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	33.52	29.92	38.45	PASS
GSM850	190	5	33.68	30.08	38.45	PASS
GSM850	251	5	33.59	29.99	38.45	PASS
GSM1900	512	0	30.54	29.54	33.00	PASS
GSM1900	661	0	30.41	29.41	33.00	PASS
GSM1900	810	0	30.36	29.36	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GPRS850	128	5	1	33.48	29.88	38.45	PASS
GPRS850	128	5	2	32.53	28.93	38.45	PASS
GPRS850	128	5	3	30.54	26.94	38.45	PASS
GPRS850	128	5	4	29.52	25.92	38.45	PASS
GPRS850	190	5	1	33.62	30.02	38.45	PASS
GPRS850	190	5	2	32.67	29.07	38.45	PASS
GPRS850	190	5	3	30.68	27.08	38.45	PASS
GPRS850	190	5	4	29.66	26.06	38.45	PASS
GPRS850	251	5	1	33.53	29.93	38.45	PASS
GPRS850	251	5	2	32.58	28.98	38.45	PASS
GPRS850	251	5	3	30.61	27.01	38.45	PASS
GPRS850	251	5	4	29.55	25.95	38.45	PASS
GPRS1900	512	0	1	30.50	29.5	33.00	PASS
GPRS1900	512	0	2	29.34	28.34	33.00	PASS
GPRS1900	512	0	3	27.25	26.25	33.00	PASS
GPRS1900	512	0	4	26.42	25.42	33.00	PASS
GPRS1900	661	0	1	30.36	29.36	33.00	PASS
GPRS1900	661	0	2	29.19	28.19	33.00	PASS
GPRS1900	661	0	3	27.10	26.1	33.00	PASS
GPRS1900	661	0	4	26.29	25.29	33.00	PASS
GPRS1900	810	0	1	30.30	29.3	33.00	PASS
GPRS1900	810	0	2	29.17	28.17	33.00	PASS
GPRS1900	810	0	3	27.10	26.1	33.00	PASS
GPRS1900	810	0	4	26.30	25.3	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
EGPRS850	128	8	1	27.90	24.3	38.45	PASS
EGPRS850	128	8	2	26.85	23.25	38.45	PASS
EGPRS850	128	8	3	24.67	21.07	38.45	PASS
EGPRS850	128	8	4	23.43	19.83	38.45	PASS
EGPRS850	190	8	1	28.01	24.41	38.45	PASS
EGPRS850	190	8	2	26.78	23.18	38.45	PASS
EGPRS850	190	8	3	24.61	21.01	38.45	PASS
EGPRS850	190	8	4	23.45	19.85	38.45	PASS
EGPRS850	251	8	1	27.94	24.34	38.45	PASS
EGPRS850	251	8	2	26.73	23.13	38.45	PASS
EGPRS850	251	8	3	24.56	20.96	38.45	PASS
EGPRS850	251	8	4	23.40	19.8	38.45	PASS
EGPRS1900	512	2	1	26.42	25.42	33.00	PASS
EGPRS1900	512	2	2	25.18	24.18	33.00	PASS
EGPRS1900	512	2	3	23.08	22.08	33.00	PASS
EGPRS1900	512	2	4	21.81	20.81	33.00	PASS
EGPRS1900	661	2	1	26.41	25.41	33.00	PASS
EGPRS1900	661	2	2	25.26	24.26	33.00	PASS
EGPRS1900	661	2	3	23.17	22.17	33.00	PASS
EGPRS1900	661	2	4	21.86	20.86	33.00	PASS
EGPRS1900	810	2	1	26.47	25.47	33.00	PASS
EGPRS1900	810	2	2	25.35	24.35	33.00	PASS
EGPRS1900	810	2	3	23.25	22.25	33.00	PASS
EGPRS1900	810	2	4	22.01	21.01	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)

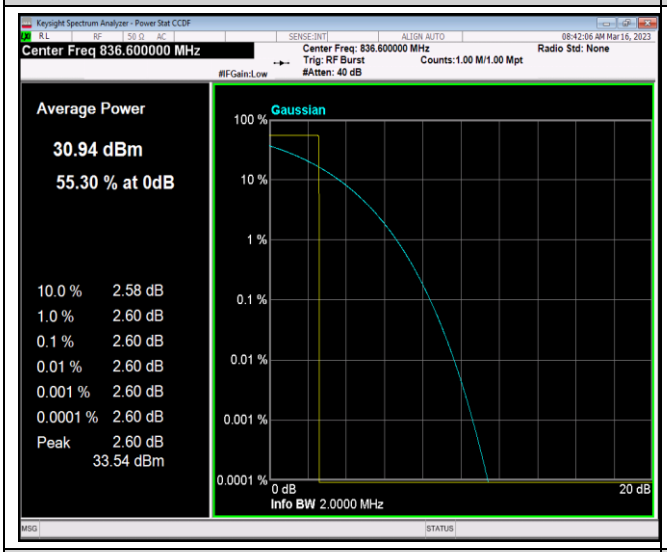
Test Result

Band	Channel	PCL	Result(dB)	Limit(dB)	Verdict
GSM850	190	5	2.6	13	PASS
EGPRS850	190	8	5.49	13	PASS
GSM1900	661	0	2.62	13	PASS
EGPRS1900	661	2	5.42	13	PASS

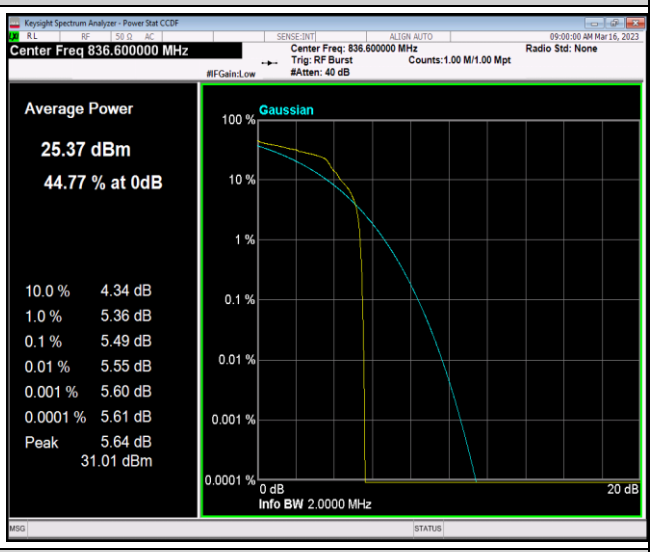
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

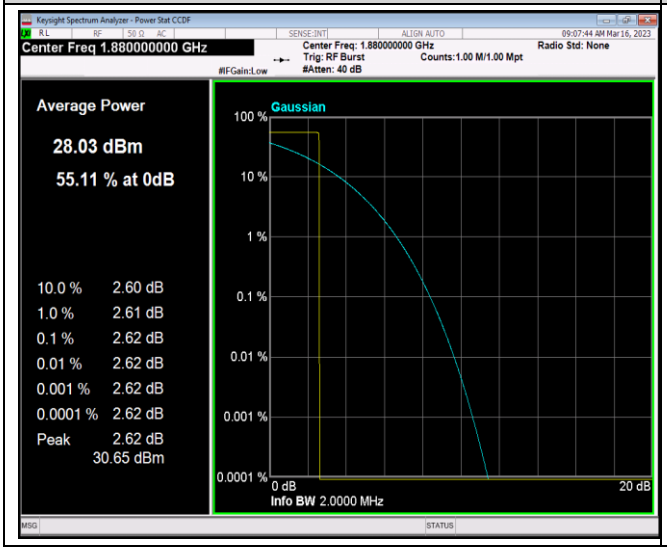
GSM850-190



EGPRS850-190



GSM1900-661



EGPRS1900-661

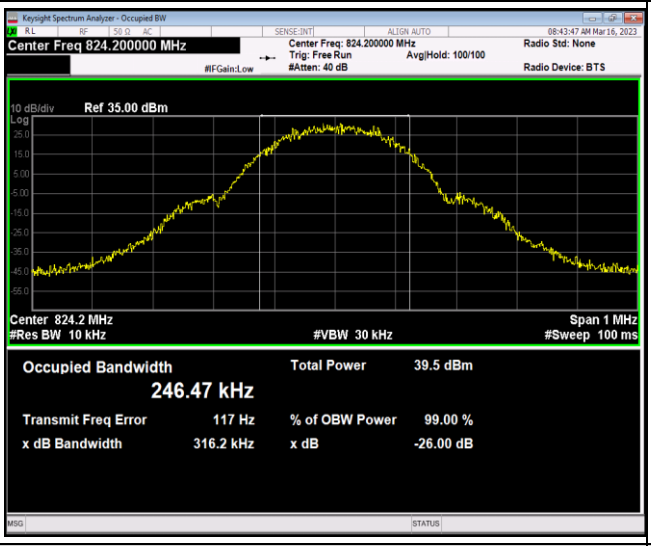
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

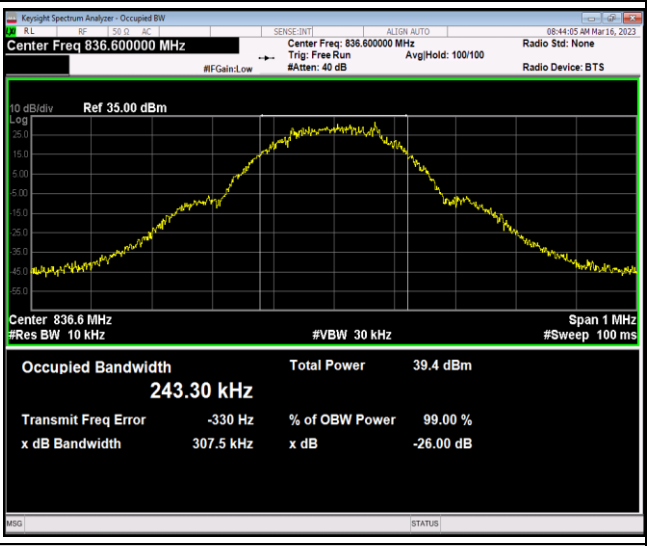
Band	Channel	PCL	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	5	0.24647	0.3162	---	PASS
GSM850	190	5	0.24330	0.3075	---	PASS
GSM850	251	5	0.24519	0.3078	---	PASS
EGPRS850	128	8	0.25245	0.3152	---	PASS
EGPRS850	190	8	0.25032	0.3160	---	PASS
EGPRS850	251	8	0.25020	0.3169	---	PASS
GSM1900	512	0	0.24617	0.3138	---	PASS
GSM1900	661	0	0.24203	0.3132	---	PASS
GSM1900	810	0	0.24545	0.3170	---	PASS
EGPRS1900	512	2	0.24968	0.3160	---	PASS
EGPRS1900	661	2	0.24940	0.3152	---	PASS
EGPRS1900	810	2	0.24697	0.3128	---	PASS

Test Graphs

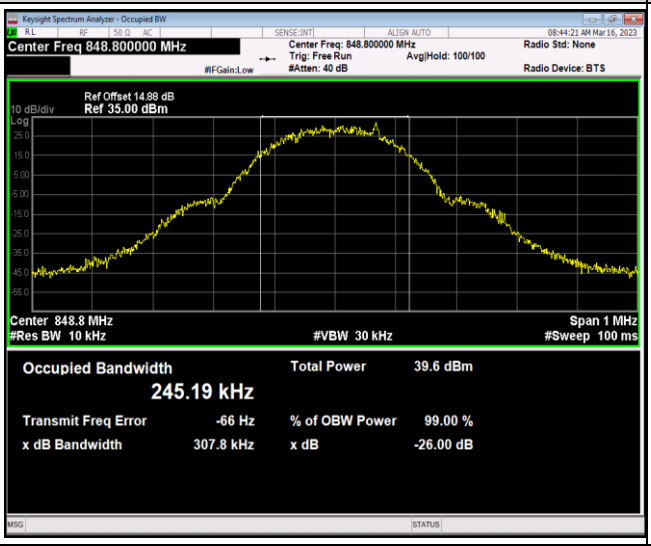
GSM850-128



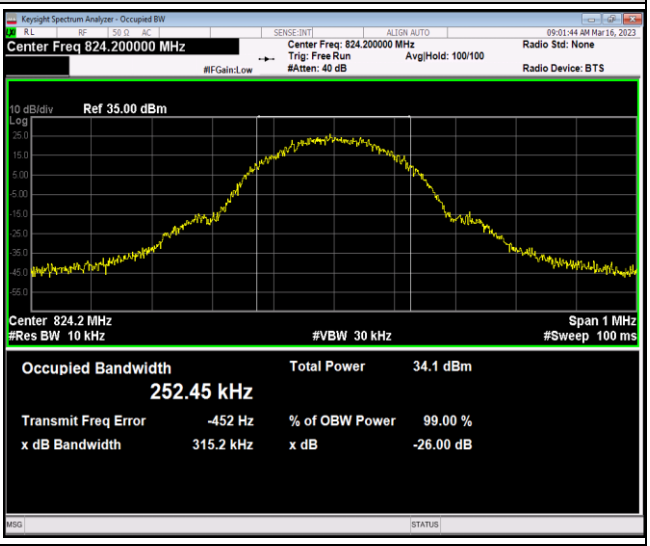
GSM850-190



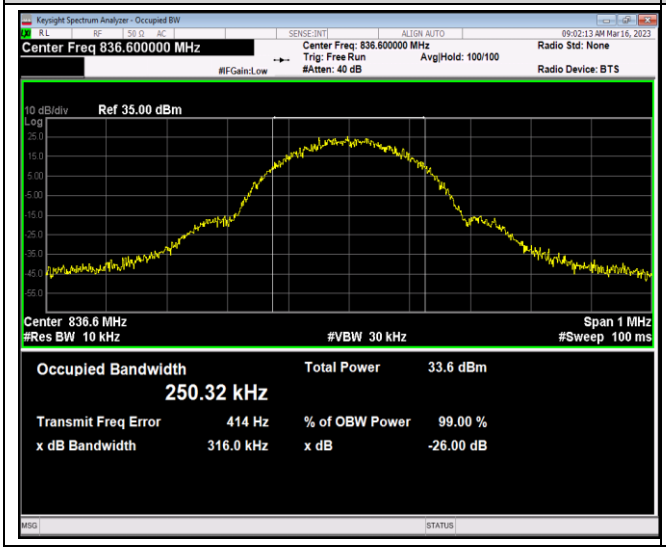
GSM850-251



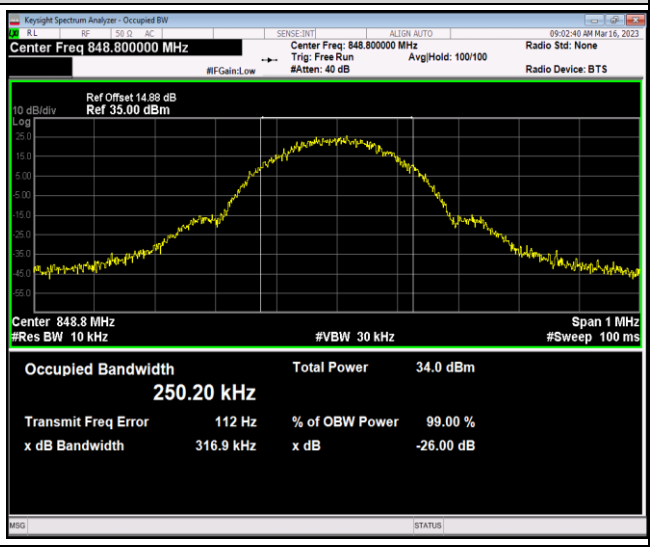
EGPRS850-128



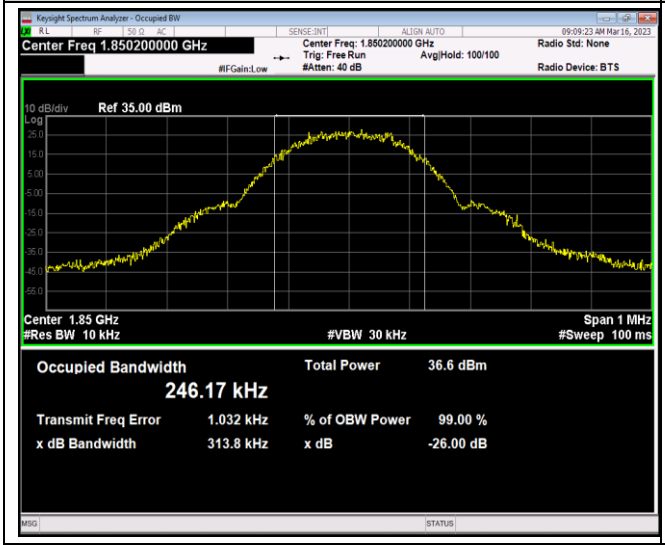
EGPRS850-190



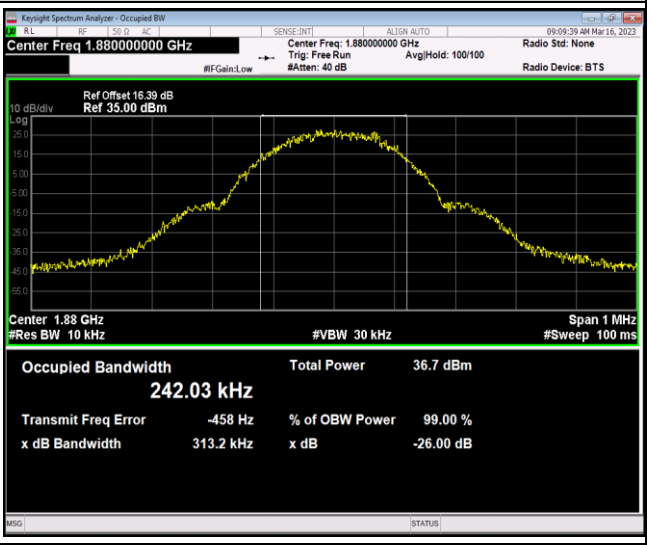
EGPRS850-251



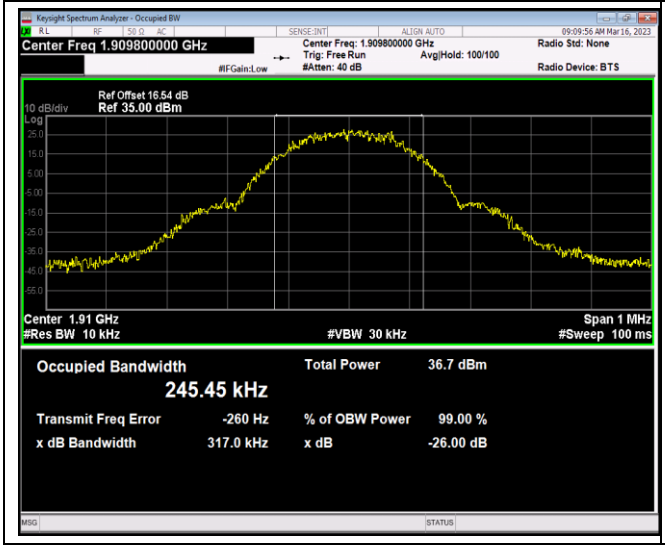
GSM1900-512



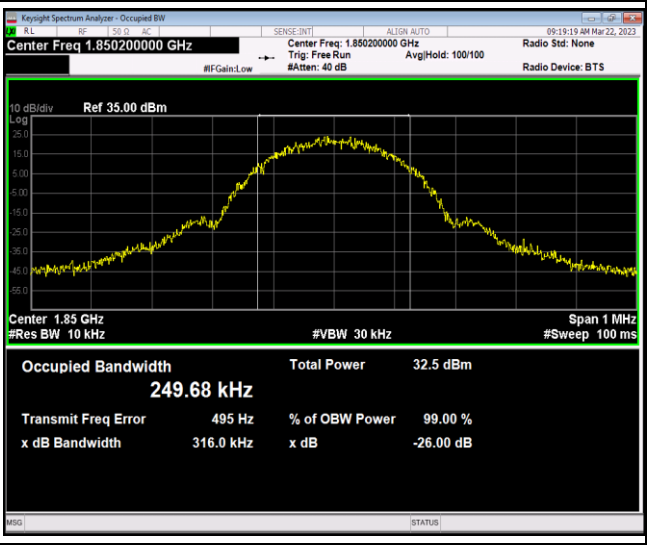
GSM1900-661



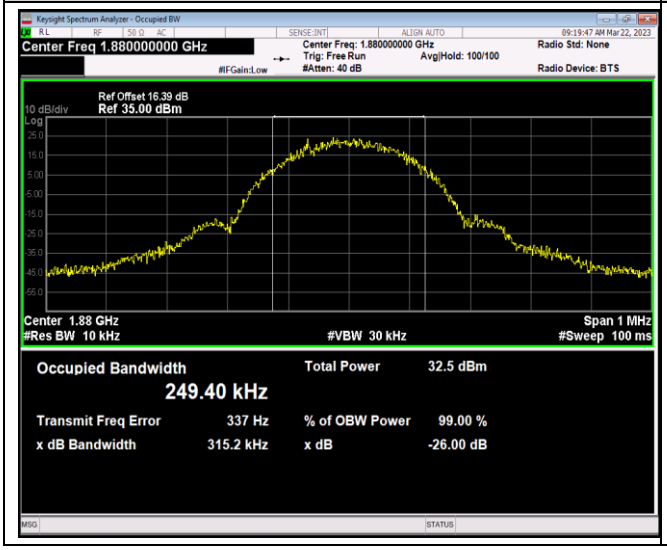
GSM1900-810



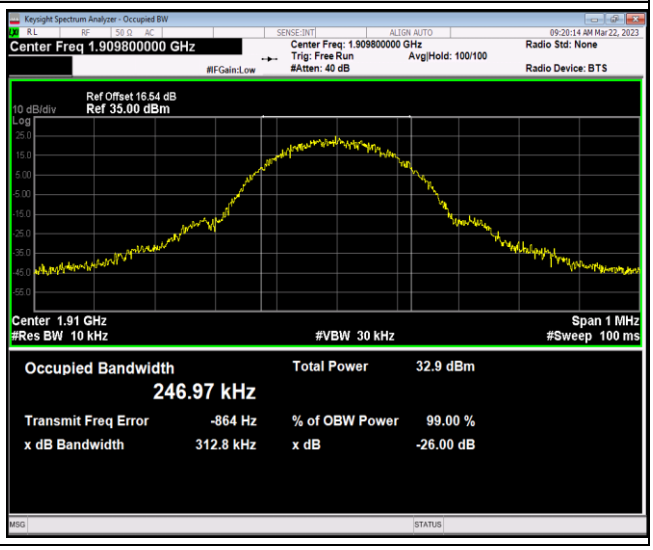
EGPRS1900-512



EGPRS1900-661



EGPRS1900-810



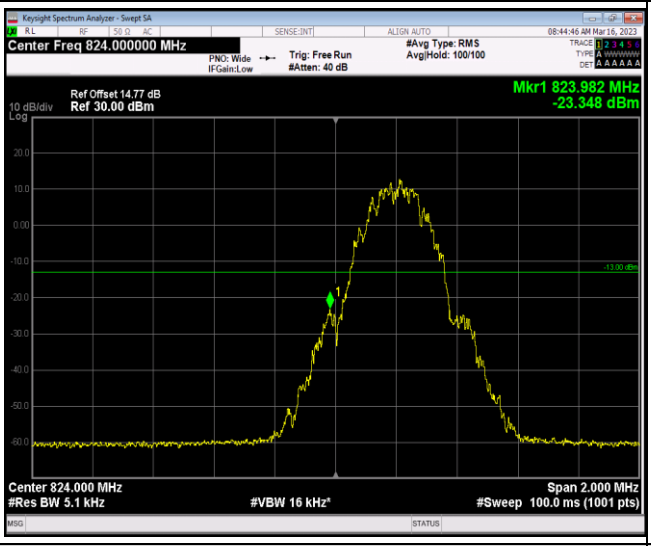
Appendix D: Band Edge

Test Result

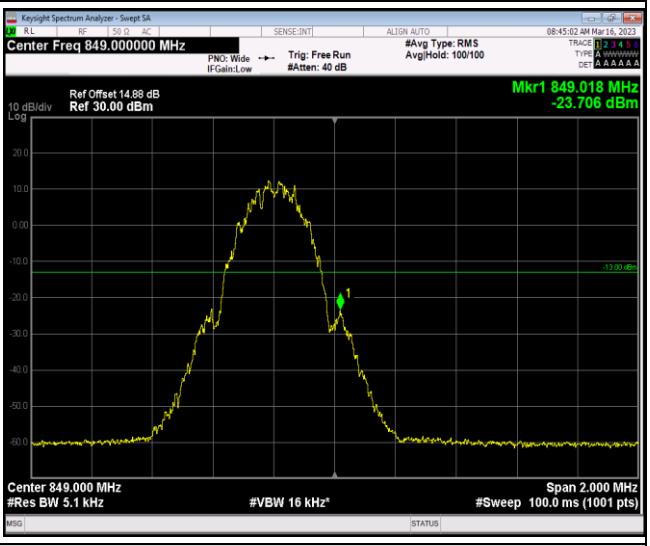
Band	Channel	PCL	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	5	823.98	-23.35	-13	PASS
GSM850	251	5	849.02	-23.71	-13	PASS
EGPRS850	128	8	823.97	-33.05	-13	PASS
EGPRS850	251	8	849.04	-32.70	-13	PASS
GSM1900	512	0	1849.99	-13.52	-13	PASS
GSM1900	810	0	1910.02	-13.05	-13	PASS
EGPRS1900	512	2	1849.97	-22.76	-13	PASS
EGPRS1900	810	2	1910.02	-21.79	-13	PASS

Test Graphs

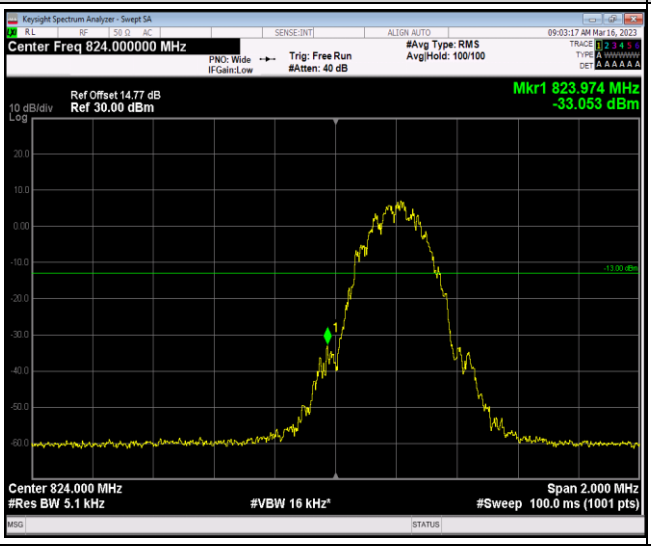
GSM850-128



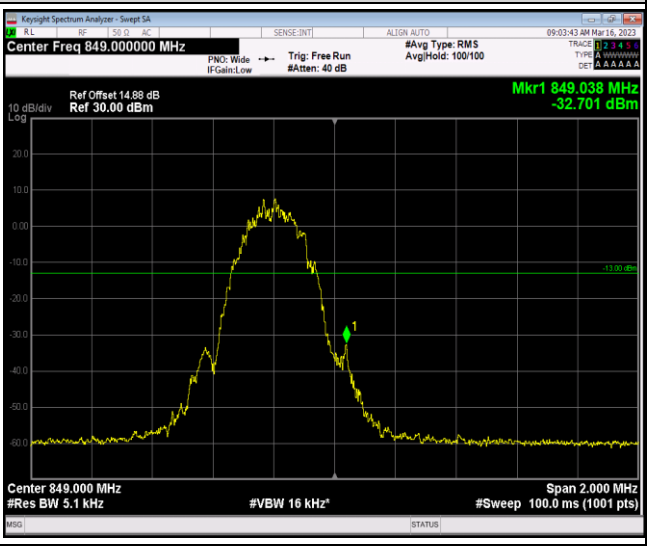
GSM850-251



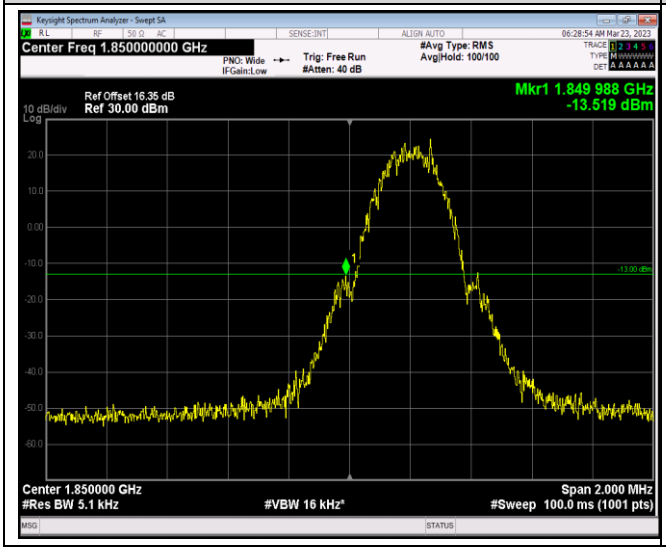
EGPRS850-128



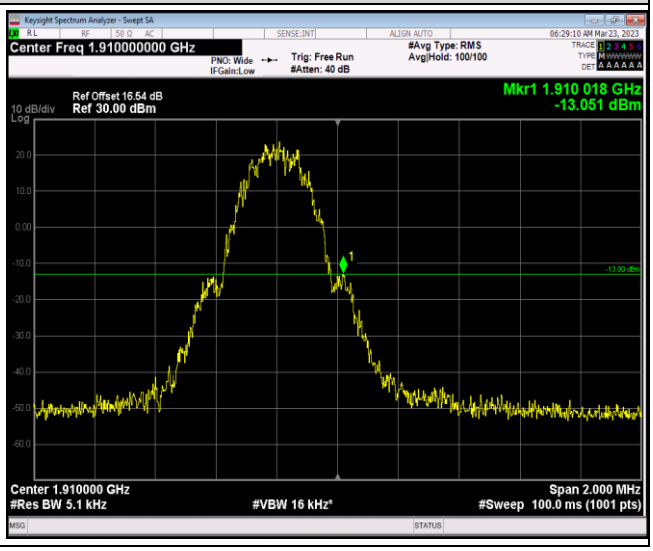
EGPRS850-251

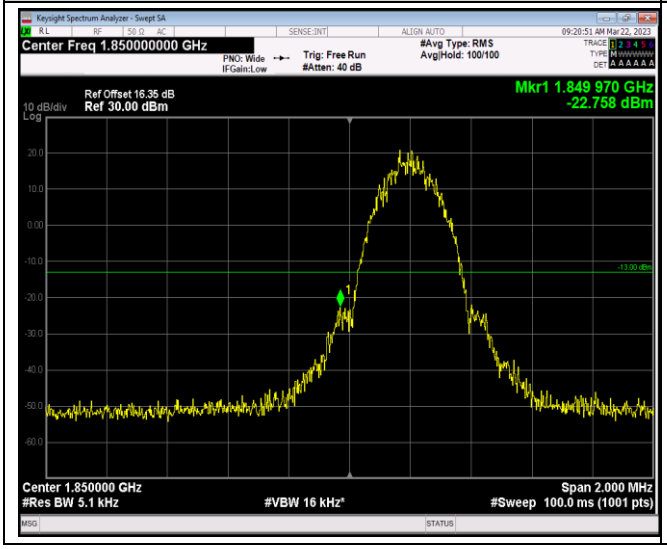
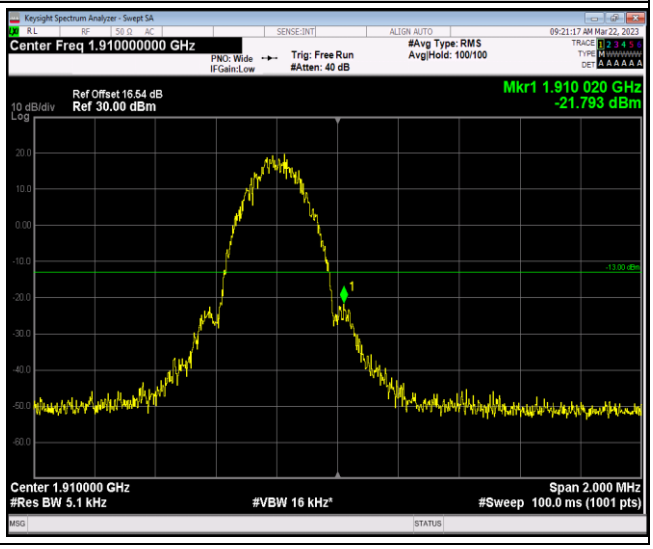


GSM1900-512



GSM1900-810



EGPRS1900-512	EGPRS1900-810
	

Appendix E: Conducted Spurious Emission

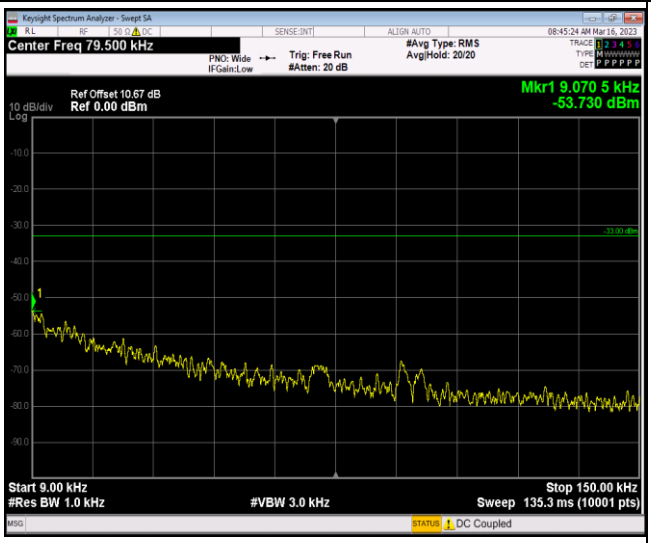
Test Result

Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	5	0.009~0.15MHz	0.01	-53.73	-33	PASS
GSM850	128	5	0.15~30MHz	0.15	-38.9	-13	PASS
GSM850	128	5	30~1000MHz	933.26	-38.91	-13	PASS
GSM850	128	5	1000~10000MHz	5938.3	-31.48	-13	PASS
GSM850	190	5	0.009~0.15MHz	0.01	-53.82	-33	PASS
GSM850	190	5	0.15~30MHz	0.16	-40.42	-13	PASS
GSM850	190	5	30~1000MHz	973.36	-39.97	-13	PASS
GSM850	190	5	1000~10000MHz	7280.2	-31.01	-13	PASS
GSM850	251	5	0.009~0.15MHz	0.01	-51.07	-33	PASS
GSM850	251	5	0.15~30MHz	0.17	-41.54	-13	PASS
GSM850	251	5	30~1000MHz	503.13	-39.81	-13	PASS
GSM850	251	5	1000~10000MHz	5968	-30.86	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-52.56	-43	PASS
GSM1900	512	0	0.15~30MHz	0.16	-39.27	-23	PASS
GSM1900	512	0	30~1000MHz	922.5	-40.61	-13	PASS
GSM1900	512	0	1000~18000MHz	17004.93	-15.74	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-52.04	-43	PASS
GSM1900	661	0	0.15~30MHz	0.16	-40.25	-23	PASS
GSM1900	661	0	30~1000MHz	863.39	-39.87	-13	PASS
GSM1900	661	0	1000~18000MHz	15674.97	-15.48	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-52.59	-43	PASS
GSM1900	810	0	0.15~30MHz	0.15	-38.41	-23	PASS
GSM1900	810	0	30~1000MHz	825.98	-40.37	-13	PASS
GSM1900	810	0	1000~18000MHz	16785.63	-16.19	-13	PASS

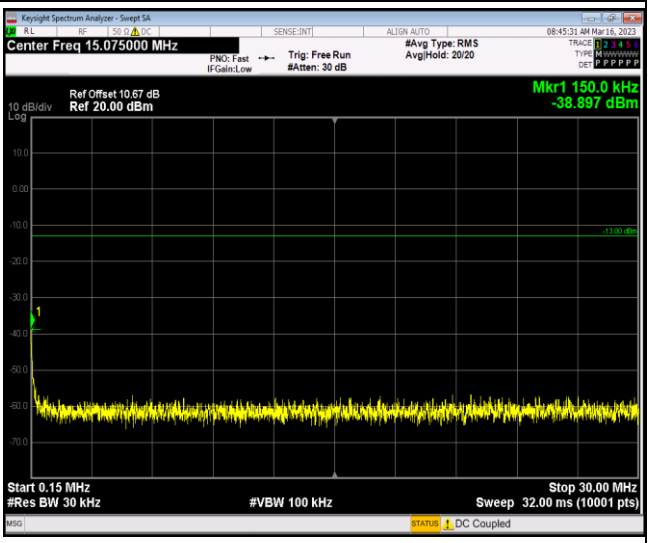
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

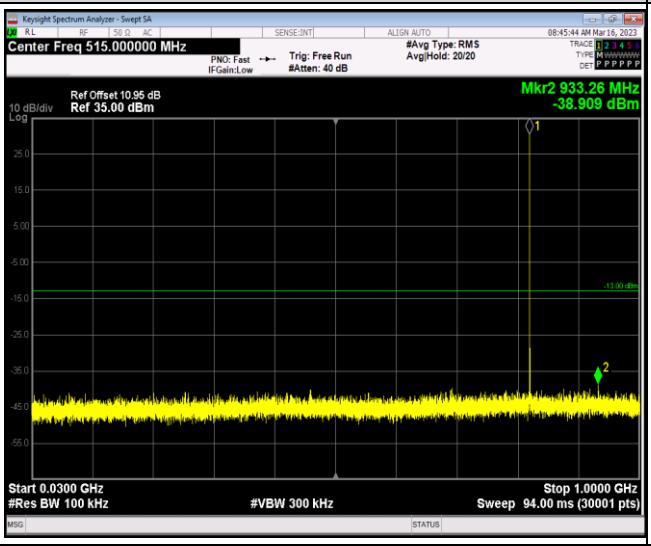
GSM850-128-0.009~0.15MHz



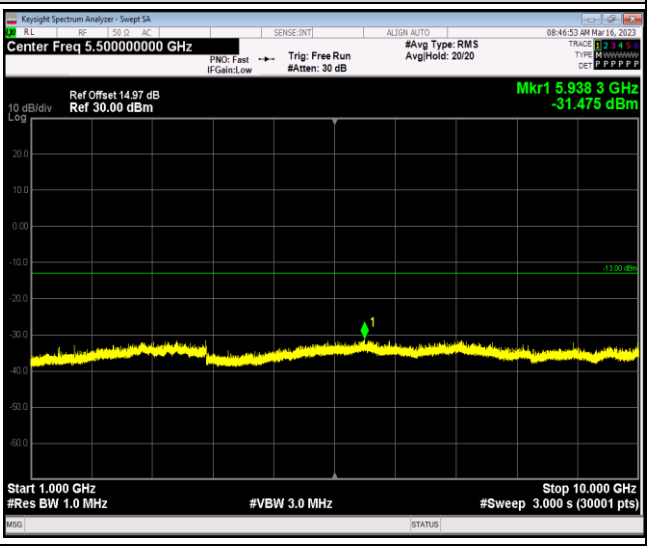
GSM850-128-0.15~30MHz



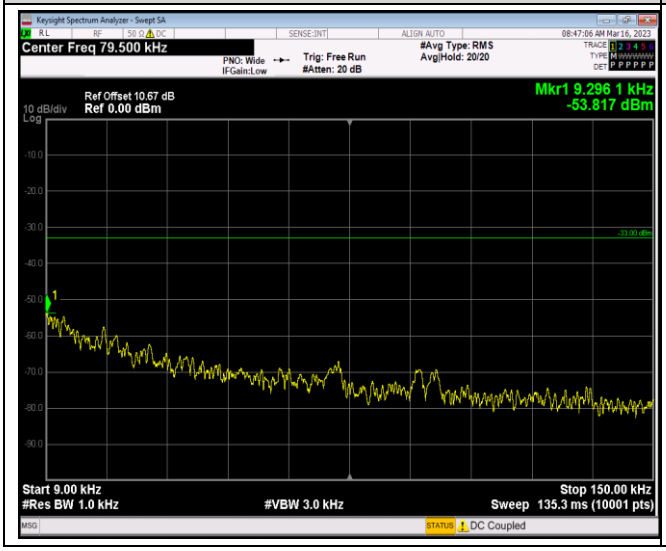
GSM850-128-30~1000MHz



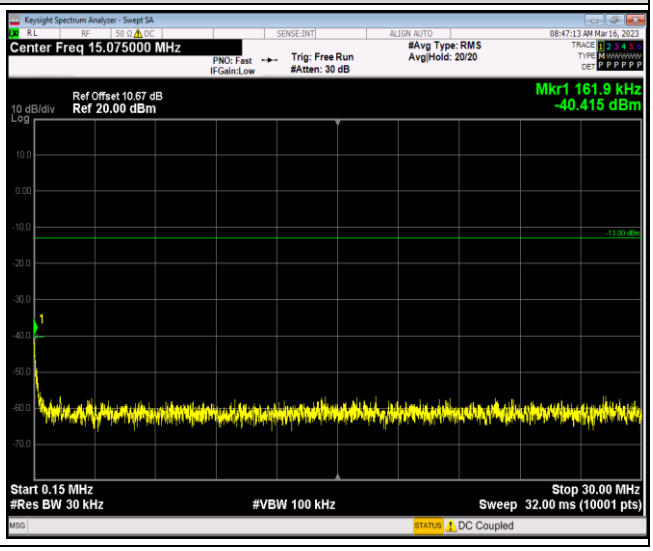
GSM850-128-1000~10000MHz



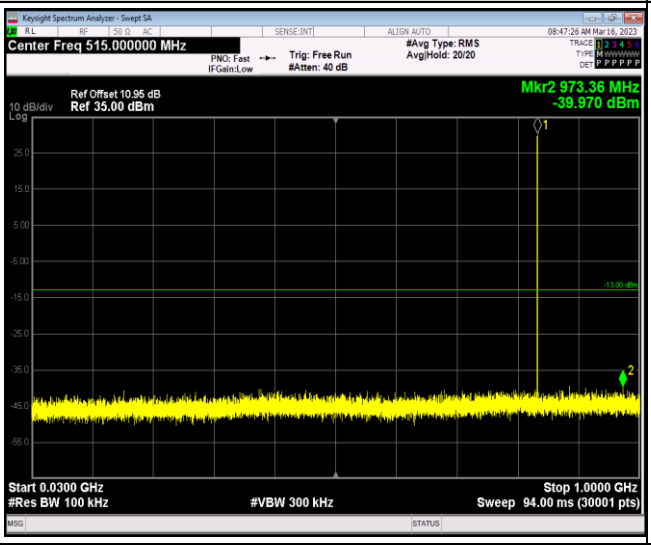
GSM850-190-0.009~0.15MHz



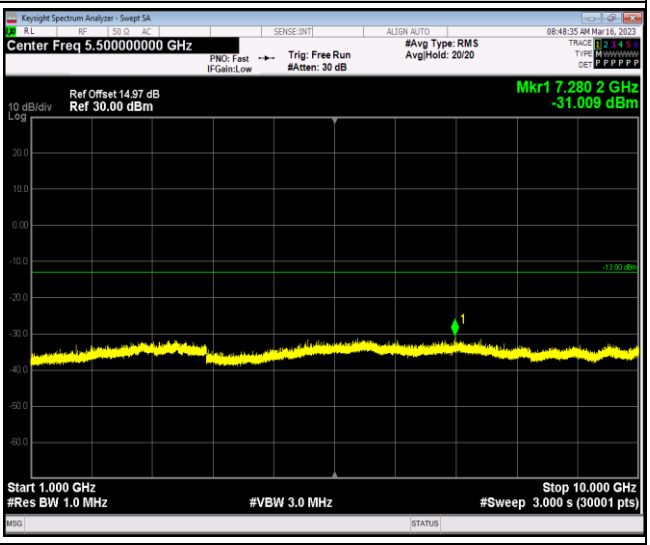
GSM850-190-0.15~30MHz



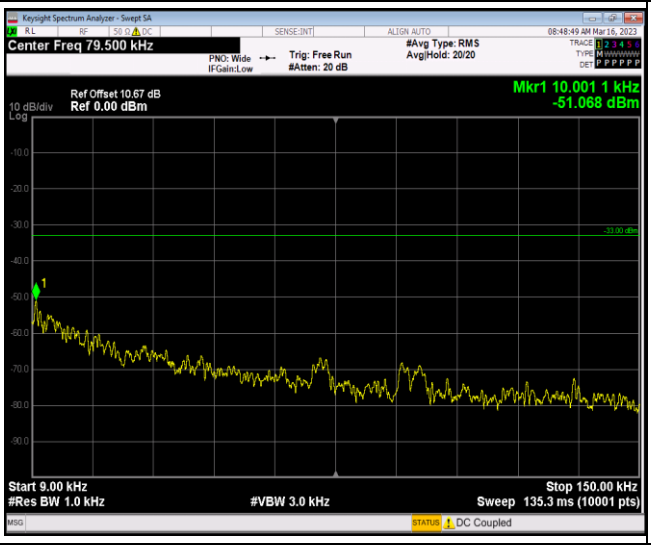
GSM850-190-30~1000MHz



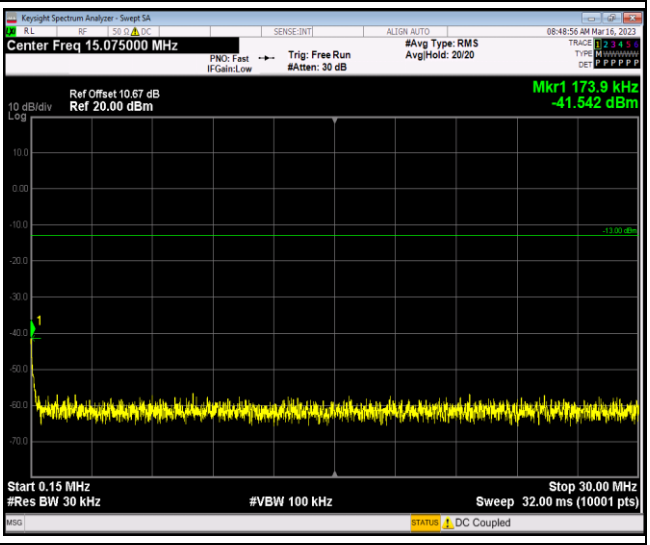
GSM850-190-1000~10000MHz



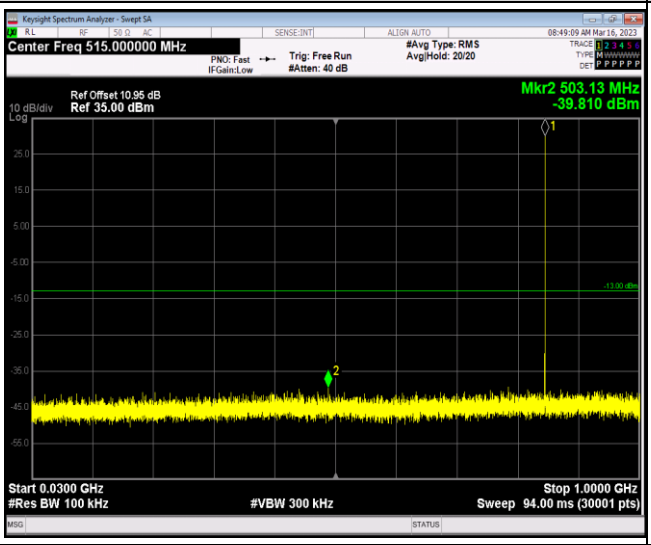
GSM850-251-0.009~0.15MHz



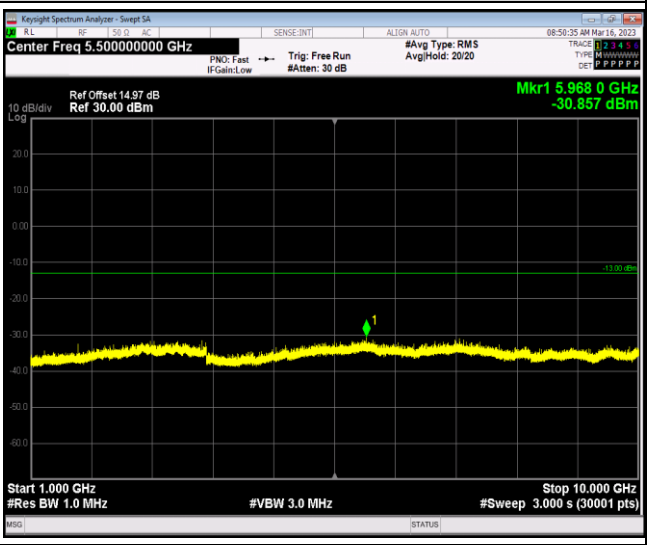
GSM850-251-0.15~30MHz



GSM850-251-30~1000MHz



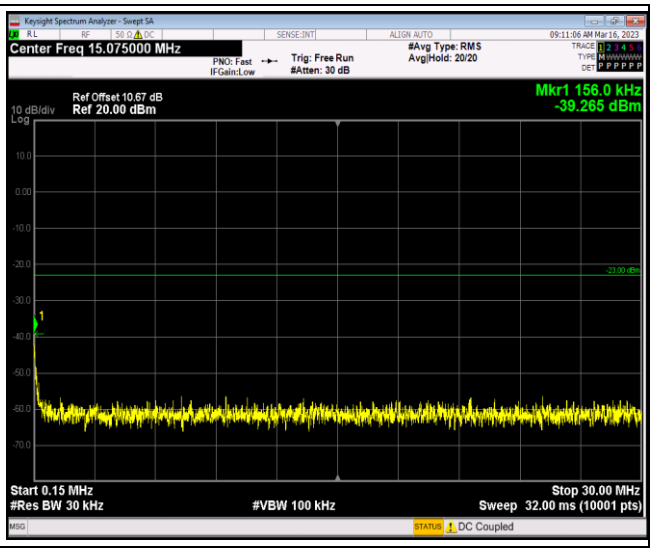
GSM850-251-1000~10000MHz



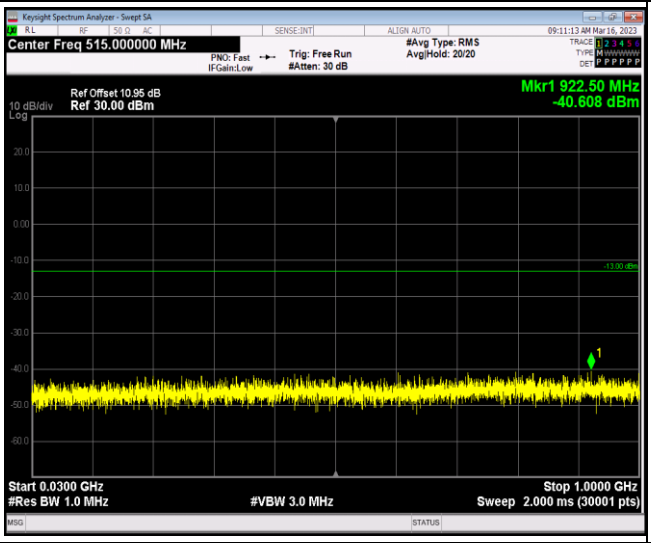
GSM1900-512-0.009~0.15MHz

GSM1900-512-0.15~30MHz

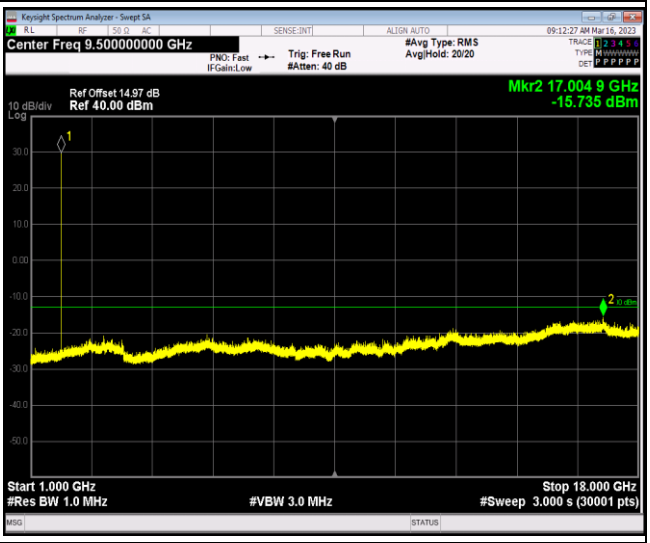
GSM1900-512-30~1000MHz



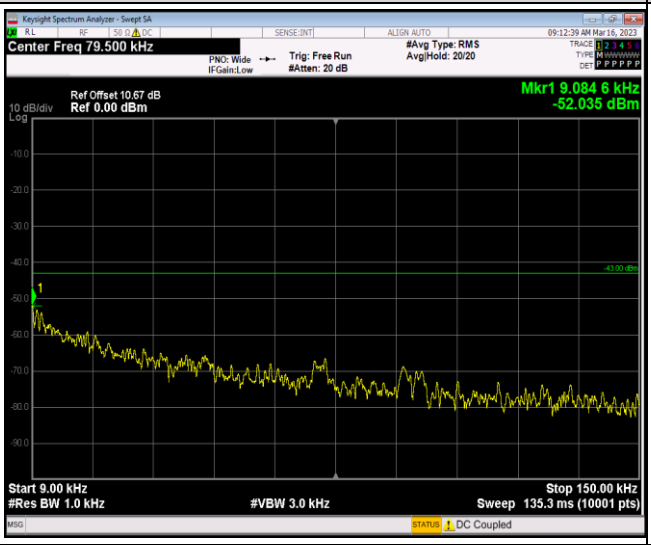
GSM1900-512-1000~18000MHz



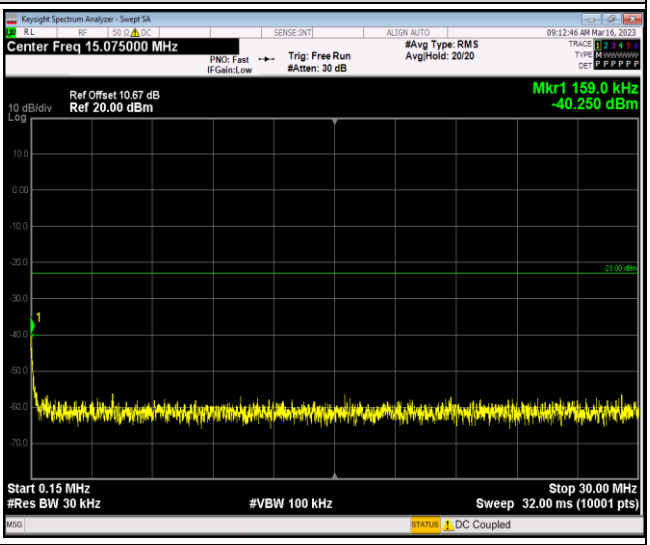
GSM1900-661-0.009~0.15MHz



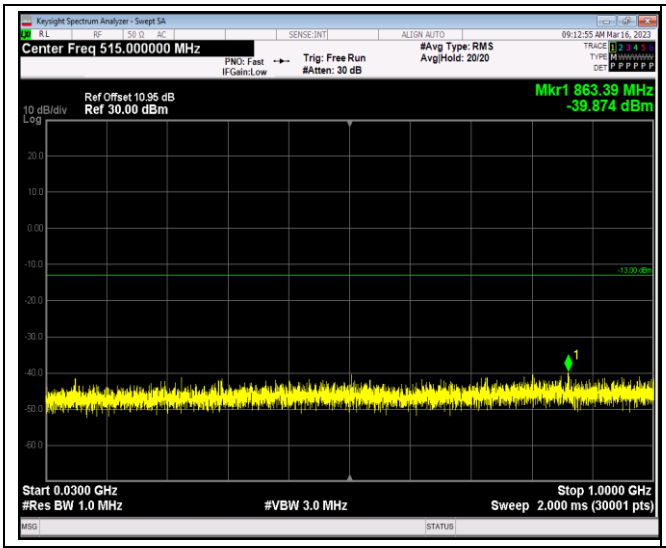
GSM1900-661-0.15~30MHz



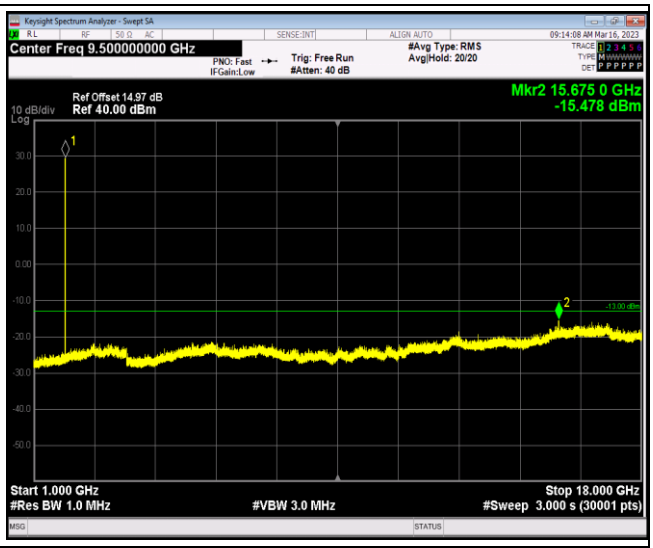
GSM1900-661-30~1000MHz



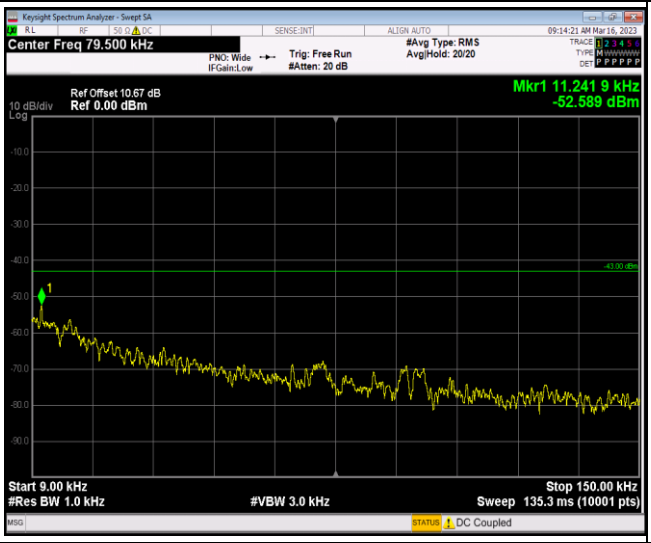
GSM1900-661-1000~18000MHz



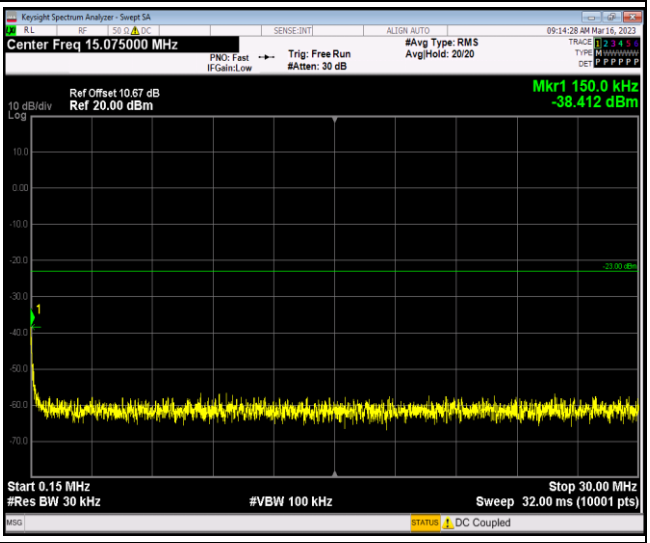
GSM1900-810-0.009~0.15MHz



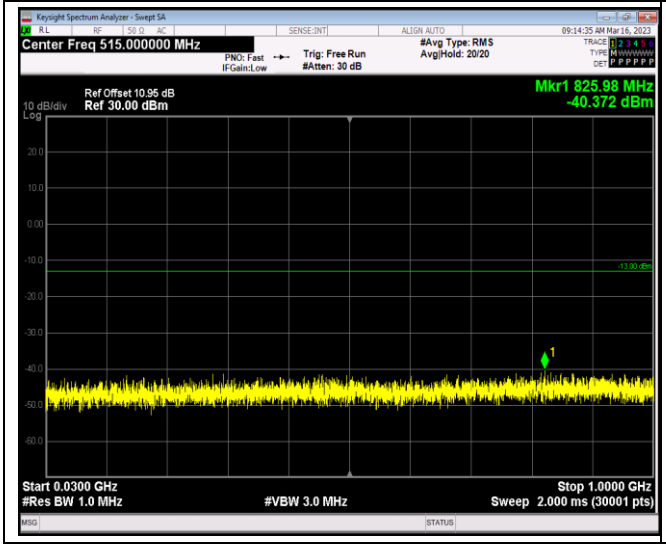
GSM1900-810-0.15~30MHz

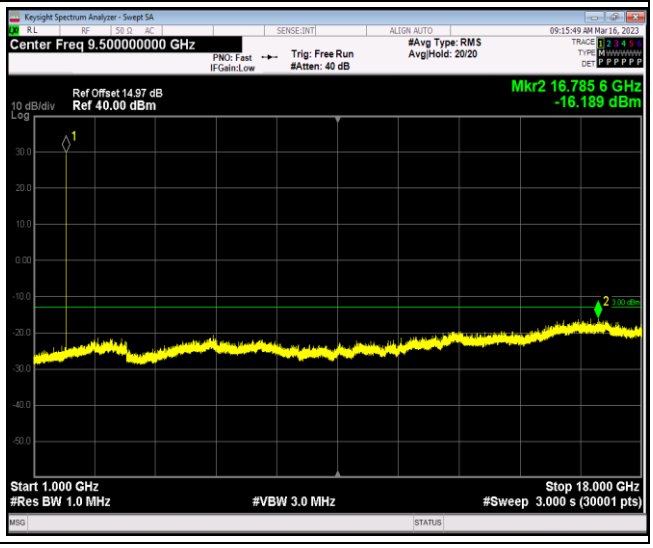


GSM1900-810-30~1000MHz



GSM1900-810-1000~18000MHz





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		
3.87	-30	-10.72	-0.012814	±2.5	Pass
	-20	-11.11	-0.013280		
	-10	-12.01	-0.014356		
	0	-11.85	-0.014164		
	10	-9.36	-0.011188		
	20	-10.69	-0.012778		
	30	-9.27	-0.011081		
	40	-9.23	-0.011033		
	50	-14.04	-0.016782		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	-9.91	-0.011846	±2.5	Pass
	3.87	0.71	0.000849		
	4.45	-10.40	-0.012431		
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		
3.87	-30	-11.33	-0.013543	±2.5	Pass
	-20	-7.72	-0.009228		
	-10	-8.59	-0.010268		
	0	-4.13	-0.004937		
	10	-9.62	-0.011499		
	20	-8.72	-0.010423		
	30	-3.36	-0.004016		
	40	-4.36	-0.005212		
	50	-6.07	-0.007256		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	-8.78	-0.010495	±2.5	Pass
	3.87	-6.68	-0.007985		
	4.45	-3.26	-0.003897		
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	-16.69	-0.008878	Within authorized band for PCS 1900	Pass
	-20	-10.88	-0.005787		
	-10	-12.40	-0.006596		
	0	-11.82	-0.006287		
	10	-14.69	-0.007814		
	20	-10.88	-0.005787		
	30	-13.88	-0.007383		
	40	-11.72	-0.006234		
	50	-8.07	-0.004293		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	-11.75	-0.006250	Within authorized band for PCS 1900	Pass
	3.87	-6.13	-0.003261		
	4.45	-13.33	-0.007090		
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	-15.50	-0.008245	Within authorized band for PCS 1900	Pass
	-20	-7.55	-0.004016		
	-10	-12.59	-0.006697		
	0	-6.65	-0.003537		
	10	-13.43	-0.007144		
	20	-17.69	-0.009410		
	30	-24.18	-0.012862		
	40	-24.54	-0.013053		
	50	-17.92	-0.009532		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	-8.75	-0.004654	Within authorized band for PCS 1900	Pass
	3.87	-9.20	-0.004894		
	4.45	-16.37	-0.008707		
Remark: All channel had been tested, but only the worst case data displayed in this report.					

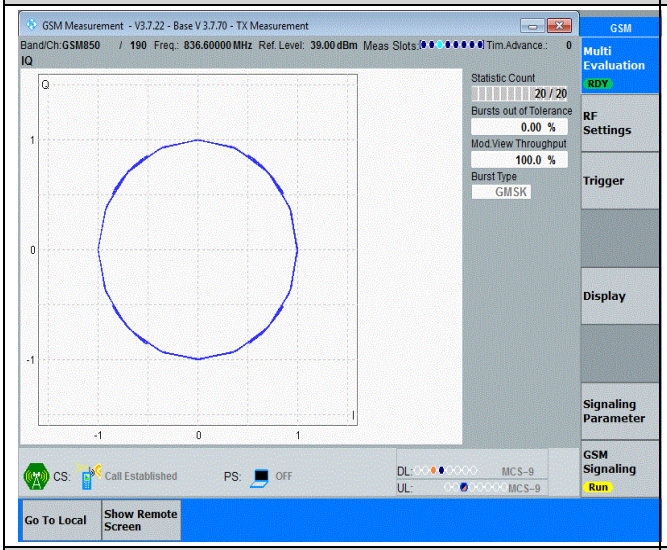
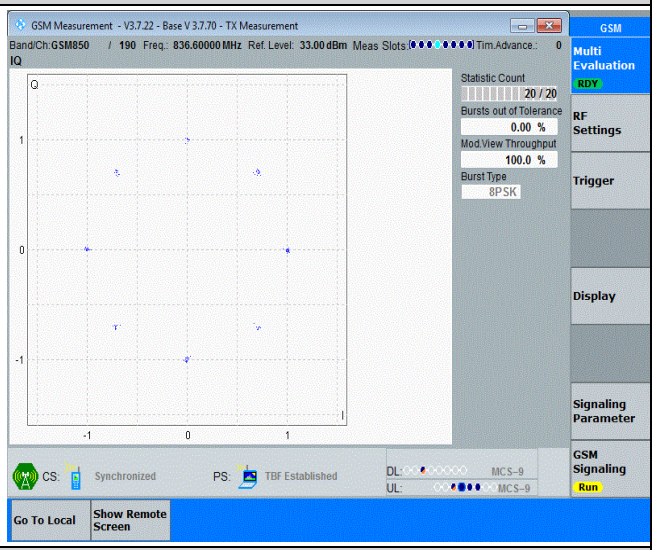
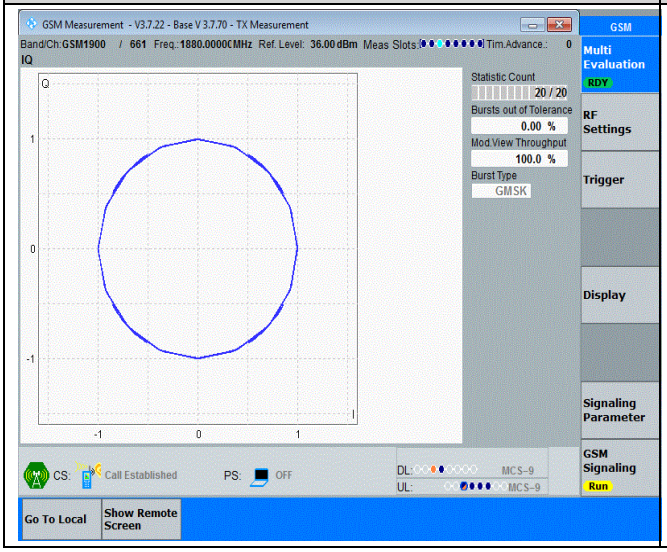
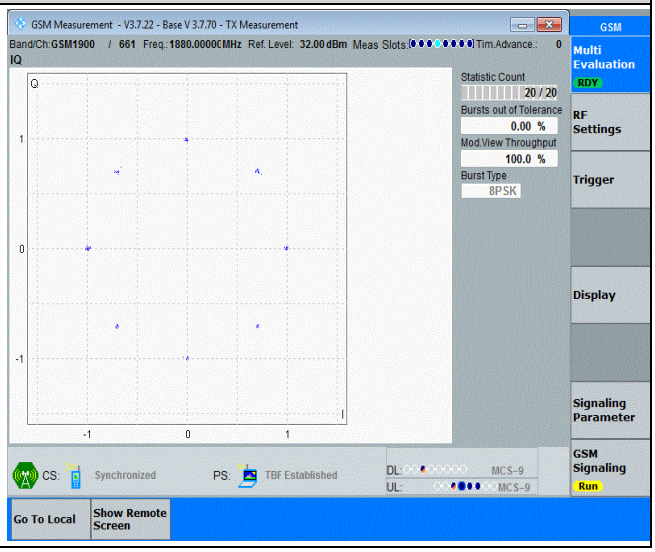
Appendix G: Modulation Characteristics

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

GSM850-190	EGPRS850-190
	
GSM1900-661	**EGPRS1900-661**