Appendix A

Transmitter Output Power

According to FCC Part 2.1046 & Part24.232

Conducted Power of Transmitter

		RF Output Power (Conducted)					
TEST CONDITIONS		Channel512(B)		Channel661(M)		Channel810(T)	
		1850.2MHz		1880.0MHz		1909.8MHz	
		dBm		dBm		dBm	
T_{nom} / V_{nom}		Measured	Limit	Measured	Limit	Measured	Limit
TM1		29.28	33	29.15	33	29.09	33
TEST CONDITIONS		Channel9262(B)		Channel9400(M)		Channel9538(T)	
		1852.4MHz		1880.0MHz		1907.6MHz	
		dBm		dBm		dBm	
T_{nom} / V_{nom}		Measured	Limit	Measured	Limit	Measured	Limit
TM2		22.11	33	22.27	33	22.18	33
TM3	Case1	21.11	33	21.31	33	21.22	33
	Case2	21.05	33	21.29	33	21.25	33
	Case3	20.96	33	21.18	33	21.2	33
	Case4	20.72	33	20.91	33	20.96	33
TM4	Case1	21.13	33	21.28	33	21.25	33
	Case2	18.92	33	19.12	33	19.17	33
	Case3	20.08	33	20.03	33	20.06	33
	Case4	19.29	33	19.05	33	19.11	33
	Case5	21.22	33	21.36	33	21.14	33

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) [dBm]	FCC limit [dBm]	Result
TM1	1850.2	31.62	Horn Ant.	28.18	4.5	1	31.68	33	Pass
TM1	1880.0	31.49	Horn Ant.	27.92	4.5	1	31.42	33	Pass
TM1	1909.8	31.43	Horn Ant.	27.67	4.8	1	31.47	33	Pass
TM2	1852.4	24.45	Horn Ant.	20.92	4.5	1	24.42	33	Pass
TM2	1880.0	24.61	Horn Ant.	21.19	4.5	1	24.69	33	Pass
TM2	1907.6	24.52	Horn Ant.	20.75	4.8	1	24.55	33	Pass

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

EIRP [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 & Part24 Subpart E

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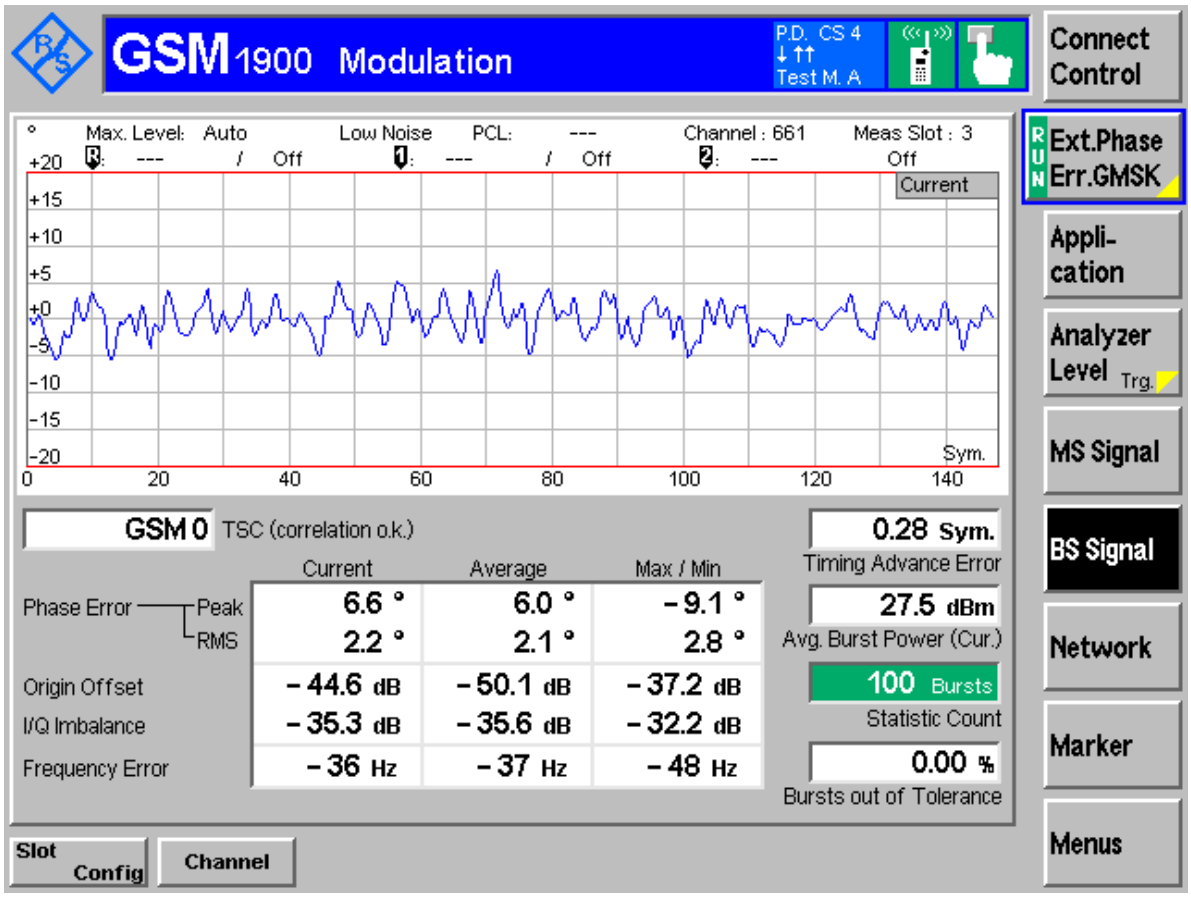
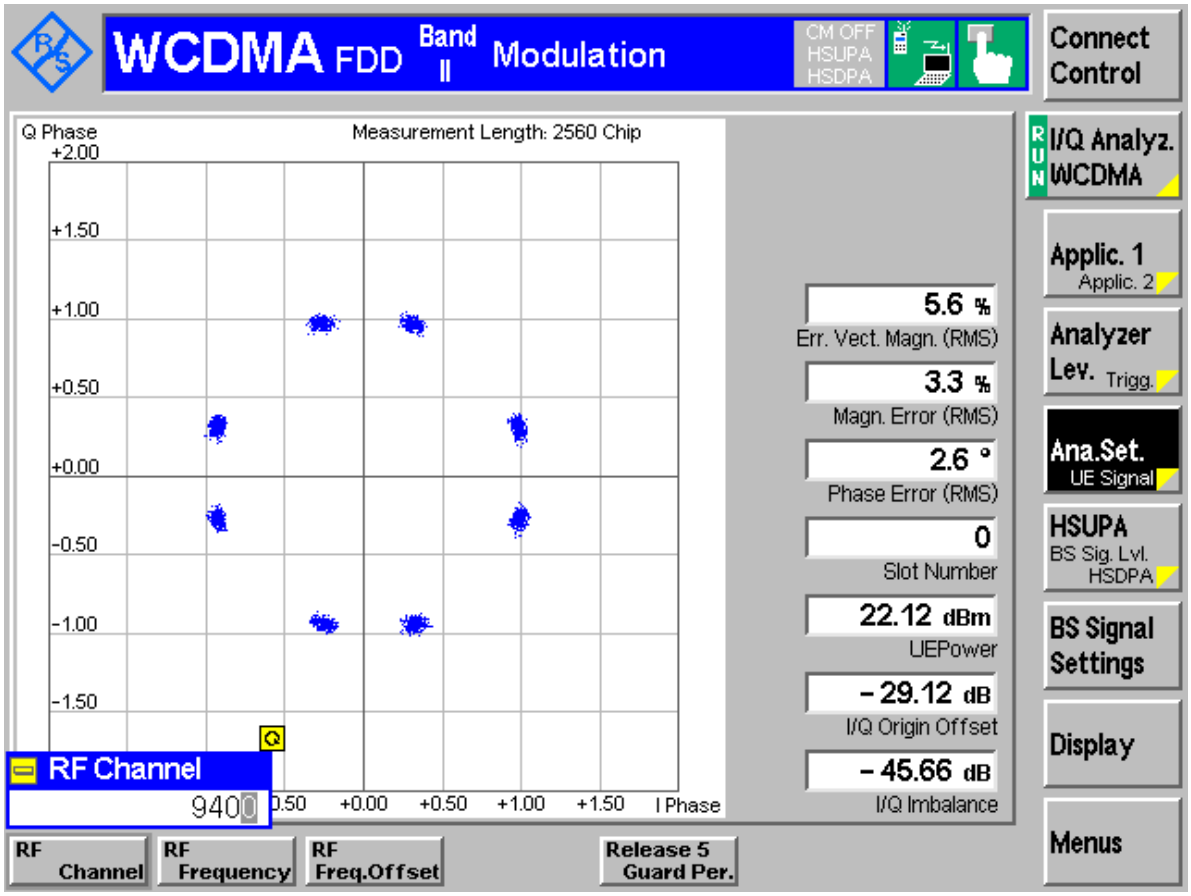
No Distribution without Written Permission

TM1:GPRS/GSM
Channel 661



TM2: WCDMA
Channel 9400



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

Appendix C

Occupied Bandwidth

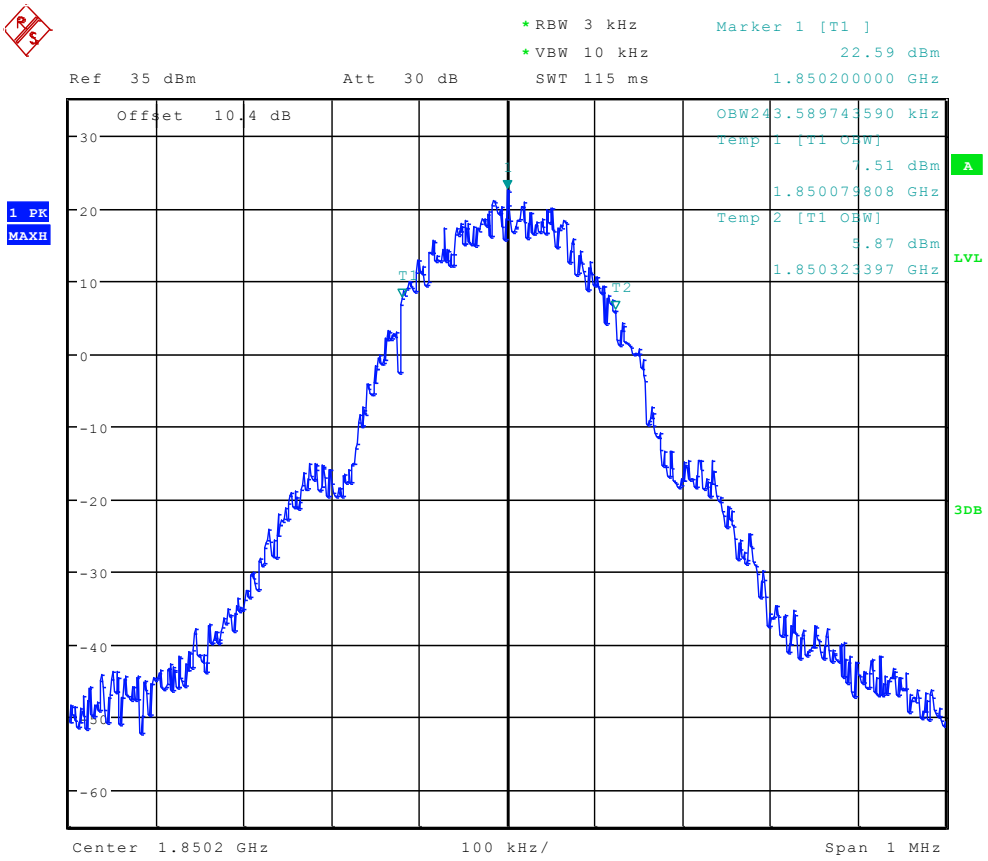
According to FCC Part 2.1049 & Part24 Subpart E

Result Table

Table 1 Measurement Results

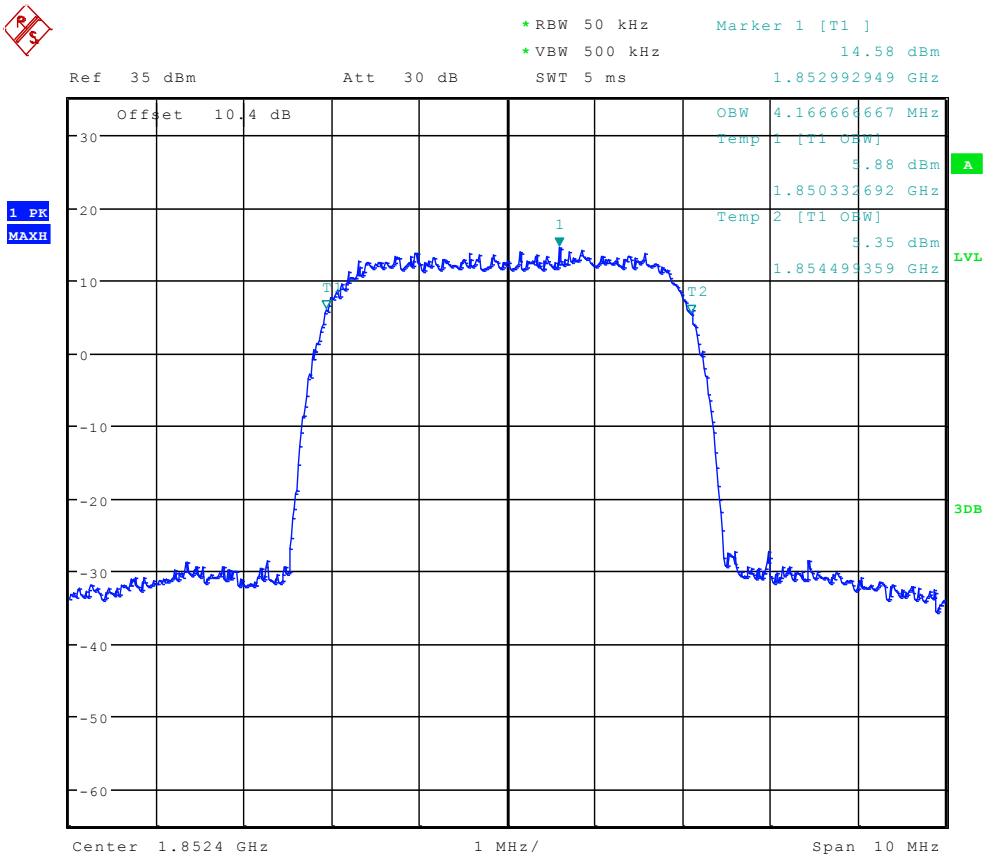
Test Mode	RF Channel	Occupied Bandwidth [kHz]	Verdict
TM1	512	243.59	Pass
	661	251.60	Pass
	810	246.79	Pass
Test Mode	RF Channel	Occupied Bandwidth [MHz]	Verdict
TM2	9262	4.167	Pass
	9400	4.151	Pass
	9538	4.167	Pass

TM1:GPRS/GSM
Channel 512



Date: 14.FEB.2012 02:26:42

TM2: WCDMA
Channel 9262



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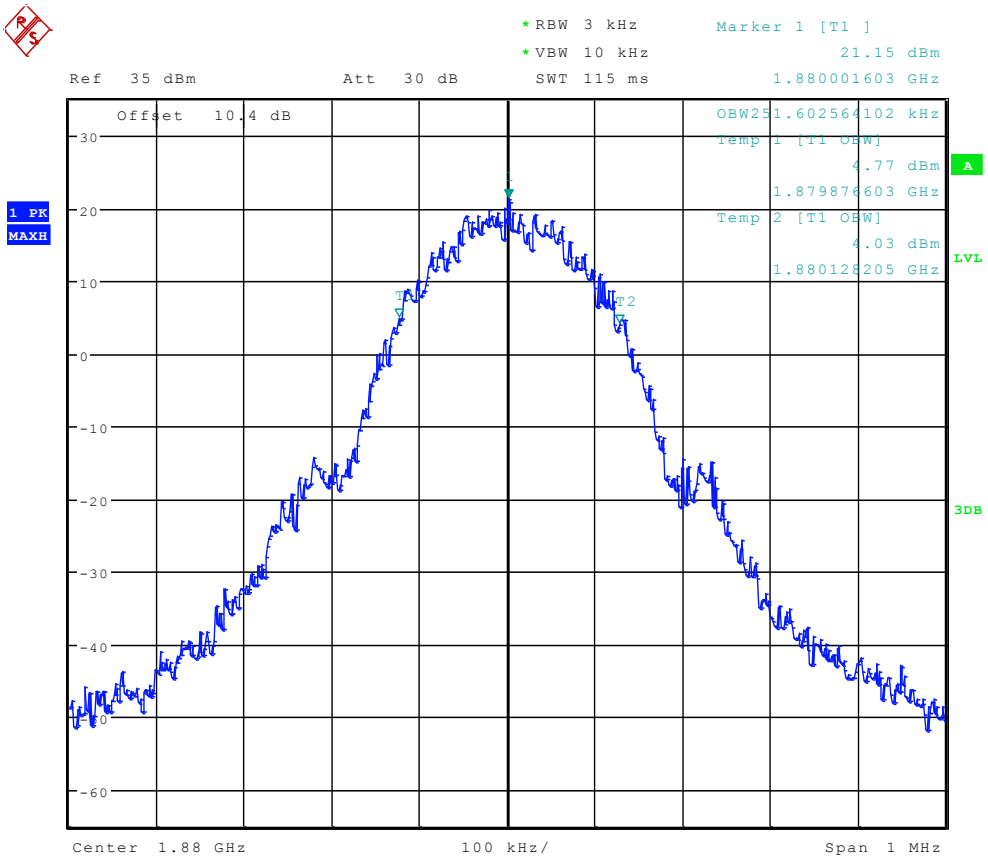
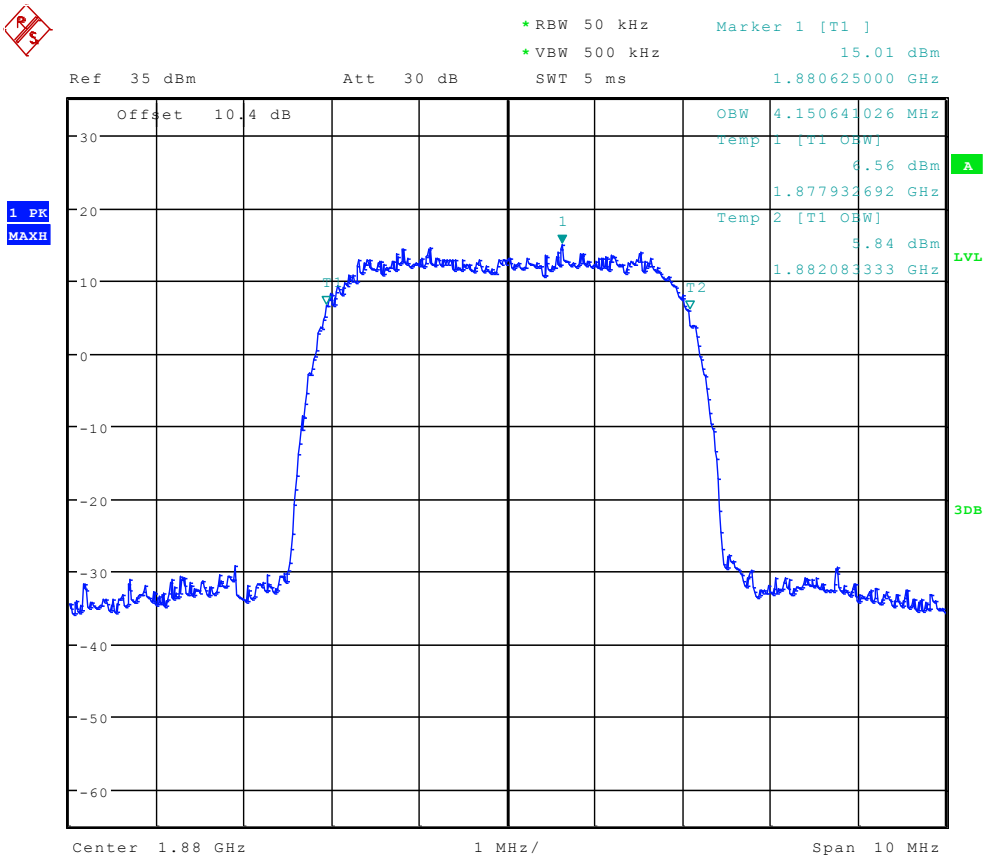
TM1:GPRS/GSM
Channel 661



Date: 14.FEB.2012 02:26:56

TM2: WCDMA
Channel 9400



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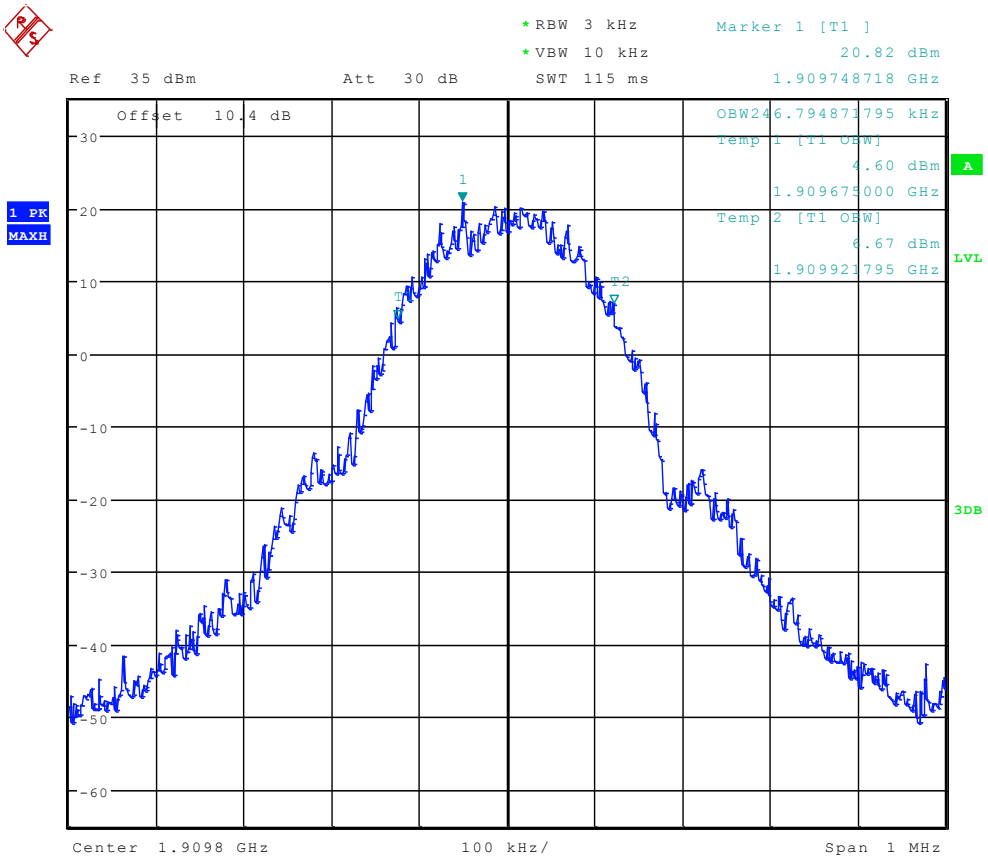
TM1:GPRS/GSM
Channel 810



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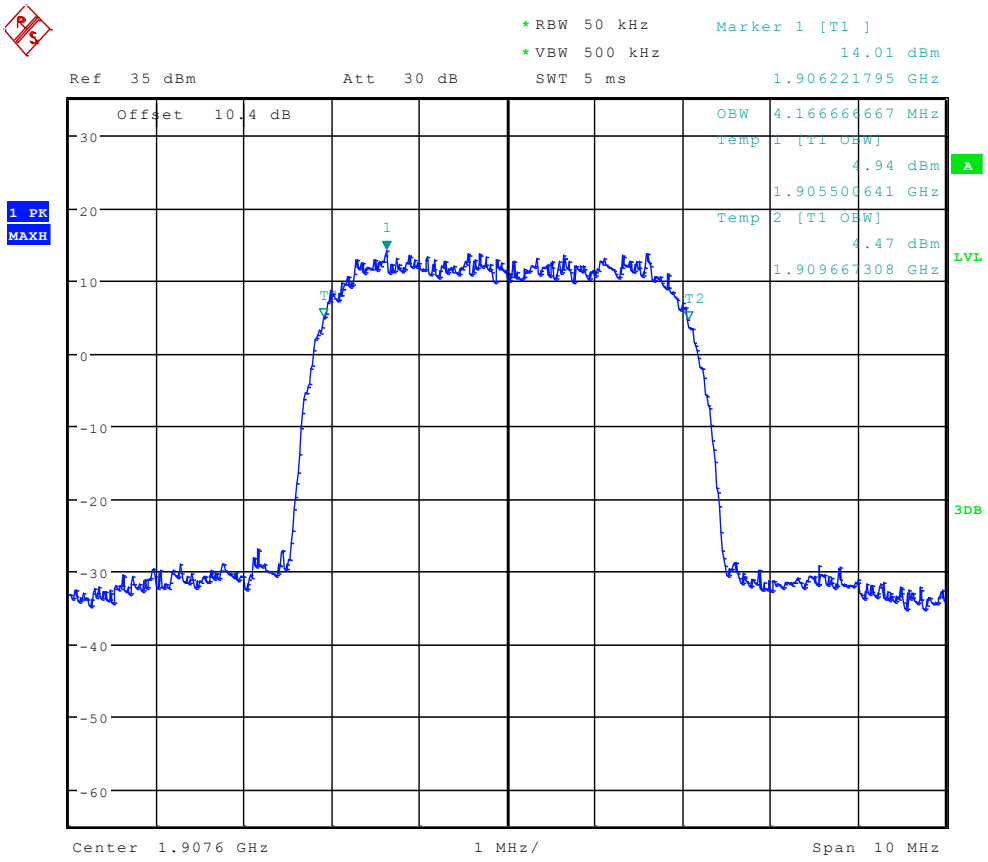
TM2: WCDMA
Channel 9538



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Appendix D

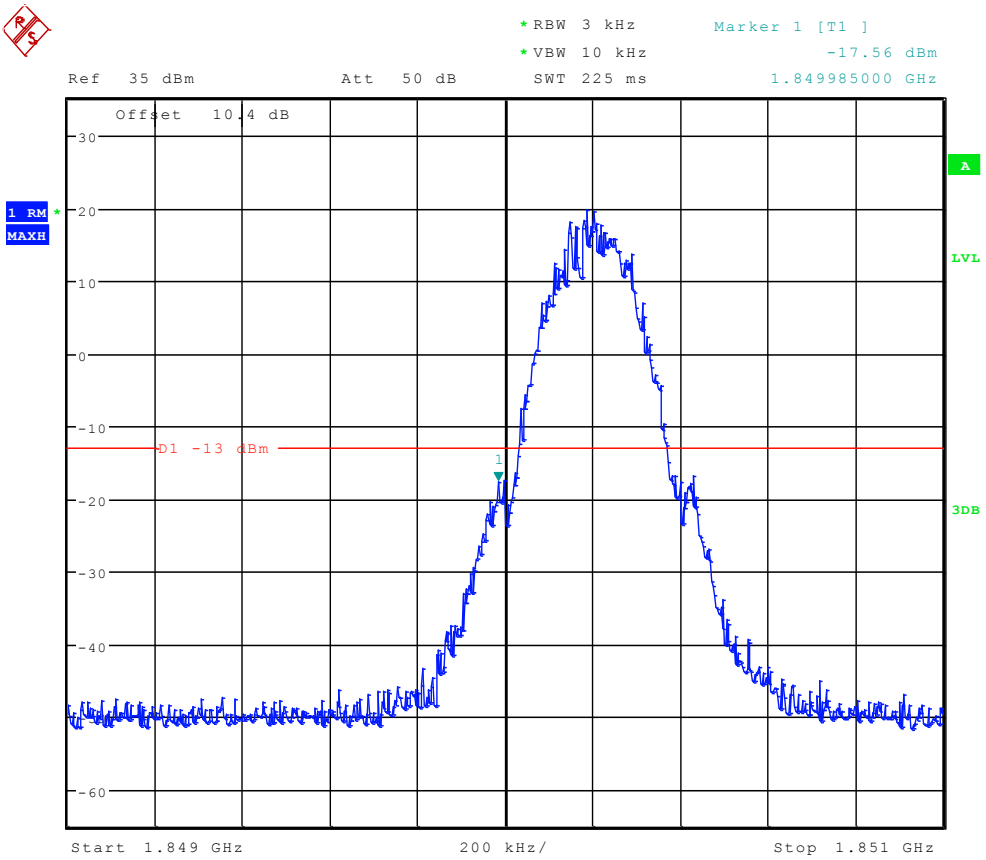
Band Edges Compliance

According to FCC Part 2.1051 & Part24 Subpart E

TM1:GPRS/GSM

Left Edge

Channel 512



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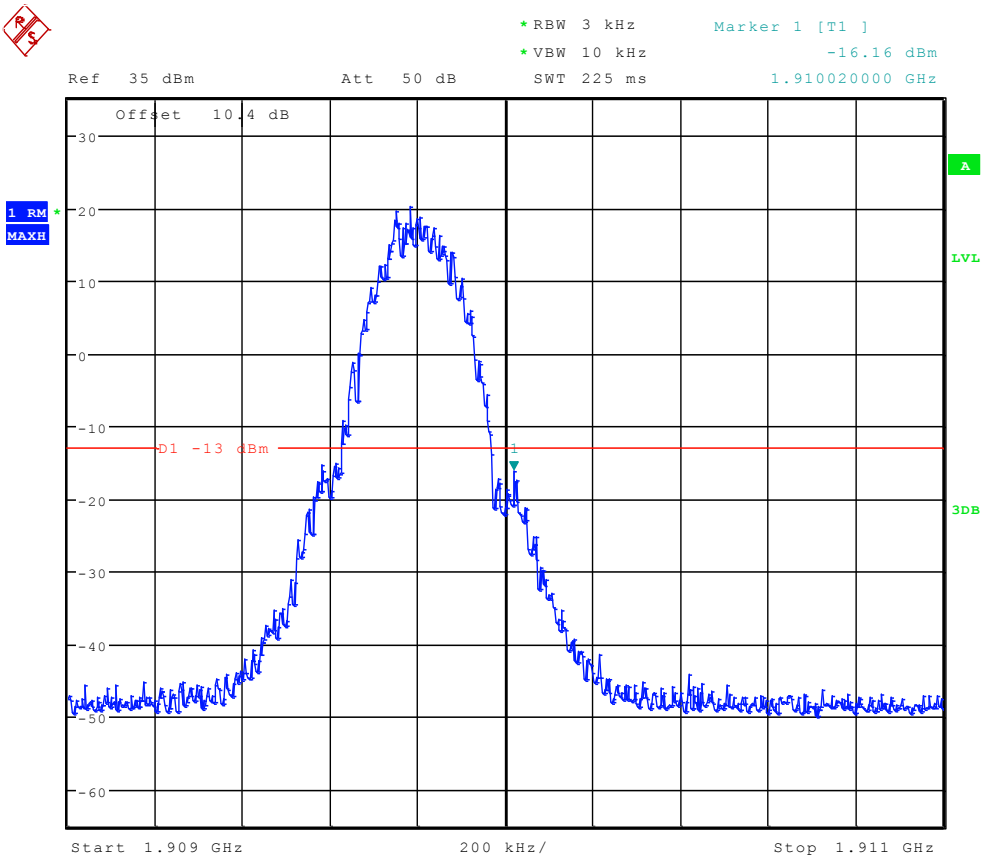
Right Edge
Channel 810

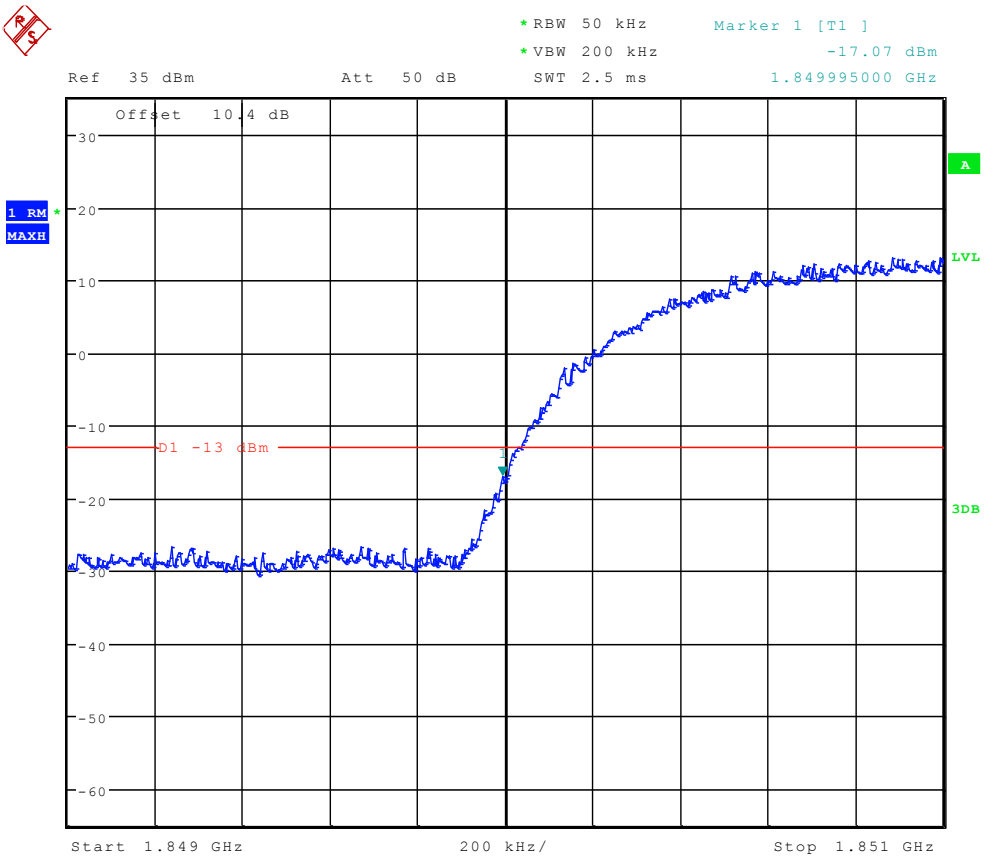


Date: 14.FEB.2012 02:38:43

TM2: WCDMA

Left Edge

Channel 9262



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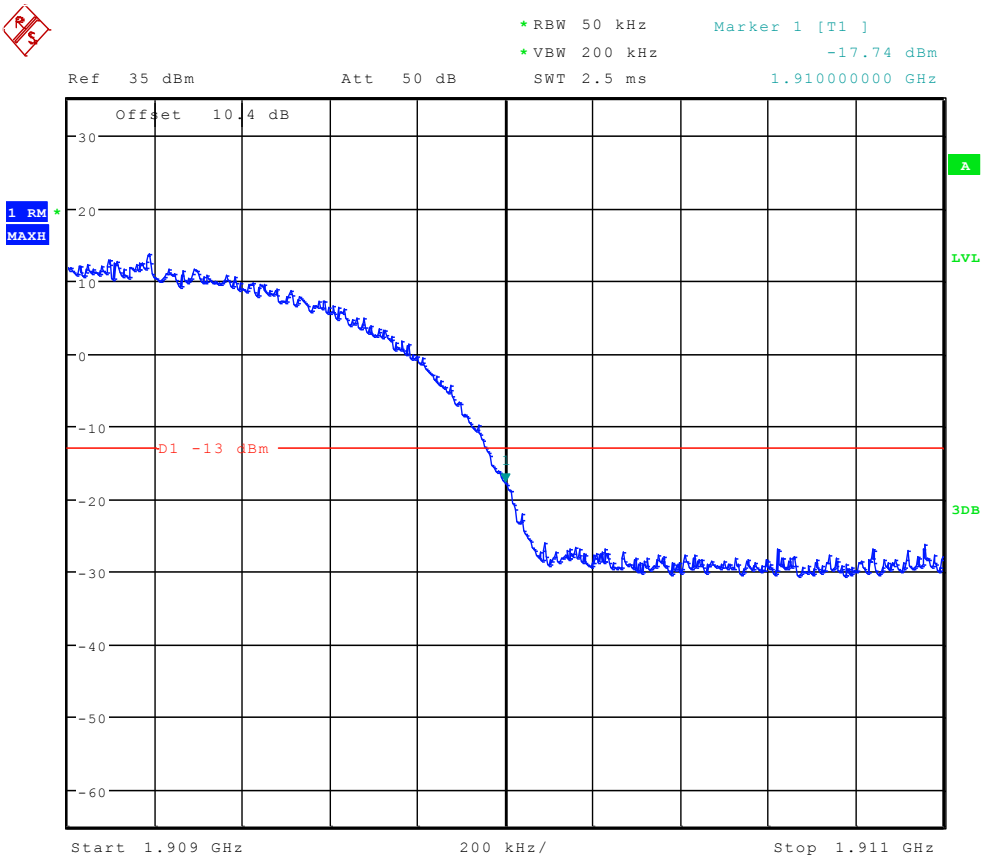
Right Edge
Channel 9538



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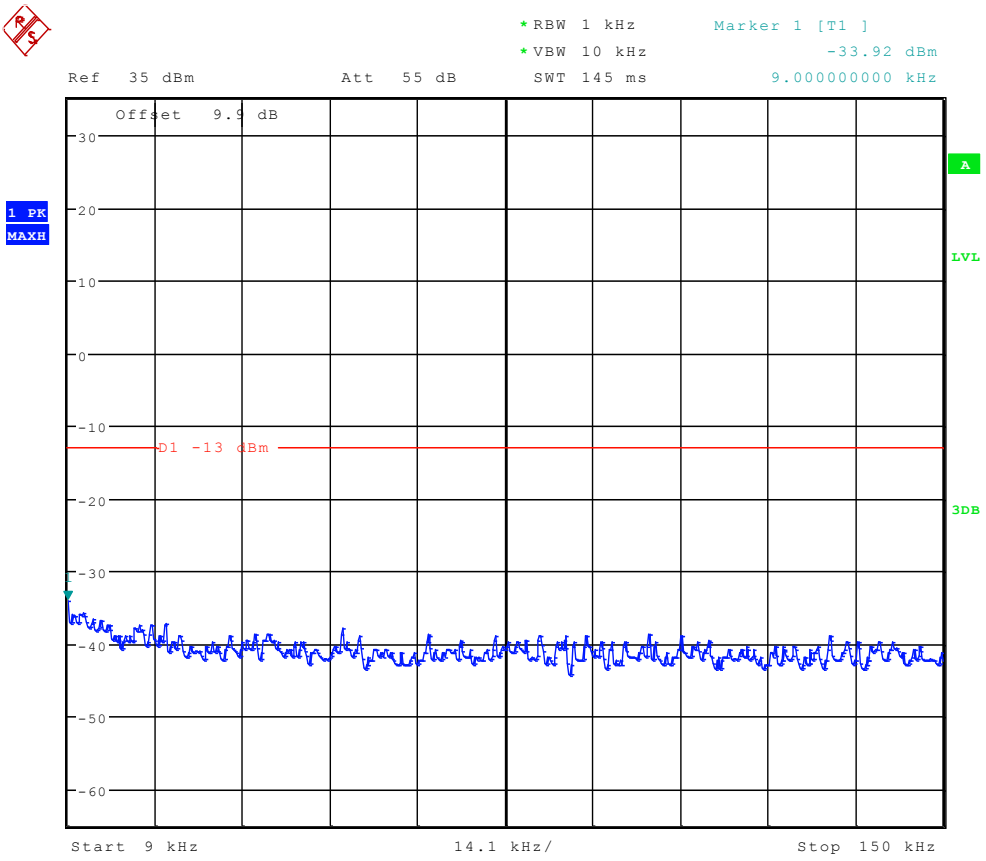
Appendix E

Spurious Emission at Antenna Terminal

According to FCC Part 2.1051 & Part24 Subpart E

TM1:GPRS/GSM

Channel 512



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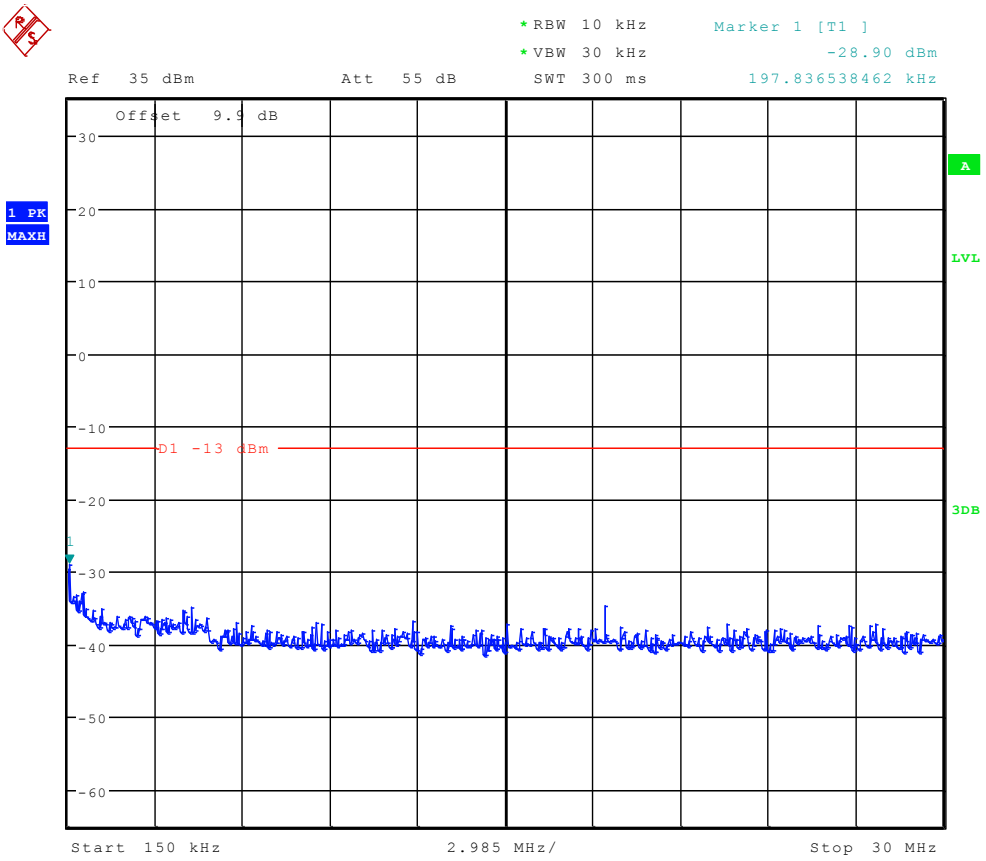

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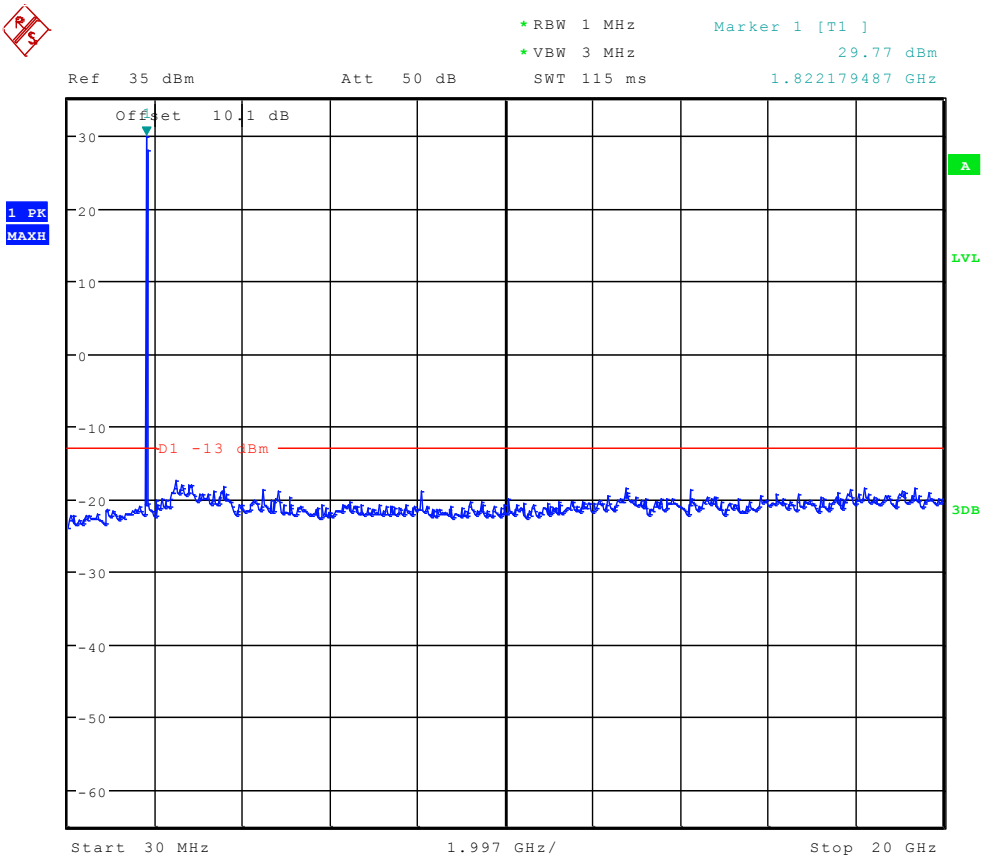

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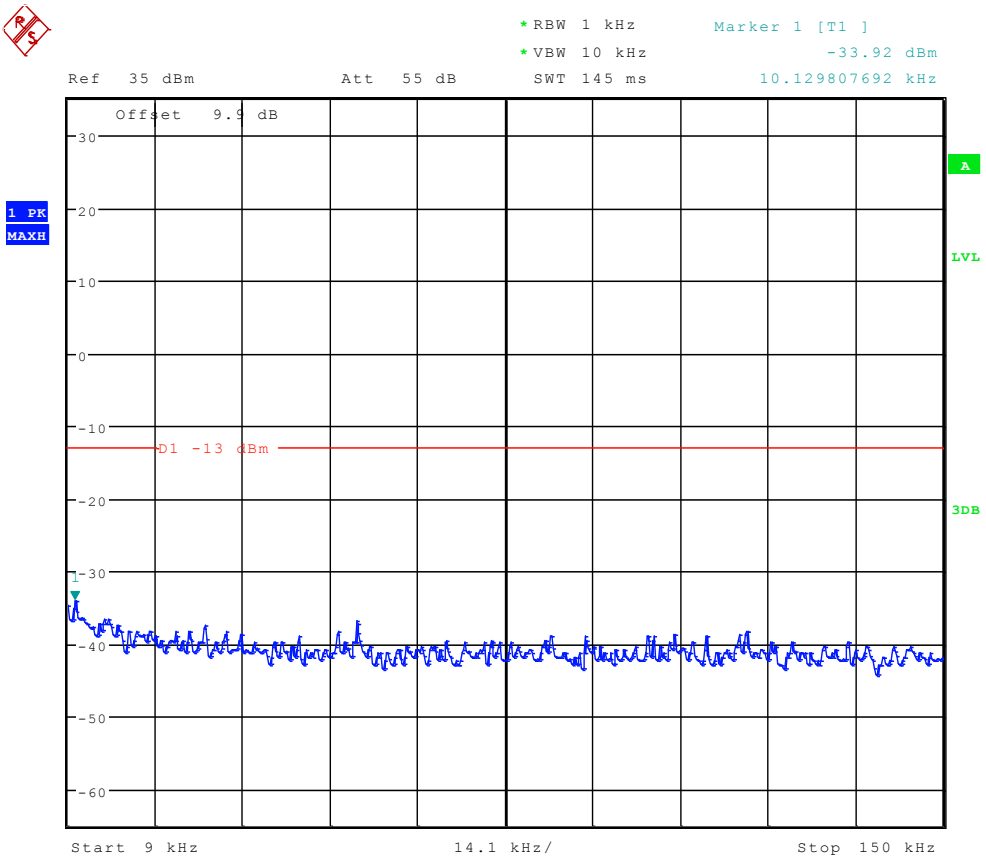
Channel 661



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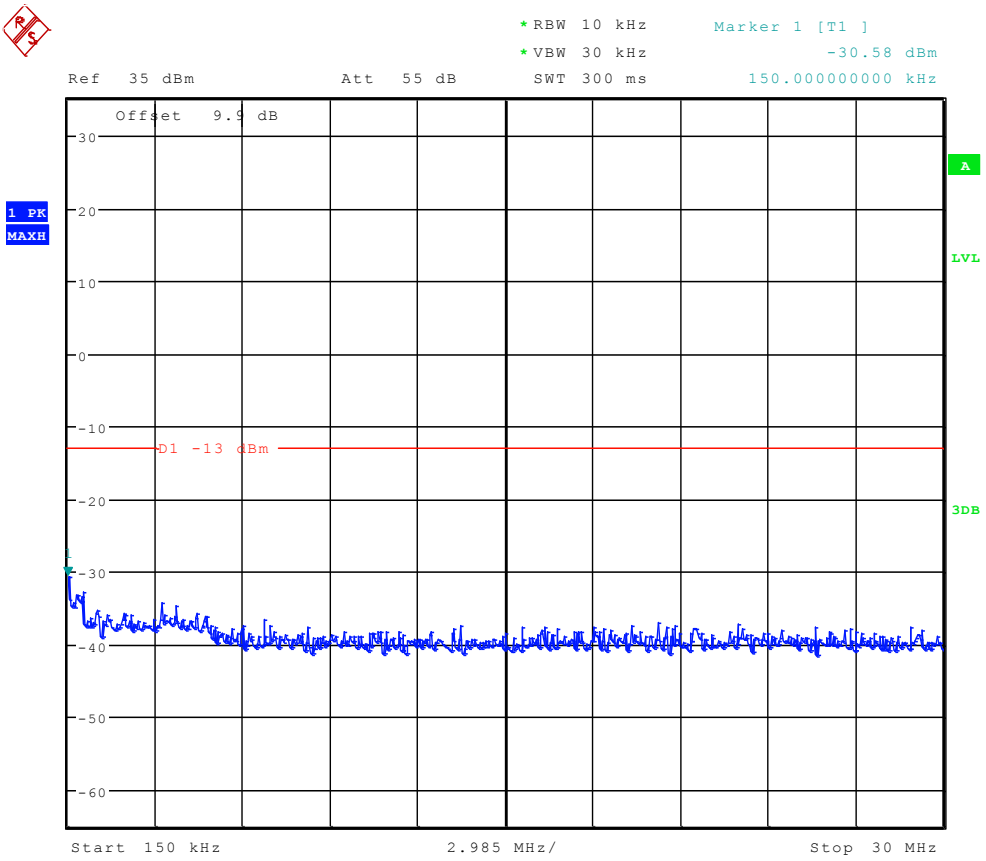

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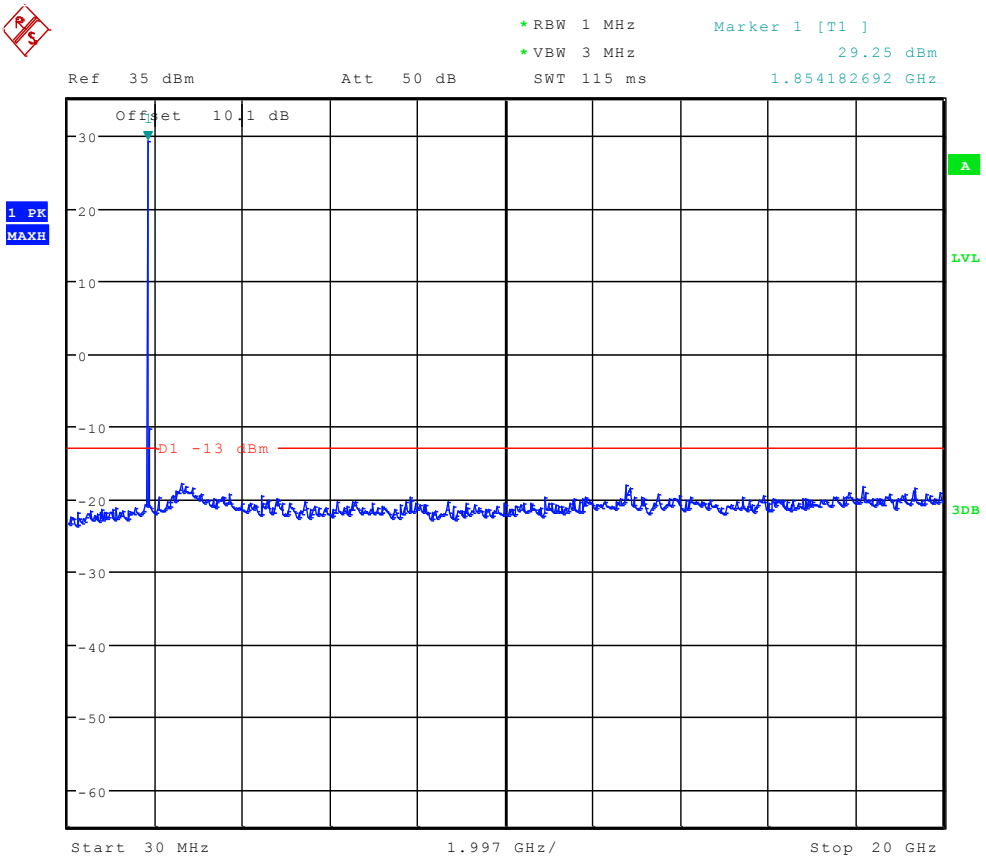

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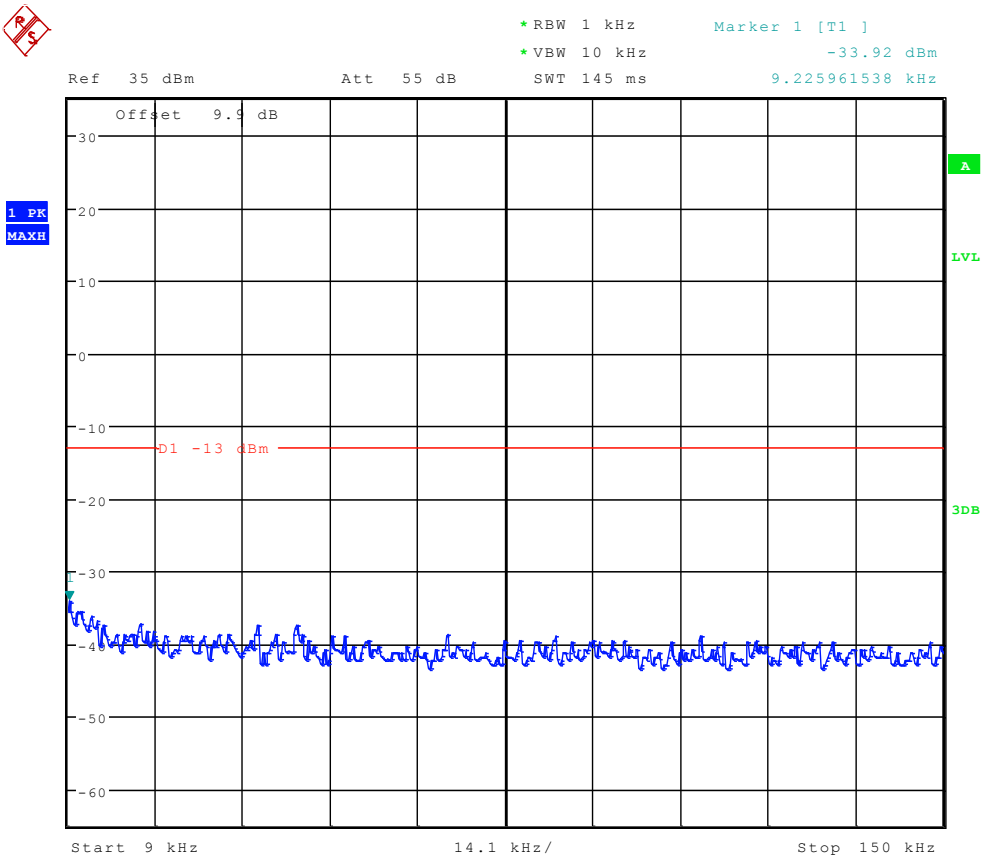
Channel 810



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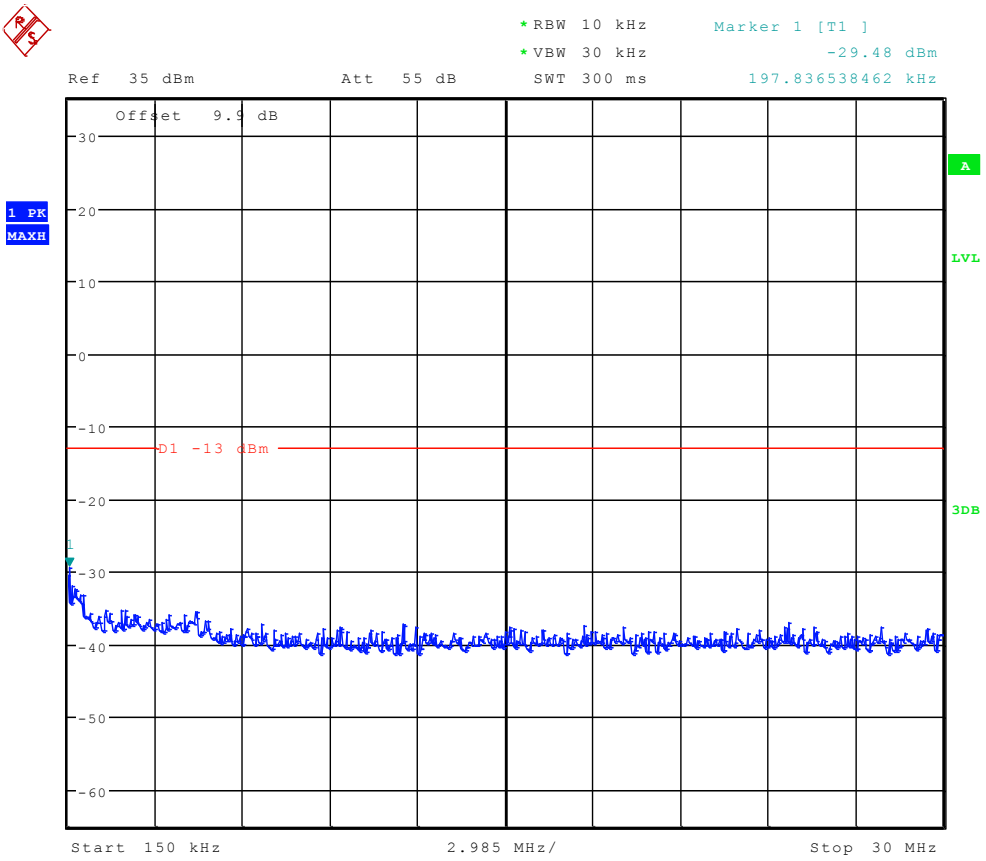

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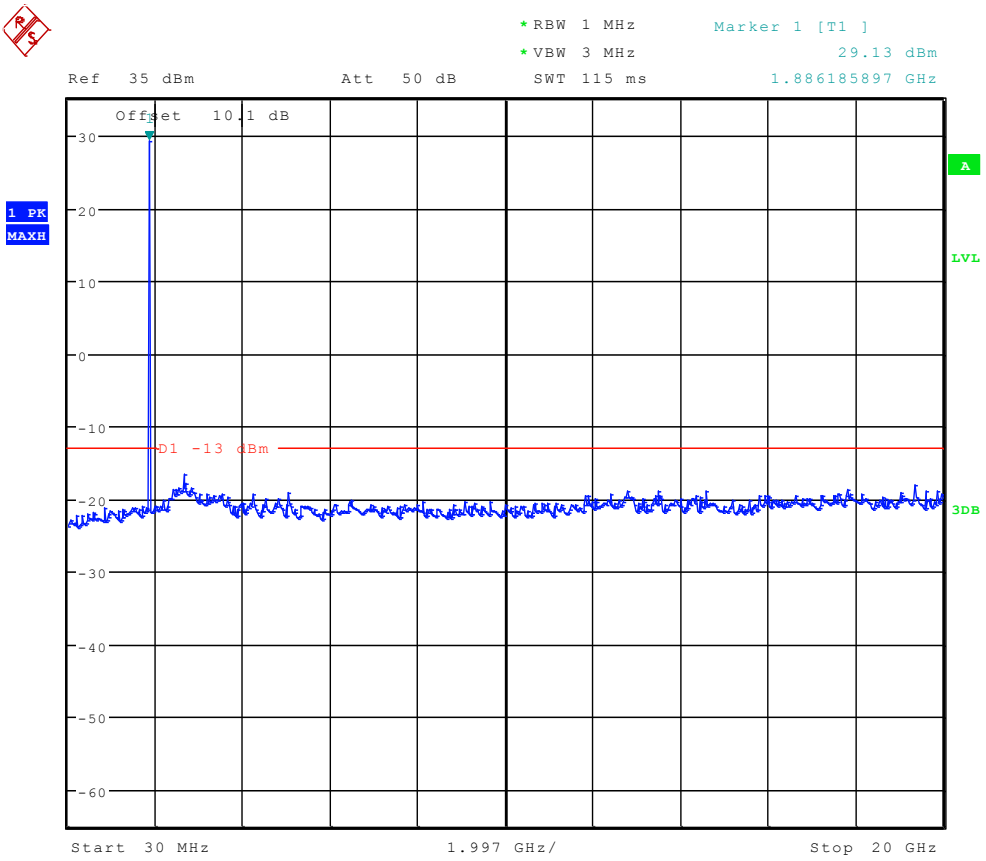

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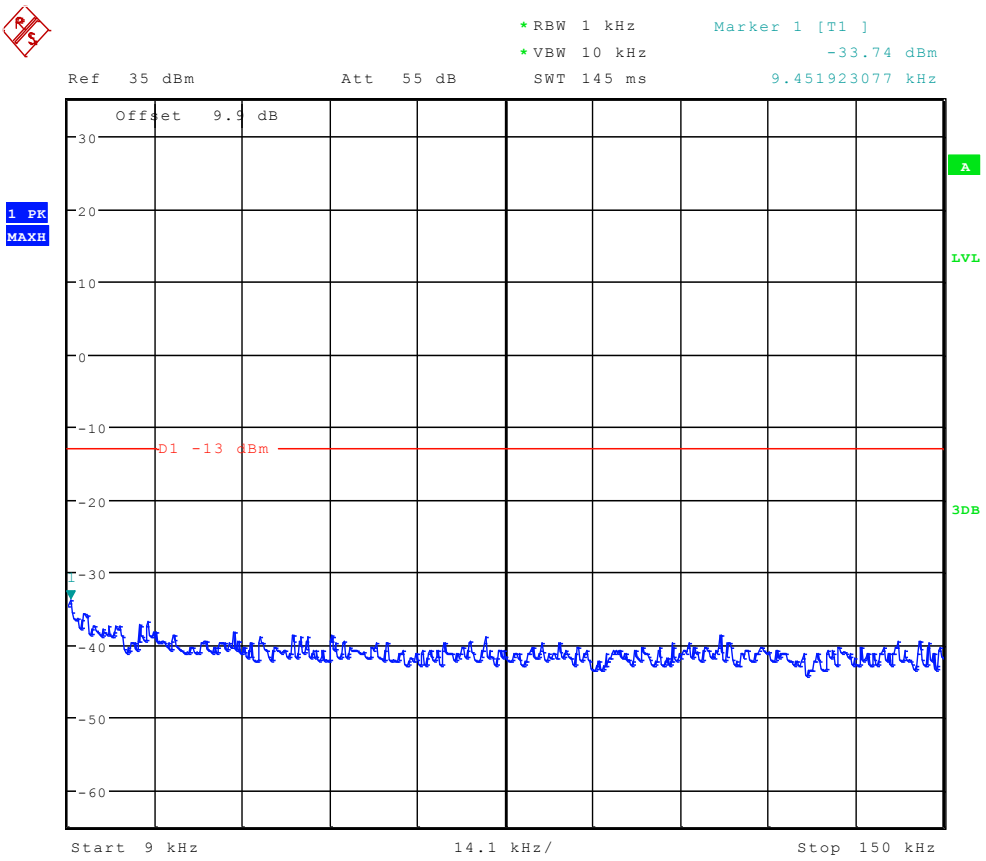
TM2: WCDMA

Channel 9262



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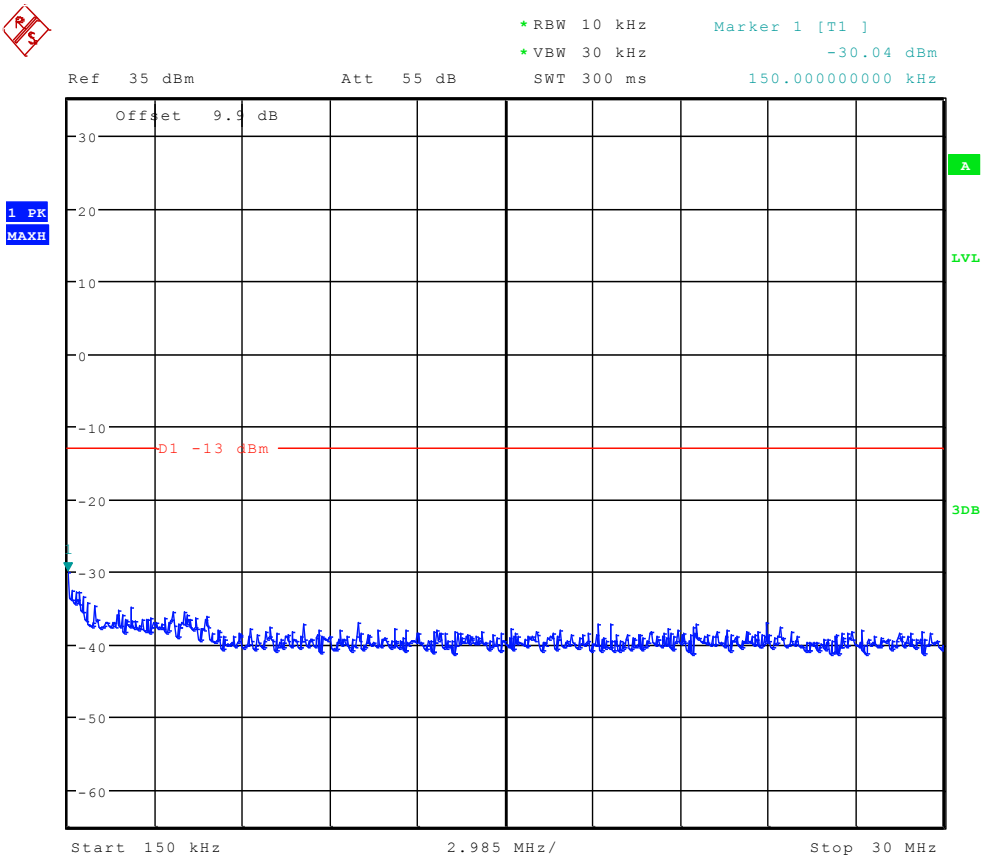

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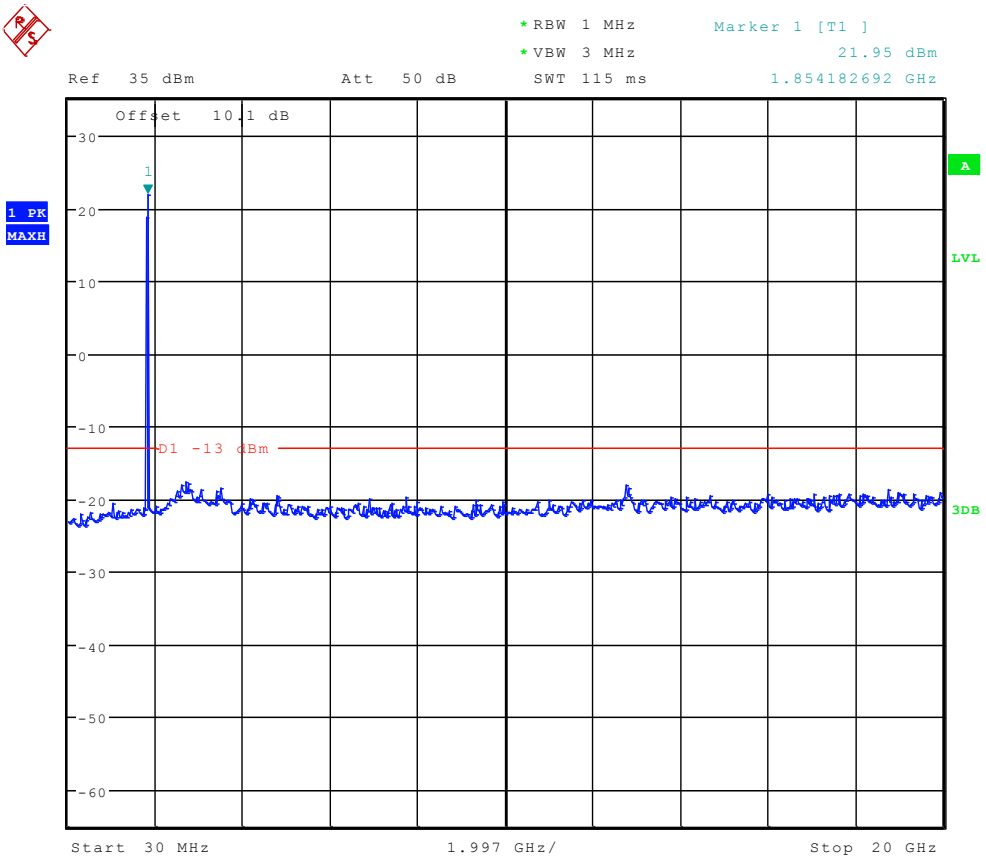

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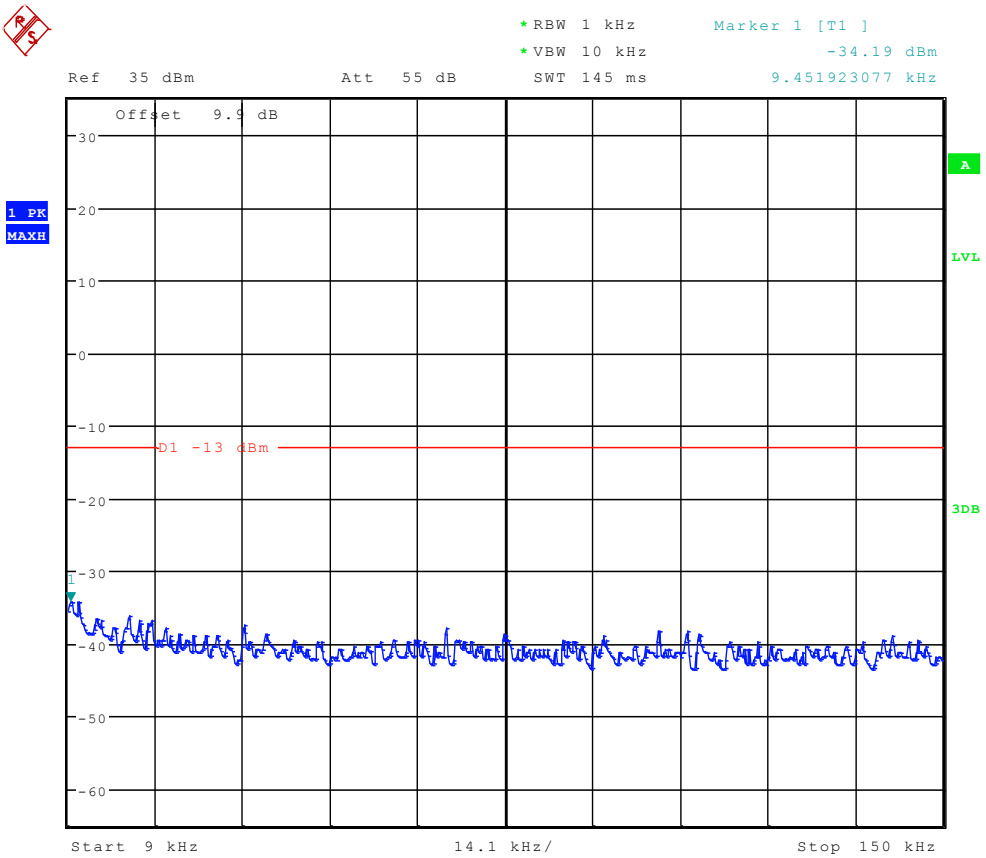
Channel 9400



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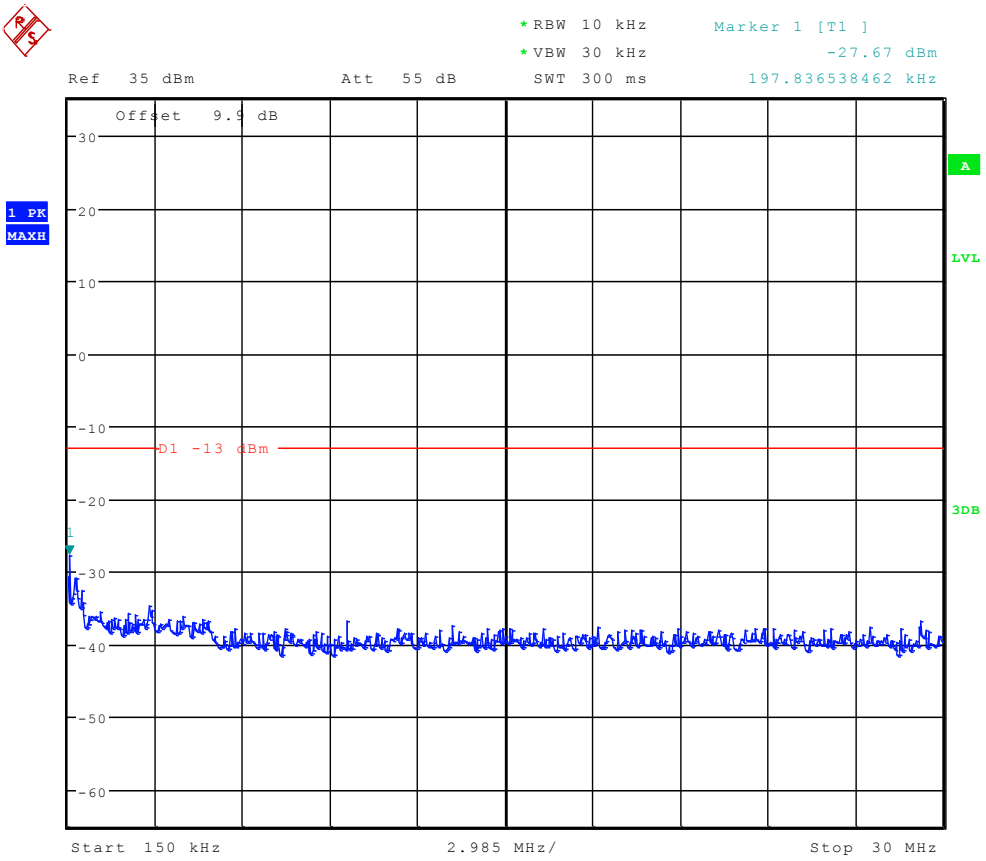

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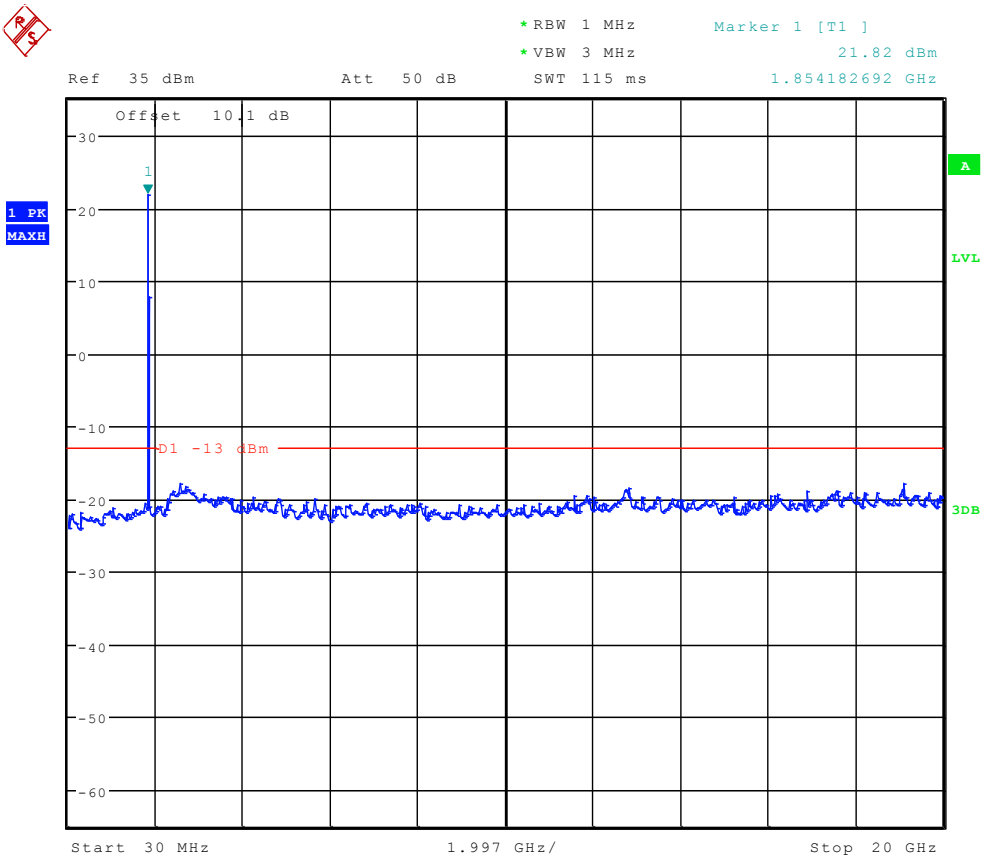

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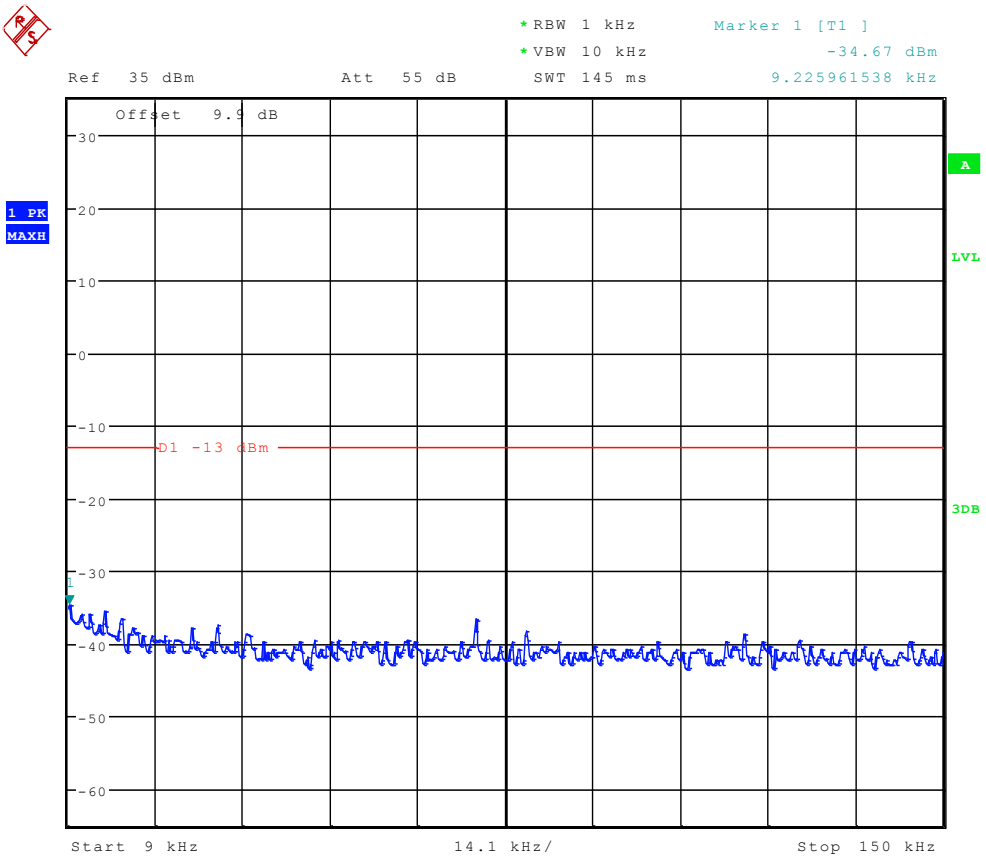
Channel 9538



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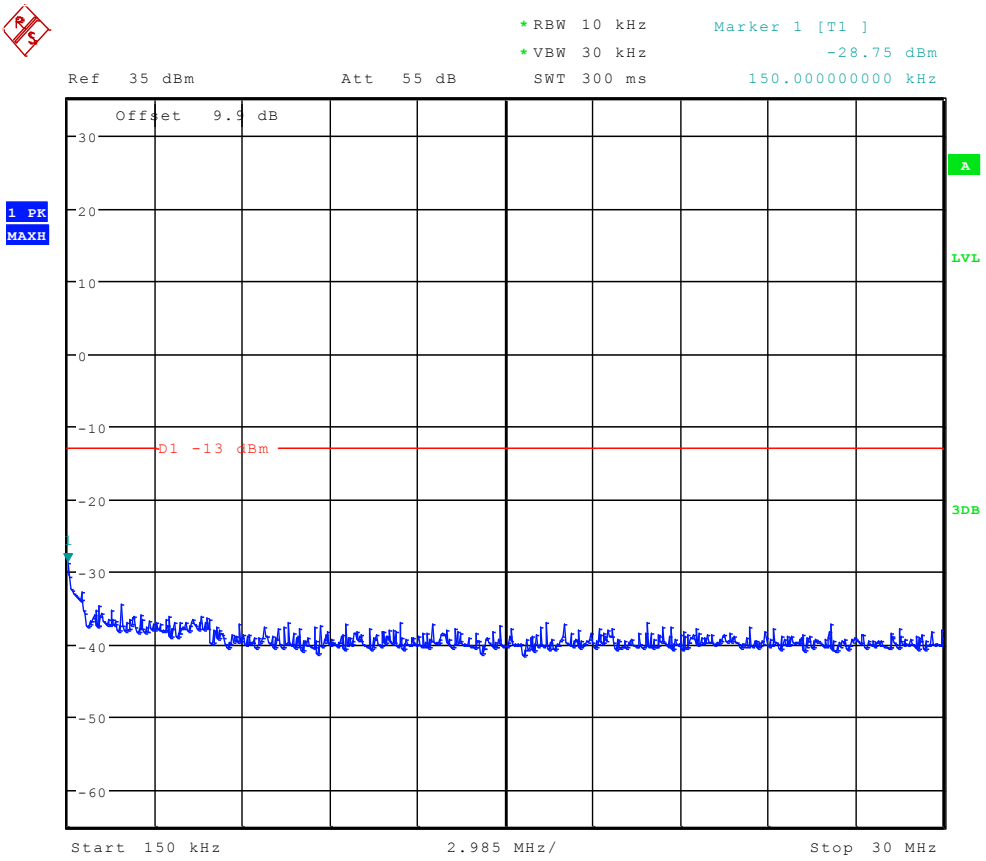

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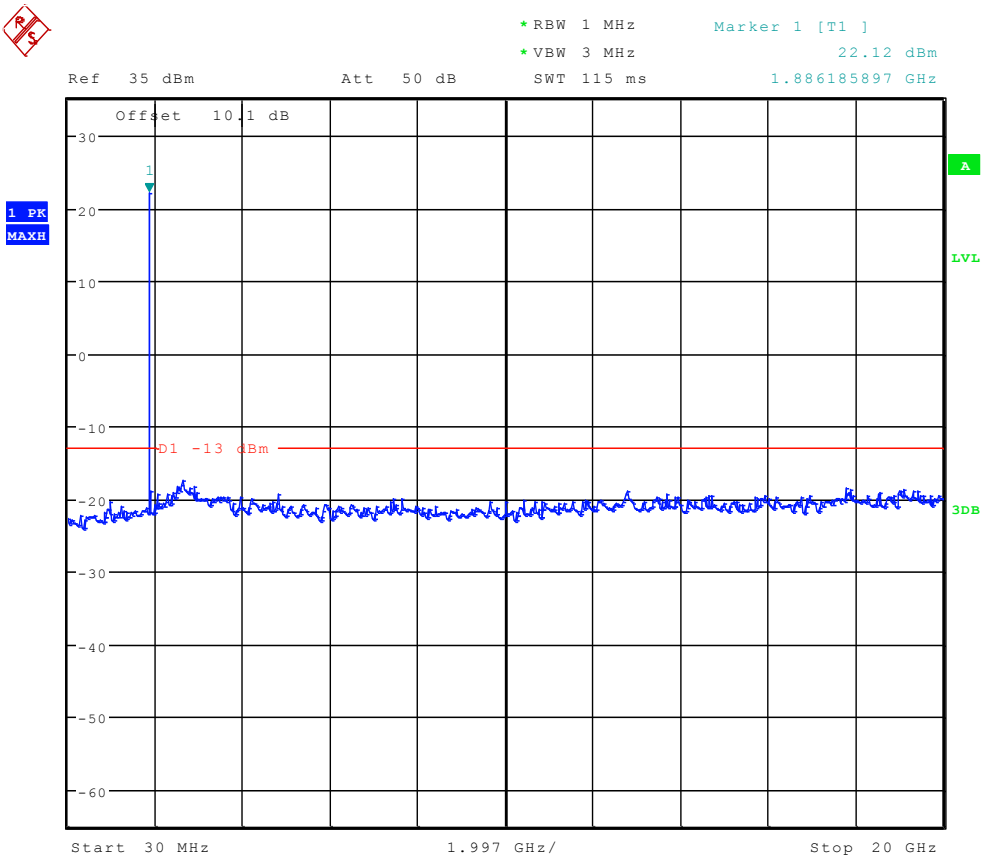

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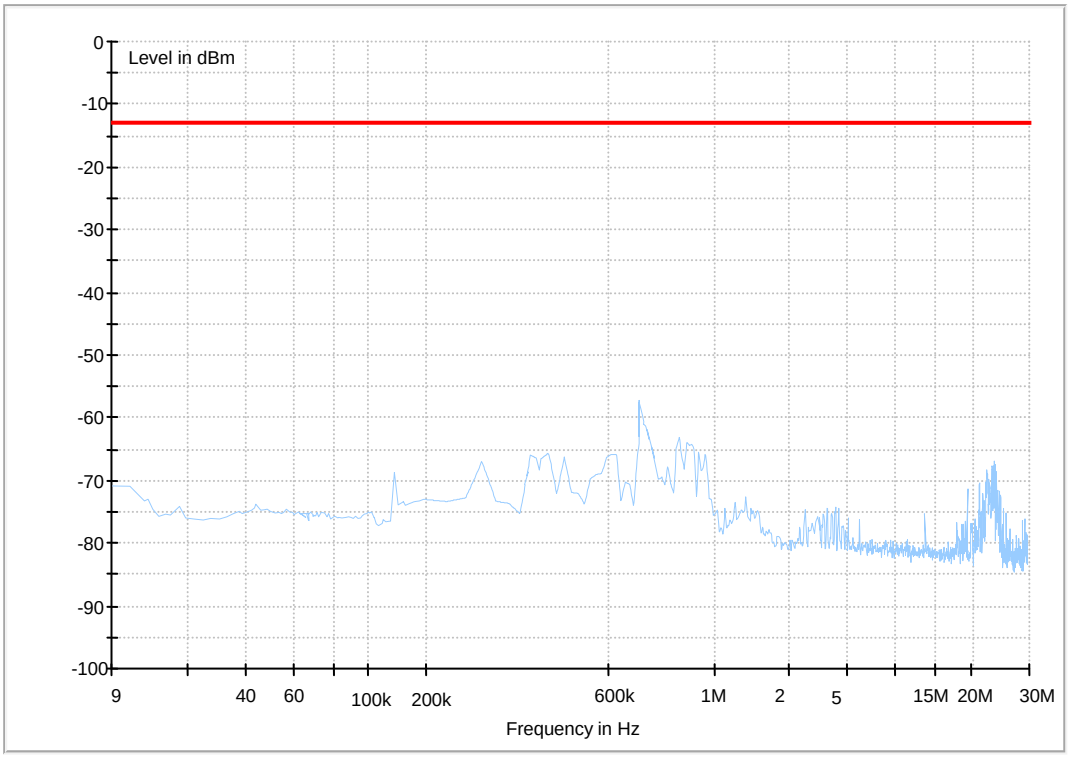
AppendixF

Radiated spurious emission

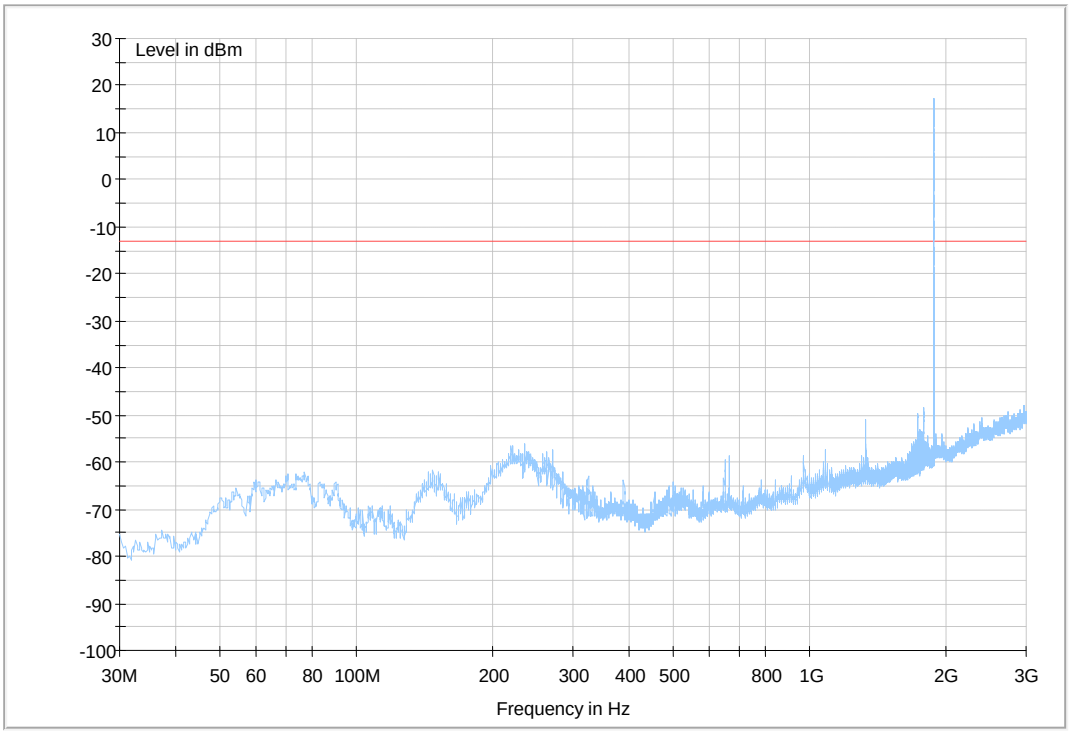
According to FCC Part 2.1053& Part 24.238

GPRS 1900

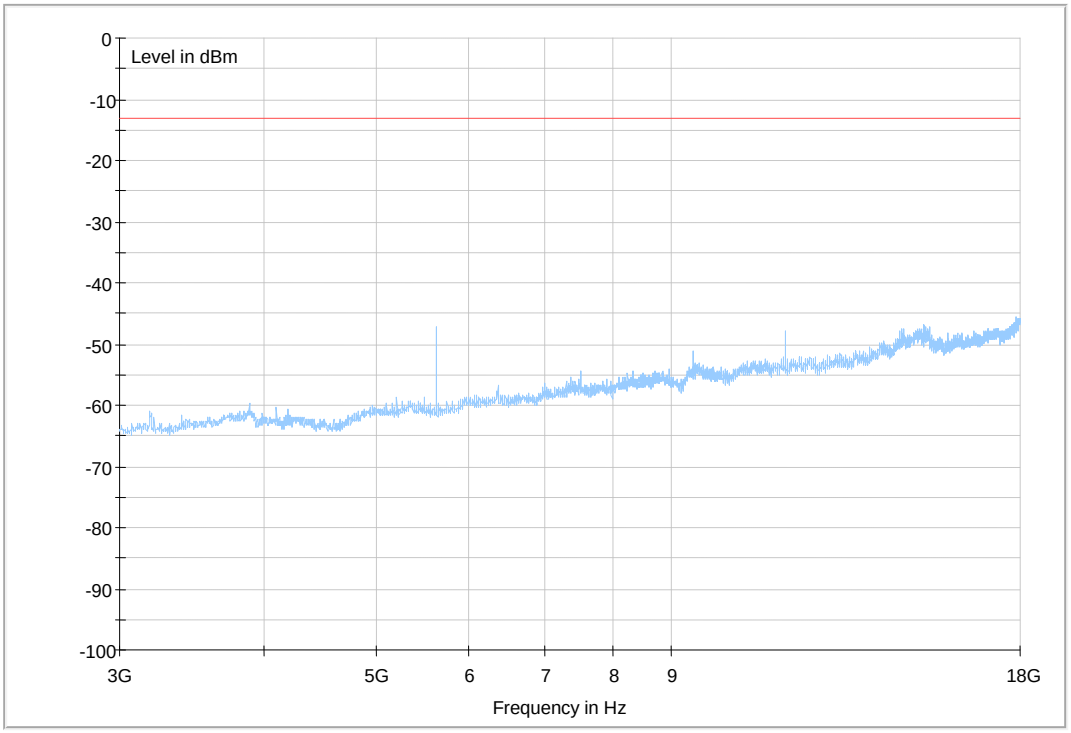
(9kHz-30MHz)



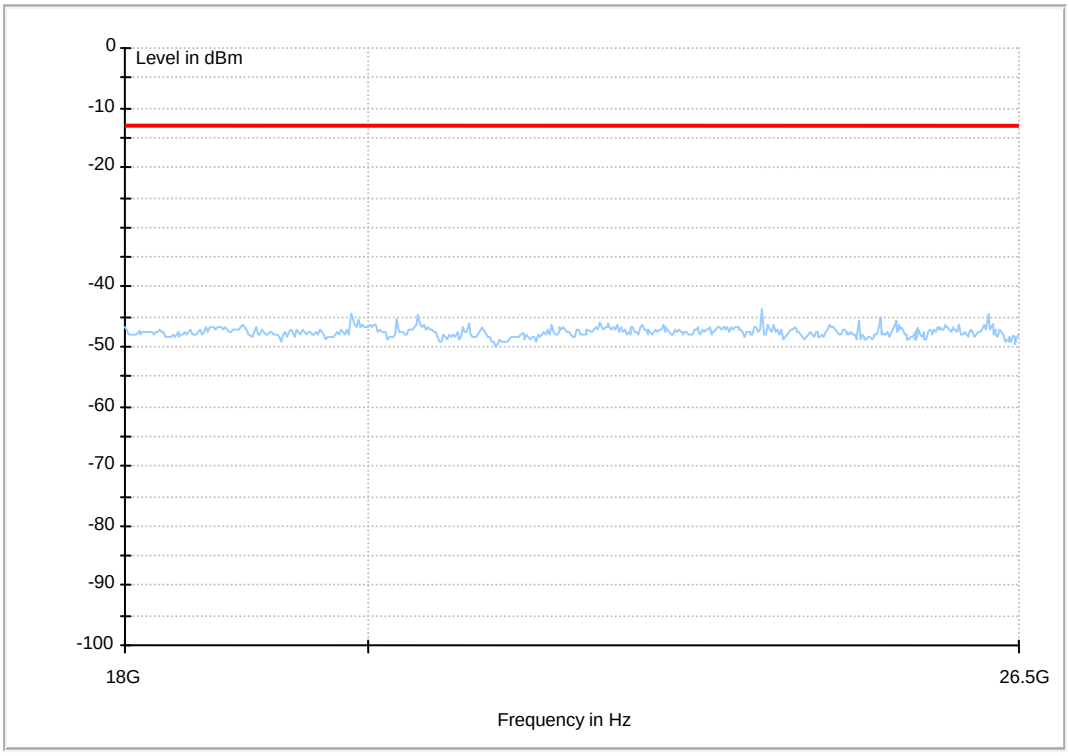
(30MHz~3GHz)



(3GHz~18GHz)

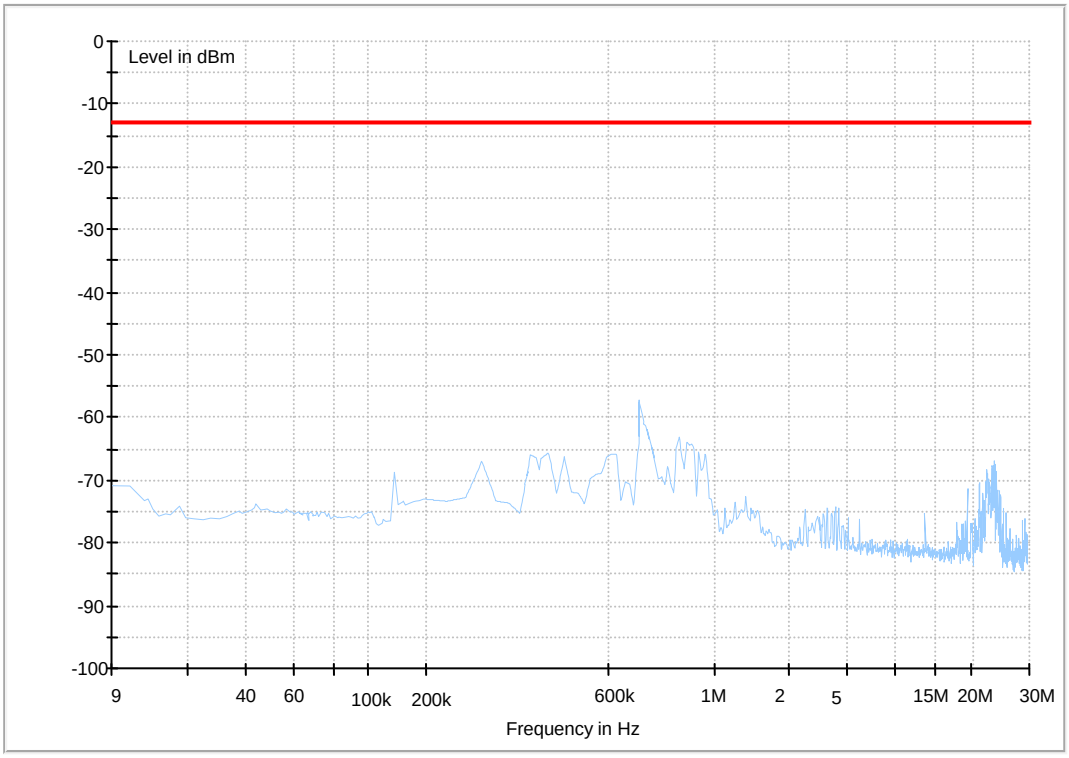


(18GHz-26.5GHz)

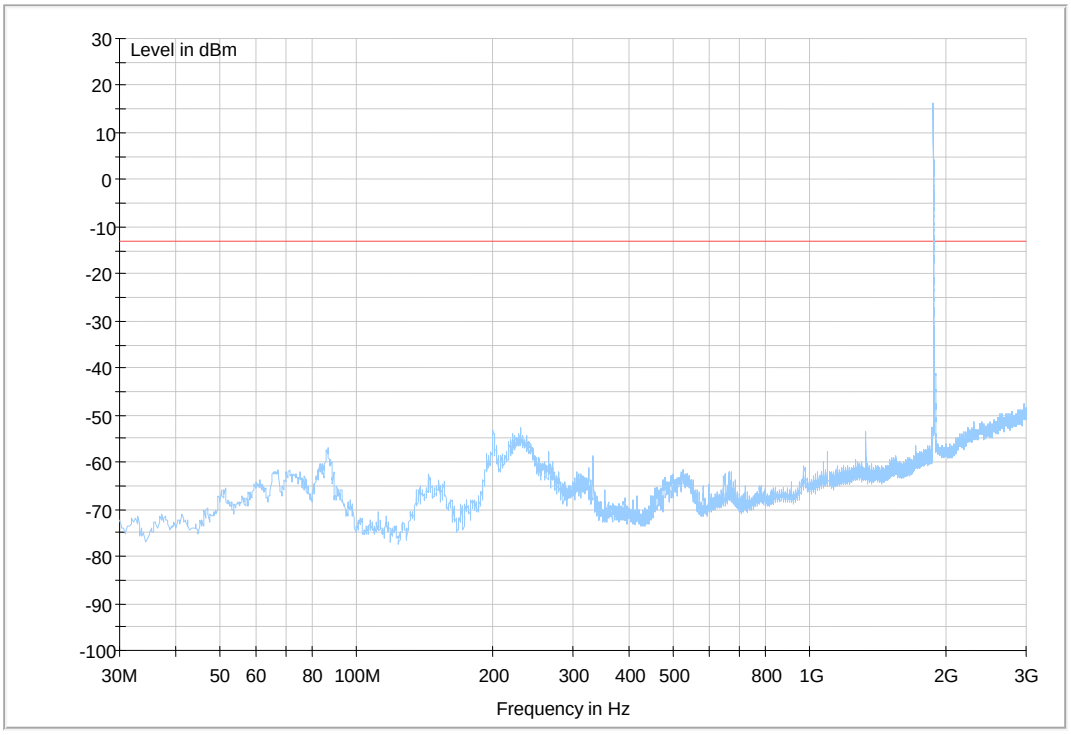


WCDMA Band II

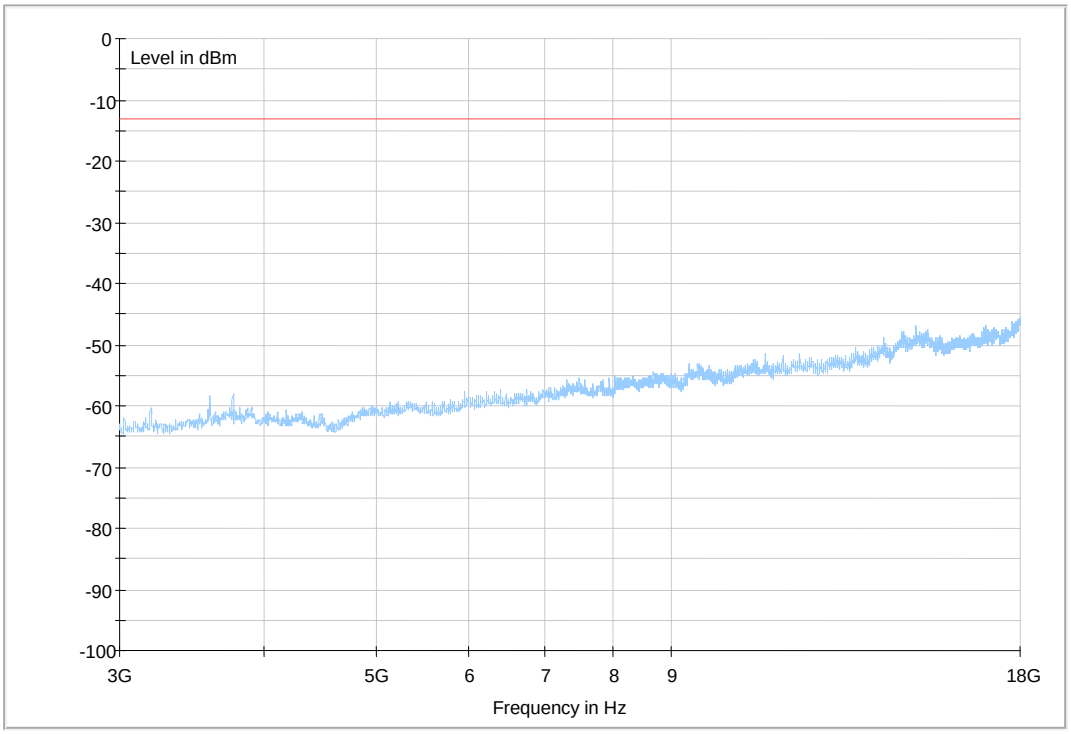
(9KHz~30MHz)



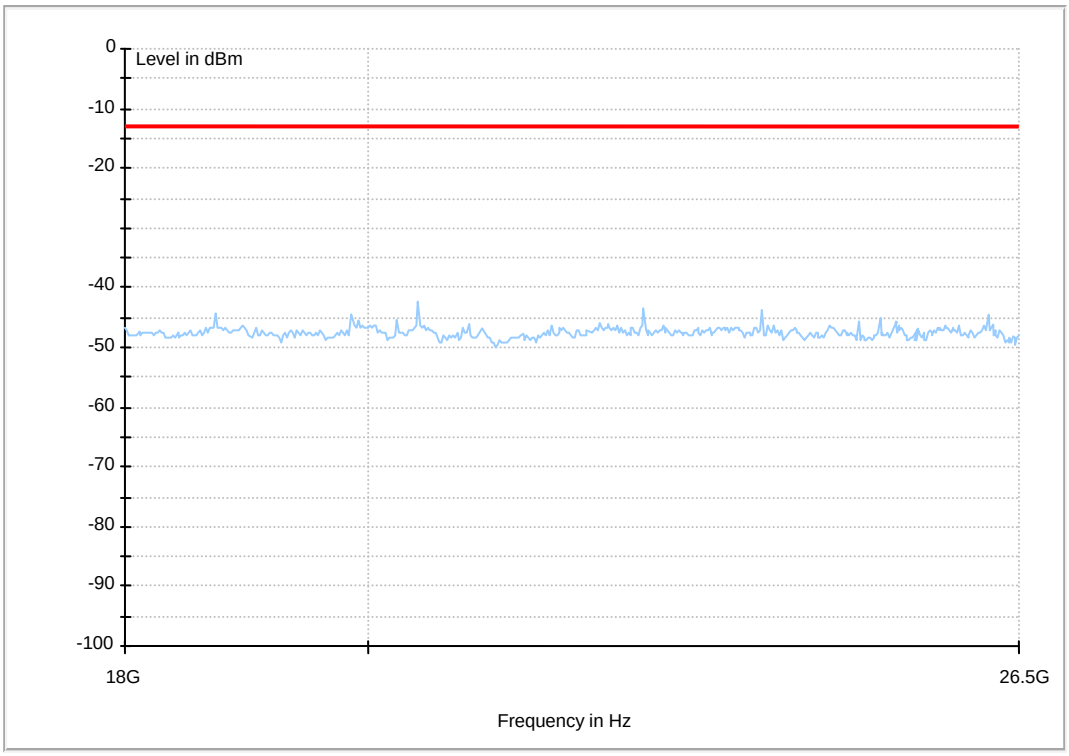
(30MHz~3GHz)



(3GHz~18GHz)

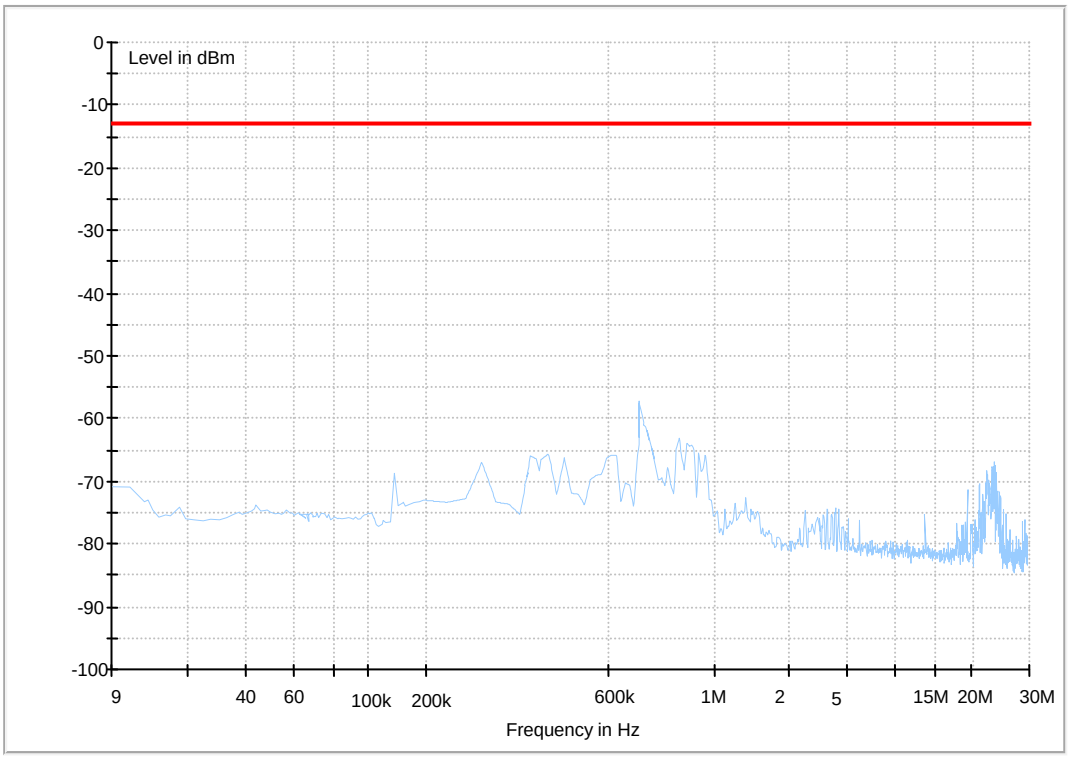


(18GHz~26.5GHz)

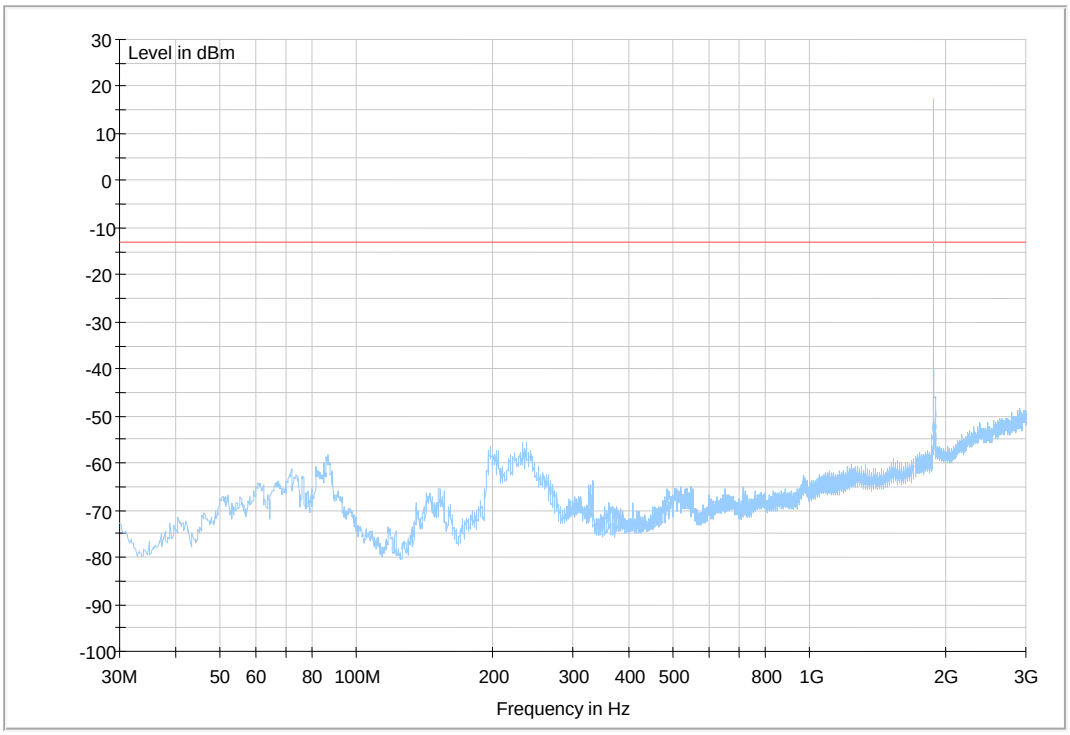


HSDPA Band II

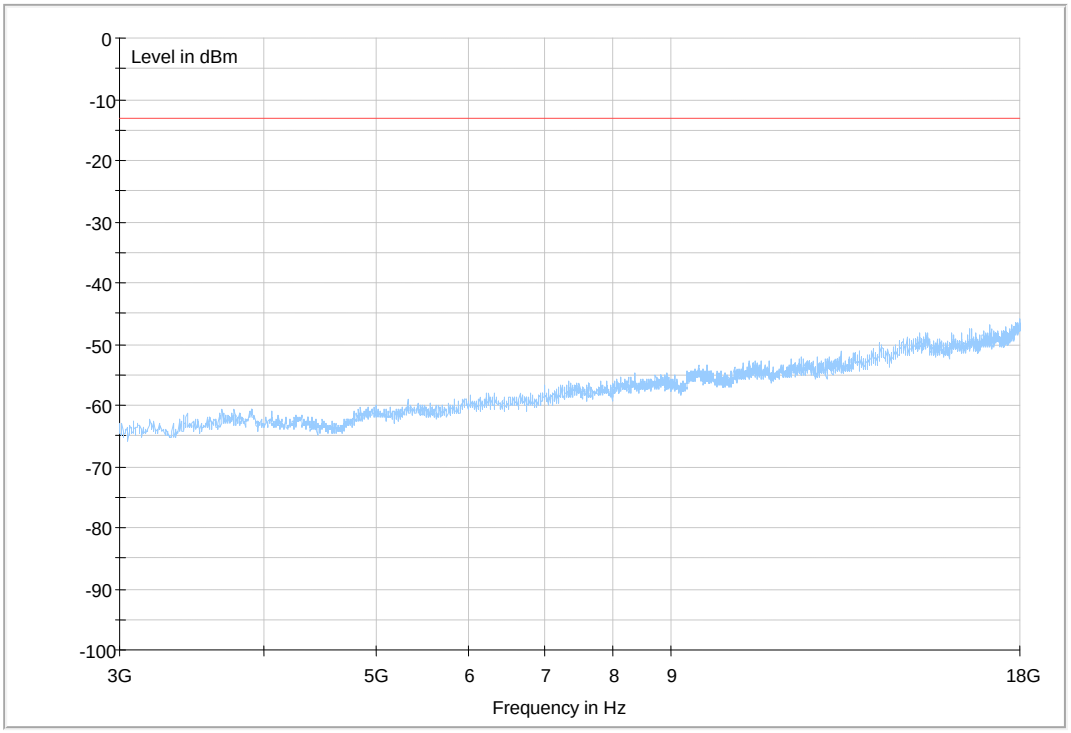
(9KHz~30MHz)



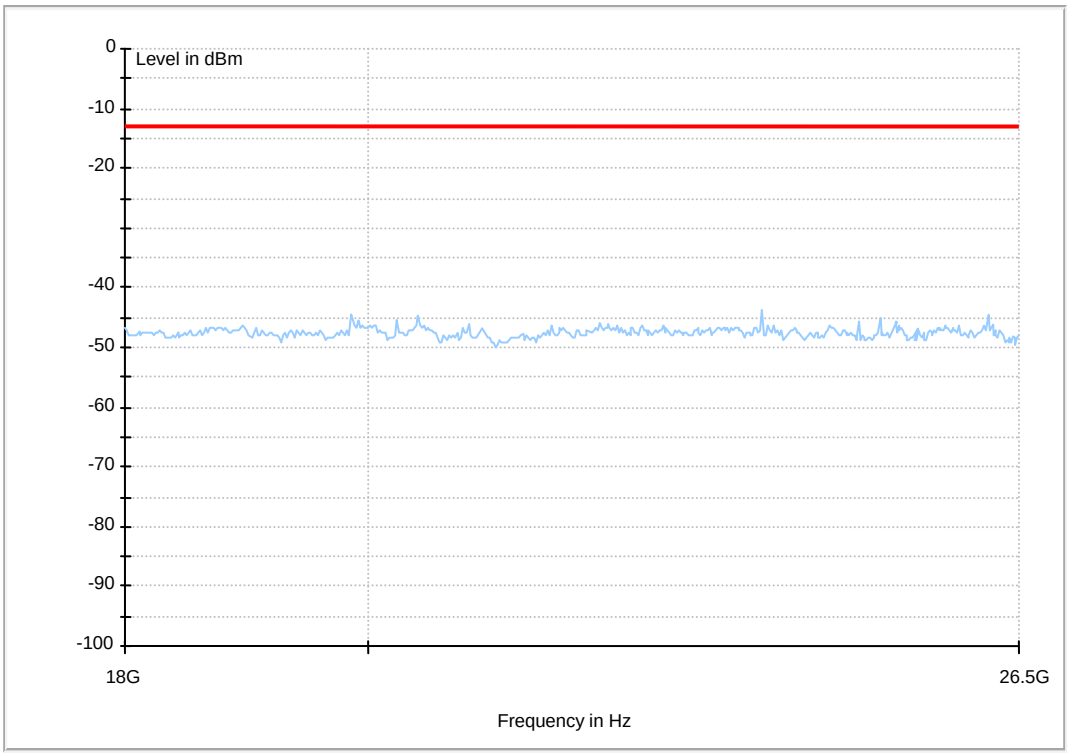
(30MHz ~3GHz)



(3GHz~18GHz)

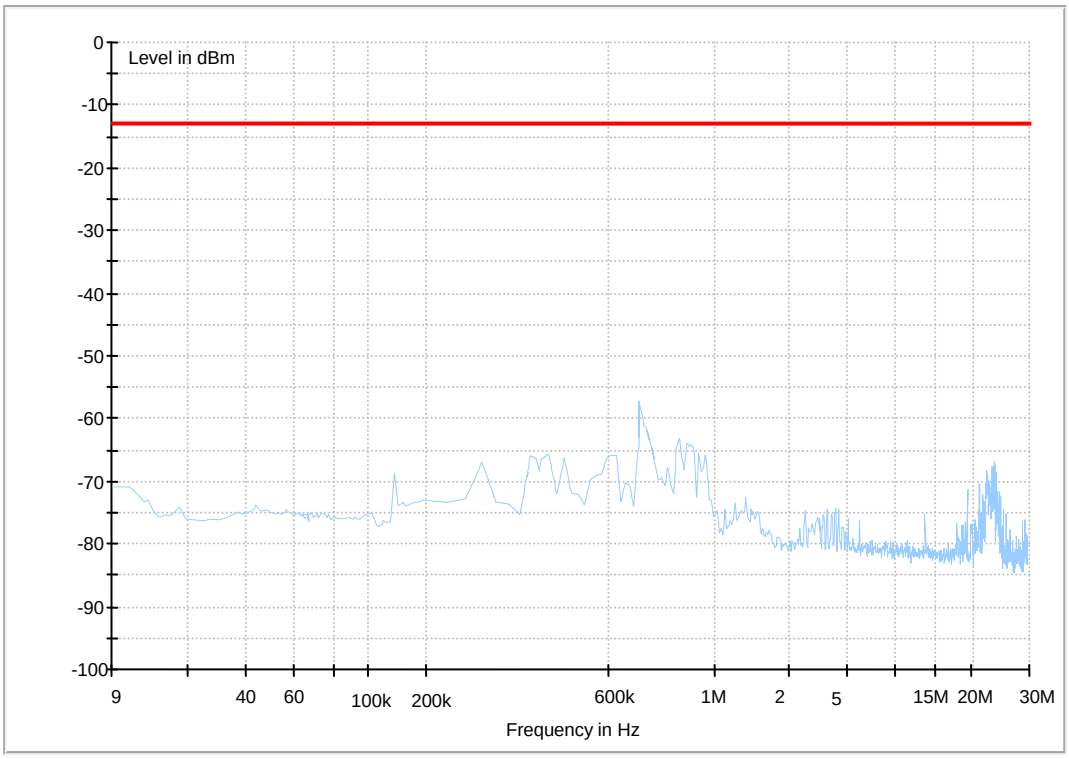


(18GHz~26.5GHz)

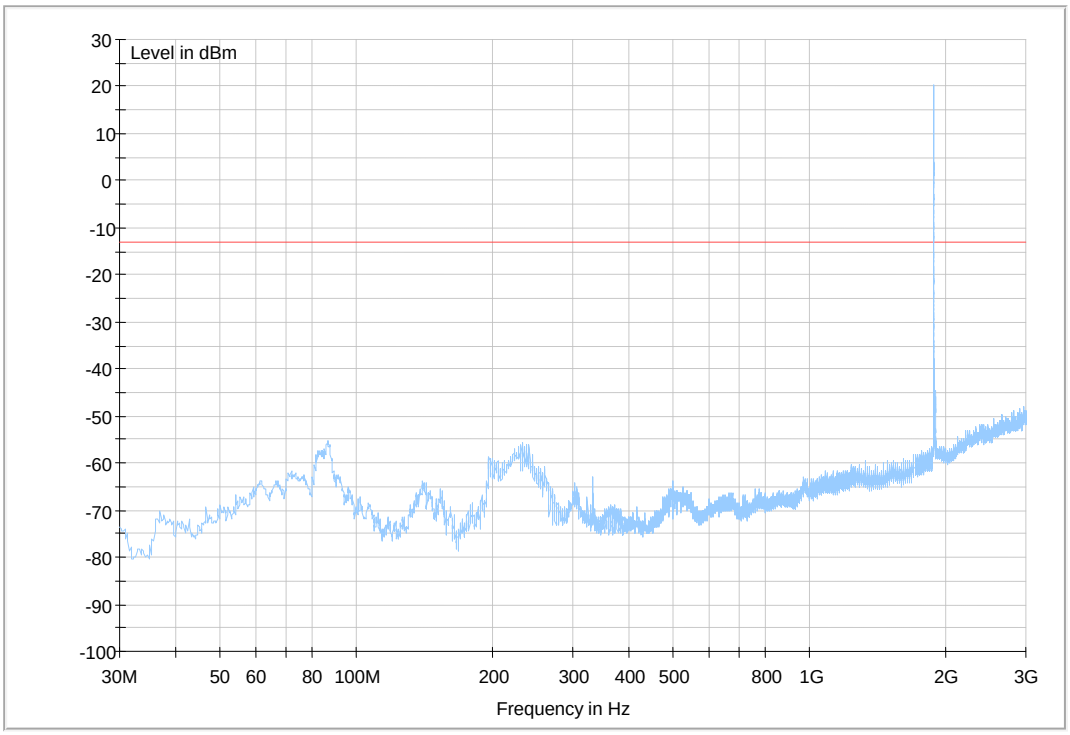


HSUPA Band II

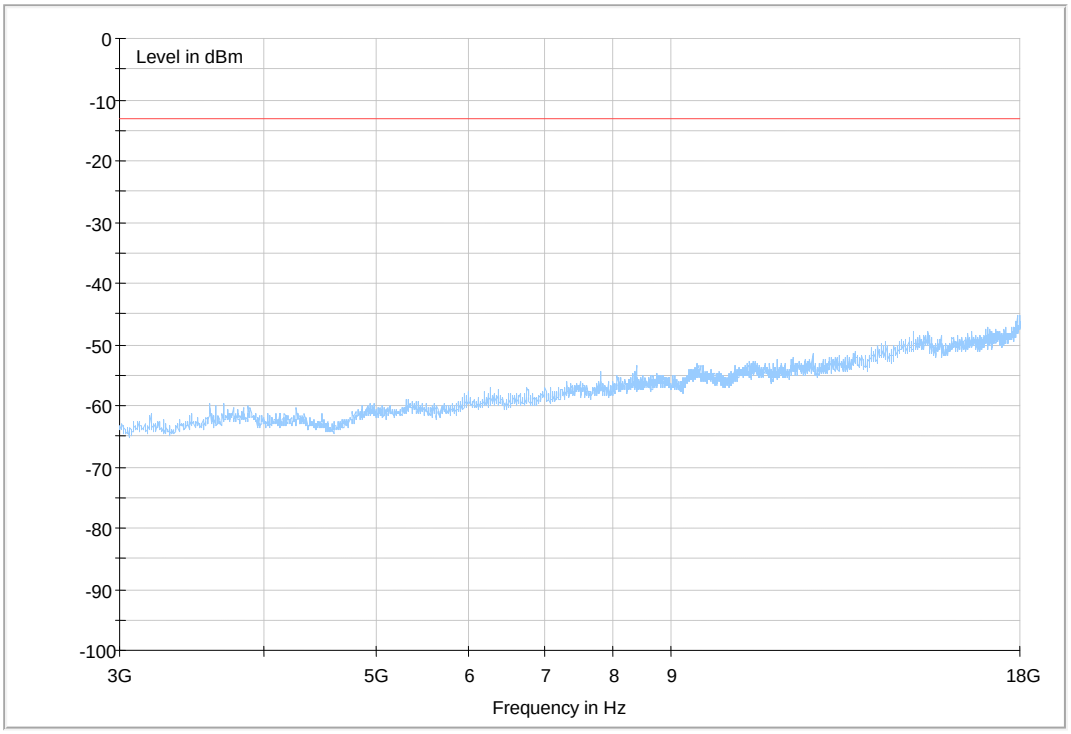
(9KHz~30MHz)



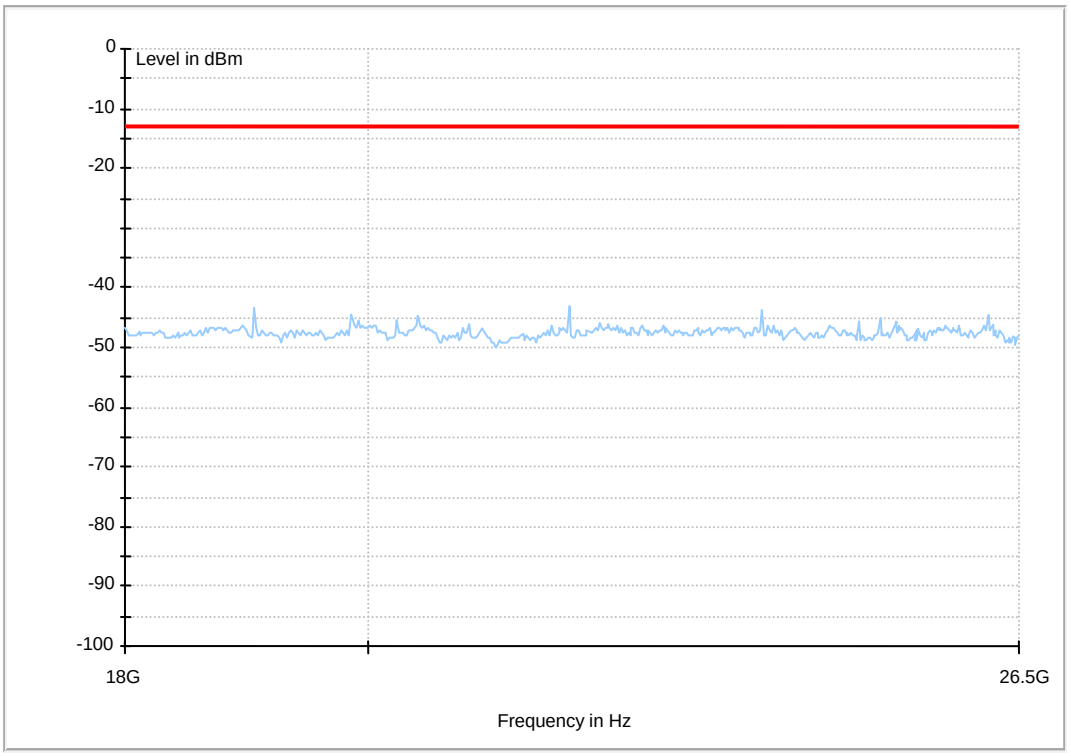
(30MHz~3GHz)



(3GHz~18GHz)



(18GHz~26.5GHz)



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

Appendix G

Frequency Stability

According to FCC Part 2.1055& Part 24.235

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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	-36	-0.0430	---	±2.5	Pass
			-20 °C	-54	-0.0645	---	±2.5	Pass
			-10 °C	-12	-0.0143	---	±2.5	Pass
			0 °C	22	0.0263	---	±2.5	Pass
			10 °C	-75	-0.0896	---	±2.5	Pass
			20 °C	62	0.0741	---	±2.5	Pass
			30 °C	25	0.0299	---	±2.5	Pass
			40 °C	-62	-0.0741	---	±2.5	Pass
			50 °C	55	0.0657	---	±2.5	Pass
TM 2	M	100%	-30 °C	45	0.0538	---	±2.5	Pass
			-20 °C	-26	-0.0311	---	±2.5	Pass
			-10 °C	-57	-0.0681	---	±2.5	Pass
			0 °C	65	0.0777	---	±2.5	Pass
			10 °C	32	0.0382	---	±2.5	Pass
			20 °C	10	0.0119	---	±2.5	Pass
			30 °C	65	0.0777	---	±2.5	Pass
			40 °C	45	0.0538	---	±2.5	Pass
			50 °C	-36	-0.0430	---	±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 %	-57	-0.0681	---	±2.5	Pass
			100 %	44	0.0526	---	±2.5	Pass
			115 %	51	0.0609	---	±2.5	Pass
TM 2	M	20 °C	85 %	-66	-0.0789	---	±2.5	Pass
			100 %	21	0.0251	---	±2.5	Pass
			115 %	45	0.0538	---	±2.5	Pass

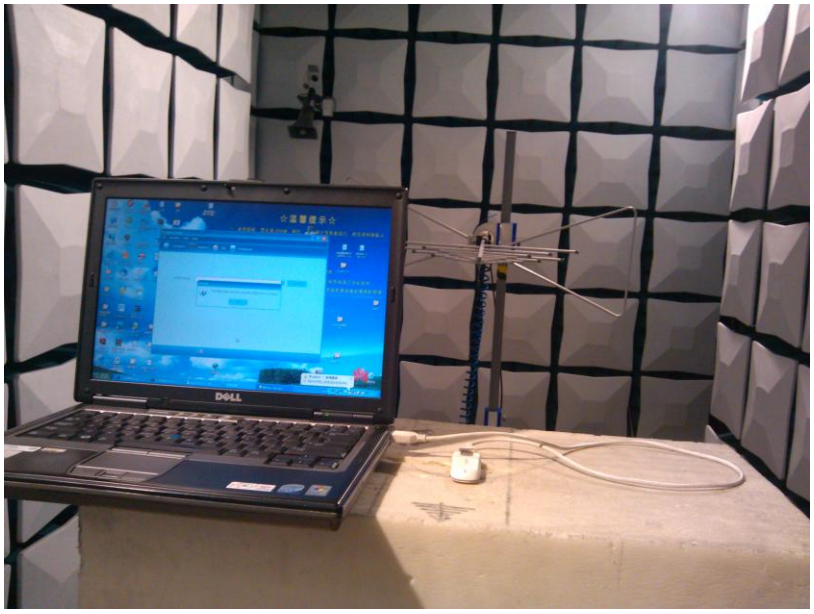
----------The END----------

Appendix H

Photos of Radiated Spurious Emissions

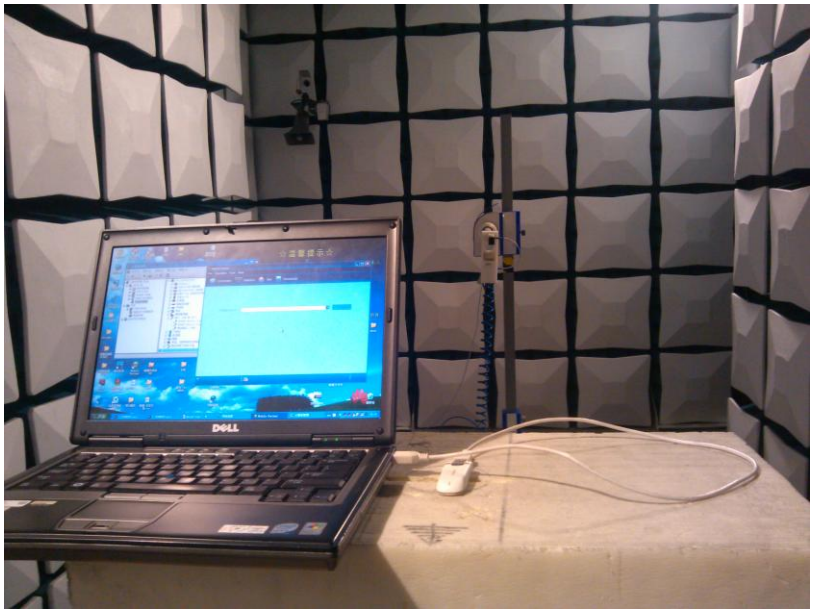
Photos of Test Setup

1 Radiated Spurious Emissions



Radiated Spurious Emission (below 3GHz)

Radiated Spurious Emission (3GHz to18GHz)



Radiated Spurious Emission (18GHz to26.5GHz)

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