



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

Product Name: Wireless Car Adapter

Trade Mark: *acer*

Test Model: TC03A

FCC ID: 2A2P5-TC03A

Environmental Conditions

Temperature:	23.5°C
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

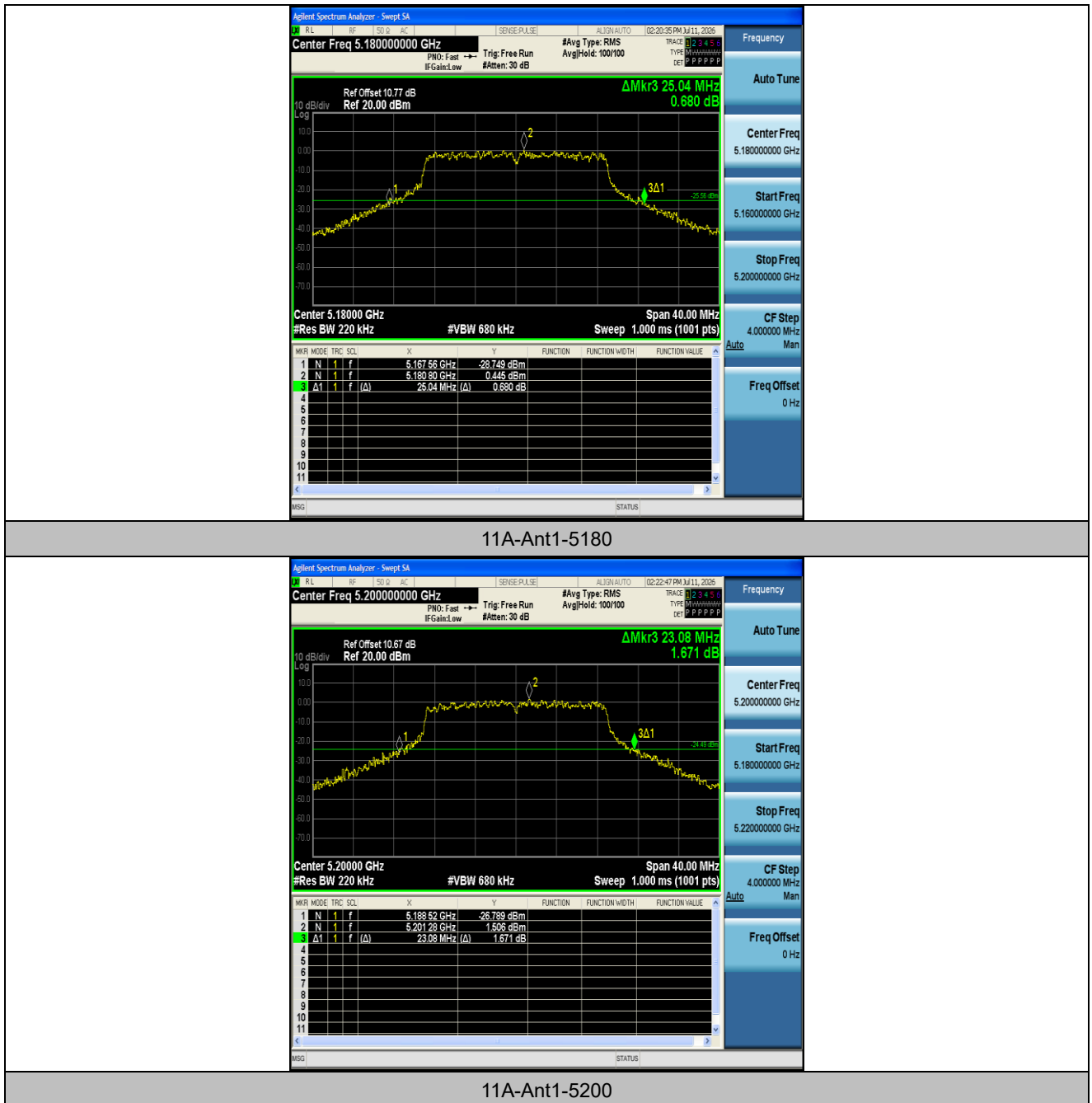
Test Mode	Antenna	Frequency [MHz]	26db EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5180	25.040	5167.560	5192.600	---	---
11A	Ant1	5200	23.080	5188.520	5211.600	---	---
11A	Ant1	5240	23.720	5228.440	5252.160	---	---
11N20SISO	Ant1	5180	25.000	5167.440	5192.440	---	---
11N20SISO	Ant1	5200	22.680	5188.800	5211.480	---	---
11N20SISO	Ant1	5240	23.720	5228.400	5252.120	---	---
11N40SISO	Ant1	5190	43.840	5168.160	5212.000	---	---
11N40SISO	Ant1	5230	44.160	5208.480	5252.640	---	---
11AC20SISO	Ant1	5180	25.160	5167.400	5192.560	---	---
11AC20SISO	Ant1	5200	23.160	5188.480	5211.640	---	---
11AC20SISO	Ant1	5240	24.680	5228.200	5252.880	---	---
11AC40SISO	Ant1	5190	44.400	5167.920	5212.320	---	---
11AC40SISO	Ant1	5230	45.040	5208.320	5253.360	---	---

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





Test Graphs





11A-Ant1-5240



11N20SISO-Ant1-5180





11N20SISO-Ant1-5200



11N20SISO-Ant1-5240





11N40SISO-Ant1-5190



11N40SISO-Ant1-5230





11AC20SISO-Ant1-5180



11AC20SISO-Ant1-5200





11AC20SISO-Ant1-5240



11AC40SISO-Ant1-5190





11AC40SISO-Ant1-5230





Appendix A2: Occupied channel bandwidth

Test Result

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5180	18.448	5170.8034	5189.2514	---	---
11A	Ant1	5200	18.282	5190.9170	5209.1990	---	---
11A	Ant1	5240	18.326	5230.9264	5249.2524	---	---
11N20SISO	Ant1	5180	18.552	5170.7774	5189.3294	---	---
11N20SISO	Ant1	5200	18.330	5190.9894	5209.3194	---	---
11N20SISO	Ant1	5240	18.406	5230.9281	5249.3341	---	---
11N40SISO	Ant1	5190	37.024	5171.6920	5208.7160	---	---
11N40SISO	Ant1	5230	37.177	5211.5631	5248.7401	---	---
11AC20SISO	Ant1	5180	18.537	5170.7845	5189.3215	---	---
11AC20SISO	Ant1	5200	18.390	5190.9345	5209.3245	---	---
11AC20SISO	Ant1	5240	18.364	5230.9295	5249.2935	---	---
11AC40SISO	Ant1	5190	36.997	5171.6327	5208.6297	---	---
11AC40SISO	Ant1	5230	37.084	5211.5166	5248.6006	---	---

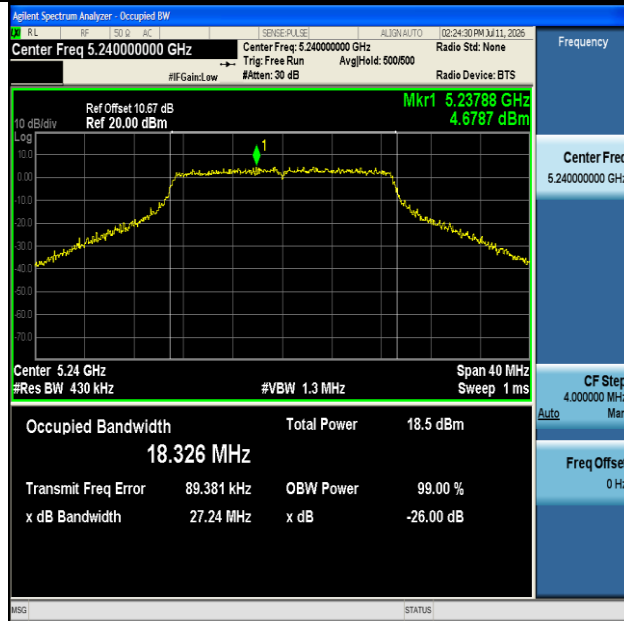
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



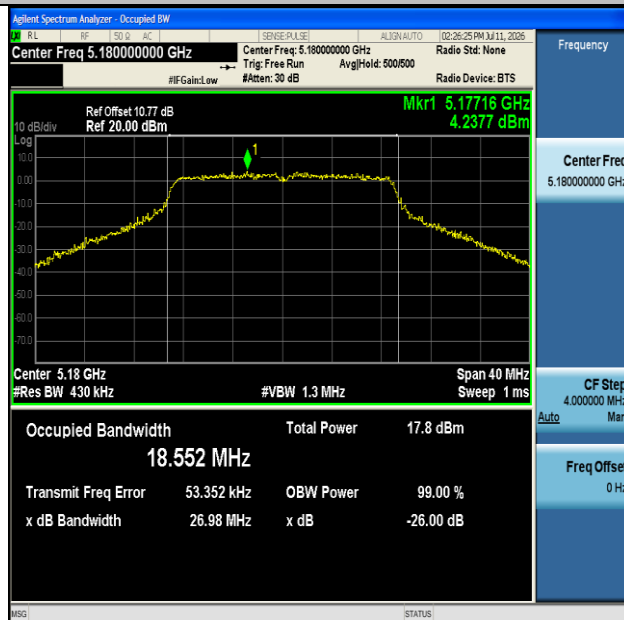


Test Graphs



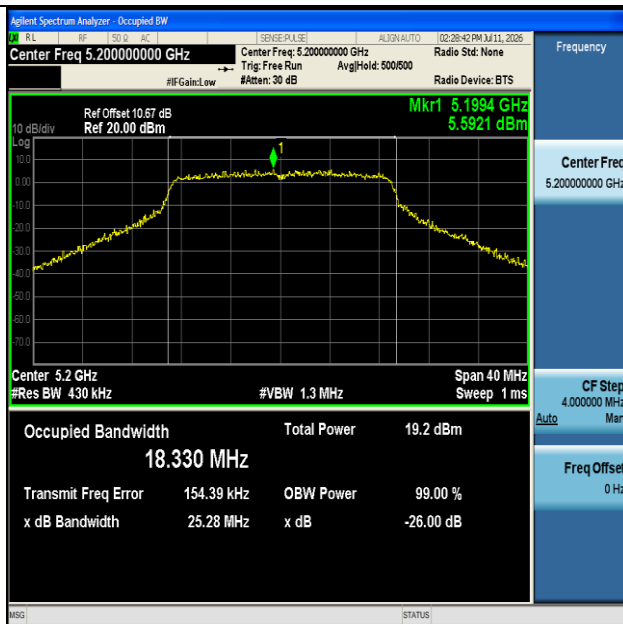


11A-Ant1-5240

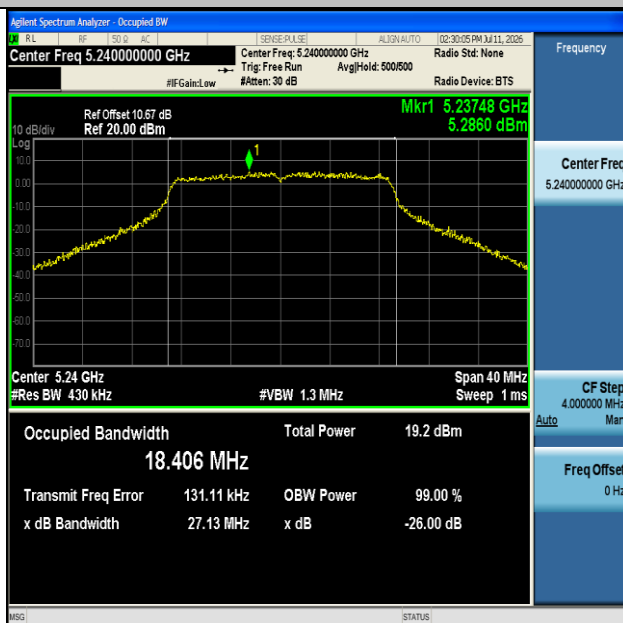


11N20SISO-Ant1-5180



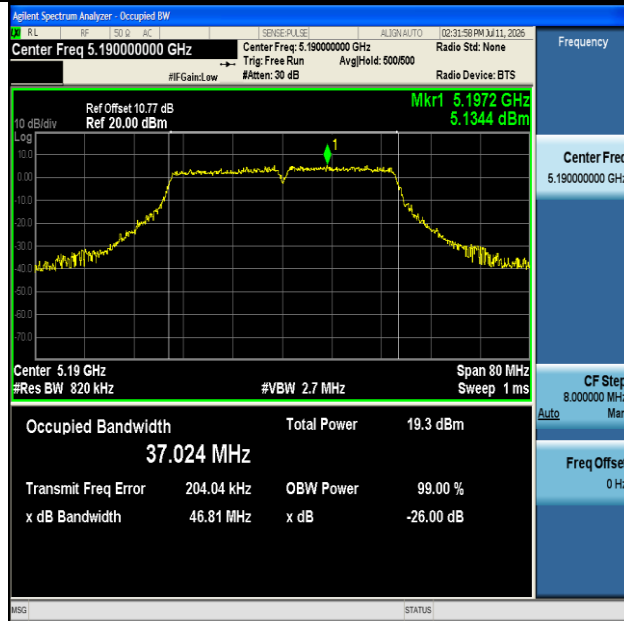


11N20SISO-Ant1-5200

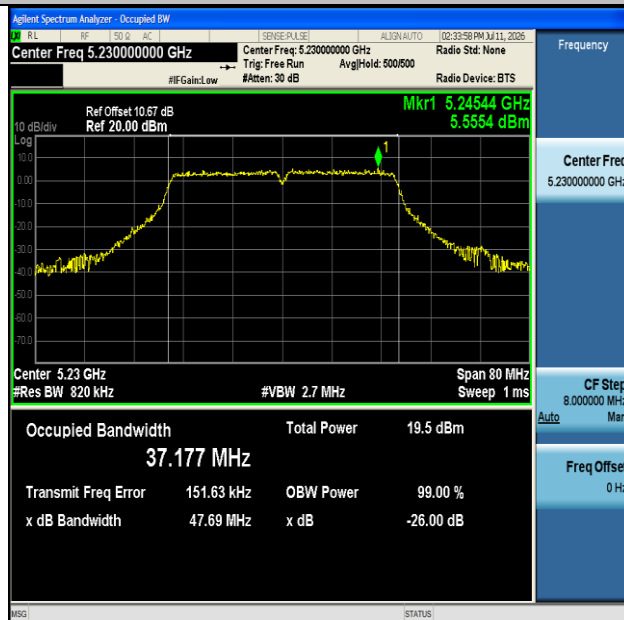


11N20SISO-Ant1-5240



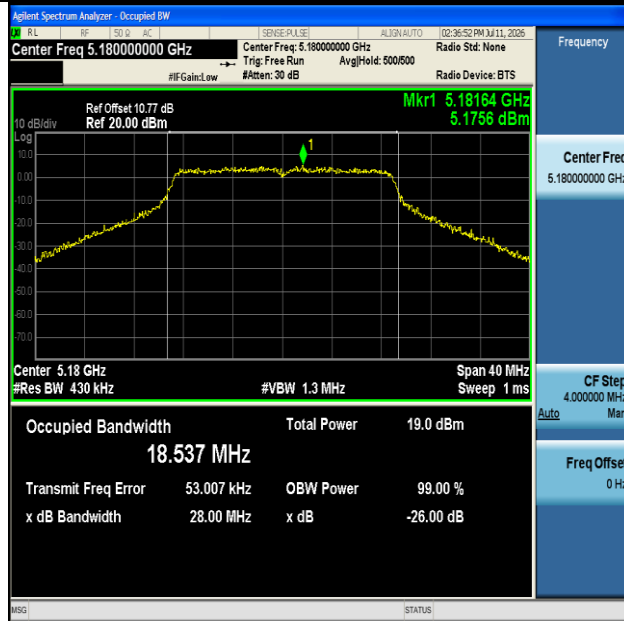


11N40SISO-Ant1-5190

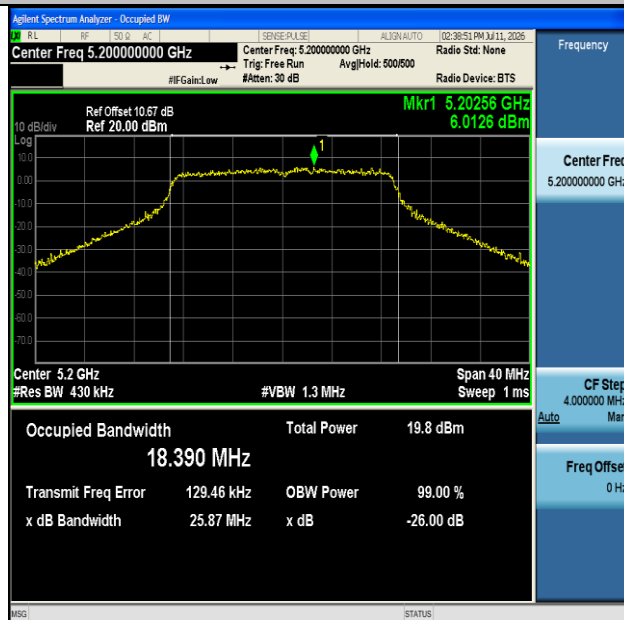


11N40SISO-Ant1-5230





11AC20SISO-Ant1-5180

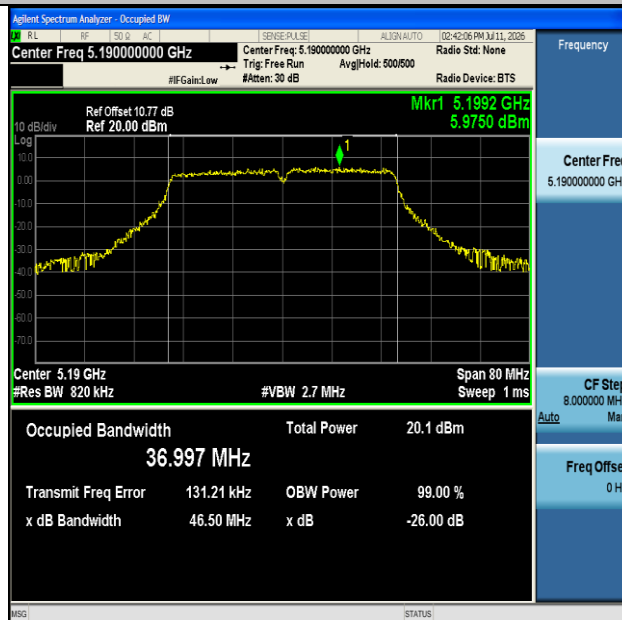


11AC20SISO-Ant1-5200



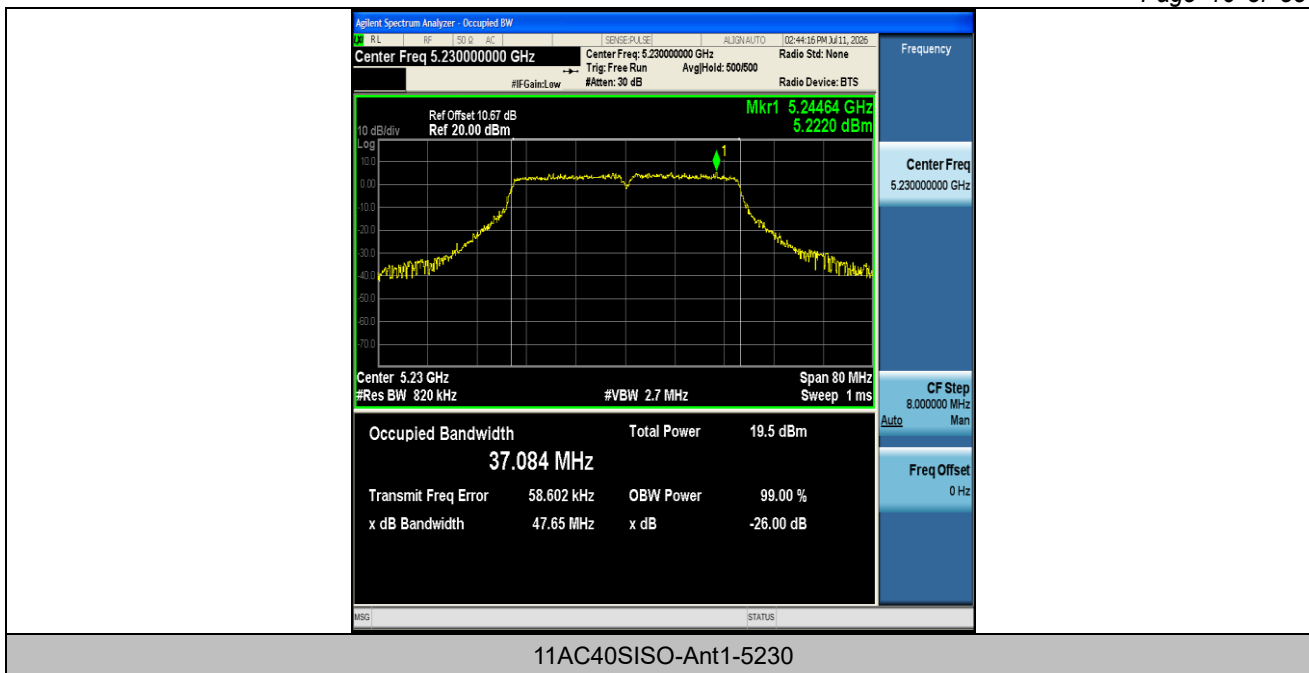


11AC20SISO-Ant1-5240



11AC40SISO-Ant1-5190







Appendix B: Maximum conducted output power

Test Result

Test Mode	Antenna	Frequency [MHz]	Conducted Power [dBm]	Conducted Limit [dBm]	Verdict
11A	Ant1	5180	11.43	≤23.98	PASS
11A	Ant1	5200	11.79	≤23.98	PASS
11A	Ant1	5240	11.66	≤23.98	PASS
11N20SISO	Ant1	5180	10.25	≤23.98	PASS
11N20SISO	Ant1	5200	11.70	≤23.98	PASS
11N20SISO	Ant1	5240	11.66	≤23.98	PASS
11N40SISO	Ant1	5190	10.88	≤23.98	PASS
11N40SISO	Ant1	5230	11.51	≤23.98	PASS
11AC20SISO	Ant1	5180	11.99	≤23.98	PASS
11AC20SISO	Ant1	5200	12.24	≤23.98	PASS
11AC20SISO	Ant1	5240	12.29	≤23.98	PASS
11AC40SISO	Ant1	5190	12.47	≤23.98	PASS
11AC40SISO	Ant1	5230	11.65	≤23.98	PASS

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





Appendix C: Maximum power spectral density

Test Result

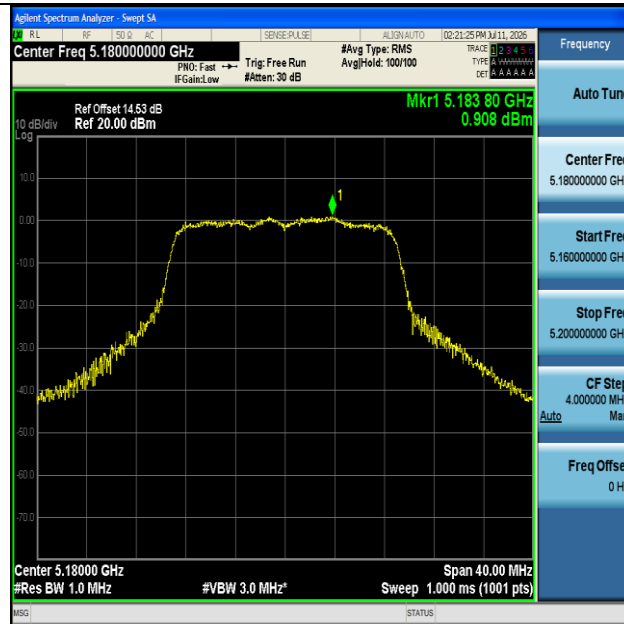
Test Mode	Antenna	Frequency [MHz]	Result [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	Ant1	5180	0.91	≤11.00	PASS
11A	Ant1	5200	1.15	≤11.00	PASS
11A	Ant1	5240	1.83	≤11.00	PASS
11N20SISO	Ant1	5180	-0.87	≤11.00	PASS
11N20SISO	Ant1	5200	0.93	≤11.00	PASS
11N20SISO	Ant1	5240	1.19	≤11.00	PASS
11N40SISO	Ant1	5190	-2.78	≤11.00	PASS
11N40SISO	Ant1	5230	-2.66	≤11.00	PASS
11AC20SISO	Ant1	5180	0.85	≤11.00	PASS
11AC20SISO	Ant1	5200	1.54	≤11.00	PASS
11AC20SISO	Ant1	5240	1.70	≤11.00	PASS
11AC40SISO	Ant1	5190	-0.89	≤11.00	PASS
11AC40SISO	Ant1	5230	-2.17	≤11.00	PASS

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

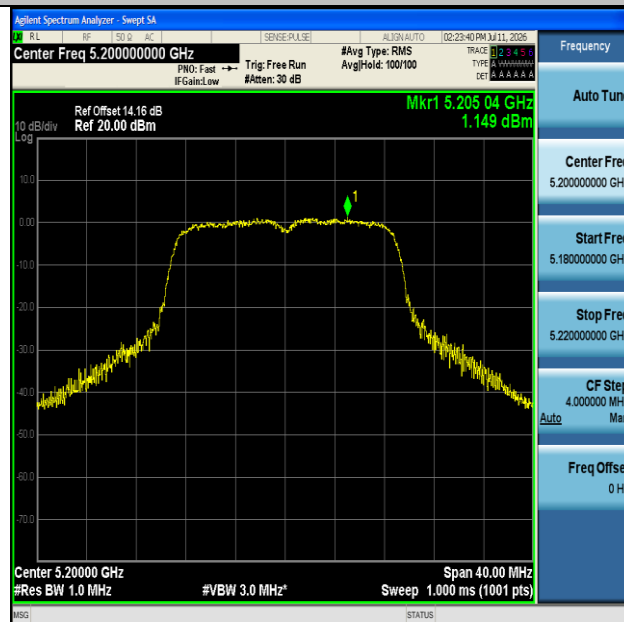




Test Graphs

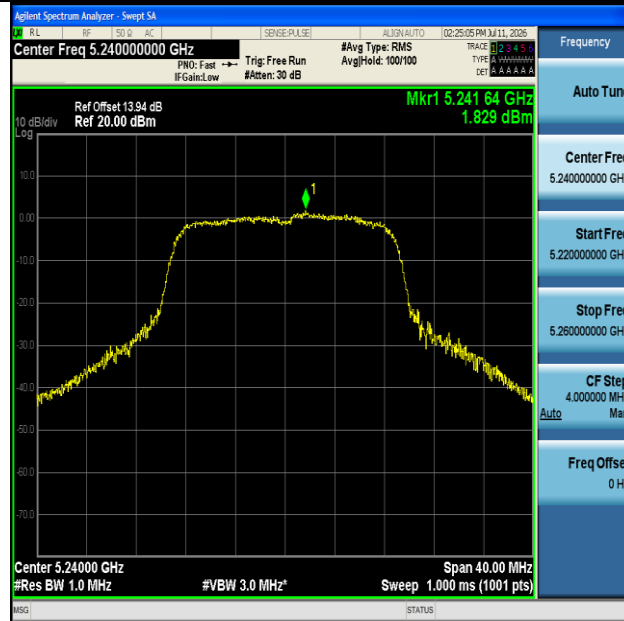


11A-Ant1-5180-PASS

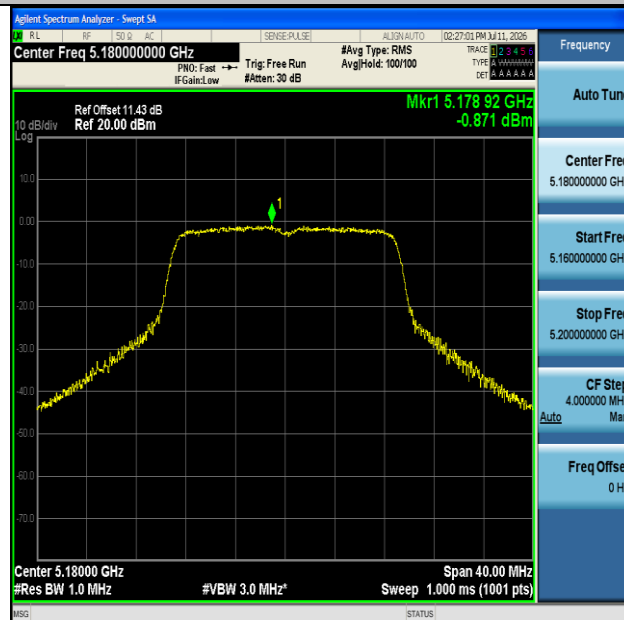


11A-Ant1-5200-PASS



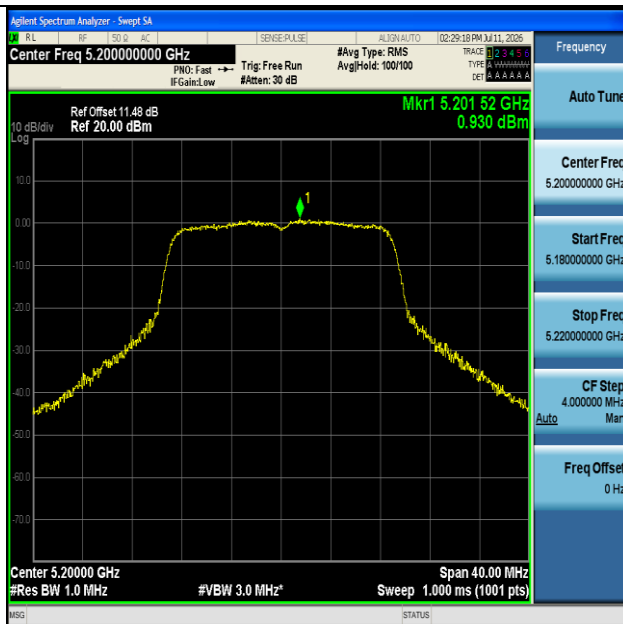


11A-Ant1-5240-PASS

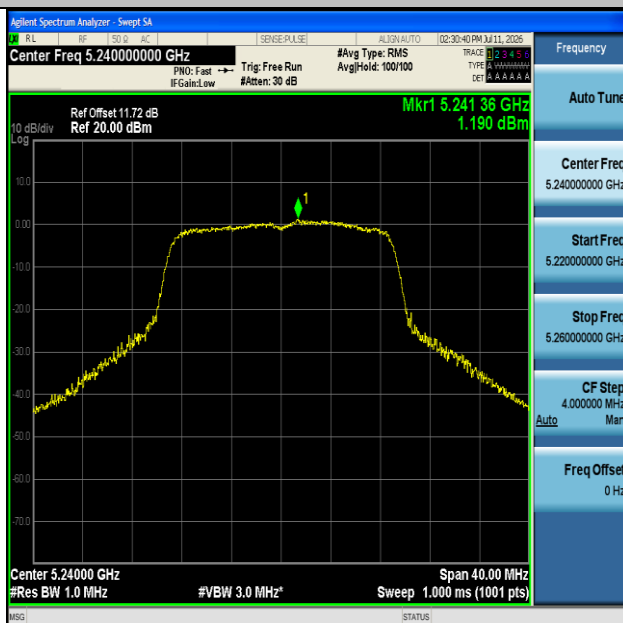


11N20SISO-Ant1-5180-PASS



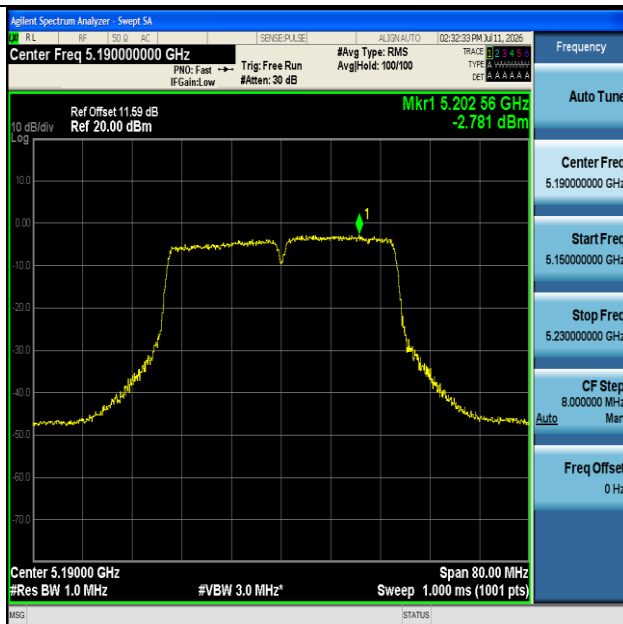


11N20SISO-Ant1-5200-PASS

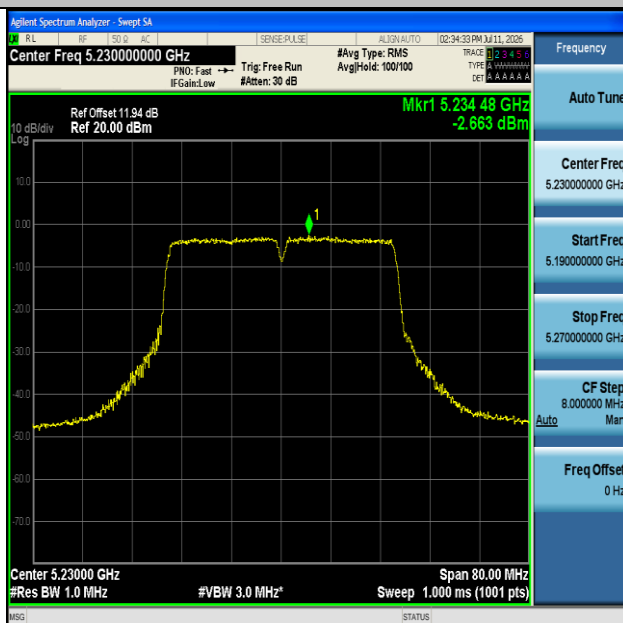


11N20SISO-Ant1-5240-PASS



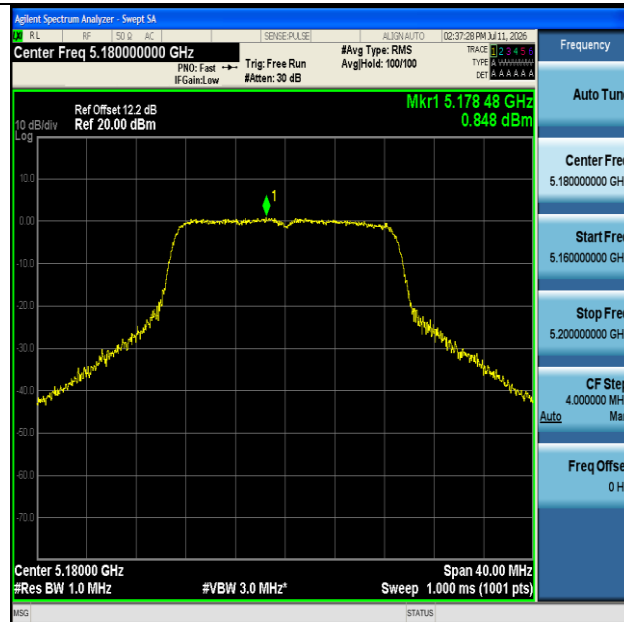


11N40SISO-Ant1-5190-PASS

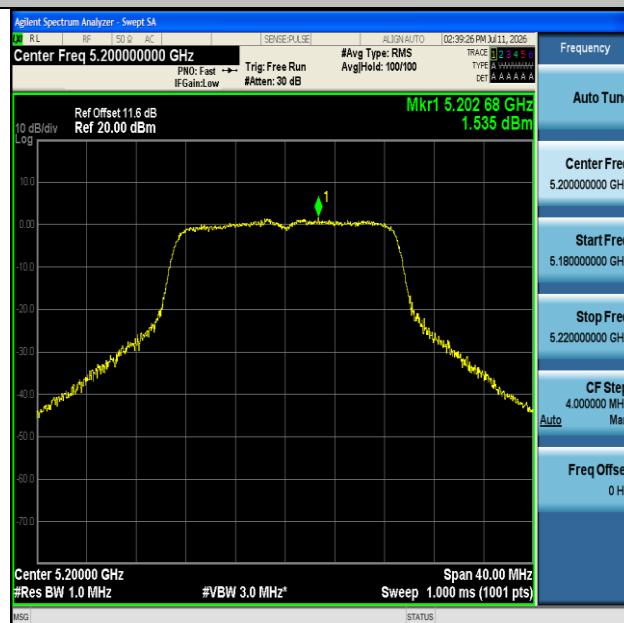


11N40SISO-Ant1-5230-PASS



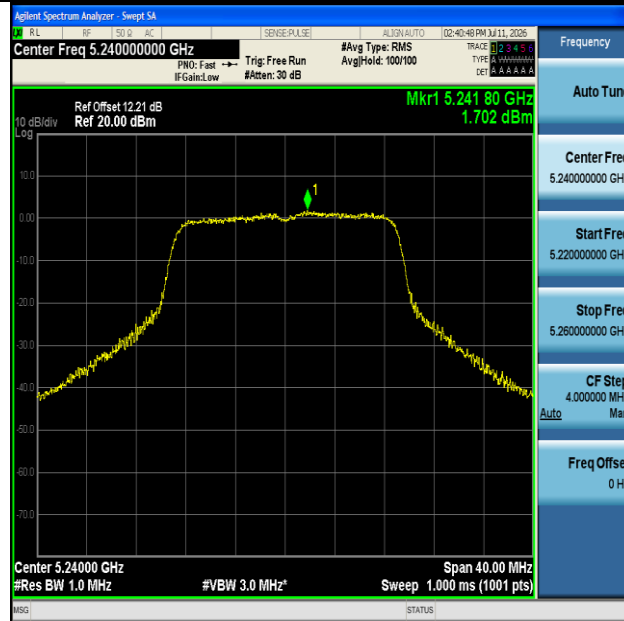


11AC20SISO-Ant1-5180-PASS

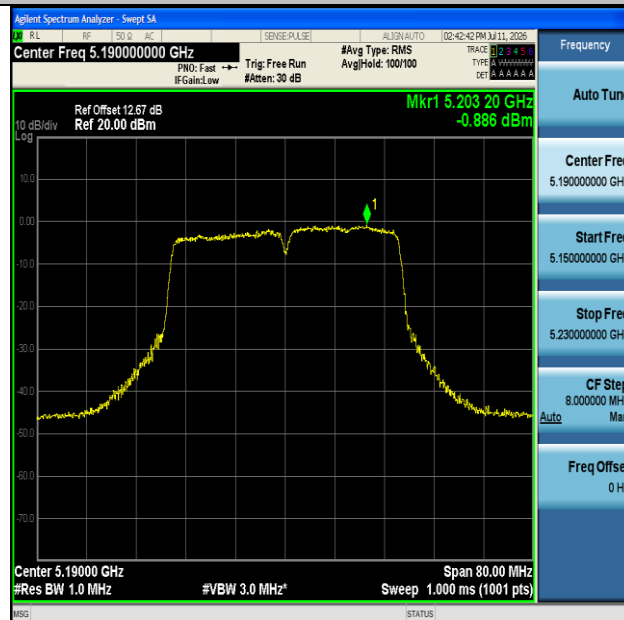


11AC20SISO-Ant1-5200-PASS



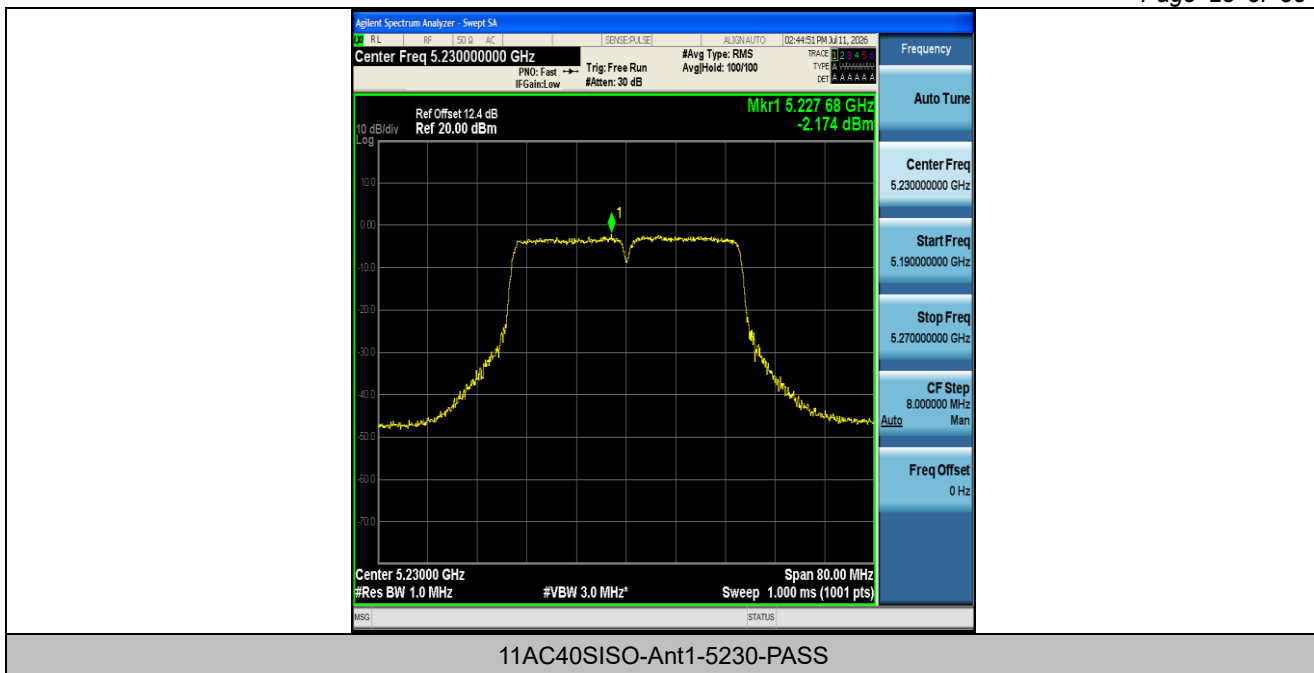


11AC20SISO-Ant1-5240-PASS



11AC40SISO-Ant1-5190-PASS







Appendix D: Band edge measurements

Test Result

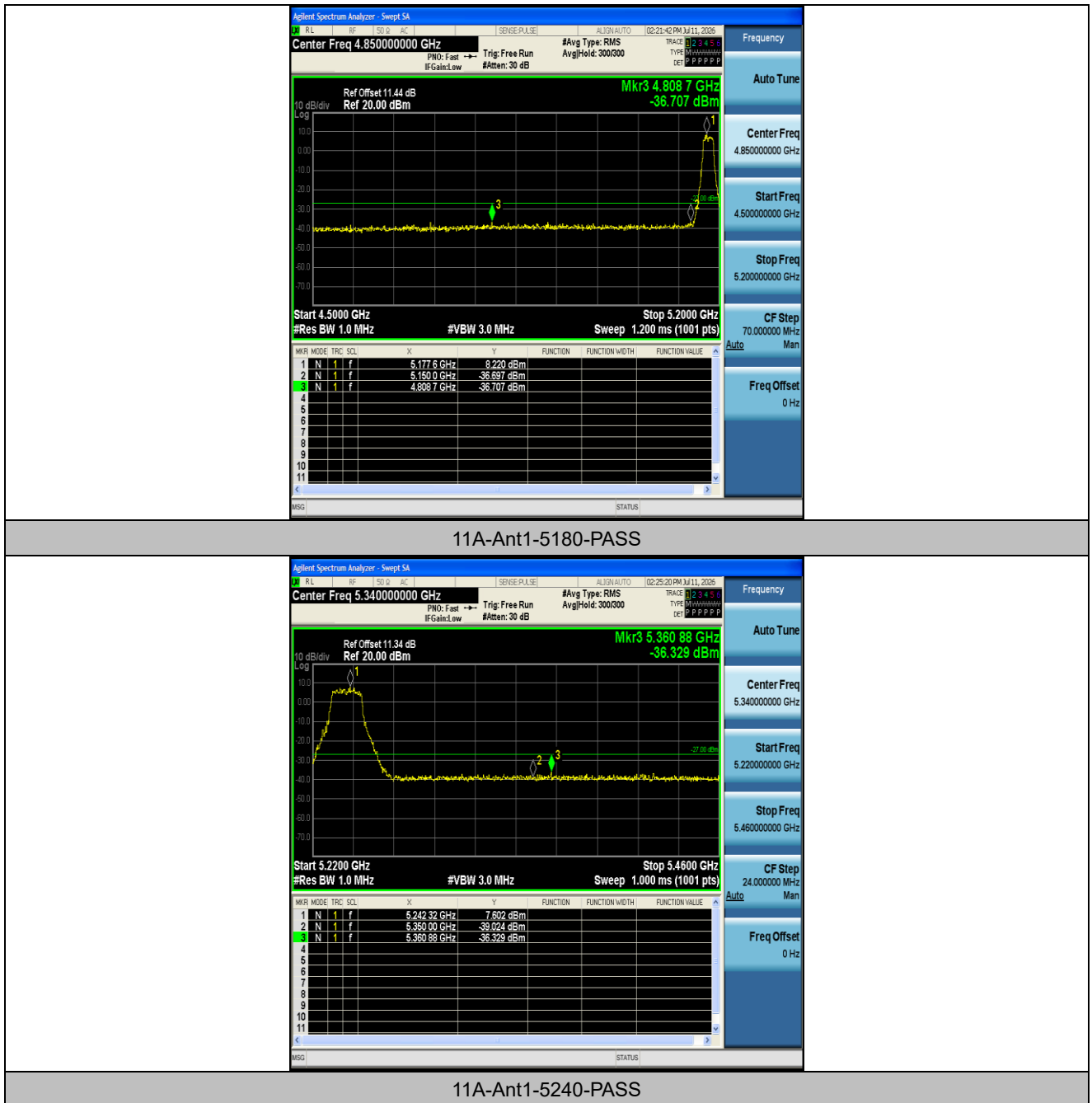
Test Mode	Antenna	Ch. Name	Frequency [MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	Low	5180	-36.71	≤ -27	PASS
11A	Ant1	High	5240	-36.33	≤ -27	PASS
11N20SISO	Ant1	Low	5180	-36.16	≤ -27	PASS
11N20SISO	Ant1	High	5240	-37.18	≤ -27	PASS
11N40SISO	Ant1	Low	5190	-35.18	≤ -27	PASS
11N40SISO	Ant1	High	5230	-36.27	≤ -27	PASS
11AC20SISO	Ant1	Low	5180	-35.95	≤ -27	PASS
11AC20SISO	Ant1	High	5240	-36.18	≤ -27	PASS
11AC40SISO	Ant1	Low	5190	-34.74	≤ -27	PASS
11AC40SISO	Ant1	High	5230	-36.51	≤ -27	PASS

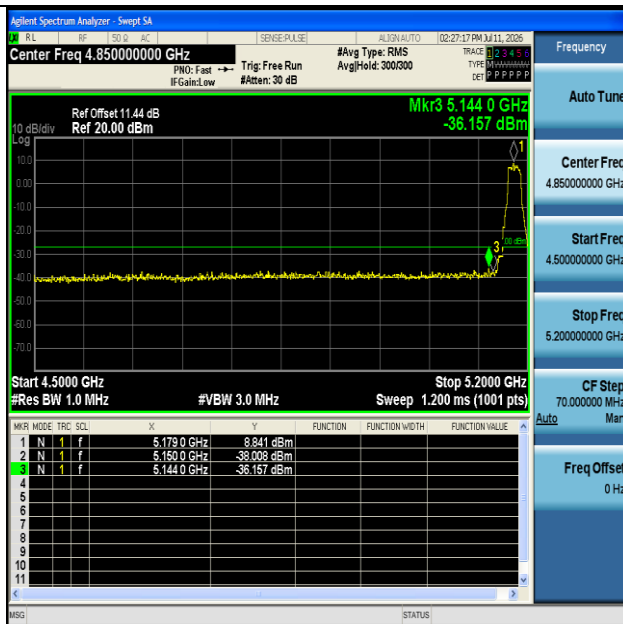
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)+antenna gain(dBi)



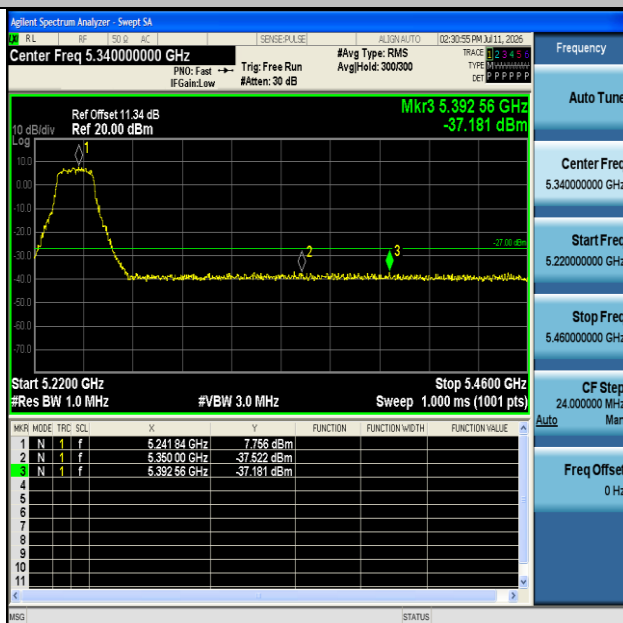


Test Graphs



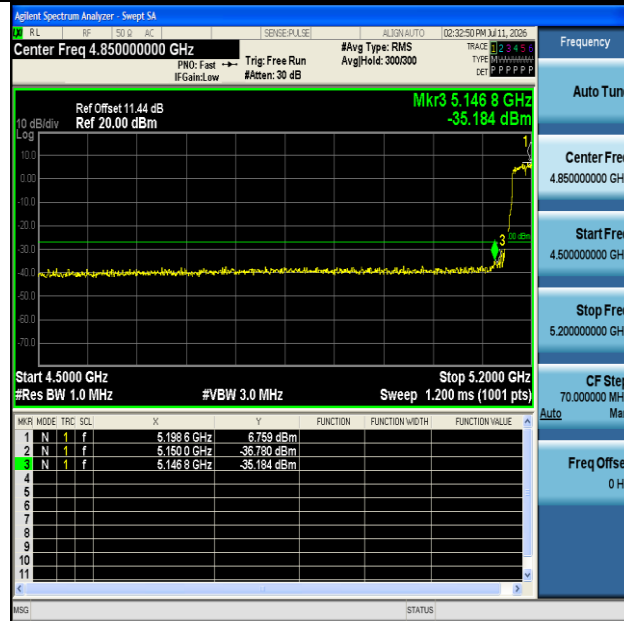


11N20SISO-Ant1-5180-PASS

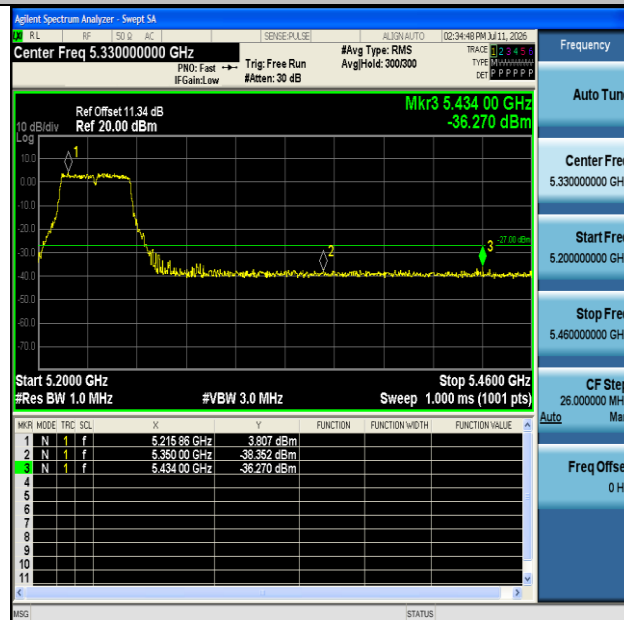


11N20SISO-Ant1-5240-PASS





11N40SISO-Ant1-5190-PASS

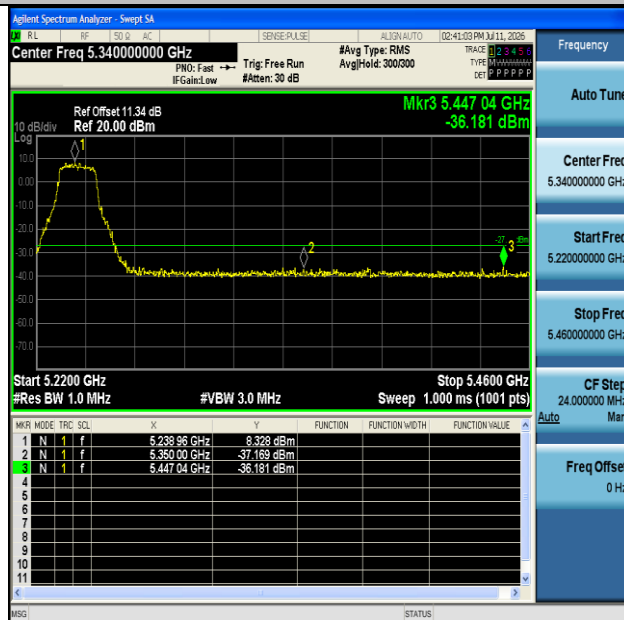


11N40SISO-Ant1-5230-PASS



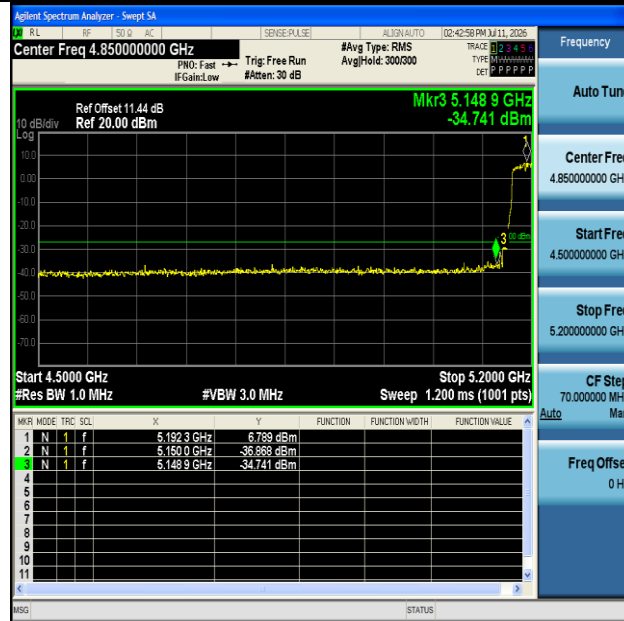


11AC20SISO-Ant1-5180-PASS

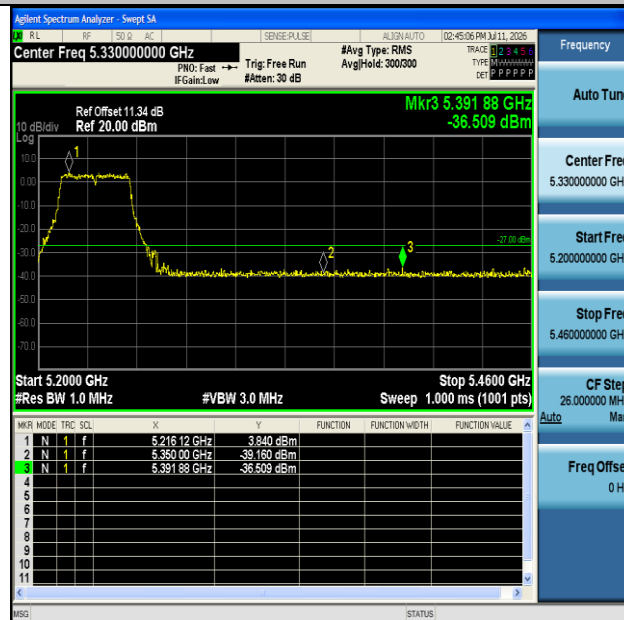


11AC20SISO-Ant1-5240-PASS





11AC40SISO-Ant1-5190-PASS



11AC40SISO-Ant1-5230-PASS





Appendix E: Frequency Stability

Test Result

Ant1

Frequency (MHz)	Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5180	20	132	5180.005129	5150 – 5250	PASS
5180	20	108	5179.969335	5150 – 5250	PASS
5180	50	120	5180.034933	5150 – 5250	PASS
5180	40	120	5179.961207	5150 – 5250	PASS
5180	30	120	5179.944016	5150 – 5250	PASS
5180	20	120	5179.953366	5150 – 5250	PASS
5180	10	120	5179.926704	5150 – 5250	PASS
5180	0	120	5179.968161	5150 – 5250	PASS
5180	-10	120	5180.093015	5150 – 5250	PASS
5180	-20	120	5179.977630	5150 – 5250	PASS
5180	-30	120	5179.939434	5150 – 5250	PASS





Ant1

Frequency (MHz)	Enviroment Temperature (Degree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5200	20	132	5199.946412	5150 – 5250	PASS
5200	20	108	5200.094176	5150 – 5250	PASS
5200	50	120	5200.039637	5150 – 5250	PASS
5200	40	120	5199.934464	5150 – 5250	PASS
5200	30	120	5200.037124	5150 – 5250	PASS
5200	20	120	5200.046432	5150 – 5250	PASS
5200	10	120	5199.944760	5150 – 5250	PASS
5200	0	120	5199.947695	5150 – 5250	PASS
5200	-10	120	5199.921535	5150 – 5250	PASS
5200	-20	120	5200.068697	5150 – 5250	PASS
5200	-30	120	5200.019136	5150 – 5250	PASS





Ant1

Frequency (MHz)	Enviroment Temperature (Degree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5240	20	132	5240.022422	5150 – 5250	PASS
5240	20	108	5239.979973	5150 – 5250	PASS
5240	50	120	5239.911140	5150 – 5250	PASS
5240	40	120	5240.011221	5150 – 5250	PASS
5240	30	120	5240.076001	5150 – 5250	PASS
5240	20	120	5240.097196	5150 – 5250	PASS
5240	10	120	5239.964981	5150 – 5250	PASS
5240	0	120	5239.934266	5150 – 5250	PASS
5240	-10	120	5239.964559	5150 – 5250	PASS
5240	-20	120	5240.005501	5150 – 5250	PASS
5240	-30	120	5239.949387	5150 – 5250	PASS





Ant1

Frequency (MHz)	Enviroment Temperature (Degree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5190	20	132	5190.087750	5150 – 5250	PASS
5190	20	108	5189.930950	5150 – 5250	PASS
5190	50	120	5189.928768	5150 – 5250	PASS
5190	40	120	5189.971984	5150 – 5250	PASS
5190	30	120	5189.981768	5150 – 5250	PASS
5190	20	120	5190.087799	5150 – 5250	PASS
5190	10	120	5190.093155	5150 – 5250	PASS
5190	0	120	5190.012565	5150 – 5250	PASS
5190	-10	120	5190.021701	5150 – 5250	PASS
5190	-20	120	5189.987662	5150 – 5250	PASS
5190	-30	120	5190.027504	5150 – 5250	PASS





Ant1

Frequency (MHz)	Enviroment Temperature (Degree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5230	20	132	5229.942115	5150 – 5250	PASS
5230	20	108	5229.909968	5150 – 5250	PASS
5230	50	120	5230.079754	5150 – 5250	PASS
5230	40	120	5230.049069	5150 – 5250	PASS
5230	30	120	5230.053682	5150 – 5250	PASS
5230	20	120	5229.996703	5150 – 5250	PASS
5230	10	120	5230.037926	5150 – 5250	PASS
5230	0	120	5230.058278	5150 – 5250	PASS
5230	-10	120	5230.070241	5150 – 5250	PASS
5230	-20	120	5229.960882	5150 – 5250	PASS
5230	-30	120	5229.926624	5150 – 5250	PASS





Appendix F: Conducted Spurious Emission

Test Result

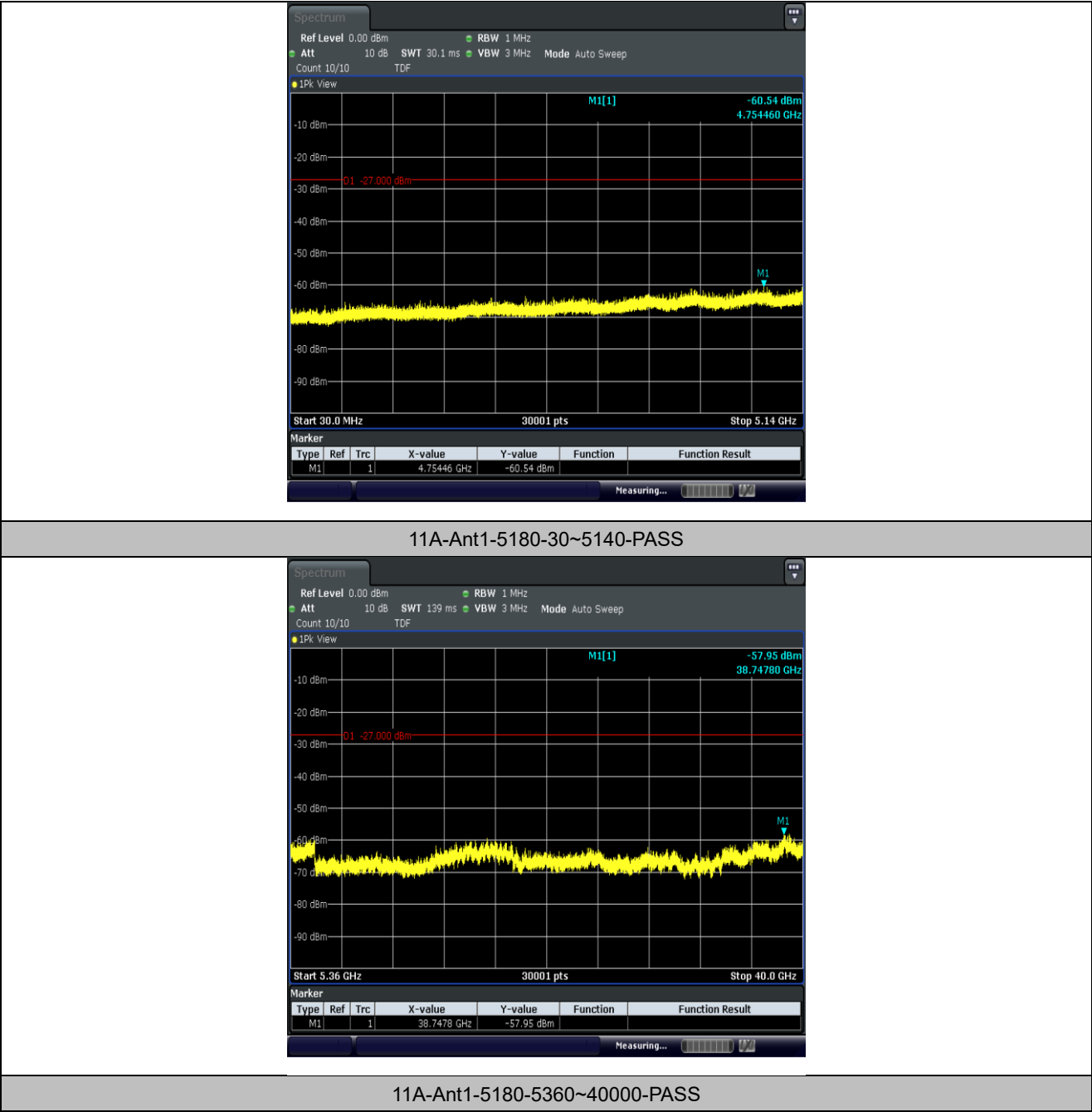
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	Max. Fre [MHz]	Max. Level [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	30~5140	4754.46	-60.54	≤-27	PASS
11A	Ant1	5180	5360~40000	38747.8	-57.95	≤-27	PASS
11A	Ant1	5200	30~5140	3518.4	-60.63	≤-27	PASS
11A	Ant1	5200	5360~40000	38783.6	-57.25	≤-27	PASS
11A	Ant1	5240	30~5140	5086.09	-60.97	≤-27	PASS
11A	Ant1	5240	5360~40000	39073.4	-57.69	≤-27	PASS
11N20SISO	Ant1	5180	30~5140	5127.82	-60.53	≤-27	PASS
11N20SISO	Ant1	5180	5360~40000	38773.2	-57.99	≤-27	PASS
11N20SISO	Ant1	5200	30~5140	4745.1	-60.32	≤-27	PASS
11N20SISO	Ant1	5200	5360~40000	38758.2	-57.5	≤-27	PASS
11N20SISO	Ant1	5240	30~5140	4762.64	-60.65	≤-27	PASS
11N20SISO	Ant1	5240	5360~40000	39072.3	-57.16	≤-27	PASS
11N40SISO	Ant1	5190	30~5140	4790.91	-60.72	≤-27	PASS
11N40SISO	Ant1	5190	5360~40000	39112.7	-57.74	≤-27	PASS
11N40SISO	Ant1	5230	30~5140	4135.15	-60.84	≤-27	PASS
11N40SISO	Ant1	5230	5360~40000	38751.3	-57.81	≤-27	PASS
11AC20SISO	Ant1	5180	30~5140	5045.89	-60.77	≤-27	PASS
11AC20SISO	Ant1	5180	5360~40000	39028.4	-57.56	≤-27	PASS
11AC20SISO	Ant1	5200	30~5140	4697.57	-60.95	≤-27	PASS
11AC20SISO	Ant1	5200	5360~40000	38781.3	-57.82	≤-27	PASS
11AC20SISO	Ant1	5240	30~5140	5134.29	-60.89	≤-27	PASS
11AC20SISO	Ant1	5240	5360~40000	38751.3	-57.71	≤-27	PASS
11AC40SISO	Ant1	5190	30~5140	4599.12	-60.81	≤-27	PASS
11AC40SISO	Ant1	5190	5360~40000	38769.7	-58.16	≤-27	PASS
11AC40SISO	Ant1	5230	30~5140	5134.46	-60.16	≤-27	PASS
11AC40SISO	Ant1	5230	5360~40000	39110.4	-57.66	≤-27	PASS

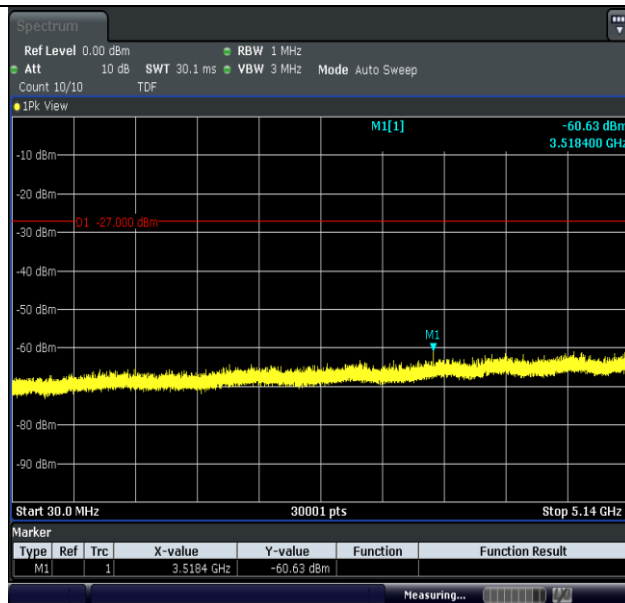
Note: For spurious emissions plots from 30MHz to 40 GHz, the cable loss, antenna gain and attenuator factors have been set in the 'TDF' of the Spectrum Analyzer during the test.



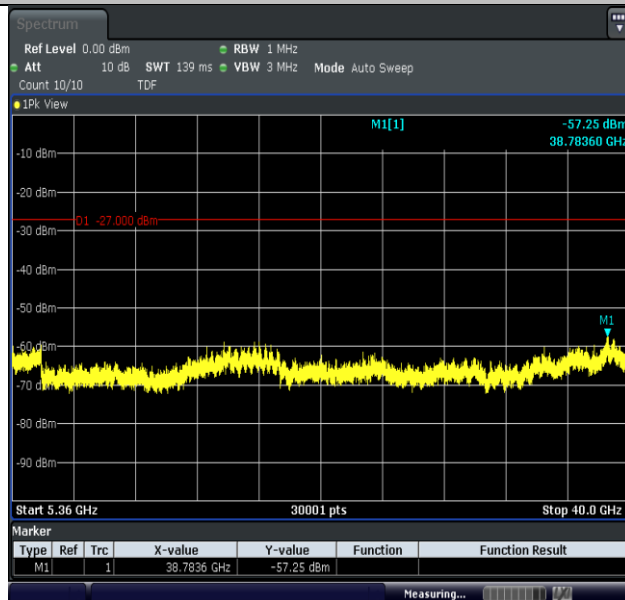


Test Graphs



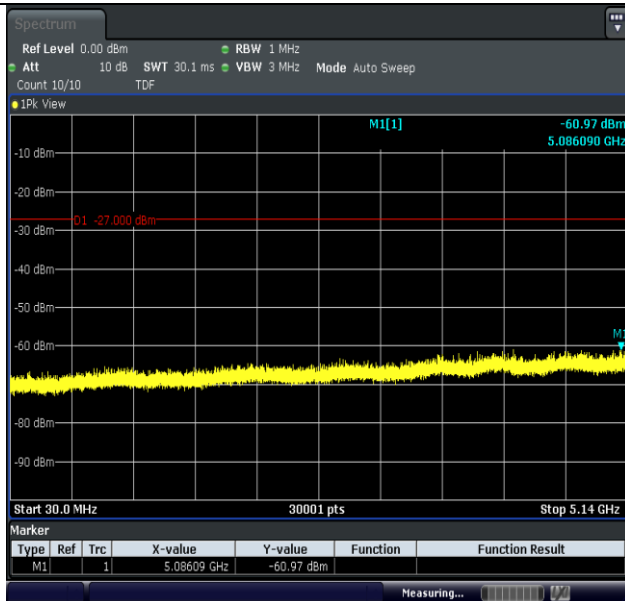


11A-Ant1-5200-30~5140-PASS

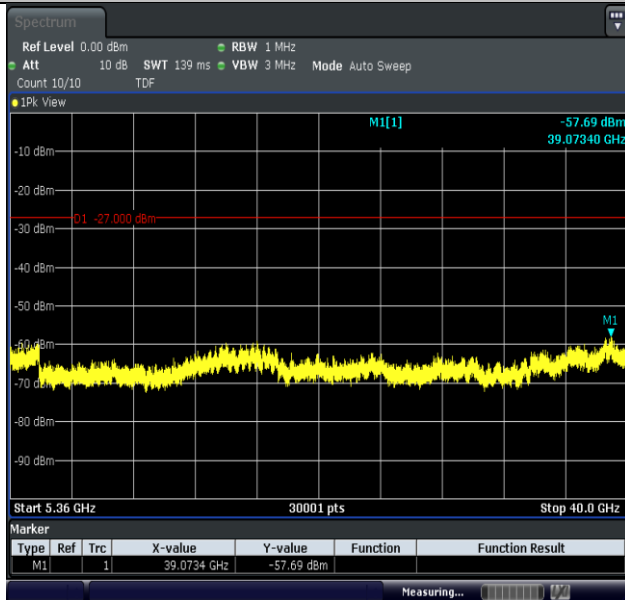


11A-Ant1-5200-5360~40000-PASS



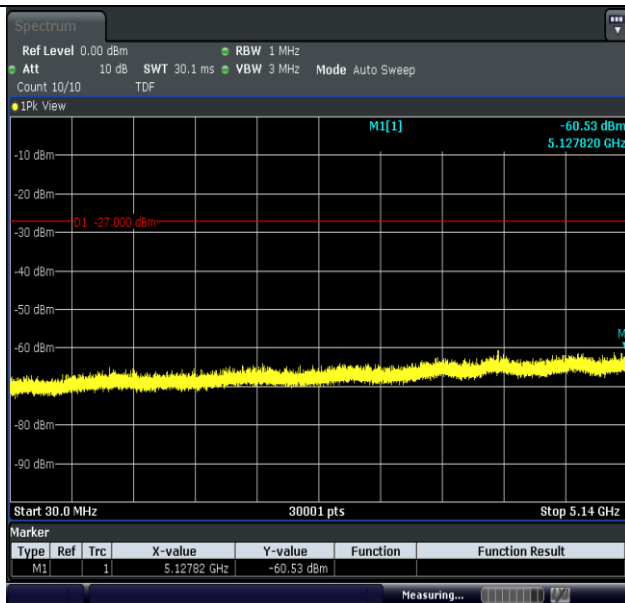


11A-Ant1-5240-30~5140-PASS

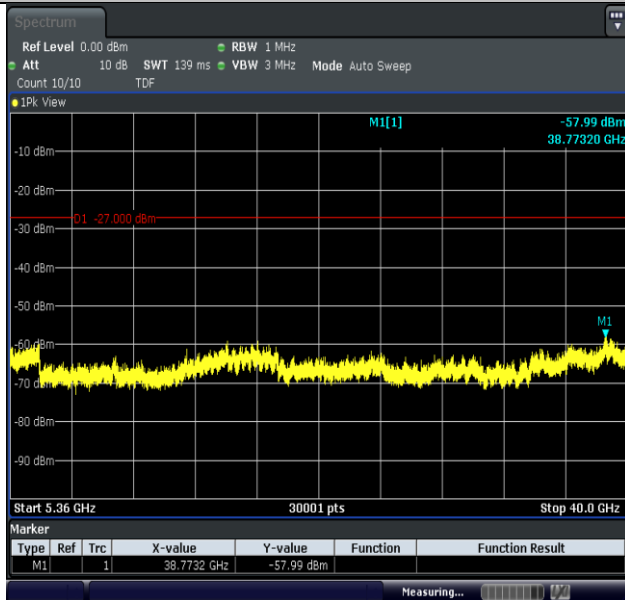


11A-Ant1-5240-5360~40000-PASS



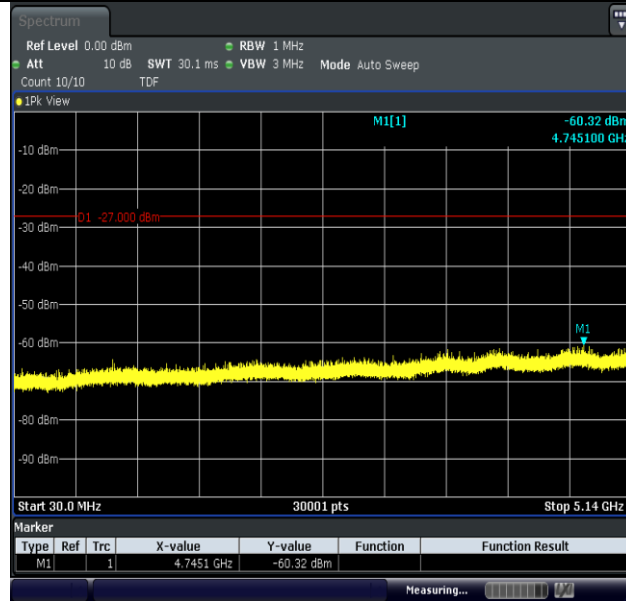


11N20SISO-Ant1-5180-30~5140-PASS

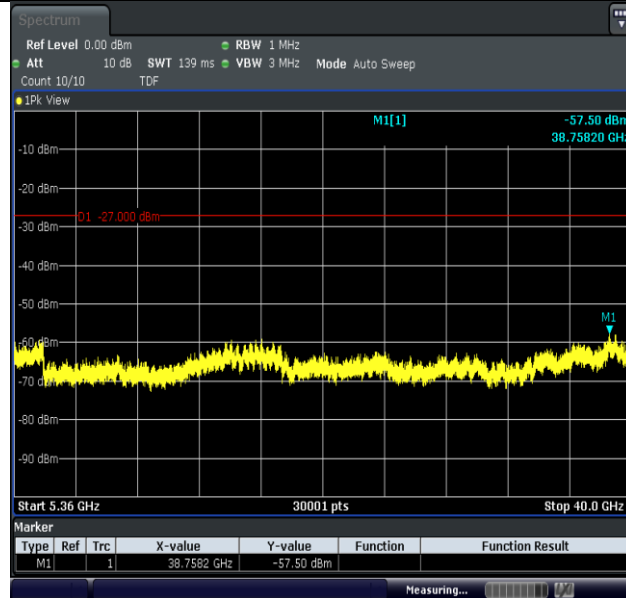


11N20SISO-Ant1-5180-5360~40000-PASS



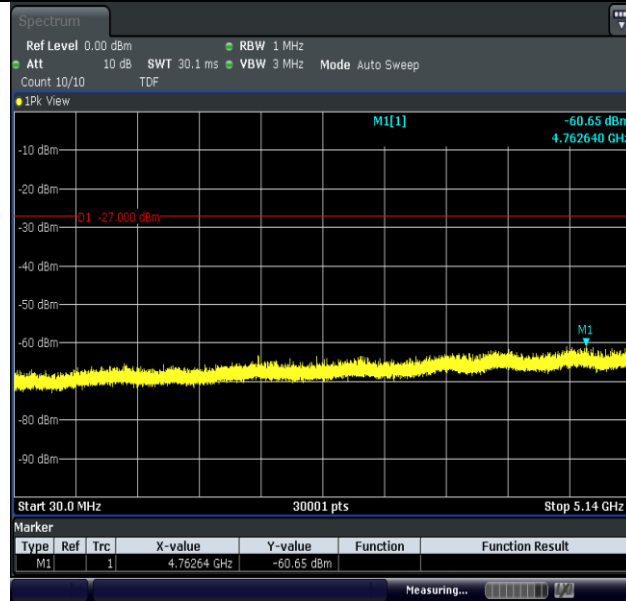


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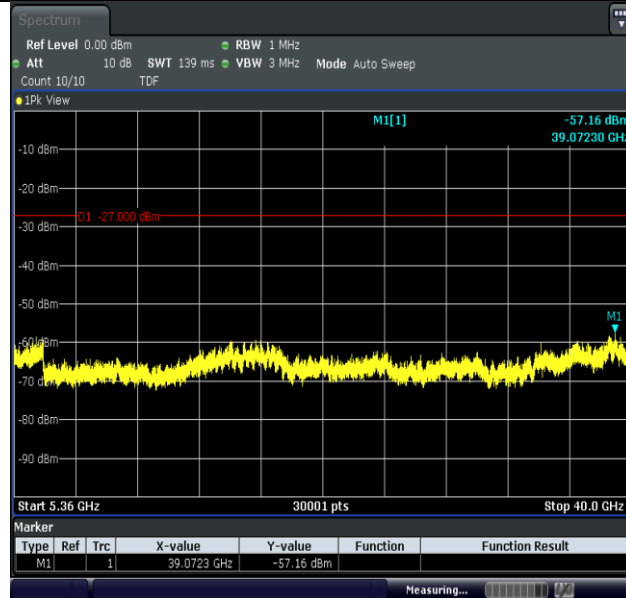


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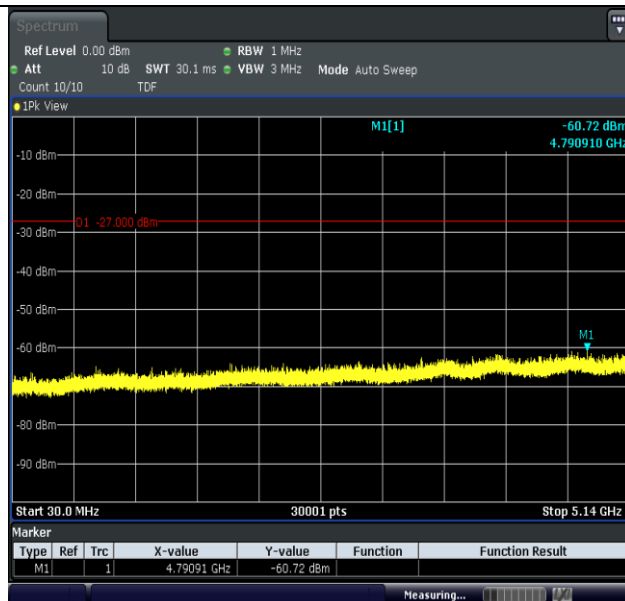


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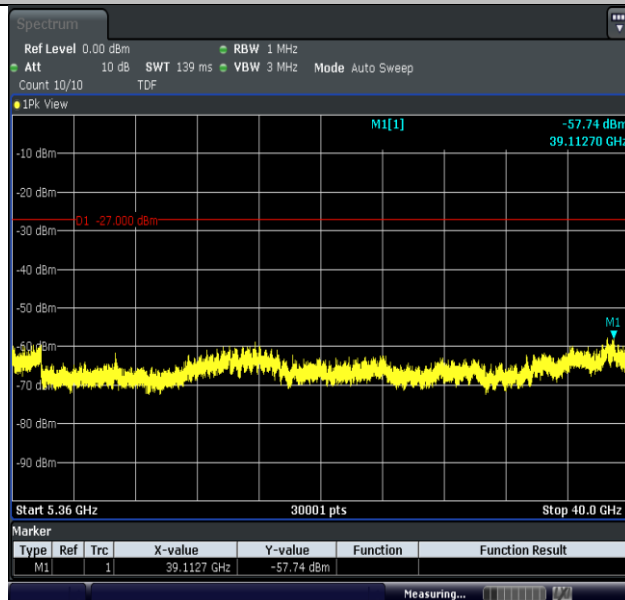


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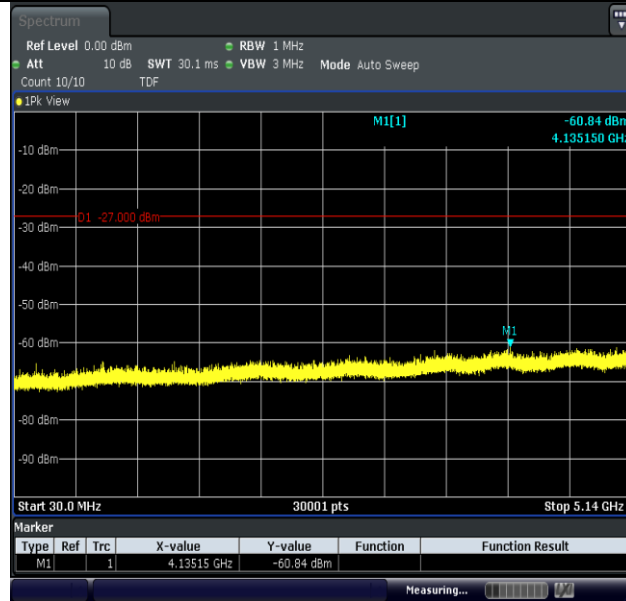


11N40SISO-Ant1-5190-30~5140-PASS

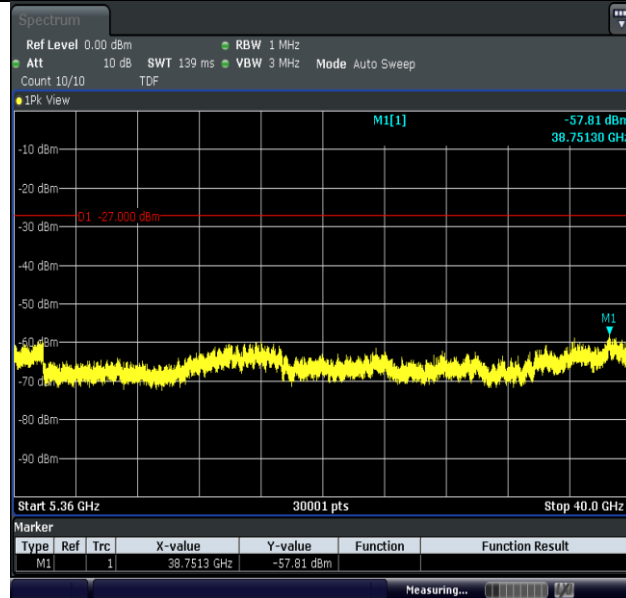


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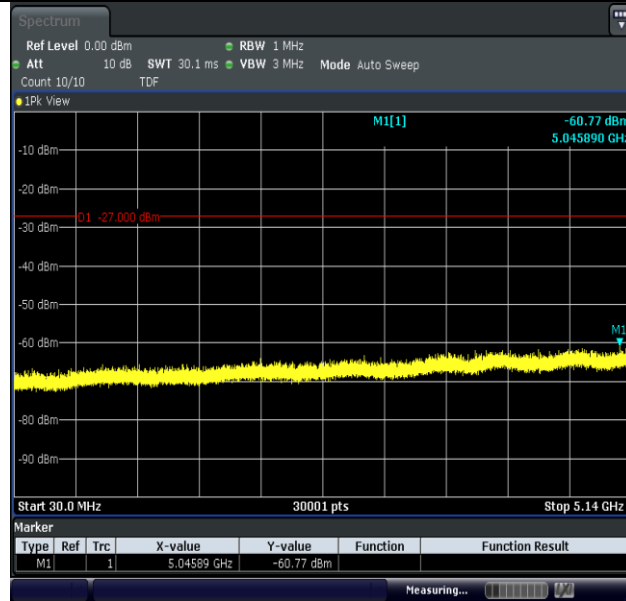


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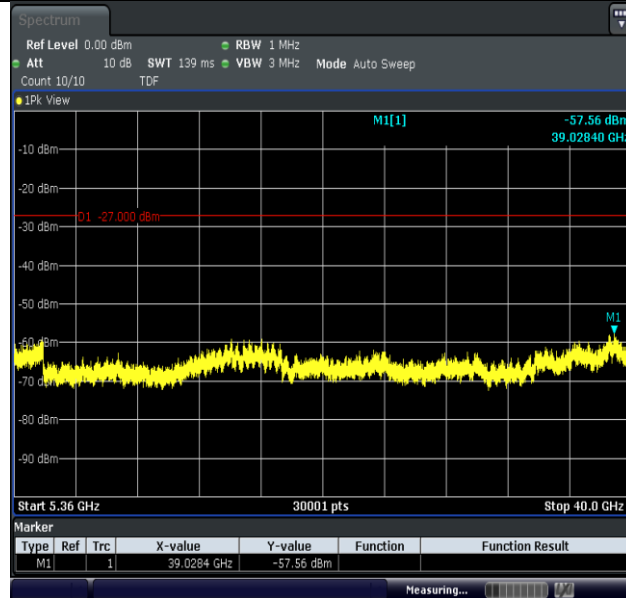


11N40SISO-Ant1-5230-5360~40000-PASS



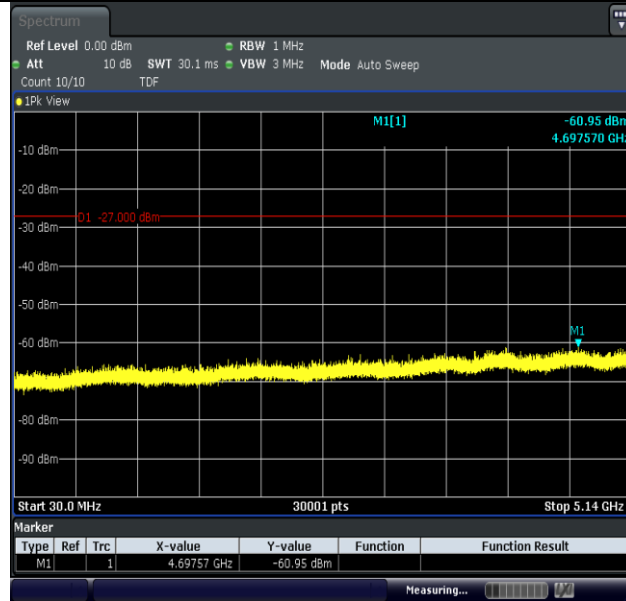


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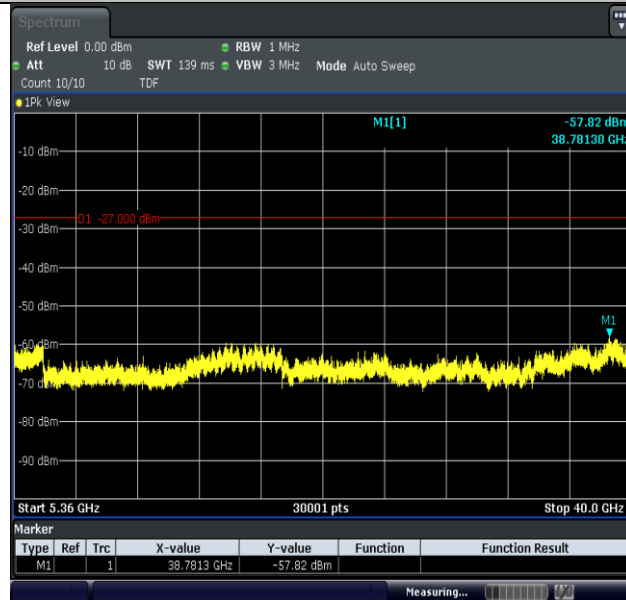


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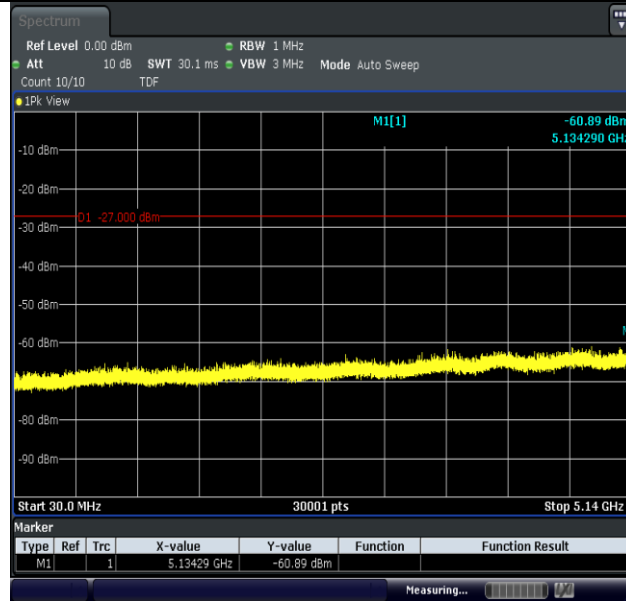


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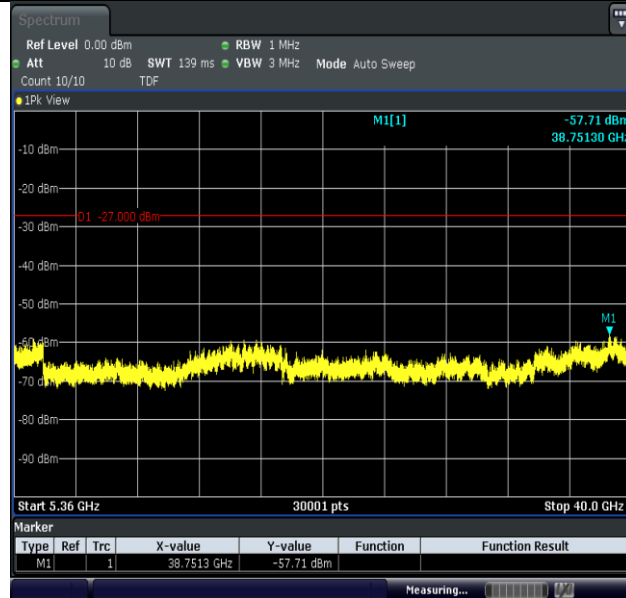


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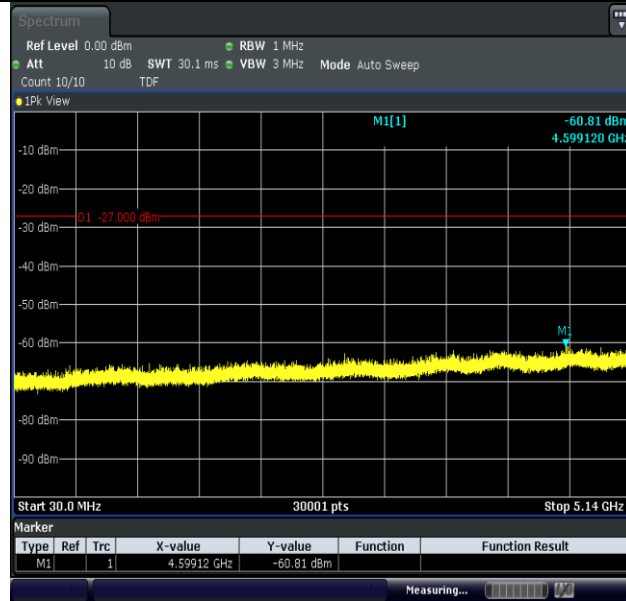


11AC20SISO-Ant1-5240-30~5140-PASS

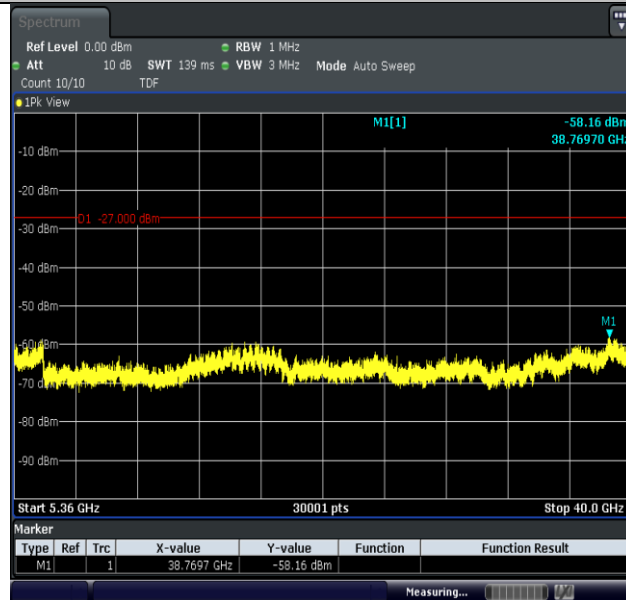


11AC20SISO-Ant1-5240-5360~40000-PASS



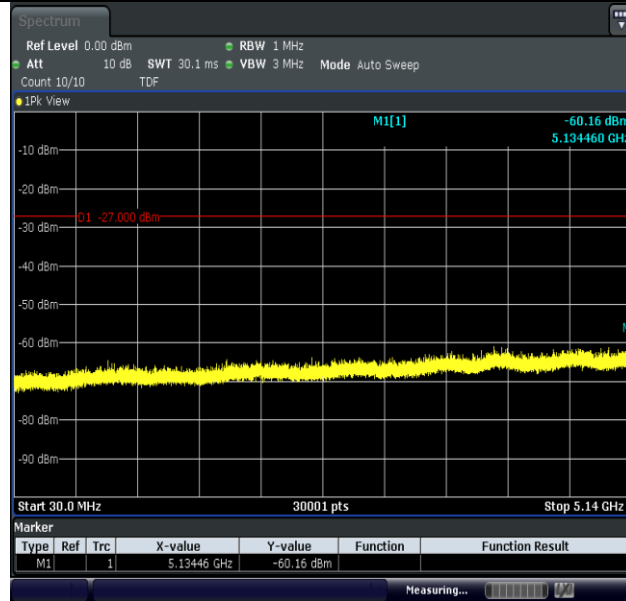


11AC40SISO-Ant1-5190-30~5140-PASS

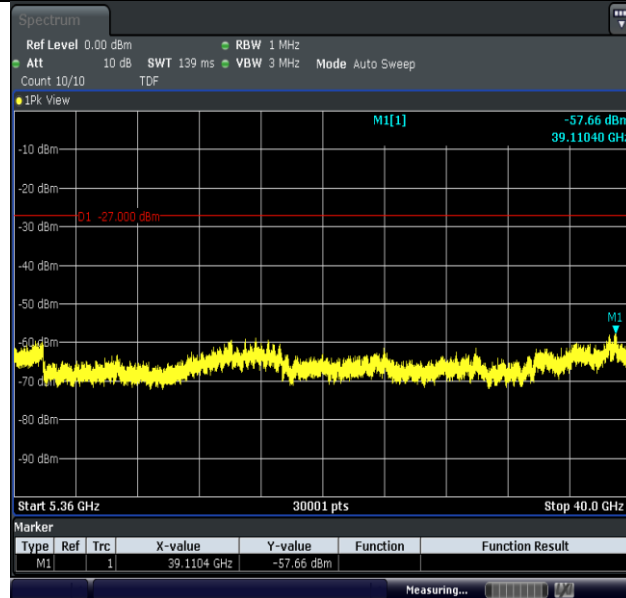


11AC40SISO-Ant1-5190-5360~40000-PASS





11AC40SISO-Ant1-5230-30~5140-PASS



11AC40SISO-Ant1-5230-5360~40000-PASS





Appendix G: Duty Cycle

Test Result

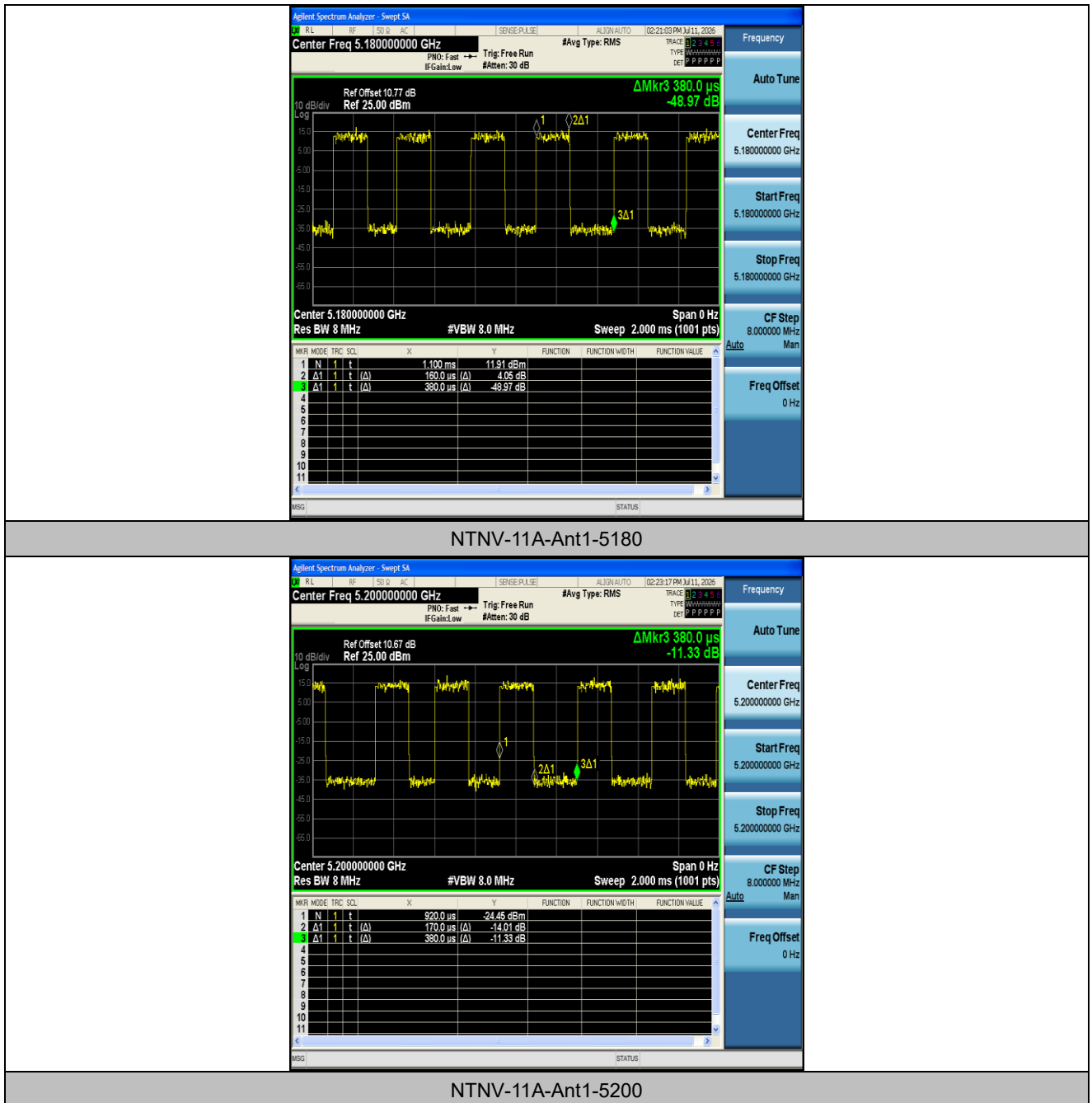
Test Mode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Dc. Factor [%]	1/T [kHz]
11A	Ant1	5180	0.16	0.38	42.11	3.76	6.25
11A	Ant1	5200	0.17	0.38	44.74	3.49	5.88
11A	Ant1	5240	0.16	0.34	47.06	3.27	6.25
11N20SISO	Ant1	5180	0.55	0.64	85.94	0.66	1.82
11N20SISO	Ant1	5200	0.54	0.65	83.08	0.81	1.85
11N20SISO	Ant1	5240	0.55	0.70	78.57	1.05	1.82
11N40SISO	Ant1	5190	0.53	0.64	82.81	0.82	1.89
11N40SISO	Ant1	5230	0.53	0.71	74.65	1.27	1.89
11AC20SISO	Ant1	5180	0.46	0.64	71.88	1.43	2.17
11AC20SISO	Ant1	5200	0.46	0.57	80.70	0.93	2.17
11AC20SISO	Ant1	5240	0.47	0.67	70.15	1.54	2.13
11AC40SISO	Ant1	5190	0.40	0.62	64.52	1.90	2.50
11AC40SISO	Ant1	5230	0.41	0.61	67.21	1.73	2.44

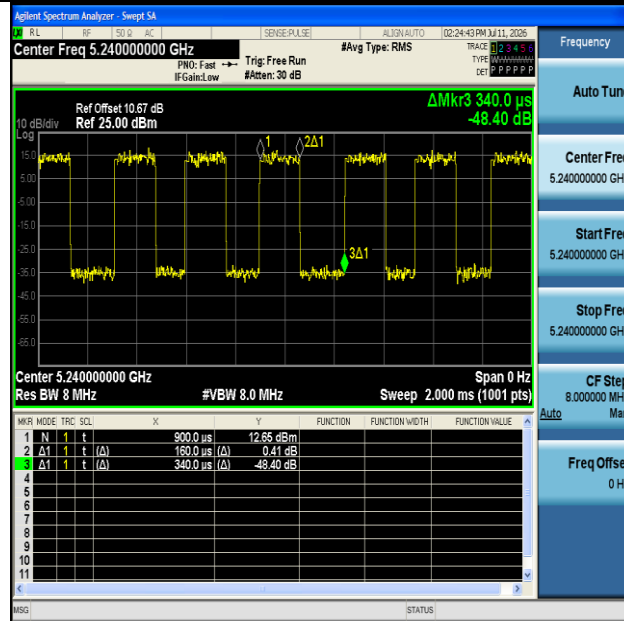
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



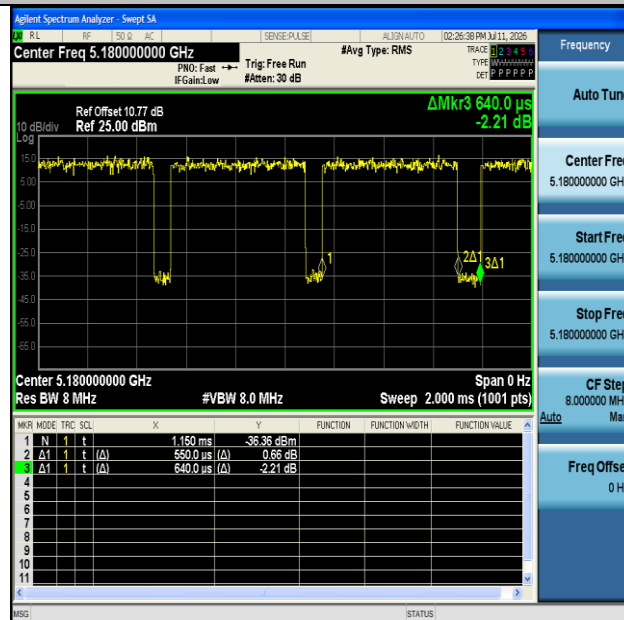


Test Graphs



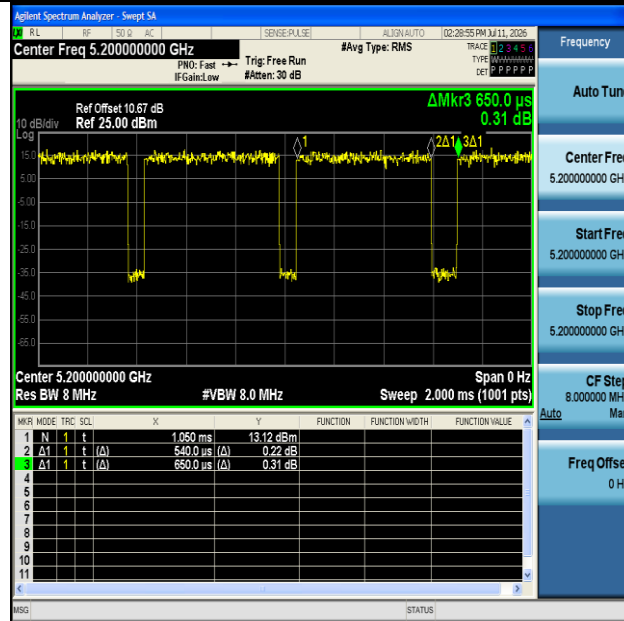


NTNV-11A-Ant1-5240

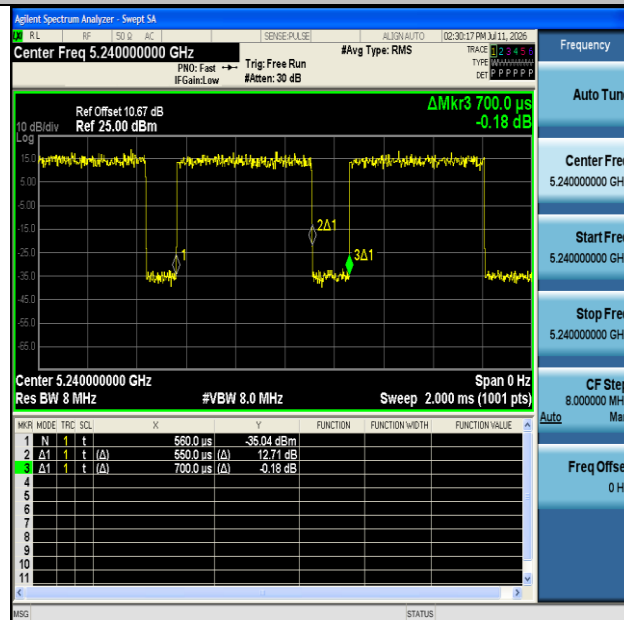


NTNV-11N20SISO-Ant1-5180



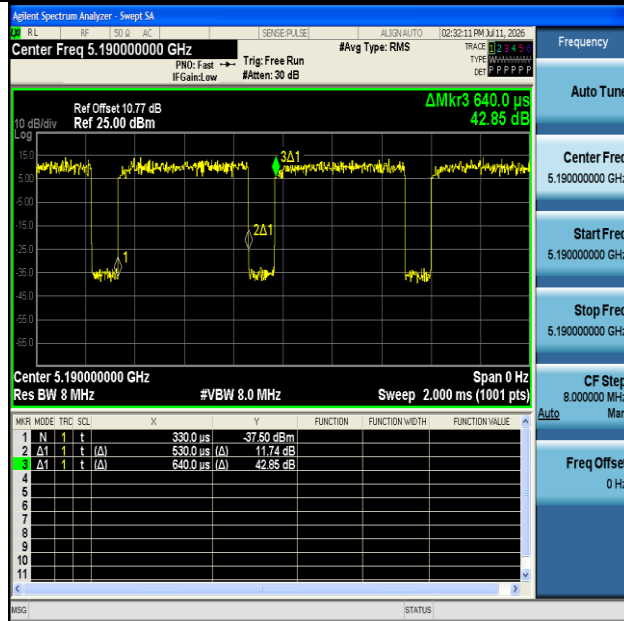


NTNV-11N20SISO-Ant1-5200

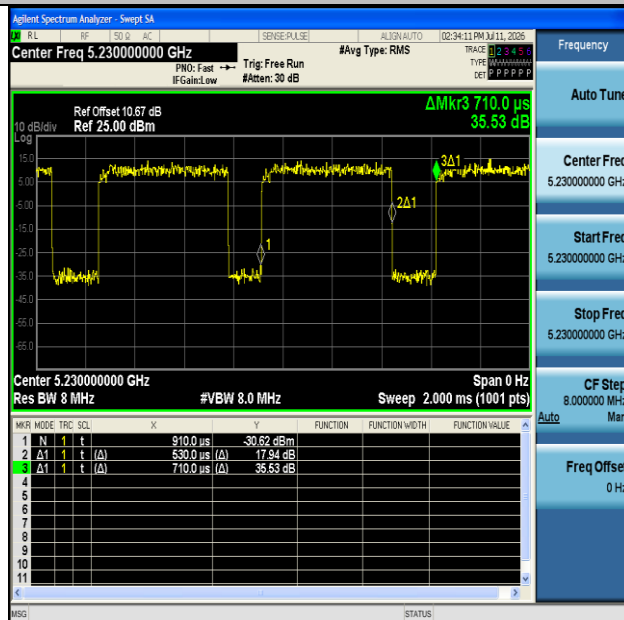


NTNV-11N20SISO-Ant1-5240



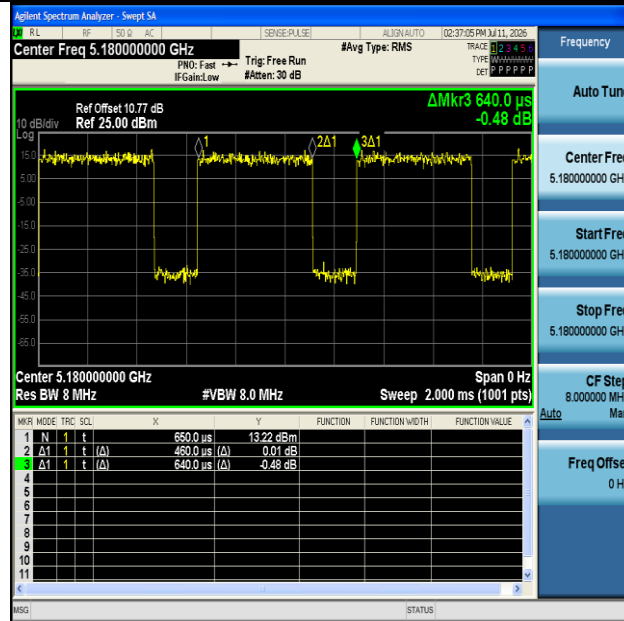


NTNV-11N40SISO-Ant1-5190

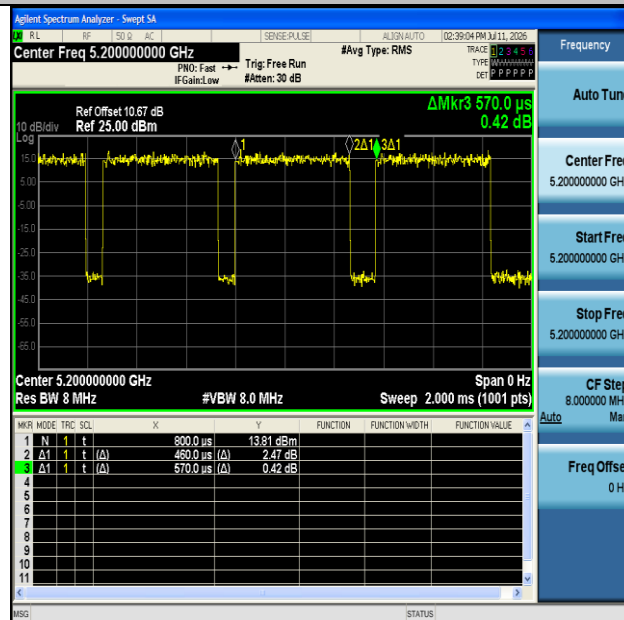


NTNV-11N40SISO-Ant1-5230



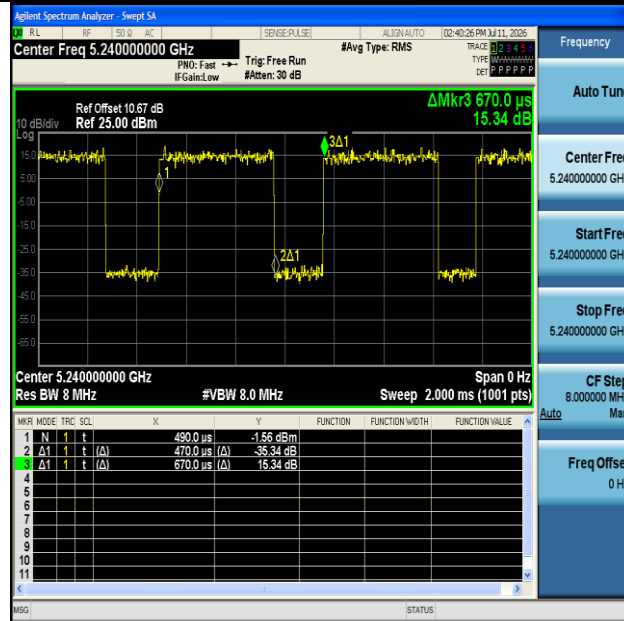


NTNV-11AC20SISO-Ant1-5180

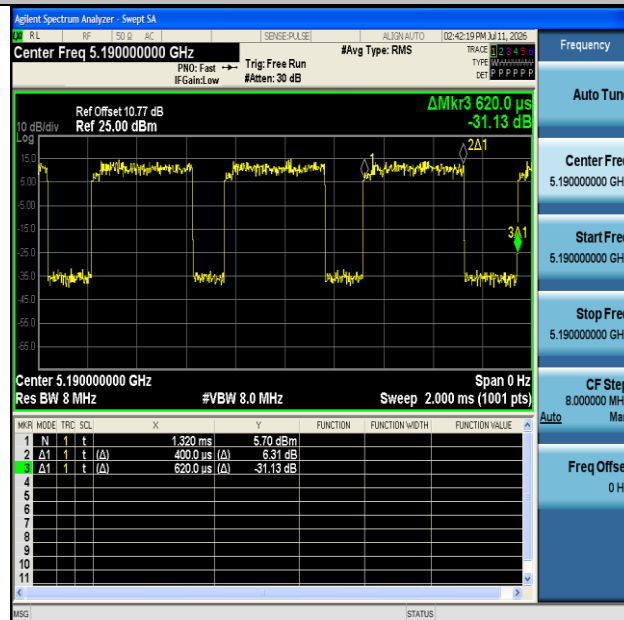


NTNV-11AC20SISO-Ant1-5200



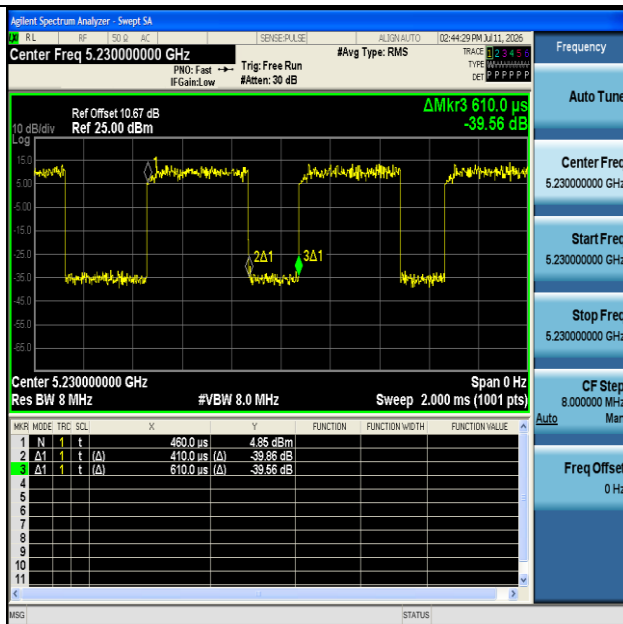


NTNV-11AC20SISO-Ant1-5240



NTNV-11AC40SISO-Ant1-5190





NTNV-11AC40SISO-Ant1-5230

