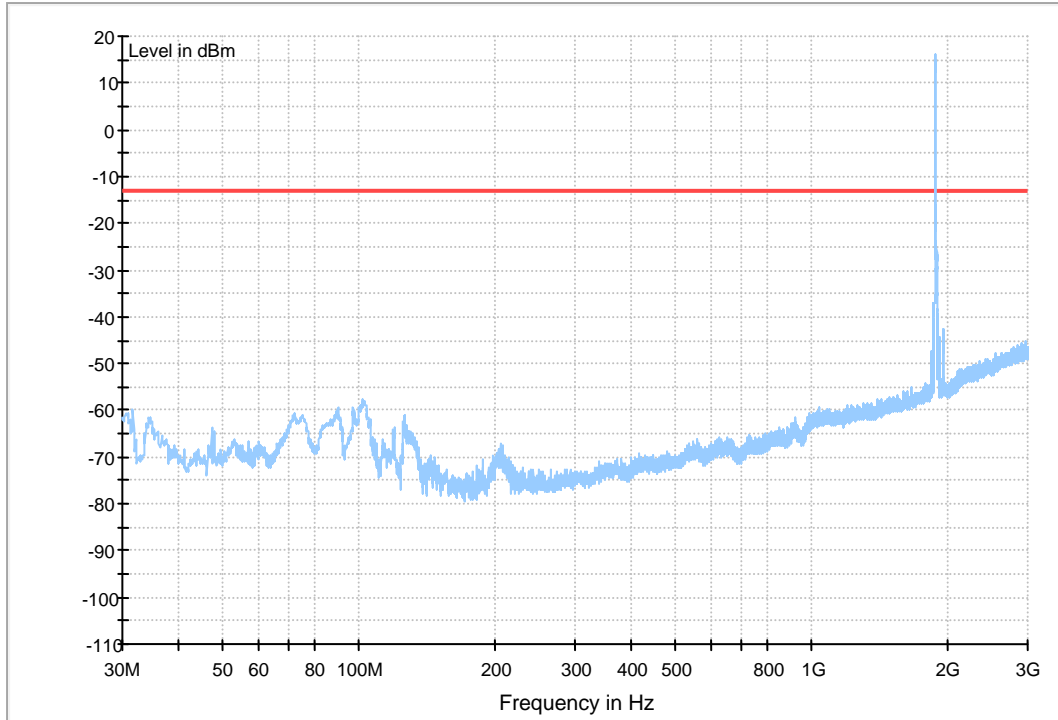
## 13.4 HSDPA BAND II

### 13.4.1 Traffic Mode (9kHz-30MHz)



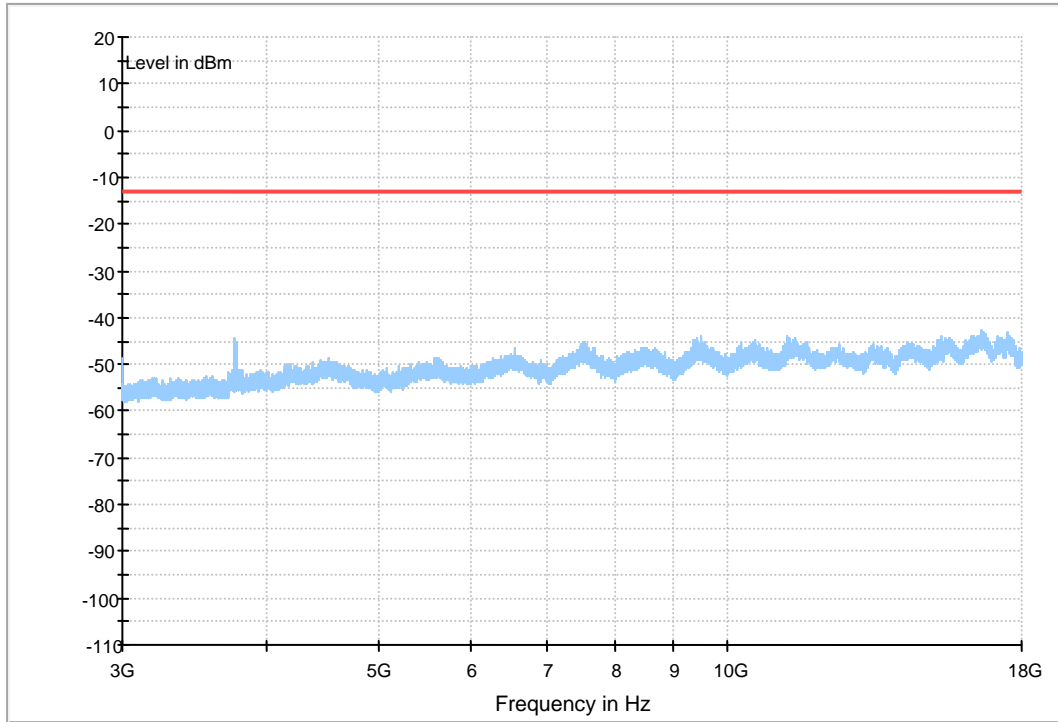


### 13.4.2 Traffic Mode (30MHz-3GHz)



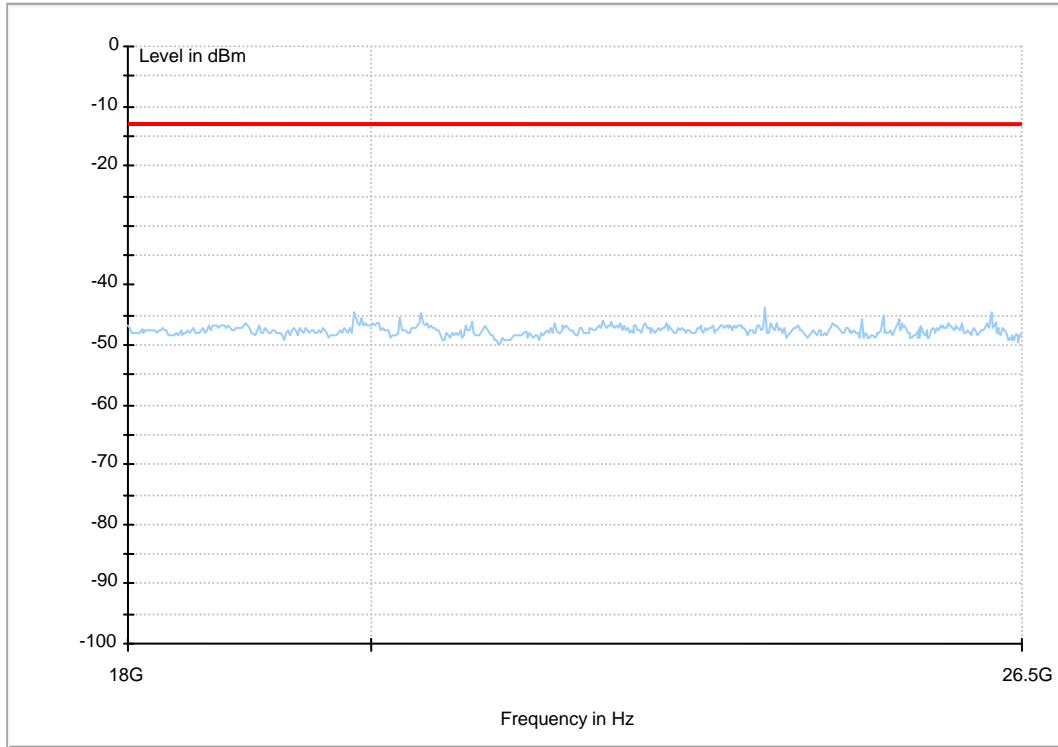


### 13.4.3 Traffic Mode (3GHz-18GHz)





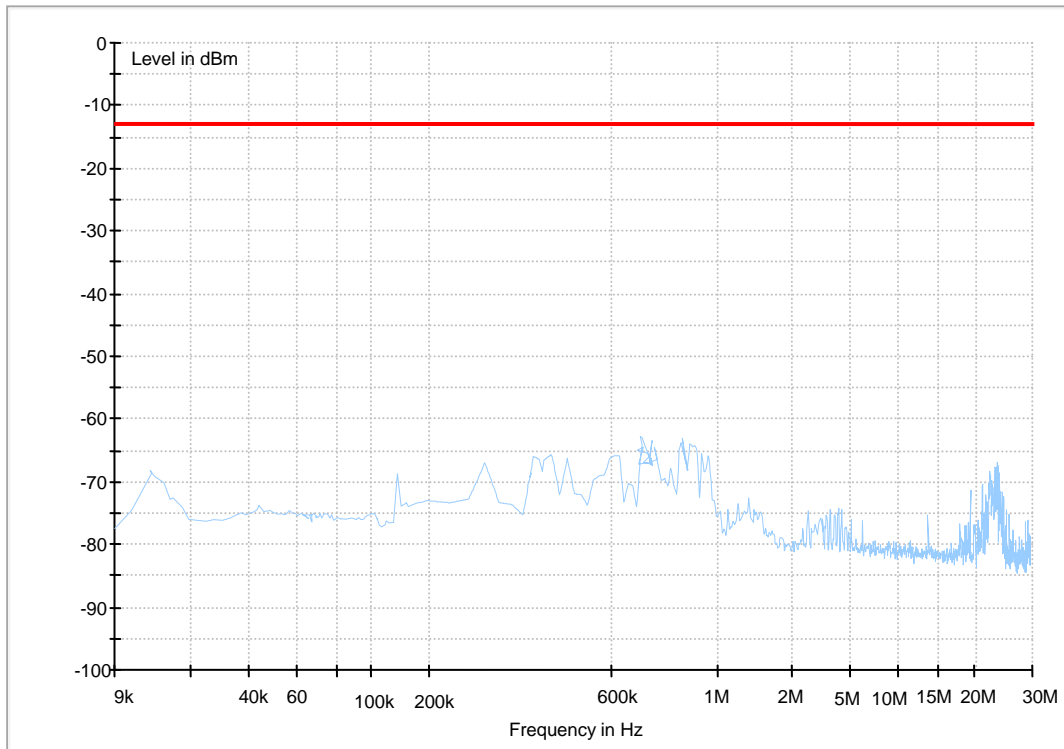
### 13.4.4 Traffic Mode (18GHz-26.5GHz)





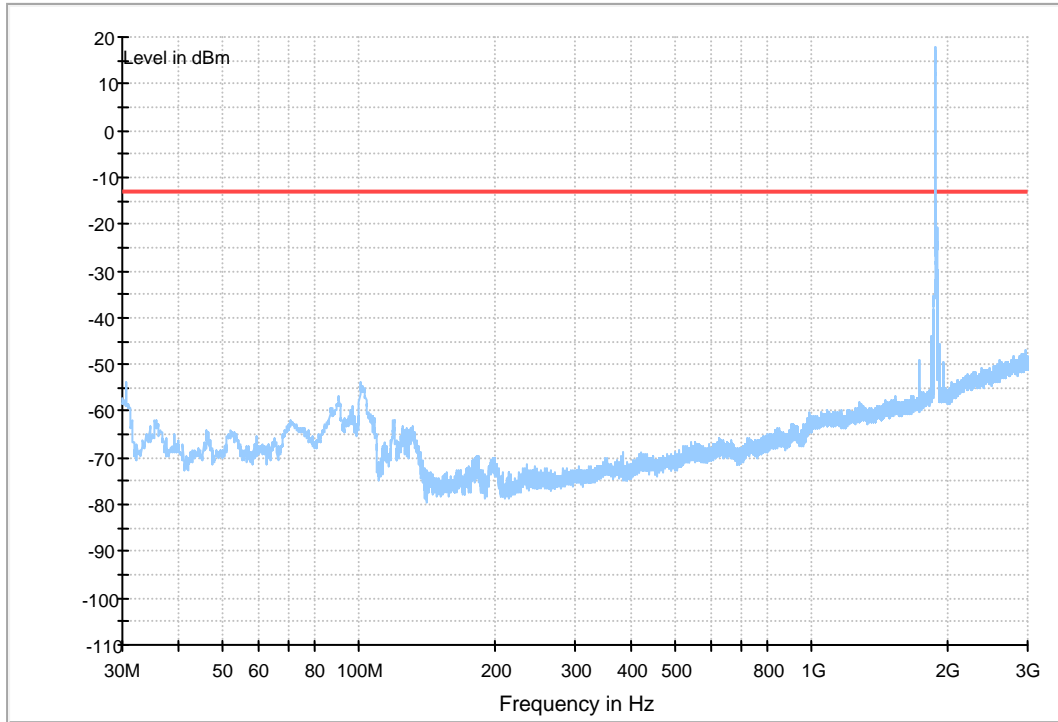
## 13.5 HSUPA BAND II

### 13.5.1 Traffic Mode (9kHz-30MHz)



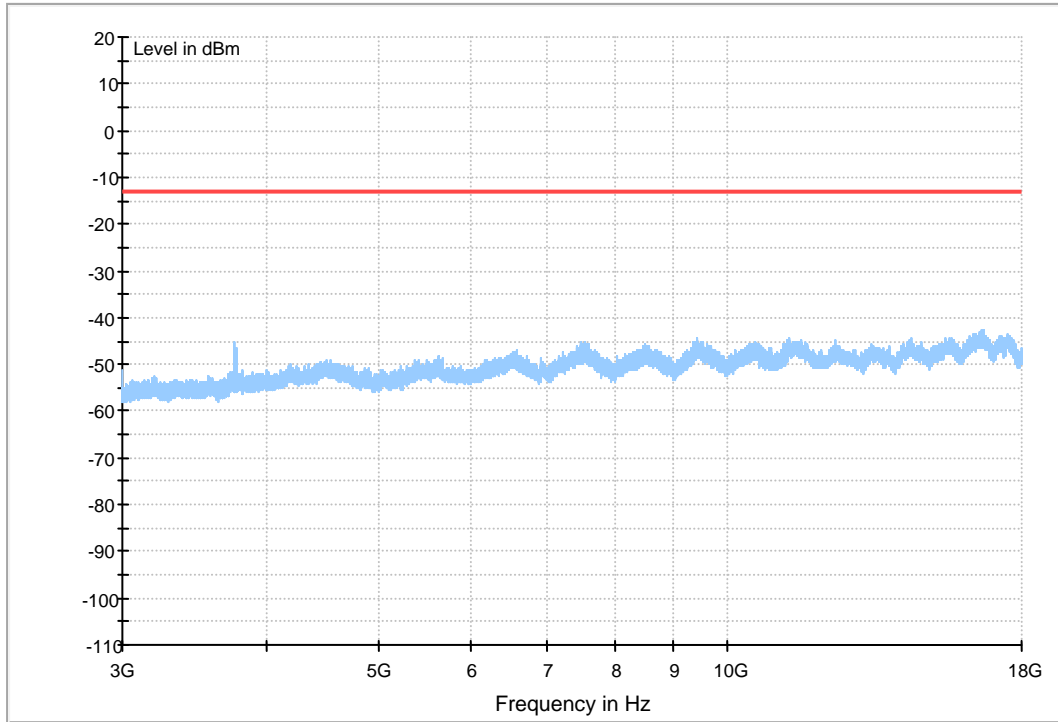


### 13.5.2 Traffic Mode (30MHz-3GHz)



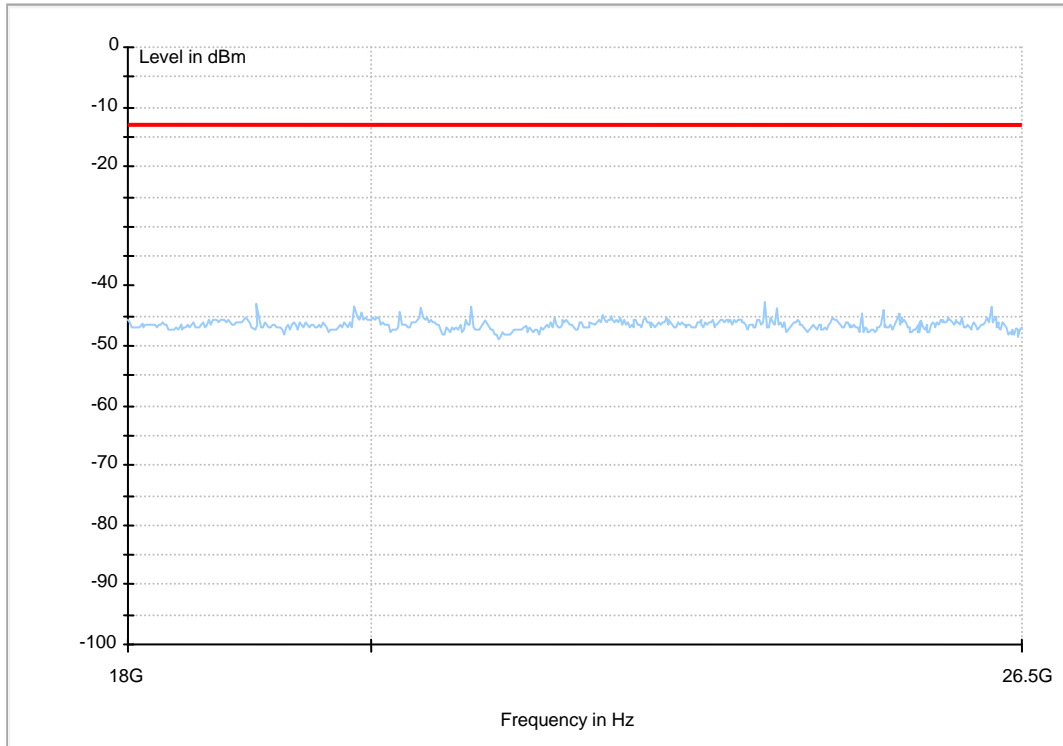


### 13.5.3 Traffic Mode (3GHz-18GHz)





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



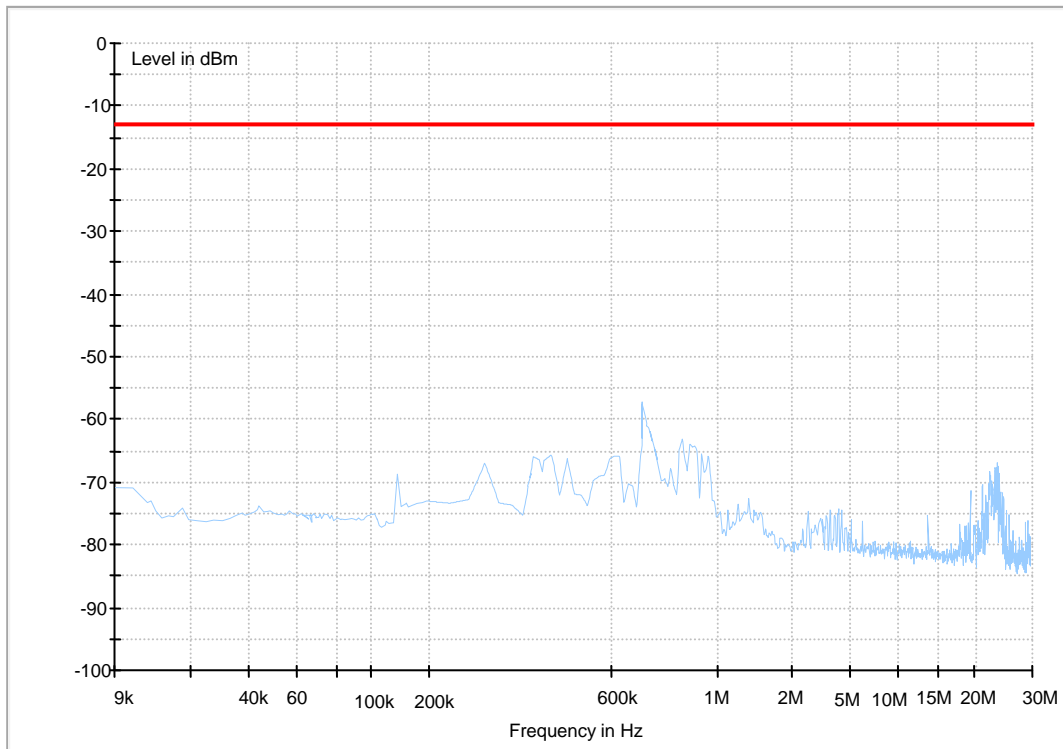




## 14 Appendix 3E: Radiated spurious emission

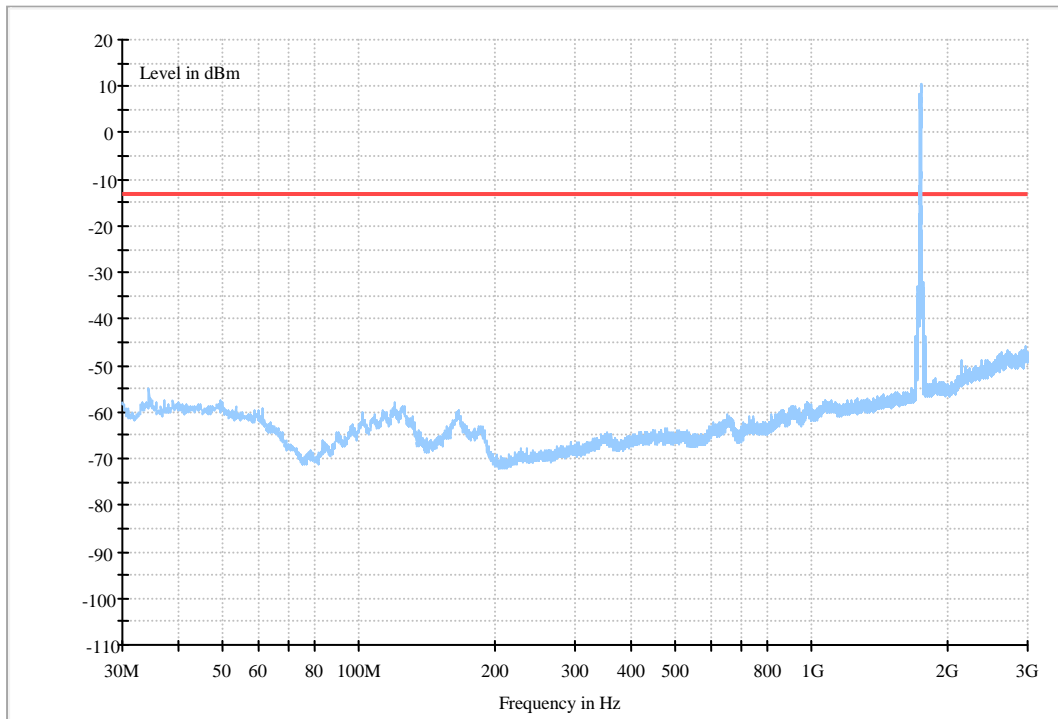
### 14.1 WCDMA BAND IV

#### 14.1.1 Traffic Mode (9kHz-30MHz)



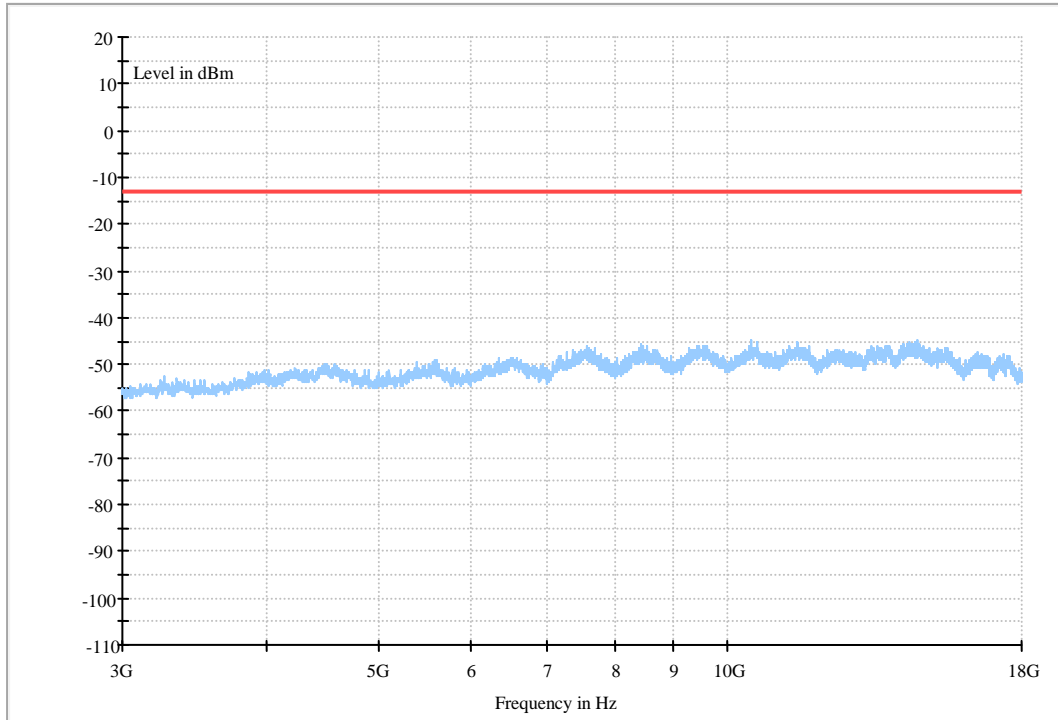


### 14.1.2 Traffic Mode (30MHz-3GHz)





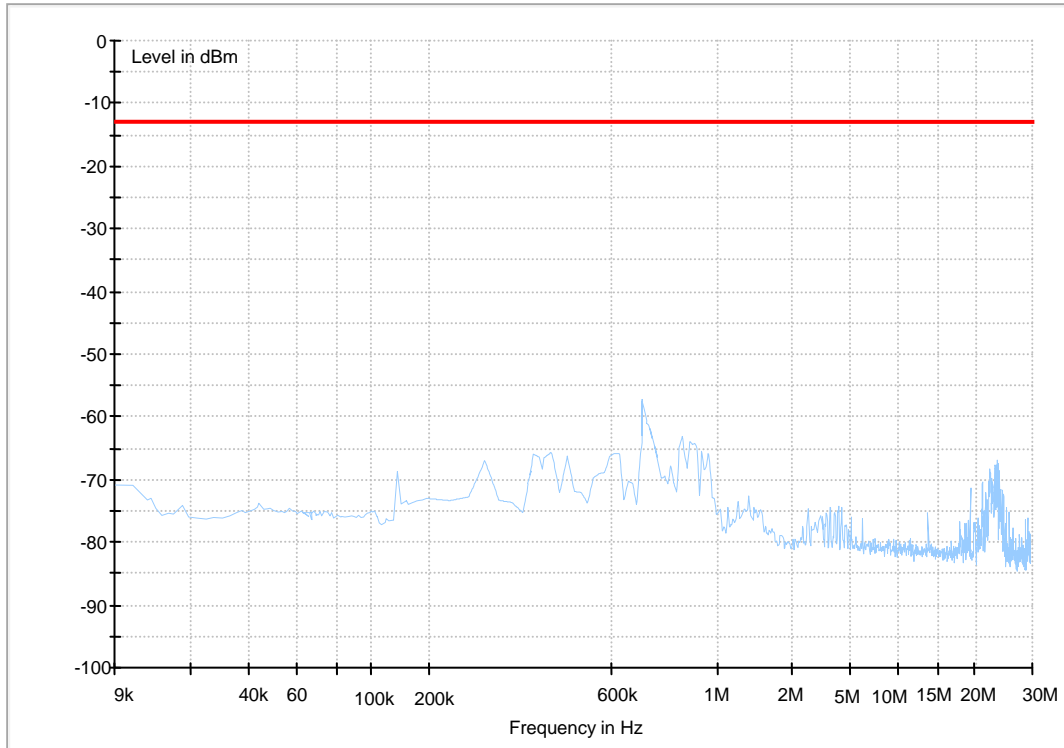
### 14.1.3 Traffic Mode (3GHz-18GHz)





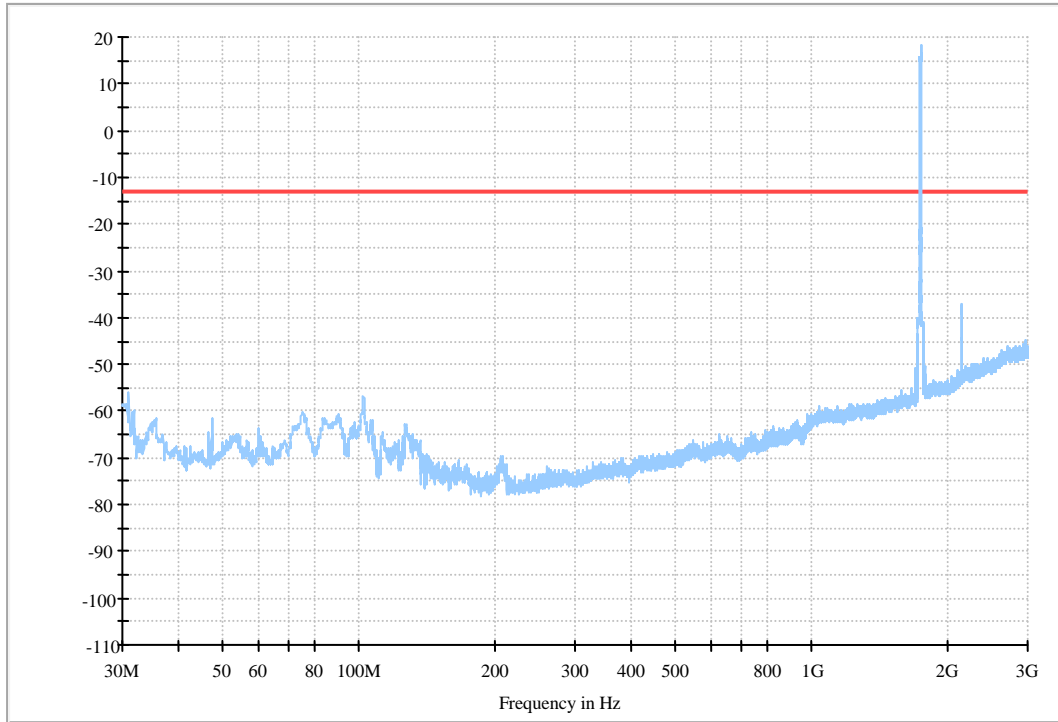
## 14.2 HSDPA BAND IV

### 14.2.1 Traffic Mode (9kHz-30MHz)



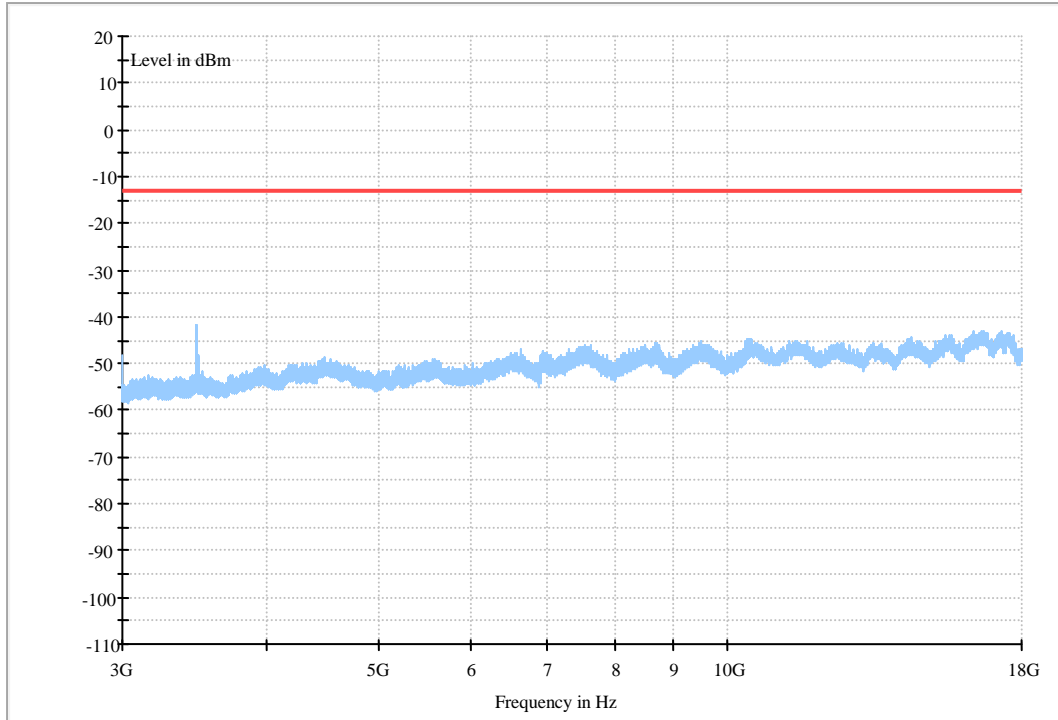


### 14.2.2 Traffic Mode (30MHz-3GHz)





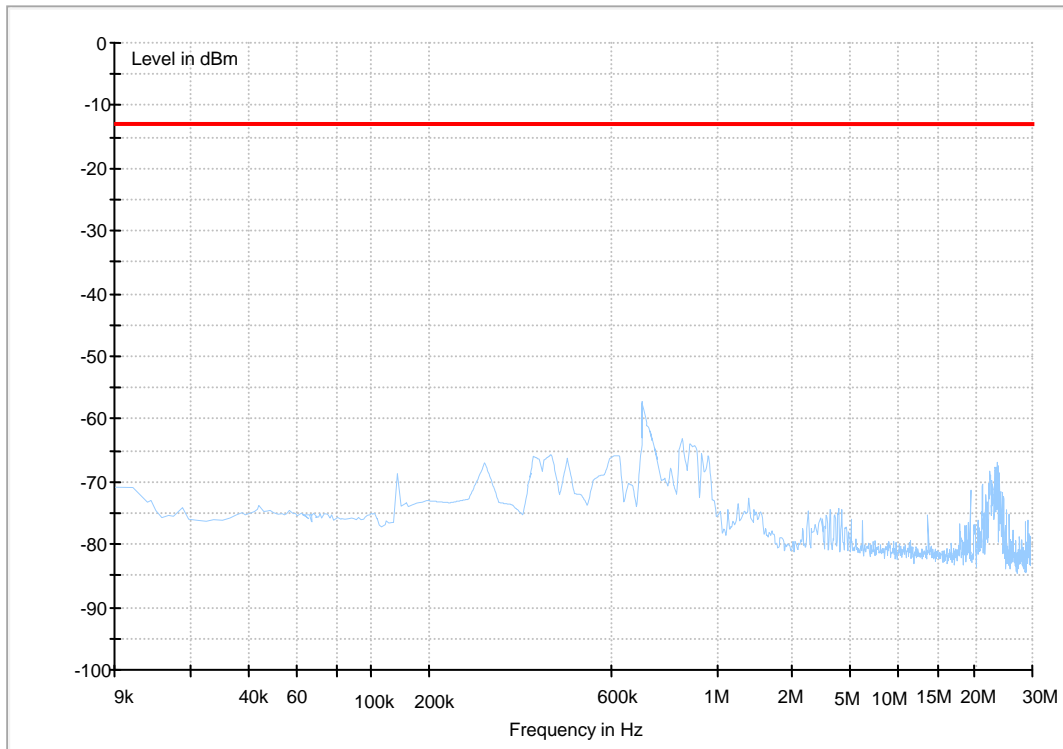
### 14.2.3 Traffic Mode (3GHz-18GHz)





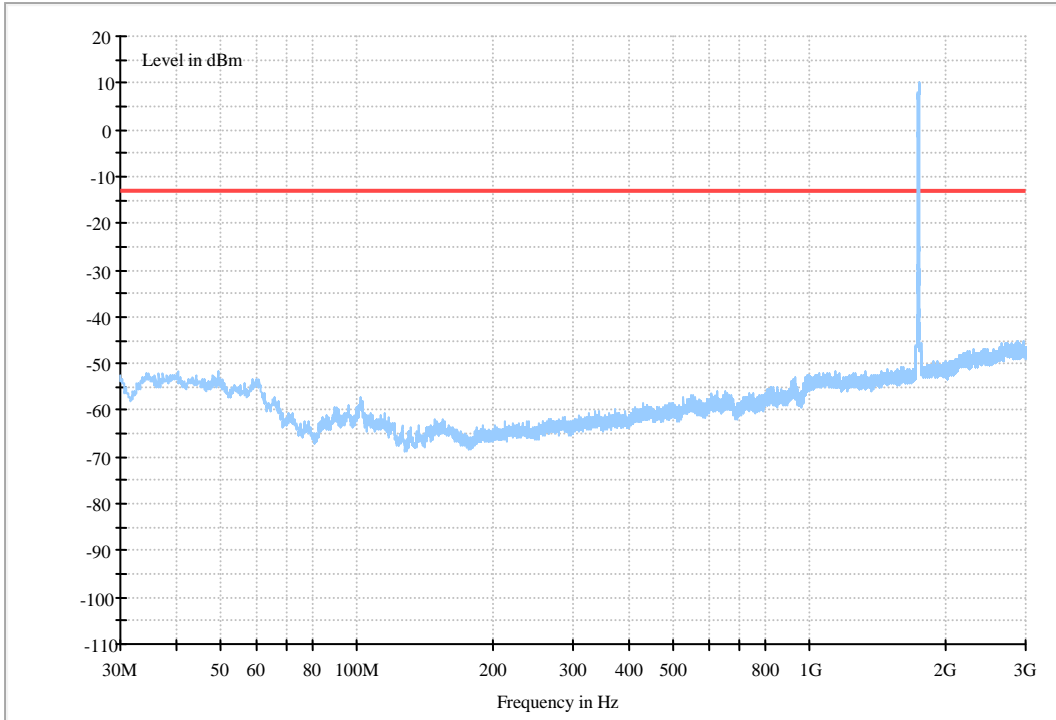
## 14.3 HSUPA BAND IV

### 14.3.1 Traffic Mode (9kHz-30MHz)





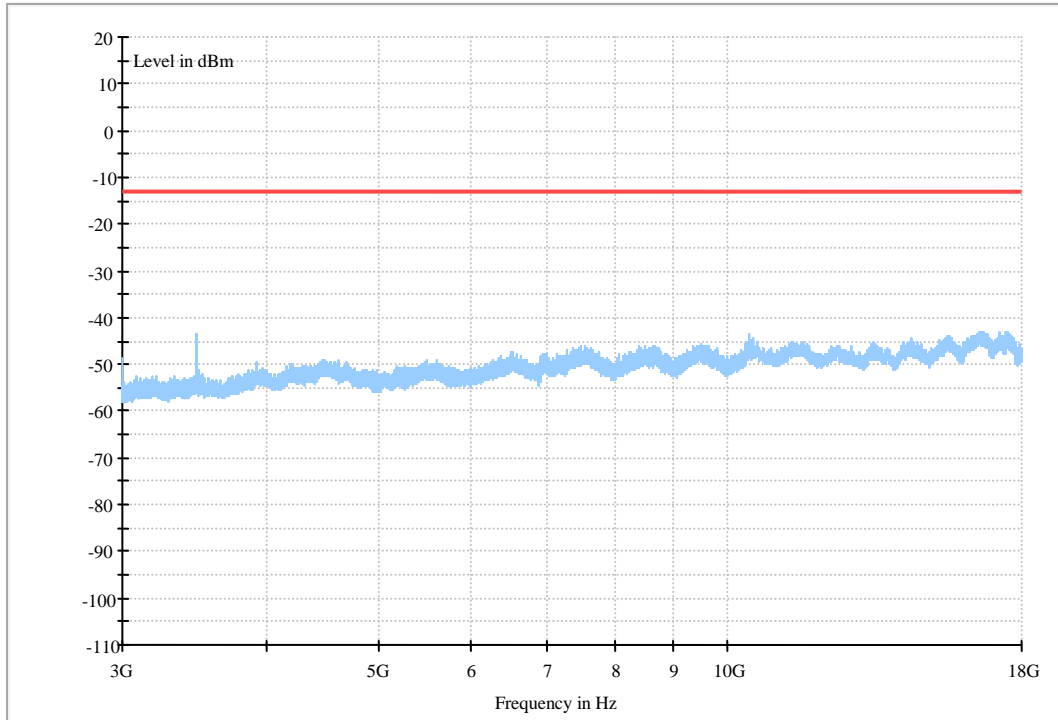
### 14.3.2 Traffic Mode (30MHz-3GHz)







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





## 15 Appendix 1F: Frequency Stability

### 15.1 Frequency Error vs. Temperature

Test Mode	RF Ch.	Volt.	Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
GSM/TM1	M	VN	-30 °C	-9	-0.01075	---	±2.5	Pass
			-20 °C	14	0.01673	---	±2.5	Pass
			-10 °C	-21	-0.02509	---	±2.5	Pass
			0 °C	28	0.03345	---	±2.5	Pass
			10 °C	-23	-0.02748	---	±2.5	Pass
			20 °C	14	0.01673	---	±2.5	Pass
			30 °C	-9	-0.01075	---	±2.5	Pass
			40 °C	15	0.01792	---	±2.5	Pass
			50 °C	-23	-0.02748	---	±2.5	Pass
GSM/TM2	M	VN	-30 °C	-25	-0.02987	---	±2.5	Pass
			-20 °C	-17	-0.02031	---	±2.5	Pass
			-10 °C	-10	-0.01195	---	±2.5	Pass
			0 °C	8	0.00956	---	±2.5	Pass
			10 °C	-6	-0.00717	---	±2.5	Pass
			20 °C	-17	-0.02031	---	±2.5	Pass
			30 °C	12	0.01434	---	±2.5	Pass
			40 °C	15	0.01792	---	±2.5	Pass
			50 °C	16	0.01912	---	±2.5	Pass
UMTS/TM1	M	VN	-30 °C	16	0.01912	---	±2.5	Pass
			-20 °C	22	0.02628	---	±2.5	Pass
			-10 °C	15	0.01792	---	±2.5	Pass
			0 °C	12	0.01434	---	±2.5	Pass
			10 °C	-25	-0.02987	---	±2.5	Pass
			20 °C	-13	-0.01553	---	±2.5	Pass



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Test Mode	RF Ch.	Volt.	Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
			30 °C	-9	-0.01075	---	±2.5	Pass
			40 °C	26	0.03106	---	±2.5	Pass
			50 °C	21	0.02509	---	±2.5	Pass



## 15.2 Frequency Error vs. Voltage

Test Mode	RF Ch.	Temp.	Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
GSM/TM1	M	TN	VL	-13	-0.01553	---	±2.5	Pass
			VN	-13	-0.01553	---	±2.5	Pass
			VH	23	0.02748	---	±2.5	Pass
GSM/TM1	M	TN	VL	-18	-0.02151	---	±2.5	Pass
			VN	-10	-0.01195	---	±2.5	Pass
			VH	-12	-0.01434	---	±2.5	Pass
UMTS/TM1	M	TN	VL	20	0.02389	---	±2.5	Pass
			VN	16	0.01912	---	±2.5	Pass
			VH	24	0.02867	---	±2.5	Pass



## 16 Appendix 2F: Frequency Stability

### 16.1 Frequency Error vs. Temperature

Test Mode	RF Ch.	Volt.	Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
GSM/TM1	M	VN	-30 °C	23	0.01223	---	±2.5	Pass
			-20 °C	16	0.00851	---	±2.5	Pass
			-10 °C	19	0.01011	---	±2.5	Pass
			0 °C	-24	-0.01277	---	±2.5	Pass
			10 °C	27	0.01436	---	±2.5	Pass
			20 °C	19	0.01011	---	±2.5	Pass
			30 °C	-8	-0.00426	---	±2.5	Pass
			40 °C	-13	-0.00691	---	±2.5	Pass
			50 °C	24	0.01277	---	±2.5	Pass
GSM/TM2	M	VN	-30 °C	-10	-0.00532	---	±2.5	Pass
			-20 °C	-8	-0.00426	---	±2.5	Pass
			-10 °C	14	0.00745	---	±2.5	Pass
			0 °C	15	0.00798	---	±2.5	Pass
			10 °C	-20	-0.01064	---	±2.5	Pass
			20 °C	23	0.01223	---	±2.5	Pass
			30 °C	21	0.01117	---	±2.5	Pass
			40 °C	-22	-0.01170	---	±2.5	Pass
			50 °C	19	0.01011	---	±2.5	Pass
UMTS/TM1	M	VN	-30 °C	-19	-0.01011	---	±2.5	Pass
			-20 °C	-15	-0.00798	---	±2.5	Pass
			-10 °C	-14	-0.00745	---	±2.5	Pass
			0 °C	17	0.00904	---	±2.5	Pass
			10 °C	-20	-0.01064	---	±2.5	Pass
			20 °C	-20	-0.01064	---	±2.5	Pass



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Test Mode	RF Ch.	Volt.	Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
			30 °C	23	0.01223	---	±2.5	Pass
			40 °C	22	0.01170	---	±2.5	Pass
			50 °C	-7	-0.00372	---	±2.5	Pass



## 16.2 Frequency Error vs. Voltage

Test Mode	RF Ch.	Temp.	Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
GSM/TM1	M	TN	VL	-24	-0.01277	---	±2.5	Pass
			VN	-11	-0.00585	---	±2.5	Pass
			VH	9	0.00479	---	±2.5	Pass
GSM/TM1	M	TN	VL	-19	-0.01011	---	±2.5	Pass
			VN	15	0.00798	---	±2.5	Pass
			VH	7	0.00372	---	±2.5	Pass
UMTS/TM1	M	TN	VL	-21	-0.01117	---	±2.5	Pass
			VN	20	0.01064	---	±2.5	Pass
			VH	28	0.01489	---	±2.5	Pass



## 17 Appendix 3F: Frequency Stability

### 17.1 Frequency Error vs. Temperature

Test Mode	RF Ch.	Volt.	Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
UMTS/TM 1	M	VN	-30 °C	-15	-0.00866	---	±2.5	Pass
			-20 °C	-14	-0.00808	---	±2.5	Pass
			-10 °C	15	0.00866	---	±2.5	Pass
			0 °C	-13	-0.00750	---	±2.5	Pass
			10 °C	-22	-0.01270	---	±2.5	Pass
			20 °C	-21	-0.01212	---	±2.5	Pass
			30 °C	-10	-0.00577	---	±2.5	Pass
			40 °C	22	0.01270	---	±2.5	Pass
			50 °C	20	0.01154	---	±2.5	Pass

### 17.2 Frequency Error vs. Voltage

Test Mode	RF Ch.	Temp.	Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
UMTS/TM 1	M	20 °C	VL	13	0.00750	---	±2.5	Pass
			VN	-23	-0.01328	---	±2.5	Pass
			VH	-10	-0.00577	---	±2.5	Pass

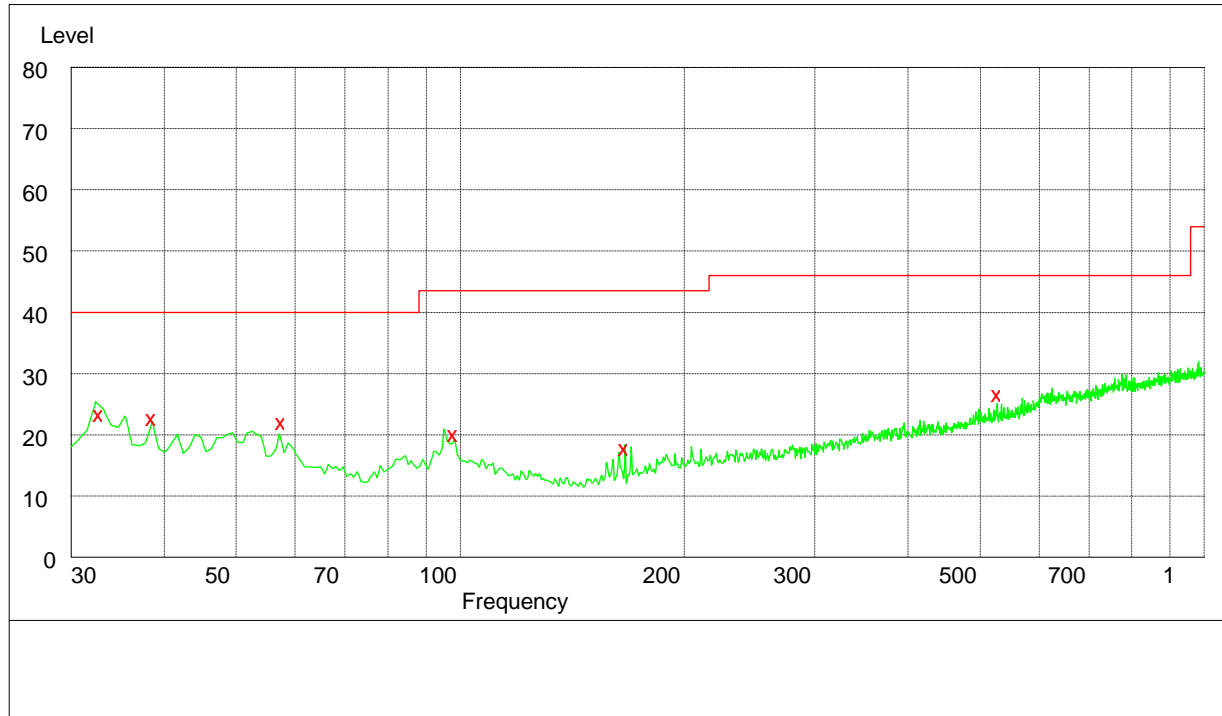




## 18 Appendix G: Receiver Spurious Emissions

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

### 18.1 30MHz-1GHz

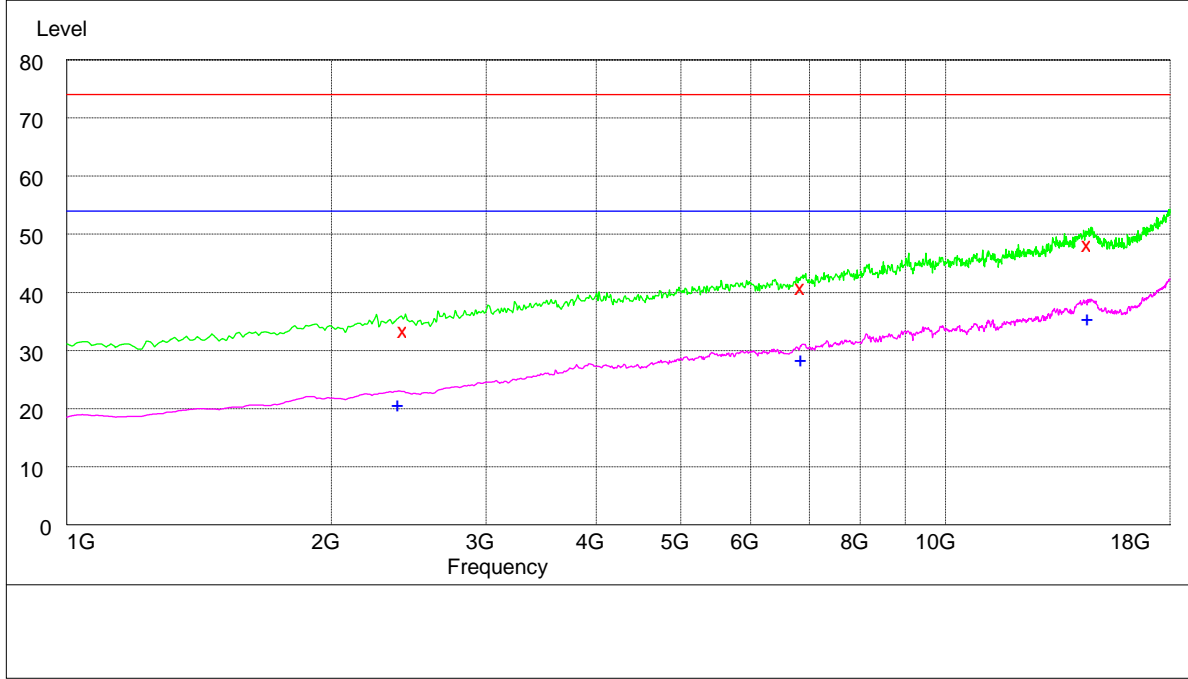


MEASUREMENT RESULT: QP Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarisation
32.760000	23.80	14.8	40.0	16.2	178.0	135.00	VERTICAL
38.640000	23.20	15.2	40.0	16.8	100.0	231.00	VERTICAL
57.600000	22.60	13.8	40.0	17.4	200.0	119.00	VERTICAL
98.220000	20.60	13.2	43.5	22.9	100.0	146.00	VERTICAL
166.740000	18.40	10.4	43.5	25.1	100.0	80.00	VERTICAL
528.120000	27.10	19.7	46.0	18.9	100.0	57.00	VERTICAL



### 18.21GHz-18GHz



#### MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarisation
2420.500000	33.90	-10.4	74.0	40.1	100.0	128.00	VERTICAL
6853.000000	41.30	2.1	74.0	32.7	100.0	351.00	HORIZONTAL
14538.600000	48.60	14.5	74.0	25.4	100.0	180.00	HORIZONTAL

#### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarisation
2386.200000	21.20	-10.5	54.0	32.8	100.0	219.00	VERTICAL
6862.100000	28.90	2.2	54.0	25.1	100.0	144.00	HORIZONTAL
14538.100000	36.00	14.5	54.0	18.0	100.0	26.00	VERTICAL