

Appendix E

RF Test Data for 5.8GWIFI(Conducted Measurement)

Product Name: Frozen Tote
Test Model: FT33-001

Environmental Conditions

Temperature:	24.8° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Zhang Hai
Supervised by:	Fengliu Tang

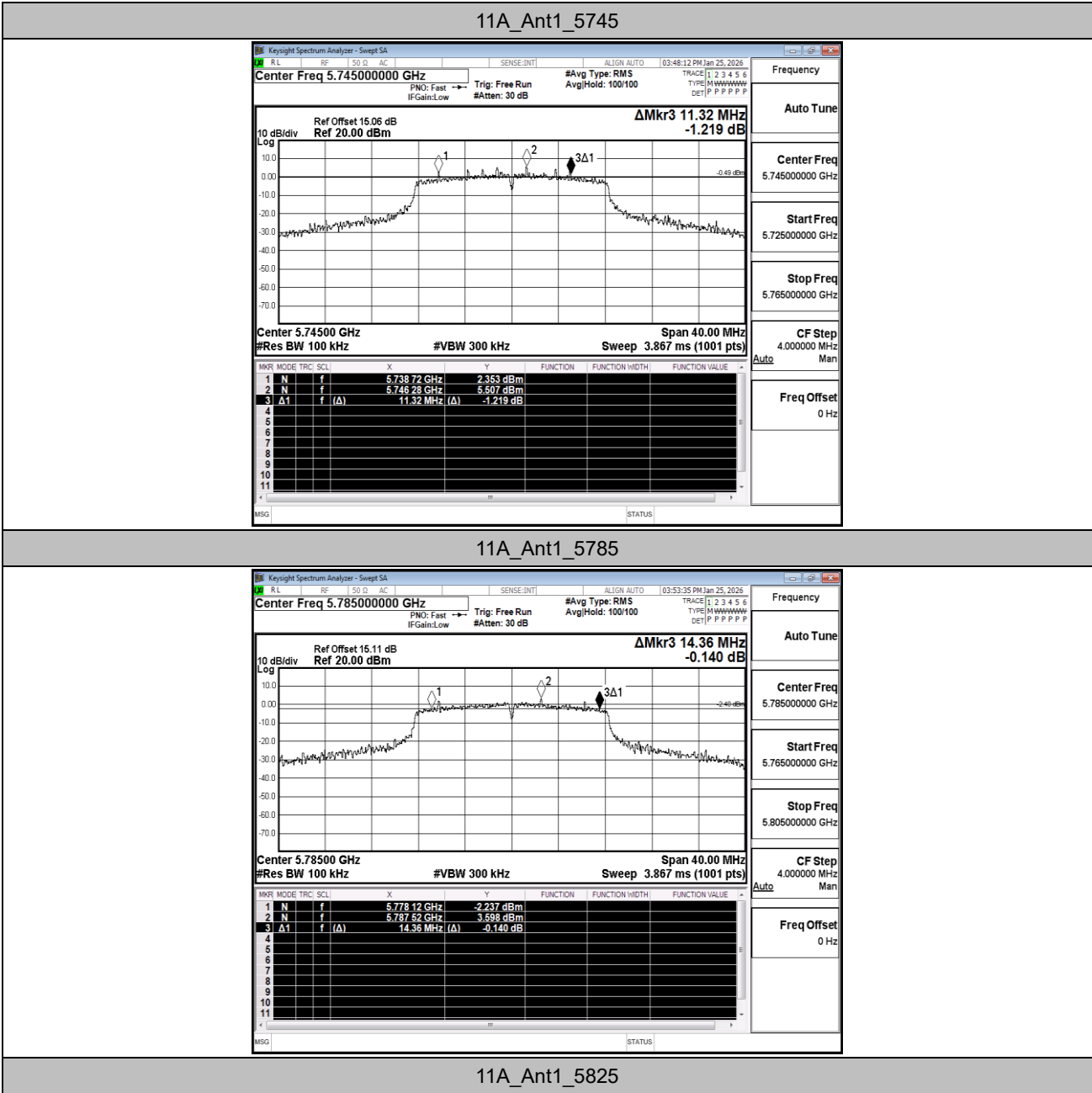
C.1 Min emission bandwidth

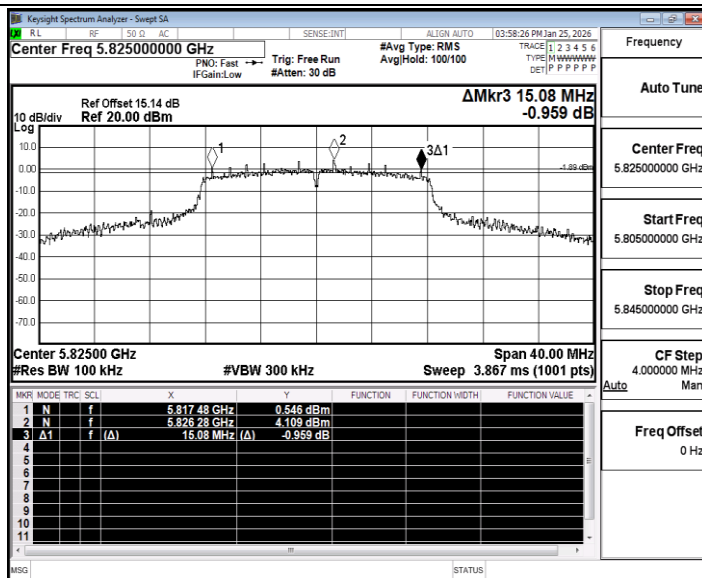
Test Result B4

TestMode	Antenna	Freq(MHz)	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	11.320	5738.720	5750.040	0.5	PASS
		5785	14.360	5778.120	5792.480	0.5	PASS
		5825	15.080	5817.480	5832.560	0.5	PASS
11N20SISO	Ant1	5745	15.000	5737.600	5752.600	0.5	PASS
		5785	13.920	5778.360	5792.280	0.5	PASS
		5825	13.880	5817.440	5831.320	0.5	PASS
11N40SISO	Ant1	5755	32.560	5737.480	5770.040	0.5	PASS
		5795	34.960	5777.560	5812.520	0.5	PASS
11AC20SISO	Ant1	5745	16.000	5736.880	5752.880	0.5	PASS
		5785	13.800	5777.520	5791.320	0.5	PASS
		5825	15.120	5817.440	5832.560	0.5	PASS
11AX20SISO	Ant1	5745	13.840	5738.680	5752.520	0.5	PASS
		5785	15.040	5777.440	5792.480	0.5	PASS
		5825	15.040	5817.480	5832.520	0.5	PASS

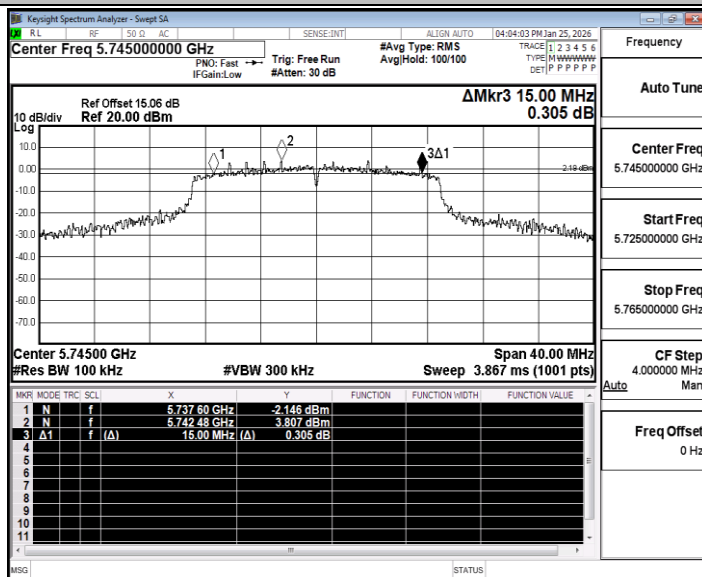
Note :offset=System attenuation +cabal loss

Test Graphs B4

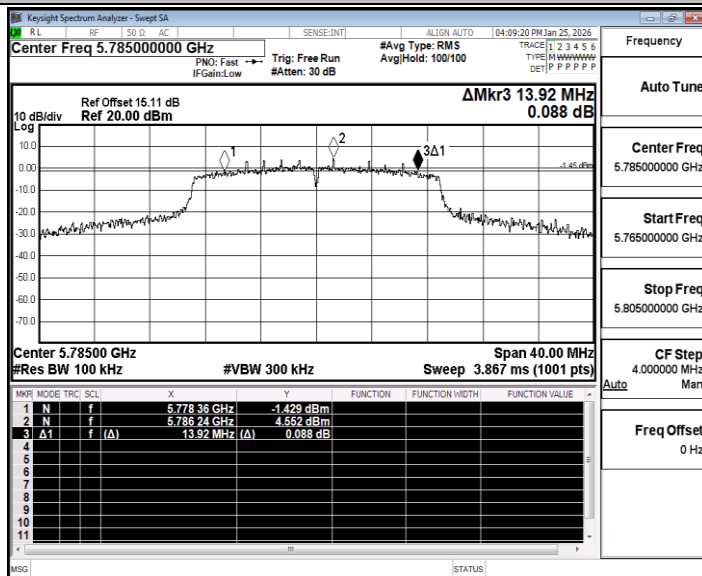




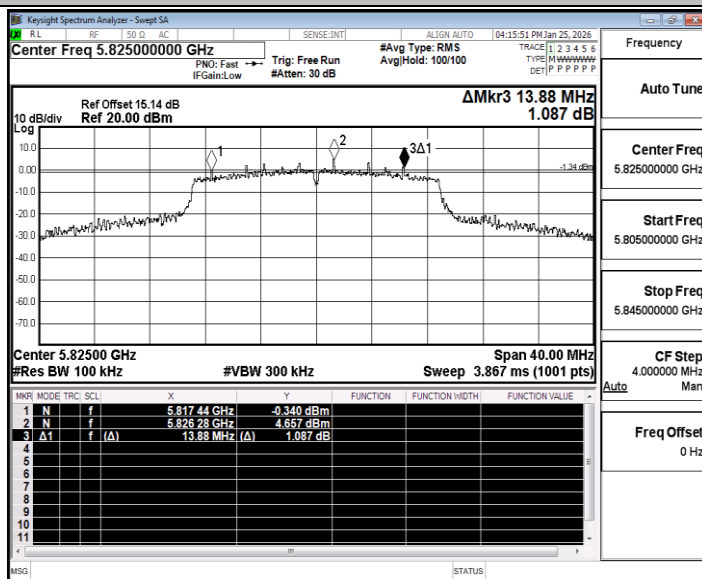
11N20SISO_Ant1_5745



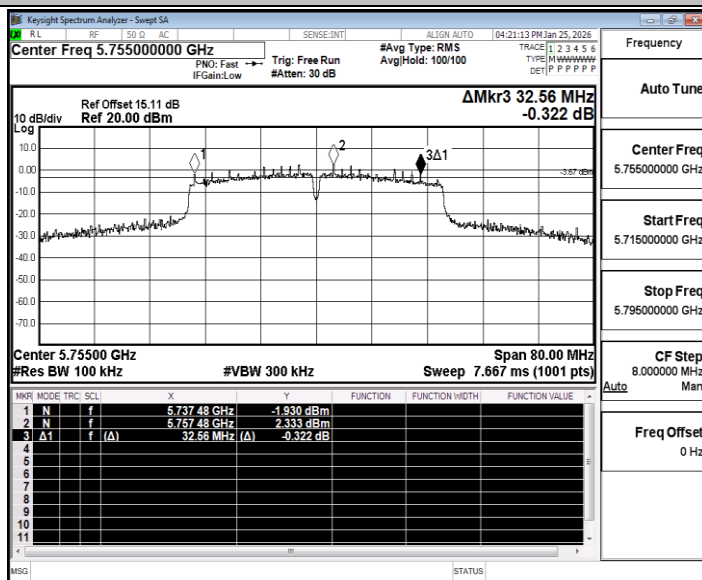
11N20SISO_Ant1_5785



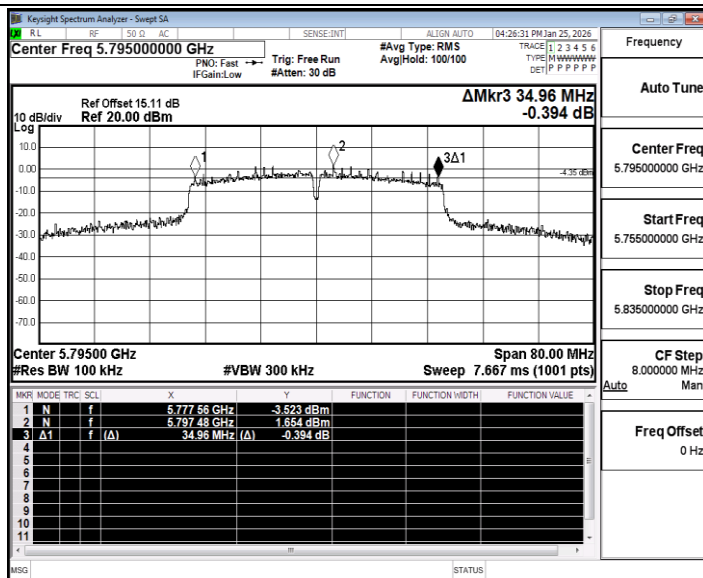
11N20SISO_Ant1_5825



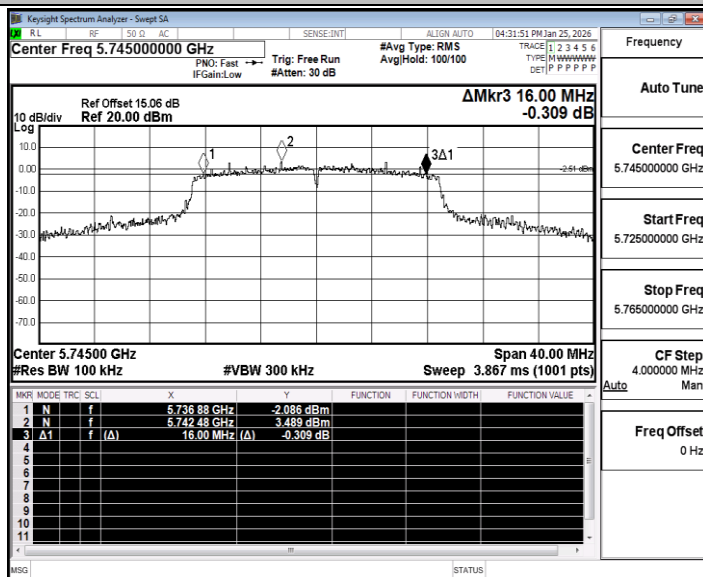
11N40SISO_Ant1_5755



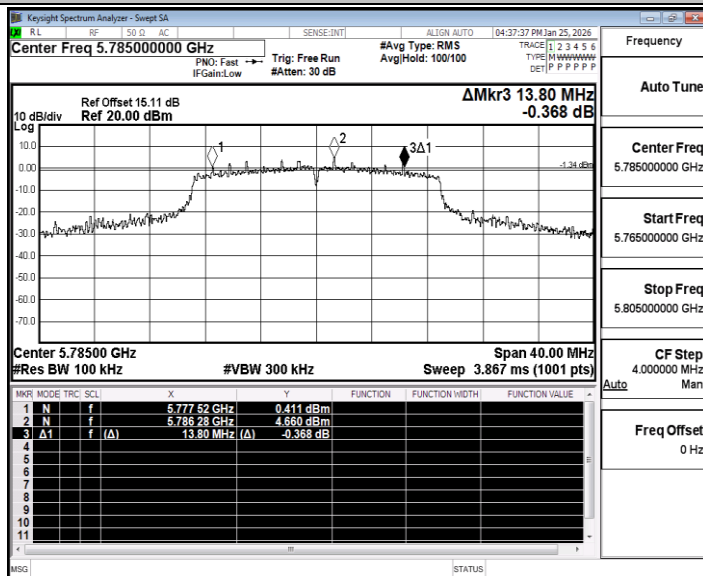
11N40SISO_Ant1_5795



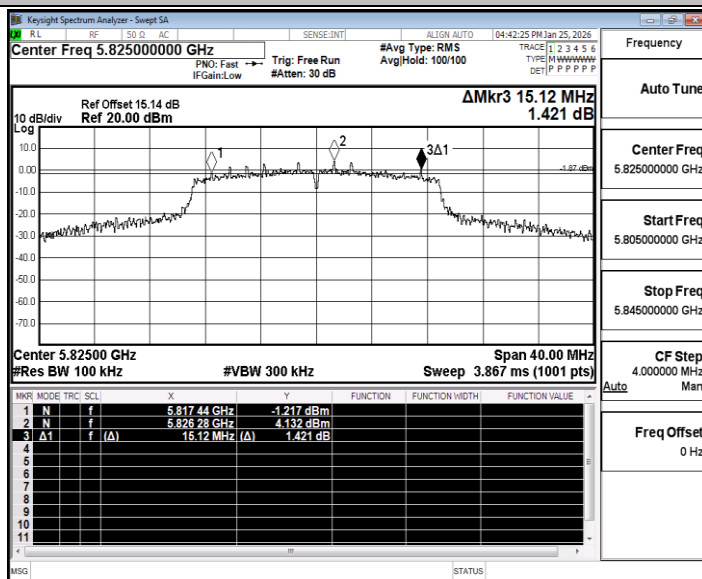
11AC20SISO_Ant1_5745



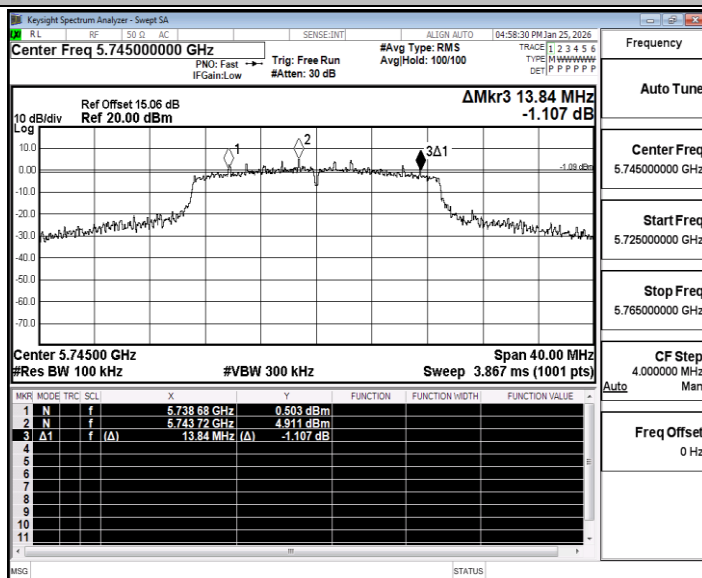
11AC20SISO_Ant1_5785



11AC20SISO_Ant1_5825



11AX20SISO_Ant1_5745



11AX20SISO_Ant1_5785



C.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Conducted Power (dBm)	Limit Conducted(dBm)	Verdict
NVNT	a	5745	Ant1	16.3	0.09	16.39	30	Pass
NVNT	a	5785	Ant1	15.39	0.09	15.48	30	Pass
NVNT	a	5825	Ant1	14.59	0.12	14.71	30	Pass
NVNT	n20	5745	Ant1	16.15	0.1	16.25	30	Pass
NVNT	n20	5785	Ant1	15.7	0.13	15.83	30	Pass
NVNT	n20	5825	Ant1	14.98	0.13	15.11	30	Pass
NVNT	n40	5755	Ant1	16.19	0.26	16.45	30	Pass
NVNT	n40	5795	Ant1	15.71	0.26	15.97	30	Pass
NVNT	ac20	5745	Ant1	16.22	0.13	16.35	30	Pass
NVNT	ac20	5785	Ant1	15.76	0.13	15.89	30	Pass
NVNT	ac20	5825	Ant1	14.96	0.13	15.09	30	Pass
NVNT	ax20	5745	Ant1	16.01	0.1	16.11	30	Pass
NVNT	ax20	5785	Ant1	15.73	0.13	15.86	30	Pass
NVNT	ax20	5825	Ant1	14.91	0.1	15.01	30	Pass

Note :offset=System attenuation +cabel loss

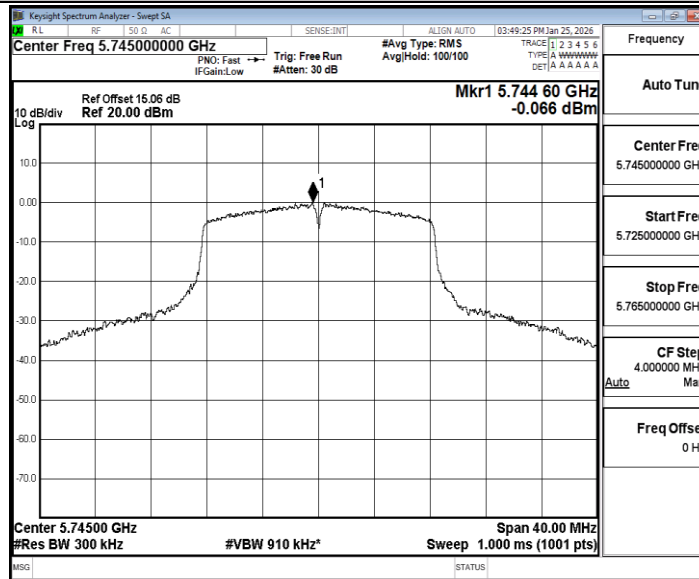
C.3 Maximum Power Spectral Density Level

TestMode	Antenna	Freq (MHz)	Raw Data [dBm/300kHz]	DC Factor	RBW Factor	Result [dBm/500kHz]	Limit [dBm/500kHz]	Verdict
11A	Ant1	5745	-0.07	0.09	2.22	2.24	≤30.00	PASS
		5785	-0.97	0.09	2.22	1.34	≤30.00	PASS
		5825	-1.5	0.12	2.22	0.84	≤30.00	PASS
11N20SISO	Ant1	5745	-0.52	0.10	2.22	1.80	≤30.00	PASS
		5785	-1	0.13	2.22	1.35	≤30.00	PASS
		5825	-1.47	0.13	2.22	0.88	≤30.00	PASS
11N40SISO	Ant1	5755	-3.48	0.26	2.22	-1.00	≤30.00	PASS
		5795	-3.6	0.26	2.22	-1.12	≤30.00	PASS
11AC20SISO	Ant1	5745	-0.17	0.13	2.22	2.18	≤30.00	PASS
		5785	-0.95	0.13	2.22	1.40	≤30.00	PASS
		5825	-1.22	0.13	2.22	1.13	≤30.00	PASS
11AX20SISO	Ant1	5745	-0.56	0.10	2.22	1.76	≤30.00	PASS
		5785	-1.03	0.13	2.22	1.32	≤30.00	PASS
		5825	-1.29	0.10	2.22	1.03	≤30.00	PASS

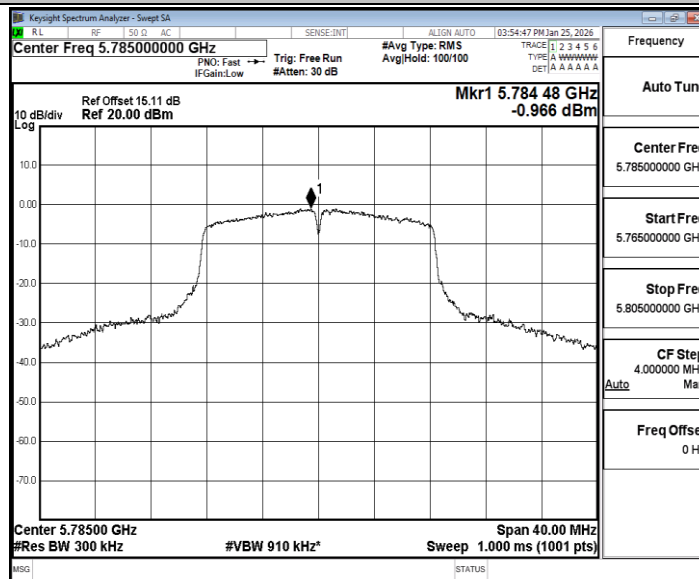
Note :offset=System attenuation +cabel loss

Test Graphs

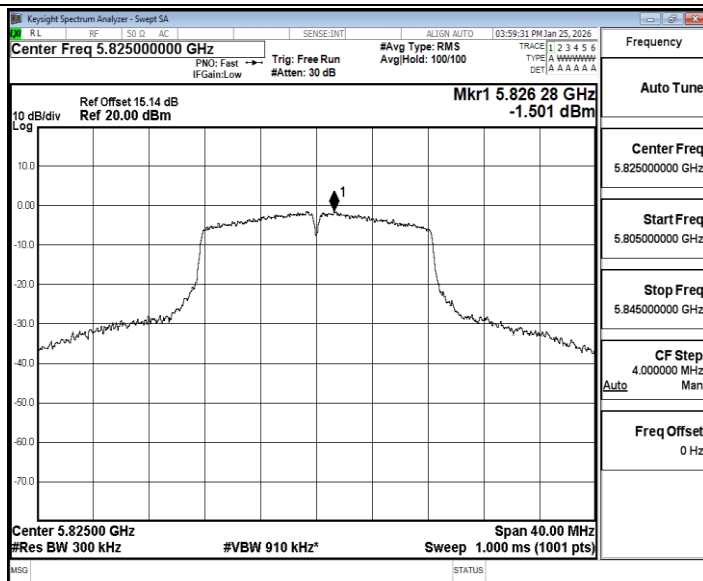
11A_Ant1_5745



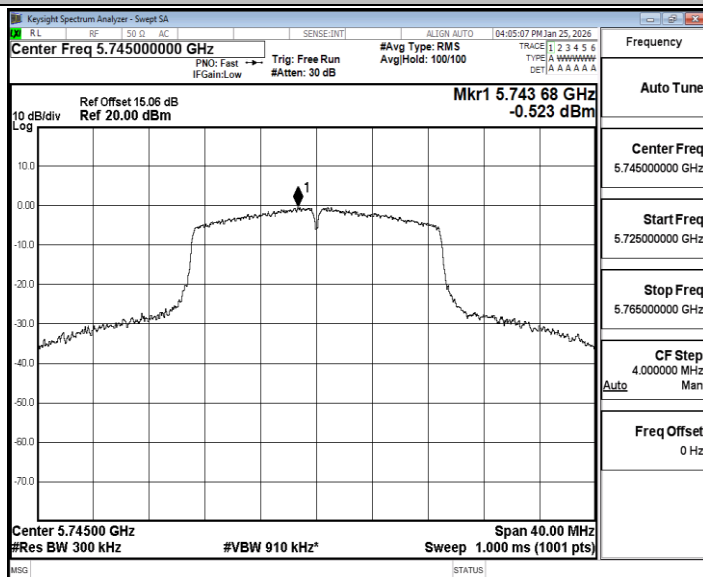
11A_Ant1_5785



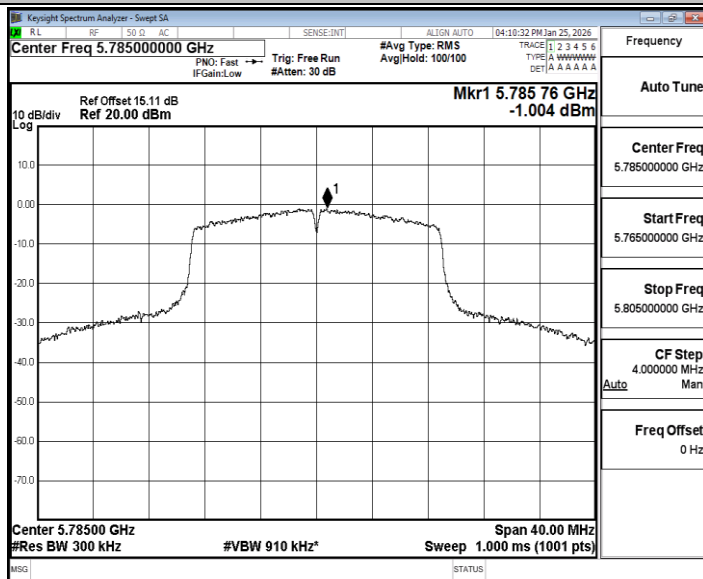
11A_Ant1_5825



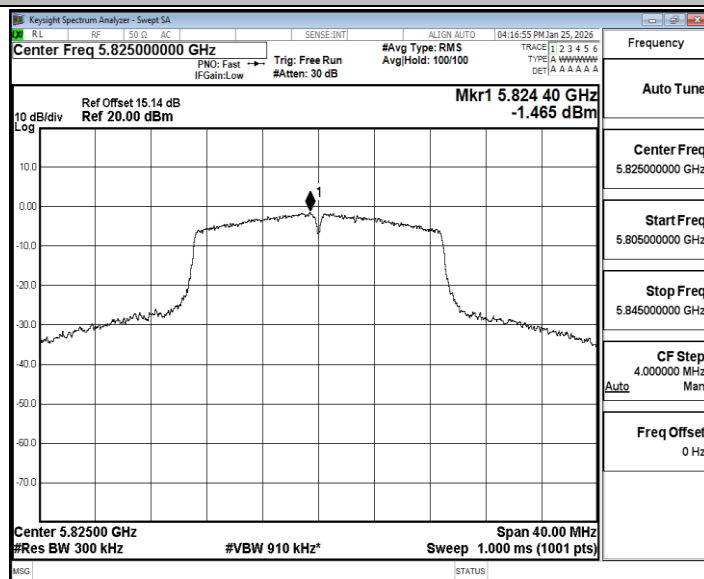
11N20SISO_Ant1_5745



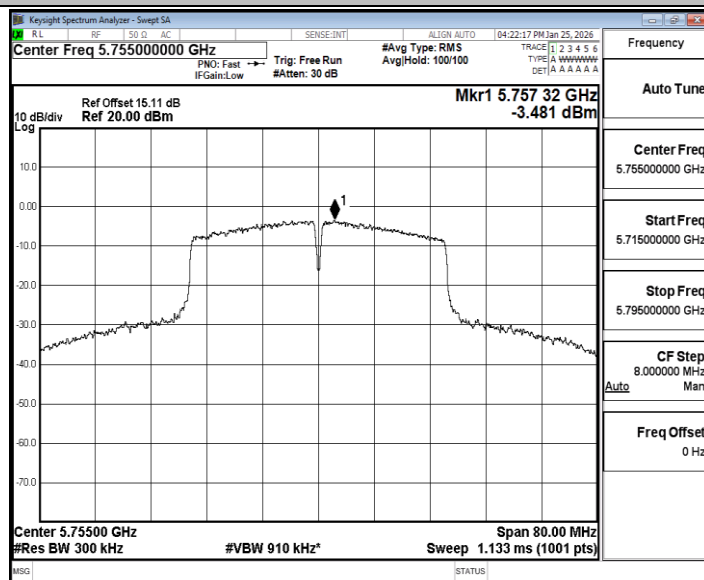
11N20SISO_Ant1_5785



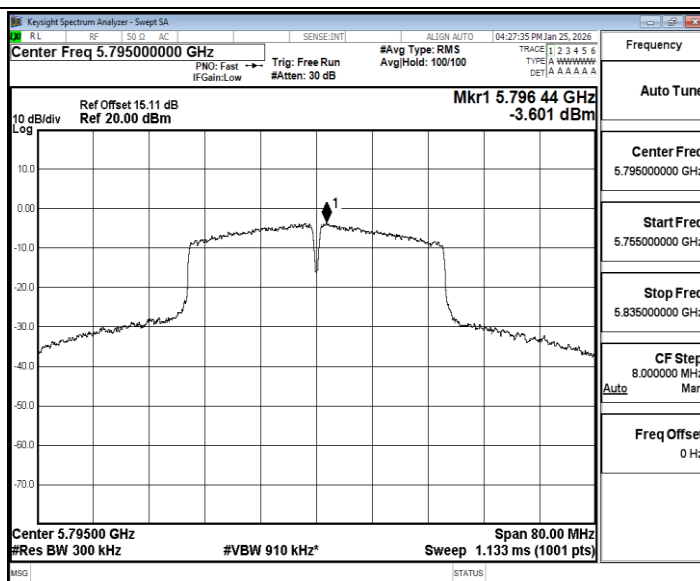
11N20SISO_Ant1_5825



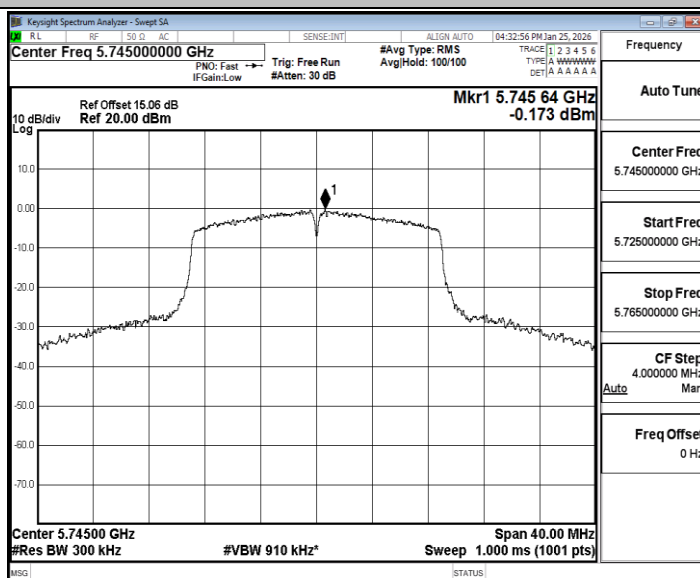
11N40SISO_Ant1_5755



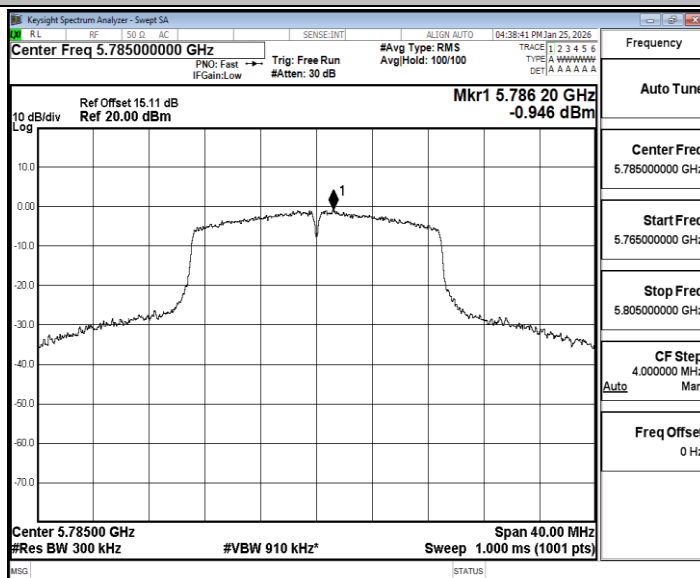
11N40SISO_Ant1_5795



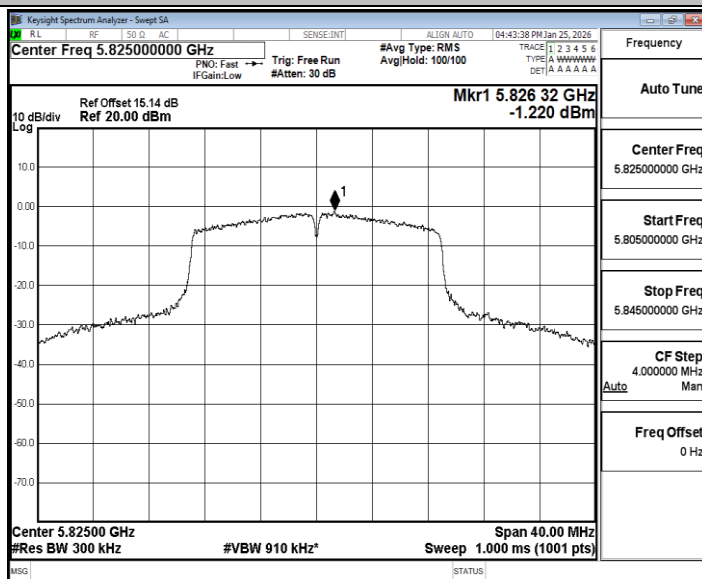
11AC20SISO_Ant1_5745



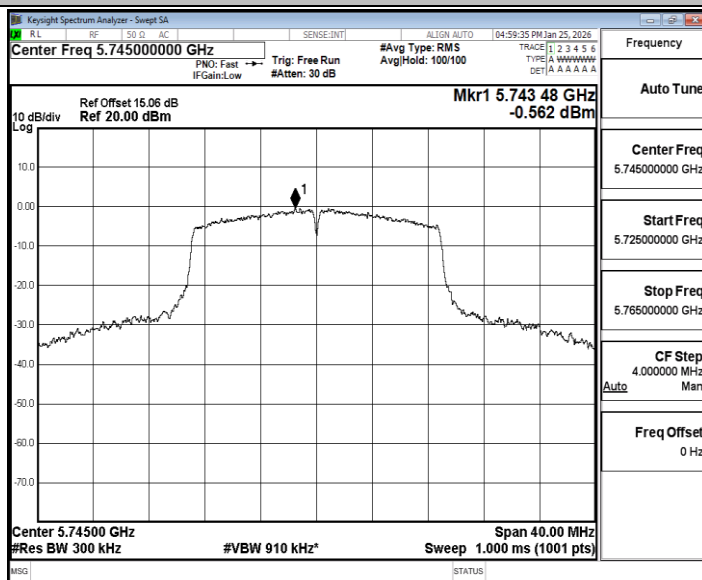
11AC20SISO_Ant1_5785



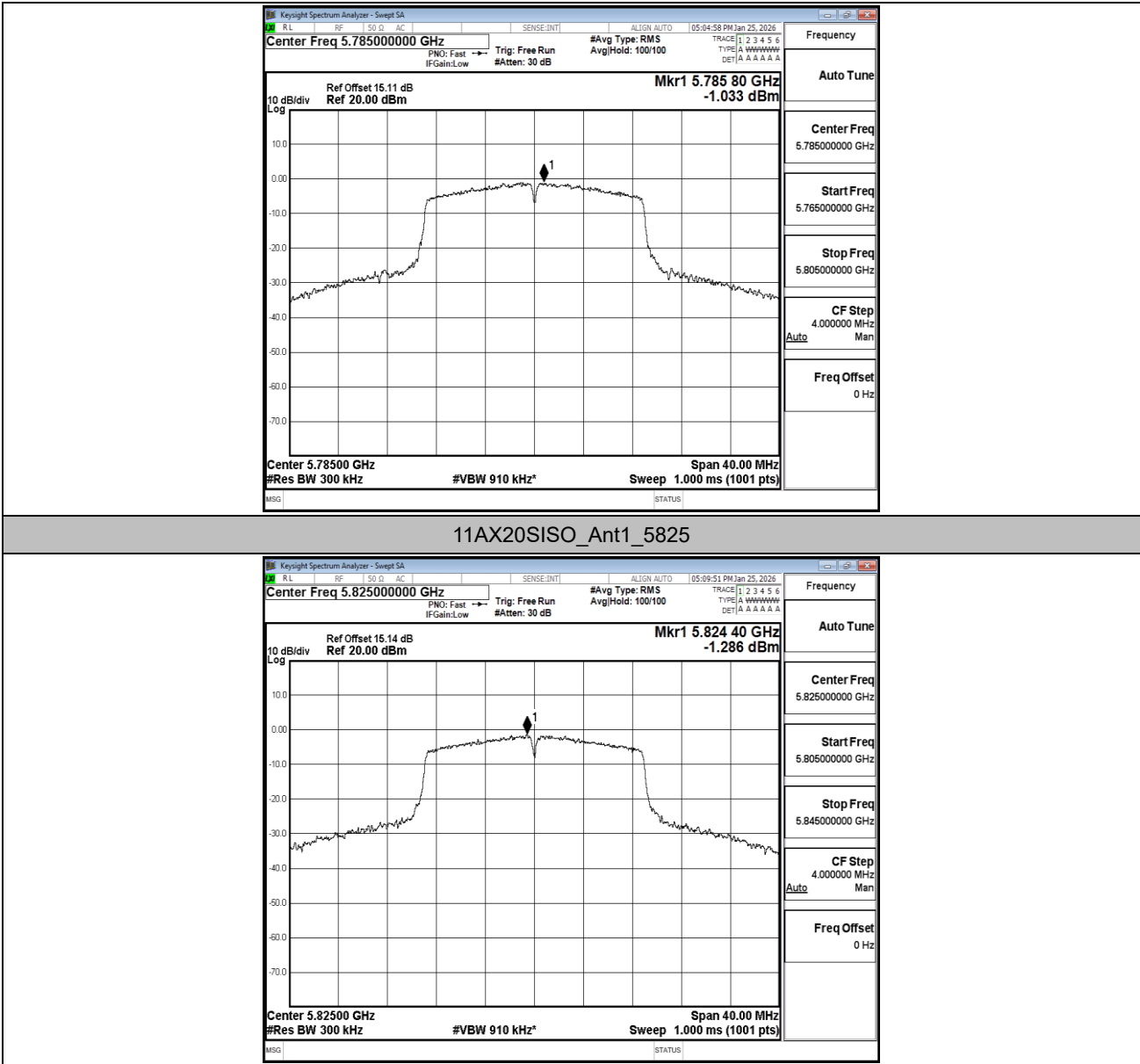
11AC20SISO_Ant1_5825



11AX20SISO_Ant1_5745



11AX20SISO_Ant1_5785



C.4 Emissions in Restricted Bands

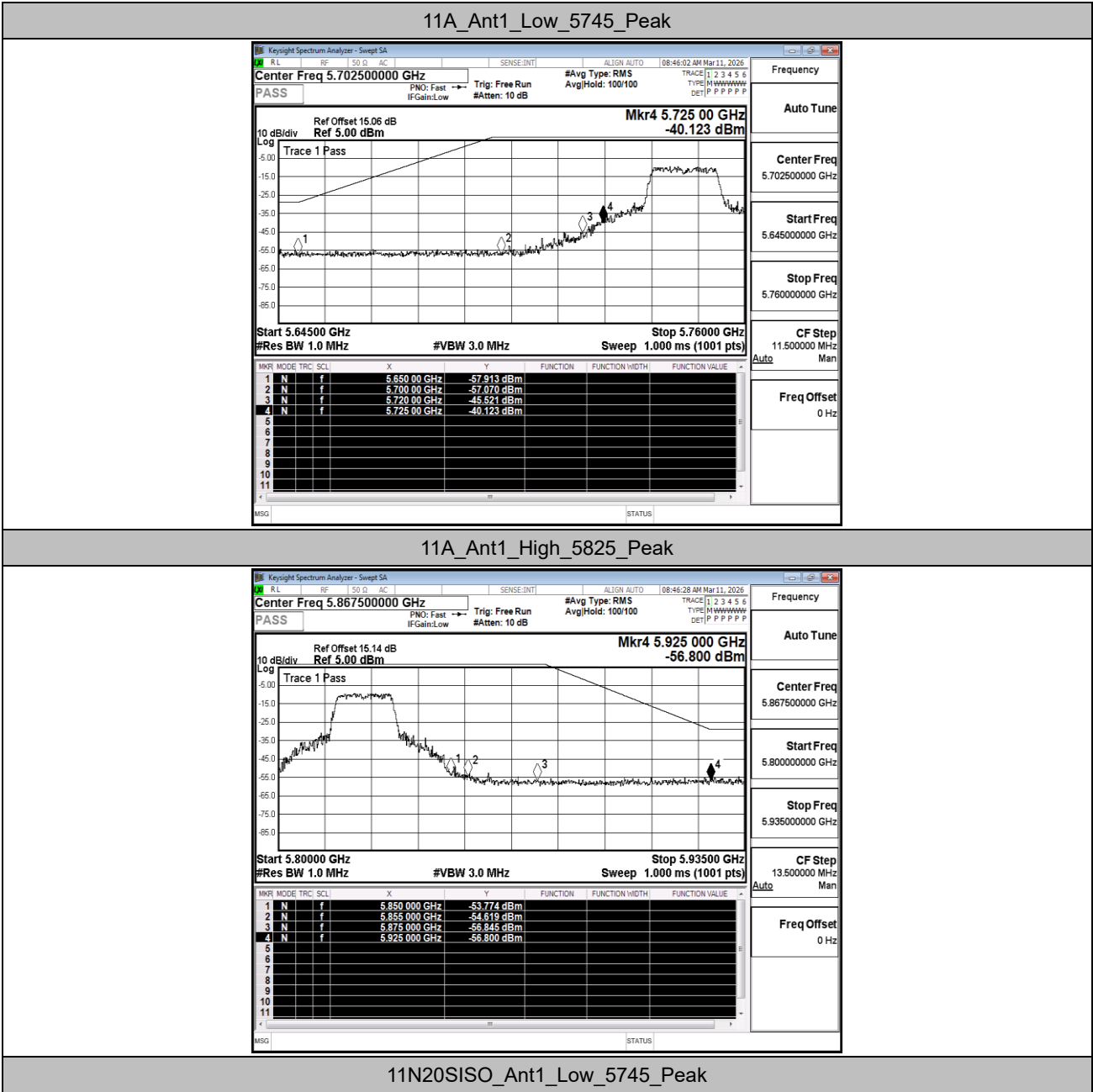
Test Result

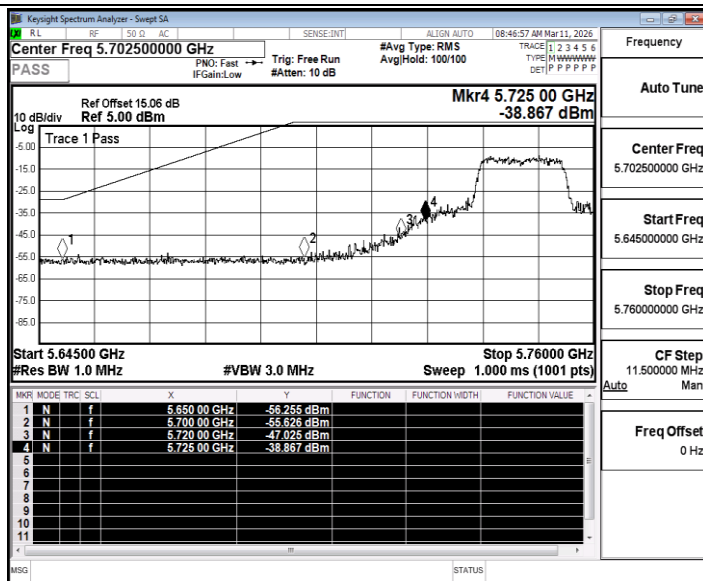
TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Gain [dBi]	EIRP Power [dBm]	Limit [dBm]	Verdict
11A	Ant1	Low	5745	Peak	5650.000	-57.913	5.30	-52.61	≤-27.00	PASS
				Peak	5700.000	-57.07	5.30	-51.77	≤10.00	PASS
				Peak	5720.000	-45.52	5.30	-40.22	≤15.60	PASS
				Peak	5725.000	-40.12	5.30	-34.82	≤27.00	PASS
		High	5825	Peak	5850.000	-53.774	5.30	-48.47	≤27.00	PASS
				Peak	5855.000	-54.62	5.30	-49.32	≤15.60	PASS
				Peak	5875.000	-56.85	5.30	-51.55	≤10.00	PASS
				Peak	5925.000	-56.8	5.30	-51.50	≤-27.00	PASS
11N20SISO	Ant1	Low	5745	Peak	5650.000	-56.255	5.30	-50.96	≤-27.00	PASS
				Peak	5700.000	-55.63	5.30	-50.33	≤10.00	PASS
				Peak	5720.000	-47.03	5.30	-41.73	≤15.60	PASS
				Peak	5725.000	-38.87	5.30	-33.57	≤27.00	PASS
		High	5825	Peak	5850.000	-45.855	5.30	-40.56	≤27.00	PASS
				Peak	5855.000	-55.69	5.30	-50.39	≤15.60	PASS
				Peak	5875.000	-57.89	5.30	-52.59	≤10.00	PASS
				Peak	5925.000	-57.72	5.30	-52.42	≤-27.00	PASS
11N40SISO	Ant1	Low	5755	Peak	5650.000	-56.334	5.30	-51.03	≤-27.00	PASS
				Peak	5700.000	-51.57	5.30	-46.27	≤10.00	PASS
				Peak	5720.000	-40.64	5.30	-35.34	≤15.60	PASS
				Peak	5725.000	-37.18	5.30	-31.88	≤27.00	PASS
		High	5795	Peak	5850.000	-55.26	5.30	-49.96	≤27.00	PASS
				Peak	5855.000	-55.17	5.30	-49.87	≤15.60	PASS
				Peak	5875.000	-58.12	5.30	-52.82	≤10.00	PASS
				Peak	5925.000	-57.57	5.30	-52.27	≤-27.00	PASS
11AC20SISO	Ant1	Low	5745	Peak	5650.000	-56.506	5.30	-51.21	≤-27.00	PASS
				Peak	5700.000	-56.65	5.30	-51.35	≤10.00	PASS
				Peak	5720.000	-48	5.30	-42.70	≤15.60	PASS
				Peak	5725.000	-38.04	5.30	-32.74	≤27.00	PASS
		High	5825	Peak	5850.000	-50.229	5.30	-44.93	≤27.00	PASS
				Peak	5855.000	-53.32	5.30	-48.02	≤15.60	PASS
				Peak	5875.000	-57.19	5.30	-51.89	≤10.00	PASS
				Peak	5925.000	-56.59	5.30	-51.29	≤-27.00	PASS
11AX20SISO	Ant1	Low	5745	Peak	5650.000	-57.511	5.30	-52.21	≤-27.00	PASS
				Peak	5700.000	-56.65	5.30	-51.35	≤10.00	PASS
				Peak	5720.000	-45.43	5.30	-40.13	≤15.60	PASS
				Peak	5725.000	-39.01	5.30	-33.71	≤27.00	PASS

		High	5825	Peak	5850.000	-49.381	5.30	-44.08	≤27.00	PASS
				Peak	5855.000	-54.49	5.30	-49.19	≤15.60	PASS
				Peak	5875.000	-57.58	5.30	-52.28	≤10.00	PASS
				Peak	5925.000	-57.15	5.30	-51.85	≤-27.00	PASS

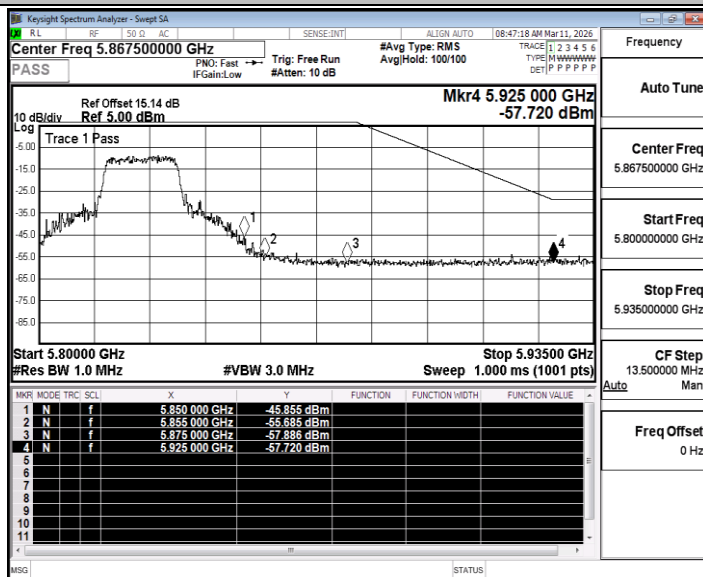
Note: offset=System attenuation +caval loss

Test Graphs

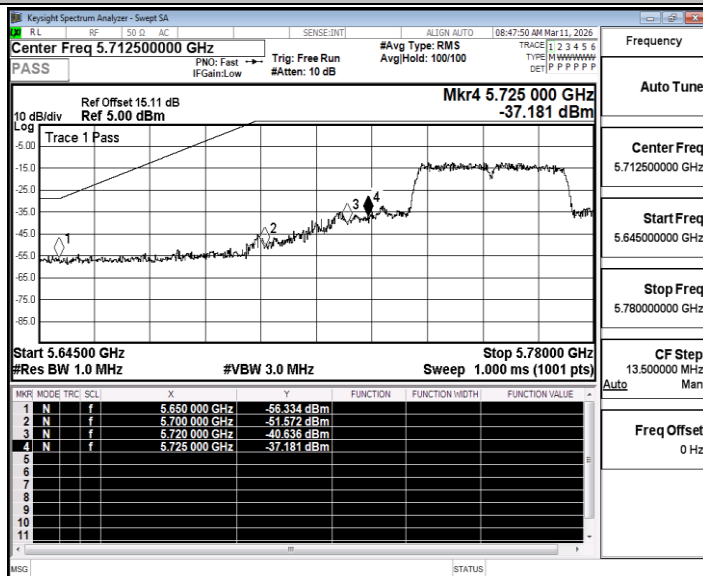




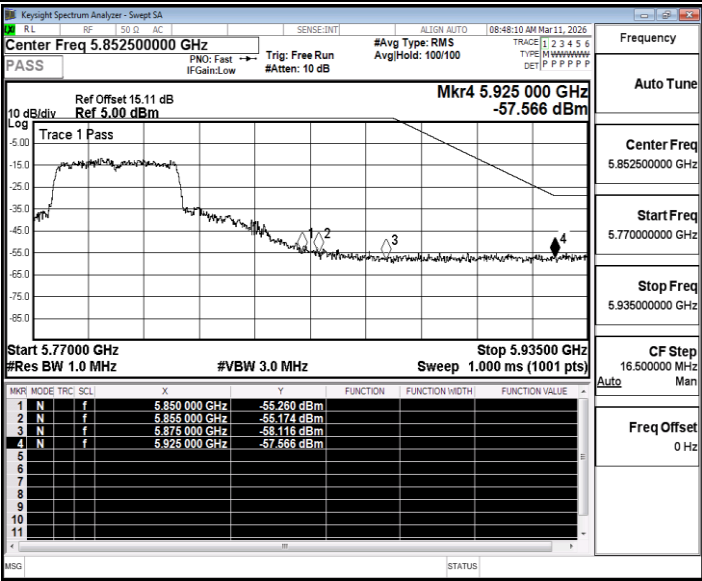
11N20ISO_Ant1_High_5825_Peak



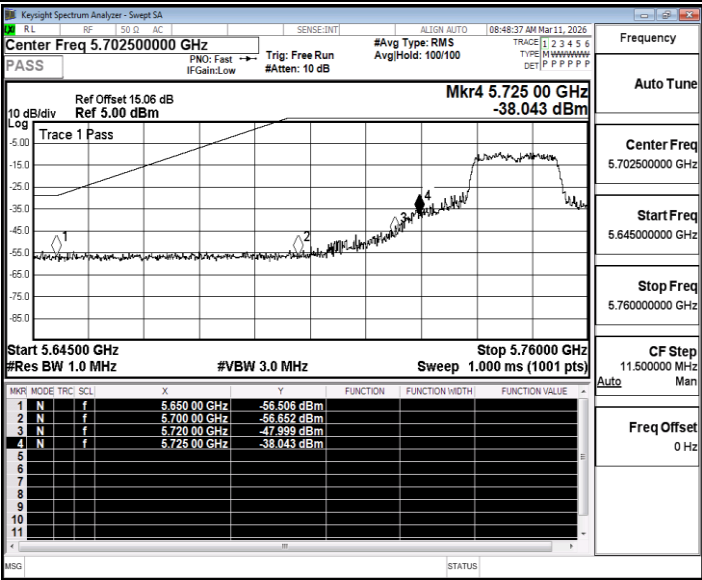
11N40SISO_Ant1_Low_5755_Peak



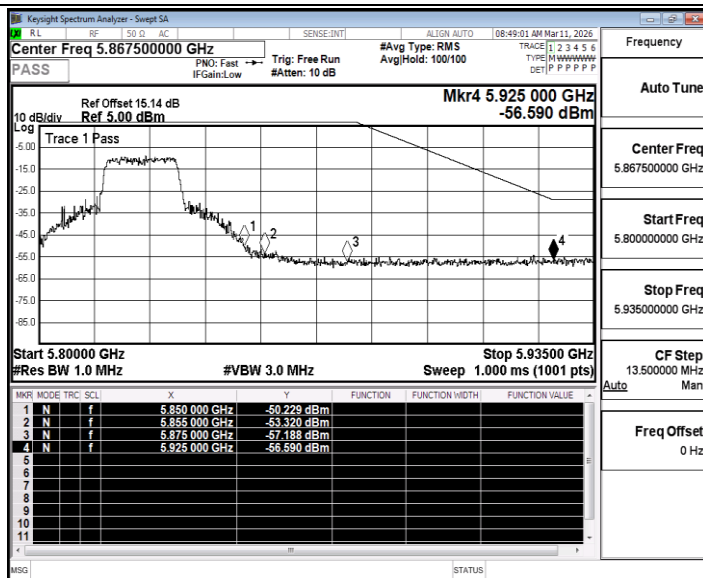
11N40SISO_Ant1_High_5795_Peak



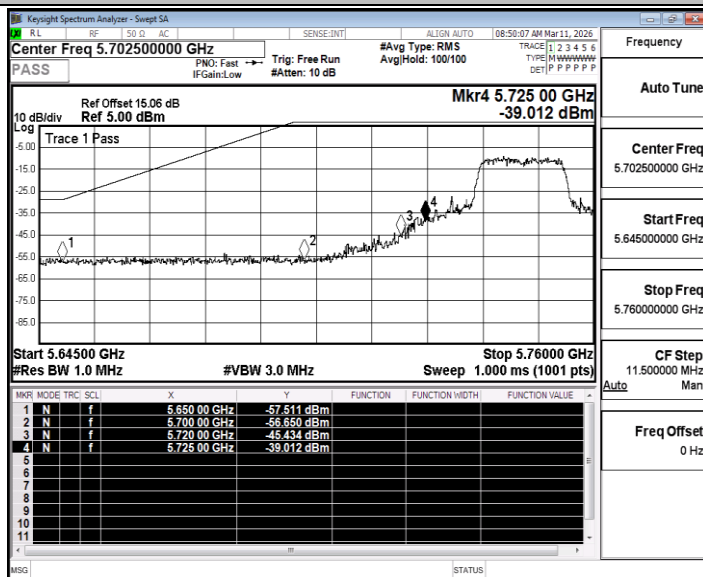
11AC20SISO_Ant1_Low_5745_Peak



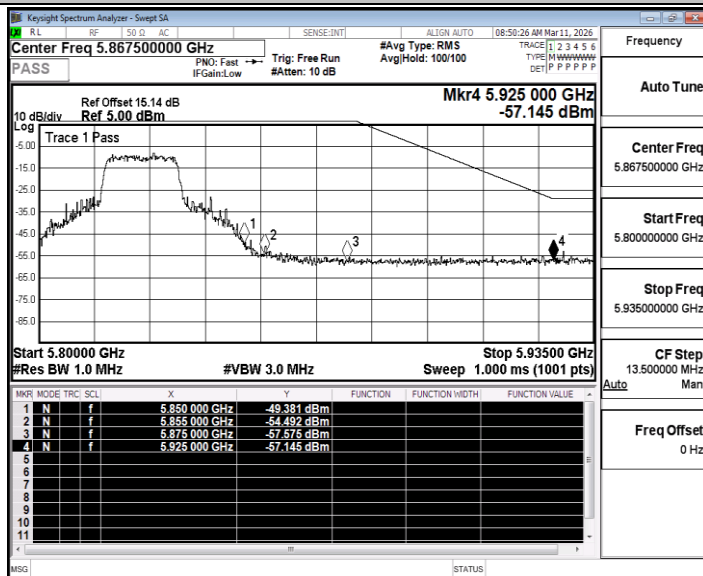
11AC20SISO_Ant1_High_5825_Peak



11AX20SISO_Ant1_Low_5745_Peak



11AX20SISO_Ant1_High_5825_Peak



C.5 Frequency Stability

Test Result

Voltage								
TestMode	Antenna	Freq(MHz)	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5745	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5785	NV	NT	0.00	0.000000	20	PASS
			LV	NT	20000.00	3.457217	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5825	NV	NT	0.00	0.000000	20	PASS
			LV	NT	20000.00	3.433476	20	PASS
			HV	NT	0.00	0.000000	20	PASS
11N20SISO	Ant1	5745	NV	NT	20000.00	3.481288	20	PASS
			LV	NT	-20000.00	-3.481288	20	PASS
			HV	NT	20000.00	3.481288	20	PASS
		5785	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	-20000.00	-3.457217	20	PASS
		5825	NV	NT	0.00	0.000000	20	PASS
			LV	NT	-20000.00	-3.433476	20	PASS
			HV	NT	0.00	0.000000	20	PASS
11N40SISO	Ant1	5755	NV	NT	0.00	0.000000	20	PASS
			LV	NT	-40000.00	-6.950478	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5795	NV	NT	0.00	0.000000	20	PASS
			LV	NT	-40000.00	-6.902502	20	PASS
			HV	NT	0.00	0.000000	20	PASS
11AC20SISO	Ant1	5745	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5785	NV	NT	-20000.00	-3.457217	20	PASS
			LV	NT	20000.00	3.457217	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5825	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
11AX20SISO	Ant1	5745	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS

		5785	NV	NT	0.00	0.000000	20	PASS
			LV	NT	20000.00	3.457217	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5825	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS

Temperature								
TestMode	Antenna	Freq(MHz)	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5745	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	20000.00	3.481288	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
		5785	NV	-30	0.00	0.000000	20	PASS
			NV	-20	-20000.00	-3.457217	20	PASS
			NV	-10	-20000.00	-3.457217	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
		5825	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	-20000.00	-3.433476	20	PASS
			NV	20	-20000.00	-3.433476	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
11N20SISO	Ant1	5745	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	20000.00	3.481288	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	20000.00	3.481288	20	PASS

			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	20000.00	3.481288	20	PASS
		5785	NV	-30	0.00	0.000000	20	PASS
			NV	-20	-20000.00	-3.457217	20	PASS
			NV	-10	20000.00	3.457217	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	-20000.00	-3.457217	20	PASS
			NV	20	20000.00	3.457217	20	PASS
			NV	30	-20000.00	-3.457217	20	PASS
			NV	40	-20000.00	-3.457217	20	PASS
			NV	50	20000.00	3.457217	20	PASS
		5825	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	-20000.00	-3.433476	20	PASS
			NV	10	-20000.00	-3.433476	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
11N40SISO	Ant1	5755	NV	-30	40000.00	6.950478	20	PASS
			NV	-20	-40000.00	-6.950478	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	-40000.00	-6.950478	20	PASS
			NV	40	-40000.00	-6.950478	20	PASS
			NV	50	0.00	0.000000	20	PASS
		5795	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	40000.00	6.902502	20	PASS
			NV	50	0.00	0.000000	20	PASS
11AC20SISO	Ant1	5745	NV	-30	0.00	0.000000	20	PASS
			NV	-20	20000.00	3.481288	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	-20000.00	-3.481288	20	PASS

			NV	10	20000.00	3.481288	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
		5785	NV	-30	0.00	0.000000	20	PASS
			NV	-20	20000.00	3.457217	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	20000.00	3.457217	20	PASS
			NV	10	20000.00	3.457217	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	-20000.00	-3.457217	20	PASS
			NV	50	0.00	0.000000	20	PASS
		5825	NV	-30	0.00	0.000000	20	PASS
			NV	-20	-40000.00	-6.866953	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
11AX20SIS O	Ant1	5745	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	20000.00	3.481288	20	PASS
			NV	10	40000.00	6.962576	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
		5785	NV	-30	-20000.00	-3.457217	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	20000.00	3.457217	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	20000.00	3.457217	20	PASS
			NV	50	-20000.00	-3.457217	20	PASS
		5825	NV	-30	-20000.00	-3.433476	20	PASS
			NV	-20	20000.00	3.433476	20	PASS

			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS

C.6 Duty Cycle

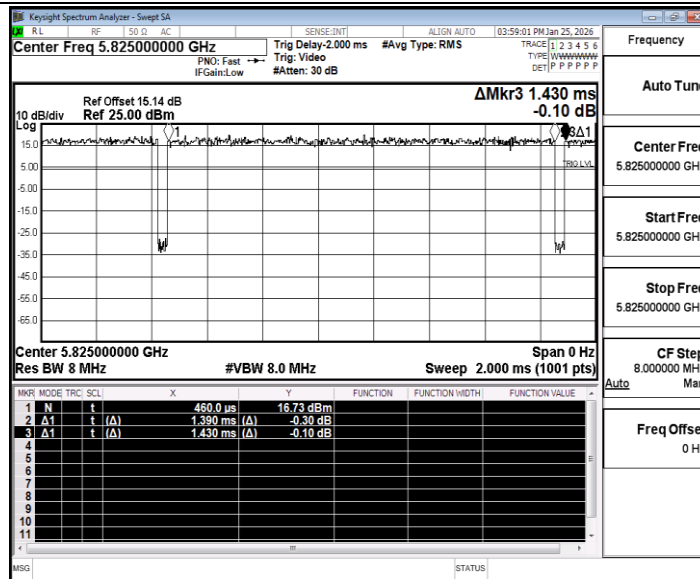
Test Result

TestMode	Antenna	Freq(MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	DC Factor	Limit	Verdict
11A	Ant1	5745	1.40	1.43	97.90	0.09	---	---
		5785	1.40	1.43	97.90	0.09	---	---
		5825	1.39	1.43	97.20	0.12	---	---
11N20SISO	Ant1	5745	1.30	1.33	97.74	0.10	---	---
		5785	1.30	1.34	97.01	0.13	---	---
		5825	1.30	1.34	97.01	0.13	---	---
11N40SISO	Ant1	5755	0.64	0.68	94.12	0.26	---	---
		5795	0.65	0.69	94.20	0.26	---	---
11AC20SISO	Ant1	5745	1.31	1.35	97.04	0.13	---	---
		5785	1.31	1.35	97.04	0.13	---	---
		5825	1.31	1.35	97.04	0.13	---	---
11AX20SISO	Ant1	5745	1.31	1.34	97.76	0.10	---	---
		5785	1.31	1.35	97.04	0.13	---	---
		5825	1.31	1.34	97.76	0.10	---	---

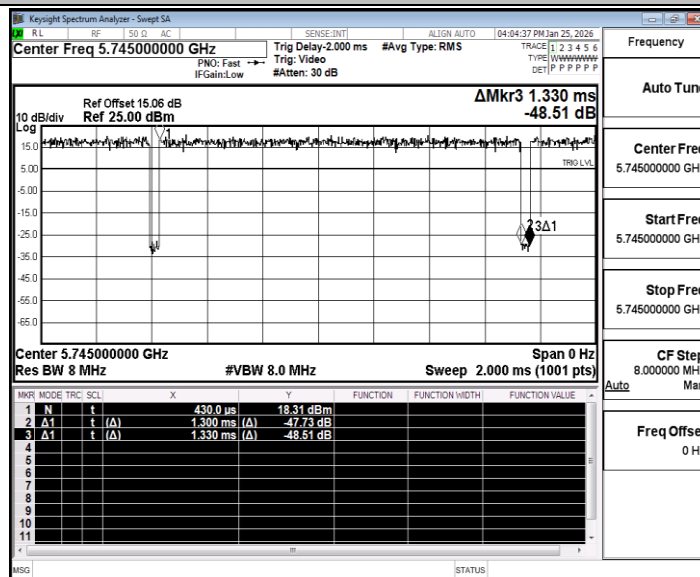
Note: offset=System attenuation +cabal loss

Test Graphs

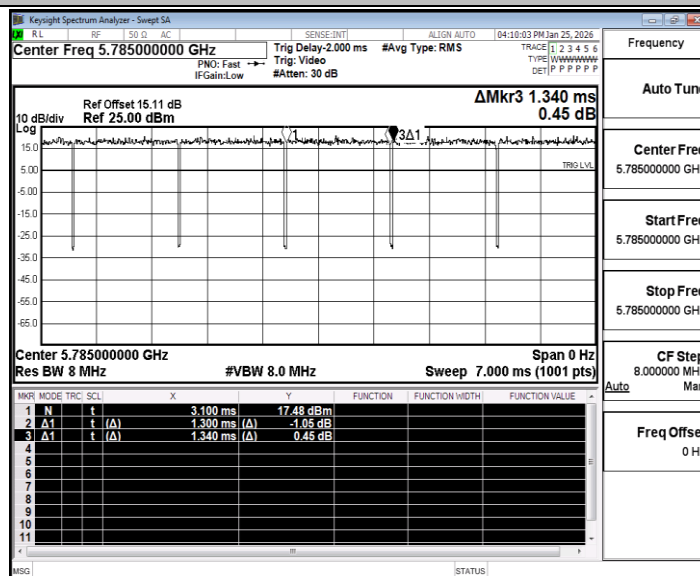




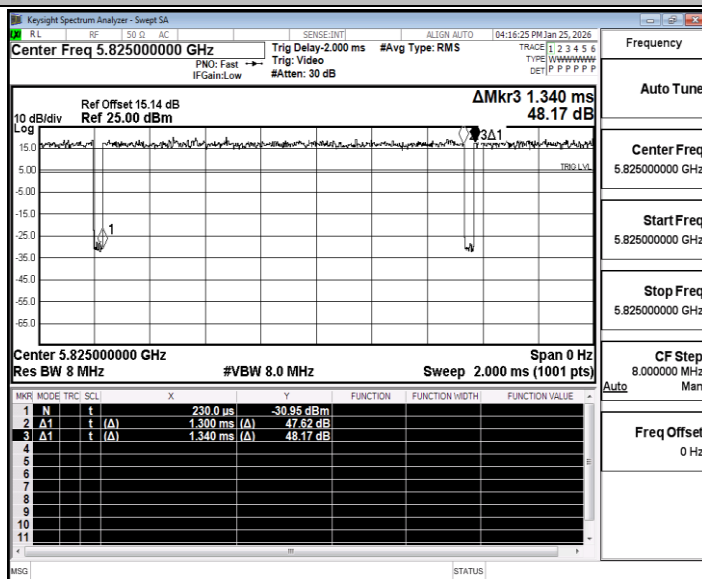
11N20SISO_Ant1_5745



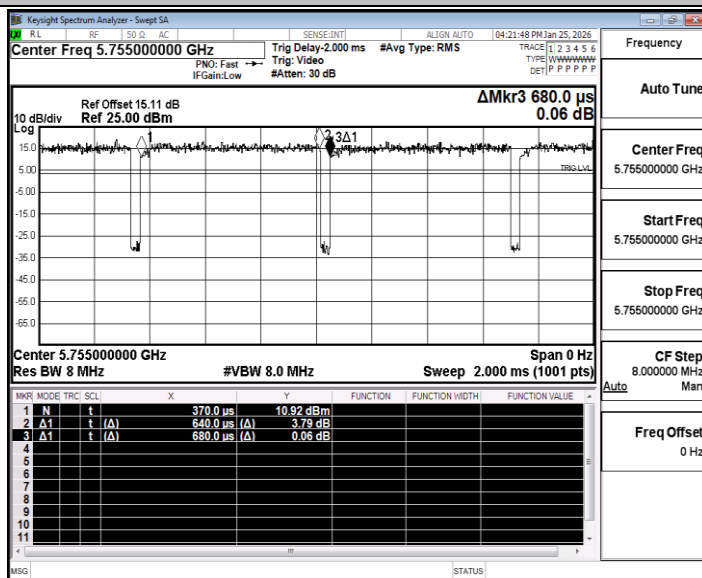
11N20SISO_Ant1_5785



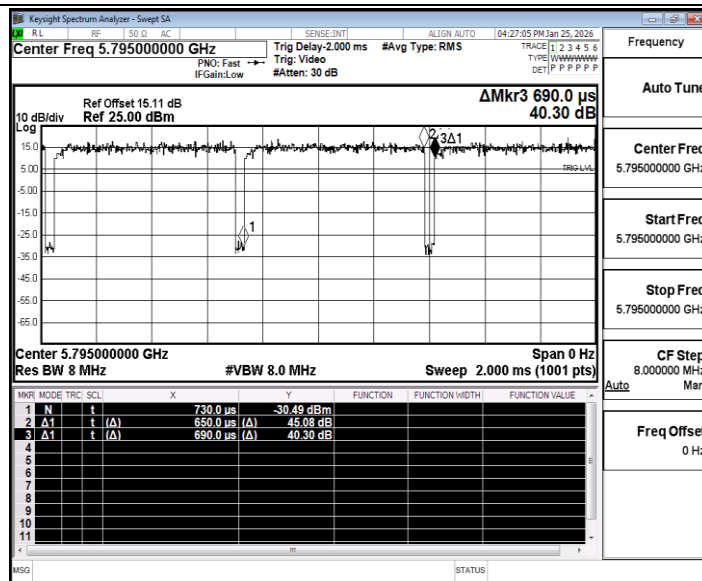
11N20SISO_Ant1_5825



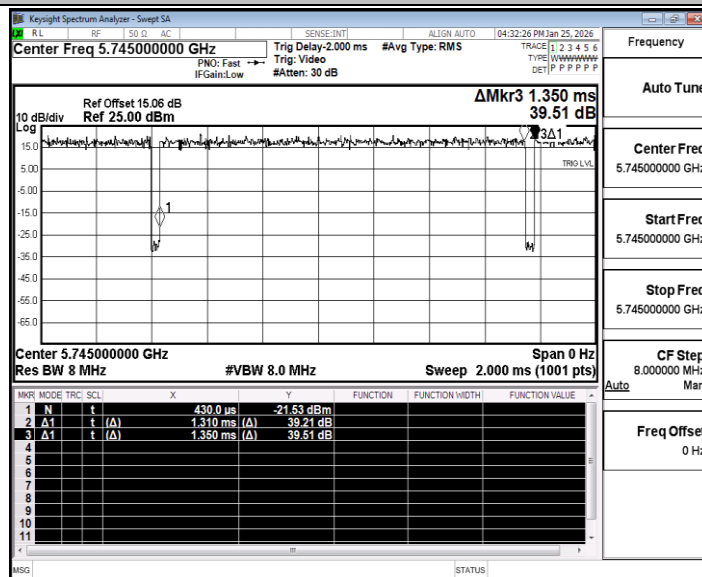
11N40SISO_Ant1_5755



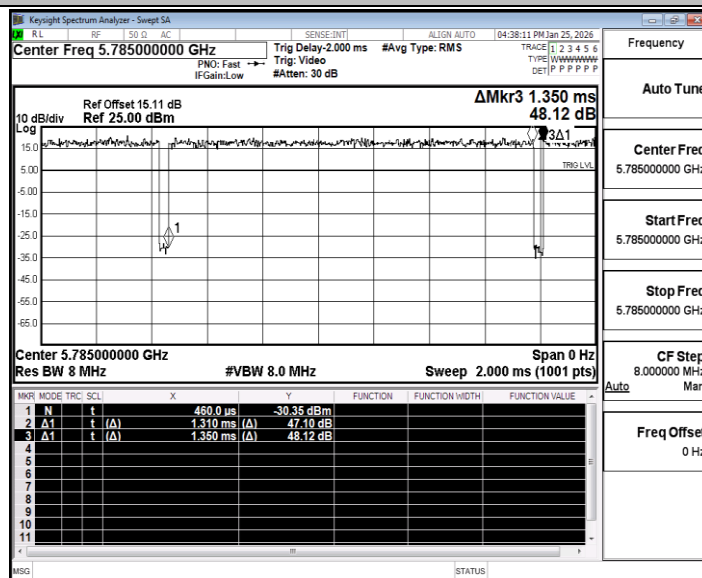
11N40SISO_Ant1_5795



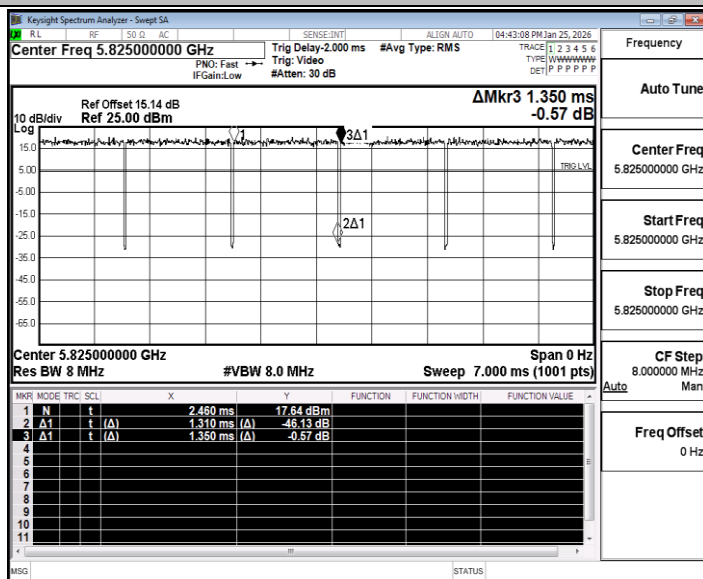
11AC20SISO_Ant1_5745



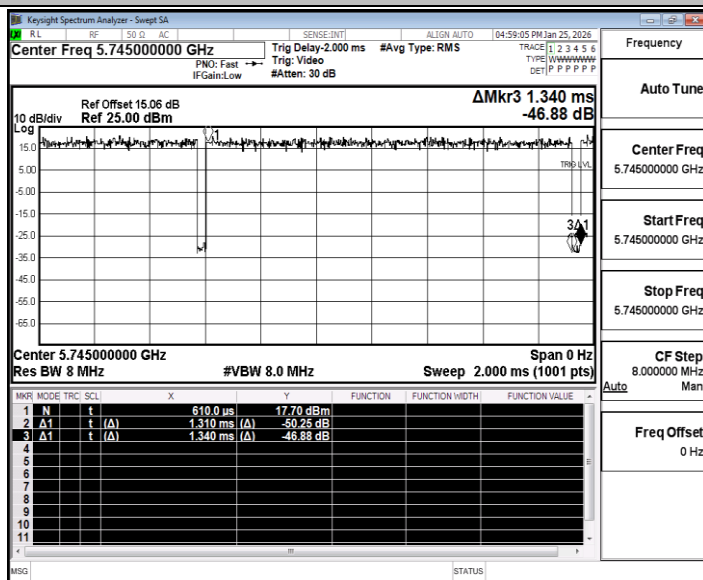
11AC20SISO_Ant1_5785



11AC20SISO_Ant1_5825



11AX20SISO_Ant1_5745



11AX20SISO_Ant1_5785

