

RF Test Data for RLAN(5.2G) (Conducted Measurement)

Product Name: DRONE

Trade Mark: /

Test Model: G11PRO

FCC ID: 2BDOQ-G11PROS

Environmental Conditions

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

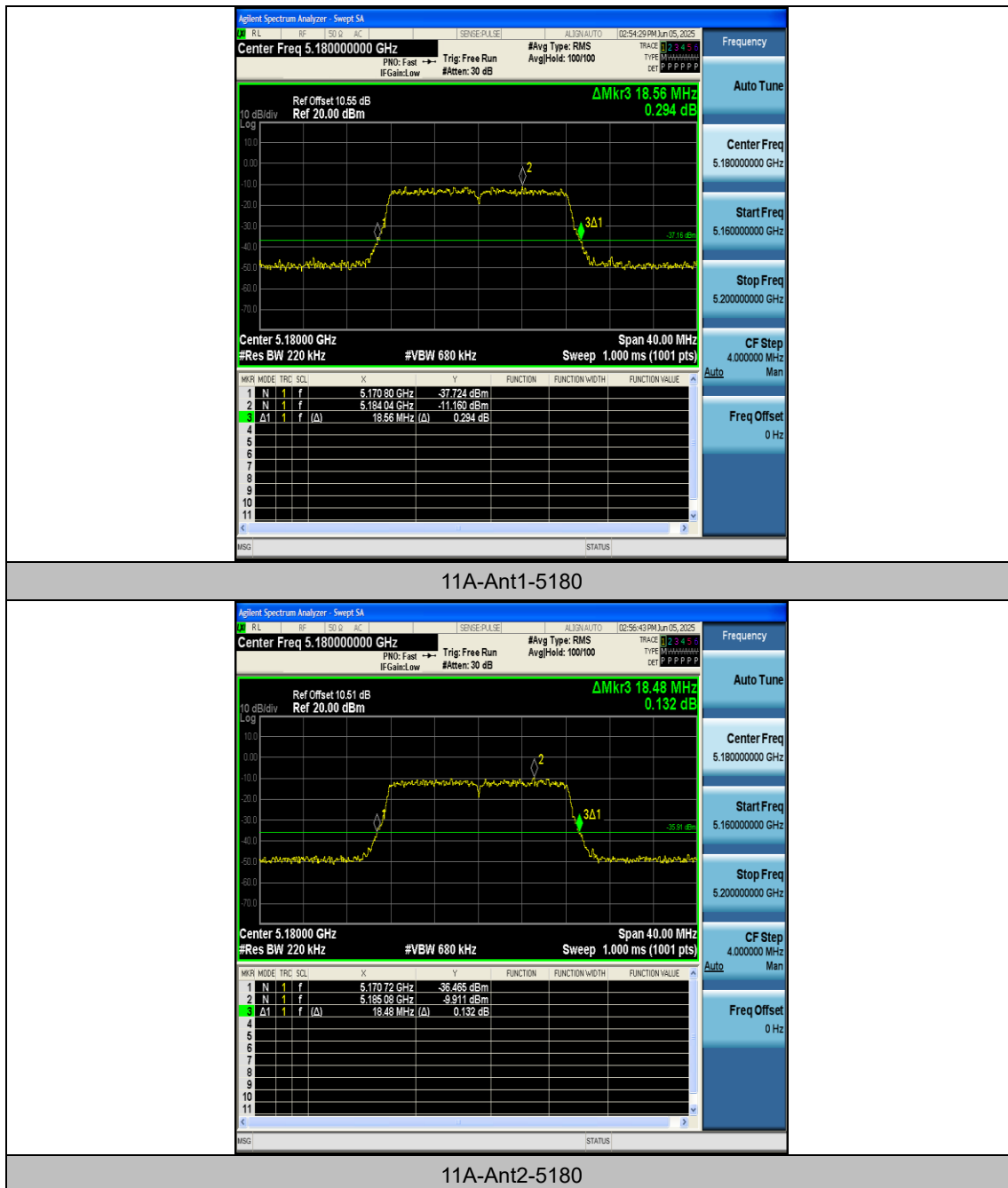
Appendix A1: Emission Bandwidth

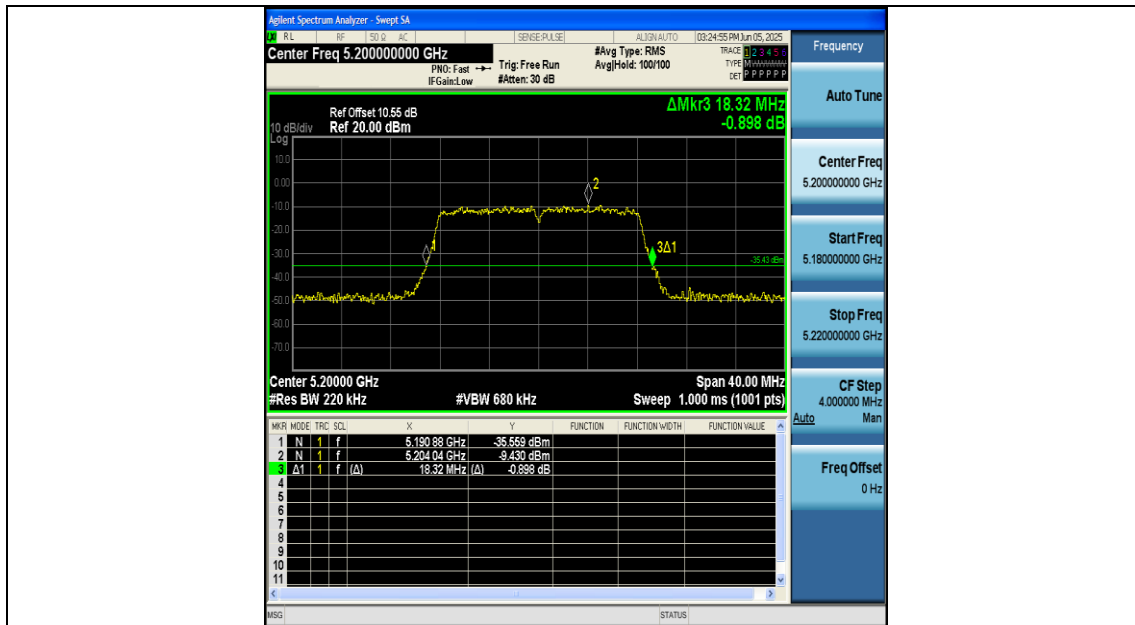
Test Result

Test Mode	Antenna	Frequency [MHz]	26db EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5180	18.560	5170.800	5189.360	---	---
11A	Ant2	5180	18.480	5170.720	5189.200	---	---
11A	Ant1	5200	18.320	5190.880	5209.200	---	---
11A	Ant2	5200	18.400	5190.880	5209.280	---	---
11A	Ant1	5240	18.400	5230.880	5249.280	---	---
11A	Ant2	5240	18.360	5230.920	5249.280	---	---
11N20MIMO	Ant1	5180	19.520	5170.360	5189.880	---	---
11N20MIMO	Ant2	5180	19.280	5170.440	5189.720	---	---
11N20MIMO	Ant1	5200	19.360	5190.440	5209.800	---	---
11N20MIMO	Ant2	5200	19.160	5190.520	5209.680	---	---
11N20MIMO	Ant1	5240	19.280	5230.520	5249.800	---	---
11N20MIMO	Ant2	5240	19.000	5230.480	5249.480	---	---
11AC20MIMO	Ant1	5180	19.400	5170.240	5189.640	---	---
11AC20MIMO	Ant2	5180	19.320	5170.320	5189.640	---	---
11AC20MIMO	Ant1	5200	19.200	5190.400	5209.600	---	---
11AC20MIMO	Ant2	5200	19.280	5190.360	5209.640	---	---
11AC20MIMO	Ant1	5240	19.280	5230.400	5249.680	---	---
11AC20MIMO	Ant2	5240	19.400	5230.240	5249.640	---	---

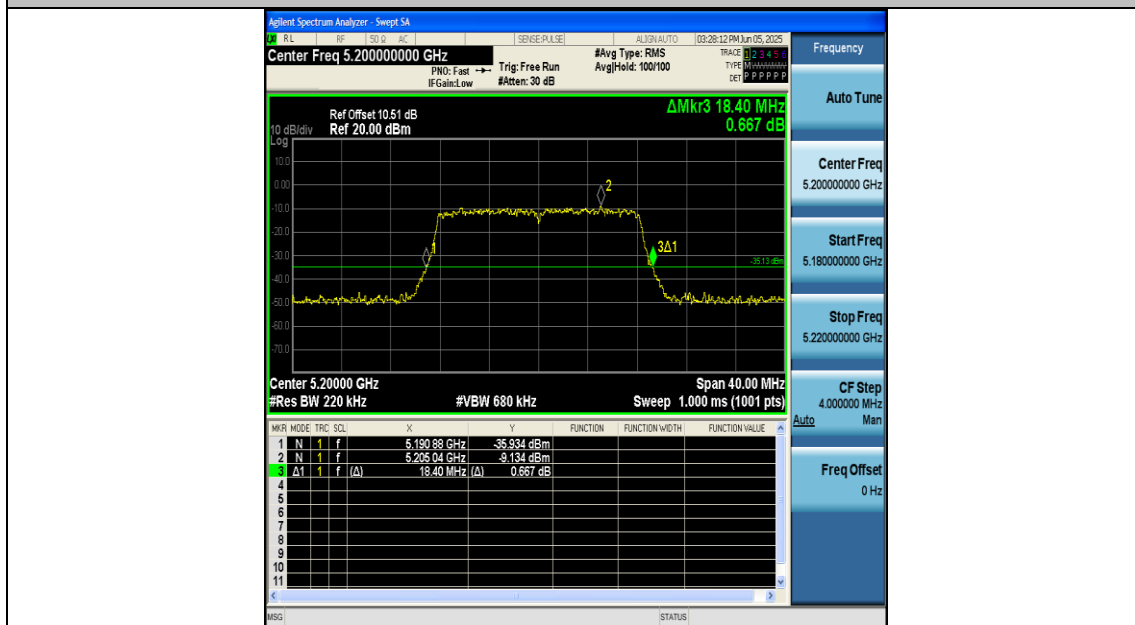
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs

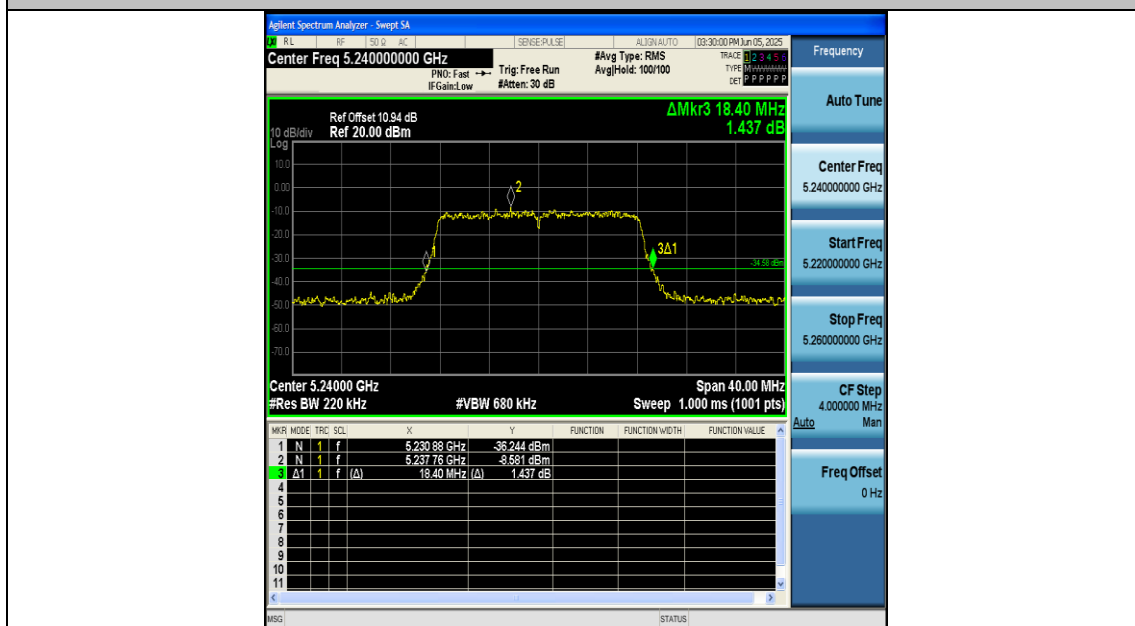




11A-Ant1-5200



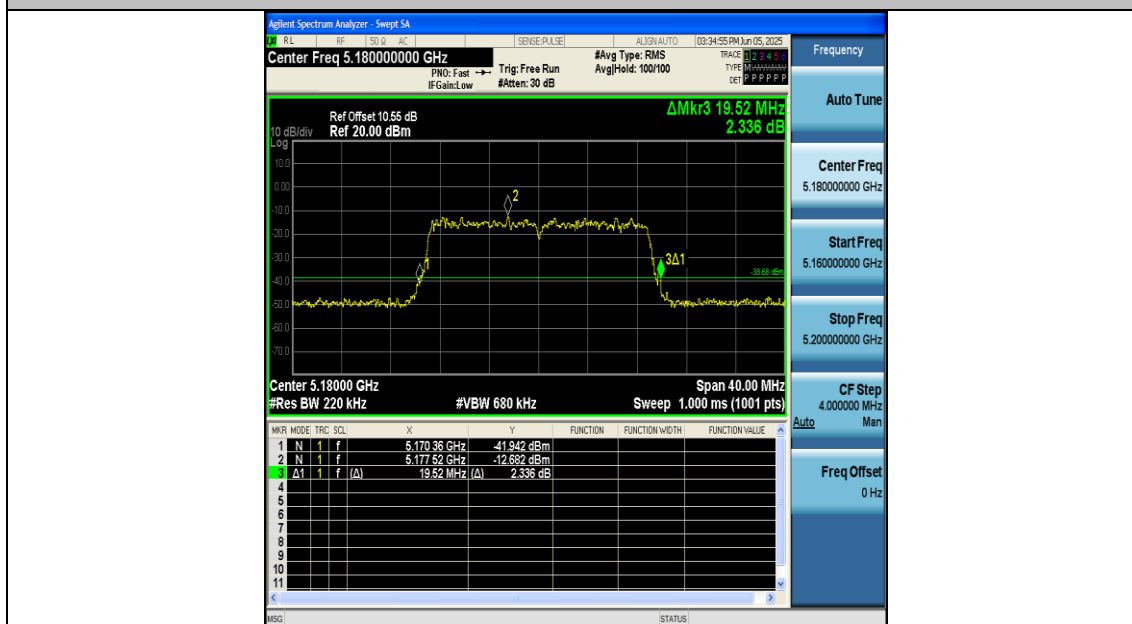
11A-Ant2-5200



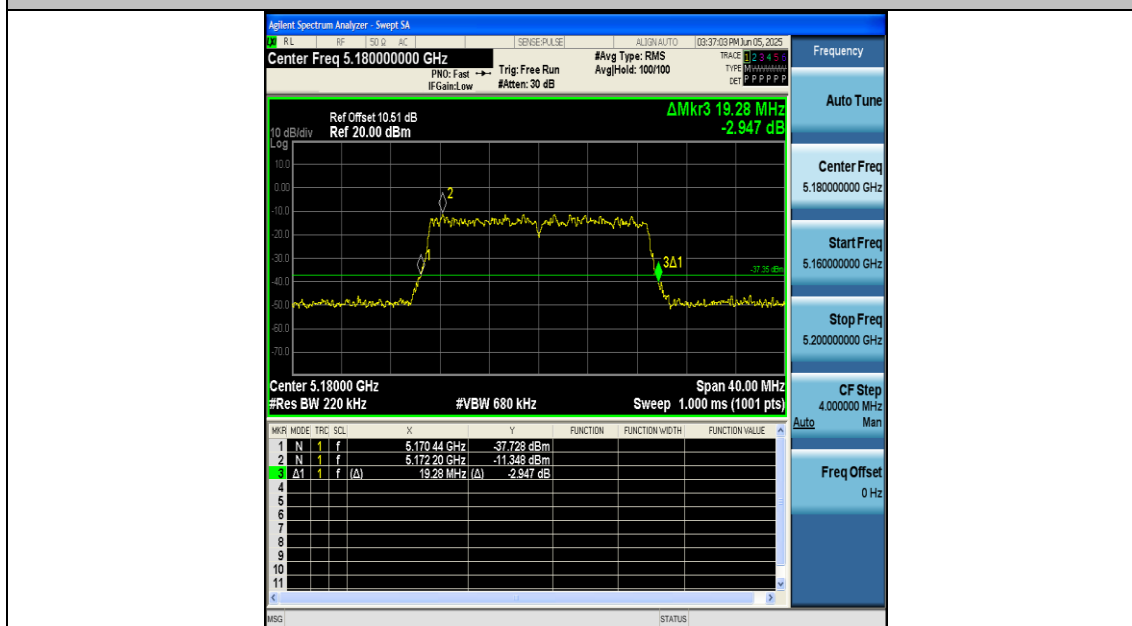
11A-Ant1-5240



11A-Ant2-5240



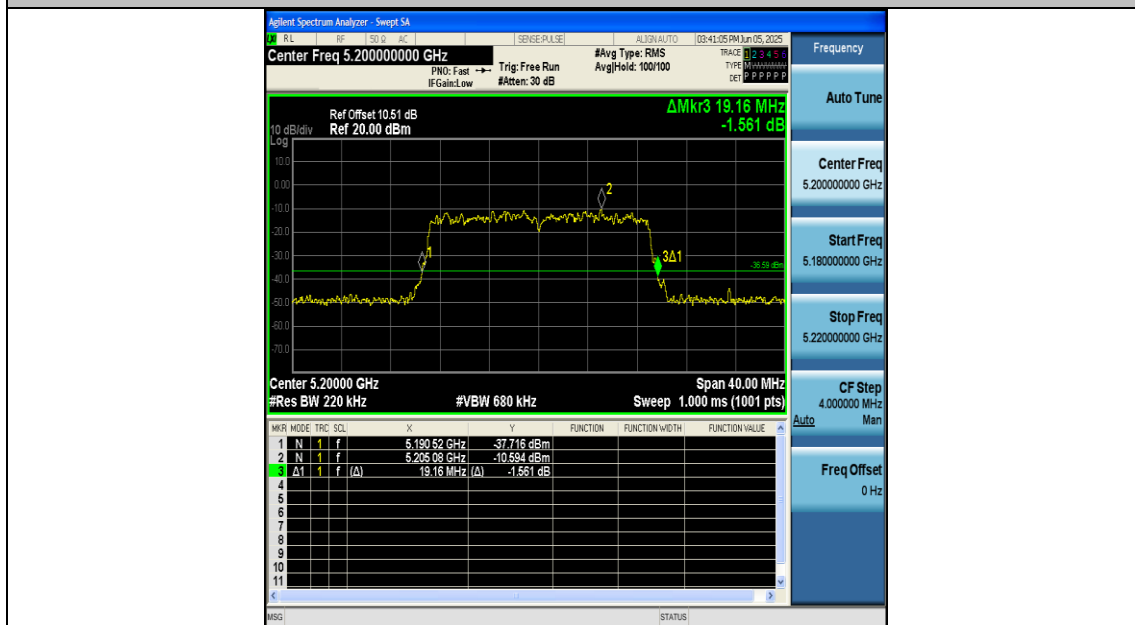
11N20MIMO-Ant1-5180



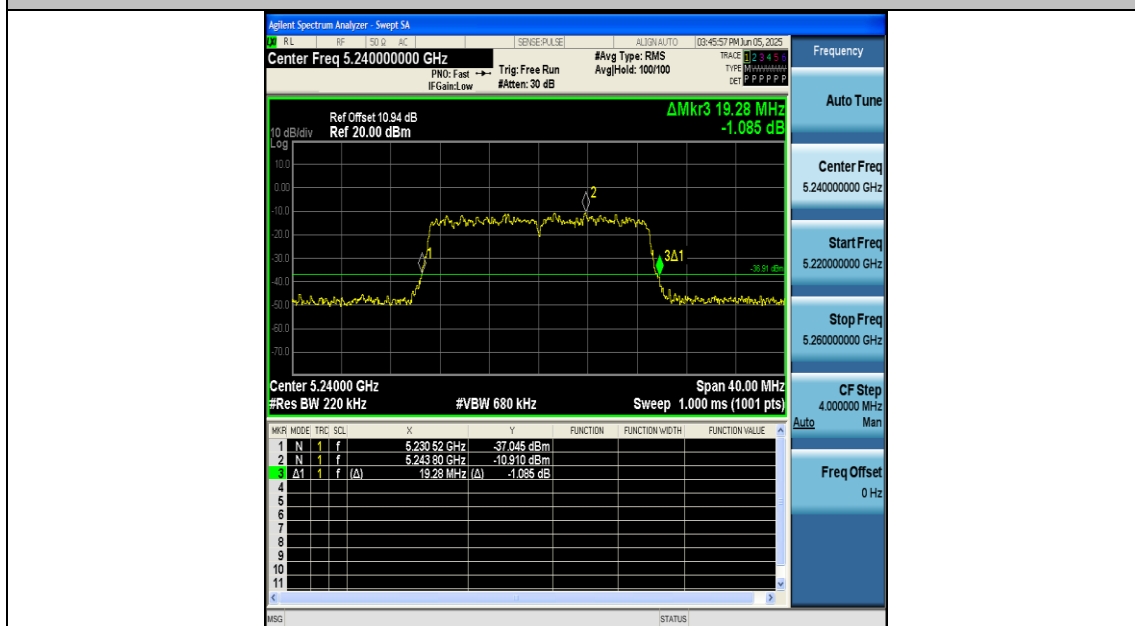
11N20MIMO-Ant2-5180



11N20MIMO-Ant1-5200



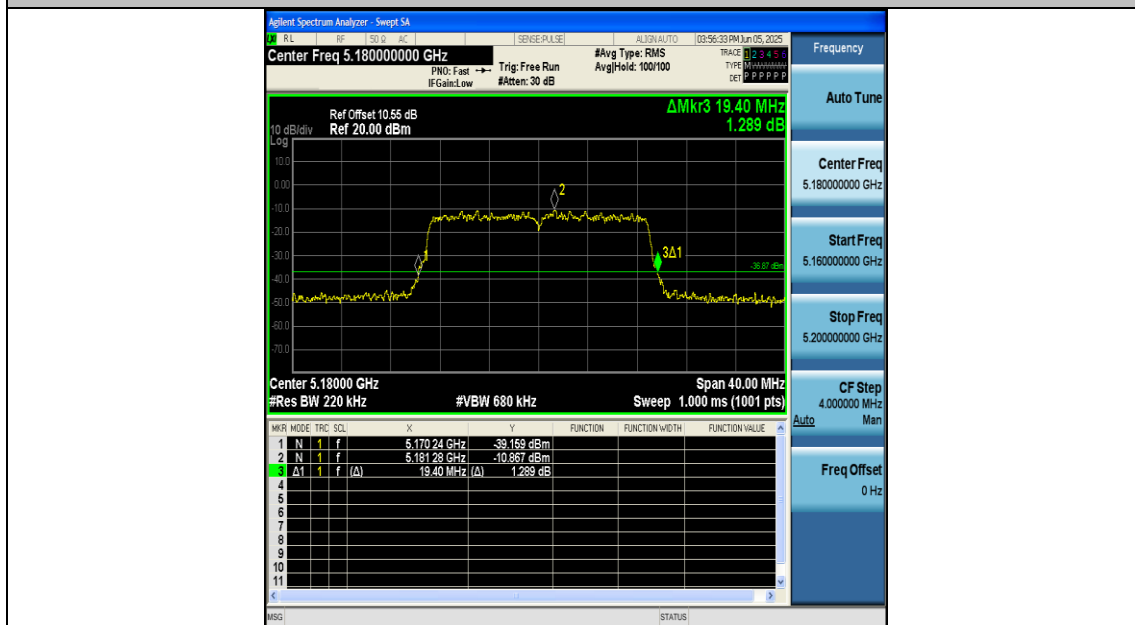
11N20MIMO-Ant2-5200



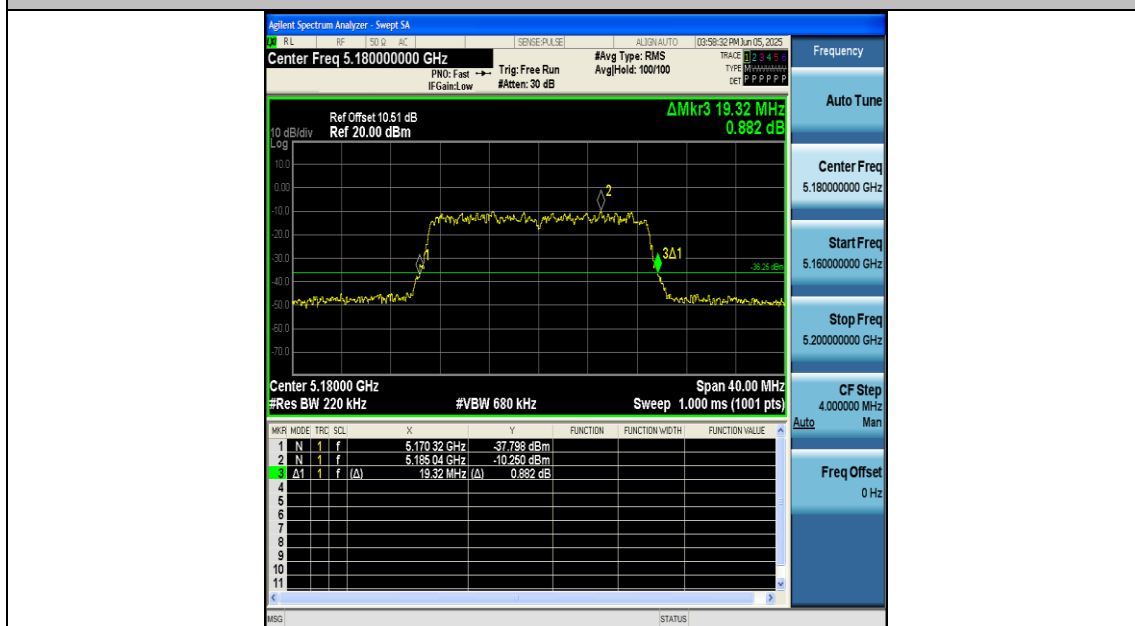
11N20MIMO-Ant1-5240



11N20MIMO-Ant2-5240



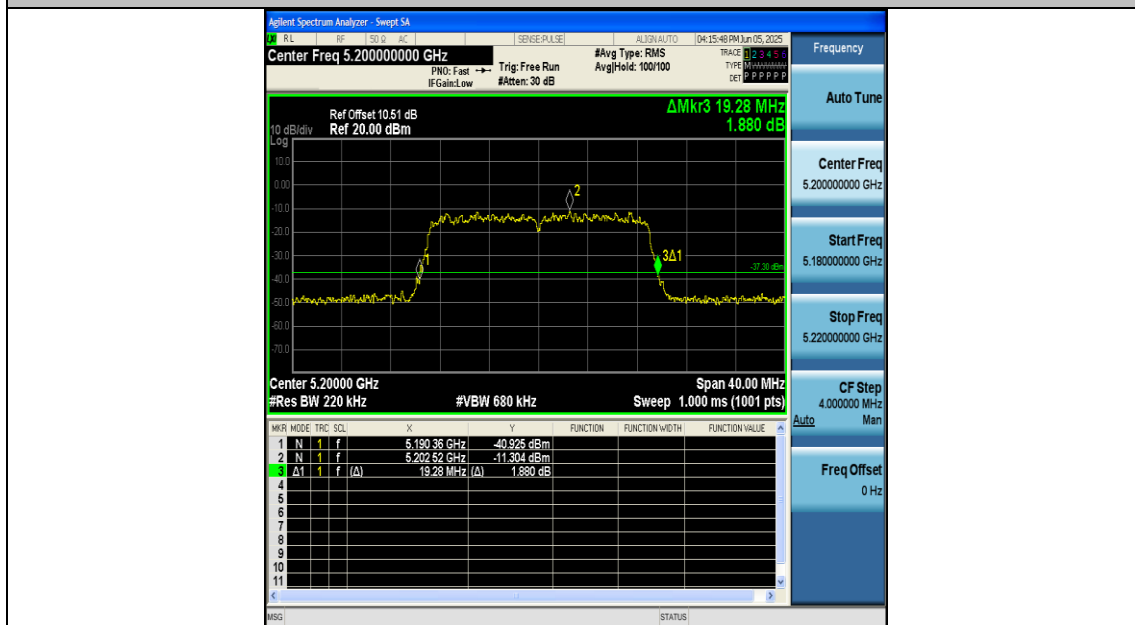
11AC20MIMO-Ant1-5180



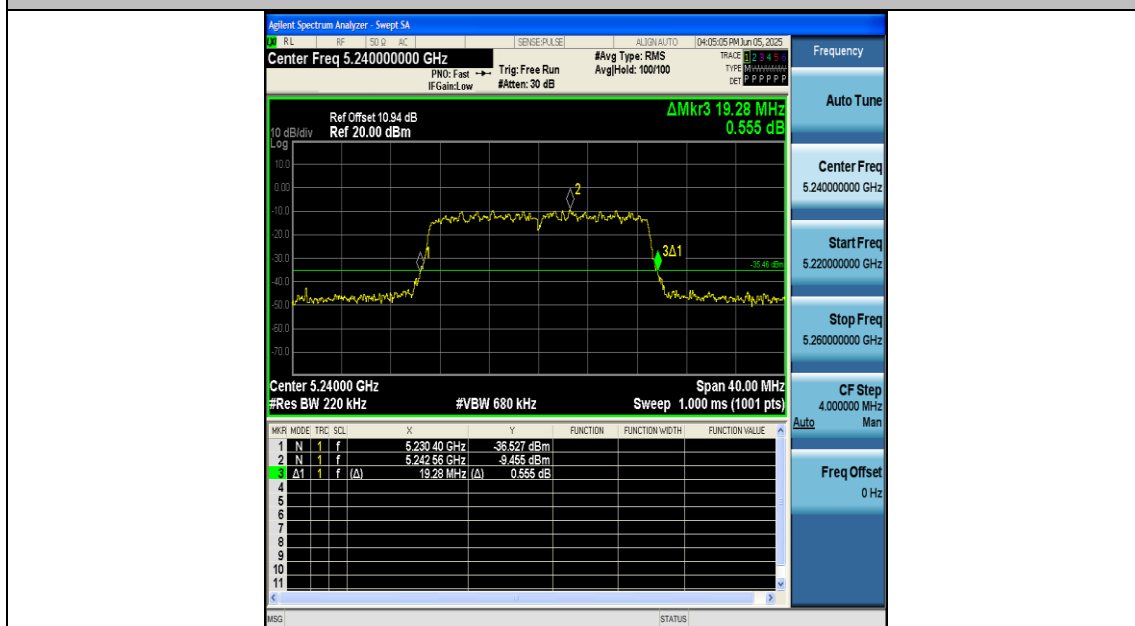
11AC20MIMO-Ant2-5180



11AC20MIMO-Ant1-5200



11AC20MIMO-Ant2-5200



11AC20MIMO-Ant1-5240



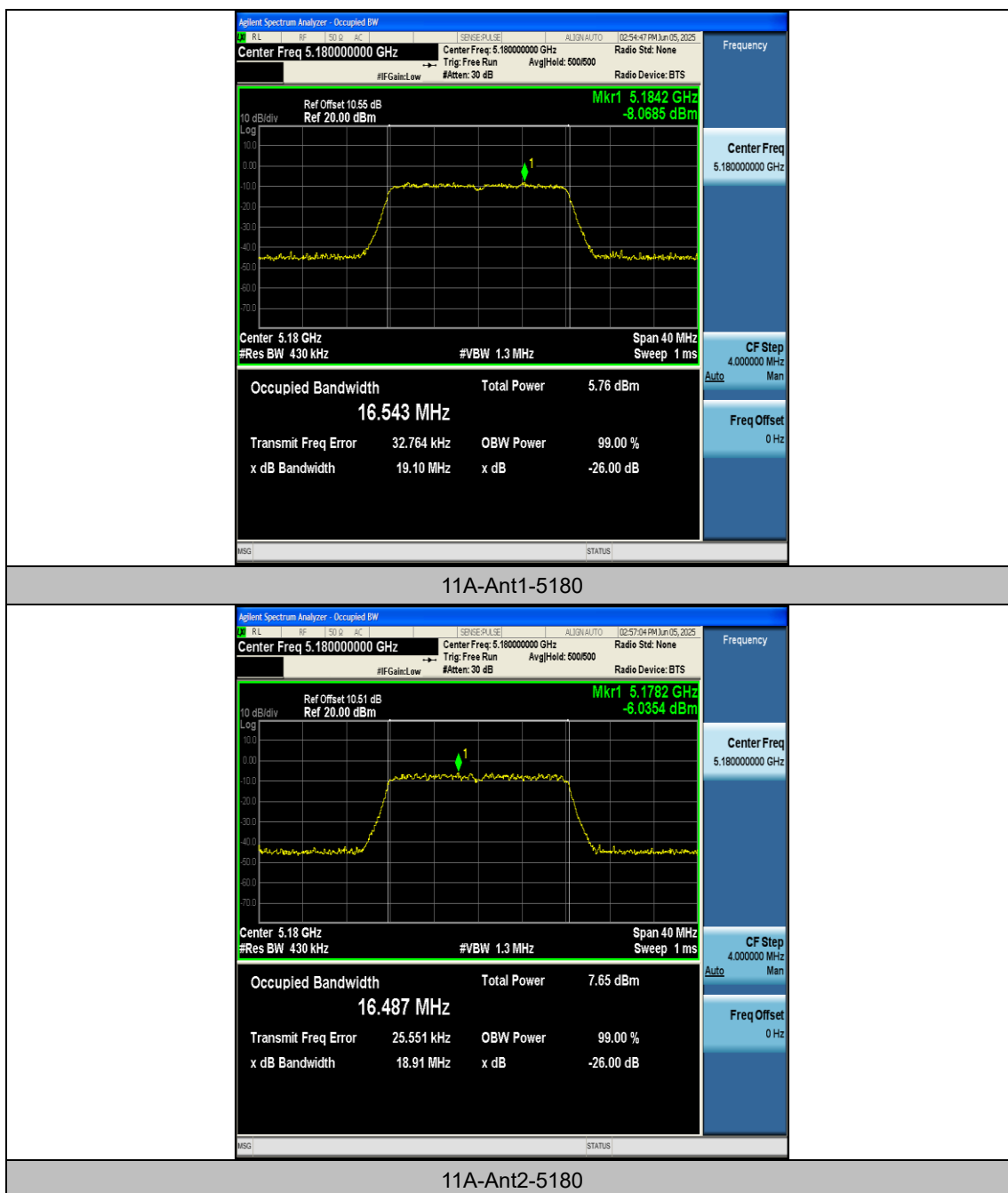
Appendix A2: Occupied channel bandwidth

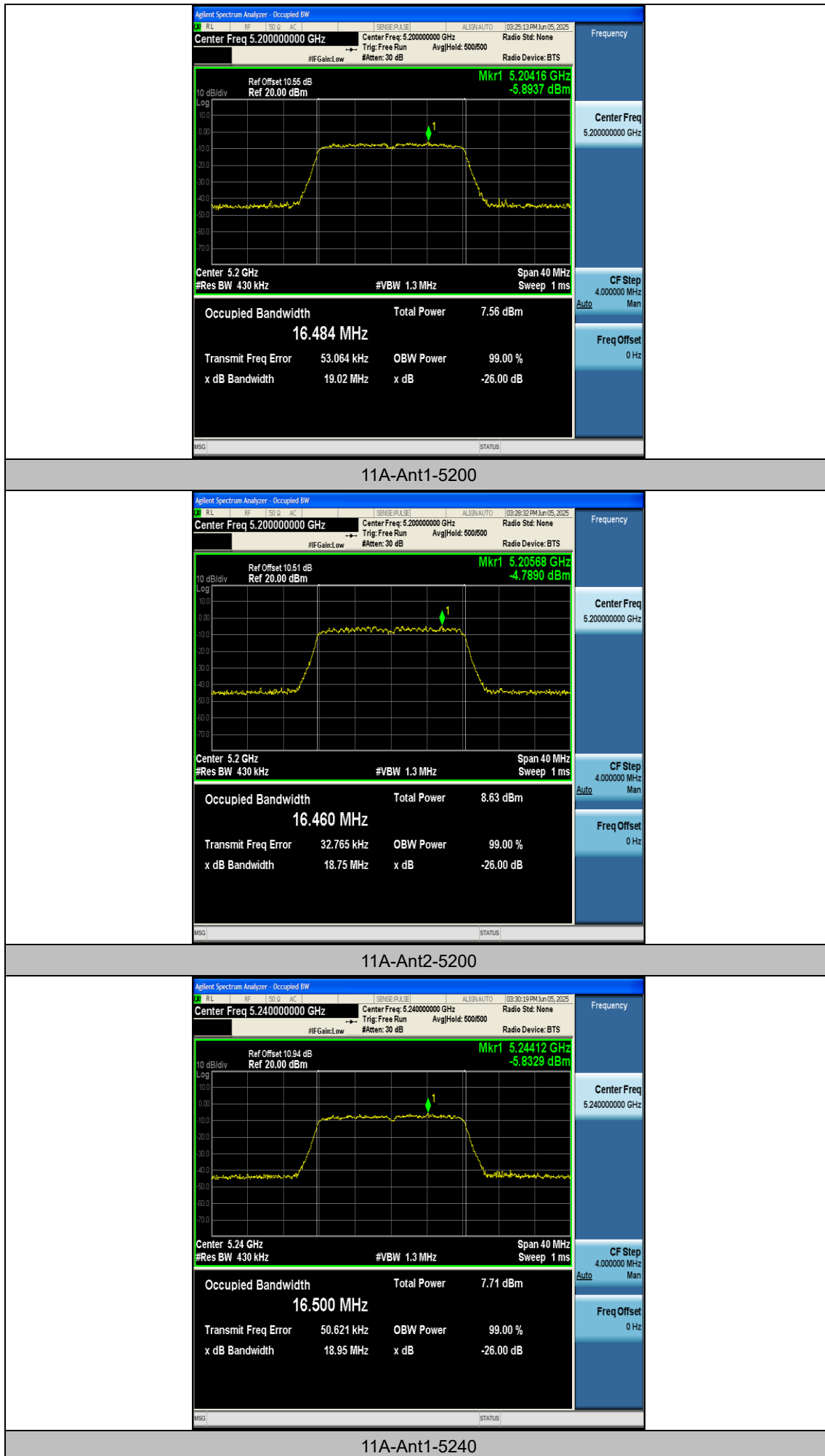
Test Result

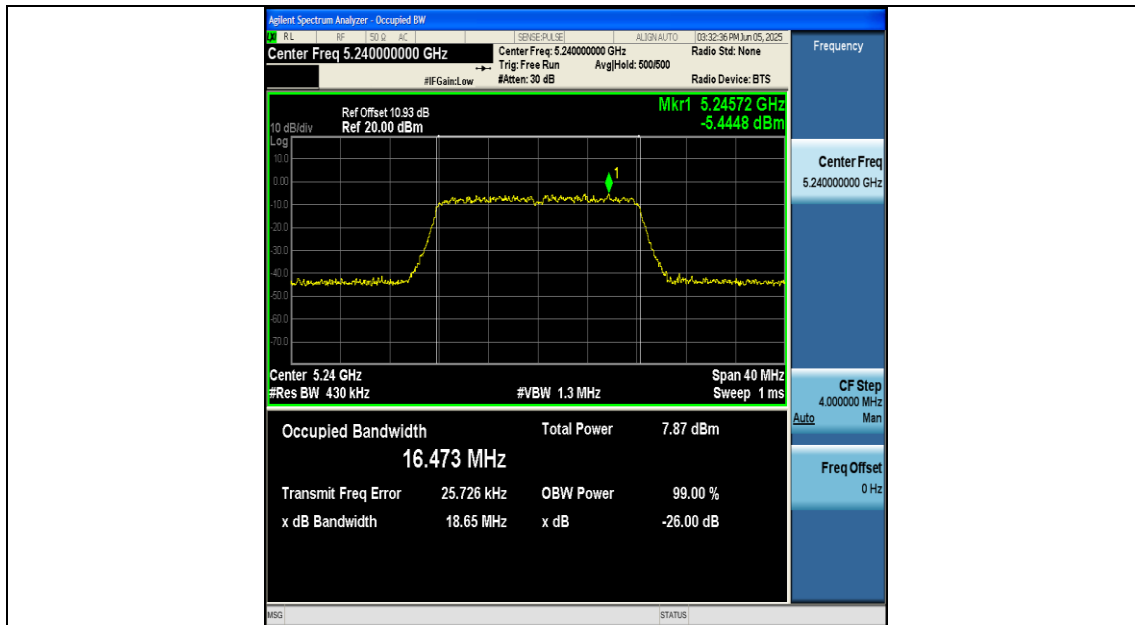
Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5180	16.543	5171.7613	5188.3043	---	---
11A	Ant2	5180	16.487	5171.7821	5188.2691	---	---
11A	Ant1	5200	16.484	5191.8111	5208.2951	---	---
11A	Ant2	5200	16.460	5191.8028	5208.2628	---	---
11A	Ant1	5240	16.500	5231.8006	5248.3006	---	---
11A	Ant2	5240	16.473	5231.7892	5248.2622	---	---
11N20MIMO	Ant1	5180	17.799	5171.1187	5188.9177	---	---
11N20MIMO	Ant2	5180	17.774	5171.1229	5188.8969	---	---
11N20MIMO	Ant1	5200	17.761	5191.1528	5208.9138	---	---
11N20MIMO	Ant2	5200	17.749	5191.1567	5208.9057	---	---
11N20MIMO	Ant1	5240	17.771	5231.1673	5248.9383	---	---
11N20MIMO	Ant2	5240	17.770	5231.1576	5248.9276	---	---
11AC20MIMO	Ant1	5180	17.698	5171.1571	5188.8551	---	---
11AC20MIMO	Ant2	5180	17.702	5171.1697	5188.8717	---	---
11AC20MIMO	Ant1	5200	17.636	5191.2124	5208.8484	---	---
11AC20MIMO	Ant2	5200	17.704	5191.1757	5208.8797	---	---
11AC20MIMO	Ant1	5240	17.670	5231.2157	5248.8857	---	---
11AC20MIMO	Ant2	5240	17.699	5231.1954	5248.8944	---	---

Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

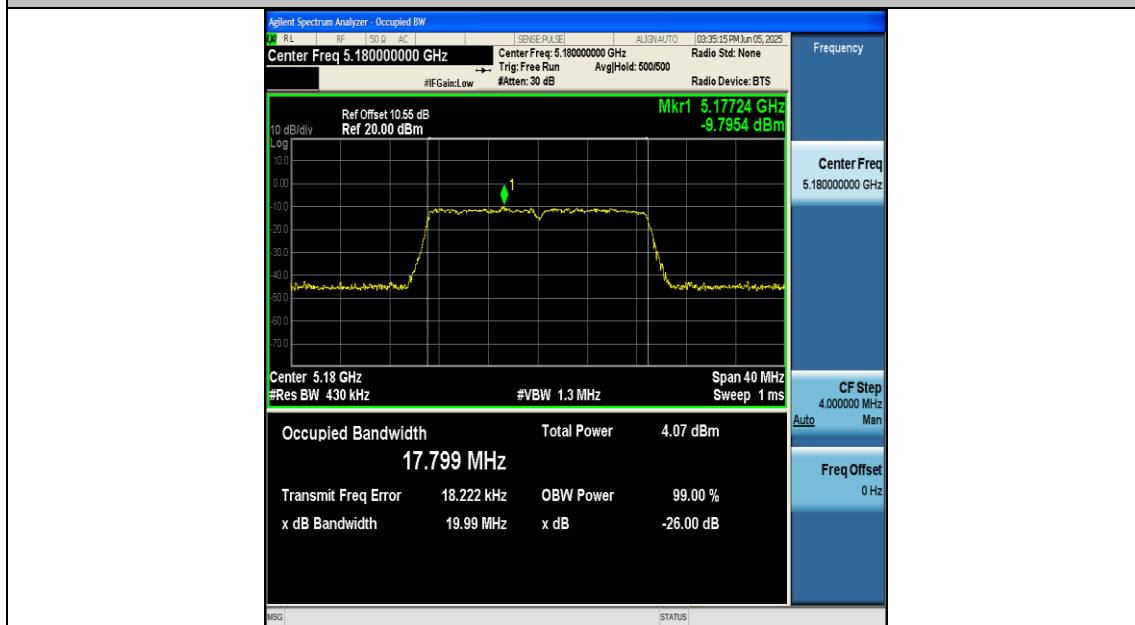
Test Graphs



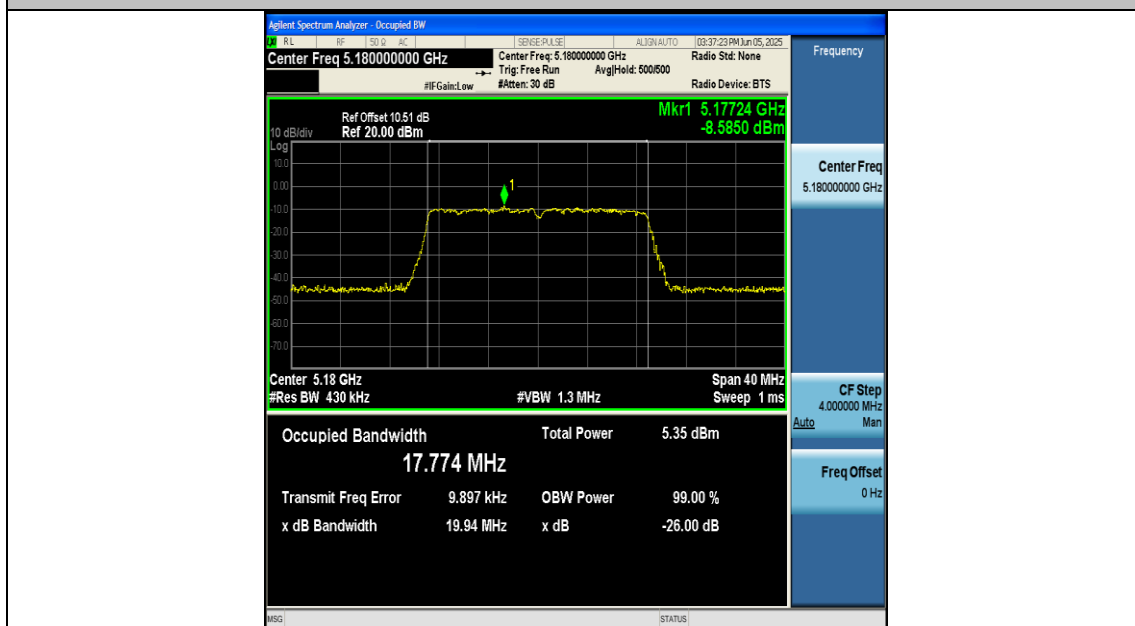




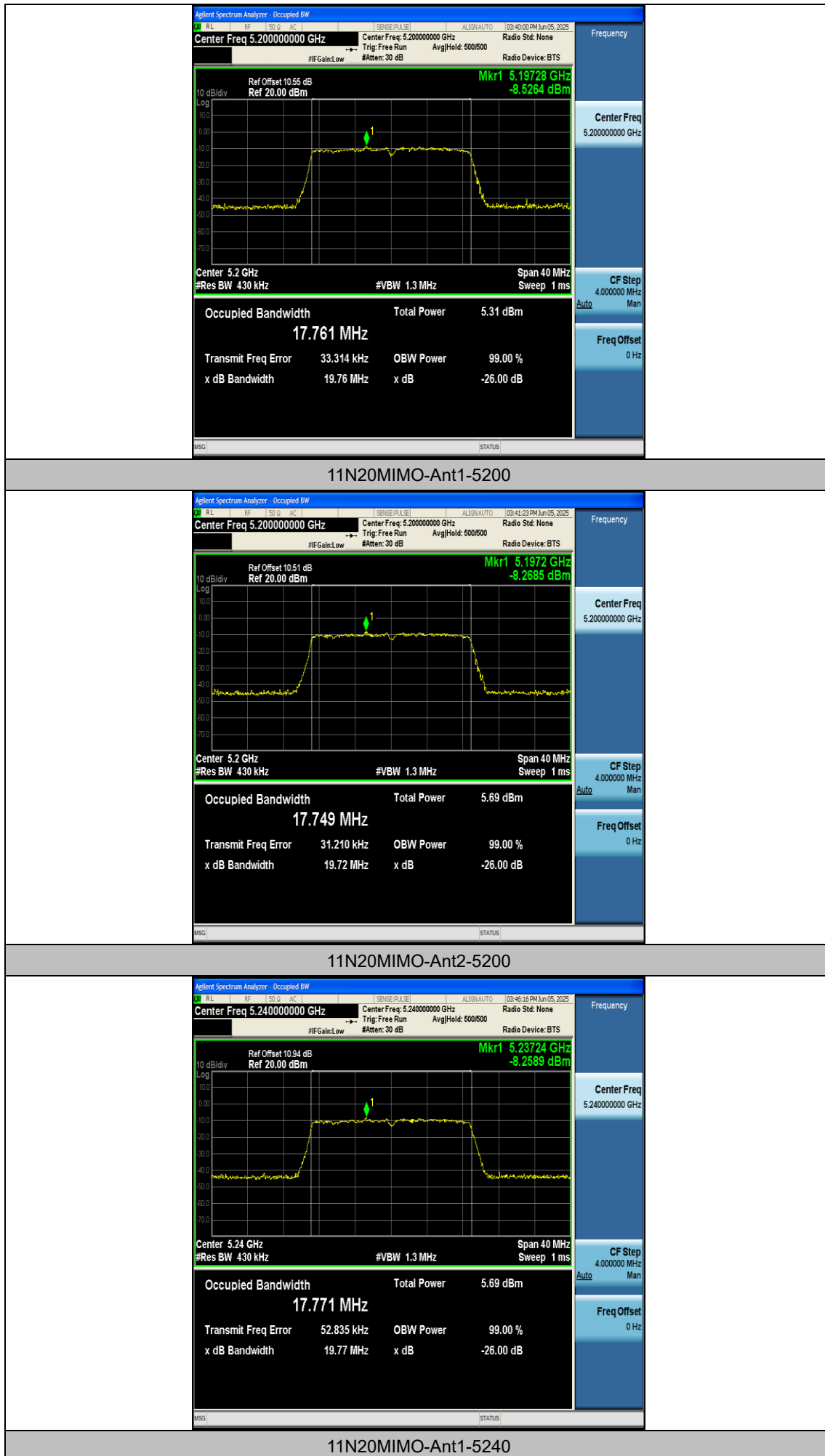
11A-Ant2-5240

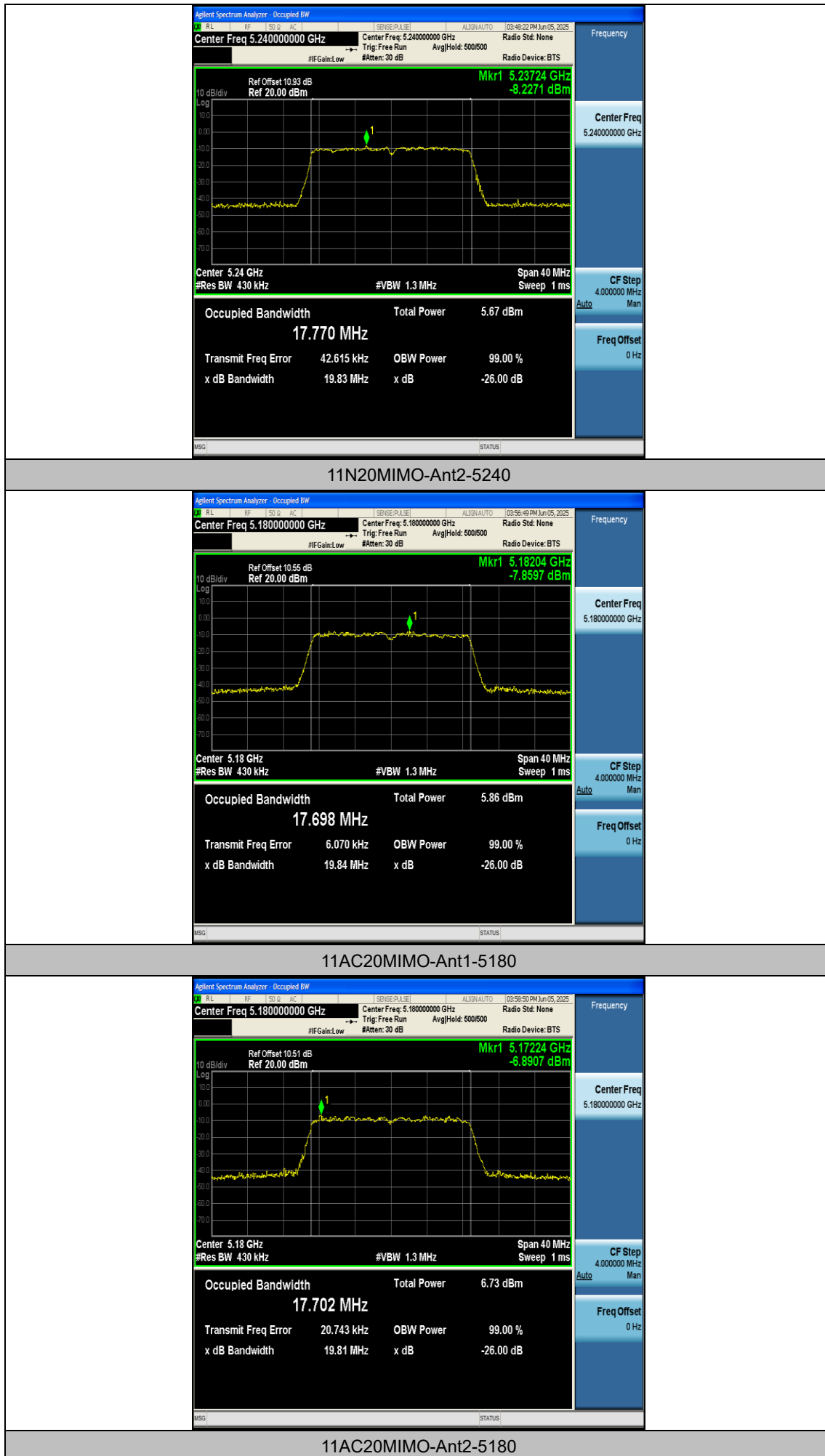


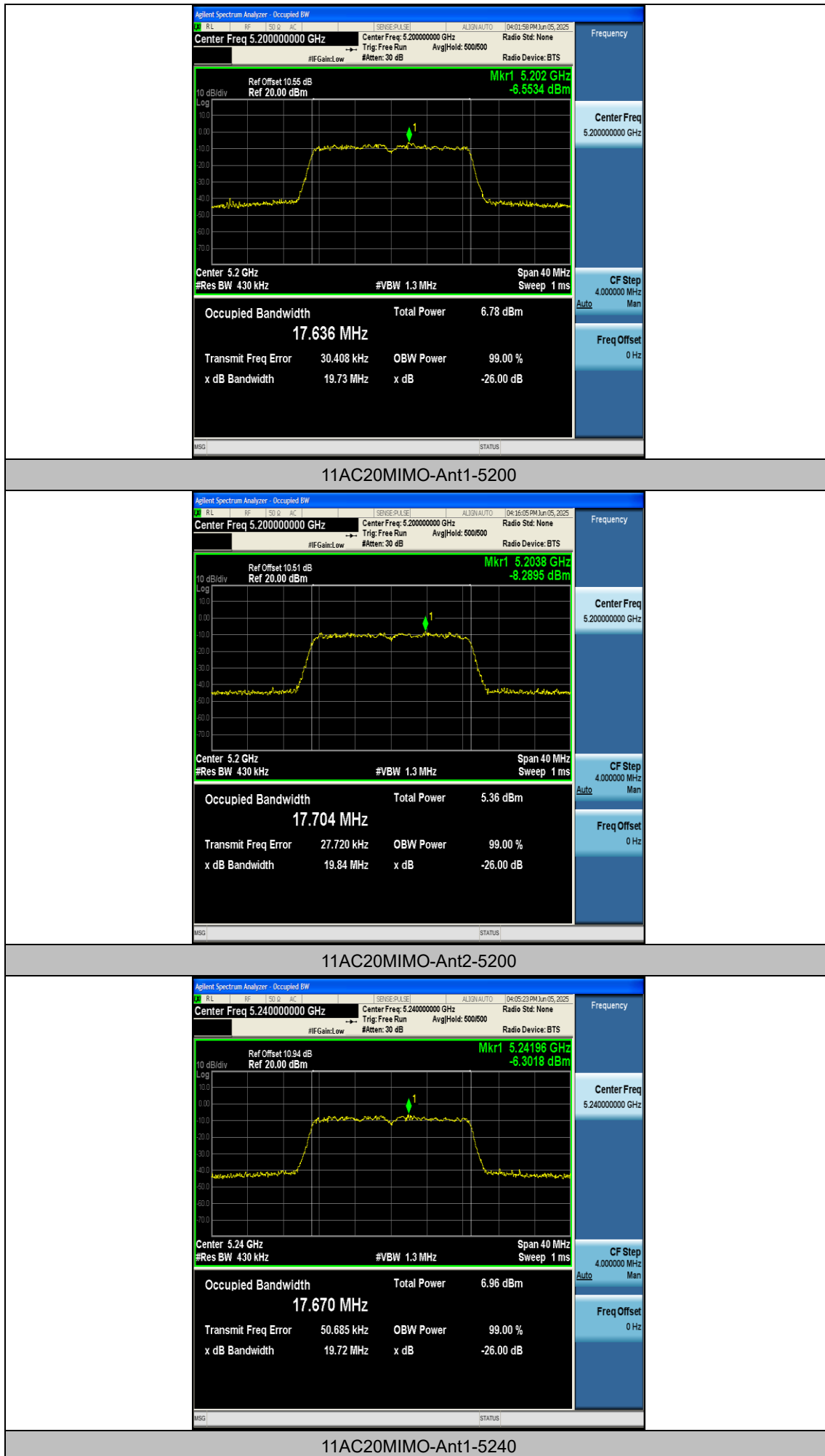
11N20MIMO-Ant1-5180

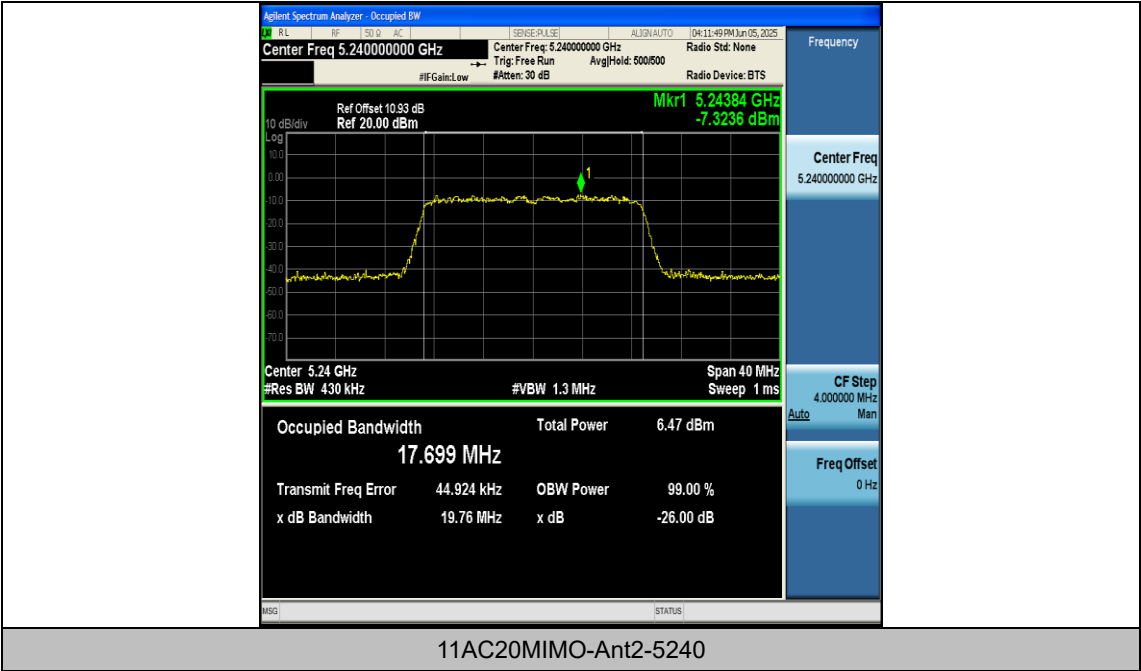


11N20MIMO-Ant2-5180









Appendix B: Maximum conducted output power

Test Result

Test Mode	Antenna	Frequency [MHz]	Conducted Power [dBm]	Conducted Limit [dBm]	Verdict
11A	Ant1	5180	-0.57	≤23.98	PASS
11A	Ant2	5180	0.65	≤23.98	PASS
11A	Ant1	5200	0.85	≤23.98	PASS
11A	Ant2	5200	1.47	≤23.98	PASS
11A	Ant1	5240	1.10	≤23.98	PASS
11A	Ant2	5240	0.91	≤23.98	PASS
11N20MIMO	Ant1	5180	-1.75	≤23.98	PASS
11N20MIMO	Ant2	5180	-0.85	≤23.98	PASS
11N20MIMO	total	5180	1.73	≤23.98	PASS
11N20MIMO	Ant1	5200	-0.75	≤23.98	PASS
11N20MIMO	Ant2	5200	-0.99	≤23.98	PASS
11N20MIMO	total	5200	2.14	≤23.98	PASS
11N20MIMO	Ant1	5240	-0.60	≤23.98	PASS
11N20MIMO	Ant2	5240	-0.44	≤23.98	PASS
11N20MIMO	total	5240	2.49	≤23.98	PASS
11AC20MIMO	Ant1	5180	-0.47	≤23.98	PASS
11AC20MIMO	Ant2	5180	0.48	≤23.98	PASS
11AC20MIMO	total	5180	3.04	≤23.98	PASS
11AC20MIMO	Ant1	5200	0.75	≤23.98	PASS
11AC20MIMO	Ant2	5200	-0.92	≤23.98	PASS
11AC20MIMO	total	5200	3.01	≤23.98	PASS
11AC20MIMO	Ant1	5240	0.60	≤23.98	PASS
11AC20MIMO	Ant2	5240	0.16	≤23.98	PASS
11AC20MIMO	total	5240	3.40	≤23.98	PASS

Note: offset(dB) = cable loss(dB) + attenuator factor(dB) + Duty Cycle Factor(dB)

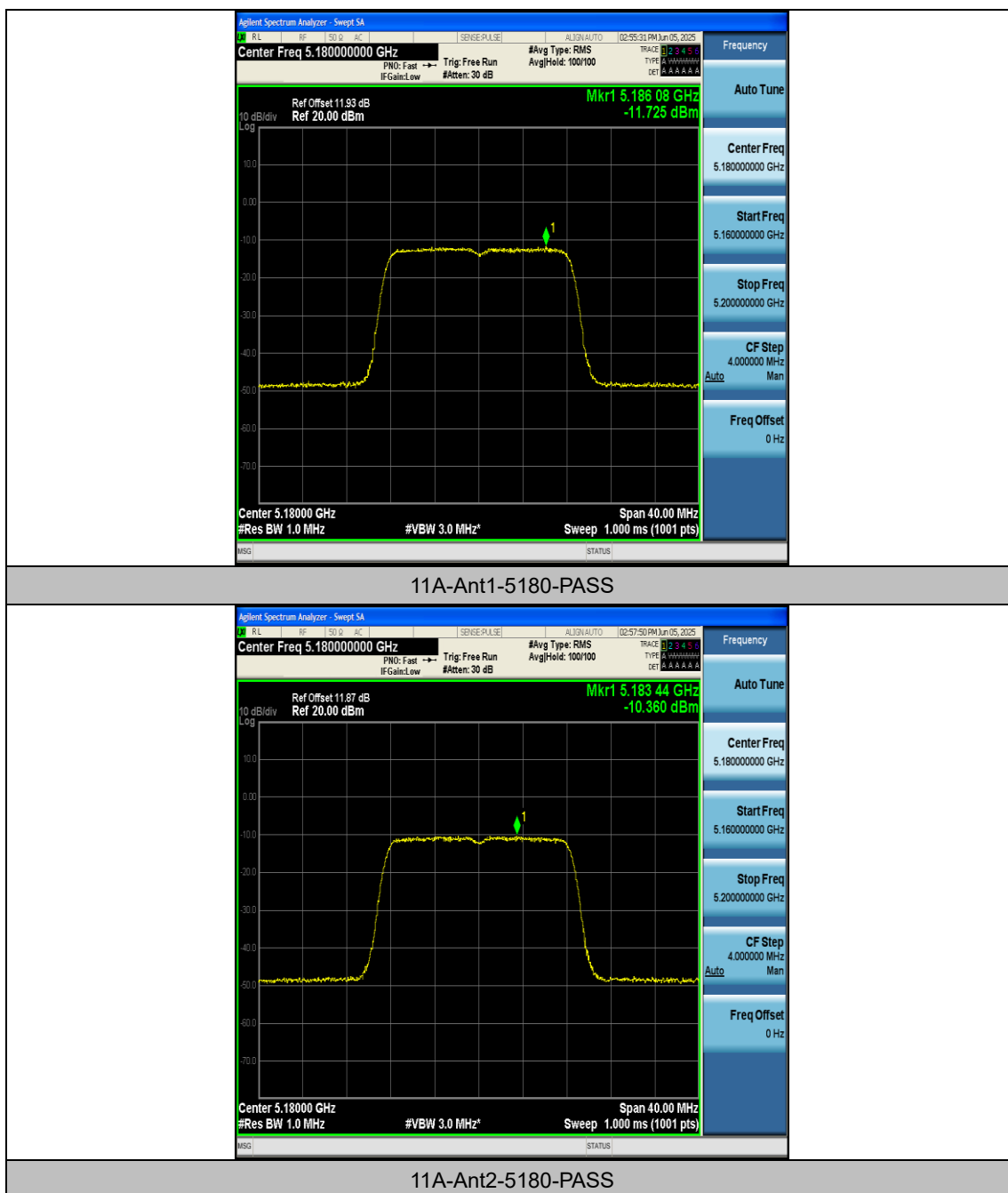
Appendix C: Maximum power spectral density

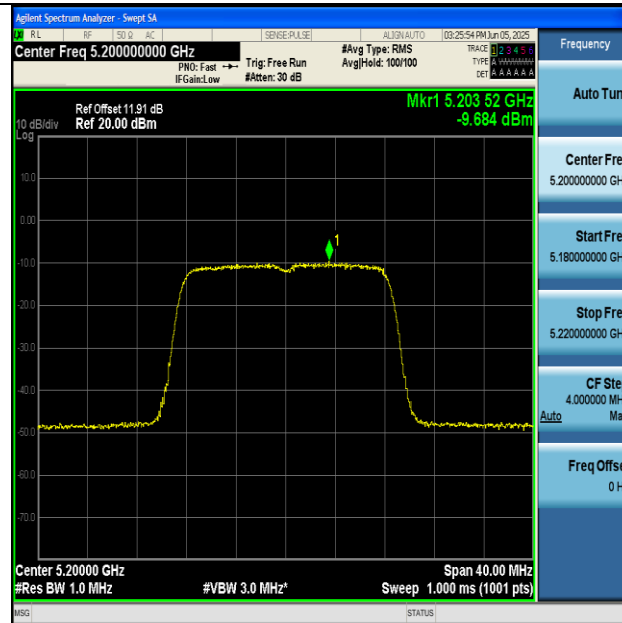
Test Result

Test Mode	Antenna	Frequency [MHz]	Result [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	Ant1	5180	-11.73	≤11.00	PASS
11A	Ant2	5180	-10.36	≤11.00	PASS
11A	Ant1	5200	-9.68	≤11.00	PASS
11A	Ant2	5200	-9.63	≤11.00	PASS
11A	Ant1	5240	-10.01	≤11.00	PASS
11A	Ant2	5240	-9.93	≤11.00	PASS
11N20MIMO	Ant1	5180	-12.59	≤11.00	PASS
11N20MIMO	Ant2	5180	-11.54	≤11.00	PASS
11N20MIMO	total	5180	-9.02	≤10.26	PASS
11N20MIMO	Ant1	5200	-11.54	≤11.00	PASS
11N20MIMO	Ant2	5200	-11.57	≤11.00	PASS
11N20MIMO	total	5200	-8.54	≤10.26	PASS
11N20MIMO	Ant1	5240	-10.99	≤11.00	PASS
11N20MIMO	Ant2	5240	-11.16	≤11.00	PASS
11N20MIMO	total	5240	-8.06	≤10.26	PASS
11AC20MIMO	Ant1	5180	-11.49	≤11.00	PASS
11AC20MIMO	Ant2	5180	-10.59	≤11.00	PASS
11AC20MIMO	total	5180	-8.01	≤10.26	PASS
11AC20MIMO	Ant1	5200	-10.17	≤11.00	PASS
11AC20MIMO	Ant2	5200	-12.29	≤11.00	PASS
11AC20MIMO	total	5200	-8.09	≤10.26	PASS
11AC20MIMO	Ant1	5240	-10.13	≤11.00	PASS
11AC20MIMO	Ant2	5240	-10.73	≤11.00	PASS
11AC20MIMO	total	5240	-7.41	≤10.26	PASS

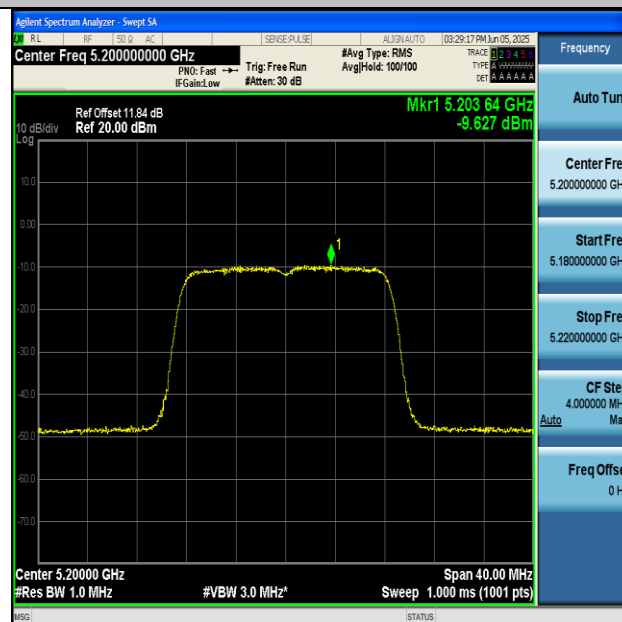
Note: offset(dB) = cable loss(dB) + attenuator factor(dB) + antenna gain(dBi)

Test Graphs

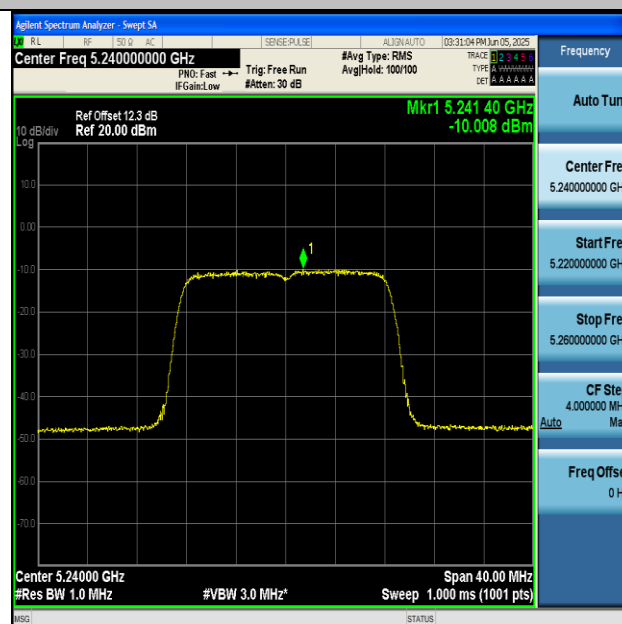




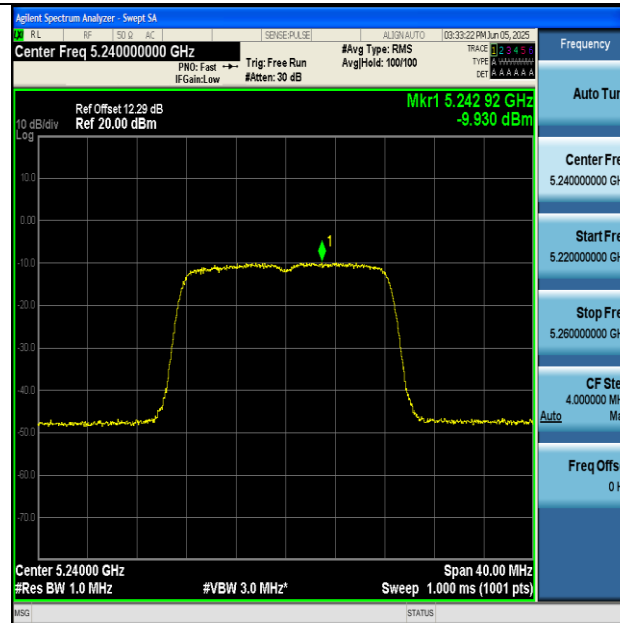
11A-Ant1-5200-PASS



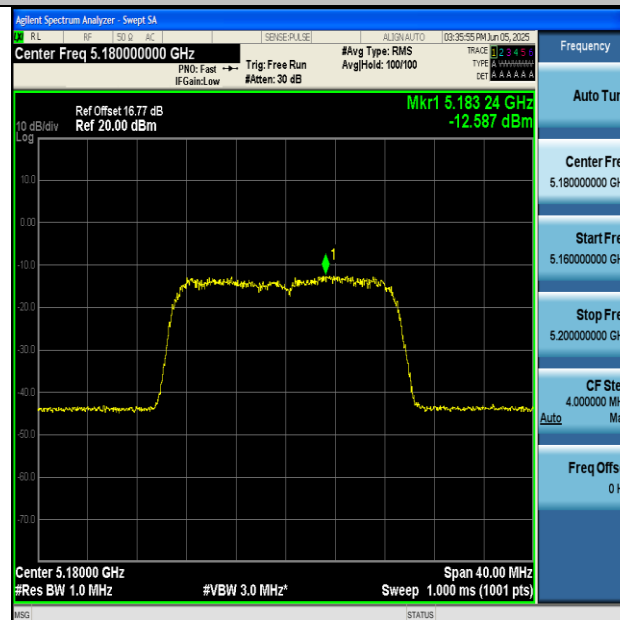
11A-Ant2-5200-PASS



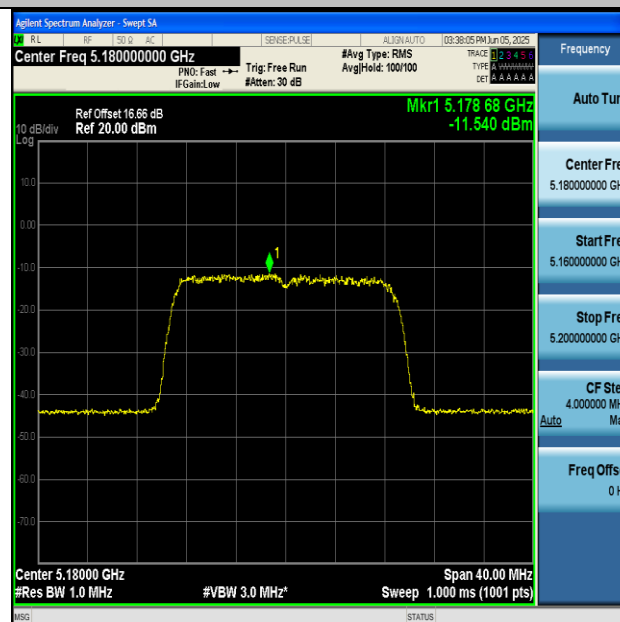
11A-Ant1-5240-PASS



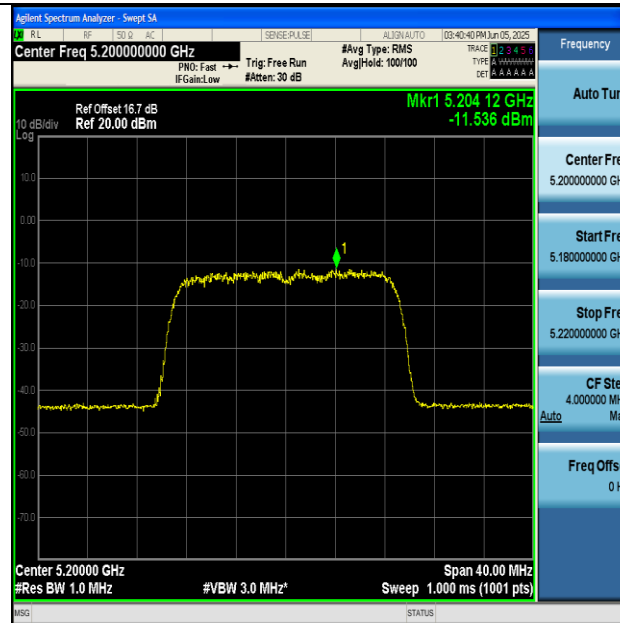
11A-Ant2-5240-PASS



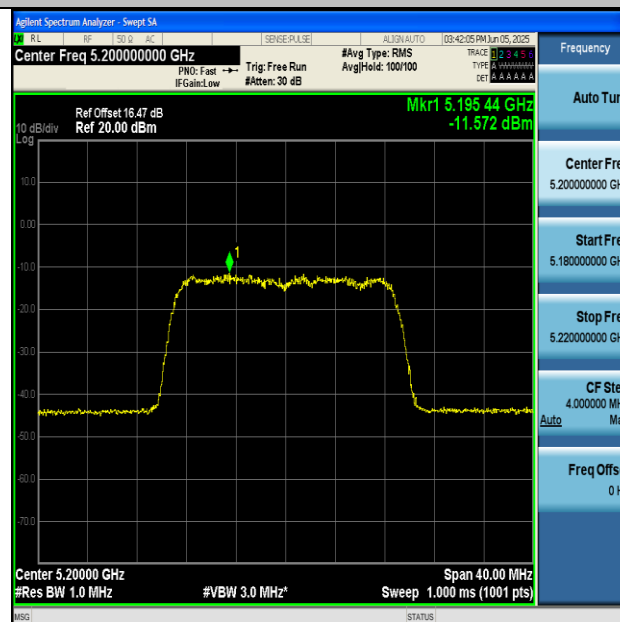
11N20MIMO-Ant1-5180-PASS



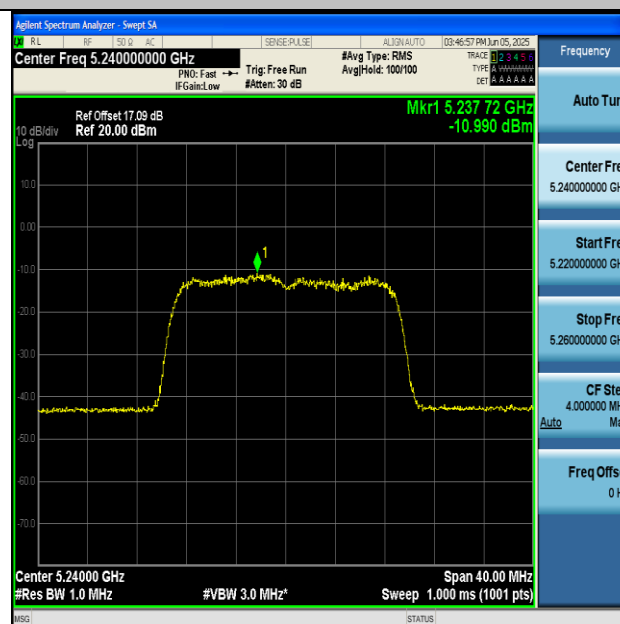
11N20MIMO-Ant2-5180-PASS



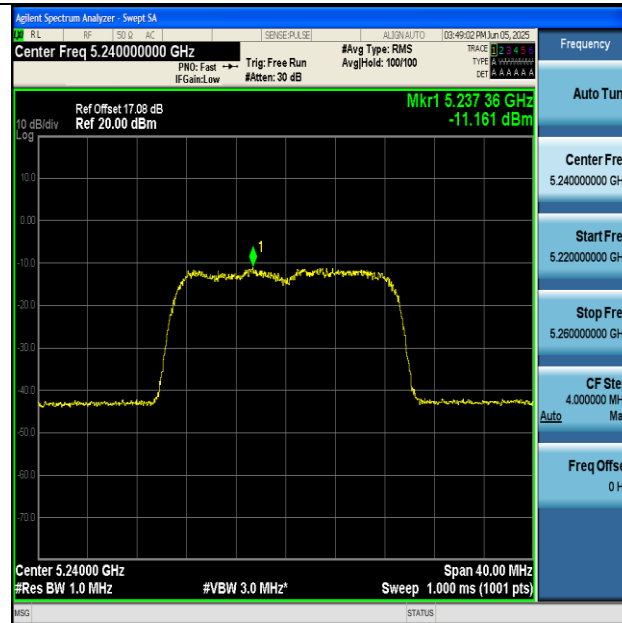
11N20MIMO-Ant1-5200-PASS



11N20MIMO-Ant2-5200-PASS



11N20MIMO-Ant1-5240-PASS



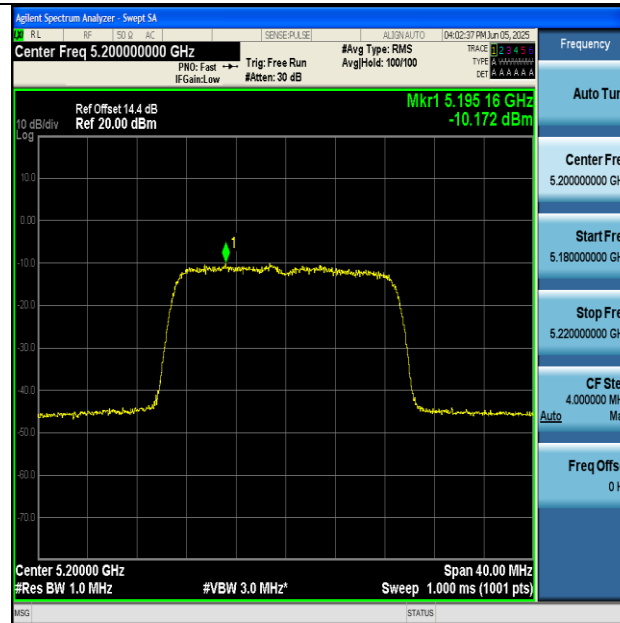
11N20MIMO-Ant2-5240-PASS



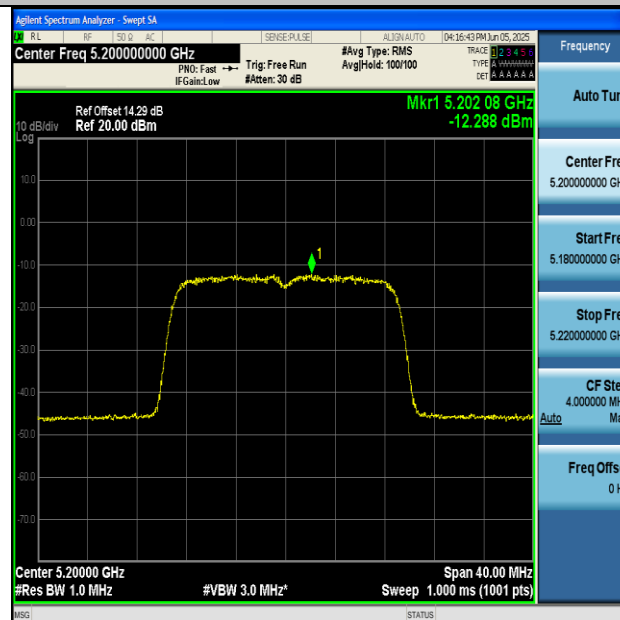
11AC20MIMO-Ant1-5180-PASS



11AC20MIMO-Ant2-5180-PASS



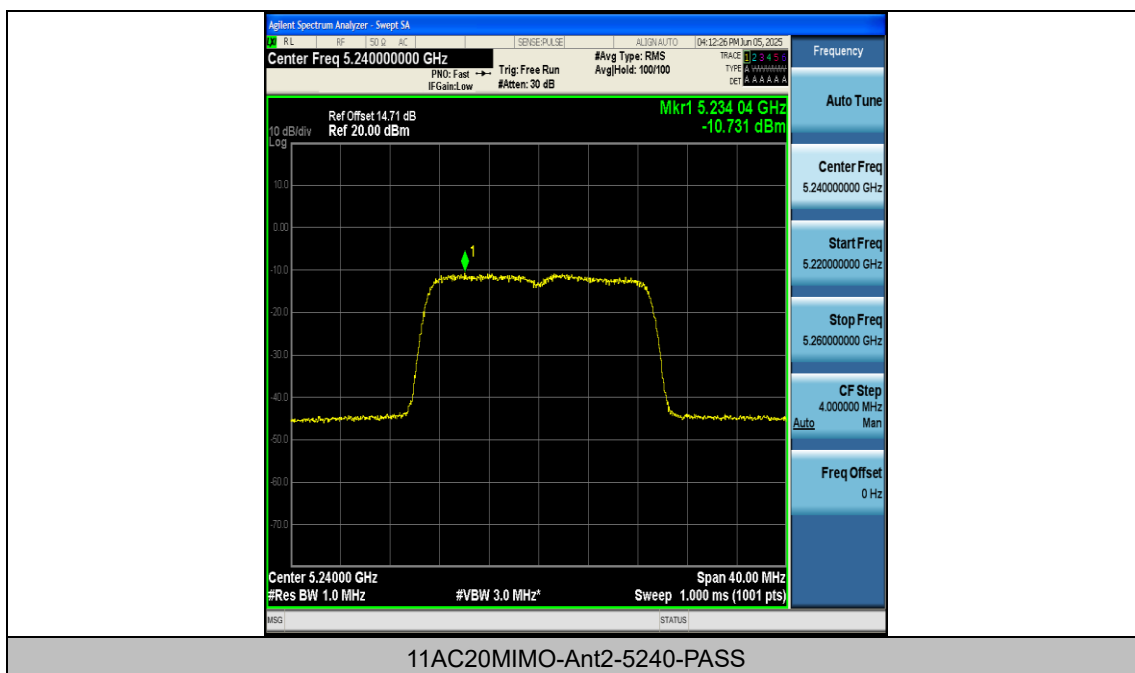
11AC20MIMO-Ant1-5200-PASS



11AC20MIMO-Ant2-5200-PASS



11AC20MIMO-Ant1-5240-PASS



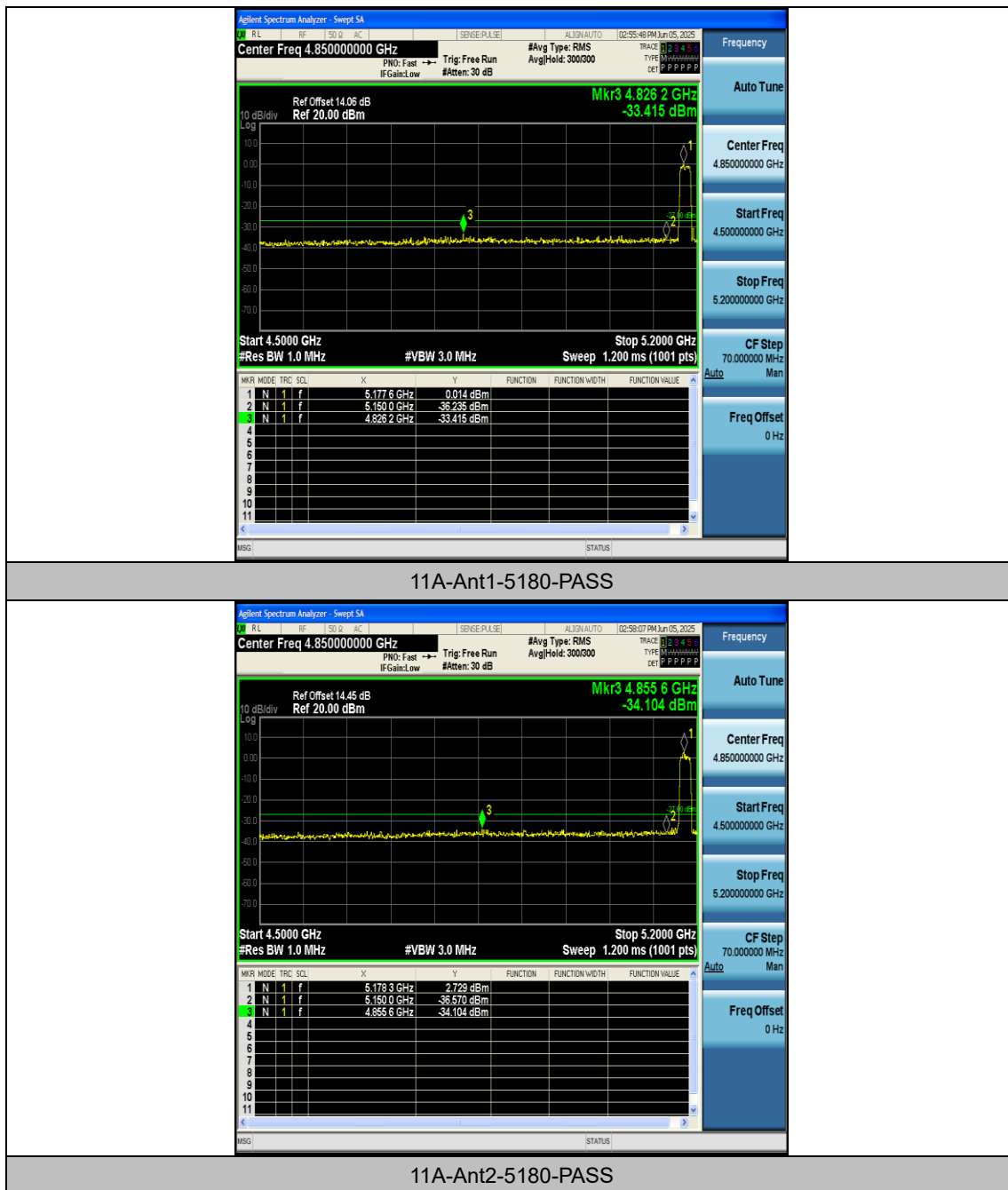
Appendix D: Band edge measurements

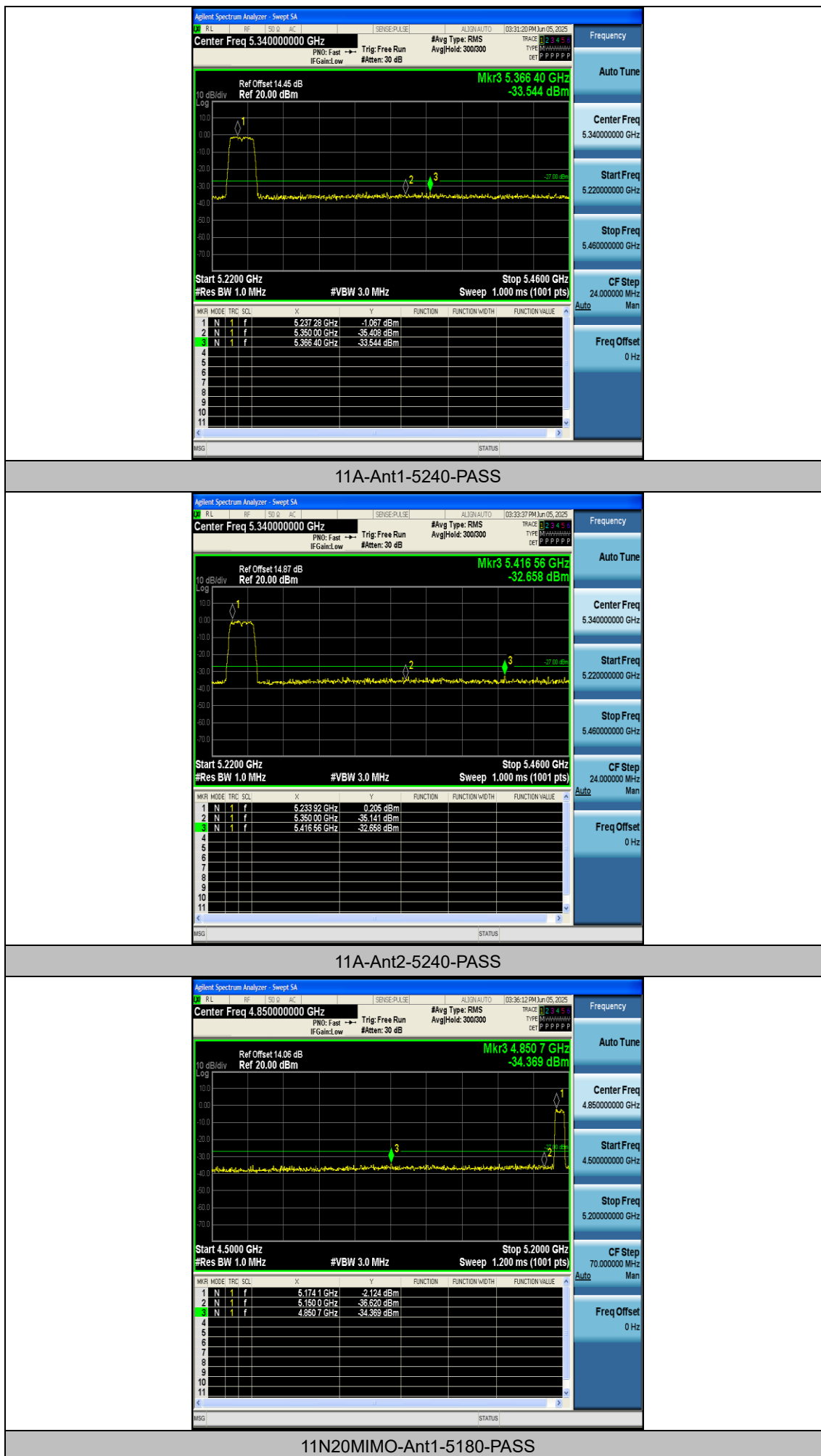
Test Result

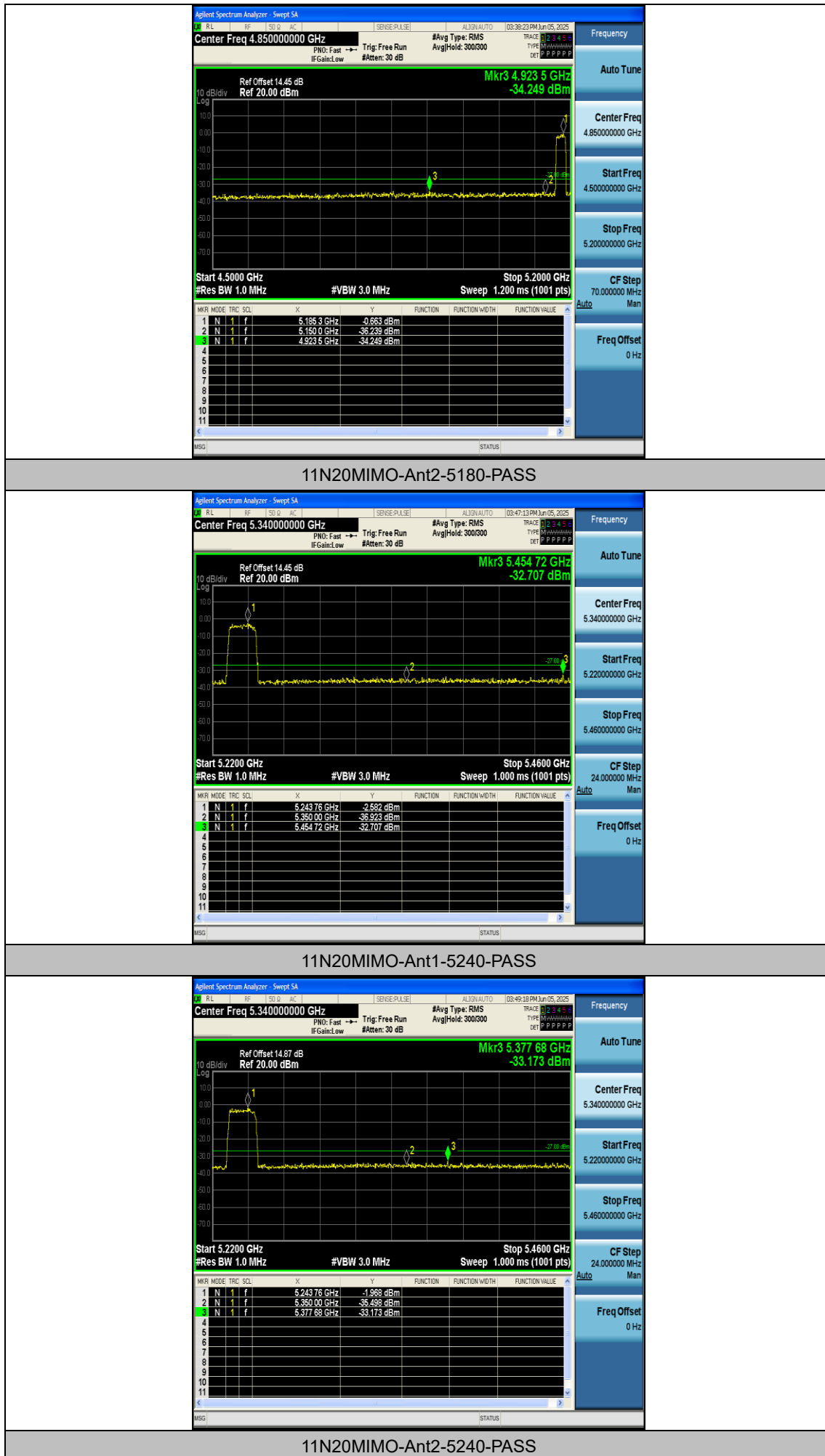
Test Mode	Antenna	Ch. Name	Frequency [MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	Low	5180	-33.42	≤ -27	PASS
11A	Ant2	Low	5180	-34.1	≤ -27	PASS
11A	Ant1	High	5240	-33.54	≤ -27	PASS
11A	Ant2	High	5240	-32.66	≤ -27	PASS
11N20MIMO	Ant1	Low	5180	-34.37	≤ -27	PASS
11N20MIMO	Ant2	Low	5180	-34.25	≤ -27	PASS
11N20MIMO	Ant1	High	5240	-32.71	≤ -27	PASS
11N20MIMO	Ant2	High	5240	-33.17	≤ -27	PASS
11AC20MIMO	Ant1	Low	5180	-33.83	≤ -27	PASS
11AC20MIMO	Ant2	Low	5180	-34.09	≤ -27	PASS
11AC20MIMO	Ant1	High	5240	-33.56	≤ -27	PASS
11AC20MIMO	Ant2	High	5240	-33.27	≤ -27	PASS

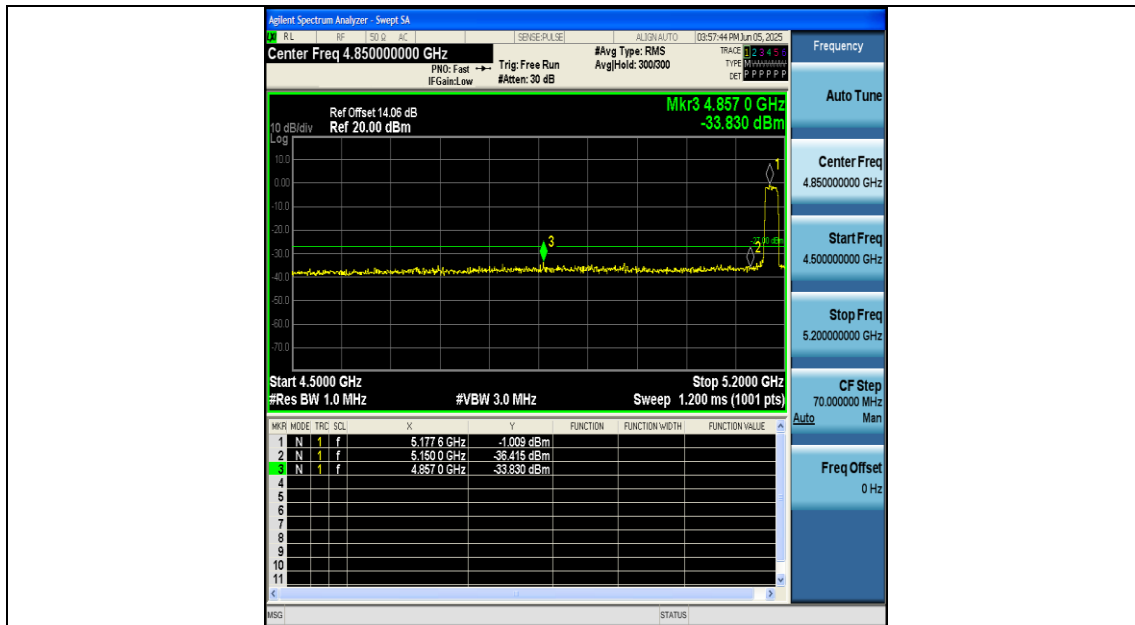
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)+antenna(dBi)

Test Graphs

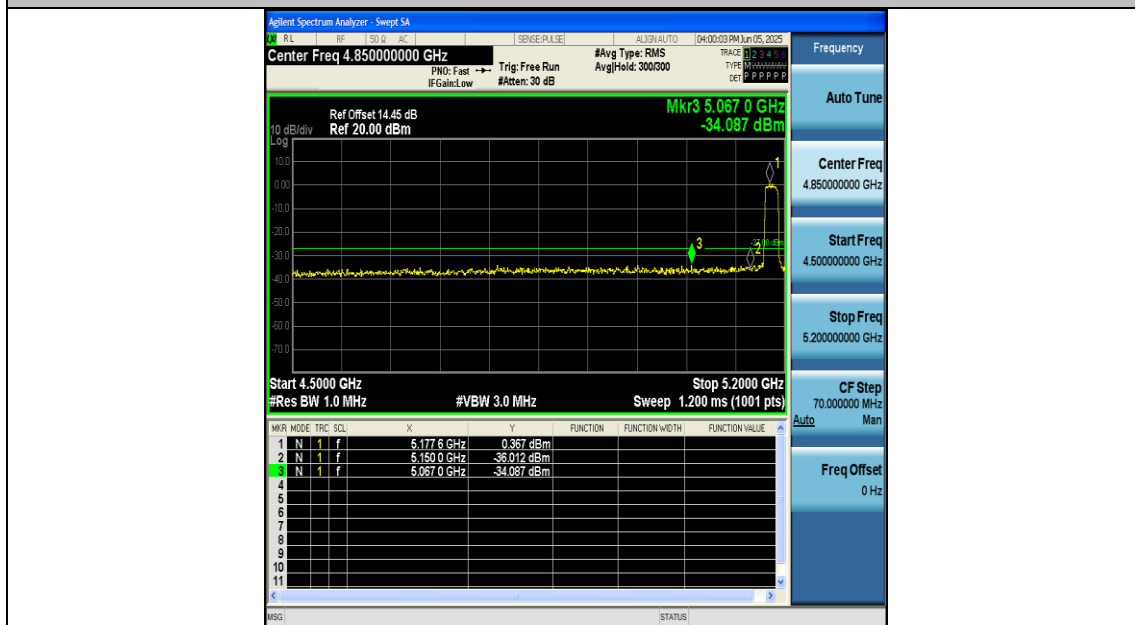




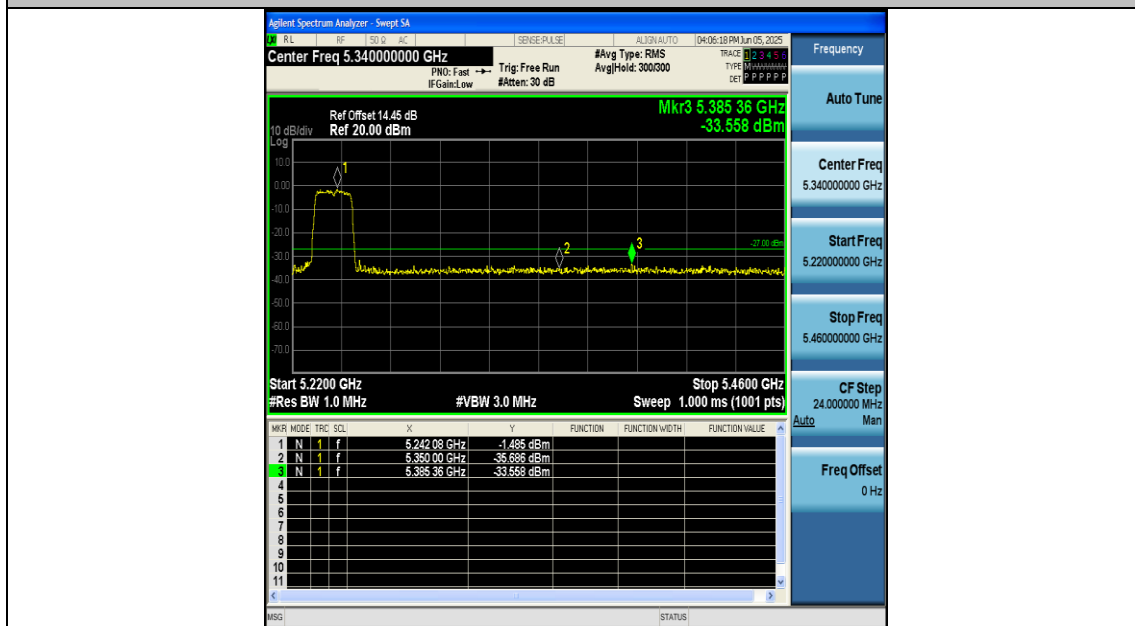




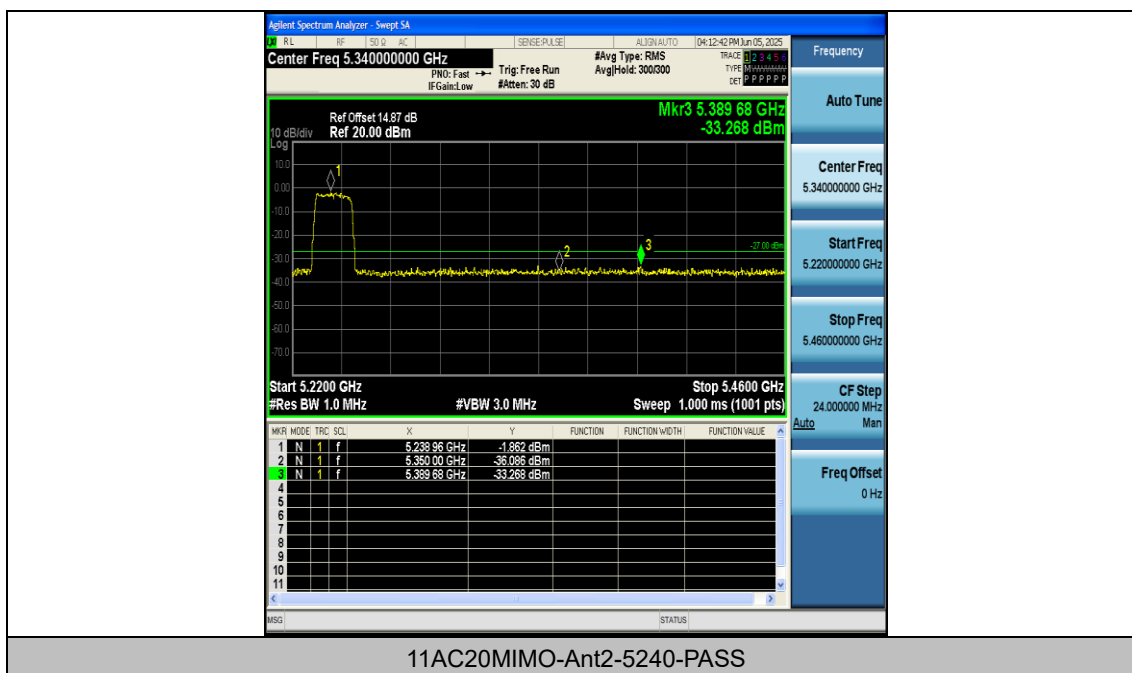
11AC20MIMO-Ant1-5180-PASS



11AC20MIMO-Ant2-5180-PASS



11AC20MIMO-Ant1-5240-PASS



Appendix E: Frequency Stability

Test Result

Ant1

Frequency (MHz)	Environment Temperature (Degree)	Voltage (VDC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5180	20	8.5	5180.005129	5150 – 5250	PASS
5180	20	6.3	5179.969335	5150 – 5250	PASS
5180	50	7.4	5180.034933	5150 – 5250	PASS
5180	40	7.4	5179.961207	5150 – 5250	PASS
5180	30	7.4	5179.944016	5150 – 5250	PASS
5180	20	7.4	5179.953366	5150 – 5250	PASS
5180	10	7.4	5179.926704	5150 – 5250	PASS
5180	0	7.4	5179.968161	5150 – 5250	PASS
5180	-10	7.4	5180.093015	5150 – 5250	PASS
5180	-20	7.4	5179.977630	5150 – 5250	PASS
5180	-30	7.4	5179.939434	5150 – 5250	PASS

Ant2

Frequency (MHz)	Environment Temperature (Degree)	Voltage (VDC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5180	20	8.5	5179.943117	5150 – 5250	PASS
5180	20	6.3	5180.089708	5150 – 5250	PASS
5180	50	7.4	5179.927032	5150 – 5250	PASS
5180	40	7.4	5180.079981	5150 – 5250	PASS
5180	30	7.4	5179.955466	5150 – 5250	PASS
5180	20	7.4	5180.093140	5150 – 5250	PASS
5180	10	7.4	5180.076612	5150 – 5250	PASS
5180	0	7.4	5179.939233	5150 – 5250	PASS
5180	-10	7.4	5180.015180	5150 – 5250	PASS
5180	-20	7.4	5179.904034	5150 – 5250	PASS
5180	-30	7.4	5179.974530	5150 – 5250	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VDC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5200	20	8.5	5199.946412	5150 – 5250	PASS
5200	20	6.3	5200.094176	5150 – 5250	PASS
5200	50	7.4	5200.039637	5150 – 5250	PASS
5200	40	7.4	5199.934464	5150 – 5250	PASS
5200	30	7.4	5200.037124	5150 – 5250	PASS
5200	20	7.4	5200.046432	5150 – 5250	PASS
5200	10	7.4	5199.944760	5150 – 5250	PASS
5200	0	7.4	5199.947695	5150 – 5250	PASS
5200	-10	7.4	5199.921535	5150 – 5250	PASS
5200	-20	7.4	5200.068697	5150 – 5250	PASS
5200	-30	7.4	5200.019136	5150 – 5250	PASS

Ant2

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VDC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5200	20	8.5	5200.015771	5150 – 5250	PASS
5200	20	6.3	5200.084972	5150 – 5250	PASS
5200	50	7.4	5199.970996	5150 – 5250	PASS
5200	40	7.4	5200.057669	5150 – 5250	PASS
5200	30	7.4	5199.983715	5150 – 5250	PASS
5200	20	7.4	5200.020240	5150 – 5250	PASS
5200	10	7.4	5200.055100	5150 – 5250	PASS
5200	0	7.4	5199.999311	5150 – 5250	PASS
5200	-10	7.4	5199.942525	5150 – 5250	PASS
5200	-20	7.4	5200.051667	5150 – 5250	PASS
5200	-30	7.4	5199.901170	5150 – 5250	PASS

Ant1

Frequency (MHz)	Environment Temperature (Degree)	Voltage (VDC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5240	20	8.5	5240.022422	5150 – 5250	PASS
5240	20	6.3	5239.979973	5150 – 5250	PASS
5240	50	7.4	5239.911140	5150 – 5250	PASS
5240	40	7.4	5240.011221	5150 – 5250	PASS
5240	30	7.4	5240.076001	5150 – 5250	PASS
5240	20	7.4	5240.097196	5150 – 5250	PASS
5240	10	7.4	5239.964981	5150 – 5250	PASS
5240	0	7.4	5239.934266	5150 – 5250	PASS
5240	-10	7.4	5239.964559	5150 – 5250	PASS
5240	-20	7.4	5240.005501	5150 – 5250	PASS
5240	-30	7.4	5239.949387	5150 – 5250	PASS

Ant2

Frequency (MHz)	Environment Temperature (Degree)	Voltage (VDC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5240	20	8.5	5240.092594	5150 – 5250	PASS
5240	20	6.3	5240.034917	5150 – 5250	PASS
5240	50	7.4	5239.995319	5150 – 5250	PASS
5240	40	7.4	5239.907488	5150 – 5250	PASS
5240	30	7.4	5240.094972	5150 – 5250	PASS
5240	20	7.4	5239.992698	5150 – 5250	PASS
5240	10	7.4	5240.010046	5150 – 5250	PASS
5240	0	7.4	5239.900120	5150 – 5250	PASS
5240	-10	7.4	5239.941660	5150 – 5250	PASS
5240	-20	7.4	5239.973675	5150 – 5250	PASS
5240	-30	7.4	5240.081840	5150 – 5250	PASS

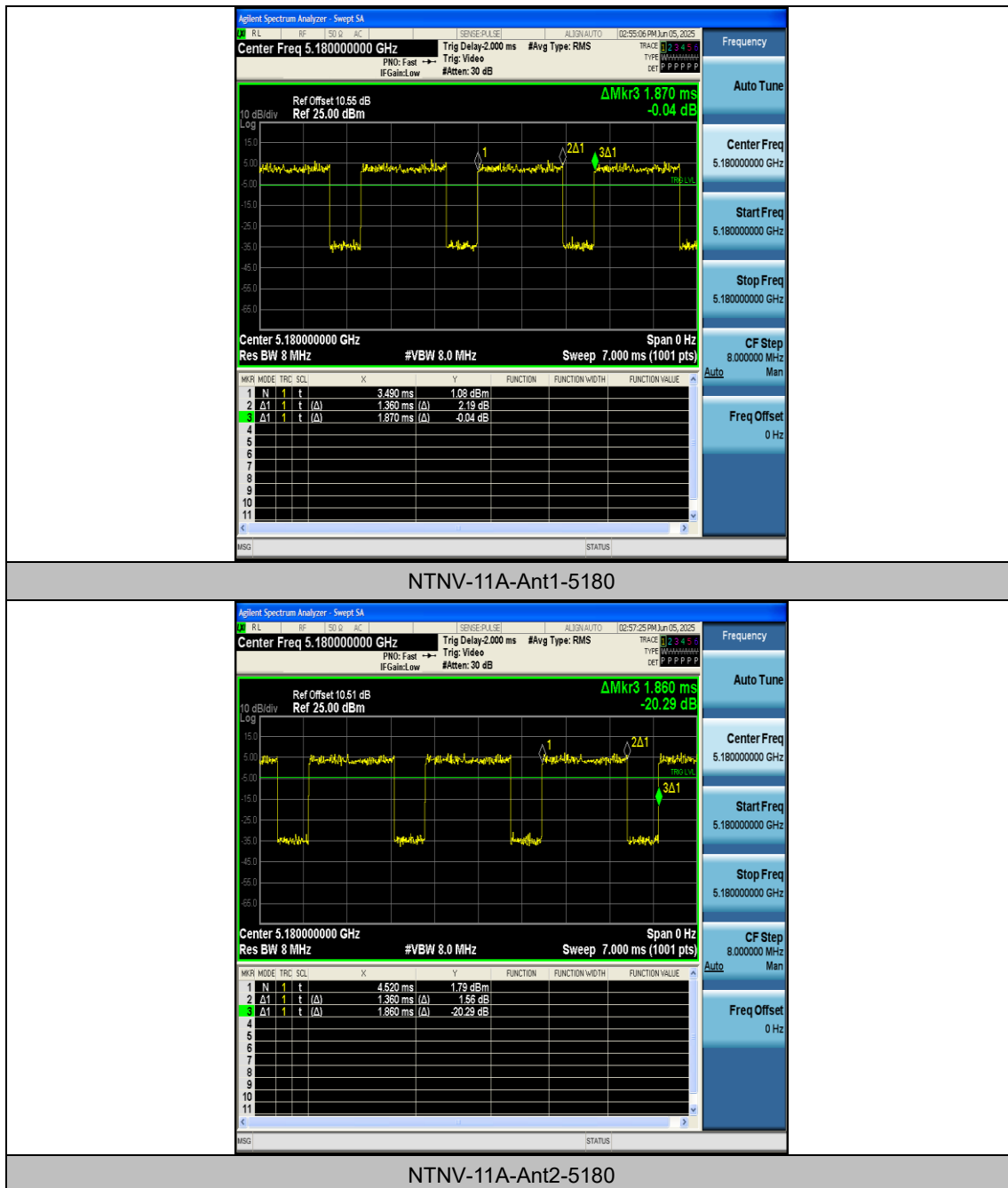
Appendix F: Duty Cycle

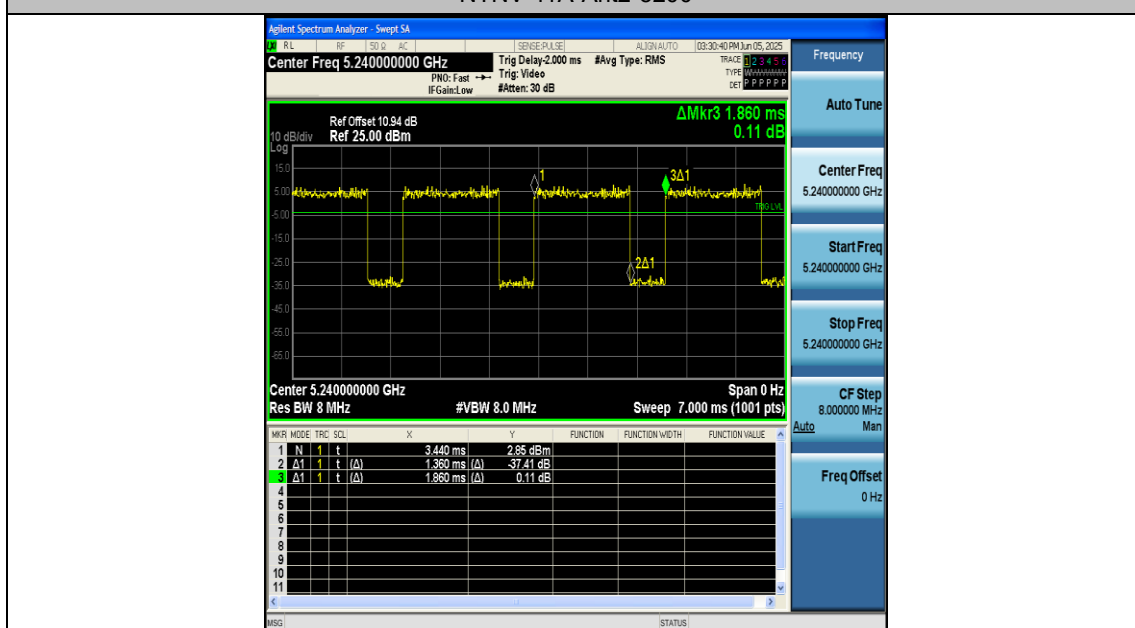
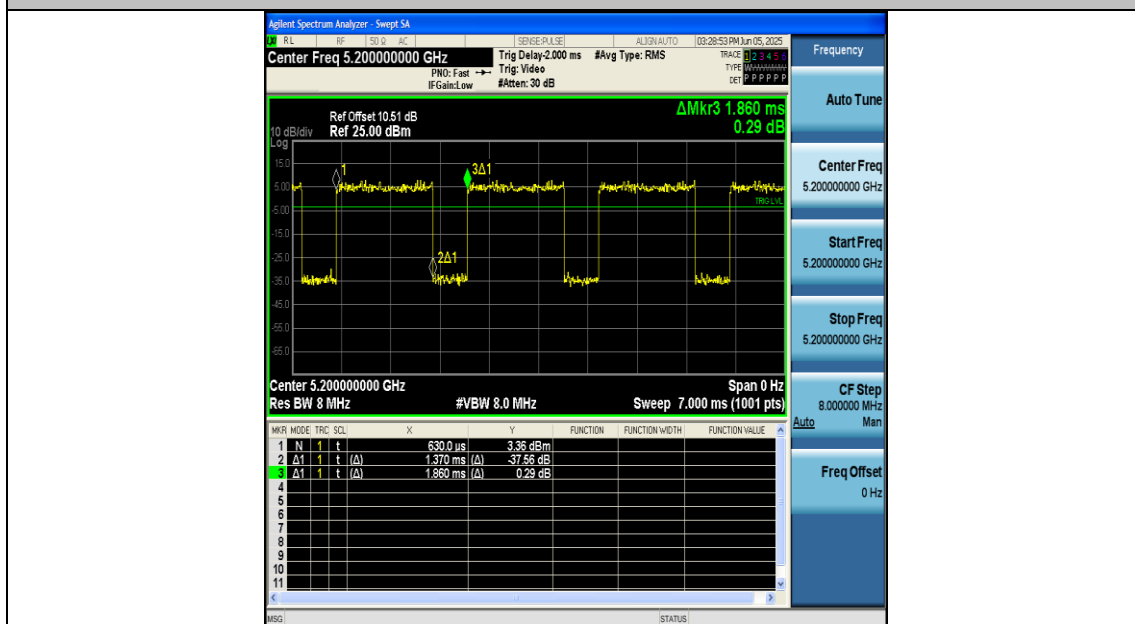
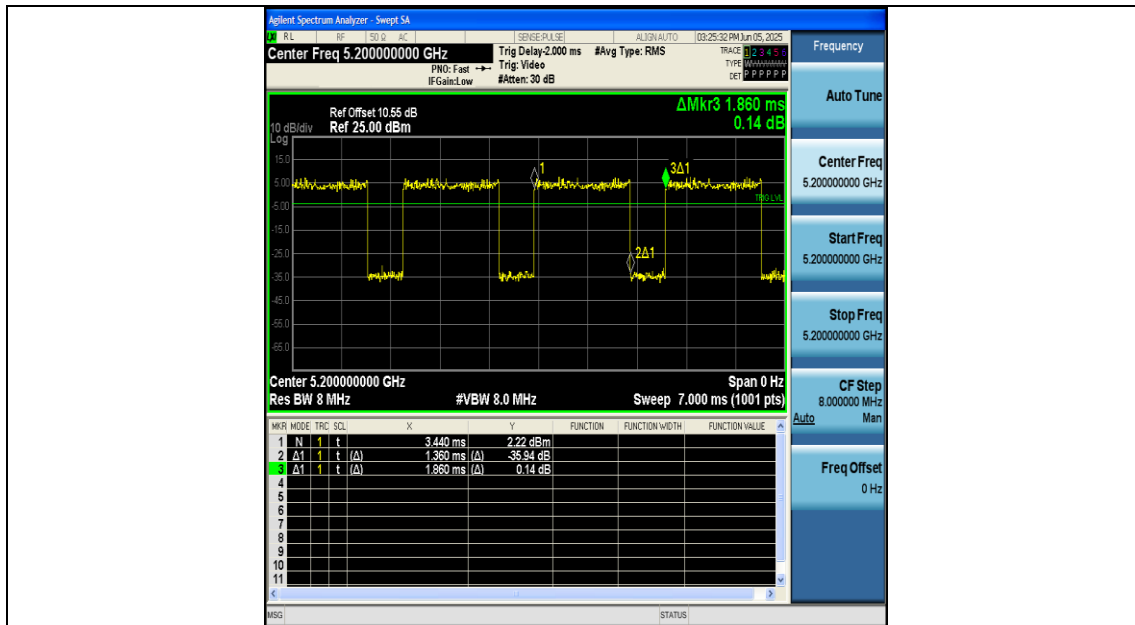
Test Result

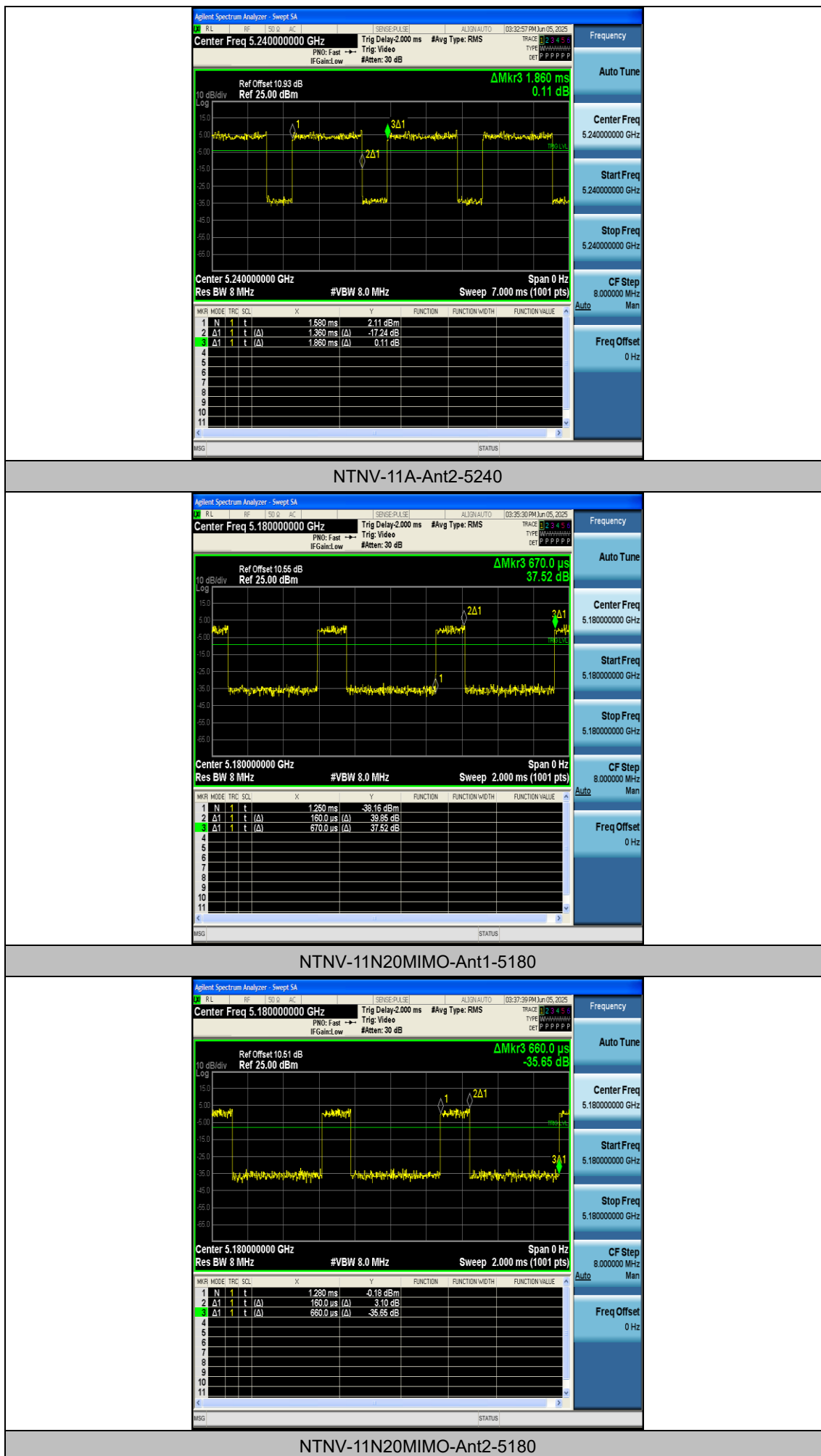
Test Mode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Dc. Factor [%]	1/T [kHz]
11A	Ant1	5180	1.36	1.87	72.73	1.38	0.74
11A	Ant2	5180	1.36	1.86	73.12	1.36	0.74
11A	Ant1	5200	1.36	1.86	73.12	1.36	0.74
11A	Ant2	5200	1.37	1.86	73.66	1.33	0.73
11A	Ant1	5240	1.36	1.86	73.12	1.36	0.74
11A	Ant2	5240	1.36	1.86	73.12	1.36	0.74
11N20MIMO	Ant1	5180	0.16	0.67	23.88	6.22	6.25
11N20MIMO	Ant2	5180	0.16	0.66	24.24	6.15	6.25
11N20MIMO	Ant1	5200	0.16	0.66	24.24	6.15	6.25
11N20MIMO	Ant2	5200	0.17	0.67	25.37	5.96	5.88
11N20MIMO	Ant1	5240	0.16	0.66	24.24	6.15	6.25
11N20MIMO	Ant2	5240	0.16	0.66	24.24	6.15	6.25
11AC20MIMO	Ant1	5180	0.35	0.86	40.70	3.90	2.86
11AC20MIMO	Ant2	5180	0.36	0.86	41.86	3.78	2.78
11AC20MIMO	Ant1	5200	0.35	0.85	41.18	3.85	2.86
11AC20MIMO	Ant2	5200	0.36	0.86	41.86	3.78	2.78
11AC20MIMO	Ant1	5240	0.36	0.86	41.86	3.78	2.78
11AC20MIMO	Ant2	5240	0.36	0.86	41.86	3.78	2.78

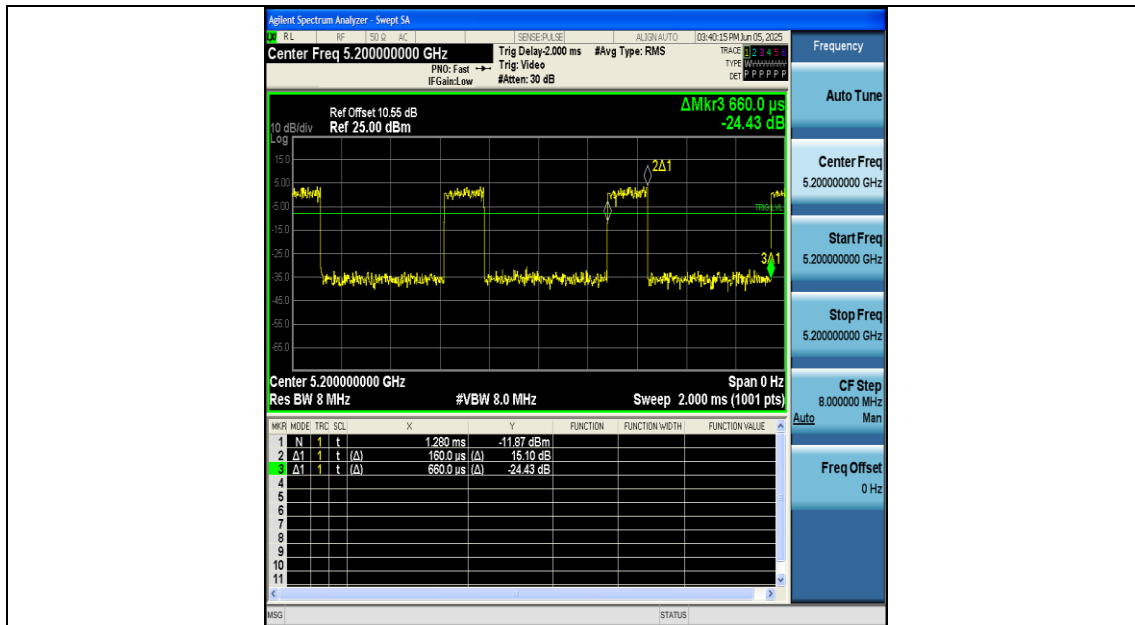
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs

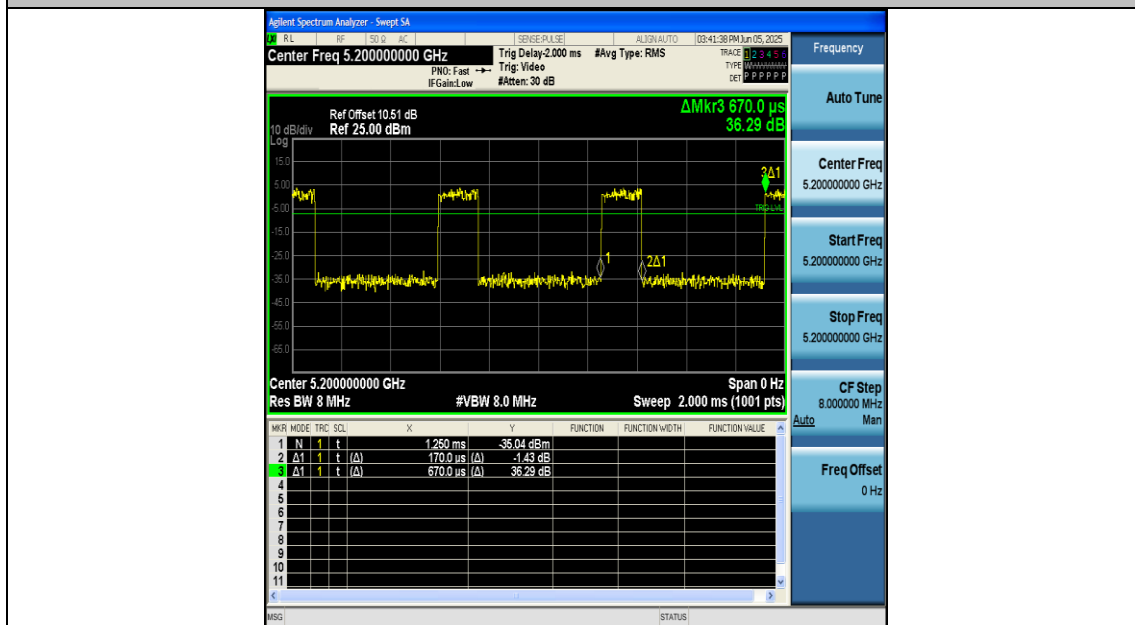




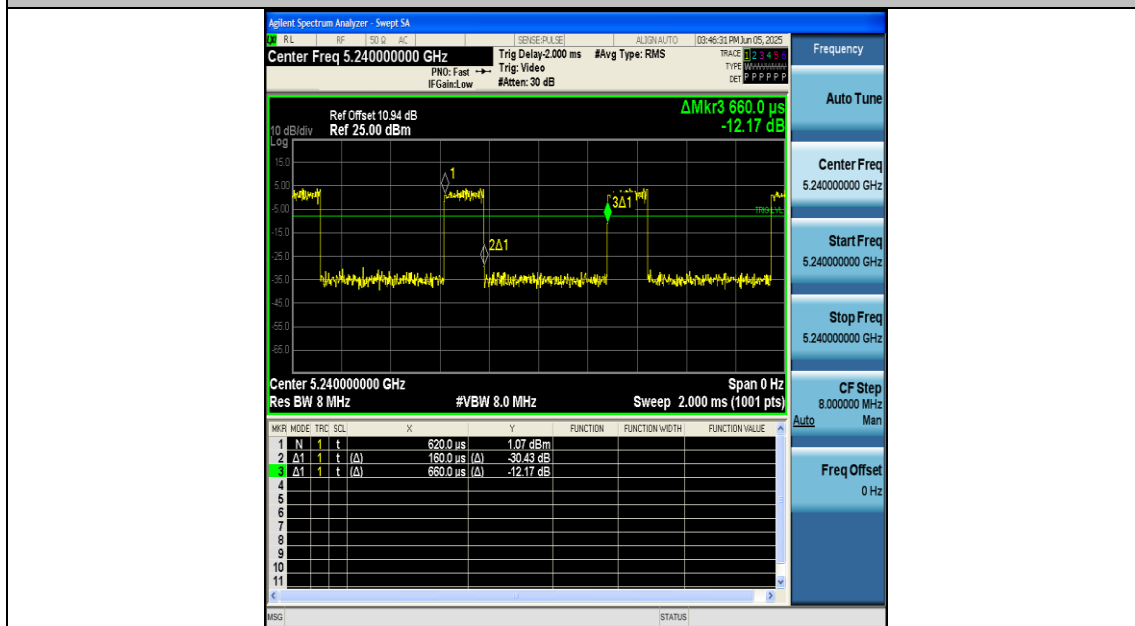




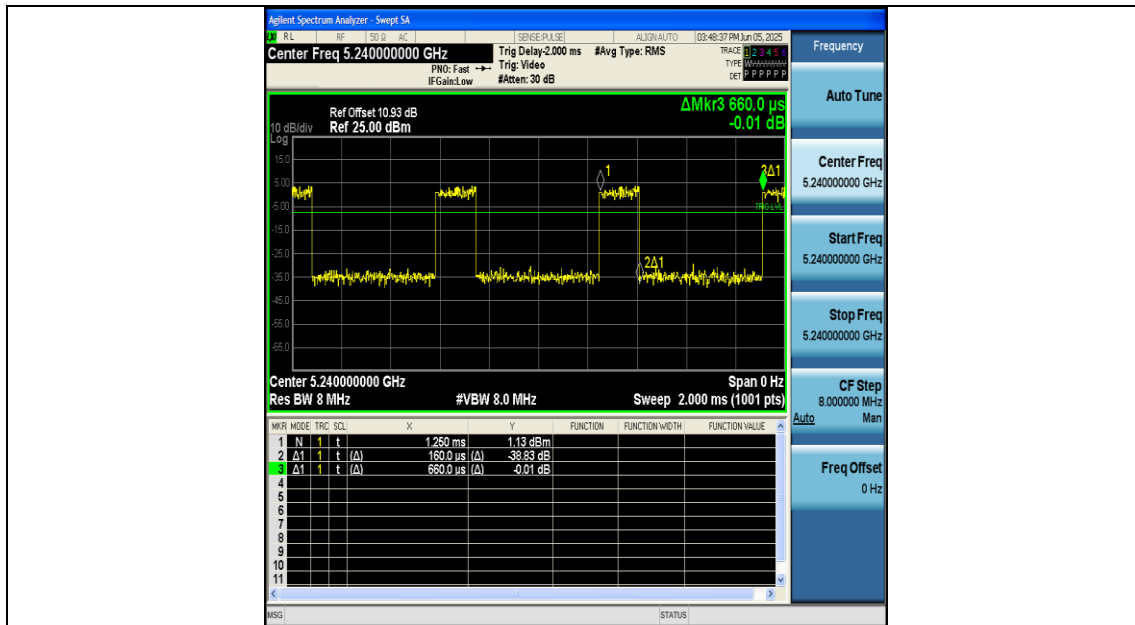
NTNV-11N20MIMO-Ant1-5200



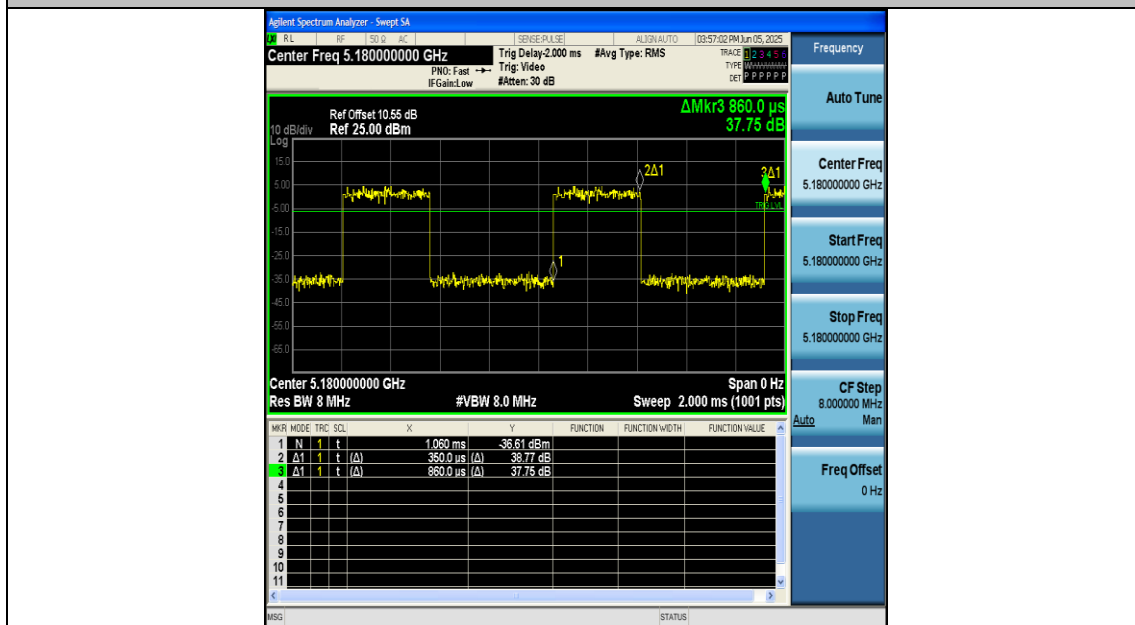
NTNV-11N20MIMO-Ant2-5200



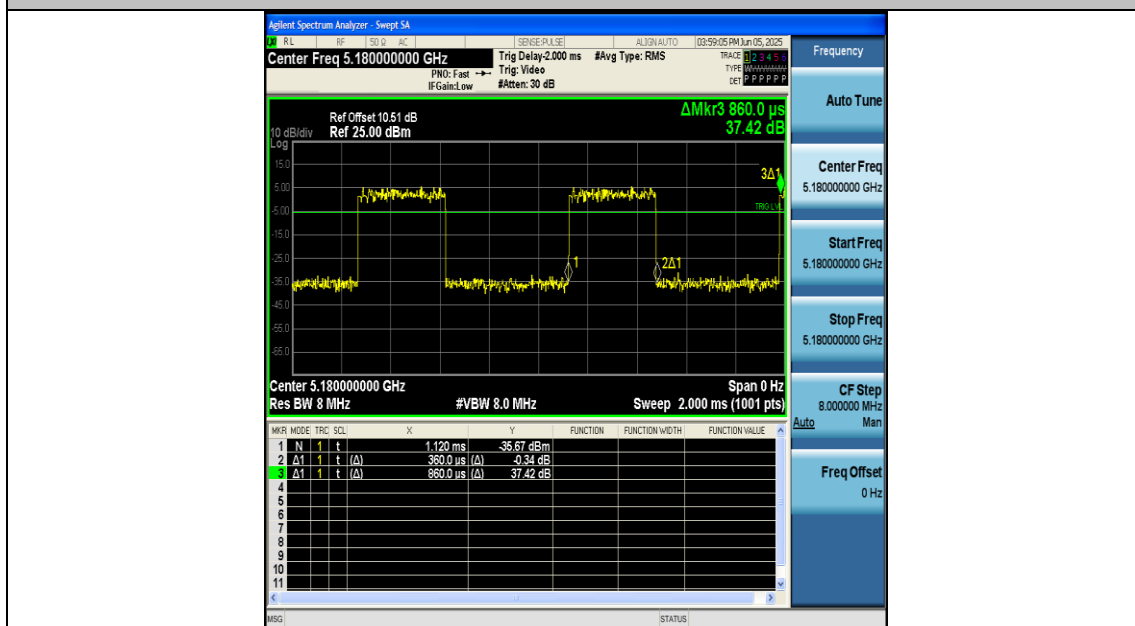
NTNV-11N20MIMO-Ant1-5240



NTNV-11N20MIMO-Ant2-5240



NTNV-11AC20MIMO-Ant1-5180



NTNV-11AC20MIMO-Ant2-5180

