

Appendix Test Data for WCDMA (Conducted Measurement)

Product Name: Voter Identification Unit

Trade Mark: SMARTMATIC

Test Model: VIU-500 Model 700

FCC ID: 2AGVK-VIU-500A70-R2

Environmental Conditions

Temperature:	23.5℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Max Zhang
NOTE	N/A

Appendix A: RF output power

Test Result

Band	UL Frequency (MHz)	Mode	Peak Power(dBm)	Average Power(dBm)	PAR(dB)	PAR Limit(dB)	AntGain (dBi)	EIRP (dBm)	Power Limit(dBm)	Conclus ion
2	1852.4	RMC	26.43	23.24	3.19	13	1.69	24.93	33	Pass
2	1880	RMC	26.27	23.25	3.01	13	1.69	24.94	33	Pass
2	1907.6	RMC	26.36	23.20	3.16	13	1.69	24.89	33	Pass
2	1852.4	HSDPA Subtest1	25.06	21.61	3.45	13	1.69	23.30	33	Pass
2	1880	HSDPA Subtest1	25.72	21.61	4.11	13	1.69	23.30	33	Pass
2	1907.6	HSDPA Subtest1	25.14	21.33	3.81	13	1.69	23.02	33	Pass
2	1852.4	HSDPA Subtest2	24.84	20.48	4.36	13	1.69	22.17	33	Pass
2	1880	HSDPA Subtest2	24.74	20.53	4.21	13	1.69	22.22	33	Pass
2	1907.6	HSDPA Subtest2	24.81	20.46	4.35	13	1.69	22.15	33	Pass
2	1852.4	HSDPA Subtest3	24.64	19.98	4.66	13	1.69	21.67	33	Pass
2	1880	HSDPA Subtest3	24.58	19.74	4.85	13	1.69	21.43	33	Pass
2	1907.6	HSDPA Subtest3	24.53	19.42	5.11	13	1.69	21.11	33	Pass
2	1852.4	HSDPA Subtest4	24.37	19.63	4.74	13	1.69	21.32	33	Pass
2	1880	HSDPA Subtest4	24.28	19.55	4.72	13	1.69	21.24	33	Pass
2	1907.6	HSDPA Subtest4	24.45	19.45	5.00	13	1.69	21.14	33	Pass
2	1852.4	HSUPA Subtest1	25.13	19.27	5.86	13	1.69	20.96	33	Pass
2	1880	HSUPA Subtest1	25.27	20.14	5.13	13	1.69	21.83	33	Pass
2	1907.6	HSUPA Subtest1	25.65	20.35	5.30	13	1.69	22.04	33	Pass
2	1852.4	HSUPA Subtest2	24.91	20.35	4.56	13	1.69	22.04	33	Pass
2	1880	HSUPA Subtest2	25.09	20.31	4.78	13	1.69	22.00	33	Pass
2	1907.6	HSUPA Subtest2	25.01	20.41	4.60	13	1.69	22.10	33	Pass
2	1852.4	HSUPA Subtest3	24.88	20.06	4.82	13	1.69	21.75	33	Pass

Band	UL Frequency (MHz)	Mode	Peak Power(dBm)	Average Power(dBm)	PAR(dB)	PAR Limit(dB)	AntGain (dBi)	EIRP (dBm)	Power Limit(dBm)	Conclus ion
2	1880	HSUPA Subtest3	24.73	20.14	4.59	13	1.69	21.83	33	Pass
2	1907.6	HSUPA Subtest3	24.95	20.28	4.67	13	1.69	21.97	33	Pass
2	1852.4	HSUPA Subtest4	24.86	20.16	4.70	13	1.69	21.85	33	Pass
2	1880	HSUPA Subtest4	24.69	20.27	4.42	13	1.69	21.96	33	Pass
2	1907.6	HSUPA Subtest4	24.44	19.66	4.78	13	1.69	21.35	33	Pass
2	1852.4	HSUPA Subtest5	25.72	20.56	5.16	13	1.69	22.25	33	Pass
2	1880	HSUPA Subtest5	25.75	20.51	5.24	13	1.69	22.20	33	Pass
2	1907.6	HSUPA Subtest5	25.39	20.72	4.67	13	1.69	22.41	33	Pass

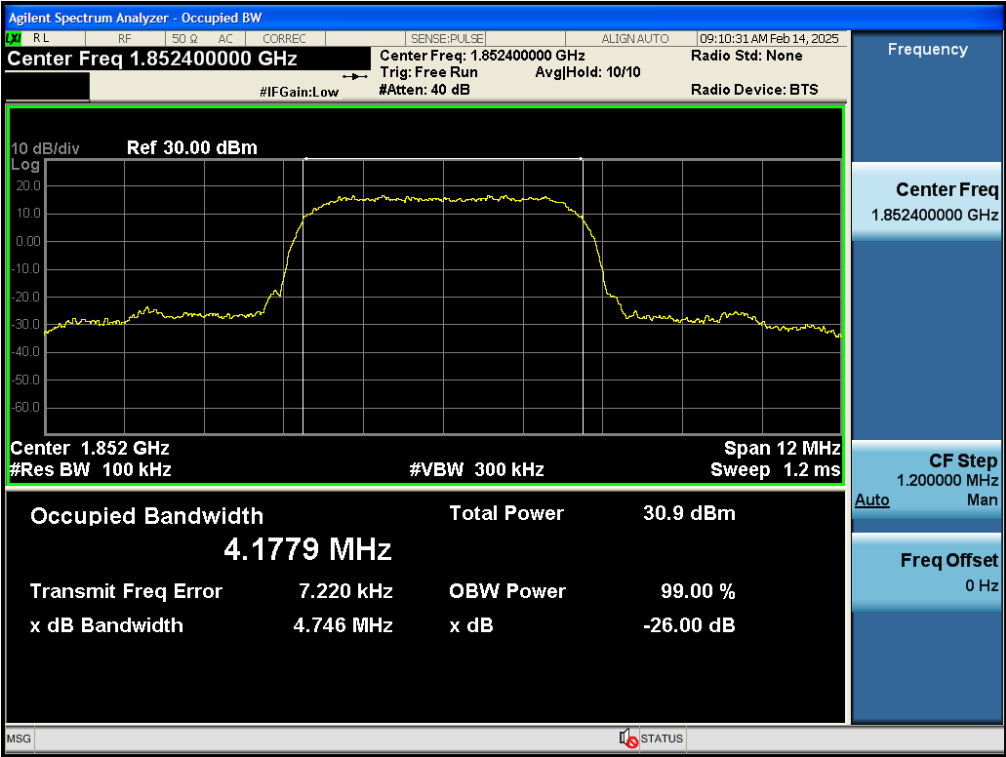
Band	UL Frequency (MHz)	Mode	Peak Power(dBm)	Average Power(dBm)	PAR(dB)	PAR Limit(dB)	AntGain (dBi)	ERP (dBm)	Power Limit(dBm)	Conclus ion
5	826.4	RMC	26.24	23.21	3.03	13	-1.12	19.94	38.45	Pass
5	836.4	RMC	26.18	23.07	3.11	13	-1.12	19.8	38.45	Pass
5	846.6	RMC	26.31	23.14	3.17	13	-1.12	19.87	38.45	Pass
5	826.4	HSDPA Subtest1	25.04	21.51	3.53	13	-1.12	18.24	38.45	Pass
5	836.4	HSDPA Subtest1	25.47	21.45	4.02	13	-1.12	18.18	38.45	Pass
5	846.6	HSDPA Subtest1	25.07	21.25	3.82	13	-1.12	17.98	38.45	Pass
5	826.4	HSDPA Subtest2	24.72	20.25	4.47	13	-1.12	16.98	38.45	Pass
5	836.4	HSDPA Subtest2	24.53	20.31	4.22	13	-1.12	17.04	38.45	Pass
5	846.6	HSDPA Subtest2	24.61	20.44	4.17	13	-1.12	17.17	38.45	Pass
5	826.4	HSDPA Subtest3	24.52	19.87	4.65	13	-1.12	16.6	38.45	Pass
5	836.4	HSDPA Subtest3	24.41	19.53	4.88	13	-1.12	16.26	38.45	Pass
5	846.6	HSDPA Subtest3	24.38	19.42	4.96	13	-1.12	16.15	38.45	Pass
5	826.4	HSDPA Subtest4	24.18	19.41	4.77	13	-1.12	16.14	38.45	Pass
5	836.4	HSDPA Subtest4	24.22	19.37	4.85	13	-1.12	16.1	38.45	Pass
5	846.6	HSDPA Subtest4	24.31	19.24	5.07	13	-1.12	15.97	38.45	Pass
5	826.4	HSUPA Subtest1	25.12	19.27	5.85	13	-1.12	16	38.45	Pass
5	836.4	HSUPA Subtest1	25.07	20.11	4.96	13	-1.12	16.84	38.45	Pass
5	846.6	HSUPA Subtest1	25.41	20.24	5.17	13	-1.12	16.97	38.45	Pass
5	826.4	HSUPA Subtest2	24.77	20.31	4.46	13	-1.12	17.04	38.45	Pass
5	836.4	HSUPA Subtest2	24.85	20.21	4.64	13	-1.12	16.94	38.45	Pass
5	846.6	HSUPA Subtest2	24.79	20.18	4.61	13	-1.12	16.91	38.45	Pass
5	826.4	HSUPA Subtest3	24.65	20.04	4.61	13	-1.12	16.77	38.45	Pass
5	836.4	HSUPA Subtest3	24.58	20.02	4.56	13	-1.12	16.75	38.45	Pass
5	846.6	HSUPA Subtest3	24.71	20.13	4.58	13	-1.12	16.86	38.45	Pass
5	826.4	HSUPA Subtest4	24.66	20.06	4.6	13	-1.12	16.79	38.45	Pass
5	836.4	HSUPA Subtest4	24.52	20.14	4.38	13	-1.12	16.87	38.45	Pass
5	846.6	HSUPA Subtest4	24.38	19.45	4.93	13	-1.12	16.18	38.45	Pass
5	826.4	HSUPA Subtest5	25.47	20.53	4.94	13	-1.12	17.26	38.45	Pass
5	836.4	HSUPA Subtest5	25.52	20.42	5.1	13	-1.12	17.15	38.45	Pass
5	846.6	HSUPA Subtest5	25.38	20.51	4.87	13	-1.12	17.24	38.45	Pass

Appendix B: Occupied bandwidth

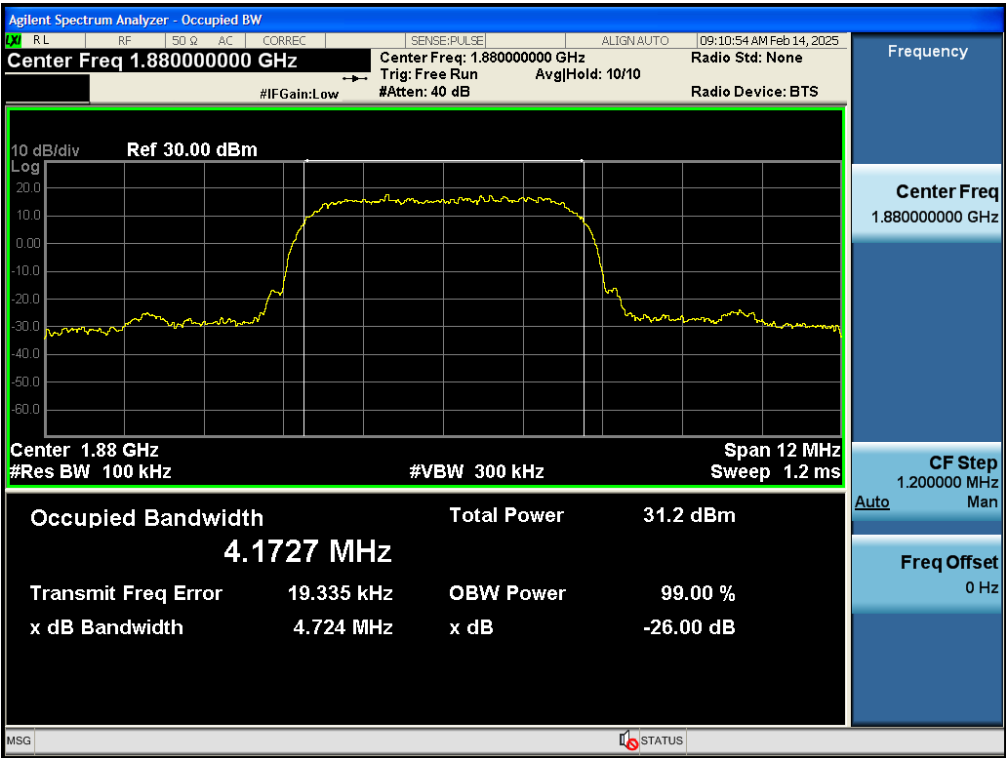
Test Result

Band	UL Frequency (MHz)	Mode	Occupied Bandwidth (MHz)	Emission Bandwidth (MHz)	Limit
2	1852.4	RMC	4.178	4.746	No limit
2	1880	RMC	4.173	4.724	No limit
2	1907.6	RMC	4.167	4.734	No limit
5	826.4	RMC	4.176	4.715	No limit
5	836.4	RMC	4.180	4.744	No limit
5	846.6	RMC	4.197	4.723	No limit

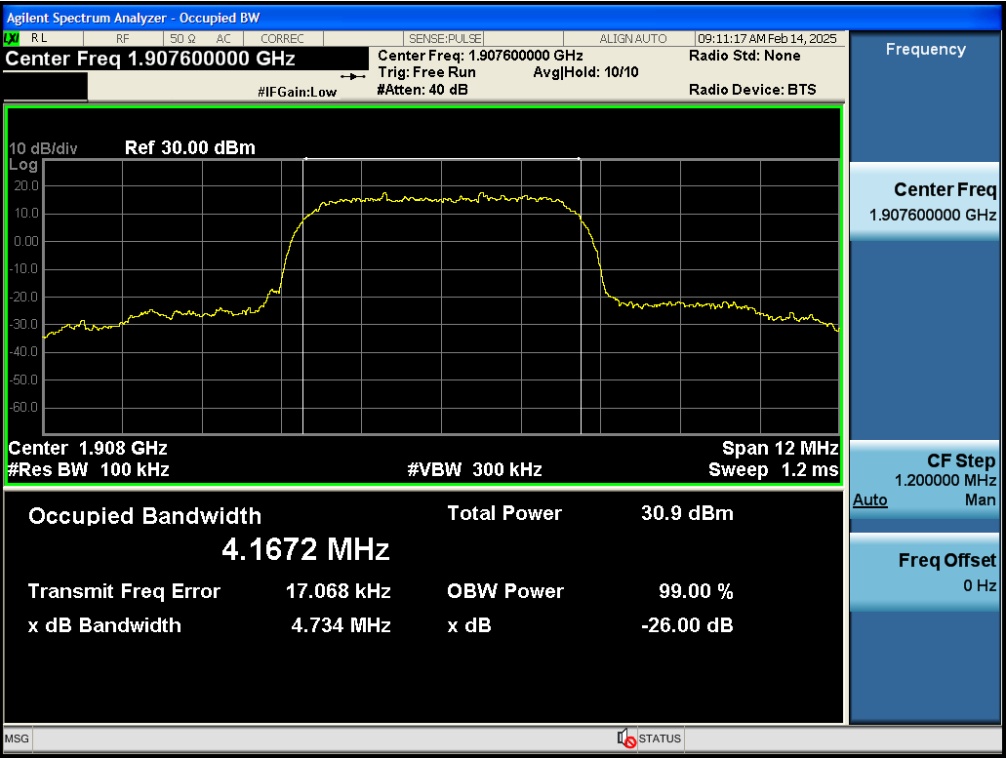
Test Graphs



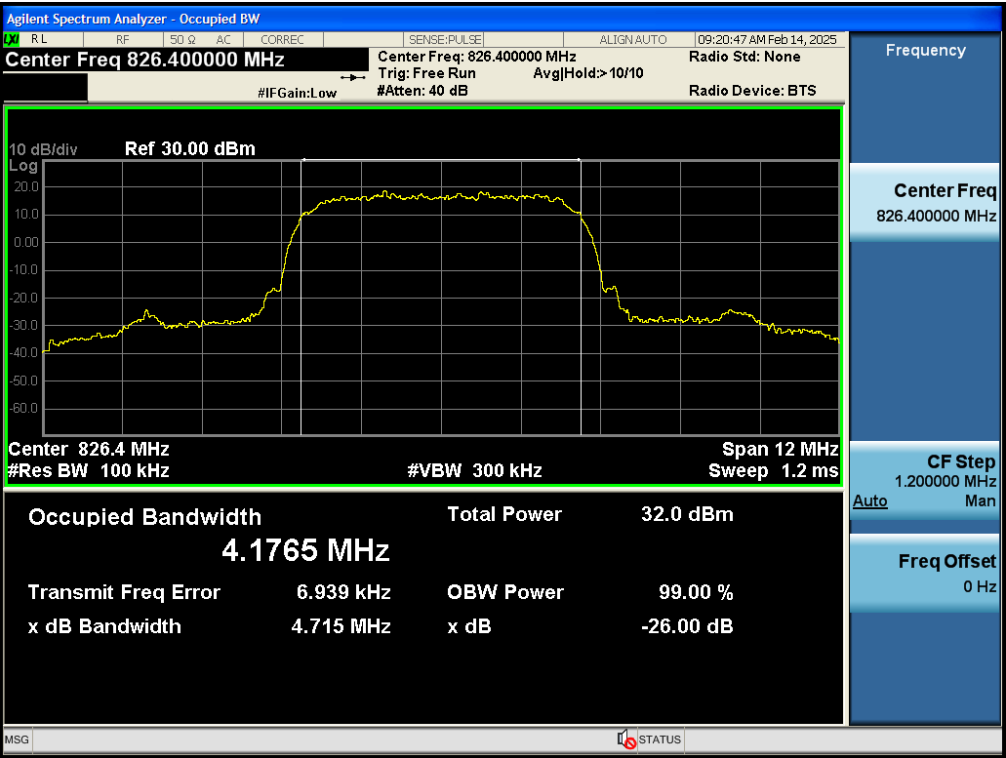
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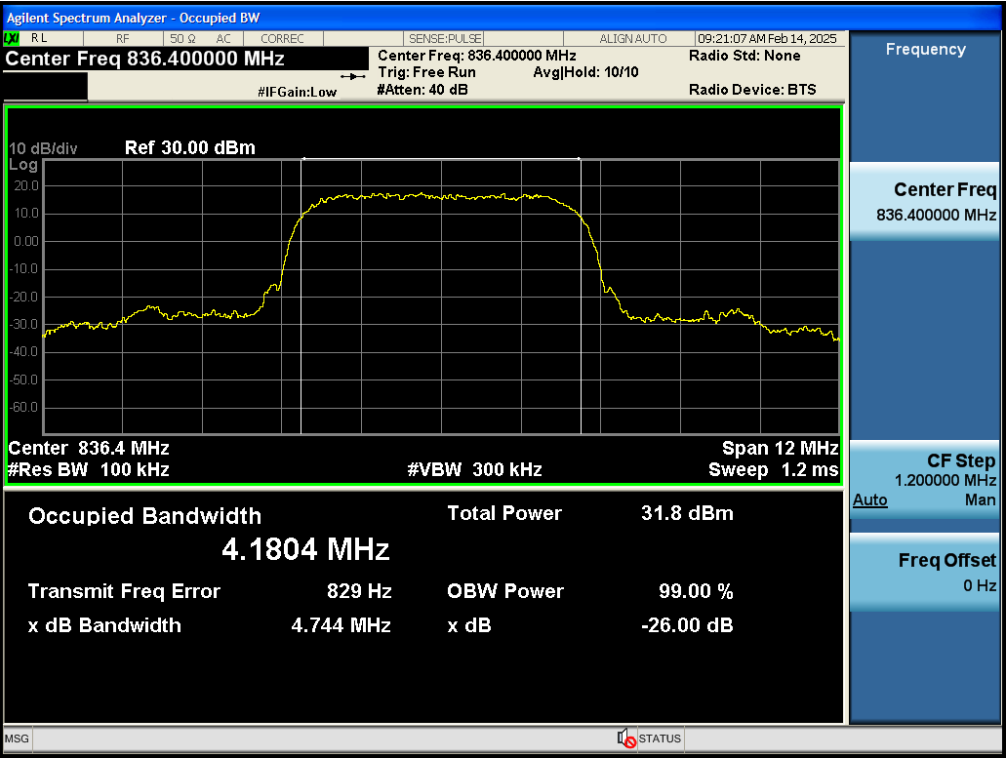
Test_Graph_band2_1880MHz_RMC_OBW&EBW



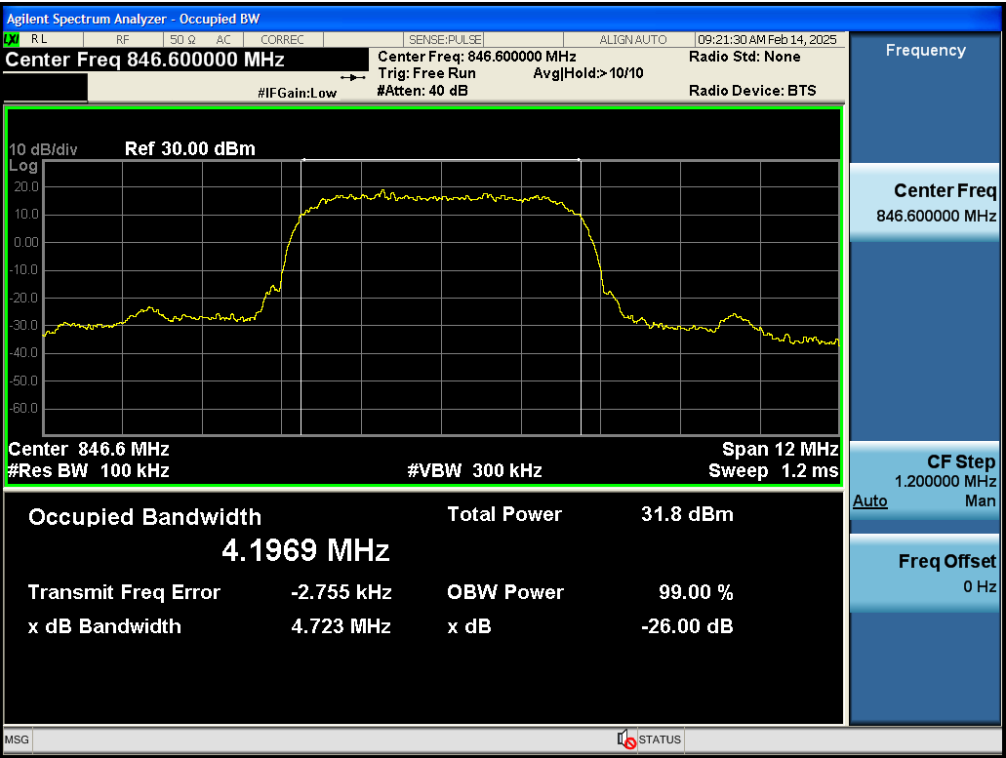
Test_Graph_band2_1907.6MHz_RMC_OBW&EBW



Test_Graph_band5_826.4MHz_RMC_OBW&EBW



Test_Graph_band5_836.4MHz_RMC_OBW&EBW



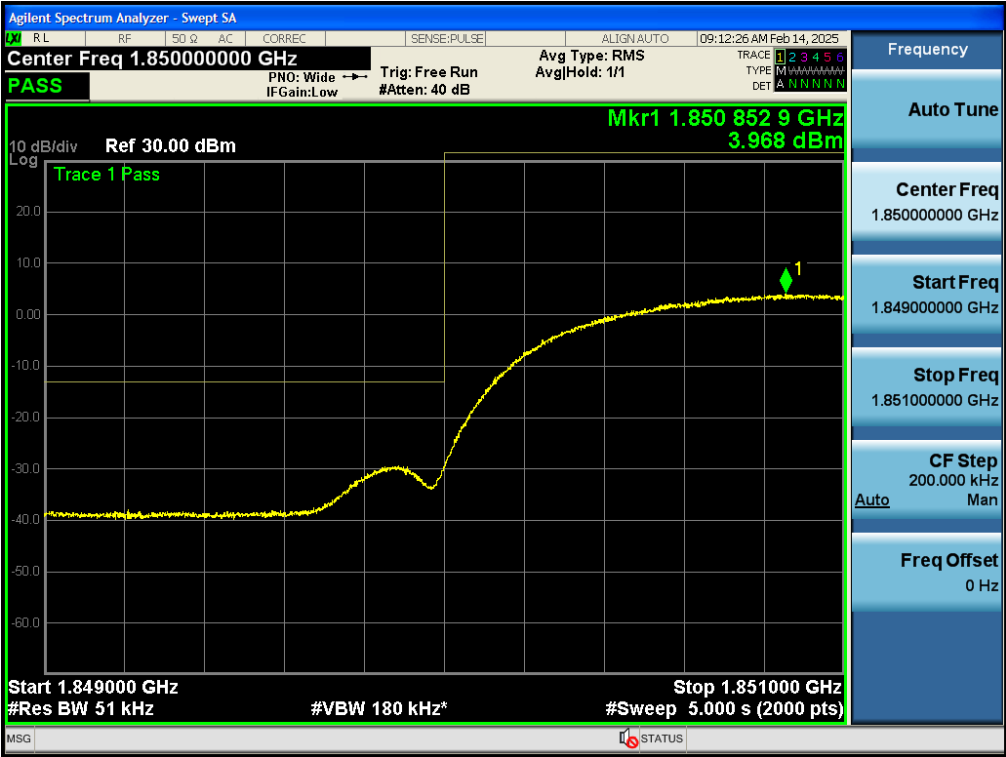
Test_Graph_band5_846.6MHz_RMC_OBW&EBW

Appendix C: Band edge emissions

Test Result

Band	UL Frequency (MHz)	Mode	Conclusion
2	1852.4	RMC	Pass
2	1907.6	RMC	Pass
5	826.4	RMC	Pass
5	846.6	RMC	Pass

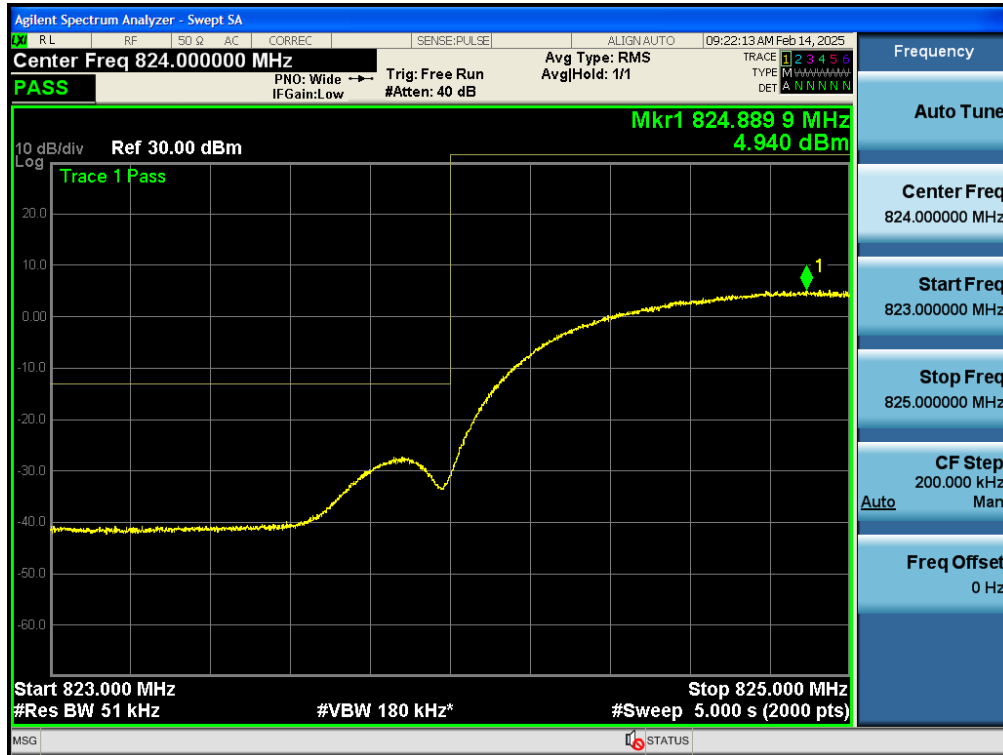
Test Graphs



Test_Graph_band2_1852.4MHz_RMC_Band edge



Test_Graph_band2_1907.6MHz_RMC_Band edge



Test_Graph_band5_826.4MHz_RMC_Band edge



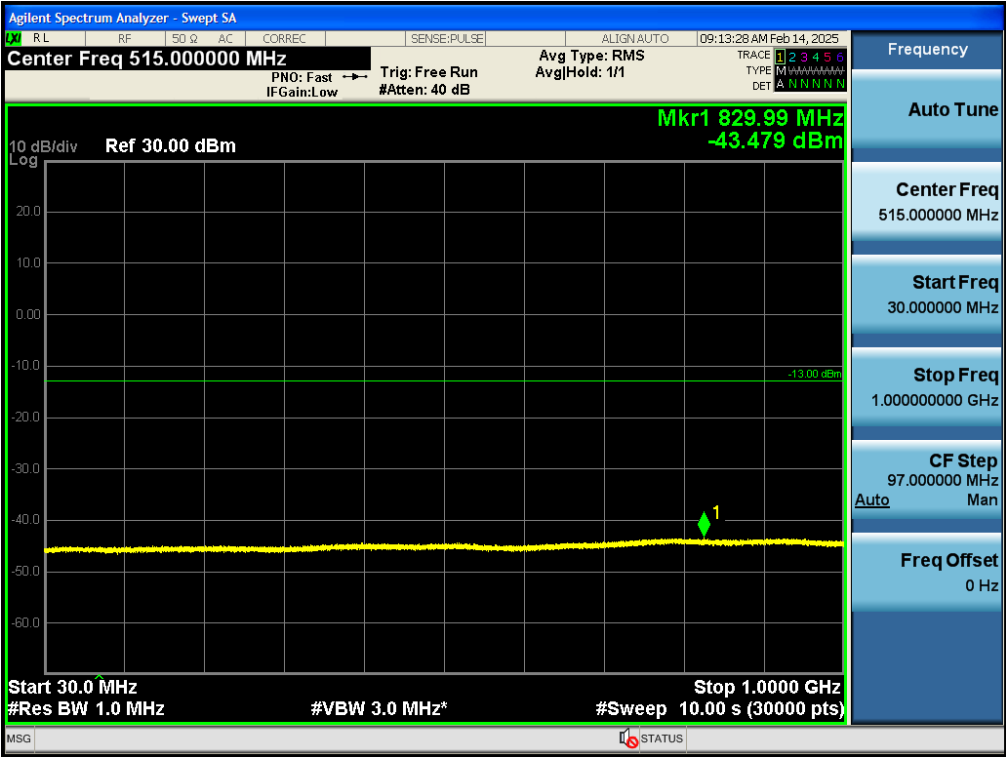
Test_Graph_band5_846.6MHz_RMC_Band edge

Appendix D: Unwanted spurious emissions at antenna terminals

Test Result

Band	UL Frequency (MHz)	Mode	Conclusion
2	1852.4	RMC	Pass
2	1880	RMC	Pass
2	1907.6	RMC	Pass
5	826.4	RMC	Pass
5	836.4	RMC	Pass
5	846.6	RMC	Pass

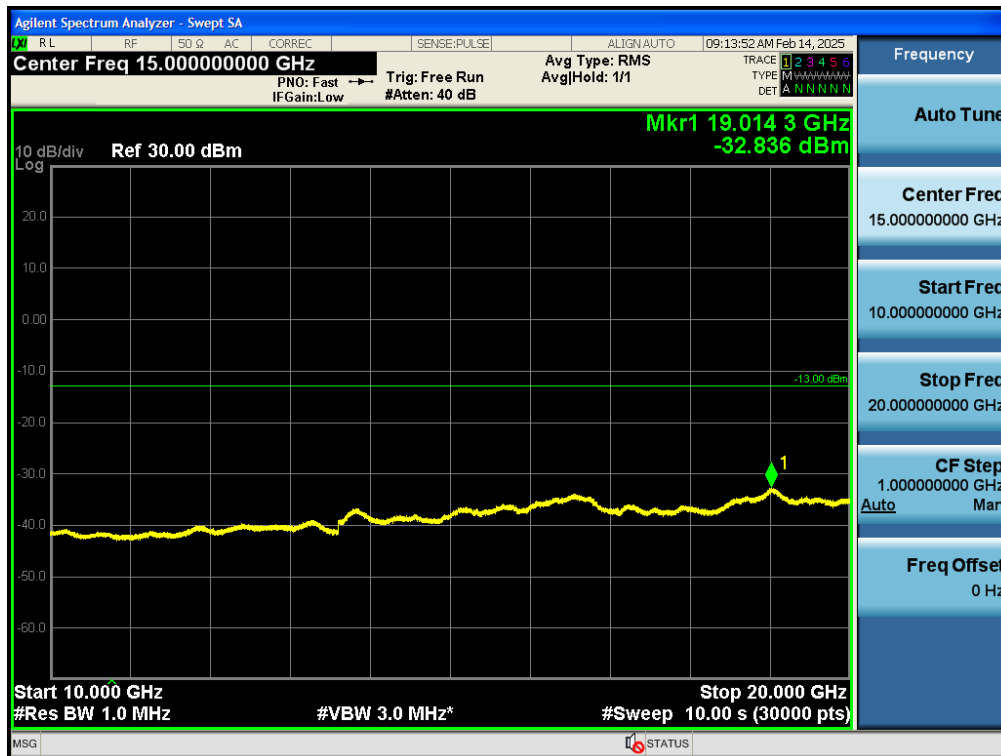
Test Graphs



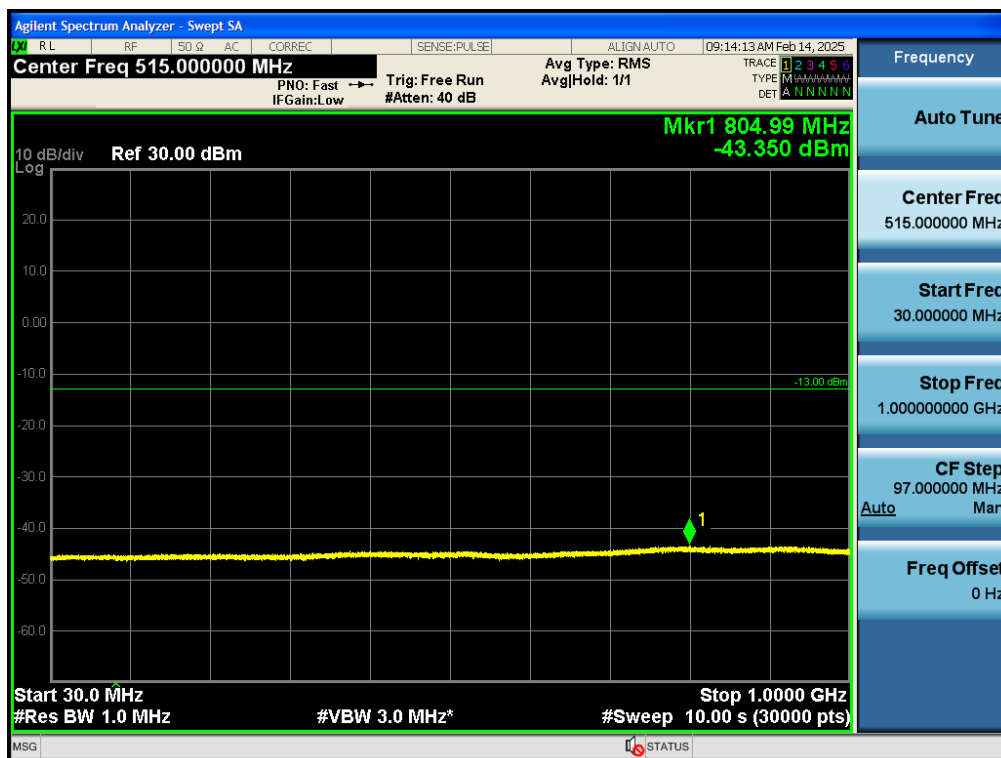
Test_Graph_band2_1852.4MHz_RMC_30M_1G_TX



Test_Graph_band2_1852.4MHz_RMC_1G_10G_TX



Test_Graph_band2_1852.4MHz_RMC_10G_20G_TX



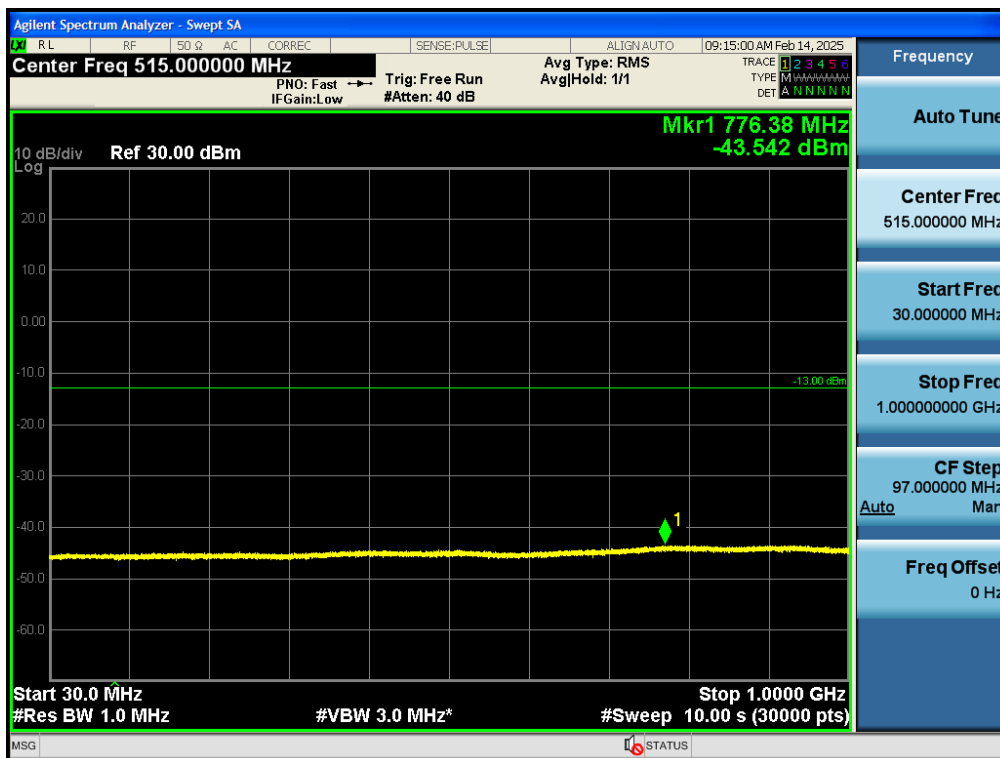
Test_Graph_band2_1880MHz_RMC_30M_1G_TX



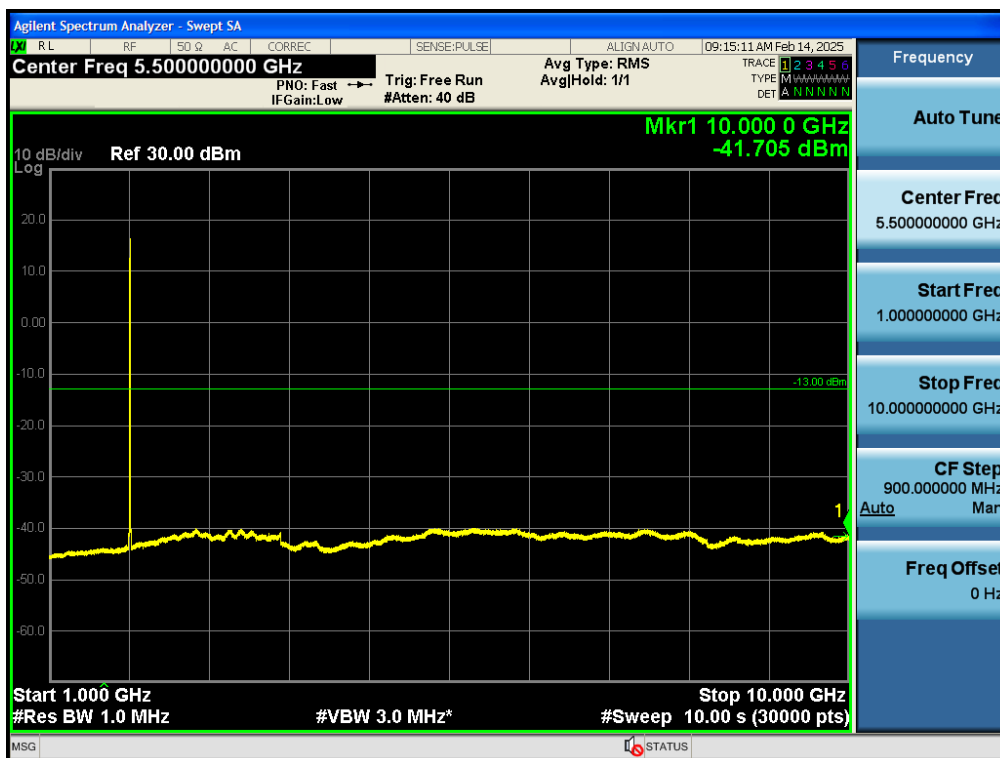
Test_Graph_band2_1880MHz_RMC_1G_10G_TX



Test_Graph_band2_1880MHz_RMC_10G_20G_TX



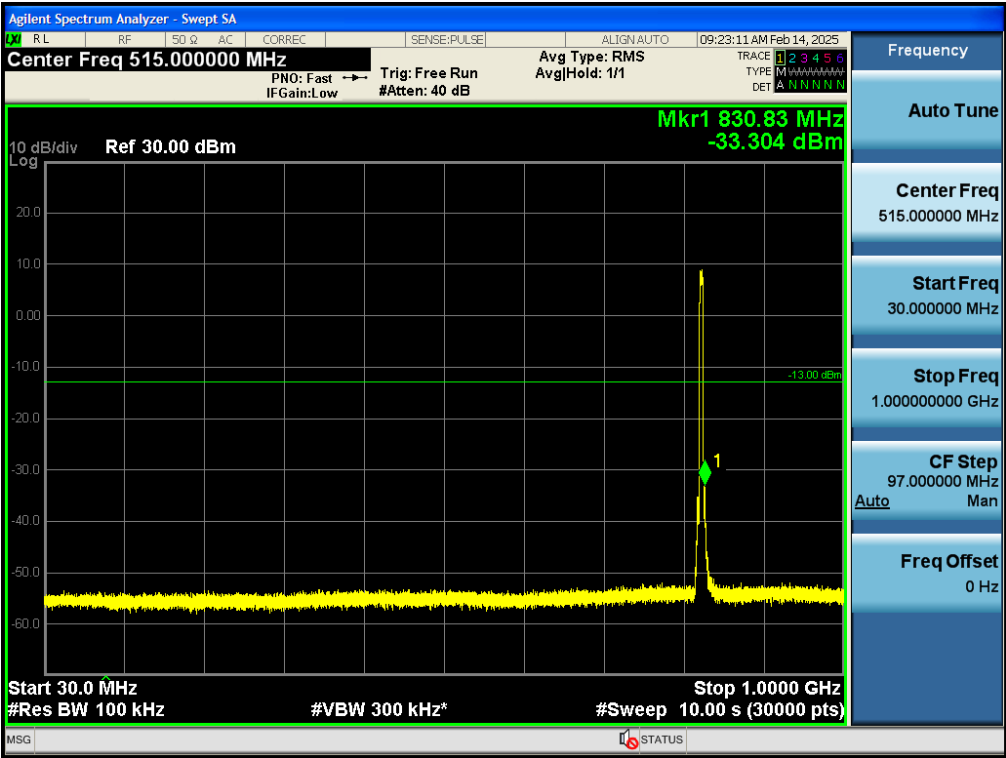
Test_Graph_band2_1907.6MHz_RMC_30M_1G_TX



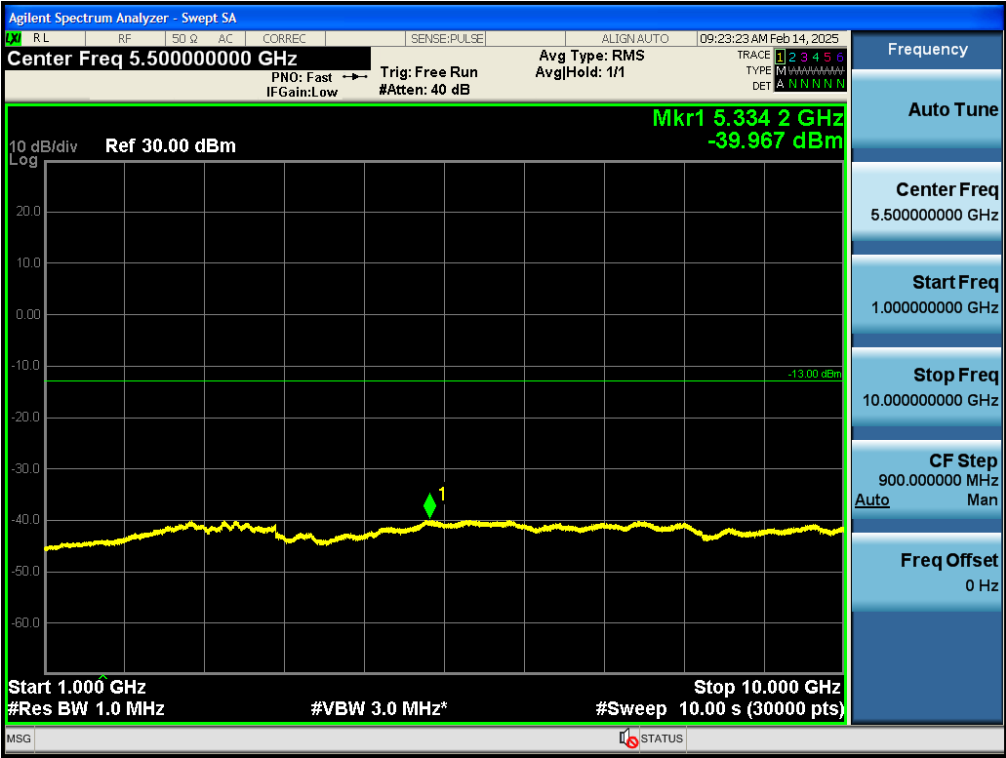
Test_Graph_band2_1907.6MHz_RMC_1G_10G_TX



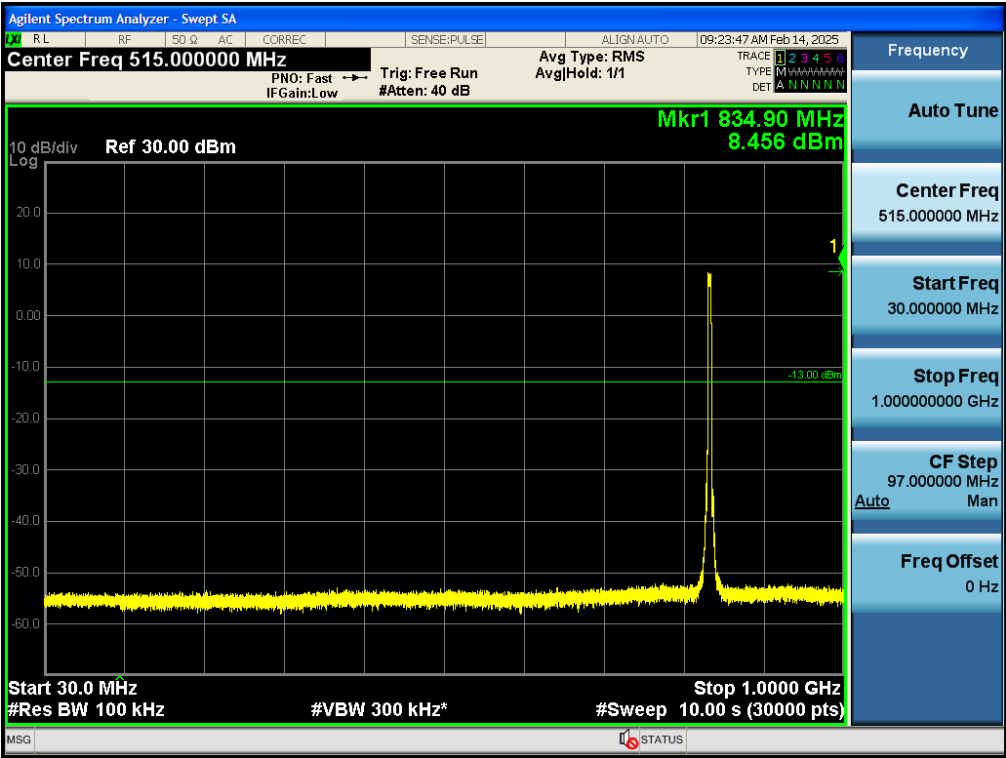
Test_Graph_band2_1907.6MHz_RMC_10G_20G_TX



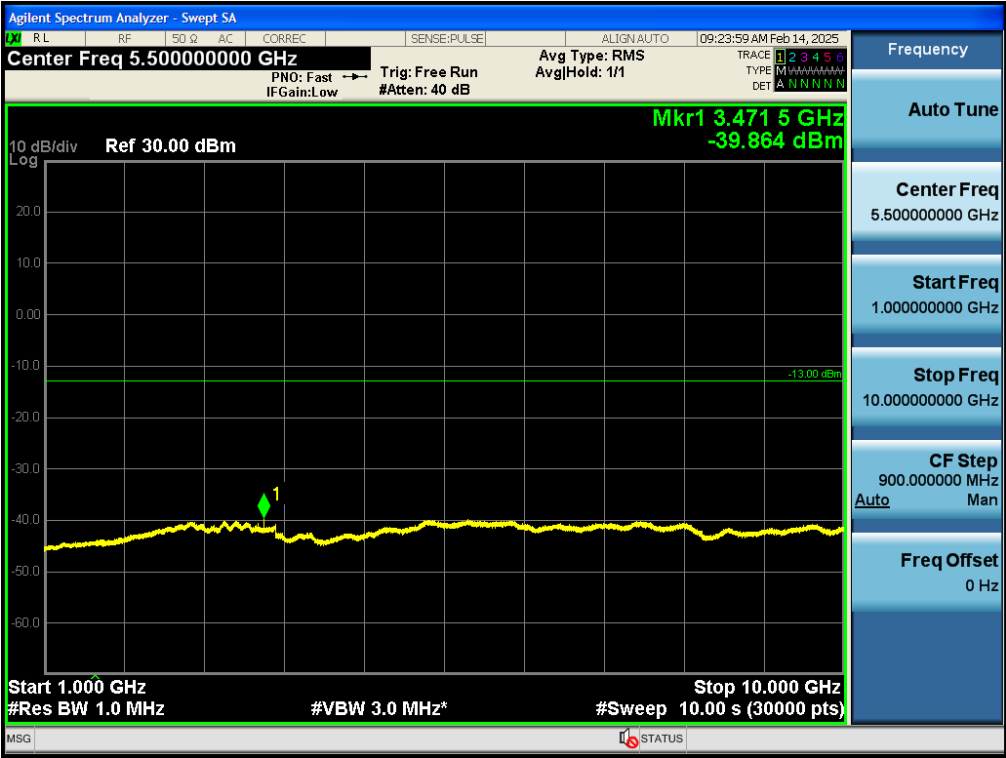
Test_Graph_band5_826.4MHz_RMC_30M_1G_TX



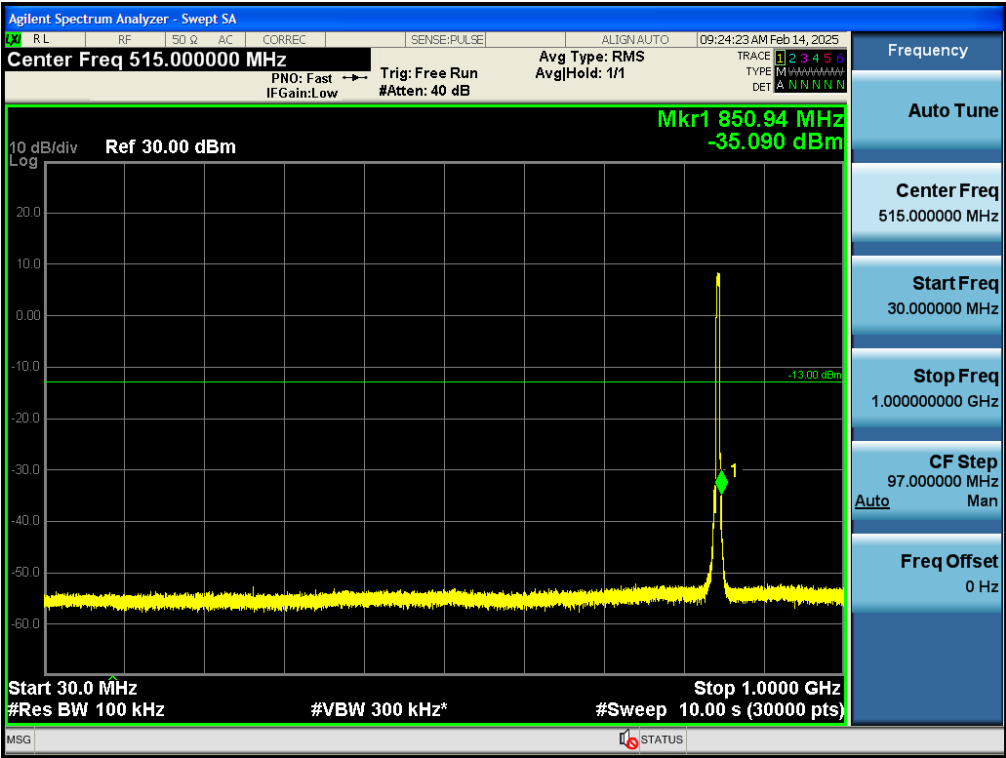
Test_Graph_band5_826.4MHz_RMC_1G_10G_TX



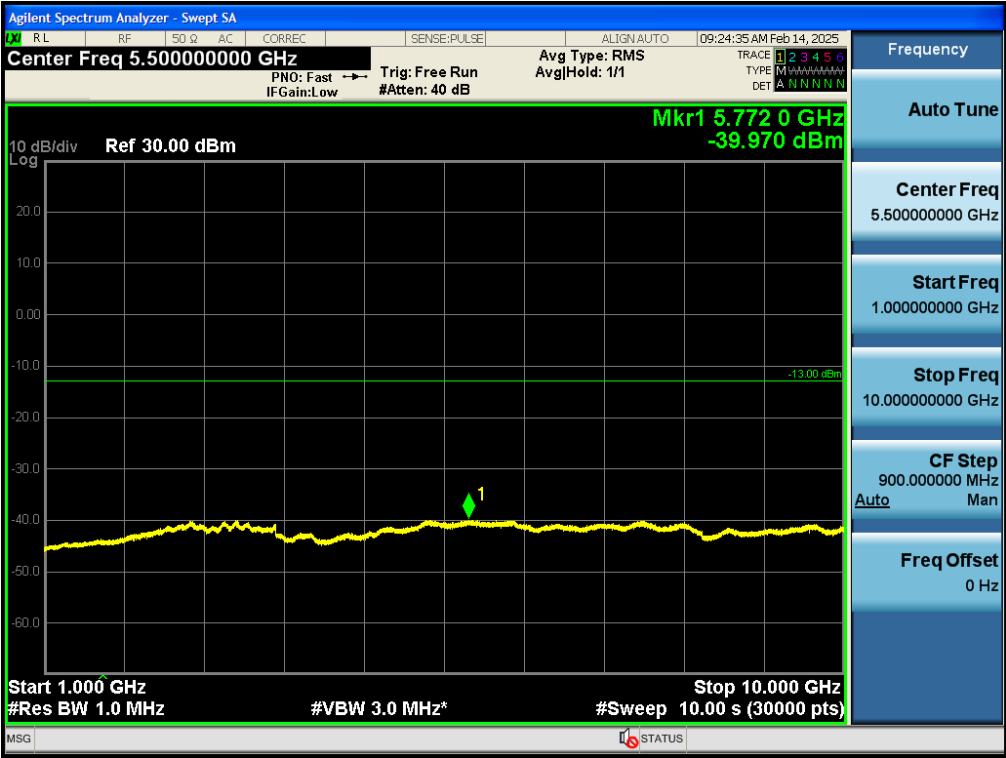
Test_Graph_band5_836.4MHz_RMC_30M_1G_TX



Test_Graph_band5_836.4MHz_RMC_1G_10G_TX



Test_Graph_band5_846.6MHz_RMC_30M_1G_TX



Test_Graph_band5_846.6MHz_RMC_1G_10G_TX

Appendix E: Frequency stability

Test Result

Test Conditions		WCDMA Band 2(RMC) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 5MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0664	PASS
40	Normal Voltage	0.0411	
30	Normal Voltage	0.0285	
20(Ref.)	Normal Voltage	0.0310	
10	Normal Voltage	0.0635	
0	Normal Voltage	0.0199	
-10	Normal Voltage	0.0515	
-20	Normal Voltage	0.0412	
-30	Normal Voltage	0.0260	
20	Maximum Voltage	0.0230	
20	Normal Voltage	0.0371	
20	Battery End Point	0.0614	

Test Conditions		WCDMA Band 5(RMC) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 5MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0685	PASS
40	Normal Voltage	0.0359	
30	Normal Voltage	0.0235	
20(Ref.)	Normal Voltage	0.0340	
10	Normal Voltage	0.0642	
0	Normal Voltage	0.0222	
-10	Normal Voltage	0.0462	
-20	Normal Voltage	0.0409	
-30	Normal Voltage	0.0253	
20	Maximum Voltage	0.0227	
20	Normal Voltage	0.0404	
20	Battery End Point	0.0646	