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	33.65	31.7	38.45	PASS
GSM850	190	5	33.85	31.9	38.45	PASS
GSM850	251	5	33.68	31.73	38.45	PASS
GSM1900	512	0	30.56	30.96	33.00	PASS
GSM1900	661	0	30.76	31.16	33.00	PASS
GSM1900	810	0	30.48	30.88	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GPRS850	128	5	1	33.64	31.69	38.45	PASS
GPRS850	128	5	2	32.98	31.03	38.45	PASS
GPRS850	128	5	3	31.30	29.35	38.45	PASS
GPRS850	128	5	4	30.08	28.13	38.45	PASS
GPRS850	190	5	1	33.83	31.88	38.45	PASS
GPRS850	190	5	2	33.13	31.18	38.45	PASS
GPRS850	190	5	3	31.38	29.43	38.45	PASS
GPRS850	190	5	4	30.15	28.2	38.45	PASS
GPRS850	251	5	1	33.66	31.71	38.45	PASS
GPRS850	251	5	2	32.96	31.01	38.45	PASS
GPRS850	251	5	3	31.17	29.22	38.45	PASS
GPRS850	251	5	4	29.95	28	38.45	PASS
GPRS1900	512	0	1	30.57	30.97	33.00	PASS
GPRS1900	512	0	2	29.79	30.19	33.00	PASS
GPRS1900	512	0	3	27.97	28.37	33.00	PASS
GPRS1900	512	0	4	26.74	27.14	33.00	PASS
GPRS1900	661	0	1	30.75	31.15	33.00	PASS
GPRS1900	661	0	2	29.96	30.36	33.00	PASS
GPRS1900	661	0	3	28.14	28.54	33.00	PASS
GPRS1900	661	0	4	26.91	27.31	33.00	PASS
GPRS1900	810	0	1	30.47	30.87	33.00	PASS
GPRS1900	810	0	2	29.64	30.04	33.00	PASS
GPRS1900	810	0	3	27.78	28.18	33.00	PASS
GPRS1900	810	0	4	26.53	26.93	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
EGPRS850	128	8	1	28.31	26.36	38.45	PASS
EGPRS850	128	8	2	28.24	26.29	38.45	PASS
EGPRS850	128	8	3	28.13	26.18	38.45	PASS
EGPRS850	128	8	4	28.01	26.06	38.45	PASS
EGPRS850	190	8	1	28.41	26.46	38.45	PASS
EGPRS850	190	8	2	28.33	26.38	38.45	PASS
EGPRS850	190	8	3	28.25	26.3	38.45	PASS
EGPRS850	190	8	4	28.13	26.18	38.45	PASS
EGPRS850	251	8	1	28.13	26.18	38.45	PASS
EGPRS850	251	8	2	28.05	26.1	38.45	PASS
EGPRS850	251	8	3	27.98	26.03	38.45	PASS
EGPRS850	251	8	4	27.88	25.93	38.45	PASS
EGPRS1900	512	2	1	27.05	27.45	33.00	PASS
EGPRS1900	512	2	2	26.96	27.36	33.00	PASS
EGPRS1900	512	2	3	26.86	27.26	33.00	PASS
EGPRS1900	512	2	4	26.76	27.16	33.00	PASS
EGPRS1900	661	2	1	27.22	27.62	33.00	PASS
EGPRS1900	661	2	2	27.13	27.53	33.00	PASS
EGPRS1900	661	2	3	27.03	27.43	33.00	PASS
EGPRS1900	661	2	4	26.93	27.33	33.00	PASS
EGPRS1900	810	2	1	26.83	27.23	33.00	PASS
EGPRS1900	810	2	2	26.74	27.14	33.00	PASS
EGPRS1900	810	2	3	26.62	27.02	33.00	PASS
EGPRS1900	810	2	4	26.50	26.9	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)

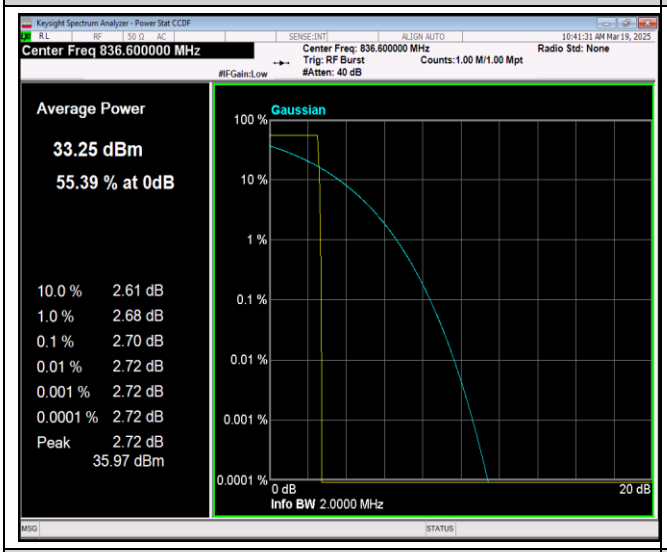
Test Result

Band	Channel	PCL	Result(dB)	Limit(dB)	Verdict
GSM850	190	5	2.7	13	PASS
EGPRS850	190	8	5.56	13	PASS
GSM1900	661	0	2.68	13	PASS
EGPRS1900	661	2	5.36	13	PASS

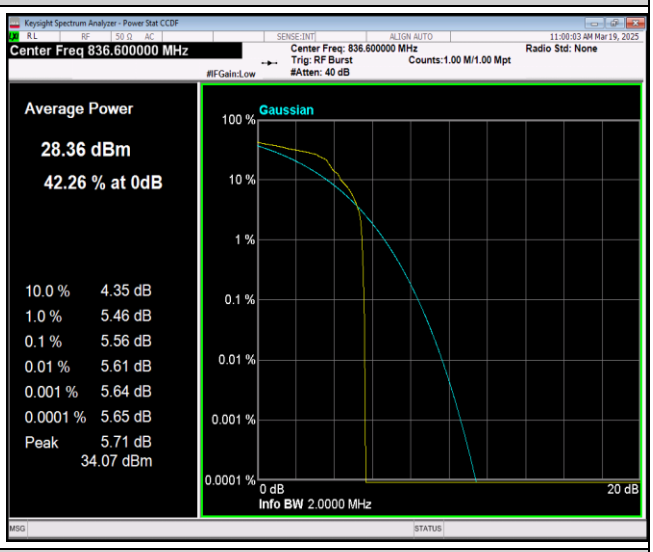
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

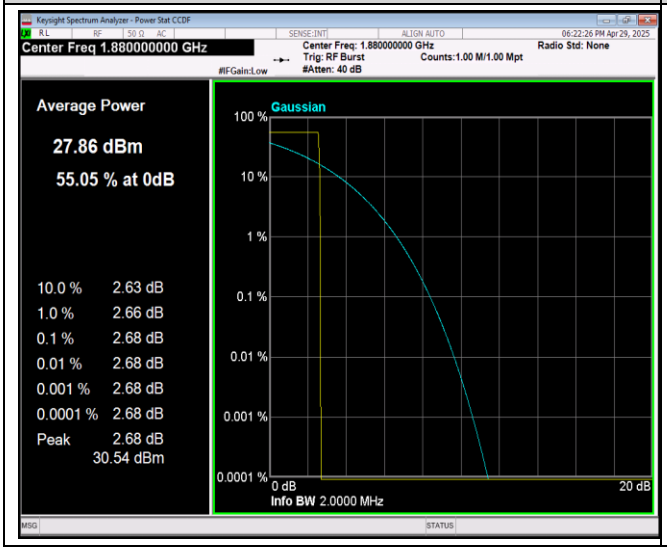
GSM850-190



EGPRS850-190



GSM1900-661



EGPRS1900-661

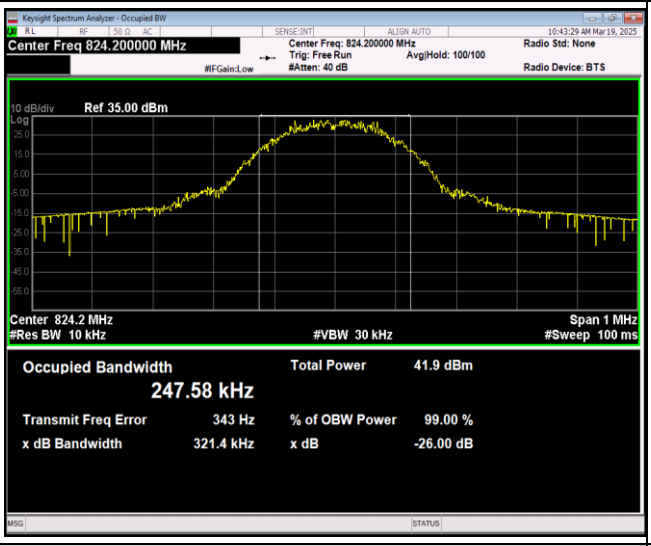
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

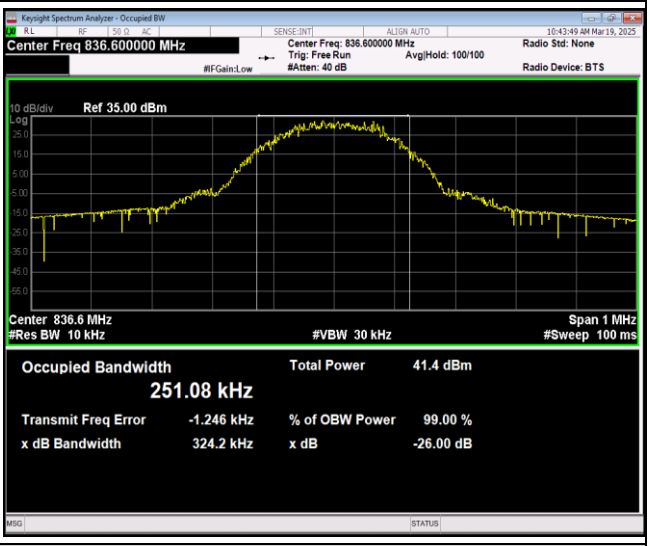
Band	Channel	PCL	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	5	0.24758	0.3214	---	PASS
GSM850	190	5	0.25108	0.3242	---	PASS
GSM850	251	5	0.24994	0.3193	---	PASS
EGPRS850	128	8	0.24412	0.3133	---	PASS
EGPRS850	190	8	0.24302	0.3073	---	PASS
EGPRS850	251	8	0.24716	0.3115	---	PASS
GSM1900	512	0	0.24461	0.3107	---	PASS
GSM1900	661	0	0.24306	0.3100	---	PASS
GSM1900	810	0	0.24715	0.3172	---	PASS
EGPRS1900	512	2	0.24954	0.3112	---	PASS
EGPRS1900	661	2	0.25050	0.3189	---	PASS
EGPRS1900	810	2	0.24678	0.3185	---	PASS

Test Graphs

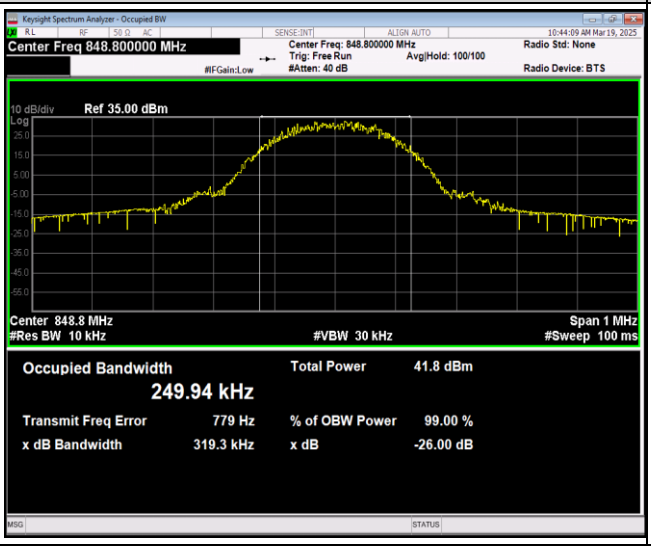
GSM850-128



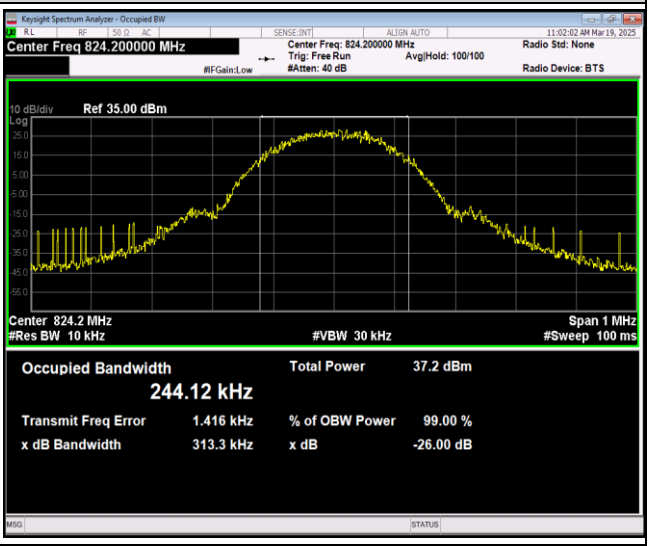
GSM850-190



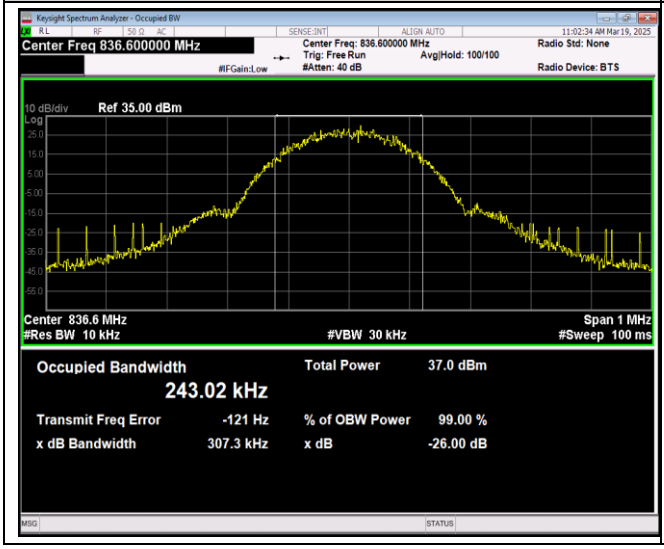
GSM850-251



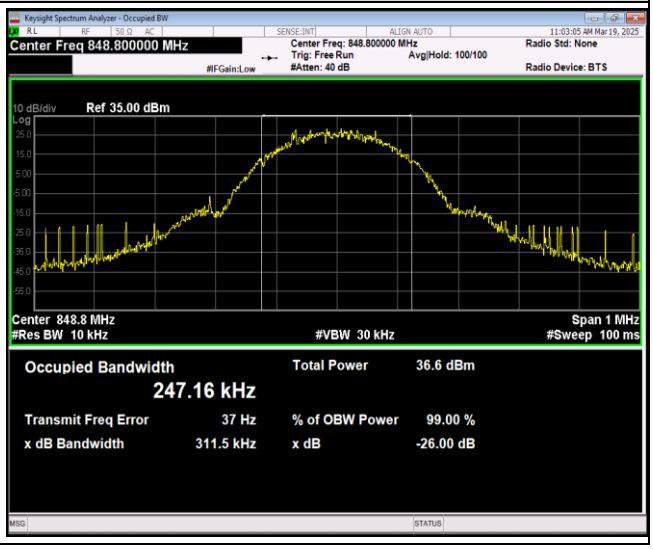
EGPRS850-128



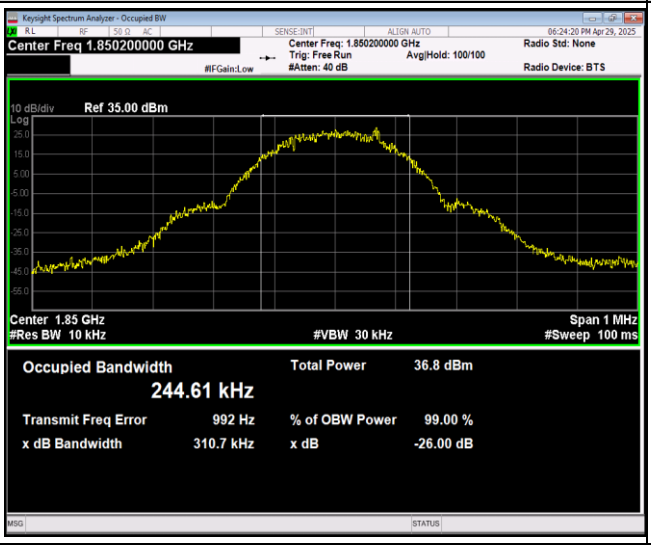
EGPRS850-190



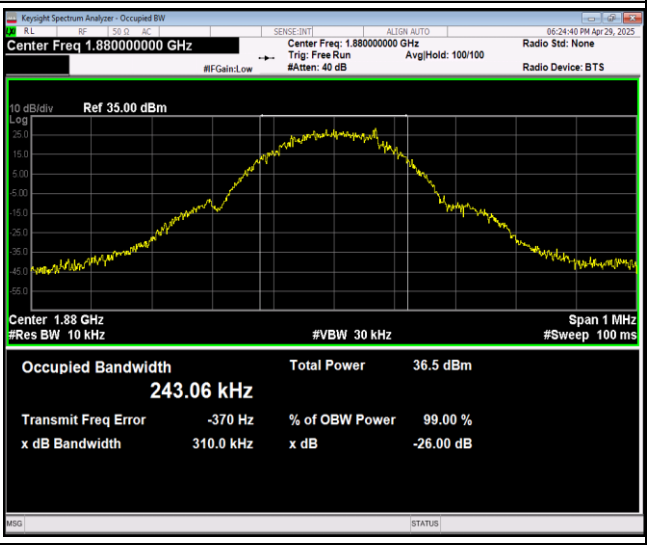
EGPRS850-251



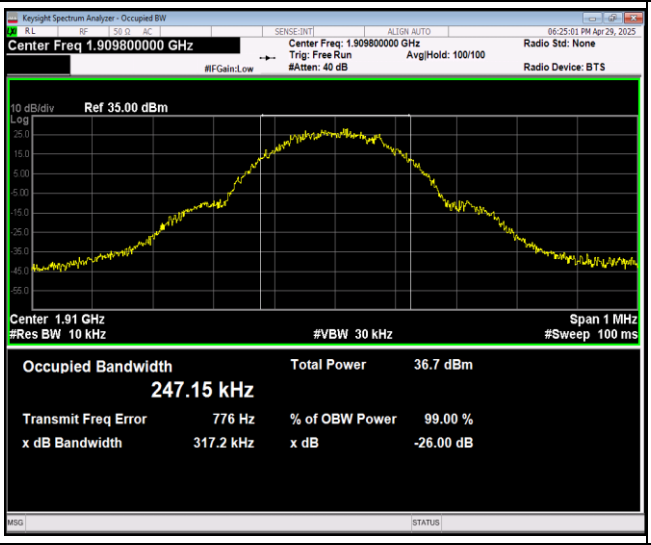
GSM1900-512



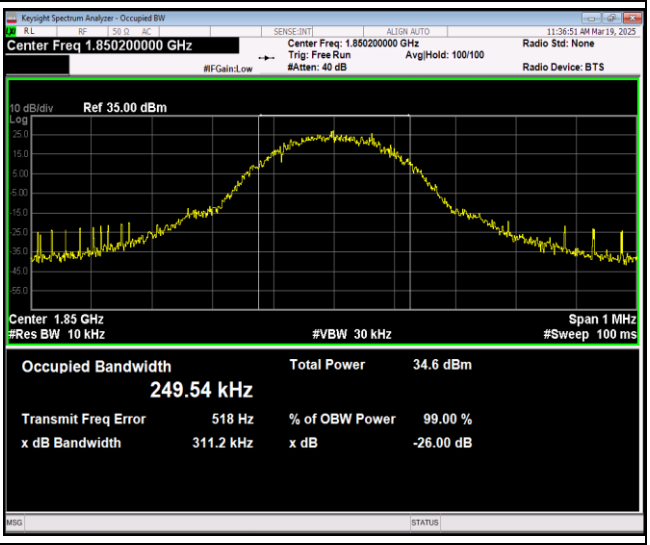
GSM1900-661



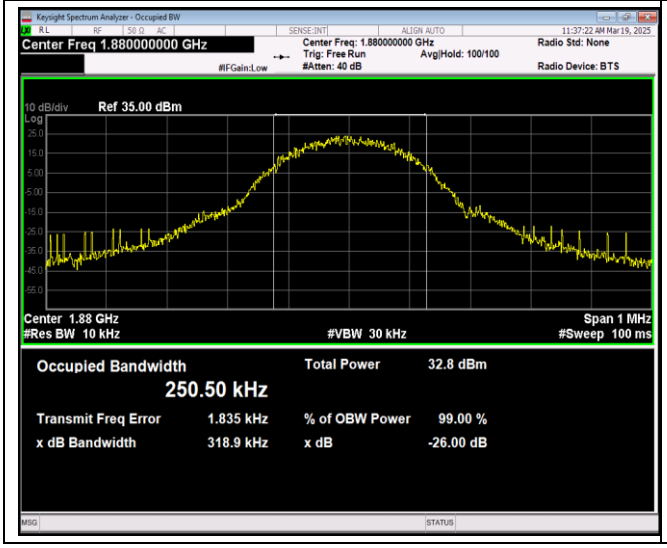
GSM1900-810



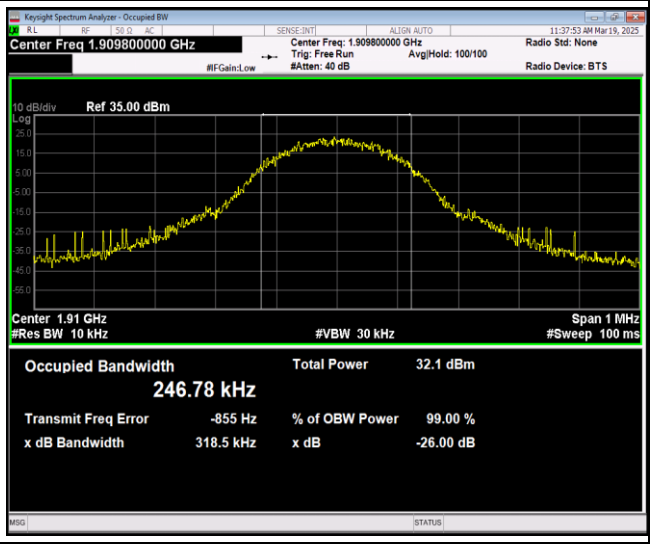
EGPRS1900-512



EGPRS1900-661



EGPRS1900-810



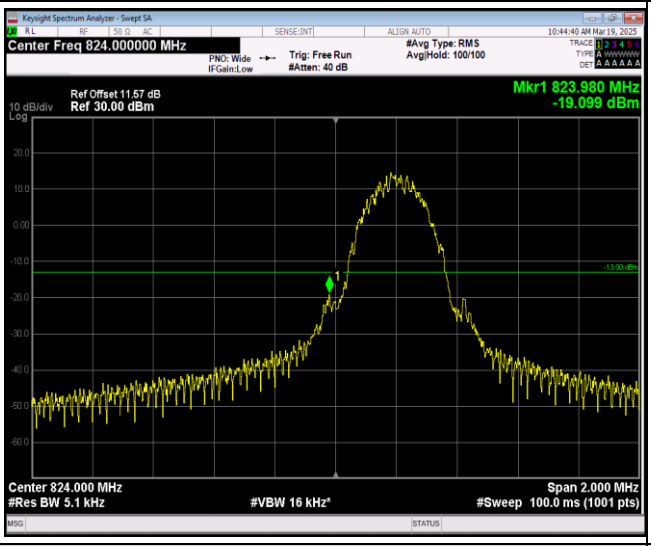
Appendix D: Band Edge

Test Result

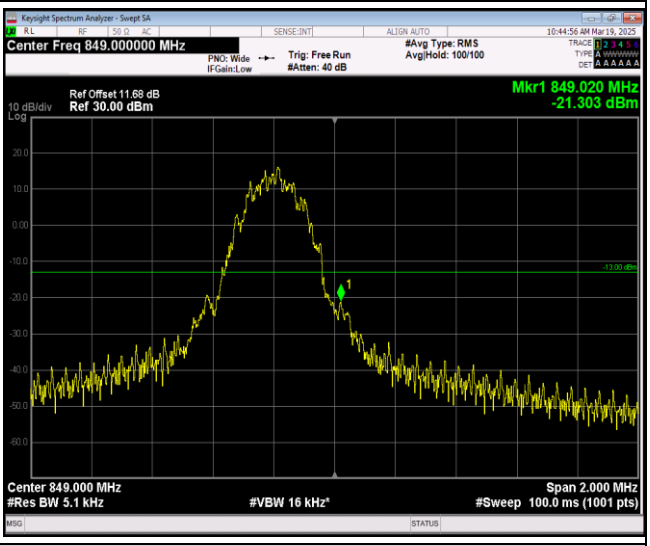
Band	Channel	PCL	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	5	823.98	-19.10	-13	PASS
GSM850	251	5	849.02	-21.30	-13	PASS
EGPRS850	128	8	823.97	-29.83	-13	PASS
EGPRS850	251	8	849.02	-31.24	-13	PASS
GSM1900	512	0	1850.00	-28.09	-13	PASS
GSM1900	810	0	1910.02	-26.49	-13	PASS
EGPRS1900	512	2	1849.98	-17.17	-13	PASS
EGPRS1900	810	2	1910.01	-19.27	-13	PASS

Test Graphs

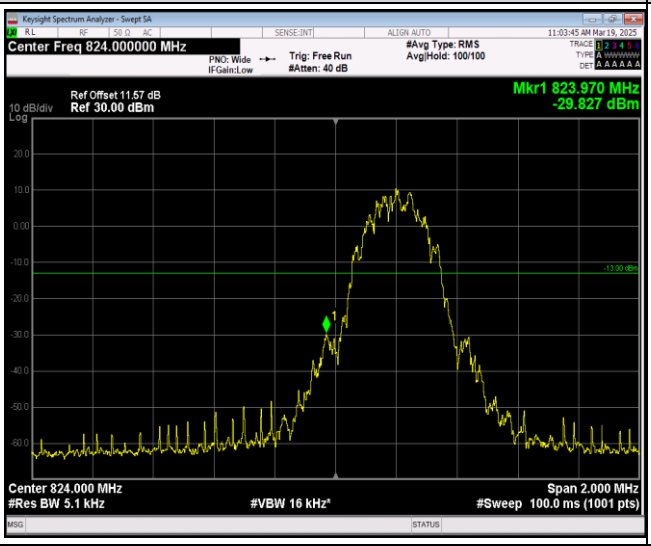
GSM850-128



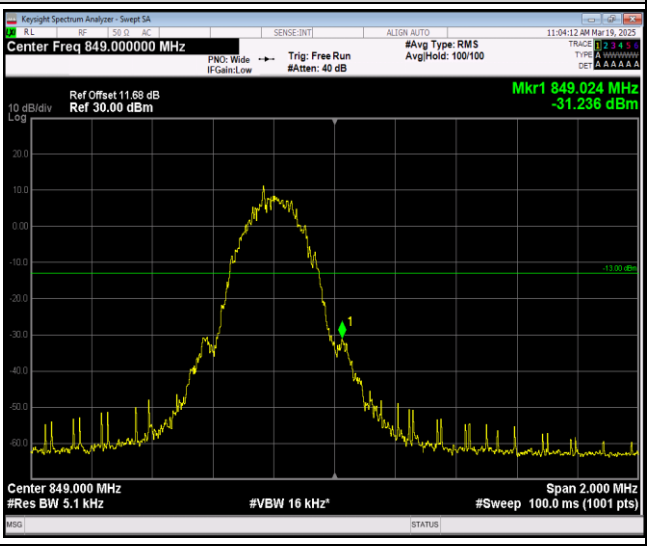
GSM850-251



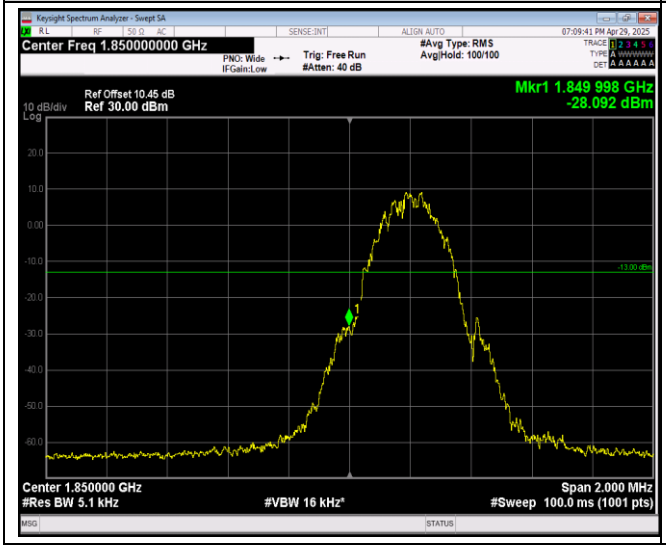
EGPRS850-128



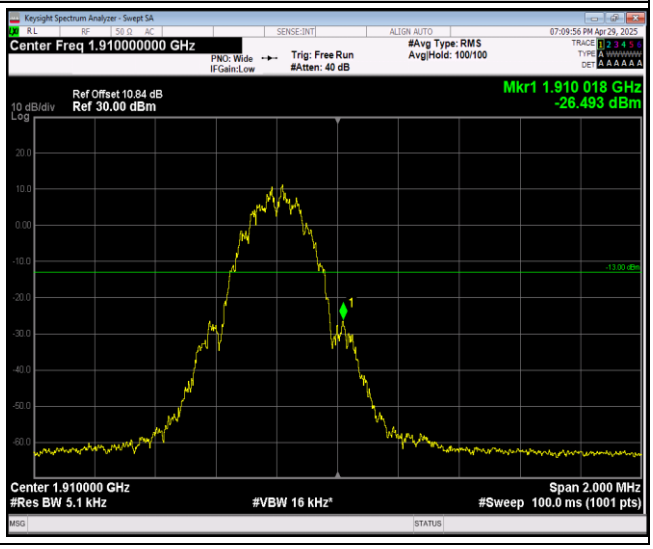
EGPRS850-251

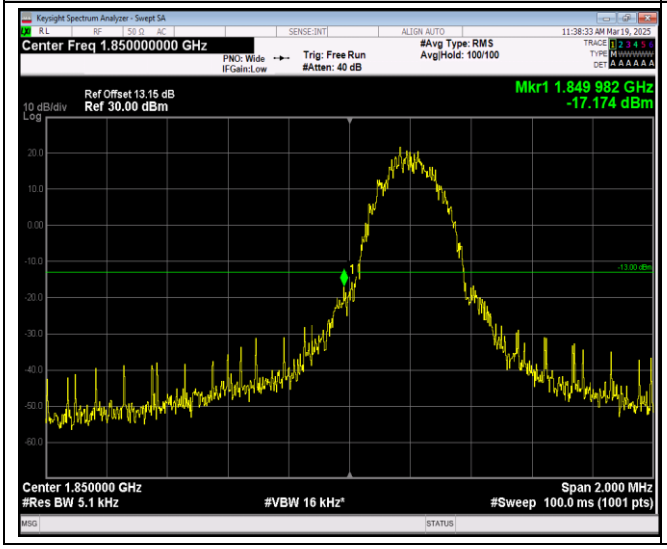
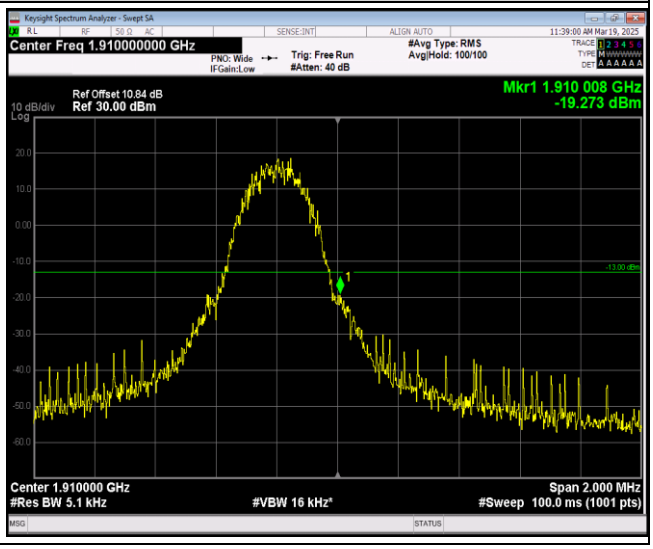


GSM1900-512



GSM1900-810



EGPRS1900-512	EGPRS1900-810
	

Appendix E: Conducted Spurious Emission

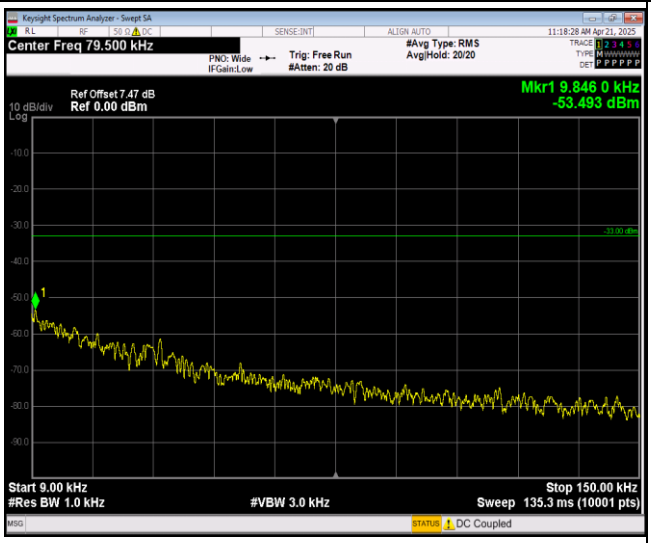
Test Result

Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	5	0.009~0.15MHz	0.01	-53.49	-33	PASS
GSM850	128	5	0.15~30MHz	0.15	-38.31	-13	PASS
GSM850	128	5	30~1000MHz	939.76	-41.79	-13	PASS
GSM850	128	5	1000~10000MHz	5777.2	-33.92	-13	PASS
GSM850	190	5	0.009~0.15MHz	0.01	-52.78	-33	PASS
GSM850	190	5	0.15~30MHz	0.15	-40.48	-13	PASS
GSM850	190	5	30~1000MHz	494.24	-42.52	-13	PASS
GSM850	190	5	1000~10000MHz	6001.3	-33.46	-13	PASS
GSM850	251	5	0.009~0.15MHz	0.01	-53.42	-33	PASS
GSM850	251	5	0.15~30MHz	0.15	-40.51	-13	PASS
GSM850	251	5	30~1000MHz	982.25	-42.2	-13	PASS
GSM850	251	5	1000~10000MHz	6007.6	-33.46	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-54.62	-43	PASS
GSM1900	512	0	0.15~30MHz	0.15	-41.8	-23	PASS
GSM1900	512	0	30~1000MHz	596.45	-46.02	-13	PASS
GSM1900	512	0	1000~18000MHz	16465.47	-22.28	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-54.21	-43	PASS
GSM1900	661	0	0.15~30MHz	0.15	-40.1	-23	PASS
GSM1900	661	0	30~1000MHz	873.9	-45.37	-13	PASS
GSM1900	661	0	1000~18000MHz	16481.33	-21.88	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-54.87	-43	PASS
GSM1900	810	0	0.15~30MHz	0.17	-41.96	-23	PASS
GSM1900	810	0	30~1000MHz	650.77	-45.4	-13	PASS
GSM1900	810	0	1000~18000MHz	17057.07	-22.41	-13	PASS

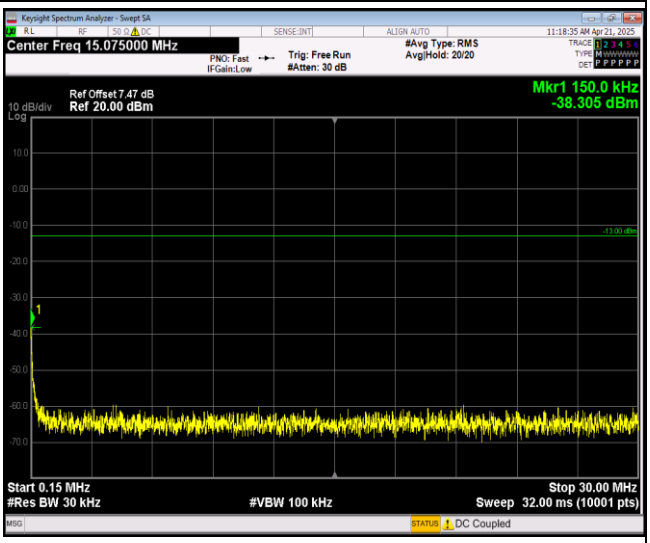
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

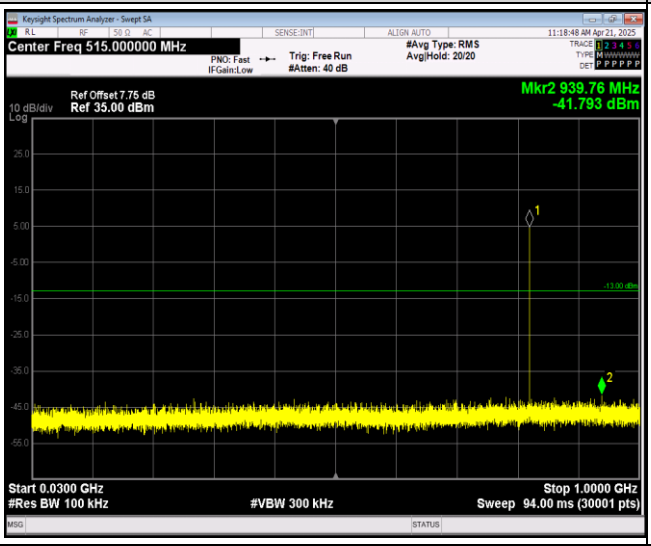
GSM850-128-0.009~0.15MHz



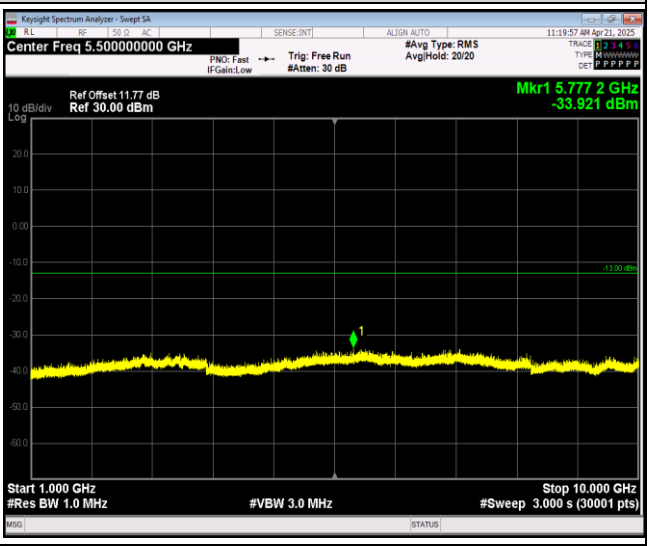
GSM850-128-0.15~30MHz



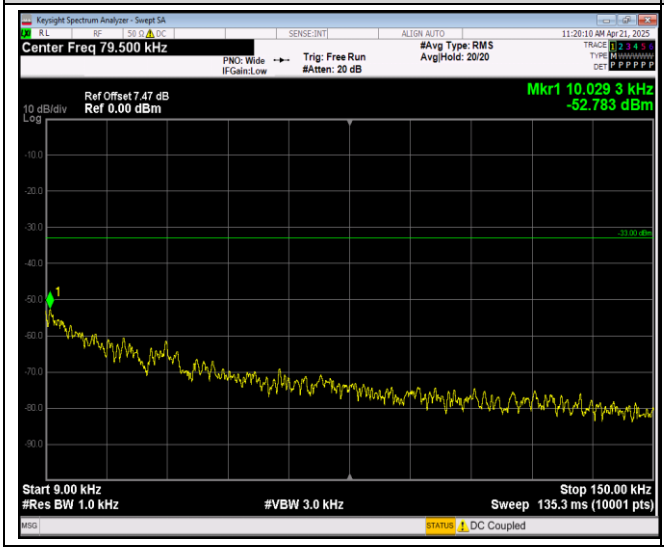
GSM850-128-30~1000MHz



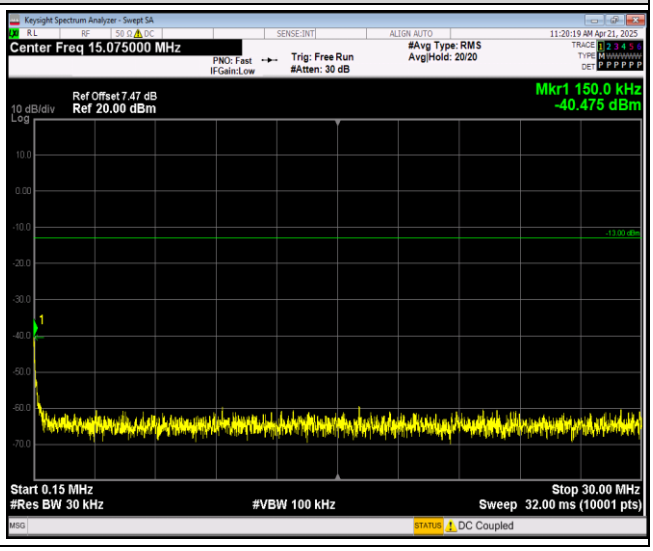
GSM850-128-1000~10000MHz



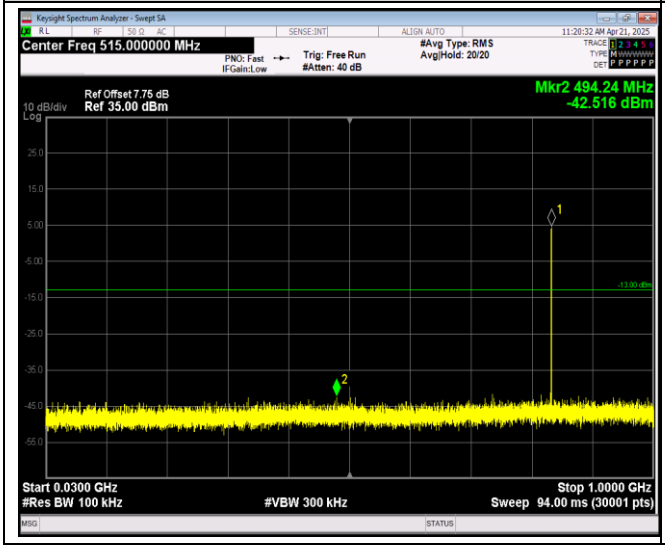
GSM850-190-0.009~0.15MHz



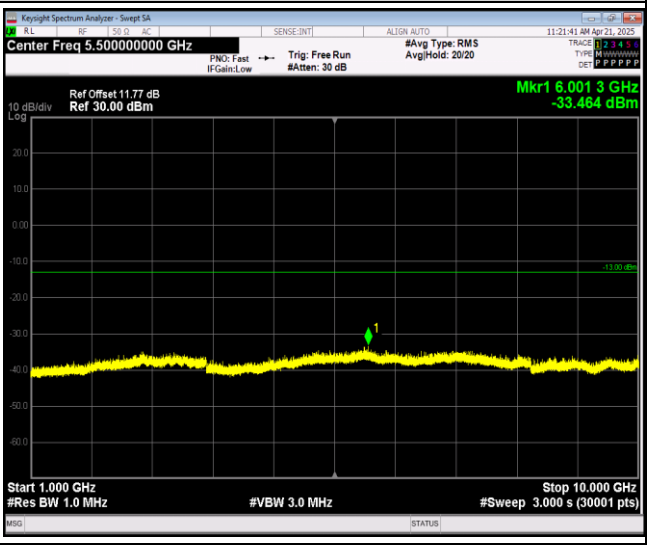
GSM850-190-0.15~30MHz



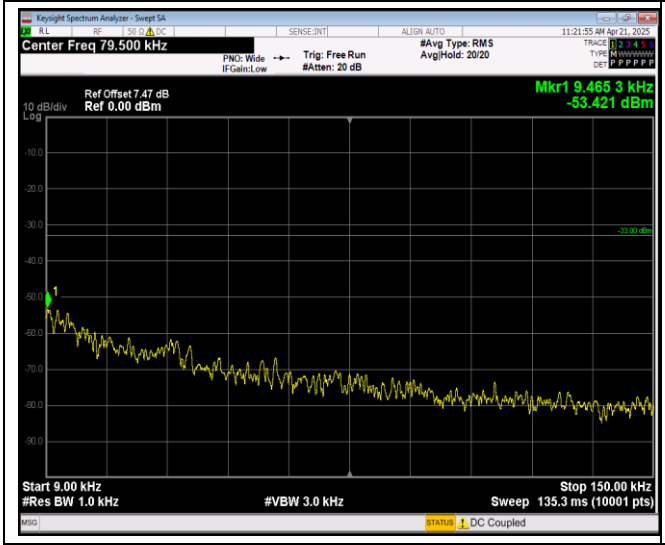
GSM850-190-30~1000MHz



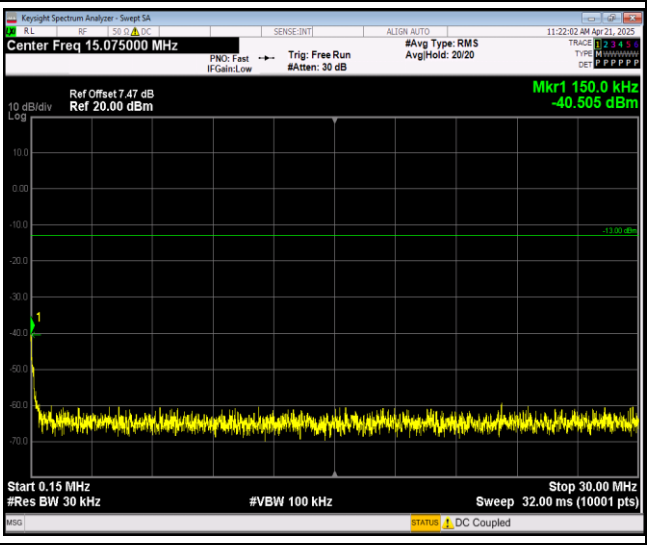
GSM850-190-1000~10000MHz



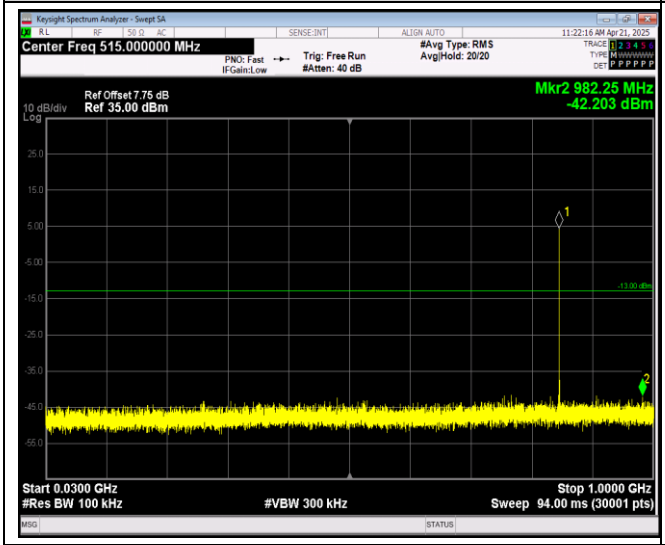
GSM850-251-0.009~0.15MHz



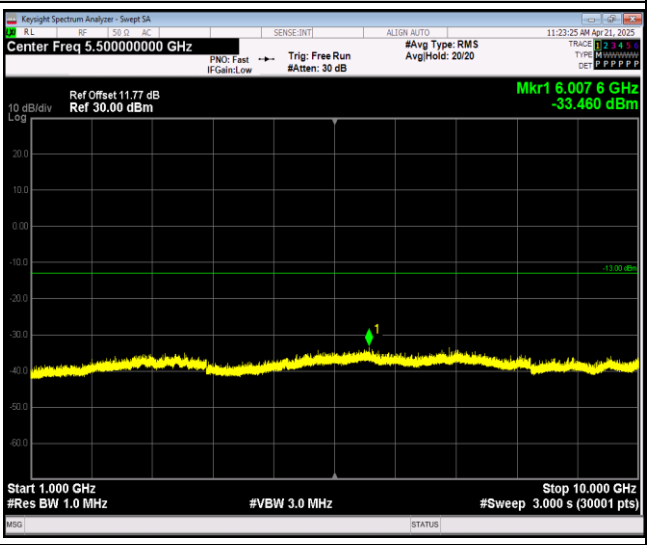
GSM850-251-0.15~30MHz



GSM850-251-30~1000MHz

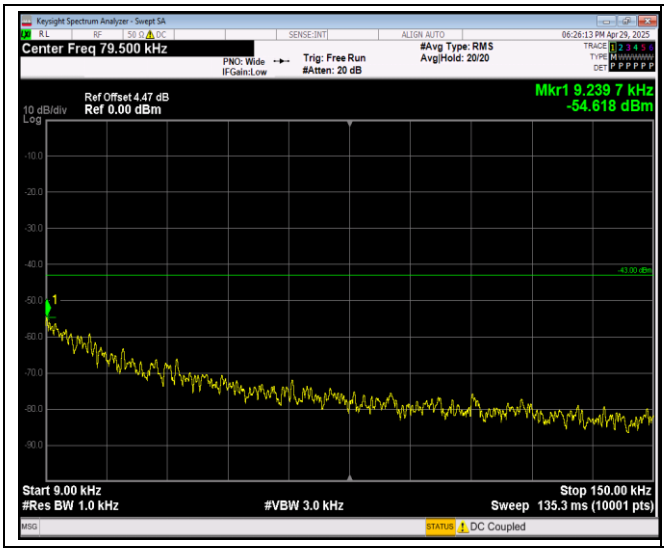


GSM850-251-1000~10000MHz

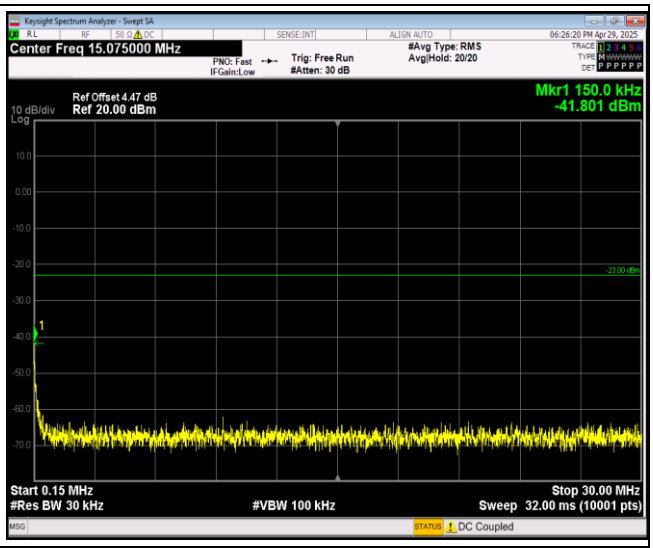


GSM1900-512-0.009~0.15MHz

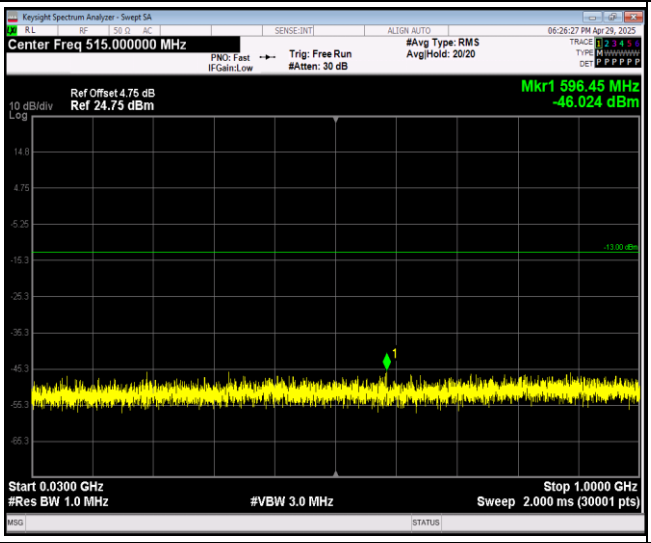
GSM1900-512-0.15~30MHz



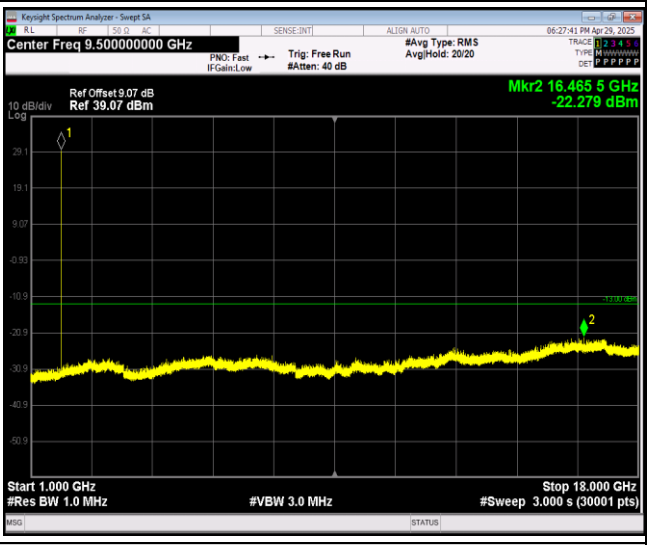
GSM1900-512-30~1000MHz



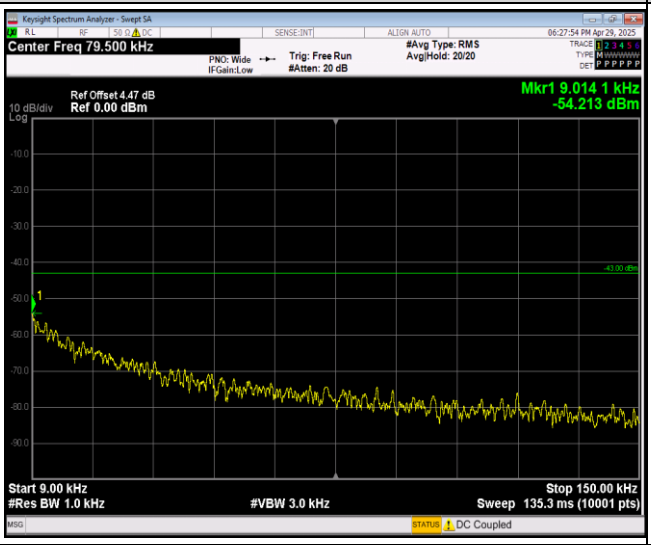
GSM1900-512-1000~18000MHz



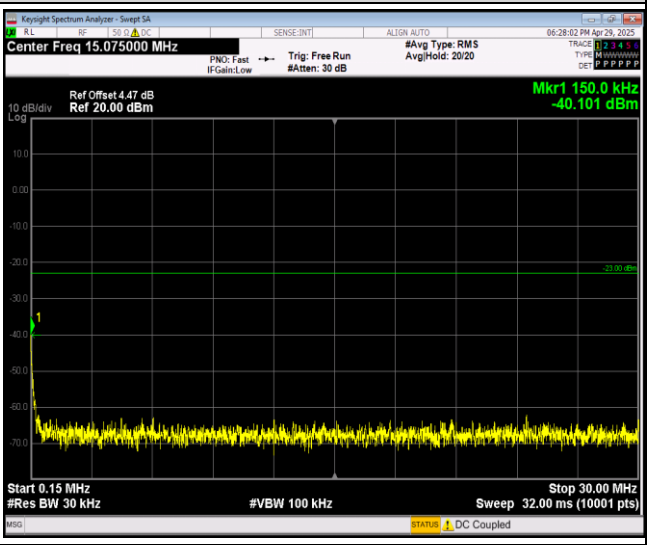
GSM1900-661-0.009~0.15MHz



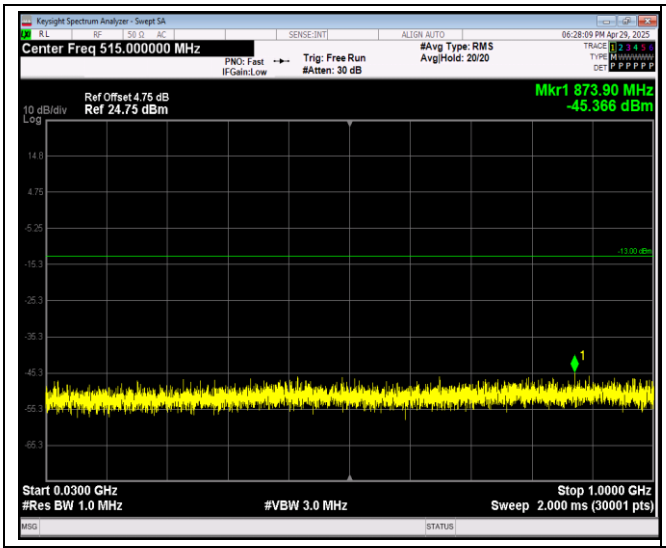
GSM1900-661-0.15~30MHz



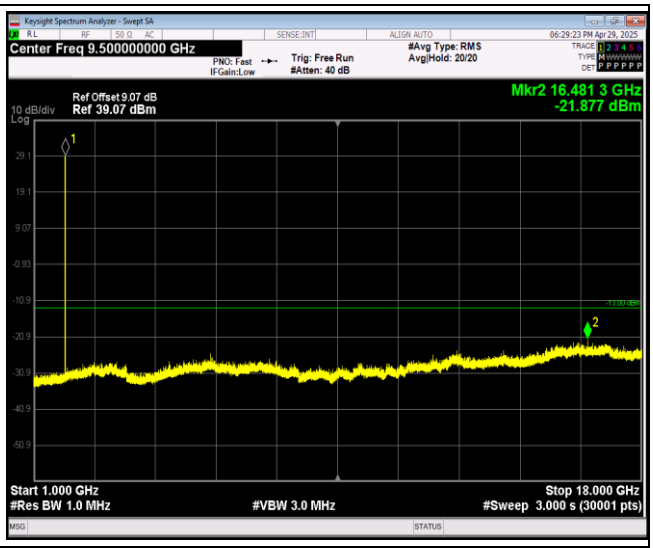
GSM1900-661-30~1000MHz



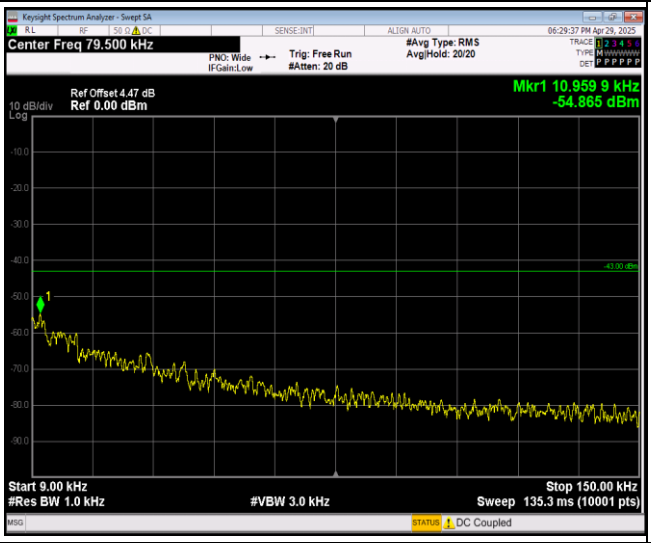
GSM1900-661-1000~18000MHz



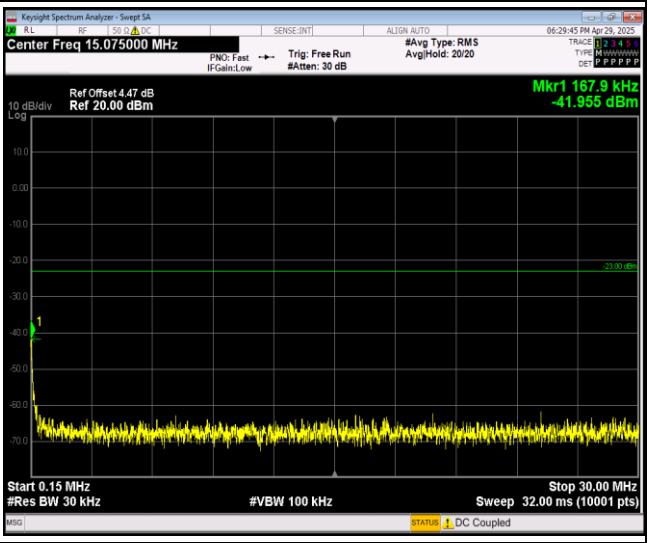
GSM1900-810-0.009~0.15MHz



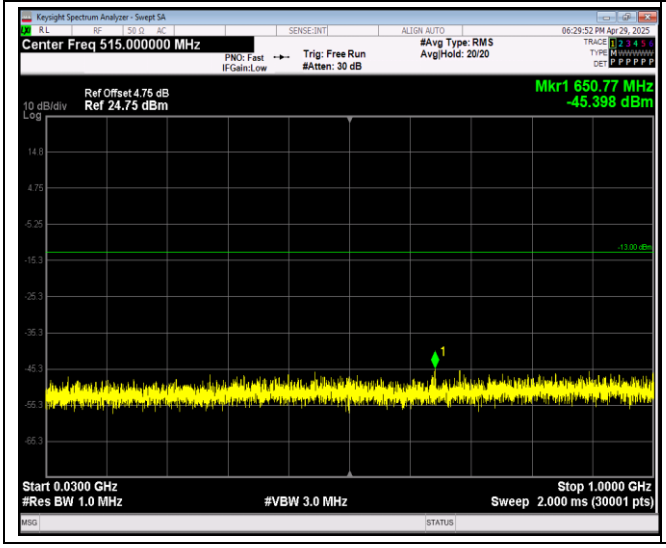
GSM1900-810-0.15~30MHz

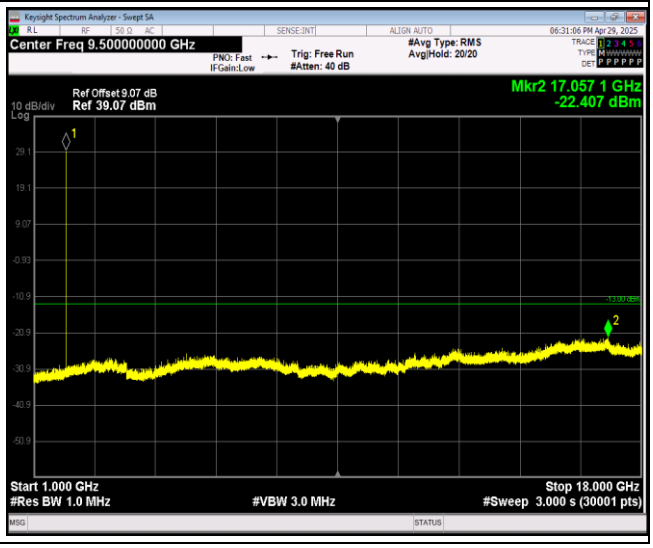


GSM1900-810-30~1000MHz



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	-3.03	-0.003622	±2.5	Pass
	-20	-3.87	-0.004626		
	-10	-12.24	-0.014631		
	0	-16.30	-0.019484		
	10	-0.39	-0.000466		
	20	-13.30	-0.015898		
	30	-7.33	-0.008762		
	40	4.07	0.004865		
	50	1.90	0.002271		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.40	0.10	0.000120	±2.5	Pass
	3.70	-10.59	-0.012658		
	4.20	-10.59	-0.012658		
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	-5.84	-0.006981	±2.5	Pass
	-20	7.30	0.008726		
	-10	-9.30	-0.011116		
	0	0.61	0.000729		
	10	7.17	0.008570		
	20	-0.45	-0.000538		
	30	7.91	0.009455		
	40	0.29	0.000347		
	50	-4.81	-0.005749		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.40	-6.13	-0.007327	±2.5	Pass
	3.70	0.39	0.000466		
	4.20	-6.07	-0.007256		
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	0.13	0.000069	Within authorized band for PCS 1900	Pass
	-20	7.62	0.004053		
	-10	-5.55	-0.002952		
	0	-15.98	-0.008500		
	10	2.39	0.001271		
	20	-35.09	-0.018665		
	30	-10.01	-0.005324		
	40	-14.11	-0.007505		
	50	-25.96	-0.013809		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.40	-7.14	-0.003798	Within authorized band for PCS 1900	Pass
	3.70	4.78	0.002543		
	4.20	-26.70	-0.014202		
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	-45.14	-0.024011	Within authorized band for PCS 1900	Pass
	-20	-1.19	-0.000633		
	-10	18.21	0.009686		
	0	-13.59	-0.007229		
	10	-1.42	-0.000755		
	20	-35.06	-0.018649		
	30	13.95	0.007420		
	40	19.60	0.010426		
	50	-11.53	-0.006133		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.40	-25.41	-0.013516	Within authorized band for PCS 1900	Pass
	3.70	-23.76	-0.012638		
	4.20	4.13	0.002197		
Remark: All channel had been tested, but only the worst case data displayed in this report.					

Appendix G: Modulation Characteristics

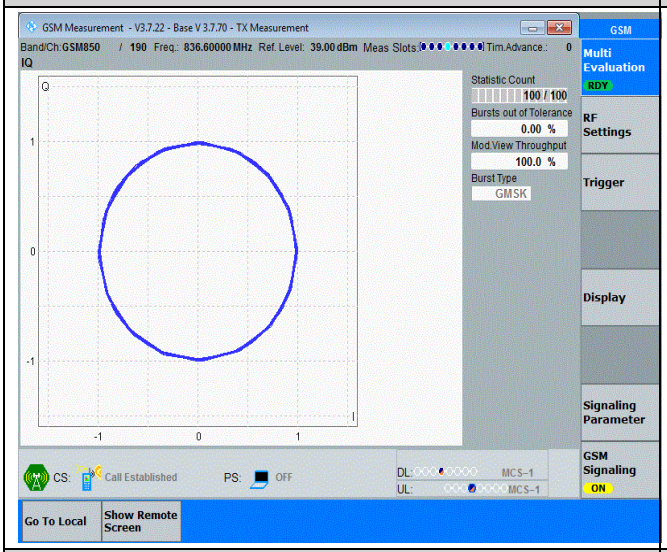
Test Result

Band	Channel	Result	Verdict
GSM850	190	PASS	PASS
EGPRS850	190	PASS	PASS
GSM1900	661	PASS	PASS
EGPRS1900	661	PASS	PASS

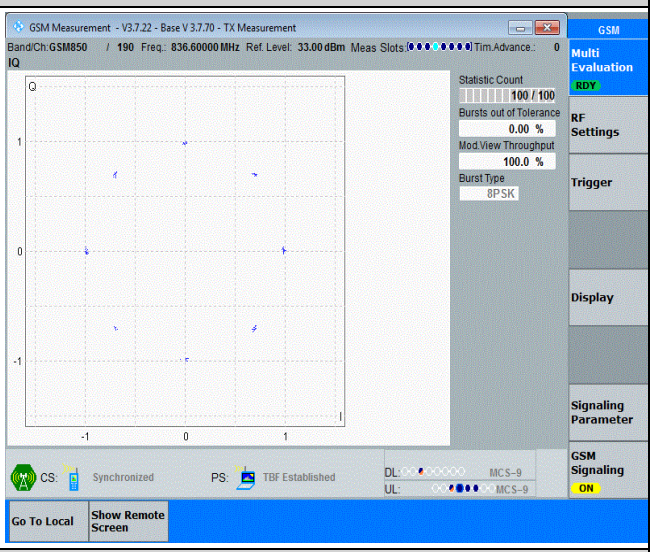
Remark: All channel had been tested, but only the worst case data displayed in this report.

Test Graphs

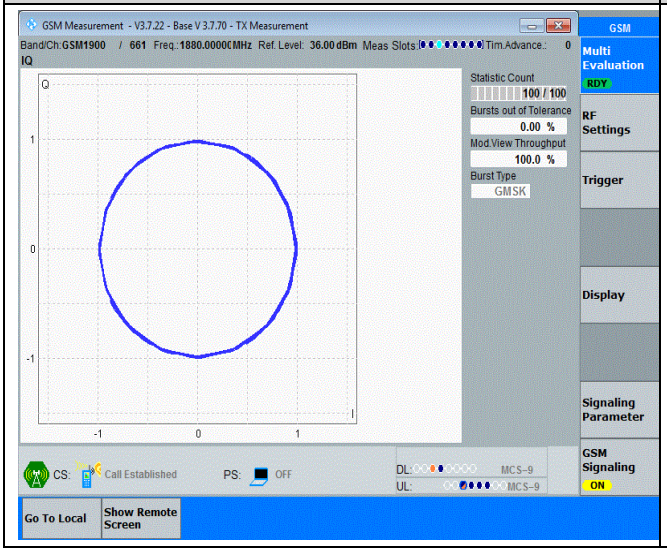
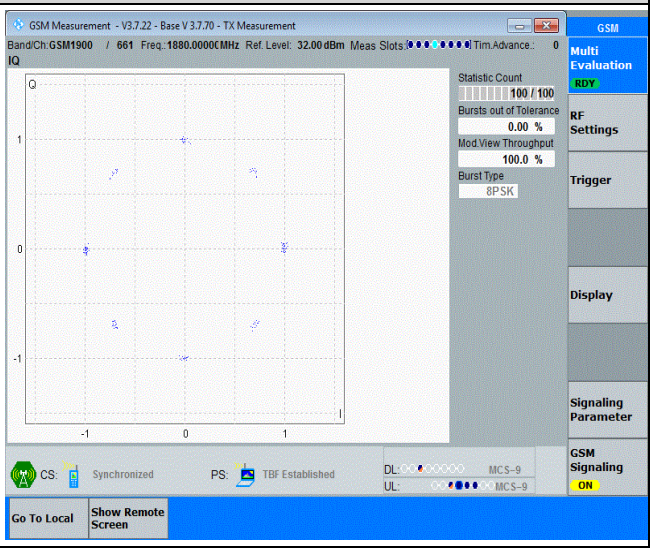
GSM850-190



EGPRS850-190



GSM1900-661



EGPRS1900-661