

GSM850(ANT0) TX

PCS 1900(ANT2) TX

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	31.73	22.69	38.45	PASS
GSM850	190	5	31.73	22.69	38.45	PASS
GSM850	251	5	31.80	22.76	38.45	PASS
GSM1900	512	0	30.34	22.04	33.00	PASS
GSM1900	661	0	30.41	22.11	33.00	PASS
GSM1900	810	0	30.47	22.17	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GPRS850	128	5	1	31.72	22.68	38.45	PASS
GPRS850	128	5	2	29.96	20.92	38.45	PASS
GPRS850	128	5	3	28.00	18.96	38.45	PASS
GPRS850	128	5	4	25.89	16.85	38.45	PASS
GPRS850	190	5	1	31.72	22.68	38.45	PASS
GPRS850	190	5	2	29.79	20.75	38.45	PASS
GPRS850	190	5	3	27.89	18.85	38.45	PASS
GPRS850	190	5	4	25.86	16.82	38.45	PASS
GPRS850	251	5	1	31.80	22.76	38.45	PASS
GPRS850	251	5	2	29.66	20.62	38.45	PASS
GPRS850	251	5	3	27.77	18.73	38.45	PASS
GPRS850	251	5	4	25.72	16.68	38.45	PASS
GPRS1900	512	0	1	30.35	22.05	33.00	PASS
GPRS1900	512	0	2	27.92	19.62	33.00	PASS
GPRS1900	512	0	3	26.44	18.14	33.00	PASS
GPRS1900	512	0	4	24.45	16.15	33.00	PASS
GPRS1900	661	0	1	30.27	21.97	33.00	PASS
GPRS1900	661	0	2	28.11	19.81	33.00	PASS
GPRS1900	661	0	3	26.58	18.28	33.00	PASS
GPRS1900	661	0	4	24.59	16.29	33.00	PASS
GPRS1900	810	0	1	30.47	22.17	33.00	PASS

GPRS1900	810	0	2	28.09	19.79	33.00	PASS
GPRS1900	810	0	3	26.56	18.26	33.00	PASS
GPRS1900	810	0	4	24.58	16.28	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
EGPRS850	128	8	1	24.02	14.98	38.45	PASS
EGPRS850	128	8	2	23.30	14.26	38.45	PASS
EGPRS850	128	8	3	21.17	12.13	38.45	PASS
EGPRS850	128	8	4	18.82	9.78	38.45	PASS
EGPRS850	190	8	1	24.75	15.71	38.45	PASS
EGPRS850	190	8	2	23.66	14.62	38.45	PASS
EGPRS850	190	8	3	21.59	12.55	38.45	PASS
EGPRS850	190	8	4	19.28	10.24	38.45	PASS
EGPRS850	251	8	1	24.66	15.62	38.45	PASS
EGPRS850	251	8	2	23.65	14.61	38.45	PASS
EGPRS850	251	8	3	21.52	12.48	38.45	PASS
EGPRS850	251	8	4	19.15	10.11	38.45	PASS
EGPRS1900	512	2	1	26.68	18.38	33.00	PASS
EGPRS1900	512	2	2	24.99	16.69	33.00	PASS
EGPRS1900	512	2	3	22.38	14.08	33.00	PASS
EGPRS1900	512	2	4	19.96	11.66	33.00	PASS
EGPRS1900	661	2	1	26.62	18.32	33.00	PASS
EGPRS1900	661	2	2	24.82	16.52	33.00	PASS
EGPRS1900	661	2	3	22.52	14.22	33.00	PASS
EGPRS1900	661	2	4	20.53	12.23	33.00	PASS
EGPRS1900	810	2	1	26.19	17.89	33.00	PASS
EGPRS1900	810	2	2	24.32	16.02	33.00	PASS
EGPRS1900	810	2	3	21.79	13.49	33.00	PASS
EGPRS1900	810	2	4	19.64	11.34	33.00	PASS

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

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

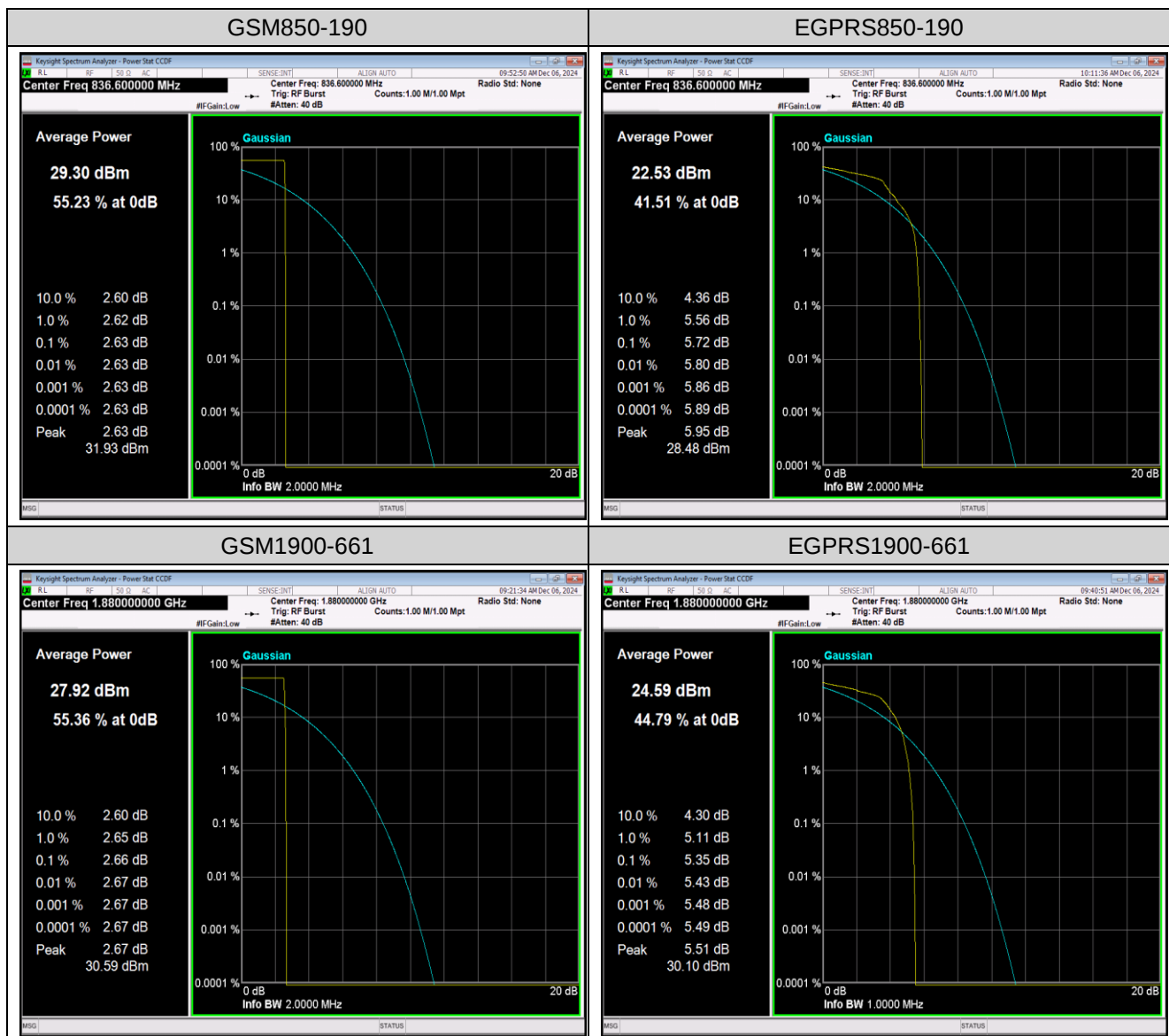
Appendix B: Peak-to-Average Ratio(CCDF)

Test Result

Band	Channel	PCL	Result(dB)	Limit(dB)	Verdict
GSM850	190	5	2.63	13	PASS
EGPRS850	190	8	5.72	13	PASS
GSM1900	661	0	2.66	13	PASS
EGPRS1900	661	2	5.35	13	PASS

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

Test Graphs

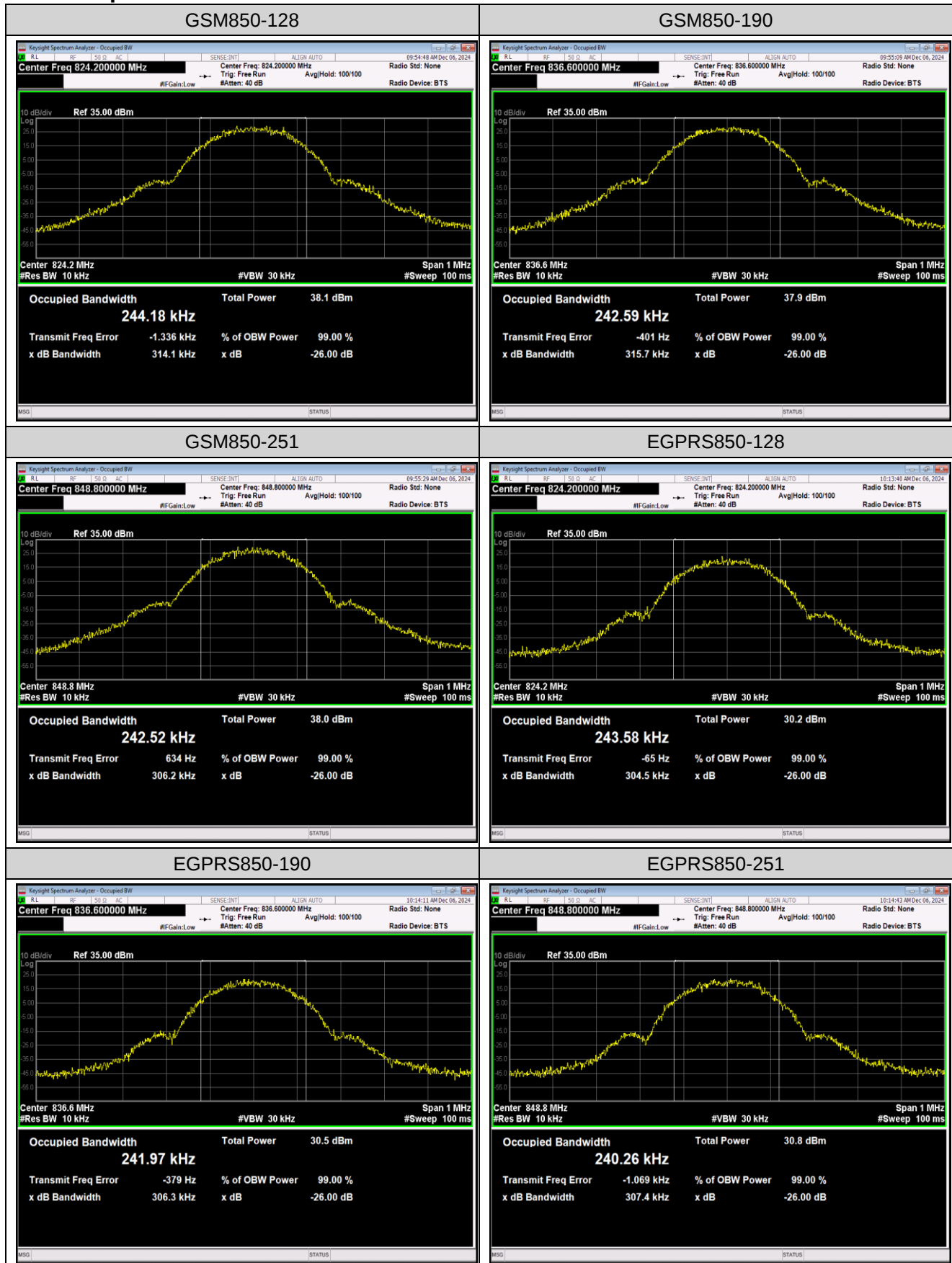


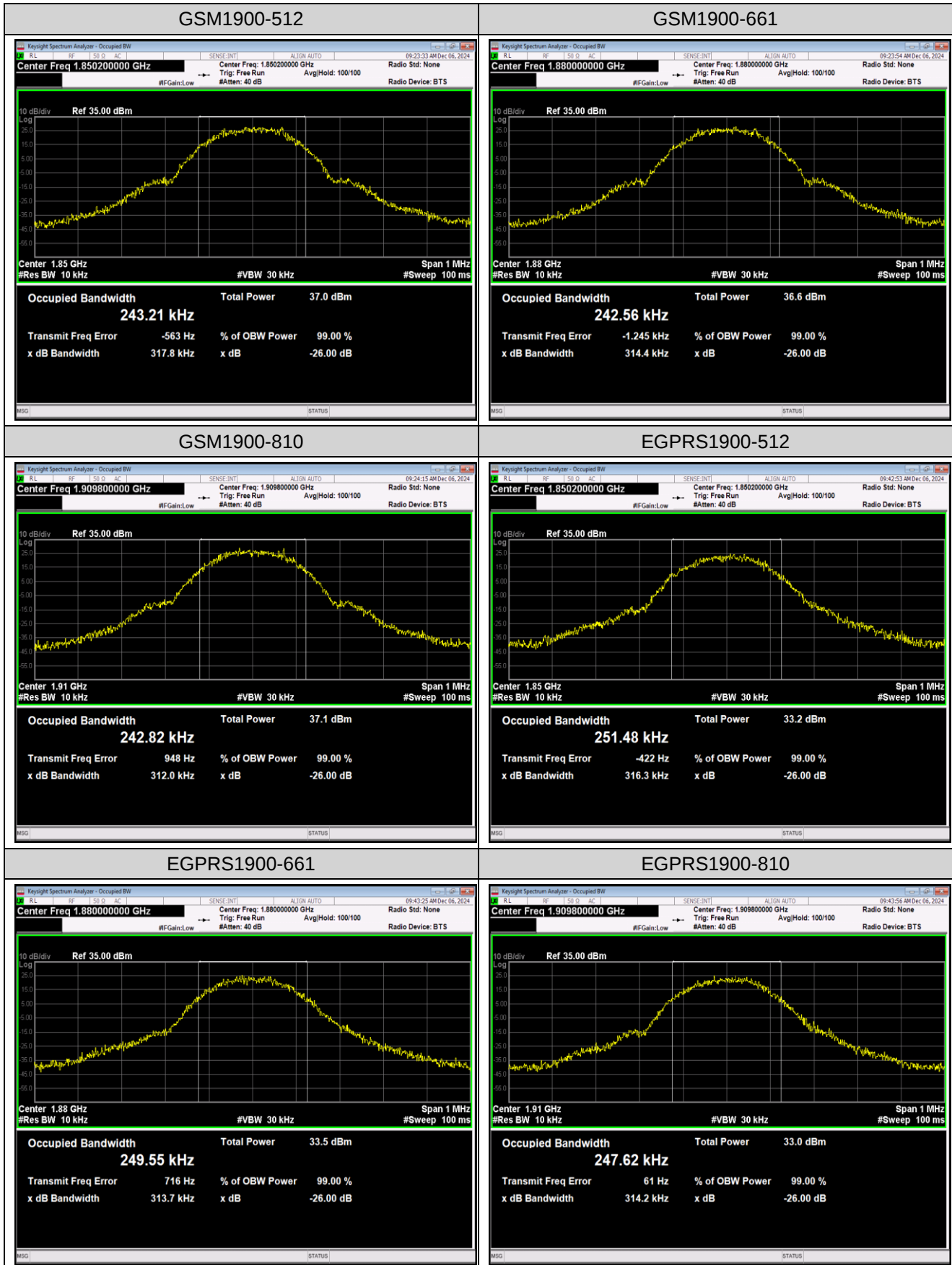
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

Band	Channel	PCL	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	5	0.24418	0.3141	---	PASS
GSM850	190	5	0.24259	0.3157	---	PASS
GSM850	251	5	0.24252	0.3062	---	PASS
EGPRS850	128	8	0.24358	0.3045	---	PASS
EGPRS850	190	8	0.24197	0.3063	---	PASS
EGPRS850	251	8	0.24026	0.3074	---	PASS
GSM1900	512	0	0.24321	0.3178	---	PASS
GSM1900	661	0	0.24256	0.3144	---	PASS
GSM1900	810	0	0.24282	0.3120	---	PASS
EGPRS1900	512	2	0.25148	0.3163	---	PASS
EGPRS1900	661	2	0.24955	0.3137	---	PASS
EGPRS1900	810	2	0.24762	0.3142	---	PASS

Test Graphs



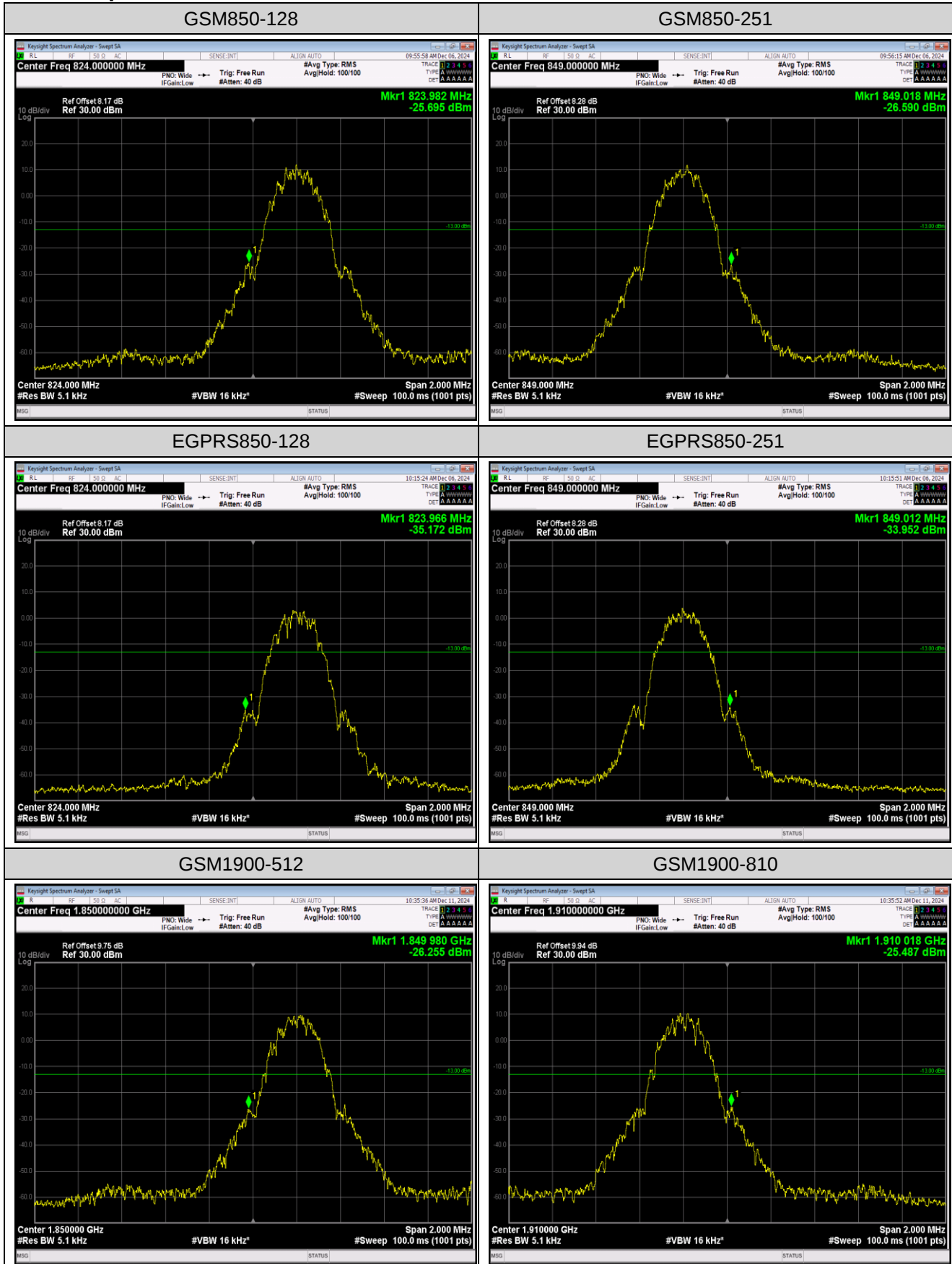


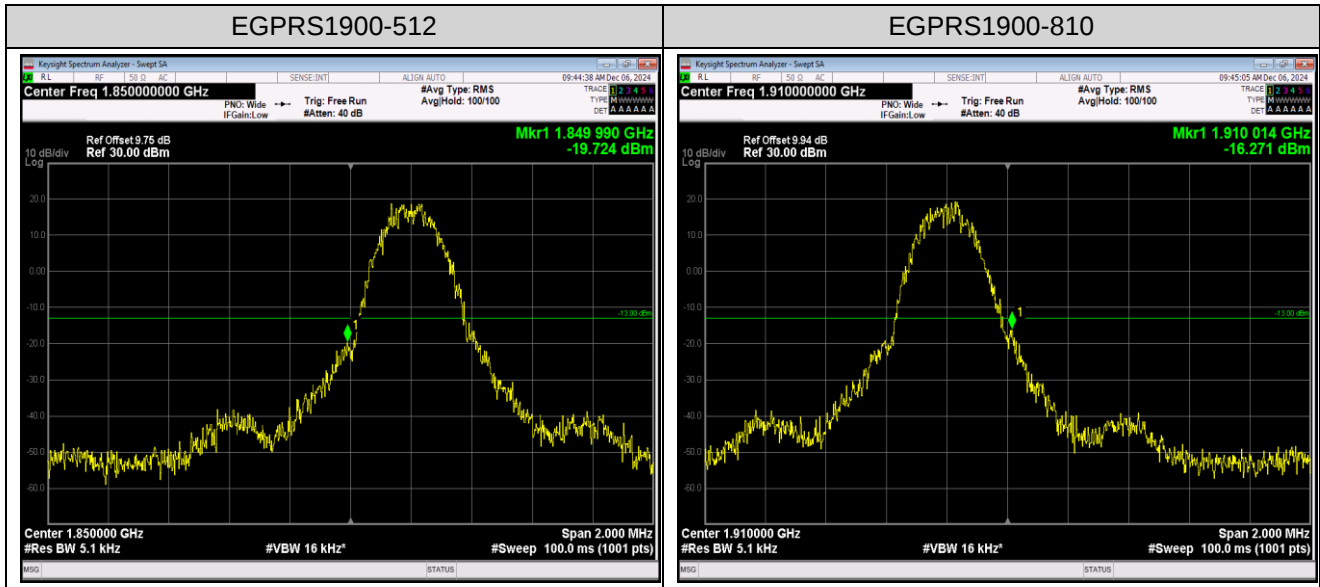
Appendix D: Band Edge

Test Result

Band	Channel	PCL	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	5	823.98	-25.69	-13	PASS
GSM850	251	5	849.02	-26.59	-13	PASS
EGPRS850	128	8	823.97	-35.17	-13	PASS
EGPRS850	251	8	849.01	-33.95	-13	PASS
GSM1900	512	0	1849.98	-26.25	-13	PASS
GSM1900	810	0	1910.02	-25.49	-13	PASS
EGPRS1900	512	2	1849.99	-19.72	-13	PASS
EGPRS1900	810	2	1910.01	-16.27	-13	PASS

Test Graphs





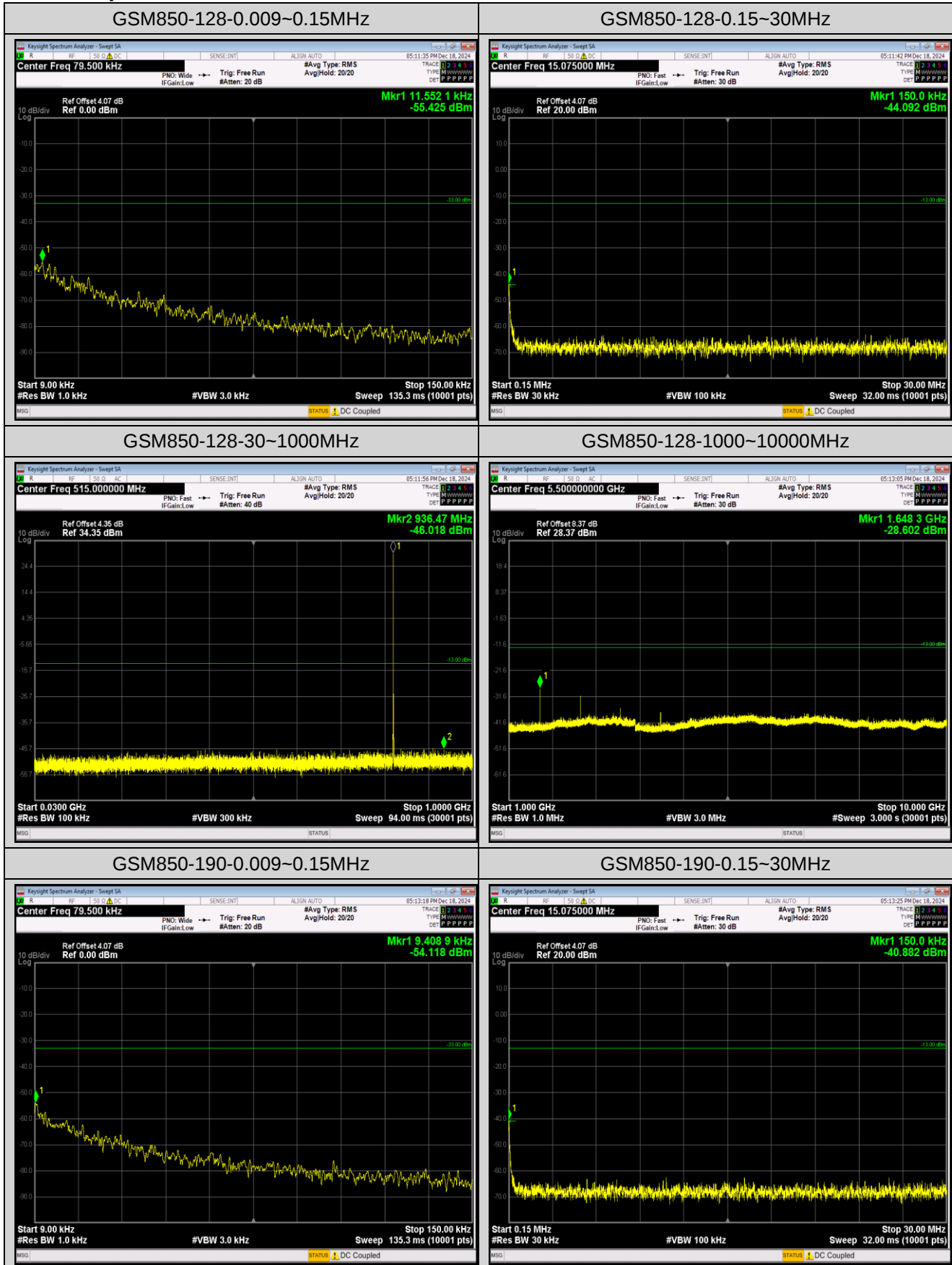
Appendix E: Conducted Spurious Emission

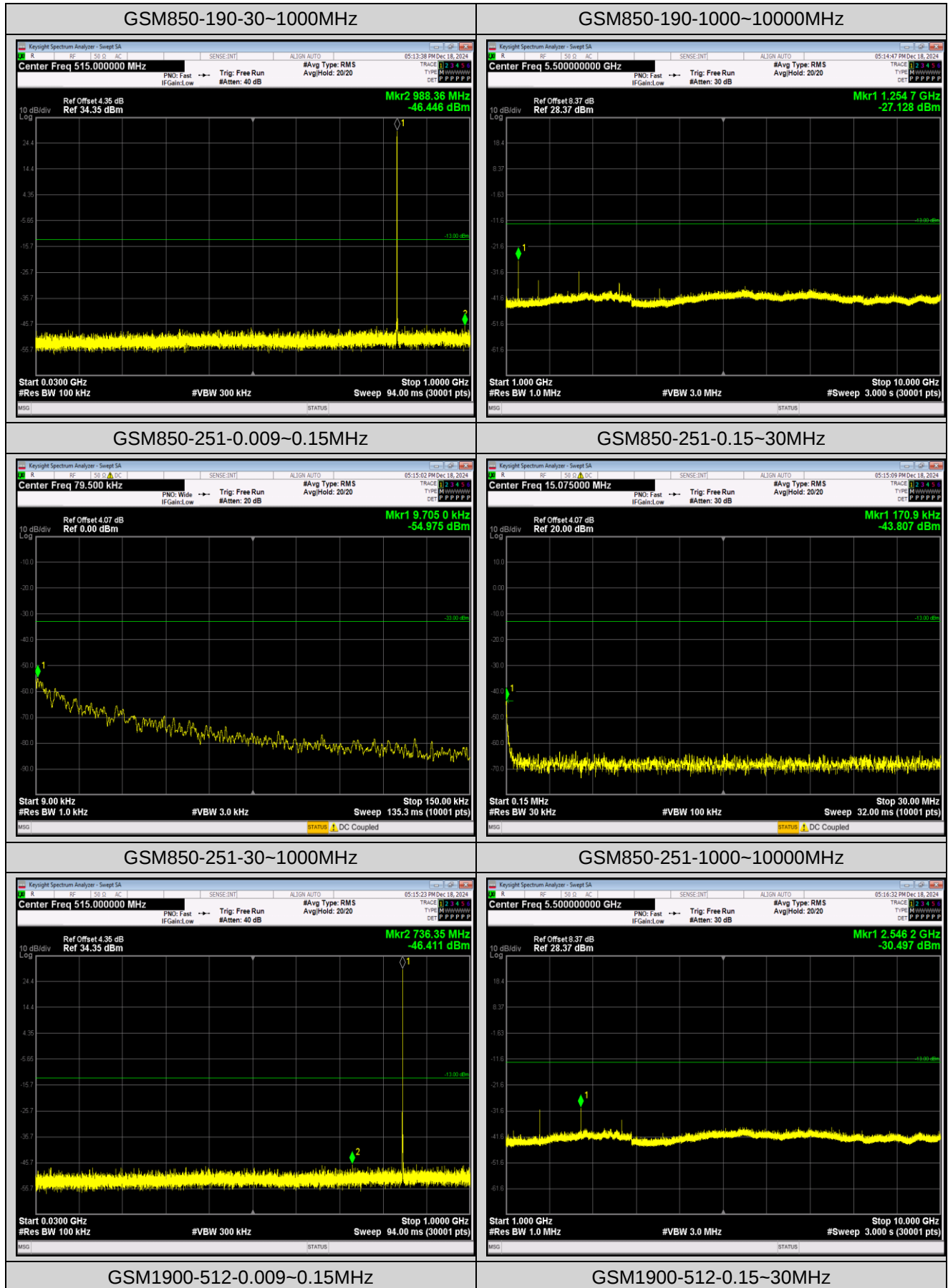
Test Result

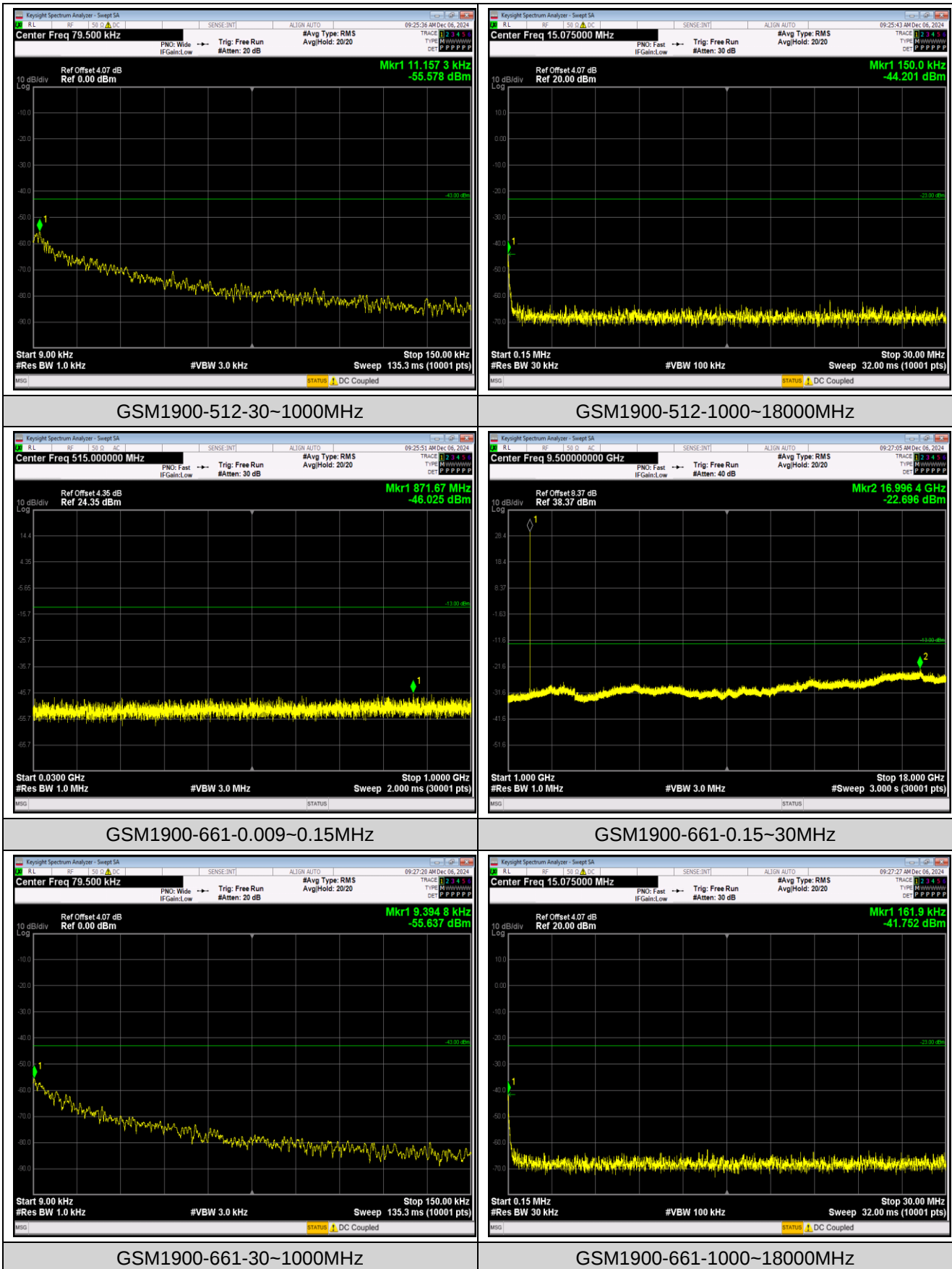
Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	5	0.009~0.15MHz	0.01	-55.43	-33	PASS
GSM850	128	5	0.15~30MHz	0.15	-44.09	-13	PASS
GSM850	128	5	30~1000MHz	936.47	-46.02	-13	PASS
GSM850	128	5	1000~10000MHz	1648.3	-28.6	-13	PASS
GSM850	190	5	0.009~0.15MHz	0.01	-54.12	-33	PASS
GSM850	190	5	0.15~30MHz	0.15	-40.88	-13	PASS
GSM850	190	5	30~1000MHz	988.36	-46.45	-13	PASS
GSM850	190	5	1000~10000MHz	1254.7	-27.13	-13	PASS
GSM850	251	5	0.009~0.15MHz	0.01	-54.98	-33	PASS
GSM850	251	5	0.15~30MHz	0.17	-43.81	-13	PASS
GSM850	251	5	30~1000MHz	736.35	-46.41	-13	PASS
GSM850	251	5	1000~10000MHz	2546.2	-30.5	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-55.58	-43	PASS
GSM1900	512	0	0.15~30MHz	0.15	-44.2	-23	PASS
GSM1900	512	0	30~1000MHz	871.67	-46.03	-13	PASS
GSM1900	512	0	1000~18000MHz	16996.43	-22.7	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-55.64	-43	PASS
GSM1900	661	0	0.15~30MHz	0.16	-41.75	-23	PASS
GSM1900	661	0	30~1000MHz	437.76	-46.33	-13	PASS
GSM1900	661	0	1000~18000MHz	16169.67	-22.83	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-56.82	-43	PASS
GSM1900	810	0	0.15~30MHz	0.15	-43.48	-23	PASS
GSM1900	810	0	30~1000MHz	818.67	-46.01	-13	PASS
GSM1900	810	0	1000~18000MHz	16943.73	-23.25	-13	PASS

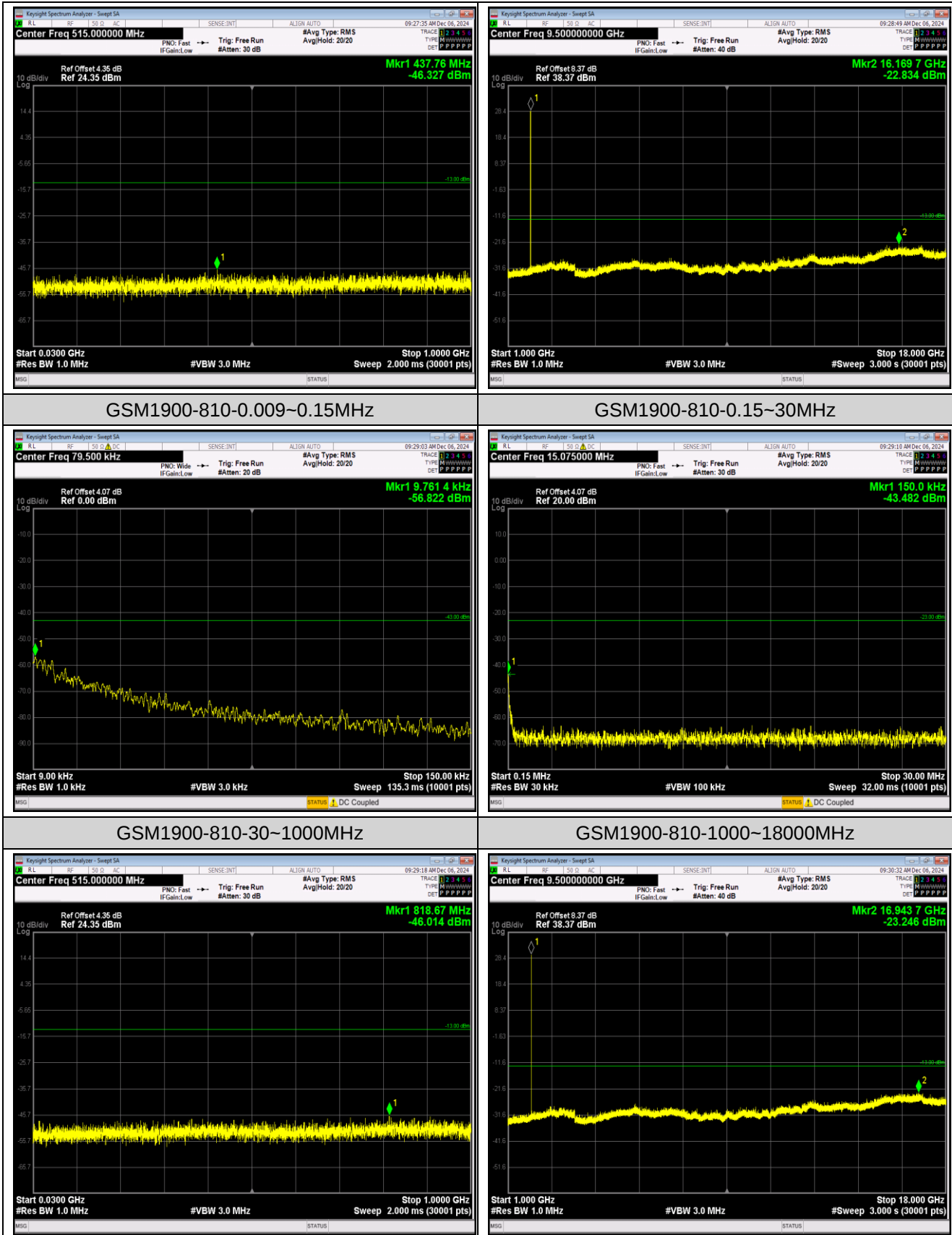
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs









Appendix F: Frequency Stability

Test Result

Reference Frequency: GSM850 Middle channel=190 Frequency=836.6MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.85	-30	7.04	0.008415	±2.5	Pass
	-20	-0.26	-0.000311		
	-10	-13.04	-0.015587		
	0	-6.72	-0.008033		
	10	2.39	0.002857		
	20	4.29	0.005128		
	30	5.20	0.006216		
	40	1.19	0.001422		
	50	-1.94	-0.002319		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	-0.45	-0.000538	±2.5	Pass
	3.85	3.00	0.003586		
	4.40	-7.62	-0.009108		
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	-1.78	-0.002128	±2.5	Pass
	-20	-1.74	-0.002080		
	-10	-0.13	-0.000155		
	0	-1.19	-0.001422		
	10	0.36	0.000430		
	20	2.32	0.002773		
	30	-0.87	-0.001040		
	40	1.52	0.001817		
	50	4.46	0.005331		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	-0.97	-0.001159	±2.5	Pass
	3.85	-3.13	-0.003741		
	4.40	-4.13	-0.004937		
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	0.39	0.000207	Within authorized band for PCS 1900	Pass
	-20	3.87	0.002059		
	-10	-0.19	-0.000101		
	0	-2.26	-0.001202		
	10	-0.77	-0.000410		
	20	-3.00	-0.001596		
	30	8.91	0.004739		
	40	-2.87	-0.001527		
	50	-4.39	-0.002335		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	5.78	0.003074	Within authorized band for PCS 1900	Pass
	3.85	3.78	0.002011		
	4.40	2.23	0.001186		
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	-4.94	-0.002628	Within authorized band for PCS 1900	Pass
	-20	-0.52	-0.000277		
	-10	0.68	0.000362		
	0	-9.20	-0.004894		
	10	5.97	0.003176		
	20	1.03	0.000548		
	30	-12.46	-0.006628		
	40	-5.46	-0.002904		
	50	-3.20	-0.001702		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	-1.45	-0.000771	Within authorized band for PCS 1900	Pass
	3.85	-4.52	-0.002404		
	4.40	-0.19	-0.000101		
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

