Appendix A

Transmitter Output Power

According to FCC Part 2.1046 & Part22.913

Conducted Power of Transmitter

		RF Output Power (Conducted)					
TEST CONDITIONS		Channel128(B) 824.2MHz		Channel192(M) 837.0MHz		Channel251(T) 848.8MHz	
		dBm		dBm		dBm	
T_{nom} / V_{nom}		Measured	Limit	Measured	Limit	Measured	Limit
TM1		32.26	38.5	32.24	38.5	32.32	38.5
TM2		26.98	38.5	27.03	38.5	27.09	38.5
TEST CONDITIONS		Channel4132(B) 826.4MHz		Channel4182(M) 836.4MHz		Channel4233(T) 846.6MHz	
		dBm		dBm		dBm	
T_{nom} / V_{nom}		Measured	Limit	Measured	Limit	Measured	Limit
TM3		23.61	38.5	23.52	38.5	23.55	38.5
TM4	Case1	23.61	38.5	23.45	38.5	23.48	38.5
	Case2	22.78	38.5	22.66	38.5	22.7	38.5
	Case3	22.23	38.5	22.08	38.5	22.12	38.5
	Case4	21.94	38.5	21.81	38.5	21.82	38.5
TM5	Case1	22.38	38.5	22.15	38.5	22.26	38.5
	Case2	20.68	38.5	20.56	38.5	20.61	38.5
	Case3	21.42	38.5	21.31	38.5	21.33	38.5
	Case4	21.01	38.5	20.89	38.5	20.84	38.5
	Case5	22.55	38.5	22.42	38.5	22.47	38.5

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) [dBm]	FCC limit [dBm]	Result
TM1	824.2	32.70	Dipole Ant.	36.07	-2.75	0.6	32.72	38.5	Pass
TM1	837.0	32.68	Dipole Ant.	36.09	-2.87	0.6	32.62	38.5	Pass
TM1	848.8	32.76	Dipole Ant.	36.19	-2.85	0.6	32.74	38.5	Pass
TM2	824.2	27.42	Dipole Ant.	30.79	-2.75	0.6	27.44	38.5	Pass
TM2	837.0	27.47	Dipole Ant.	30.92	-2.87	0.6	27.45	38.5	Pass
TM2	848.8	27.53	Dipole Ant.	30.97	-2.85	0.6	27.52	38.5	Pass
TM3	826.4	24.05	Dipole Ant.	27.37	-2.75	0.6	24.02	38.5	Pass
TM3	836.4	23.96	Dipole Ant.	27.39	-2.87	0.6	23.92	38.5	Pass
TM3	846.6	23.99	Dipole Ant.	27.41	-2.85	0.6	23.96	38.5	Pass

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

ERP [dBm] = SGP [dBm] – Cable Loss [dB] + Gain [dBi]

b, SGP=Signal Generator Level

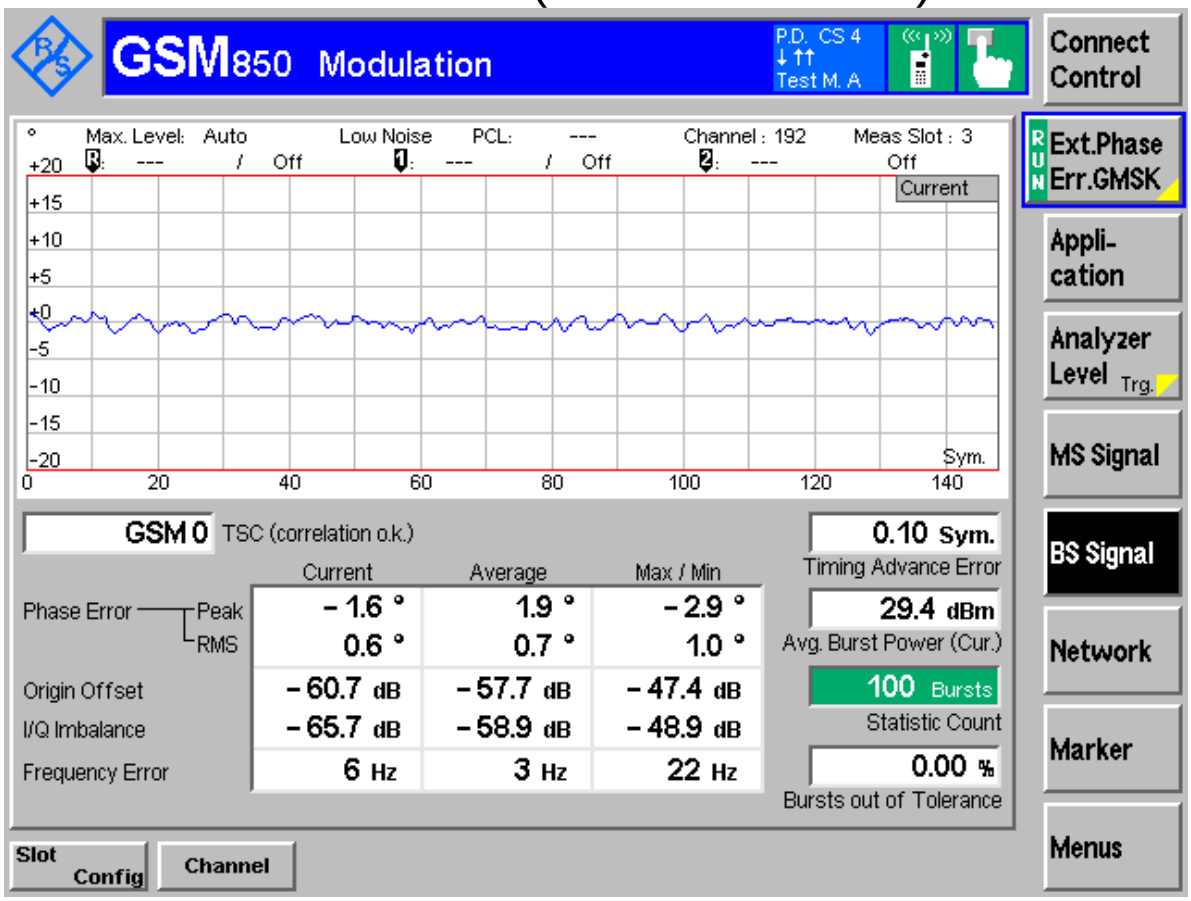
----------The END----------

Appendix B

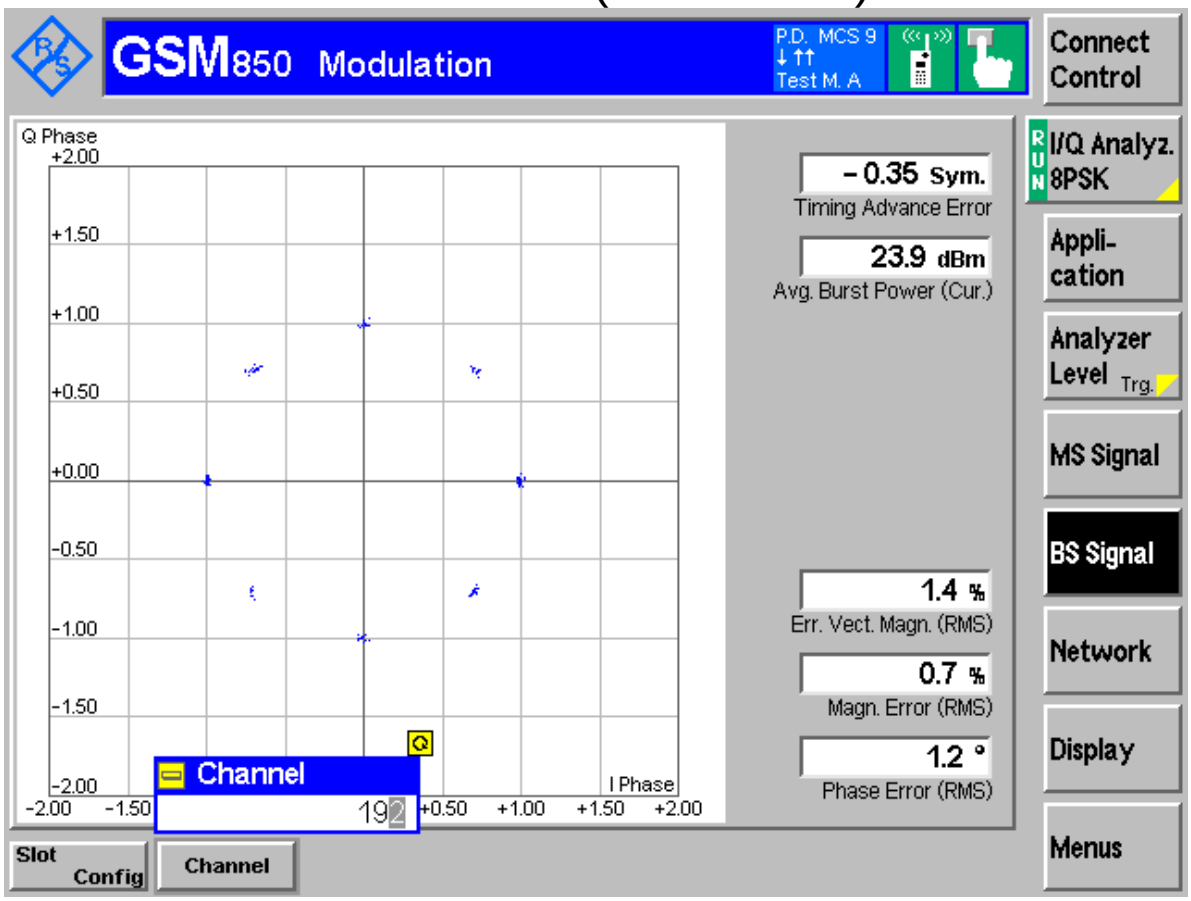
Modulation Characteristics

According to FCC Part 2.1047 & Part22 Subpart H

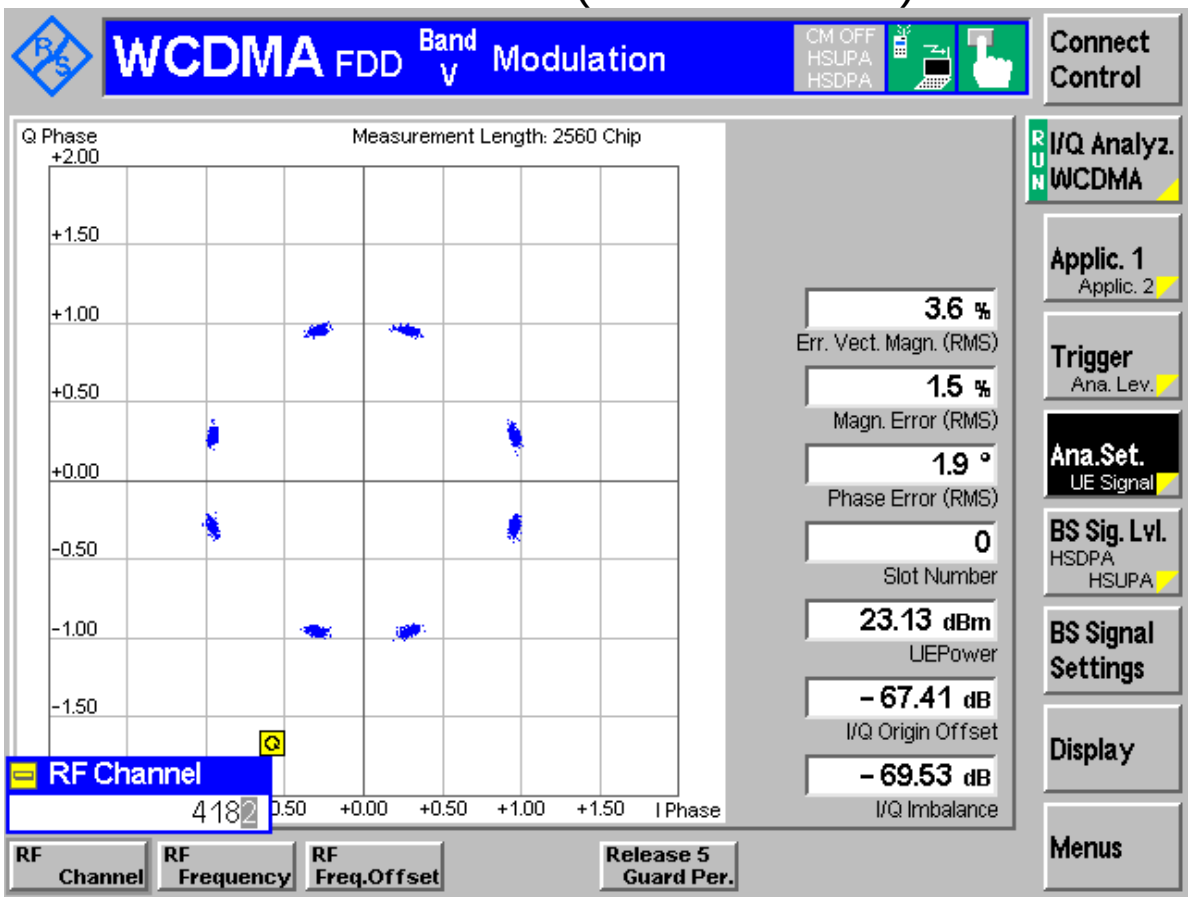
Channel 192(TM1:GPRS/GSM)



Channel 192(TM2:EDGE)



Channel 4182(TM3: WCDMA)



----------The END----------

Appendix C

Occupied Bandwidth

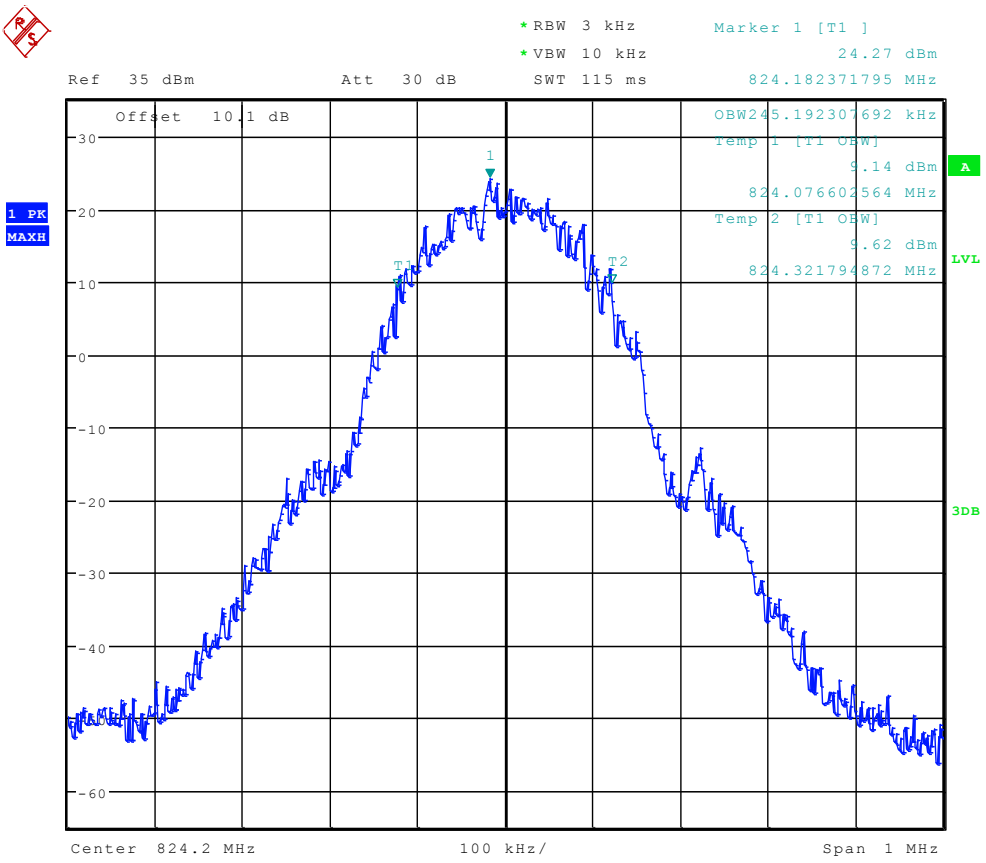
According to FCC Part 2.1049 & Part 22 Subpart H

Result Table

Table 1 Measurement Results

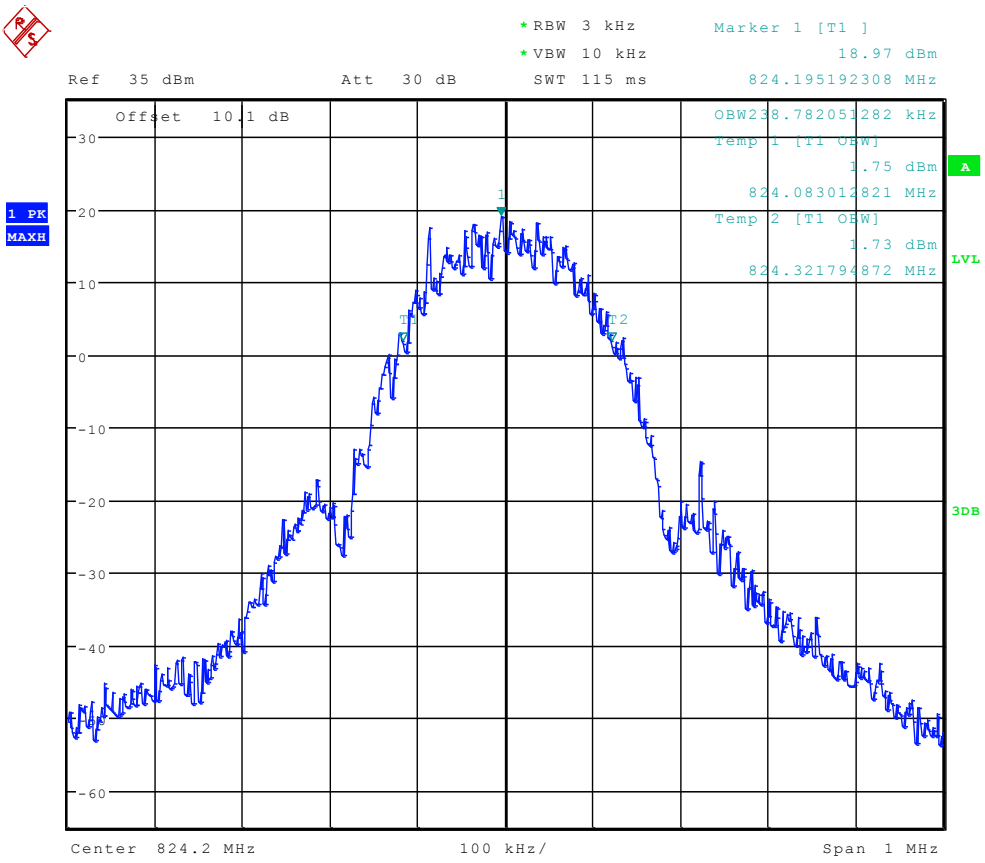
Test Mode	RF Channel	Occupied Bandwidth [kHz]	Verdict
TM1	128	245.19	Pass
	192	243.59	Pass
	251	240.38	Pass
TM2	128	238.78	Pass
	192	240.38	Pass
	251	241.99	Pass
Test Mode	RF Channel	Occupied Bandwidth [MHz]	Verdict
TM3	4132	4.07	Pass
	4182	4.07	Pass
	4233	4.07	Pass

Channel 128（TM1:GPRS/GSM）



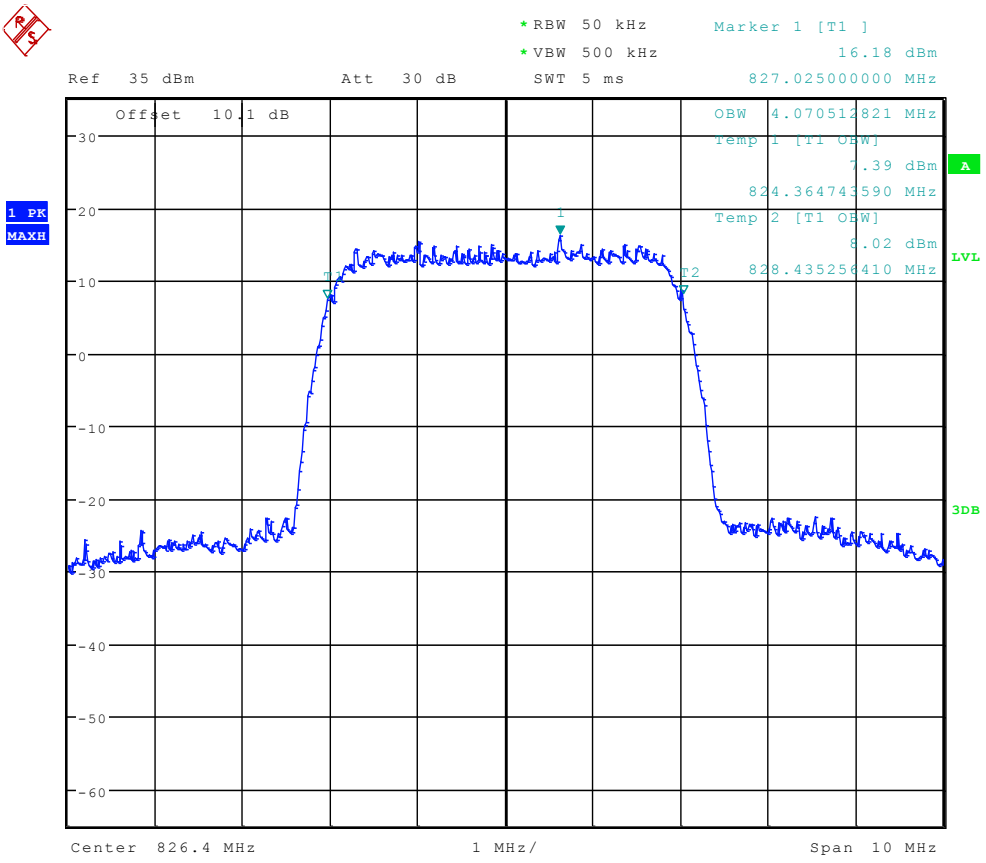
Date: 8.FEB.2012 23:26:45

Channel 128（TM2:EDGE）



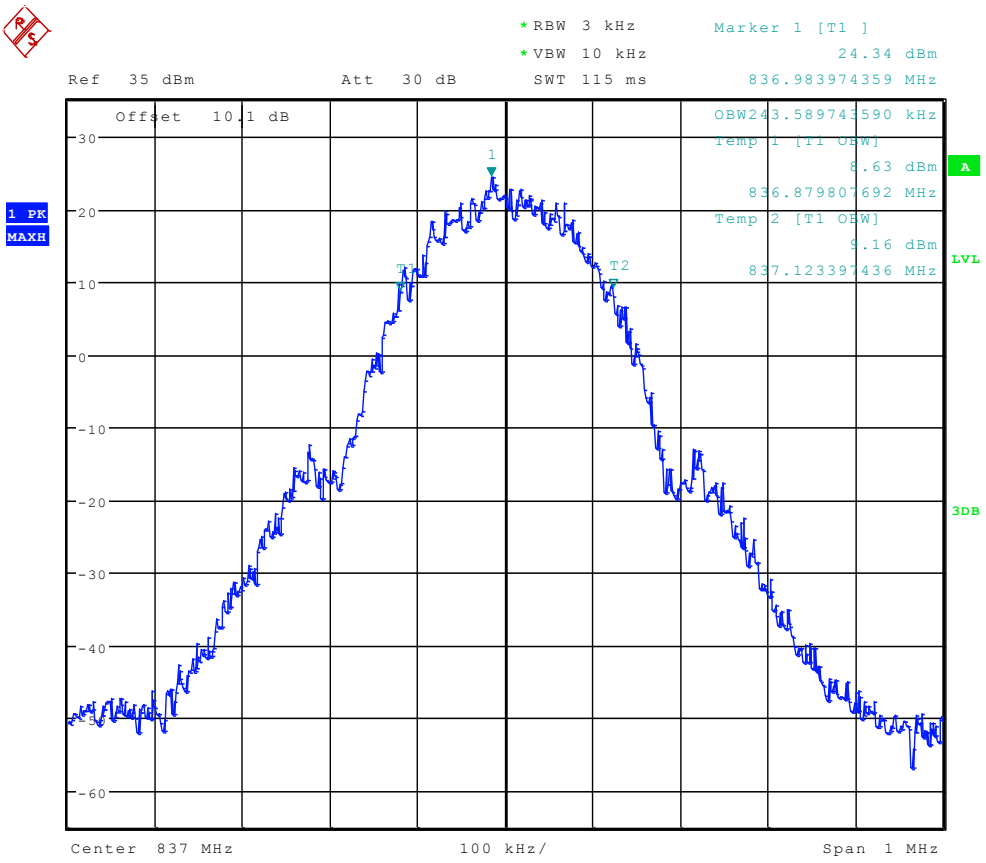
Date: 8.FEB.2012 23:33:57

Channel 4132（TM3: WCDMA）



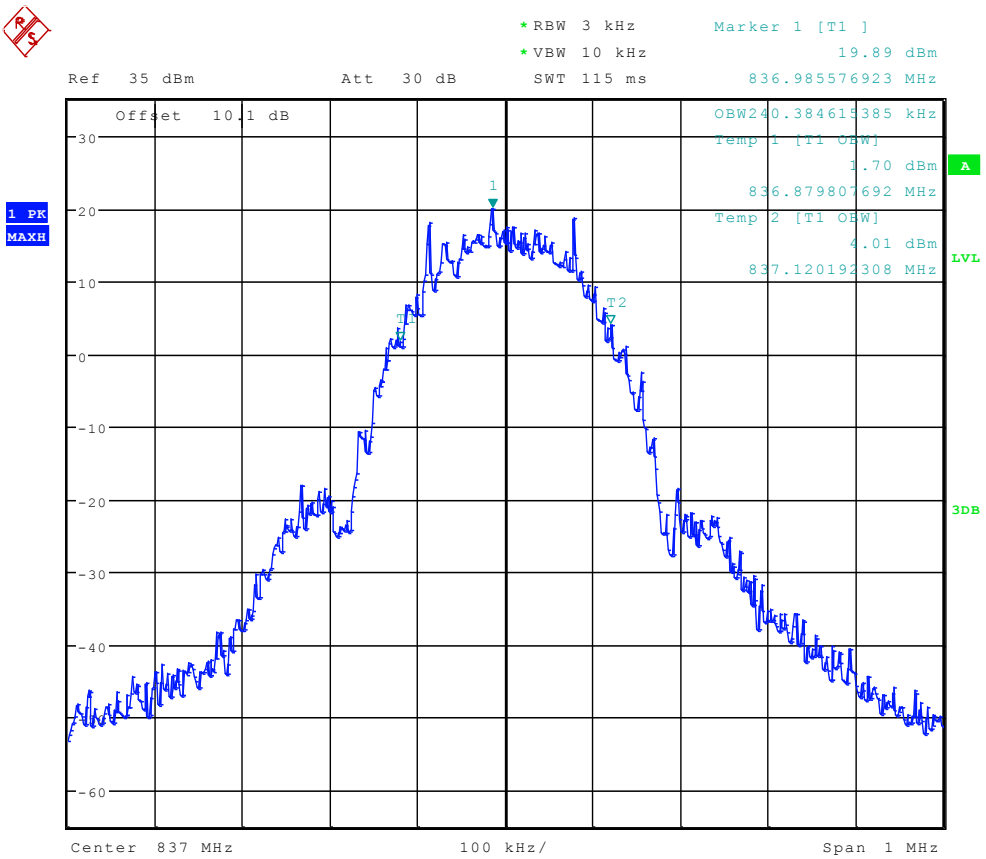
Date: 8.FEB.2012 23:39:40

Channel 192（TM1:GPRS/GSM）



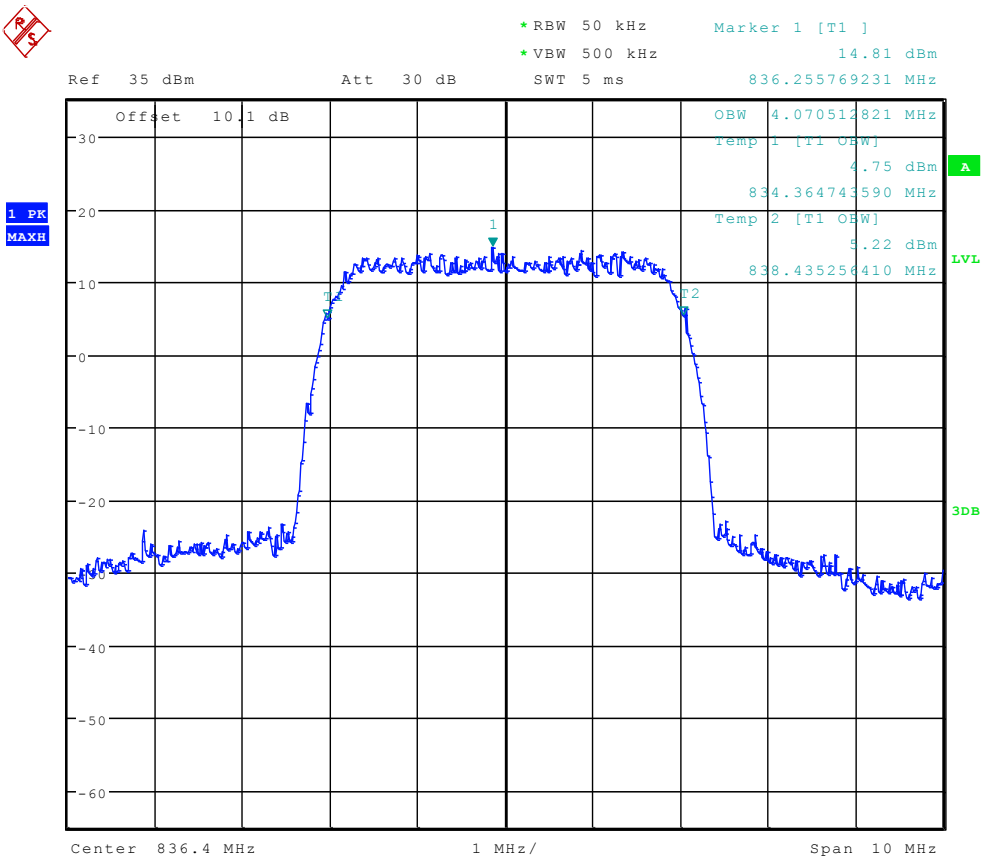
Date: 8.FEB.2012 23:26:59

Channel 192（TM2:EDGE）



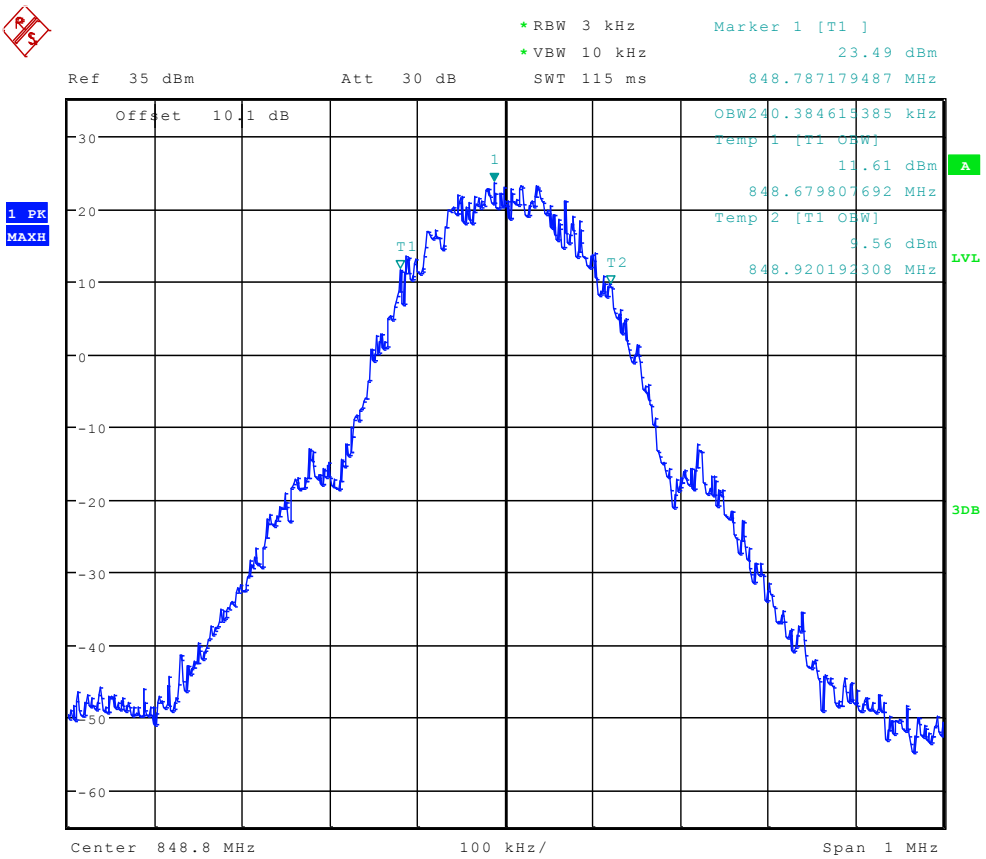
Date: 8.FEB.2012 23:34:11

Channel 4182（TM3: WCDMA）



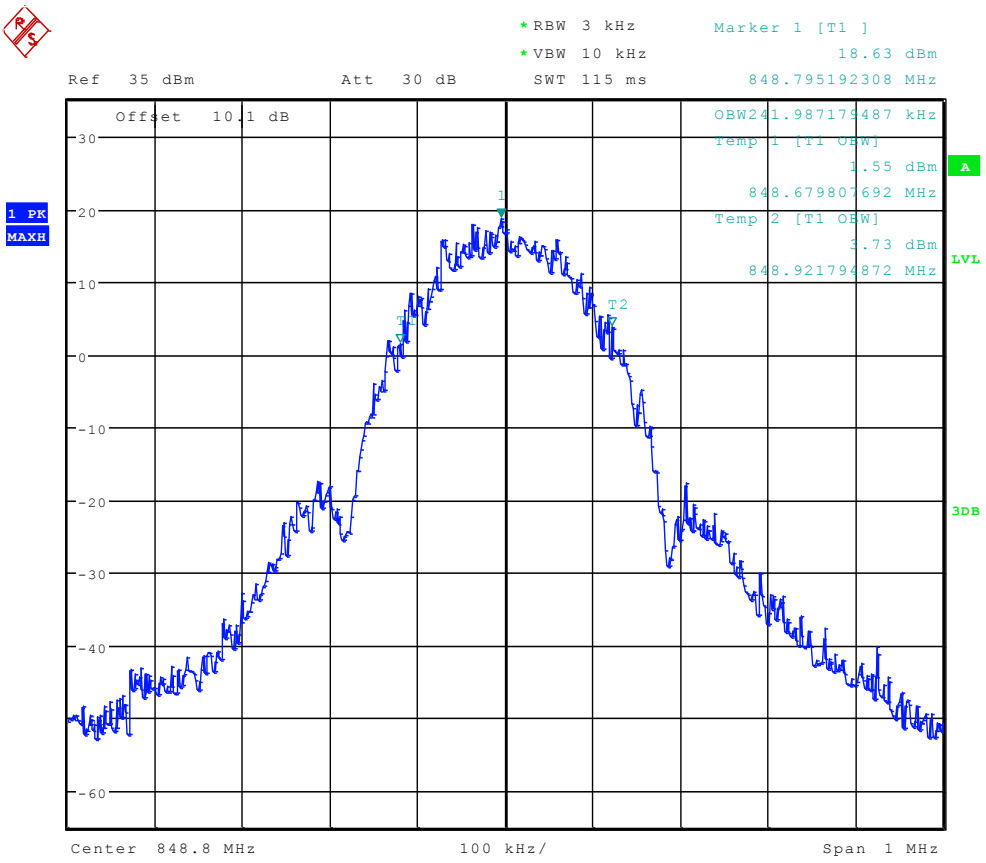
Date: 8.FEB.2012 23:39:54

Channel 251（TM1:GPRS/GSM）



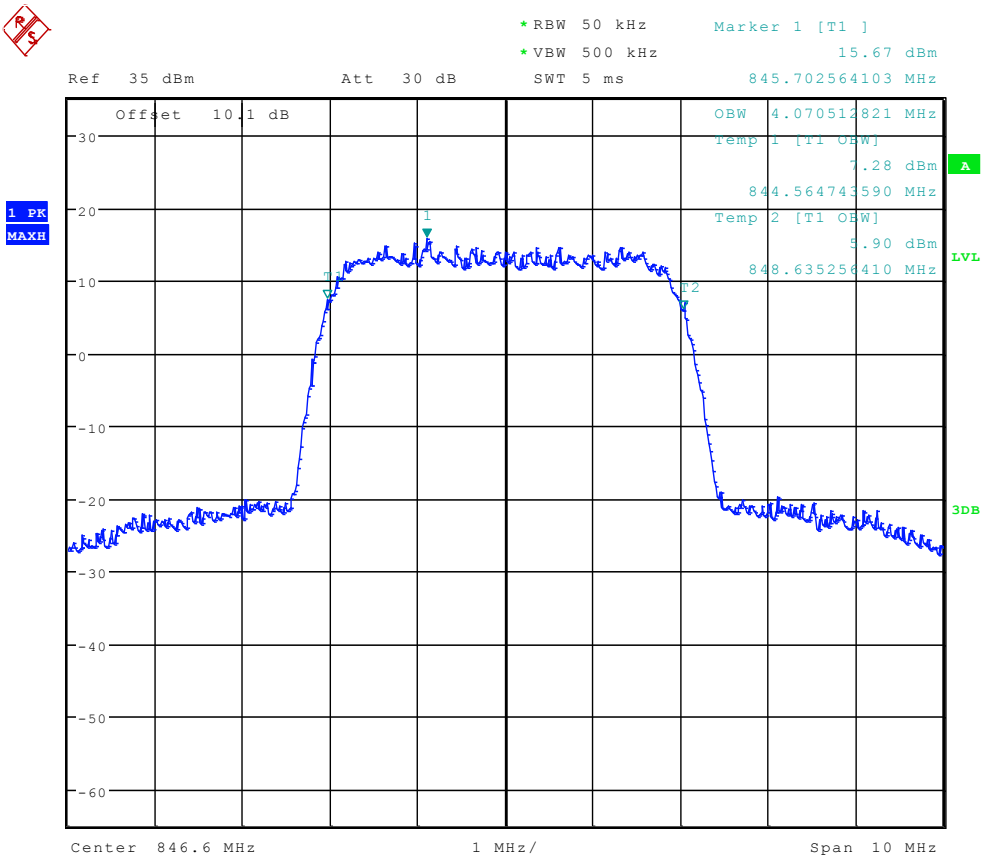
Date: 8.FEB.2012 23:27:13

Channel 251（TM2:EDGE）



Date: 8.FEB.2012 23:34:24

Channel 4233（TM3: WCDMA）



Date: 8.FEB.2012 23:40:07

----------The END----------

Appendix C

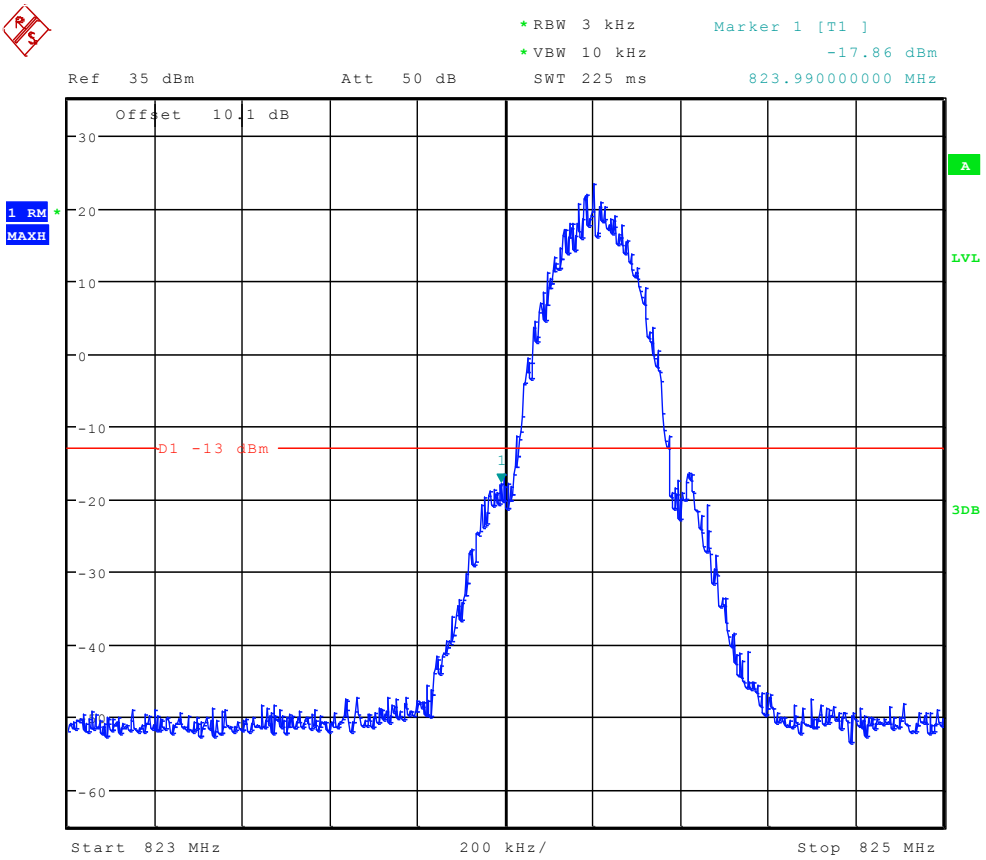
Band Edges Compliance

According to FCC Part 2.1051 & Part 22 Subpart H

TM1:GPRS/GSM

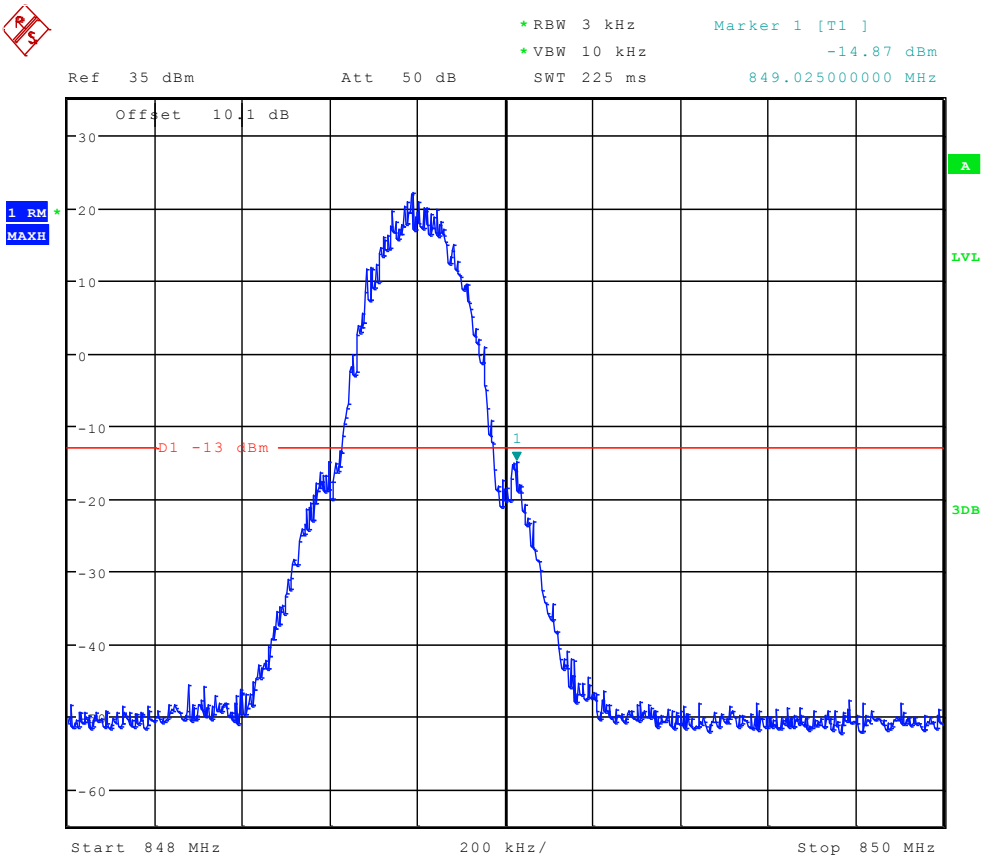
Left Edge

Channel 128



Date: 8.FEB.2012 23:30:38

Right Edge
Channel 251

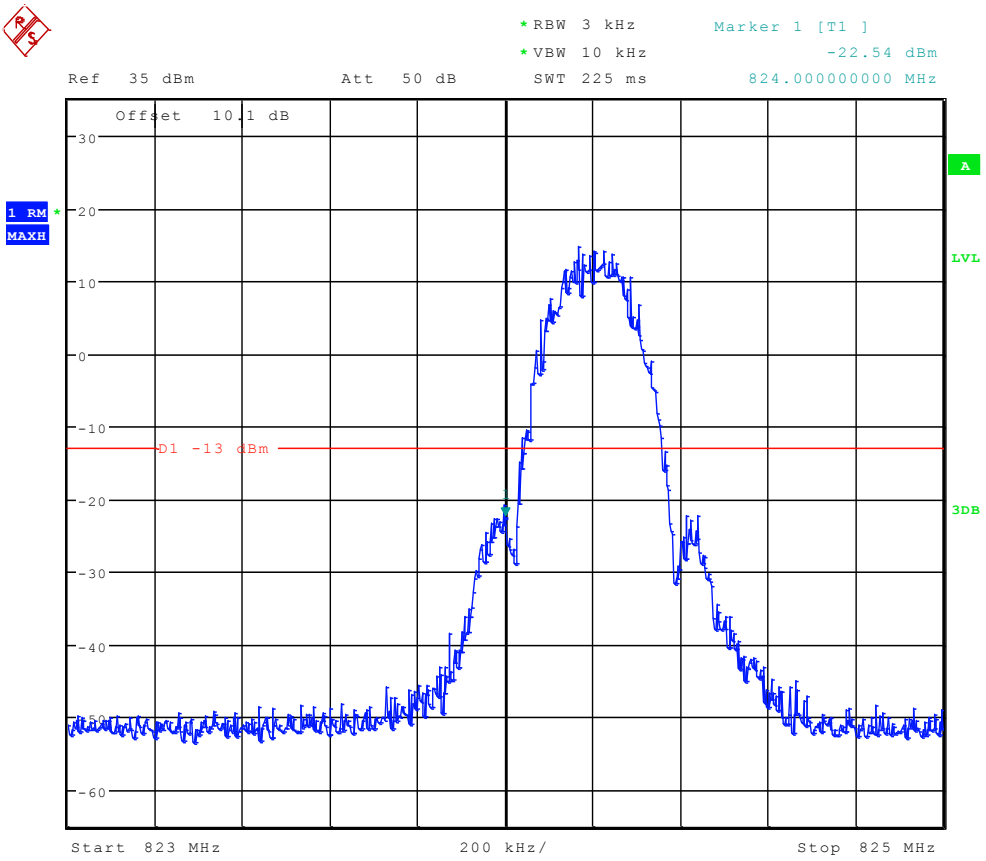


Date: 8.FEB.2012 23:31:14

TM2:EDGE

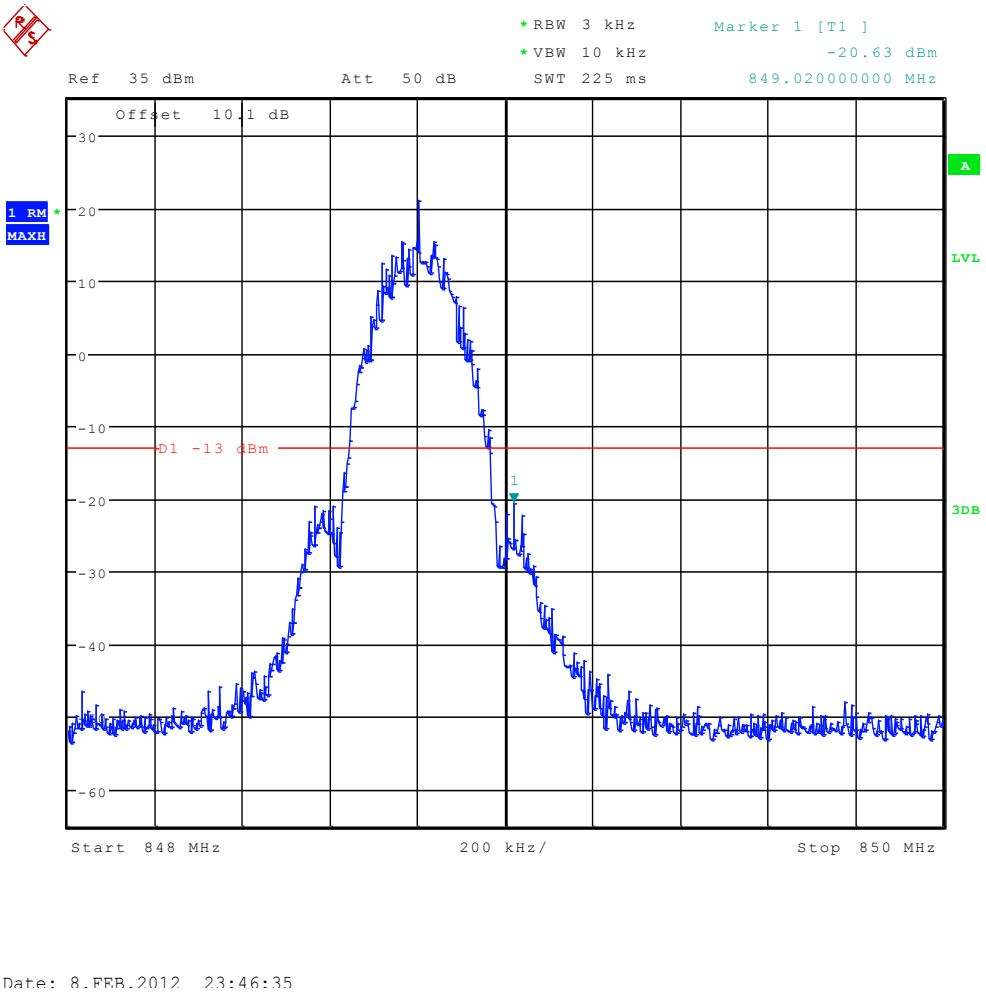
Left Edge

Channel 128



Date: 8.FEB.2012 23:46:16

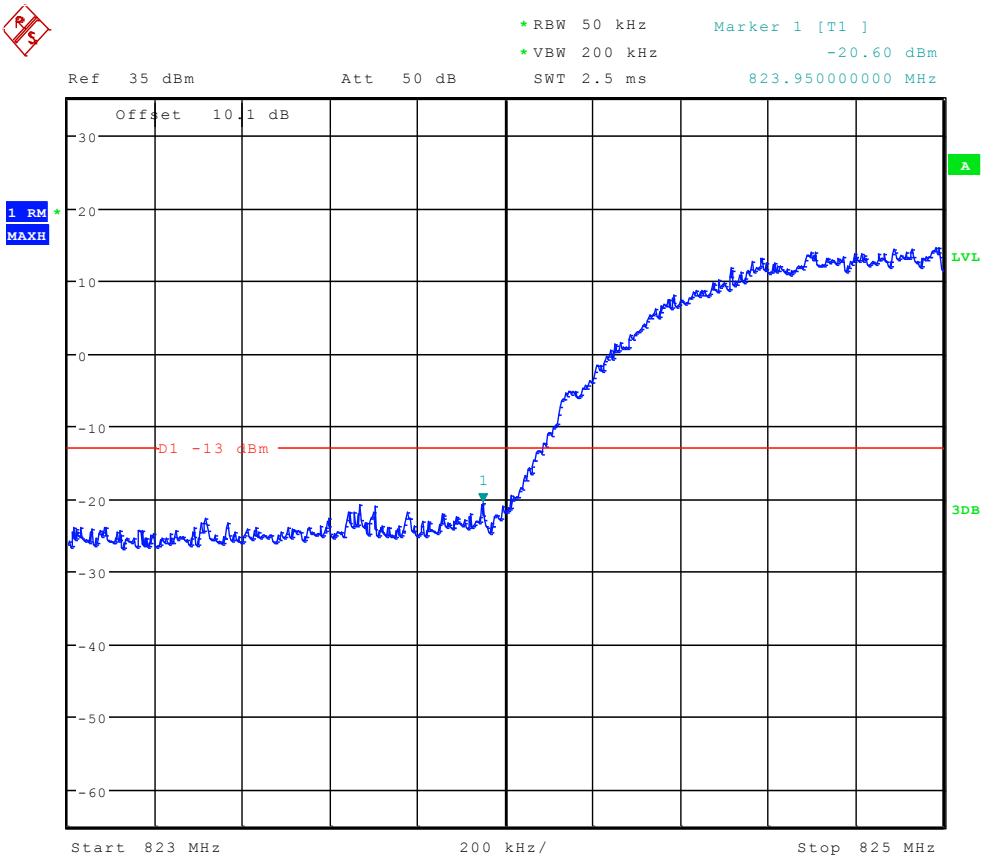
Right Edge
Channel 251



TM3: WCDMA

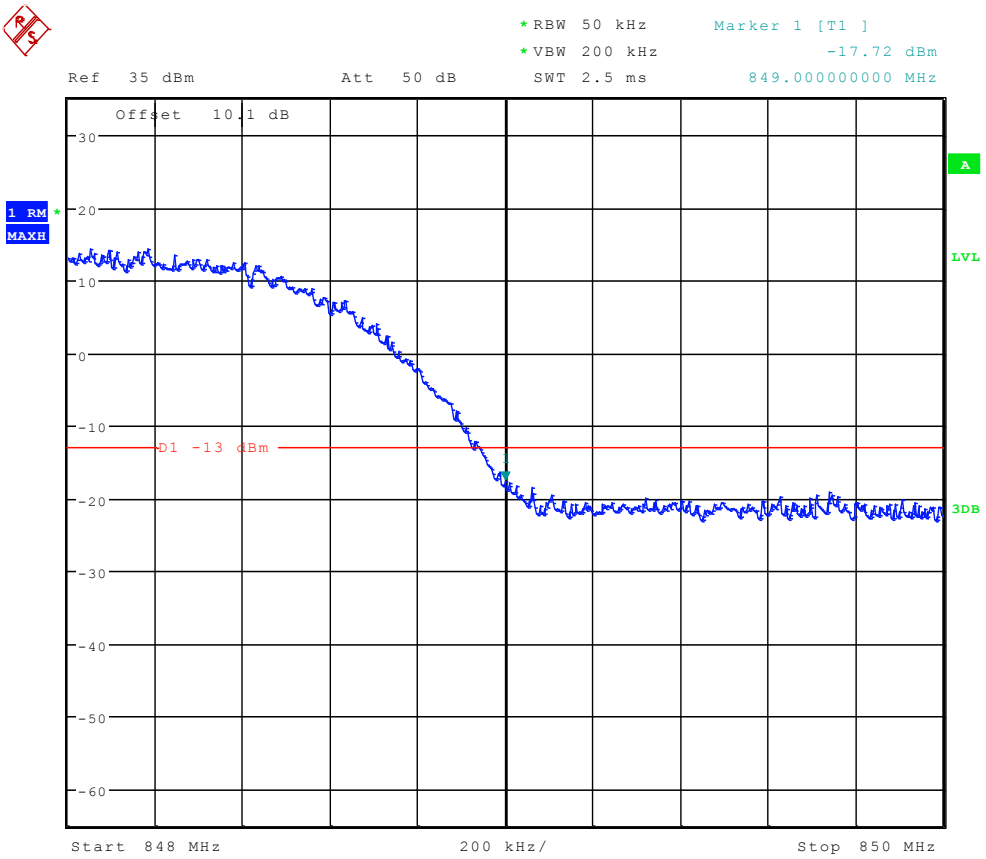
Left Edge

Channel 4132



Date: 8.FEB.2012 23:40:22

Right Edge
Channel 4233



Date: 8.FEB.2012 23:40:35

----------The END----------

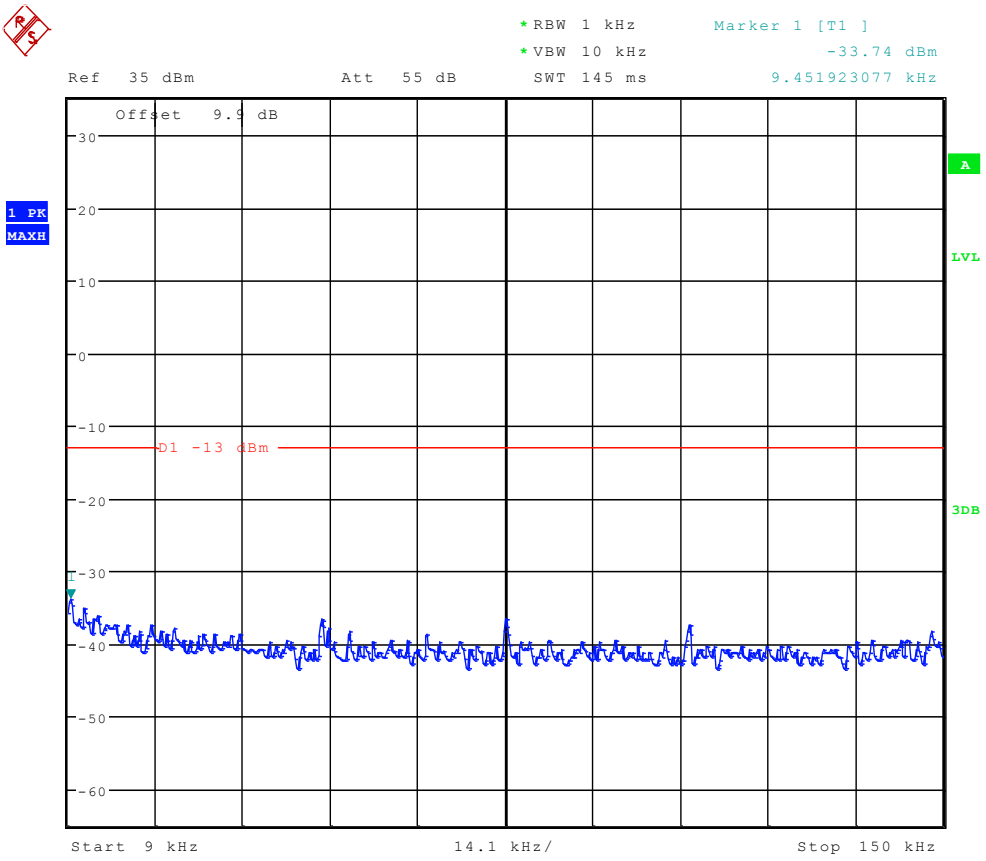
Appendix E

Spurious Emission at Antenna Terminal

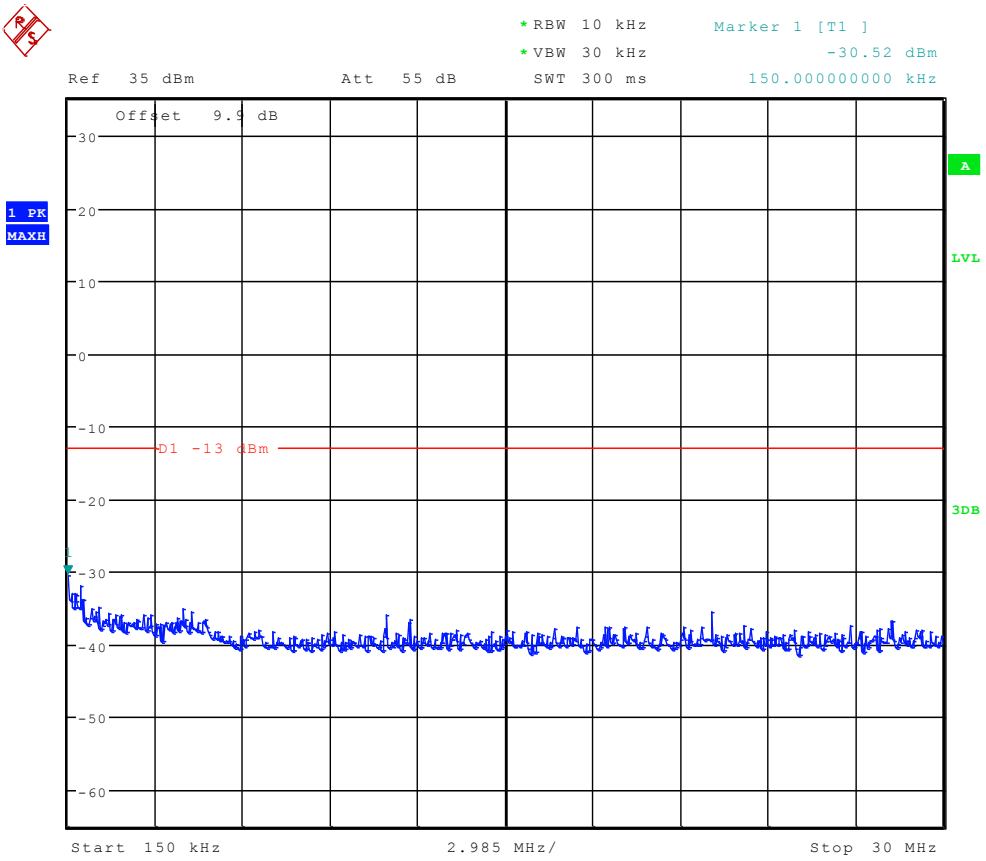
According to FCC Part 2.1051 & Part 22 Subpart H

TM1:GPRS/GSM

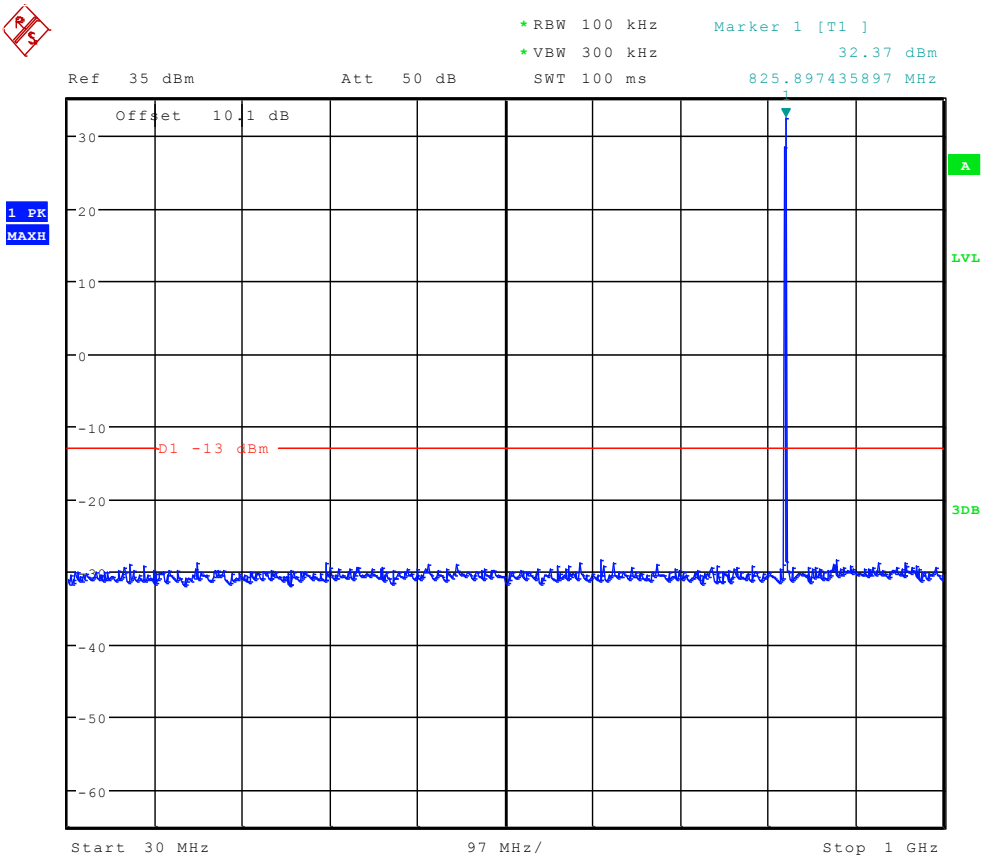
Channel 128



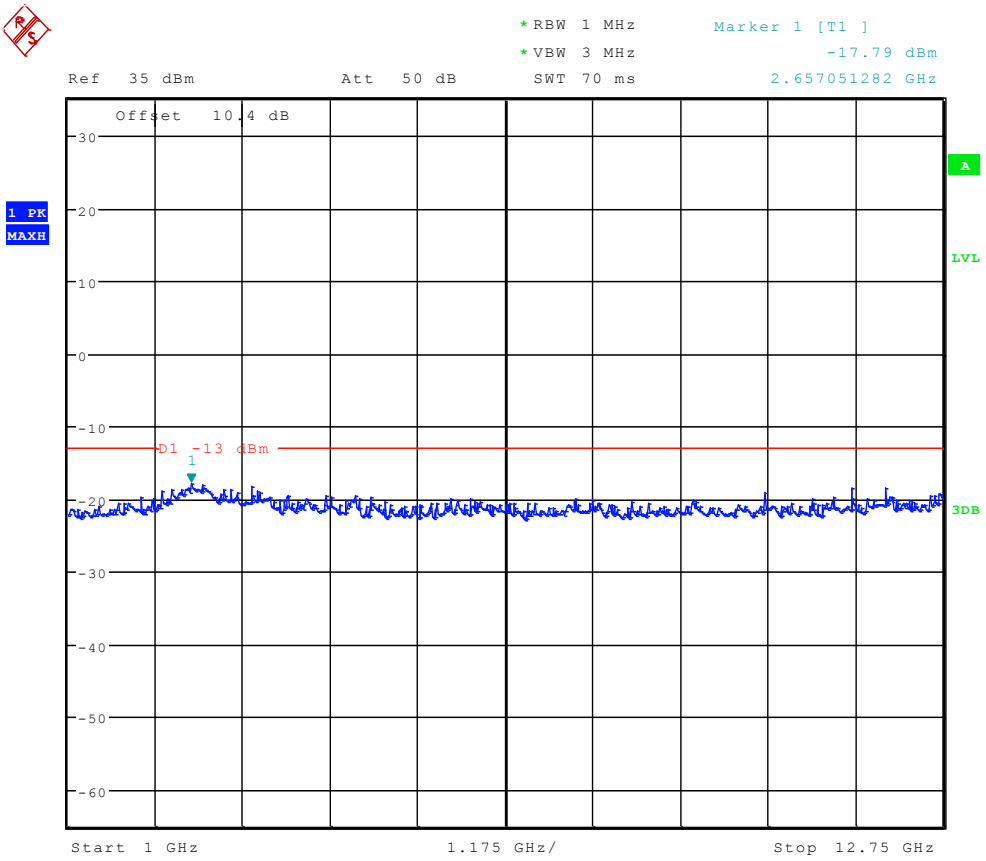
Date: 8.FEB.2012 23:27:28



Date: 8.FEB.2012 23:28:11

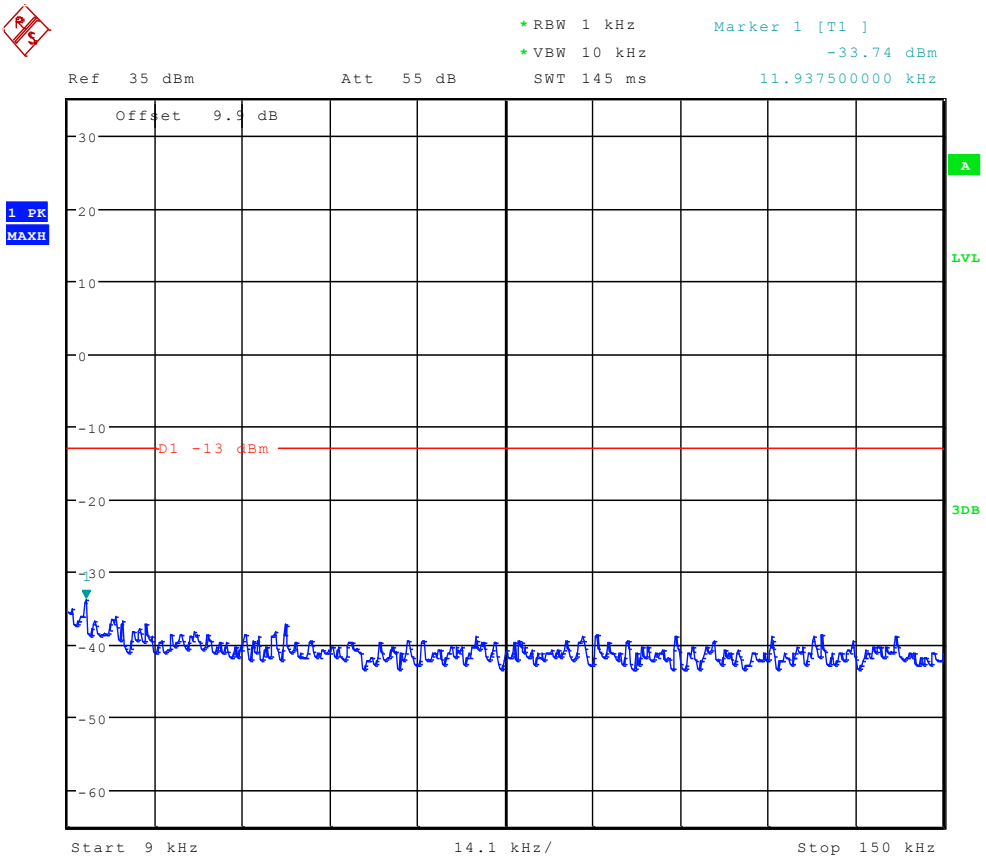


Date: 8.FEB.2012 23:29:00

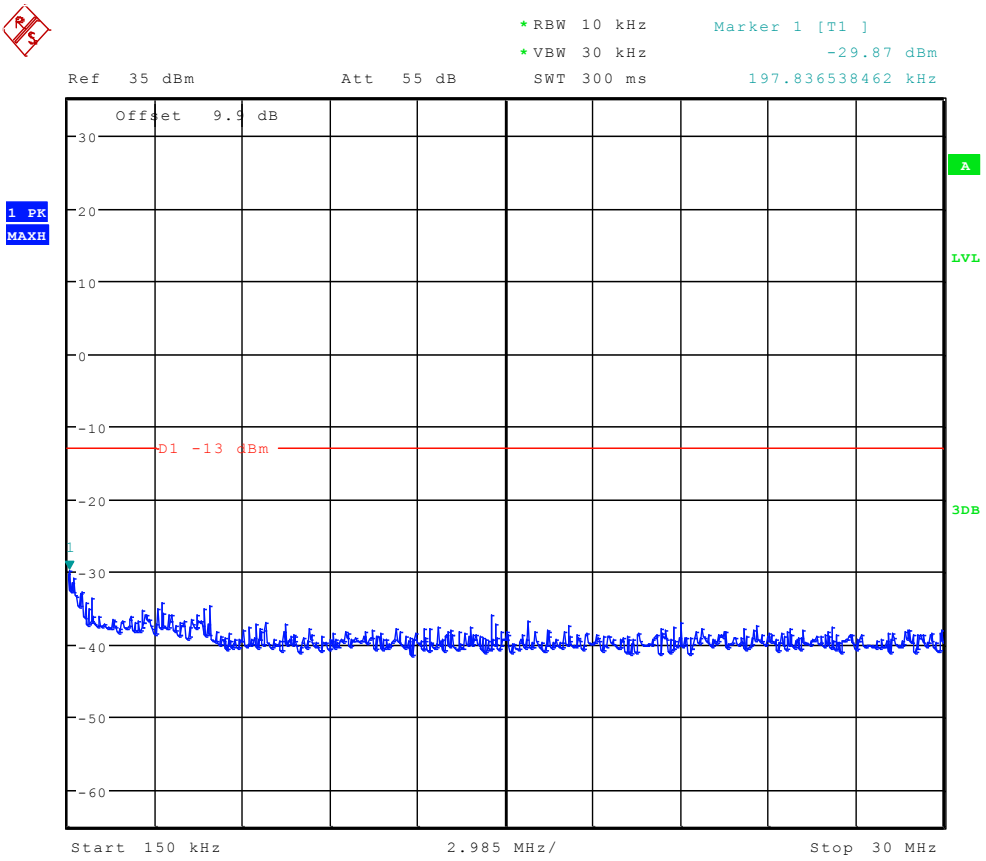


Date: 8.FEB.2012 23:29:44

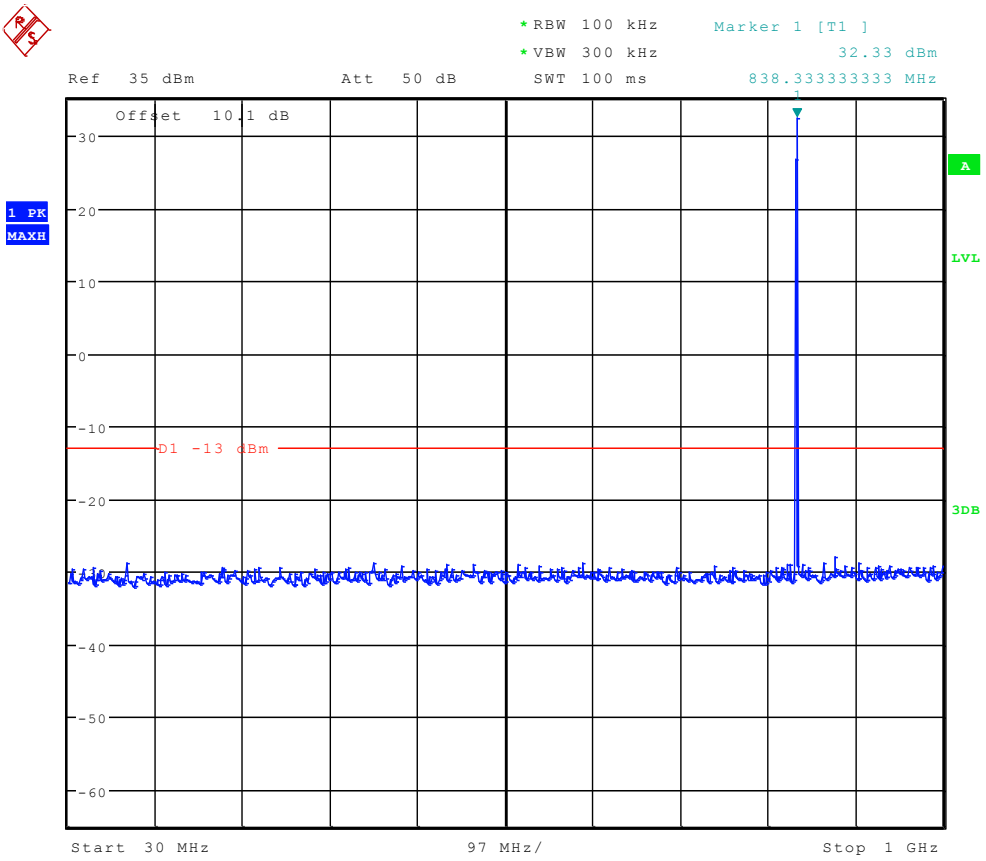
Channel 192



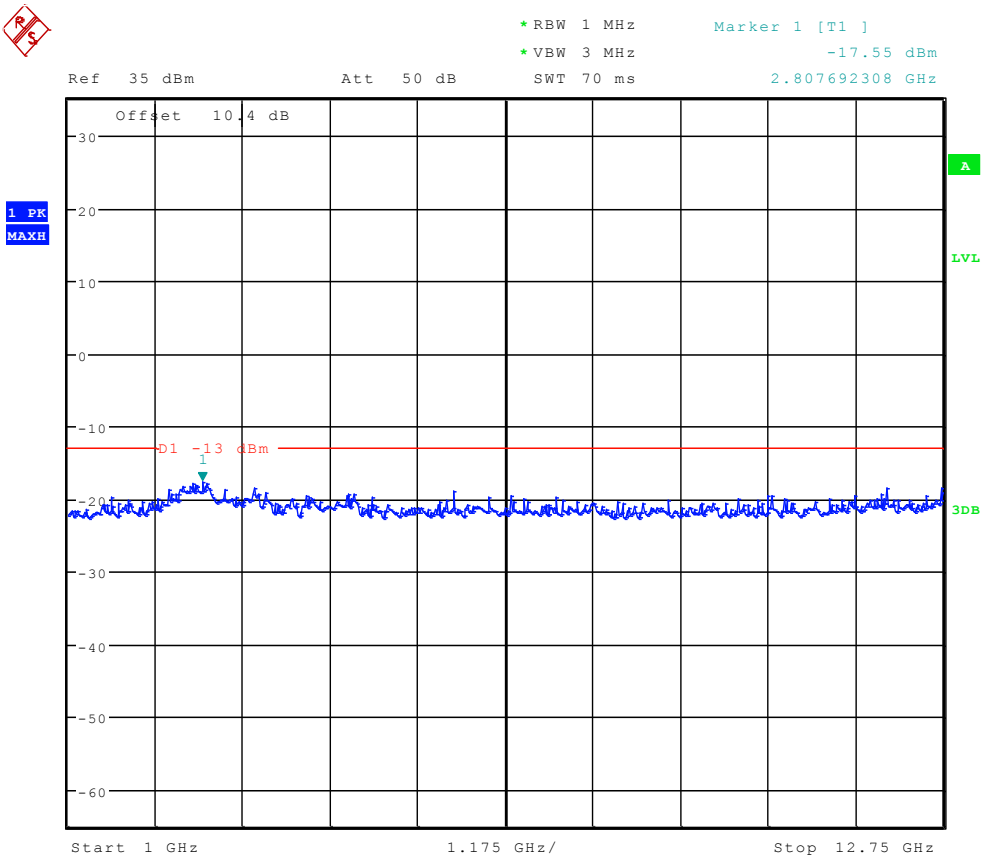
Date: 8.FEB.2012 23:27:42



Date: 8.FEB.2012 23:28:26

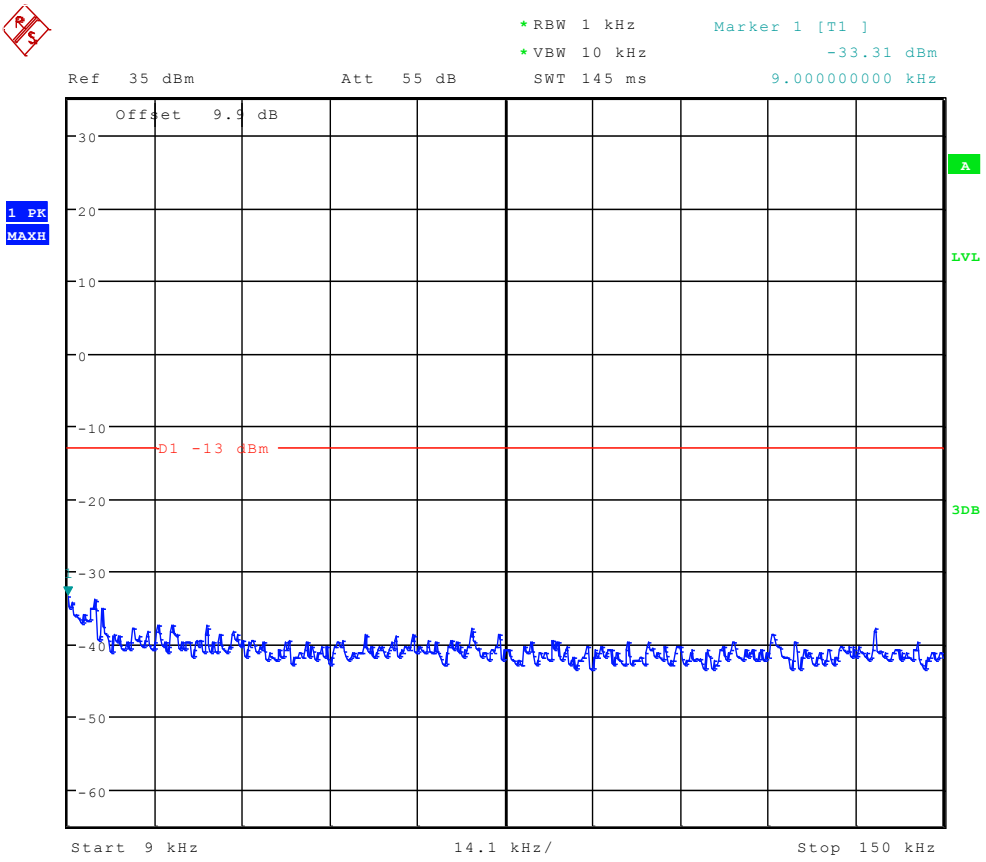


Date: 8.FEB.2012 23:29:14

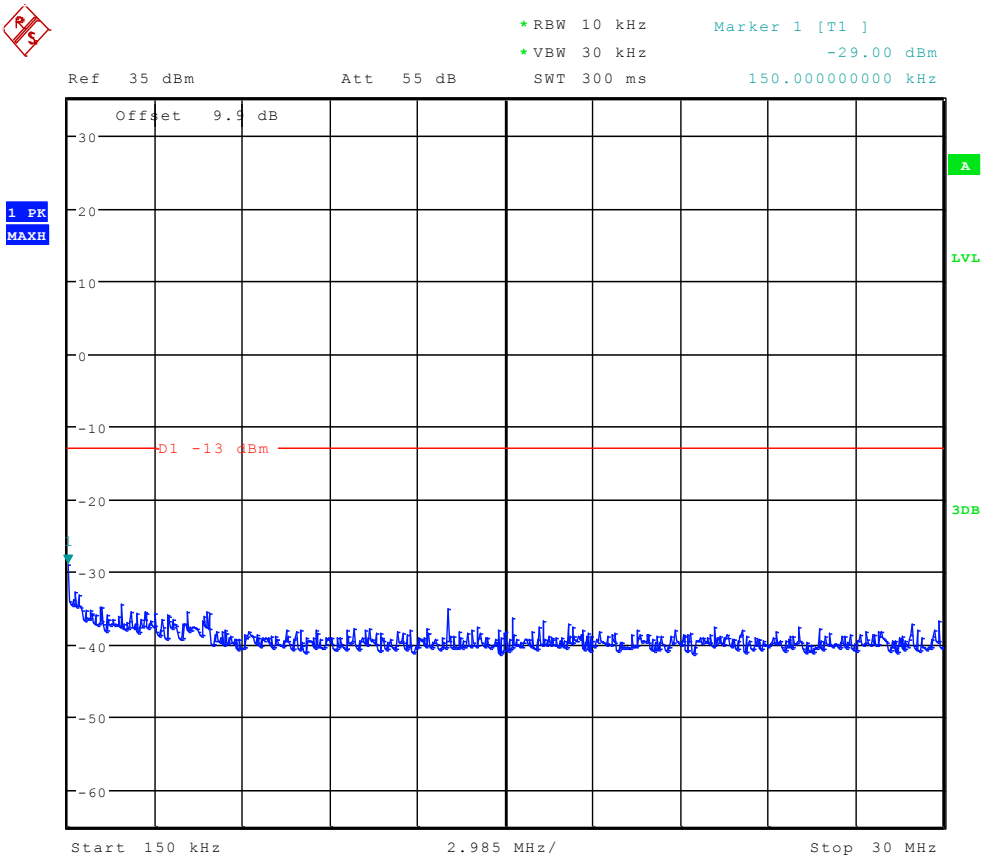


Date: 8.FEB.2012 23:29:58

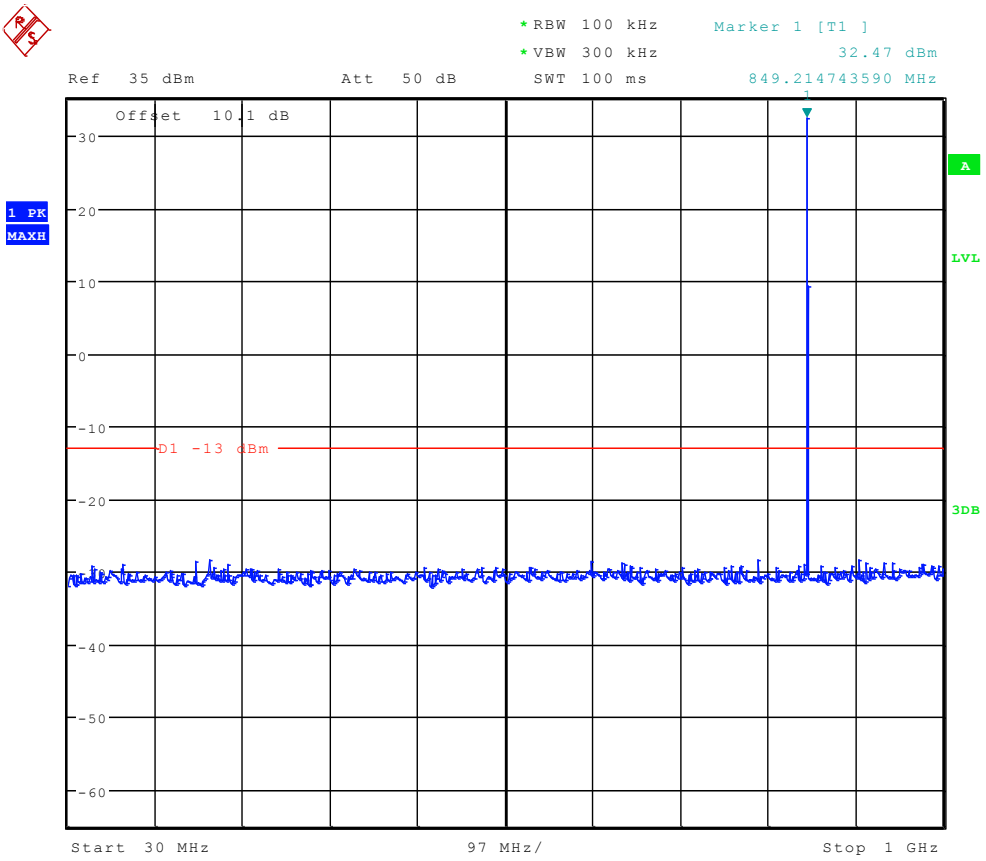
Channel 251



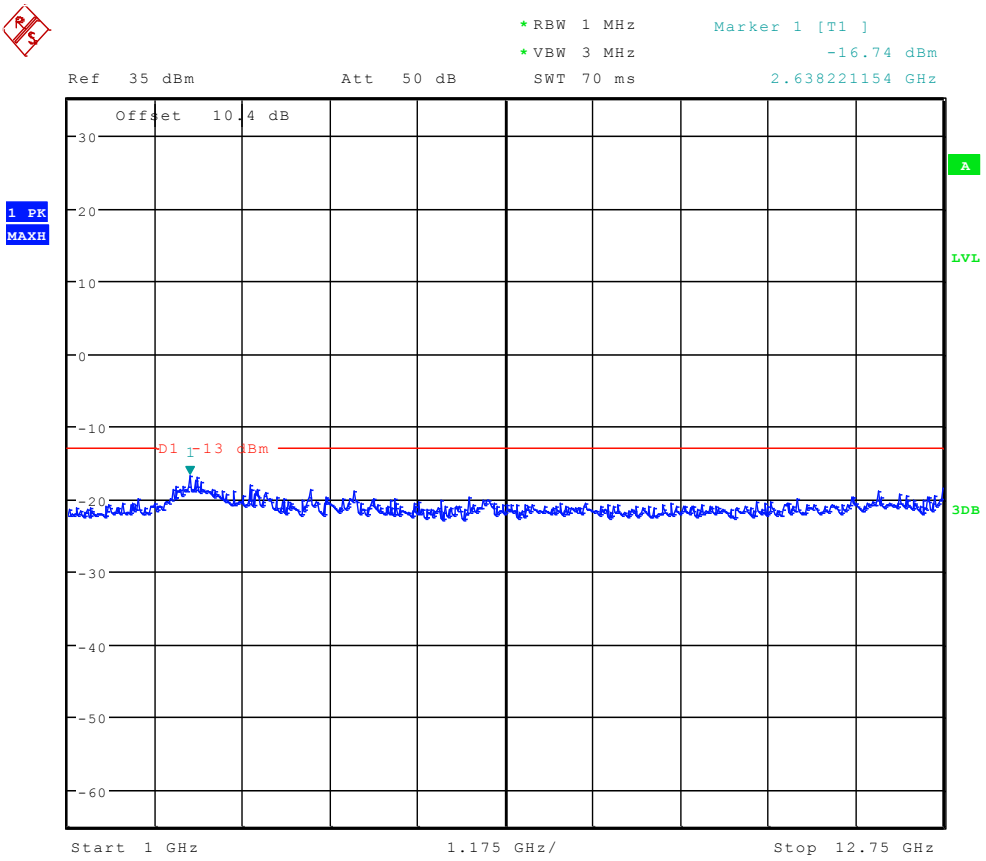
Date: 8.FEB.2012 23:27:56



Date: 8.FEB.2012 23:28:40

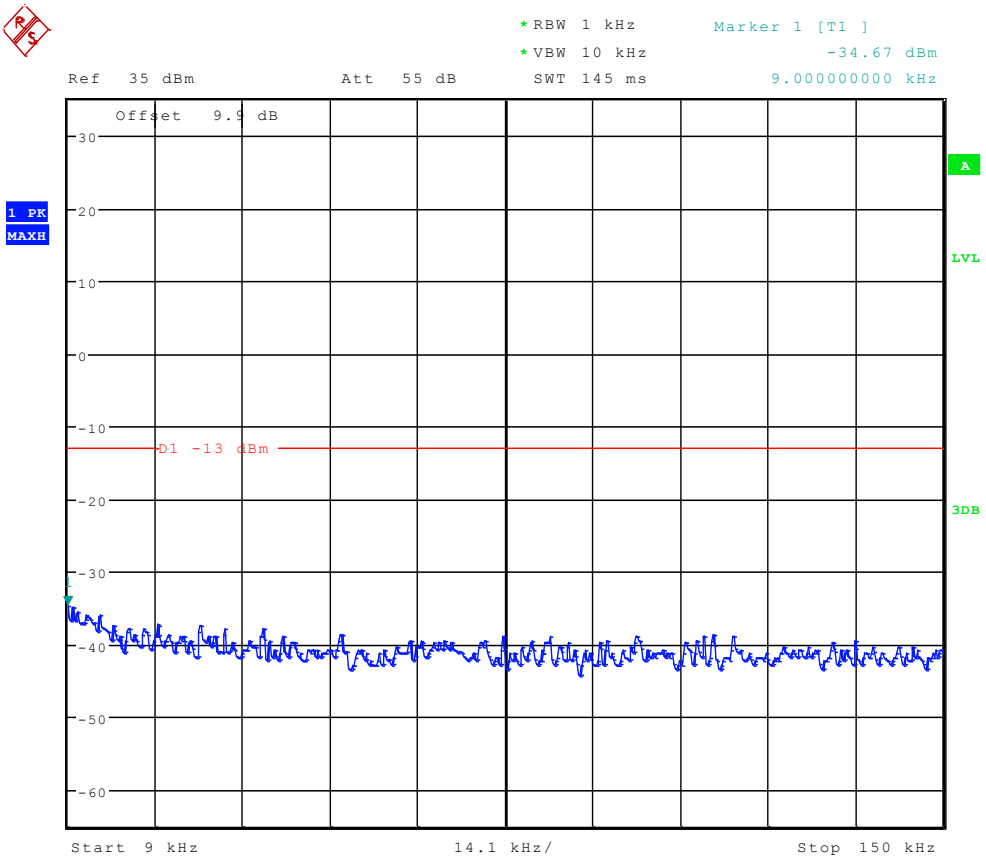


Date: 8.FEB.2012 23:29:29

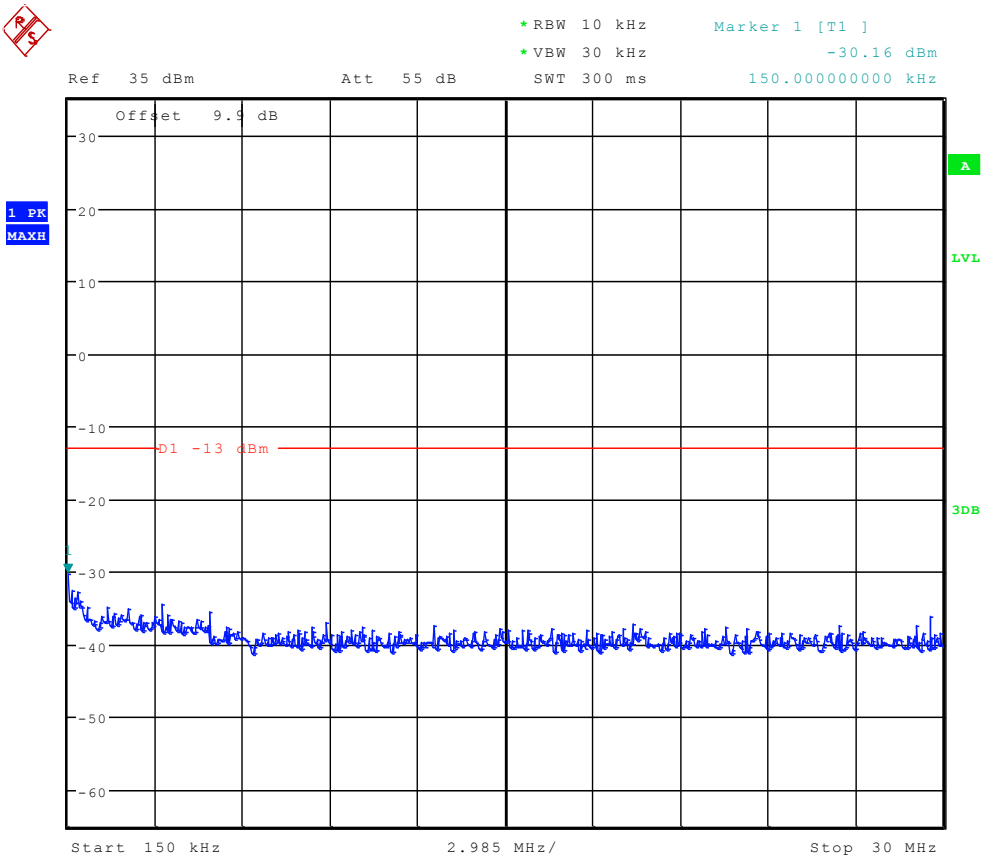


Date: 8.FEB.2012 23:30:13

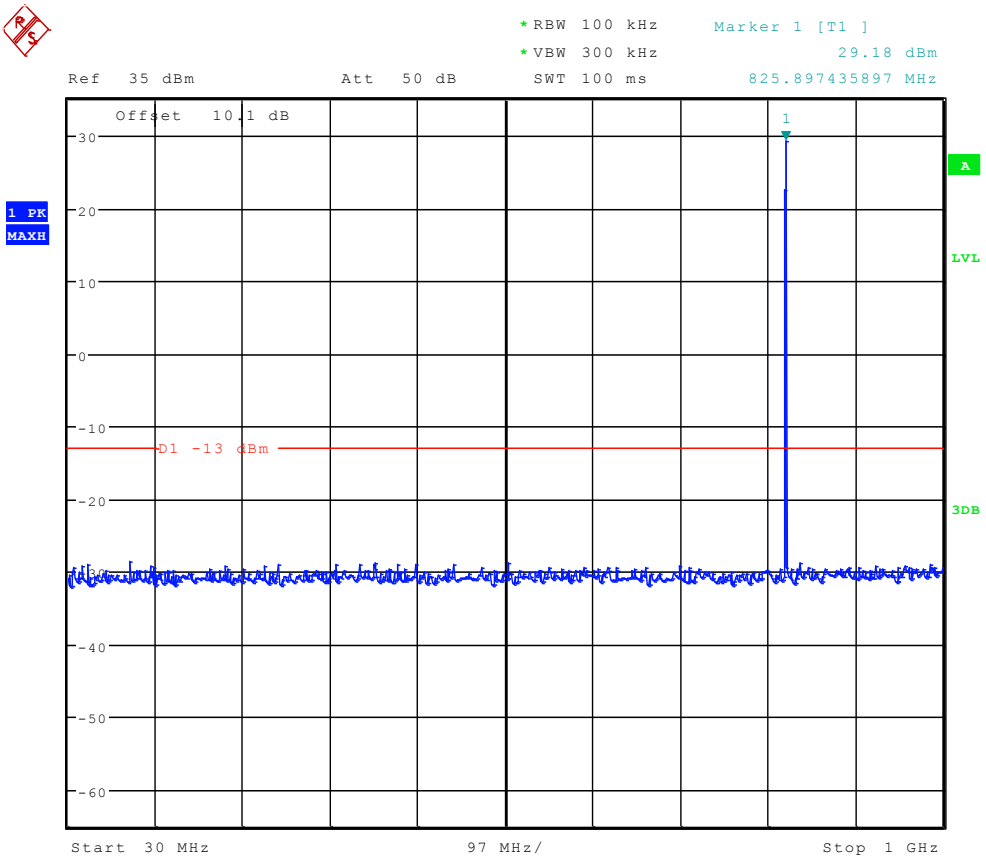
TM2:EDGE
Channel 128



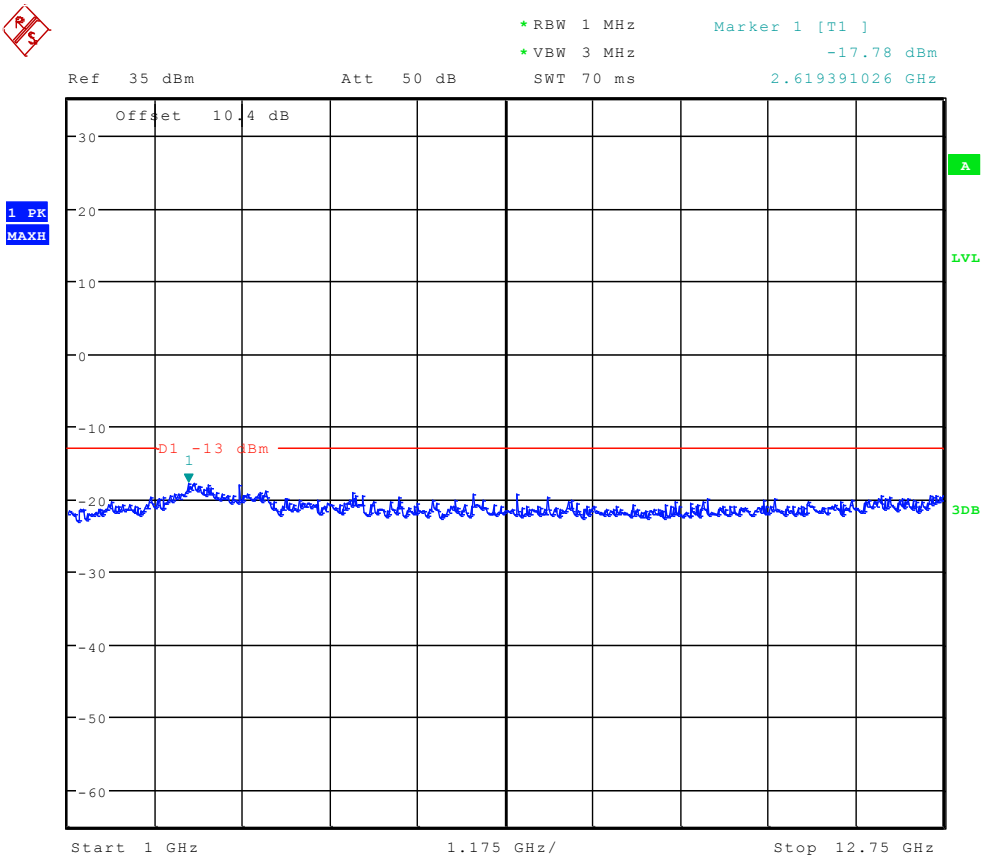
Date: 9.FEB.2012 00:08:52



Date: 9.FEB.2012 00:09:36

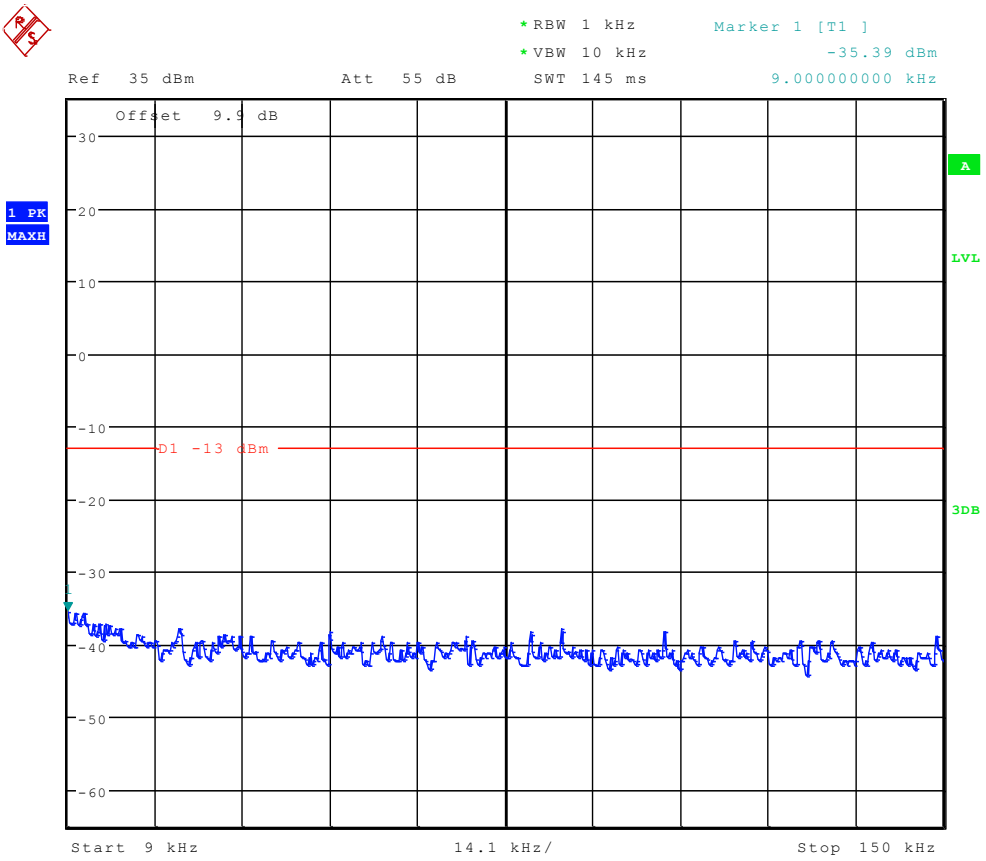


Date: 9.FEB.2012 00:10:19

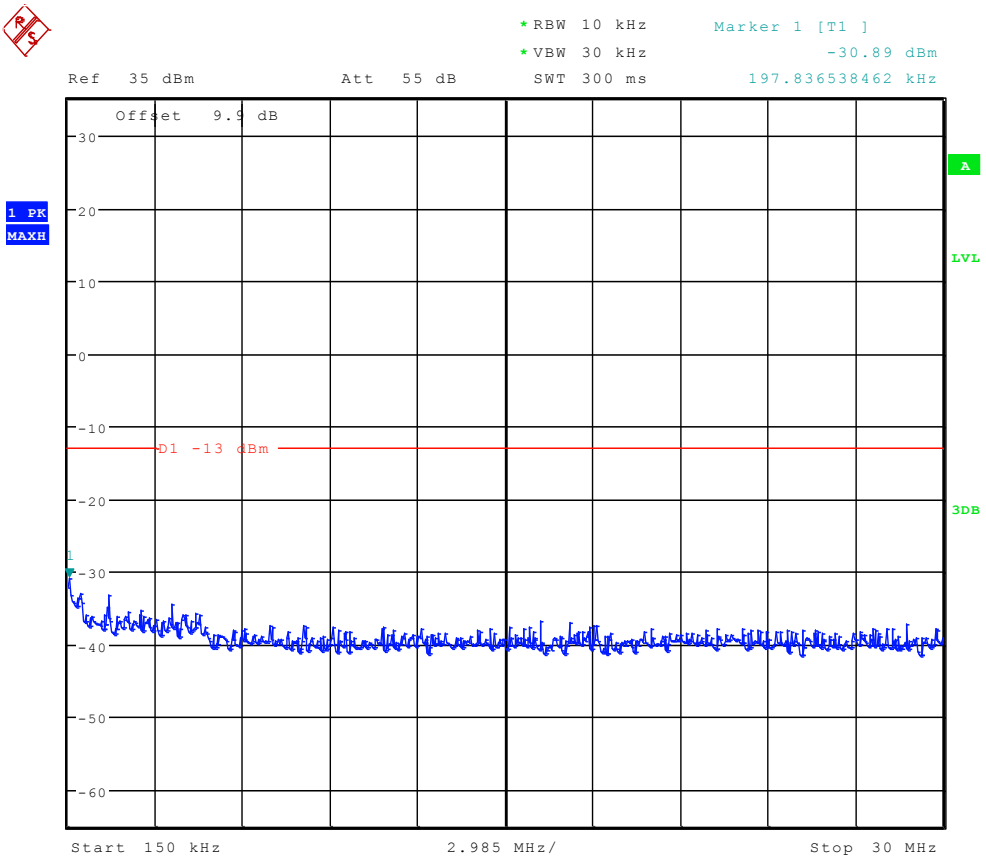


Date: 9.FEB.2012 00:11:03

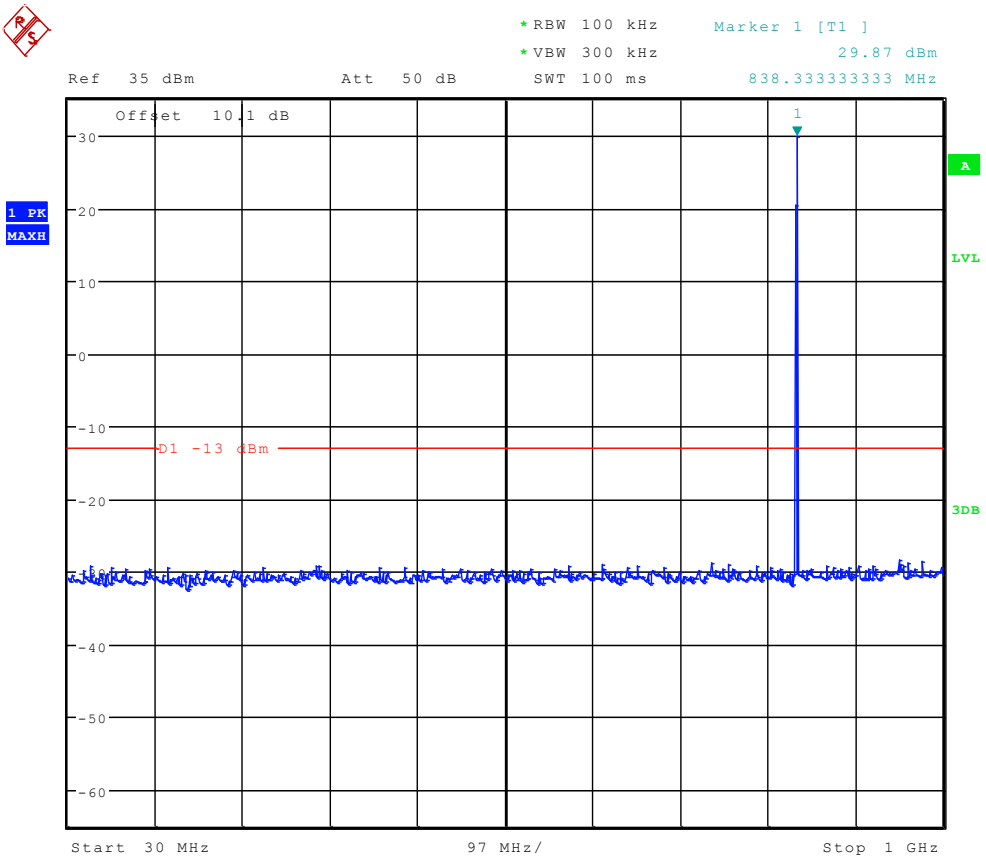
Channel 192



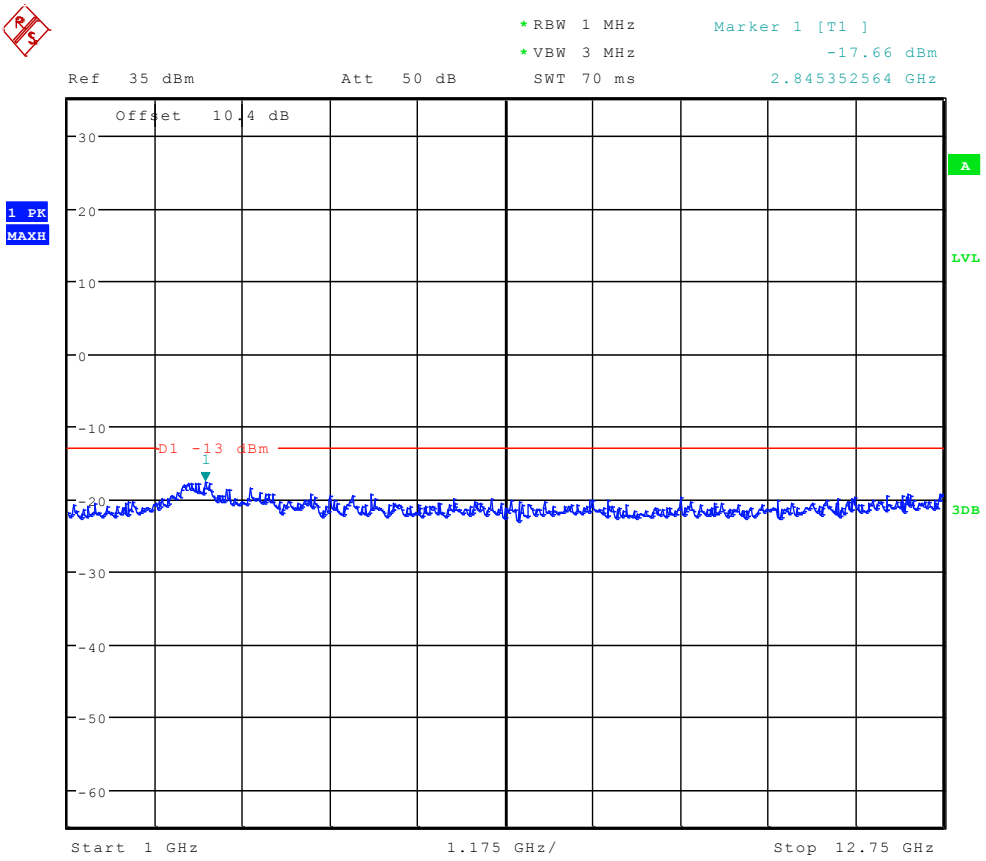
Date: 9.FEB.2012 00:09:06



Date: 9.FEB.2012 00:09:50

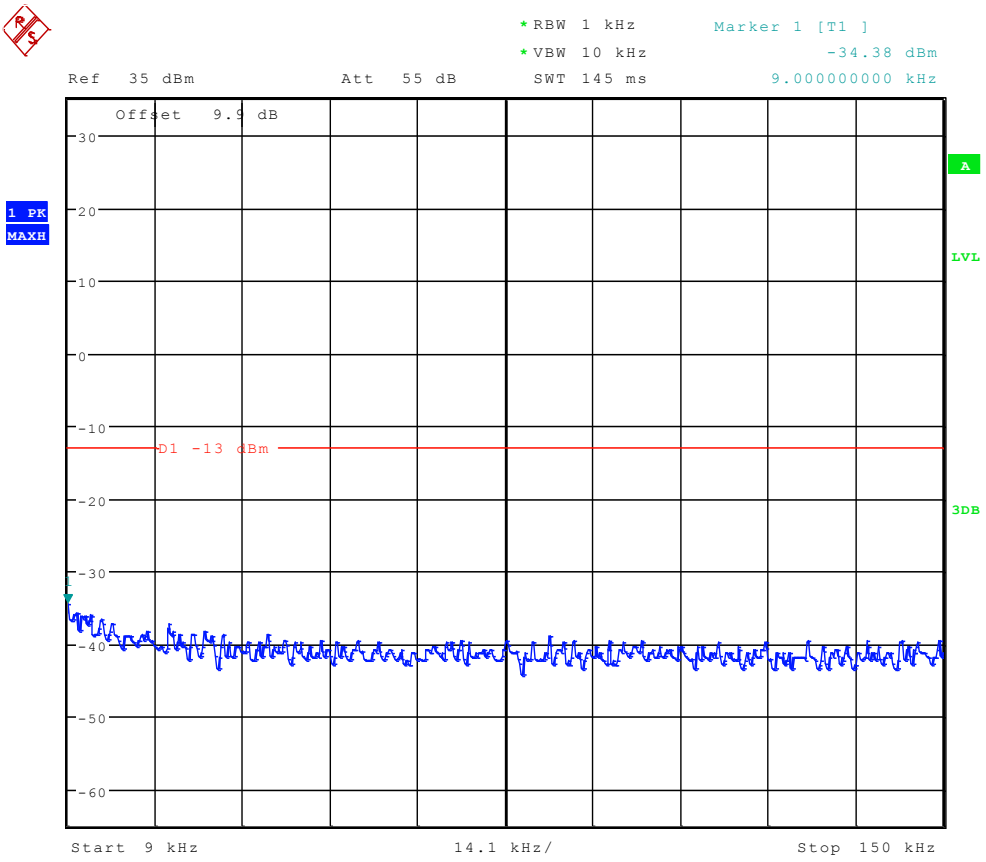


Date: 9.FEB.2012 00:10:34

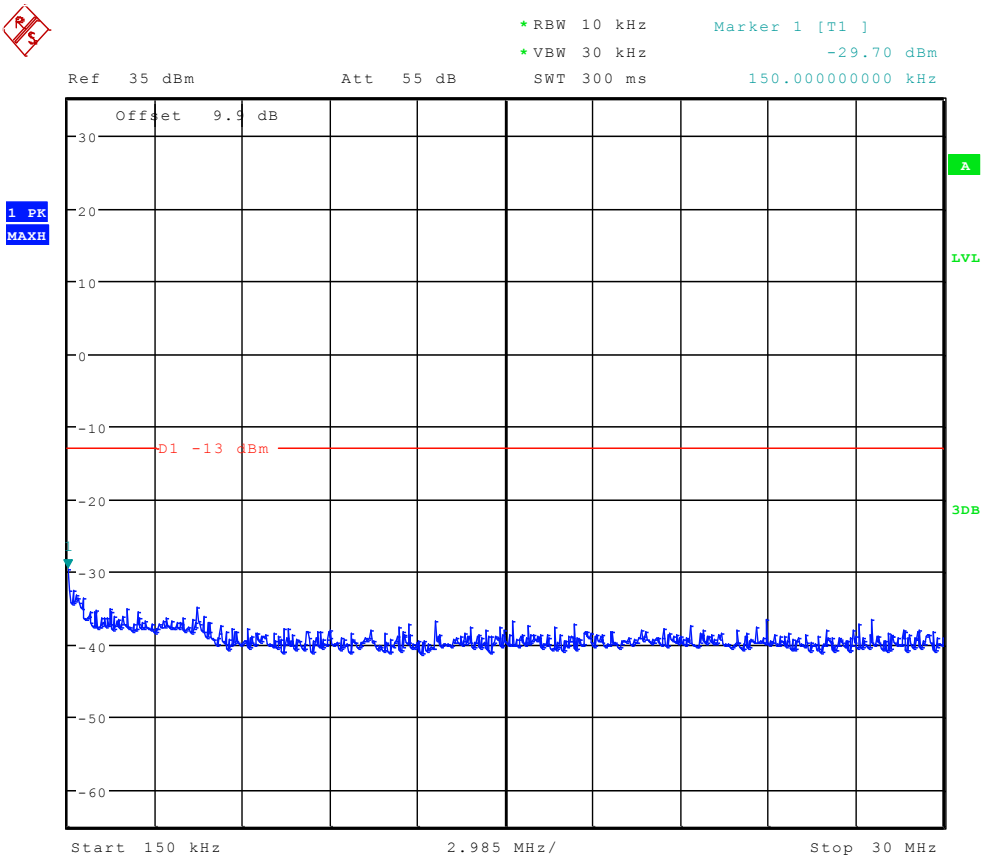


Date: 9.FEB.2012 00:11:18

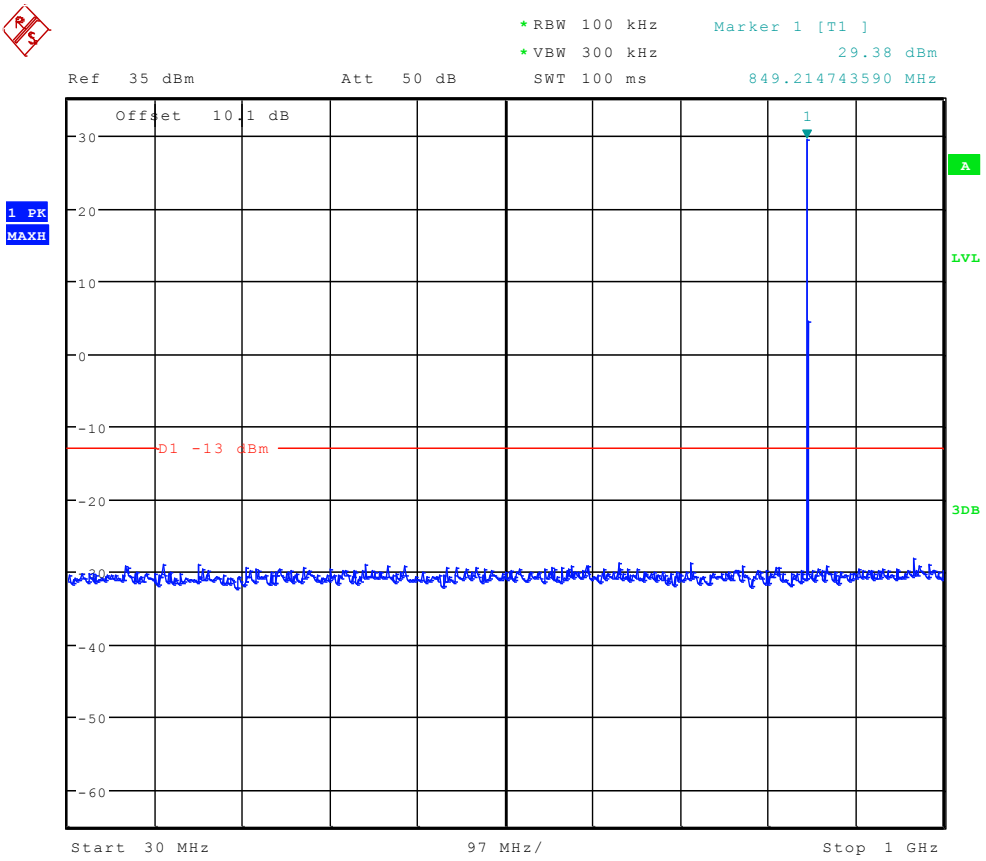
Channel 251



Date: 9.FEB.2012 00:09:21



Date: 9.FEB.2012 00:10:05



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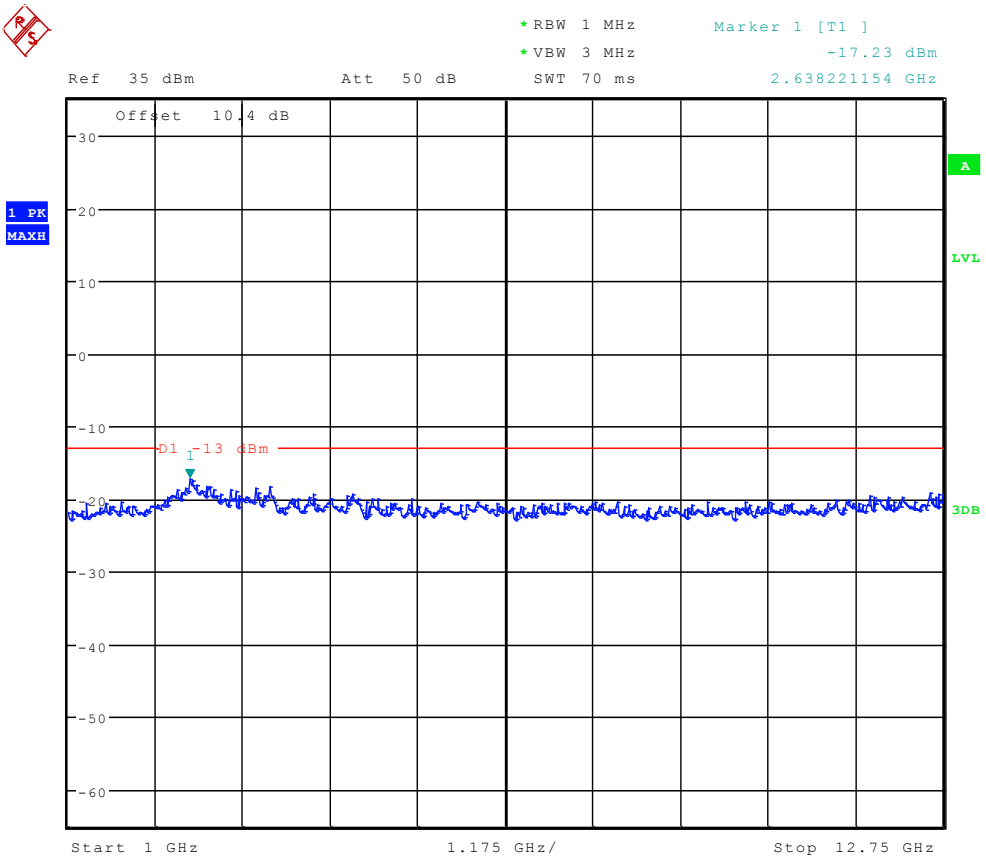
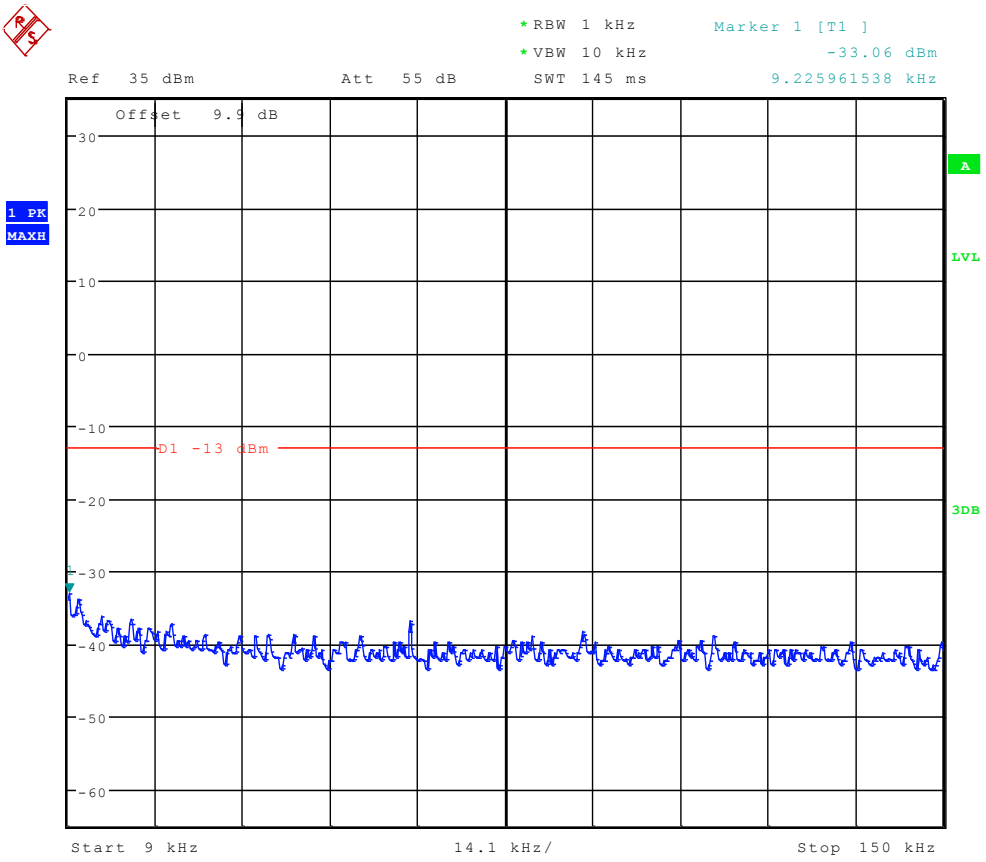


Date: 9.FEB.2012 00:11:32

TM3: WCDMA
Channel 4132



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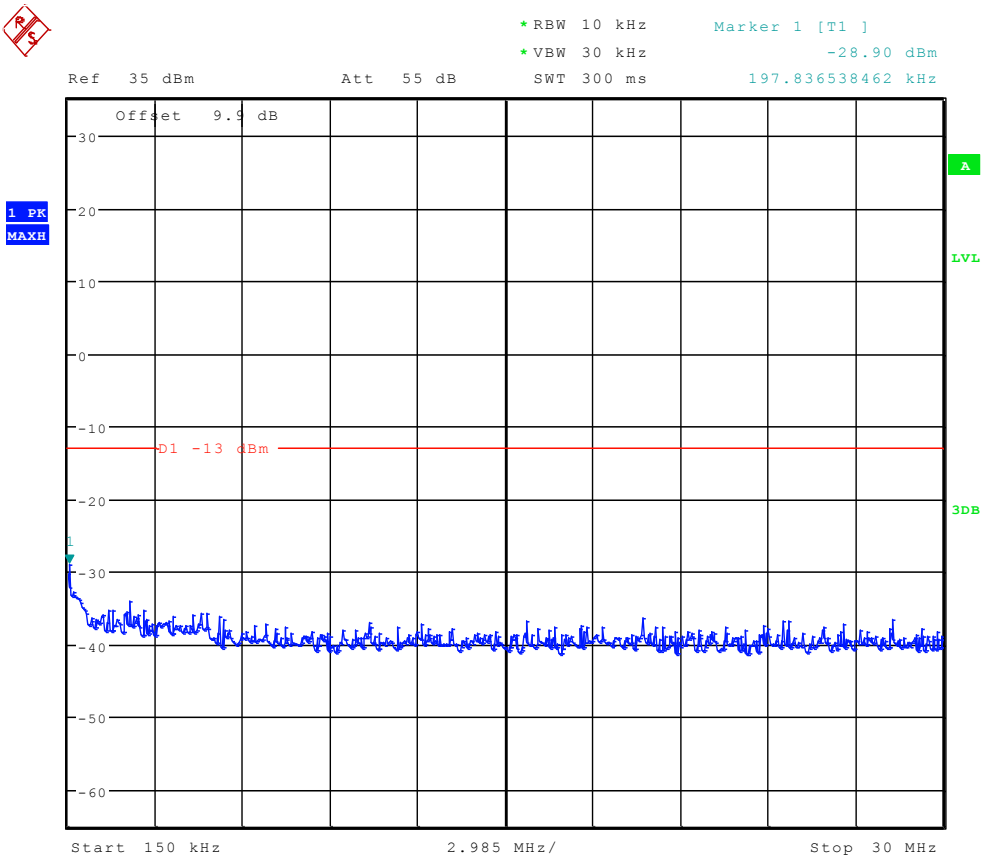

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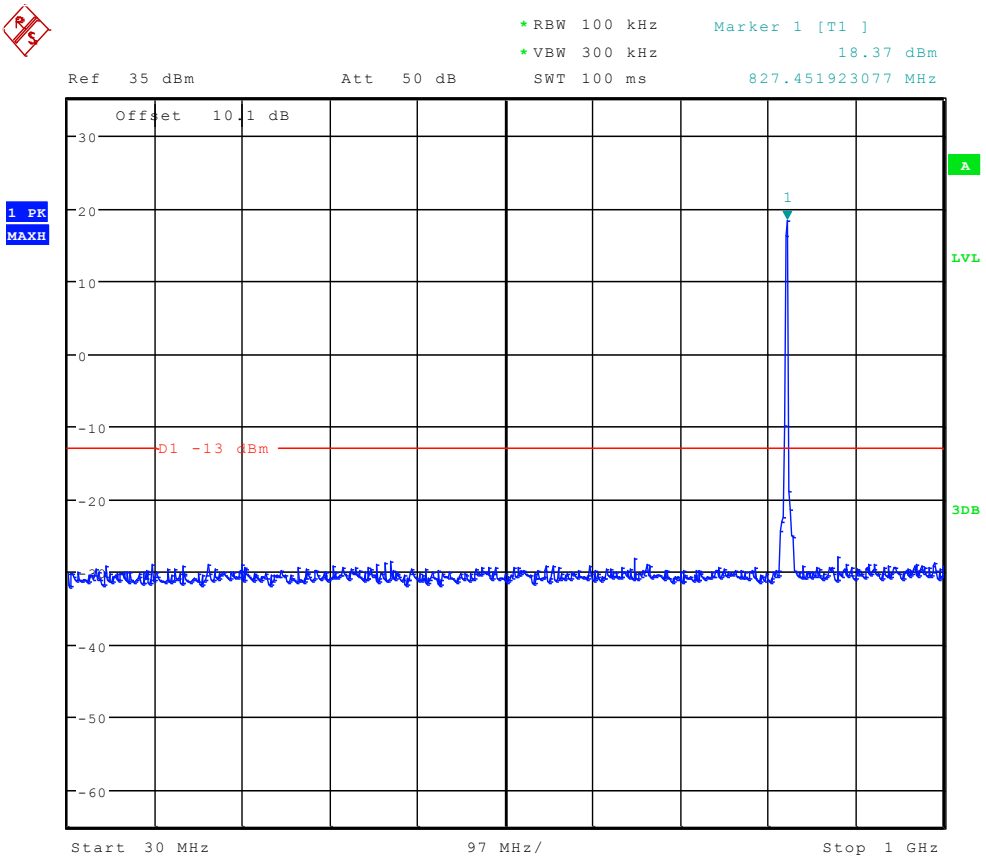

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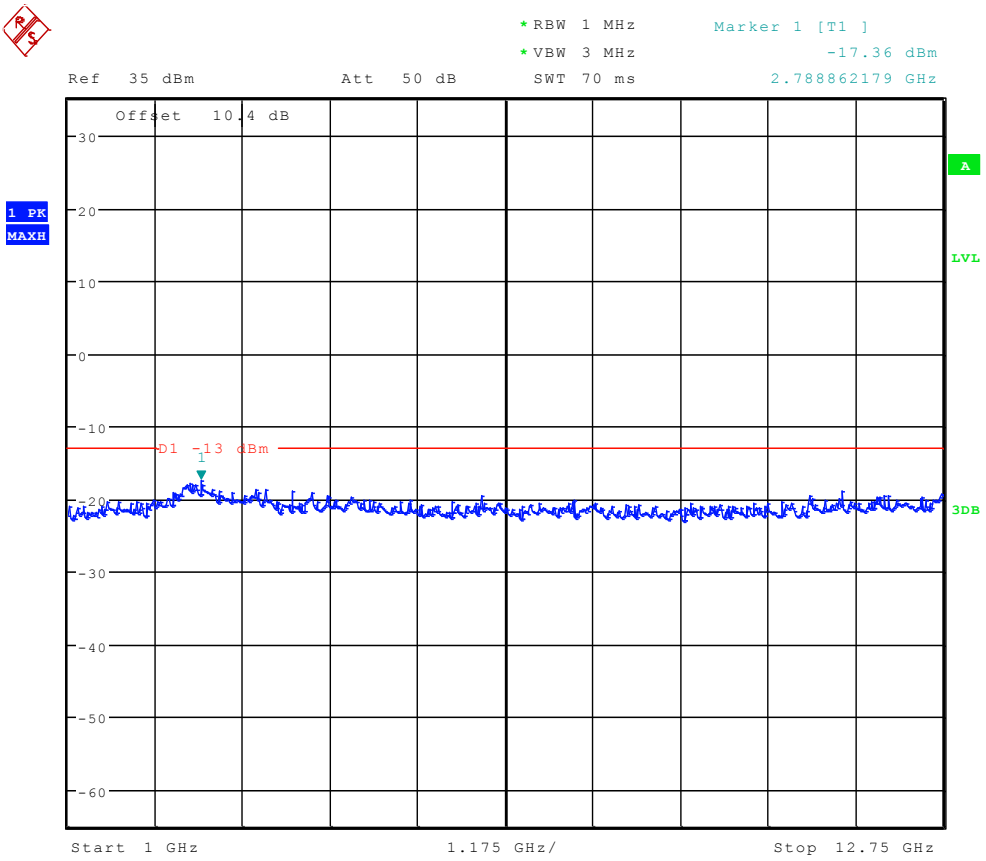

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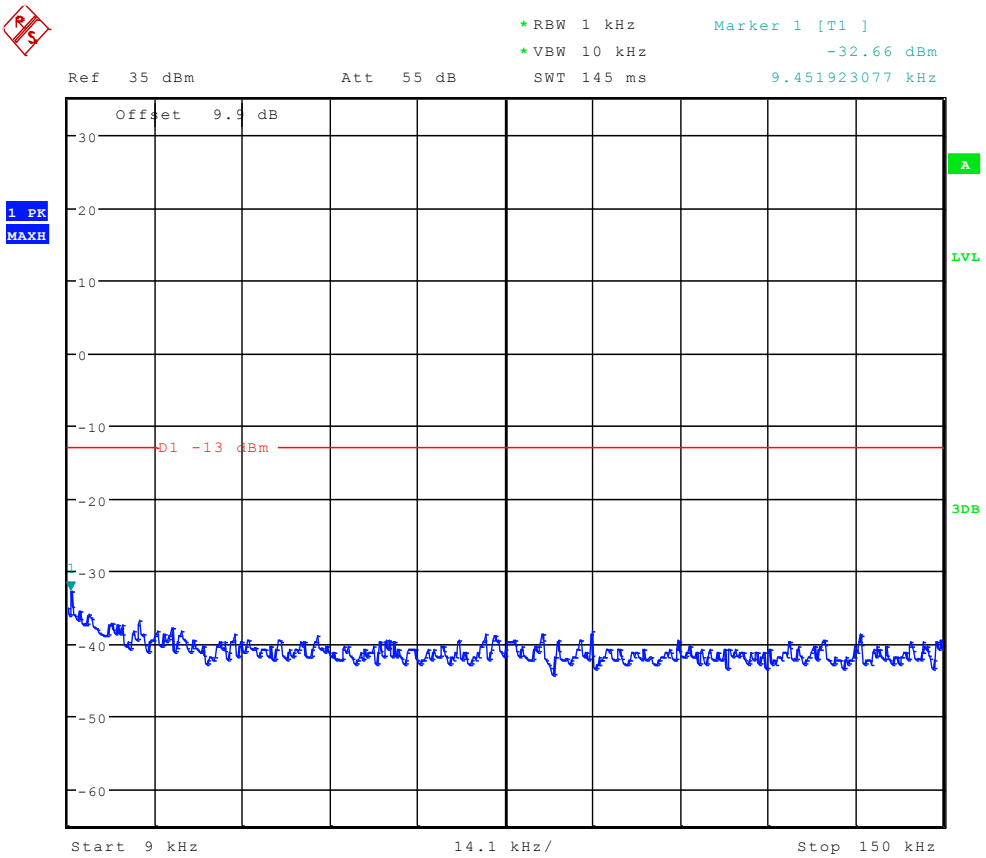
Channel 4182



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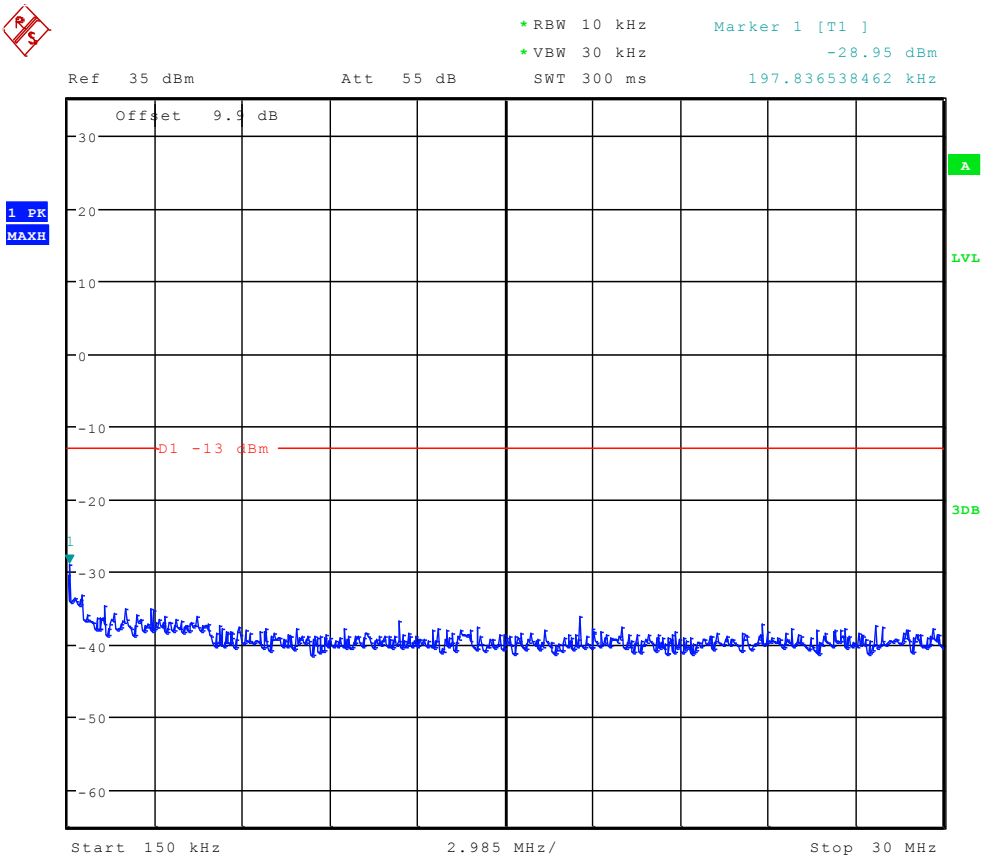

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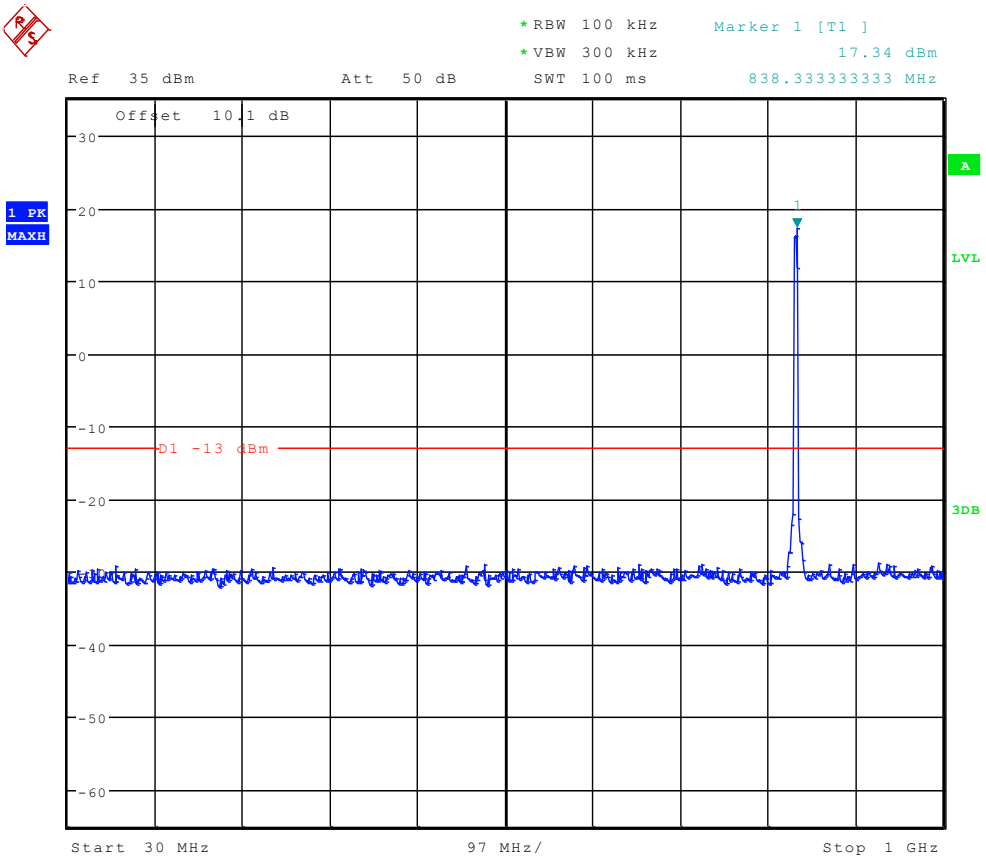

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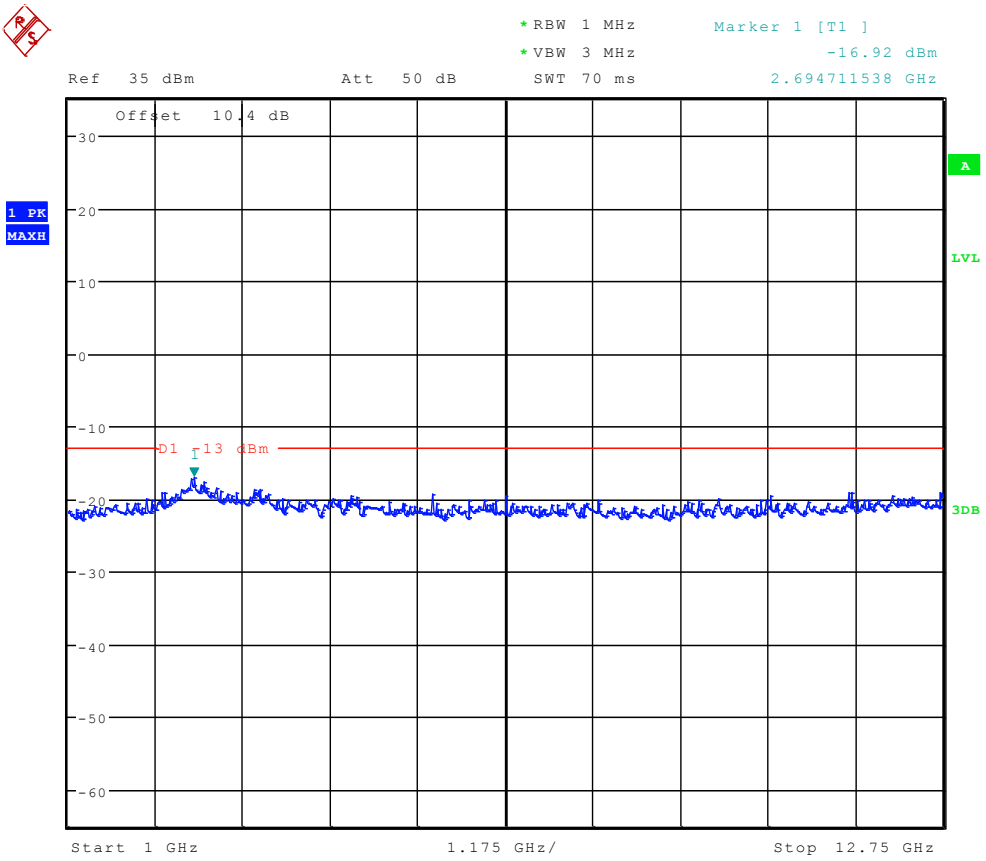

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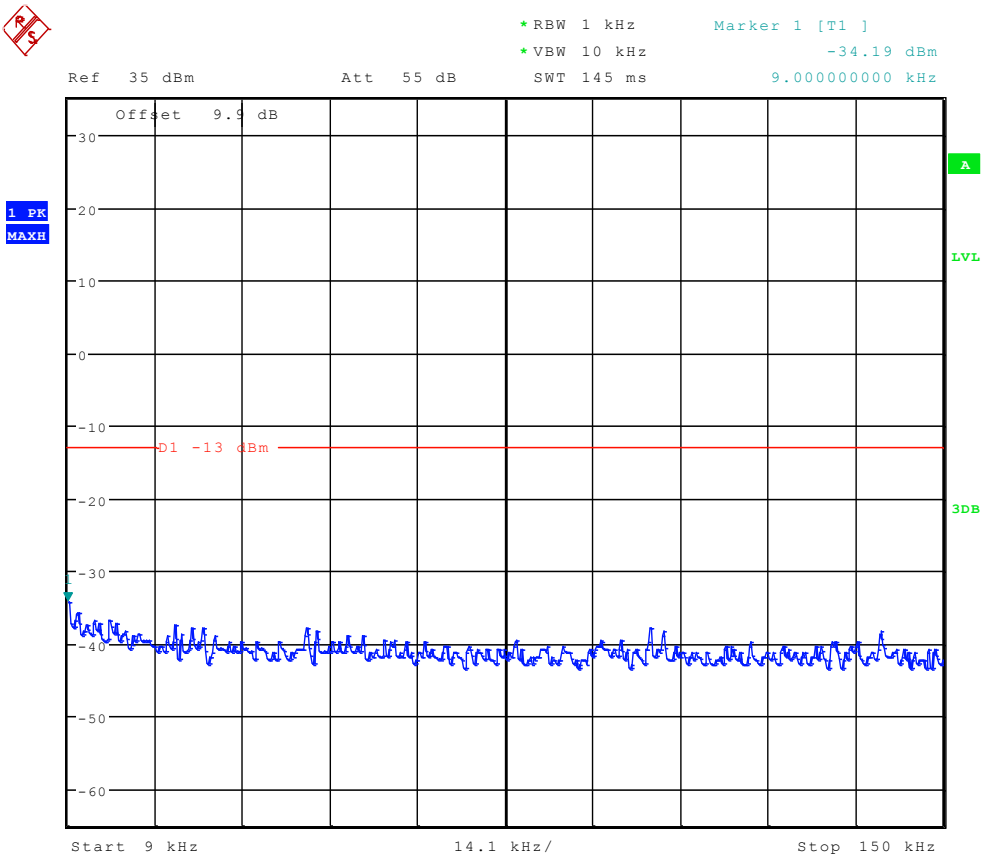
Channel 4233



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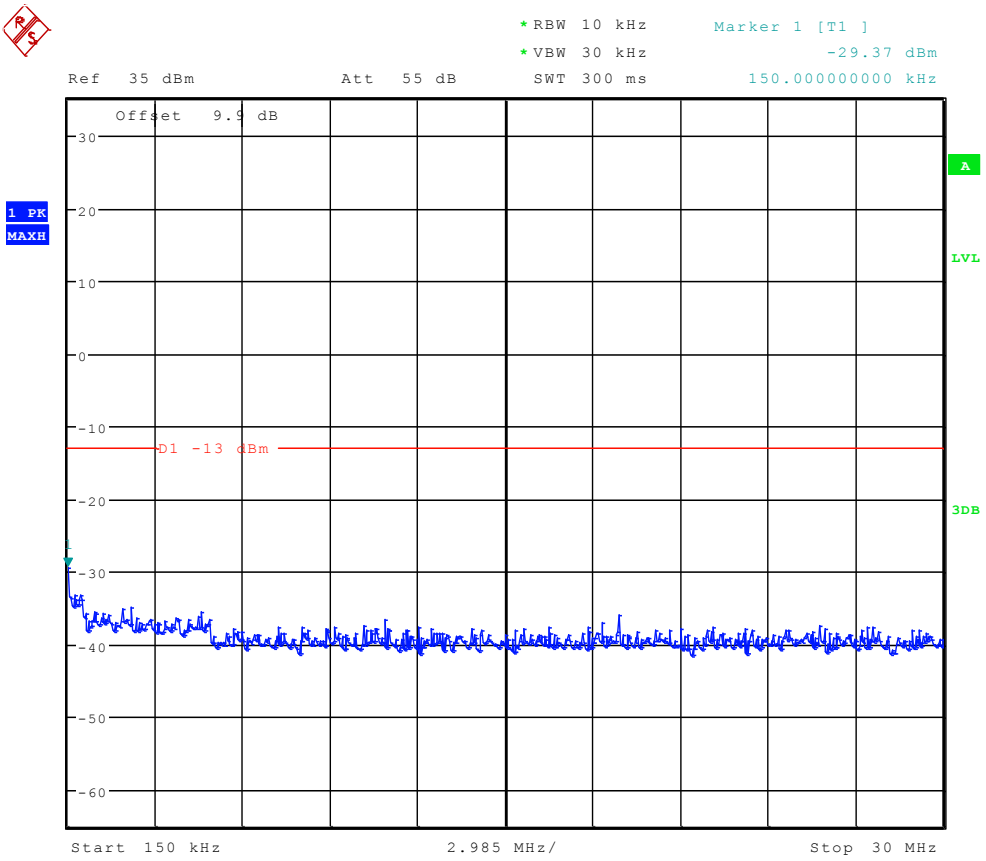

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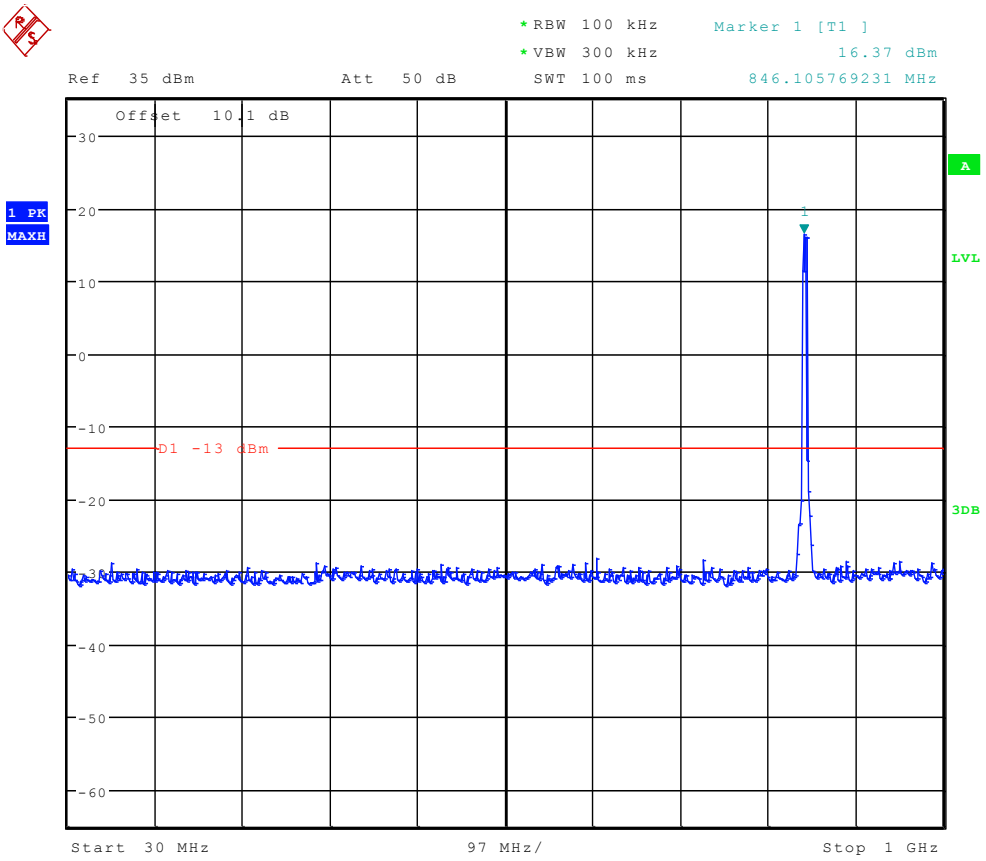

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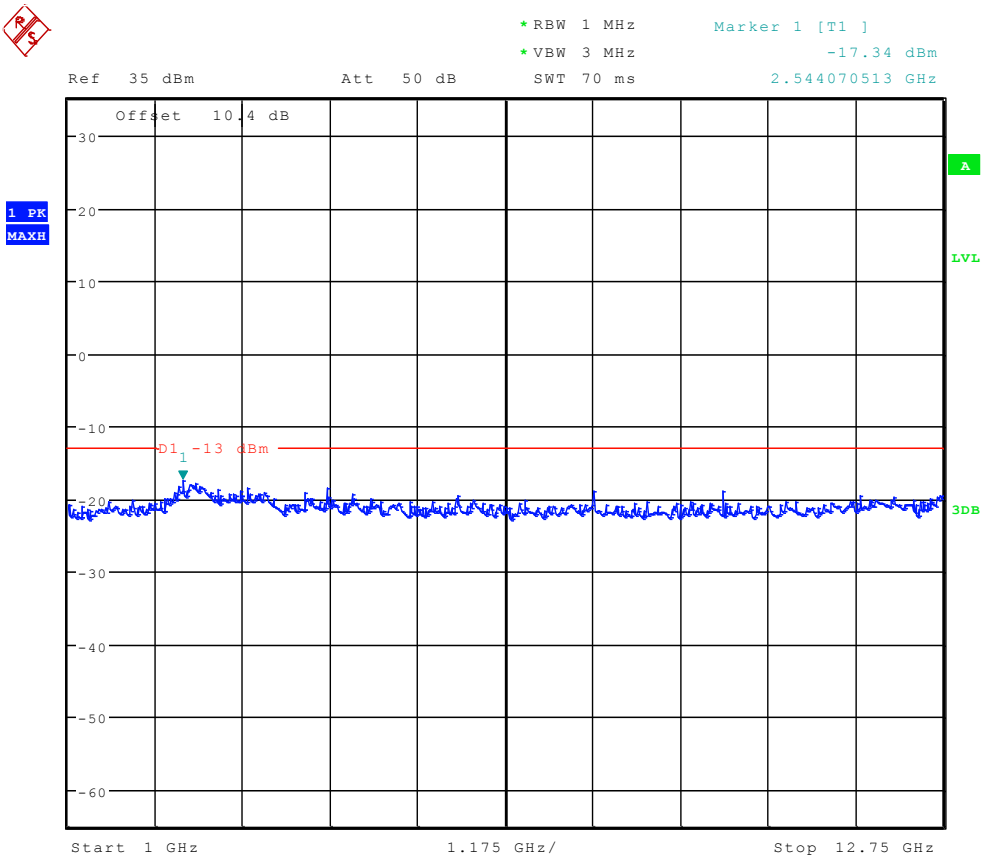

Date: 8.FEB.2012 23:43:34

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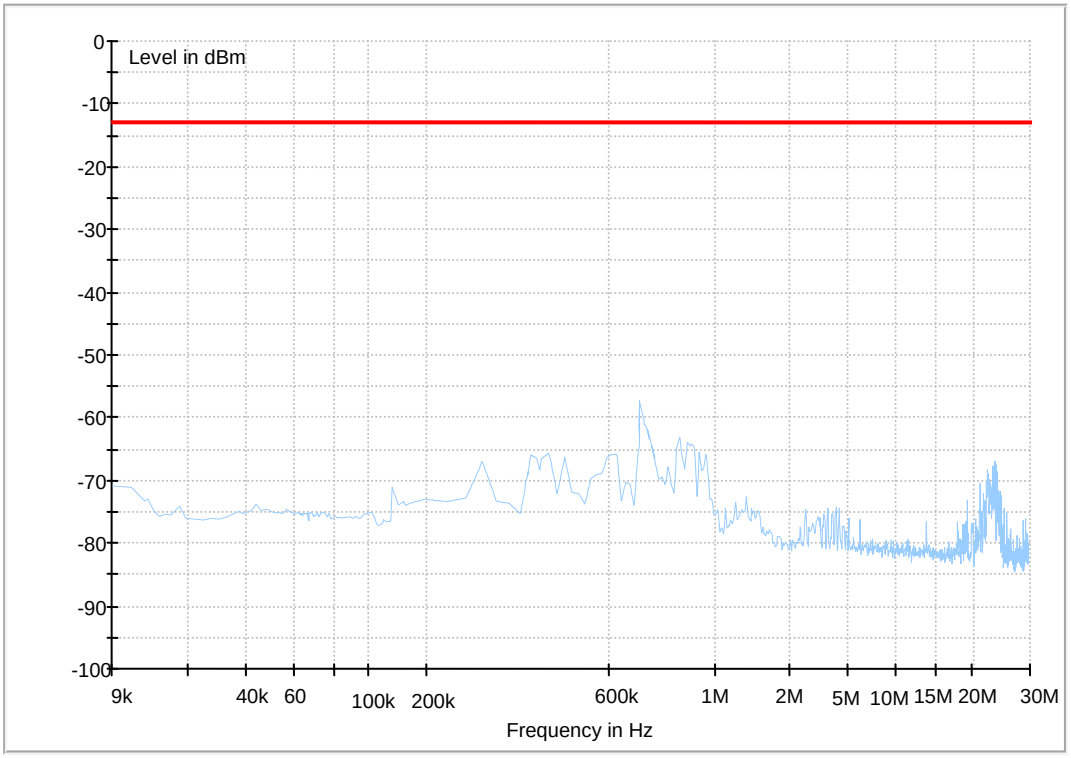
Appendix F

Radiated spurious emission

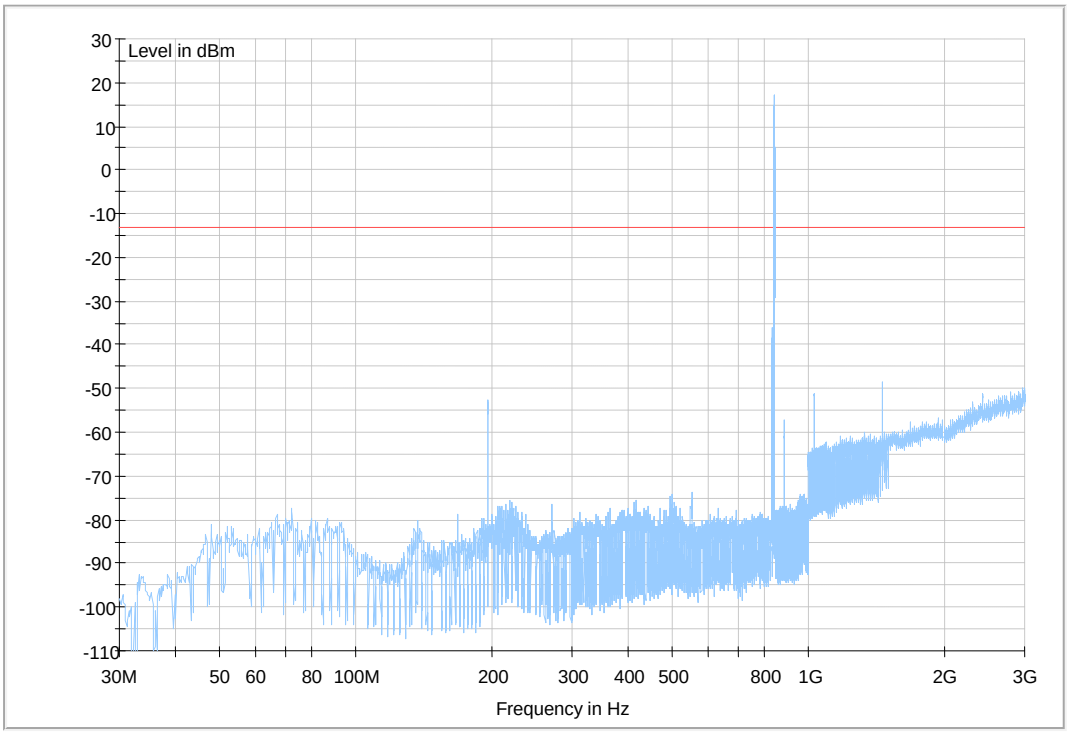
According to FCC Part 2.1053& Part 22.917

GPRS 850

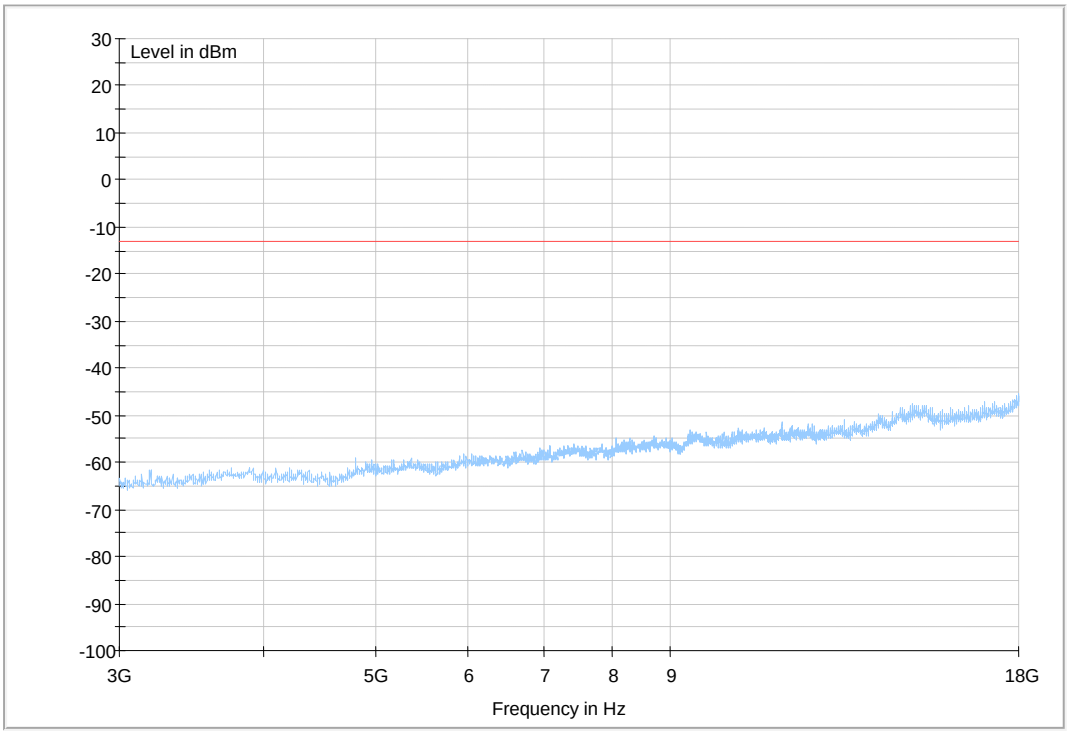
(9kHz~30MHz)



(30MHz~3GHz)

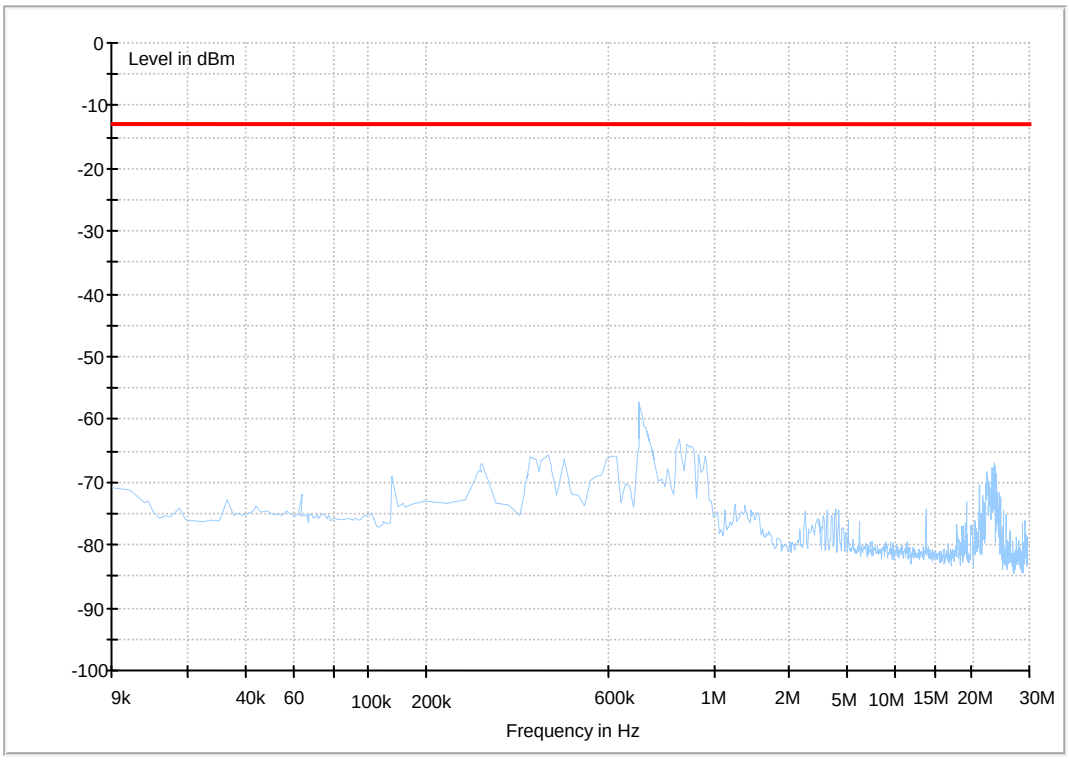


(3GHz~18GHz)

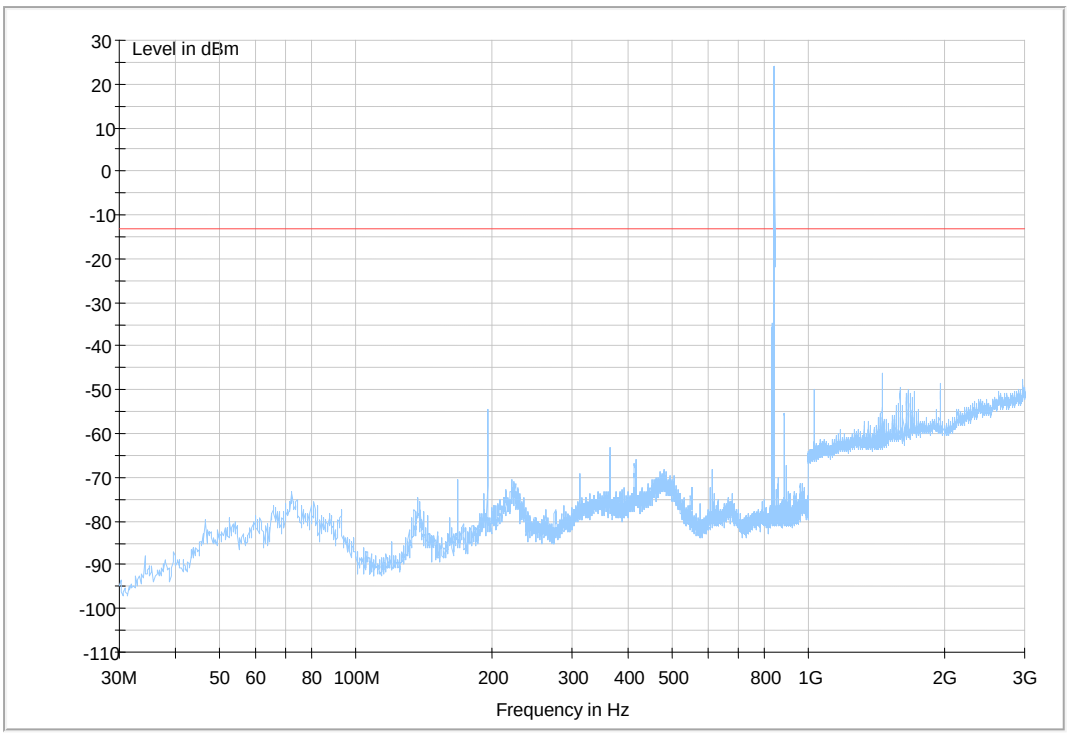


EDGE 850

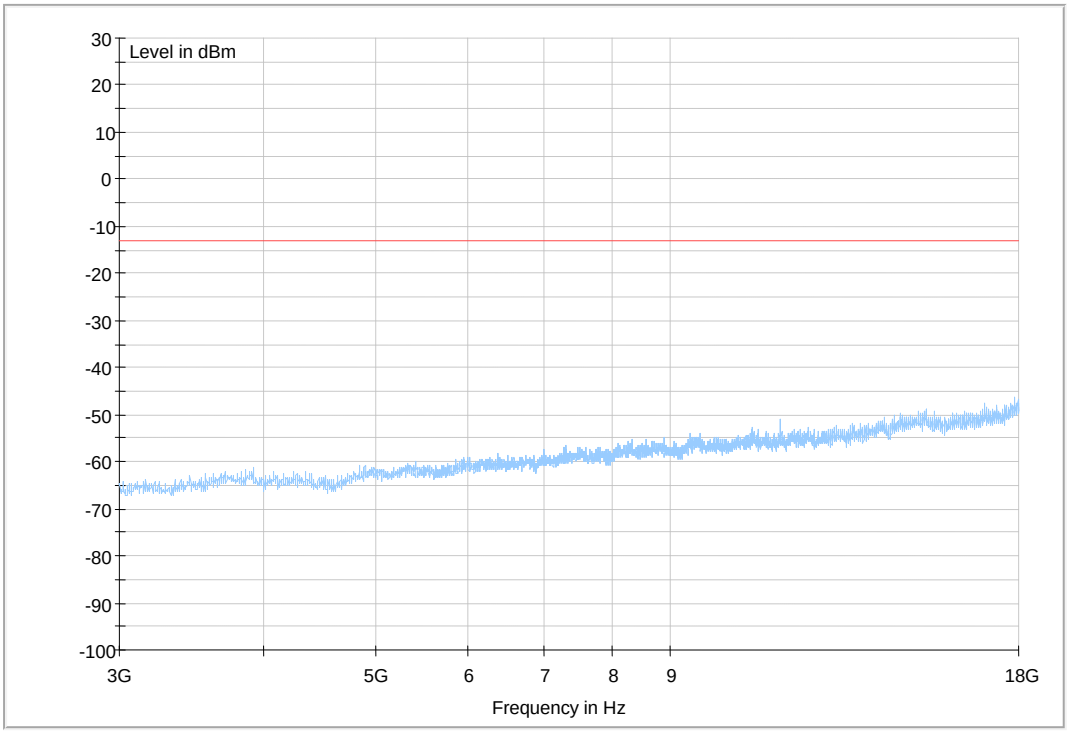
(9kHz~30MHz)



(30MHz~3GHz)

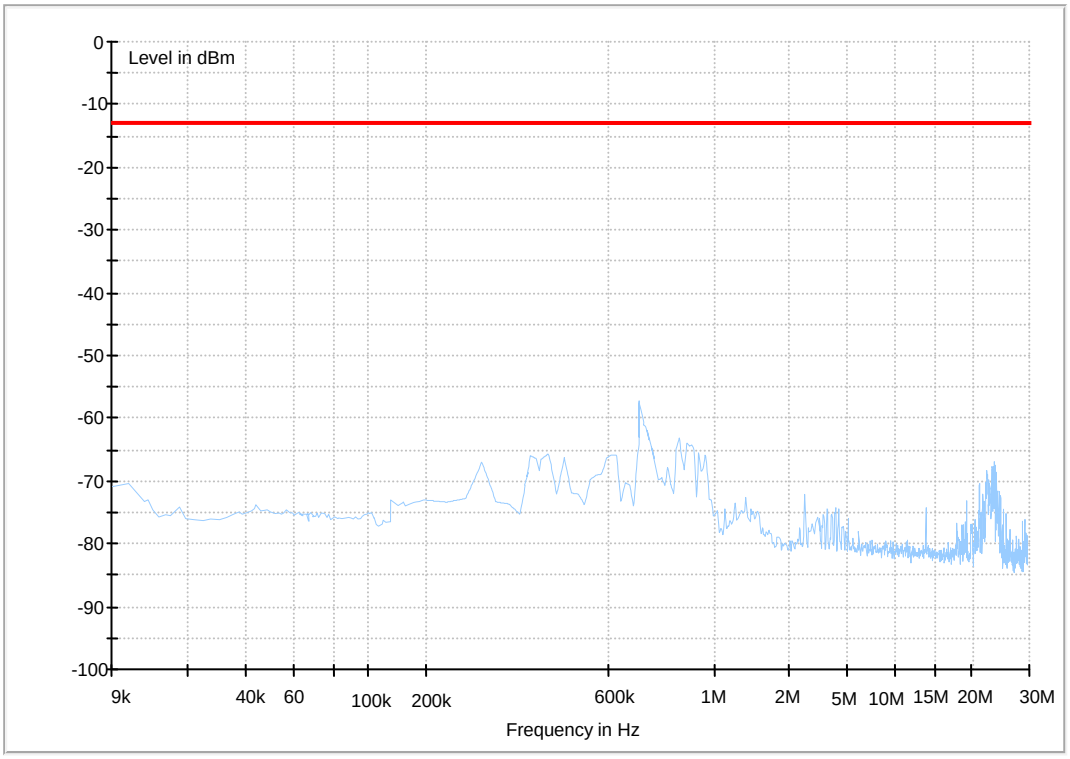


(3GHz~18GHz)

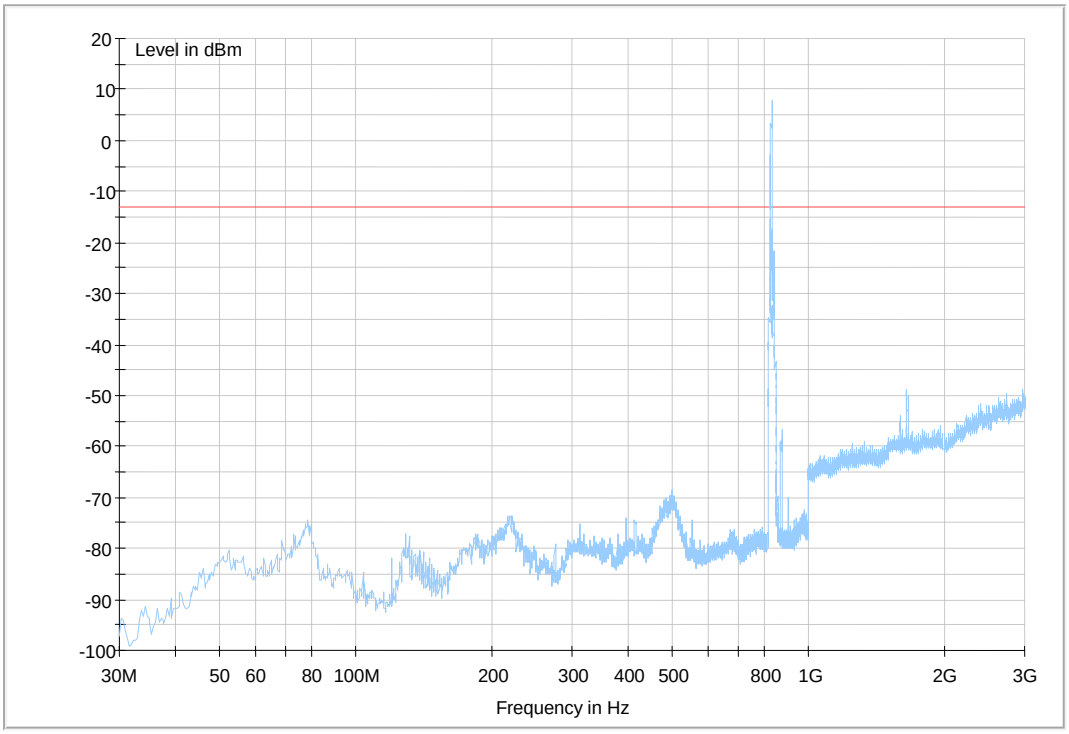


WCDMA Band V

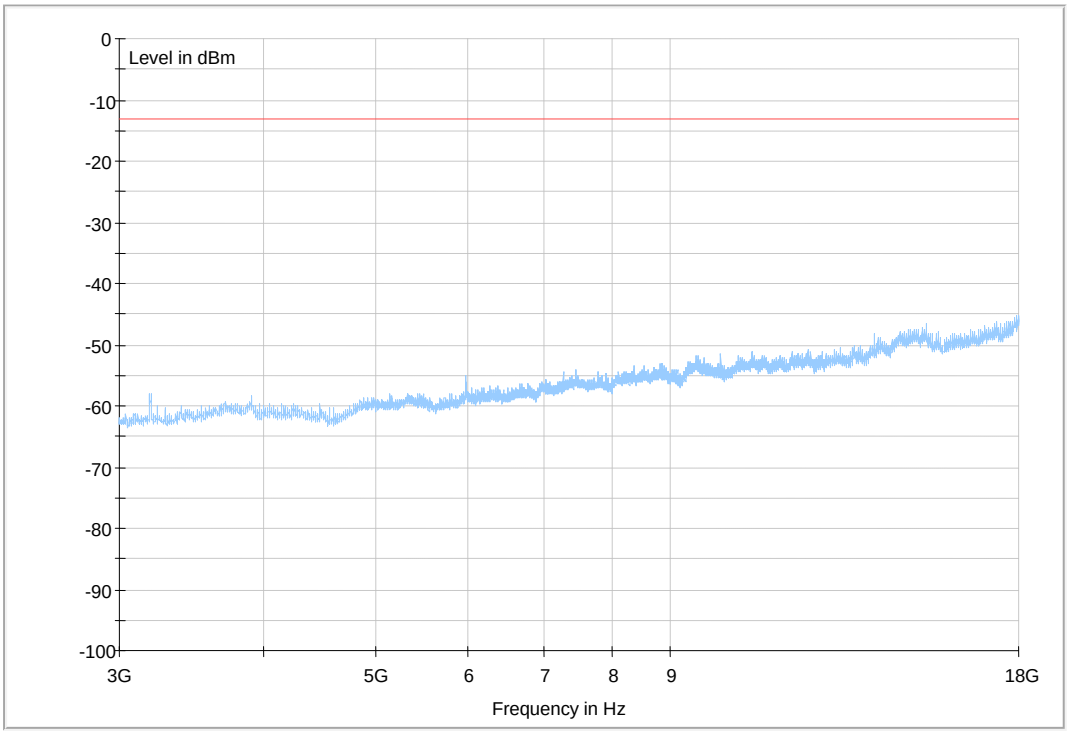
(9KHz~30MHz)



(30MHz~3GHz)

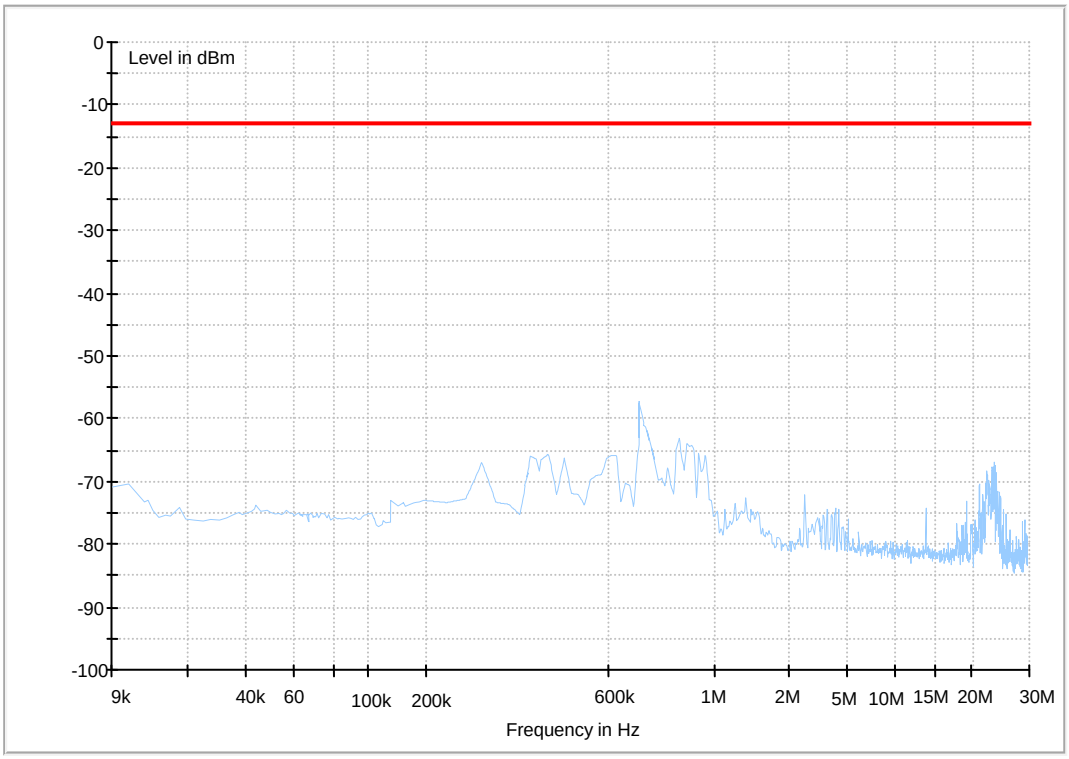


(3GHz~18GHz)

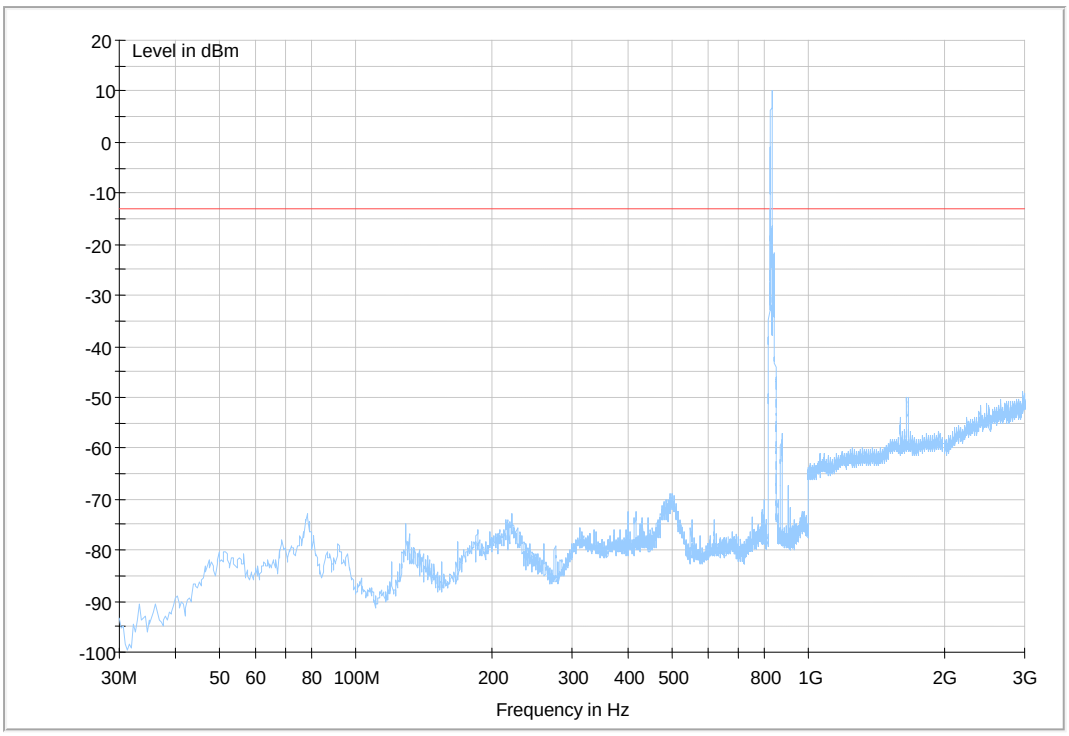


HSDPA Band V

(9KHz~30MHz)



(30MHz~3GHz)



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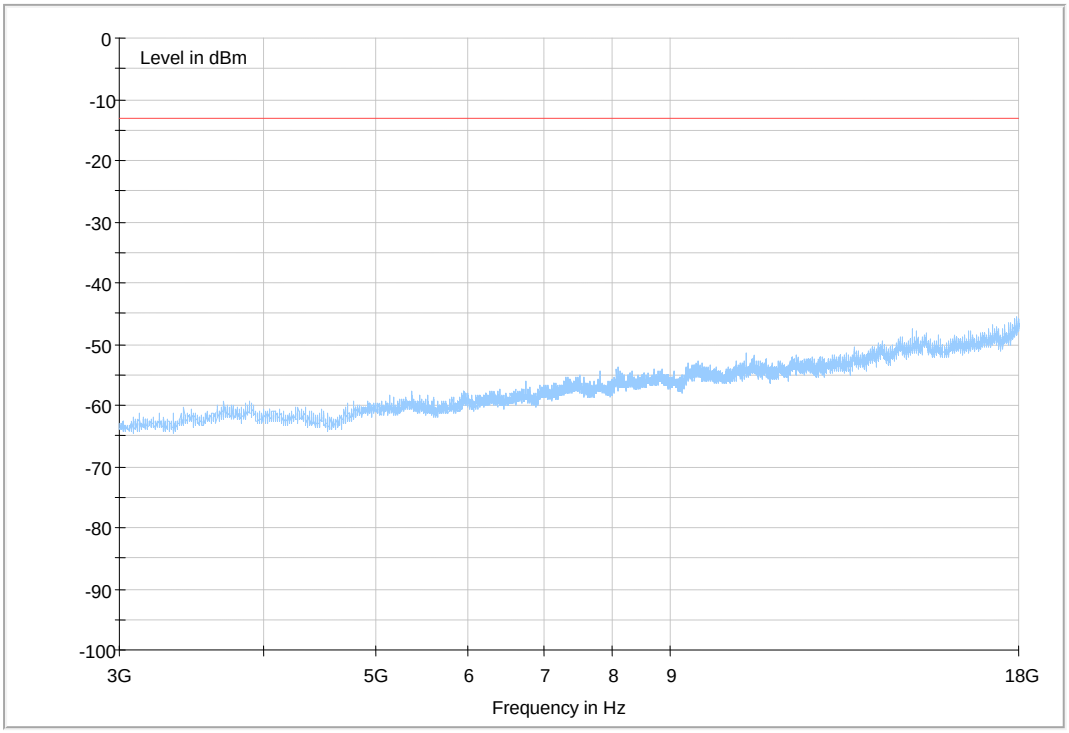
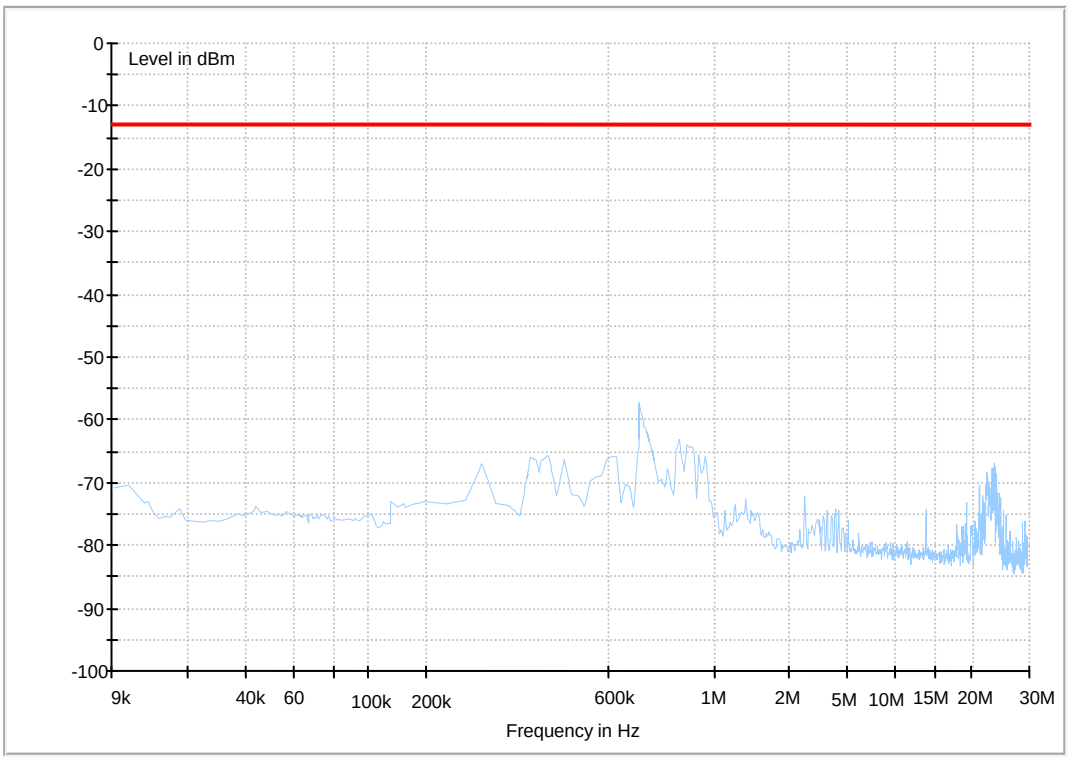
(3GHz~18GHz)

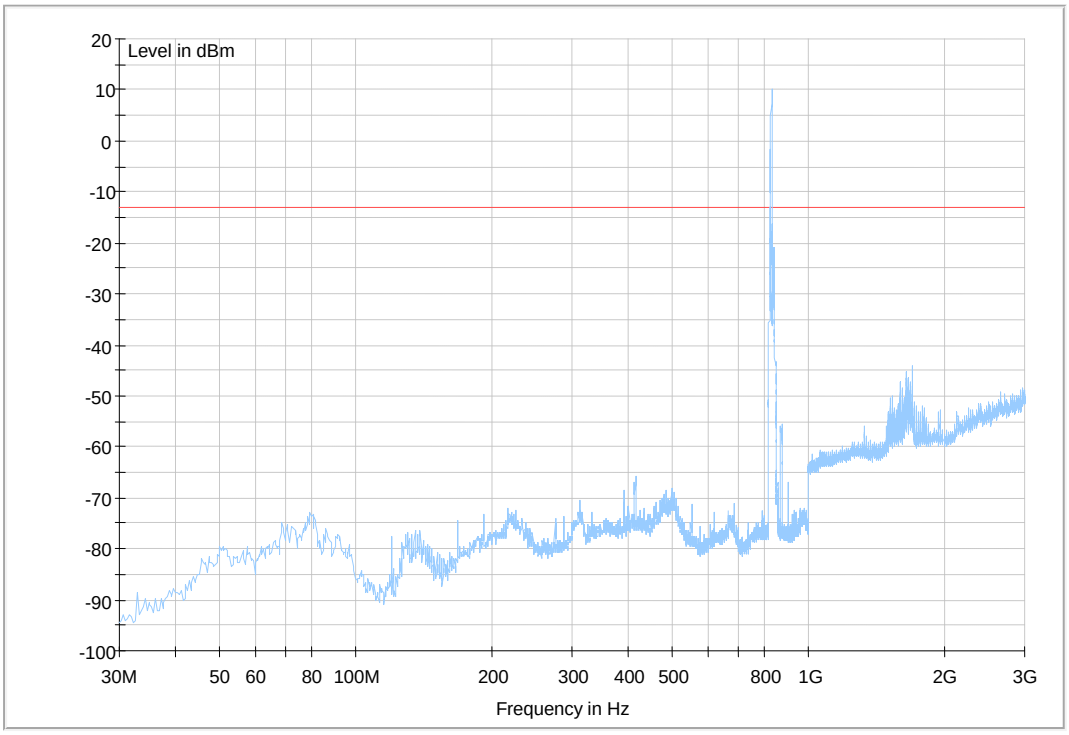


HSUPA Band V

(9KHz~30MHz)



(30MHz~3GHz)



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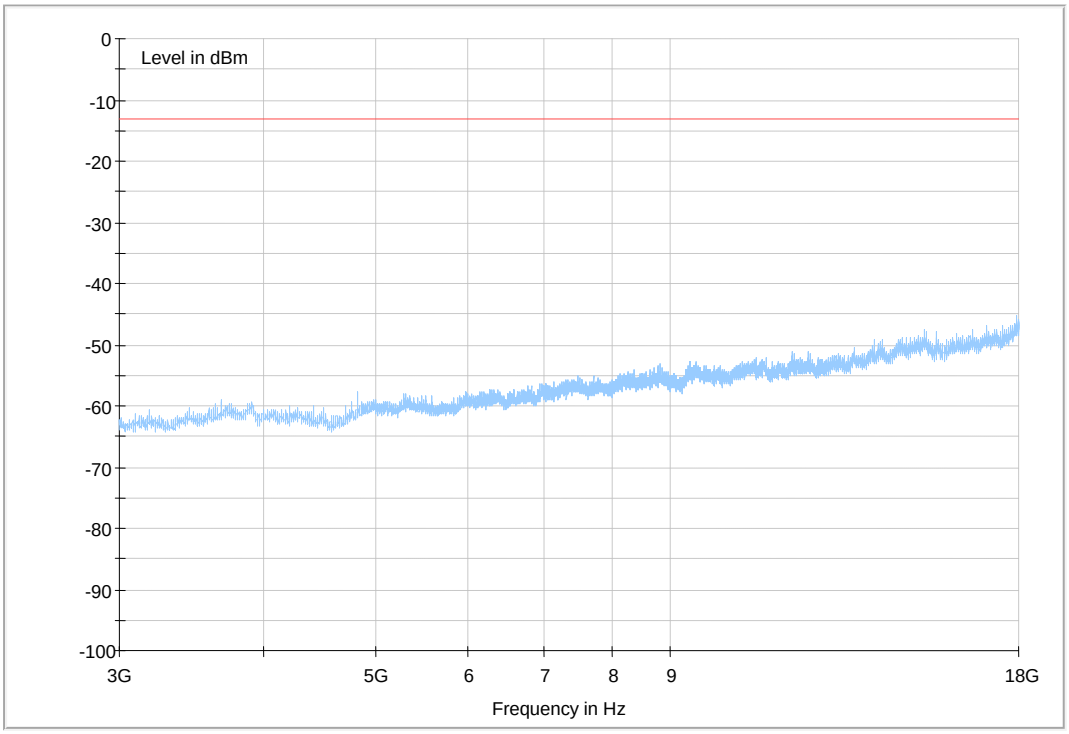
(3GHz~18GHz)



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Appendix G

Frequency Stability

According to FCC Part 2.1055 & Part 22.355

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
TM 1	M	100%	-30 °C	15	0.0179	---	±2.5	Pass
			-20 °C	-12	-0.0143	---	±2.5	Pass
			-10 °C	6	0.0072	---	±2.5	Pass
			0 °C	16	0.0191	---	±2.5	Pass
			10 °C	-13	-0.0155	---	±2.5	Pass
			20 °C	9	0.0108	---	±2.5	Pass
			30 °C	20	0.0239	---	±2.5	Pass
			40 °C	11	0.0131	---	±2.5	Pass
			50 °C	-17	-0.0203	---	±2.5	Pass
TM 2	M	100%	-30 °C	-21	-0.0251	---	±2.5	Pass
			-20 °C	16	0.0191	---	±2.5	Pass
			-10 °C	10	0.0119	---	±2.5	Pass
			0 °C	12	0.0143	---	±2.5	Pass
			10 °C	-17	-0.0203	---	±2.5	Pass
			20 °C	-11	-0.0131	---	±2.5	Pass
			30 °C	8	0.0096	---	±2.5	Pass
			40 °C	-15	-0.0179	---	±2.5	Pass
			50 °C	-12	-0.0143	---	±2.5	Pass
TM 3	M	100%	-30 °C	10	0.0120	---	±2.5	Pass
			-20 °C	-17	-0.0203	---	±2.5	Pass
			-10 °C	5	0.0060	---	±2.5	Pass
			0 °C	13	0.0155	---	±2.5	Pass
			10 °C	-15	-0.0179	---	±2.5	Pass
			20 °C	12	0.0143	---	±2.5	Pass
			30 °C	-8	-0.0100	---	±2.5	Pass
			40 °C	6	0.0072	---	±2.5	Pass
			50 °C	18	0.0215	---	±2.5	Pass

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
TM 1	M	20 °C	85 %	14	0.0167	---	±2.5	Pass
			100 %	-18	-0.0215	---	±2.5	Pass
			115 %	8	0.0096	---	±2.5	Pass
TM 2	M	20 °C	85 %	15	0.0179	---	±2.5	Pass
			100 %	-17	-0.0203	---	±2.5	Pass
			115 %	-12	-0.0143	---	±2.5	Pass
TM 3	M	20 °C	85 %	13	0.0155	---	±2.5	Pass
			100 %	4	0.0048	---	±2.5	Pass
			115 %	-11	-0.0132	---	±2.5	Pass

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