



Appendix B

GSM 850 & 1900



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1. Effective (Isotropic) Radiated Power Output Data

1.1. Test Result for Ant0

Band	Channel	Slot	Conducted Power (dBm)	ERP (dBm)	Limit(dBm)	Verdict
GSM850	128	---	32.18	23.03	38.45	PASS
GSM850	190	---	32.55	23.40	38.45	PASS
GSM850	251	---	32.19	23.04	38.45	PASS
EGRPS850 (GMSK)	128	1	32.34	23.19	38.45	PASS
EGRPS850 (GMSK)	128	2	30.61	21.46	38.45	PASS
EGRPS850 (GMSK)	128	3	29.45	20.30	38.45	PASS
EGRPS850 (GMSK)	128	4	27.48	18.33	38.45	PASS
EGRPS850 (GMSK)	190	1	32.43	23.28	38.45	PASS
EGRPS850 (GMSK)	190	2	30.38	21.23	38.45	PASS
EGRPS850 (GMSK)	190	3	28.77	19.62	38.45	PASS
EGRPS850 (GMSK)	190	4	27.69	18.54	38.45	PASS
EGRPS850 (GMSK)	251	1	32.31	23.16	38.45	PASS
EGRPS850 (GMSK)	251	2	30.65	21.50	38.45	PASS
EGRPS850 (GMSK)	251	3	28.49	19.34	38.45	PASS
EGRPS850 (GMSK)	251	4	27.53	18.38	38.45	PASS
EGPRS850 (8PSK)	128	1	26.89	17.74	38.45	PASS
EGPRS850 (8PSK)	128	2	25.28	16.13	38.45	PASS
EGPRS850 (8PSK)	128	3	22.98	13.83	38.45	PASS
EGPRS850 (8PSK)	128	4	22.07	12.92	38.45	PASS
EGPRS850 (8PSK)	190	1	27.01	17.86	38.45	PASS
EGPRS850 (8PSK)	190	2	25.19	16.04	38.45	PASS
EGPRS850 (8PSK)	190	3	23.35	14.20	38.45	PASS
EGPRS850 (8PSK)	190	4	22.11	12.96	38.45	PASS
EGPRS850 (8PSK)	251	1	26.78	17.63	38.45	PASS
EGPRS850 (8PSK)	251	2	25.16	16.01	38.45	PASS
EGPRS850 (8PSK)	251	3	23.18	14.03	38.45	PASS
EGPRS850 (8PSK)	251	4	21.69	12.54	38.45	PASS



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1.2. Test Result for Ant1

Band	Channel	Slot	Conducted Power (dBm)	ERP (dBm)	Limit(dBm)	Verdict
GSM850	128	---	32.66	27.11	38.45	PASS
GSM850	190	---	32.71	27.16	38.45	PASS
GSM850	251	---	32.67	27.12	38.45	PASS
EGRPS850 (GMSK)	128	1	32.64	27.09	38.45	PASS
EGRPS850 (GMSK)	128	2	30.84	25.29	38.45	PASS
EGRPS850 (GMSK)	128	3	29.24	23.69	38.45	PASS
EGRPS850 (GMSK)	128	4	27.66	22.11	38.45	PASS
EGRPS850 (GMSK)	190	1	32.63	27.08	38.45	PASS
EGRPS850 (GMSK)	190	2	30.69	25.14	38.45	PASS
EGRPS850 (GMSK)	190	3	29.24	23.69	38.45	PASS
EGRPS850 (GMSK)	190	4	27.89	22.34	38.45	PASS
EGRPS850 (GMSK)	251	1	32.68	27.13	38.45	PASS
EGRPS850 (GMSK)	251	2	30.82	25.27	38.45	PASS
EGRPS850 (GMSK)	251	3	29.20	23.65	38.45	PASS
EGRPS850 (GMSK)	251	4	27.74	22.19	38.45	PASS
EGPRS850 (8PSK)	128	1	27.06	21.51	38.45	PASS
EGPRS850 (8PSK)	128	2	25.38	19.83	38.45	PASS
EGPRS850 (8PSK)	128	3	23.38	17.83	38.45	PASS
EGPRS850 (8PSK)	128	4	22.46	16.91	38.45	PASS
EGPRS850 (8PSK)	190	1	27.13	21.58	38.45	PASS
EGPRS850 (8PSK)	190	2	25.59	20.04	38.45	PASS
EGPRS850 (8PSK)	190	3	23.13	17.58	38.45	PASS
EGPRS850 (8PSK)	190	4	22.42	16.87	38.45	PASS
EGPRS850 (8PSK)	251	1	27.07	21.52	38.45	PASS
EGPRS850 (8PSK)	251	2	25.44	19.89	38.45	PASS
EGPRS850 (8PSK)	251	3	23.48	17.93	38.45	PASS
EGPRS850 (8PSK)	251	4	22.29	16.74	38.45	PASS



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1.3. Test Result for Ant2

Band	Channel	Slot	Conducted Power (dBm)	EIRP (dBm)	Limit(dBm)	Verdict
GSM1900	512	---	30.16	28.56	33.00	PASS
GSM1900	661	---	30.15	28.55	33.00	PASS
GSM1900	810	---	30.11	28.51	33.00	PASS
EGRPS1900 (GMSK)	512	1	30.14	28.54	33.00	PASS
EGRPS1900 (GMSK)	512	2	28.56	26.96	33.00	PASS
EGRPS1900 (GMSK)	512	3	26.95	25.35	33.00	PASS
EGRPS1900 (GMSK)	512	4	25.49	23.89	33.00	PASS
EGRPS1900 (GMSK)	661	1	30.10	28.50	33.00	PASS
EGRPS1900 (GMSK)	661	2	28.53	26.93	33.00	PASS
EGRPS1900 (GMSK)	661	3	26.91	25.31	33.00	PASS
EGRPS1900 (GMSK)	661	4	25.61	24.01	33.00	PASS
EGRPS1900 (GMSK)	810	1	30.13	28.53	33.00	PASS
EGRPS1900 (GMSK)	810	2	28.50	26.90	33.00	PASS
EGRPS1900 (GMSK)	810	3	27.00	25.40	33.00	PASS
EGRPS1900 (GMSK)	810	4	25.50	23.90	33.00	PASS
EGPRS1900 (8PSK)	512	1	26.48	24.88	33.00	PASS
EGPRS1900 (8PSK)	512	2	24.75	23.15	33.00	PASS
EGPRS1900 (8PSK)	512	3	22.78	21.18	33.00	PASS
EGPRS1900 (8PSK)	512	4	22.27	20.67	33.00	PASS
EGPRS1900 (8PSK)	661	1	26.44	24.84	33.00	PASS
EGPRS1900 (8PSK)	661	2	24.88	23.28	33.00	PASS
EGPRS1900 (8PSK)	661	3	22.81	21.21	33.00	PASS
EGPRS1900 (8PSK)	661	4	22.24	20.64	33.00	PASS
EGPRS1900 (8PSK)	810	1	26.47	24.87	33.00	PASS
EGPRS1900 (8PSK)	810	2	24.84	23.24	33.00	PASS
EGPRS1900 (8PSK)	810	3	22.88	21.28	33.00	PASS
EGPRS1900 (8PSK)	810	4	22.31	20.71	33.00	PASS



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1.4. Test Result for Ant3

Band	Channel	Slot	Conducted Power (dBm)	EIRP (dBm)	Limit(dBm)	Verdict
GSM1900	512	---	28.81	26.81	33.00	PASS
GSM1900	661	---	28.79	26.79	33.00	PASS
GSM1900	810	---	28.68	26.68	33.00	PASS
EGRPS1900 (GMSK)	512	1	28.78	26.78	33.00	PASS
EGRPS1900 (GMSK)	512	2	26.78	24.78	33.00	PASS
EGRPS1900 (GMSK)	512	3	24.68	22.68	33.00	PASS
EGRPS1900 (GMSK)	512	4	23.62	21.62	33.00	PASS
EGRPS1900 (GMSK)	661	1	28.78	26.78	33.00	PASS
EGRPS1900 (GMSK)	661	2	27.03	25.03	33.00	PASS
EGRPS1900 (GMSK)	661	3	24.98	22.98	33.00	PASS
EGRPS1900 (GMSK)	661	4	23.82	21.82	33.00	PASS
EGRPS1900 (GMSK)	810	1	28.75	26.75	33.00	PASS
EGRPS1900 (GMSK)	810	2	26.88	24.88	33.00	PASS
EGRPS1900 (GMSK)	810	3	24.68	22.68	33.00	PASS
EGRPS1900 (GMSK)	810	4	23.75	21.75	33.00	PASS
EGPRS1900 (8PSK)	512	1	24.73	22.73	33.00	PASS
EGPRS1900 (8PSK)	512	2	22.85	20.85	33.00	PASS
EGPRS1900 (8PSK)	512	3	20.74	18.74	33.00	PASS
EGPRS1900 (8PSK)	512	4	19.82	17.82	33.00	PASS
EGPRS1900 (8PSK)	661	1	24.84	22.84	33.00	PASS
EGPRS1900 (8PSK)	661	2	22.88	20.88	33.00	PASS
EGPRS1900 (8PSK)	661	3	20.73	18.73	33.00	PASS
EGPRS1900 (8PSK)	661	4	19.92	17.92	33.00	PASS
EGPRS1900 (8PSK)	810	1	24.92	22.92	33.00	PASS
EGPRS1900 (8PSK)	810	2	22.81	20.81	33.00	PASS
EGPRS1900 (8PSK)	810	3	20.84	18.84	33.00	PASS
EGPRS1900 (8PSK)	810	4	19.72	17.72	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 [dBi]

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



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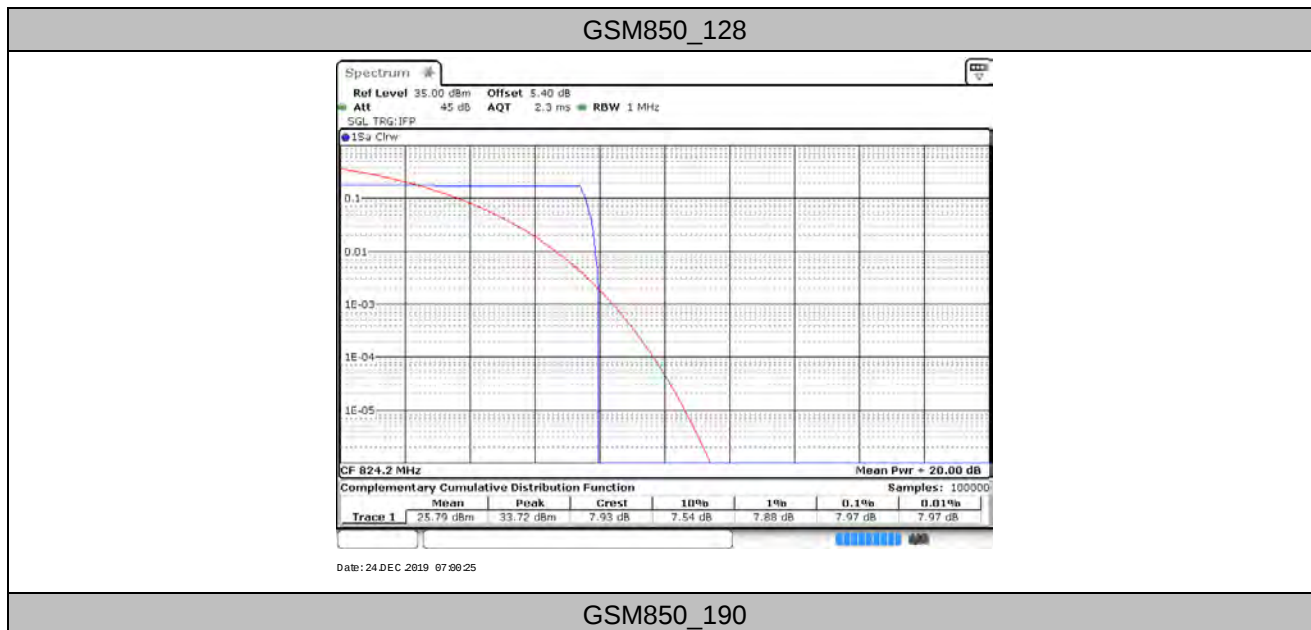


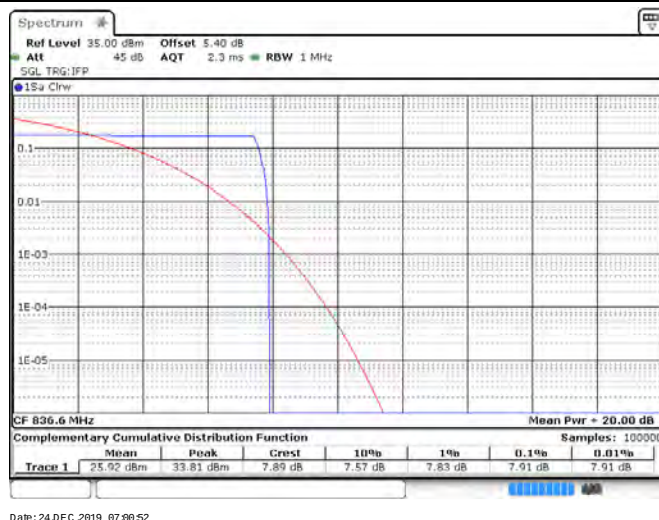
2. Peak-to-Average Ratio

2.1. Test Result

Band	Channel	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
GSM850	128	7.97	13.00	PASS
GSM850	190	7.91	13.00	PASS
GSM850	251	7.88	13.00	PASS
EGPRS850	128	10.99	13.00	PASS
EGPRS850	190	7.94	13.00	PASS
EGPRS850	251	11.22	13.00	PASS
GSM1900	512	7.94	13.00	PASS
GSM1900	661	7.94	13.00	PASS
GSM1900	810	7.94	13.00	PASS
EGPRS1900	512	10.99	13.00	PASS
EGPRS1900	661	11.13	13.00	PASS
EGPRS1900	810	11.39	13.00	PASS

2.2. Part II - Test Plots





GSM850_251



EGPRS850_128





EGPRS850_190



EGPRS850_251





GSM1900_512



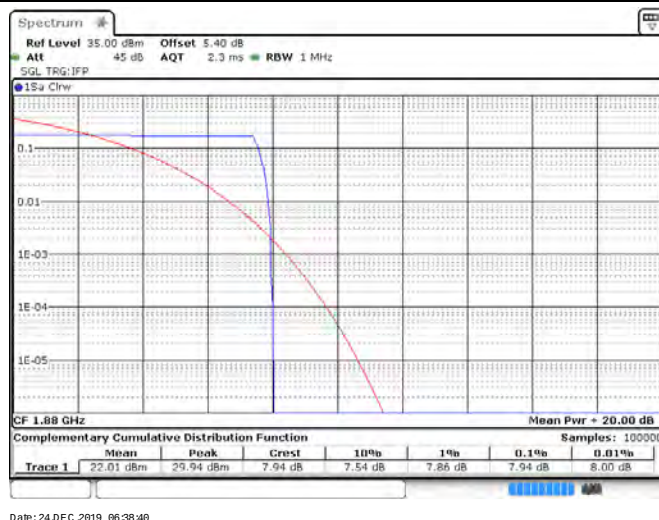
GSM1900_661



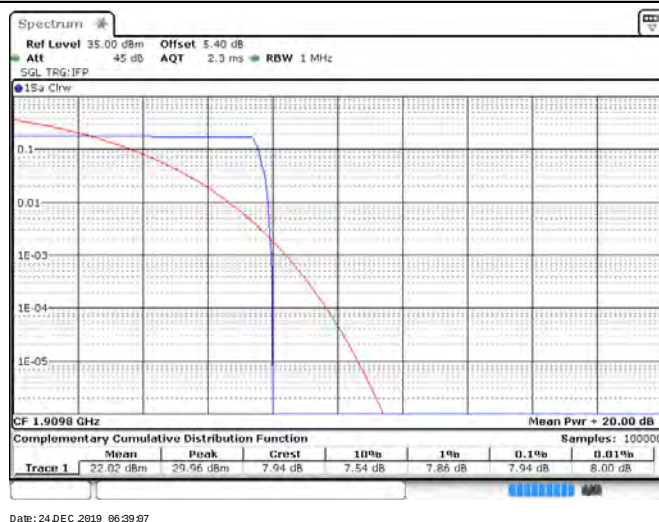
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GSM1900_810



EGPRS1900_512

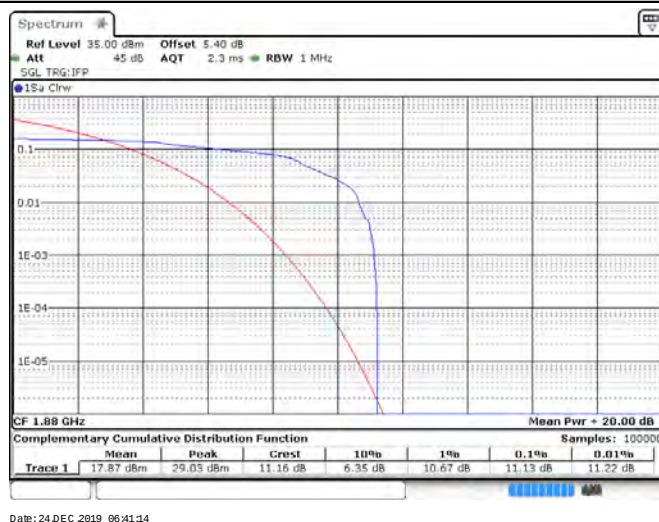


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EGPRS1900_661



EGPRS1900_810







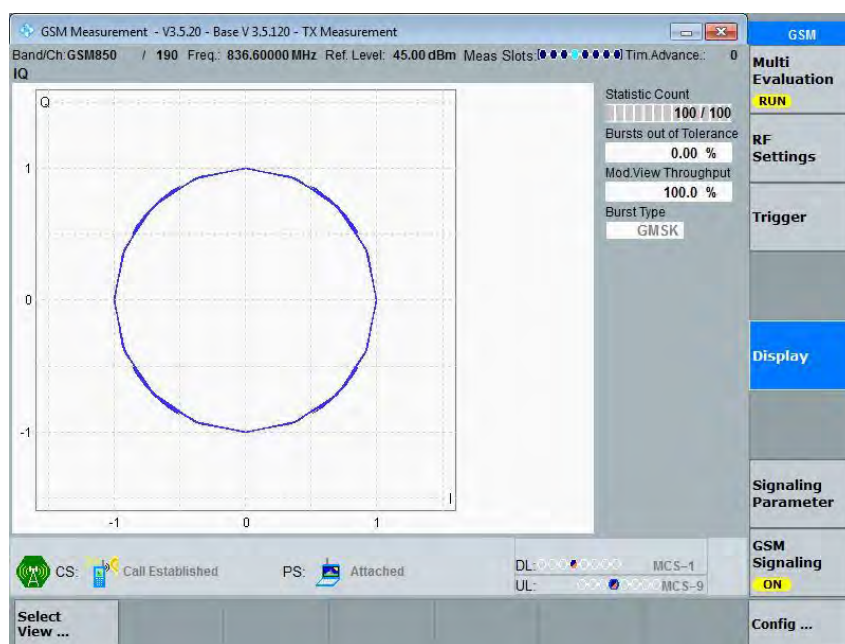
3. Modulation Characteristics

3.1. For GSM

3.1.1. Test Band = GSM 850

3.1.1.1. Test Mode = GSM/TM1

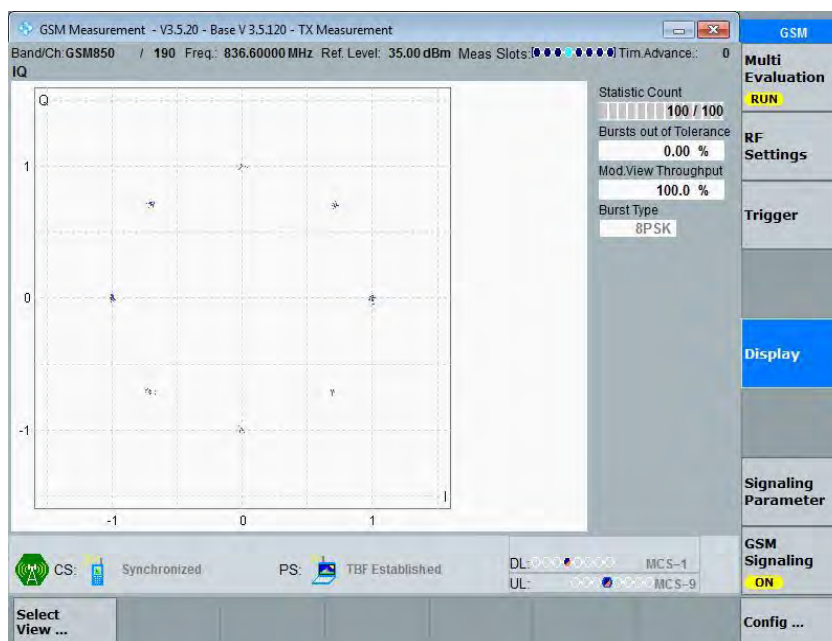
3.1.1.1.1. Test Channel = MCH





3.1.1.2. Test Mode = GSM/TM2

3.1.1.2.1. Test Channel = MCH



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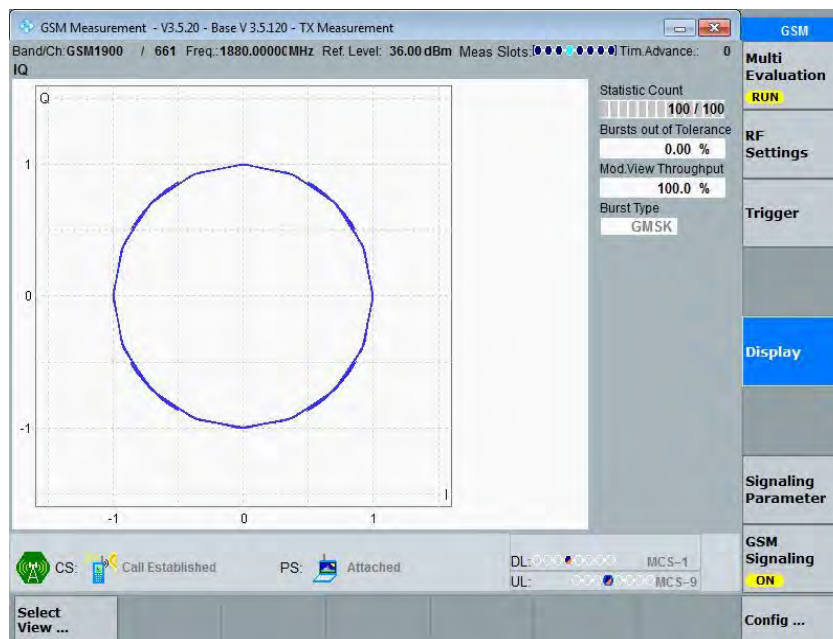
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3.1.2. Test Band = GSM 1900

3.1.2.1. Test Mode = GSM/TM1

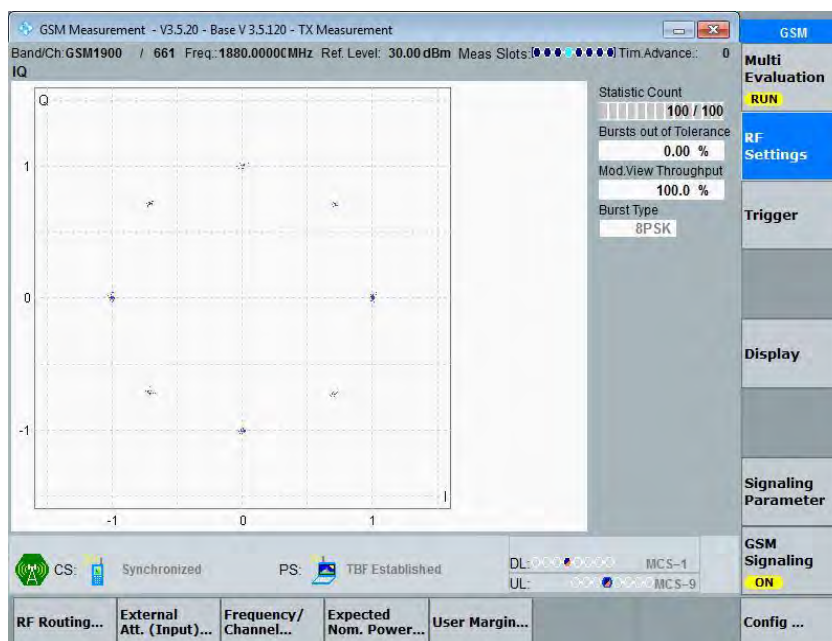
3.1.2.1.1. Test Channel = MCH





3.1.2.2. Test Mode = GSM/TM2

3.1.2.2.1. Test Channel = MCH



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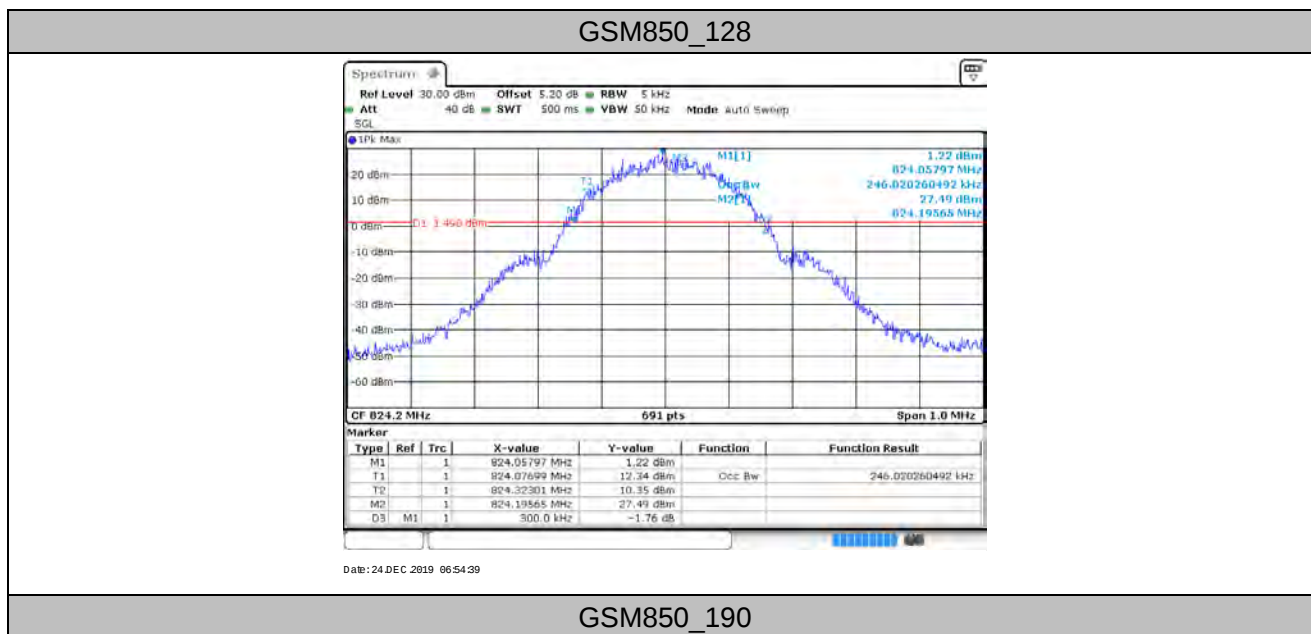


4. 26dB Bandwidth and Occupied Bandwidth

4.1. Test Result

Band	Channel	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
GSM850	128	246.02	300.00	---	PASS
GSM850	190	243.13	301.45	---	PASS
GSM850	251	248.91	302.90	---	PASS
EGPRS850	128	246.02	297.10	---	PASS
EGPRS850	190	243.13	292.75	---	PASS
EGPRS850	251	240.23	301.45	---	PASS
GSM1900	512	241.68	294.20	---	PASS
GSM1900	661	240.23	289.86	---	PASS
GSM1900	810	240.23	294.20	---	PASS
EGPRS1900	512	243.13	294.20	---	PASS
EGPRS1900	661	237.34	279.71	---	PASS
EGPRS1900	810	241.68	291.30	---	PASS

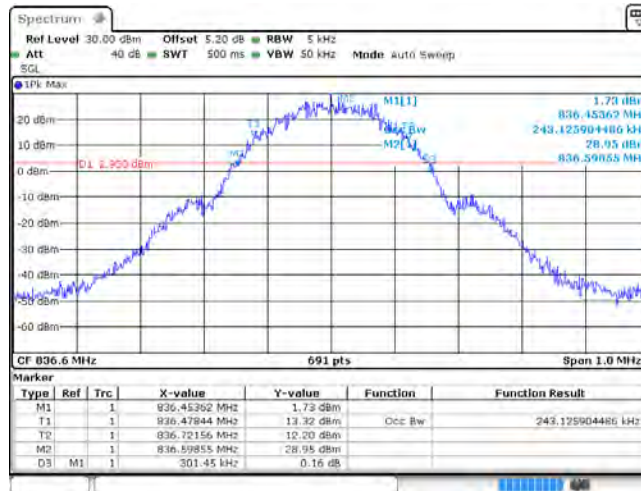
4.2. Test Plots



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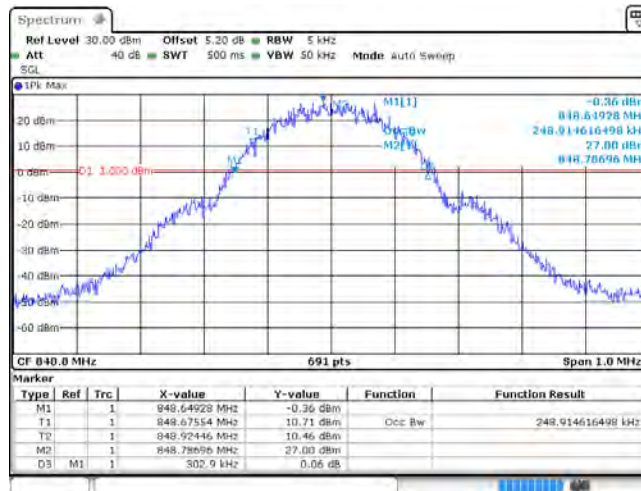
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Date: 24 DEC 2019 06:55:05

GSM850_251



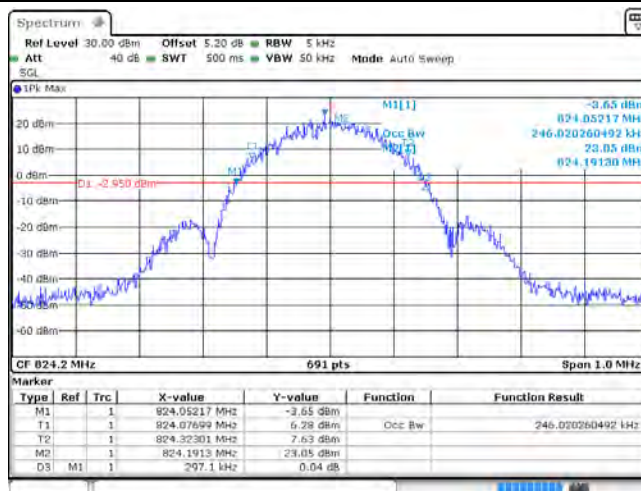
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EGPRS850_128



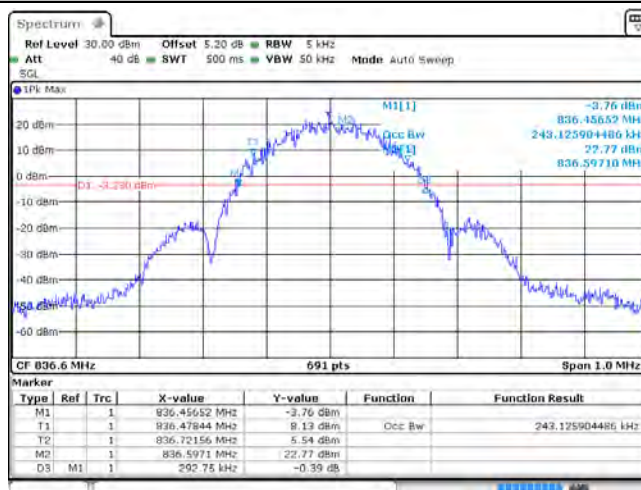
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Date: 24 DEC 2019 07:52:26

EGPRS850_190



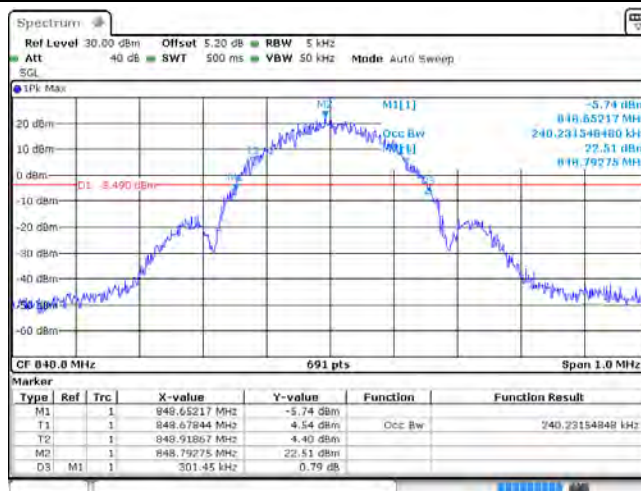
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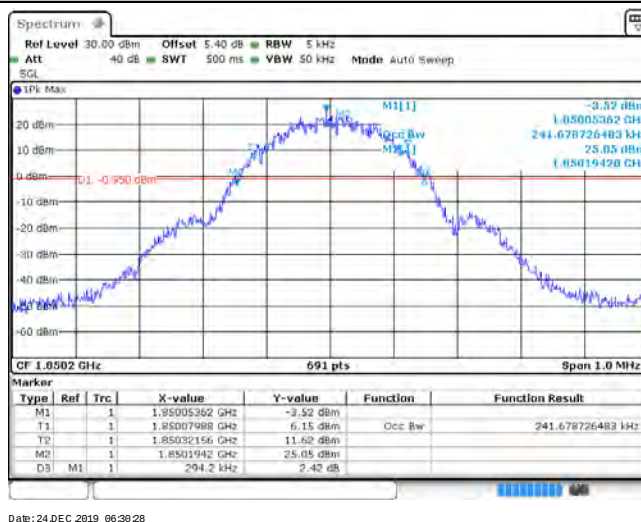


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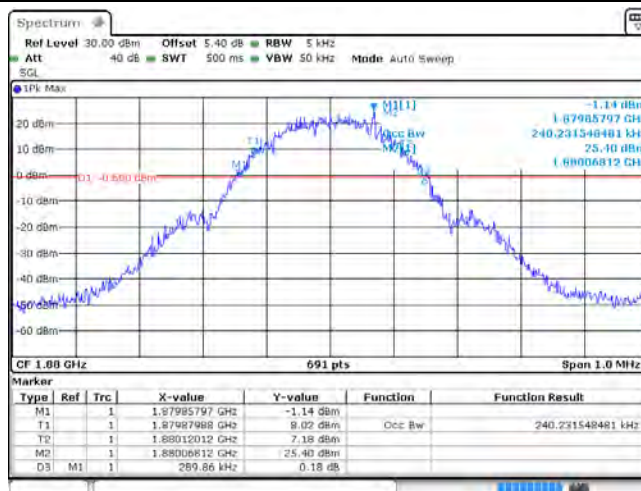


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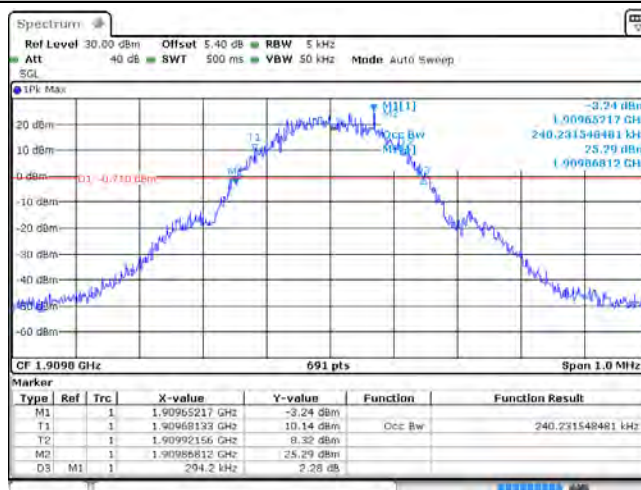
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GSM1900_810



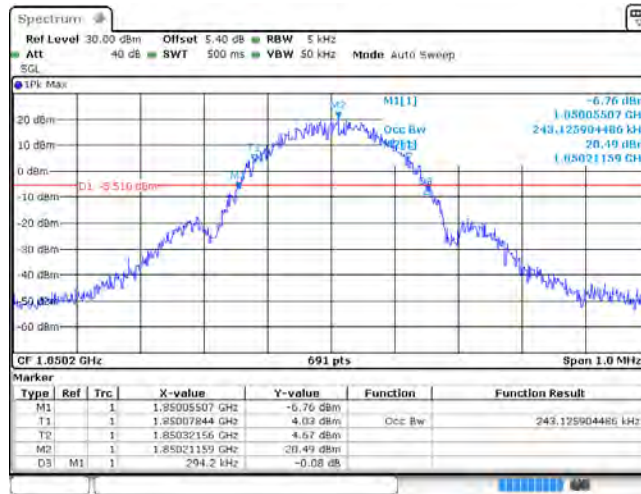
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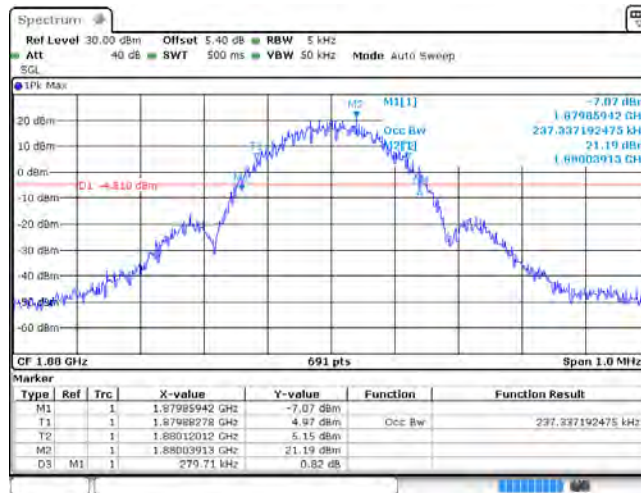


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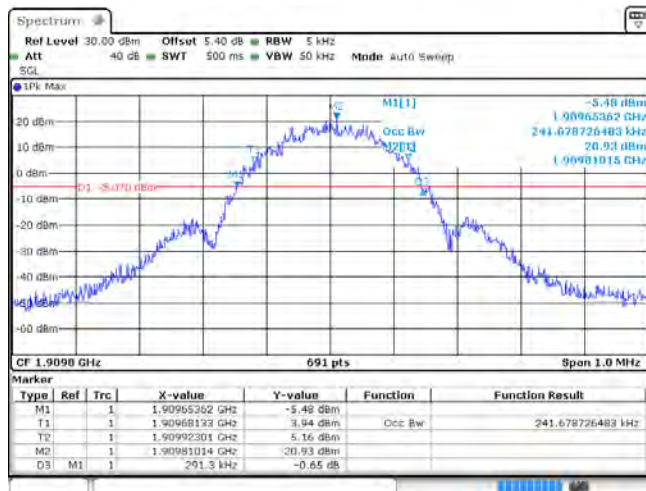


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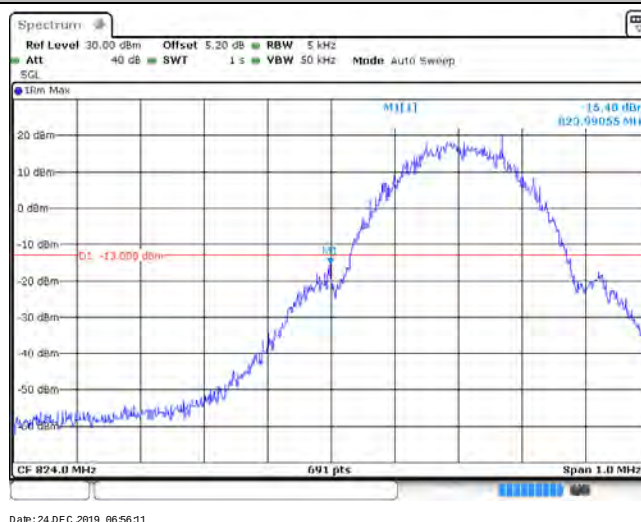
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5. Band Edge Compliance

5.1. Test Plots

GSM850_128



GSM850_251

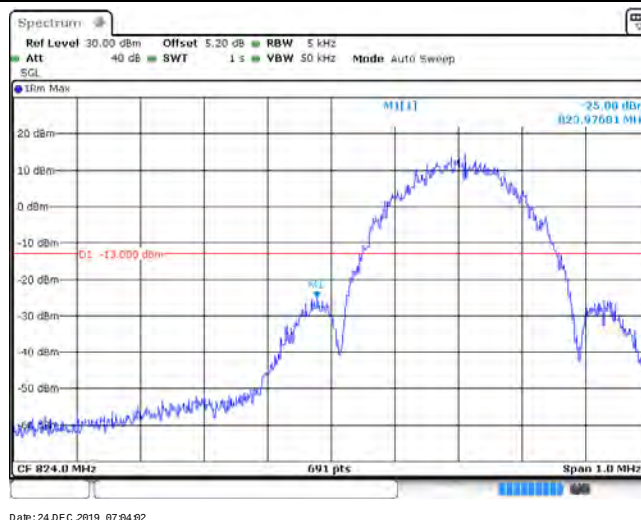


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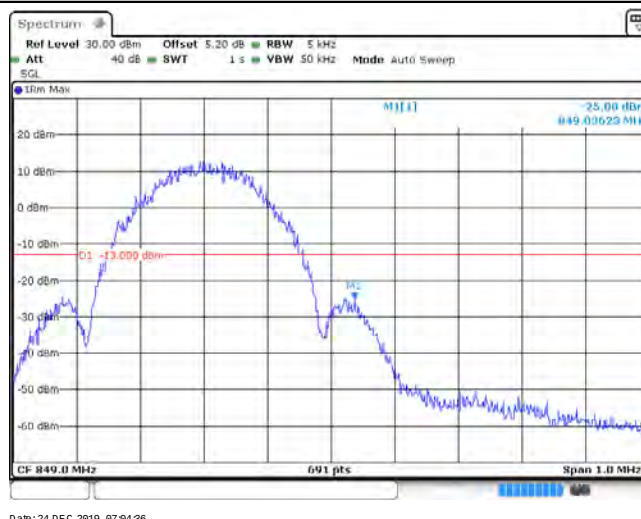
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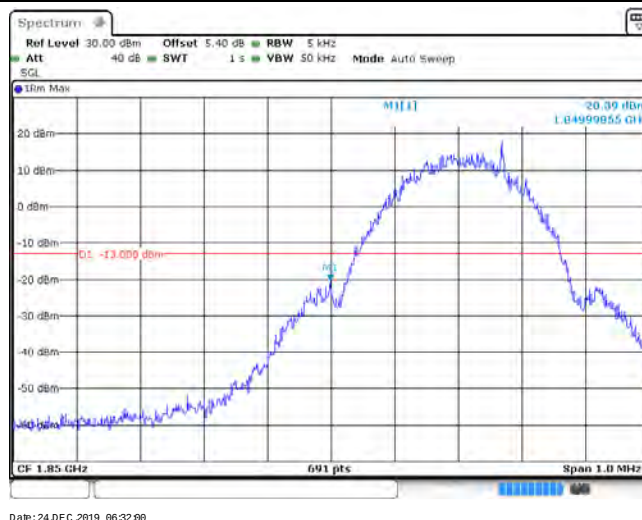
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GSM1900_512





GSM1900_810

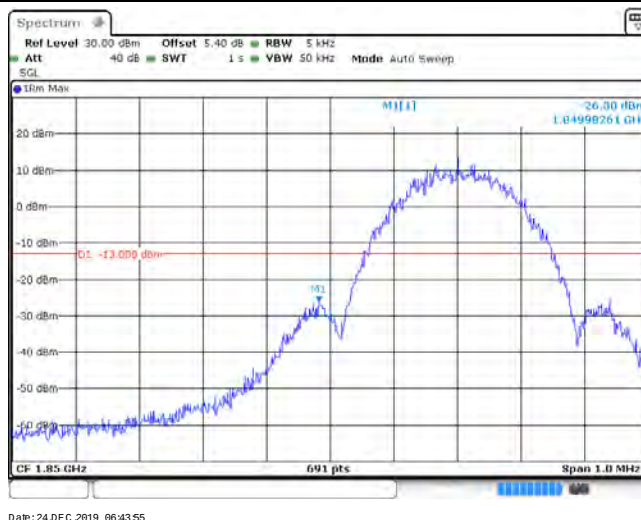


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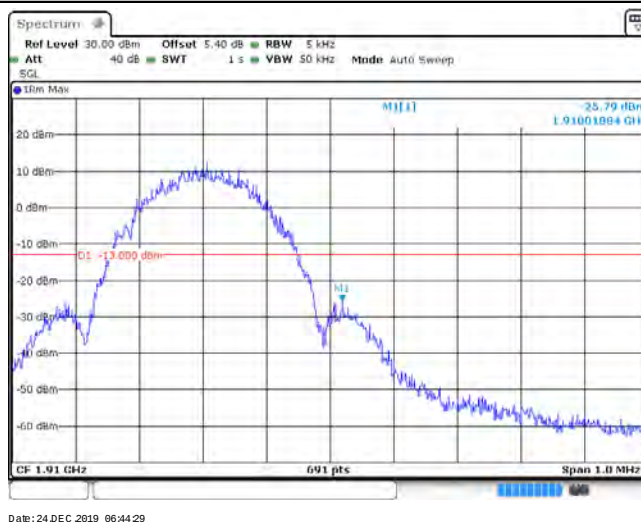


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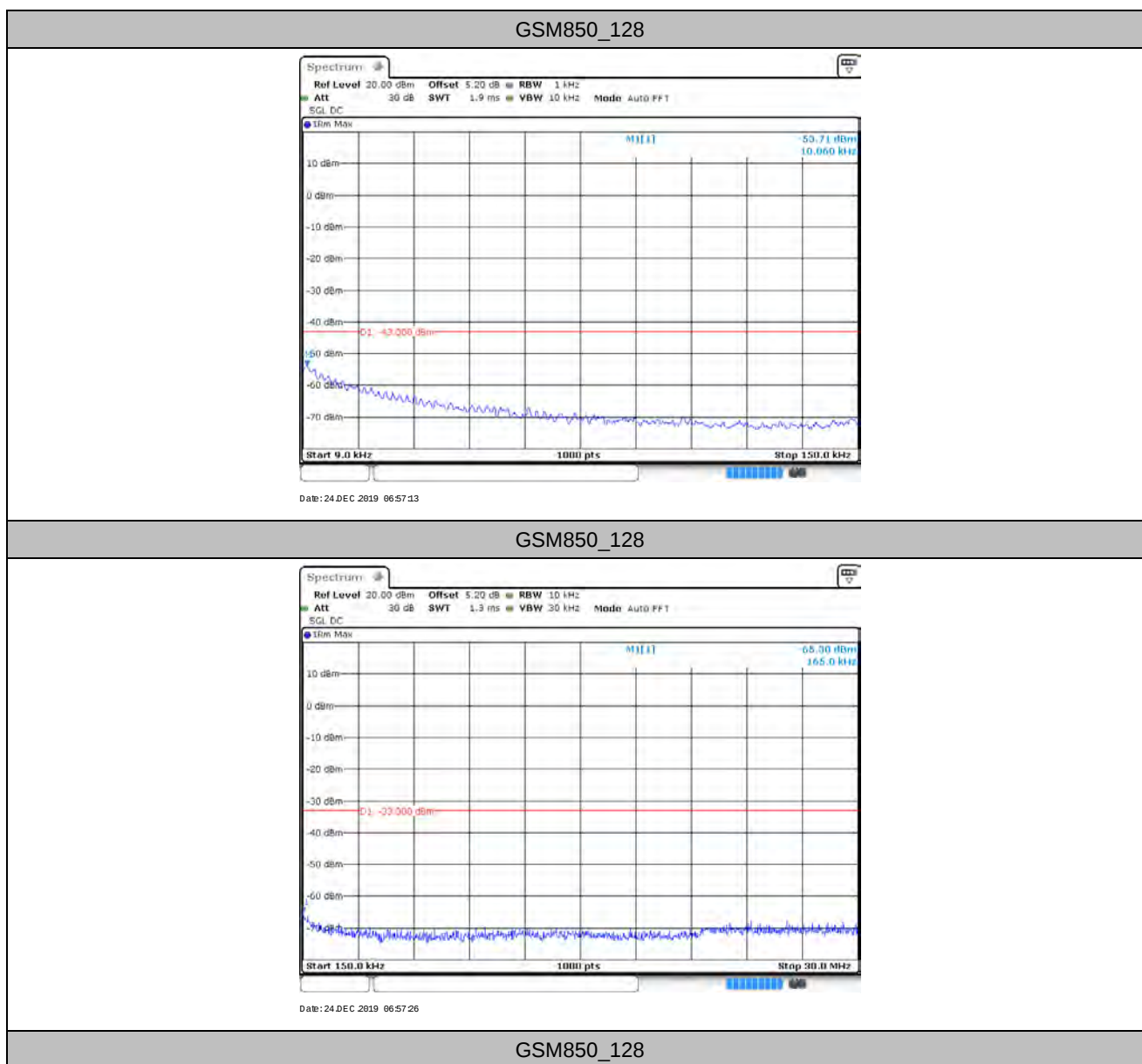


6. Spurious Emission at Antenna Terminal

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.

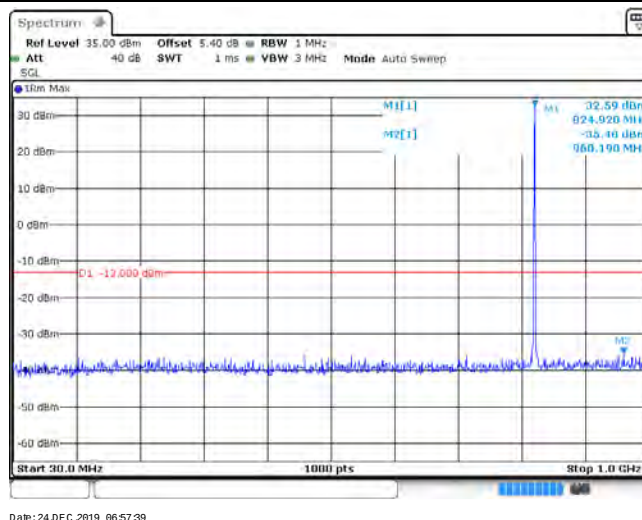
6.1. Test Plots



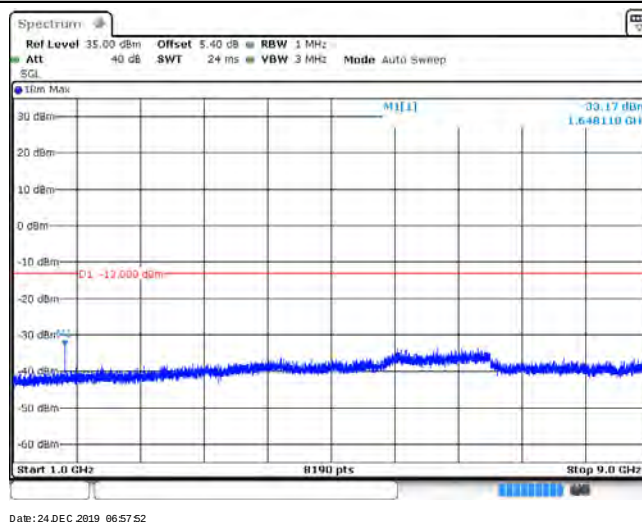
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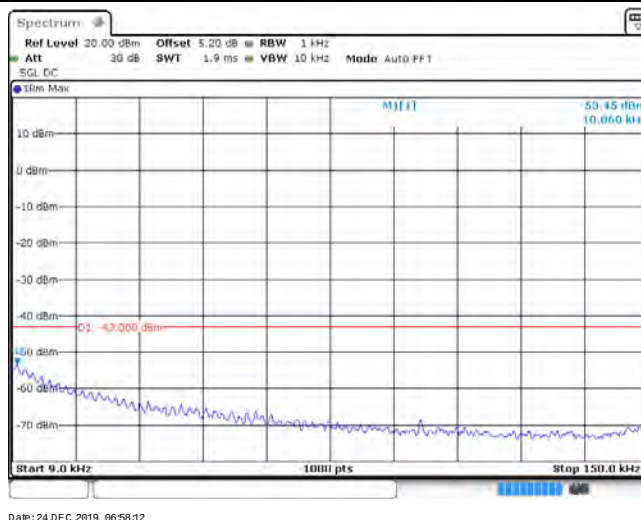


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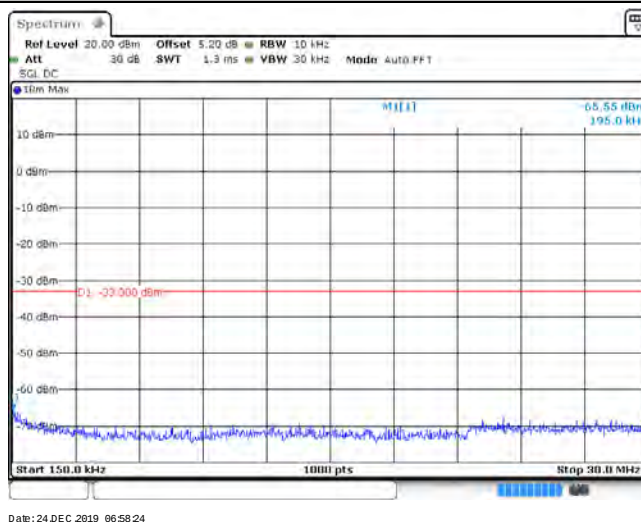


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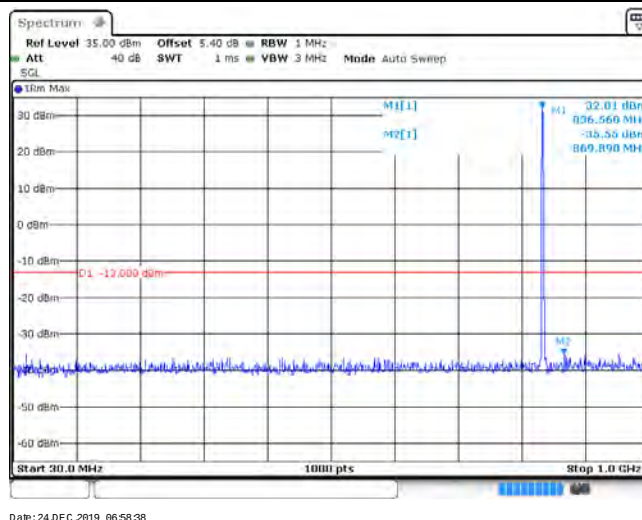


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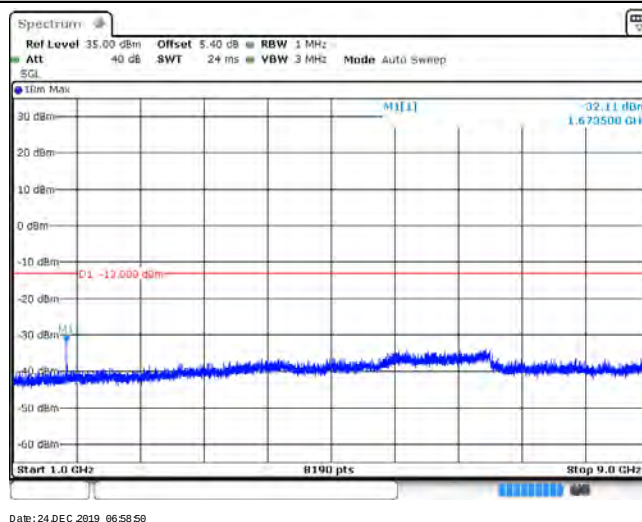


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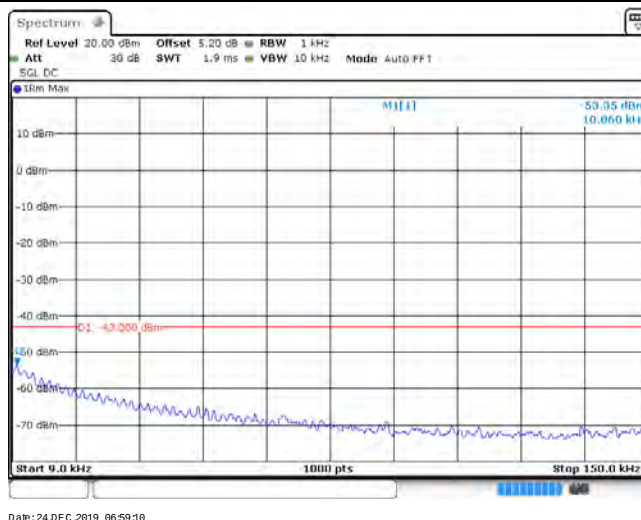


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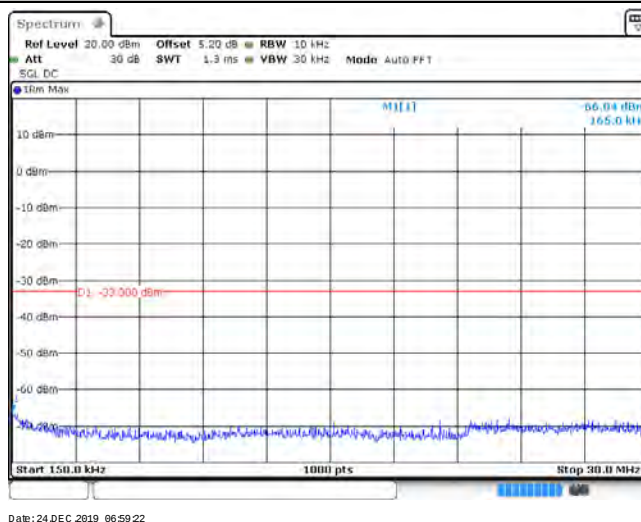


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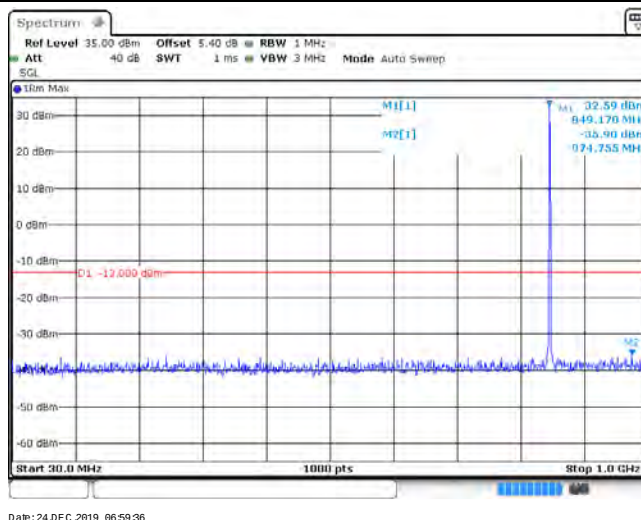


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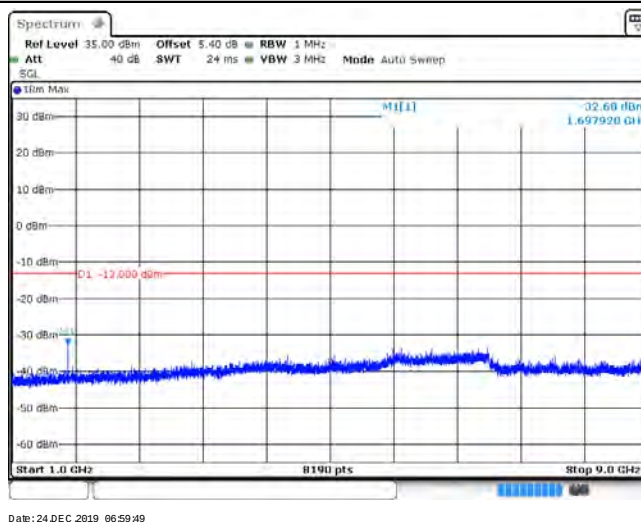


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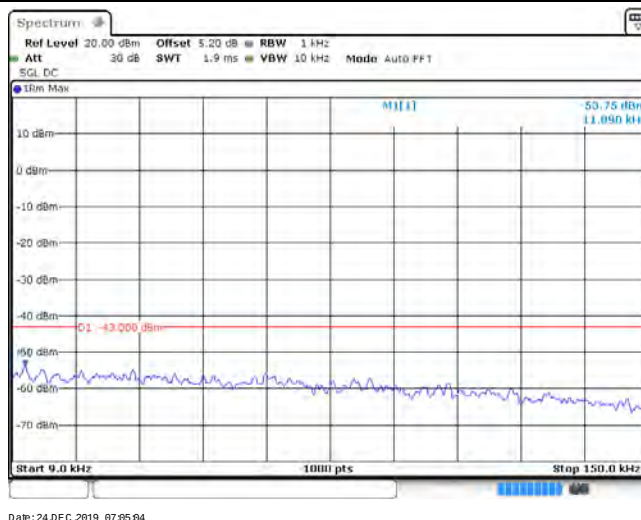
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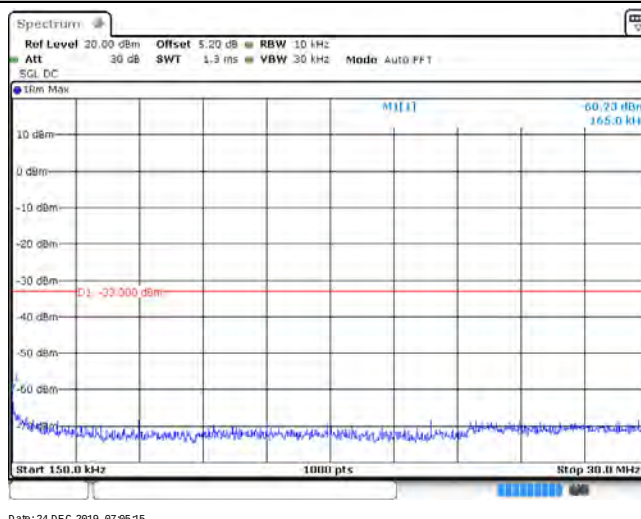
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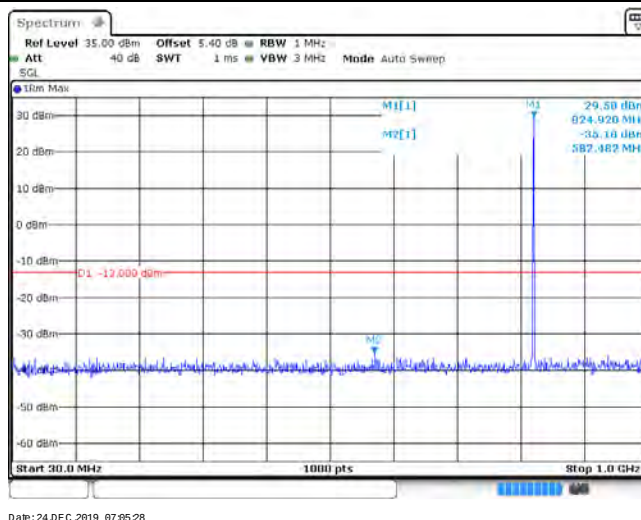
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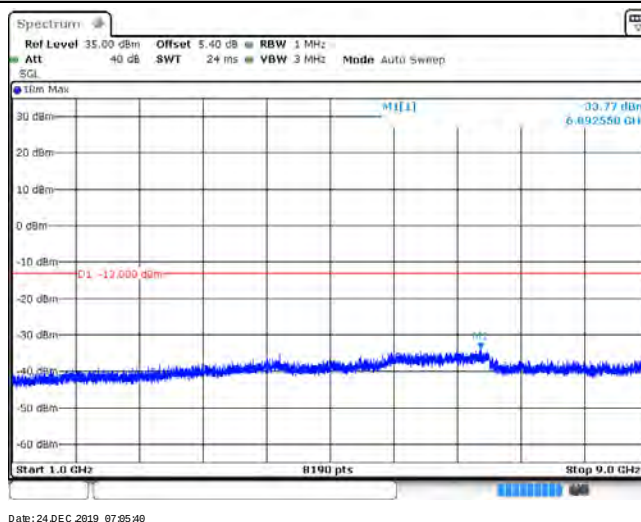


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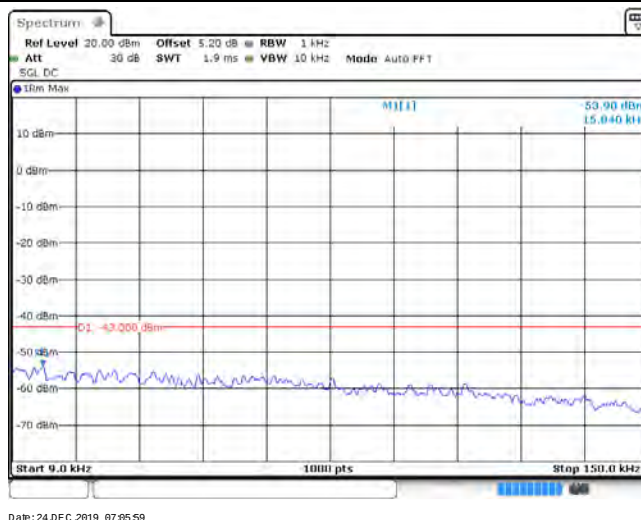
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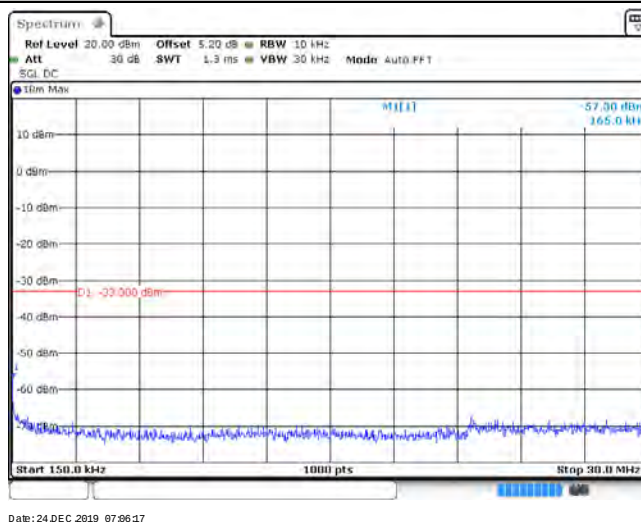
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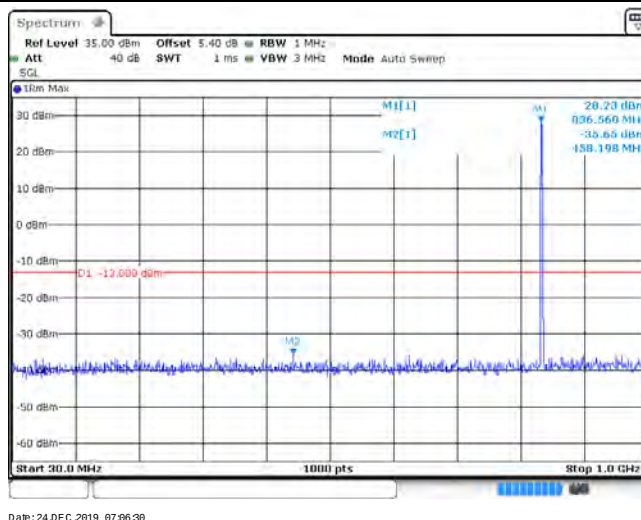


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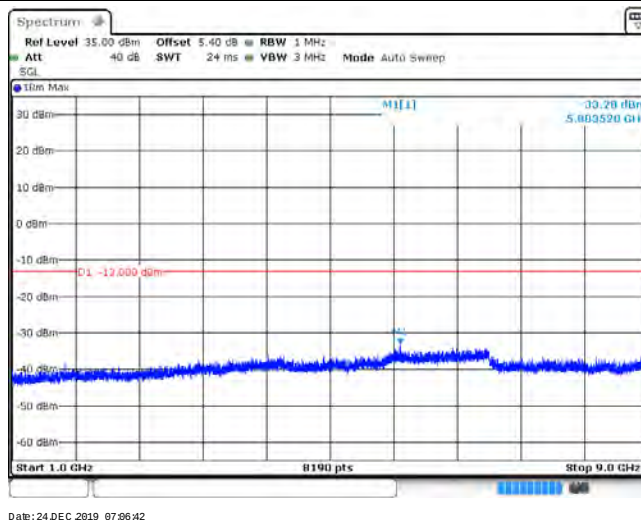


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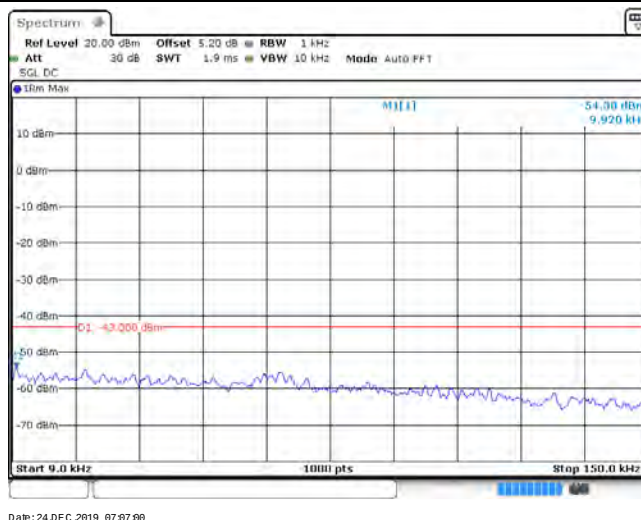
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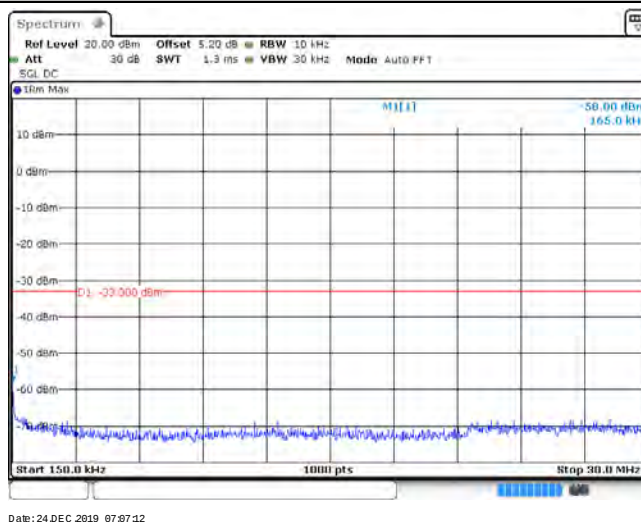
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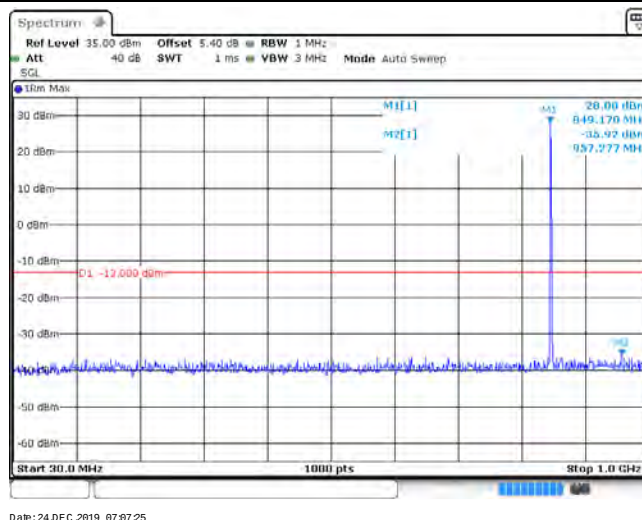


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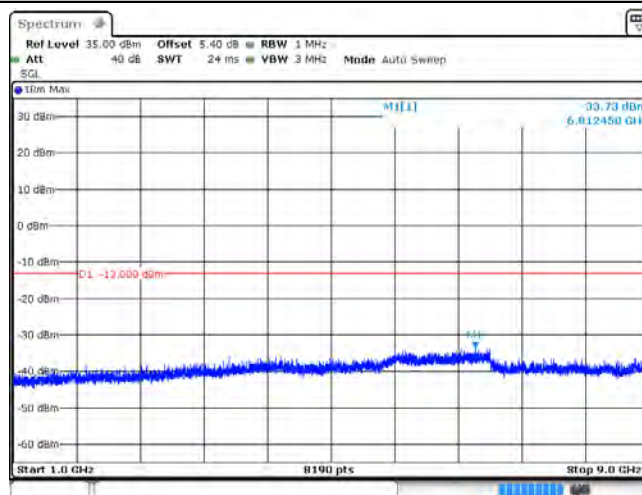
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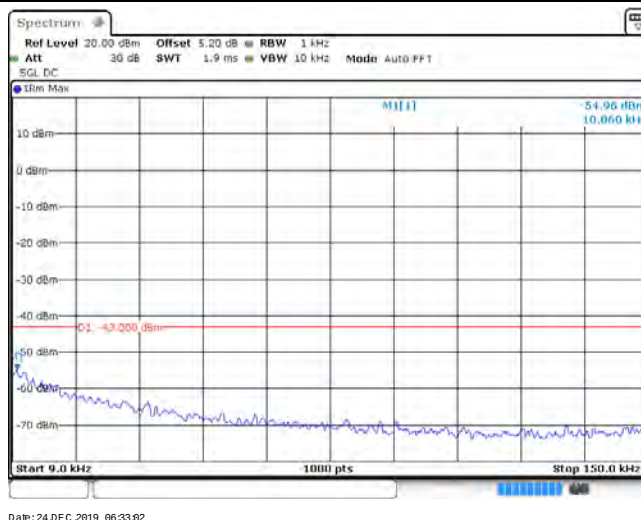


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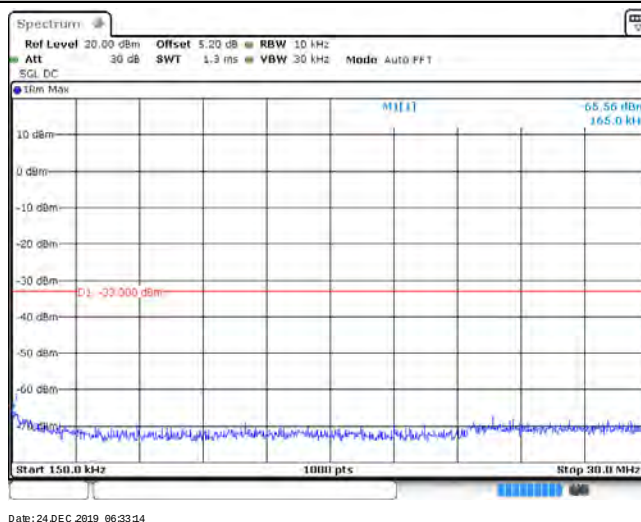
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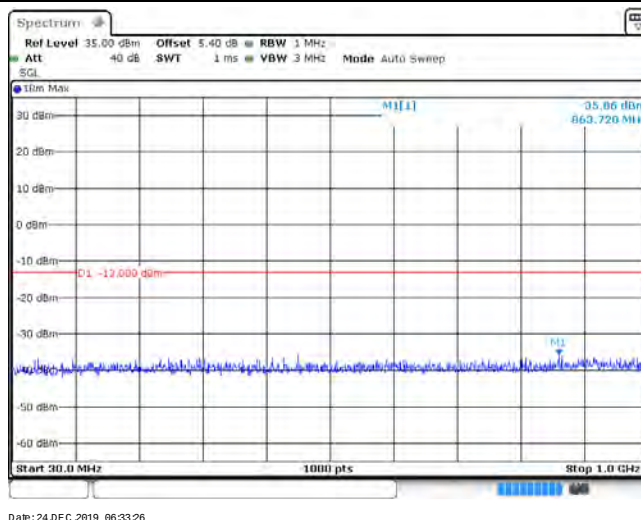


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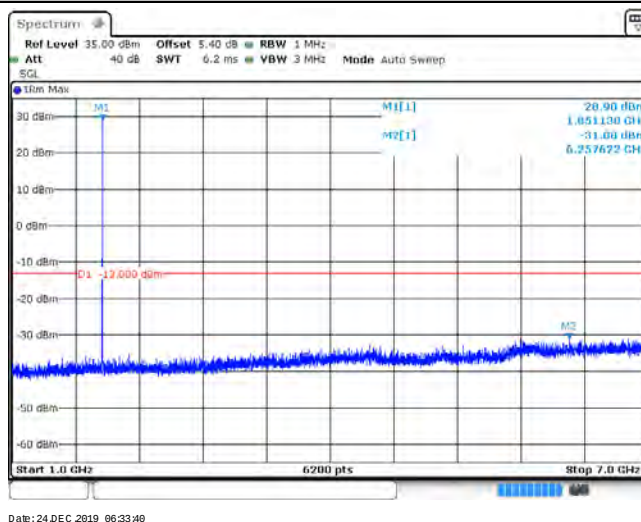


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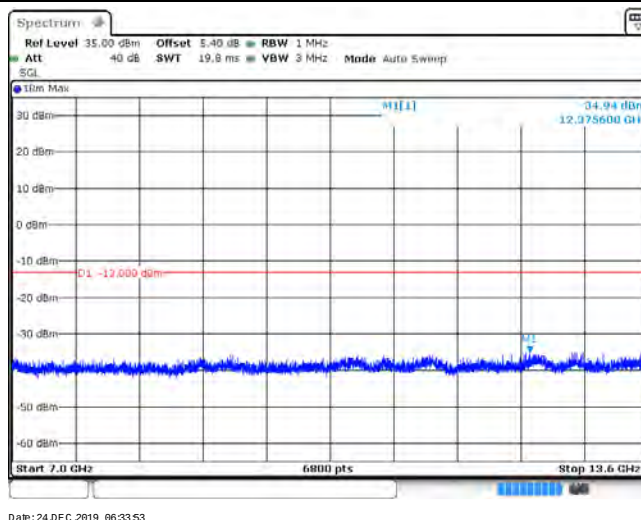


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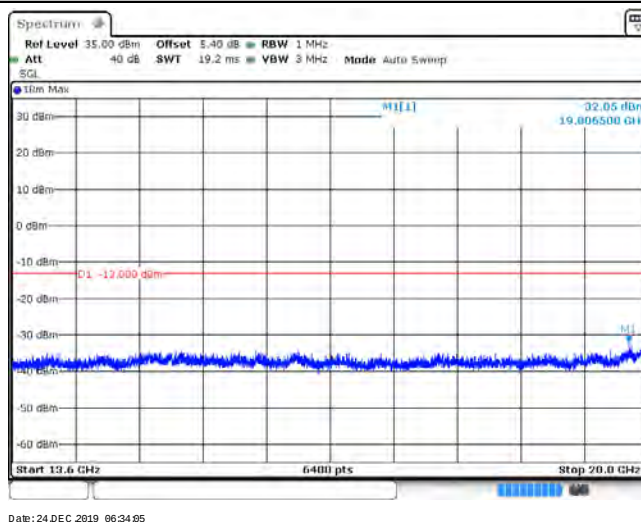


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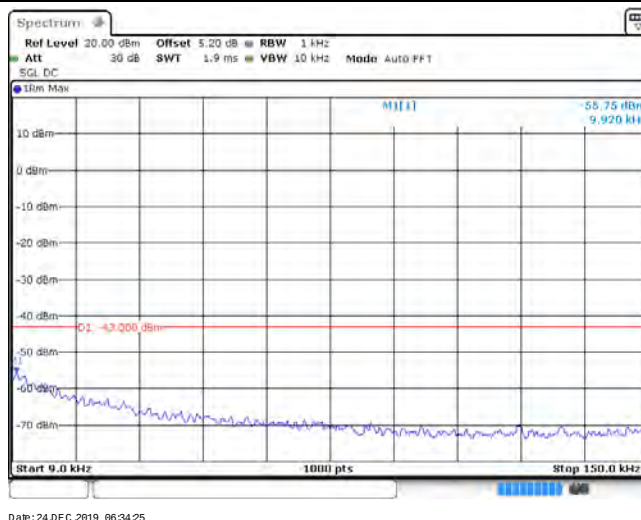


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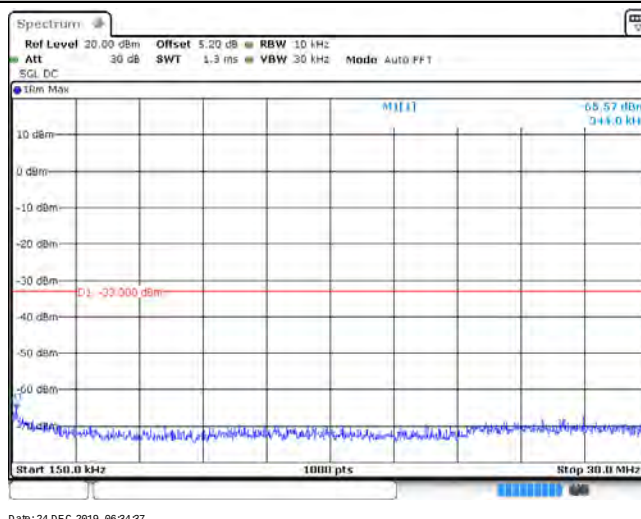
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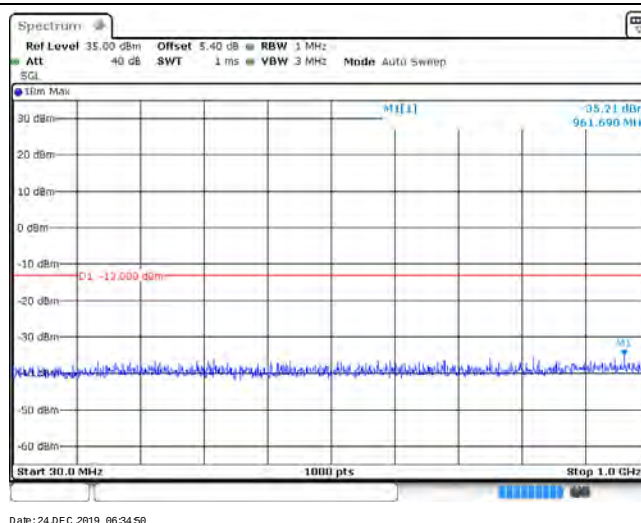
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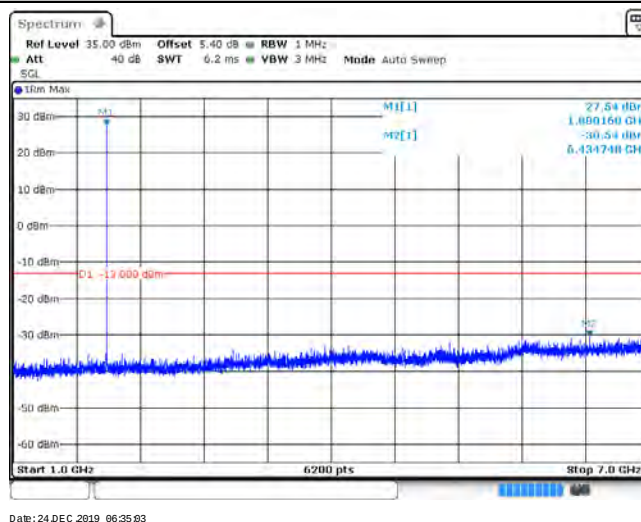


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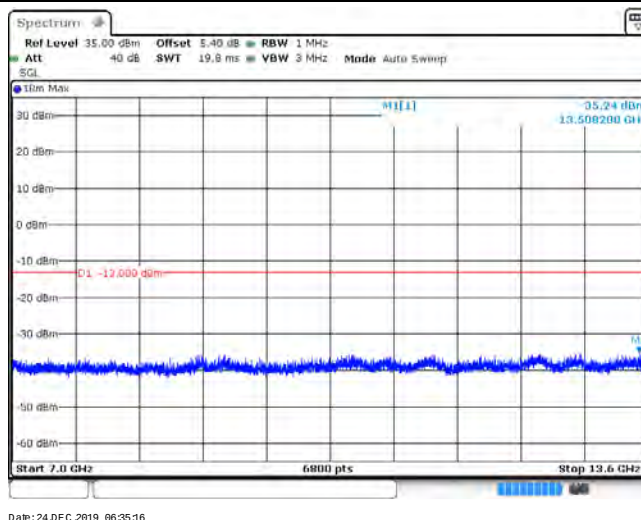


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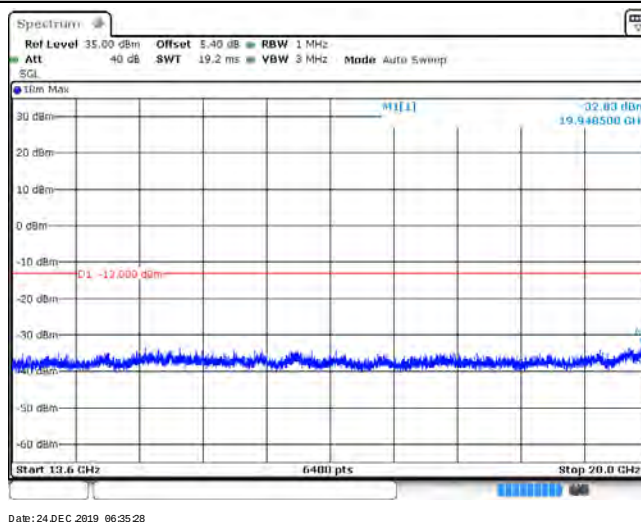


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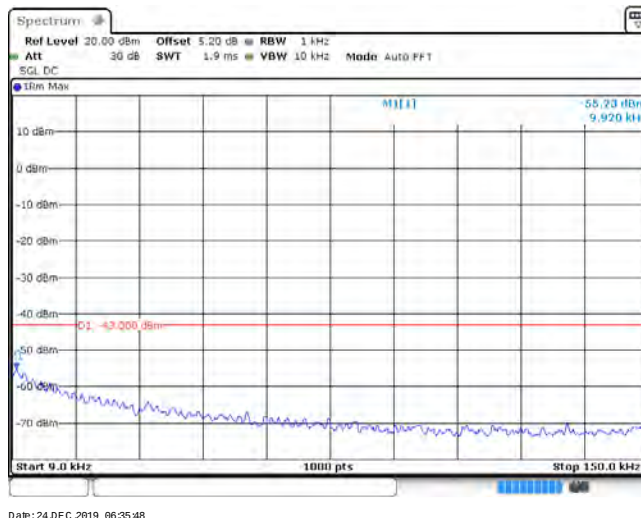


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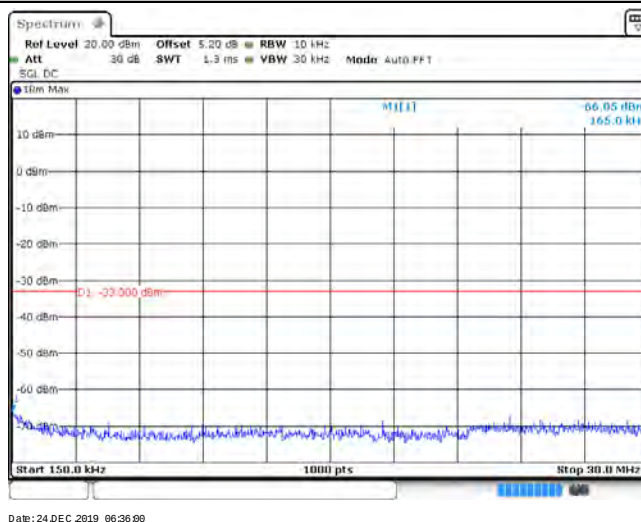


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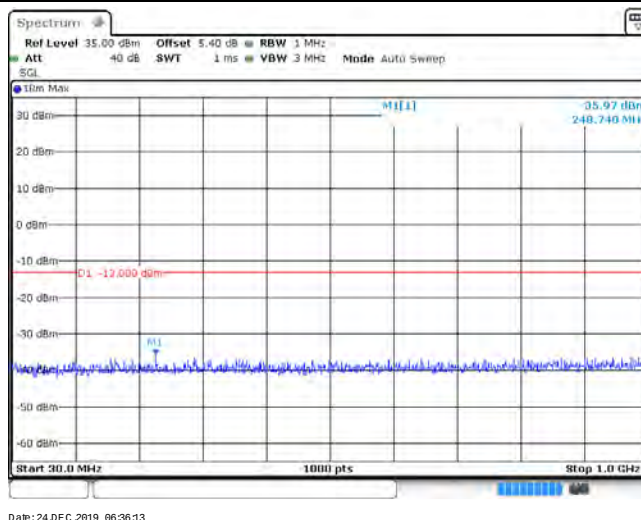


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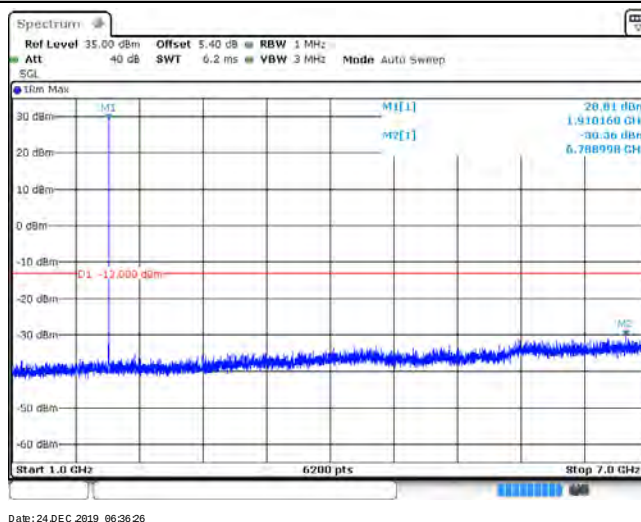


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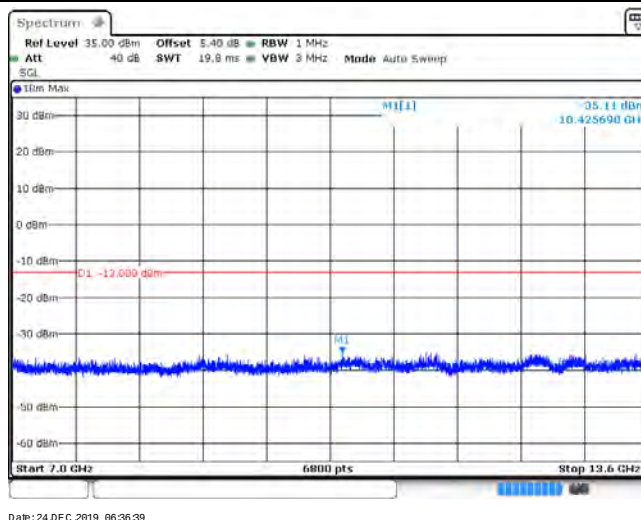


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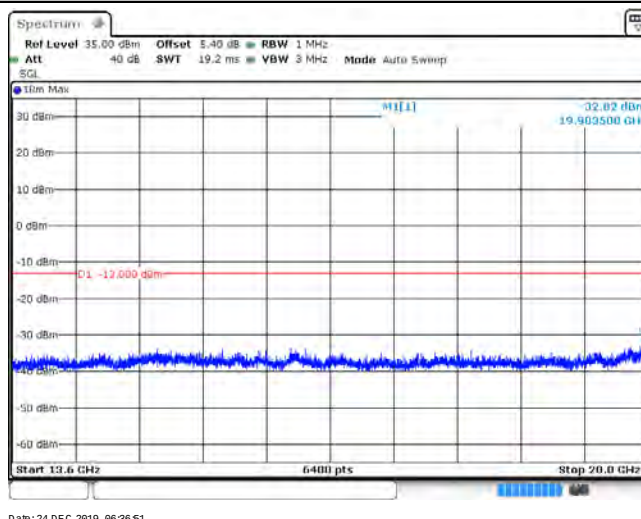


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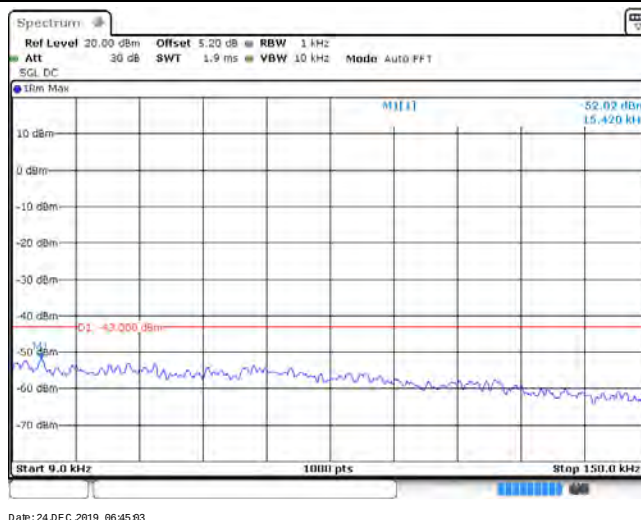


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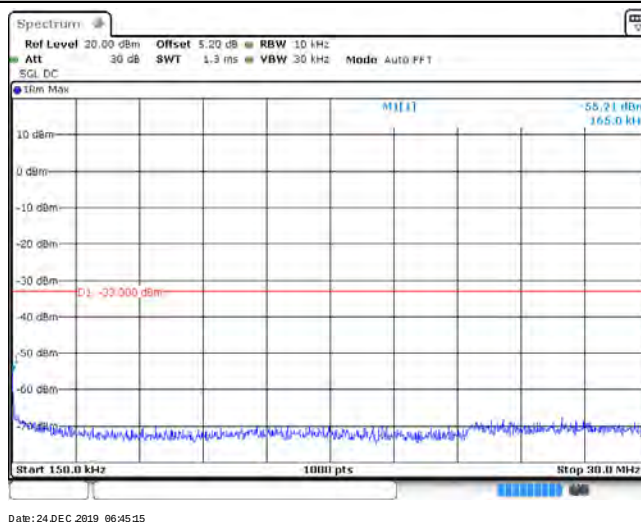


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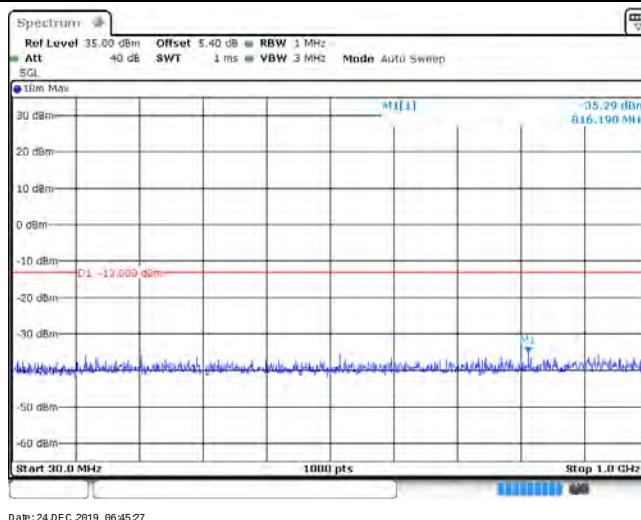


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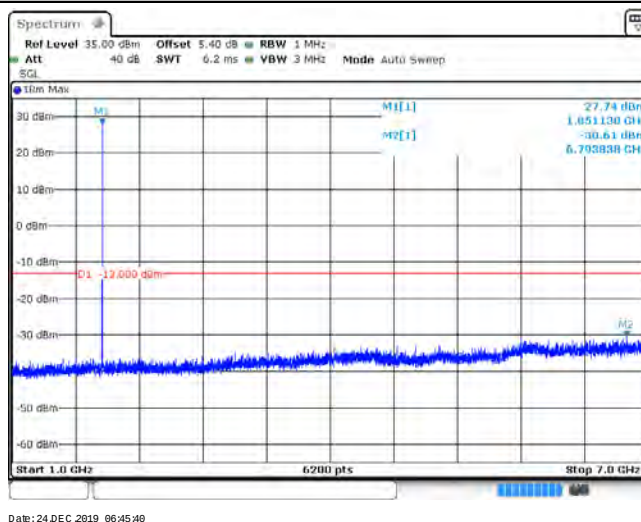


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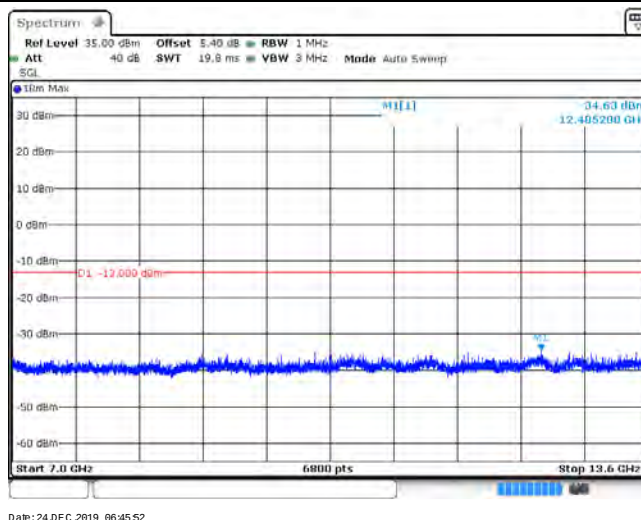


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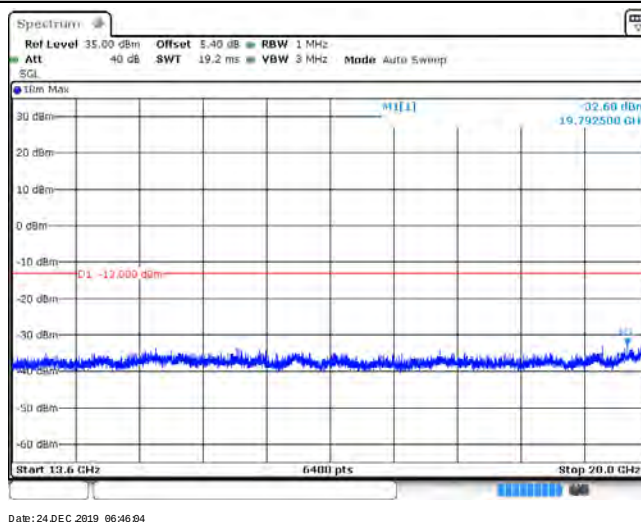


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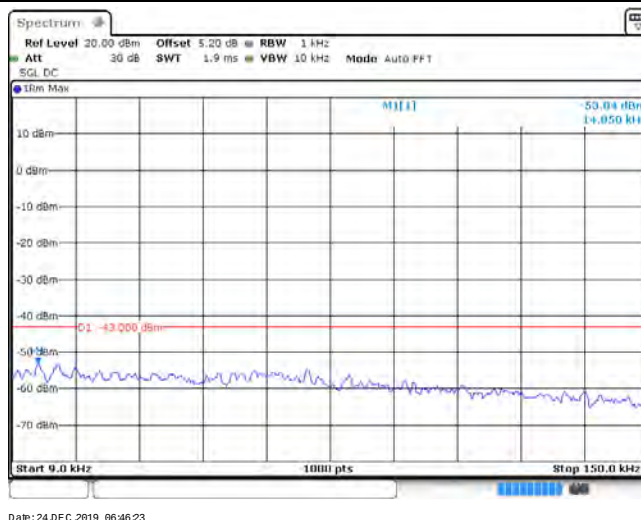


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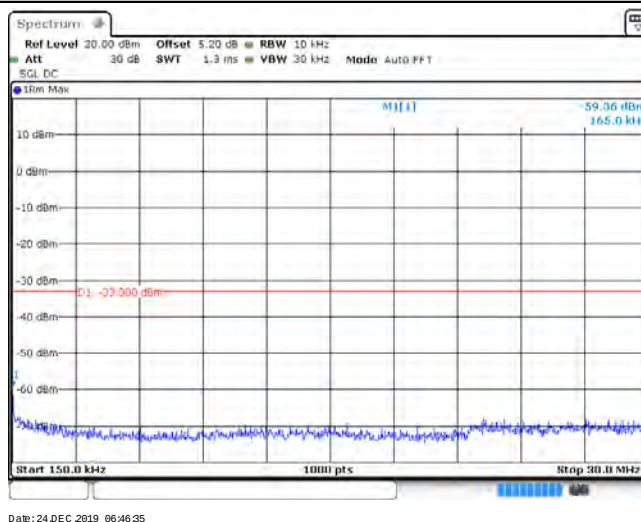
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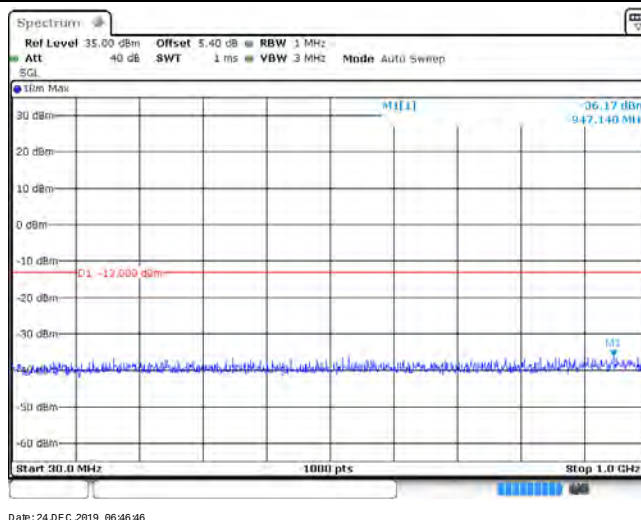


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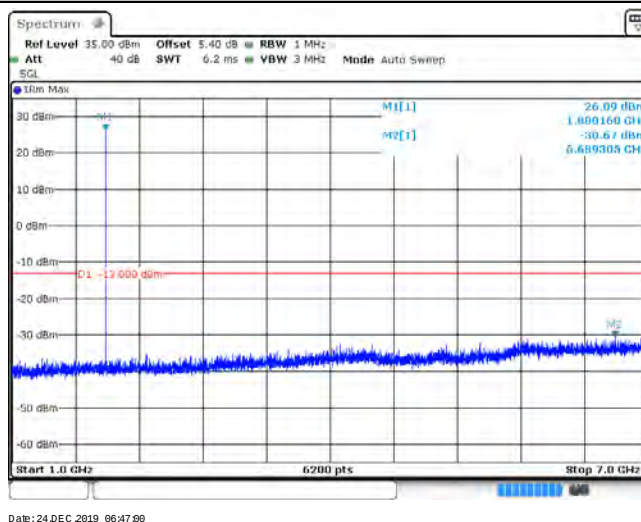


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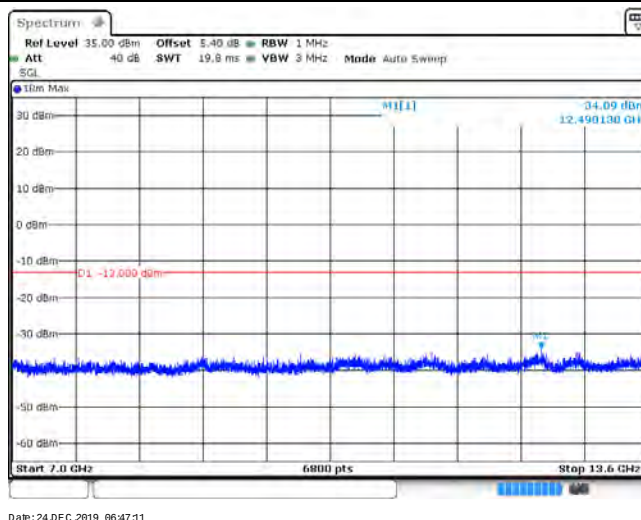


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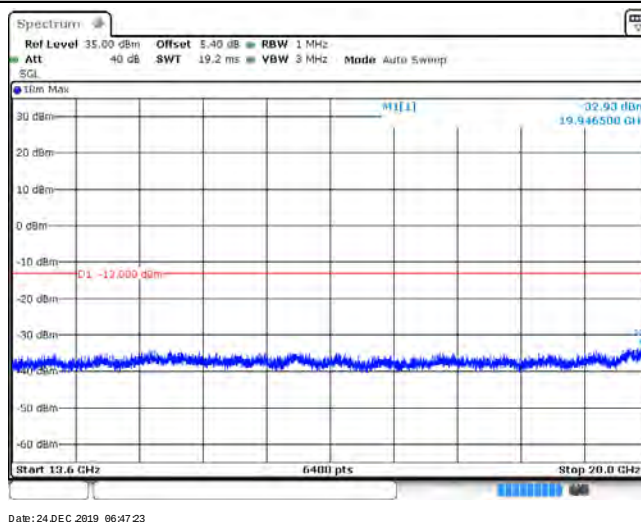
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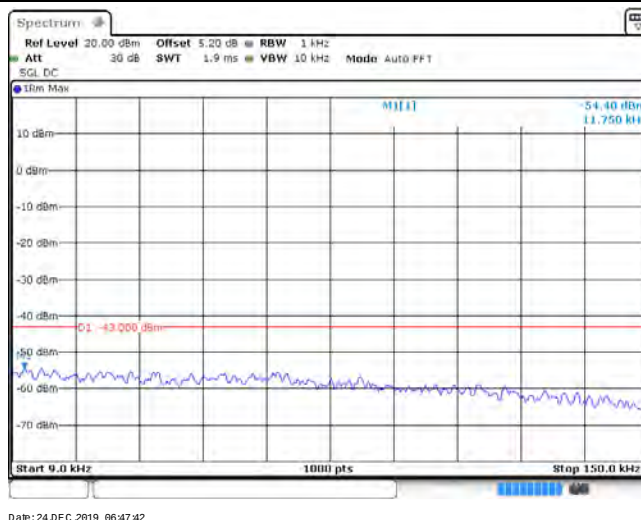


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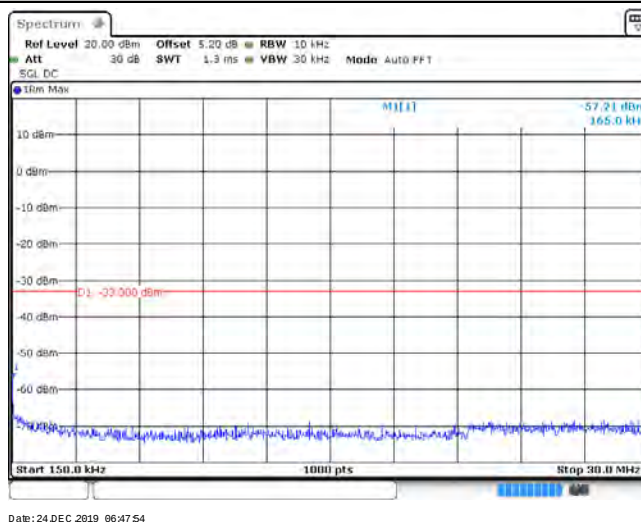


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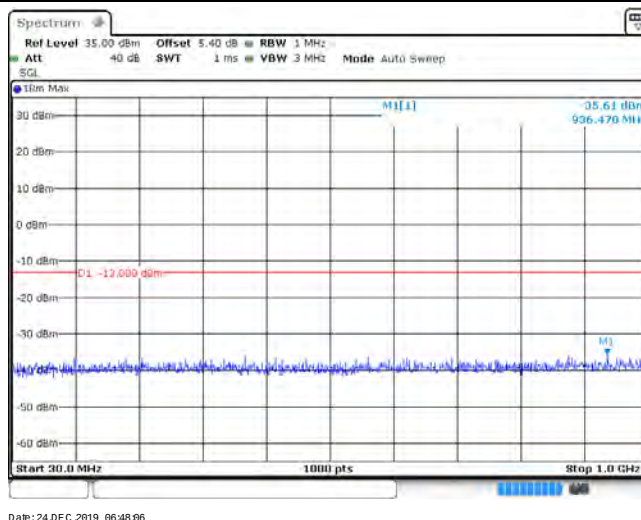


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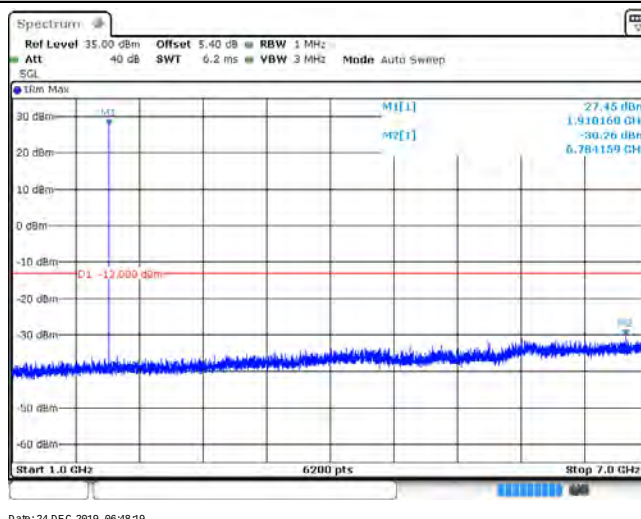
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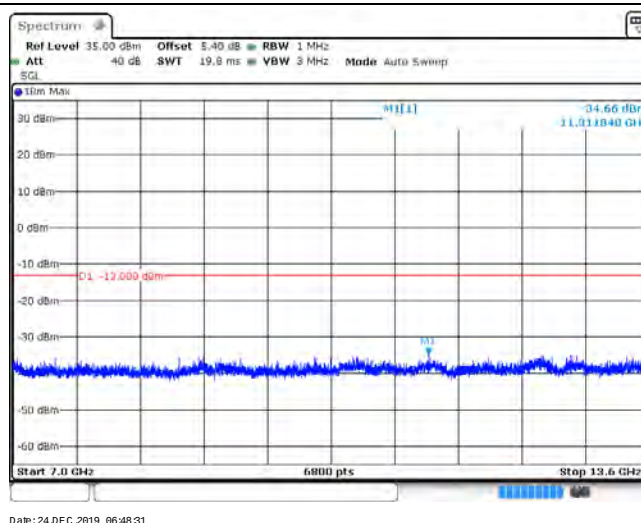
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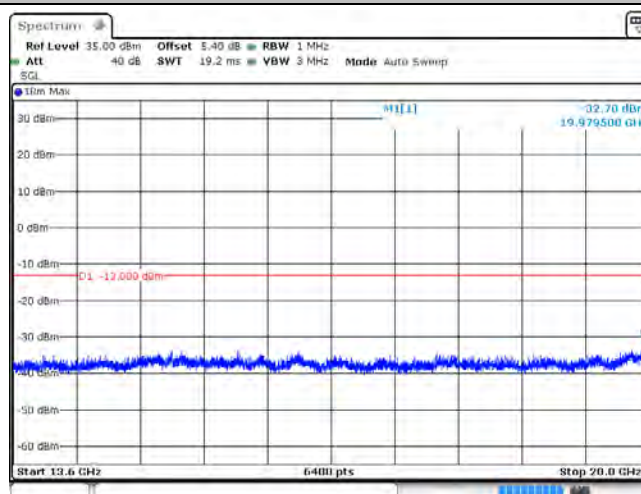
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Date: 24 DEC 2019 06:48:31

EGPRS1900 810



Date: 24 DEC 2019 06:48:43



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7. Field Strength of Spurious Radiation

7.1. Test Band = GSM 1900 (Ant2)

7.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
117.5954	-64.69	-13.00	51.69	Vertical
614.4057	-63.97	-13.00	50.97	Vertical
2688.3377	-37.67	-13.00	24.67	Vertical
7356.6452	-55.43	-13.00	42.43	Vertical
14443.8815	-47.13	-13.00	34.13	Vertical
17990.4997	-39.15	-13.00	26.15	Vertical
42.9016	-64.64	-13.00	51.64	Horizontal
234.8257	-67.95	-13.00	54.95	Horizontal
841.1546	-61.64	-13.00	48.64	Horizontal
2702.3405	-36.41	-13.00	23.41	Horizontal
7452.1484	-55.78	-13.00	42.78	Horizontal
16397.9466	-42.73	-13.00	29.73	Horizontal

7.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
110.2230	-65.14	-13.00	52.14	Vertical
813.3142	-61.97	-13.00	48.97	Vertical
2695.1390	-37.36	-13.00	24.36	Vertical
7345.1448	-54.60	-13.00	41.60	Vertical
14460.8820	-46.68	-13.00	33.68	Vertical
17999.0000	-38.92	-13.00	25.92	Vertical
42.1256	-64.19	-13.00	51.19	Horizontal
229.2965	-67.85	-13.00	54.85	Horizontal
723.0512	-62.50	-13.00	49.50	Horizontal
2699.5399	-36.32	-13.00	23.32	Horizontal
7335.1445	-56.15	-13.00	43.15	Horizontal
16392.4464	-43.11	-13.00	30.11	Horizontal



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7.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
109.5925	-64.41	-13.00	51.41	Vertical
610.1860	-63.63	-13.00	50.63	Vertical
2695.1390	-37.41	-13.00	24.41	Vertical
7376.6459	-54.96	-13.00	41.96	Vertical
14484.3828	-46.95	-13.00	33.95	Vertical
17909.9970	-40.63	-13.00	27.63	Vertical
44.4537	-62.75	-13.00	49.75	Horizontal
237.9784	-67.64	-13.00	54.64	Horizontal
870.2075	-59.67	-13.00	46.67	Horizontal
2699.5399	-35.78	-13.00	22.78	Horizontal
7440.1480	-55.53	-13.00	42.53	Horizontal
16395.9465	-42.81	-13.00	29.81	Horizontal

7.2. Test Band = GSM 1900 (Ant3)

7.2.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
116.9648	-65.01	-13.00	52.01	Vertical
601.6496	-63.73	-13.00	50.73	Vertical
2691.1382	-37.55	-13.00	24.55	Vertical
7448.6483	-55.38	-13.00	42.38	Vertical
14460.8820	-47.35	-13.00	34.35	Vertical
17999.0000	-39.23	-13.00	26.23	Vertical
41.3011	-64.09	-13.00	51.09	Horizontal
233.1282	-68.09	-13.00	55.09	Horizontal
849.5940	-59.89	-13.00	46.89	Horizontal
2696.7393	-36.51	-13.00	23.51	Horizontal
7336.1445	-55.85	-13.00	42.85	Horizontal
16380.9460	-43.14	-13.00	30.14	Horizontal



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7.2.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
115.5583	-64.83	-13.00	51.83	Vertical
598.1089	-63.88	-13.00	50.88	Vertical
2698.7397	-37.61	-13.00	24.61	Vertical
7372.1457	-55.33	-13.00	42.33	Vertical
14483.8828	-46.94	-13.00	33.94	Vertical
17999.0000	-39.11	-13.00	26.11	Vertical
43.5807	-64.36	-13.00	51.36	Horizontal
244.8172	-67.96	-13.00	54.96	Horizontal
714.5632	-61.67	-13.00	48.67	Horizontal
2699.1398	-36.44	-13.00	23.44	Horizontal
7473.6491	-56.00	-13.00	43.00	Horizontal
16393.4464	-42.88	-13.00	29.88	Horizontal

7.2.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
110.2230	-64.53	-13.00	51.53	Vertical
614.8422	-63.89	-13.00	50.89	Vertical
2703.9408	-37.76	-13.00	24.76	Vertical
7390.1463	-55.46	-13.00	42.46	Vertical
14492.8831	-46.96	-13.00	33.96	Vertical
17997.9999	-39.57	-13.00	26.57	Vertical
44.6962	-64.21	-13.00	51.21	Horizontal
228.1809	-68.41	-13.00	55.41	Horizontal
777.4224	-61.37	-13.00	48.37	Horizontal
2705.1410	-36.50	-13.00	23.50	Horizontal
7366.6456	-55.71	-13.00	42.71	Horizontal
16367.4456	-43.58	-13.00	30.58	Horizontal





7.3. Test Band = GSM 850 (Ant0)

7.3.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
112.6966	-63.86	-13.00	50.86	Vertical
610.7680	-62.31	-13.00	49.31	Vertical
1648.5297	-59.80	-13.00	46.80	Vertical
2472.6945	-54.75	-13.00	41.75	Vertical
13342.3447	-49.86	-13.00	36.86	Vertical
17993.9998	-39.00	-13.00	26.00	Vertical
39.0700	-63.20	-13.00	50.20	Horizontal
228.7144	-67.11	-13.00	54.11	Horizontal
1648.1296	-59.94	-13.00	46.94	Horizontal
2473.0946	-51.12	-13.00	38.12	Horizontal
7446.1482	-54.76	-13.00	41.76	Horizontal
16369.4456	-43.02	-13.00	30.02	Horizontal

7.3.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
116.1403	-63.98	-13.00	50.98	Vertical
613.3872	-63.25	-13.00	50.25	Vertical
1673.3347	-61.77	-13.00	48.77	Vertical
2509.9020	-57.49	-13.00	44.49	Vertical
14477.8826	-47.06	-13.00	34.06	Vertical
17989.9997	-39.38	-13.00	26.38	Vertical
41.7861	-62.84	-13.00	49.84	Horizontal
233.5647	-67.73	-13.00	54.73	Horizontal
1673.3347	-62.09	-13.00	49.09	Horizontal
2509.5019	-51.21	-13.00	38.21	Horizontal
7486.6496	-55.76	-13.00	42.76	Horizontal
16397.4466	-43.00	-13.00	30.00	Horizontal



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7.3.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
104.6937	-64.21	-13.00	51.21	Vertical
575.7978	-63.74	-13.00	50.74	Vertical
2546.7093	-55.08	-13.00	42.08	Vertical
7237.6413	-56.61	-13.00	43.61	Vertical
14513.3838	-47.07	-13.00	34.07	Vertical
17820.9940	-42.67	-13.00	29.67	Vertical
44.5022	-63.29	-13.00	50.29	Horizontal
235.1653	-67.59	-13.00	54.59	Horizontal
616.6368	-62.89	-13.00	49.89	Horizontal
2546.3093	-50.63	-13.00	37.63	Horizontal
7453.6485	-55.70	-13.00	42.70	Horizontal
16356.9452	-44.21	-13.00	31.21	Horizontal

7.4. Test Band = GSM 850 (Ant1)

7.4.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
112.4056	-63.88	-13.00	50.88	Vertical
616.6853	-62.86	-13.00	49.86	Vertical
1648.1296	-60.32	-13.00	47.32	Vertical
2472.6945	-46.55	-13.00	33.55	Vertical
14684.3895	-46.50	-13.00	33.50	Vertical
17991.9997	-38.03	-13.00	25.03	Vertical
43.7747	-63.71	-13.00	50.71	Horizontal
237.2509	-67.24	-13.00	54.24	Horizontal
1648.1296	-52.40	-13.00	39.40	Horizontal
2472.6945	-45.26	-13.00	32.26	Horizontal
9318.7106	-51.27	-13.00	38.27	Horizontal
16398.4466	-42.49	-13.00	29.49	Horizontal



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7.4.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
109.3015	-63.87	-13.00	50.87	Vertical
603.4442	-62.40	-13.00	49.40	Vertical
1672.9346	-58.06	-13.00	45.06	Vertical
2509.5019	-56.39	-13.00	43.39	Vertical
14686.8896	-46.76	-13.00	33.76	Vertical
17994.9998	-38.49	-13.00	25.49	Vertical
42.8531	-64.29	-13.00	51.29	Horizontal
241.5676	-66.77	-13.00	53.77	Horizontal
1672.9346	-54.89	-13.00	41.89	Horizontal
2509.5019	-53.70	-13.00	40.70	Horizontal
7348.1449	-55.47	-13.00	42.47	Horizontal
16393.4464	-42.76	-13.00	29.76	Horizontal

7.4.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
113.3757	-63.59	-13.00	50.59	Vertical
610.9135	-62.45	-13.00	49.45	Vertical
1697.3395	-60.78	-13.00	47.78	Vertical
2546.3093	-48.33	-13.00	35.33	Vertical
14476.8826	-46.47	-13.00	33.47	Vertical
17996.4999	-38.89	-13.00	25.89	Vertical
41.9316	-64.32	-13.00	51.32	Horizontal
239.3365	-66.67	-13.00	53.67	Horizontal
1697.3395	-56.64	-13.00	43.64	Horizontal
2546.3093	-49.24	-13.00	36.24	Horizontal
7445.1482	-55.32	-13.00	42.32	Horizontal
16393.9465	-42.32	-13.00	29.32	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

BAND	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	128	VL	TN	-1.39	-0.001684	±2.5	PASS
GSM850	128	VN	TN	1.29	0.001567	±2.5	PASS
GSM850	128	VH	TN	-5.20	-0.006307	±2.5	PASS
GSM850	190	VL	TN	4.81	0.005750	±2.5	PASS
GSM850	190	VN	TN	6.97	0.008336	±2.5	PASS
GSM850	190	VH	TN	-4.58	-0.005480	±2.5	PASS
GSM850	251	VL	TN	1.65	0.001940	±2.5	PASS
GSM850	251	VN	TN	1.74	0.002054	±2.5	PASS
GSM850	251	VH	TN	0.00	0.000000	±2.5	PASS
EGPRS850	128	VL	TN	12.14	0.014729	±2.5	PASS
EGPRS850	128	VN	TN	15.98	0.019390	±2.5	PASS
EGPRS850	128	VH	TN	18.50	0.022446	±2.5	PASS
EGPRS850	190	VL	TN	16.98	0.020299	±2.5	PASS
EGPRS850	190	VN	TN	13.88	0.016594	±2.5	PASS
EGPRS850	190	VH	TN	8.78	0.010497	±2.5	PASS
EGPRS850	251	VL	TN	12.46	0.014682	±2.5	PASS
EGPRS850	251	VN	TN	9.43	0.011107	±2.5	PASS
EGPRS850	251	VH	TN	14.17	0.016698	±2.5	PASS
GSM1900	512	VL	TN	-3.75	-0.002024	±2.5	PASS
GSM1900	512	VN	TN	15.11	0.008167	±2.5	PASS
GSM1900	512	VH	TN	13.37	0.007224	±2.5	PASS
GSM1900	661	VL	TN	13.88	0.007385	±2.5	PASS
GSM1900	661	VN	TN	12.53	0.006663	±2.5	PASS
GSM1900	661	VH	TN	4.26	0.002267	±2.5	PASS
GSM1900	810	VL	TN	-10.94	-0.005731	±2.5	PASS
GSM1900	810	VN	TN	-2.36	-0.001234	±2.5	PASS
GSM1900	810	VH	TN	-10.56	-0.005528	±2.5	PASS
EGPRS1900	512	VL	TN	1.19	0.000646	±2.5	PASS
EGPRS1900	512	VN	TN	10.30	0.005567	±2.5	PASS
EGPRS1900	512	VH	TN	24.89	0.013454	±2.5	PASS
EGPRS1900	661	VL	TN	22.28	0.011850	±2.5	PASS
EGPRS1900	661	VN	TN	21.50	0.011437	±2.5	PASS
EGPRS1900	661	VH	TN	21.18	0.011266	±2.5	PASS
EGPRS1900	810	VL	TN	21.18	0.011090	±2.5	PASS
EGPRS1900	810	VN	TN	17.72	0.009281	±2.5	PASS
EGPRS1900	810	VH	TN	18.14	0.009501	±2.5	PASS



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8.2.Frequency Error Vs Temperature

BAND	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	128	VN	-30	-3.23	-0.003917	±2.5	PASS
GSM850	128	VN	-20	0.16	0.000196	±2.5	PASS
GSM850	128	VN	-10	3.87	0.004701	±2.5	PASS
GSM850	128	VN	0	-1.68	-0.002037	±2.5	PASS
GSM850	128	VN	10	2.42	0.002938	±2.5	PASS
GSM850	128	VN	20	-2.42	-0.002938	±2.5	PASS
GSM850	128	VN	30	0.06	0.000078	±2.5	PASS
GSM850	128	VN	40	-7.49	-0.009088	±2.5	PASS
GSM850	128	VN	50	4.26	0.005171	±2.5	PASS
GSM850	190	VN	-30	-5.00	-0.005982	±2.5	PASS
GSM850	190	VN	-20	-5.55	-0.006638	±2.5	PASS
GSM850	190	VN	-10	-5.20	-0.006213	±2.5	PASS
GSM850	190	VN	0	3.33	0.003975	±2.5	PASS
GSM850	190	VN	10	0.97	0.001158	±2.5	PASS
GSM850	190	VN	20	-0.10	-0.000116	±2.5	PASS
GSM850	190	VN	30	-2.84	-0.003396	±2.5	PASS
GSM850	190	VN	40	-3.29	-0.003936	±2.5	PASS
GSM850	190	VN	50	-4.00	-0.004785	±2.5	PASS
GSM850	251	VN	-30	-0.23	-0.000266	±2.5	PASS
GSM850	251	VN	-20	-1.81	-0.002130	±2.5	PASS
GSM850	251	VN	-10	-4.78	-0.005629	±2.5	PASS
GSM850	251	VN	0	-5.81	-0.006847	±2.5	PASS
GSM850	251	VN	10	2.10	0.002472	±2.5	PASS
GSM850	251	VN	20	0.16	0.000190	±2.5	PASS
GSM850	251	VN	30	-1.26	-0.001483	±2.5	PASS
GSM850	251	VN	40	-4.16	-0.004907	±2.5	PASS
GSM850	251	VN	50	-5.84	-0.006885	±2.5	PASS
EGPRS850	128	VN	-30	19.05	0.023112	±2.5	PASS
EGPRS850	128	VN	-20	15.69	0.019038	±2.5	PASS
EGPRS850	128	VN	-10	16.79	0.020370	±2.5	PASS
EGPRS850	128	VN	0	15.79	0.019155	±2.5	PASS
EGPRS850	128	VN	10	15.34	0.018607	±2.5	PASS
EGPRS850	128	VN	20	14.01	0.017001	±2.5	PASS
EGPRS850	128	VN	30	18.27	0.022172	±2.5	PASS
EGPRS850	128	VN	40	17.50	0.021231	±2.5	PASS
EGPRS850	128	VN	50	15.08	0.018293	±2.5	PASS
EGPRS850	190	VN	-30	17.43	0.020840	±2.5	PASS
EGPRS850	190	VN	-20	11.98	0.014318	±2.5	PASS
EGPRS850	190	VN	-10	9.69	0.011578	±2.5	PASS
EGPRS850	190	VN	0	13.82	0.016517	±2.5	PASS
EGPRS850	190	VN	10	14.63	0.017482	±2.5	PASS
EGPRS850	190	VN	20	10.62	0.012697	±2.5	PASS
EGPRS850	190	VN	30	7.78	0.009301	±2.5	PASS



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EGPRS850	190	VN	40	12.49	0.014935	±2.5	PASS
EGPRS850	190	VN	50	12.88	0.015398	±2.5	PASS
EGPRS850	251	VN	-30	10.46	0.012324	±2.5	PASS
EGPRS850	251	VN	-20	8.72	0.010270	±2.5	PASS
EGPRS850	251	VN	-10	7.36	0.008672	±2.5	PASS
EGPRS850	251	VN	0	14.79	0.017421	±2.5	PASS
EGPRS850	251	VN	10	11.53	0.013579	±2.5	PASS
EGPRS850	251	VN	20	10.17	0.011982	±2.5	PASS
EGPRS850	251	VN	30	9.07	0.010688	±2.5	PASS
EGPRS850	251	VN	40	6.49	0.007645	±2.5	PASS
EGPRS850	251	VN	50	15.37	0.018106	±2.5	PASS
GSM1900	512	VN	-30	1.00	0.000541	±2.5	PASS
GSM1900	512	VN	-20	2.32	0.001256	±2.5	PASS
GSM1900	512	VN	-10	4.62	0.002495	±2.5	PASS
GSM1900	512	VN	0	5.59	0.003019	±2.5	PASS
GSM1900	512	VN	10	8.52	0.004607	±2.5	PASS
GSM1900	512	VN	20	12.95	0.006997	±2.5	PASS
GSM1900	512	VN	30	-4.36	-0.002356	±2.5	PASS
GSM1900	512	VN	40	-6.65	-0.003595	±2.5	PASS
GSM1900	512	VN	50	7.88	0.004258	±2.5	PASS
GSM1900	661	VN	-30	16.11	0.008569	±2.5	PASS
GSM1900	661	VN	-20	1.94	0.001030	±2.5	PASS
GSM1900	661	VN	-10	8.23	0.004379	±2.5	PASS
GSM1900	661	VN	0	12.95	0.006887	±2.5	PASS
GSM1900	661	VN	10	2.91	0.001546	±2.5	PASS
GSM1900	661	VN	20	-4.29	-0.002284	±2.5	PASS
GSM1900	661	VN	30	1.32	0.000704	±2.5	PASS
GSM1900	661	VN	40	5.46	0.002902	±2.5	PASS
GSM1900	661	VN	50	13.08	0.006955	±2.5	PASS
GSM1900	810	VN	-30	-11.85	-0.006204	±2.5	PASS
GSM1900	810	VN	-20	-7.81	-0.004091	±2.5	PASS
GSM1900	810	VN	-10	-3.58	-0.001876	±2.5	PASS
GSM1900	810	VN	0	0.10	0.000051	±2.5	PASS
GSM1900	810	VN	10	1.71	0.000896	±2.5	PASS
GSM1900	810	VN	20	9.10	0.004767	±2.5	PASS
GSM1900	810	VN	30	-4.75	-0.002485	±2.5	PASS
GSM1900	810	VN	40	-0.74	-0.000389	±2.5	PASS
GSM1900	810	VN	50	3.65	0.001910	±2.5	PASS
EGPRS1900	512	VN	-30	17.50	0.009458	±2.5	PASS
EGPRS1900	512	VN	-20	13.14	0.007102	±2.5	PASS
EGPRS1900	512	VN	-10	24.99	0.013506	±2.5	PASS
EGPRS1900	512	VN	0	25.31	0.013681	±2.5	PASS
EGPRS1900	512	VN	10	14.85	0.008027	±2.5	PASS
EGPRS1900	512	VN	20	24.99	0.013506	±2.5	PASS
EGPRS1900	512	VN	30	23.67	0.012791	±2.5	PASS
EGPRS1900	512	VN	40	19.79	0.010697	±2.5	PASS
EGPRS1900	512	VN	50	26.47	0.014309	±2.5	PASS



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EGPRS1900	661	VN	-30	25.15	0.013378	±2.5	PASS
EGPRS1900	661	VN	-20	9.75	0.005186	±2.5	PASS
EGPRS1900	661	VN	-10	10.88	0.005787	±2.5	PASS
EGPRS1900	661	VN	0	15.14	0.008054	±2.5	PASS
EGPRS1900	661	VN	10	13.53	0.007196	±2.5	PASS
EGPRS1900	661	VN	20	14.14	0.007522	±2.5	PASS
EGPRS1900	661	VN	30	13.75	0.007316	±2.5	PASS
EGPRS1900	661	VN	40	17.24	0.009171	±2.5	PASS
EGPRS1900	661	VN	50	18.34	0.009754	±2.5	PASS
EGPRS1900	810	VN	-30	15.17	0.007946	±2.5	PASS
EGPRS1900	810	VN	-20	17.92	0.009382	±2.5	PASS
EGPRS1900	810	VN	-10	18.79	0.009839	±2.5	PASS
EGPRS1900	810	VN	0	15.50	0.008115	±2.5	PASS
EGPRS1900	810	VN	10	18.31	0.009585	±2.5	PASS
EGPRS1900	810	VN	20	15.95	0.008351	±2.5	PASS
EGPRS1900	810	VN	30	15.14	0.007929	±2.5	PASS
EGPRS1900	810	VN	40	16.27	0.008520	±2.5	PASS
EGPRS1900	810	VN	50	16.40	0.008588	±2.5	PASS

The End



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