

Appendix E

RF Test Data for 5.8GWIFI (Conducted Measurement)

Product Name: GNSS Receiver

Test Model: Xbase

Environmental Conditions

Temperature:	24.3°C
Relative Humidity:	56.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Zhang hai
Supervised by:	Fengliu Tang

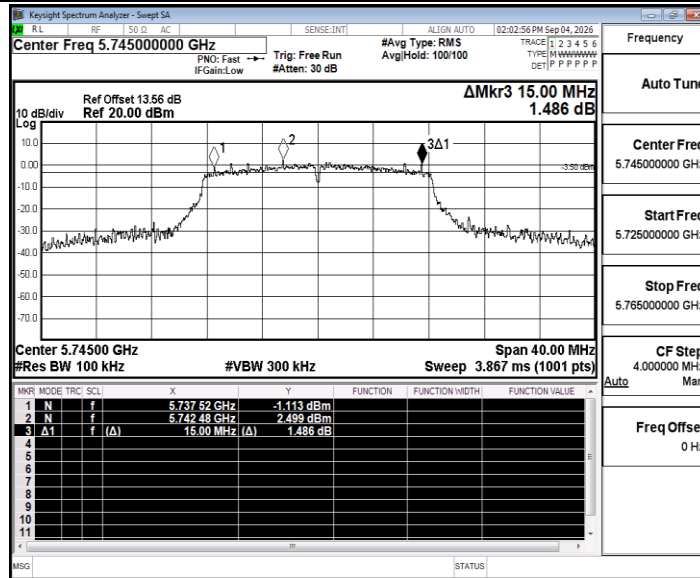
E.1 -6dB Bandwidth

Test Result B4

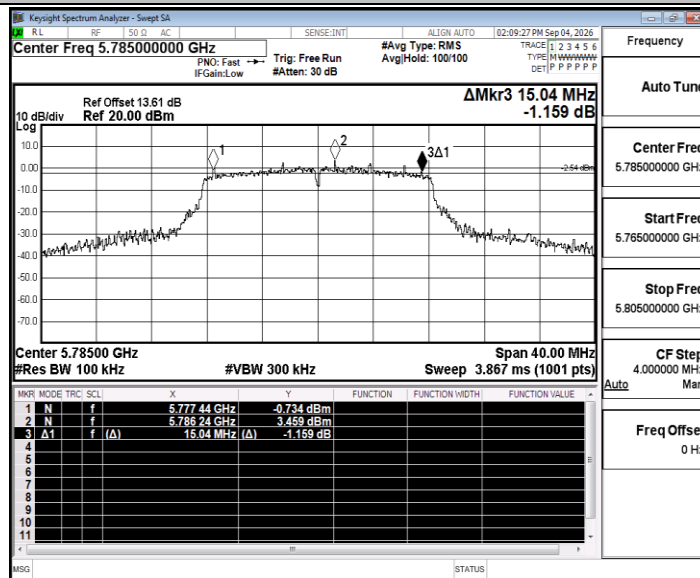
TestMode	Antenna	Freq(MHz)	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	15.000	5737.520	5752.520	0.5	PASS
		5785	15.040	5777.440	5792.480	0.5	PASS
		5825	14.200	5818.320	5832.520	0.5	PASS
11N20SISO	Ant1	5745	13.880	5738.680	5752.560	0.5	PASS
		5785	13.880	5777.440	5791.320	0.5	PASS
		5825	15.280	5817.480	5832.760	0.5	PASS
11N40SISO	Ant1	5755	32.480	5739.960	5772.440	0.5	PASS
		5795	33.920	5777.400	5811.320	0.5	PASS
11AC20SISO	Ant1	5745	14.960	5737.520	5752.480	0.5	PASS
		5785	15.120	5777.440	5792.560	0.5	PASS
		5825	14.680	5817.840	5832.520	0.5	PASS
11AC40SISO	Ant1	5755	33.840	5737.480	5771.320	0.5	PASS
		5795	35.040	5777.480	5812.520	0.5	PASS
11AC80SISO	Ant1	5775	75.200	5737.400	5812.600	0.5	PASS

Test Graphs B4

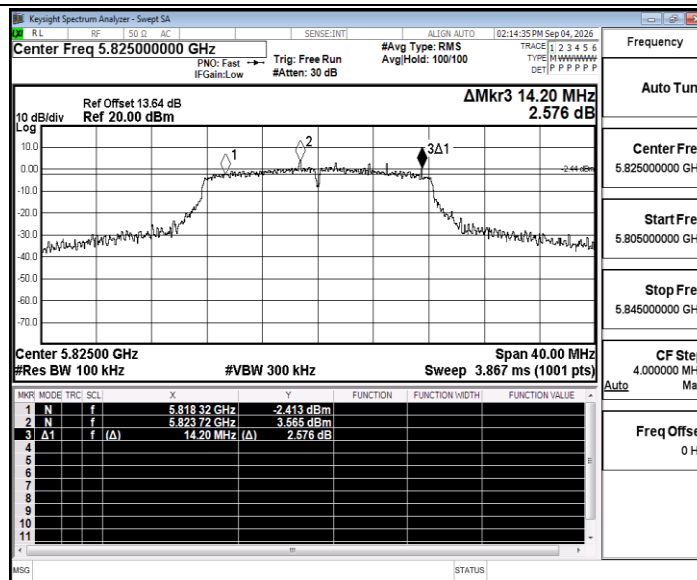
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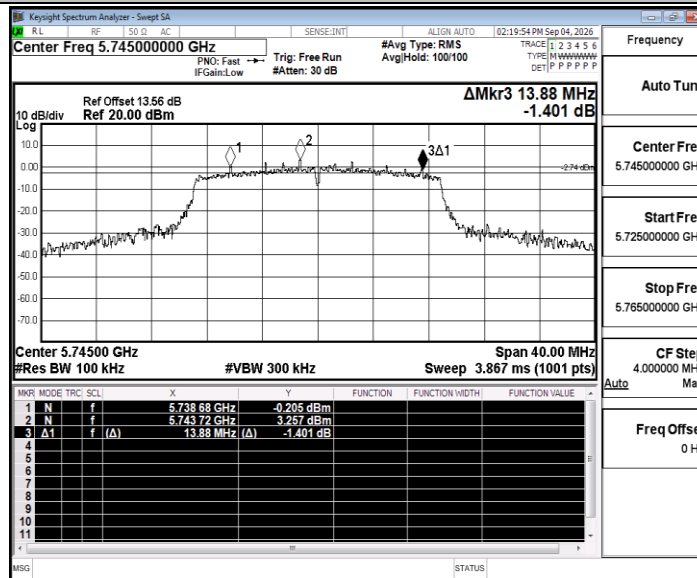
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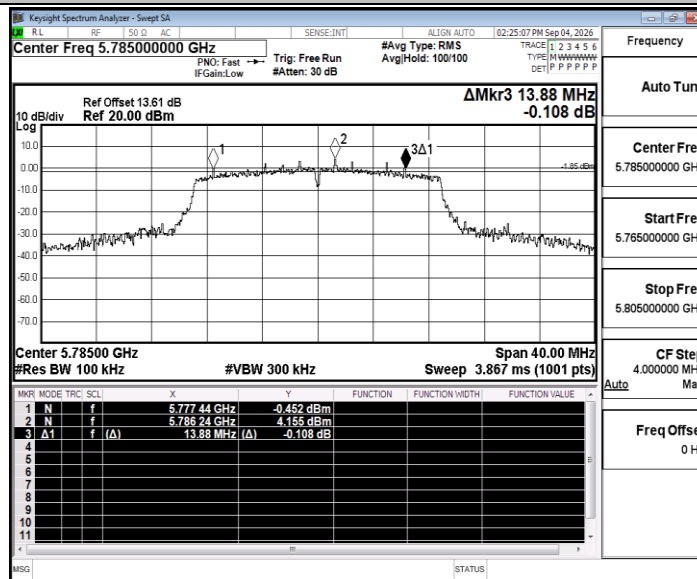
11A_Ant1_5825



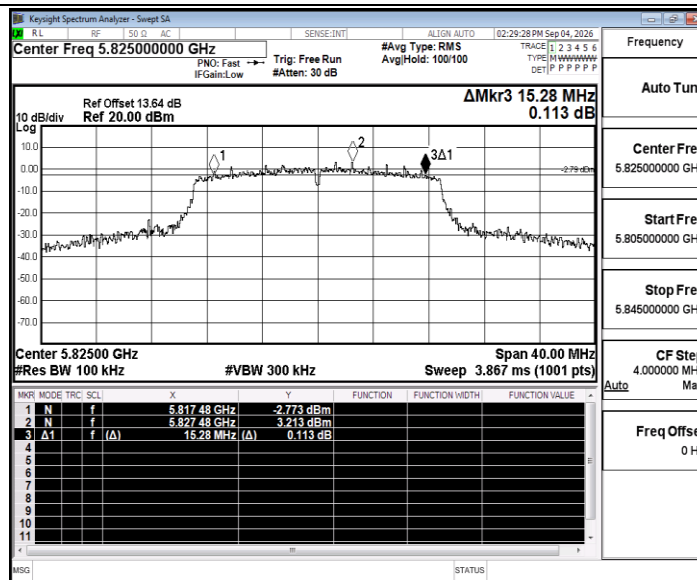
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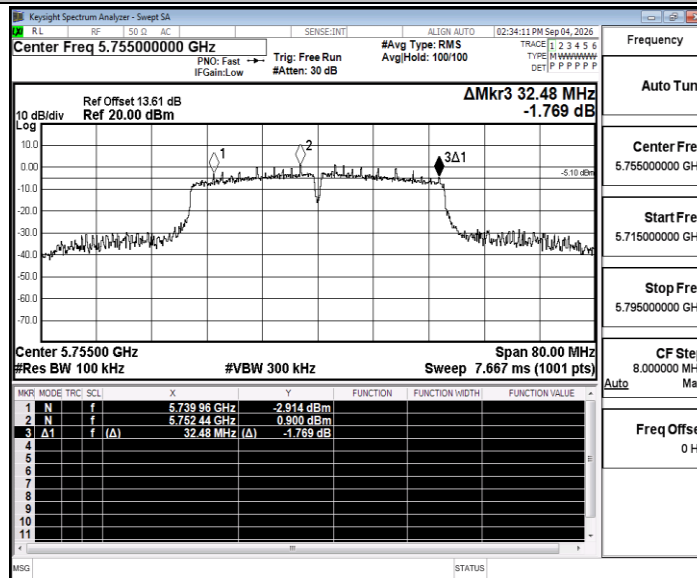
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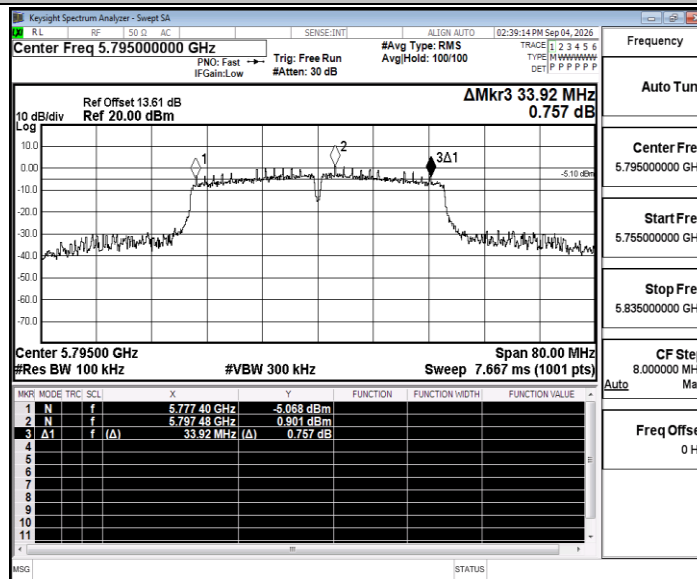
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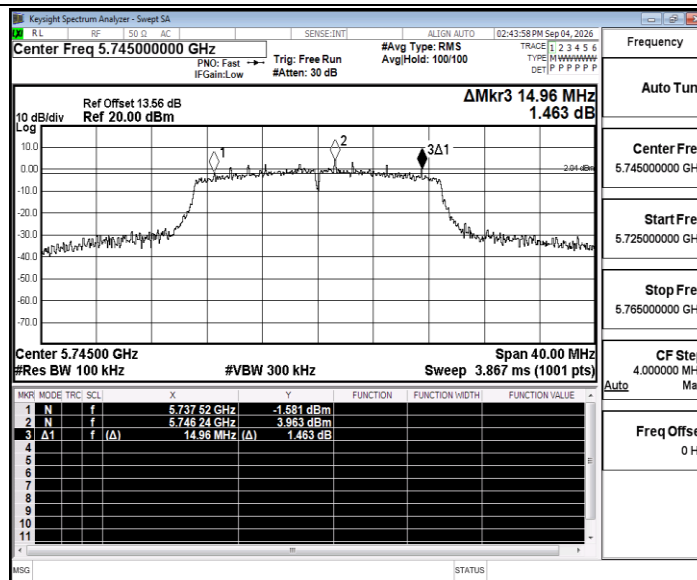
11N40SISO_Ant1_5755



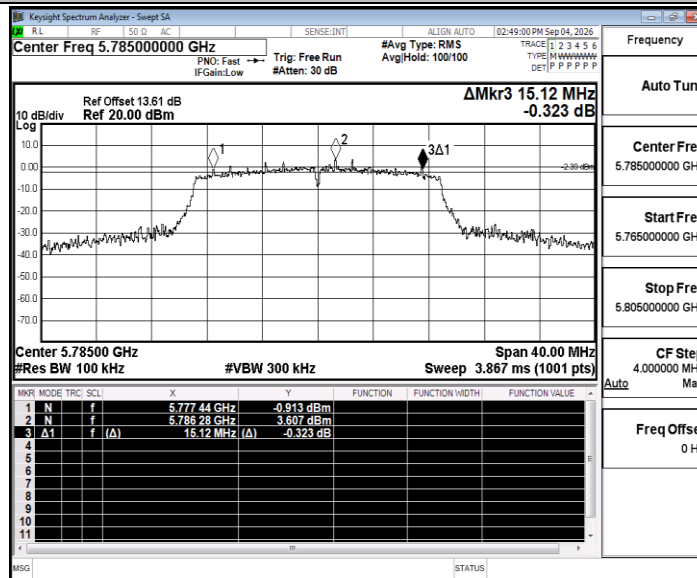
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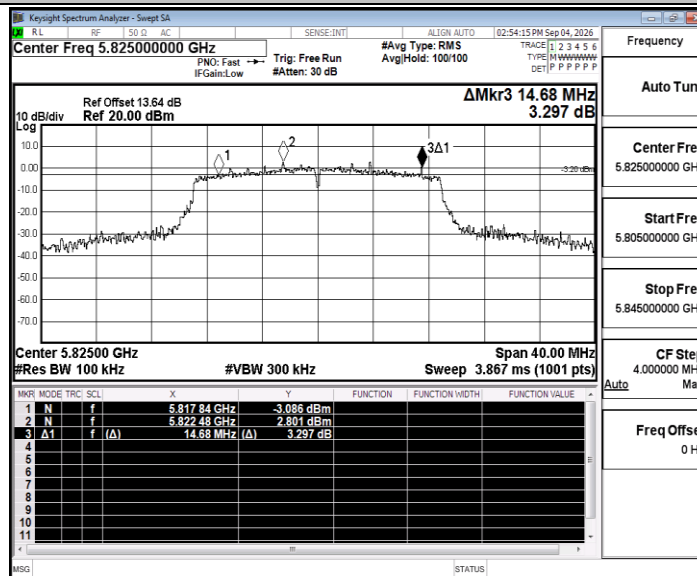
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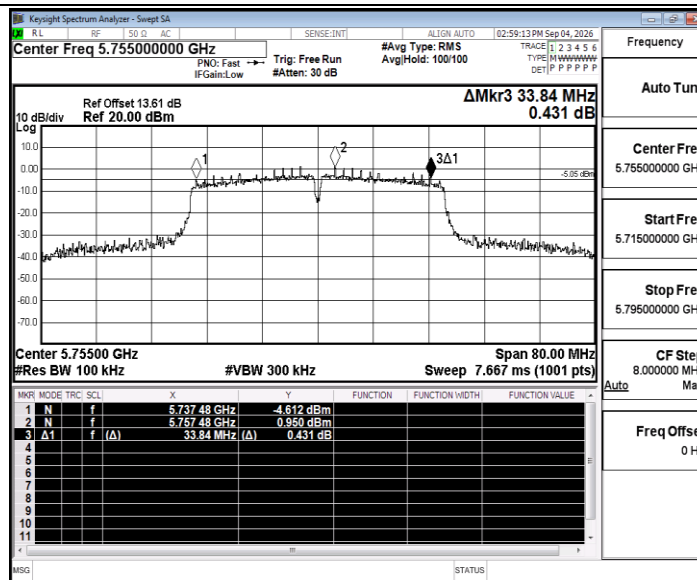
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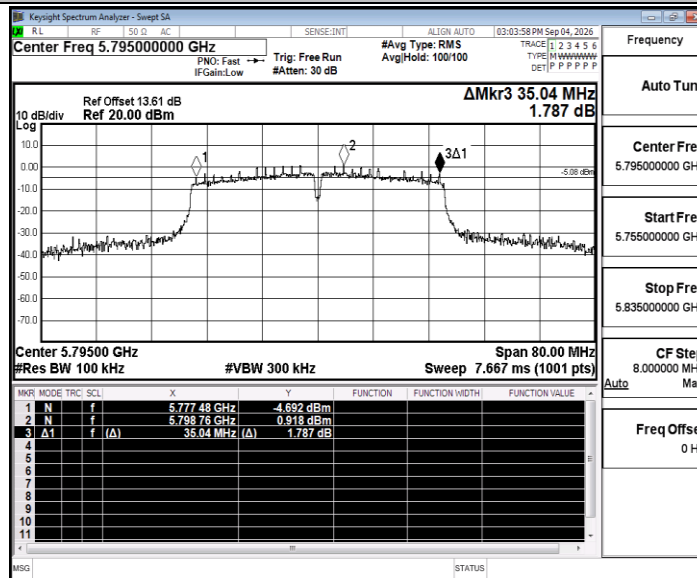
11AC20SISO_Ant1_5825



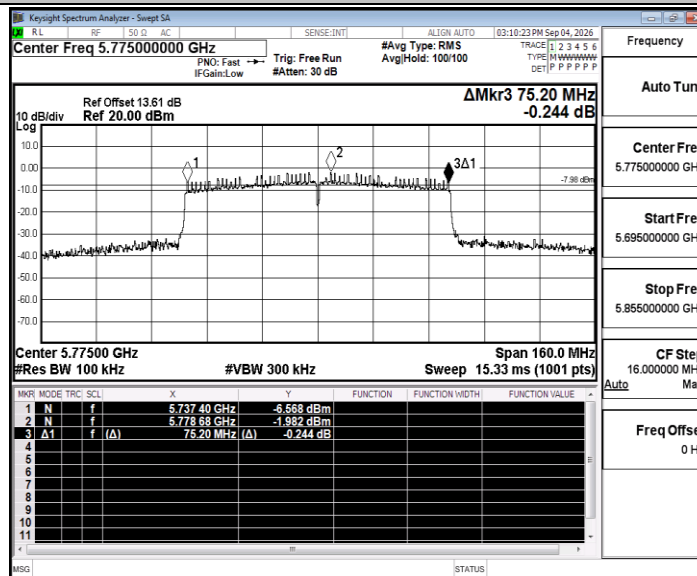
11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5775



E.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	15.45	0.12	15.57	30	Pass
NVNT	a	5785	Ant1	15.57	0.15	15.72	30	Pass
NVNT	a	5825	Ant1	15.41	0.15	15.56	30	Pass
NVNT	n20	5745	Ant1	15.26	0.13	15.39	30	Pass
NVNT	n20	5785	Ant1	15.35	0.13	15.48	30	Pass
NVNT	n20	5825	Ant1	15.35	0.13	15.48	30	Pass
NVNT	n40	5755	Ant1	15.04	0.26	15.30	30	Pass
NVNT	n40	5795	Ant1	15.00	0.32	15.32	30	Pass
NVNT	ac20	5745	Ant1	15.45	0.16	15.61	30	Pass
NVNT	ac20	5785	Ant1	15.24	0.16	15.40	30	Pass
NVNT	ac20	5825	Ant1	15.31	0.16	15.47	30	Pass
NVNT	ac40	5755	Ant1	15.19	0.26	15.45	30	Pass
NVNT	ac40	5795	Ant1	15.22	0.26	15.48	30	Pass
NVNT	ac80	5775	Ant1	15.00	0.51	15.51	30	Pass

E.3 Maximum Power Spectral Density Level

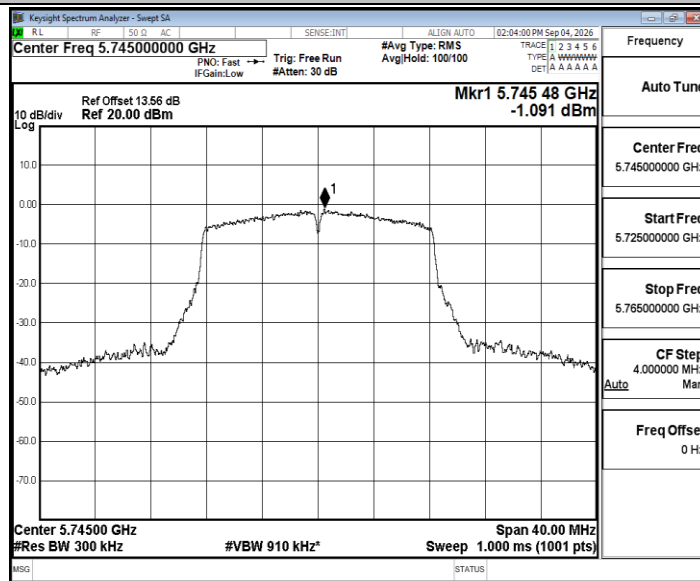
Test Result

TestMode	Antenna	Freq (MHz)	Conducted PSD (dBm/500KHz)	DC Factor	RBW Factor	Total PSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
11A	Ant1	5745	-1.09	0.12	2.22	1.25	≤30.00	PASS
		5785	-1.25	0.15	2.22	1.12	≤30.00	PASS
		5825	-0.85	0.15	2.22	1.52	≤30.00	PASS
11N20SISO	Ant1	5745	-1.79	0.13	2.22	0.56	≤30.00	PASS
		5785	-1.52	0.13	2.22	0.83	≤30.00	PASS
		5825	-1.44	0.13	2.22	0.91	≤30.00	PASS
11N40SISO	Ant1	5755	-4.6	0.26	2.22	-2.12	≤30.00	PASS
		5795	-4.77	0.32	2.22	-2.23	≤30.00	PASS
11AC20SISO	Ant1	5745	-1.97	0.16	2.22	0.41	≤30.00	PASS
		5785	-1.51	0.16	2.22	0.87	≤30.00	PASS
		5825	-1.46	0.16	2.22	0.92	≤30.00	PASS
11AC40SISO	Ant1	5755	-4.72	0.26	2.22	-2.24	≤30.00	PASS
		5795	-4.58	0.26	2.22	-2.10	≤30.00	PASS
11AC80SISO	Ant1	5775	-8.12	0.51	2.22	-5.39	≤30.00	PASS

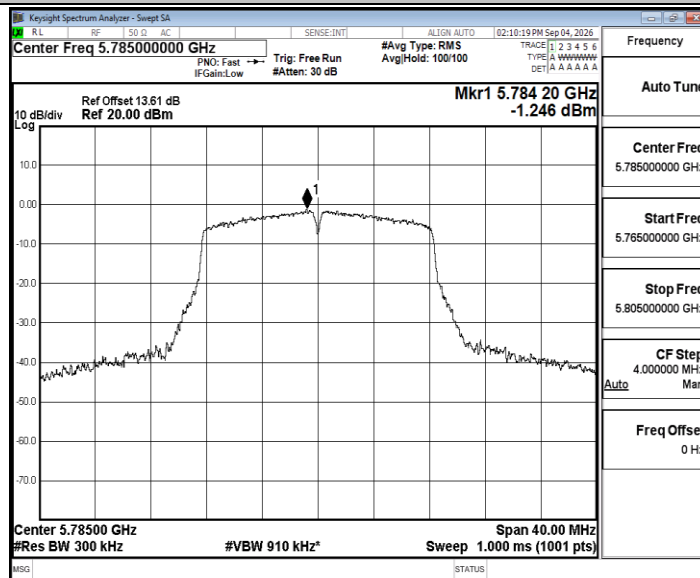
Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

Test Graphs

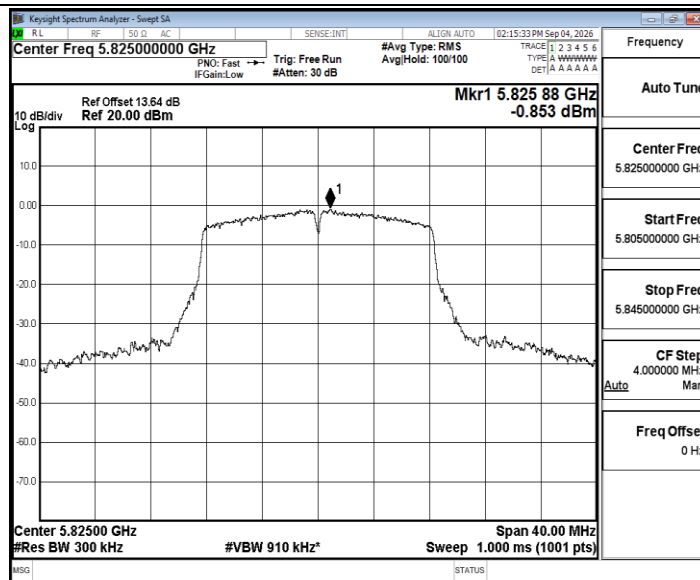
11A_Ant1_5745



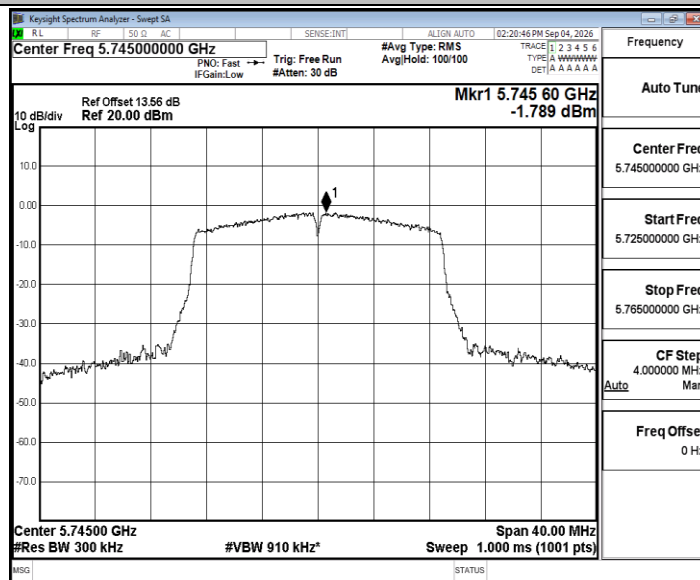
11A_Ant1_5785



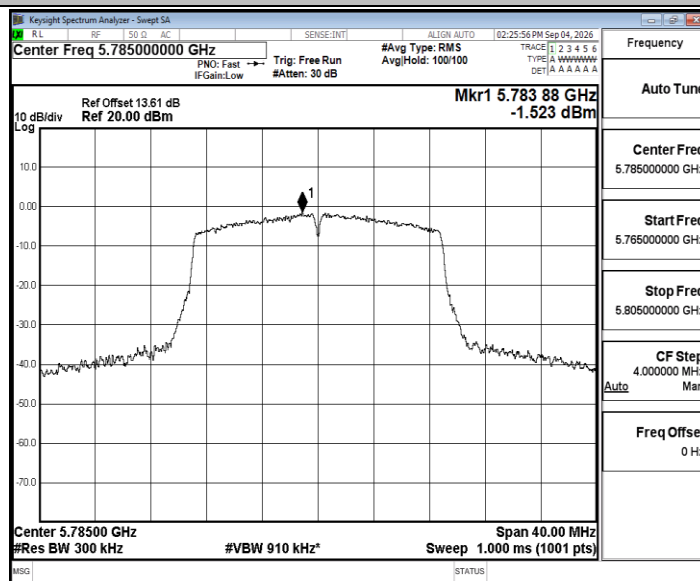
11A_Ant1_5825



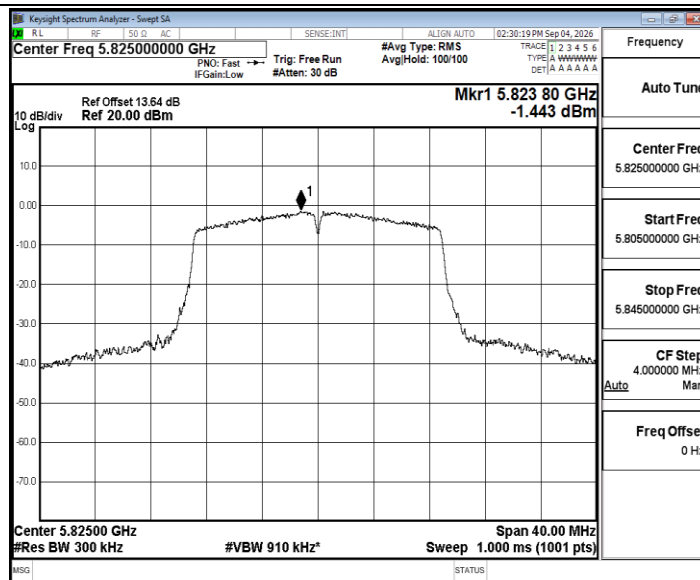
11N20SISO_Ant1_5745



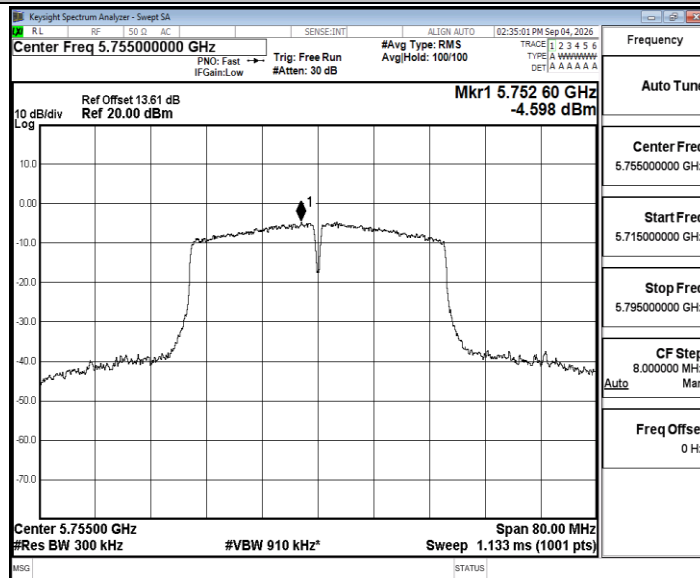
11N20SISO_Ant1_5785



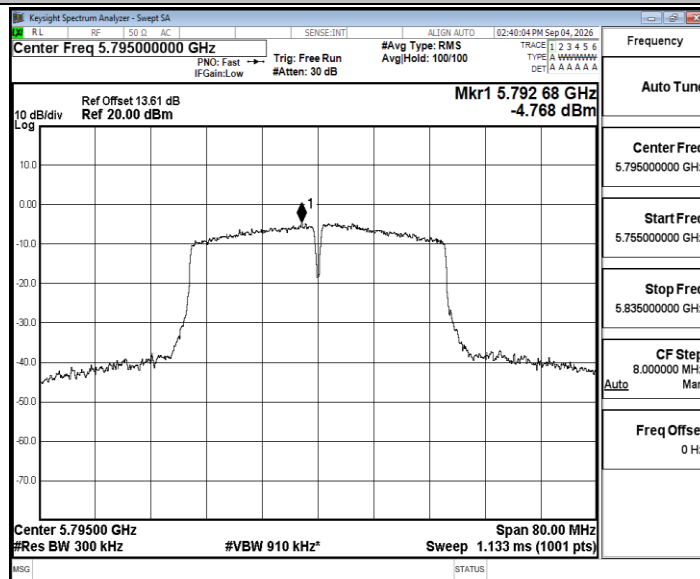
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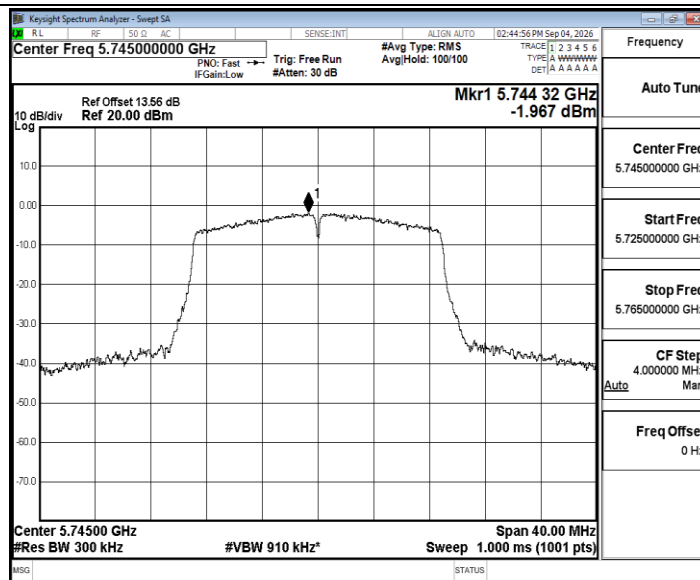
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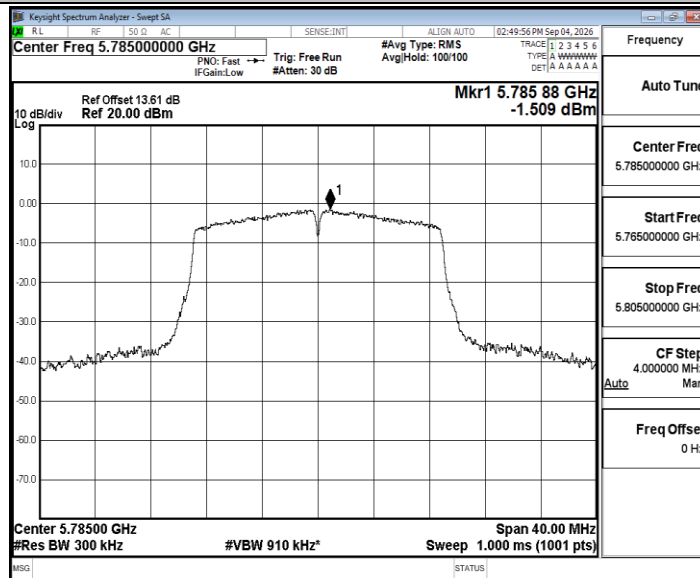
11N40SISO_Ant1_5795



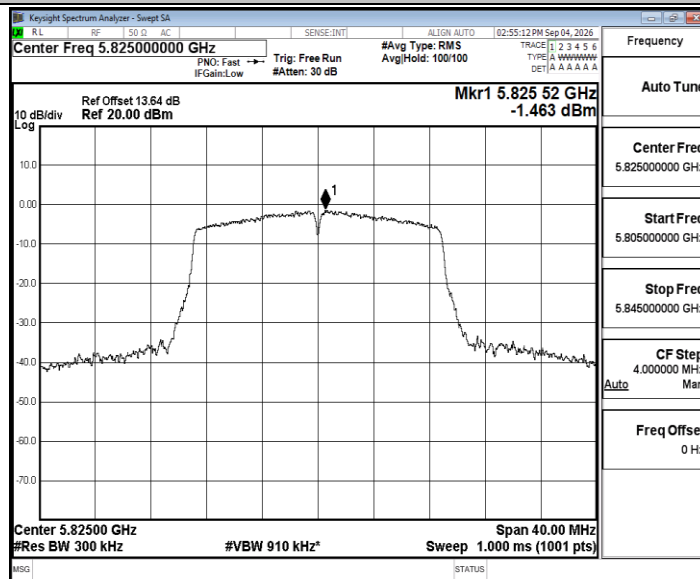
11AC20SISO_Ant1_5745



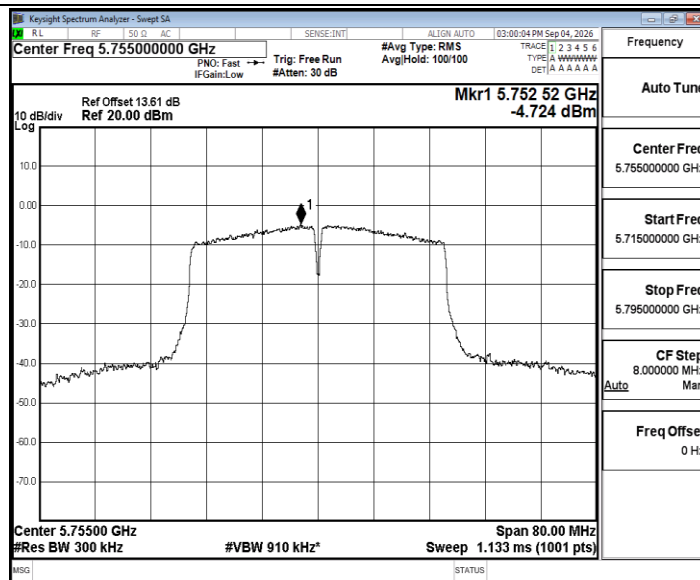
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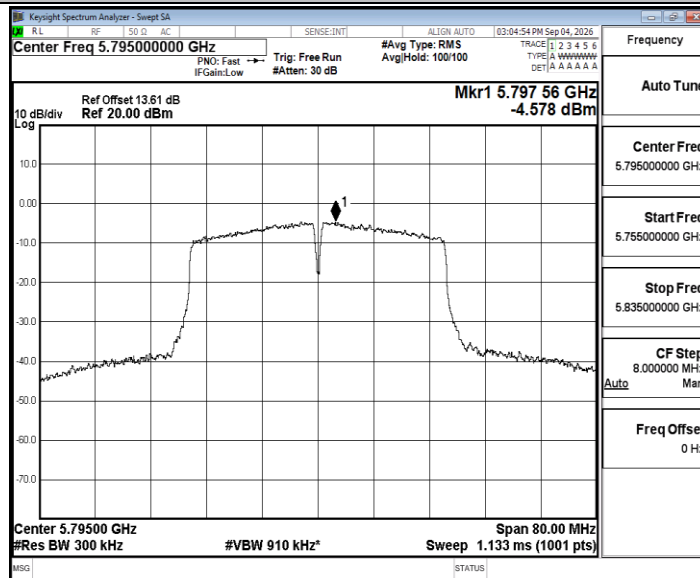
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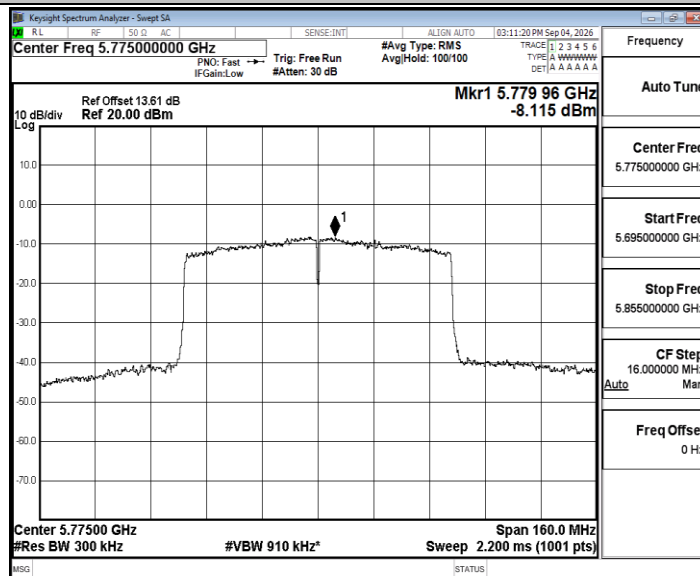
11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5775



E.4 Restrict Band

Test Result

TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm/ MHz]	Limit [dBm/MHz]	Gain [dBi]	Verdict
11A	Ant1	Low	5745	Peak	5650.000	-48.504	≤-29.00	2.00	PASS
				Peak	5700.000	-43.56	≤8.00	2.00	PASS
				Peak	5720.000	-28.92	≤13.60	2.00	PASS
				Peak	5725.000	-19.78	≤25.00	2.00	PASS
		High	5825	Peak	5850.000	-27.53	≤25.00	2.00	PASS
				Peak	5855.000	-32.23	≤13.60	2.00	PASS
				Peak	5875.000	-43.6	≤8.00	2.00	PASS
				Peak	5925.000	-46.58	≤-29.00	2.00	PASS
11N20SISO	Ant1	Low	5745	Peak	5650.000	-47.585	≤-29.00	2.00	PASS
				Peak	5700.000	-44.64	≤8.00	2.00	PASS
				Peak	5720.000	-28.04	≤13.60	2.00	PASS
				Peak	5725.000	-24.82	≤25.00	2.00	PASS
		High	5825	Peak	5850.000	-29.123	≤25.00	2.00	PASS
				Peak	5855.000	-27.67	≤13.60	2.00	PASS
				Peak	5875.000	-41.76	≤8.00	2.00	PASS
				Peak	5925.000	-48.16	≤-29.00	2.00	PASS
11N40SISO	Ant1	Low	5755	Peak	5650.000	-48.275	≤-29.00	2.00	PASS
				Peak	5700.000	-37.01	≤8.00	2.00	PASS
				Peak	5720.000	-23.51	≤13.60	2.00	PASS
				Peak	5725.000	-25.14	≤25.00	2.00	PASS
		High	5795	Peak	5850.000	-33.311	≤25.00	2.00	PASS
				Peak	5855.000	-33.67	≤13.60	2.00	PASS
				Peak	5875.000	-43.63	≤8.00	2.00	PASS
				Peak	5925.000	-48.78	≤-29.00	2.00	PASS
11AC20SISO	Ant1	Low	5745	Peak	5650.000	-48.673	≤-29.00	2.00	PASS
				Peak	5700.000	-40.74	≤8.00	2.00	PASS
				Peak	5720.000	-30.68	≤13.60	2.00	PASS
				Peak	5725.000	-20.95	≤25.00	2.00	PASS
		High	5825	Peak	5850.000	-26.846	≤25.00	2.00	PASS
				Peak	5855.000	-30.4	≤13.60	2.00	PASS
				Peak	5875.000	-43.69	≤8.00	2.00	PASS
				Peak	5925.000	-47.31	≤-29.00	2.00	PASS
11AC40SISO	Ant1	Low	5755	Peak	5650.000	-46.67	≤-29.00	2.00	PASS
				Peak	5700.000	-41.07	≤8.00	2.00	PASS
				Peak	5720.000	-25.09	≤13.60	2.00	PASS
				Peak	5725.000	-22.47	≤25.00	2.00	PASS
		High	5795	Peak	5850.000	-29.199	≤25.00	2.00	PASS
				Peak	5855.000	-36.87	≤13.60	2.00	PASS

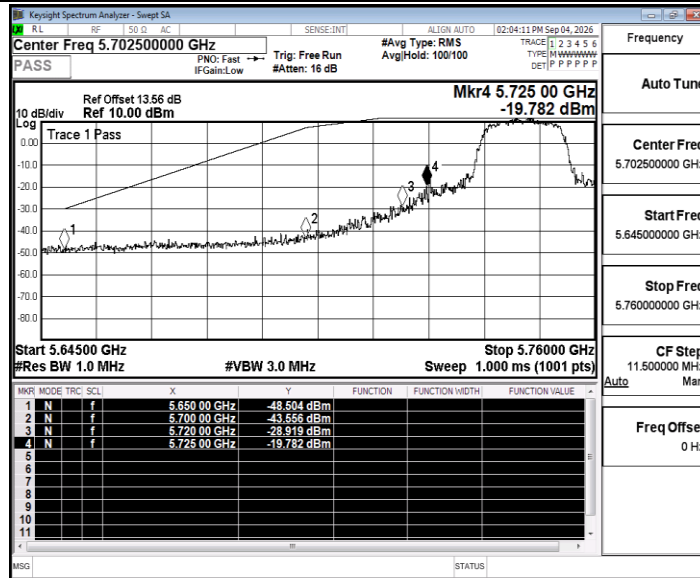
11AC80SISO	Ant1			Peak	5875.000	-42.97	≤8.00	2.00	PASS
				Peak	5925.000	-48.27	≤-29.00	2.00	PASS
		Low	5775	Peak	5650.000	-42.423	≤-29.00	2.00	PASS
				Peak	5700.000	-31.35	≤8.00	2.00	PASS
				Peak	5720.000	-21.45	≤13.60	2.00	PASS
				Peak	5725.000	-24.41	≤25.00	2.00	PASS
		High	5775	Peak	5850.000	-27.514	≤25.00	2.00	PASS
				Peak	5855.000	-27.1	≤13.60	2.00	PASS
				Peak	5875.000	-31.01	≤8.00	2.00	PASS
				Peak	5925.000	-38.36	≤-29.00	2.00	PASS

Note:

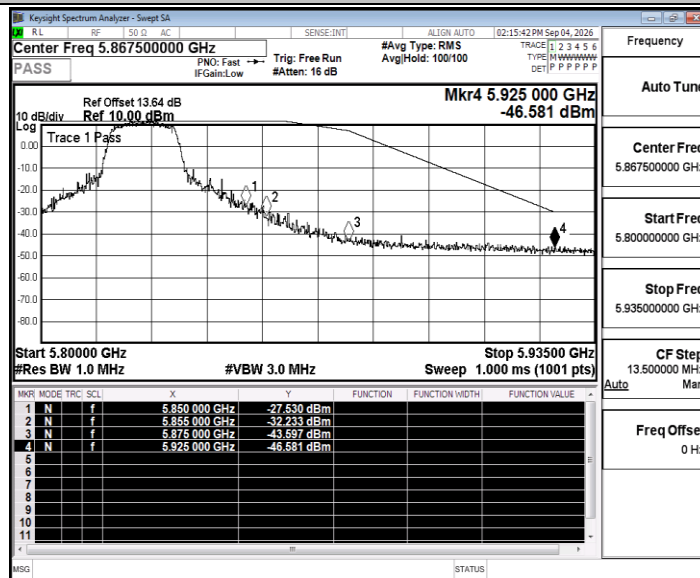
1. The Antenna Gain is compensated in the graph.

Test Graphs

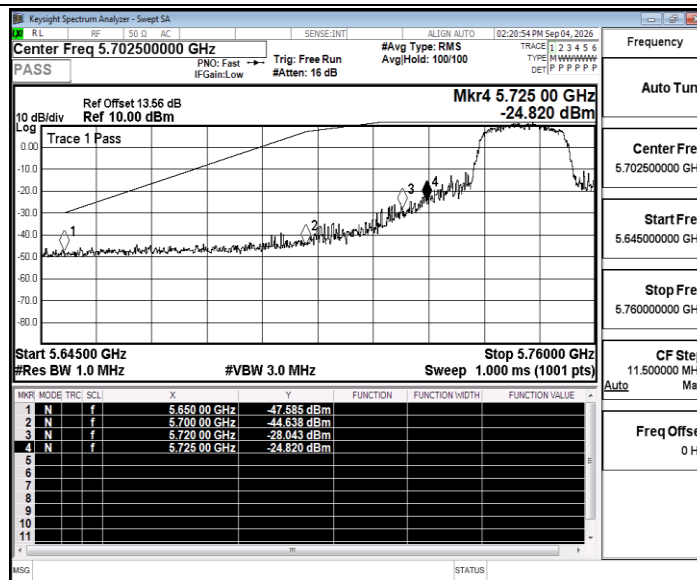
11A_Ant1_Low_5745_Peak



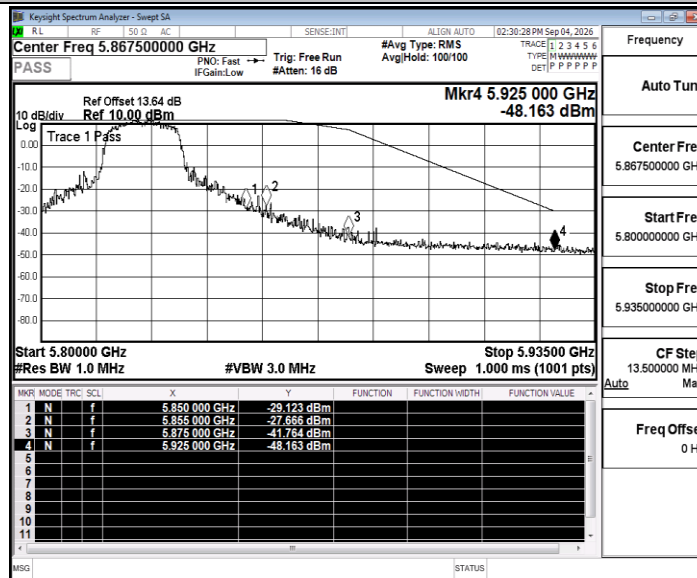
11A_Ant1_High_5825_Peak



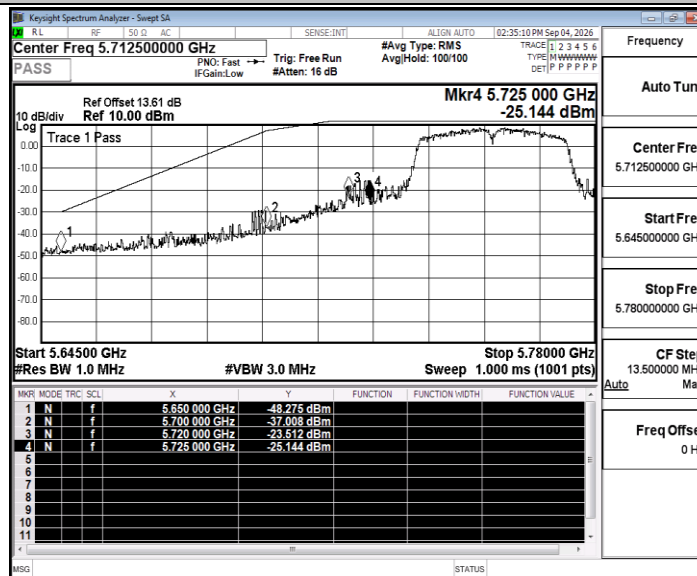
11N20SISO_Ant1_Low_5745_Peak



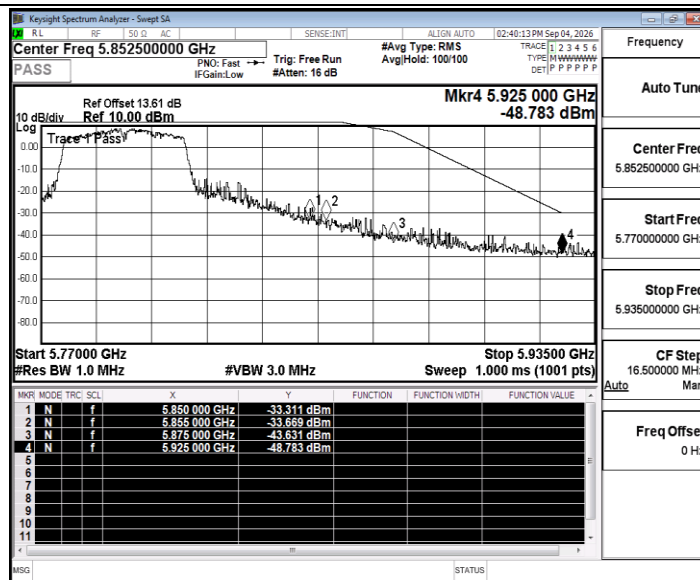
11N20SISO_Ant1_High_5825_Peak



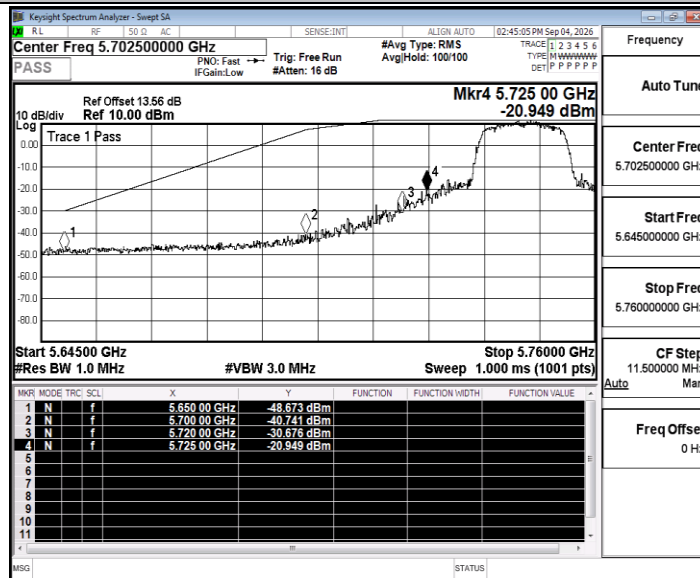
11N40SISO_Ant1_Low_5755_Peak



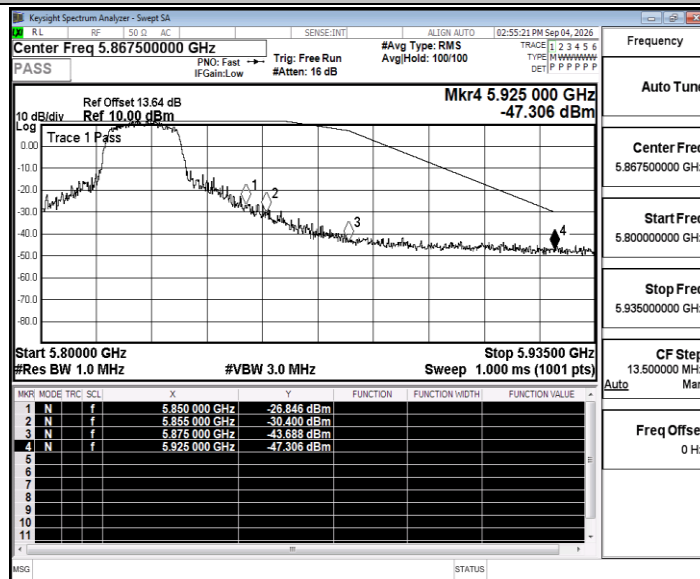
11N40SISO_Ant1_High_5795_Peak



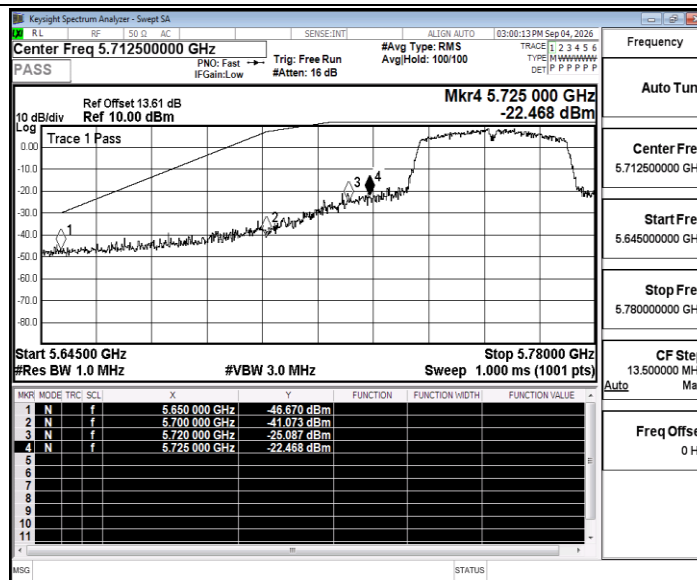
11AC20SISO_Ant1_Low_5745_Peak



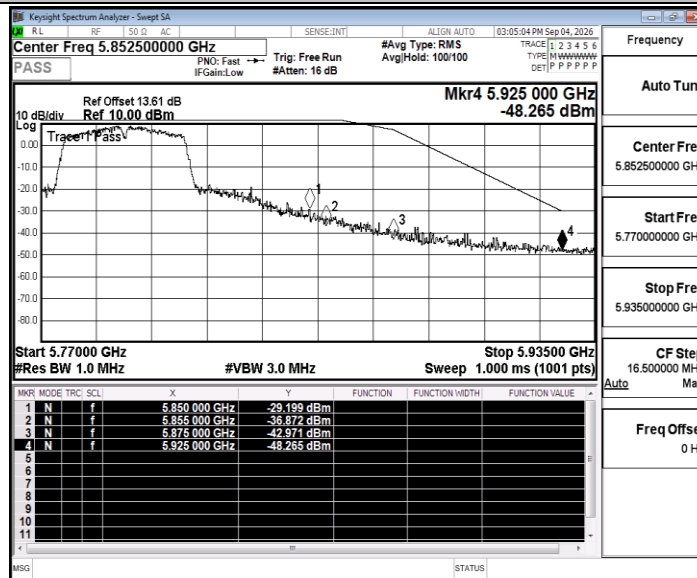
11AC20SISO_Ant1_High_5825_Peak



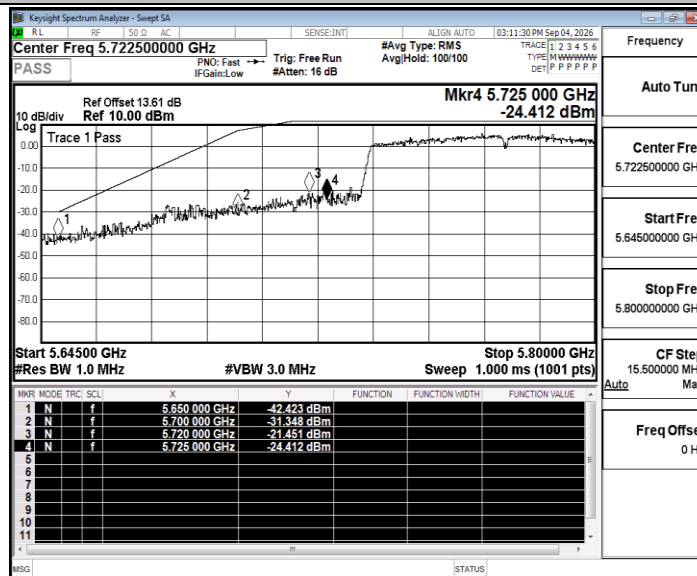
11AC40SISO_Ant1_Low_5755_Peak



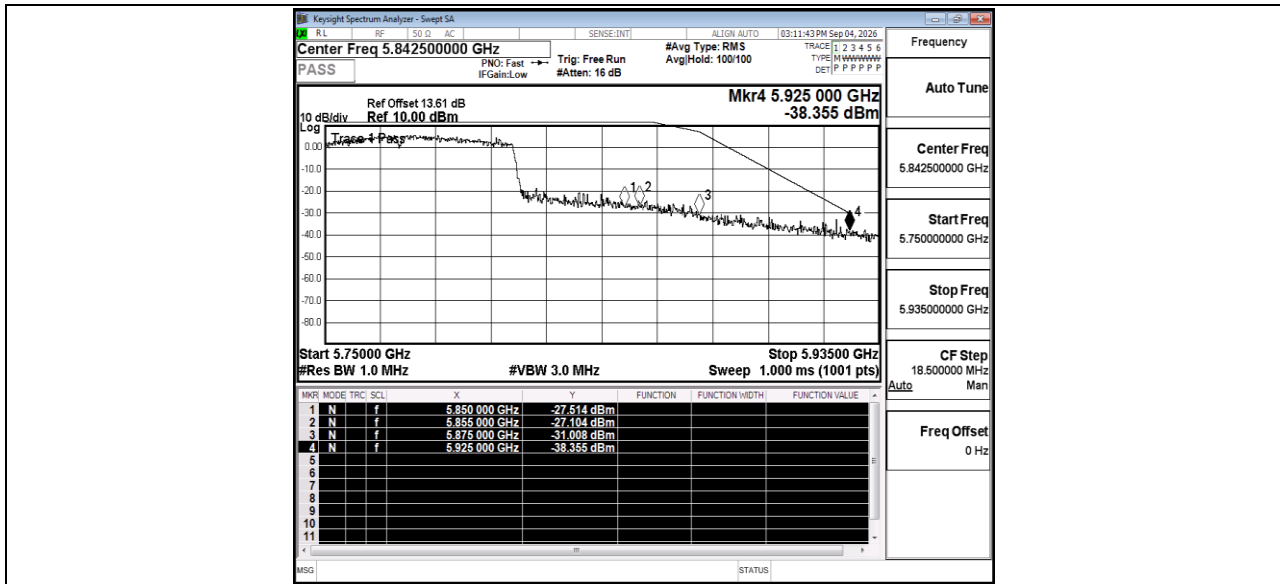
11AC40SISO_Ant1_High_5795_Peak



11AC80SISO_Ant1_Low_5775_Peak



11AC80SISO_Ant1_High_5775_Peak



E.5 Frequency Stability

Test Result

Voltage								
TestMode	Antenna	Freq(MHz)	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5745	NV	NT	-20000.00	-3.481288	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	0.00	0.000000	20	PASS
			HV	NT	-20000.00	-3.457217	20	PASS
		5825	NV	NT	-20000.00	-3.433476	20	PASS
			LV	NT	-20000.00	-3.433476	20	PASS
			HV	NT	-40000.00	-6.866953	20	PASS
11N20SISO	Ant1	5745	NV	NT	-20000.00	-3.481288	20	PASS
			LV	NT	-20000.00	-3.481288	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	-20000.00	-3.433476	20	PASS
			LV	NT	-20000.00	-3.433476	20	PASS
			HV	NT	-20000.00	-3.433476	20	PASS
11N40SISO	Ant1	5755	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5795	NV	NT	40000.00	6.902502	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	-40000.00	-6.902502	20	PASS
11AC20SISO	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	-20000.00	-3.457217	20	PASS
			LV	NT	-20000.00	-3.457217	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	-20000.00	-3.433476	20	PASS
11AC40SISO	Ant1	5755	NV	NT	-40000.00	-6.950478	20	PASS
			LV	NT	-40000.00	-6.950478	20	PASS
			HV	NT	-40000.00	-6.950478	20	PASS
		5795	NV	NT	0.00	0.000000	20	PASS

11AC80SIS O	Ant1	5775	LV	NT	-40000.00	-6.902502	20	PASS
			HV	NT	0.00	0.000000	20	PASS
			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	-20000.00	-3.481288	20	PASS
			NV	-20	-40000.00	-6.962576	20	PASS
			NV	-10	-40000.00	-6.962576	20	PASS
			NV	0	-20000.00	-3.481288	20	PASS
			NV	10	-20000.00	-3.481288	20	PASS
			NV	20	-20000.00	-3.481288	20	PASS
			NV	30	-20000.00	-3.481288	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	-20000.00	-3.481288	20	PASS
		5785	NV	-30	-20000.00	-3.457217	20	PASS
			NV	-20	-40000.00	-6.914434	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	-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	-20000.00	-3.433476	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	-20000.00	-3.433476	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	-20000.00	-3.433476	20	PASS
			NV	40	-20000.00	-3.433476	20	PASS
			NV	50	-20000.00	-3.433476	20	PASS
11N20SIS O	Ant1	5745	NV	-30	-20000.00	-3.481288	20	PASS
			NV	-20	-20000.00	-3.481288	20	PASS
			NV	-10	-20000.00	-3.481288	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	-20000.00	-3.481288	20	PASS

		5785	NV	50	-20000.00	-3.481288	20	PASS
			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	-40000.00	-6.914434	20	PASS
			NV	50	20000.00	3.457217	20	PASS
		5825	NV	-30	-20000.00	-3.433476	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	-20000.00	-3.433476	20	PASS
			NV	0	-20000.00	-3.433476	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	-20000.00	-3.433476	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	-40000.00	-6.866953	20	PASS
			NV	50	20000.00	3.433476	20	PASS
11N40SIS O	Ant1	5755	NV	-30	0.00	0.000000	20	PASS
			NV	-20	-40000.00	-6.950478	20	PASS
			NV	-10	40000.00	6.950478	20	PASS
			NV	0	40000.00	6.950478	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	-40000.00	-6.950478	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
		5795	NV	-30	0.00	0.000000	20	PASS
			NV	-20	-40000.00	-6.902502	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	-40000.00	-6.902502	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
11AC20SIS O	Ant1	5745	NV	-30	-20000.00	-3.481288	20	PASS
			NV	-20	-20000.00	-3.481288	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	-3.481288	20	PASS
			NV	30	-20000.00	-3.481288	20	PASS

			NV	40	-20000.00	-3.481288	20	PASS
			NV	50	-20000.00	-3.481288	20	PASS
		5785	NV	-30	-20000.00	-3.457217	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	0.00	0.000000	20	PASS
			NV	20	-20000.00	-3.457217	20	PASS
			NV	30	-20000.00	-3.457217	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	-20000.00	-3.457217	20	PASS
		5825	NV	-30	-20000.00	-3.433476	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	-20000.00	-3.433476	20	PASS
			NV	40	-20000.00	-3.433476	20	PASS
			NV	50	-20000.00	-3.433476	20	PASS
11AC40SIS O	Ant1	5755	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	-40000.00	-6.950478	20	PASS
			NV	40	-40000.00	-6.950478	20	PASS
		5795	NV	50	0.00	0.000000	20	PASS
			NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	-40000.00	-6.902502	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	-6.902502	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
11AC80SIS O	Ant1	5775	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	-80000.00	-13.852814	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

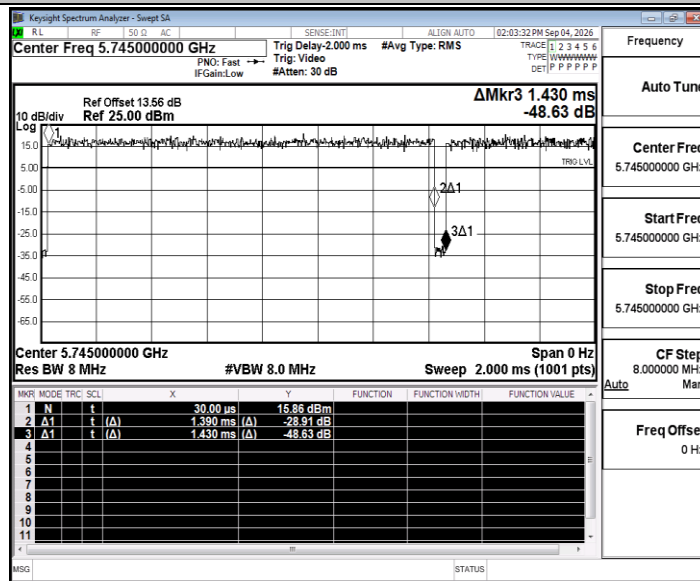
E.6 Duty Cycle

Test Result

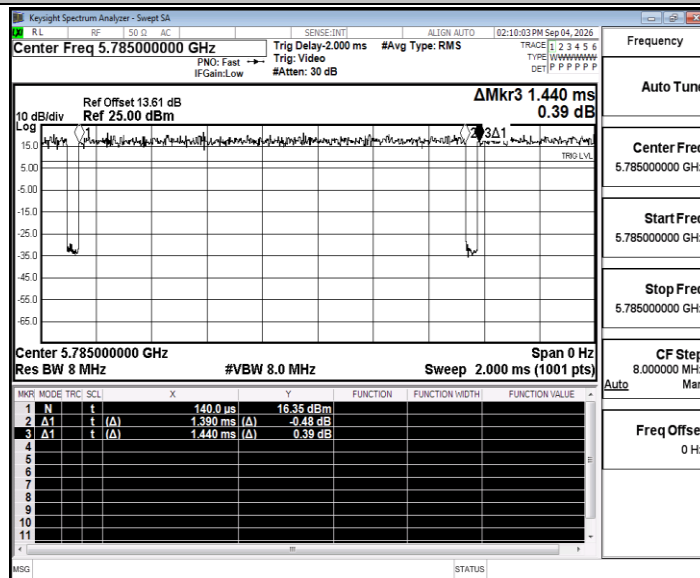
TestMode	Antenna	Freq(MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	DC Factor	Limit	Verdict
11A	Ant1	5745	1.39	1.43	97.20	0.12	---	---
		5785	1.39	1.44	96.53	0.15	---	---
		5825	1.39	1.44	96.53	0.15	---	---
11N20SISO	Ant1	5745	1.30	1.34	97.01	0.13	---	---
		5785	1.30	1.34	97.01	0.13	---	---
		5825	1.30	1.34	97.01	0.13	---	---
11N40SISO	Ant1	5755	0.65	0.69	94.20	0.26	---	---
		5795	0.65	0.70	92.86	0.32	---	---
11AC20SISO	Ant1	5745	1.31	1.36	96.32	0.16	---	---
		5785	1.31	1.36	96.32	0.16	---	---
		5825	1.31	1.36	96.32	0.16	---	---
11AC40SISO	Ant1	5755	0.65	0.69	94.20	0.26	---	---
		5795	0.66	0.70	94.29	0.26	---	---
11AC80SISO	Ant1	5775	0.32	0.36	88.89	0.51	---	---

Test Graphs

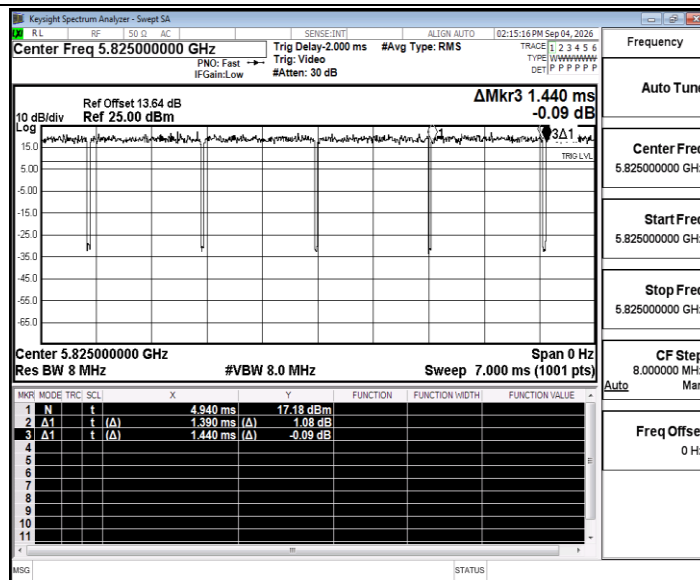
11A_Ant1_5745



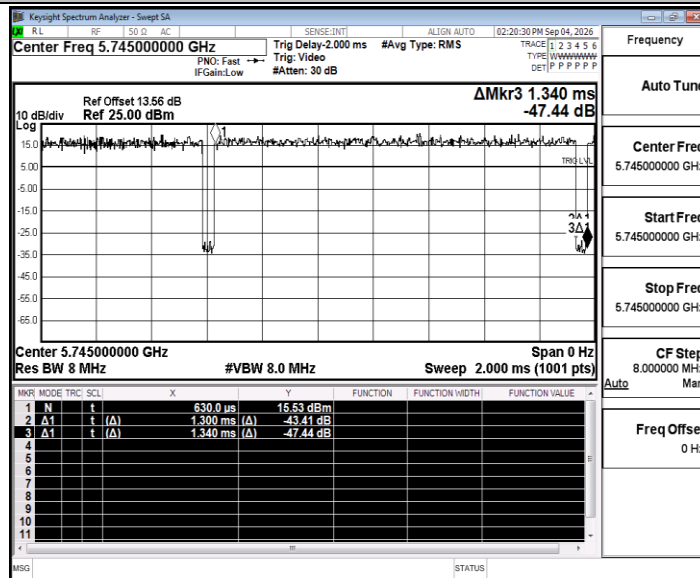
11A_Ant1_5785



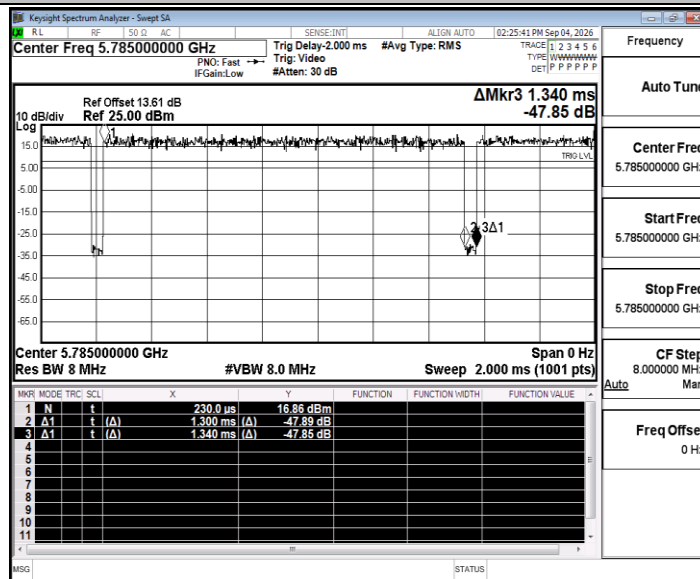
11A_Ant1_5825



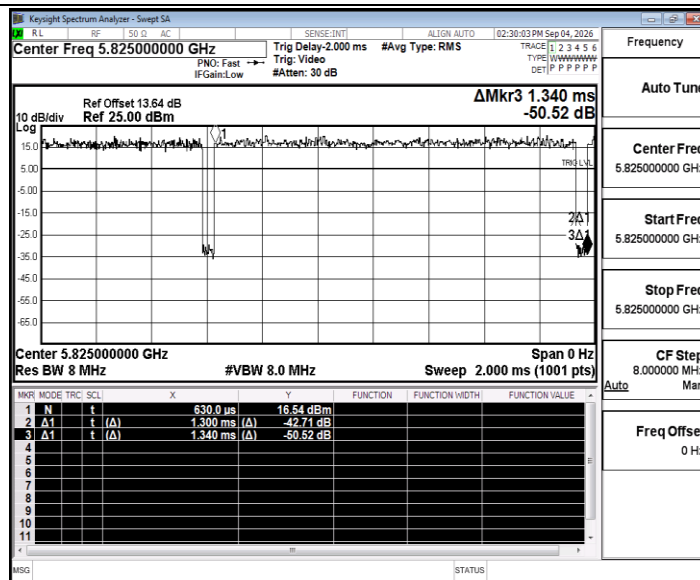
11N20SISO_Ant1_5745



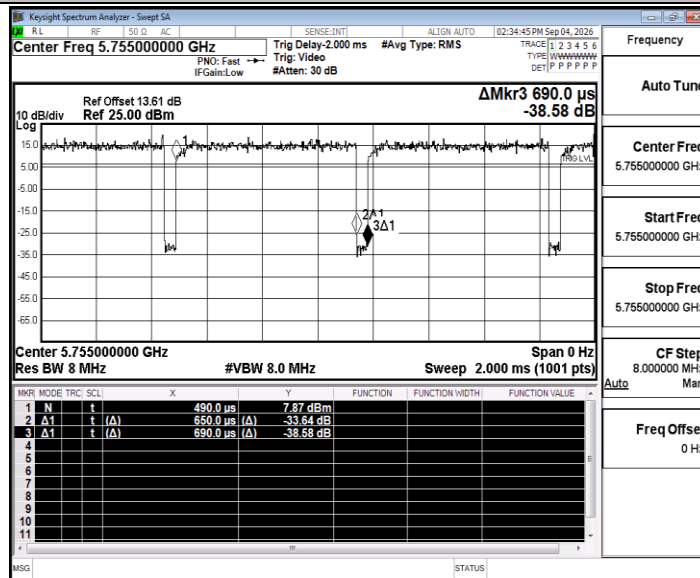
11N20SISO_Ant1_5785



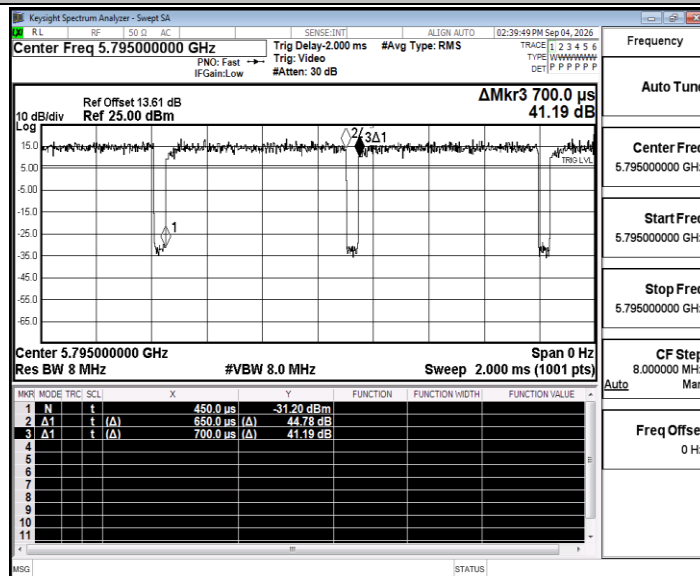
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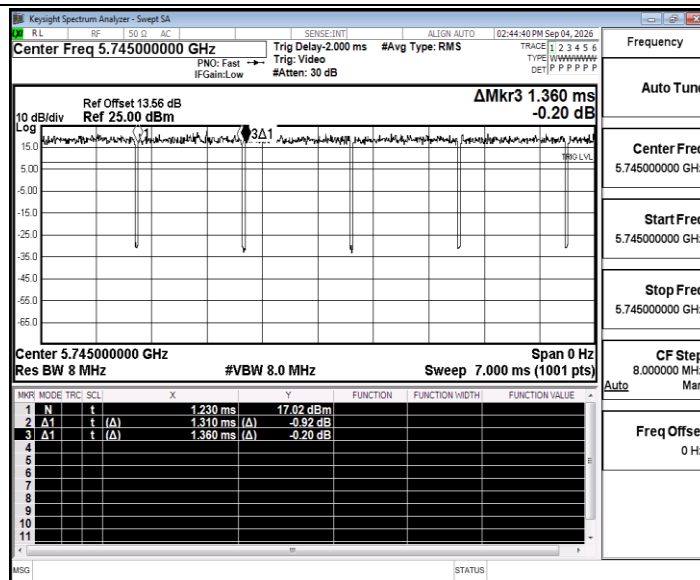
11N40SISO_Ant1_5755



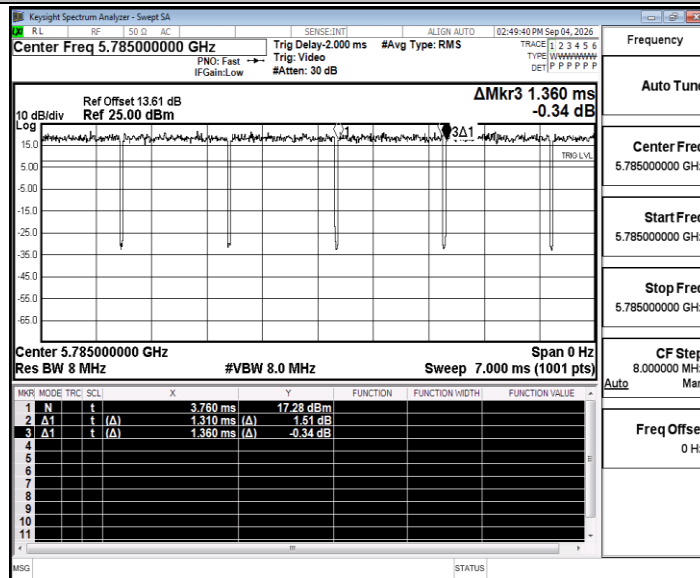
11N40SISO_Ant1_5795



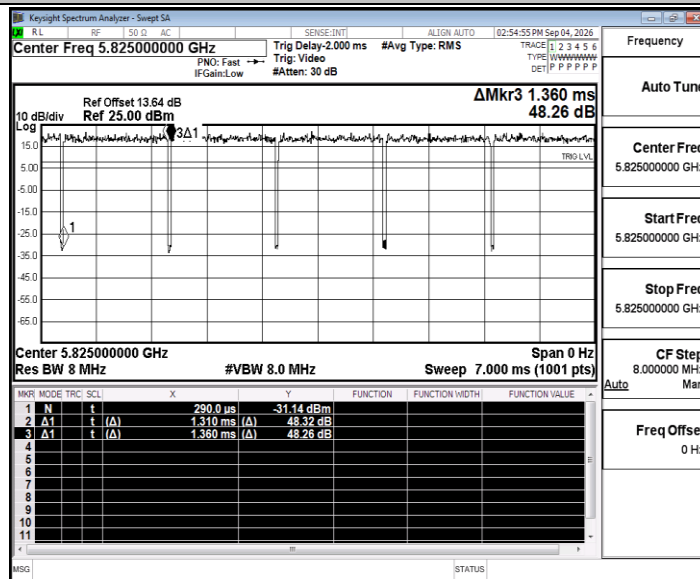
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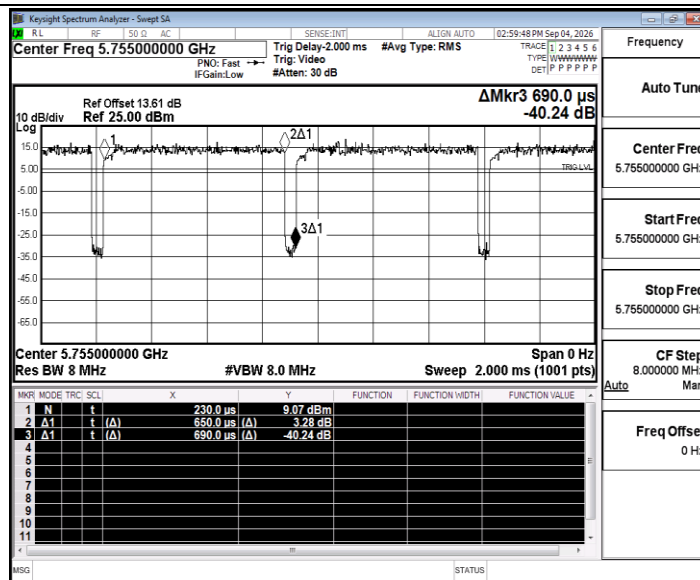
11AC20SISO_Ant1_5785



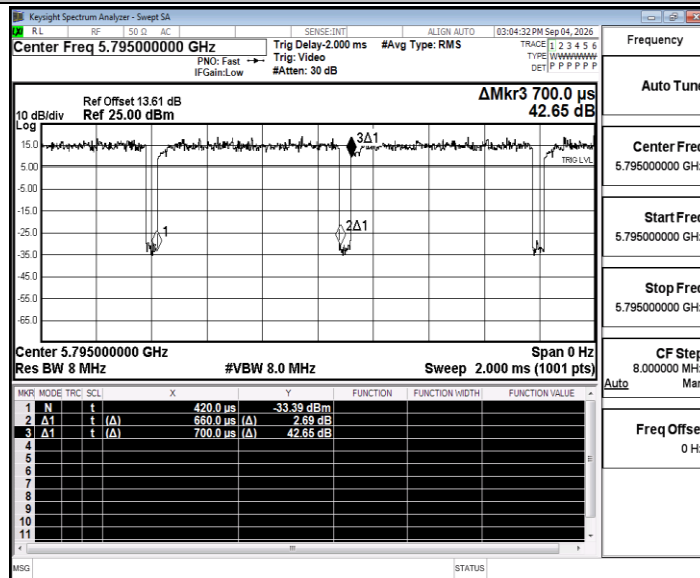
11AC20SISO_Ant1_5825



11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5775

