

Appendix: GSM

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Appendix A: Effective (Isotropic) Radiated Power Output Data**Test Result**

Band	Channel	Slot	Conducted Power(dBm)	ERP(dBm)	Limit(dBm)	Verdict
GSM850	128	—	32.63	32.12	38.45	PASS
GSM850	190	—	32.94	32.43	38.45	PASS
GSM850	251	—	32.70	32.19	38.45	PASS
GPRS850	128	1	32.62	32.11	38.45	PASS
GPRS850	128	2	31.74	31.23	38.45	PASS
GPRS850	128	3	29.80	29.29	38.45	PASS
GPRS850	128	4	28.51	28.00	38.45	PASS
GPRS850	190	1	32.85	32.34	38.45	PASS
GPRS850	190	2	31.82	31.31	38.45	PASS
GPRS850	190	3	30.13	29.62	38.45	PASS
GPRS850	190	4	28.90	28.39	38.45	PASS
GPRS850	251	1	32.60	32.09	38.45	PASS
GPRS850	251	2	31.79	31.28	38.45	PASS
GPRS850	251	3	29.87	29.36	38.45	PASS
GPRS850	251	4	28.60	28.09	38.45	PASS
EGPRS850	128	1	27.60	27.09	38.45	PASS
EGPRS850	128	2	26.28	25.77	38.45	PASS
EGPRS850	128	3	23.98	23.47	38.45	PASS
EGPRS850	128	4	22.82	22.31	38.45	PASS
EGPRS850	190	1	27.55	27.04	38.45	PASS
EGPRS850	190	2	26.29	25.78	38.45	PASS
EGPRS850	190	3	24.02	23.51	38.45	PASS
EGPRS850	190	4	22.83	22.32	38.45	PASS
EGPRS850	251	1	27.62	27.11	38.45	PASS
EGPRS850	251	2	26.38	25.87	38.45	PASS
EGPRS850	251	3	24.12	23.61	38.45	PASS
EGPRS850	251	4	22.91	22.4	38.45	PASS

Band	Channel	Slot	Conducted Power(dBm)	EIRP(dBm)	Limit(dBm)	Verdict
GSM1900	512	—	29.57	30.38	33.01	PASS
GSM1900	661	—	29.70	30.51	33.01	PASS
GSM1900	810	—	29.81	30.62	33.01	PASS
GPRS1900	512	1	29.58	30.39	33.01	PASS
GPRS1900	512	2	28.76	29.57	33.01	PASS
GPRS1900	512	3	26.99	27.8	33.01	PASS
GPRS1900	512	4	25.78	26.59	33.01	PASS
GPRS1900	661	1	29.64	30.45	33.01	PASS
GPRS1900	661	2	28.78	29.59	33.01	PASS
GPRS1900	661	3	27.05	27.86	33.01	PASS
GPRS1900	661	4	25.84	26.65	33.01	PASS
GPRS1900	810	1	29.73	30.54	33.01	PASS
GPRS1900	810	2	28.81	29.62	33.01	PASS
GPRS1900	810	3	27.04	27.85	33.01	PASS
GPRS1900	810	4	25.89	26.70	33.01	PASS
EGPRS1900	512	1	26.45	27.26	33.01	PASS
EGPRS1900	512	2	25.06	25.87	33.01	PASS
EGPRS1900	512	3	22.89	23.7	33.01	PASS
EGPRS1900	512	4	21.68	22.49	33.01	PASS
EGPRS1900	661	1	26.54	27.35	33.01	PASS
EGPRS1900	661	2	25.22	26.03	33.01	PASS
EGPRS1900	661	3	22.97	23.78	33.01	PASS
EGPRS1900	661	4	21.86	22.67	33.01	PASS
EGPRS1900	810	1	26.55	27.36	33.01	PASS
EGPRS1900	810	2	25.29	26.1	33.01	PASS
EGPRS1900	810	3	23.04	23.85	33.01	PASS
EGPRS1900	810	4	21.79	22.6	33.01	PASS

Remark:

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

ERP(dBm) = Conducted output power(dBm) + antenna gain (dBd)

EIRP(dBm) = Conducted output power(dBm) + antenna gain (dBi)

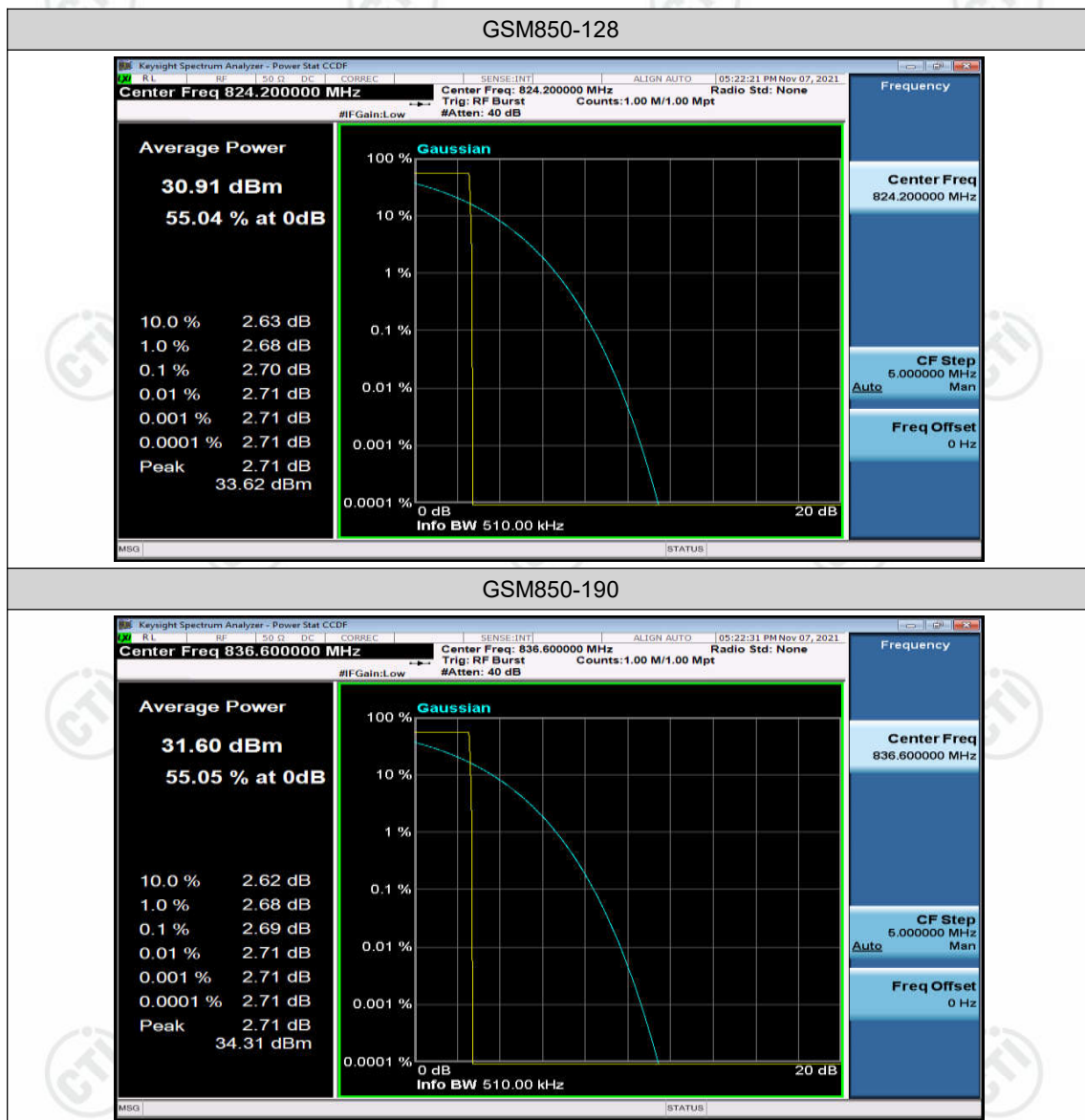
EIRP=ERP+2.15dB

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

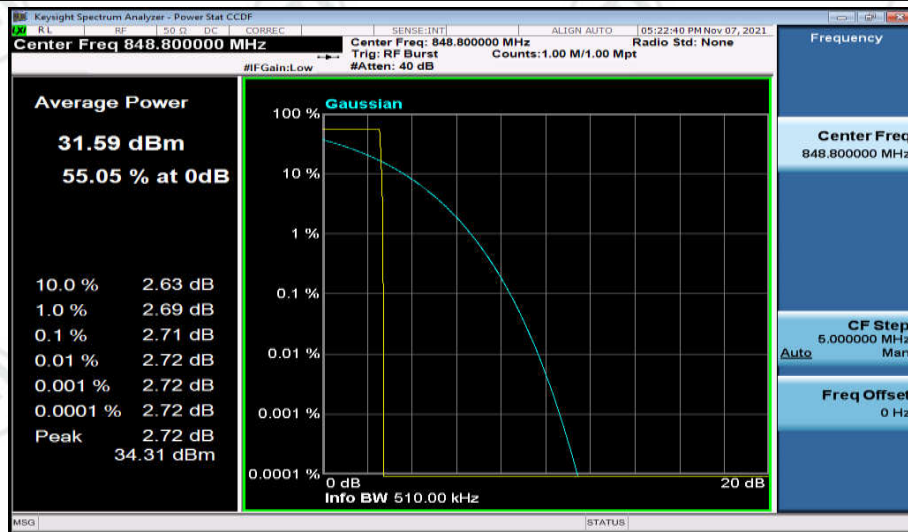
Test Result

Band	Channel	Result(dB)	Limit(dB)	Verdict
GSM850	128	2.70	13	PASS
GSM850	190	2.69	13	PASS
GSM850	251	2.71	13	PASS
GPRS850	128	2.71	13	PASS
GPRS850	190	2.70	13	PASS
GPRS850	251	2.71	13	PASS
EGPRS850	128	5.93	13	PASS
EGPRS850	190	5.95	13	PASS
EGPRS850	251	5.96	13	PASS
GSM1900	512	2.78	13	PASS
GSM1900	661	2.78	13	PASS
GSM1900	810	2.78	13	PASS
GPRS1900	512	2.78	13	PASS
GPRS1900	661	2.78	13	PASS
GPRS1900	810	2.79	13	PASS
EGPRS1900	512	6.12	13	PASS
EGPRS1900	661	6.19	13	PASS
EGPRS1900	810	6.19	13	PASS

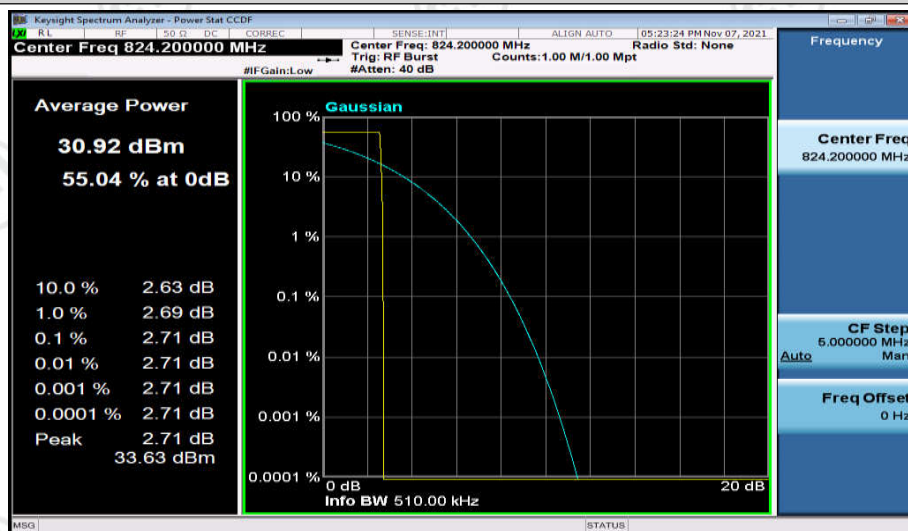
Test Graphs



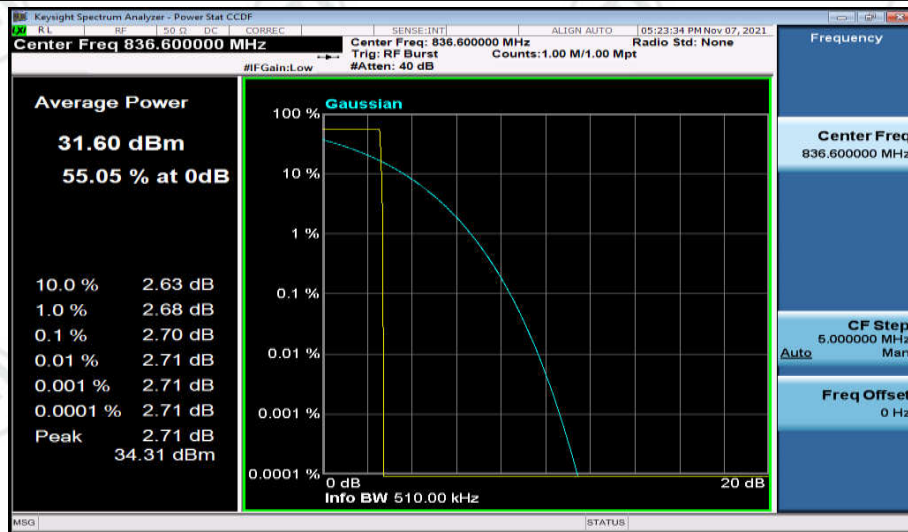
GSM850-251



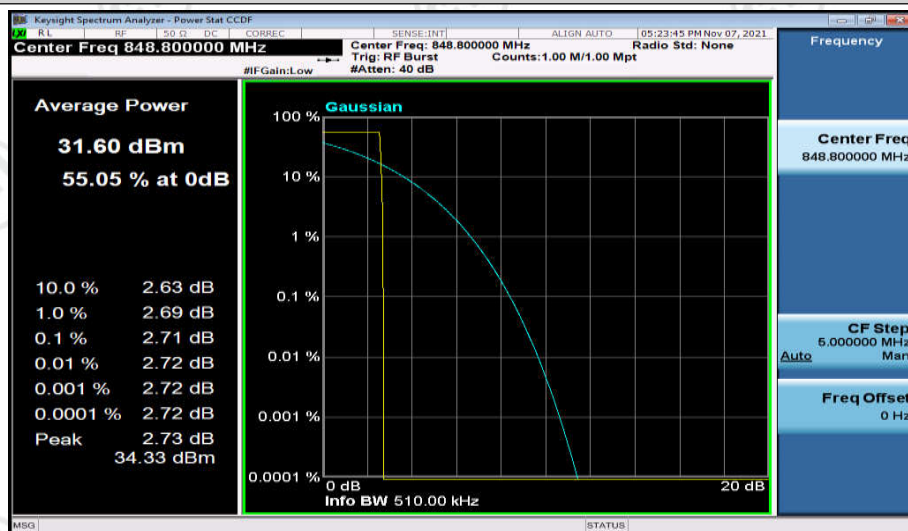
GPRS850-128



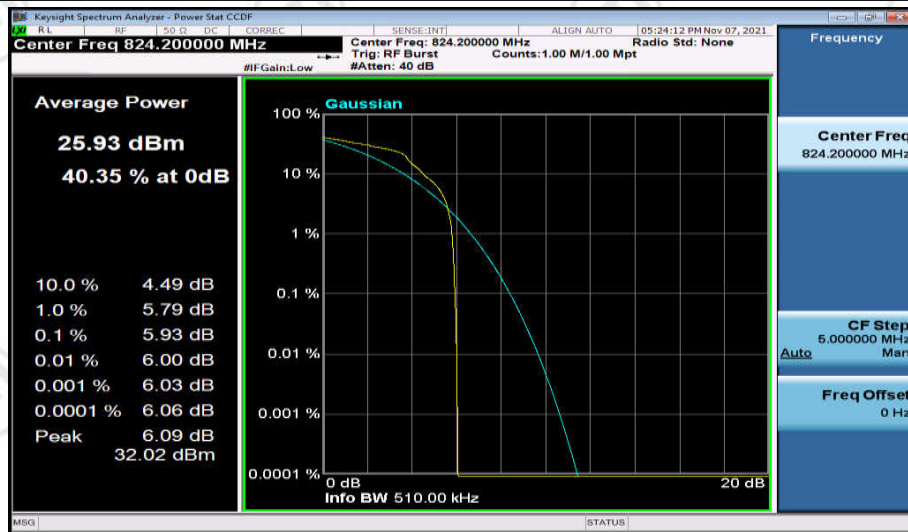
GPRS850-190



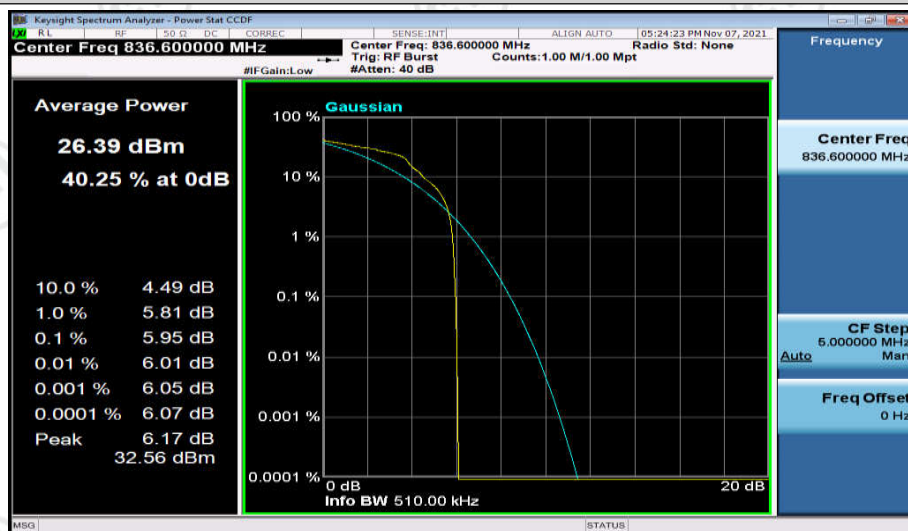
GPRS850-251



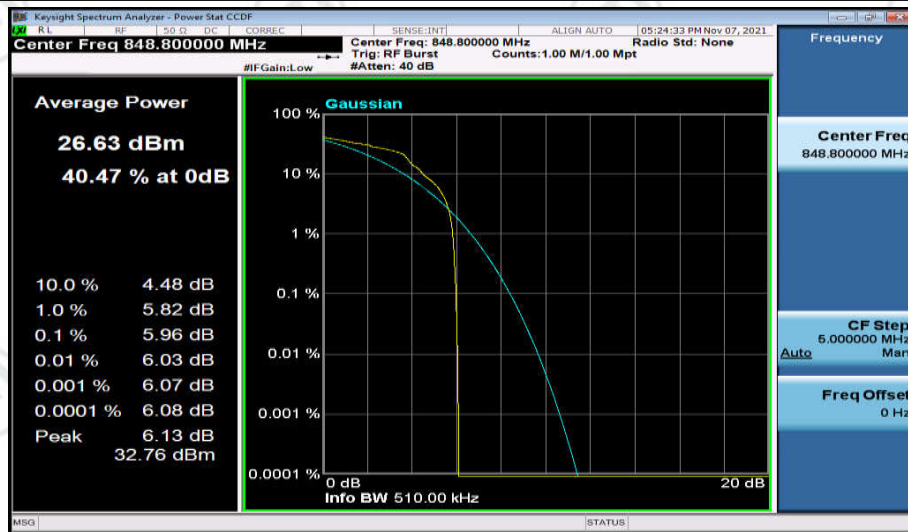
EGPRS850-128



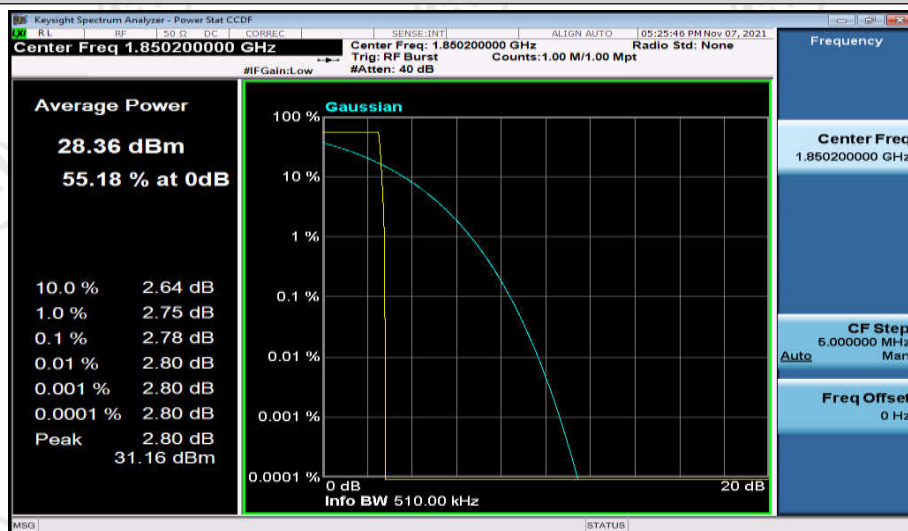
EGPRS850-190



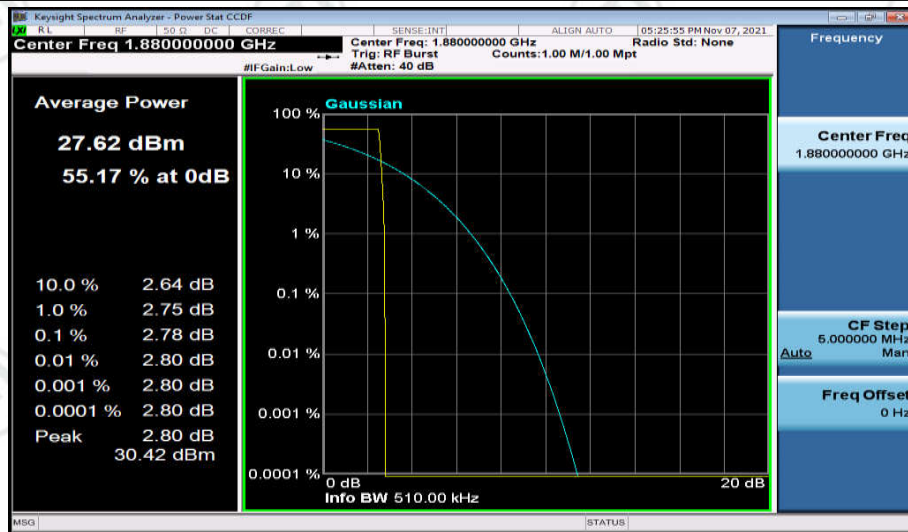
EGPRS850-251



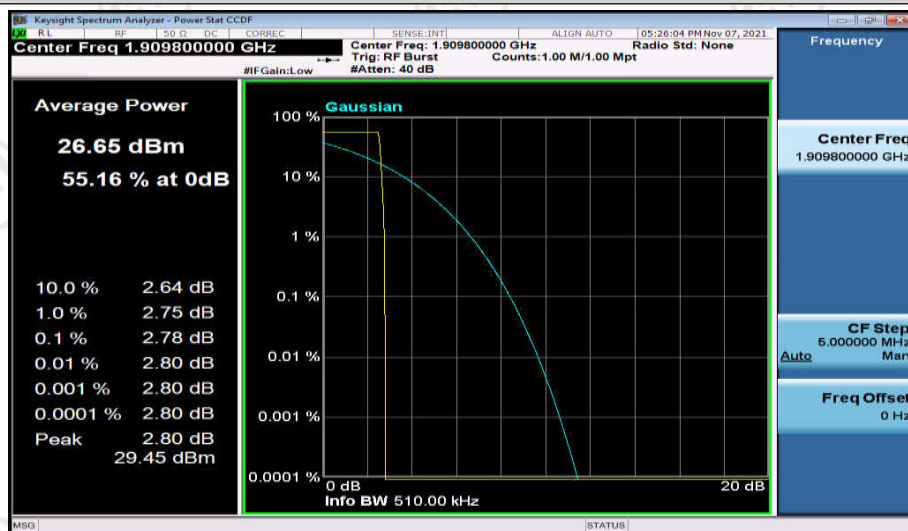
GSM1900-512



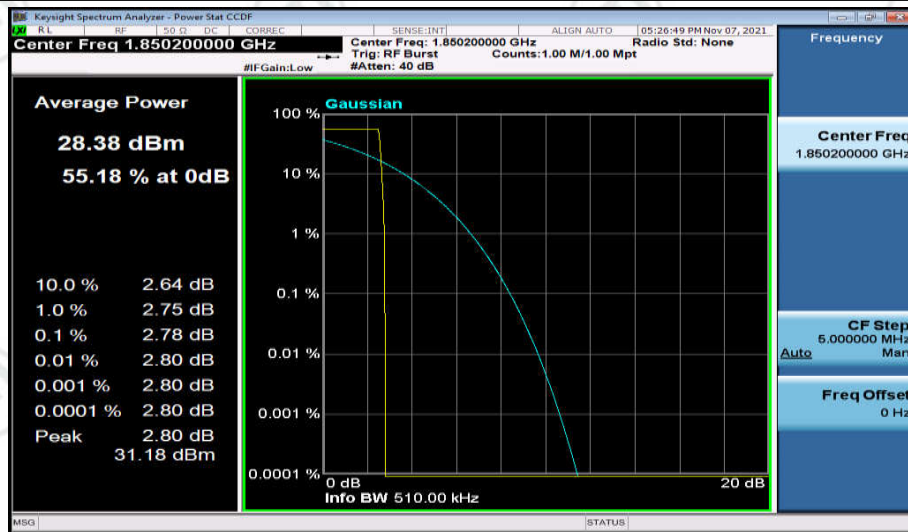
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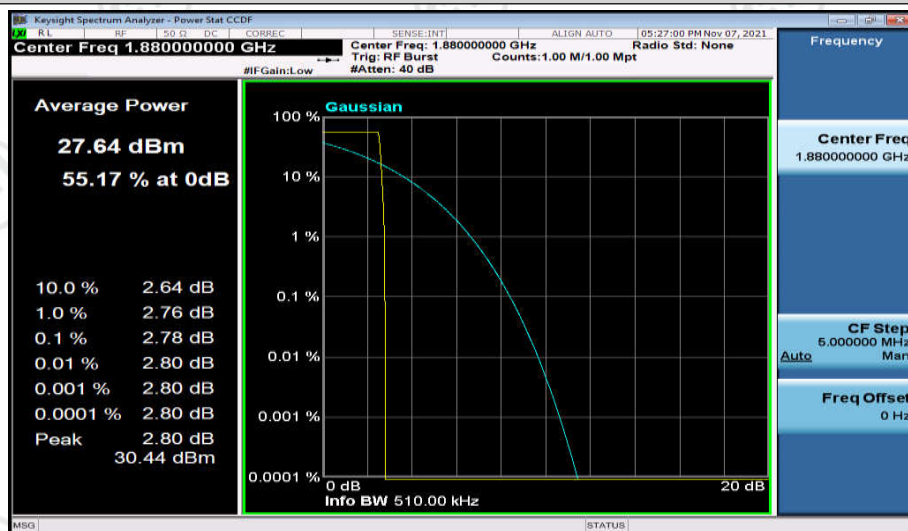
GSM1900-810



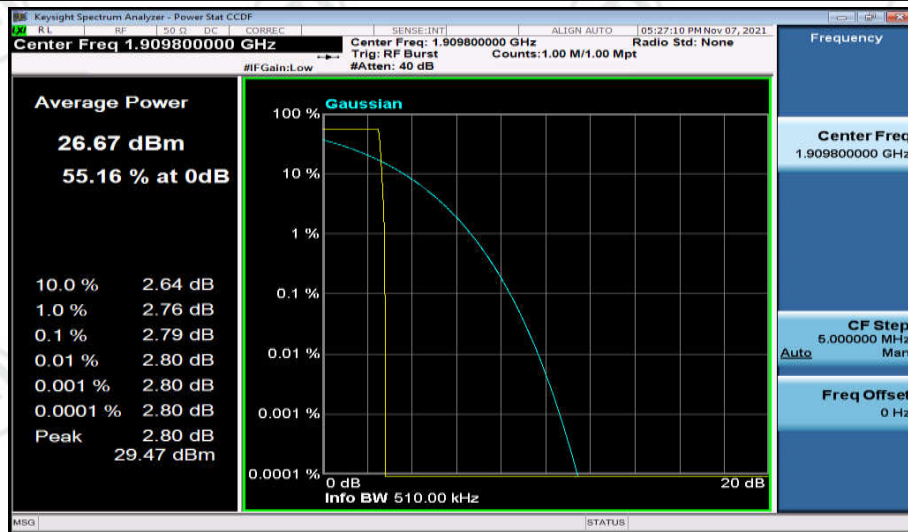
GPRS1900-512



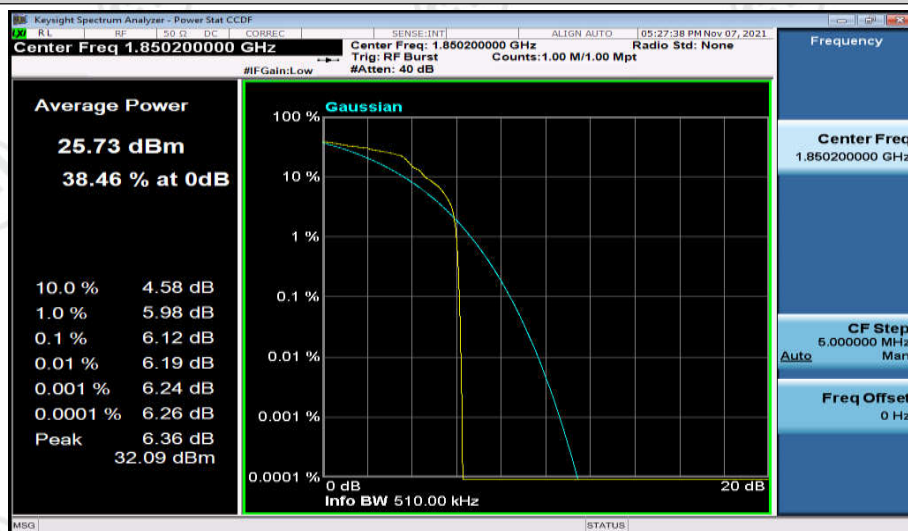
GPRS1900-661



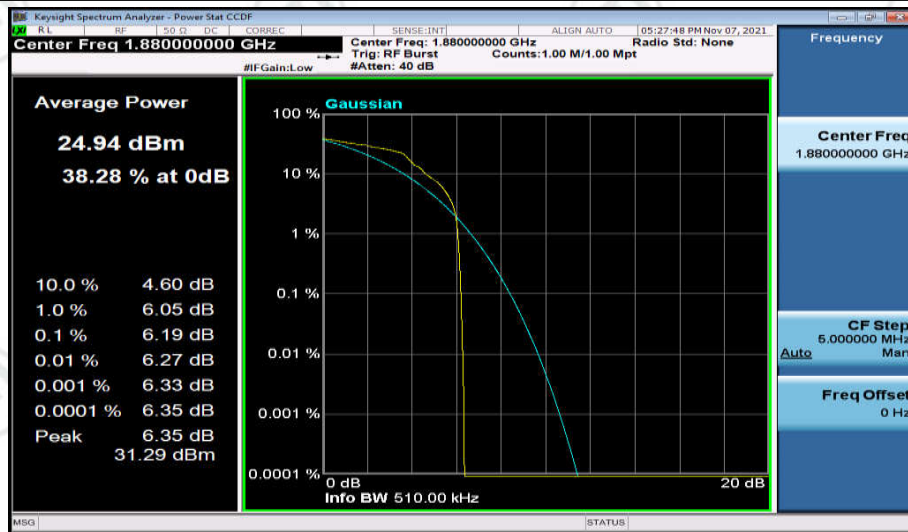
GPRS1900-810



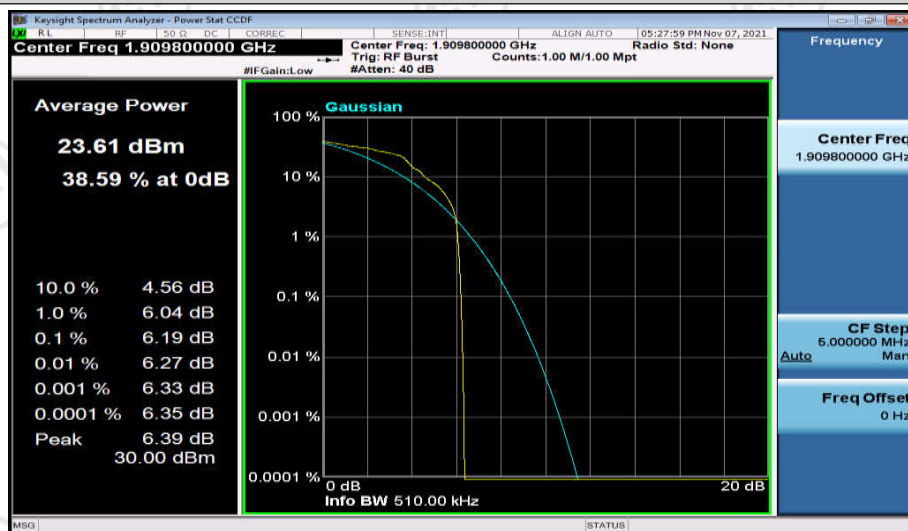
EGPRS1900-512



EGPRS1900-661



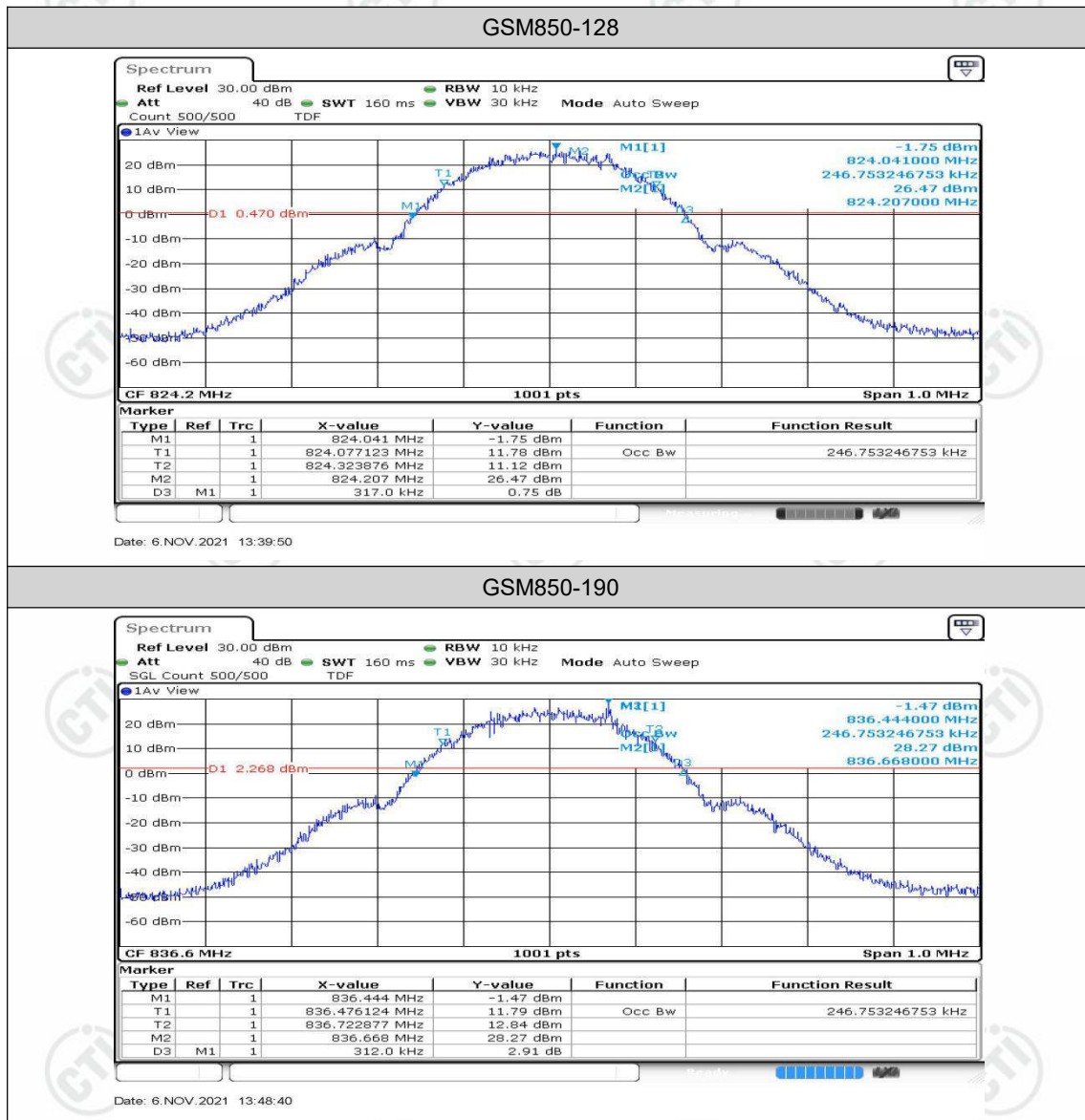
EGPRS1900-810

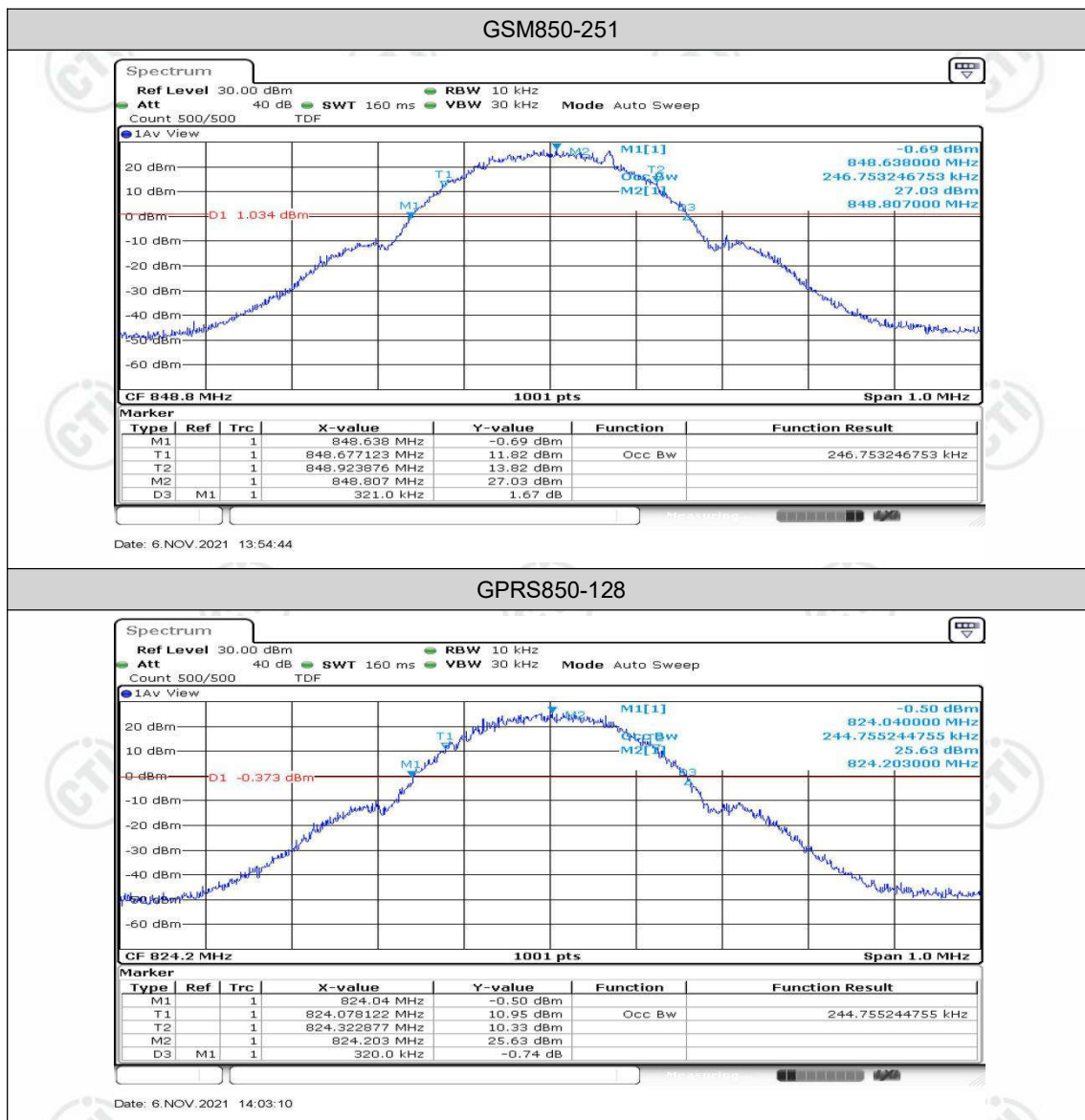


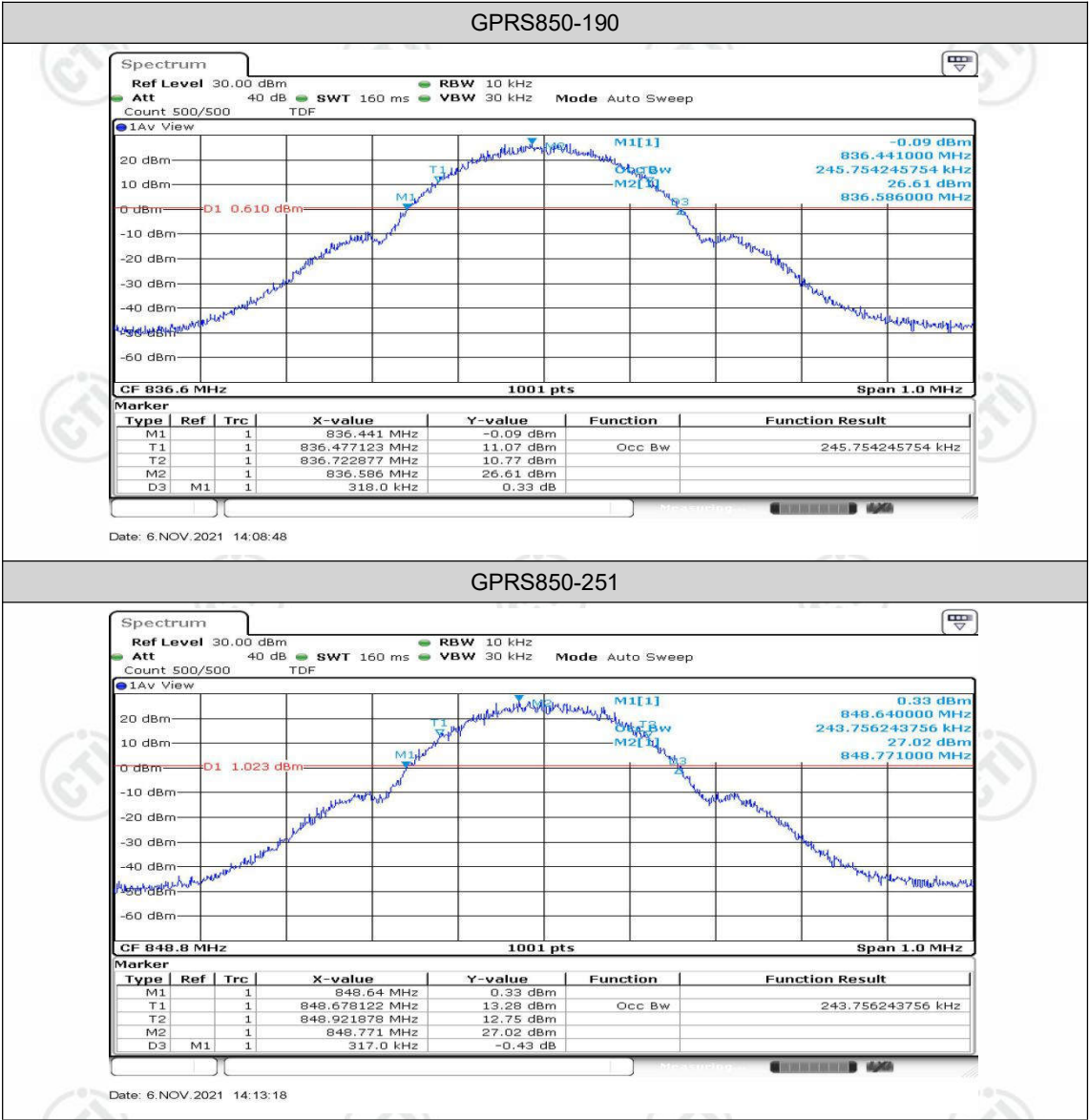
Appendix C: 26dB Bandwidth and Occupied Bandwidth**Test Result**

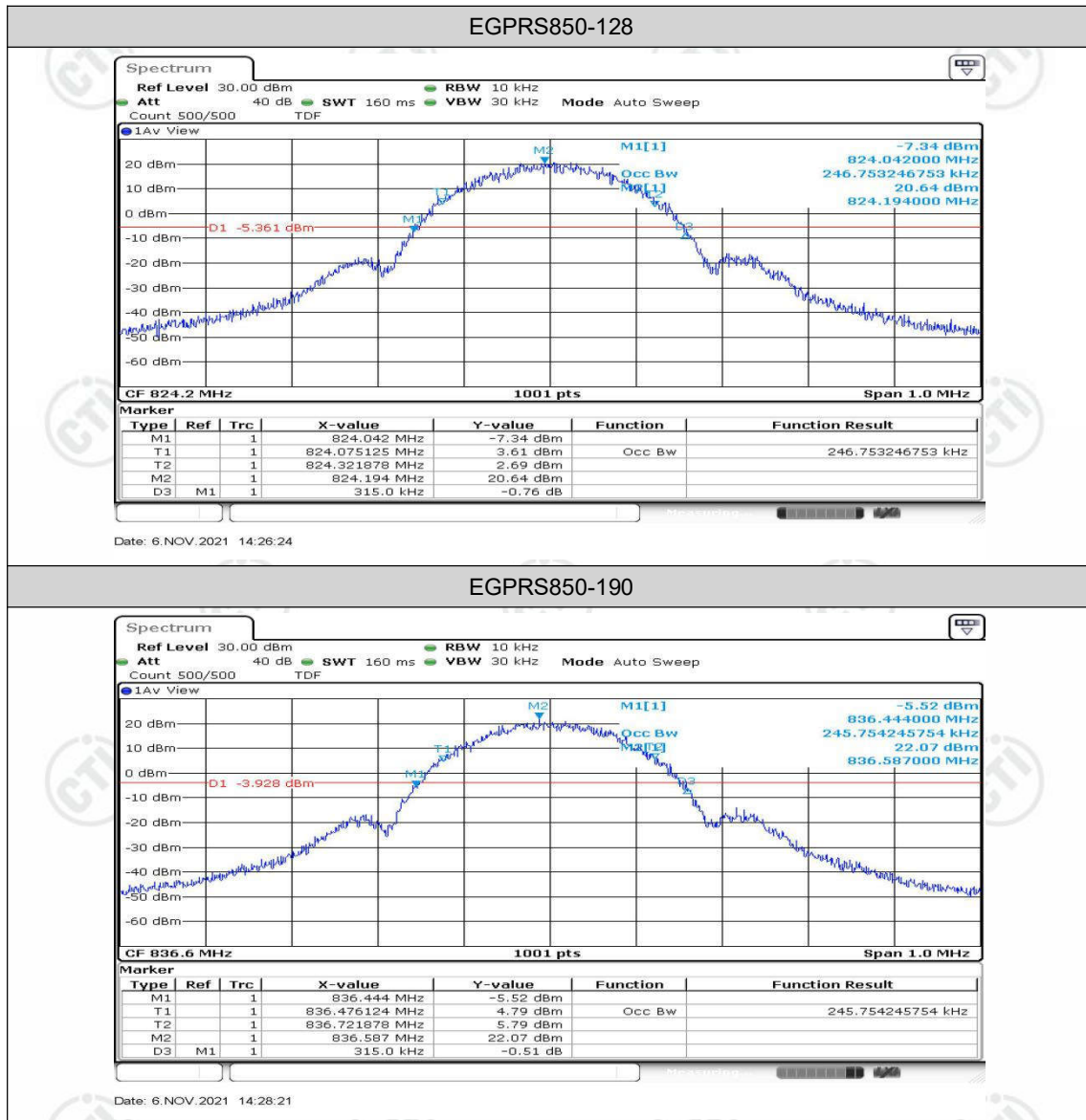
Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	0.247	0.317	---	PASS
GSM850	190	0.247	0.312	---	PASS
GSM850	251	0.247	0.321	---	PASS
GPRS850	128	0.245	0.320	---	PASS
GPRS850	190	0.246	0.318	---	PASS
GPRS850	251	0.244	0.317	---	PASS
EGPRS850	128	0.247	0.315	---	PASS
EGPRS850	190	0.246	0.315	---	PASS
EGPRS850	251	0.246	0.310	---	PASS
GSM1900	512	0.246	0.308	---	PASS
GSM1900	661	0.247	0.315	---	PASS
GSM1900	810	0.246	0.311	---	PASS
GPRS1900	512	0.246	0.315	---	PASS
GPRS1900	661	0.246	0.323	---	PASS
GPRS1900	810	0.247	0.321	---	PASS
EGPRS1900	512	0.242	0.307	---	PASS
EGPRS1900	661	0.243	0.311	---	PASS
EGPRS1900	810	0.242	0.308	---	PASS

Test Graphs

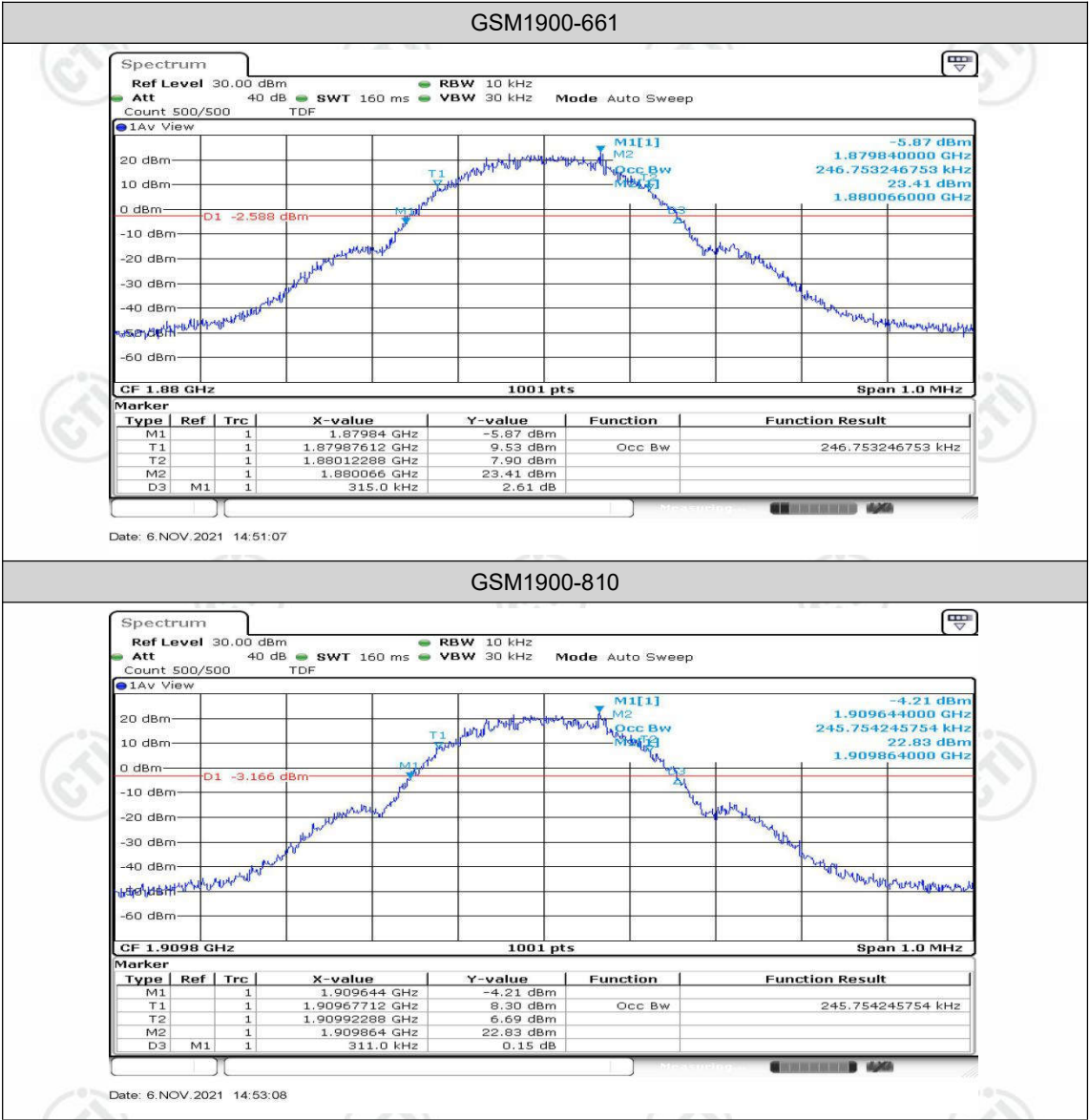


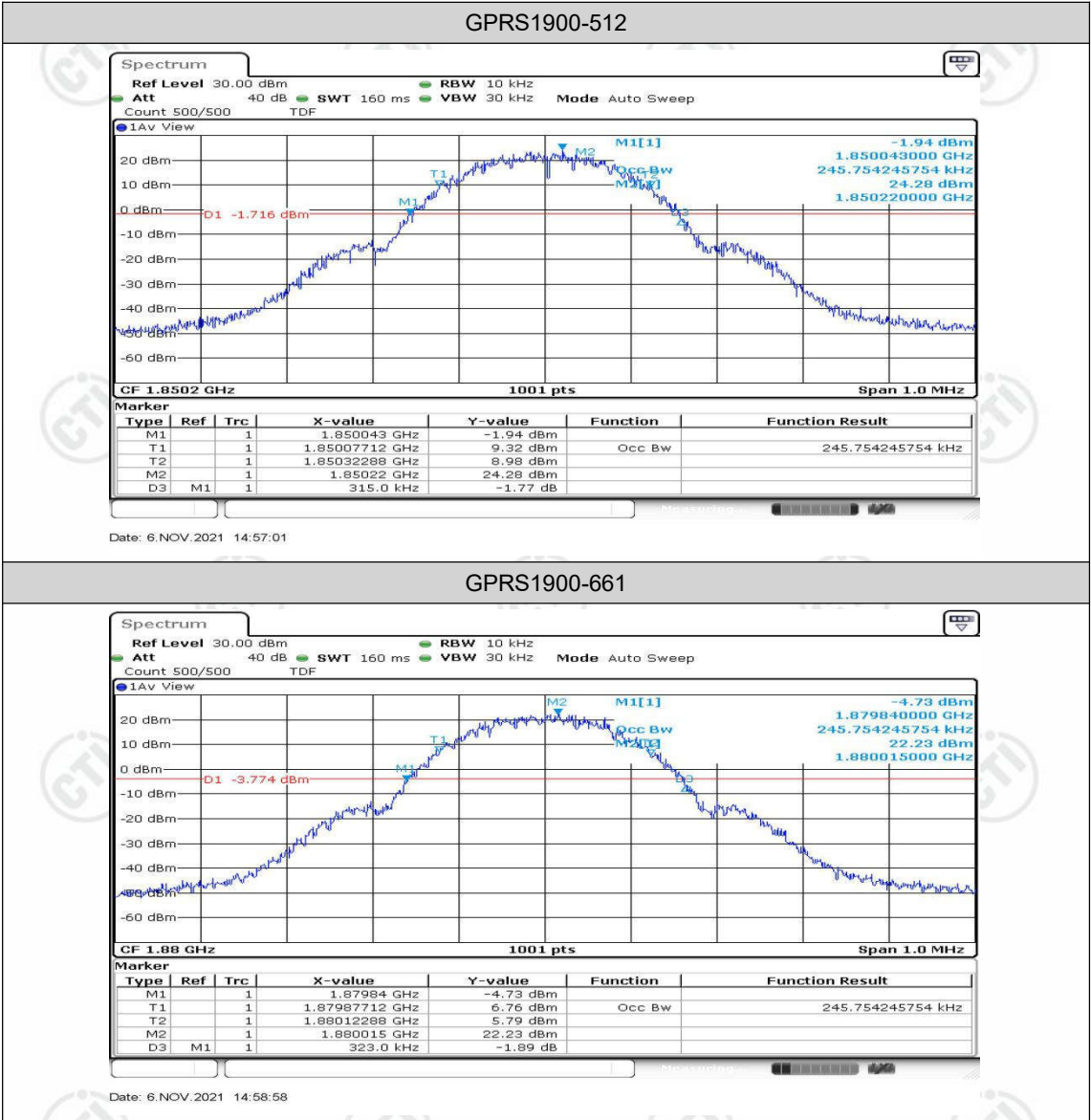


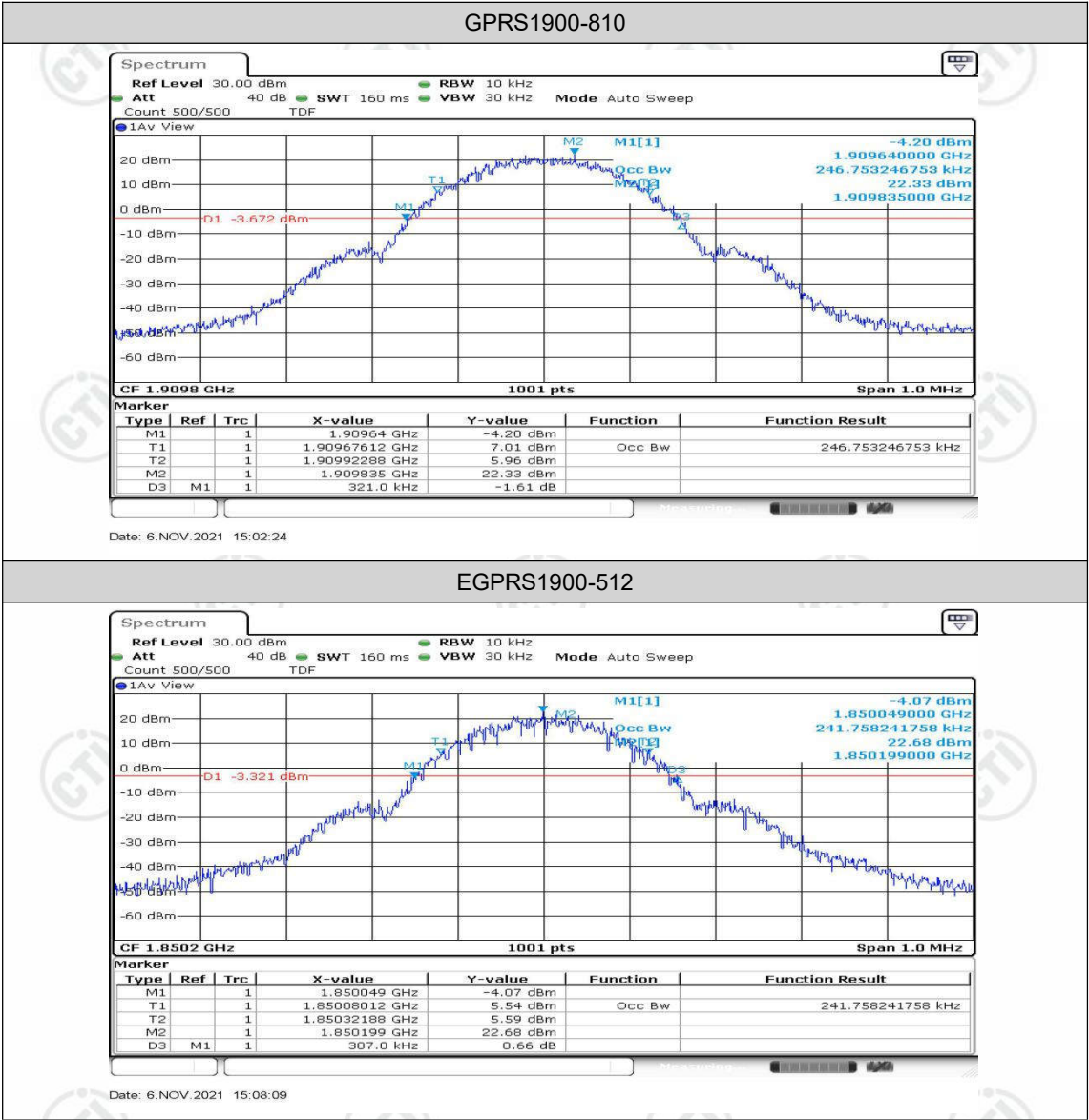


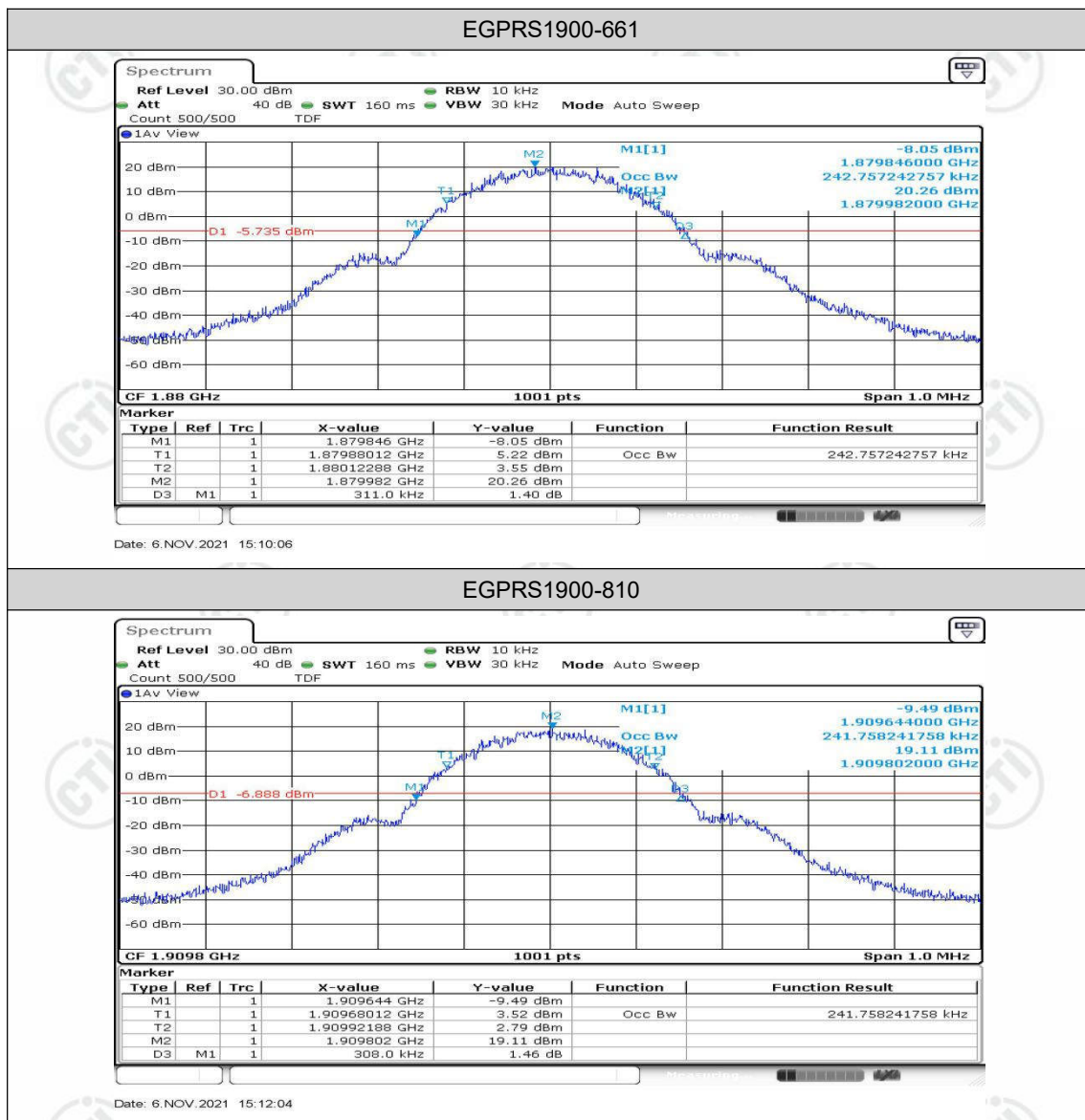










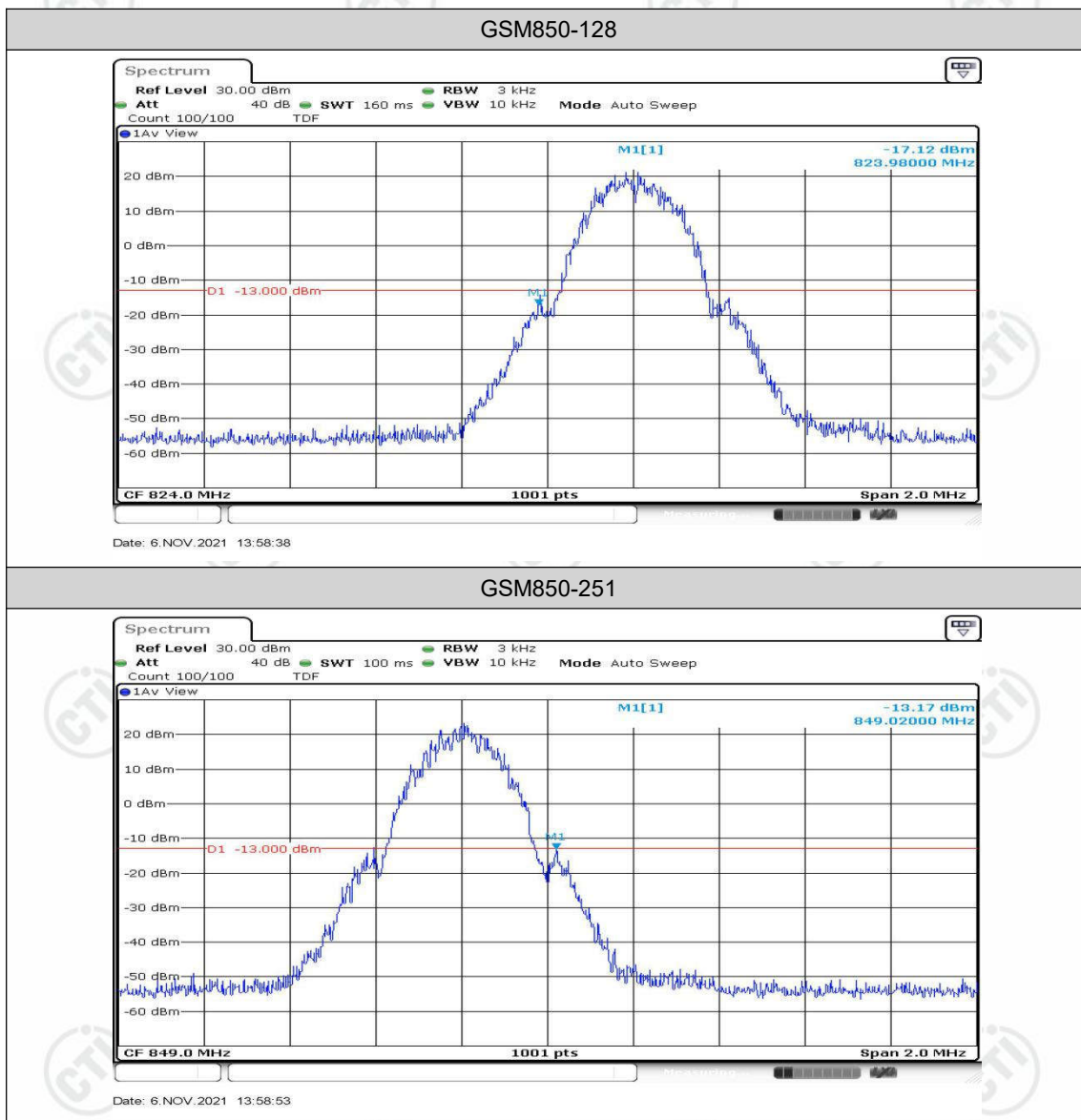


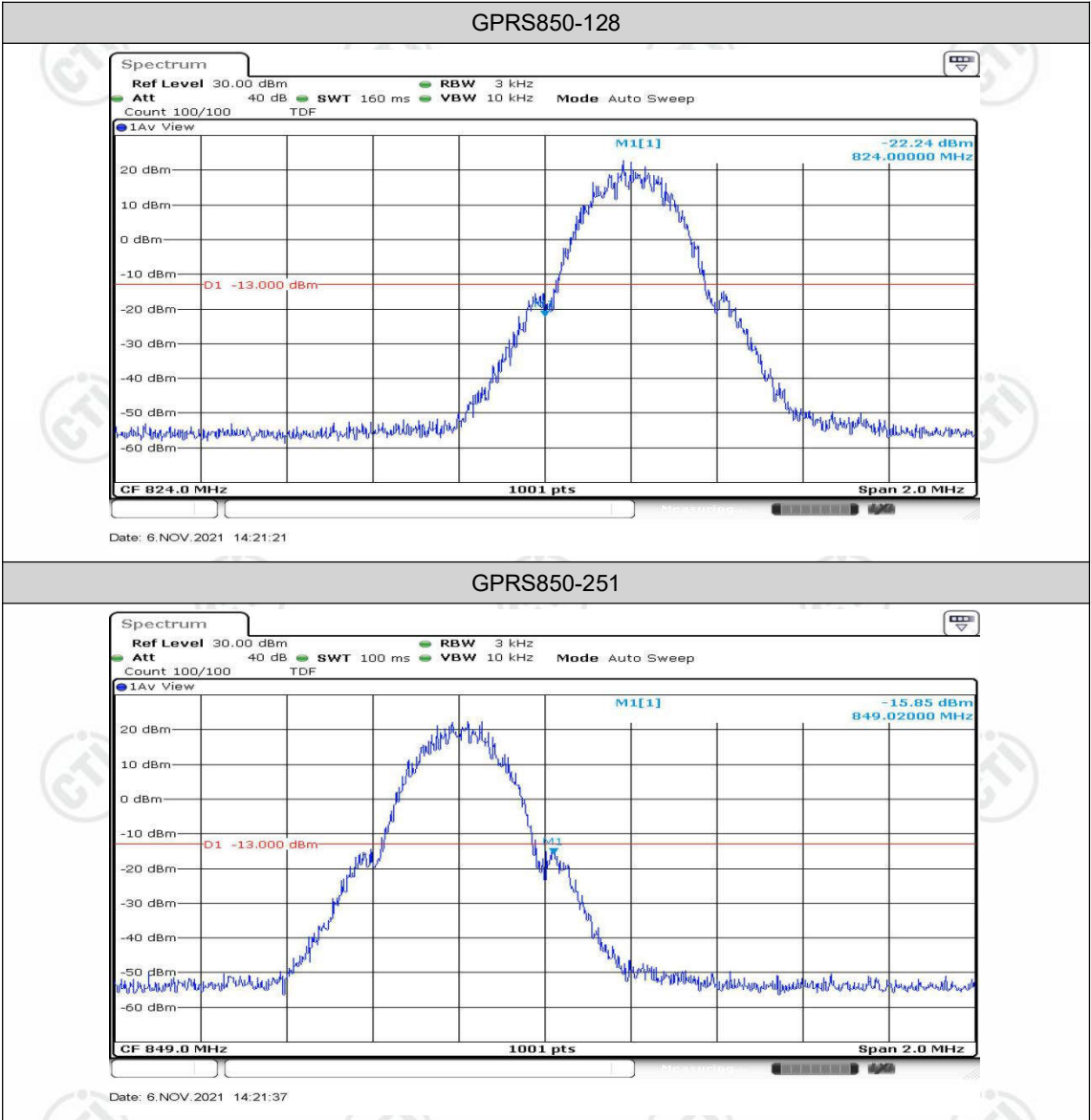
Appendix D: Band Edge

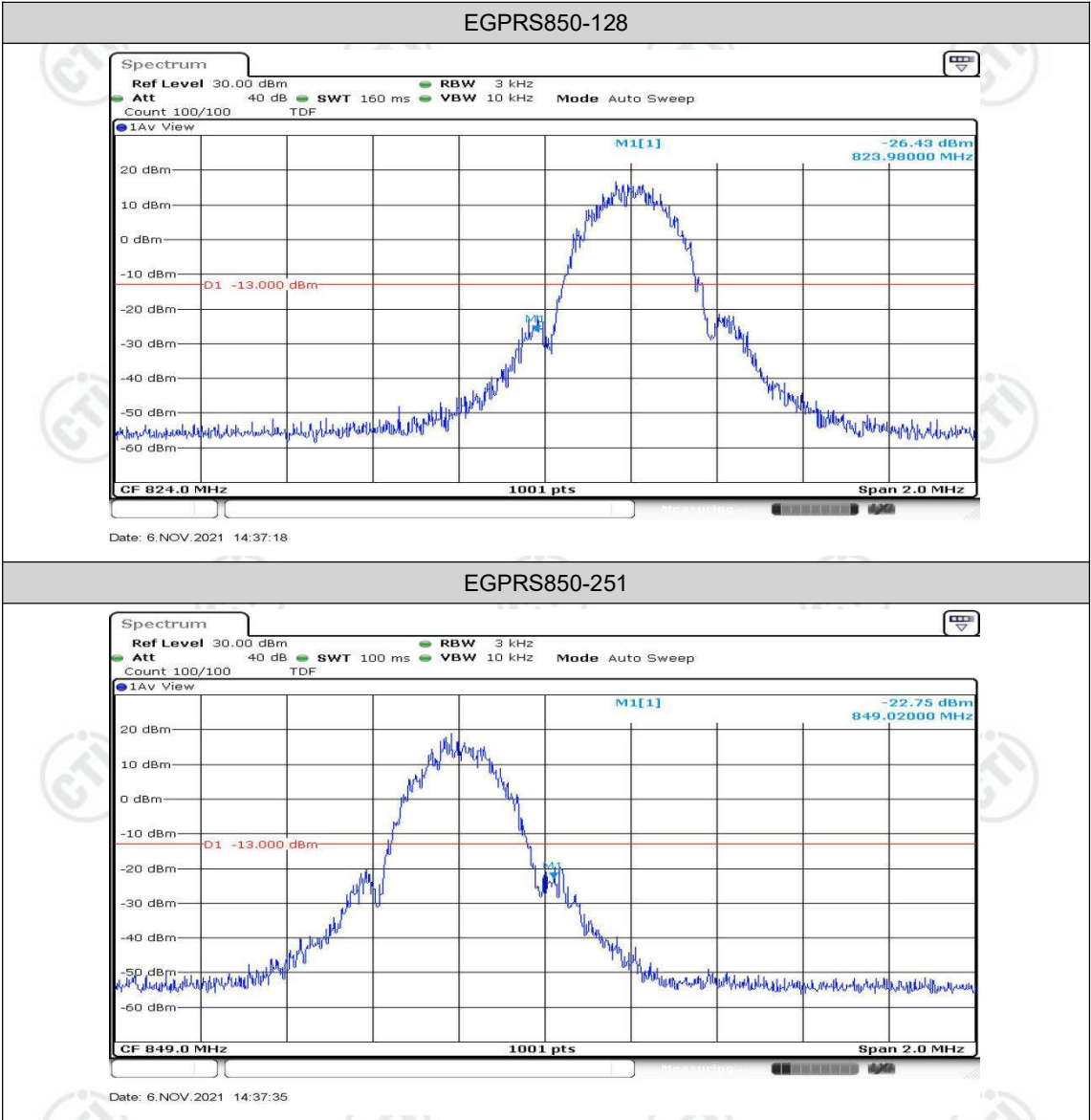
Test Result

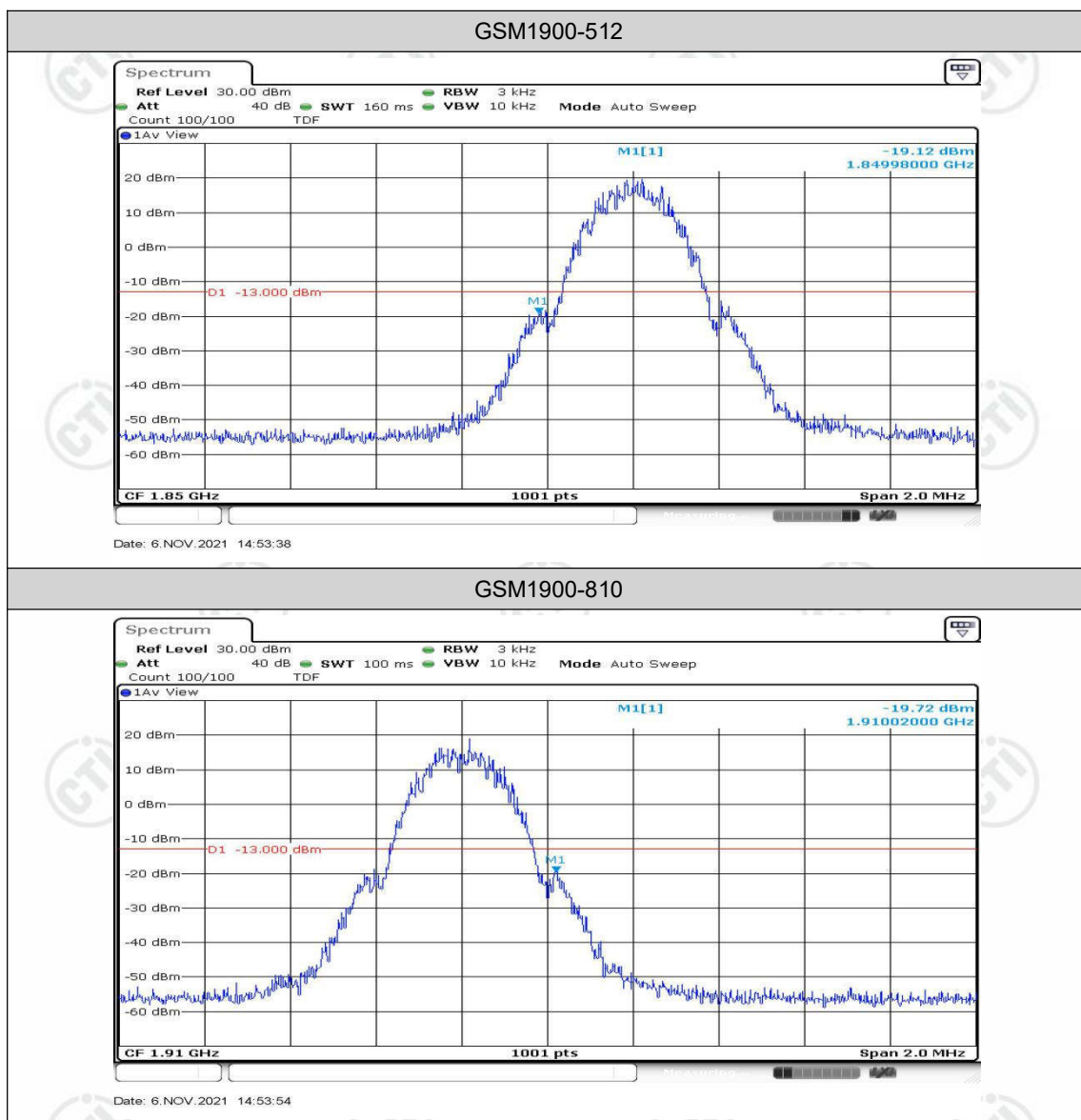
Band	Channel	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	823.98	<-13	-13	PASS
GSM850	251	849.02	<-13	-13	PASS
GPRS850	128	824.00	<-13	-13	PASS
GPRS850	251	849.02	<-13	-13	PASS
EGPRS850	128	823.98	<-13	-13	PASS
EGPRS850	251	849.02	<-13	-13	PASS
GSM1900	512	1849.98	<-13	-13	PASS
GSM1900	810	1910.02	<-13	-13	PASS
GPRS1900	512	1850.00	<-13	-13	PASS
GPRS1900	810	1910.00	<-13	-13	PASS
EGPRS1900	512	1849.98	<-13	-13	PASS
EGPRS1900	810	1910.02	<-13	-13	PASS

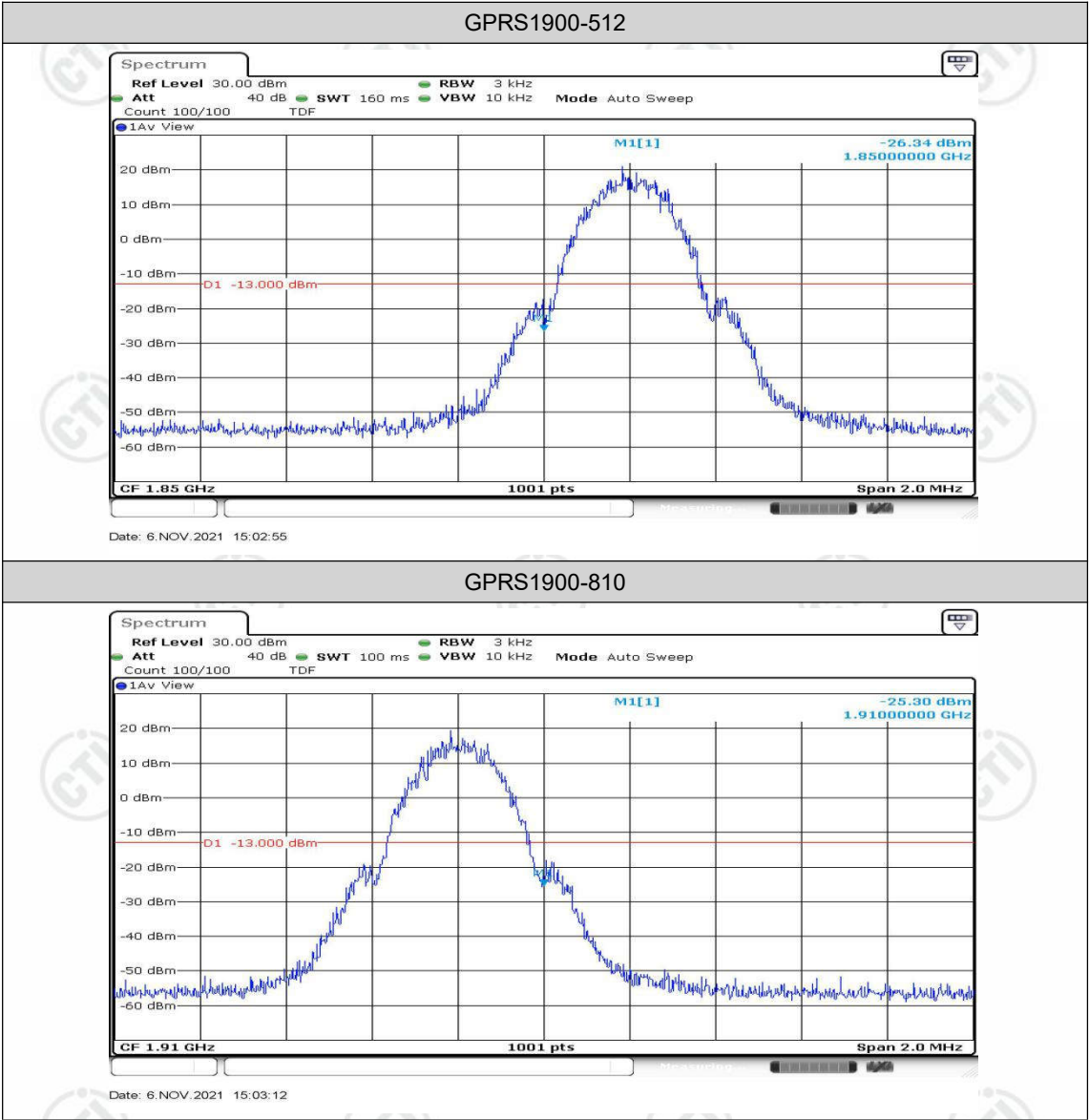
Test Graphs

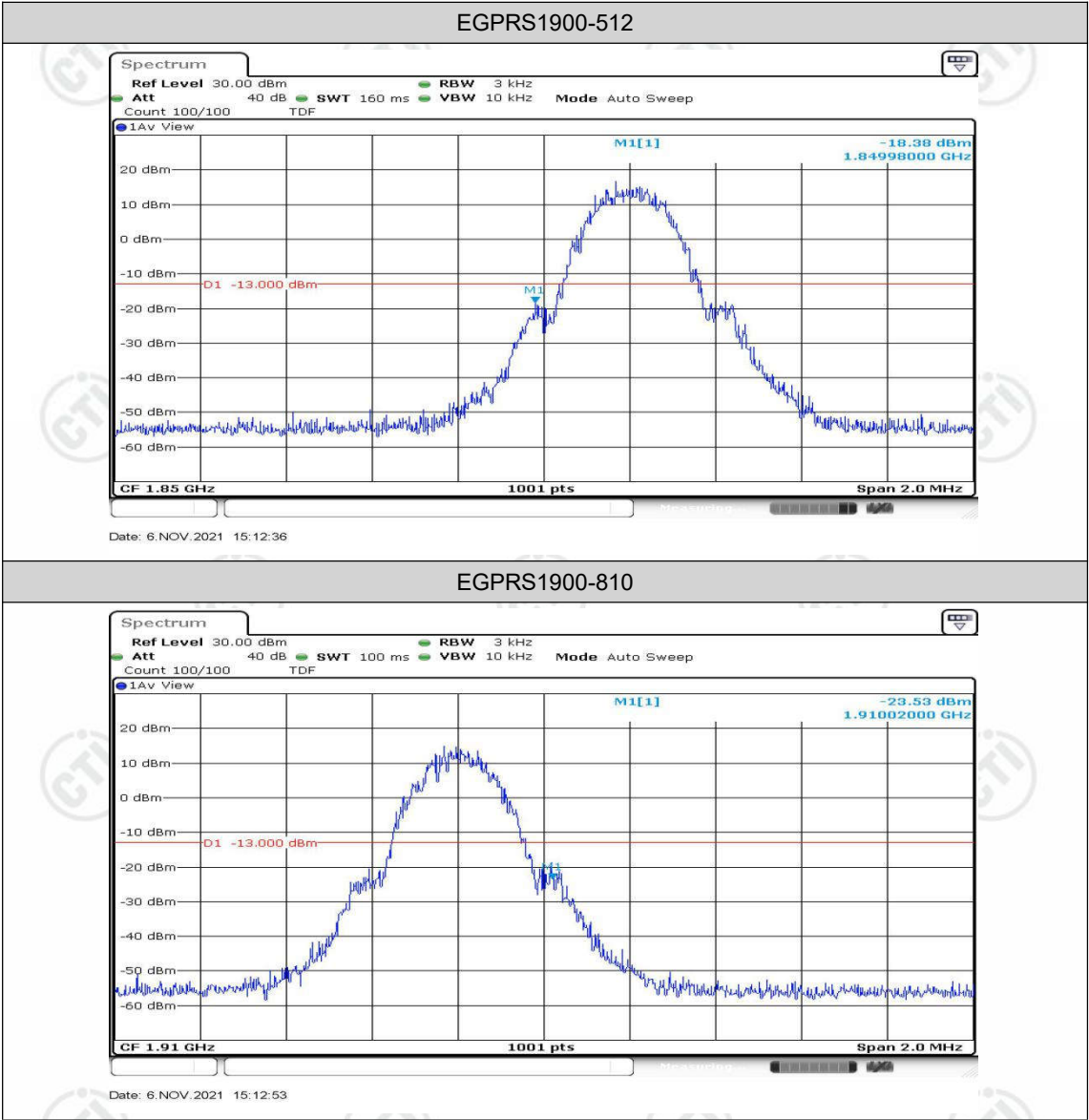












Appendix E: Conducted Spurious Emission

Test Result

Band	Channel	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	0.009~0.15MHz	0.01	-66.65	-33	PASS
GSM850	128	0.15~30MHz	28.88	-43.75	-13	PASS
GSM850	128	30~1000MHz	314.95	-30.23	-13	PASS
GSM850	128	1000~3000MHz	2507.72	-37.74	-13	PASS
GSM850	128	3000~10000MHz	4580.66	-42.79	-13	PASS
GSM850	190	0.009~0.15MHz	0.01	-66.61	-33	PASS
GSM850	190	0.15~30MHz	23.06	-42.77	-13	PASS
GSM850	190	30~1000MHz	592.37	-29.85	-13	PASS
GSM850	190	1000~3000MHz	2529.25	-37.66	-13	PASS
GSM850	190	3000~10000MHz	4577.63	-43	-13	PASS
GSM850	251	0.009~0.15MHz	0.01	-67.63	-33	PASS
GSM850	251	0.15~30MHz	27.76	-43.98	-13	PASS
GSM850	251	30~1000MHz	84.26	-30.2	-13	PASS
GSM850	251	1000~3000MHz	2526.18	-37.75	-13	PASS
GSM850	251	3000~10000MHz	4576.93	-42.96	-13	PASS
GPRS850	128	0.009~0.15MHz	0.01	-67.83	-33	PASS
GPRS850	128	0.15~30MHz	23.66	-43.44	-13	PASS
GPRS850	128	30~1000MHz	580.38	-30.71	-13	PASS
GPRS850	128	1000~3000MHz	2506.85	-37.86	-13	PASS
GPRS850	128	3000~10000MHz	4561.76	-42.95	-13	PASS
GPRS850	190	0.009~0.15MHz	0.01	-66.55	-33	PASS
GPRS850	190	0.15~30MHz	25.8	-44.49	-13	PASS
GPRS850	190	30~1000MHz	649.8	-29.9	-13	PASS
GPRS850	190	1000~3000MHz	2099	-37.74	-13	PASS
GPRS850	190	3000~10000MHz	4575.76	-42.79	-13	PASS
GPRS850	251	0.009~0.15MHz	0.01	-66.62	-33	PASS
GPRS850	251	0.15~30MHz	27.99	-43.75	-13	PASS
GPRS850	251	30~1000MHz	585.52	-30.48	-13	PASS
GPRS850	251	1000~3000MHz	2124.2	-37.79	-13	PASS
GPRS850	251	3000~10000MHz	4557.33	-42.97	-13	PASS
EGPRS850	128	0.009~0.15MHz	0.01	-66.49	-33	PASS
EGPRS850	128	0.15~30MHz	25.28	-43.65	-13	PASS
EGPRS850	128	30~1000MHz	417.84	-30.44	-13	PASS
EGPRS850	128	1000~3000MHz	2510.72	-37.74	-13	PASS

EGPRS850	128	3000~10000MHz	4570.4	-42.8	-13	PASS
EGPRS850	190	0.009~0.15MHz	0.01	-66.04	-33	PASS
EGPRS850	190	0.15~30MHz	23.09	-43.63	-13	PASS
EGPRS850	190	30~1000MHz	588.53	-30.52	-13	PASS
EGPRS850	190	1000~3000MHz	2518.18	-37.71	-13	PASS
EGPRS850	190	3000~10000MHz	4575.06	-42.91	-13	PASS
EGPRS850	251	0.009~0.15MHz	0.01	-67.18	-33	PASS
EGPRS850	251	0.15~30MHz	25.15	-43.16	-13	PASS
EGPRS850	251	30~1000MHz	745.89	-30.59	-13	PASS
EGPRS850	251	1000~3000MHz	2507.65	-37.78	-13	PASS
EGPRS850	251	3000~10000MHz	4561.06	-43.04	-13	PASS
GSM1900	512	0.009~0.15MHz	0.01	-53.46	-43	PASS
GSM1900	512	0.15~30MHz	24.64	-43.66	-23	PASS
GSM1900	512	30~1000MHz	923.87	-29.75	-13	PASS
GSM1900	512	1000~3000MHz	2536.4	-37.57	-13	PASS
GSM1900	512	3000~10000MHz	5639.96	-32.59	-13	PASS
GSM1900	512	10000~20000MHz	10056.83	-47.36	-13	PASS
GSM1900	661	0.009~0.15MHz	0.01	-53.57	-43	PASS
GSM1900	661	0.15~30MHz	24.62	-42.4	-23	PASS
GSM1900	661	30~1000MHz	906.12	-29.52	-13	PASS
GSM1900	661	1000~3000MHz	2531.93	-37.5	-13	PASS
GSM1900	661	3000~10000MHz	5639.73	-33.5	-13	PASS
GSM1900	661	10000~20000MHz	10054.16	-47.28	-13	PASS
GSM1900	810	0.009~0.15MHz	0.01	-53.76	-43	PASS
GSM1900	810	0.15~30MHz	23.97	-43.49	-23	PASS
GSM1900	810	30~1000MHz	921.93	-29.65	-13	PASS
GSM1900	810	1000~3000MHz	2488.67	-37.65	-13	PASS
GSM1900	810	3000~10000MHz	3760.06	-32.78	-13	PASS
GSM1900	810	10000~20000MHz	10065.83	-47.07	-13	PASS
GPRS1900	512	0.009~0.15MHz	0.01	-53.58	-43	PASS
GPRS1900	512	0.15~30MHz	23.34	-42.61	-23	PASS
GPRS1900	512	30~1000MHz	883.65	-29.58	-13	PASS
GPRS1900	512	1000~3000MHz	2511.93	-37.5	-13	PASS
GPRS1900	512	3000~10000MHz	3760.06	-32.84	-13	PASS
GPRS1900	512	10000~20000MHz	10057.83	-47.33	-13	PASS
GPRS1900	661	0.009~0.15MHz	0.01	-53.53	-43	PASS
GPRS1900	661	0.15~30MHz	25.26	-42.68	-23	PASS
GPRS1900	661	30~1000MHz	537.86	-29.13	-13	PASS
GPRS1900	661	1000~3000MHz	2516.33	-37.57	-13	PASS
GPRS1900	661	3000~10000MHz	5639.96	-32.78	-13	PASS

GPRS1900	661	10000~20000MHz	10072.5	-47.23	-13	PASS
GPRS1900	810	0.009~0.15MHz	0.01	-53.57	-43	PASS
GPRS1900	810	0.15~30MHz	22.95	-43.65	-23	PASS
GPRS1900	810	30~1000MHz	870.88	-29.85	-13	PASS
GPRS1900	810	1000~3000MHz	2511.6	-37.5	-13	PASS
GPRS1900	810	3000~10000MHz	3759.82	-33.42	-13	PASS
GPRS1900	810	10000~20000MHz	10079.16	-47.45	-13	PASS
EGPRS1900	512	0.009~0.15MHz	0.02	-47.36	-43	PASS
EGPRS1900	512	0.15~30MHz	23.72	-43.75	-23	PASS
EGPRS1900	512	30~1000MHz	585.19	-29.43	-13	PASS
EGPRS1900	512	1000~3000MHz	2089.8	-37.69	-13	PASS
EGPRS1900	512	3000~10000MHz	5639.73	-37.61	-13	PASS
EGPRS1900	512	10000~20000MHz	10063.5	-47.25	-13	PASS
EGPRS1900	661	0.009~0.15MHz	0.01	-46.93	-43	PASS
EGPRS1900	661	0.15~30MHz	23.28	-43.71	-23	PASS
EGPRS1900	661	30~1000MHz	879.97	-28.74	-13	PASS
EGPRS1900	661	1000~3000MHz	2487.2	-37.49	-13	PASS
EGPRS1900	661	3000~10000MHz	5640.43	-37.67	-13	PASS
EGPRS1900	661	10000~20000MHz	10052.83	-47.28	-13	PASS
EGPRS1900	810	0.009~0.15MHz	0.02	-46.3	-43	PASS
EGPRS1900	810	0.15~30MHz	23.32	-43.01	-23	PASS
EGPRS1900	810	30~1000MHz	895.81	-29.41	-13	PASS
EGPRS1900	810	1000~3000MHz	2519.2	-37.42	-13	PASS
EGPRS1900	810	3000~10000MHz	3760.06	-36.61	-13	PASS
EGPRS1900	810	10000~20000MHz	10042.17	-47.24	-13	PASS

Test Graphs

