Appendix E

RF Test Data for 5.8G WIFI (Conducted Measurement)

Product Name: HYBOOK_PLUS

Test Model: 14CB8S01

Environmental Conditions

Temperature:	22.6° C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling Zhu
Supervised by:	Li Huan

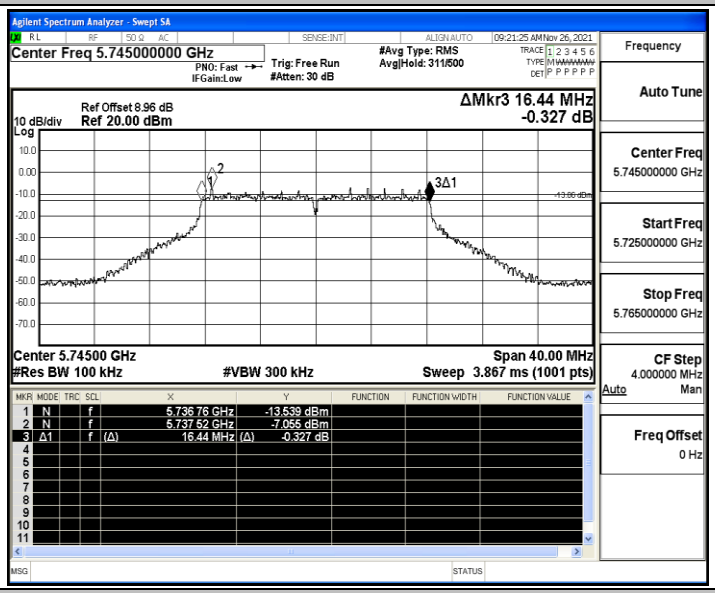
E.1 6dB bandwidth

Test Result

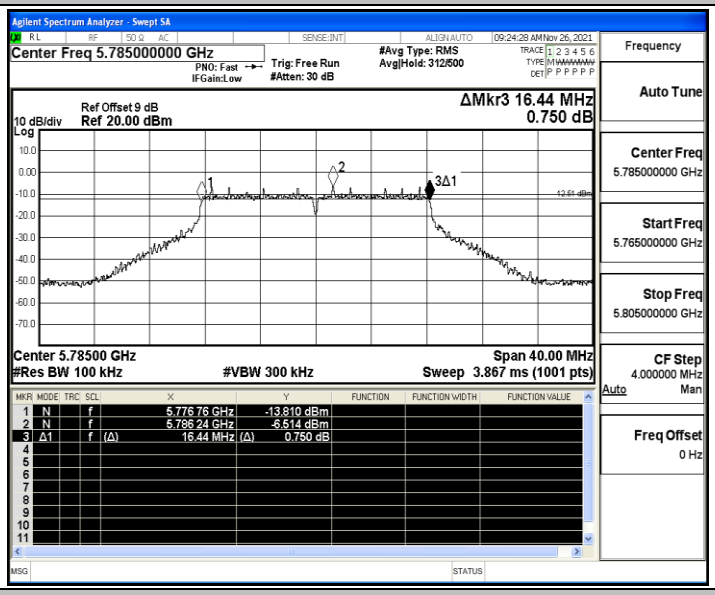
TestMode	Antenna	Channel	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.440	5736.760	5753.200	0.5	PASS
		5785	16.440	5776.760	5793.200	0.5	PASS
		5825	16.400	5816.800	5833.200	0.5	PASS
11N20SISO	Ant1	5745	16.440	5736.760	5753.200	0.5	PASS
		5785	16.440	5776.760	5793.200	0.5	PASS
		5825	16.400	5816.800	5833.200	0.5	PASS
11N40SISO	Ant1	5755	36.480	5736.760	5773.240	0.5	PASS
		5795	36.480	5776.760	5813.240	0.5	PASS
11AC20SISO	Ant1	5745	17.640	5736.160	5753.800	0.5	PASS
		5785	17.640	5776.160	5793.800	0.5	PASS
		5825	17.640	5816.160	5833.800	0.5	PASS
11AC40SISO	Ant1	5755	36.480	5736.760	5773.240	0.5	PASS
		5795	36.480	5776.760	5813.240	0.5	PASS
11AC80SISO	Ant1	5775	75.520	5737.240	5812.760	0.5	PASS

Test Graphs

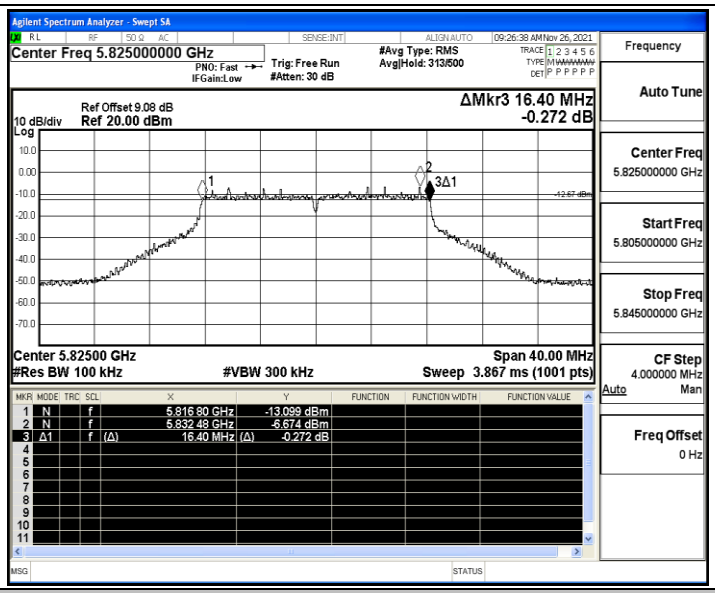
11A_Ant1_5745



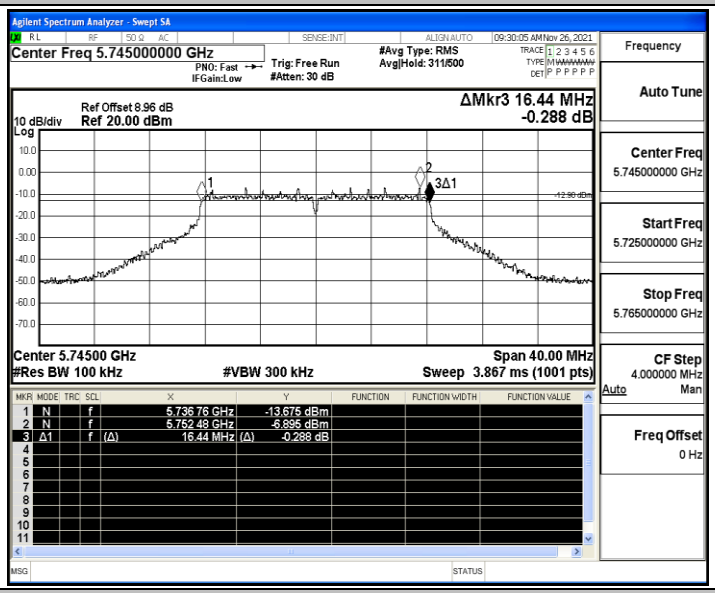
11A_Ant1_5785



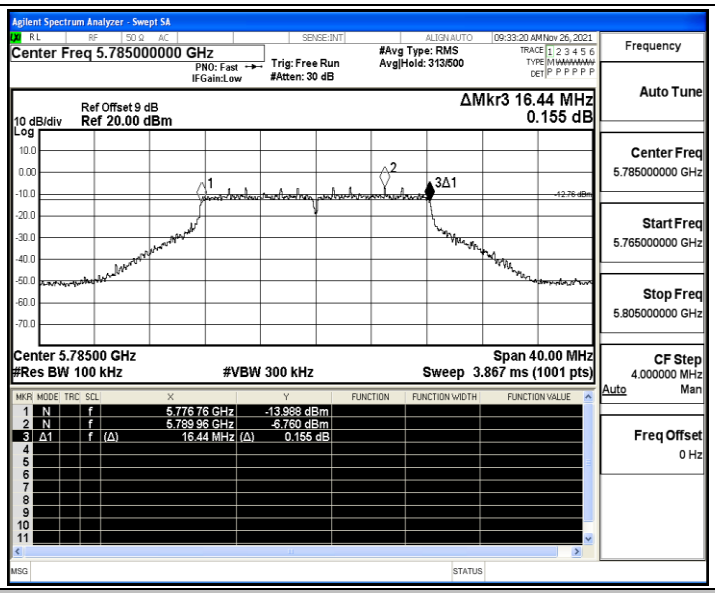
11A_Ant1_5825



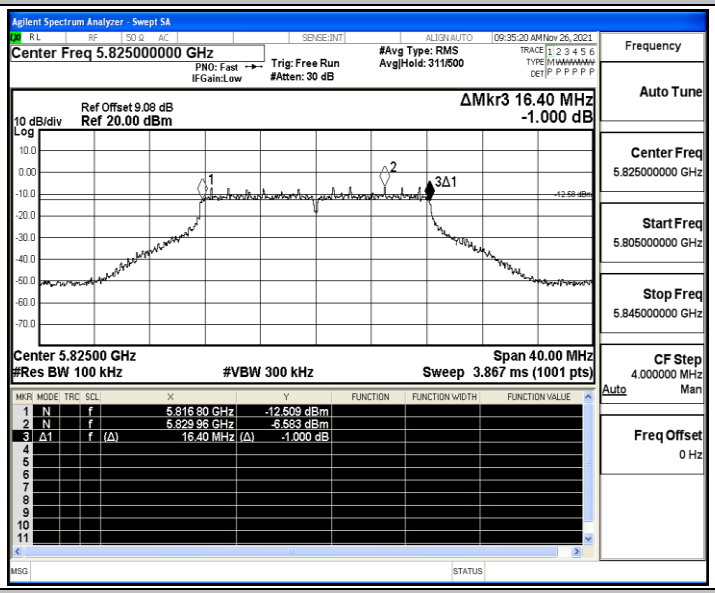
11N20SISO_Ant1_5745



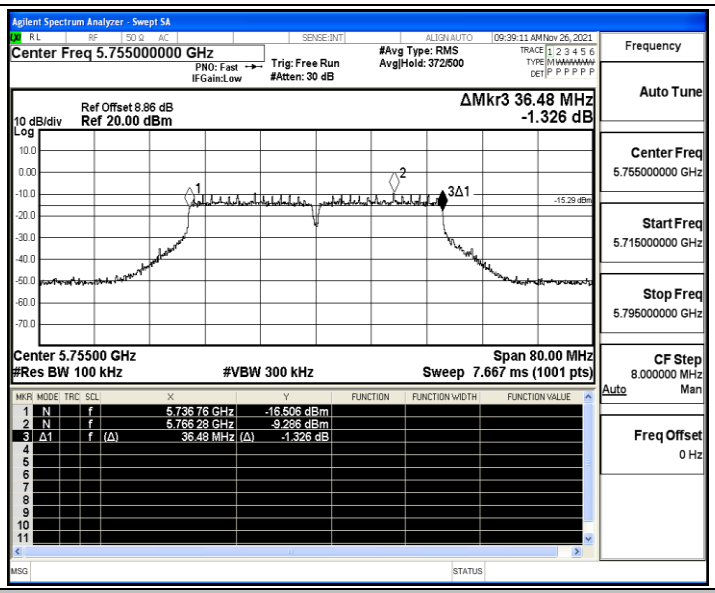
11N20SISO_Ant1_5785



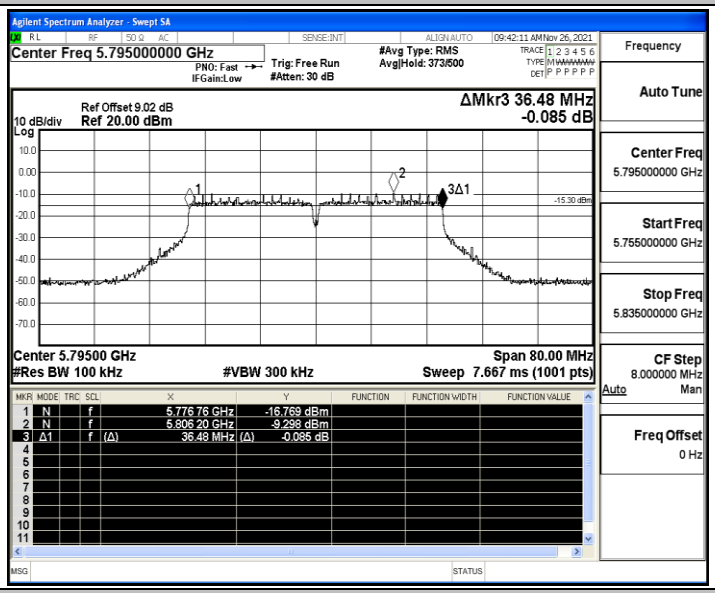
11N20SISO_Ant1_5825



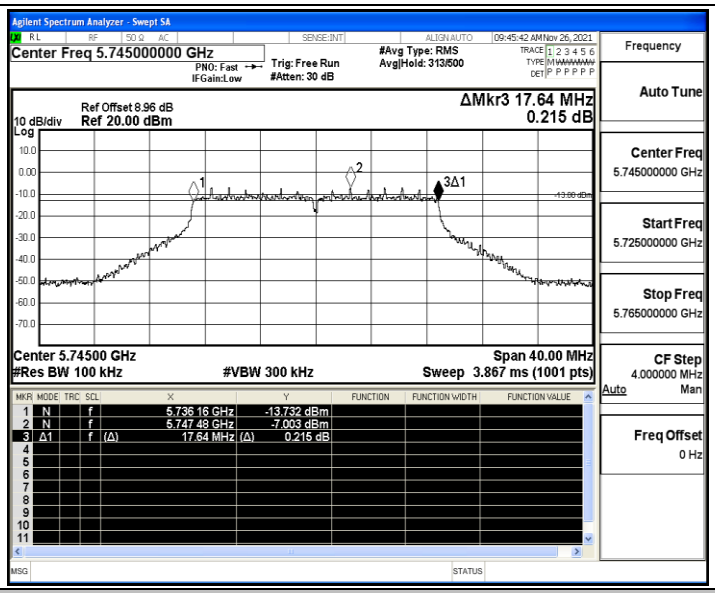
11N40SISO_Ant1_5755



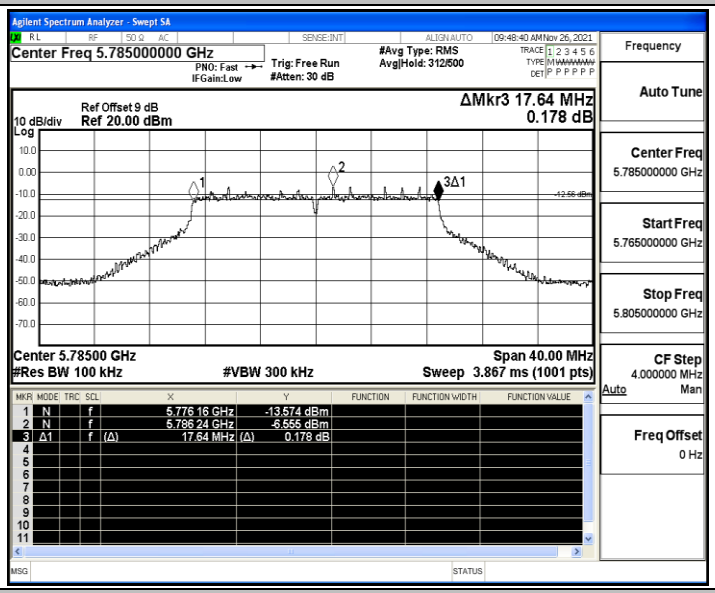
11N40SISO_Ant1_5795



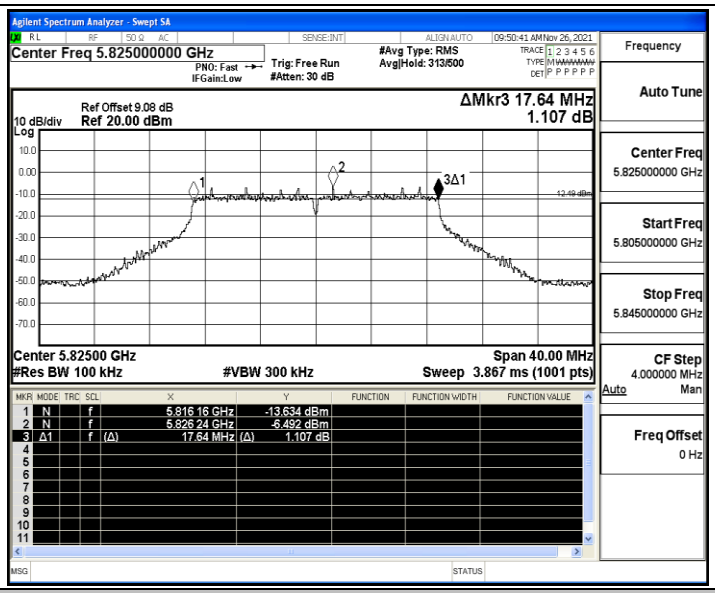
11AC20SISO_Ant1_5745



11AC20SISO_Ant1_5785



11AC20SISO_Ant1_5825



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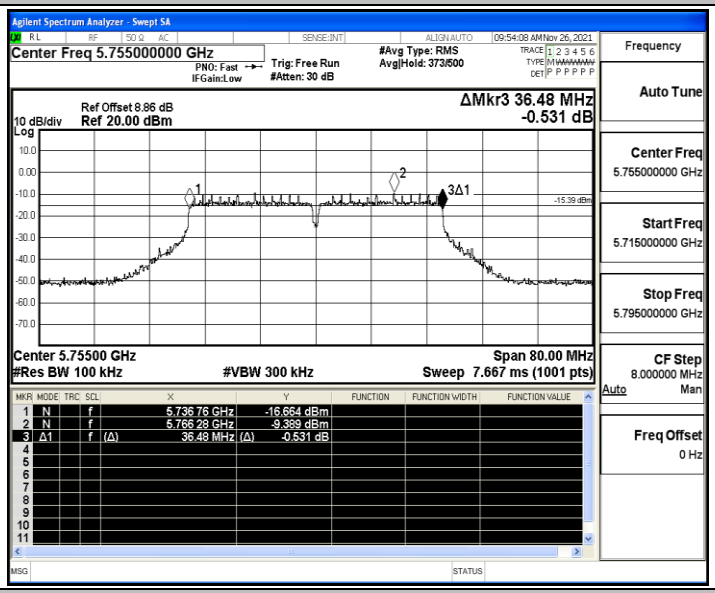
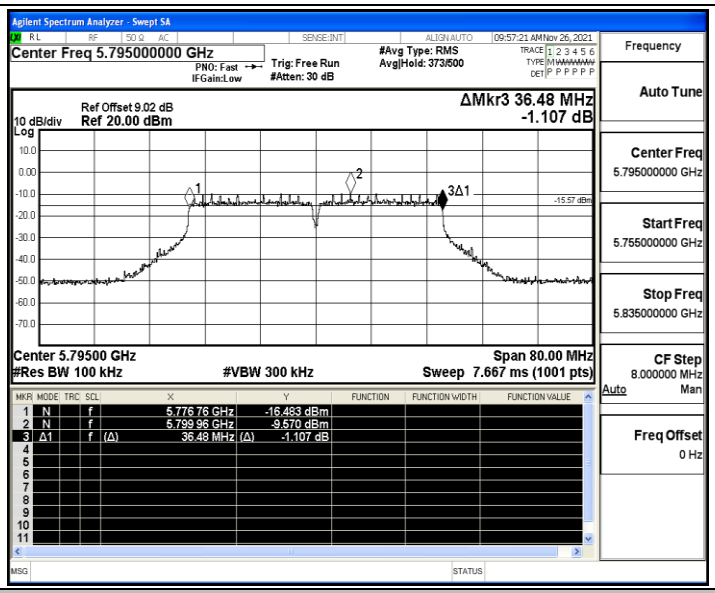
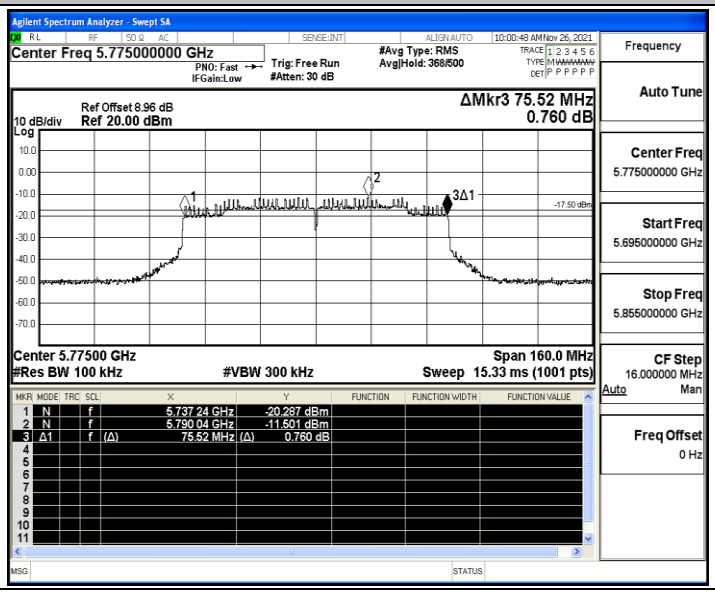


11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5775



E.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	5745	3.80	≤30	PASS
		5785	4.12	≤30	PASS
		5825	4.20	≤30	PASS
11N20SISO	Ant1	5745	3.89	≤30	PASS
		5785	4.16	≤30	PASS
		5825	4.18	≤30	PASS
11N40SISO	Ant1	5755	4.23	≤30	PASS
		5795	4.58	≤30	PASS
11AC20SISO	Ant1	5745	3.86	≤30	PASS
		5785	4.08	≤30	PASS
		5825	4.19	≤30	PASS
11AC40SISO	Ant1	5755	4.19	≤30	PASS
		5795	4.60	≤30	PASS
11AC80SISO	Ant1	5775	4.37	≤30	PASS

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

E.3 Maximum power spectral density

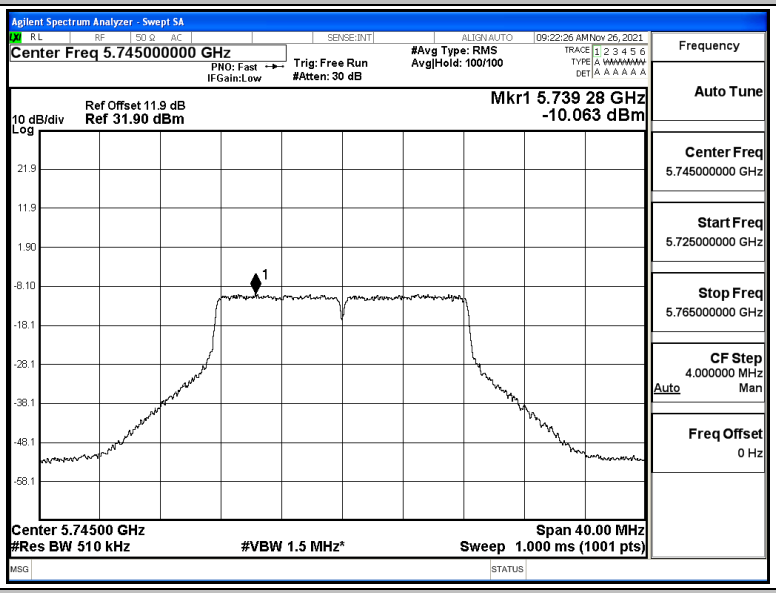
Test Result

TestMode	Antenna	Channel	Result [dBm/500kHz]	Limit [dBm/500k Hz]	Verdict
11A	Ant1	5745	-10.06	≤30	PASS
		5785	-9.96	≤30	PASS
		5825	-9.62	≤30	PASS
11N20SISO	Ant1	5745	-9.71	≤30	PASS
		5785	-9.73	≤30	PASS
		5825	-9.42	≤30	PASS
11N40SISO	Ant1	5755	-12.77	≤30	PASS
		5795	-12.43	≤30	PASS
11AC20SISO	Ant1	5745	-10.55	≤30	PASS
		5785	-10.26	≤30	PASS
		5825	-10.32	≤30	PASS
11AC40SISO	Ant1	5755	-13.27	≤30	PASS
		5795	-12.58	≤30	PASS
11AC80SISO	Ant1	5775	-15.38	≤30	PASS

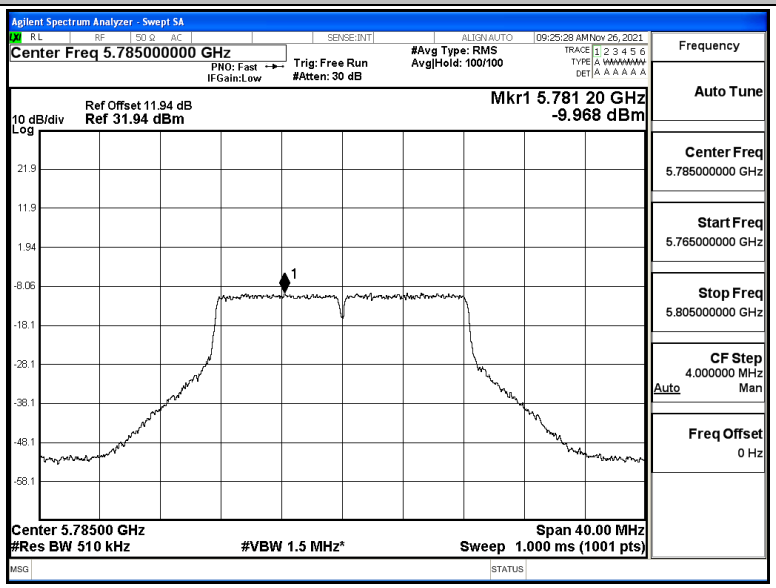
Note：1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
2.The Duty Cycle Factor is compensated in the graph.

Test Graphs

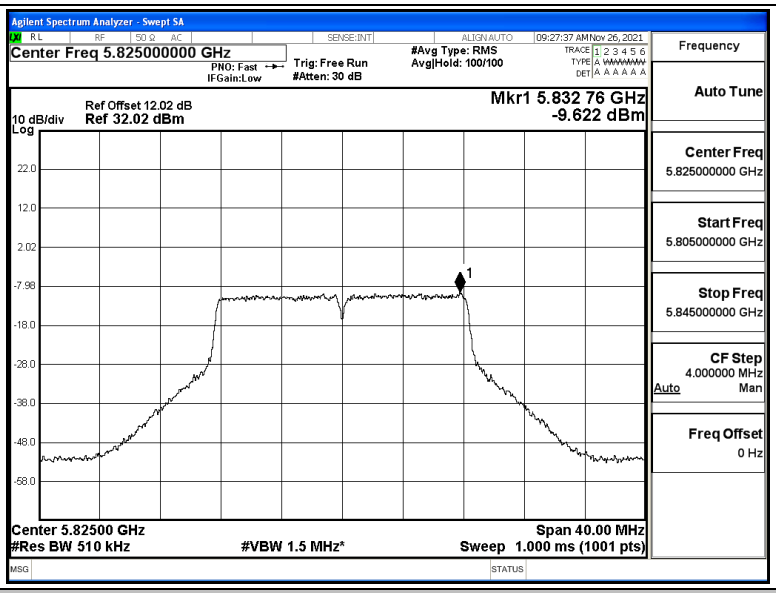
11A_Ant1_5745



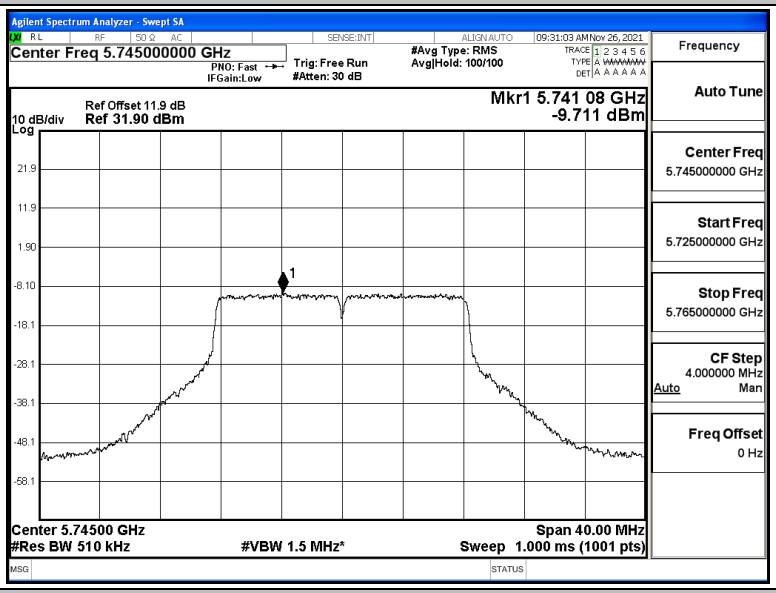
11A_Ant1_5785



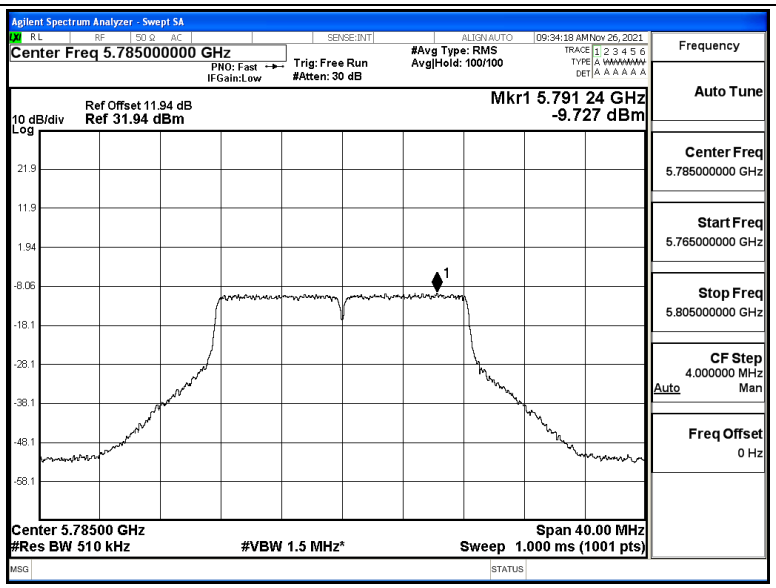
11A_Ant1_5825



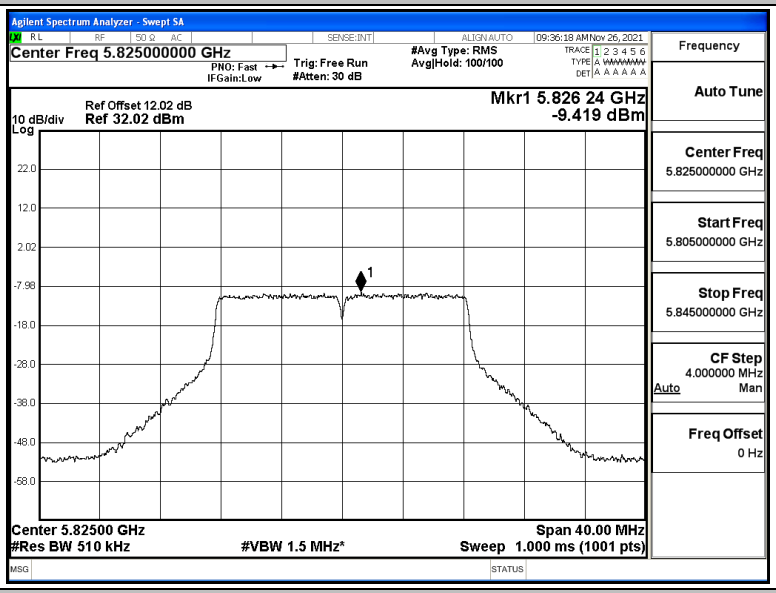
11N20SISO_Ant1_5745



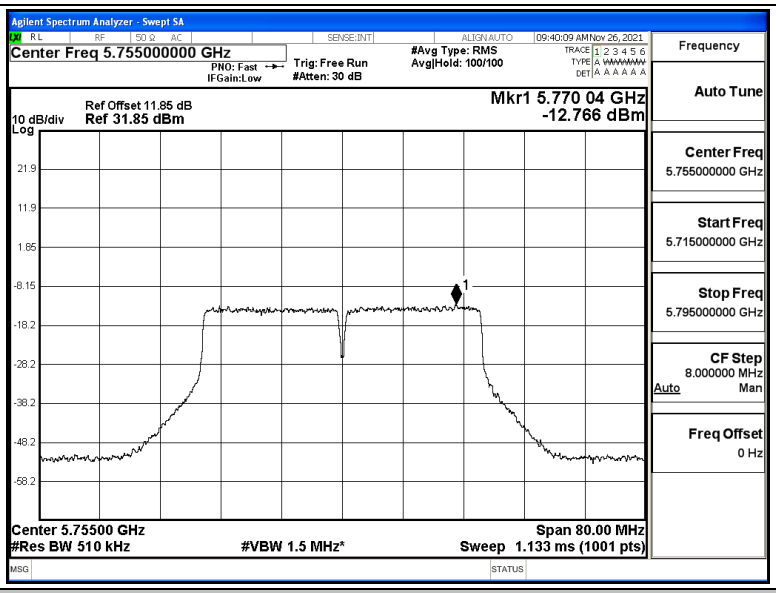
11N20SISO_Ant1_5785



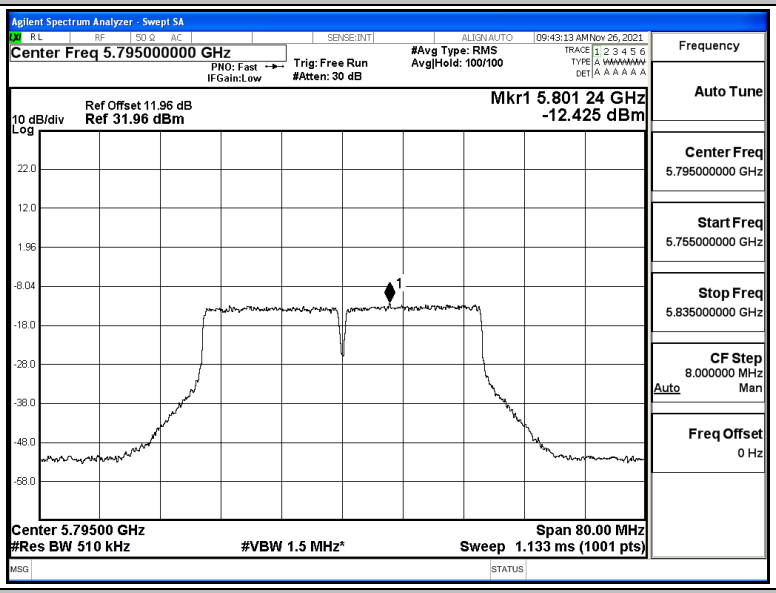
11N20SISO_Ant1_5825



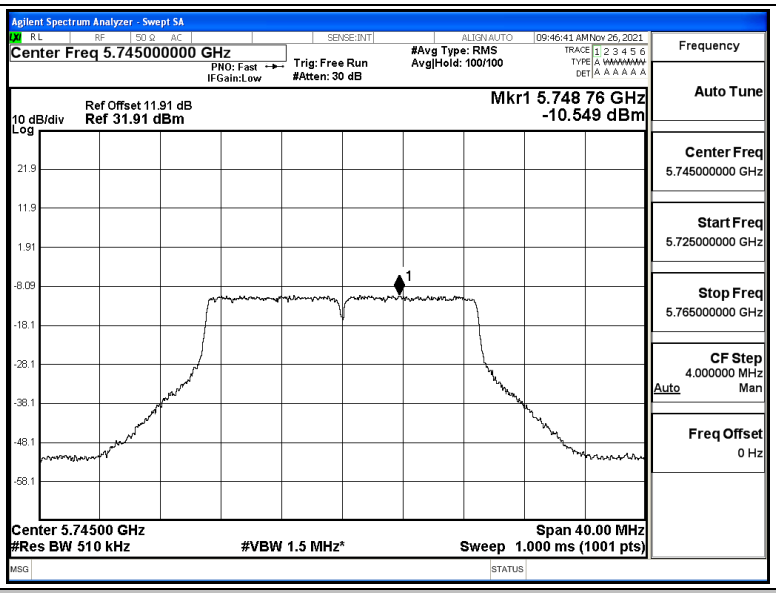
11N40SISO_Ant1_5755



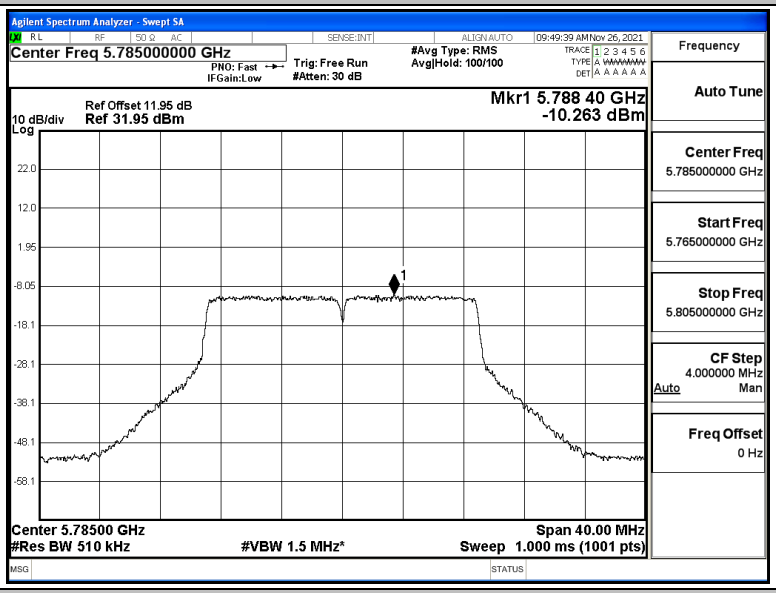
11N40SISO_Ant1_5795



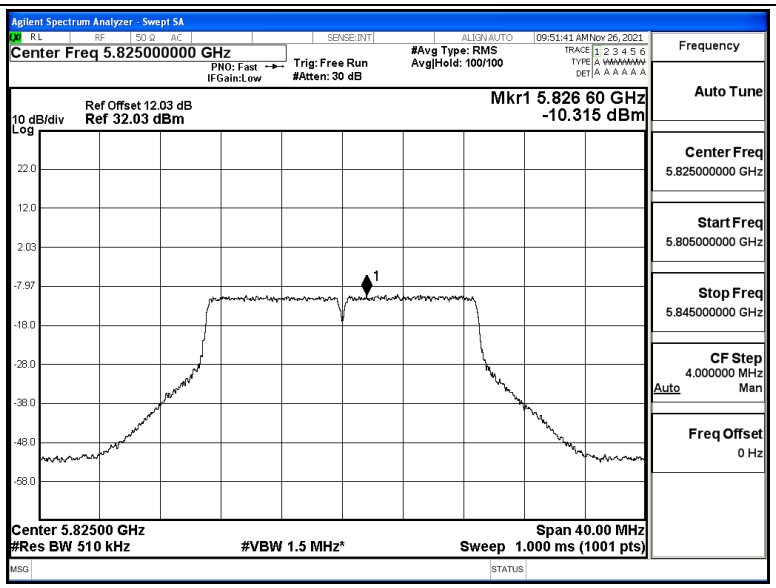
11AC20SISO_Ant1_5745



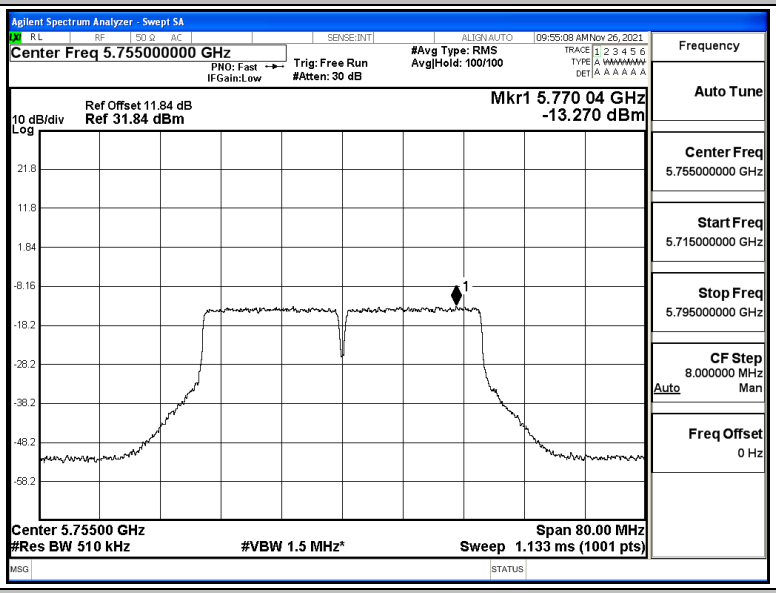
11AC20SISO_Ant1_5785



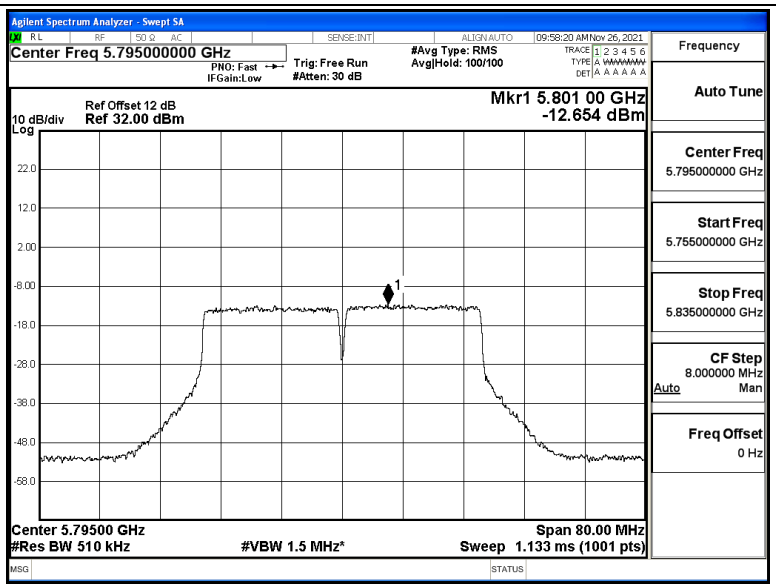
11AC20SISO_Ant1_5825



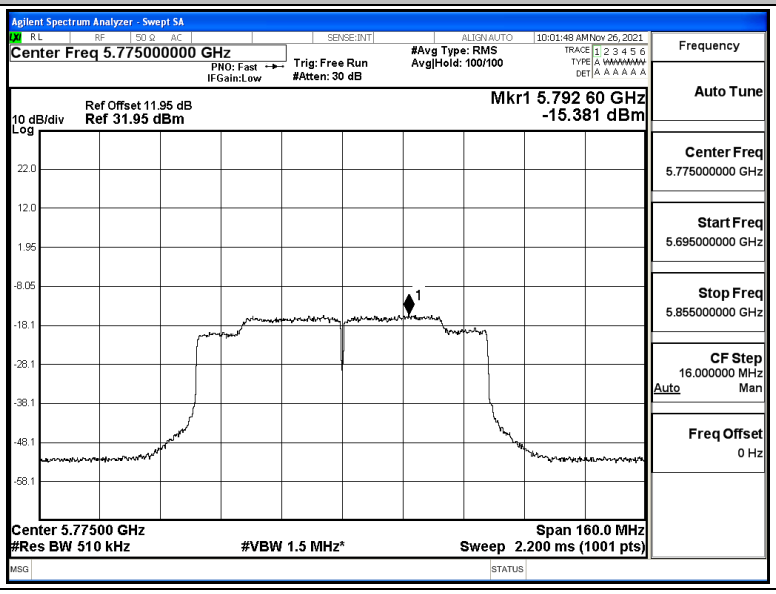
11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5775



E.4 Emissions in Restricted Bands

Test Result

TestMode	Antenna	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
11A	Ant1	5745	Peak	5650.000	-41.343	≤-27.00	---	---	PASS
			Peak	5700.000	-40.86	≤10.00	---	---	PASS
			Peak	5720.000	-41.35	≤15.60	---	---	PASS
			Peak	5725.000	-39.47	≤27.00	- --	- --	PASS
		5825	Peak	5850.000	-40.594	≤15.60	---	---	PASS
			Peak	5855.000	-39.74	≤27.00	---	---	PASS
			Peak	5875.000	-39.04	≤15.60	---	---	PASS
			Peak	5925.000	-41.05	≤10.00	- --	- --	PASS
11N20SISO	Ant1	5745	Peak	5650.000	-41.127	≤-27.00	---	---	PASS
			Peak	5700.000	-40.56	≤10.00	---	---	PASS
			Peak	5720.000	-39.83	≤15.60	---	---	PASS
			Peak	5725.000	-39.73	≤27.00	- --	- --	PASS
		5825	Peak	5850.000	-40.089	≤15.60	---	---	PASS
			Peak	5855.000	-39.9	≤27.00	---	---	PASS
			Peak	5875.000	-41.03	≤15.60	---	---	PASS
			Peak	5925.000	-38.99	≤10.00	- --	- --	PASS
11N40SISO	Ant1	5755	Peak	5650.000	-40.187	≤-27.00	---	---	PASS
			Peak	5700.000	-40.02	≤10.00	---	---	PASS
			Peak	5720.000	-40.91	≤15.60	---	---	PASS
			Peak	5725.000	-40.49	≤27.00	- --	- --	PASS
		5795	Peak	5850.000	-41.514	≤15.60	---	---	PASS
			Peak	5855.000	-40.24	≤27.00	---	---	PASS
			Peak	5875.000	-39.45	≤15.60	---	---	PASS
			Peak	5925.000	-41.58	≤10.00	- --	- --	PASS
11AC20SISO	Ant1	5745	Peak	5650.000	-41.687	≤-27.00	---	---	PASS
			Peak	5700.000	-39.27	≤10.00	---	---	PASS
			Peak	5720.000	-40.12	≤15.60	---	---	PASS
			Peak	5725.000	-39.99	≤27.00	- --	- --	PASS
		5825	Peak	5850.000	-40.069	≤15.60	---	---	PASS
			Peak	5855.000	-38.75	≤27.00	---	---	PASS
			Peak	5875.000	-40.48	≤15.60	---	---	PASS
			Peak	5925.000	-40.96	≤10.00	- --	- --	PASS
11AC40SISO	Ant1	5755	Peak	5650.000	-39.948	≤-27.00	---	---	PASS
			Peak	5700.000	-42.04	≤10.00	---	---	PASS
			Peak	5720.000	-38.03	≤15.60	---	---	PASS
			Peak	5725.000	-38.26	≤27.00	- --	- --	PASS

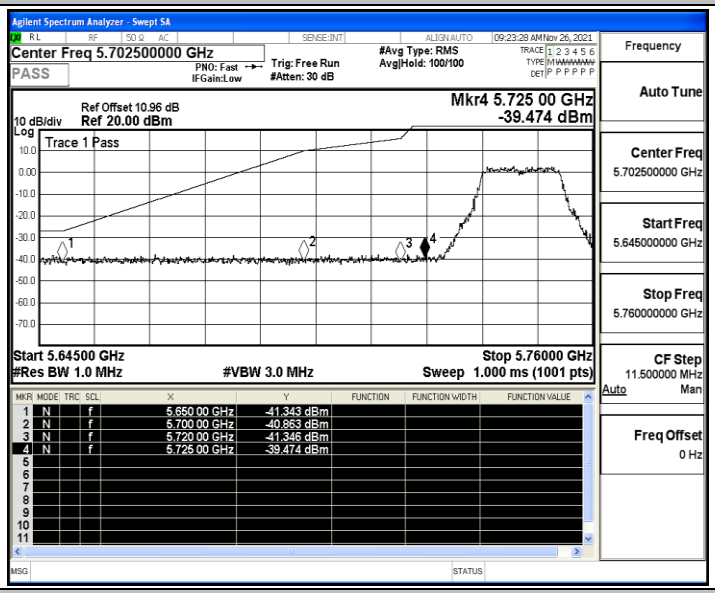
		5795	Peak	5850.000	-39.186	≤15.60	---	---	PASS
			Peak	5855.000	-41.08	≤27.00	---	---	PASS
			Peak	5875.000	-39.84	≤15.60	---	---	PASS
			Peak	5925.000	-38.77	≤10.00	- --	- --	PASS
11AC80SISO	Ant1	5775	Peak	5650.000	-41.516	≤-27.00	---	---	PASS
			Peak	5700.000	-40.18	≤10.00	---	---	PASS
			Peak	5720.000	-40.75	≤15.60	---	---	PASS
			Peak	5725.000	-38.36	≤27.00	- --	- --	PASS
		5775	Peak	5850.000	-40.939	≤15.60	---	---	PASS
			Peak	5855.000	-40.78	≤27.00	---	---	PASS
			Peak	5875.000	-40.07	≤15.60	---	---	PASS
			Peak	5925.000	-40.49	≤10.00	- --	- --	PASS

Note：

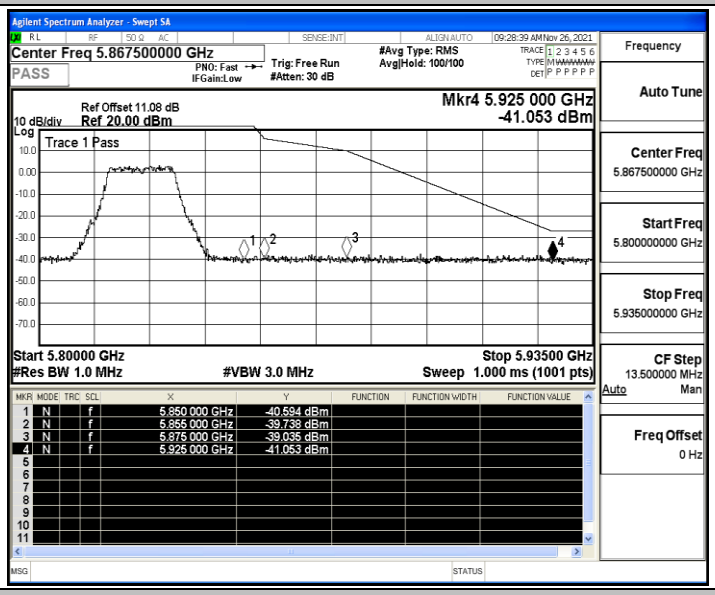
1. The Antenna Gain is compensated in the graph.
2. For transmitters operating in 5150-5350 GHz band and 5470-5725 GHz band: The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

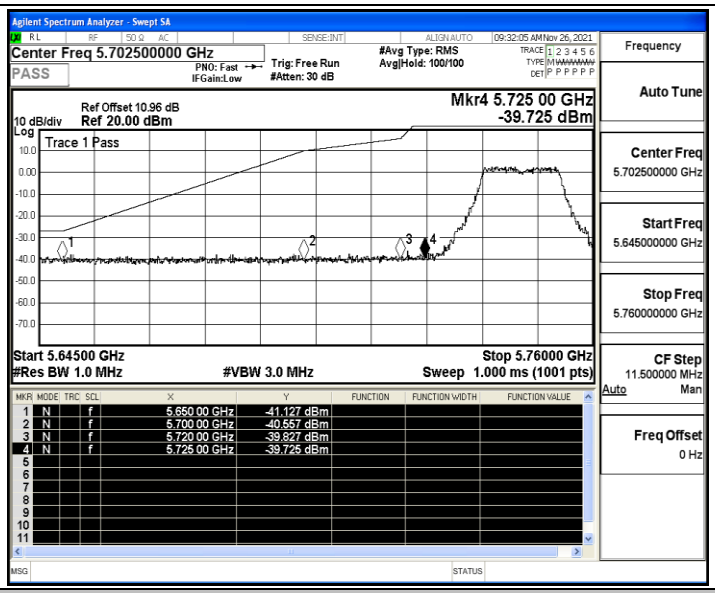
11A_Ant1_Low_5745_Peak



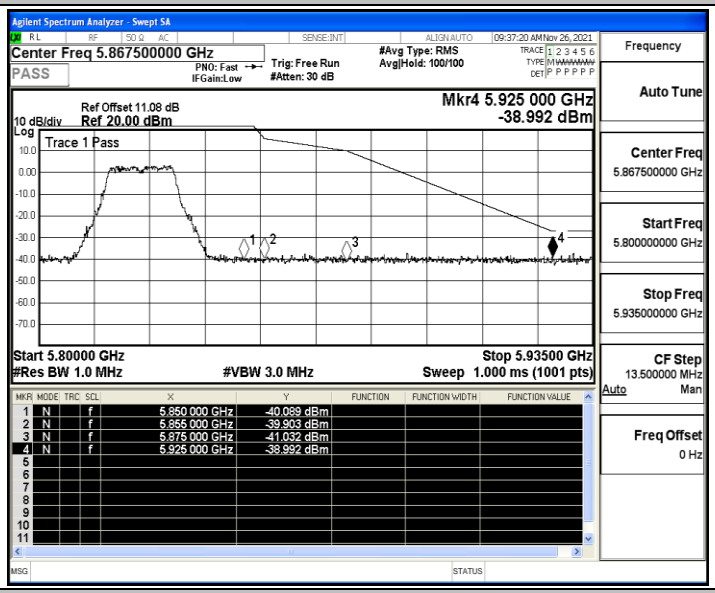
11A_Ant1_High_5825_Peak



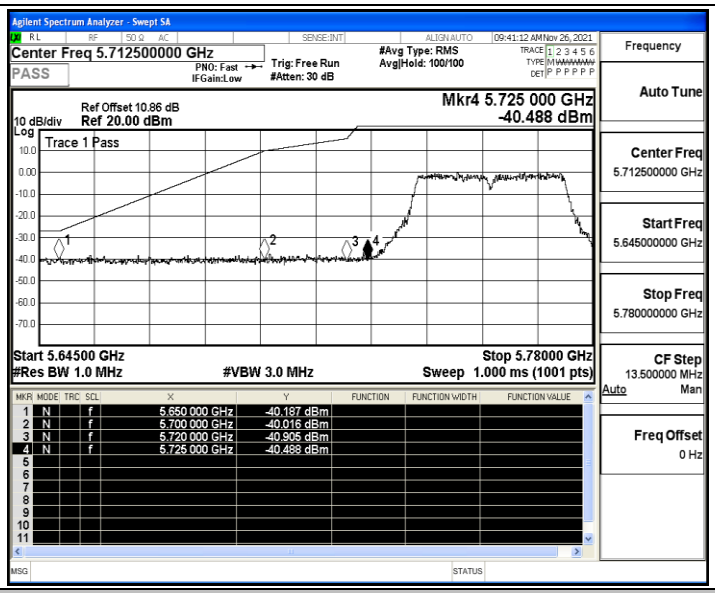
11N20SISO_Ant1_Low_5745_Peak



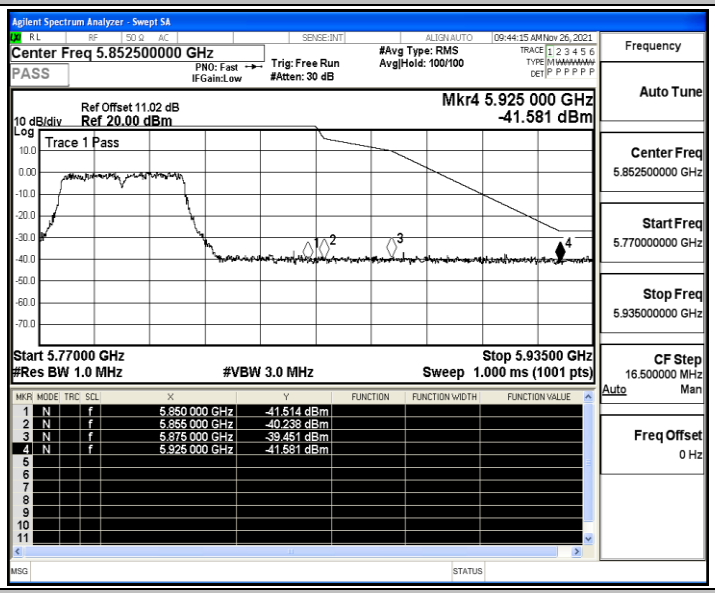
11N20SISO_Ant1_High_5825_Peak



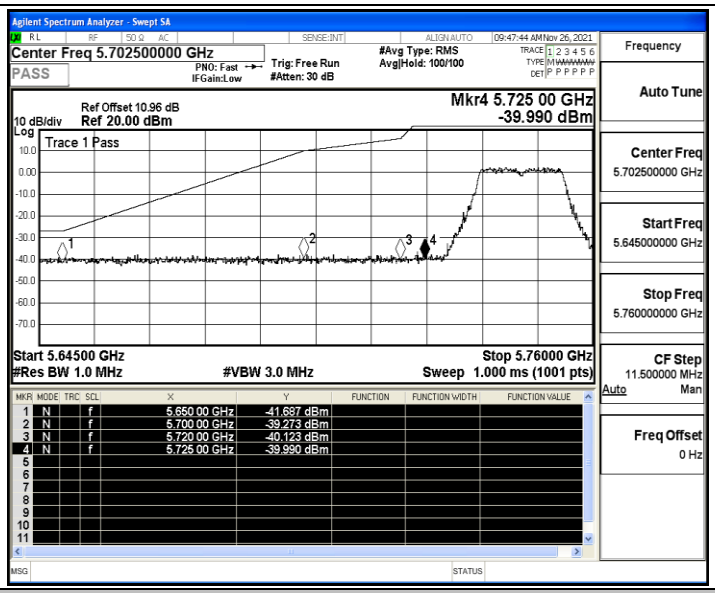
11N40SISO_Ant1_Low_5755_Peak



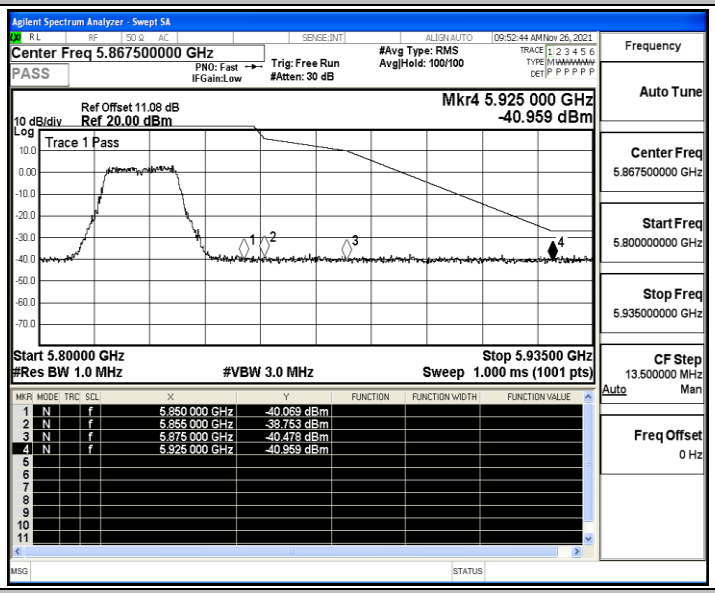
11N40SISO_Ant1_High_5795_Peak



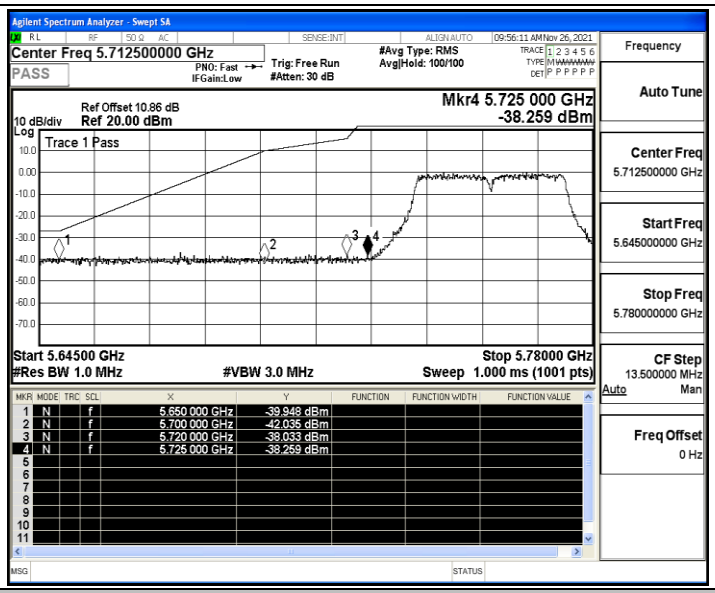
11AC20SISO_Ant1_Low_5745_Peak



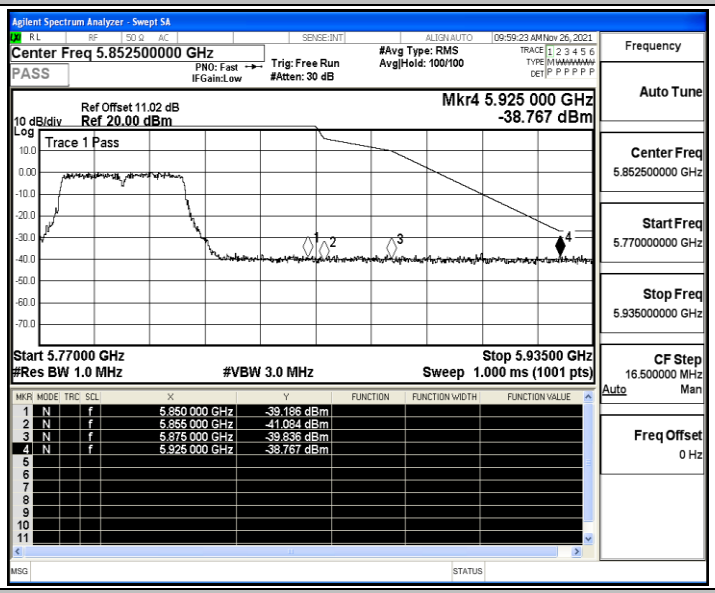
11AC20SISO_Ant1_High_5825_Peak



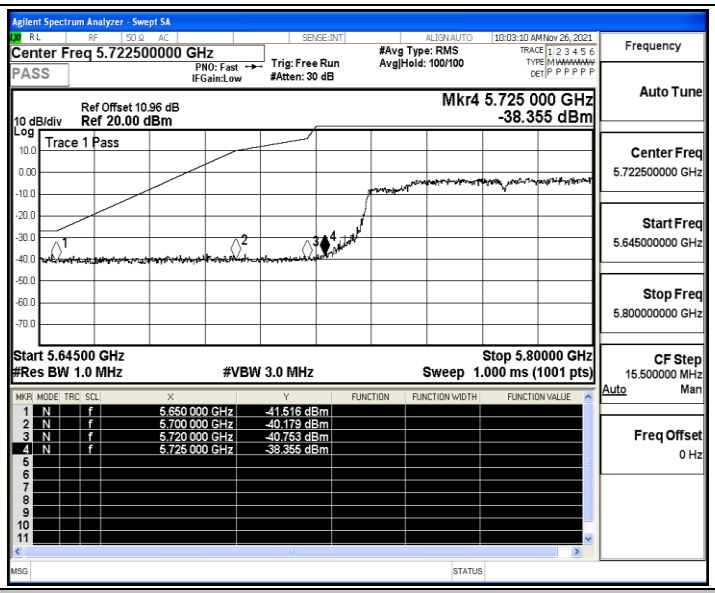
11AC40SISO_Ant1_Low_5755_Peak



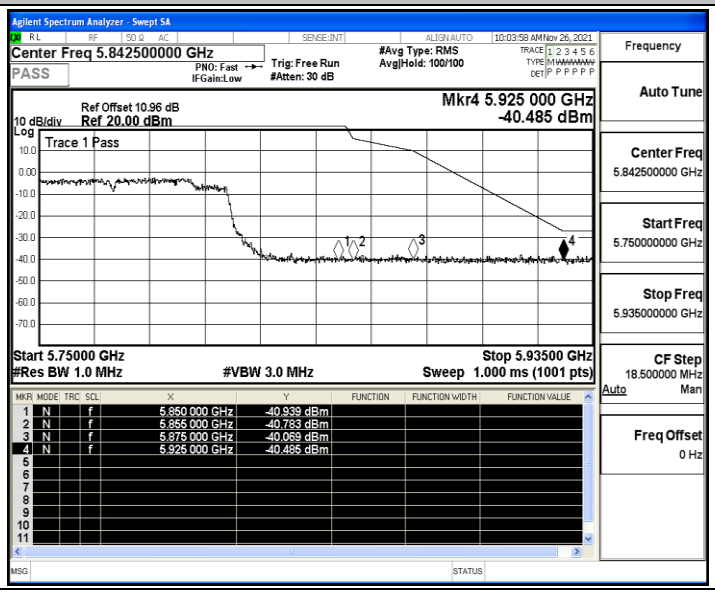
11AC40SISO_Ant1_High_5795_Peak



11AC80SISO_Ant1_Low_5775_Peak



11AC80SISO_Ant1_High_5775_Peak



E.5 Frequency Stability

Test Result

Voltage								
TestMode	Antenna	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11AC20S ISO	Ant1	5745	NV	NT	-18000	-3.133159	20	PASS
			LV	NT	-19000	-3.307224	20	PASS
			HV	NT	-20000	-3.481288	20	PASS
		5785	NV	NT	-22000	-3.802939	20	PASS
			LV	NT	-22000	-3.802939	20	PASS
			HV	NT	-21000	-3.630078	20	PASS
		5825	NV	NT	-22000	-3.776824	20	PASS
			LV	NT	-22000	-3.776824	20	PASS
			HV	NT	-22000	-3.776824	20	PASS
11AC40S ISO	Ant1	5755	NV	NT	-22000	-3.822763	20	PASS
			LV	NT	-21000	-3.649001	20	PASS
			HV	NT	-21000	-3.649001	20	PASS
		5795	NV	NT	-21000	-3.623814	20	PASS
			LV	NT	-21000	-3.623814	20	PASS
			HV	NT	-21000	-3.623814	20	PASS
11AC80S ISO	Ant1	5775	NV	NT	-25000	-4.329004	20	PASS
			LV	NT	-23000	-3.982684	20	PASS
			HV	NT	-24000	-4.155844	20	PASS

Temperature								
TestMode	Antenna	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11AC20S ISO	Ant1	5745	NV	-30	-21000	-3.655352	20	PASS
			NV	-20	-21000	-3.655352	20	PASS
			NV	-10	-21000	-3.655352	20	PASS
			NV	0	-21000	-3.655352	20	PASS
			NV	10	-21000	-3.655352	20	PASS
			NV	20	-21000	-3.655352	20	PASS
			NV	30	-22000	-3.829417	20	PASS
			NV	40	-21000	-3.655352	20	PASS
			NV	50	-21000	-3.655352	20	PASS
		5785	NV	-30	-22000	-3.802939	20	PASS
			NV	-20	-22000	-3.802939	20	PASS
			NV	-10	-21000	-3.630078	20	PASS
			NV	0	-21000	-3.630078	20	PASS
			NV	10	-22000	-3.802939	20	PASS

			NV	20	-22000	-3.802939	20	PASS
			NV	30	-22000	-3.802939	20	PASS
			NV	40	-22000	-3.802939	20	PASS
			NV	50	-22000	-3.802939	20	PASS
		5825	NV	-30	-22000	-3.776824	20	PASS
			NV	-20	-22000	-3.776824	20	PASS
			NV	-10	-22000	-3.776824	20	PASS
			NV	0	-22000	-3.776824	20	PASS
			NV	10	-22000	-3.776824	20	PASS
			NV	20	-22000	-3.776824	20	PASS
			NV	30	-22000	-3.776824	20	PASS
			NV	40	-22000	-3.776824	20	PASS
			NV	50	-22000	-3.776824	20	PASS
11AC40S ISO	Ant1	5755	NV	-30	-21000	-3.649001	20	PASS
			NV	-20	-21000	-3.649001	20	PASS
			NV	-10	-21000	-3.649001	20	PASS
			NV	0	-21000	-3.649001	20	PASS
			NV	10	-21000	-3.649001	20	PASS
			NV	20	-21000	-3.649001	20	PASS
			NV	30	-21000	-3.649001	20	PASS
			NV	40	-21000	-3.649001	20	PASS
			NV	50	-21000	-3.649001	20	PASS
		5795	NV	-30	-21000	-3.623814	20	PASS
			NV	-20	-21000	-3.623814	20	PASS
			NV	-10	-21000	-3.623814	20	PASS
			NV	0	-21000	-3.623814	20	PASS
			NV	10	-21000	-3.623814	20	PASS
			NV	20	-21000	-3.623814	20	PASS
			NV	30	-21000	-3.623814	20	PASS
			NV	40	-21000	-3.623814	20	PASS
			NV	50	-21000	-3.623814	20	PASS
11AC80S ISO	Ant1	5775	NV	-30	-24000	-4.155844	20	PASS
			NV	-20	-24000	-4.155844	20	PASS
			NV	-10	-24000	-4.155844	20	PASS
			NV	0	-24000	-4.155844	20	PASS
			NV	10	-24000	-4.155844	20	PASS
			NV	20	-24000	-4.155844	20	PASS
			NV	30	-24000	-4.155844	20	PASS
			NV	40	-24000	-4.155844	20	PASS
			NV	50	-24000	-4.155844	20	PASS

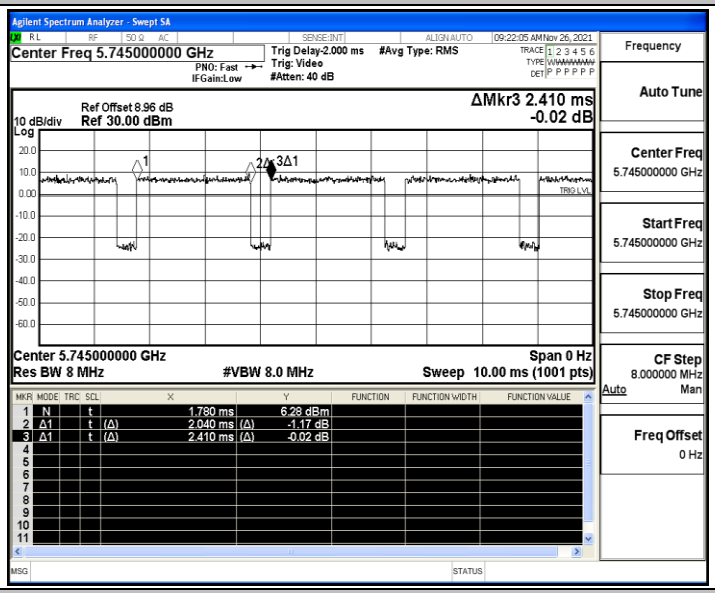
E.6 Duty Cycle

Test Result

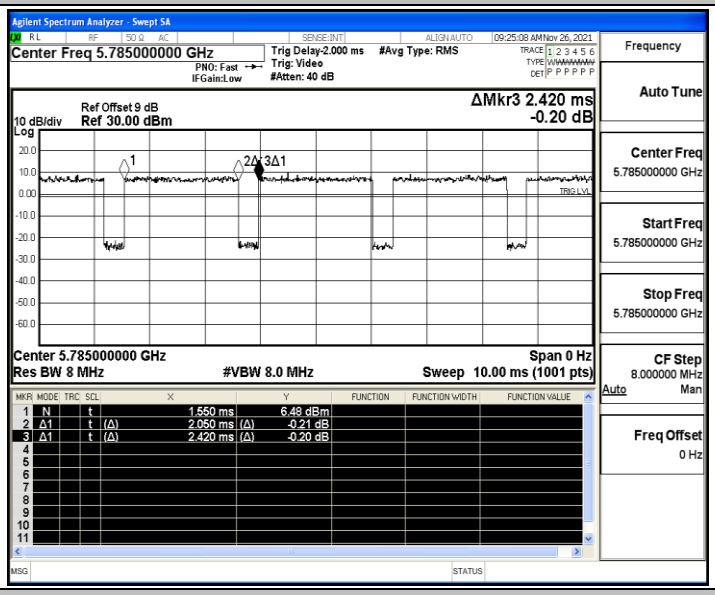
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11A	Ant1	5745	2.04	2.41	84.65	---	PASS
		5785	2.05	2.42	84.71	---	PASS
		5825	2.04	2.41	84.65	---	PASS
11N20SISO	Ant1	5745	2.04	2.41	84.65	---	PASS
		5785	2.04	2.41	84.65	---	PASS
		5825	2.04	2.41	84.65	---	PASS
11N40SISO	Ant1	5755	0.93	1.11	83.78	---	PASS
		5795	0.94	1.11	84.68	---	PASS
11AC20SISO	Ant1	5745	1.91	2.26	84.51	---	PASS
		5785	1.91	2.26	84.51	---	PASS
		5825	1.91	2.26	84.51	---	PASS
11AC40SISO	Ant1	5755	0.94	1.12	83.93	---	PASS
		5795	0.94	1.12	83.93	---	PASS
11AC80SISO	Ant1	5775	0.46	0.55	83.64	---	PASS

Test Graphs

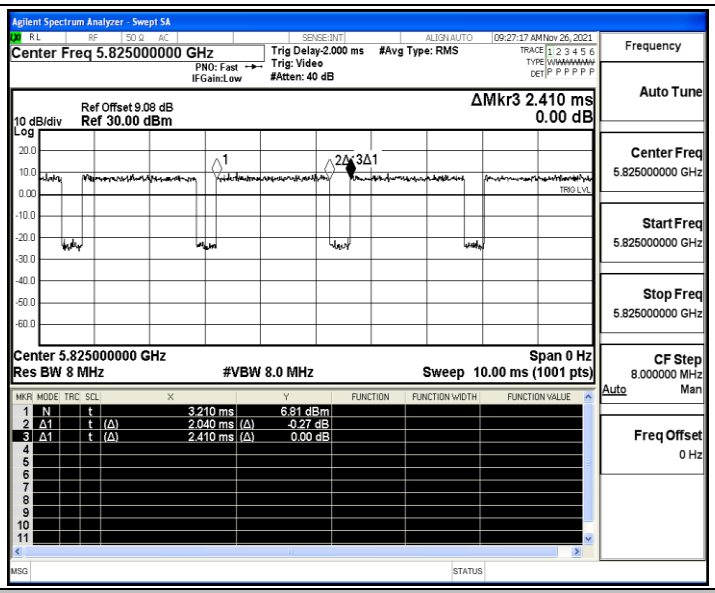
11A_Ant1_5745



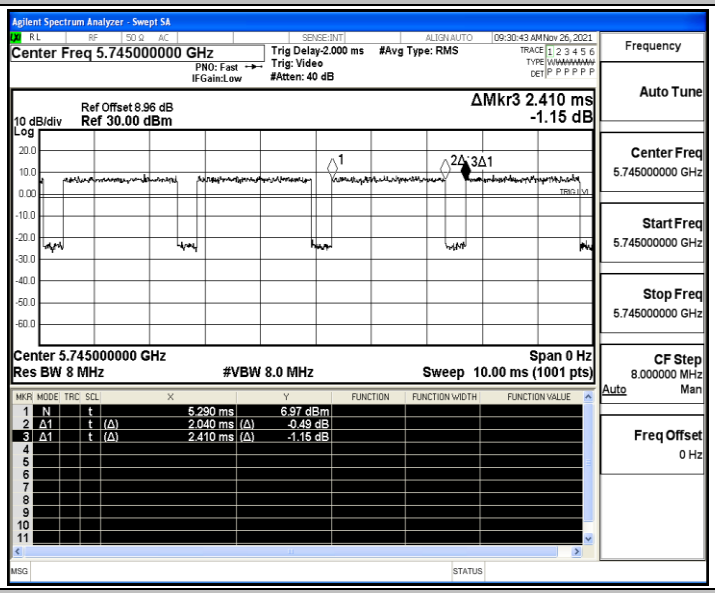
11A_Ant1_5785



11A_Ant1_5825



11N20SISO_Ant1_5745



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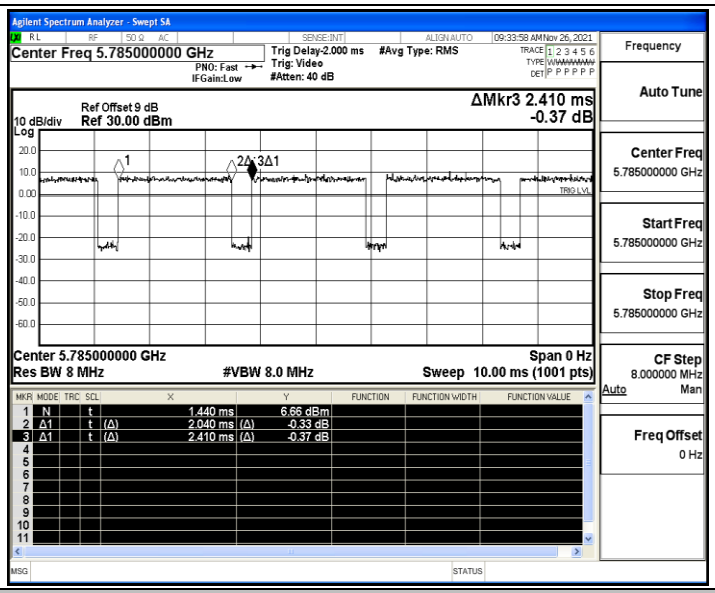

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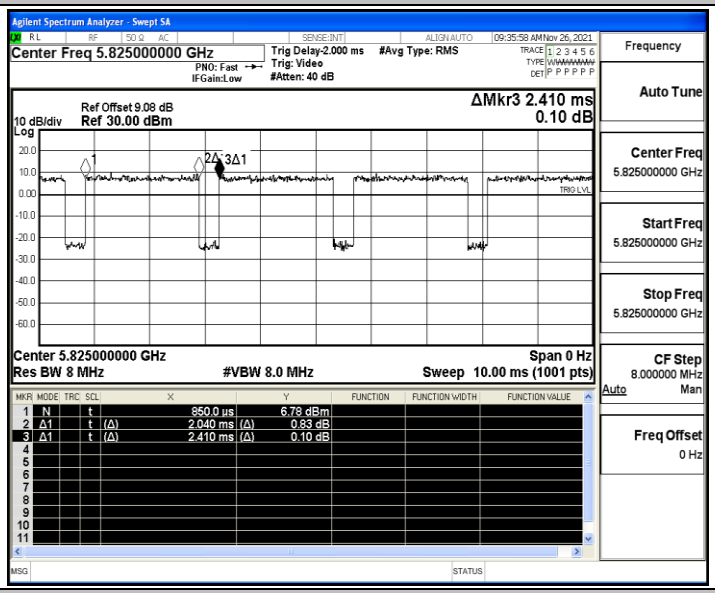

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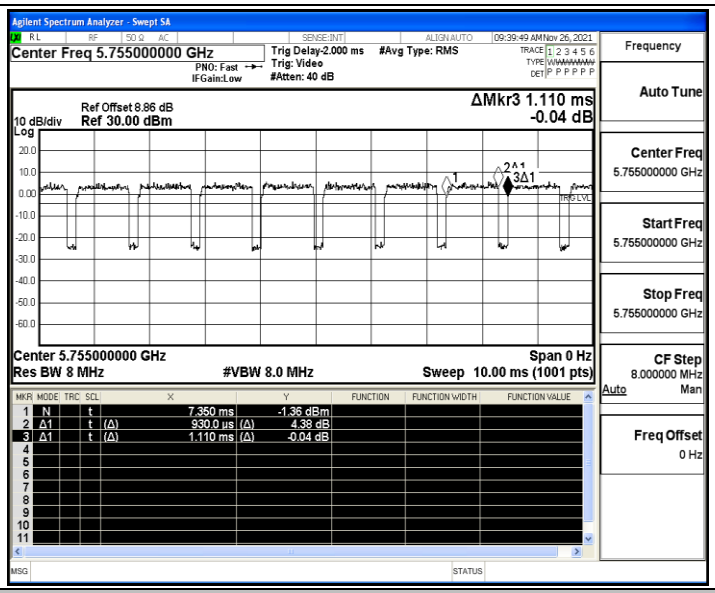

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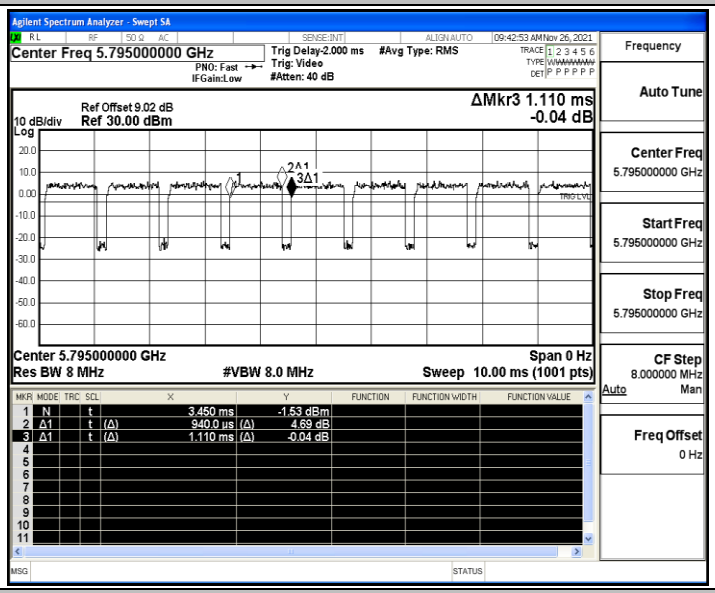

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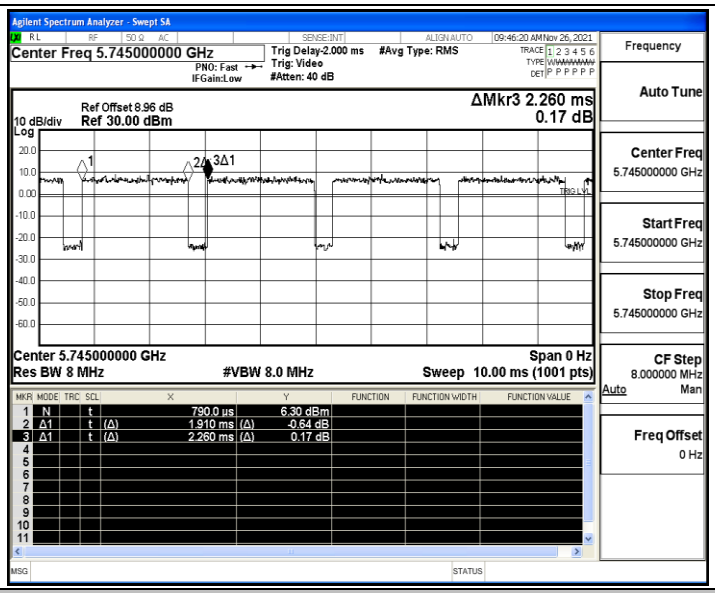

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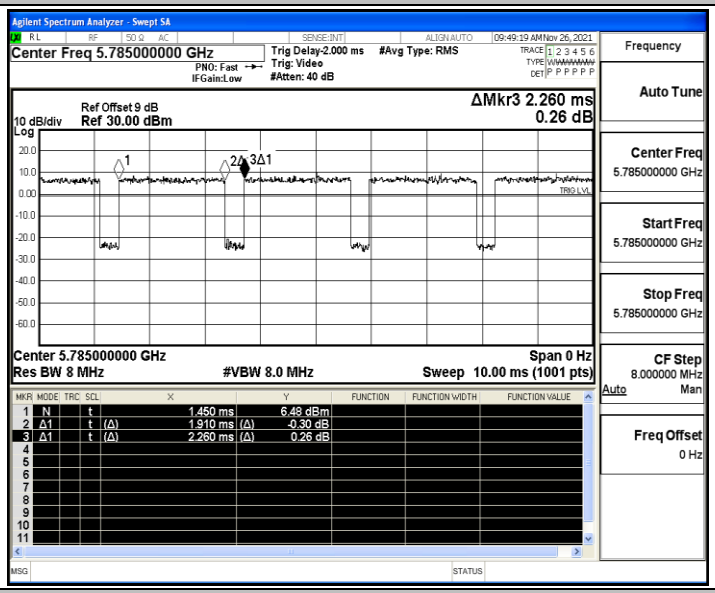

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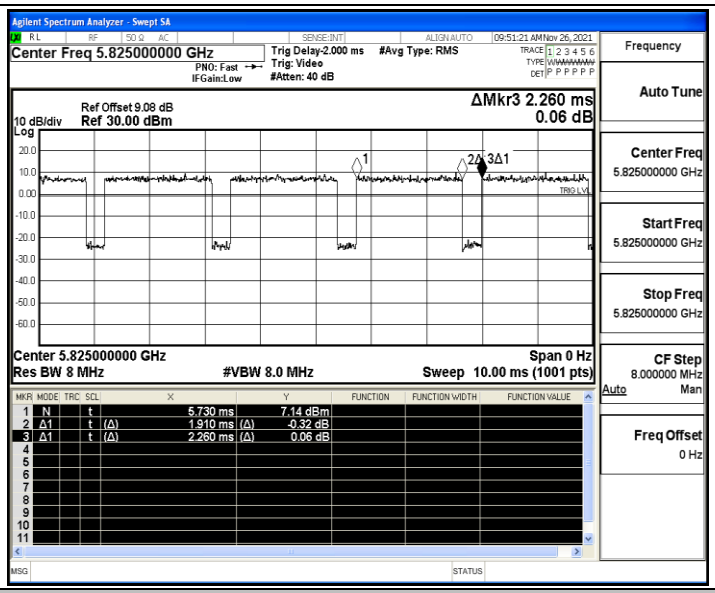

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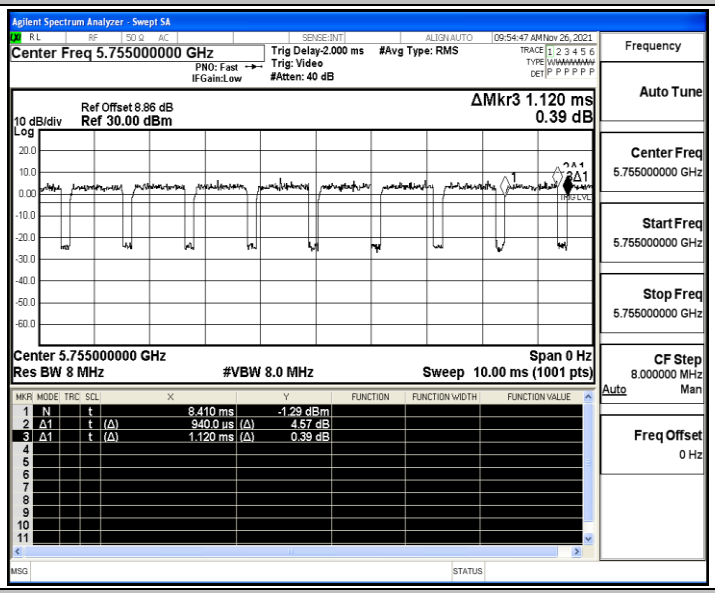

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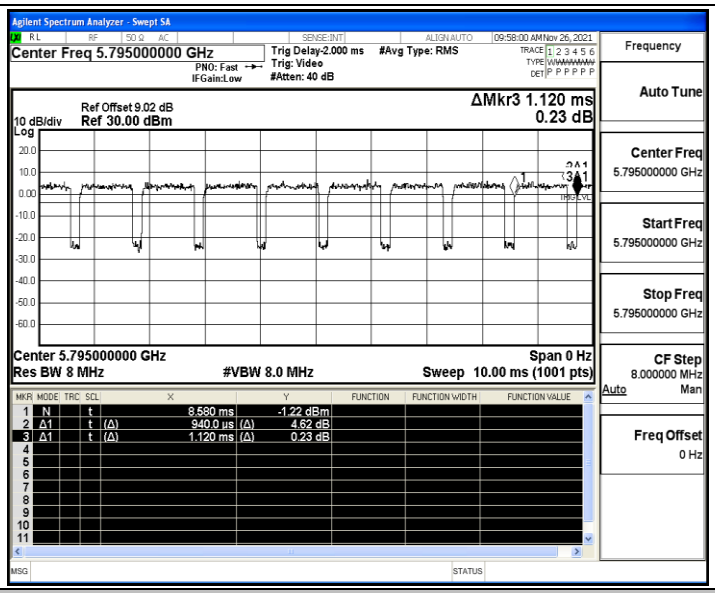
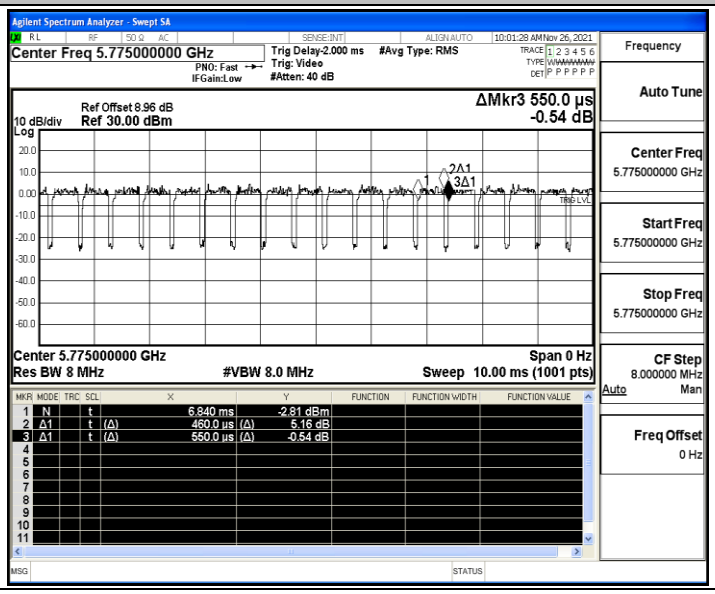
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