



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	
		Measured	Limit	Measured	Limit	Measured	Limit
T _{nom} / V _{nom}		Measured	Limit	Measured	Limit	Measured	Limit
TM1		32.63	38.5	32.77	38.5	32.79	38.5
TM2		26.75	38.5	26.61	38.5	26.41	38.5
TEST CONDITIONS		Channel4132(B) 826.4MHz		Channel4182(M) 836.4MHz		Channel4233(T) 846.6MHz	
		dBm		dBm		dBm	
		Measured	Limit	Measured	Limit	Measured	Limit
T _{nom} / V _{nom}		Measured	Limit	Measured	Limit	Measured	Limit
TM3		22.92	38.5	22.73	38.5	22.97	38.5
TM4	Case1	22.90	38.5	22.64	38.5	22.91	38.5
	Case2	22.51	38.5	22.15	38.5	22.33	38.5
	Case3	21.79	38.5	21.52	38.5	21.69	38.5
	Case4	21.76	38.5	21.49	38.5	21.71	38.5
TM5	Case1	21.09	38.5	20.76	38.5	21.07	38.5
	Case2	20.12	38.5	19.82	38.5	20.07	38.5
	Case3	20.03	38.5	19.74	38.5	19.97	38.5
	Case4	19.83	38.5	19.62	38.5	19.86	38.5
	Case5	21.12	38.5	20.83	38.5	21.05	38.5



Effective Radiated Power of Transmitter (ERP)

Test Mode	Freq. [MHz]	Meas. Level [dBm]	Substitution on Antenna Type	SGP [dBm]	Substitution on Gain [dBd]	Cable Loss [dB]	Substitution Level (ERP) [dBm]	FCC limit [dBm]	Result
TM1	824.2	30.48	Dipole Ant.	33.80	-2.75	0.6	30.45	38.5	Pass
TM1	837.0	30.62	Dipole Ant.	34.08	-2.87	0.6	30.61	38.5	Pass
TM1	848.8	30.64	Dipole Ant.	34.13	-2.85	0.6	30.68	38.5	Pass
TM2	824.2	24.6	Dipole Ant.	27.97	-2.75	0.6	24.62	38.5	Pass
TM2	837.0	24.46	Dipole Ant.	27.92	-2.87	0.6	24.45	38.5	Pass
TM2	848.8	24.26	Dipole Ant.	27.68	-2.85	0.6	24.23	38.5	Pass
TM3	826.4	20.77	Dipole Ant.	24.13	-2.75	0.6	20.78	38.5	Pass
TM3	836.4	20.58	Dipole Ant.	24.04	-2.87	0.6	20.57	38.5	Pass
TM3	846.6	20.82	Dipole Ant.	24.25	-2.85	0.6	20.80	38.5	Pass

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

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

b, SGP=Signal Generator Level

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



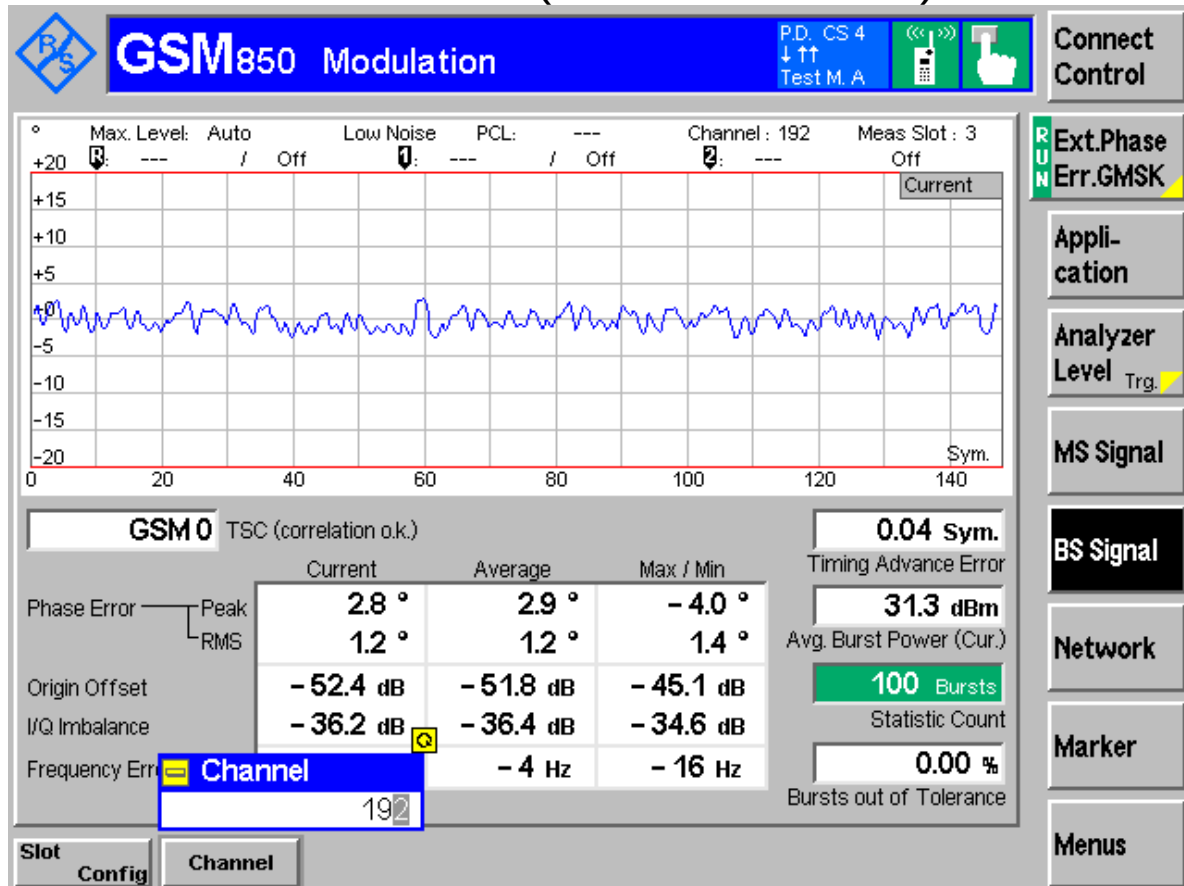
Appendix B

Modulation Characteristics

According to FCC Part 2.1047 & Part22 Subpart H

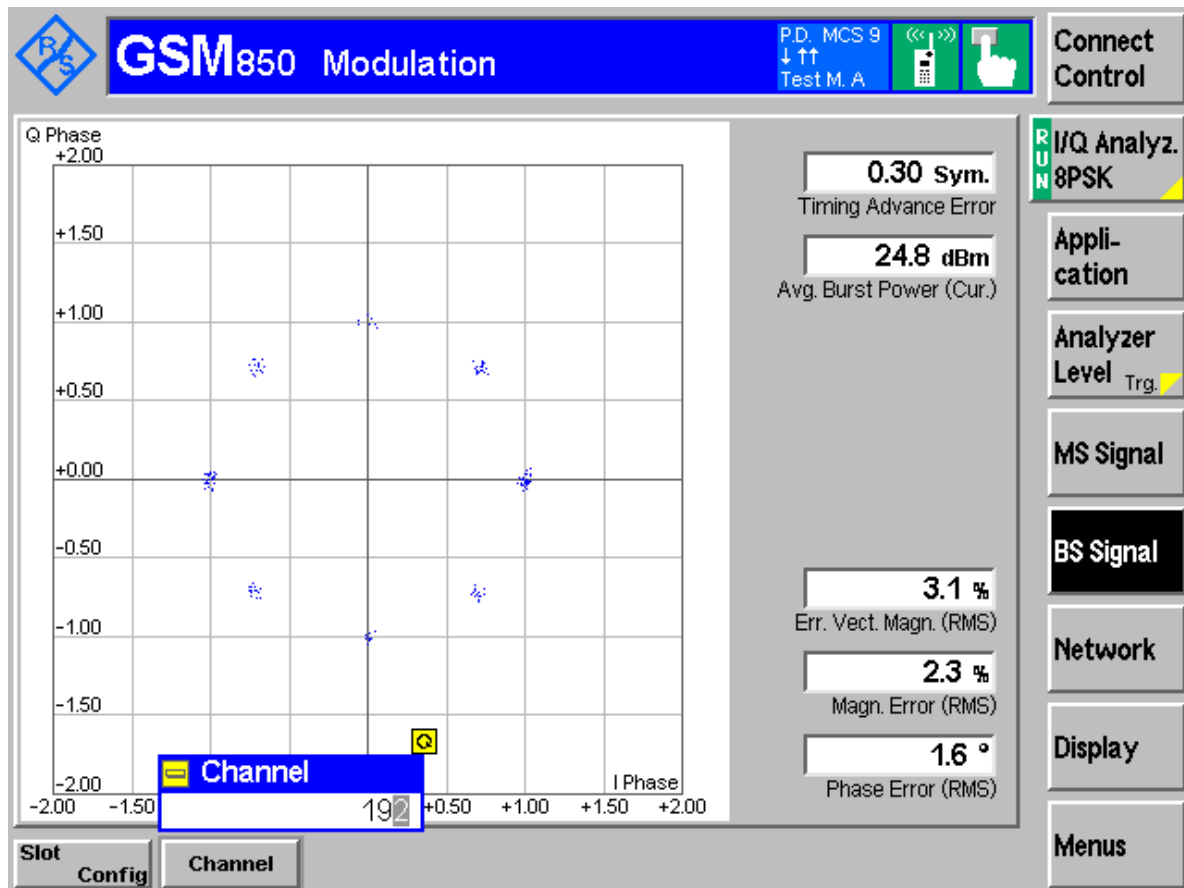


Channel 192(TM1:GPRS/GSM)



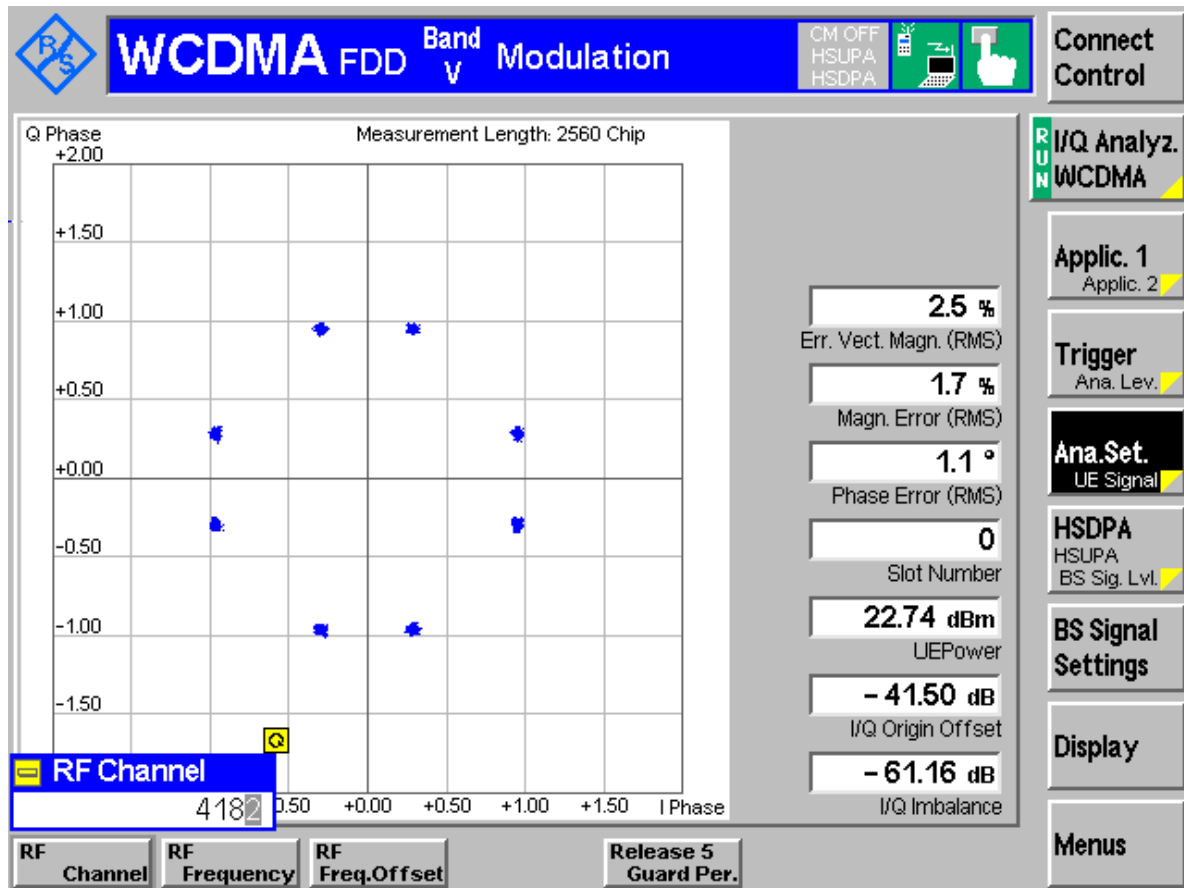


Channel 192(TM2:EDGE)





Channel 4182(TM3: WCDMA)



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



Appendix C

Occupied Bandwidth According to FCC Part 2.1049 & Part 22 Subpart H



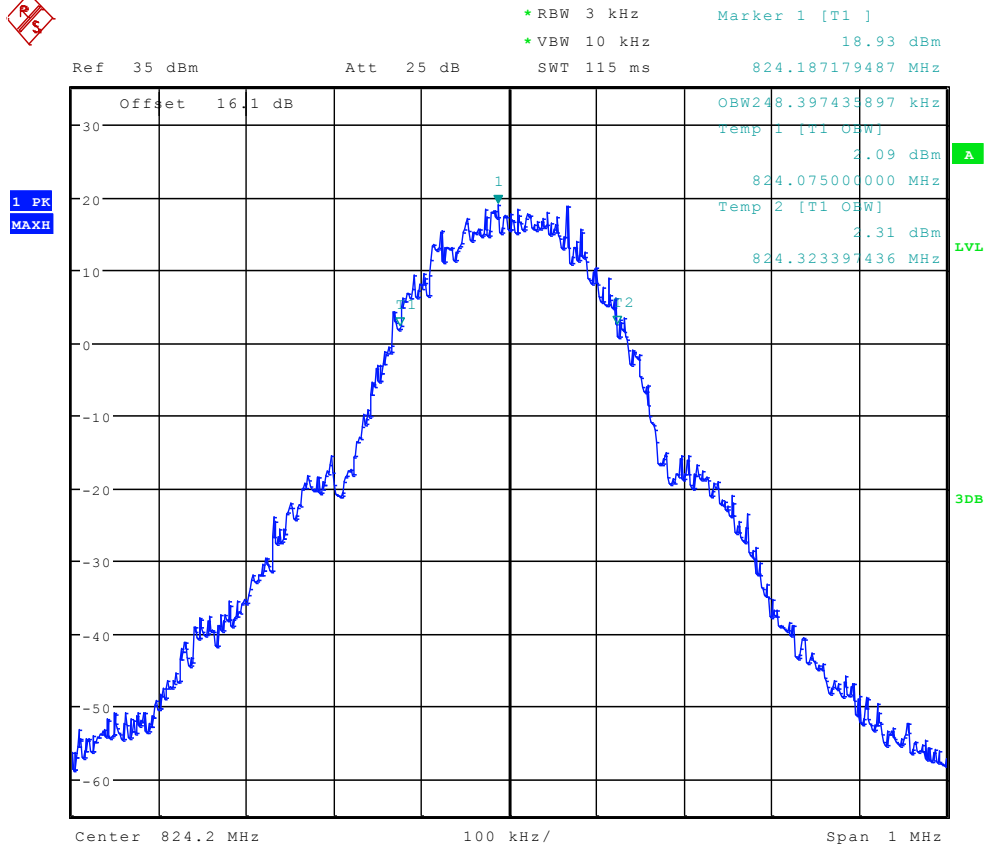
Result Table

Table 1 Measurement Results

Test Mode	RF Channel	Occupied Bandwidth [kHz]	Verdict
TM1	128	248.40	Pass
	192	248.40	Pass
	251	246.79	Pass
TM2	128	251.60	Pass
	192	246.79	Pass
	251	240.38	Pass
Test Mode	RF Channel	Occupied Bandwidth [MHz]	Verdict
TM3	4132	4.17	Pass
	4182	4.17	Pass
	4233	4.17	Pass

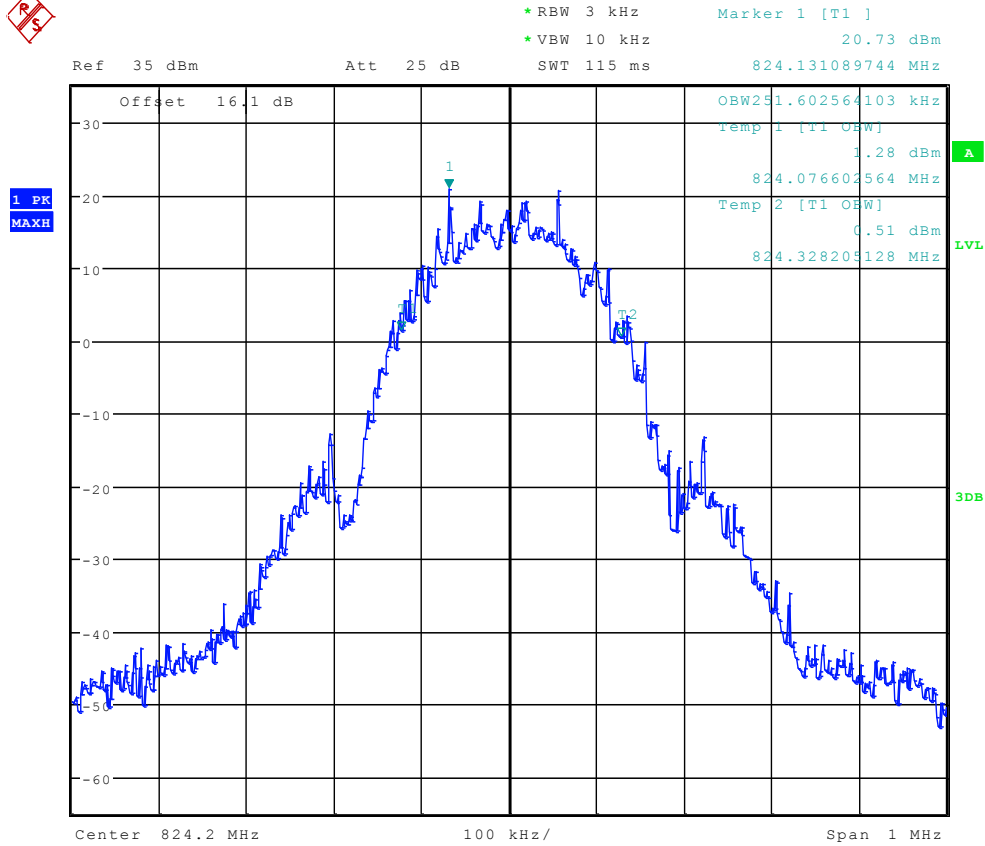


Channel 128 (TM1:GPRS/GSM)



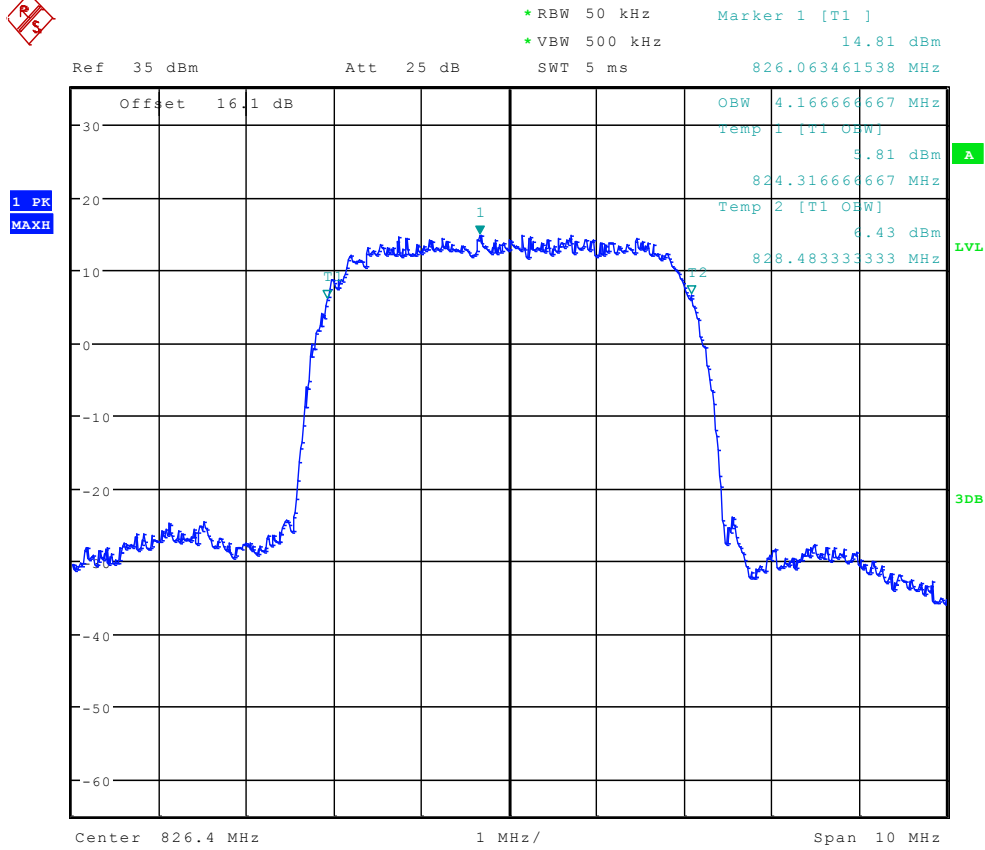


Channel 128 (TM2:EDGE)



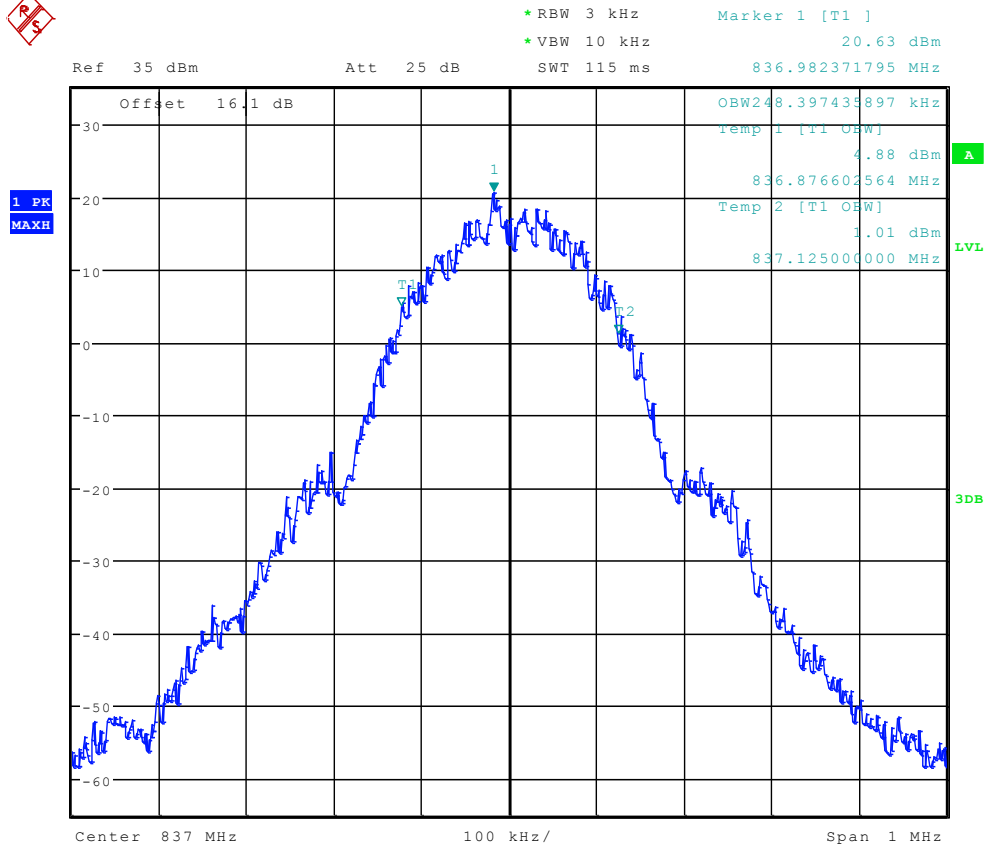


Channel 4132 (TM3: WCDMA)



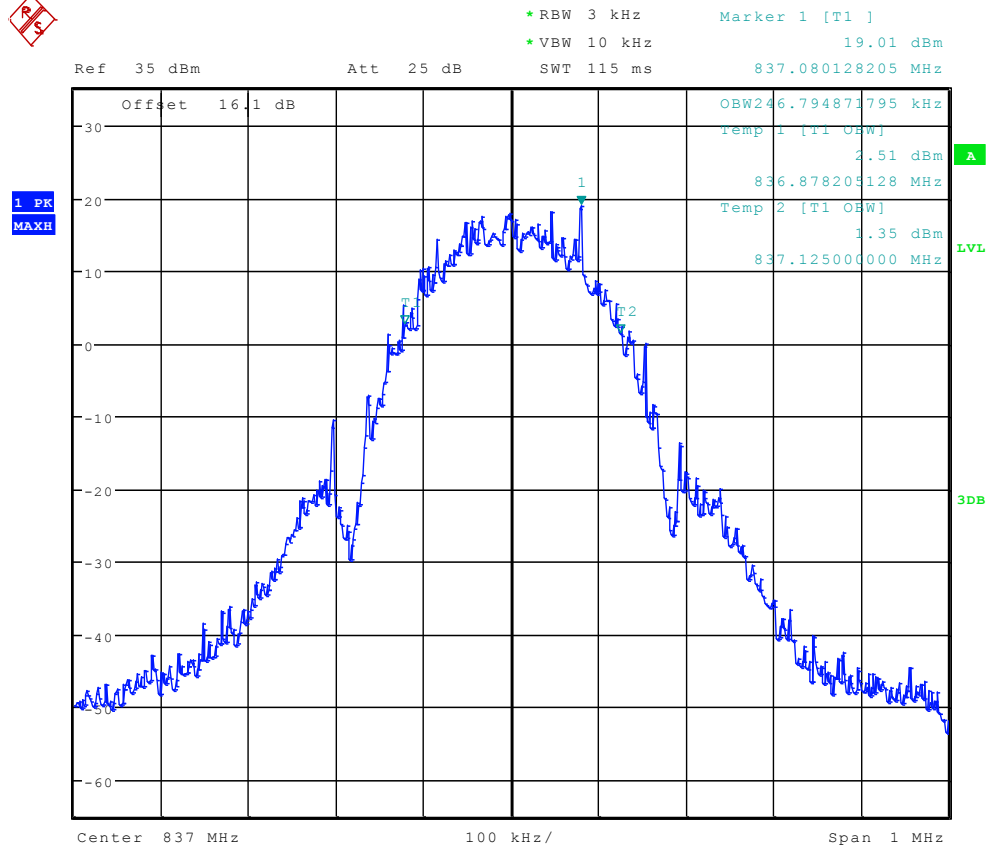


Channel 192 (TM1:GPRS/GSM)



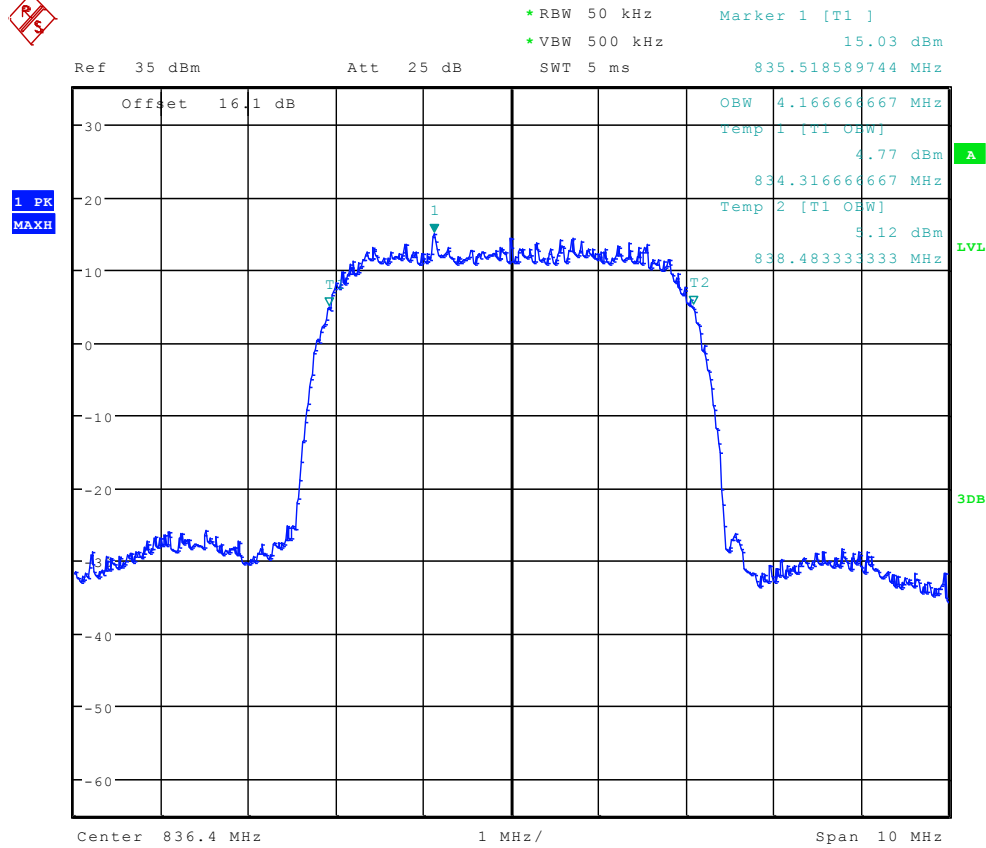


Channel 192 (TM2:EDGE)



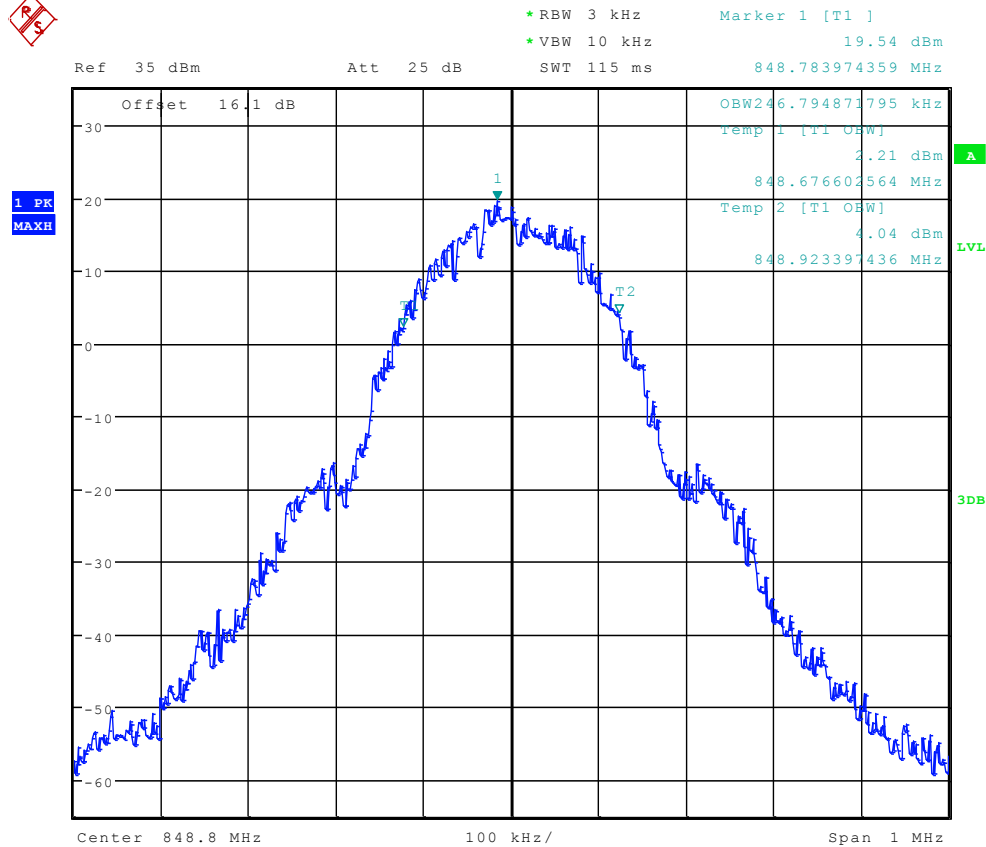


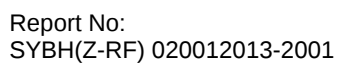
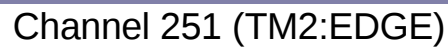
Channel 4182 (TM3: WCDMA)





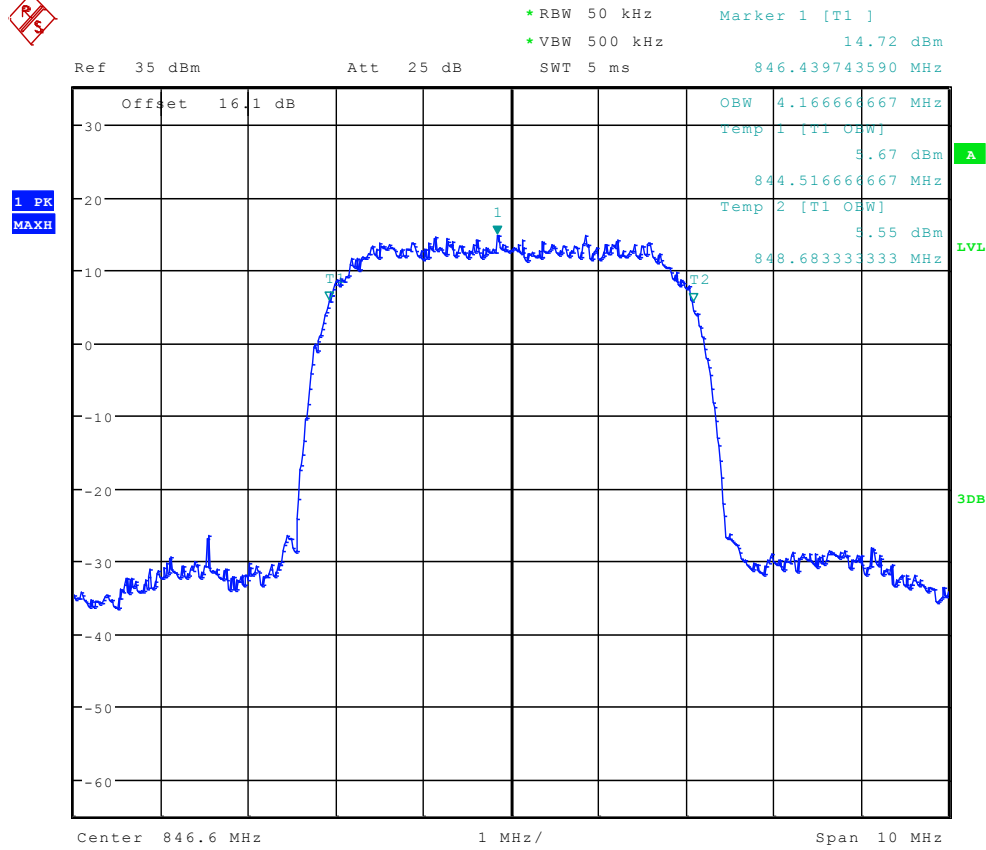
Channel 251 (TM1:GPRS/GSM)







Channel 4233 (TM3: WCDMA)



The END



Appendix D

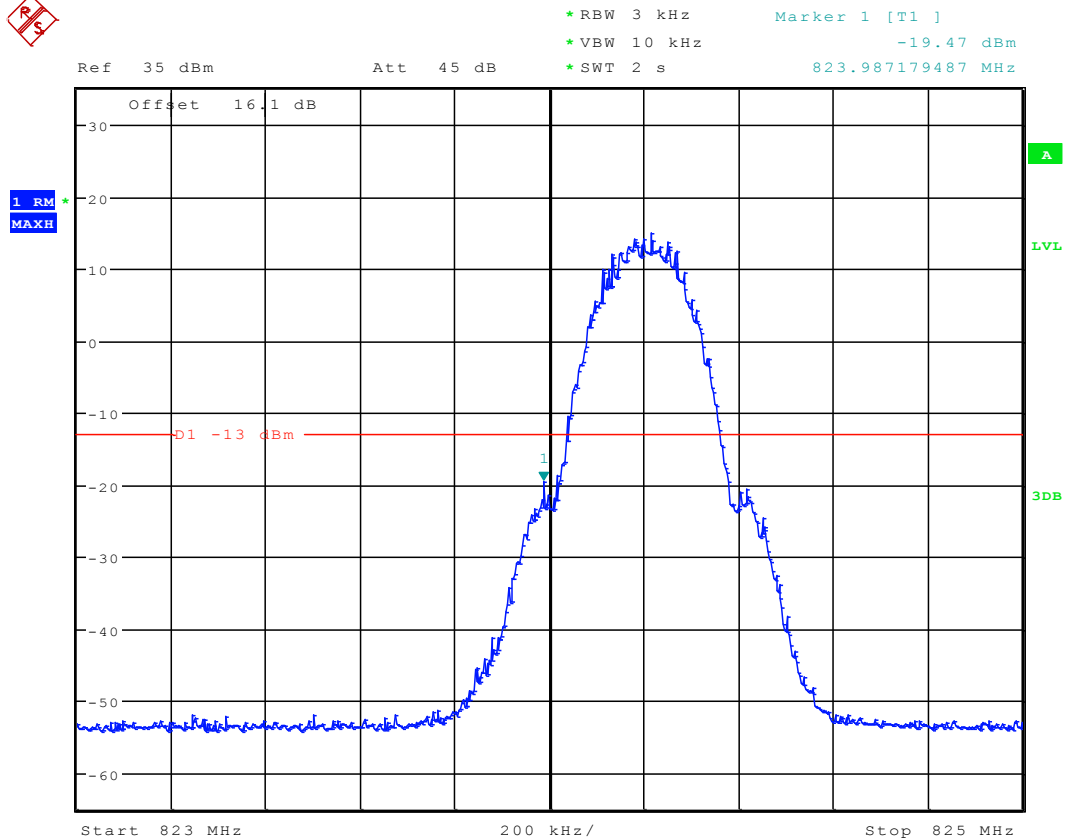
Band Edges Compliance According to FCC Part 2.1051 & Part 22 Subpart H



TM1:GPRS/GSM

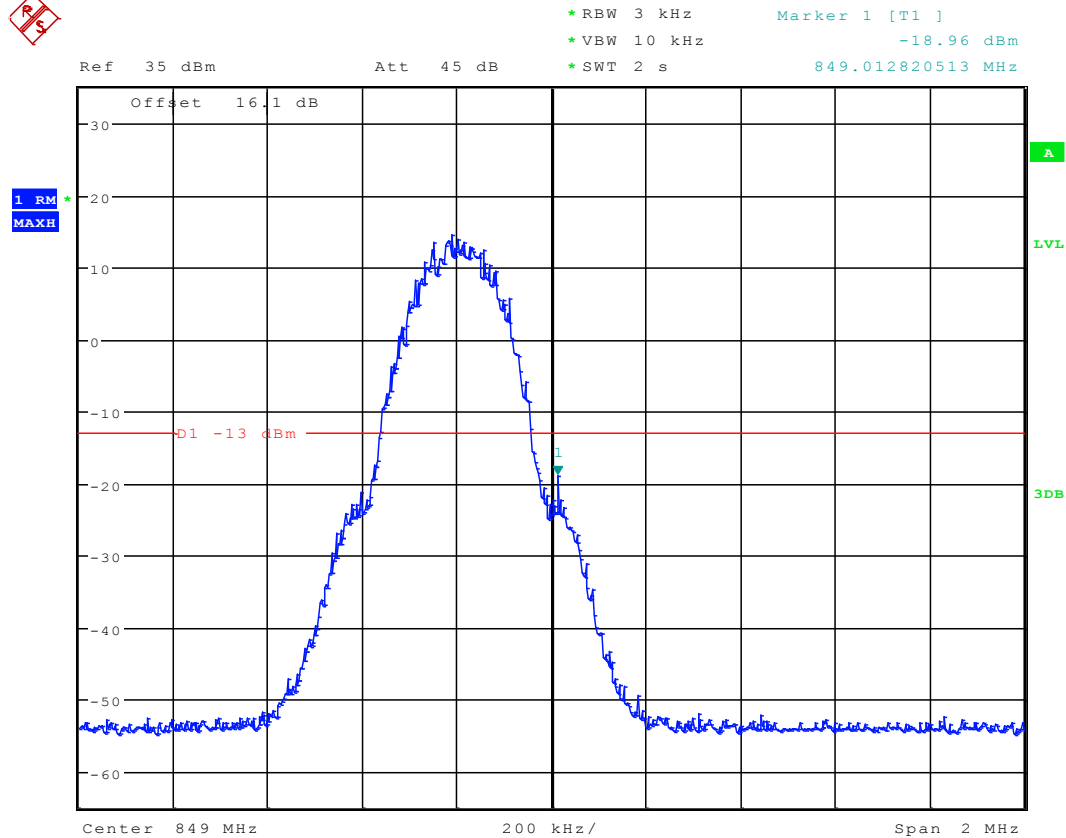
Left Edge

Channel 128



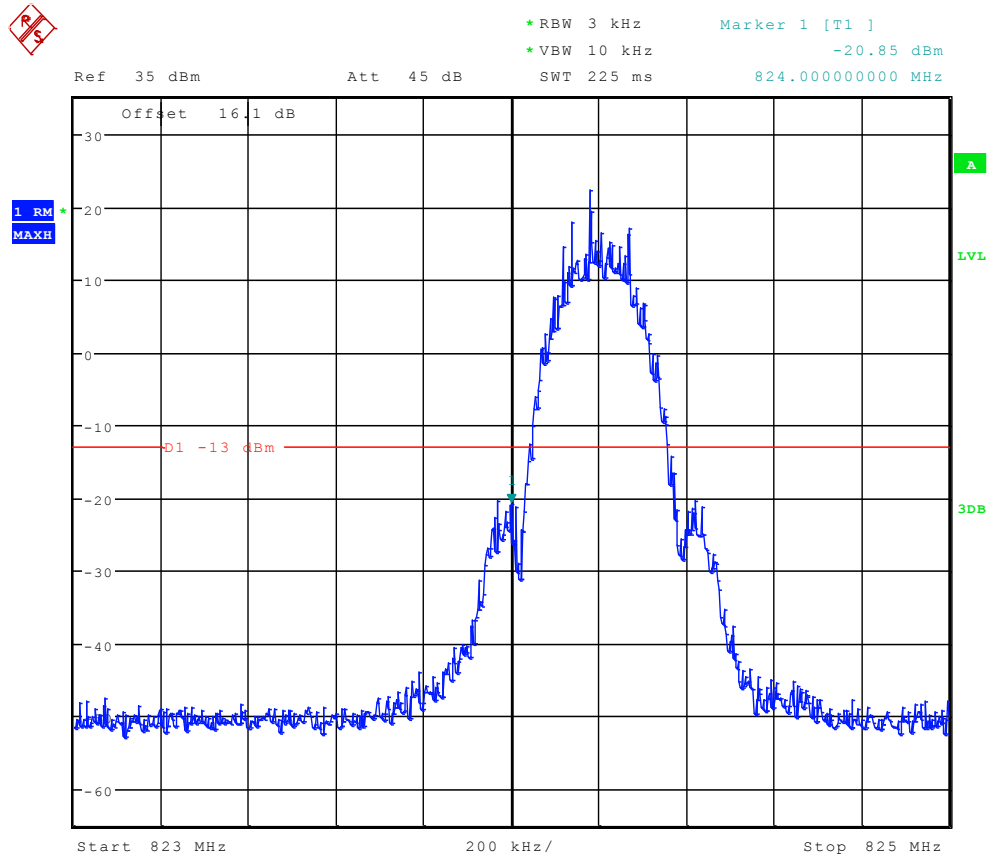


Right Edge Channel 251



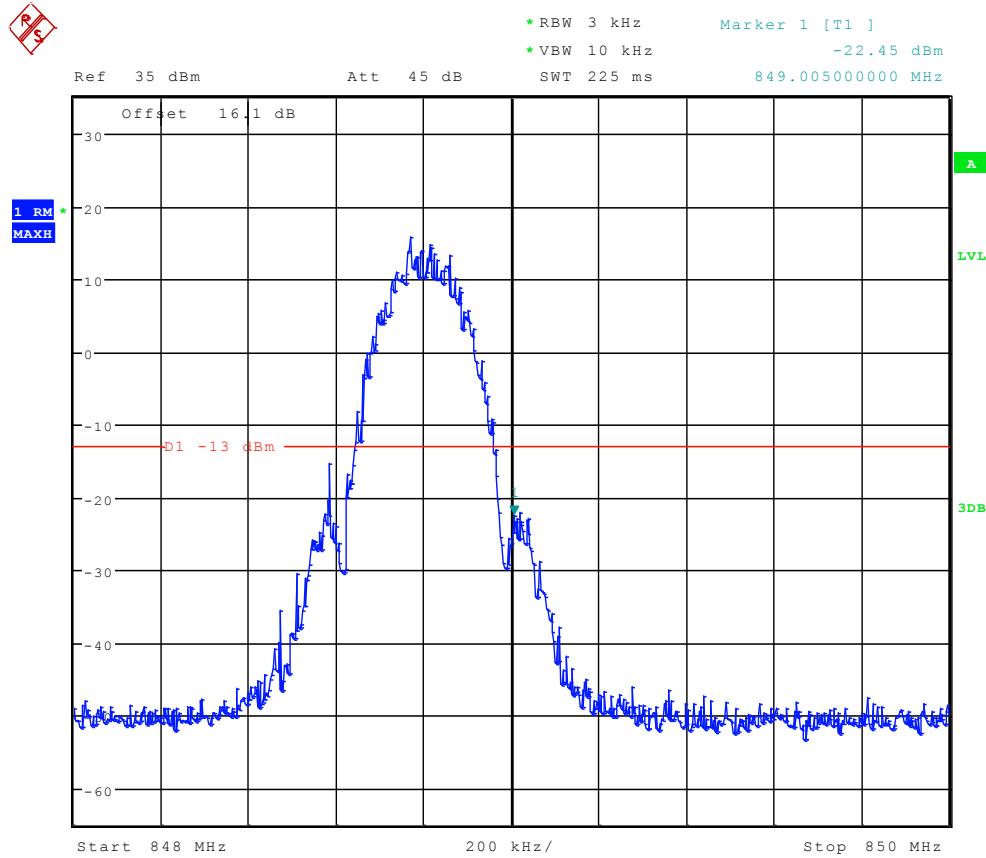


TM2:EDGE Left Edge Channel 128





Right Edge Channel 251

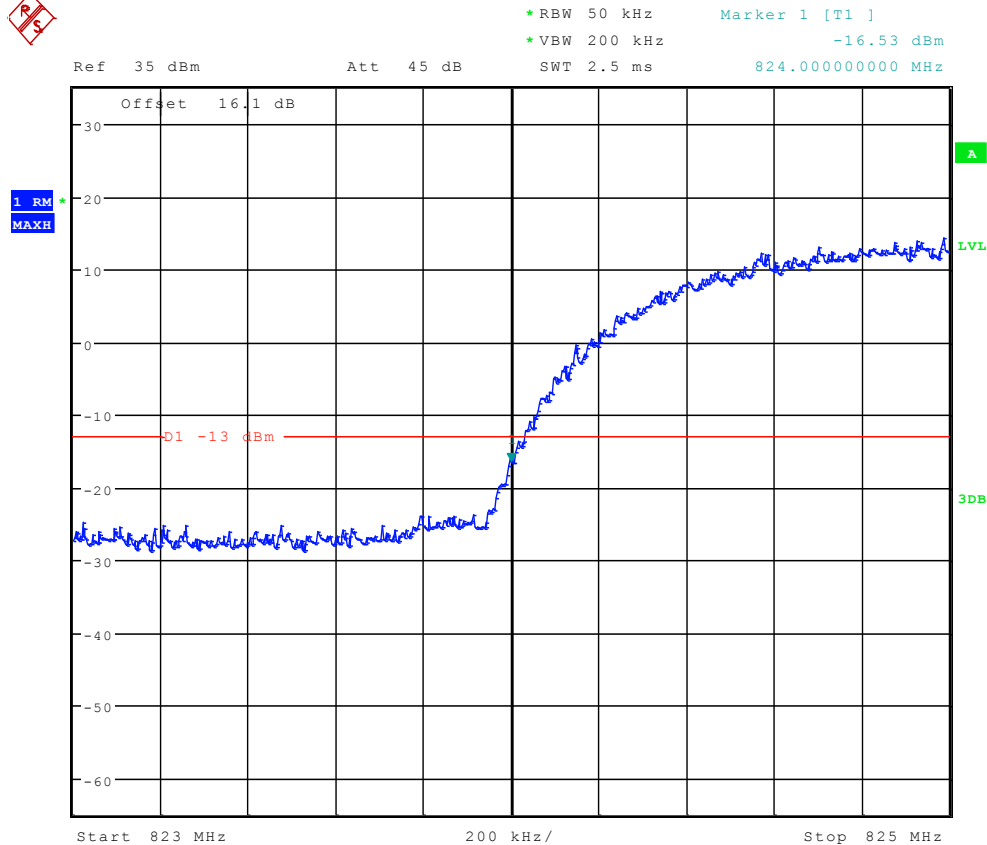




TM3: WCDMA

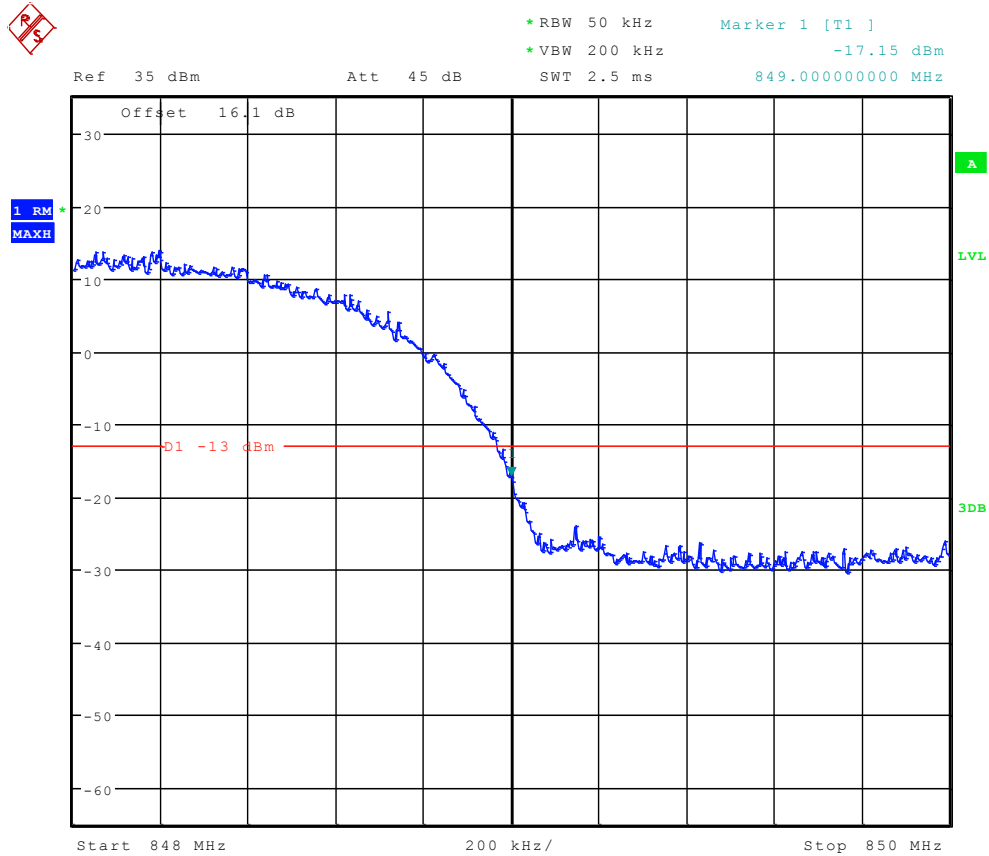
Left Edge

Channel 4132





Right Edge Channel 4233



The END



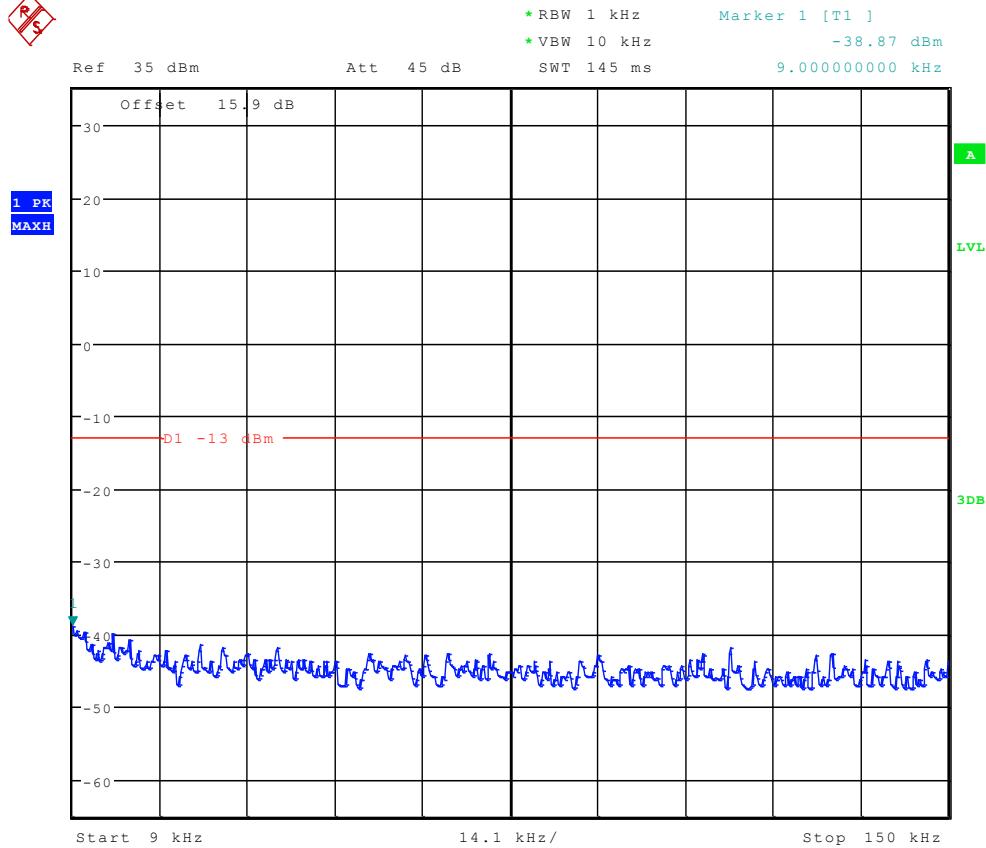
Appendix E

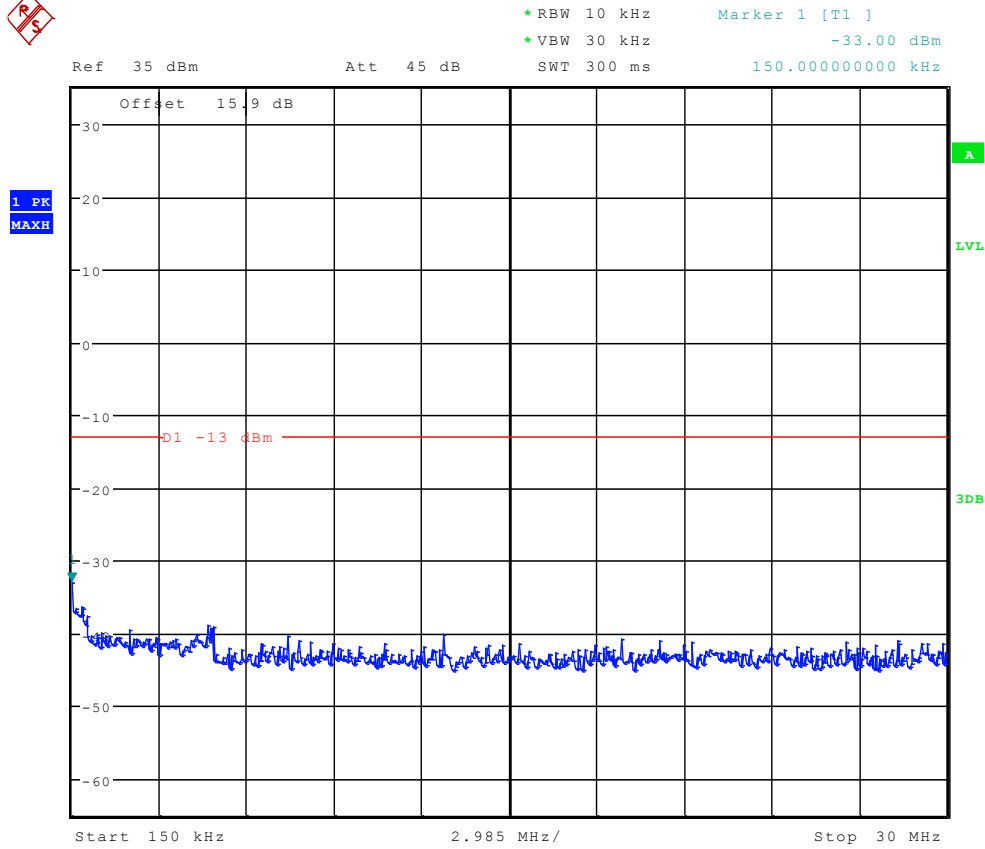
Spurious Emission at Antenna Terminal

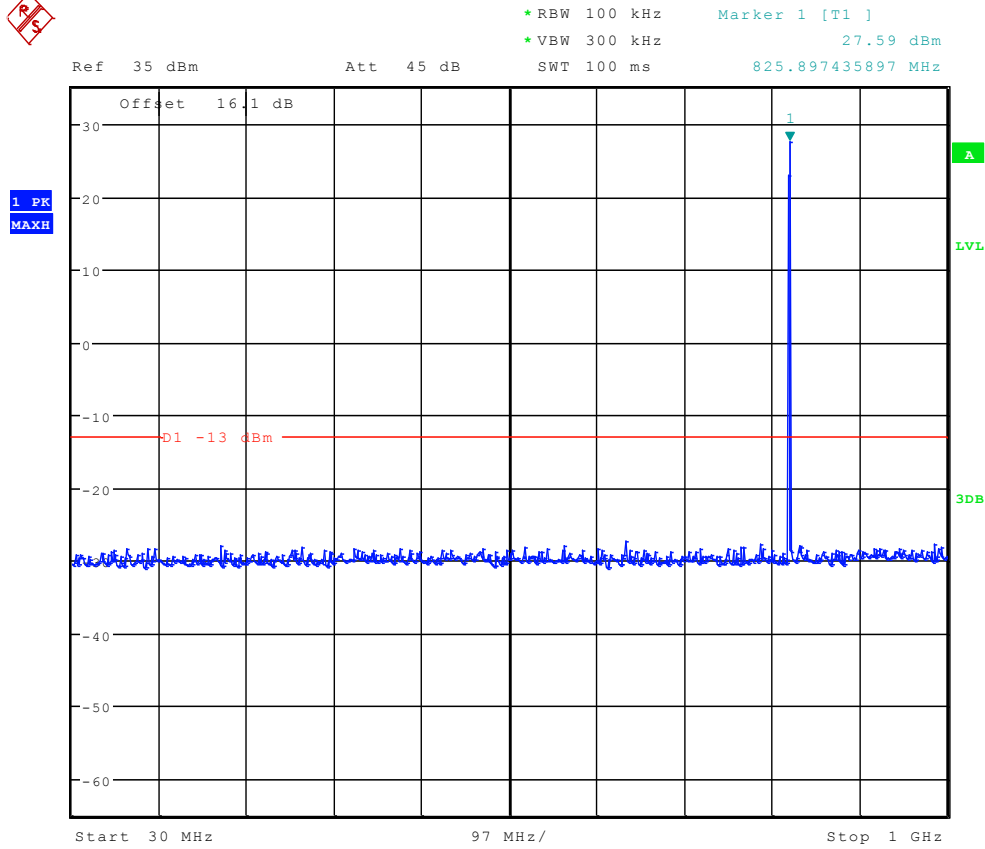
According to FCC Part 2.1051 & Part 22 Subpart H

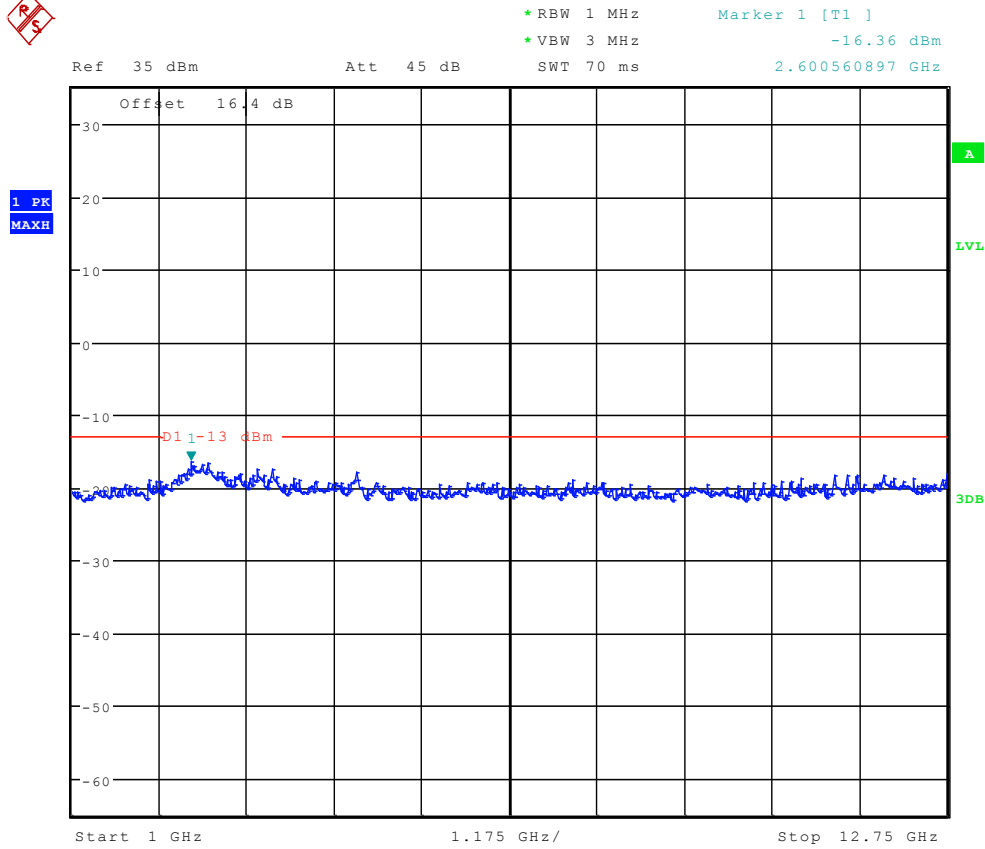


TM1:GPRS/GSM Channel 128



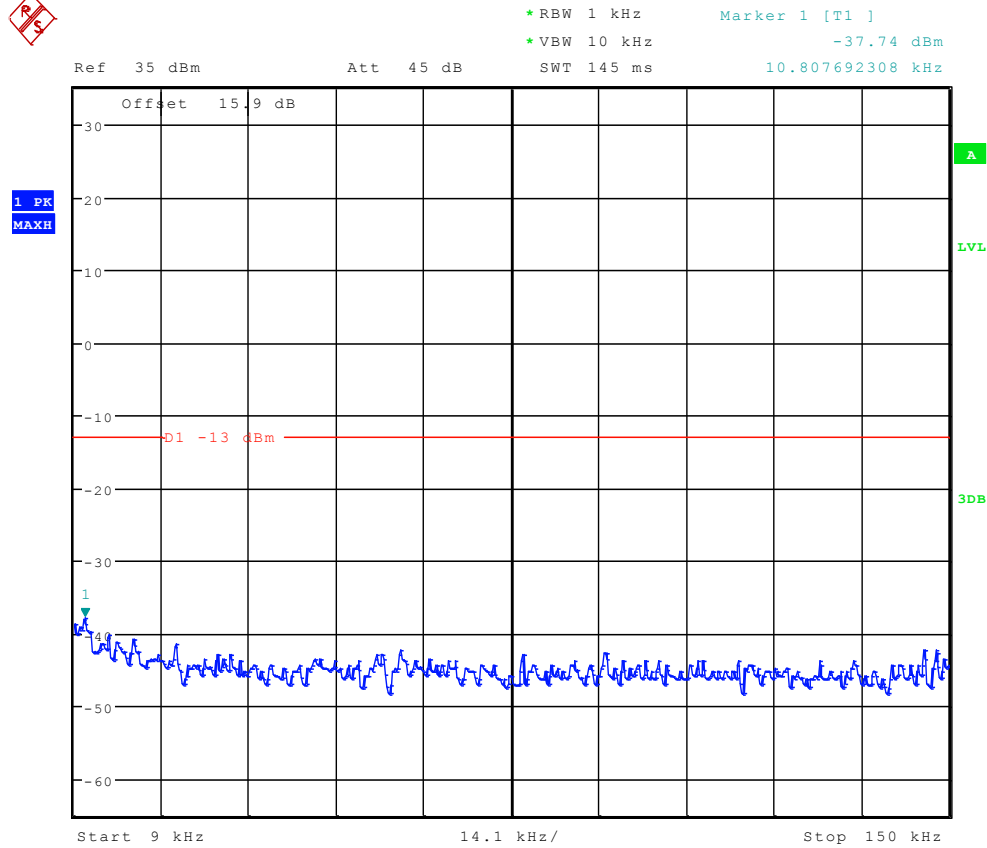






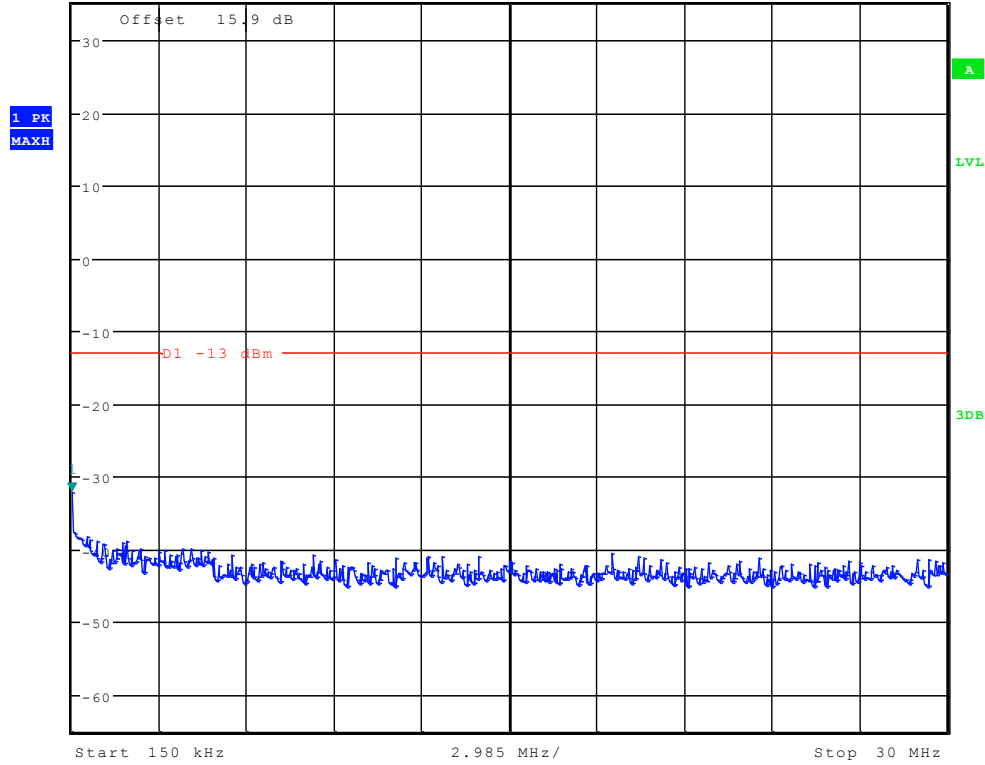


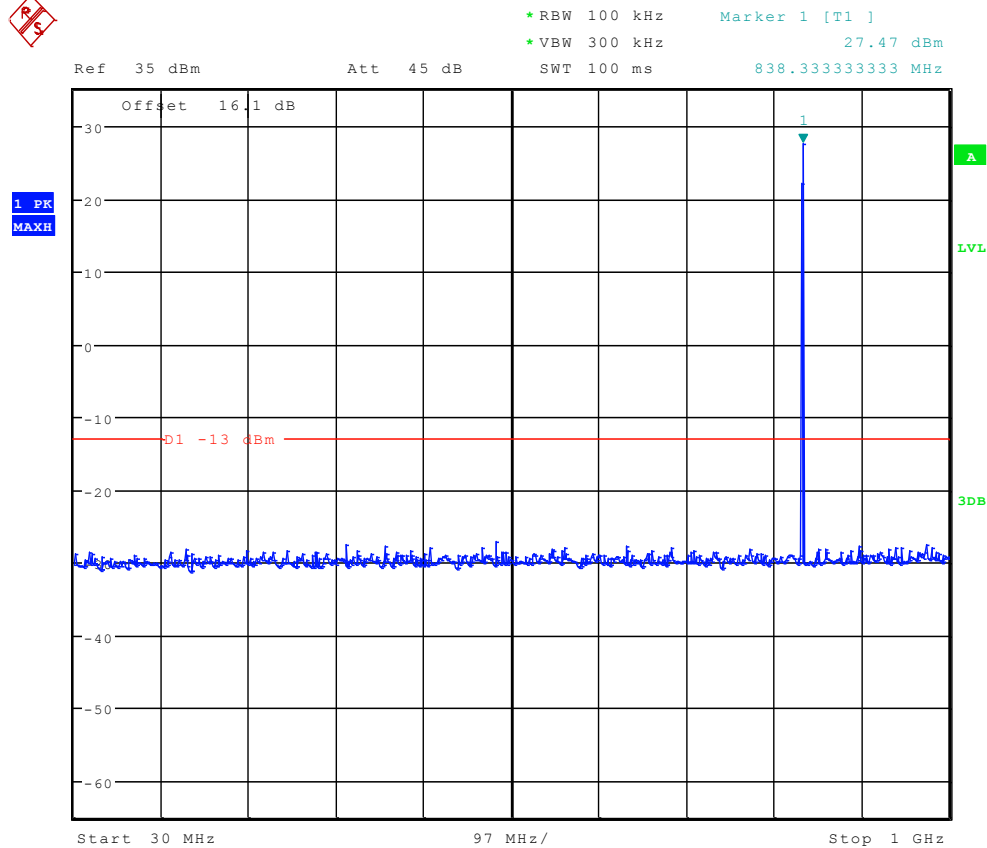
Channel 192

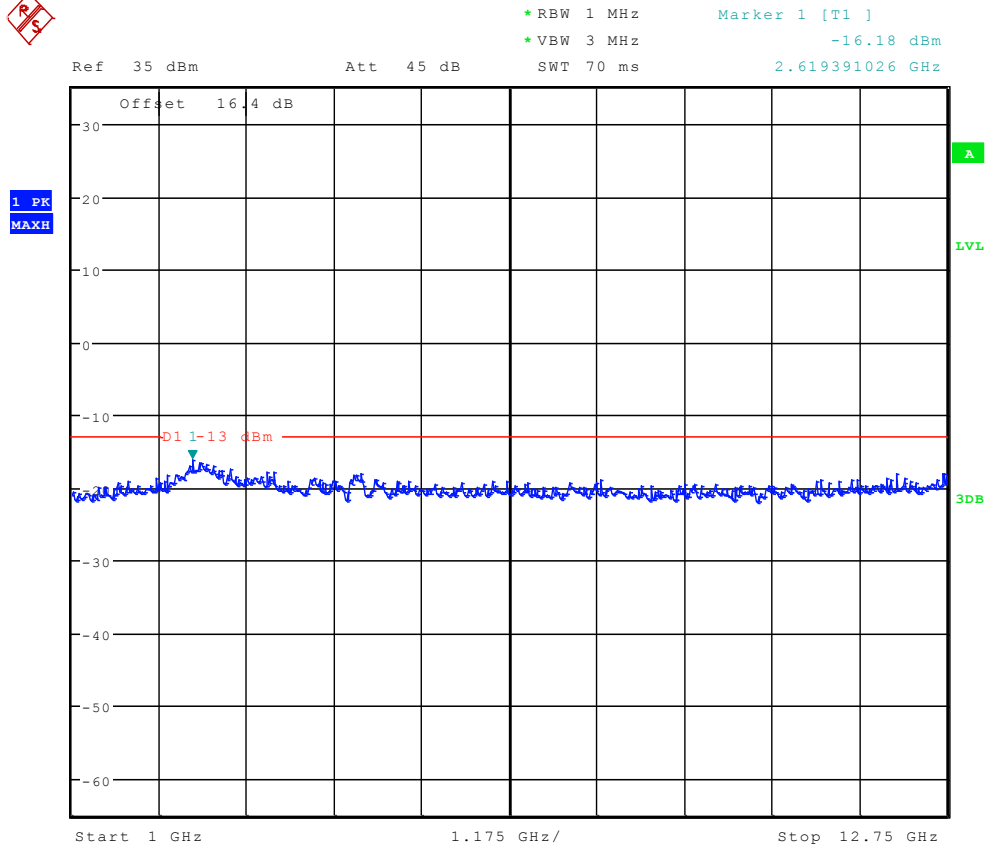




*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz -32.22 dBm
Ref 35 dBm Att 45 dB SWT 300 ms 150.00000000 kHz





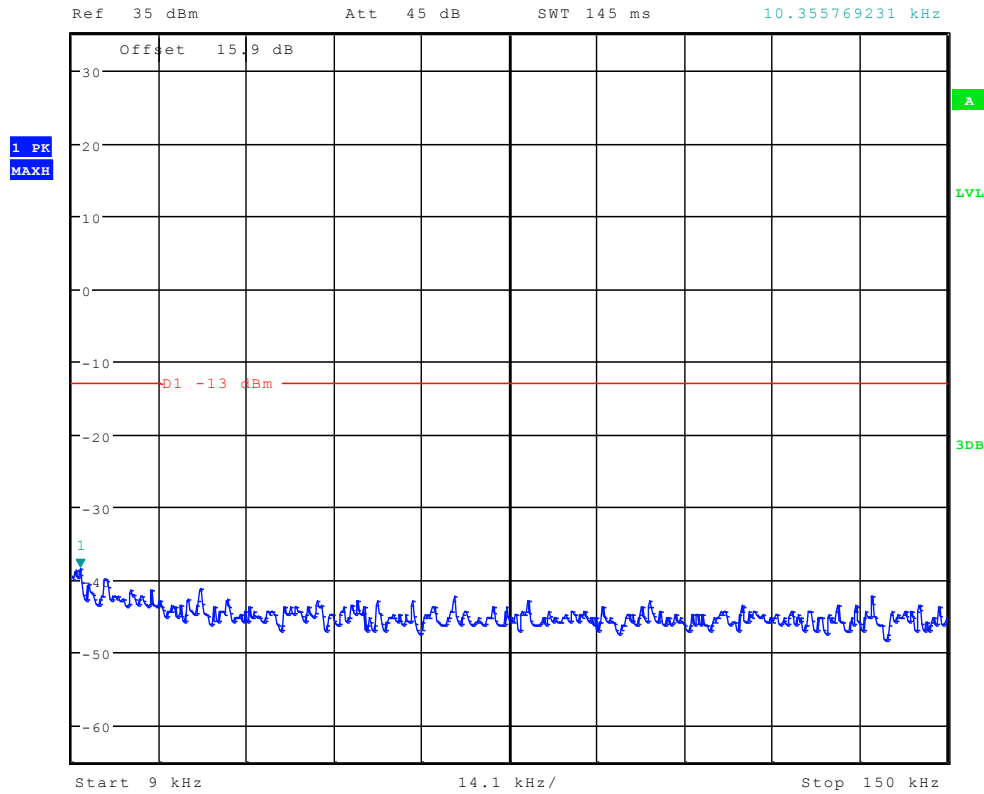


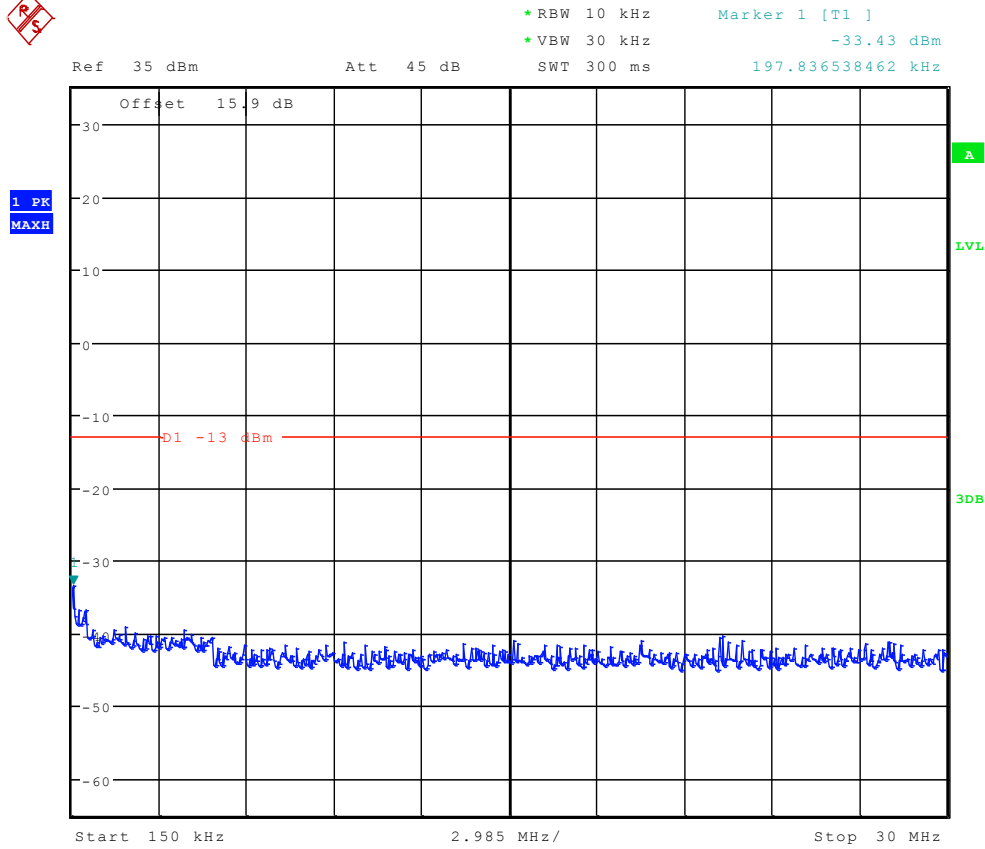


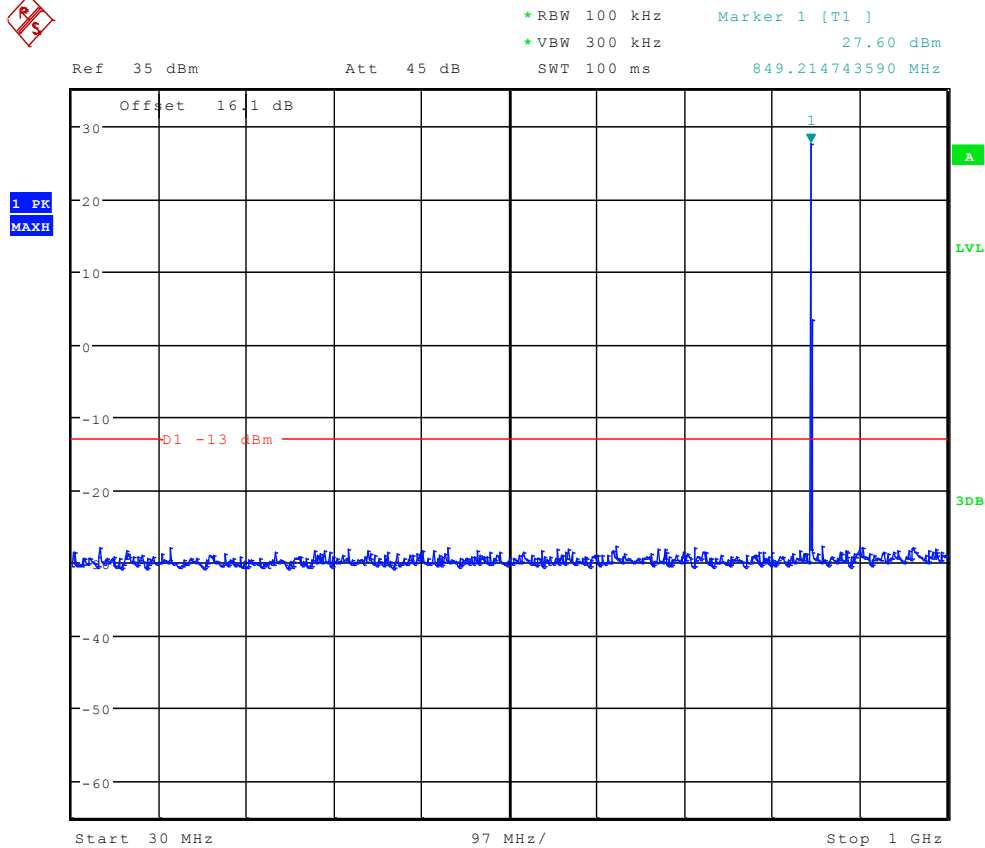
Channel 251

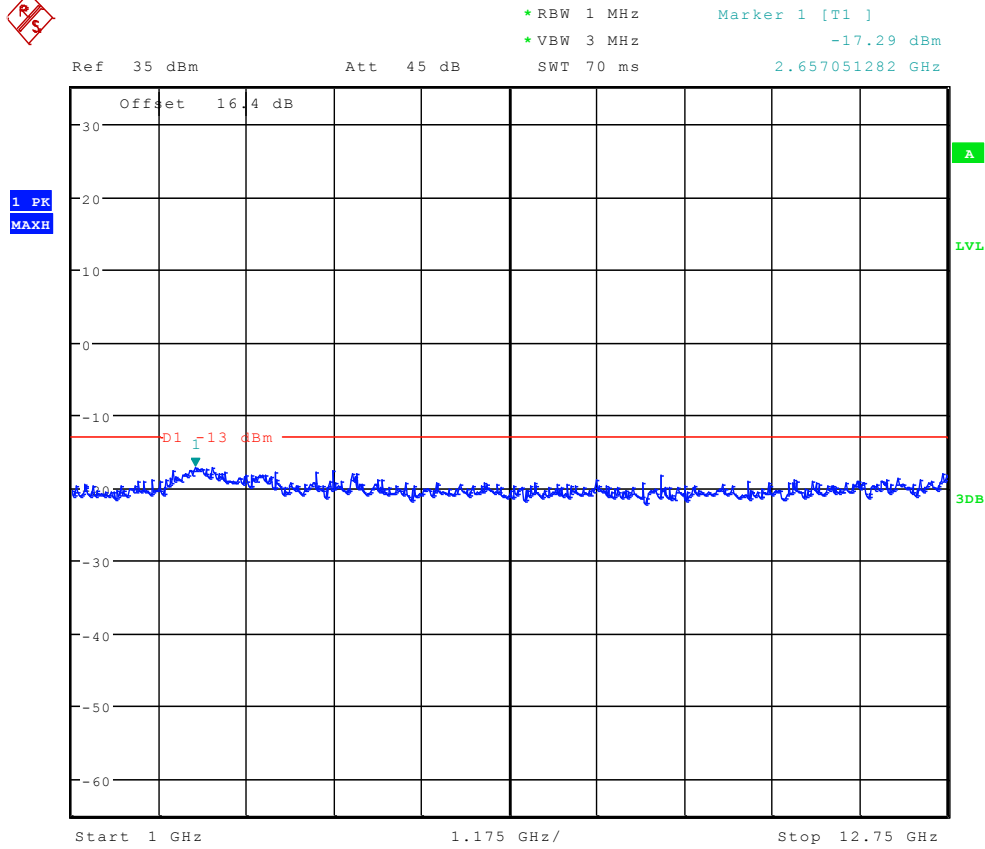


*RBW 1 kHz Marker 1 [T1]
*VBW 10 kHz -38.38 dBm
SWT 145 ms 10.355769231 kHz



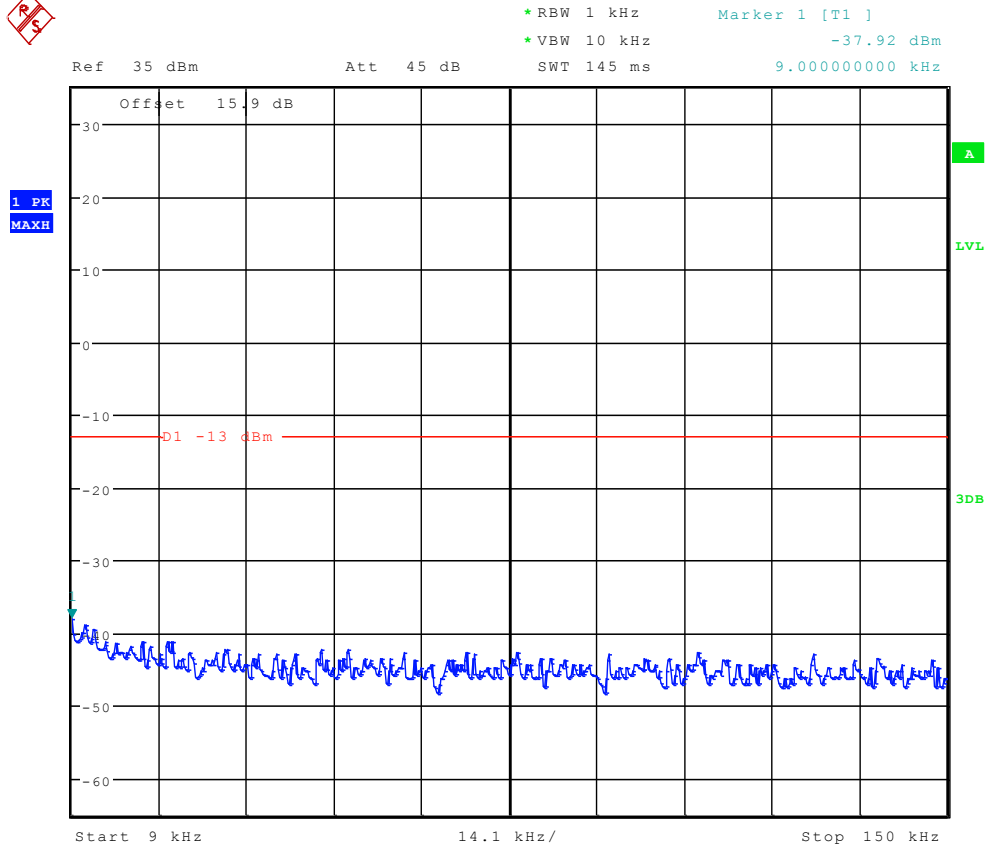


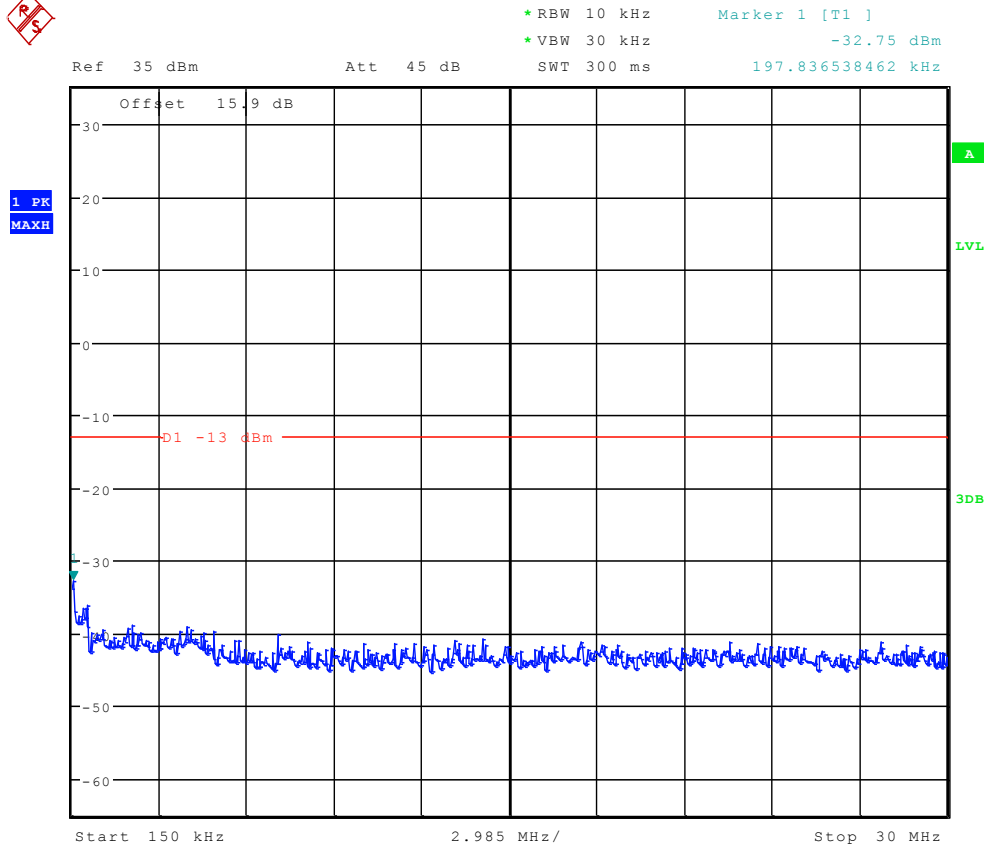


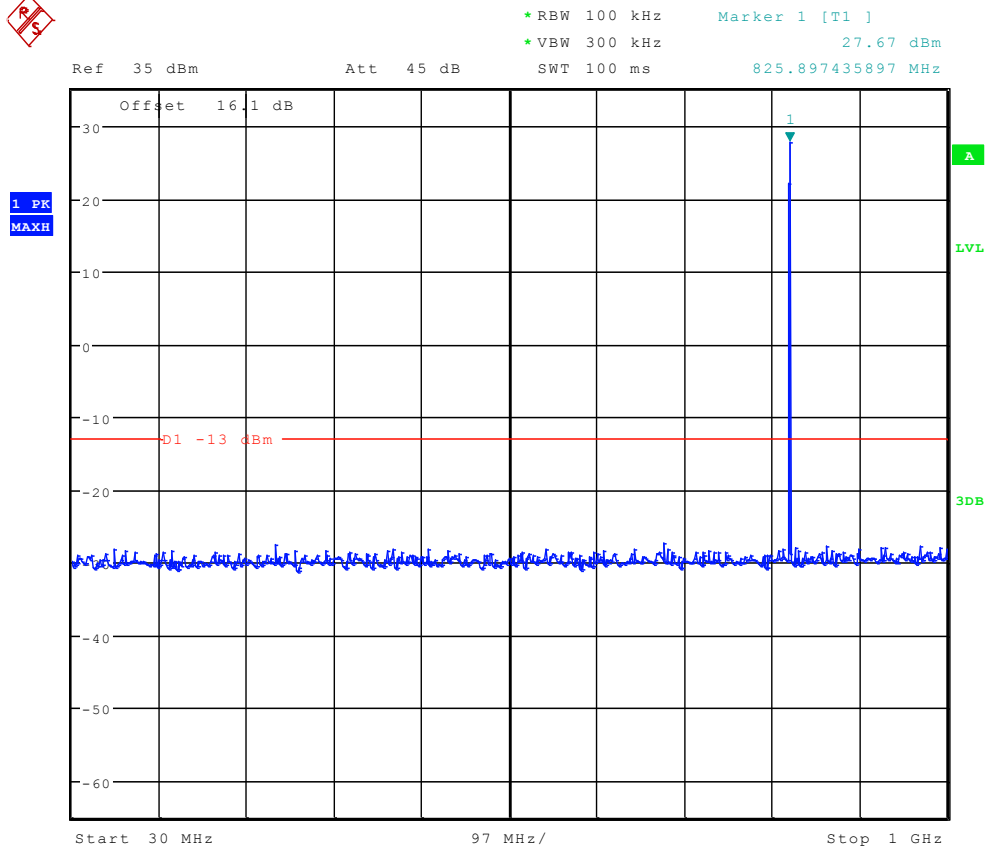


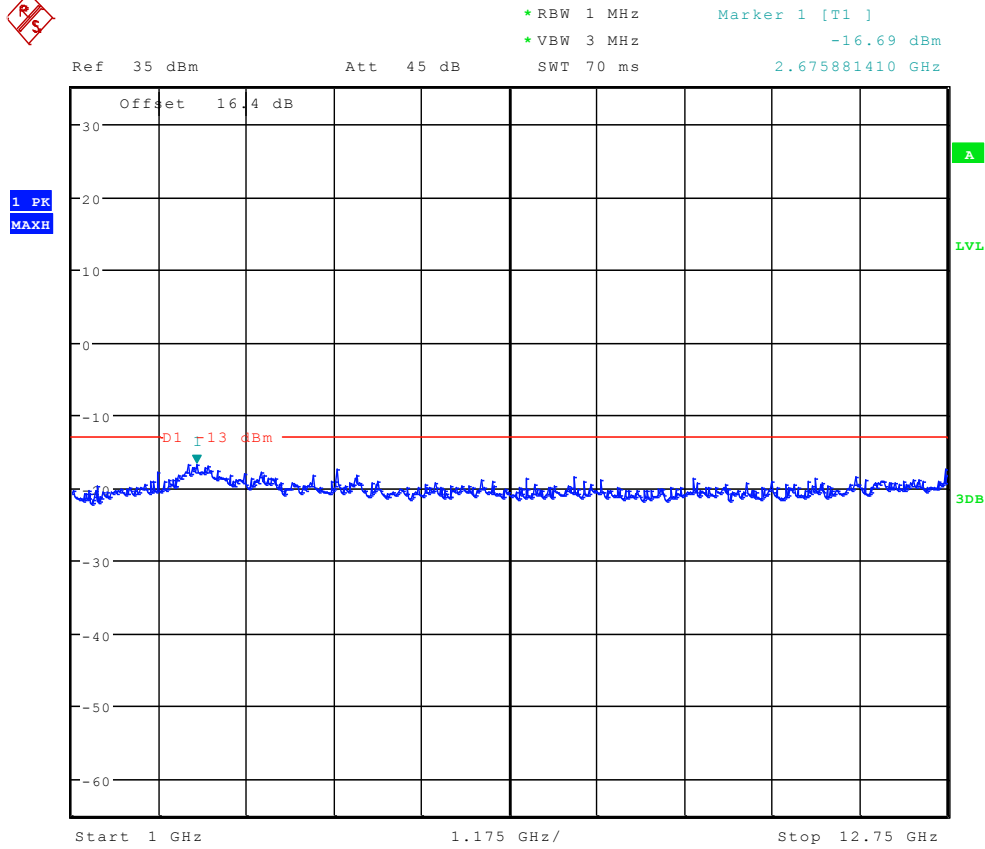


TM2:EDGE Channel 128



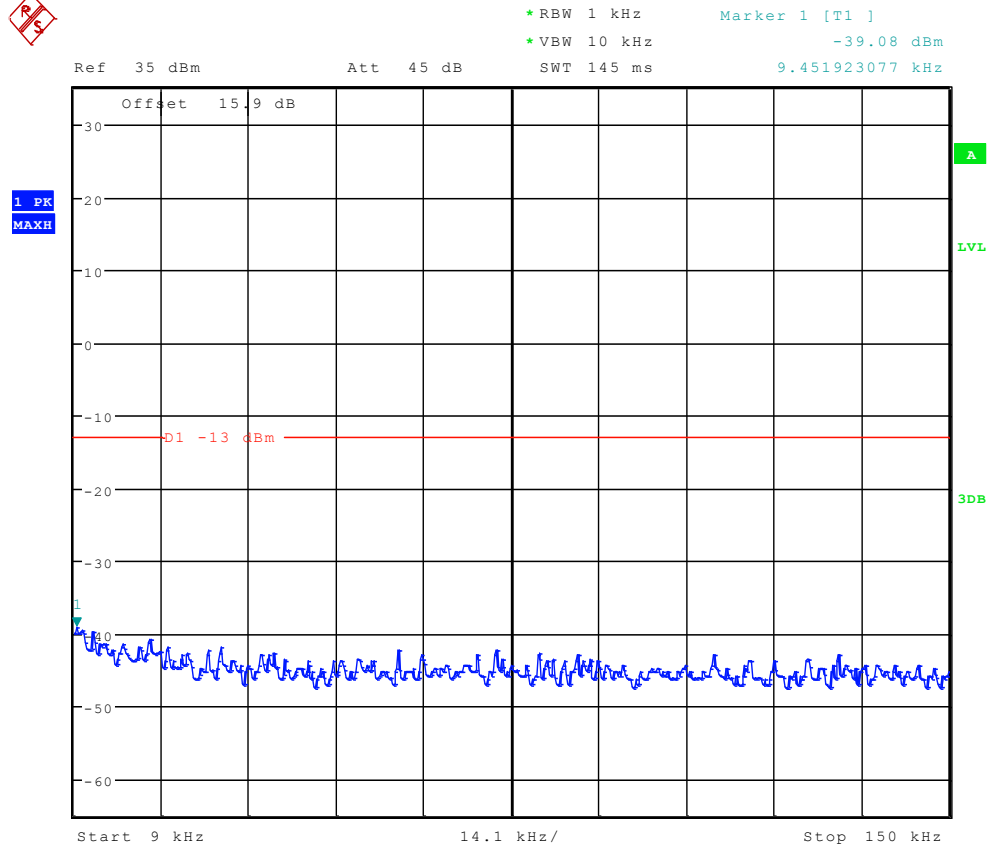


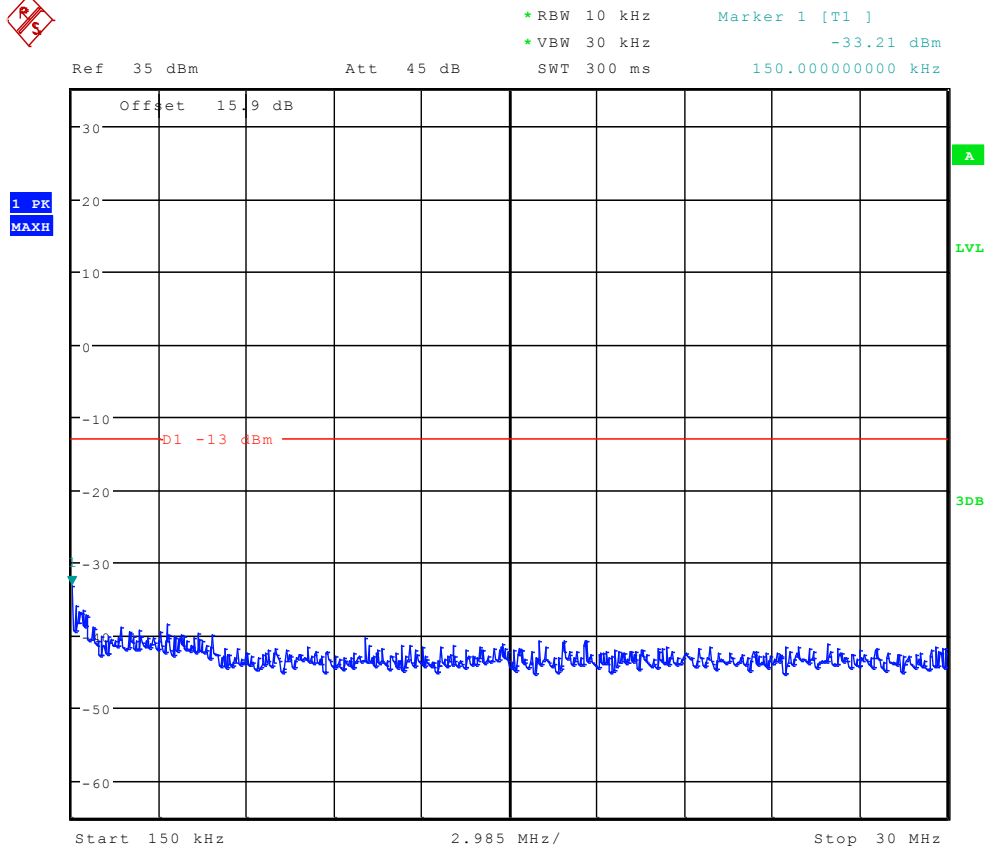


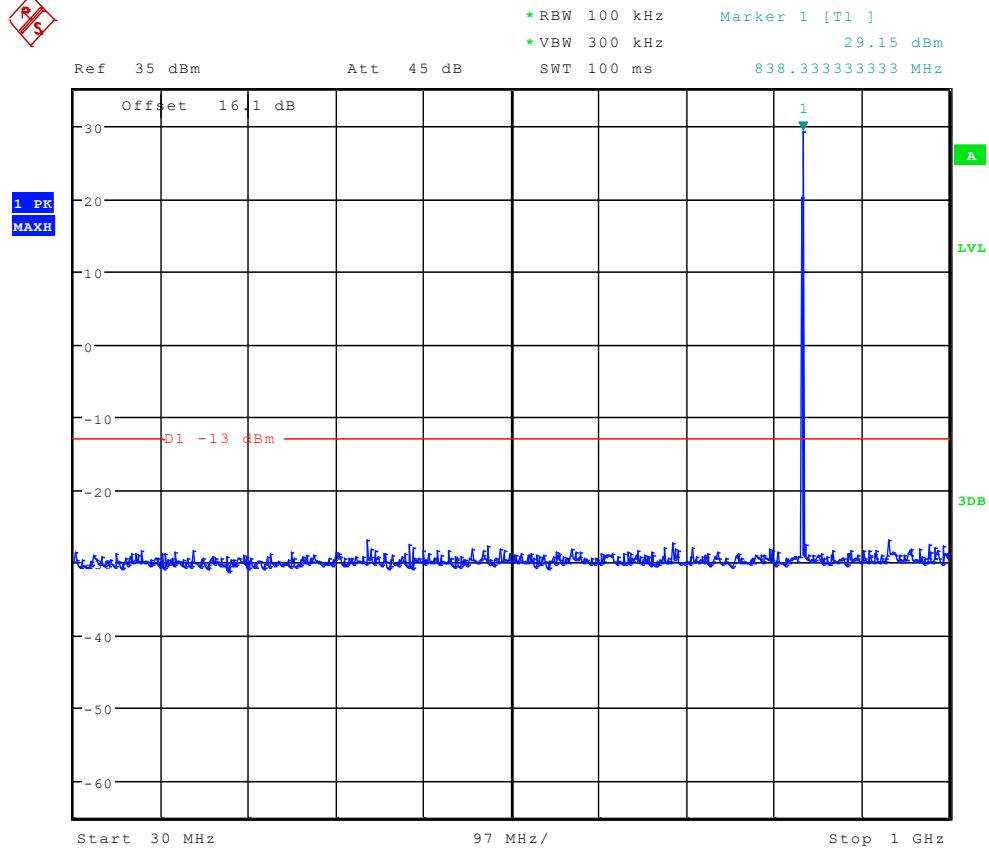


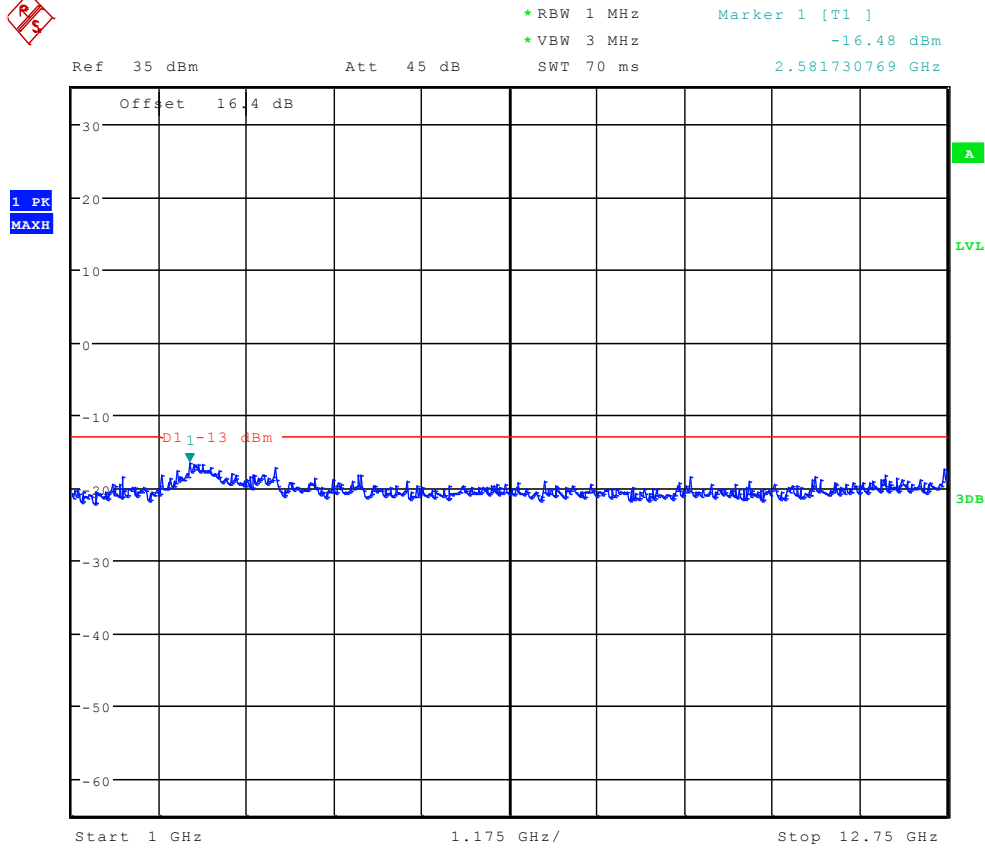


Channel 192



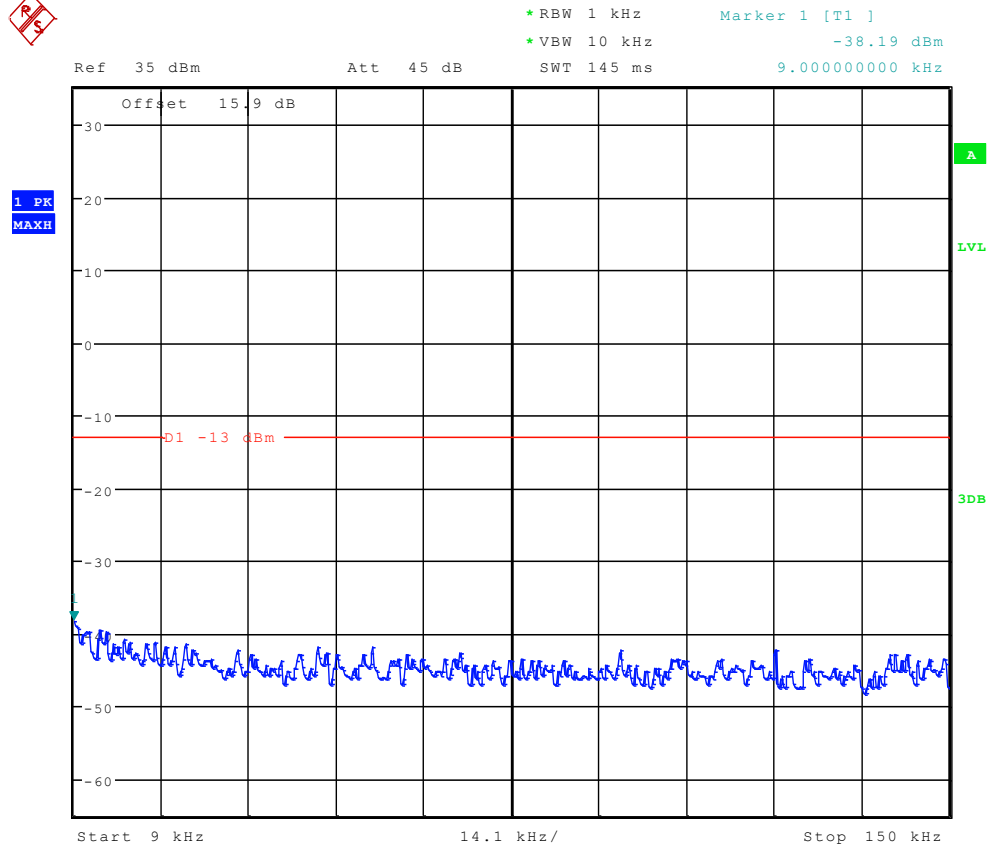


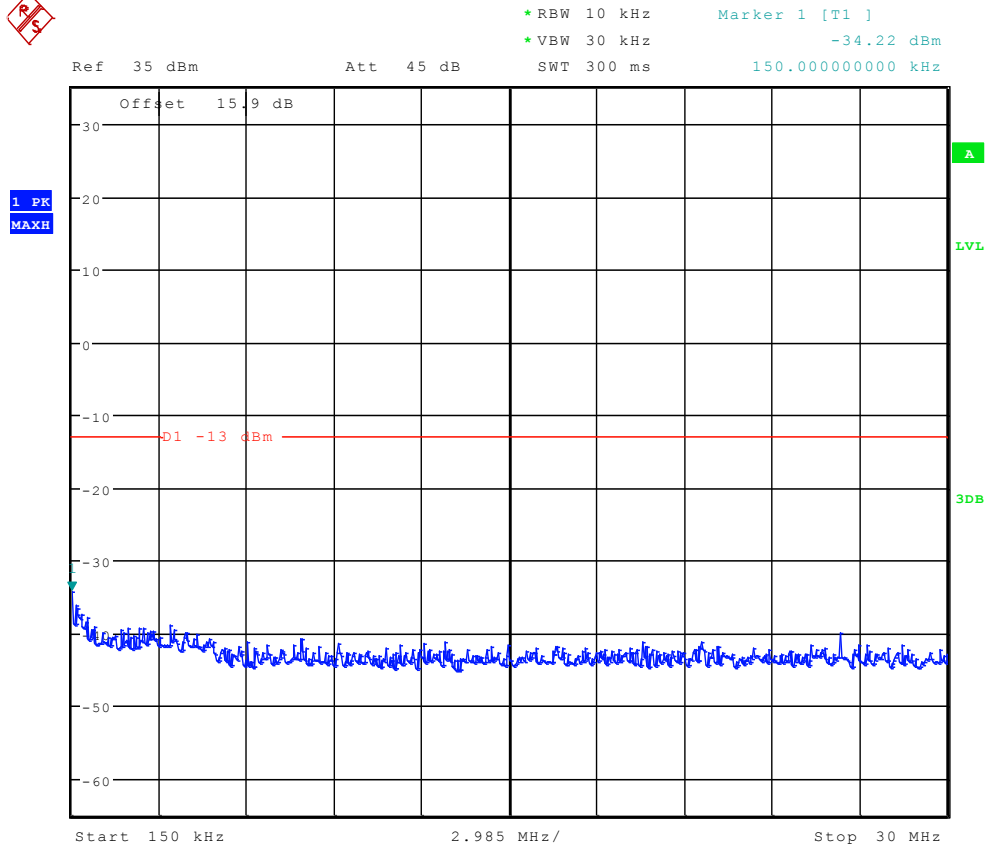


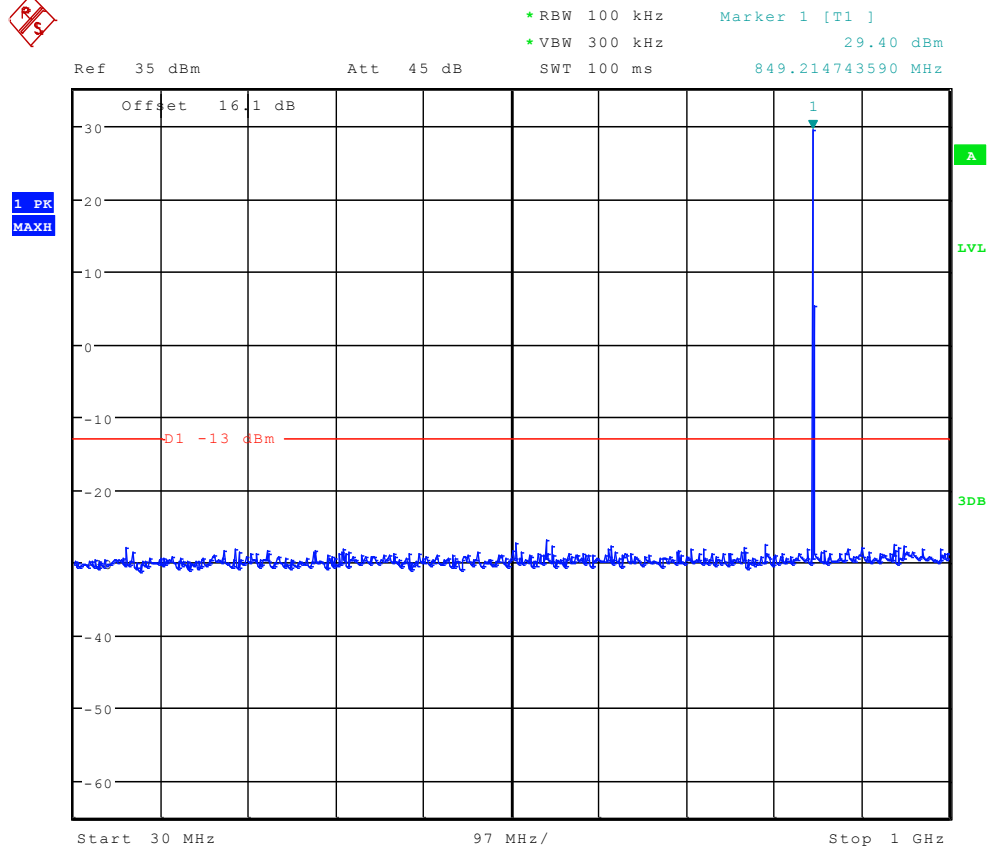


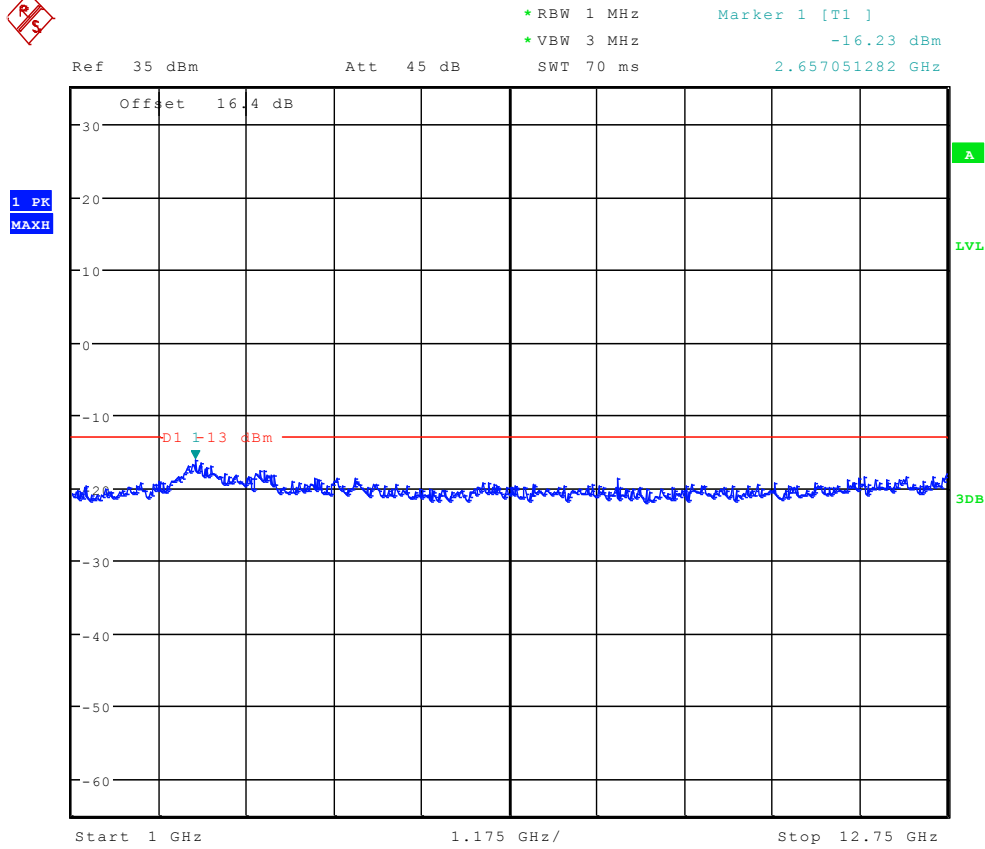


Channel 251



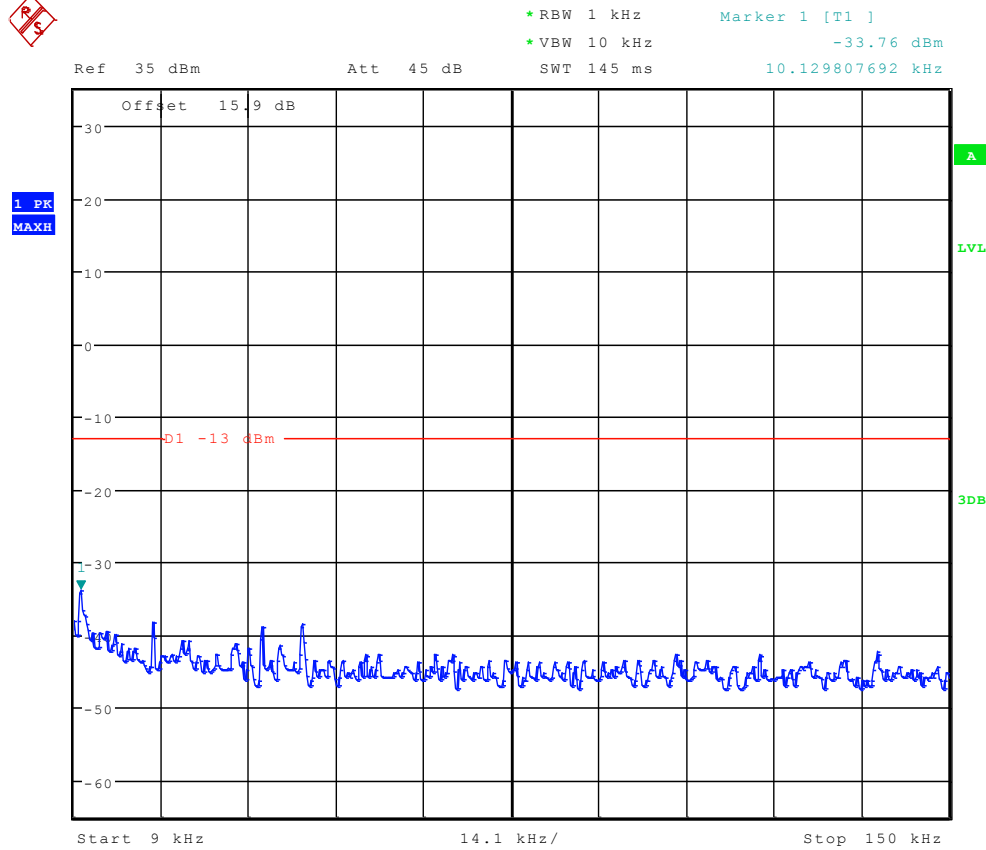


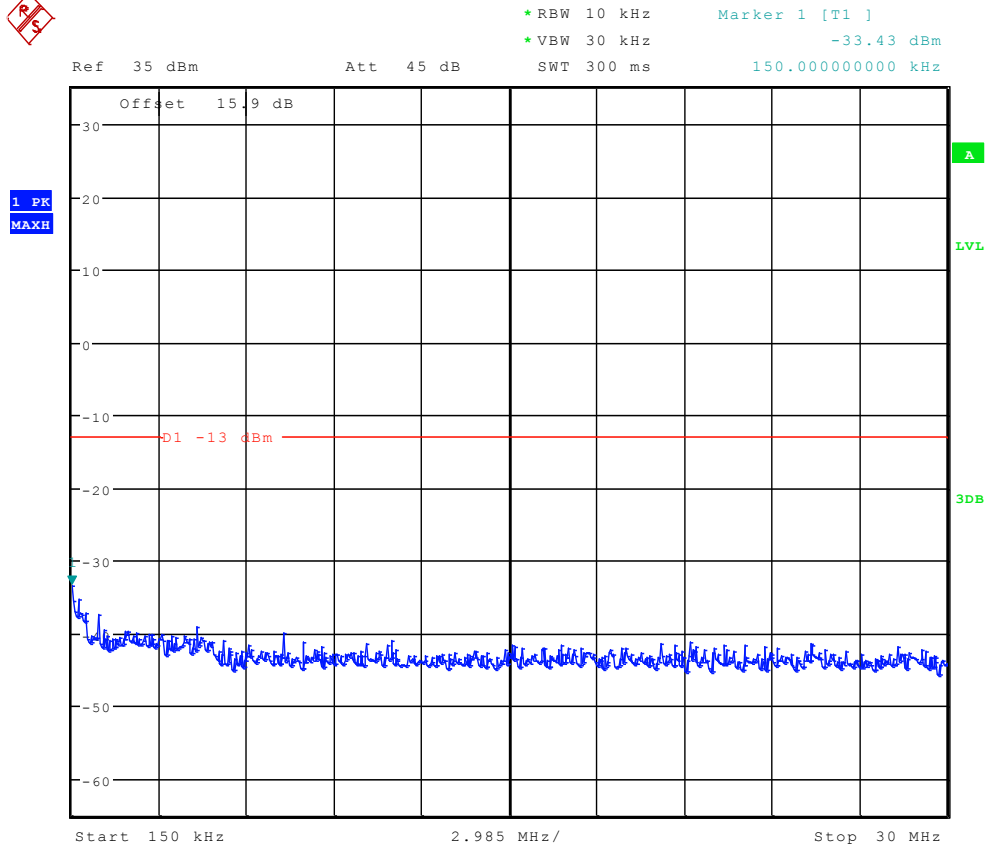


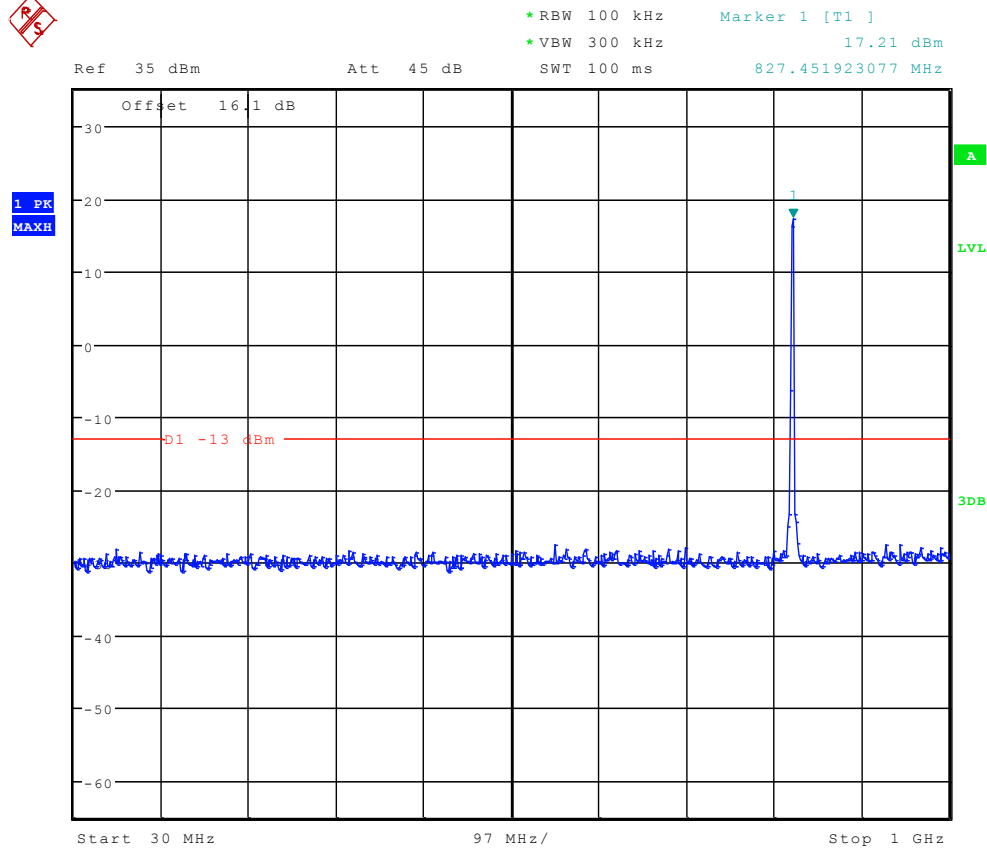


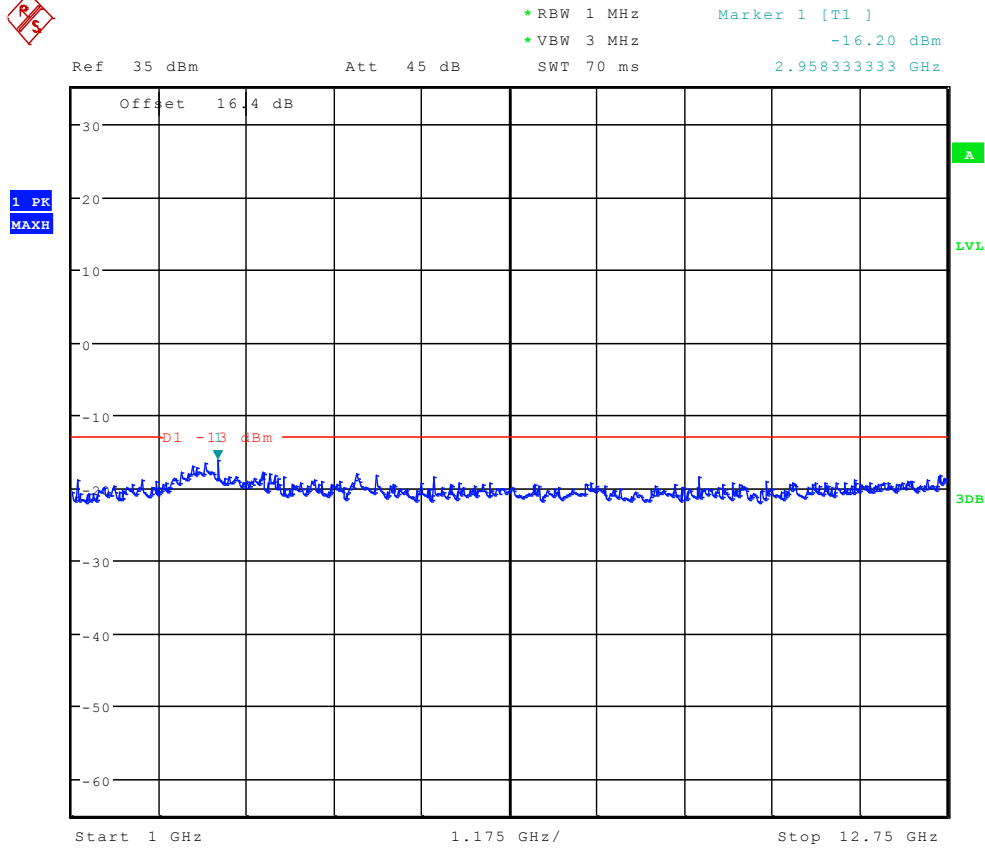


TM3: WCDMA Channel 4132



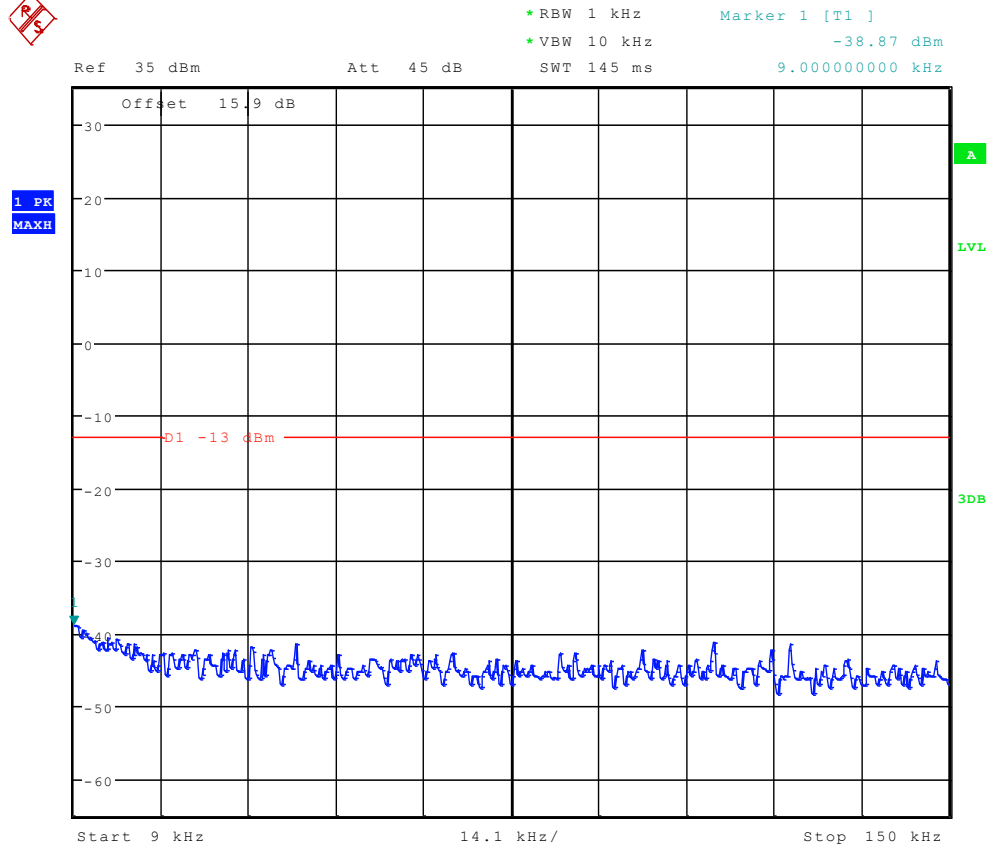


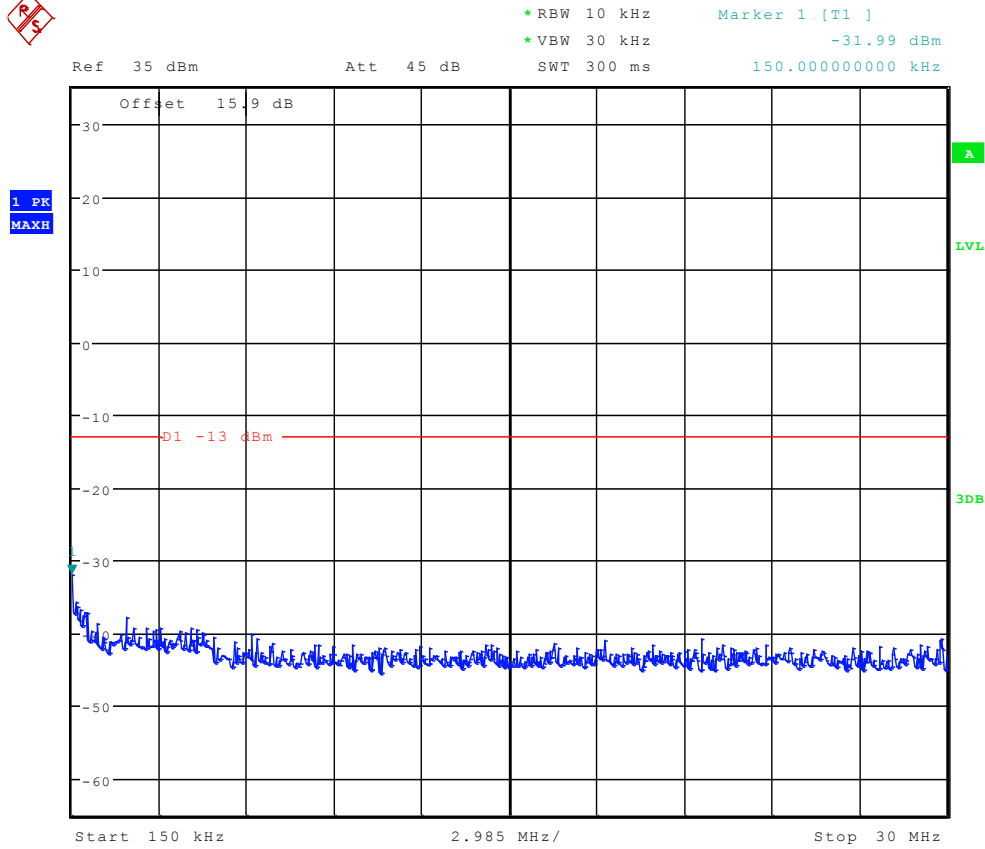


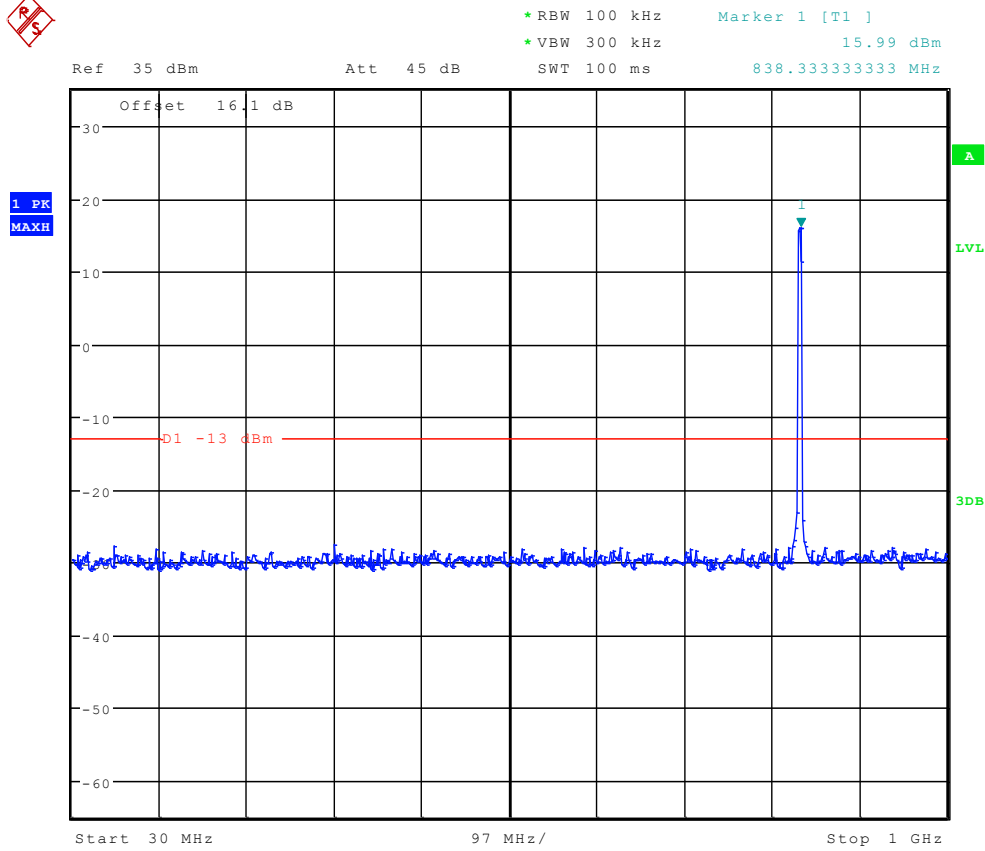


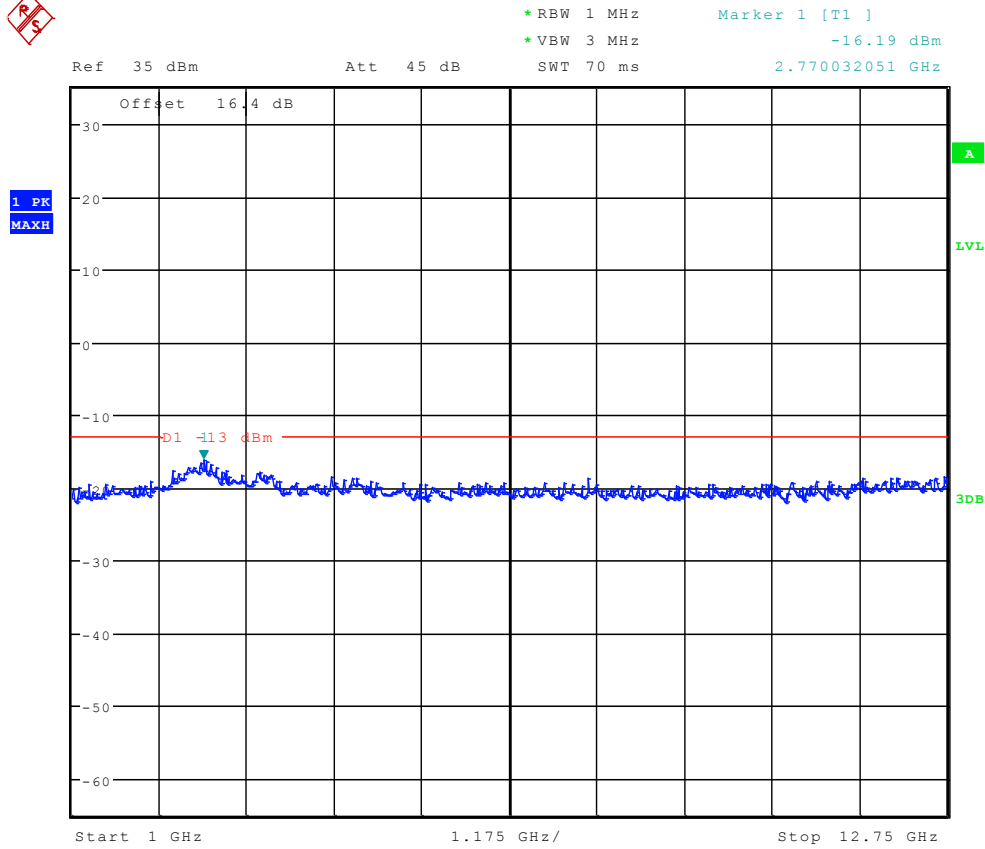


Channel 4182



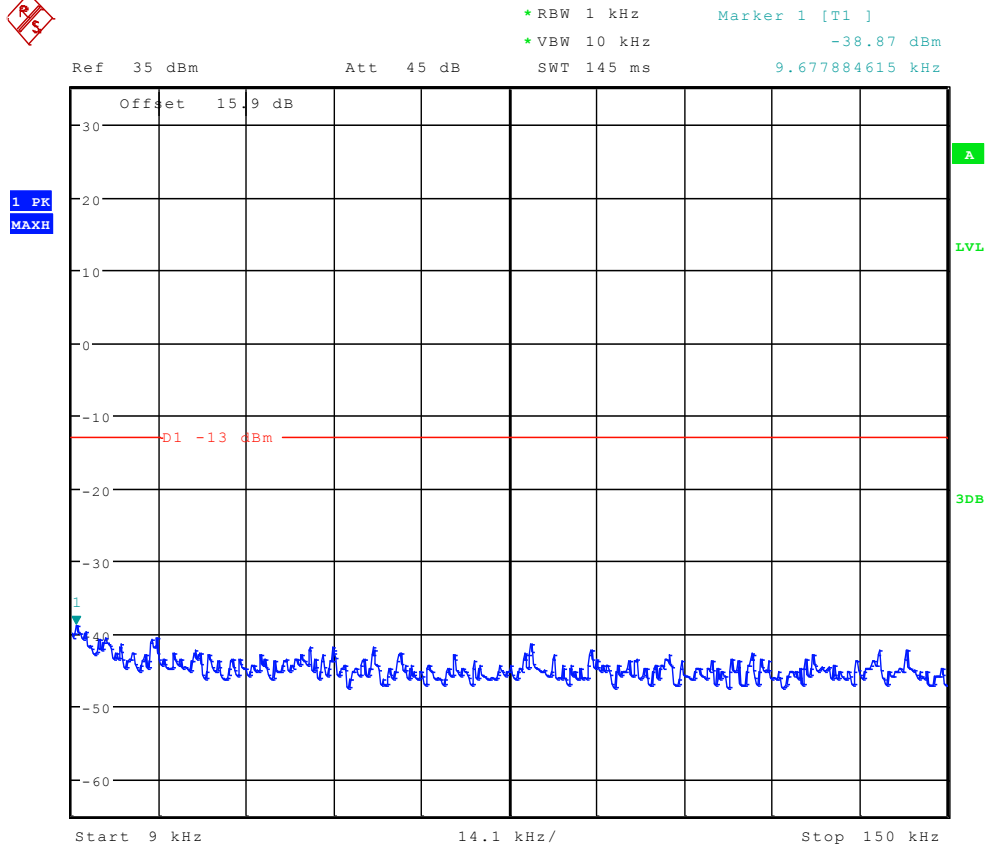


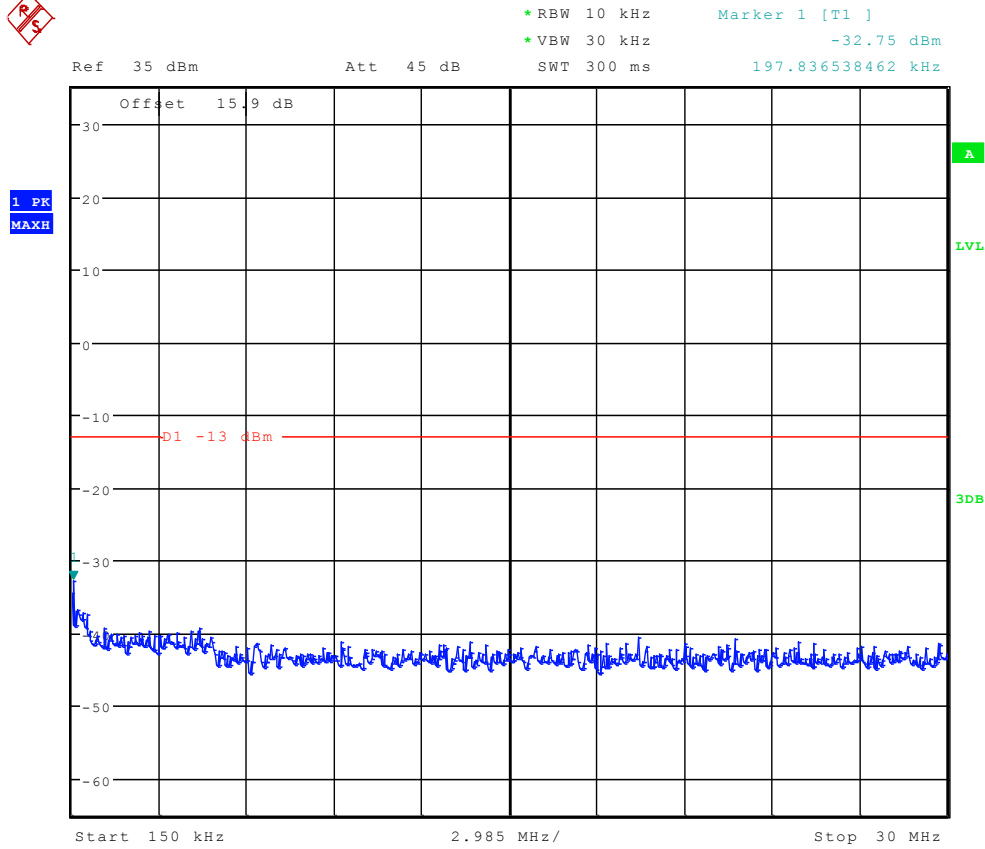


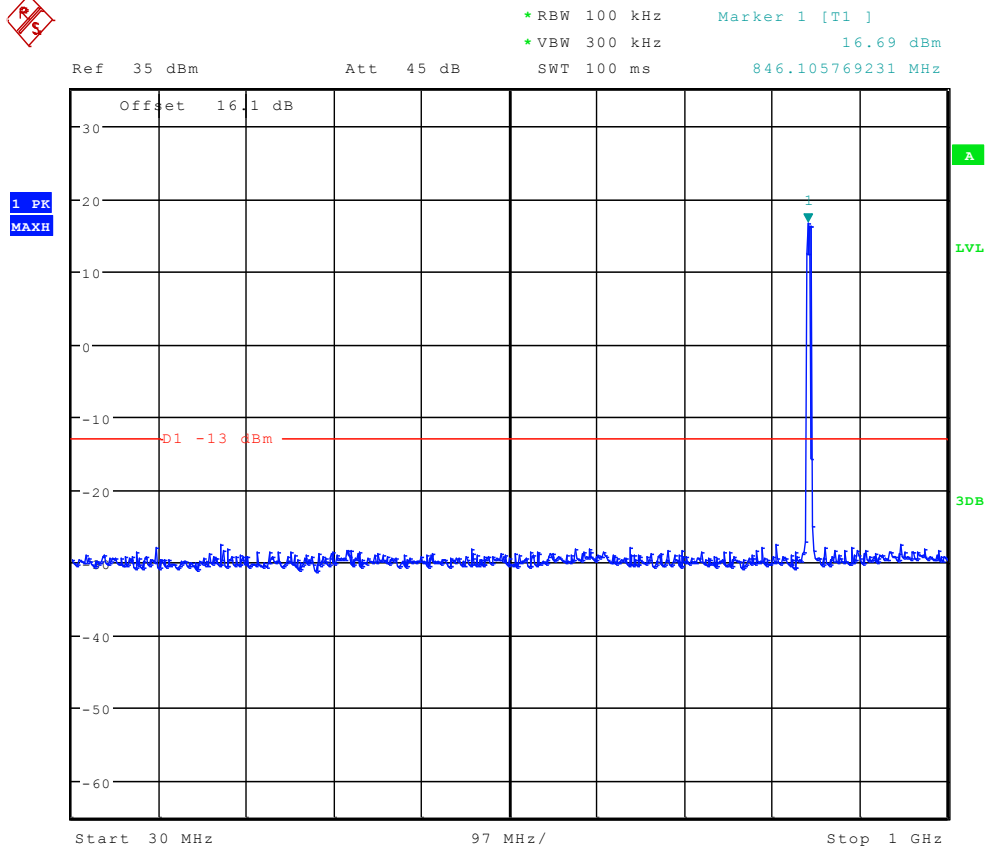


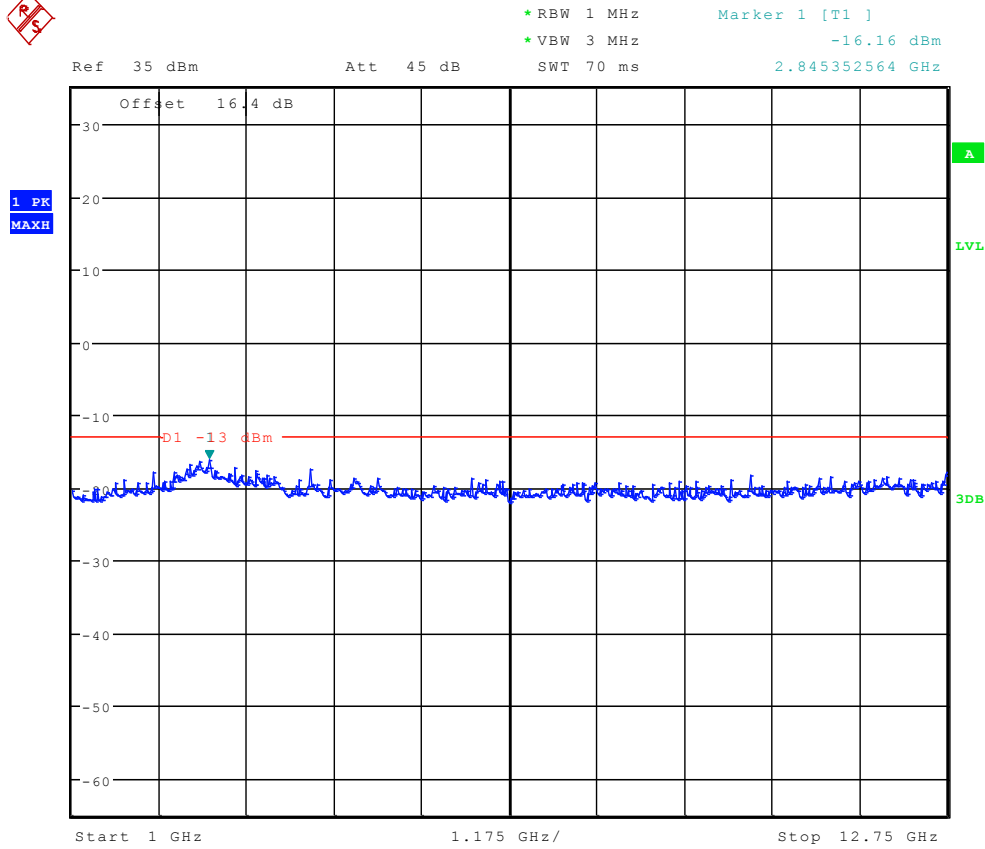


Channel 4233









The END



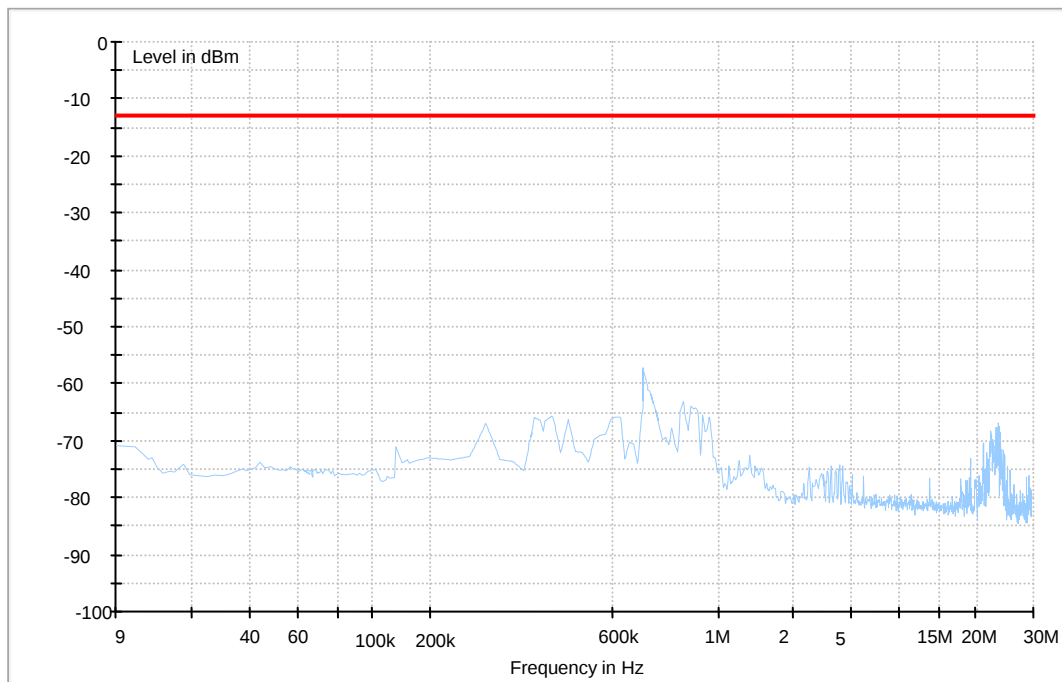
Appendix F

Radiated spurious emission

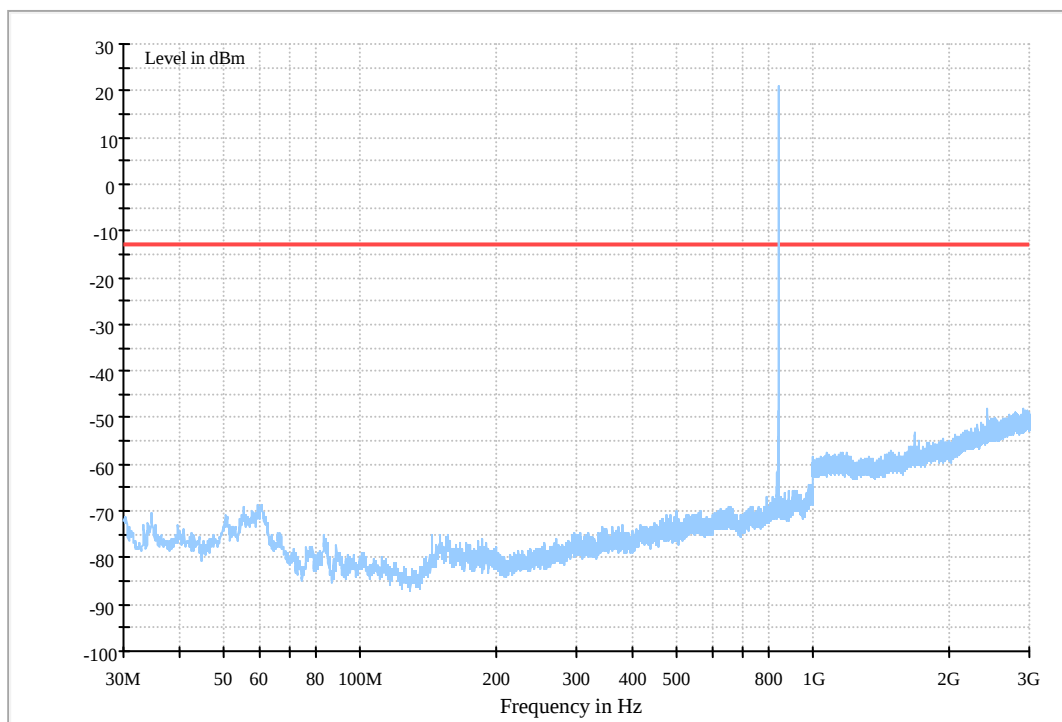
According to FCC Part 2.1053 & Part22.917

GPRS 850

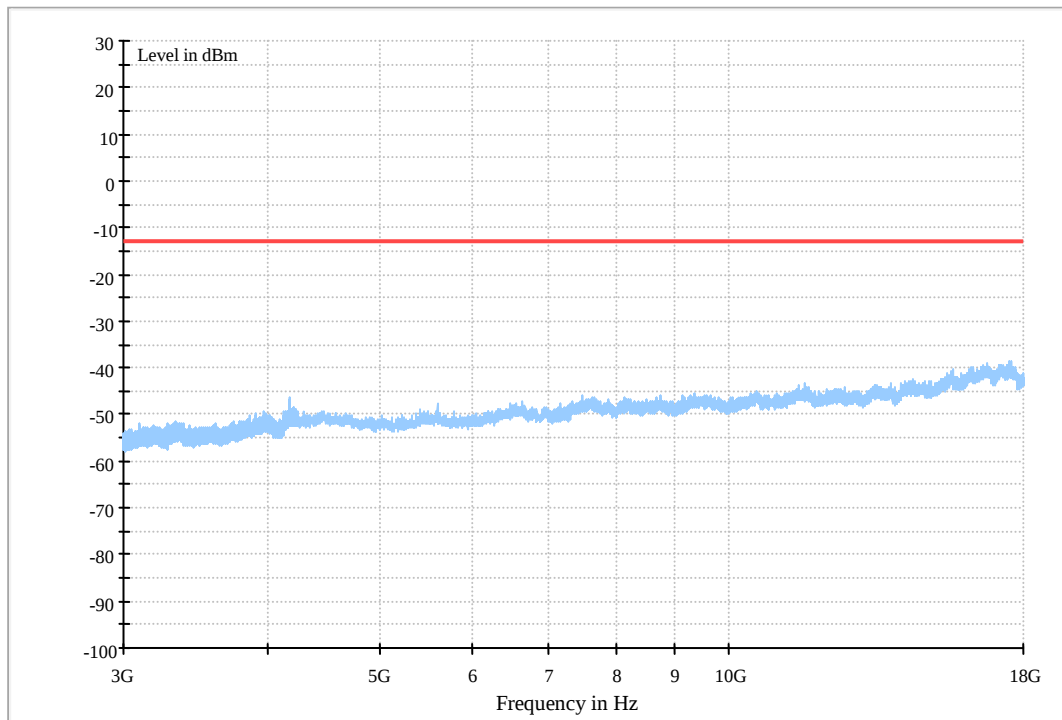
Traffic Mode (9kHz-30MHz)



Traffic Mode (30MHz-3GHz)

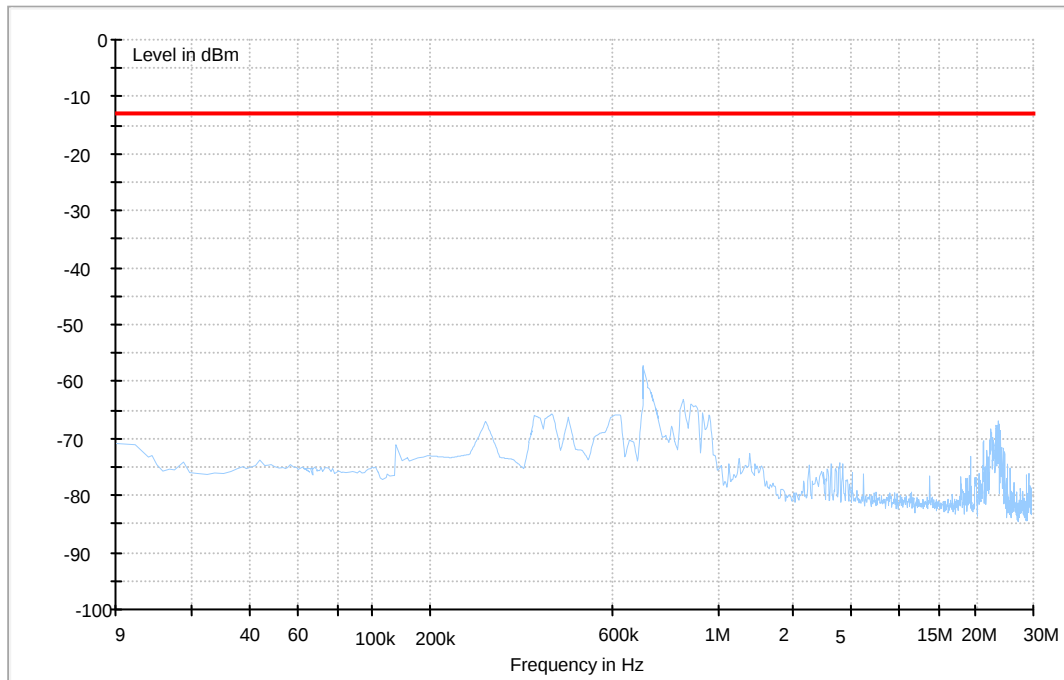


Traffic Mode (3GHz-18GHz)

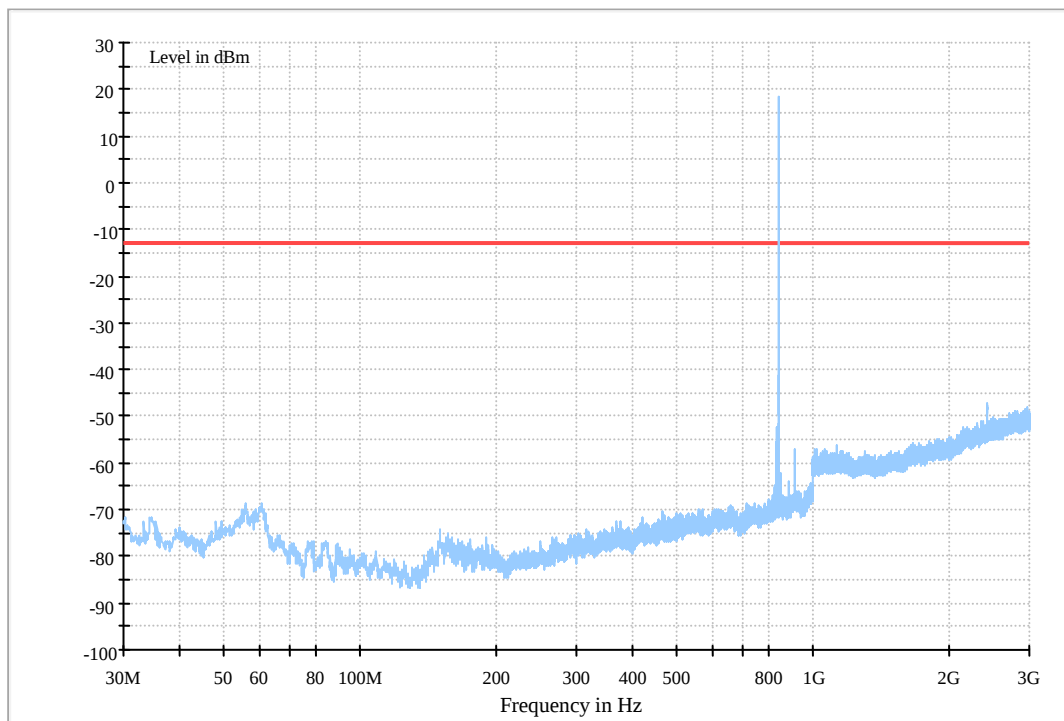


EDGE 850

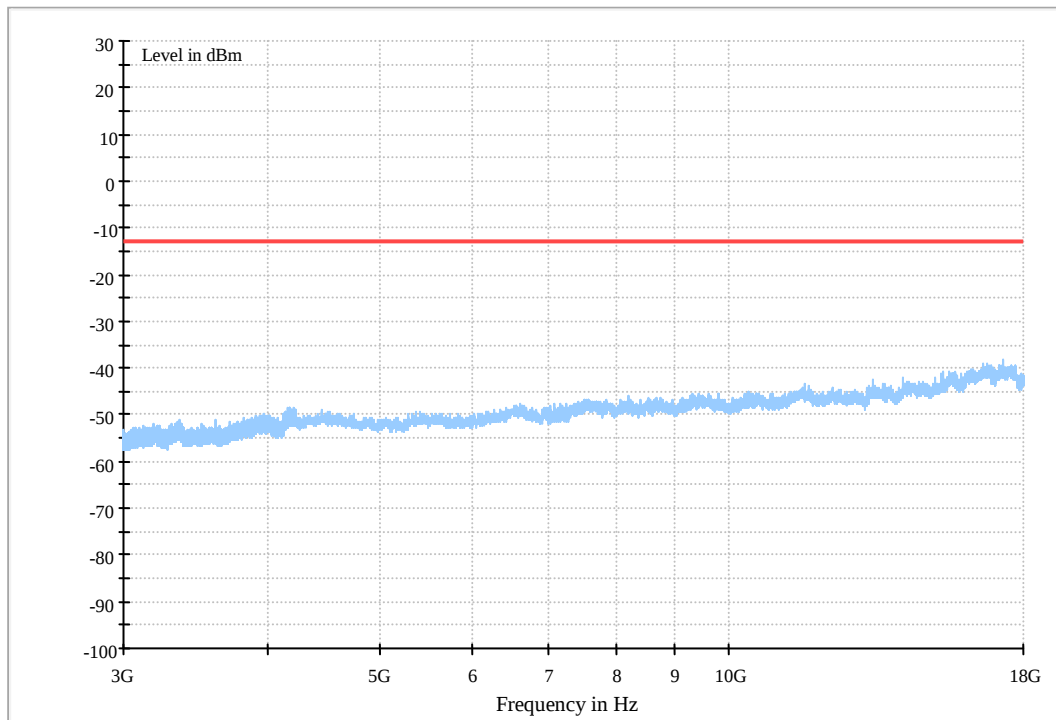
Traffic Mode (9kHz-30MHz)



Traffic Mode (30MHz-3GHz)

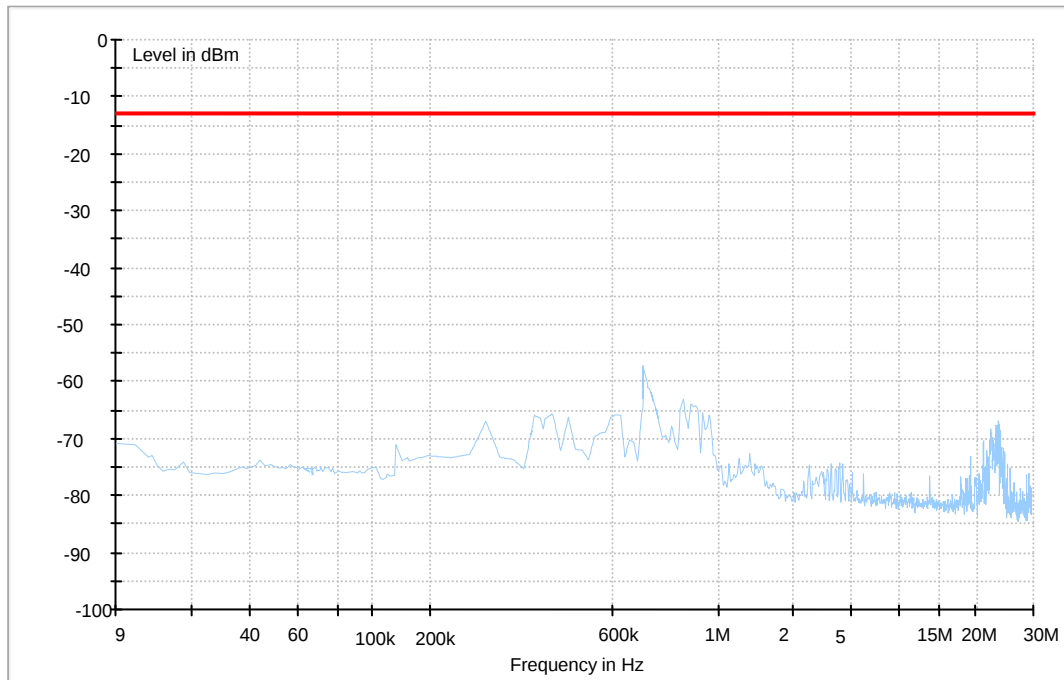


Traffic Mode (3GHz-18GHz)

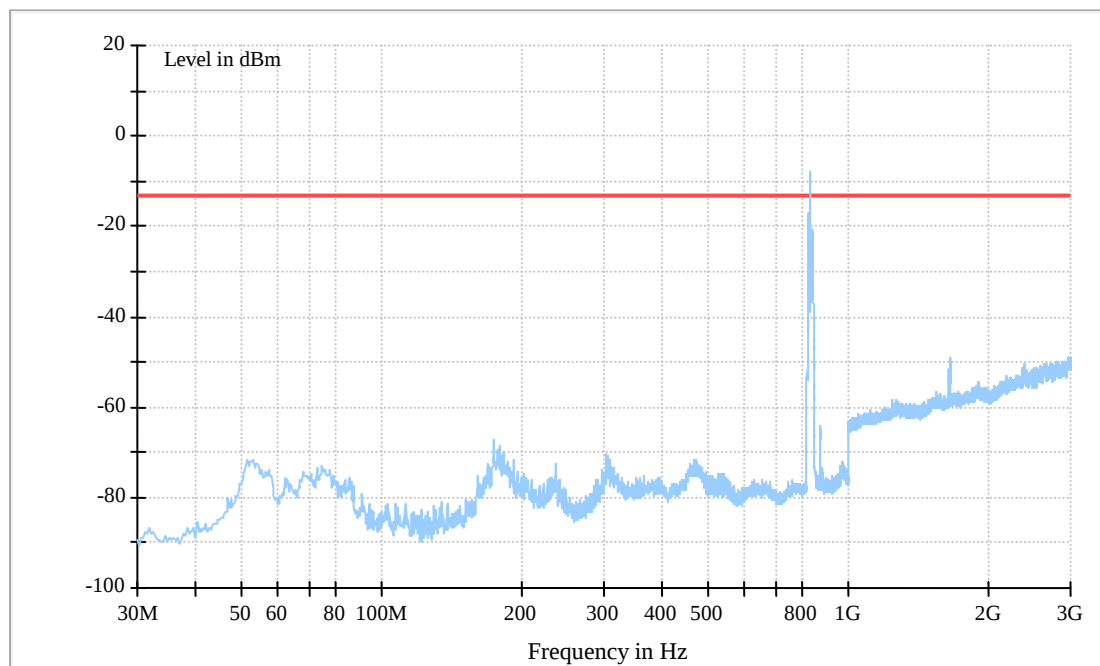


WCDMA 850

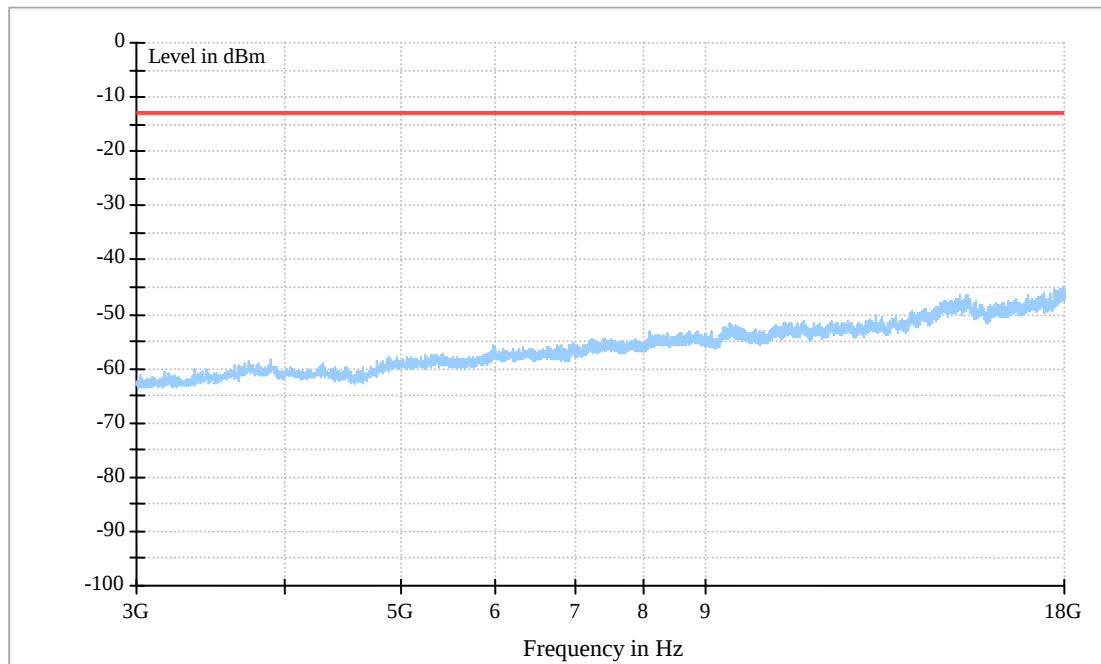
Traffic Mode (9kHz-30MHz)



Traffic Mode (30MHz-3GHz)

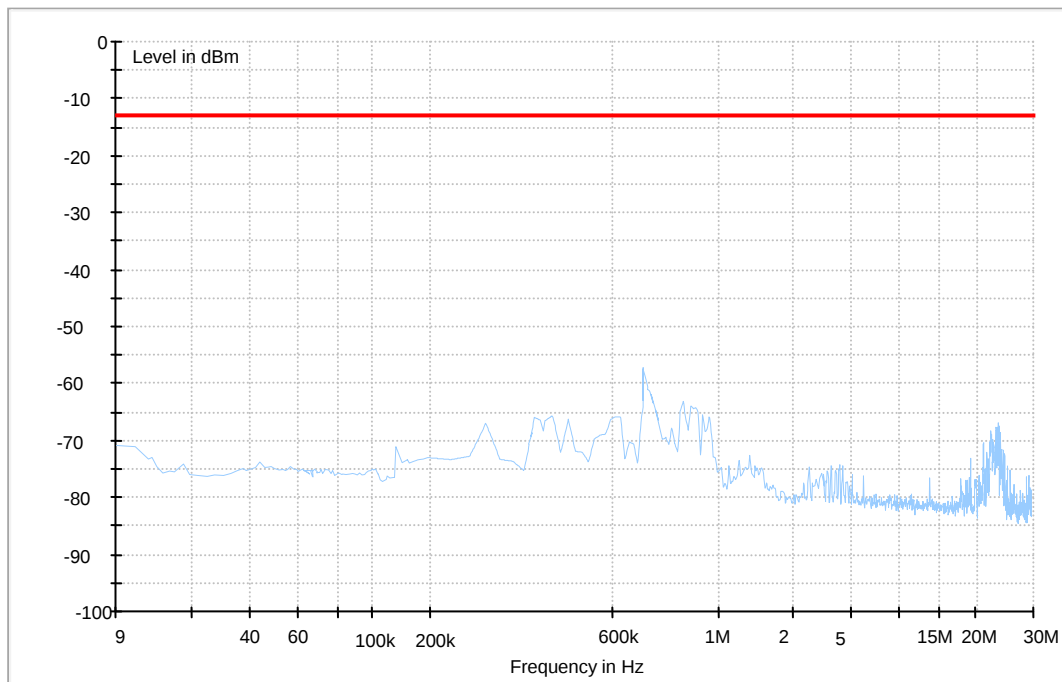


Traffic Mode (3GHz-18GHz)

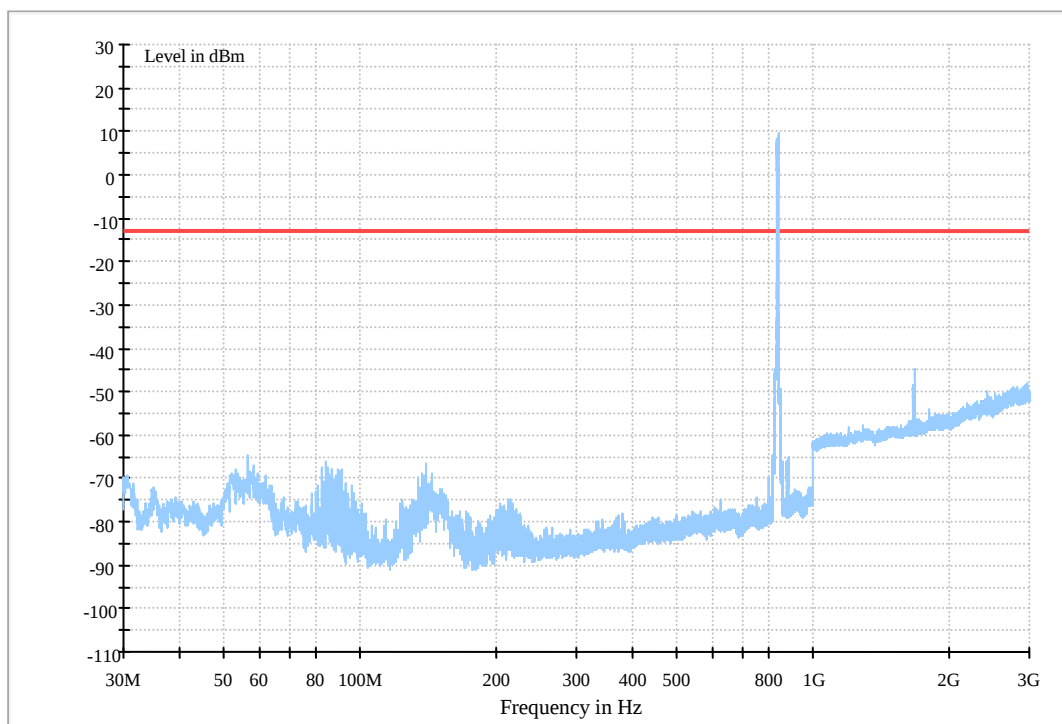


HSDPA 850

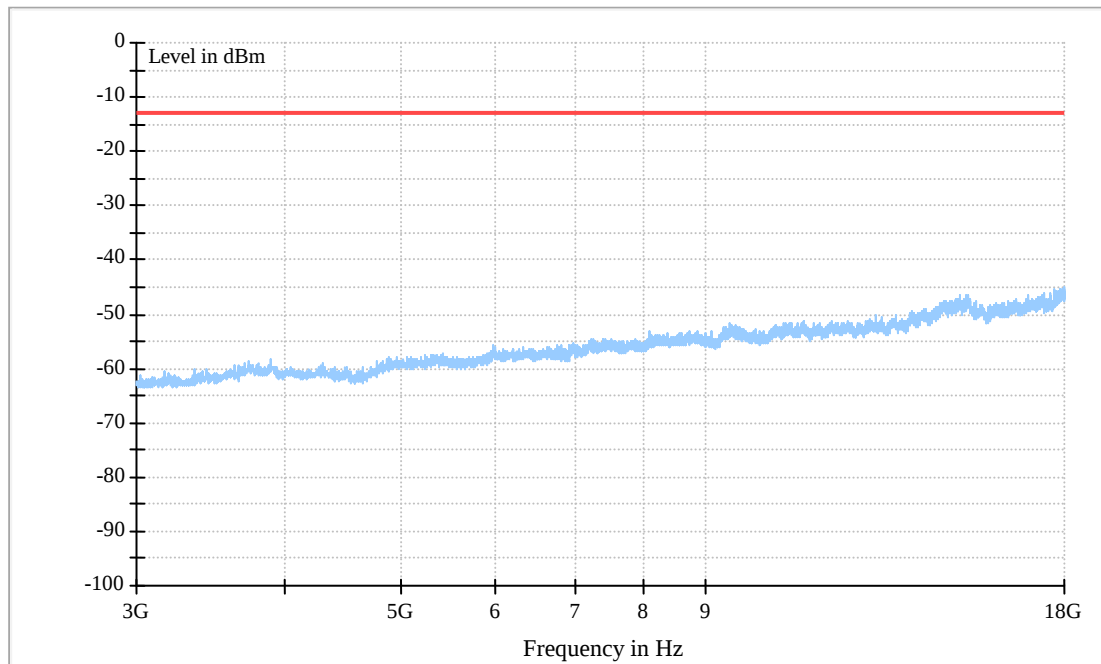
Traffic Mode (9kHz-30MHz)



Traffic Mode (30MHz-3GHz)

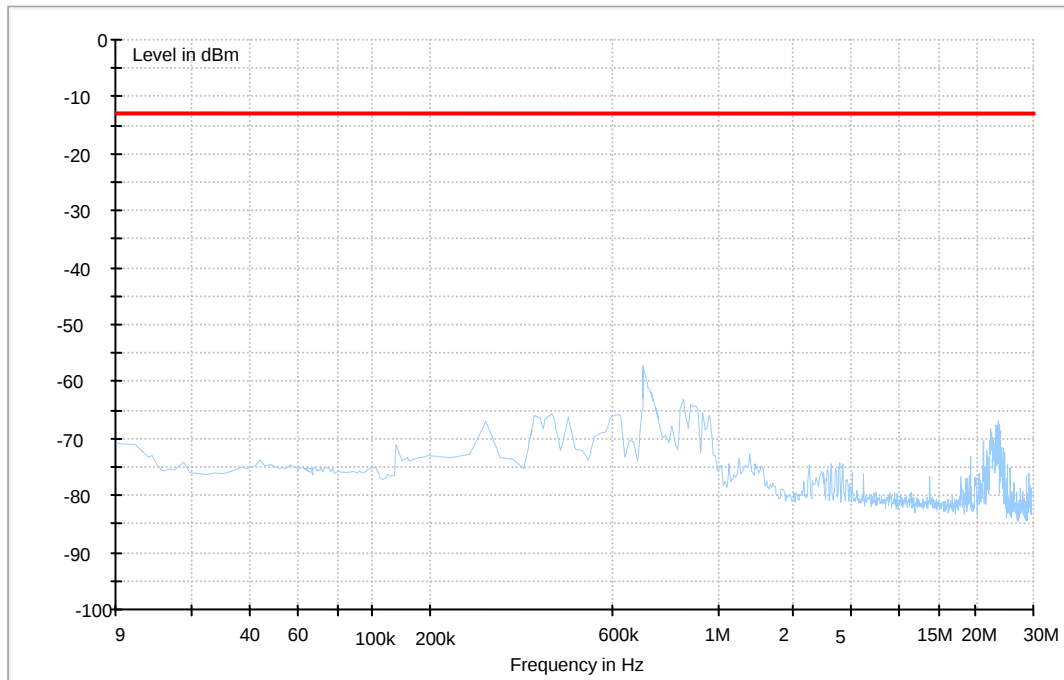


Traffic Mode (3GHz-18GHz)

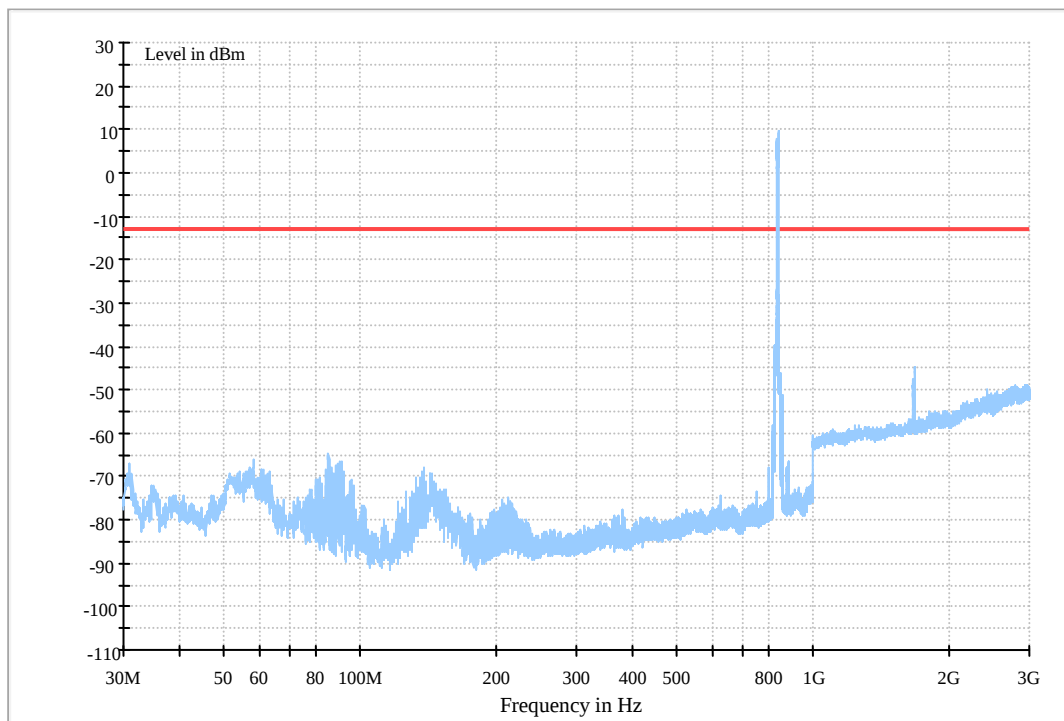


HSUPA 850

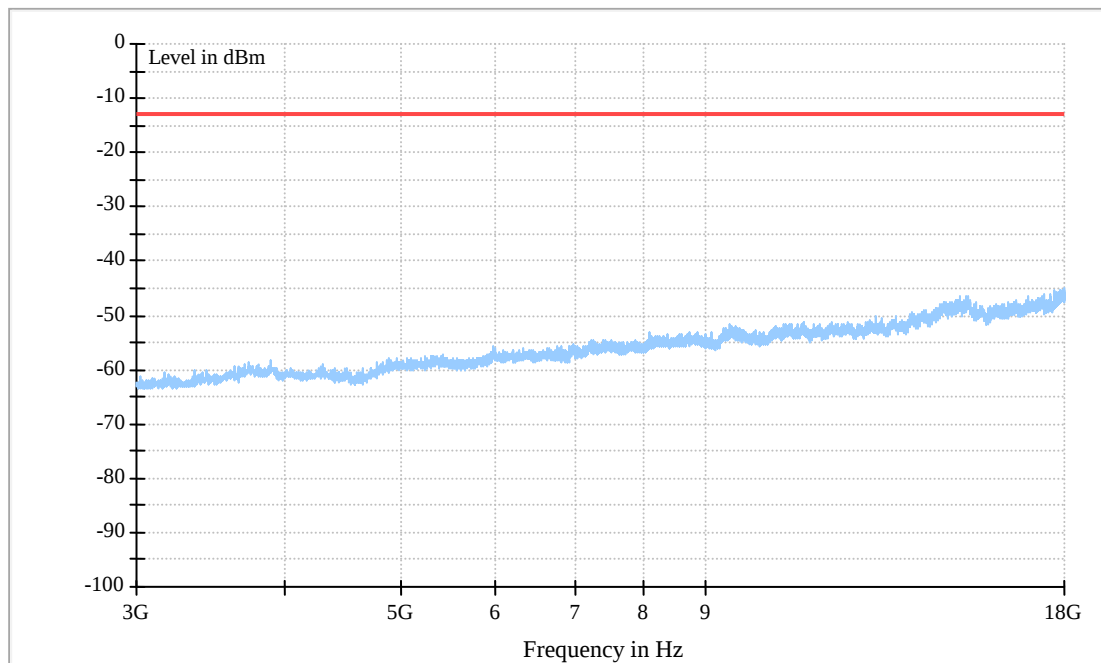
Traffic Mode (9kHz-30MHz)



Traffic Mode (30MHz-3GHz)



Traffic Mode (3GHz-18GHz)



The END



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	VN	-30 °C	-12	-0.01434	---	±2.5	Pass
			-20 °C	-20	-0.02389	---	±2.5	Pass
			-10 °C	-14	-0.01673	---	±2.5	Pass
			0 °C	12	0.01434	---	±2.5	Pass
			10 °C	-18	-0.02151	---	±2.5	Pass
			20 °C	8	0.00956	---	±2.5	Pass
			30 °C	-22	-0.02628	---	±2.5	Pass
			40 °C	12	0.01434	---	±2.5	Pass
			50 °C	-13	-0.01553	---	±2.5	Pass
TM 2	M	VN	-30 °C	23	0.02748	---	±2.5	Pass
			-20 °C	-7	-0.00836	---	±2.5	Pass
			-10 °C	19	0.02270	---	±2.5	Pass
			0 °C	-15	-0.01792	---	±2.5	Pass
			10 °C	-16	-0.01912	---	±2.5	Pass
			20 °C	-23	-0.02748	---	±2.5	Pass
			30 °C	13	0.01553	---	±2.5	Pass
			40 °C	19	0.02270	---	±2.5	Pass
			50 °C	26	0.03106	---	±2.5	Pass
TM 3	M	VN	-30 °C	25	0.02987	---	±2.5	Pass
			-20 °C	-20	-0.02389	---	±2.5	Pass
			-10 °C	-20	-0.02389	---	±2.5	Pass
			0 °C	-12	-0.01434	---	±2.5	Pass
			10 °C	8	0.00956	---	±2.5	Pass
			20 °C	-8	-0.00956	---	±2.5	Pass
			30 °C	-20	-0.02389	---	±2.5	Pass
			40 °C	19	0.02270	---	±2.5	Pass
			50 °C	26	0.03106	---	±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	VL	13	0.01553	---	±2.5	Pass
			VN	17	0.02031	---	±2.5	Pass
			VH	12	0.01434	---	±2.5	Pass
TM 2	M	20 °C	VL	-8	-0.00956	---	±2.5	Pass
			VN	23	0.02748	---	±2.5	Pass
			VH	-13	-0.01553	---	±2.5	Pass
TM 3	M	20 °C	VL	21	0.02509	---	±2.5	Pass
			VN	22	0.02628	---	±2.5	Pass
			VH	-14	-0.01673	---	±2.5	Pass

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