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	33.27	25.95	38.45	PASS
GSM850	190	5	33.48	26.16	38.45	PASS
GSM850	251	5	33.24	25.92	38.45	PASS
GSM1900	512	0	29.66	26.45	33.00	PASS
GSM1900	661	0	30.03	26.82	33.00	PASS
GSM1900	810	0	30.08	26.87	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GPRS850	128	5	1	33.27	25.95	38.45	PASS
GPRS850	128	5	2	32.33	25.01	38.45	PASS
GPRS850	128	5	3	30.33	23.01	38.45	PASS
GPRS850	128	5	4	29.17	21.85	38.45	PASS
GPRS850	190	5	1	33.46	26.14	38.45	PASS
GPRS850	190	5	2	32.52	25.20	38.45	PASS
GPRS850	190	5	3	30.48	23.16	38.45	PASS
GPRS850	190	5	4	29.33	22.01	38.45	PASS
GPRS850	251	5	1	33.21	25.89	38.45	PASS
GPRS850	251	5	2	32.32	25.00	38.45	PASS
GPRS850	251	5	3	30.35	23.03	38.45	PASS
GPRS850	251	5	4	29.24	21.92	38.45	PASS
GPRS1900	512	0	1	29.65	26.44	33.00	PASS
GPRS1900	512	0	2	28.67	25.46	33.00	PASS
GPRS1900	512	0	3	26.58	23.37	33.00	PASS
GPRS1900	512	0	4	25.47	22.26	33.00	PASS
GPRS1900	661	0	1	29.99	26.78	33.00	PASS
GPRS1900	661	0	2	29.05	25.84	33.00	PASS
GPRS1900	661	0	3	27.01	23.80	33.00	PASS
GPRS1900	661	0	4	25.92	22.71	33.00	PASS
GPRS1900	810	0	1	30.04	26.83	33.00	PASS
GPRS1900	810	0	2	29.13	25.92	33.00	PASS
GPRS1900	810	0	3	27.17	23.96	33.00	PASS
GPRS1900	810	0	4	26.10	22.89	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
EGPRS850	128	8	1	27.75	20.43	38.45	PASS
EGPRS850	128	8	2	26.72	19.40	38.45	PASS
EGPRS850	128	8	3	24.34	17.02	38.45	PASS
EGPRS850	128	8	4	23.23	15.91	38.45	PASS
EGPRS850	190	8	1	27.53	20.21	38.45	PASS
EGPRS850	190	8	2	26.50	19.18	38.45	PASS
EGPRS850	190	8	3	24.13	16.81	38.45	PASS
EGPRS850	190	8	4	22.97	15.65	38.45	PASS
EGPRS850	251	8	1	27.91	20.59	38.45	PASS
EGPRS850	251	8	2	26.89	19.57	38.45	PASS
EGPRS850	251	8	3	24.74	17.42	38.45	PASS
EGPRS850	251	8	4	23.30	15.98	38.45	PASS
EGPRS1900	512	2	1	25.82	22.61	33.00	PASS
EGPRS1900	512	2	2	24.57	21.36	33.00	PASS
EGPRS1900	512	2	3	22.27	19.06	33.00	PASS
EGPRS1900	512	2	4	20.79	17.58	33.00	PASS
EGPRS1900	661	2	1	25.89	22.68	33.00	PASS
EGPRS1900	661	2	2	24.63	21.42	33.00	PASS
EGPRS1900	661	2	3	22.31	19.10	33.00	PASS
EGPRS1900	661	2	4	20.77	17.56	33.00	PASS
EGPRS1900	810	2	1	26.17	22.96	33.00	PASS
EGPRS1900	810	2	2	24.92	21.71	33.00	PASS
EGPRS1900	810	2	3	22.66	19.45	33.00	PASS
EGPRS1900	810	2	4	21.17	17.96	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)

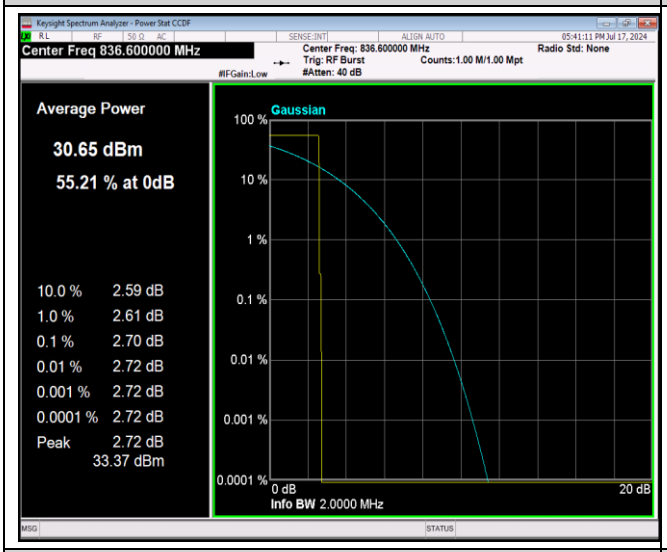
Test Result

Band	Channel	PCL	Result(dB)	Limit(dB)	Verdict
GSM850	190	5	2.7	13	PASS
EGPRS850	190	8	5.42	13	PASS
GSM1900	661	0	2.62	13	PASS
EGPRS1900	661	2	5.69	13	PASS

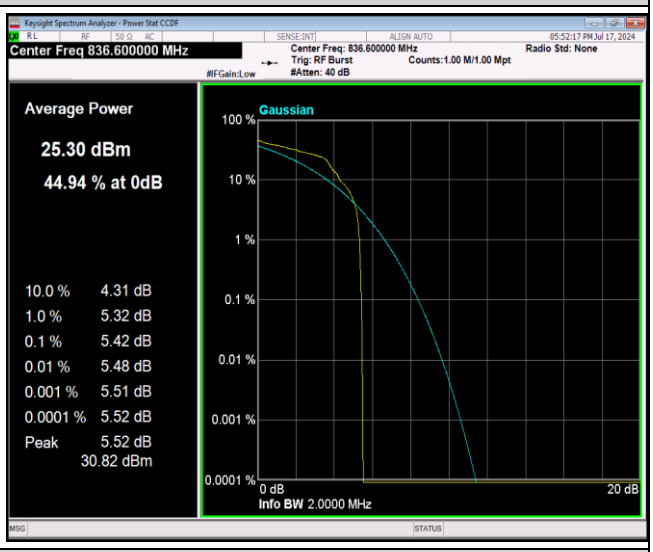
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

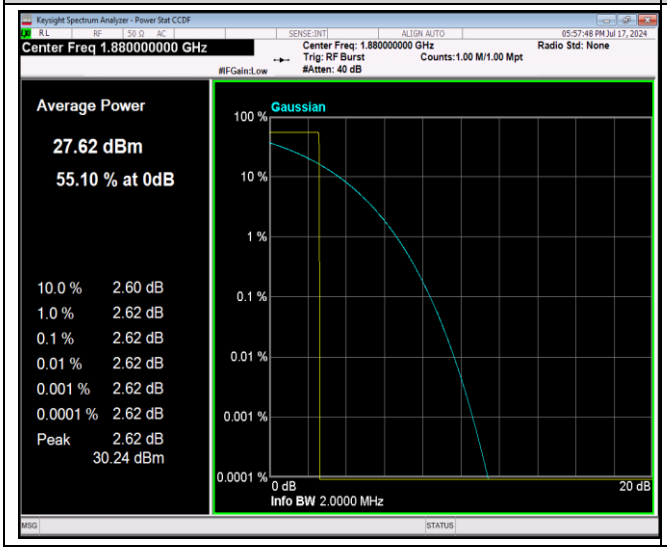
GSM850-190



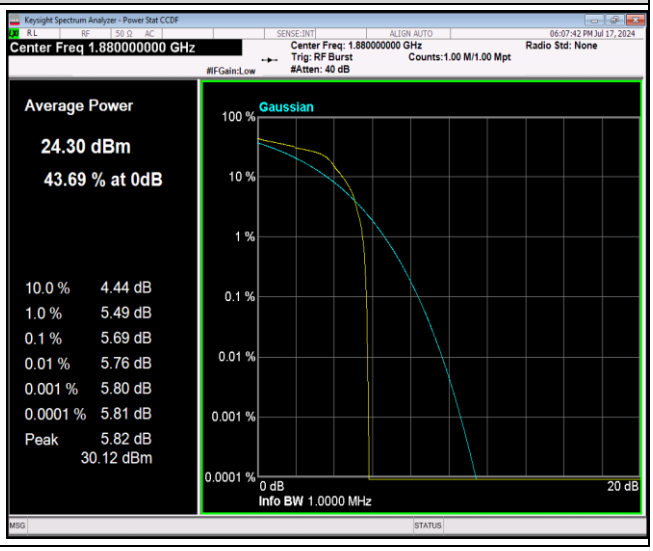
EGPRS850-190



GSM1900-661



EGPRS1900-661



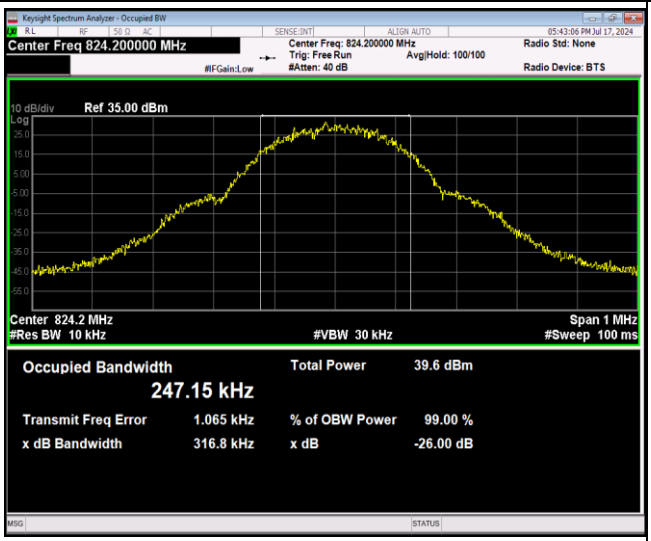
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

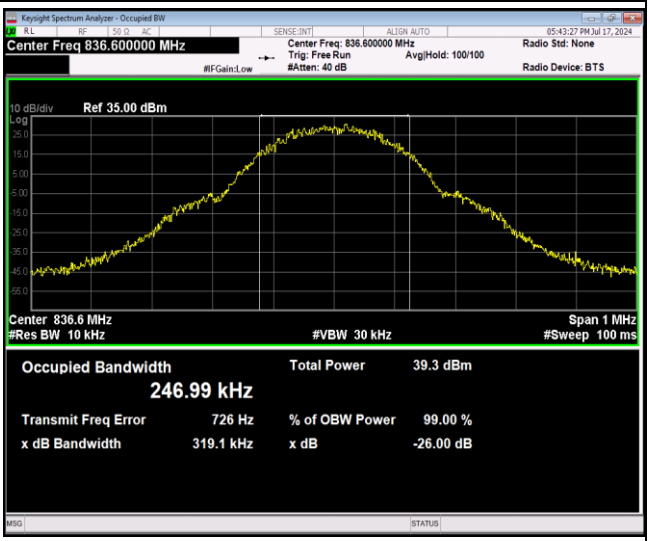
Band	Channel	PCL	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	5	0.24715	0.3168	---	PASS
GSM850	190	5	0.24699	0.3191	---	PASS
GSM850	251	5	0.24501	0.3142	---	PASS
EGPRS850	128	8	0.25052	0.3234	---	PASS
EGPRS850	190	8	0.25052	0.3161	---	PASS
EGPRS850	251	8	0.24991	0.3246	---	PASS
GSM1900	512	0	0.24335	0.3127	---	PASS
GSM1900	661	0	0.24578	0.3170	---	PASS
GSM1900	810	0	0.24753	0.3143	---	PASS
EGPRS1900	512	2	0.25036	0.3274	---	PASS
EGPRS1900	661	2	0.24972	0.3140	---	PASS
EGPRS1900	810	2	0.25111	0.3039	---	PASS

Test Graphs

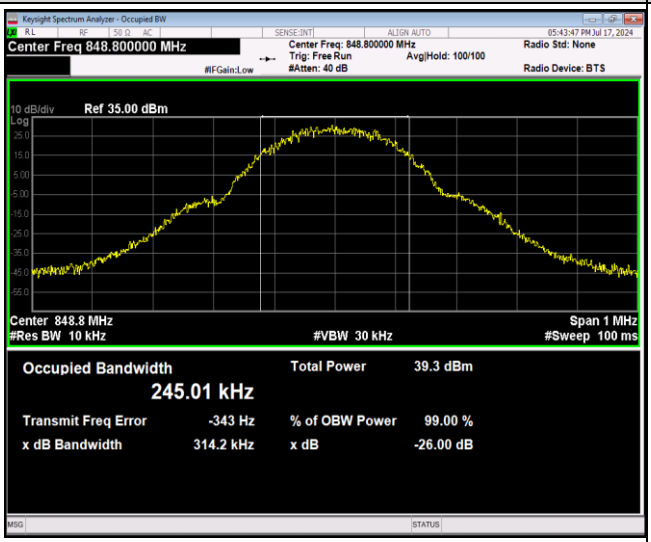
GSM850-128



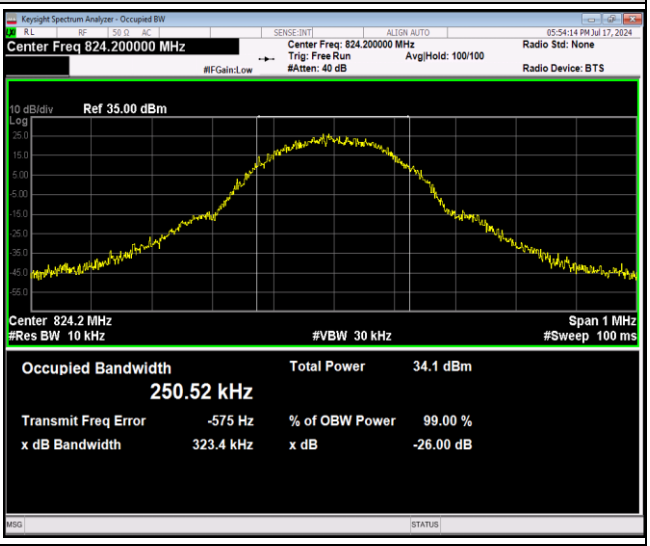
GSM850-190



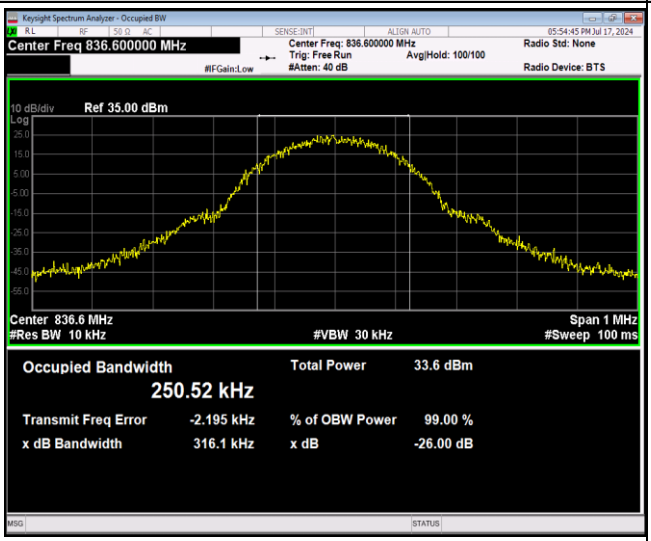
GSM850-251



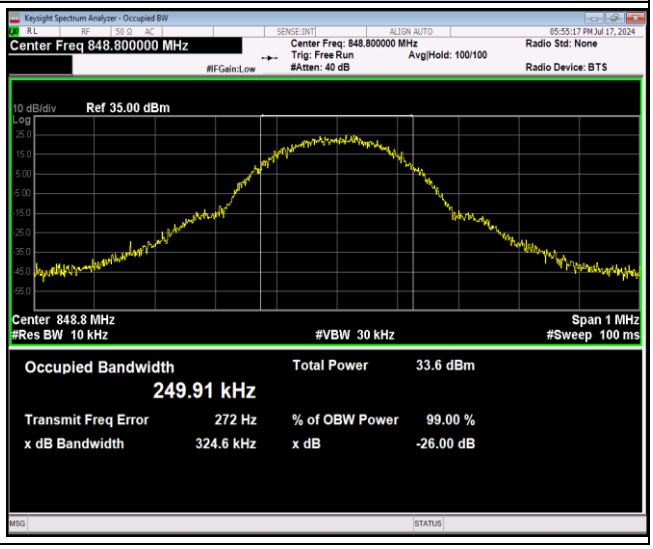
EGPRS850-128



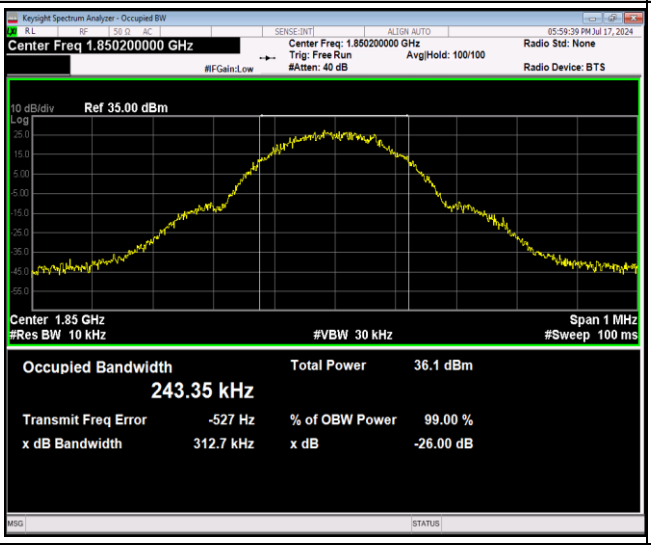
EGPRS850-190



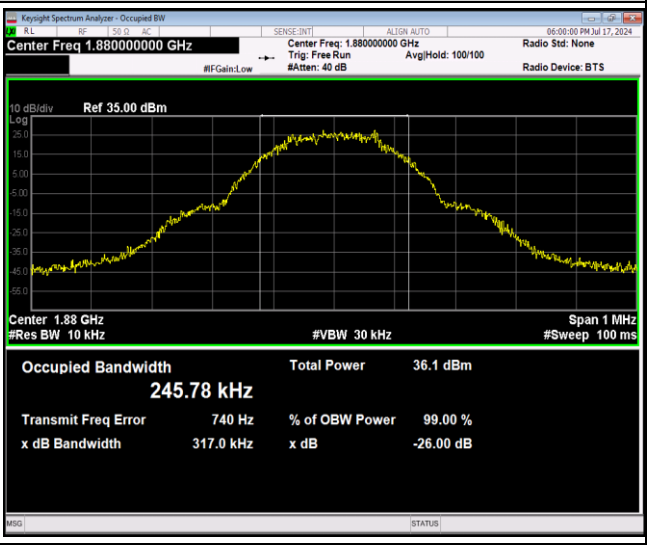
EGPRS850-251



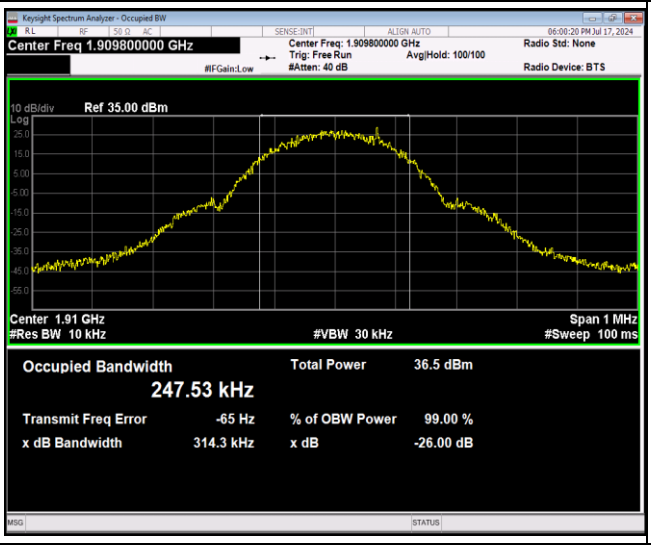
GSM1900-512



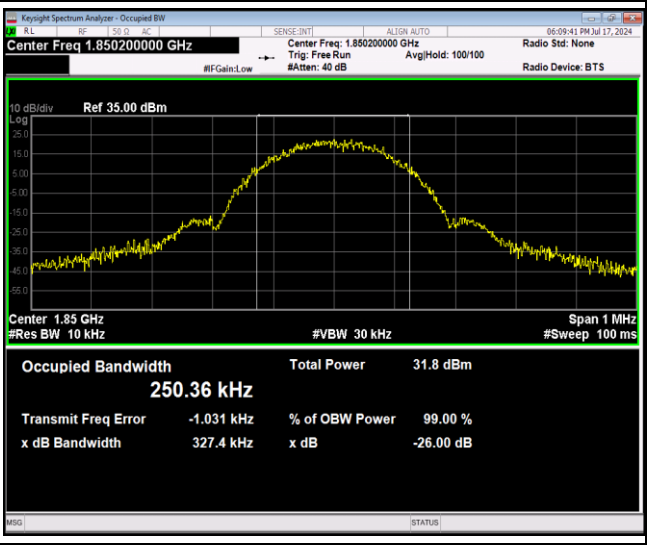
GSM1900-661



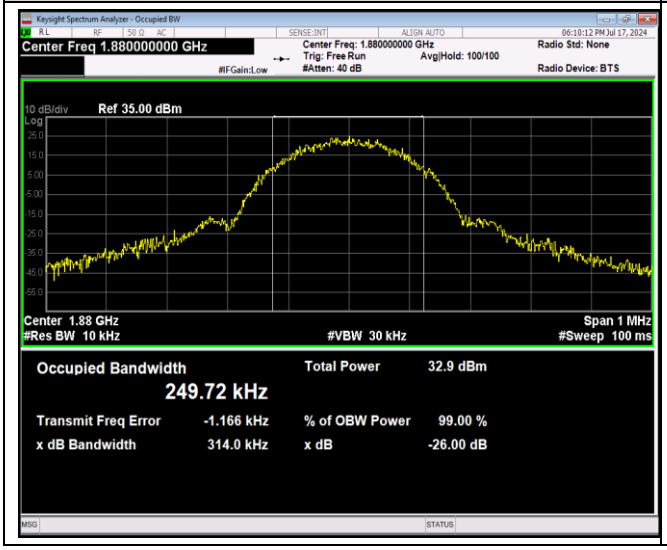
GSM1900-810



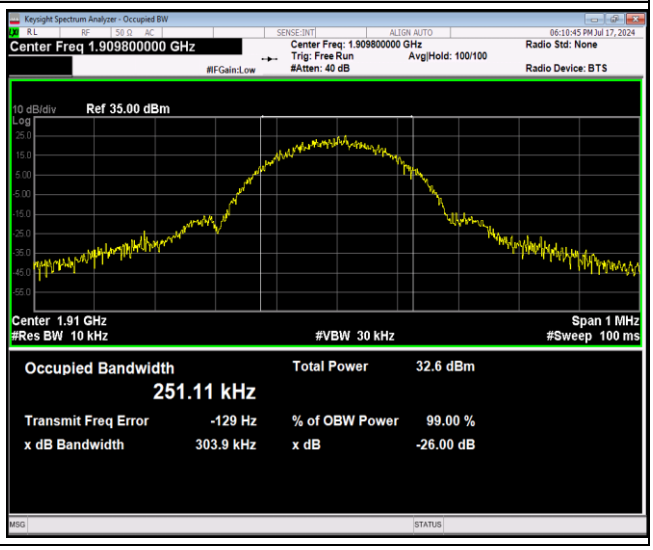
EGPRS1900-512



EGPRS1900-661



EGPRS1900-810



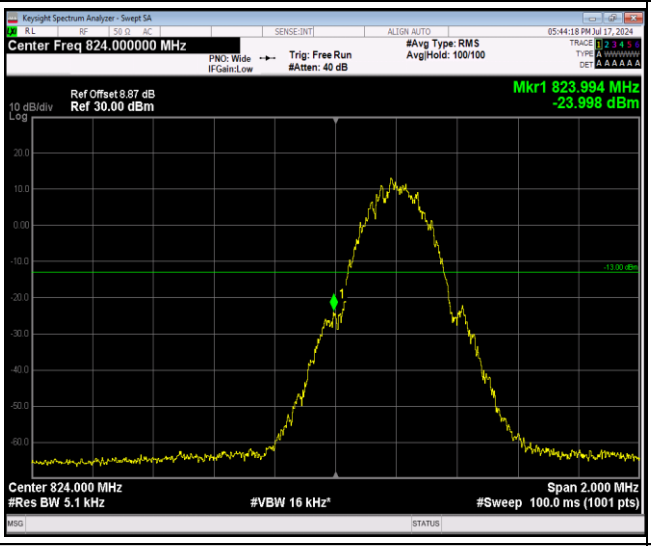
Appendix D: Band Edge

Test Result

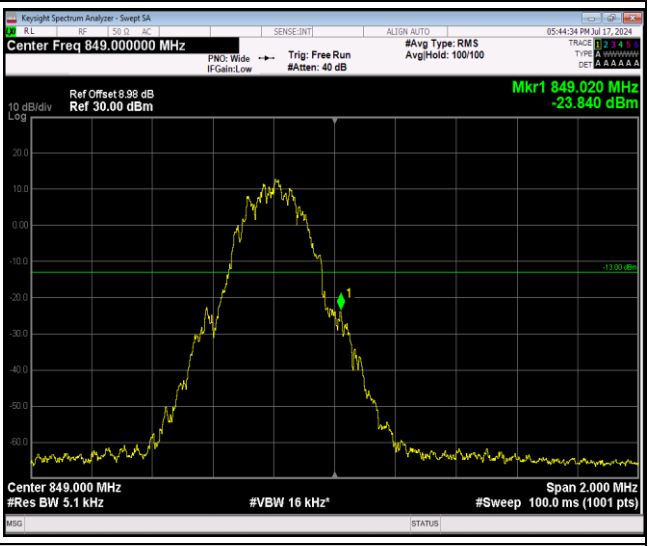
Band	Channel	PCL	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	5	823.99	-24.00	-13	PASS
GSM850	251	5	849.02	-23.84	-13	PASS
EGPRS850	128	8	823.99	-33.56	-13	PASS
EGPRS850	251	8	849.00	-32.82	-13	PASS
GSM1900	512	0	1849.99	-14.78	-13	PASS
GSM1900	810	0	1910.02	-13.20	-13	PASS
EGPRS1900	512	2	1849.99	-23.45	-13	PASS
EGPRS1900	810	2	1910.01	-18.12	-13	PASS

Test Graphs

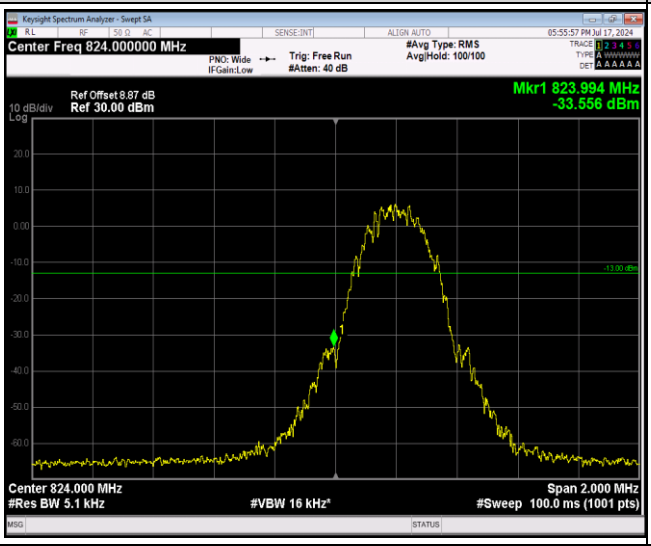
GSM850-128



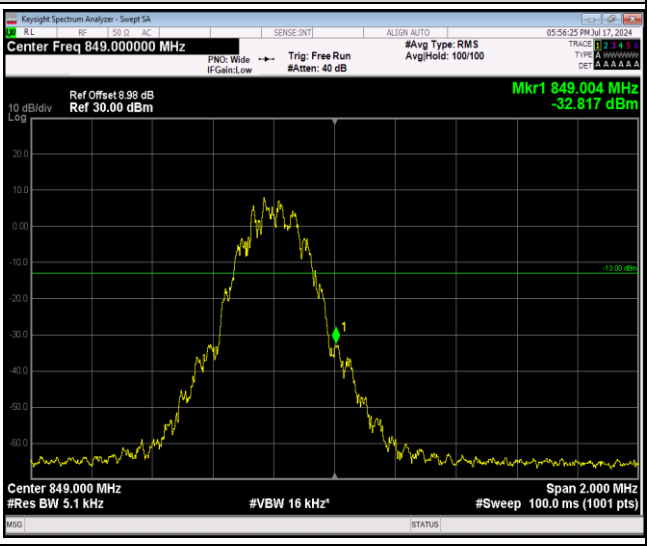
GSM850-251



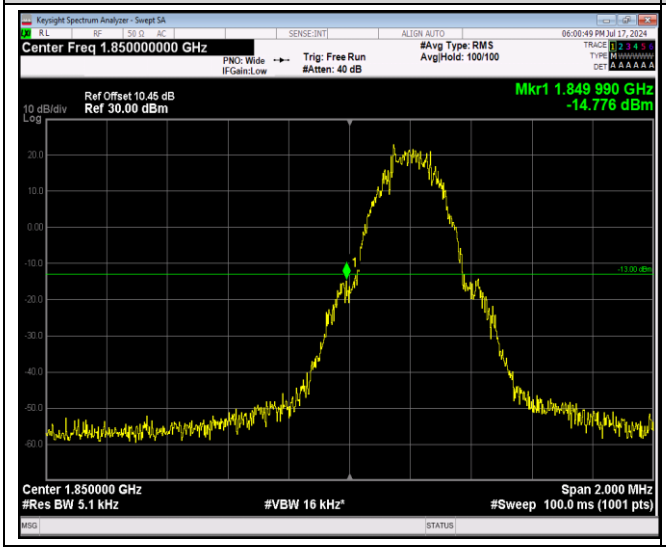
EGPRS850-128



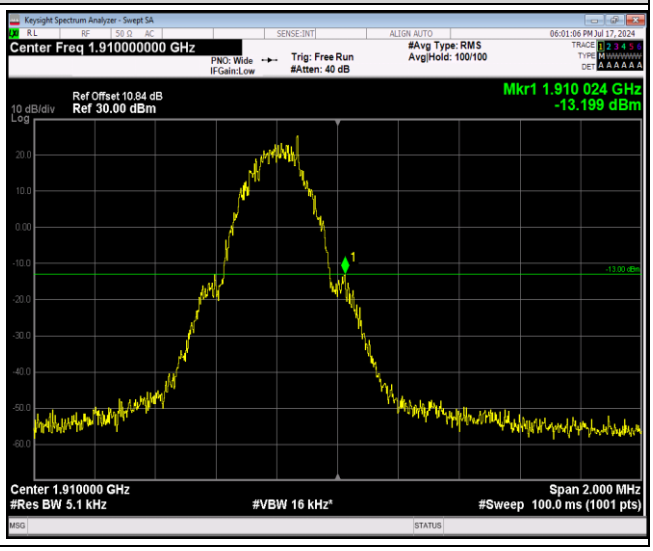
EGPRS850-251

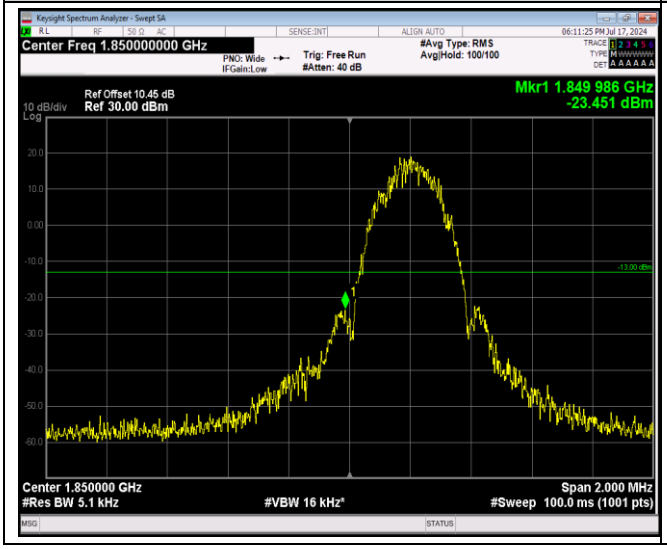
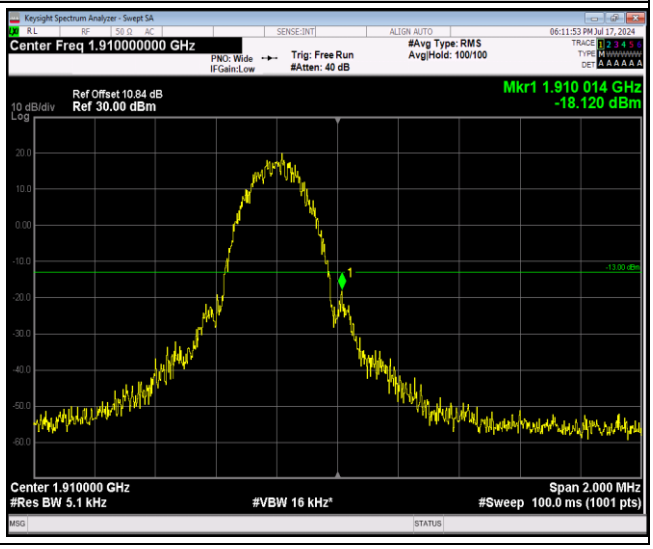


GSM1900-512



GSM1900-810



EGPRS1900-512	EGPRS1900-810
	

Appendix E: Conducted Spurious Emission

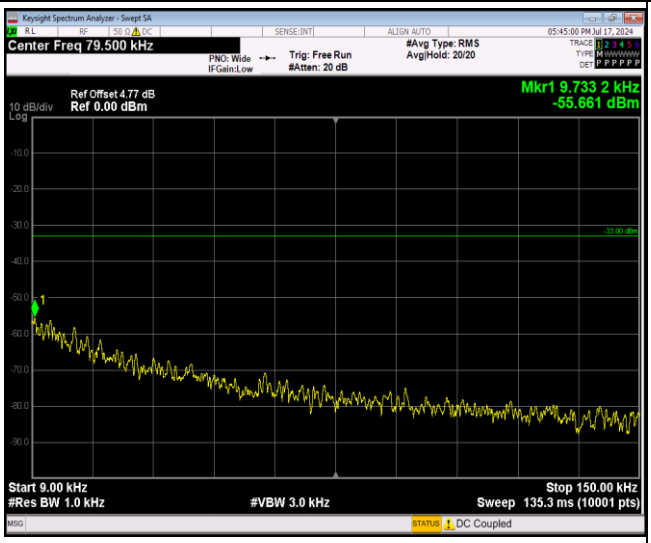
Test Result

Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	5	0.009~0.15MHz	0.01	-55.66	-33	PASS
GSM850	128	5	0.15~30MHz	0.15	-40.58	-13	PASS
GSM850	128	5	30~1000MHz	994.31	-44.65	-13	PASS
GSM850	128	5	1000~10000MHz	1648.6	-29.67	-13	PASS
GSM850	190	5	0.009~0.15MHz	0.01	-55.05	-33	PASS
GSM850	190	5	0.15~30MHz	0.15	-44.19	-13	PASS
GSM850	190	5	30~1000MHz	967.18	-45.35	-13	PASS
GSM850	190	5	1000~10000MHz	1673.5	-30.86	-13	PASS
GSM850	251	5	0.009~0.15MHz	0.01	-54.15	-33	PASS
GSM850	251	5	0.15~30MHz	0.15	-42.22	-13	PASS
GSM850	251	5	30~1000MHz	966.34	-45.28	-13	PASS
GSM850	251	5	1000~10000MHz	2546.2	-30.43	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-55.94	-43	PASS
GSM1900	512	0	0.15~30MHz	0.16	-42.19	-23	PASS
GSM1900	512	0	30~1000MHz	853.27	-45.07	-13	PASS
GSM1900	512	0	1000~18000MHz	16957.9	-22.29	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-55.7	-43	PASS
GSM1900	661	0	0.15~30MHz	0.15	-42.66	-23	PASS
GSM1900	661	0	30~1000MHz	824.24	-45.01	-13	PASS
GSM1900	661	0	1000~18000MHz	16179.3	-22.41	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-56.47	-43	PASS
GSM1900	810	0	0.15~30MHz	0.15	-43.93	-23	PASS
GSM1900	810	0	30~1000MHz	783.88	-45.53	-13	PASS
GSM1900	810	0	1000~18000MHz	17015.7	-21.84	-13	PASS

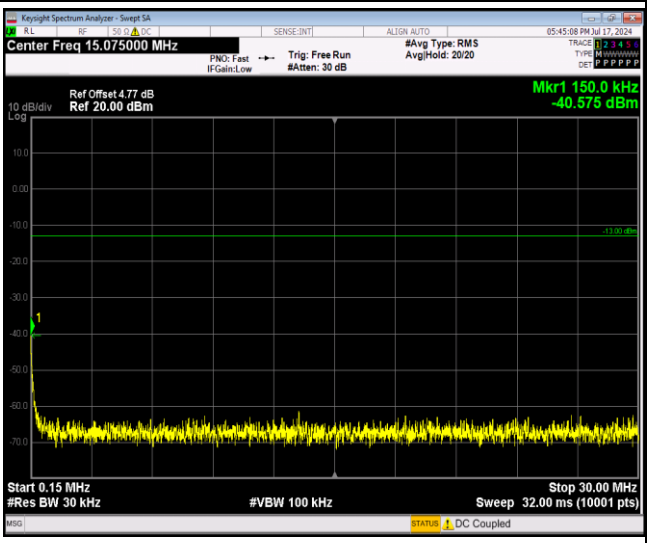
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

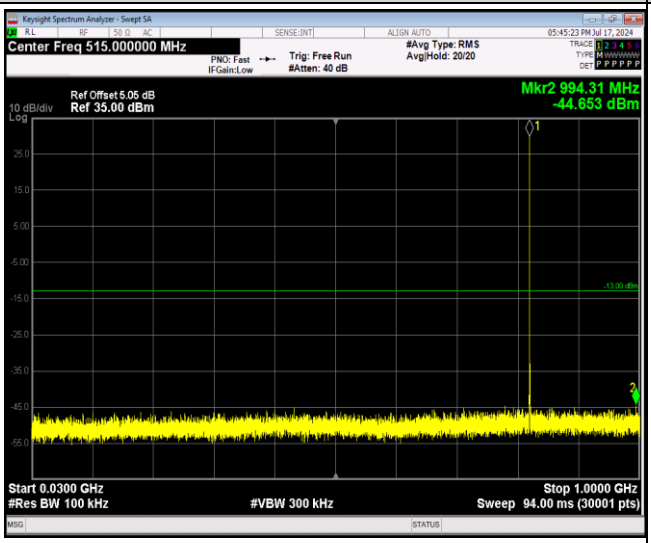
GSM850-128-0.009~0.15MHz



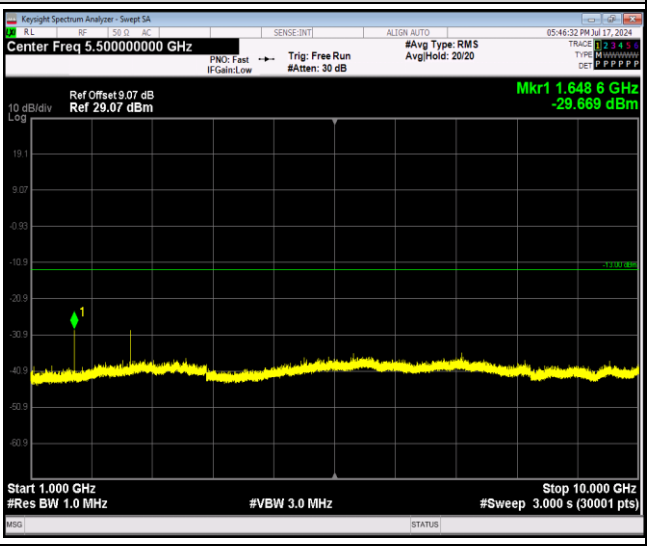
GSM850-128-0.15~30MHz



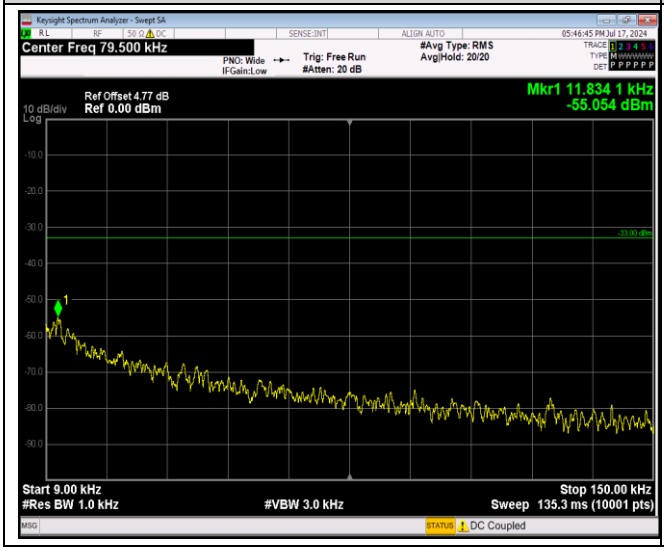
GSM850-128-30~1000MHz



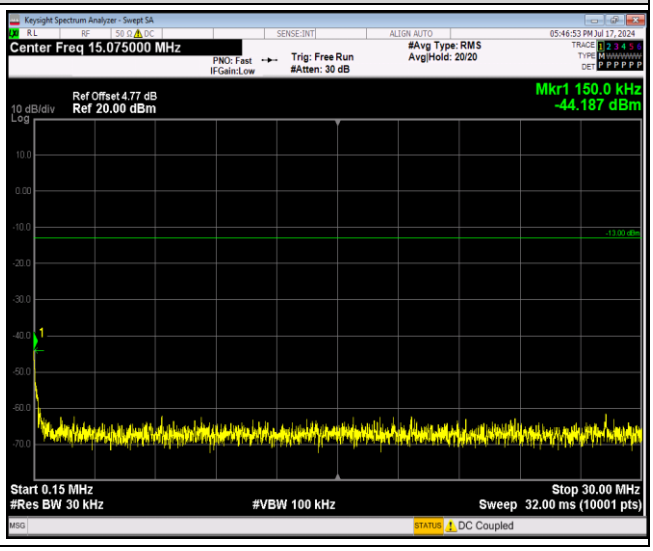
GSM850-128-1000~10000MHz



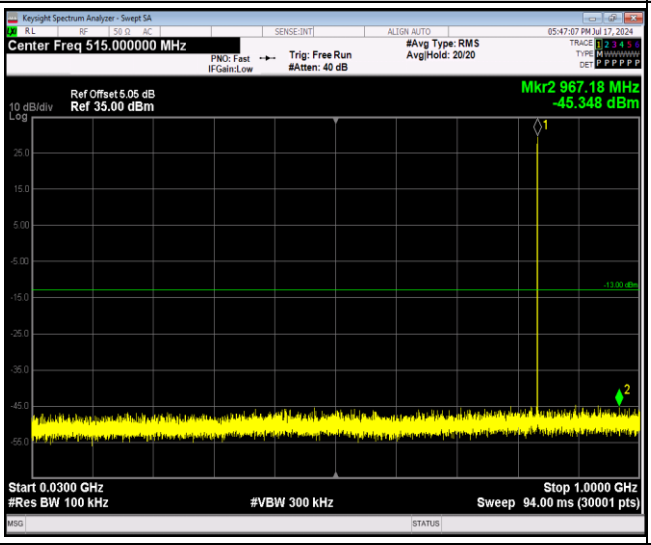
GSM850-190-0.009~0.15MHz



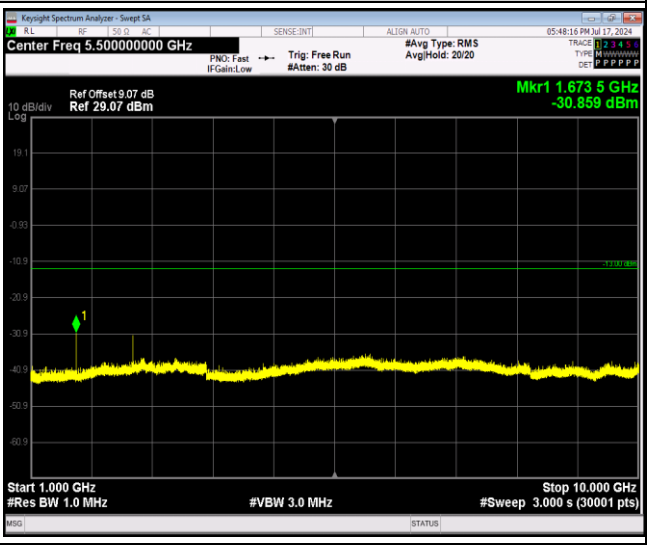
GSM850-190-0.15~30MHz



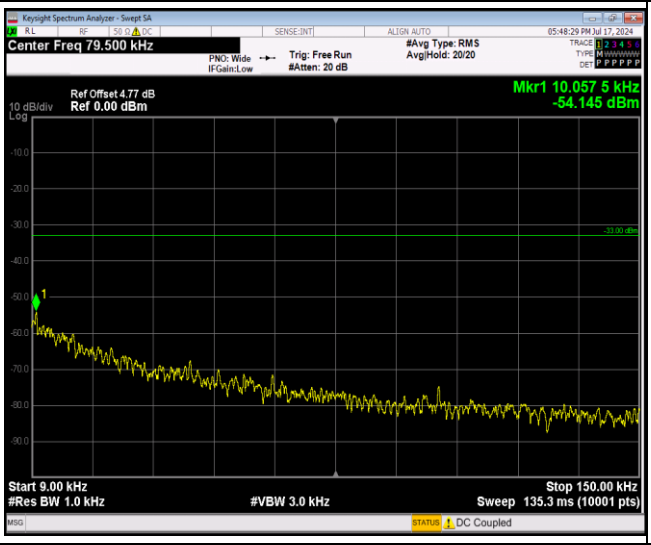
GSM850-190-30~1000MHz



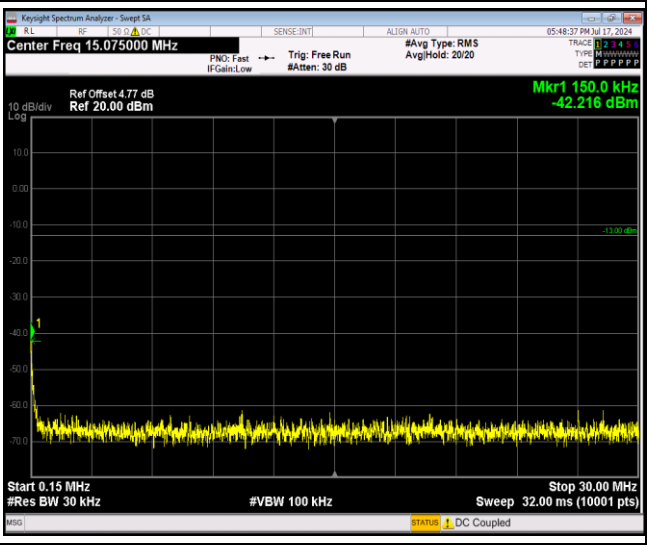
GSM850-190-1000~10000MHz



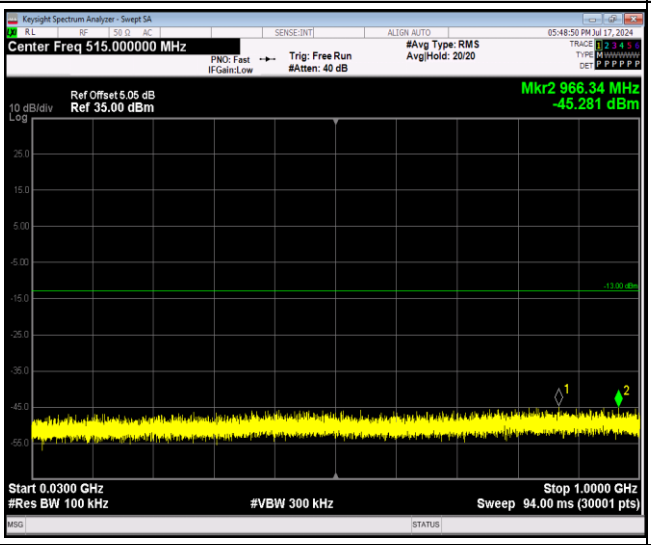
GSM850-251-0.009~0.15MHz



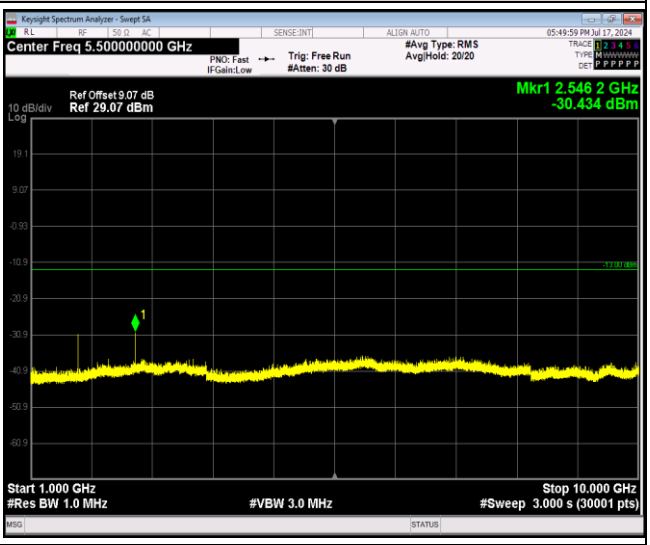
GSM850-251-0.15~30MHz



GSM850-251-30~1000MHz

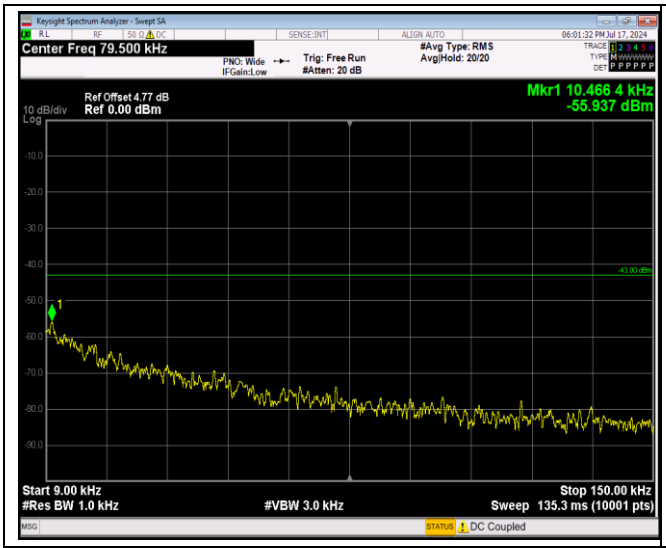


GSM850-251-1000~10000MHz

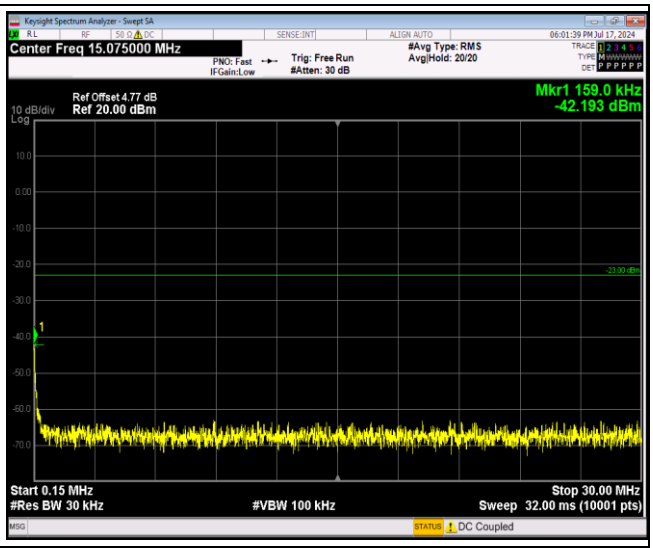


GSM1900-512-0.009~0.15MHz

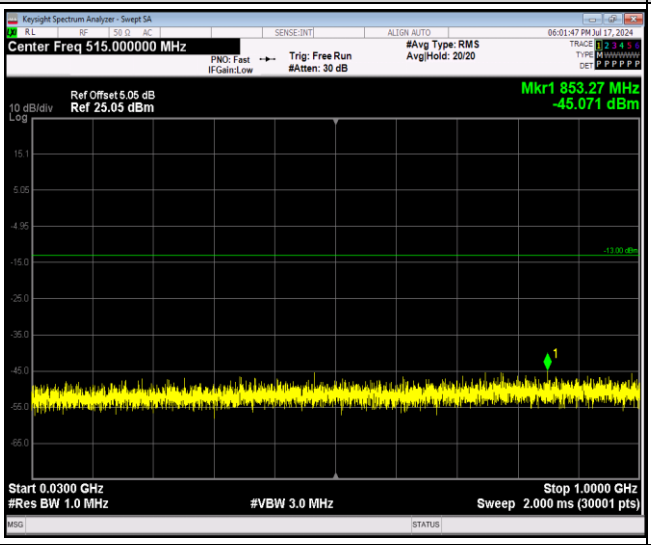
GSM1900-512-0.15~30MHz



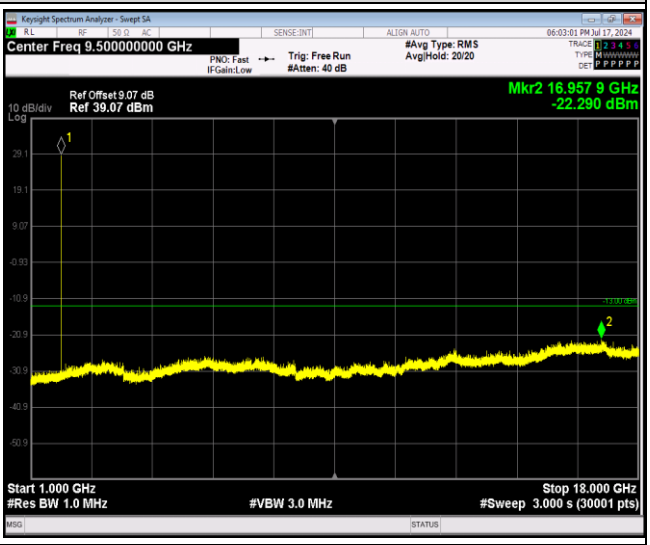
GSM1900-512-30~1000MHz



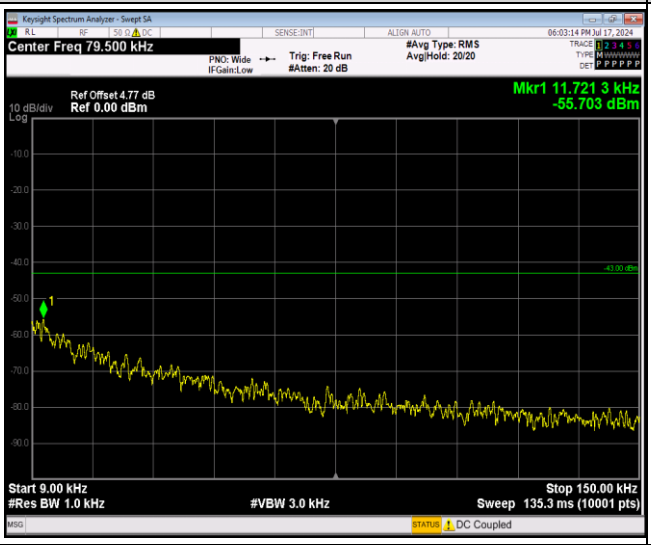
GSM1900-512-1000~18000MHz



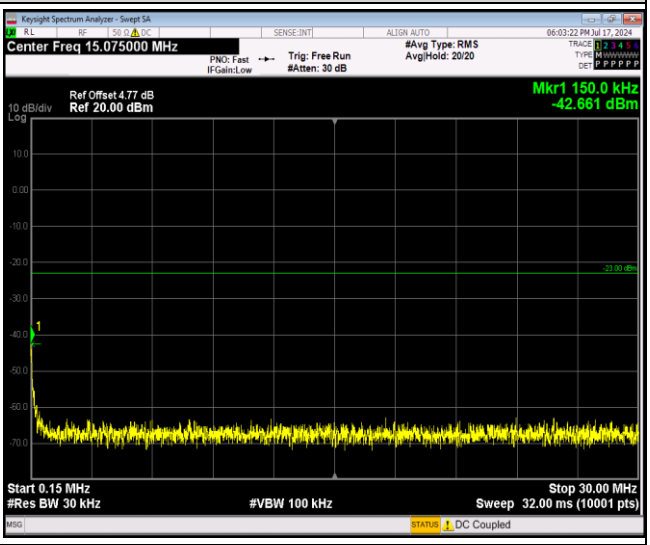
GSM1900-661-0.009~0.15MHz



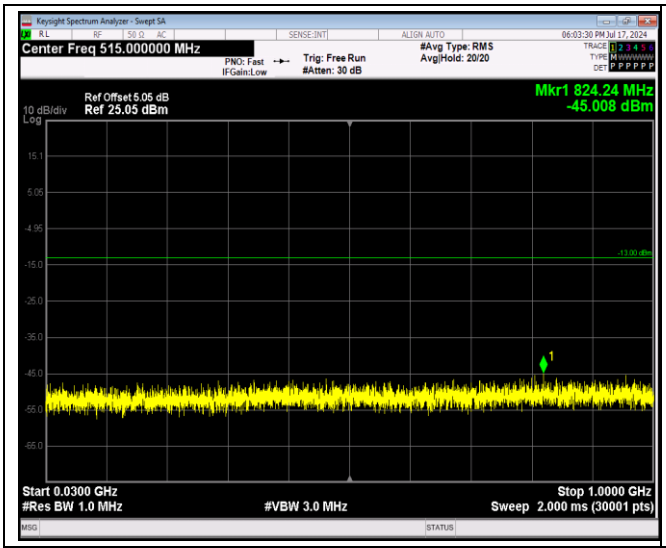
GSM1900-661-0.15~30MHz



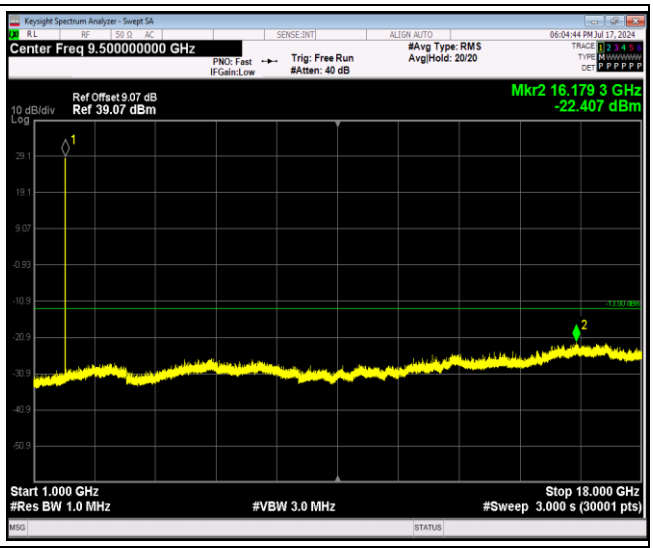
GSM1900-661-30~1000MHz



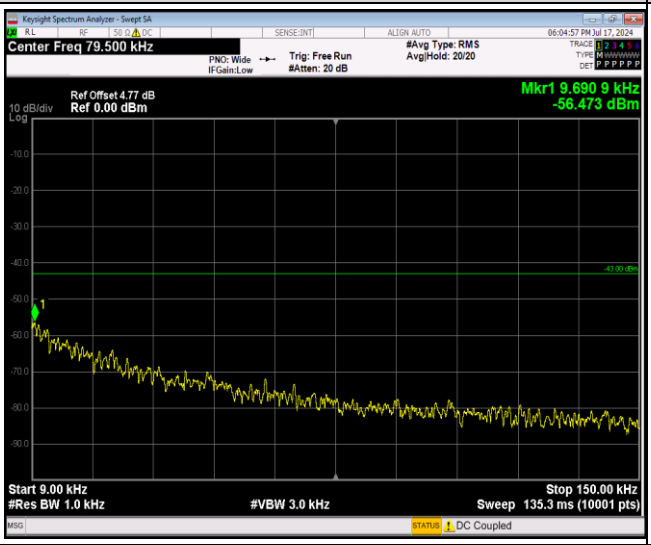
GSM1900-661-1000~18000MHz



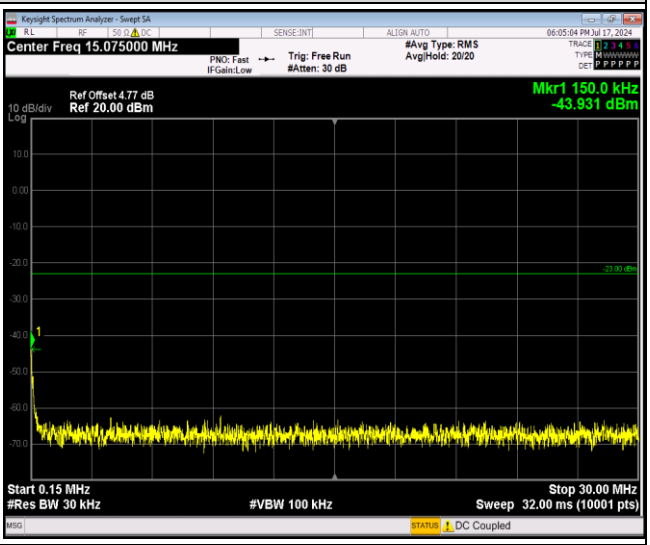
GSM1900-810-0.009~0.15MHz



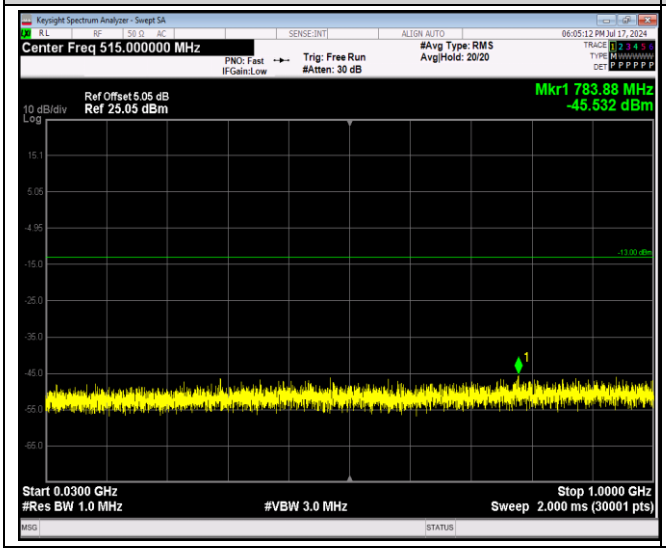
GSM1900-810-0.15~30MHz

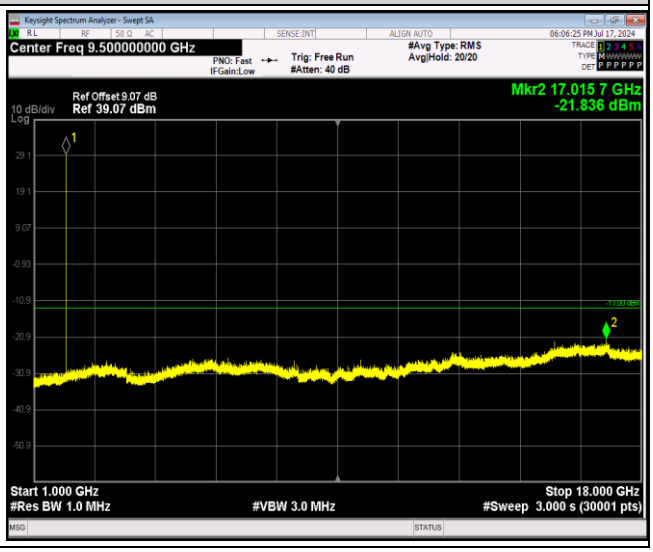


GSM1900-810-30~1000MHz



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	-0.10	-0.000120	±2.5	Pass
	-20	-1.55	-0.001853		
	-10	-2.10	-0.002510		
	0	-0.48	-0.000574		
	10	0.03	0.000036		
	20	2.84	0.003395		
	30	3.29	0.003933		
	40	0.58	0.000693		
	50	1.23	0.001470		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.40	-6.26	-0.007483	±2.5	Pass
	3.87	-1.19	-0.001422		
	4.45	-4.39	-0.005247		
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	-2.39	-0.002857	±2.5	Pass
	-20	-3.42	-0.004088		
	-10	-3.39	-0.004052		
	0	-3.49	-0.004172		
	10	0.36	0.000430		
	20	-1.61	-0.001924		
	30	-3.55	-0.004243		
	40	0.52	0.000622		
	50	-3.39	-0.004052		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.40	-1.94	-0.002319	±2.5	Pass
	3.87	-7.52	-0.008989		
	4.45	-10.20	-0.012192		
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	4.46	0.002372	Within authorized band for PCS 1900	Pass
	-20	5.71	0.003037		
	-10	10.62	0.005649		
	0	10.49	0.005580		
	10	11.46	0.006096		
	20	14.21	0.007559		
	30	12.85	0.006835		
	40	15.17	0.008069		
	50	17.40	0.009255		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.40	3.26	0.001734	Within authorized band for PCS 1900	Pass
	3.87	1.29	0.000686		
	4.45	-4.23	-0.002250		
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	-1.78	-0.000947	Within authorized band for PCS 1900	Pass
	-20	-6.36	-0.003383		
	-10	-8.49	-0.004516		
	0	-3.26	-0.001734		
	10	1.81	0.000963		
	20	5.33	0.002835		
	30	1.32	0.000702		
	40	12.53	0.006665		
	50	-4.33	-0.002303		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.40	-1.71	-0.000910	Within authorized band for PCS 1900	Pass
	3.87	-9.04	-0.004809		
	4.45	-1.19	-0.000633		
Remark: All channel had been tested, but only the worst case data displayed in this report.					

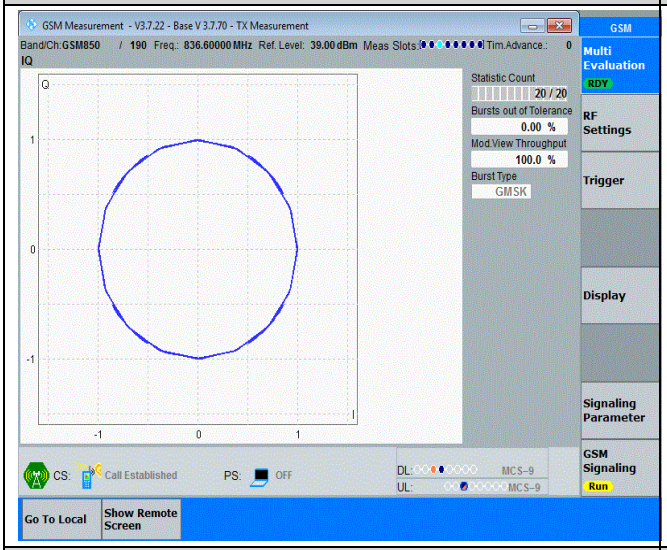
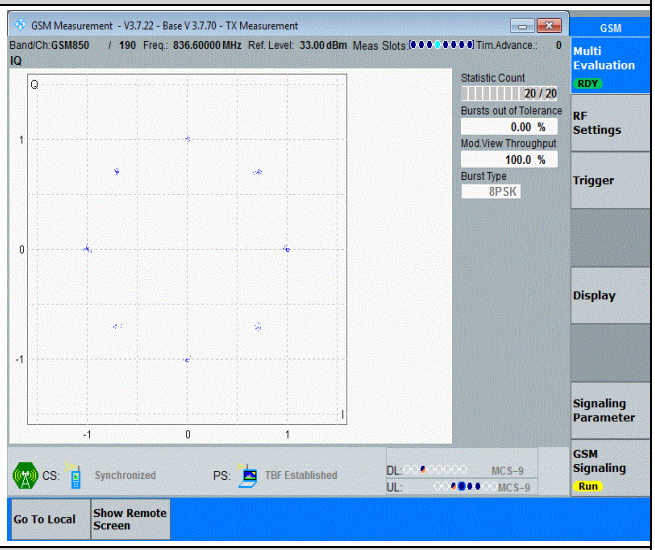
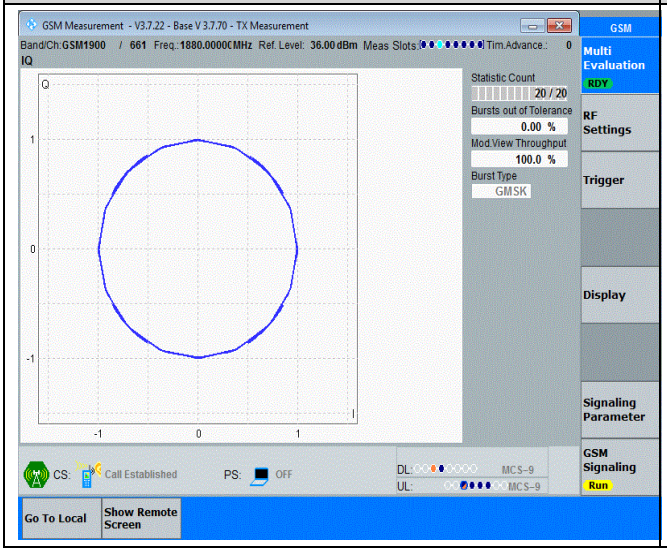
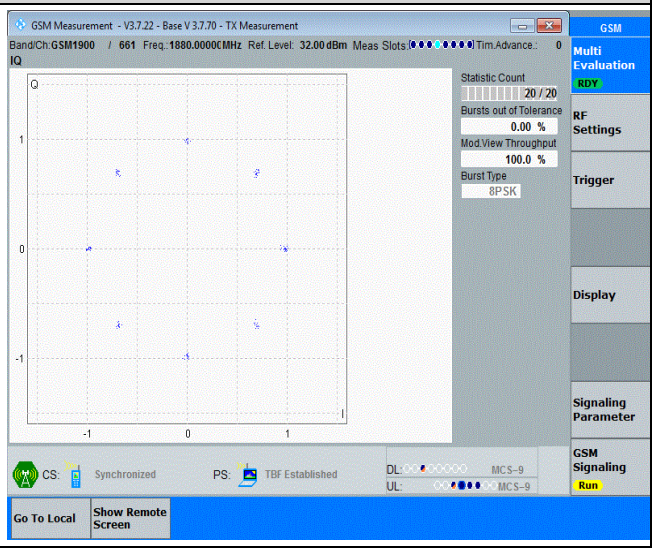
Appendix G: Modulation Characteristics

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