

Appendix A: Effective (Isotropic) Radiated Power Output Data

Test Result

Band	Channel	PCL	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GSM850	128	5	33.58	24.53	38.45	PASS
GSM850	190	5	33.63	24.58	38.45	PASS
GSM850	251	5	33.51	24.46	38.45	PASS
GSM1900	512	0	30.26	28.76	33.00	PASS
GSM1900	661	0	30.44	28.94	33.00	PASS
GSM1900	810	0	30.27	28.77	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GPRS850	128	5	1	33.54	24.49	38.45	PASS
GPRS850	128	5	2	32.67	23.62	38.45	PASS
GPRS850	128	5	3	30.63	21.58	38.45	PASS
GPRS850	128	5	4	29.30	20.25	38.45	PASS
GPRS850	190	5	1	33.59	24.54	38.45	PASS
GPRS850	190	5	2	32.71	23.66	38.45	PASS
GPRS850	190	5	3	30.65	21.6	38.45	PASS
GPRS850	190	5	4	29.31	20.26	38.45	PASS
GPRS850	251	5	1	33.47	24.42	38.45	PASS
GPRS850	251	5	2	32.59	23.54	38.45	PASS
GPRS850	251	5	3	30.55	21.5	38.45	PASS
GPRS850	251	5	4	29.22	20.17	38.45	PASS
GPRS1900	512	0	1	30.24	28.74	33.00	PASS
GPRS1900	512	0	2	29.27	27.77	33.00	PASS
GPRS1900	512	0	3	27.20	25.7	33.00	PASS
GPRS1900	512	0	4	25.99	24.49	33.00	PASS
GPRS1900	661	0	1	30.41	28.91	33.00	PASS
GPRS1900	661	0	2	29.43	27.93	33.00	PASS
GPRS1900	661	0	3	27.36	25.86	33.00	PASS
GPRS1900	661	0	4	26.18	24.68	33.00	PASS
GPRS1900	810	0	1	30.23	28.73	33.00	PASS
GPRS1900	810	0	2	29.27	27.77	33.00	PASS
GPRS1900	810	0	3	27.25	25.75	33.00	PASS
GPRS1900	810	0	4	26.07	24.57	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
EGPRS850	128	8	1	28.09	19.04	38.45	PASS
EGPRS850	128	8	2	26.86	17.81	38.45	PASS
EGPRS850	128	8	3	24.44	15.39	38.45	PASS
EGPRS850	128	8	4	23.00	13.95	38.45	PASS
EGPRS850	190	8	1	28.24	19.19	38.45	PASS
EGPRS850	190	8	2	27.04	17.99	38.45	PASS
EGPRS850	190	8	3	24.59	15.54	38.45	PASS
EGPRS850	190	8	4	23.25	14.2	38.45	PASS
EGPRS850	251	8	1	28.43	19.38	38.45	PASS
EGPRS850	251	8	2	27.08	18.03	38.45	PASS
EGPRS850	251	8	3	24.67	15.62	38.45	PASS
EGPRS850	251	8	4	23.32	14.27	38.45	PASS
EGPRS1900	512	2	1	26.58	25.08	33.00	PASS
EGPRS1900	512	2	2	25.68	24.18	33.00	PASS
EGPRS1900	512	2	3	23.57	22.07	33.00	PASS
EGPRS1900	512	2	4	22.55	21.05	33.00	PASS
EGPRS1900	661	2	1	26.68	25.18	33.00	PASS
EGPRS1900	661	2	2	25.63	24.13	33.00	PASS
EGPRS1900	661	2	3	23.72	22.22	33.00	PASS
EGPRS1900	661	2	4	22.69	21.19	33.00	PASS
EGPRS1900	810	2	1	26.84	25.34	33.00	PASS
EGPRS1900	810	2	2	25.86	24.36	33.00	PASS
EGPRS1900	810	2	3	23.90	22.4	33.00	PASS
EGPRS1900	810	2	4	22.86	21.36	33.00	PASS

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

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

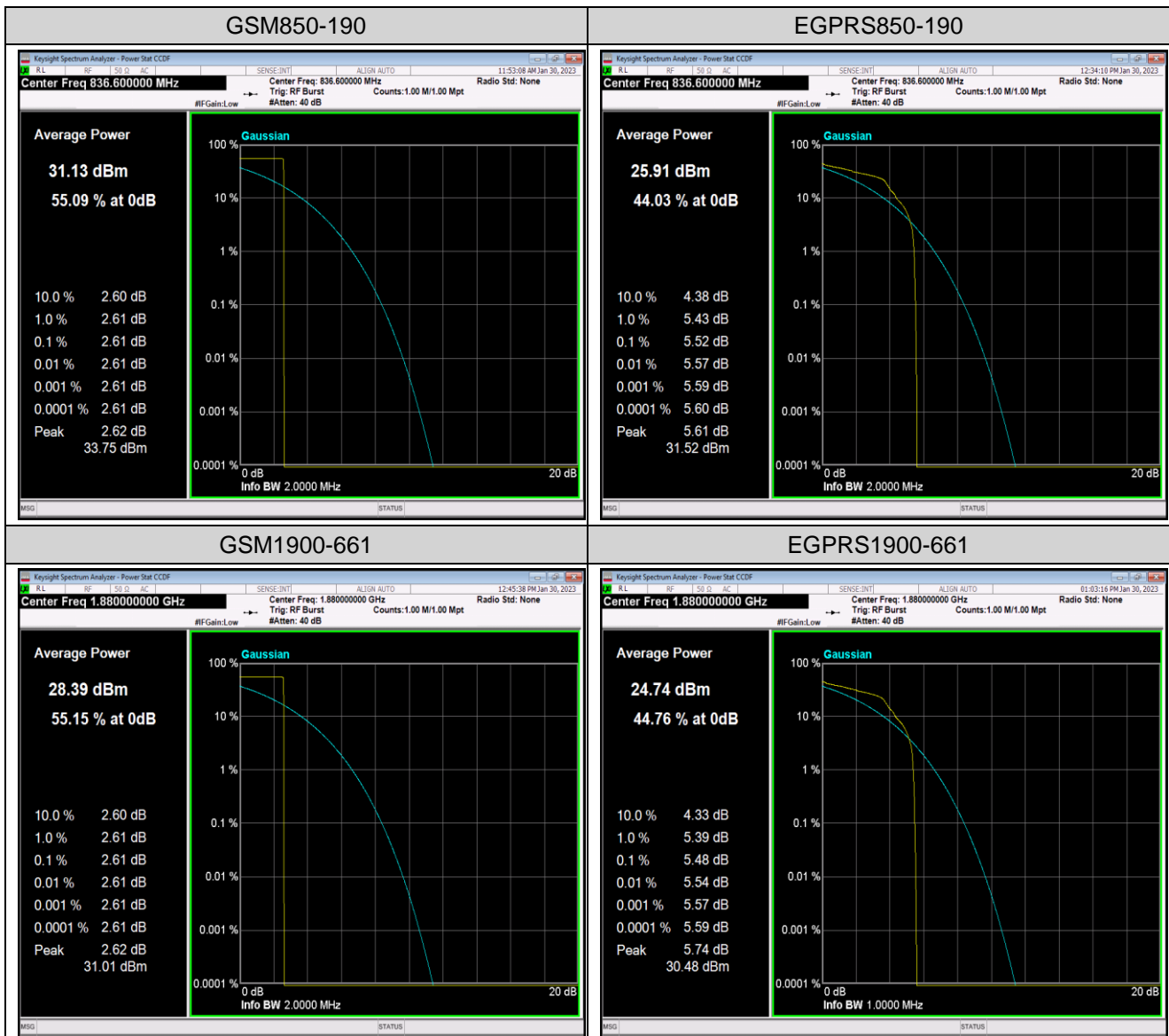
Appendix B: Peak-to-Average Ratio(CCDF)

Test Result

Band	Channel	PCL	Result(dB)	Limit(dB)	Verdict
GSM850	190	5	2.61	13	PASS
EGPRS850	190	8	5.52	13	PASS
GSM1900	661	0	2.61	13	PASS
EGPRS1900	661	2	5.48	13	PASS

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

Test Graphs

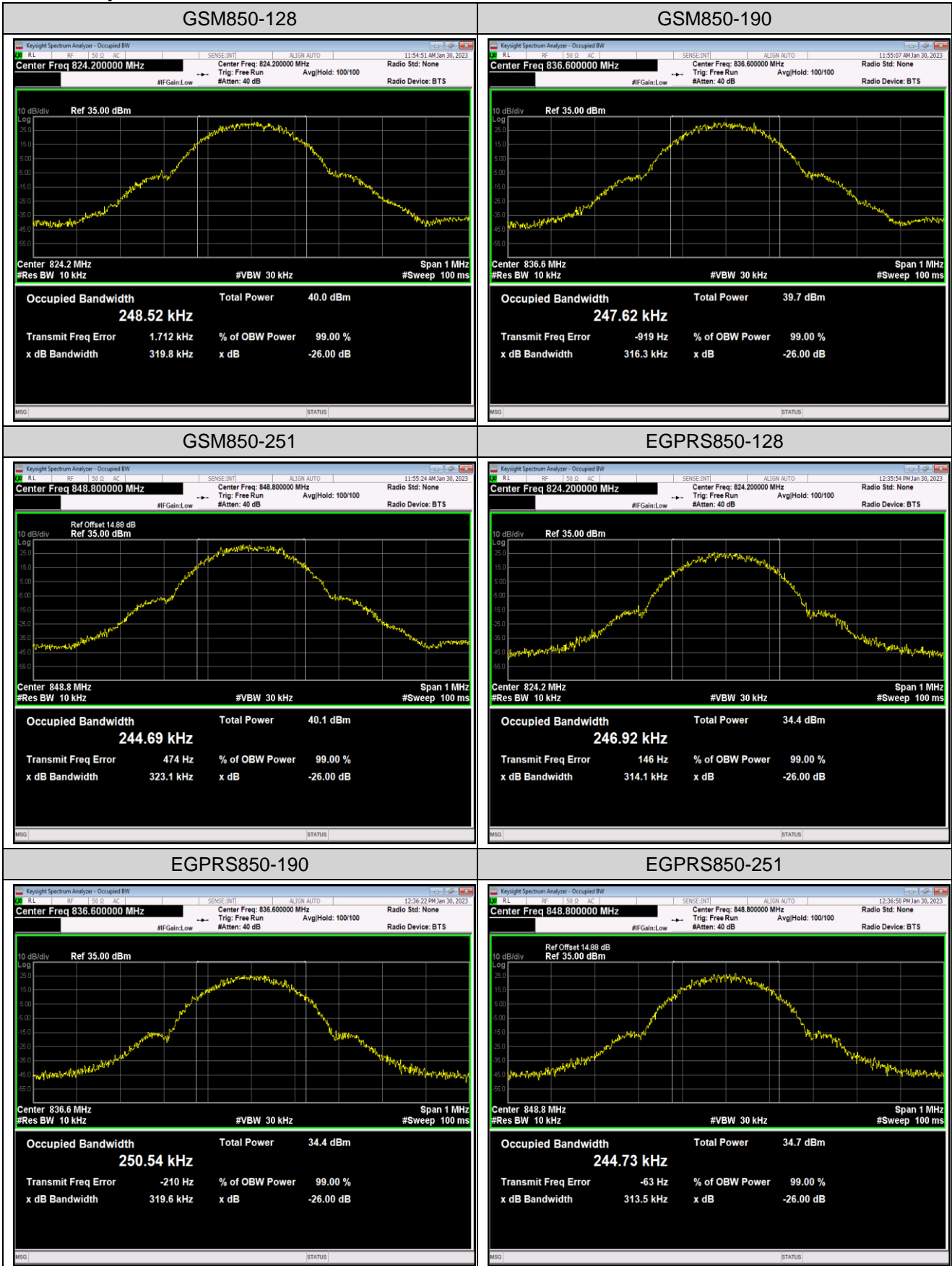


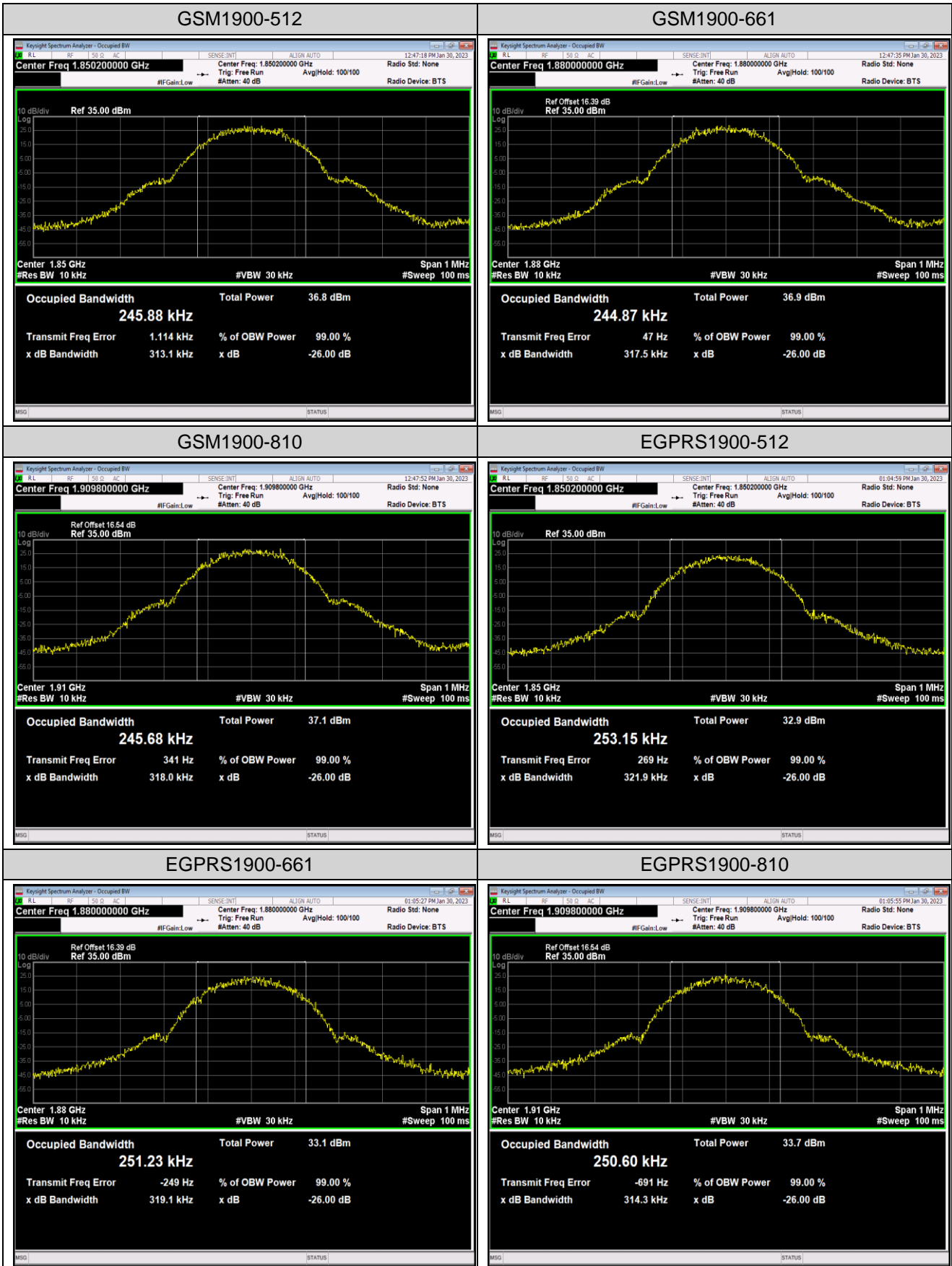
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Channel	PCL	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	5	0.24852	0.3198	---	PASS
GSM850	190	5	0.24762	0.3163	---	PASS
GSM850	251	5	0.24469	0.3231	---	PASS
EGPRS850	128	8	0.24692	0.3141	---	PASS
EGPRS850	190	8	0.25054	0.3196	---	PASS
EGPRS850	251	8	0.24473	0.3135	---	PASS
GSM1900	512	0	0.24588	0.3131	---	PASS
GSM1900	661	0	0.24487	0.3175	---	PASS
GSM1900	810	0	0.24568	0.3180	---	PASS
EGPRS1900	512	2	0.25315	0.3219	---	PASS
EGPRS1900	661	2	0.25123	0.3191	---	PASS
EGPRS1900	810	2	0.25060	0.3143	---	PASS

Test Graphs



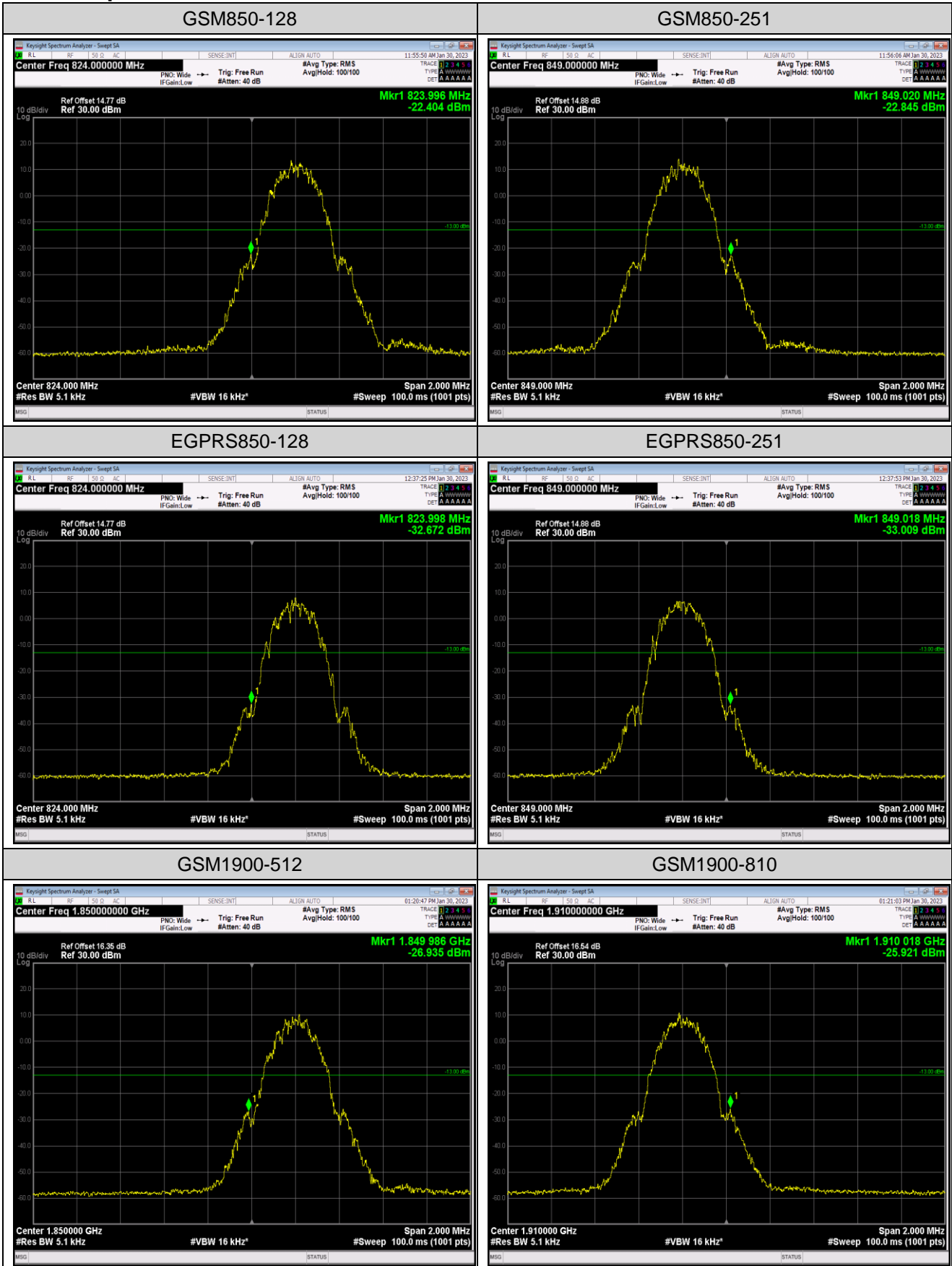


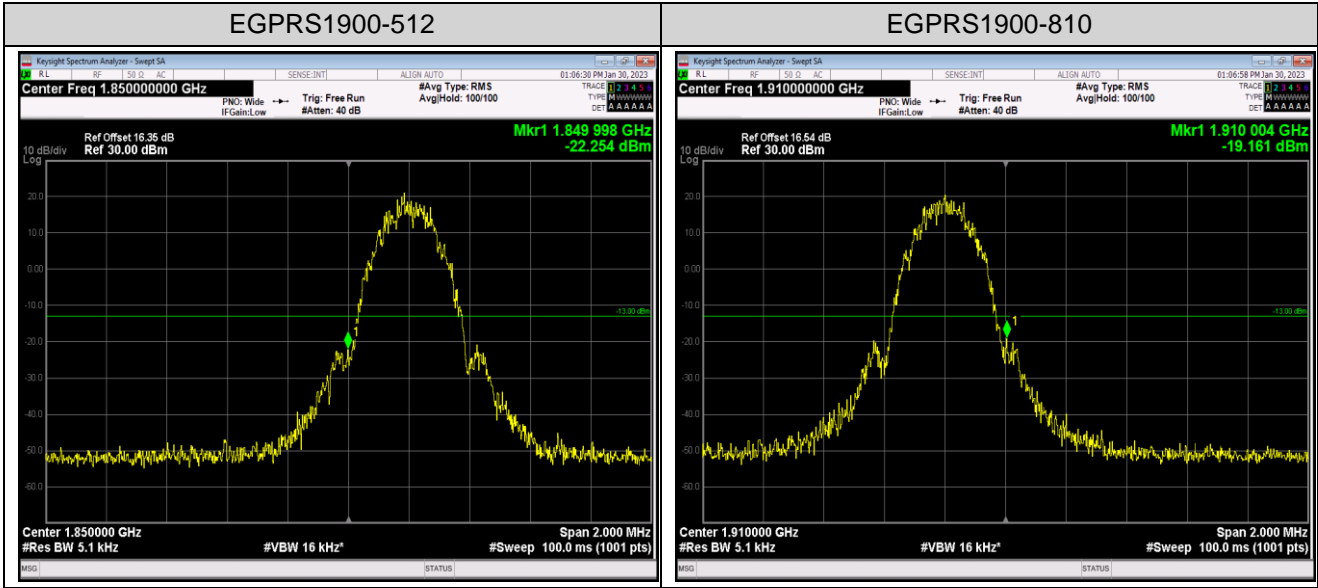
Appendix D: Band Edge

Test Result

Band	Channel	PCL	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	5	824.00	-22.40	-13	PASS
GSM850	251	5	849.02	-22.84	-13	PASS
EGPRS850	128	8	824.00	-32.67	-13	PASS
EGPRS850	251	8	849.02	-33.01	-13	PASS
GSM1900	512	0	1849.99	-26.93	-13	PASS
GSM1900	810	0	1910.02	-25.92	-13	PASS
EGPRS1900	512	2	1850.00	-22.25	-13	PASS
EGPRS1900	810	2	1910.00	-19.16	-13	PASS

Test Graphs





Appendix E: Conducted Spurious Emission

Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	5	0.009~0.15MHz	0.01	-52.74	-33	PASS
GSM850	128	5	0.15~30MHz	0.17	-41.47	-13	PASS
GSM850	128	5	30~1000MHz	953.38	-39.22	-13	PASS
GSM850	128	5	1000~10000MHz	5116.9	-31.3	-13	PASS
GSM850	190	5	0.009~0.15MHz	0.01	-53.75	-33	PASS
GSM850	190	5	0.15~30MHz	0.16	-42.64	-13	PASS
GSM850	190	5	30~1000MHz	954.41	-39.32	-13	PASS
GSM850	190	5	1000~10000MHz	5953.9	-31.25	-13	PASS
GSM850	251	5	0.009~0.15MHz	0.01	-54.99	-33	PASS
GSM850	251	5	0.15~30MHz	0.16	-41.74	-13	PASS
GSM850	251	5	30~1000MHz	986.26	-39.3	-13	PASS
GSM850	251	5	1000~10000MHz	5912.5	-30.77	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-52.57	-43	PASS
GSM1900	512	0	0.15~30MHz	0.15	-39.84	-23	PASS
GSM1900	512	0	30~1000MHz	992.85	-40.33	-13	PASS
GSM1900	512	0	1000~18000MHz	16190.63	-16.3	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-53.98	-43	PASS
GSM1900	661	0	0.15~30MHz	0.15	-41.77	-23	PASS
GSM1900	661	0	30~1000MHz	804.97	-41.12	-13	PASS
GSM1900	661	0	1000~18000MHz	16939.2	-16.7	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-53.97	-43	PASS
GSM1900	810	0	0.15~30MHz	0.15	-38.19	-23	PASS
GSM1900	810	0	30~1000MHz	835.33	-40.51	-13	PASS
GSM1900	810	0	1000~18000MHz	16151.53	-16	-13	PASS

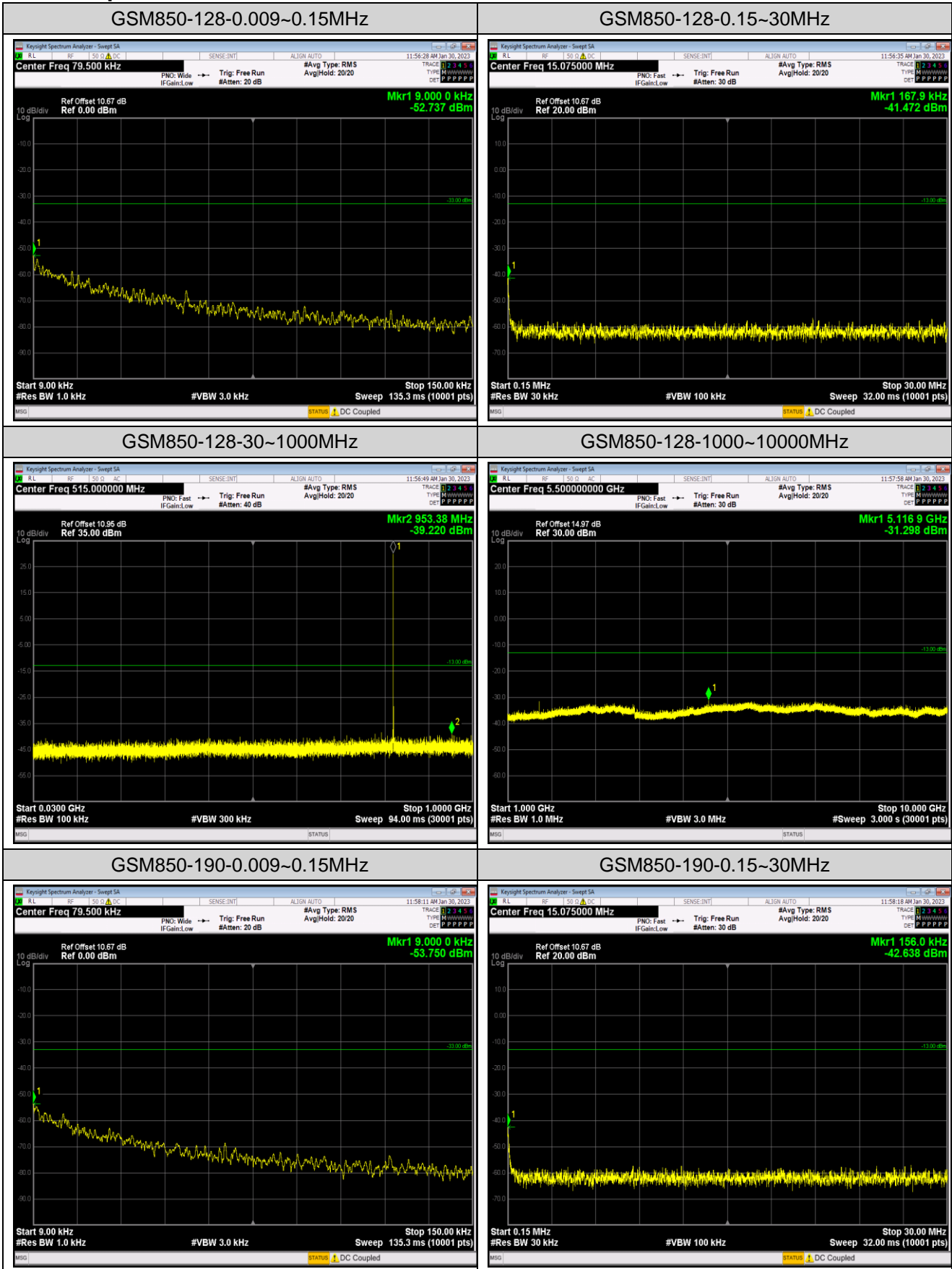
Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	5	0.009~0.15MHz	0.01	-52.74	-33	PASS
GSM850	128	5	0.15~30MHz	0.17	-41.47	-13	PASS
GSM850	128	5	30~1000MHz	953.38	-39.22	-13	PASS
GSM850	128	5	1000~10000MHz	5116.9	-31.3	-13	PASS
GSM850	190	5	0.009~0.15MHz	0.01	-53.75	-33	PASS
GSM850	190	5	0.15~30MHz	0.16	-42.64	-13	PASS
GSM850	190	5	30~1000MHz	954.41	-39.32	-13	PASS
GSM850	190	5	1000~10000MHz	5953.9	-31.25	-13	PASS
GSM850	251	5	0.009~0.15MHz	0.01	-54.99	-33	PASS
GSM850	251	5	0.15~30MHz	0.16	-41.74	-13	PASS

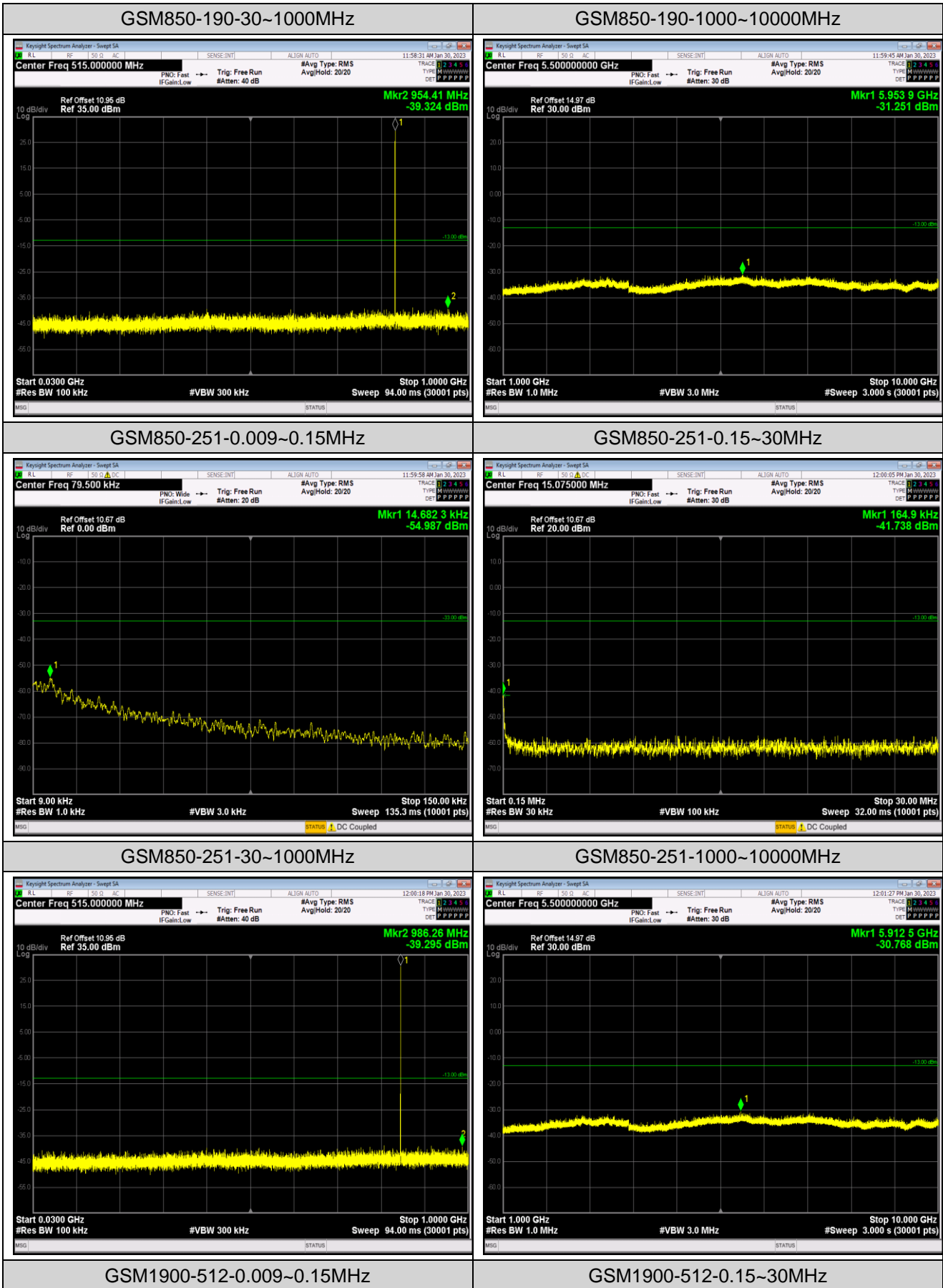
GSM850	251	5	30~1000MHz	986.26	-39.3	-13	PASS
GSM850	251	5	1000~10000MHz	5912.5	-30.77	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-52.97	-43	PASS
GSM1900	512	0	0.15~30MHz	0.16	-41.43	-23	PASS
GSM1900	512	0	30~1000MHz	982.15	-39.92	-13	PASS
GSM1900	512	0	1000~18000MHz	16096.57	-26.02	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-55.1	-43	PASS
GSM1900	661	0	0.15~30MHz	0.15	-42.15	-23	PASS
GSM1900	661	0	30~1000MHz	890.97	-38.96	-13	PASS
GSM1900	661	0	1000~18000MHz	16405.97	-26.85	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-53.56	-43	PASS
GSM1900	810	0	0.15~30MHz	0.15	-40.07	-23	PASS
GSM1900	810	0	30~1000MHz	852.4	-39.09	-13	PASS
GSM1900	810	0	1000~18000MHz	16987.37	-26.4	-13	PASS

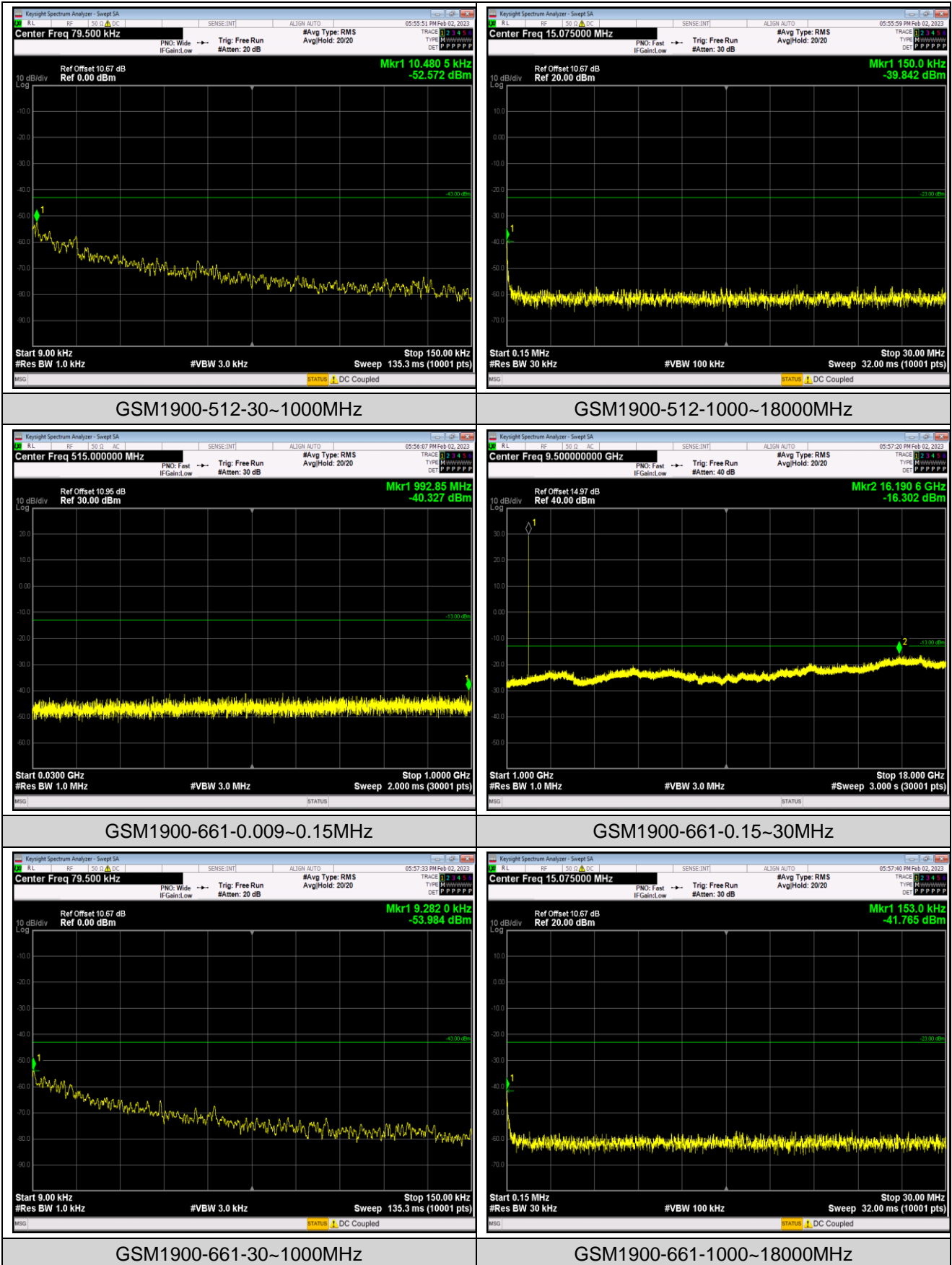
Test Result

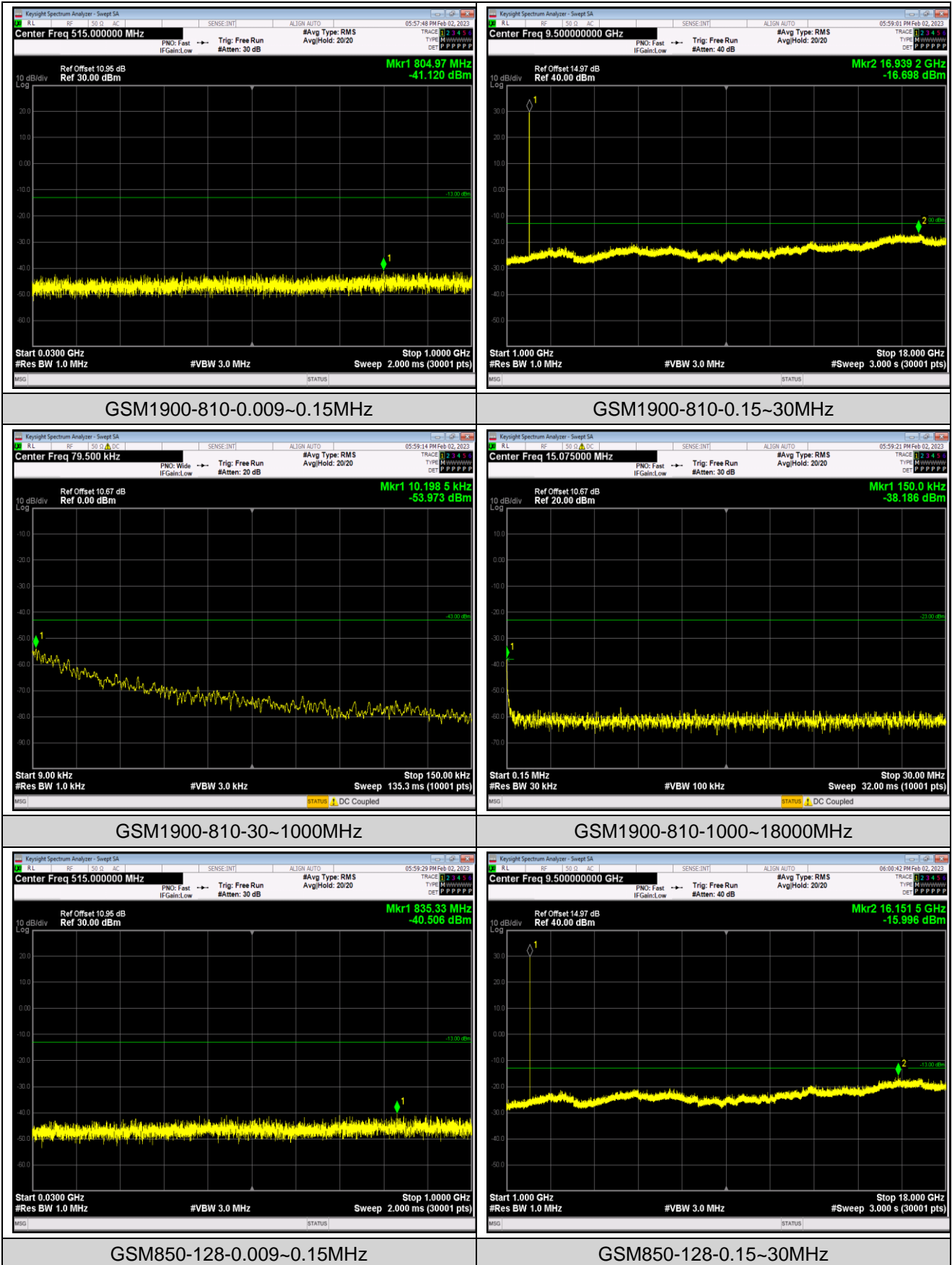
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

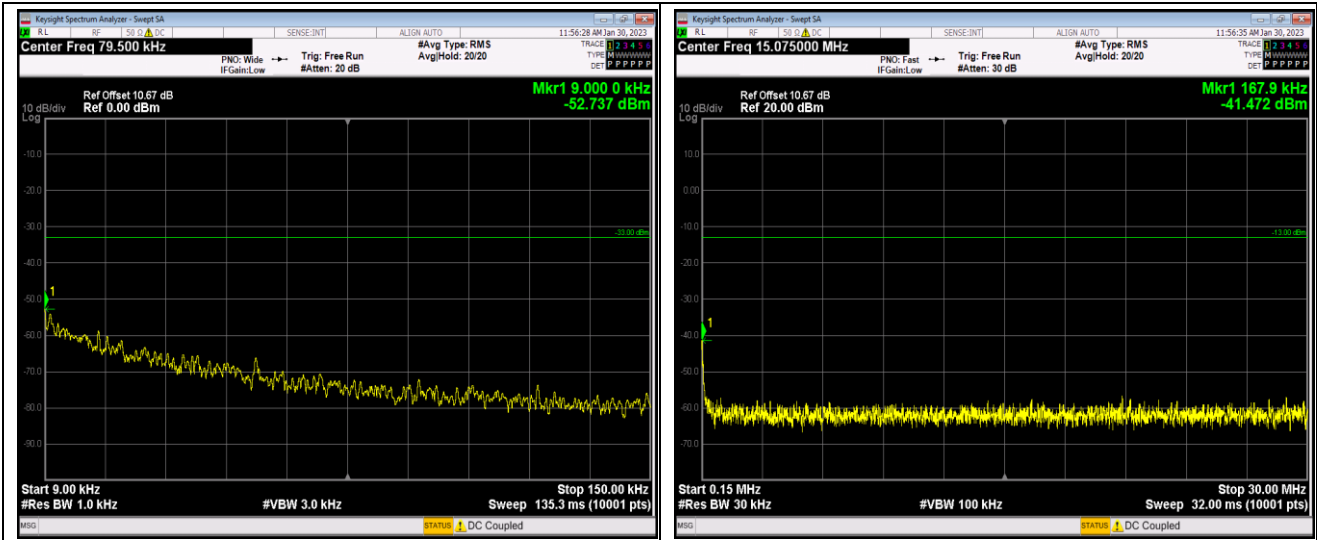
Test Graphs





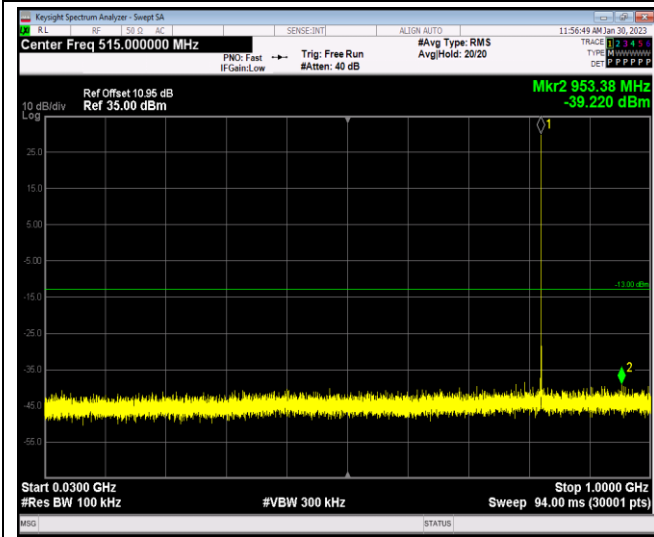




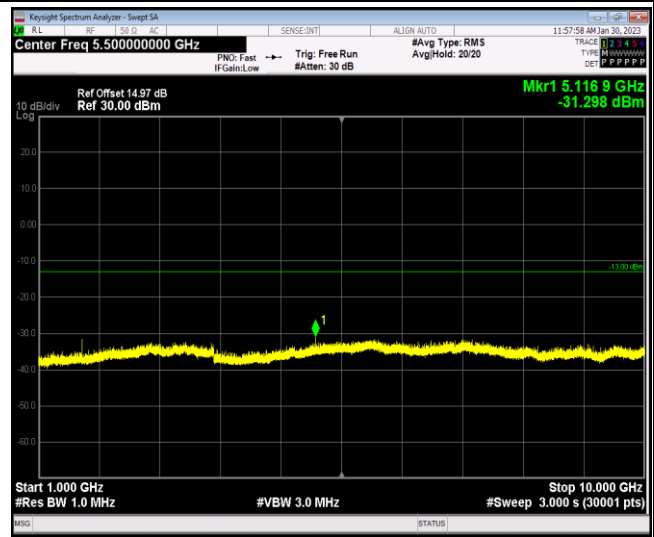


GSM850-128-30~1000MHz

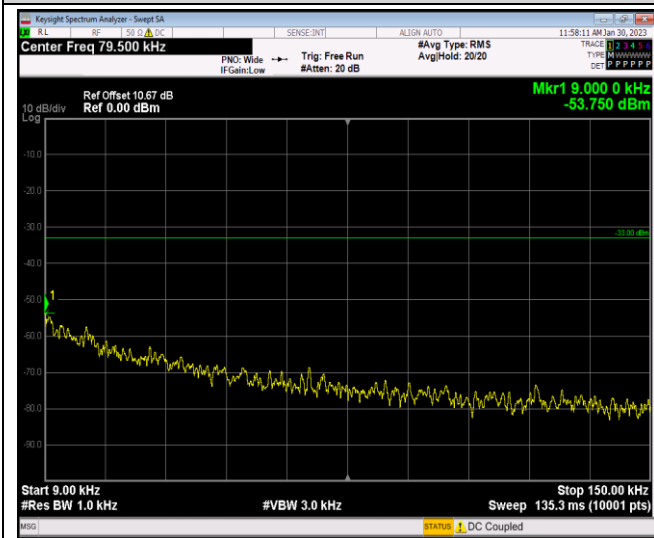
GSM850-128-1000~10000MHz



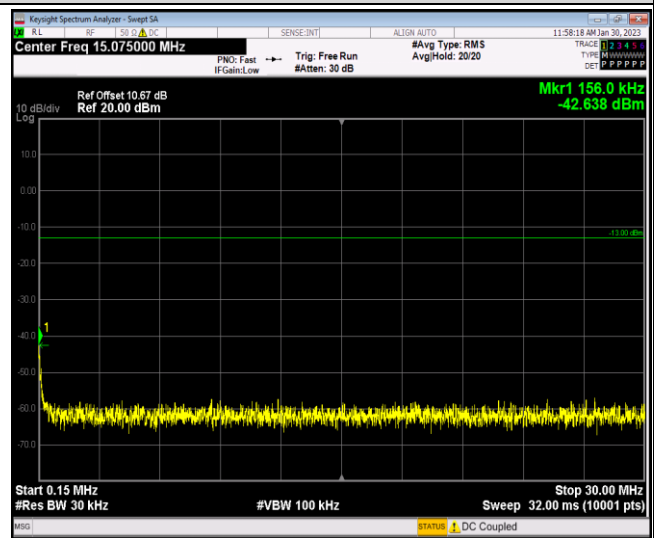
GSM850-190-0.009~0.15MHz



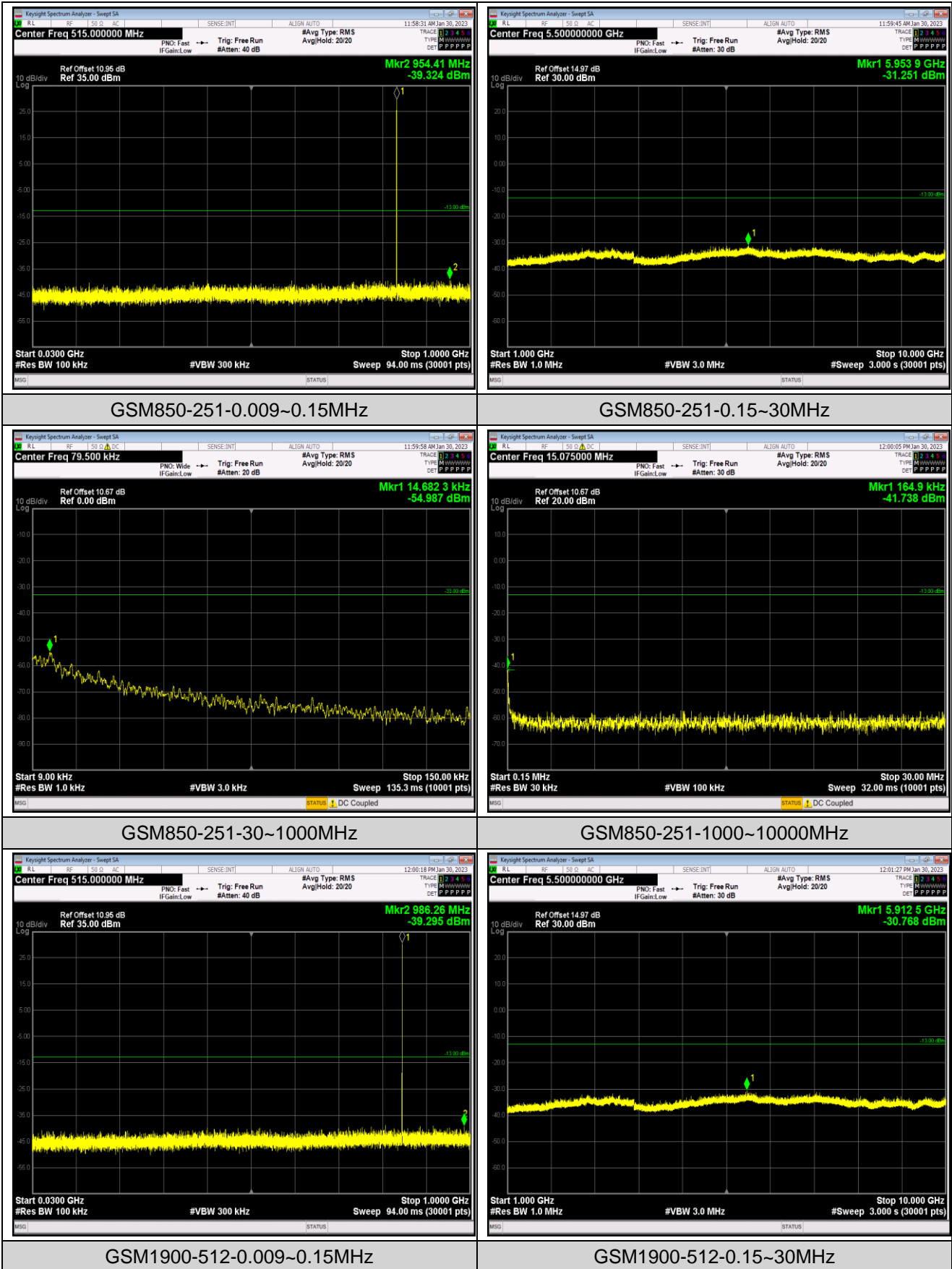
GSM850-190-0.15~30MHz

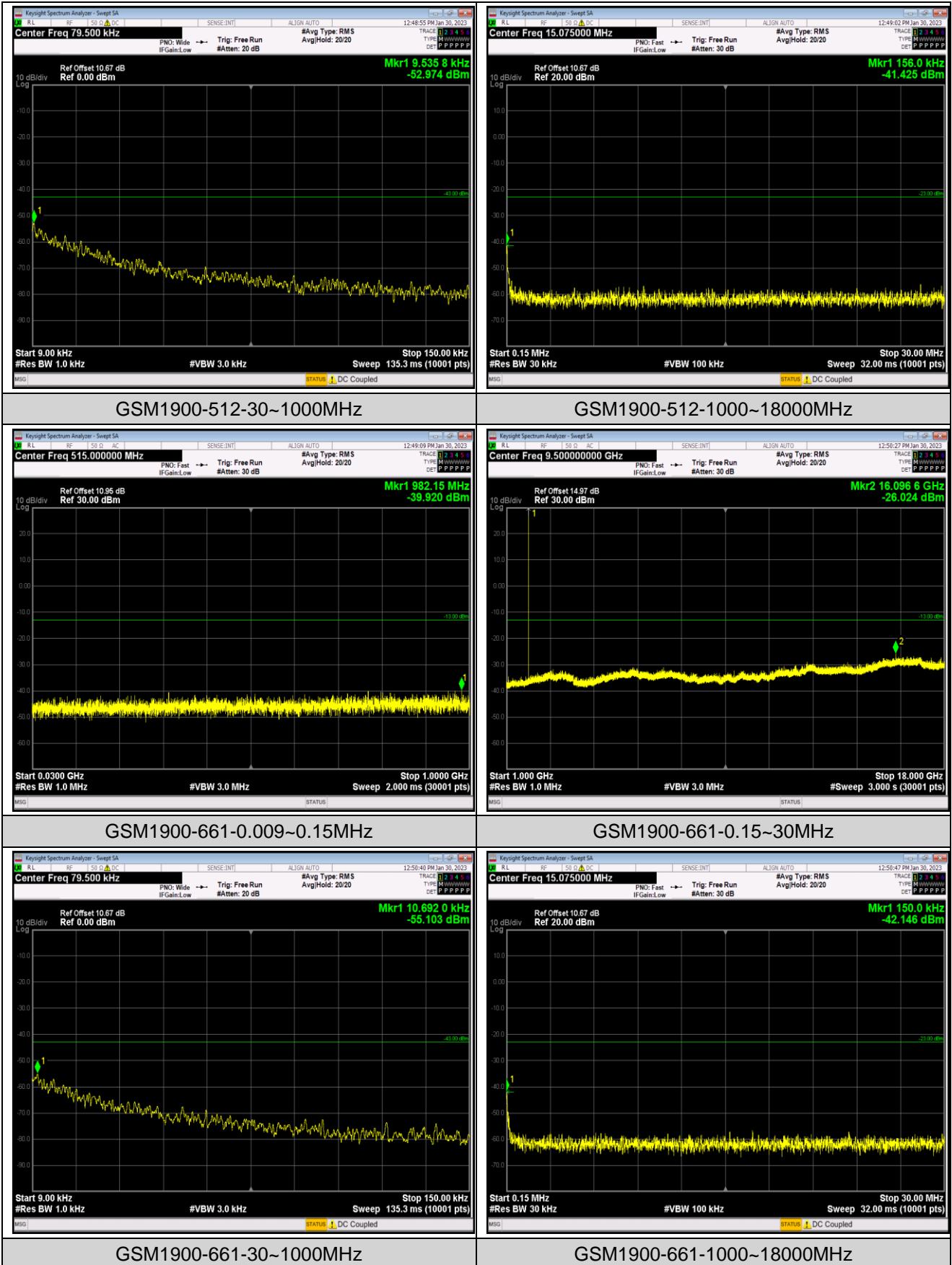


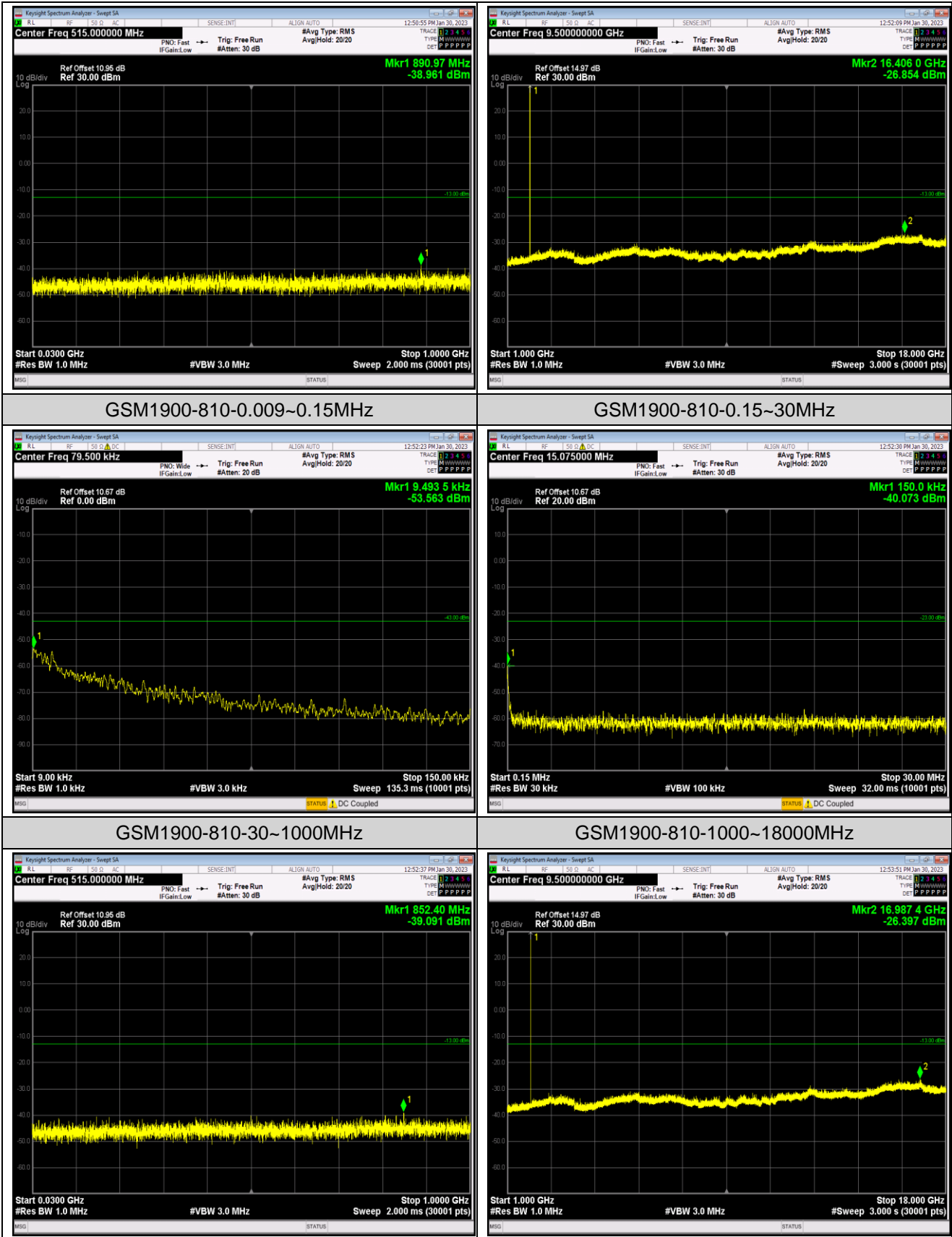
GSM850-190-30~1000MHz



GSM850-190-1000~10000MHz







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	2.36	0.002821	±2.5	Pass
	-20	2.58	0.003084		
	-10	-1.81	-0.002164		
	0	1.00	0.001195		
	10	2.94	0.003514		
	20	1.49	0.001781		
	30	0.77	0.000920		
	40	3.49	0.004172		
	50	1.61	0.001924		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	1.61	0.001924	±2.5	Pass
	3.85	5.29	0.006323		
	4.40	3.62	0.004327		
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 (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.85	-30	2.03	0.002426	±2.5	Pass
	-20	0.77	0.000920		
	-10	-4.49	-0.005367		
	0	4.65	0.005558		
	10	3.42	0.004088		
	20	5.20	0.006216		
	30	9.72	0.011618		
	40	9.81	0.011726		
	50	10.23	0.012228		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	2.39	0.002857	±2.5	Pass
	3.85	2.94	0.003514		
	4.40	2.81	0.003359		
<i>Remark: All channel had been tested, but only the worst case data displayed in this report.</i>					

Reference Frequency: PCS1900 Middle channel=661 Frequency=1880MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.85	-30	11.69	0.006218	Within authorized band for PCS 1900	Pass
	-20	17.82	0.009479		
	-10	11.07	0.005888		
	0	12.11	0.006441		
	10	19.24	0.010234		
	20	11.01	0.005856		
	30	10.82	0.005755		
	40	17.82	0.009479		
	50	19.37	0.010303		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	17.01	0.009048	Within authorized band for PCS 1900	Pass
	3.85	19.37	0.010303		
	4.40	13.17	0.007005		
<i>Remark: All channel had been tested, but only the worst case data displayed in this report.</i>					

Reference Frequency: EGPRS1900 Middle channel=661 Frequency=1880MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.85	-30	13.59	0.007229	Within authorized band for PCS 1900	Pass
	-20	17.47	0.009293		
	-10	14.08	0.007489		
	0	13.72	0.007298		
	10	13.62	0.007245		
	20	31.48	0.016745		
	30	33.80	0.017979		
	40	34.42	0.018309		
	50	29.80	0.015851		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	17.01	0.009048	Within authorized band for PCS 1900	Pass
	3.85	19.37	0.010303		
	4.40	13.17	0.007005		
<i>Remark: All channel had been tested, but only the worst case data displayed in this report.</i>					

Appendix G: 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

