



Appendix D

RF Test Data for 5.8GWIFI (Conducted Measurement)

Product Name: Light Quadcopter UAV

Test Model: S220 Pro

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jose Zhu
Supervised by:	Nick Peng



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Scan code to check authenticity



D.1 -6dB Bandwidth

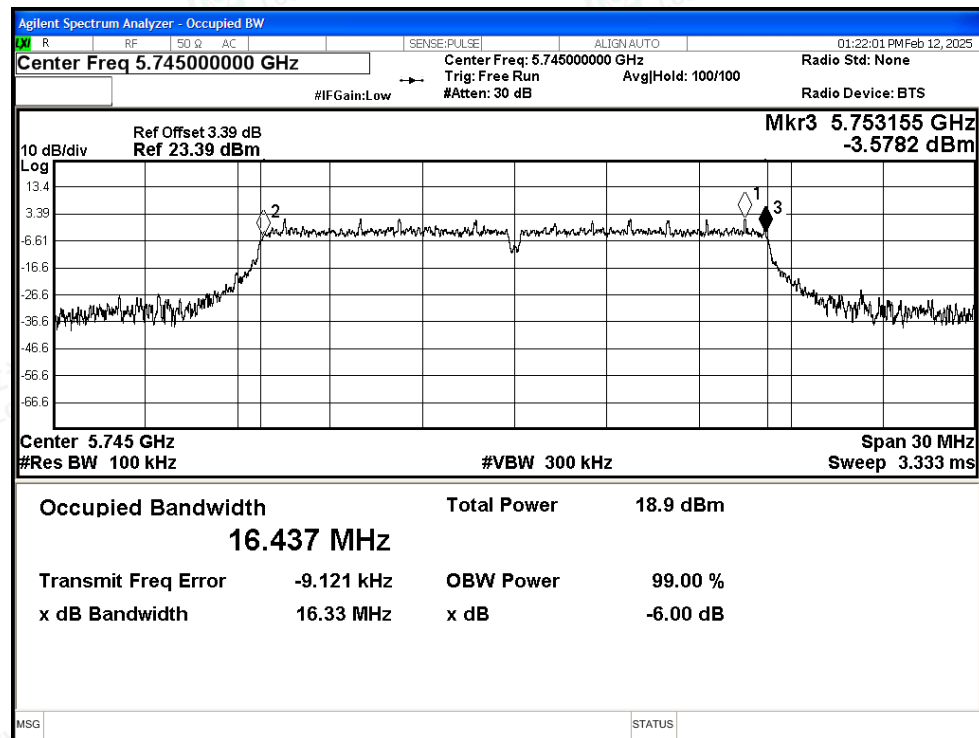
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	Ant1	16.328	≥ 0.5	Pass
NVNT	n20	5745	Ant1	17.392	≥ 0.5	Pass
NVNT	ac20	5745	Ant1	17.291	≥ 0.5	Pass
NVNT	ax20	5745	Ant1	17.576	≥ 0.5	Pass



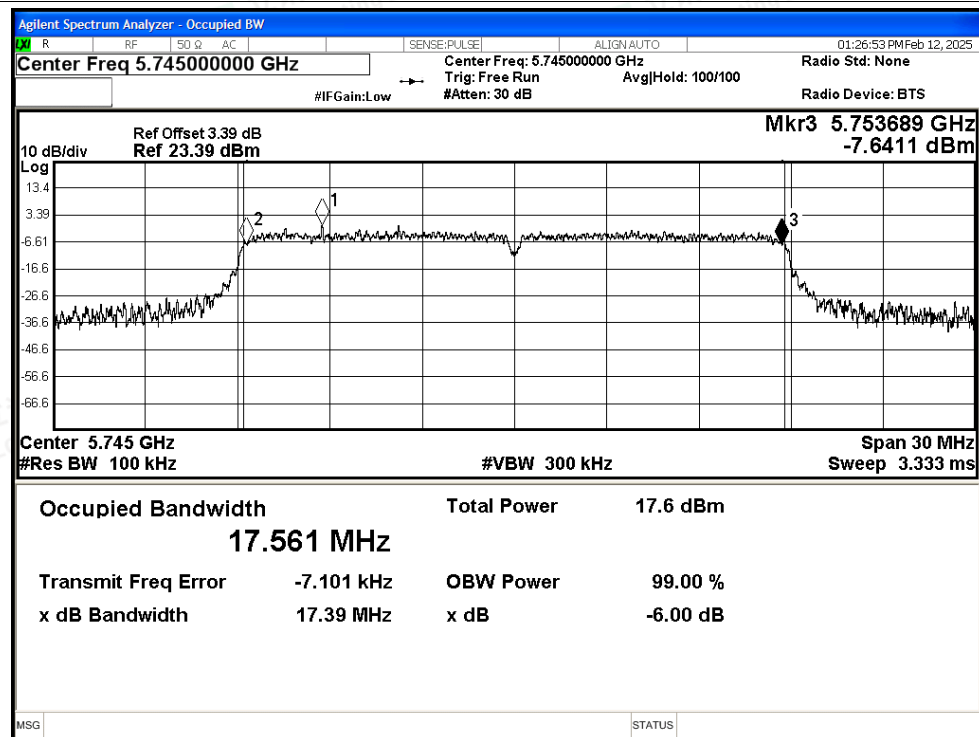


Test Graphs

-6dB Bandwidth NVNT a 5745MHz Ant1

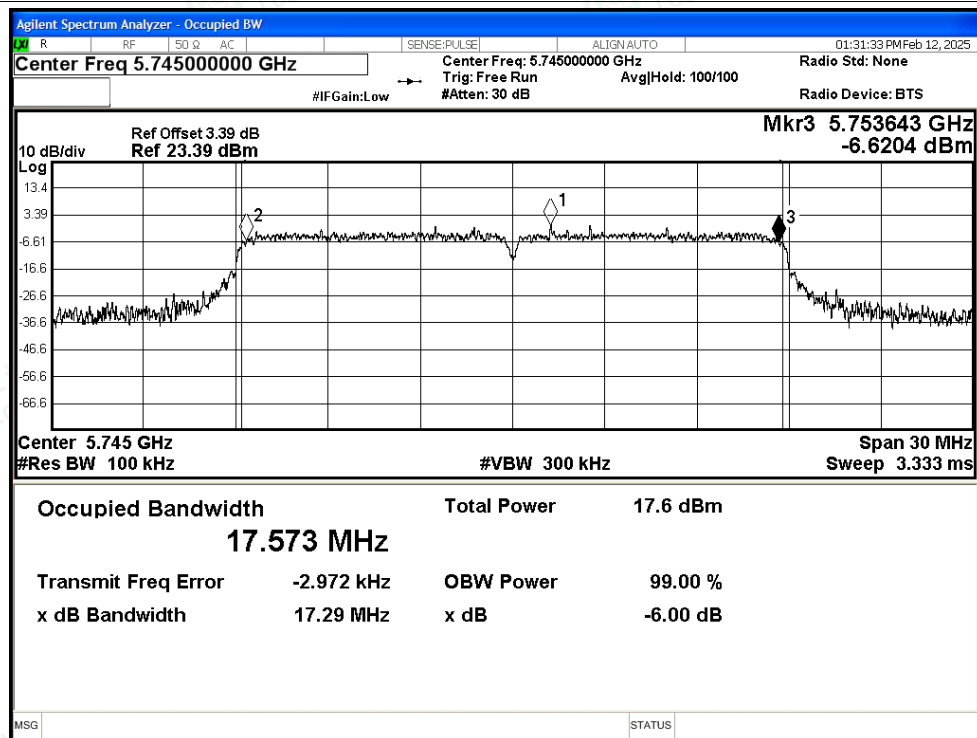


-6dB Bandwidth NVNT n20 5745MHz Ant1

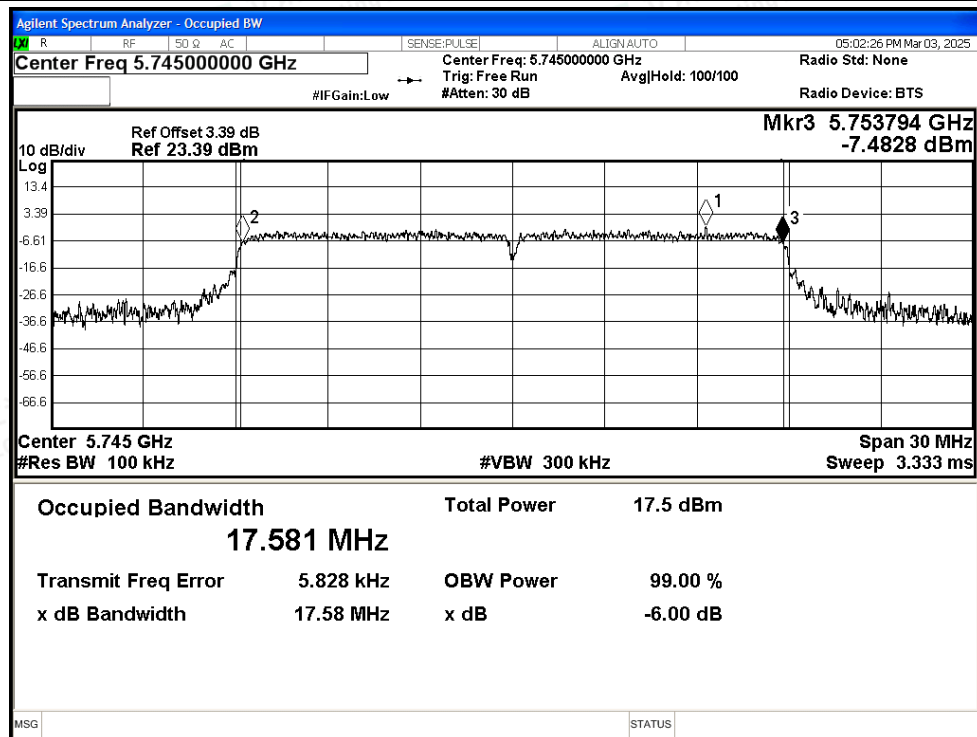




-6dB Bandwidth NVNT ac20 5745MHz Ant1



-6dB Bandwidth NVNT ax20 5745MHz Ant1



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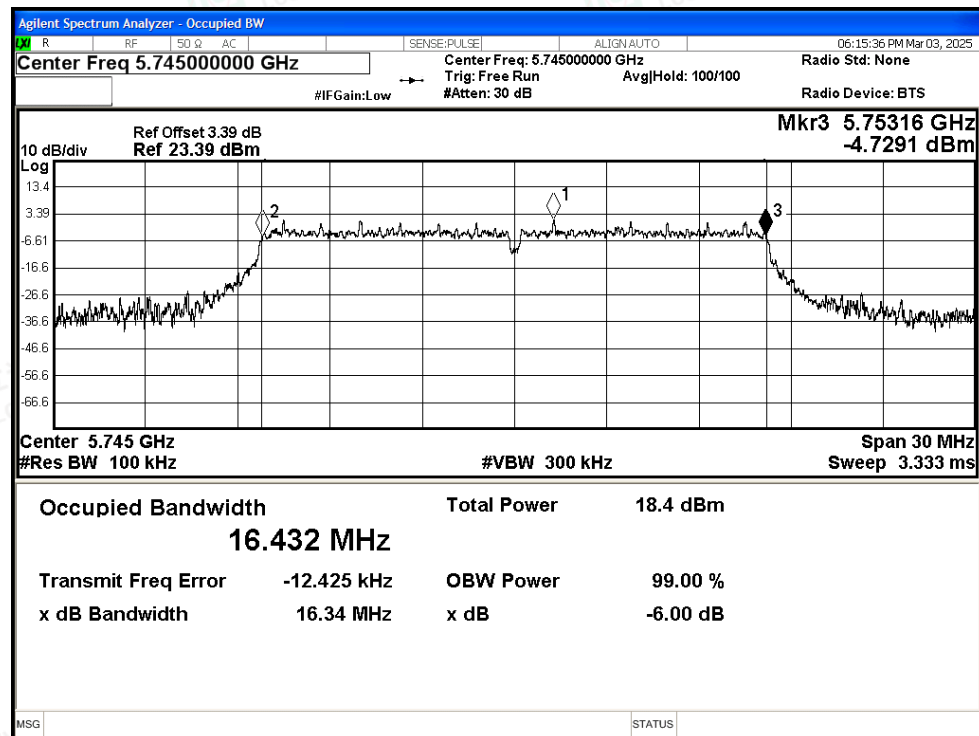
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	Ant2	16.344	≥ 0.5	Pass
NVNT	n20	5745	Ant2	17.549	≥ 0.5	Pass
NVNT	ac20	5745	Ant2	17.543	≥ 0.5	Pass
NVNT	ax20	5745	Ant2	17.561	≥ 0.5	Pass



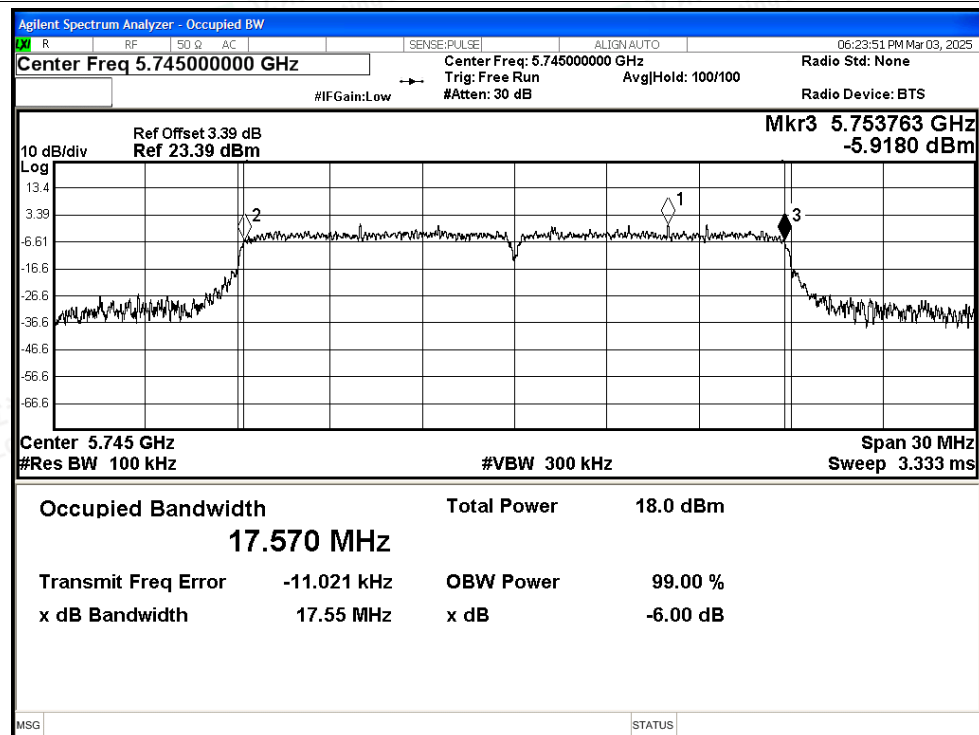


Test Graphs

-6dB Bandwidth NVNT a 5745MHz Ant2

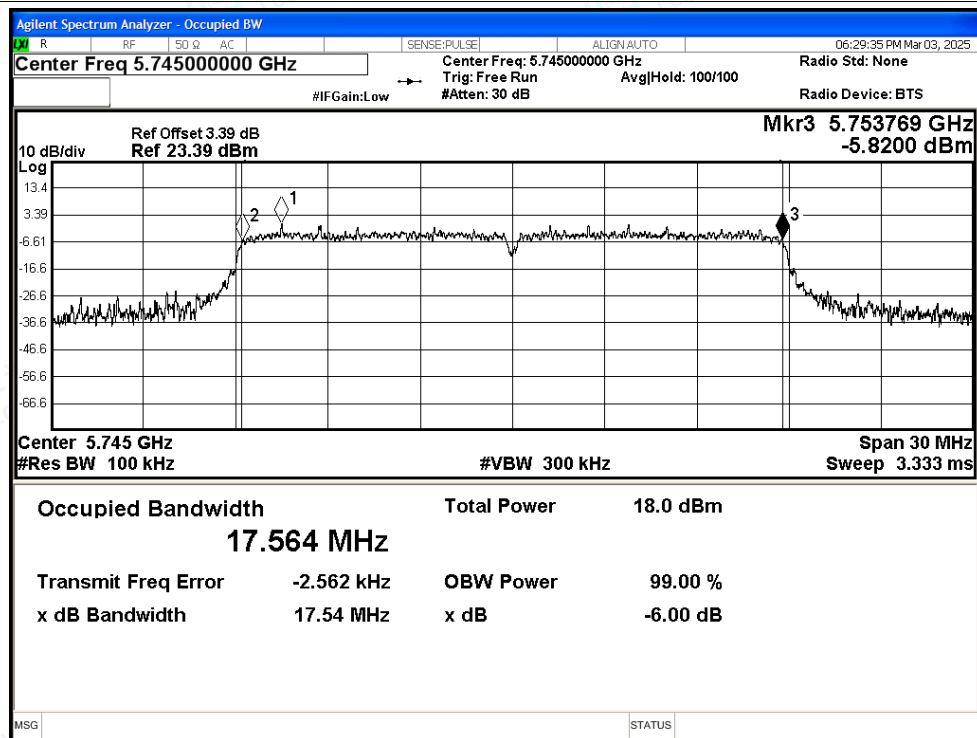


-6dB Bandwidth NVNT n20 5745MHz Ant2

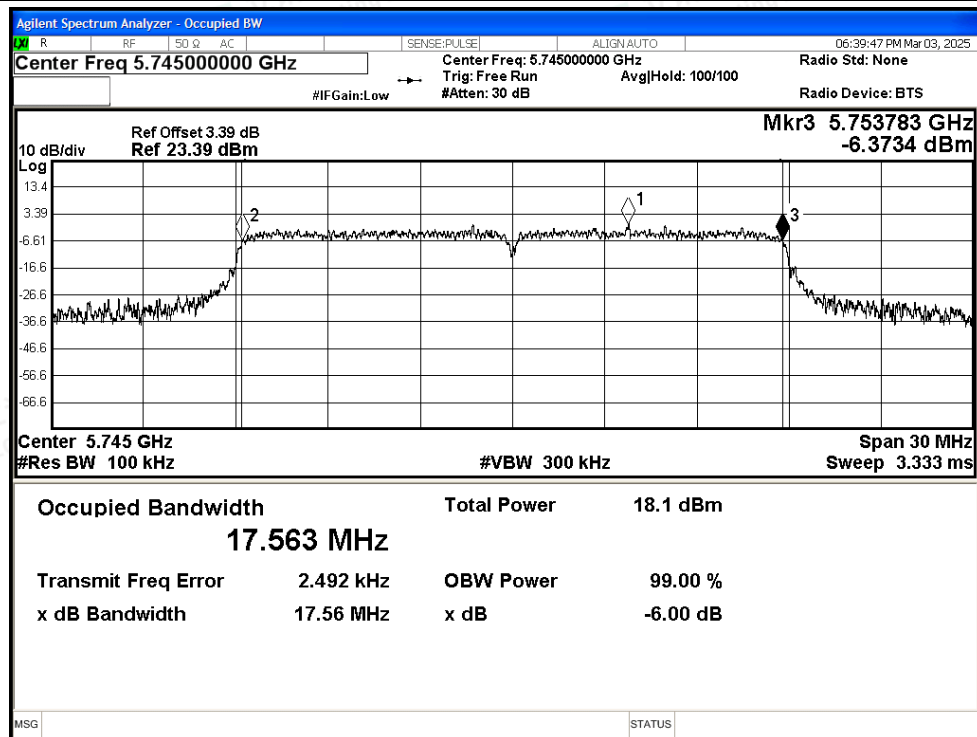




-6dB Bandwidth NVNT ac20 5745MHz Ant2



-6dB Bandwidth NVNT ax20 5745MHz Ant2





D.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	12.88	0.24	13.12	30	Pass
NVNT	n20	5745	Ant1	11.35	0.12	11.47	30	Pass
NVNT	ac20	5745	Ant1	11.42	0.12	11.54	30	Pass
NVNT	ax20	5745	Ant1	11.49	0.12	11.61	30	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant2	12.3	0.24	12.54	30	Pass
NVNT	n20	5745	Ant2	11.88	0.12	12	30	Pass
NVNT	ac20	5745	Ant2	11.81	0.12	11.93	30	Pass
NVNT	ax20	5745	Ant2	11.85	0.12	11.97	30	Pass

MIMO

Condition	Mode	Frequency (MHz)	Antenna			Limit (dBm)	Verdict
			Ant1	Ant2	Ant1+Ant2		
NVNT	n20	5745	11.47	12	14.75	30	Pass
NVNT	ac20	5745	11.54	11.93	14.75	30	Pass
NVNT	ax20	5745	11.61	11.97	14.80	30	Pass





D.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD(dBm/500KHz)	Duty Factor (dB)	Total PSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
NVNT	a	5745	Ant1	-0.67	0.24	-0.43	30	Pass
NVNT	n20	5745	Ant1	-2.63	0.12	-2.51	30	Pass
NVNT	ac20	5745	Ant1	-2.49	0.12	-2.37	30	Pass
NVNT	ax20	5745	Ant1	-2.46	0.12	-2.34	30	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant2	-1.3	0.24	-1.06	30	Pass
NVNT	n20	5745	Ant2	-1.91	0.12	-1.79	30	Pass
NVNT	ac20	5745	Ant2	-1.87	0.12	-1.75	30	Pass
NVNT	ax20	5745	Ant2	-2.08	0.12	-1.96	30	Pass

MIMO

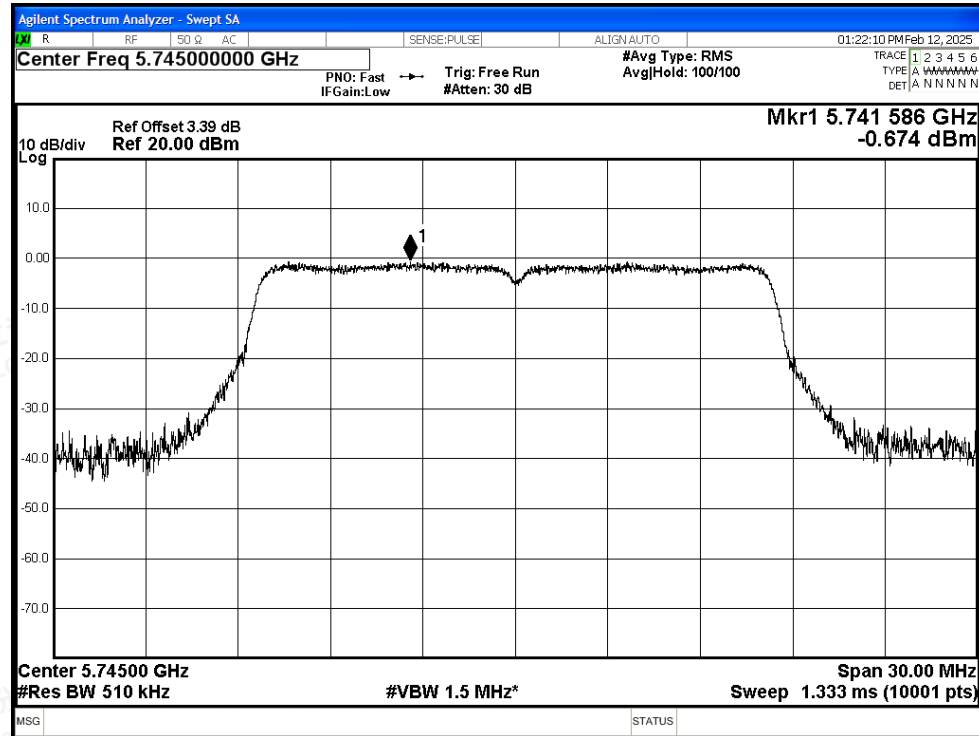
Condition	Mode	Frequency (MHz)	Total PSD (dBm/500KHz)			Limit (dBm/500KHz)	Verdict
			Ant1	Ant2	Ant1+Ant2		
NVNT	n20	5745	-2.51	-1.79	0.88	28.98	Pass
NVNT	ac20	5745	-2.37	-1.75	0.96	28.98	Pass
NVNT	ax20	5745	-2.34	-1.96	0.86	28.98	Pass



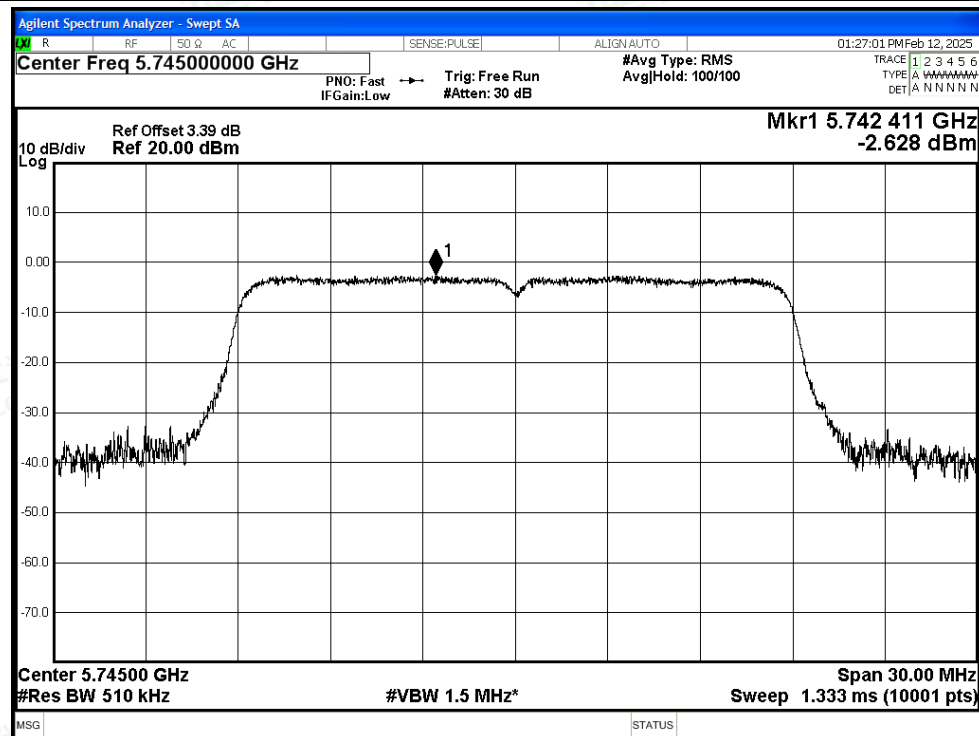


Test Graphs

PSD NVNT a 5745MHz Ant1

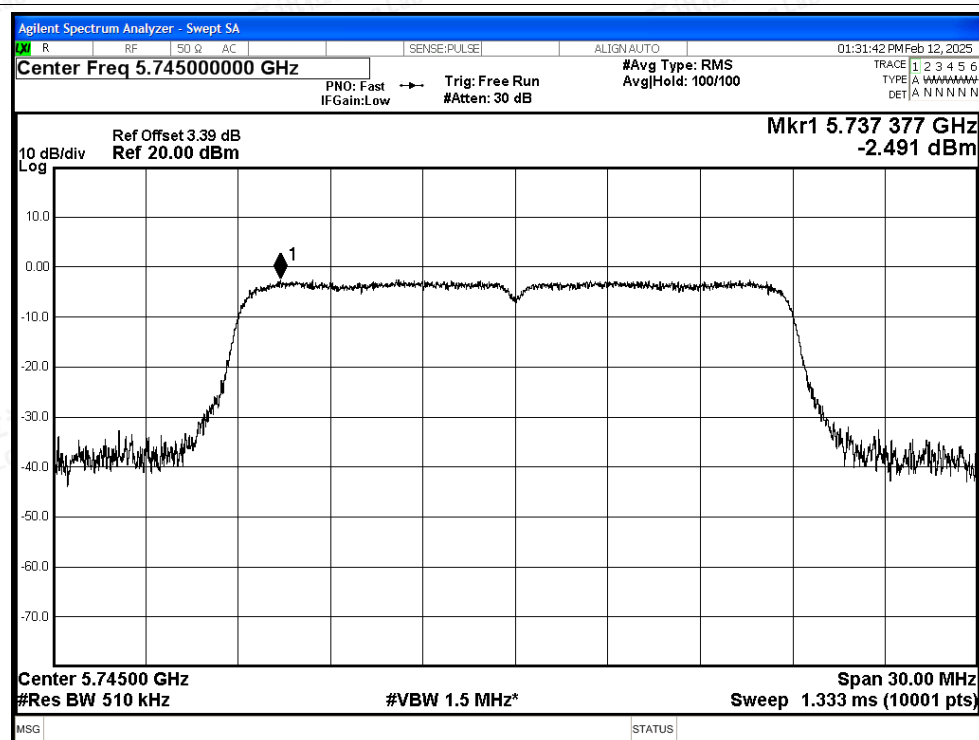


PSD NVNT n20 5745MHz Ant1

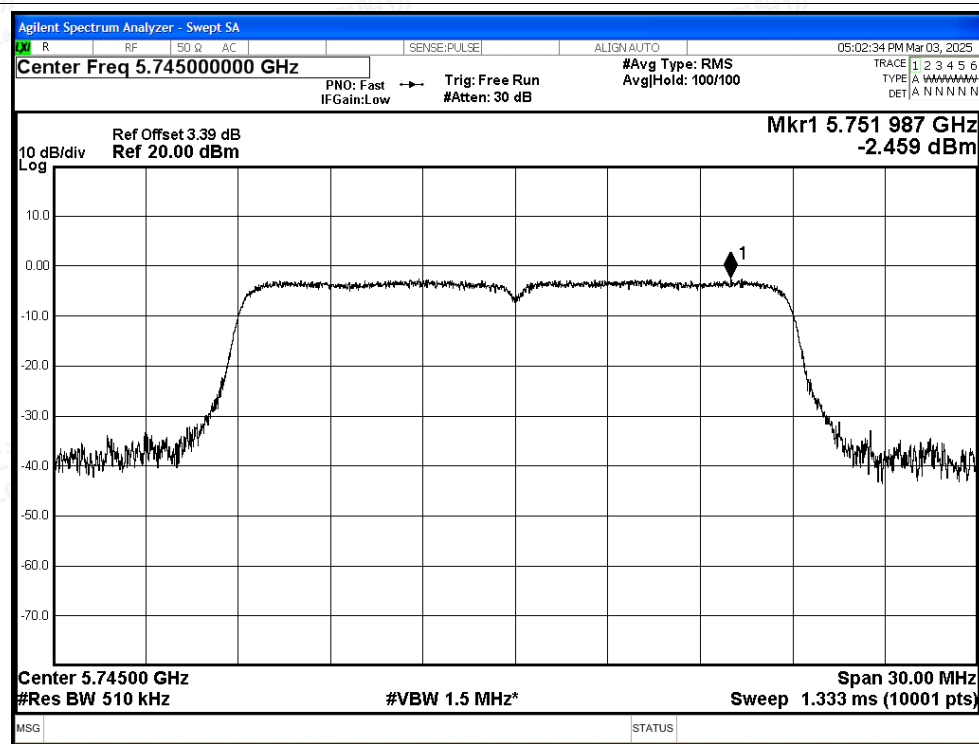




PSD NVNT ac20 5745MHz Ant1



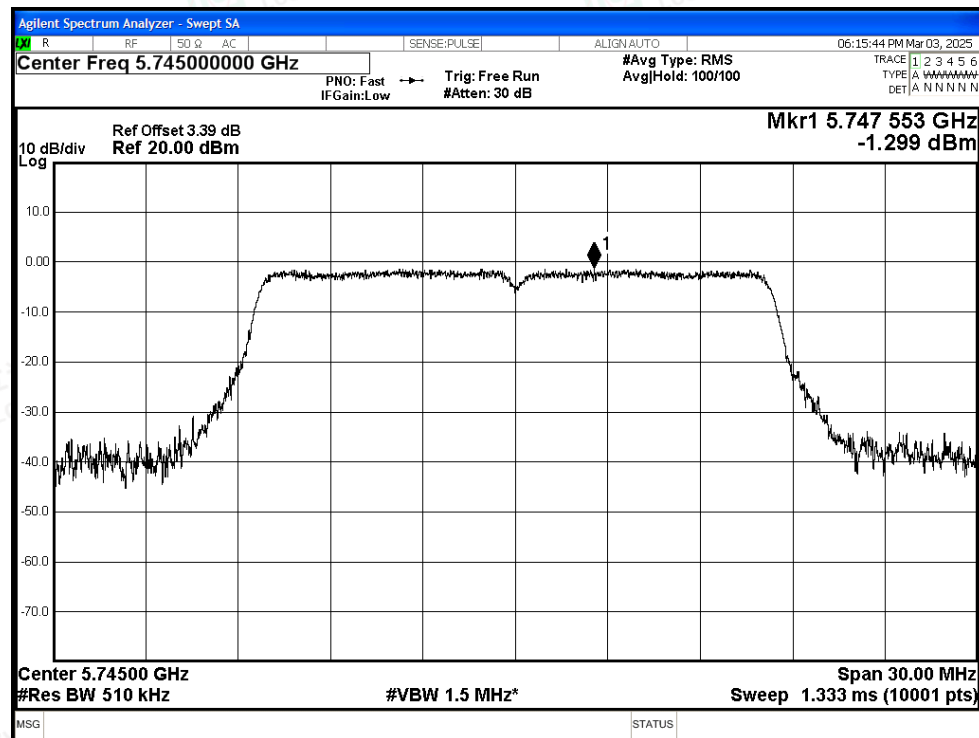
PSD NVNT ax20 5745MHz Ant1



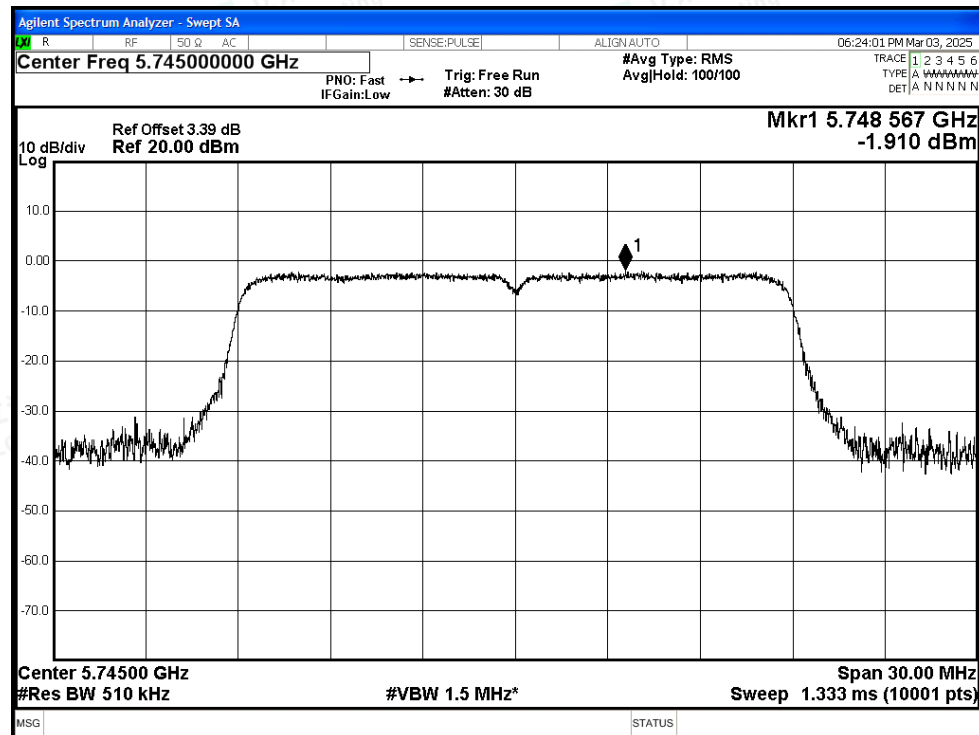


Test Graphs

PSD NVNT a 5745MHz Ant2

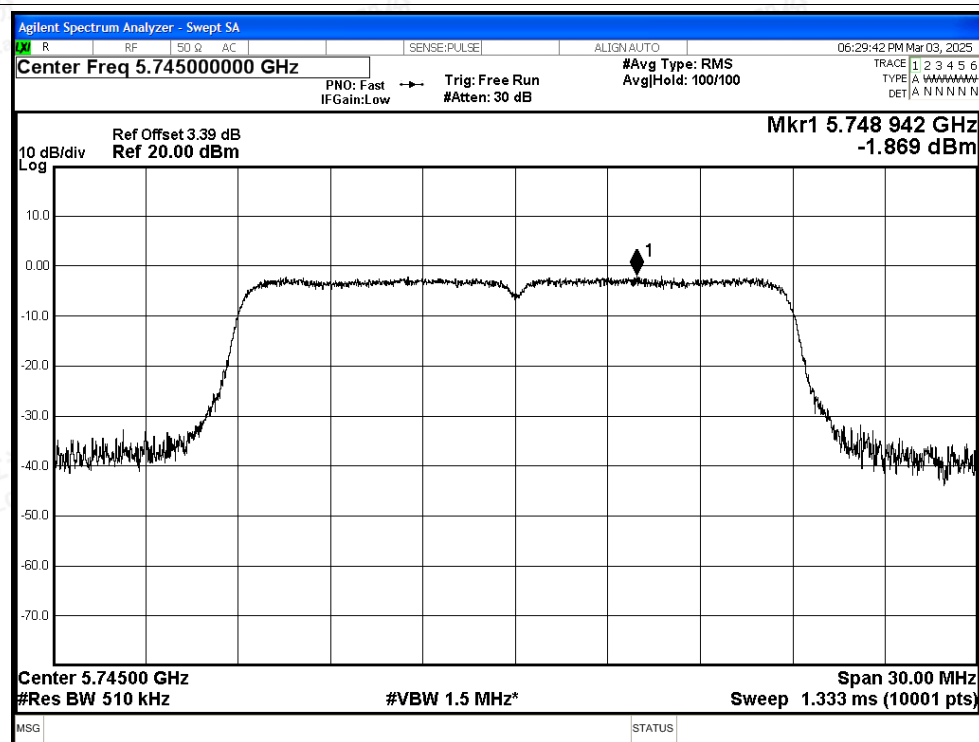


PSD NVNT n20 5745MHz Ant2

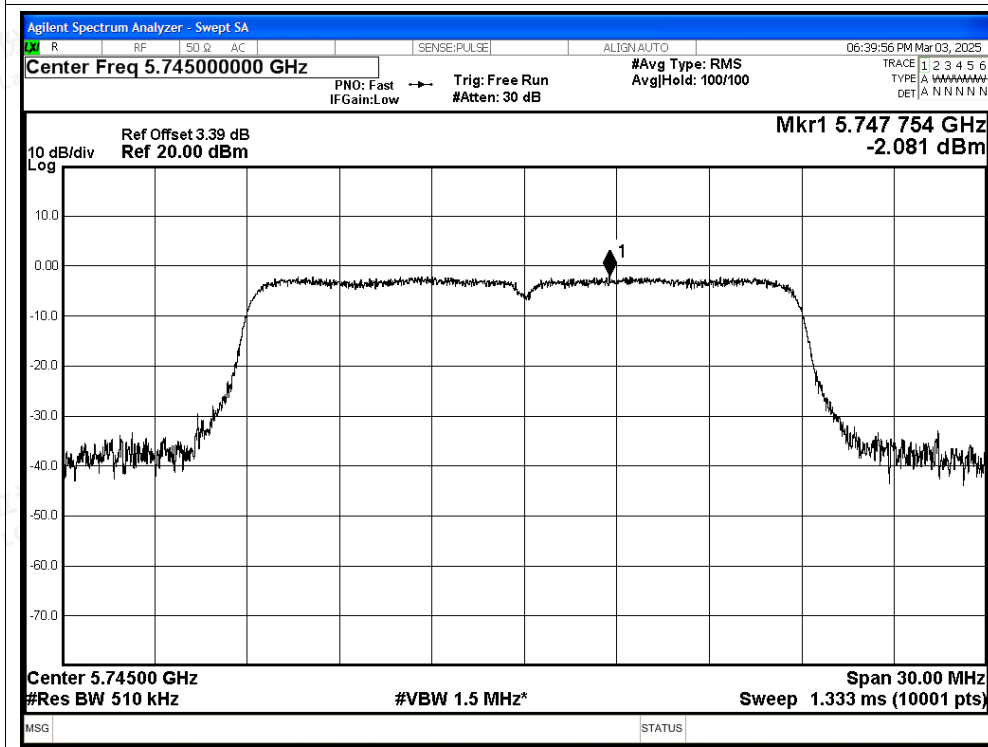


PSD NVNT ac20 5745MHz Ant2





PSD NVNT ax20 5745MHz Ant2





D.4 Restrict Band

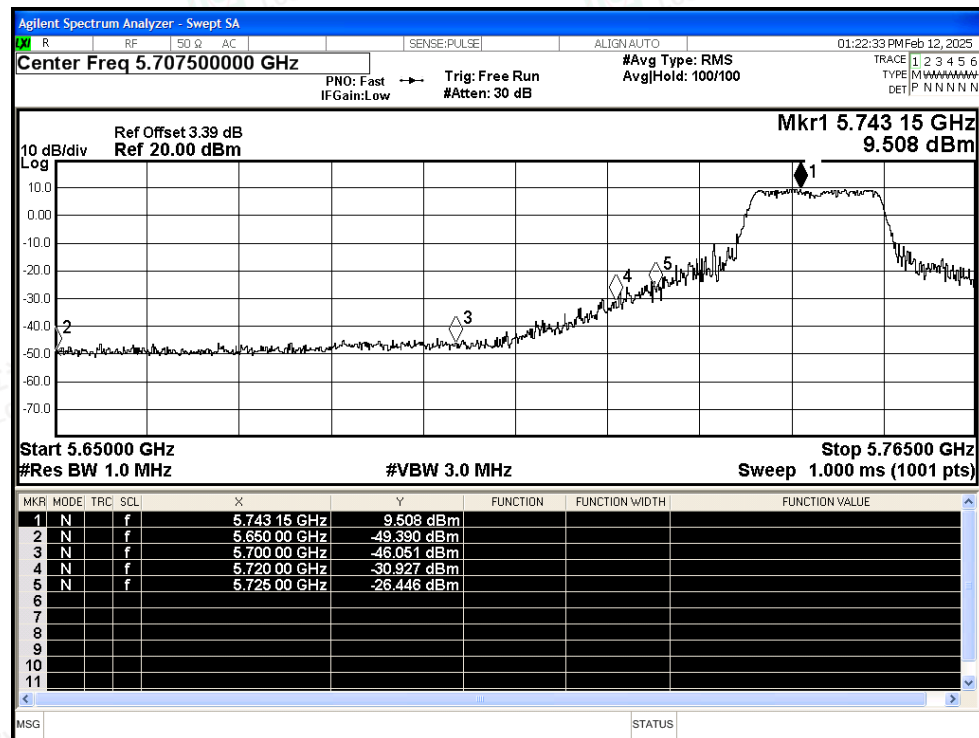
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	EIRP Power (dBm)	Detector	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	5650	-49.39	3.96	-	-45.43	Peak	-27	Pass
NVNT	a	5745	Ant1	5650	-57.04	3.96	0.24	-52.84	Average	-27	Pass
NVNT	a	5745	Ant1	5700	-46.05	3.96	-	-42.09	Peak	10	Pass
NVNT	a	5745	Ant1	5700	-54.2	3.96	0.24	-50.00	Average	10	Pass
NVNT	a	5745	Ant1	5720	-30.93	3.96	-	-26.97	Peak	15.6	Pass
NVNT	a	5745	Ant1	5720	-46.06	3.96	0.24	-41.86	Average	15.6	Pass
NVNT	a	5745	Ant1	5725	-26.45	3.96	-	-22.49	Peak	27	Pass
NVNT	a	5745	Ant1	5725	-42.37	3.96	0.24	-38.17	Average	27	Pass
NVNT	n20	5745	Ant1	5650	-47.83	3.96	-	-43.87	Peak	-27	Pass
NVNT	n20	5745	Ant1	5650	-57.23	3.96	0.12	-53.15	Average	-27	Pass
NVNT	n20	5745	Ant1	5700	-45.92	3.96	-	-41.96	Peak	10	Pass
NVNT	n20	5745	Ant1	5700	-54.78	3.96	0.12	-50.70	Average	10	Pass
NVNT	n20	5745	Ant1	5720	-27.91	3.96	-	-23.95	Peak	15.6	Pass
NVNT	n20	5745	Ant1	5720	-45.01	3.96	0.12	-40.93	Average	15.6	Pass
NVNT	n20	5745	Ant1	5725	-23.42	3.96	-	-19.46	Peak	27	Pass
NVNT	n20	5745	Ant1	5725	-40.24	3.96	0.12	-36.16	Average	27	Pass
NVNT	ac20	5745	Ant1	5650	-49.73	3.96	-	-45.77	Peak	-27	Pass
NVNT	ac20	5745	Ant1	5650	-57.72	3.96	0.12	-53.64	Average	-27	Pass
NVNT	ac20	5745	Ant1	5700	-46.01	3.96	-	-42.05	Peak	10	Pass
NVNT	ac20	5745	Ant1	5700	-55.27	3.96	0.12	-51.19	Average	10	Pass
NVNT	ac20	5745	Ant1	5720	-31.89	3.96	-	-27.93	Peak	15.6	Pass
NVNT	ac20	5745	Ant1	5720	-47.45	3.96	0.12	-43.37	Average	15.6	Pass
NVNT	ac20	5745	Ant1	5725	-25.49	3.96	-	-21.53	Peak	27	Pass
NVNT	ac20	5745	Ant1	5725	-40.82	3.96	0.12	-36.74	Average	27	Pass
NVNT	ax20	5745	Ant1	5650	-46.69	3.96	-	-42.73	Peak	-27	Pass
NVNT	ax20	5745	Ant1	5650	-56.81	3.96	0.12	-52.73	Average	-27	Pass
NVNT	ax20	5745	Ant1	5700	-47.14	3.96	-	-43.18	Peak	10	Pass
NVNT	ax20	5745	Ant1	5700	-55.16	3.96	0.12	-51.08	Average	10	Pass
NVNT	ax20	5745	Ant1	5720	-27.24	3.96	-	-23.28	Peak	15.6	Pass
NVNT	ax20	5745	Ant1	5720	-45.26	3.96	0.12	-41.18	Average	15.6	Pass
NVNT	ax20	5745	Ant1	5725	-25.81	3.96	-	-21.85	Peak	27	Pass
NVNT	ax20	5745	Ant1	5725	-39.69	3.96	0.12	-35.61	Average	27	Pass



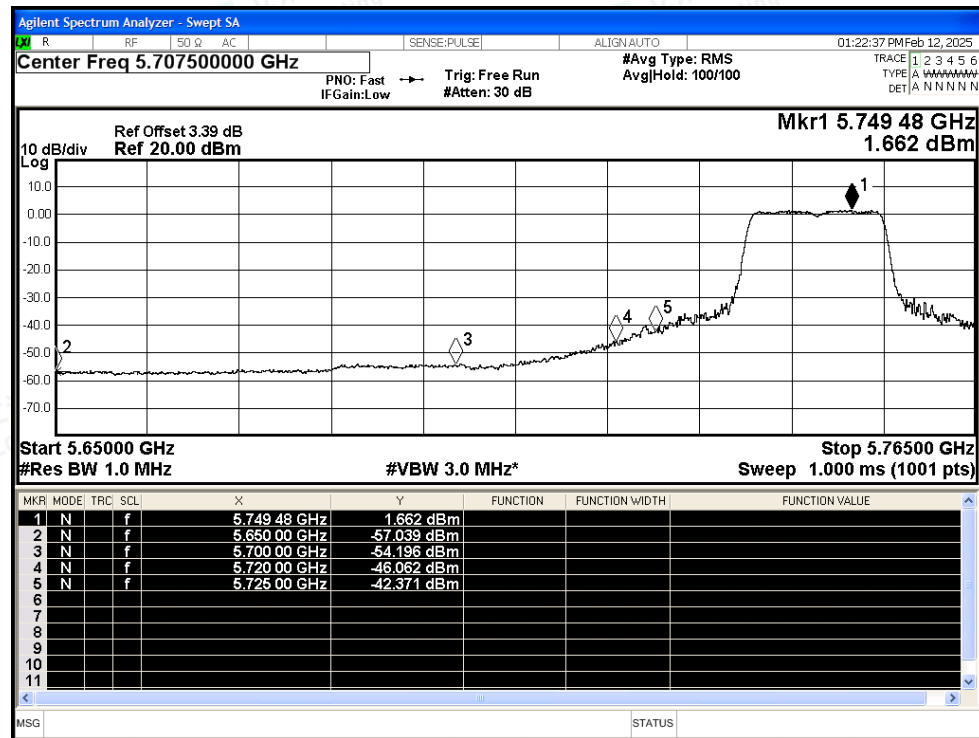


Test Graphs

Restrict Band NVNT a 5745MHz Ant1 Peak

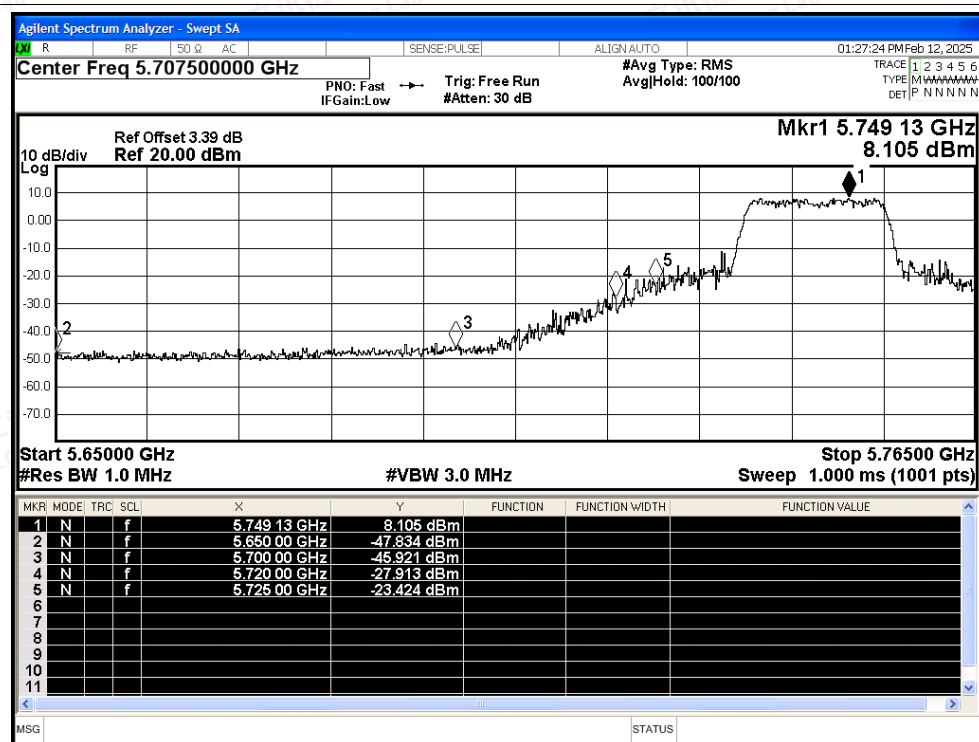


Restrict Band NVNT a 5745MHz Ant1 Average

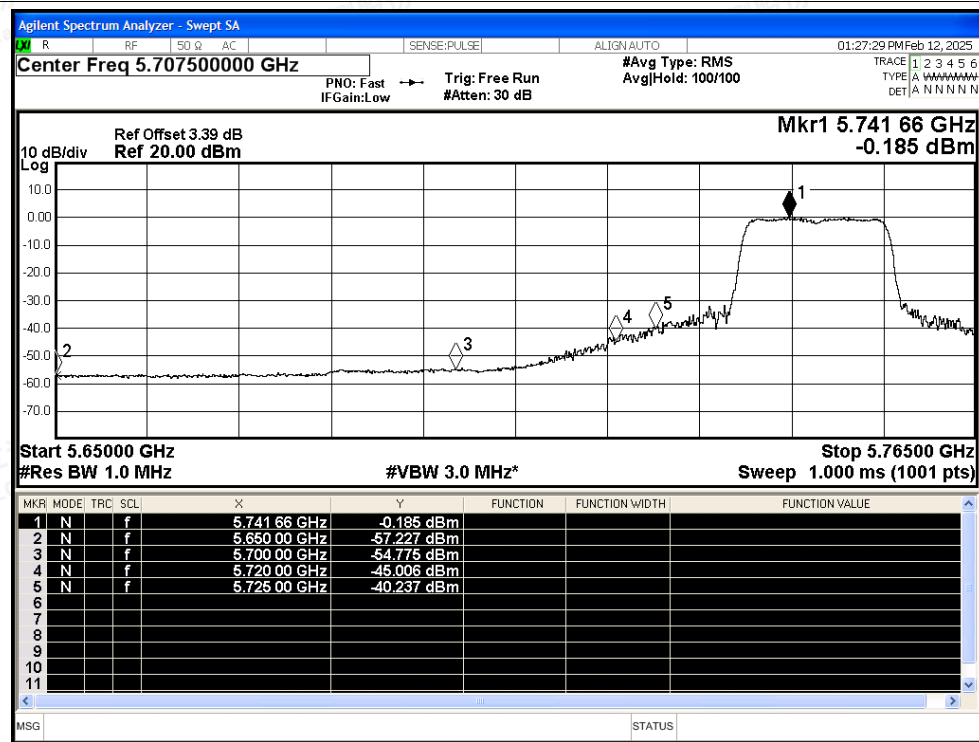




Restrict Band NVNT n20 5745MHz Ant1 Peak

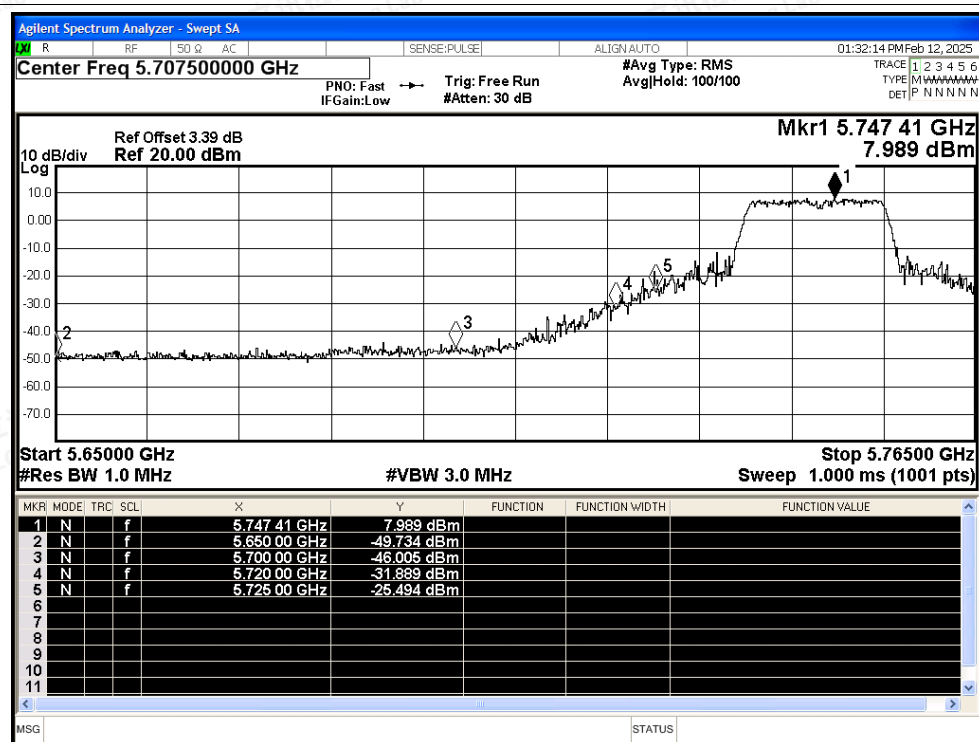


Restrict Band NVNT n20 5745MHz Ant1 Average

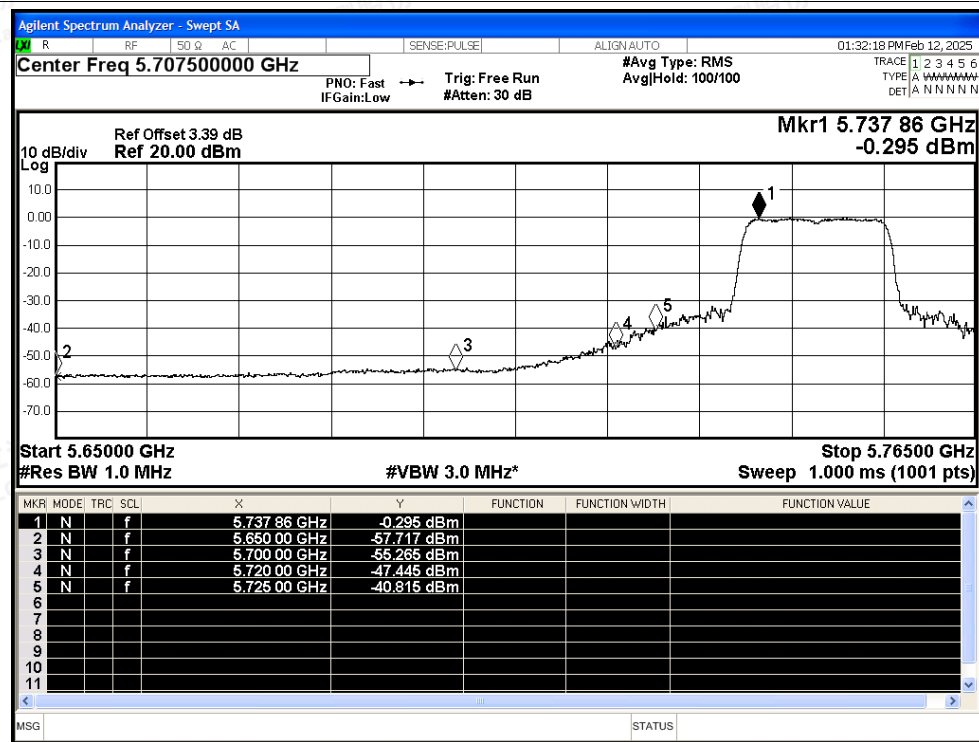




Restrict Band NVNT ac20 5745MHz Ant1 Peak

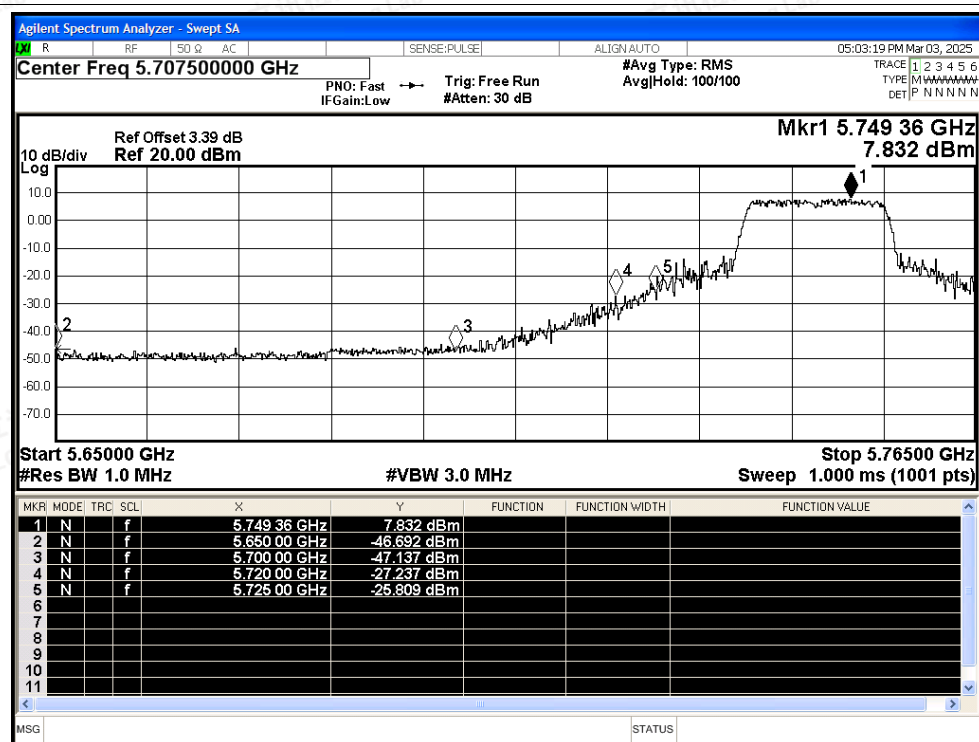


Restrict Band NVNT ac20 5745MHz Ant1 Average

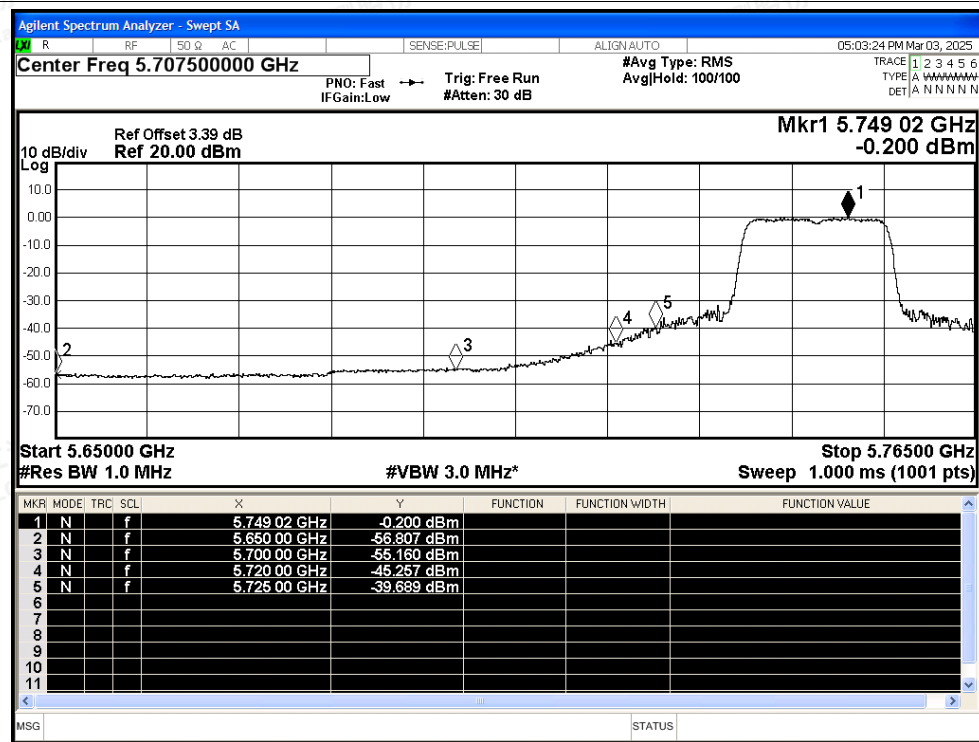




Restrict Band NVNT ax20 5745MHz Ant1 Peak



Restrict Band NVNT ax20 5745MHz Ant1 Average





Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	EIRP Power (dBm)	Detector	Limit (dBm)	Verdict
NVNT	a	5745	Ant2	5650	-49.51	4.06	-	-45.45	Peak	-27	Pass
NVNT	a	5745	Ant2	5650	-57.18	4.06	0.24	-52.88	Average	-27	Pass
NVNT	a	5745	Ant2	5700	-47.05	4.06	-	-42.99	Peak	10	Pass
NVNT	a	5745	Ant2	5700	-55.15	4.06	0.24	-50.85	Average	10	Pass
NVNT	a	5745	Ant2	5720	-32.7	4.06	-	-28.64	Peak	15.6	Pass
NVNT	a	5745	Ant2	5720	-47.87	4.06	0.24	-43.57	Average	15.6	Pass
NVNT	a	5745	Ant2	5725	-27.76	4.06	-	-23.70	Peak	27	Pass
NVNT	n20	5745	Ant2	5650	-48.78	4.06	-	-44.72	Peak	-27	Pass
NVNT	n20	5745	Ant2	5650	-57.01	4.06	0.12	-52.83	Average	-27	Pass
NVNT	n20	5745	Ant2	5700	-47.36	4.06	-	-43.30	Peak	10	Pass
NVNT	n20	5745	Ant2	5700	-54.72	4.06	0.12	-50.54	Average	10	Pass
NVNT	n20	5745	Ant2	5720	-32.44	4.06	-	-28.38	Peak	15.6	Pass
NVNT	n20	5745	Ant2	5720	-45.76	4.06	0.12	-41.58	Average	15.6	Pass
NVNT	n20	5745	Ant2	5725	-27.55	4.06	-	-23.49	Peak	27	Pass
NVNT	n20	5745	Ant2	5725	-40.11	4.06	0.12	-35.93	Average	27	Pass
NVNT	ac20	5745	Ant2	5650	-49.27	4.06	-	-45.21	Peak	-27	Pass
NVNT	ac20	5745	Ant2	5650	-56.7	4.06	0.12	-52.52	Average	-27	Pass
NVNT	ac20	5745	Ant2	5700	-43.55	4.06	-	-39.49	Peak	10	Pass
NVNT	ac20	5745	Ant2	5700	-54.24	4.06	0.12	-50.06	Average	10	Pass
NVNT	ac20	5745	Ant2	5720	-31.64	4.06	-	-27.58	Peak	15.6	Pass
NVNT	ac20	5745	Ant2	5720	-44.42	4.06	0.12	-40.24	Average	15.6	Pass
NVNT	ac20	5745	Ant2	5725	-25.91	4.06	-	-21.85	Peak	27	Pass
NVNT	ac20	5745	Ant2	5725	-39.43	4.06	0.12	-35.25	Average	27	Pass
NVNT	ax20	5745	Ant2	5650	-49.02	4.06	-	-44.96	Peak	-27	Pass
NVNT	ax20	5745	Ant2	5650	-57.45	4.06	0.12	-53.27	Average	-27	Pass
NVNT	ax20	5745	Ant2	5700	-46.68	4.06	-	-42.62	Peak	10	Pass
NVNT	ax20	5745	Ant2	5700	-54.67	4.06	0.12	-50.49	Average	10	Pass
NVNT	ax20	5745	Ant2	5720	-32.89	4.06	-	-28.83	Peak	15.6	Pass
NVNT	ax20	5745	Ant2	5720	-45.9	4.06	0.12	-41.72	Average	15.6	Pass
NVNT	ax20	5745	Ant2	5725	-23.04	4.06	-	-18.98	Peak	27	Pass
NVNT	ax20	5745	Ant2	5725	-39.55	4.06	0.12	-35.37	Average	27	Pass

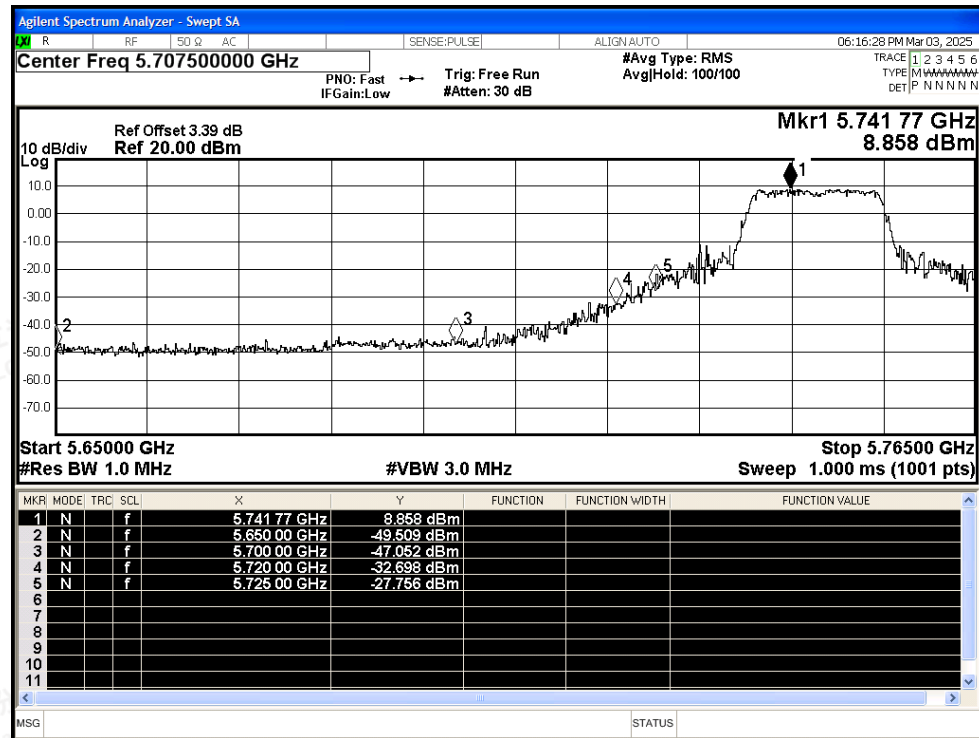


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Scan code to check authenticity

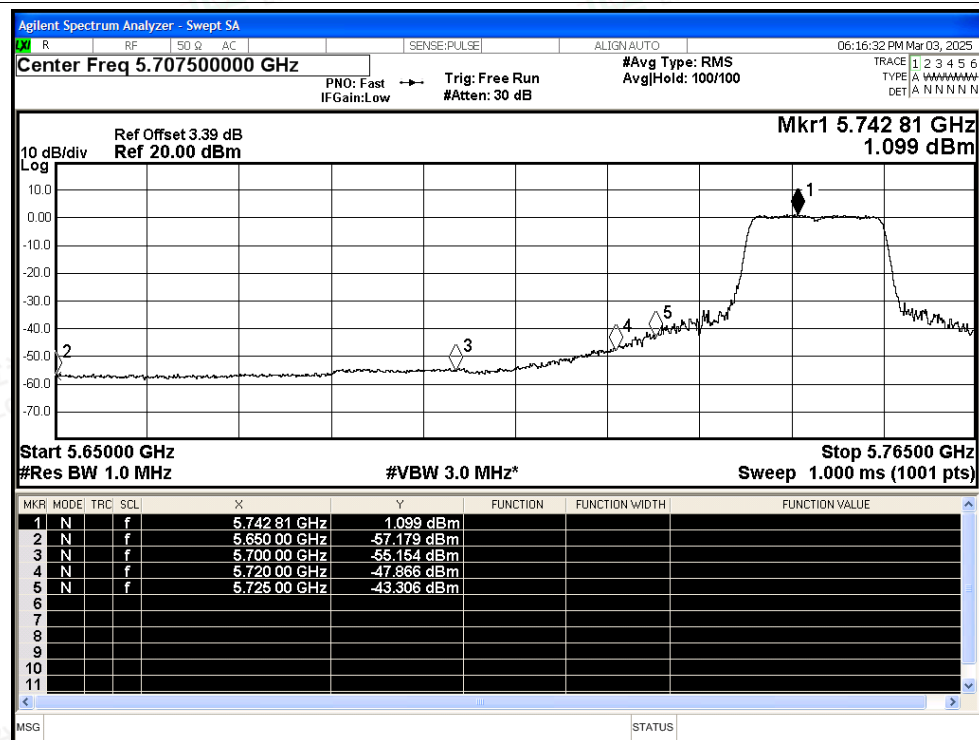


Test Graphs

Restrict Band NVNT a 5745MHz Ant2 Peak

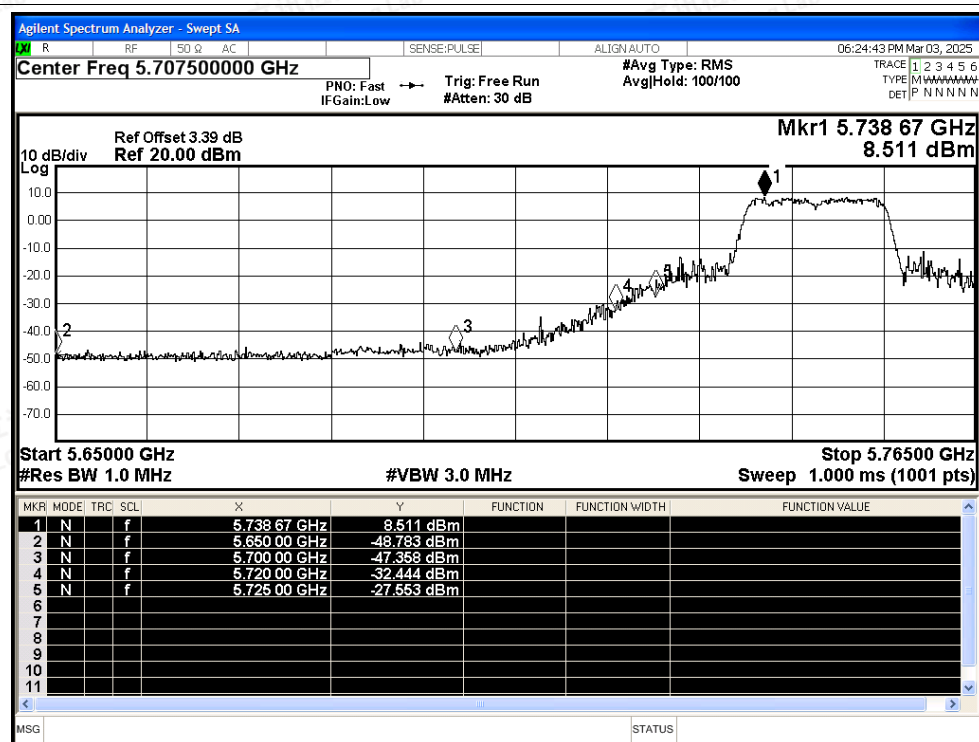


Restrict Band NVNT a 5745MHz Ant2 Average

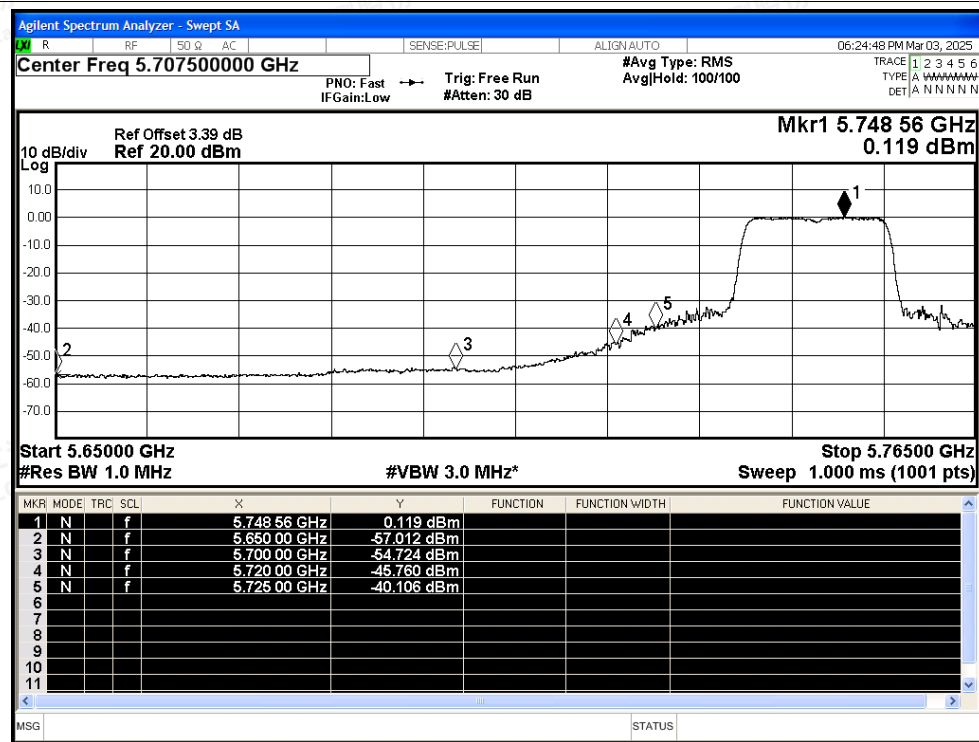




Restrict Band NVNT n20 5745MHz Ant2 Peak

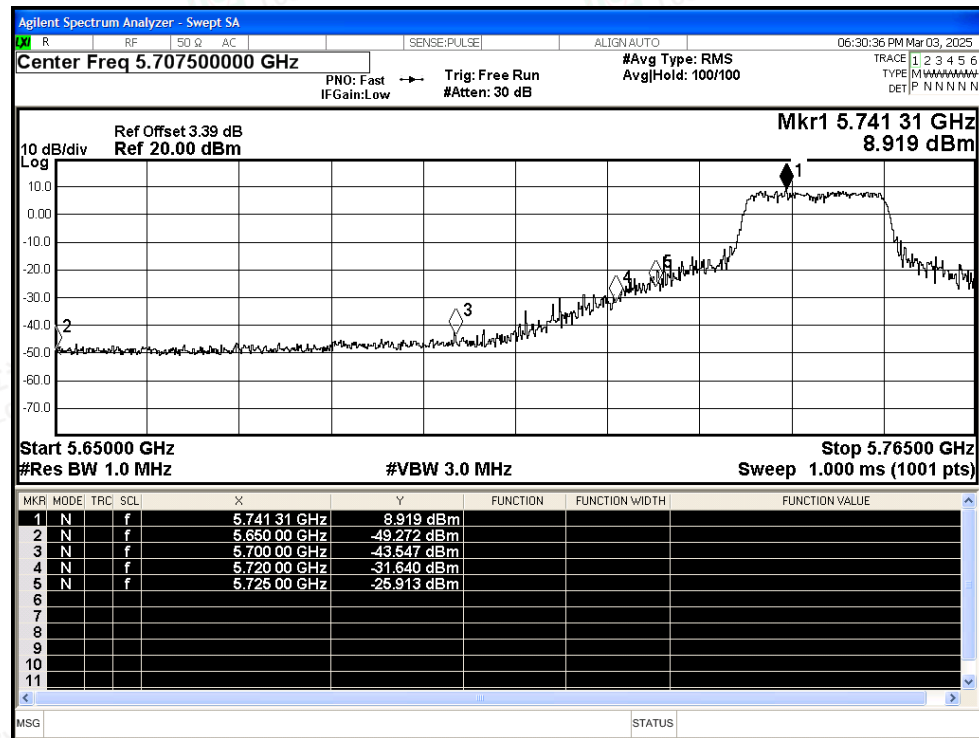


Restrict Band NVNT n20 5745MHz Ant2 Average

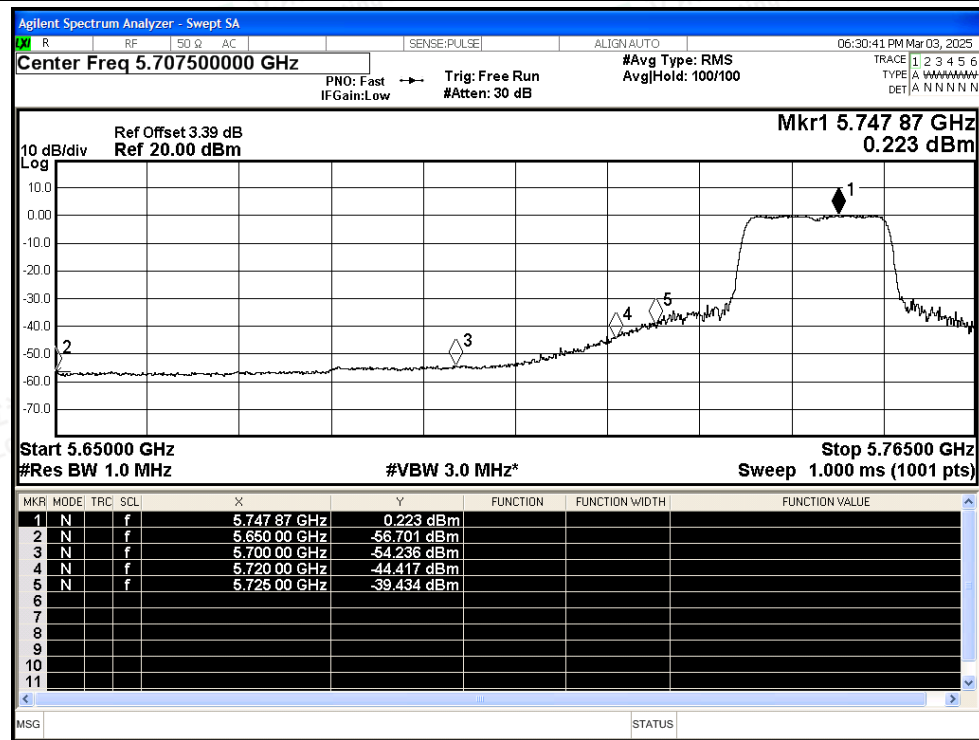




Restrict Band NVNT ac20 5745MHz Ant2 Peak

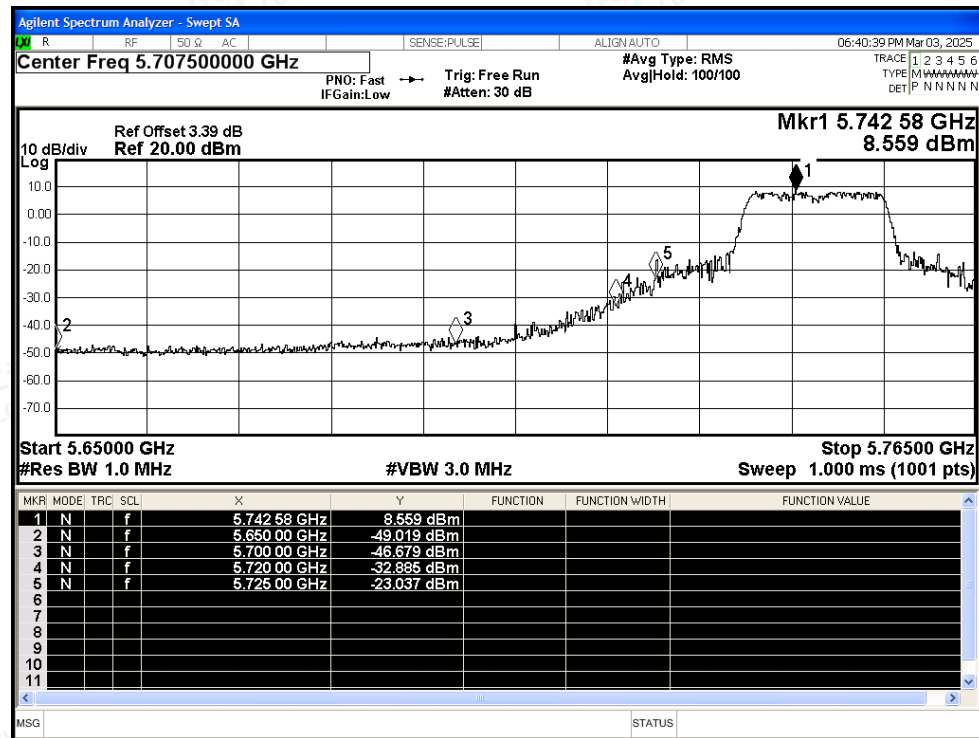


Restrict Band NVNT ac20 5745MHz Ant2 Average

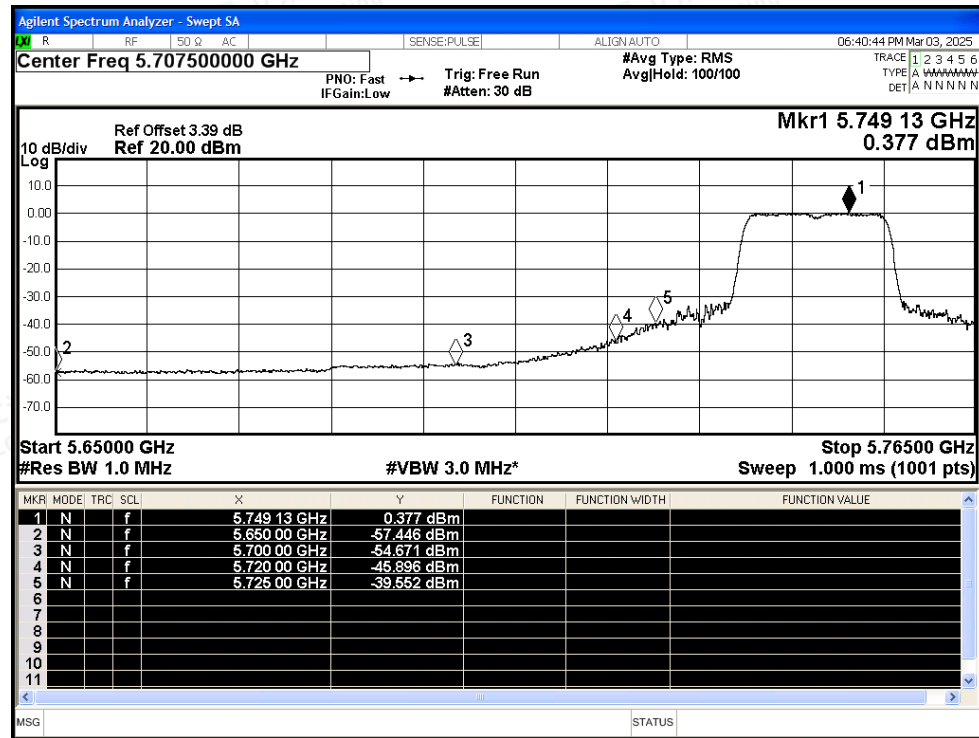




Restrict Band NVNT ax20 5745MHz Ant2 Peak



Restrict Band NVNT ax20 5745MHz Ant2 Average





MIMO

Condition	Mode	Frequency (MHz)	Spur Freq (MHz)	Ant1 Power (dBm)	Ant2 Power (dBm)	SUM	Gain (dBi)	EIRP Power (dBm)	Detector	Limit (dBm)	Verdict
NVNT	n20	5745	5650	-47.83	-48.78	-45.27	7.02	-38.25	Peak	-27	Pass
NVNT	n20	5745	5650	-57.23	-57.01	-54.11	7.02	-47.09	Average	-27	Pass
NVNT	n20	5745	5700	-45.92	-47.36	-43.57	7.02	-36.55	Peak	10	Pass
NVNT	n20	5745	5700	-54.78	-54.72	-51.74	7.02	-44.72	Average	10	Pass
NVNT	n20	5745	5720	-27.91	-32.44	-26.60	7.02	-19.58	Peak	15.6	Pass
NVNT	n20	5745	5720	-45.01	-45.76	-42.36	7.02	-35.34	Average	15.6	Pass
NVNT	n20	5745	5725	-23.42	-27.55	-22.00	7.02	-14.98	Peak	27	Pass
NVNT	n20	5745	5725	-40.24	-40.11	-37.16	7.02	-30.14	Average	27	Pass
NVNT	ac20	5745	5650	-49.73	-49.27	-46.48	7.02	-39.46	Peak	-27	Pass
NVNT	ac20	5745	5650	-57.72	-56.7	-54.17	7.02	-47.15	Average	-27	Pass
NVNT	ac20	5745	5700	-46.01	-43.55	-41.60	7.02	-34.58	Peak	10	Pass
NVNT	ac20	5745	5700	-55.27	-54.24	-51.71	7.02	-44.69	Average	10	Pass
NVNT	ac20	5745	5720	-31.89	-31.64	-28.75	7.02	-21.73	Peak	15.6	Pass
NVNT	ac20	5745	5720	-47.45	-44.42	-42.67	7.02	-35.65	Average	15.6	Pass
NVNT	ac20	5745	5725	-25.49	-25.91	-22.68	7.02	-15.66	Peak	27	Pass
NVNT	ac20	5745	5725	-40.82	-39.43	-37.06	7.02	-30.04	Average	27	Pass
NVNT	ax20	5745	5650	-46.69	-49.02	-44.69	7.02	-37.67	Peak	-27	Pass
NVNT	ax20	5745	5650	-56.81	-57.45	-54.11	7.02	-47.09	Average	-27	Pass
NVNT	ax20	5745	5700	-47.14	-46.68	-43.89	7.02	-36.87	Peak	10	Pass
NVNT	ax20	5745	5700	-55.16	-54.67	-51.90	7.02	-44.88	Average	10	Pass
NVNT	ax20	5745	5720	-27.24	-32.89	-26.19	7.02	-19.17	Peak	15.6	Pass
NVNT	ax20	5745	5720	-45.26	-45.9	-42.56	7.02	-35.54	Average	15.6	Pass
NVNT	ax20	5745	5725	-25.81	-23.04	-21.20	7.02	-14.18	Peak	27	Pass
NVNT	ax20	5745	5725	-39.69	-39.55	-36.61	7.02	-29.59	Average	27	Pass



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D.5 Frequency Stability

Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5745	Ant1	5745	0	0	25	Pass
NVNT	n20	5745	Ant1	5744.98	-20000	-3.48	25	Pass
NVNT	ac20	5745	Ant1	5745	0	0	25	Pass
NVNT	ax20	5745	Ant1	5744.96	-40000	-6.96	25	Pass

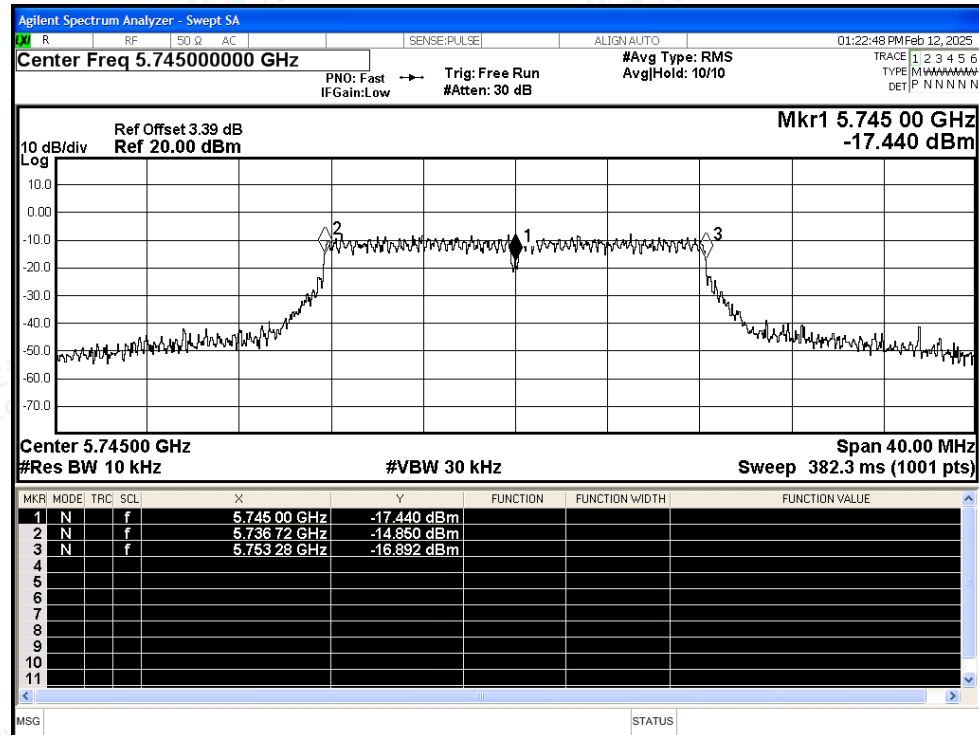


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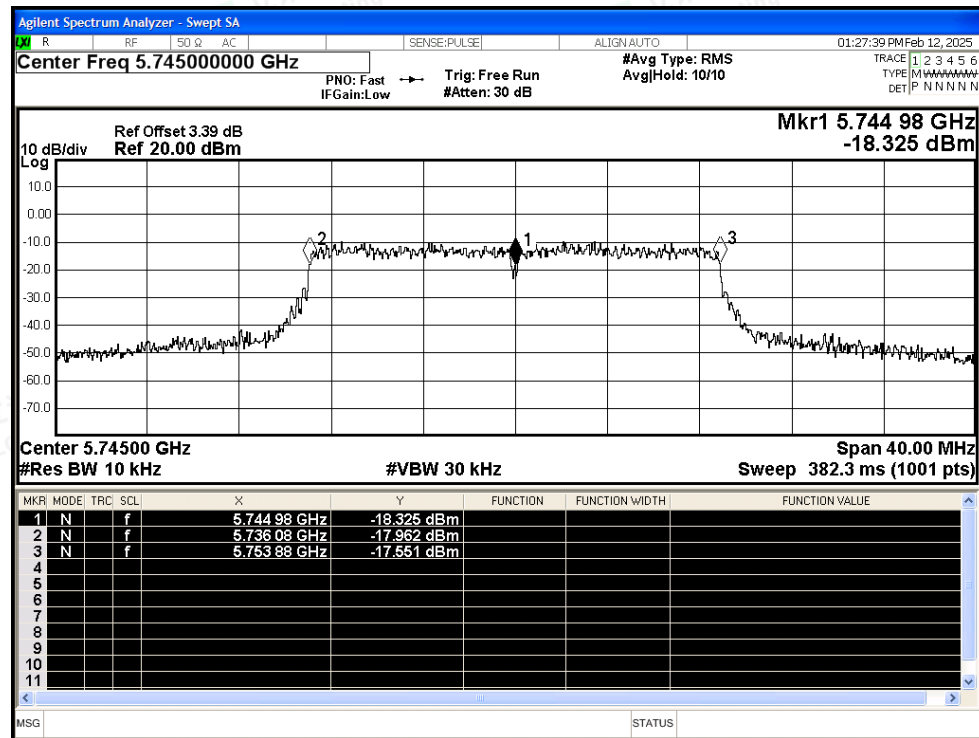


Test Graphs

Freq. Stability NVNT a 5745MHz Ant1

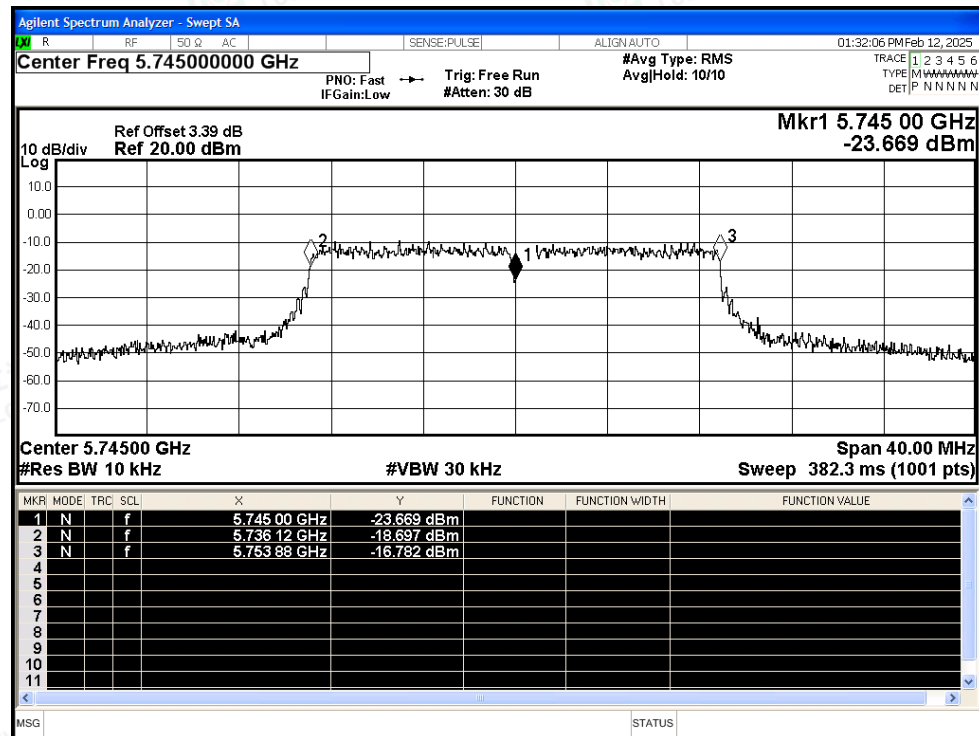


Freq. Stability NVNT n20 5745MHz Ant1

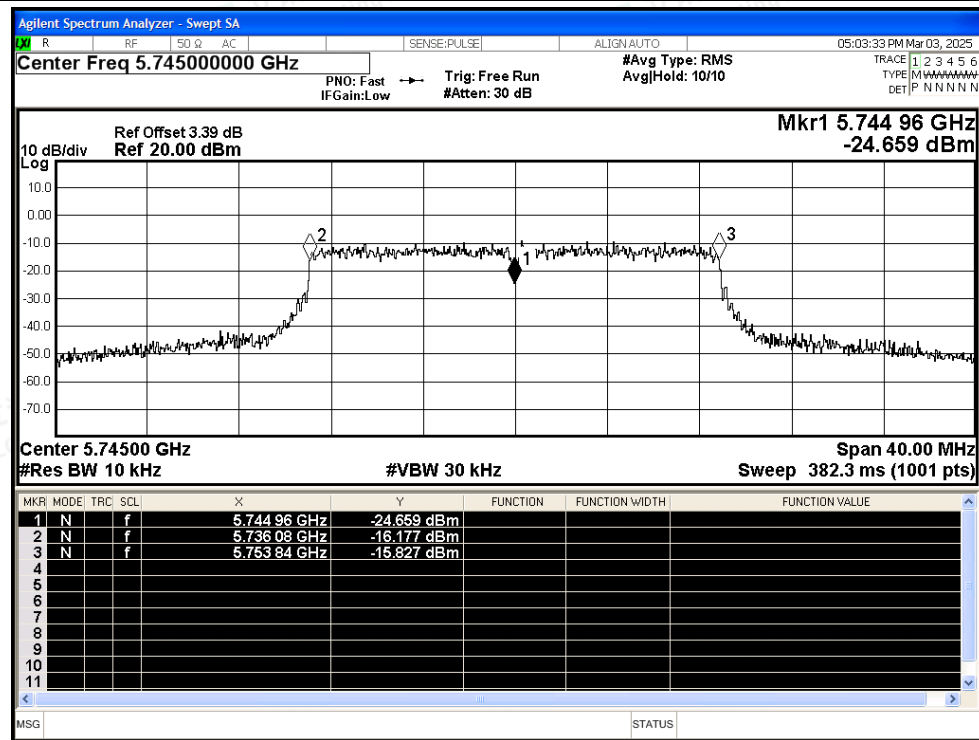




Freq. Stability NVNT ac20 5745MHz Ant1



Freq. Stability NVNT ax20 5745MHz Ant1





Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5745	Ant2	5744.98	-20000	-3.48	25	Pass
NVNT	n20	5745	Ant2	5744.98	-20000	-3.48	25	Pass
NVNT	ac20	5745	Ant2	5744.96	-40000	-6.96	25	Pass
NVNT	ax20	5745	Ant2	5744.96	-40000	-6.96	25	Pass

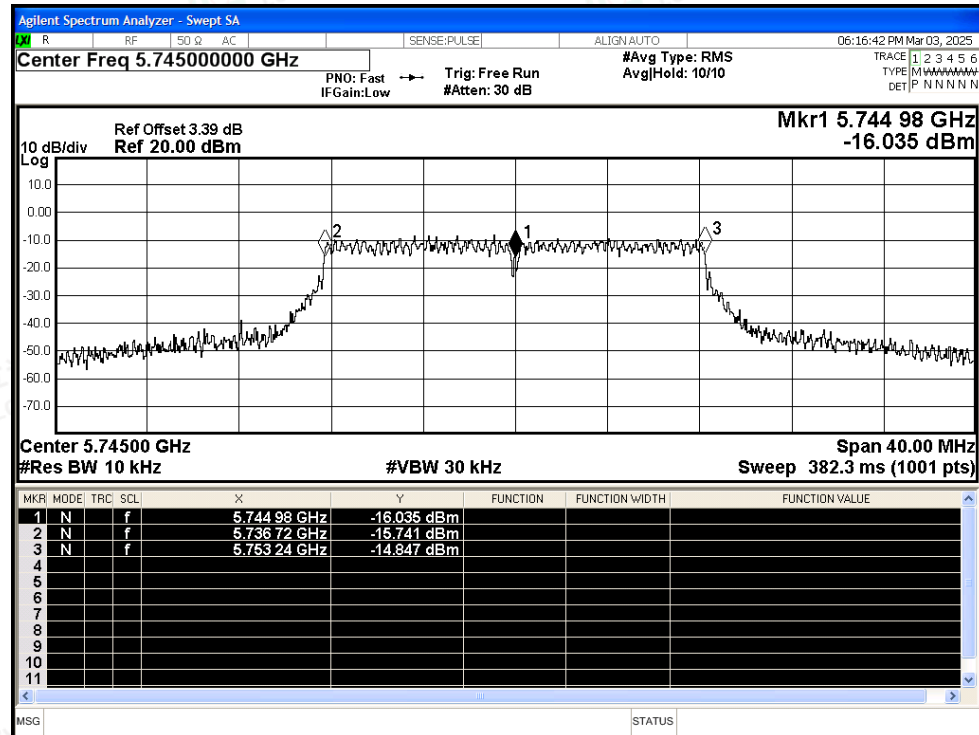


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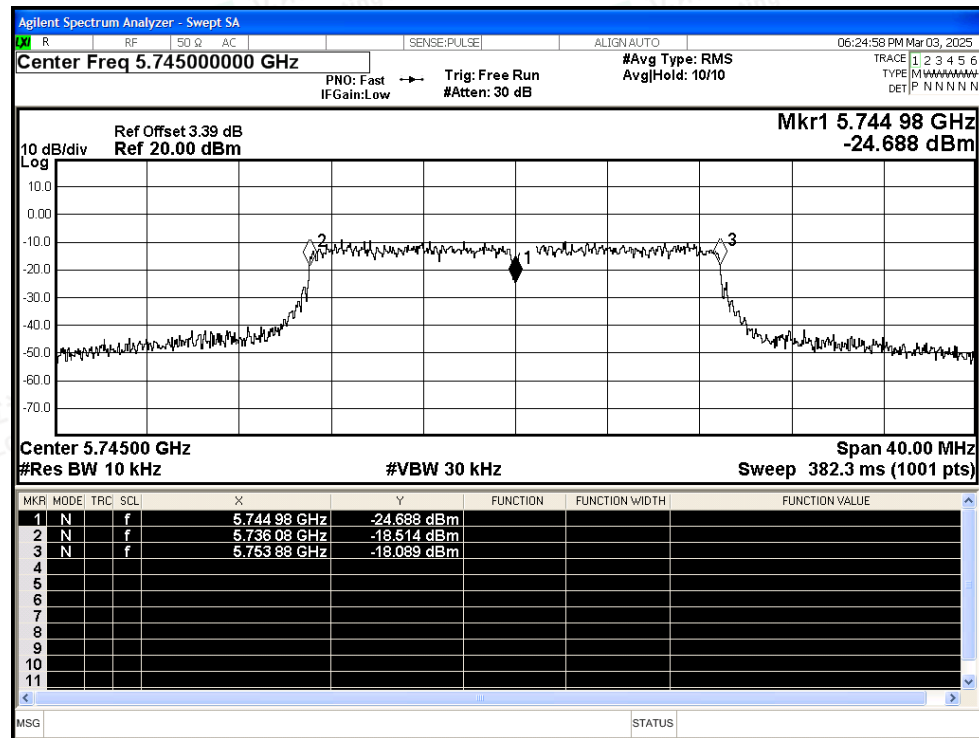


Test Graphs

Freq. Stability NVNT a 5745MHz Ant2

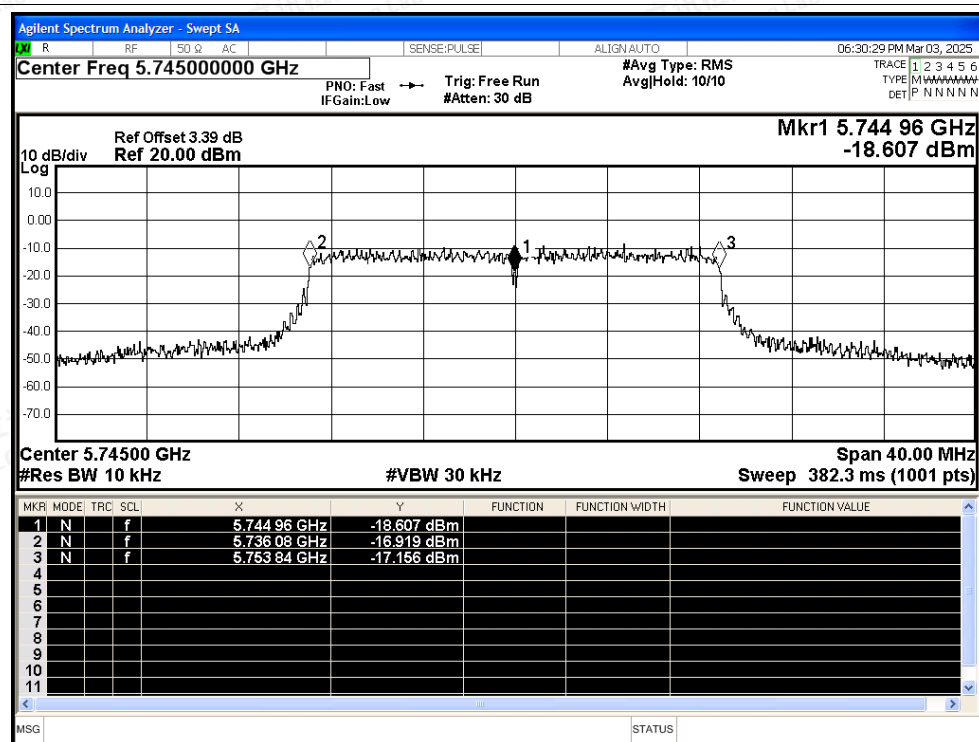


Freq. Stability NVNT n20 5745MHz Ant2

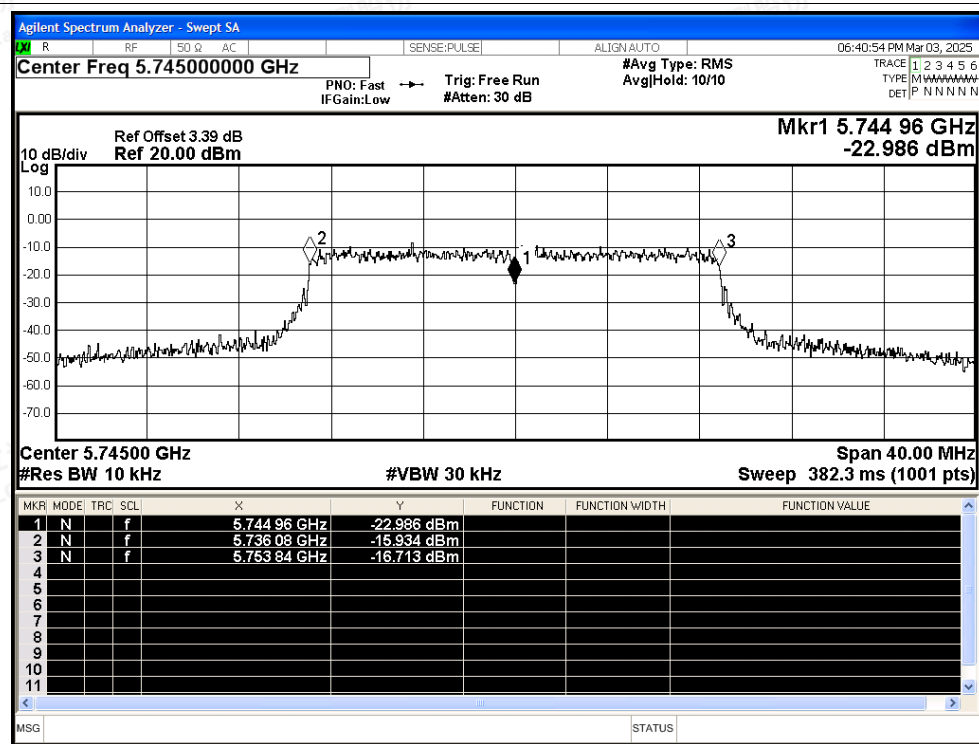




Freq. Stability NVNT ac20 5745MHz Ant2



Freq. Stability NVNT ax20 5745MHz Ant2





D.6 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5745	Ant1	94.57	0.24	0.91
NVNT	n20	5745	Ant1	97.29	0.12	0.44
NVNT	ac20	5745	Ant1	97.34	0.12	0.44
NVNT	ax20	5745	Ant1	97.34	0.12	0.44

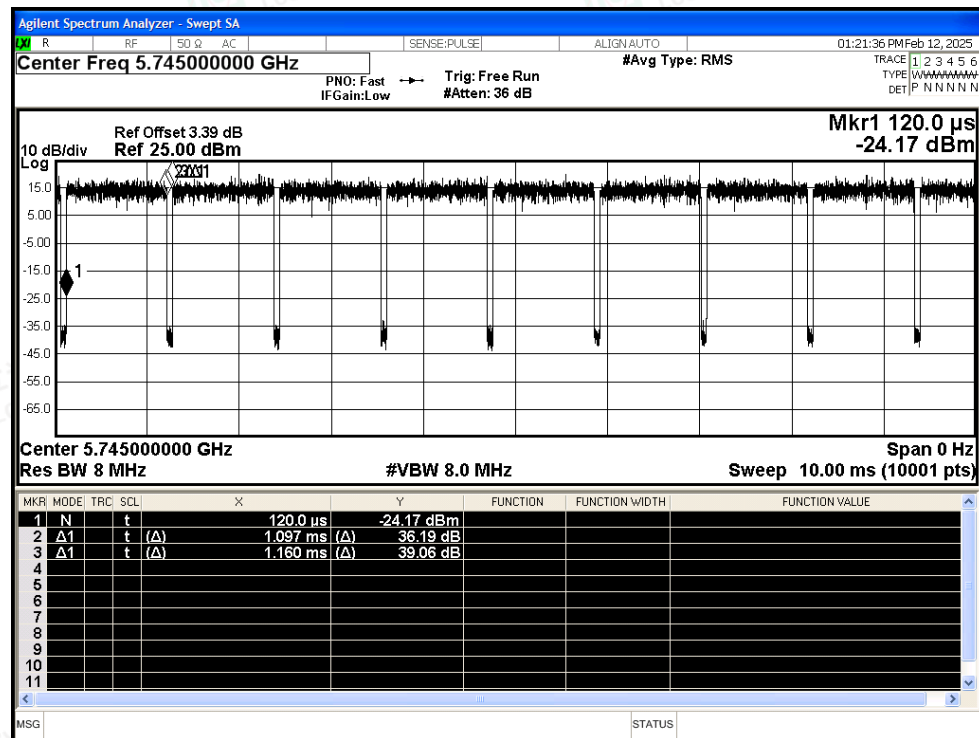


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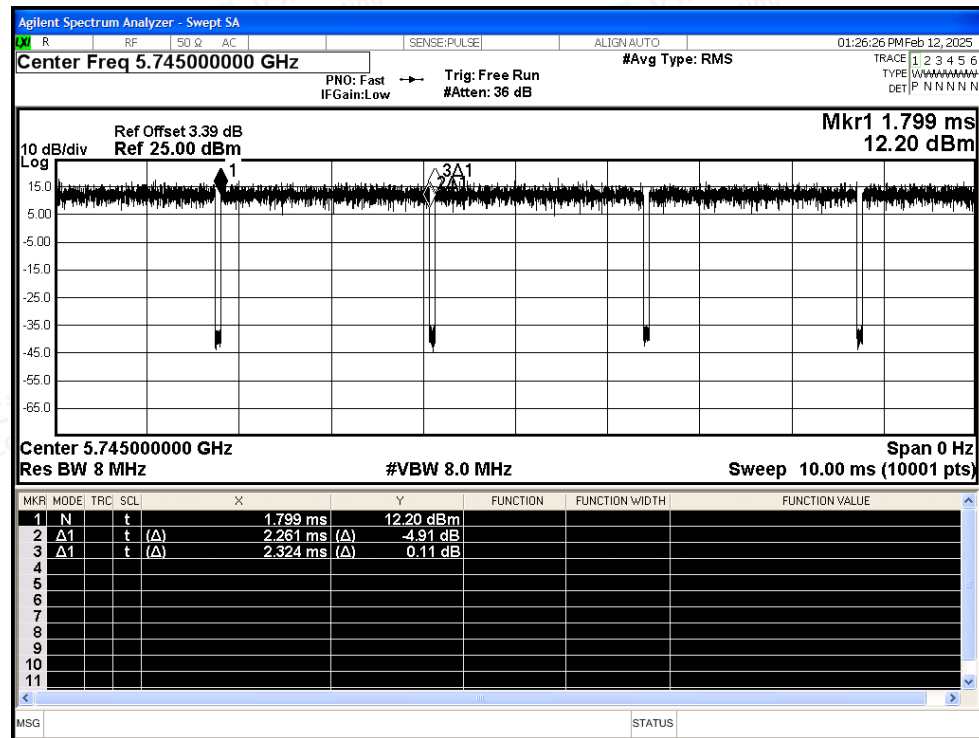


Test Graphs

Duty Cycle NVNT a 5745MHz Ant1

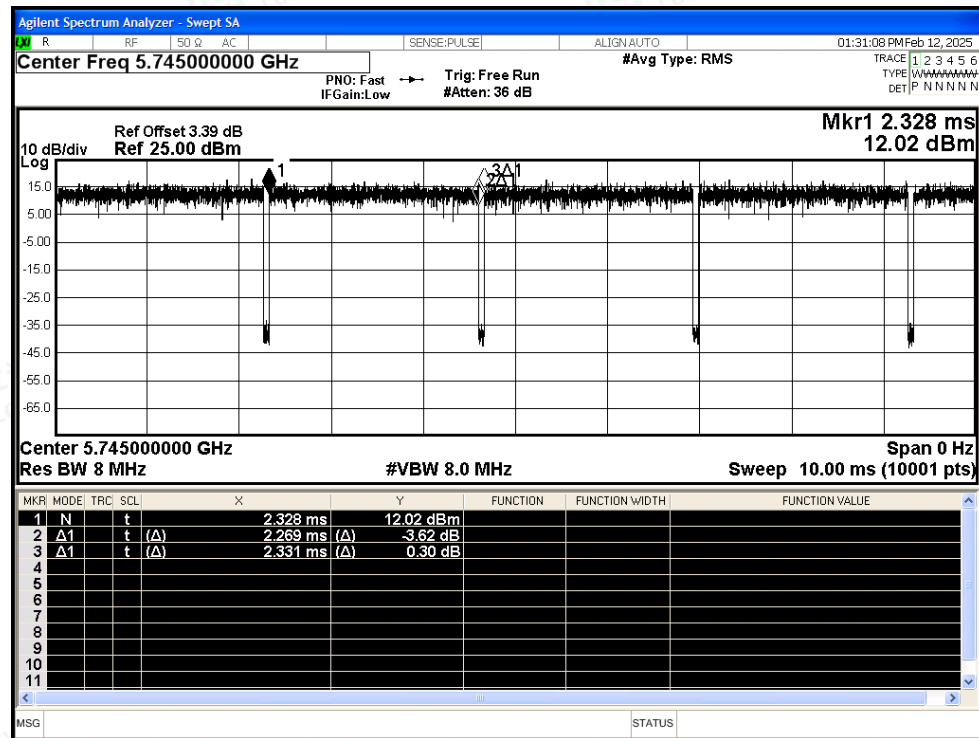


Duty Cycle NVNT n20 5745MHz Ant1

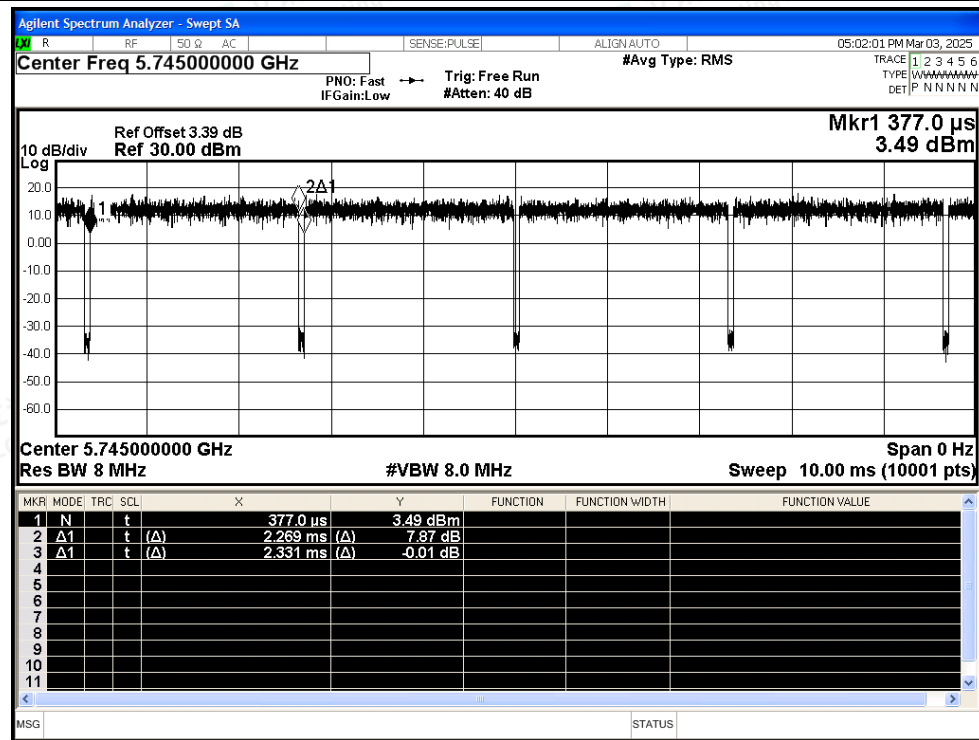




Duty Cycle NVNT ac20 5745MHz Ant1



Duty Cycle NVNT ax20 5745MHz Ant1





Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5745	Ant2	94.65	0.24	0.91
NVNT	n20	5745	Ant2	97.29	0.12	0.44
NVNT	ac20	5745	Ant2	97.3	0.12	0.44
NVNT	ax20	5745	Ant2	97.34	0.12	0.44

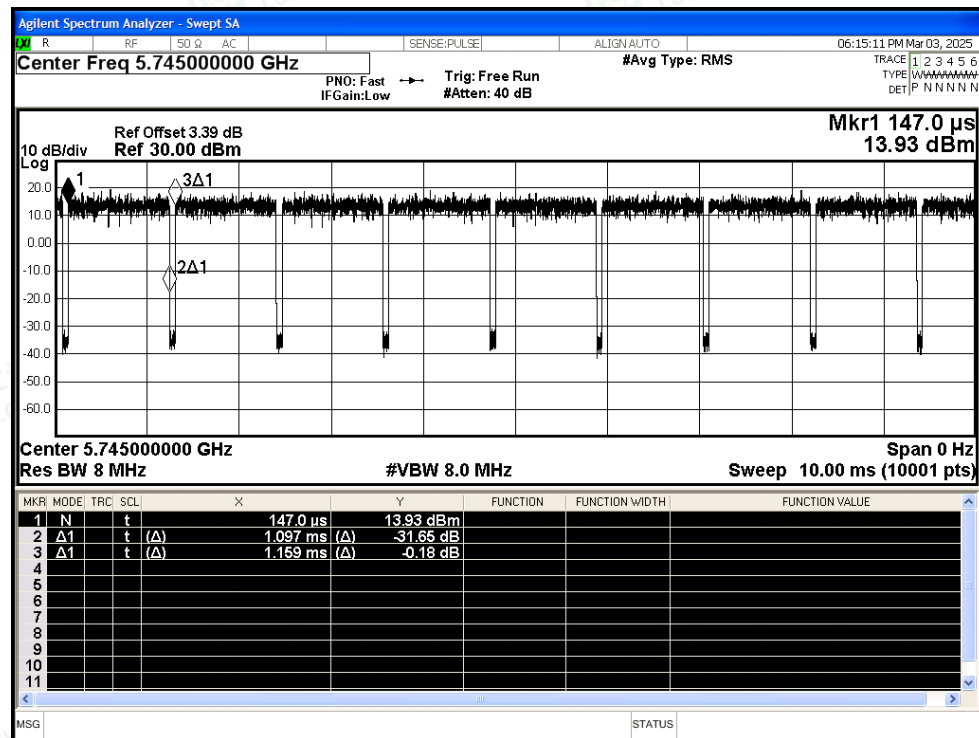


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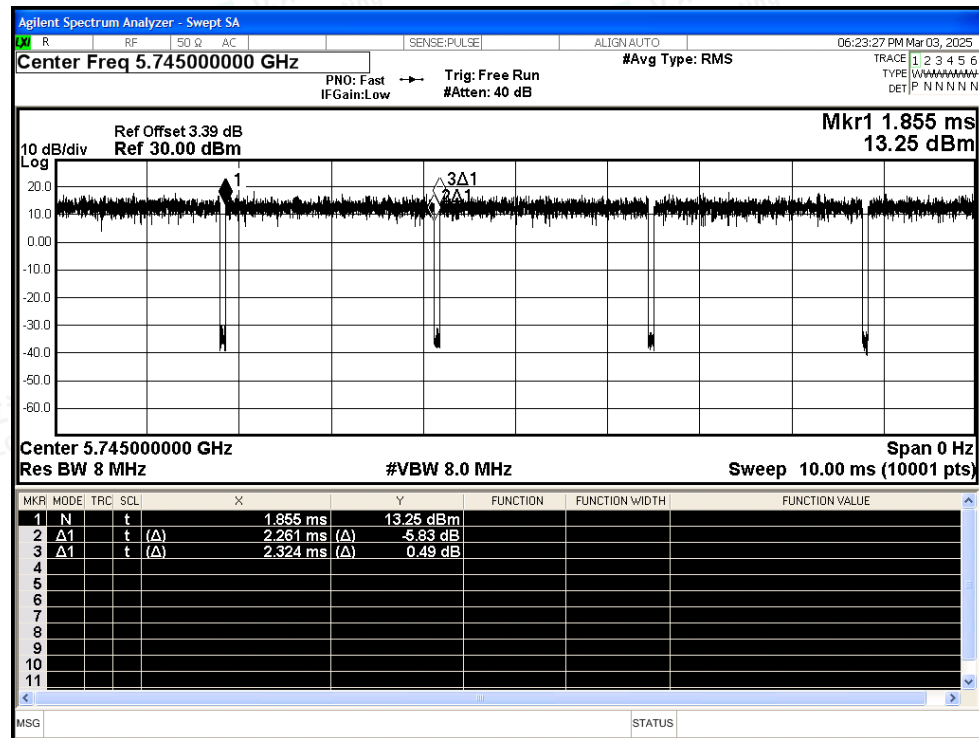


Test Graphs

Duty Cycle NVNT a 5745MHz Ant2

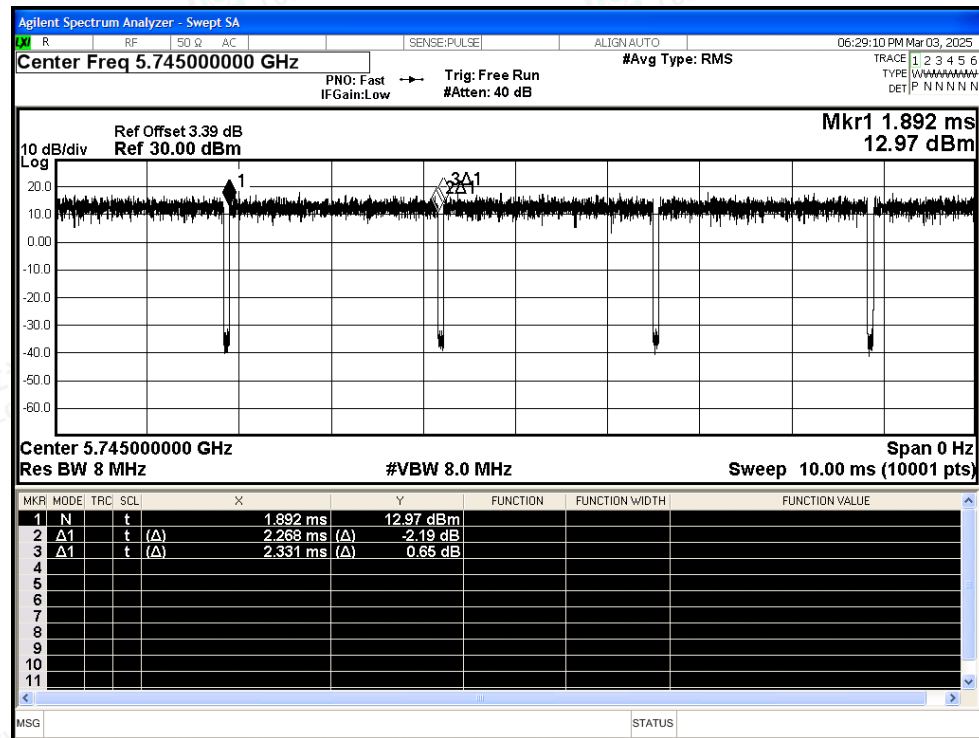


Duty Cycle NVNT n20 5745MHz Ant2





Duty Cycle NVNT ac20 5745MHz Ant2



Duty Cycle NVNT ax20 5745MHz Ant2

