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	32.43	29	38.45	PASS
GSM850	190	5	32.42	28.99	38.45	PASS
GSM850	251	5	32.47	29.04	38.45	PASS
GSM1900	512	0	29.87	30.07	33.00	PASS
GSM1900	661	0	29.92	30.12	33.00	PASS
GSM1900	810	0	29.61	29.81	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GPRS850	128	5	1	32.45	29.02	38.45	PASS
GPRS850	128	5	2	30.04	26.61	38.45	PASS
GPRS850	128	5	3	28.12	24.69	38.45	PASS
GPRS850	128	5	4	26.14	22.71	38.45	PASS
GPRS850	190	5	1	32.41	28.98	38.45	PASS
GPRS850	190	5	2	30.18	26.75	38.45	PASS
GPRS850	190	5	3	28.20	24.77	38.45	PASS
GPRS850	190	5	4	26.21	22.78	38.45	PASS
GPRS850	251	5	1	32.44	29.01	38.45	PASS
GPRS850	251	5	2	30.27	26.84	38.45	PASS
GPRS850	251	5	3	28.30	24.87	38.45	PASS
GPRS850	251	5	4	26.28	22.85	38.45	PASS
GPRS1900	512	0	1	29.96	30.16	33.00	PASS
GPRS1900	512	0	2	28.12	28.32	33.00	PASS
GPRS1900	512	0	3	26.54	26.74	33.00	PASS
GPRS1900	512	0	4	24.52	24.72	33.00	PASS
GPRS1900	661	0	1	30.02	30.22	33.00	PASS
GPRS1900	661	0	2	27.98	28.18	33.00	PASS
GPRS1900	661	0	3	26.45	26.65	33.00	PASS
GPRS1900	661	0	4	24.47	24.67	33.00	PASS
GPRS1900	810	0	1	29.75	29.95	33.00	PASS
GPRS1900	810	0	2	27.46	27.66	33.00	PASS
GPRS1900	810	0	3	25.92	26.12	33.00	PASS
GPRS1900	810	0	4	23.96	24.16	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
EGPRS850	128	8	1	25.34	21.91	38.45	PASS
EGPRS850	128	8	2	24.27	20.84	38.45	PASS
EGPRS850	128	8	3	22.24	18.81	38.45	PASS
EGPRS850	128	8	4	20.25	16.82	38.45	PASS
EGPRS850	190	8	1	25.04	21.61	38.45	PASS
EGPRS850	190	8	2	24.05	20.62	38.45	PASS
EGPRS850	190	8	3	21.97	18.54	38.45	PASS
EGPRS850	190	8	4	19.97	16.54	38.45	PASS
EGPRS850	251	8	1	25.15	21.72	38.45	PASS
EGPRS850	251	8	2	24.13	20.7	38.45	PASS
EGPRS850	251	8	3	22.20	18.77	38.45	PASS
EGPRS850	251	8	4	20.13	16.7	38.45	PASS
EGPRS1900	512	2	1	26.28	26.48	33.00	PASS
EGPRS1900	512	2	2	24.91	25.11	33.00	PASS
EGPRS1900	512	2	3	22.55	22.75	33.00	PASS
EGPRS1900	512	2	4	19.83	20.03	33.00	PASS
EGPRS1900	661	2	1	26.68	26.88	33.00	PASS
EGPRS1900	661	2	2	25.26	25.46	33.00	PASS
EGPRS1900	661	2	3	23.11	23.31	33.00	PASS
EGPRS1900	661	2	4	20.64	20.84	33.00	PASS
EGPRS1900	810	2	1	25.80	26	33.00	PASS
EGPRS1900	810	2	2	24.37	24.57	33.00	PASS
EGPRS1900	810	2	3	22.24	22.44	33.00	PASS
EGPRS1900	810	2	4	19.76	19.96	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

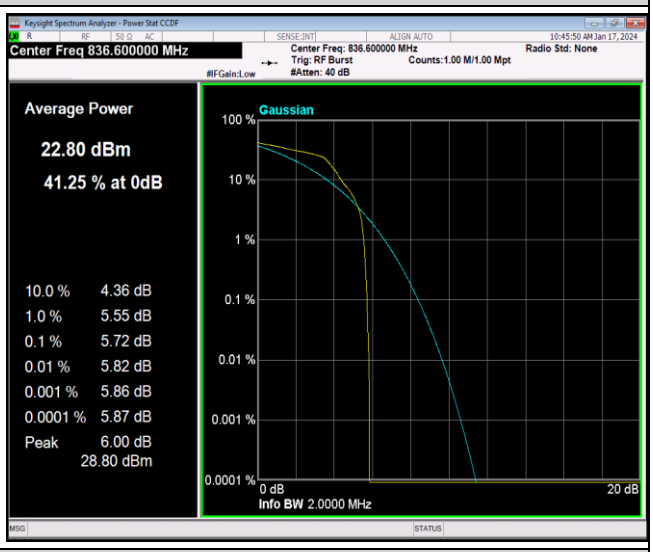
Band	Channel	PCL	Result(dB)	Limit(dB)	Verdict
GSM850	190	5	2.79	13	PASS
EGPRS850	190	8	5.72	13	PASS
GSM1900	661	0	2.77	13	PASS
EGPRS1900	661	2	5.58	13	PASS

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

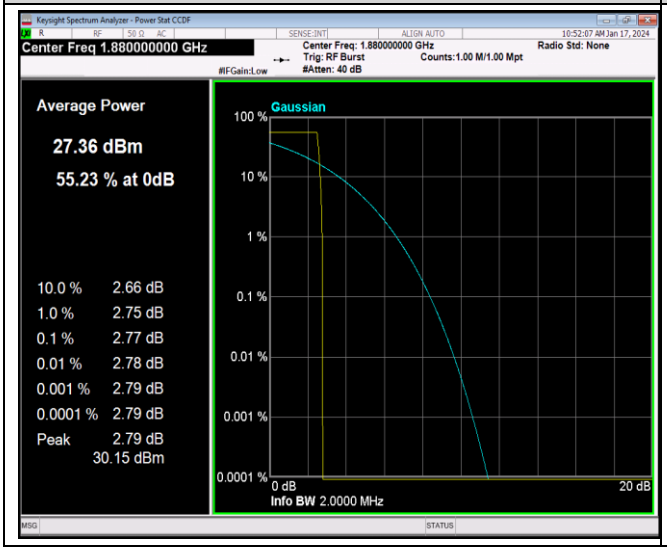
Test Graphs

GSM850-190

EGPRS850-190



GSM1900-661



EGPRS1900-661

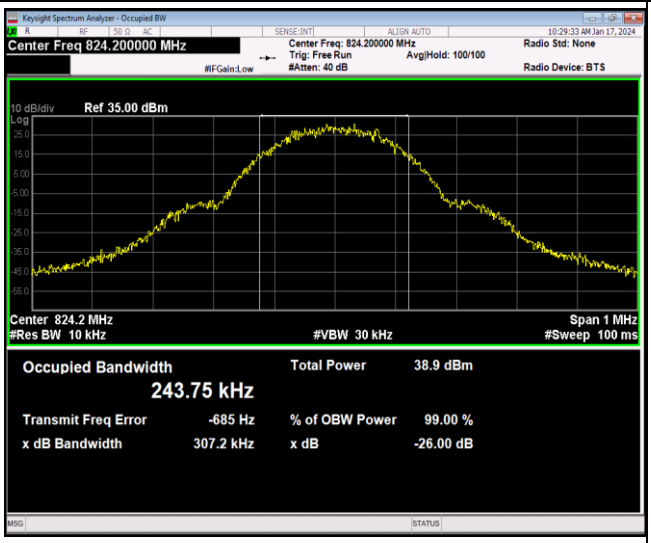
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

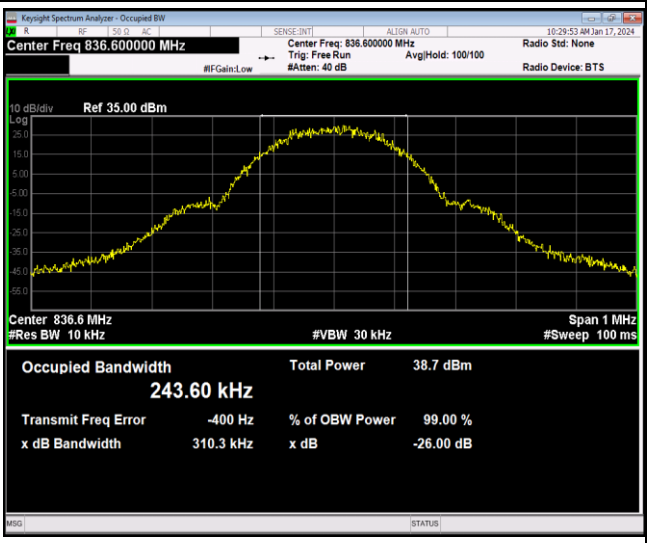
Band	Channel	PCL	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	5	0.24375	0.3072	---	PASS
GSM850	190	5	0.24360	0.3103	---	PASS
GSM850	251	5	0.24692	0.3119	---	PASS
EGPRS850	128	8	0.24417	0.3032	---	PASS
EGPRS850	190	8	0.24558	0.3113	---	PASS
EGPRS850	251	8	0.24173	0.3038	---	PASS
GSM1900	512	0	0.24350	0.3114	---	PASS
GSM1900	661	0	0.24391	0.3182	---	PASS
GSM1900	810	0	0.24580	0.3171	---	PASS
EGPRS1900	512	2	0.24450	0.3152	---	PASS
EGPRS1900	661	2	0.24789	0.3121	---	PASS
EGPRS1900	810	2	0.24495	0.3080	---	PASS

Test Graphs

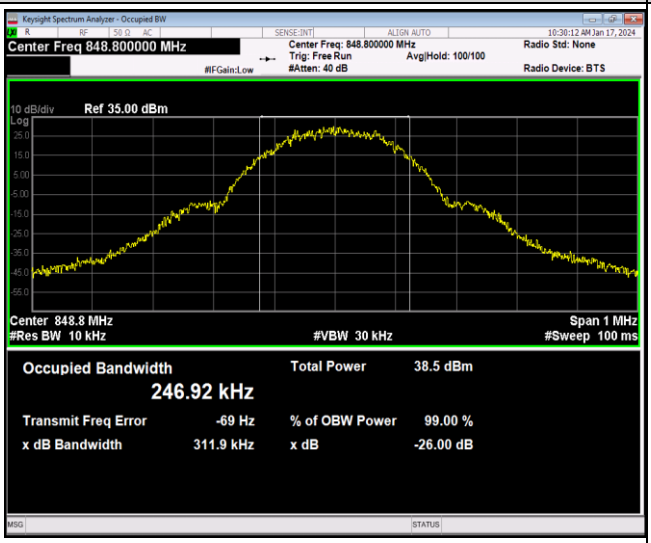
GSM850-128



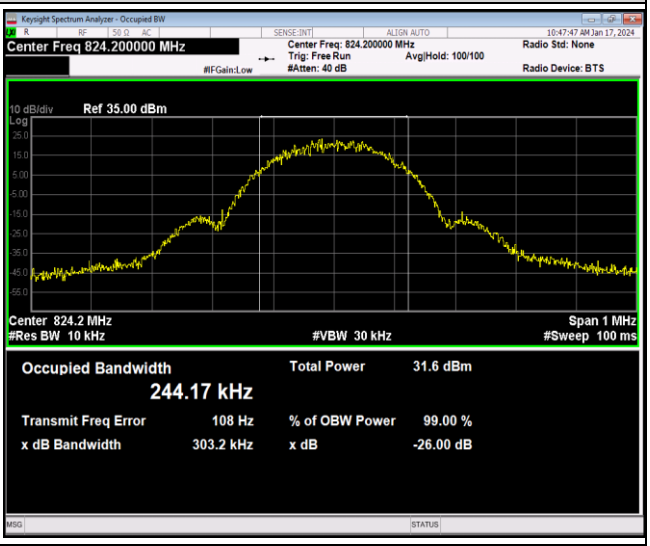
GSM850-190



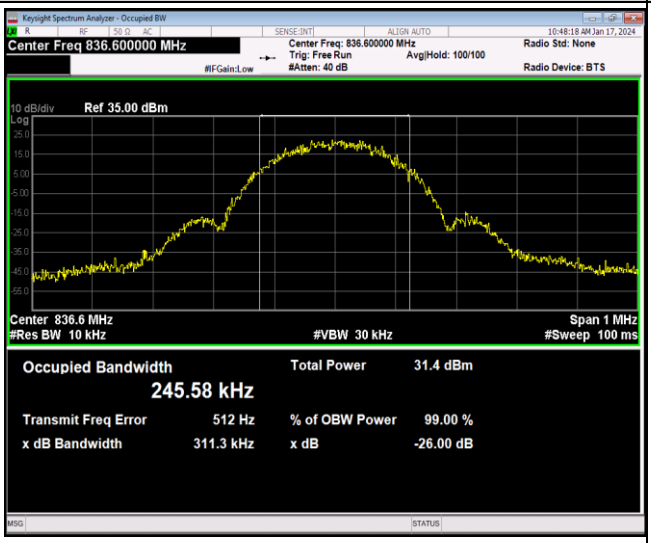
GSM850-251



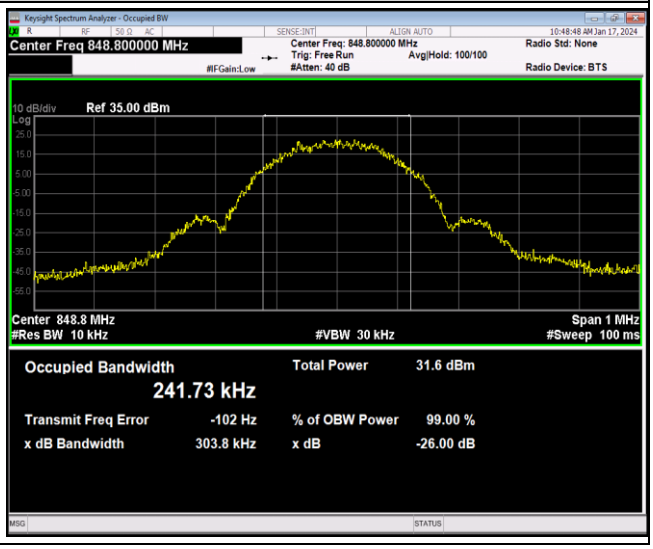
EGPRS850-128



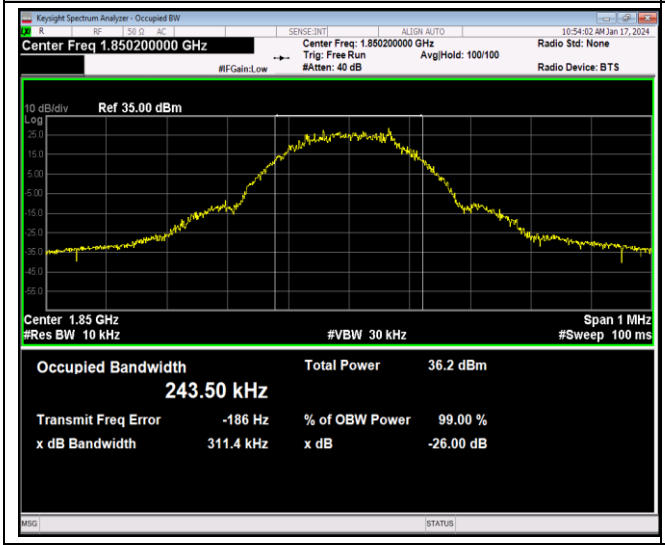
EGPRS850-190



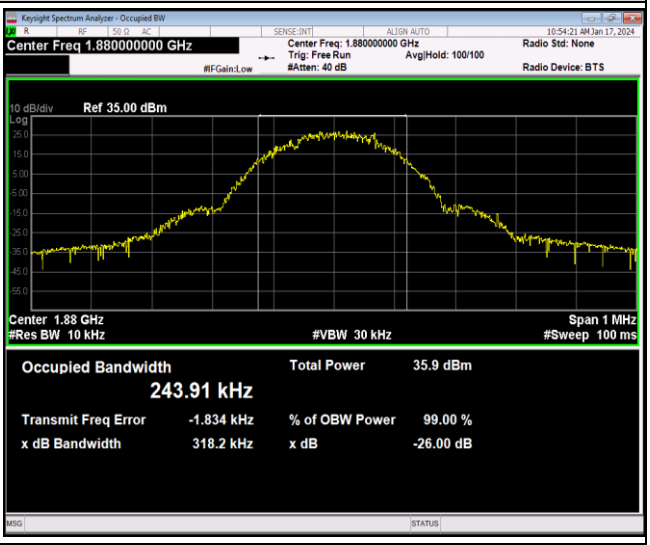
EGPRS850-251



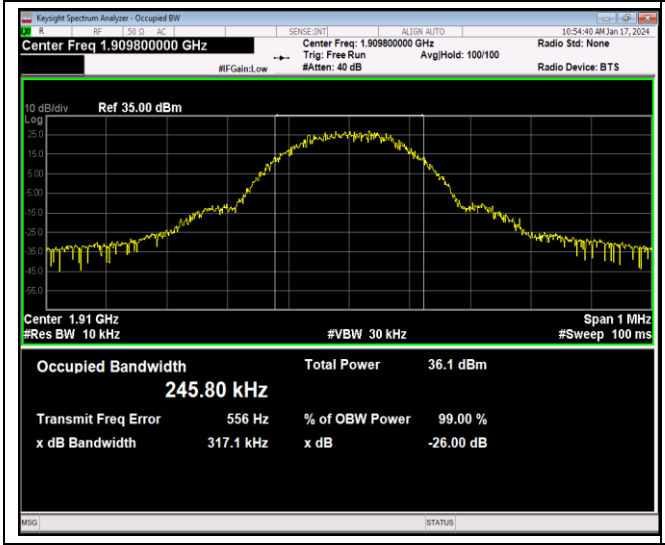
GSM1900-512



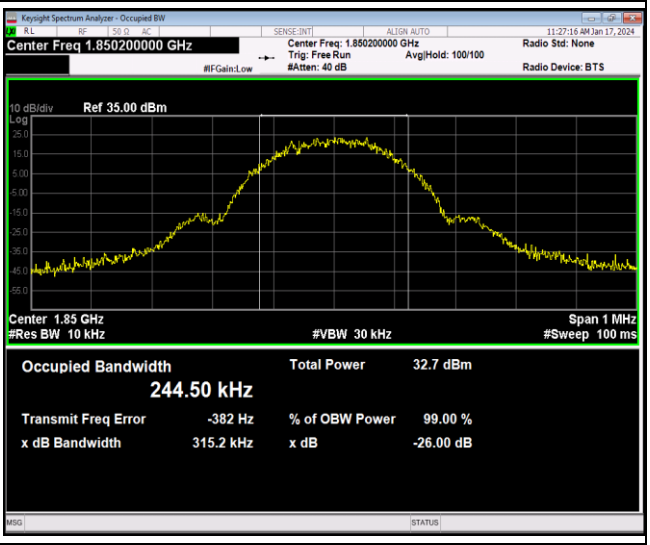
GSM1900-661



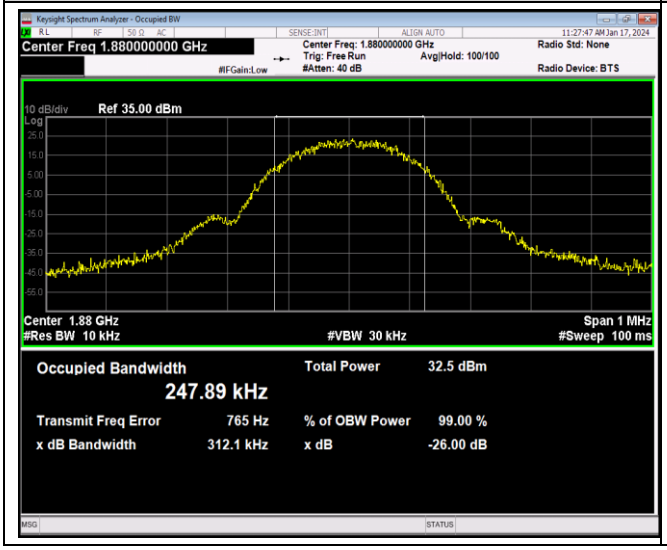
GSM1900-810



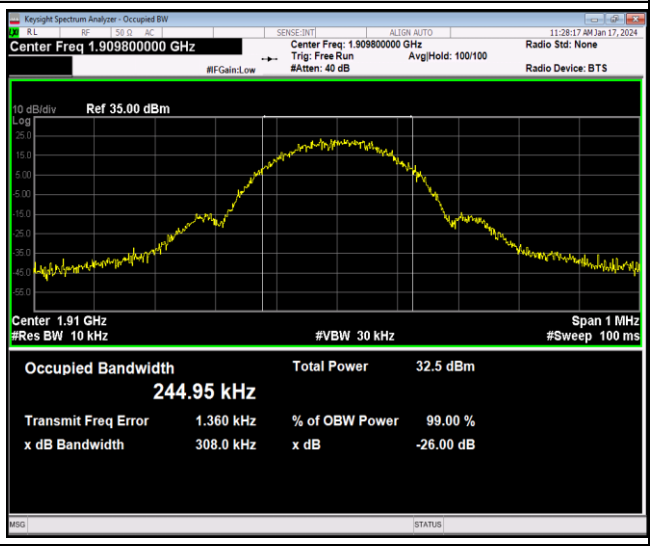
EGPRS1900-512



EGPRS1900-661



EGPRS1900-810



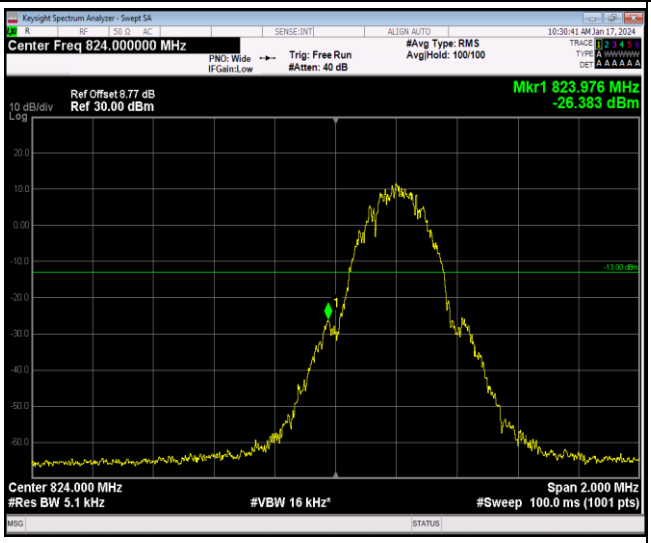
Appendix D: Band Edge

Test Result

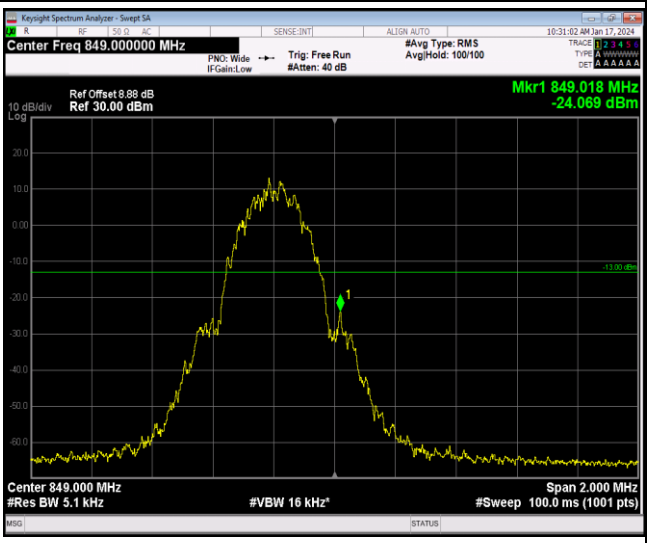
Band	Channel	PCL	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	5	823.98	-26.38	-13	PASS
GSM850	251	5	849.02	-24.07	-13	PASS
EGPRS850	128	8	823.97	-34.48	-13	PASS
EGPRS850	251	8	849.01	-35.11	-13	PASS
GSM1900	512	0	1850.00	-16.48	-13	PASS
GSM1900	810	0	1910.02	-14.53	-13	PASS
EGPRS1900	512	2	1850.00	-20.92	-13	PASS
EGPRS1900	810	2	1910.01	-20.62	-13	PASS

Test Graphs

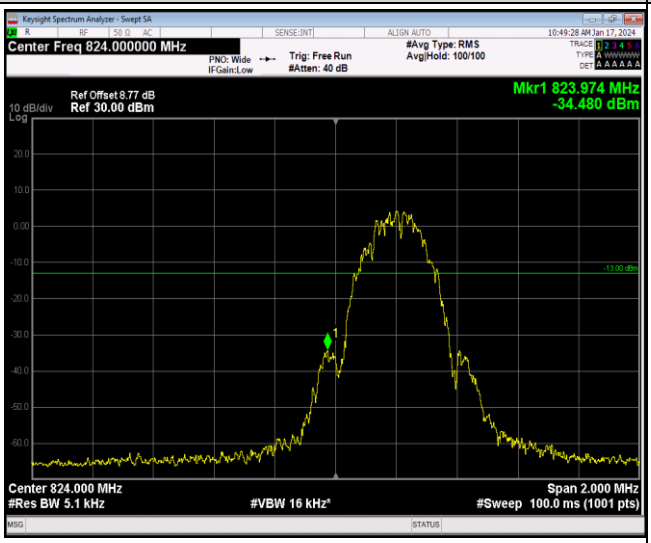
GSM850-128



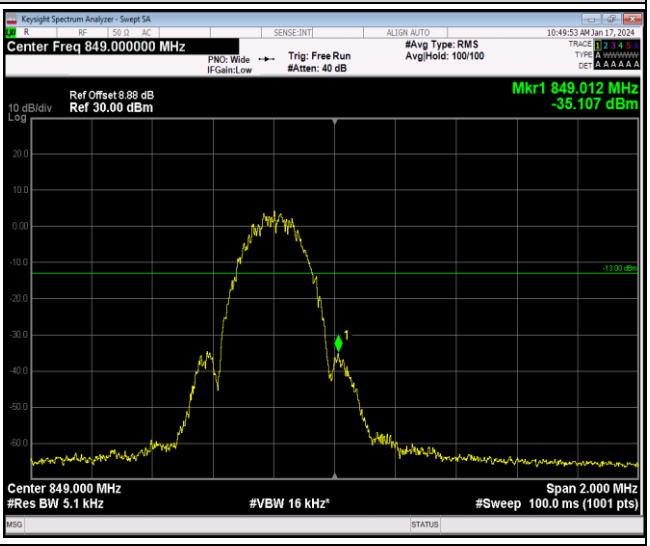
GSM850-251



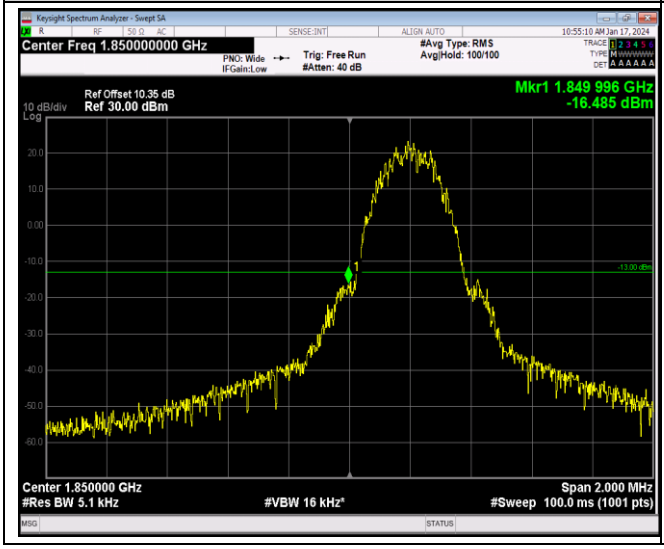
EGPRS850-128



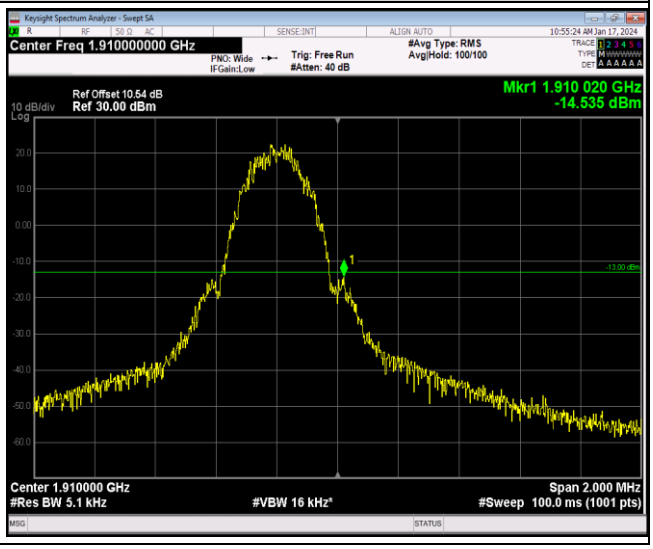
EGPRS850-251

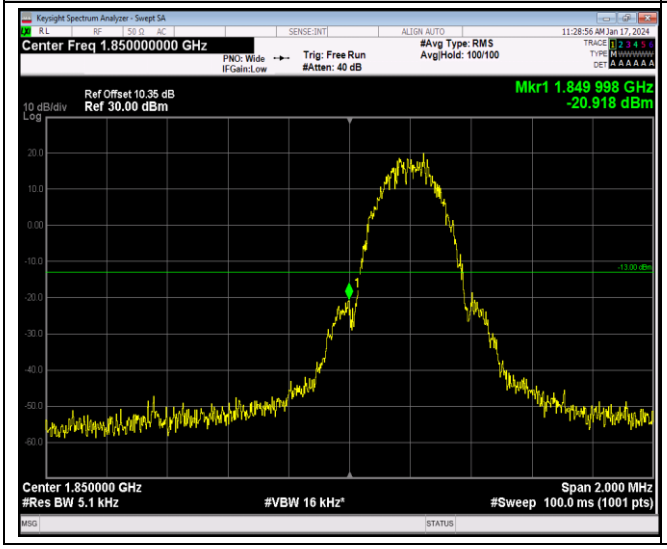
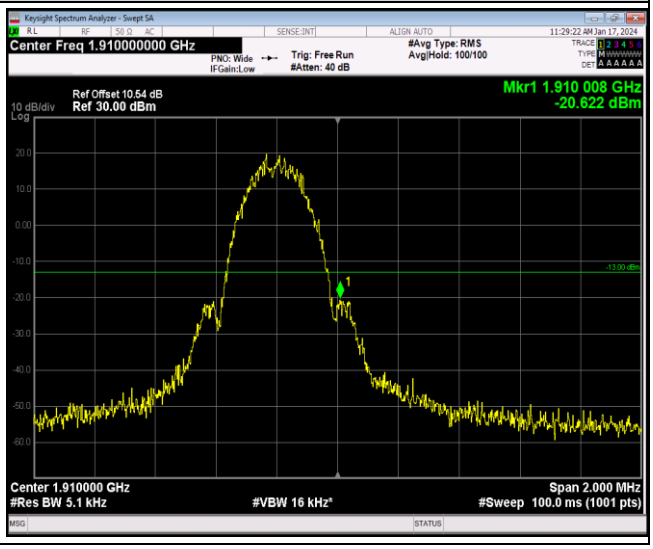


GSM1900-512



GSM1900-810



EGPRS1900-512	EGPRS1900-810
	

Appendix E: Conducted Spurious Emission

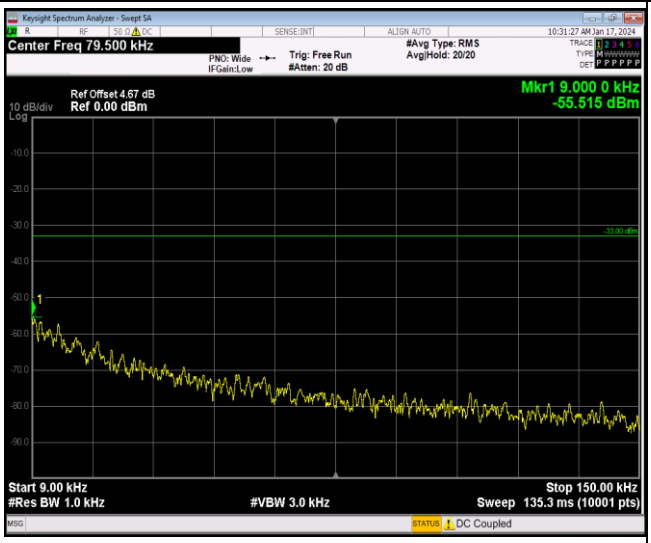
Test Result

Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	5	0.009~0.15MHz	0.01	-55.52	-33	PASS
GSM850	128	5	0.15~30MHz	0.15	-44.43	-13	PASS
GSM850	128	5	30~1000MHz	942.45	-44.28	-13	PASS
GSM850	128	5	1000~10000MHz	2472.7	-29.75	-13	PASS
GSM850	190	5	0.009~0.15MHz	0.01	-55.64	-33	PASS
GSM850	190	5	0.15~30MHz	0.15	-43.14	-13	PASS
GSM850	190	5	30~1000MHz	524.7	-45.08	-13	PASS
GSM850	190	5	1000~10000MHz	1673.2	-30.64	-13	PASS
GSM850	251	5	0.009~0.15MHz	0.01	-55.51	-33	PASS
GSM850	251	5	0.15~30MHz	0.15	-40.71	-13	PASS
GSM850	251	5	30~1000MHz	726.72	-44.84	-13	PASS
GSM850	251	5	1000~10000MHz	1697.5	-31.21	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-55.28	-43	PASS
GSM1900	512	0	0.15~30MHz	0.15	-43.35	-23	PASS
GSM1900	512	0	30~1000MHz	922.21	-46.01	-13	PASS
GSM1900	512	0	1000~18000MHz	16999.27	-21.97	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-57.31	-43	PASS
GSM1900	661	0	0.15~30MHz	0.16	-44.38	-23	PASS
GSM1900	661	0	30~1000MHz	807.46	-45.66	-13	PASS
GSM1900	661	0	1000~18000MHz	16999.83	-22.93	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-55.72	-43	PASS
GSM1900	810	0	0.15~30MHz	0.15	-44.87	-23	PASS
GSM1900	810	0	30~1000MHz	814.79	-44.6	-13	PASS
GSM1900	810	0	1000~18000MHz	16165.7	-22.13	-13	PASS

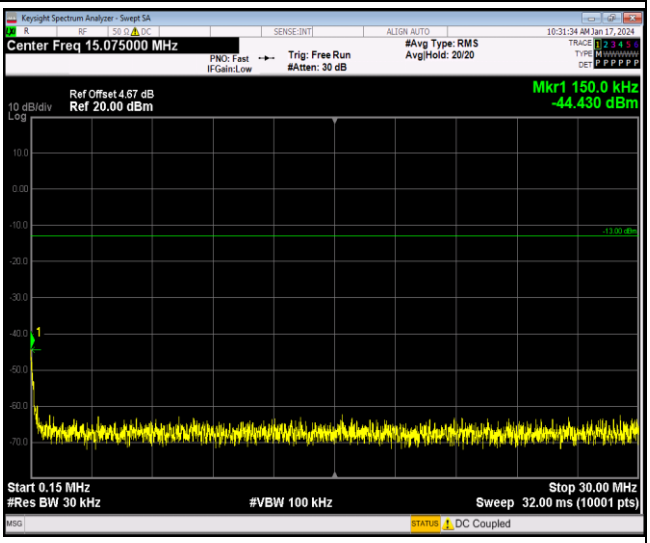
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

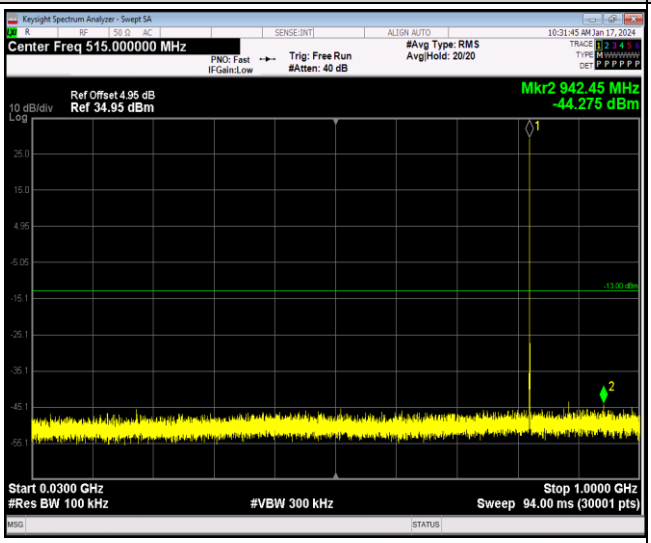
GSM850-128-0.009~0.15MHz



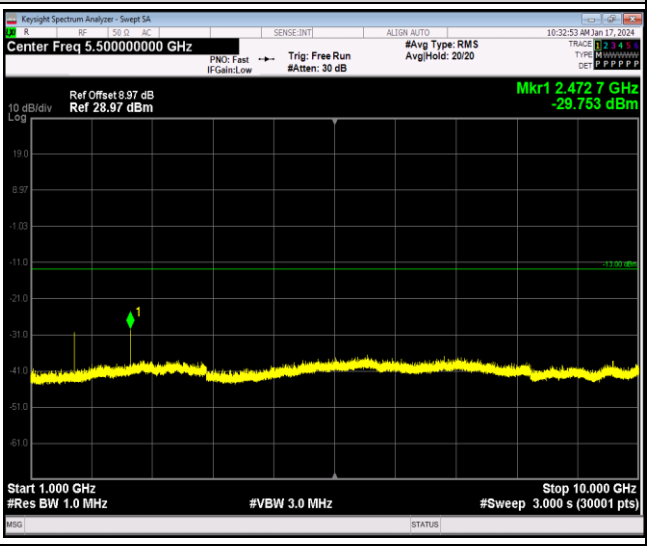
GSM850-128-0.15~30MHz



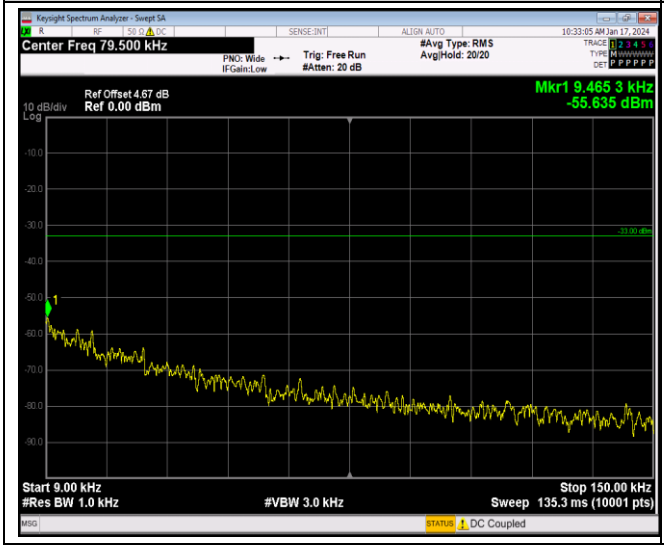
GSM850-128-30~1000MHz



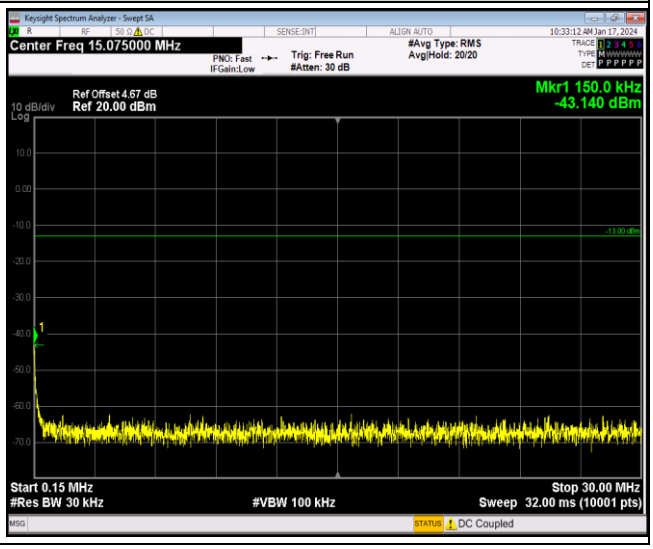
GSM850-128-1000~10000MHz



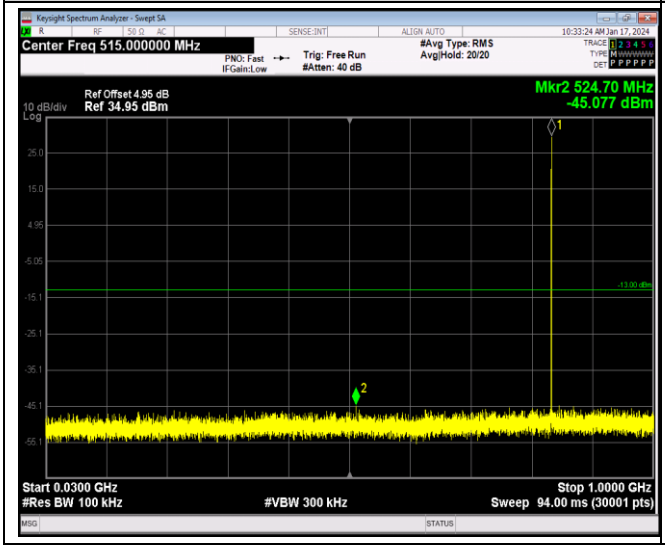
GSM850-190-0.009~0.15MHz



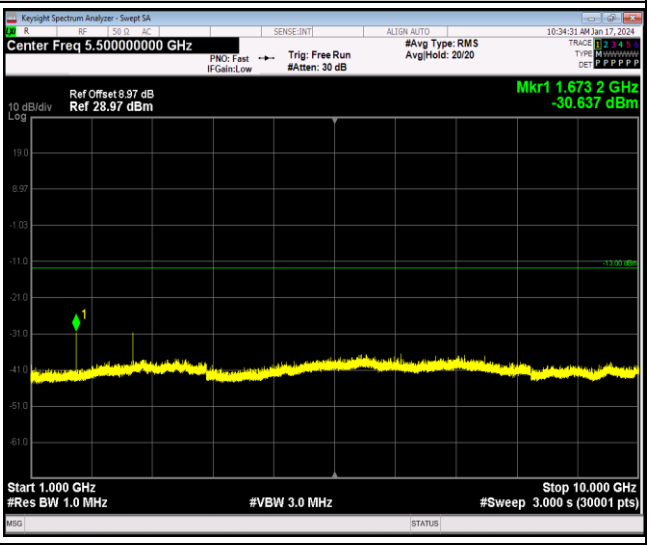
GSM850-190-0.15~30MHz



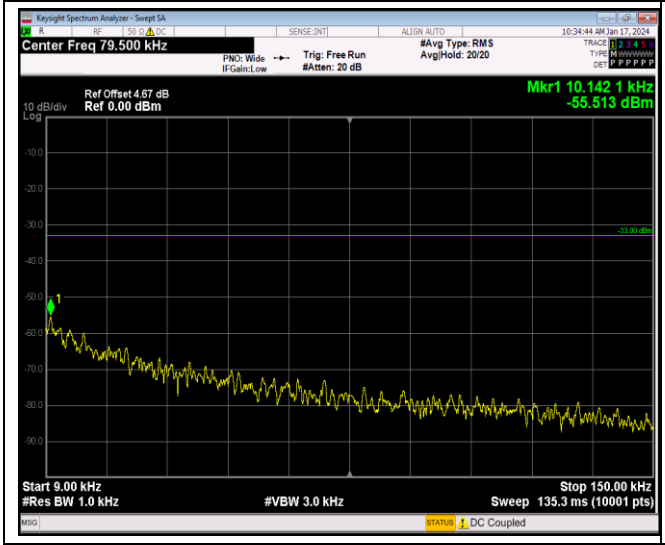
GSM850-190-30~1000MHz



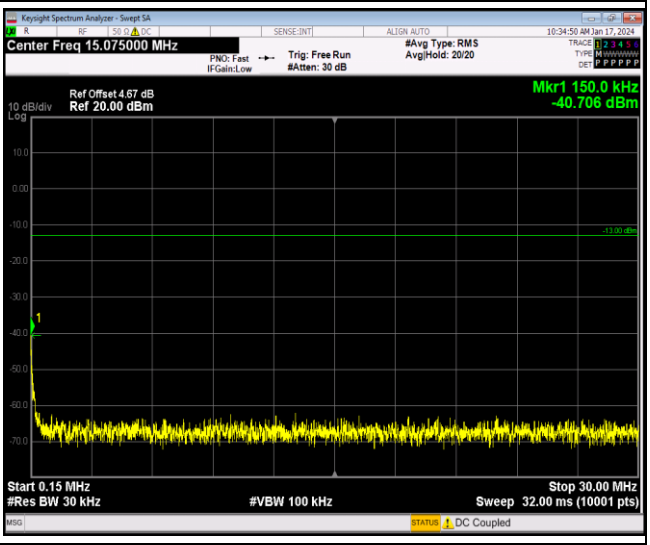
GSM850-190-1000~10000MHz



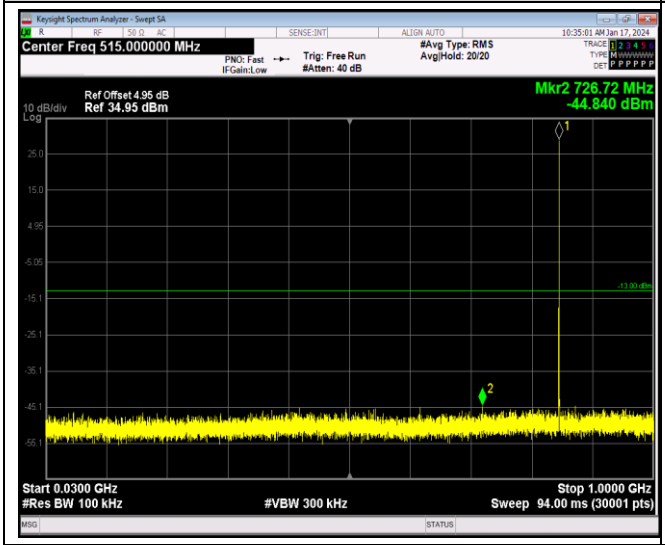
GSM850-251-0.009~0.15MHz



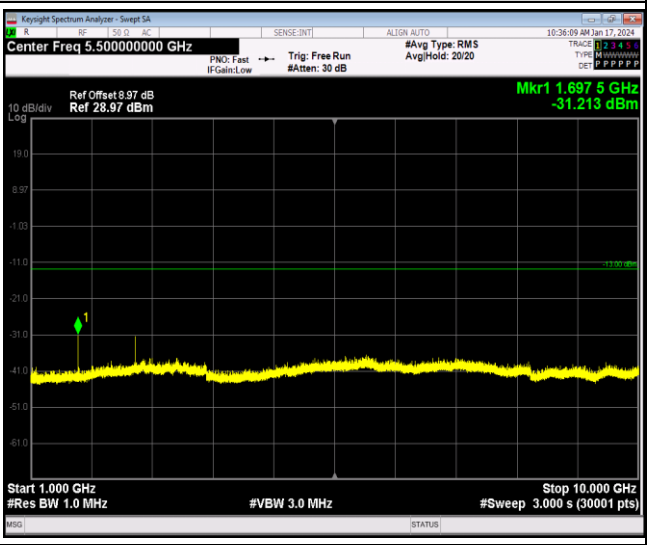
GSM850-251-0.15~30MHz



GSM850-251-30~1000MHz

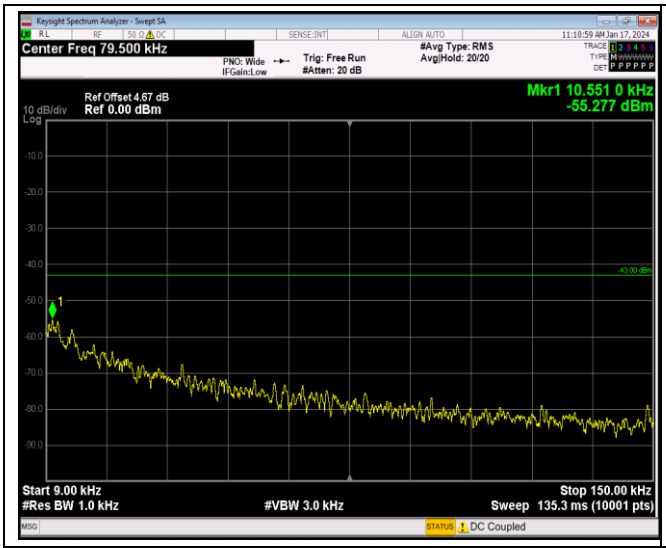


GSM850-251-1000~10000MHz

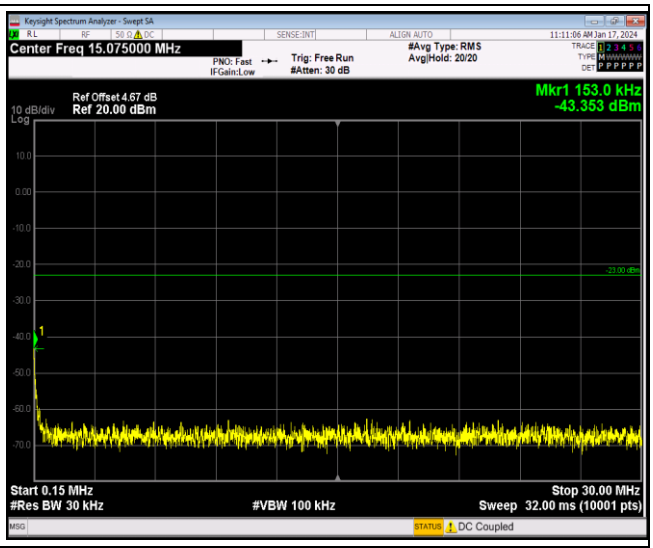


GSM1900-512-0.009~0.15MHz

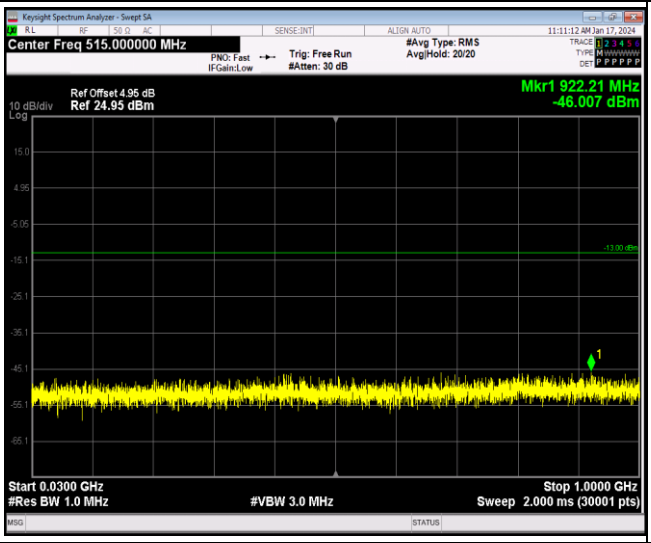
GSM1900-512-0.15~30MHz



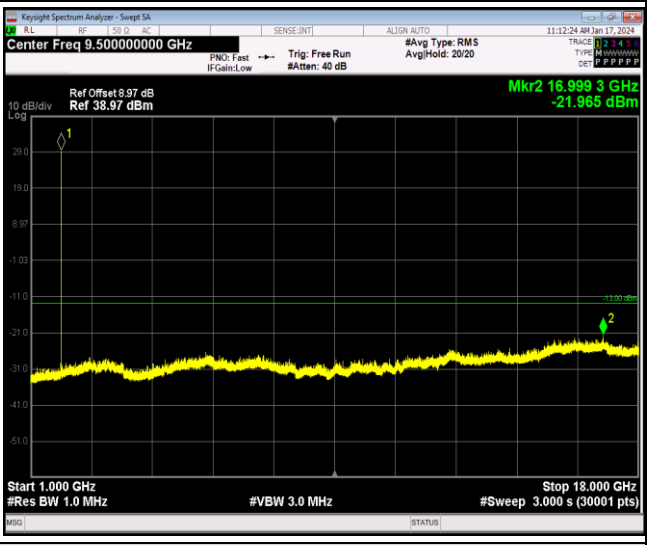
GSM1900-512-30~1000MHz



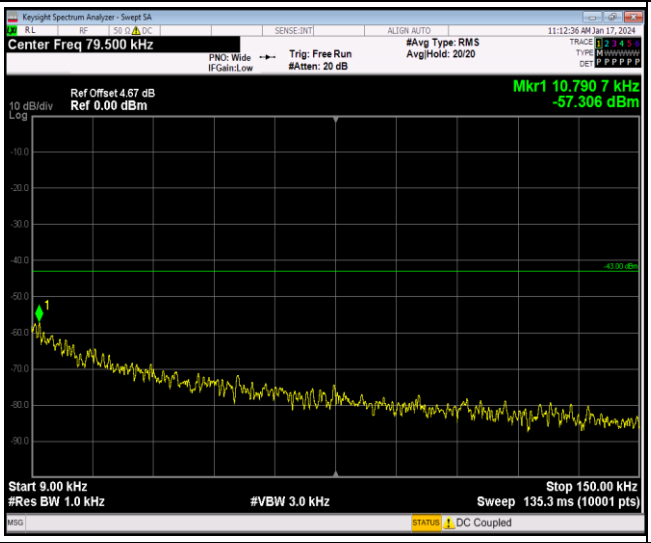
GSM1900-512-1000~18000MHz



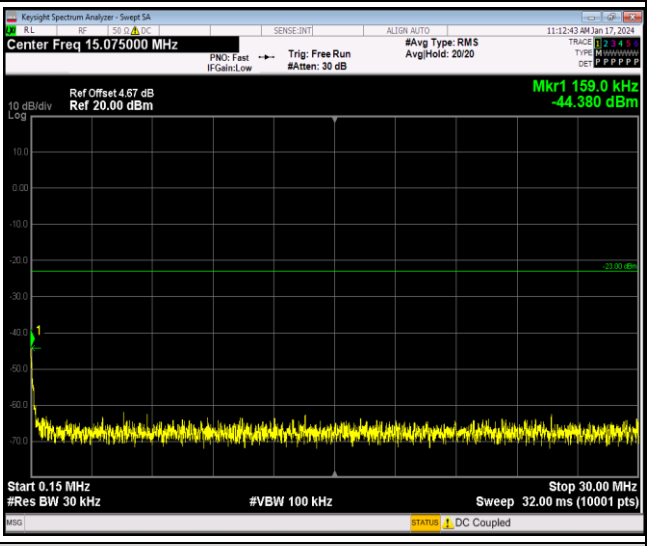
GSM1900-661-0.009~0.15MHz



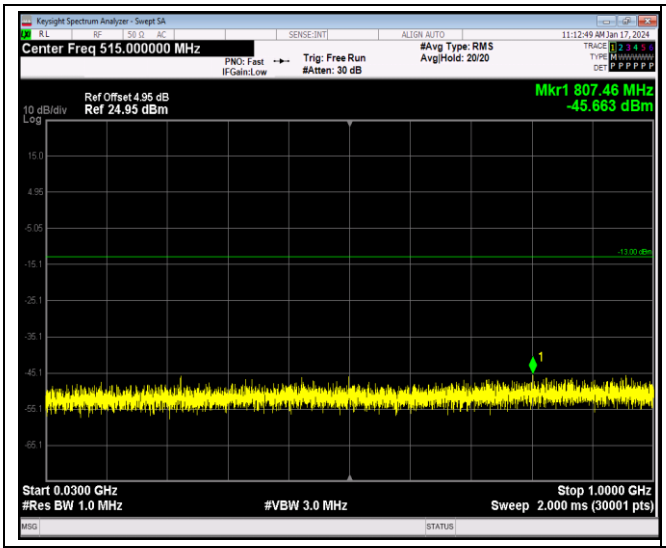
GSM1900-661-0.15~30MHz



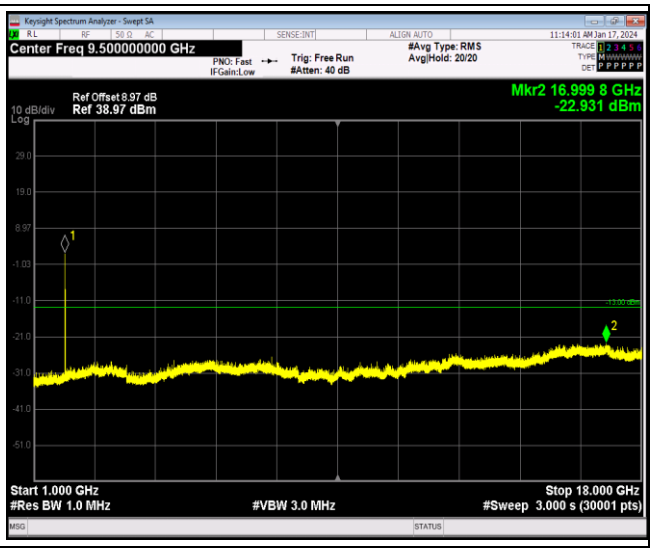
GSM1900-661-30~1000MHz



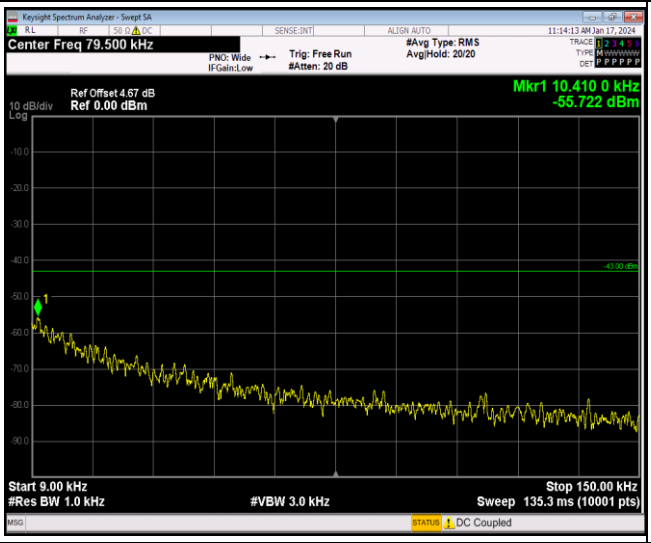
GSM1900-661-1000~18000MHz



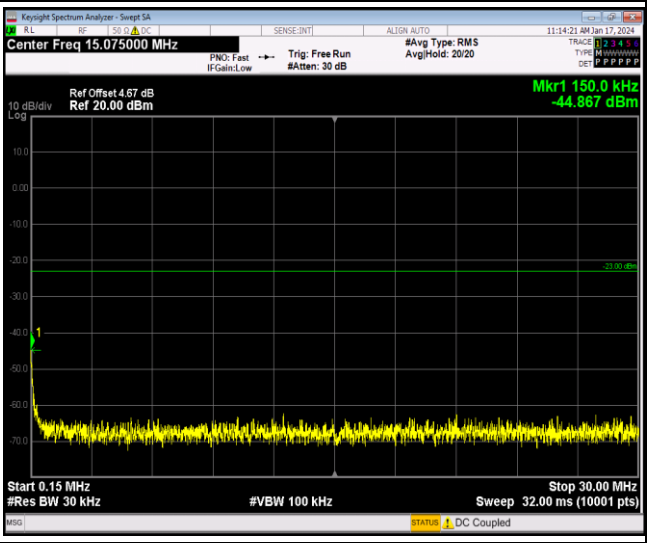
GSM1900-810-0.009~0.15MHz



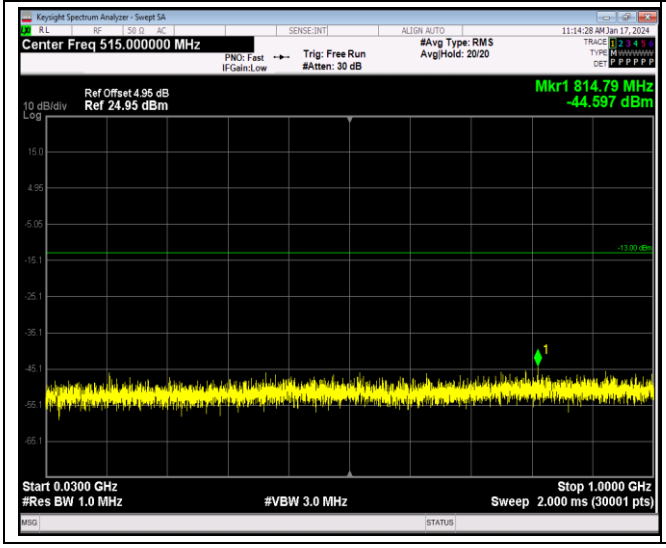
GSM1900-810-0.15~30MHz

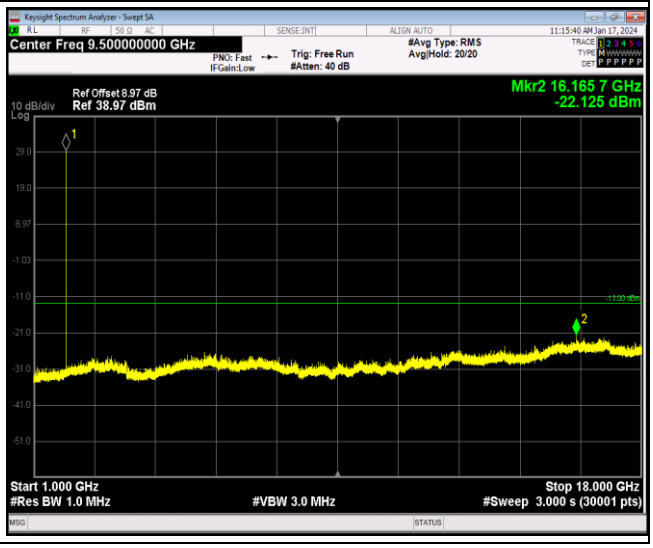


GSM1900-810-30~1000MHz



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		
3.70	-30	5.33	0.006371	±2.5	Pass
	-20	3.39	0.004052		
	-10	8.23	0.009837		
	0	3.71	0.004435		
	10	8.85	0.010579		
	20	1.58	0.001889		
	30	4.91	0.005869		
	40	6.65	0.007949		
	50	7.01	0.008379		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	6.68	0.007985	±2.5	Pass
	3.70	0.45	0.000538		
	4.20	7.91	0.009455		
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		
3.70	-30	9.30	0.011116	±2.5	Pass
	-20	10.59	0.012658		
	-10	12.11	0.014475		
	0	10.88	0.013005		
	10	9.52	0.011379		
	20	8.01	0.009574		
	30	9.81	0.011726		
	40	9.17	0.010961		
	50	10.56	0.012623		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	8.81	0.010531	±2.5	Pass
	3.70	11.17	0.013352		
	4.20	12.56	0.015013		
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		
3.70	-30	-1.68	-0.000894	Within authorized band for PCS 1900	Pass
	-20	-4.94	-0.002628		
	-10	-12.20	-0.006489		
	0	-11.17	-0.005941		
	10	-15.24	-0.008106		
	20	-11.49	-0.006112		
	30	-6.07	-0.003229		
	40	-5.29	-0.002814		
	50	-5.97	-0.003176		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	-2.45	-0.001303	Within authorized band for PCS 1900	Pass
	3.70	-21.11	-0.011229		
	4.20	-3.91	-0.002080		
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		
3.70	-30	10.94	0.005819	Within authorized band for PCS 1900	Pass
	-20	21.41	0.011388		
	-10	20.40	0.010851		
	0	2.71	0.001441		
	10	5.00	0.002660		
	20	7.33	0.003899		
	30	13.53	0.007197		
	40	13.08	0.006957		
	50	-5.07	-0.002697		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	8.94	0.004755	Within authorized band for PCS 1900	Pass
	3.70	12.88	0.006851		
	4.20	8.56	0.004553		
Remark: All channel had been tested, but only the worst case data displayed in this report.					

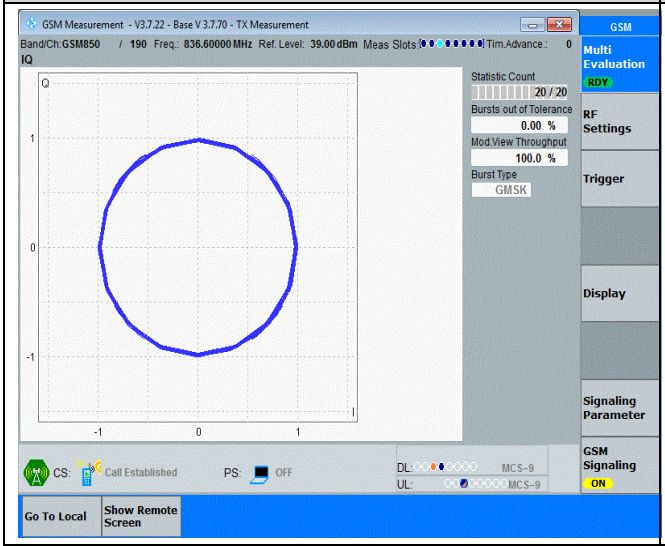
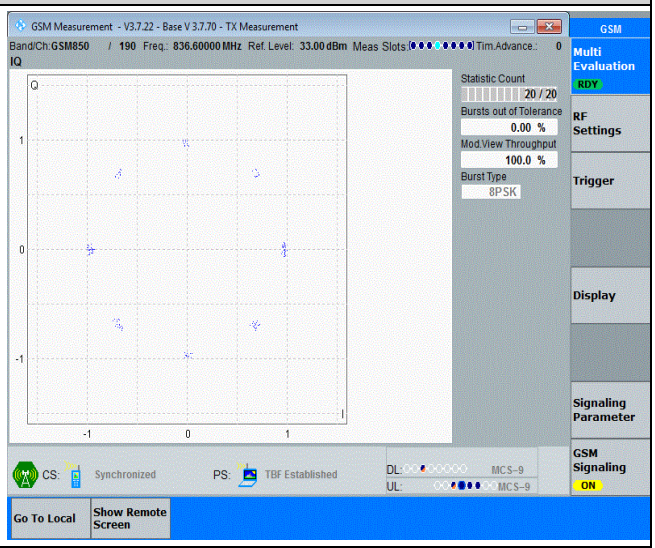
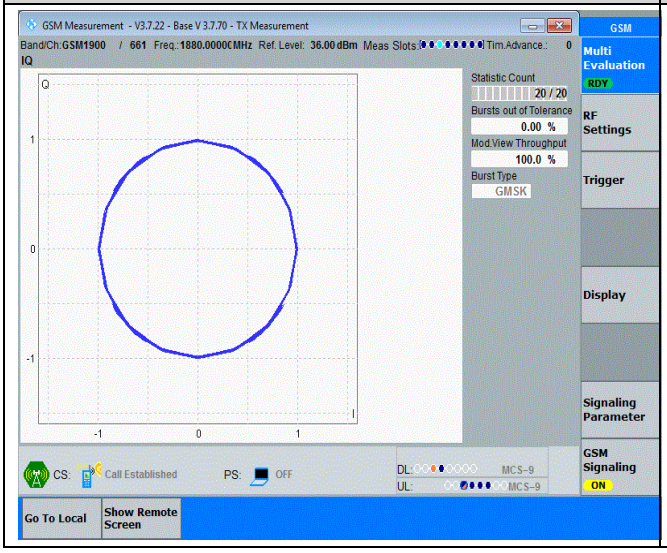
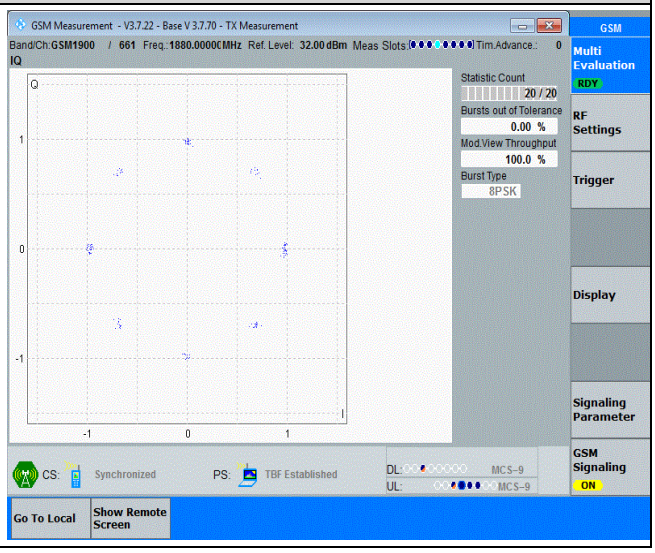
Appendix G: Modulation Characteristics

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**