

Appendix for GSM850/1900 test report

Appendix A: Effective (Isotropic) Radiated Power Output Data

Test Results

Test Band	Test Mode	Test Channel	Conducted Power[dBm]	ERP[dBm]	Limit[dBm]	Verdict
GSM850	GSM/TM1	LCH	33.71	31.61	38.5	PASS
		MCH	33.71	31.61	38.5	PASS
		HCH	34.46	32.36	38.5	PASS
	GSM/TM2	LCH	27.92	25.82	38.5	PASS
		MCH	27.56	25.46	38.5	PASS
		HCH	28.63	26.53	38.5	PASS

Test Band	Test Mode	Test Channel	Conducted Power[dBm]	EIRP[dBm]	Limit[dBm]	Verdict
GSM1900	GSM/TM1	LCH	31.29	30.89	33	PASS
		MCH	31.35	30.95	33	PASS
		HCH	31.74	31.34	33	PASS
	GSM/TM2	LCH	27.08	26.68	33	PASS
		MCH	27.55	27.15	33	PASS
		HCH	26.95	26.55	33	PASS

Note 1:

a, For getting the ERP (Efficient Radiated Power) or EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

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

$$EIRP[dBm]=SGP[dBm]-Cable\ Loss[dB]+Gain[dBd]$$

b, SGP=Signal Generator Level

c, Antenna gain of GSM 850 is -2.1dBi; Antenna gain of GSM 1900 is -0.4dBi;

Note 2:

$$SET\ Span=1.5*OBW$$

SET RBW=1% of the OBW, not to exceed 1MHz

$$SET\ VBW \geq 3*RBW$$

SET SWEEP time=auto couple

Detector: RMS

Appendix B: Peak-to-Average Ratio(CCDF)

Test Band	Test Mode	Test Channel	Measured[dBm]	Limit[dBm]	Verdict
GSM850	GSM/TM1	LCH	9.74	13	PASS
		MCH	9.83	13	PASS
		HCH	9.42	13	PASS
	GSM/TM2	LCH	8.90	13	PASS
		MCH	8.90	13	PASS
		HCH	9.83	13	PASS
GSM1900	GSM/TM1	LCH	8.93	13	PASS
		MCH	9.80	13	PASS
		HCH	9.77	13	PASS
	GSM/TM2	LCH	8.90	13	PASS
		MCH	9.42	13	PASS
		HCH	9.80	13	PASS

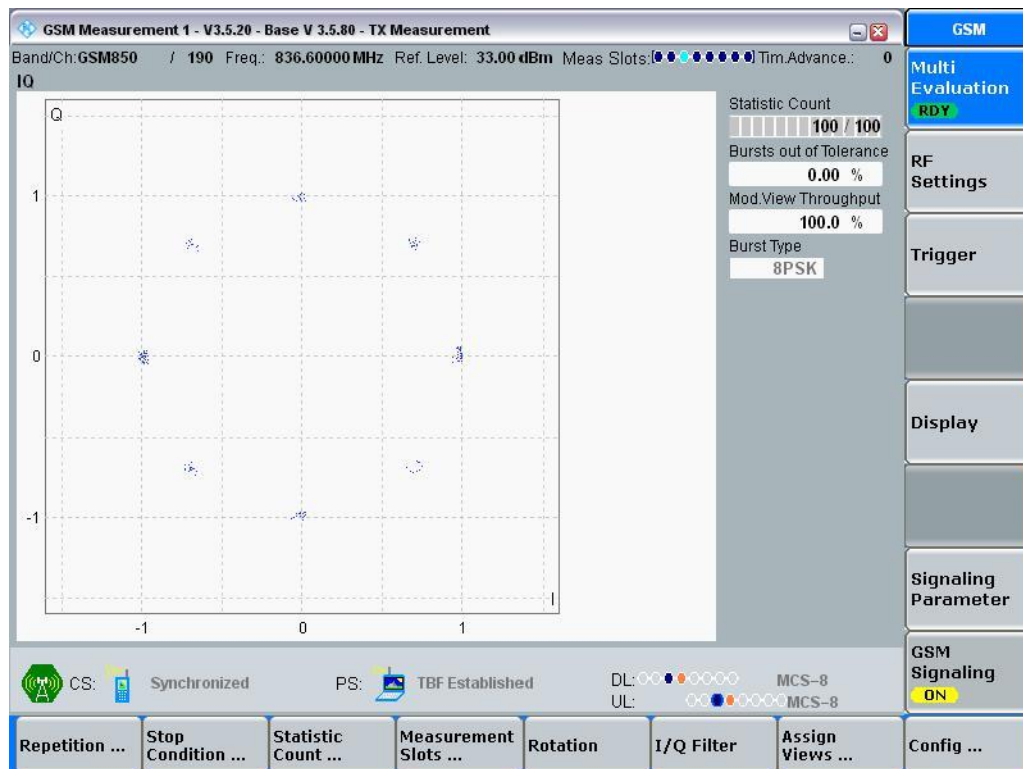
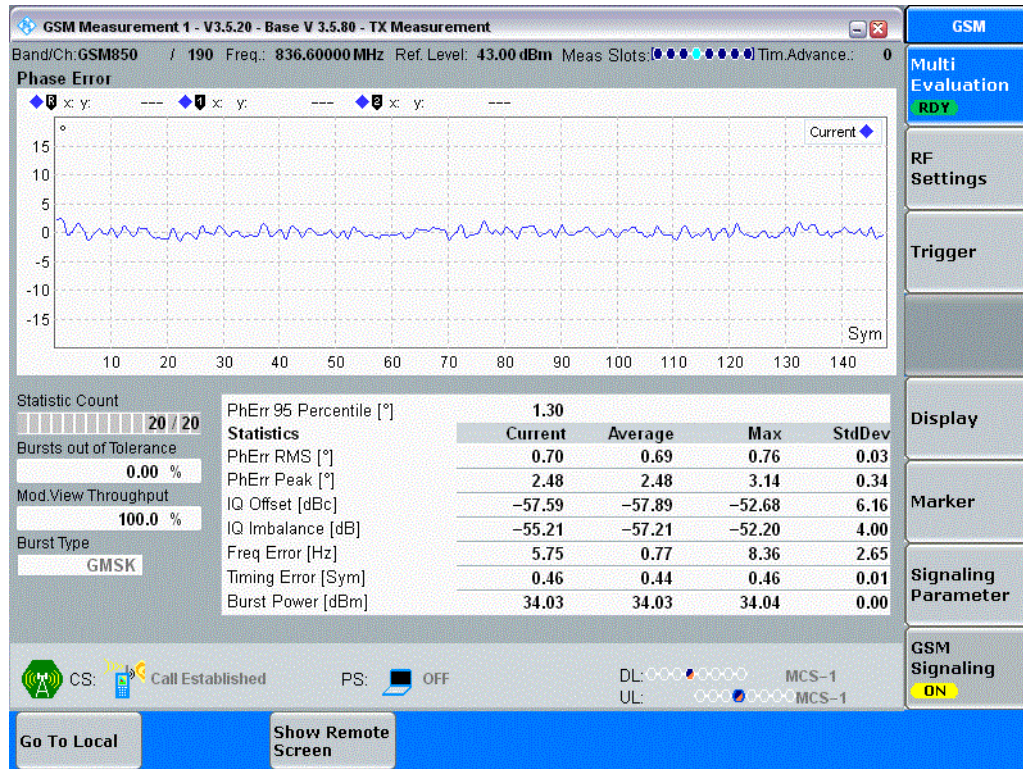
Appendix C: Modulation Characteristics

Test Plots

Test Band = GSM850

Test Mode = GSM/TM1

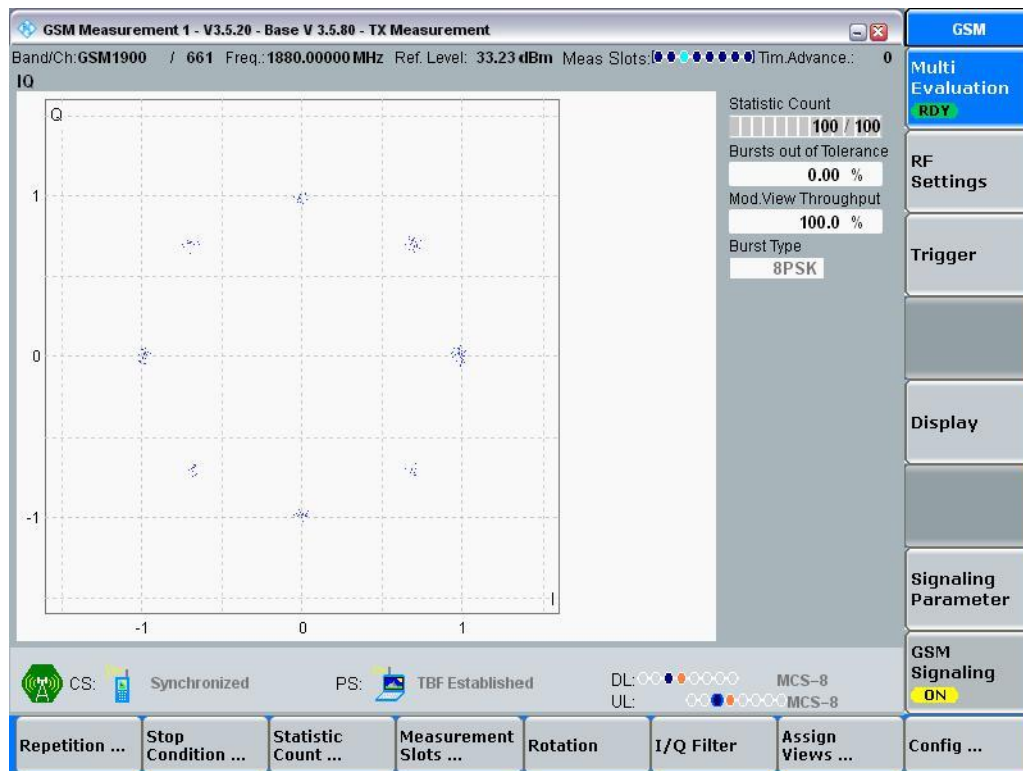
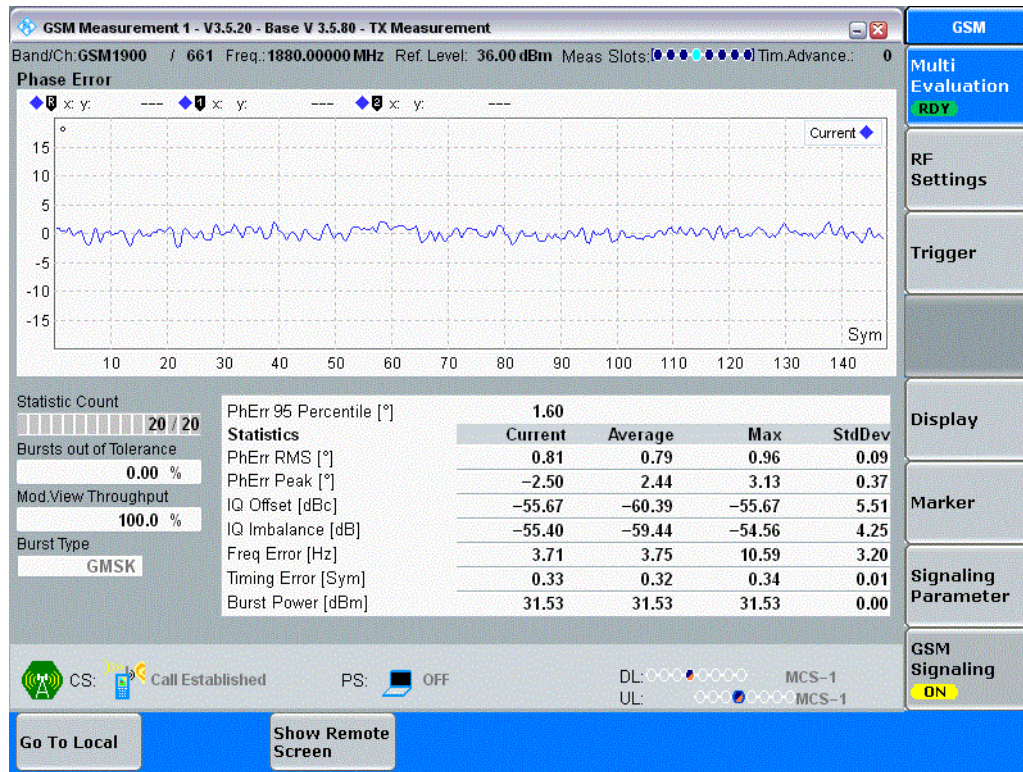
Test Channel = MCH



Test Band = GSM1900

Test Mode = GSM/TM1

Test Channel = MCH

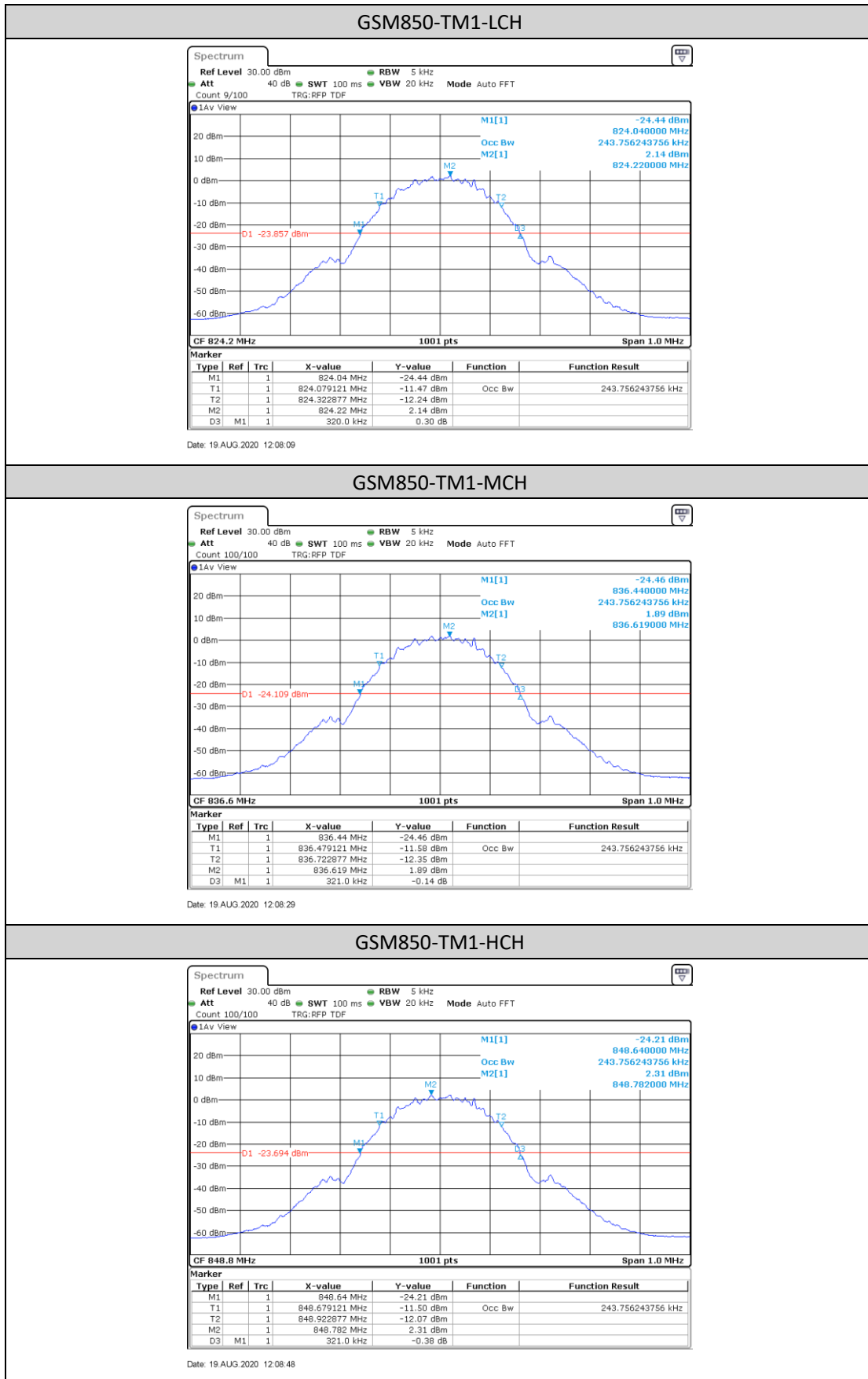


Appendix D: Bandwidth

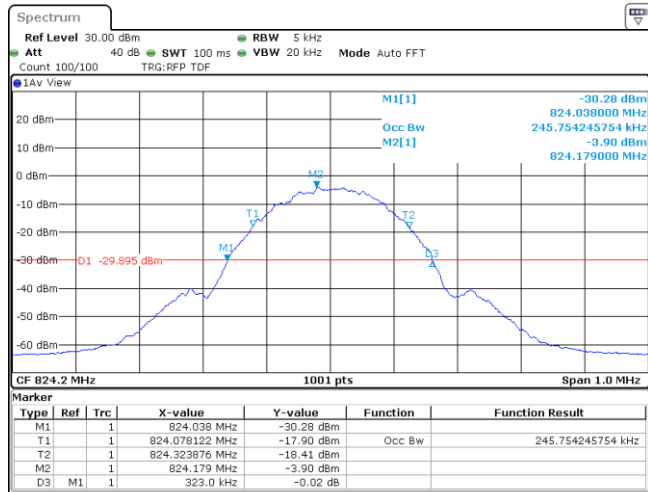
Test Result

Test Band	Test Mode	Test Channel	Occupied Bandwidth[MHz]	Emission Bandwidth[MHz]	Verdict
GSM850	GSM/TM1	LCH	0.244	0.320	PASS
		MCH	0.244	0.321	PASS
		HCH	0.244	0.321	PASS
	GSM/TM2	LCH	0.246	0.323	PASS
		MCH	0.246	0.322	PASS
		HCH	0.246	0.323	PASS
GSM1900	GSM/TM1	LCH	0.244	0.319	PASS
		MCH	0.245	0.320	PASS
		HCH	0.245	0.320	PASS
	GSM/TM2	LCH	0.246	0.322	PASS
		MCH	0.247	0.322	PASS
		HCH	0.247	0.322	PASS

Test Graphs

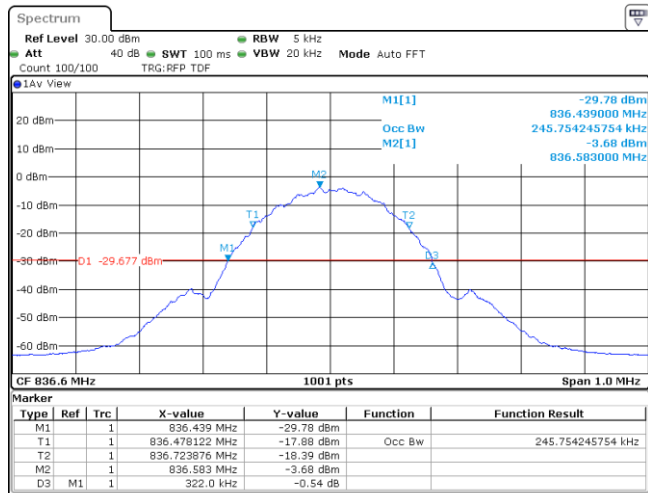


GSM850-TM2-LCH



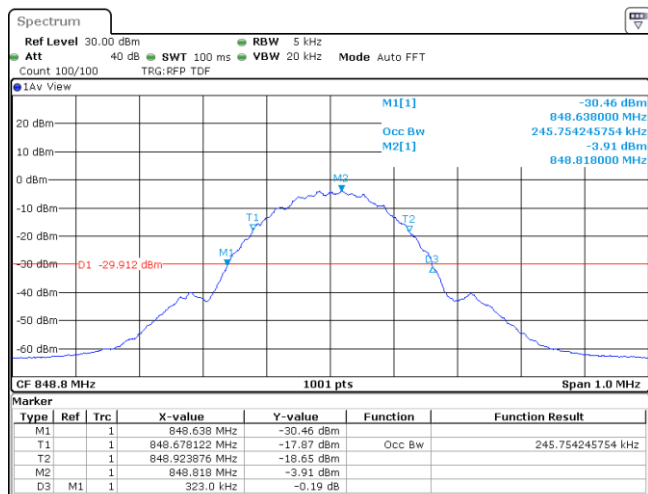
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GSM850-TM2-MCH



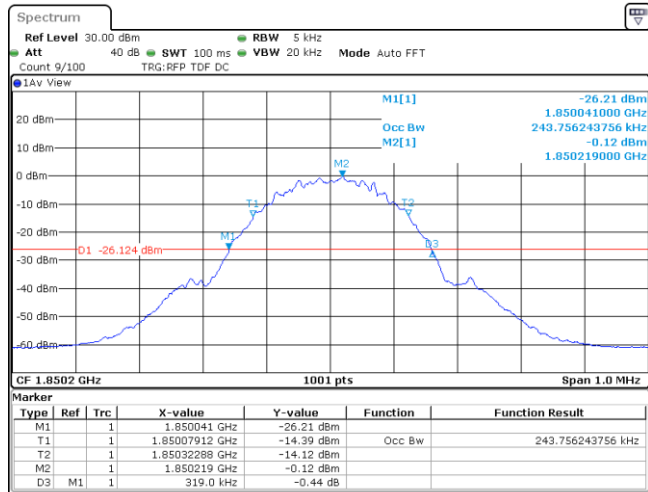
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GSM850-TM2-HCH



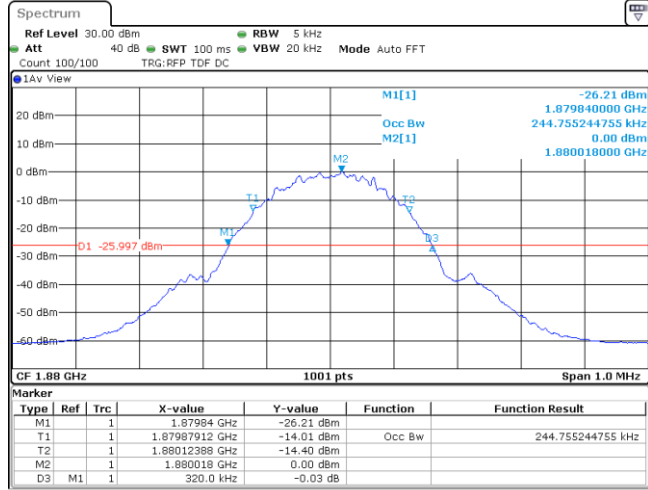
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GSM1900-TM1-LCH



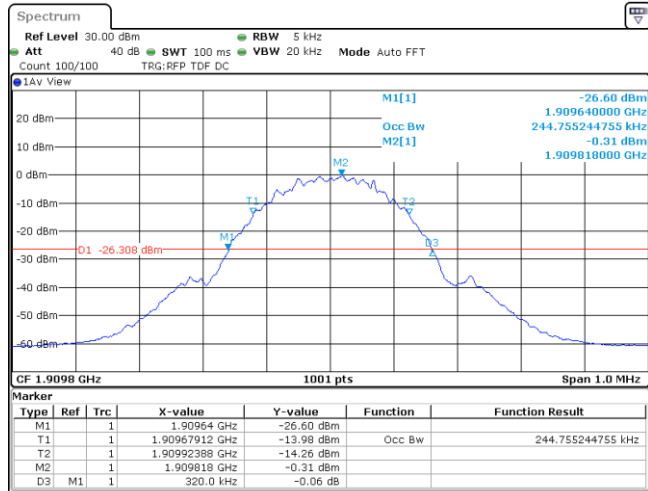
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GSM1900-TM1-MCH



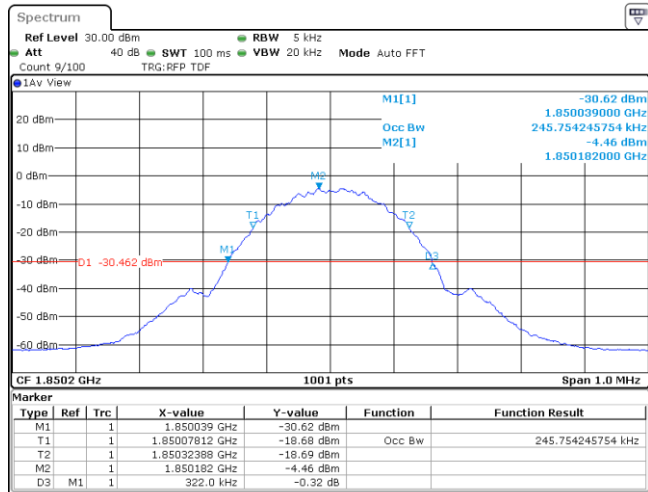
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GSM1900-TM1-HCH



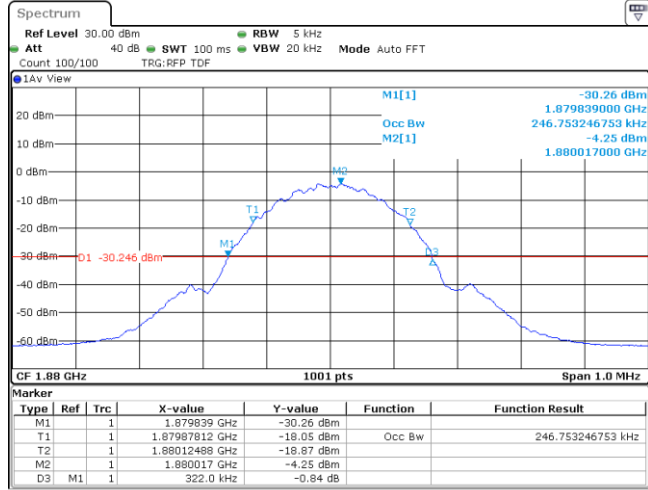
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GSM1900-TM2-LCH



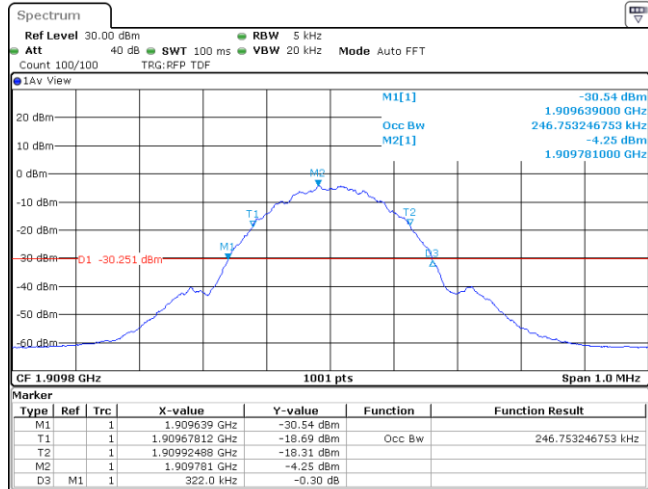
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GSM1900-TM2-MCH



Date: 19 AUG 2020 18:59:56

GSM1900-TM2-HCH



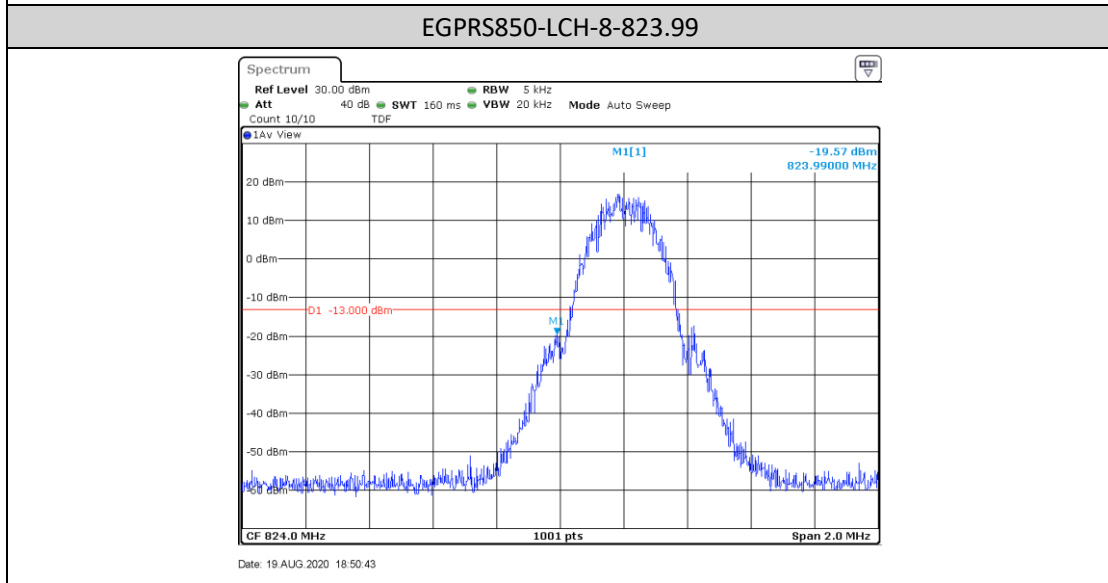
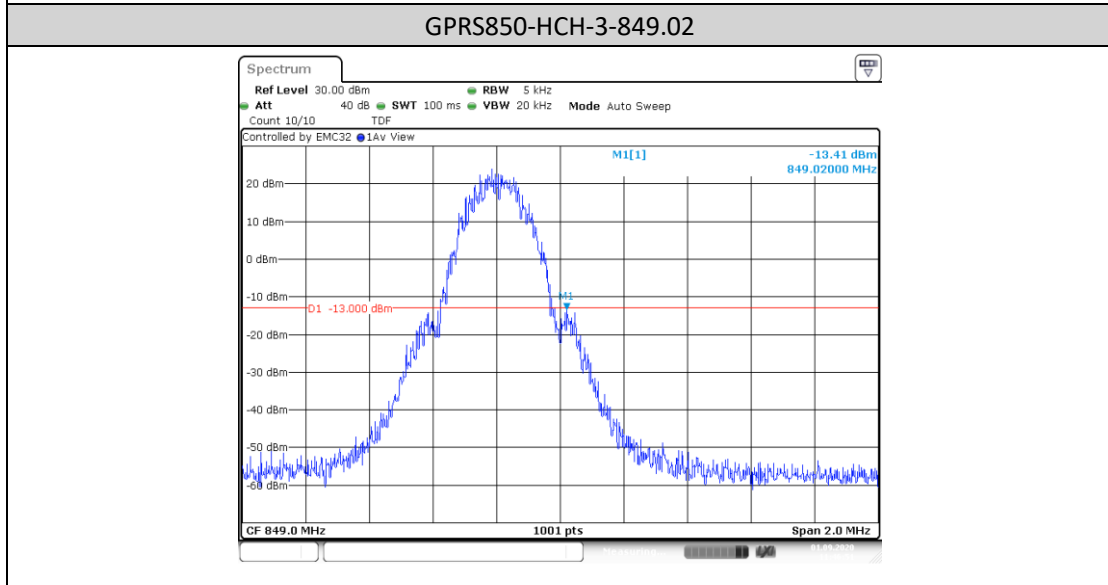
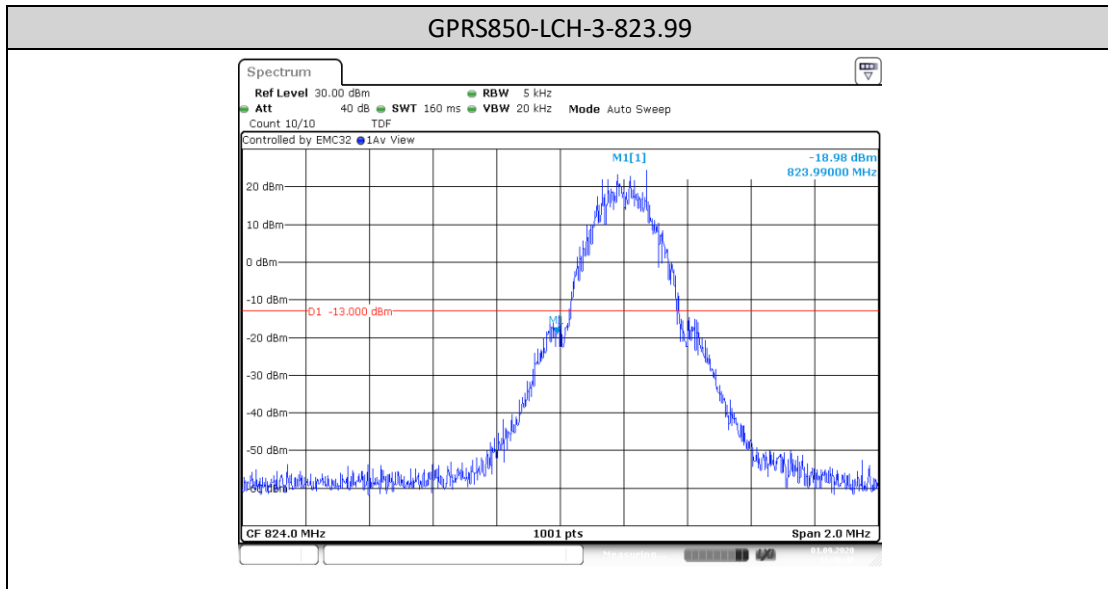
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Appendix E: Band Edge

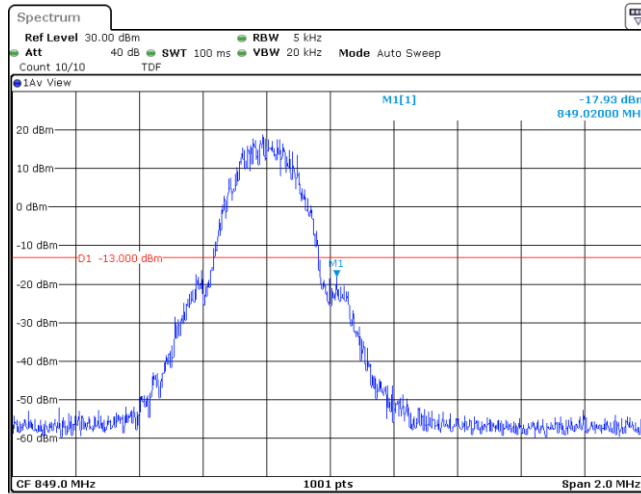
Test Result

Test Band	Test Mode	Test Channel	Result (dBm)	Limit(dBm)	Verdict
GSM850	GSM/TM1	LCH	-14.18	-13	PASS
		HCH	-13.41	-13	PASS
	GSM/TM2	LCH	-19.57	-13	PASS
		HCH	-17.93	-13	PASS
GSM1900	GSM/TM1	LCH	-15.39	-13	PASS
		HCH	-14.46	-13	PASS
	GSM/TM2	LCH	-19.73	-13	PASS
		HCH	-18.69	-13	PASS

Test Graphs

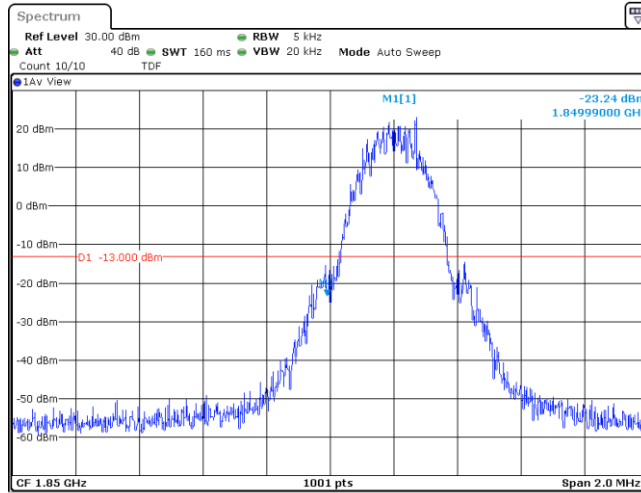


EGPRS850-HCH-8-849.02



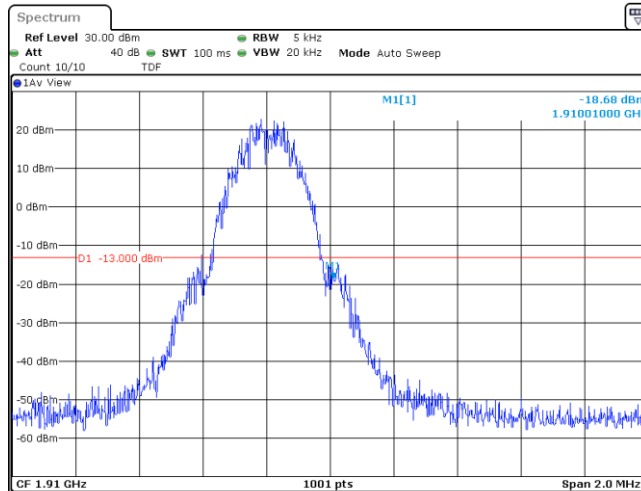
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GPRS1900-LCH-0-1849.99



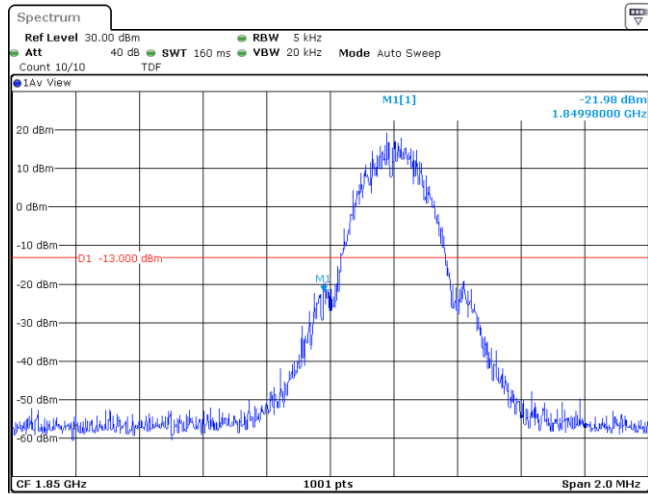
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GPRS1900-HCH-0-1910.01



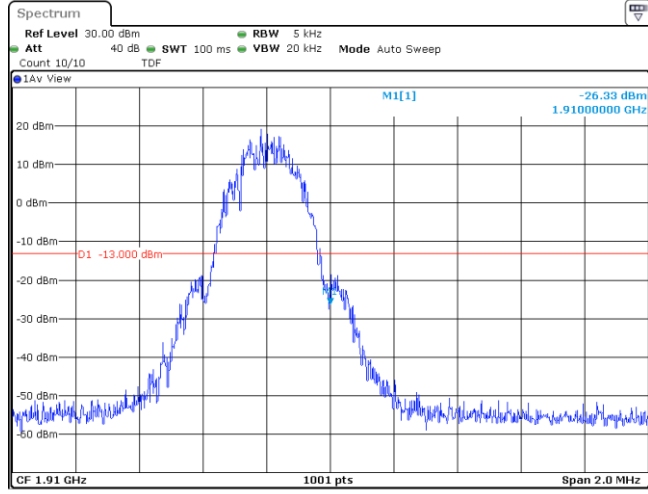
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EGPRS1900-LCH-2-1849.98



Date: 19 AUG 2020 19:00:27

EGPRS1900-HCH-2-1910.00



Date: 19 AUG 2020 19:00:38

Appendix F: Spurious Emission at Antenna Terminals

Test Result

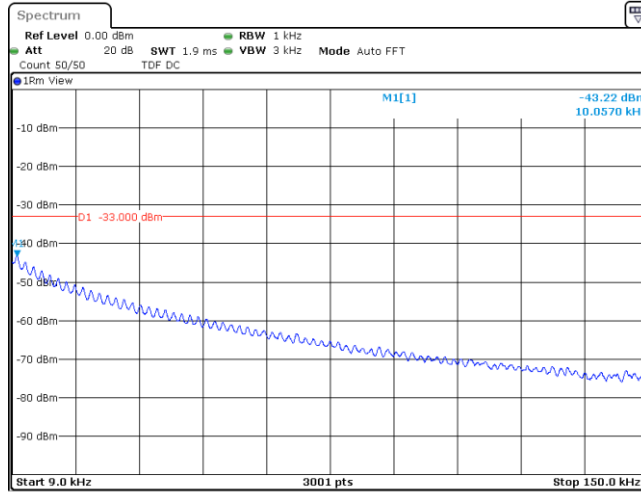
Band	Channel	Frequency Range (MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	LCH	0.009~0.15MHz	0.01	-43.22	-33	PASS
GSM850	LCH	0.15~30MHz	23.05	-50.02	-13	PASS
GSM850	LCH	30~1000MHz	946.81	-34.44	-13	PASS
GSM850	LCH	1000~3000MHz	1697.74	-28.28	-13	PASS
GSM850	LCH	3000~10000MHz	3395.37	-37.31	-13	PASS
GSM850	MCH	0.009~0.15MHz	0.01	-42.98	-33	PASS
GSM850	MCH	0.15~30MHz	24.66	-50.09	-13	PASS
GSM850	MCH	30~1000MHz	979.27	-33.85	-13	PASS
GSM850	MCH	1000~3000MHz	1697.68	-28.04	-13	PASS
GSM850	MCH	3000~10000MHz	4243.98	-40.77	-13	PASS
GSM850	HCH	0.009~0.15MHz	0.01	-43.19	-33	PASS
GSM850	HCH	0.15~30MHz	23.47	-49.96	-13	PASS
GSM850	HCH	30~1000MHz	958.29	-34.22	-13	PASS
GSM850	HCH	1000~3000MHz	1697.81	-28.56	-13	PASS
GSM850	HCH	3000~10000MHz	4244.21	-40.45	-13	PASS
GPRS850	LCH	0.009~0.15MHz	0.01	-43.23	-33	PASS
GPRS850	LCH	0.15~30MHz	29.45	-51.07	-13	PASS
GPRS850	LCH	30~1000MHz	999.74	-34.58	-13	PASS
GPRS850	LCH	1000~3000MHz	1697.68	-28.07	-13	PASS
GPRS850	LCH	3000~10000MHz	3395.14	-37.22	-13	PASS
GPRS850	MCH	0.009~0.15MHz	0.01	-43.28	-33	PASS
GPRS850	MCH	0.15~30MHz	27.45	-50.51	-13	PASS
GPRS850	MCH	30~1000MHz	966.21	-34.31	-13	PASS
GPRS850	MCH	1000~3000MHz	1697.48	-28.38	-13	PASS
GPRS850	MCH	3000~10000MHz	3395.6	-38.75	-13	PASS
GPRS850	HCH	0.009~0.15MHz	0.01	-43.35	-33	PASS
GPRS850	HCH	0.15~30MHz	23.48	-49.11	-13	PASS
GPRS850	HCH	30~1000MHz	990.11	-34.8	-13	PASS
GPRS850	HCH	1000~3000MHz	1697.48	-28.33	-13	PASS
GPRS850	HCH	3000~10000MHz	3395.14	-37.37	-13	PASS
EGPRS850	LCH	0.009~0.15MHz	0.01	-58.51	-33	PASS
EGPRS850	LCH	0.15~30MHz	25.19	-50.47	-13	PASS
EGPRS850	LCH	30~1000MHz	978.37	-33.11	-13	PASS
EGPRS850	LCH	1000~3000MHz	1697.28	-38.94	-13	PASS
EGPRS850	LCH	3000~10000MHz	5996.72	-51.64	-13	PASS
EGPRS850	MCH	0.009~0.15MHz	0.01	-58.45	-33	PASS

EGPRS850	MCH	0.15~30MHz	24.01	-51.2	-13	PASS
EGPRS850	MCH	30~1000MHz	990.01	-34.49	-13	PASS
EGPRS850	MCH	1000~3000MHz	1697.94	-39.37	-13	PASS
EGPRS850	MCH	3000~10000MHz	3395.14	-43.39	-13	PASS
EGPRS850	HCH	0.009~0.15MHz	0.01	-58.2	-33	PASS
EGPRS850	HCH	0.15~30MHz	23.19	-49.5	-13	PASS
EGPRS850	HCH	30~1000MHz	979.99	-33.28	-13	PASS
EGPRS850	HCH	1000~3000MHz	1697.74	-38.58	-13	PASS
EGPRS850	HCH	3000~10000MHz	3394.44	-48.95	-13	PASS
GSM1900	LCH	0.009~0.15MHz	0.01	-70.97	-43	PASS
GSM1900	LCH	0.15~30MHz	23.88	-49.99	-23	PASS
GSM1900	LCH	30~1000MHz	883.14	-34.01	-13	PASS
GSM1900	LCH	1000~3000MHz	2968.13	-40.9	-13	PASS
GSM1900	LCH	3000~10000MHz	3759.36	-27.64	-13	PASS
GSM1900	LCH	10000~18000MHz	15140.5	-63.35	-13	PASS
GSM1900	MCH	0.009~0.15MHz	0.01	-70.6	-43	PASS
GSM1900	MCH	0.15~30MHz	24.12	-50.92	-23	PASS
GSM1900	MCH	30~1000MHz	998.04	-34.32	-13	PASS
GSM1900	MCH	1000~3000MHz	2956.73	-41	-13	PASS
GSM1900	MCH	3000~10000MHz	5639.5	-35.72	-13	PASS
GSM1900	MCH	10000~18000MHz	15137.03	-63.44	-13	PASS
GSM1900	HCH	0.009~0.15MHz	0.01	-70.64	-43	PASS
GSM1900	HCH	0.15~30MHz	23.36	-49.87	-23	PASS
GSM1900	HCH	30~1000MHz	979.36	-33.77	-13	PASS
GSM1900	HCH	1000~3000MHz	2997.47	-40.96	-13	PASS
GSM1900	HCH	3000~10000MHz	5639.73	-33.39	-13	PASS
GSM1900	HCH	10000~18000MHz	15139.7	-63.37	-13	PASS
GPRS1900	LCH	0.009~0.15MHz	0.01	-70.63	-43	PASS
GPRS1900	LCH	0.15~30MHz	23.83	-49.33	-23	PASS
GPRS1900	LCH	30~1000MHz	998.37	-34.04	-13	PASS
GPRS1900	LCH	1000~3000MHz	2996	-40.88	-13	PASS
GPRS1900	LCH	3000~10000MHz	5639.96	-32.23	-13	PASS
GPRS1900	LCH	10000~18000MHz	15149.3	-63.5	-13	PASS
GPRS1900	MCH	0.009~0.15MHz	0.01	-71.44	-43	PASS
GPRS1900	MCH	0.15~30MHz	27.13	-50.69	-23	PASS
GPRS1900	MCH	30~1000MHz	982.1	-34.15	-13	PASS
GPRS1900	MCH	1000~3000MHz	2981.93	-40.95	-13	PASS
GPRS1900	MCH	3000~10000MHz	3760.99	-32.84	-13	PASS
GPRS1900	MCH	10000~18000MHz	15149.3	-63.47	-13	PASS
GPRS1900	HCH	0.009~0.15MHz	0.01	-71.67	-43	PASS
GPRS1900	HCH	0.15~30MHz	28.08	-50.9	-23	PASS
GPRS1900	HCH	30~1000MHz	871.14	-34.43	-13	PASS
GPRS1900	HCH	1000~3000MHz	2991.8	-40.93	-13	PASS

GPRS1900	HCH	3000~10000MHz	3760.76	-28.72	-13	PASS
GPRS1900	HCH	10000~18000MHz	15152.23	-63.3	-13	PASS
EGPRS1900	LCH	0.009~0.15MHz	0.01	-65.02	-43	PASS
EGPRS1900	LCH	0.15~30MHz	24.91	-49.93	-23	PASS
EGPRS1900	LCH	30~1000MHz	972.24	-34.45	-13	PASS
EGPRS1900	LCH	1000~3000MHz	2965.87	-40.85	-13	PASS
EGPRS1900	LCH	3000~10000MHz	3760.52	-34.64	-13	PASS
EGPRS1900	LCH	10000~18000MHz	15145.56	-63.34	-13	PASS
EGPRS1900	MCH	0.009~0.15MHz	0.01	-65.09	-43	PASS
EGPRS1900	MCH	0.15~30MHz	23.01	-48.51	-23	PASS
EGPRS1900	MCH	30~1000MHz	989.67	-33.37	-13	PASS
EGPRS1900	MCH	1000~3000MHz	2995.53	-40.92	-13	PASS
EGPRS1900	MCH	3000~10000MHz	3760.06	-29.9	-13	PASS
EGPRS1900	MCH	10000~18000MHz	15155.16	-63.43	-13	PASS
EGPRS1900	HCH	0.009~0.15MHz	0.01	-65.89	-43	PASS
EGPRS1900	HCH	0.15~30MHz	23.26	-50.77	-23	PASS
EGPRS1900	HCH	30~1000MHz	951.81	-34.17	-13	PASS
EGPRS1900	HCH	1000~3000MHz	2986.93	-40.85	-13	PASS
EGPRS1900	HCH	3000~10000MHz	3760.99	-40.61	-13	PASS
EGPRS1900	HCH	10000~18000MHz	15146.9	-63.21	-13	PASS

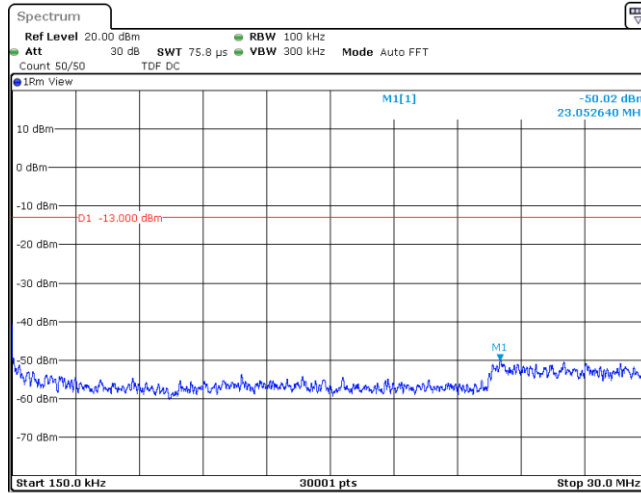
Test Graphs

GSM850-LCH-0.009~0.15MHz-0.01



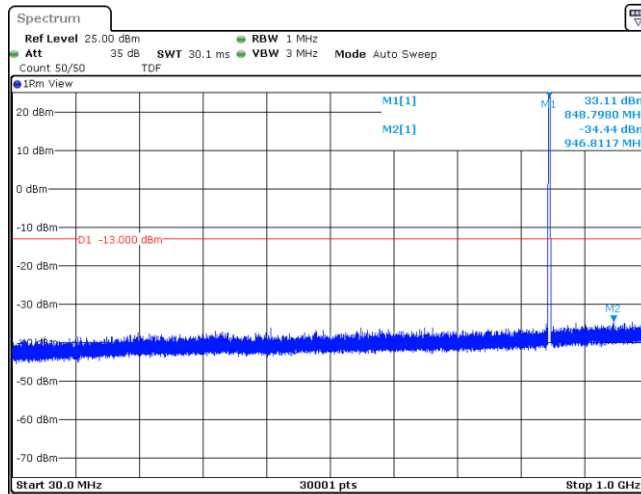
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GSM850-LCH-0.15~30MHz-23.05



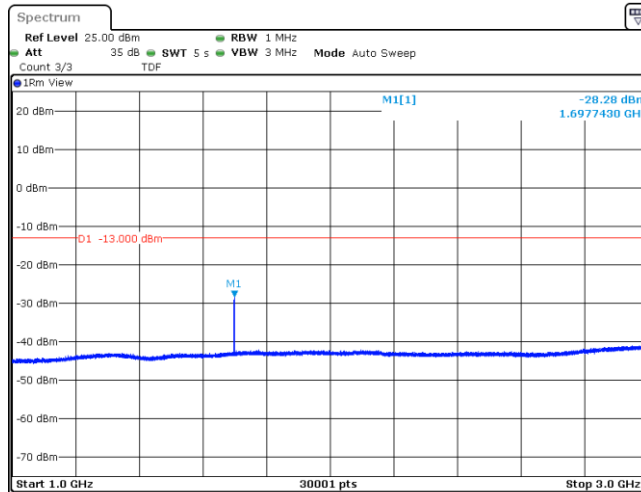
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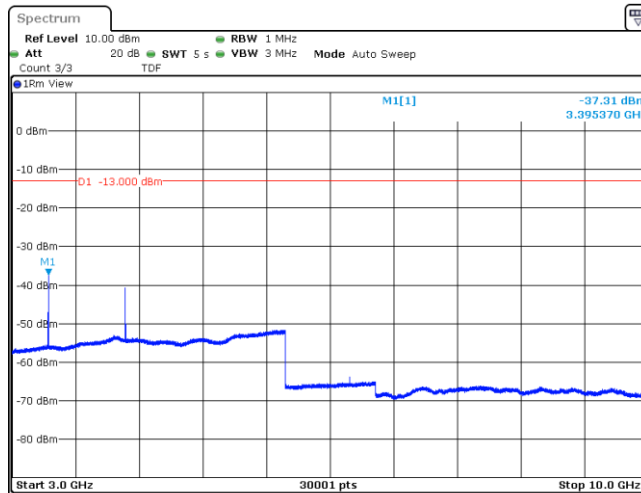
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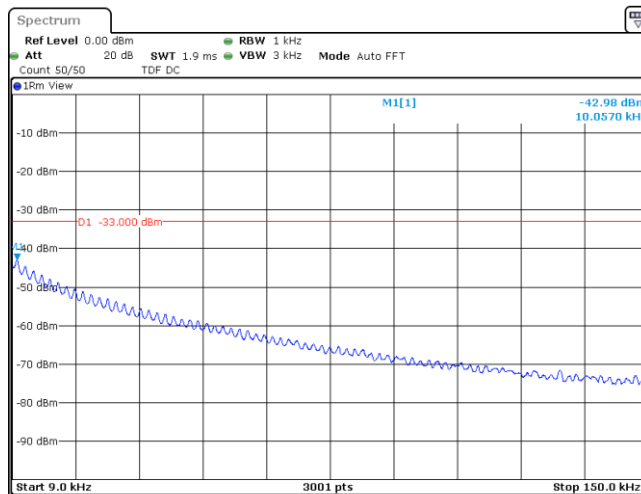
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GSM850-LCH-3000~10000MHz-3395.37



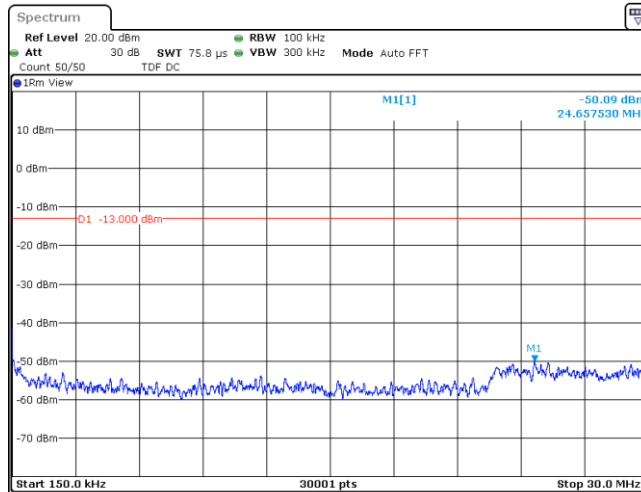
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GSM850-MCH-0.009~0.15MHz-0.01



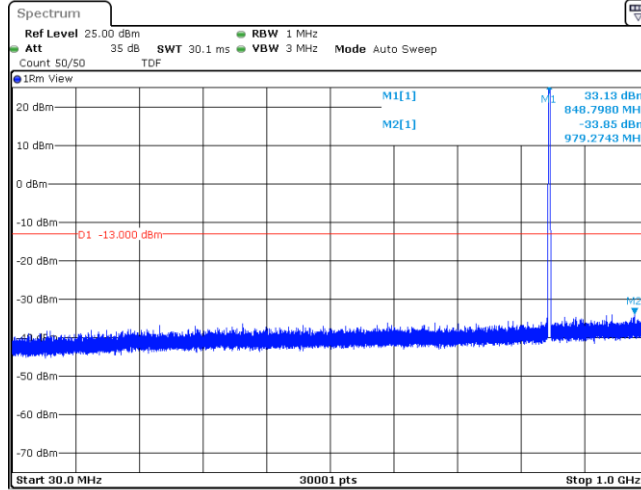
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GSM850-MCH-0.15~30MHz-24.66



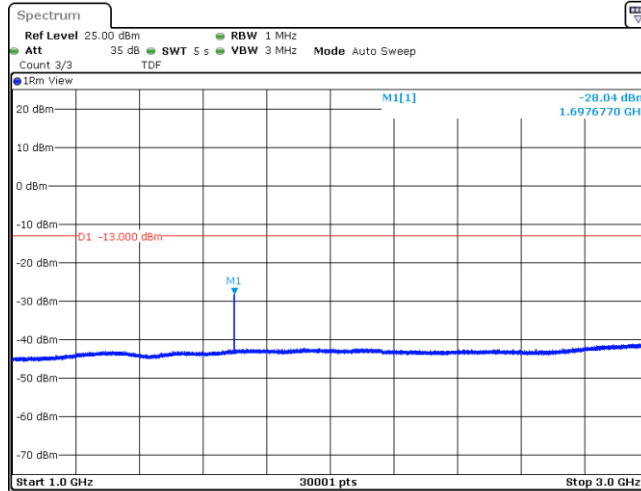
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GSM850-MCH-30~1000MHz-979.27



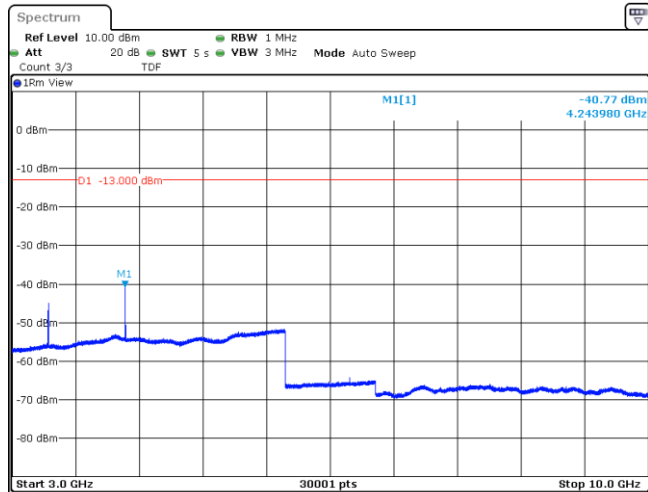
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GSM850-MCH-1000~3000MHz-1697.68



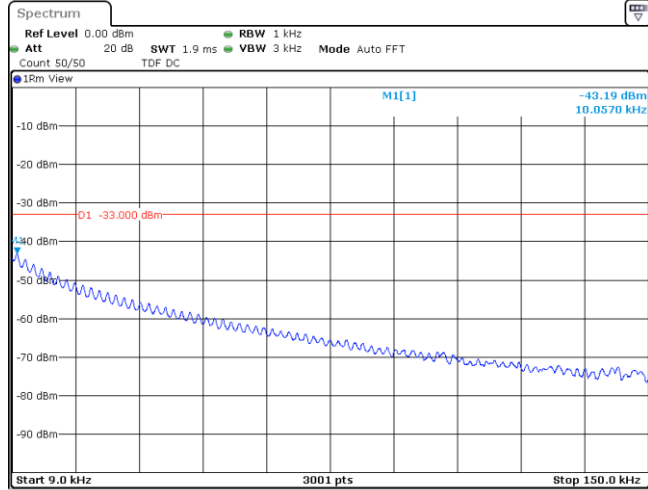
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GSM850-MCH-3000~10000MHz-4243.98



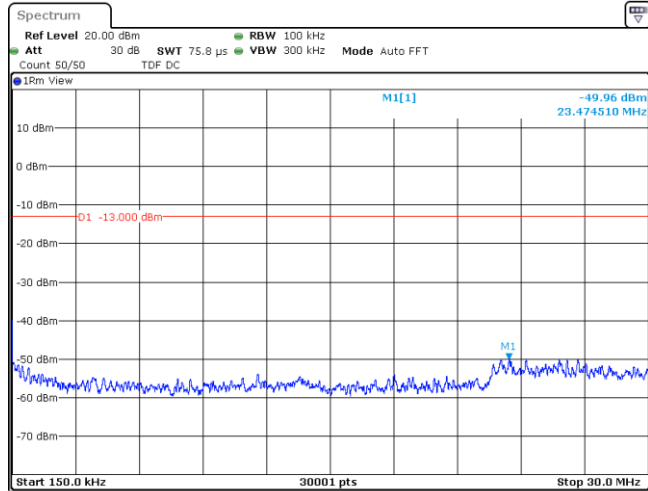
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GSM850-HCH-0.009~0.15MHz-0.01



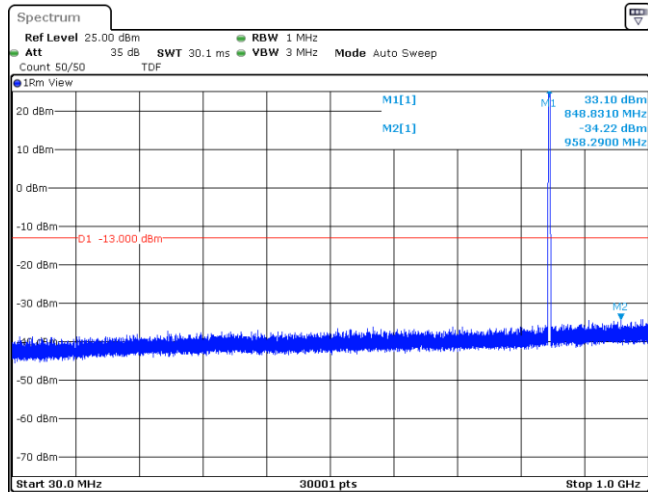
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GSM850-HCH-0.15~30MHz-23.47

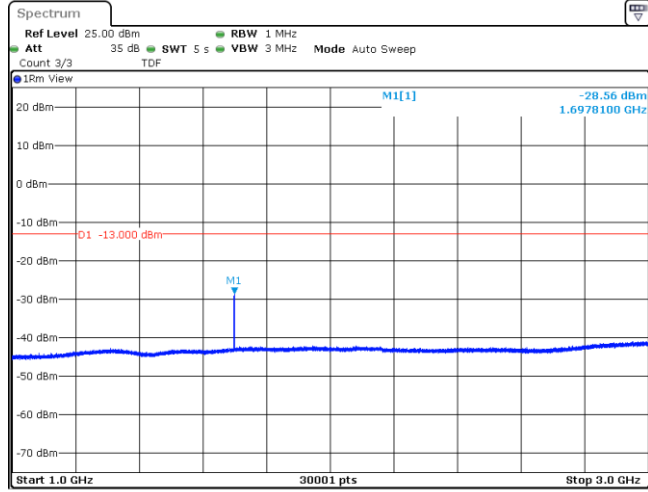


Date: 19 AUG 2020 12:02:36

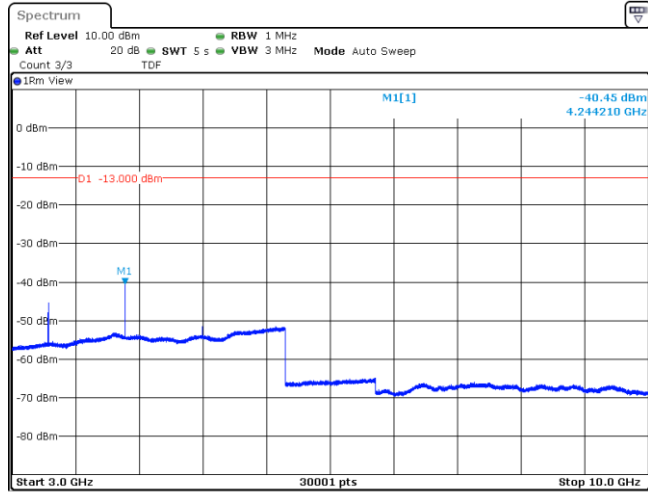
GSM850-HCH-30~1000MHz-958.29



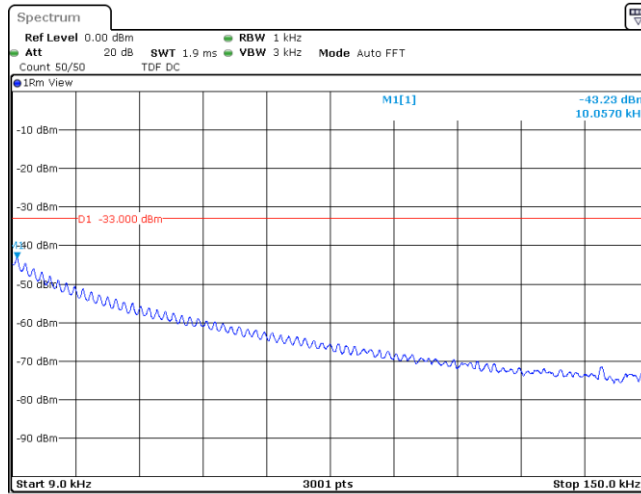
GSM850-HCH-1000~3000MHz-1697.81



GSM850-HCH-3000~10000MHz-4244.21

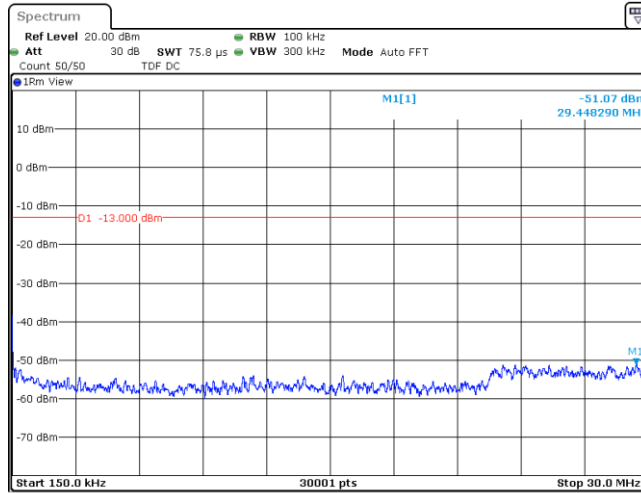


GPRS850-LCH-0.009~0.15MHz-0.01



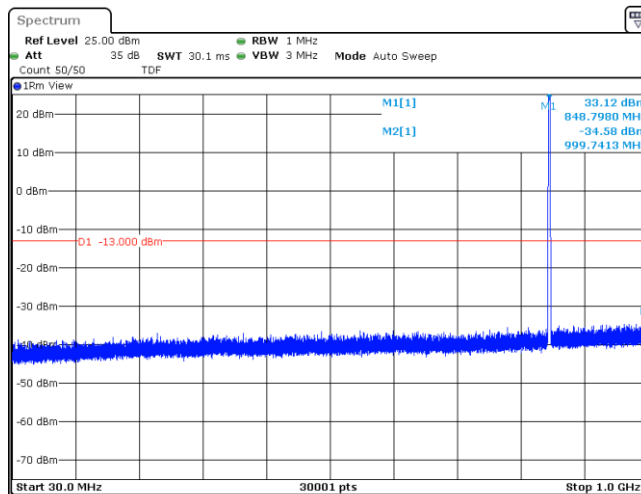
Date: 19 AUG 2020 12:09:20

GPRS850-LCH-0.15~30MHz-29.45



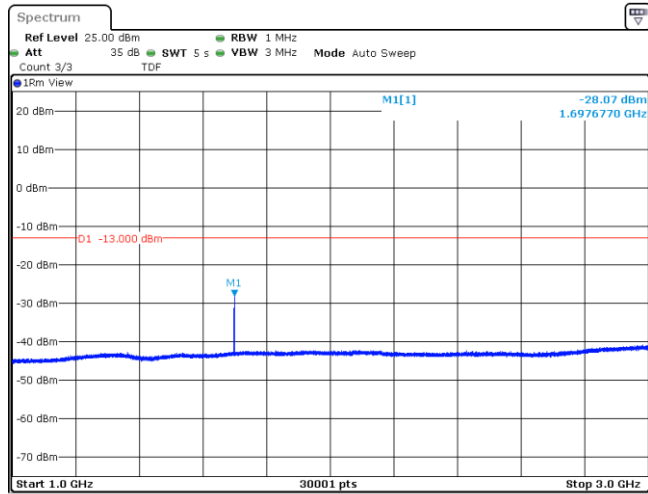
Date: 19 AUG 2020 12:09:27

GPRS850-LCH-30~1000MHz-999.74



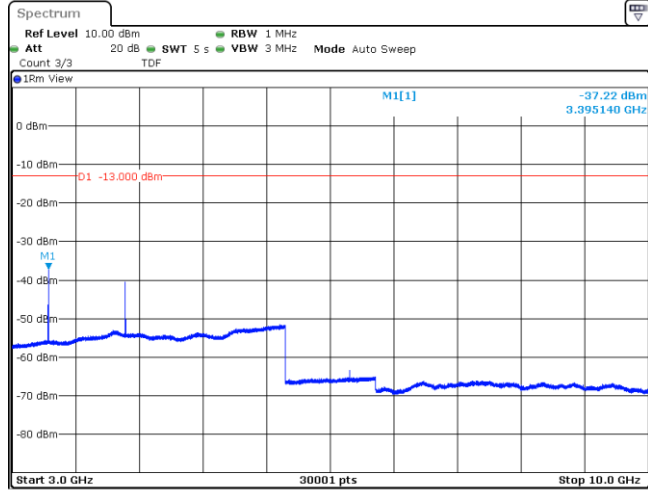
Date: 19 AUG 2020 12:09:35

GPRS850-LCH-1000~3000MHz-1697.68



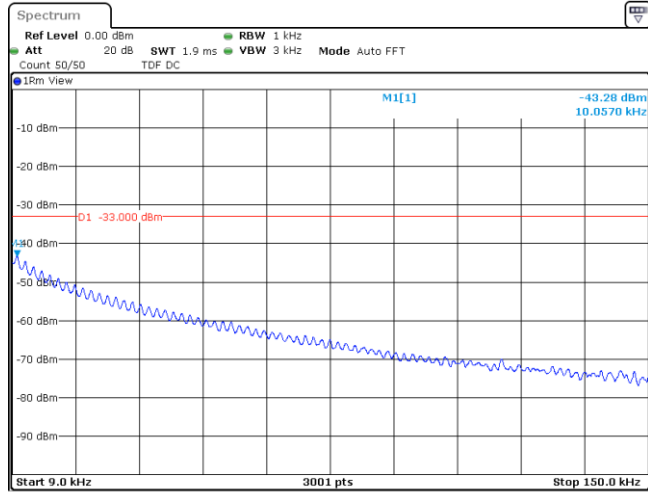
Date: 19 AUG 2020 12:09:58

GPRS850-LCH-3000~10000MHz-3395.14



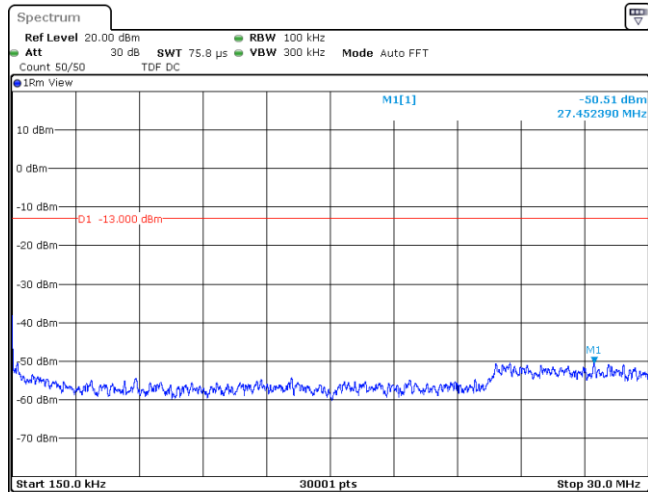
Date: 19 AUG 2020 12:10:21

GPRS850-MCH-0.009~0.15MHz-0.01



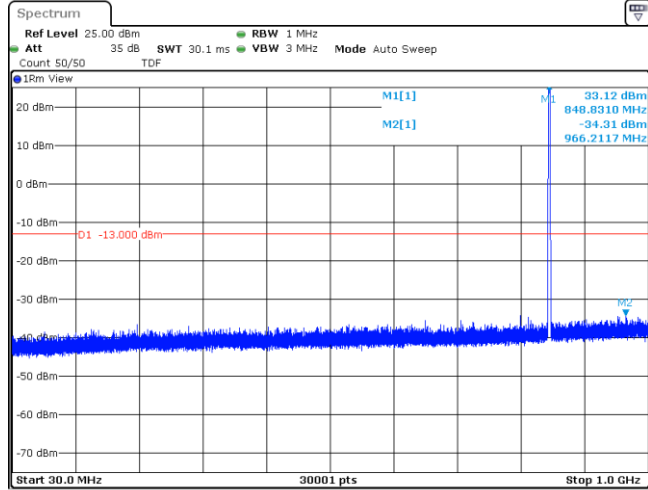
Date: 19 AUG 2020 12:10:29

GPRS850-MCH-0.15~30MHz-27.45



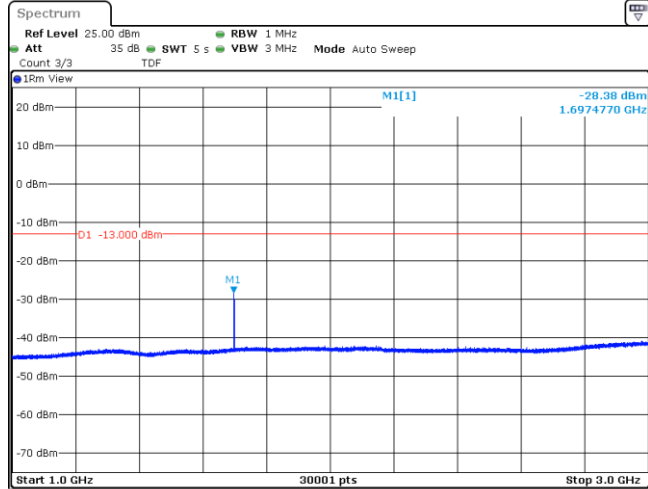
Date: 19 AUG 2020 12:10:36

GPRS850-MCH-30~1000MHz-966.21



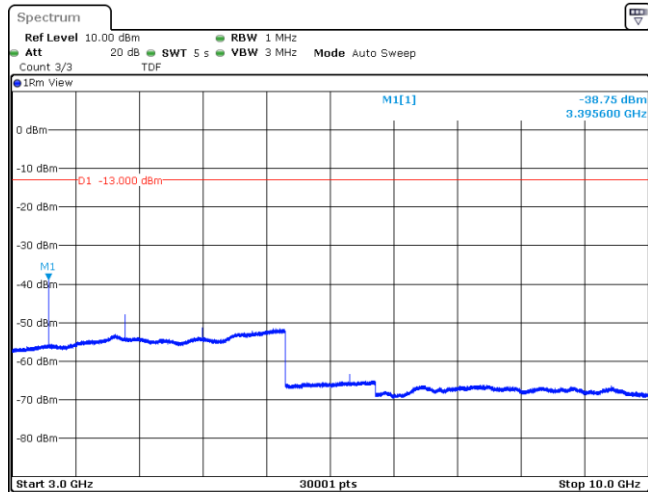
Date: 19 AUG 2020 12:10:44

GPRS850-MCH-1000~3000MHz-1697.48



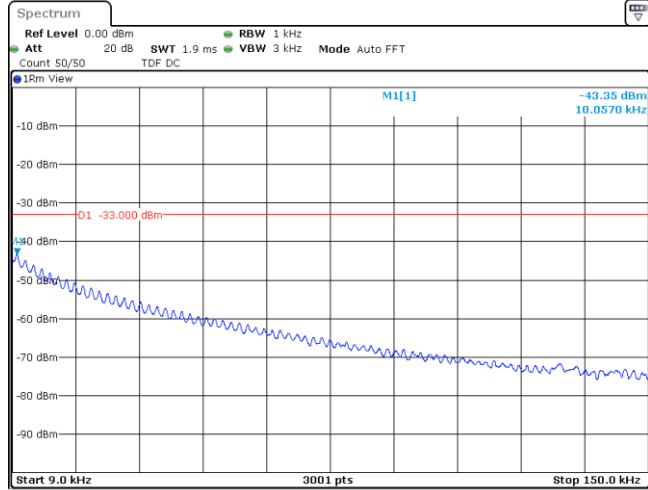
Date: 19 AUG 2020 12:11:07

GPRS850-MCH-3000~10000MHz-3395.6



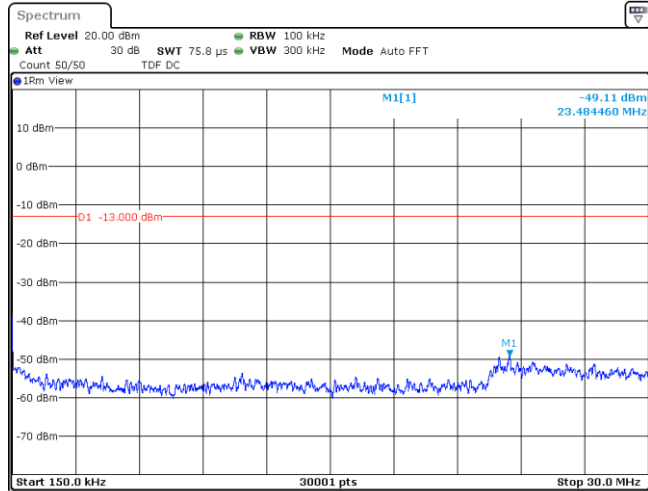
Date: 19 AUG 2020 12:11:30

GPRS850-HCH-0.009~0.15MHz-0.01



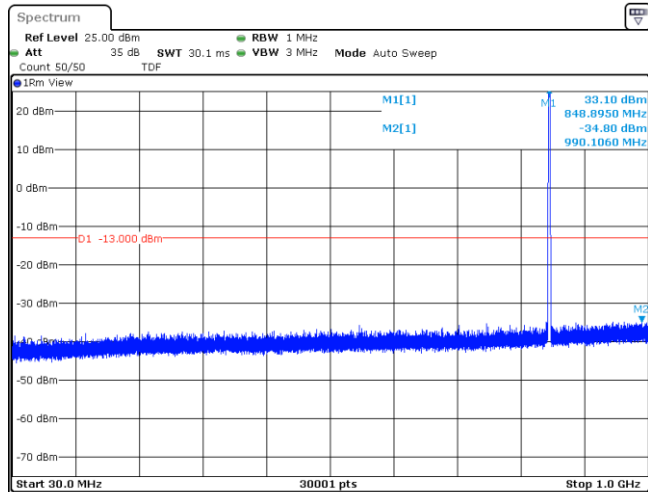
Date: 19 AUG 2020 12:11:39

GPRS850-HCH-0.15~30MHz-23.48



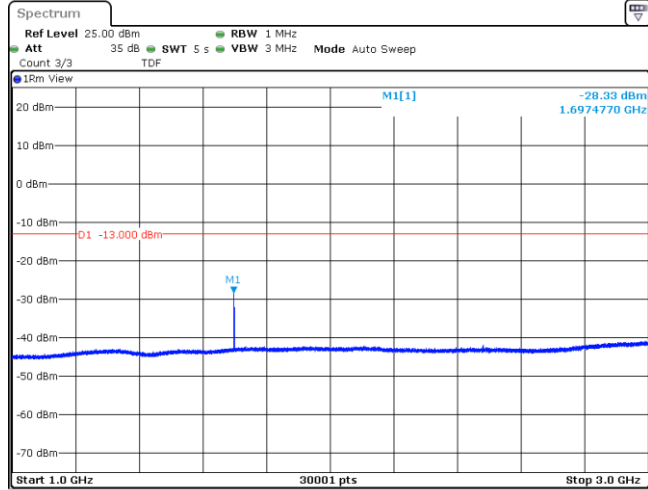
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GPRS850-HCH-30~1000MHz-990.11



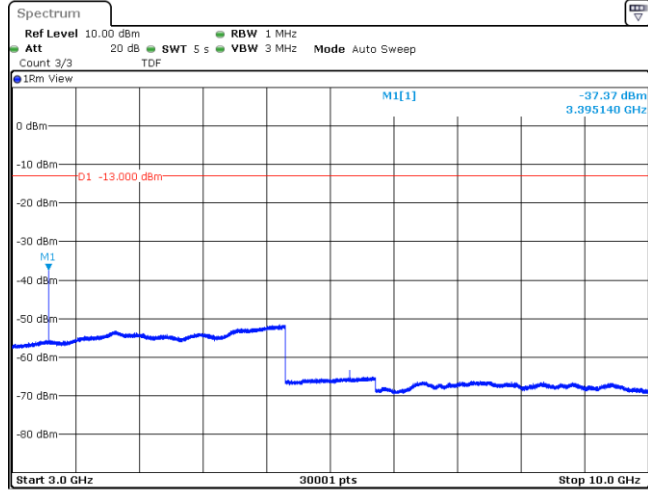
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GPRS850-HCH-1000~3000MHz-1697.48



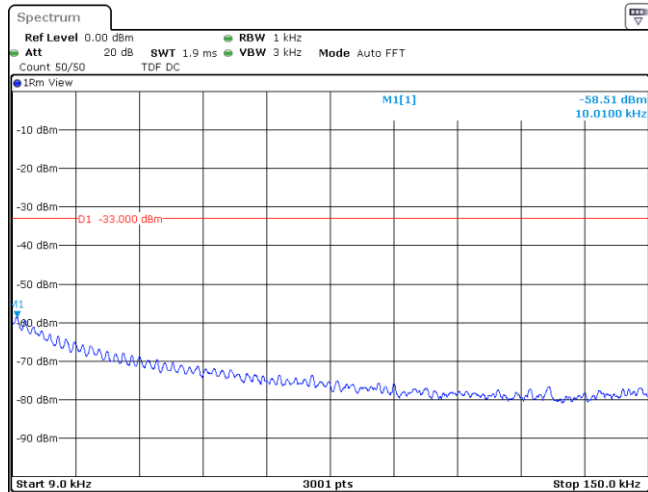
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GPRS850-HCH-3000~10000MHz-3395.14



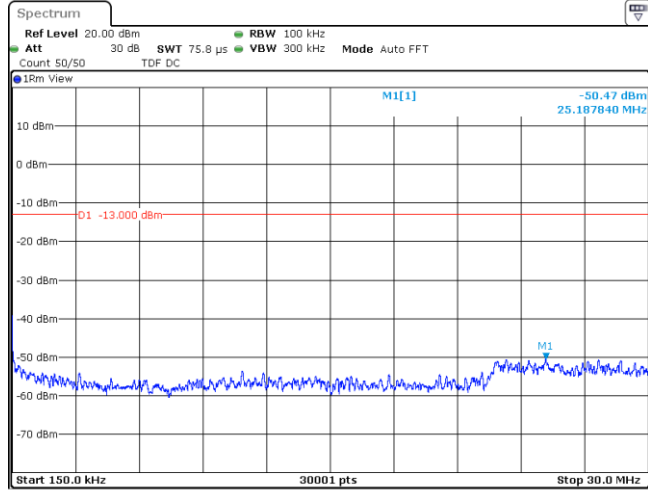
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EGPRS850-LCH-0.009~0.15MHz-0.01



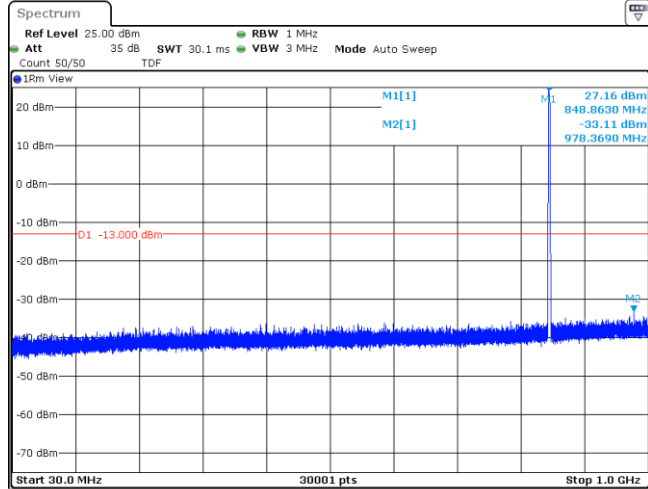
Date: 19 AUG 2020 18:51:03

EGPRS850-LCH-0.15~30MHz-25.19



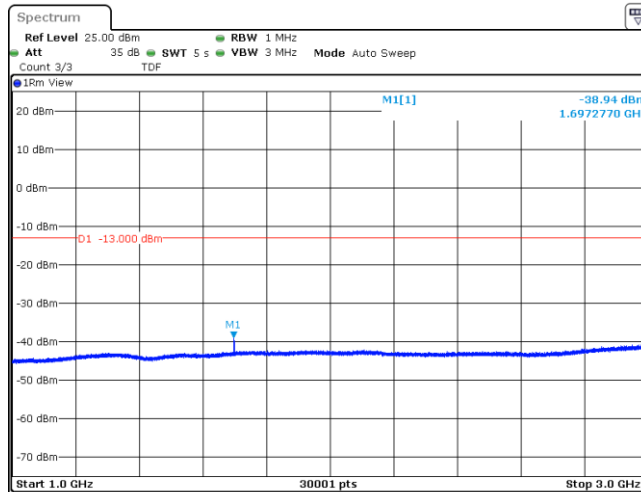
Date: 19 AUG 2020 18:51:09

EGPRS850-LCH-30~1000MHz-978.37



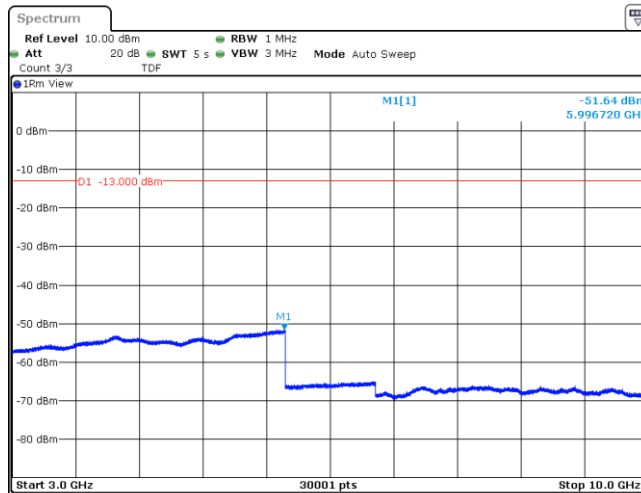
Date: 19 AUG 2020 18:51:18

EGPRS850-LCH-1000~3000MHz-1697.28



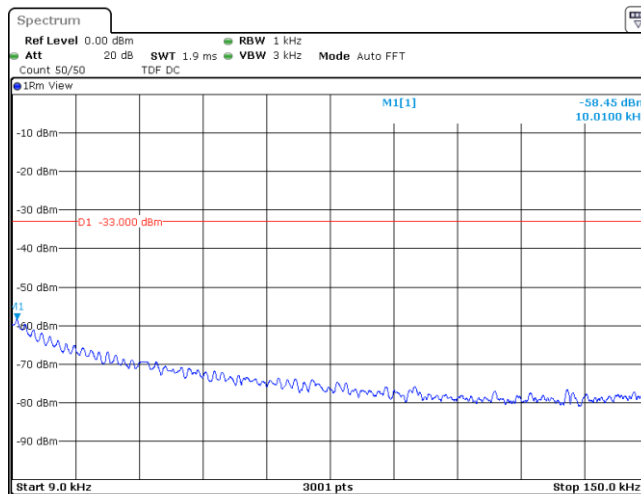
Date: 19 AUG 2020 18:51:41

EGPRS850-LCH-3000~10000MHz-5996.72



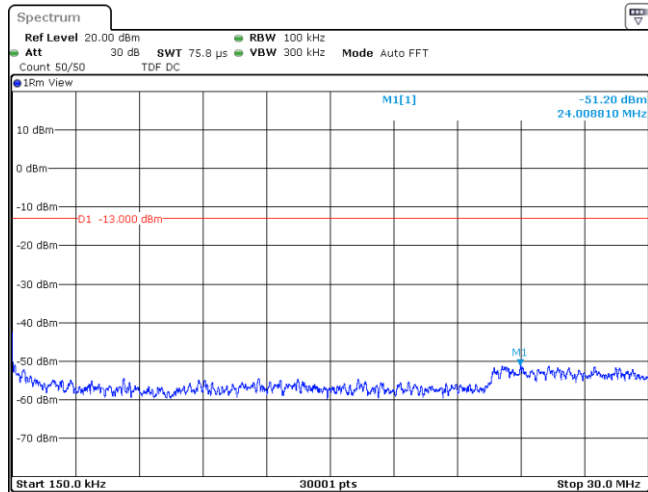
Date: 19 AUG 2020 18:52:04

EGPRS850-MCH-0.009~0.15MHz-0.01



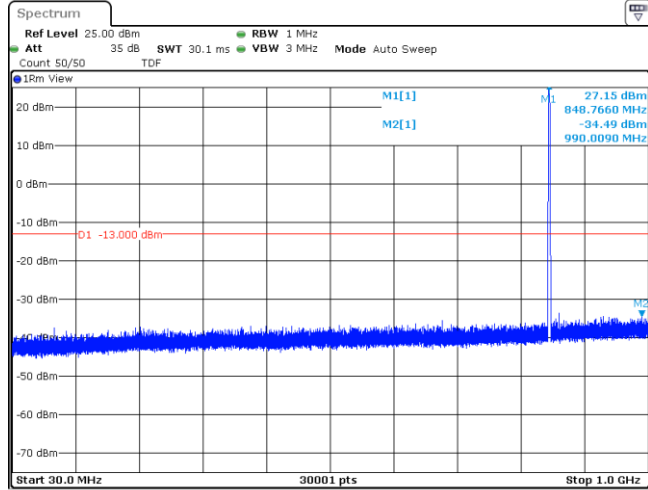
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EGPRS850-MCH-0.15~30MHz-24.01



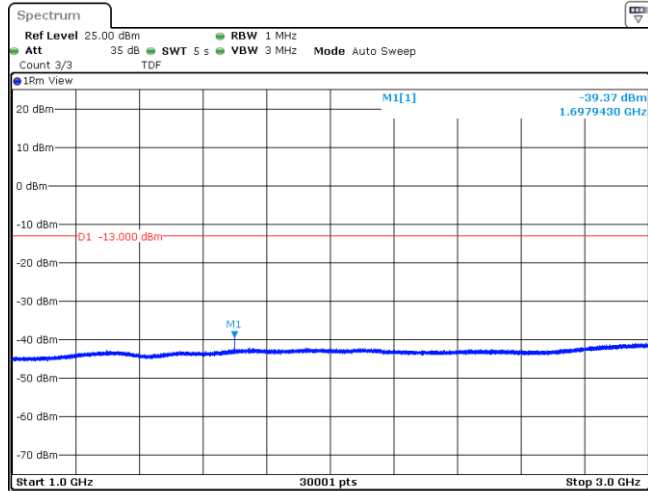
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EGPRS850-MCH-30~1000MHz-990.01



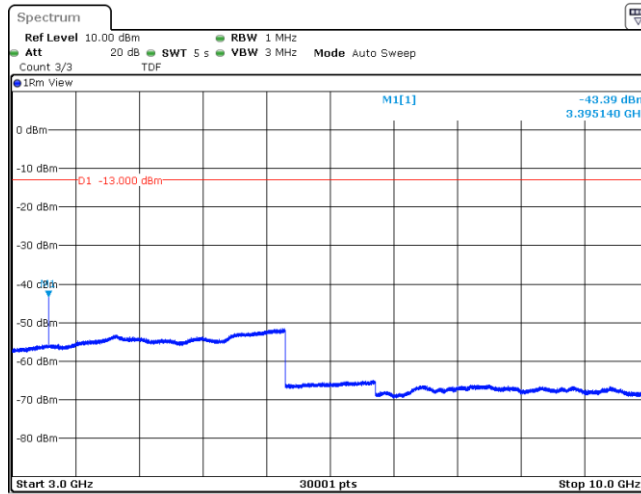
Date: 19 AUG 2020 18:52:27

EGPRS850-MCH-1000~3000MHz-1697.94



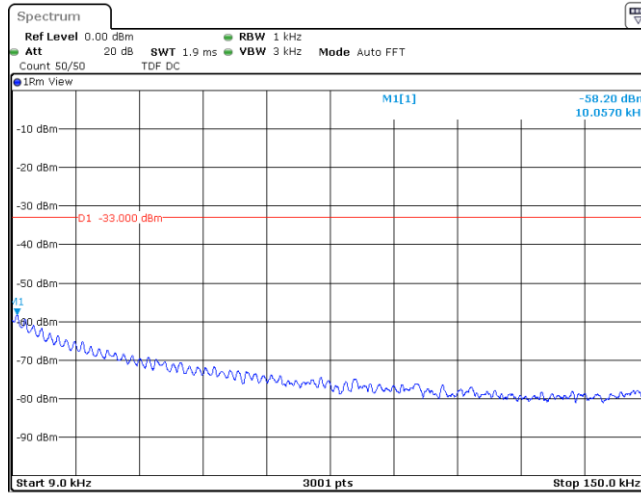
Date: 19 AUG 2020 18:52:50

EGPRS850-MCH-3000~10000MHz-3395.14



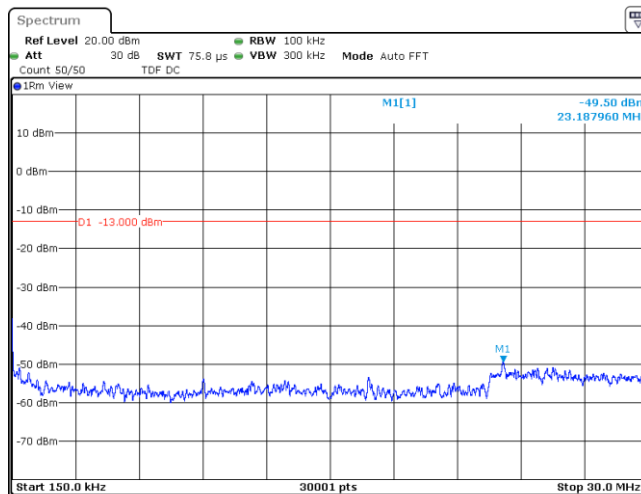
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EGPRS850-HCH-0.009~0.15MHz-0.01



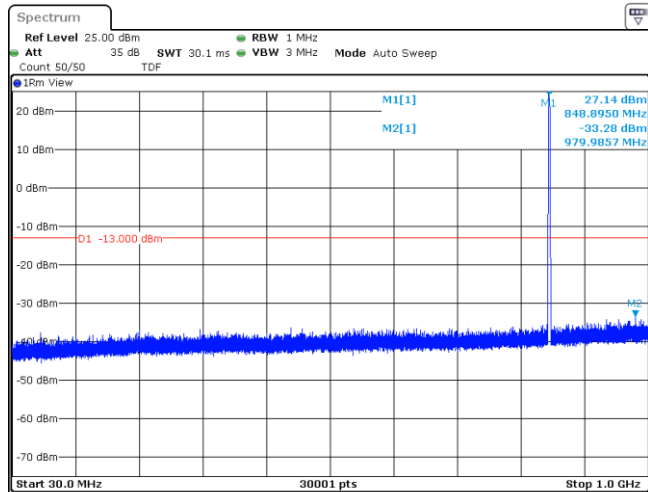
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EGPRS850-HCH-0.15~30MHz-23.19



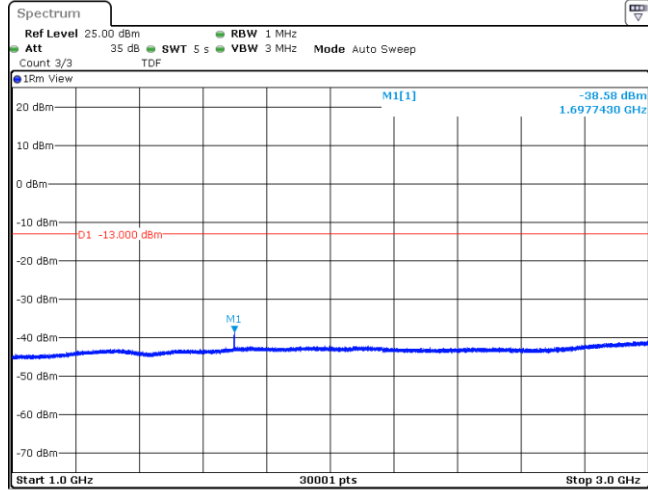
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EGPRS850-HCH-30~1000MHz-979.99



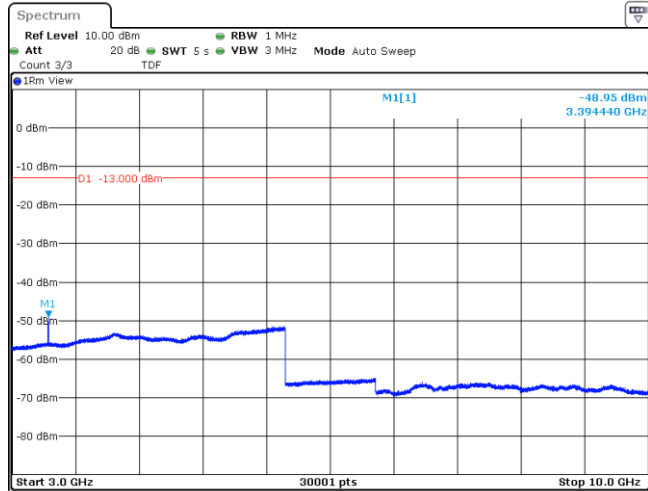
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EGPRS850-HCH-1000~3000MHz-1697.74



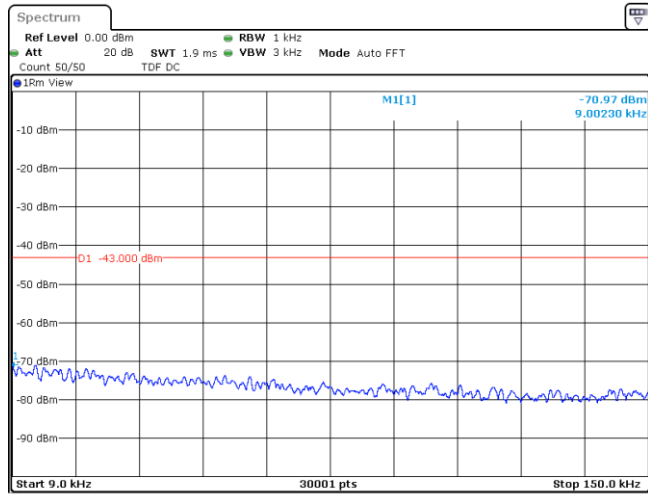
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EGPRS850-HCH-3000~10000MHz-3394.44



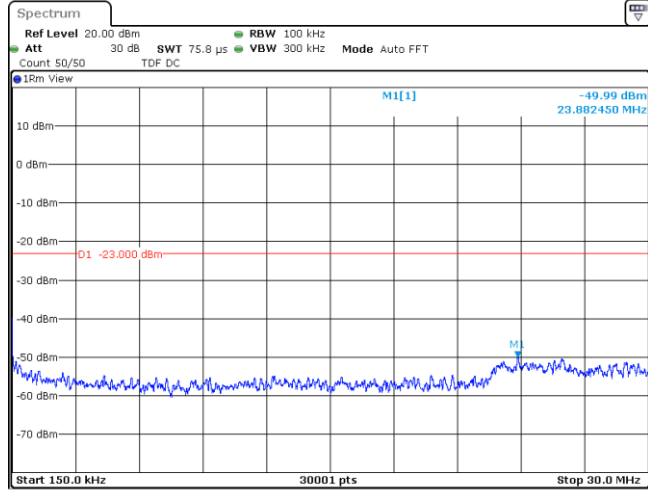
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GSM1900-LCH-0.009~0.15MHz-0.01



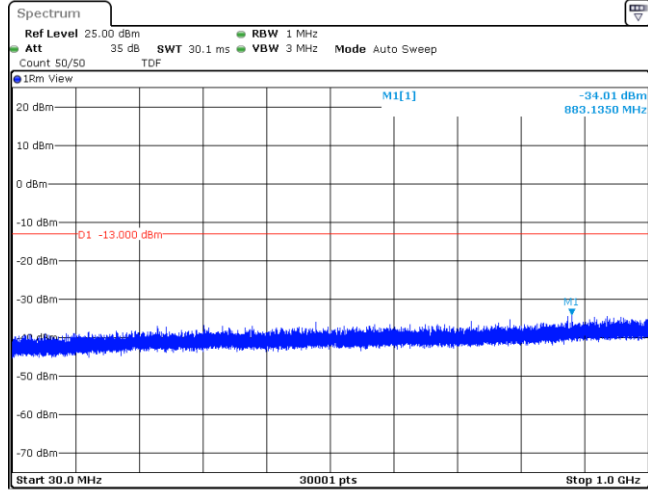
Date: 24 AUG 2020 13:49:59

GSM1900-LCH-0.15~30MHz-23.88



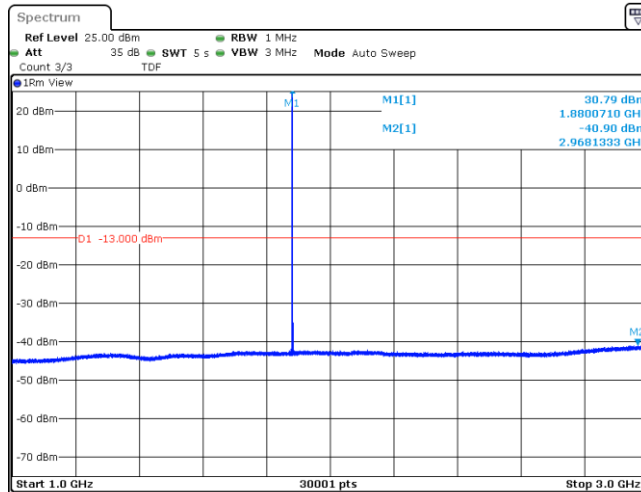
Date: 24 AUG 2020 13:50:05

GSM1900-LCH-30~1000MHz-883.14

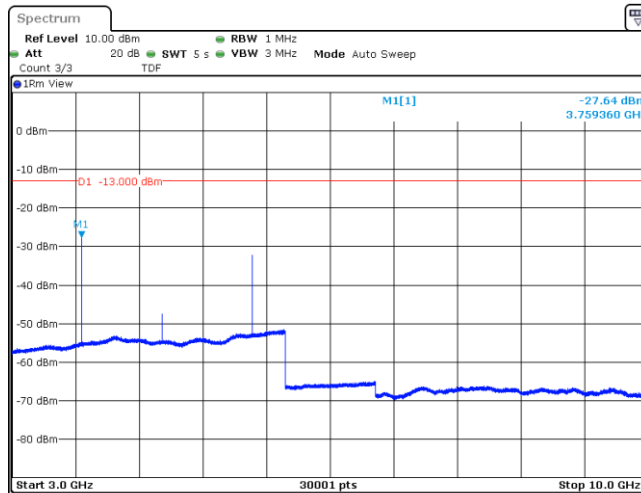


Date: 24 AUG 2020 13:50:13

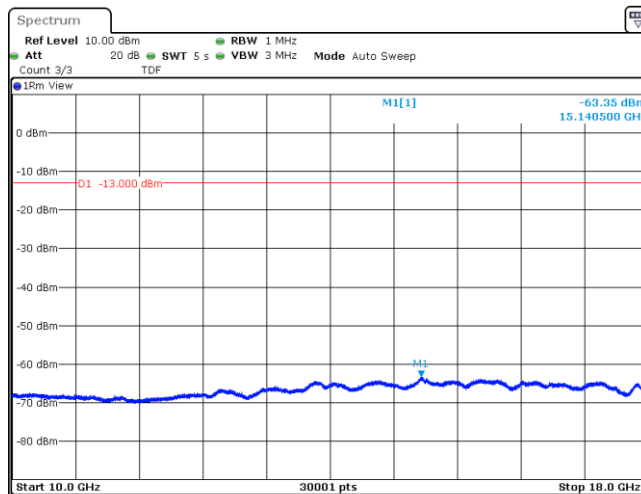
GSM1900-LCH-1000~3000MHz-2968.13



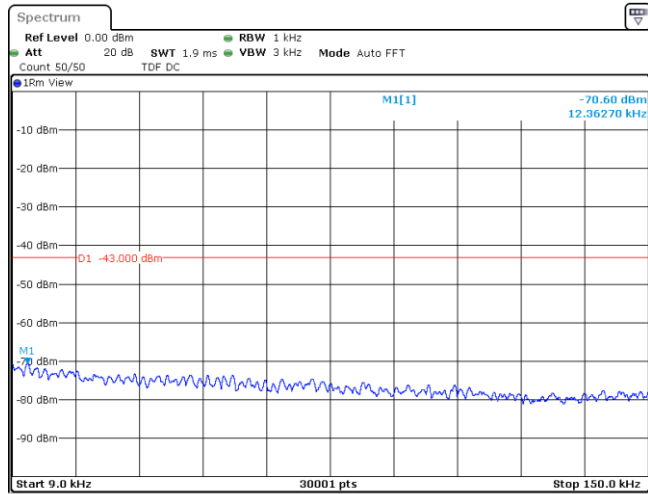
GSM1900-LCH-3000~10000MHz-3759.36



GSM1900-LCH-10000~18000MHz-15140.5

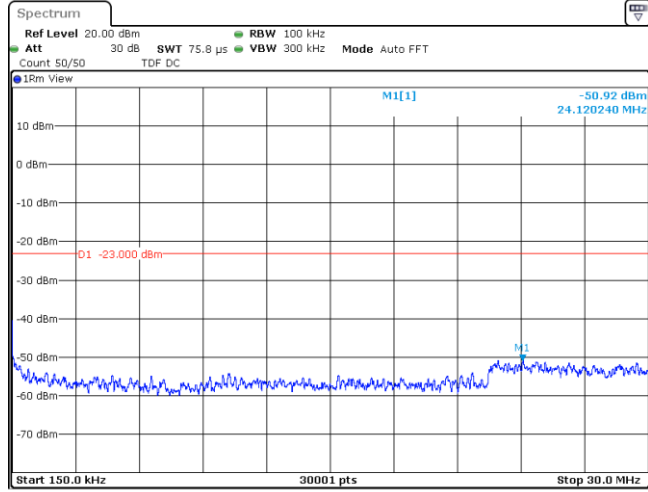


GSM1900-MCH-0.009~0.15MHz-0.01



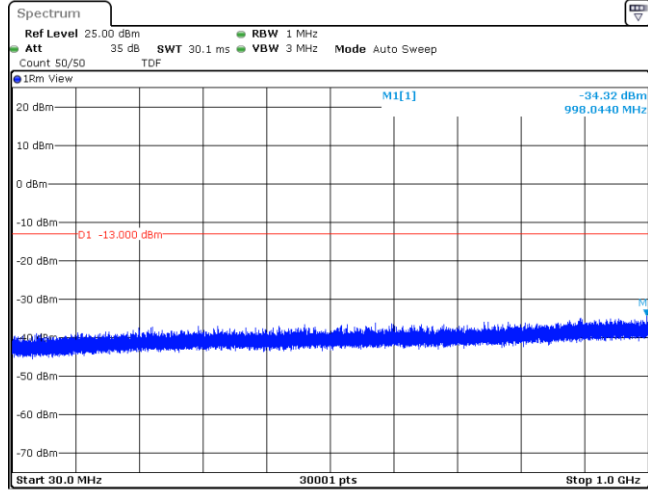
Date: 24 AUG 2020 13:51:30

GSM1900-MCH-0.15~30MHz-24.12



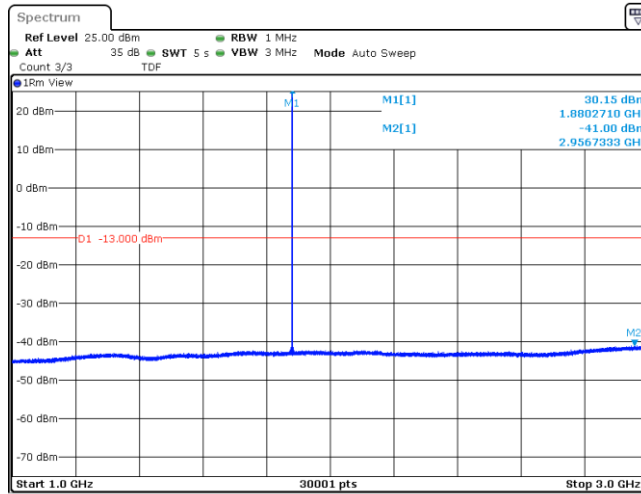
Date: 24 AUG 2020 13:51:36

GSM1900-MCH-30~1000MHz-998.04



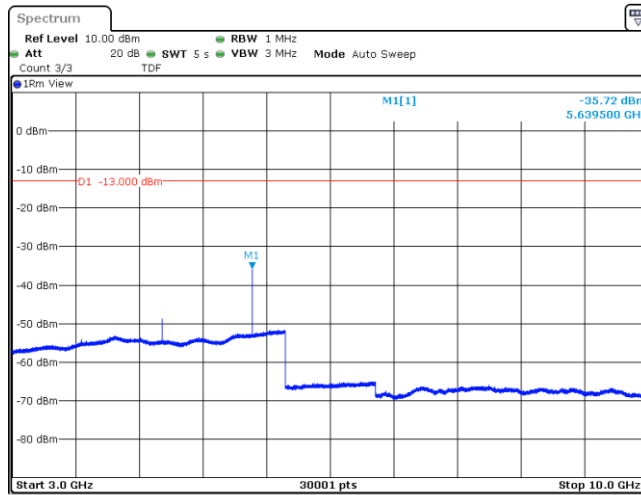
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GSM1900-MCH-1000~3000MHz-2956.73



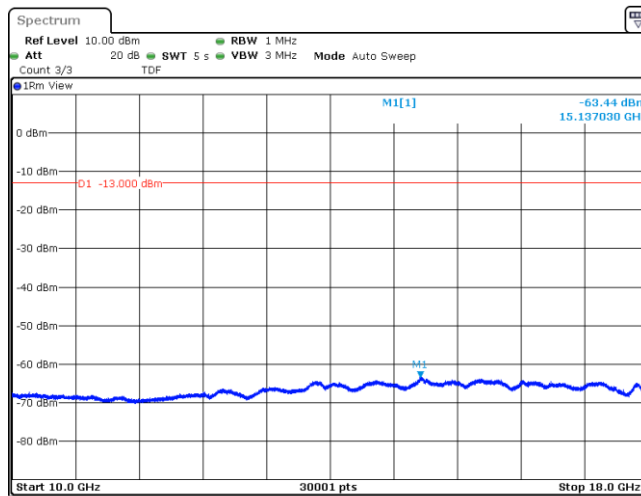
Date: 24 AUG 2020 13:52:08

GSM1900-MCH-3000~10000MHz-5639.5



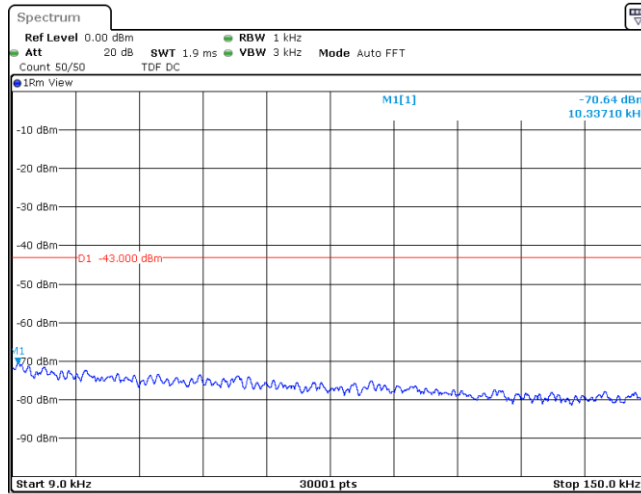
Date: 24 AUG 2020 13:52:31

GSM1900-MCH-10000~18000MHz-15137.03



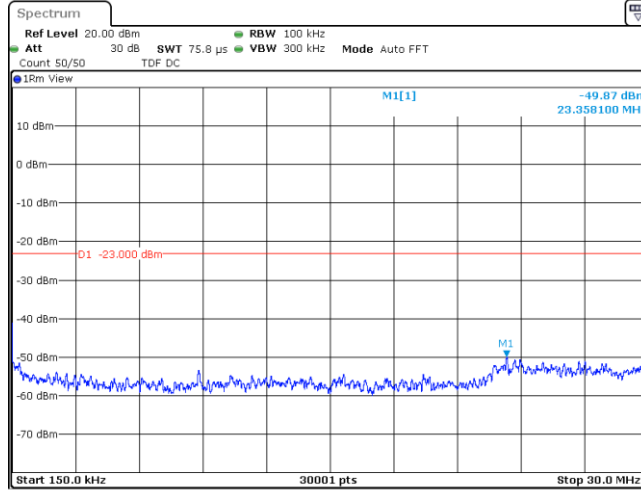
Date: 24 AUG 2020 13:52:54

GSM1900-HCH-0.009~0.15MHz-0.01



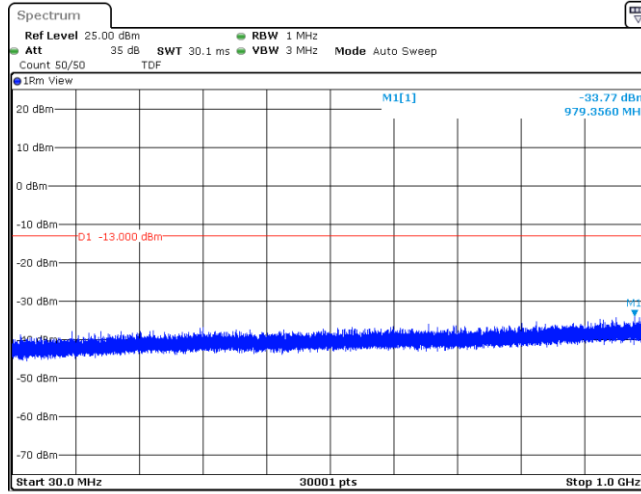
Date: 24 AUG 2020 13:53:01

GSM1900-HCH-0.15~30MHz-23.36



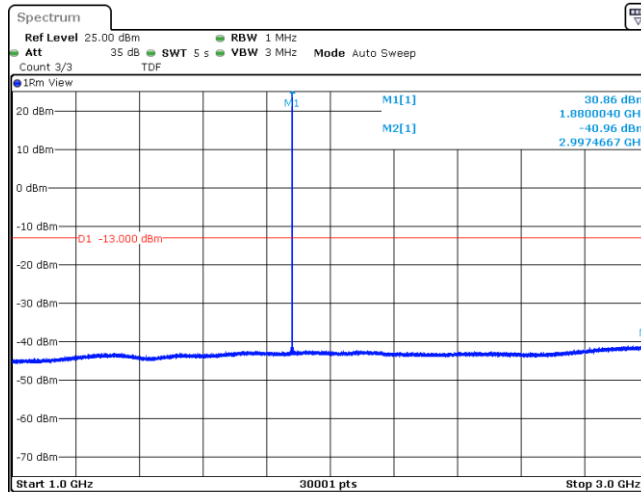
Date: 24 AUG 2020 13:53:07

GSM1900-HCH-30~100MHz-979.36



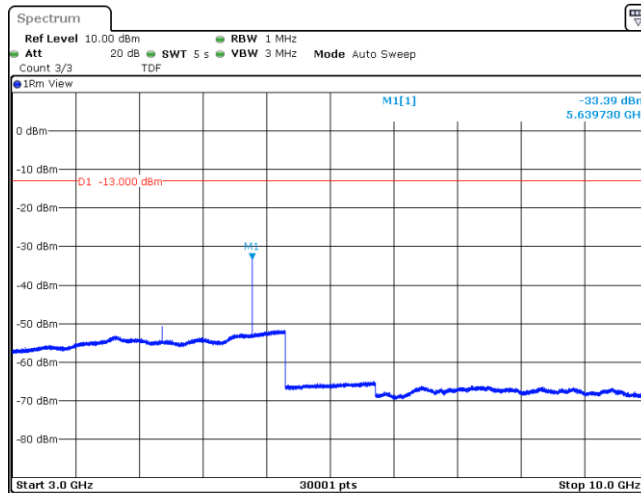
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GSM1900-HCH-1000~3000MHz-2997.47



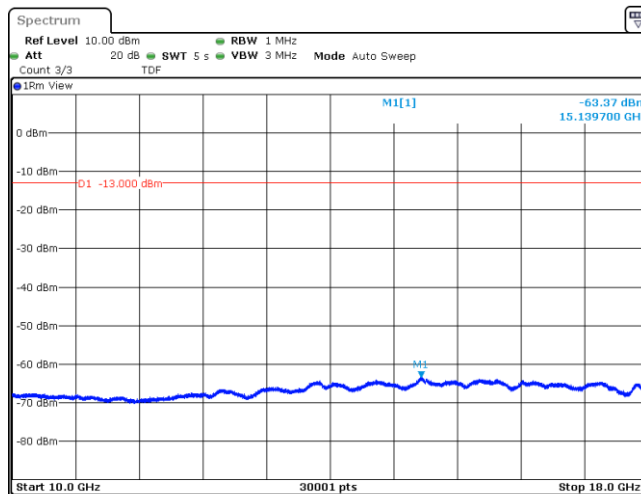
Date: 24 AUG 2020 13:53:39

GSM1900-HCH-3000~10000MHz-5639.73



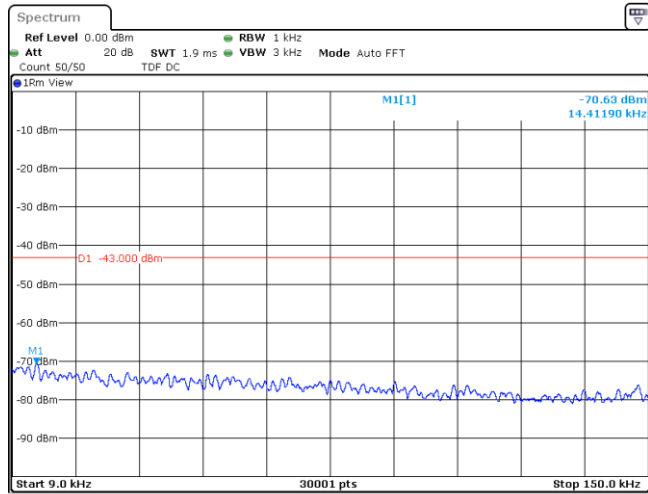
Date: 24 AUG 2020 13:54:02

GSM1900-HCH-10000~18000MHz-15139.7



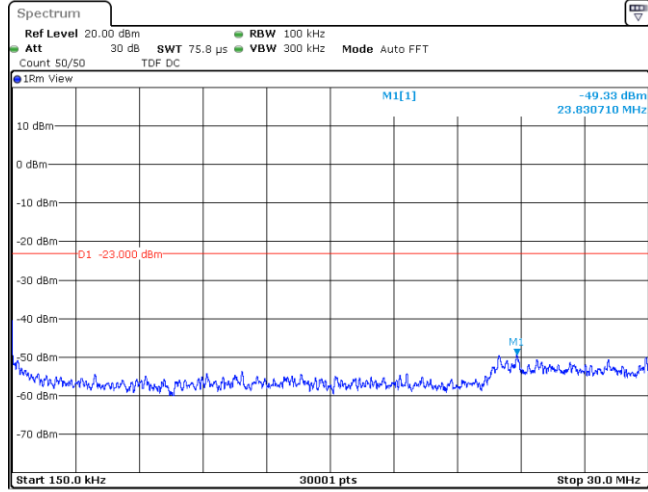
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GPRS1900-LCH-0.009~0.15MHz-0.01



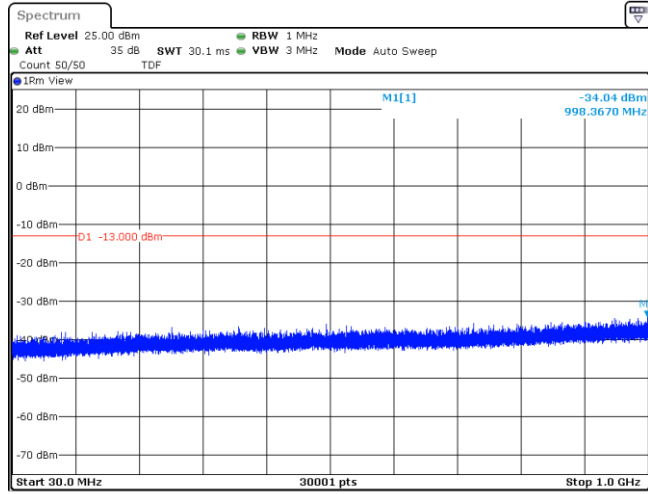
Date: 24 AUG 2020 13:54:54

GPRS1900-LCH-0.15~30MHz-23.83



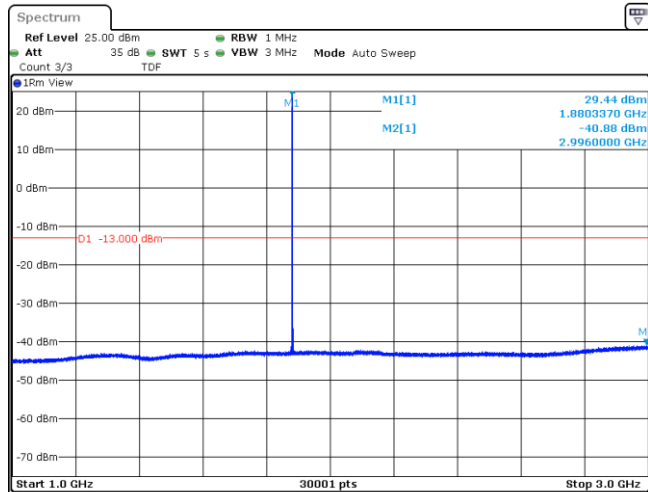
Date: 24 AUG 2020 13:55:00

GPRS1900-LCH-30~100MHz-998.37



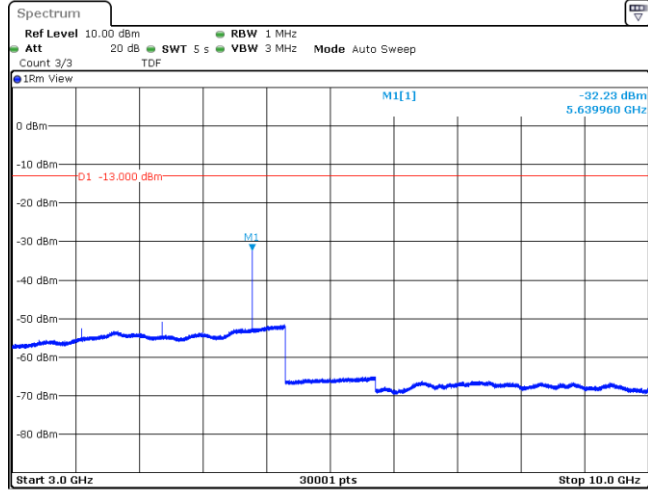
Date: 24 AUG 2020 13:55:09

GPRS1900-LCH-1000~3000MHz-2996



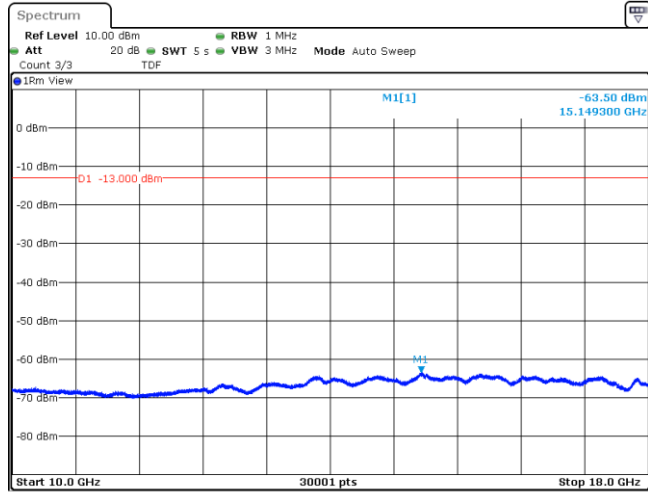
Date: 24 AUG 2020 13:55:32

GPRS1900-LCH-3000~10000MHz-5639.96



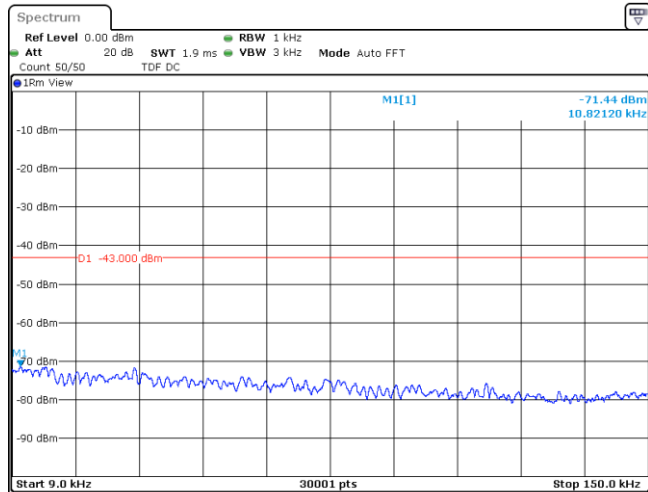
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GPRS1900-LCH-10000~18000MHz-15149.3



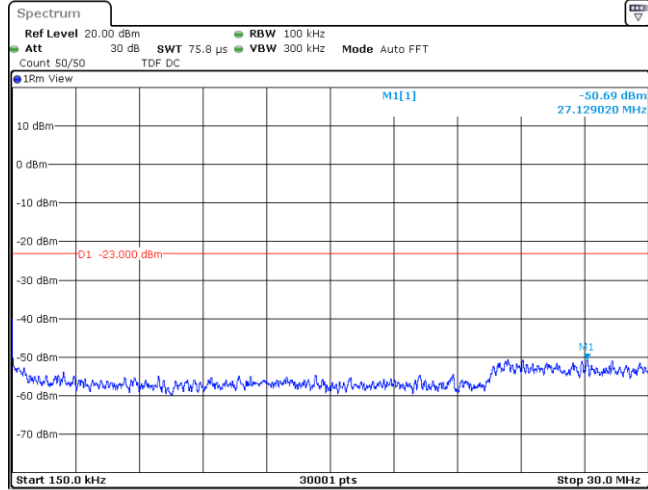
Date: 24 AUG 2020 13:56:18

GPRS1900-MCH-0.009~0.15MHz-0.01



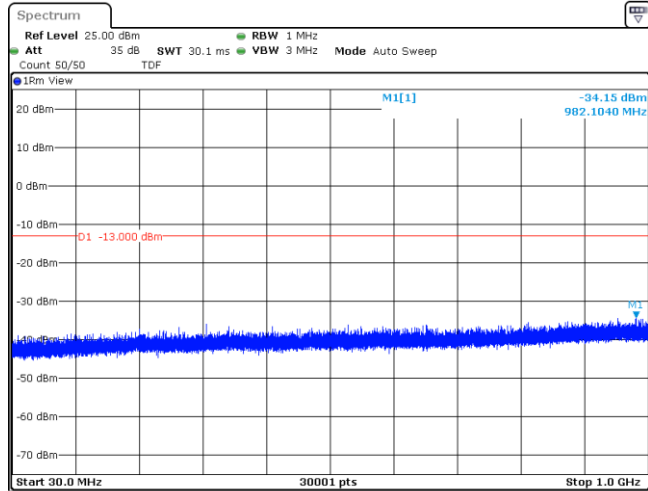
Date: 24 AUG 2020 13:56:27

GPRS1900-MCH-0.15~30MHz-27.13



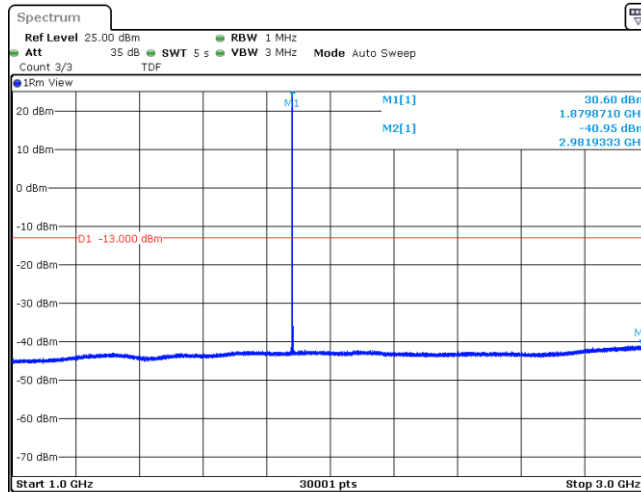
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GPRS1900-MCH-30~1000MHz-982.1



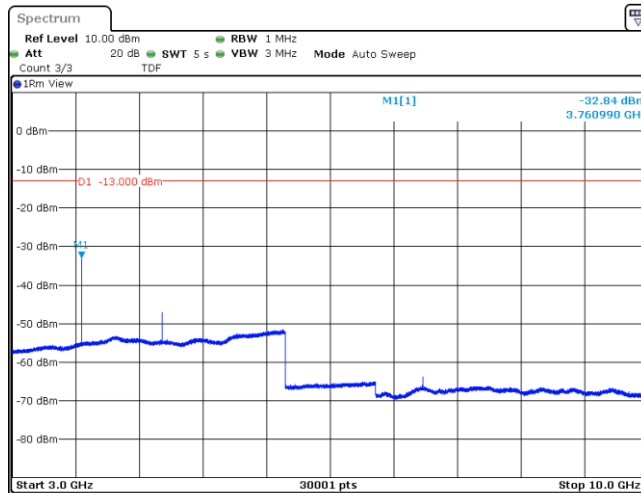
Date: 24 AUG 2020 13:56:41

GPRS1900-MCH-1000~3000MHz-2981.93



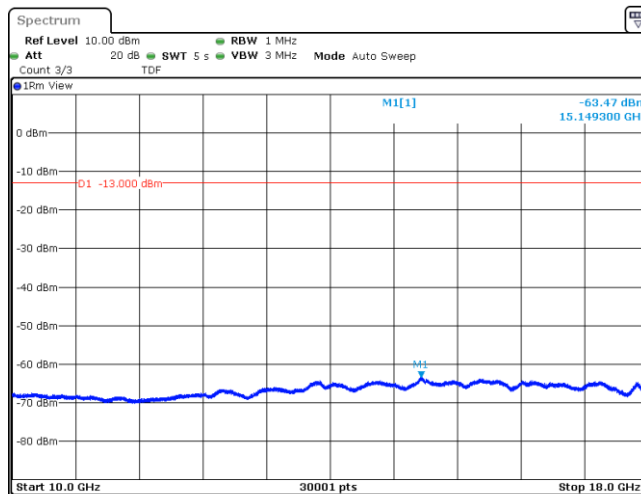
Date: 24 AUG 2020 13:57:05

GPRS1900-MCH-3000~10000MHz-3760.99



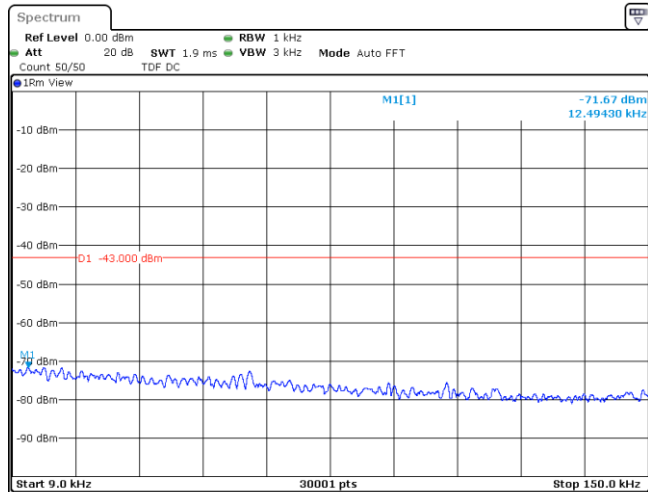
Date: 24 AUG 2020 13:57:27

GPRS1900-MCH-10000~18000MHz-15149.3



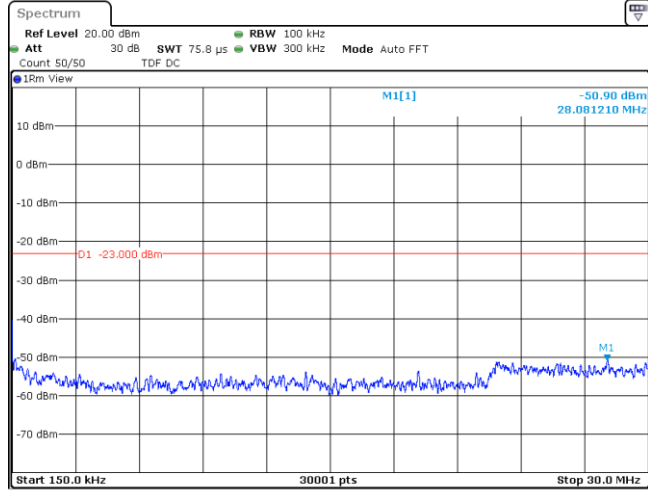
Date: 24 AUG 2020 13:57:50

GPRS1900-HCH-0.009~0.15MHz-0.01



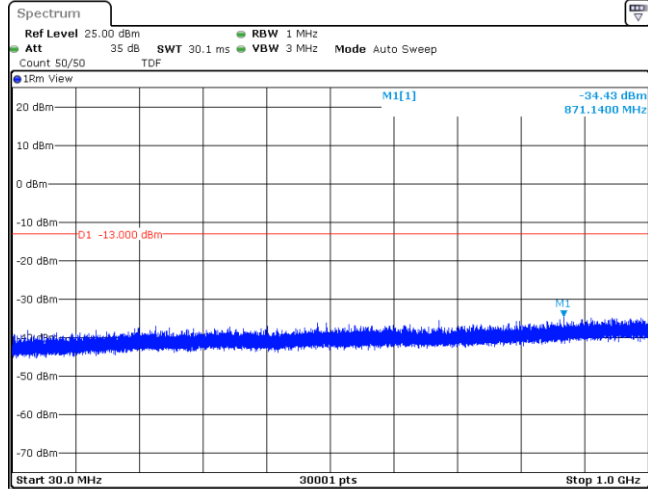
Date: 24 AUG 2020 13:57:59

GPRS1900-HCH-0.15~30MHz-28.08



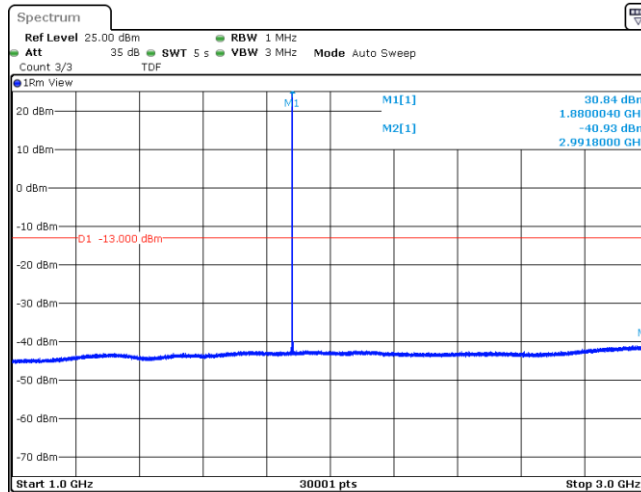
Date: 24 AUG 2020 13:58:05

GPRS1900-HCH-30~1000MHz-871.14



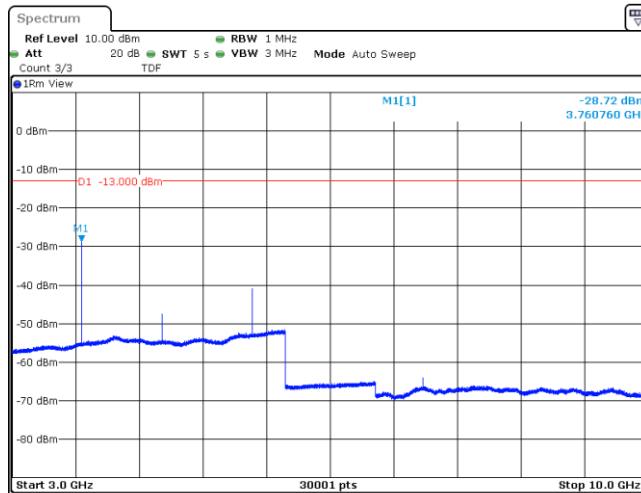
Date: 24 AUG 2020 13:58:13

GPRS1900-HCH-1000~3000MHz-2991.8



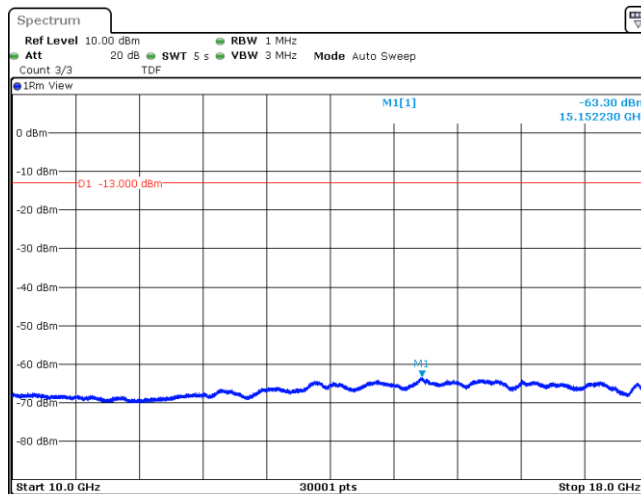
Date: 24 AUG 2020 13:58:37

GPRS1900-HCH-3000~10000MHz-3760.76



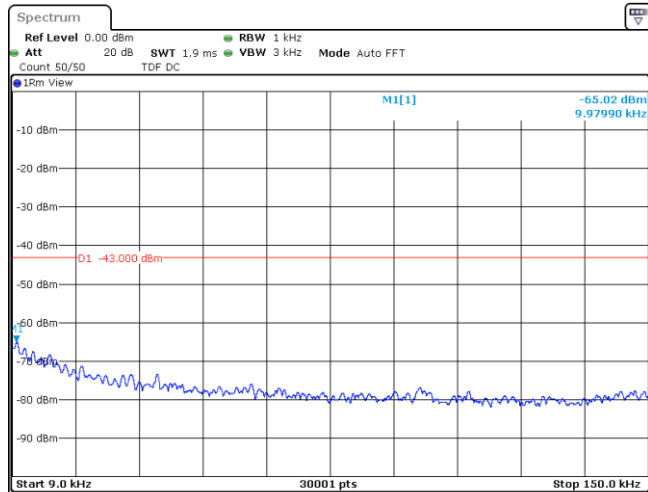
Date: 24 AUG 2020 13:59:00

GPRS1900-HCH-10000~18000MHz-15152.23



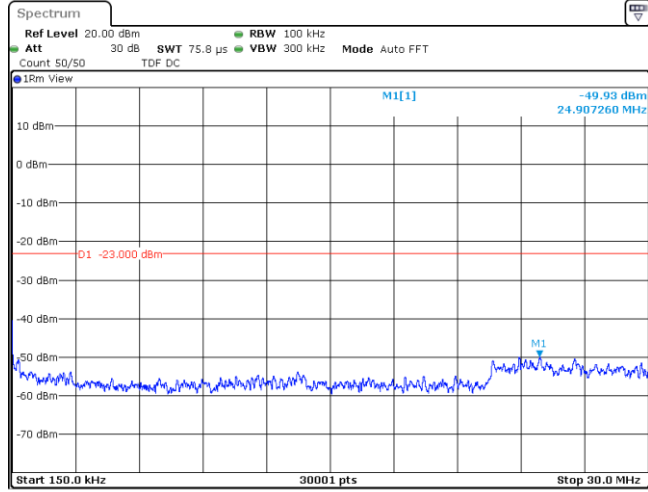
Date: 24 AUG 2020 13:59:22

EGPRS1900-LCH-0.009~0.15MHz-0.01



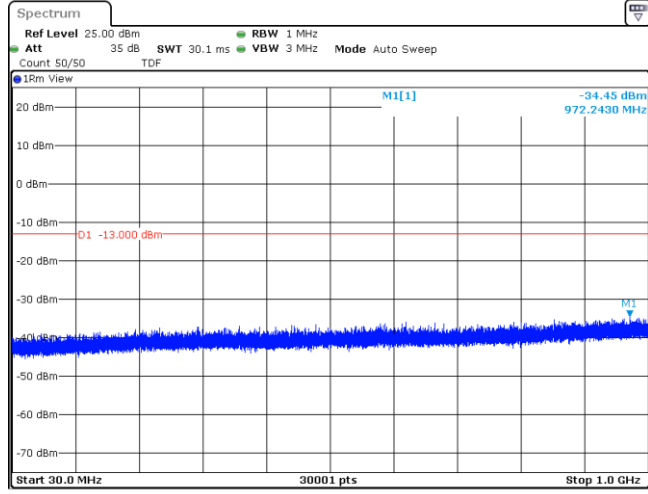
Date: 24 AUG 2020 13:59:37

EGPRS1900-LCH-0.15~30MHz-24.91



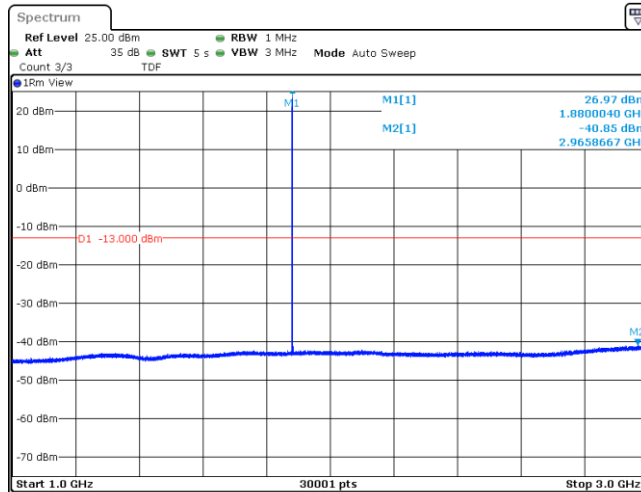
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EGPRS1900-LCH-30~1000MHz-972.24

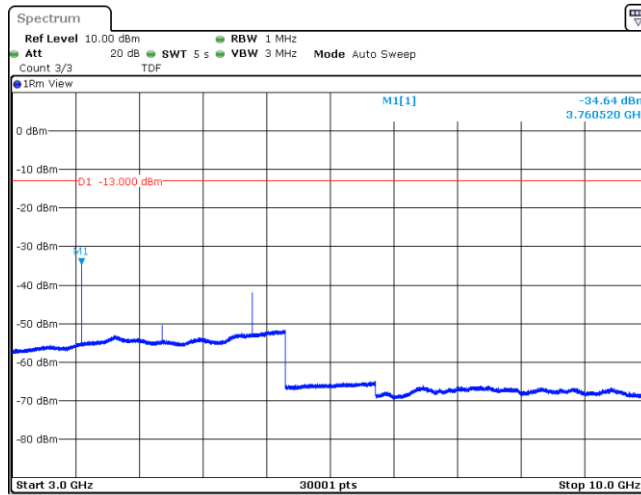


Date: 24 AUG 2020 13:59:52

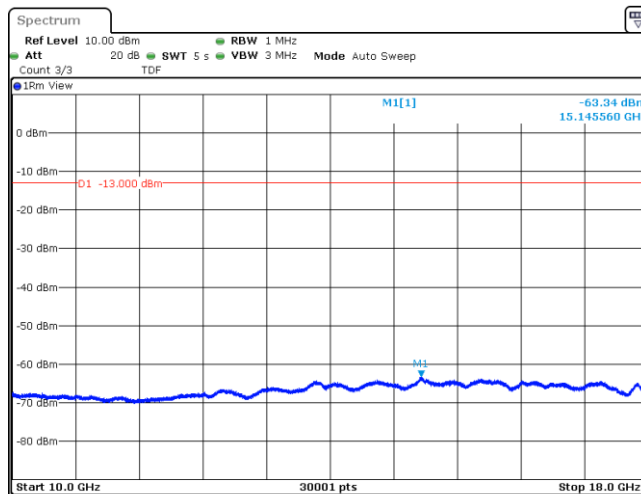
EGPRS1900-LCH-1000~3000MHz-2965.87



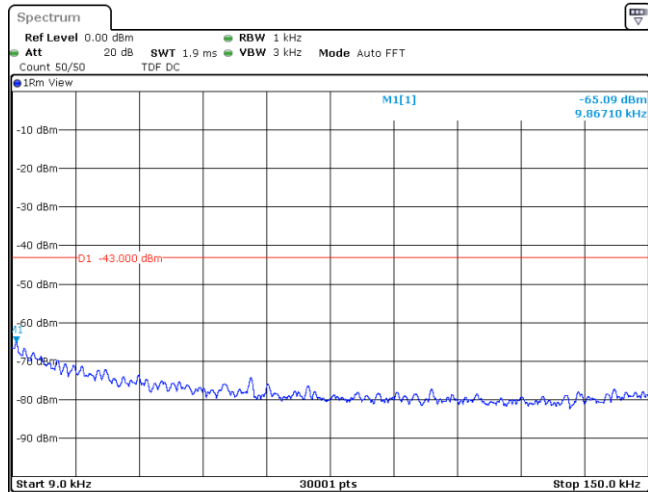
EGPRS1900-LCH-3000~10000MHz-3760.52



EGPRS1900-LCH-10000~18000MHz-15145.56

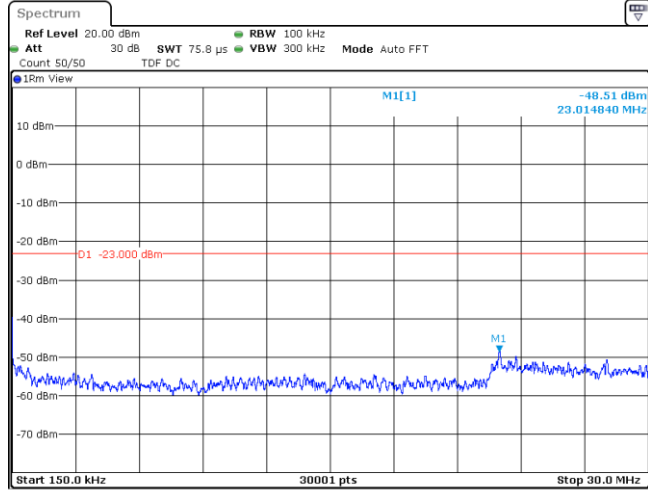


EGPRS1900-MCH-0.009~0.15MHz-0.01



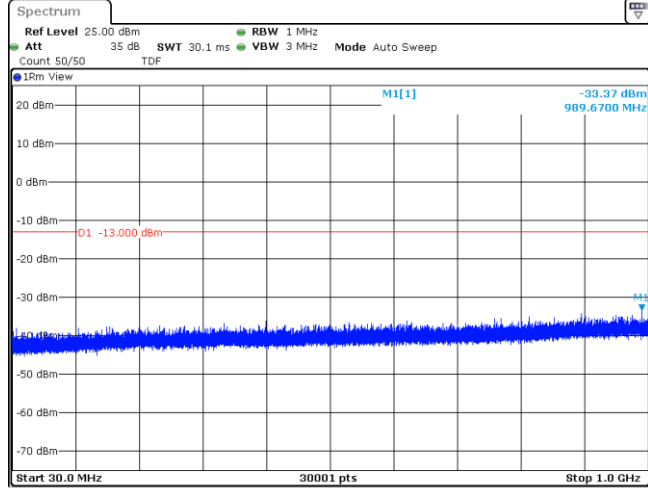
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EGPRS1900-MCH-0.15~30MHz-23.01



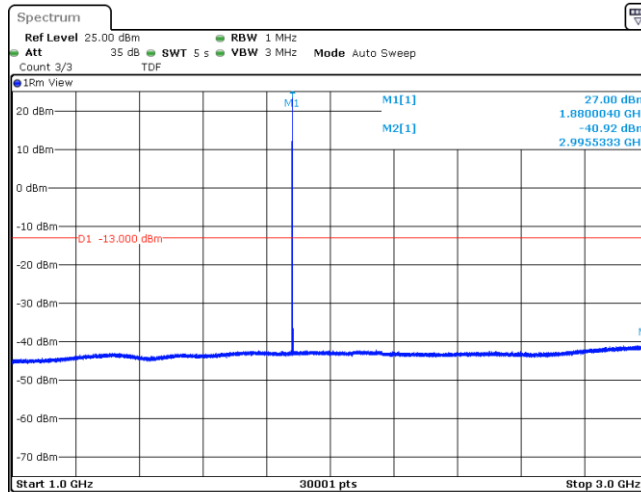
Date: 24 AUG 2020 14:01:16

EGPRS1900-MCH-30~1000MHz-989.67



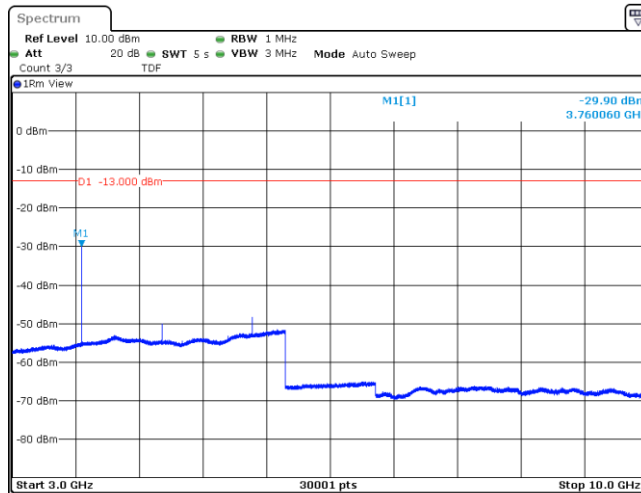
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EGPRS1900-MCH-1000~3000MHz-2995.53



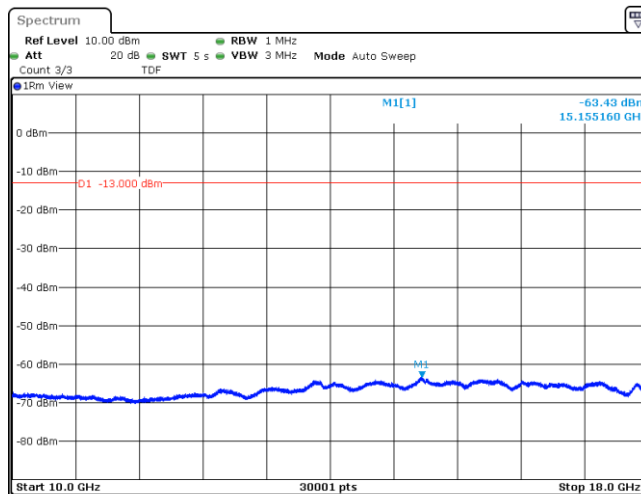
Date: 24 AUG 2020 14:01:48

EGPRS1900-MCH-3000~10000MHz-3760.06



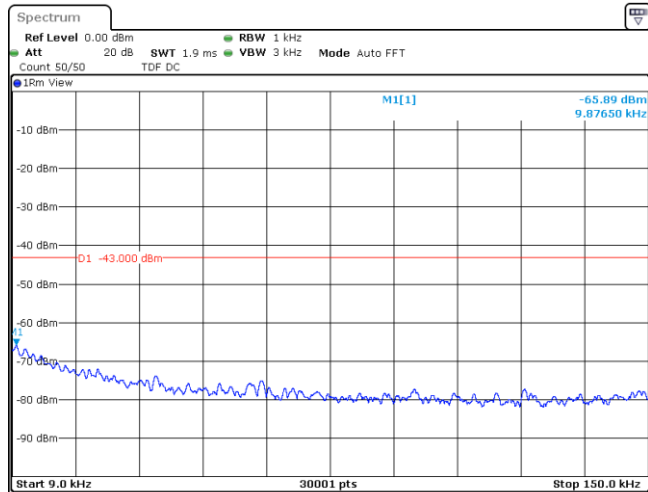
Date: 24 AUG 2020 14:02:11

EGPRS1900-MCH-10000~18000MHz-15155.16



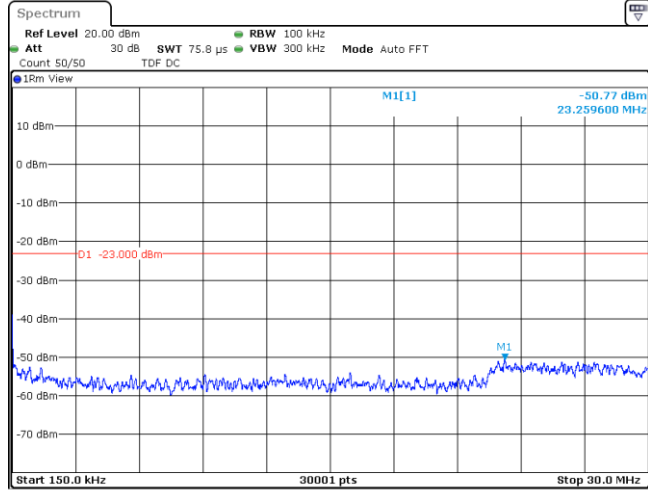
Date: 24 AUG 2020 14:02:33

EGPRS1900-HCH-0.009~0.15MHz-0.01



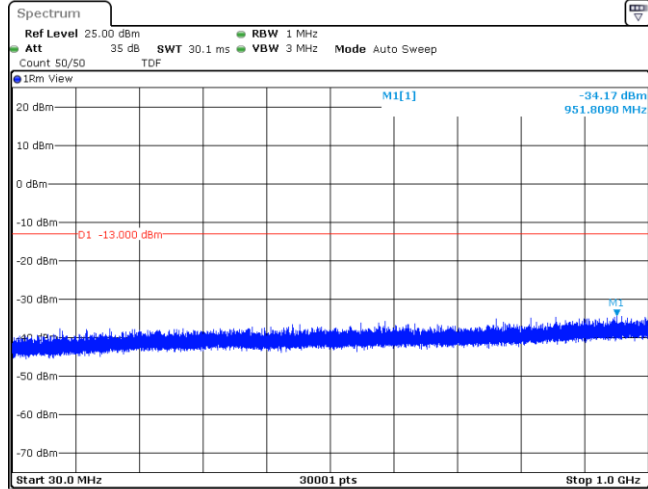
Date: 24 AUG 2020 14:02:42

EGPRS1900-HCH-0.15~30MHz-23.26



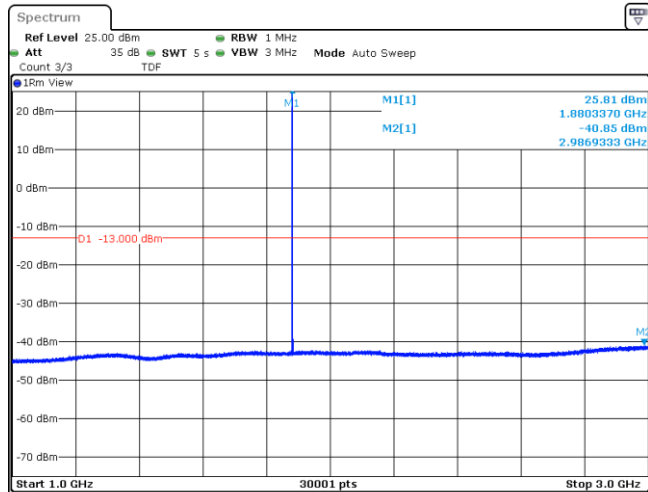
Date: 24 AUG 2020 14:02:48

EGPRS1900-HCH-30~1000MHz-951.81



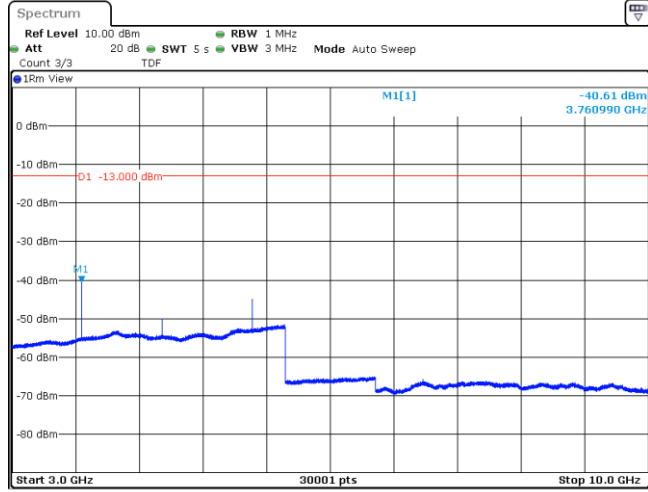
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EGPRS1900-HCH-1000~3000MHz-2986.93



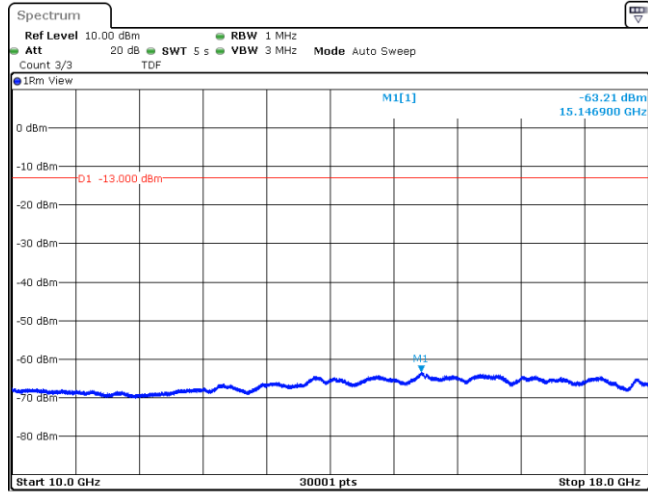
Date: 24 AUG 2020 14:03:19

EGPRS1900-HCH-3000~10000MHz-3760.99



Date: 24 AUG 2020 14:03:42

EGPRS1900-HCH-10000~18000MHz-15146.9



Date: 24 AUG 2020 14:04:05

Appendix G: Field Strength of Spurious Radiation

The transmitting equipment under test (EUT) is placed on a styrene turntable which is four feet in diameter and approximately 0.8 meter up to 1GHz and 1.5 meter above 1GHz in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjusted through all three orthogonal axes to obtain maximum emission levels. The antenna height and polarization are varied during the testing to search for maximum signal levels.

The frequency range scanned is from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or 40 GHz, whichever is lower. The emissions were very low against the limit in the frequency range 9kHz to 30MHz and 18 GHz ~ 20 GHz.

Note: We tested all modes, but the data presented below is the worst case.

9kHz~150kHz, VBW = 200Hz, VBW = 600 Hz, Detector: PK

150kHz~30MHz, VBW = 9kHz, VBW = 30k Hz, Detector: PK

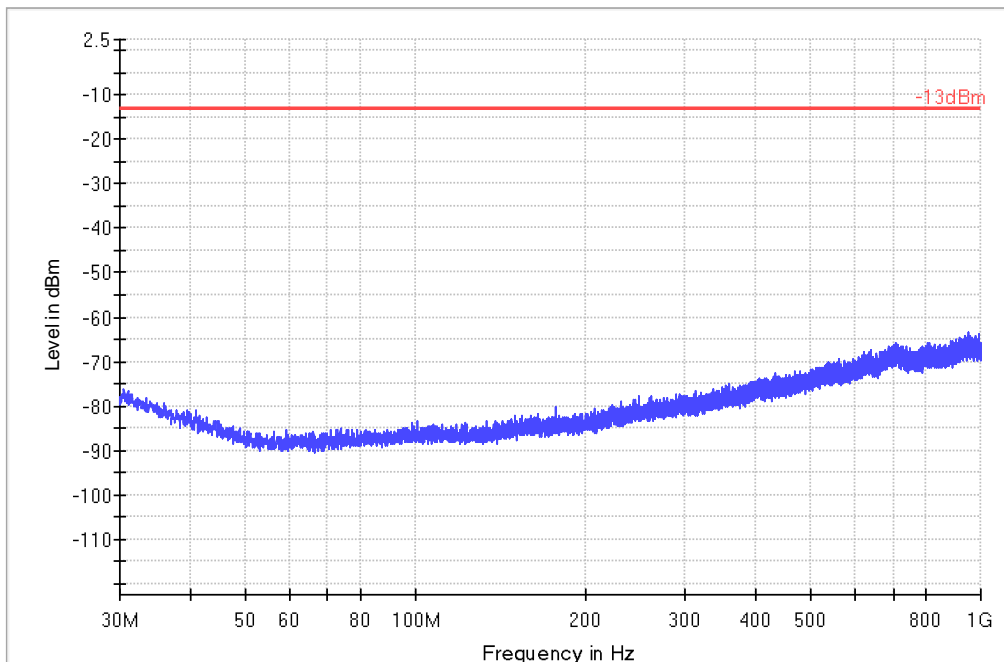
30MHz~1GHz, RBW = 100 kHz, VBW = 300 kHz. Detector: PK

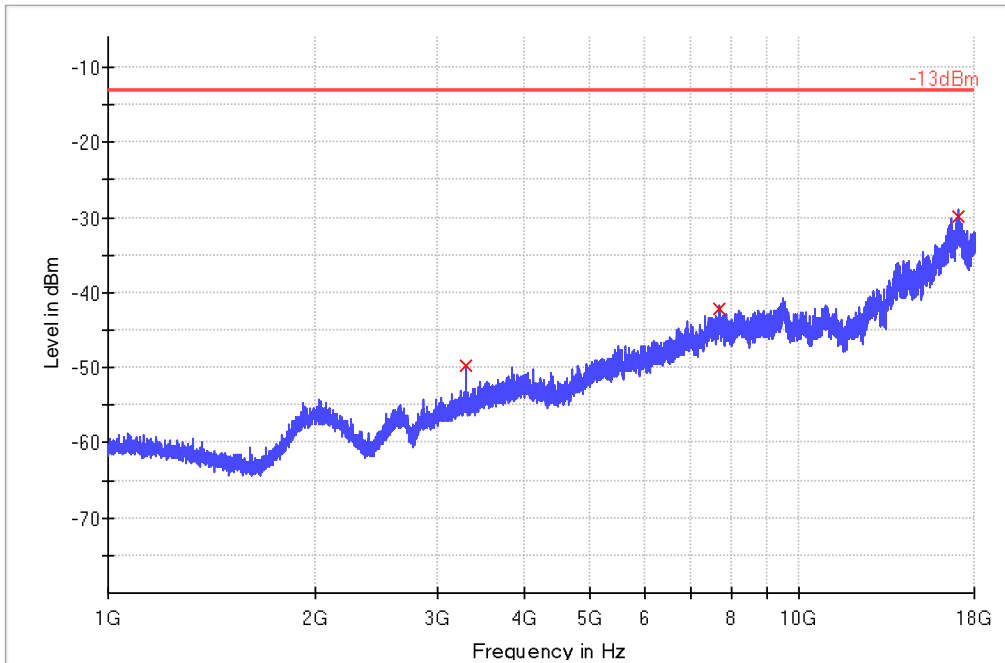
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Test Plots

Test Band = GSM850

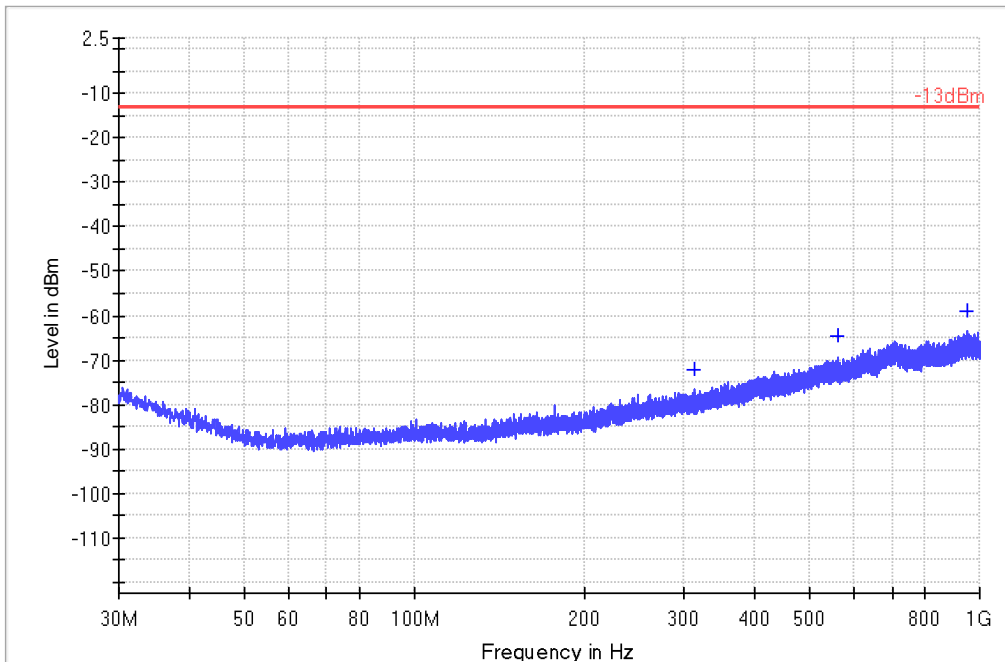
Test Mode = GSM/TM1

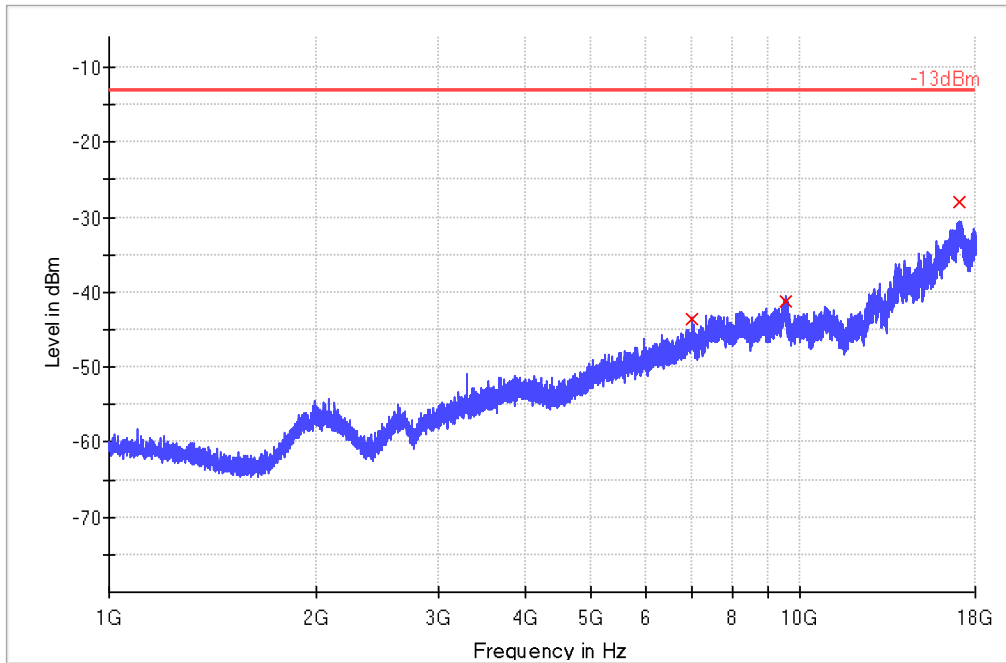




Test Band = GSM1900

Test Mode = GSM/TM1





Appendix H: Frequency Stability

Test Result

Frequency Error vs. Voltage:

Band	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	LCH	VL	NT	-3.42	-0.004149	±2.5	PASS
GSM850	LCH	VN	NT	0.87	0.001056	±2.5	PASS
GSM850	LCH	VH	NT	0.32	0.000388	±2.5	PASS
GSM850	MCH	VL	NT	0.77	0.000920	±2.5	PASS
GSM850	MCH	VN	NT	0.81	0.000968	±2.5	PASS
GSM850	MCH	VH	NT	-2.10	-0.002510	±2.5	PASS
GSM850	HCH	VL	NT	-1.07	-0.001261	±2.5	PASS
GSM850	HCH	VN	NT	-2.13	-0.002509	±2.5	PASS
GSM850	HCH	VH	NT	-1.87	-0.002203	±2.5	PASS
GPRS850	LCH	VL	NT	9.36	0.011356	±2.5	PASS
GPRS850	LCH	VN	NT	3.55	0.004307	±2.5	PASS
GPRS850	LCH	VH	NT	1.26	0.001529	±2.5	PASS
GPRS850	MCH	VL	NT	7.78	0.009300	±2.5	PASS
GPRS850	MCH	VN	NT	6.84	0.008176	±2.5	PASS
GPRS850	MCH	VH	NT	9.49	0.011344	±2.5	PASS
GPRS850	HCH	VL	NT	7.68	0.009048	±2.5	PASS
GPRS850	HCH	VN	NT	8.07	0.009508	±2.5	PASS
GPRS850	HCH	VH	NT	10.17	0.011982	±2.5	PASS
EGPRS850	LCH	VL	NT	5.97	0.007243	±2.5	PASS
EGPRS850	LCH	VN	NT	8.91	0.010810	±2.5	PASS
EGPRS850	LCH	VH	NT	10.91	0.013237	±2.5	PASS
EGPRS850	MCH	VL	NT	2.84	0.003395	±2.5	PASS
EGPRS850	MCH	VN	NT	10.75	0.012850	±2.5	PASS
EGPRS850	MCH	VH	NT	9.17	0.010961	±2.5	PASS
EGPRS850	HCH	VL	NT	3.00	0.003534	±2.5	PASS
EGPRS850	HCH	VN	NT	5.49	0.006468	±2.5	PASS
EGPRS850	HCH	VH	NT	7.97	0.009390	±2.5	PASS
GSM1900	LCH	VL	NT	3.45	0.001865	±2.5	PASS
GSM1900	LCH	VN	NT	6.13	0.003313	±2.5	PASS
GSM1900	LCH	VH	NT	1.78	0.000962	±2.5	PASS
GSM1900	MCH	VL	NT	4.75	0.002527	±2.5	PASS
GSM1900	MCH	VN	NT	3.91	0.002080	±2.5	PASS
GSM1900	MCH	VH	NT	3.75	0.001995	±2.5	PASS
GSM1900	HCH	VL	NT	2.71	0.001419	±2.5	PASS
GSM1900	HCH	VN	NT	4.71	0.002466	±2.5	PASS

GSM1900	HCH	VH	NT	-1.10	-0.000576	±2.5	PASS
GPRS1900	LCH	VL	NT	2.45	0.001324	±2.5	PASS
GPRS1900	LCH	VN	NT	-2.71	-0.001465	±2.5	PASS
GPRS1900	LCH	VH	NT	-0.84	-0.000454	±2.5	PASS
GPRS1900	MCH	VL	NT	7.23	0.003846	±2.5	PASS
GPRS1900	MCH	VN	NT	7.97	0.004239	±2.5	PASS
GPRS1900	MCH	VH	NT	10.85	0.005771	±2.5	PASS
GPRS1900	HCH	VL	NT	10.91	0.005713	±2.5	PASS
GPRS1900	HCH	VN	NT	12.79	0.006697	±2.5	PASS
GPRS1900	HCH	VH	NT	14.30	0.007488	±2.5	PASS
EGPRS1900	LCH	VL	NT	6.20	0.003351	±2.5	PASS
EGPRS1900	LCH	VN	NT	11.62	0.006280	±2.5	PASS
EGPRS1900	LCH	VH	NT	7.75	0.004189	±2.5	PASS
EGPRS1900	MCH	VL	NT	-0.71	-0.000378	±2.5	PASS
EGPRS1900	MCH	VN	NT	10.75	0.005718	±2.5	PASS
EGPRS1900	MCH	VH	NT	-1.94	-0.001032	±2.5	PASS
EGPRS1900	HCH	VL	NT	20.08	0.010514	±2.5	PASS
EGPRS1900	HCH	VN	NT	3.52	0.001843	±2.5	PASS
EGPRS1900	HCH	VH	NT	1.61	0.000843	±2.5	PASS

Frequency Error vs. Temperature:

Band	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	LCH	NV	-20	1.03	0.001250	±2.5	PASS
GSM850	LCH	NV	-10	4.04	0.004902	±2.5	PASS
GSM850	LCH	NV	0	-0.45	-0.000546	±2.5	PASS
GSM850	LCH	NV	10	-2.87	-0.003482	±2.5	PASS
GSM850	LCH	NV	20	-1.39	-0.001686	±2.5	PASS
GSM850	LCH	NV	30	0.71	0.000861	±2.5	PASS
GSM850	LCH	NV	40	2.78	0.003373	±2.5	PASS
GSM850	LCH	NV	50	1.71	0.002075	±2.5	PASS
GSM850	LCH	NV	60	1.65	0.002002	±2.5	PASS
GSM850	MCH	NV	-20	-4.62	-0.005522	±2.5	PASS
GSM850	MCH	NV	-10	-0.65	-0.000777	±2.5	PASS
GSM850	MCH	NV	0	-4.29	-0.005128	±2.5	PASS
GSM850	MCH	NV	10	-3.94	-0.004710	±2.5	PASS
GSM850	MCH	NV	20	-4.07	-0.004865	±2.5	PASS
GSM850	MCH	NV	30	-4.20	-0.005020	±2.5	PASS
GSM850	MCH	NV	40	-4.88	-0.005833	±2.5	PASS
GSM850	MCH	NV	50	1.58	0.001889	±2.5	PASS
GSM850	MCH	NV	60	2.23	0.002666	±2.5	PASS
GSM850	HCH	NV	-20	-0.55	-0.000648	±2.5	PASS

GSM850	HCH	NV	-10	-1.52	-0.001791	±2.5	PASS
GSM850	HCH	NV	0	-0.84	-0.000990	±2.5	PASS
GSM850	HCH	NV	10	-4.55	-0.005361	±2.5	PASS
GSM850	HCH	NV	20	-1.58	-0.001861	±2.5	PASS
GSM850	HCH	NV	30	-1.71	-0.002015	±2.5	PASS
GSM850	HCH	NV	40	-3.65	-0.004300	±2.5	PASS
GSM850	HCH	NV	50	-4.04	-0.004760	±2.5	PASS
GSM850	HCH	NV	60	-3.33	-0.003923	±2.5	PASS
GPRS850	LCH	NV	-20	5.23	0.006346	±2.5	PASS
GPRS850	LCH	NV	-10	3.94	0.004780	±2.5	PASS
GPRS850	LCH	NV	0	5.94	0.007207	±2.5	PASS
GPRS850	LCH	NV	10	2.65	0.003215	±2.5	PASS
GPRS850	LCH	NV	20	3.71	0.004501	±2.5	PASS
GPRS850	LCH	NV	30	3.23	0.003919	±2.5	PASS
GPRS850	LCH	NV	40	5.07	0.006151	±2.5	PASS
GPRS850	LCH	NV	50	6.75	0.008190	±2.5	PASS
GPRS850	LCH	NV	60	6.33	0.007680	±2.5	PASS
GPRS850	MCH	NV	-20	8.01	0.009574	±2.5	PASS
GPRS850	MCH	NV	-10	13.04	0.015587	±2.5	PASS
GPRS850	MCH	NV	0	7.68	0.009180	±2.5	PASS
GPRS850	MCH	NV	10	5.62	0.006718	±2.5	PASS
GPRS850	MCH	NV	20	3.39	0.004052	±2.5	PASS
GPRS850	MCH	NV	30	3.55	0.004243	±2.5	PASS
GPRS850	MCH	NV	40	1.49	0.001781	±2.5	PASS
GPRS850	MCH	NV	50	7.33	0.008762	±2.5	PASS
GPRS850	MCH	NV	60	7.75	0.009264	±2.5	PASS
GPRS850	HCH	NV	-20	4.23	0.004984	±2.5	PASS
GPRS850	HCH	NV	-10	6.01	0.007081	±2.5	PASS
GPRS850	HCH	NV	0	4.58	0.005396	±2.5	PASS
GPRS850	HCH	NV	10	5.42	0.006385	±2.5	PASS
GPRS850	HCH	NV	20	2.71	0.003193	±2.5	PASS
GPRS850	HCH	NV	30	4.46	0.005254	±2.5	PASS
GPRS850	HCH	NV	40	5.23	0.006162	±2.5	PASS
GPRS850	HCH	NV	50	3.58	0.004218	±2.5	PASS
GPRS850	HCH	NV	60	2.03	0.002392	±2.5	PASS
EGPRS850	LCH	NV	-20	10.53	0.012776	±2.5	PASS
EGPRS850	LCH	NV	-10	7.39	0.008966	±2.5	PASS
EGPRS850	LCH	NV	0	10.01	0.012145	±2.5	PASS
EGPRS850	LCH	NV	10	9.20	0.011162	±2.5	PASS
EGPRS850	LCH	NV	20	7.49	0.009088	±2.5	PASS
EGPRS850	LCH	NV	30	11.33	0.013747	±2.5	PASS

EGPRS850	LCH	NV	40	12.24	0.014851	±2.5	PASS
EGPRS850	LCH	NV	50	8.49	0.010301	±2.5	PASS
EGPRS850	LCH	NV	60	5.88	0.007134	±2.5	PASS
EGPRS850	MCH	NV	-20	8.94	0.010686	±2.5	PASS
EGPRS850	MCH	NV	-10	8.94	0.010686	±2.5	PASS
EGPRS850	MCH	NV	0	7.10	0.008487	±2.5	PASS
EGPRS850	MCH	NV	10	9.62	0.011499	±2.5	PASS
EGPRS850	MCH	NV	20	3.71	0.004435	±2.5	PASS
EGPRS850	MCH	NV	30	6.46	0.007722	±2.5	PASS
EGPRS850	MCH	NV	40	3.16	0.003777	±2.5	PASS
EGPRS850	MCH	NV	50	4.71	0.005630	±2.5	PASS
EGPRS850	MCH	NV	60	6.01	0.007184	±2.5	PASS
EGPRS850	HCH	NV	-20	7.23	0.008518	±2.5	PASS
EGPRS850	HCH	NV	-10	6.62	0.007799	±2.5	PASS
EGPRS850	HCH	NV	0	5.10	0.006008	±2.5	PASS
EGPRS850	HCH	NV	10	8.59	0.010120	±2.5	PASS
EGPRS850	HCH	NV	20	6.62	0.007799	±2.5	PASS
EGPRS850	HCH	NV	30	8.14	0.009590	±2.5	PASS
EGPRS850	HCH	NV	40	3.84	0.004524	±2.5	PASS
EGPRS850	HCH	NV	50	10.75	0.012665	±2.5	PASS
EGPRS850	HCH	NV	60	8.10	0.009543	±2.5	PASS
GSM1900	LCH	NV	-20	-5.75	-0.003108	±2.5	PASS
GSM1900	LCH	NV	-10	14.21	0.007680	±2.5	PASS
GSM1900	LCH	NV	0	10.53	0.005691	±2.5	PASS
GSM1900	LCH	NV	10	10.11	0.005464	±2.5	PASS
GSM1900	LCH	NV	20	12.88	0.006961	±2.5	PASS
GSM1900	LCH	NV	30	10.23	0.005529	±2.5	PASS
GSM1900	LCH	NV	40	2.71	0.001465	±2.5	PASS
GSM1900	LCH	NV	50	-2.87	-0.001551	±2.5	PASS
GSM1900	LCH	NV	60	4.78	0.002584	±2.5	PASS
GSM1900	MCH	NV	-20	4.20	0.002234	±2.5	PASS
GSM1900	MCH	NV	-10	19.40	0.010319	±2.5	PASS
GSM1900	MCH	NV	0	9.69	0.005154	±2.5	PASS
GSM1900	MCH	NV	10	5.33	0.002835	±2.5	PASS
GSM1900	MCH	NV	20	12.01	0.006388	±2.5	PASS
GSM1900	MCH	NV	30	2.62	0.001394	±2.5	PASS
GSM1900	MCH	NV	40	6.65	0.003537	±2.5	PASS
GSM1900	MCH	NV	50	7.23	0.003846	±2.5	PASS
GSM1900	MCH	NV	60	6.13	0.003261	±2.5	PASS
GSM1900	HCH	NV	-20	-0.39	-0.000204	±2.5	PASS
GSM1900	HCH	NV	-10	-4.00	-0.002094	±2.5	PASS

GSM1900	HCH	NV	0	-1.97	-0.001032	±2.5	PASS
GSM1900	HCH	NV	10	-1.10	-0.000576	±2.5	PASS
GSM1900	HCH	NV	20	11.85	0.006205	±2.5	PASS
GSM1900	HCH	NV	30	7.46	0.003906	±2.5	PASS
GSM1900	HCH	NV	40	12.37	0.006477	±2.5	PASS
GSM1900	HCH	NV	50	11.95	0.006257	±2.5	PASS
GSM1900	HCH	NV	60	8.27	0.004330	±2.5	PASS
GPRS1900	LCH	NV	-20	1.23	0.000665	±2.5	PASS
GPRS1900	LCH	NV	-10	-1.87	-0.001011	±2.5	PASS
GPRS1900	LCH	NV	0	12.07	0.006524	±2.5	PASS
GPRS1900	LCH	NV	10	8.59	0.004643	±2.5	PASS
GPRS1900	LCH	NV	20	14.50	0.007837	±2.5	PASS
GPRS1900	LCH	NV	30	7.39	0.003994	±2.5	PASS
GPRS1900	LCH	NV	40	6.84	0.003697	±2.5	PASS
GPRS1900	LCH	NV	50	-0.45	-0.000243	±2.5	PASS
GPRS1900	LCH	NV	60	0.68	0.000368	±2.5	PASS
GPRS1900	MCH	NV	-20	10.78	0.005734	±2.5	PASS
GPRS1900	MCH	NV	-10	14.98	0.007968	±2.5	PASS
GPRS1900	MCH	NV	0	8.01	0.004261	±2.5	PASS
GPRS1900	MCH	NV	10	15.05	0.008005	±2.5	PASS
GPRS1900	MCH	NV	20	8.52	0.004532	±2.5	PASS
GPRS1900	MCH	NV	30	12.79	0.006803	±2.5	PASS
GPRS1900	MCH	NV	40	6.65	0.003537	±2.5	PASS
GPRS1900	MCH	NV	50	13.88	0.007383	±2.5	PASS
GPRS1900	MCH	NV	60	18.27	0.009718	±2.5	PASS
GPRS1900	HCH	NV	-20	15.11	0.007912	±2.5	PASS
GPRS1900	HCH	NV	-10	15.34	0.008032	±2.5	PASS
GPRS1900	HCH	NV	0	7.52	0.003938	±2.5	PASS
GPRS1900	HCH	NV	10	7.59	0.003974	±2.5	PASS
GPRS1900	HCH	NV	20	15.27	0.007996	±2.5	PASS
GPRS1900	HCH	NV	30	5.00	0.002618	±2.5	PASS
GPRS1900	HCH	NV	40	7.62	0.003990	±2.5	PASS
GPRS1900	HCH	NV	50	5.94	0.003110	±2.5	PASS
GPRS1900	HCH	NV	60	19.60	0.010263	±2.5	PASS
EGPRS1900	LCH	NV	-20	0.36	0.000195	±2.5	PASS
EGPRS1900	LCH	NV	-10	6.01	0.003248	±2.5	PASS
EGPRS1900	LCH	NV	0	11.82	0.006388	±2.5	PASS
EGPRS1900	LCH	NV	10	12.62	0.006821	±2.5	PASS
EGPRS1900	LCH	NV	20	4.75	0.002567	±2.5	PASS
EGPRS1900	LCH	NV	30	10.65	0.005756	±2.5	PASS
EGPRS1900	LCH	NV	40	12.69	0.006859	±2.5	PASS

EGPRS1900	LCH	NV	50	8.36	0.004518	±2.5	PASS
EGPRS1900	LCH	NV	60	11.07	0.005983	±2.5	PASS
EGPRS1900	MCH	NV	-20	2.13	0.001133	±2.5	PASS
EGPRS1900	MCH	NV	-10	2.87	0.001527	±2.5	PASS
EGPRS1900	MCH	NV	0	-0.32	-0.000170	±2.5	PASS
EGPRS1900	MCH	NV	10	5.39	0.002867	±2.5	PASS
EGPRS1900	MCH	NV	20	-6.39	-0.003399	±2.5	PASS
EGPRS1900	MCH	NV	30	-2.55	-0.001356	±2.5	PASS
EGPRS1900	MCH	NV	40	11.72	0.006234	±2.5	PASS
EGPRS1900	MCH	NV	50	5.84	0.003106	±2.5	PASS
EGPRS1900	MCH	NV	60	6.62	0.003521	±2.5	PASS
EGPRS1900	HCH	NV	-20	0.97	0.000508	±2.5	PASS
EGPRS1900	HCH	NV	-10	4.52	0.002367	±2.5	PASS
EGPRS1900	HCH	NV	0	5.94	0.003110	±2.5	PASS
EGPRS1900	HCH	NV	10	-3.94	-0.002063	±2.5	PASS
EGPRS1900	HCH	NV	20	-1.19	-0.000623	±2.5	PASS
EGPRS1900	HCH	NV	30	1.94	0.001016	±2.5	PASS
EGPRS1900	HCH	NV	40	9.40	0.004922	±2.5	PASS
EGPRS1900	HCH	NV	50	4.55	0.002382	±2.5	PASS
EGPRS1900	HCH	NV	60	3.29	0.001723	±2.5	PASS

END