Appendix B

GSM 850 & 1900

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1. Effective (Isotropic) Radiated Power Output Data

1.1. Test Result

Band	Channel	Slot	Conducted Power (dBm)	ERP (dBm)	Limit(dBm)	Verdict
GSM850	128	---	31.94	24.89	38.45	PASS
GSM850	190	---	32.01	24.96	38.45	PASS
GSM850	251	---	32.03	24.98	38.45	PASS
EGPRS850 (GMSK)	128	1	31.92	24.87	38.45	PASS
EGPRS850 (GMSK)	128	2	29.56	22.51	38.45	PASS
EGPRS850 (GMSK)	128	3	27.51	20.46	38.45	PASS
EGPRS850 (GMSK)	128	4	25.96	18.91	38.45	PASS
EGPRS850 (GMSK)	190	1	31.99	24.94	38.45	PASS
EGPRS850 (GMSK)	190	2	29.50	22.45	38.45	PASS
EGPRS850 (GMSK)	190	3	27.59	20.54	38.45	PASS
EGPRS850 (GMSK)	190	4	26.01	18.96	38.45	PASS
EGPRS850 (GMSK)	251	1	32.01	24.96	38.45	PASS
EGPRS850 (GMSK)	251	2	29.54	22.49	38.45	PASS
EGPRS850 (GMSK)	251	3	27.63	20.58	38.45	PASS
EGPRS850 (GMSK)	251	4	26.08	19.03	38.45	PASS
EGPRS850 (8PSK)	128	1	26.43	19.38	38.45	PASS
EGPRS850 (8PSK)	128	2	26.35	19.30	38.45	PASS
EGPRS850 (8PSK)	128	3	25.26	18.21	38.45	PASS
EGPRS850 (8PSK)	128	4	24.33	17.28	38.45	PASS
EGPRS850 (8PSK)	190	1	26.51	19.46	38.45	PASS
EGPRS850 (8PSK)	190	2	26.32	19.27	38.45	PASS
EGPRS850 (8PSK)	190	3	25.38	18.33	38.45	PASS
EGPRS850 (8PSK)	190	4	24.34	17.29	38.45	PASS
EGPRS850 (8PSK)	251	1	26.59	19.54	38.45	PASS
EGPRS850 (8PSK)	251	2	26.43	19.38	38.45	PASS
EGPRS850 (8PSK)	251	3	25.49	18.44	38.45	PASS
EGPRS850 (8PSK)	251	4	24.33	17.28	38.45	PASS

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Band	Channel	Slot	Conducted Power (dBm)	EIRP (dBm)	Limit(dBm)	Verdict
GSM1900	512	---	29.63	27.43	33.00	PASS
GSM1900	661	---	29.65	27.45	33.00	PASS
GSM1900	810	---	29.67	27.47	33.00	PASS
EGPRS1900 (GMSK)	512	1	29.67	27.47	33.00	PASS
EGPRS1900 (GMSK)	512	2	26.42	24.22	33.00	PASS
EGPRS1900 (GMSK)	512	3	25.02	22.82	33.00	PASS
EGPRS1900 (GMSK)	512	4	23.58	21.38	33.00	PASS
EGPRS1900 (GMSK)	661	1	29.64	27.44	33.00	PASS
EGPRS1900 (GMSK)	661	2	26.47	24.27	33.00	PASS
EGPRS1900 (GMSK)	661	3	25.12	22.92	33.00	PASS
EGPRS1900 (GMSK)	661	4	23.60	21.40	33.00	PASS
EGPRS1900 (GMSK)	810	1	29.70	27.50	33.00	PASS
EGPRS1900 (GMSK)	810	2	26.63	24.43	33.00	PASS
EGPRS1900 (GMSK)	810	3	25.24	23.04	33.00	PASS
EGPRS1900 (GMSK)	810	4	23.77	21.57	33.00	PASS
EGPRS1900 (8PSK)	512	1	25.22	23.02	33.00	PASS
EGPRS1900 (8PSK)	512	2	25.04	22.84	33.00	PASS
EGPRS1900 (8PSK)	512	3	24.07	21.87	33.00	PASS
EGPRS1900 (8PSK)	512	4	22.54	20.34	33.00	PASS
EGPRS1900 (8PSK)	661	1	25.18	22.98	33.00	PASS
EGPRS1900 (8PSK)	661	2	25.34	23.14	33.00	PASS
EGPRS1900 (8PSK)	661	3	24.10	21.90	33.00	PASS
EGPRS1900 (8PSK)	661	4	23.63	21.43	33.00	PASS
EGPRS1900 (8PSK)	810	1	25.29	23.09	33.00	PASS
EGPRS1900 (8PSK)	810	2	25.14	22.94	33.00	PASS
EGPRS1900 (8PSK)	810	3	24.20	22.00	33.00	PASS
EGPRS1900 (8PSK)	810	4	22.67	20.47	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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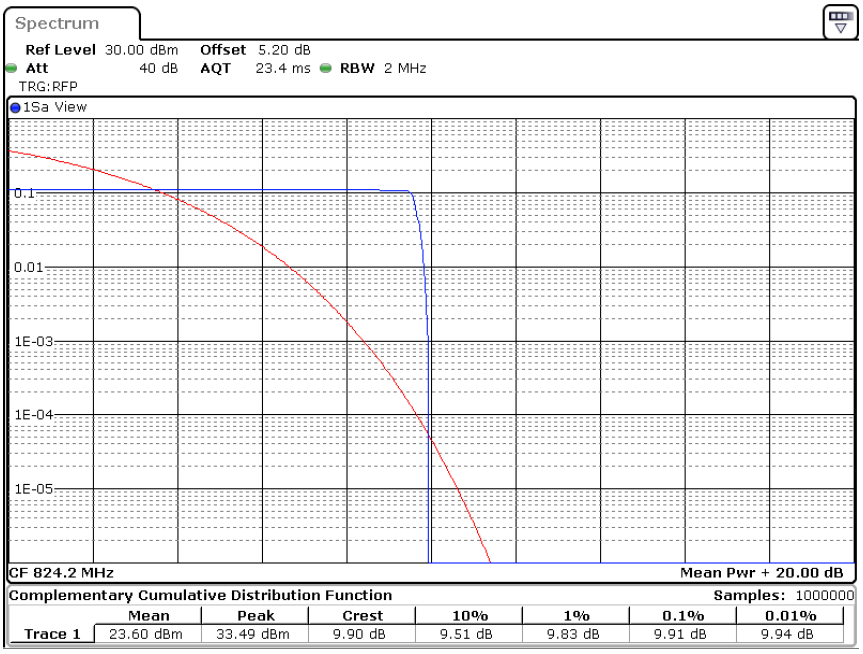
2. Peak-to-Average Ratio

2.1. Test Result

Band	Channel	Result(dB)	Limit(dB)	Verdict
GSM850	128	9.91	13	PASS
GSM850	190	9.94	13	PASS
GSM850	251	10	13	PASS
EGPRS850	128	11.91	13	PASS
EGPRS850	190	11.97	13	PASS
EGPRS850	251	8.41	13	PASS
GSM1900	512	9.07	13	PASS
GSM1900	661	9.07	13	PASS
GSM1900	810	9.1	13	PASS
EGPRS1900	512	11.8	13	PASS
EGPRS1900	661	12.87	13	PASS
EGPRS1900	810	12.58	13	PASS

2.2. Part II - Test Plots

GSM850-128



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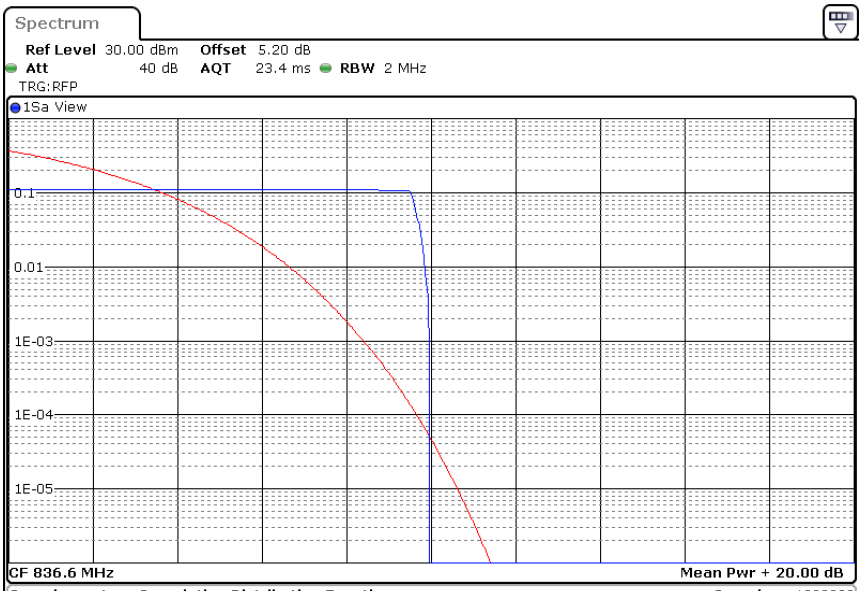
GSM850-190



Complementary Cumulative Distribution Function — Samples: 1000000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	23.48 dBm	33.41 dBm	9.93 dB	9.51 dB	9.86 dB	9.94 dB	9.97 dB

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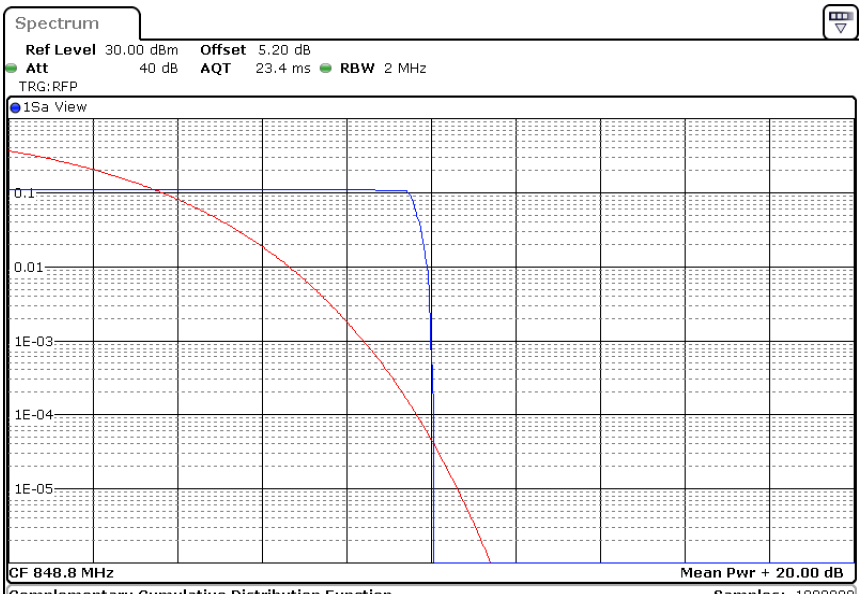
GSM850-251



Complementary Cumulative Distribution Function — Samples: 1000000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	23.24 dBm	33.23 dBm	10.00 dB	9.45 dB	9.91 dB	10.00 dB	10.06 dB

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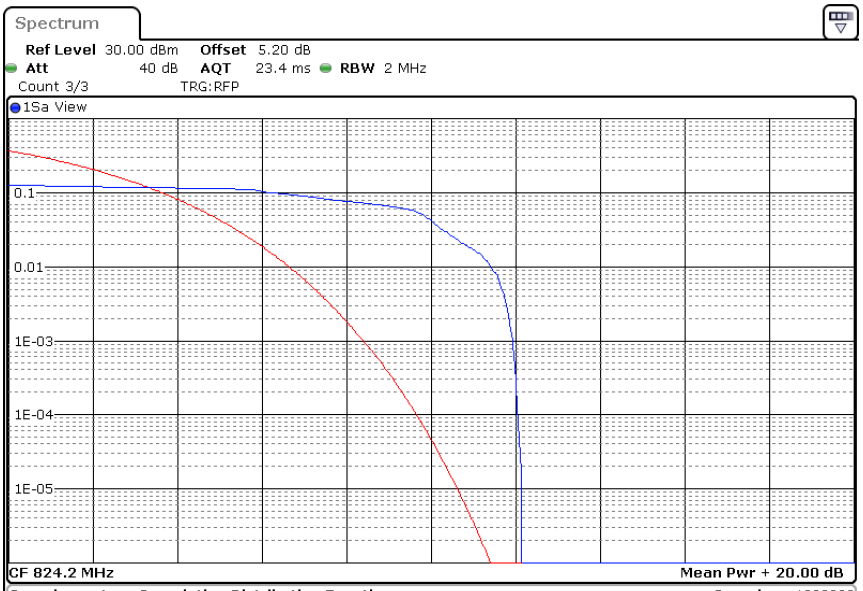

Complementary Cumulative Distribution Function — Samples: 1000000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	19.13 dBm	31.21 dBm	12.08 dB	6.20 dB	11.42 dB	11.91 dB	12.06 dB

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EGPRS850-190

Complementary Cumulative Distribution Function — Samples: 1000000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	19.03 dBm	31.19 dBm	12.16 dB	6.12 dB	11.48 dB	11.97 dB	12.14 dB

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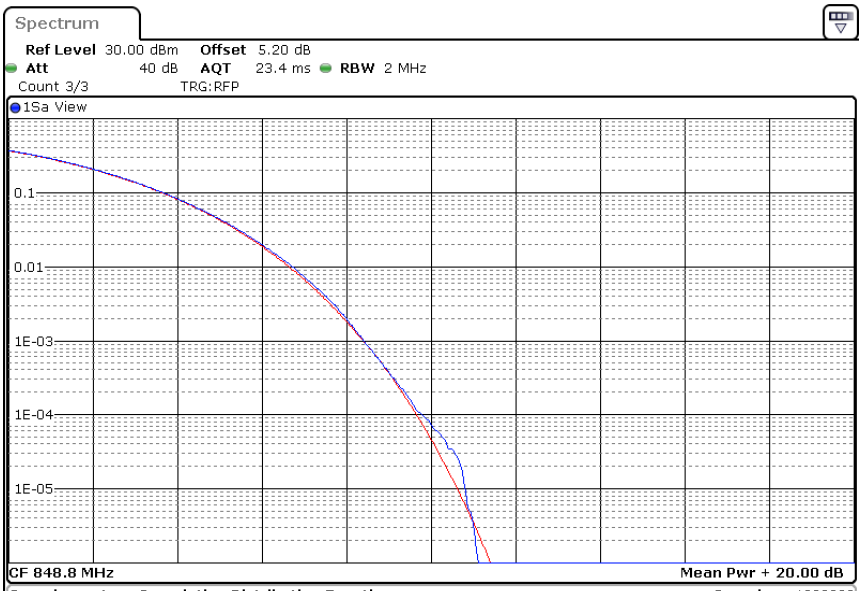
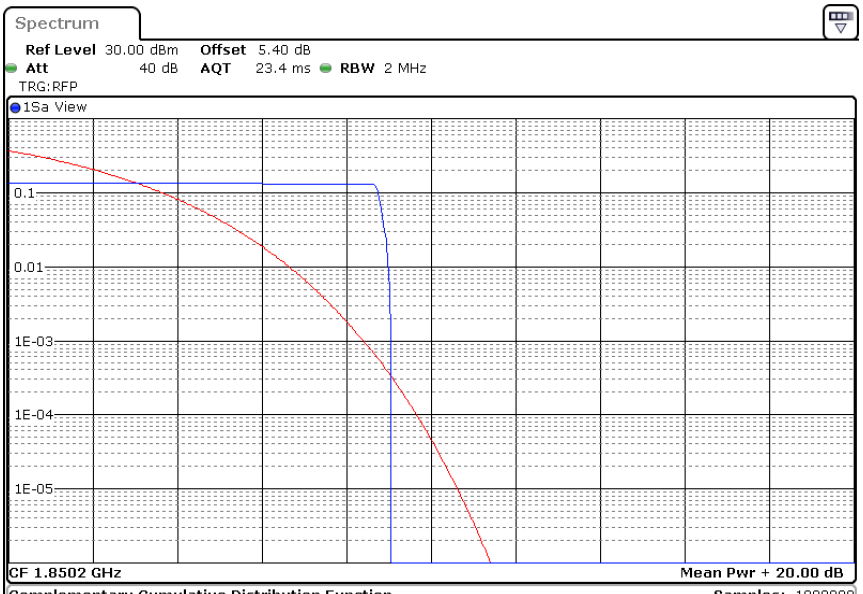


Complementary Cumulative Distribution Function — Samples: 1000000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	-41.24 dBm	-30.12 dBm	11.12 dB	3.65 dB	6.72 dB	8.41 dB	9.77 dB

Date: 4.SEP.2020 17:18:14

GSM1900-512



Complementary Cumulative Distribution Function — Samples: 1000000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	20.79 dBm	29.80 dBm	9.01 dB	8.72 dB	8.99 dB	9.07 dB	9.07 dB

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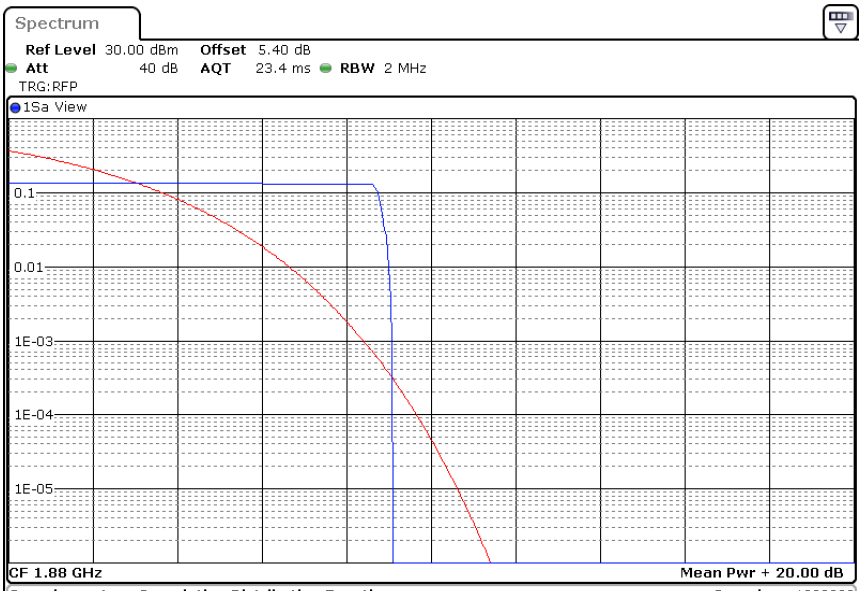
GSM1900-661

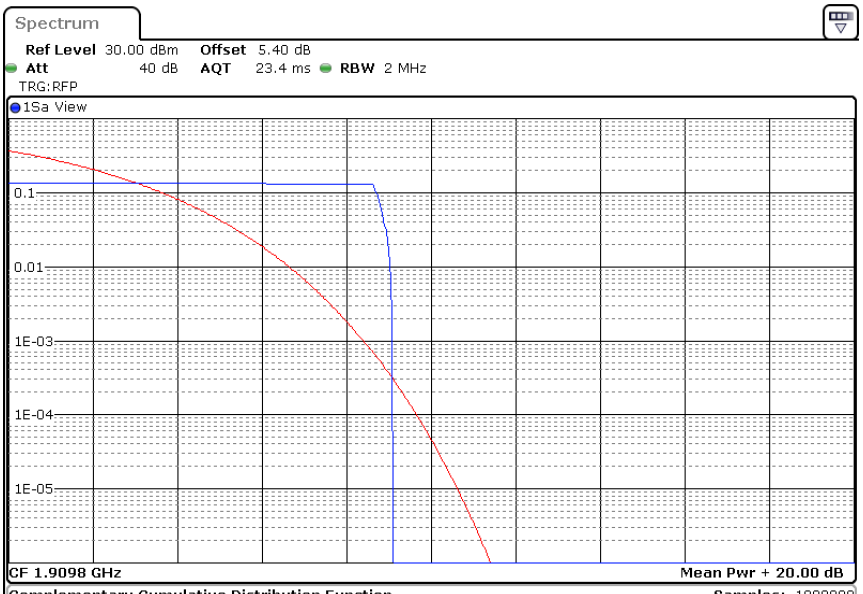


Complementary Cumulative Distribution Function — Samples: 1000000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	20.57 dBm	29.60 dBm	9.03 dB	8.72 dB	8.99 dB	9.07 dB	9.10 dB

Date: 4.SEP.2020 16:52:17

GSM1900-810



Complementary Cumulative Distribution Function — Samples: 1000000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	20.68 dBm	29.74 dBm	9.06 dB	8.70 dB	9.04 dB	9.10 dB	9.10 dB

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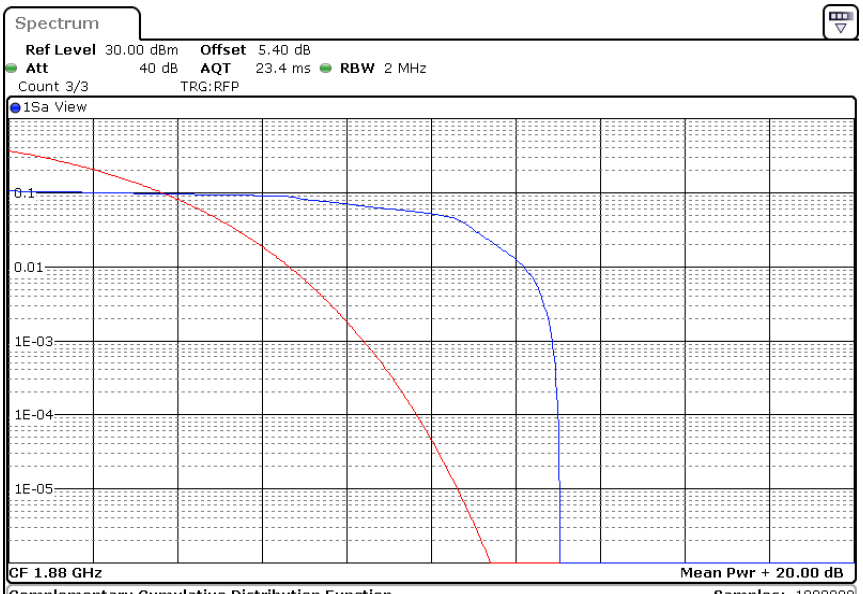
EGPRS1900-512

Complementary Cumulative Distribution Function — Samples: 1000000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	16.51 dBm	28.42 dBm	11.92 dB	6.14 dB	11.45 dB	11.80 dB	11.91 dB

Date: 4.SEP.2020 16:56:43

EGPRS1900-661



Complementary Cumulative Distribution Function — Samples: 1000000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	15.30 dBm	28.32 dBm	13.02 dB	2.38 dB	12.17 dB	12.87 dB	13.01 dB

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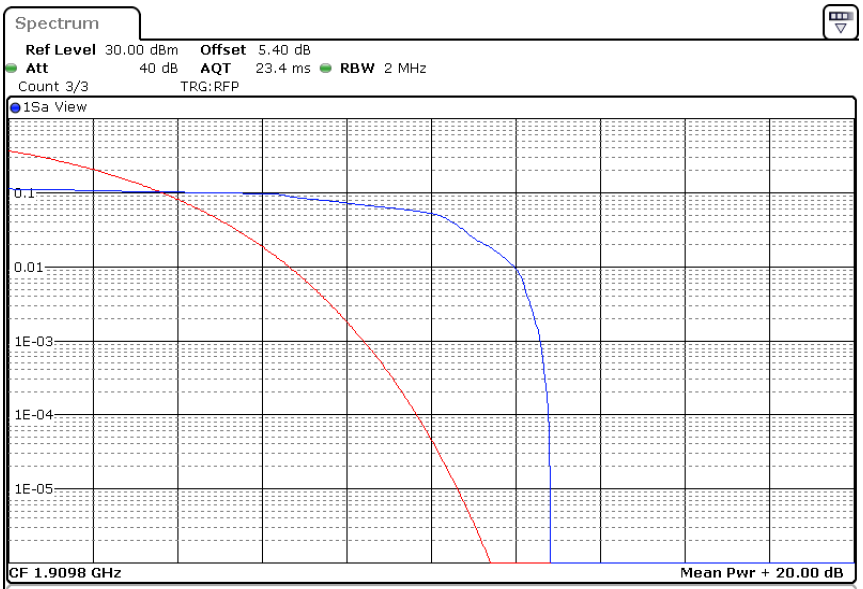
EGPRS1900-810



Complementary Cumulative Distribution Function Samples: 1000000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	15.73 dBm	28.50 dBm	12.77 dB	4.90 dB	11.94 dB	12.58 dB	12.78 dB

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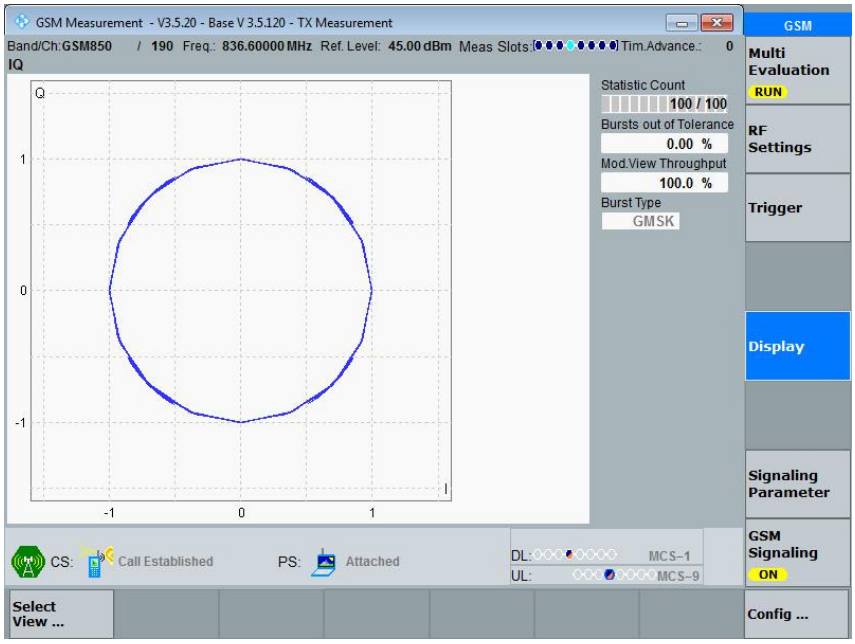
3. Modulation Characteristics

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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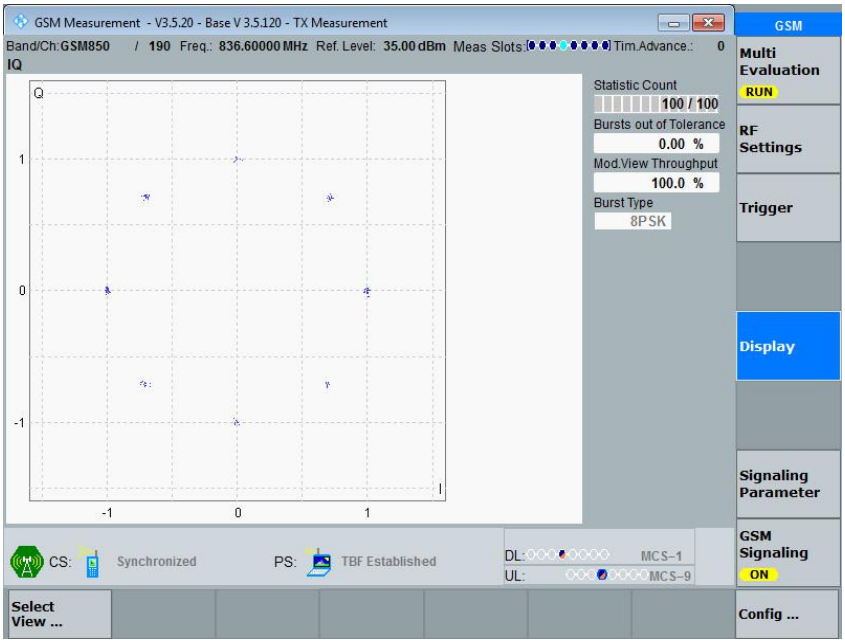
3.1.1.2. Test Mode = GSM/TM2

3.1.1.2.1. Test Channel = MCH



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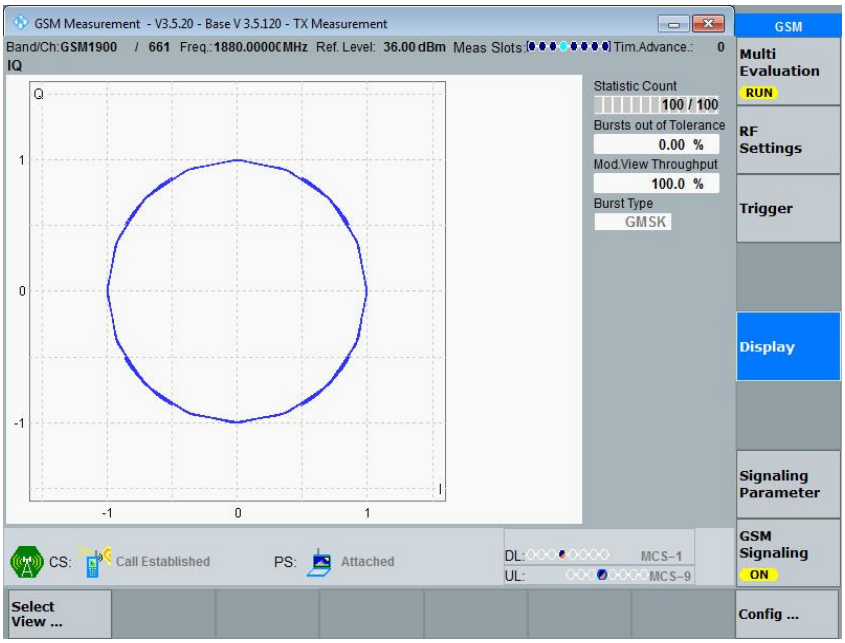
3.1.2. Test Band = GSM 1900

3.1.2.1. Test Mode = GSM/TM1

3.1.2.1.1. Test Channel = MCH



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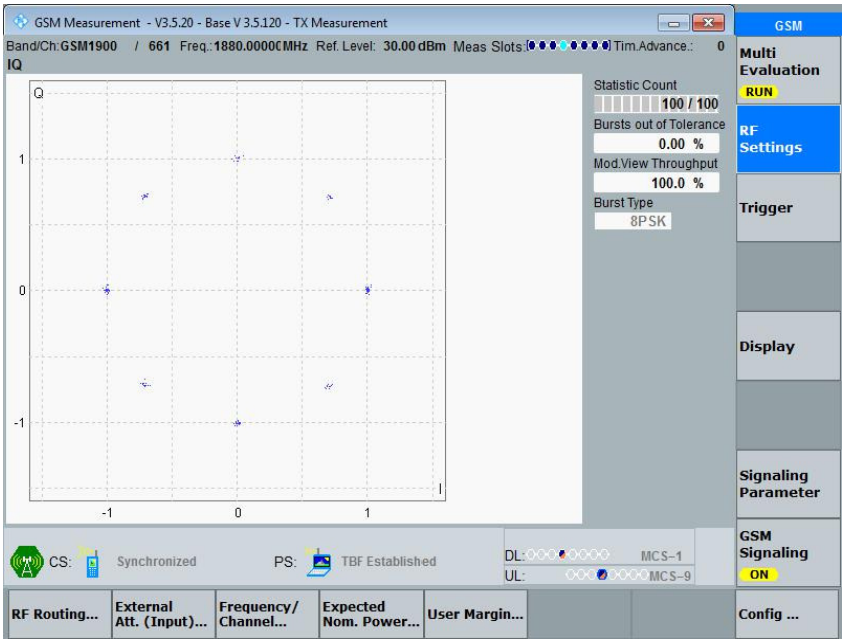
3.1.2.2. Test Mode = GSM/TM2

3.1.2.2.1. Test Channel = MCH



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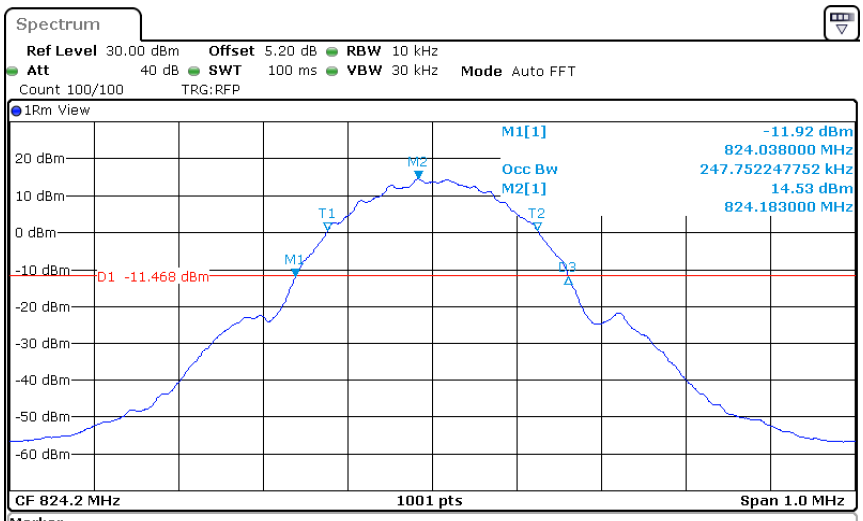
4. 26dB Bandwidth and Occupied Bandwidth

4.1. Test Result

Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	0.248	0.323	---	PASS
GSM850	190	0.248	0.322	---	PASS
GSM850	251	0.248	0.323	---	PASS
EGPRS850	128	0.246	0.318	---	PASS
EGPRS850	190	0.245	0.318	---	PASS
EGPRS850	251	0.246	0.319	---	PASS
GSM1900	512	0.248	0.323	---	PASS
GSM1900	661	0.246	0.323	---	PASS
GSM1900	810	0.247	0.322	---	PASS
EGPRS1900	512	0.244	0.317	---	PASS
EGPRS1900	661	0.244	0.316	---	PASS
EGPRS1900	810	0.245	0.318	---	PASS

4.2. Test Plots

GSM850-128



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	824.038 MHz	-11.92 dBm		
T1		1	824.076124 MHz	0.60 dBm	Occ Bw	247.752247752 kHz
T2		1	824.323876 MHz	0.64 dBm		
M2		1	824.183 MHz	14.53 dBm		
D3	M1	1	323.0 kHz	0.05 dB		

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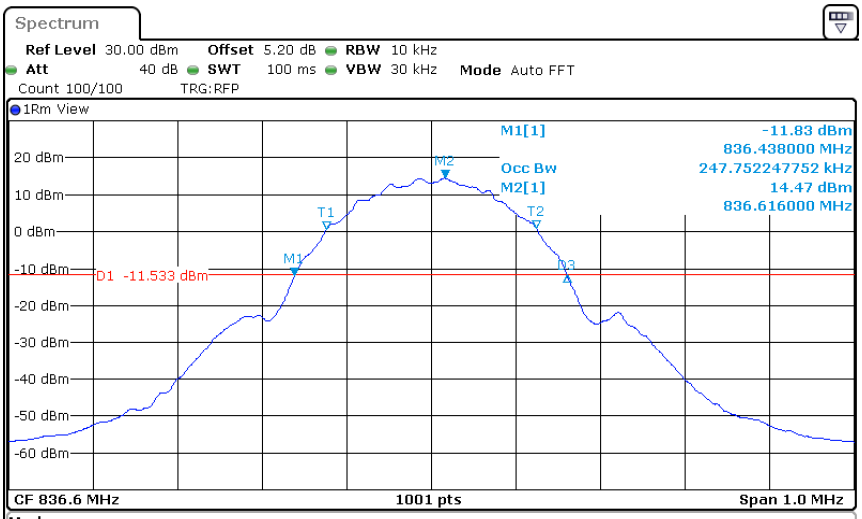
GSM850-190



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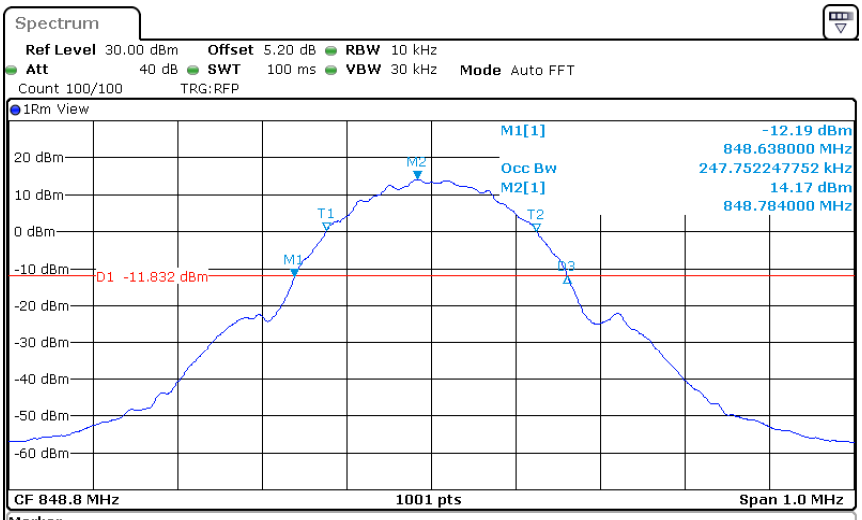
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	836.438 MHz	-11.83 dBm		
T1		1	836.476124 MHz	0.76 dBm	Occ Bw	247.752247752 kHz
T2		1	836.723876 MHz	0.98 dBm		
M2		1	836.616 MHz	14.47 dBm		
D3	M1	1	322.0 kHz	0.28 dB		

Date: 4.SEP.2020 17:15:00

GSM850-251



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Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	848.638 MHz	-12.19 dBm		
T1		1	848.676124 MHz	0.35 dBm	Occ Bw	247.752247752 kHz
T2		1	848.923876 MHz	0.17 dBm		
M2		1	848.784 MHz	14.17 dBm		
D3	M1	1	323.0 kHz	0.26 dB		

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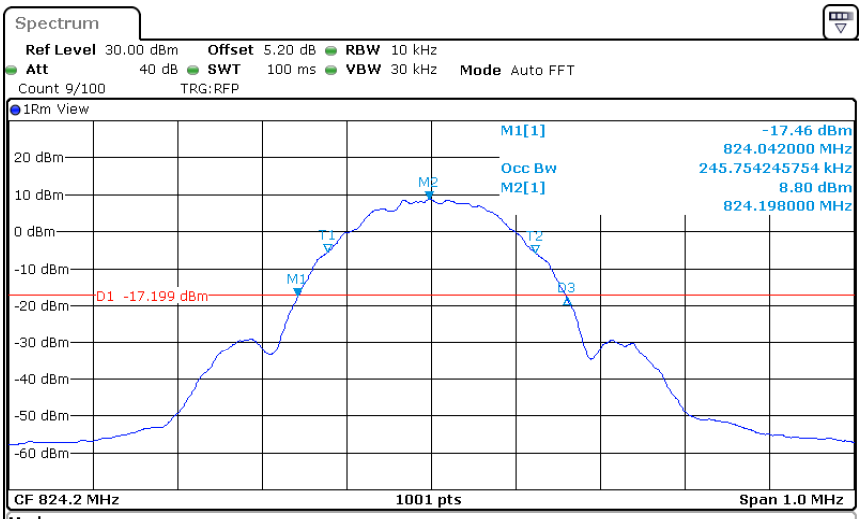
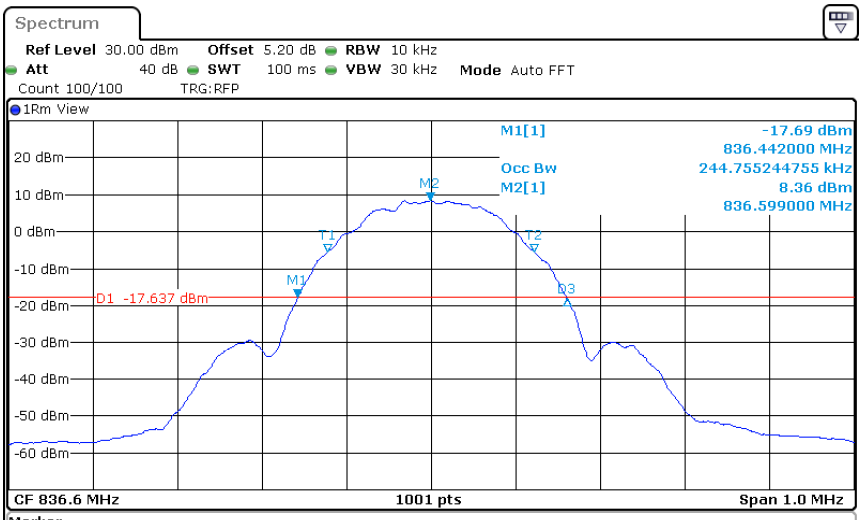


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	824.042 MHz	-17.46 dBm		
T1		1	824.077123 MHz	-5.52 dBm	Occ Bw	245.754245754 kHz
T2		1	824.322877 MHz	-5.71 dBm		
M2		1	824.198 MHz	8.80 dBm		
D3	M1	1	318.0 kHz	-0.20 dB		

Date: 4.SEP.2020 17:20:53

EGPRS850-190



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	836.442 MHz	-17.69 dBm		
T1		1	836.477123 MHz	-5.52 dBm	Occ Bw	244.755244755 kHz
T2		1	836.721878 MHz	-5.54 dBm		
M2		1	836.599 MHz	8.36 dBm		
D3	M1	1	318.0 kHz	-0.29 dB		

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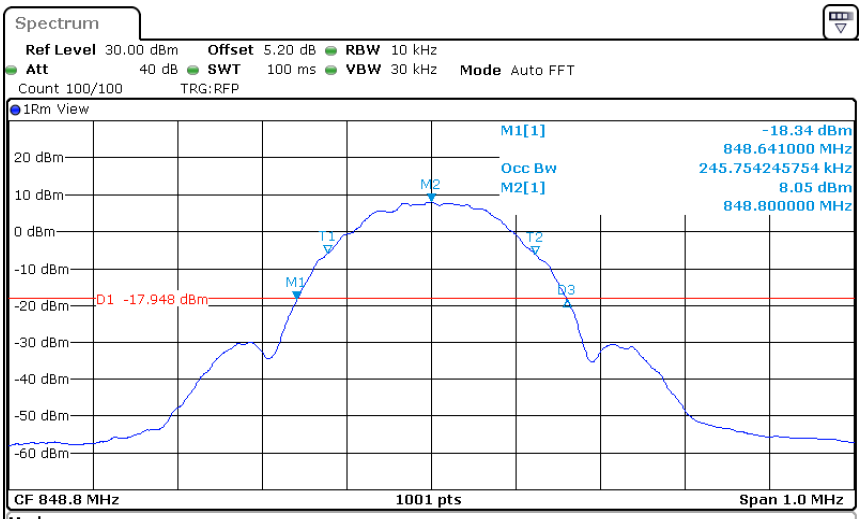
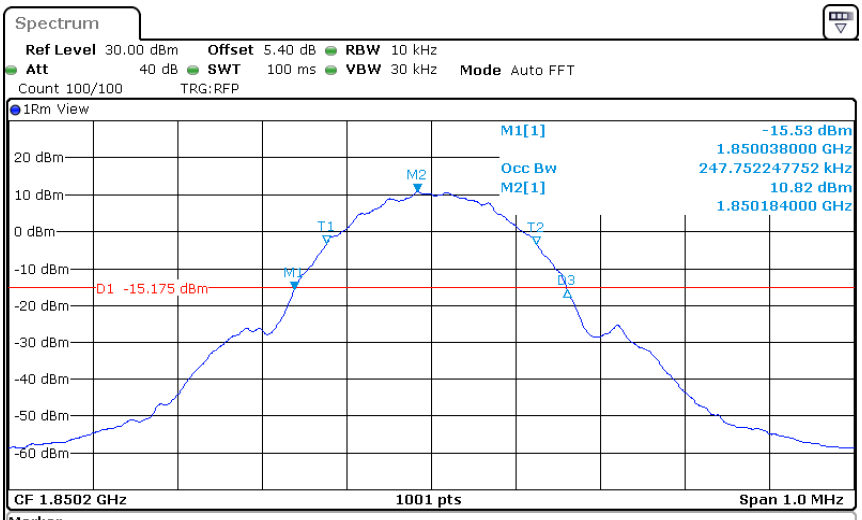


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	848.641 MHz	-18.34 dBm		
T1		1	848.677123 MHz	-5.82 dBm	Occ Bw	245.754245754 kHz
T2		1	848.922877 MHz	-6.16 dBm		
M2		1	848.8 MHz	8.05 dBm		
D3	M1	1	319.0 kHz	0.21 dB		

Date: 4.SEP.2020 17:21:33

GSM1900-512



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	1.850038 GHz	-15.53 dBm		
T1		1	1.85007612 GHz	-3.22 dBm	Occ Bw	247.752247752 kHz
T2		1	1.85032388 GHz	-3.30 dBm		
M2		1	1.850184 GHz	10.82 dBm		
D3	M1	1	323.0 kHz	-0.10 dB		

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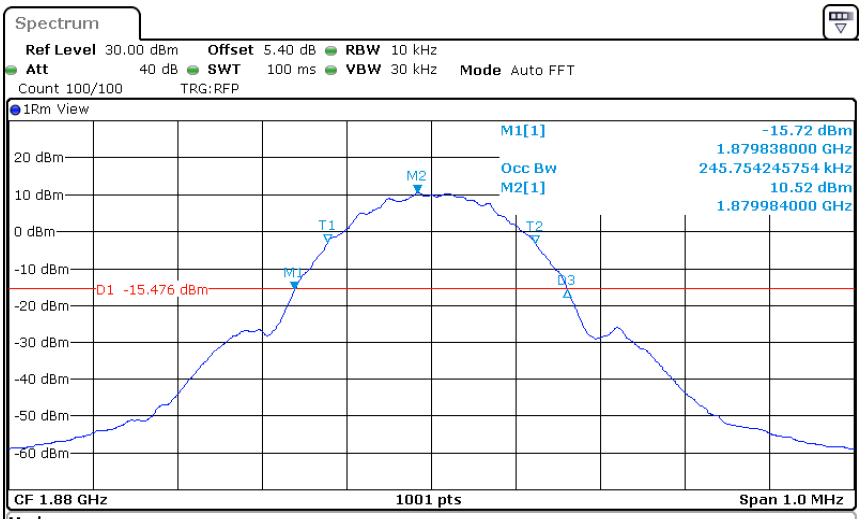
GSM1900-661

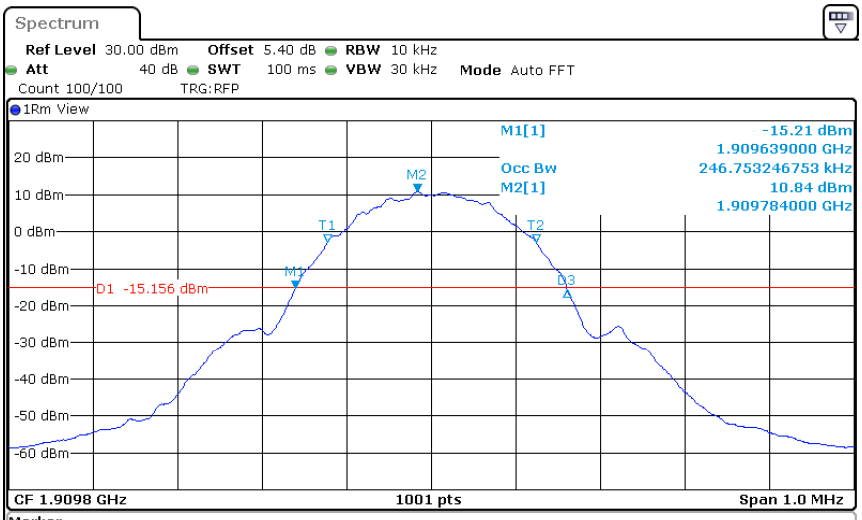


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	1.879838 GHz	-15.72 dBm		
T1		1	1.87987712 GHz	-2.92 dBm	Occ Bw	245.754245754 kHz
T2		1	1.88012288 GHz	-3.13 dBm		
M2		1	1.879984 GHz	10.52 dBm		
D3	M1	1	323.0 kHz	0.04 dB		

Date: 4.SEP.2020 16:54:56

GSM1900-810



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	1.909639 GHz	-15.21 dBm		
T1		1	1.90967712 GHz	-2.78 dBm	Occ Bw	246.753246753 kHz
T2		1	1.90992388 GHz	-2.95 dBm		
M2		1	1.909784 GHz	10.84 dBm		
D3	M1	1	322.0 kHz	-0.53 dB		

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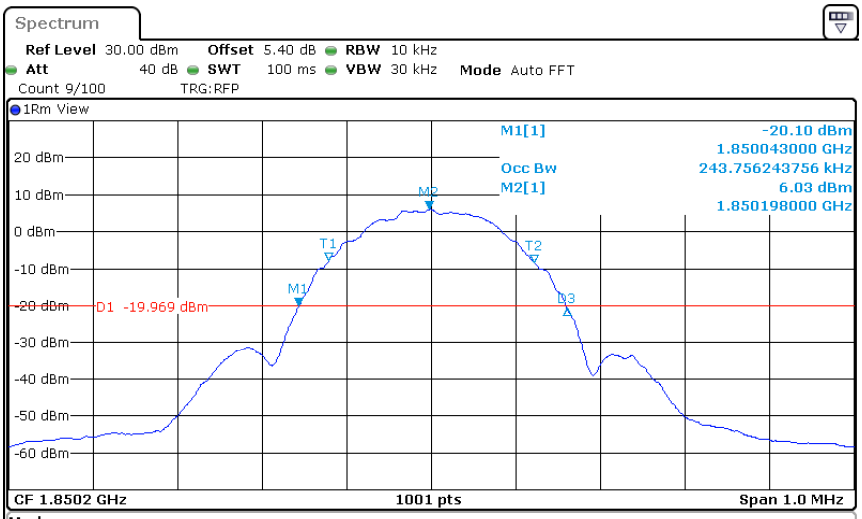
EGPRS1900-512



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	1.850043 GHz	-20.10 dBm		
T1		1	1.85007812 GHz	-7.87 dBm	Occ Bw	243.756243756 kHz
T2		1	1.85032188 GHz	-8.30 dBm		
M2		1	1.850198 GHz	6.03 dBm		
D3	M1	1	317.0 kHz	-0.46 dB		

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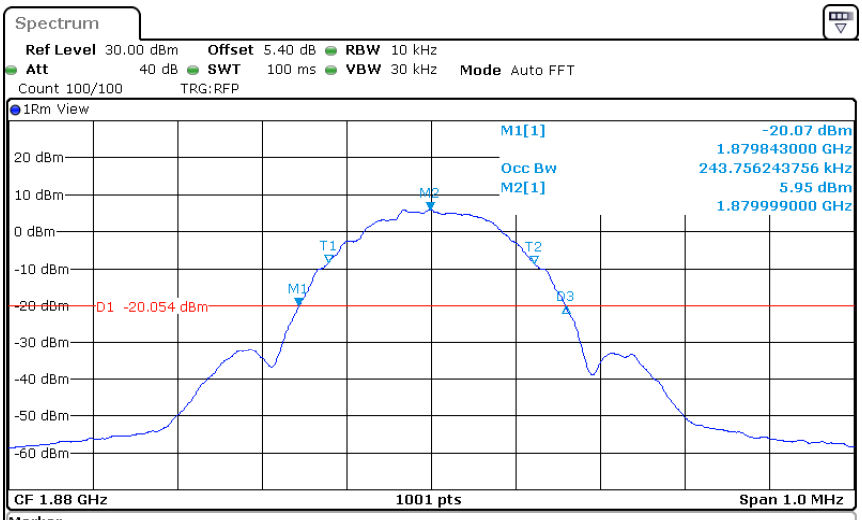
EGPRS1900-661



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	1.879843 GHz	-20.07 dBm		
T1		1	1.87987812 GHz	-8.25 dBm	Occ Bw	243.756243756 kHz
T2		1	1.88012188 GHz	-8.69 dBm		
M2		1	1.879999 GHz	5.95 dBm		
D3	M1	1	316.0 kHz	-0.06 dB		

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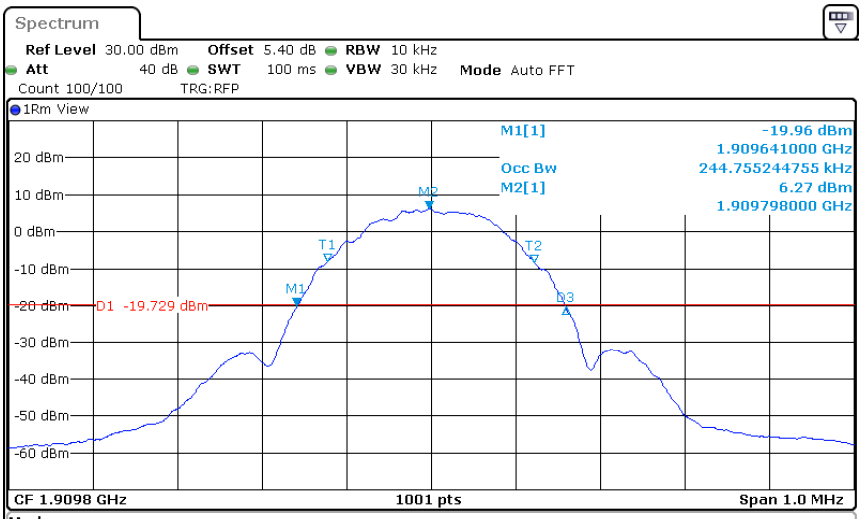
EGPRS1900-810



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	1.909641 GHz	-19.96 dBm		
T1		1	1.90967712 GHz	-8.20 dBm	Occ Bw	244.755244755 kHz
T2		1	1.90992188 GHz	-8.26 dBm		
M2		1	1.909798 GHz	6.27 dBm		
D3	M1	1	318.0 kHz	-0.25 dB		

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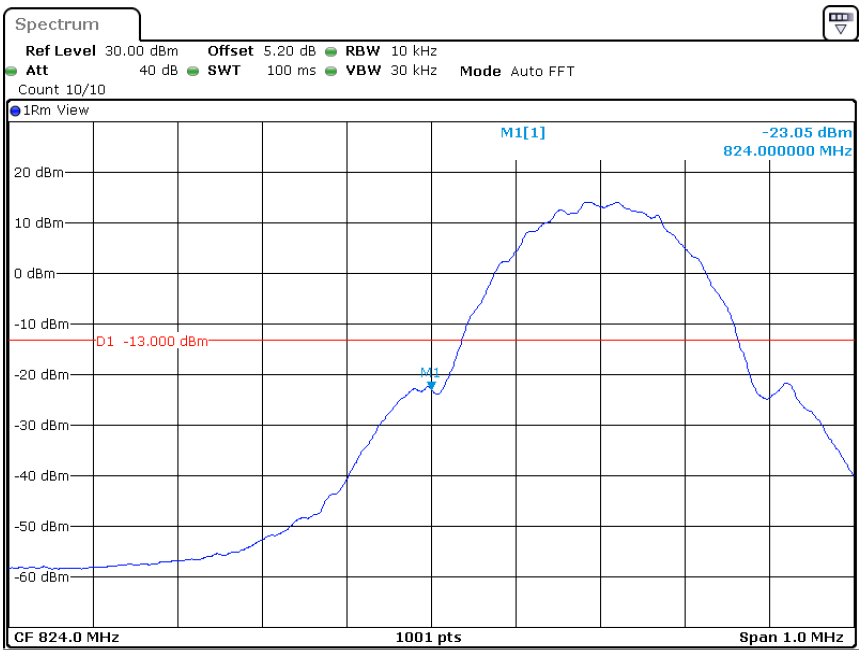
5. Band Edge Compliance

5.1. Test Result

Band	Channel	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	824.00	-22.44	-13	PASS
GSM850	251	849.02	-22.09	-13	PASS
EGPRS850	128	823.99	-29.22	-13	PASS
EGPRS850	251	849.01	-30.70	-13	PASS
GSM1900	512	1850.00	-25.78	-13	PASS
GSM1900	810	1910.02	-25.74	-13	PASS
EGPRS1900	512	1849.99	-31.45	-13	PASS
EGPRS1900	810	1910.02	-32.38	-13	PASS

5.2. Test Plots

GSM850-128-824.00



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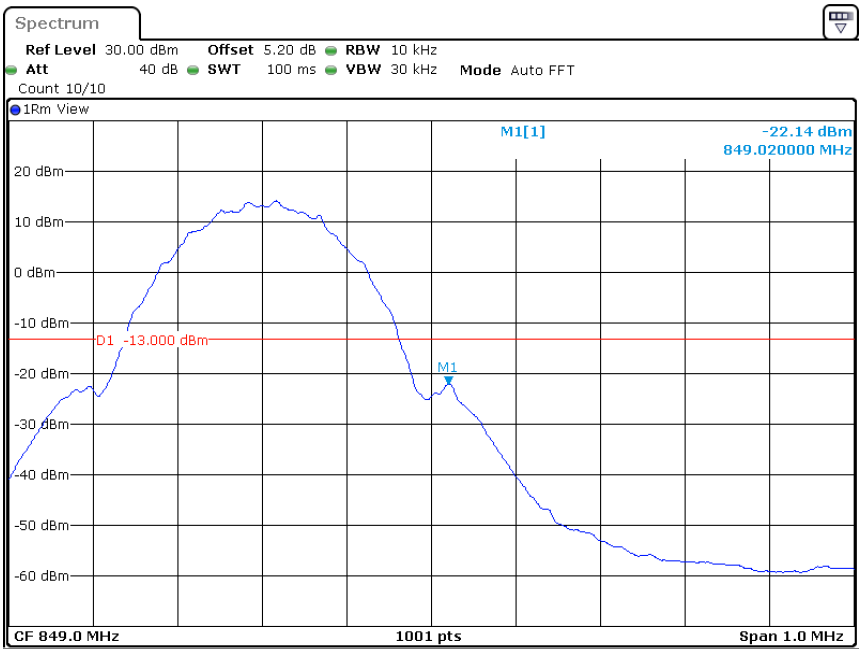
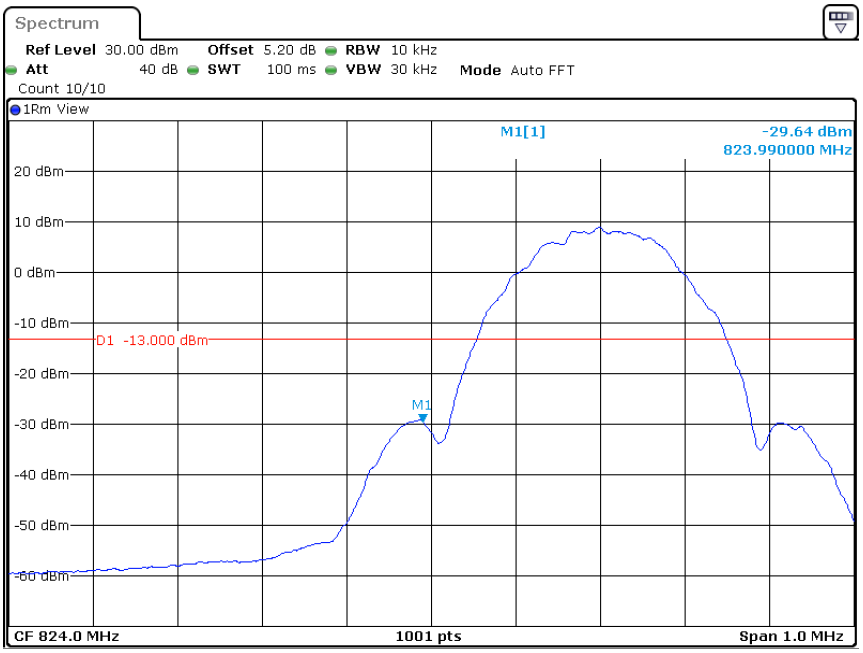
GSM850-251-849.02



Date: 4.SEP.2020 17:15:40

EGPRS850-128-823.99



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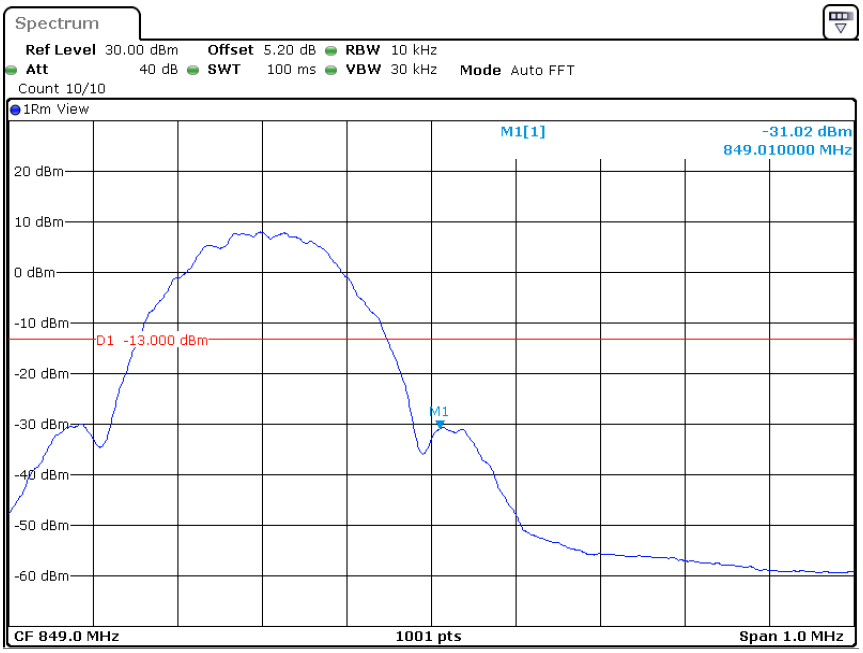
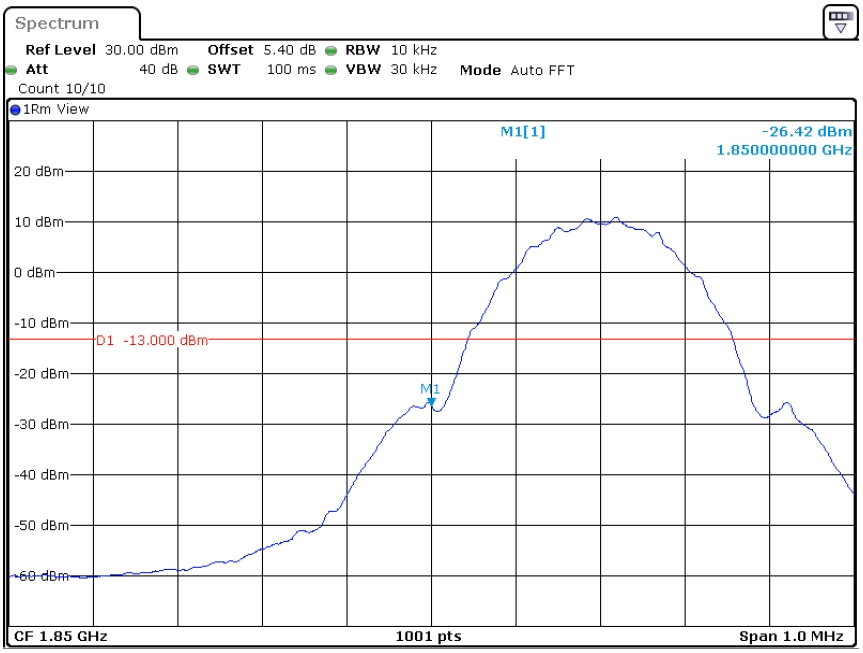
EGPRS850-251-849.01



Date: 4.SEP.2020 17:21:56

GSM1900-512-1850.00



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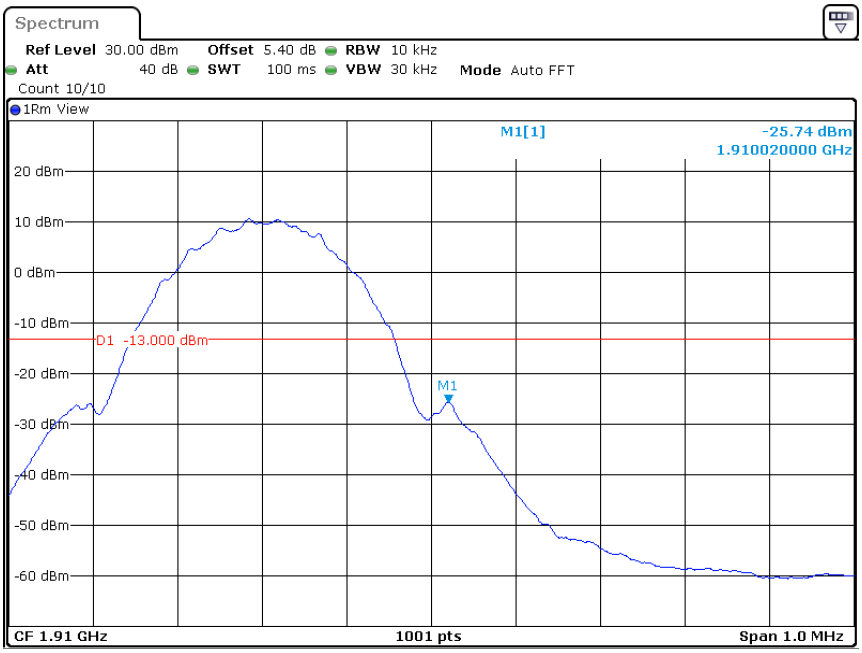

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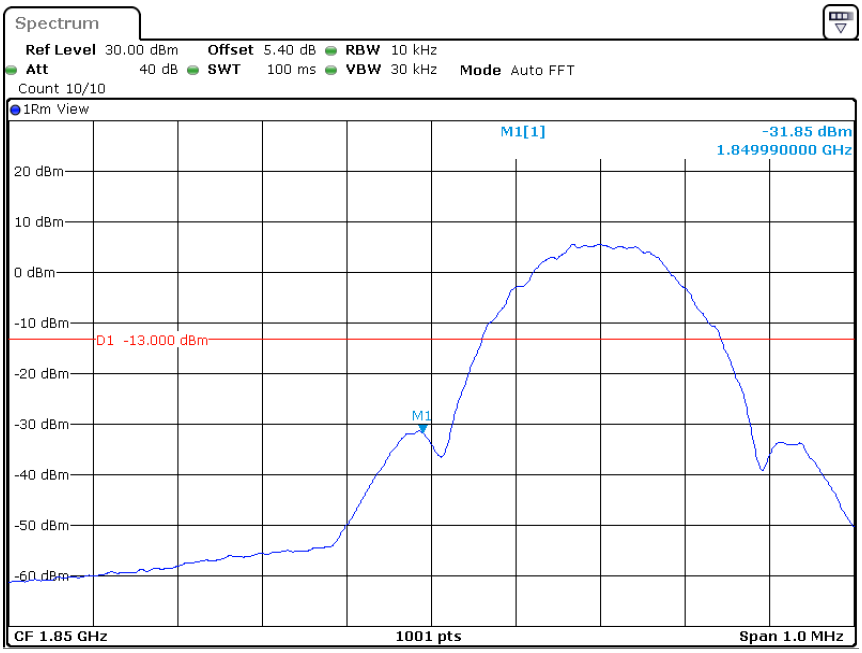
EGPRS1900-512-1849.99



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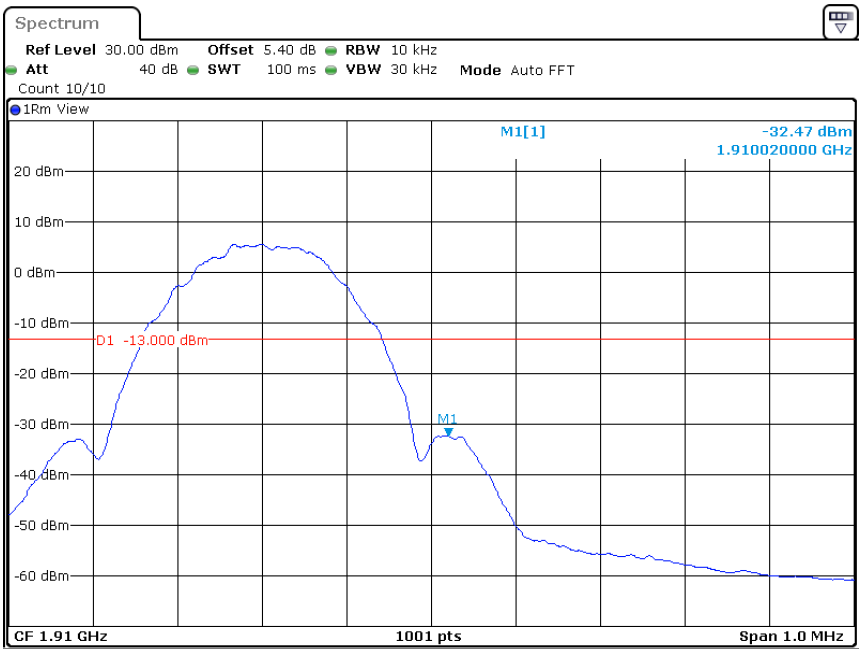

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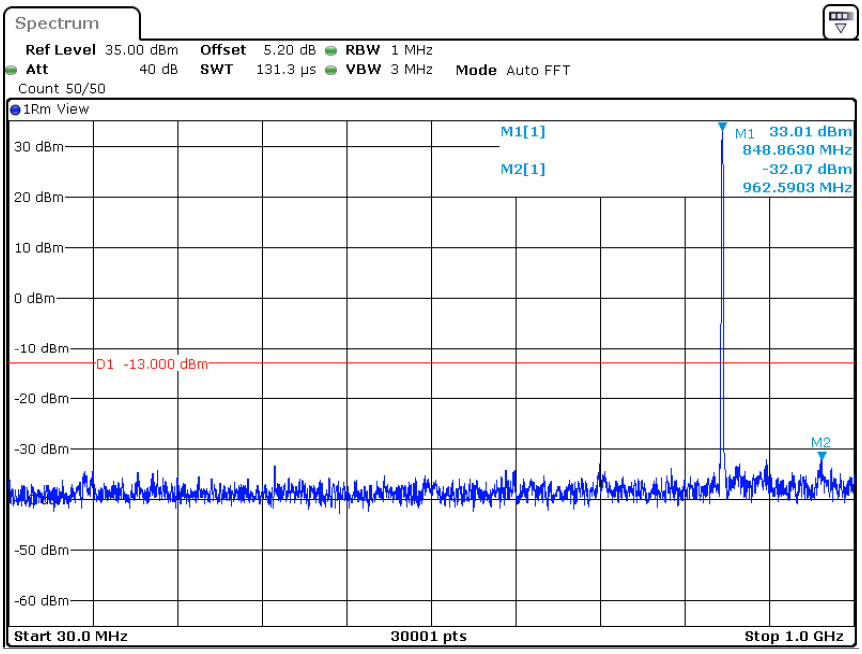
6. Spurious Emission at Antenna Terminal

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 * (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

GSM850-128-30~1000MHz-962.59



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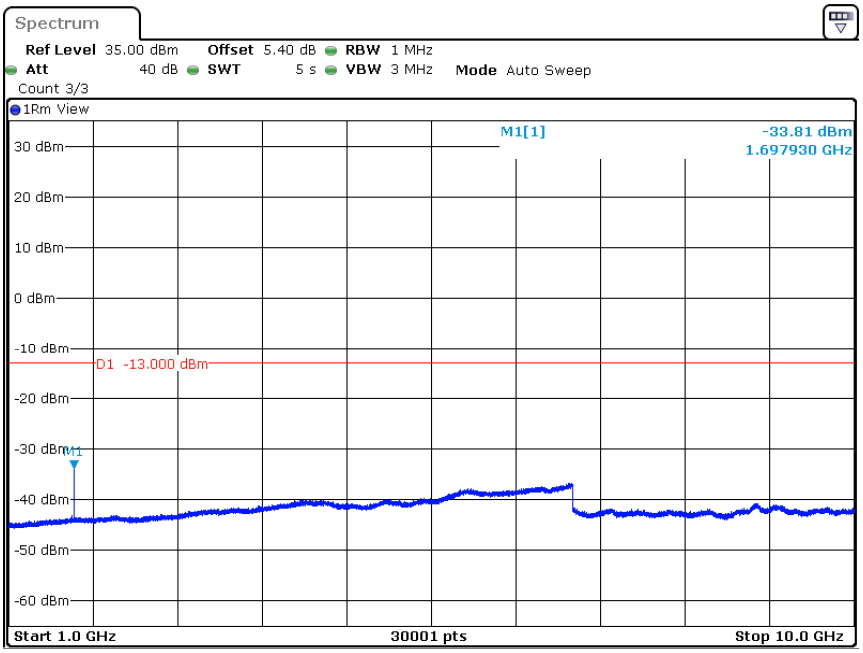
GSM850-128-1000~10000MHz-1697.93



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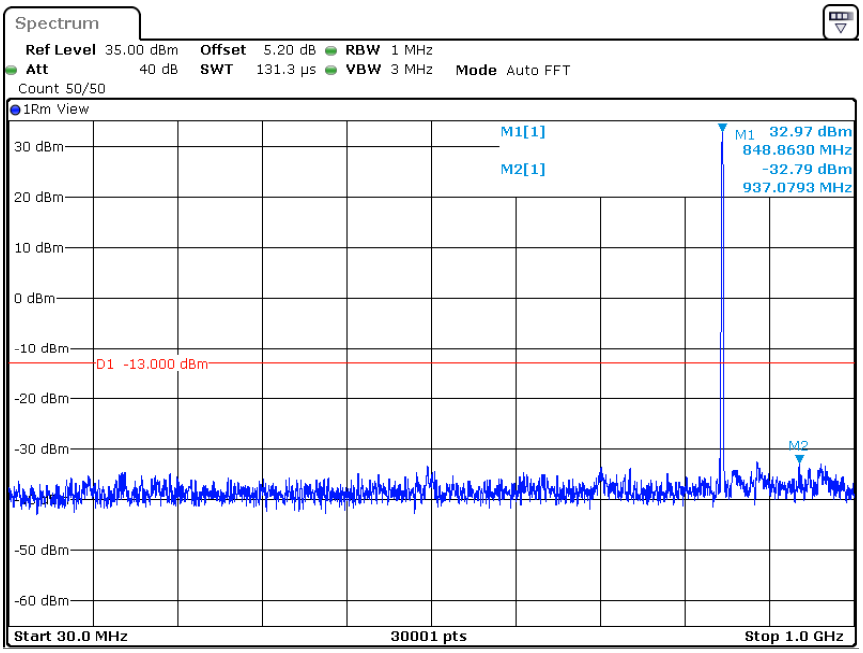

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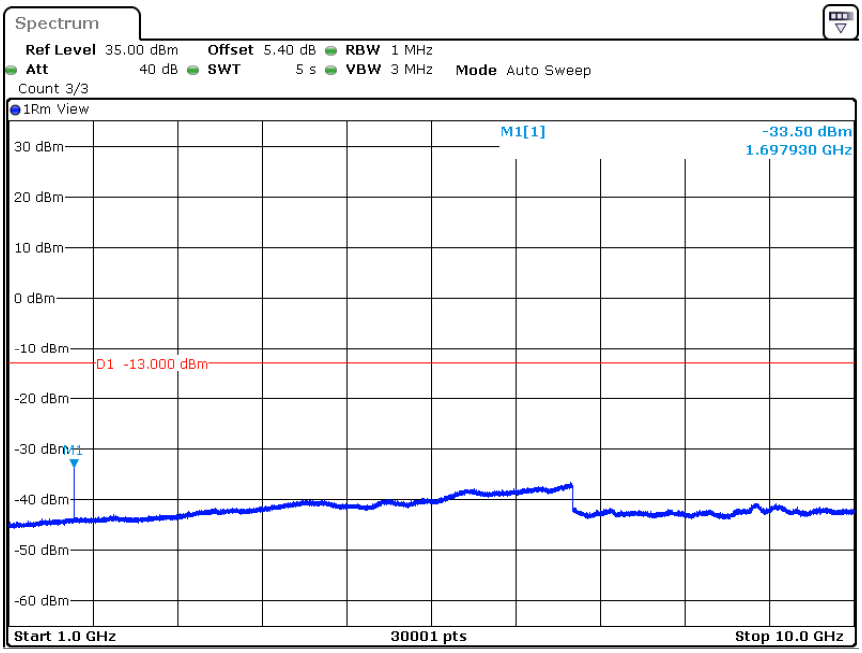
GSM850-190-1000~10000MHz-1697.93



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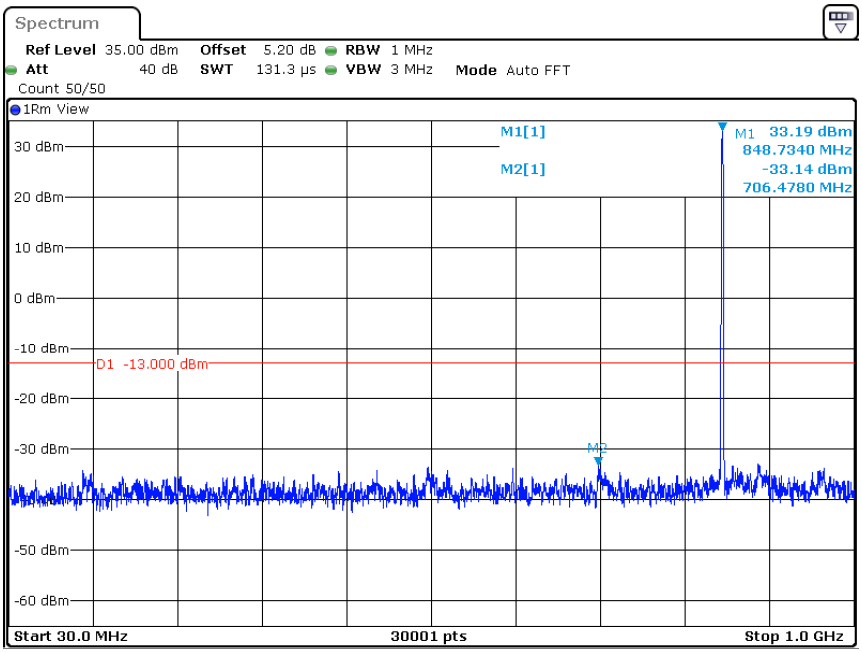
GSM850-251-30~1000MHz-706.48



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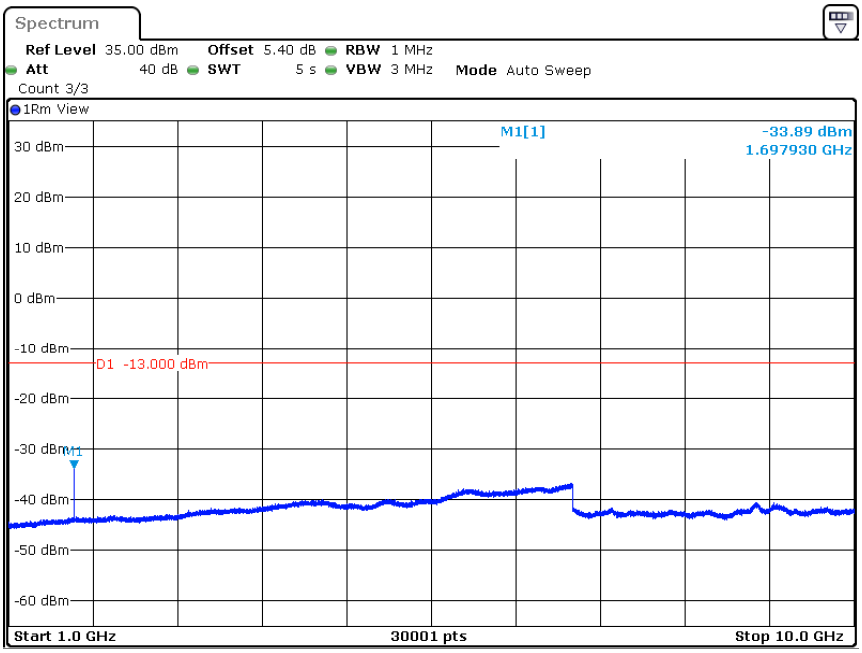
GSM850-251-1000~10000MHz-1697.93



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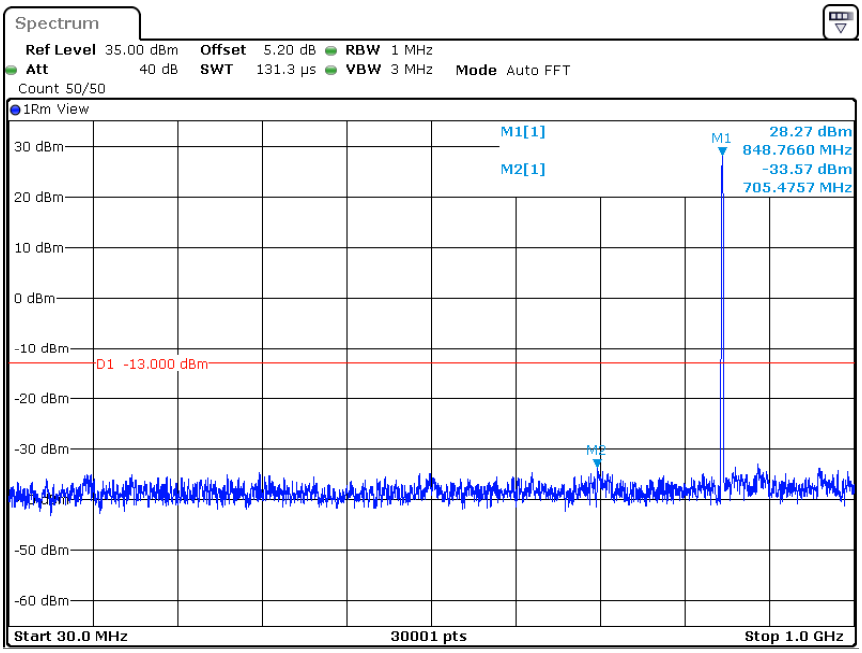
EGPRS850-128-30~1000MHz-705.48



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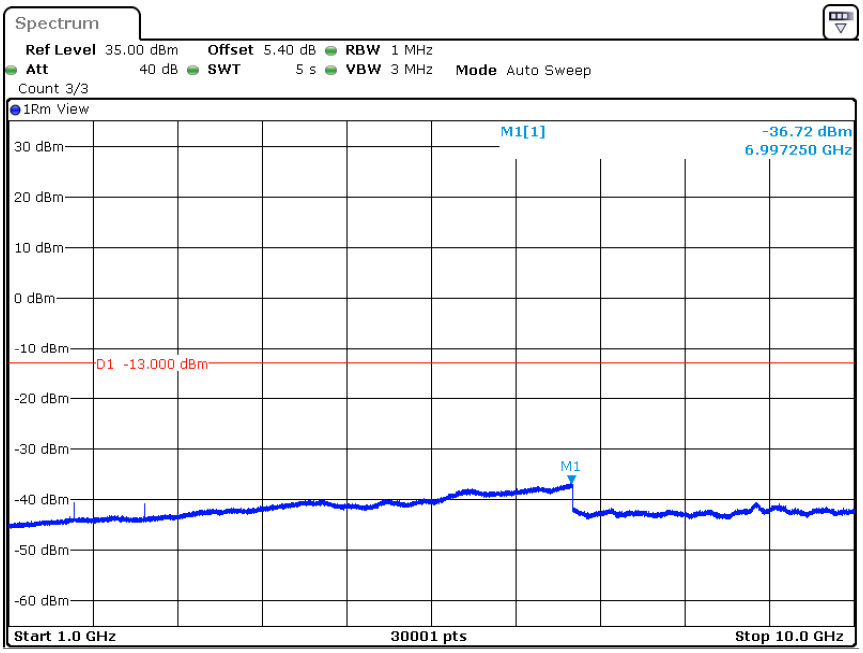
EGPRS850-128-1000~10000MHz-6997.25



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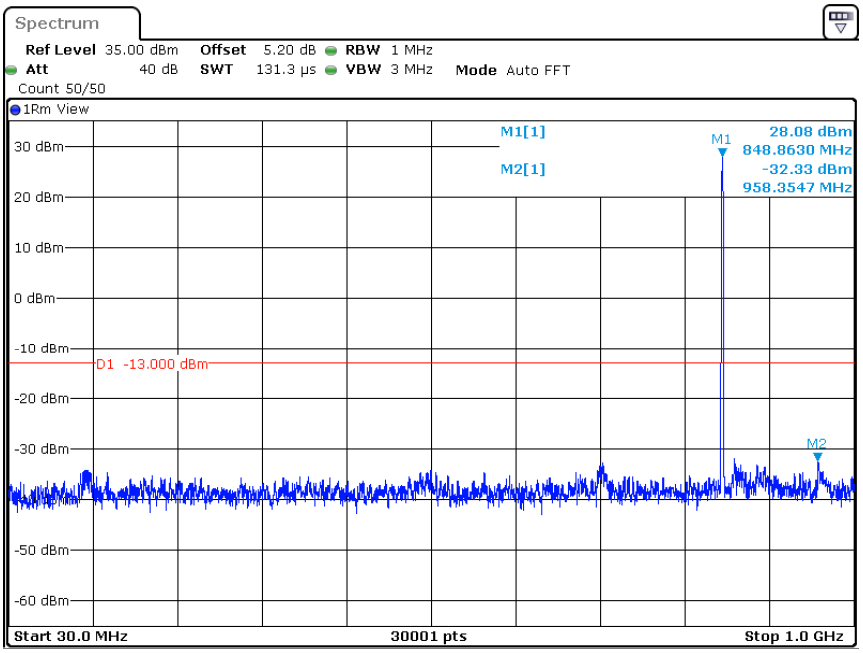

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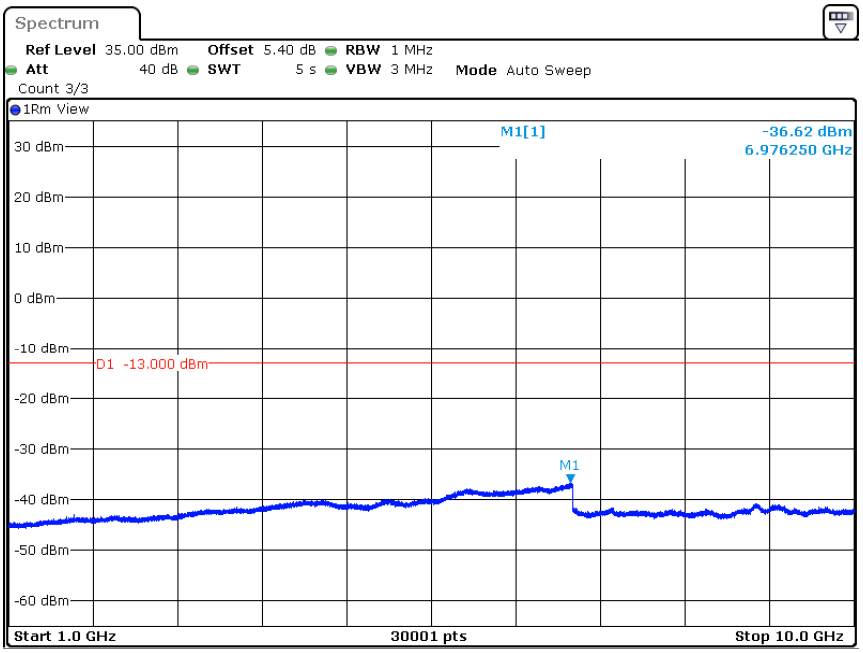
EGPRS850-190-1000~10000MHz-6976.25



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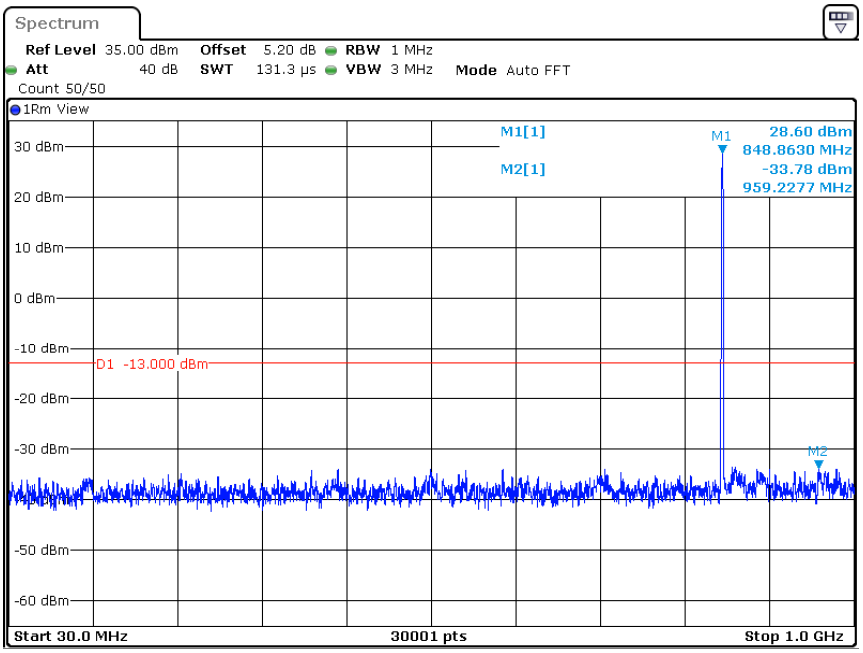

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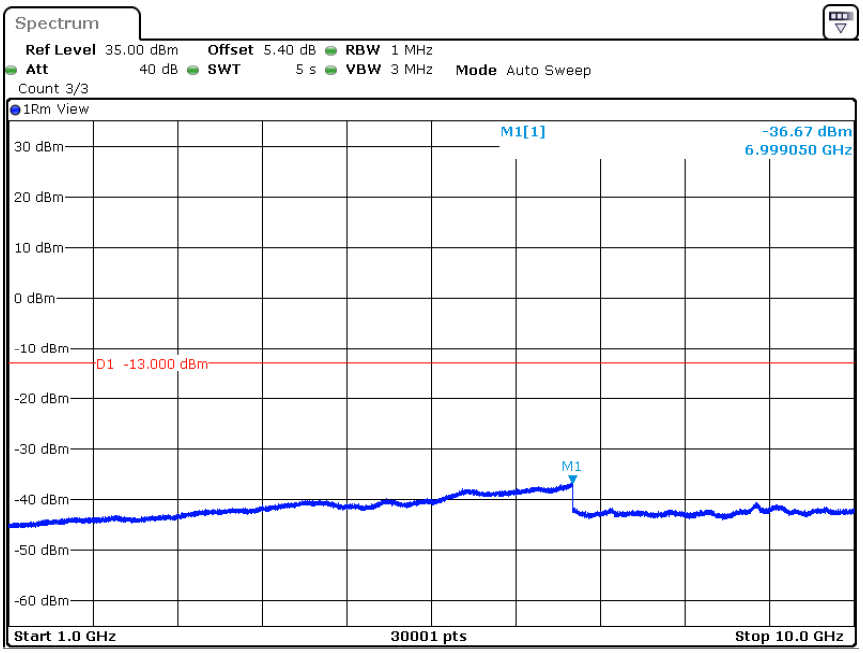

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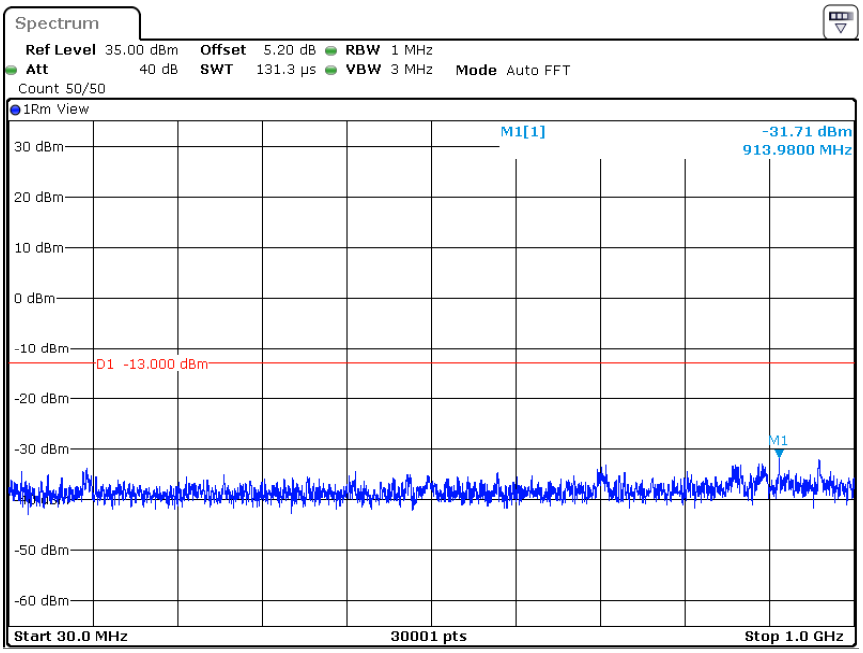

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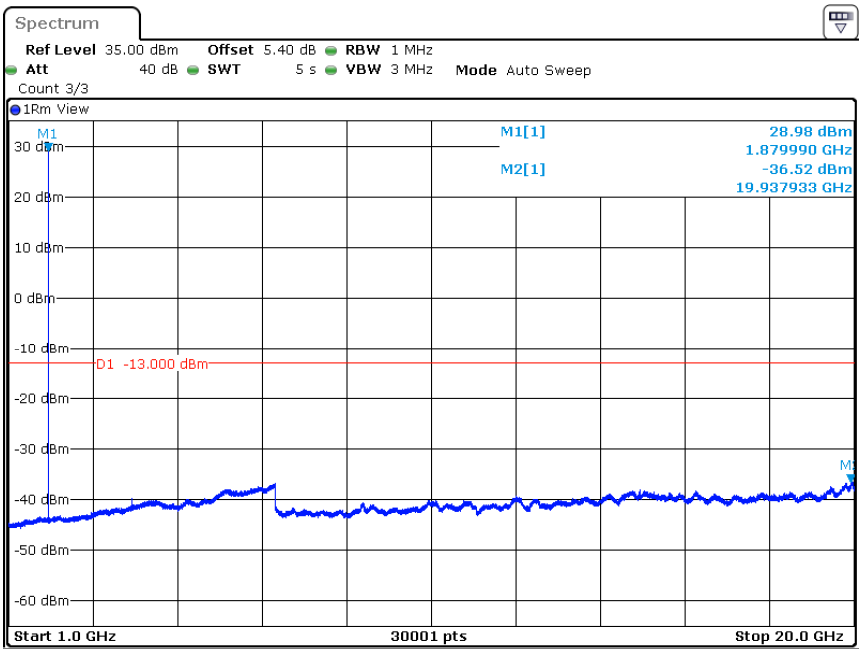

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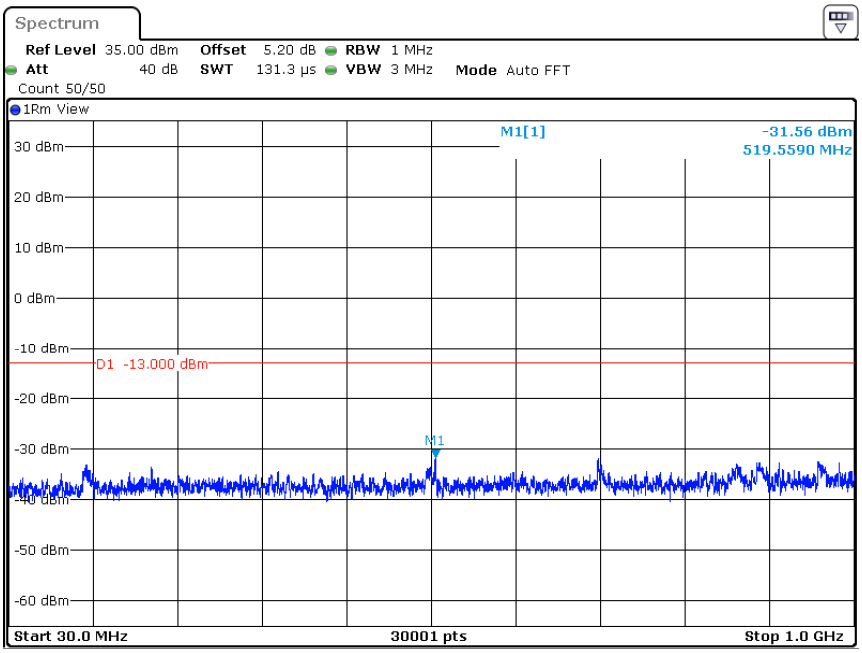

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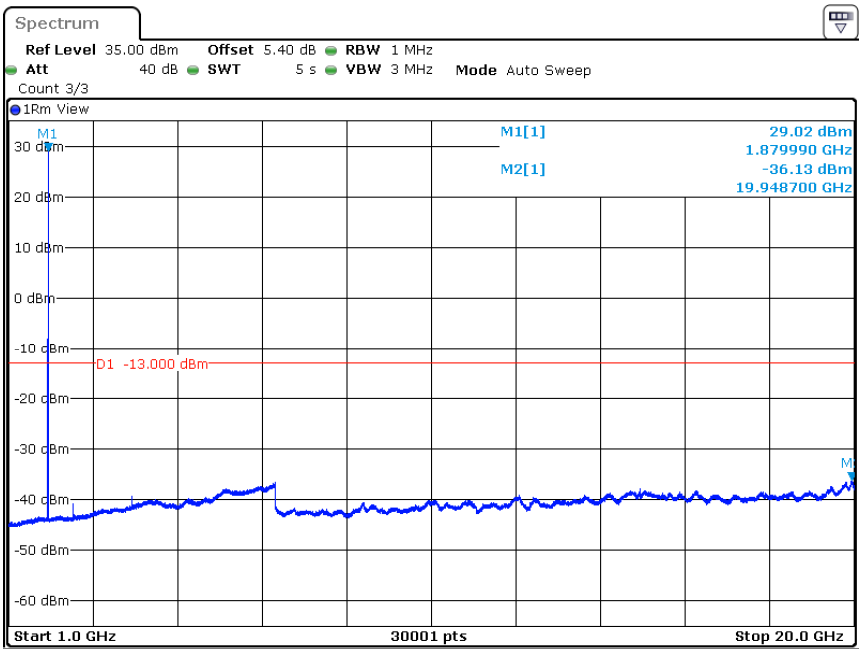
GSM1900-661-1000~20000MHz-19948.7



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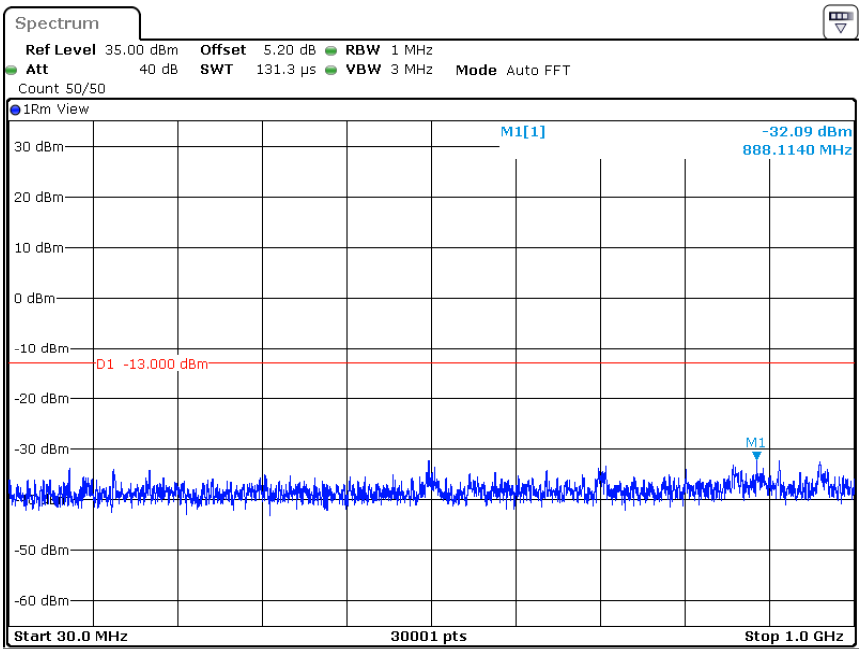

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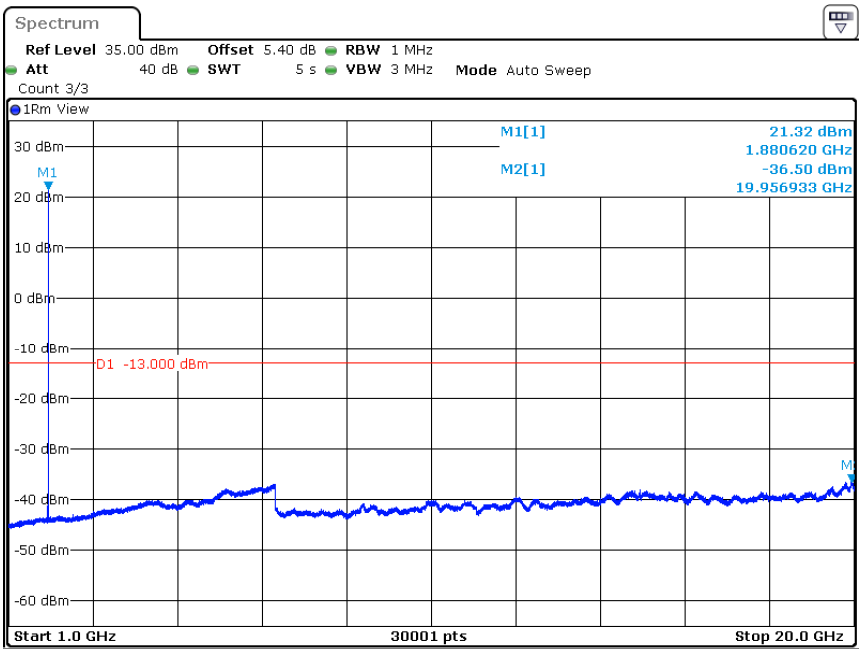
GSM1900-810-1000~20000MHz-19956.93



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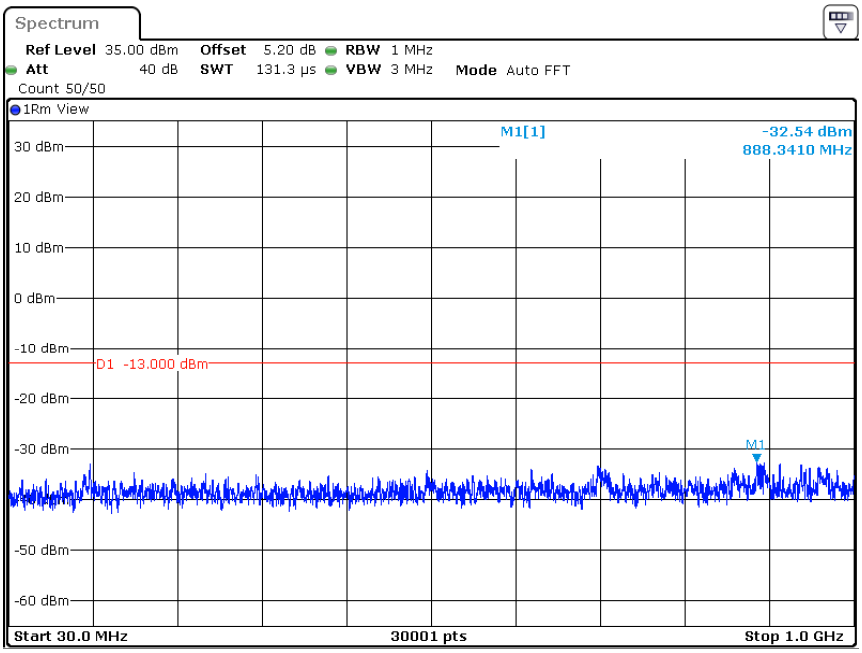
EGPRS1900-512-30~1000MHz-888.34



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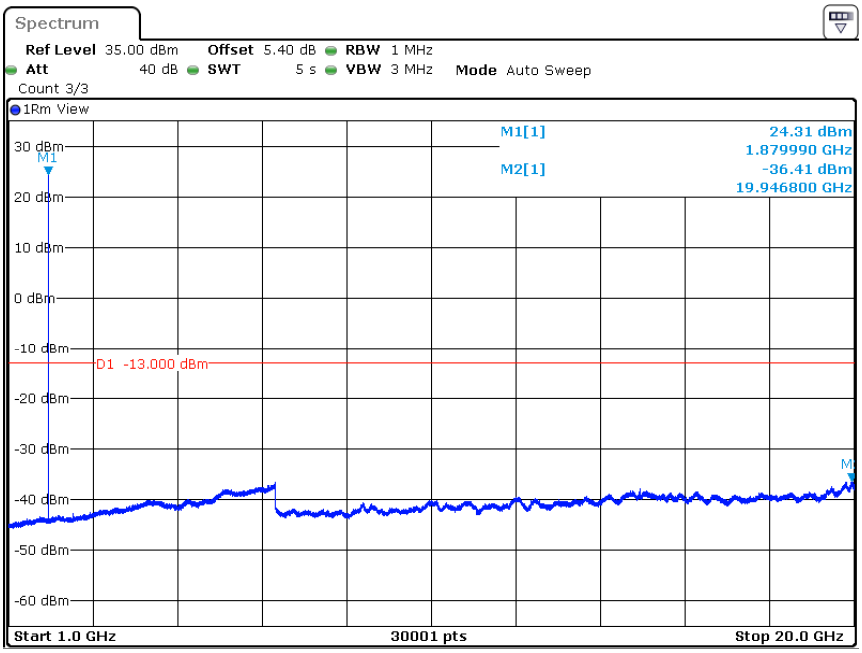
EGPRS1900-512-1000~20000MHz-19946.8



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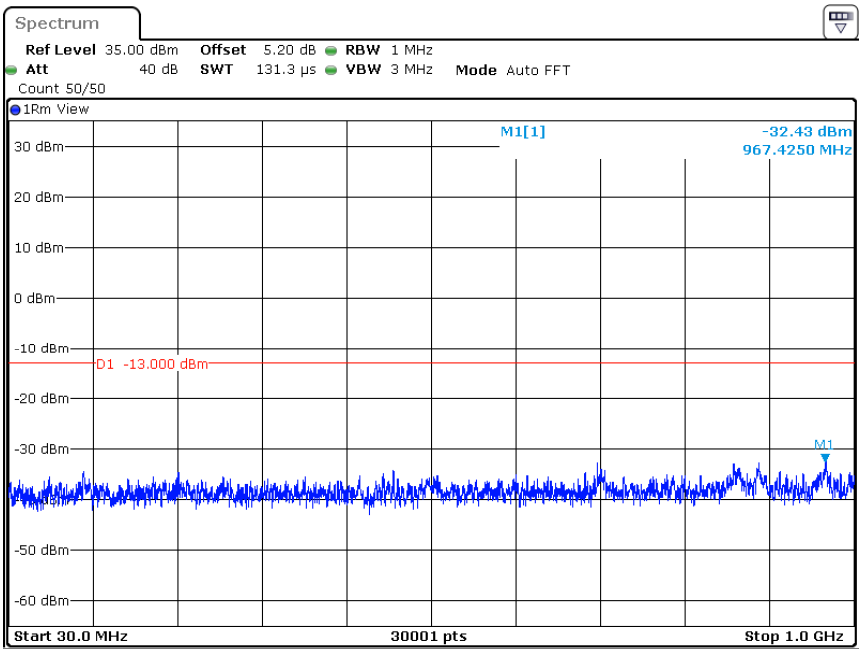
EGPRS1900-661-30~1000MHz-967.43



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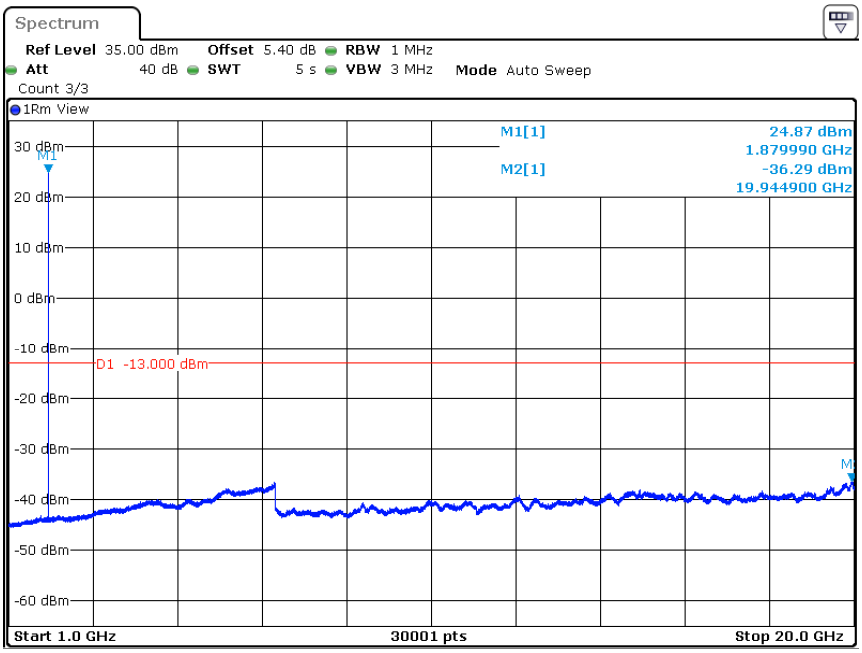
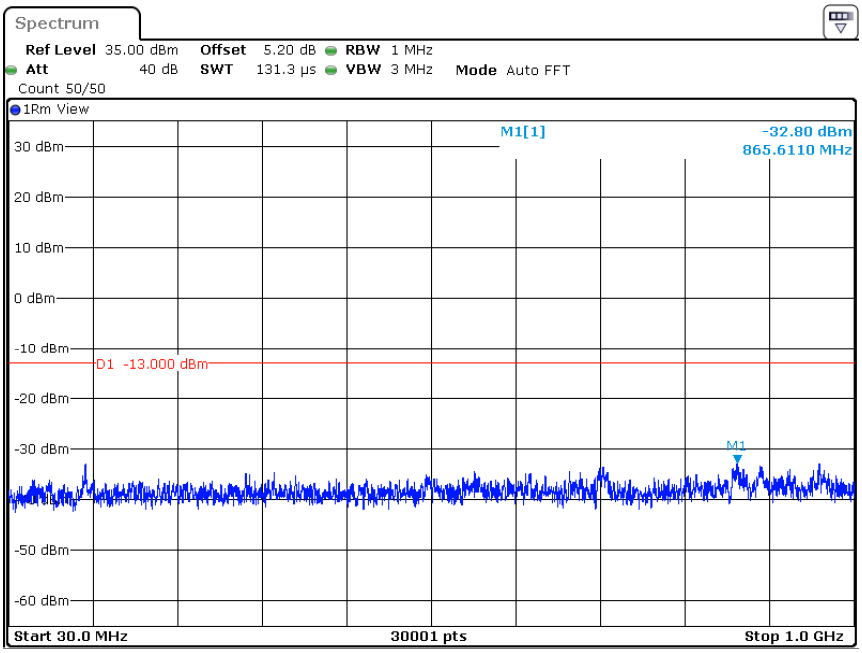
EGPRS1900-661-1000~20000MHz-19944.9



Date: 4.SEP.2020 17:08:21

EGPRS1900-810-30~1000MHz-865.61



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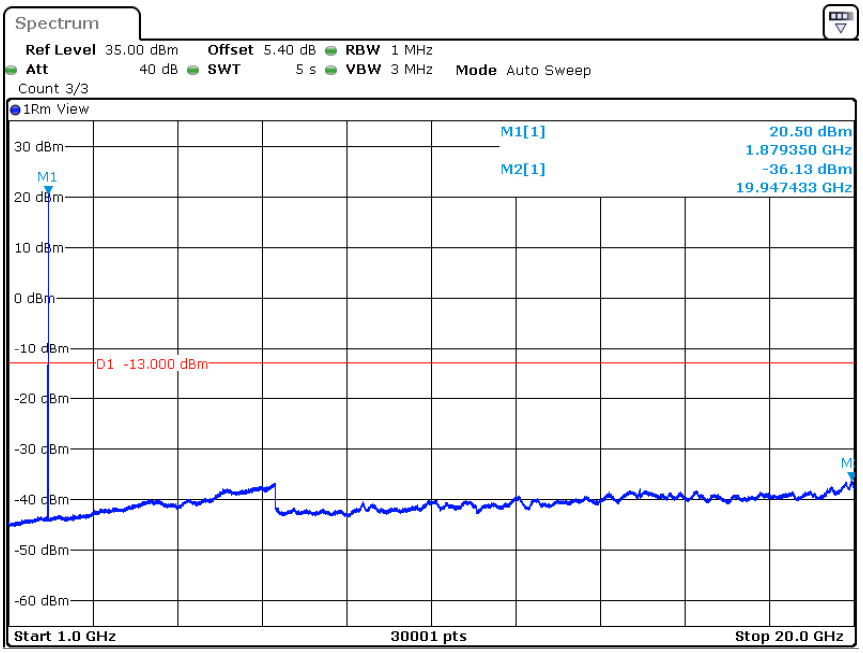
EGPRS1900-810-1000~20000MHz-19947.43



Date: 4.SEP.2020 17:09:58

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7. Field Strength of Spurious Radiation

7.1. Test Band = GSM 1900

7.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
49.6435	-72.76	-13.00	59.76	Vertical
110.3685	-64.75	-13.00	51.75	Vertical
477.4349	-67.04	-13.00	54.04	Vertical
3700.5234	-59.25	-13.00	46.25	Vertical
7386.1462	-55.80	-13.00	42.80	Vertical
17996.9999	-39.24	-13.00	26.24	Vertical
42.9016	-63.83	-13.00	50.83	Horizontal
233.9042	-67.70	-13.00	54.70	Horizontal
599.5640	-63.97	-13.00	50.97	Horizontal
3700.5234	-56.22	-13.00	43.22	Horizontal
7482.1494	-56.09	-13.00	43.09	Horizontal
16394.4465	-43.67	-13.00	30.67	Horizontal

7.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
48.4794	-72.44	-13.00	59.44	Vertical
111.4356	-63.57	-13.00	50.57	Vertical
624.7852	-62.95	-13.00	49.95	Vertical
3760.0253	-58.81	-13.00	45.81	Vertical
5640.0880	-60.07	-13.00	47.07	Vertical
17997.4999	-40.22	-13.00	27.22	Vertical
41.1071	-64.58	-13.00	51.58	Horizontal
101.1046	-74.26	-13.00	61.26	Horizontal
244.0412	-68.22	-13.00	55.22	Horizontal
3760.0253	-53.03	-13.00	40.03	Horizontal
5640.0880	-59.48	-13.00	46.48	Horizontal
16399.4466	-43.72	-13.00	30.72	Horizontal

7.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
48.6249	-72.46	-13.00	59.46	Vertical
108.6224	-65.08	-13.00	52.08	Vertical
709.1310	-63.42	-13.00	50.42	Vertical
3819.5273	-55.18	-13.00	42.18	Vertical

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7352.6451	-55.90	-13.00	42.90	Vertical
17999.5000	-40.21	-13.00	27.21	Vertical
44.1627	-64.36	-13.00	51.36	Horizontal
108.1859	-73.91	-13.00	60.91	Horizontal
232.3521	-68.23	-13.00	55.23	Horizontal
3819.5273	-48.38	-13.00	35.38	Horizontal
7459.6487	-56.60	-13.00	43.60	Horizontal
16389.4463	-43.03	-13.00	30.03	Horizontal

7.2. Test Band = GSM 850

7.2.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
31.6006	-73.96	-13.00	60.96	Vertical
113.9577	-64.49	-13.00	51.49	Vertical
318.1529	-68.61	-13.00	55.61	Vertical
1648.1296	-62.24	-13.00	49.24	Vertical
2472.6945	-47.40	-13.00	34.40	Vertical
3297.0432	-60.88	-13.00	47.88	Vertical
44.1627	-63.89	-13.00	50.89	Horizontal
89.5125	-74.50	-13.00	61.50	Horizontal
230.3150	-67.06	-13.00	54.06	Horizontal
1648.5297	-55.40	-13.00	42.40	Horizontal
2472.6945	-43.66	-13.00	30.66	Horizontal
3297.0432	-57.02	-13.00	44.02	Horizontal

7.2.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
30.0970	-73.49	-13.00	60.49	Vertical
108.7194	-64.46	-13.00	51.46	Vertical
394.0107	-67.35	-13.00	54.35	Vertical
1672.9346	-61.82	-13.00	48.82	Vertical
2509.9020	-48.90	-13.00	35.90	Vertical
3346.0449	-62.95	-13.00	49.95	Vertical
41.9801	-64.23	-13.00	51.23	Horizontal
110.3200	-74.97	-13.00	61.97	Horizontal
244.3807	-67.36	-13.00	54.36	Horizontal
1673.3347	-59.47	-13.00	46.47	Horizontal
2510.3021	-43.75	-13.00	30.75	Horizontal
3346.2782	-55.26	-13.00	42.26	Horizontal

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7.2.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
46.7333	42.23	42.23	42.23	Vertical
110.2715	42.23	42.23	42.23	Vertical
416.4673	42.23	42.23	42.23	Vertical
1697.7395	42.23	42.23	42.23	Vertical
2546.3093	42.23	42.23	42.23	Vertical
7359.0453	42.23	42.23	42.23	Vertical
44.3082	-63.73	-13.00	50.73	Horizontal
100.3285	-73.57	-13.00	60.57	Horizontal
242.3921	-66.99	-13.00	53.99	Horizontal
1697.3395	-55.39	-13.00	42.39	Horizontal
2546.3093	-44.94	-13.00	31.94	Horizontal
3395.5132	-59.49	-13.00	46.49	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.

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3)

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	19.89	0.024132	±2.5	PASS
GSM850	128	VN	NT	14.88	0.018054	±2.5	PASS
GSM850	128	VH	NT	14.27	0.017314	±2.5	PASS
GSM850	190	VL	NT	17.01	0.020332	±2.5	PASS
GSM850	190	VN	NT	15.17	0.018133	±2.5	PASS
GSM850	190	VH	NT	14.37	0.017177	±2.5	PASS
GSM850	251	VL	NT	13.56	0.015975	±2.5	PASS
GSM850	251	VN	NT	18.69	0.022019	±2.5	PASS
GSM850	251	VH	NT	15.46	0.018214	±2.5	PASS
EGPRS850	128	VL	NT	33.90	0.041131	±2.5	PASS
EGPRS850	128	VN	NT	34.61	0.041992	±2.5	PASS
EGPRS850	128	VH	NT	32.00	0.038826	±2.5	PASS
EGPRS850	190	VL	NT	34.48	0.041214	±2.5	PASS
EGPRS850	190	VN	NT	34.16	0.040832	±2.5	PASS
EGPRS850	190	VH	NT	32.83	0.039242	±2.5	PASS
EGPRS850	251	VL	NT	36.58	0.043096	±2.5	PASS
EGPRS850	251	VN	NT	36.90	0.043473	±2.5	PASS
EGPRS850	251	VH	NT	33.93	0.039974	±2.5	PASS
GSM1900	512	VL	NT	40.84	0.022073	±2.5	PASS
GSM1900	512	VN	NT	44.07	0.023819	±2.5	PASS
GSM1900	512	VH	NT	41.52	0.022441	±2.5	PASS
GSM1900	661	VL	NT	28.67	0.015250	±2.5	PASS
GSM1900	661	VN	NT	37.97	0.020197	±2.5	PASS
GSM1900	661	VH	NT	41.97	0.022324	±2.5	PASS
GSM1900	810	VL	NT	28.83	0.015096	±2.5	PASS
GSM1900	810	VN	NT	23.70	0.012410	±2.5	PASS
GSM1900	810	VH	NT	23.70	0.012410	±2.5	PASS
EGPRS1900	512	VL	NT	57.82	0.031251	±2.5	PASS
EGPRS1900	512	VN	NT	55.47	0.029981	±2.5	PASS
EGPRS1900	512	VH	NT	56.27	0.030413	±2.5	PASS

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EGPRS1900	661	VL	NT	42.10	0.022394	±2.5	PASS
EGPRS1900	661	VN	NT	50.30	0.026755	±2.5	PASS
EGPRS1900	661	VH	NT	44.43	0.023633	±2.5	PASS
EGPRS1900	810	VL	NT	45.33	0.023735	±2.5	PASS
EGPRS1900	810	VN	NT	45.52	0.023835	±2.5	PASS
EGPRS1900	810	VH	NT	44.62	0.023364	±2.5	PASS

8.2. Frequency Error Vs Temperature

Temperature							
Band	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	128	NV	-30	13.01	0.015785	±2.5	PASS
GSM850	128	NV	-20	18.85	0.022871	±2.5	PASS
GSM850	128	NV	-10	17.27	0.020954	±2.5	PASS
GSM850	128	NV	0	16.34	0.019825	±2.5	PASS
GSM850	128	NV	10	16.95	0.020565	±2.5	PASS
GSM850	128	NV	20	11.82	0.014341	±2.5	PASS
GSM850	128	NV	30	16.82	0.020408	±2.5	PASS
GSM850	128	NV	40	19.18	0.023271	±2.5	PASS
GSM850	128	NV	50	15.95	0.019352	±2.5	PASS
GSM850	190	NV	-30	10.43	0.012467	±2.5	PASS
GSM850	190	NV	-20	12.69	0.015169	±2.5	PASS
GSM850	190	NV	-10	11.24	0.013435	±2.5	PASS
GSM850	190	NV	0	11.43	0.013662	±2.5	PASS
GSM850	190	NV	10	12.24	0.014631	±2.5	PASS
GSM850	190	NV	20	12.66	0.015133	±2.5	PASS
GSM850	190	NV	30	17.34	0.020727	±2.5	PASS
GSM850	190	NV	40	13.62	0.016280	±2.5	PASS
GSM850	190	NV	50	15.66	0.018719	±2.5	PASS
GSM850	251	NV	-30	13.98	0.016470	±2.5	PASS
GSM850	251	NV	-20	14.95	0.017613	±2.5	PASS
GSM850	251	NV	-10	11.69	0.013772	±2.5	PASS
GSM850	251	NV	0	16.24	0.019133	±2.5	PASS
GSM850	251	NV	10	11.27	0.013278	±2.5	PASS
GSM850	251	NV	20	13.17	0.015516	±2.5	PASS
GSM850	251	NV	30	15.50	0.018261	±2.5	PASS
GSM850	251	NV	40	10.65	0.012547	±2.5	PASS

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GSM850	251	NV	50	16.18	0.019062	±2.5	PASS
EGPRS850	128	NV	-30	33.13	0.040197	±2.5	PASS
EGPRS850	128	NV	-20	33.84	0.041058	±2.5	PASS
EGPRS850	128	NV	-10	36.68	0.044504	±2.5	PASS
EGPRS850	128	NV	0	36.42	0.044188	±2.5	PASS
EGPRS850	128	NV	10	35.16	0.042660	±2.5	PASS
EGPRS850	128	NV	20	33.03	0.040075	±2.5	PASS
EGPRS850	128	NV	30	31.90	0.038704	±2.5	PASS
EGPRS850	128	NV	40	35.55	0.043133	±2.5	PASS
EGPRS850	128	NV	50	33.38	0.040500	±2.5	PASS
EGPRS850	190	NV	-30	32.32	0.038633	±2.5	PASS
EGPRS850	190	NV	-20	31.67	0.037856	±2.5	PASS
EGPRS850	190	NV	-10	32.93	0.039362	±2.5	PASS
EGPRS850	190	NV	0	34.32	0.041023	±2.5	PASS
EGPRS850	190	NV	10	32.38	0.038704	±2.5	PASS
EGPRS850	190	NV	20	33.74	0.040330	±2.5	PASS
EGPRS850	190	NV	30	31.58	0.037748	±2.5	PASS
EGPRS850	190	NV	40	31.19	0.037282	±2.5	PASS
EGPRS850	190	NV	50	31.96	0.038202	±2.5	PASS
EGPRS850	251	NV	-30	36.71	0.043249	±2.5	PASS
EGPRS850	251	NV	-20	35.45	0.041765	±2.5	PASS
EGPRS850	251	NV	-10	31.74	0.037394	±2.5	PASS
EGPRS850	251	NV	0	35.42	0.041730	±2.5	PASS
EGPRS850	251	NV	10	32.71	0.038537	±2.5	PASS
EGPRS850	251	NV	20	34.55	0.040705	±2.5	PASS
EGPRS850	251	NV	30	33.32	0.039255	±2.5	PASS
EGPRS850	251	NV	40	36.39	0.042872	±2.5	PASS
EGPRS850	251	NV	50	35.93	0.042330	±2.5	PASS
GSM1900	512	NV	-30	42.91	0.023192	±2.5	PASS
GSM1900	512	NV	-20	40.91	0.022111	±2.5	PASS
GSM1900	512	NV	-10	41.84	0.022614	±2.5	PASS
GSM1900	512	NV	0	46.98	0.025392	±2.5	PASS
GSM1900	512	NV	10	44.94	0.024289	±2.5	PASS
GSM1900	512	NV	20	43.30	0.023403	±2.5	PASS
GSM1900	512	NV	30	36.39	0.019668	±2.5	PASS
GSM1900	512	NV	40	42.94	0.023208	±2.5	PASS
GSM1900	512	NV	50	40.94	0.022127	±2.5	PASS

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GSM1900	661	NV	-30	35.71	0.018995	±2.5	PASS
GSM1900	661	NV	-20	35.84	0.019064	±2.5	PASS
GSM1900	661	NV	-10	28.96	0.015404	±2.5	PASS
GSM1900	661	NV	0	28.19	0.014995	±2.5	PASS
GSM1900	661	NV	10	34.19	0.018186	±2.5	PASS
GSM1900	661	NV	20	36.81	0.019580	±2.5	PASS
GSM1900	661	NV	30	33.16	0.017638	±2.5	PASS
GSM1900	661	NV	40	35.58	0.018926	±2.5	PASS
GSM1900	661	NV	50	32.96	0.017532	±2.5	PASS
GSM1900	810	NV	-30	23.60	0.012357	±2.5	PASS
GSM1900	810	NV	-20	29.57	0.015483	±2.5	PASS
GSM1900	810	NV	-10	21.95	0.011493	±2.5	PASS
GSM1900	810	NV	0	24.60	0.012881	±2.5	PASS
GSM1900	810	NV	10	27.99	0.014656	±2.5	PASS
GSM1900	810	NV	20	22.63	0.011849	±2.5	PASS
GSM1900	810	NV	30	29.12	0.015248	±2.5	PASS
GSM1900	810	NV	40	24.15	0.012645	±2.5	PASS
GSM1900	810	NV	50	23.18	0.012137	±2.5	PASS
EGPRS1900	512	NV	-30	55.98	0.030256	±2.5	PASS
EGPRS1900	512	NV	-20	56.40	0.030483	±2.5	PASS
EGPRS1900	512	NV	-10	57.99	0.031343	±2.5	PASS
EGPRS1900	512	NV	0	56.60	0.030591	±2.5	PASS
EGPRS1900	512	NV	10	53.69	0.029018	±2.5	PASS
EGPRS1900	512	NV	20	54.89	0.029667	±2.5	PASS
EGPRS1900	512	NV	30	52.14	0.028181	±2.5	PASS
EGPRS1900	512	NV	40	54.37	0.029386	±2.5	PASS
EGPRS1900	512	NV	50	54.37	0.029386	±2.5	PASS
EGPRS1900	661	NV	-30	44.55	0.023697	±2.5	PASS
EGPRS1900	661	NV	-20	47.17	0.025090	±2.5	PASS
EGPRS1900	661	NV	-10	43.46	0.023117	±2.5	PASS
EGPRS1900	661	NV	0	45.01	0.023941	±2.5	PASS
EGPRS1900	661	NV	10	47.52	0.025277	±2.5	PASS
EGPRS1900	661	NV	20	44.65	0.023750	±2.5	PASS
EGPRS1900	661	NV	30	44.26	0.023543	±2.5	PASS
EGPRS1900	661	NV	40	44.68	0.023766	±2.5	PASS
EGPRS1900	661	NV	50	48.98	0.026053	±2.5	PASS
EGPRS1900	810	NV	-30	48.04	0.025154	±2.5	PASS

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EGPRS1900	810	NV	-20	41.55	0.021756	±2.5	PASS
EGPRS1900	810	NV	-10	47.85	0.025055	±2.5	PASS
EGPRS1900	810	NV	0	43.23	0.022636	±2.5	PASS
EGPRS1900	810	NV	10	42.84	0.022432	±2.5	PASS
EGPRS1900	810	NV	20	44.13	0.023107	±2.5	PASS
EGPRS1900	810	NV	30	44.97	0.023547	±2.5	PASS
EGPRS1900	810	NV	40	46.10	0.024139	±2.5	PASS
EGPRS1900	810	NV	50	37.71	0.019746	±2.5	PASS

The End

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