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	33.35	26.03	38.45	PASS
GSM850	190	5	33.45	26.13	38.45	PASS
GSM850	251	5	33.33	26.01	38.45	PASS
GSM1900	512	0	30.79	27.58	33.00	PASS
GSM1900	661	0	31.01	27.8	33.00	PASS
GSM1900	810	0	30.68	27.47	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GPRS850	128	5	1	33.35	26.03	38.45	PASS
GPRS850	128	5	2	32.54	25.22	38.45	PASS
GPRS850	128	5	3	30.68	23.36	38.45	PASS
GPRS850	128	5	4	29.52	22.2	38.45	PASS
GPRS850	190	5	1	33.42	26.1	38.45	PASS
GPRS850	190	5	2	32.62	25.3	38.45	PASS
GPRS850	190	5	3	30.78	23.46	38.45	PASS
GPRS850	190	5	4	29.61	22.29	38.45	PASS
GPRS850	251	5	1	33.30	25.98	38.45	PASS
GPRS850	251	5	2	32.52	25.2	38.45	PASS
GPRS850	251	5	3	30.72	23.4	38.45	PASS
GPRS850	251	5	4	29.58	22.26	38.45	PASS
GPRS1900	512	0	1	30.80	27.59	33.00	PASS
GPRS1900	512	0	2	29.84	26.63	33.00	PASS
GPRS1900	512	0	3	27.75	24.54	33.00	PASS
GPRS1900	512	0	4	26.49	23.28	33.00	PASS
GPRS1900	661	0	1	31.03	27.82	33.00	PASS
GPRS1900	661	0	2	30.10	26.89	33.00	PASS
GPRS1900	661	0	3	28.10	24.89	33.00	PASS
GPRS1900	661	0	4	26.91	23.7	33.00	PASS
GPRS1900	810	0	1	30.67	27.46	33.00	PASS
GPRS1900	810	0	2	29.78	26.57	33.00	PASS
GPRS1900	810	0	3	27.86	24.65	33.00	PASS
GPRS1900	810	0	4	26.73	23.52	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
EGPRS850	128	8	1	28.03	20.71	38.45	PASS
EGPRS850	128	8	2	26.93	19.61	38.45	PASS
EGPRS850	128	8	3	24.79	17.47	38.45	PASS
EGPRS850	128	8	4	23.51	16.19	38.45	PASS
EGPRS850	190	8	1	27.88	20.56	38.45	PASS
EGPRS850	190	8	2	26.80	19.48	38.45	PASS
EGPRS850	190	8	3	24.67	17.35	38.45	PASS
EGPRS850	190	8	4	23.33	16.01	38.45	PASS
EGPRS850	251	8	1	27.96	20.64	38.45	PASS
EGPRS850	251	8	2	26.86	19.54	38.45	PASS
EGPRS850	251	8	3	24.75	17.43	38.45	PASS
EGPRS850	251	8	4	23.40	16.08	38.45	PASS
EGPRS1900	512	2	1	26.61	23.4	33.00	PASS
EGPRS1900	512	2	2	25.29	22.08	33.00	PASS
EGPRS1900	512	2	3	23.04	19.83	33.00	PASS
EGPRS1900	512	2	4	21.65	18.44	33.00	PASS
EGPRS1900	661	2	1	26.24	23.03	33.00	PASS
EGPRS1900	661	2	2	25.02	21.81	33.00	PASS
EGPRS1900	661	2	3	22.77	19.56	33.00	PASS
EGPRS1900	661	2	4	21.41	18.2	33.00	PASS
EGPRS1900	810	2	1	26.76	23.55	33.00	PASS
EGPRS1900	810	2	2	25.52	22.31	33.00	PASS
EGPRS1900	810	2	3	23.26	20.05	33.00	PASS
EGPRS1900	810	2	4	21.86	18.65	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	5.4	13	PASS
GSM1900	661	0	2.66	13	PASS
EGPRS1900	661	2	5.64	13	PASS

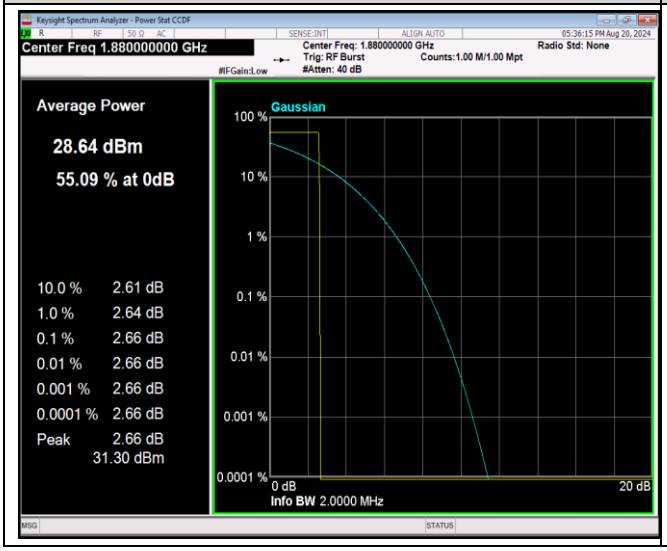
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

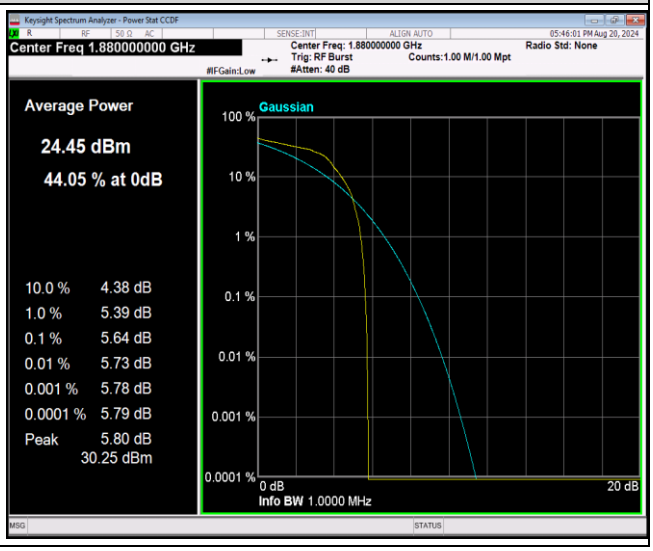
GSM850-190

EGPRS850-190

GSM1900-661



EGPRS1900-661



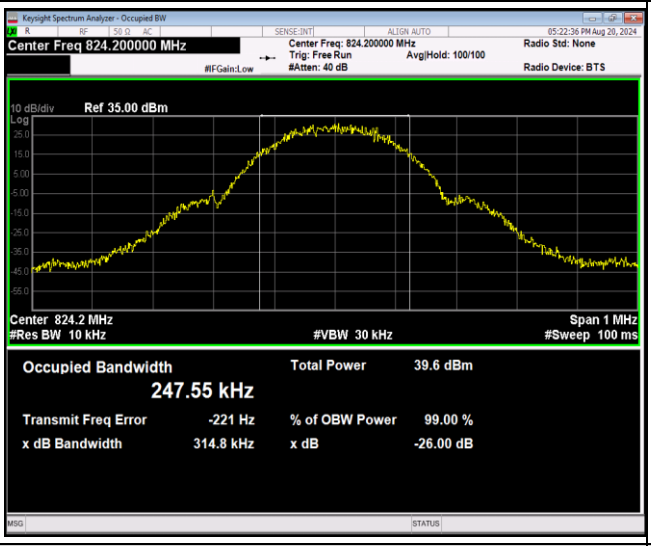
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

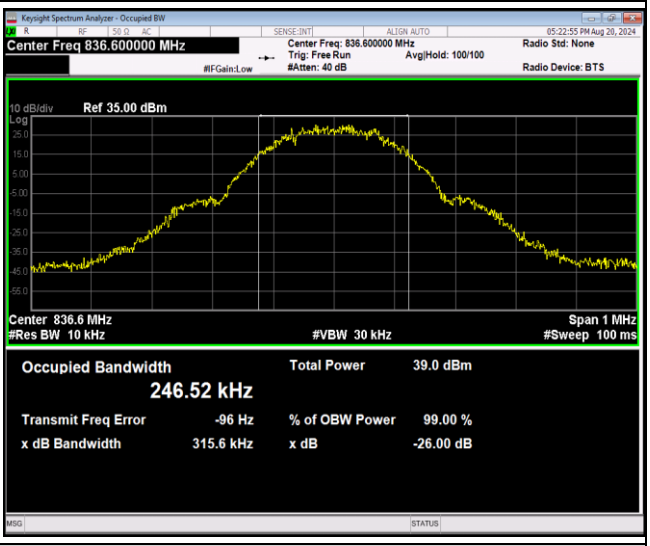
Band	Channel	PCL	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	5	0.24755	0.3148	---	PASS
GSM850	190	5	0.24652	0.3156	---	PASS
GSM850	251	5	0.24523	0.3133	---	PASS
EGPRS850	128	8	0.25100	0.3241	---	PASS
EGPRS850	190	8	0.25179	0.3173	---	PASS
EGPRS850	251	8	0.25332	0.3243	---	PASS
GSM1900	512	0	0.24597	0.3118	---	PASS
GSM1900	661	0	0.24736	0.3182	---	PASS
GSM1900	810	0	0.24757	0.3195	---	PASS
EGPRS1900	512	2	0.25216	0.3124	---	PASS
EGPRS1900	661	2	0.24677	0.3124	---	PASS
EGPRS1900	810	2	0.24950	0.3187	---	PASS

Test Graphs

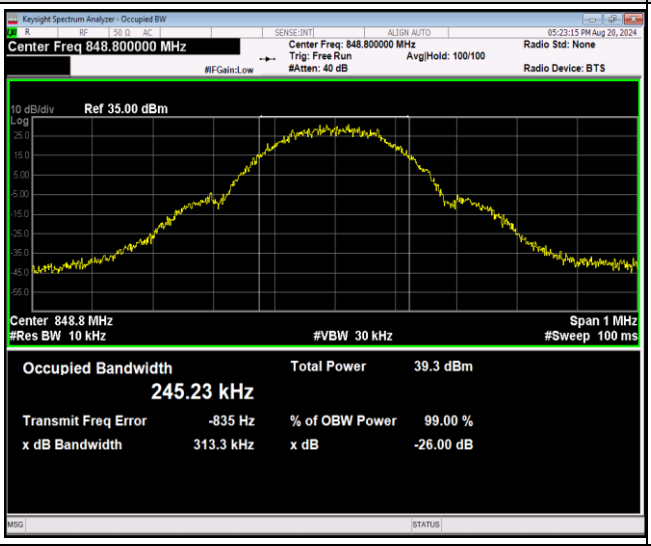
GSM850-128



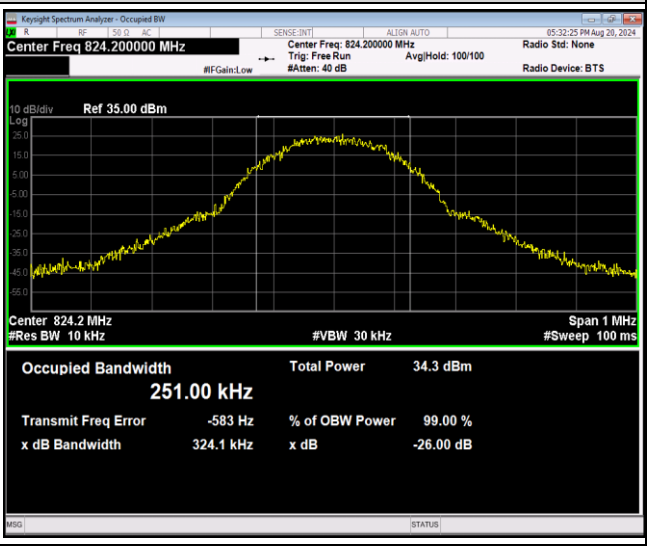
GSM850-190



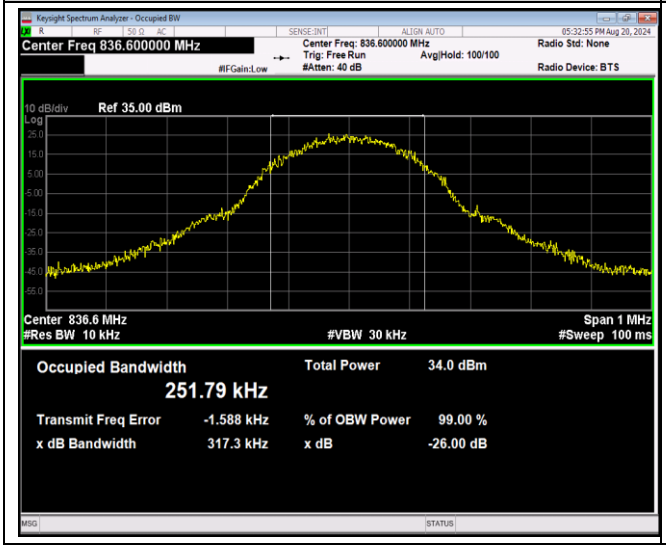
GSM850-251



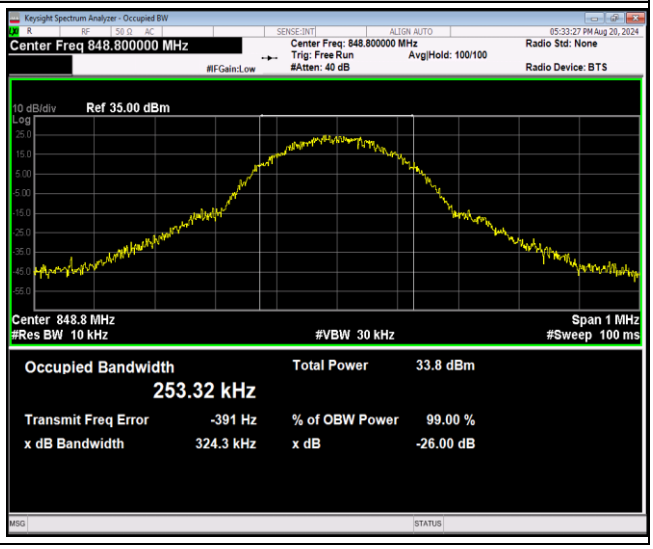
EGPRS850-128



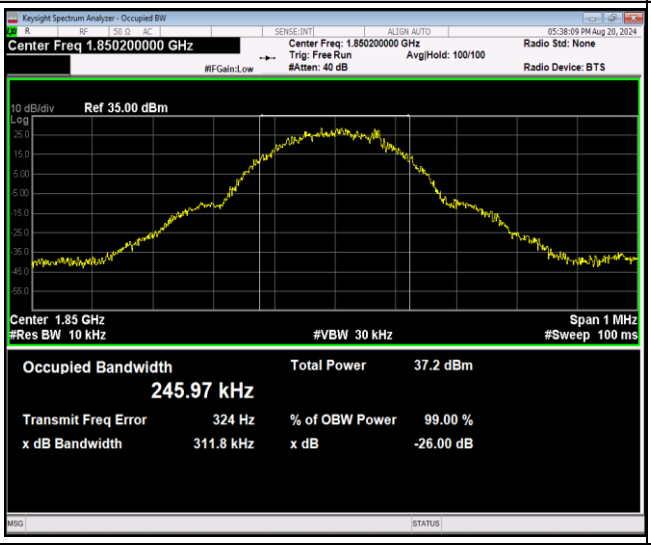
EGPRS850-190



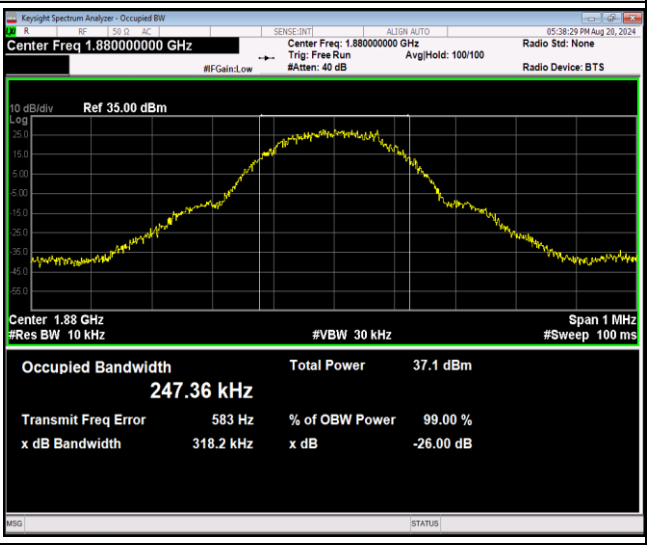
EGPRS850-251



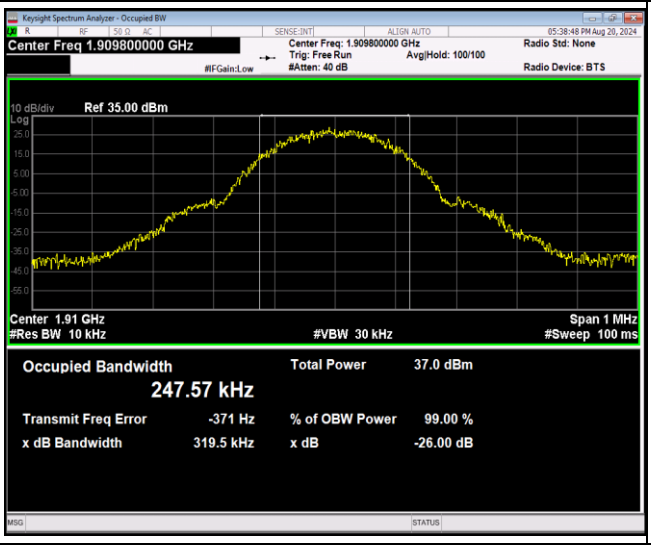
GSM1900-512



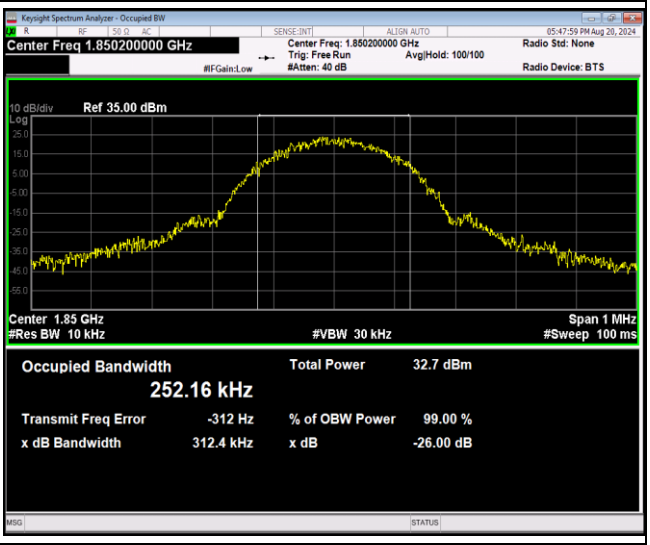
GSM1900-661



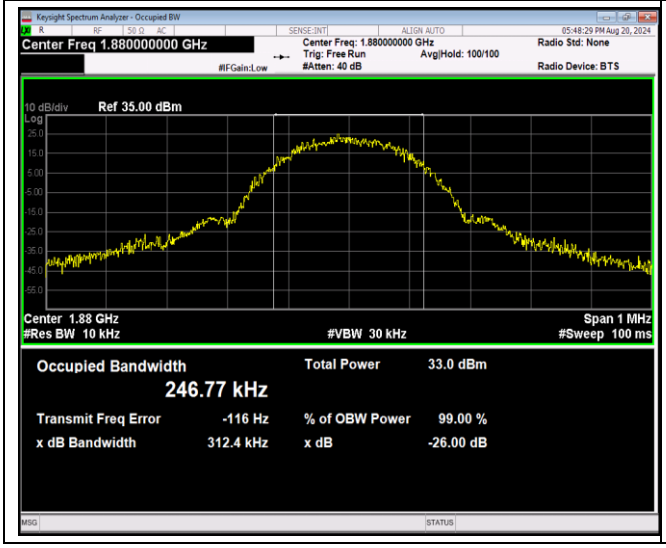
GSM1900-810



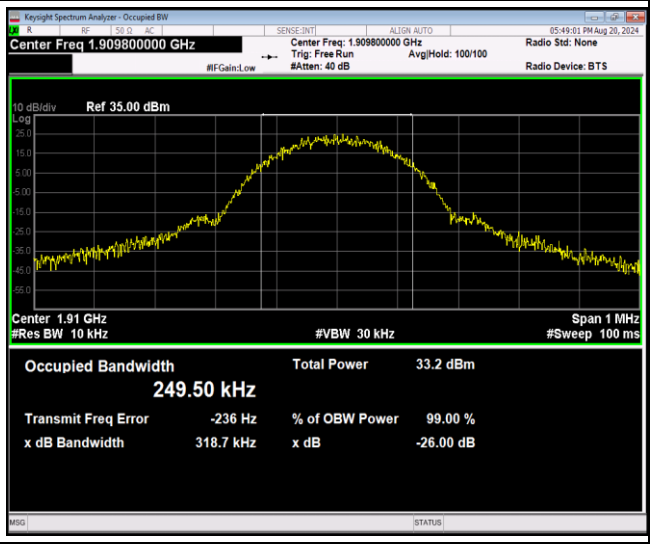
EGPRS1900-512



EGPRS1900-661



EGPRS1900-810



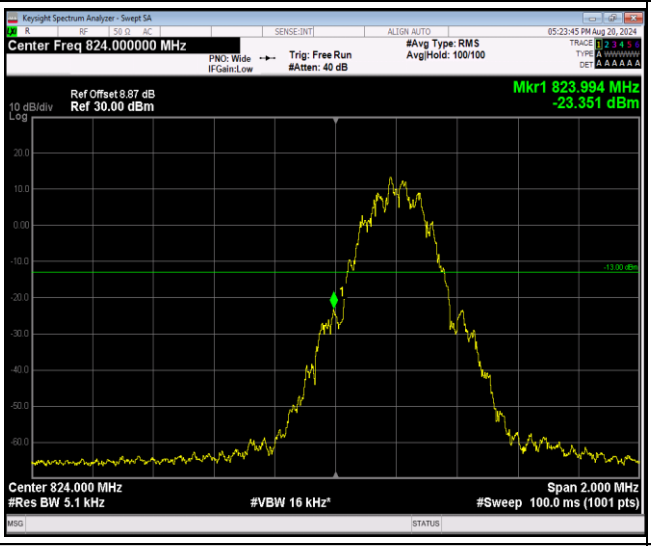
Appendix D: Band Edge

Test Result

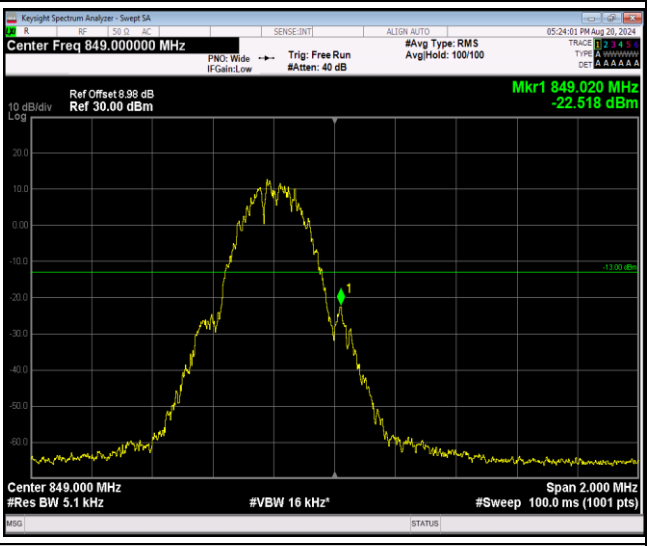
Band	Channel	PCL	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	5	823.99	-23.35	-13	PASS
GSM850	251	5	849.02	-22.52	-13	PASS
EGPRS850	128	8	823.97	-33.88	-13	PASS
EGPRS850	251	8	849.04	-33.49	-13	PASS
GSM1900	512	0	1850.00	-27.31	-13	PASS
GSM1900	810	0	1910.00	-26.98	-13	PASS
EGPRS1900	512	2	1849.97	-35.33	-13	PASS
EGPRS1900	810	2	1910.02	-35.19	-13	PASS

Test Graphs

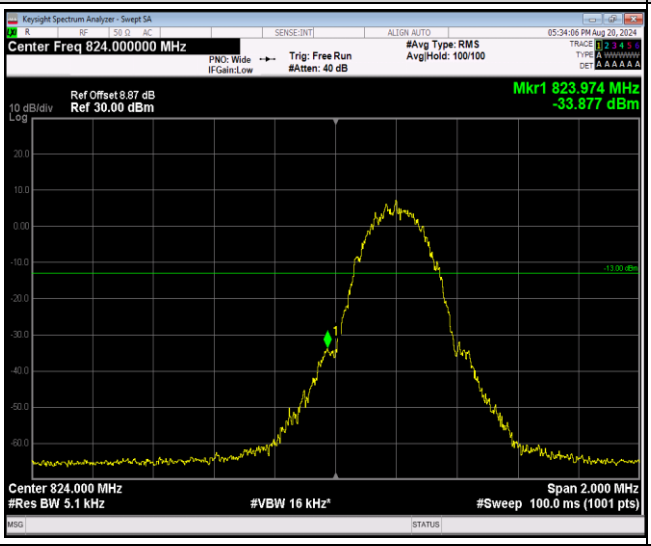
GSM850-128



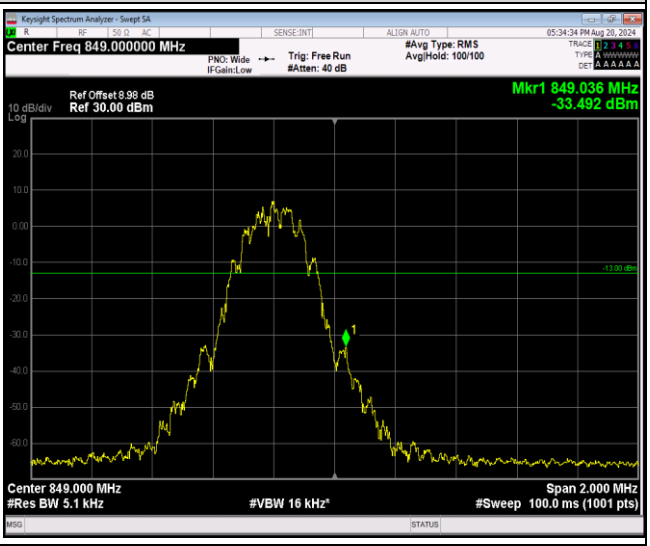
GSM850-251



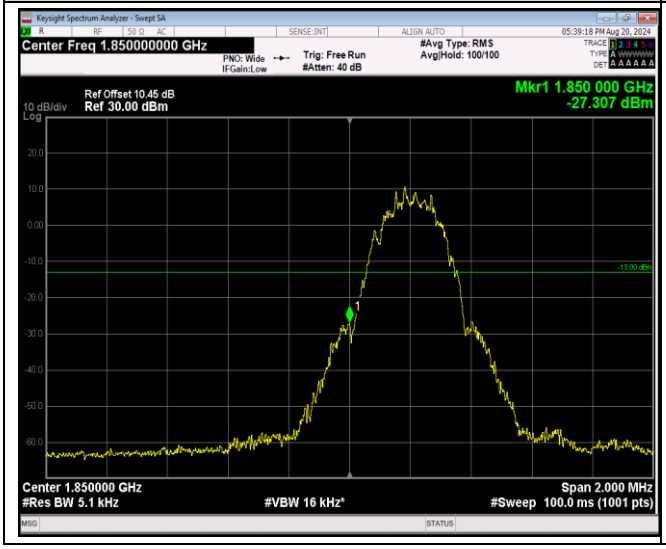
EGPRS850-128



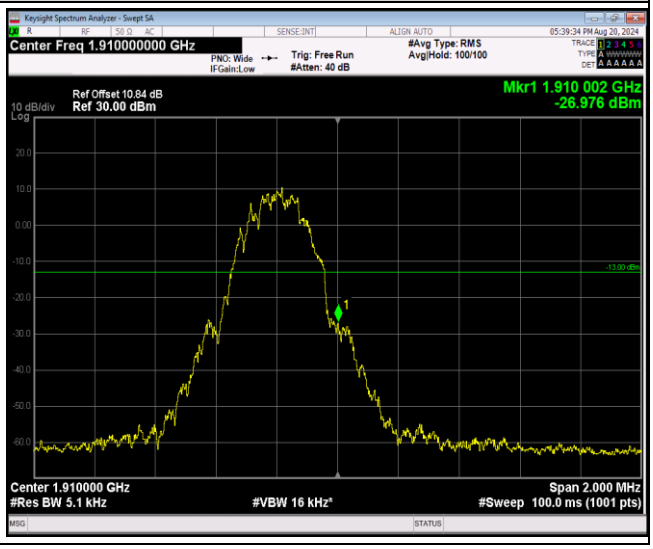
EGPRS850-251

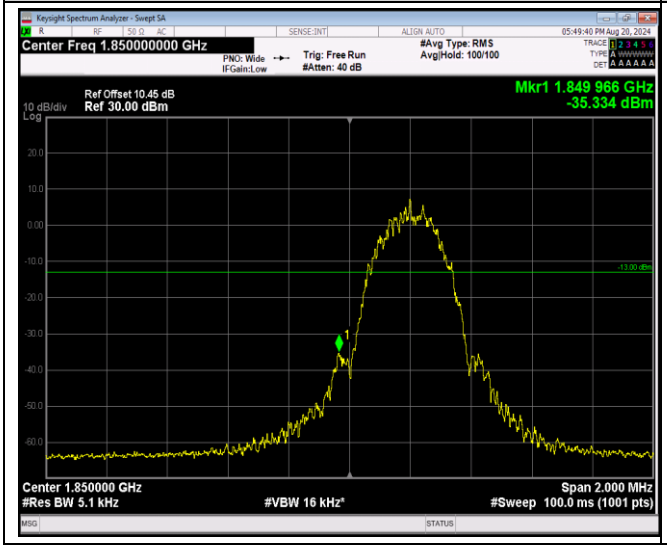
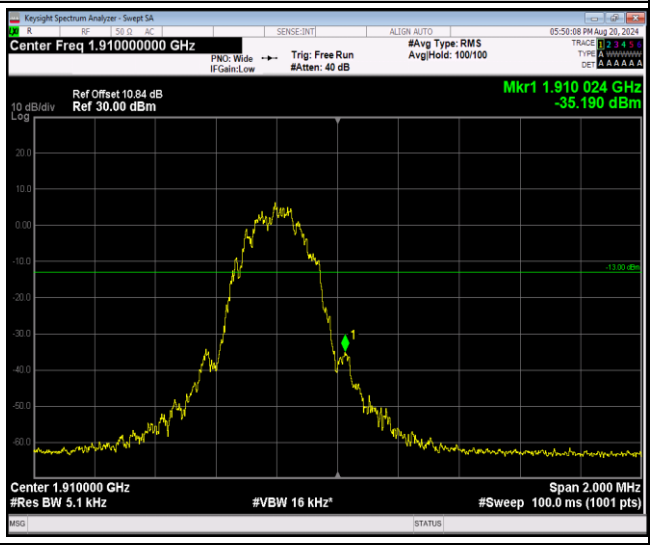


GSM1900-512



GSM1900-810



EGPRS1900-512	EGPRS1900-810
	

Appendix E: Conducted Spurious Emission

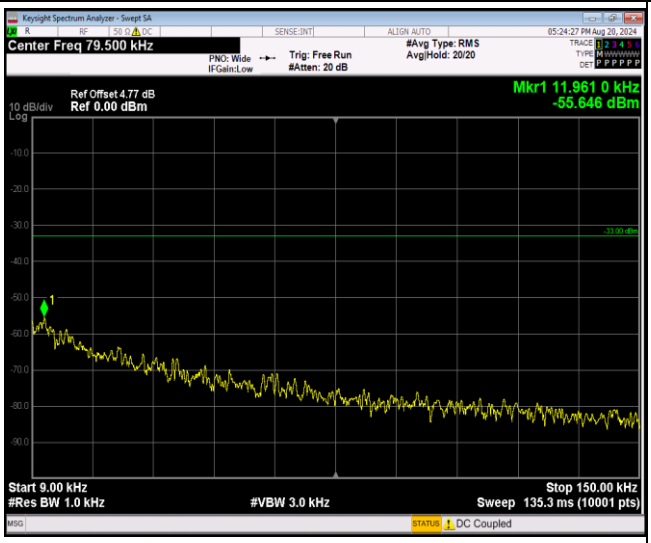
Test Result

Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	5	0.009~0.15MHz	0.01	-55.65	-33	PASS
GSM850	128	5	0.15~30MHz	0.16	-42.59	-13	PASS
GSM850	128	5	30~1000MHz	939.05	-45	-13	PASS
GSM850	128	5	1000~10000MHz	1648.6	-29.02	-13	PASS
GSM850	190	5	0.009~0.15MHz	0.01	-55.91	-33	PASS
GSM850	190	5	0.15~30MHz	0.15	-42.27	-13	PASS
GSM850	190	5	30~1000MHz	654.91	-45.75	-13	PASS
GSM850	190	5	1000~10000MHz	1673.2	-29.99	-13	PASS
GSM850	251	5	0.009~0.15MHz	0.01	-53.68	-33	PASS
GSM850	251	5	0.15~30MHz	0.15	-42.74	-13	PASS
GSM850	251	5	30~1000MHz	995.86	-45.33	-13	PASS
GSM850	251	5	1000~10000MHz	2546.5	-30.43	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-55.42	-43	PASS
GSM1900	512	0	0.15~30MHz	0.18	-44.49	-23	PASS
GSM1900	512	0	30~1000MHz	788.15	-44.69	-13	PASS
GSM1900	512	0	1000~18000MHz	16599.77	-22.32	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-55.67	-43	PASS
GSM1900	661	0	0.15~30MHz	0.16	-42.81	-23	PASS
GSM1900	661	0	30~1000MHz	796.82	-45.5	-13	PASS
GSM1900	661	0	1000~18000MHz	17003.8	-22.59	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-55.83	-43	PASS
GSM1900	810	0	0.15~30MHz	0.15	-43.33	-23	PASS
GSM1900	810	0	30~1000MHz	865.33	-45.74	-13	PASS
GSM1900	810	0	1000~18000MHz	17008.9	-21.53	-13	PASS

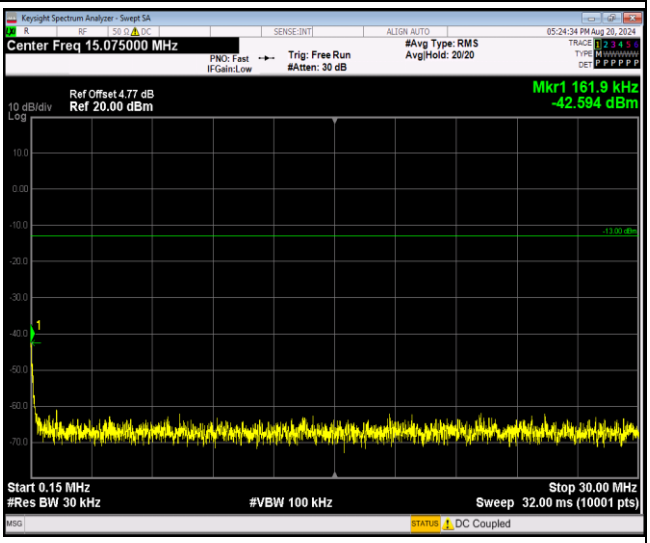
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

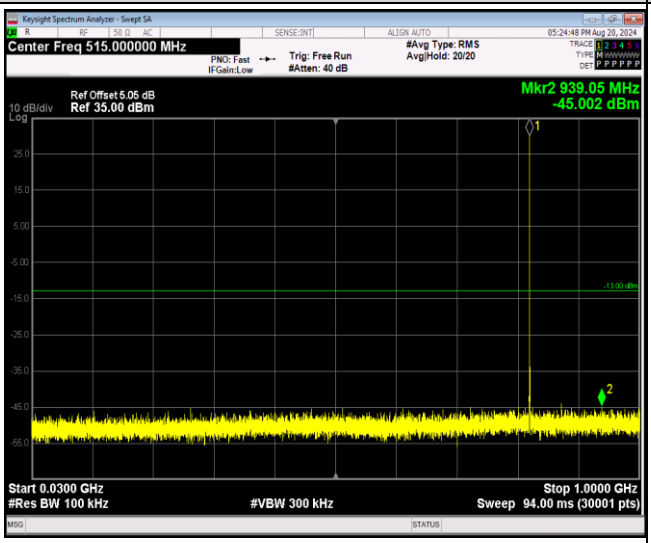
GSM850-128-0.009~0.15MHz



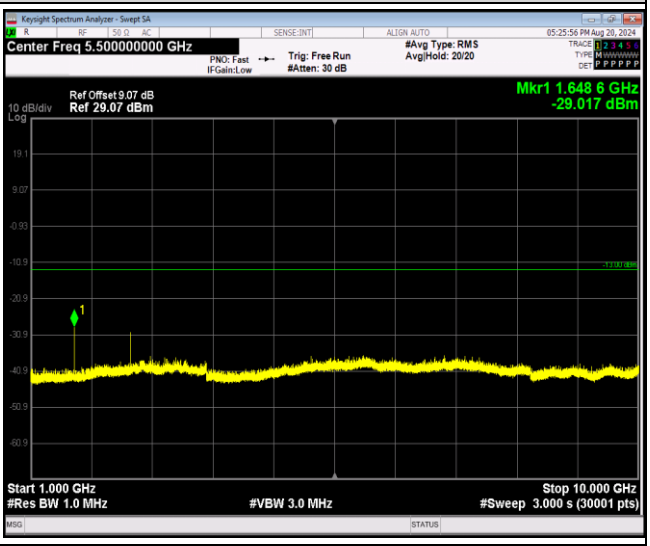
GSM850-128-0.15~30MHz



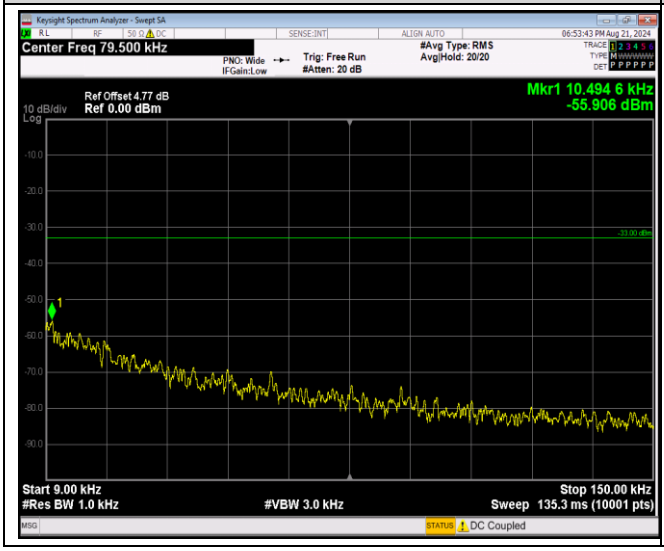
GSM850-128-30~1000MHz



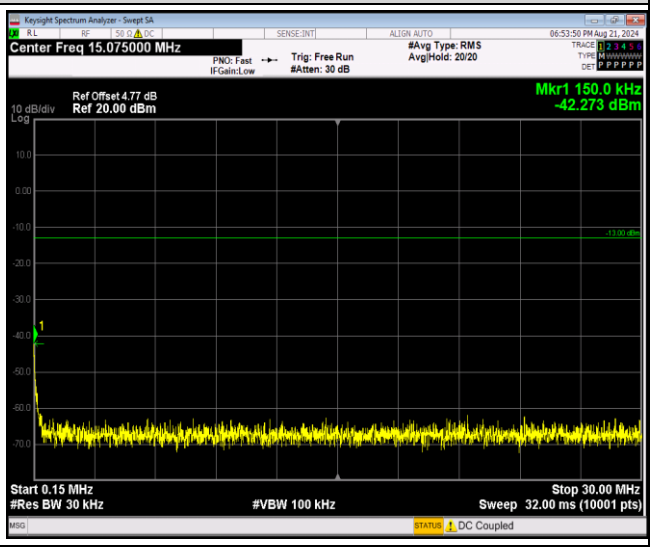
GSM850-128-1000~10000MHz



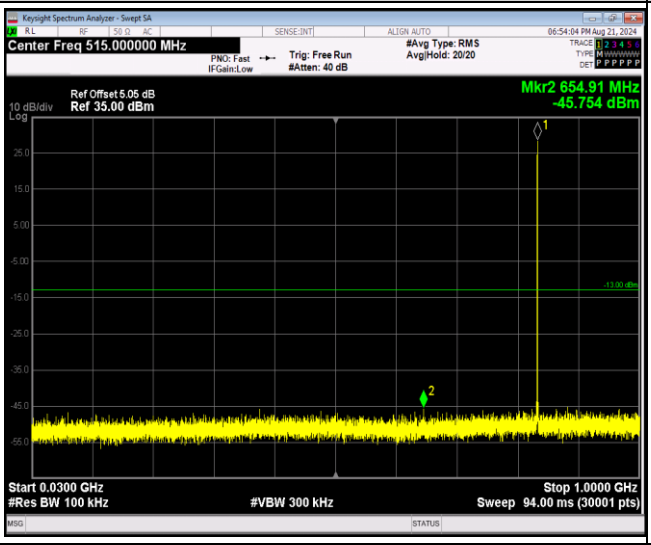
GSM850-190-0.009~0.15MHz



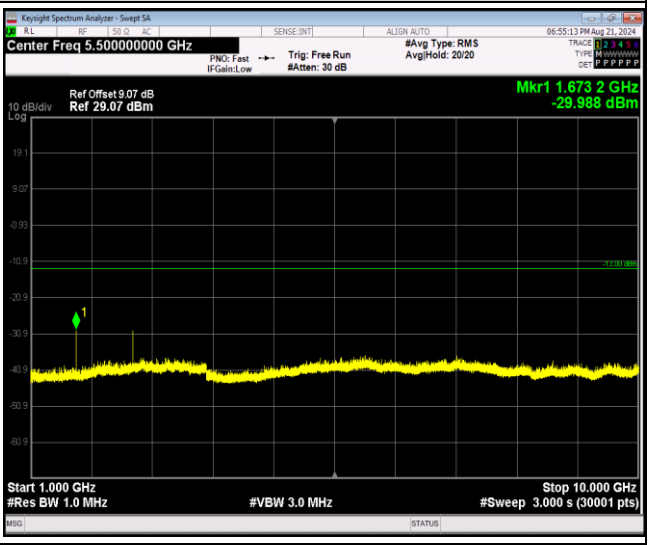
GSM850-190-0.15~30MHz



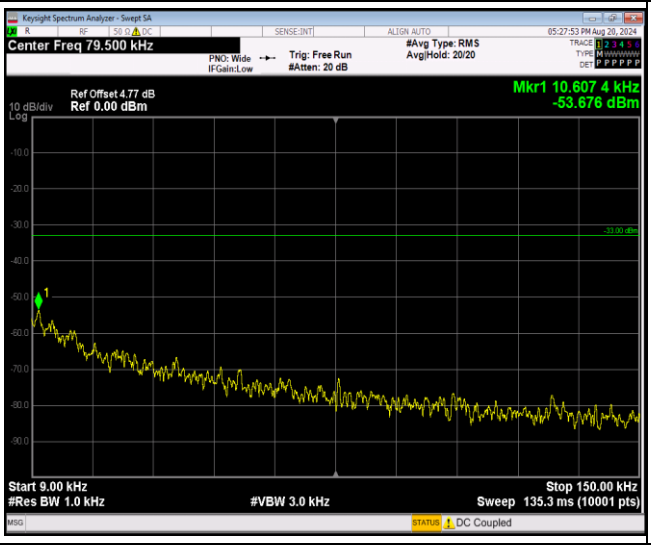
GSM850-190-30~1000MHz



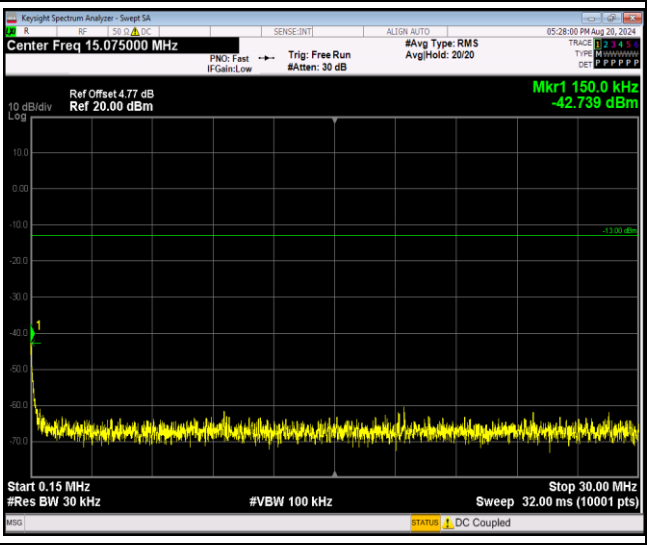
GSM850-190-1000~10000MHz



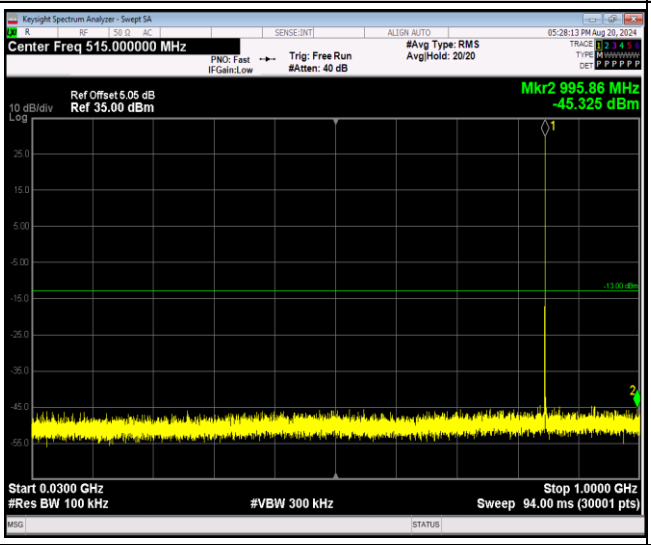
GSM850-251-0.009~0.15MHz



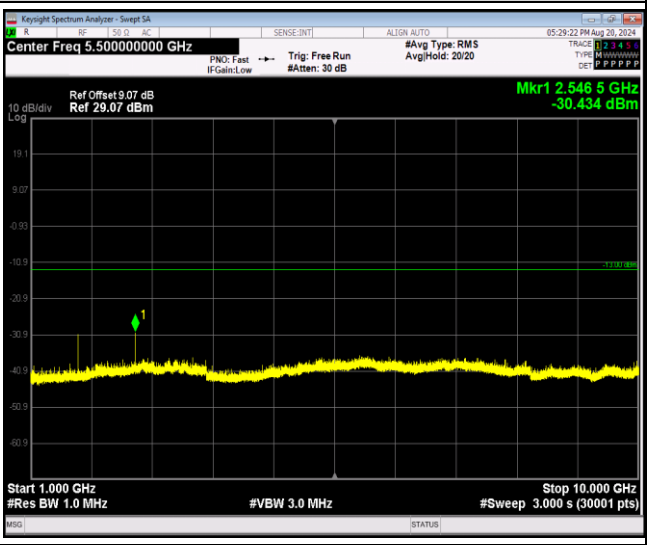
GSM850-251-0.15~30MHz



GSM850-251-30~1000MHz

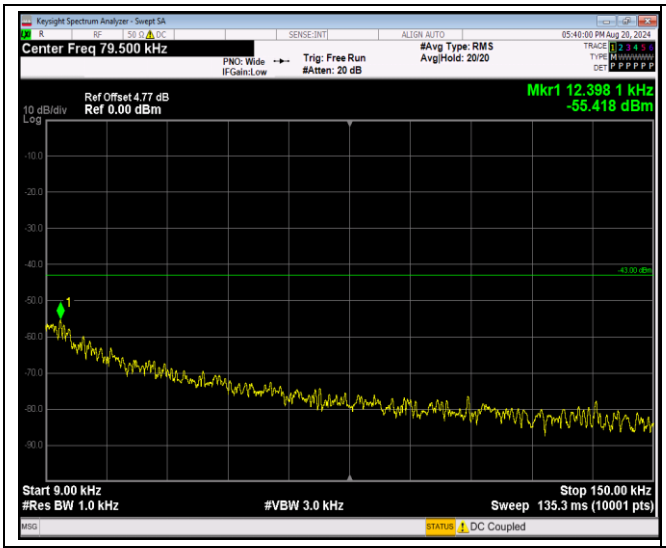


GSM850-251-1000~10000MHz

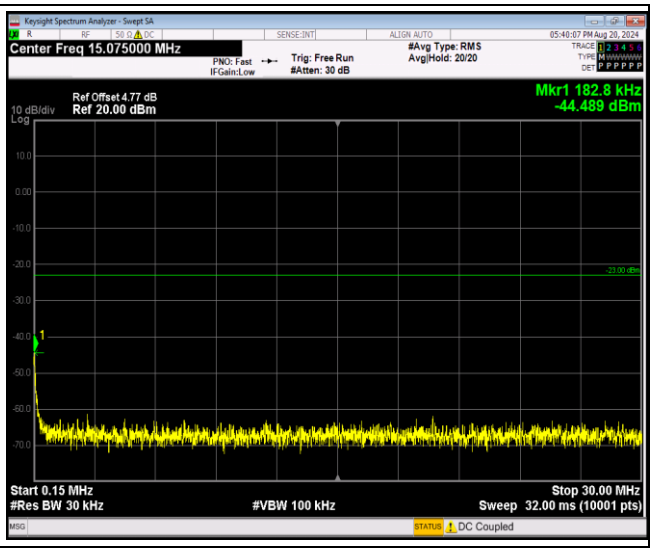


GSM1900-512-0.009~0.15MHz

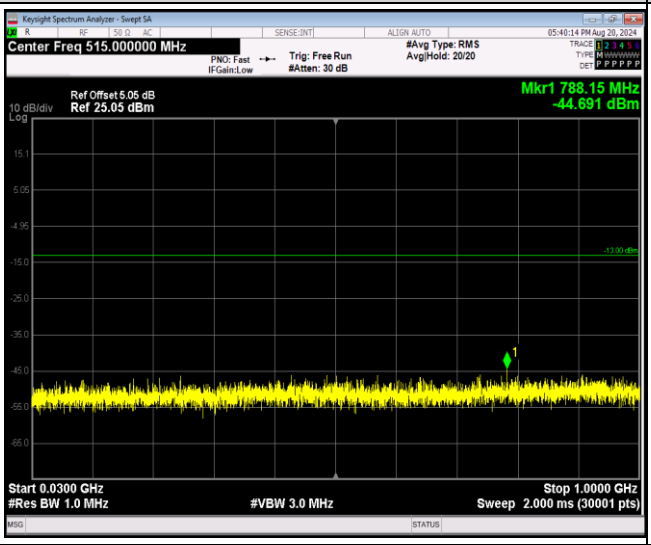
GSM1900-512-0.15~30MHz



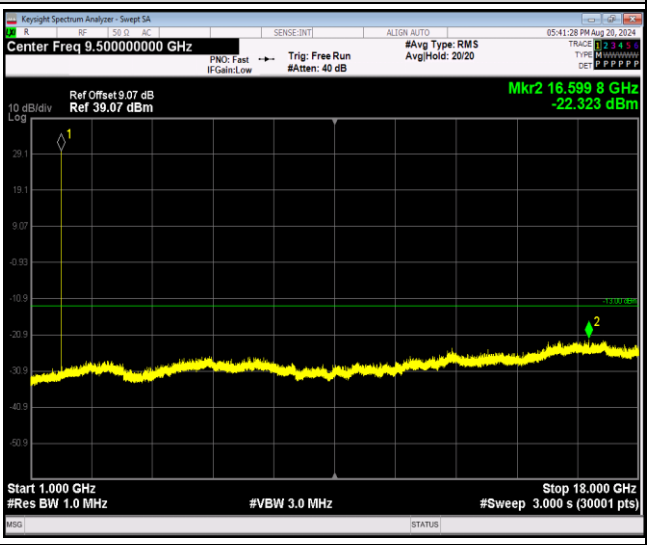
GSM1900-512-30~1000MHz



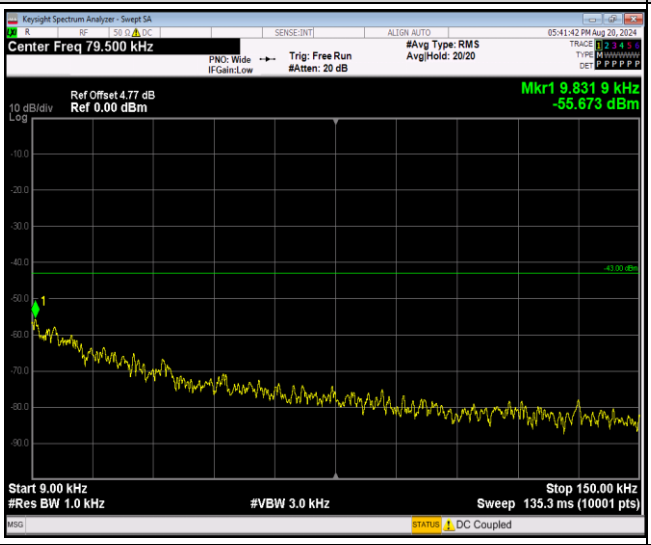
GSM1900-512-1000~18000MHz



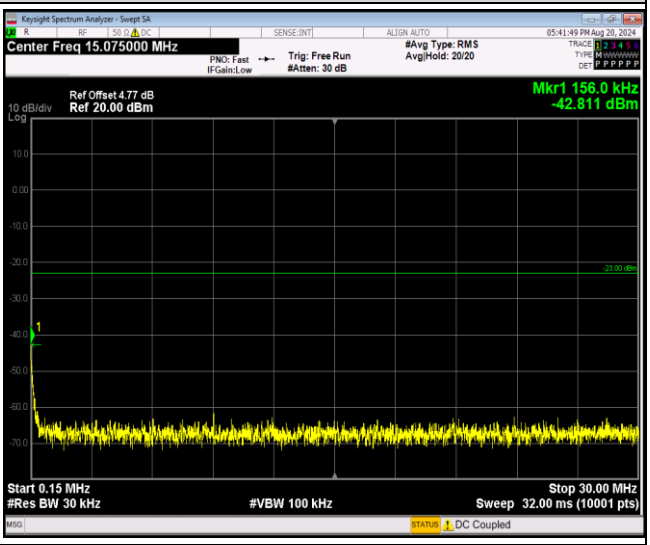
GSM1900-661-0.009~0.15MHz



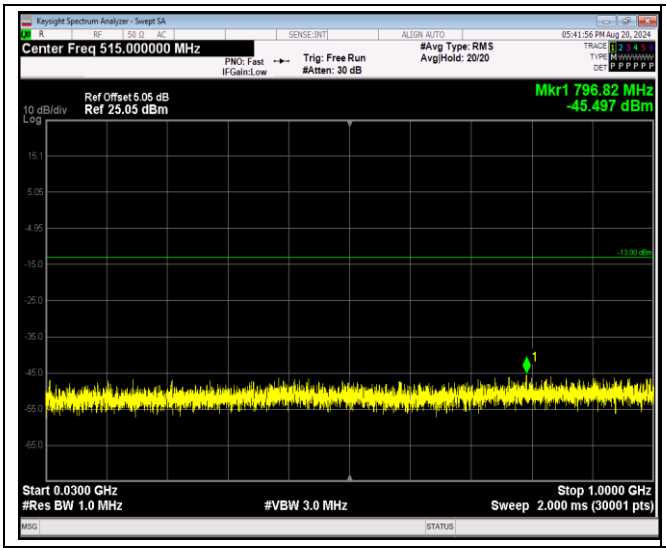
GSM1900-661-0.15~30MHz



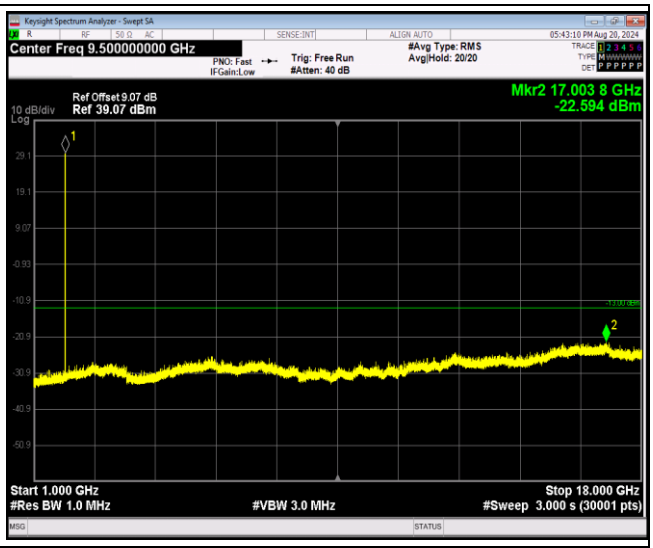
GSM1900-661-30~1000MHz



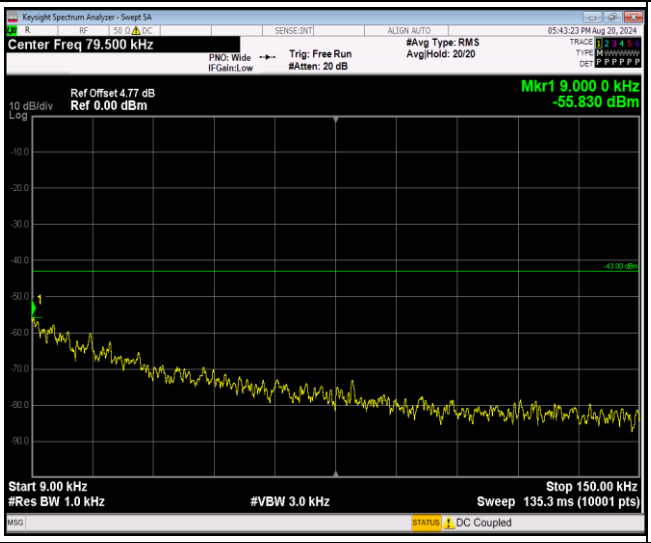
GSM1900-661-1000~18000MHz



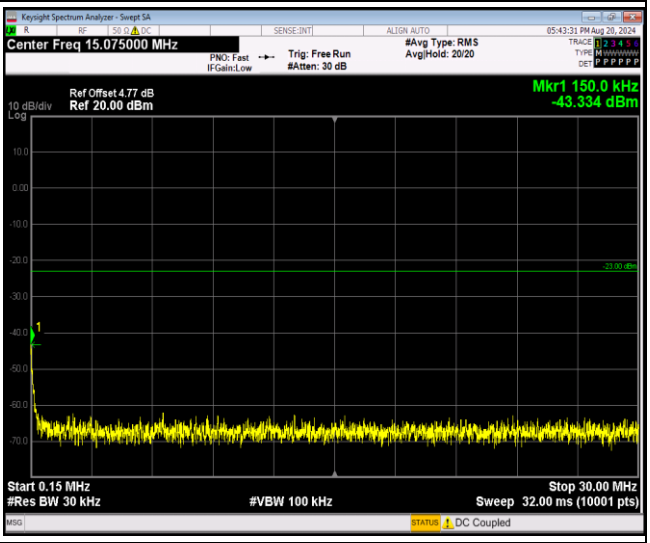
GSM1900-810-0.009~0.15MHz



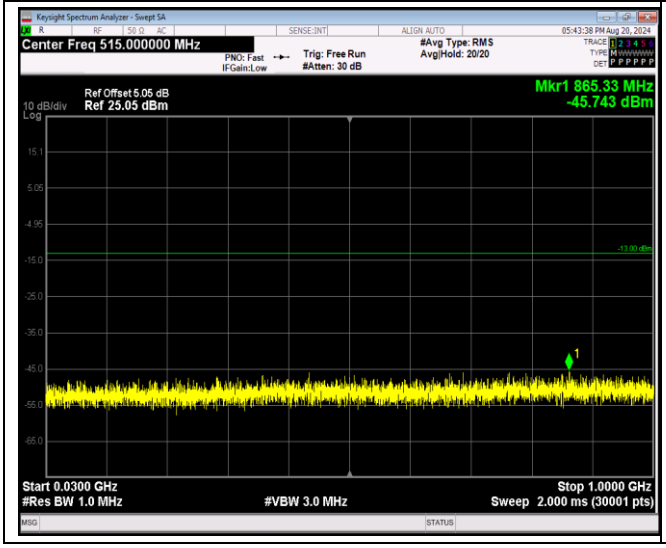
GSM1900-810-0.15~30MHz

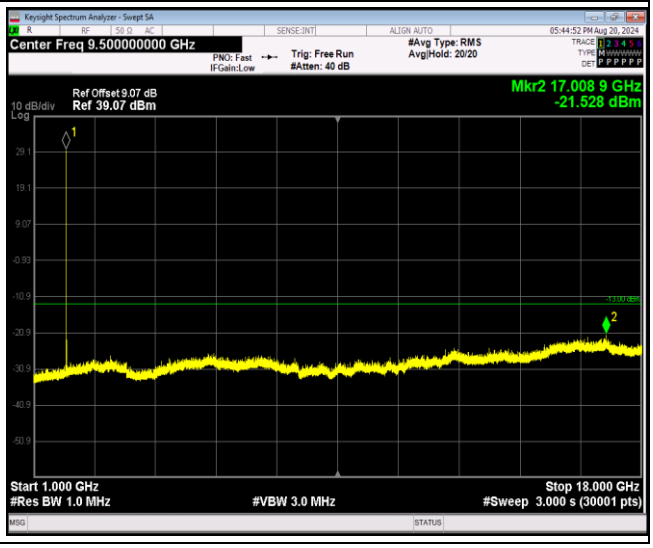


GSM1900-810-30~1000MHz



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	-7.91	-0.009455	±2.5	Pass
	-20	-7.46	-0.008917		
	-10	-10.36	-0.012383		
	0	-9.01	-0.010770		
	10	-5.75	-0.006873		
	20	-8.49	-0.010148		
	30	-7.55	-0.009025		
	40	-3.13	-0.003741		
	50	-1.45	-0.001733		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	-8.30	-0.009921	±2.5	Pass
	3.87	-12.40	-0.014822		
	4.45	-10.33	-0.012348		
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	-2.16	-0.002582	±2.5	Pass
	-20	-4.00	-0.004781		
	-10	-0.81	-0.000968		
	0	-3.65	-0.004363		
	10	-9.56	-0.011427		
	20	-6.07	-0.007256		
	30	-0.32	-0.000383		
	40	-6.23	-0.007447		
	50	-6.23	-0.007447		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	-1.19	-0.001422	±2.5	Pass
	3.87	-0.58	-0.000693		
	4.45	1.36	0.001626		
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	7.68	0.004085	Within authorized band for PCS 1900	Pass
	-20	5.91	0.003144		
	-10	0.16	0.000085		
	0	6.78	0.003606		
	10	4.33	0.002303		
	20	8.14	0.004330		
	30	13.75	0.007314		
	40	8.43	0.004484		
	50	19.08	0.010149		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	29.15	0.015505	Within authorized band for PCS 1900	Pass
	3.87	31.16	0.016574		
	4.45	24.25	0.012899		
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	0.55	0.000293	Within authorized band for PCS 1900	Pass
	-20	0.61	0.000324		
	-10	-6.17	-0.003282		
	0	-8.36	-0.004447		
	10	2.71	0.001441		
	20	-1.65	-0.000878		
	30	-5.13	-0.002729		
	40	-5.23	-0.002782		
	50	-4.62	-0.002457		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.45	-4.07	-0.002165	Within authorized band for PCS 1900	Pass
	3.87	-2.10	-0.001117		
	4.45	-3.55	-0.001888		
Remark: All channel had been tested, but only the worst case data displayed in this report.					

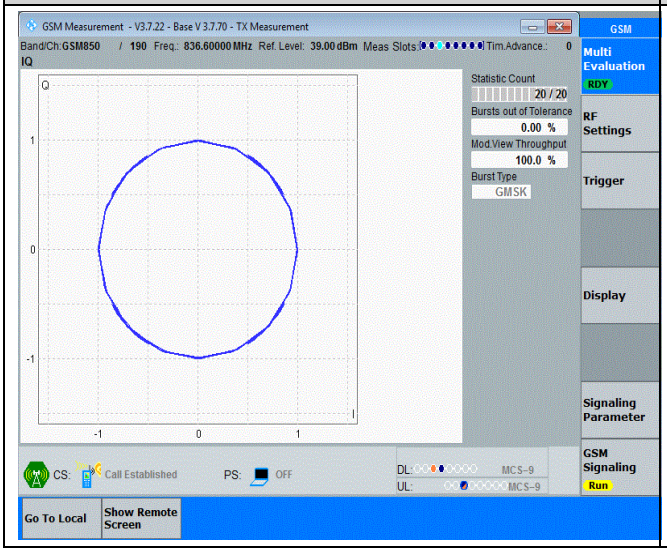
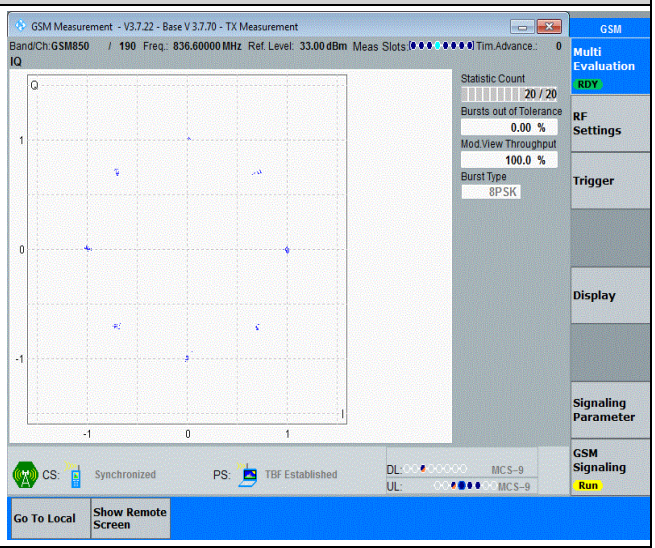
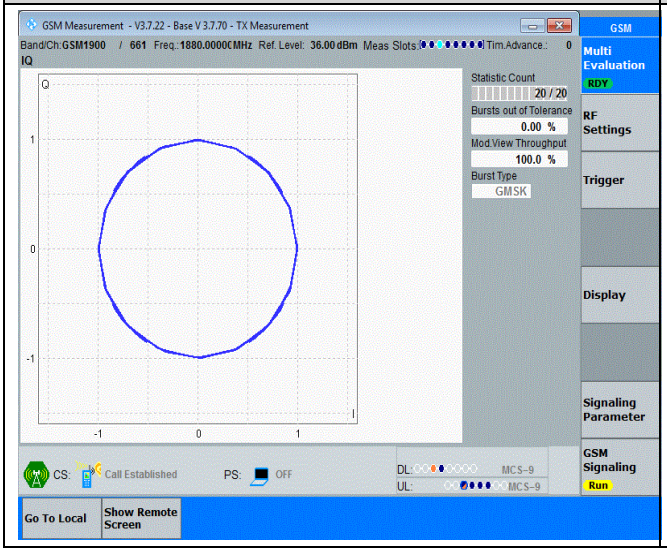
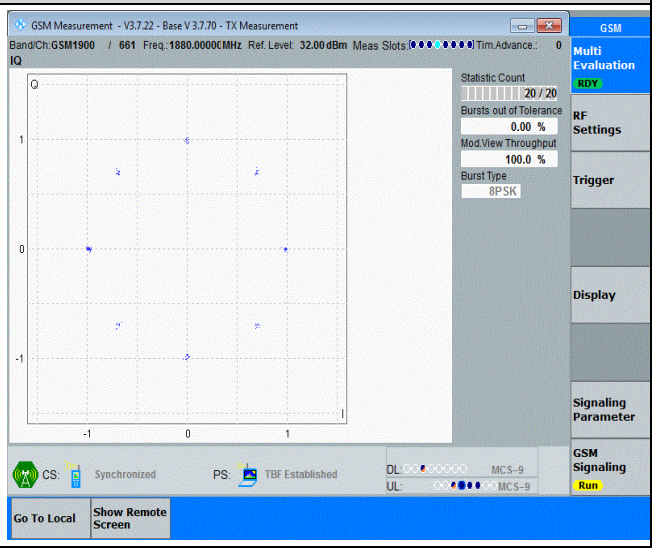
Appendix G: Modulation Characteristics

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**