

Appendix A: Effective (Isotropic) Radiated Power Output Data

Test Result

Band	Channel	PCL	Conducted Power (dBm)	Antenna Gain (dBi)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GSM850	128	5	33.24	-1.6	29.49	38.45	PASS
GSM850	190	5	33.16	-1.6	29.41	38.45	PASS
GSM850	251	5	33.20	-1.6	29.45	38.45	PASS
GSM1900	512	0	29.41	-0.94	28.47	33.00	PASS
GSM1900	661	0	29.70	-0.94	28.76	33.00	PASS
GSM1900	810	0	29.87	-0.94	28.93	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	Antenna Gain (dBi)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GPRS850	128	5	1	33.22	-1.6	29.47	38.45	PASS
GPRS850	128	5	2	32.48	-1.6	28.73	38.45	PASS
GPRS850	128	5	3	30.74	-1.6	26.99	38.45	PASS
GPRS850	128	5	4	29.65	-1.6	25.9	38.45	PASS
GPRS850	190	5	1	33.12	-1.6	29.37	38.45	PASS
GPRS850	190	5	2	32.39	-1.6	28.64	38.45	PASS
GPRS850	190	5	3	30.67	-1.6	26.92	38.45	PASS
GPRS850	190	5	4	29.62	-1.6	25.87	38.45	PASS
GPRS850	251	5	1	33.15	-1.6	29.4	38.45	PASS
GPRS850	251	5	2	32.43	-1.6	28.68	38.45	PASS
GPRS850	251	5	3	30.73	-1.6	26.98	38.45	PASS
GPRS850	251	5	4	29.70	-1.6	25.95	38.45	PASS
GPRS1900	512	0	1	29.41	-0.94	28.47	33.00	PASS
GPRS1900	512	0	2	28.63	-0.94	27.69	33.00	PASS
GPRS1900	512	0	3	26.84	-0.94	25.9	33.00	PASS
GPRS1900	512	0	4	25.70	-0.94	24.76	33.00	PASS
GPRS1900	661	0	1	29.68	-0.94	28.74	33.00	PASS
GPRS1900	661	0	2	28.95	-0.94	28.01	33.00	PASS
GPRS1900	661	0	3	27.16	-0.94	26.22	33.00	PASS
GPRS1900	661	0	4	26.09	-0.94	25.15	33.00	PASS
GPRS1900	810	0	1	29.85	-0.94	28.91	33.00	PASS
GPRS1900	810	0	2	29.18	-0.94	28.24	33.00	PASS
GPRS1900	810	0	3	27.41	-0.94	26.47	33.00	PASS
GPRS1900	810	0	4	26.38	-0.94	25.44	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	Antenna Gain (dBi)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
EGPRS850	128	8	1	27.69	-1.6	23.94	38.45	PASS
EGPRS850	128	8	2	26.53	-1.6	22.78	38.45	PASS
EGPRS850	128	8	3	24.48	-1.6	20.73	38.45	PASS
EGPRS850	128	8	4	23.45	-1.6	19.7	38.45	PASS
EGPRS850	190	8	1	27.72	-1.6	23.97	38.45	PASS
EGPRS850	190	8	2	26.62	-1.6	22.87	38.45	PASS
EGPRS850	190	8	3	24.52	-1.6	20.77	38.45	PASS
EGPRS850	190	8	4	23.47	-1.6	19.72	38.45	PASS
EGPRS850	251	8	1	27.61	-1.6	23.86	38.45	PASS
EGPRS850	251	8	2	26.54	-1.6	22.79	38.45	PASS
EGPRS850	251	8	3	24.37	-1.6	20.62	38.45	PASS
EGPRS850	251	8	4	23.40	-1.6	19.65	38.45	PASS
EGPRS1900	512	2	1	25.91	-0.94	24.97	33.00	PASS
EGPRS1900	512	2	2	25.04	-0.94	24.1	33.00	PASS
EGPRS1900	512	2	3	23.23	-0.94	22.29	33.00	PASS
EGPRS1900	512	2	4	22.23	-0.94	21.29	33.00	PASS
EGPRS1900	661	2	1	26.31	-0.94	25.37	33.00	PASS
EGPRS1900	661	2	2	25.48	-0.94	24.54	33.00	PASS
EGPRS1900	661	2	3	23.63	-0.94	22.69	33.00	PASS
EGPRS1900	661	2	4	22.64	-0.94	21.7	33.00	PASS
EGPRS1900	810	2	1	26.10	-0.94	25.16	33.00	PASS
EGPRS1900	810	2	2	25.21	-0.94	24.27	33.00	PASS
EGPRS1900	810	2	3	23.40	-0.94	22.46	33.00	PASS
EGPRS1900	810	2	4	22.46	-0.94	21.52	33.00	PASS

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

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

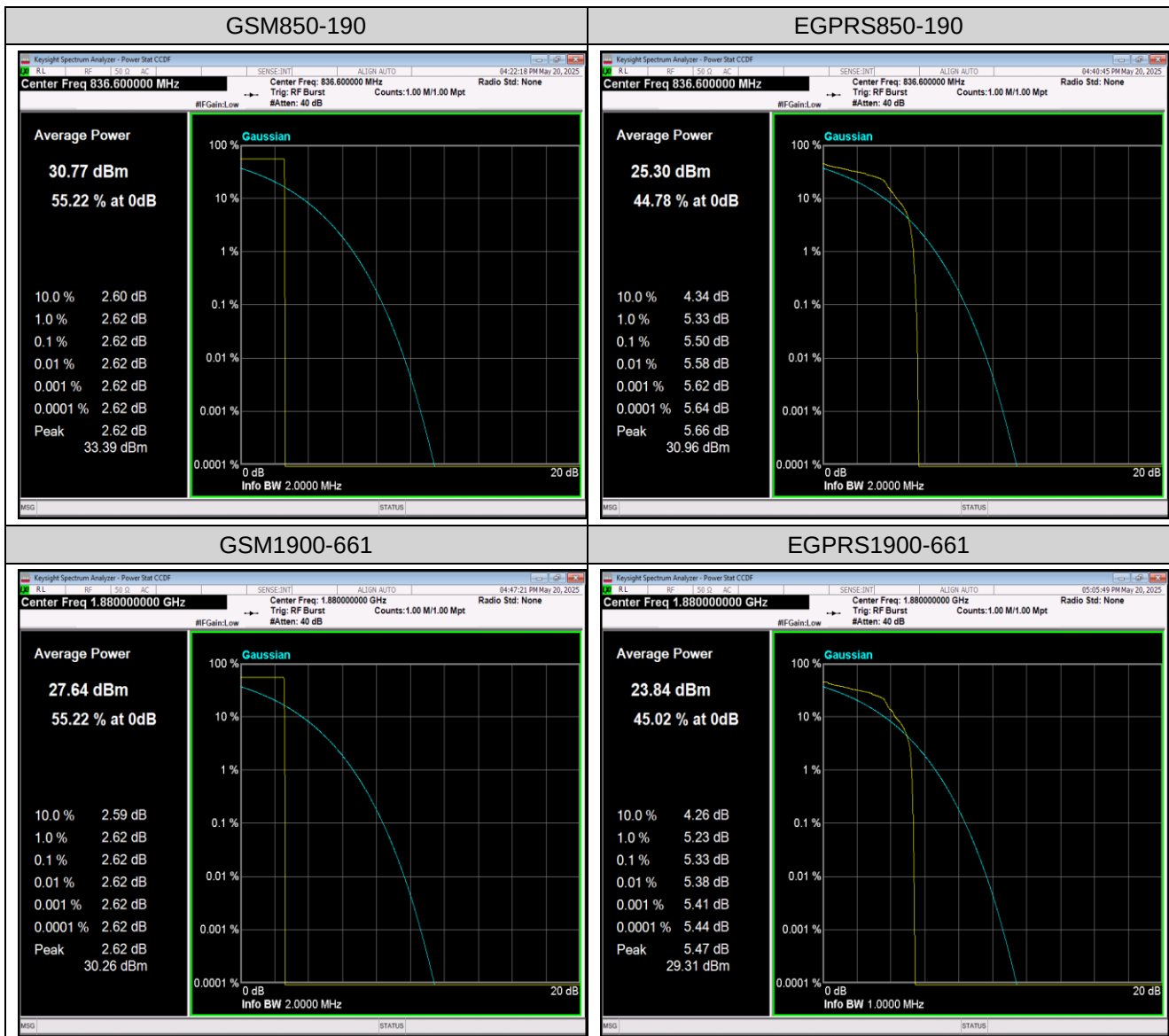
Appendix B: Peak-to-Average Ratio(CCDF)

Test Result

Band	Channel	PCL	Result(dB)	Limit(dB)	Verdict
GSM850	190	5	2.62	13	PASS
EGPRS850	190	8	5.5	13	PASS
GSM1900	661	0	2.62	13	PASS
EGPRS1900	661	2	5.33	13	PASS

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

Test Graphs

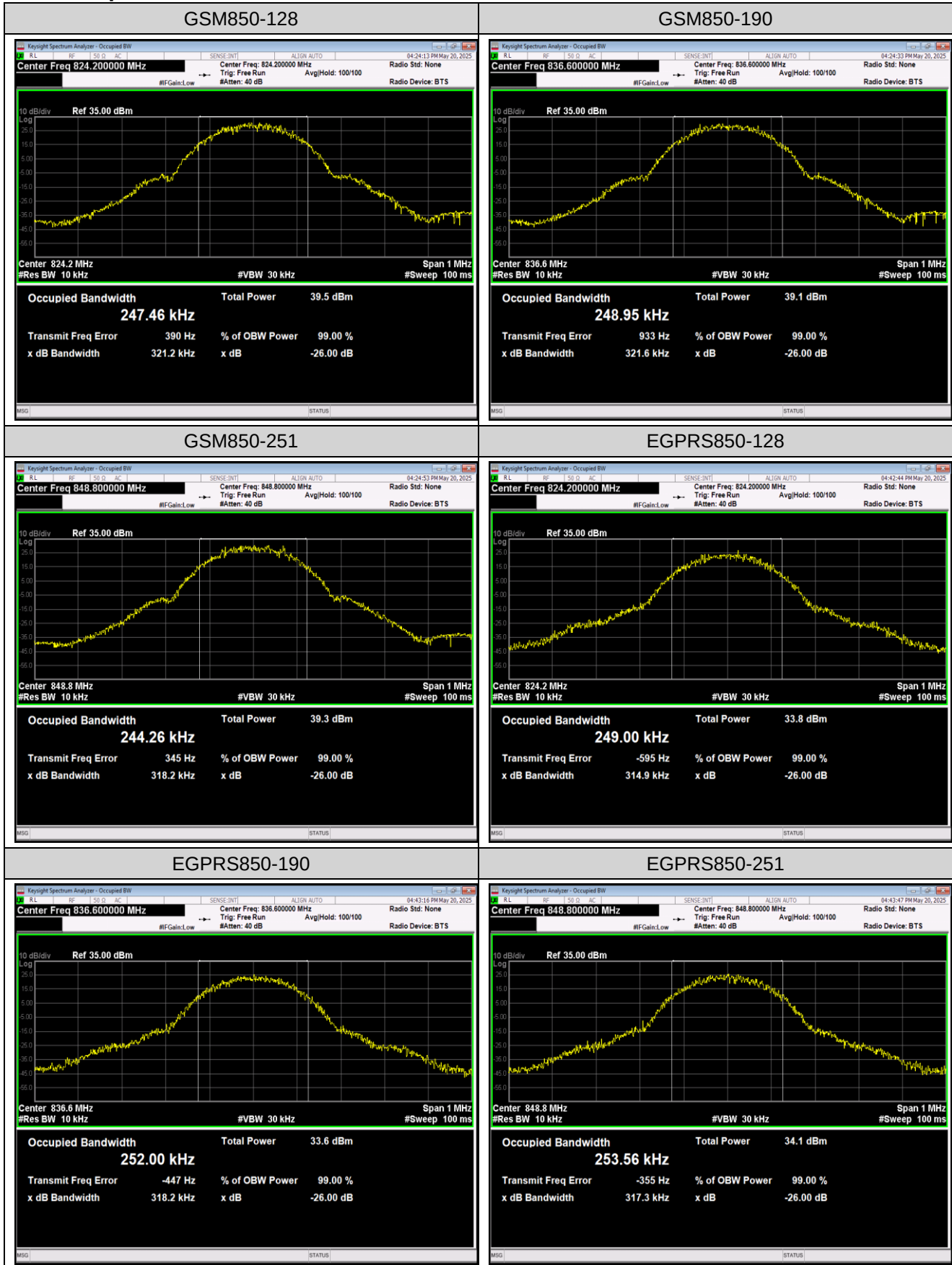


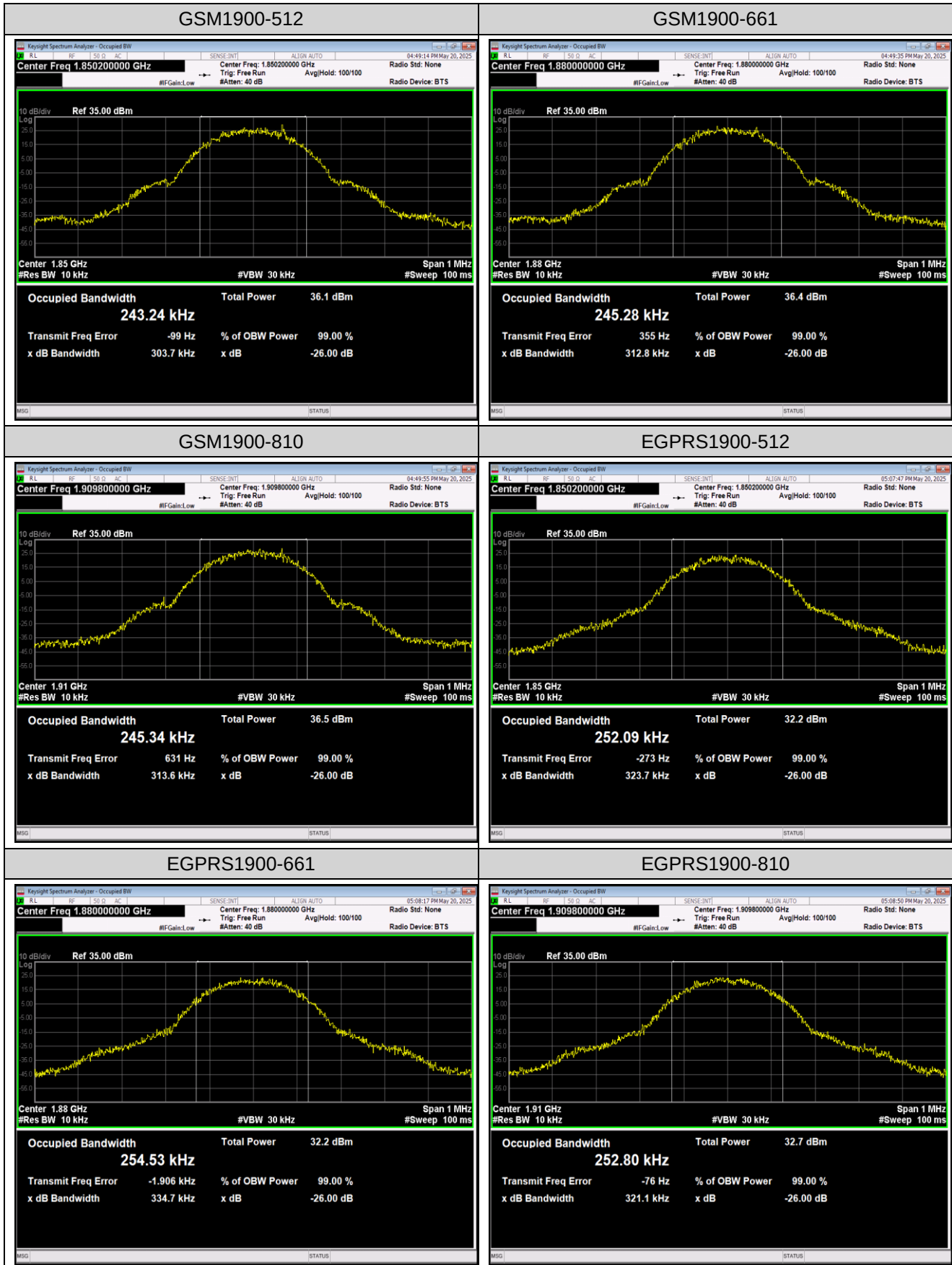
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Channel	PCL	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	5	0.24746	0.3212	---	PASS
GSM850	190	5	0.24895	0.3216	---	PASS
GSM850	251	5	0.24426	0.3182	---	PASS
EGPRS850	128	8	0.24900	0.3149	---	PASS
EGPRS850	190	8	0.25200	0.3182	---	PASS
EGPRS850	251	8	0.25356	0.3173	---	PASS
GSM1900	512	0	0.24324	0.3037	---	PASS
GSM1900	661	0	0.24528	0.3128	---	PASS
GSM1900	810	0	0.24534	0.3136	---	PASS
EGPRS1900	512	2	0.25209	0.3237	---	PASS
EGPRS1900	661	2	0.25453	0.3347	---	PASS
EGPRS1900	810	2	0.25280	0.3211	---	PASS

Test Graphs



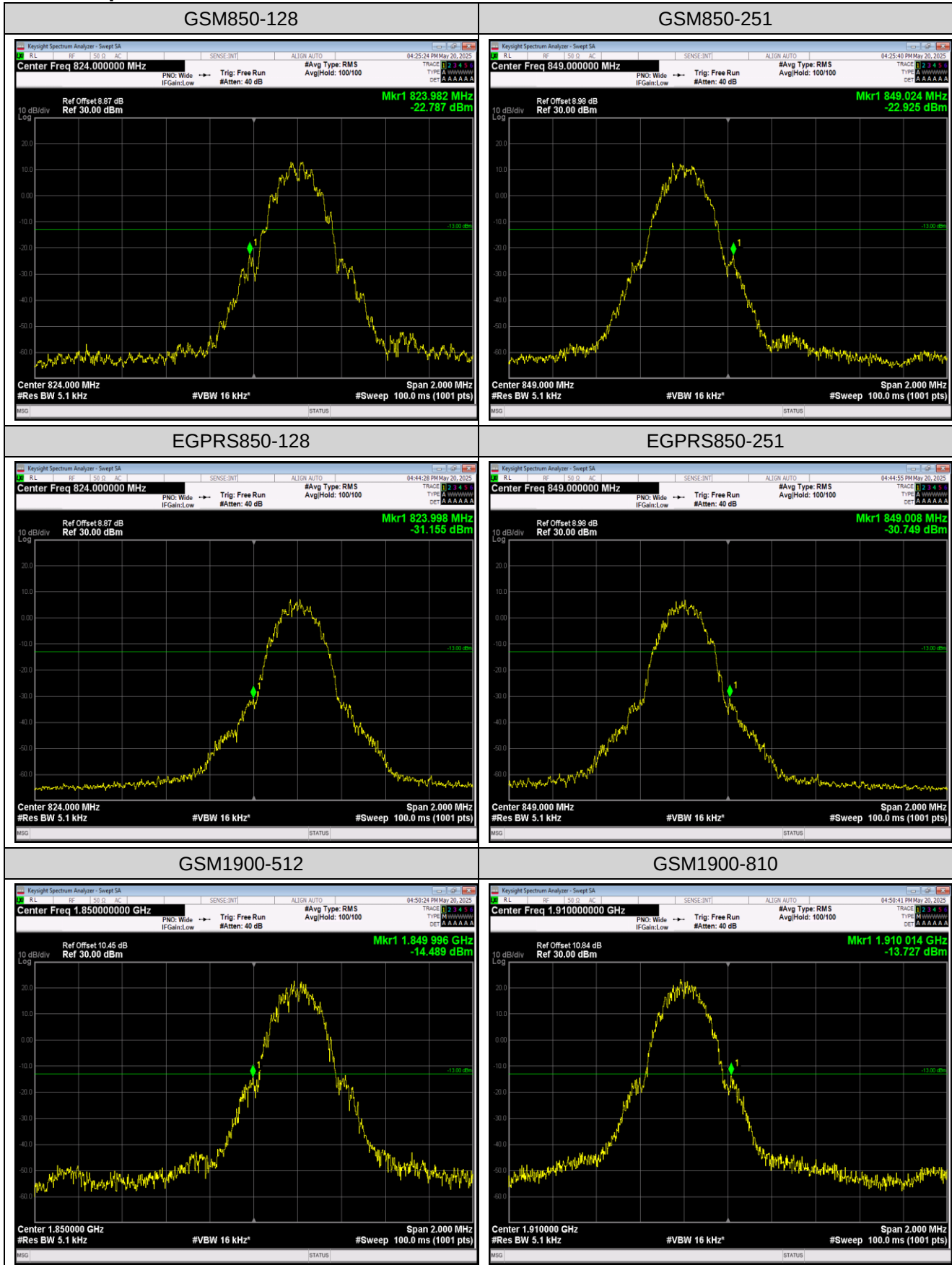


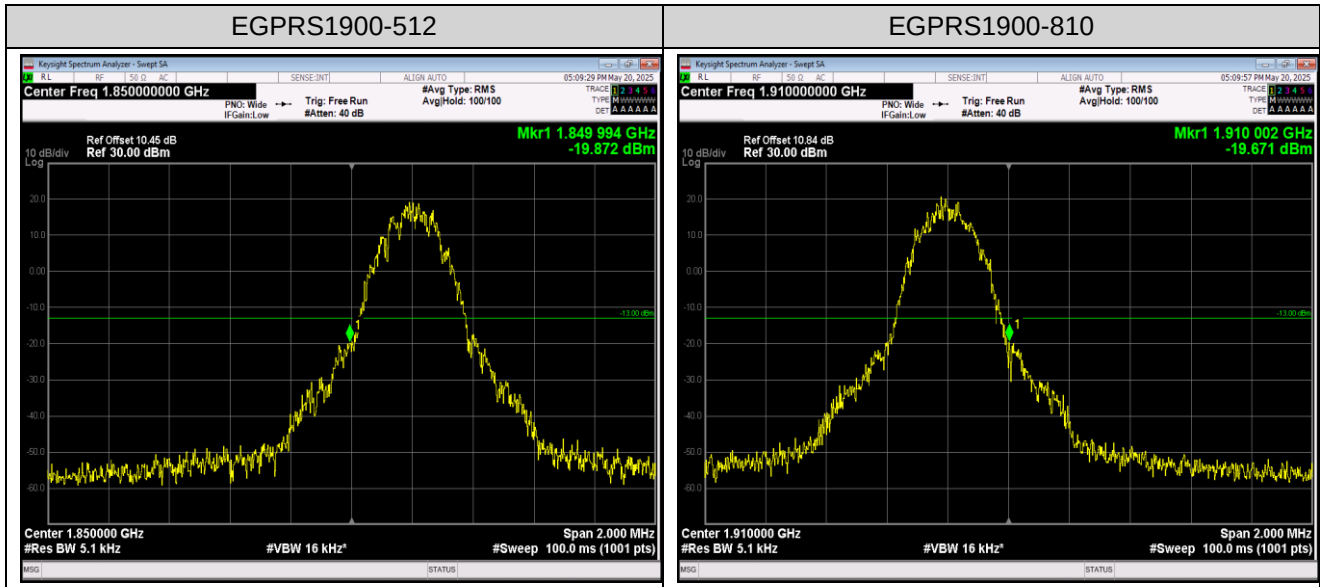
Appendix D: Band Edge

Test Result

Band	Channel	PCL	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	5	823.98	-22.79	-13	PASS
GSM850	251	5	849.02	-22.92	-13	PASS
EGPRS850	128	8	824.00	-31.15	-13	PASS
EGPRS850	251	8	849.01	-30.75	-13	PASS
GSM1900	512	0	1850.00	-14.49	-13	PASS
GSM1900	810	0	1910.01	-13.73	-13	PASS
EGPRS1900	512	2	1849.99	-19.87	-13	PASS
EGPRS1900	810	2	1910.00	-19.67	-13	PASS

Test Graphs





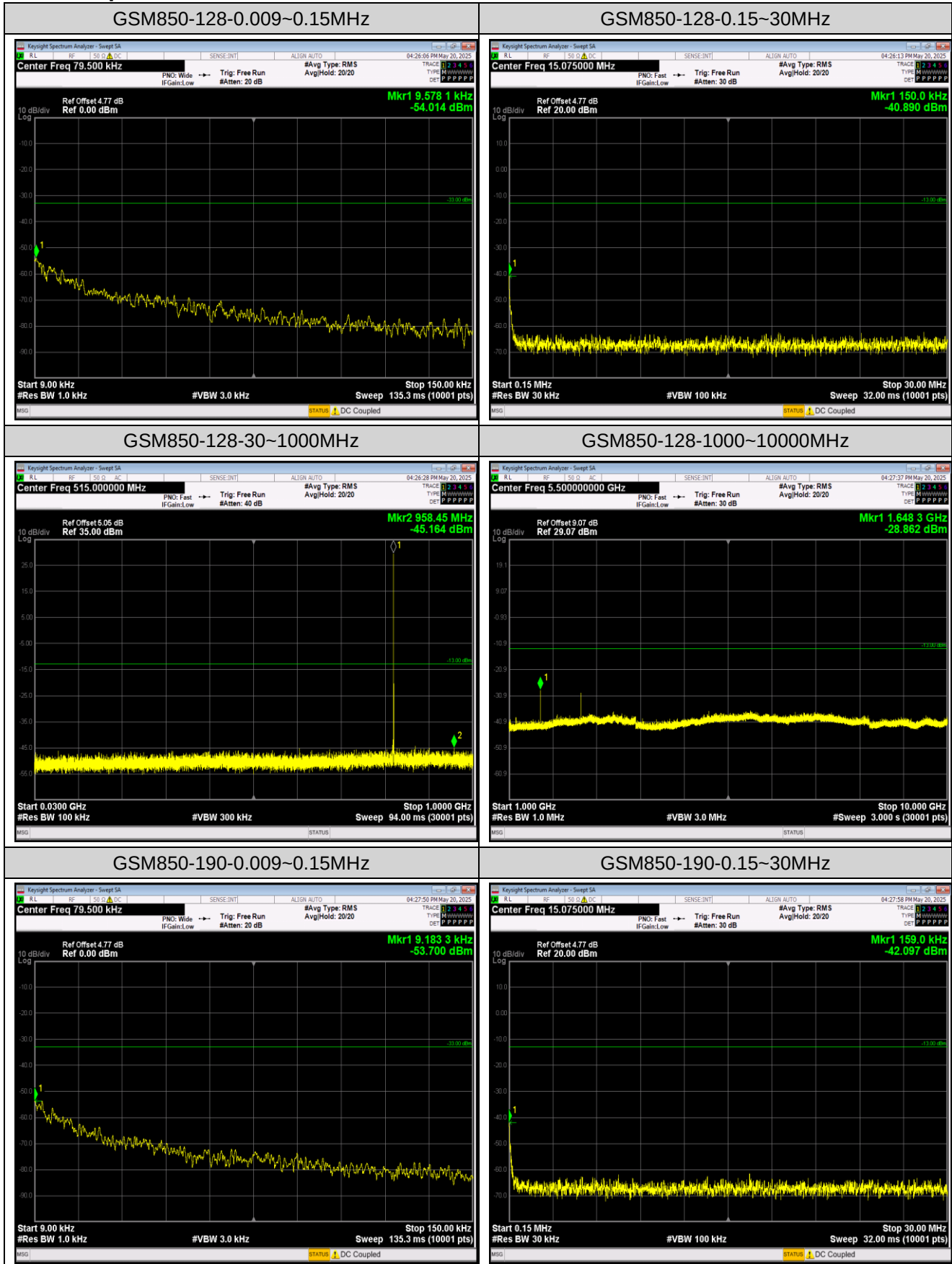
Appendix E: Conducted Spurious Emission

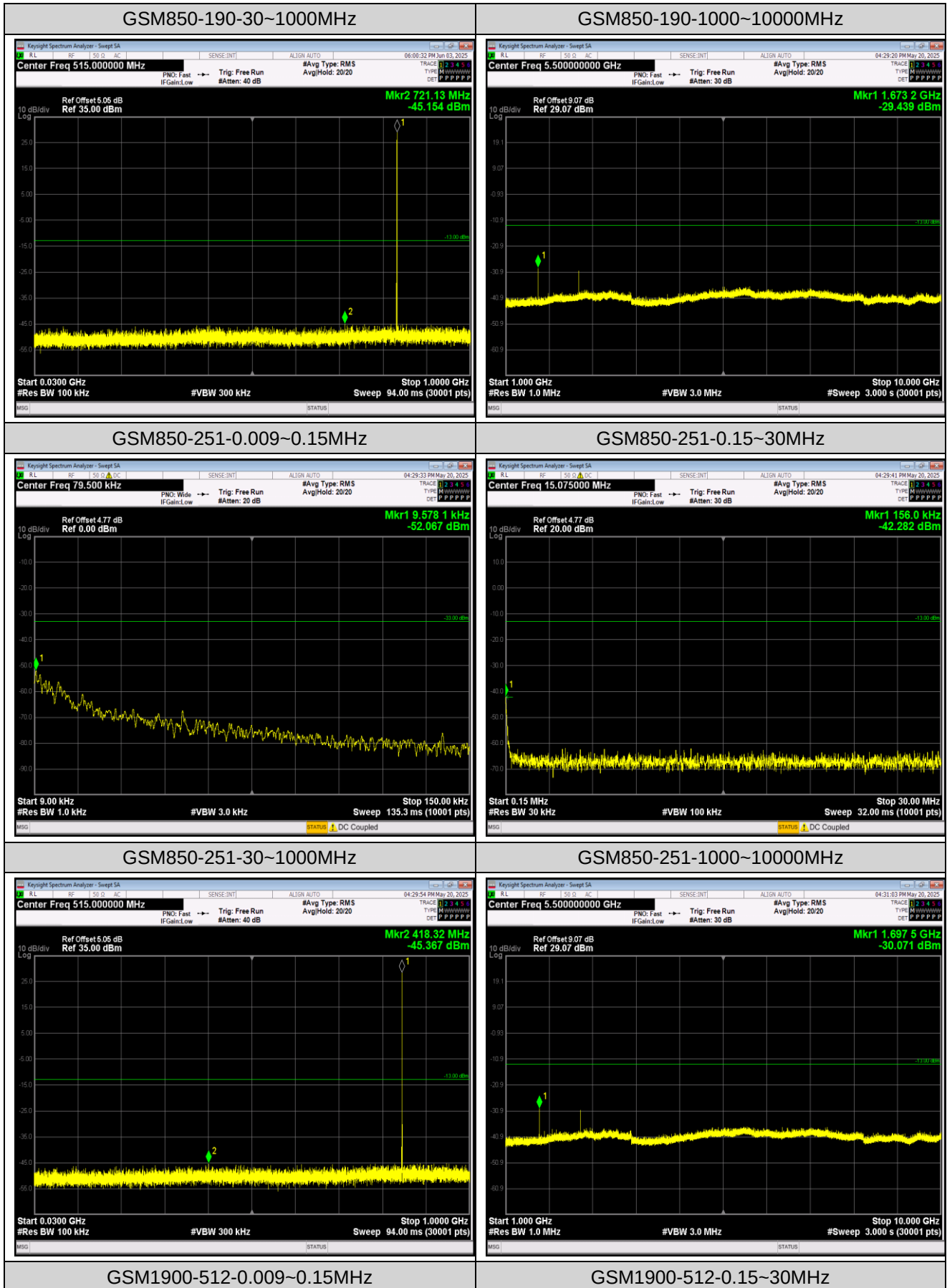
Test Result

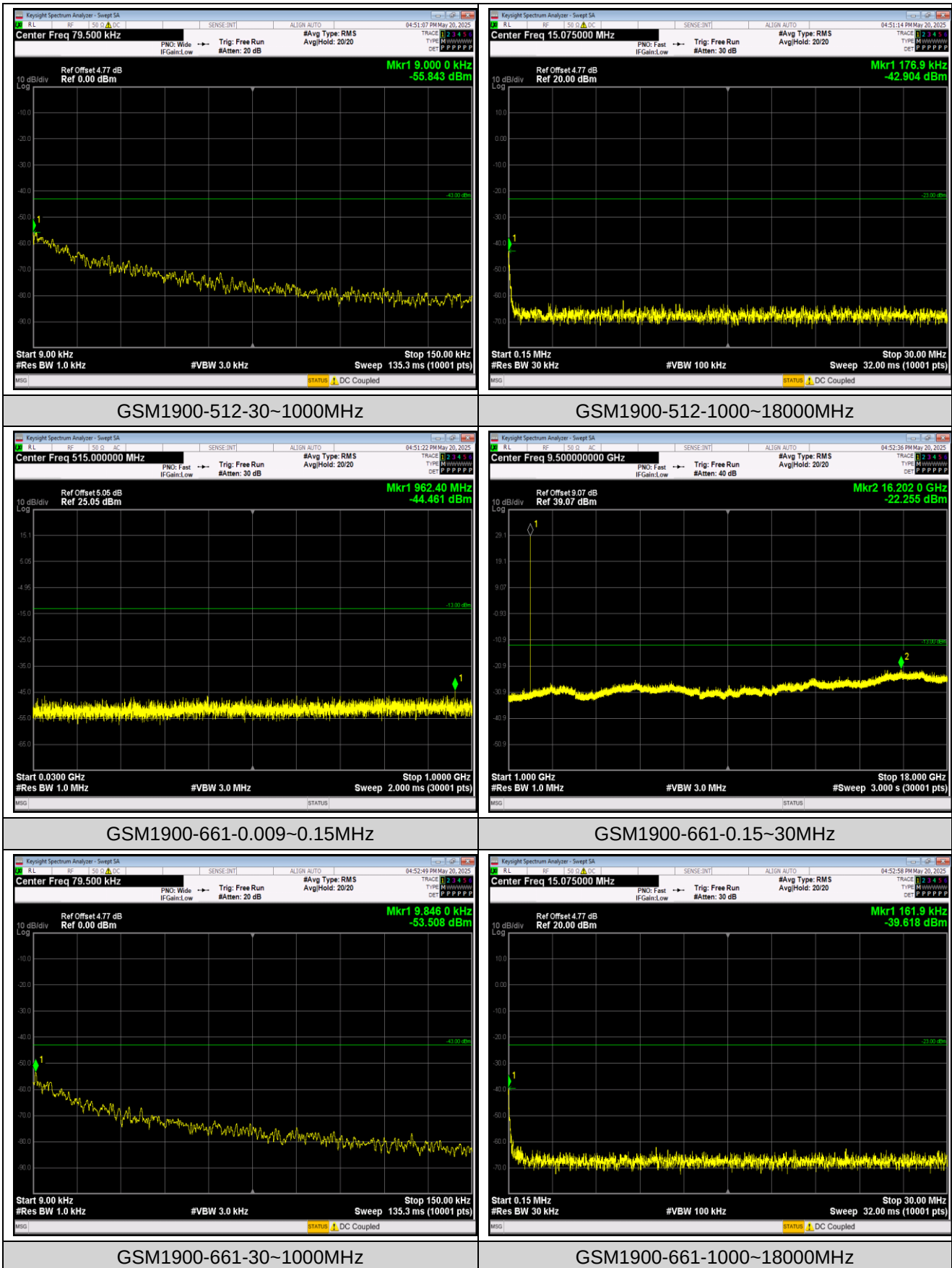
Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	5	0.009~0.15MHz	0.01	-54.01	-33	PASS
GSM850	128	5	0.15~30MHz	0.15	-40.89	-13	PASS
GSM850	128	5	30~1000MHz	958.45	-45.16	-13	PASS
GSM850	128	5	1000~10000MHz	1648.3	-28.86	-13	PASS
GSM850	190	5	0.009~0.15MHz	0.01	-53.7	-33	PASS
GSM850	190	5	0.15~30MHz	0.16	-42.1	-13	PASS
GSM850	190	5	30~1000MHz	424.5	-45.15	-13	PASS
GSM850	190	5	1000~10000MHz	1673.2	-29.44	-13	PASS
GSM850	251	5	0.009~0.15MHz	0.01	-52.07	-33	PASS
GSM850	251	5	0.15~30MHz	0.16	-42.28	-13	PASS
GSM850	251	5	30~1000MHz	418.32	-45.37	-13	PASS
GSM850	251	5	1000~10000MHz	1697.5	-30.07	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-55.84	-43	PASS
GSM1900	512	0	0.15~30MHz	0.18	-42.9	-23	PASS
GSM1900	512	0	30~1000MHz	962.4	-44.46	-13	PASS
GSM1900	512	0	1000~18000MHz	16201.97	-22.26	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-53.51	-43	PASS
GSM1900	661	0	0.15~30MHz	0.16	-39.62	-23	PASS
GSM1900	661	0	30~1000MHz	422.59	-45.56	-13	PASS
GSM1900	661	0	1000~18000MHz	17054.23	-22.19	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-54.92	-43	PASS
GSM1900	810	0	0.15~30MHz	0.16	-40.51	-23	PASS
GSM1900	810	0	30~1000MHz	984.54	-45.33	-13	PASS
GSM1900	810	0	1000~18000MHz	15694.23	-21.87	-13	PASS

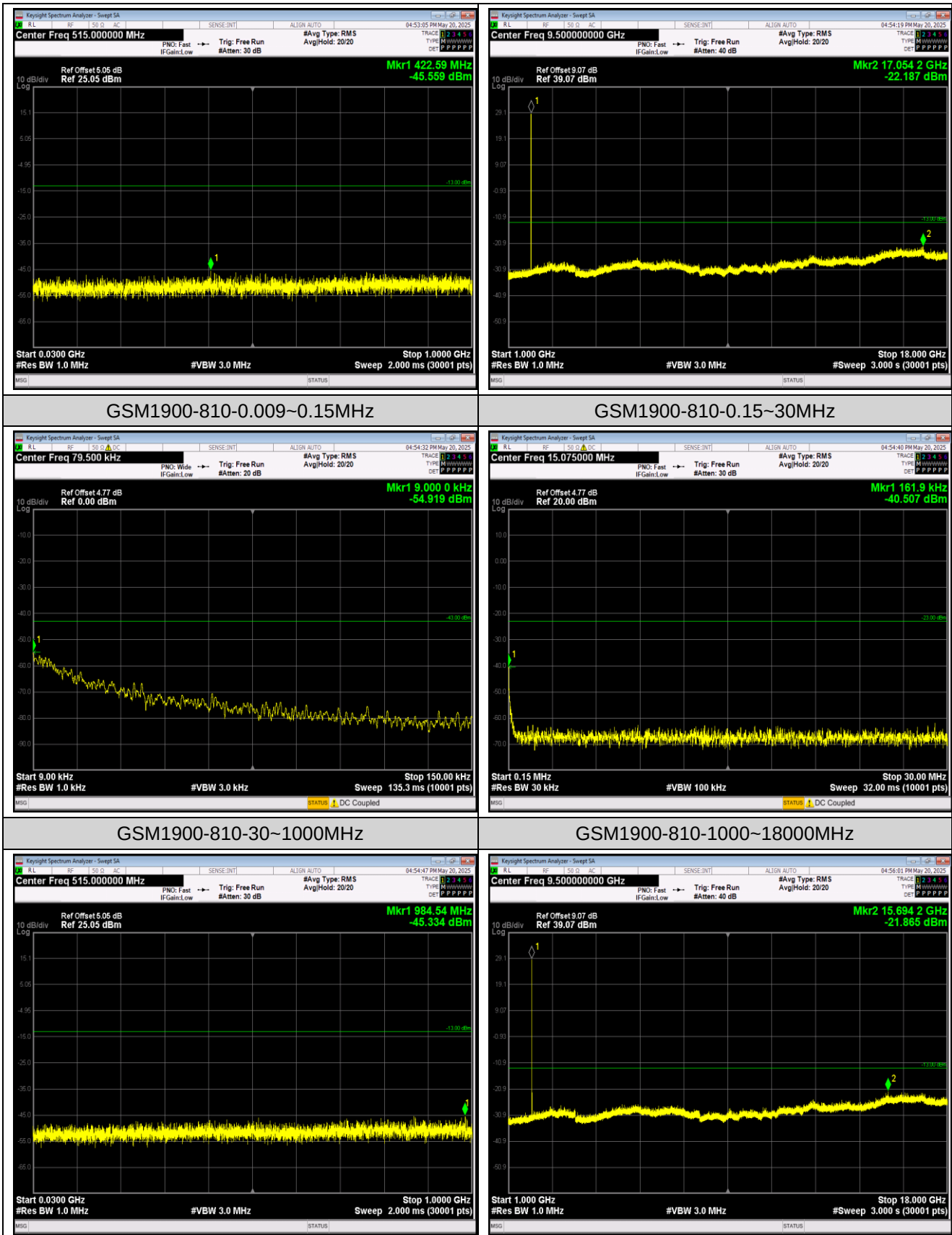
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs









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		
3.87	-30	0.84	0.001004	±2.5	Pass
	-20	-5.97	-0.007136		
	-10	-5.94	-0.007100		
	0	-6.68	-0.007985		
	10	-7.36	-0.008798		
	20	-14.21	-0.016985		
	30	-14.53	-0.017368		
	40	-12.43	-0.014858		
	50	-13.98	-0.016710		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.00	-10.75	-0.012850	±2.5	Pass
	3.87	-8.62	-0.010304		
	4.45	-7.14	-0.008535		
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		
3.87	-30	-6.30	-0.007530	±2.5	Pass
	-20	-4.42	-0.005283		
	-10	-5.33	-0.006371		
	0	-10.23	-0.012228		
	10	-9.07	-0.010842		
	20	-9.49	-0.011344		
	30	-12.62	-0.015085		
	40	-5.71	-0.006825		
	50	-5.26	-0.006287		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.00	-8.98	-0.010734	±2.5	Pass
	3.87	-11.07	-0.013232		
	4.45	-6.26	-0.007483		
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		
3.87	-30	-13.95	-0.007420	Within authorized band for PCS 1900	Pass
	-20	-5.84	-0.003106		
	-10	-24.63	-0.013101		
	0	-27.28	-0.014511		
	10	-2.13	-0.001133		
	20	-0.06	-0.000032		
	30	-6.39	-0.003399		
	40	-2.52	-0.001340		
	50	-5.20	-0.002766		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.00	-3.81	-0.002027	Within authorized band for PCS 1900	Pass
	3.87	-12.07	-0.006420		
	4.45	-7.01	-0.003729		
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		
3.87	-30	-17.47	-0.009293	Within authorized band for PCS 1900	Pass
	-20	-17.27	-0.009186		
	-10	-13.82	-0.007351		
	0	-15.08	-0.008021		
	10	-16.95	-0.009016		
	20	-18.53	-0.009856		
	30	-4.00	-0.002128		
	40	-4.23	-0.002250		
	50	0.10	0.000053		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.00	-14.95	-0.007952	Within authorized band for PCS 1900	Pass
	3.87	-16.05	-0.008537		
	4.45	-14.79	-0.007867		
Remark: All channel had been tested, but only the worst case data displayed in this report.					

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

