

APPENDIX RF TEST DATA

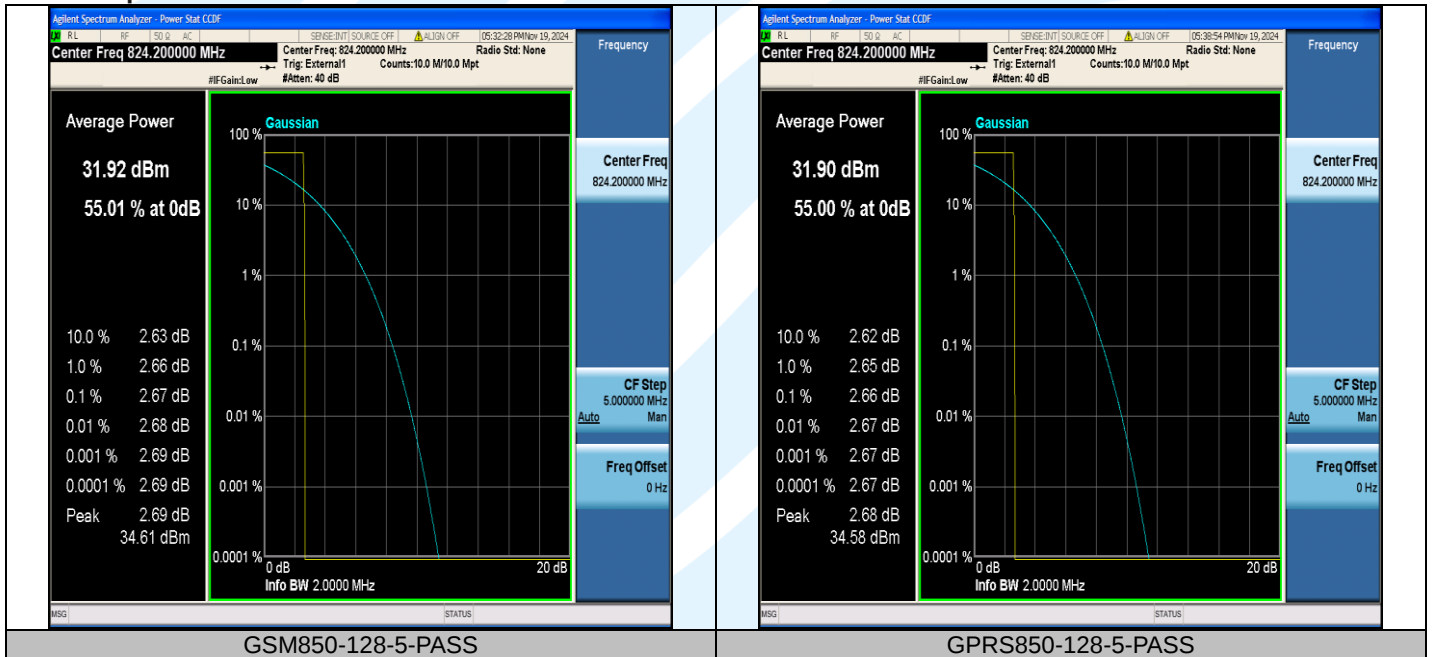
APPENDIX A: GSM

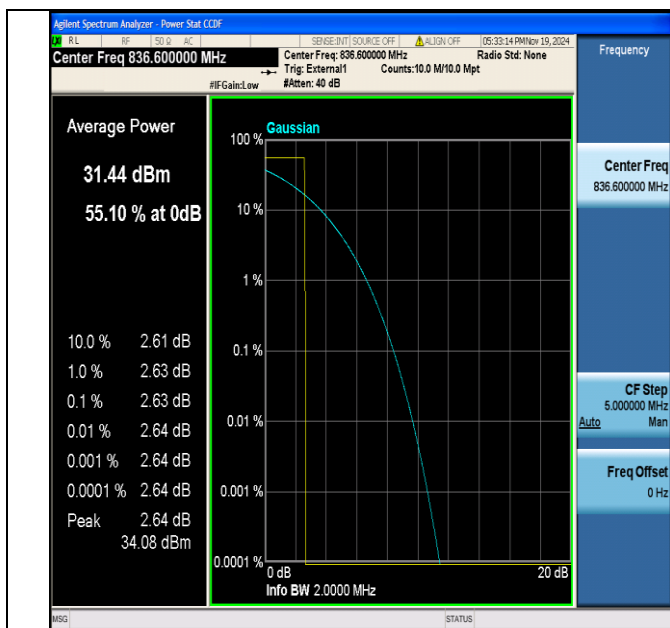
APPENDIX A1: PEAK TO AVERAGE RATIO

GSM 850& PCS 1900:

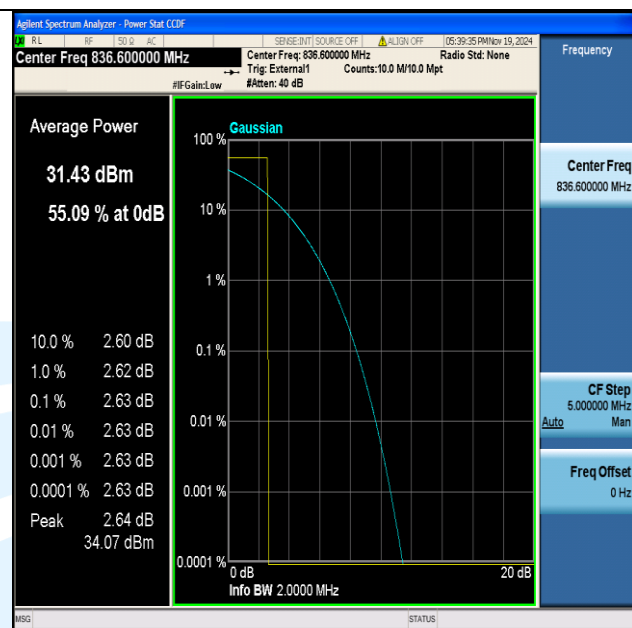
Band	Channel	Result (dB)	Limit (dB)	Verdict
GSM850	128	2.67	13	PASS
GPRS850	128	2.66	13	PASS
GSM850	190	2.63	13	PASS
GPRS850	190	2.63	13	PASS
GSM850	251	2.64	13	PASS
GPRS850	251	2.63	13	PASS
GSM1900	512	2.76	13	PASS
GPRS1900	512	2.77	13	PASS
GSM1900	661	2.79	13	PASS
GPRS1900	661	2.79	13	PASS
GSM1900	810	2.83	13	PASS
GPRS1900	810	2.82	13	PASS

Test Graphs

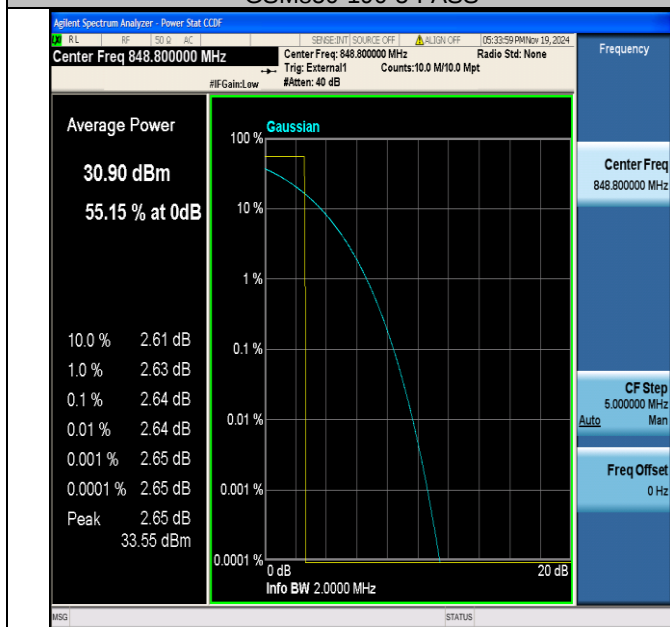




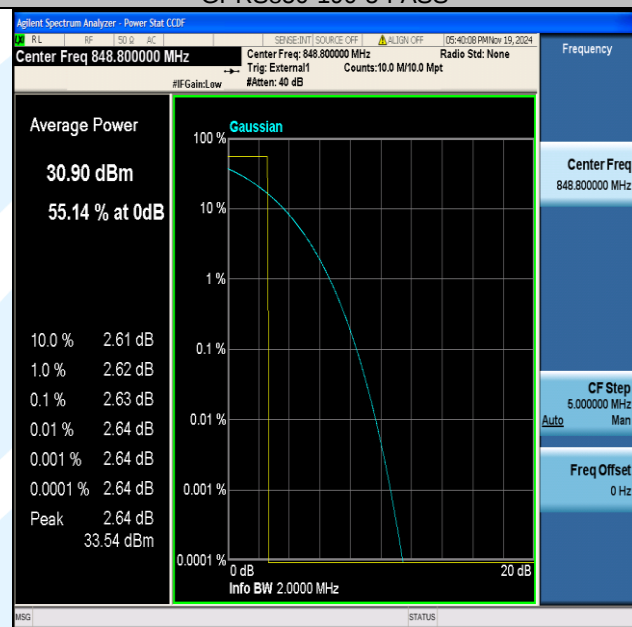
GSM850-190-5-PASS



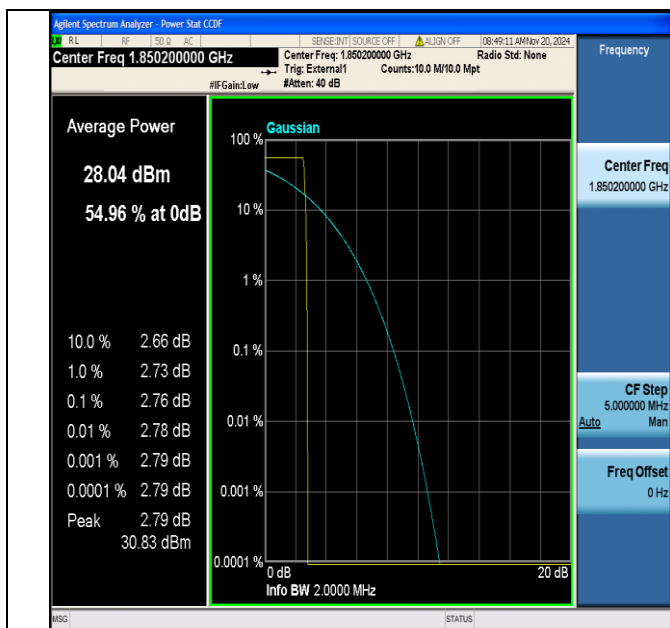
GPRS850-190-5-PASS



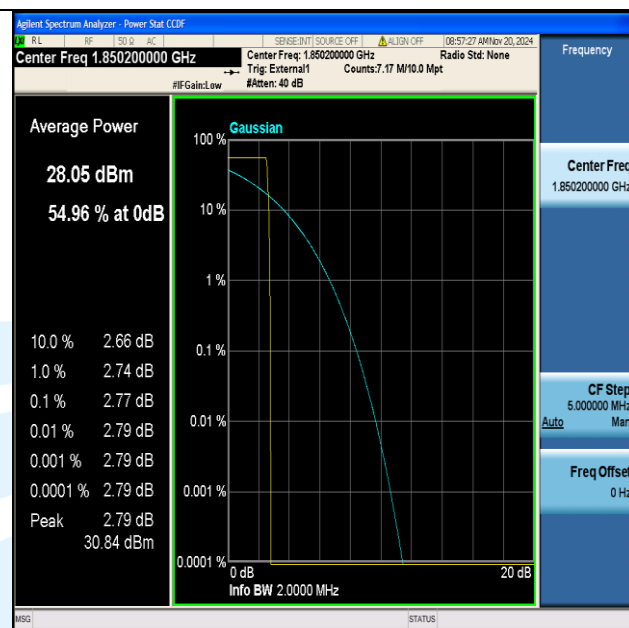
GSM850-251-5-PASS



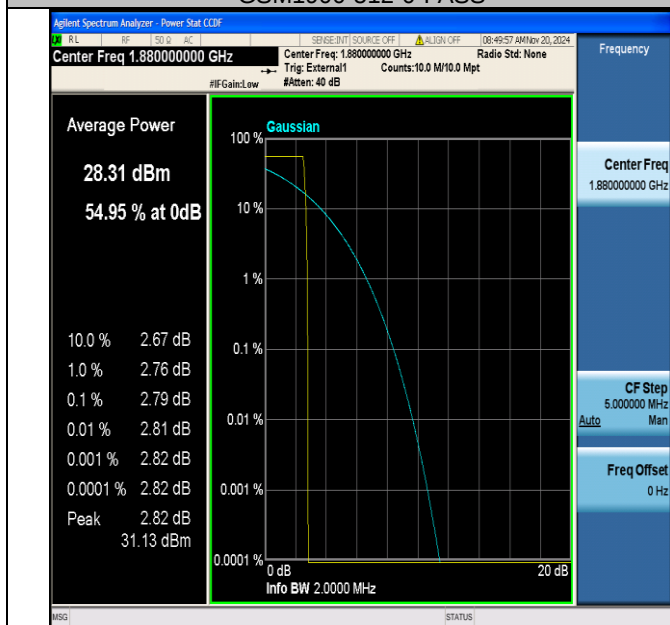
GPRS850-251-5-PASS



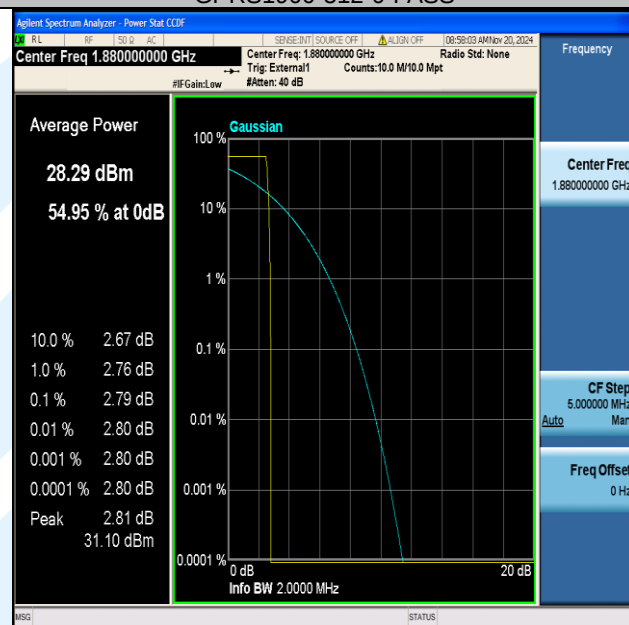
GSM1900-512-0-PASS



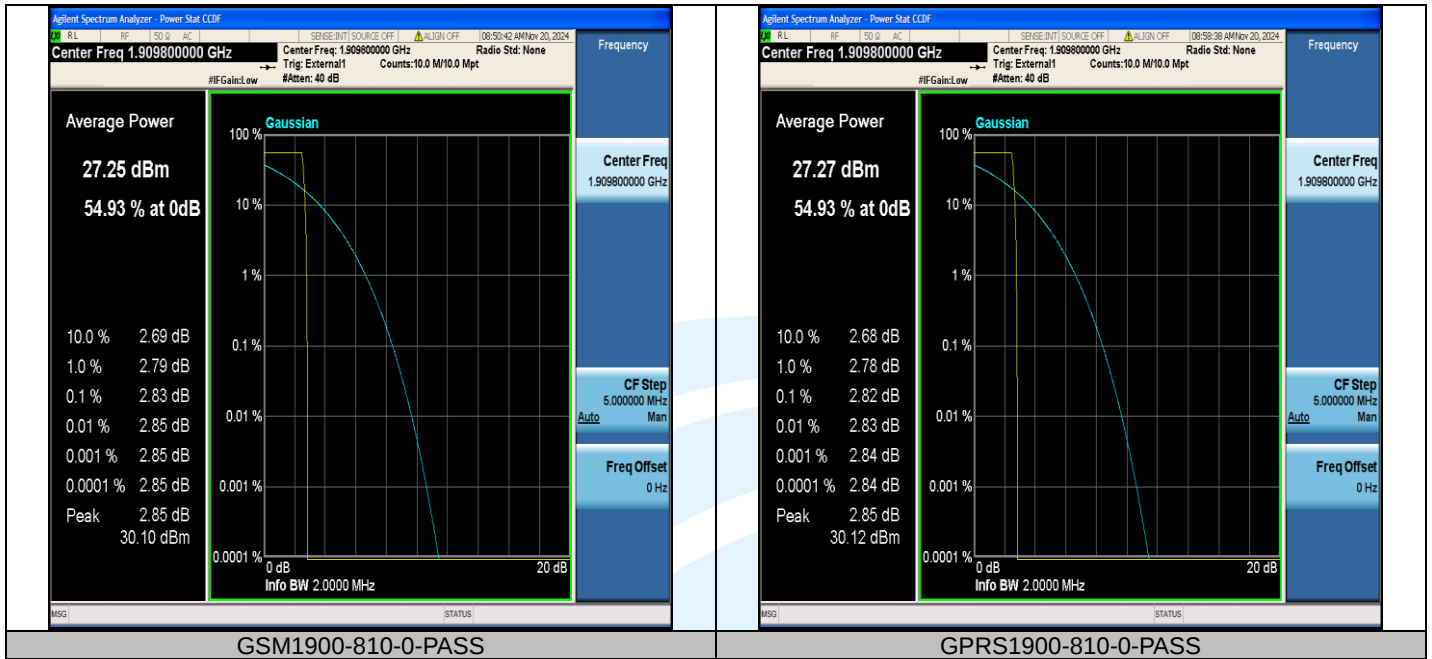
GPRS1900-512-0-PASS



GSM1900-661-0-PASS



GPRS1900-661-0-PASS

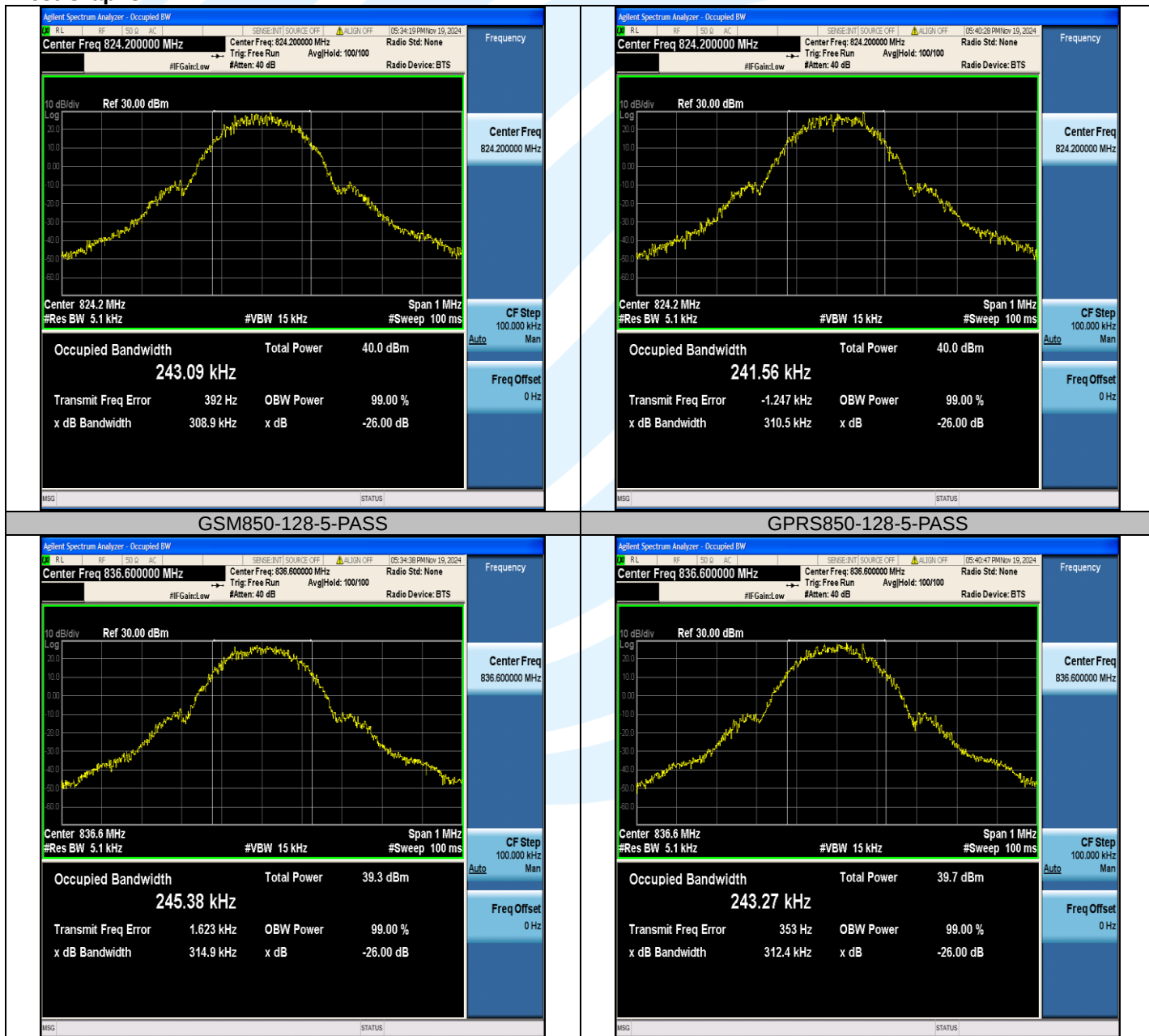


APPENDIX A2: 26DB BANDWIDTH AND OCCUPIED BANDWIDTH

GSM 850& PCS 1900:

Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	0.24309	0.3089	---	PASS
GPRS850	128	0.24156	0.3105	---	PASS
GSM850	190	0.24538	0.3149	---	PASS
GPRS850	190	0.24327	0.3124	---	PASS
GSM850	251	0.24477	0.3141	---	PASS
GPRS850	251	0.24383	0.3119	---	PASS
GSM1900	512	0.24064	0.3075	---	PASS
GPRS1900	512	0.24420	0.3130	---	PASS
GSM1900	661	0.24538	0.3129	---	PASS
GPRS1900	661	0.24591	0.3151	---	PASS
GSM1900	810	0.24748	0.3172	---	PASS
GPRS1900	810	0.24484	0.3049	---	PASS

Test Graphs



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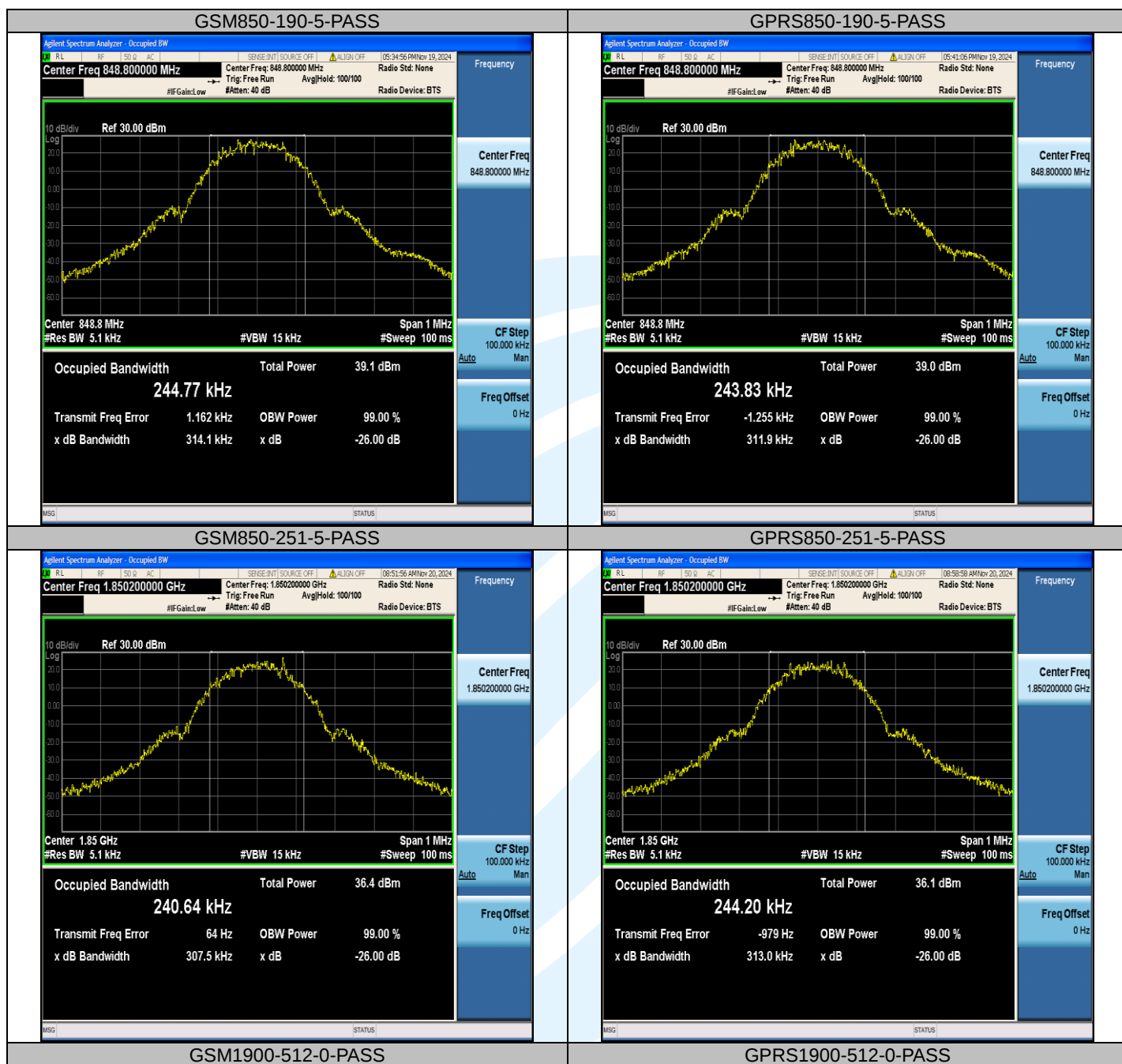
Address: 16/F, Block A, Building 6th, Baoneng Science and Technology Park, Longhua Street, Longhua District, Shenzhen, China

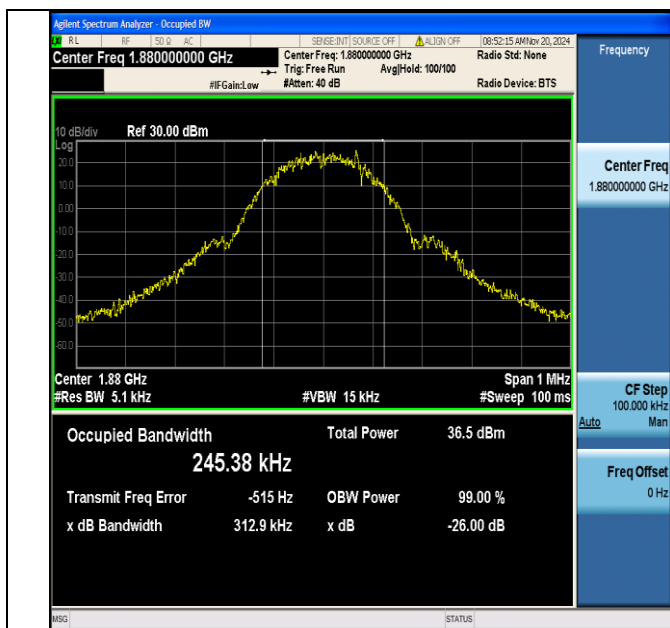
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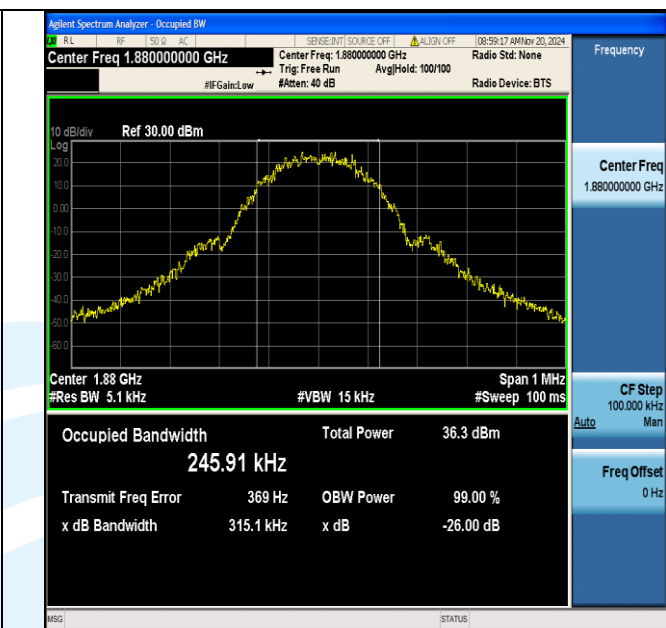
E-mail: info@uttlab.com

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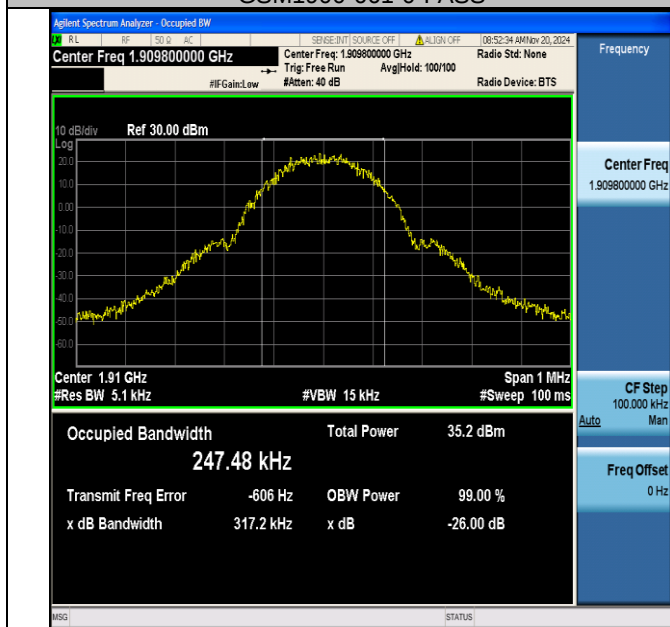




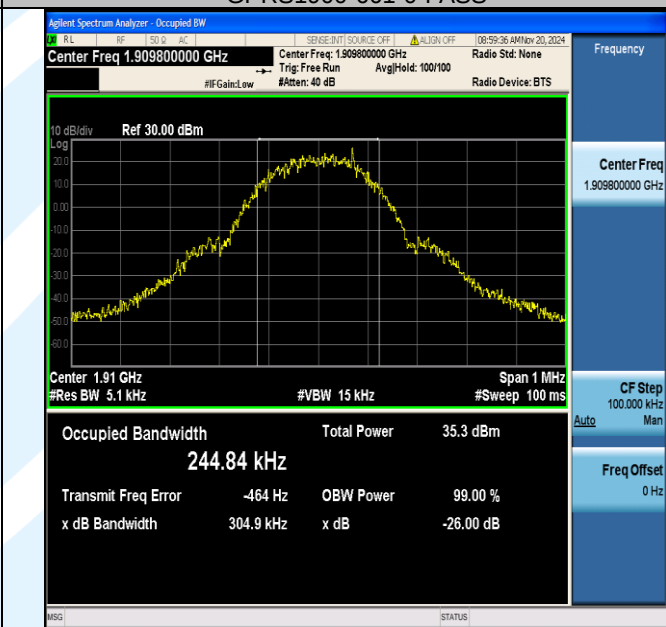
GSM1900-661-0-PASS



GPRS1900-661-0-PASS



GSM1900-810-0-PASS



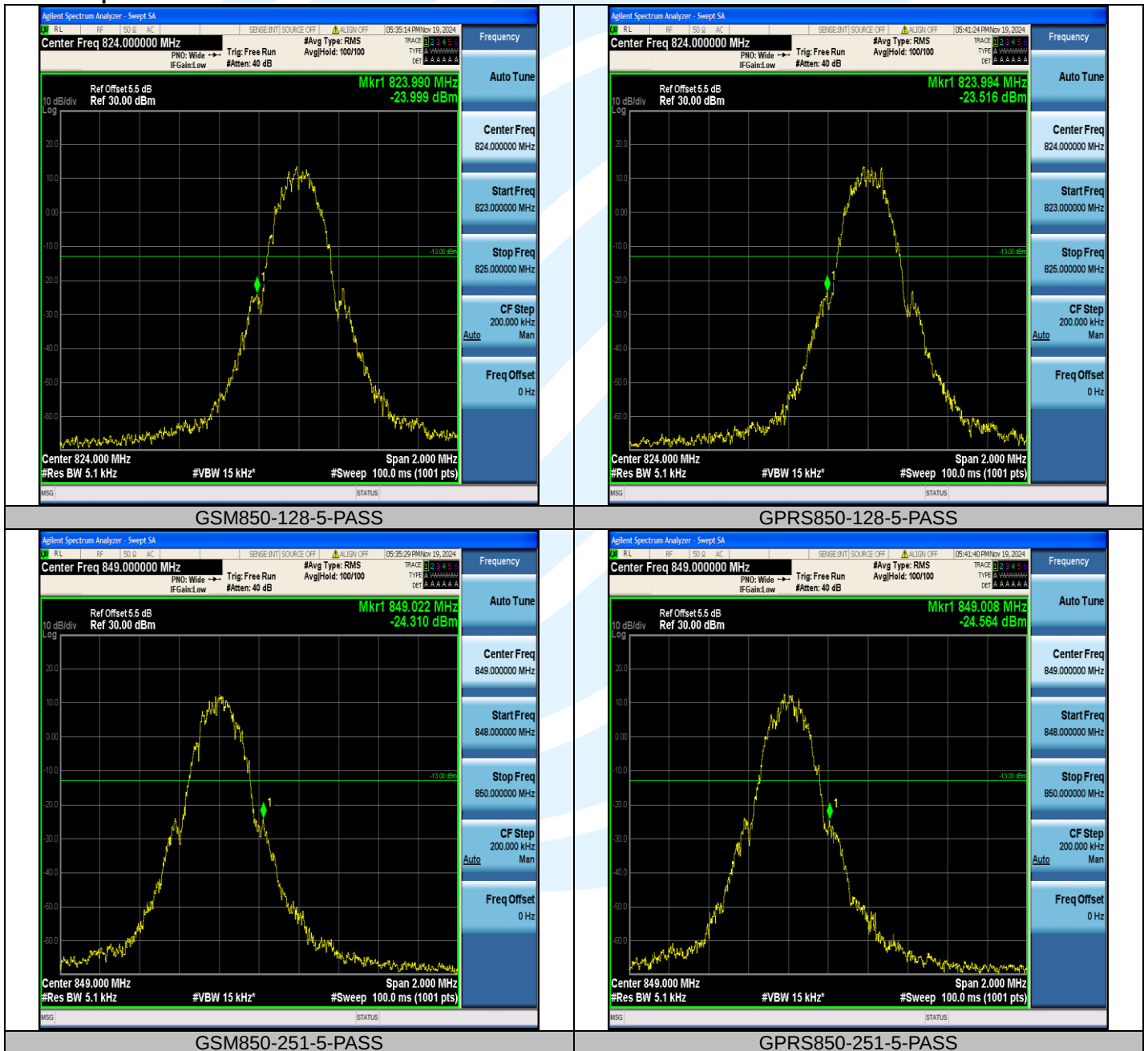
GPRS1900-810-0-PASS

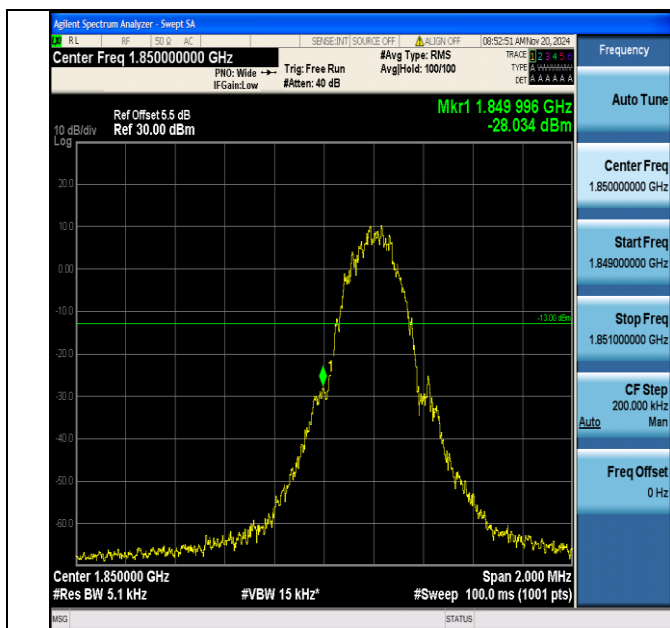
APPENDIX A3: BAND EDGE

GSM 850& PCS 1900:

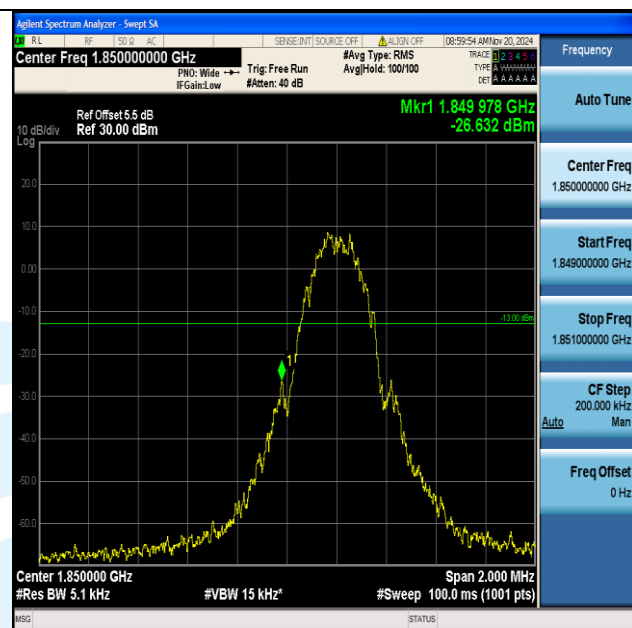
Band	Channel	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	823.99	-24.00	-13	PASS
GPRS850	128	823.99	-23.52	-13	PASS
GSM850	251	849.02	-24.31	-13	PASS
GPRS850	251	849.01	-24.56	-13	PASS
GSM1900	512	1850.00	-28.03	-13	PASS
GPRS1900	512	1849.98	-26.63	-13	PASS
GSM1900	810	1910.02	-26.96	-13	PASS
GPRS1900	810	1910.02	-28.25	-13	PASS

Test Graphs

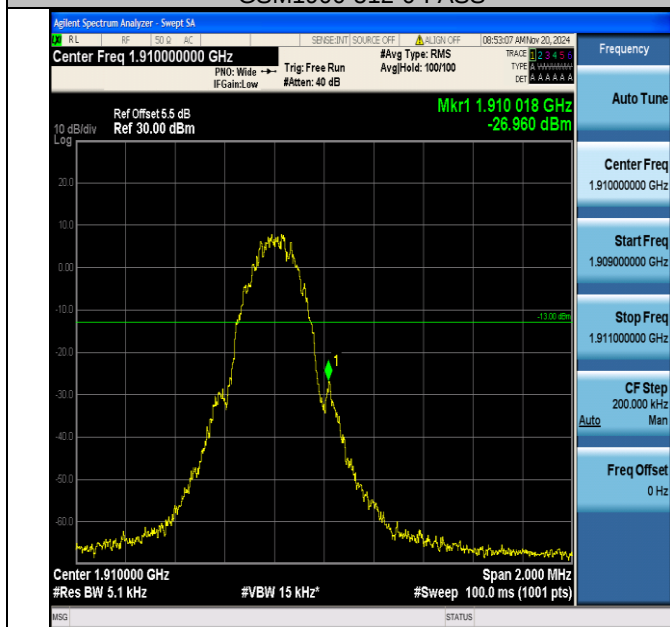




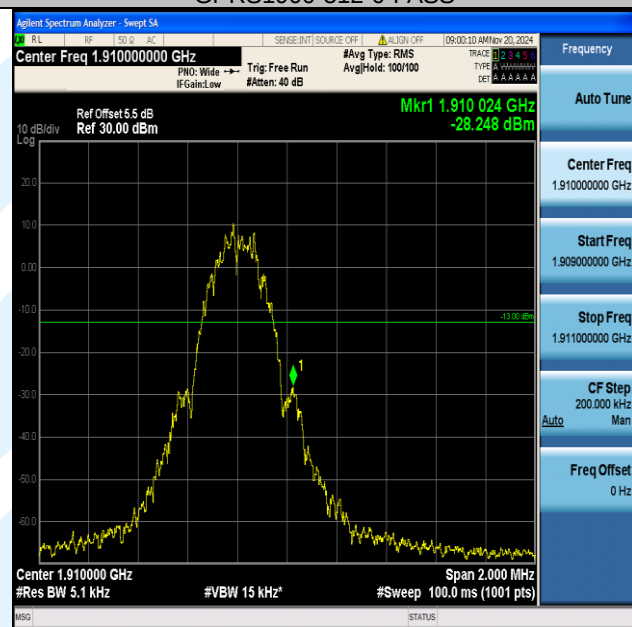
GSM1900-512-0-PASS



GPRS1900-512-0-PASS



GSM1900-810-0-PASS



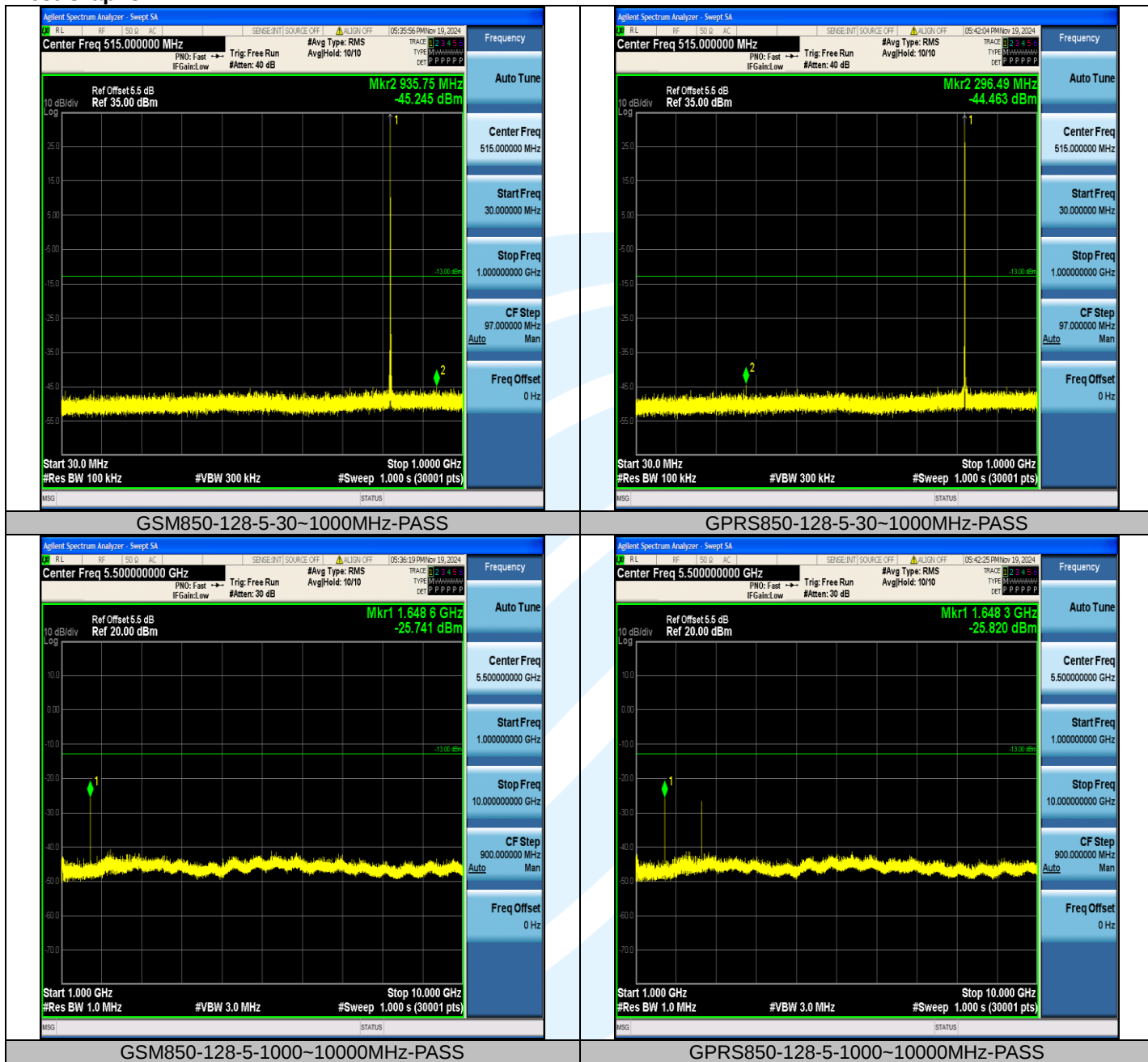
GPRS1900-810-0-PASS

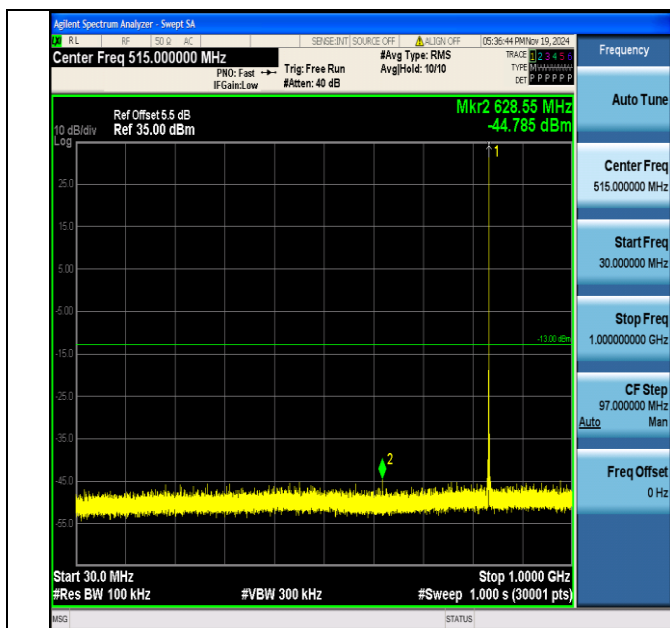
APPENDIX A4: CONDUCTED SPURIOUS EMISSION

GSM 850& PCS 1900:

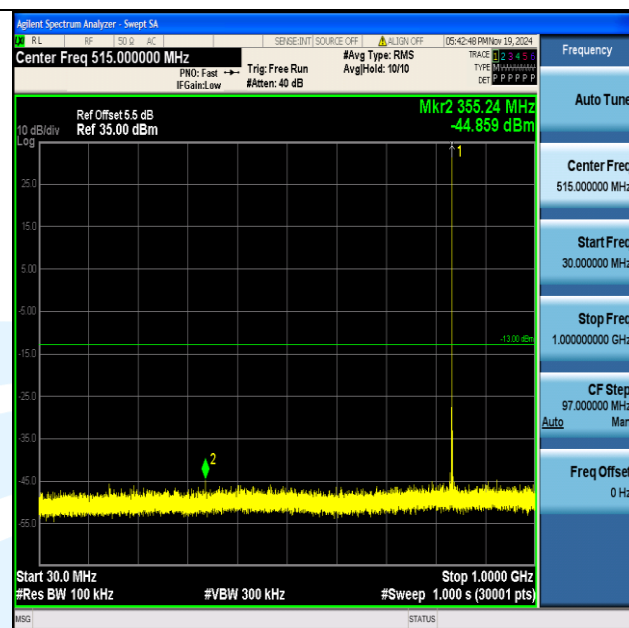
Band	Channel	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	30~1000MHz	935.75	-45.25	-13	PASS
GPRS850	128	30~1000MHz	296.49	-44.46	-13	PASS
GSM850	128	1000~10000MHz	1648.6	-25.74	-13	PASS
GPRS850	128	1000~10000MHz	1648.3	-25.82	-13	PASS
GSM850	190	30~1000MHz	628.55	-44.79	-13	PASS
GPRS850	190	30~1000MHz	355.24	-44.86	-13	PASS
GSM850	190	1000~10000MHz	2509.9	-23.58	-13	PASS
GPRS850	190	1000~10000MHz	2509.6	-23.32	-13	PASS
GSM850	251	30~1000MHz	588.85	-43.69	-13	PASS
GPRS850	251	30~1000MHz	966.05	-45.23	-13	PASS
GSM850	251	1000~10000MHz	2705.5	-41.52	-13	PASS
GPRS850	251	1000~10000MHz	1697.8	-27.88	-13	PASS
GSM1900	512	30~1000MHz	921.53	-44.25	-13	PASS
GPRS1900	512	30~1000MHz	871.9	-43.96	-13	PASS
GSM1900	512	1000~3000MHz	2711.87	-25.87	-13	PASS
GPRS1900	512	1000~3000MHz	2814.33	-25.49	-13	PASS
GSM1900	512	3000~18000MHz	16521	-37.03	-13	PASS
GPRS1900	512	3000~18000MHz	16415.5	-37.68	-13	PASS
GSM1900	661	30~1000MHz	909.6	-44.4	-13	PASS
GPRS1900	661	30~1000MHz	874.81	-44.52	-13	PASS
GSM1900	661	1000~3000MHz	2663.87	-25.81	-13	PASS
GPRS1900	661	1000~3000MHz	2643.4	-26.18	-13	PASS
GSM1900	661	3000~18000MHz	16302.5	-37.96	-13	PASS
GPRS1900	661	3000~18000MHz	16355	-37.72	-13	PASS
GSM1900	810	30~1000MHz	913.02	-44.56	-13	PASS
GPRS1900	810	30~1000MHz	956.9	-43.64	-13	PASS
GSM1900	810	1000~3000MHz	2607.07	-26.25	-13	PASS
GPRS1900	810	1000~3000MHz	2622.8	-26.17	-13	PASS
GSM1900	810	3000~18000MHz	16397	-37.74	-13	PASS
GPRS1900	810	3000~18000MHz	16584.5	-37.27	-13	PASS

Test Graphs

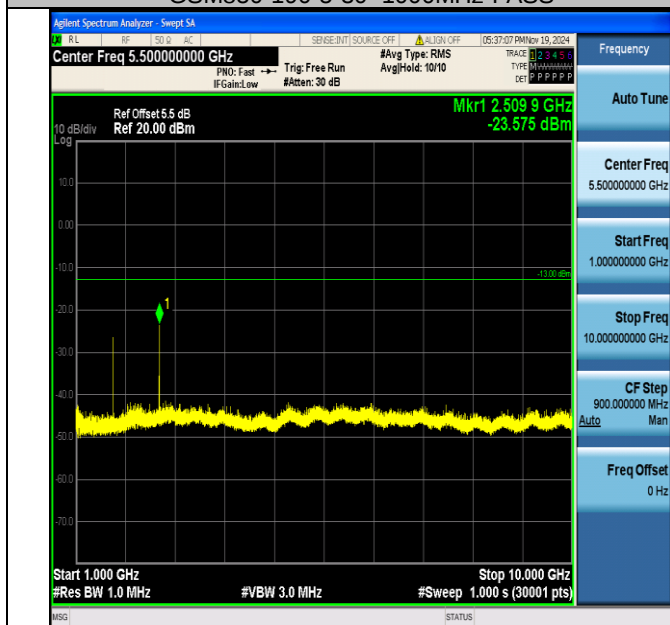




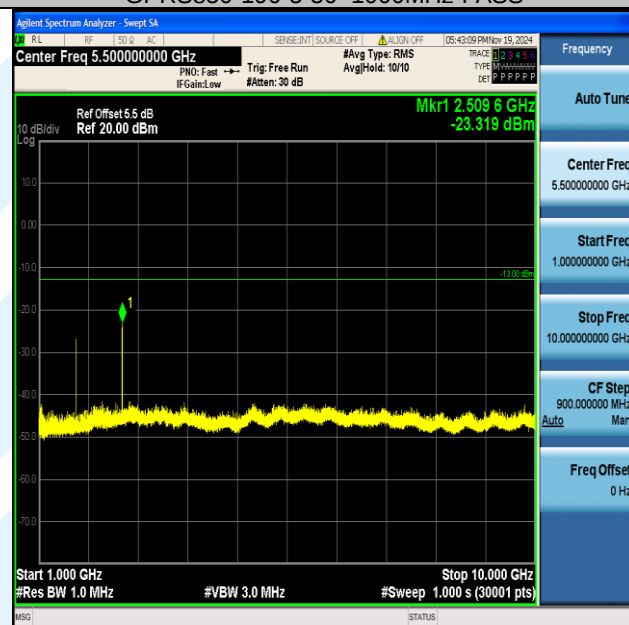
GSM850-190-5-30~1000MHz-PASS



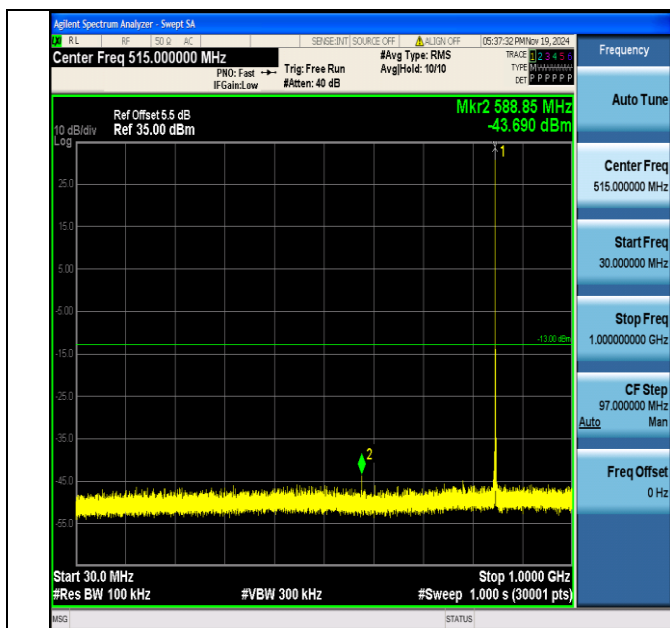
GPRS850-190-5-30~1000MHz-PASS



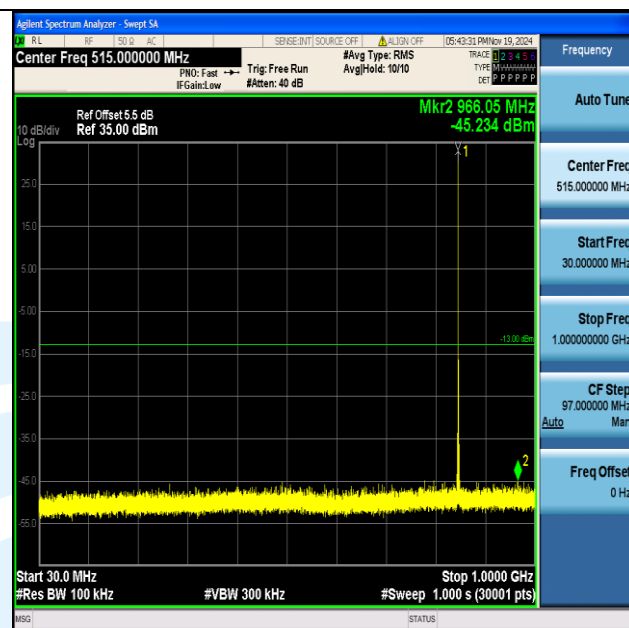
GSM850-190-5-1000~10000MHz-PASS



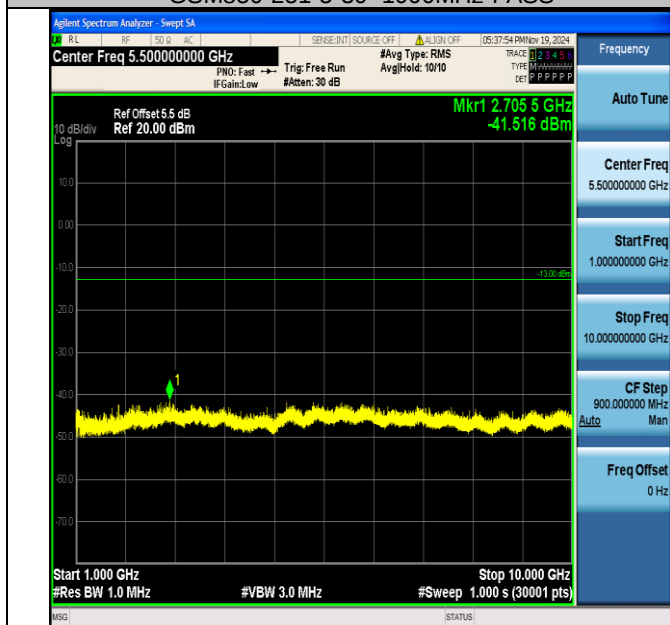
GPRS850-190-5-1000~10000MHz-PASS



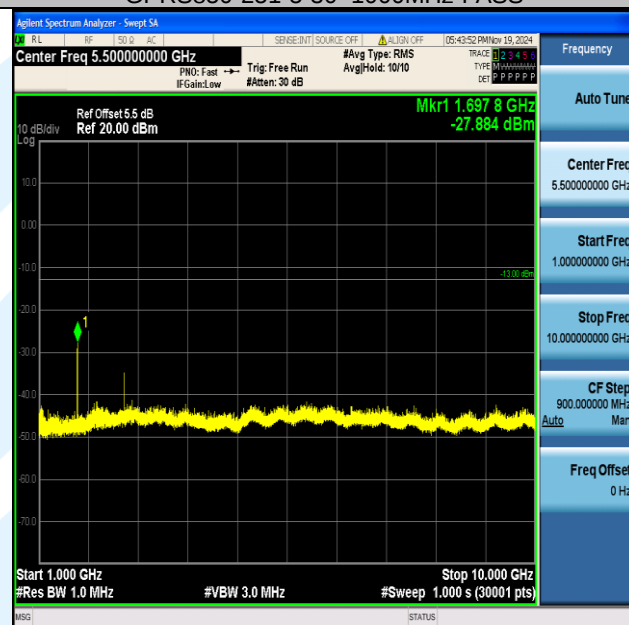
GSM850-251-5-30~1000MHz-PASS



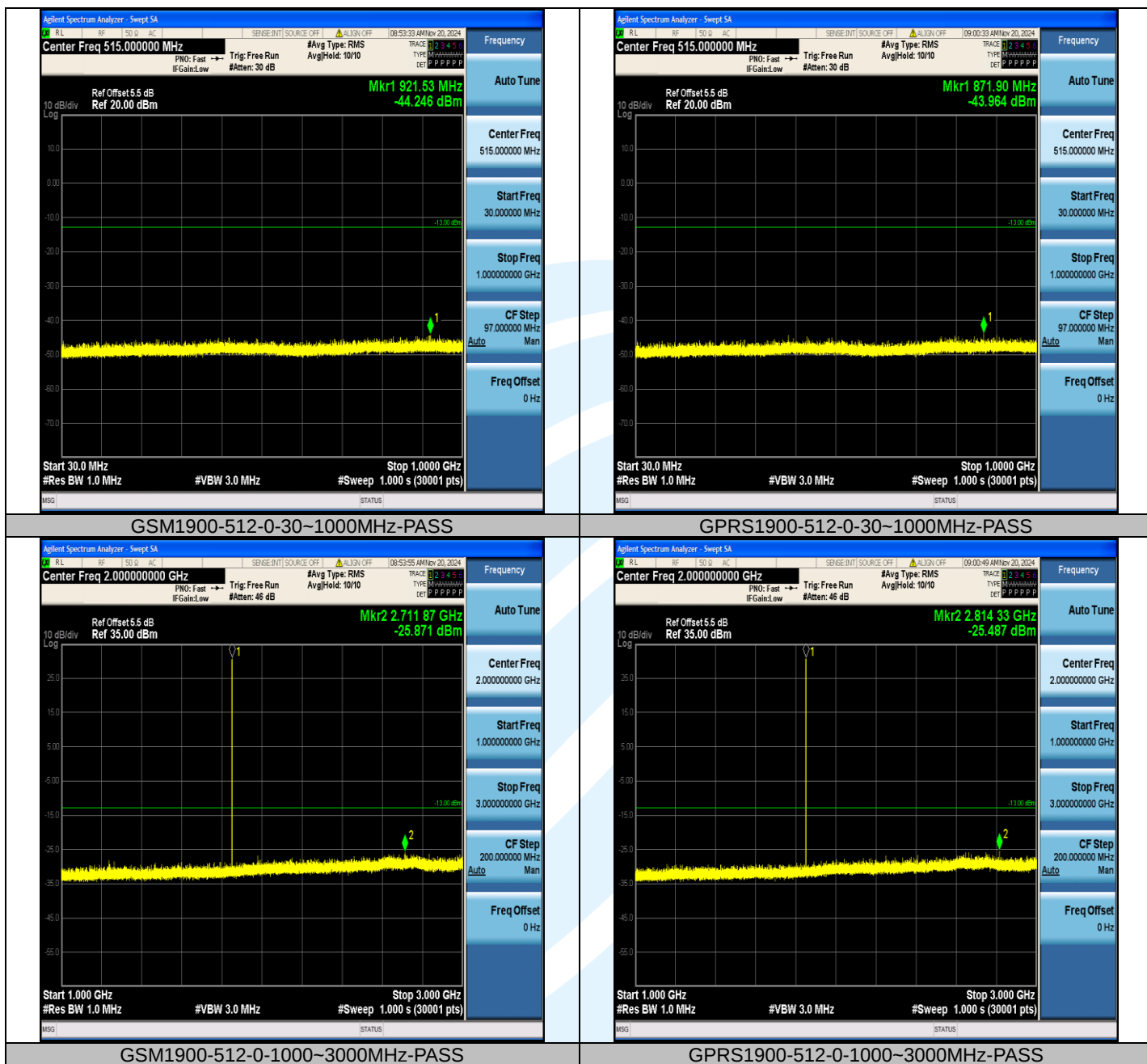
GPRS850-251-5-30~1000MHz-PASS

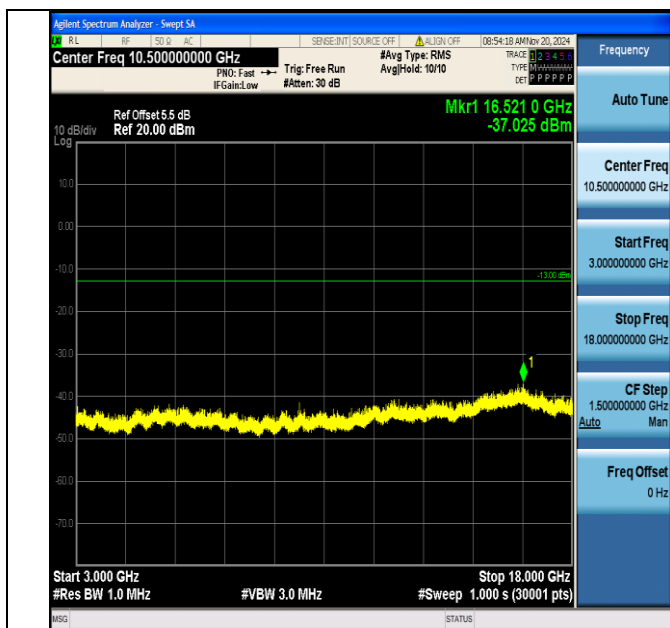


GSM850-251-5-1000~10000MHz-PASS

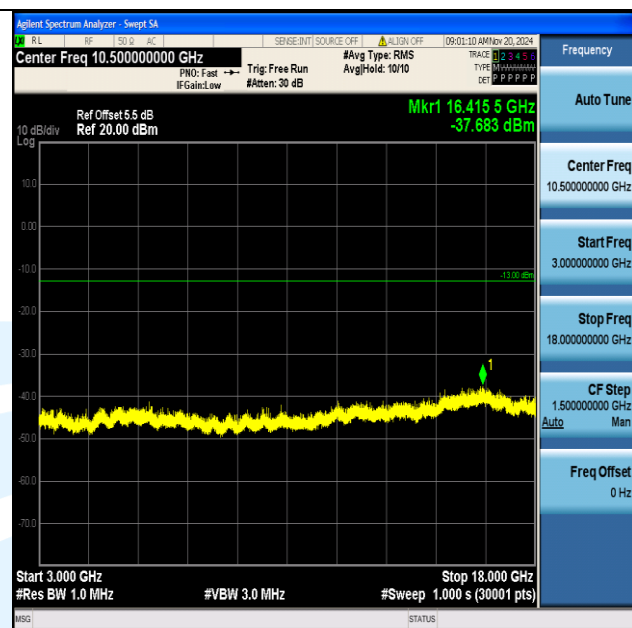


GPRS850-251-5-1000~10000MHz-PASS

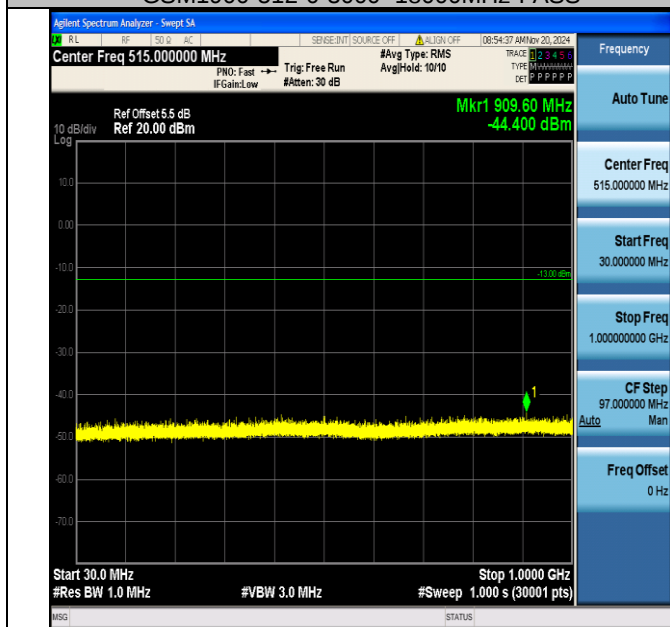




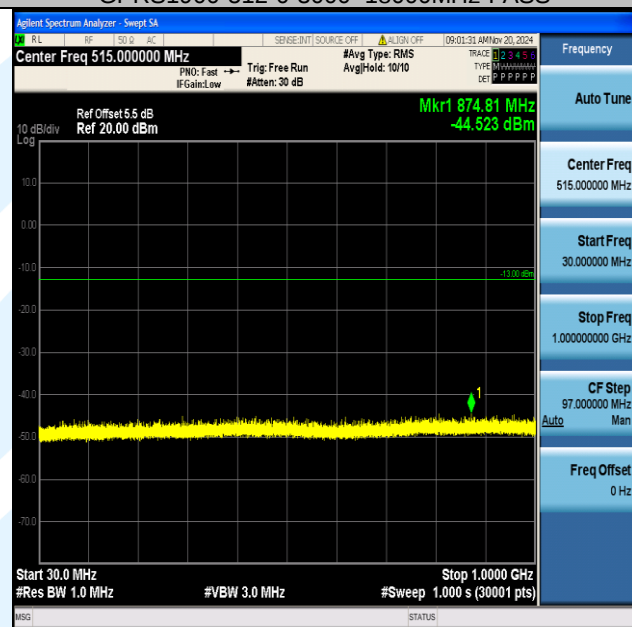
GSM1900-512-0-3000~18000MHz-PASS



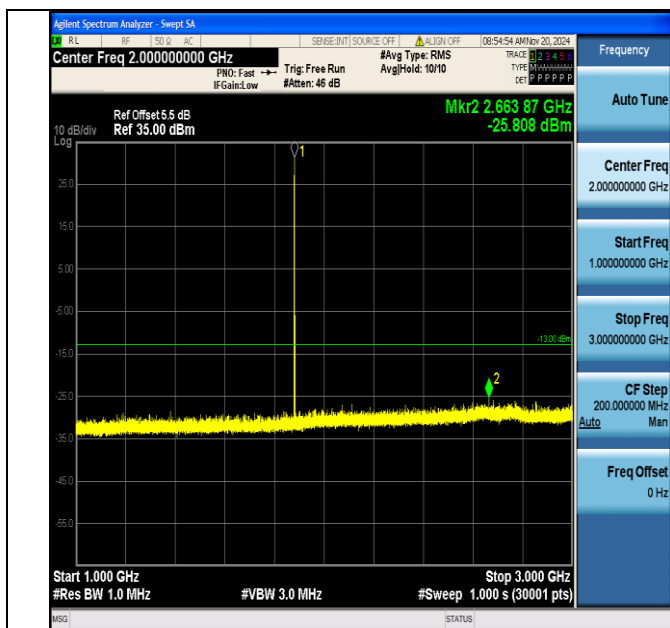
GPRS1900-512-0-3000~18000MHz-PASS



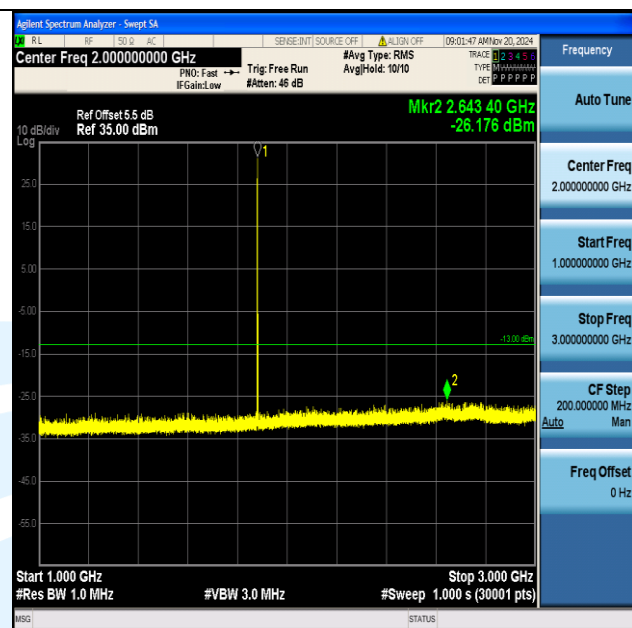
GSM1900-661-0-30~1000MHz-PASS



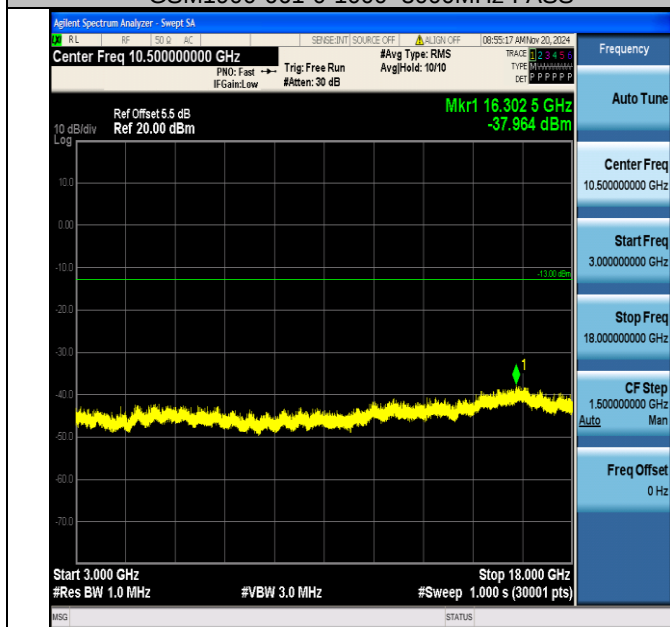
GPRS1900-661-0-30~1000MHz-PASS



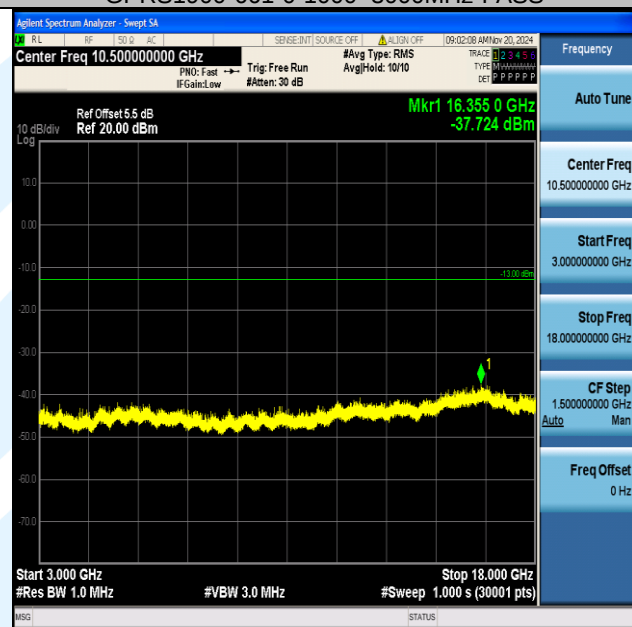
GSM1900-661-0-1000~3000MHz-PASS



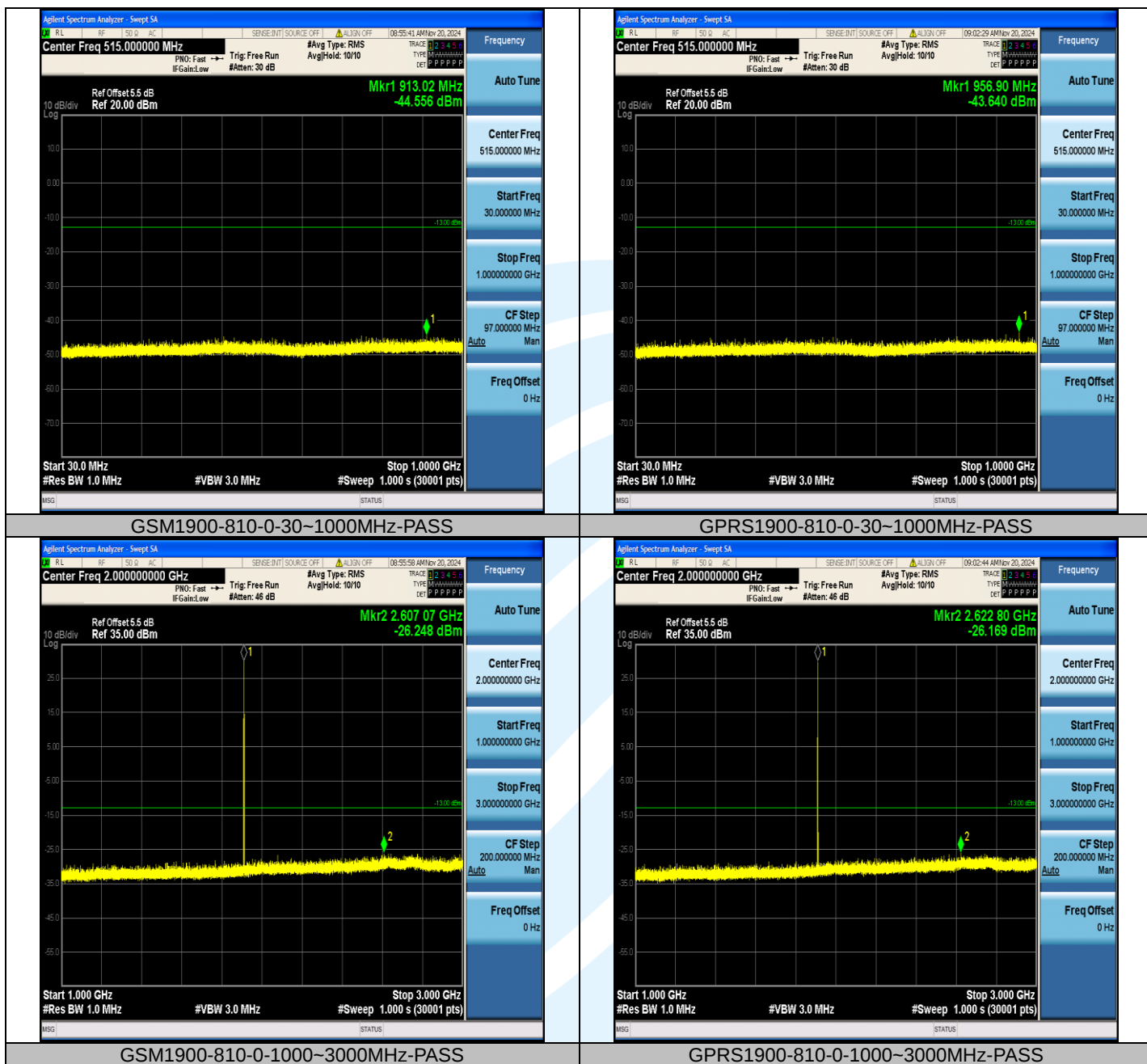
GPRS1900-661-0-1000~3000MHz-PASS

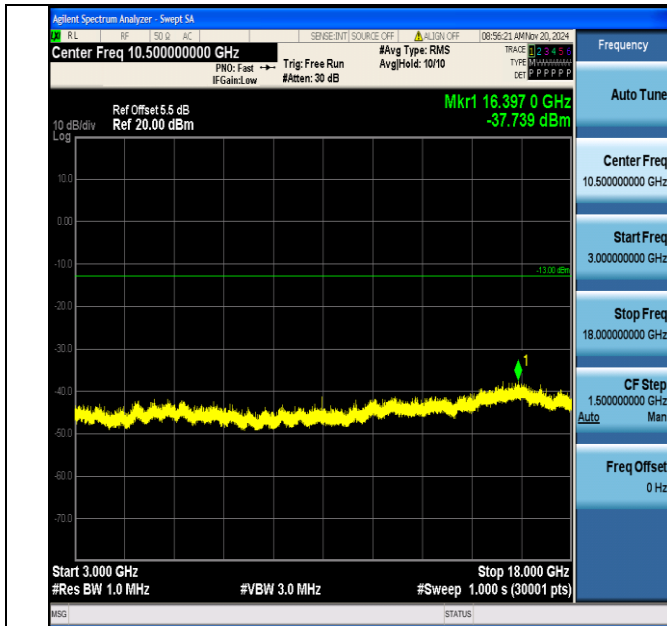


GSM1900-661-0-3000~18000MHz-PASS

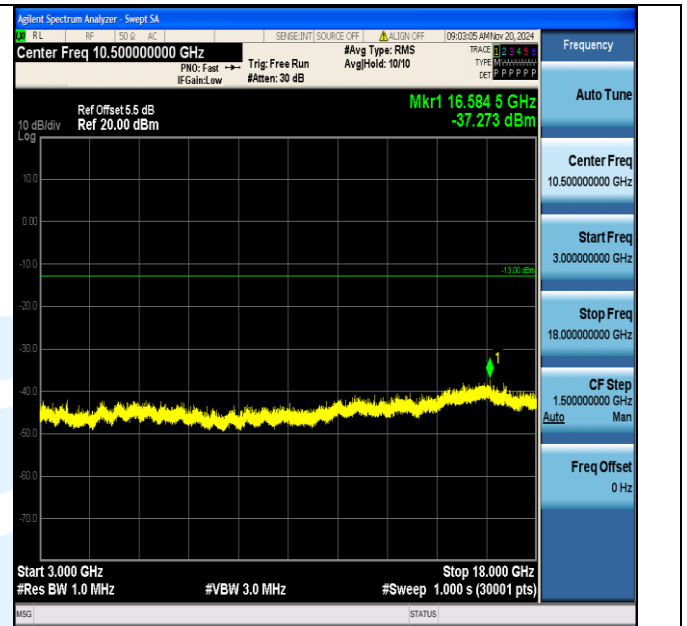


GPRS1900-661-0-3000~18000MHz-PASS





GSM1900-810-0-3000~18000MHz-PASS



GPRS1900-810-0-3000~18000MHz-PASS

APPENDIX A5: FREQUENCY STABILITY

GSM 850& PCS 1900:

Voltage							
Band	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	190	VN	NT	1.10	0.001315	±2.5	PASS
GSM850	190	VL	NT	4.49	0.005367	±2.5	PASS
GSM850	190	VH	NT	-2.81	-0.003359	±2.5	PASS
GPRS850	190	VN	NT	0.19	0.000227	±2.5	PASS
GPRS850	190	VL	NT	5.10	0.006096	±2.5	PASS
GPRS850	190	VH	NT	7.01	0.008379	±2.5	PASS
GSM1900	661	VN	NT	4.26	0.002266	±2.5	PASS
GSM1900	661	VL	NT	1.42	0.000755	±2.5	PASS
GSM1900	661	VH	NT	-1.42	-0.000755	±2.5	PASS
GPRS1900	661	VN	NT	6.68	0.003553	±2.5	PASS
GPRS1900	661	VL	NT	9.36	0.004979	±2.5	PASS
GPRS1900	661	VH	NT	6.30	0.003351	±2.5	PASS

Temperature							
Band	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	190	NV	-30	5.23	0.006251	±2.5	PASS
GSM850	190	NV	-20	9.20	0.010997	±2.5	PASS
GSM850	190	NV	-10	-7.88	-0.009419	±2.5	PASS
GSM850	190	NV	0	-1.19	-0.001422	±2.5	PASS
GSM850	190	NV	10	5.81	0.006945	±2.5	PASS
GSM850	190	NV	20	1.07	0.001279	±2.5	PASS
GSM850	190	NV	30	1.58	0.001889	±2.5	PASS
GSM850	190	NV	40	0.39	0.000466	±2.5	PASS
GSM850	190	NV	50	5.10	0.006096	±2.5	PASS
GPRS850	190	NV	-30	4.84	0.005785	±2.5	PASS
GPRS850	190	NV	-20	3.68	0.004399	±2.5	PASS
GPRS850	190	NV	-10	1.00	0.001195	±2.5	PASS
GPRS850	190	NV	0	-0.36	-0.000430	±2.5	PASS
GPRS850	190	NV	10	0.52	0.000622	±2.5	PASS
GPRS850	190	NV	20	-0.52	-0.000622	±2.5	PASS
GPRS850	190	NV	30	2.62	0.003132	±2.5	PASS
GPRS850	190	NV	40	0.94	0.001124	±2.5	PASS
GPRS850	190	NV	50	3.52	0.004208	±2.5	PASS
GSM1900	661	NV	-30	3.07	0.001633	±2.5	PASS
GSM1900	661	NV	-20	-1.97	-0.001048	±2.5	PASS
GSM1900	661	NV	-10	-0.74	-0.000394	±2.5	PASS
GSM1900	661	NV	0	-3.42	-0.001819	±2.5	PASS
GSM1900	661	NV	10	-0.32	-0.000170	±2.5	PASS
GSM1900	661	NV	20	-1.03	-0.000548	±2.5	PASS
GSM1900	661	NV	30	-2.49	-0.001324	±2.5	PASS
GSM1900	661	NV	40	0.55	0.000293	±2.5	PASS
GSM1900	661	NV	50	0.19	0.000101	±2.5	PASS
GPRS1900	661	NV	-30	12.01	0.006388	±2.5	PASS
GPRS1900	661	NV	-20	7.46	0.003968	±2.5	PASS
GPRS1900	661	NV	-10	9.65	0.005133	±2.5	PASS
GPRS1900	661	NV	0	11.82	0.006287	±2.5	PASS
GPRS1900	661	NV	10	9.81	0.005218	±2.5	PASS
GPRS1900	661	NV	20	5.71	0.003037	±2.5	PASS
GPRS1900	661	NV	30	8.75	0.004654	±2.5	PASS
GPRS1900	661	NV	40	-0.29	-0.000154	±2.5	PASS
GPRS1900	661	NV	50	7.07	0.003761	±2.5	PASS

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APPENDIX B:WCDMA

APPENDIX B1:PEAK-TO-AVERAGE RATIO

Test Result(WCDMA)

Band	Channel	Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
Band2	9262	2.86	13	PASS
Band2	9400	2.93	13	PASS
Band2	9538	3.15	13	PASS
Band5	4132	3.2	13	PASS
Band5	4182	3.2	13	PASS
Band5	4233	2.99	13	PASS

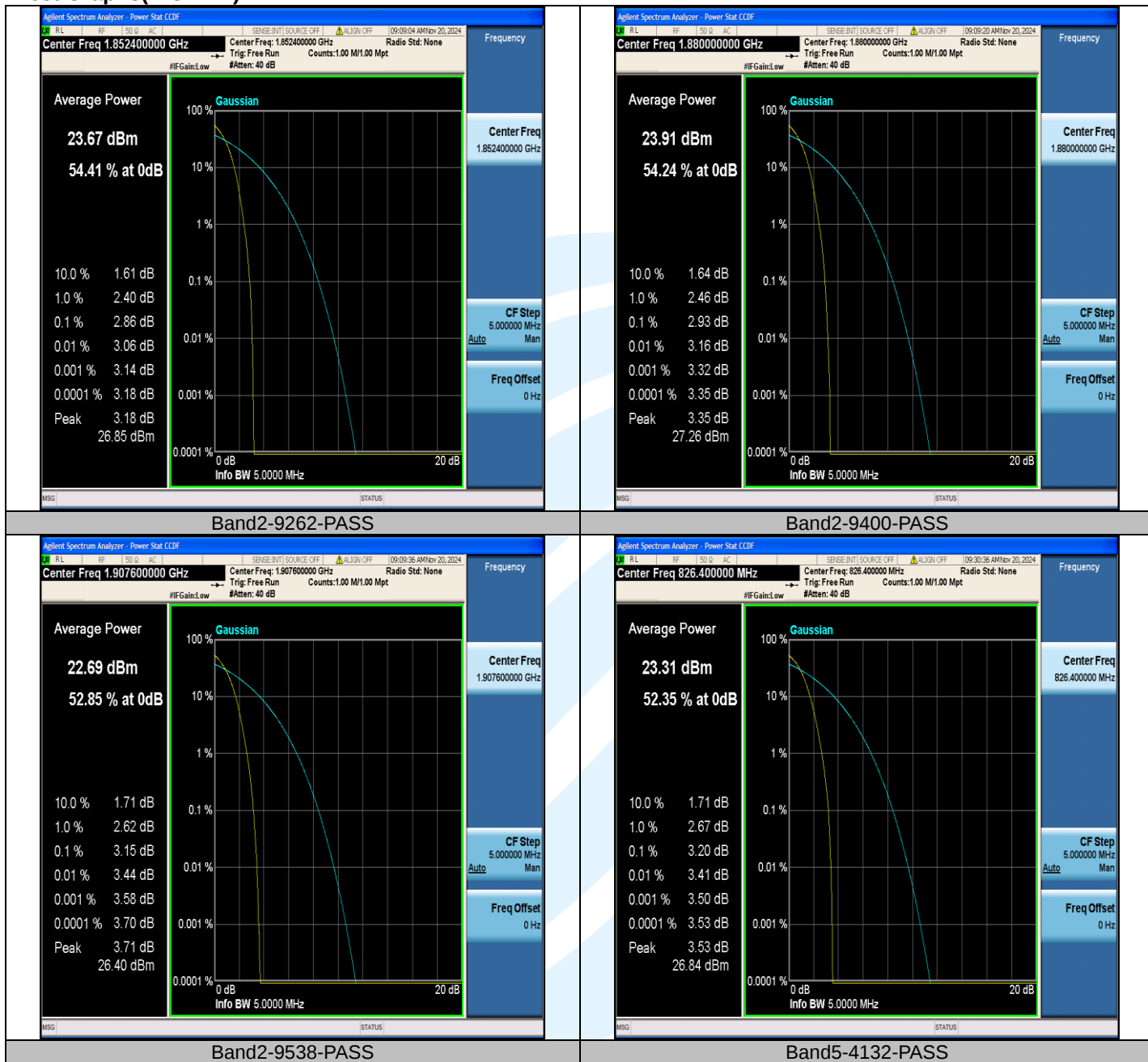
Test Result(HSDPA)

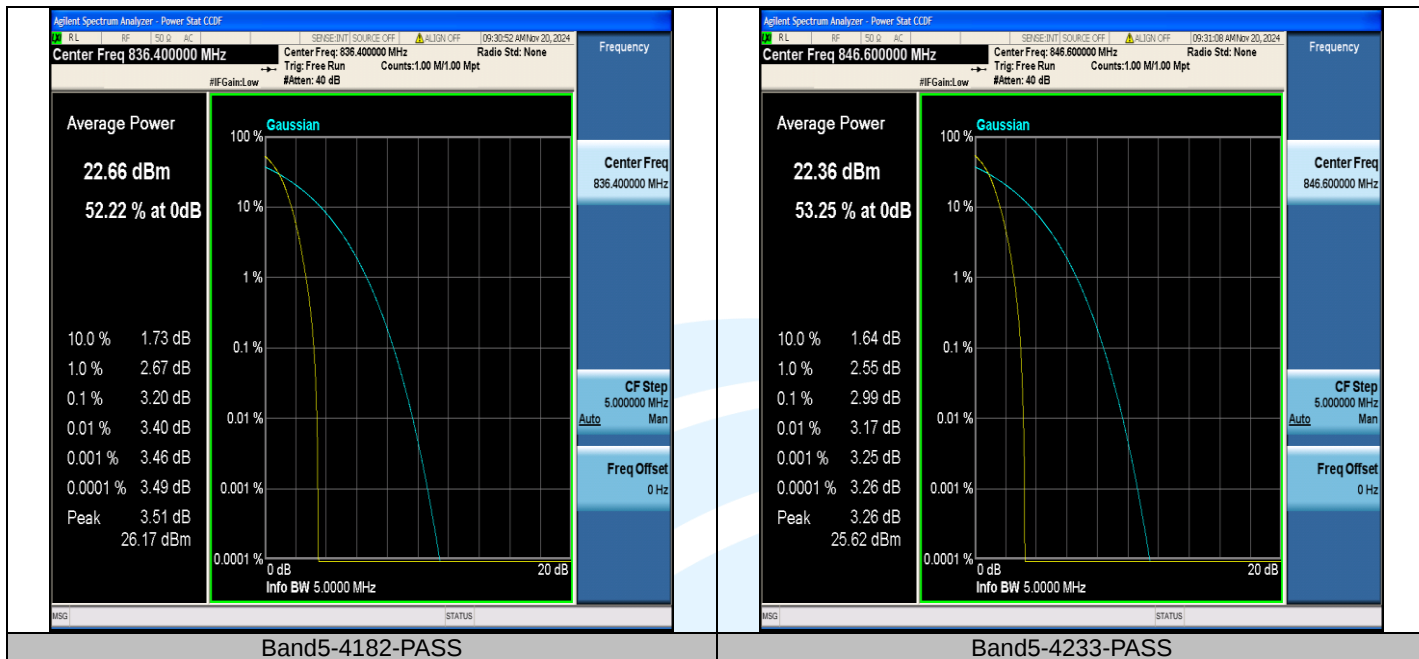
Band	Channel	Sub Test	Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
Band2	9262	1	2.97	13	PASS
Band2	9400	1	3.01	13	PASS
Band2	9538	1	3.26	13	PASS
Band5	4132	1	3.27	13	PASS
Band5	4182	1	3.27	13	PASS
Band5	4233	1	2.79	13	PASS

Test Result(HSUPA)

Band	Channel	Sub Test	Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
Band2	9262	1	4.33	13	PASS
Band2	9400	1	4.38	13	PASS
Band2	9538	1	4.41	13	PASS
Band5	4132	1	4.54	13	PASS
Band5	4182	1	4.49	13	PASS
Band5	4233	1	4.29	13	PASS

Test Graphs(WCDMA)





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