



Appendix E

RF Test Data for 5.8G WIFI (Conducted Measurement)

Product Name: carplay box

Test Model: RK0232

Environmental Conditions

Temperature:	23.7° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Monkey Li
Supervised by:	Li Huan



E.1 6dB Bandwidth

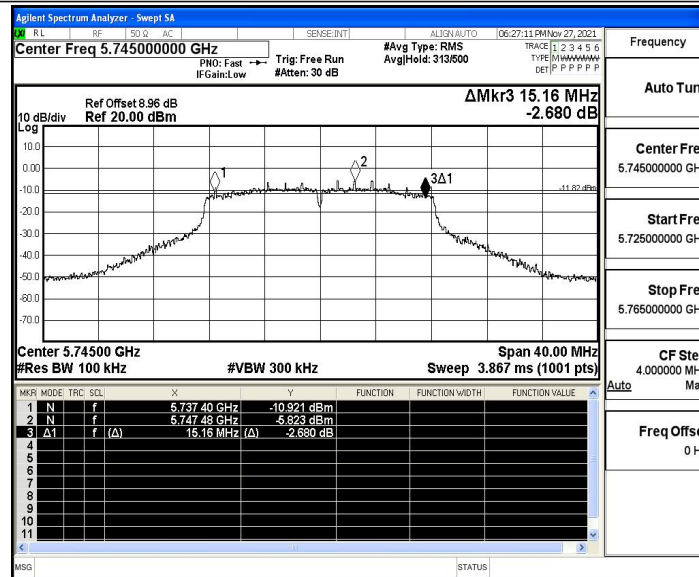
Test Result

TestMode	Antenna	Channel	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	15.160	5737.400	5752.560	0.5	PASS
		5785	13.880	5778.600	5792.480	0.5	PASS
		5825	15.240	5817.360	5832.600	0.5	PASS
11N20SISO	Ant1	5745	13.880	5738.640	5752.520	0.5	PASS
		5785	15.160	5777.360	5792.520	0.5	PASS
		5825	15.200	5817.360	5832.560	0.5	PASS
11N40SISO	Ant1	5755	35.280	5737.320	5772.600	0.5	PASS
		5795	35.280	5777.320	5812.600	0.5	PASS
11AC20SISO	Ant1	5745	15.040	5737.480	5752.520	0.5	PASS
		5785	15.000	5777.520	5792.520	0.5	PASS
		5825	15.200	5817.360	5832.560	0.5	PASS
11AC40SISO	Ant1	5755	35.280	5737.320	5772.600	0.5	PASS
		5795	35.280	5777.320	5812.600	0.5	PASS
11AC80SISO	Ant1	5775	75.520	5737.240	5812.760	0.5	PASS

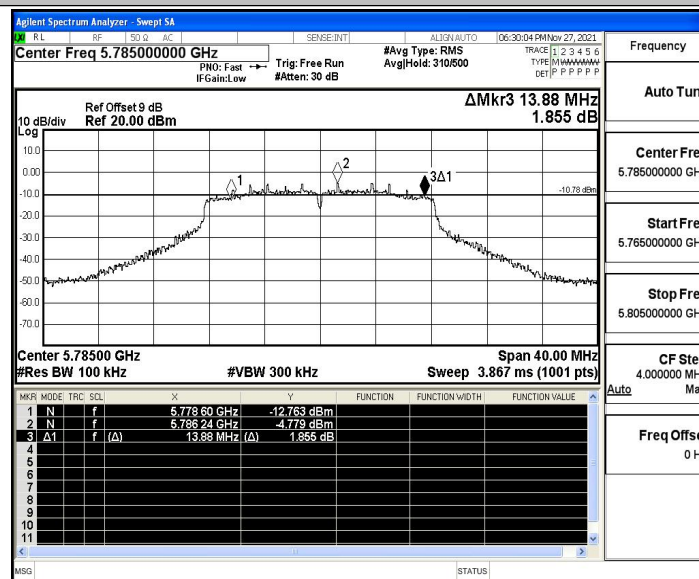


Test Graphs

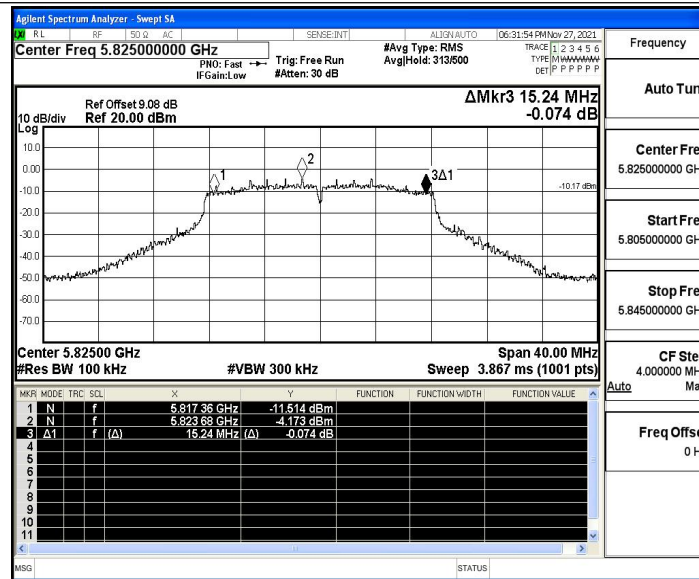
11A_Ant1_5745



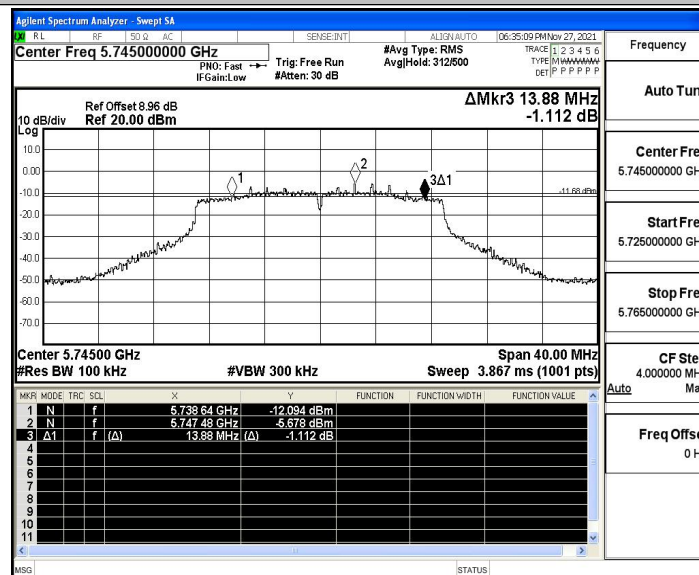
11A_Ant1_5785



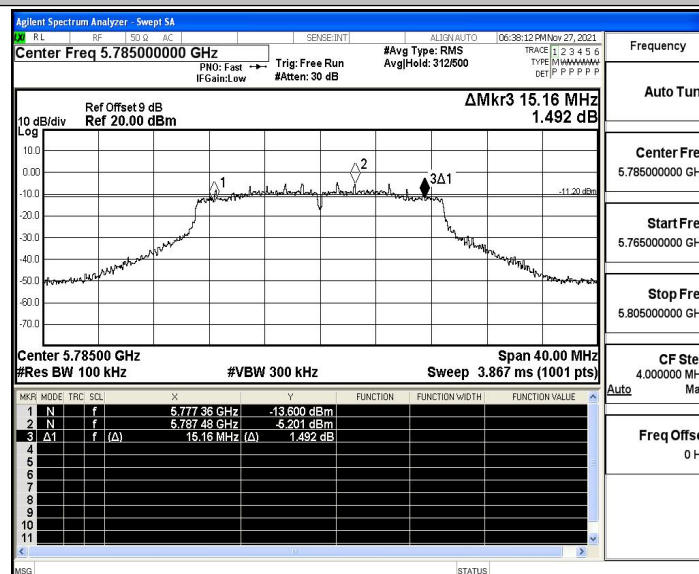
11A_Ant1_5825



11N20SISO_Ant1_5745

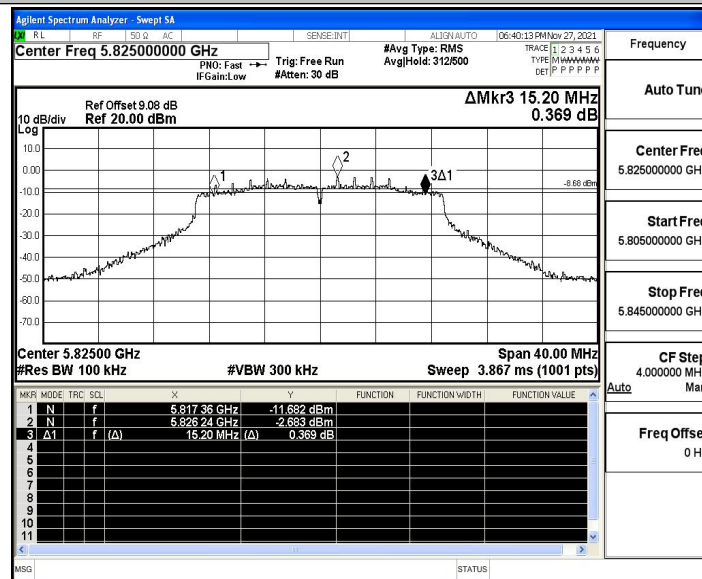


11N20SISO_Ant1_5785

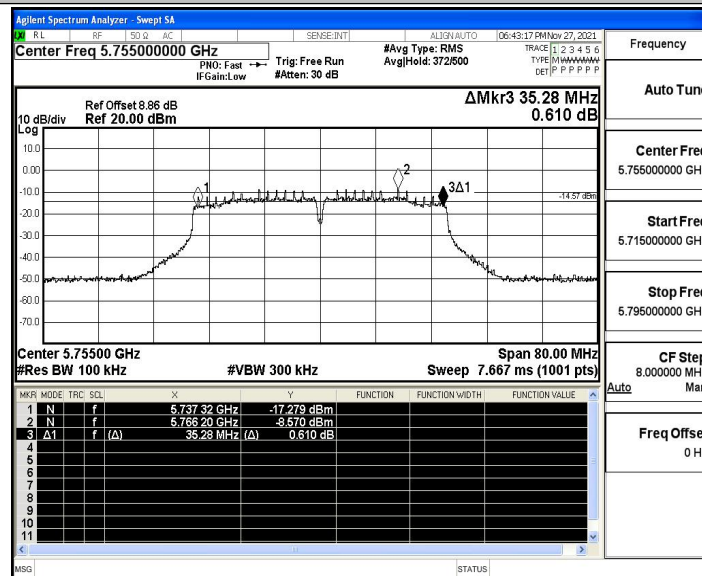




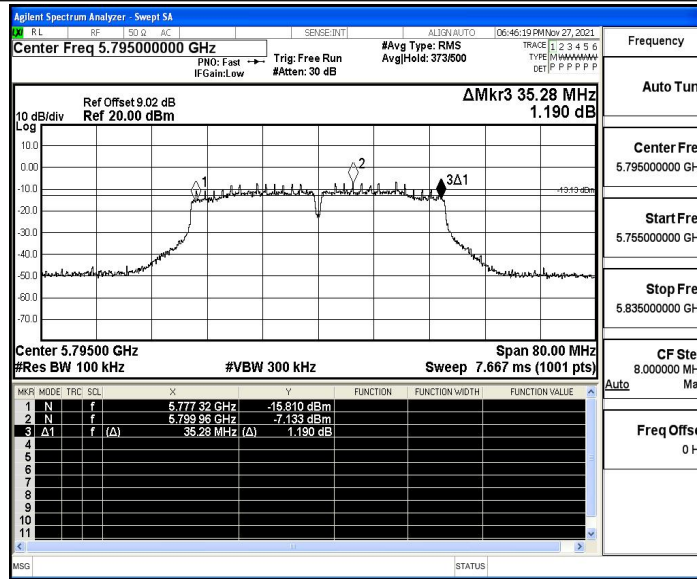
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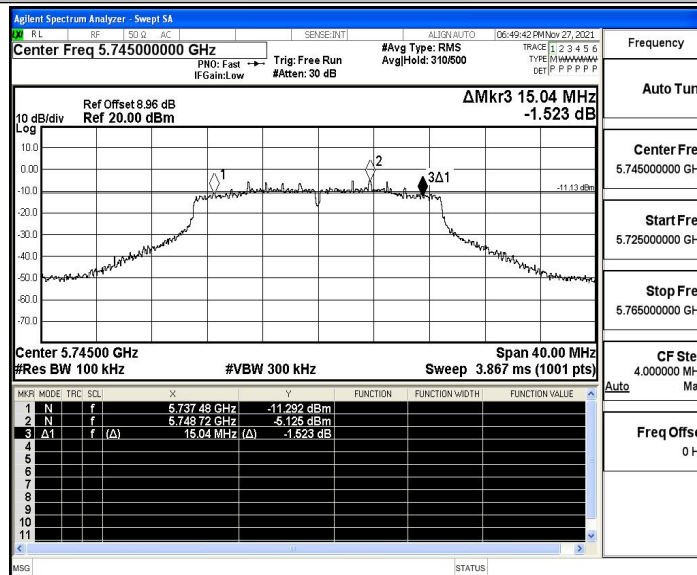
11N40SISO_Ant1_5755



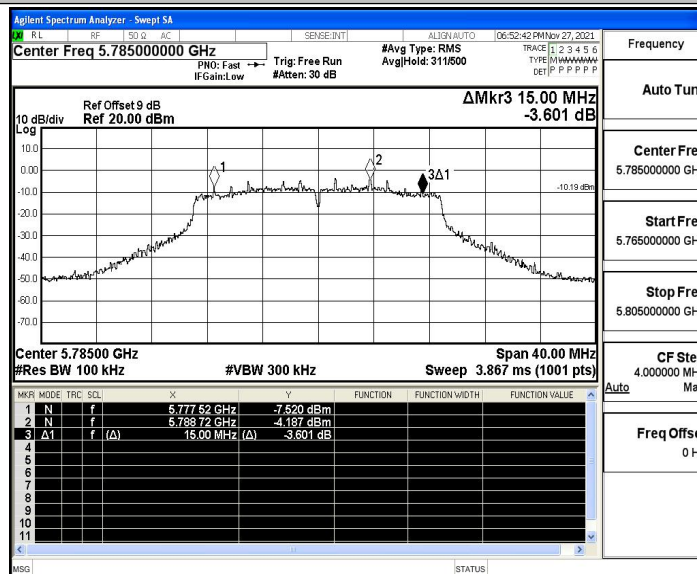
11N40SISO_Ant1_5795



11AC20SISO_Ant1_5745

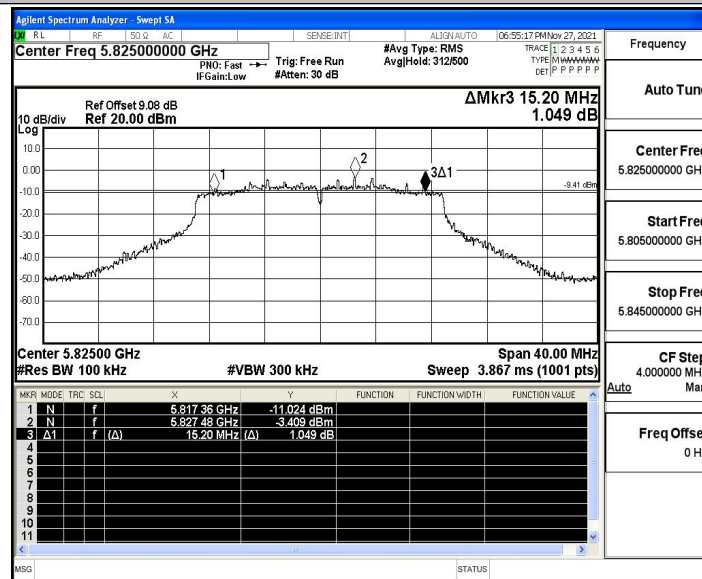


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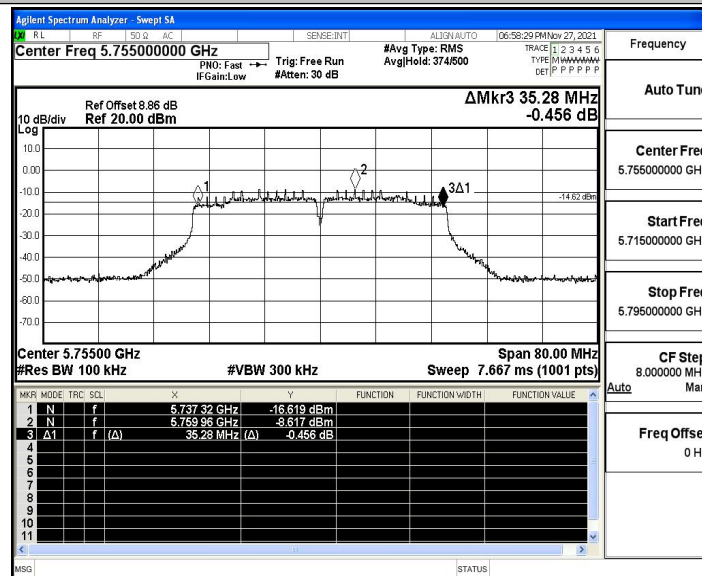




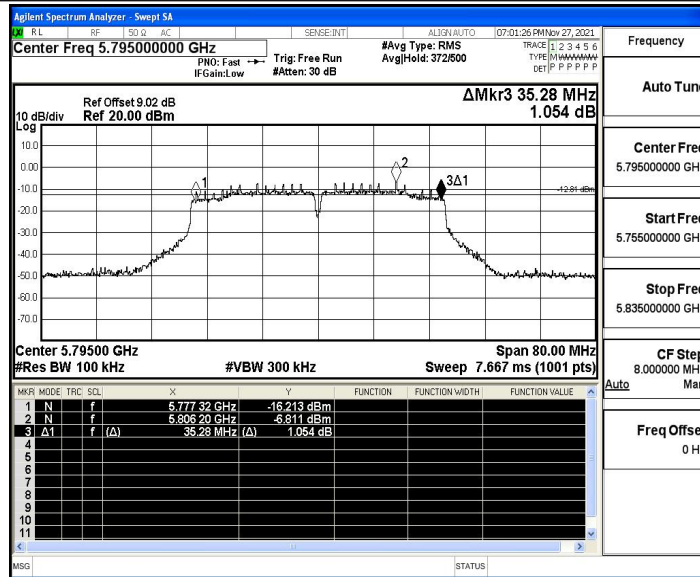
11AC20SISO_Ant1_5825



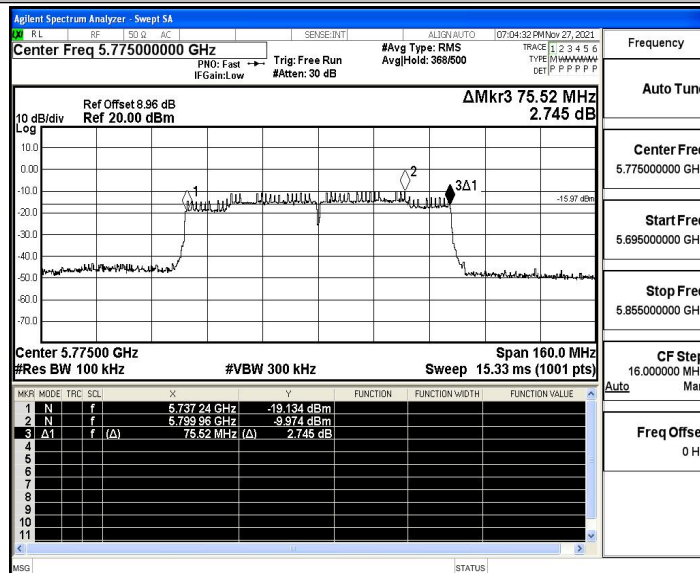
11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5775





E.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	5745	5.18	≤30	PASS
		5785	6.06	≤30	PASS
		5825	7.31	≤30	PASS
11N20SISO	Ant1	5745	5.49	≤30	PASS
		5785	6.35	≤30	PASS
		5825	7.83	≤30	PASS
11N40SISO	Ant1	5755	5.59	≤30	PASS
		5795	7.33	≤30	PASS
11AC20SISO	Ant1	5745	5.55	≤30	PASS
		5785	6.57	≤30	PASS
		5825	7.96	≤30	PASS
11AC40SISO	Ant1	5755	5.64	≤30	PASS
		5795	7.33	≤30	PASS
11AC80SISO	Ant1	5775	6.35	≤30	PASS

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



E.3 Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result [dBm/MHz]	Total Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5745	-8.22	-10.44	≤30	PASS
		5785	-7.22	-9.44	≤30	PASS
		5825	-5.84	-8.06	≤30	PASS
11N20SISO	Ant1	5745	-8.07	-10.29	≤30	PASS
		5785	-6.97	-9.19	≤30	PASS
		5825	-5.89	-8.11	≤30	PASS
11N40SISO	Ant1	5755	-10.91	-13.13	≤30	PASS
		5795	-9.25	-11.47	≤30	PASS
11AC20SISO	Ant1	5745	-8.15	-10.37	≤30	PASS
		5785	-6.98	-9.2	≤30	PASS
		5825	-5.39	-7.61	≤30	PASS
11AC40SISO	Ant1	5755	-11.22	-13.44	≤30	PASS
		5795	-9.45	-11.67	≤30	PASS
11AC80SISO	Ant1	5775	-12.97	-15.19	≤30	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.

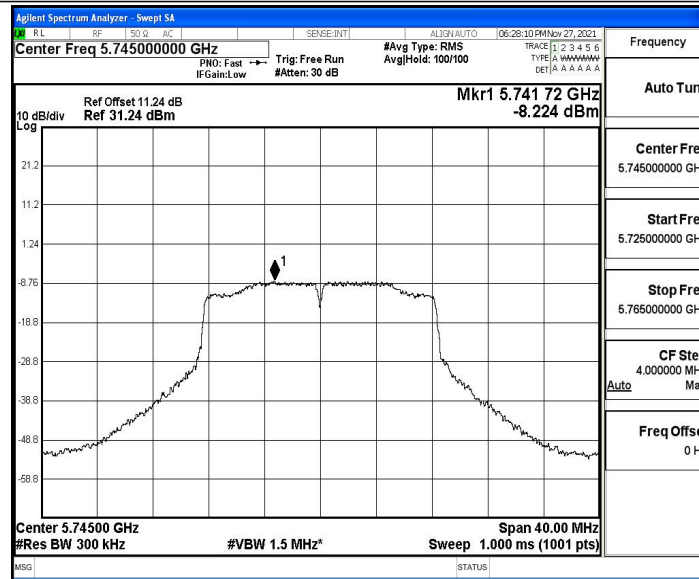
3. Exchange rate of RBW = $10 \cdot \log_{10}(300\text{KHz} / \text{RBW at measurement}) \approx -2.22[\text{dB}]$

where Reference bandwidth = 500 KHz

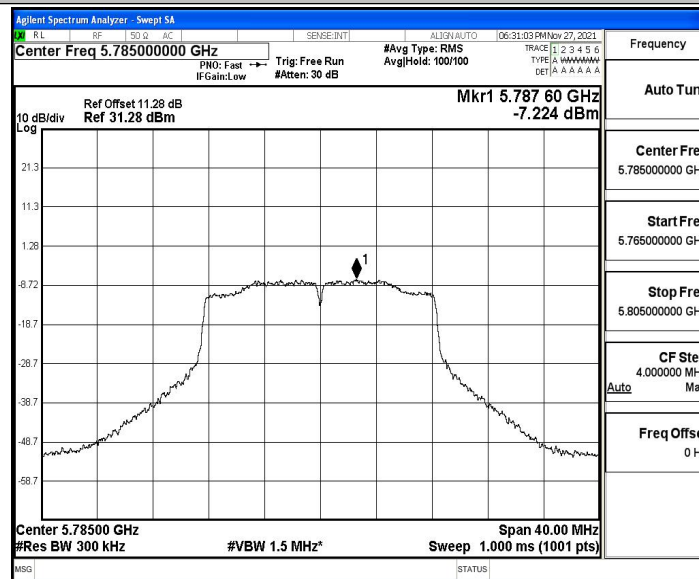


Test Graphs

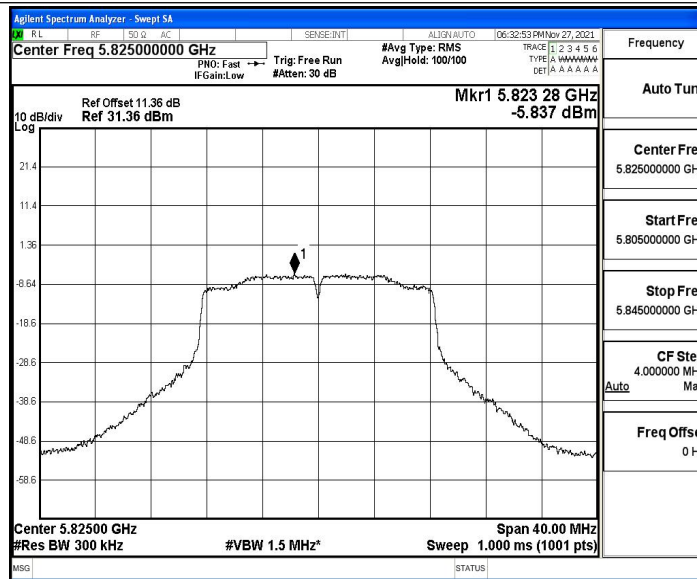
11A_Ant1_5745



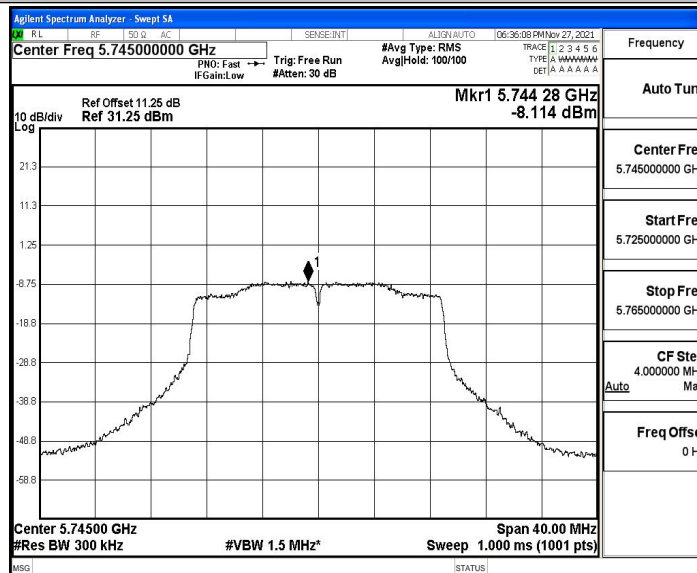
11A_Ant1_5785



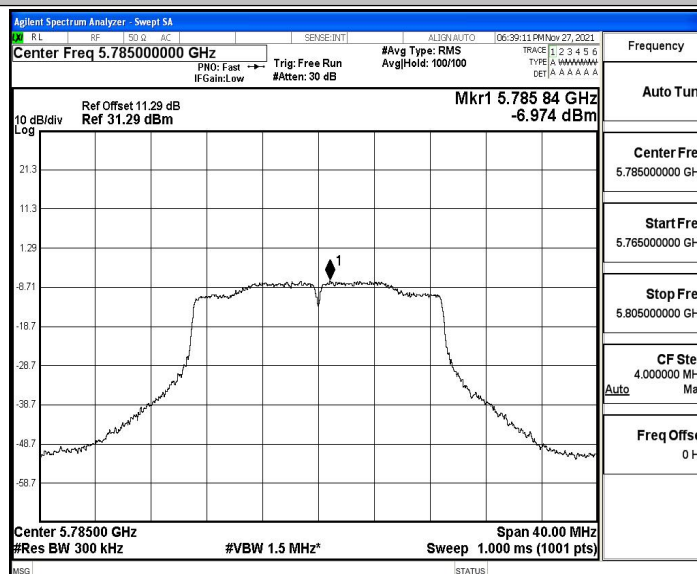
11A_Ant1_5825



11N20SISO_Ant1_5745

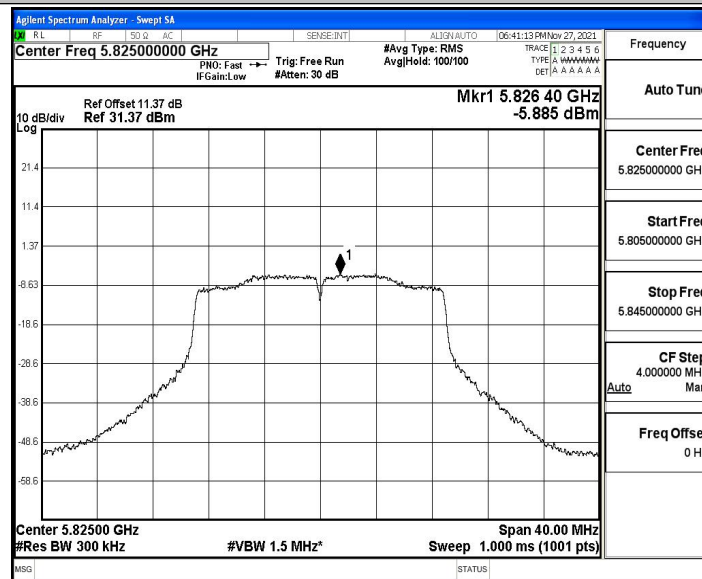


11N20SISO_Ant1_5785

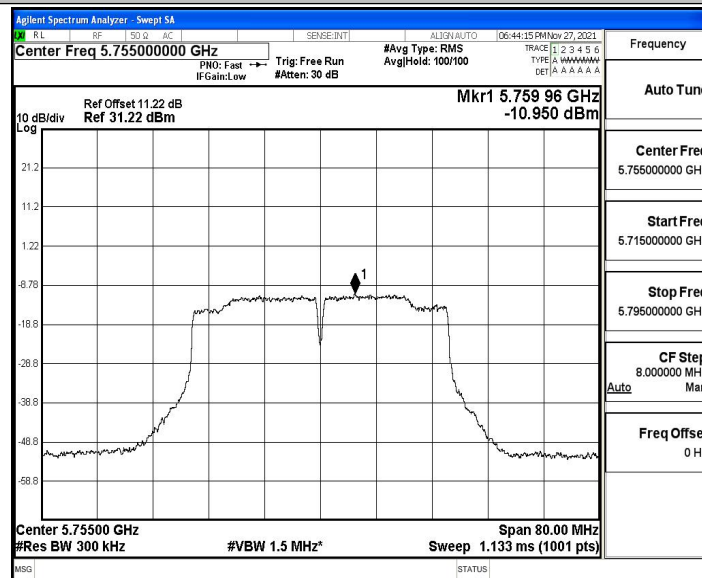




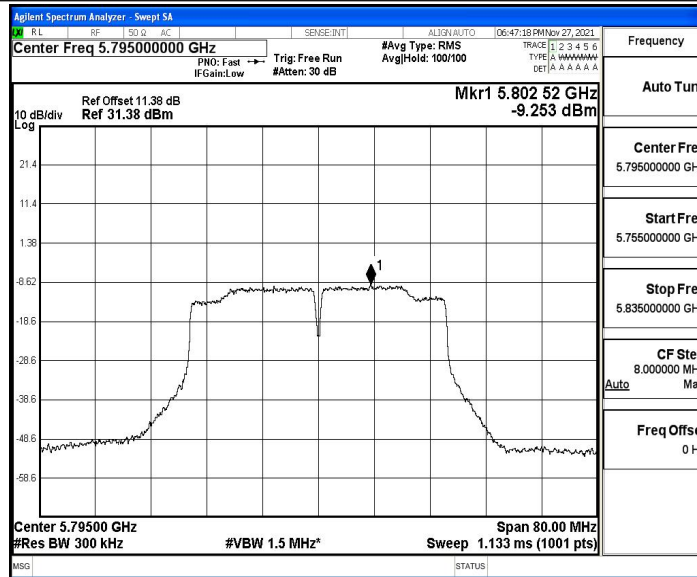
11N20SISO_Ant1_5825



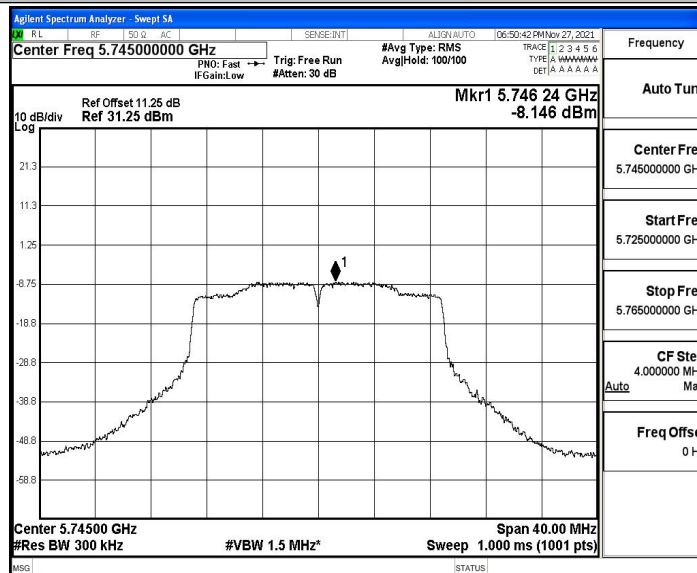
11N40SISO_Ant1_5755



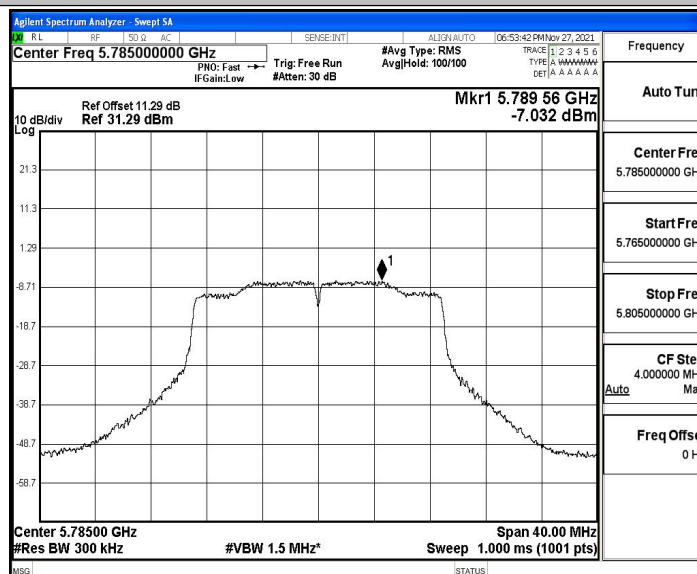
11N40SISO_Ant1_5795



11AC20SISO_Ant1_5745

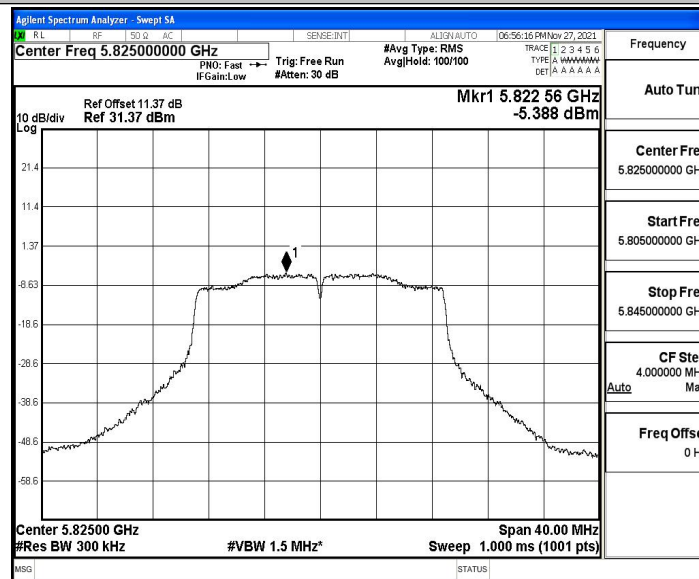


11AC20SISO_Ant1_5785

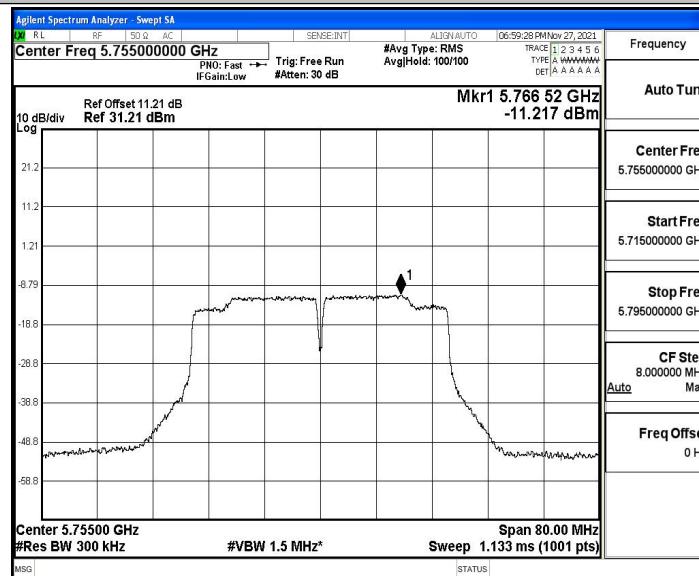




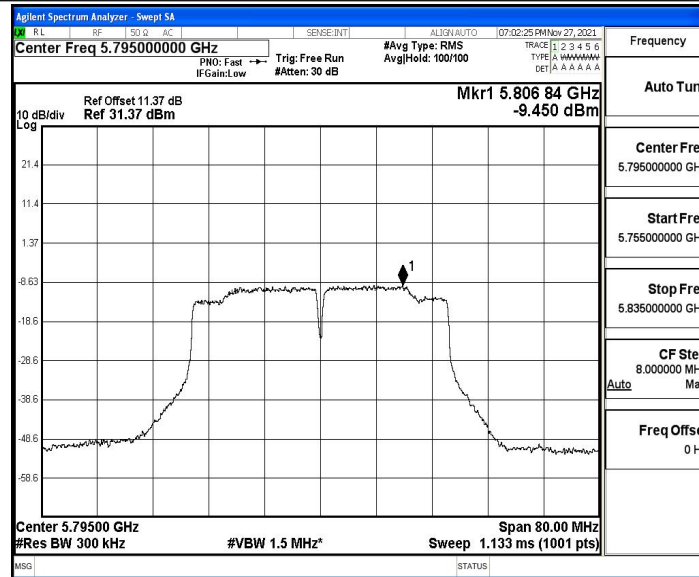
11AC20SISO_Ant1_5825



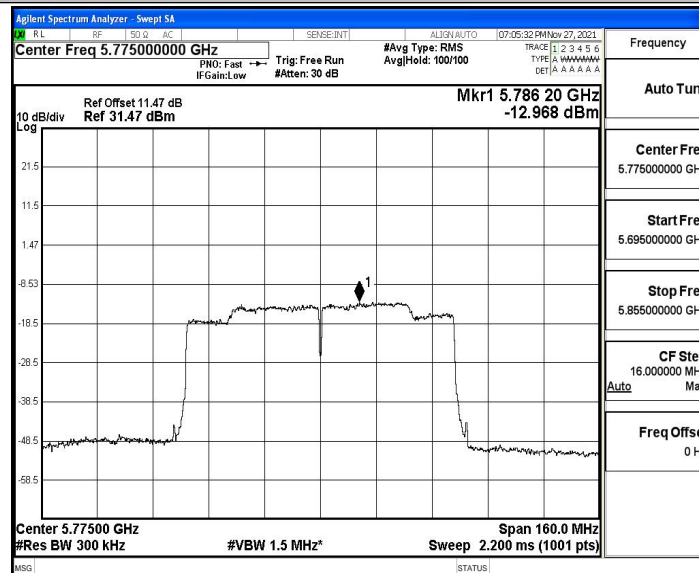
11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5775





E.4 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
11A	Ant1	Low	5745	Peak	5650.000	-42.03	≤-27.00	---	---	PASS
				Peak	5700.000	-44.73	≤10.00	---	---	PASS
				Peak	5720.000	-42.88	≤15.60	---	---	PASS
				Peak	5725.000	-42.63	≤27.00	---	---	PASS
		High	5825	Peak	5850.000	-41.724	≤15.60	---	---	PASS
				Peak	5855.000	-41.09	≤27.00	---	---	PASS
				Peak	5875.000	-39.52	≤15.60	---	---	PASS
				Peak	5925.000	-42.75	≤10.00	---	---	PASS
11N20SISO	Ant1	Low	5745	Peak	5650.000	-43.562	≤-27.00	---	---	PASS
				Peak	5700.000	-41.46	≤10.00	---	---	PASS
				Peak	5720.000	-42.12	≤15.60	---	---	PASS
				Peak	5725.000	-39.71	≤27.00	---	---	PASS
		High	5825	Peak	5850.000	-41.071	≤15.60	---	---	PASS
				Peak	5855.000	-43.56	≤27.00	---	---	PASS
				Peak	5875.000	-42.14	≤15.60	---	---	PASS
				Peak	5925.000	-40.63	≤10.00	---	---	PASS
11N40SISO	Ant1	Low	5755	Peak	5650.000	-41.465	≤-27.00	---	---	PASS
				Peak	5700.000	-40.34	≤10.00	---	---	PASS
				Peak	5720.000	-37.61	≤15.60	---	---	PASS
				Peak	5725.000	-38.71	≤27.00	---	---	PASS
		High	5795	Peak	5850.000	-39.119	≤15.60	---	---	PASS
				Peak	5855.000	-38.76	≤27.00	---	---	PASS
				Peak	5875.000	-39.29	≤15.60	---	---	PASS
				Peak	5925.000	-39.22	≤10.00	---	---	PASS
11AC20SISO	Ant1	Low	5745	Peak	5650.000	-44.058	≤-27.00	---	---	PASS
				Peak	5700.000	-42.12	≤10.00	---	---	PASS
				Peak	5720.000	-38.89	≤15.60	---	---	PASS
				Peak	5725.000	-42.47	≤27.00	---	---	PASS
		High	5825	Peak	5850.000	-43.348	≤15.60	---	---	PASS
				Peak	5855.000	-39.98	≤27.00	---	---	PASS
				Peak	5875.000	-44.06	≤15.60	---	---	PASS
				Peak	5925.000	-39.17	≤10.00	---	---	PASS
11AC40SISO	Ant1	Low	5755	Peak	5650.000	-41.612	≤-27.00	---	---	PASS
				Peak	5700.000	-39.25	≤10.00	---	---	PASS
				Peak	5720.000	-36.88	≤15.60	---	---	PASS
				Peak	5725.000	-38.89	≤27.00	---	---	PASS
		High	5795	Peak	5850.000	-38.945	≤15.60	---	---	PASS



11AC80SI SO	Ant1	Low	5775	Peak	5855.000	-37.71	≤27.00	---	---	PASS
				Peak	5875.000	-40.79	≤15.60	---	---	PASS
				Peak	5925.000	-39.33	≤10.00	- - -	- - -	PASS
				Peak	5650.000	-40.528	≤27.00	---	---	PASS
		High	5775	Peak	5700.000	-36.92	≤10.00	---	---	PASS
				Peak	5720.000	-35.9	≤15.60	---	---	PASS
				Peak	5725.000	-35.09	≤27.00	- - -	- - -	PASS
				Peak	5850.000	-39.803	≤15.60	---	---	PASS
				Peak	5855.000	-38.62	≤27.00	---	---	PASS
				Peak	5875.000	-37.42	≤15.60	---	---	PASS
				Peak	5925.000	-39.98	≤10.00	- - -	- - -	PASS

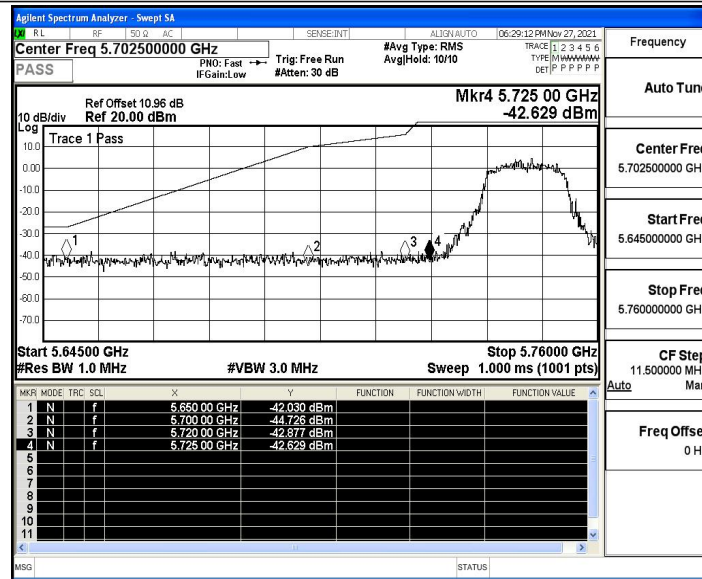
Note:

1. The Antenna Gain is compensated in the graph.
2. For transmitters operating in 5150-5350 GHz band and 5470-5725 GHz band: The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

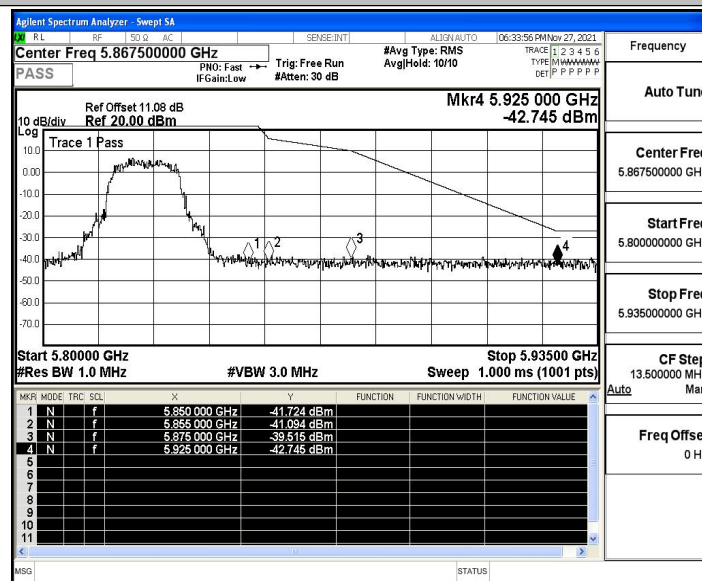


Test Graphs

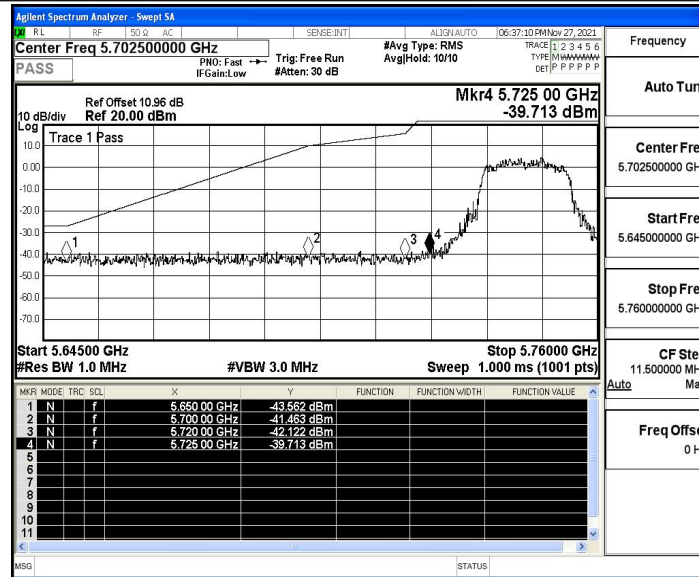
11A_Ant1_Low_5745_Peak



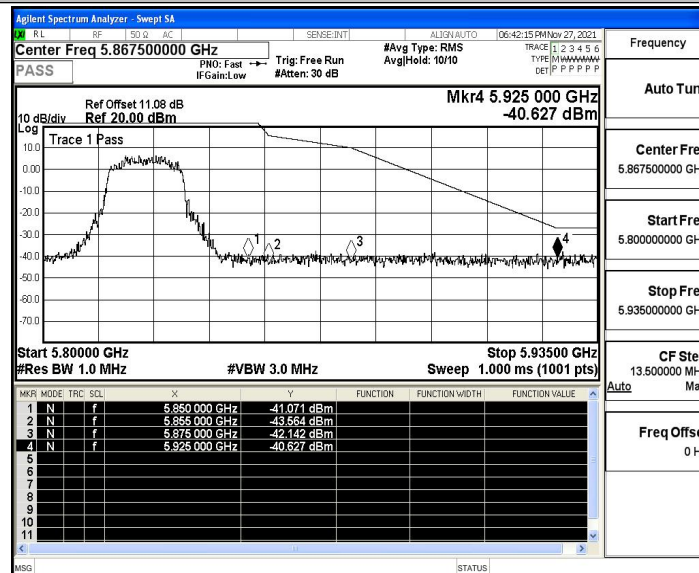
11A_Ant1_High_5825_Peak



11N20SISO_Ant1_Low_5745_Peak



11N20SISO_Ant1_High_5825_Peak



11N40SISO_Ant1_Low_5755_Peak

