

RF Test Data for RLAN(5.8G) (Conducted Measurement)

Product Name: WIFI TOUCH SCREEN KARAOKE SYSTEM

Trade Mark: Singing Machine

Test Model: ISM9015

FCC ID: 2AAXO-ISM9015

Environmental Conditions

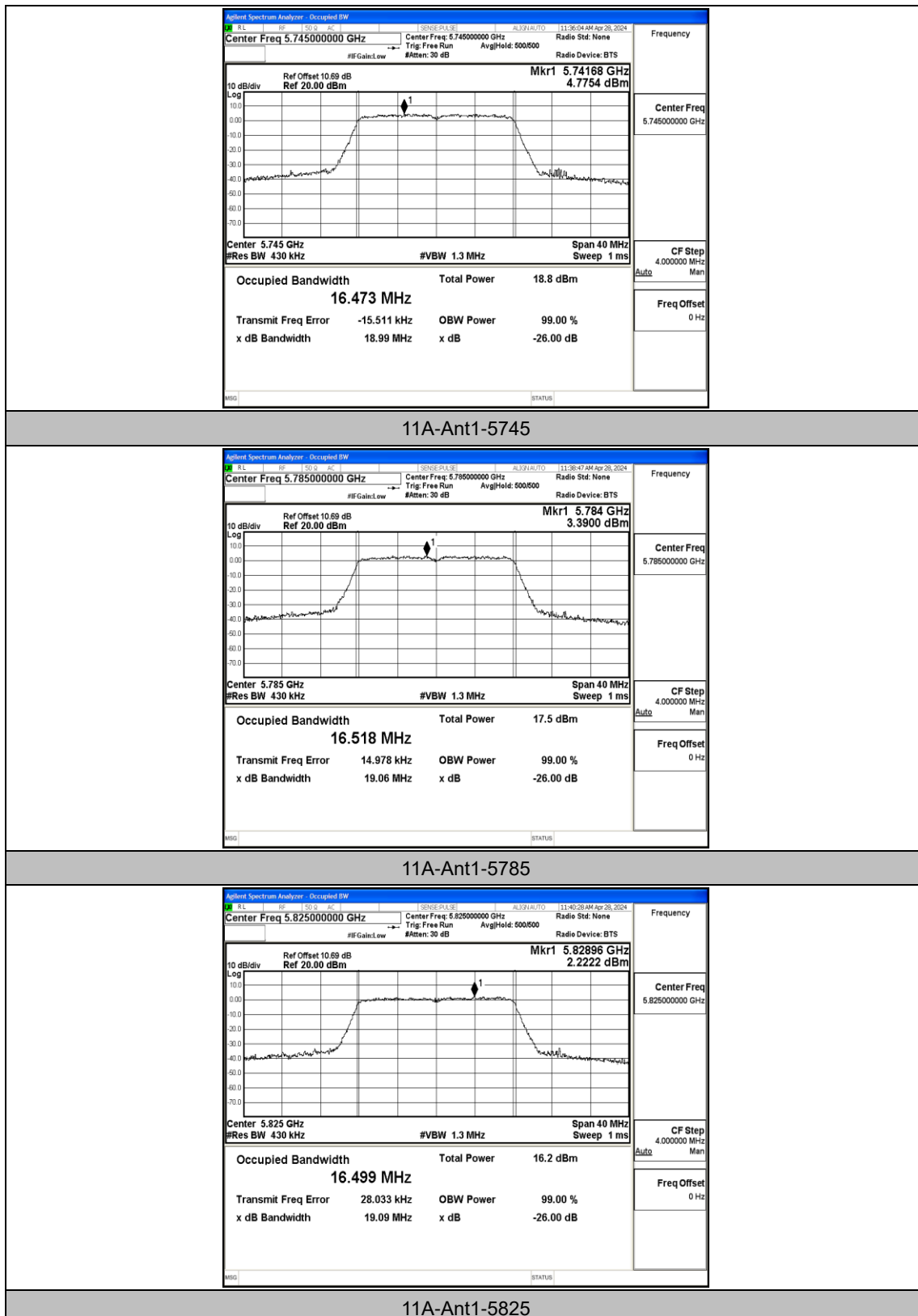
Temperature:	23.8℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Hugo Chen
NOTE	N/A

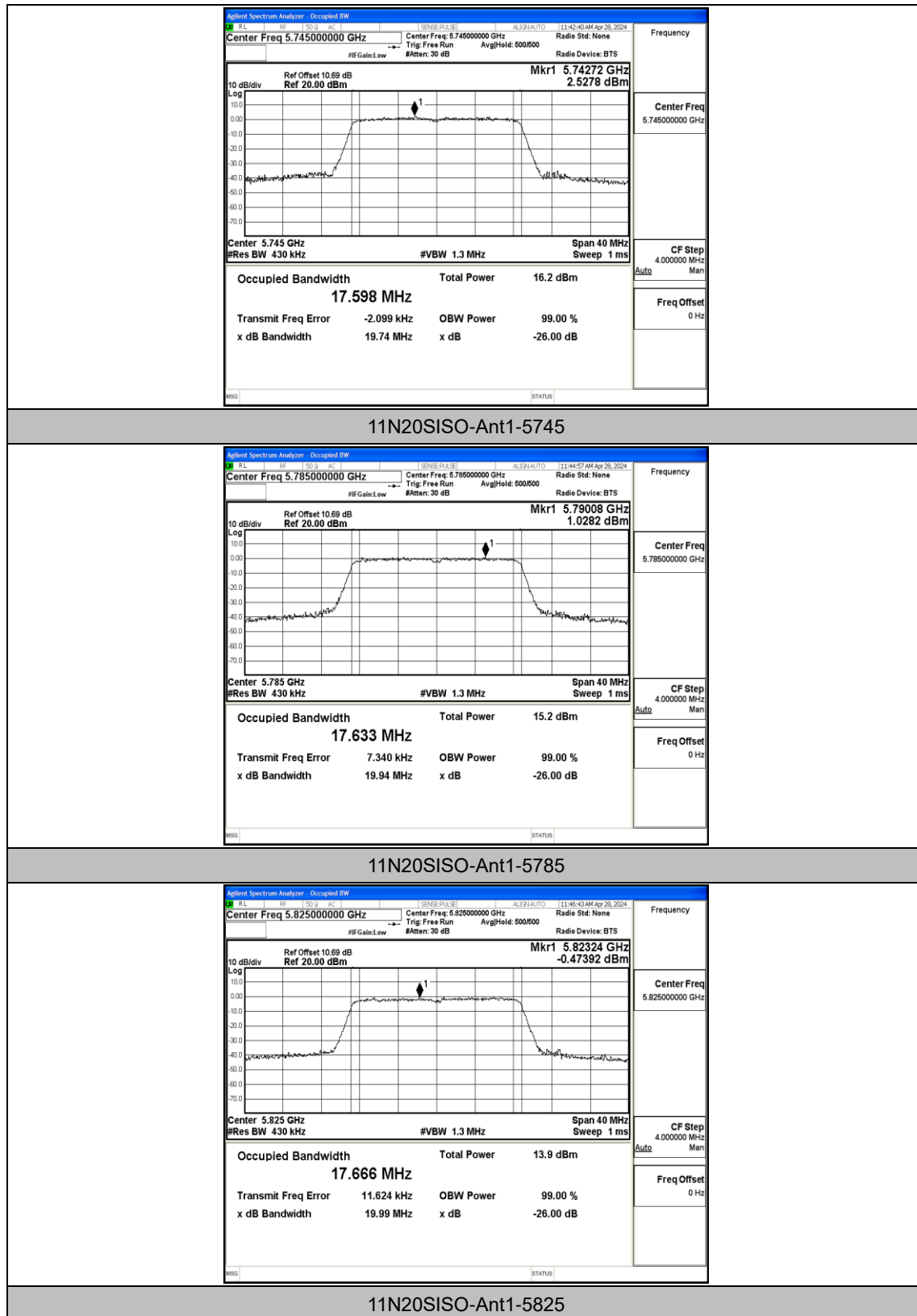
Appendix A2: Occupied channel bandwidth[IC 才留]

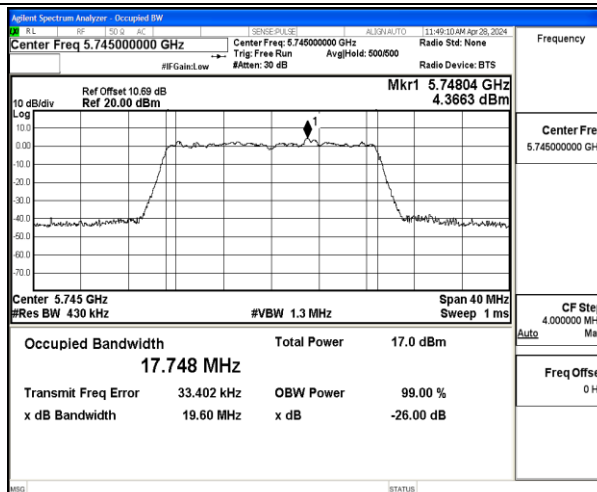
Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.473	5736.7480	5753.2210	---	---
11A	Ant1	5785	16.518	5776.7560	5793.2740	---	---
11A	Ant1	5825	16.499	5816.7785	5833.2775	---	---
11N20SISO	Ant1	5745	17.598	5736.1989	5753.7969	---	---
11N20SISO	Ant1	5785	17.633	5776.1908	5793.8238	---	---
11N20SISO	Ant1	5825	17.666	5816.1786	5833.8446	---	---
11AC20SISO	Ant1	5745	17.748	5736.1594	5753.9074	---	---
11AC20SISO	Ant1	5785	17.760	5776.1749	5793.9349	---	---
11AC20SISO	Ant1	5825	17.799	5816.1475	5833.9465	---	---

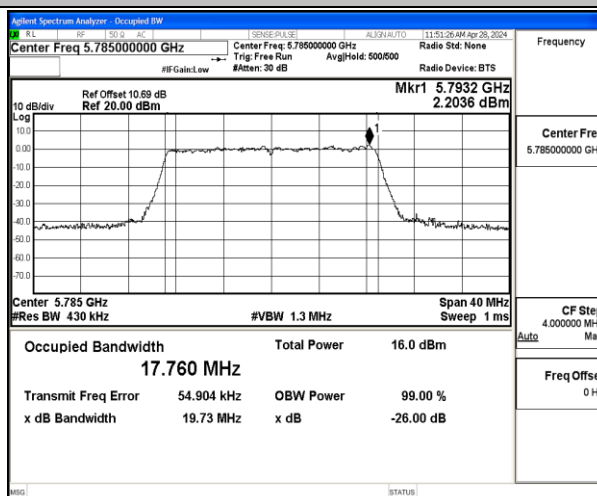
Test Graphs



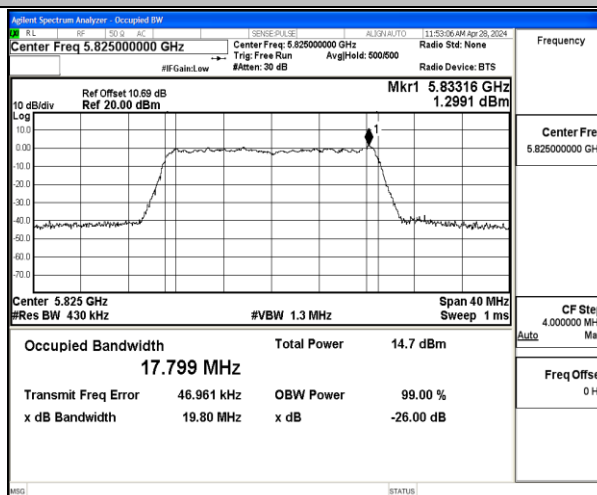




11AC20SISO-Ant1-5745



11AC20SISO-Ant1-5785



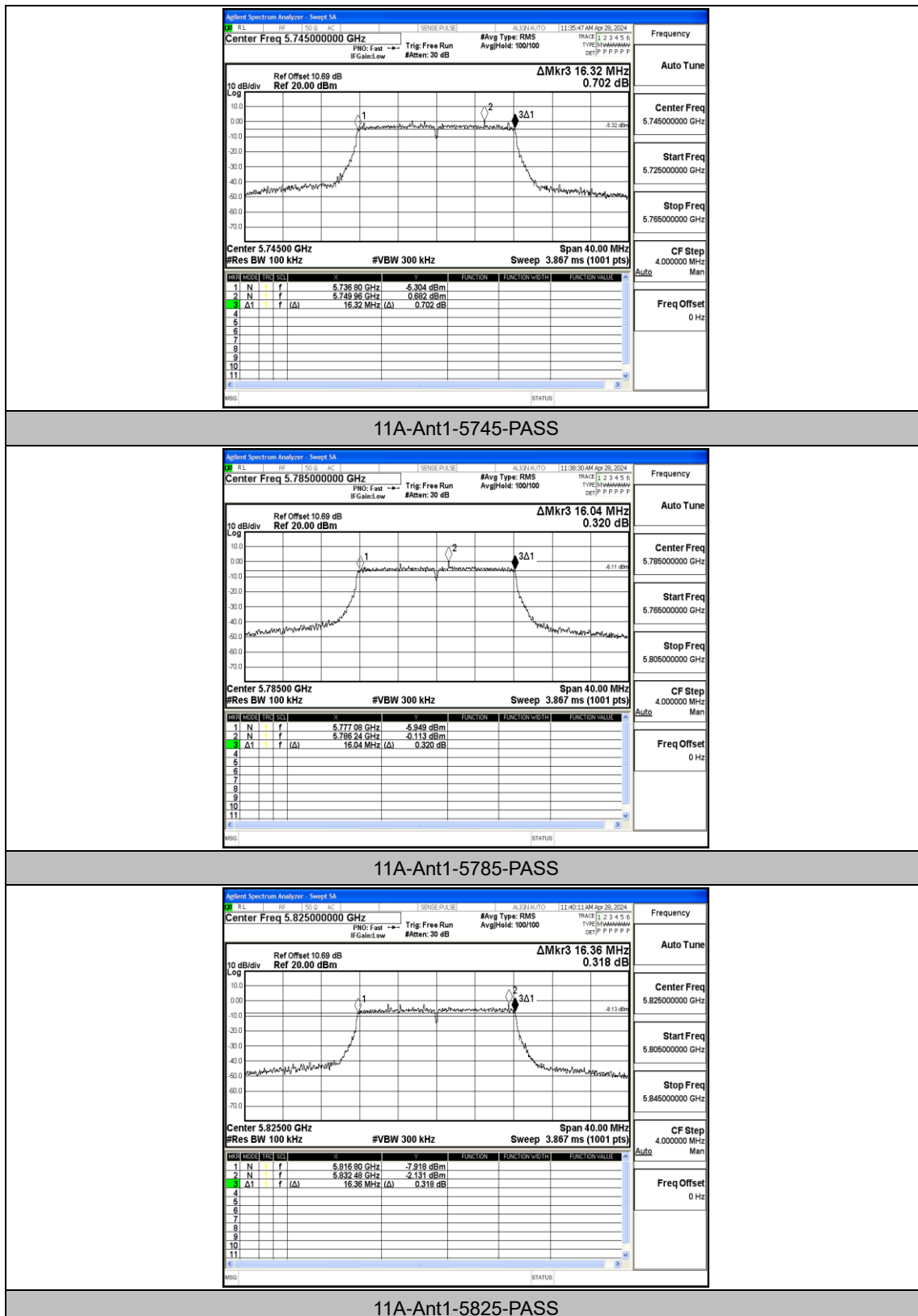
11AC20SISO-Ant1-5825

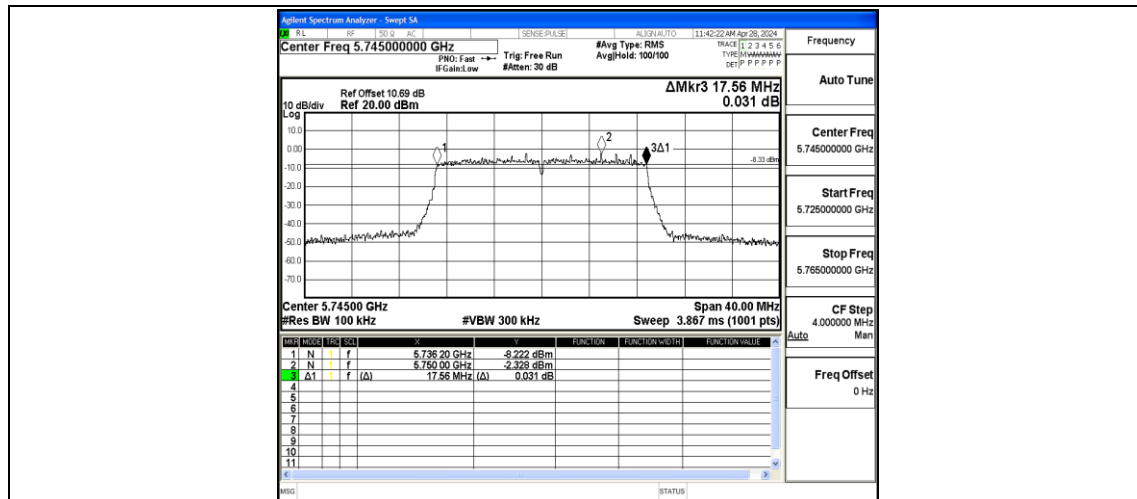
Appendix A: Min emission bandwidth

Test Result

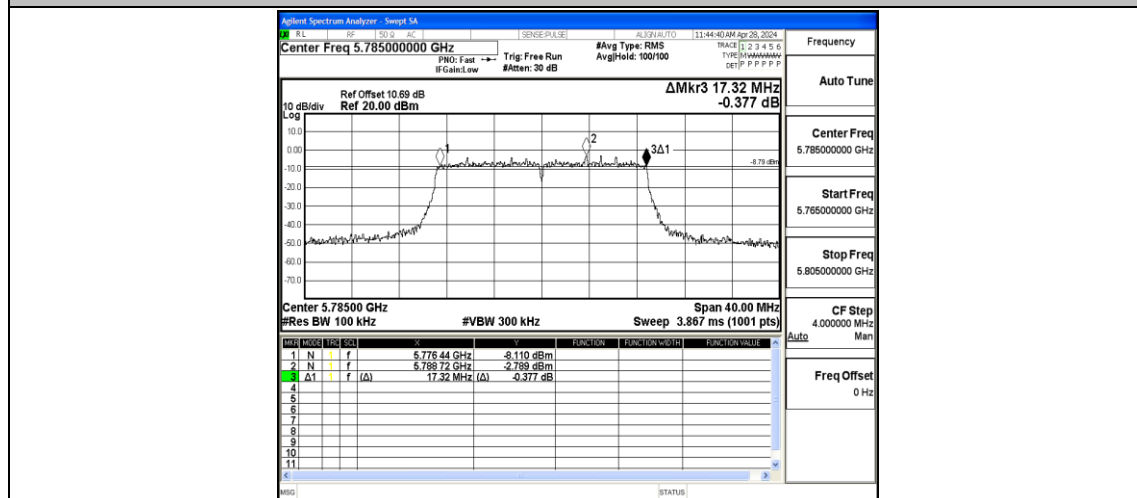
TestMode	Antenna	Frequency[MHz]	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.320	5736.800	5753.120	0.5	PASS
11A	Ant1	5785	16.040	5777.080	5793.120	0.5	PASS
11A	Ant1	5825	16.360	5816.800	5833.160	0.5	PASS
11N20SISO	Ant1	5745	17.560	5736.200	5753.760	0.5	PASS
11N20SISO	Ant1	5785	17.320	5776.440	5793.760	0.5	PASS
11N20SISO	Ant1	5825	17.320	5816.440	5833.760	0.5	PASS
11AC20SISO	Ant1	5745	17.600	5736.240	5753.840	0.5	PASS
11AC20SISO	Ant1	5785	17.640	5776.200	5793.840	0.5	PASS
11AC20SISO	Ant1	5825	17.640	5816.200	5833.840	0.5	PASS

Test Graphs

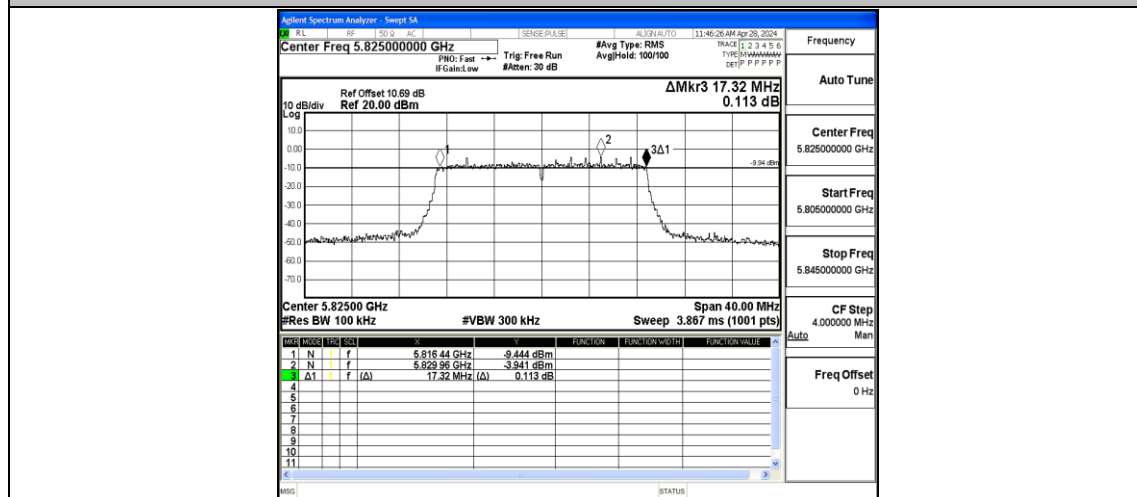




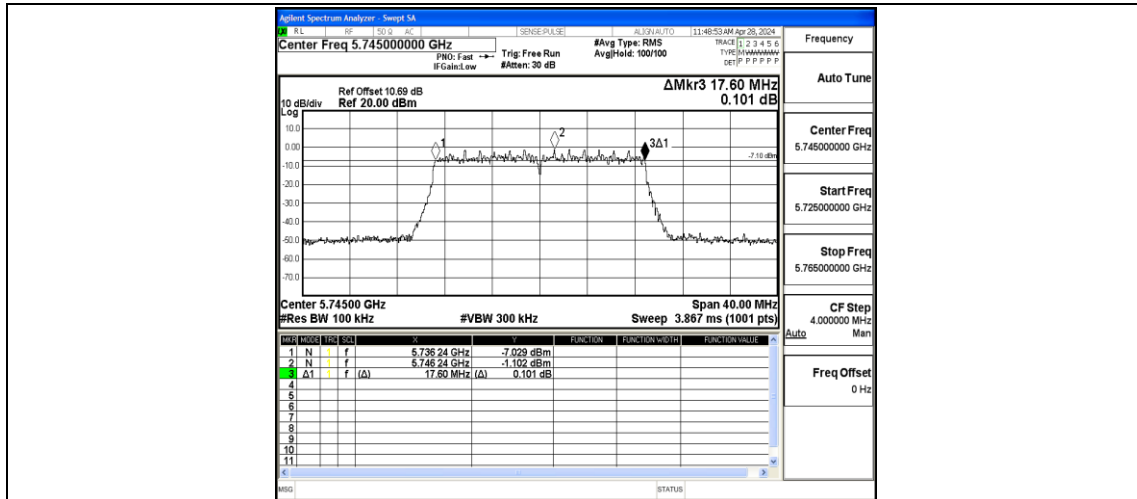
11N20SISO-Ant1-5745-PASS



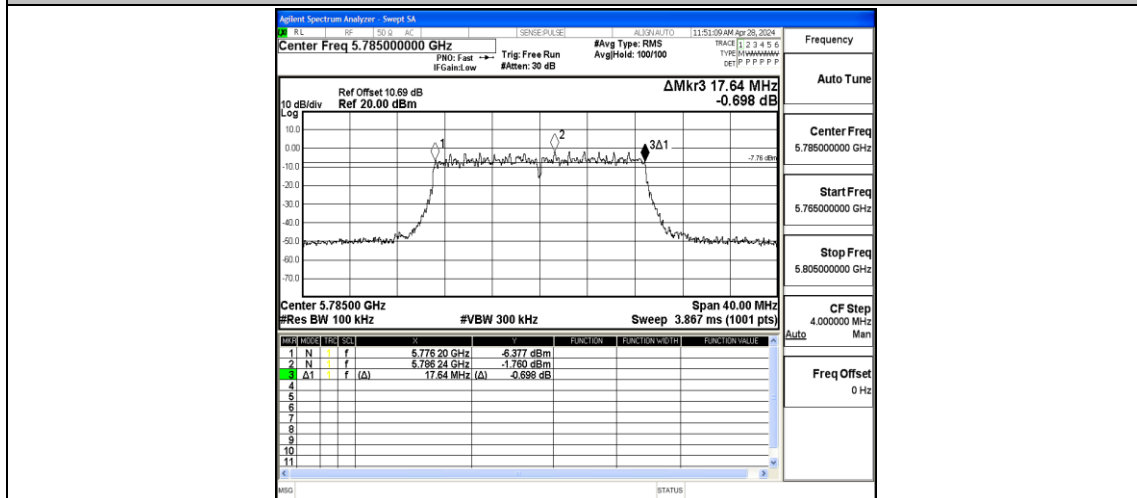
11N20SISO-Ant1-5785-PASS



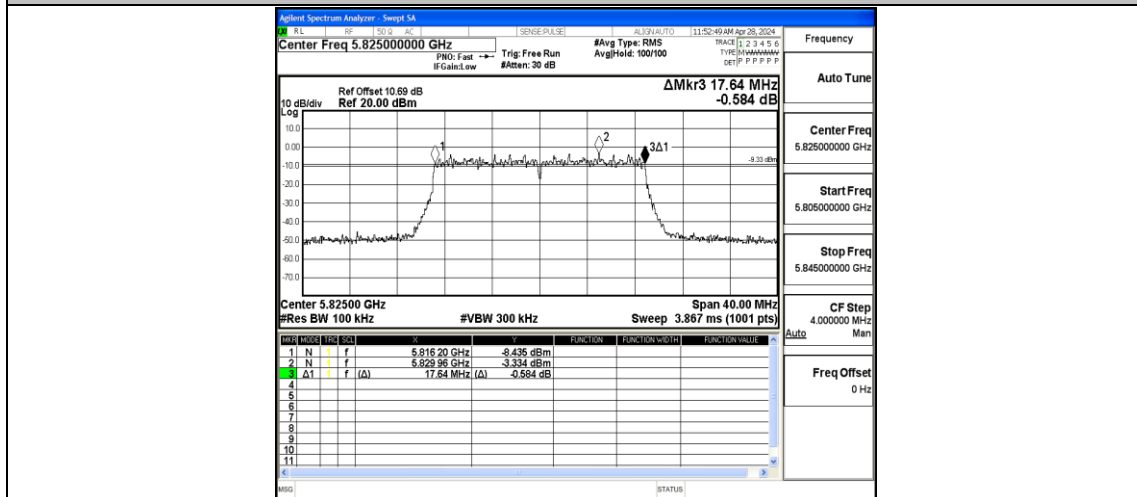
11N20SISO-Ant1-5825-PASS



11AC20SISO-Ant1-5745-PASS



11AC20SISO-Ant1-5785-PASS



11AC20SISO-Ant1-5825-PASS

Appendix B: Maximum conducted output power

Test Result

TestMode	Antenna	Frequency[MHz]	Conducted Power[dBm]	Conducted Limit[dBm]	Verdict
11A	Ant1	5745	12.04	≤30.00	PASS
11A	Ant1	5785	10.89	≤30.00	PASS
11A	Ant1	5825	9.69	≤30.00	PASS
11N20SISO	Ant1	5745	9.48	≤30.00	PASS
11N20SISO	Ant1	5785	8.56	≤30.00	PASS
11N20SISO	Ant1	5825	7.42	≤30.00	PASS
11AC20SISO	Ant1	5745	10.47	≤30.00	PASS
11AC20SISO	Ant1	5785	9.91	≤30.00	PASS
11AC20SISO	Ant1	5825	8.69	≤30.00	PASS

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

Appendix C: Maximum power spectral density

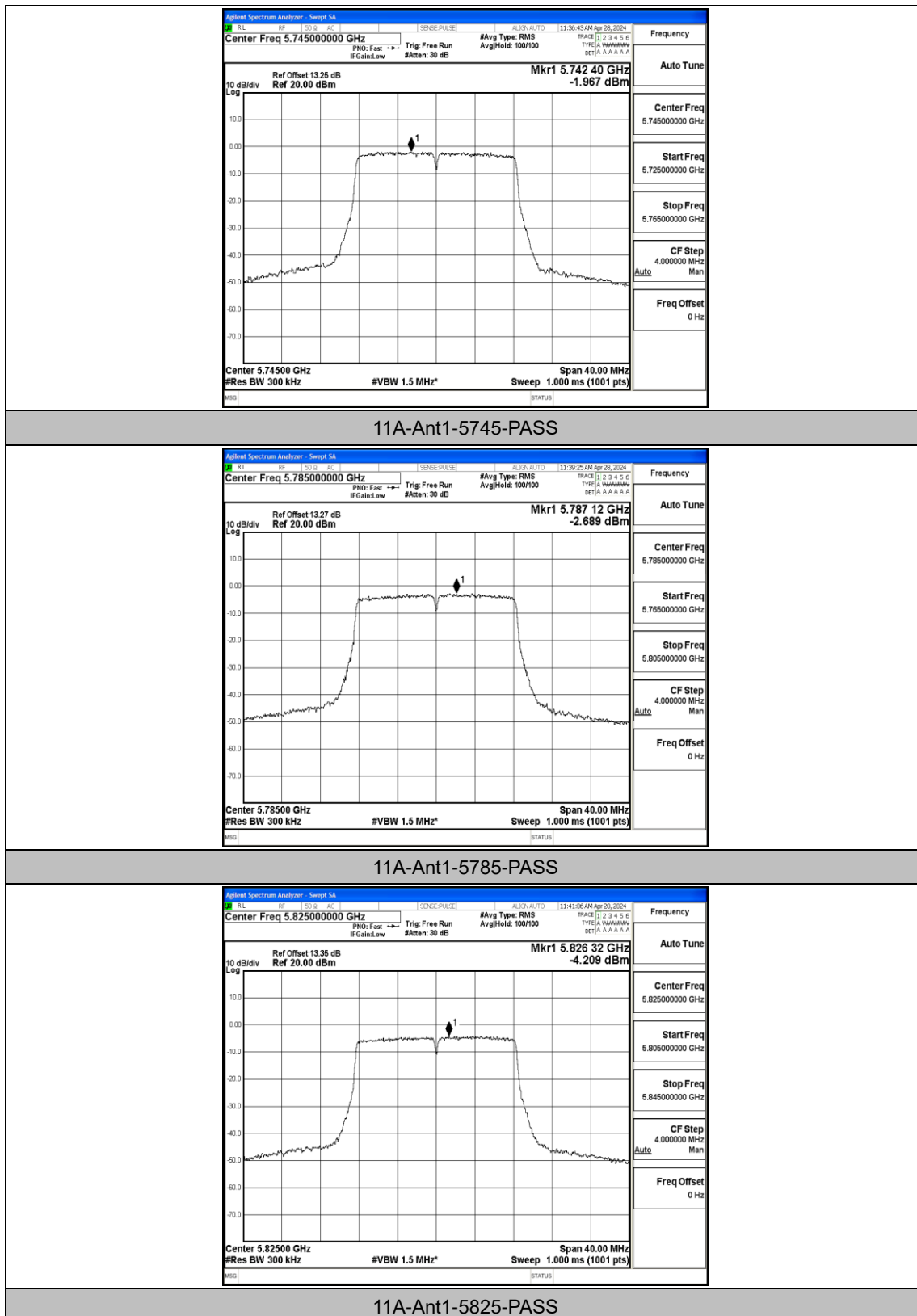
Test Result

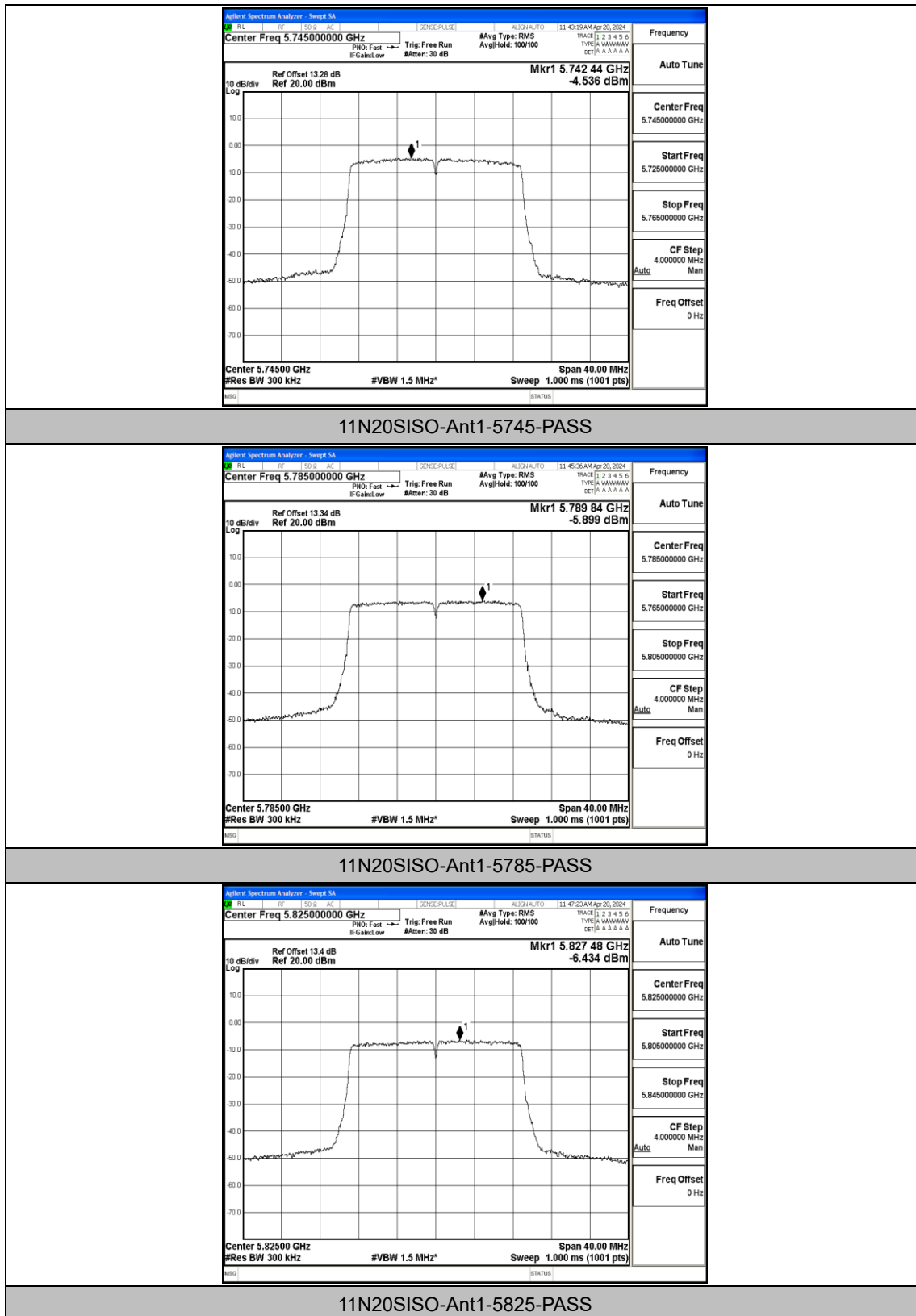
TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5745	-1.97	≤30.00	PASS
11A	Ant1	5785	-2.69	≤30.00	PASS
11A	Ant1	5825	-4.21	≤30.00	PASS
11N20SISO	Ant1	5745	-4.54	≤30.00	PASS
11N20SISO	Ant1	5785	-5.90	≤30.00	PASS
11N20SISO	Ant1	5825	-6.43	≤30.00	PASS
11AC20SISO	Ant1	5745	-3.03	≤30.00	PASS
11AC20SISO	Ant1	5785	-3.43	≤30.00	PASS
11AC20SISO	Ant1	5825	-4.65	≤30.00	PASS

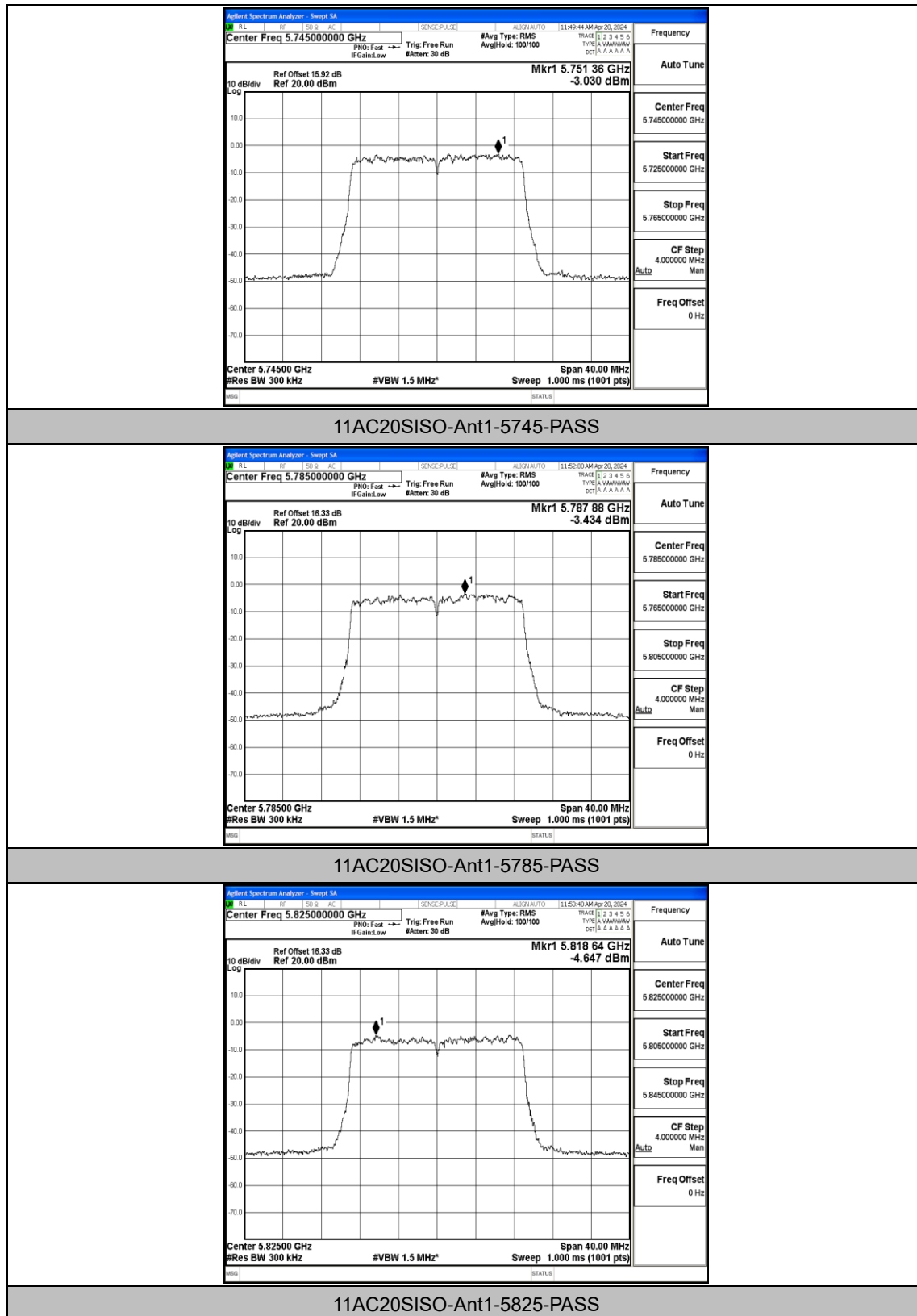
Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

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

Test Graphs





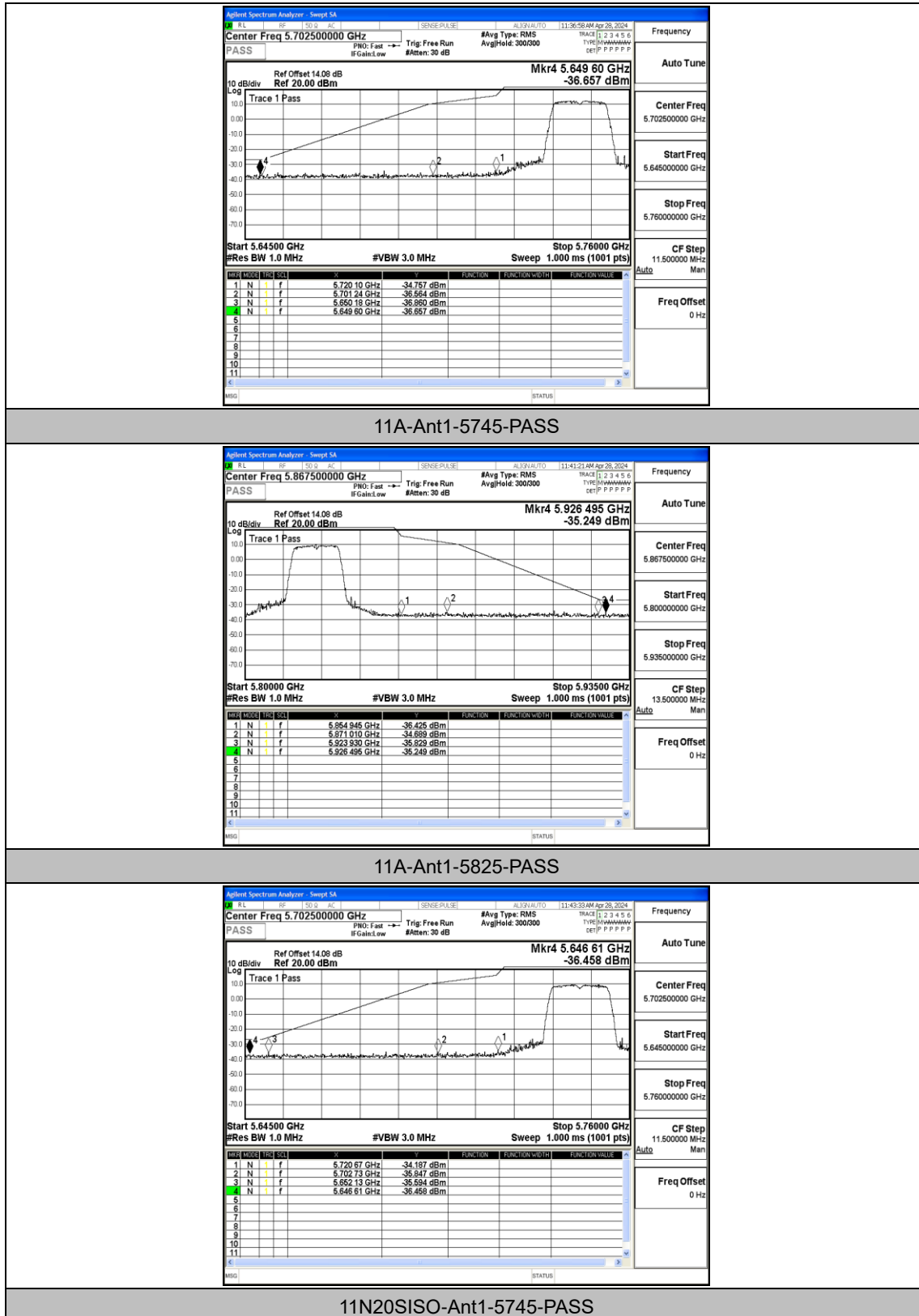


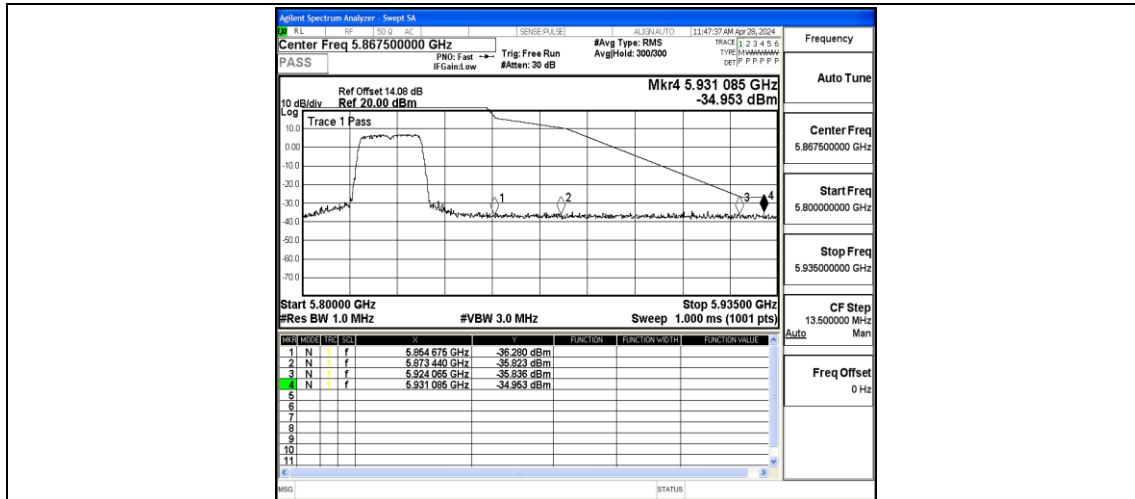
Appendix D: Band edge measurements

Test Result

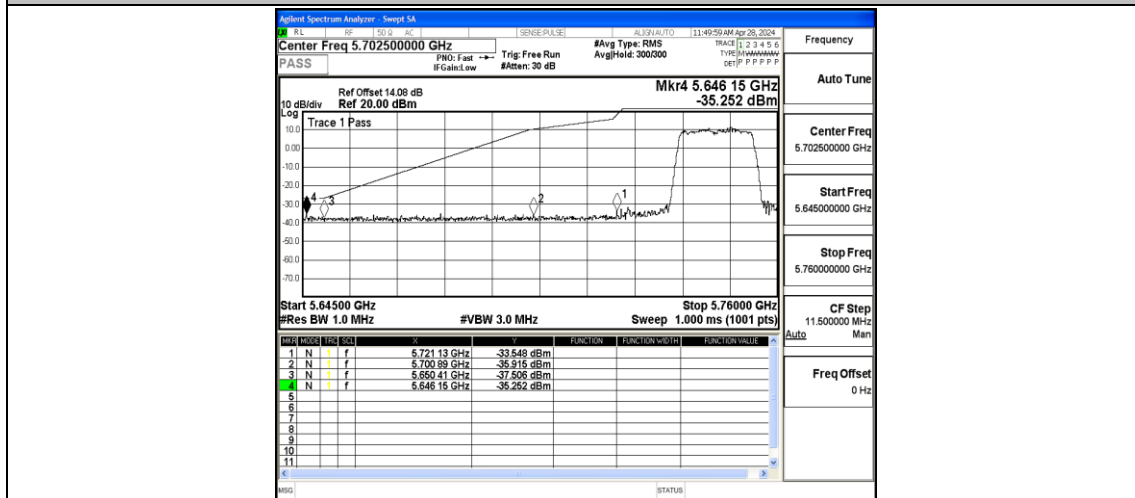
TestMode	Antenna	ChName	Frequency[MHz]	FreqRange [MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	Low	5745	5720~5725	-34.76	≤15.82	PASS
11A	Ant1	Low	5745	5700~5720	-36.56	≤10.35	PASS
11A	Ant1	Low	5745	5650~5700	-36.86	≤-26.87	PASS
11A	Ant1	Low	5745	5760~5650	-36.66	≤-27	PASS
11A	Ant1	High	5825	5850~5855	-36.43	≤15.73	PASS
11A	Ant1	High	5825	5855~5875	-34.69	≤11.12	PASS
11A	Ant1	High	5825	5875~5925	-35.83	≤-26.21	PASS
11A	Ant1	High	5825	5925~5935	-35.25	≤-27	PASS
11N20SIS O	Ant1	Low	5745	5720~5725	-34.19	≤17.13	PASS
11N20SIS O	Ant1	Low	5745	5700~5720	-35.85	≤10.76	PASS
11N20SIS O	Ant1	Low	5745	5650~5700	-35.59	≤-25.42	PASS
11N20SIS O	Ant1	Low	5745	5760~5650	-36.46	≤-27	PASS
11N20SIS O	Ant1	High	5825	5850~5855	-36.28	≤16.34	PASS
11N20SIS O	Ant1	High	5825	5855~5875	-35.82	≤10.44	PASS
11N20SIS O	Ant1	High	5825	5875~5925	-35.84	≤-26.31	PASS
11N20SIS O	Ant1	High	5825	5925~5935	-34.95	≤-27	PASS
11AC20SI SO	Ant1	Low	5745	5720~5725	-33.55	≤18.18	PASS
11AC20SI SO	Ant1	Low	5745	5700~5720	-35.92	≤10.25	PASS
11AC20SI SO	Ant1	Low	5745	5650~5700	-37.51	≤-26.70	PASS
11AC20SI SO	Ant1	Low	5745	5760~5650	-35.25	≤-27	PASS
11AC20SI SO	Ant1	High	5825	5850~5855	-37.14	≤16.03	PASS
11AC20SI SO	Ant1	High	5825	5855~5875	-36.07	≤10.17	PASS
11AC20SI SO	Ant1	High	5825	5875~5925	-35.95	≤-26.21	PASS
11AC20SI SO	Ant1	High	5825	5925~5935	-35.82	≤-27	PASS

Test Graphs

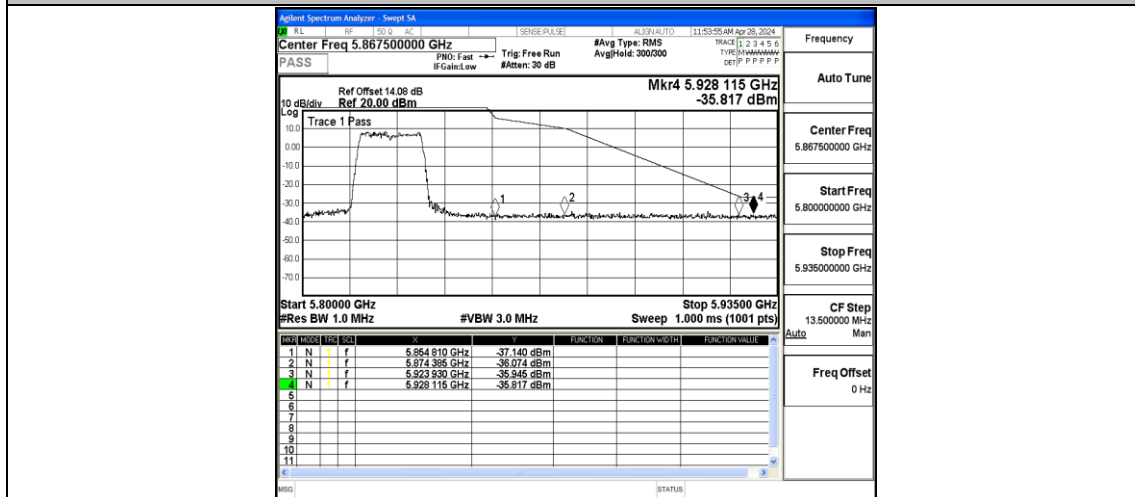




11N20SISO-Ant1-5825-PASS



11AC20SISO-Ant1-5745-PASS



11AC20SISO-Ant1-5825-PASS

Appendix E: Frequency Stability

Test Result

Ant1

Frequency (MHz)	Environment Temperature (Degree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5745	20	132	5744.900978	5745 – 5825	PASS
5745	20	108	5745.041039	5745 – 5825	PASS
5745	50	120	5744.933548	5745 – 5825	PASS
5745	40	120	5745.050945	5745 – 5825	PASS
5745	30	120	5745.009926	5745 – 5825	PASS
5745	20	120	5744.907202	5745 – 5825	PASS
5745	10	120	5745.076732	5745 – 5825	PASS
5745	0	120	5745.084333	5745 – 5825	PASS
5745	-10	120	5744.903159	5745 – 5825	PASS
5745	-20	120	5745.033055	5745 – 5825	PASS
5745	-30	120	5745.059729	5745 – 5825	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5785	20	132	5784.918658	5745 – 5825	PASS
5785	20	108	5784.976167	5745 – 5825	PASS
5785	50	120	5785.027551	5745 – 5825	PASS
5785	40	120	5784.962090	5745 – 5825	PASS
5785	30	120	5784.990629	5745 – 5825	PASS
5785	20	120	5784.998354	5745 – 5825	PASS
5785	10	120	5785.012681	5745 – 5825	PASS
5785	0	120	5785.059765	5745 – 5825	PASS
5785	-10	120	5784.912339	5745 – 5825	PASS
5785	-20	120	5785.074352	5745 – 5825	PASS
5785	-30	120	5784.912952	5745 – 5825	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5825	20	132	5824.902968	5745 – 5825	PASS
5825	20	108	5824.910994	5745 – 5825	PASS
5825	50	120	5824.955446	5745 – 5825	PASS
5825	40	120	5824.950636	5745 – 5825	PASS
5825	30	120	5824.982370	5745 – 5825	PASS
5825	20	120	5825.085909	5745 – 5825	PASS
5825	10	120	5824.906989	5745 – 5825	PASS
5825	0	120	5825.008848	5745 – 5825	PASS
5825	-10	120	5824.975844	5745 – 5825	PASS
5825	-20	120	5824.953194	5745 – 5825	PASS
5825	-30	120	5825.032182	5745 – 5825	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5755	20	132	5755.085781	5745 – 5825	PASS
5755	20	108	5755.018576	5745 – 5825	PASS
5755	50	120	5754.997551	5745 – 5825	PASS
5755	40	120	5755.045244	5745 – 5825	PASS
5755	30	120	5755.005085	5745 – 5825	PASS
5755	20	120	5754.993754	5745 – 5825	PASS
5755	10	120	5755.045784	5745 – 5825	PASS
5755	0	120	5754.938192	5745 – 5825	PASS
5755	-10	120	5755.050014	5745 – 5825	PASS
5755	-20	120	5754.939851	5745 – 5825	PASS
5755	-30	120	5755.084397	5745 – 5825	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5795	20	132	5794.976560	5745 – 5825	PASS
5795	20	108	5794.980464	5745 – 5825	PASS
5795	50	120	5795.053547	5745 – 5825	PASS
5795	40	120	5795.071755	5745 – 5825	PASS
5795	30	120	5794.989789	5745 – 5825	PASS
5795	20	120	5794.909062	5745 – 5825	PASS
5795	10	120	5795.070606	5745 – 5825	PASS
5795	0	120	5794.943231	5745 – 5825	PASS
5795	-10	120	5794.943866	5745 – 5825	PASS
5795	-20	120	5795.024793	5745 – 5825	PASS
5795	-30	120	5795.006434	5745 – 5825	PASS

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5775	20	132	5775.069852	5745 – 5825	PASS
5775	20	108	5774.910218	5745 – 5825	PASS
5775	50	120	5775.038829	5745 – 5825	PASS
5775	40	120	5774.992270	5745 – 5825	PASS
5775	30	120	5774.948452	5745 – 5825	PASS
5775	20	120	5774.953492	5745 – 5825	PASS
5775	10	120	5774.903603	5745 – 5825	PASS
5775	0	120	5774.973904	5745 – 5825	PASS
5775	-10	120	5775.010758	5745 – 5825	PASS
5775	-20	120	5774.908281	5745 – 5825	PASS
5775	-30	120	5775.090681	5745 – 5825	PASS

Appendix F: Duty Cycle

Test Result

TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Dc Factor [%]	1/T
11A	Ant1	5745	2.06	2.23	92.38	0.34	0.49
11A	Ant1	5785	2.07	2.25	92.00	0.36	0.48
11A	Ant1	5825	2.06	2.28	90.35	0.44	0.49
11N20SISO	Ant1	5745	1.92	2.09	91.87	0.37	0.52
11N20SISO	Ant1	5785	1.92	2.12	90.57	0.43	0.52
11N20SISO	Ant1	5825	1.92	2.15	89.30	0.49	0.52
11AC20SISO	Ant1	5745	0.20	0.40	50.00	3.01	5.00
11AC20SISO	Ant1	5785	0.20	0.44	45.45	3.42	5.00
11AC20SISO	Ant1	5825	0.20	0.44	45.45	3.42	5.00

Test Graphs

