

12.2.2. Test Graphs













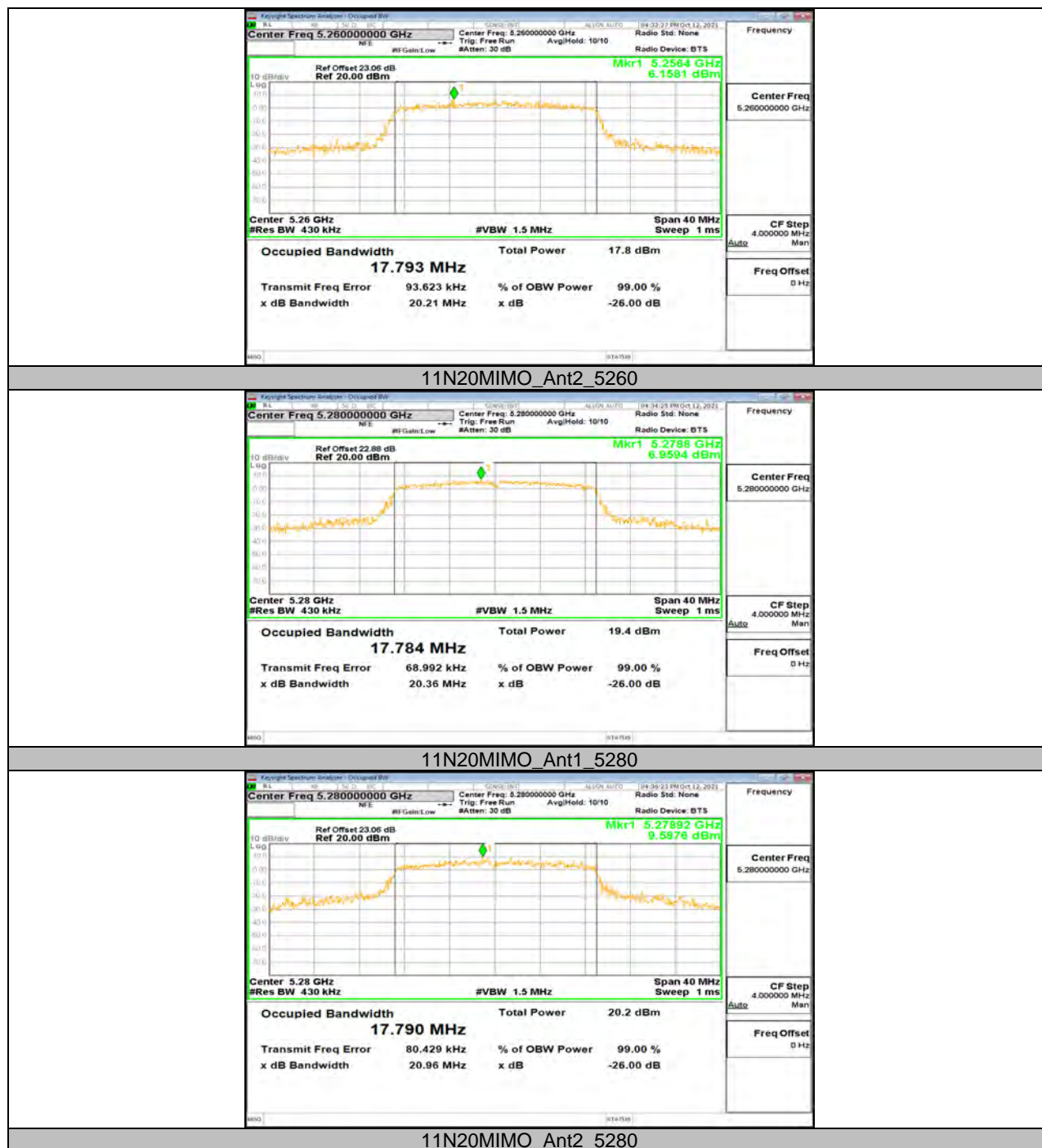






























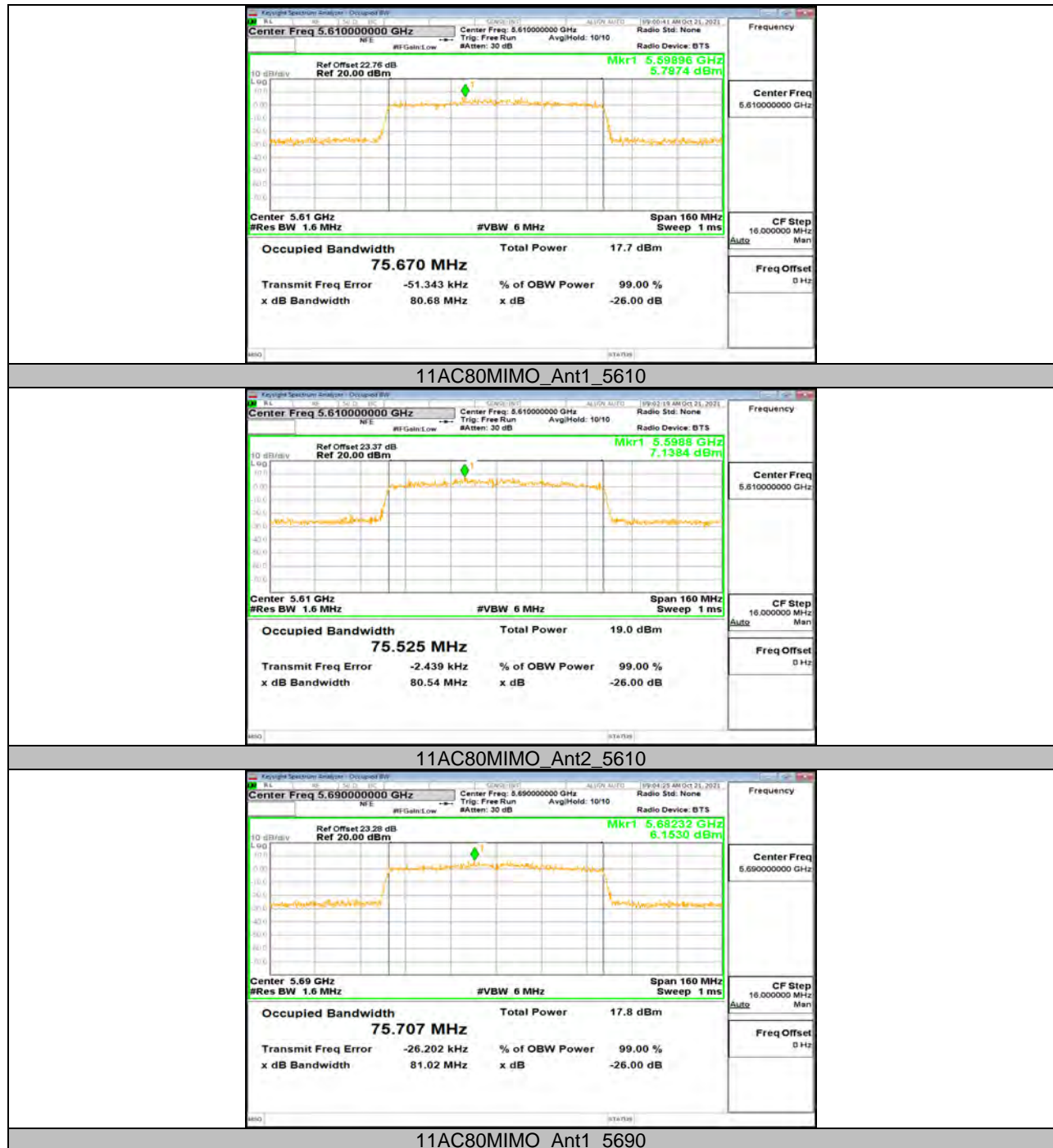












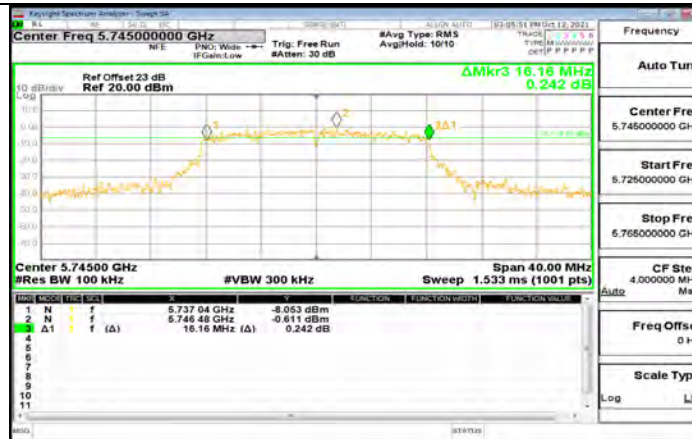


**12.3. Appendix A3: Min Emission Bandwidth****12.3.1. Test Result**

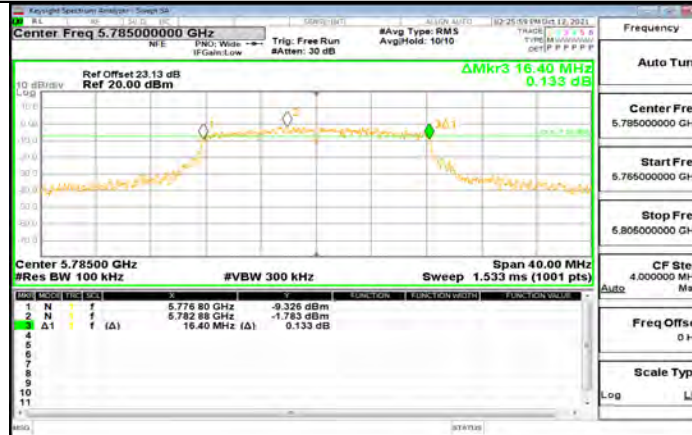
Test Mode	Antenna	Channel	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A 20	Ant1	5720_UNII-3	3.2	5725	5728.200	0.5	PASS
	Ant2	5720_UNII-3	3.2	5725	5728.200	0.5	PASS
	Ant1	5745	16.400	5736.800	5753.200	0.5	PASS
	Ant2	5745	16.160	5737.040	5753.200	0.5	PASS
	Ant1	5785	16.400	5776.800	5793.200	0.5	PASS
	Ant2	5785	16.360	5776.840	5793.200	0.5	PASS
	Ant1	5825	16.120	5816.800	5832.920	0.5	PASS
	Ant2	5825	16.400	5816.800	5833.200	0.5	PASS
11N20MIMO	Ant1	5720_UNII-3	3.88	5725	5728.880	0.5	PASS
	Ant2	5720_UNII-3	3.52	5725	5728.520	0.5	PASS
	Ant1	5745	17.640	5736.240	5753.880	0.5	PASS
	Ant2	5745	17.400	5736.520	5753.920	0.5	PASS
	Ant1	5785	17.640	5776.280	5793.920	0.5	PASS
	Ant2	5785	17.680	5776.240	5793.920	0.5	PASS
	Ant1	5825	17.640	5816.280	5833.920	0.5	PASS
	Ant2	5825	17.680	5816.240	5833.920	0.5	PASS
11N40MIMO	Ant1	5710_UNII-3	3.32	5725	5728.320	0.5	PASS
	Ant2	5710_UNII-3	2.04	5725	5727.040	0.5	PASS
	Ant1	5755	35.200	5737.160	5772.360	0.5	PASS
	Ant2	5755	35.840	5737.480	5773.320	0.5	PASS
	Ant1	5795	35.600	5777.080	5812.680	0.5	PASS
	Ant2	5795	35.120	5777.480	5812.600	0.5	PASS
11AC80MIMO	Ant1	5690_UNII-3	1.48	5725	5726.480	0.5	PASS
	Ant2	5690_UNII-3	2.76	5725	5727.760	0.5	PASS
	Ant1	5775	75.360	5737.400	5812.760	0.5	PASS
	Ant2	5775	75.360	5737.400	5812.760	0.5	PASS

12.3.2. Test Graphs





11A_Ant2_5745

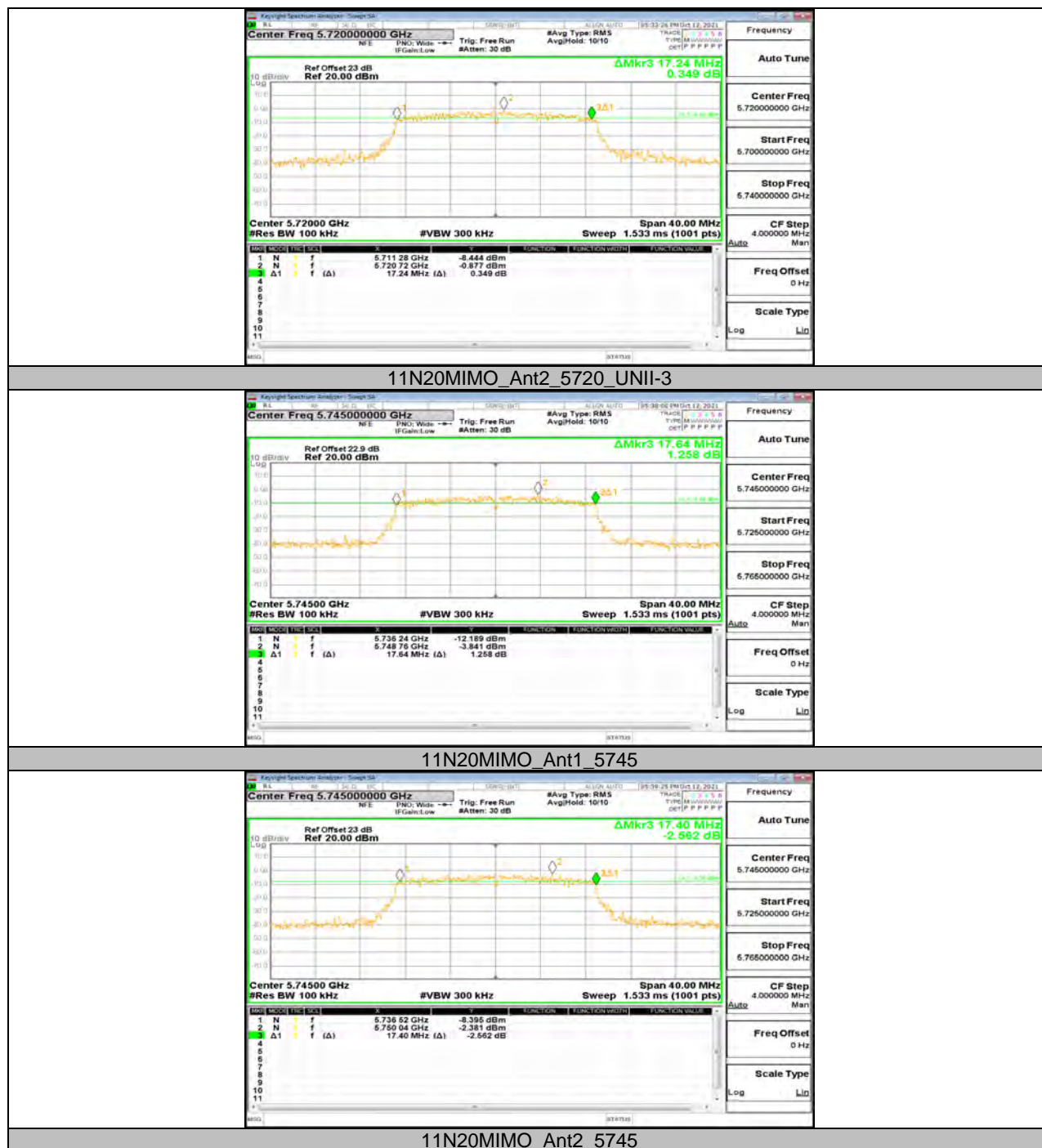


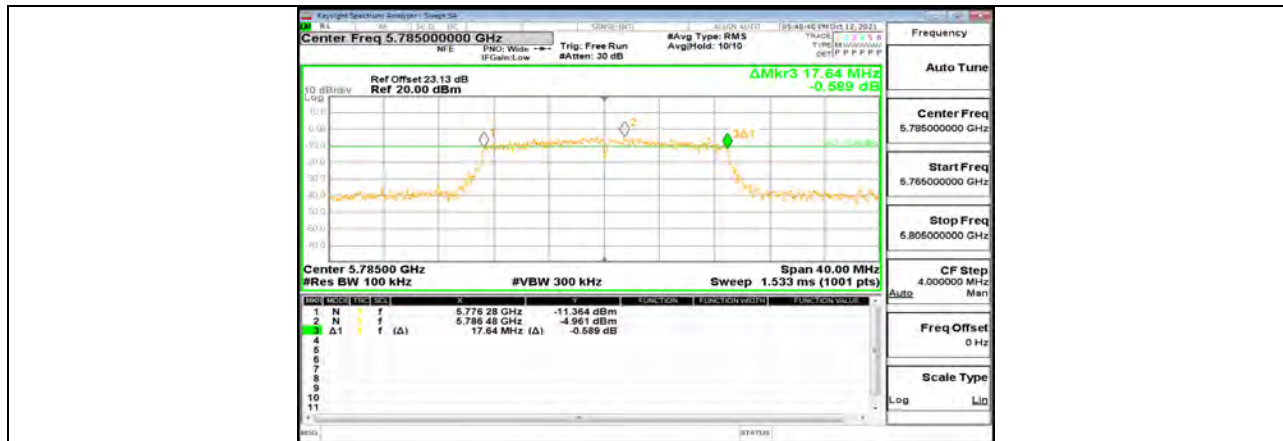
11A_Ant1_5785



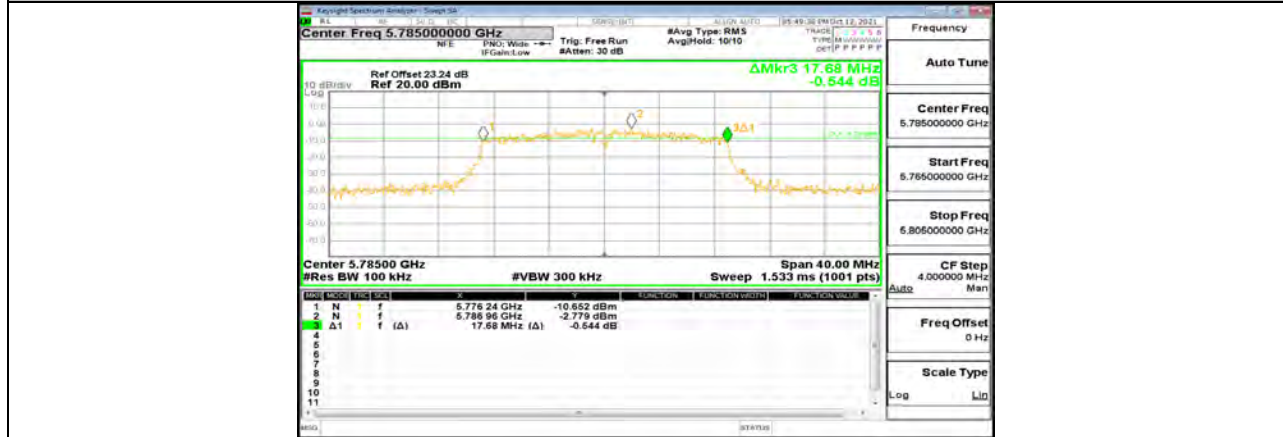
11A_Ant2_5785



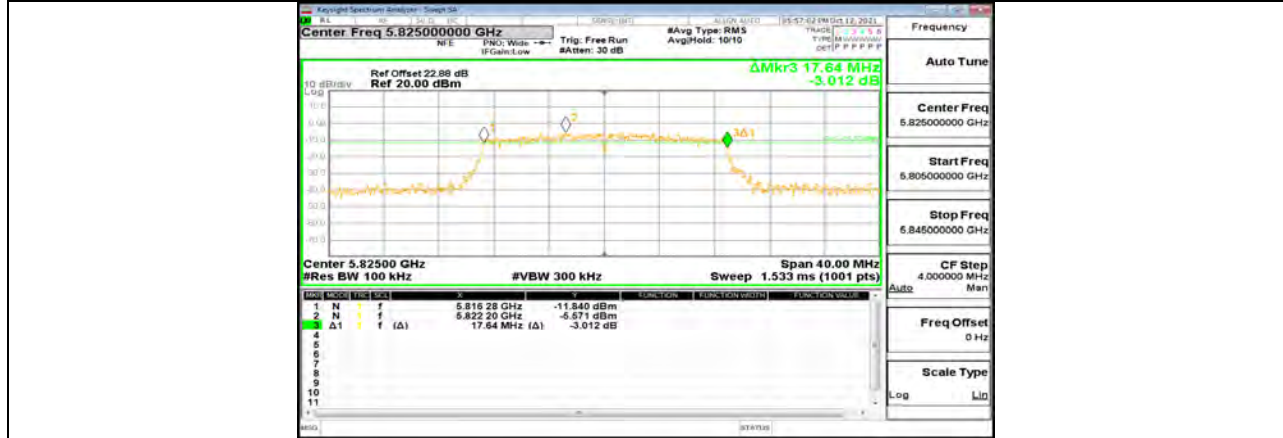




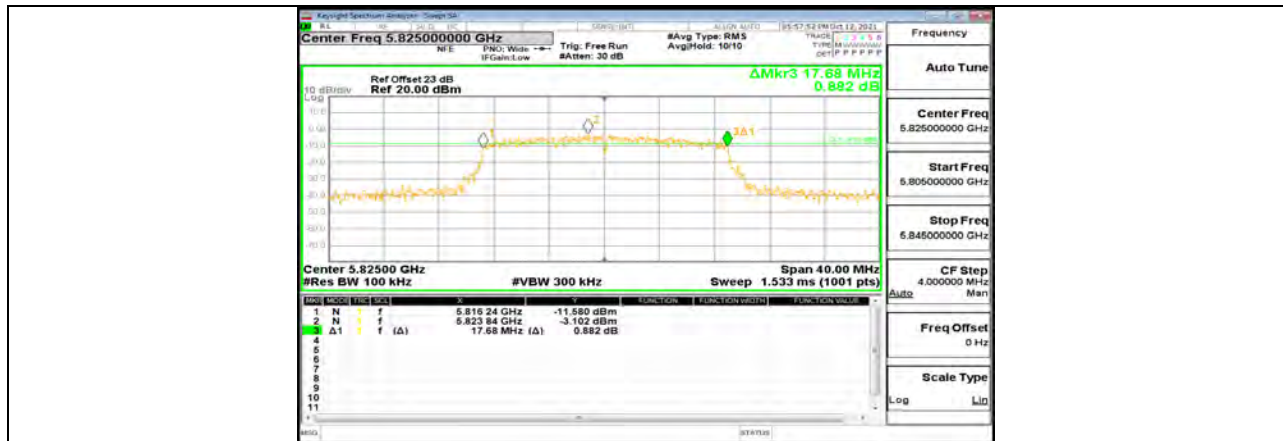
11N20MIMO_Ant1_5785



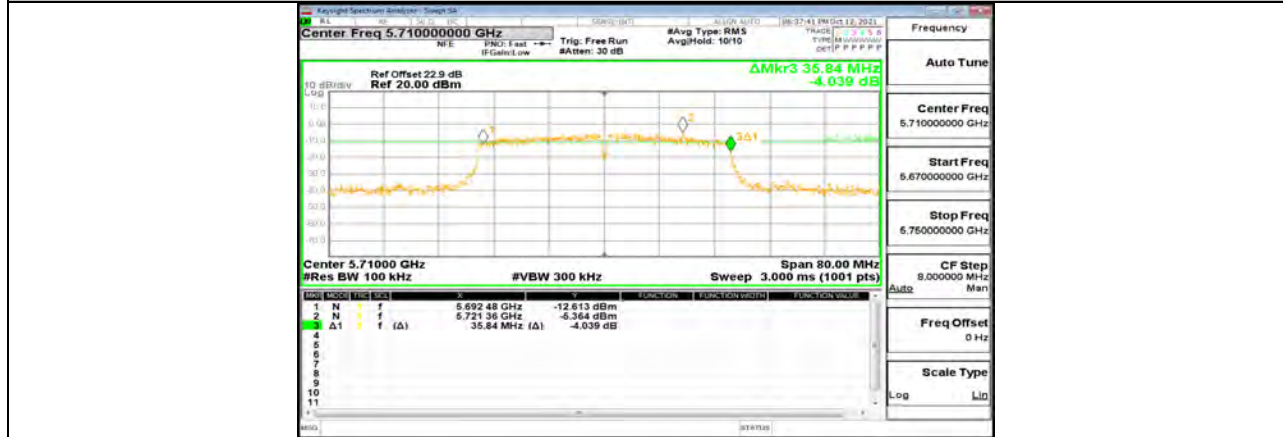
11N20MIMO_Ant2_5785



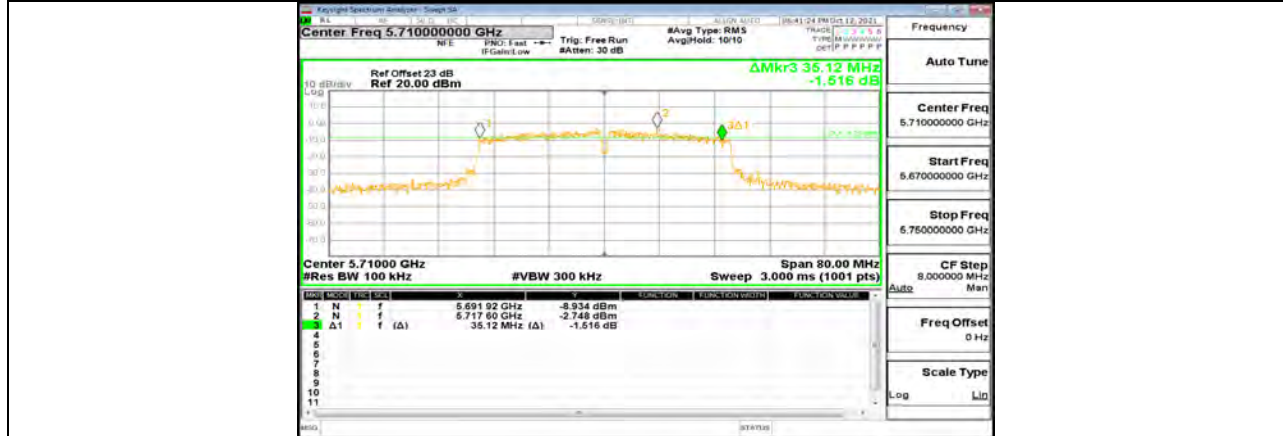
11N20MIMO_Ant1_5825



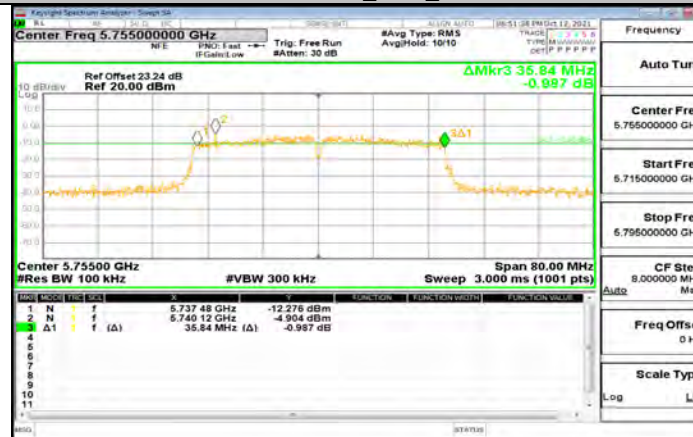
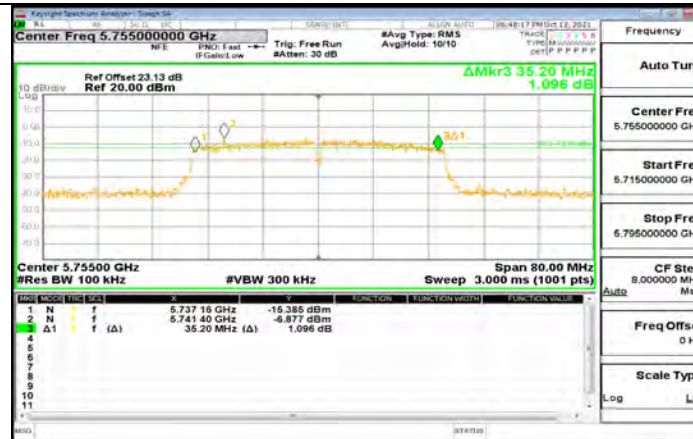
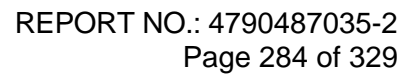
11N20MIMO_Ant2_5825



11N40MIMO_Ant1_5710_UNII-3



11N40MIMO_Ant2_5710_UNII-3







**12.4. Appendix B: Maximum Average Conducted Output Power****12.4.1. Test Result**

Mode	Frequency (MHz)	Average Power (dBm)			Limit (dBm)
		ANT1 dBm	ANT2 dBm	Total	
802.11a 20	5180	17.93	18.99	/	24.00
	5200	18.88	19.80	/	24.00
	5240	18.99	19.19	/	24.00
	5260	18.89	19.65	/	24.00
	5280	18.80	19.54	/	24.00
	5320	18.93	18.80	/	24.00
	5500	13.75	14.49	/	24.00
	5580	13.93	14.68	/	24.00
	5700	13.59	14.60	/	24.00
	5720-2C	12.43	13.50	/	25.00
	5720-3	5.12	6.15	/	29.00
	5745	18.44	19.67	/	30.00
	5785	18.68	19.95	/	30.00
	5825	18.15	19.53	/	30.00
802.11n HT20	5180	14.73	15.82	18.32	24.00
	5200	14.63	15.64	18.17	24.00
	5240	14.74	15.45	18.12	24.00
	5260	14.96	15.51	18.25	24.00
	5280	14.81	15.40	18.13	24.00
	5320	14.74	15.23	18.00	24.00
	5500	11.76	12.64	15.23	24.00
	5580	11.79	12.81	15.34	24.00
	5700	11.67	12.77	15.27	24.00
	5720-2C	10.46	11.70	14.13	25.00
	5720-3	3.40	4.51	7.00	29.00
	5745	15.99	17.29	19.70	30.00
	5785	16.13	17.44	19.84	30.00
	5825	15.46	17.04	19.33	30.00
802.11n HT40	5190	15.18	16.26	18.76	24.00
	5230	15.15	15.93	18.57	24.00
	5270	15.04	15.81	18.45	24.00
	5310	14.68	15.42	18.08	24.00
	5510	11.95	12.84	15.43	24.00
	5550	11.81	12.90	15.40	24.00
	5670	12.45	13.26	15.88	24.00



	5710-2C	11.87	13.04	15.50	25.00
	5710-3	-0.44	0.63	3.14	29.00
	5755	15.93	17.14	19.59	30.00
	5795	15.89	17.22	19.62	30.00
802.11ac HT80	5210	14.03	15.37	17.76	24.00
	5290	14.98	15.15	18.08	24.00
	5530	13.78	14.12	16.96	24.00
	5610	13.59	14.18	16.91	24.00
	5690-2C	13.20	13.76	16.50	25.00
	5690-3	-3.44	-3.06	-0.24	29.00
	5775	16.51	17.21	19.88	30.00

Note: 1. Conducted Power=Meas. Level+ Correction Factor

2. The Duty Cycle Factor (refer to section 7.1) had already compensated to the test data.

3. CDD, STBC, SDM modes had been tested, but only the worst data was recorded in the report.

**12.4.2. Spot check Test Result**

Mode	Frequency (MHz)	Average Power (dBm)			Limit (dBm)
		ANT1 dBm	ANT2 dBm	Total	
802.11a 20	5180	18.11	19.05	/	24.00
	5260	18.57	19.44	/	24.00
	5500	13.38	14.32	/	24.00
	5825	18.57	19.72	/	30.00
802.11n HT20	5180	14.33	15.48	17.95	24.00
	5260	14.68	15.32	18.02	24.00
	5500	11.94	12.55	15.27	24.00
	5825	15.67	17.22	19.52	30.00
802.11n HT40	5190	15.35	16.37	18.90	24.00
	5270	15.21	15.93	18.60	24.00
	5510	11.75	12.44	15.12	24.00
	5795	15.61	17.44	19.63	30.00
802.11ac HT80	5210	14.21	15.55	17.94	24.00
	5290	14.65	15.67	18.20	24.00
	5530	13.44	14.01	16.74	24.00
	5775	16.72	17.17	19.96	30.00

**12.5. Appendix C: Maximum Power Spectral Density****12.5.1. Test Result**

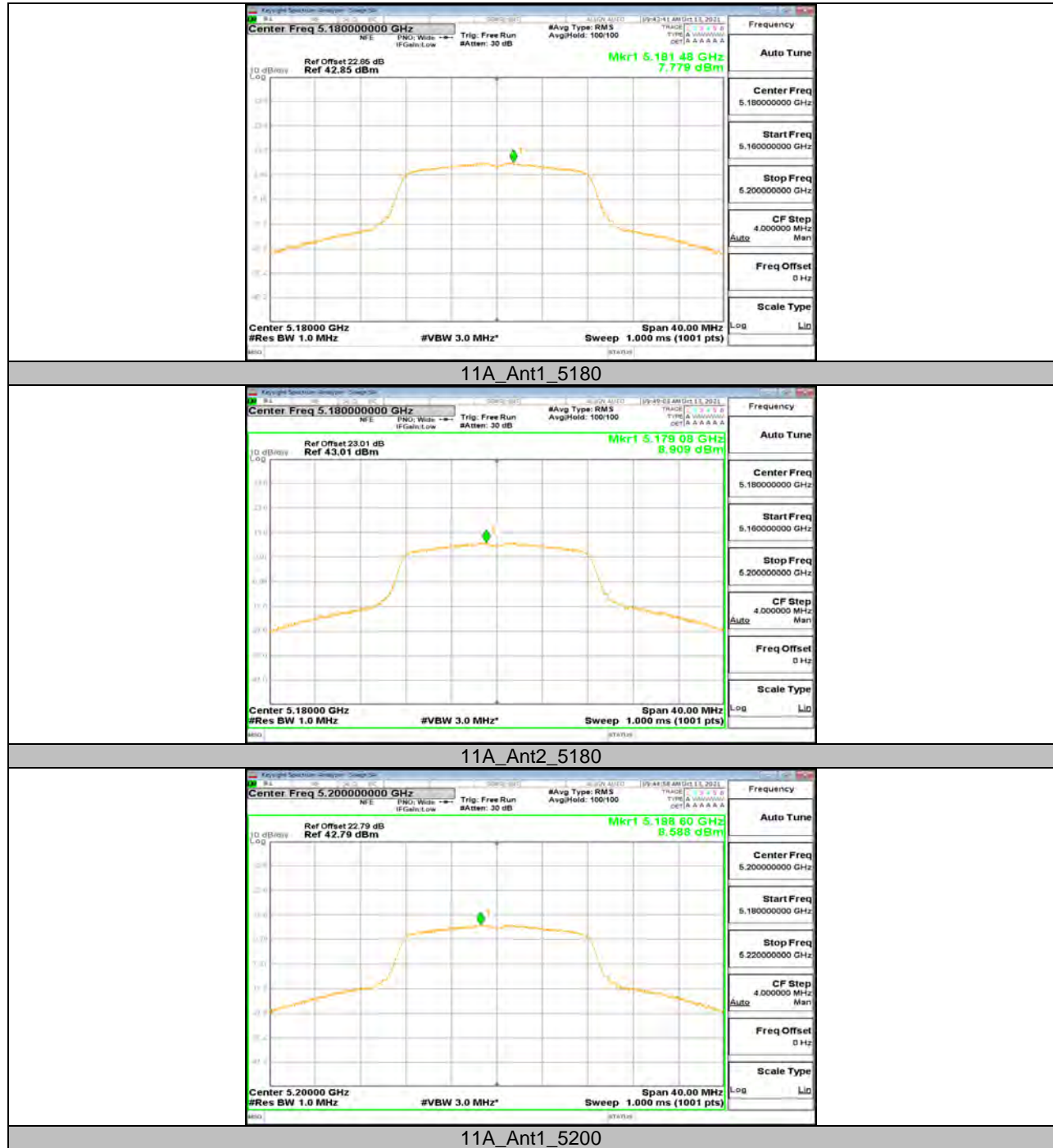
Mode	Frequency (MHz)	PSD 5150-5725 MHz (dBm/MHz) 5725-5850MHz (dBm/500kHz)			Limit 5150-5725MHz (dBm/MHz) 5725-5850MHz (dBm/500kHz)
		ANT1	ANT2	Total	
a 20	5180	7.78	8.910	/	9.86
	5200	8.59	9.820	/	9.86
	5240	8.450	9.100	/	9.86
	5260	9.080	9.480	/	9.86
	5280	8.690	9.360	/	9.86
	5320	6.950	7.470	/	9.86
	5500	3.740	4.350	/	9.86
	5580	3.860	4.460	/	9.86
	5700	3.330	4.370	/	9.86
	5720-2C	3.330	4.310	/	9.86
	5720-3	-1.700	-0.520	/	28.86
	5745	5.630	6.790	/	28.86
	5785	5.770	6.900	/	28.86
	5825	5.240	6.560	/	28.86
n HT20	5180	4.380	5.470	7.969	9.86
	5200	4.290	5.450	7.919	9.86
	5240	4.470	5.230	7.877	9.86
	5260	4.640	5.260	7.971	9.86
	5280	4.480	5.320	7.931	9.86
	5320	4.280	5.000	7.665	9.86
	5500	1.570	2.370	4.999	9.86
	5580	1.630	2.650	5.180	9.86
	5700	1.350	2.590	5.024	9.86
	5720-2C	1.350	2.650	5.059	9.86
	5720-3	-3.550	-1.960	0.328	28.86
	5745	2.880	4.270	6.641	28.86
	5785	3.180	4.470	6.883	28.86
	5825	2.460	3.910	6.256	28.86
n HT40	5190	2.010	2.920	5.499	9.86
	5230	1.800	2.620	5.240	9.86
	5270	1.660	2.590	5.160	9.86
	5310	1.360	2.200	4.811	9.86
	5510	-1.450	-0.320	2.162	9.86

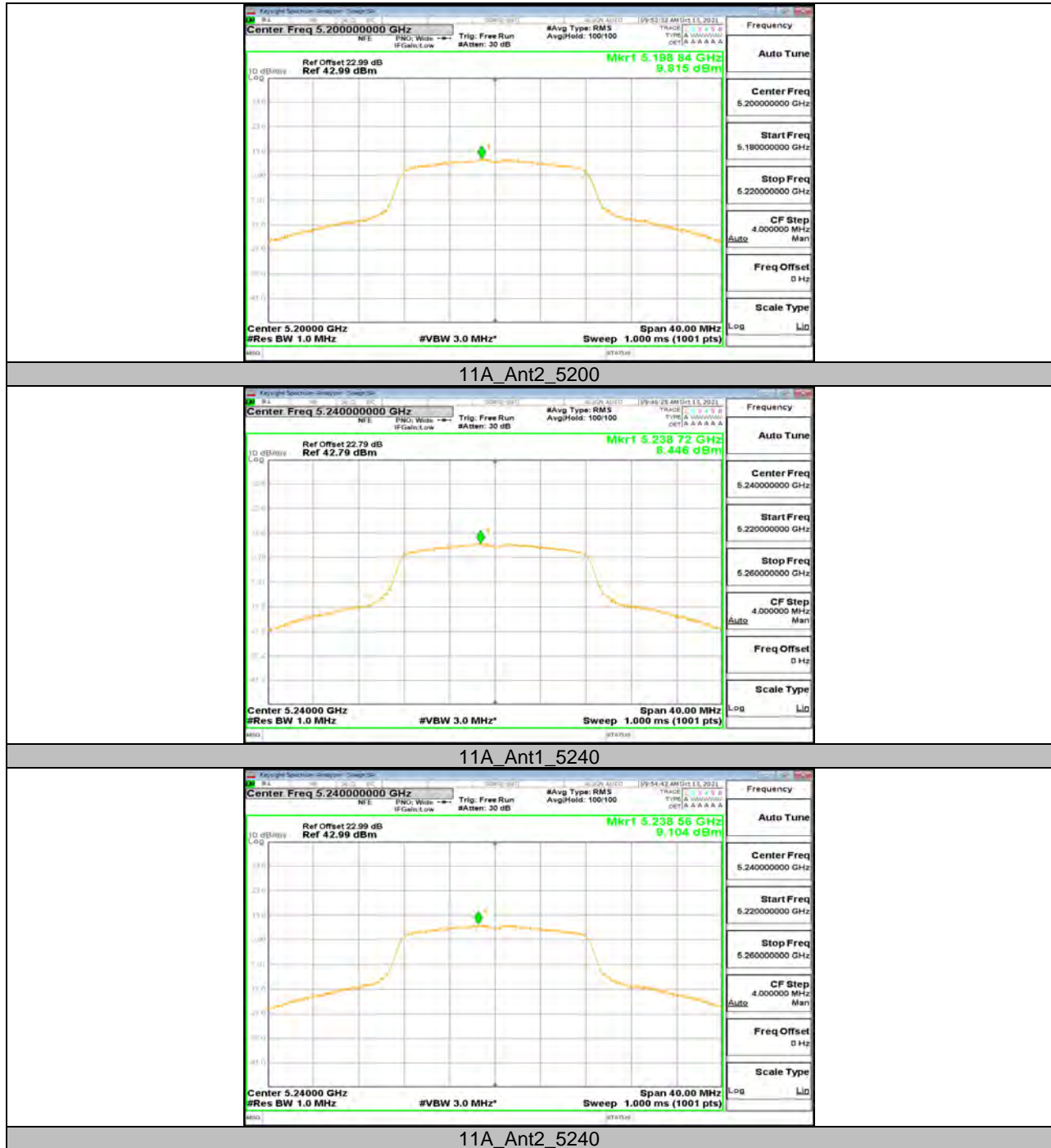


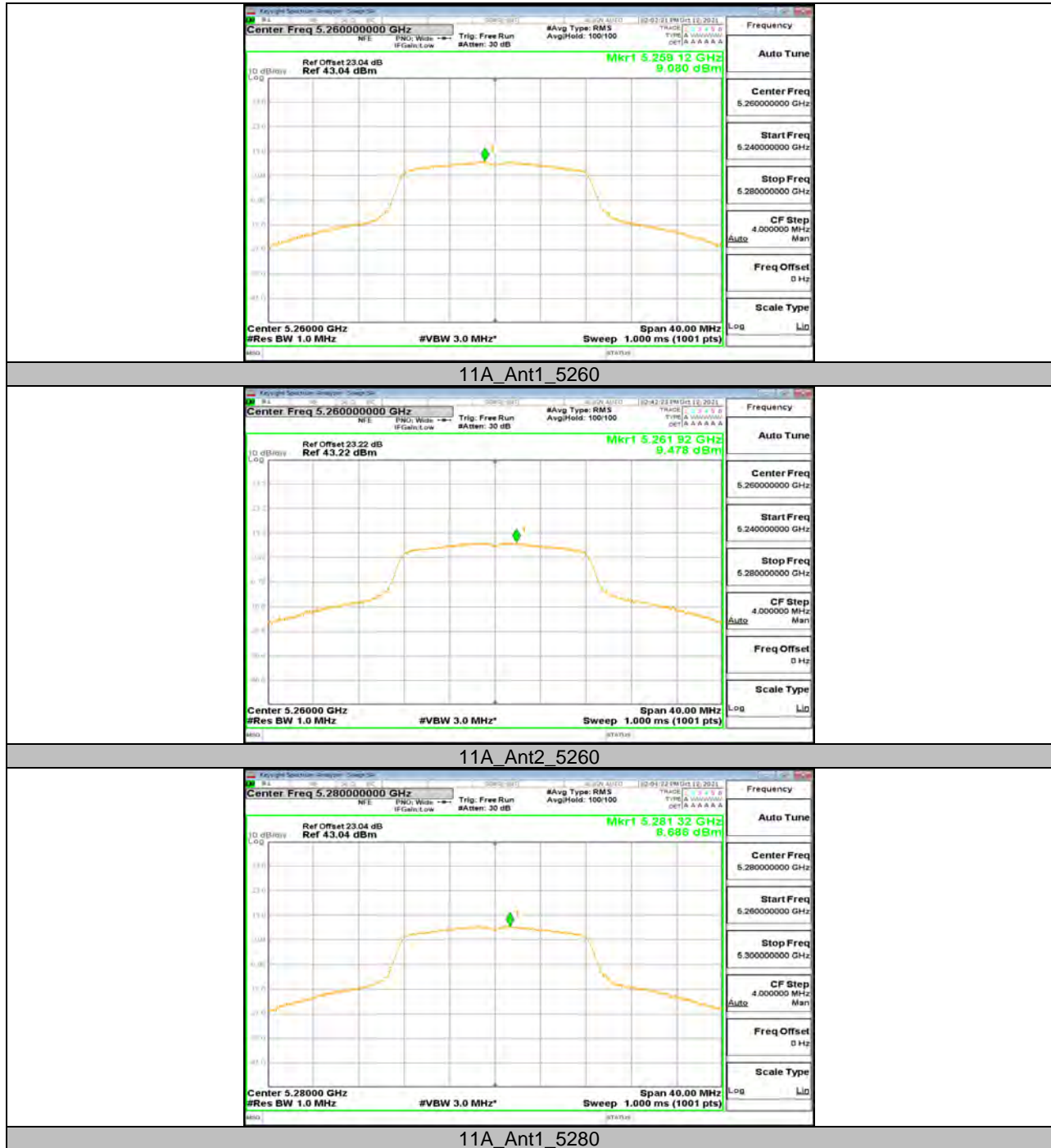
	5550	-1.320	-0.520	2.109	9.86
	5670	-0.610	0.160	2.802	9.86
	5710-2C	-1.350	-0.070	2.347	9.86
	5710-3	-7.500	-6.250	-3.820	28.86
	5755	-0.040	1.330	3.709	28.86
	5795	-0.140	0.830	3.382	28.86
ac HT80	5210	-2.500	-1.140	1.243	9.86
	5290	-1.260	-0.700	2.039	9.86
	5530	-2.650	-1.600	0.917	9.86
	5610	-2.800	-2.070	0.586	9.86
	5690-2C	-3.020	-2.210	0.414	9.86
	5690-3	-9.440	-8.550	-5.962	28.86
	5775	-5.250	-4.060	-1.604	28.86

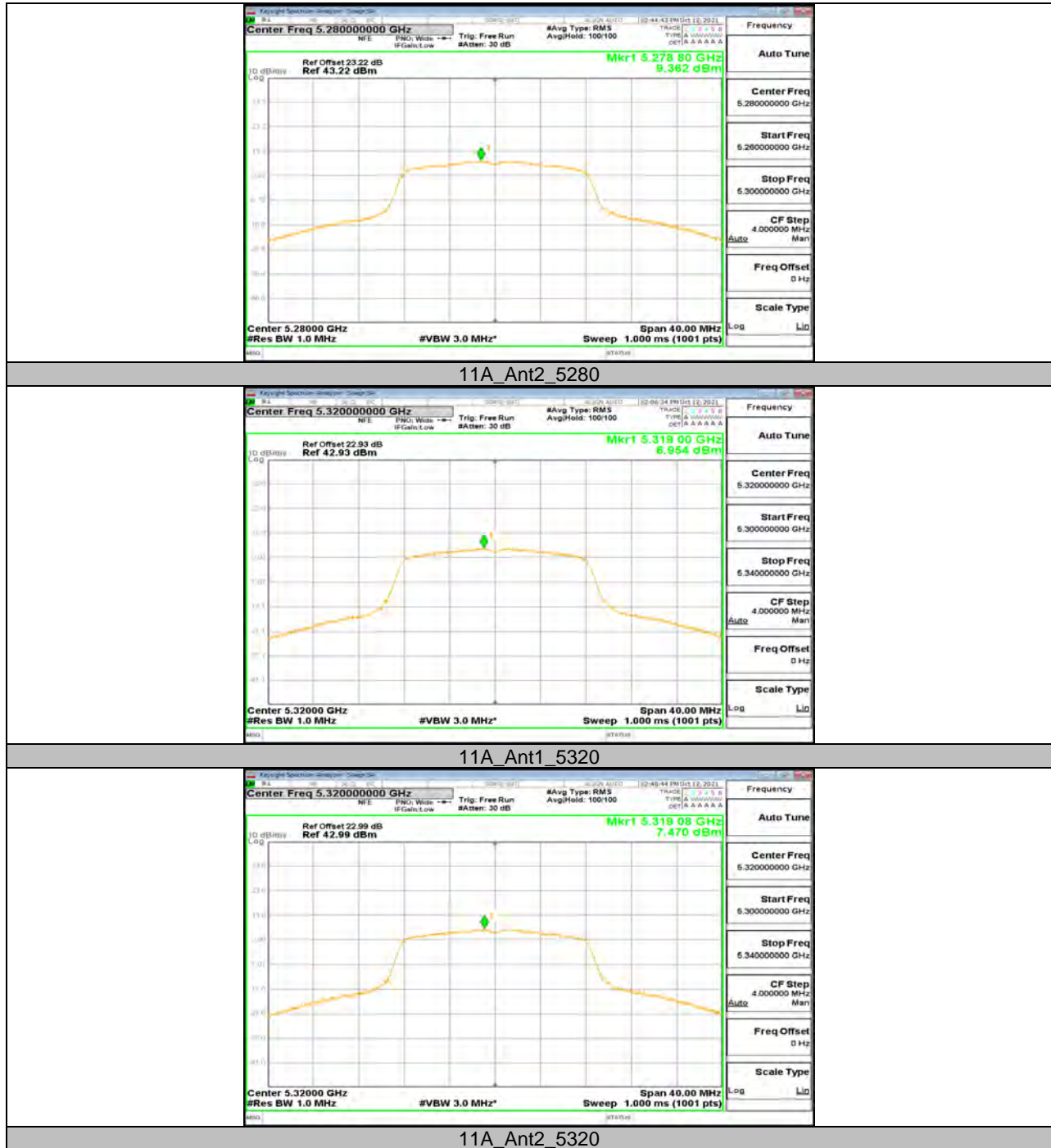
Note: 1. The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. CDD, STBC, SDM modes had been tested, but only the worst data was recorded in the report.

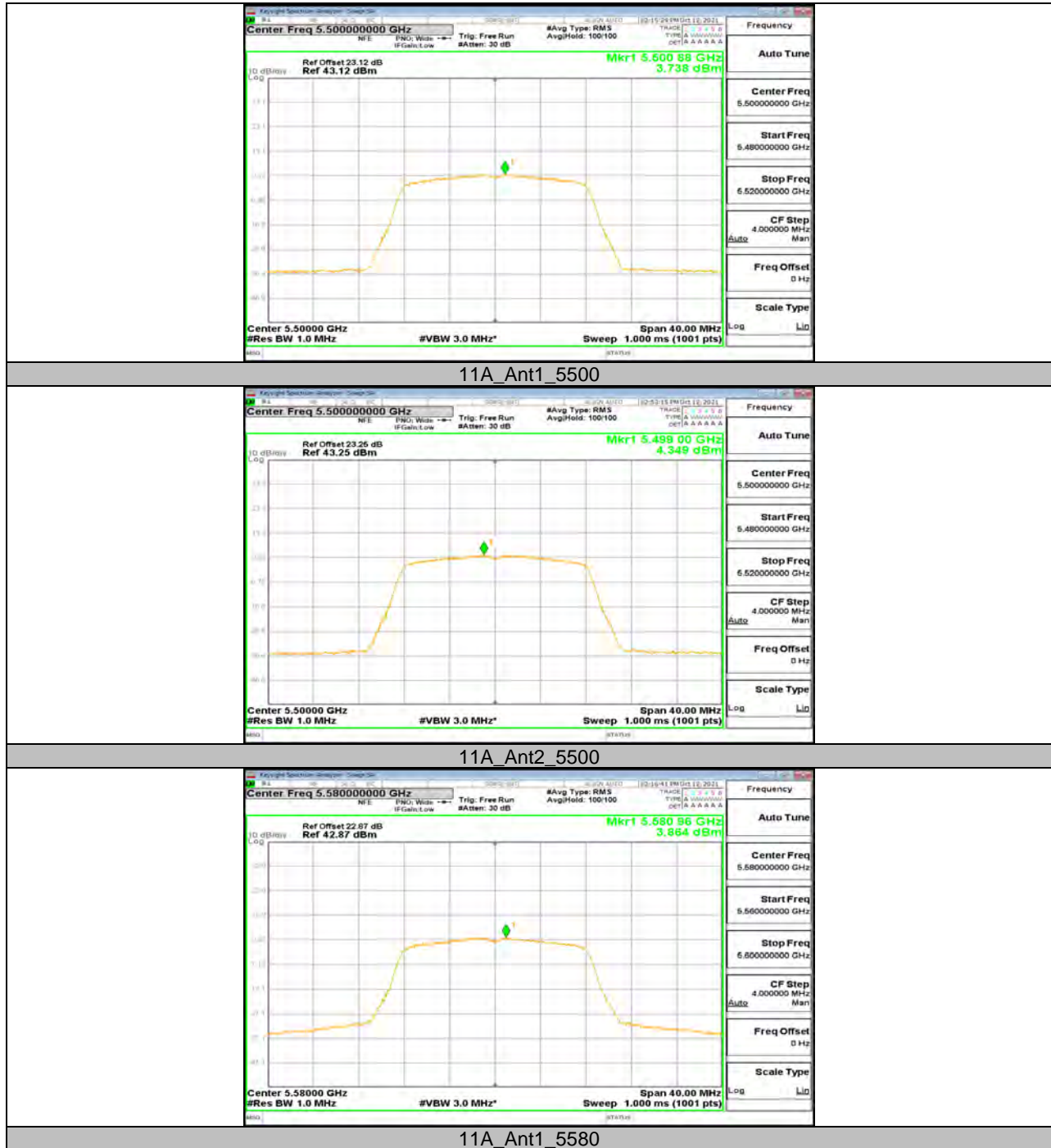
12.5.2. Test Graphs

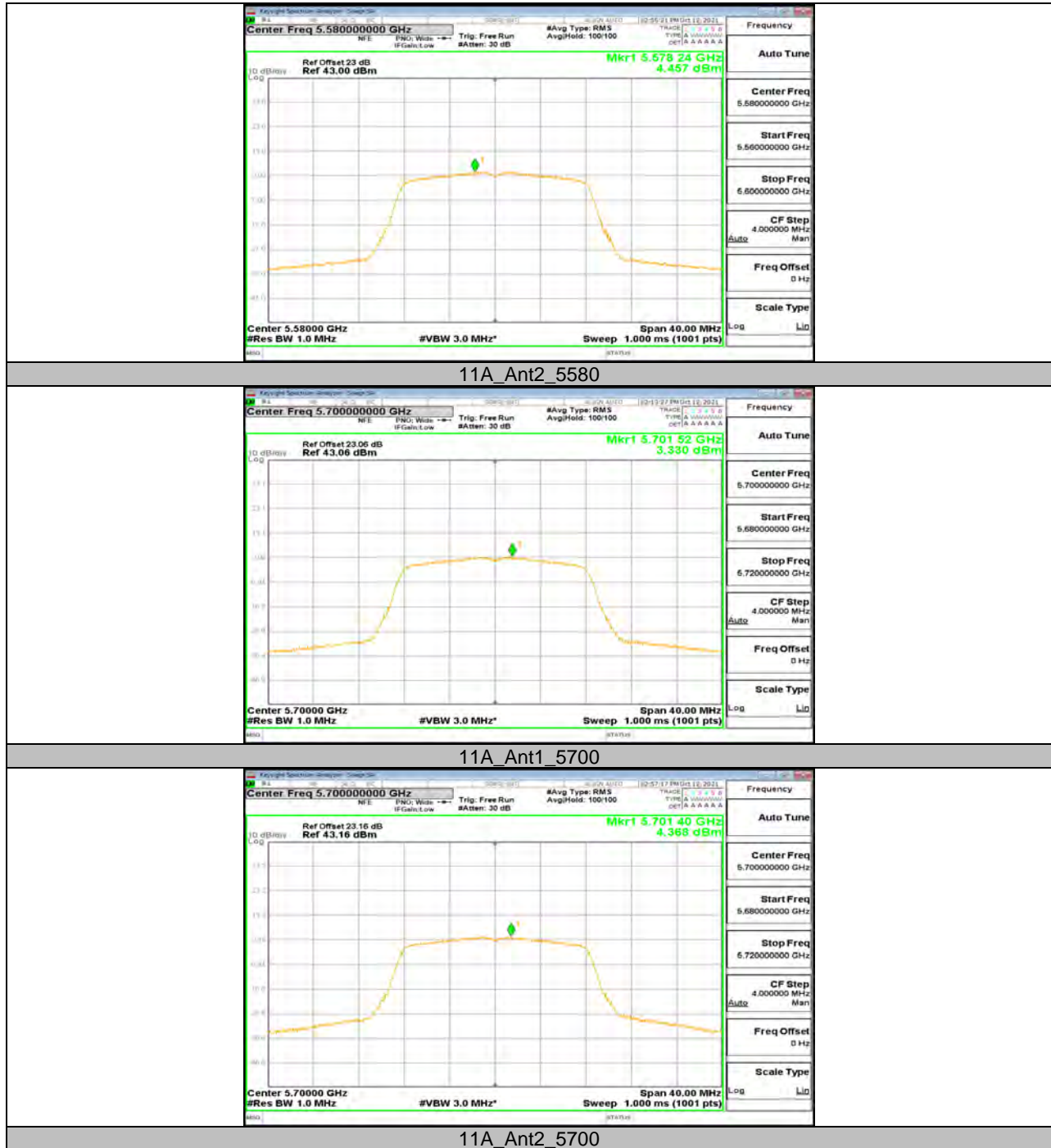


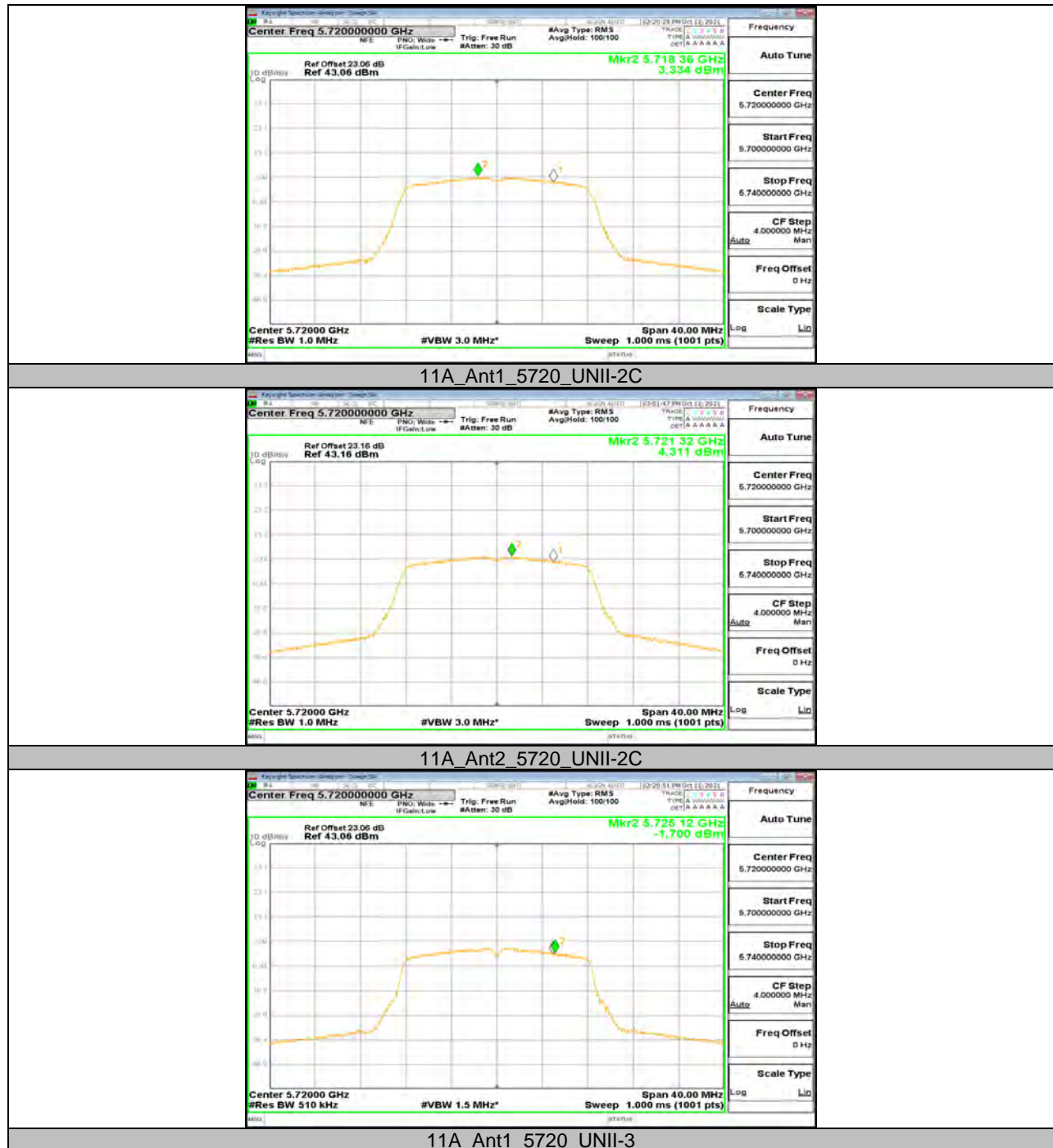


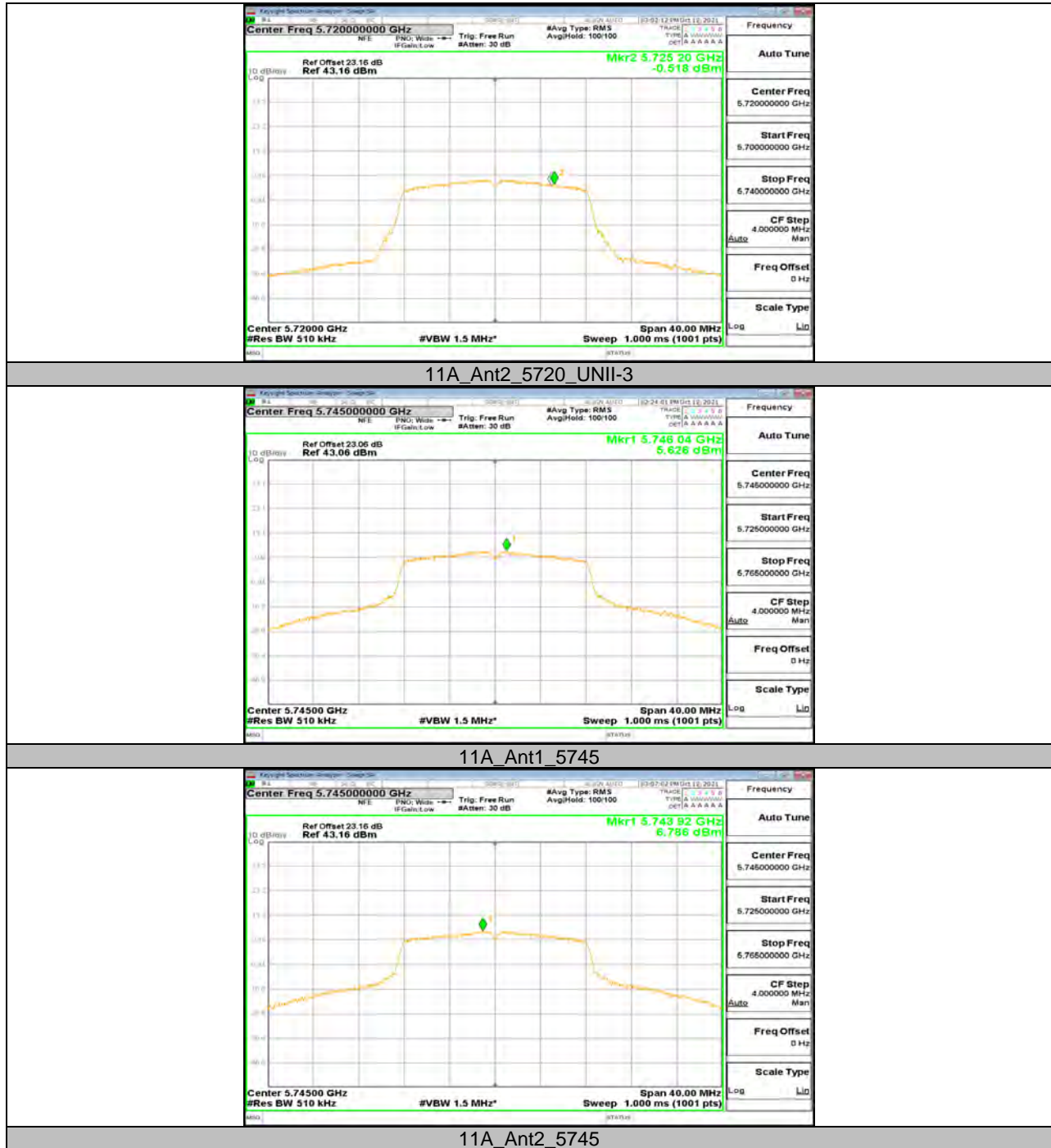


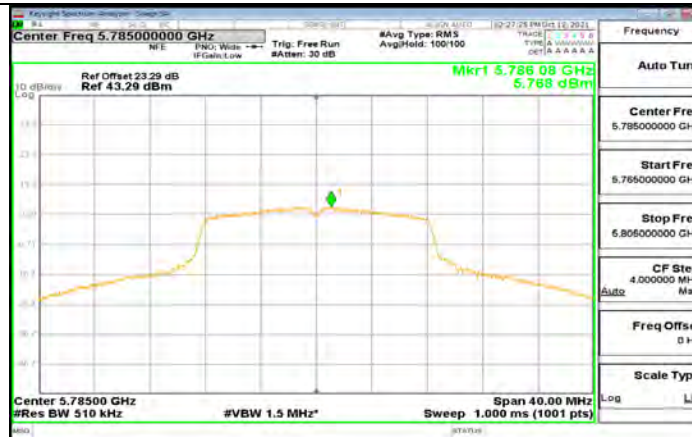












11A_Ant1_5785



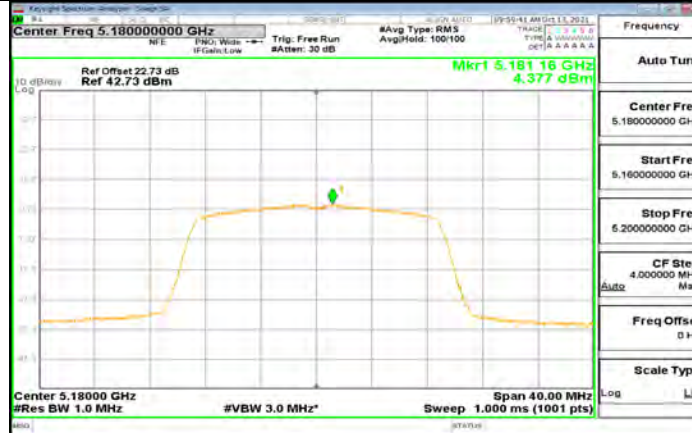
11A_Ant2_5785



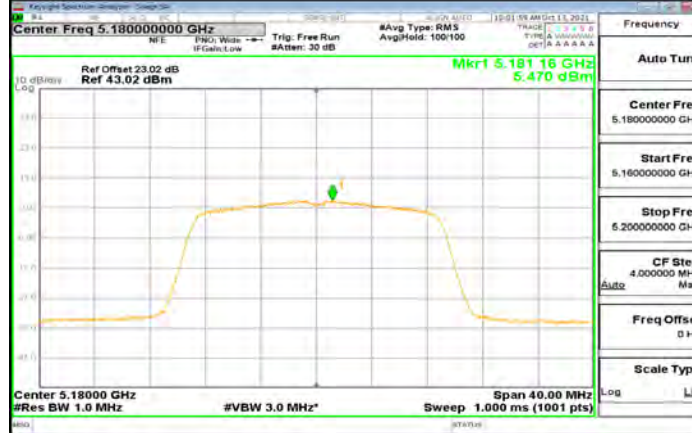
11A_Ant1_5825



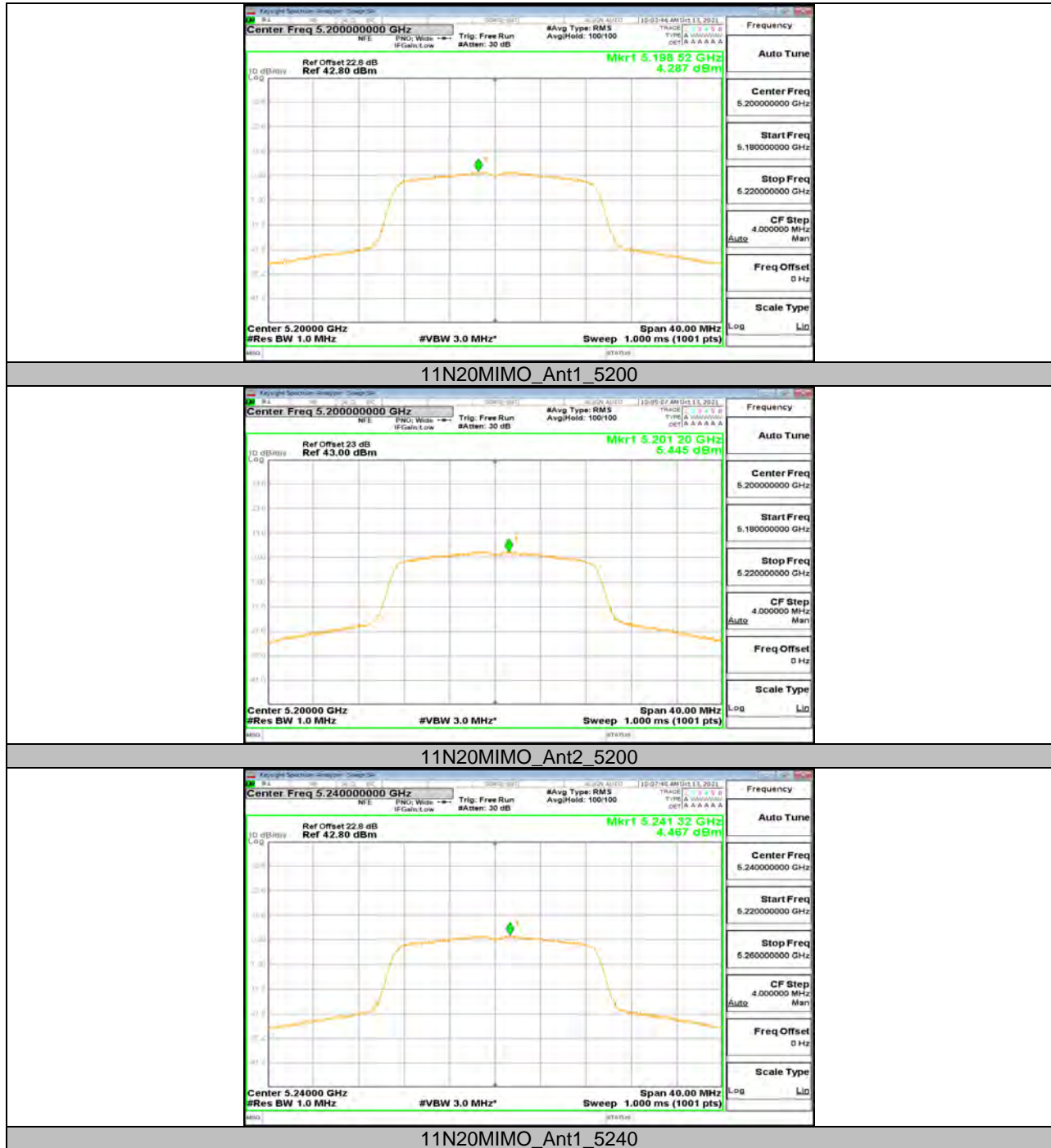
11A_Ant2_5825

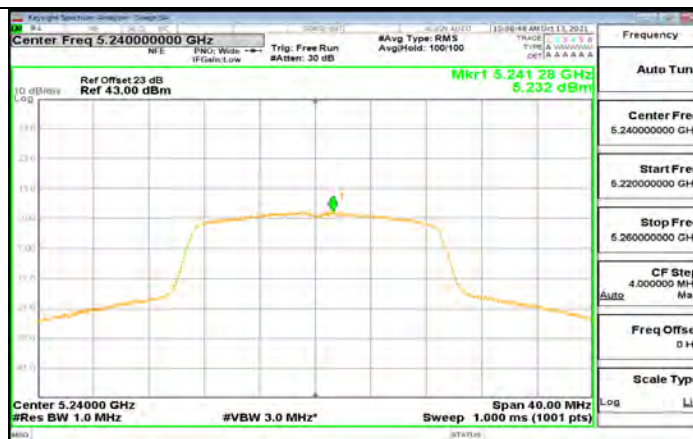


11N20MIMO_Ant1_5180

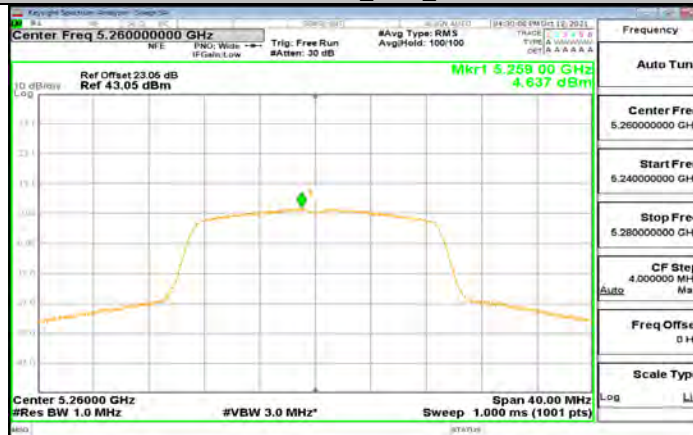


11N20MIMO_Ant2_5180

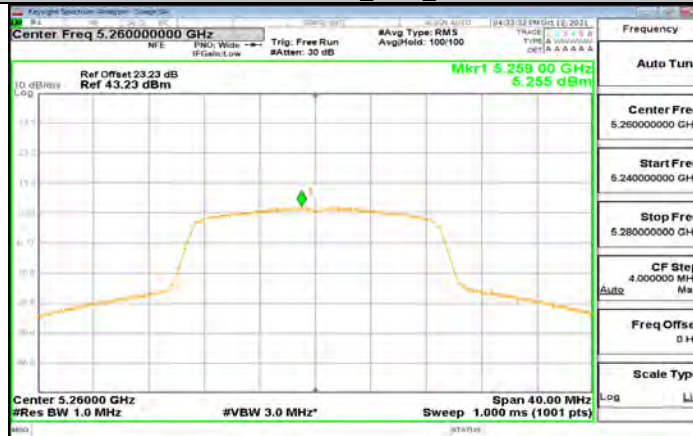




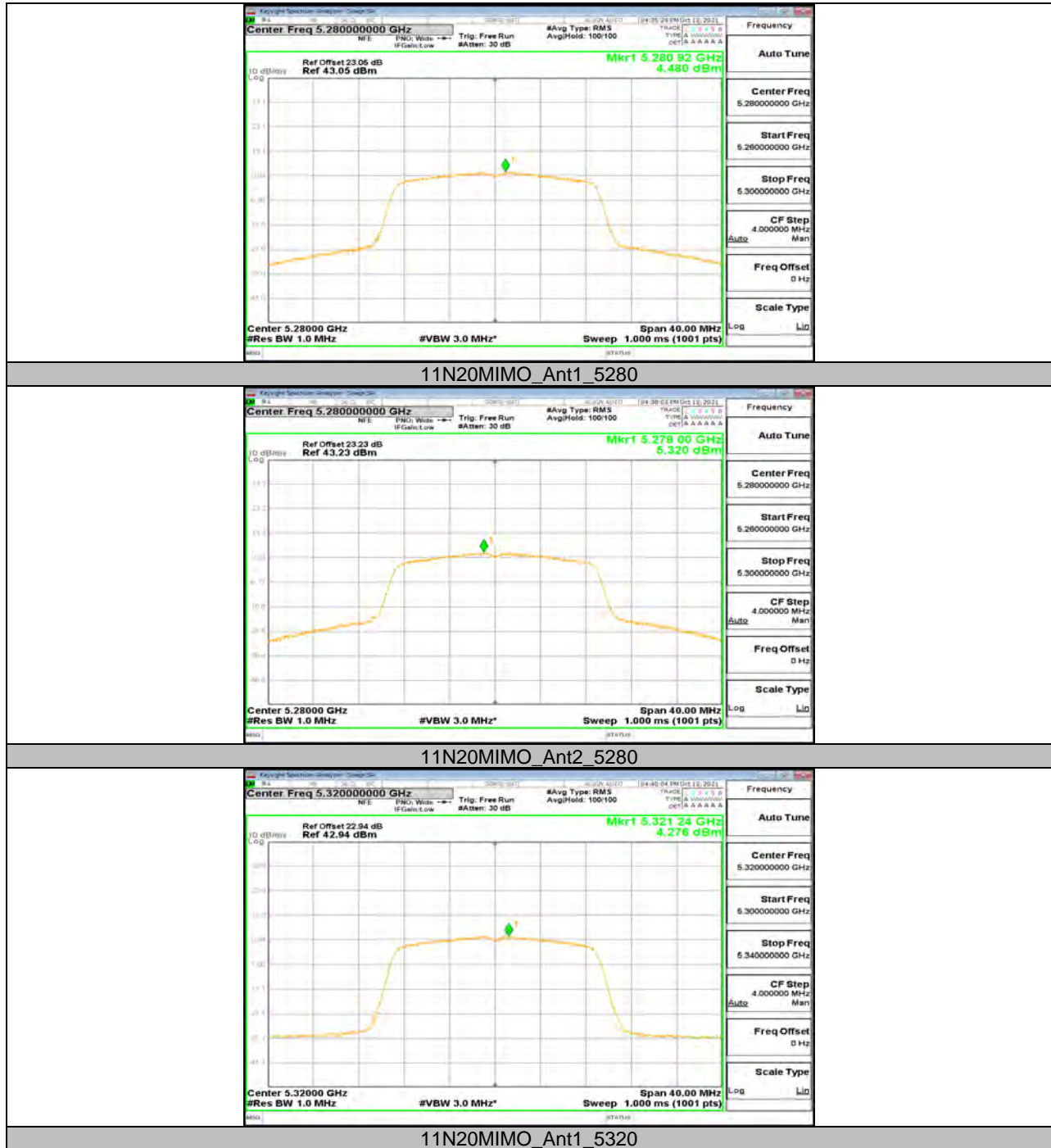
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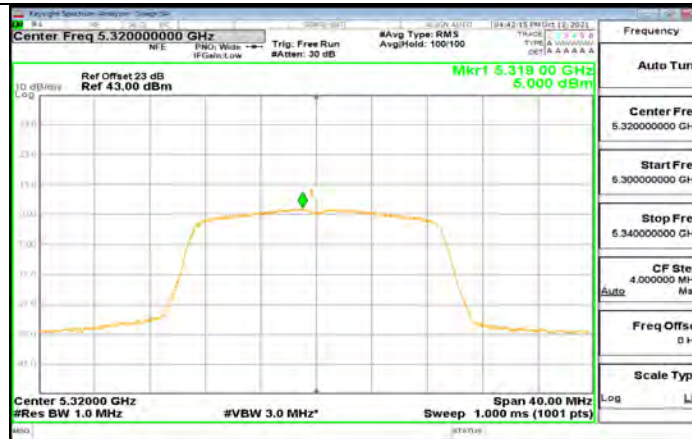


11N20MIMO_Ant1_5260

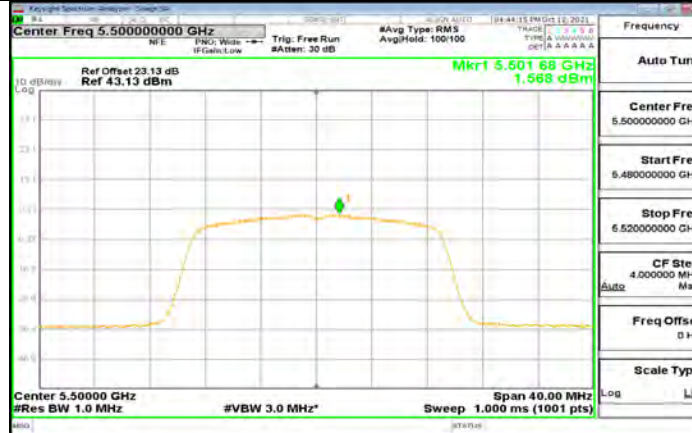


11N20MIMO_Ant2_5260

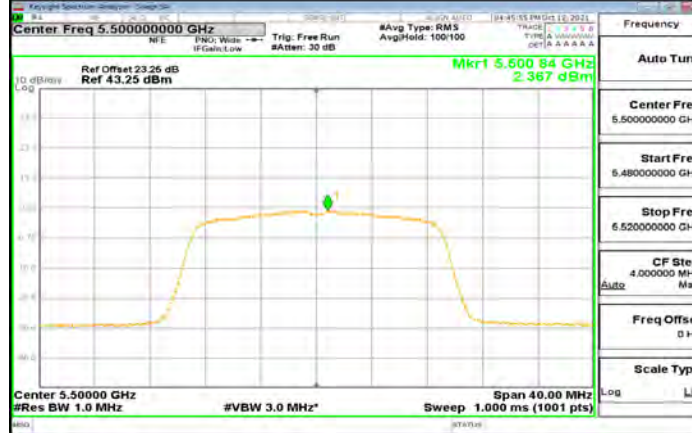




11N20MIMO_Ant2_5320

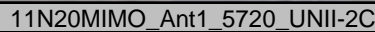
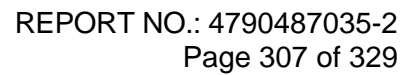


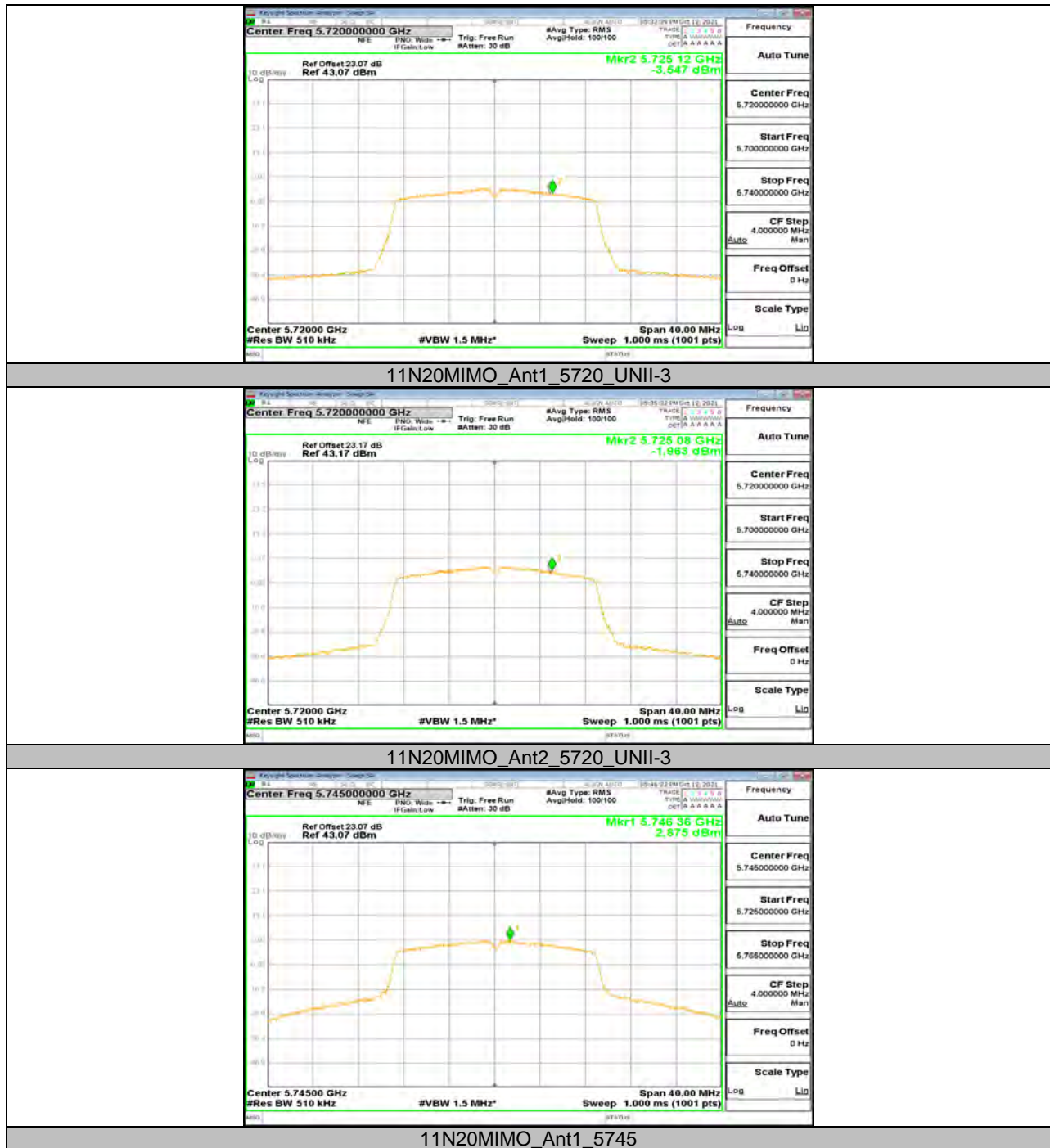
11N20MIMO_Ant1_5500

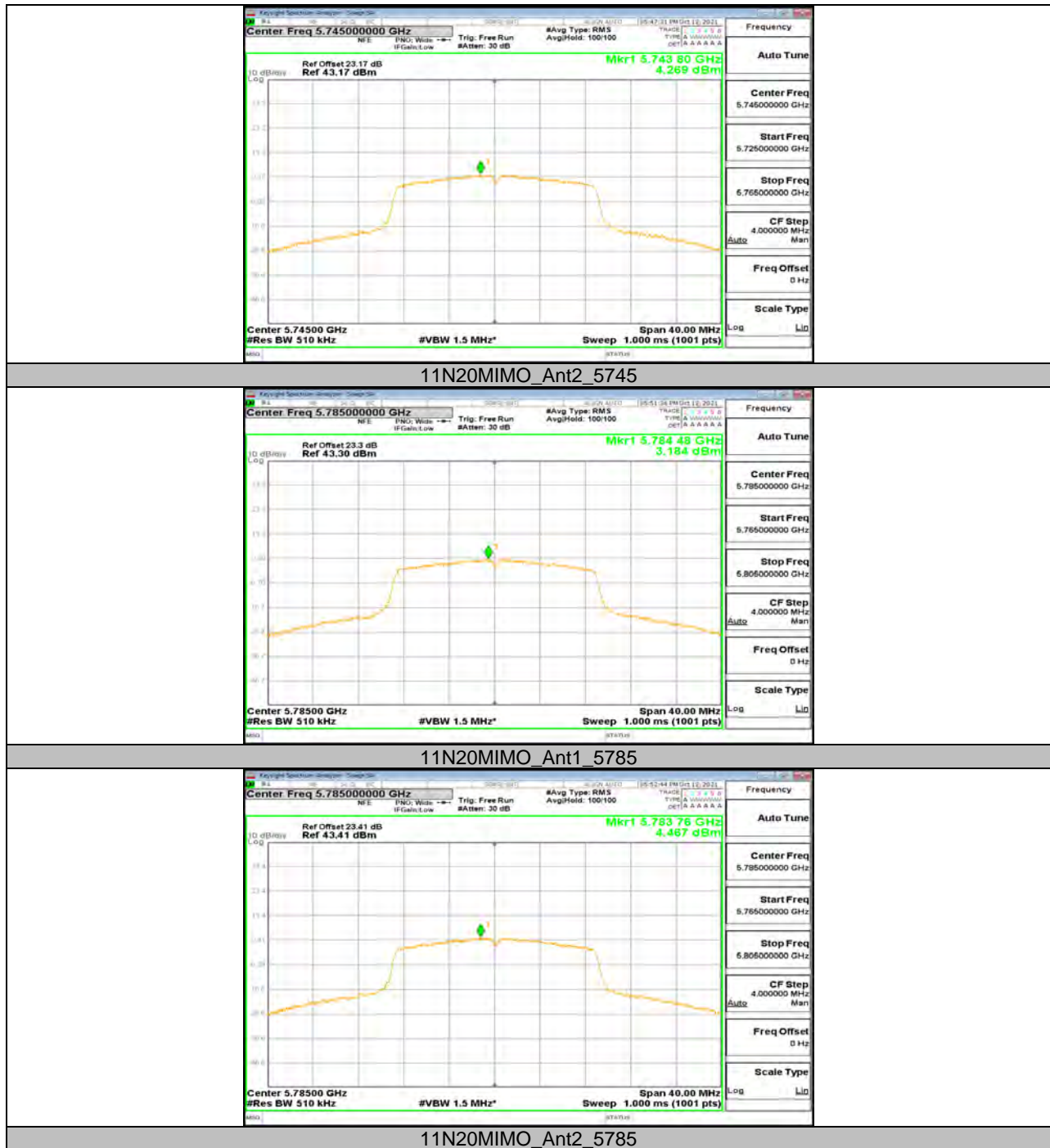


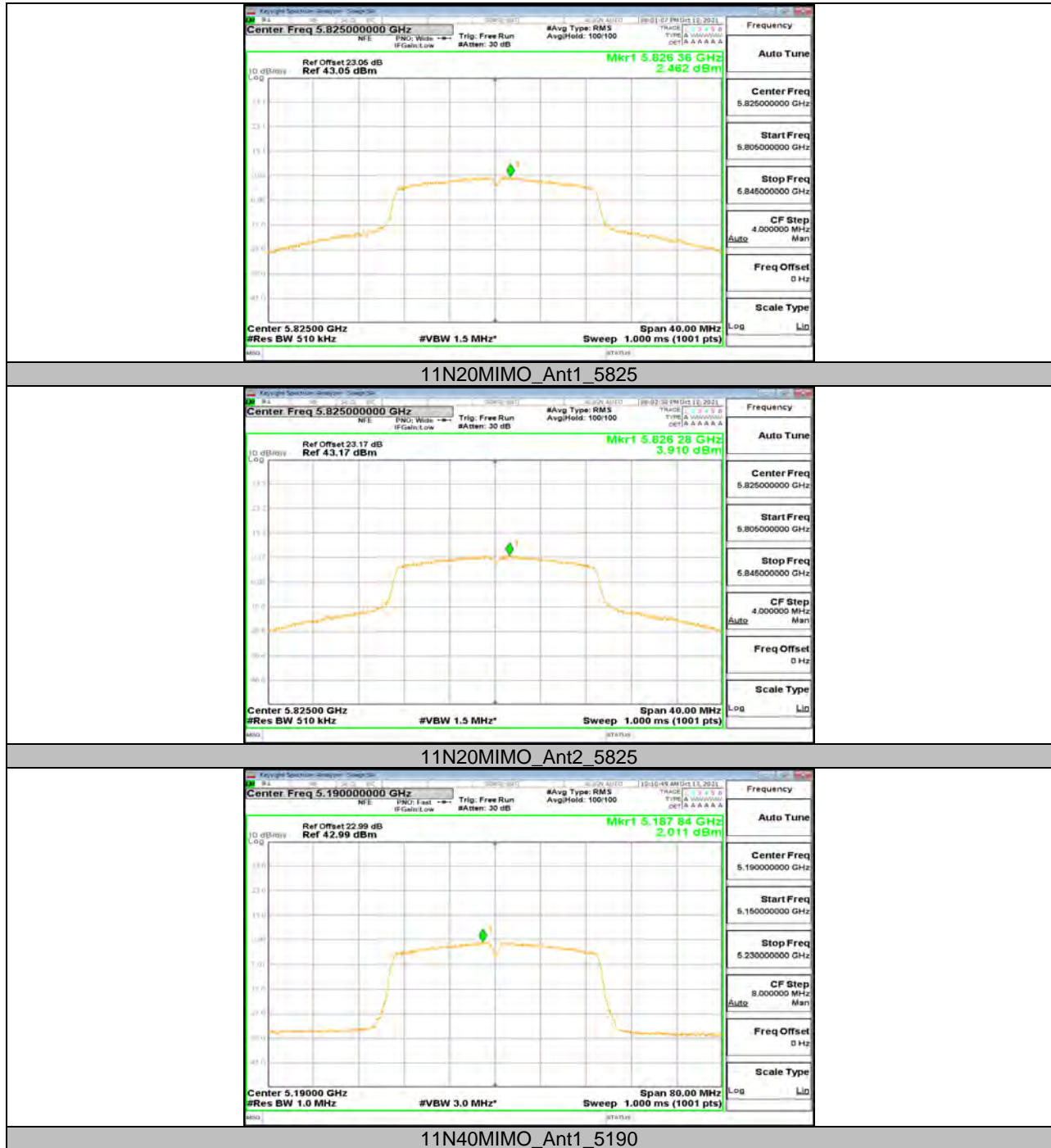
11N20MIMO_Ant2_5500

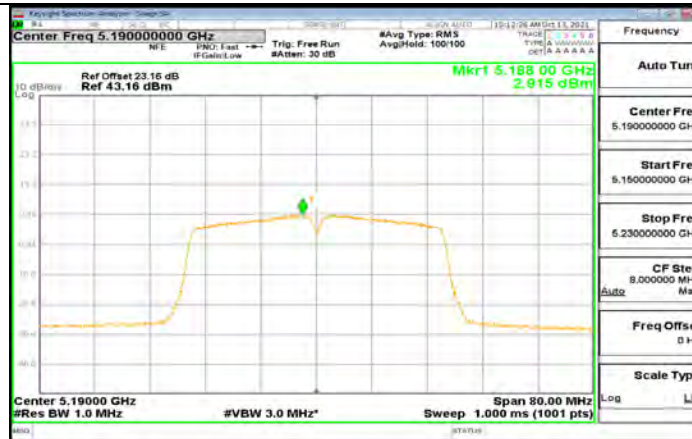












11N40MIMO_Ant2_5190

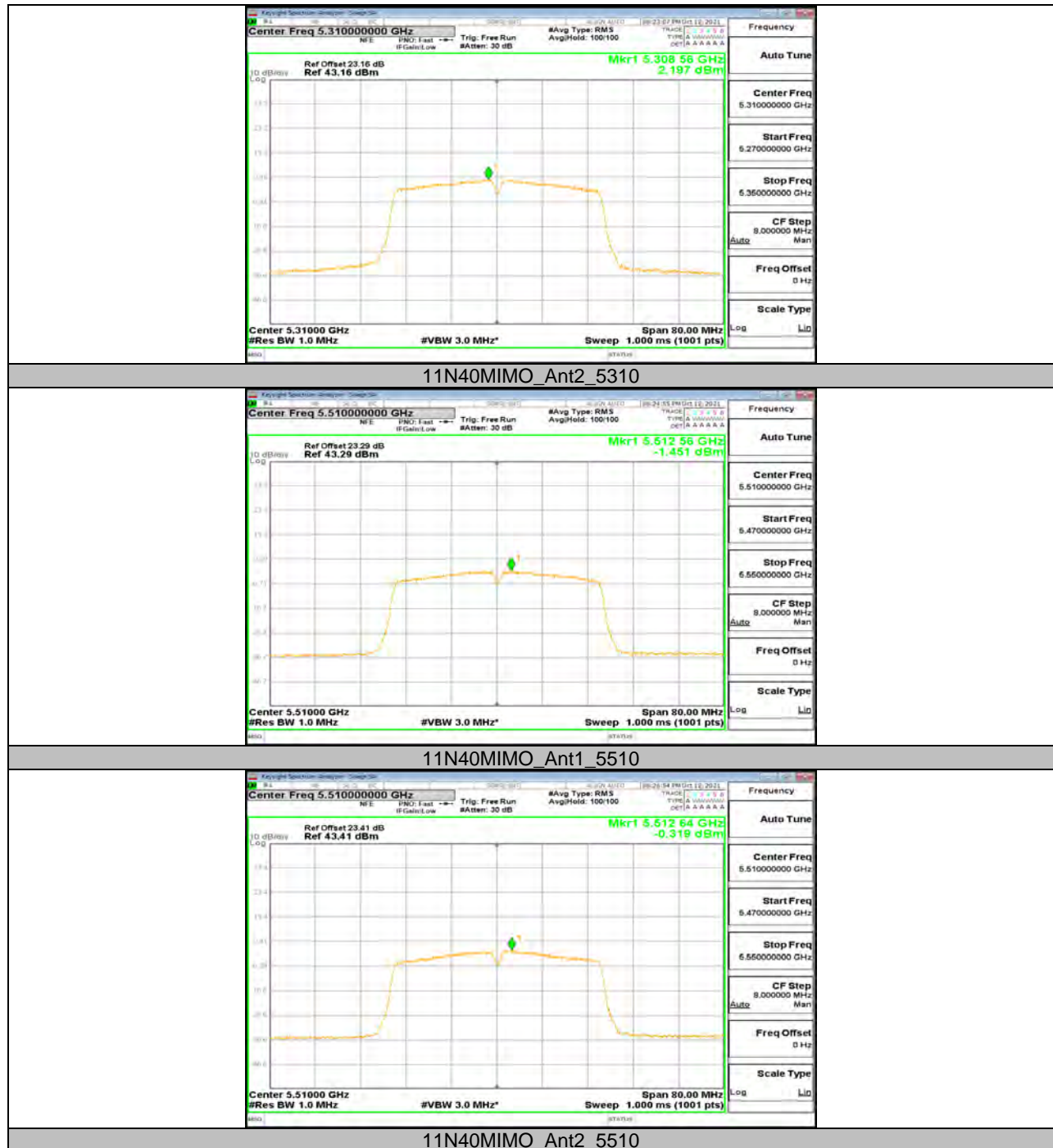


11N40MIMO_Ant1_5230

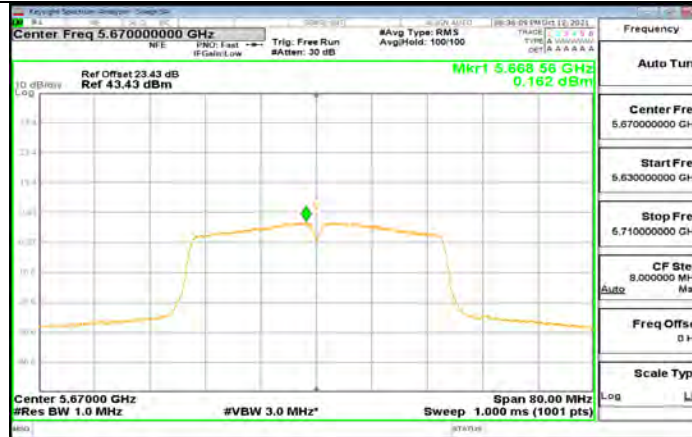


11N40MIMO_Ant2_5230

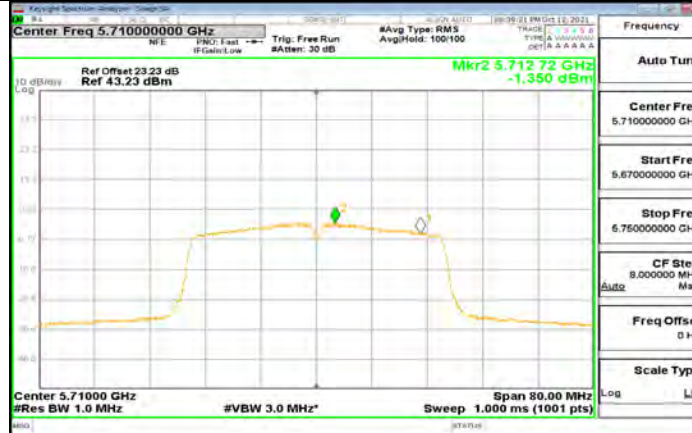




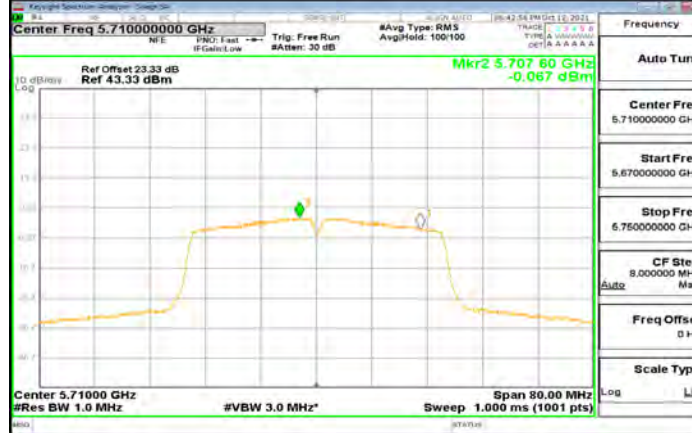




11N40MIMO_Ant2_5670

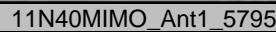
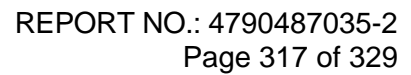


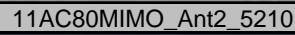
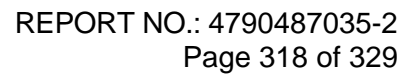
11N40MIMO_Ant1_5710_UNII-2C

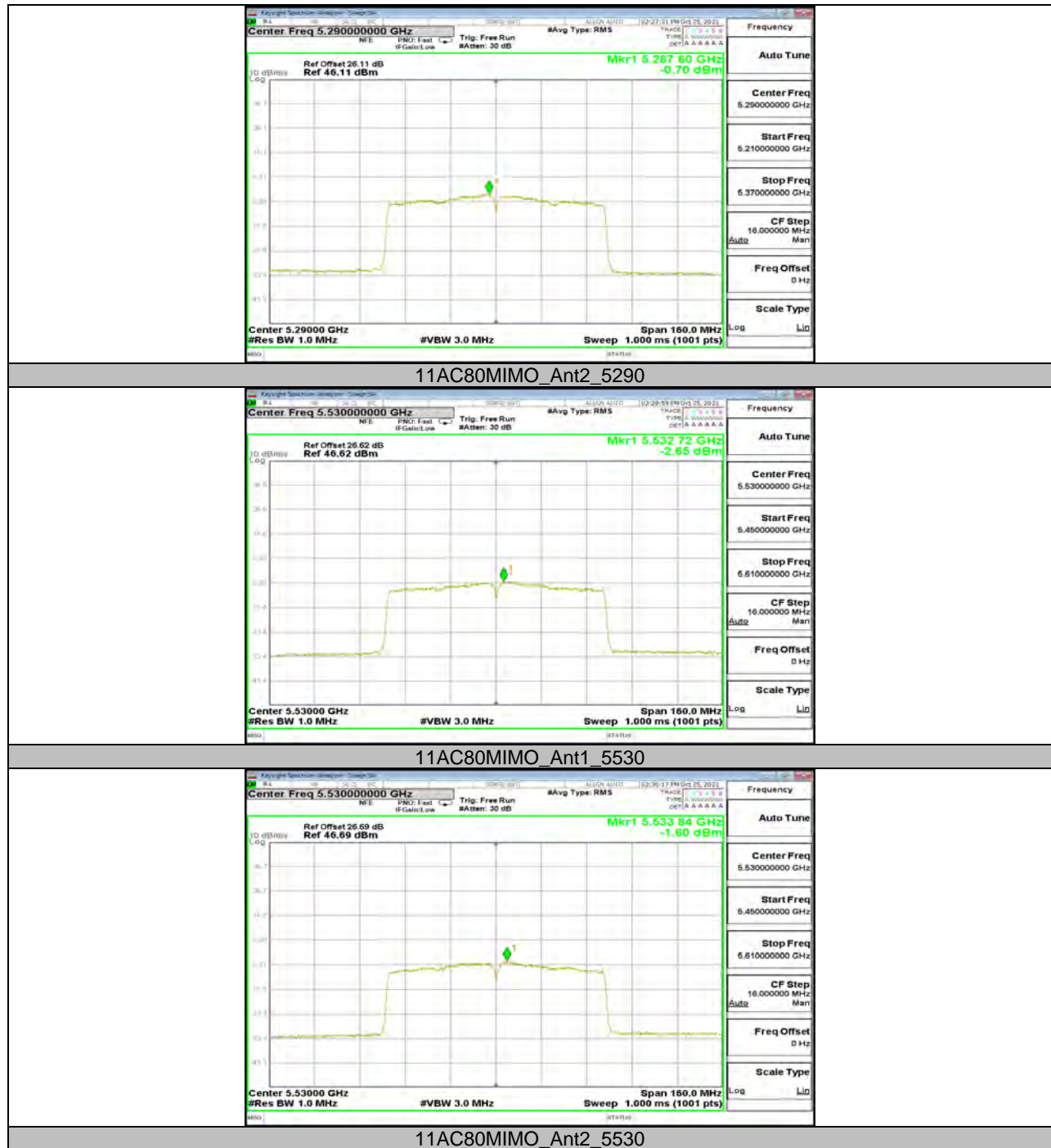


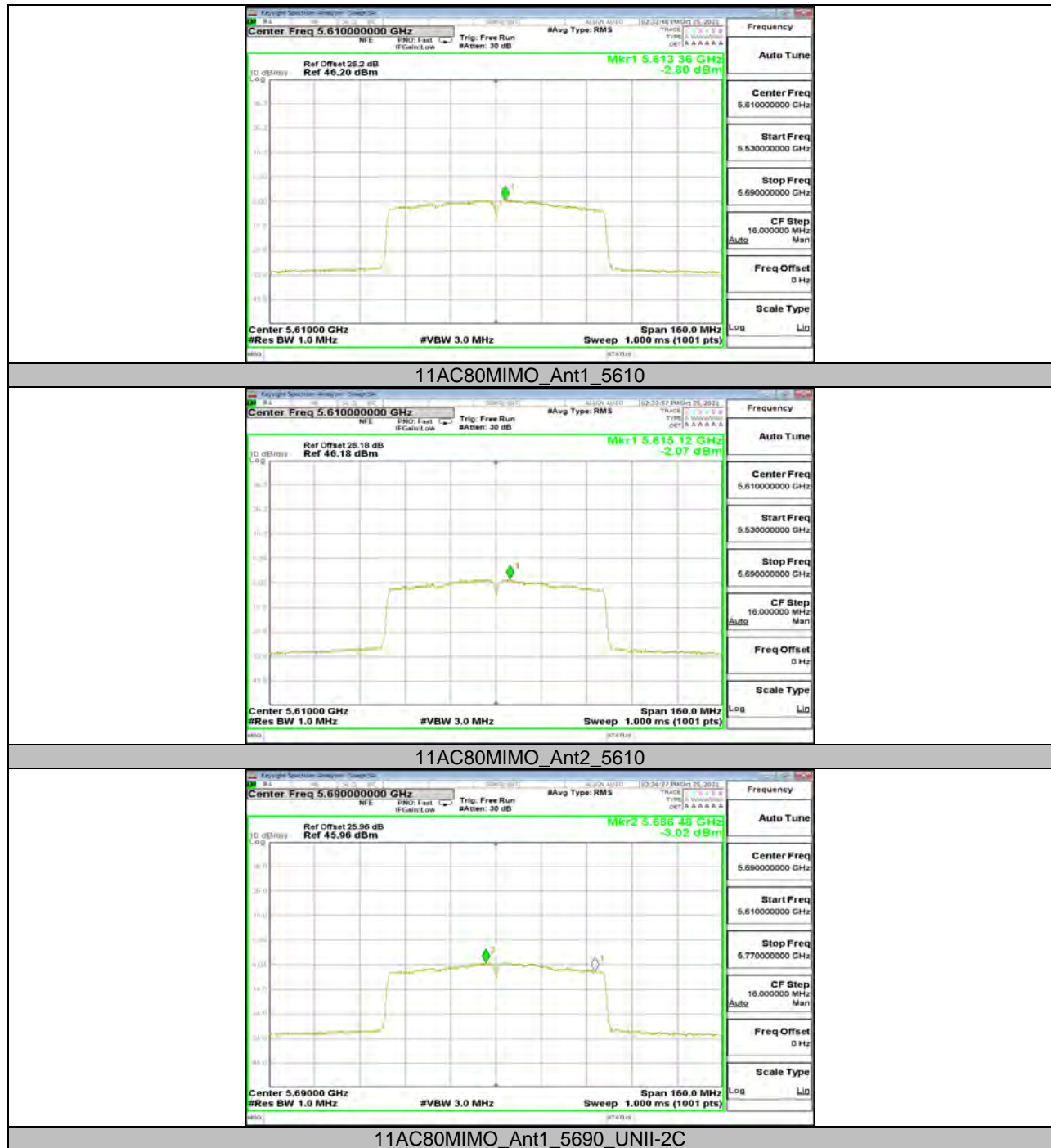
11N40MIMO_Ant2_5710_UNII-2C

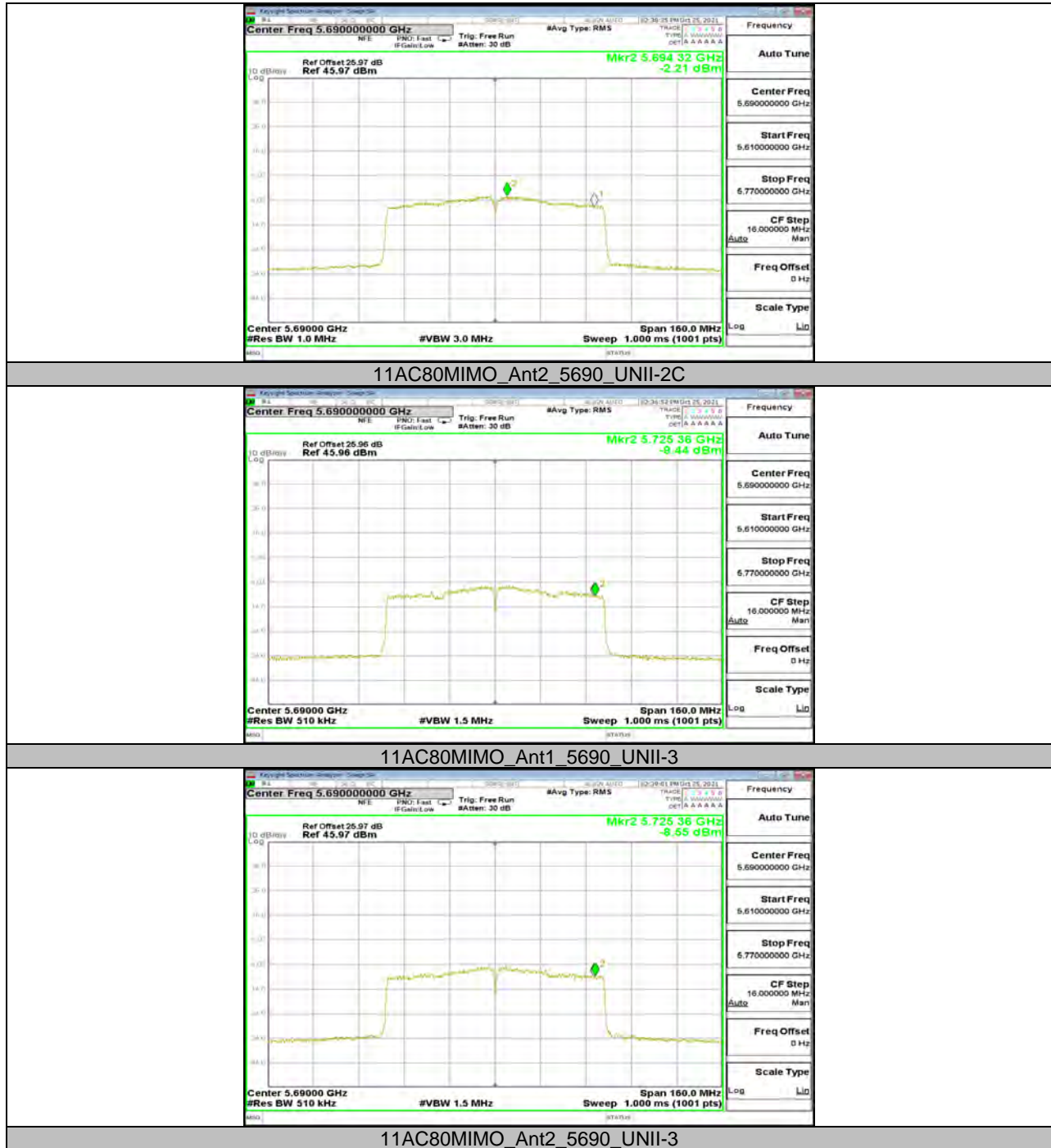


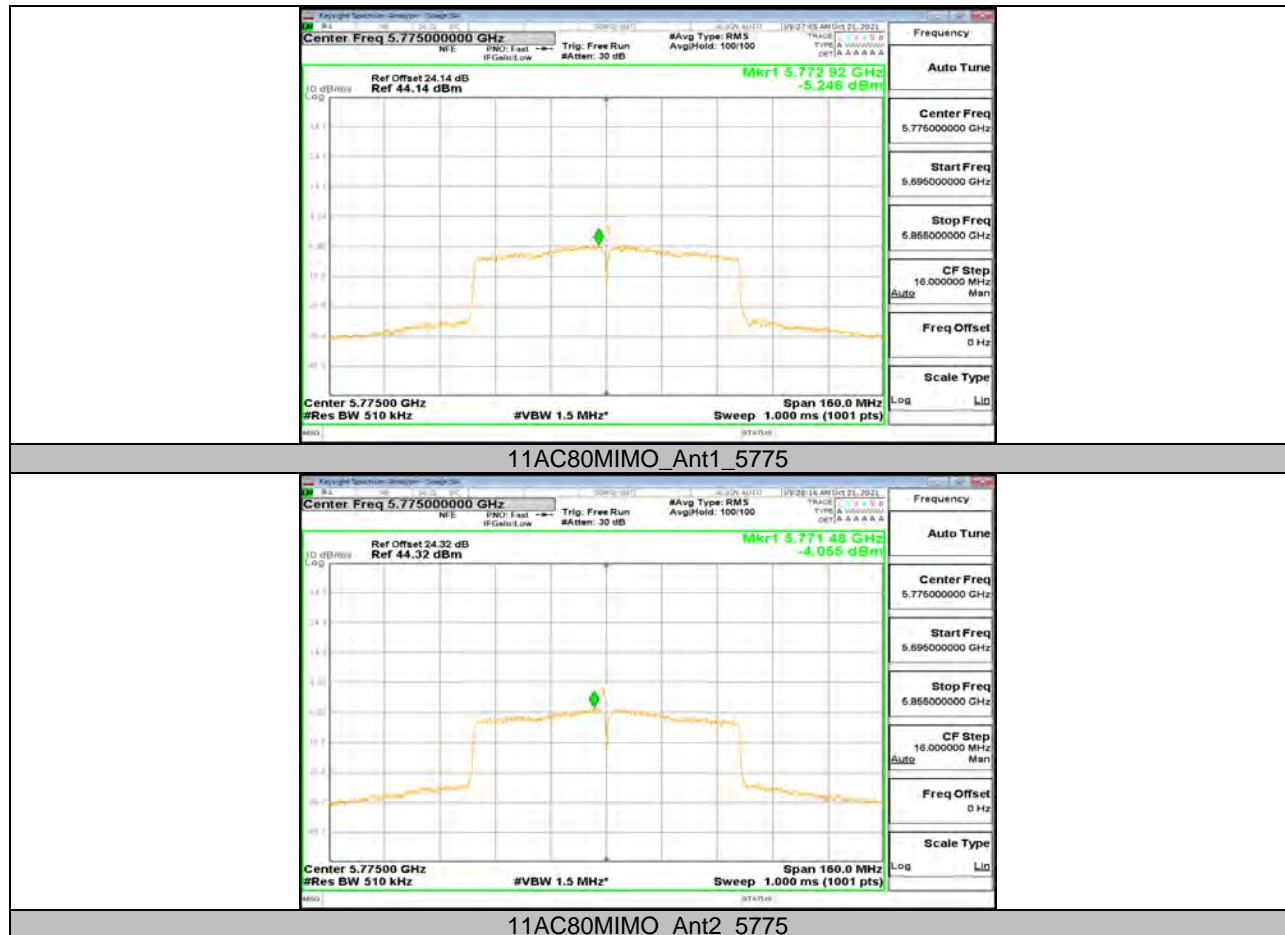














12.6. Appendix D: Duty Cycle

12.6.1. Test Result

Test Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
11A 20	1.39	1.43	0.9720	97.20	0.12	0.72	1
11N20MIMO	1.30	1.35	0.9630	96.30	0.16	0.77	1
11N40MIMO	0.65	0.69	0.9420	94.20	0.26	1.54	2
11AC80MIMO	0.188	0.231	0.8139	81.39	0.89	5.32	6

Note:

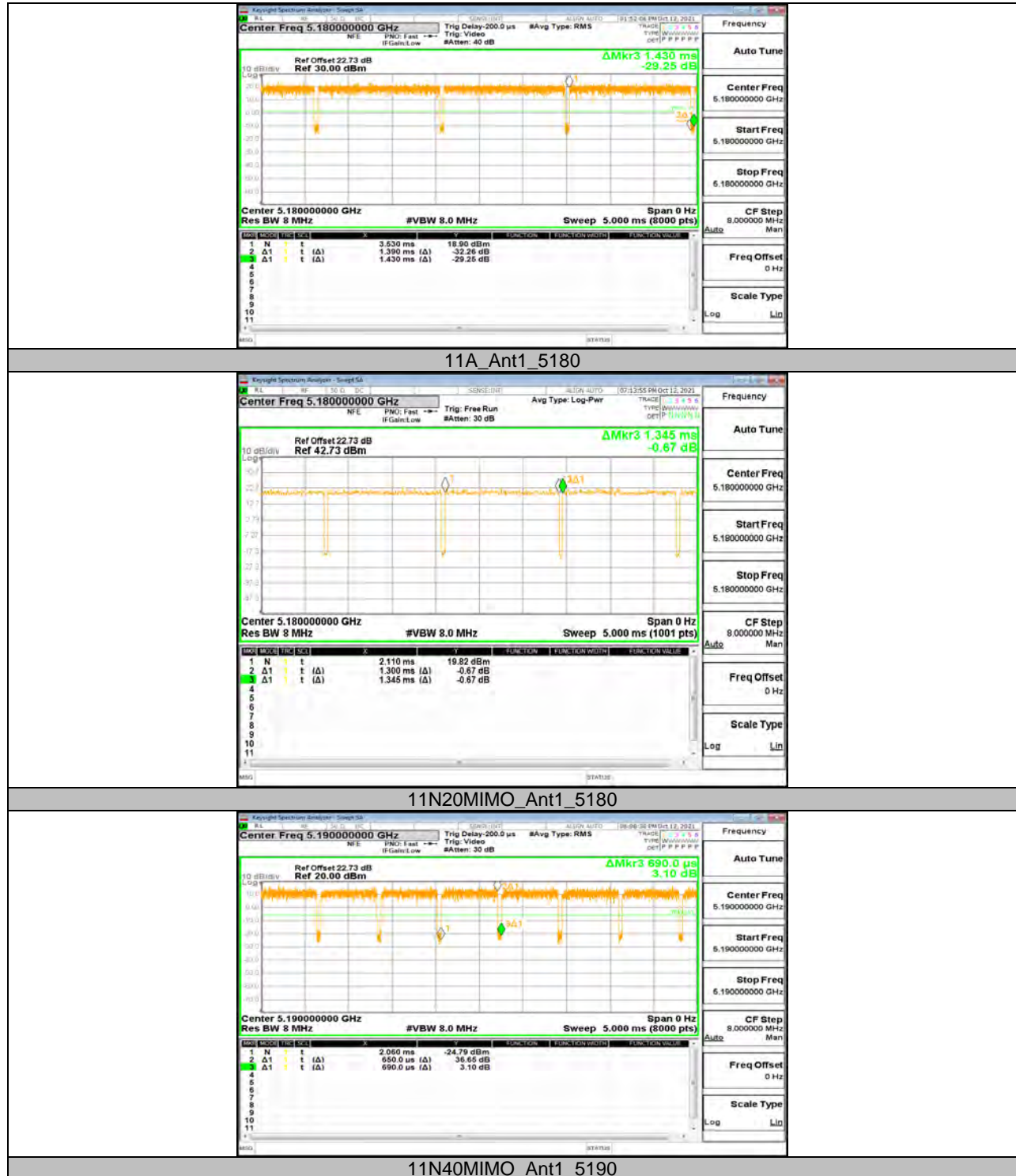
Duty Cycle Correction Factor= $10\log(1/x)$.

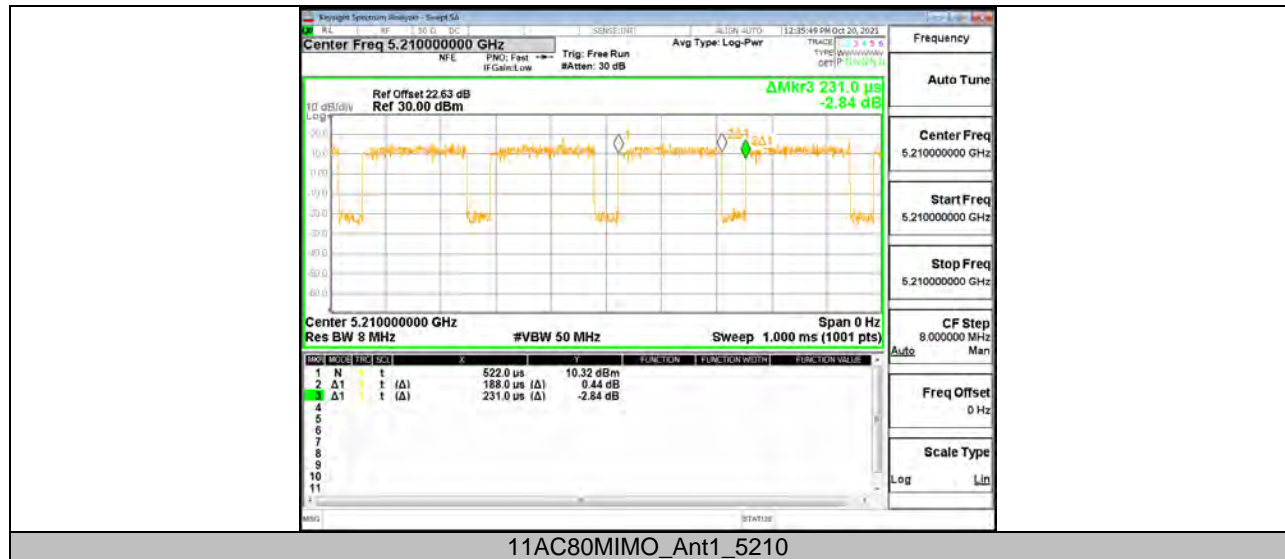
Where: x is Duty Cycle (Linear)

Where: T is On Time

If that calculated VBW is not available on the analyzer then the next higher value should be used.

12.6.2. Test Graphs







12.7. Appendix E: Frequency Stability Test Result

Frequency Error vs. Voltage									
802.11a 20: 5200MHz									
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
TN	VL	5199.9809	-3.68	5199.9780	-4.24	5200.0168	3.23	5199.9778	-4.28
TN	VN	5199.9893	-2.05	5200.0061	1.18	5200.0000	0.00	5200.0208	3.99
TN	VH	5200.0096	1.85	5199.9896	-2.00	5199.9817	-3.52	5200.0097	1.87
Frequency Error vs. Temperature									
802.11a 20: 5200MHz									
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
70	VN	5199.9897	-1.98	5199.9878	-2.35	5199.9933	-1.29	5200.0062	1.20
60	VN	5200.0189	3.64	5200.0115	2.22	5199.9813	-3.60	5200.0168	3.23
40	VN	5199.9997	-0.05	5199.9887	-2.18	5199.9873	-2.44	5199.9822	-3.43
30	VN	5199.9852	-2.85	5200.0215	4.14	5200.0111	2.13	5199.9831	-3.26
20	VN	5200.0148	2.85	5200.0029	0.55	5199.9868	-2.54	5199.9804	-3.77
10	VN	5200.0055	1.06	5199.9916	-1.62	5200.0211	4.06	5200.0135	2.59
0	VN	5199.9937	-1.22	5200.0101	1.95	5200.0120	2.30	5199.9922	-1.50



Frequency Error vs. Voltage									
802.11a 20: 5825MHz									
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
TN	VL	5825.0045	0.77	5824.9824	-3.02	5824.9758	-4.16	5825.0005	0.09
TN	VN	5824.9811	-3.25	5825.0213	3.66	5825.0072	1.24	5824.9830	-2.91
TN	VH	5824.9826	-2.99	5824.9815	-3.18	5824.9989	-0.19	5824.9856	-2.47
Frequency Error vs. Temperature									
802.11a 20: 5825MHz									
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
70	VN	5825.0214	3.67	5825.0128	2.19	5825.0182	3.13	5825.0161	2.77
60	VN	5825.0168	2.89	5825.0119	2.04	5824.9927	-1.26	5825.0207	3.56
40	VN	5824.9901	-1.70	5825.0146	2.51	5825.0050	0.86	5824.9921	-1.36
30	VN	5824.9969	-0.54	5824.9774	-3.88	5824.9815	-3.18	5825.0244	4.20
20	VN	5825.0214	3.67	5824.9898	-1.76	5824.9777	-3.82	5824.9976	-0.41
10	VN	5825.0188	3.22	5825.0135	2.31	5824.9880	-2.06	5825.0170	2.91
0	VN	5824.9838	-2.78	5824.9777	-3.82	5824.9850	-2.57	5825.0063	1.09

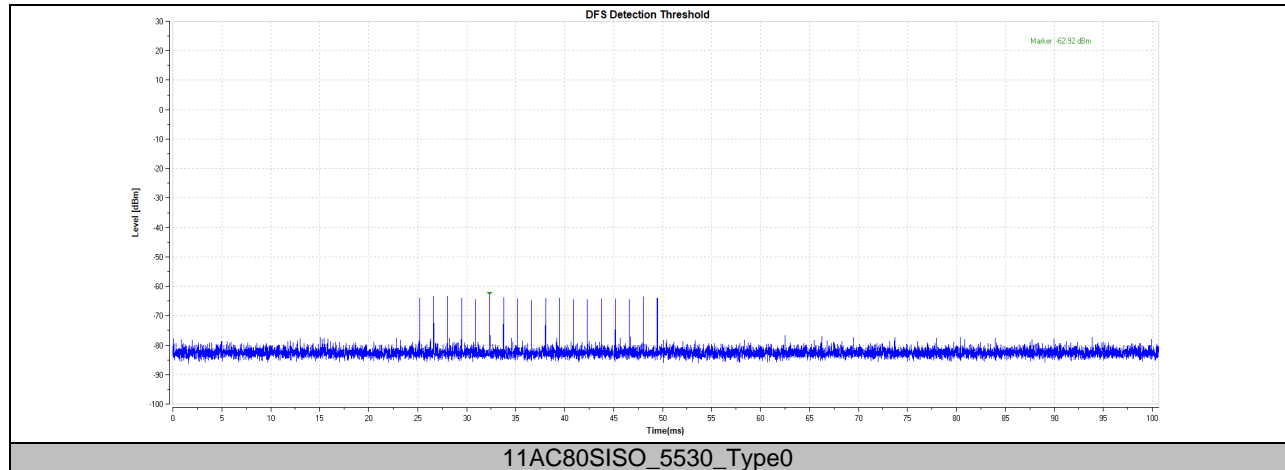
Note: All antennas and test modes have been tested, only the worst data record in the report.

12.8. Appendix F: Dynamic Frequency Selection

Radar Signal Test Result

Test Mode	Channel	Radar Type	Result	Limit[dbm]	Verdict
11AC80SISO	5530	Type0	-62.92	-59.00	PASS

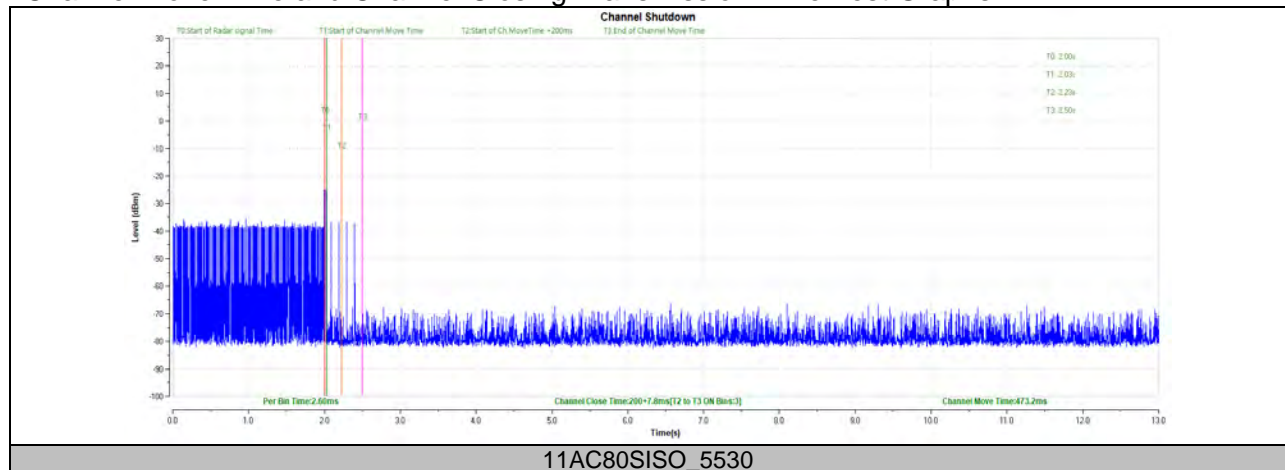
Radar Signal Test Graphs



Channel Move Time and Channel Closing Transmission Time Test Result

Test Mode	Channel	CCT[ms]	Limit[ms]	CMT[ms]	Limit[ms]	Verdict
11AC80SISO	5530	200+7.8	200+60	473.2	10000	PASS

Channel Move Time and Channel Closing Transmission Time Test Graphs

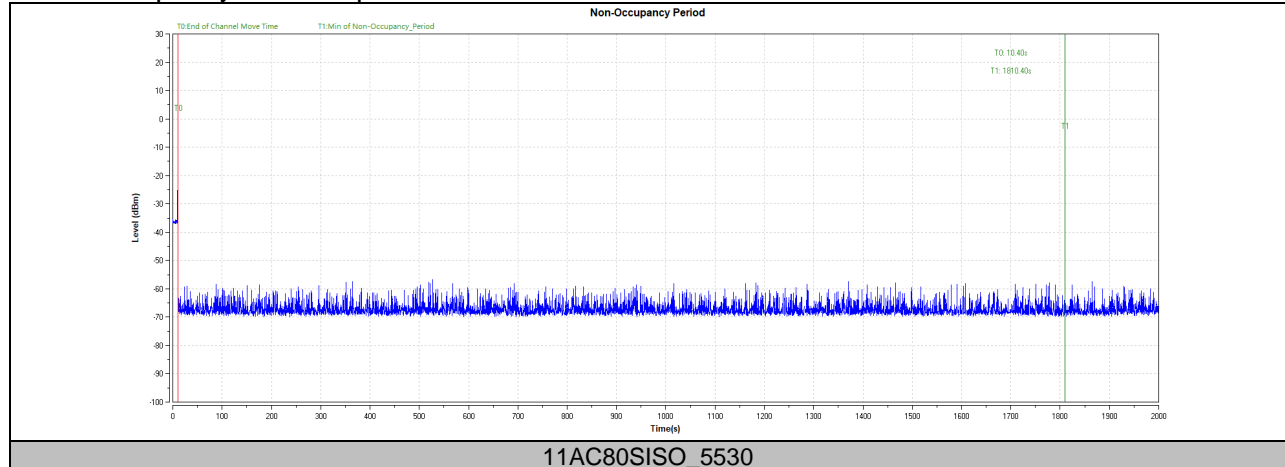




Non-Occupancy Period Test Result

Test Mode	Channel	Result	Limit[s]	Verdict
11AC80SISO	5530	see test graph	≥1800	PASS

Non-Occupancy Test Graphs



END OF REPORT