

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

Product Name: Voter Identification Unit

Trade Mark: SMARTMATIC

Test Model: VIU-500 Model 700

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

Environmental Conditions

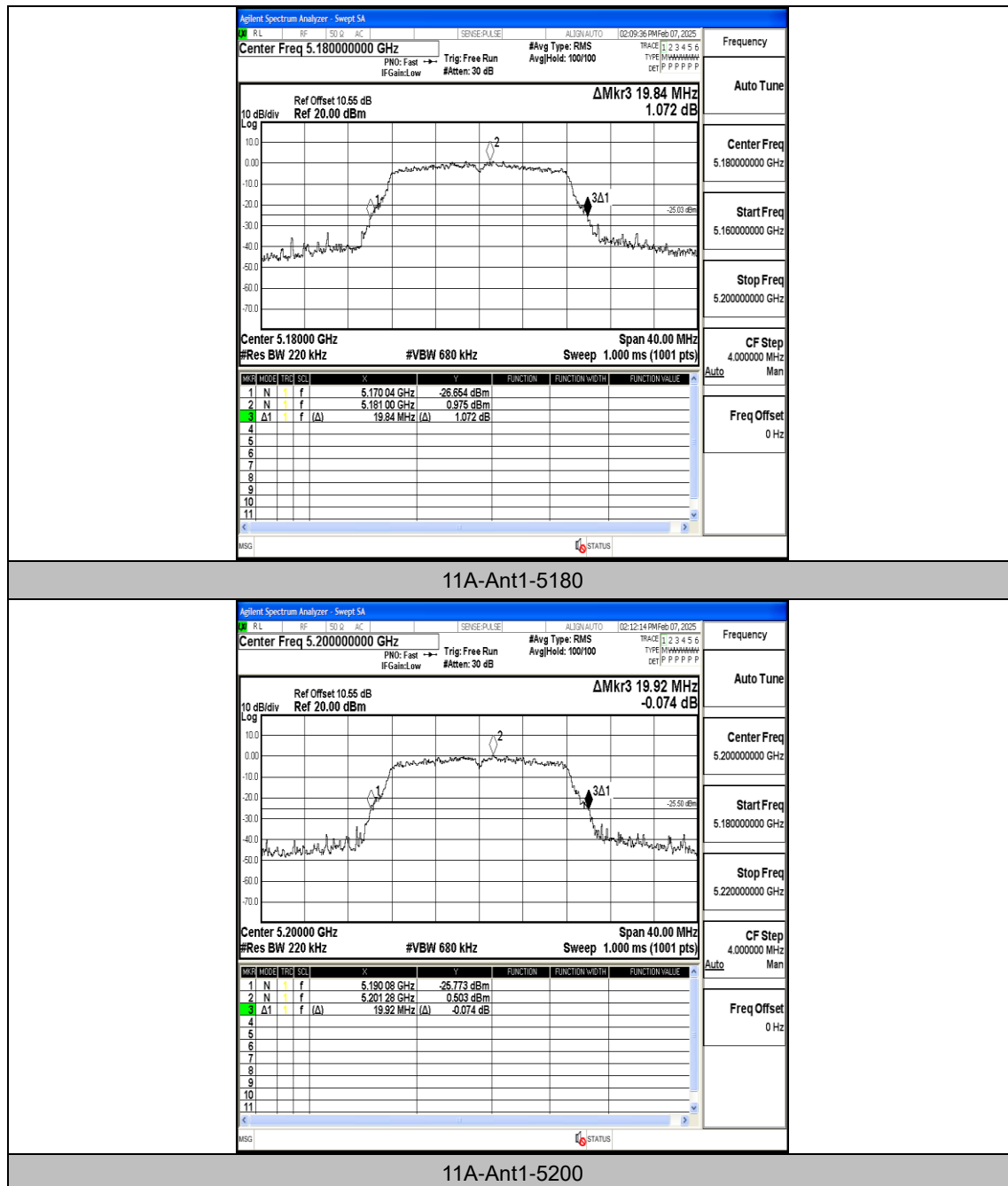
Temperature:	23.5℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Hugo Chen
NOTE	N/A

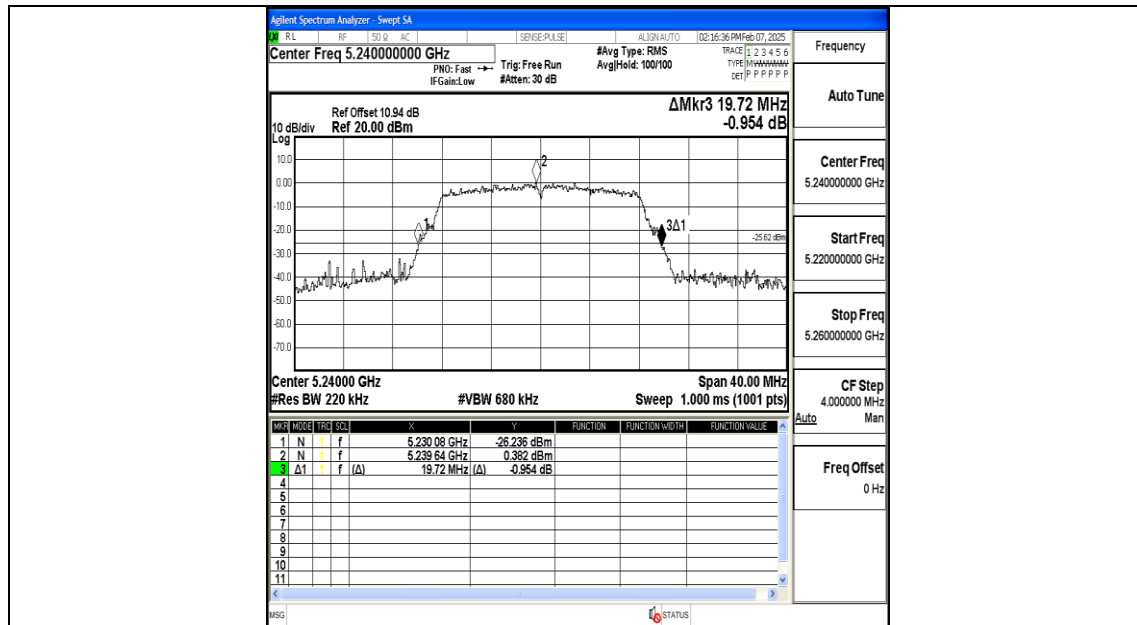
Appendix A1: Emission Bandwidth

Test Result

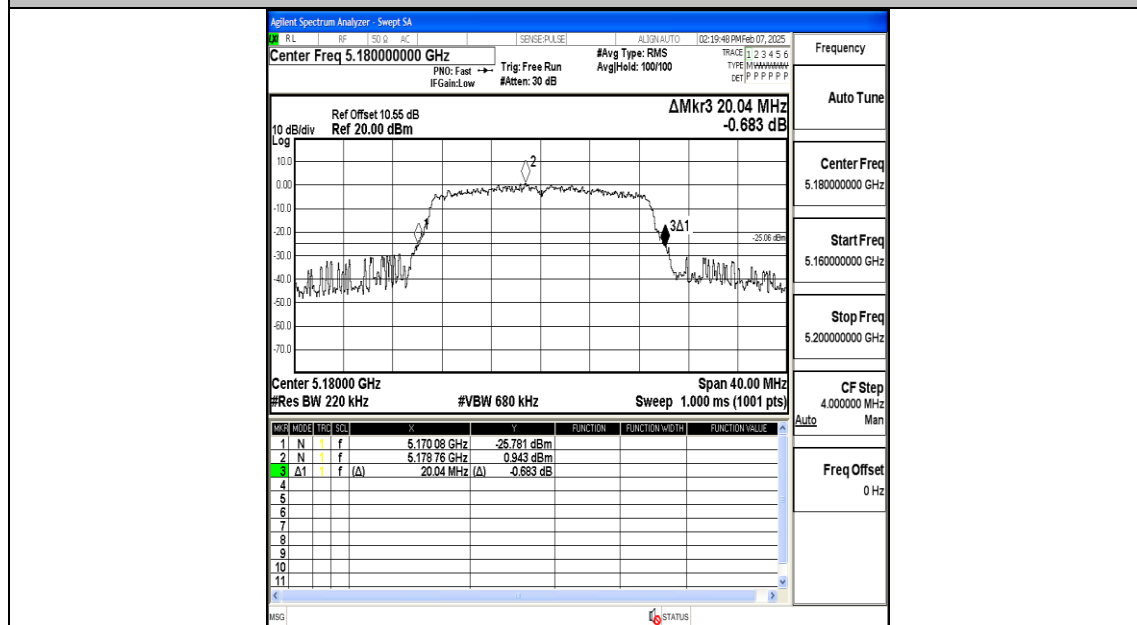
Test Mode	Antenna	Frequency [MHz]	26db EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5180	19.840	5170.040	5189.880	---	---
11A	Ant1	5200	19.920	5190.080	5210.000	---	---
11A	Ant1	5240	19.720	5230.080	5249.800	---	---
11N20SISO	Ant1	5180	20.040	5170.080	5190.120	---	---
11N20SISO	Ant1	5200	20.160	5189.880	5210.040	---	---
11N20SISO	Ant1	5240	20.160	5230.000	5250.160	---	---
11N40SISO	Ant1	5190	40.560	5169.680	5210.240	---	---
11N40SISO	Ant1	5230	40.320	5209.920	5250.240	---	---
11AC20SISO	Ant1	5180	19.920	5170.000	5189.920	---	---
11AC20SISO	Ant1	5200	20.360	5189.880	5210.240	---	---
11AC20SISO	Ant1	5240	20.240	5229.800	5250.040	---	---
11AC40SISO	Ant1	5190	40.320	5169.840	5210.160	---	---
11AC40SISO	Ant1	5230	40.080	5210.000	5250.080	---	---
11AC80SISO	Ant1	5210	80.960	5169.680	5250.640	---	---

Test Graphs

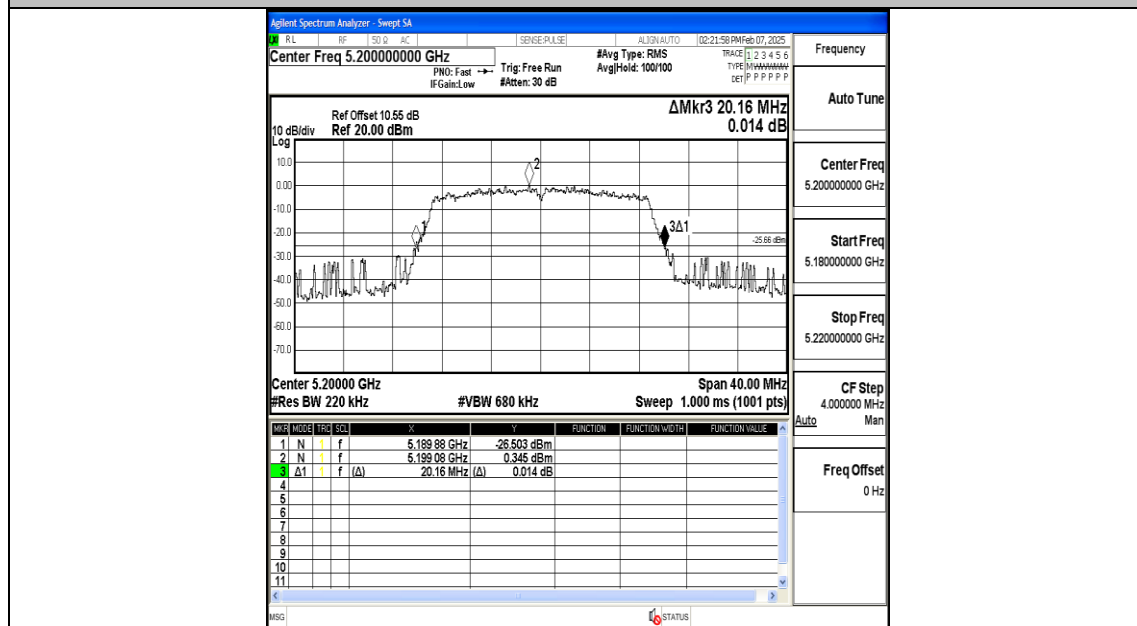




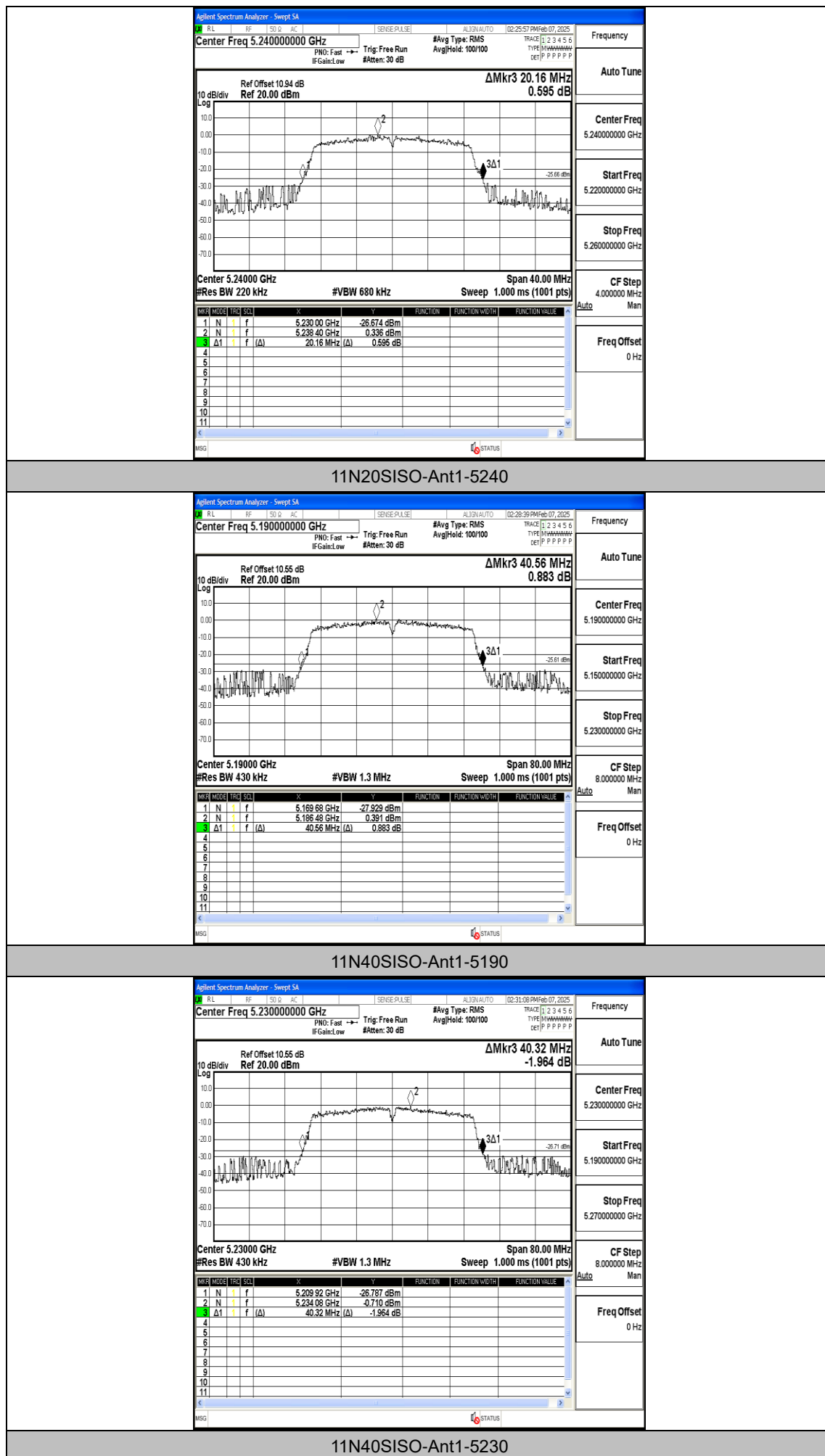
11A-Ant1-5240

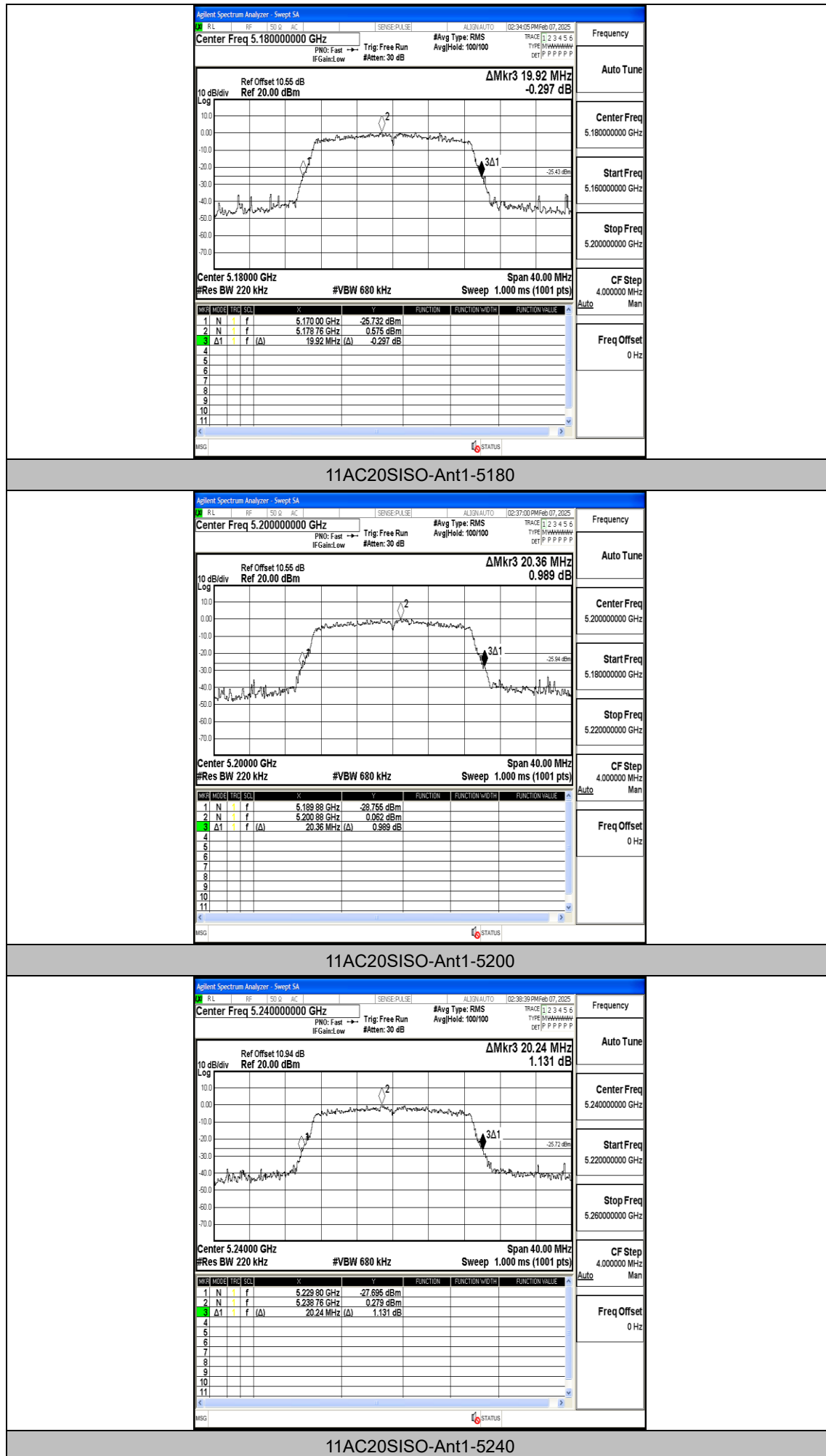


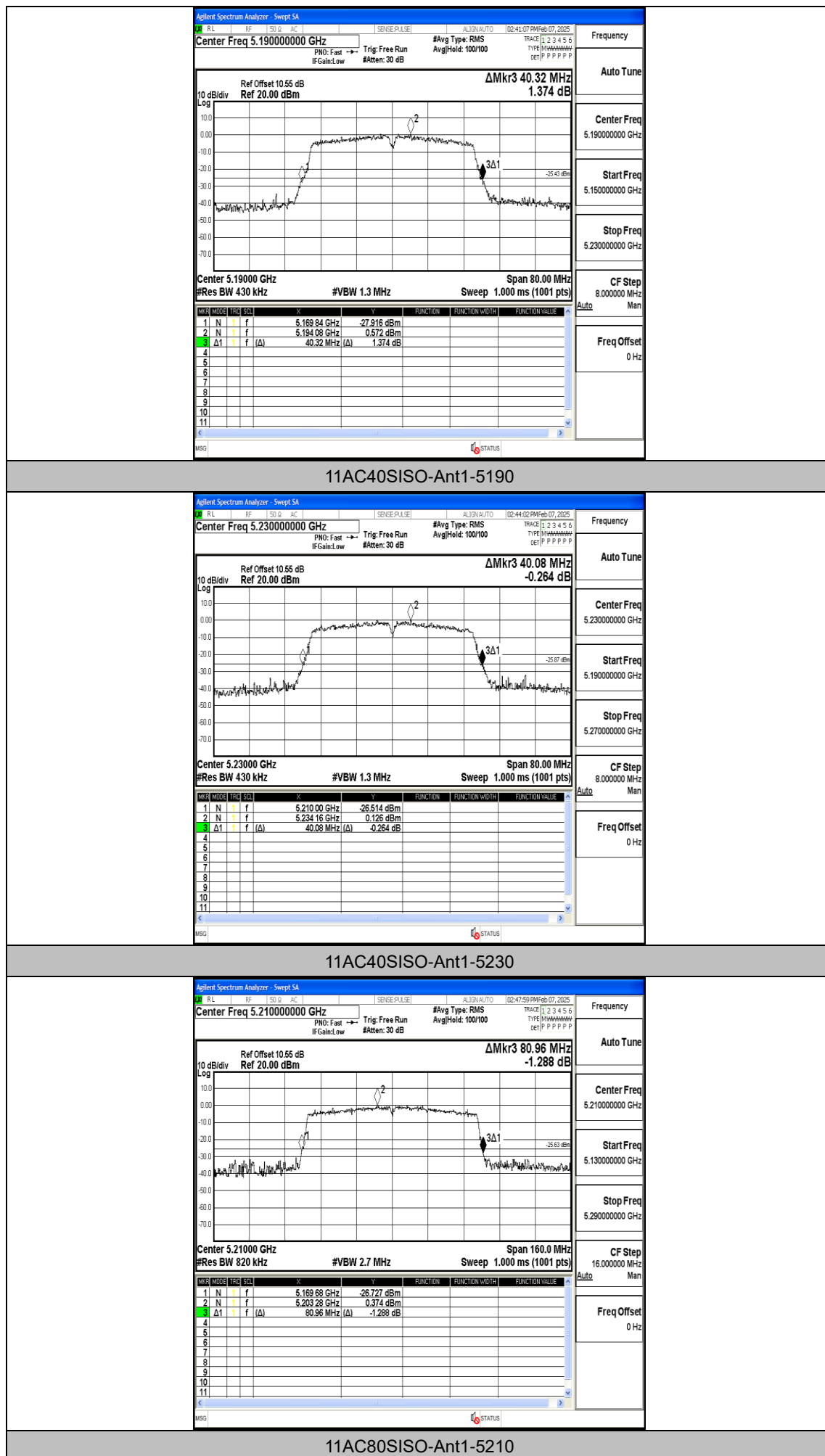
11N20SISO-Ant1-5180



11N20SISO-Ant1-5200





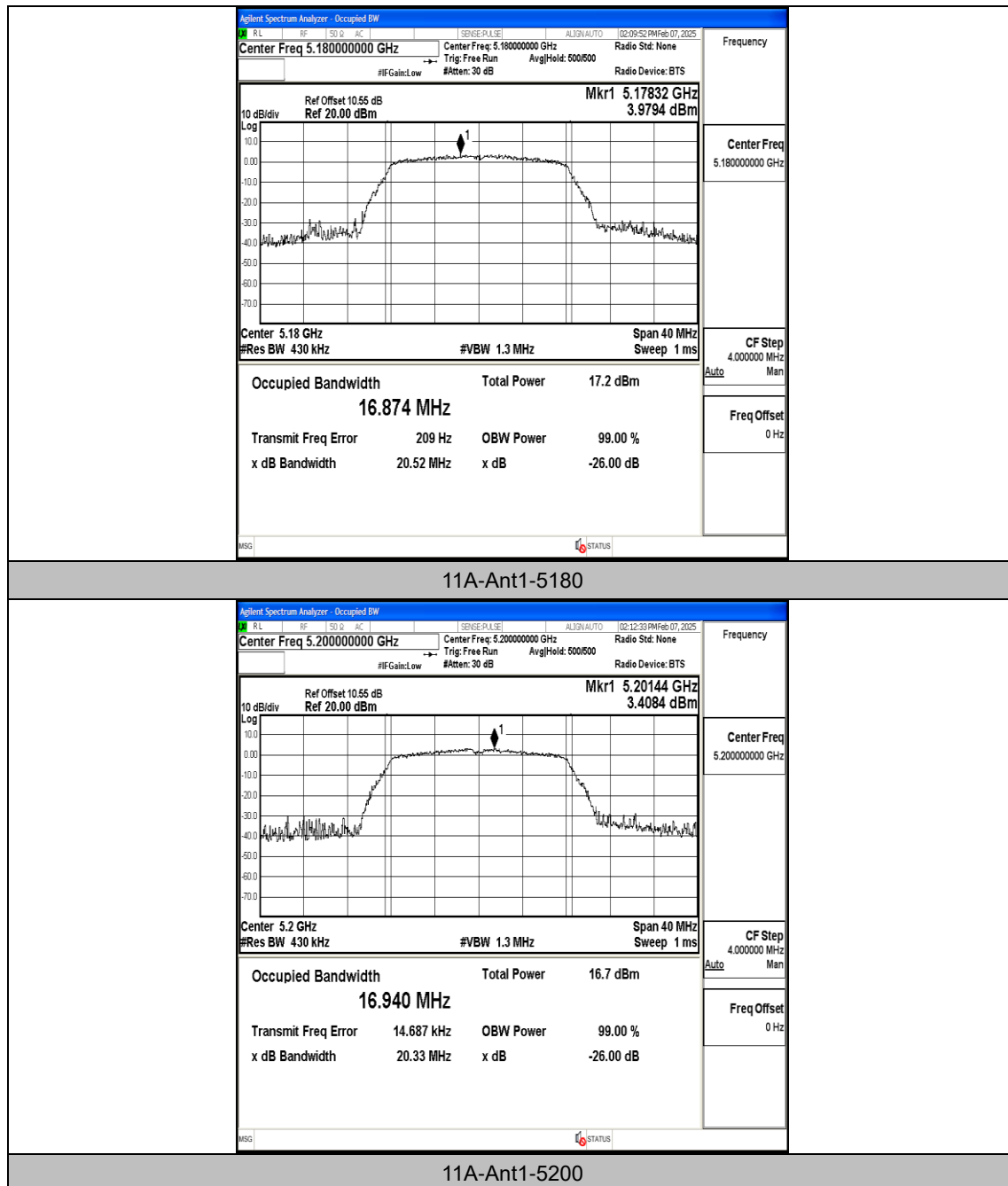


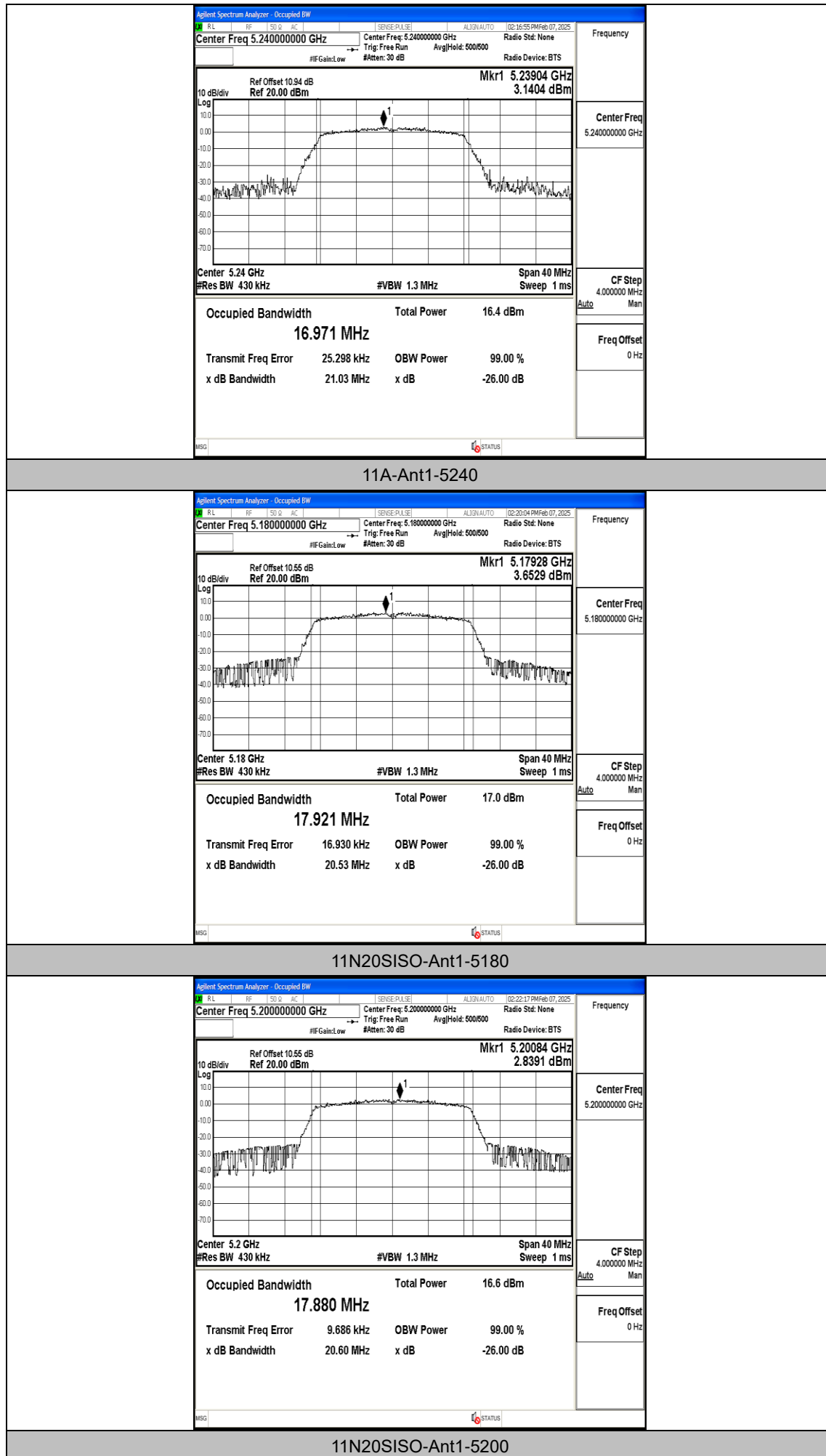
Appendix A2: Occupied channel bandwidth

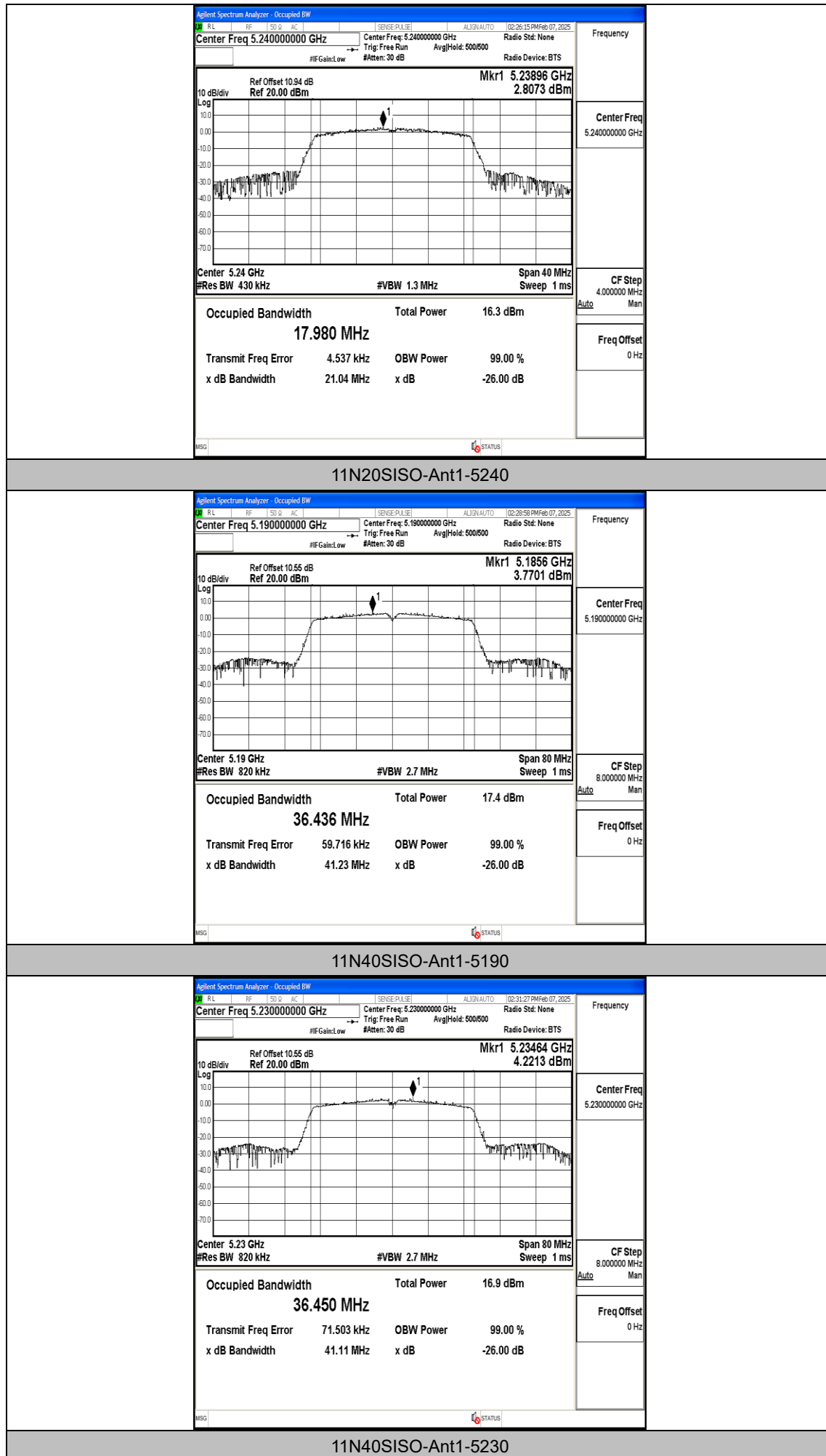
Test Result

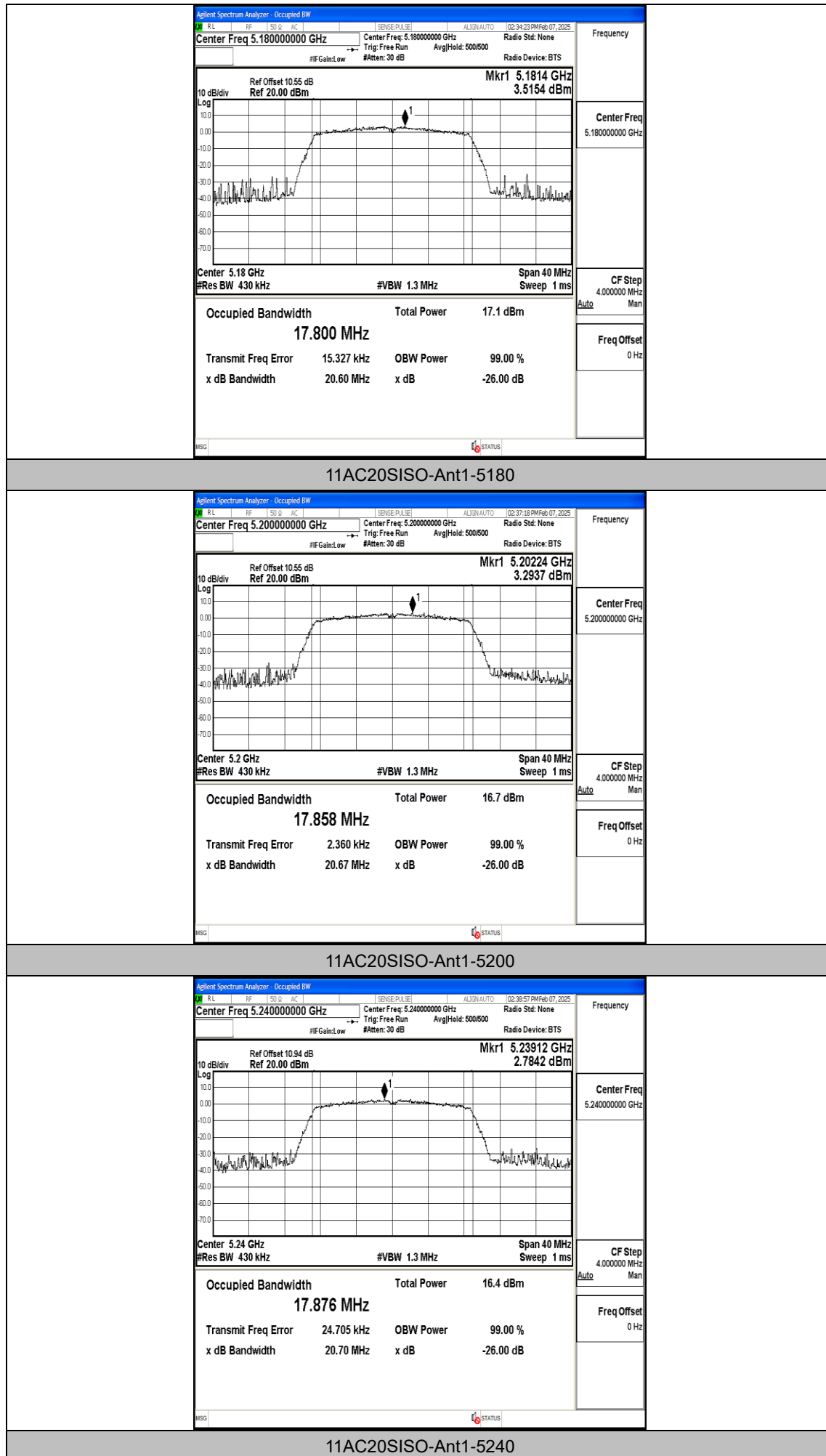
Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5180	16.874	5171.5632	5188.4372	---	---
11A	Ant1	5200	16.940	5191.5447	5208.4847	---	---
11A	Ant1	5240	16.971	5231.5398	5248.5108	---	---
11N20SISO	Ant1	5180	17.921	5171.0564	5188.9774	---	---
11N20SISO	Ant1	5200	17.880	5191.0697	5208.9497	---	---
11N20SISO	Ant1	5240	17.980	5231.0145	5248.9945	---	---
11N40SISO	Ant1	5190	36.436	5171.8417	5208.2777	---	---
11N40SISO	Ant1	5230	36.450	5211.8465	5248.2965	---	---
11AC20SISO	Ant1	5180	17.800	5171.1153	5188.9153	---	---
11AC20SISO	Ant1	5200	17.858	5191.0734	5208.9314	---	---
11AC20SISO	Ant1	5240	17.876	5231.0867	5248.9627	---	---
11AC40SISO	Ant1	5190	36.316	5171.8879	5208.2039	---	---
11AC40SISO	Ant1	5230	36.231	5211.8945	5248.1255	---	---
11AC80SISO	Ant1	5210	75.256	5172.4457	5247.7017	---	---

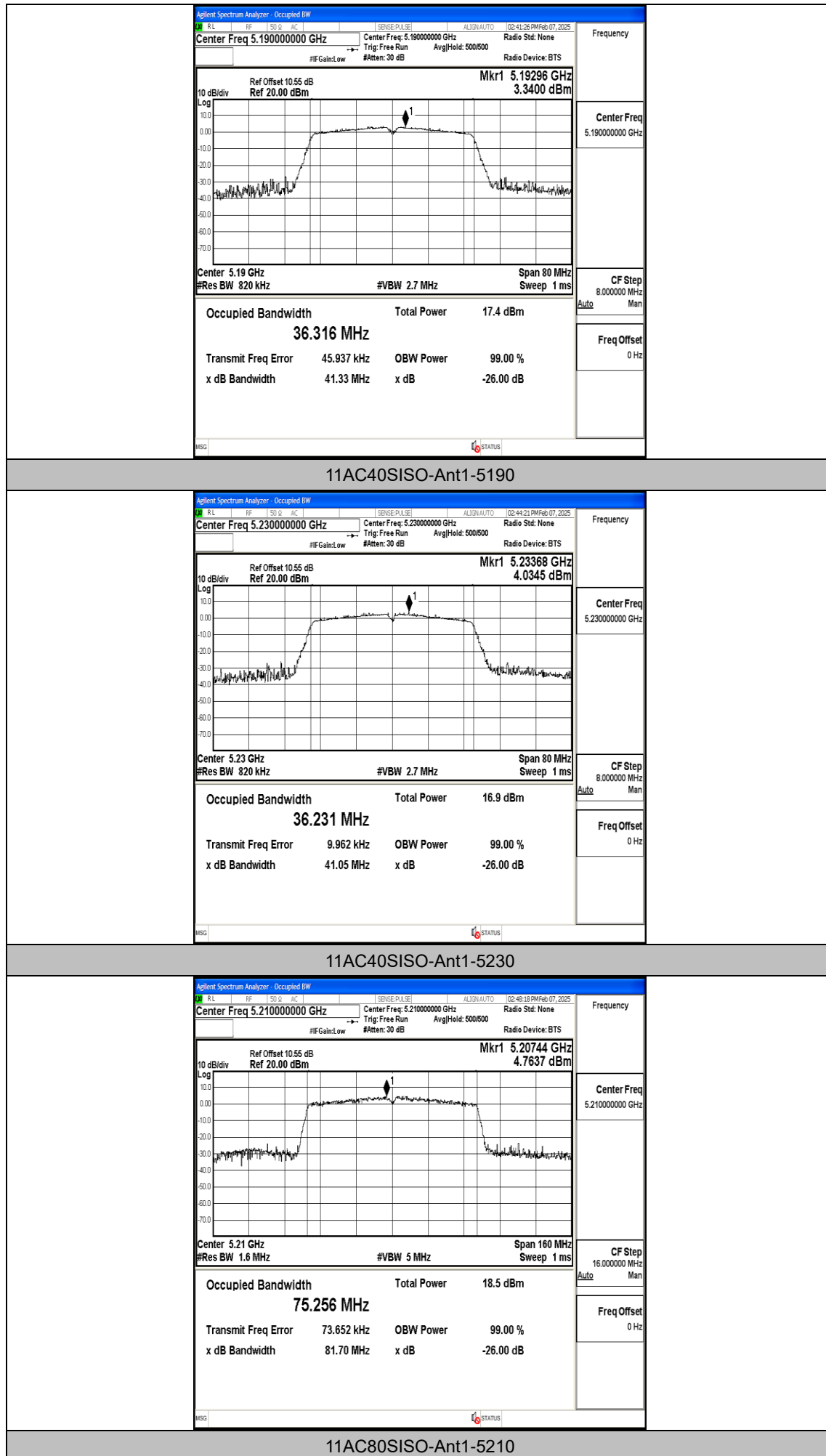
Test Graphs











Appendix B: Maximum conducted output power

Test Result

Test Mode	Antenna	Frequency [MHz]	Conducted Power [dBm]	Conducted Limit [dBm]	Verdict
11A	Ant1	5180	10.49	≤23.98	PASS
11A	Ant1	5200	9.95	≤23.98	PASS
11A	Ant1	5240	9.69	≤23.98	PASS
11N20SISO	Ant1	5180	10.23	≤23.98	PASS
11N20SISO	Ant1	5200	9.75	≤23.98	PASS
11N20SISO	Ant1	5240	9.55	≤23.98	PASS
11N40SISO	Ant1	5190	10.14	≤23.98	PASS
11N40SISO	Ant1	5230	9.52	≤23.98	PASS
11AC20SISO	Ant1	5180	10.29	≤23.98	PASS
11AC20SISO	Ant1	5200	9.94	≤23.98	PASS
11AC20SISO	Ant1	5240	9.64	≤23.98	PASS
11AC40SISO	Ant1	5190	10.09	≤23.98	PASS
11AC40SISO	Ant1	5230	9.52	≤23.98	PASS
11AC80SISO	Ant1	5210	9.53	≤23.98	PASS

Note: The Duty Cycle Factor is compensated in the result.

Appendix C: Maximum power spectral density

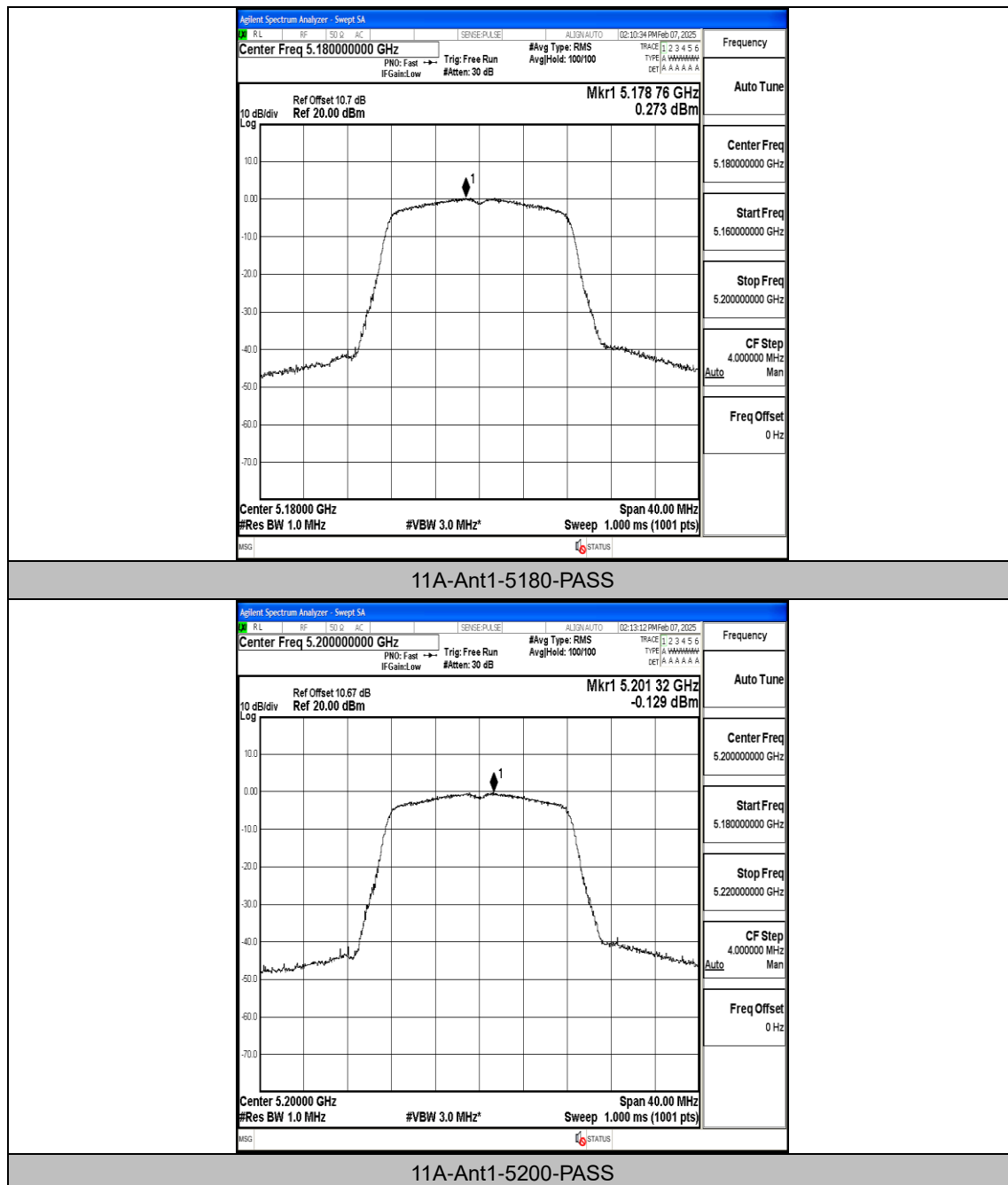
Test Result

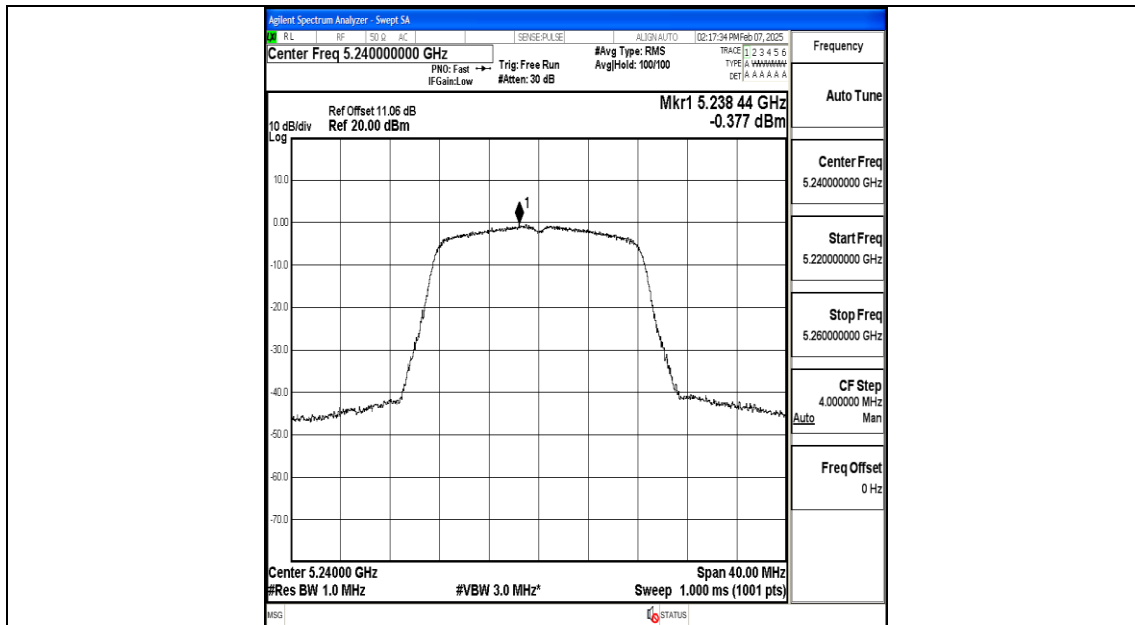
Test Mode	Antenna	Frequency [MHz]	Result [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	Ant1	5180	0.27	≤11.00	PASS
11A	Ant1	5200	-0.13	≤11.00	PASS
11A	Ant1	5240	-0.38	≤11.00	PASS
11N20SISO	Ant1	5180	0.07	≤11.00	PASS
11N20SISO	Ant1	5200	-0.56	≤11.00	PASS
11N20SISO	Ant1	5240	-0.80	≤11.00	PASS
11N40SISO	Ant1	5190	-3.12	≤11.00	PASS
11N40SISO	Ant1	5230	-3.90	≤11.00	PASS
11AC20SISO	Ant1	5180	-0.05	≤11.00	PASS
11AC20SISO	Ant1	5200	-0.60	≤11.00	PASS
11AC20SISO	Ant1	5240	-0.60	≤11.00	PASS
11AC40SISO	Ant1	5190	-3.32	≤11.00	PASS
11AC40SISO	Ant1	5230	-3.77	≤11.00	PASS
11AC80SISO	Ant1	5210	-6.86	≤11.00	PASS

Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

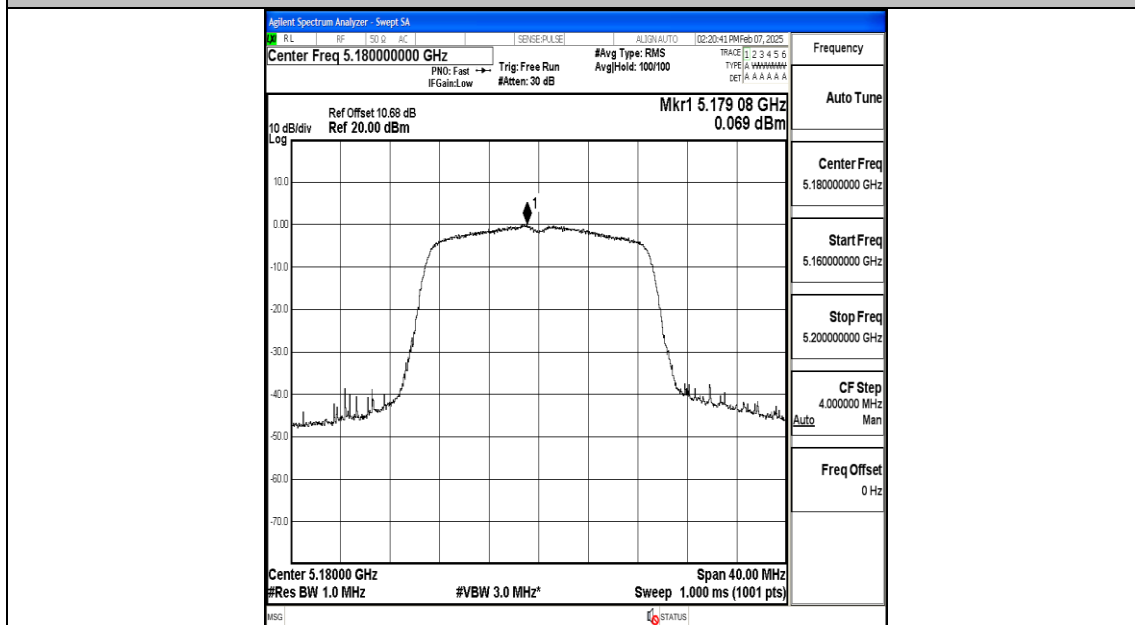
2.The Duty Cycle Factor and RBW Factor is compensated in the result.

Test Graphs

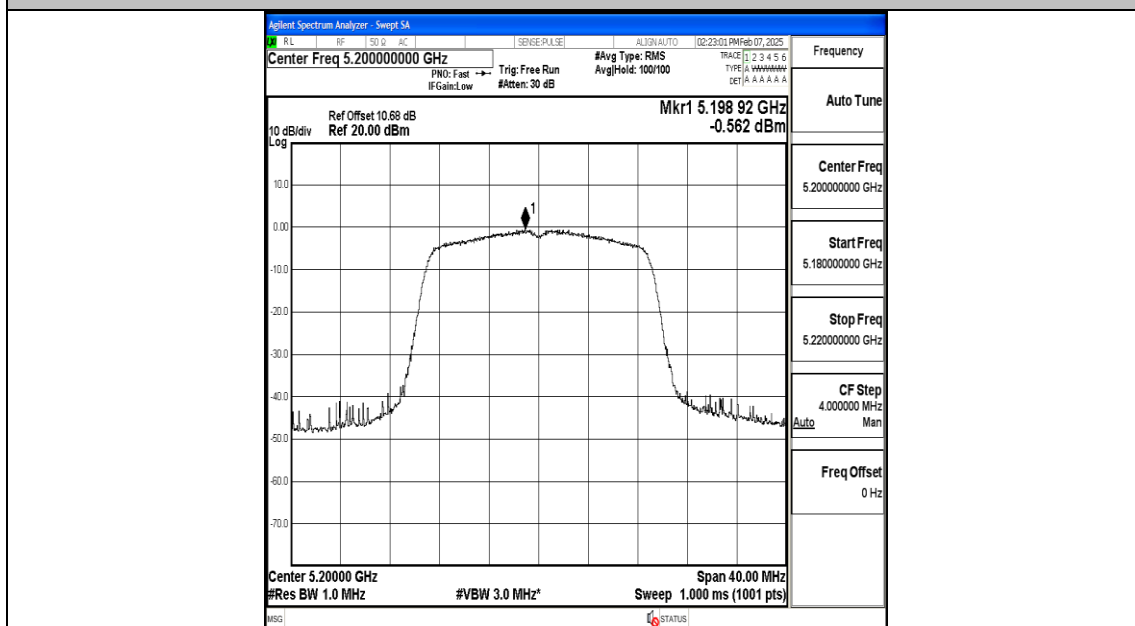




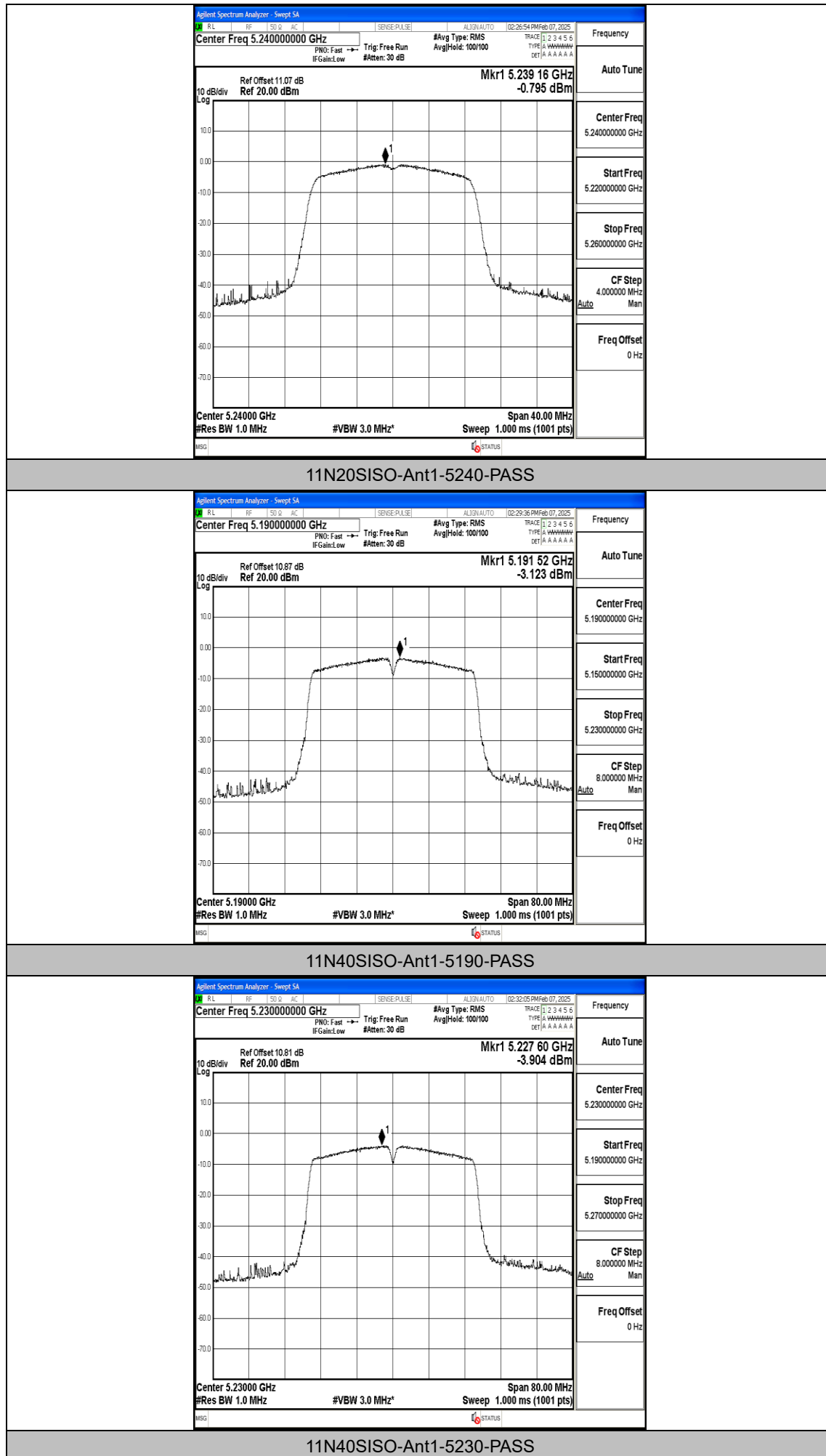
11A-Ant1-5240-PASS

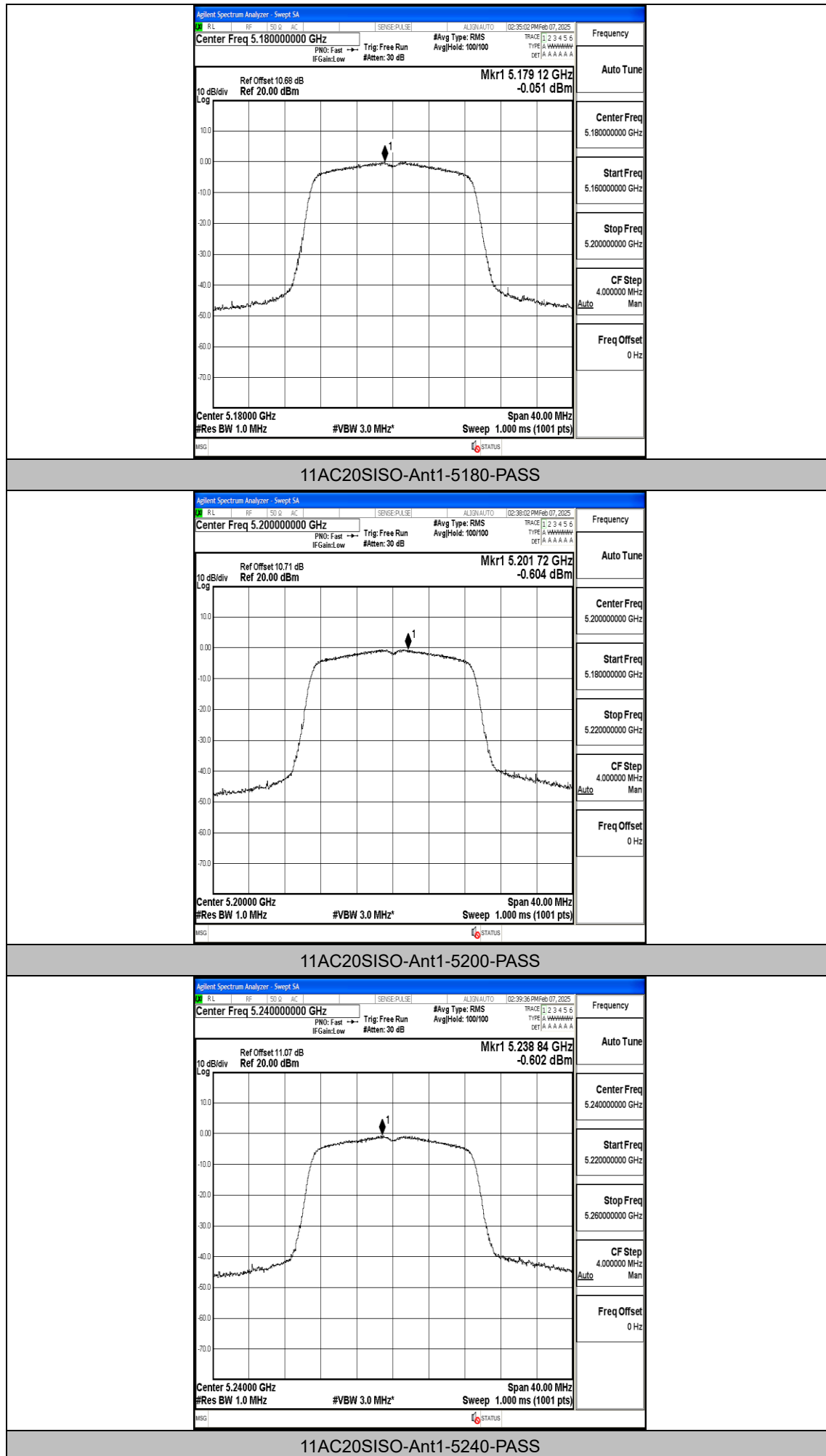


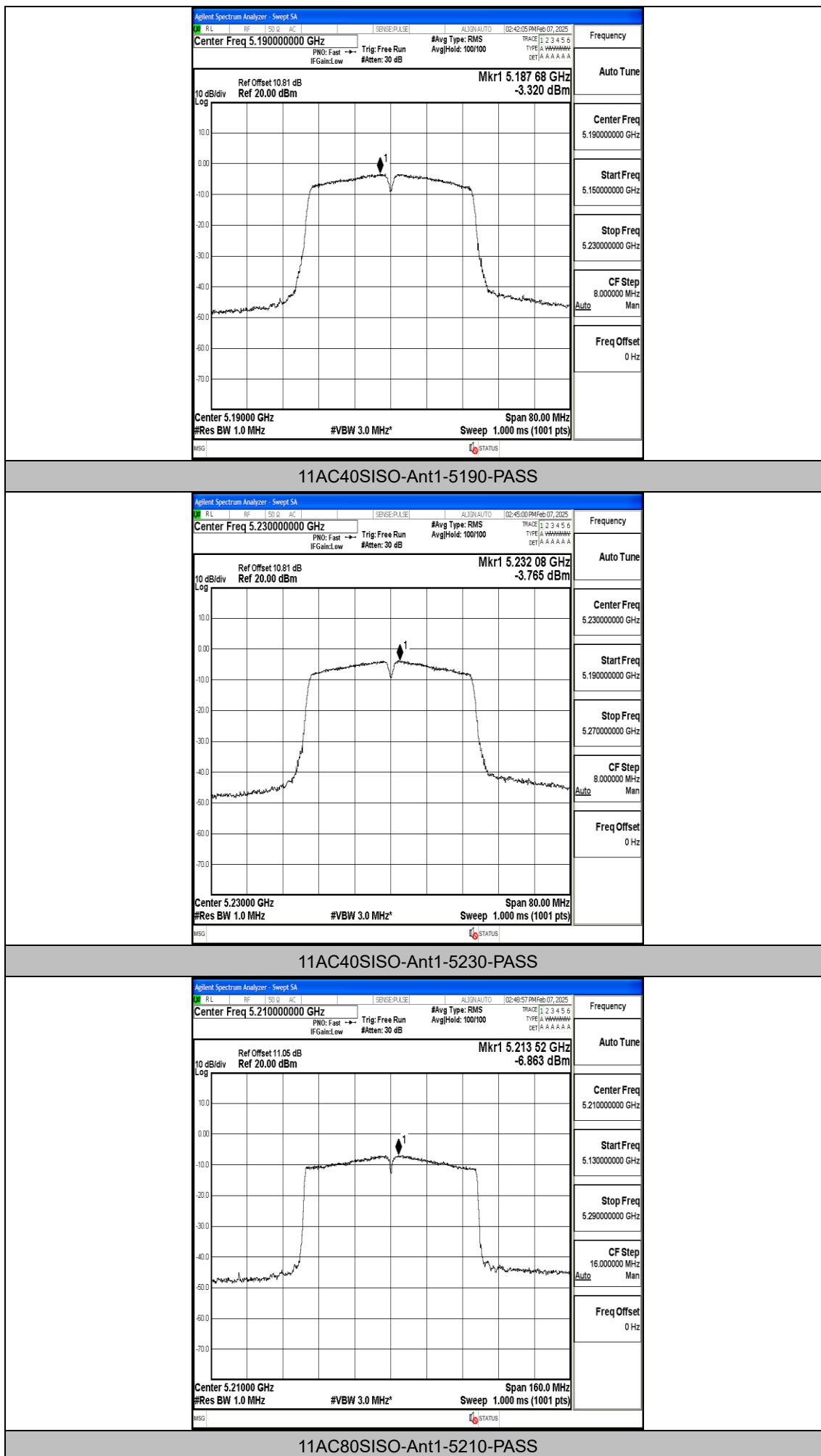
11N20SISO-Ant1-5180-PASS



11N20SISO-Ant1-5200-PASS





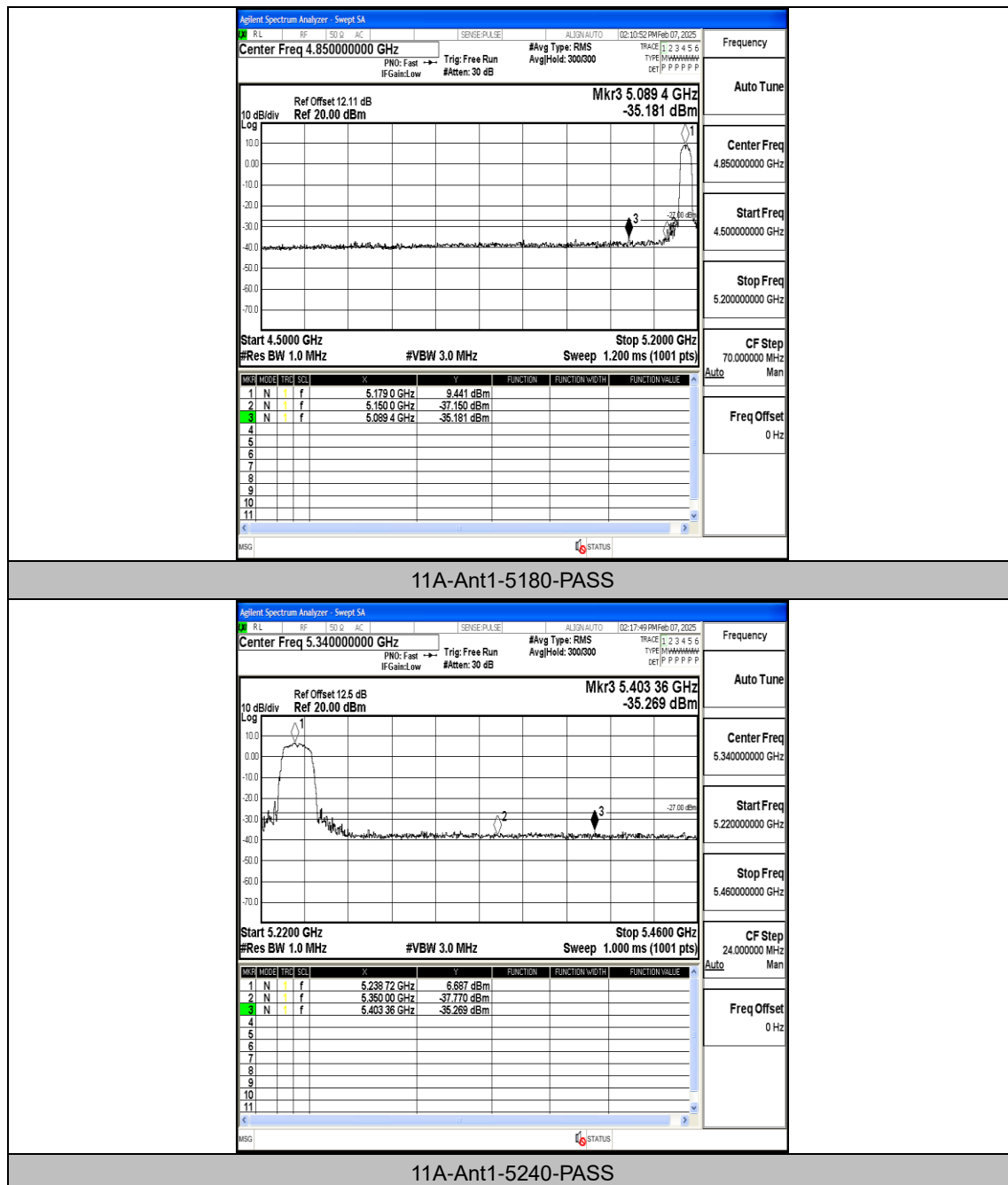


Appendix D: Band edge measurements

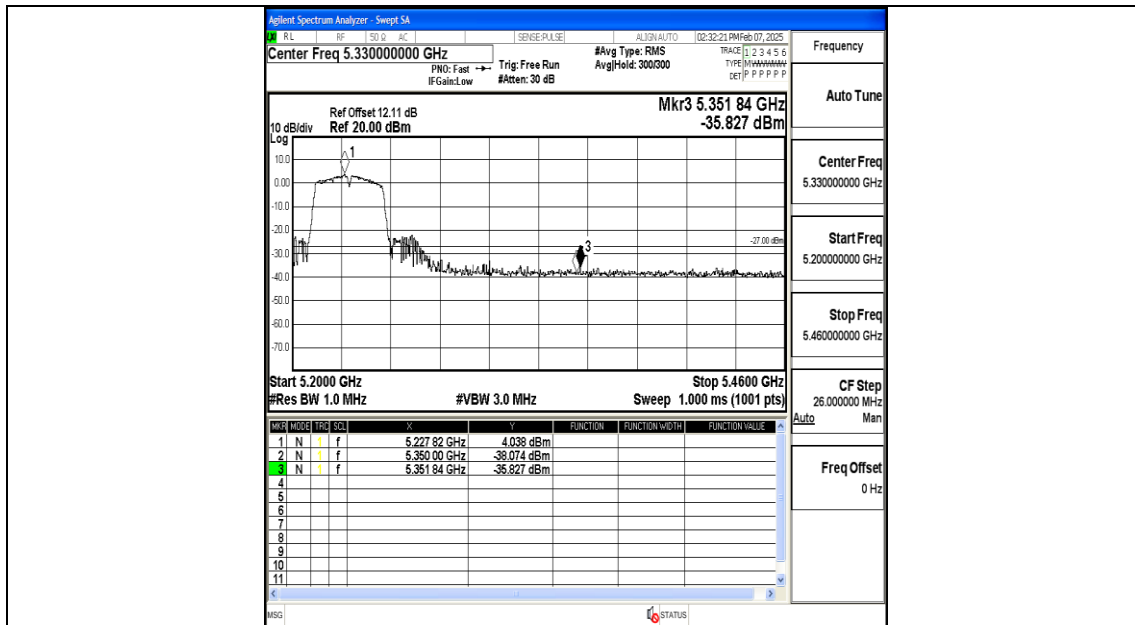
Test Result

Test Mode	Antenna	Ch. Name	Frequency [MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	Low	5180	-35.18	≤-27	PASS
11A	Ant1	High	5240	-35.27	≤-27	PASS
11N20SISO	Ant1	Low	5180	-33.38	≤-27	PASS
11N20SISO	Ant1	High	5240	-35.57	≤-27	PASS
11N40SISO	Ant1	Low	5190	-27.83	≤-27	PASS
11N40SISO	Ant1	High	5230	-35.83	≤-27	PASS
11AC20SISO	Ant1	Low	5180	-34.98	≤-27	PASS
11AC20SISO	Ant1	High	5240	-34.79	≤-27	PASS
11AC40SISO	Ant1	Low	5190	-33.52	≤-27	PASS
11AC40SISO	Ant1	High	5230	-36.2	≤-27	PASS
11AC80SISO	Ant1	Low	5210	-28.91	≤-27	PASS
11AC80SISO	Ant1	High	5210	-35.19	≤-27	PASS

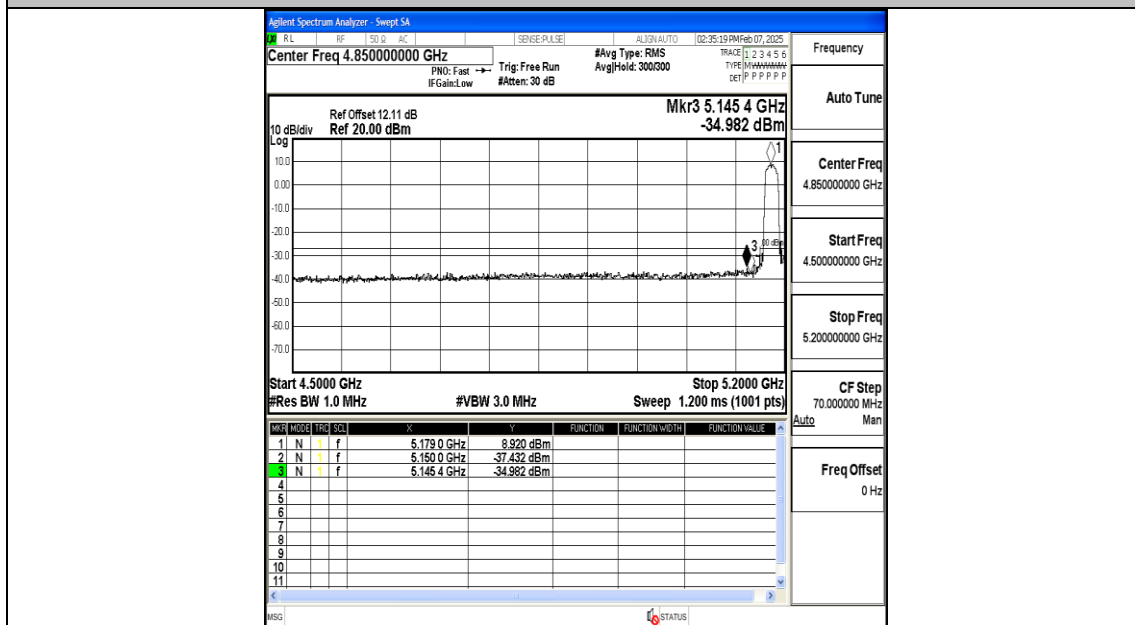
Test Graphs



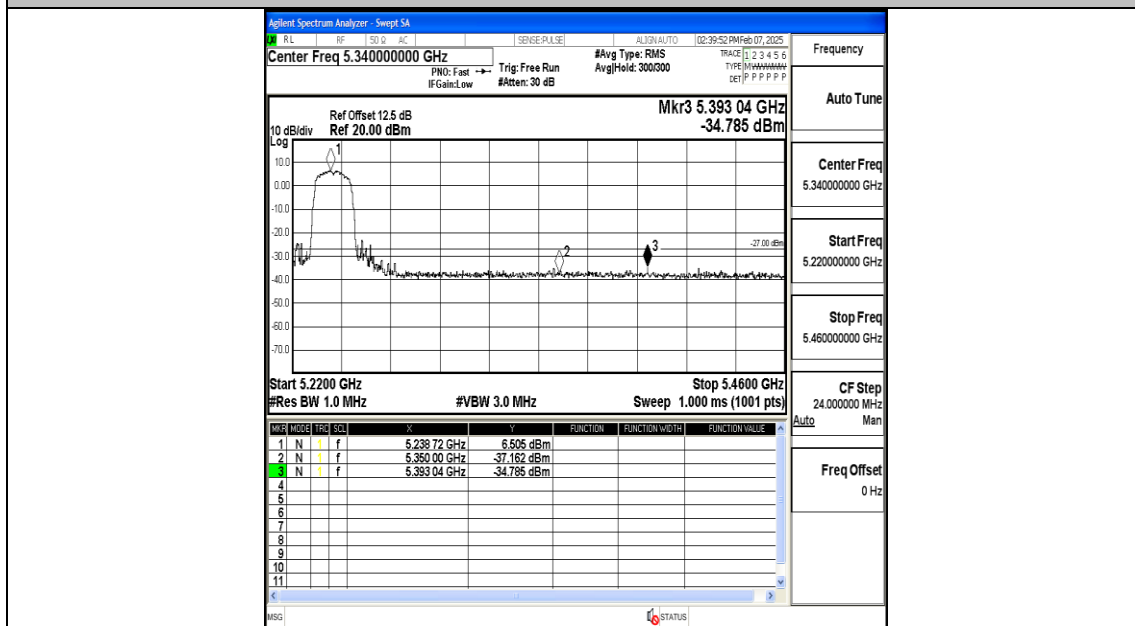




11N40SISO-Ant1-5230-PASS

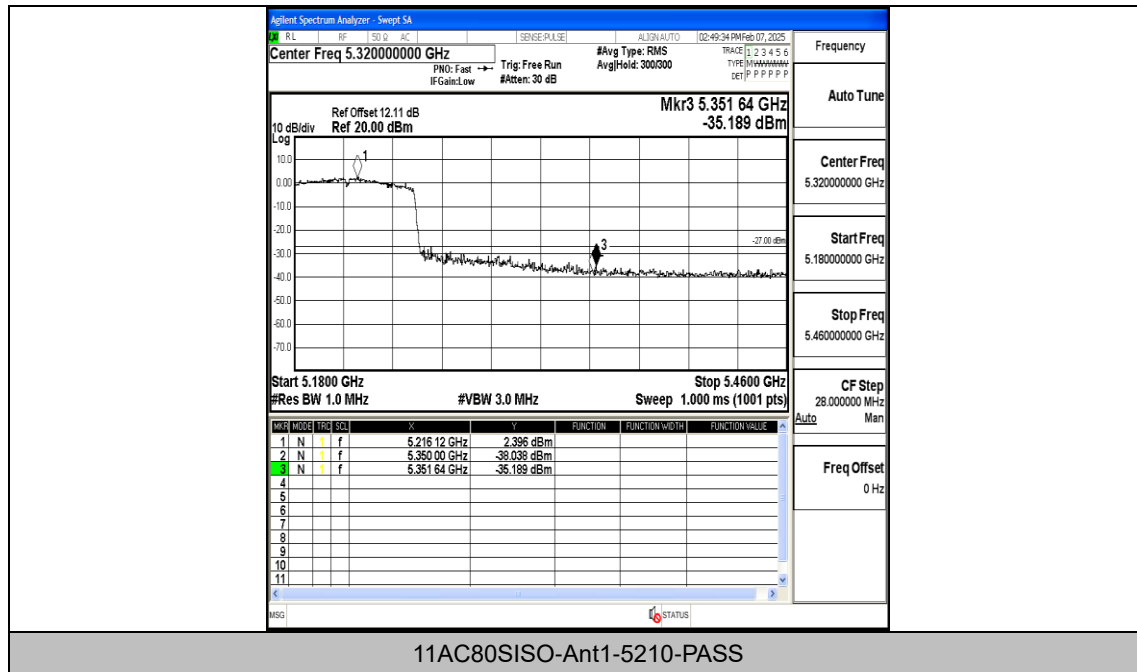


11AC20SISO-Ant1-5180-PASS



11AC20SISO-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	4.07	5180.005129	5150 – 5250	PASS
5180	20	3.33	5179.969335	5150 – 5250	PASS
5180	50	3.70	5180.034933	5150 – 5250	PASS
5180	40	3.70	5179.961207	5150 – 5250	PASS
5180	30	3.70	5179.944016	5150 – 5250	PASS
5180	20	3.70	5179.953366	5150 – 5250	PASS
5180	10	3.70	5179.926704	5150 – 5250	PASS
5180	0	3.70	5179.968161	5150 – 5250	PASS
5180	-10	3.70	5180.093015	5150 – 5250	PASS
5180	-20	3.70	5179.977630	5150 – 5250	PASS
5180	-30	3.70	5179.939434	5150 – 5250	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VDC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5200	20	4.07	5199.946412	5150 – 5250	PASS
5200	20	3.33	5200.094176	5150 – 5250	PASS
5200	50	3.70	5200.039637	5150 – 5250	PASS
5200	40	3.70	5199.934464	5150 – 5250	PASS
5200	30	3.70	5200.037124	5150 – 5250	PASS
5200	20	3.70	5200.046432	5150 – 5250	PASS
5200	10	3.70	5199.944760	5150 – 5250	PASS
5200	0	3.70	5199.947695	5150 – 5250	PASS
5200	-10	3.70	5199.921535	5150 – 5250	PASS
5200	-20	3.70	5200.068697	5150 – 5250	PASS
5200	-30	3.70	5200.019136	5150 – 5250	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VDC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5240	20	4.07	5240.022422	5150 – 5250	PASS
5240	20	3.33	5239.979973	5150 – 5250	PASS
5240	50	3.70	5239.911140	5150 – 5250	PASS
5240	40	3.70	5240.011221	5150 – 5250	PASS
5240	30	3.70	5240.076001	5150 – 5250	PASS
5240	20	3.70	5240.097196	5150 – 5250	PASS
5240	10	3.70	5239.964981	5150 – 5250	PASS
5240	0	3.70	5239.934266	5150 – 5250	PASS
5240	-10	3.70	5239.964559	5150 – 5250	PASS
5240	-20	3.70	5240.005501	5150 – 5250	PASS
5240	-30	3.70	5239.949387	5150 – 5250	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VDC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5190	20	4.07	5190.087750	5150 – 5250	PASS
5190	20	3.33	5189.930950	5150 – 5250	PASS
5190	50	3.70	5189.928768	5150 – 5250	PASS
5190	40	3.70	5189.971984	5150 – 5250	PASS
5190	30	3.70	5189.981768	5150 – 5250	PASS
5190	20	3.70	5190.087799	5150 – 5250	PASS
5190	10	3.70	5190.093155	5150 – 5250	PASS
5190	0	3.70	5190.012565	5150 – 5250	PASS
5190	-10	3.70	5190.021701	5150 – 5250	PASS
5190	-20	3.70	5189.987662	5150 – 5250	PASS
5190	-30	3.70	5190.027504	5150 – 5250	PASS