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	26.13	38.45	PASS
GSM850	190	5	32.49	26.19	38.45	PASS
GSM850	251	5	32.57	26.27	38.45	PASS
GSM1900	512	0	28.81	25.64	33.00	PASS
GSM1900	661	0	29.09	25.92	33.00	PASS
GSM1900	810	0	29.24	26.07	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GPRS850	128	5	1	32.42	26.12	38.45	PASS
GPRS850	128	5	2	31.75	25.45	38.45	PASS
GPRS850	128	5	3	30.11	23.81	38.45	PASS
GPRS850	128	5	4	28.90	22.6	38.45	PASS
GPRS850	190	5	1	32.46	26.16	38.45	PASS
GPRS850	190	5	2	31.80	25.5	38.45	PASS
GPRS850	190	5	3	30.16	23.86	38.45	PASS
GPRS850	190	5	4	28.91	22.61	38.45	PASS
GPRS850	251	5	1	32.54	26.24	38.45	PASS
GPRS850	251	5	2	31.89	25.59	38.45	PASS
GPRS850	251	5	3	30.29	23.99	38.45	PASS
GPRS850	251	5	4	29.02	22.72	38.45	PASS
GPRS1900	512	0	1	28.85	25.68	33.00	PASS
GPRS1900	512	0	2	28.14	24.97	33.00	PASS
GPRS1900	512	0	3	26.55	23.38	33.00	PASS
GPRS1900	512	0	4	25.36	22.19	33.00	PASS
GPRS1900	661	0	1	29.09	25.92	33.00	PASS
GPRS1900	661	0	2	28.39	25.22	33.00	PASS
GPRS1900	661	0	3	26.75	23.58	33.00	PASS
GPRS1900	661	0	4	25.54	22.37	33.00	PASS
GPRS1900	810	0	1	29.31	26.14	33.00	PASS
GPRS1900	810	0	2	28.60	25.43	33.00	PASS
GPRS1900	810	0	3	26.96	23.79	33.00	PASS
GPRS1900	810	0	4	25.74	22.57	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
EGPRS850	128	8	1	27.73	21.43	38.45	PASS
EGPRS850	128	8	2	26.59	20.29	38.45	PASS
EGPRS850	128	8	3	24.38	18.08	38.45	PASS
EGPRS850	128	8	4	23.23	16.93	38.45	PASS
EGPRS850	190	8	1	27.81	21.51	38.45	PASS
EGPRS850	190	8	2	26.62	20.32	38.45	PASS
EGPRS850	190	8	3	24.46	18.16	38.45	PASS
EGPRS850	190	8	4	23.31	17.01	38.45	PASS
EGPRS850	251	8	1	27.86	21.56	38.45	PASS
EGPRS850	251	8	2	26.67	20.37	38.45	PASS
EGPRS850	251	8	3	24.54	18.24	38.45	PASS
EGPRS850	251	8	4	23.38	17.08	38.45	PASS
EGPRS1900	512	2	1	26.37	23.2	33.00	PASS
EGPRS1900	512	2	2	25.27	22.1	33.00	PASS
EGPRS1900	512	2	3	23.22	20.05	33.00	PASS
EGPRS1900	512	2	4	22.02	18.85	33.00	PASS
EGPRS1900	661	2	1	26.47	23.3	33.00	PASS
EGPRS1900	661	2	2	25.43	22.26	33.00	PASS
EGPRS1900	661	2	3	23.35	20.18	33.00	PASS
EGPRS1900	661	2	4	22.19	19.02	33.00	PASS
EGPRS1900	810	2	1	26.50	23.33	33.00	PASS
EGPRS1900	810	2	2	25.39	22.22	33.00	PASS
EGPRS1900	810	2	3	23.39	20.22	33.00	PASS
EGPRS1900	810	2	4	22.24	19.07	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)

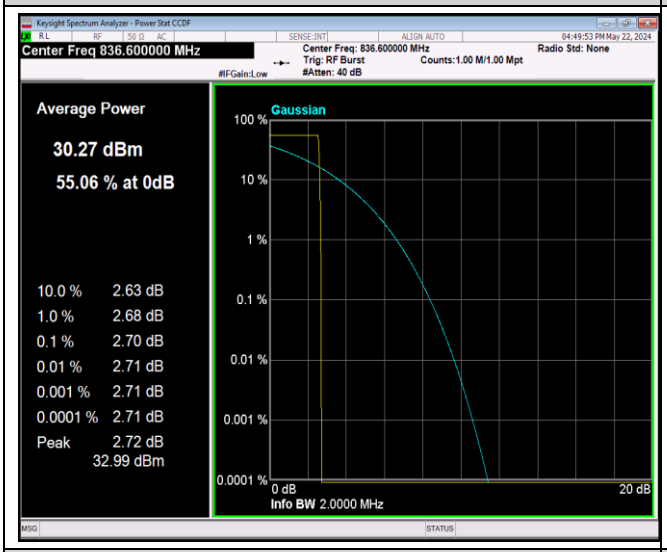
Test Result

Band	Channel	PCL	Result(dB)	Limit(dB)	Verdict
GSM850	190	5	2.7	13	PASS
EGPRS850	190	8	5.59	13	PASS
GSM1900	661	0	2.77	13	PASS
EGPRS1900	661	2	5.53	13	PASS

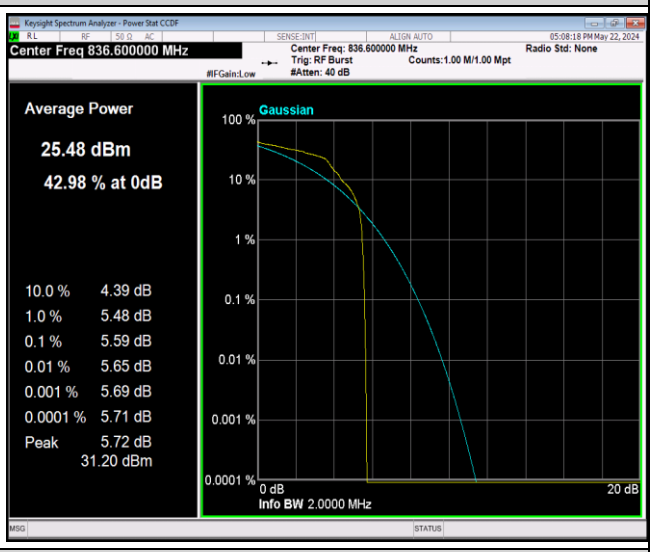
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

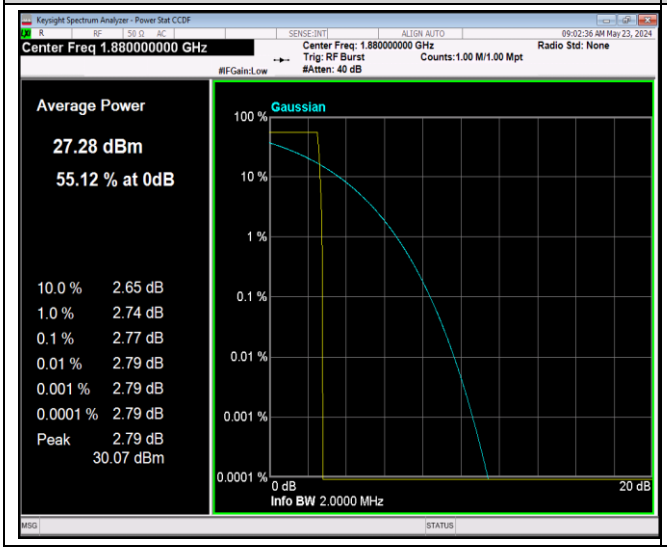
GSM850-190



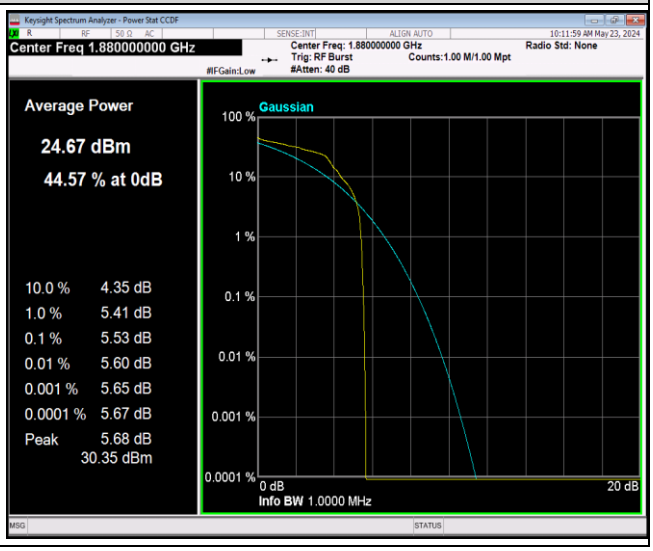
EGPRS850-190



GSM1900-661



EGPRS1900-661



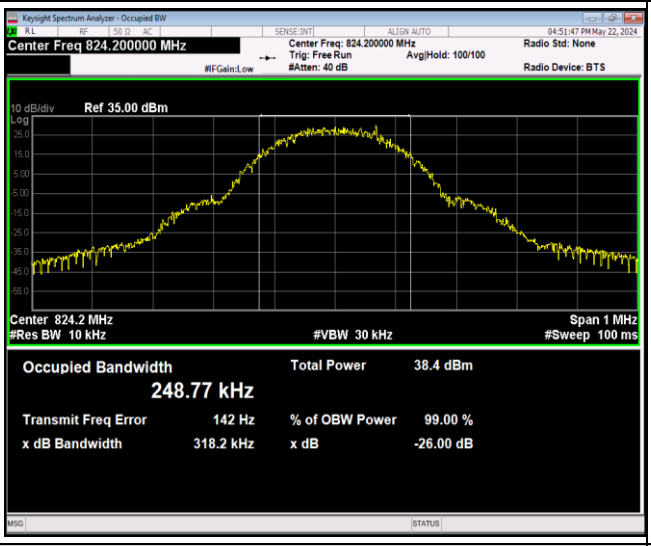
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

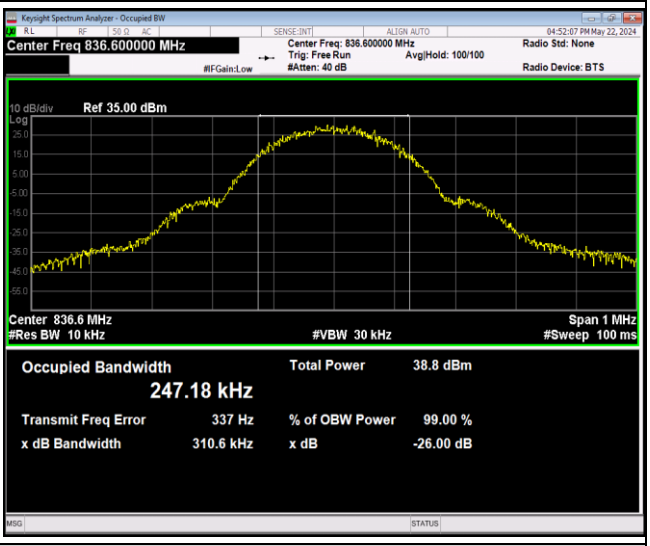
Band	Channel	PCL	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	5	0.24877	0.3182	---	PASS
GSM850	190	5	0.24718	0.3106	---	PASS
GSM850	251	5	0.24408	0.3109	---	PASS
EGPRS850	128	8	0.24730	0.3127	---	PASS
EGPRS850	190	8	0.24632	0.3100	---	PASS
EGPRS850	251	8	0.24908	0.3134	---	PASS
GSM1900	512	0	0.24752	0.3142	---	PASS
GSM1900	661	0	0.24766	0.3170	---	PASS
GSM1900	810	0	0.24959	0.3207	---	PASS
EGPRS1900	512	2	0.24629	0.3174	---	PASS
EGPRS1900	661	2	0.25073	0.3198	---	PASS
EGPRS1900	810	2	0.24640	0.3067	---	PASS

Test Graphs

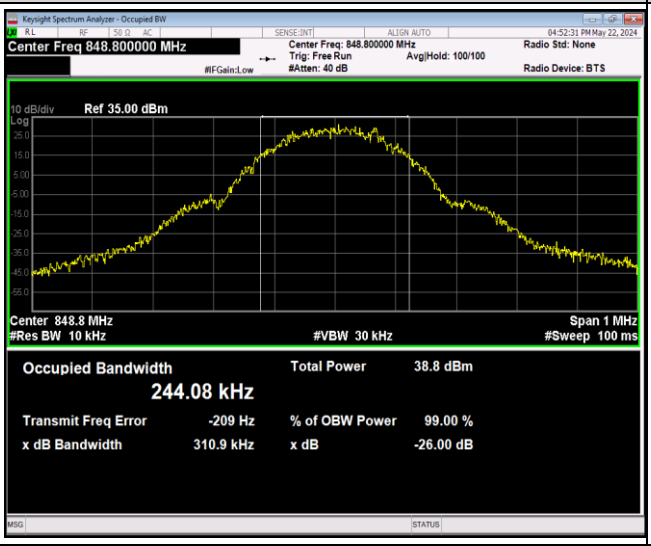
GSM850-128



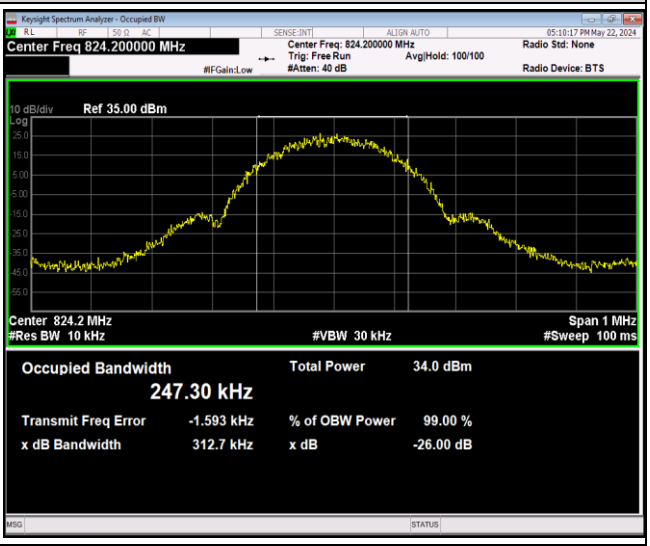
GSM850-190



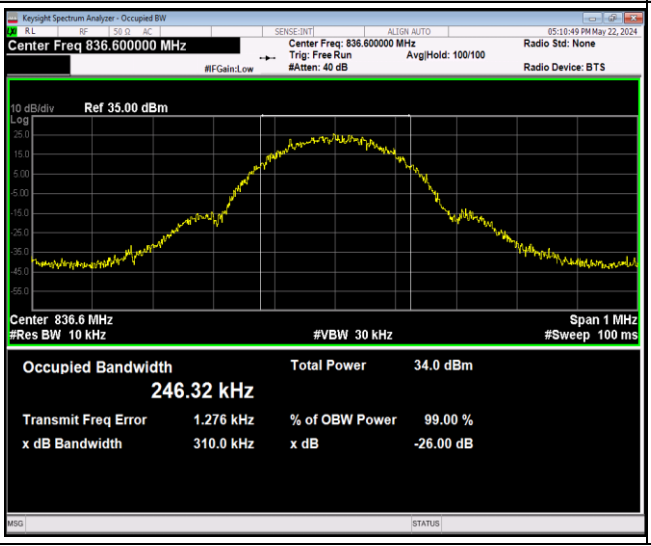
GSM850-251



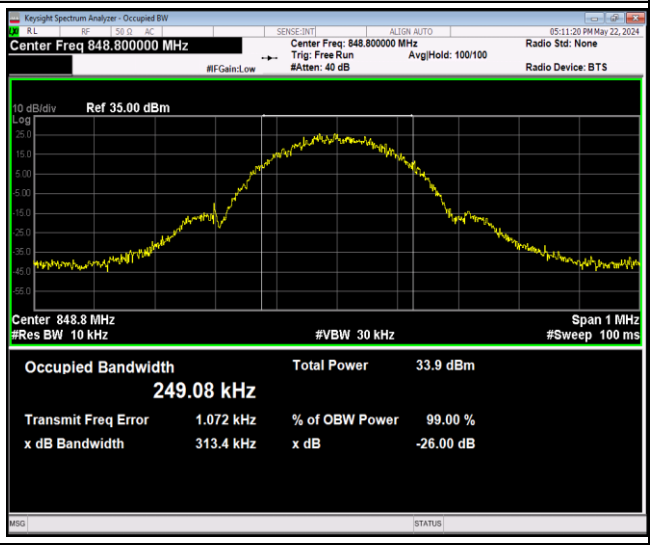
EGPRS850-128



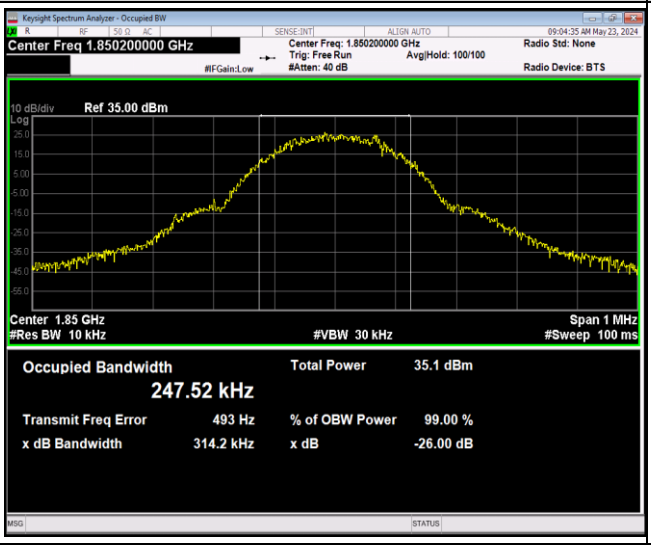
EGPRS850-190



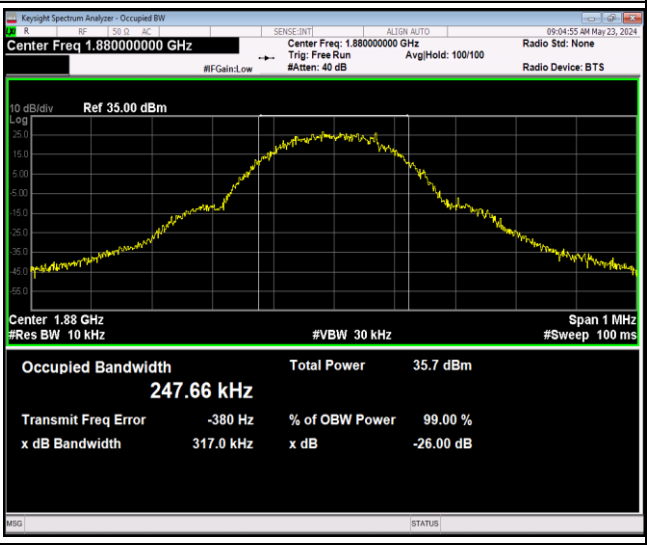
EGPRS850-251



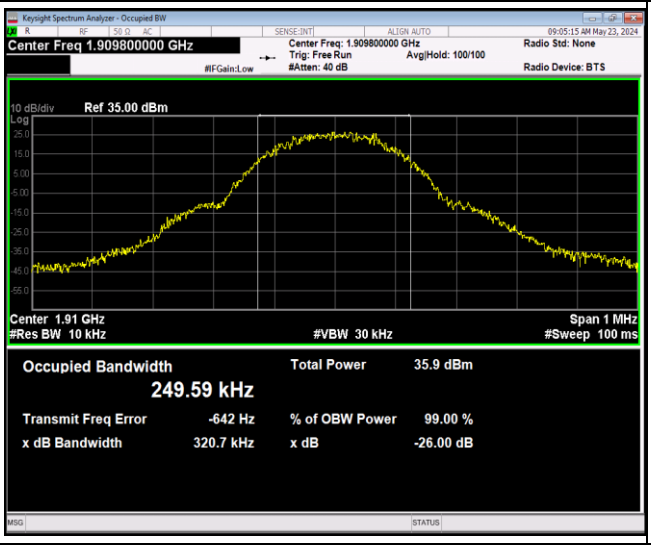
GSM1900-512



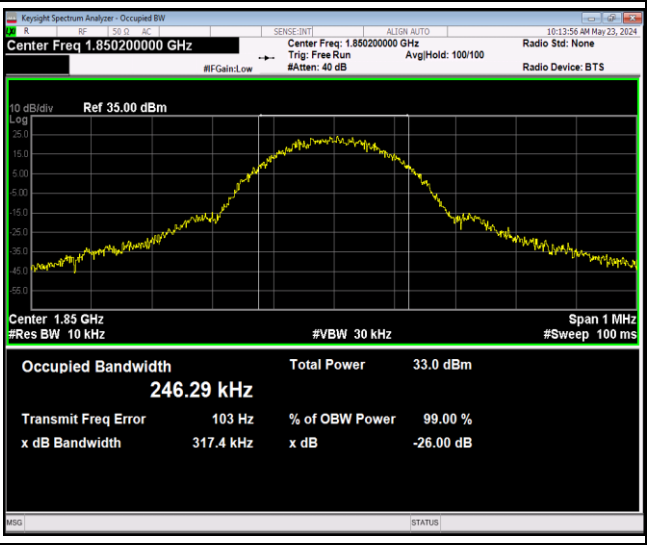
GSM1900-661



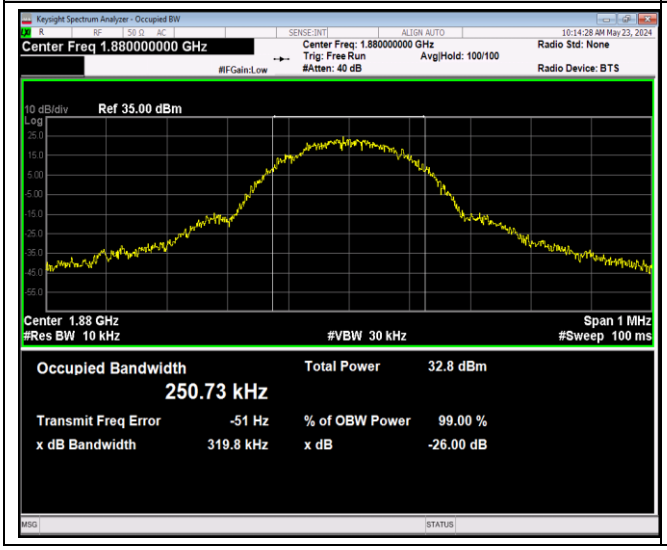
GSM1900-810



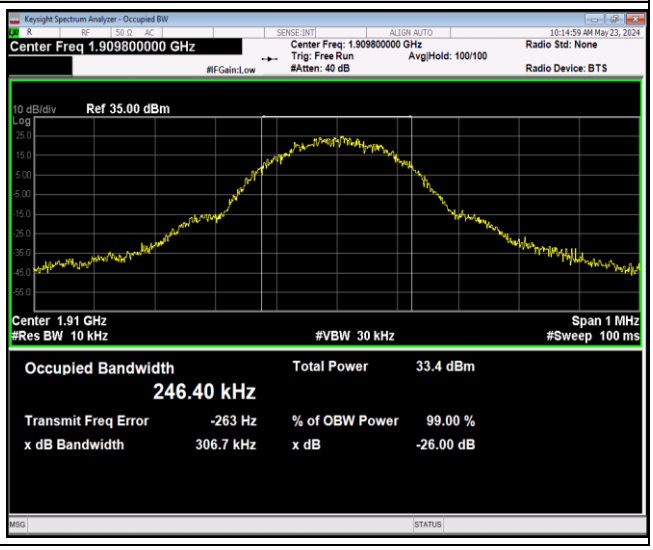
EGPRS1900-512



EGPRS1900-661



EGPRS1900-810



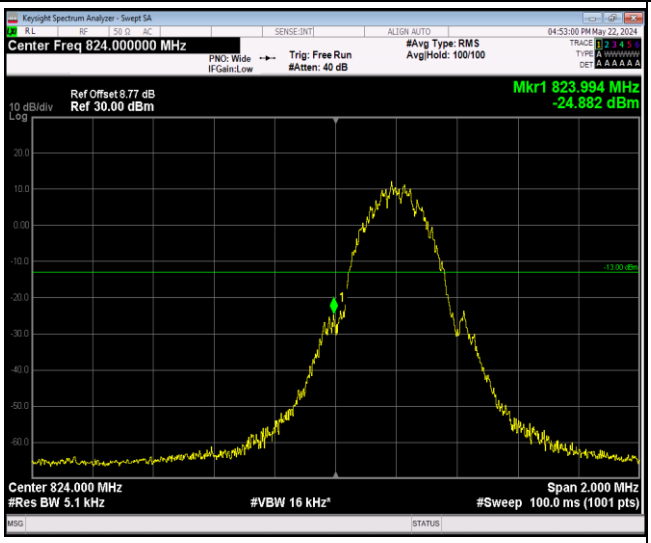
Appendix D: Band Edge

Test Result

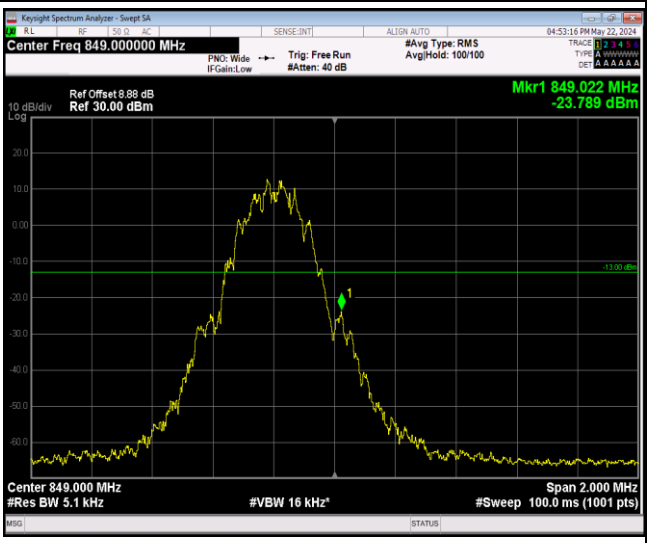
Band	Channel	PCL	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	5	823.99	-24.88	-13	PASS
GSM850	251	5	849.02	-23.79	-13	PASS
EGPRS850	128	8	823.98	-33.62	-13	PASS
EGPRS850	251	8	849.00	-33.24	-13	PASS
GSM1900	512	0	1850.00	-14.76	-13	PASS
GSM1900	810	0	1910.02	-14.61	-13	PASS
EGPRS1900	512	2	1849.98	-19.75	-13	PASS
EGPRS1900	810	2	1910.03	-19.23	-13	PASS

Test Graphs

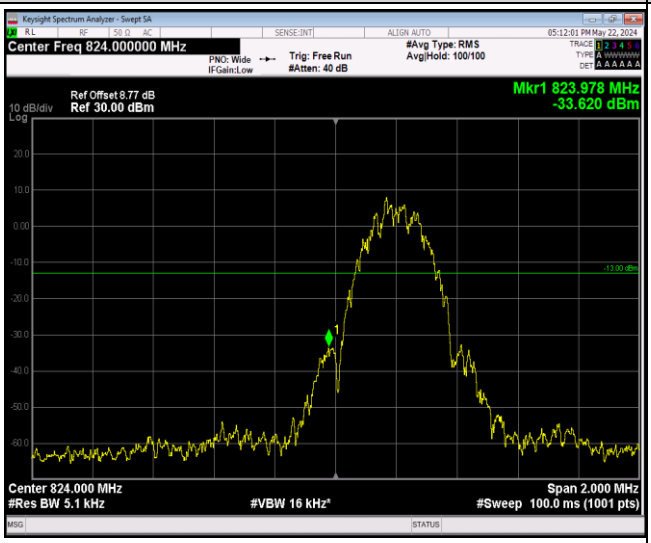
GSM850-128



GSM850-251

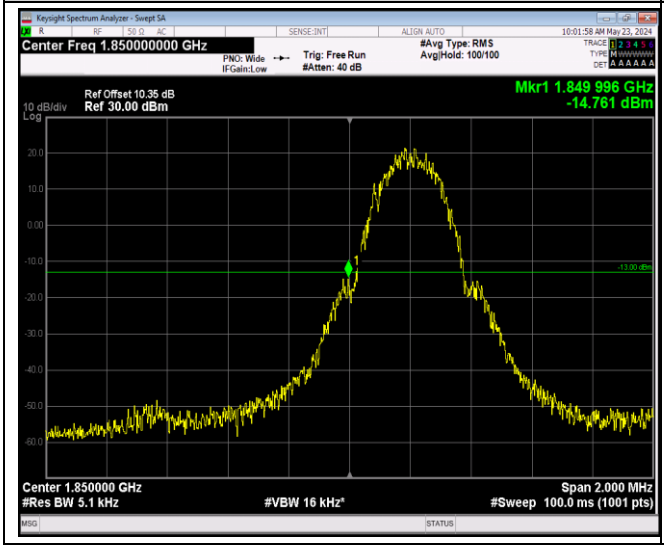


EGPRS850-128

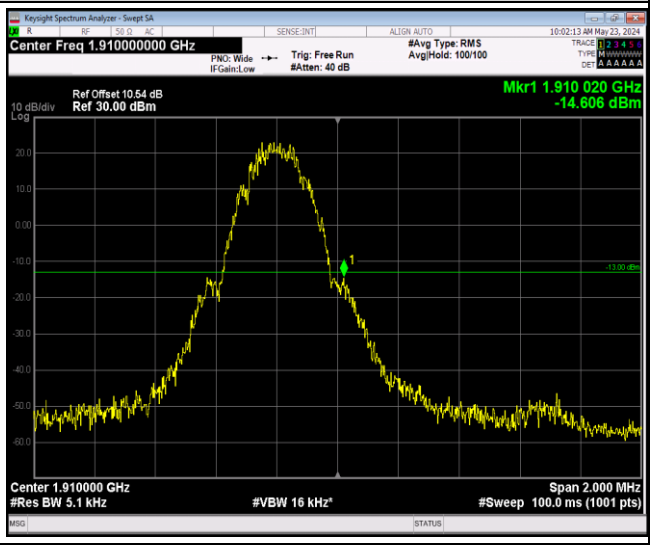


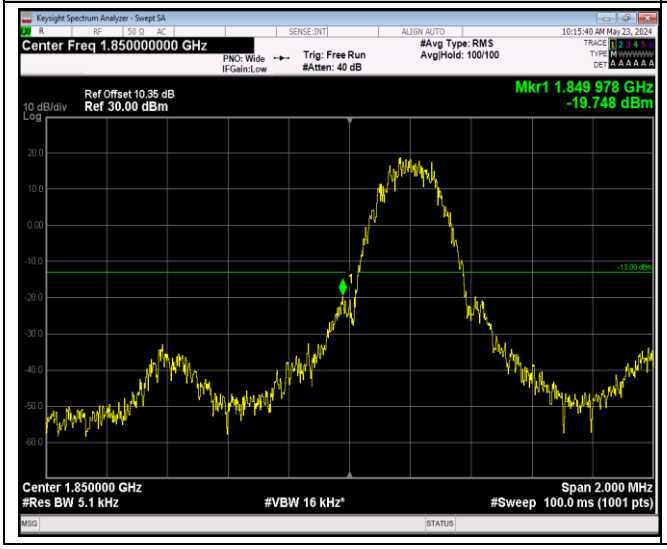
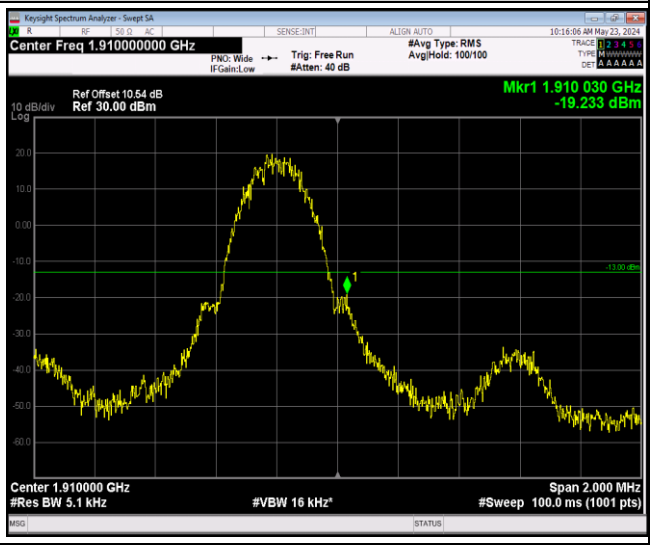
EGPRS850-251

GSM1900-512



GSM1900-810



EGPRS1900-512	EGPRS1900-810
	

Appendix E: Conducted Spurious Emission

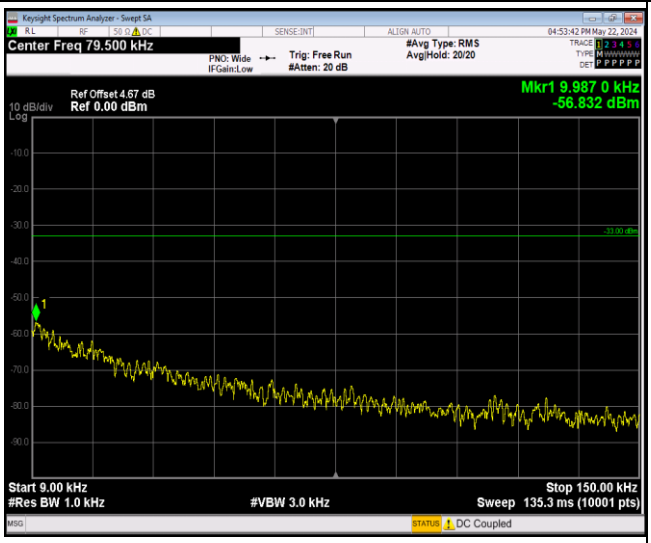
Test Result

Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	5	0.009~0.15MHz	0.01	-56.83	-33	PASS
GSM850	128	5	0.15~30MHz	0.15	-44.63	-13	PASS
GSM850	128	5	30~1000MHz	924.21	-44.48	-13	PASS
GSM850	128	5	1000~10000MHz	2472.7	-31.08	-13	PASS
GSM850	190	5	0.009~0.15MHz	0.01	-54.21	-33	PASS
GSM850	190	5	0.15~30MHz	0.15	-43.66	-13	PASS
GSM850	190	5	30~1000MHz	565.8	-44.93	-13	PASS
GSM850	190	5	1000~10000MHz	2509.6	-31.08	-13	PASS
GSM850	251	5	0.009~0.15MHz	0.01	-55.69	-33	PASS
GSM850	251	5	0.15~30MHz	0.15	-42.38	-13	PASS
GSM850	251	5	30~1000MHz	977.92	-45.21	-13	PASS
GSM850	251	5	1000~10000MHz	1697.2	-31.72	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-54.35	-43	PASS
GSM1900	512	0	0.15~30MHz	0.15	-44.5	-23	PASS
GSM1900	512	0	30~1000MHz	871.44	-45.59	-13	PASS
GSM1900	512	0	1000~18000MHz	17038.37	-22.15	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-55.3	-43	PASS
GSM1900	661	0	0.15~30MHz	0.15	-45.42	-23	PASS
GSM1900	661	0	30~1000MHz	768.85	-44.92	-13	PASS
GSM1900	661	0	1000~18000MHz	16980.57	-21.98	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-56.7	-43	PASS
GSM1900	810	0	0.15~30MHz	0.15	-43.98	-23	PASS
GSM1900	810	0	30~1000MHz	702.73	-45.47	-13	PASS
GSM1900	810	0	1000~18000MHz	16974.9	-22.14	-13	PASS

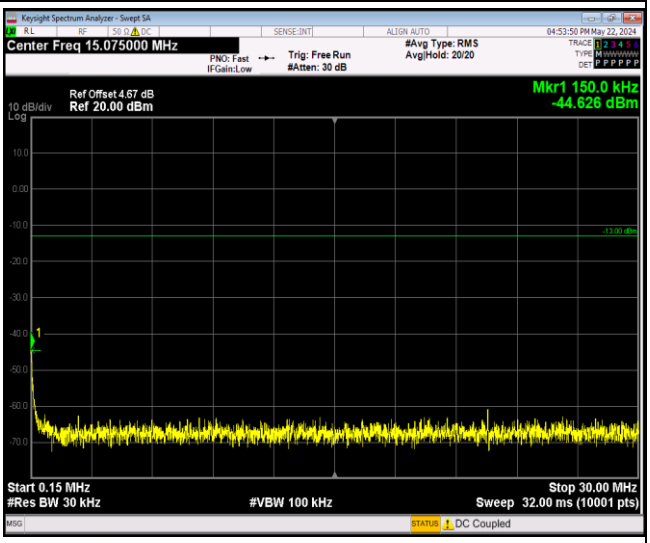
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

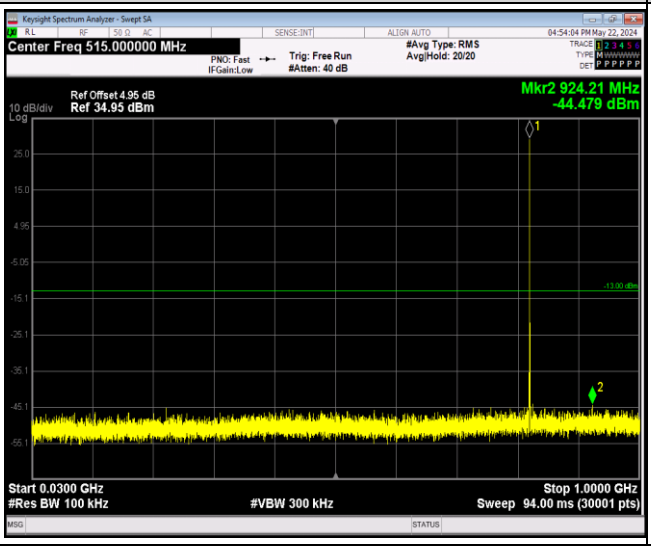
GSM850-128-0.009~0.15MHz



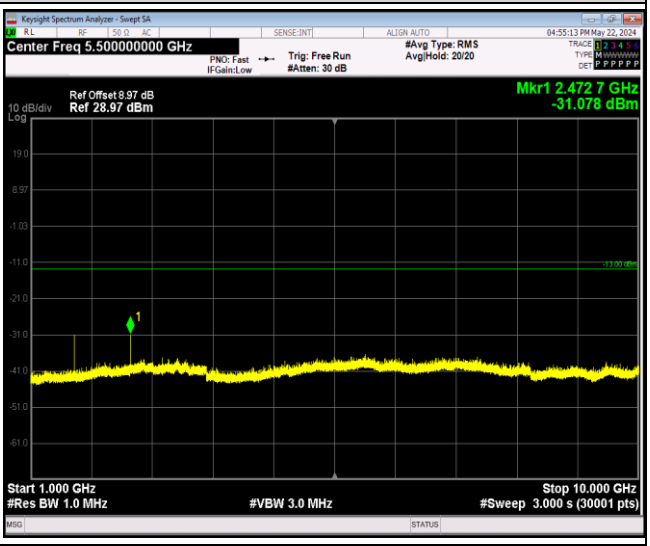
GSM850-128-0.15~30MHz



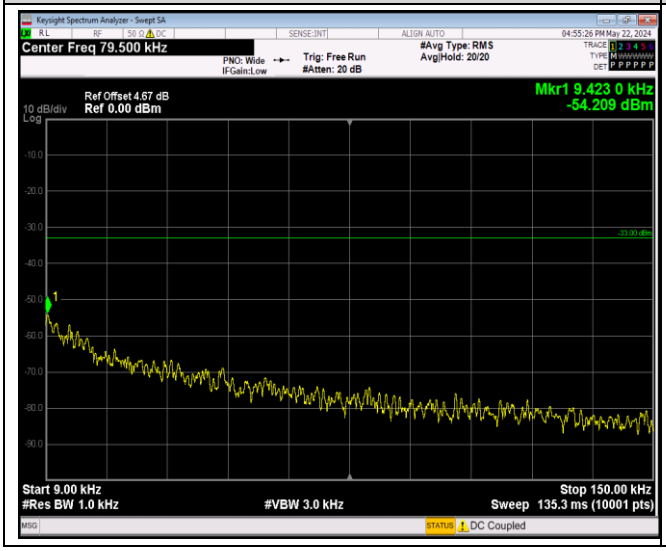
GSM850-128-30~1000MHz



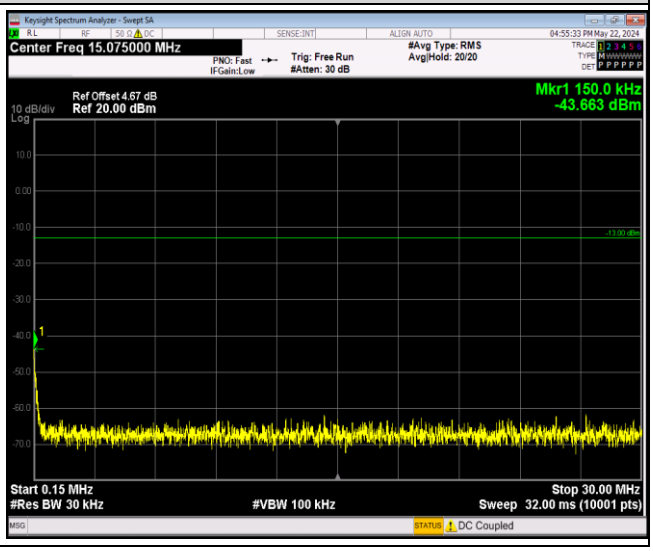
GSM850-128-1000~10000MHz



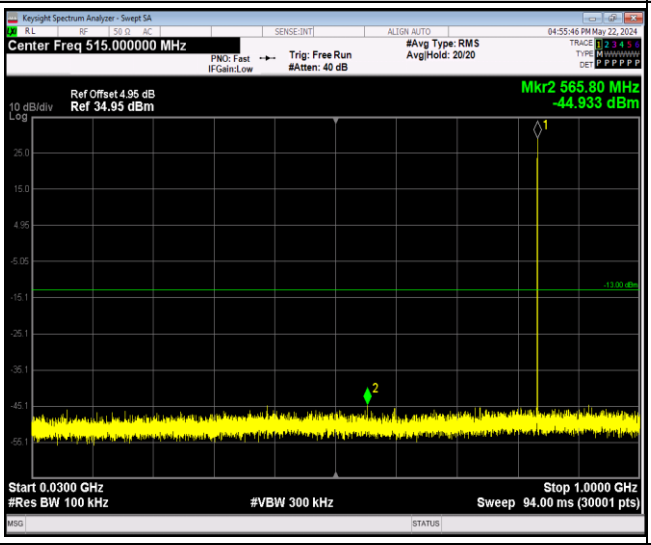
GSM850-190-0.009~0.15MHz



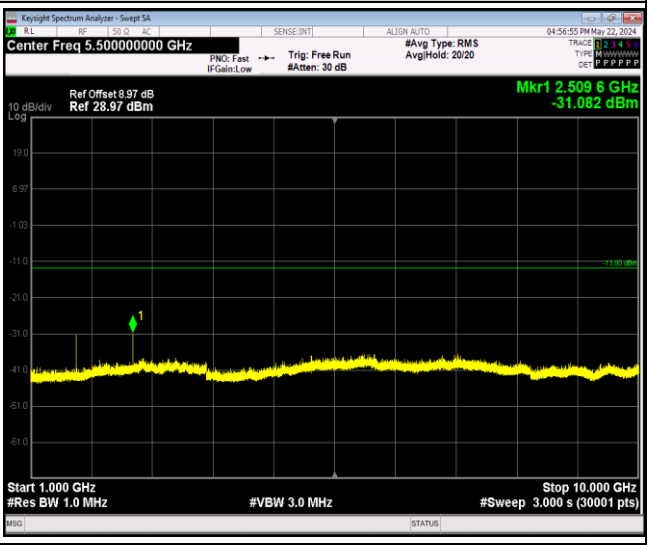
GSM850-190-0.15~30MHz



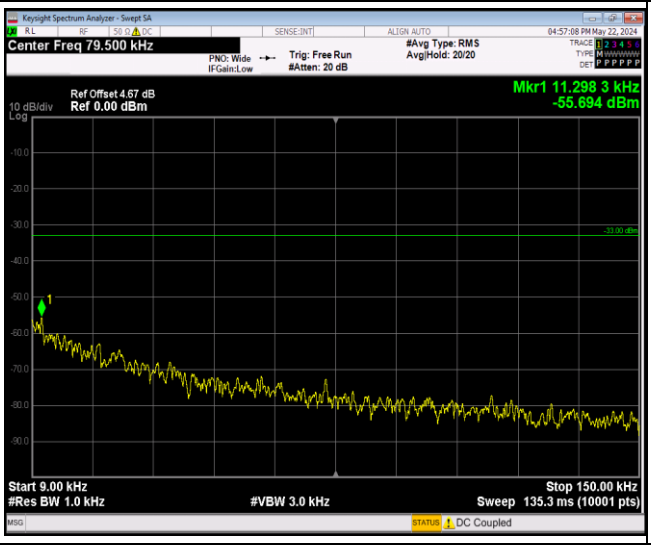
GSM850-190-30~1000MHz



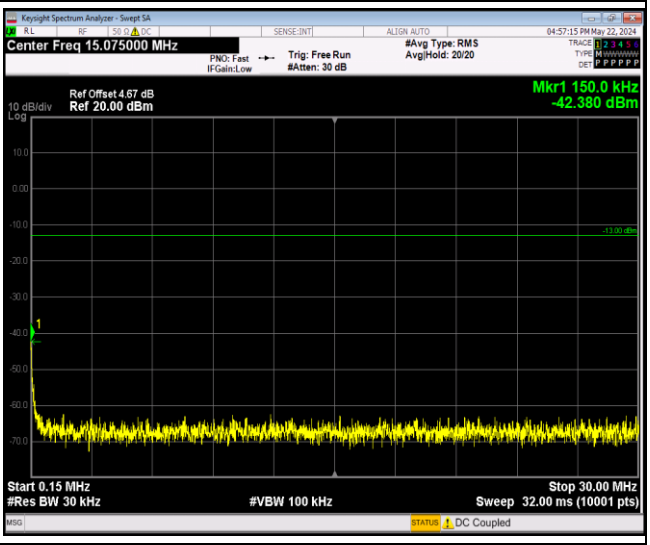
GSM850-190-1000~10000MHz



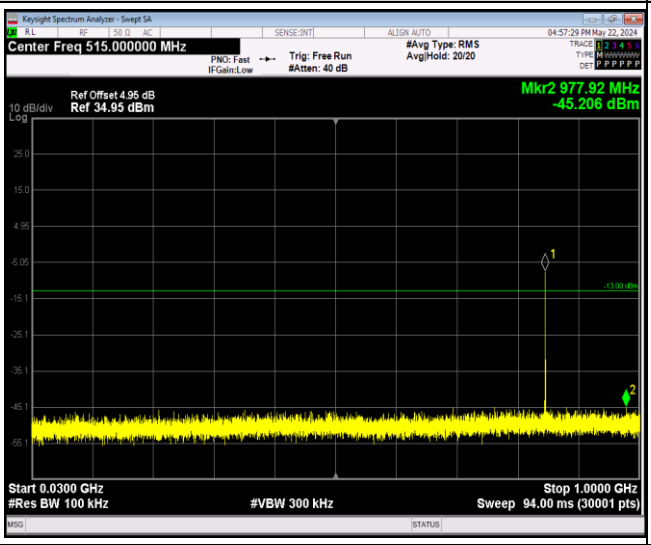
GSM850-251-0.009~0.15MHz



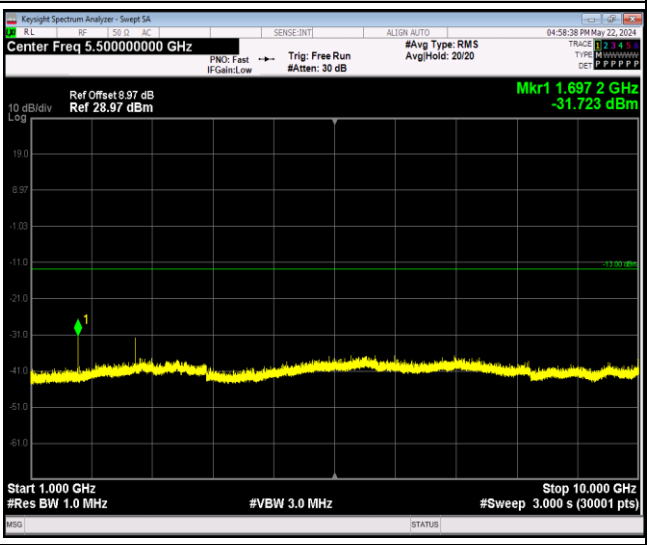
GSM850-251-0.15~30MHz



GSM850-251-30~1000MHz

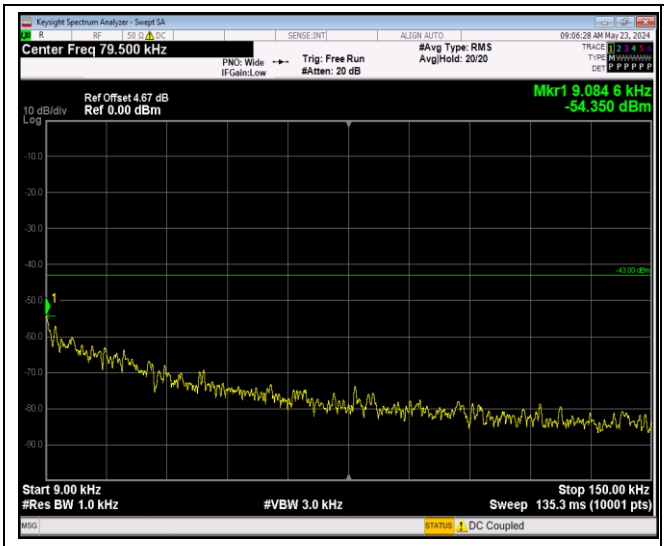


GSM850-251-1000~10000MHz

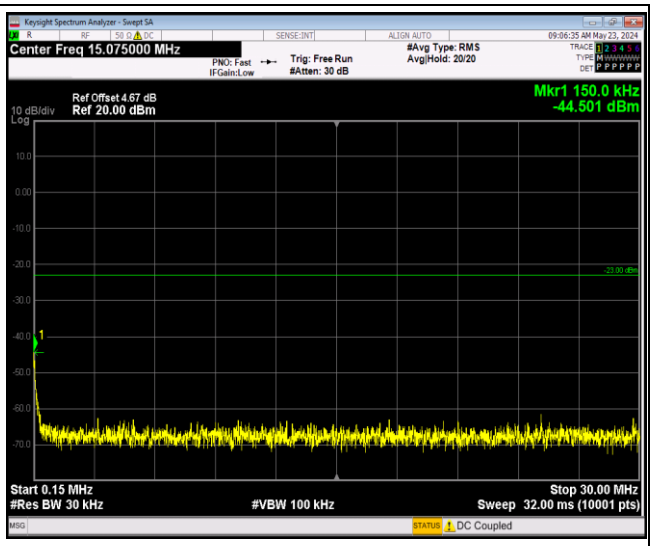


GSM1900-512-0.009~0.15MHz

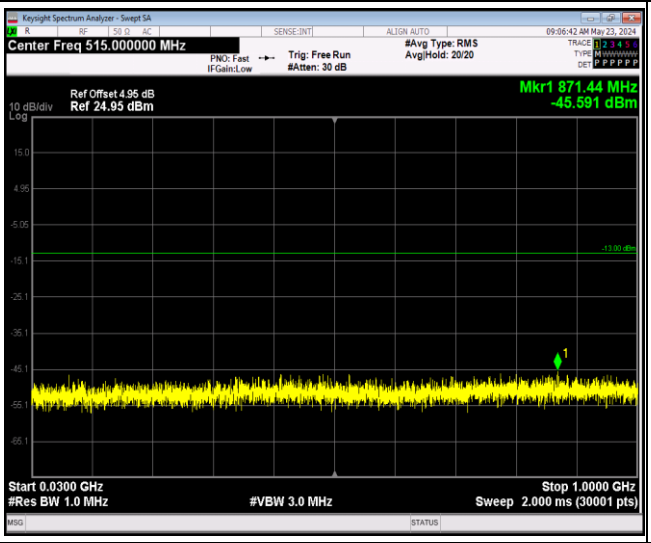
GSM1900-512-0.15~30MHz



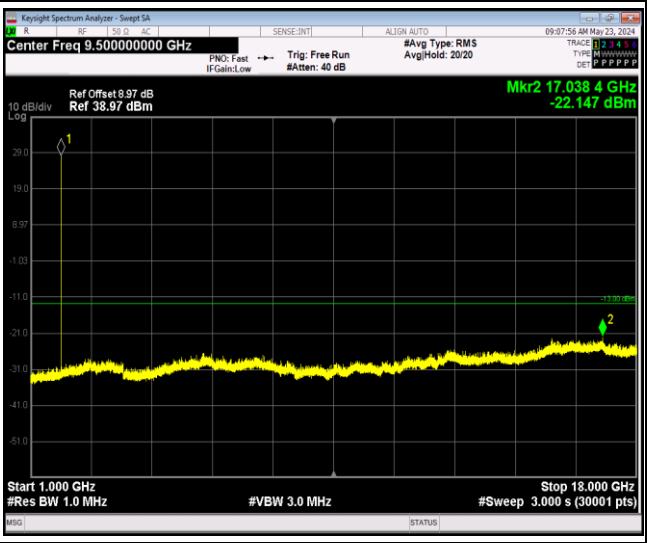
GSM1900-512-30~1000MHz



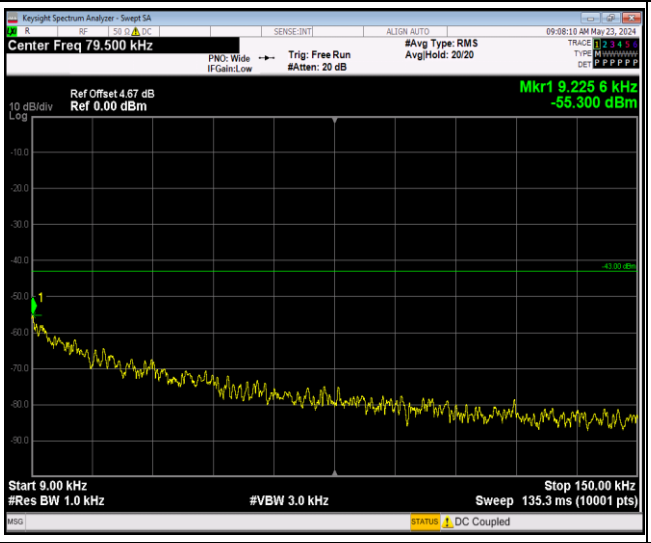
GSM1900-512-1000~18000MHz



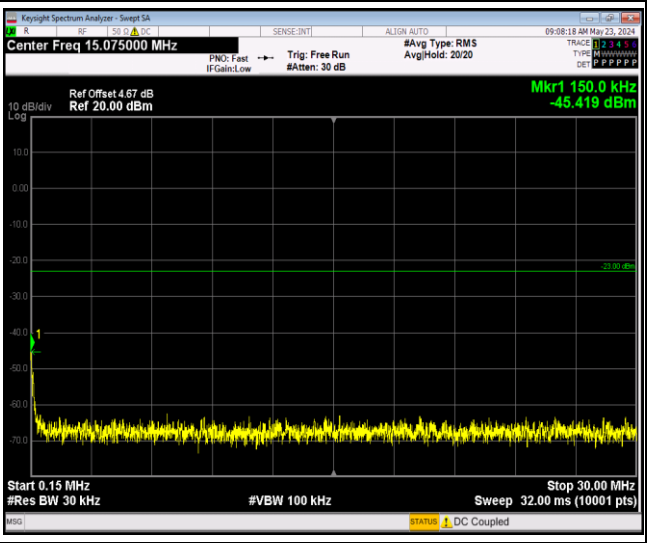
GSM1900-661-0.009~0.15MHz



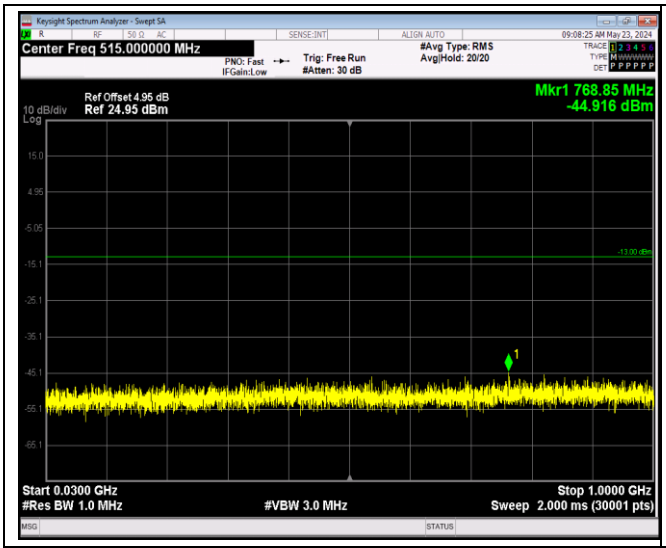
GSM1900-661-0.15~30MHz



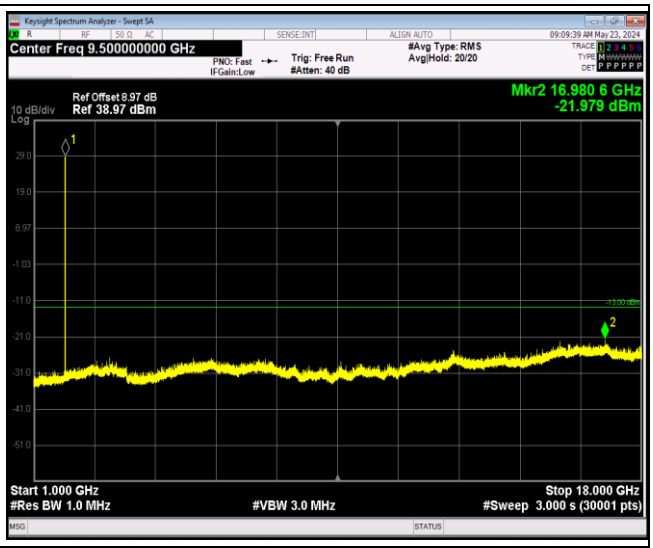
GSM1900-661-30~1000MHz



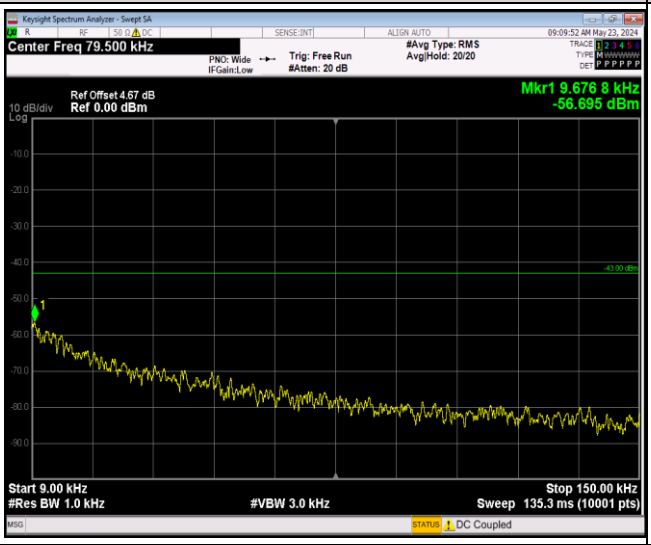
GSM1900-661-1000~18000MHz



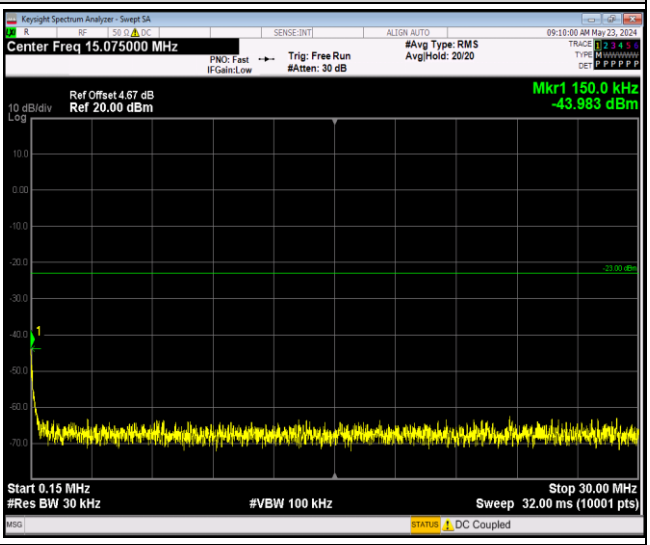
GSM1900-810-0.009~0.15MHz



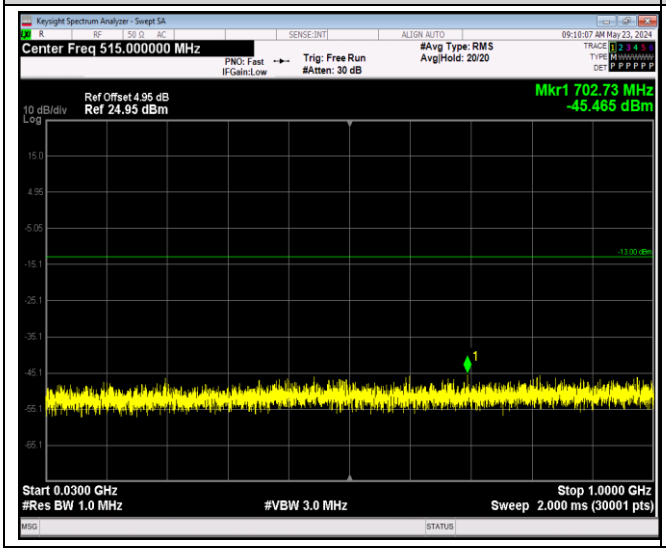
GSM1900-810-0.15~30MHz

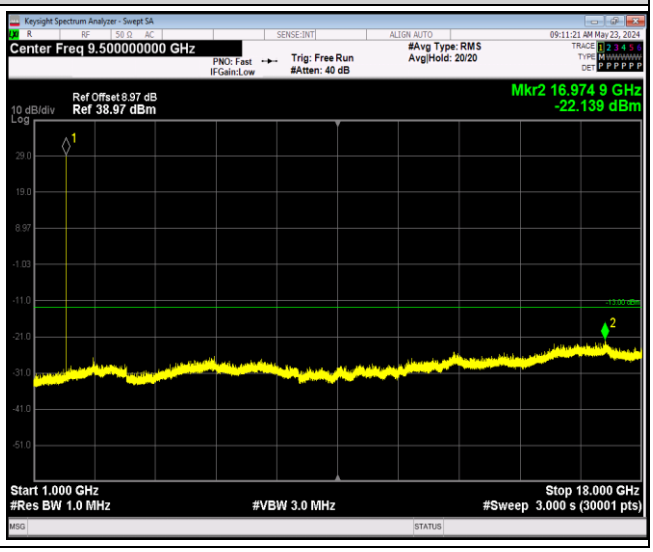


GSM1900-810-30~1000MHz



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		
3.85	-30	14.14	0.016902	±2.5	Pass
	-20	13.08	0.015635		
	-10	10.94	0.013077		
	0	10.04	0.012001		
	10	8.33	0.009957		
	20	10.82	0.012933		
	30	7.81	0.009335		
	40	10.14	0.012120		
	50	9.43	0.011272		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	13.11	0.015671	±2.5	Pass
	3.85	15.98	0.019101		
	4.40	15.76	0.018838		
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	1.26	0.001506	±2.5	Pass
	-20	5.78	0.006909		
	-10	2.45	0.002929		
	0	2.23	0.002666		
	10	6.17	0.007375		
	20	12.11	0.014475		
	30	7.72	0.009228		
	40	12.43	0.014858		
	50	10.56	0.012623		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	5.33	0.006371	±2.5	Pass
	3.85	4.62	0.005522		
	4.40	3.52	0.004208		
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	33.77	0.017963	Within authorized band for PCS 1900	Pass
	-20	31.32	0.016660		
	-10	31.41	0.016707		
	0	32.64	0.017362		
	10	27.15	0.014441		
	20	27.60	0.014681		
	30	31.06	0.016521		
	40	32.32	0.017191		
	50	30.61	0.016282		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	42.88	0.022809	Within authorized band for PCS 1900	Pass
	3.85	42.33	0.022516		
	4.40	37.06	0.019713		
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	17.24	0.009170	Within authorized band for PCS 1900	Pass
	-20	16.98	0.009032		
	-10	18.14	0.009649		
	0	18.08	0.009617		
	10	14.46	0.007691		
	20	18.50	0.009840		
	30	22.79	0.012122		
	40	20.89	0.011112		
	50	23.21	0.012346		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	15.82	0.008415	Within authorized band for PCS 1900	Pass
	3.85	15.27	0.008122		
	4.40	17.40	0.009255		
Remark: All channel had been tested, but only the worst case data displayed in this report.					

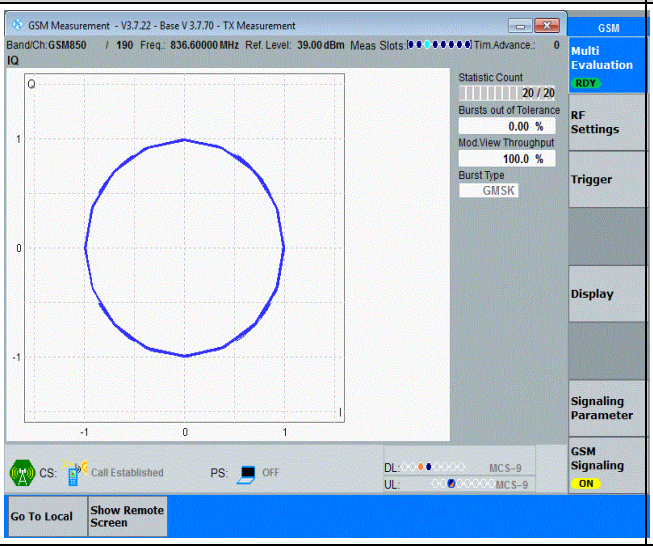
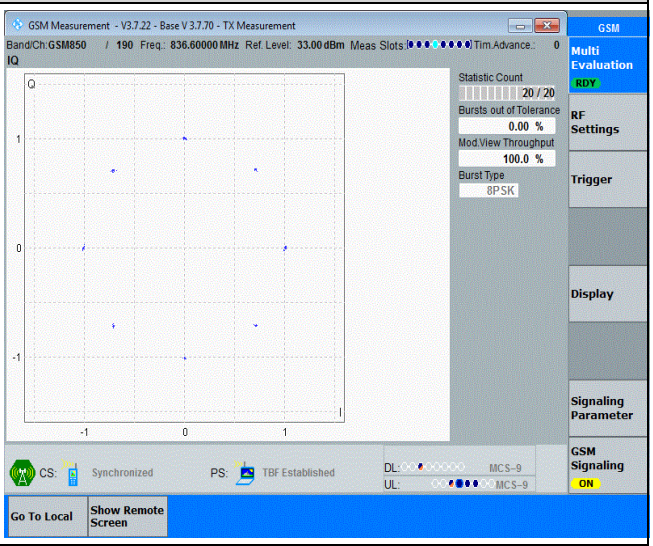
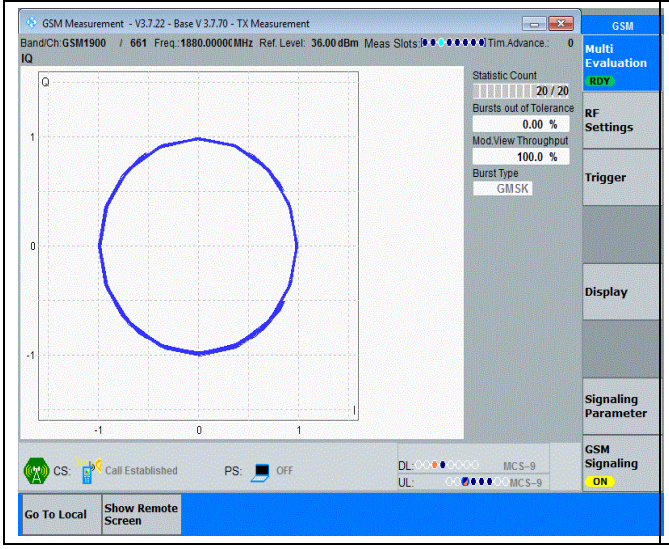
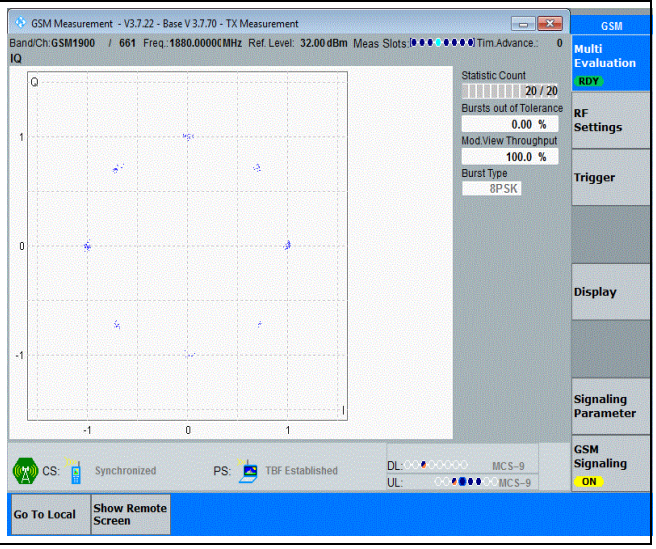
Appendix G: Modulation Characteristics

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**