



Appendix E

RF Test Data for 5.8G WIFI (Conducted Measurement)

Product Name: Smart Phone

Test Model: K1

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling Zhu
Supervised by:	Li Huan





E.1 Min emission bandwidth

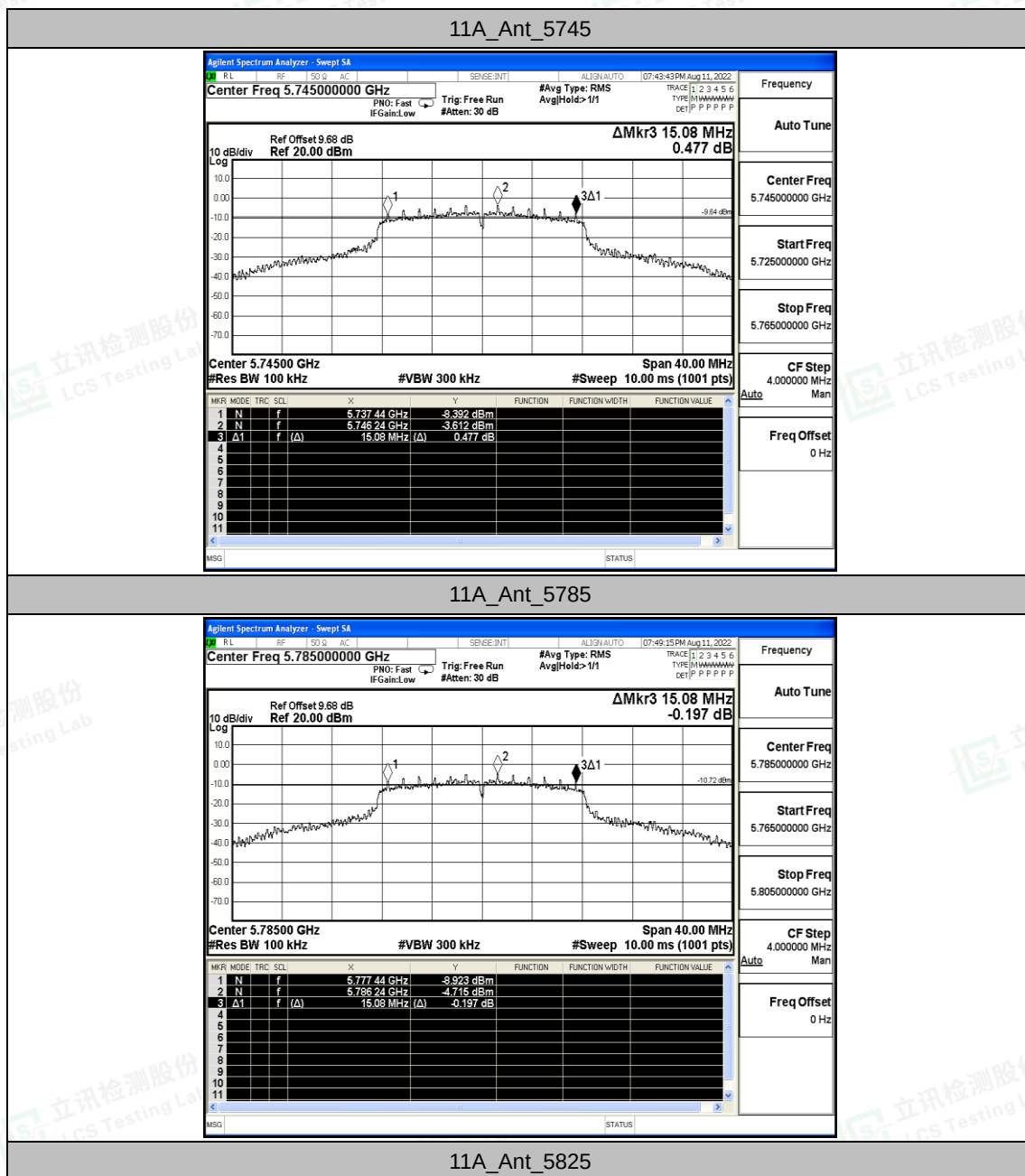
Test Result

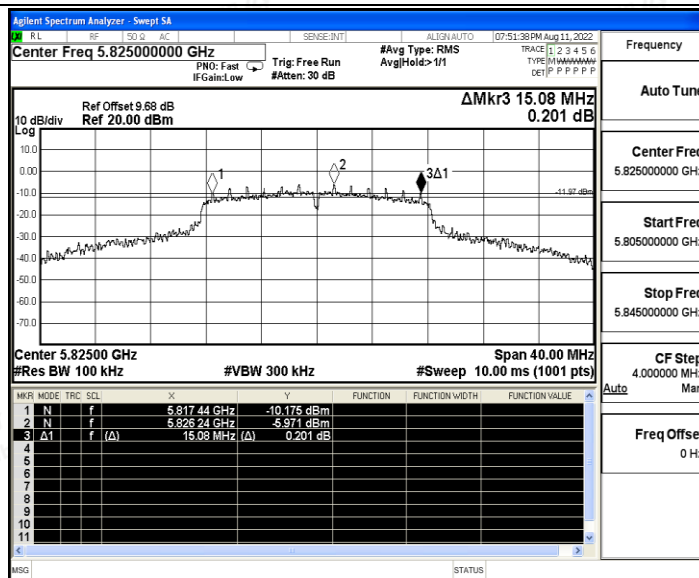
TestMode	Antenna	Channel	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant	5745	15.080	5737.440	5752.520	0.5	PASS
		5785	15.080	5777.440	5792.520	0.5	PASS
		5825	15.080	5817.440	5832.520	0.5	PASS
11N20SISO	Ant	5745	15.080	5737.440	5752.520	0.5	PASS
		5785	15.080	5777.440	5792.520	0.5	PASS
		5825	15.080	5817.440	5832.520	0.5	PASS
11N40SISO	Ant	5755	35.040	5737.480	5772.520	0.5	PASS
		5795	35.040	5777.480	5812.520	0.5	PASS
11AC20SISO	Ant	5745	15.080	5737.440	5752.520	0.5	PASS
		5785	15.080	5777.480	5792.560	0.5	PASS
		5825	15.080	5817.440	5832.520	0.5	PASS
11AC40SISO	Ant	5755	35.040	5737.480	5772.520	0.5	PASS
		5795	33.760	5777.480	5811.240	0.5	PASS
11AC80SISO	Ant	5775	75.520	5737.080	5812.600	0.5	PASS



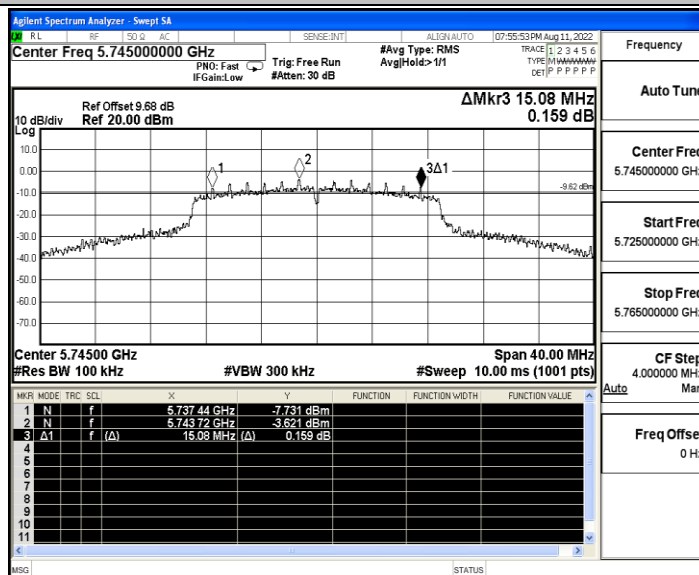


Test Graphs





11N20SISO_Ant_5745



11N20SISO_Ant_5785

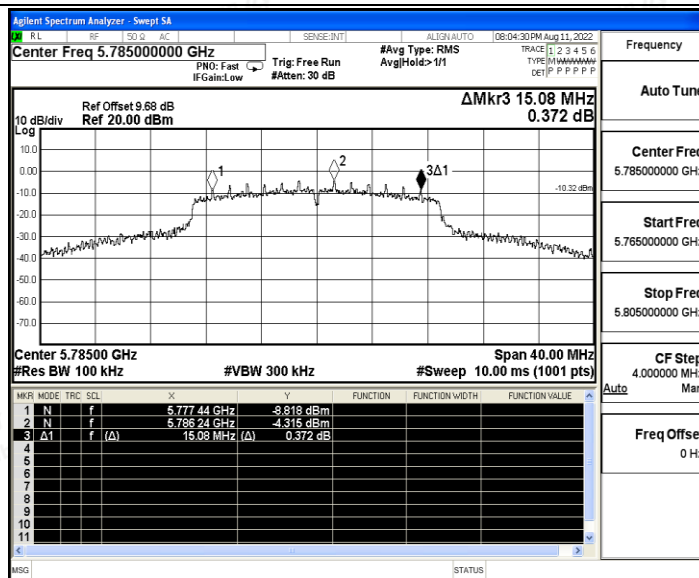


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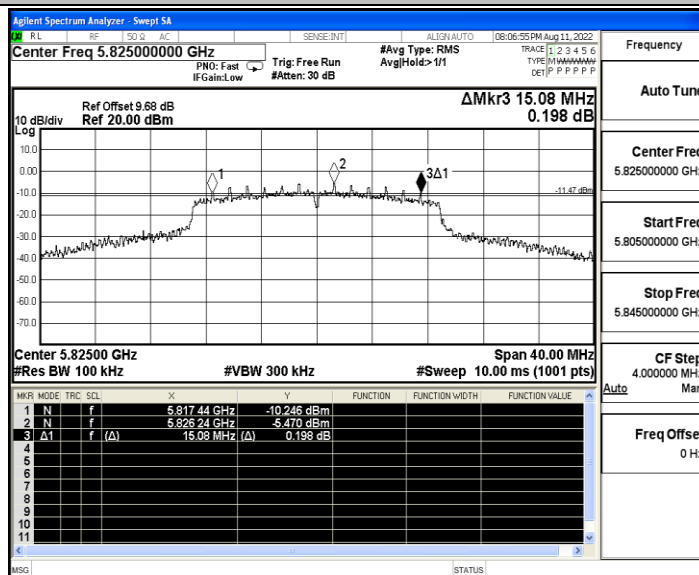
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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11N20SISO_Ant_5825



11N40SISO_Ant_5755

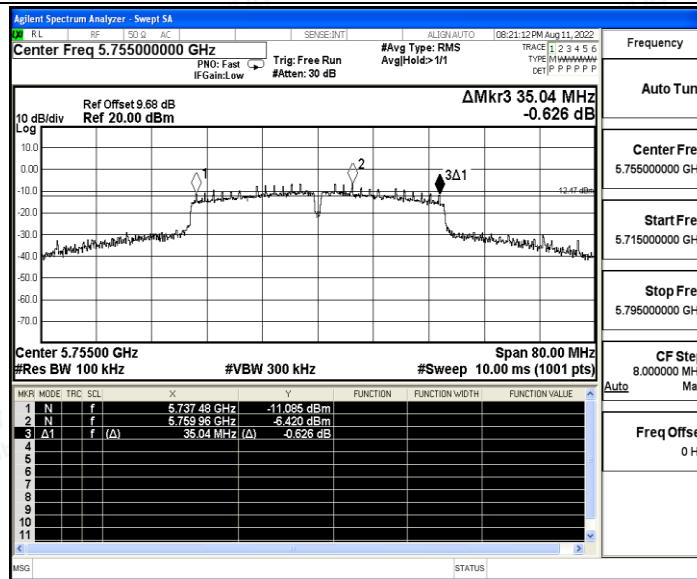


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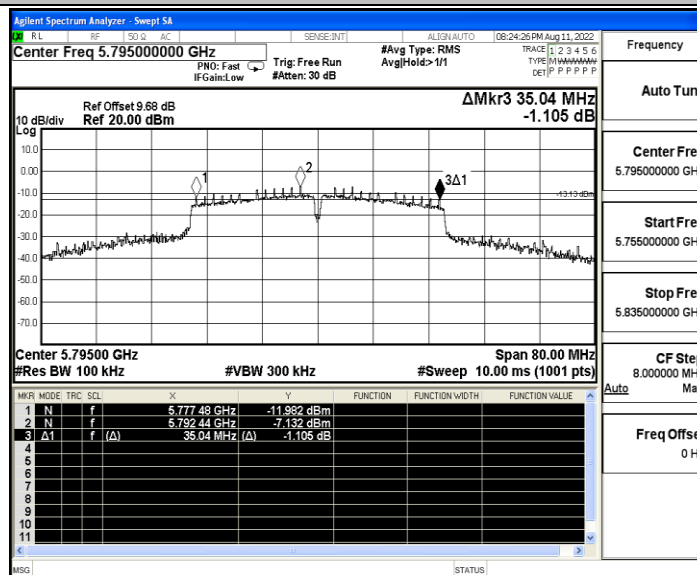
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11N40SISO_Ant_5795



11AC20SISO_Ant_5745

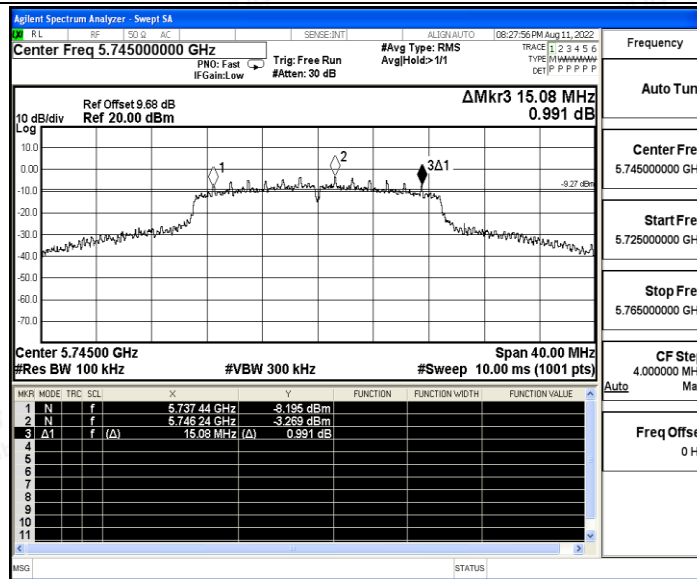


Shenzhen LCS Compliance Testing Laboratory Ltd.

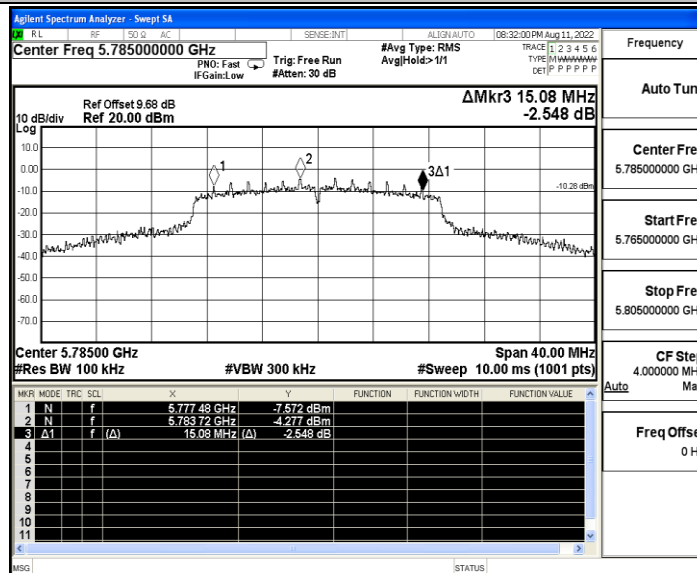
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

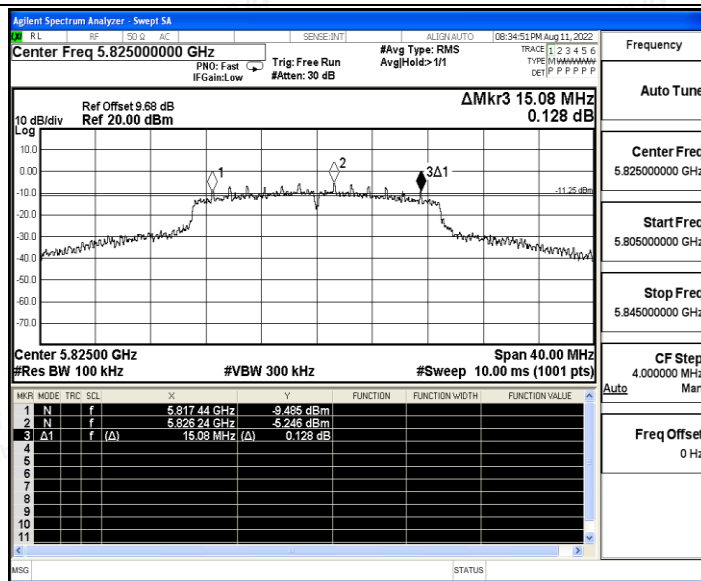


11AC20SISO_Ant_5785

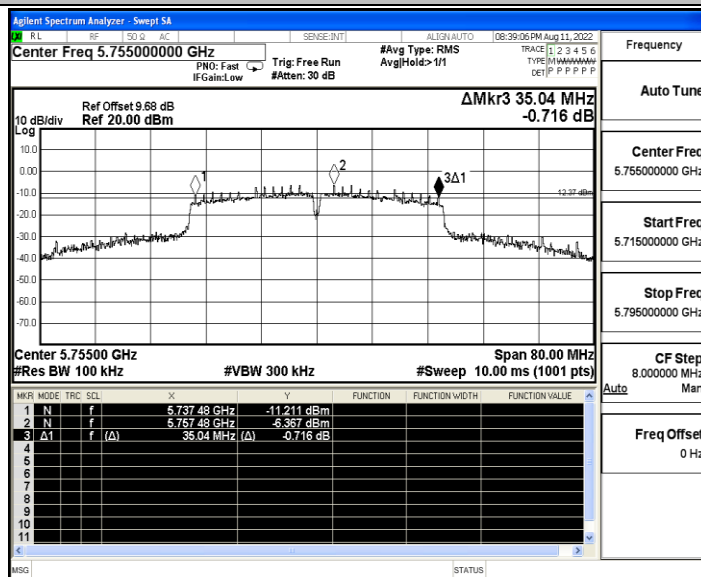


11AC20SISO_Ant_5825





11AC40SISO_Ant_5755



11AC40SISO_Ant_5795

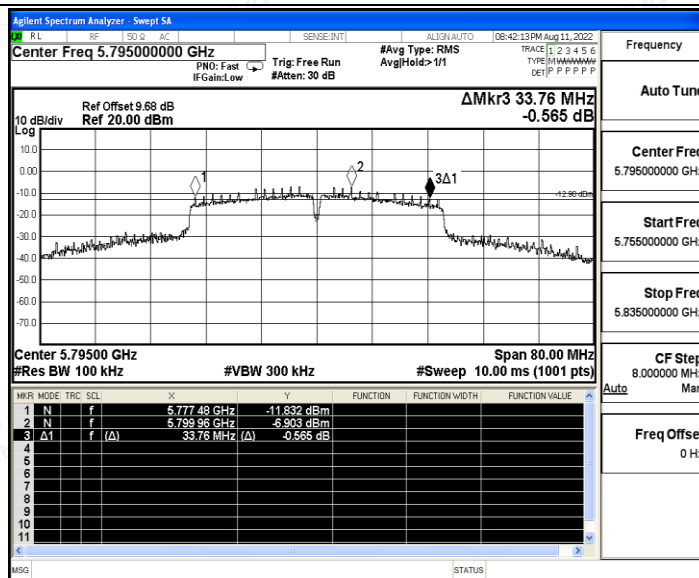


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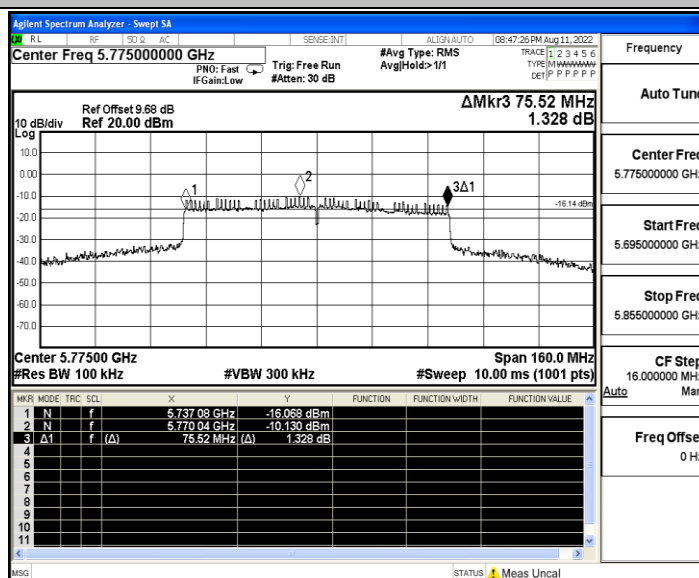
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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11AC80SISO_Ant_5775





E.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant	5745	9.64	≤30.00	PASS
		5785	8.83	≤30.00	PASS
		5825	7.81	≤30.00	PASS
11N20SISO	Ant	5745	9.92	≤30.00	PASS
		5785	9.17	≤30.00	PASS
		5825	8.06	≤30.00	PASS
11N40SISO	Ant	5755	9.09	≤30.00	PASS
		5795	8.26	≤30.00	PASS
11AC20SISO	Ant	5745	9.15	≤30.00	PASS
		5785	9.31	≤30.00	PASS
		5825	8.24	≤30.00	PASS
11AC40SISO	Ant	5755	8.34	≤30.00	PASS
		5795	8.41	≤30.00	PASS
11AC80SISO	Ant	5775	8.71	≤30.00	PASS

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





E.3 Maximum power spectral density

Test Result

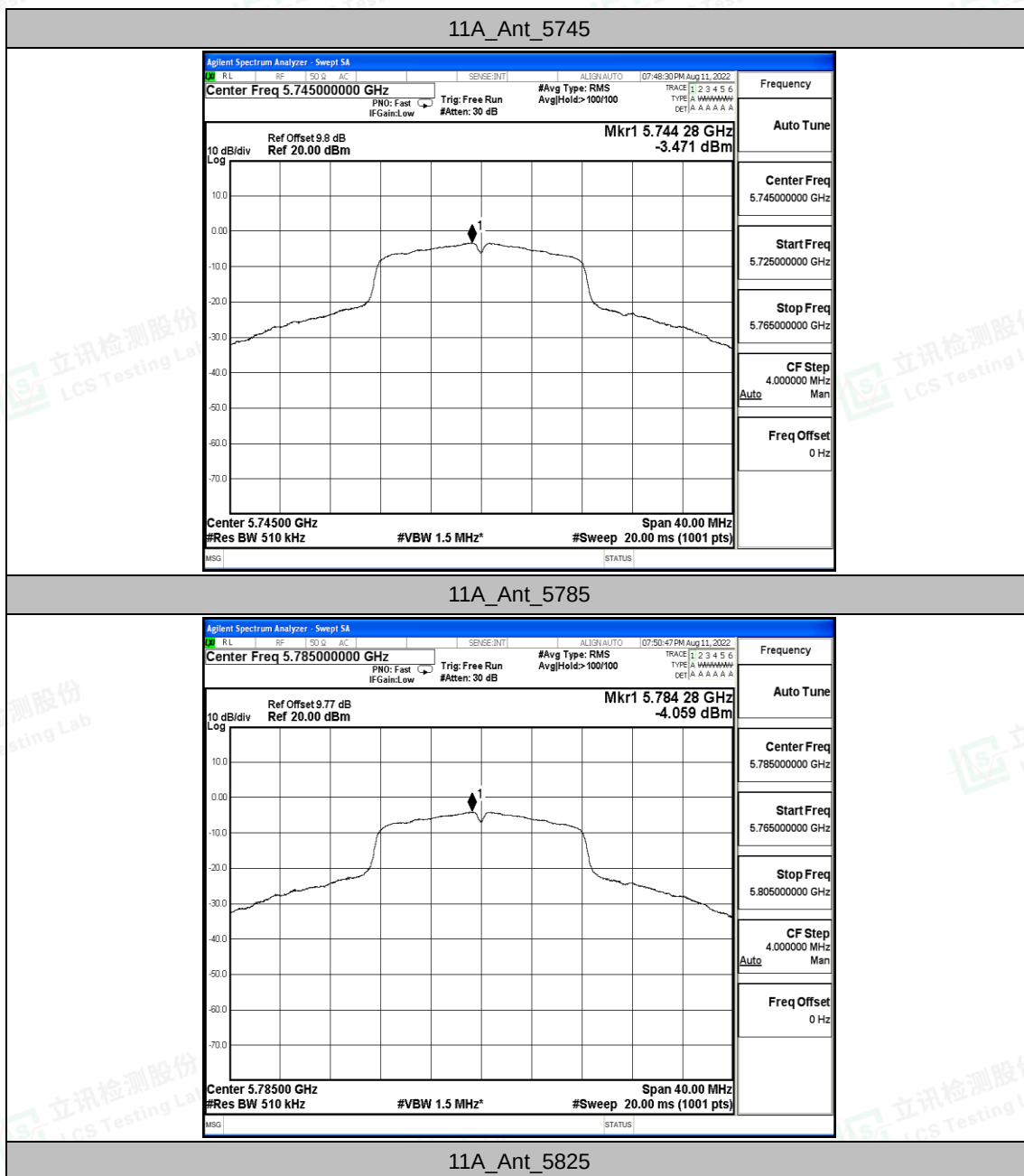
TestMode	Antenna	Channel	Result [dBm/500KHz]	Duty cycle factor [dBm]	Total Result [dBm/MHz]	Limit[dBm/500KHz]	Verdict
11A	Ant	5745	-3.471	0.123	-3.348	≤30.00	PASS
		5785	-4.059	0.093	-3.966	≤30.00	PASS
		5825	-5.162	0.093	-5.069	≤30.00	PASS
11N20SISO	Ant	5745	-3.437	0.165	-3.272	≤30.00	PASS
		5785	-4.136	0.132	-4.004	≤30.00	PASS
		5825	-5.358	0.132	-5.226	≤30.00	PASS
11N40SISO	Ant	5755	-7.216	0.263	-6.953	≤30.00	PASS
		5795	-8.032	0.196	-7.836	≤30.00	PASS
11AC20SISO	Ant	5745	-4.156	0.130	-4.026	≤30.00	PASS
		5785	-4.082	0.130	-3.952	≤30.00	PASS
		5825	-5.154	0.163	-4.991	≤30.00	PASS
11AC40SISO	Ant	5755	-7.898	0.196	-7.702	≤30.00	PASS
		5795	-7.892	0.259	-7.633	≤30.00	PASS
11AC80SISO	Ant	5775	-11.135	0.511	-10.624	≤30.00	PASS

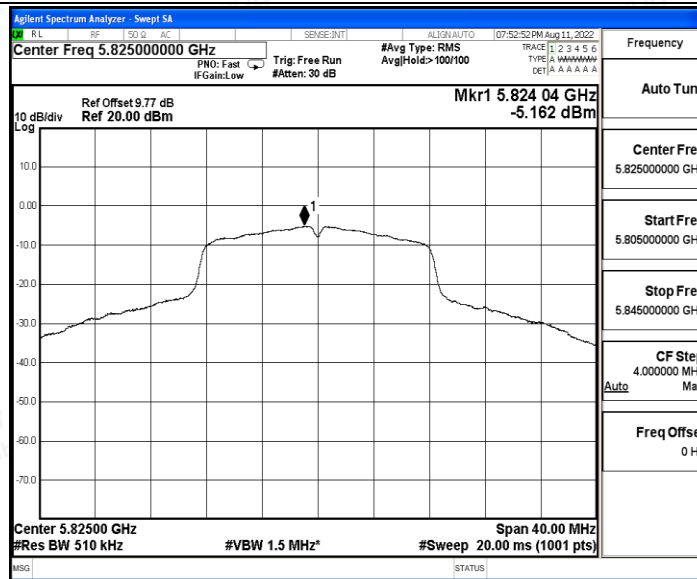
Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.



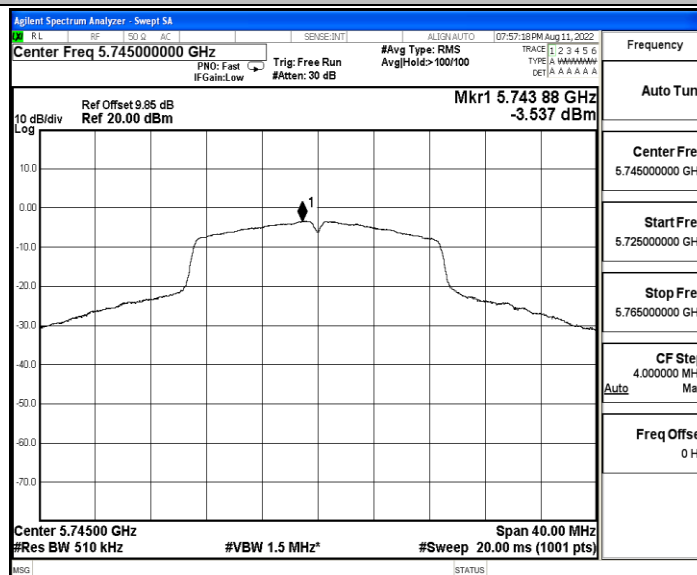


Test Graphs



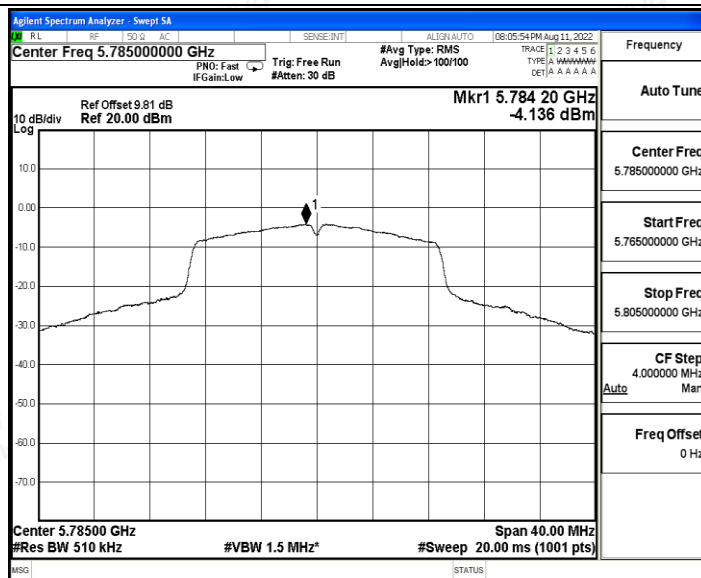


11N20SISO_Ant_5745

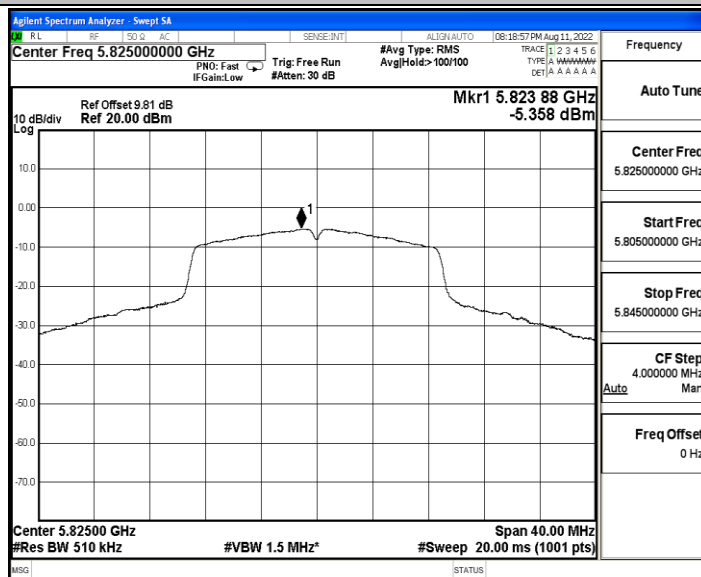


11N20SISO_Ant_5785



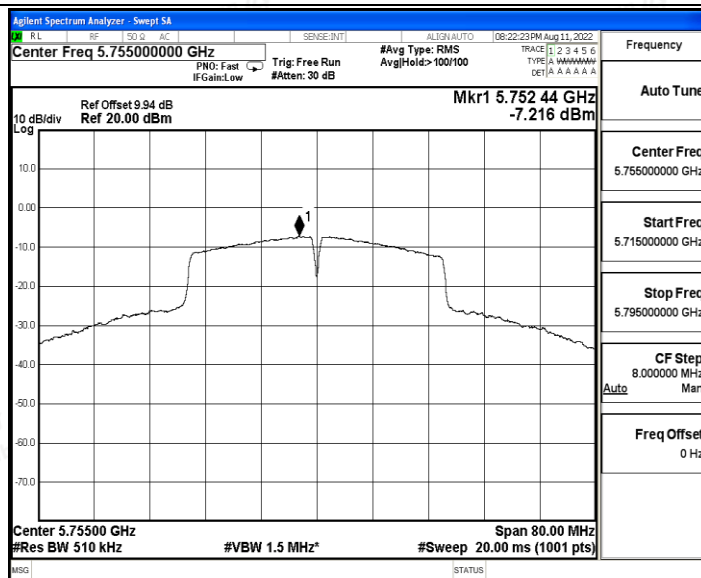


11N20SISO_Ant_5825

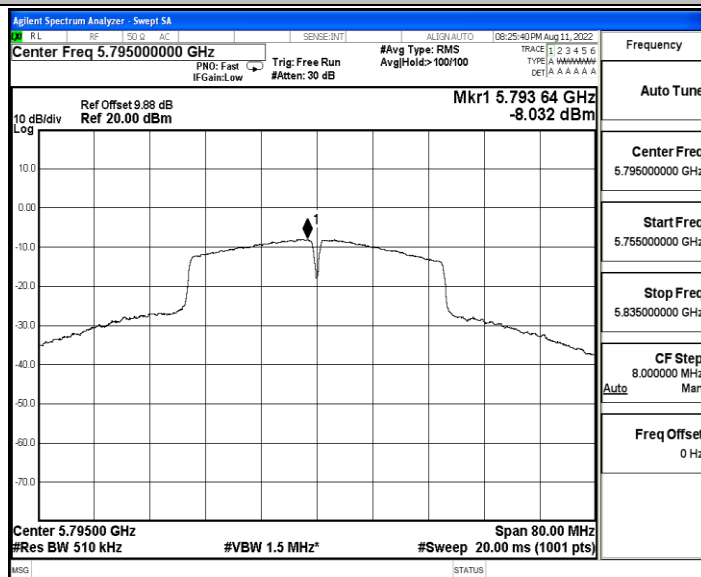


11N40SISO_Ant_5755



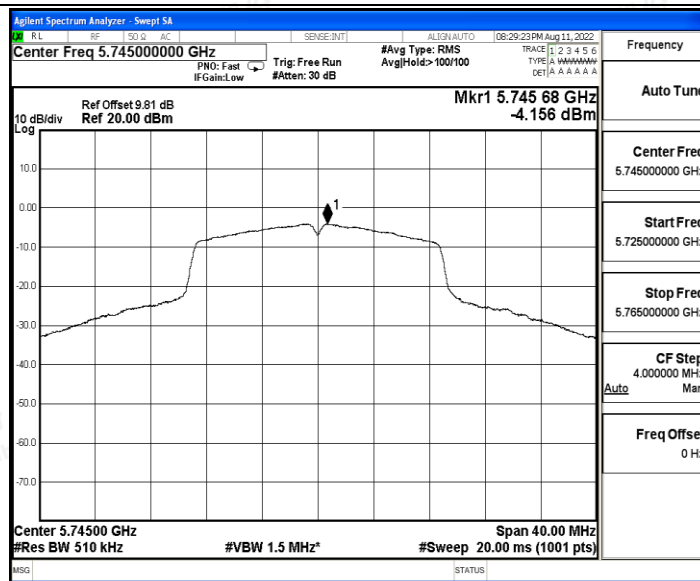


11N40SISO_Ant_5795

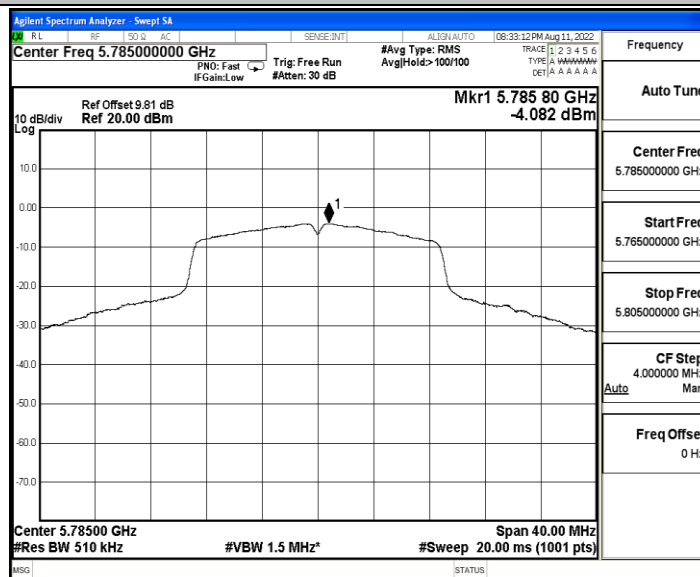


11AC20SISO_Ant_5745



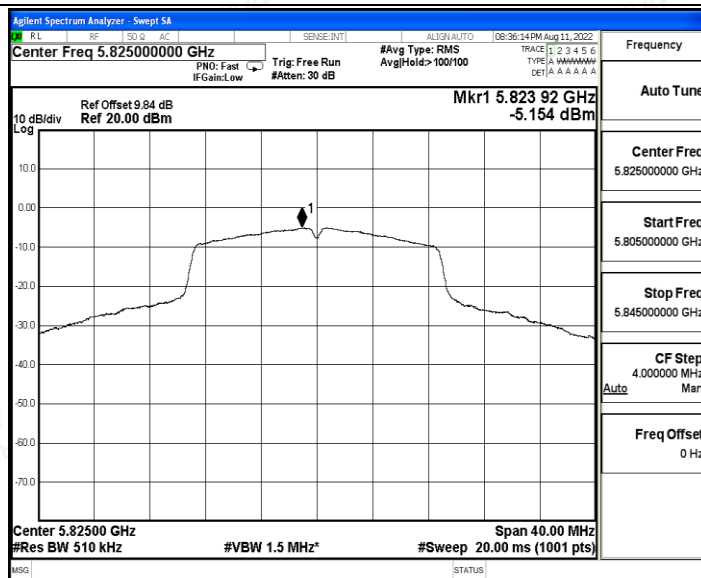


11AC20SISO_Ant_5785

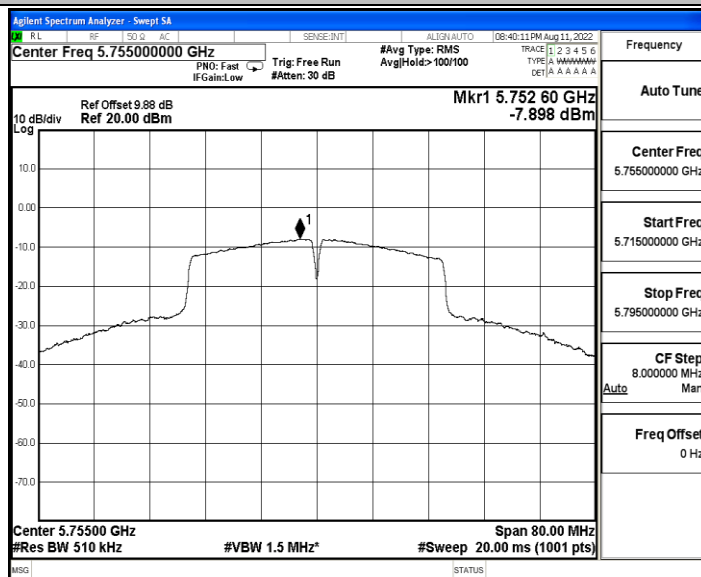


11AC20SISO_Ant_5825



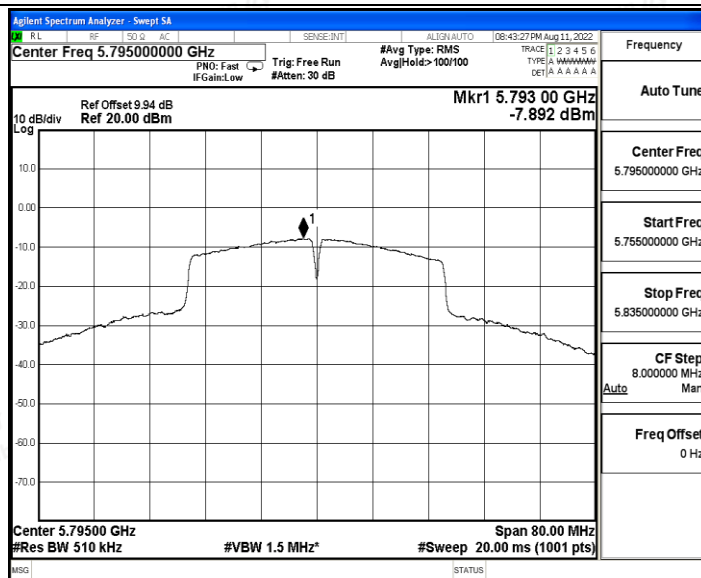


11AC40SISO_Ant_5755

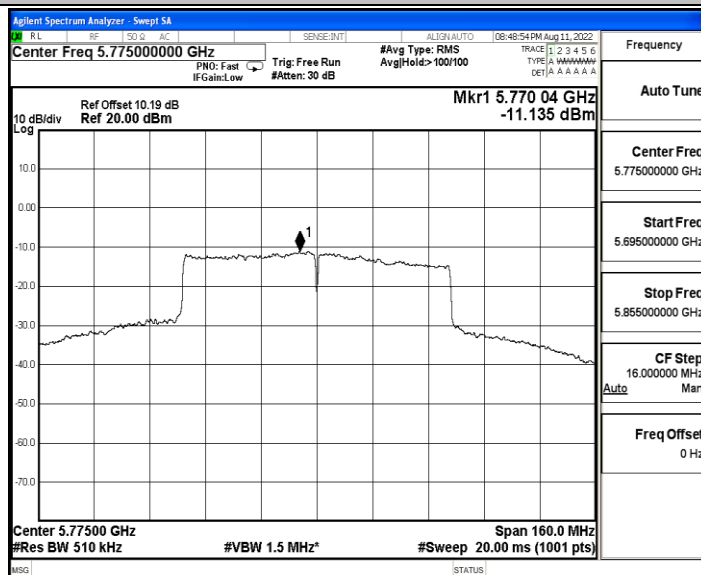


11AC40SISO_Ant_5795





11AC80SISO_Ant_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	Ant	Low	5745	Peak	5650.000	-38.072	≤-27.00	---	---	PASS
				Peak	5700.000	-37.69	≤10.00	---	---	PASS
				Peak	5720.000	-31.9	≤15.60	---	---	PASS
				Peak	5725.000	-23.14	≤27.00	---	---	PASS
		High	5825	Peak	5850.000	-23.915	≤15.60	---	---	PASS
				Peak	5855.000	-27.68	≤27.00	---	---	PASS
				Peak	5875.000	-37.82	≤15.60	---	---	PASS
				Peak	5925.000	-38.38	≤10.00	---	---	PASS
11N20SISO	Ant	Low	5745	Peak	5650.000	-38.757	≤-27.00	---	---	PASS
				Peak	5700.000	-31.13	≤10.00	---	---	PASS
				Peak	5720.000	-18.13	≤15.60	---	---	PASS
				Peak	5725.000	-12.41	≤27.00	---	---	PASS
		High	5825	Peak	5850.000	-20.664	≤15.60	---	---	PASS
				Peak	5855.000	-26.3	≤27.00	---	---	PASS
				Peak	5875.000	-37.72	≤15.60	---	---	PASS
				Peak	5925.000	-39.09	≤10.00	---	---	PASS
11N40SISO	Ant	Low	5755	Peak	5650.000	-37.9	≤-27.00	---	---	PASS
				Peak	5700.000	-27.88	≤10.00	---	---	PASS
				Peak	5720.000	-17.15	≤15.60	---	---	PASS
				Peak	5725.000	-14.28	≤27.00	---	---	PASS
		High	5795	Peak	5850.000	-29.724	≤15.60	---	---	PASS
				Peak	5855.000	-32.23	≤27.00	---	---	PASS
				Peak	5875.000	-36.95	≤15.60	---	---	PASS
				Peak	5925.000	-37.88	≤10.00	---	---	PASS
11AC20SISO	Ant	Low	5745	Peak	5650.000	-38.765	≤-27.00	---	---	PASS
				Peak	5700.000	-35.46	≤10.00	---	---	PASS
				Peak	5720.000	-20.26	≤15.60	---	---	PASS
				Peak	5725.000	-15.18	≤27.00	---	---	PASS
		High	5825	Peak	5850.000	-22.436	≤15.60	---	---	PASS
				Peak	5855.000	-22.9	≤27.00	---	---	PASS
				Peak	5875.000	-36.87	≤15.60	---	---	PASS
				Peak	5925.000	-38.49	≤10.00	---	---	PASS
11AC40SISO	Ant	Low	5755	Peak	5650.000	-38.721	≤-27.00	---	---	PASS
				Peak	5700.000	-29.23	≤10.00	---	---	PASS



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		High	5795	Peak	5720.000	-18.9	≤15.60	---	---	PASS
				Peak	5725.000	-16.55	≤27.00	---	---	PASS
				Peak	5850.000	-29.977	≤15.60	---	---	PASS
				Peak	5855.000	-32.59	≤27.00	---	---	PASS
				Peak	5875.000	-36.46	≤15.60	---	---	PASS
				Peak	5925.000	-38.2	≤10.00	---	---	PASS
11AC80SI SO	Ant	Low	5775	Peak	5650.000	-35.6	≤-27.00	---	---	PASS
				Peak	5700.000	-23.29	≤10.00	---	---	PASS
				Peak	5720.000	-18.33	≤15.60	---	---	PASS
				Peak	5725.000	-18.87	≤27.00	---	---	PASS
		High	5775	Peak	5850.000	-25.707	≤15.60	---	---	PASS
				Peak	5855.000	-26.74	≤27.00	---	---	PASS
				Peak	5875.000	-33.33	≤15.60	---	---	PASS
				Peak	5925.000	-37.51	≤10.00	---	---	PASS

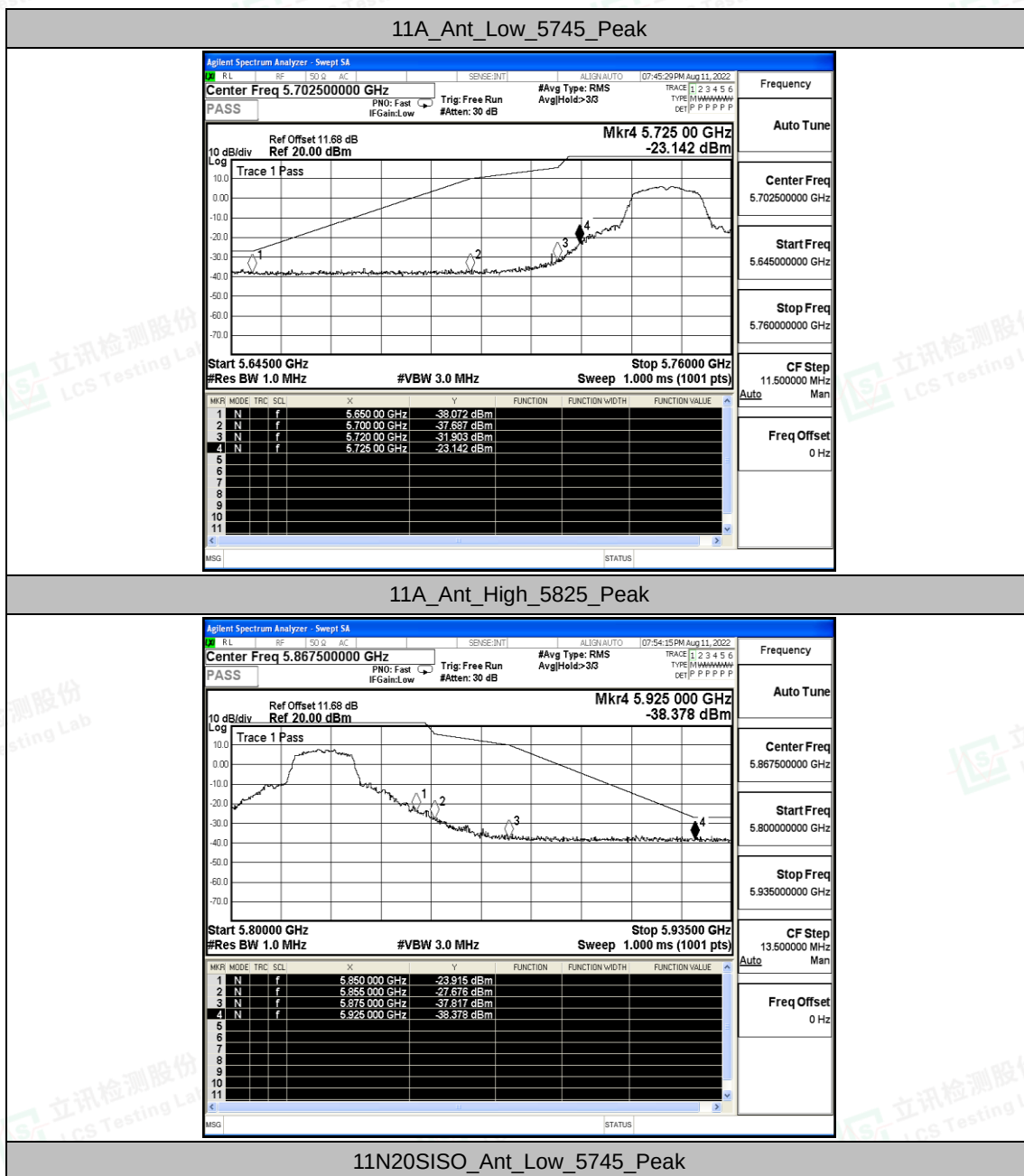
Note:

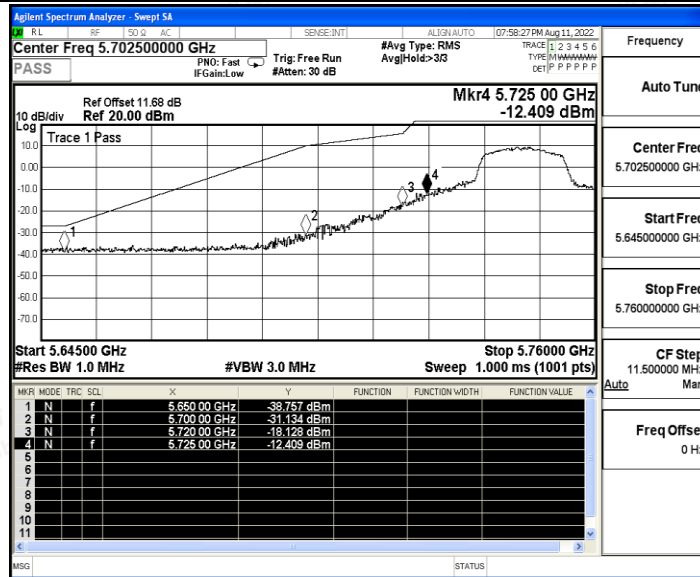
1. The Antenna Gain is compensated in the graph.
2. For transmitters operating in 5150-5350 GHz band and 5470-5725 GHz band: The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



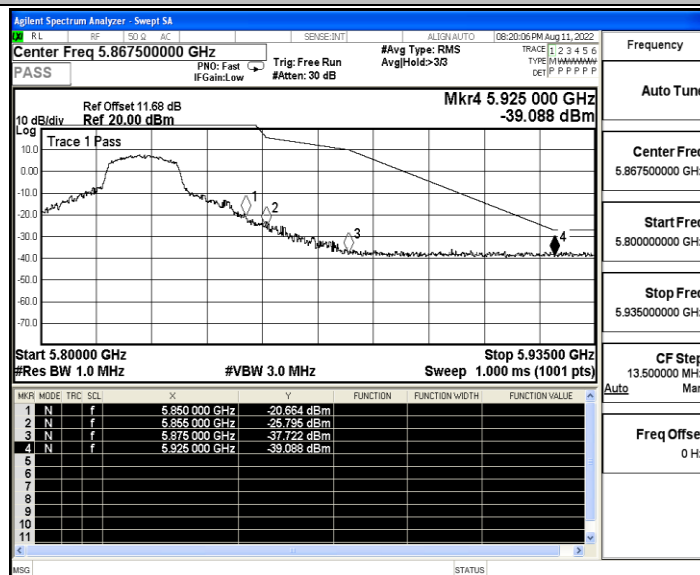


Test Graphs



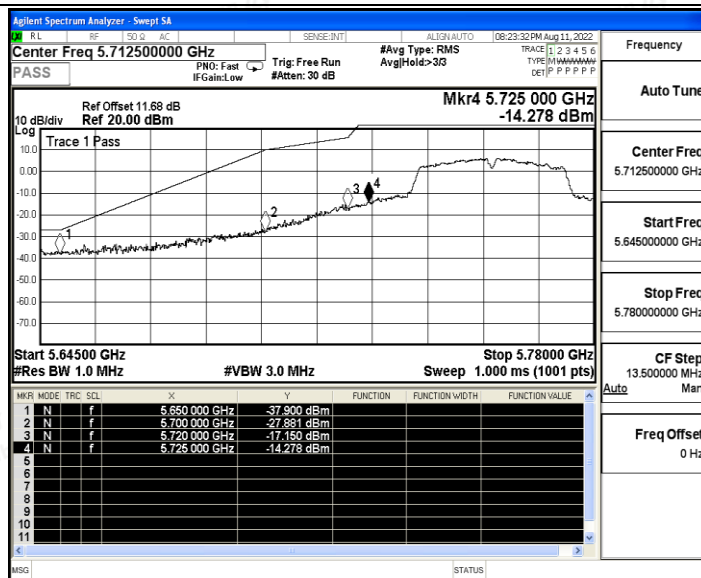


11N20SISO_Ant_High_5825_Peak

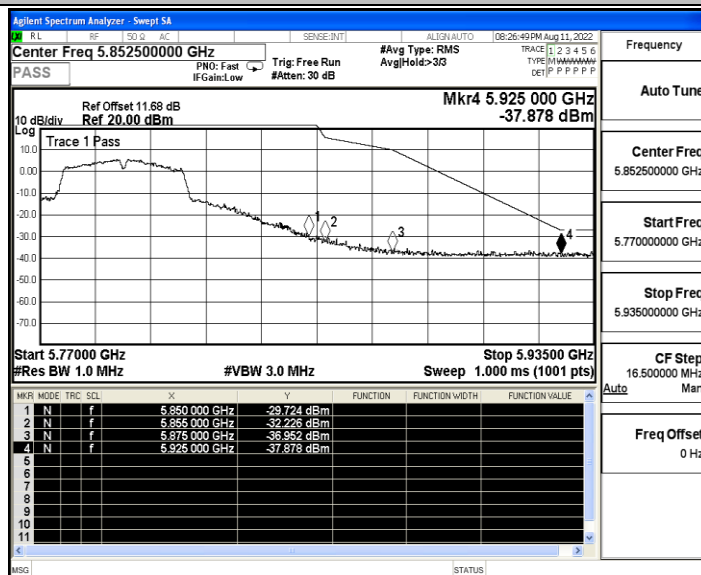


11N40SISO_Ant_Low_5755_Peak



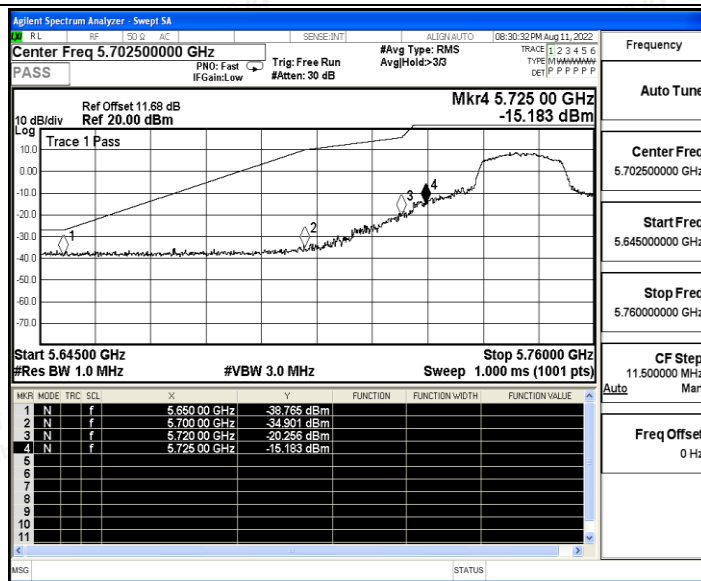


11N40SISO_Ant_High_5795_Peak

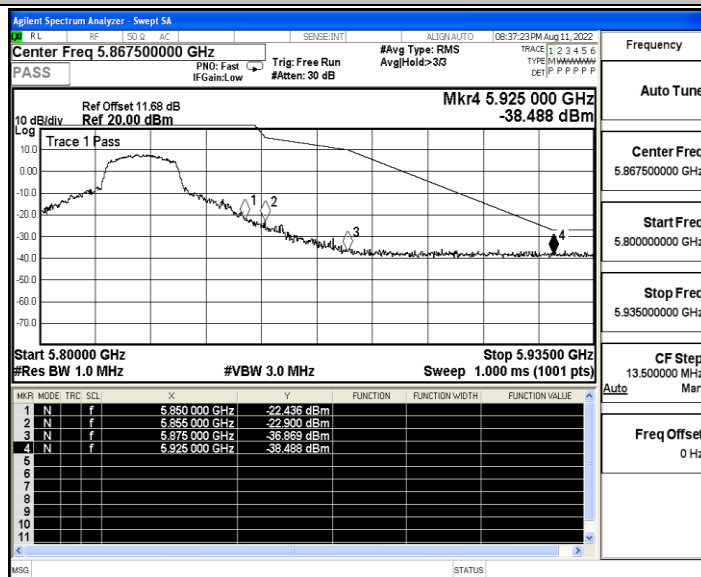


11AC20SISO_Ant_Low_5745_Peak



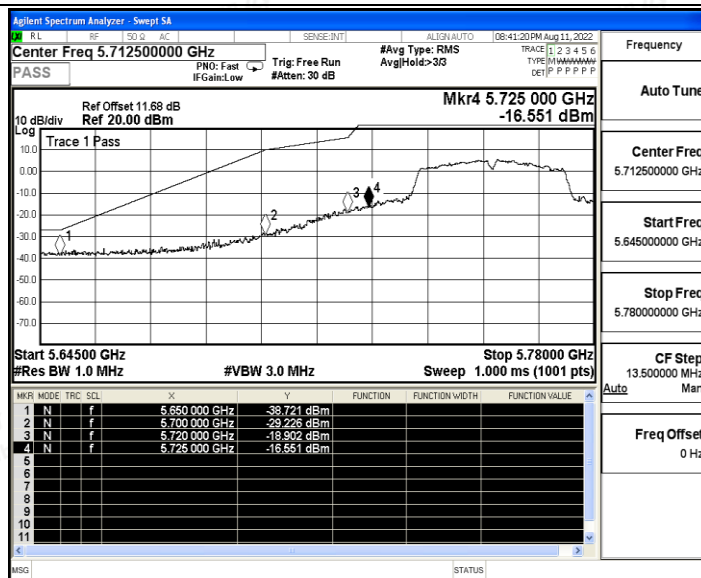


11AC20SISO_Ant_High_5825_Peak

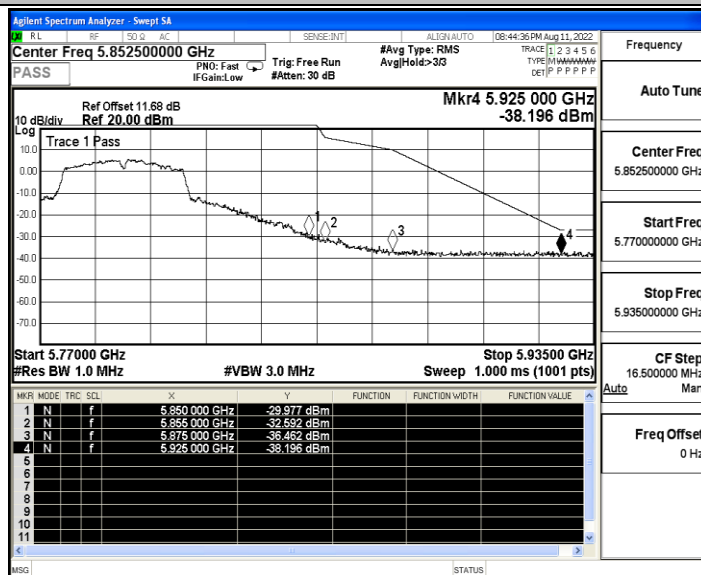


11AC40SISO_Ant_Low_5755_Peak



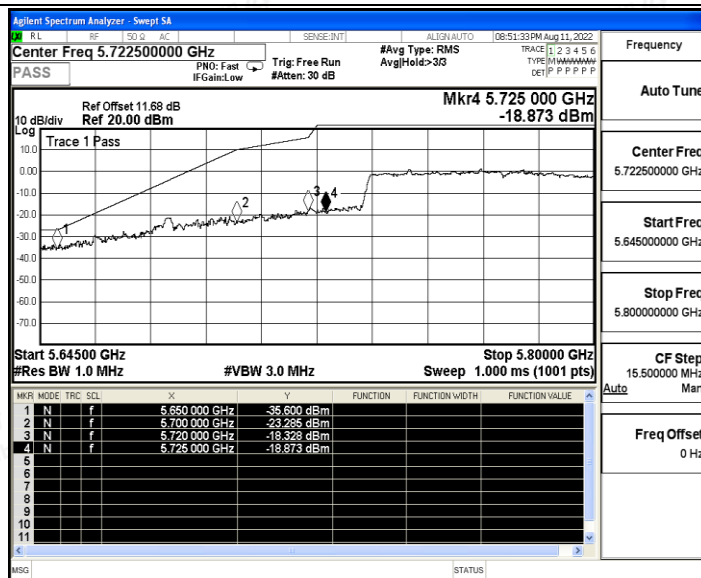


11AC40SISO_Ant_High_5795_Peak

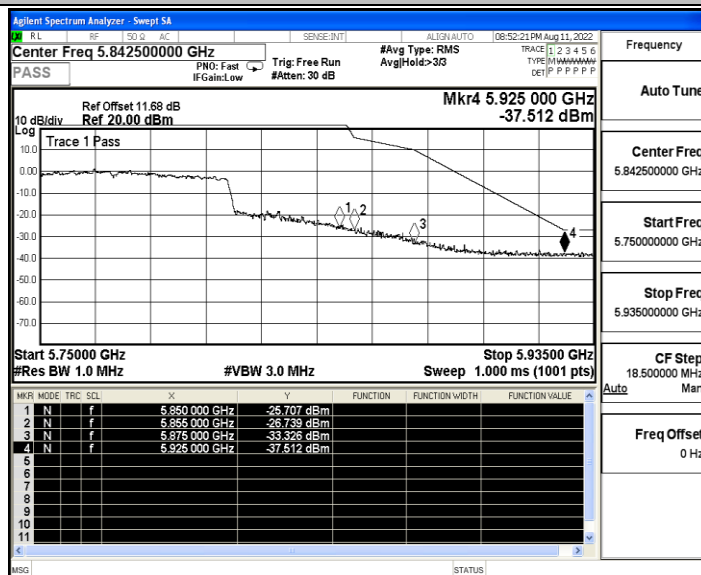


11AC80SISO_Ant_Low_5775_Peak





11AC80SISO_Ant_High_5775_Peak





E.5 Frequency Stability

Test Result

Voltage								
TestMode	Antenna	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11AC20S ISO	Ant	5745	NV	NT	-23000	-4.003481	20	PASS
			LV	NT	-22000	-3.829417	20	PASS
			HV	NT	-22000	-3.829417	20	PASS
		5785	NV	NT	-17000	-2.938634	20	PASS
			LV	NT	-17000	-2.938634	20	PASS
			HV	NT	-17000	-2.938634	20	PASS
		5825	NV	NT	-22000	-3.776824	20	PASS
			LV	NT	-22000	-3.776824	20	PASS
			HV	NT	-23000	-3.948498	20	PASS
11AC40S ISO	Ant	5755	NV	NT	-23000	-3.996525	20	PASS
			LV	NT	-23000	-3.996525	20	PASS
			HV	NT	-23000	-3.996525	20	PASS
		5795	NV	NT	-23000	-3.968939	20	PASS
			LV	NT	-23000	-3.968939	20	PASS
			HV	NT	-23000	-3.968939	20	PASS
11AC80S ISO	Ant	5775	NV	NT	-23000	-3.982684	20	PASS
			LV	NT	-23000	-3.982684	20	PASS
			HV	NT	-23000	-3.982684	20	PASS

Temperature								
TestMode	Antenna	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11AC20S ISO	Ant	5745	NV	-30	-22000	-3.829417	20	PASS
			NV	-20	-22000	-3.829417	20	PASS
			NV	-10	-21000	-3.655352	20	PASS
			NV	0	-21000	-3.655352	20	PASS
			NV	10	-20000	-3.481288	20	PASS
			NV	20	-20000	-3.481288	20	PASS
			NV	30	-20000	-3.481288	20	PASS
			NV	40	-20000	-3.481288	20	PASS
			NV	50	-19000	-3.307224	20	PASS
		5785	NV	-30	-17000	-2.938634	20	PASS
			NV	-20	-18000	-3.111495	20	PASS





			NV	-10	-19000	-3.284356	20	PASS
			NV	0	-19000	-3.284356	20	PASS
			NV	10	-20000	-3.457217	20	PASS
			NV	20	-20000	-3.457217	20	PASS
			NV	30	-20000	-3.457217	20	PASS
			NV	40	-21000	-3.630078	20	PASS
			NV	50	-21000	-3.630078	20	PASS
		5825	NV	-30	-23000	-3.948498	20	PASS
			NV	-20	-23000	-3.948498	20	PASS
			NV	-10	-23000	-3.948498	20	PASS
			NV	0	-23000	-3.948498	20	PASS
			NV	10	-23000	-3.948498	20	PASS
			NV	20	-23000	-3.948498	20	PASS
			NV	30	-23000	-3.948498	20	PASS
11AC40S ISO	Ant	5755	NV	-30	-23000	-3.996525	20	PASS
			NV	-20	-23000	-3.996525	20	PASS
			NV	-10	-23000	-3.996525	20	PASS
			NV	0	-23000	-3.996525	20	PASS
			NV	10	-23000	-3.996525	20	PASS
			NV	20	-23000	-3.996525	20	PASS
			NV	30	-23000	-3.996525	20	PASS
			NV	40	-23000	-3.996525	20	PASS
			NV	50	-23000	-3.996525	20	PASS
		5795	NV	-30	-23000	-3.968939	20	PASS
			NV	-20	-23000	-3.968939	20	PASS
			NV	-10	-23000	-3.968939	20	PASS
			NV	0	-23000	-3.968939	20	PASS
			NV	10	-23000	-3.968939	20	PASS
			NV	20	-23000	-3.968939	20	PASS
			NV	30	-23000	-3.968939	20	PASS
			NV	40	-23000	-3.968939	20	PASS
			NV	50	-23000	-3.968939	20	PASS
11AC80S ISO	Ant	5775	NV	-30	-23000	-3.982684	20	PASS
			NV	-20	-23000	-3.982684	20	PASS
			NV	-10	-23000	-3.982684	20	PASS
			NV	0	-23000	-3.982684	20	PASS
			NV	10	-23000	-3.982684	20	PASS
			NV	20	-23000	-3.982684	20	PASS



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			NV	30	-23000	-3.982684	20	PASS
			NV	40	-23000	-3.982684	20	PASS
			NV	50	-23000	-3.982684	20	PASS



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E.6 Duty Cycle

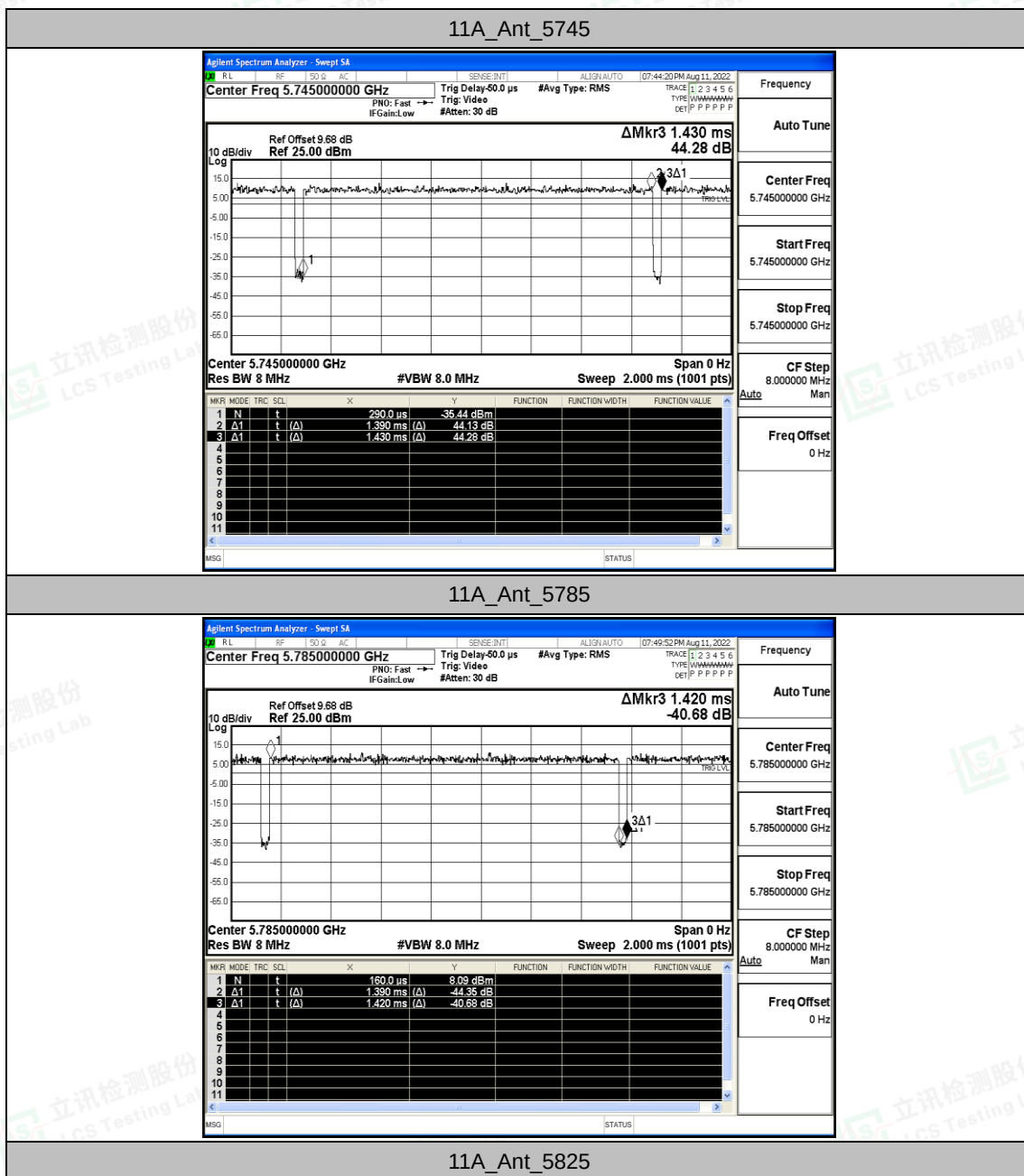
Test Result

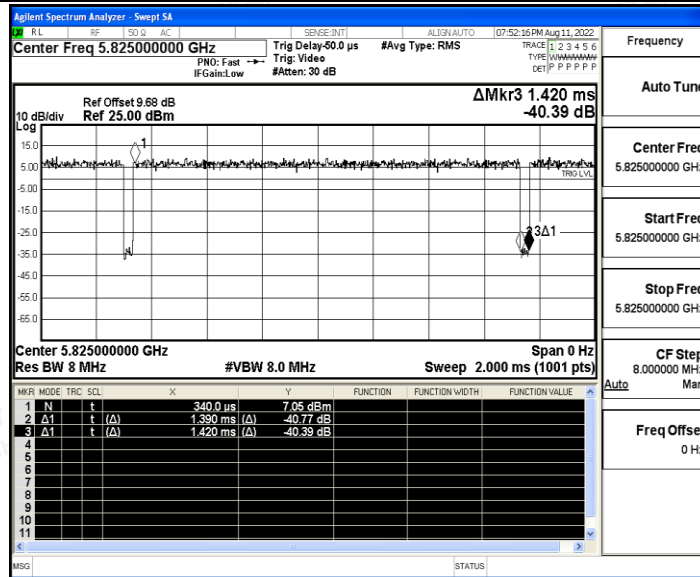
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Duty cycle factor= 10lg (1/ Duty Cycle)
11A	Ant	5745	1.39	1.43	97.20	0.123
		5785	1.39	1.42	97.89	0.093
		5825	1.39	1.42	97.89	0.093
11N20SISO	Ant	5745	1.29	1.34	96.27	0.165
		5785	1.30	1.34	97.01	0.132
		5825	1.30	1.34	97.01	0.132
11N40SISO	Ant	5755	0.64	0.68	94.12	0.263
		5795	0.65	0.68	95.59	0.196
11AC20SISO	Ant	5745	1.31	1.35	97.04	0.130
		5785	1.31	1.35	97.04	0.130
		5825	1.31	1.36	96.32	0.163
11AC40SISO	Ant	5755	0.65	0.68	95.59	0.196
		5795	0.65	0.69	94.20	0.259
11AC80SISO	Ant	5775	0.32	0.36	88.89	0.511



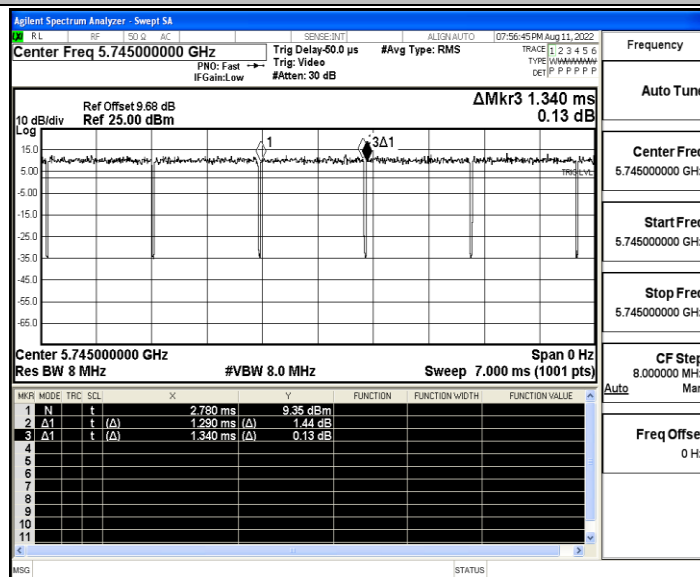


Test Graphs



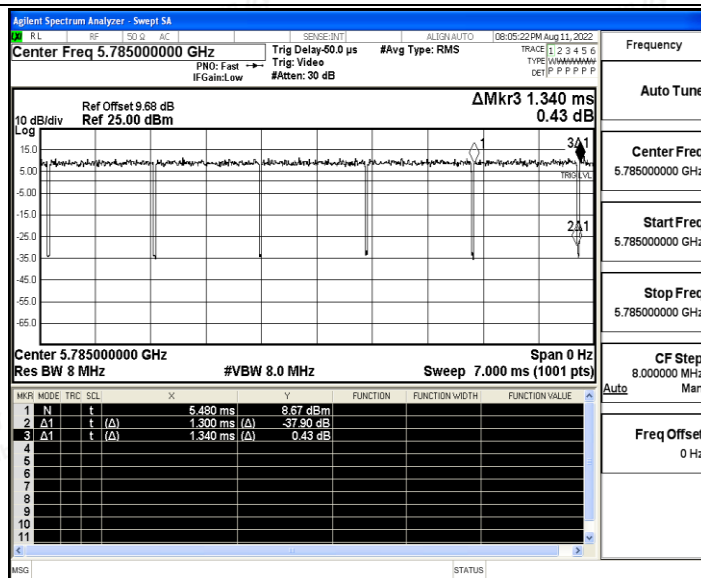


11N20SISO_Ant_5745

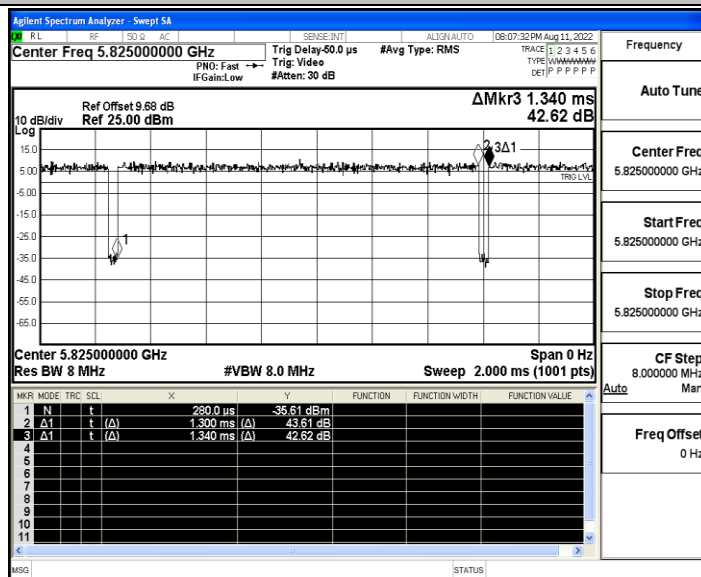


11N20SISO_Ant_5785





11N20SISO_Ant_5825



11N40SISO_Ant_5755

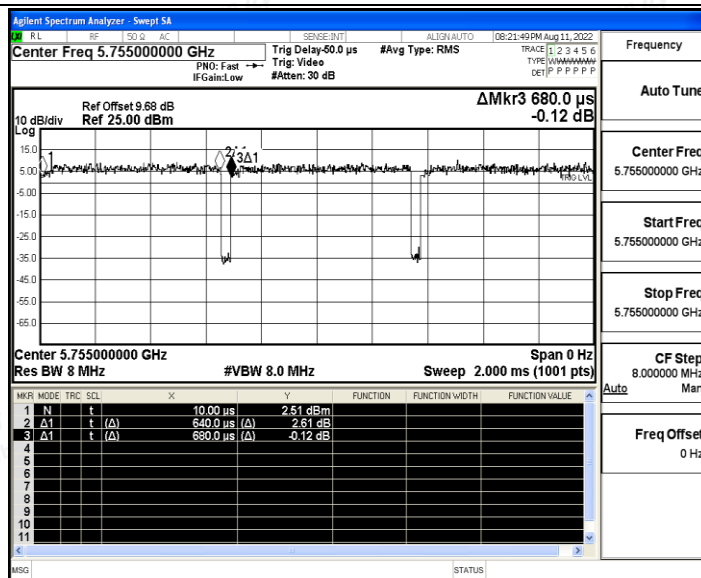


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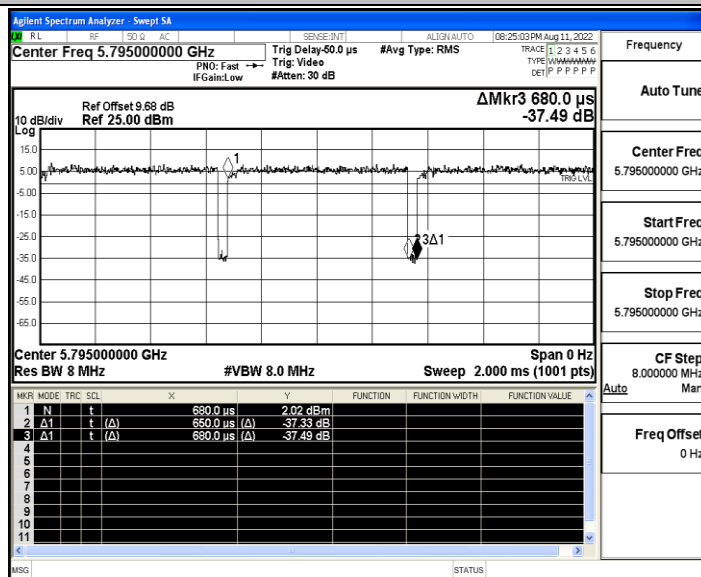
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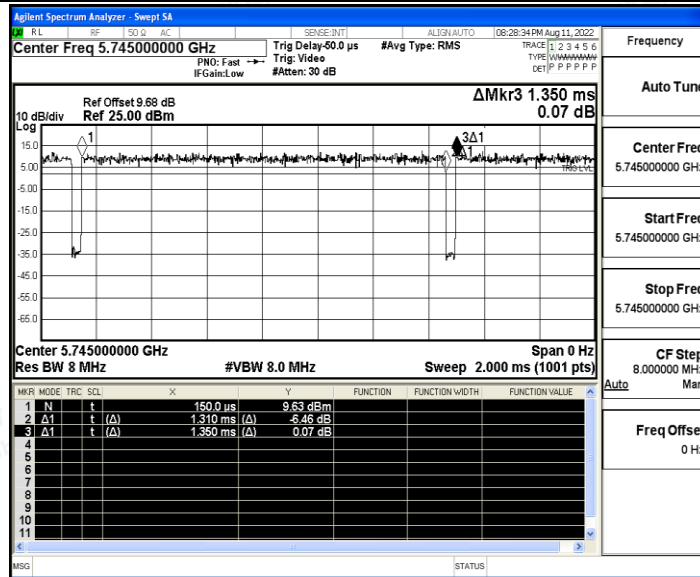


11N40SISO_Ant_5795

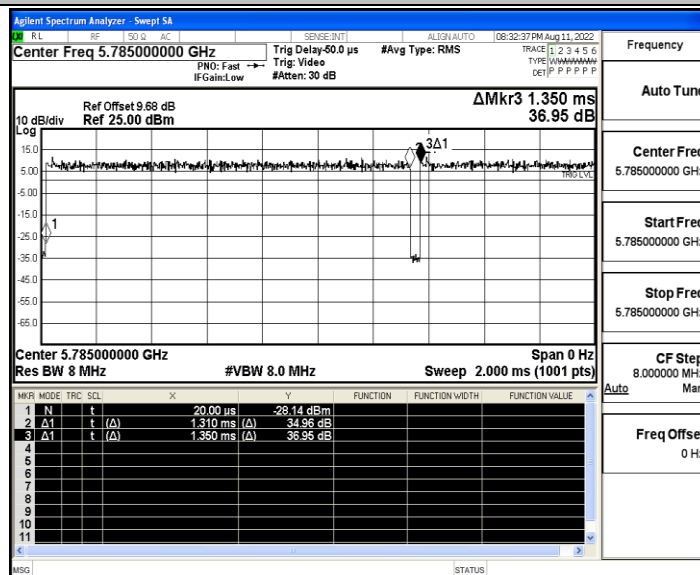


11AC20SISO_Ant_5745



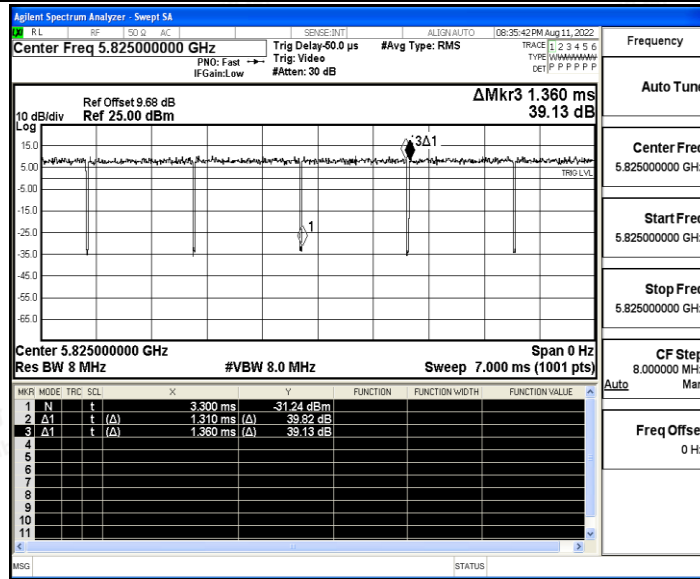


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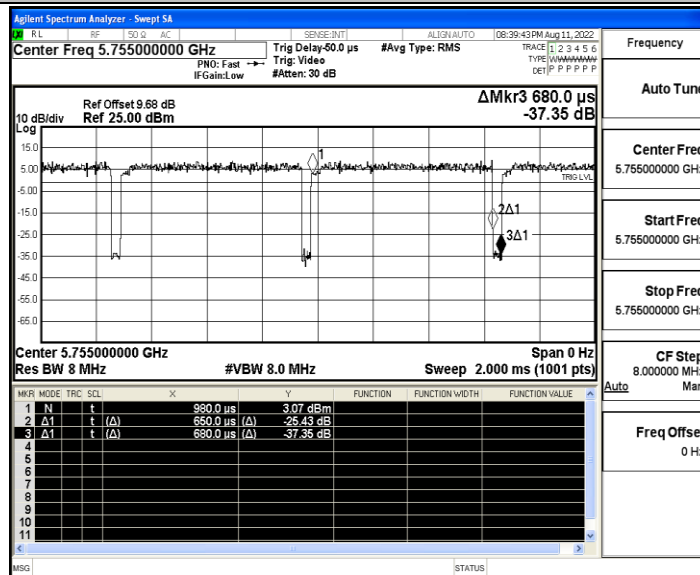


11AC20SISO_Ant_5825





11AC40SISO_Ant_5755



11AC40SISO_Ant_5795

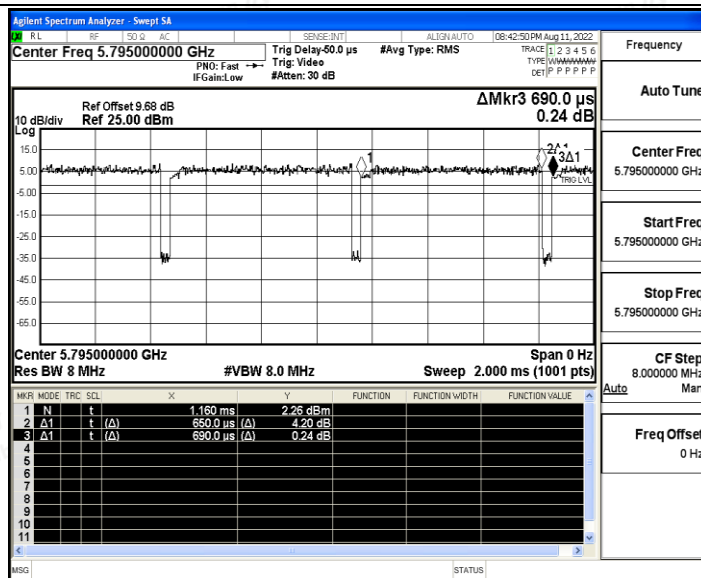


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11AC80SISO_Ant_5775

