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	31.95	28.13	38.45	PASS
GSM850	190	5	31.81	27.99	38.45	PASS
GSM850	251	5	31.39	27.57	38.45	PASS
GSM1900	512	0	29.65	30.12	33.00	PASS
GSM1900	661	0	29.44	29.91	33.00	PASS
GSM1900	810	0	28.22	28.69	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GPRS850	128	5	1	31.97	28.15	38.45	PASS
GPRS850	128	5	2	31.51	27.69	38.45	PASS
GPRS850	128	5	3	30.07	26.25	38.45	PASS
GPRS850	128	5	4	29.31	25.49	38.45	PASS
GPRS850	190	5	1	31.83	28.01	38.45	PASS
GPRS850	190	5	2	31.44	27.62	38.45	PASS
GPRS850	190	5	3	30.16	26.34	38.45	PASS
GPRS850	190	5	4	29.46	25.64	38.45	PASS
GPRS850	251	5	1	31.34	27.52	38.45	PASS
GPRS850	251	5	2	30.95	27.13	38.45	PASS
GPRS850	251	5	3	29.56	25.74	38.45	PASS
GPRS850	251	5	4	28.81	24.99	38.45	PASS
GPRS1900	512	0	1	29.66	30.13	33.00	PASS
GPRS1900	512	0	2	28.86	29.33	33.00	PASS
GPRS1900	512	0	3	27.07	27.54	33.00	PASS
GPRS1900	512	0	4	26.01	26.48	33.00	PASS
GPRS1900	661	0	1	29.42	29.89	33.00	PASS
GPRS1900	661	0	2	28.61	29.08	33.00	PASS
GPRS1900	661	0	3	26.71	27.18	33.00	PASS
GPRS1900	661	0	4	25.54	26.01	33.00	PASS
GPRS1900	810	0	1	28.20	28.67	33.00	PASS
GPRS1900	810	0	2	27.27	27.74	33.00	PASS
GPRS1900	810	0	3	25.13	25.6	33.00	PASS
GPRS1900	810	0	4	23.86	24.33	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
EGPRS850	128	8	1	30.73	26.91	38.45	PASS
EGPRS850	128	8	2	27.74	23.92	38.45	PASS
EGPRS850	128	8	3	27.67	23.85	38.45	PASS
EGPRS850	128	8	4	27.60	23.78	38.45	PASS
EGPRS850	190	8	1	28.01	24.19	38.45	PASS
EGPRS850	190	8	2	27.94	24.12	38.45	PASS
EGPRS850	190	8	3	27.88	24.06	38.45	PASS
EGPRS850	190	8	4	27.81	23.99	38.45	PASS
EGPRS850	251	8	1	27.22	23.4	38.45	PASS
EGPRS850	251	8	2	27.17	23.35	38.45	PASS
EGPRS850	251	8	3	27.11	23.29	38.45	PASS
EGPRS850	251	8	4	27.04	23.22	38.45	PASS
EGPRS1900	512	2	1	29.68	30.15	33.00	PASS
EGPRS1900	512	2	2	26.53	27	33.00	PASS
EGPRS1900	512	2	3	26.32	26.79	33.00	PASS
EGPRS1900	512	2	4	26.02	26.49	33.00	PASS
EGPRS1900	661	2	1	26.11	26.58	33.00	PASS
EGPRS1900	661	2	2	25.94	26.41	33.00	PASS
EGPRS1900	661	2	3	25.72	26.19	33.00	PASS
EGPRS1900	661	2	4	25.48	25.95	33.00	PASS
EGPRS1900	810	2	1	24.46	24.93	33.00	PASS
EGPRS1900	810	2	2	24.27	24.74	33.00	PASS
EGPRS1900	810	2	3	24.09	24.56	33.00	PASS
EGPRS1900	810	2	4	23.86	24.33	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)

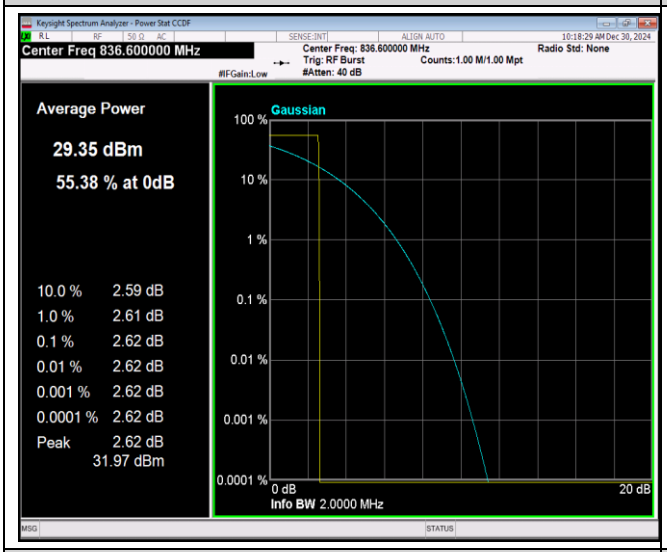
Test Result

Band	Channel	PCL	Result(dB)	Limit(dB)	Verdict
GSM850	190	5	2.62	13	PASS
EGPRS850	190	8	4.35	13	PASS
GSM1900	661	0	2.69	13	PASS
EGPRS1900	661	2	3.63	13	PASS

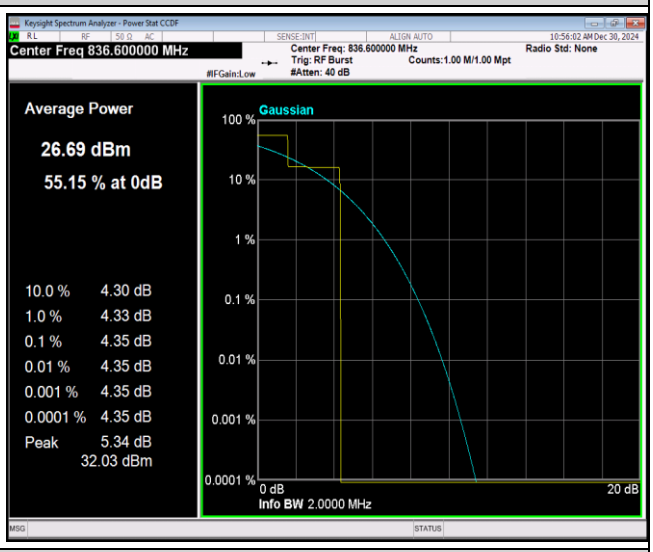
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

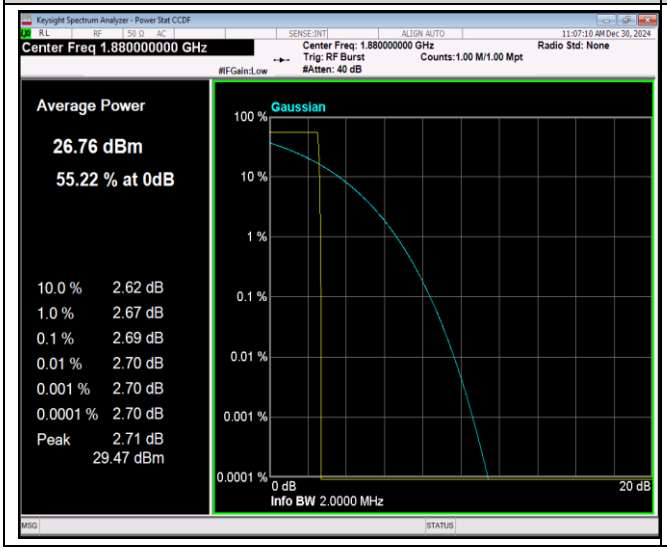
GSM850-190



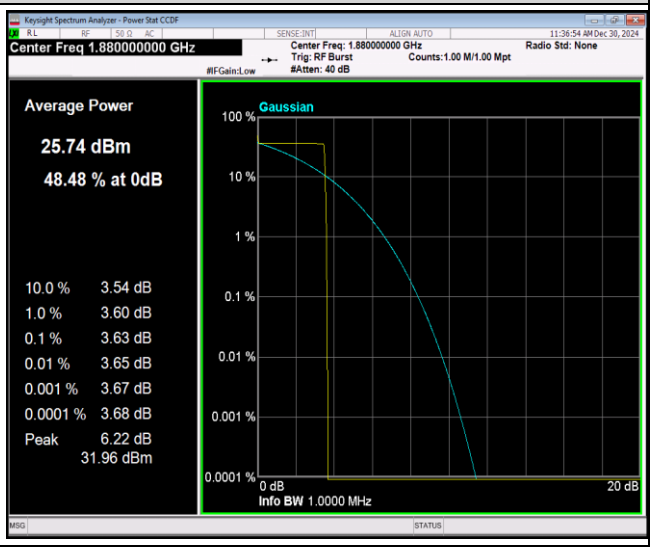
EGPRS850-190



GSM1900-661



EGPRS1900-661



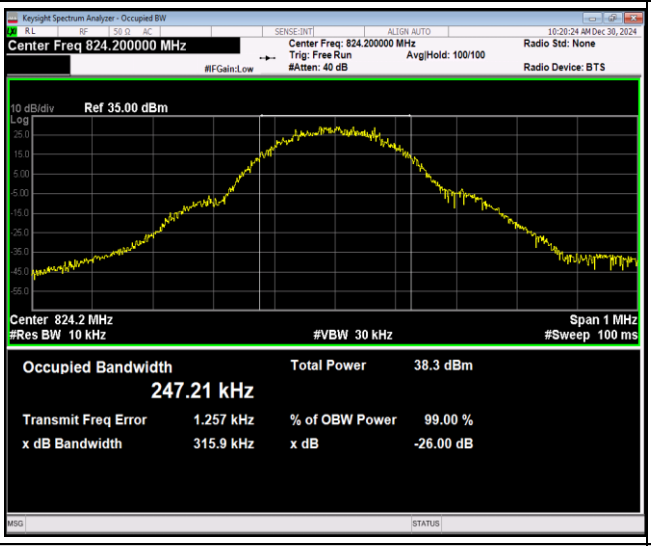
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

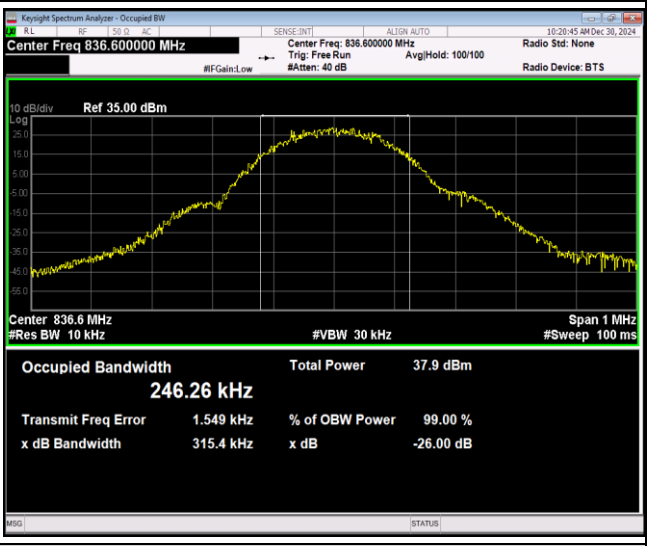
Band	Channel	PCL	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	5	0.24721	0.3159	---	PASS
GSM850	190	5	0.24626	0.3154	---	PASS
GSM850	251	5	0.24600	0.3159	---	PASS
EGPRS850	128	8	0.24548	0.3149	---	PASS
EGPRS850	190	8	0.24708	0.3158	---	PASS
EGPRS850	251	8	0.24609	0.3175	---	PASS
GSM1900	512	0	0.24845	0.3143	---	PASS
GSM1900	661	0	0.24685	0.3093	---	PASS
GSM1900	810	0	0.24737	0.3100	---	PASS
EGPRS1900	512	2	0.24576	0.3134	---	PASS
EGPRS1900	661	2	0.24387	0.3142	---	PASS
EGPRS1900	810	2	0.24485	0.3133	---	PASS

Test Graphs

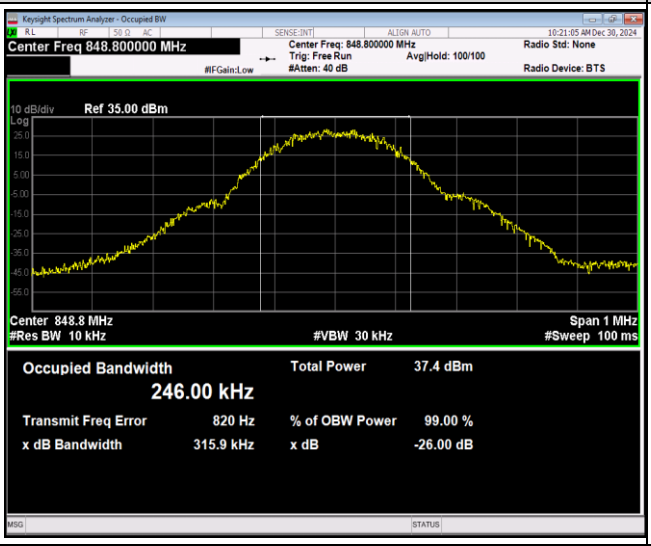
GSM850-128



GSM850-190



GSM850-251



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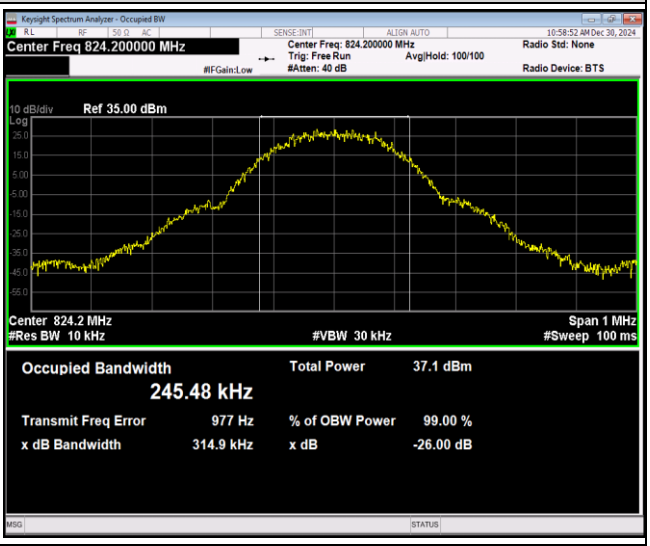
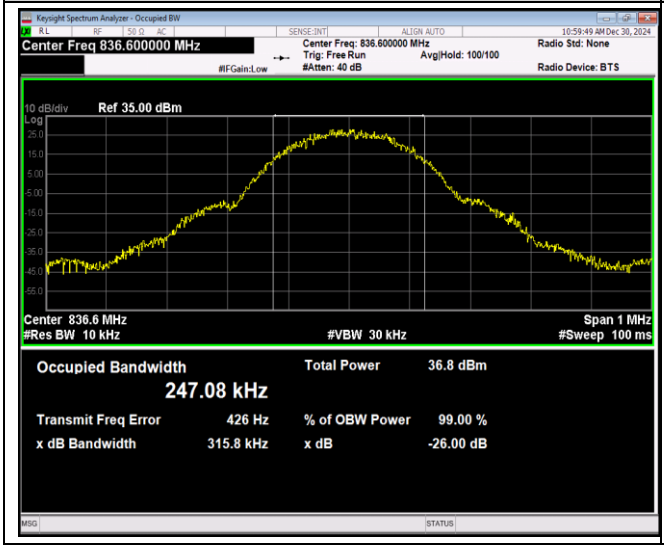
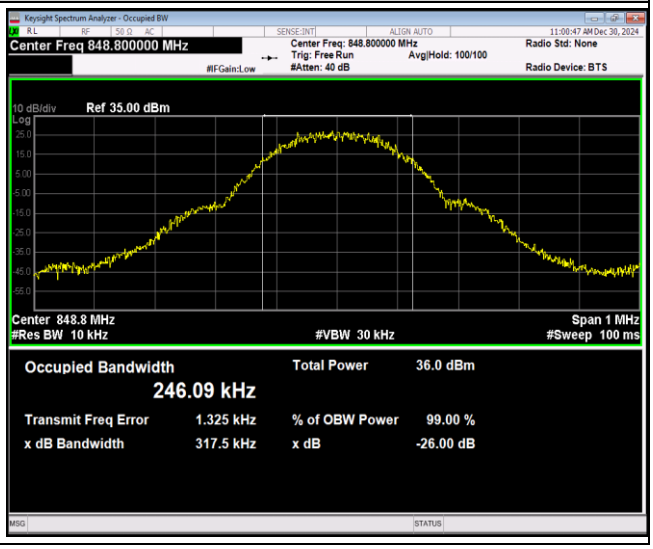


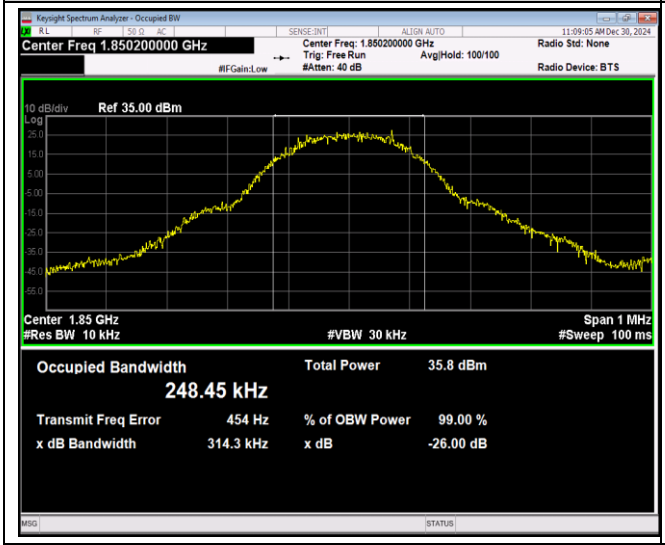
EGPRS850-190



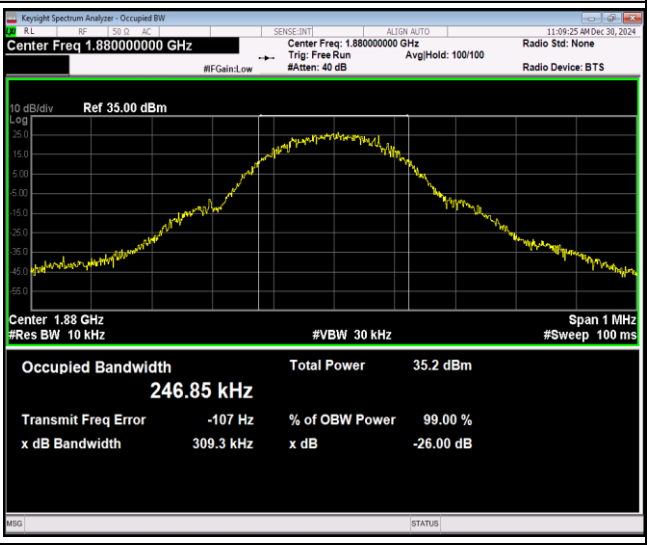
EGPRS850-251



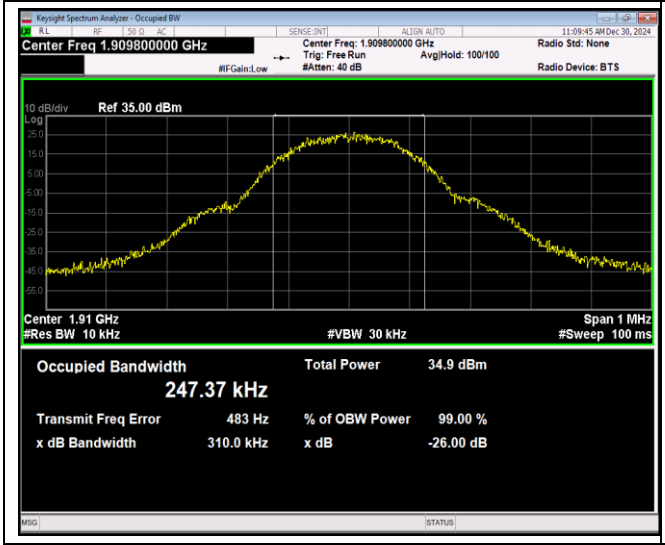
GSM1900-512



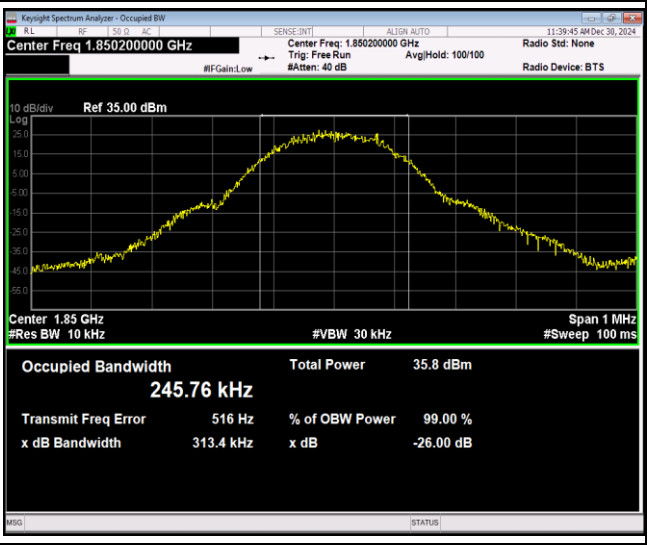
GSM1900-661



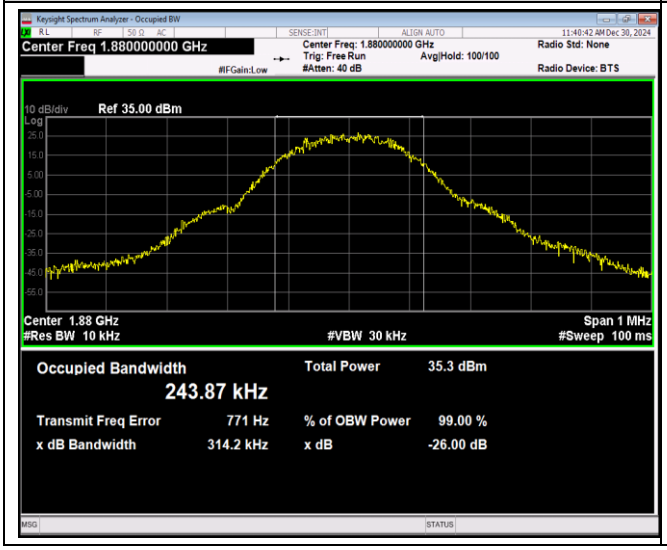
GSM1900-810



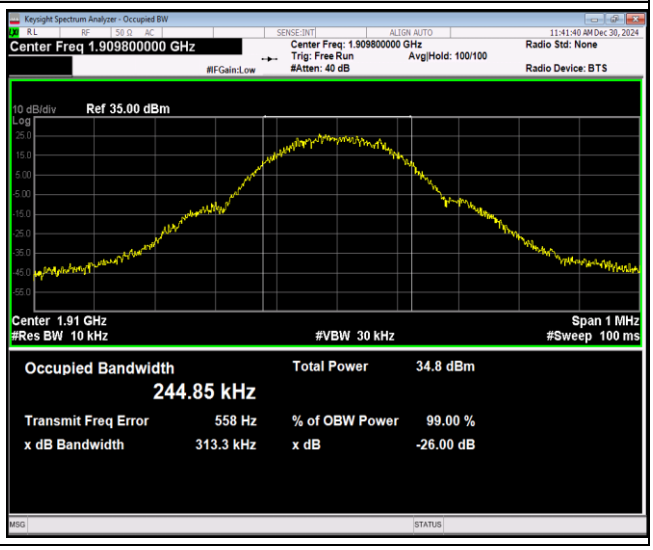
EGPRS1900-512



EGPRS1900-661



EGPRS1900-810



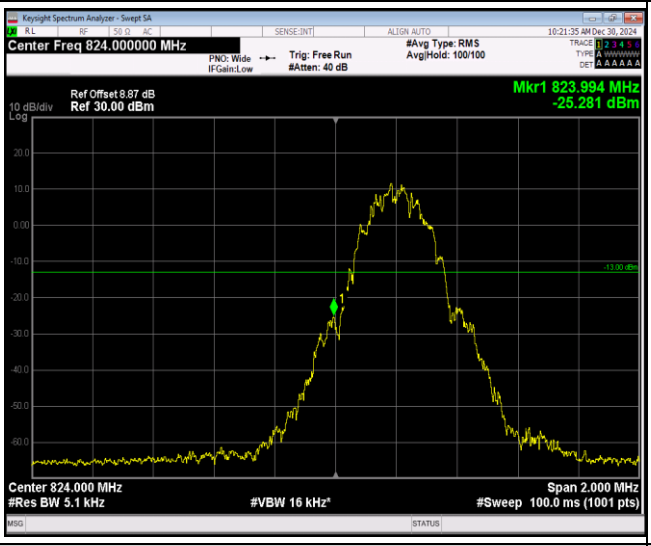
Appendix D: Band Edge

Test Result

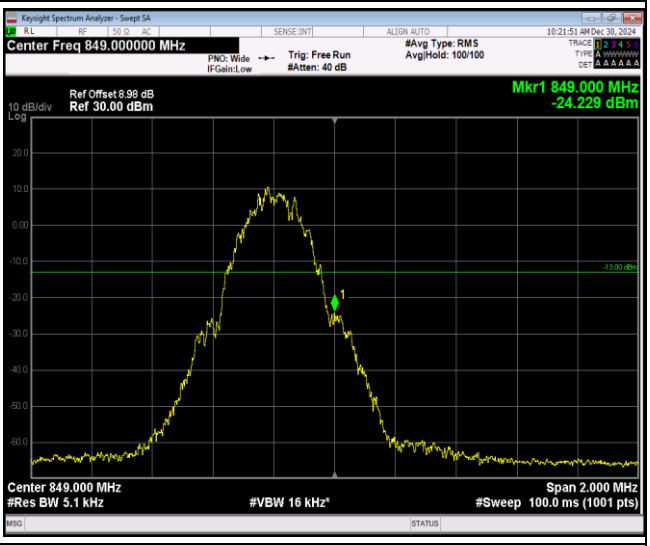
Band	Channel	PCL	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	5	823.99	-25.28	-13	PASS
GSM850	251	5	849.00	-24.23	-13	PASS
EGPRS850	128	8	823.99	-26.96	-13	PASS
EGPRS850	251	8	849.02	-26.53	-13	PASS
GSM1900	512	0	1850.00	-14.39	-13	PASS
GSM1900	810	0	1910.02	-15.32	-13	PASS
EGPRS1900	512	2	1850.00	-14.17	-13	PASS
EGPRS1900	810	2	1910.00	-14.56	-13	PASS

Test Graphs

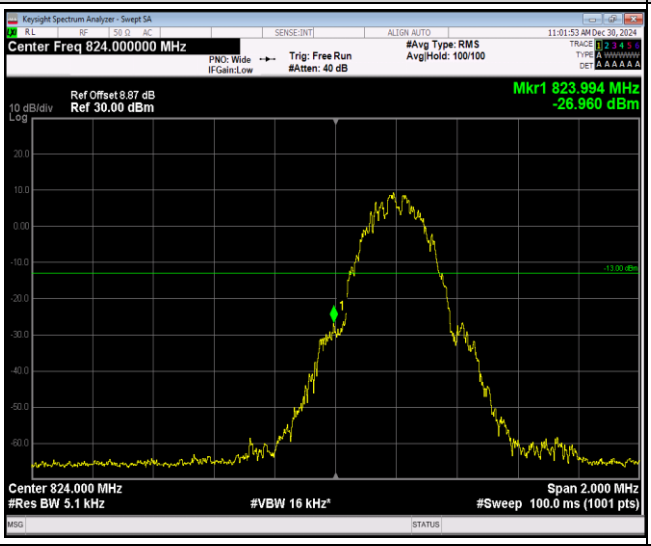
GSM850-128



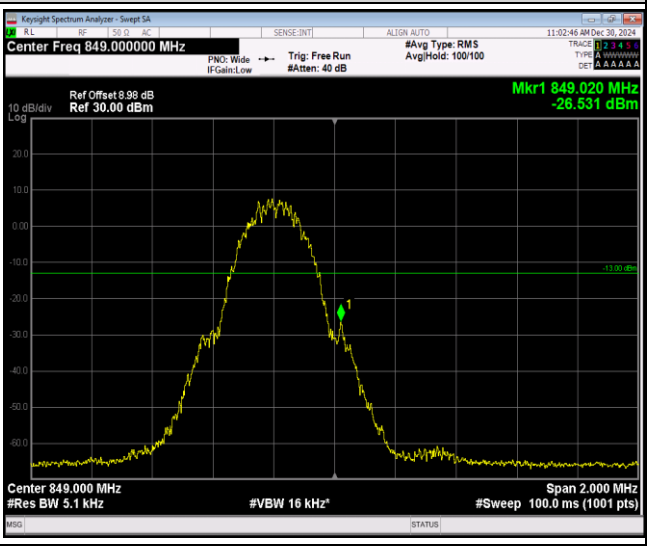
GSM850-251



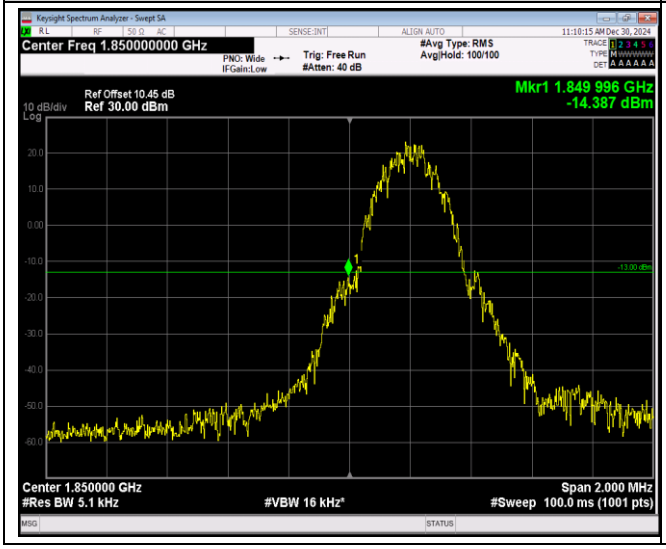
EGPRS850-128



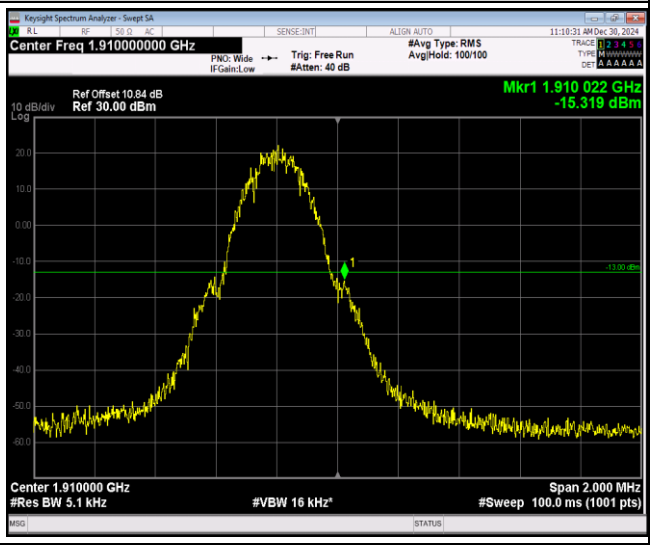
EGPRS850-251

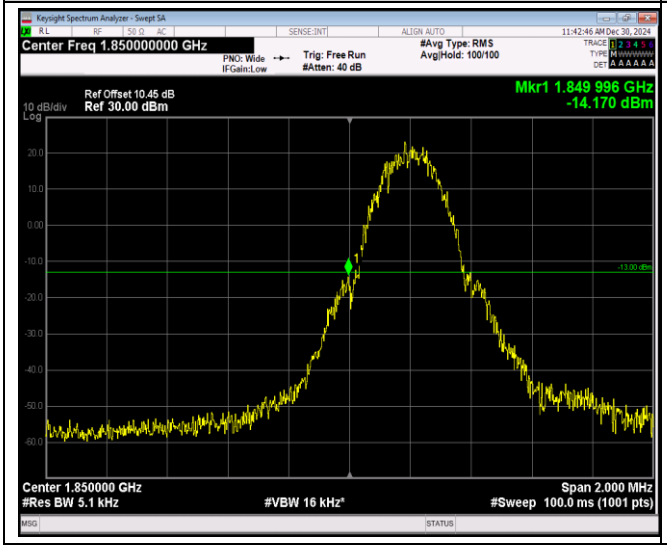
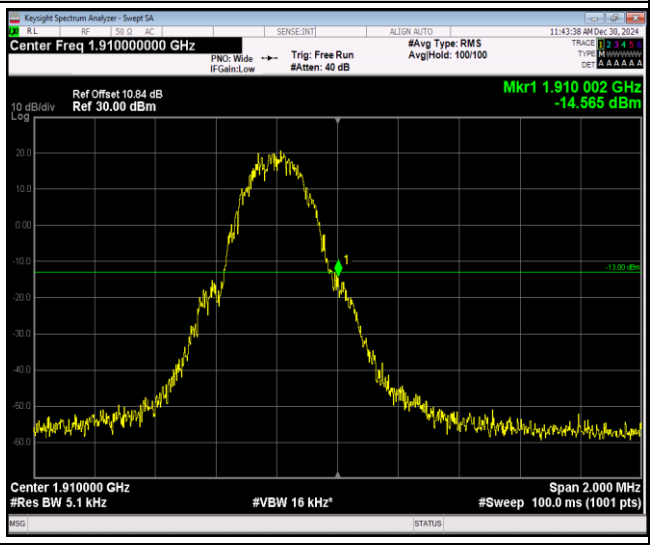


GSM1900-512



GSM1900-810



EGPRS1900-512	EGPRS1900-810
	

Appendix E: Conducted Spurious Emission

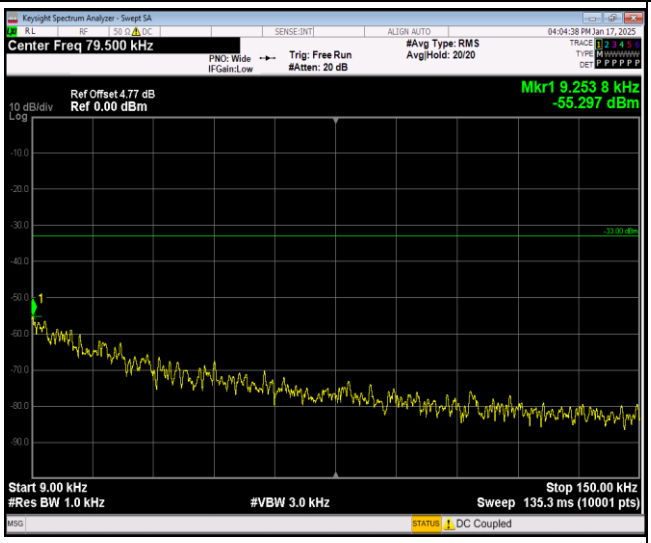
Test Result

Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	5	0.009~0.15MHz	0.01	-55.3	-33	PASS
GSM850	128	5	0.15~30MHz	0.15	-41.33	-13	PASS
GSM850	128	5	30~1000MHz	930.48	-44.53	-13	PASS
GSM850	128	5	1000~10000MHz	1648.3	-29.16	-13	PASS
GSM850	190	5	0.009~0.15MHz	0.01	-55.15	-33	PASS
GSM850	190	5	0.15~30MHz	0.15	-41.23	-13	PASS
GSM850	190	5	30~1000MHz	978.27	-44.15	-13	PASS
GSM850	190	5	1000~10000MHz	1673.5	-29.82	-13	PASS
GSM850	251	5	0.009~0.15MHz	0.01	-52.51	-33	PASS
GSM850	251	5	0.15~30MHz	0.15	-41.69	-13	PASS
GSM850	251	5	30~1000MHz	406.62	-44.29	-13	PASS
GSM850	251	5	1000~10000MHz	1697.5	-29.44	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-55.92	-43	PASS
GSM1900	512	0	0.15~30MHz	0.15	-40.87	-23	PASS
GSM1900	512	0	30~1000MHz	146.3	-45.45	-13	PASS
GSM1900	512	0	1000~18000MHz	16572.57	-21.98	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-56.01	-43	PASS
GSM1900	661	0	0.15~30MHz	0.15	-42.08	-23	PASS
GSM1900	661	0	30~1000MHz	794.23	-45.69	-13	PASS
GSM1900	661	0	1000~18000MHz	17015.7	-21.57	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-55.46	-43	PASS
GSM1900	810	0	0.15~30MHz	0.16	-42.27	-23	PASS
GSM1900	810	0	30~1000MHz	921.37	-45.68	-13	PASS
GSM1900	810	0	1000~18000MHz	16993.6	-22.33	-13	PASS

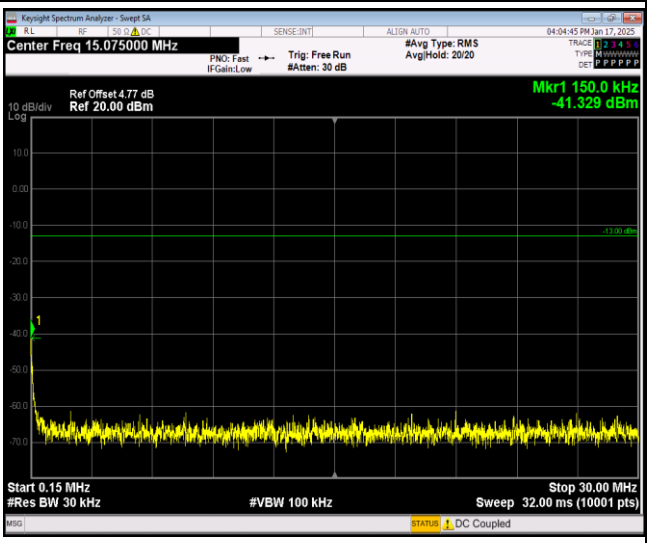
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

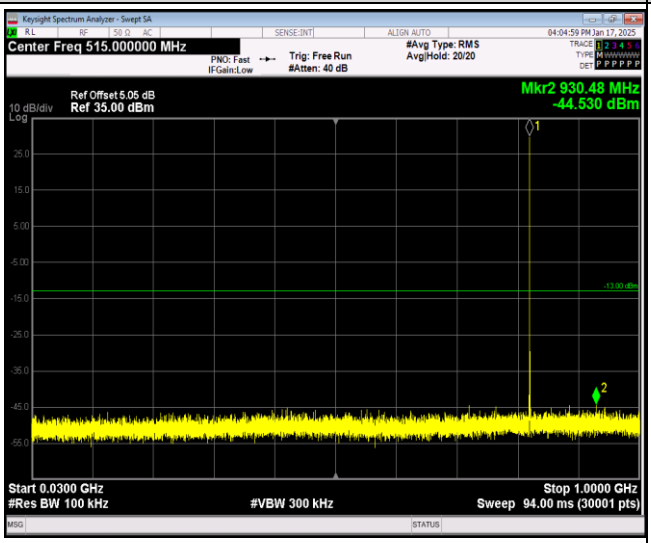
GSM850-128-0.009~0.15MHz



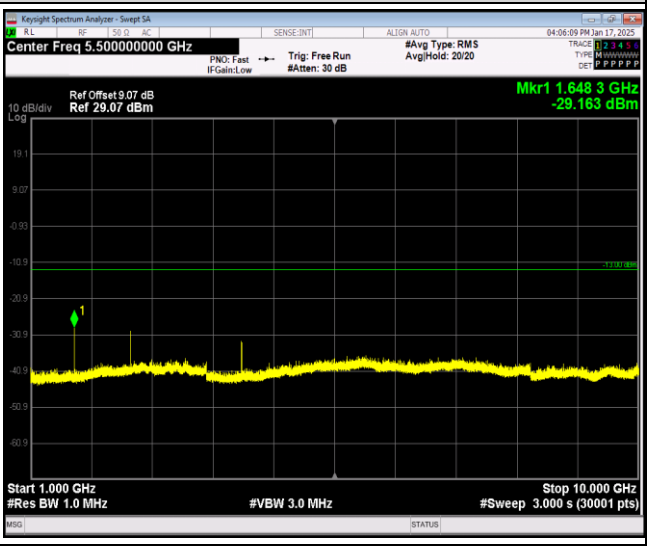
GSM850-128-0.15~30MHz



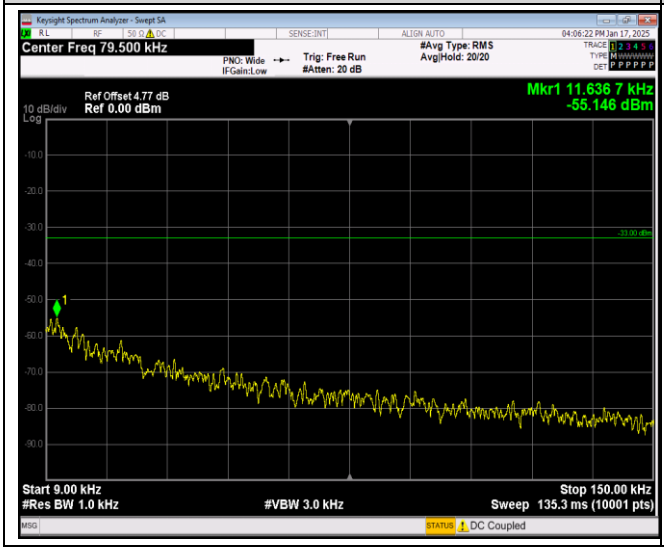
GSM850-128-30~1000MHz



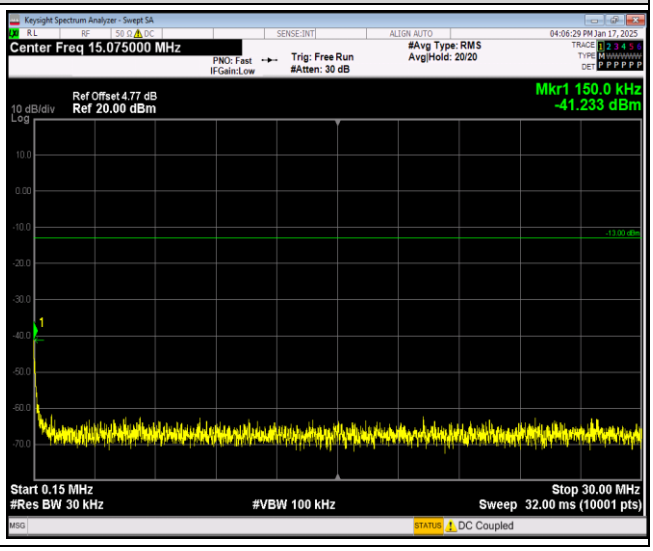
GSM850-128-1000~10000MHz



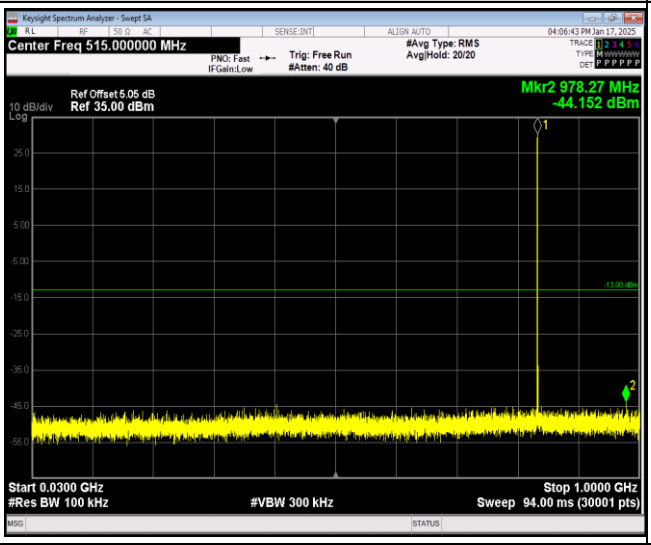
GSM850-190-0.009~0.15MHz



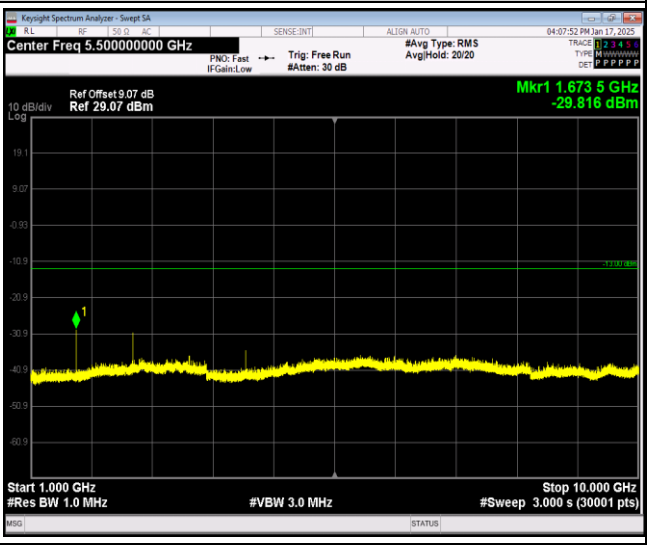
GSM850-190-0.15~30MHz



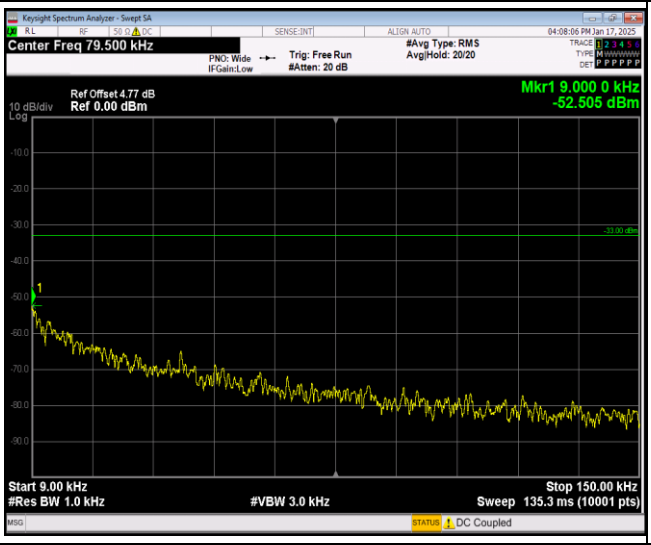
GSM850-190-30~1000MHz



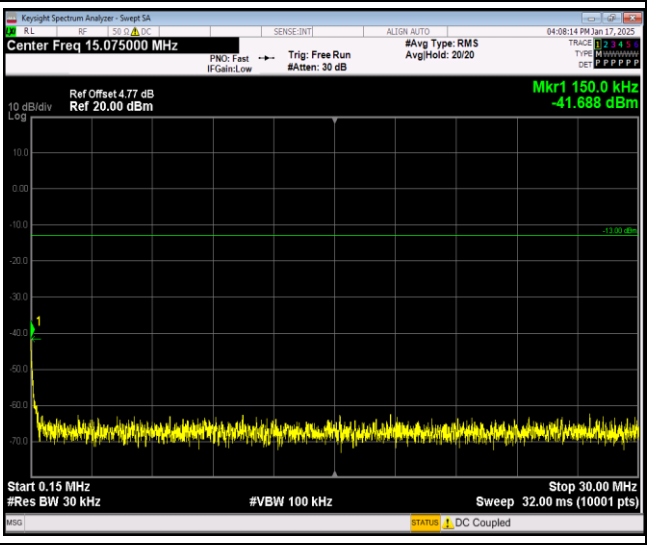
GSM850-190-1000~10000MHz



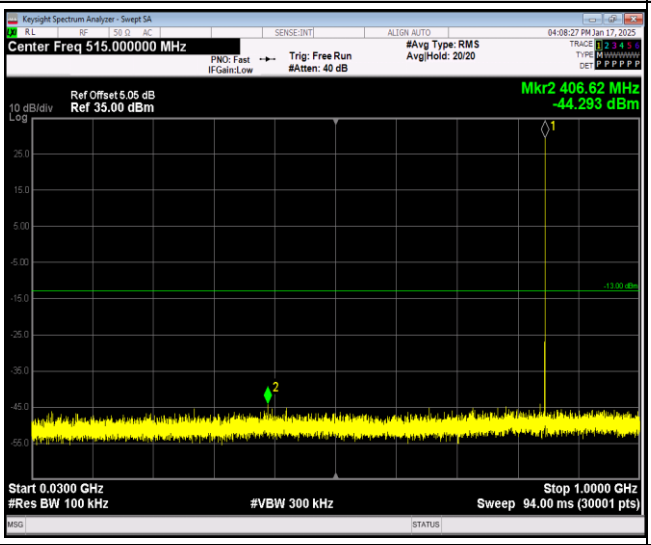
GSM850-251-0.009~0.15MHz



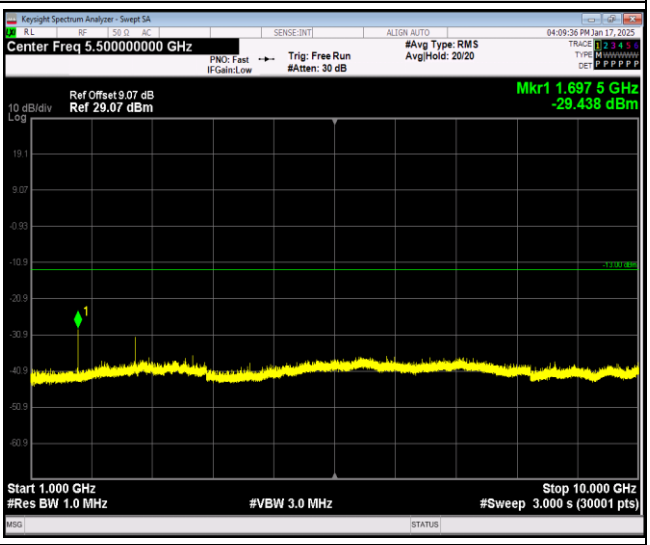
GSM850-251-0.15~30MHz



GSM850-251-30~1000MHz

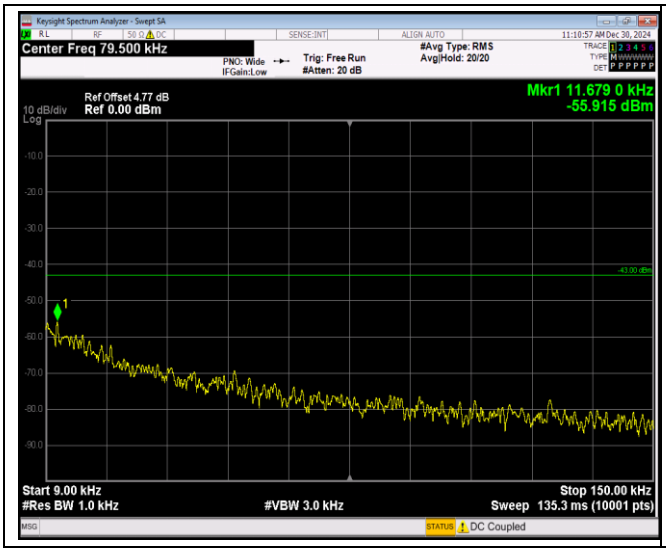


GSM850-251-1000~10000MHz

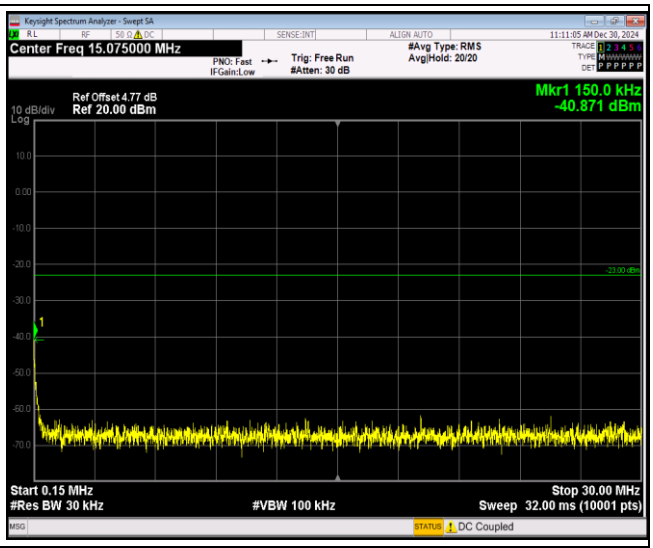


GSM1900-512-0.009~0.15MHz

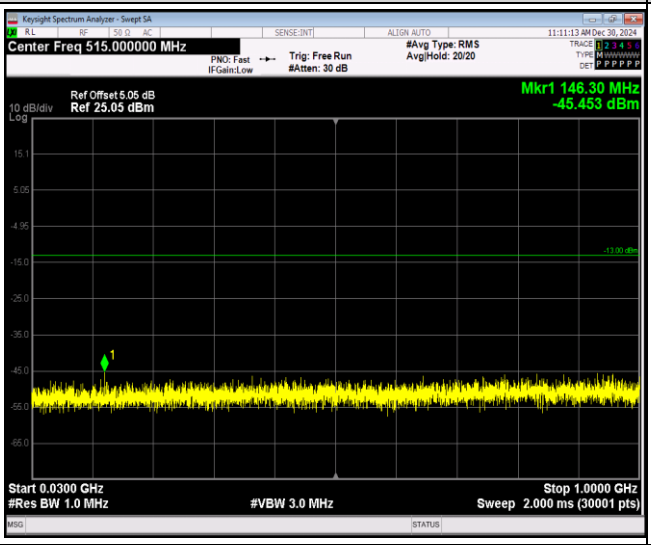
GSM1900-512-0.15~30MHz



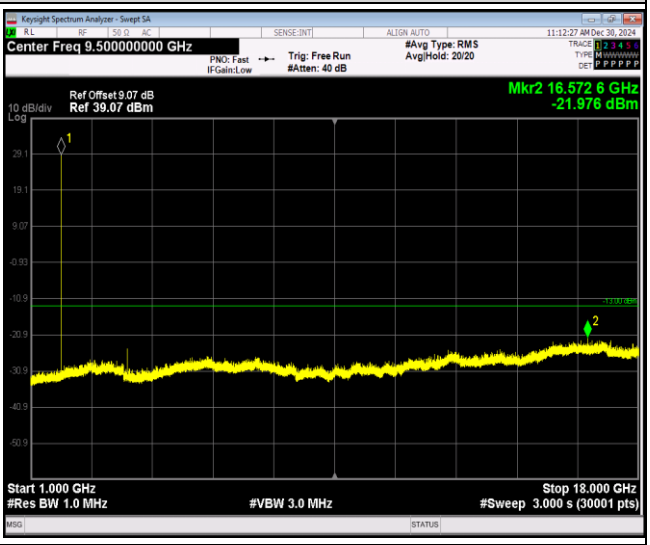
GSM1900-512-30~1000MHz



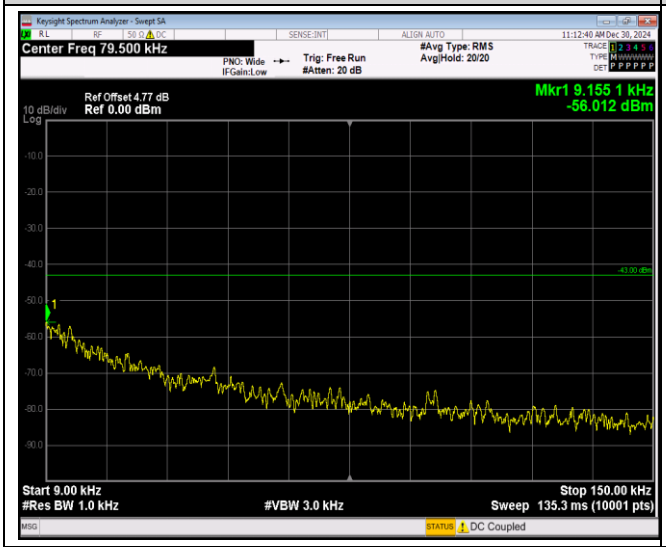
GSM1900-512-1000~18000MHz



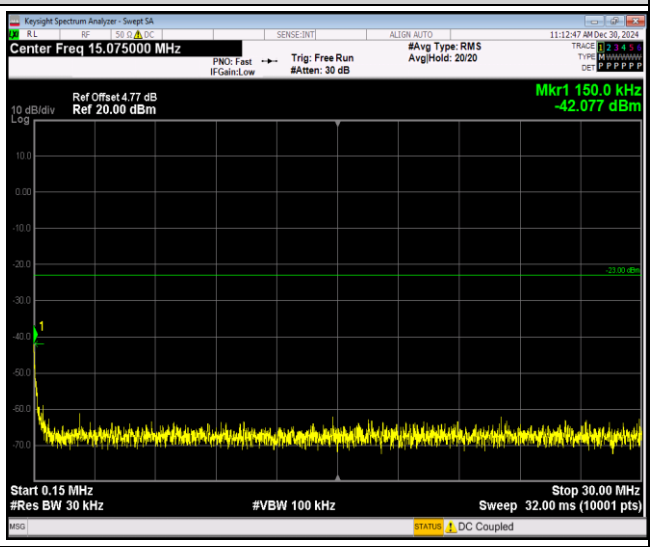
GSM1900-661-0.009~0.15MHz



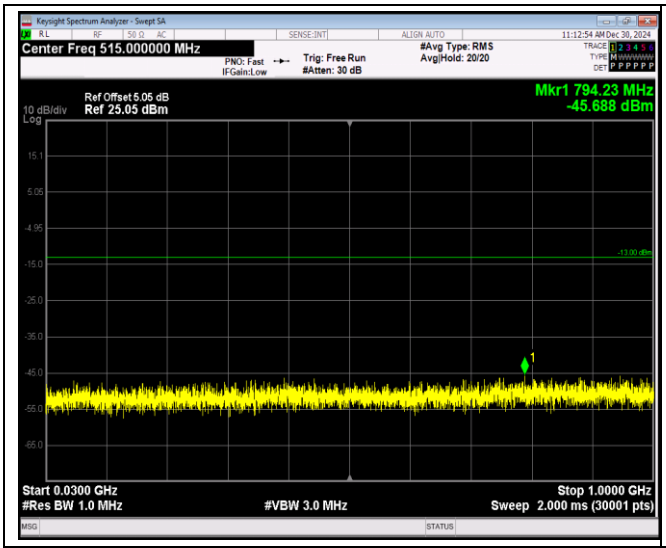
GSM1900-661-0.15~30MHz



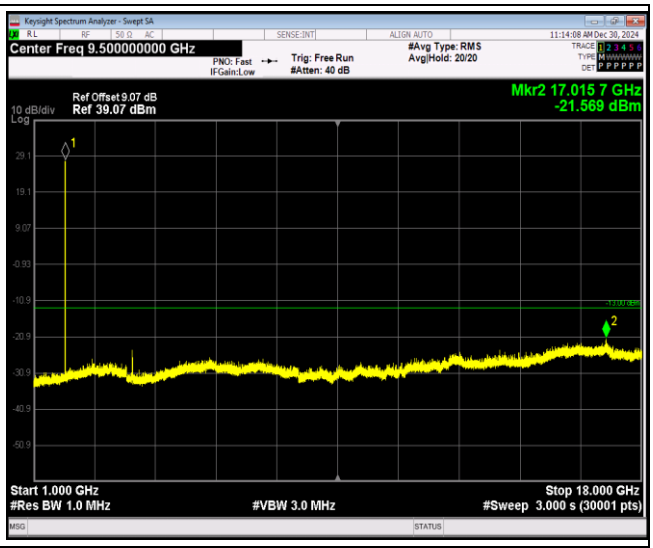
GSM1900-661-30~1000MHz



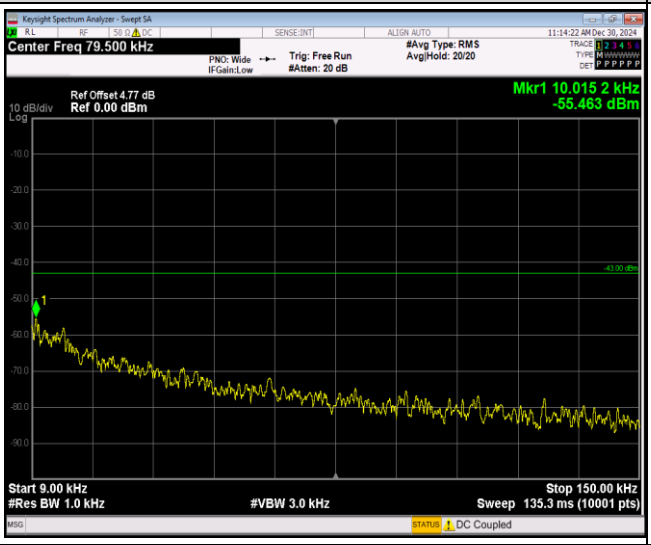
GSM1900-661-1000~18000MHz



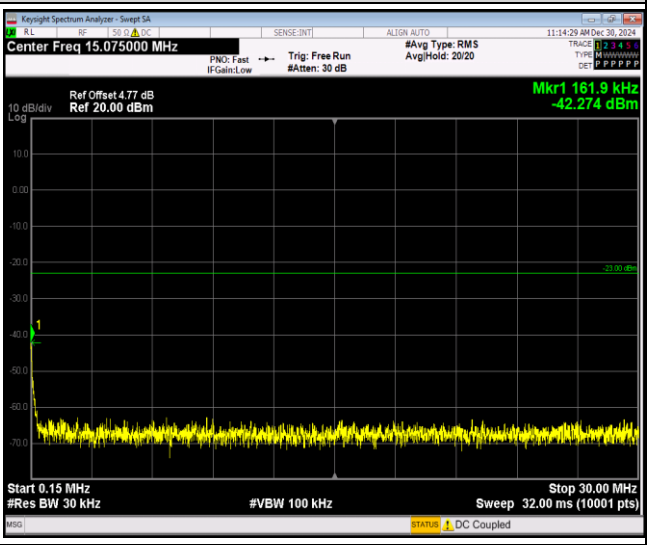
GSM1900-810-0.009~0.15MHz



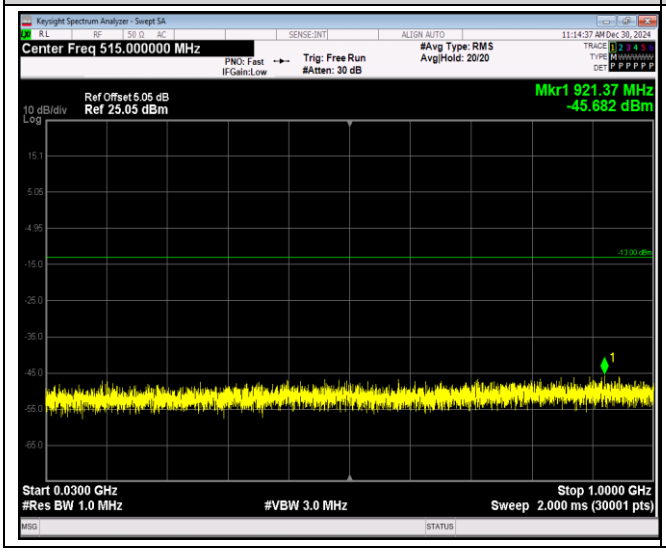
GSM1900-810-0.15~30MHz

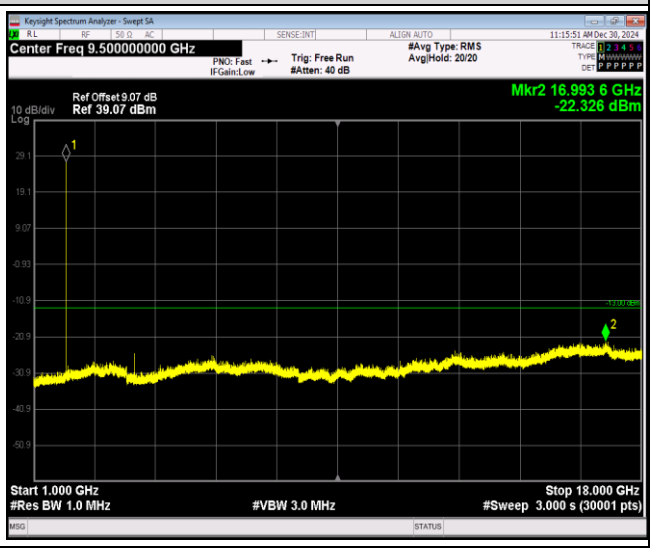


GSM1900-810-30~1000MHz



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	-19.37	-0.023153	±2.5	Pass
	-20	-19.92	-0.023811		
	-10	-22.21	-0.026548		
	0	-22.96	-0.027444		
	10	-20.89	-0.024970		
	20	-18.76	-0.022424		
	30	-18.79	-0.022460		
	40	-20.02	-0.023930		
	50	-20.92	-0.025006		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.40	-21.37	-0.025544	±2.5	Pass
	3.70	-18.11	-0.021647		
	4.20	-22.54	-0.026942		
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	-4.78	-0.005714	±2.5	Pass
	-20	-4.68	-0.005594		
	-10	-11.56	-0.013818		
	0	-10.82	-0.012933		
	10	-14.24	-0.017021		
	20	-13.56	-0.016208		
	30	-19.92	-0.023811		
	40	-20.47	-0.024468		
	50	-16.05	-0.019185		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.40	-7.65	-0.009144	±2.5	Pass
	3.70	-3.49	-0.004172		
	4.20	-10.75	-0.012850		
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	-53.69	-0.028559	Within authorized band for PCS 1900	Pass
	-20	-54.85	-0.029176		
	-10	-55.98	-0.029777		
	0	-48.24	-0.025660		
	10	-46.14	-0.024543		
	20	-46.23	-0.024590		
	30	-46.43	-0.024697		
	40	-45.98	-0.024457		
	50	-58.02	-0.030862		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.40	-50.33	-0.026771	Within authorized band for PCS 1900	Pass
	3.70	-59.57	-0.031686		
	4.20	-51.79	-0.027548		
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	-41.39	-0.022016	Within authorized band for PCS 1900	Pass
	-20	-39.71	-0.021122		
	-10	-40.20	-0.021383		
	0	-47.01	-0.025005		
	10	-51.85	-0.027580		
	20	-52.21	-0.027771		
	30	-62.83	-0.033420		
	40	-54.05	-0.028750		
	50	-54.05	-0.028750		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.40	-40.36	-0.021468	Within authorized band for PCS 1900	Pass
	3.70	-32.06	-0.017053		
	4.20	-36.35	-0.019335		
Remark: All channel had been tested, but only the worst case data displayed in this report.					

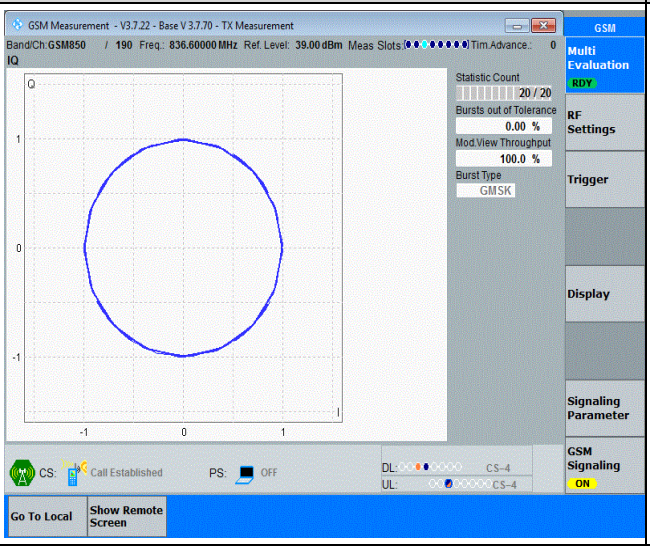
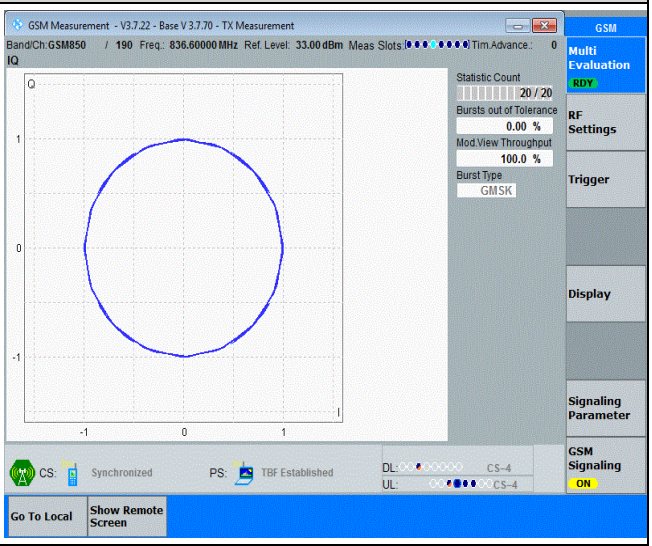
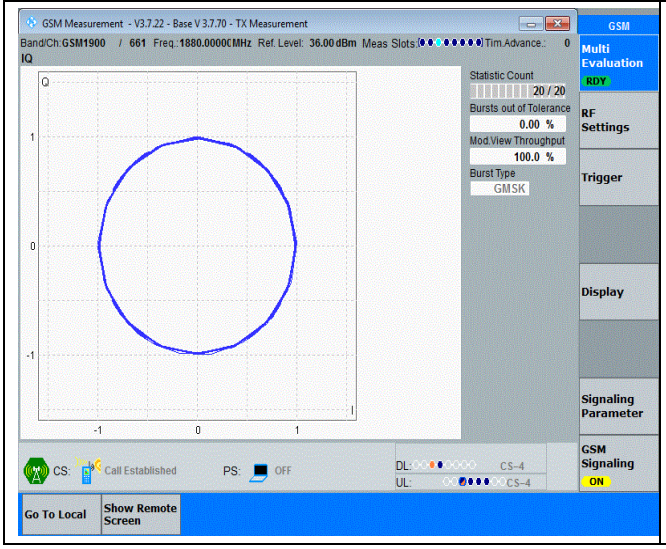
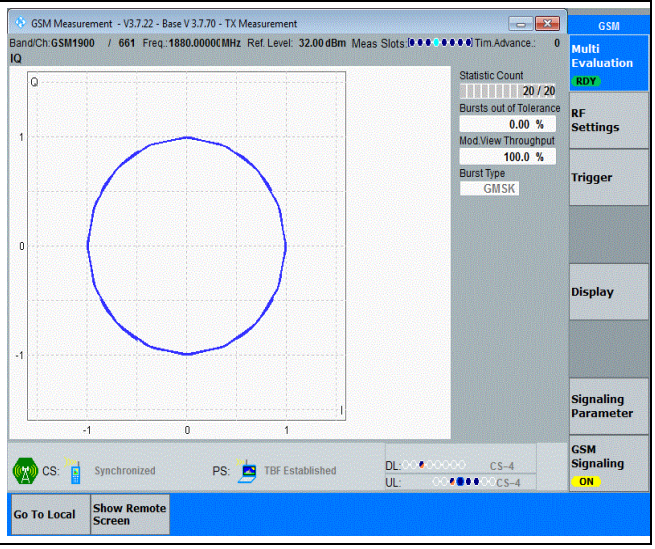
Appendix G: Modulation Characteristics

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**