



Appendix B

GSM 850 & 1900



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1. Effective (Isotropic) Radiated Power Output Data

1.1. Test Result

ANT1:

Band	Channel	Slot	Conducted Power (dBm)	ERP (dBm)	Limit(dBm)	Verdict
GSM850	128	---	32.95	26.2	38.45	PASS
GSM850	190	---	33.01	26.26	38.45	PASS
GSM850	251	---	33.04	26.29	38.45	PASS
EGPRS850	128	1	26.64	19.89	38.45	PASS
EGPRS850	128	2	23.79	17.04	38.45	PASS
EGPRS850	128	3	21.75	15	38.45	PASS
EGPRS850	128	4	20.51	13.76	38.45	PASS
EGPRS850	190	1	26.78	20.03	38.45	PASS
EGPRS850	190	2	23.83	17.08	38.45	PASS
EGPRS850	190	3	21.71	14.96	38.45	PASS
EGPRS850	190	4	20.55	13.8	38.45	PASS
EGPRS850	251	1	26.81	20.06	38.45	PASS
EGPRS850	251	2	23.81	17.06	38.45	PASS
EGPRS850	251	3	21.69	14.94	38.45	PASS
EGPRS850	251	4	20.53	13.78	38.45	PASS

Band	Channel	Slot	Conducted Power (dBm)	EIRP (dBm)	Limit(dBm)	Verdict
GSM1900	512	---	29.86	28.36	33.00	PASS
GSM1900	661	---	29.92	28.42	33.00	PASS
GSM1900	810	---	29.81	28.31	33.00	PASS
EGPRS1900	512	1	25.64	24.14	33.00	PASS
EGPRS1900	512	2	22.55	21.05	33.00	PASS
EGPRS1900	512	3	20.52	19.02	33.00	PASS
EGPRS1900	512	4	19.51	18.01	33.00	PASS
EGPRS1900	661	1	25.75	24.25	33.00	PASS
EGPRS1900	661	2	22.66	21.16	33.00	PASS
EGPRS1900	661	3	20.51	19.01	33.00	PASS
EGPRS1900	661	4	19.50	18	33.00	PASS
EGPRS1900	810	1	25.66	24.16	33.00	PASS
EGPRS1900	810	2	22.57	21.07	33.00	PASS
EGPRS1900	810	3	20.52	19.02	33.00	PASS
EGPRS1900	810	4	19.55	18.05	33.00	PASS



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ANT2:

Band	Channel	Slot	Conducted Power (dBm)	ERP (dBm)	Limit(dBm)	Verdict
GSM850	128	---	31.94	24.29	38.45	PASS
GSM850	190	---	32.27	24.62	38.45	PASS
GSM850	251	---	32.22	24.57	38.45	PASS
EGPRS850	128	1	26.12	18.47	38.45	PASS
EGPRS850	128	2	23.25	15.6	38.45	PASS
EGPRS850	128	3	21.12	13.47	38.45	PASS
EGPRS850	128	4	20.06	12.41	38.45	PASS
EGPRS850	190	1	26.22	18.57	38.45	PASS
EGPRS850	190	2	23.29	15.64	38.45	PASS
EGPRS850	190	3	21.23	13.58	38.45	PASS
EGPRS850	190	4	20.04	12.39	38.45	PASS
EGPRS850	251	1	26.26	18.61	38.45	PASS
EGPRS850	251	2	23.36	15.71	38.45	PASS
EGPRS850	251	3	21.22	13.57	38.45	PASS
EGPRS850	251	4	20.15	12.5	38.45	PASS

Band	Channel	Slot	Conducted Power (dBm)	EIRP (dBm)	Limit(dBm)	Verdict
GSM1900	512	---	28.77	24.77	33.00	PASS
GSM1900	661	---	28.63	24.63	33.00	PASS
GSM1900	810	---	28.61	24.61	33.00	PASS
EGPRS1900	512	1	24.80	20.8	33.00	PASS
EGPRS1900	512	2	21.78	17.78	33.00	PASS
EGPRS1900	512	3	19.57	15.57	33.00	PASS
EGPRS1900	512	4	18.56	14.56	33.00	PASS
EGPRS1900	661	1	24.67	20.67	33.00	PASS
EGPRS1900	661	2	21.71	17.71	33.00	PASS
EGPRS1900	661	3	19.51	15.51	33.00	PASS
EGPRS1900	661	4	18.50	14.5	33.00	PASS
EGPRS1900	810	1	24.79	20.79	33.00	PASS
EGPRS1900	810	2	21.85	17.85	33.00	PASS
EGPRS1900	810	3	19.59	15.59	33.00	PASS
EGPRS1900	810	4	18.53	14.53	33.00	PASS

Remark:

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

ERP [dBm] = Conducted Power [dBm] + Gain [dBd]

EIRP [dBm] = Conducted Power [dBm] + Gain [dBi]



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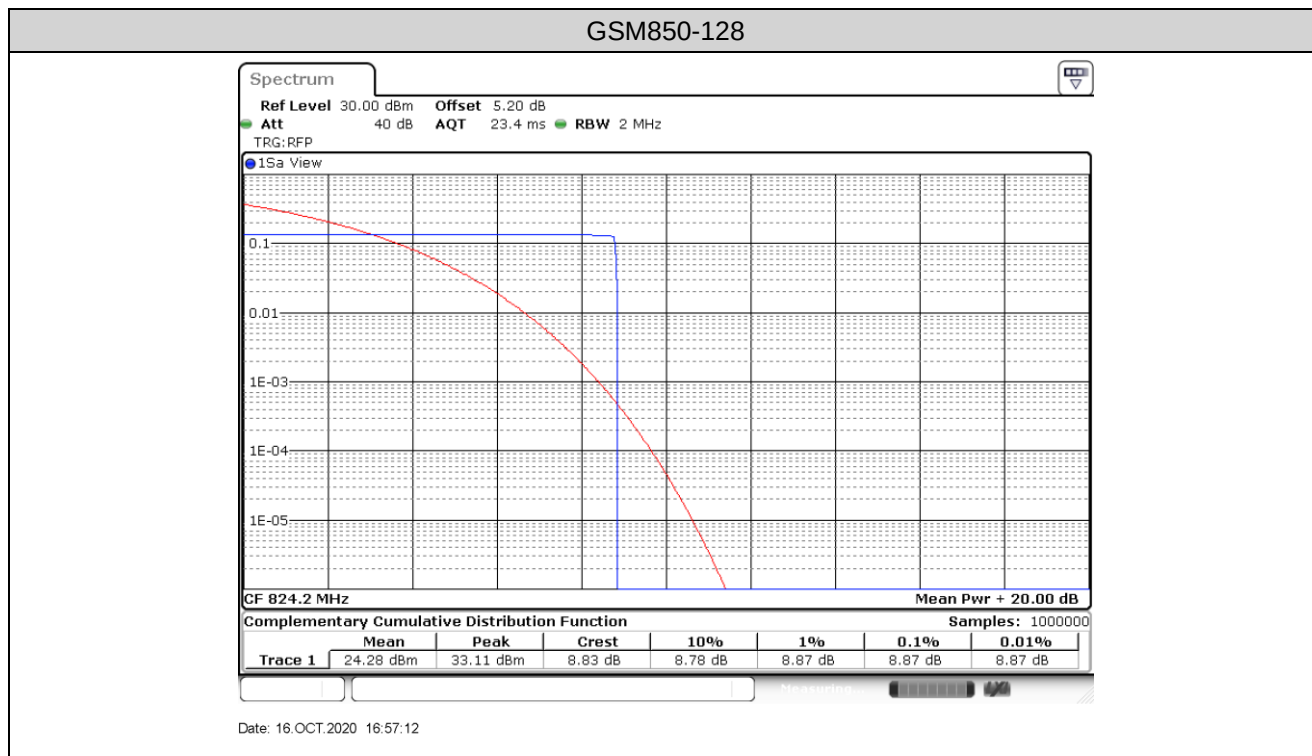
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2. Peak-to-Average Ratio

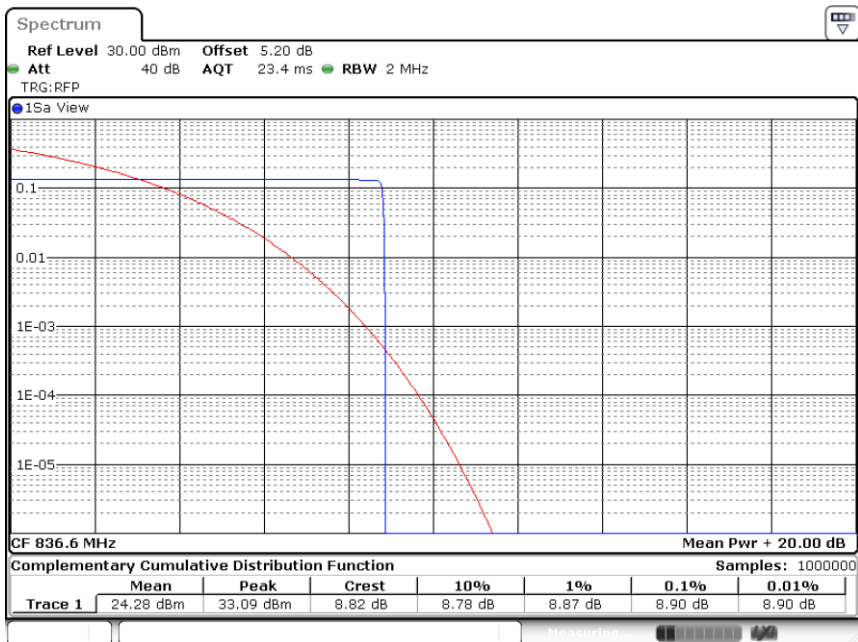
2.1. Test Result

Band	Channel	Result(dB)	Limit(dB)	Verdict
GSM850	128	8.87	13	PASS
GSM850	190	8.9	13	PASS
GSM850	251	8.9	13	PASS
EGPRS850	128	12.49	13	PASS
EGPRS850	190	12.72	13	PASS
EGPRS850	251	12.7	13	PASS
GSM1900	512	8.87	13	PASS
GSM1900	661	8.9	13	PASS
GSM1900	810	9.74	13	PASS
EGPRS1900	512	11.91	13	PASS
EGPRS1900	661	12.75	13	PASS
EGPRS1900	810	12.78	13	PASS

2.2. Part II - Test Plots

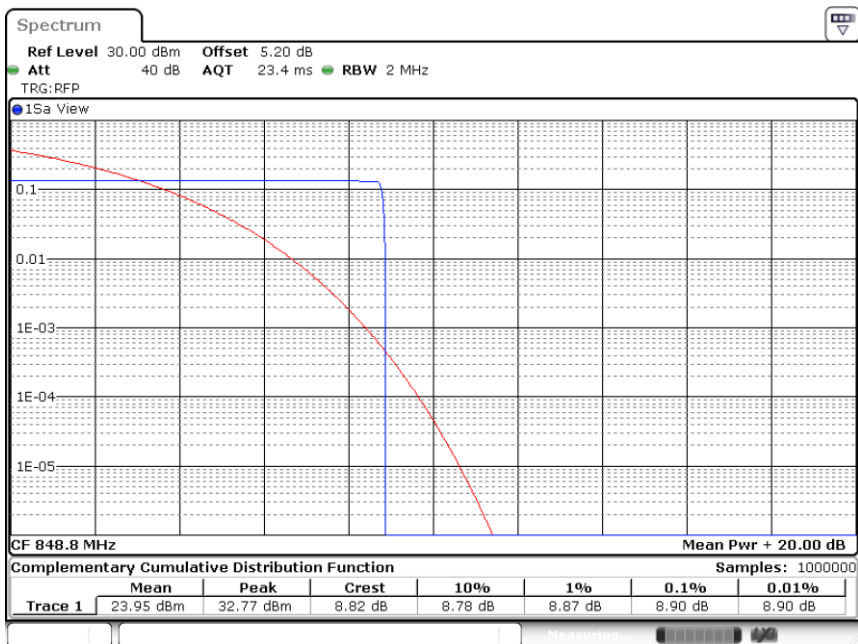


GSM850-190



Date: 16.OCT.2020 16:57:21

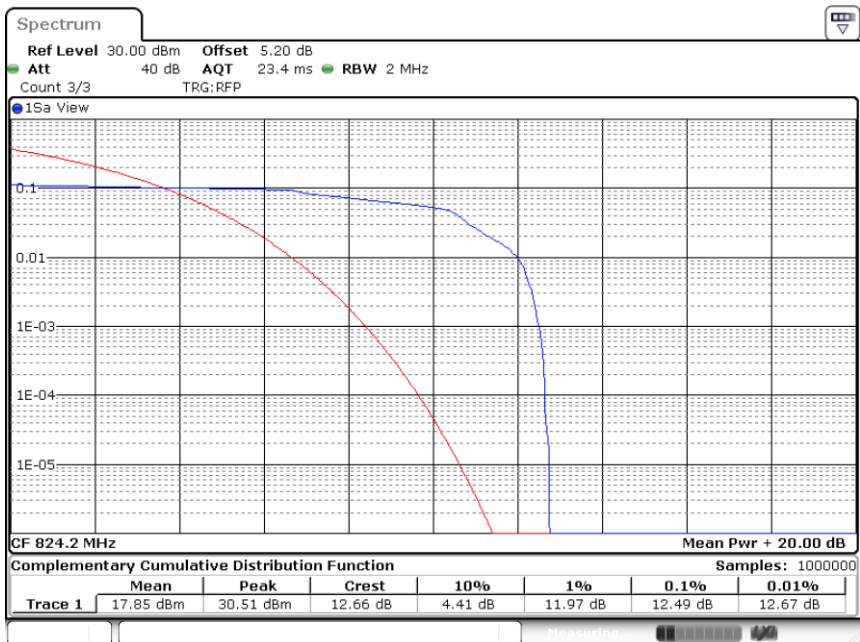
GSM850-251



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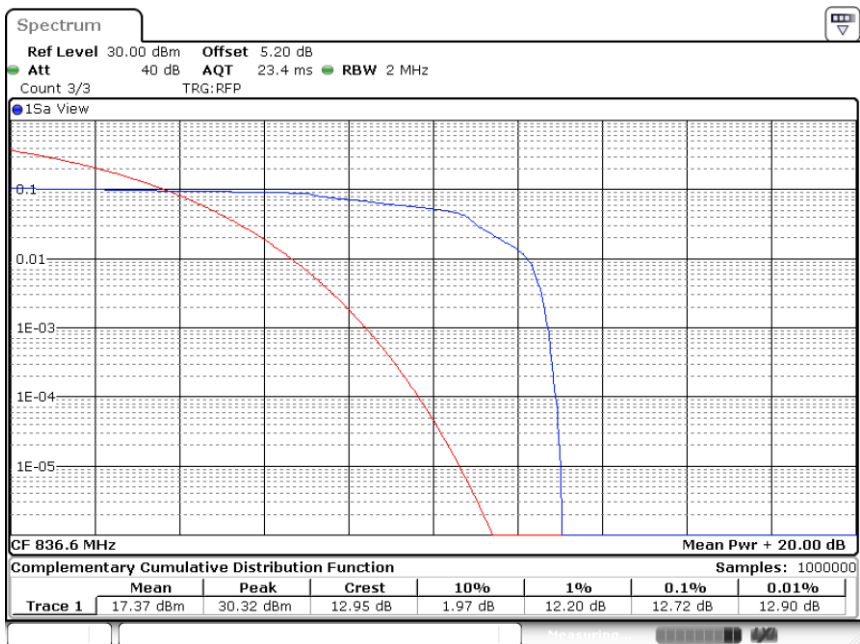


EGPRS850-128



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EGPRS850-190



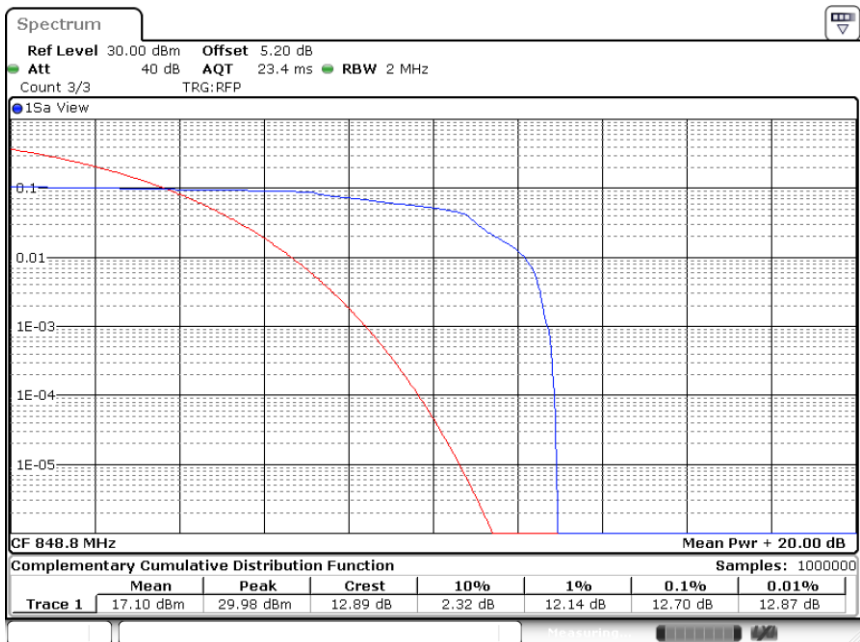
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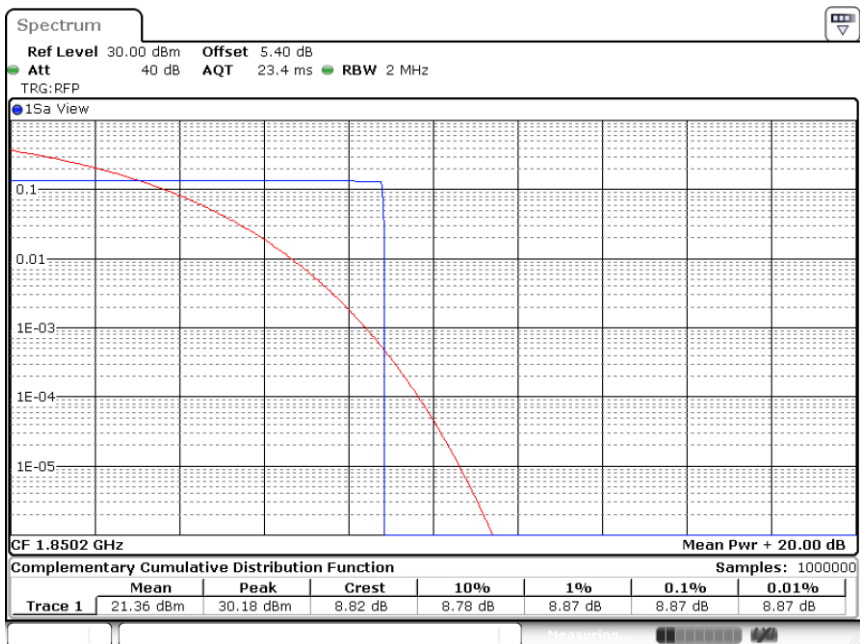
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EGPRS850-251



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GSM1900-512



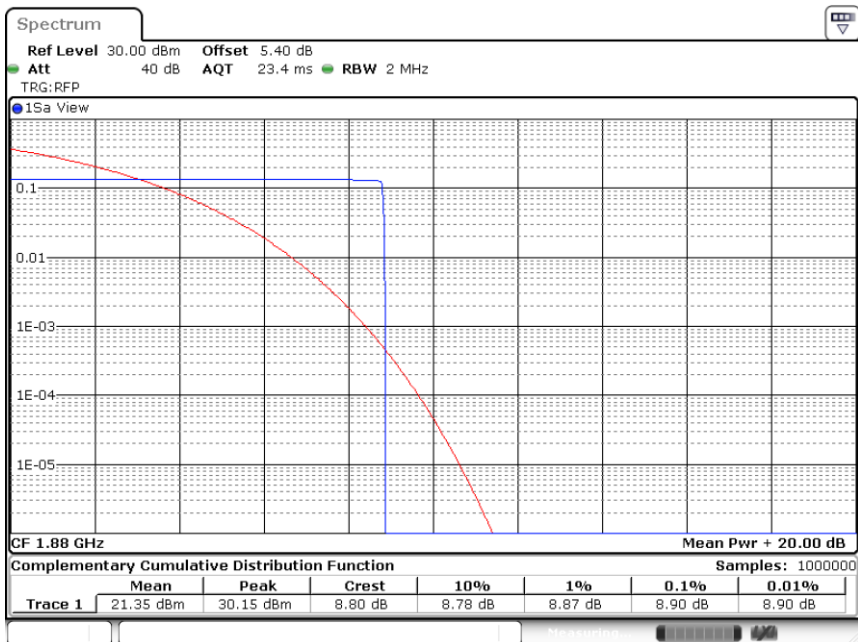
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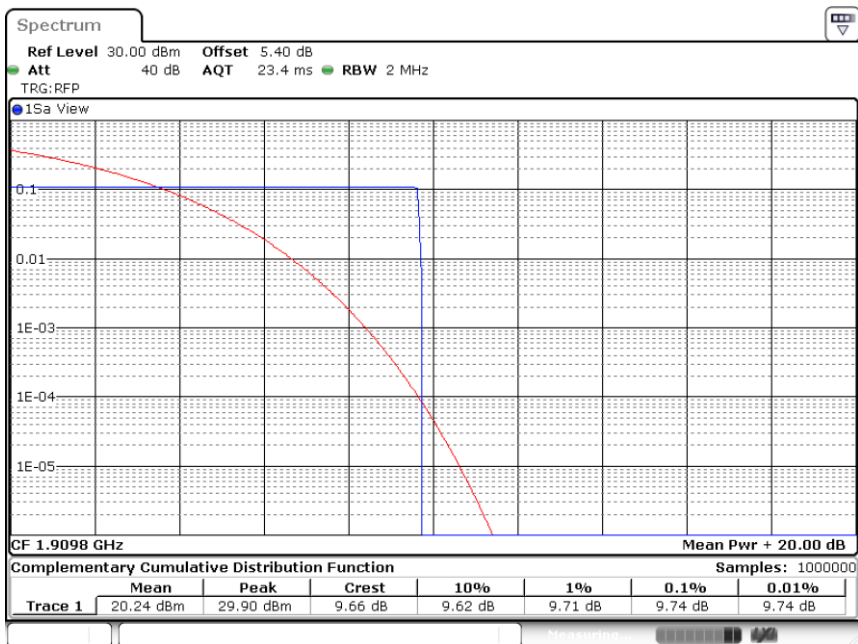
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GSM1900-661



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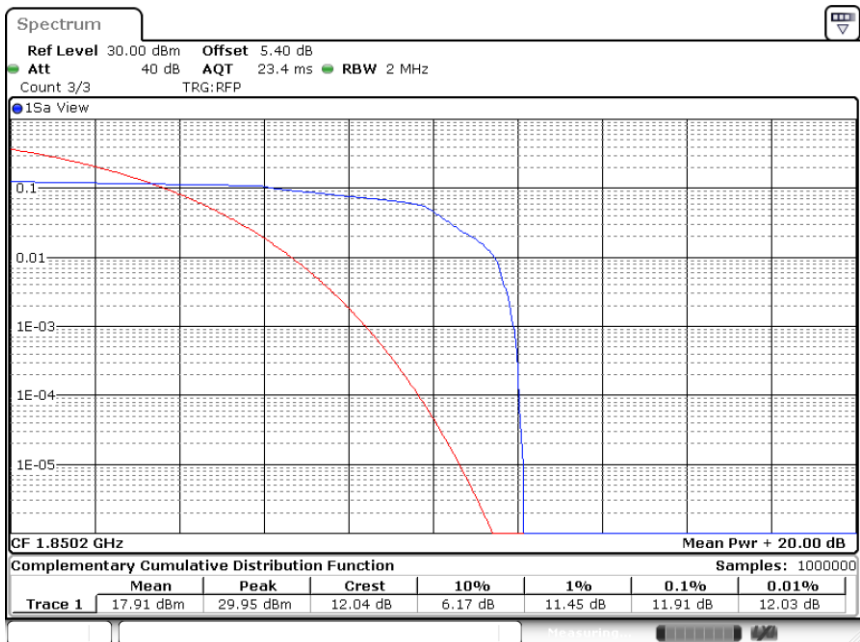
GSM1900-810



Date: 16.OCT.2020 16:48:40

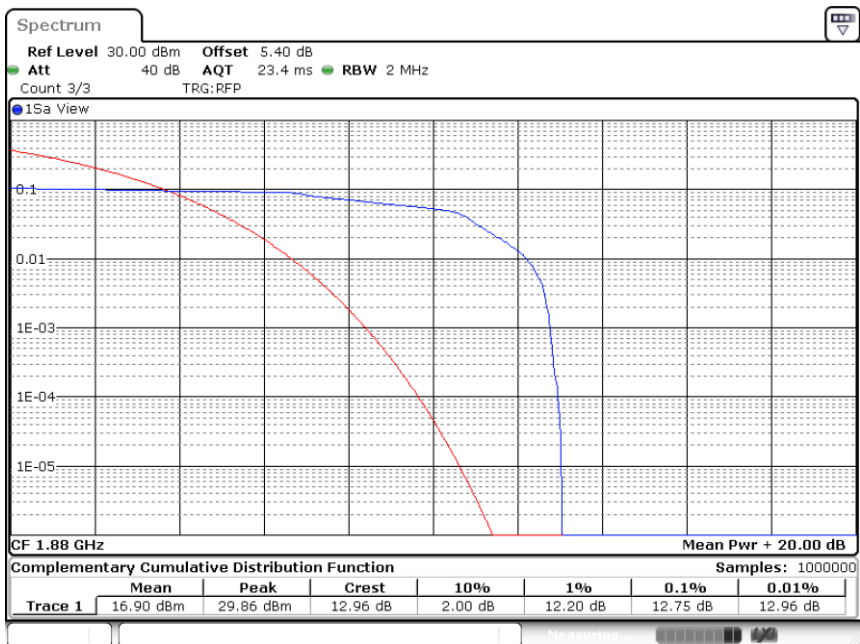


EGPRS1900-512



Date: 16.OCT.2020 16:51:08

EGPRS1900-661



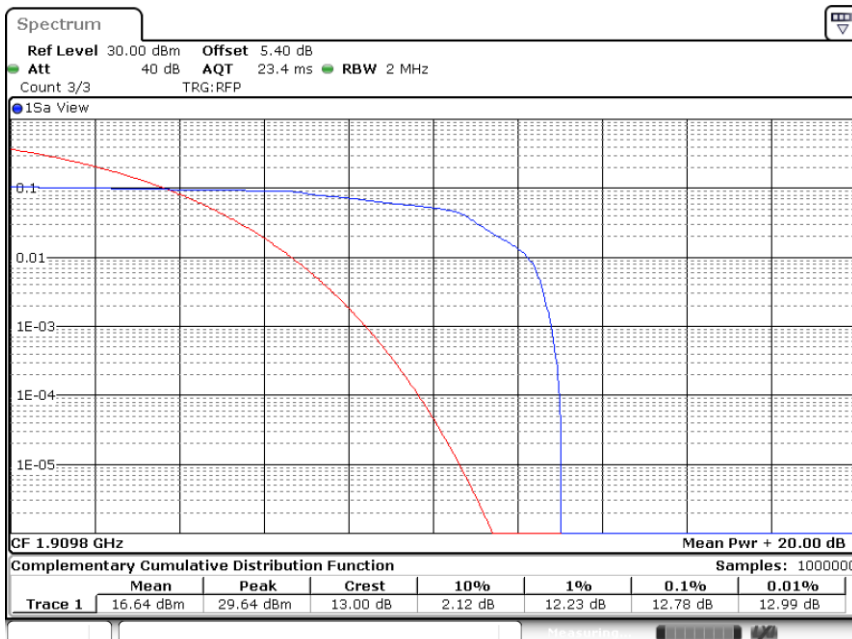
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EGPRS1900-810



Date: 16.OCT.2020 16:51:29



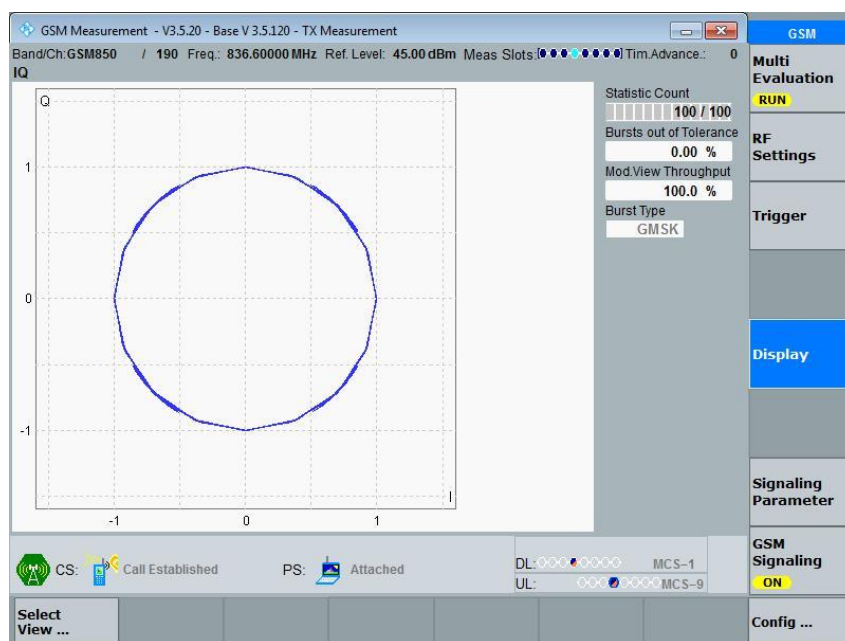
3. Modulation Characteristics

3.1. For GSM

3.1.1. Test Band = GSM 850

3.1.1.1. Test Mode = GSM/TM1

3.1.1.1.1. Test Channel = MCH



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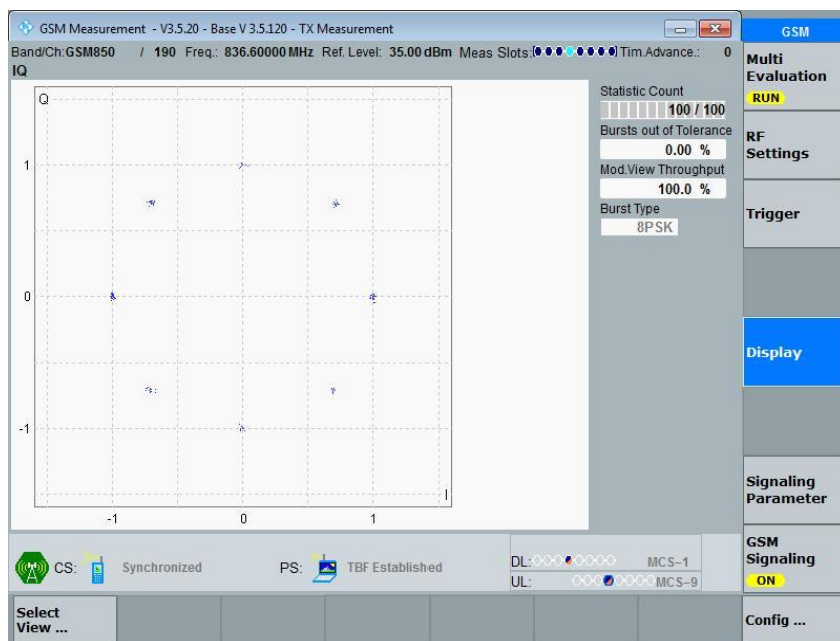
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3.1.1.2. Test Mode = GSM/TM2

3.1.1.2.1. Test Channel = MCH

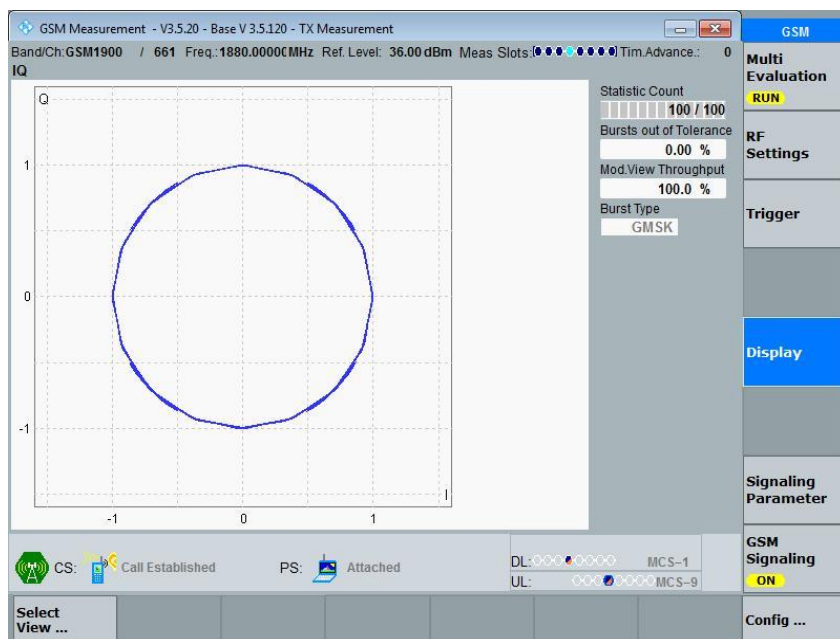




3.1.2. Test Band = GSM 1900

3.1.2.1. Test Mode = GSM/TM1

3.1.2.1.1. Test Channel = MCH



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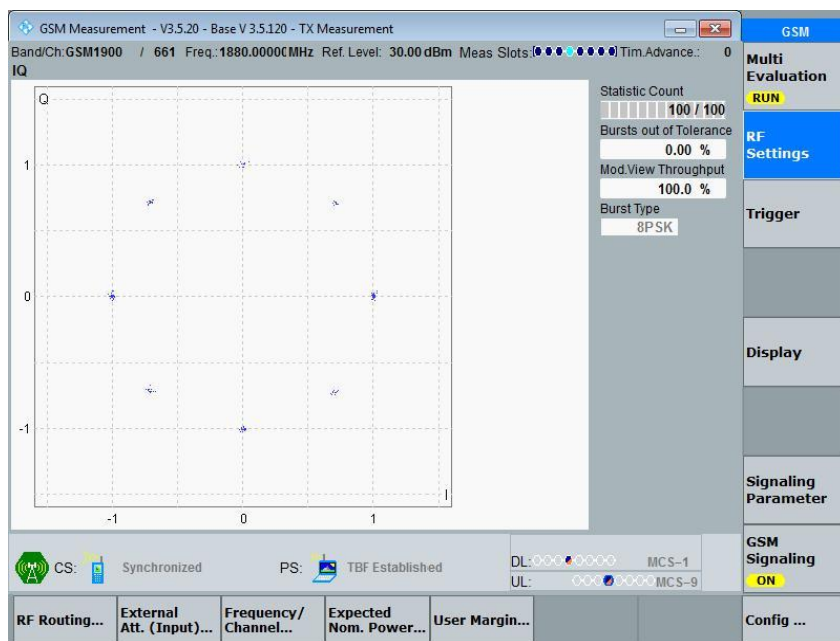
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3.1.2.2. Test Mode = GSM/TM2

3.1.2.2.1. Test Channel = MCH

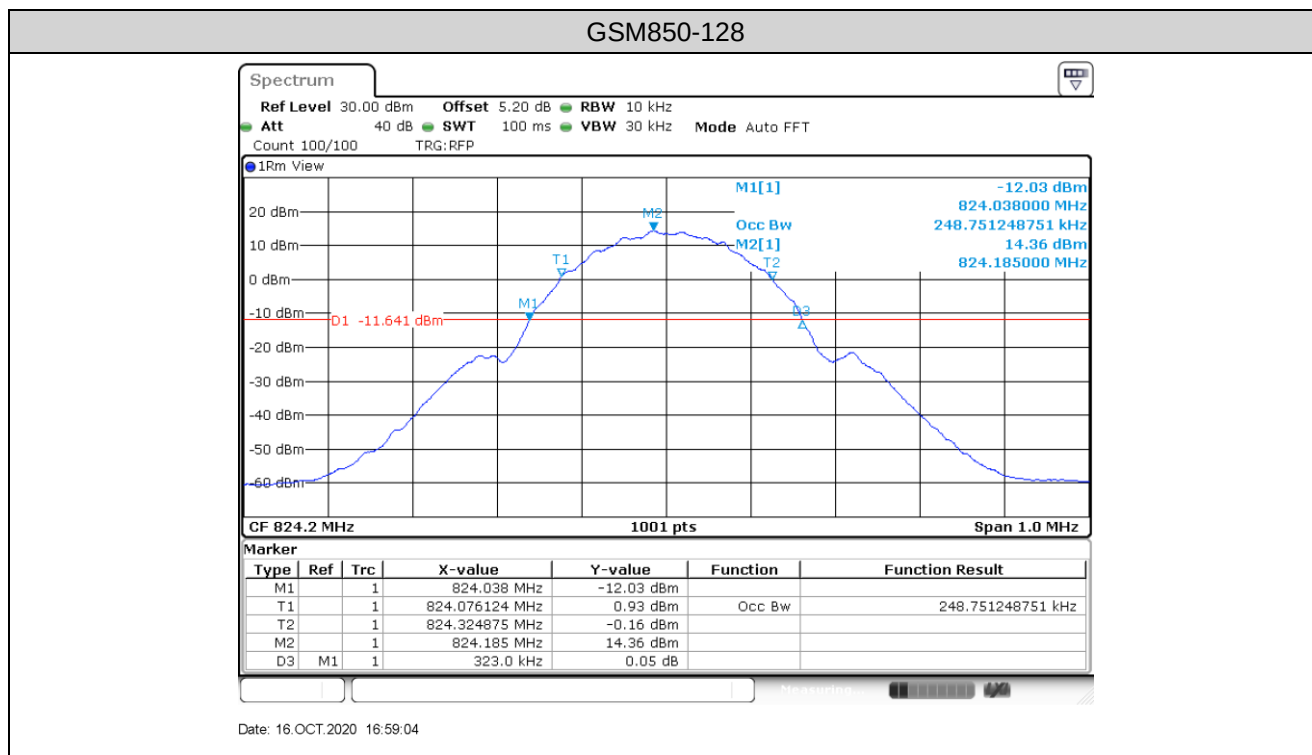


4. 26dB Bandwidth and Occupied Bandwidth

4.1. Test Result

Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	0.249	0.323	---	PASS
GSM850	190	0.248	0.323	---	PASS
GSM850	251	0.248	0.323	---	PASS
EGPRS850	128	0.248	0.318	---	PASS
EGPRS850	190	0.248	0.321	---	PASS
EGPRS850	251	0.248	0.320	---	PASS
GSM1900	512	0.247	0.324	---	PASS
GSM1900	661	0.247	0.323	---	PASS
GSM1900	810	0.247	0.323	---	PASS
EGPRS1900	512	0.246	0.318	---	PASS
EGPRS1900	661	0.246	0.317	---	PASS
EGPRS1900	810	0.248	0.318	---	PASS

4.2. Test Plots



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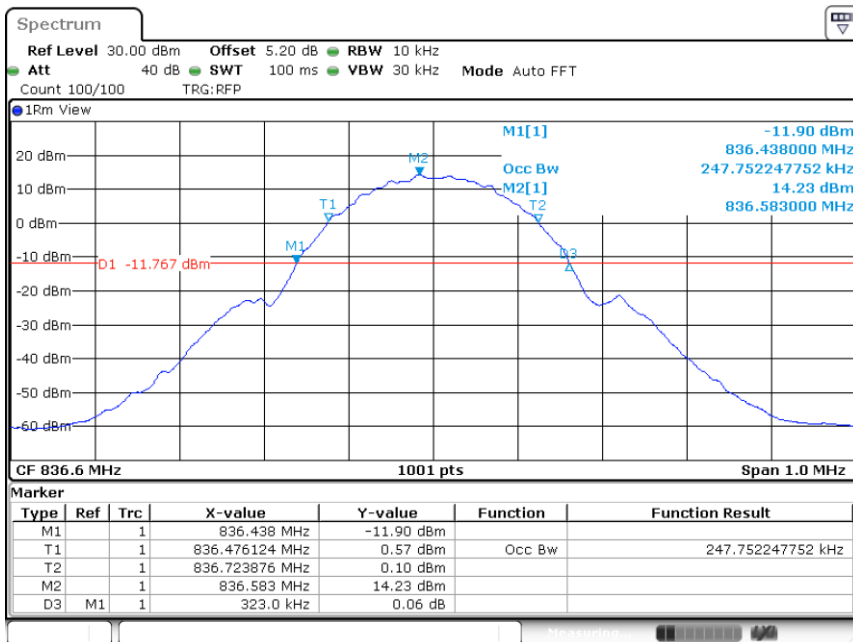
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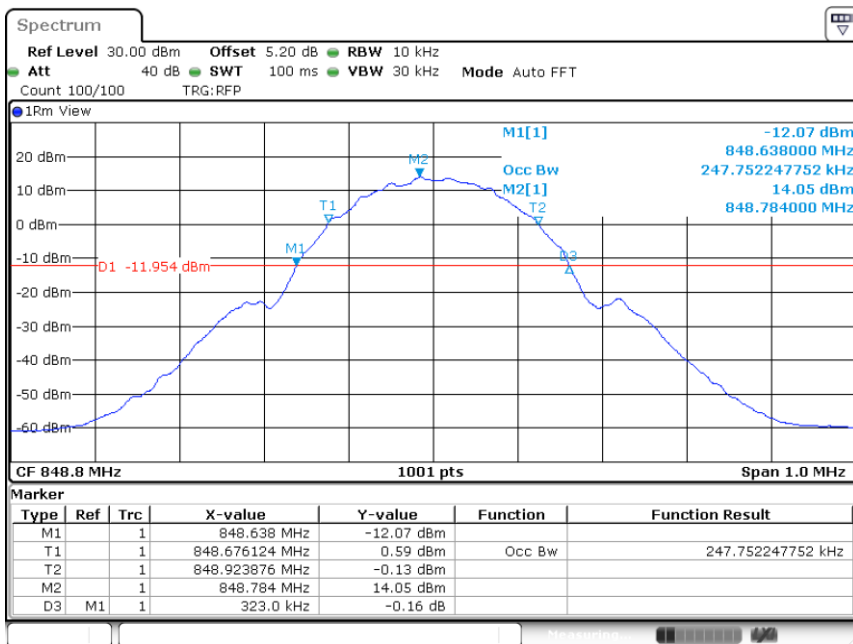
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GSM850-190



Date: 16.OCT.2020 16:59:22

GSM850-251



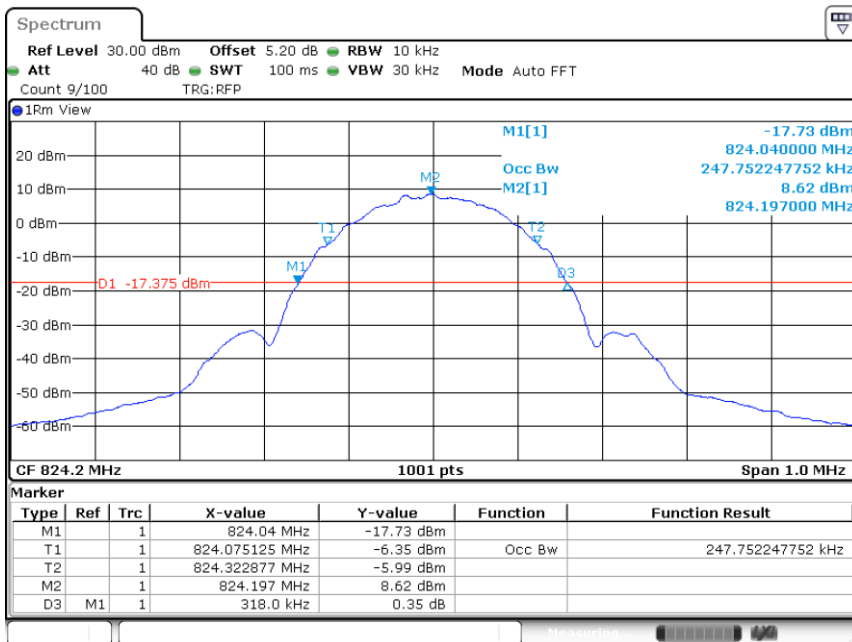
Date: 16.OCT.2020 16:59:40



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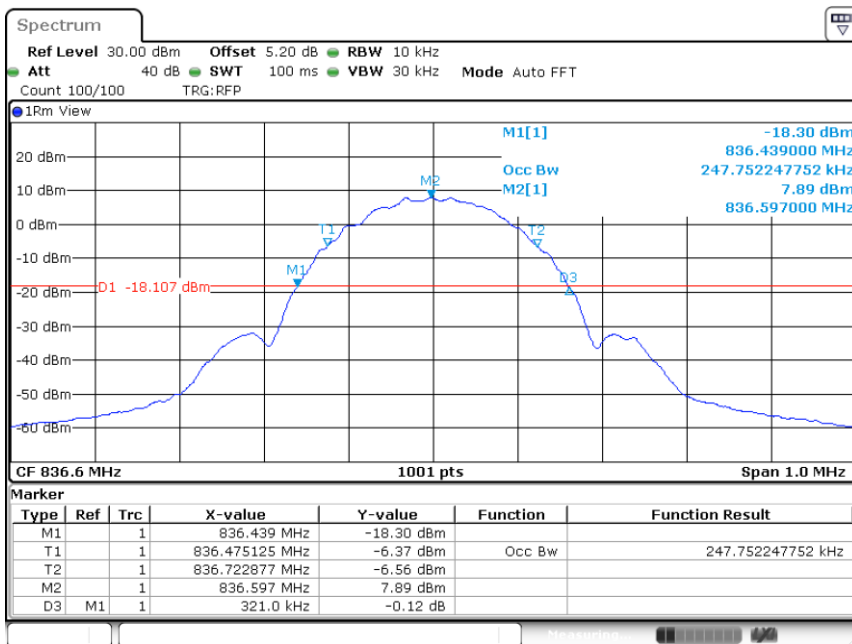
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EGPRS850-128



Date: 16.OCT.2020 17:02:50

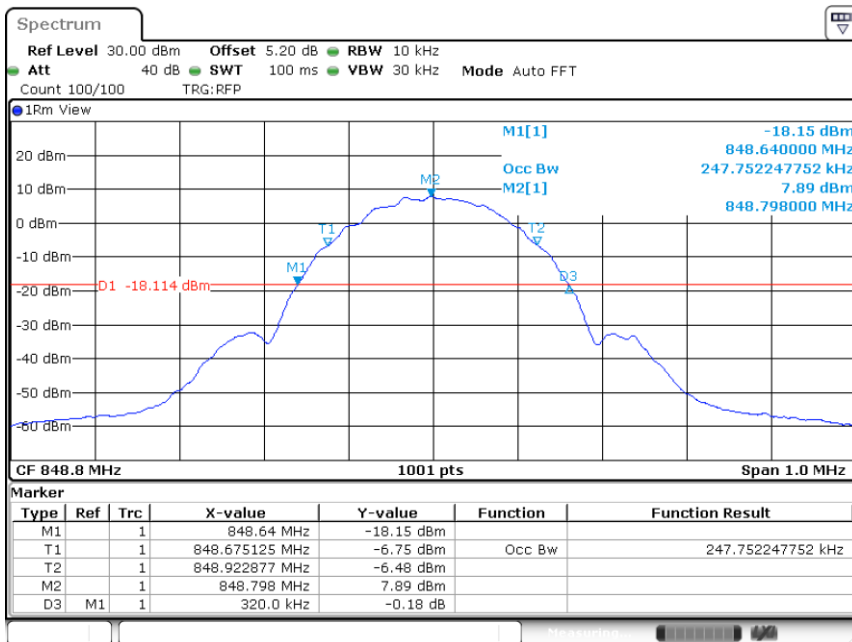
EGPRS850-190



Date: 16.OCT.2020 17:03:09

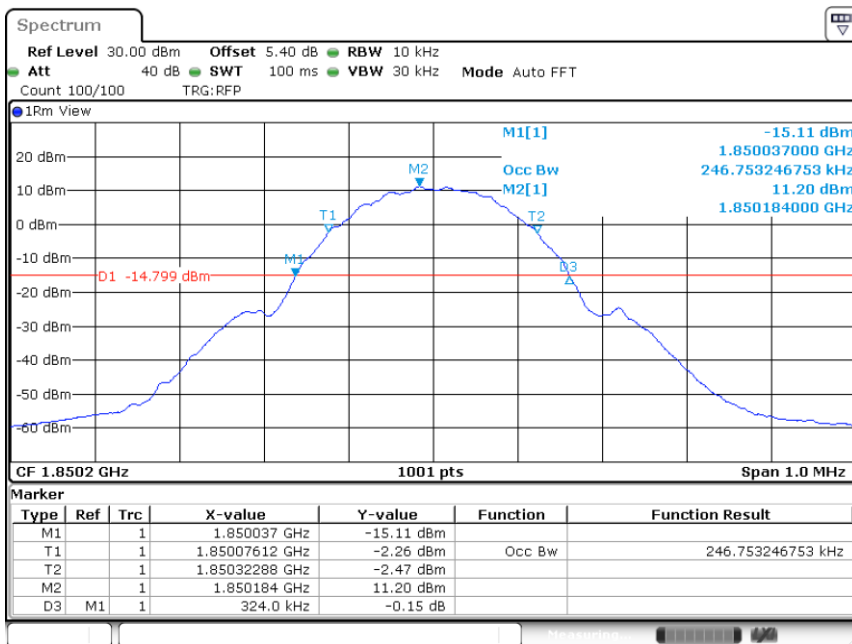


EGPRS850-251



Date: 16.OCT.2020 17:03:28

GSM1900-512



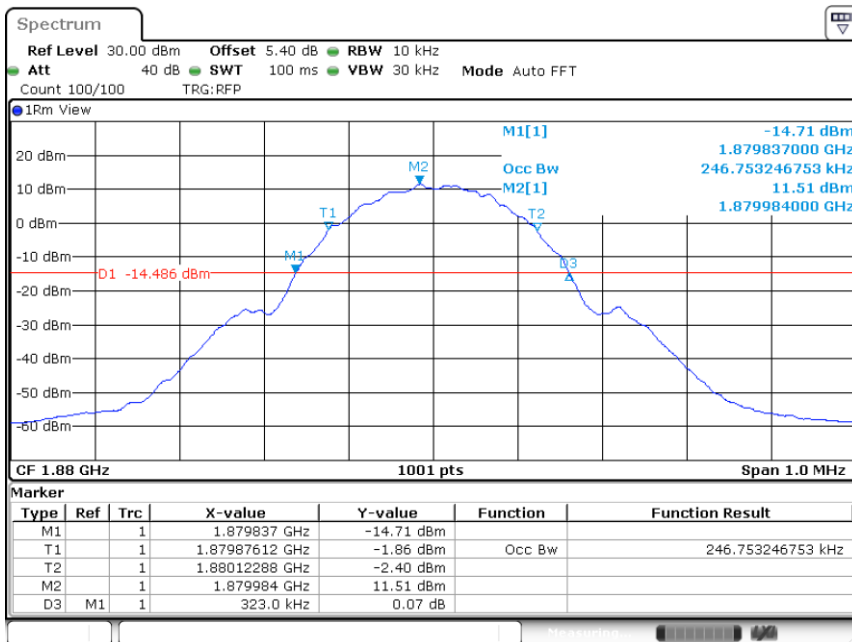
Date: 16.OCT.2020 16:48:58



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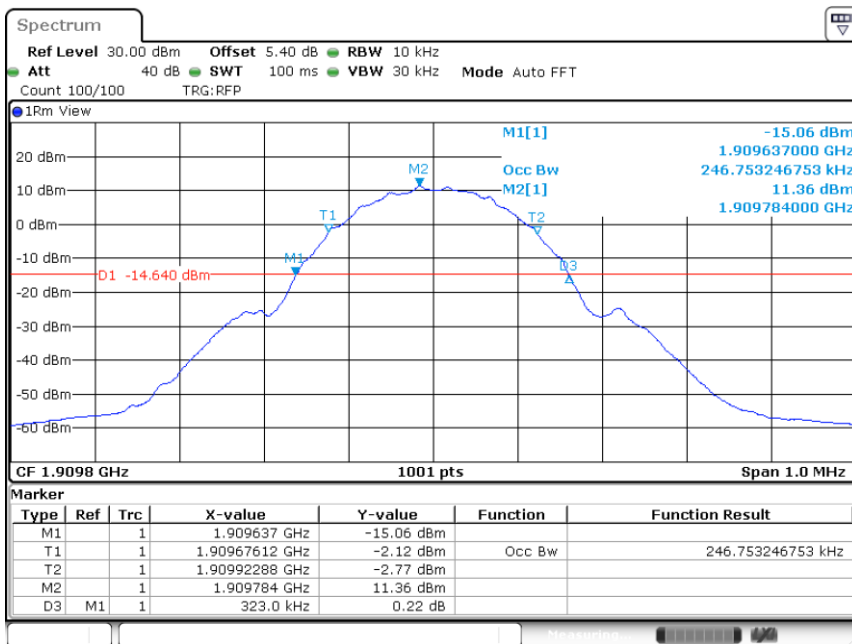
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GSM1900-661



Date: 16.OCT.2020 16:49:16

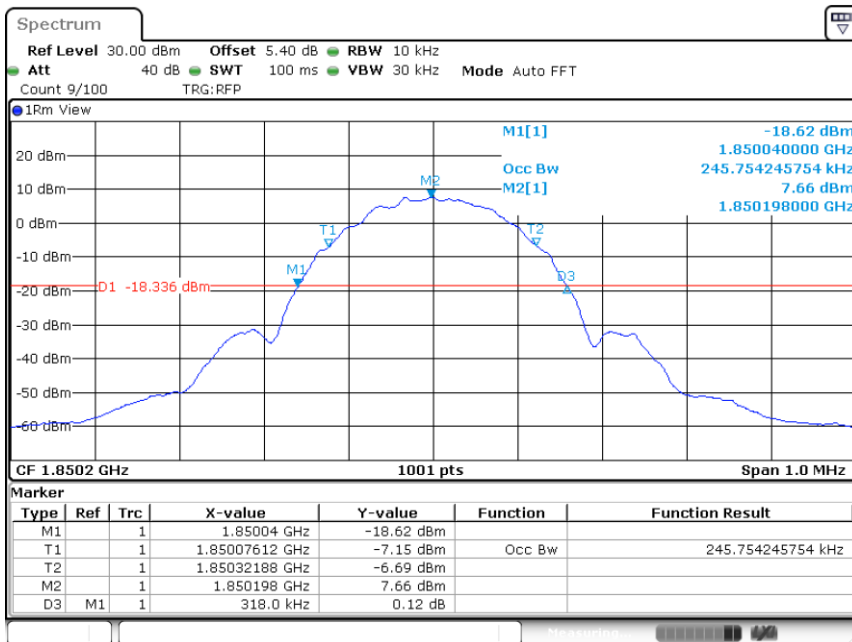
GSM1900-810



Date: 16.OCT.2020 16:49:35

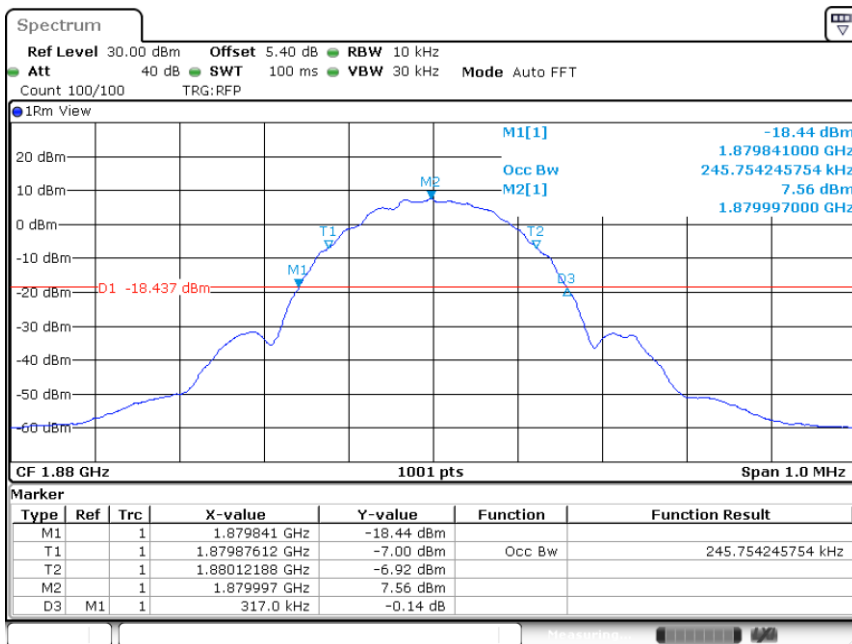


EGPRS1900-512



Date: 16.OCT.2020 16:51:48

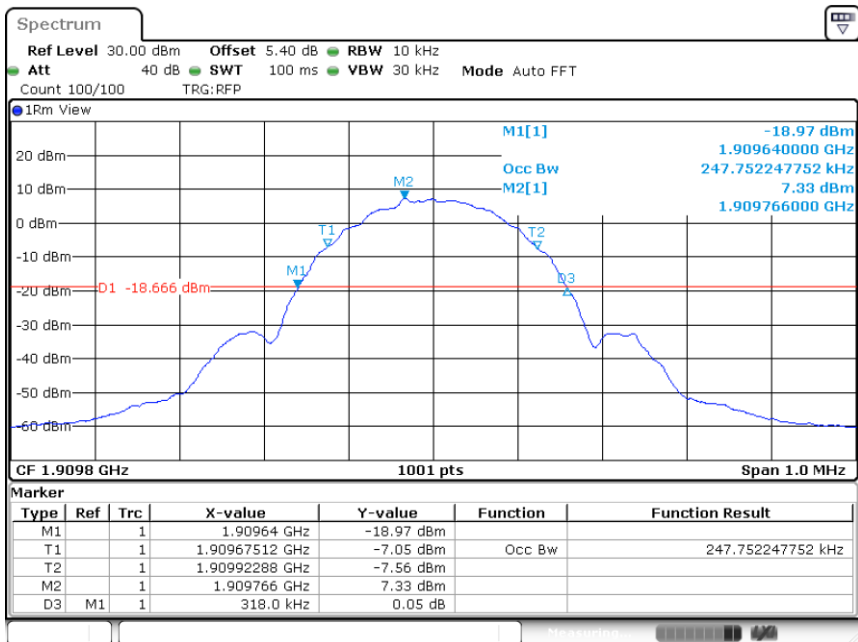
EGPRS1900-661



Date: 16.OCT.2020 16:52:07



EGPRS1900-810

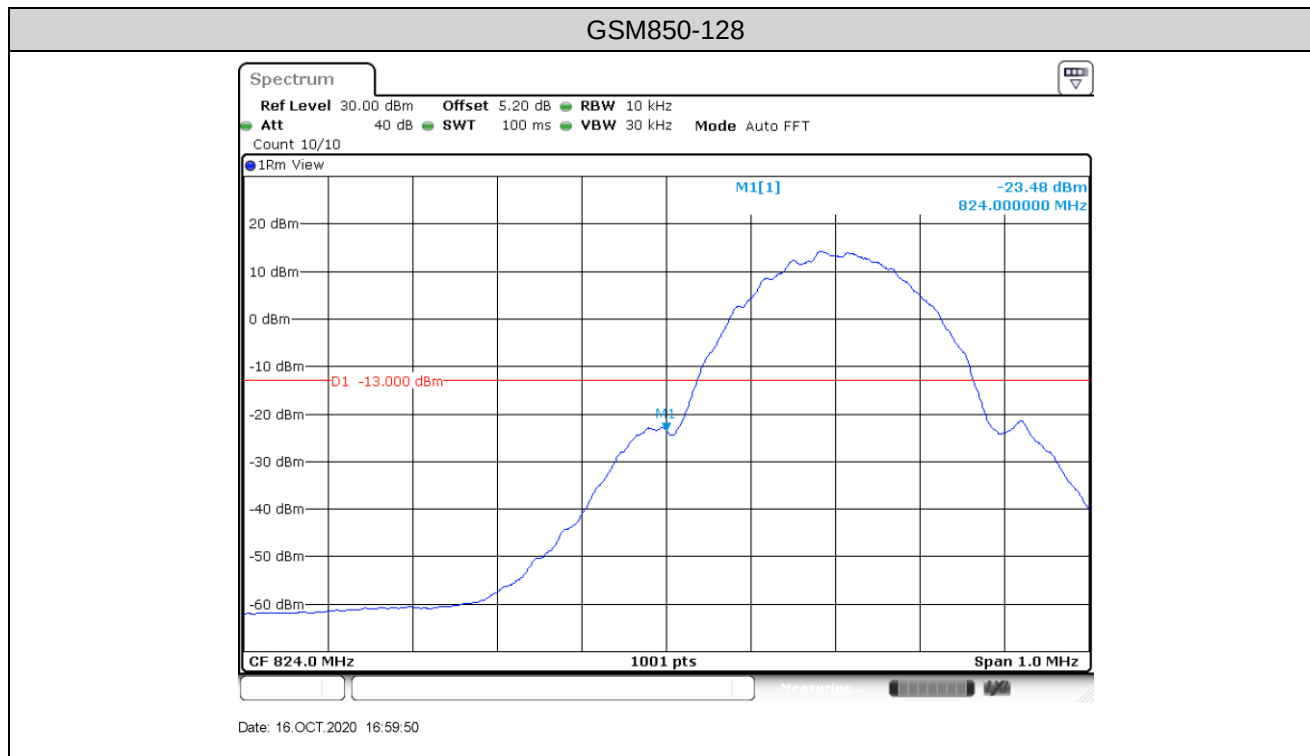


Date: 16.OCT.2020 16:52:26



5. Band Edge Compliance

5.1. Test Plots

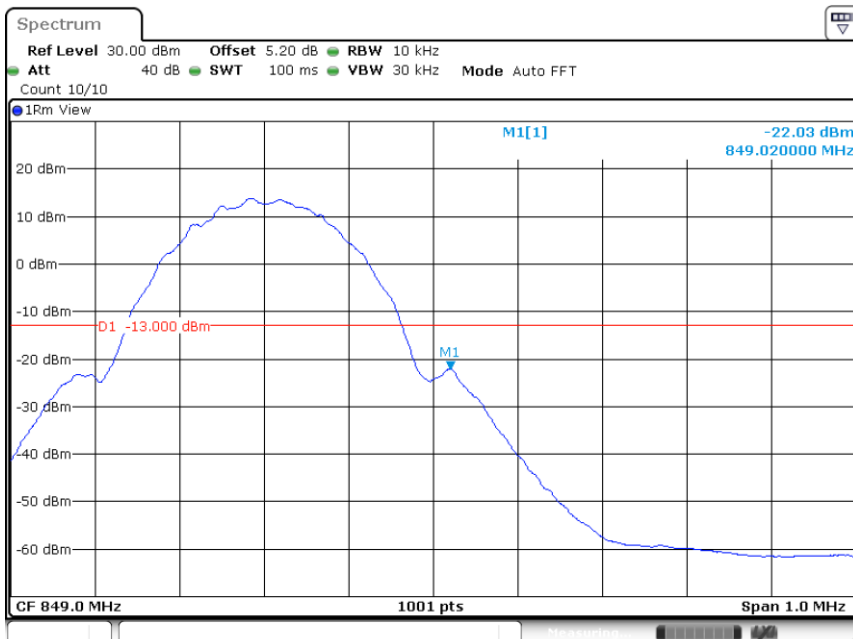


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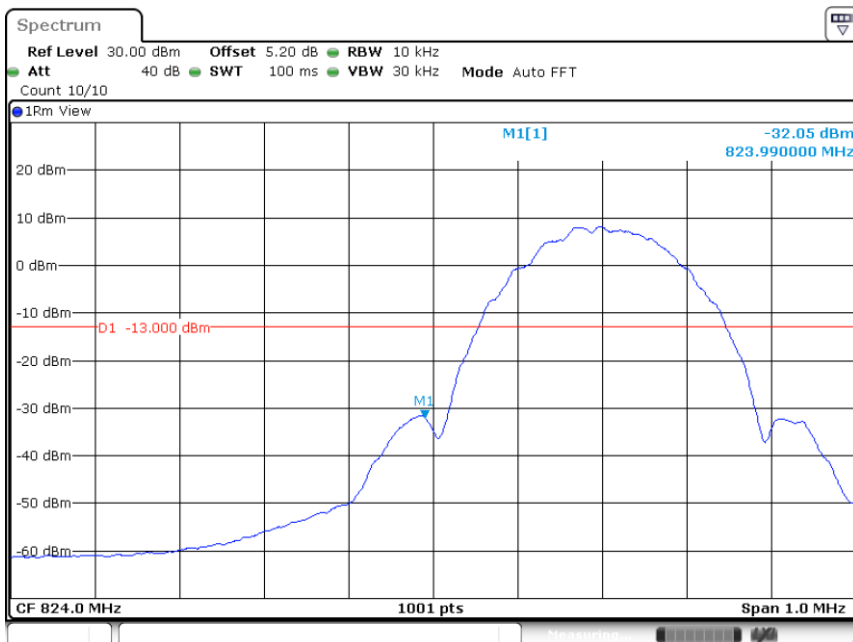
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GSM850-251



Date: 16.OCT.2020 17:00:00

EGPRS850-128



Date: 16.OCT.2020 17:03:40

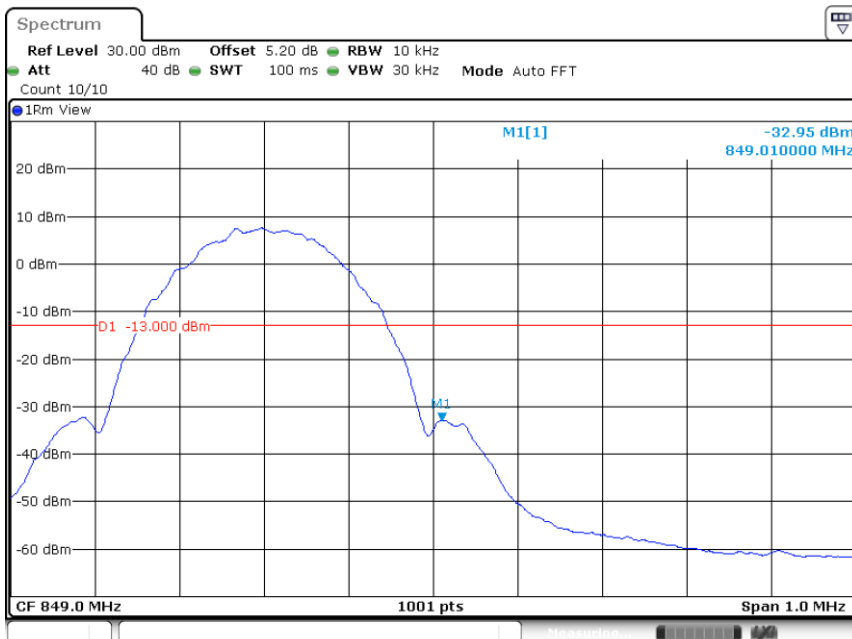


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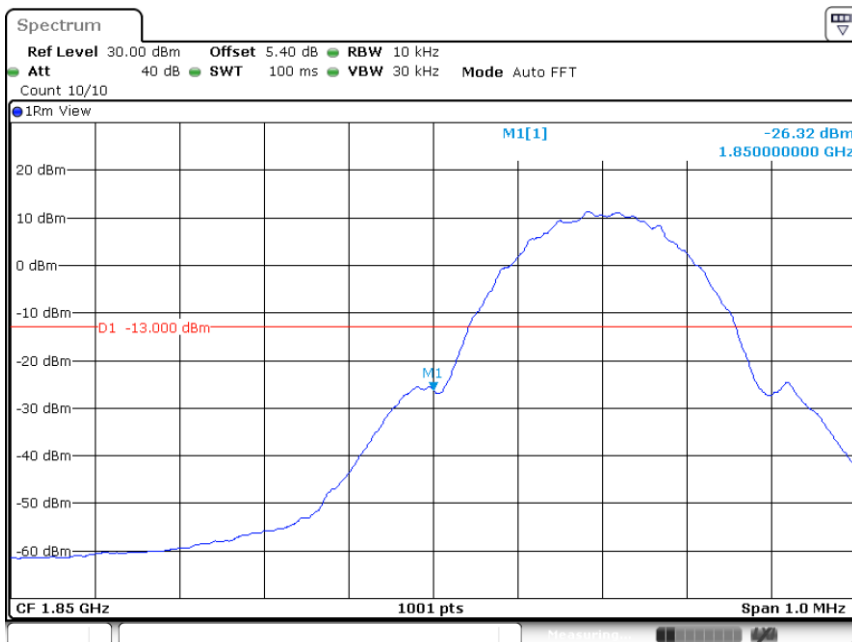
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Date: 16.OCT.2020 16:49:45



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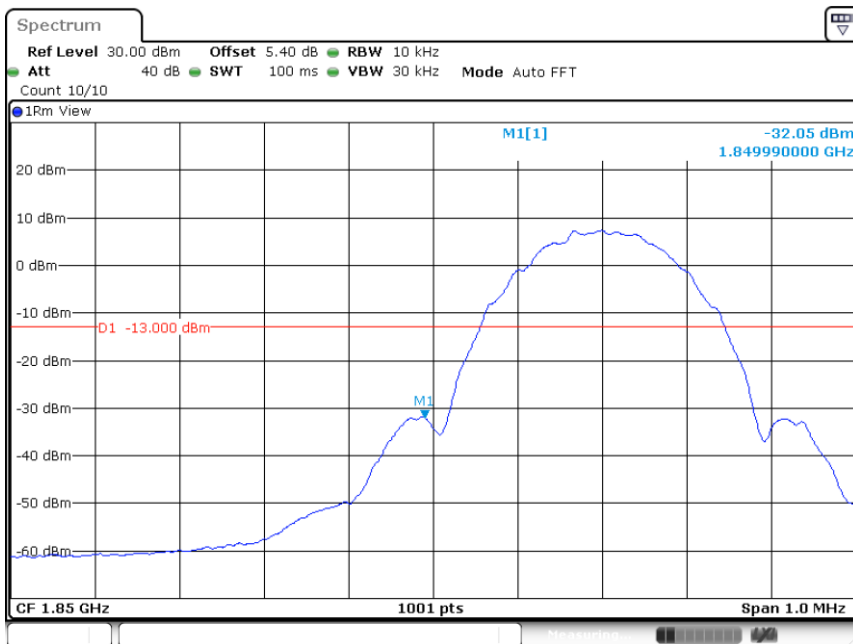
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GSM1900-810



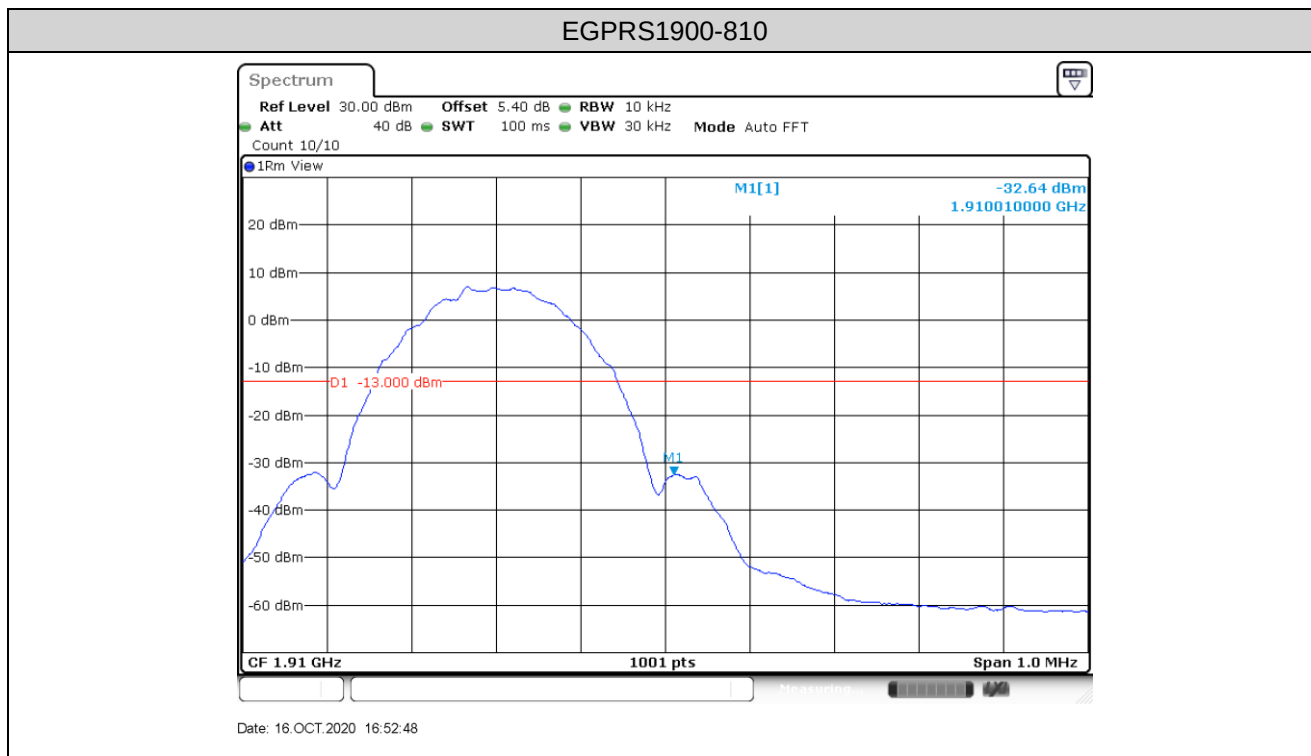
Date: 16.OCT.2020 16:49:55

EGPRS1900-512



Date: 16.OCT.2020 16:52:37





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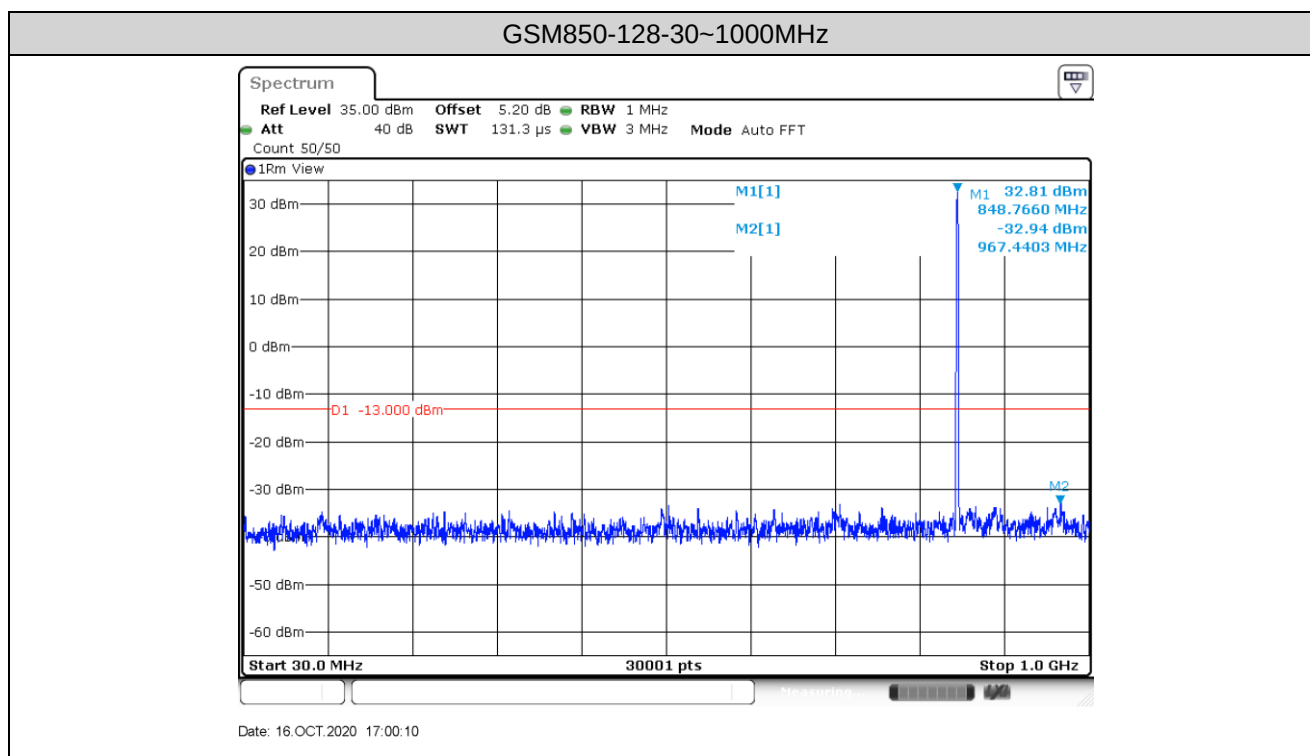
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6. Spurious Emission at Antenna Terminal

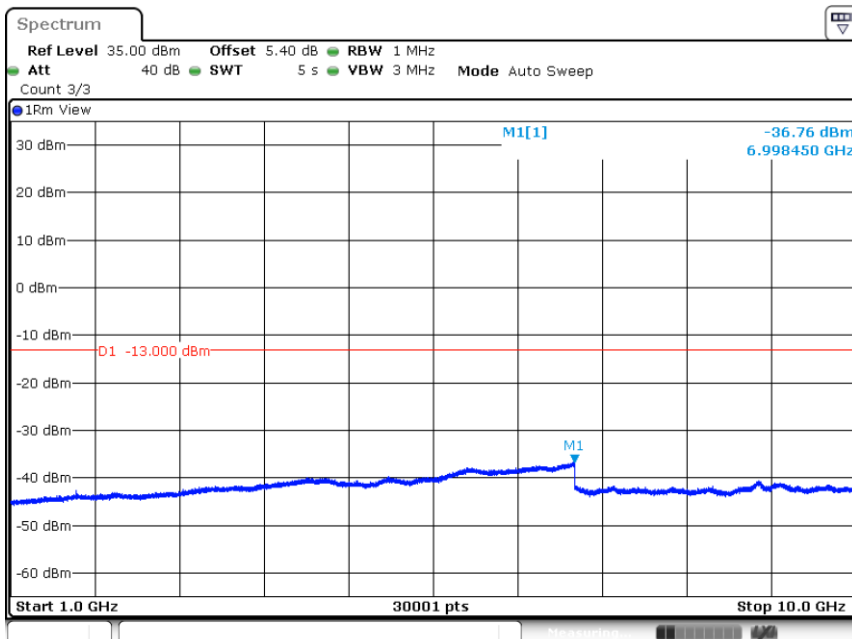
Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = $k * (\text{Span} / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

Remark2: only the worst case data displayed in this report.

6.1. Test Plots

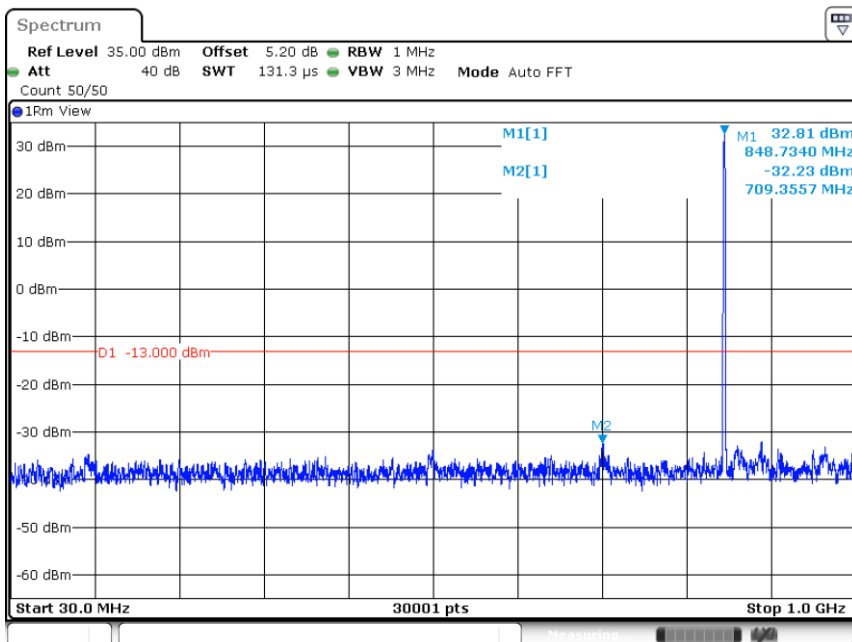


GSM850-128-1000~10000MHz



Date: 16.OCT.2020 17:00:33

GSM850-190-30~1000MHz



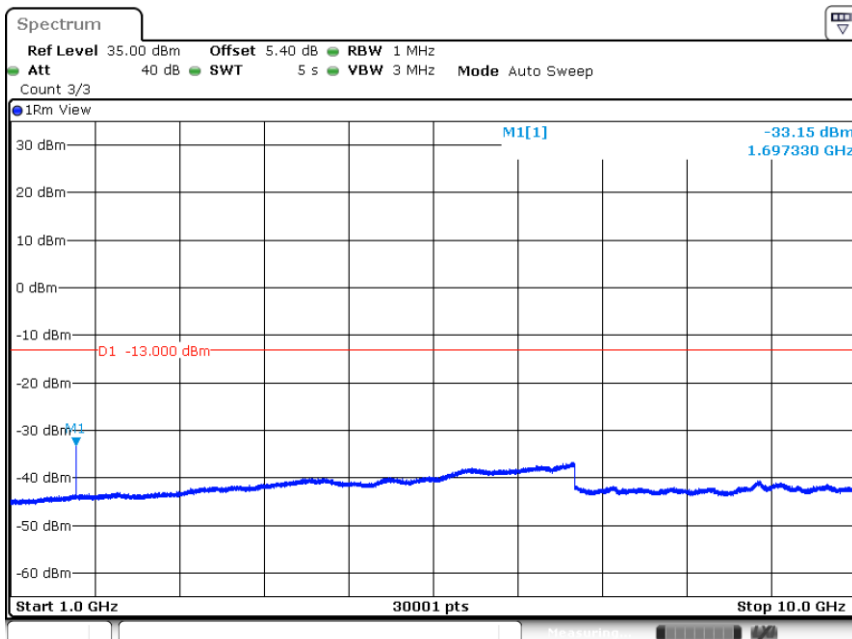
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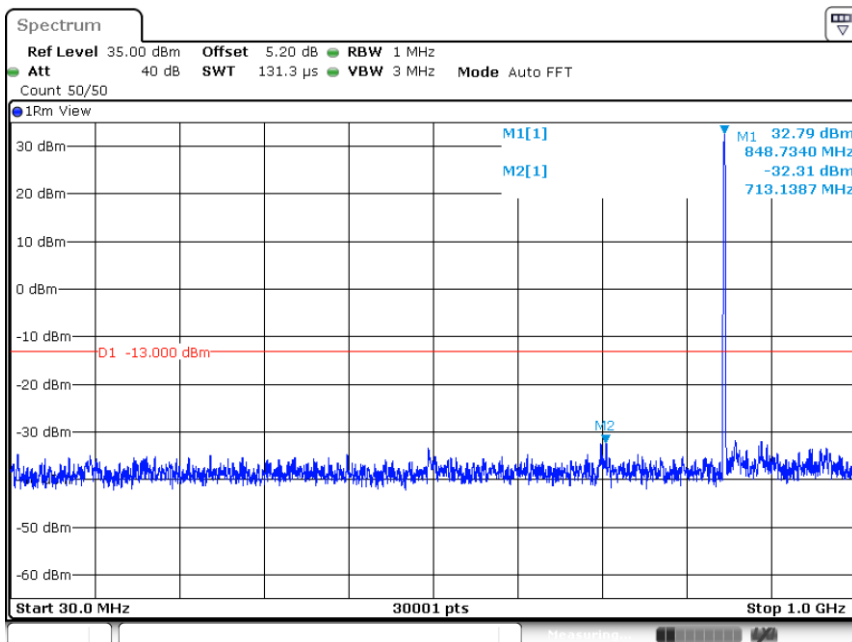
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GSM850-190-1000~10000MHz



Date: 16.OCT.2020 17:01:05

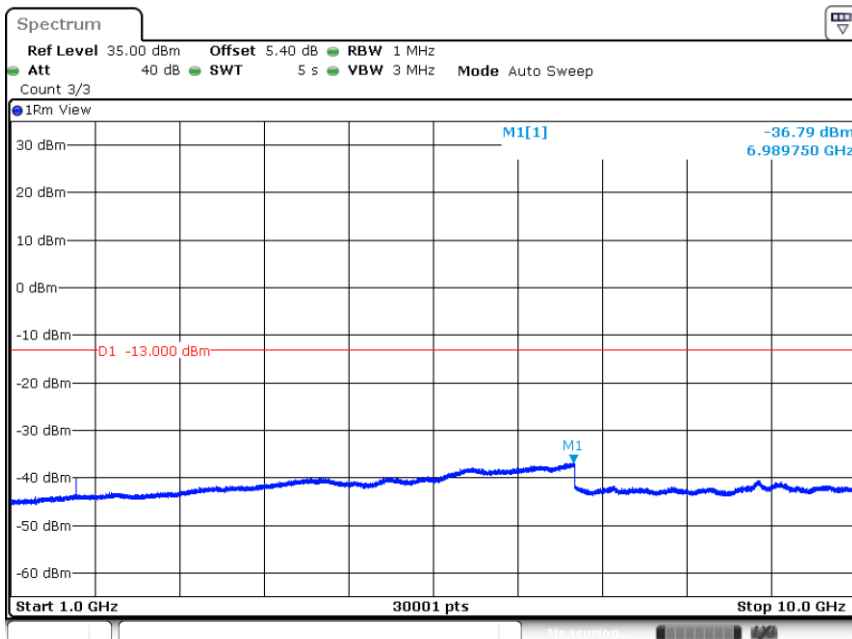
GSM850-251-30~1000MHz



Date: 16.OCT.2020 17:01:14

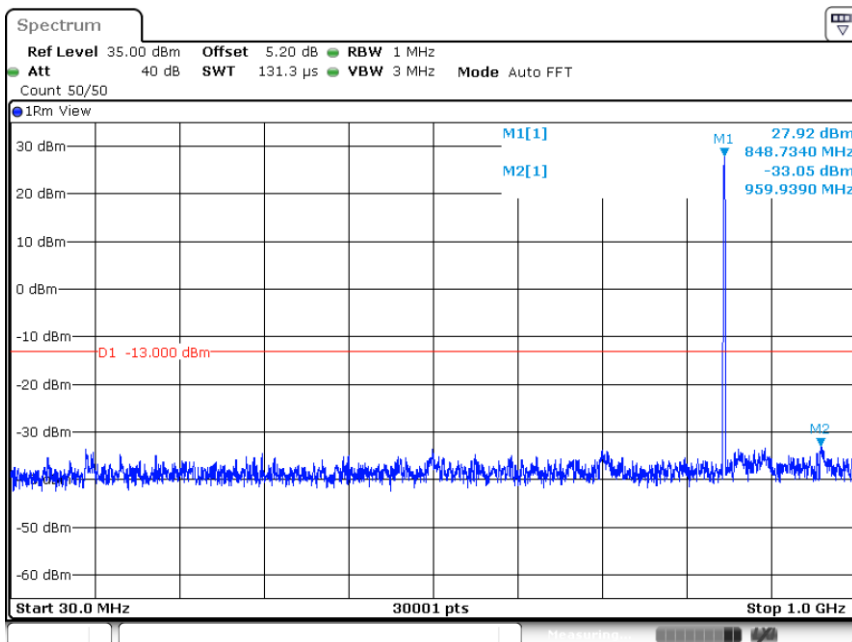


GSM850-251-1000~10000MHz



Date: 16.OCT.2020 17:01:37

EGPRS850-128-30~1000MHz



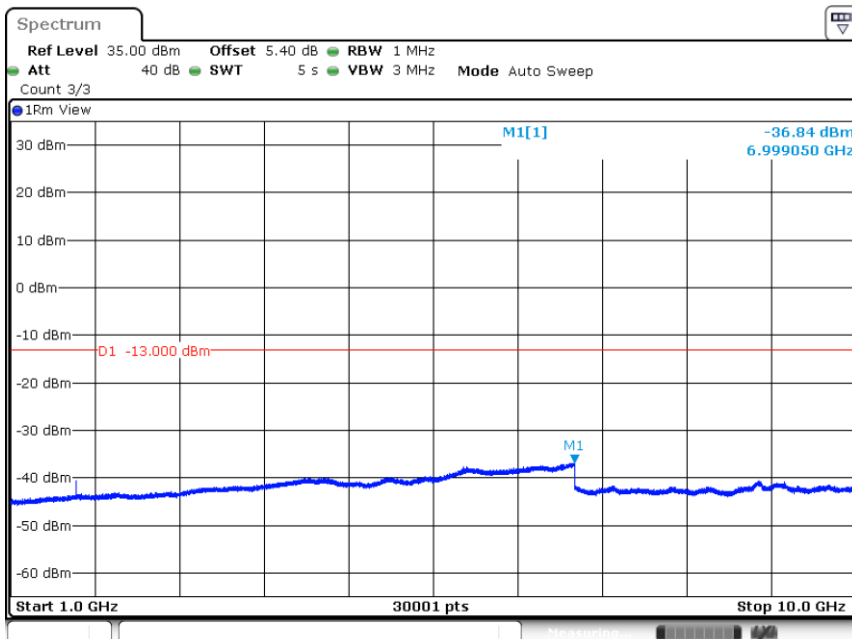
Date: 16.OCT.2020 17:04:01



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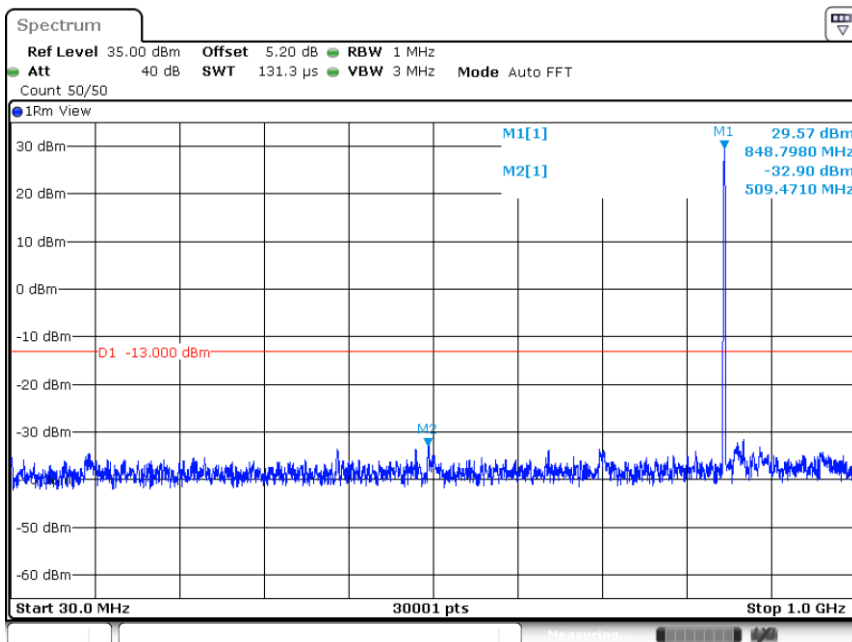
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EGPRS850-128-1000~10000MHz



Date: 16.OCT.2020 17:04:24

EGPRS850-190-30~1000MHz



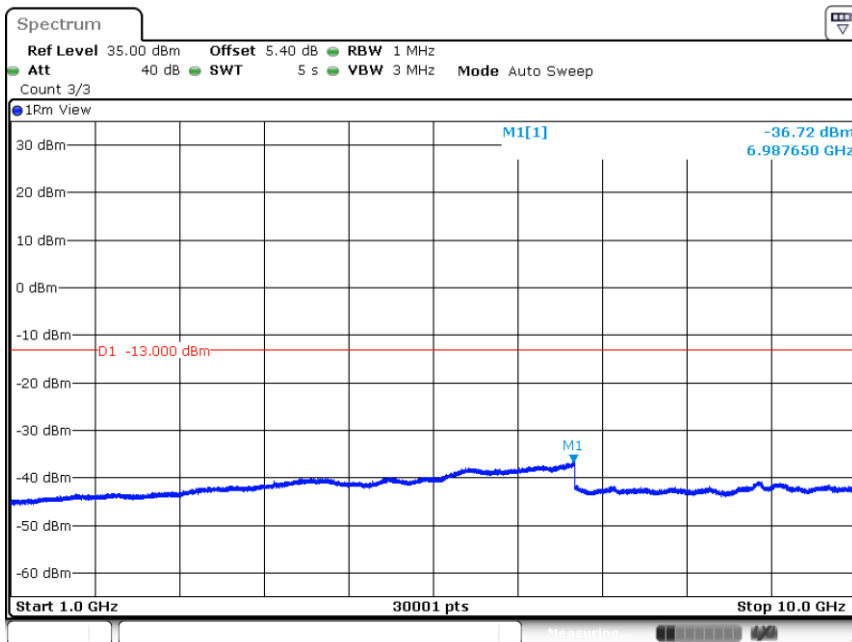
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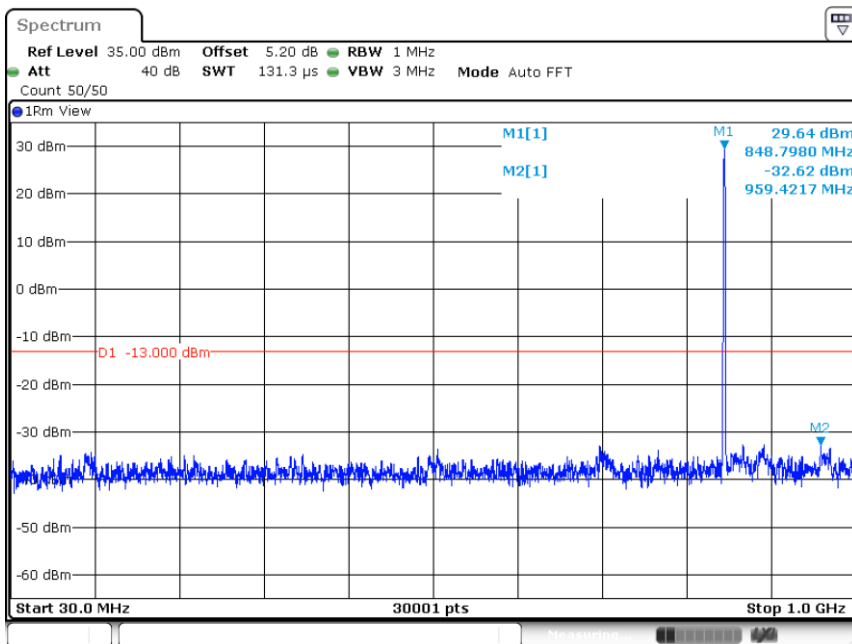
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EGPRS850-190-1000~10000MHz



Date: 16.OCT.2020 17:04:57

EGPRS850-251-30~1000MHz



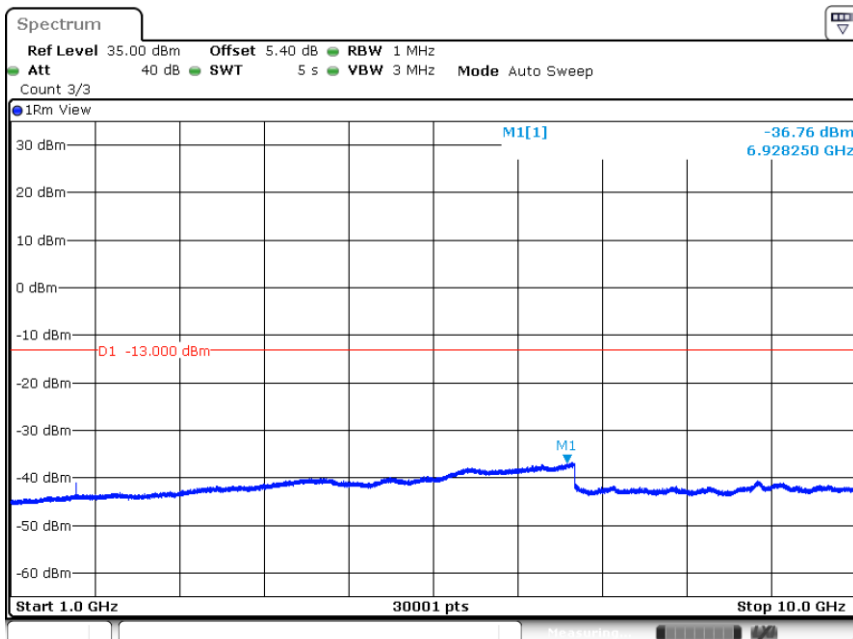
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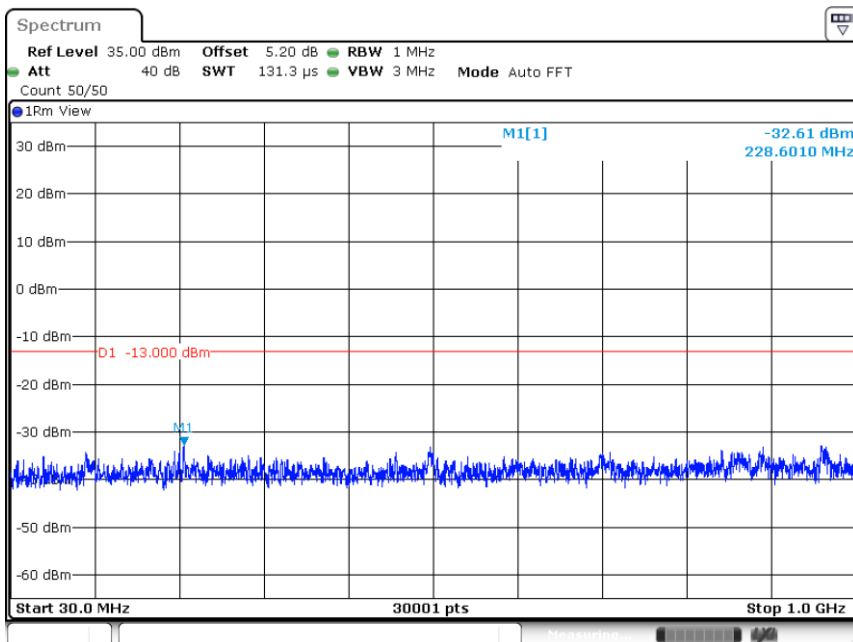
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EGPRS850-251-1000~10000MHz



Date: 16.OCT.2020 17:05:29

GSM1900-512-30~1000MHz



Date: 16.OCT.2020 16:50:04



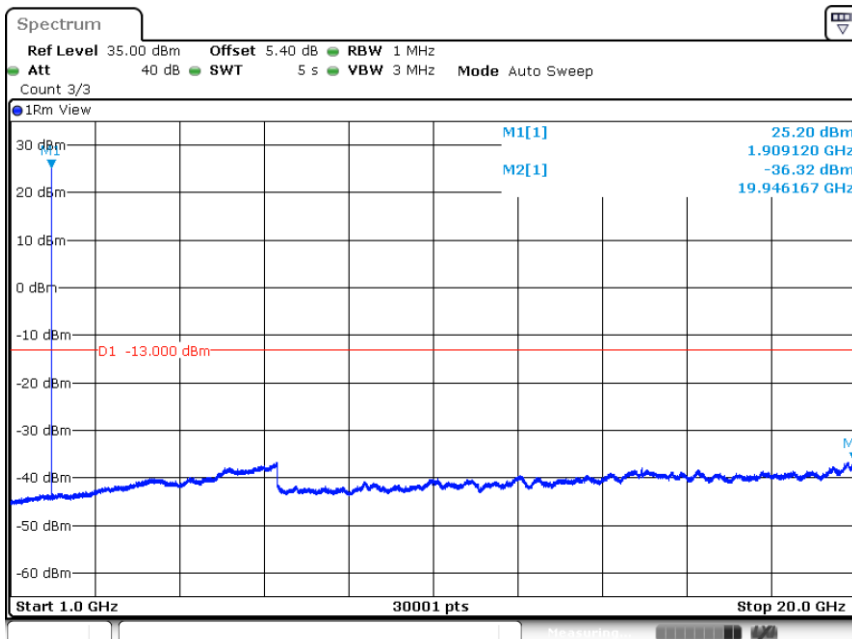
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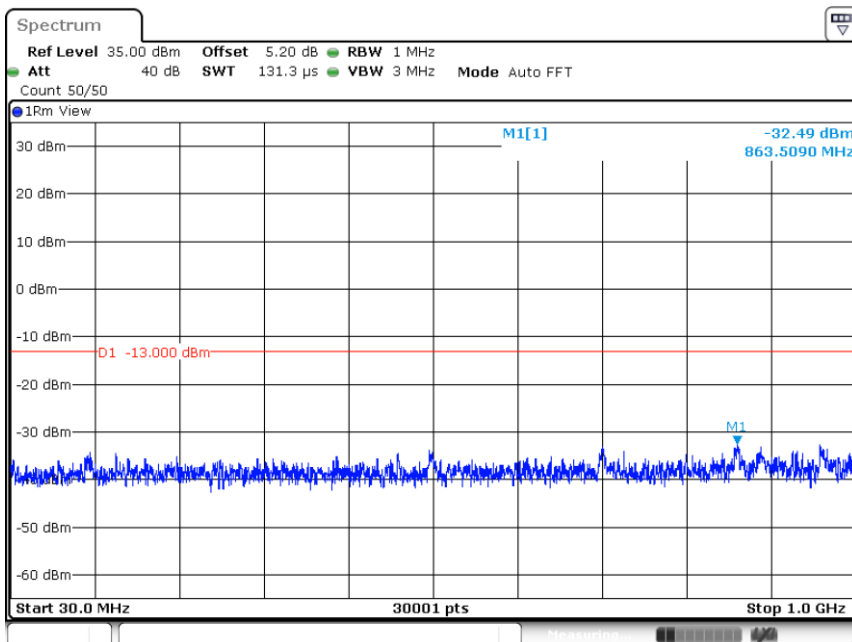
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GSM1900-512-1000~20000MHz



Date: 16.OCT.2020 16:50:36

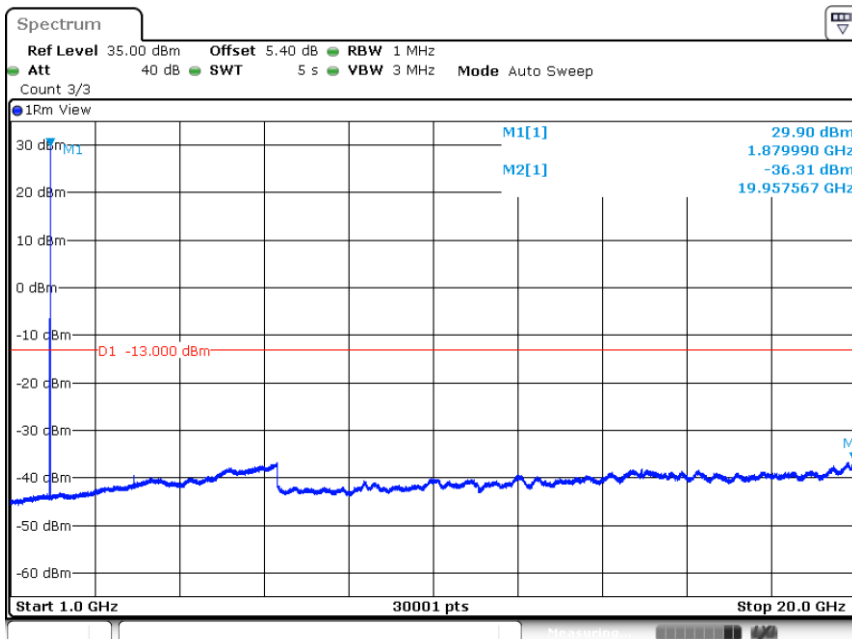
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Date: 16.OCT.2020 17:06:50

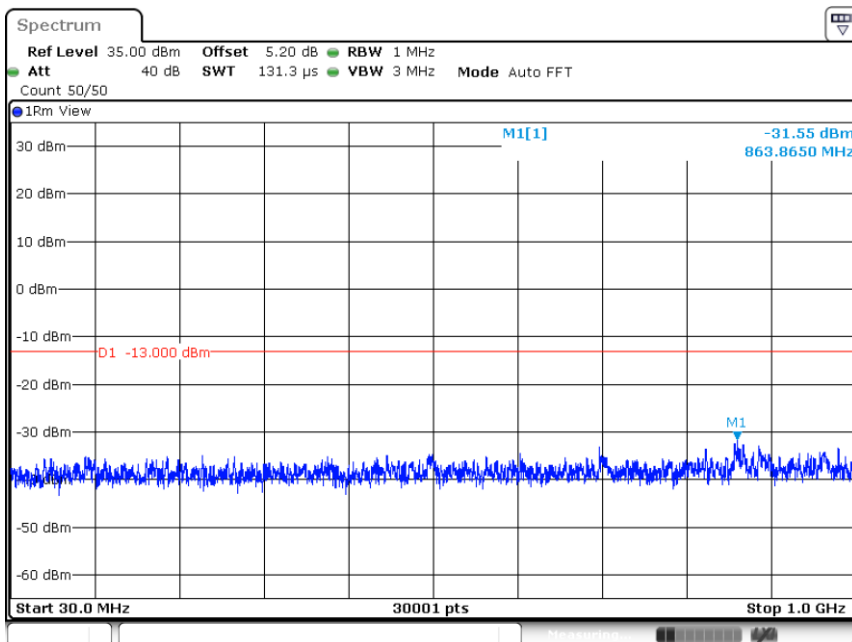


GSM1900-661-1000~20000MHz



Date: 16.OCT.2020 17:07:13

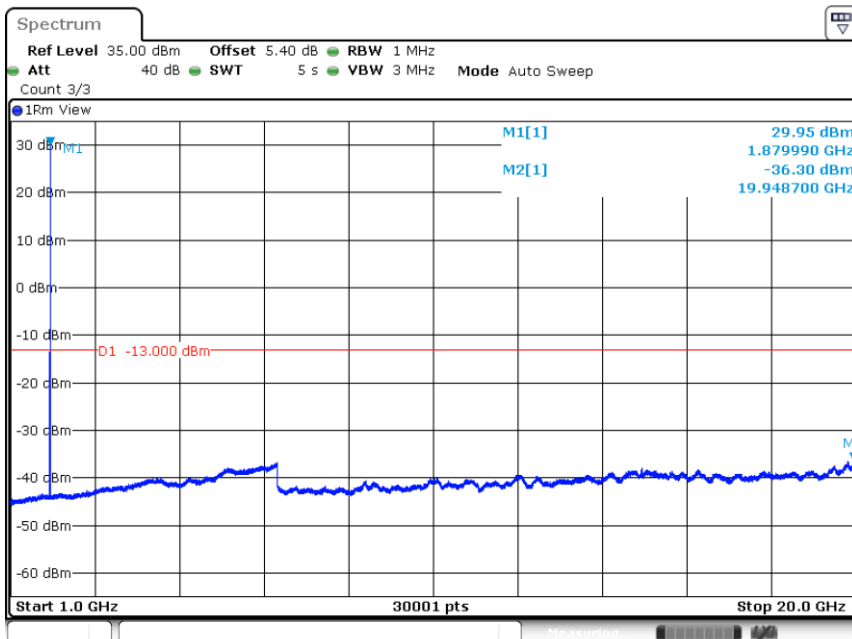
GSM1900-810-30~1000MHz



Date: 16.OCT.2020 17:07:22

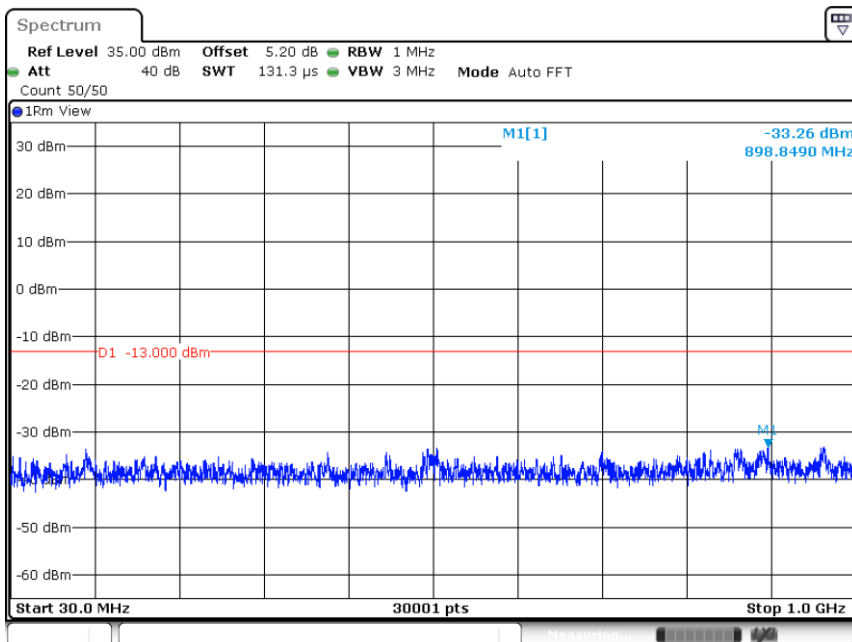


GSM1900-810-1000~20000MHz



Date: 16.OCT.2020 17:07:45

EGPRS1900-512-30~1000MHz



Date: 16.OCT.2020 16:52:57

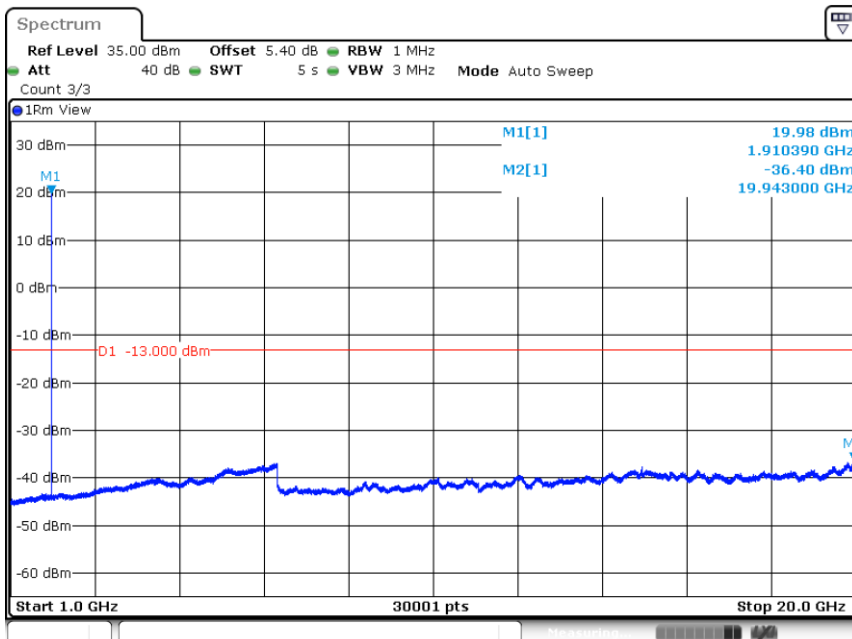


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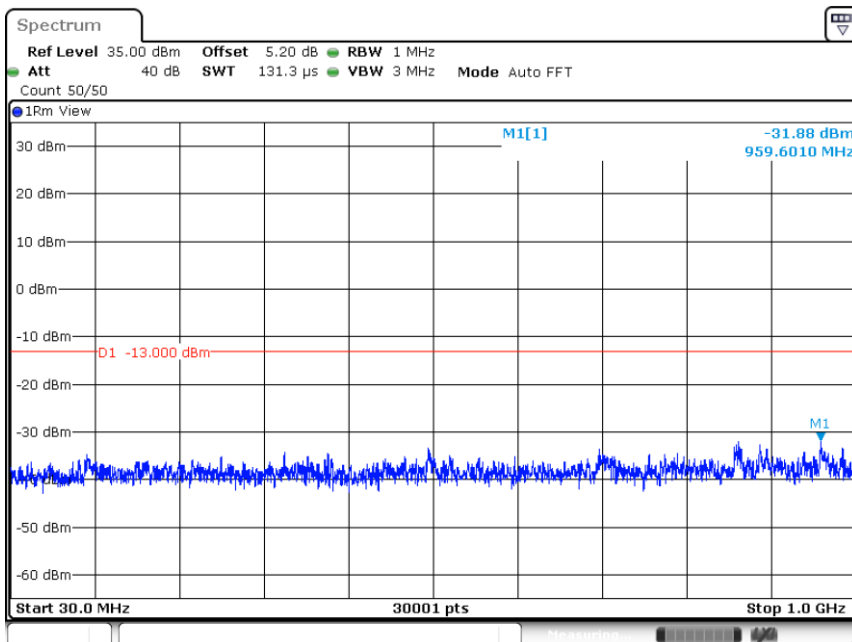
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EGPRS1900-512-1000~20000MHz



Date: 16.OCT.2020 16:53:29

EGPRS1900-661-30~1000MHz



Date: 16.OCT.2020 16:53:38



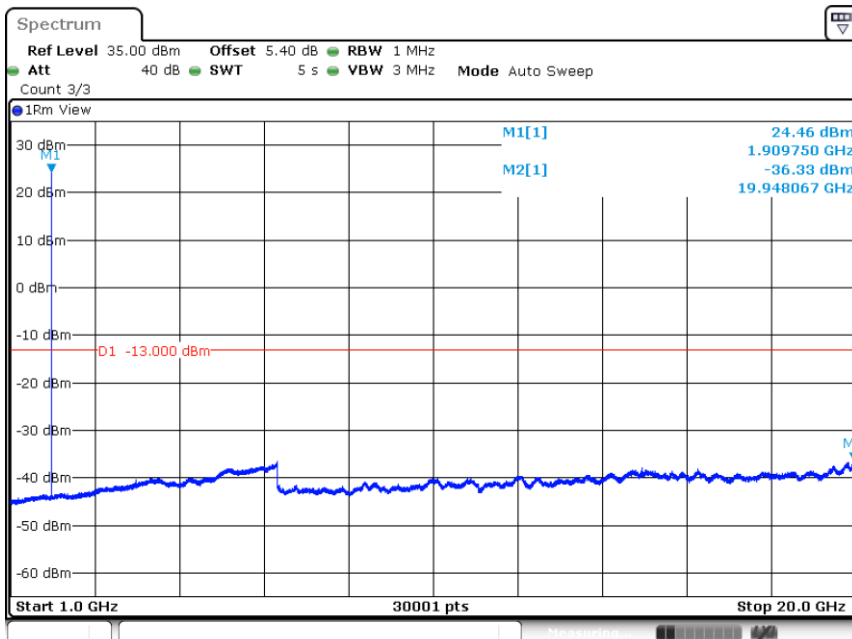
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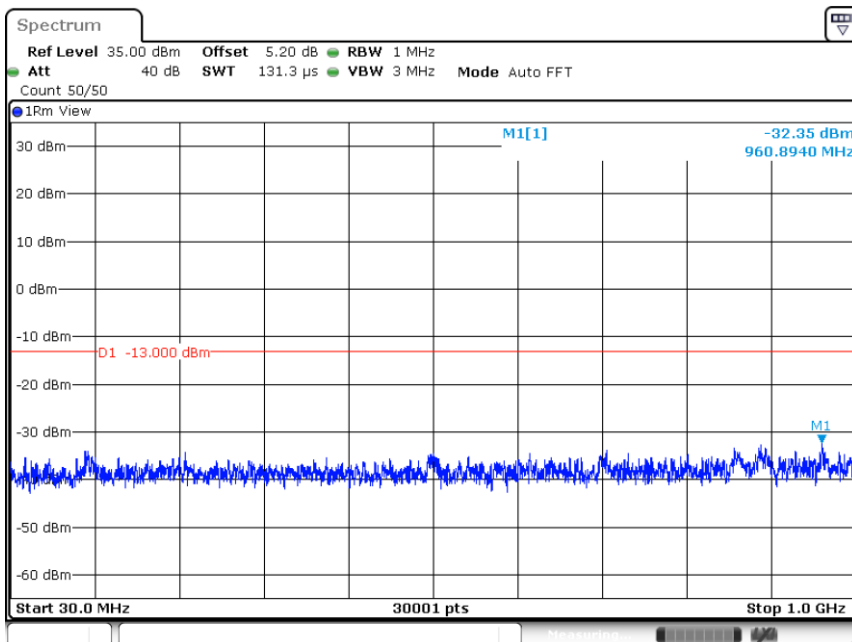
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EGPRS1900-661-1000~20000MHz



Date: 16.OCT.2020 16:54:01

EGPRS1900-810-30~1000MHz

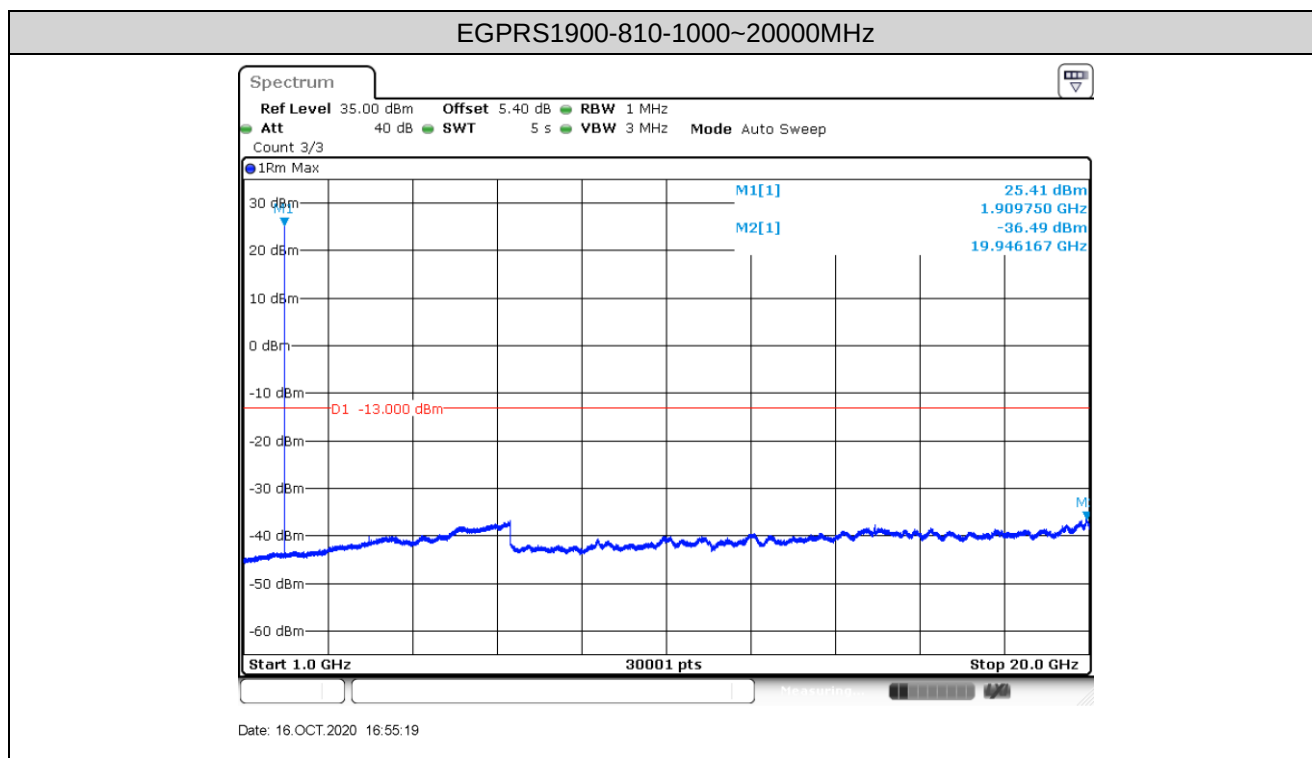


Date: 16.OCT.2020 16:54:11



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7. Field Strength of Spurious Radiation

7.1. Test Band = GSM 1900(ANT1)

7.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
31.3096	-74.71	-13.00	61.71	Vertical
113.2787	-65.26	-13.00	52.26	Vertical
416.6128	-67.57	-13.00	54.57	Vertical
3700.5234	-54.73	-13.00	41.73	Vertical
5550.5850	-58.11	-13.00	45.11	Vertical
17990.4997	-39.91	-13.00	26.91	Vertical
43.7747	-64.42	-13.00	51.42	Horizontal
98.7279	-75.19	-13.00	62.19	Horizontal
237.9784	-68.35	-13.00	55.35	Horizontal
3700.5234	-52.61	-13.00	39.61	Horizontal
5550.5850	-52.10	-13.00	39.10	Horizontal
16397.4466	-43.78	-13.00	30.78	Horizontal

7.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
31.3096	-74.17	-13.00	61.17	Vertical
111.4356	-65.24	-13.00	52.24	Vertical
402.9351	-67.61	-13.00	54.61	Vertical
3760.0253	-56.77	-13.00	43.77	Vertical
5640.0880	-57.04	-13.00	44.04	Vertical
17992.4998	-40.29	-13.00	27.29	Vertical
44.3082	-64.48	-13.00	51.48	Horizontal
89.8520	-75.50	-13.00	62.50	Horizontal
245.7388	-68.32	-13.00	55.32	Horizontal
3760.0253	-53.53	-13.00	40.53	Horizontal
5640.0880	-58.28	-13.00	45.28	Horizontal
16384.4461	-43.52	-13.00	30.52	Horizontal



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7.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
50.3225	-72.50	-13.00	59.50	Vertical
116.8193	-64.57	-13.00	51.57	Vertical
444.1137	-67.84	-13.00	54.84	Vertical
3819.5273	-55.68	-13.00	42.68	Vertical
5729.5910	-59.43	-13.00	46.43	Vertical
17997.9999	-39.72	-13.00	26.72	Vertical
42.7076	-63.36	-13.00	50.36	Horizontal
229.0540	-68.03	-13.00	55.03	Horizontal
628.6169	-63.49	-13.00	50.49	Horizontal
3819.5273	-55.28	-13.00	42.28	Horizontal
7343.6448	-56.40	-13.00	43.40	Horizontal
16390.9464	-43.29	-13.00	30.29	Horizontal

7.2. Test Band = GSM 850(ANT1)

7.2.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
51.7776	-72.13	-13.00	59.13	Vertical
112.1631	-63.61	-13.00	50.61	Vertical
337.0689	-68.10	-13.00	55.10	Vertical
1648.5297	-58.88	-13.00	45.88	Vertical
2471.4943	-50.67	-13.00	37.67	Vertical
7369.3123	-55.73	-13.00	42.73	Vertical
43.6292	-63.07	-13.00	50.07	Horizontal
102.4626	-74.59	-13.00	61.59	Horizontal
242.2466	-67.18	-13.00	54.18	Horizontal
1648.5297	-58.06	-13.00	45.06	Horizontal
2472.6945	-48.66	-13.00	35.66	Horizontal
7467.0822	-55.72	-13.00	42.72	Horizontal



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7.2.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
52.9902	-71.80	-13.00	58.80	Vertical
111.1931	-64.44	-13.00	51.44	Vertical
310.4410	-68.76	-13.00	55.76	Vertical
1777.3555	-62.08	-13.00	49.08	Vertical
2509.9020	-49.21	-13.00	36.21	Vertical
7363.4788	-55.43	-13.00	42.43	Vertical
41.5436	-63.68	-13.00	50.68	Horizontal
85.4383	-74.73	-13.00	61.73	Horizontal
235.7473	-67.81	-13.00	54.81	Horizontal
1672.9346	-63.74	-13.00	50.74	Horizontal
2509.9020	-42.05	-13.00	29.05	Horizontal
7485.2828	-56.00	-13.00	43.00	Horizontal

7.2.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
49.4495	-71.88	-13.00	58.88	Vertical
109.2530	-63.86	-13.00	50.86	Vertical
417.3404	-65.59	-13.00	52.59	Vertical
1697.7395	-62.53	-13.00	49.53	Vertical
2546.3093	-53.95	-13.00	40.95	Vertical
7346.4449	-55.67	-13.00	42.67	Vertical
39.5065	-63.83	-13.00	50.83	Horizontal
83.4982	-74.77	-13.00	61.77	Horizontal
240.4520	-66.75	-13.00	53.75	Horizontal
1697.7395	-63.38	-13.00	50.38	Horizontal
2546.7093	-52.19	-13.00	39.19	Horizontal
7486.6829	-56.14	-13.00	43.14	Horizontal



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7.3. Test Band = GSM 1900(ANT2)

7.3.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
30.7760	-74.62	-13.00	61.62	Vertical
111.4356	-64.84	-13.00	51.84	Vertical
446.9753	-66.72	-13.00	53.72	Vertical
3700.0233	-61.64	-13.00	48.64	Vertical
5550.5850	-52.13	-13.00	39.13	Vertical
17996.4999	-40.22	-13.00	27.22	Vertical
40.6220	-64.26	-13.00	51.26	Horizontal
111.6781	-75.38	-13.00	62.38	Horizontal
237.3964	-68.11	-13.00	55.11	Horizontal
3700.5234	-58.62	-13.00	45.62	Horizontal
5550.5850	-52.81	-13.00	39.81	Horizontal
16405.9469	-43.72	-13.00	30.72	Horizontal

7.3.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
31.4066	-74.36	-13.00	61.36	Vertical
111.5811	-64.93	-13.00	51.93	Vertical
588.7479	-64.00	-13.00	51.00	Vertical
3760.0253	-61.80	-13.00	48.80	Vertical
5640.0880	-53.88	-13.00	40.88	Vertical
17999.5000	-39.87	-13.00	26.87	Vertical
40.8645	-64.40	-13.00	51.40	Horizontal
86.6993	-74.53	-13.00	61.53	Horizontal
235.8928	-67.97	-13.00	54.97	Horizontal
3760.0253	-59.42	-13.00	46.42	Horizontal
5640.0880	-50.63	-13.00	37.63	Horizontal
16406.4469	-43.45	-13.00	30.45	Horizontal



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7.3.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
31.4551	-75.07	-13.00	62.07	Vertical
111.7266	-64.56	-13.00	51.56	Vertical
302.5351	-68.95	-13.00	55.95	Vertical
3819.5273	-59.72	-13.00	46.72	Vertical
5729.5910	-55.59	-13.00	42.59	Vertical
17998.5000	-39.66	-13.00	26.66	Vertical
39.3610	-64.49	-13.00	51.49	Horizontal
76.1743	-75.69	-13.00	62.69	Horizontal
246.4663	-68.10	-13.00	55.10	Horizontal
3819.5273	-54.07	-13.00	41.07	Horizontal
5729.5910	-54.30	-13.00	41.30	Horizontal
16368.4456	-43.67	-13.00	30.67	Horizontal

7.4. Test Band = GSM 850(ANT2)

7.4.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
30.8730	-75.42	-13.00	62.42	Vertical
109.4955	-63.84	-13.00	50.84	Vertical
442.4646	-66.69	-13.00	53.69	Vertical
1648.5297	-55.95	-13.00	42.95	Vertical
2472.6945	-47.78	-13.00	34.78	Vertical
7369.0790	-55.66	-13.00	42.66	Vertical
42.7076	-63.75	-13.00	50.75	Horizontal
97.9519	-75.11	-13.00	62.11	Horizontal
237.1539	-66.88	-13.00	53.88	Horizontal
1648.5297	-59.15	-13.00	46.15	Horizontal
2472.6945	-42.50	-13.00	29.50	Horizontal
7469.1823	-56.14	-13.00	43.14	Horizontal



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7.4.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
30.1455	-75.31	-13.00	62.31	Vertical
115.3158	-64.62	-13.00	51.62	Vertical
290.7005	-67.16	-13.00	54.16	Vertical
1673.3347	-57.36	-13.00	44.36	Vertical
2509.9020	-47.65	-13.00	34.65	Vertical
7352.2784	-55.64	-13.00	42.64	Vertical
41.2526	-63.42	-13.00	50.42	Horizontal
100.8135	-74.37	-13.00	61.37	Horizontal
240.5005	-67.54	-13.00	54.54	Horizontal
1673.3347	-50.58	-13.00	37.58	Horizontal
2509.9020	-41.82	-13.00	28.82	Horizontal
7462.1821	-56.18	-13.00	43.18	Horizontal

7.4.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
30.2425	-75.11	-13.00	62.11	Vertical
110.9505	-63.69	-13.00	50.69	Vertical
344.1987	-67.78	-13.00	54.78	Vertical
1697.3395	-58.31	-13.00	45.31	Vertical
2546.3093	-51.78	-13.00	38.78	Vertical
4243.9415	-61.68	-13.00	48.68	Vertical
45.3753	-63.14	-13.00	50.14	Horizontal
240.5005	-66.19	-13.00	53.19	Horizontal
564.0602	-63.75	-13.00	50.75	Horizontal
1697.7395	-52.42	-13.00	39.42	Horizontal
2546.3093	-47.88	-13.00	34.88	Horizontal
4243.9415	-59.52	-13.00	46.52	Horizontal



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Test on the worst case:

7.5. Test Band = GSM 850(ANT1)

7.5.1. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
30.0000	-72.72	-13.00	59.72	Vertical
107.8464	-63.27	-13.00	50.27	Vertical
498.4849	-64.66	-13.00	51.66	Vertical
1661.3323	-46.15	-13.00	33.15	Vertical
2491.8984	-48.45	-13.00	35.45	Vertical
9288.5430	-53.08	-13.00	40.08	Vertical
51.0016	-58.75	-13.00	45.75	Horizontal
229.8785	-66.48	-13.00	53.48	Horizontal
1660.9322	-39.56	-13.00	26.56	Horizontal
2491.8984	-39.48	-13.00	26.48	Horizontal
4152.9384	-60.56	-13.00	47.56	Horizontal
9547.3182	-53.03	-13.00	40.03	Horizontal

7.6. Test Band = GSM 850(ANT2)

7.6.1. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
30.1940	-71.91	-13.00	58.91	Vertical
109.1075	-63.85	-13.00	50.85	Vertical
383.9707	-66.78	-13.00	53.78	Vertical
1673.3347	-52.62	-13.00	39.62	Vertical
2474.6949	-46.25	-13.00	33.25	Vertical
9887.0629	-53.16	-13.00	40.16	Vertical
44.9872	-54.36	-13.00	41.36	Horizontal
238.8029	-66.38	-13.00	53.38	Horizontal
1673.3347	-50.24	-13.00	37.24	Horizontal
2475.0950	-48.90	-13.00	35.90	Horizontal
4183.2728	-60.81	-13.00	47.81	Horizontal
9236.0412	-54.27	-13.00	41.27	Horizontal

Remark:

- 1) According to 971168 D01 Power Meas License Digital Systems, The amplitudes of unwanted emissions that are attenuated more than 20 dB below the applicable limit are not required to be reported.
- 2) The disturbance above 12.75GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the worst case data had been displayed.





8. Frequency Stability

8.1. Frequency Error Vs Voltage

Voltage							
Band	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	128	VL	NT	-5.68	-0.006892	±2.5	PASS
GSM850	128	VN	NT	-8.88	-0.010774	±2.5	PASS
GSM850	128	VH	NT	-5.78	-0.007013	±2.5	PASS
GSM850	190	VL	NT	-6.55	-0.007829	±2.5	PASS
GSM850	190	VN	NT	-10.65	-0.012730	±2.5	PASS
GSM850	190	VH	NT	-6.72	-0.008033	±2.5	PASS
GSM850	251	VL	NT	-9.30	-0.010957	±2.5	PASS
GSM850	251	VN	NT	-4.23	-0.004984	±2.5	PASS
GSM850	251	VH	NT	-5.91	-0.006963	±2.5	PASS
EGPRS850	128	VL	NT	4.62	0.005605	±2.5	PASS
EGPRS850	128	VN	NT	1.84	0.002232	±2.5	PASS
EGPRS850	128	VH	NT	2.45	0.002973	±2.5	PASS
EGPRS850	190	VL	NT	-8.10	-0.009682	±2.5	PASS
EGPRS850	190	VN	NT	-4.33	-0.005176	±2.5	PASS
EGPRS850	190	VH	NT	-8.23	-0.009837	±2.5	PASS
EGPRS850	251	VL	NT	-12.33	-0.014526	±2.5	PASS
EGPRS850	251	VN	NT	-5.46	-0.006433	±2.5	PASS
EGPRS850	251	VH	NT	-3.75	-0.004418	±2.5	PASS
GSM1900	512	VL	NT	-12.66	-0.006843	±2.5	PASS
GSM1900	512	VN	NT	-11.04	-0.005967	±2.5	PASS
GSM1900	512	VH	NT	-9.33	-0.005043	±2.5	PASS
GSM1900	661	VL	NT	-8.33	-0.004431	±2.5	PASS
GSM1900	661	VN	NT	-10.01	-0.005324	±2.5	PASS
GSM1900	661	VH	NT	-10.56	-0.005617	±2.5	PASS
GSM1900	810	VL	NT	-14.08	-0.007372	±2.5	PASS
GSM1900	810	VN	NT	-12.56	-0.006577	±2.5	PASS
GSM1900	810	VH	NT	-10.36	-0.005425	±2.5	PASS
EGPRS1900	512	VL	NT	-15.24	-0.008237	±2.5	PASS
EGPRS1900	512	VN	NT	-15.76	-0.008518	±2.5	PASS
EGPRS1900	512	VH	NT	-12.11	-0.006545	±2.5	PASS
EGPRS1900	661	VL	NT	-18.34	-0.009755	±2.5	PASS



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EGPRS1900	661	VN	NT	-14.79	-0.007867	±2.5	PASS
EGPRS1900	661	VH	NT	-16.66	-0.008862	±2.5	PASS
EGPRS1900	810	VL	NT	-16.11	-0.008435	±2.5	PASS
EGPRS1900	810	VN	NT	-18.14	-0.009498	±2.5	PASS
EGPRS1900	810	VH	NT	-19.11	-0.010006	±2.5	PASS

8.2. Frequency Error Vs Temperature

Temperature							
Band	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	128	NV	-30	-6.88	-0.008347	±2.5	PASS
GSM850	128	NV	-20	-6.33	-0.007680	±2.5	PASS
GSM850	128	NV	-10	-7.88	-0.009561	±2.5	PASS
GSM850	128	NV	0	-3.49	-0.004234	±2.5	PASS
GSM850	128	NV	10	-5.68	-0.006892	±2.5	PASS
GSM850	128	NV	20	-6.36	-0.007717	±2.5	PASS
GSM850	128	NV	30	-3.91	-0.004744	±2.5	PASS
GSM850	128	NV	40	-8.43	-0.010228	±2.5	PASS
GSM850	128	NV	50	-8.10	-0.009828	±2.5	PASS
GSM850	190	NV	-30	-9.04	-0.010806	±2.5	PASS
GSM850	190	NV	-20	-8.04	-0.009610	±2.5	PASS
GSM850	190	NV	-10	-6.94	-0.008295	±2.5	PASS
GSM850	190	NV	0	-6.39	-0.007638	±2.5	PASS
GSM850	190	NV	10	-8.46	-0.010112	±2.5	PASS
GSM850	190	NV	20	-7.91	-0.009455	±2.5	PASS
GSM850	190	NV	30	-9.81	-0.011726	±2.5	PASS
GSM850	190	NV	40	-8.43	-0.010077	±2.5	PASS
GSM850	190	NV	50	-6.78	-0.008104	±2.5	PASS
GSM850	251	NV	-30	-8.43	-0.009932	±2.5	PASS
GSM850	251	NV	-20	-5.46	-0.006433	±2.5	PASS
GSM850	251	NV	-10	-4.97	-0.005855	±2.5	PASS
GSM850	251	NV	0	-13.27	-0.015634	±2.5	PASS
GSM850	251	NV	10	-5.65	-0.006656	±2.5	PASS
GSM850	251	NV	20	-6.49	-0.007646	±2.5	PASS
GSM850	251	NV	30	-8.68	-0.010226	±2.5	PASS
GSM850	251	NV	40	-5.71	-0.006727	±2.5	PASS
GSM850	251	NV	50	-3.75	-0.004418	±2.5	PASS



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EGPRS850	128	NV	-30	1.03	0.001250	±2.5	PASS
EGPRS850	128	NV	-20	0.42	0.000510	±2.5	PASS
EGPRS850	128	NV	-10	-0.36	-0.000437	±2.5	PASS
EGPRS850	128	NV	0	2.68	0.003252	±2.5	PASS
EGPRS850	128	NV	10	3.81	0.004623	±2.5	PASS
EGPRS850	128	NV	20	-3.97	-0.004817	±2.5	PASS
EGPRS850	128	NV	30	1.10	0.001335	±2.5	PASS
EGPRS850	128	NV	40	0.32	0.000388	±2.5	PASS
EGPRS850	128	NV	50	2.52	0.003058	±2.5	PASS
EGPRS850	190	NV	-30	-1.87	-0.002235	±2.5	PASS
EGPRS850	190	NV	-20	-3.13	-0.003741	±2.5	PASS
EGPRS850	190	NV	-10	-6.13	-0.007327	±2.5	PASS
EGPRS850	190	NV	0	-3.97	-0.004745	±2.5	PASS
EGPRS850	190	NV	10	-7.85	-0.009383	±2.5	PASS
EGPRS850	190	NV	20	-2.65	-0.003168	±2.5	PASS
EGPRS850	190	NV	30	1.07	0.001279	±2.5	PASS
EGPRS850	190	NV	40	-1.87	-0.002235	±2.5	PASS
EGPRS850	190	NV	50	-5.88	-0.007028	±2.5	PASS
EGPRS850	251	NV	-30	-6.75	-0.007952	±2.5	PASS
EGPRS850	251	NV	-20	-6.97	-0.008212	±2.5	PASS
EGPRS850	251	NV	-10	-4.26	-0.005019	±2.5	PASS
EGPRS850	251	NV	0	-8.68	-0.010226	±2.5	PASS
EGPRS850	251	NV	10	-4.07	-0.004795	±2.5	PASS
EGPRS850	251	NV	20	-9.43	-0.011110	±2.5	PASS
EGPRS850	251	NV	30	-12.62	-0.014868	±2.5	PASS
EGPRS850	251	NV	40	-8.78	-0.010344	±2.5	PASS
EGPRS850	251	NV	50	-8.36	-0.009849	±2.5	PASS
GSM1900	512	NV	-30	-6.84	-0.003697	±2.5	PASS
GSM1900	512	NV	-20	-5.07	-0.002740	±2.5	PASS
GSM1900	512	NV	-10	-9.62	-0.005199	±2.5	PASS
GSM1900	512	NV	0	-7.59	-0.004102	±2.5	PASS
GSM1900	512	NV	10	-7.72	-0.004173	±2.5	PASS
GSM1900	512	NV	20	-7.39	-0.003994	±2.5	PASS
GSM1900	512	NV	30	-6.39	-0.003454	±2.5	PASS
GSM1900	512	NV	40	-8.68	-0.004691	±2.5	PASS
GSM1900	512	NV	50	-16.59	-0.008967	±2.5	PASS
GSM1900	661	NV	-30	-9.20	-0.004894	±2.5	PASS



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GSM1900	661	NV	-20	-9.88	-0.005255	±2.5	PASS
GSM1900	661	NV	-10	-8.62	-0.004585	±2.5	PASS
GSM1900	661	NV	0	-13.24	-0.007043	±2.5	PASS
GSM1900	661	NV	10	-7.88	-0.004191	±2.5	PASS
GSM1900	661	NV	20	-12.37	-0.006580	±2.5	PASS
GSM1900	661	NV	30	-11.98	-0.006372	±2.5	PASS
GSM1900	661	NV	40	-18.40	-0.009787	±2.5	PASS
GSM1900	661	NV	50	-9.56	-0.005085	±2.5	PASS
GSM1900	810	NV	-30	-11.91	-0.006236	±2.5	PASS
GSM1900	810	NV	-20	-9.56	-0.005006	±2.5	PASS
GSM1900	810	NV	-10	-9.72	-0.005090	±2.5	PASS
GSM1900	810	NV	0	-12.01	-0.006289	±2.5	PASS
GSM1900	810	NV	10	-11.91	-0.006236	±2.5	PASS
GSM1900	810	NV	20	-10.01	-0.005241	±2.5	PASS
GSM1900	810	NV	30	-9.43	-0.004938	±2.5	PASS
GSM1900	810	NV	40	-7.20	-0.003770	±2.5	PASS
GSM1900	810	NV	50	-7.30	-0.003822	±2.5	PASS
EGPRS1900	512	NV	-30	-12.75	-0.006891	±2.5	PASS
EGPRS1900	512	NV	-20	-14.59	-0.007886	±2.5	PASS
EGPRS1900	512	NV	-10	-12.56	-0.006788	±2.5	PASS
EGPRS1900	512	NV	0	-13.08	-0.007070	±2.5	PASS
EGPRS1900	512	NV	10	-19.44	-0.010507	±2.5	PASS
EGPRS1900	512	NV	20	-9.69	-0.005237	±2.5	PASS
EGPRS1900	512	NV	30	-17.89	-0.009669	±2.5	PASS
EGPRS1900	512	NV	40	-17.31	-0.009356	±2.5	PASS
EGPRS1900	512	NV	50	-11.95	-0.006459	±2.5	PASS
EGPRS1900	661	NV	-30	-15.43	-0.008207	±2.5	PASS
EGPRS1900	661	NV	-20	-12.66	-0.006734	±2.5	PASS
EGPRS1900	661	NV	-10	-20.89	-0.011112	±2.5	PASS
EGPRS1900	661	NV	0	-15.17	-0.008069	±2.5	PASS
EGPRS1900	661	NV	10	-16.24	-0.008638	±2.5	PASS
EGPRS1900	661	NV	20	-14.50	-0.007713	±2.5	PASS
EGPRS1900	661	NV	30	-12.11	-0.006441	±2.5	PASS
EGPRS1900	661	NV	40	-15.34	-0.008160	±2.5	PASS
EGPRS1900	661	NV	50	-18.05	-0.009601	±2.5	PASS
EGPRS1900	810	NV	-30	-12.17	-0.006372	±2.5	PASS
EGPRS1900	810	NV	-20	-20.05	-0.010498	±2.5	PASS



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EGPRS1900	810	NV	-10	-15.95	-0.008352	±2.5	PASS
EGPRS1900	810	NV	0	-18.63	-0.009755	±2.5	PASS
EGPRS1900	810	NV	10	-10.36	-0.005425	±2.5	PASS
EGPRS1900	810	NV	20	-16.56	-0.008671	±2.5	PASS
EGPRS1900	810	NV	30	-11.36	-0.005948	±2.5	PASS
EGPRS1900	810	NV	40	-18.47	-0.009671	±2.5	PASS
EGPRS1900	810	NV	50	-17.66	-0.009247	±2.5	PASS

The End

