

Appendix A: Effective (Isotropic) Radiated Power Output Data

Test Result

Band	Channel	Conducted Power (dBm)	Antenna Gain (dBi)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GSM850	128	34.03	-1.90	29.98	38.45	PASS
GSM850	190	34.12	-1.90	30.07	38.45	PASS
GSM850	251	34.10	-1.90	30.05	38.45	PASS
GSM1900	512	30.36	-0.60	29.76	33.00	PASS
GSM1900	661	30.42	-0.60	29.82	33.00	PASS
GSM1900	810	30.36	-0.60	29.76	33.00	PASS
Remark: EIRP (dBm) = Conducted Power (dBm) + Antenna Gain (dBi). (For GSM1900) ERP (dBm) = EIRP (dBm) - 2.15 (dB). (For GSM850)						

Band	Channel	Slot	Conducted Power (dBm)	Antenna Gain (dBi)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GPRS850	128	1	33.86	-1.90	29.81	38.45	PASS
GPRS850	128	2	32.64	-1.90	28.59	38.45	PASS
GPRS850	128	3	30.30	-1.90	26.25	38.45	PASS
GPRS850	128	4	29.17	-1.90	25.12	38.45	PASS
GPRS850	190	1	33.90	-1.90	29.85	38.45	PASS
GPRS850	190	2	32.75	-1.90	28.70	38.45	PASS
GPRS850	190	3	30.40	-1.90	26.35	38.45	PASS
GPRS850	190	4	29.26	-1.90	25.21	38.45	PASS
GPRS850	251	1	33.84	-1.90	29.79	38.45	PASS
GPRS850	251	2	32.70	-1.90	28.65	38.45	PASS
GPRS850	251	3	30.38	-1.90	26.33	38.45	PASS
GPRS850	251	4	29.24	-1.90	25.19	38.45	PASS
EGPRS850	128	1	26.83	-1.90	22.78	38.45	PASS
EGPRS850	128	2	25.53	-1.90	21.48	38.45	PASS
EGPRS850	128	3	22.98	-1.90	18.93	38.45	PASS
EGPRS850	128	4	21.69	-1.90	17.64	38.45	PASS
EGPRS850	190	1	26.36	-1.90	22.31	38.45	PASS
EGPRS850	190	2	25.19	-1.90	21.14	38.45	PASS
EGPRS850	190	3	22.76	-1.90	18.71	38.45	PASS
EGPRS850	190	4	21.42	-1.90	17.37	38.45	PASS
EGPRS850	251	1	26.39	-1.90	22.34	38.45	PASS
EGPRS850	251	2	25.19	-1.90	21.14	38.45	PASS
EGPRS850	251	3	22.81	-1.90	18.76	38.45	PASS
EGPRS850	251	4	21.48	-1.90	17.43	38.45	PASS

GPRS1900	512	1	30.36	-0.60	29.76	33.00	PASS
GPRS1900	512	2	29.35	-0.60	28.75	33.00	PASS
GPRS1900	512	3	27.30	-0.60	26.70	33.00	PASS
GPRS1900	512	4	26.12	-0.60	25.52	33.00	PASS
GPRS1900	661	1	30.35	-0.60	29.75	33.00	PASS
GPRS1900	661	2	29.41	-0.60	28.81	33.00	PASS
GPRS1900	661	3	27.36	-0.60	26.76	33.00	PASS
GPRS1900	661	4	26.22	-0.60	25.62	33.00	PASS
GPRS1900	810	1	30.27	-0.60	29.67	33.00	PASS
GPRS1900	810	2	29.35	-0.60	28.75	33.00	PASS
GPRS1900	810	3	27.34	-0.60	26.74	33.00	PASS
GPRS1900	810	4	26.22	-0.60	25.62	33.00	PASS
EGPRS1900	512	1	26.65	-0.60	26.05	33.00	PASS
EGPRS1900	512	2	25.61	-0.60	25.01	33.00	PASS
EGPRS1900	512	3	23.54	-0.60	22.94	33.00	PASS
EGPRS1900	512	4	22.53	-0.60	21.93	33.00	PASS
EGPRS1900	661	1	26.58	-0.60	25.98	33.00	PASS
EGPRS1900	661	2	25.69	-0.60	25.09	33.00	PASS
EGPRS1900	661	3	23.65	-0.60	23.05	33.00	PASS
EGPRS1900	661	4	22.55	-0.60	21.95	33.00	PASS
EGPRS1900	810	1	26.43	-0.60	25.83	33.00	PASS
EGPRS1900	810	2	25.62	-0.60	25.02	33.00	PASS
EGPRS1900	810	3	23.57	-0.60	22.97	33.00	PASS
EGPRS1900	810	4	22.52	-0.60	21.92	33.00	PASS

Remark: EIRP (dBm) = Conducted Power (dBm) + Antenna Gain (dBi). (For GSM1900)

ERP (dBm) = EIRP (dBm) - 2.15 (dB). (For GSM850)

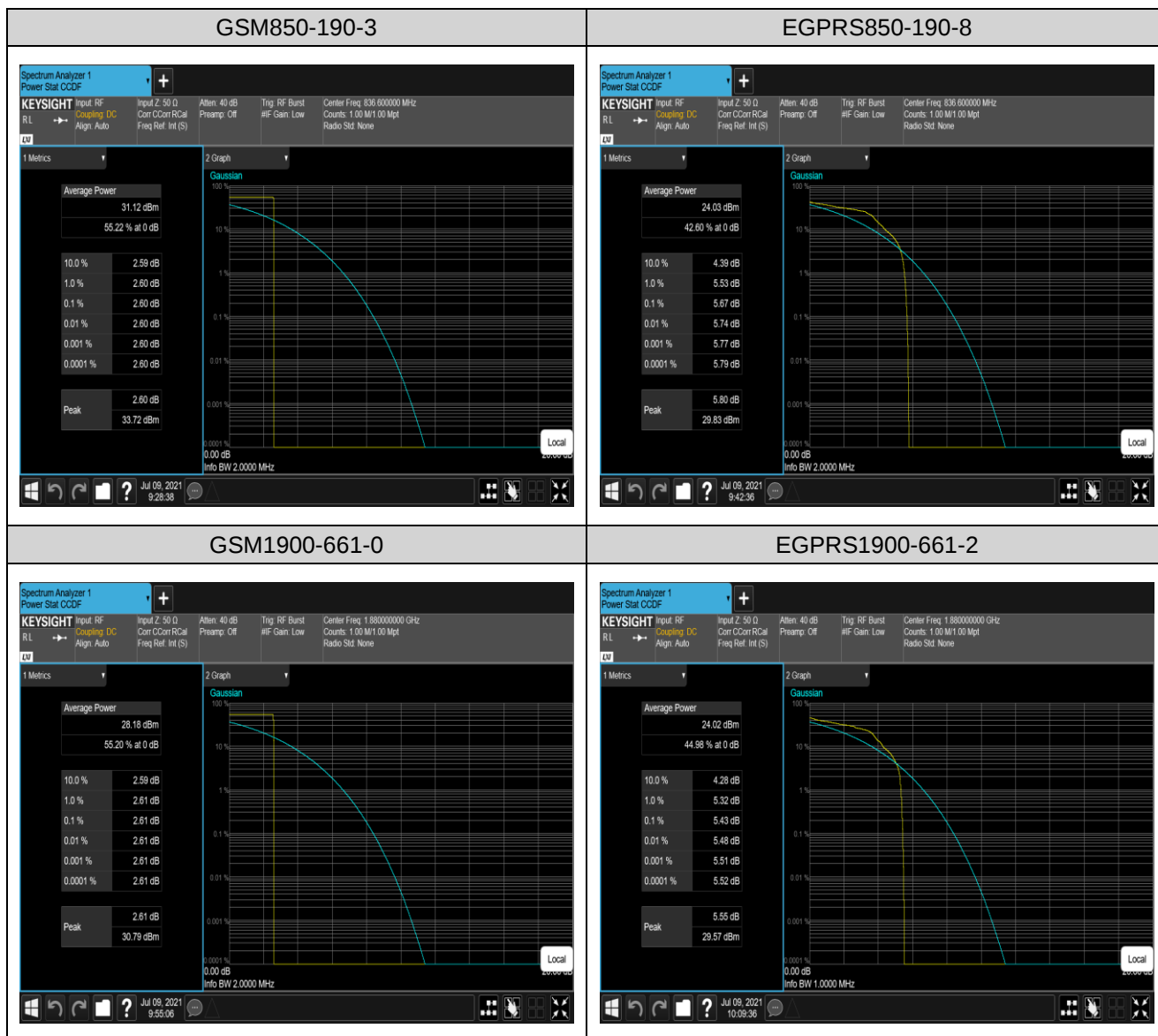
Appendix B: Peak-to-Average Ratio(CCDF)

Test Result

Band	Channel	PCL	Result(dB)	Limit(dB)	Verdict
GSM850	190	3	2.6	13	PASS
EGPRS850	190	8	5.67	13	PASS
GSM1900	661	0	2.61	13	PASS
EGPRS1900	661	2	5.43	13	PASS

Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

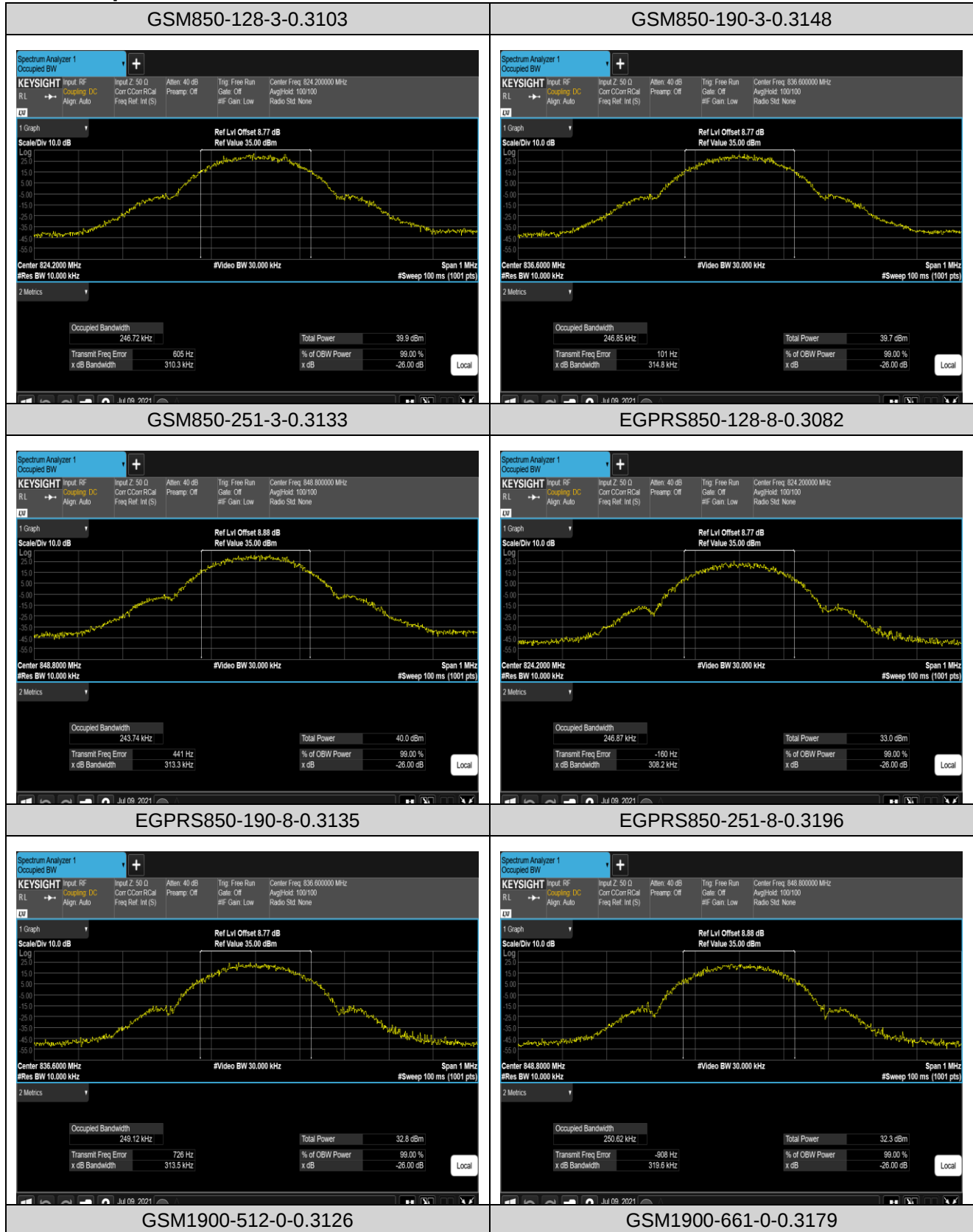


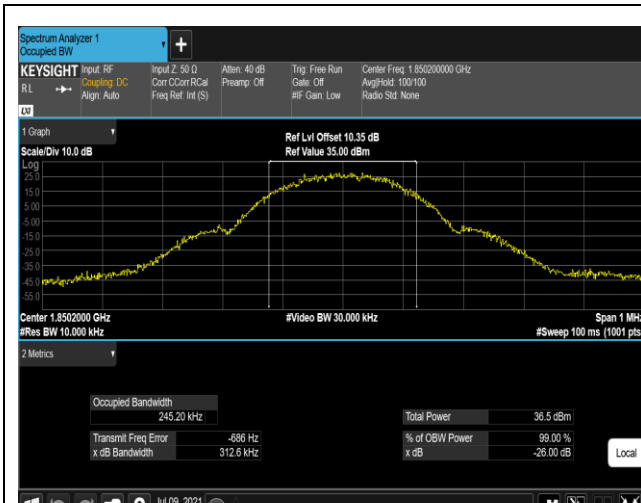
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

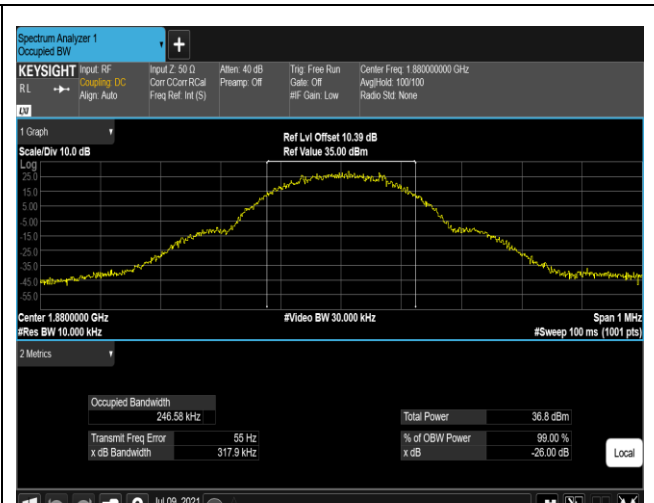
Band	Channel	PCL	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	3	0.24672	0.3103	---	PASS
GSM850	190	3	0.24685	0.3148	---	PASS
GSM850	251	3	0.24374	0.3133	---	PASS
EGPRS850	128	8	0.24687	0.3082	---	PASS
EGPRS850	190	8	0.24912	0.3135	---	PASS
EGPRS850	251	8	0.25062	0.3196	---	PASS
GSM1900	512	0	0.24520	0.3126	---	PASS
GSM1900	661	0	0.24658	0.3179	---	PASS
GSM1900	810	0	0.24710	0.3173	---	PASS
EGPRS1900	512	2	0.24781	0.3143	---	PASS
EGPRS1900	661	2	0.25059	0.3240	---	PASS
EGPRS1900	810	2	0.25000	0.3095	---	PASS

Test Graphs

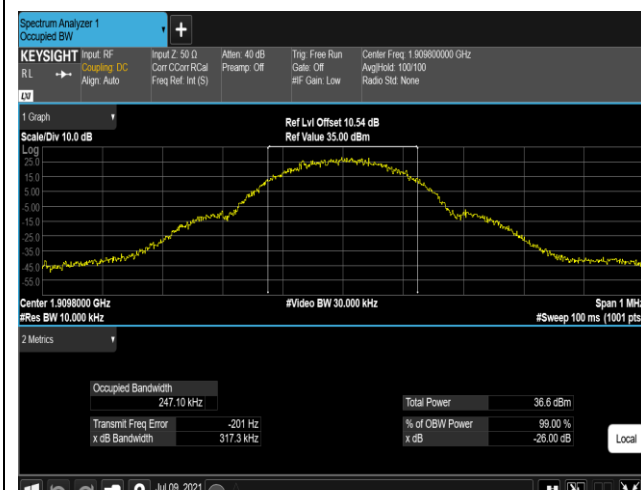




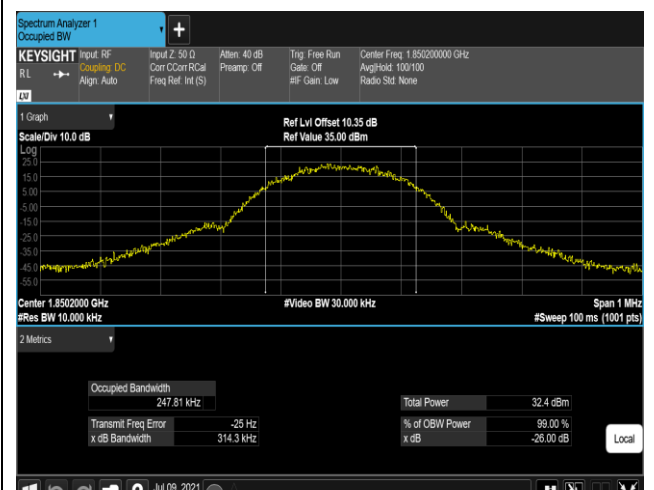
GSM1900-810-0-0.3173



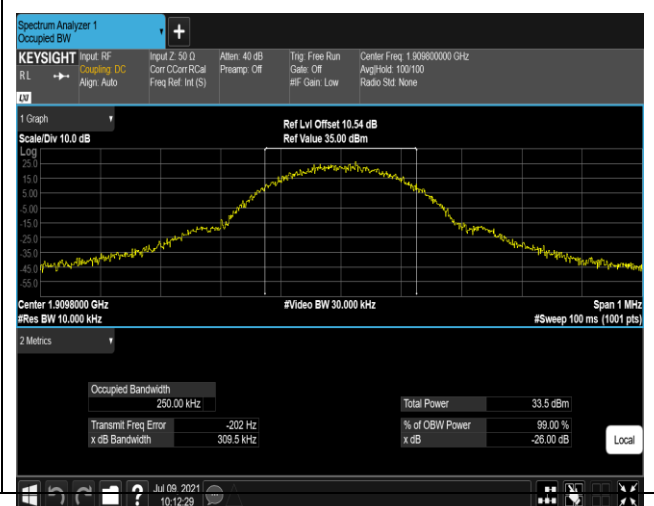
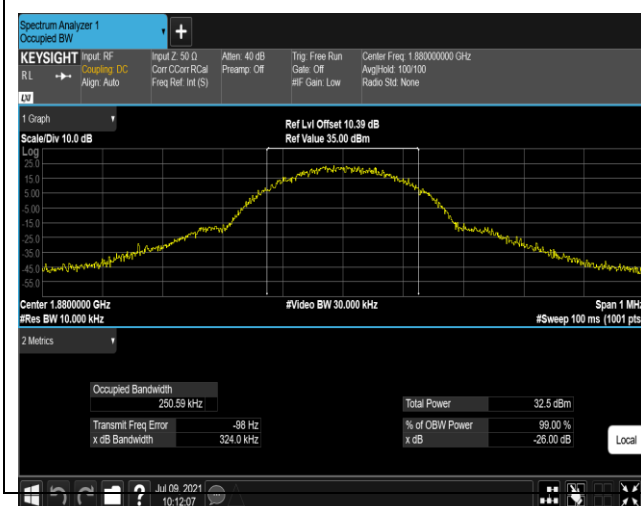
EGPRS1900-512-2-0.3143



EGPRS1900-661-2-0.3240



EGPRS1900-810-2-0.3095

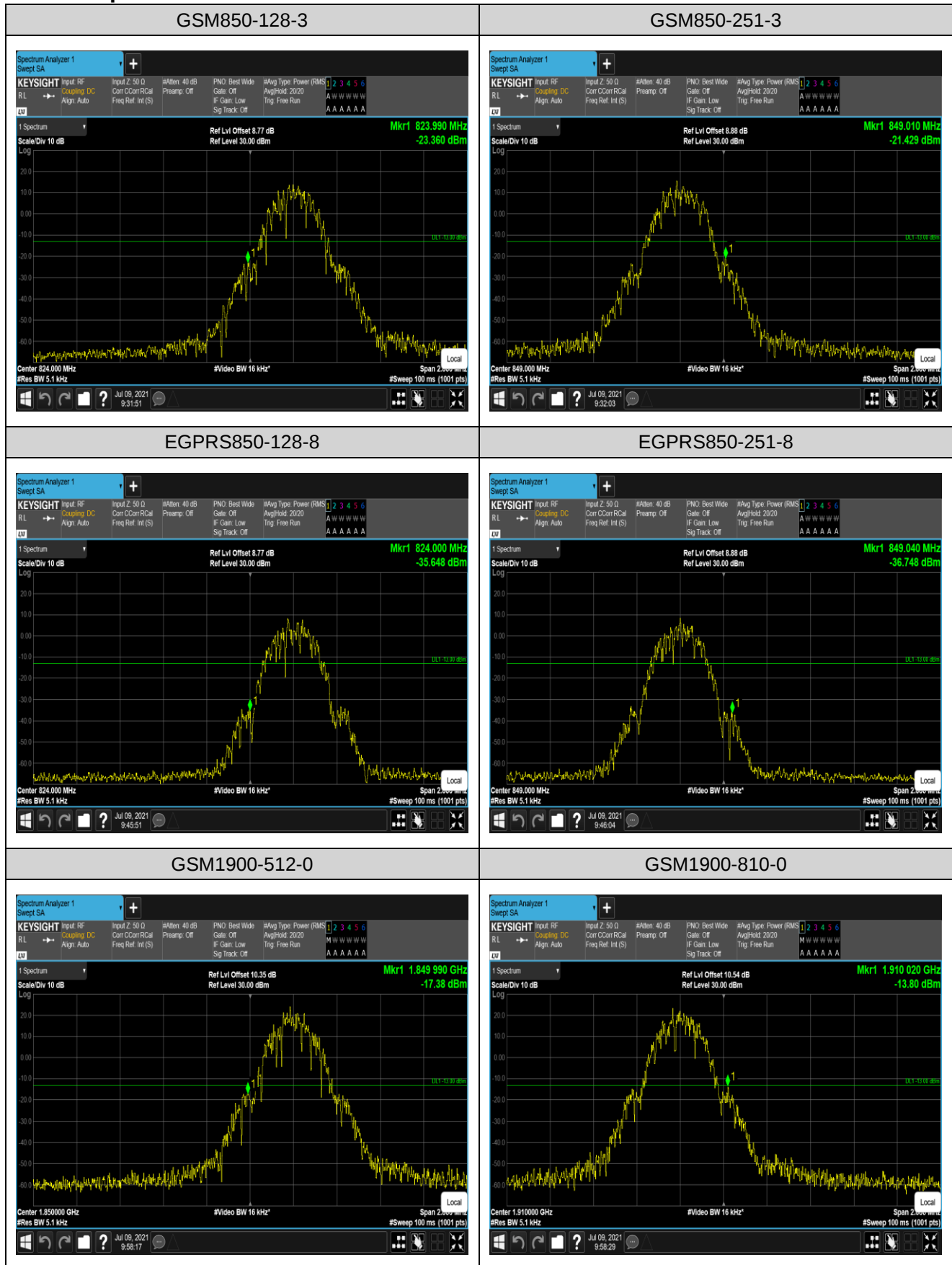


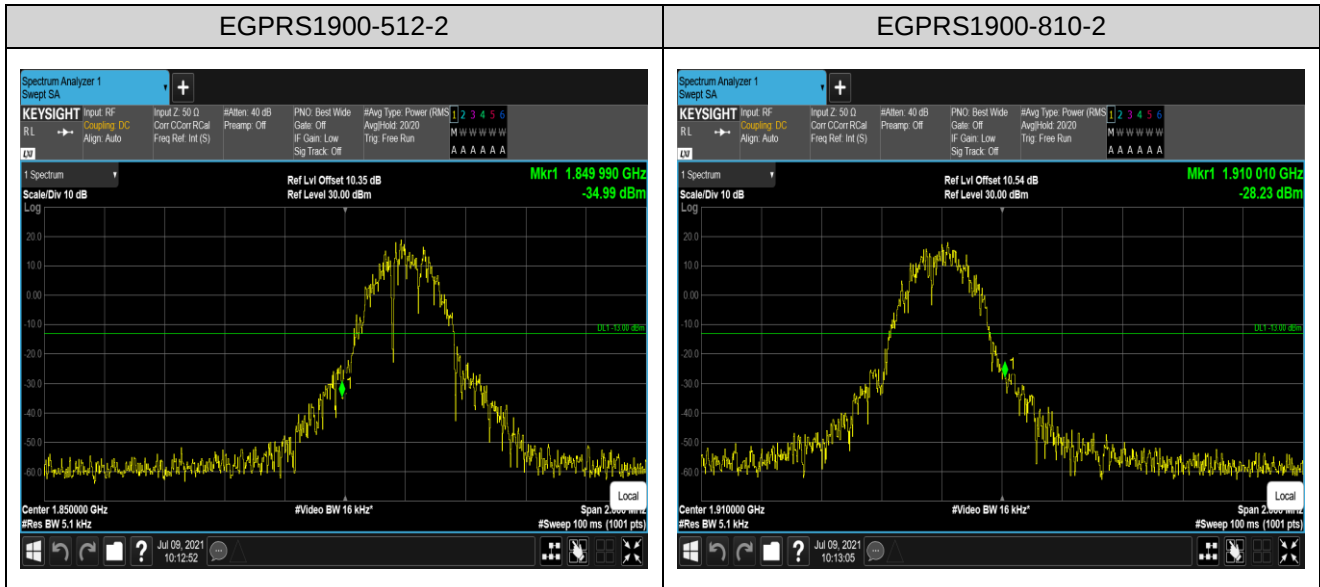
Appendix D: Band Edge

Test Result

Band	Channel	PCL	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	3	823.99	-22.92	-13	PASS
GSM850	251	3	849.01	-19.53	-13	PASS
EGPRS850	128	8	824.00	-34.40	-13	PASS
EGPRS850	251	8	849.04	-34.38	-13	PASS
GSM1900	512	0	1849.99	-15.32	-13	PASS
GSM1900	810	0	1910.02	-13.80	-13	PASS
EGPRS1900	512	2	1849.99	-23.98	-13	PASS
EGPRS1900	810	2	1910.01	-23.58	-13	PASS

Test Graphs





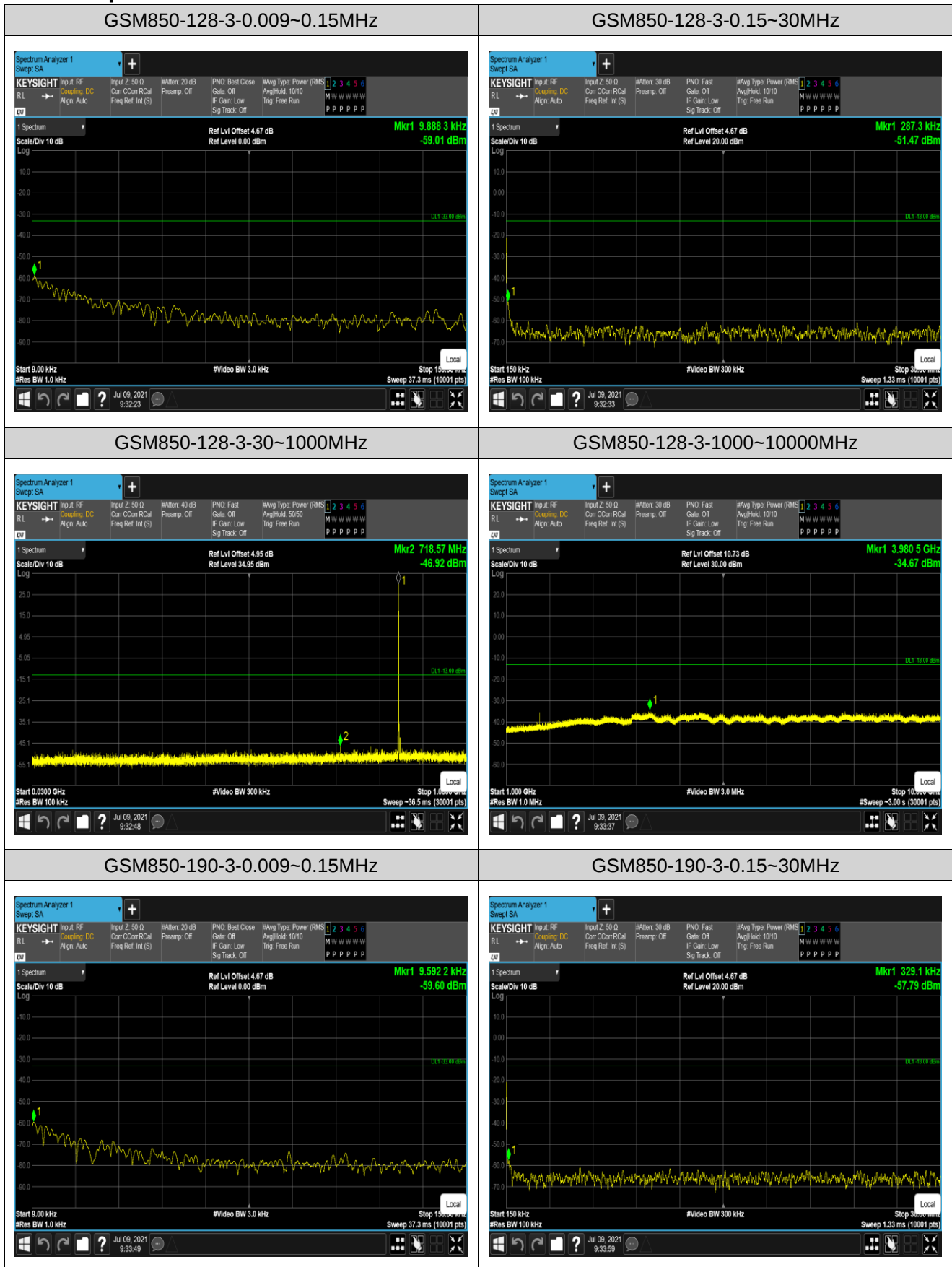
Appendix E: Conducted Spurious Emission

Test Result

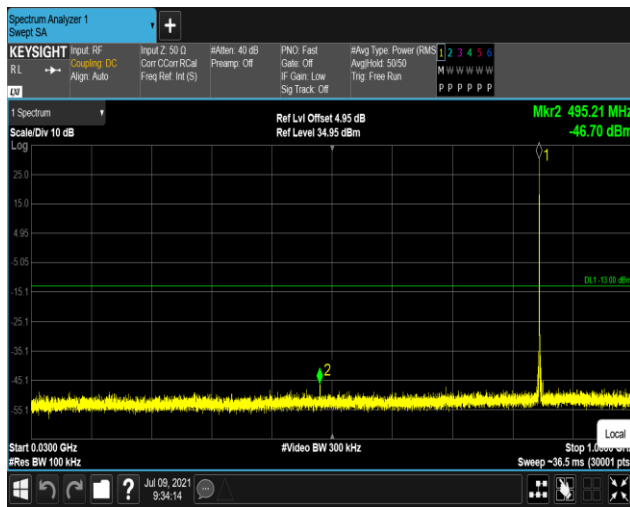
Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	3	0.009~0.15MHz	0.01	-59.01	-33	PASS
GSM850	128	3	0.15~30MHz	0.29	-51.47	-13	PASS
GSM850	128	3	30~1000MHz	718.57	-46.92	-13	PASS
GSM850	128	3	1000~10000MHz	3980.5	-34.68	-13	PASS
GSM850	190	3	0.009~0.15MHz	0.01	-59.6	-33	PASS
GSM850	190	3	0.15~30MHz	0.33	-57.79	-13	PASS
GSM850	190	3	30~1000MHz	495.21	-46.7	-13	PASS
GSM850	190	3	1000~10000MHz	3960.7	-34.76	-13	PASS
GSM850	251	3	0.009~0.15MHz	0.01	-59.1	-33	PASS
GSM850	251	3	0.15~30MHz	0.29	-55.47	-13	PASS
GSM850	251	3	30~1000MHz	963.5	-47.87	-13	PASS
GSM850	251	3	1000~10000MHz	3953.5	-34.72	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-68.28	-43	PASS
GSM1900	512	0	0.15~30MHz	0.3	-53.24	-23	PASS
GSM1900	512	0	30~1000MHz	828.5	-41.84	-13	PASS
GSM1900	512	0	1000~18000MHz	3819.17	-33.77	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-70.05	-43	PASS
GSM1900	661	0	0.15~30MHz	0.29	-55.76	-23	PASS
GSM1900	661	0	30~1000MHz	865.56	-40.74	-13	PASS
GSM1900	661	0	1000~18000MHz	3819.73	-33.75	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-68.81	-43	PASS
GSM1900	810	0	0.15~30MHz	0.31	-56.58	-23	PASS
GSM1900	810	0	30~1000MHz	864.85	-42	-13	PASS
GSM1900	810	0	1000~18000MHz	14039.57	-34.06	-13	PASS

Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs



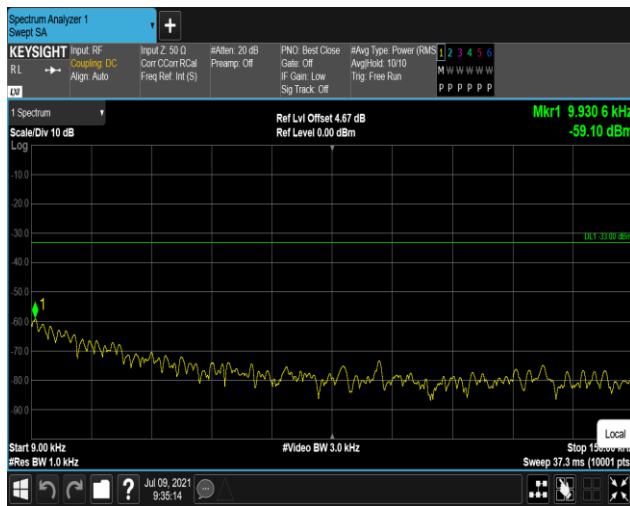
GSM850-190-3-30~1000MHz



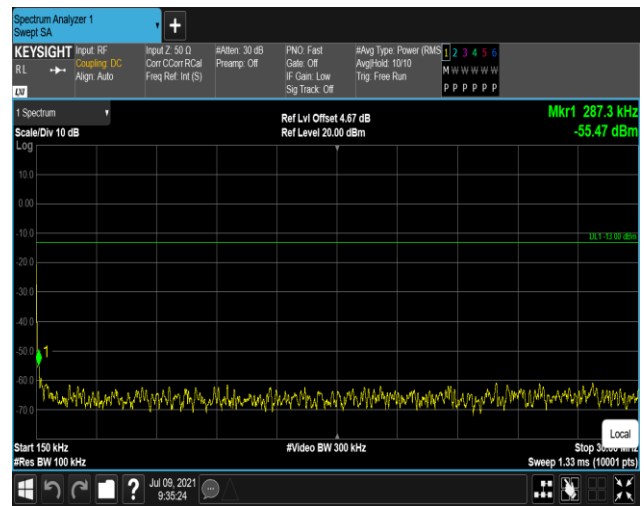
GSM850-190-3-1000~10000MHz



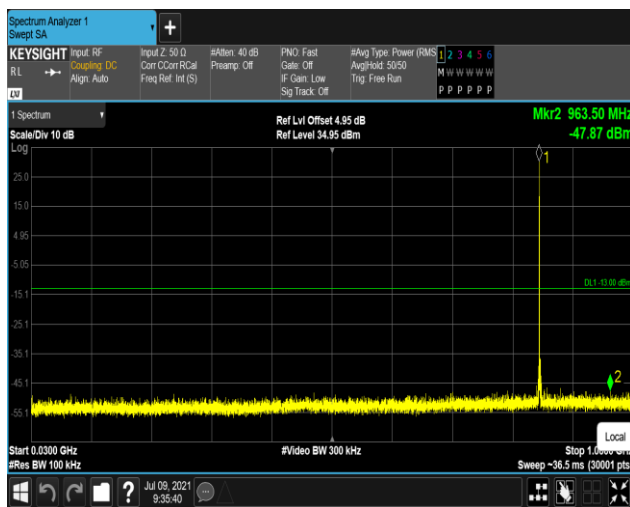
GSM850-251-3-0.009~0.15MHz



GSM850-251-3-0.15~30MHz



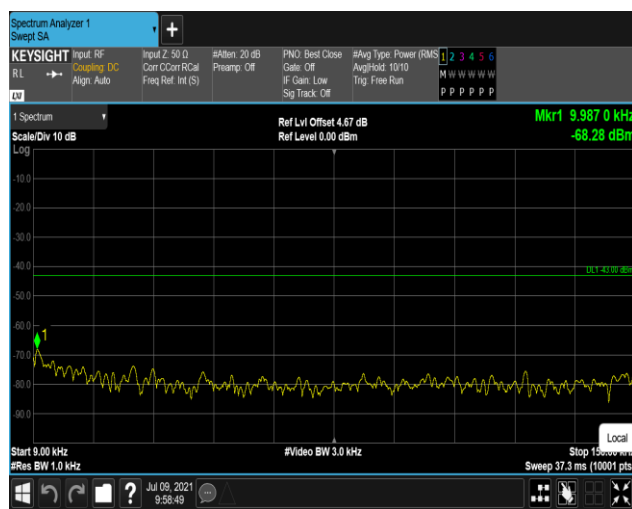
GSM850-251-3-30~1000MHz



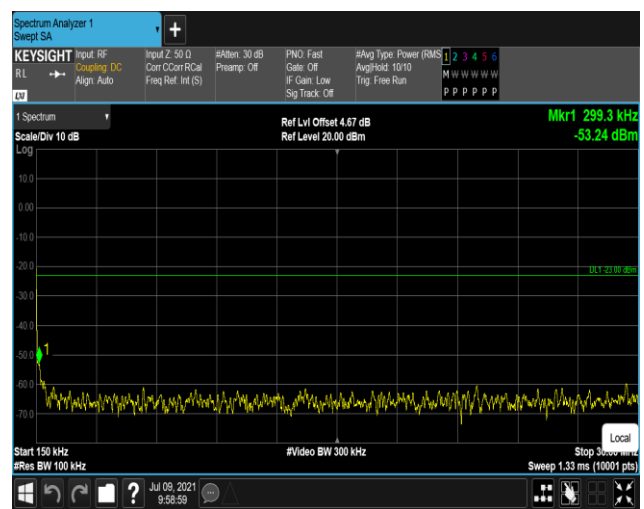
GSM850-251-3-1000~10000MHz



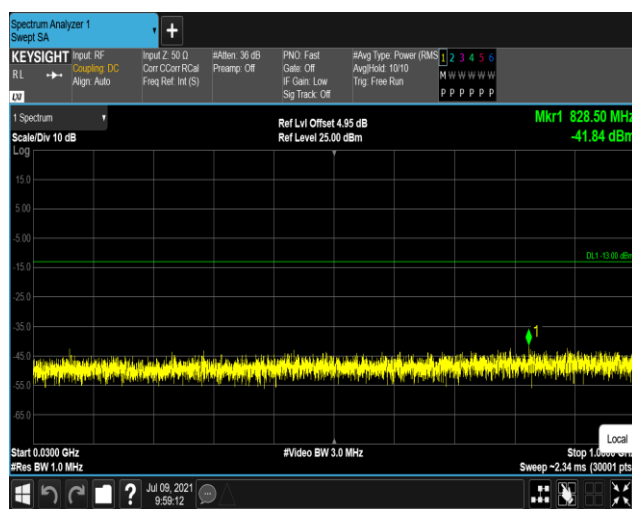
GSM1900-512-0-0.009~0.15MHz



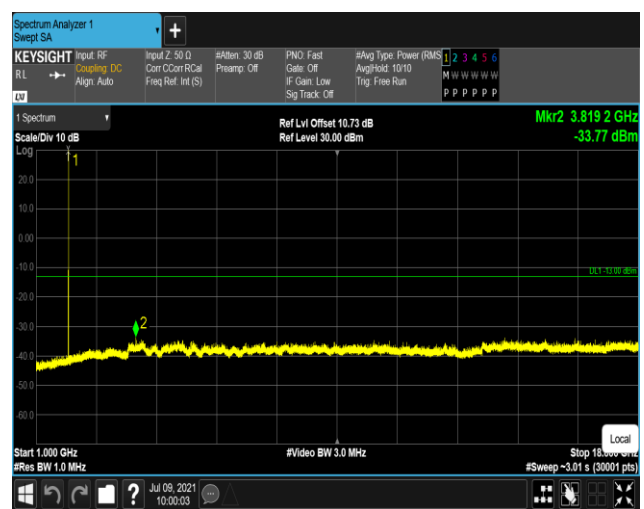
GSM1900-512-0-0.15~30MHz



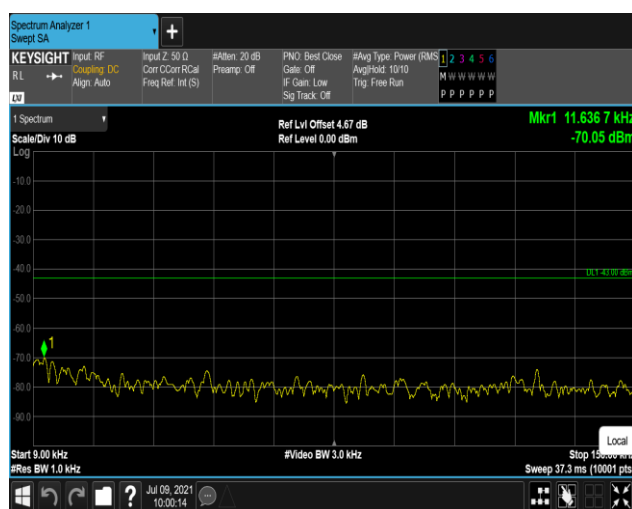
GSM1900-512-0-30~1000MHz



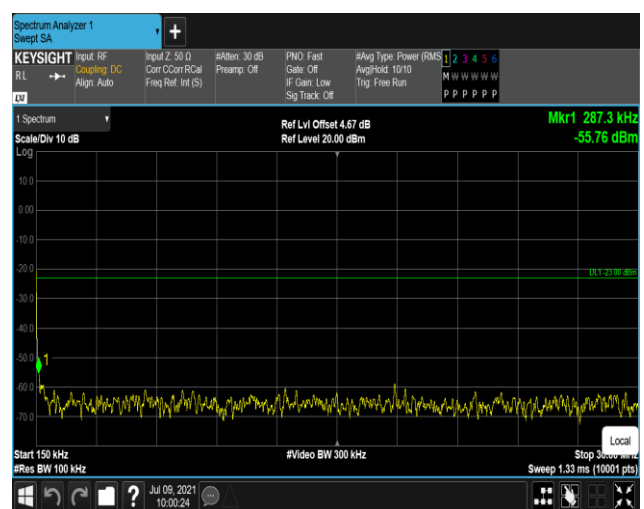
GSM1900-512-0-1000~18000MHz



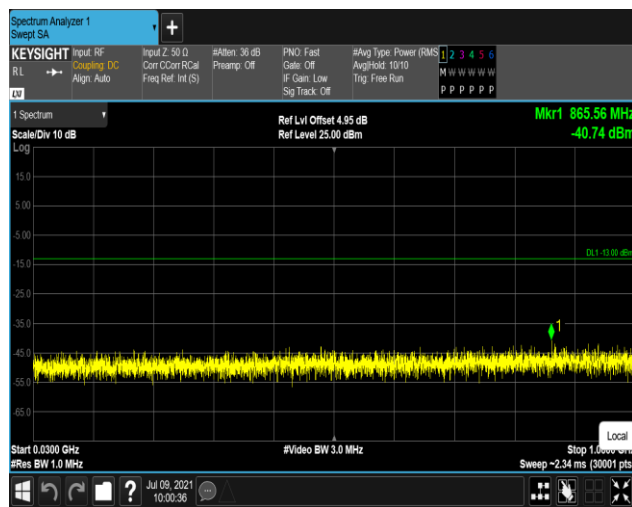
GSM1900-661-0-0.009~0.15MHz



GSM1900-661-0-0.15~30MHz



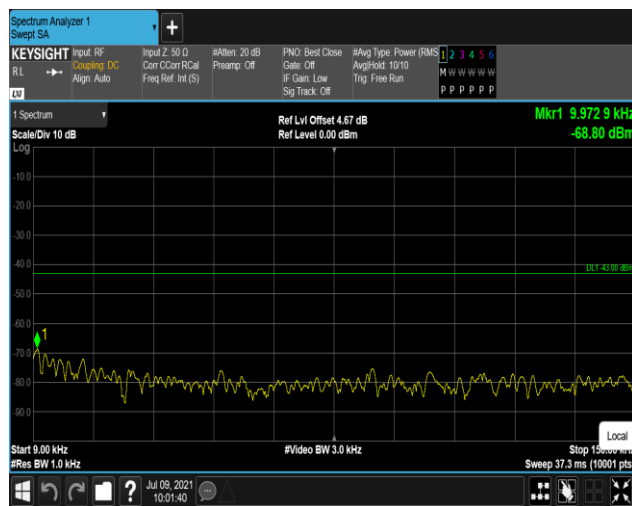
GSM1900-661-0-30~1000MHz



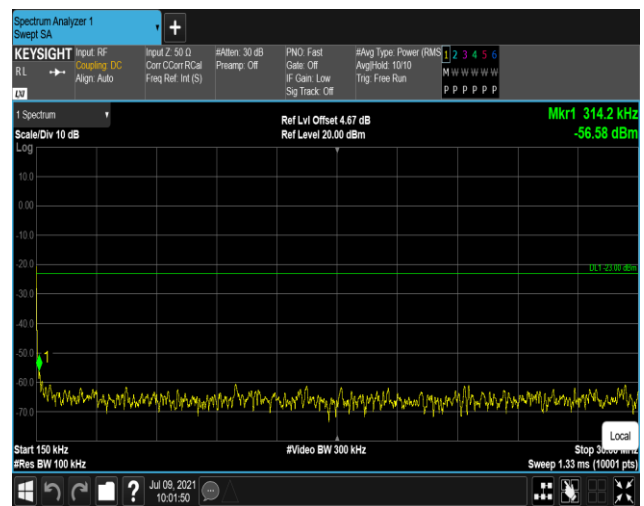
GSM1900-661-0-1000~18000MHz



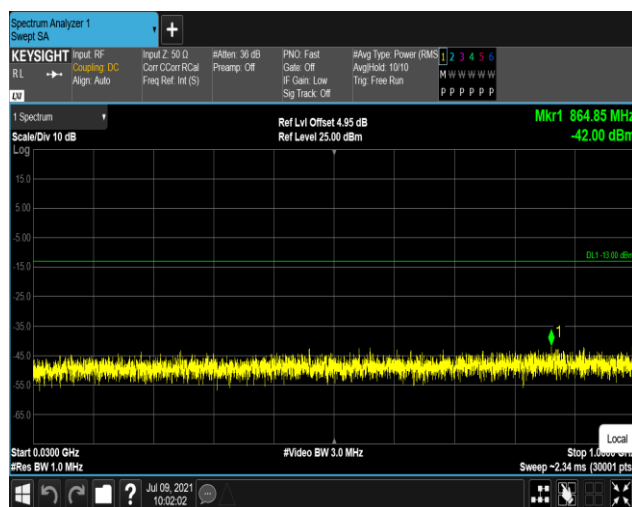
GSM1900-810-0-0.009~0.15MHz



GSM1900-810-0-0.15~30MHz



GSM1900-810-0-30~1000MHz



GSM1900-810-0-1000~18000MHz



Appendix F: Frequency Stability

Test Result

Reference Frequency: GSM850 Middle channel=190 Frequency=836.6MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.85	-30	-13.62	-0.016280	±2.5	Pass
	-20	-10.20	-0.012192		
	-10	-10.43	-0.012467		
	0	-11.98	-0.014320		
	10	-8.01	-0.009574		
	20	-9.56	-0.011427		
	30	-10.36	-0.012383		
	40	-5.78	-0.006909		
	50	-8.46	-0.010112		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	-10.78	-0.012885	±2.5	Pass
	3.85	0.00	0.000000		
	4.40	-14.08	-0.016830		
Remark: All channel had been tested, but only the worst case data displayed in this report.					

Reference Frequency: EGPRS850 Middle channel=190 Frequency=836.6MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.85	-30	-5.26	-0.006287	±2.5	Pass
	-20	-1.81	-0.002164		
	-10	2.32	0.002773		
	0	2.87	0.003431		
	10	10.75	0.012850		
	20	3.39	0.004052		
	30	2.91	0.003478		
	40	4.52	0.005403		
	50	1.07	0.001279		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	-2.94	-0.003514	±2.5	Pass
	3.85	-5.75	-0.006873		
	4.40	-3.68	-0.004399		
Remark: All channel had been tested, but only the worst case data displayed in this report.					

Reference Frequency: PCS1900 Middle channel=661 Frequency=1880MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.85	-30	-34.68	-0.018447	Within authorized band for PCS 1900	Pass
	-20	-32.61	-0.017346		
	-10	-29.06	-0.015457		
	0	-26.22	-0.013947		
	10	-24.47	-0.013016		
	20	-26.05	-0.013856		
	30	-27.77	-0.014771		
	40	-25.99	-0.013824		
	50	-23.96	-0.012745		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	-24.54	-0.013053	Within authorized band for PCS 1900	Pass
	3.85	-18.24	-0.009702		
	4.40	-33.00	-0.017553		
Remark: All channel had been tested, but only the worst case data displayed in this report.					

Reference Frequency: EGPRS1900 Middle channel=661 Frequency=1880MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.85	-30	-16.79	-0.008931	Within authorized band for PCS 1900	Pass
	-20	-15.30	-0.008138		
	-10	2.74	0.001457		
	0	12.59	0.006697		
	10	14.82	0.007883		
	20	-5.46	-0.002904		
	30	20.24	0.010766		
	40	14.17	0.007537		
	50	16.05	0.008537		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	-14.53	-0.007729	Within authorized band for PCS 1900	Pass
	3.85	-14.43	-0.007676		
	4.40	-18.63	-0.009910		
Remark: All channel had been tested, but only the worst case data displayed in this report.					

AppendixG:Modulation Characteristics

Test Result

Band	Channel	Result	Verdict
GSM850	190	PASS	PASS
EGPRS850	190	PASS	PASS
GSM1900	661	PASS	PASS
EGPRS1900	661	PASS	PASS

Remark: All channel had been tested, but only the worst case data displayed in this report.

Test Graphs

