Appendix A: Effective (Isotropic) Radiated Power Output Data

Test Result

Band	Channel	PCL	Average Power (dBm)	Antenna Gain (dBi)	ERP/EIRP(dBm)	ERP/EIRP Limit (dBm)
GSM850	128	0	33.98	-0.21	31.62	38.45
GSM850	190	0	33.89	-0.21	31.53	38.45
GSM850	251	0	33.82	-0.21	31.46	38.45
GSM1900	512	0	30.22	0.29	30.51	33.00
GSM1900	661	0	30.26	0.29	30.55	33.00
GSM1900	810	0	29.38	0.29	29.67	33.00

Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi). (For GSM 1900)
ERP (dBm) = EIRP (dBm) - 2.15 (dB). (For GSM 850)

Band	Channel	PCL	Slot	Average Power (dBm)	Antenna Gain (dBi)	ERP(dBm)	ERP/EIRP Limit (dBm)
GPRS850	128	3	1	34.01	-0.21	31.65	38.45
GPRS850	128	3	2	31.85	-0.21	29.49	38.45
GPRS850	128	3	3	29.91	-0.21	27.55	38.45
GPRS850	128	3	4	27.72	-0.21	25.36	38.45
GPRS850	190	3	1	33.87	-0.21	31.51	38.45
GPRS850	190	3	2	31.81	-0.21	29.45	38.45
GPRS850	190	3	3	29.90	-0.21	27.54	38.45
GPRS850	190	3	4	27.73	-0.21	25.37	38.45
GPRS850	251	3	1	33.81	-0.21	31.45	38.45
GPRS850	251	3	2	31.72	-0.21	29.36	38.45
GPRS850	251	3	3	29.81	-0.21	27.45	38.45
GPRS850	251	3	4	27.62	-0.21	25.26	38.45
EGPRS850	128	8	1	27.19	-0.21	24.83	38.45
EGPRS850	128	8	2	27.08	-0.21	24.72	38.45
EGPRS850	128	8	3	26.12	-0.21	23.76	38.45
EGPRS850	128	8	4	23.85	-0.21	21.49	38.45
EGPRS850	190	8	1	27.81	-0.21	25.45	38.45

EGPRS850	190	8	2	27.86	-0.21	25.50	38.45
EGPRS850	190	8	3	26.97	-0.21	24.61	38.45
EGPRS850	190	8	4	24.75	-0.21	22.39	38.45
EGPRS850	251	8	1	27.21	-0.21	24.85	38.45
EGPRS850	251	8	2	27.21	-0.21	24.85	38.45
EGPRS850	251	8	3	26.32	-0.21	23.96	38.45
EGPRS850	251	8	4	24.05	-0.21	21.69	38.45
GPRS1900	512	0	1	30.22	0.29	30.51	33.00
GPRS1900	512	0	2	27.86	0.29	28.15	33.00
GPRS1900	512	0	3	26.31	0.29	26.60	33.00
GPRS1900	512	0	4	24.15	0.29	24.44	33.00
GPRS1900	661	0	1	30.29	0.29	30.58	33.00
GPRS1900	661	0	2	27.54	0.29	27.83	33.00
GPRS1900	661	0	3	25.93	0.29	26.22	33.00
GPRS1900	661	0	4	23.73	0.29	24.02	33.00
GPRS1900	810	0	1	29.42	0.29	29.71	33.00
GPRS1900	810	0	2	26.68	0.29	26.97	33.00
GPRS1900	810	0	3	25.07	0.29	25.36	33.00
GPRS1900	810	0	4	22.87	0.29	23.16	33.00
EGPRS1900	512	2	1	26.72	0.29	27.01	33.00
EGPRS1900	512	2	2	26.47	0.29	26.76	33.00
EGPRS1900	512	2	3	24.69	0.29	24.98	33.00
EGPRS1900	512	2	4	22.46	0.29	22.75	33.00
EGPRS1900	661	2	1	26.58	0.29	26.87	33.00
EGPRS1900	661	2	2	26.39	0.29	26.68	33.00
EGPRS1900	661	2	3	24.78	0.29	25.07	33.00
EGPRS1900	661	2	4	22.47	0.29	22.76	33.00
EGPRS1900	810	2	1	25.86	0.29	26.15	33.00
EGPRS1900	810	2	2	25.76	0.29	26.05	33.00
EGPRS1900	810	2	3	24.10	0.29	24.39	33.00
EGPRS1900	810	2	4	22.00	0.29	22.29	33.00

Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi). (For GSM 1900)
ERP (dBm) = EIRP (dBm) - 2.15 (dB). (For GSM 850)

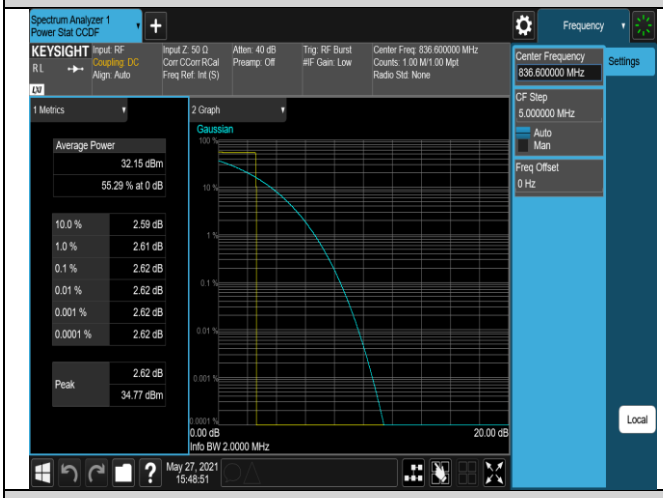
Appendix B: Peak-to-Average Ratio(CCDF)

Test Result

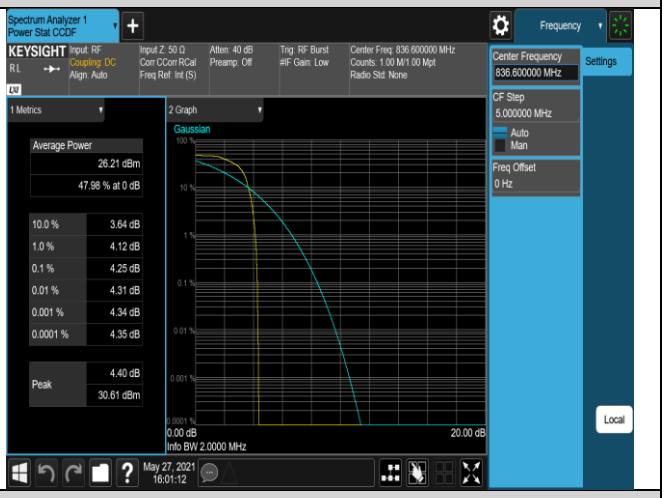
Band	Channel	PCL	Result(dB)	Limit(dB)	Verdict
GSM850	190	3	2.62	13	PASS
EGPRS850	190	8	4.25	13	PASS
GSM1900	661	0	2.66	13	PASS
EGPRS1900	661	2	5.41	13	PASS

Test Graphs

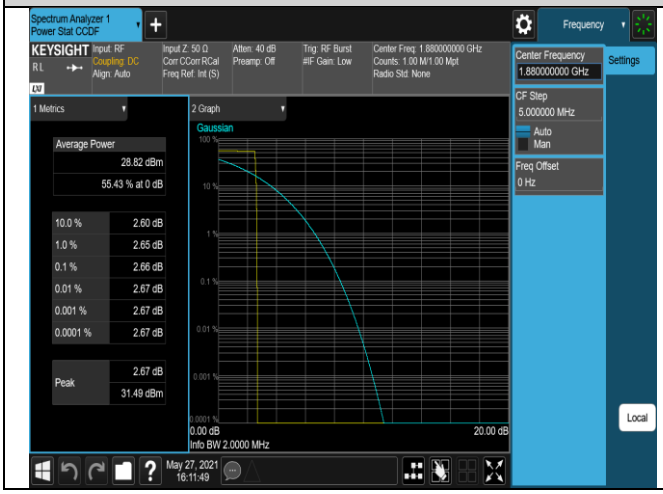
GSM850-190-3



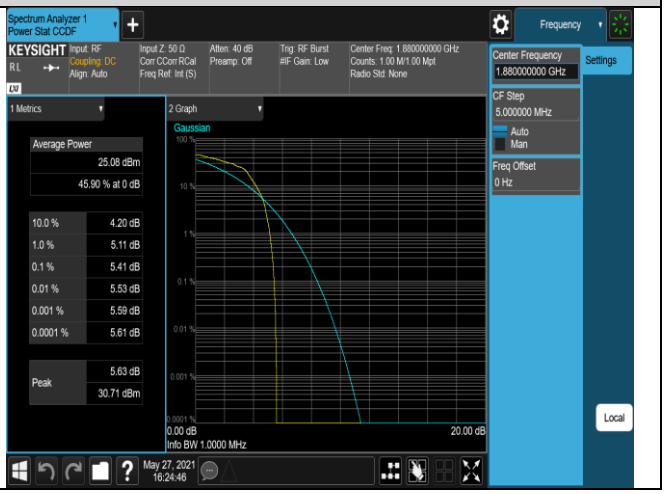
EGPRS850-190-8



GSM1900-661-0



EGPRS1900-661-2



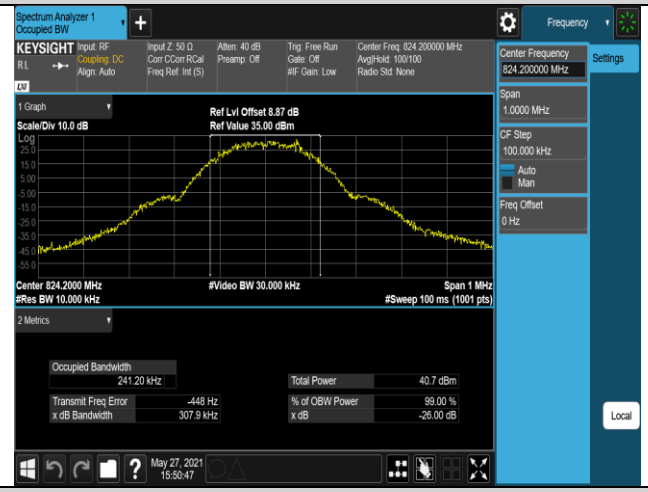
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

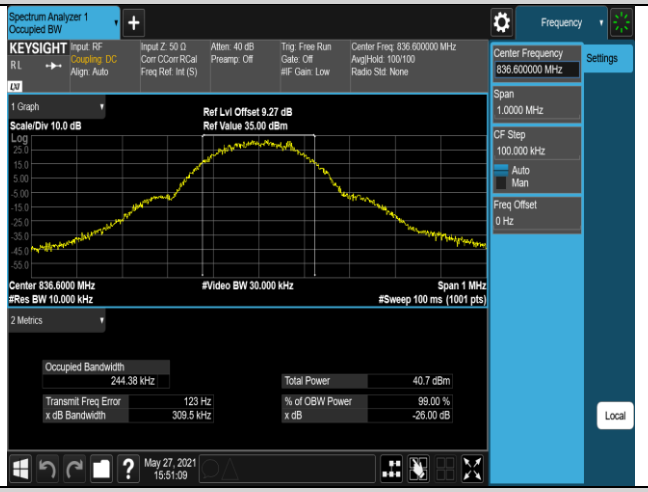
Band	Channel	PCL	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	3	0.24120	0.3079	---	PASS
GSM850	190	3	0.24438	0.3095	---	PASS
GSM850	251	3	0.24530	0.3114	---	PASS
EGPRS850	128	8	0.26841	0.3478	---	PASS
EGPRS850	190	8	0.27489	0.3903	---	PASS
EGPRS850	251	8	0.27399	0.3583	---	PASS
GSM1900	512	0	0.24390	0.3168	---	PASS
GSM1900	661	0	0.24546	0.3149	---	PASS
GSM1900	810	0	0.24322	0.3234	---	PASS
EGPRS1900	512	2	0.25241	0.3147	---	PASS
EGPRS1900	661	2	0.25404	0.3212	---	PASS
EGPRS1900	810	2	0.25743	0.3226	---	PASS

Test Graphs

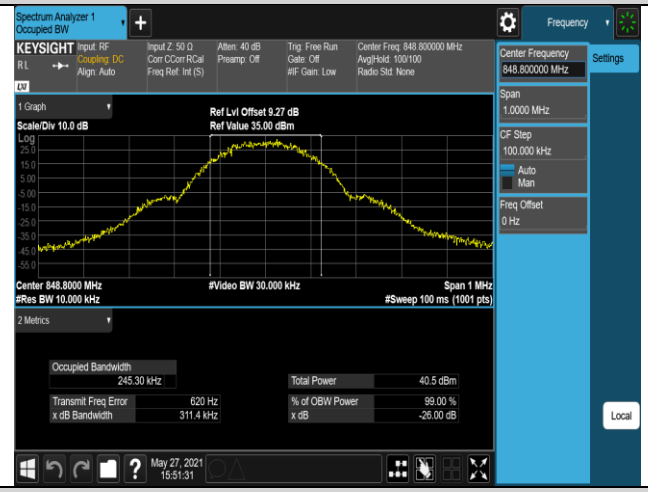
GSM850-128-3-0.3079



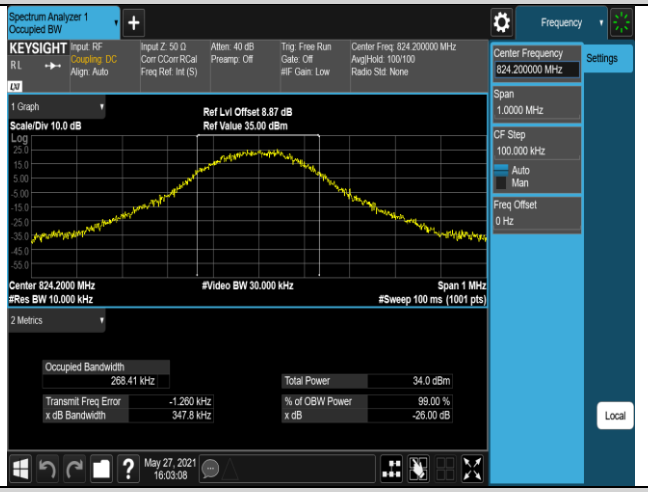
GSM850-190-3-0.3095



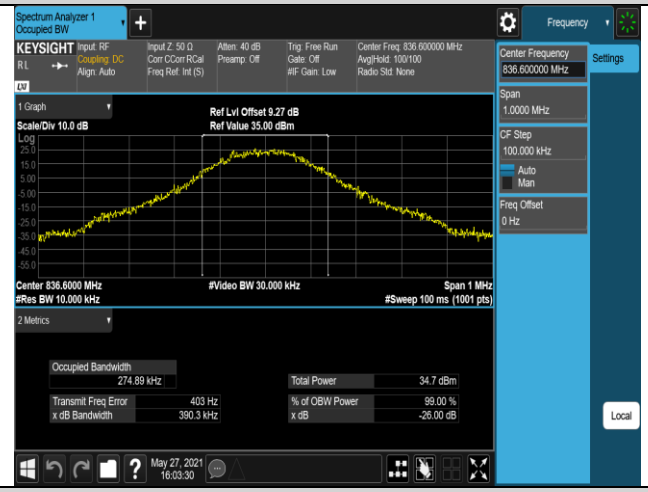
GSM850-251-3-0.3114



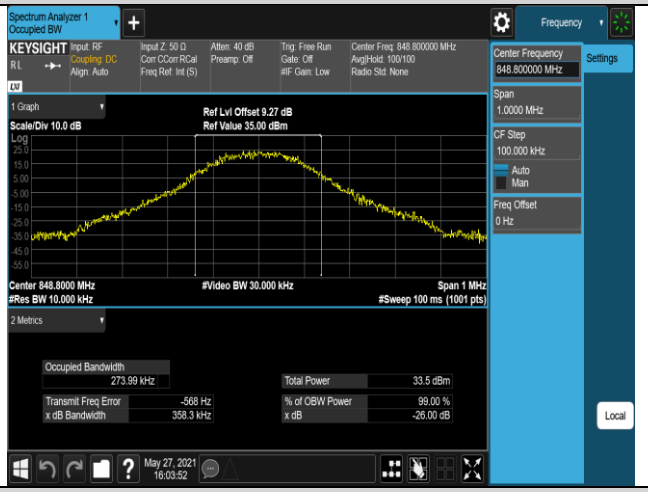
EGPRS850-128-8-0.3478



EGPRS850-190-8-0.3903

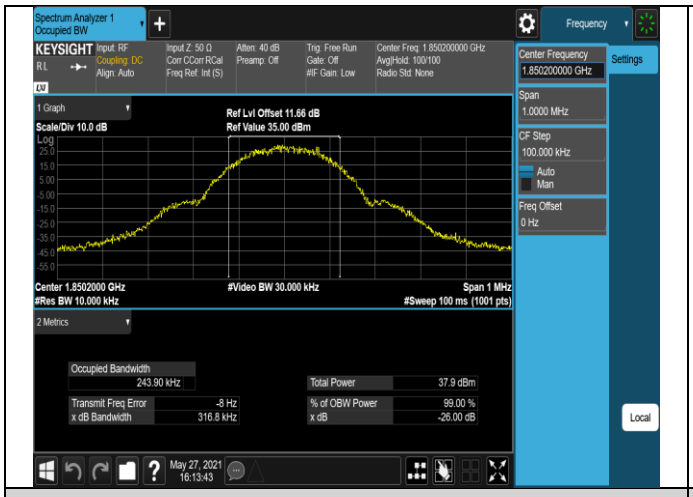


EGPRS850-251-8-0.3583

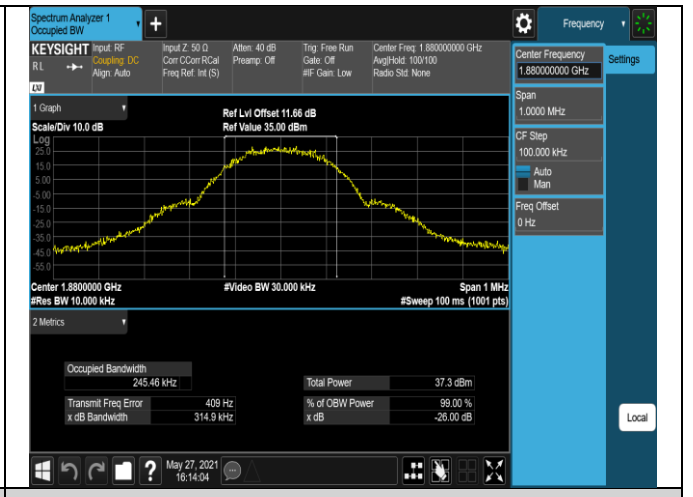


GSM1900-512-0-0.3168

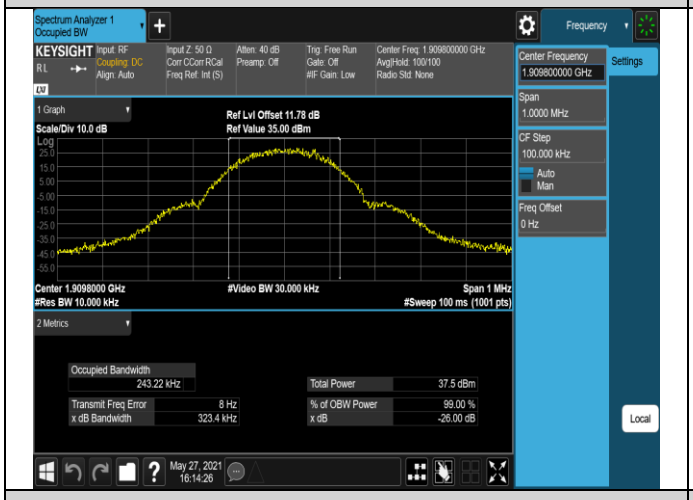
GSM1900-661-0-0.3149



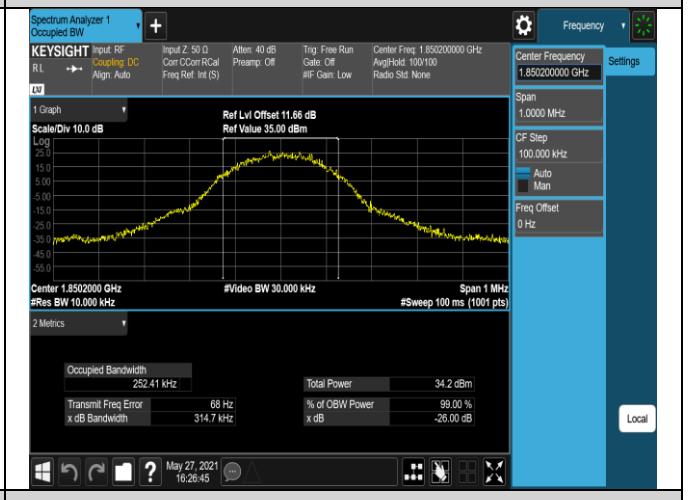
GSM1900-810-0-0.3234



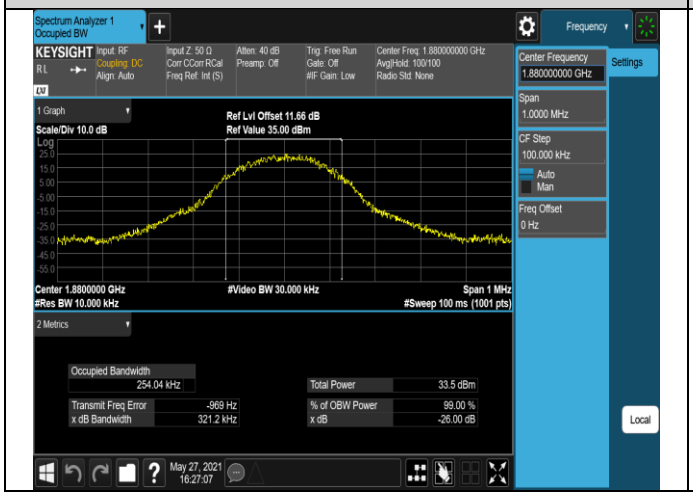
EGPRS1900-512-2-0.3147

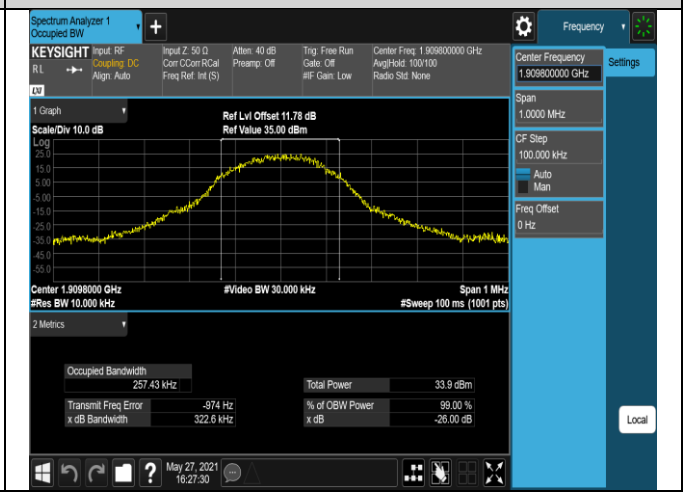


EGPRS1900-661-2-0.3212



EGPRS1900-810-2-0.3226



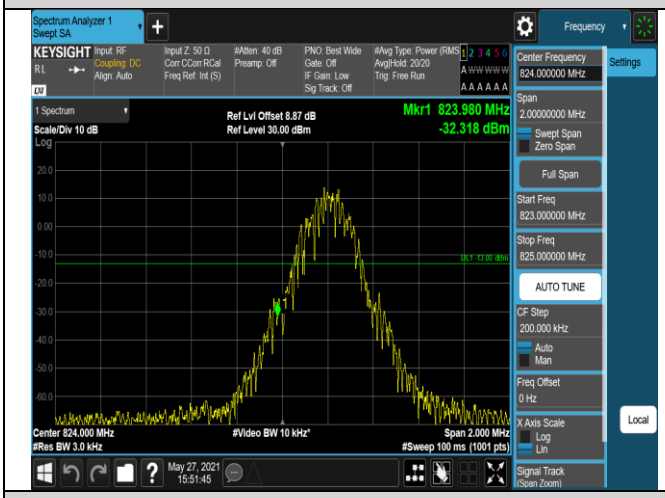
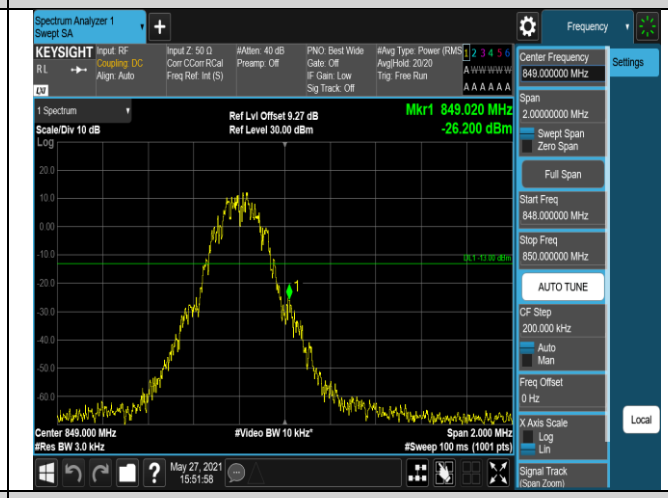
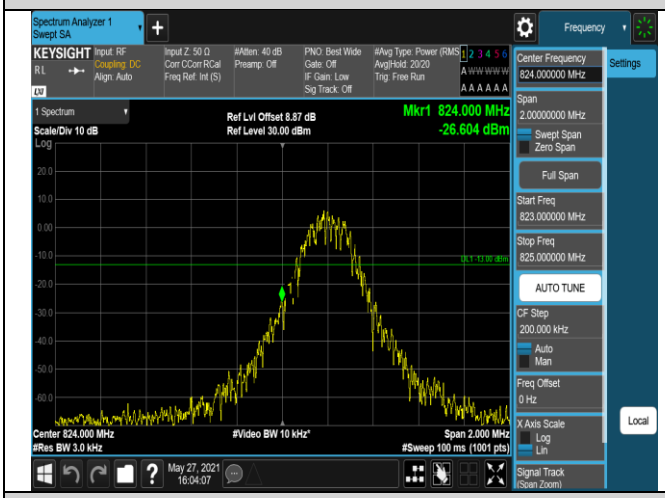
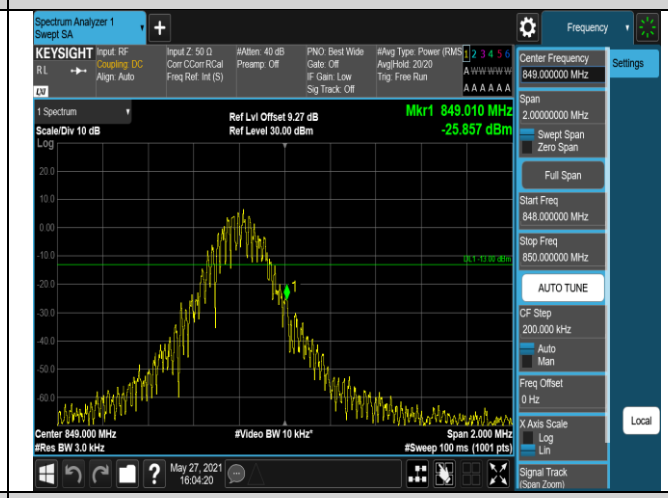
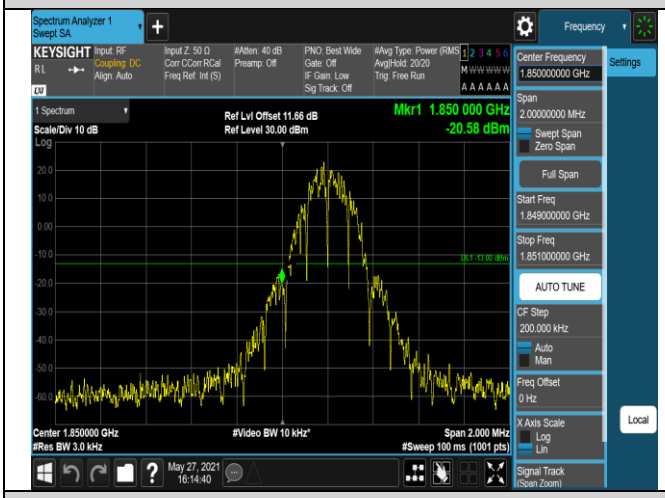
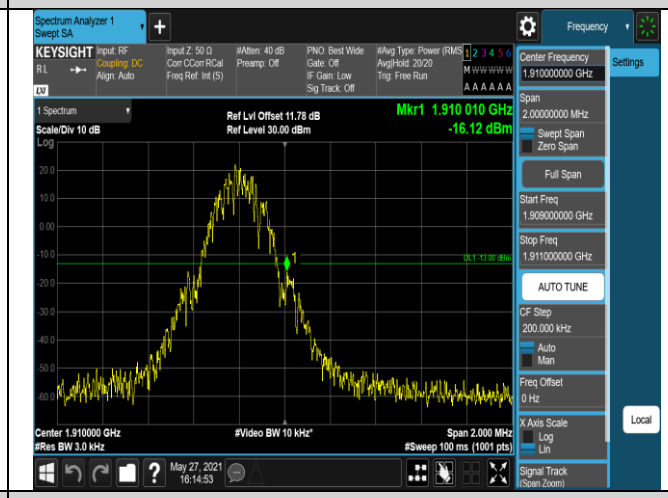


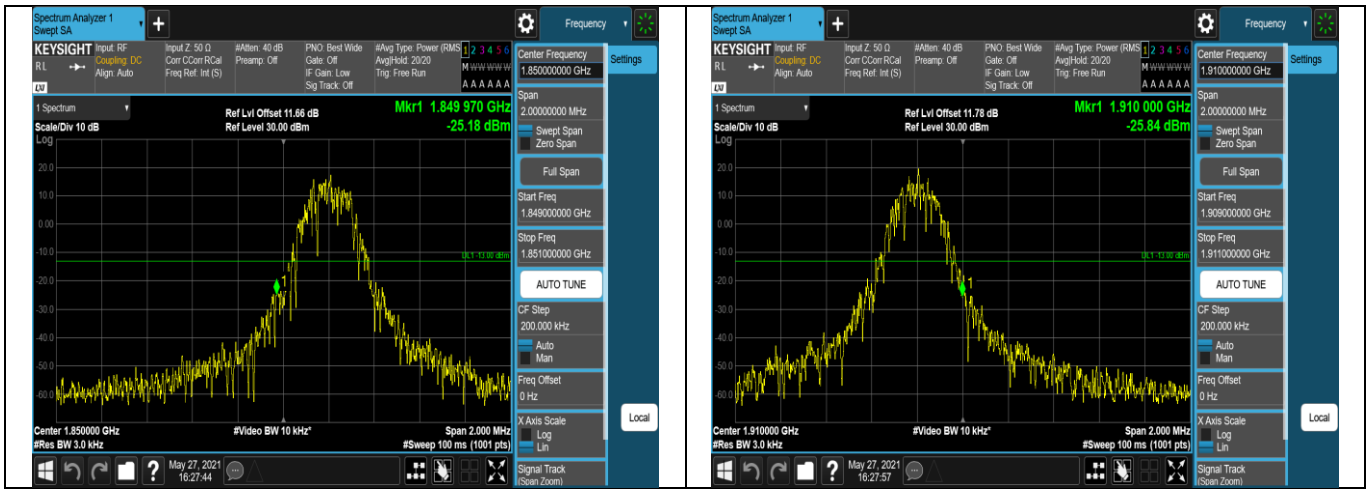
Appendix D: Band Edge

Test Result

Band	Channel	PCL	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	3	823.98	-25.46	-13	PASS
GSM850	251	3	849.02	-24.95	-13	PASS
EGPRS850	128	8	824.00	-24.71	-13	PASS
EGPRS850	251	8	849.01	-24.09	-13	PASS
GSM1900	512	0	1850.00	-15.13	-13	PASS
GSM1900	810	0	1910.01	-16.12	-13	PASS
EGPRS1900	512	2	1849.97	-22.80	-13	PASS
EGPRS1900	810	2	1910.00	-18.14	-13	PASS

Test Graphs

GSM850-128-3	GSM850-251-3
	
EGPRS850-128-8	EGPRS850-251-8
	
GSM1900-512-0	GSM1900-810-0
	
EGPRS1900-512-2	EGPRS1900-810-2


Spectrum Analyzer 1
Swept SA
KEYSIGHT
Frequency
Center Frequency
1.850000000 GHz
Settings
Span
2.00000000 MHz
Swept Span
Zero Span
Full Span
Start Freq
1.849000000 GHz
Stop Freq
1.851000000 GHz
AUTO TUNE
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Signal Track
(Span Zoom)
Local
1 Spectrum
Ref Lvl Offset 11.66 dB
Ref Level 30.00 dBm
Mkr1 1.849 970 GHz
-25.18 dBm
Scale/Div 10 dB
Log
Center 1.850000 GHz
#Res BW 3.0 kHz
#Video BW 10 kHz*
Span 2.000 MHz
#Sweep 100 ms (1001 pts)
May 27, 2021
16:27:44
Spectrum Analyzer 1
Swept SA
KEYSIGHT
Frequency
Center Frequency
1.910000000 GHz
Settings
Span
2.00000000 MHz
Swept Span
Zero Span
Full Span
Start Freq
1.909000000 GHz
Stop Freq
1.911000000 GHz
AUTO TUNE
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Signal Track
(Span Zoom)
Local
1 Spectrum
Ref Lvl Offset 11.78 dB
Ref Level 30.00 dBm
Mkr1 1.910 000 GHz
-25.84 dBm
Scale/Div 10 dB
Log
Center 1.910000 GHz
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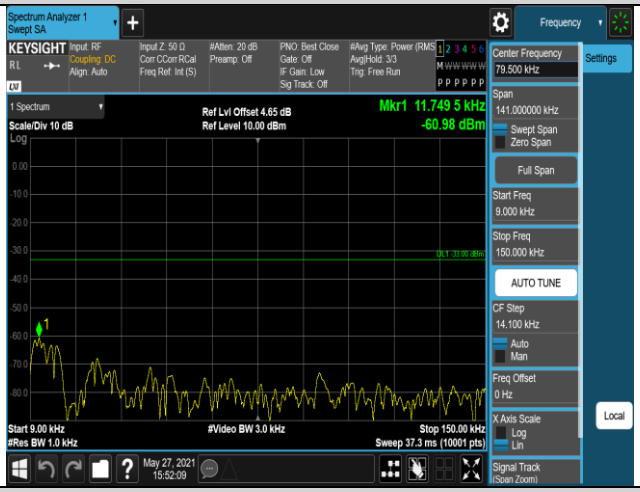
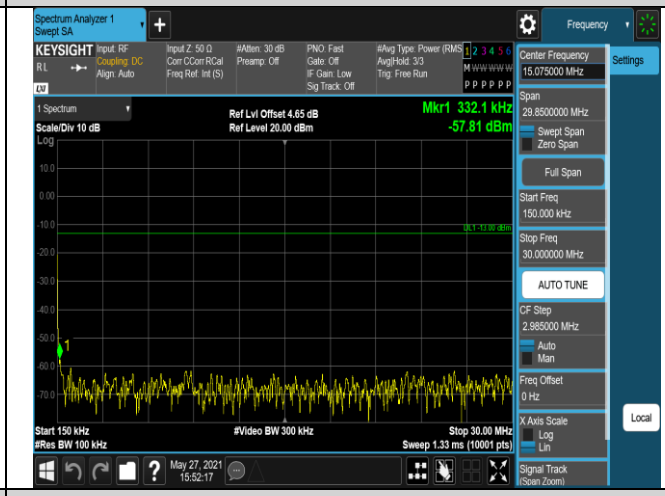
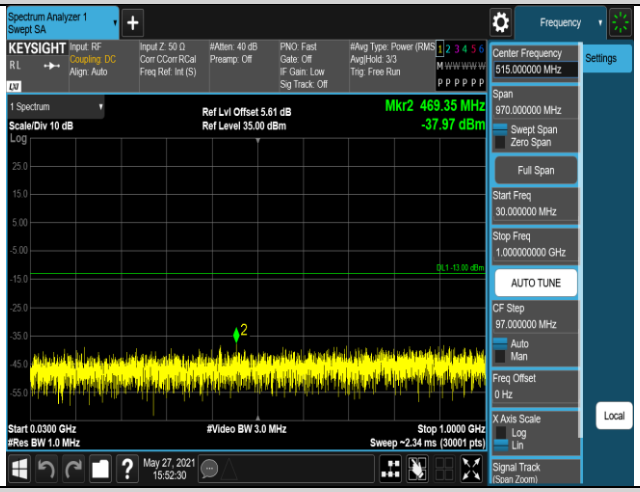
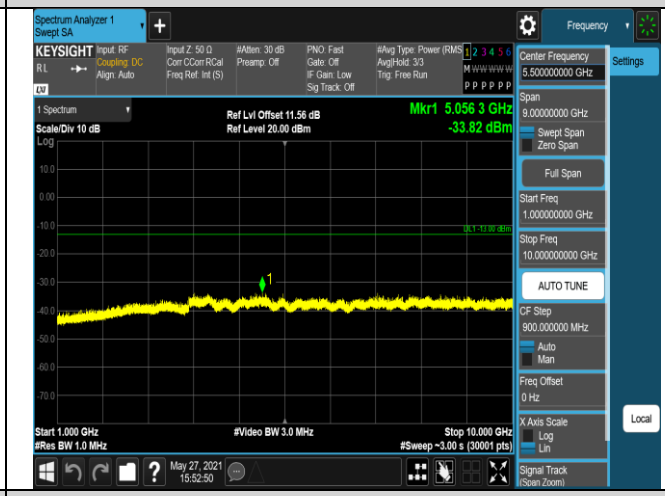
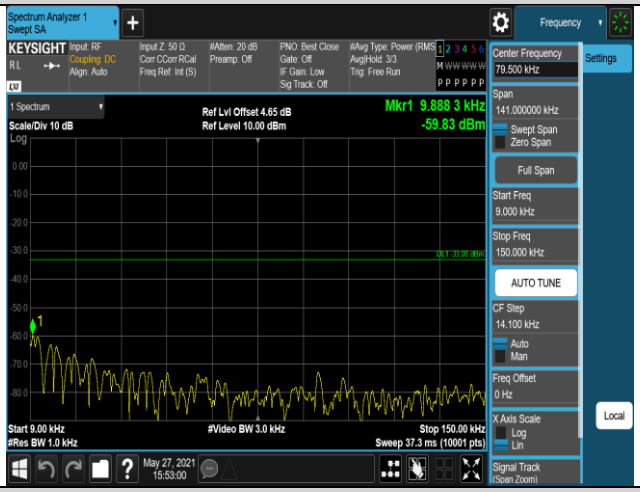
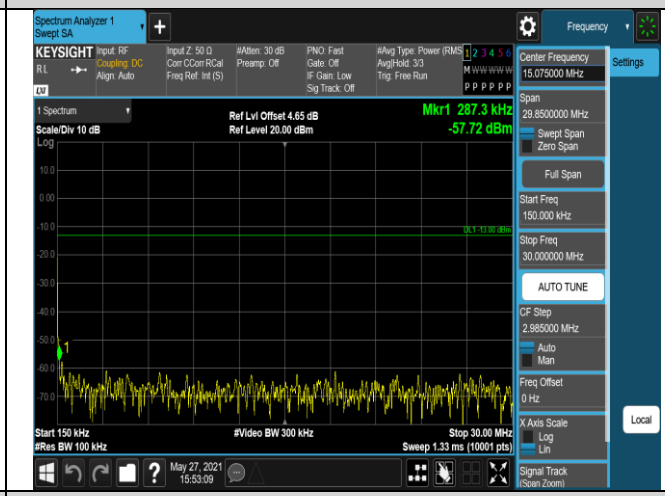
#Video BW 10 kHz*
Span 2.000 MHz
#Sweep 100 ms (1001 pts)
May 27, 2021
16:27:57

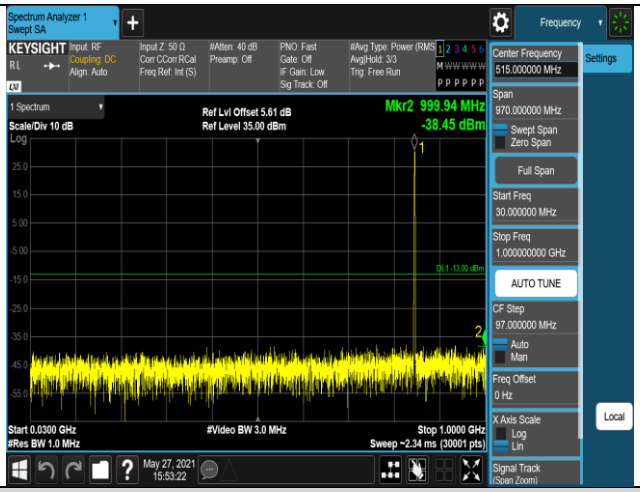
Appendix E: Conducted Spurious Emission

Test Result

Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	3	0.009~0.15MHz	0.01	-60.98	-33	PASS
GSM850	128	3	0.15~30MHz	0.33	-57.81	-13	PASS
GSM850	128	3	30~1000MHz	469.35	-37.97	-13	PASS
GSM850	128	3	1000~10000MHz	5056.3	-33.82	-13	PASS
GSM850	190	3	0.009~0.15MHz	0.01	-59.83	-33	PASS
GSM850	190	3	0.15~30MHz	0.29	-57.72	-13	PASS
GSM850	190	3	30~1000MHz	999.94	-38.45	-13	PASS
GSM850	190	3	1000~10000MHz	4244.5	-31.63	-13	PASS
GSM850	251	3	0.009~0.15MHz	0.01	-58.98	-33	PASS
GSM850	251	3	0.15~30MHz	11.33	-60.62	-13	PASS
GSM850	251	3	30~1000MHz	966.02	-37.81	-13	PASS
GSM850	251	3	1000~10000MHz	3962.5	-33.69	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-70.21	-43	PASS
GSM1900	512	0	0.15~30MHz	0.4	-58.82	-23	PASS
GSM1900	512	0	30~1000MHz	933.78	-47.29	-13	PASS
GSM1900	512	0	1000~18000MHz	15410.33	-35.12	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-73.07	-43	PASS
GSM1900	661	0	0.15~30MHz	0.31	-55.86	-23	PASS
GSM1900	661	0	30~1000MHz	856.54	-47.59	-13	PASS
GSM1900	661	0	1000~18000MHz	3819.73	-33.66	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-72.27	-43	PASS
GSM1900	810	0	0.15~30MHz	16.62	-61.24	-23	PASS
GSM1900	810	0	30~1000MHz	788.09	-47.16	-13	PASS
GSM1900	810	0	1000~18000MHz	3819.73	-33.57	-13	PASS

Test Graphs

GSM850-128-3-0.009~0.15MHz	GSM850-128-3-0.15~30MHz
	
GSM850-128-3-30~1000MHz	GSM850-128-3-1000~10000MHz
	
GSM850-190-3-0.009~0.15MHz	GSM850-190-3-0.15~30MHz
	
GSM850-190-3-30~1000MHz	GSM850-190-3-1000~10000MHz



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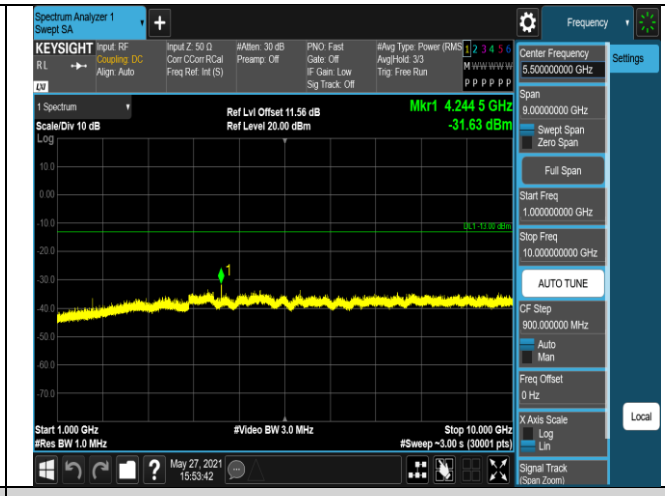
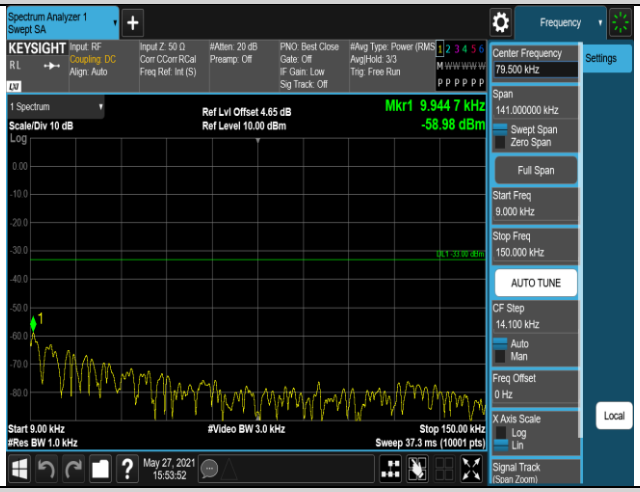
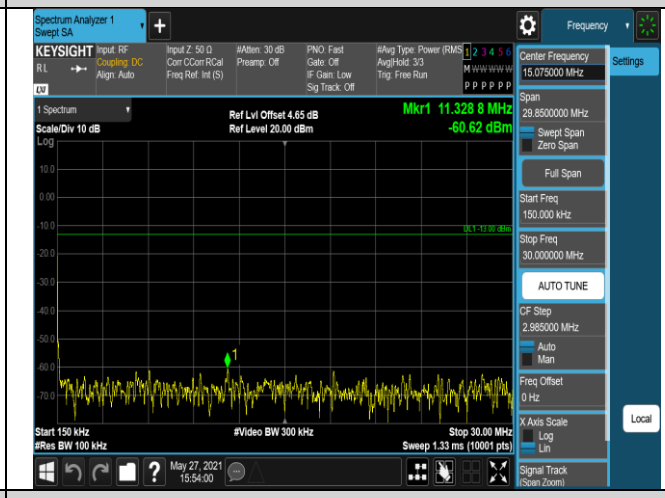


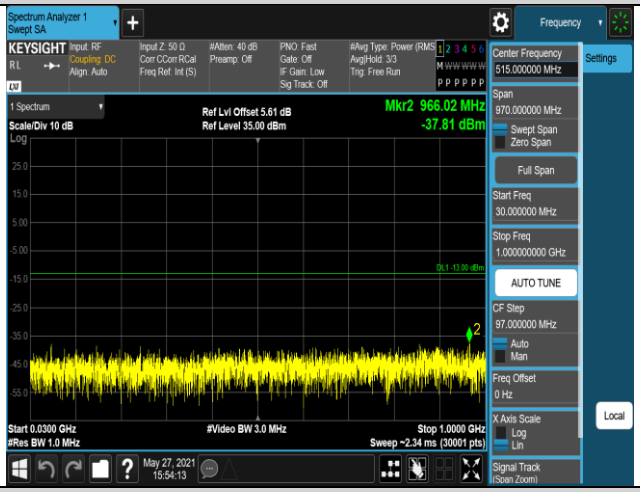
GSM850-251-3-0.15~30MHz



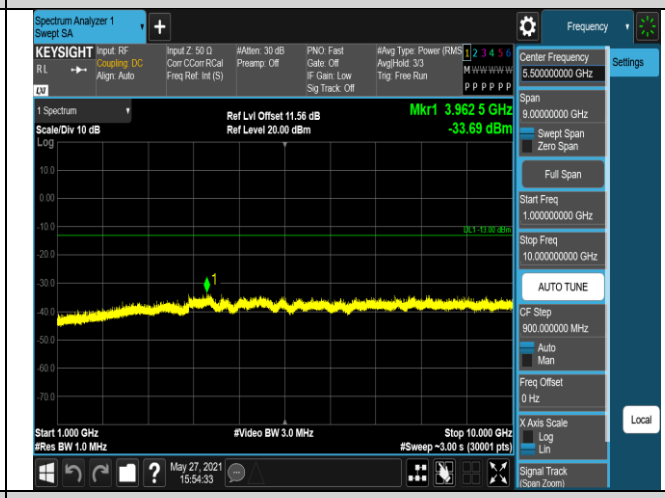
GSM850-251-3-30~1000MHz



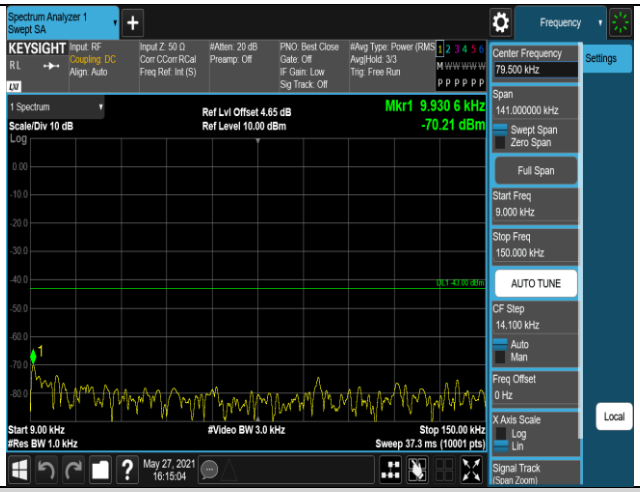
GSM850-251-3-1000~10000MHz



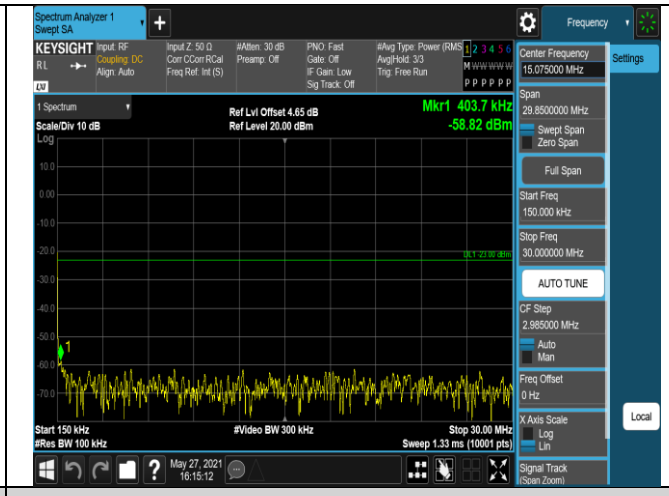
GSM1900-512-0-0.009~0.15MHz



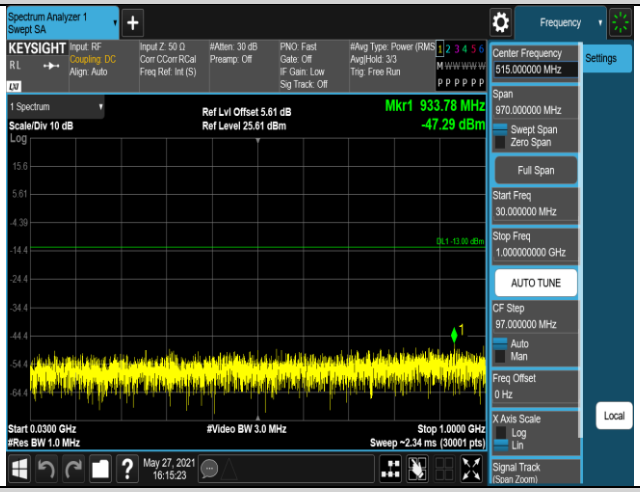
GSM1900-512-0-0.15~30MHz



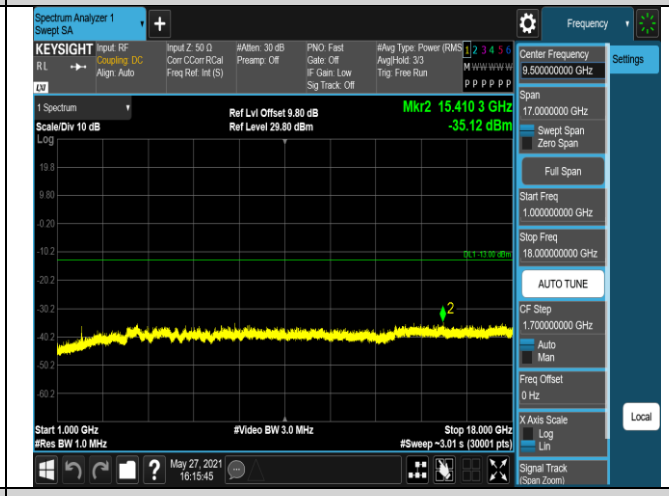
GSM1900-512-0-30~1000MHz



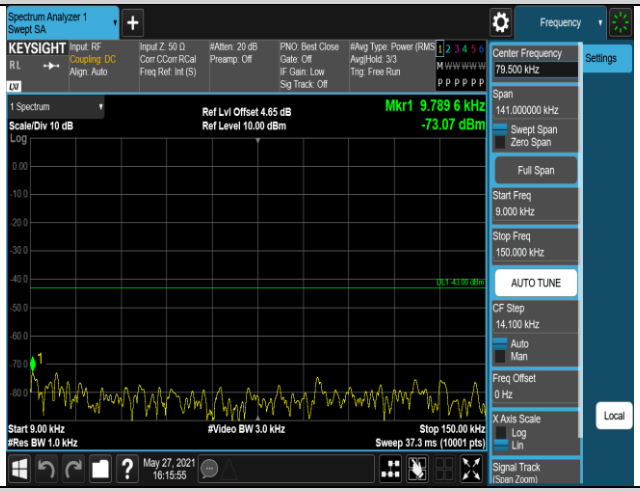
GSM1900-512-0-1000~18000MHz



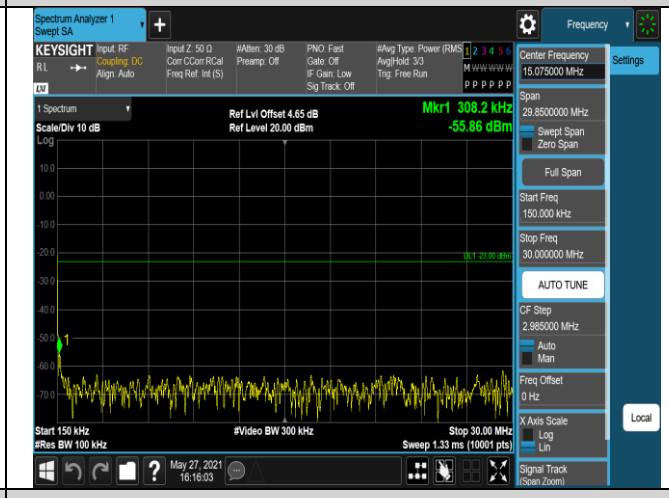
GSM1900-661-0-0.009~0.15MHz



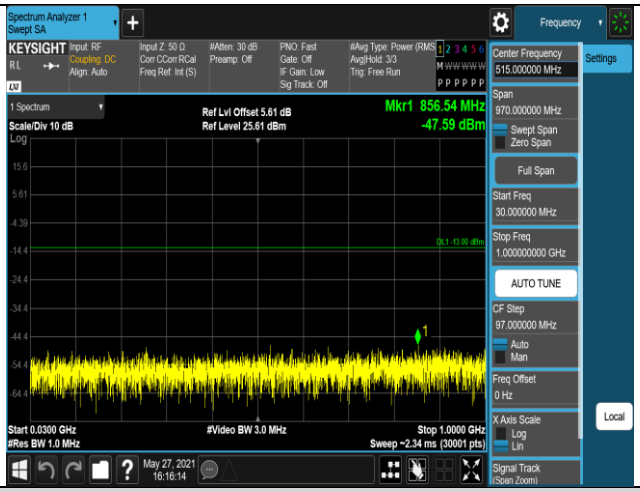
GSM1900-661-0-0.15~30MHz



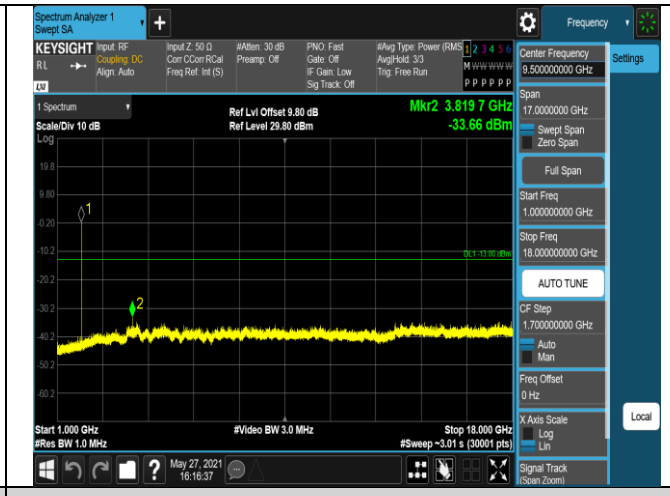
GSM1900-661-0-30~1000MHz



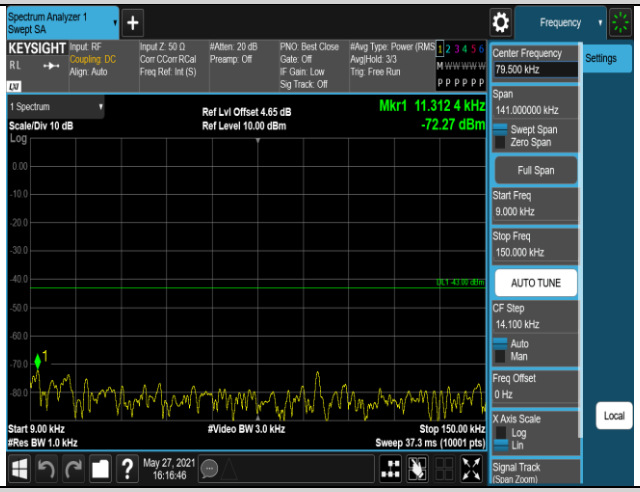
GSM1900-661-0-1000~18000MHz



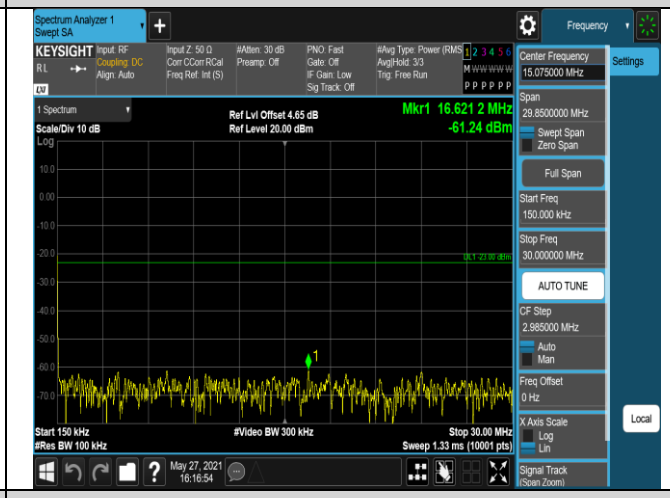
GSM1900-810-0-0.009~0.15MHz



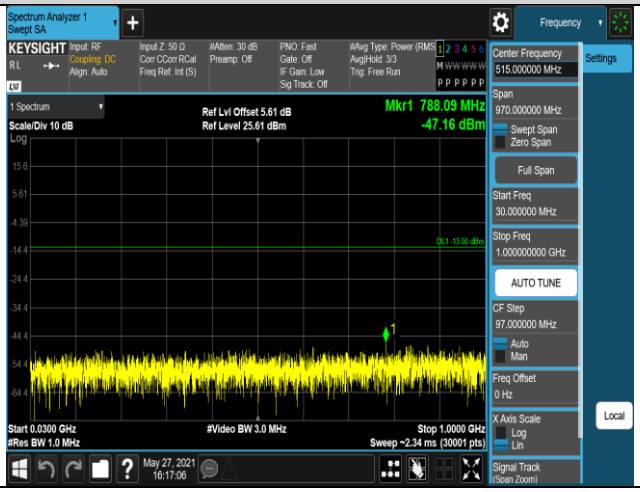
GSM1900-810-0-0.15~30MHz

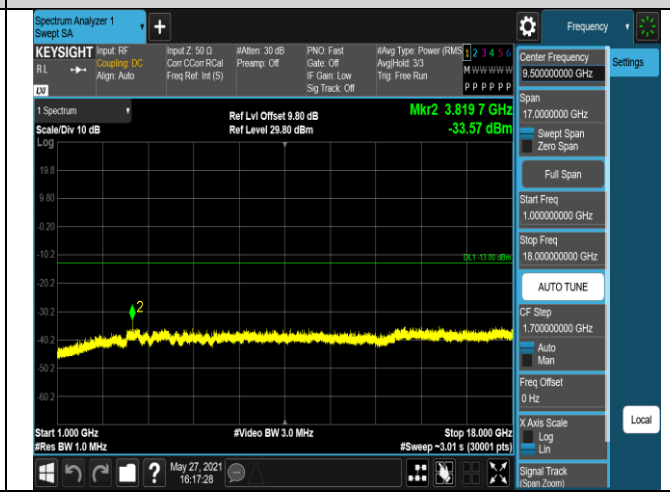


GSM1900-810-0-30~1000MHz



GSM1900-810-0-1000~18000MHz





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		
3.85	-30	-1.52	-0.001817	±2.5	Pass
	-20	-1.81	-0.002164		
	-10	0.00	0.000000		
	0	-1.49	-0.001781		
	10	-2.29	-0.002737		
	20	-4.26	-0.005092		
	30	-1.32	-0.001578		
	40	0.65	0.000777		
	50	6.42	0.007674		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	-3.84	-0.004590	±2.5	Pass
	3.85	1.58	0.001889		
	4.42	-5.29	-0.006323		
Note: Only the worst case shown in the report.					

Reference Frequency: EGPRS850 Middle channel=190 Frequency=836.6MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.85	-30	7.85	0.009383	±2.5	Pass
	-20	7.10	0.008487		
	-10	3.45	0.004124		
	0	11.01	0.013160		
	10	8.04	0.009610		
	20	5.55	0.006634		
	30	5.62	0.006718		
	40	1.81	0.002164		
	50	-0.23	-0.000275		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	2.16	0.002582	±2.5	Pass
	3.85	-0.71	-0.000849		
	4.42	1.71	0.002044		
Note: Only the worst case shown in the report.					

Reference Frequency: PCS1900 Middle channel=661 Frequency=1880MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.85	-30	-6.68	-0.003553	Within authorized band for PCS 1900	Pass
	-20	0.77	0.000410		
	-10	2.20	0.001170		
	0	1.49	0.000793		
	10	-7.30	-0.003883		
	20	1.78	0.000947		
	30	1.26	0.000670		
	40	3.42	0.001819		
	50	-6.26	-0.003330		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	-8.04	-0.004277	Within authorized band for PCS 1900	Pass
	3.85	5.00	0.002660		
	4.42	0.00	0.000000		
Note: Only the worst case shown in the report.					

Reference Frequency: EGPRS1900 Middle channel=661 Frequency=1880MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.85	-30	-5.88	-0.003128	Within authorized band for PCS 1900	Pass
	-20	-2.71	-0.001441		
	-10	4.46	0.002372		
	0	-5.00	-0.002660		
	10	-6.88	-0.003660		
	20	-1.49	-0.000793		
	30	-12.40	-0.006596		
	40	-6.20	-0.003298		
	50	-1.16	-0.000617		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	2.45	0.001303	Within authorized band for PCS 1900	Pass
	3.85	-5.23	-0.002782		
	4.42	-4.20	-0.002234		
Note: Only the worst case shown in the report.					