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	26.29	38.45	PASS
GSM850	190	5	33.44	26.46	38.45	PASS
GSM850	251	5	33.27	26.29	38.45	PASS
GSM1900	512	0	29.45	28	33.00	PASS
GSM1900	661	0	29.71	28.26	33.00	PASS
GSM1900	810	0	29.55	28.1	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GPRS850	128	5	1	33.35	26.37	38.45	PASS
GPRS850	128	5	2	32.61	25.63	38.45	PASS
GPRS850	128	5	3	30.88	23.9	38.45	PASS
GPRS850	128	5	4	29.79	22.81	38.45	PASS
GPRS850	190	5	1	33.50	26.52	38.45	PASS
GPRS850	190	5	2	32.77	25.79	38.45	PASS
GPRS850	190	5	3	31.04	24.06	38.45	PASS
GPRS850	190	5	4	29.95	22.97	38.45	PASS
GPRS850	251	5	1	33.31	26.33	38.45	PASS
GPRS850	251	5	2	32.61	25.63	38.45	PASS
GPRS850	251	5	3	30.87	23.89	38.45	PASS
GPRS850	251	5	4	29.79	22.81	38.45	PASS
GPRS1900	512	0	1	29.40	27.95	33.00	PASS
GPRS1900	512	0	2	28.61	27.16	33.00	PASS
GPRS1900	512	0	3	26.66	25.21	33.00	PASS
GPRS1900	512	0	4	25.60	24.15	33.00	PASS
GPRS1900	661	0	1	29.61	28.16	33.00	PASS
GPRS1900	661	0	2	28.86	27.41	33.00	PASS
GPRS1900	661	0	3	27.03	25.58	33.00	PASS
GPRS1900	661	0	4	25.93	24.48	33.00	PASS
GPRS1900	810	0	1	29.47	28.02	33.00	PASS
GPRS1900	810	0	2	28.76	27.31	33.00	PASS
GPRS1900	810	0	3	27.05	25.6	33.00	PASS
GPRS1900	810	0	4	25.94	24.49	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
EGPRS850	128	8	1	27.70	20.72	38.45	PASS
EGPRS850	128	8	2	26.59	19.61	38.45	PASS
EGPRS850	128	8	3	24.45	17.47	38.45	PASS
EGPRS850	128	8	4	23.15	16.17	38.45	PASS
EGPRS850	190	8	1	27.66	20.68	38.45	PASS
EGPRS850	190	8	2	26.51	19.53	38.45	PASS
EGPRS850	190	8	3	24.43	17.45	38.45	PASS
EGPRS850	190	8	4	23.11	16.13	38.45	PASS
EGPRS850	251	8	1	27.80	20.82	38.45	PASS
EGPRS850	251	8	2	26.62	19.64	38.45	PASS
EGPRS850	251	8	3	24.42	17.44	38.45	PASS
EGPRS850	251	8	4	23.23	16.25	38.45	PASS
EGPRS1900	512	2	1	25.74	24.29	33.00	PASS
EGPRS1900	512	2	2	24.47	23.02	33.00	PASS
EGPRS1900	512	2	3	22.09	20.64	33.00	PASS
EGPRS1900	512	2	4	20.69	19.24	33.00	PASS
EGPRS1900	661	2	1	25.49	24.04	33.00	PASS
EGPRS1900	661	2	2	24.24	22.79	33.00	PASS
EGPRS1900	661	2	3	21.88	20.43	33.00	PASS
EGPRS1900	661	2	4	20.44	18.99	33.00	PASS
EGPRS1900	810	2	1	24.87	23.42	33.00	PASS
EGPRS1900	810	2	2	23.60	22.15	33.00	PASS
EGPRS1900	810	2	3	21.24	19.79	33.00	PASS
EGPRS1900	810	2	4	19.83	18.38	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)

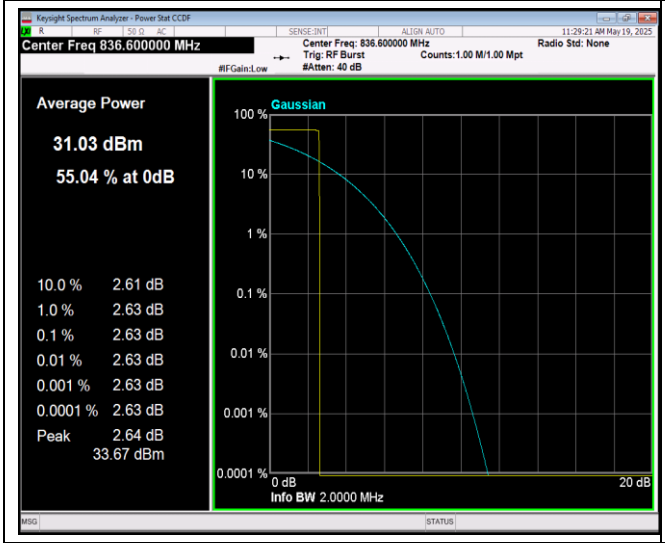
Test Result

Band	Channel	PCL	Result(dB)	Limit(dB)	Verdict
GSM850	190	5	2.63	13	PASS
EGPRS850	190	8	5.57	13	PASS
GSM1900	661	0	2.64	13	PASS
EGPRS1900	661	2	6.21	13	PASS

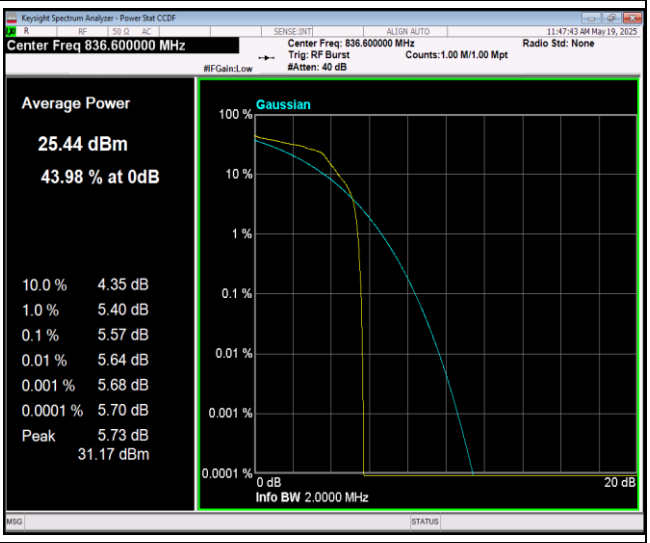
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

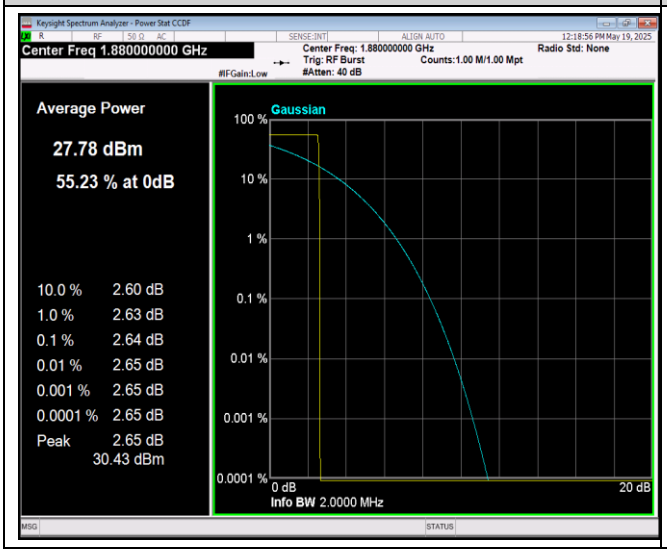
GSM850-190



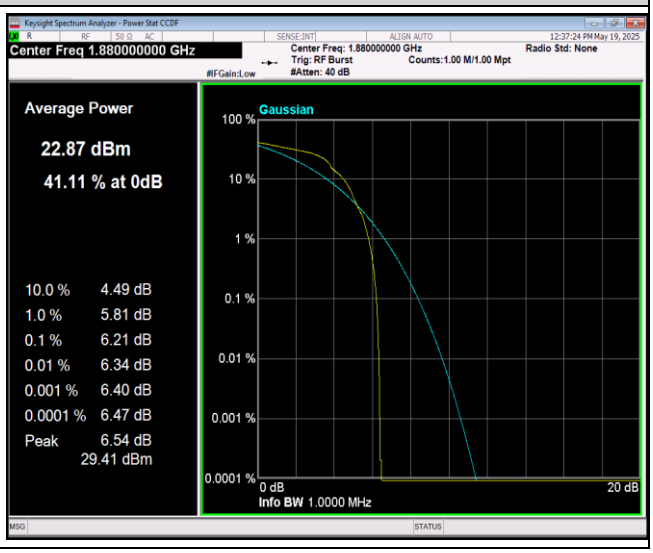
EGPRS850-190



GSM1900-661



EGPRS1900-661



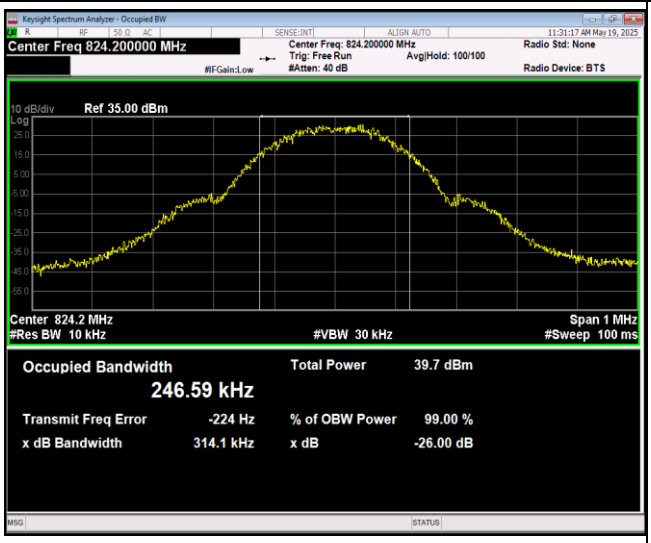
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

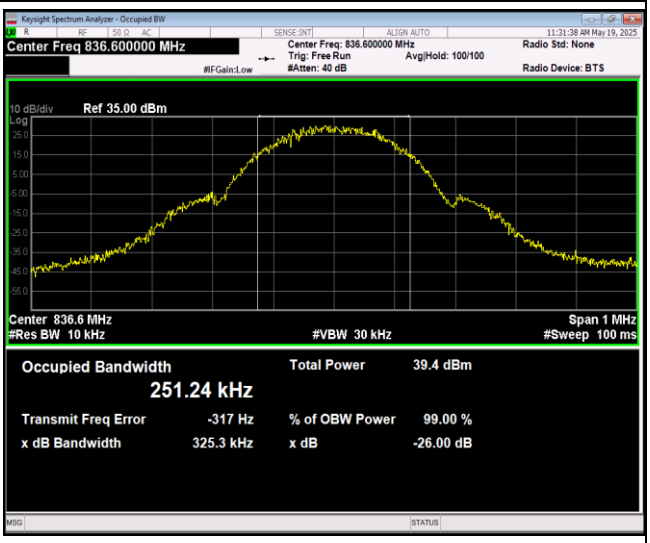
Band	Channel	PCL	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	5	0.24659	0.3141	---	PASS
GSM850	190	5	0.25124	0.3253	---	PASS
GSM850	251	5	0.24809	0.3173	---	PASS
EGPRS850	128	8	0.25087	0.3169	---	PASS
EGPRS850	190	8	0.24743	0.3095	---	PASS
EGPRS850	251	8	0.24553	0.3168	---	PASS
GSM1900	512	0	0.24662	0.3168	---	PASS
GSM1900	661	0	0.24498	0.3154	---	PASS
GSM1900	810	0	0.24686	0.3125	---	PASS
EGPRS1900	512	2	0.24558	0.3145	---	PASS
EGPRS1900	661	2	0.24861	0.3116	---	PASS
EGPRS1900	810	2	0.24961	0.3174	---	PASS

Test Graphs

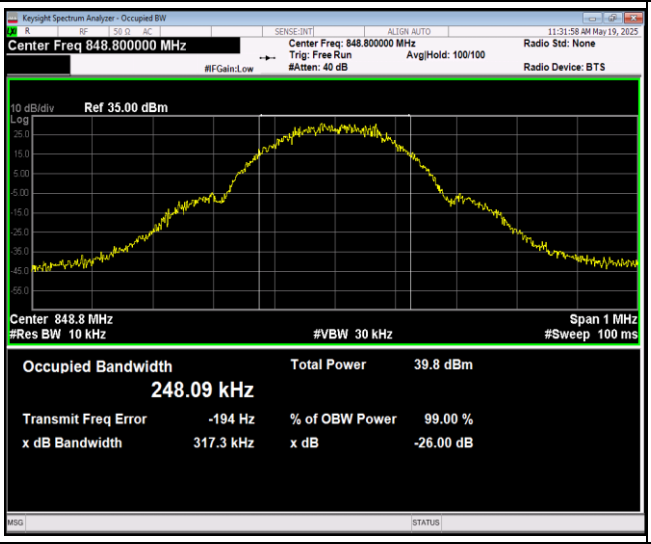
GSM850-128



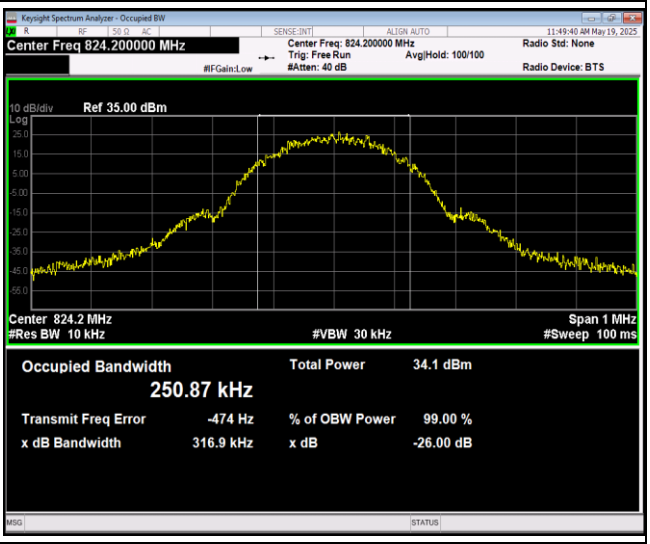
GSM850-190



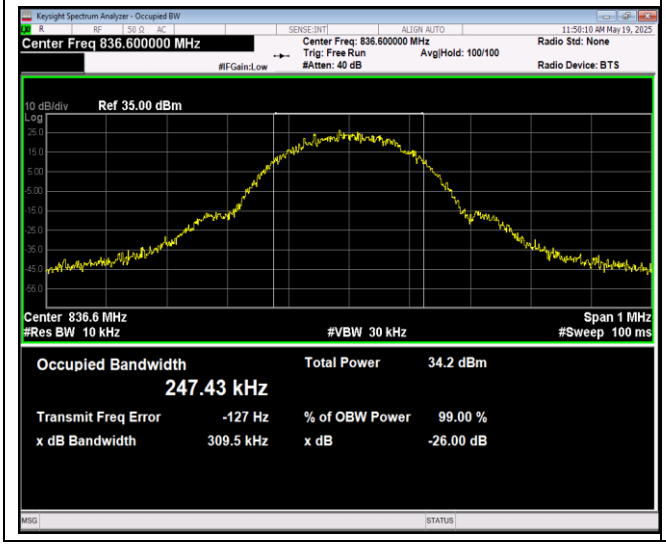
GSM850-251



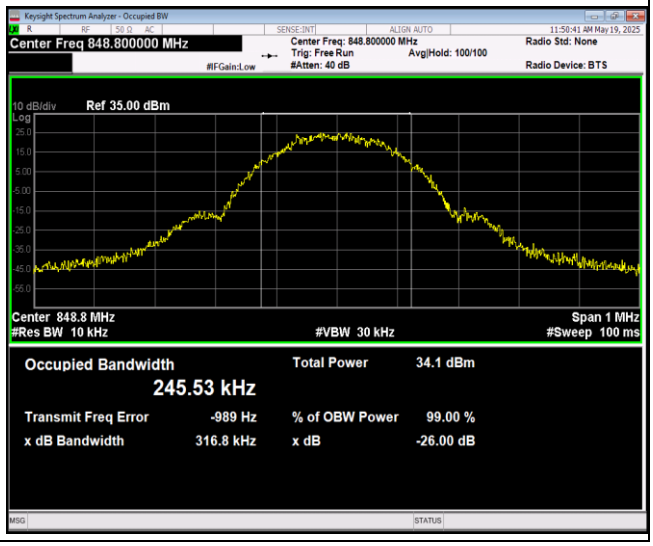
EGPRS850-128



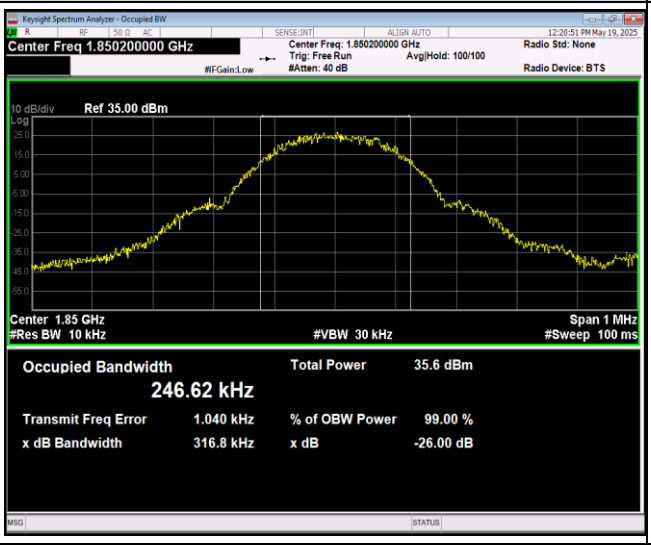
EGPRS850-190



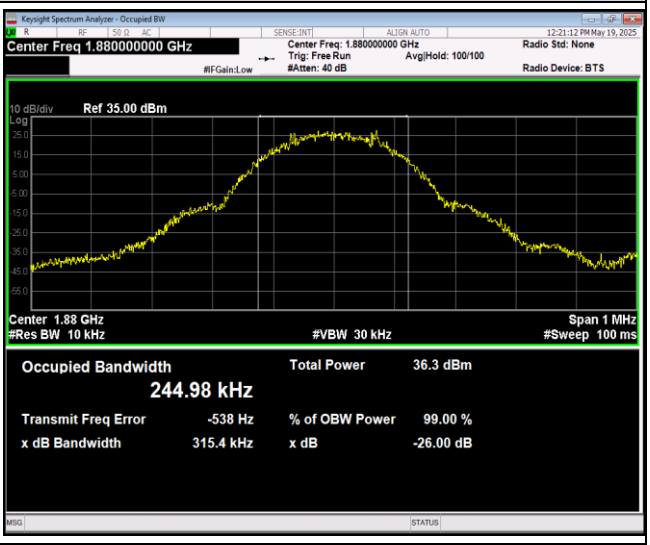
EGPRS850-251



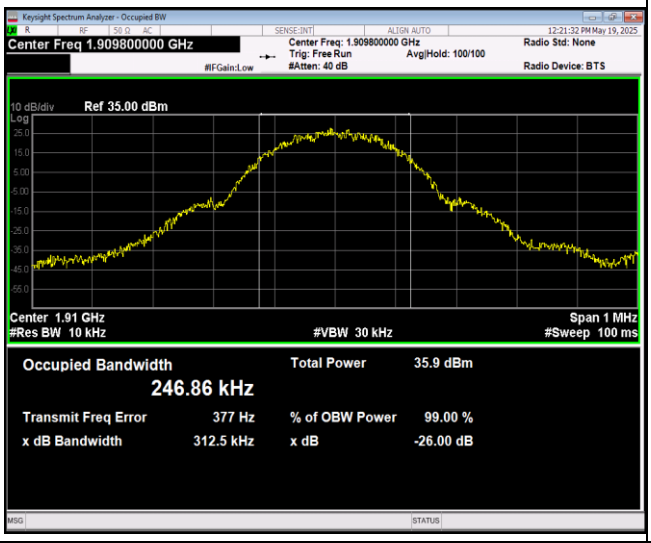
GSM1900-512



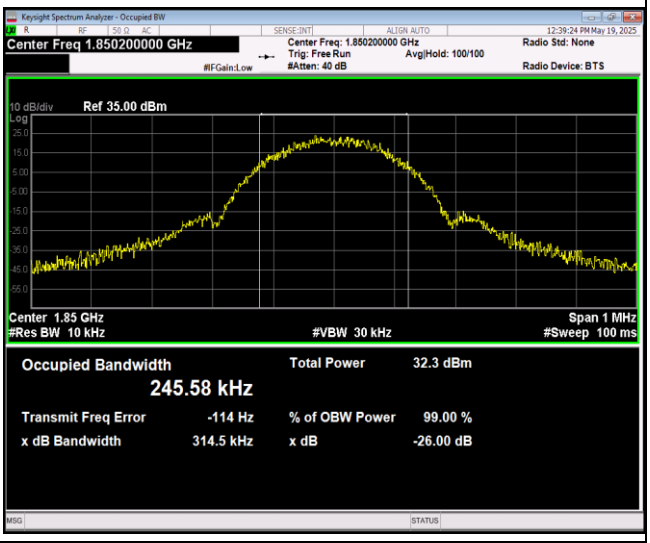
GSM1900-661



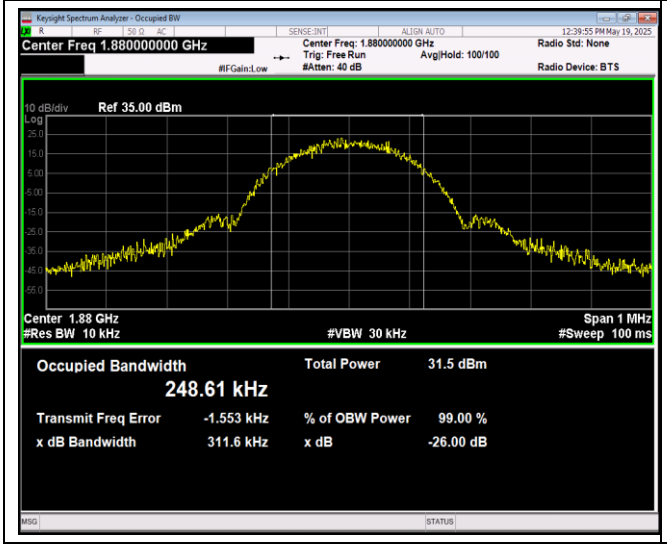
GSM1900-810



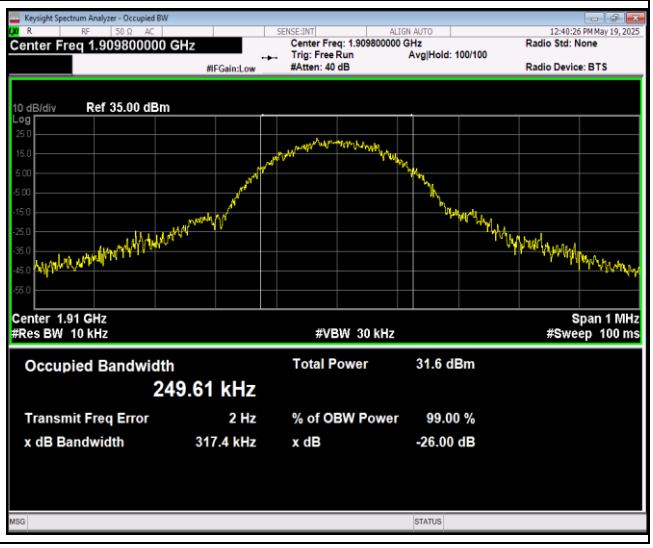
EGPRS1900-512



EGPRS1900-661



EGPRS1900-810



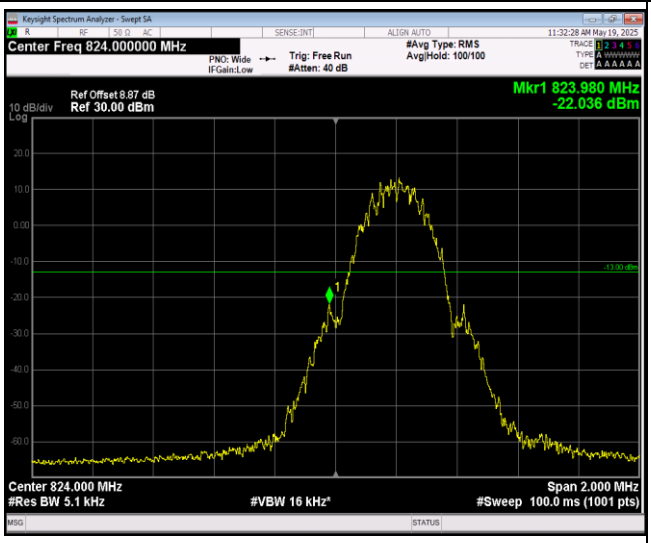
Appendix D: Band Edge

Test Result

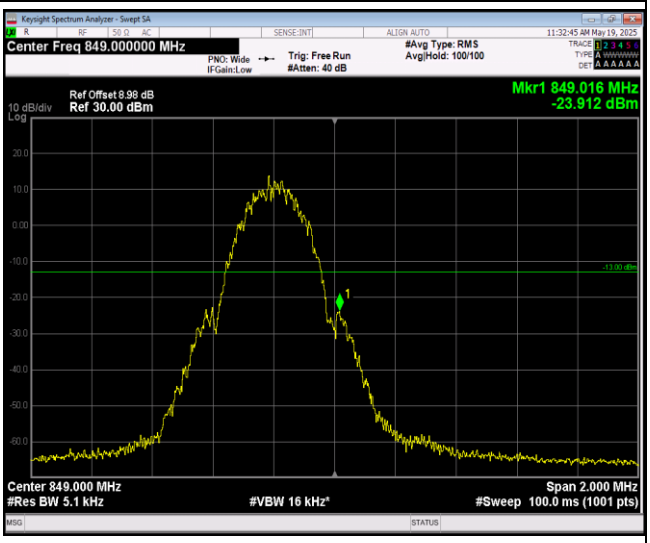
Band	Channel	PCL	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	5	823.98	-22.04	-13	PASS
GSM850	251	5	849.02	-23.91	-13	PASS
EGPRS850	128	8	823.97	-33.80	-13	PASS
EGPRS850	251	8	849.01	-33.61	-13	PASS
GSM1900	512	0	1849.98	-15.31	-13	PASS
GSM1900	810	0	1910.02	-13.29	-13	PASS
EGPRS1900	512	2	1849.96	-23.36	-13	PASS
EGPRS1900	810	2	1910.01	-20.90	-13	PASS

Test Graphs

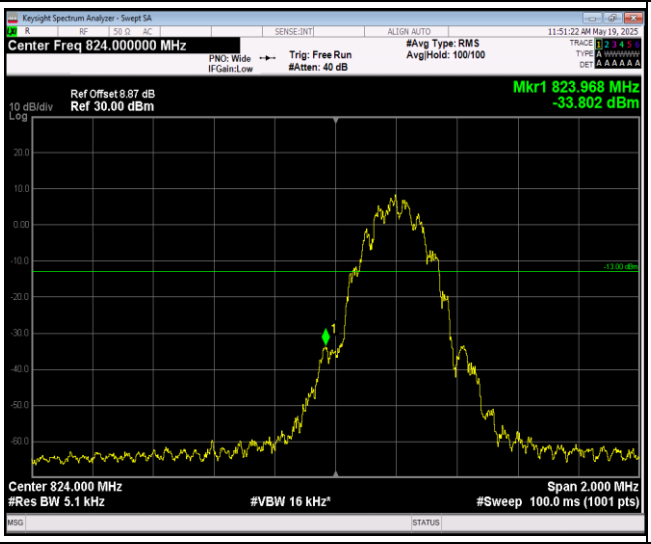
GSM850-128



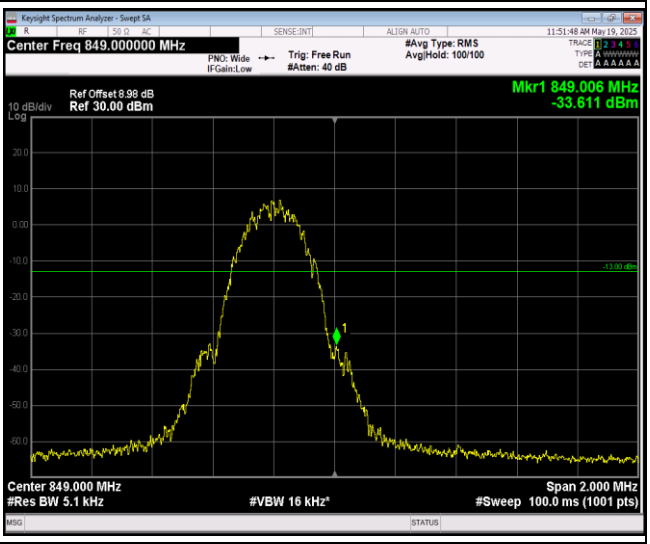
GSM850-251



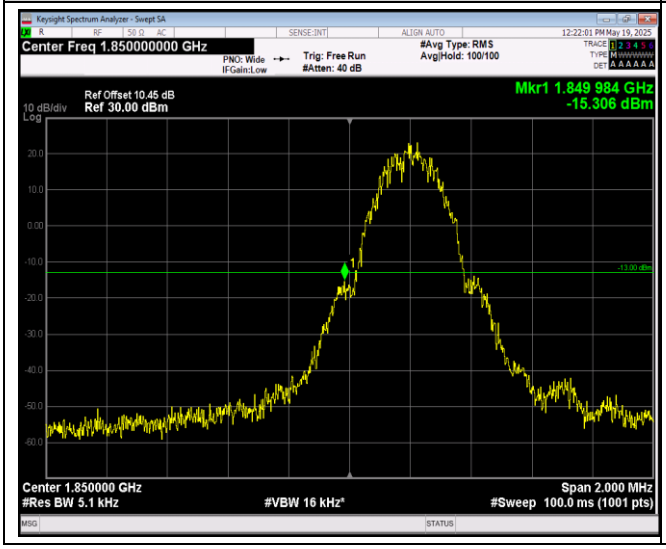
EGPRS850-128



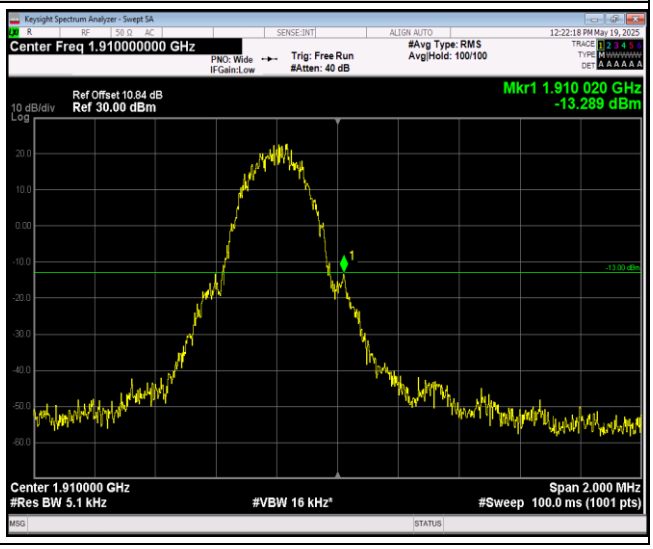
EGPRS850-251

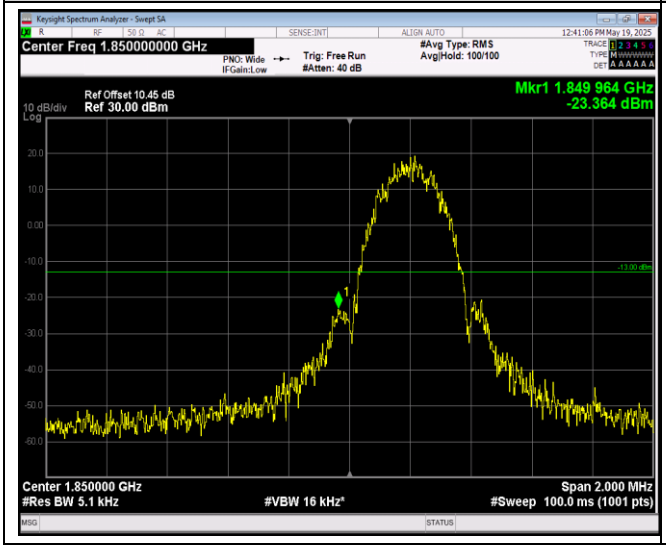
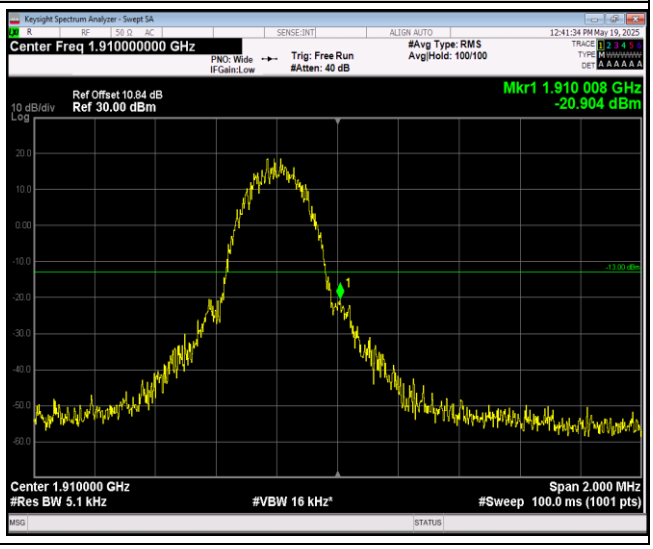


GSM1900-512



GSM1900-810



EGPRS1900-512	EGPRS1900-810
	

Appendix E: Conducted Spurious Emission

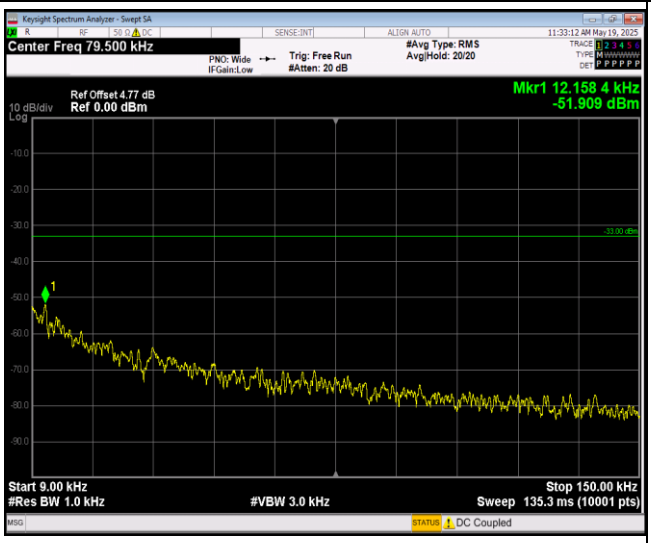
Test Result

Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	5	0.009~0.15MHz	0.01	-51.91	-33	PASS
GSM850	128	5	0.15~30MHz	0.15	-41.06	-13	PASS
GSM850	128	5	30~1000MHz	926.64	-44.91	-13	PASS
GSM850	128	5	1000~10000MHz	1648.6	-28.79	-13	PASS
GSM850	190	5	0.009~0.15MHz	0.01	-53.49	-33	PASS
GSM850	190	5	0.15~30MHz	0.16	-42.98	-13	PASS
GSM850	190	5	30~1000MHz	622.57	-44.94	-13	PASS
GSM850	190	5	1000~10000MHz	1673.2	-29.92	-13	PASS
GSM850	251	5	0.009~0.15MHz	0.01	-50.88	-33	PASS
GSM850	251	5	0.15~30MHz	0.15	-43.11	-13	PASS
GSM850	251	5	30~1000MHz	683.52	-43.92	-13	PASS
GSM850	251	5	1000~10000MHz	2546.5	-29.71	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-54.22	-43	PASS
GSM1900	512	0	0.15~30MHz	0.15	-39.28	-23	PASS
GSM1900	512	0	30~1000MHz	891.23	-45.54	-13	PASS
GSM1900	512	0	1000~18000MHz	17024.2	-22	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-55.07	-43	PASS
GSM1900	661	0	0.15~30MHz	0.15	-42.11	-23	PASS
GSM1900	661	0	30~1000MHz	911.63	-45.07	-13	PASS
GSM1900	661	0	1000~18000MHz	17006.07	-22.56	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-54.04	-43	PASS
GSM1900	810	0	0.15~30MHz	0.15	-42.14	-23	PASS
GSM1900	810	0	30~1000MHz	765.65	-45.38	-13	PASS
GSM1900	810	0	1000~18000MHz	16987.37	-21.74	-13	PASS

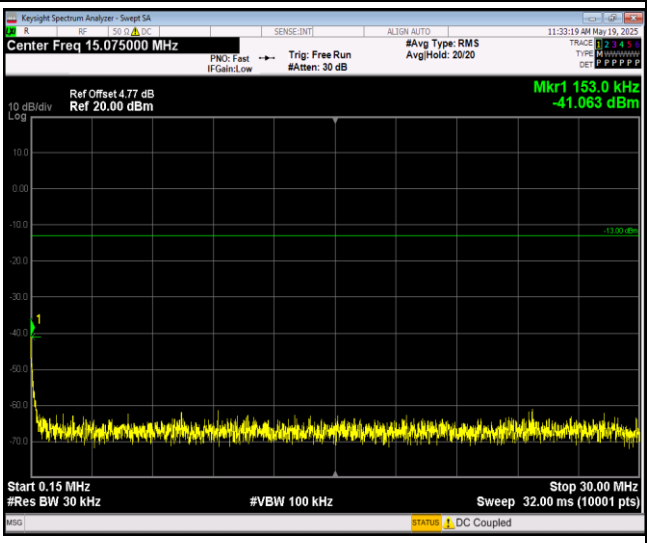
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

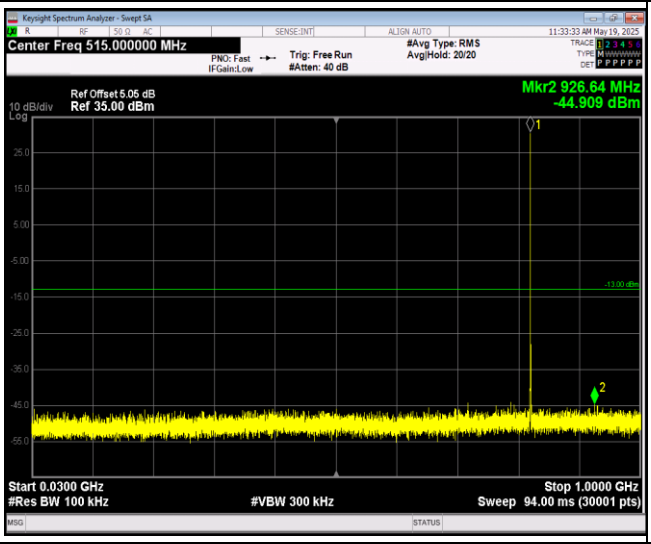
GSM850-128-0.009~0.15MHz



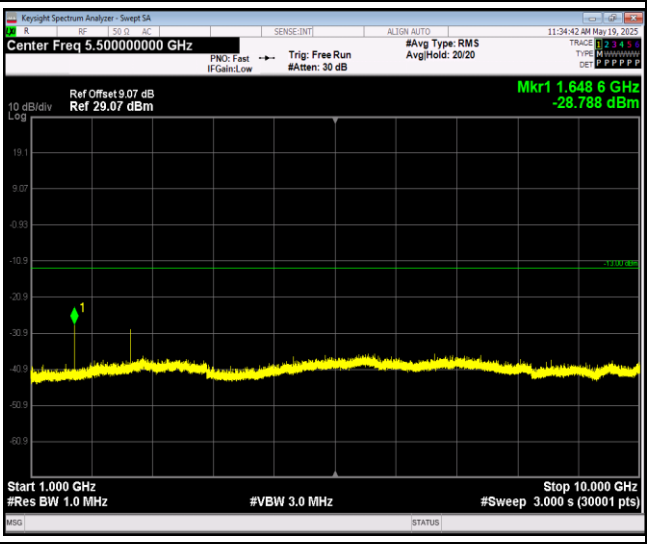
GSM850-128-0.15~30MHz



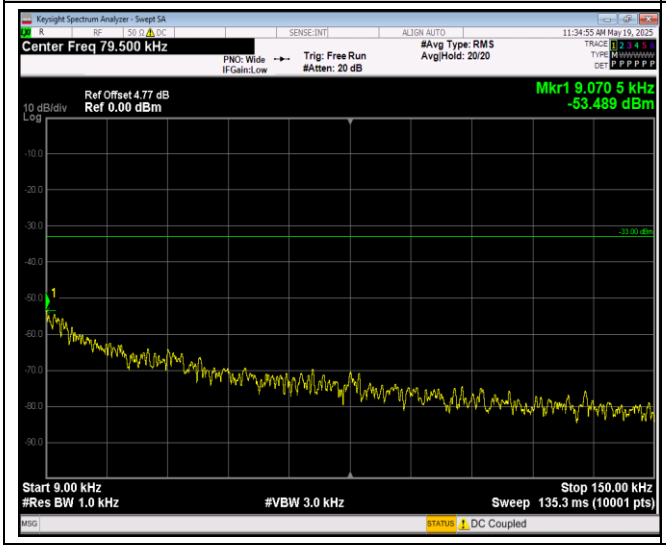
GSM850-128-30~1000MHz



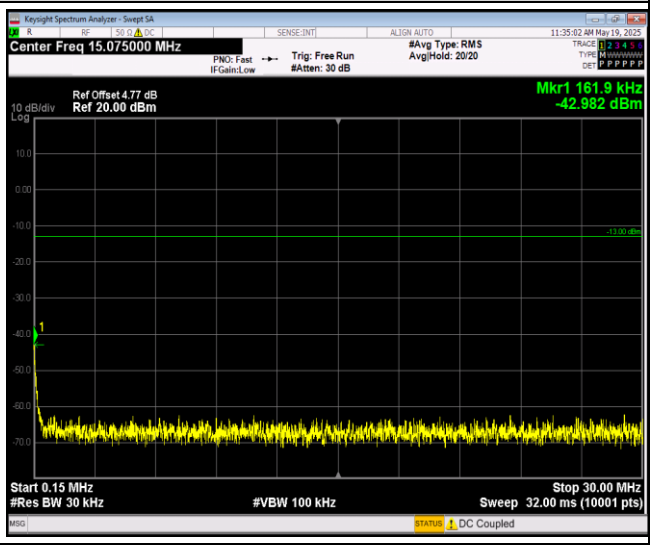
GSM850-128-1000~10000MHz



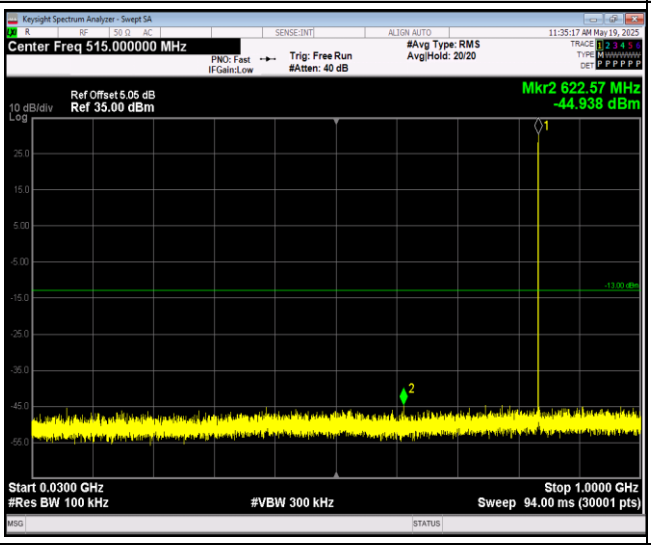
GSM850-190-0.009~0.15MHz



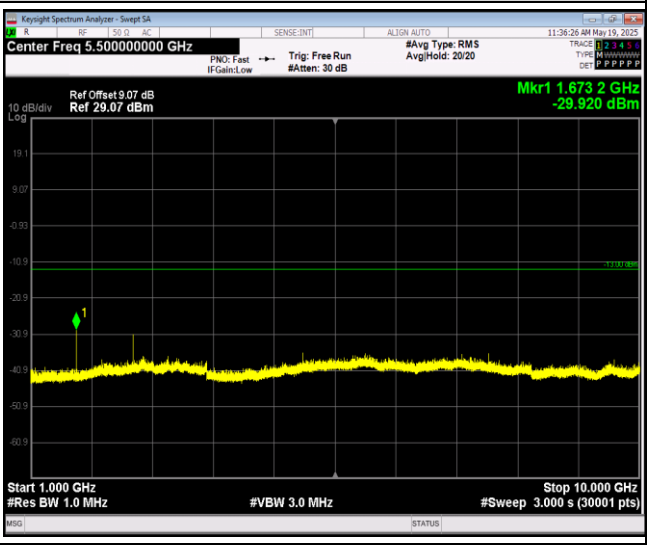
GSM850-190-0.15~30MHz



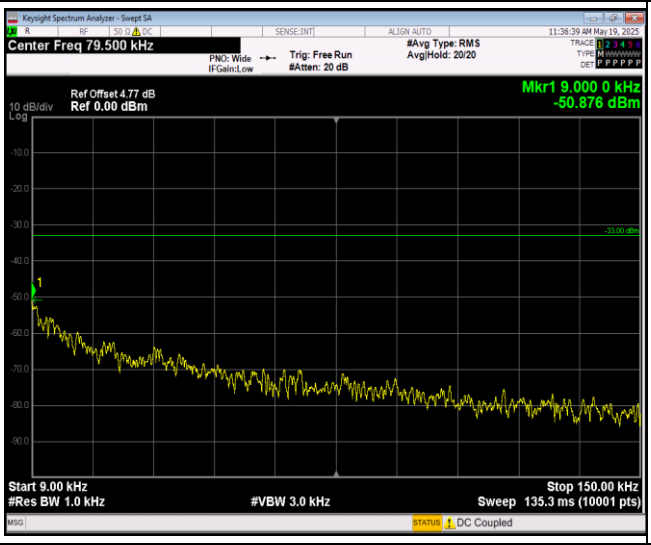
GSM850-190-30~1000MHz



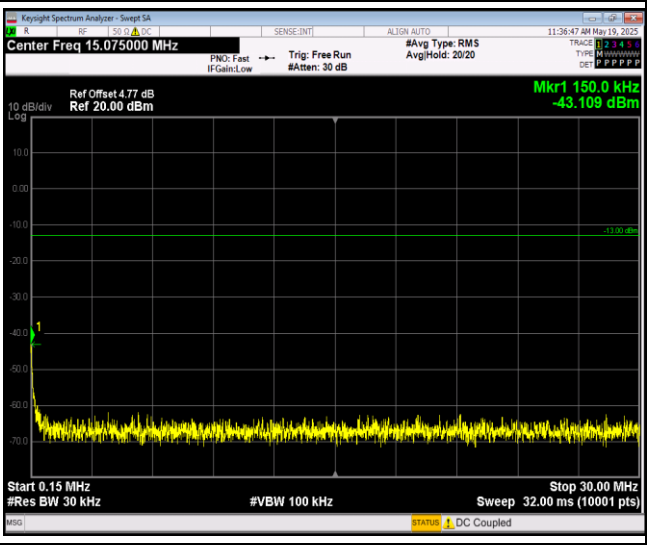
GSM850-190-1000~10000MHz



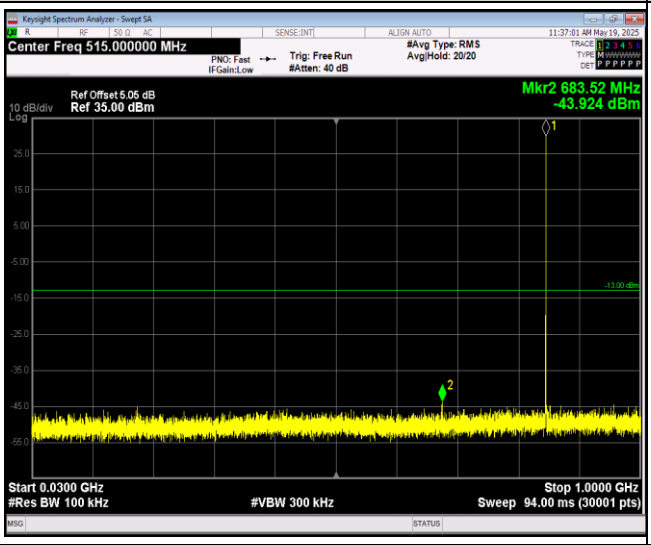
GSM850-251-0.009~0.15MHz



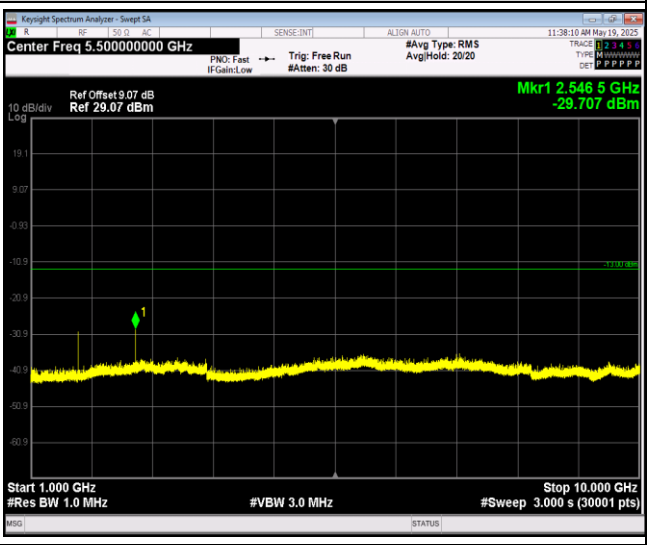
GSM850-251-0.15~30MHz



GSM850-251-30~1000MHz

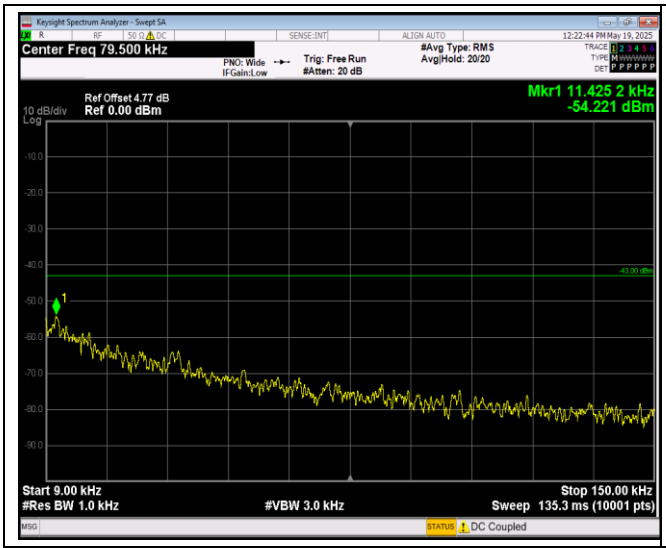


GSM850-251-1000~10000MHz

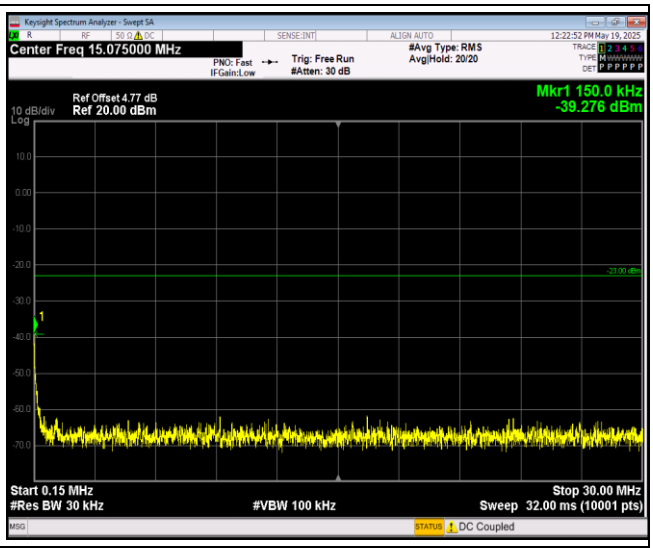


GSM1900-512-0.009~0.15MHz

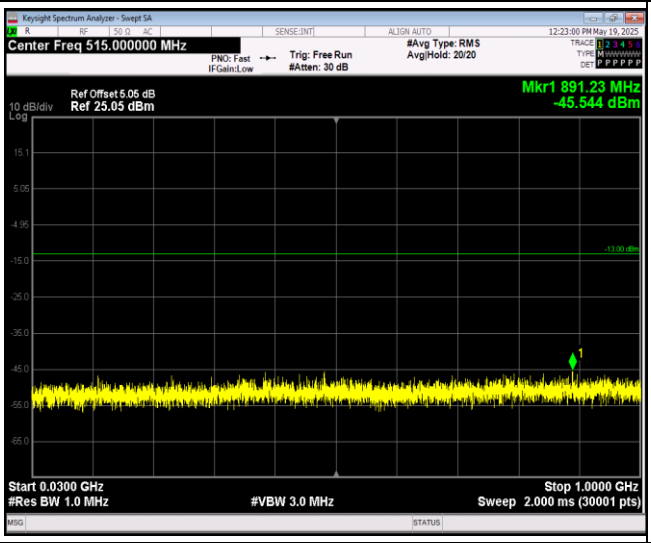
GSM1900-512-0.15~30MHz



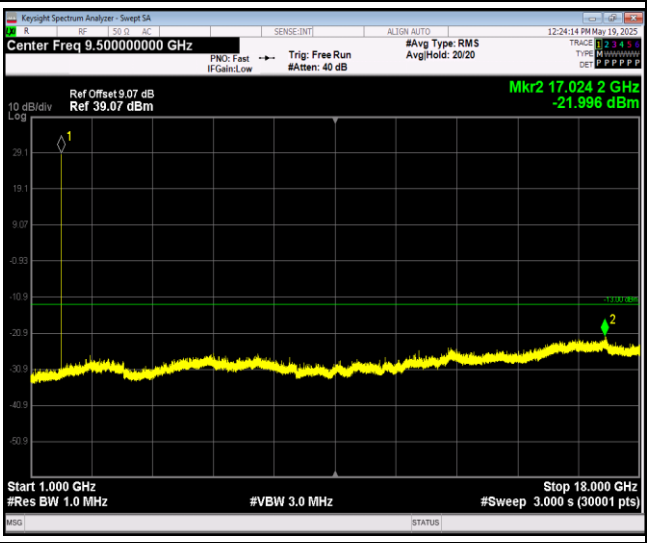
GSM1900-512-30~1000MHz



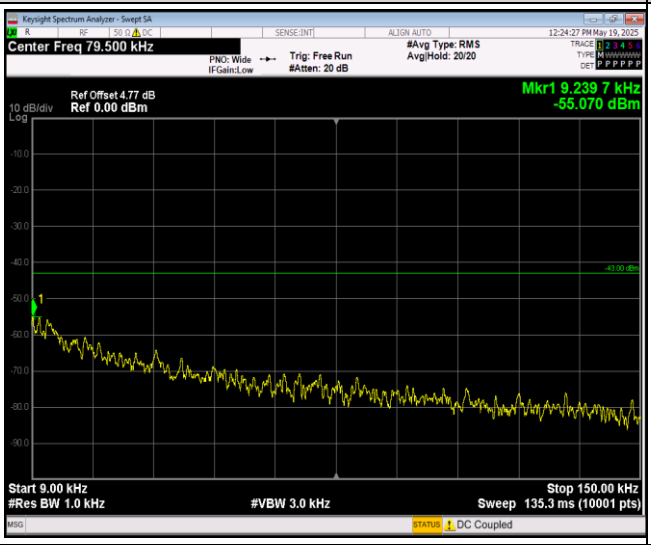
GSM1900-512-1000~18000MHz



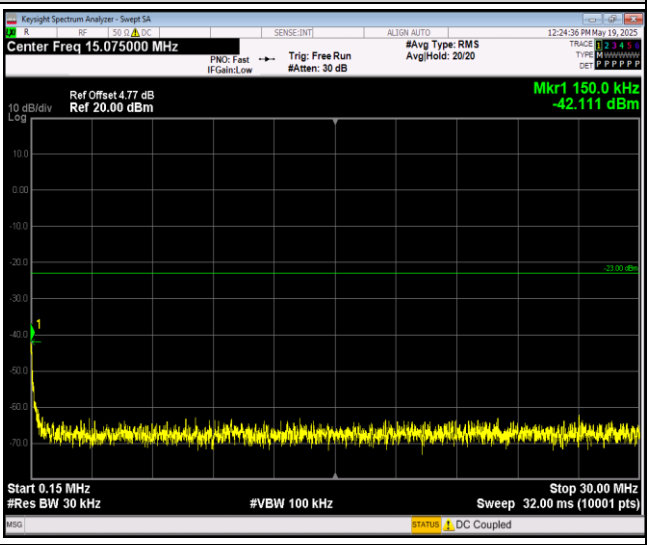
GSM1900-661-0.009~0.15MHz



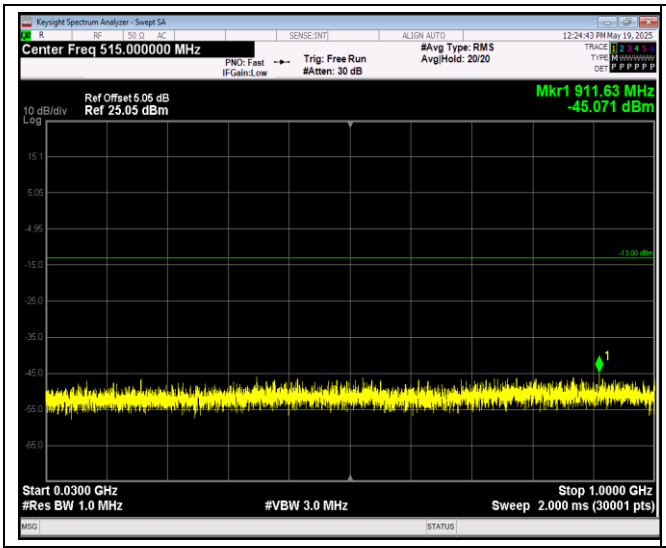
GSM1900-661-0.15~30MHz



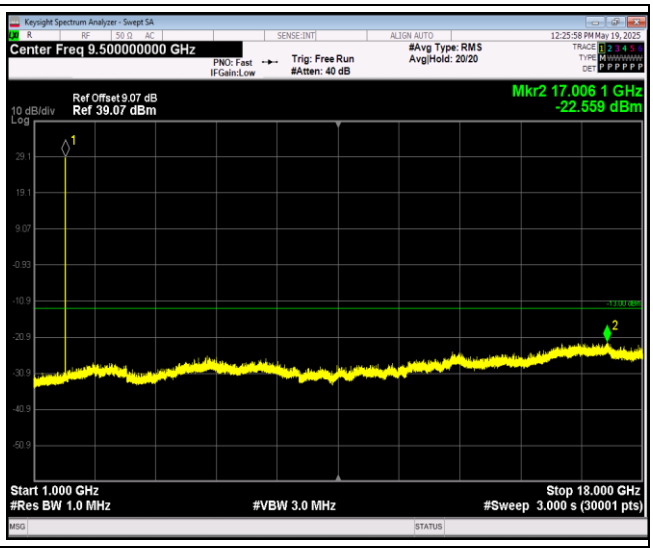
GSM1900-661-30~1000MHz



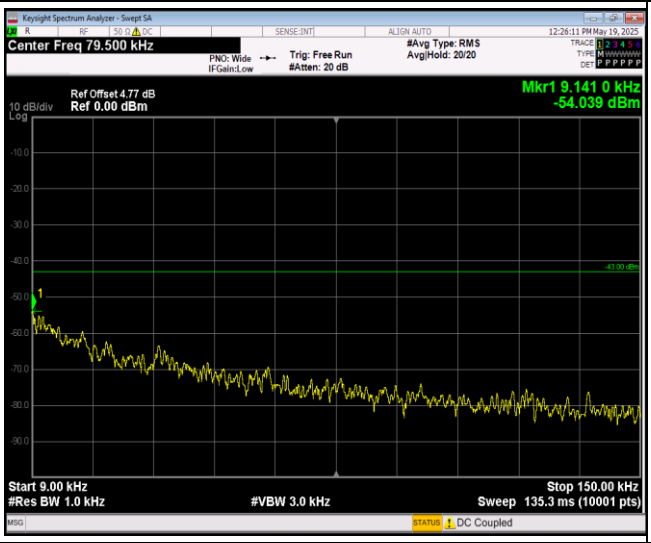
GSM1900-661-1000~18000MHz



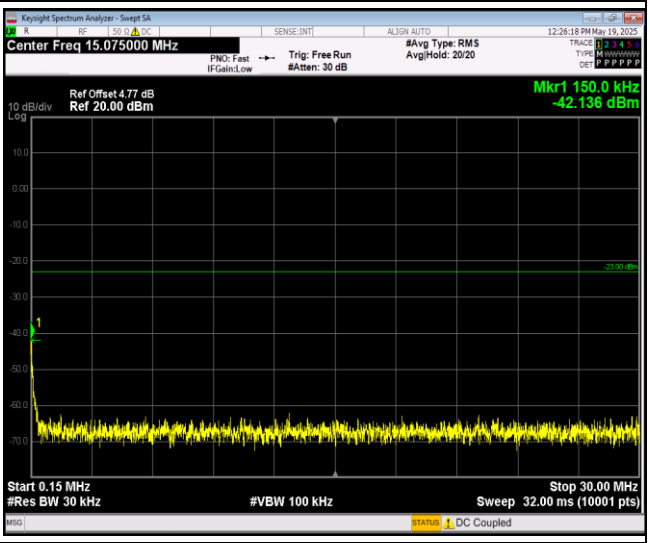
GSM1900-810-0.009~0.15MHz



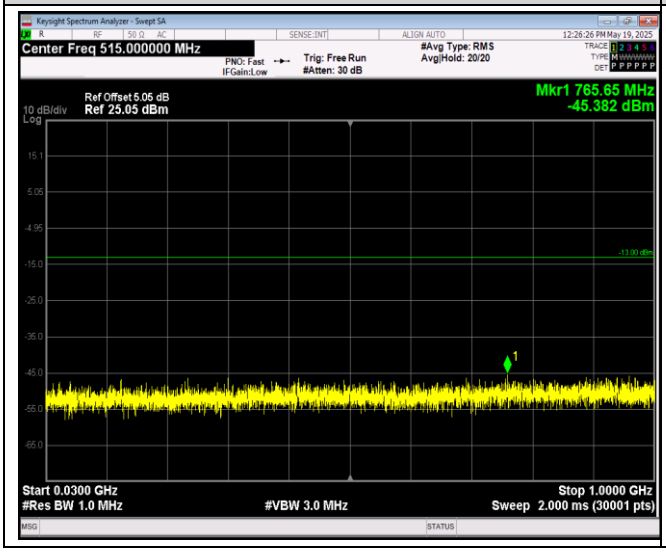
GSM1900-810-0.15~30MHz

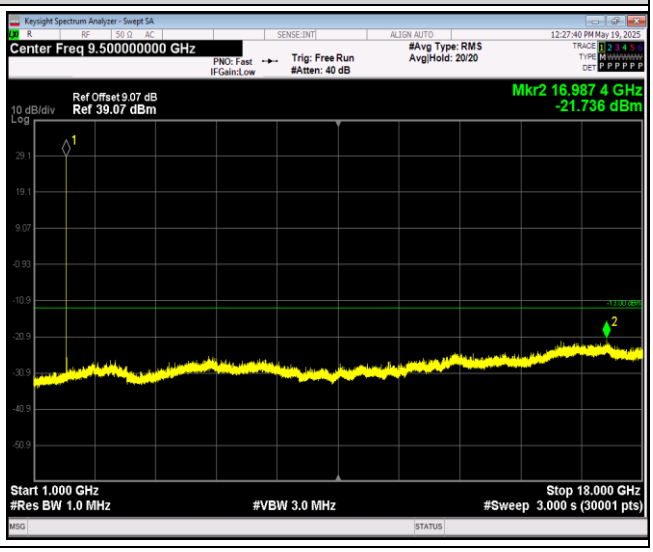


GSM1900-810-30~1000MHz



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	-16.30	-0.019484	±2.5	Pass
	-20	-17.27	-0.020643		
	-10	-16.72	-0.019986		
	0	-15.72	-0.018790		
	10	-14.17	-0.016938		
	20	-16.27	-0.019448		
	30	-8.49	-0.010148		
	40	-16.98	-0.020296		
	50	-15.21	-0.018181		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.00	-12.46	-0.014894	±2.5	Pass
	3.87	-11.24	-0.013435		
	4.45	-14.56	-0.017404		
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	-9.59	-0.011463	±2.5	Pass
	-20	-9.20	-0.010997		
	-10	-10.14	-0.012120		
	0	-10.17	-0.012156		
	10	-5.84	-0.006981		
	20	-6.46	-0.007722		
	30	2.10	0.002510		
	40	-2.26	-0.002701		
	50	-0.48	-0.000574		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.00	-12.72	-0.015204	±2.5	Pass
	3.87	-10.04	-0.012001		
	4.45	-10.46	-0.012503		
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	-22.28	-0.011851	Within authorized band for PCS 1900	Pass
	-20	-35.13	-0.018686		
	-10	-32.51	-0.017293		
	0	-37.03	-0.019697		
	10	-28.35	-0.015080		
	20	-7.62	-0.004053		
	30	-35.74	-0.019011		
	40	-38.39	-0.020420		
	50	1.61	0.000856		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.00	-31.61	-0.016814	Within authorized band for PCS 1900	Pass
	3.87	-7.39	-0.003931		
	4.45	-18.11	-0.009633		
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	-37.87	-0.020144	Within authorized band for PCS 1900	Pass
	-20	-30.48	-0.016213		
	-10	-34.32	-0.018255		
	0	-29.70	-0.015798		
	10	-20.95	-0.011144		
	20	-18.95	-0.010080		
	30	-11.88	-0.006319		
	40	-27.64	-0.014702		
	50	-8.36	-0.004447		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.00	-30.48	-0.016213	Within authorized band for PCS 1900	Pass
	3.87	-35.09	-0.018665		
	4.45	-35.48	-0.018872		
Remark: All channel had been tested, but only the worst case data displayed in this report.					

Appendix G: Modulation Characteristics

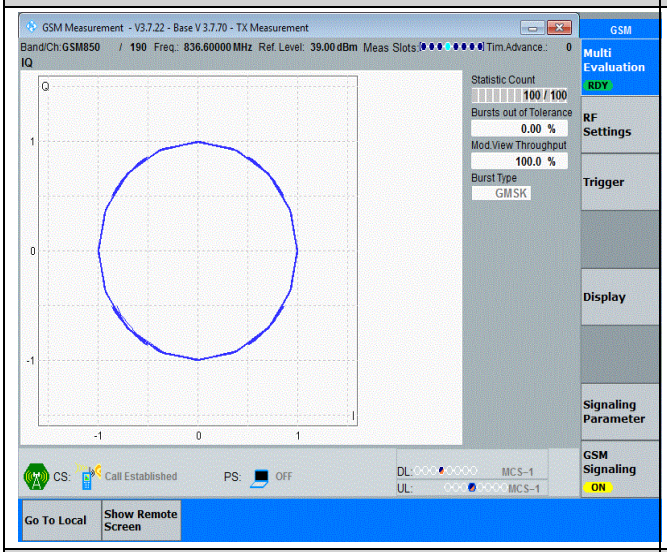
Test Result

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

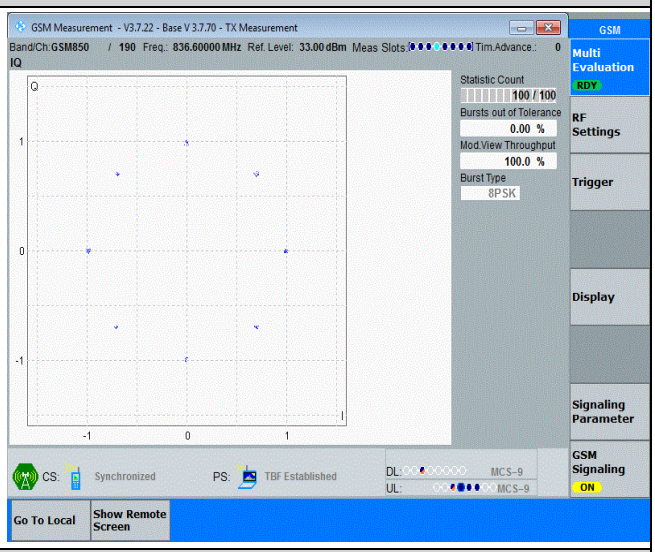
Remark: All channel had been tested, but only the worst case data displayed in this report.

Test Graphs

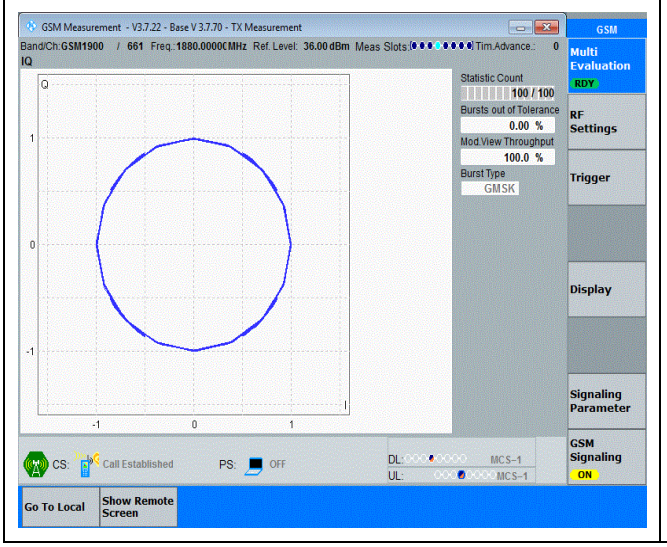
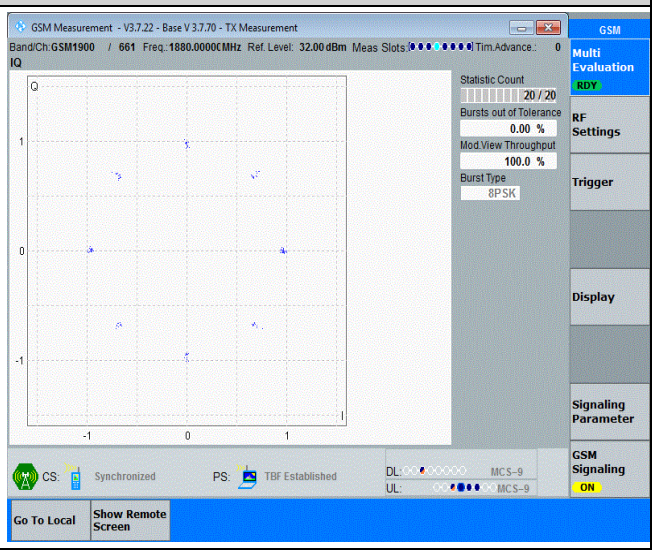
GSM850-190



EGPRS850-190



GSM1900-661



EGPRS1900-661