

RF Test Data for RLAN(5. 8G) (Conducted Measurement)

Product Name: Voter Identification Unit

Trade Mark: SMARTMATIC

Test Model: VIU-500 Model 700

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

Environmental Conditions

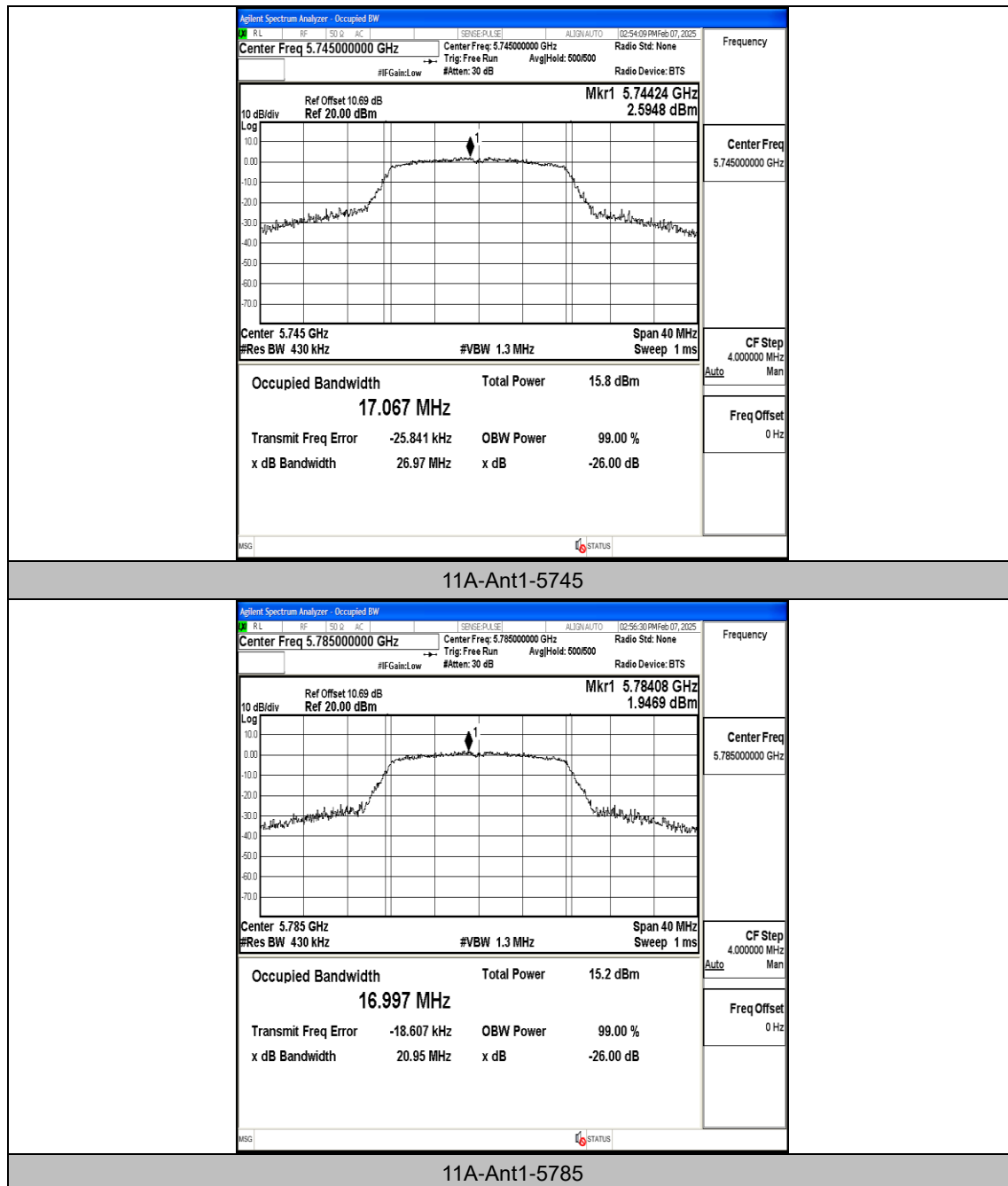
Temperature:	#Temp.
Relative Humidity:	#Humidity
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Hugo Chen
NOTE	N/A

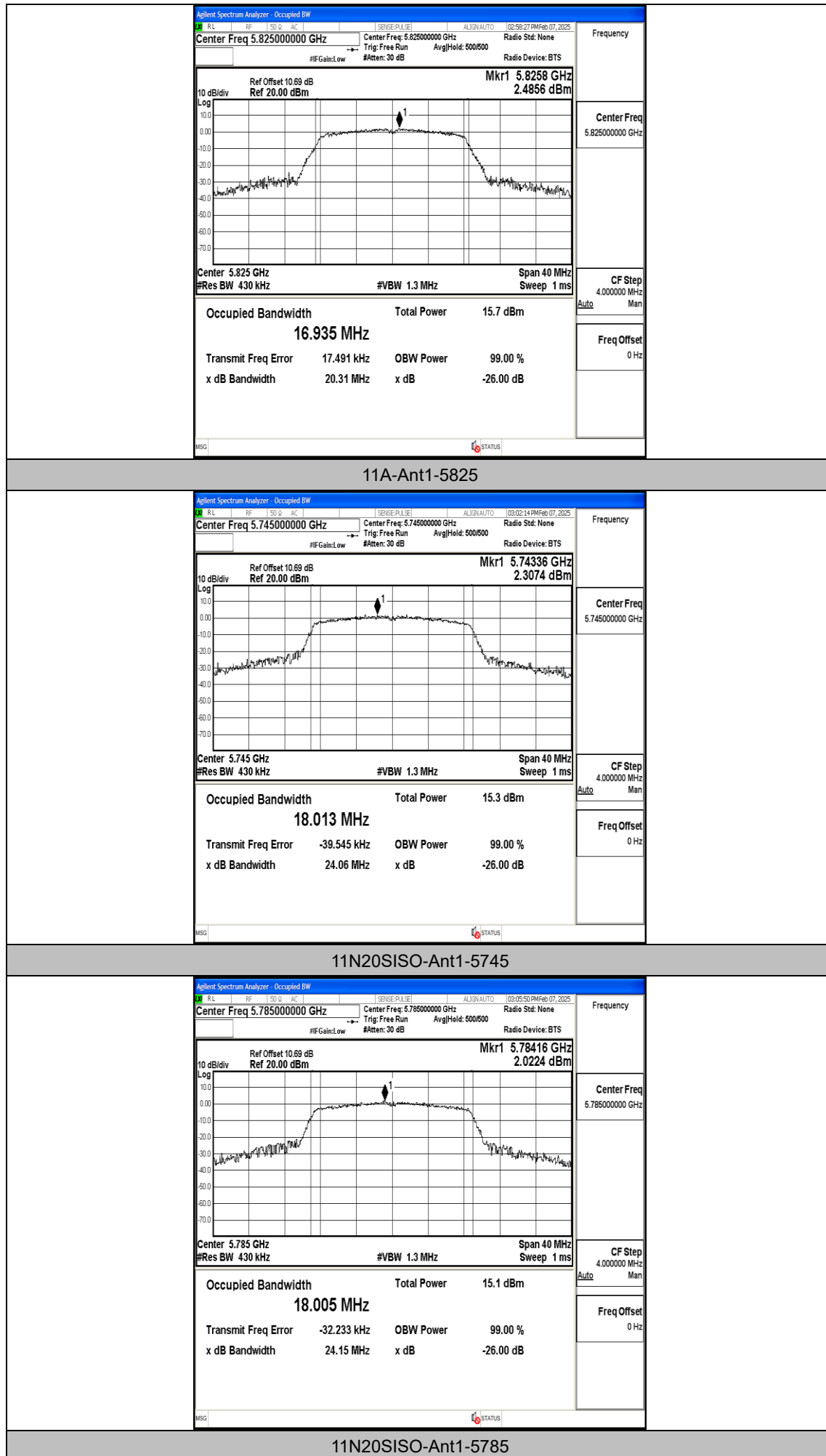
Appendix A2: Occupied channel bandwidth

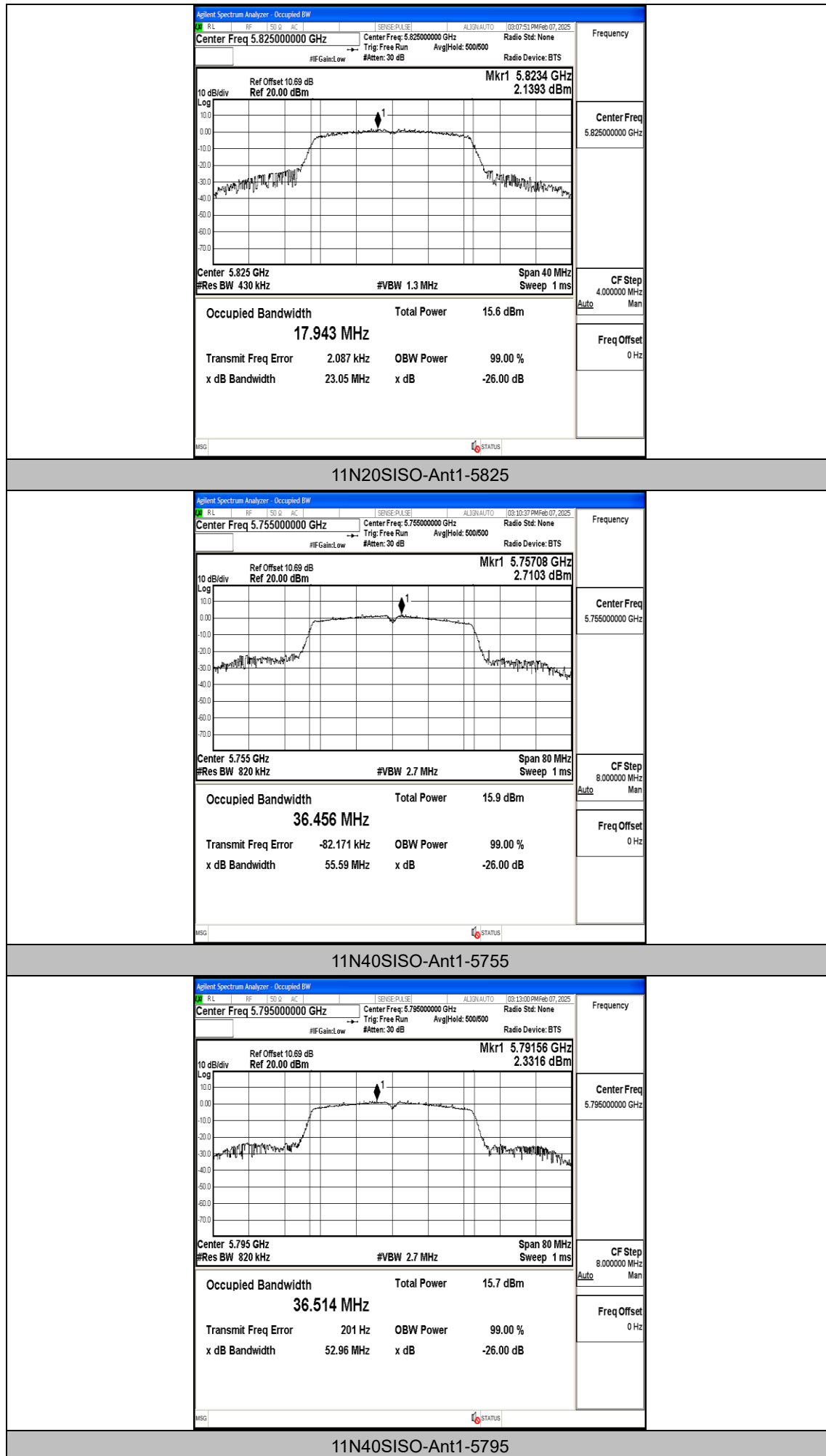
Test Result

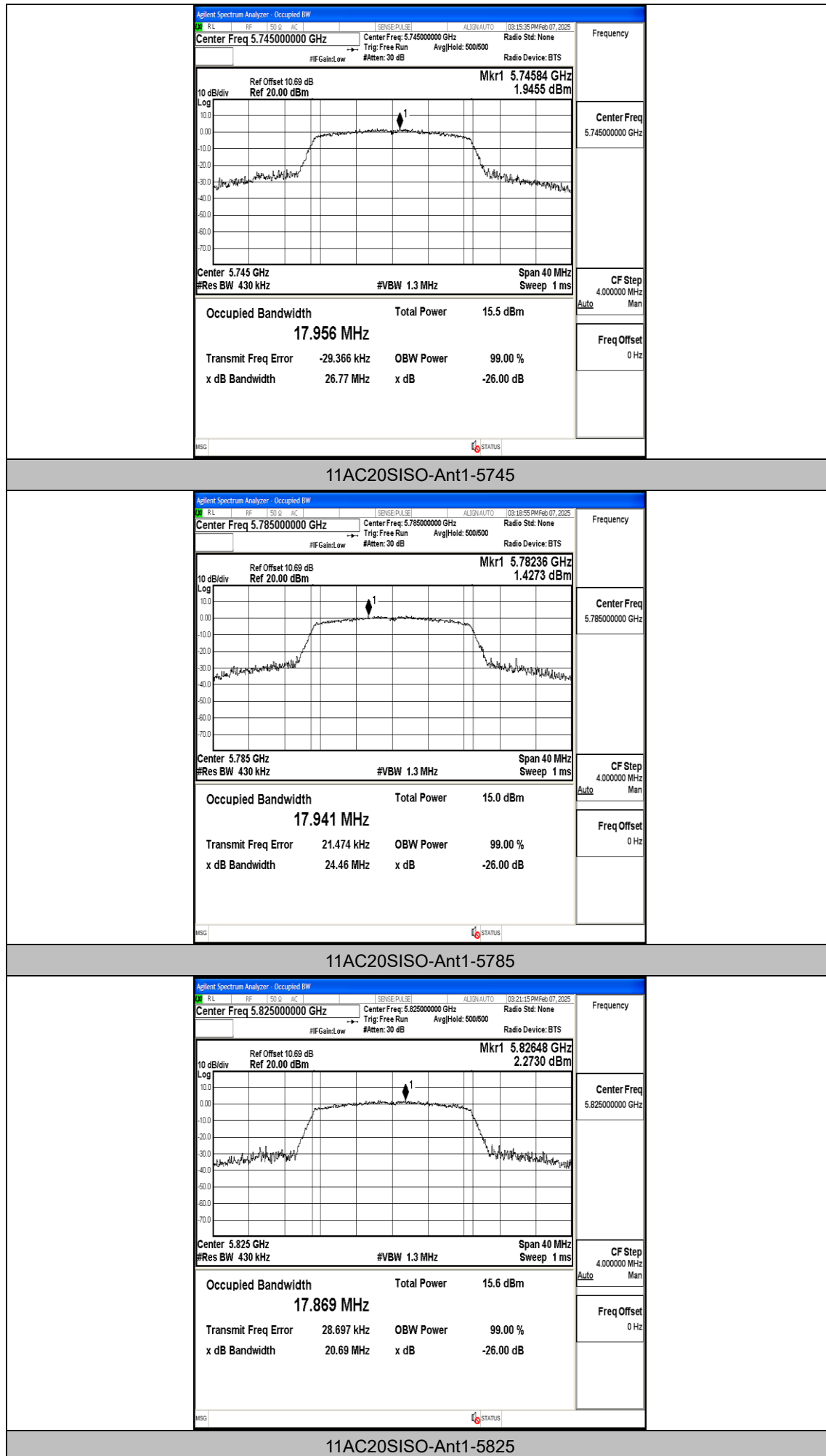
Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5745	17.067	5736.4407	5753.5077	---	---
11A	Ant1	5785	16.997	5776.4829	5793.4799	---	---
11A	Ant1	5825	16.935	5816.5500	5833.4850	---	---
11N20SISO	Ant1	5745	18.013	5735.9540	5753.9670	---	---
11N20SISO	Ant1	5785	18.005	5775.9653	5793.9703	---	---
11N20SISO	Ant1	5825	17.943	5816.0306	5833.9736	---	---
11N40SISO	Ant1	5755	36.456	5736.6898	5773.1458	---	---
11N40SISO	Ant1	5795	36.514	5776.7432	5813.2572	---	---
11AC20SISO	Ant1	5745	17.956	5735.9926	5753.9486	---	---
11AC20SISO	Ant1	5785	17.941	5776.0510	5793.9920	---	---
11AC20SISO	Ant1	5825	17.869	5816.0942	5833.9632	---	---
11AC40SISO	Ant1	5755	36.342	5736.7393	5773.0813	---	---
11AC40SISO	Ant1	5795	36.310	5776.8342	5813.1442	---	---
11AC80SISO	Ant1	5775	75.625	5736.9998	5812.6248	---	---

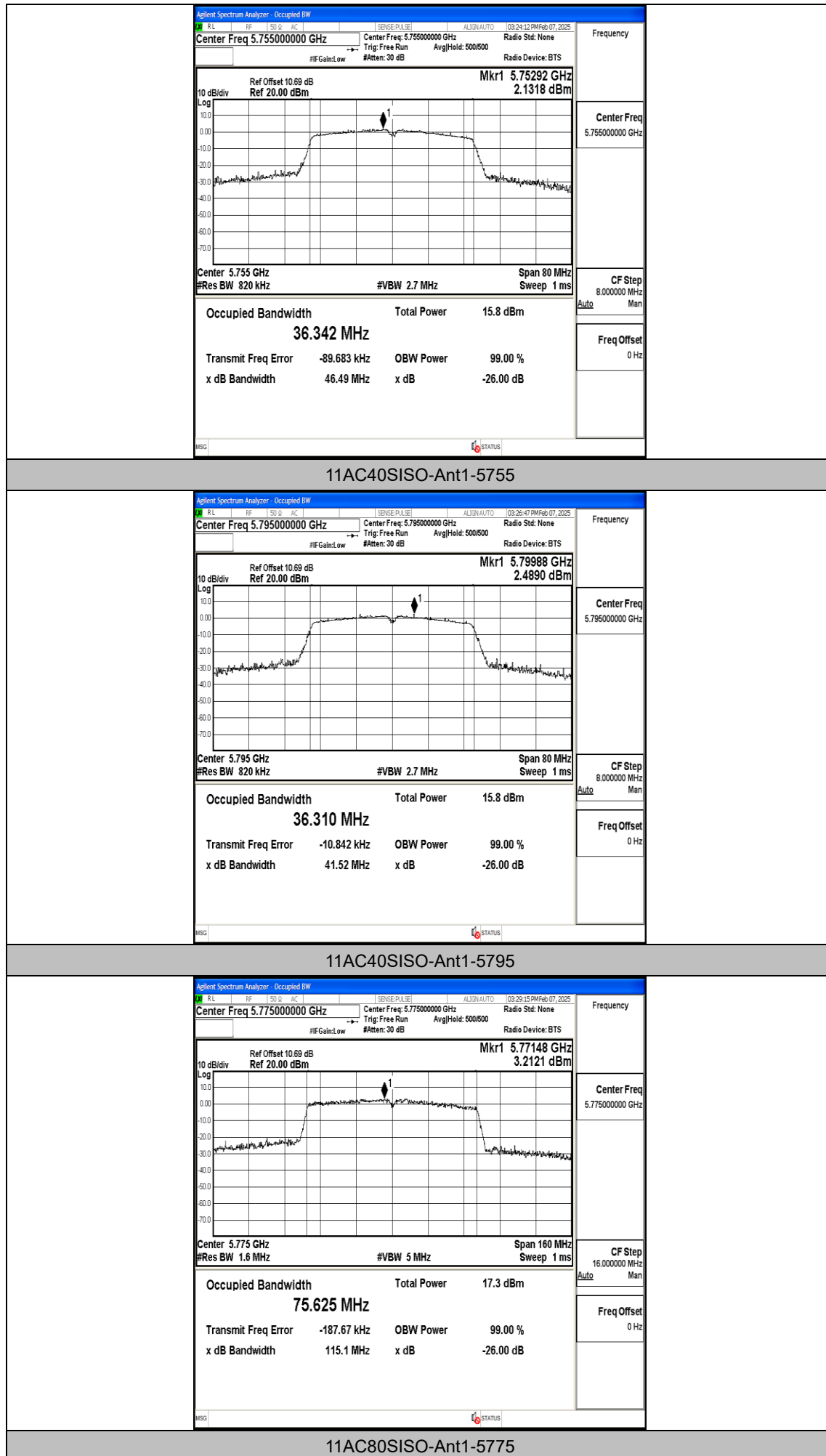
Test Graphs









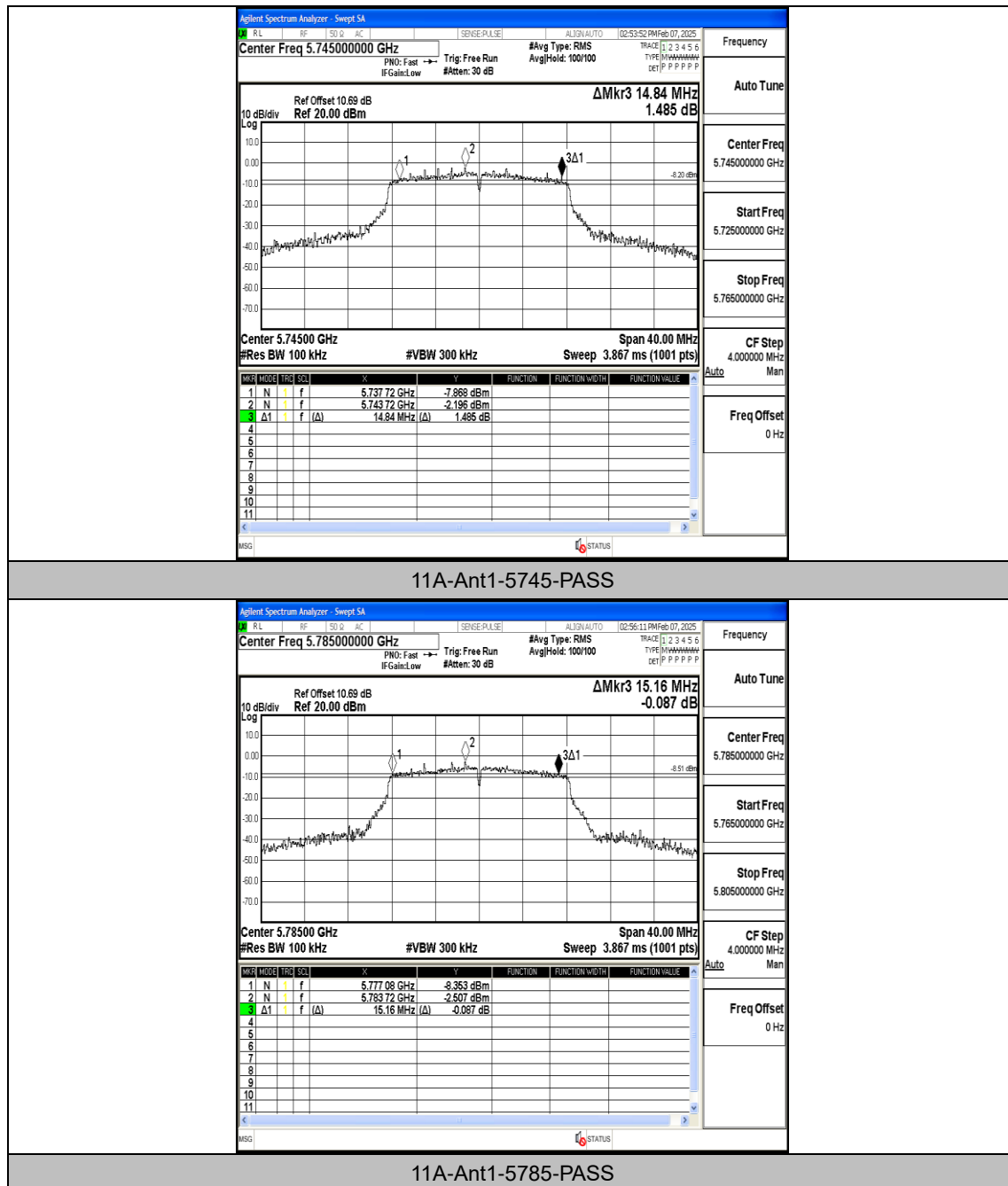


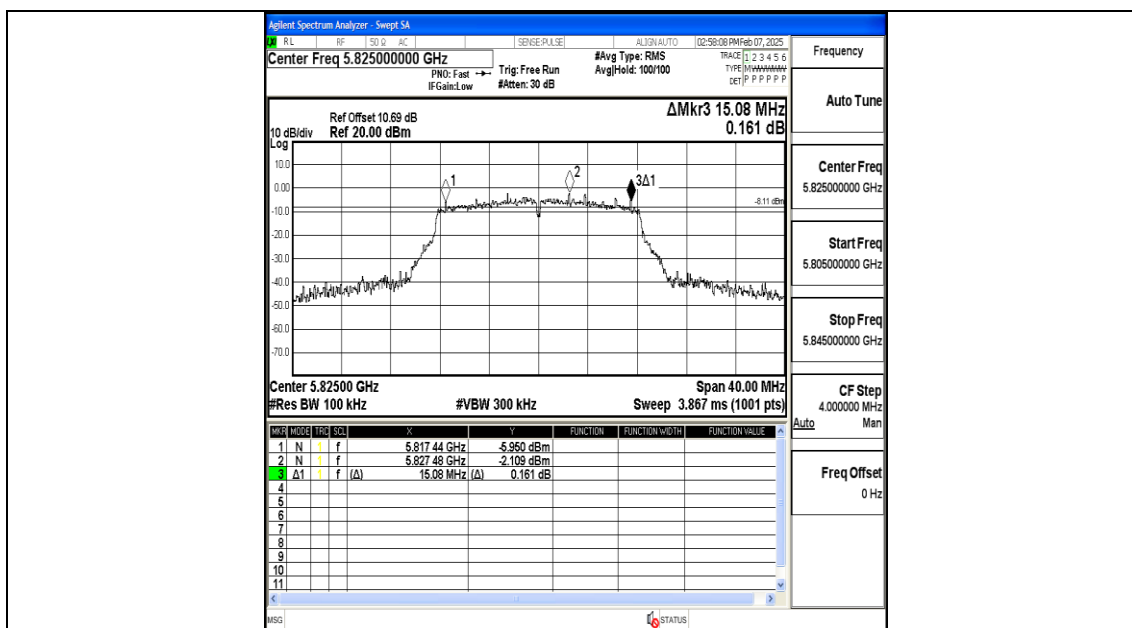
Appendix A: Min emission bandwidth

Test Result

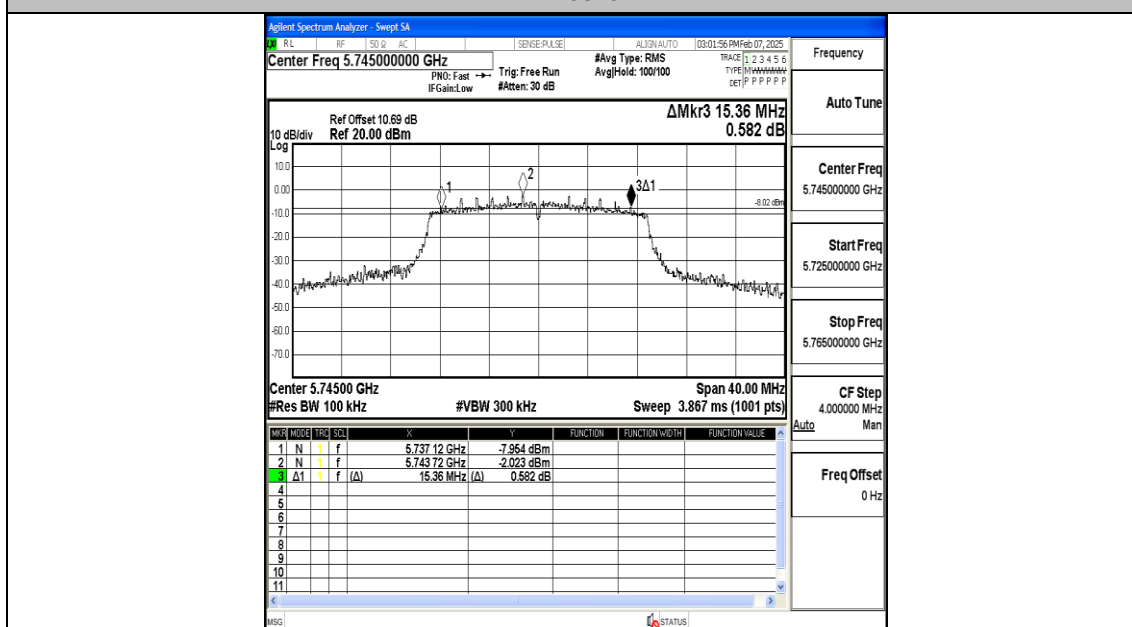
Test Mode	Antenna	Frequency [MHz]	6db EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5745	14.840	5737.720	5752.560	0.5	PASS
11A	Ant1	5785	15.160	5777.080	5792.240	0.5	PASS
11A	Ant1	5825	15.080	5817.440	5832.520	0.5	PASS
11N20SISO	Ant1	5745	15.360	5737.120	5752.480	0.5	PASS
11N20SISO	Ant1	5785	14.880	5777.640	5792.520	0.5	PASS
11N20SISO	Ant1	5825	15.960	5817.440	5833.400	0.5	PASS
11N40SISO	Ant1	5755	33.840	5737.400	5771.240	0.5	PASS
11N40SISO	Ant1	5795	32.480	5777.560	5810.040	0.5	PASS
11AC20SISO	Ant1	5745	17.280	5736.200	5753.480	0.5	PASS
11AC20SISO	Ant1	5785	13.440	5777.880	5791.320	0.5	PASS
11AC20SISO	Ant1	5825	15.040	5817.480	5832.520	0.5	PASS
11AC40SISO	Ant1	5755	35.040	5737.480	5772.520	0.5	PASS
11AC40SISO	Ant1	5795	35.040	5777.480	5812.520	0.5	PASS
11AC80SISO	Ant1	5775	75.200	5737.400	5812.600	0.5	PASS

Test Graphs

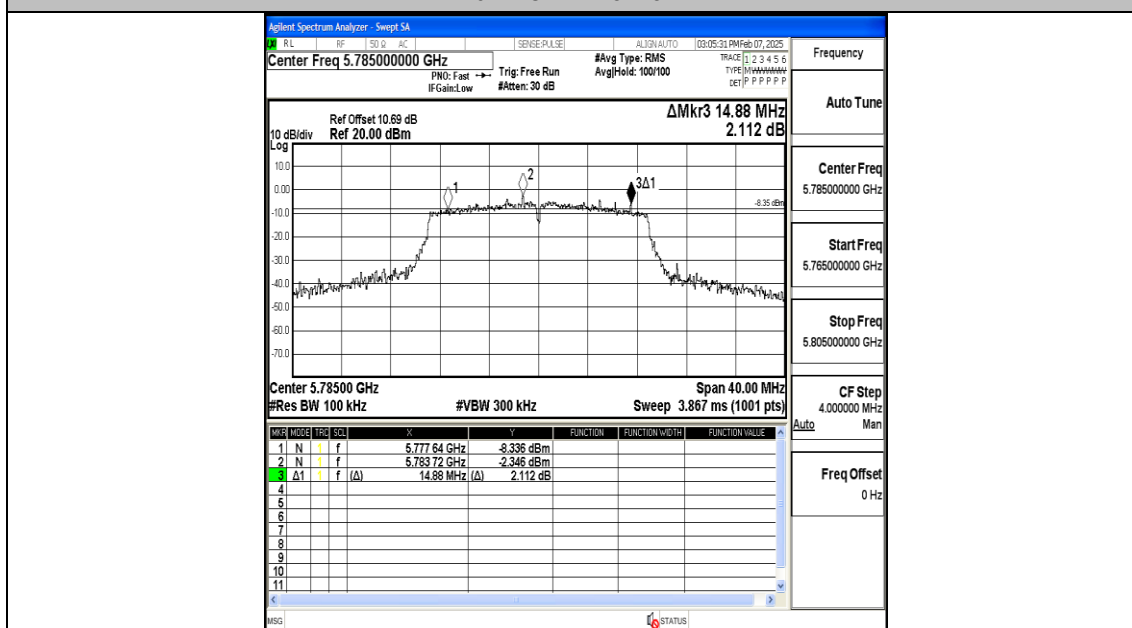




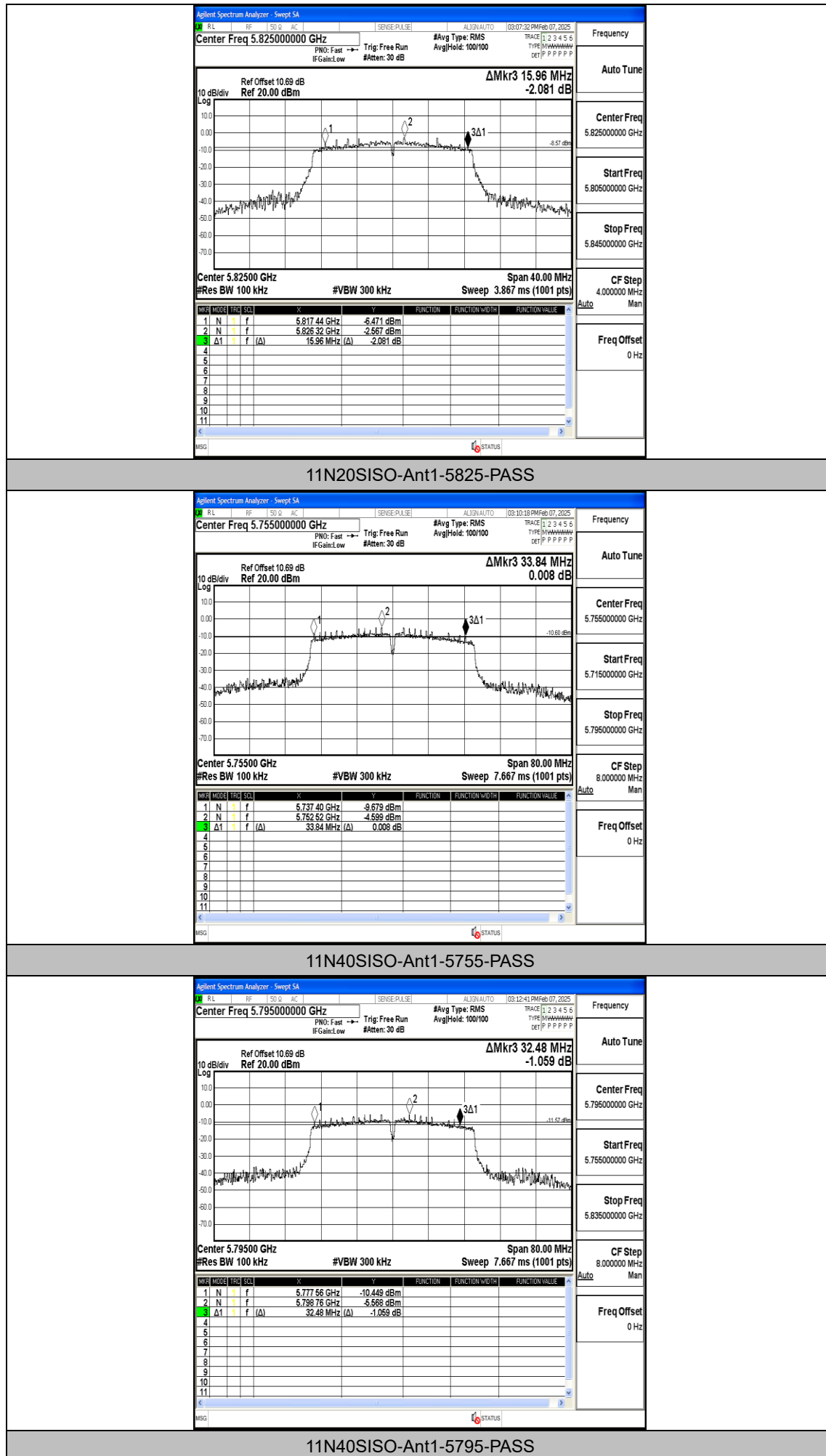
11A-Ant1-5825-PASS

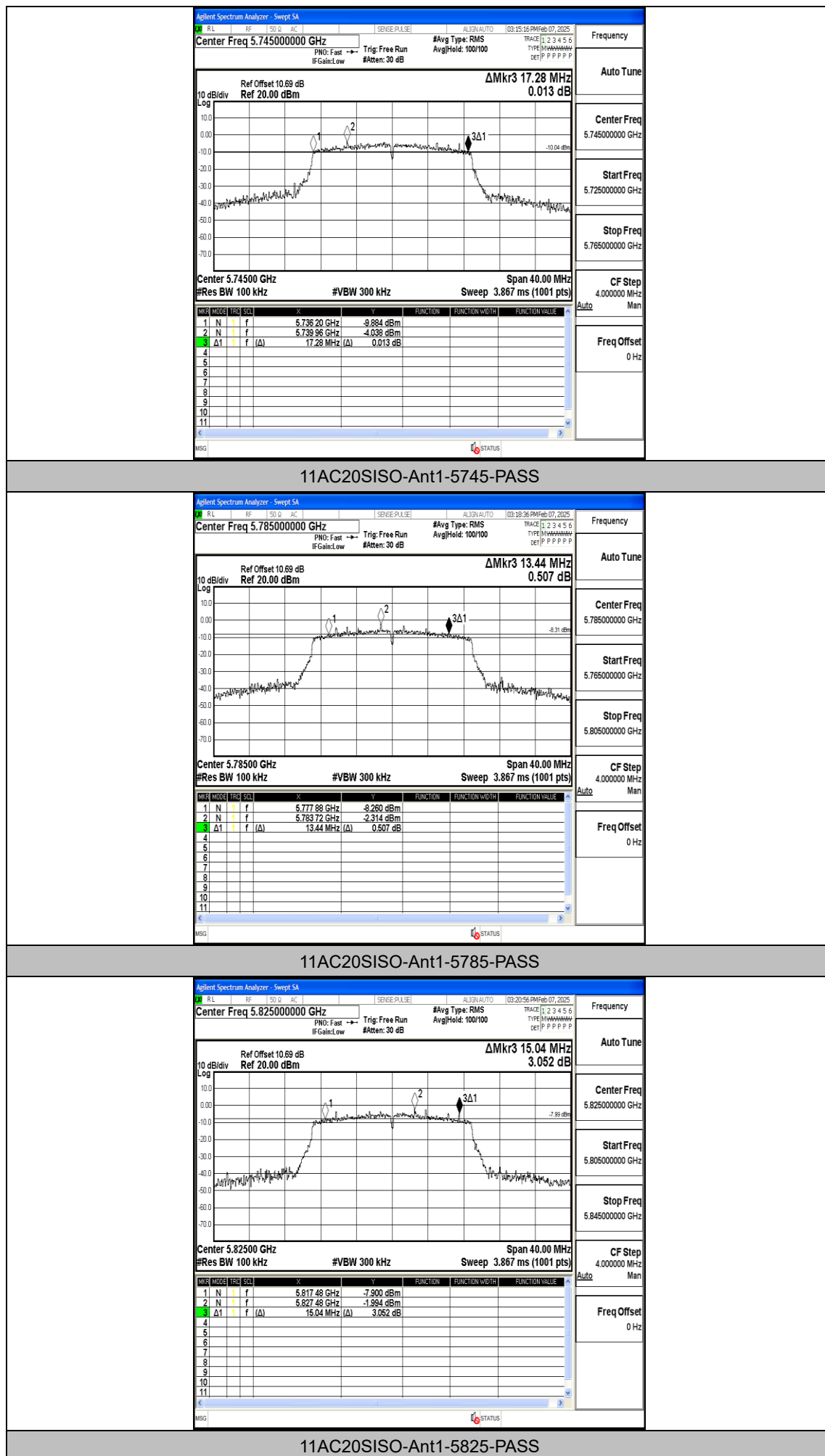


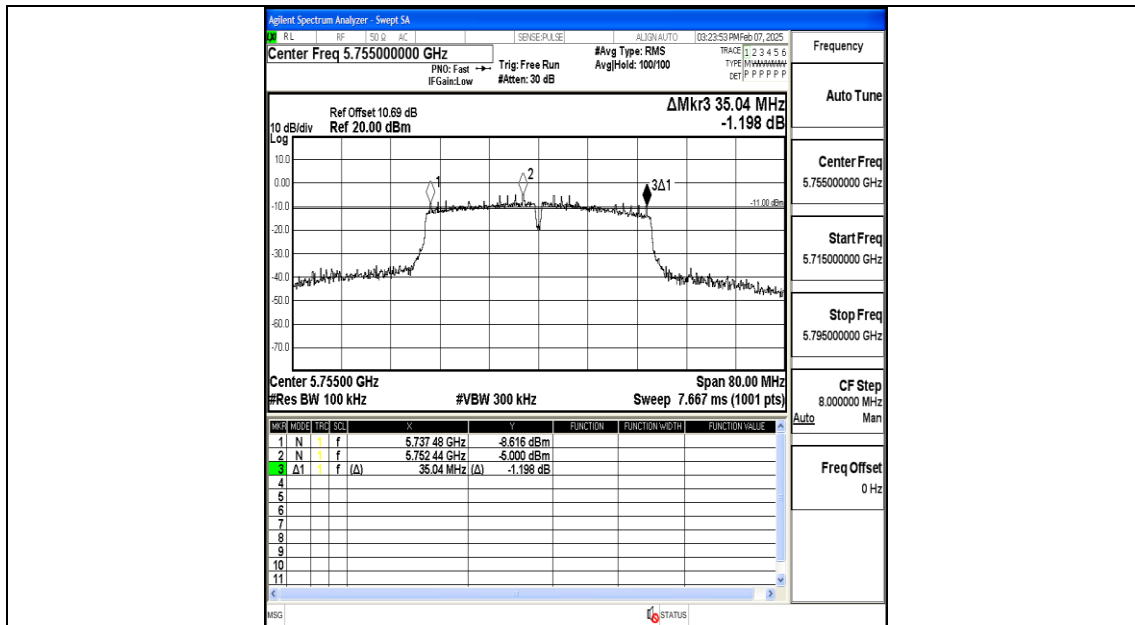
11N20SISO-Ant1-5745-PASS



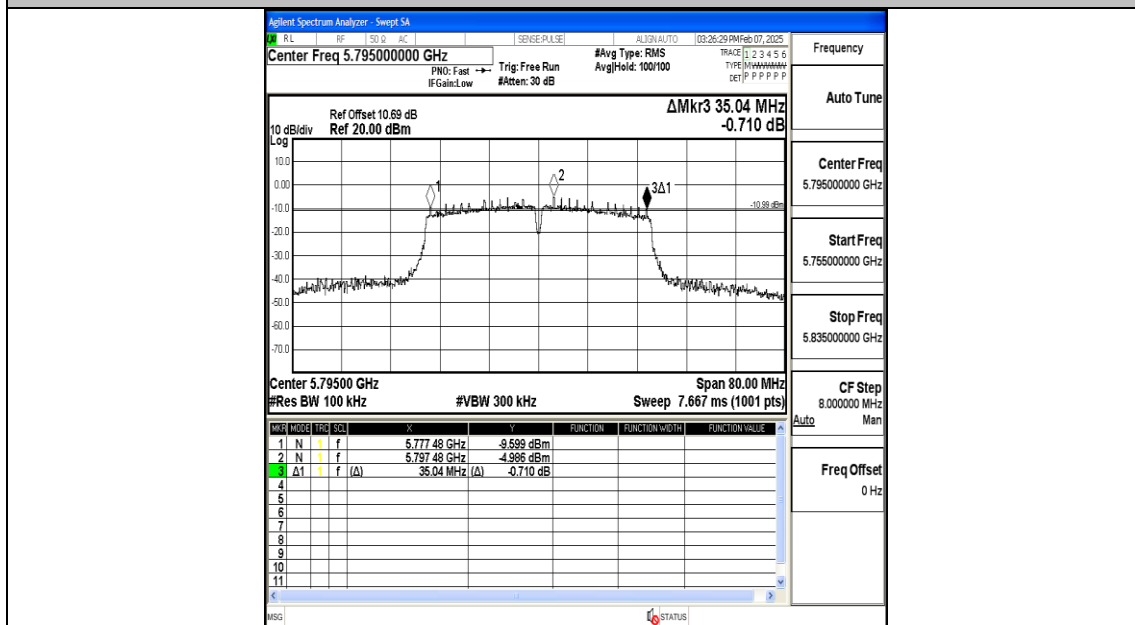
11N20SISO-Ant1-5785-PASS



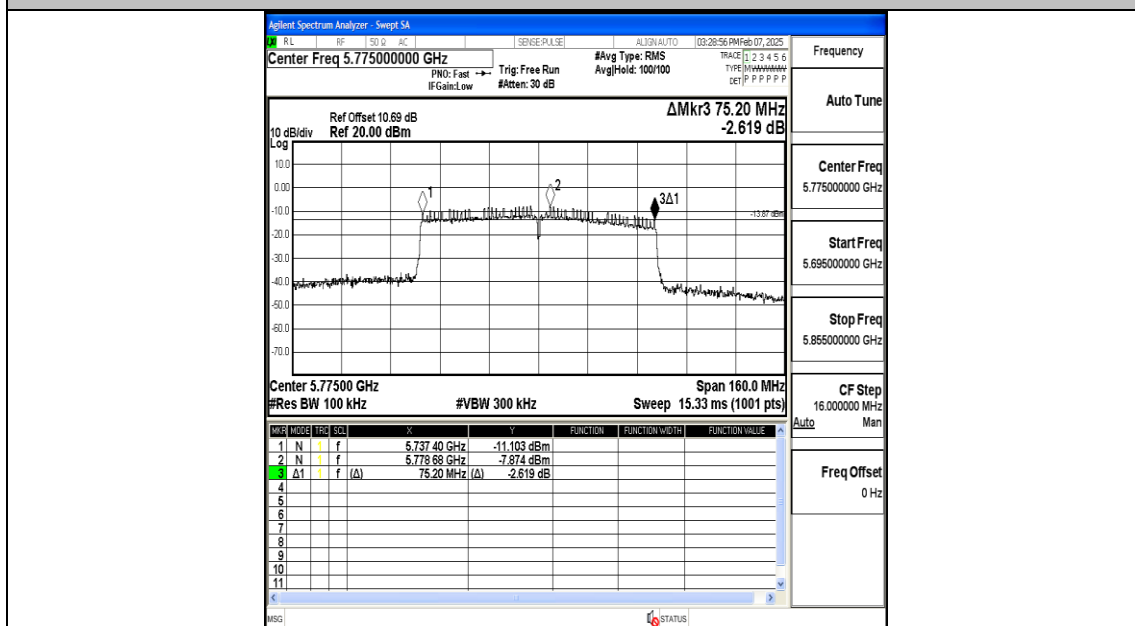




11AC40SISO-Ant1-5755-PASS



11AC40SISO-Ant1-5795-PASS



11AC80SISO-Ant1-5775-PASS

Appendix B: Maximum conducted output power

Test Result

Test Mode	Antenna	Frequency [MHz]	Conducted Power [dBm]	Conducted Limit [dBm]	Verdict
11A	Ant1	5745	8.93	≤30.00	PASS
11A	Ant1	5785	8.45	≤30.00	PASS
11A	Ant1	5825	9.00	≤30.00	PASS
11N20SISO	Ant1	5745	8.68	≤30.00	PASS
11N20SISO	Ant1	5785	8.34	≤30.00	PASS
11N20SISO	Ant1	5825	8.90	≤30.00	PASS
11N40SISO	Ant1	5755	8.58	≤30.00	PASS
11N40SISO	Ant1	5795	8.35	≤30.00	PASS
11AC20SISO	Ant1	5745	8.68	≤30.00	PASS
11AC20SISO	Ant1	5785	8.29	≤30.00	PASS
11AC20SISO	Ant1	5825	8.93	≤30.00	PASS
11AC40SISO	Ant1	5755	8.52	≤30.00	PASS
11AC40SISO	Ant1	5795	8.49	≤30.00	PASS
11AC80SISO	Ant1	5775	8.49	≤30.00	PASS

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

Appendix C: Maximum power spectral density

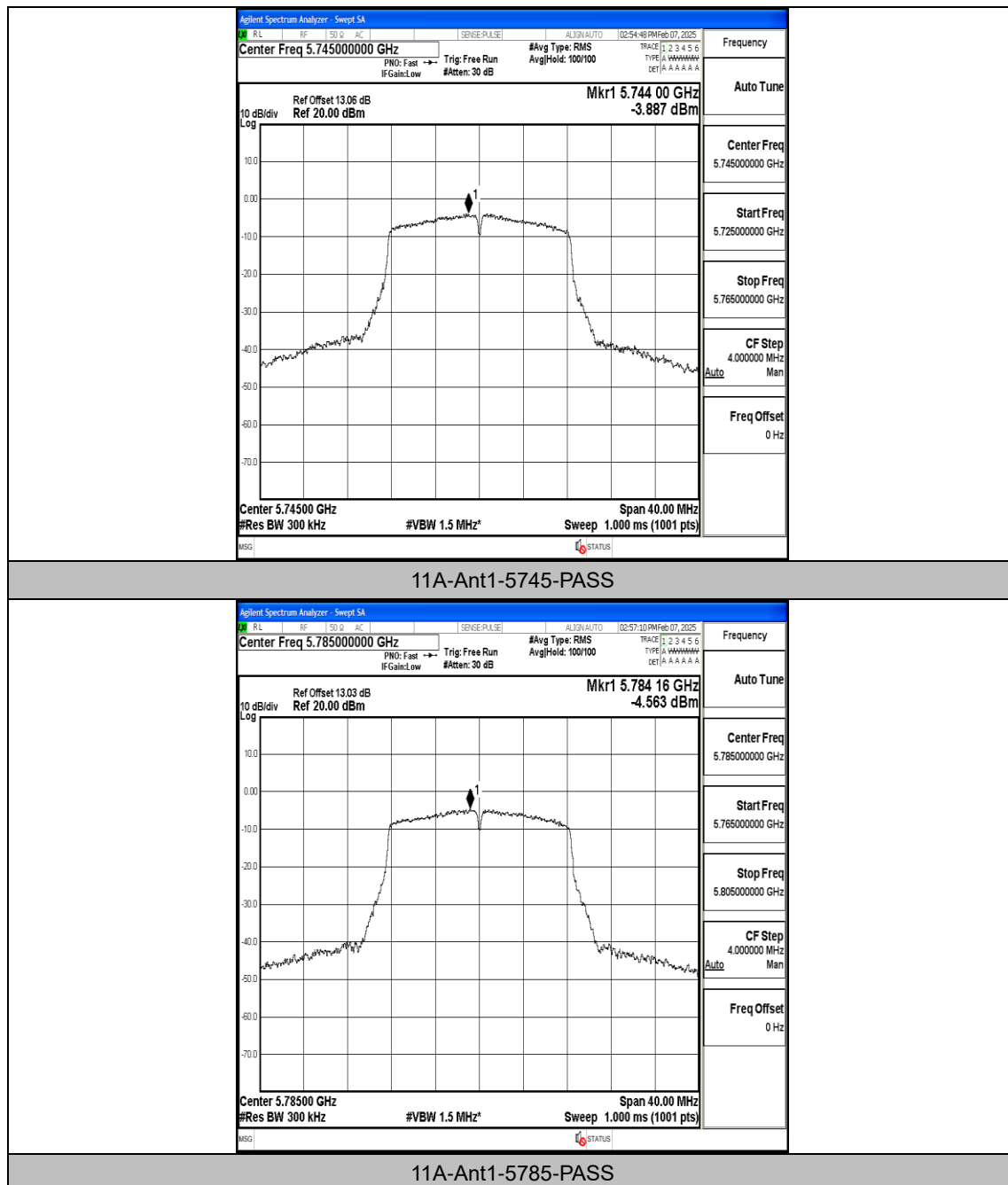
Test Result

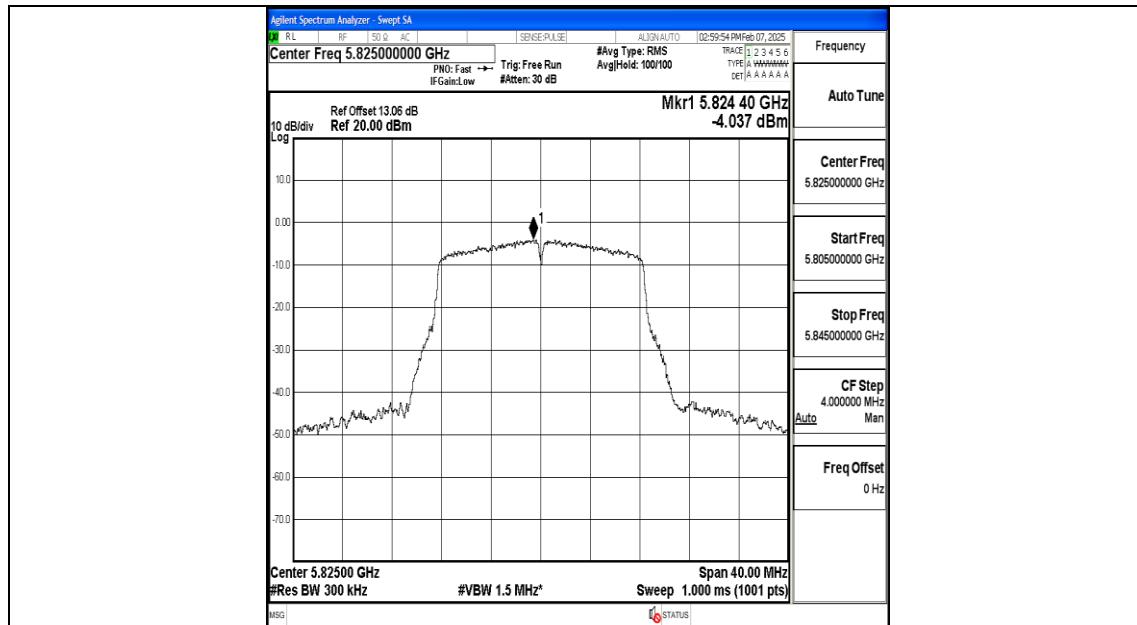
Frequency [MHz]	Test Mode	Antenna	Result [dBm/MHz]	DC Factor [dB]	RBW Factor [dB]	Limit [dBm/MHz]	Verdict
5745	11A	Ant1	-3.89	0.15	2.22	≤30.00	PASS
5785	11A	Ant1	-4.56	0.12	2.22	≤30.00	PASS
5825	11A	Ant1	-4.04	0.15	2.22	≤30.00	PASS
5745	11N20SI SO	Ant1	-4.32	0.13	2.22	≤30.00	PASS
5785	11N20SI SO	Ant1	-4.85	0.13	2.22	≤30.00	PASS
5825	11N20SI SO	Ant1	-4.36	0.13	2.22	≤30.00	PASS
5755	11N40SI SO	Ant1	-7.43	0.33	2.22	≤30.00	PASS
5795	11N40SI SO	Ant1	-7.55	0.26	2.22	≤30.00	PASS
5745	11AC20 SISO	Ant1	-4.68	0.16	2.22	≤30.00	PASS
5785	11AC20 SISO	Ant1	-4.81	0.16	2.22	≤30.00	PASS
5825	11AC20 SISO	Ant1	-4.26	0.16	2.22	≤30.00	PASS
5755	11AC40 SISO	Ant1	-7.69	0.32	2.22	≤30.00	PASS
5795	11AC40 SISO	Ant1	-7.78	0.26	2.22	≤30.00	PASS
5775	11AC80 SISO	Ant1	-10.37	0.50	2.22	≤30.00	PASS

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

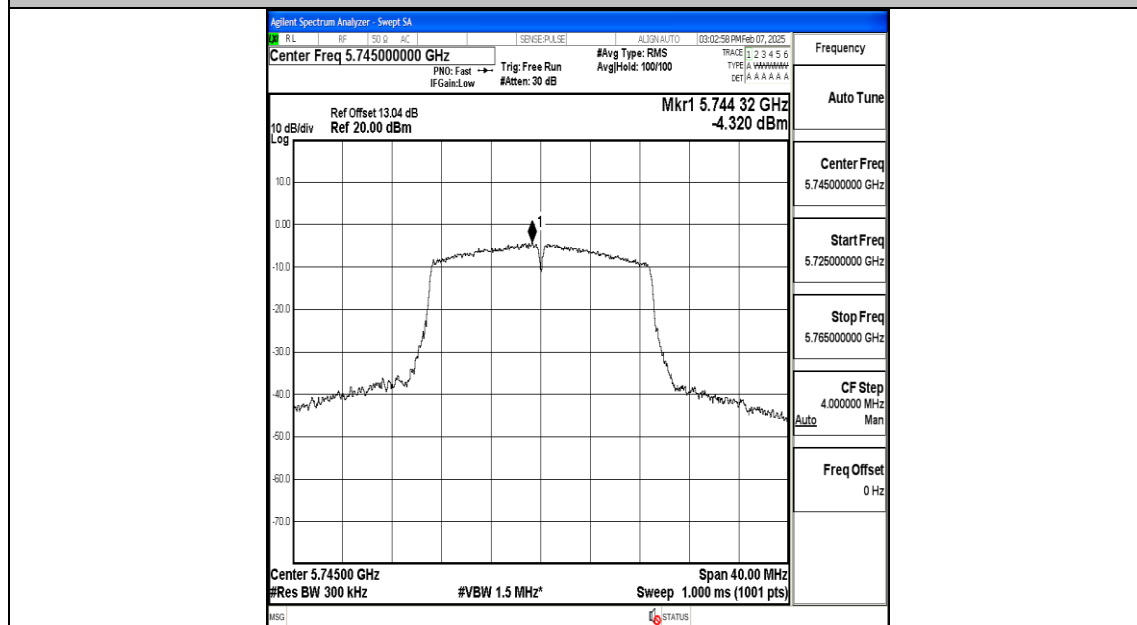
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

Test Graphs

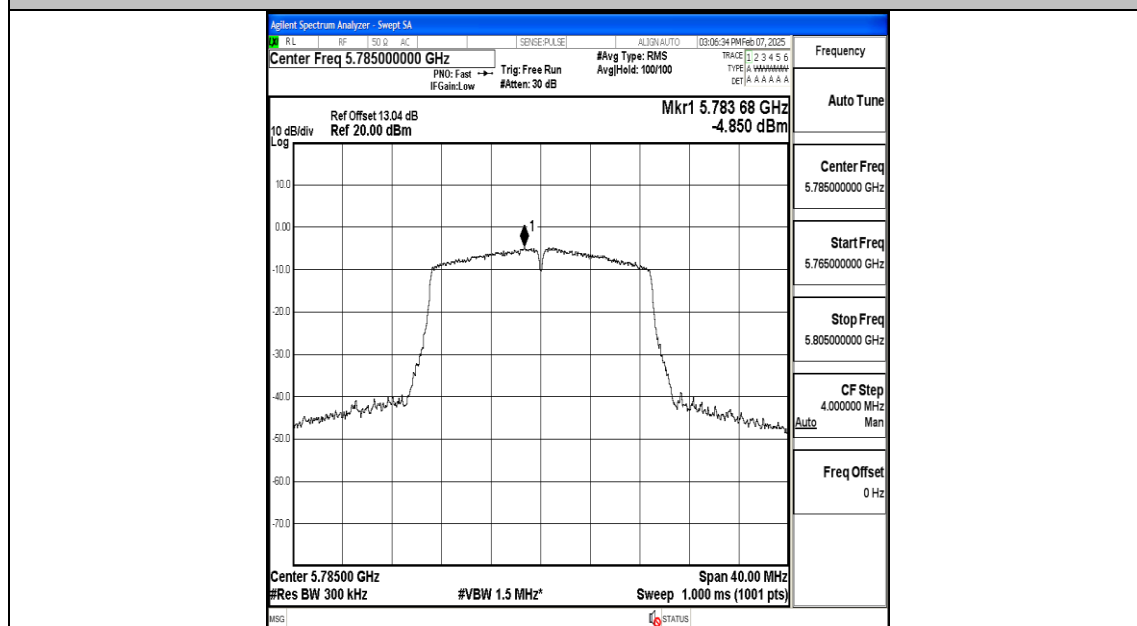




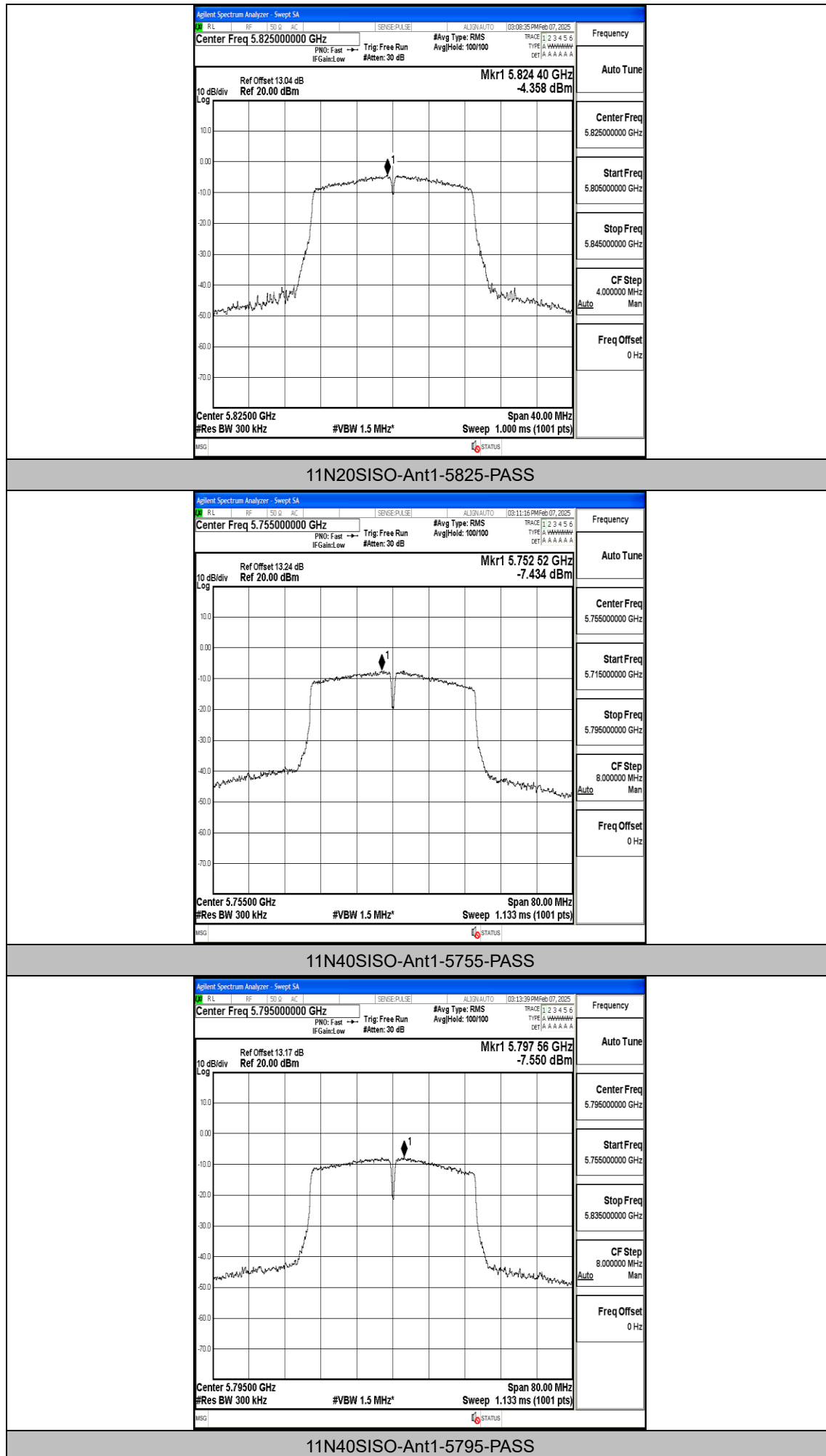
11A-Ant1-5825-PASS

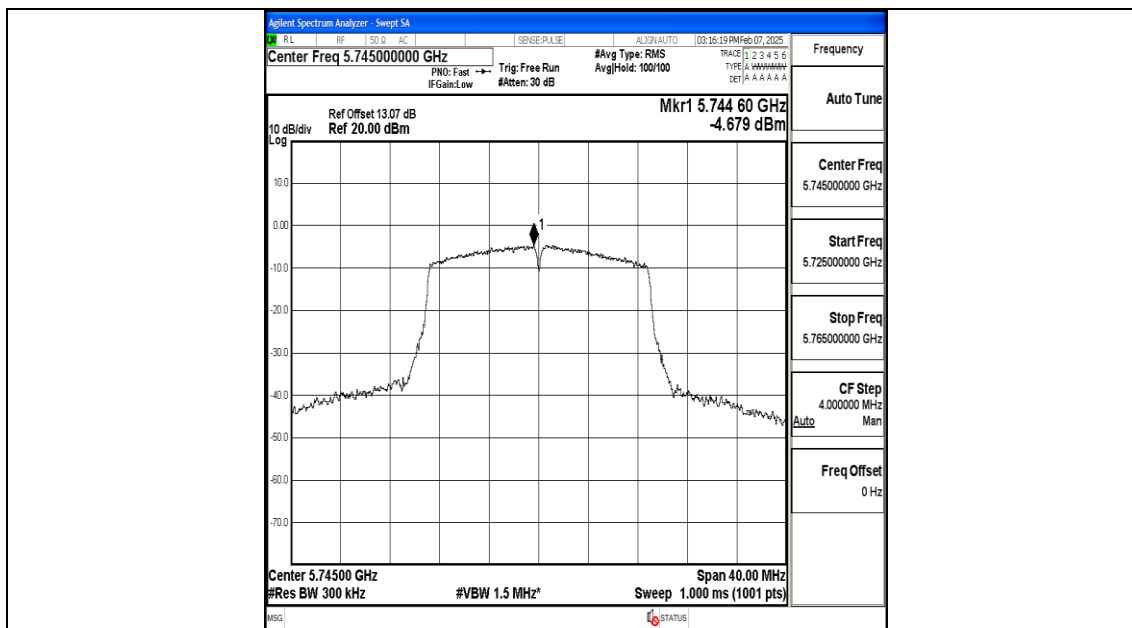


11N20SISO-Ant1-5745-PASS

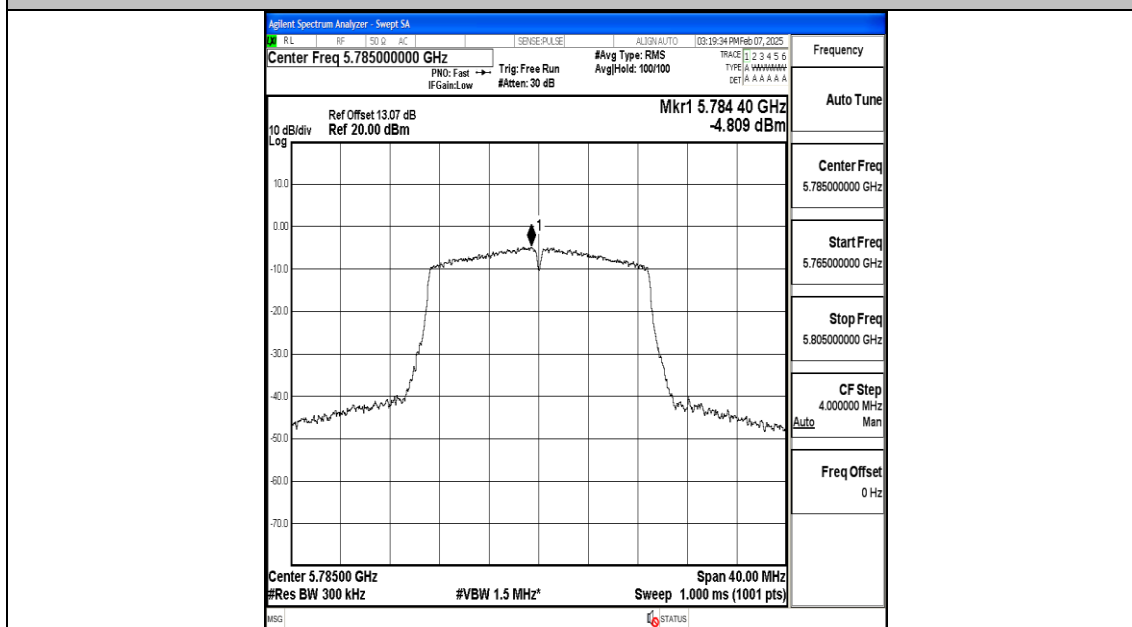


11N20SISO-Ant1-5785-PASS

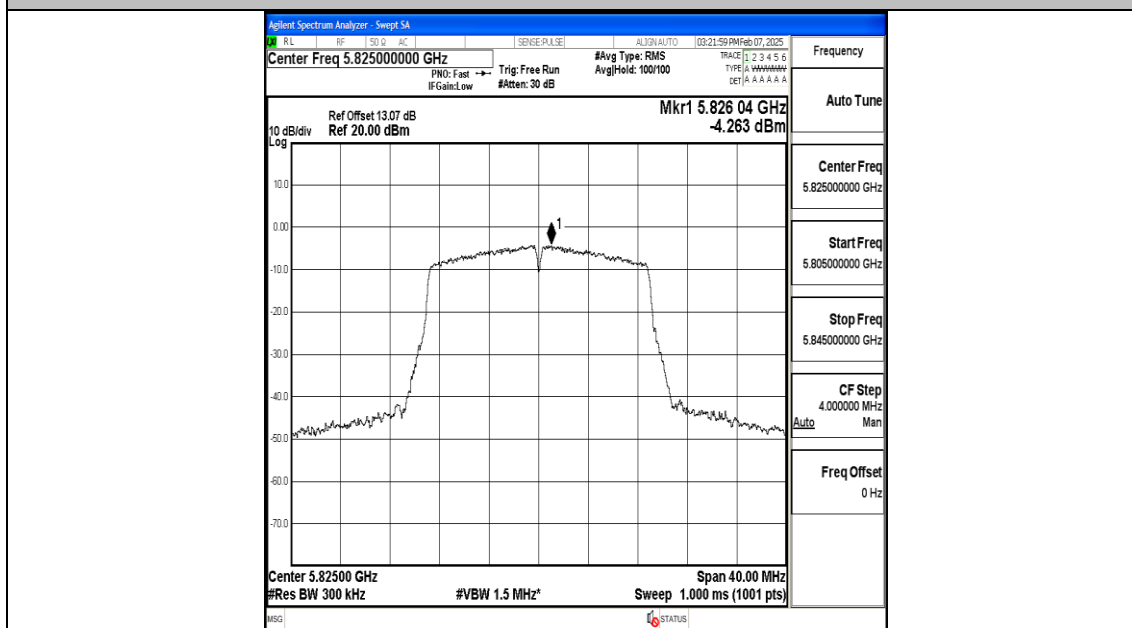




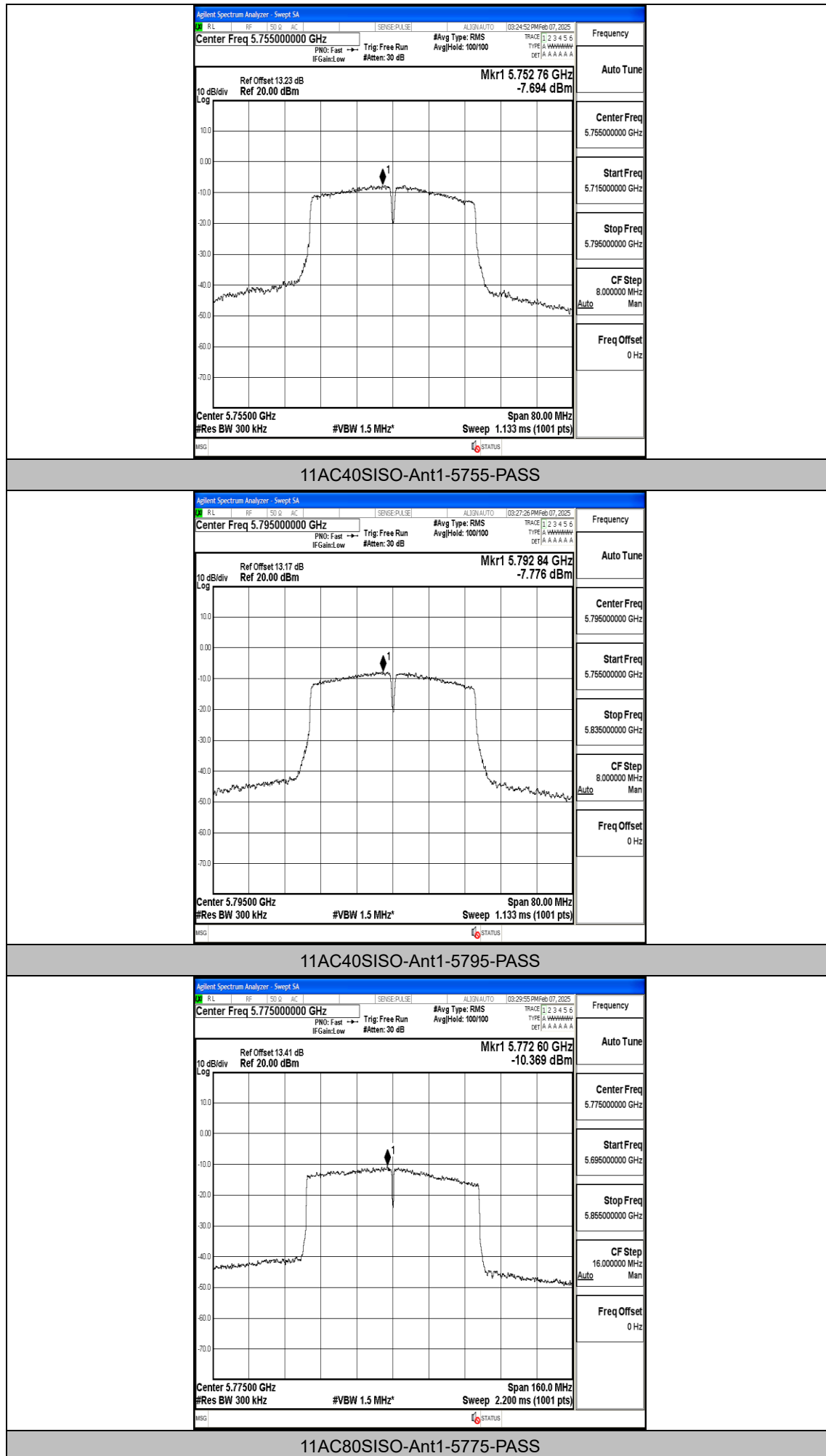
11AC20SISO-Ant1-5745-PASS



11AC20SISO-Ant1-5785-PASS



11AC20SISO-Ant1-5825-PASS



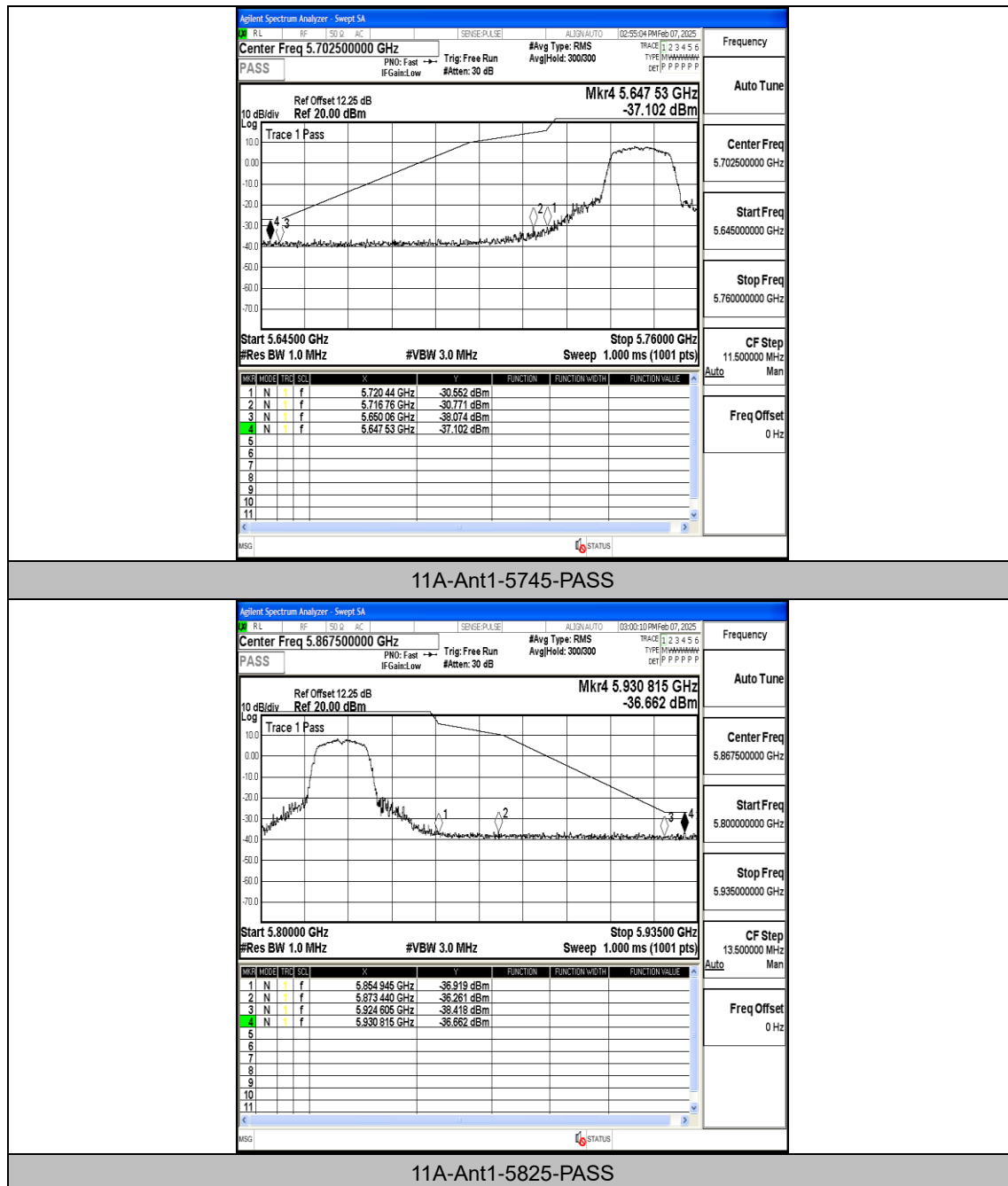
Appendix D: Band edge measurements

Test Result

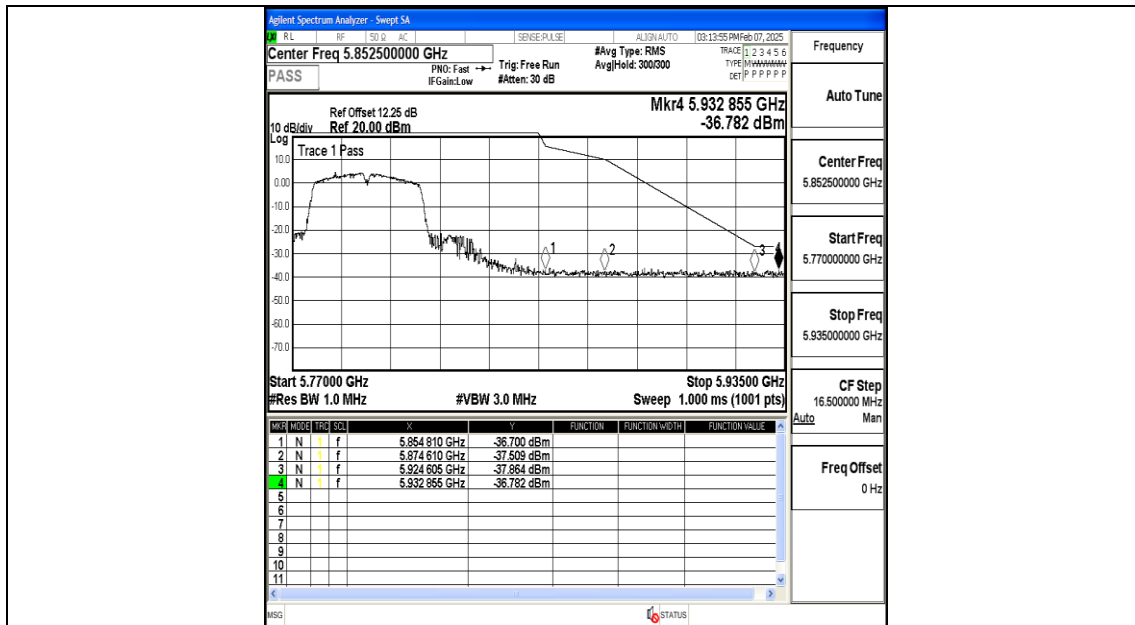
Test Mode	Antenna	Ch. Name	Frequency [MHz]	Freq. Range [MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	Low	5745	5720~5725	-30.55	≤16.60	PASS
11A	Ant1	Low	5745	5700~5720	-30.77	≤14.69	PASS
11A	Ant1	Low	5745	5650~5700	-38.07	≤-26.96	PASS
11A	Ant1	Low	5745	5760~5650	-37.1	≤-27	PASS
11A	Ant1	High	5825	5850~5855	-36.92	≤15.73	PASS
11A	Ant1	High	5825	5855~5875	-36.26	≤10.44	PASS
11A	Ant1	High	5825	5875~5925	-38.42	≤-26.71	PASS
11A	Ant1	High	5825	5925~5935	-36.66	≤-27	PASS
11N20SISO	Ant1	Low	5745	5720~5725	-26.46	≤17.13	PASS
11N20SISO	Ant1	Low	5745	5700~5720	-27.3	≤15.56	PASS
11N20SISO	Ant1	Low	5745	5650~5700	-38.04	≤-26.27	PASS
11N20SISO	Ant1	Low	5745	5760~5650	-36.92	≤-27	PASS
11N20SISO	Ant1	High	5825	5850~5855	-33.24	≤18.19	PASS
11N20SISO	Ant1	High	5825	5855~5875	-36.36	≤10.21	PASS
11N20SISO	Ant1	High	5825	5875~5925	-38.15	≤-26.91	PASS
11N20SISO	Ant1	High	5825	5925~5935	-36.65	≤-27	PASS
11N40SISO	Ant1	Low	5755	5720~5725	-21.98	≤16.04	PASS
11N40SISO	Ant1	Low	5755	5700~5720	-22.45	≤15.50	PASS
11N40SISO	Ant1	Low	5755	5650~5700	-37.79	≤-26.90	PASS
11N40SISO	Ant1	Low	5755	5780~5650	-36.74	≤-27	PASS
11N40SISO	Ant1	High	5795	5850~5855	-36.7	≤16.03	PASS
11N40SISO	Ant1	High	5795	5855~5875	-37.51	≤10.11	PASS
11N40SISO	Ant1	High	5795	5875~5925	-37.86	≤-26.71	PASS
11N40SISO	Ant1	High	5795	5925~5935	-36.78	≤-27	PASS
11AC20SISO	Ant1	Low	5745	5720~5725	-25.6	≤18.18	PASS
11AC20SISO	Ant1	Low	5745	5700~5720	-31.32	≤15.01	PASS
11AC20SISO	Ant1	Low	5745	5650~5700	-36.99	≤-26.10	PASS
11AC20SISO	Ant1	Low	5745	5760~5650	-36.84	≤-27	PASS
11AC20SISO	Ant1	High	5825	5850~5855	-34.9	≤16.96	PASS
11AC20SISO	Ant1	High	5825	5855~5875	-36.33	≤10.66	PASS
11AC20SISO	Ant1	High	5825	5875~5925	-36.27	≤-26.71	PASS
11AC20SISO	Ant1	High	5825	5925~5935	-37.42	≤-27	PASS

11AC40SIS O	Ant1	Low	5755	5720~5725	-24.93	≤15.74	PASS
11AC40SIS O	Ant1	Low	5755	5700~5720	-24.44	≤13.92	PASS
11AC40SIS O	Ant1	Low	5755	5650~5700	-37.63	≤-26.20	PASS
11AC40SIS O	Ant1	Low	5755	5780~5650	-36.91	≤-27	PASS
11AC40SIS O	Ant1	High	5795	5850~5855	-37.5	≤16.41	PASS
11AC40SIS O	Ant1	High	5795	5855~5875	-37.27	≤10.02	PASS
11AC40SIS O	Ant1	High	5795	5875~5925	-38.35	≤-26.83	PASS
11AC40SIS O	Ant1	High	5795	5925~5935	-37.31	≤-27	PASS
11AC80SIS O	Ant1	Low	5775	5720~5725	-22.38	≤19.18	PASS
11AC80SIS O	Ant1	Low	5775	5700~5720	-23.01	≤13.13	PASS
11AC80SIS O	Ant1	Low	5775	5650~5700	-32.51	≤-26.91	PASS
11AC80SIS O	Ant1	Low	5775	5800~5650	-34.44	≤-27	PASS
11AC80SIS O	Ant1	High	5775	5850~5855	-34.3	≤16.26	PASS
11AC80SIS O	Ant1	High	5775	5855~5875	-33.18	≤11.54	PASS
11AC80SIS O	Ant1	High	5775	5875~5925	-37.57	≤-26.32	PASS
11AC80SIS O	Ant1	High	5775	5925~5935	-36.67	≤-27	PASS

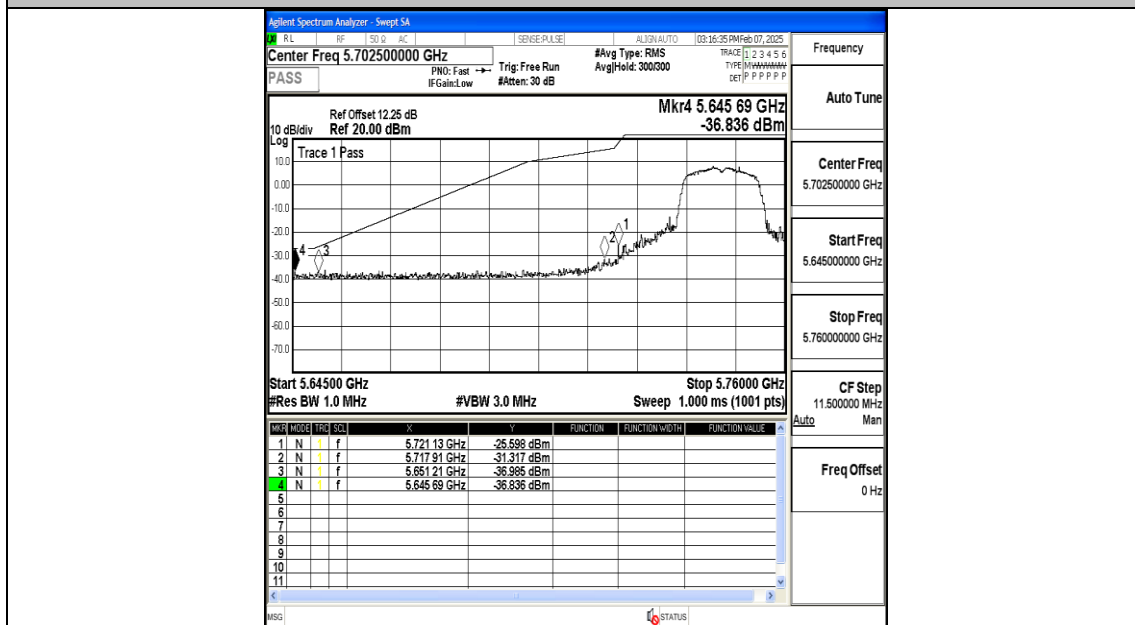
Test Graphs



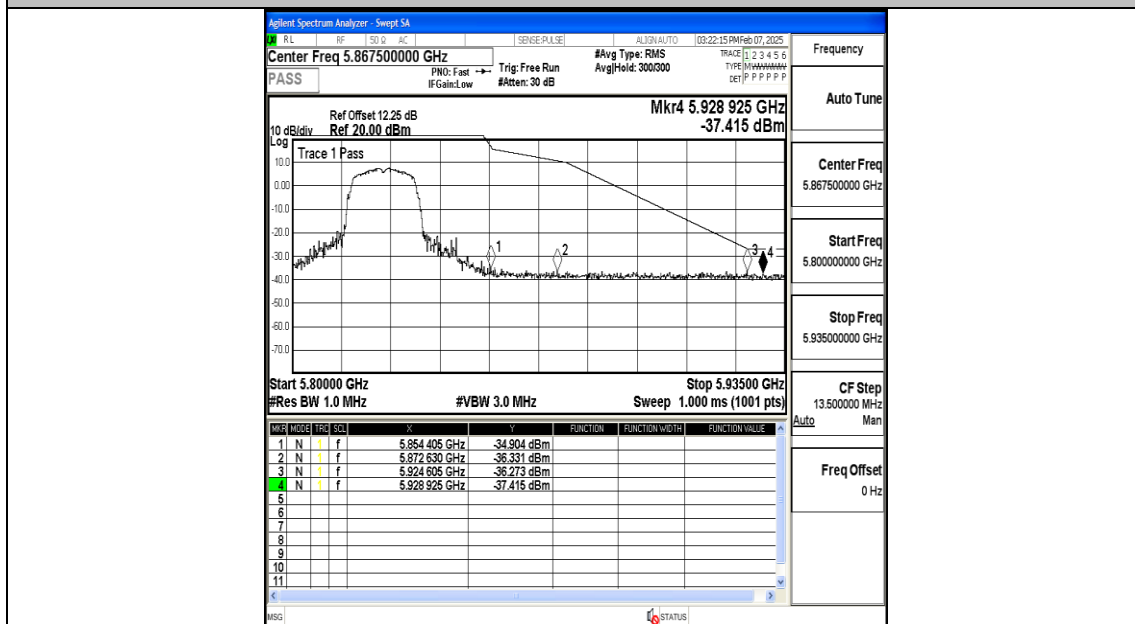




11N40SISO-Ant1-5795-PASS

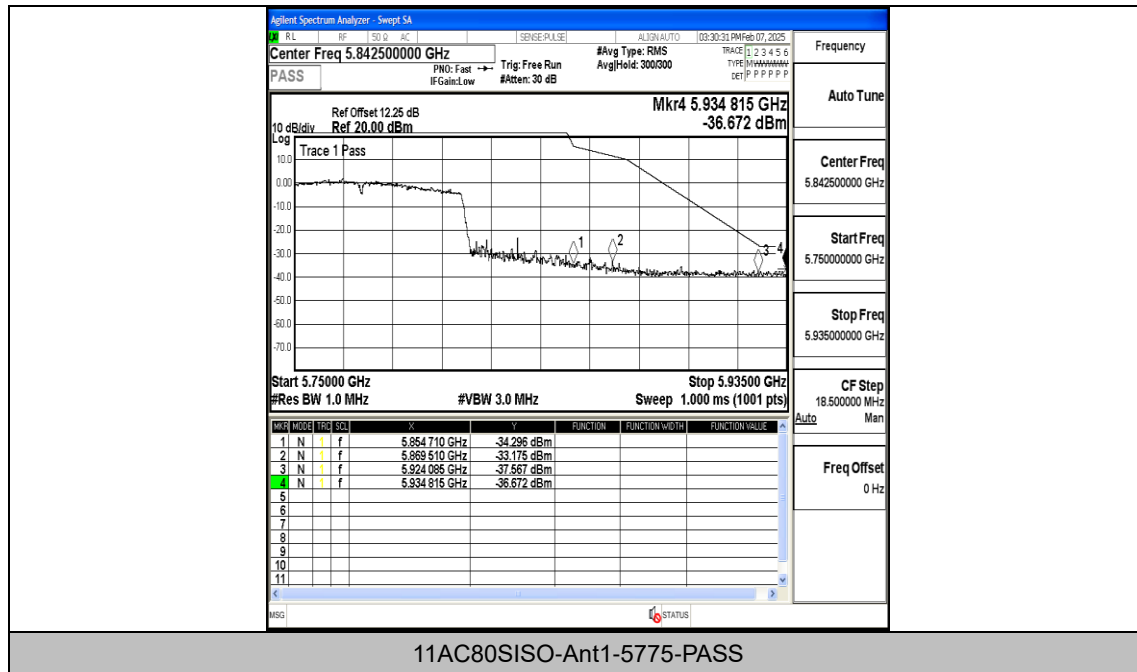


11AC20SISO-Ant1-5745-PASS



11AC20SISO-Ant1-5825-PASS





Appendix E: Frequency Stability

Test Result

Ant1

Frequency (MHz)	Environment Temperature (Degree)	Voltage (VDC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5745	20	4.07	5744.900978	5725 – 5850	PASS
5745	20	3.33	5745.041039	5725 – 5850	PASS
5745	50	3.70	5744.933548	5725 – 5850	PASS
5745	40	3.70	5745.050945	5725 – 5850	PASS
5745	30	3.70	5745.009926	5725 – 5850	PASS
5745	20	3.70	5744.907202	5725 – 5850	PASS
5745	10	3.70	5745.076732	5725 – 5850	PASS
5745	0	3.70	5745.084333	5725 – 5850	PASS
5745	-10	3.70	5744.903159	5725 – 5850	PASS
5745	-20	3.70	5745.033055	5725 – 5850	PASS
5745	-30	3.70	5745.059729	5725 – 5850	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VDC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5785	20	4.07	5784.918658	5725 – 5850	PASS
5785	20	3.33	5784.976167	5725 – 5850	PASS
5785	50	3.70	5785.027551	5725 – 5850	PASS
5785	40	3.70	5784.962090	5725 – 5850	PASS
5785	30	3.70	5784.990629	5725 – 5850	PASS
5785	20	3.70	5784.998354	5725 – 5850	PASS
5785	10	3.70	5785.012681	5725 – 5850	PASS
5785	0	3.70	5785.059765	5725 – 5850	PASS
5785	-10	3.70	5784.912339	5725 – 5850	PASS
5785	-20	3.70	5785.074352	5725 – 5850	PASS
5785	-30	3.70	5784.912952	5725 – 5850	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VDC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5825	20	4.07	5824.902968	5725 – 5850	PASS
5825	20	3.33	5824.910994	5725 – 5850	PASS
5825	50	3.70	5824.955446	5725 – 5850	PASS
5825	40	3.70	5824.950636	5725 – 5850	PASS
5825	30	3.70	5824.982370	5725 – 5850	PASS
5825	20	3.70	5825.085909	5725 – 5850	PASS
5825	10	3.70	5824.906989	5725 – 5850	PASS
5825	0	3.70	5825.008848	5725 – 5850	PASS
5825	-10	3.70	5824.975844	5725 – 5850	PASS
5825	-20	3.70	5824.953194	5725 – 5850	PASS
5825	-30	3.70	5825.032182	5725 – 5850	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VDC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5755	20	4.07	5755.085781	5725 – 5850	PASS
5755	20	3.33	5755.018576	5725 – 5850	PASS
5755	50	3.70	5754.997551	5725 – 5850	PASS
5755	40	3.70	5755.045244	5725 – 5850	PASS
5755	30	3.70	5755.005085	5725 – 5850	PASS
5755	20	3.70	5754.993754	5725 – 5850	PASS
5755	10	3.70	5755.045784	5725 – 5850	PASS
5755	0	3.70	5754.938192	5725 – 5850	PASS
5755	-10	3.70	5755.050014	5725 – 5850	PASS
5755	-20	3.70	5754.939851	5725 – 5850	PASS
5755	-30	3.70	5755.084397	5725 – 5850	PASS