Appendix D for 5.8GWIFI Test Data
Product Name: CR-S1 Handheld Mapping System
Test Model: CR-S1

Environmental Conditions

Temperature:	25.4℃
Relative Humidity:	54.3%
ATM Pressure:	101.0 kPa
Test Engineer:	Leon Li
Supervised by:	Baret Wu

D.1 Duty Cycle

Mode	Frequency (MHz)	Antenna	T_{on} ms	T_{otal} ms	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
a	5745	Ant1	2.06	2.14	96.26	0.17	0.49
a	5785	Ant1	2.06	2.17	94.93	0.23	0.49
a	5825	Ant1	2.07	2.22	93.24	0.3	0.48
n20	5745	Ant1	1.92	2.04	94.12	0.26	0.52
n20	5785	Ant1	1.92	1.97	97.46	0.11	0.52
n20	5825	Ant1	1.92	2.09	91.87	0.37	0.52
n40	5755	Ant1	0.95	1.07	88.79	0.52	1.05
n40	5795	Ant1	0.94	1.11	84.68	0.72	1.06
ac20	5745	Ant1	1.93	2.02	95.54	0.2	0.52
ac20	5785	Ant1	1.93	2.05	94.15	0.26	0.52
ac20	5825	Ant1	1.93	2.09	92.34	0.35	0.52
ac40	5755	Ant1	0.96	1.11	86.49	0.63	1.04
ac40	5795	Ant1	0.95	1.03	92.23	0.35	1.05
ac80	5775	Ant1	0.46	0.53	86.79	0.62	2.17

Note:

1. Duty Cycle = T_{on} / T_{otal}

2.Correction Factor = 10 log (1/ Duty Cycle).

3.1/T=1/T_{on}

Test Graphs
Duty Cycle NVNT a 5745MHz Ant1



Duty Cycle NVNT a 5785MHz Ant1



Duty Cycle NVNT a 5825MHz Ant1



Duty Cycle NVNT n20 5745MHz Ant1



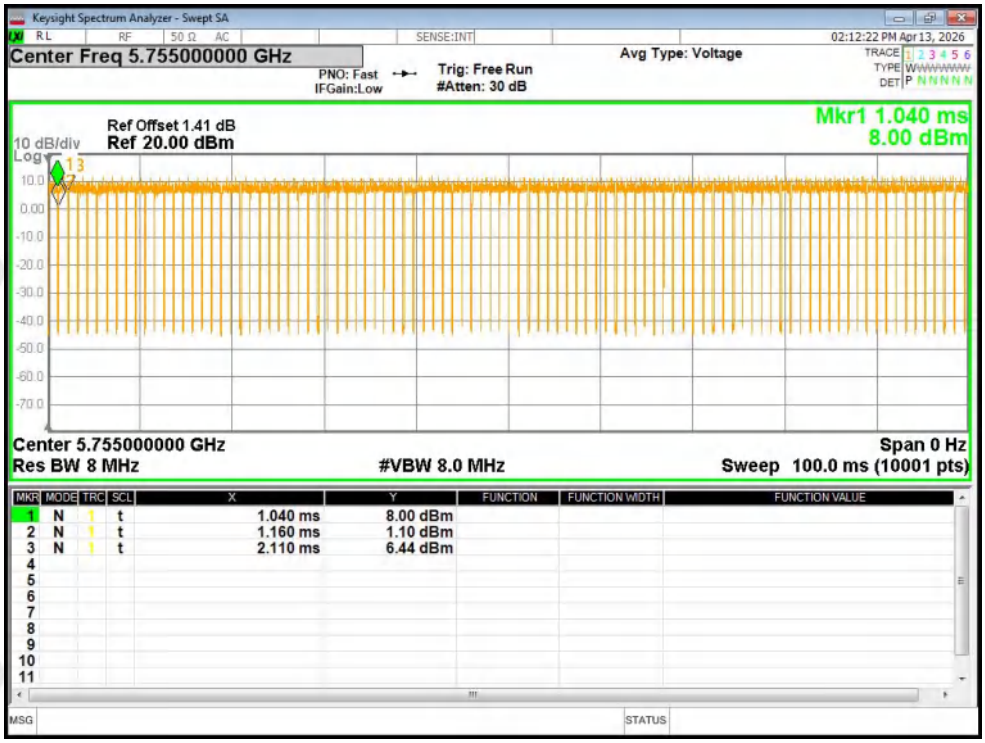
Duty Cycle NVNT n20 5785MHz Ant1



Duty Cycle NVNT n20 5825MHz Ant1



Duty Cycle NVNT n40 5755MHz Ant1



Duty Cycle NVNT n40 5795MHz Ant1



Duty Cycle NVNT ac20 5745MHz Ant1



Duty Cycle NVNT ac20 5785MHz Ant1



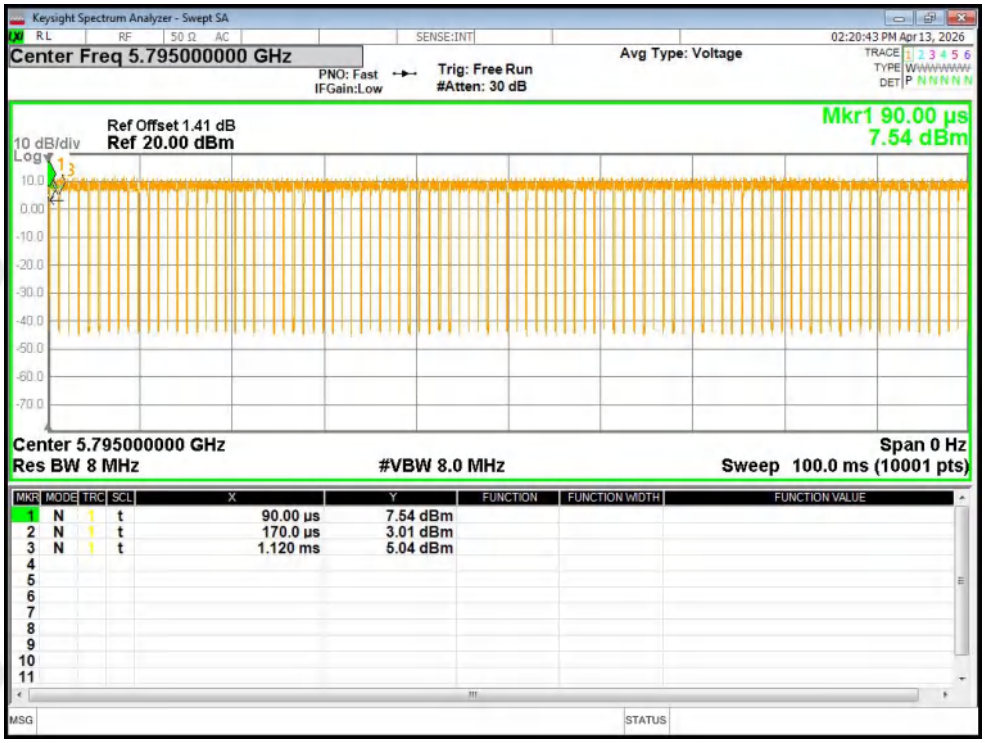
Duty Cycle NVNT ac20 5825MHz Ant1



Duty Cycle NVNT ac40 5755MHz Ant1



Duty Cycle NVNT ac40 5795MHz Ant1



Duty Cycle NVNT ac80 5775MHz Ant1



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	6.95	0.17	7.12	30	Pass
NVNT	a	5785	Ant1	5.90	0.23	6.13	30	Pass
NVNT	a	5825	Ant1	6.57	0.3	6.87	30	Pass
NVNT	n20	5745	Ant1	5.78	0.26	6.04	30	Pass
NVNT	n20	5785	Ant1	6.71	0.11	6.82	30	Pass
NVNT	n20	5825	Ant1	6.88	0.37	7.25	30	Pass
NVNT	n40	5755	Ant1	6.19	0.52	6.71	30	Pass
NVNT	n40	5795	Ant1	6.26	0.72	6.98	30	Pass
NVNT	ac20	5745	Ant1	6.16	0.2	6.36	30	Pass
NVNT	ac20	5785	Ant1	6.47	0.26	6.73	30	Pass
NVNT	ac20	5825	Ant1	6.78	0.35	7.13	30	Pass
NVNT	ac40	5755	Ant1	6.02	0.63	6.65	30	Pass
NVNT	ac40	5795	Ant1	6.58	0.35	6.93	30	Pass
NVNT	ac80	5775	Ant1	6.16	0.62	6.78	30	Pass

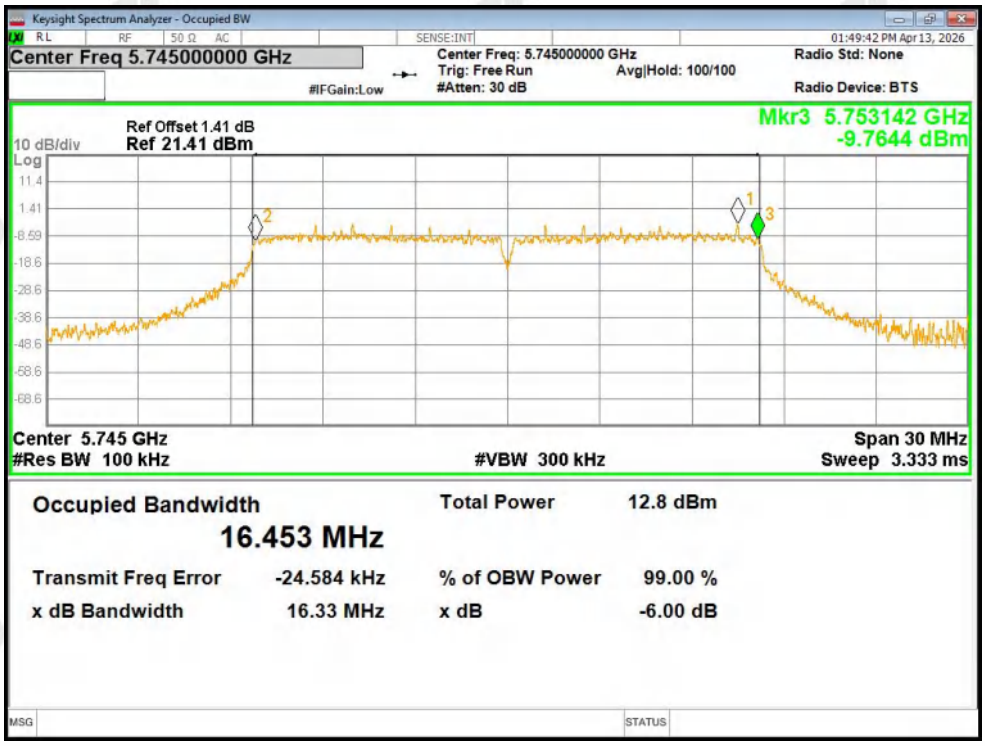
Note: Total Power = Output Power + Duty cycle factor.

D.3 -6dB Bandwidth

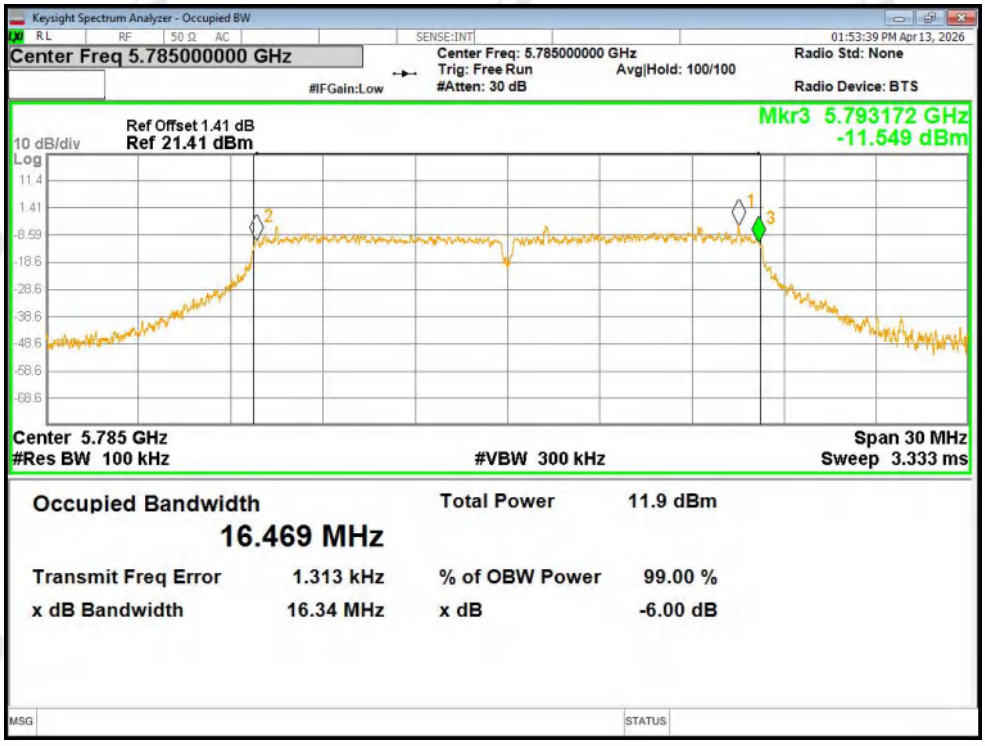
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	Ant1	16.332	0.5	Pass
NVNT	a	5785	Ant1	16.341	0.5	Pass
NVNT	a	5825	Ant1	16.305	0.5	Pass
NVNT	n20	5745	Ant1	17.561	0.5	Pass
NVNT	n20	5785	Ant1	17.05	0.5	Pass
NVNT	n20	5825	Ant1	16.566	0.5	Pass
NVNT	n40	5755	Ant1	35.12	0.5	Pass
NVNT	n40	5795	Ant1	35.302	0.5	Pass
NVNT	ac20	5745	Ant1	17.543	0.5	Pass
NVNT	ac20	5785	Ant1	17.024	0.5	Pass
NVNT	ac20	5825	Ant1	16.919	0.5	Pass
NVNT	ac40	5755	Ant1	35.149	0.5	Pass
NVNT	ac40	5795	Ant1	35.354	0.5	Pass
NVNT	ac80	5775	Ant1	75.093	0.5	Pass

Test Graphs

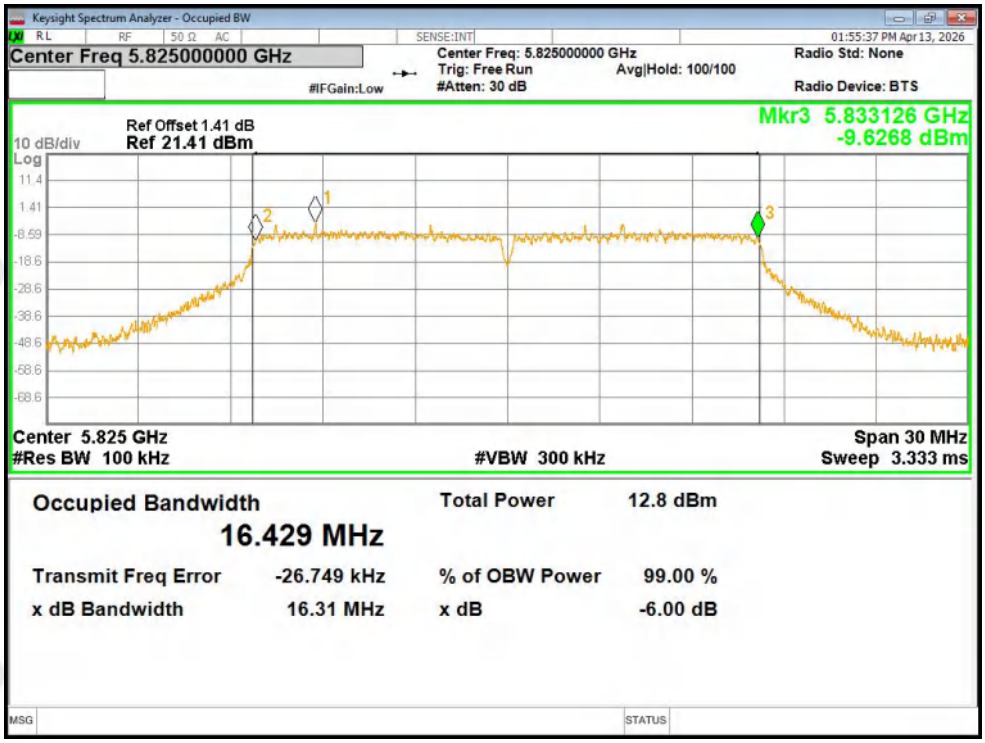
-6dB Bandwidth NVNT a 5745MHz Ant1



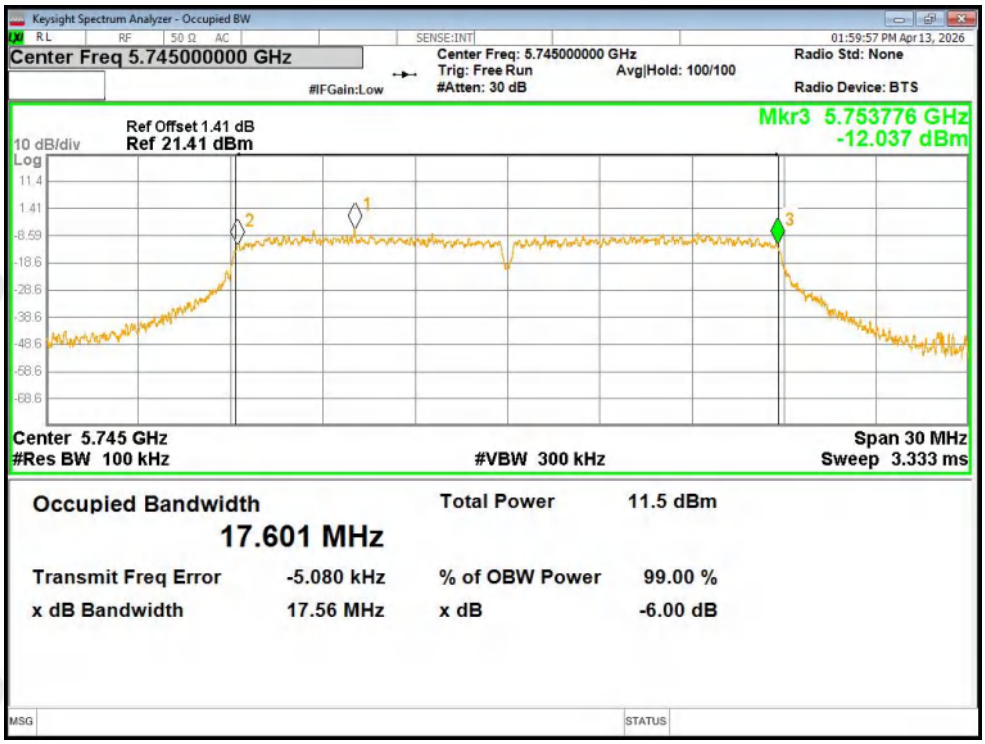
-6dB Bandwidth NVNT a 5785MHz Ant1



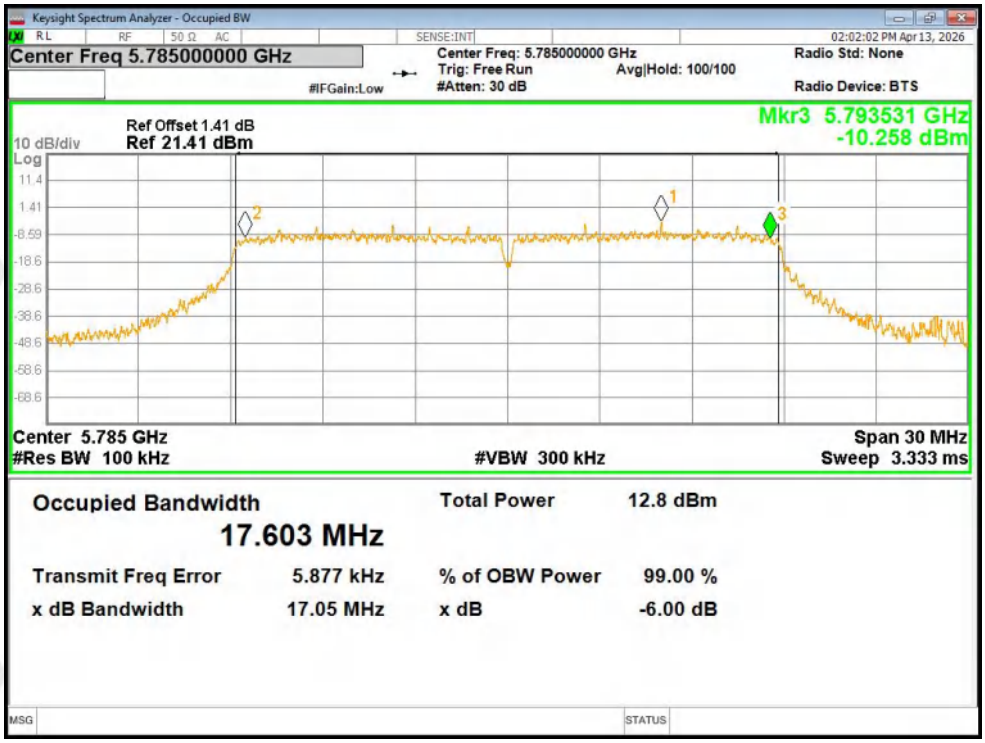
-6dB Bandwidth NVNT a 5825MHz Ant1



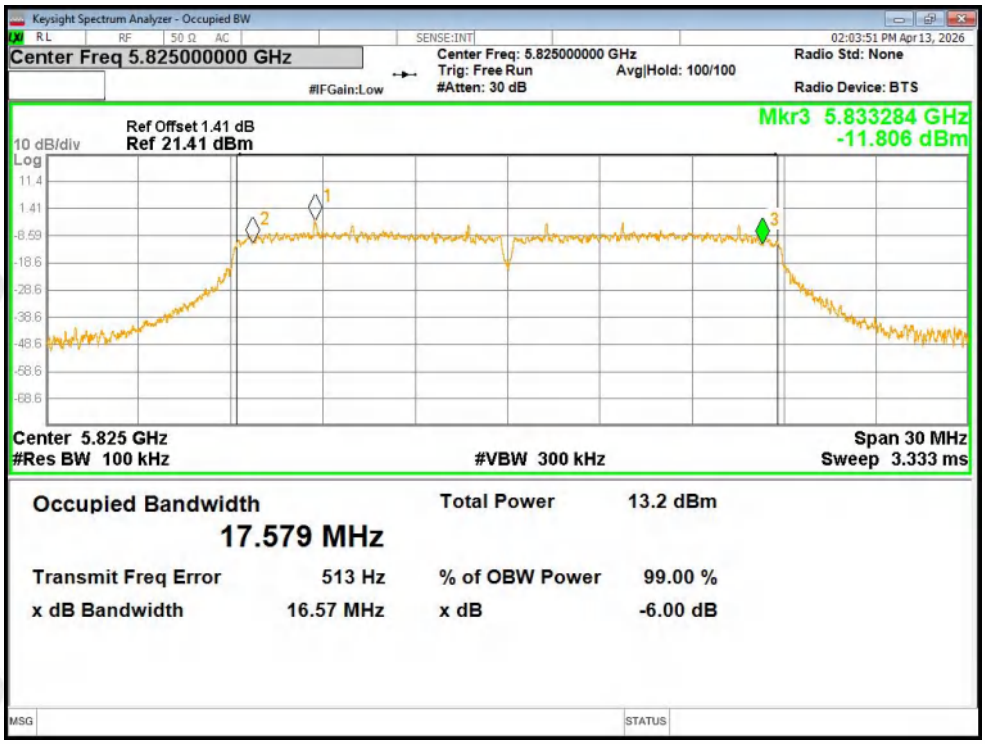
-6dB Bandwidth NVNT n20 5745MHz Ant1



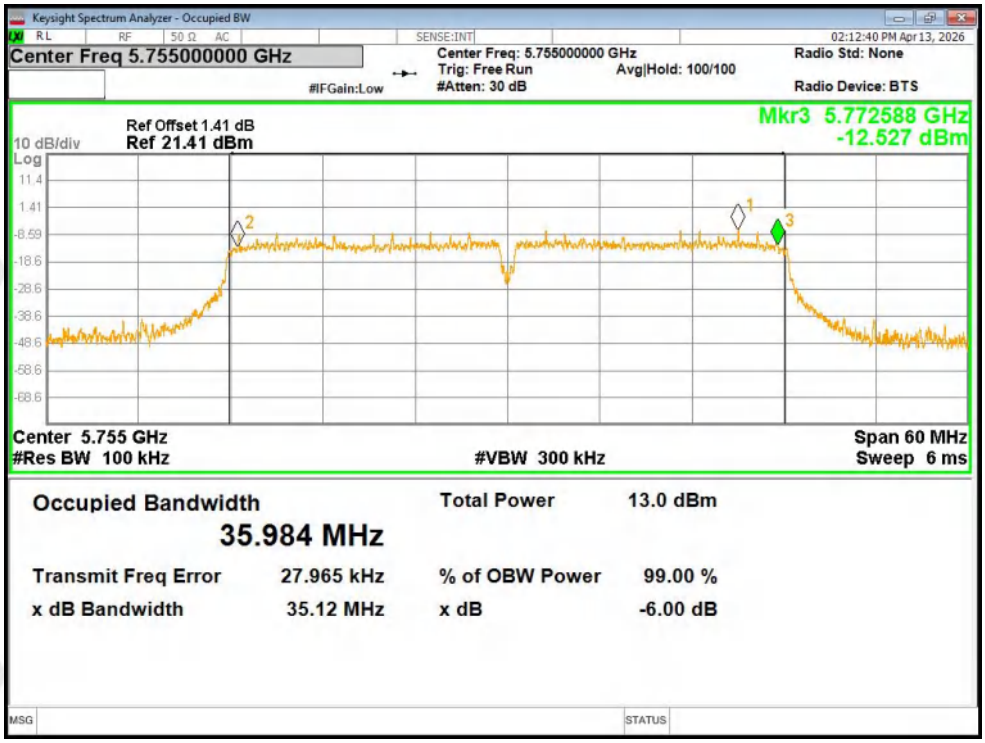
-6dB Bandwidth NVNT n20 5785MHz Ant1



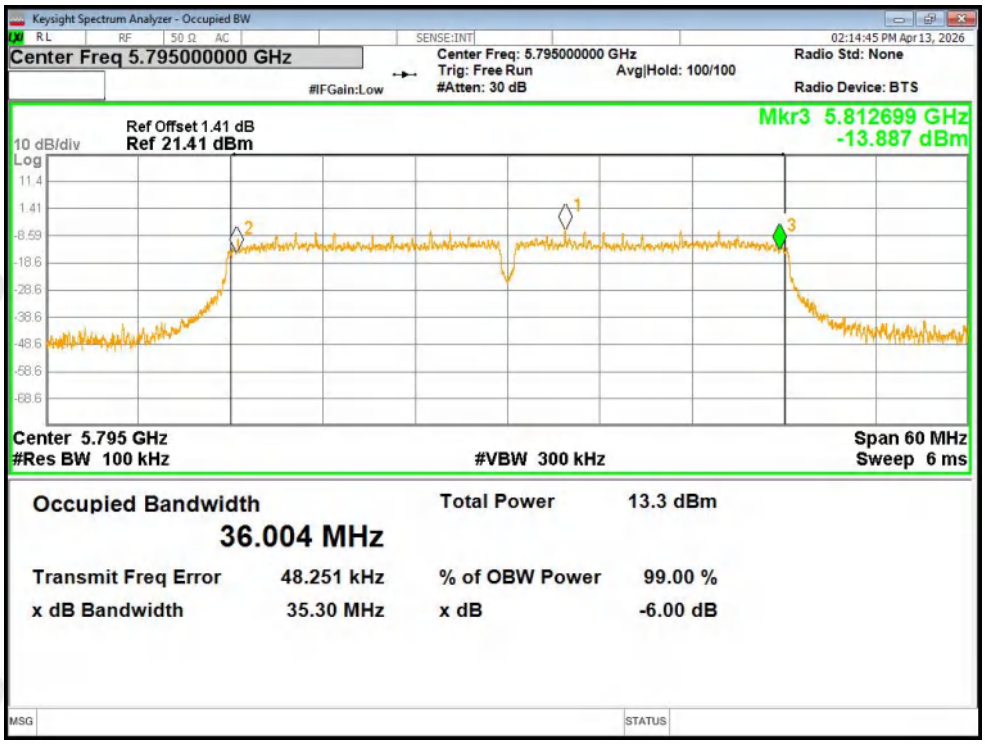
-6dB Bandwidth NVNT n20 5825MHz Ant1



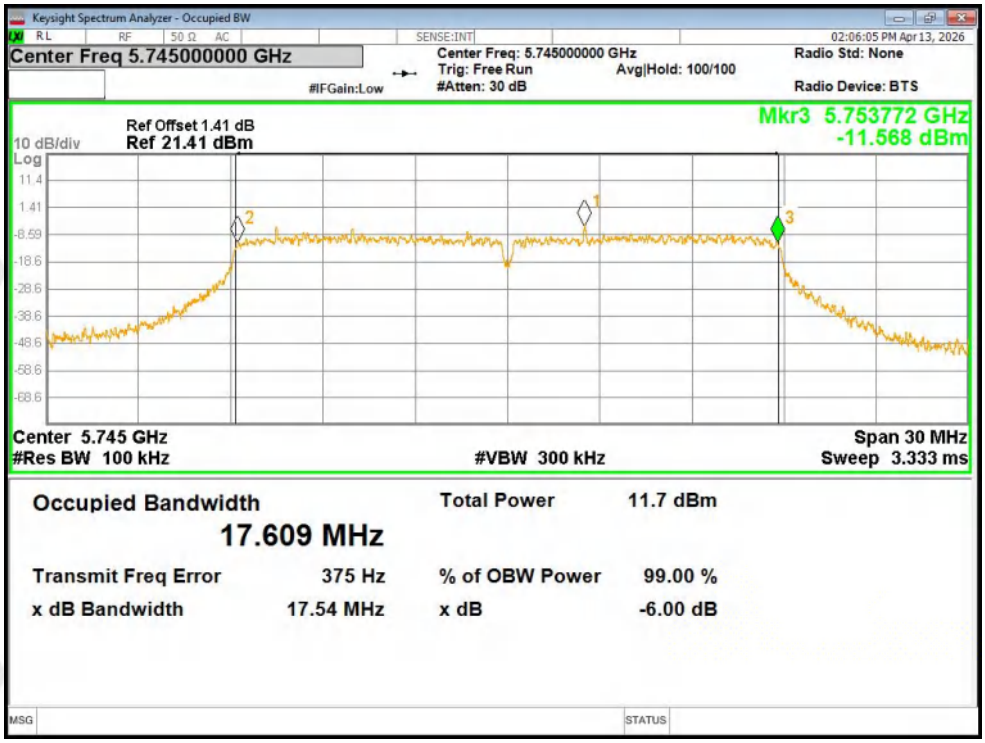
-6dB Bandwidth NVNT n40 5755MHz Ant1



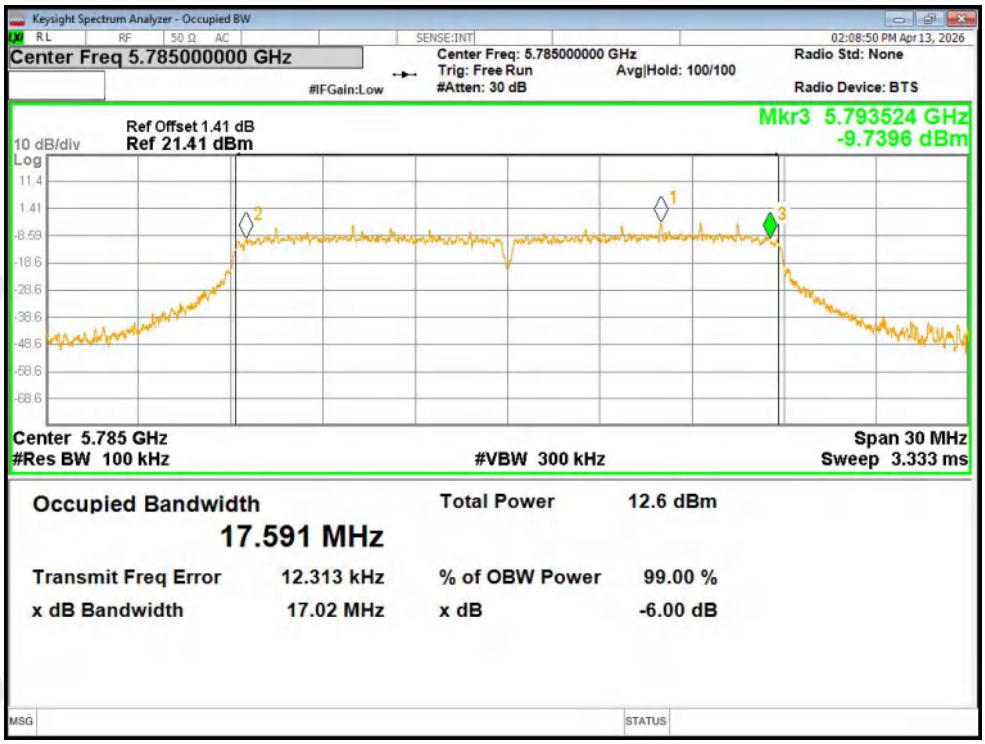
-6dB Bandwidth NVNT n40 5795MHz Ant1



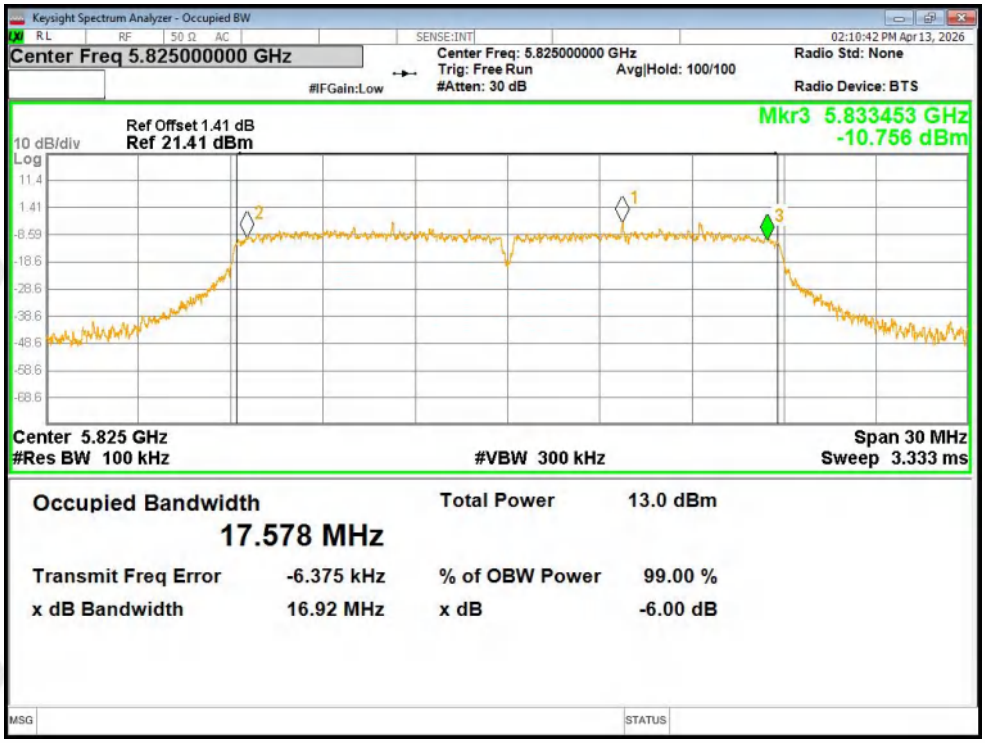
-6dB Bandwidth NVNT ac20 5745MHz Ant1



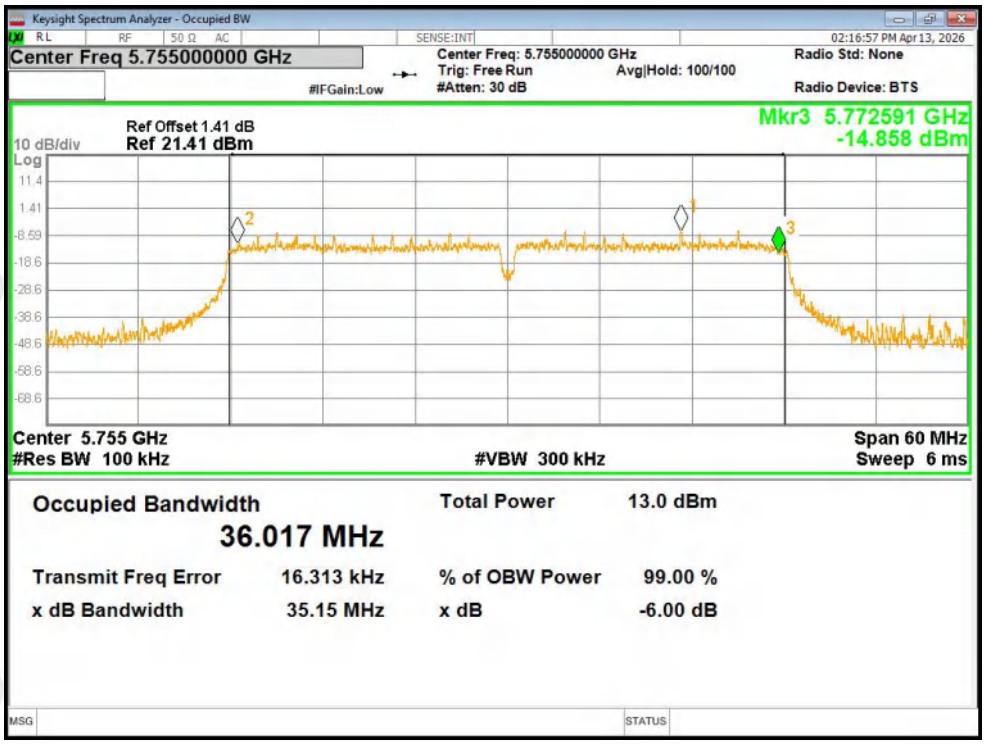
-6dB Bandwidth NVNT ac20 5785MHz Ant1



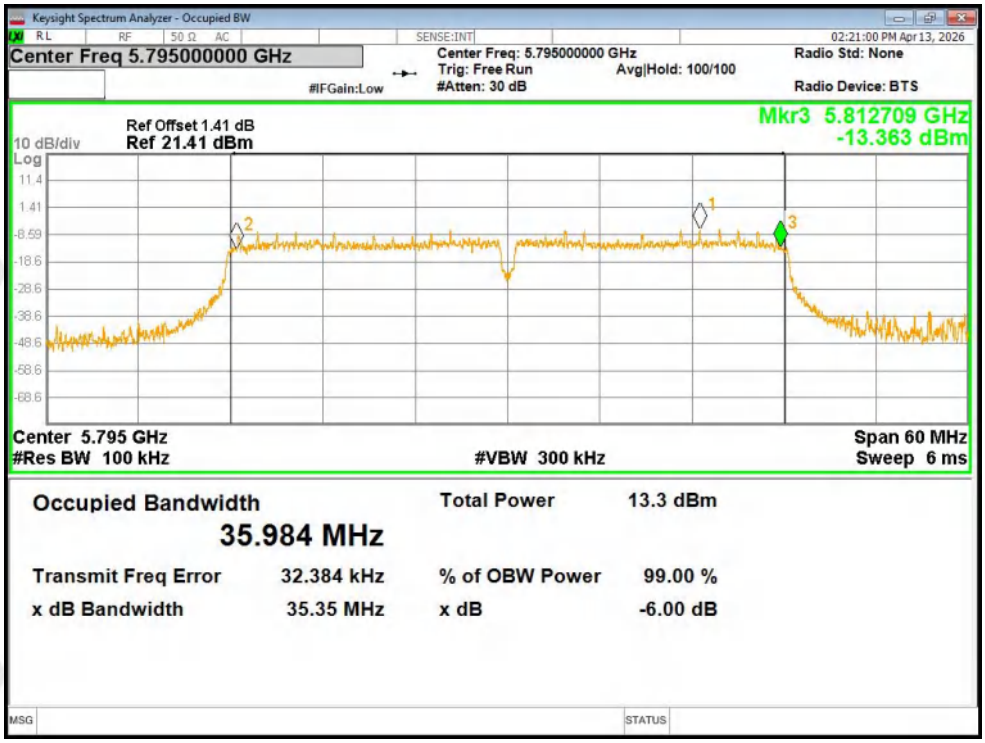
-6dB Bandwidth NVNT ac20 5825MHz Ant1



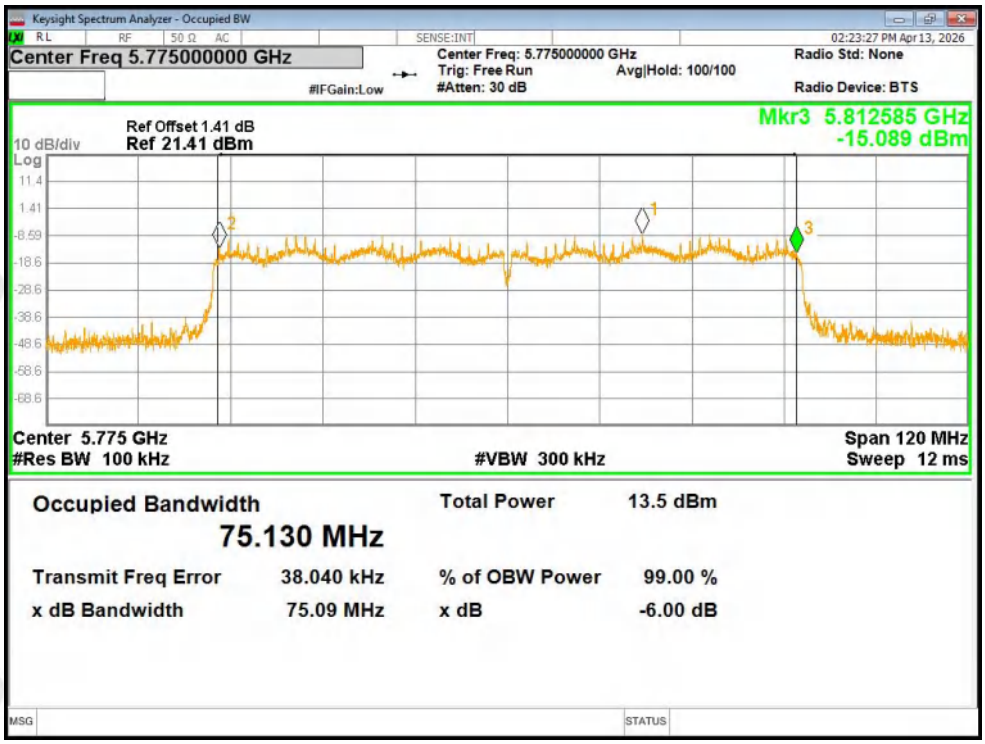
-6dB Bandwidth NVNT ac40 5755MHz Ant1



-6dB Bandwidth NVNT ac40 5795MHz Ant1



-6dB Bandwidth NVNT ac80 5775MHz Ant1

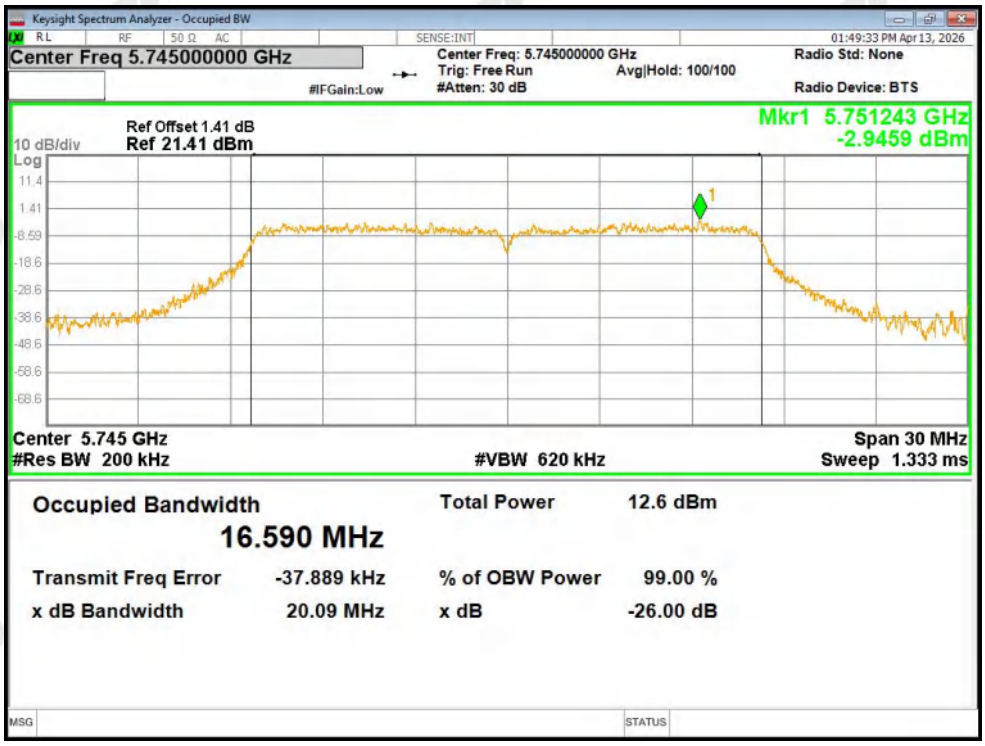


D.4 Occupied Channel Bandwidth

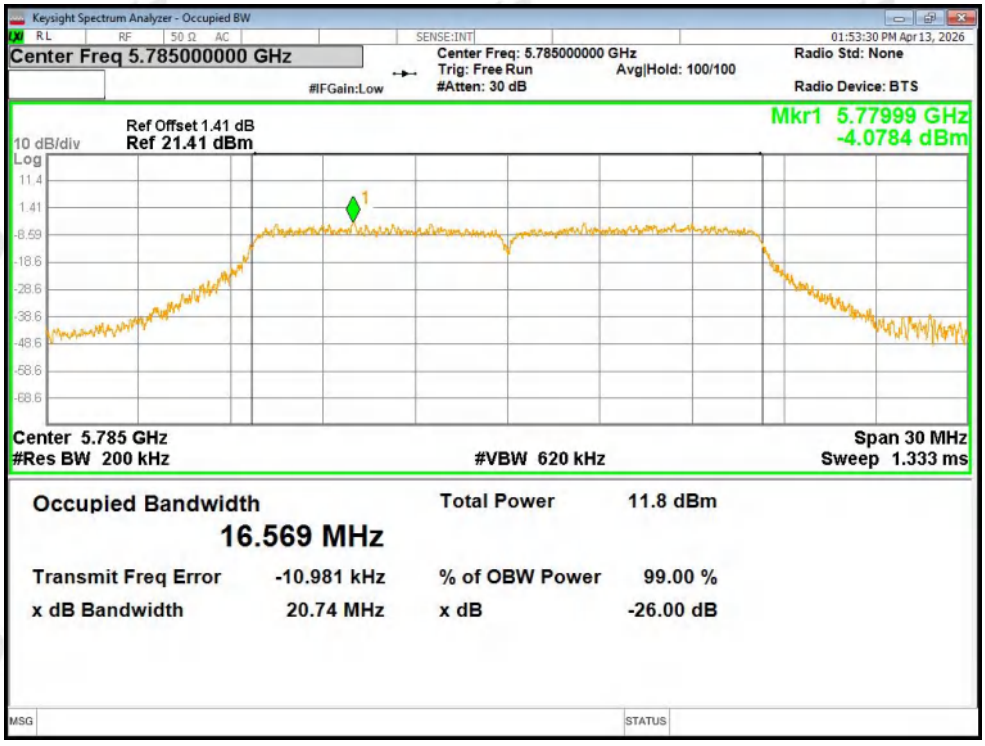
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5745	Ant1	16.59
NVNT	a	5785	Ant1	16.569
NVNT	a	5825	Ant1	16.553
NVNT	n20	5745	Ant1	17.648
NVNT	n20	5785	Ant1	17.616
NVNT	n20	5825	Ant1	17.606
NVNT	n40	5755	Ant1	36.177
NVNT	n40	5795	Ant1	36.138
NVNT	ac20	5745	Ant1	17.661
NVNT	ac20	5785	Ant1	17.631
NVNT	ac20	5825	Ant1	17.627
NVNT	ac40	5755	Ant1	36.196
NVNT	ac40	5795	Ant1	36.11
NVNT	ac80	5775	Ant1	75.31

Test Graphs

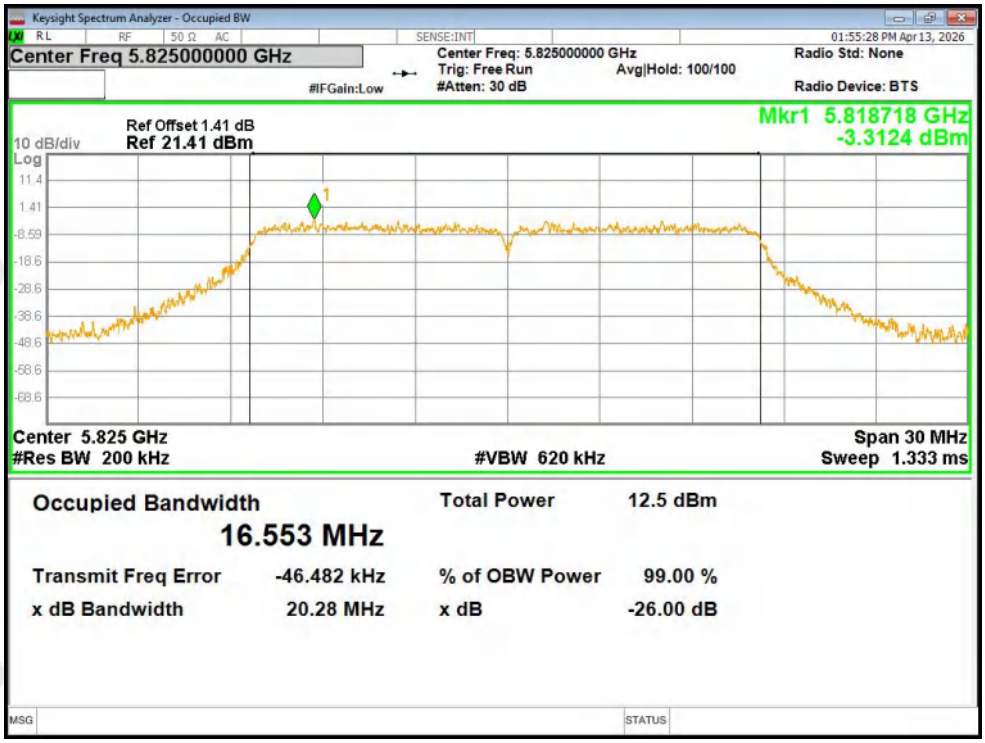
OBW NVNT a 5745MHz Ant1



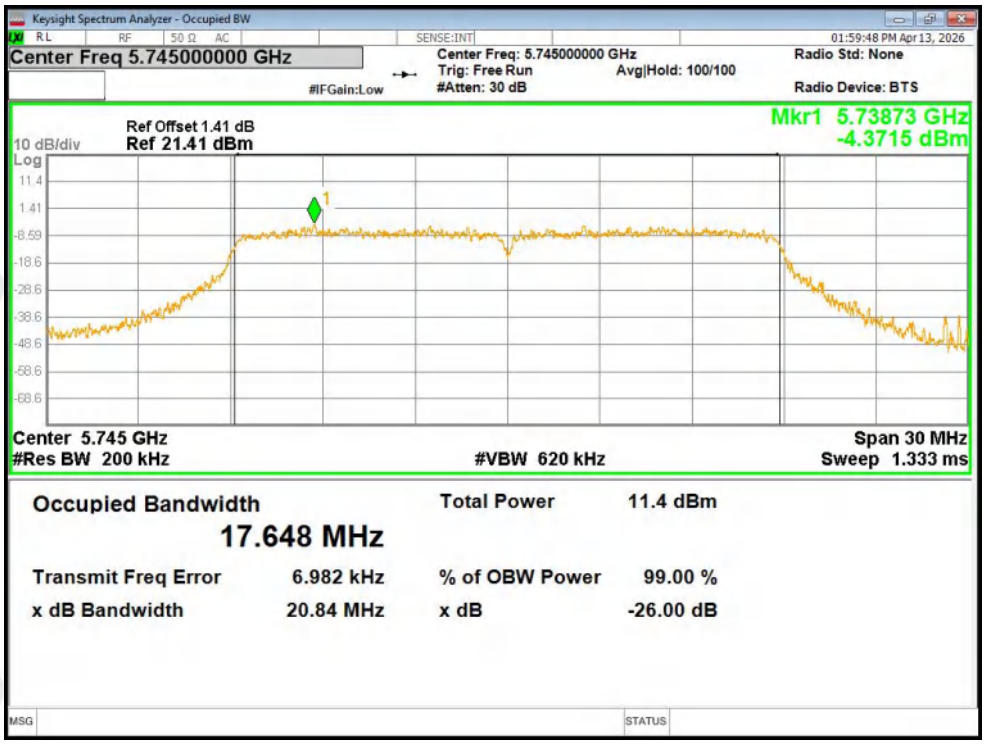
OBW NVNT a 5785MHz Ant1



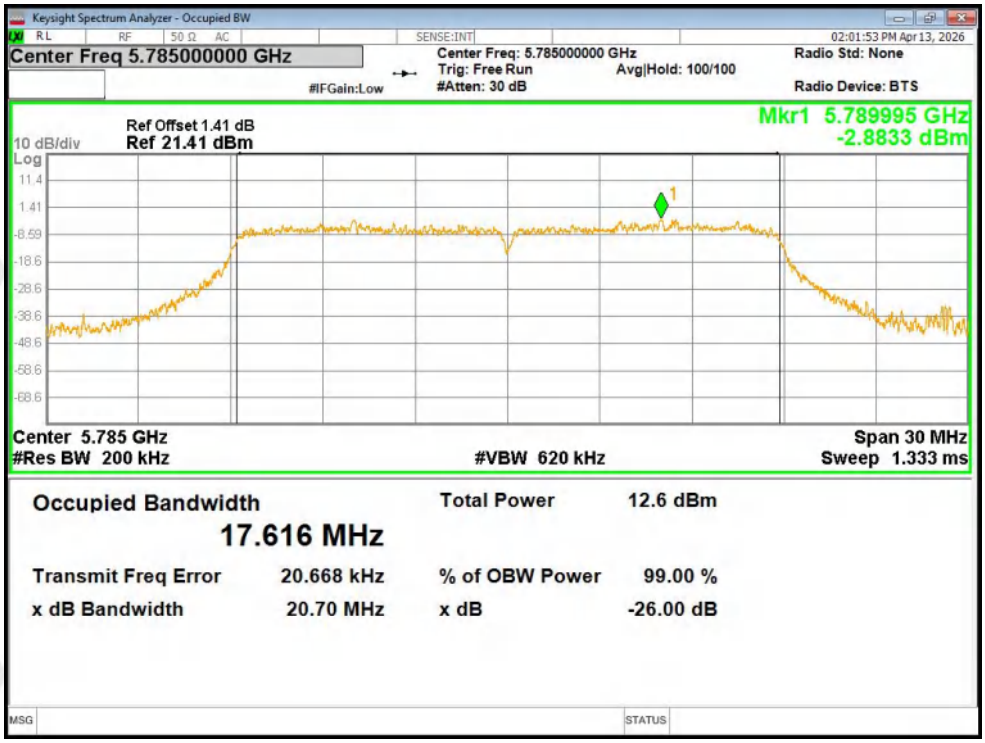
OBW NVNT a 5825MHz Ant1



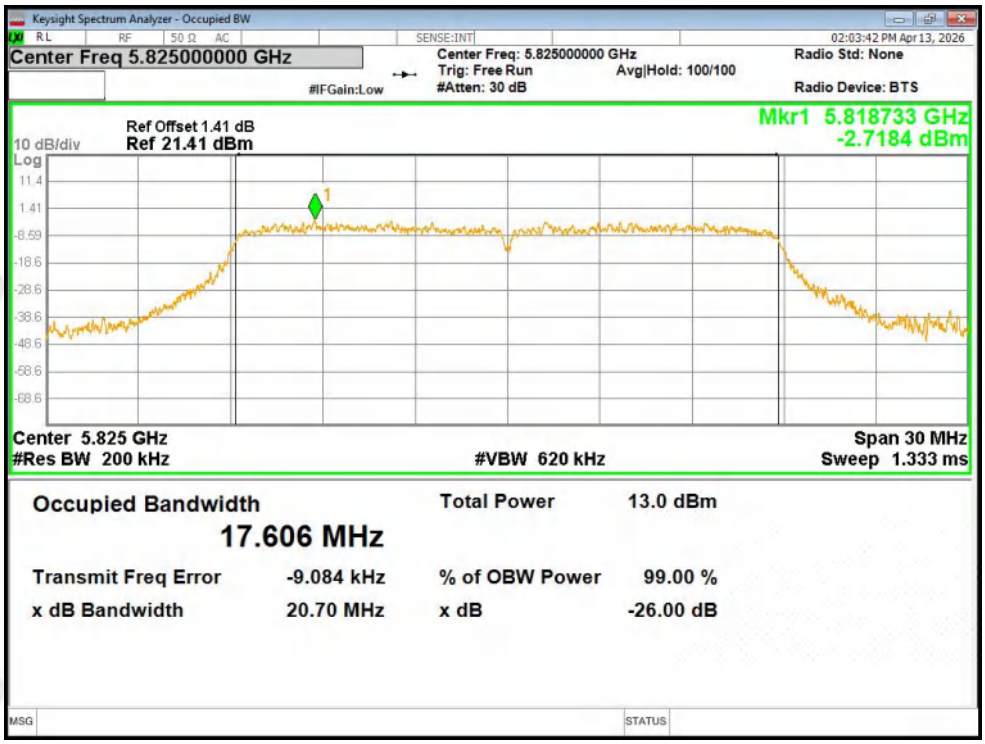
OBW NVNT n20 5745MHz Ant1



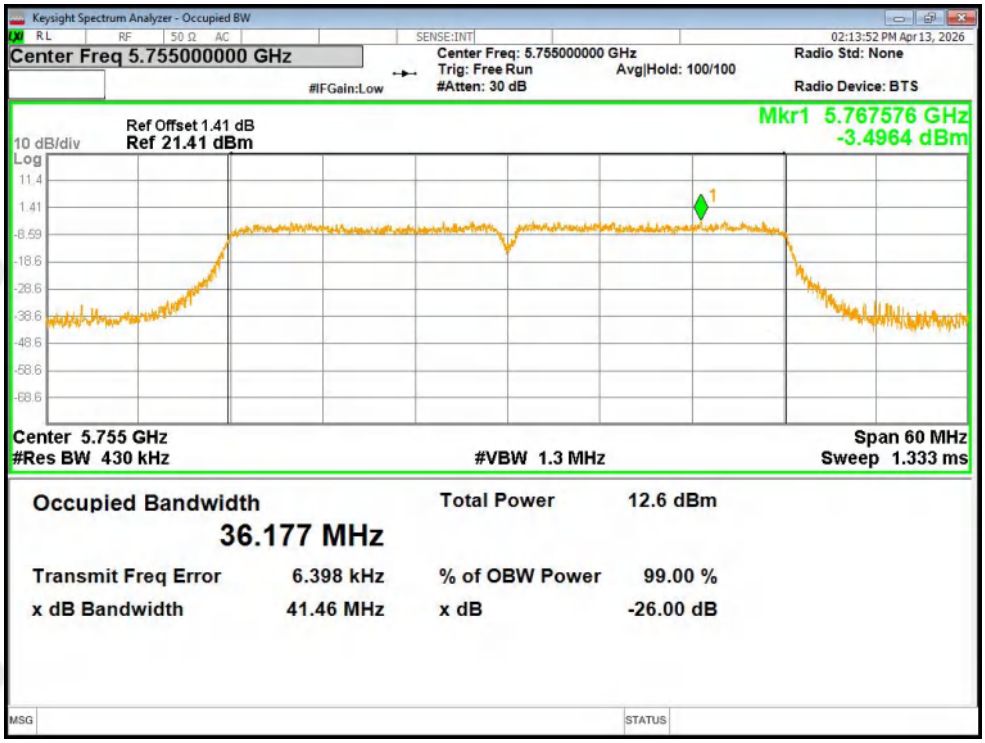
OBW NVNT n20 5785MHz Ant1



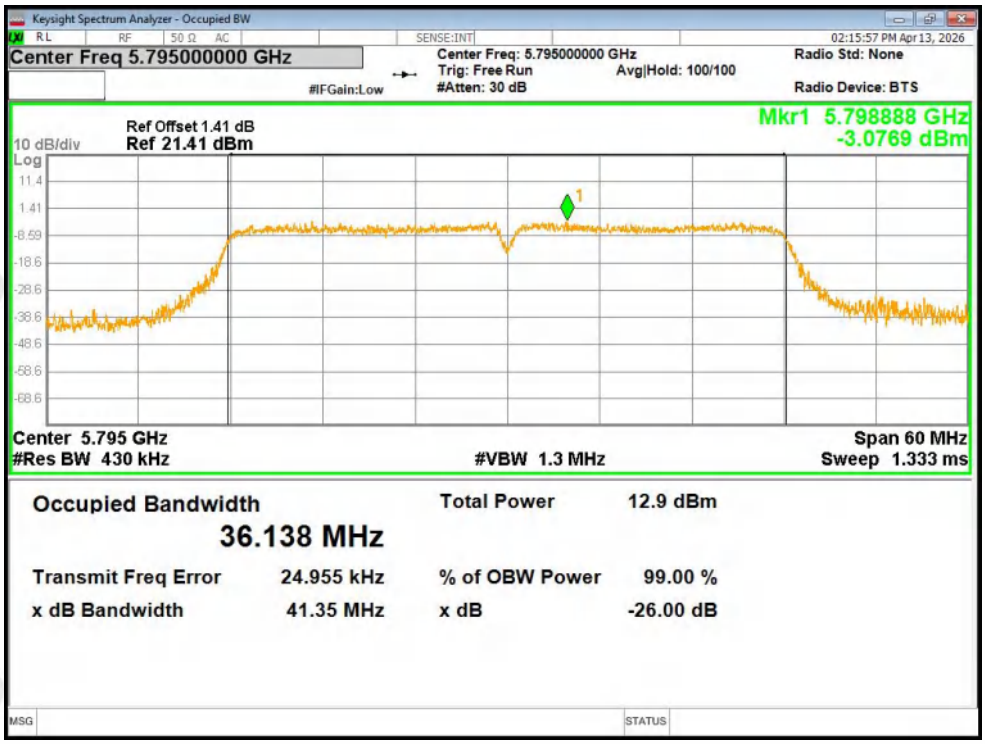
OBW NVNT n20 5825MHz Ant1



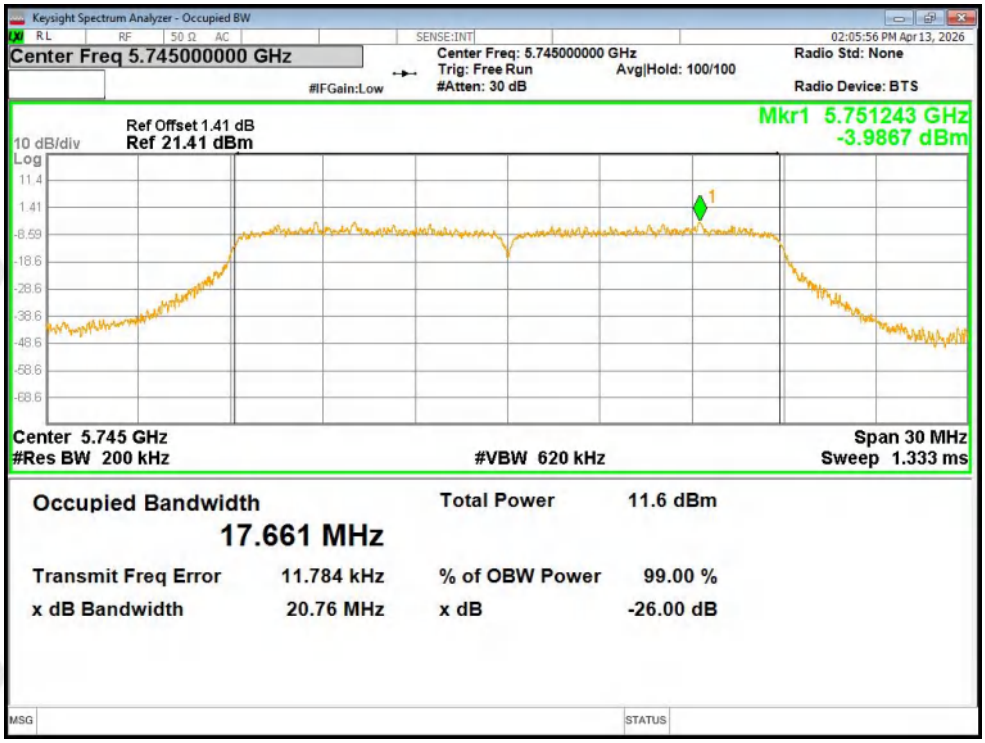
OBW NVNT n40 5755MHz Ant1



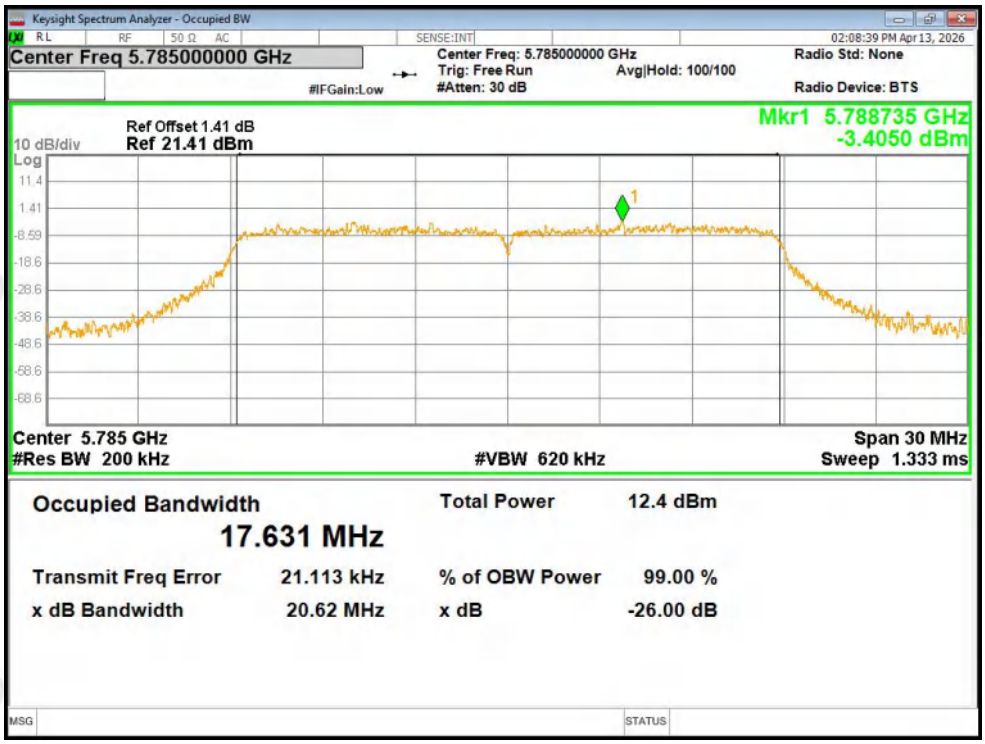
OBW NVNT n40 5795MHz Ant1



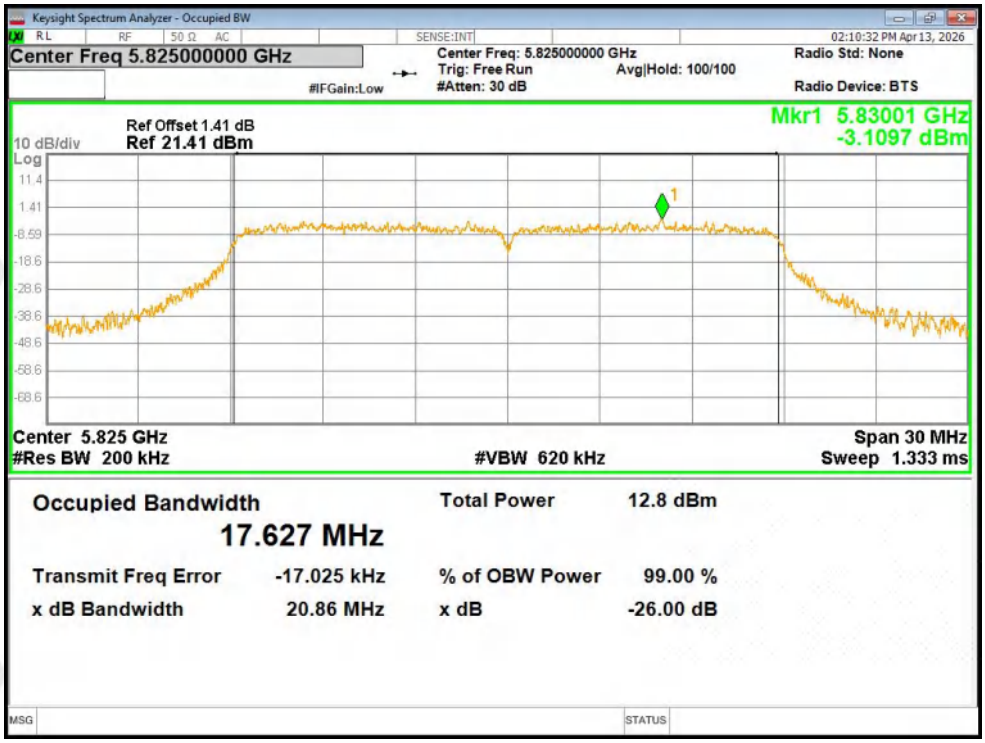
OBW NVNT ac20 5745MHz Ant1



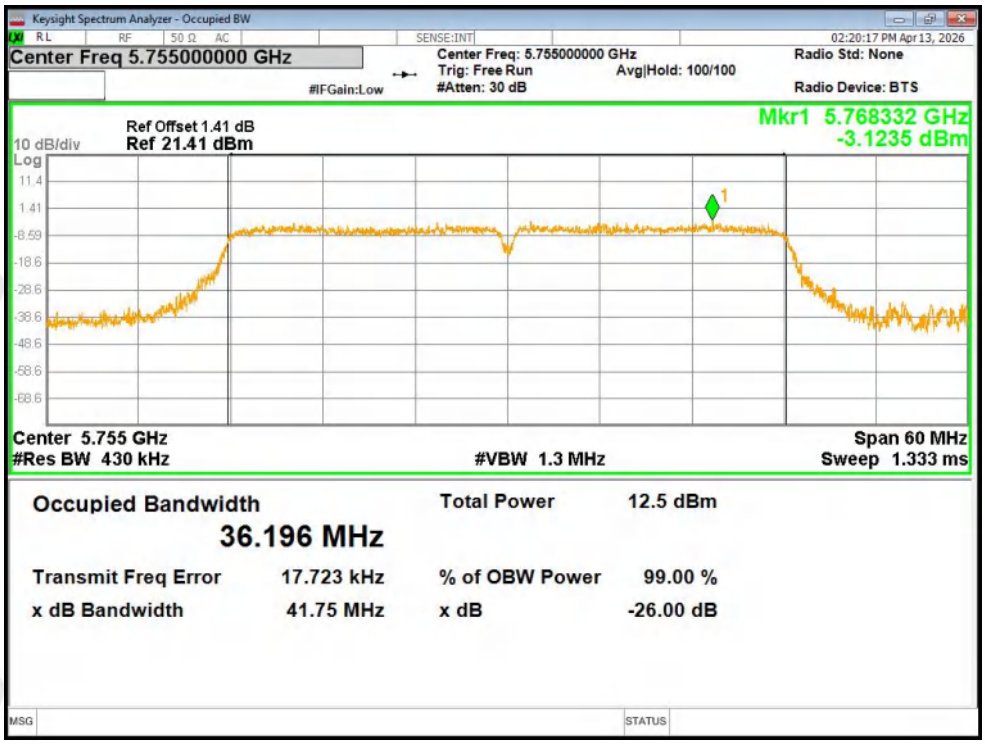
OBW NVNT ac20 5785MHz Ant1



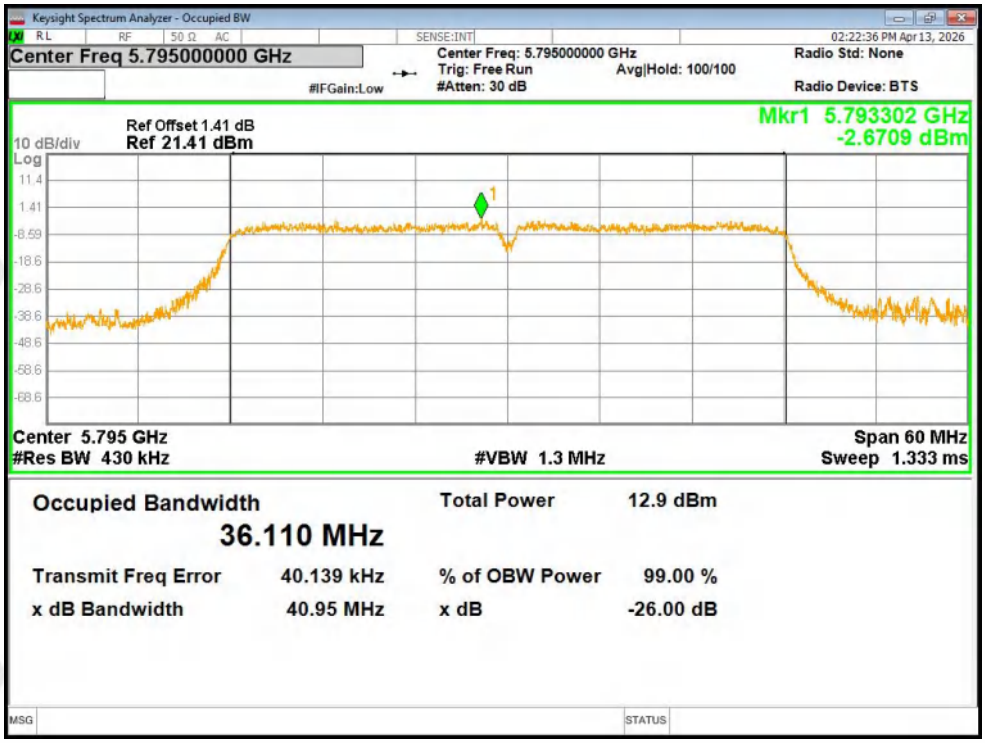
OBW NVNT ac20 5825MHz Ant1



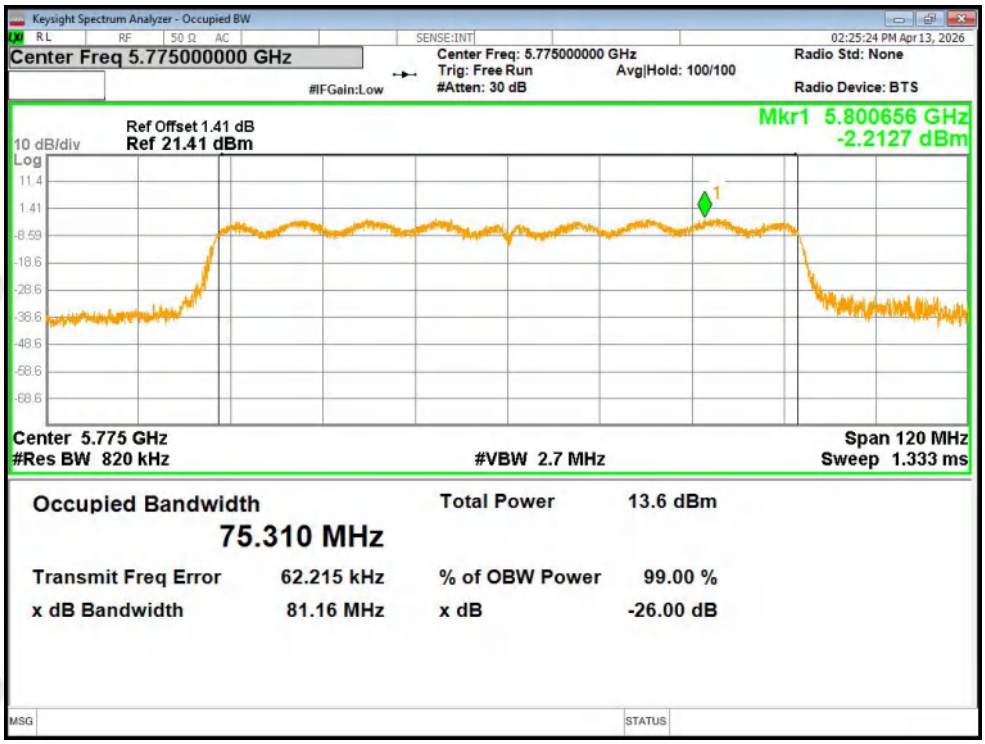
OBW NVNT ac40 5755MHz Ant1



OBW NVNT ac40 5795MHz Ant1



OBW NVNT ac80 5775MHz Ant1



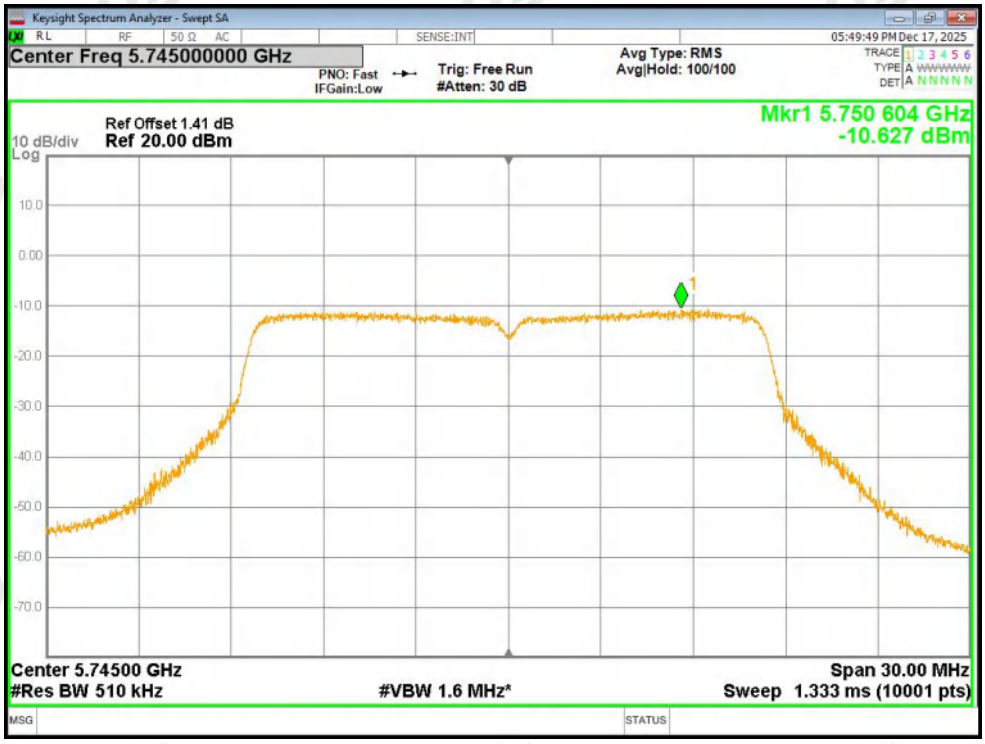
D.5 Maximum Power Spectral Density Level

Mode	Frequency (MHz)	Antenna	Conducted PSD dBm/510KHz	Duty Factor (dB)	RB factor (dB)	Total PSD dBm/500KHz	Limit dBm/500KHz	Verdict
a	5745	Ant1	-6.45	0.17	-0.086	-6.37	30	Pass
a	5785	Ant1	-7.02	0.23	-0.086	-6.88	30	Pass
a	5825	Ant1	-6.69	0.3	-0.086	-6.48	30	Pass
n20	5745	Ant1	-7.93	0.26	-0.086	-7.76	30	Pass
n20	5785	Ant1	-6.41	0.11	-0.086	-6.39	30	Pass
n20	5825	Ant1	-6.07	0.37	-0.086	-5.79	30	Pass
n40	5755	Ant1	-9.99	0.52	-0.086	-9.56	30	Pass
n40	5795	Ant1	-9.53	0.72	-0.086	-8.90	30	Pass
ac20	5745	Ant1	-7.66	0.2	-0.086	-7.55	30	Pass
ac20	5785	Ant1	-6.72	0.26	-0.086	-6.55	30	Pass
ac20	5825	Ant1	-6.37	0.35	-0.086	-6.11	30	Pass
ac40	5755	Ant1	-9.95	0.63	-0.086	-9.41	30	Pass
ac40	5795	Ant1	-9.42	0.35	-0.086	-9.16	30	Pass
ac80	5775	Ant1	-11.97	0.62	-0.086	-11.44	30	Pass

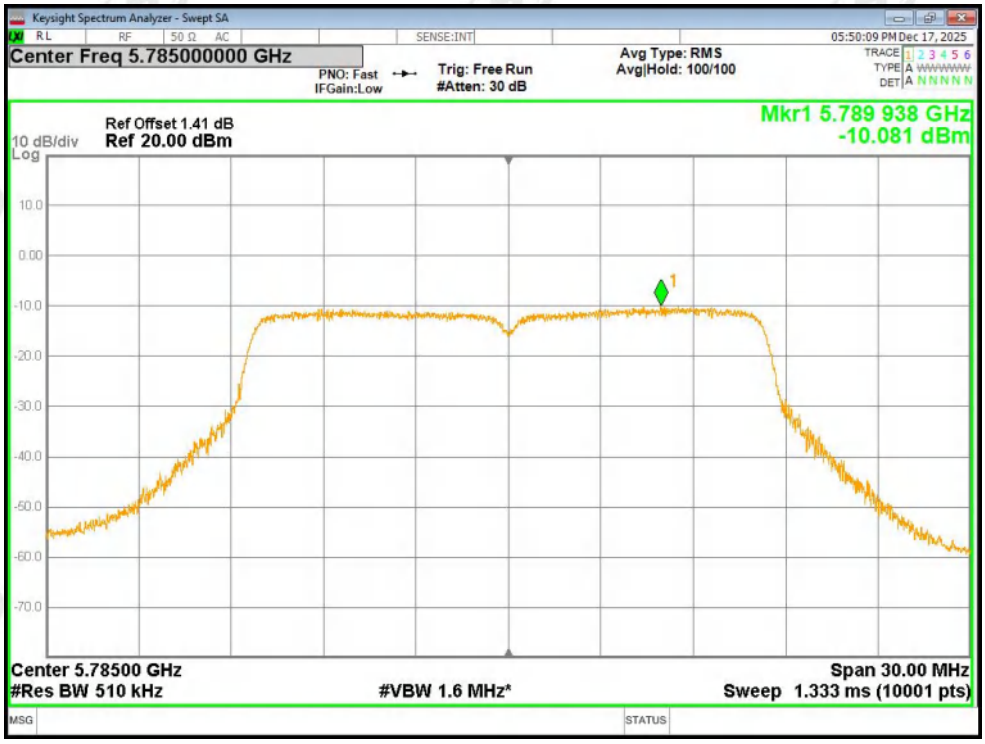
RB factor =10 lg (Measure RB/ 500), Measure RB =510 kHz

Total PSD = Conducted PSD + Duty factor(dB) + RB factor(dB)

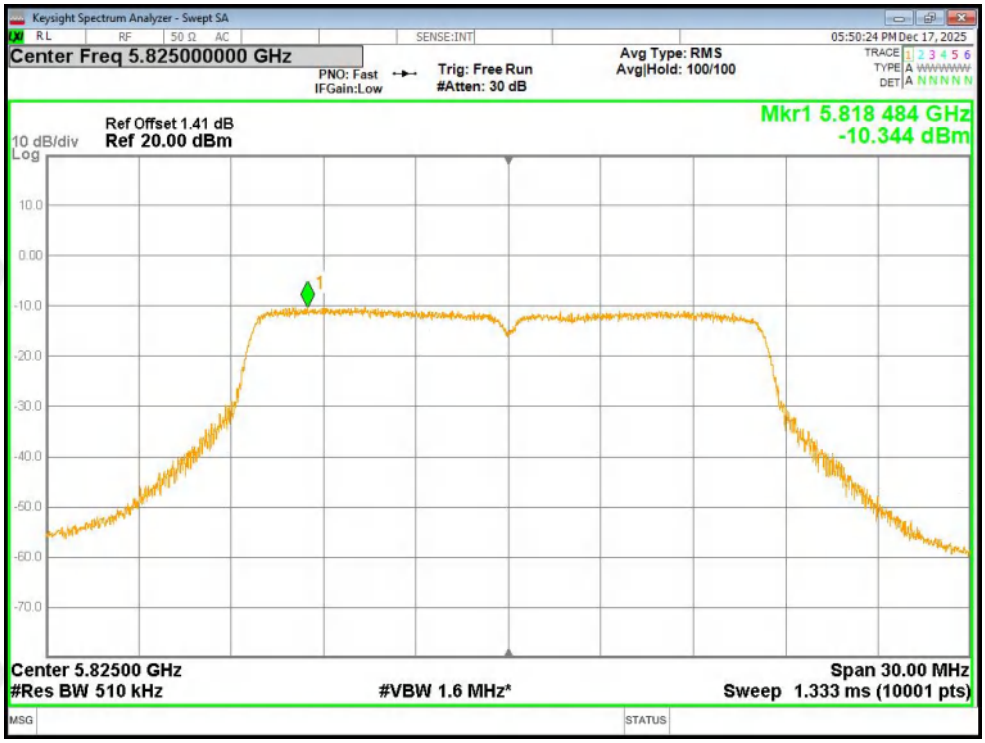
Test Graphs
PSD NVNT a 5745MHz Ant1



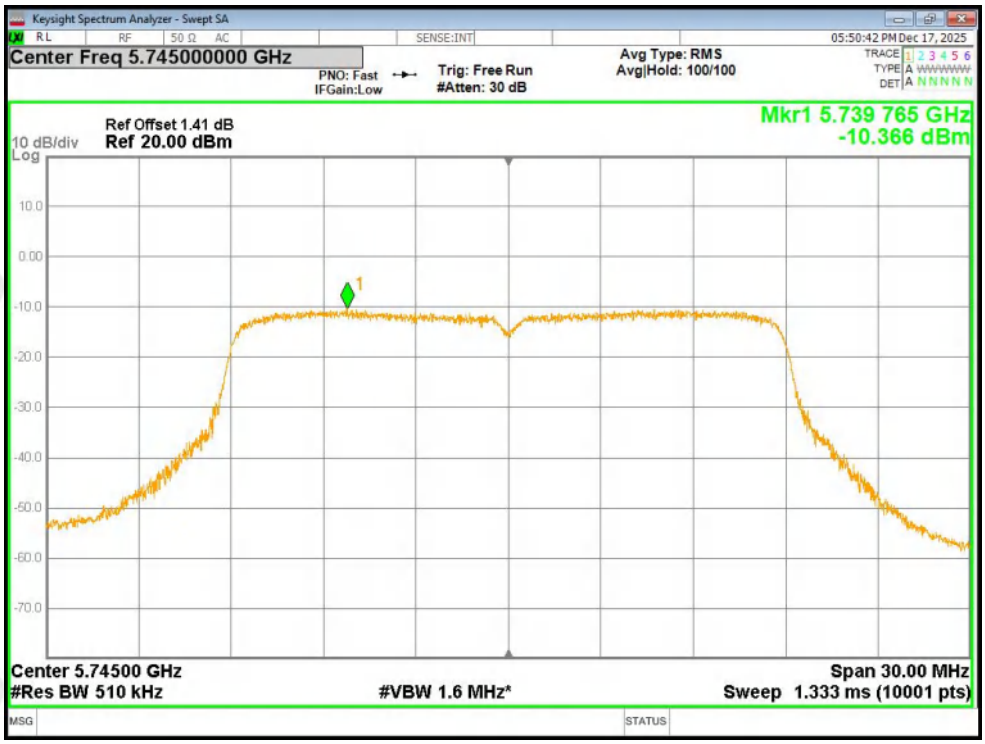
PSD NVNT a 5785MHz Ant1



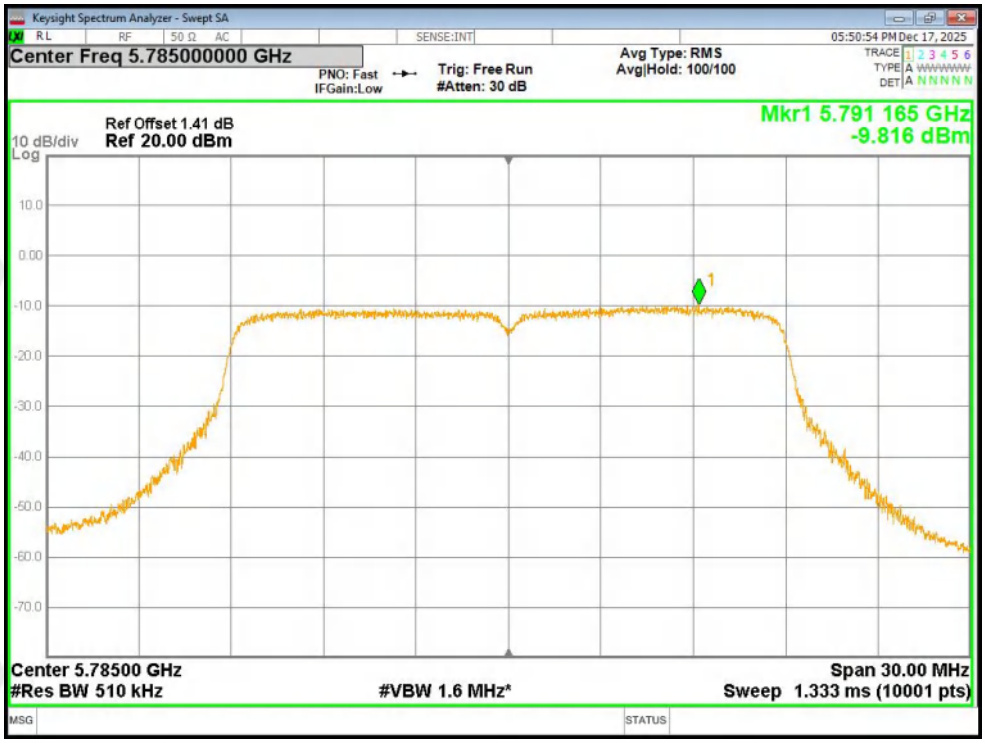
PSD NVNT a 5825MHz Ant1



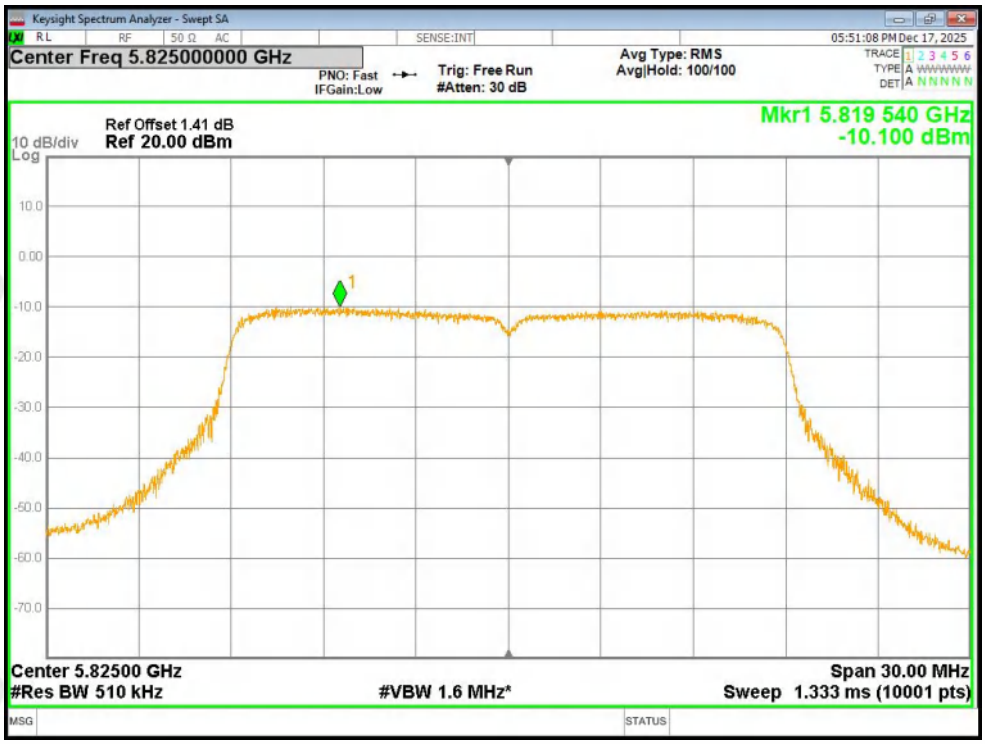
PSD NVNT n20 5745MHz Ant1



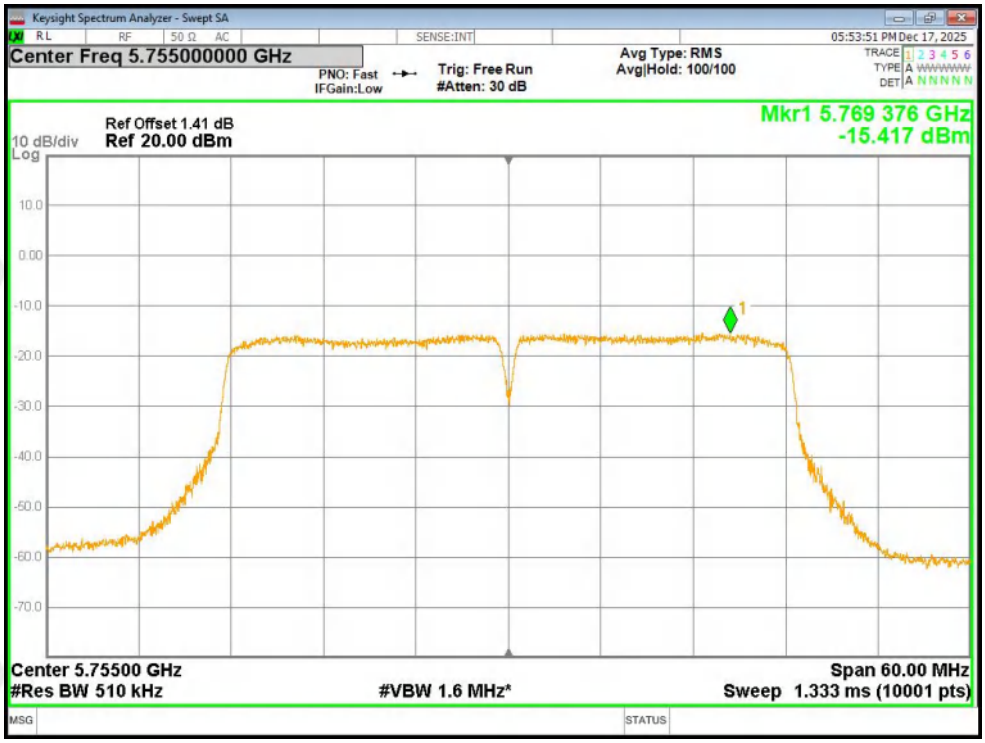
PSD NVNT n20 5785MHz Ant1



PSD NVNT n20 5825MHz Ant1



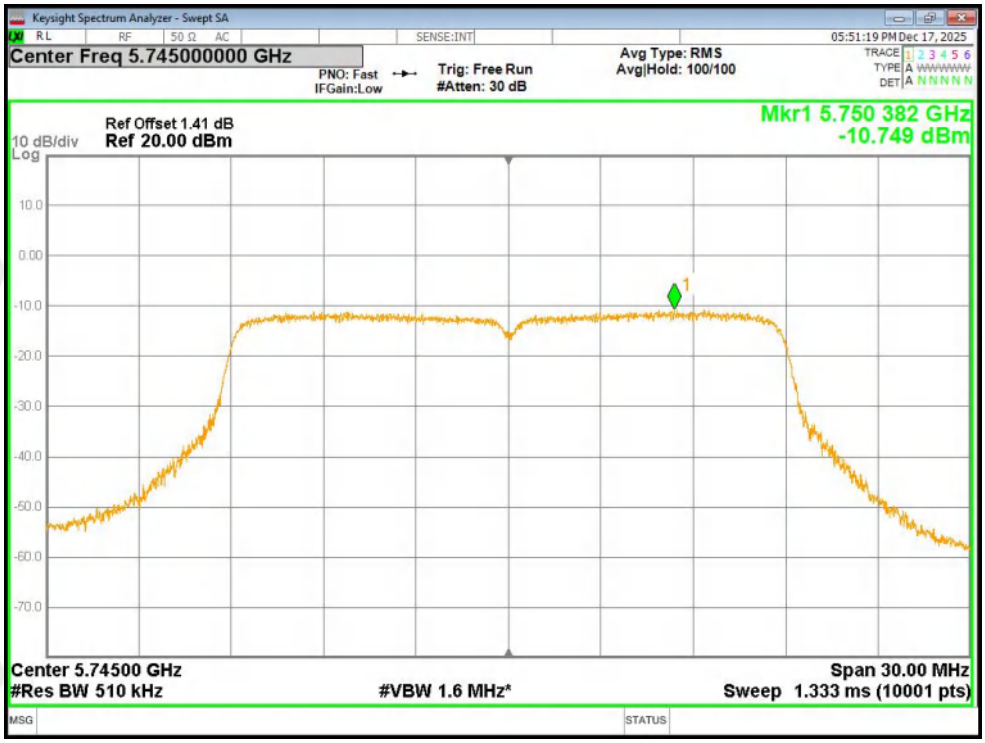
PSD NVNT n40 5755MHz Ant1



PSD NVNT n40 5795MHz Ant1



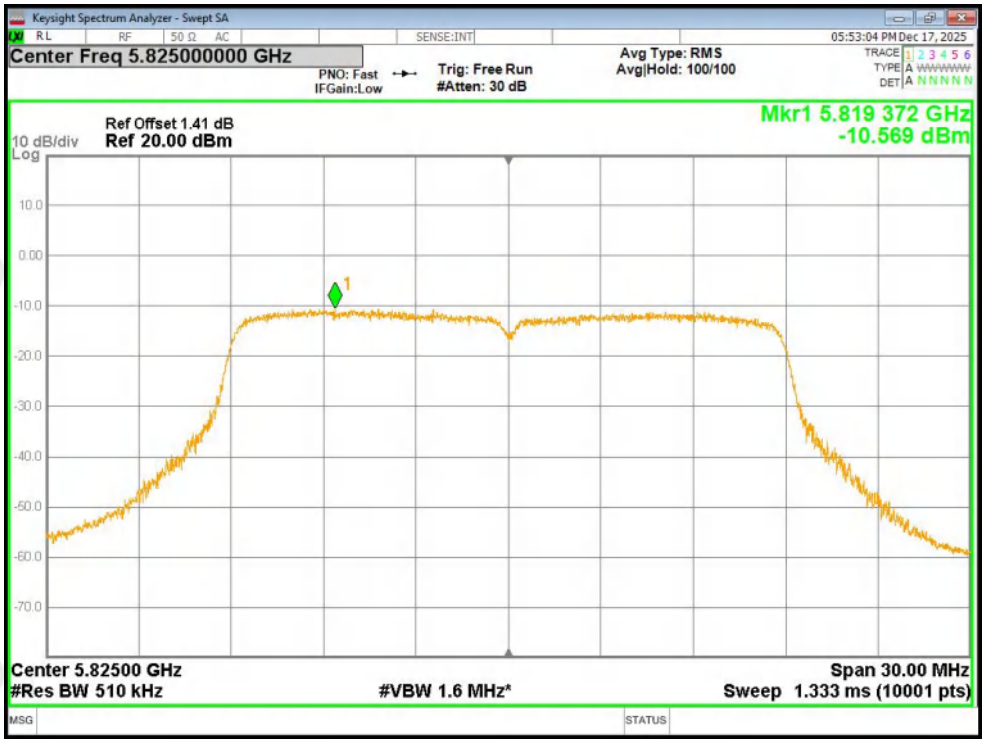
PSD NVNT ac20 5745MHz Ant1



PSD NVNT ac20 5785MHz Ant1



PSD NVNT ac20 5825MHz Ant1



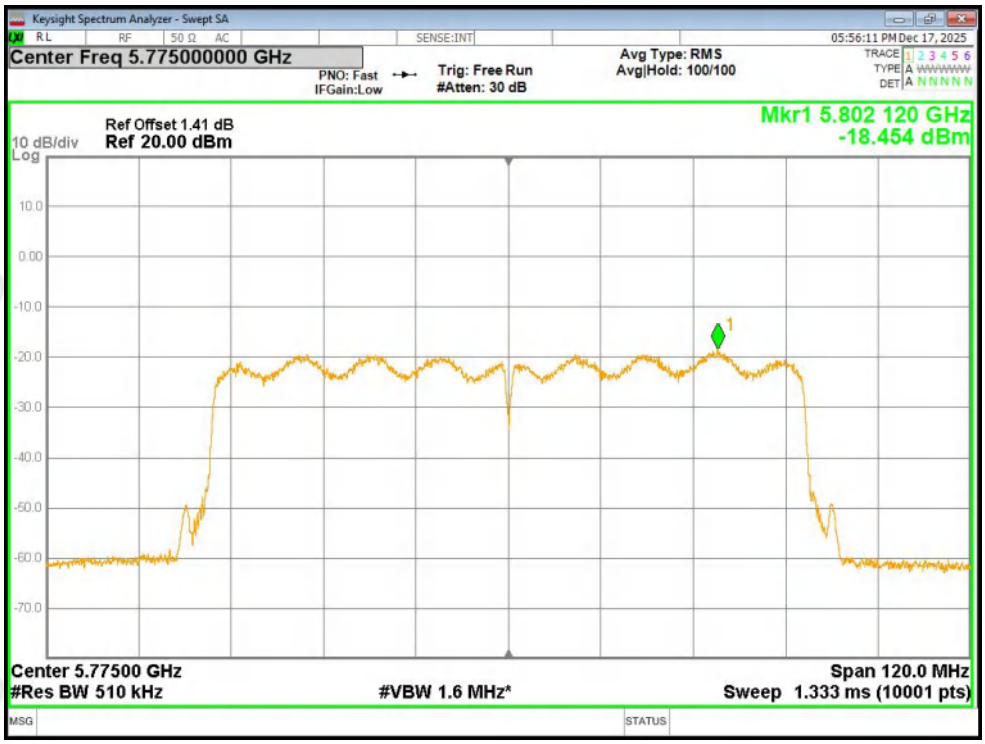
PSD NVNT ac40 5755MHz Ant1



PSD NVNT ac40 5795MHz Ant1



PSD NVNT ac80 5775MHz Ant1

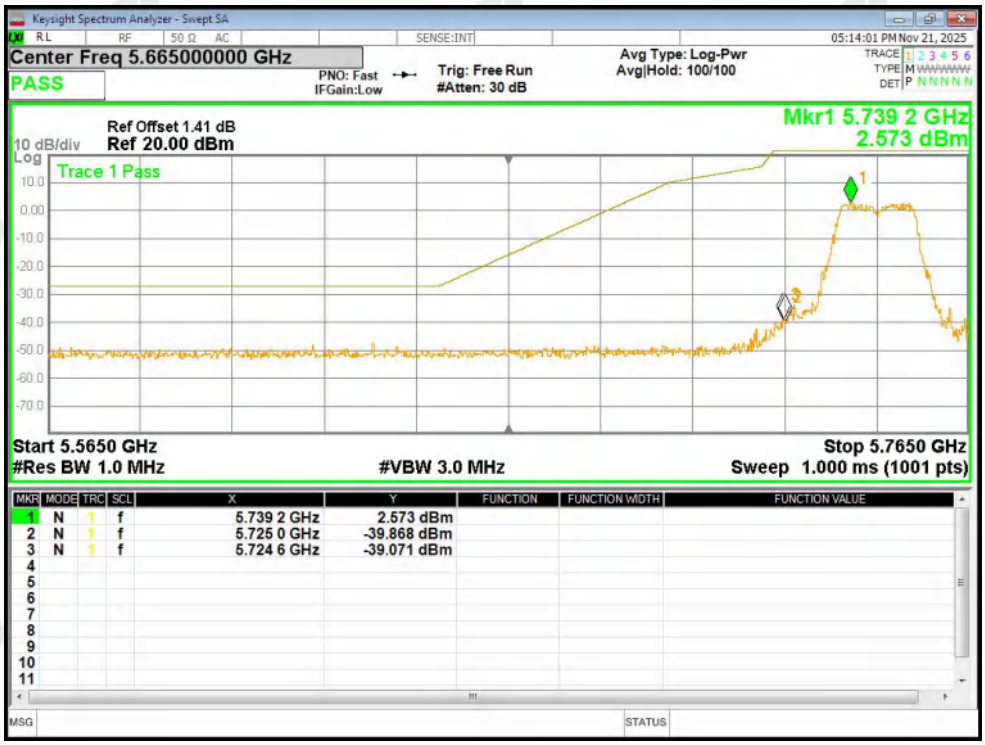


D.6 Band Edge

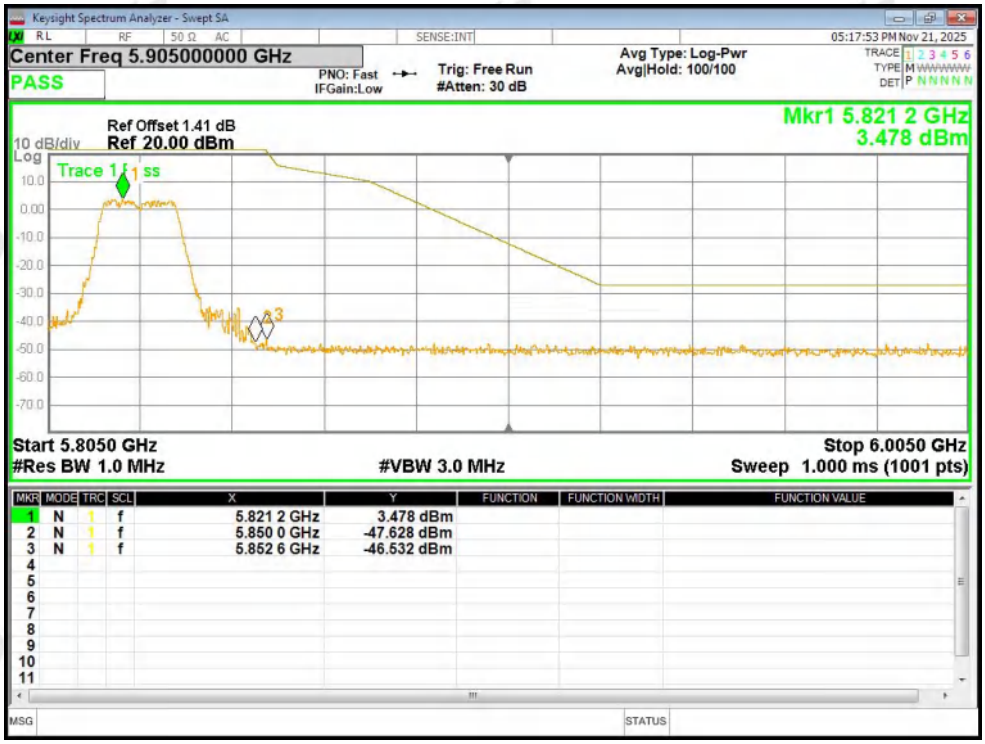
Condition	Mode	Frequency (MHz)	Antenna	Freq (MHz)	Max Value (dBm)	ANT Gain (dBi)	EIRP Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	5724.6	-39.071	4.2	-34.87	≤27.00	Pass
NVNT	a	5825	Ant1	5852.6	-46.532	4.2	-42.33	≤15.60	Pass
NVNT	n20	5745	Ant1	5724.2	-34.176	4.2	-29.98	≤27.00	Pass
NVNT	n20	5825	Ant1	5852.0	-45.532	4.2	-41.33	≤27.00	Pass
NVNT	n40	5755	Ant1	5723.4	-33.053	4.2	-28.85	≤27.00	Pass
NVNT	n40	5795	Ant1	5852.6	-47.026	4.2	-42.83	≤15.60	Pass
NVNT	ac20	5745	Ant1	5725.0	-38.162	4.2	-33.96	≤27.00	Pass
NVNT	ac20	5825	Ant1	5850.8	-41.407	4.2	-37.21	≤27.00	Pass
NVNT	ac40	5755	Ant1	5723.6	-36.263	4.2	-32.06	≤27.00	Pass
NVNT	ac40	5795	Ant1	5850.4	-45.633	4.2	-41.43	≤27.00	Pass
NVNT	ac80	5775	Ant1	5866.4	-32.294	4.2	-28.09	≤15.60	Pass

Test Graphs

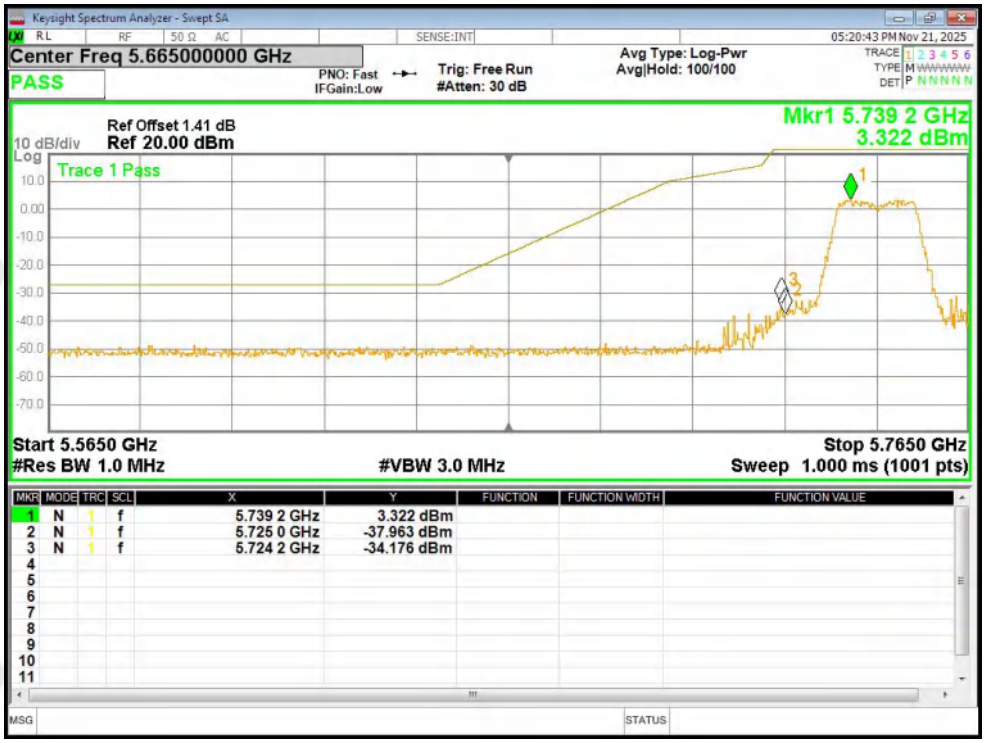
Band Edge NVNT a 5745MHz Low Ant1



Band Edge NVNT a 5825MHz High Ant1



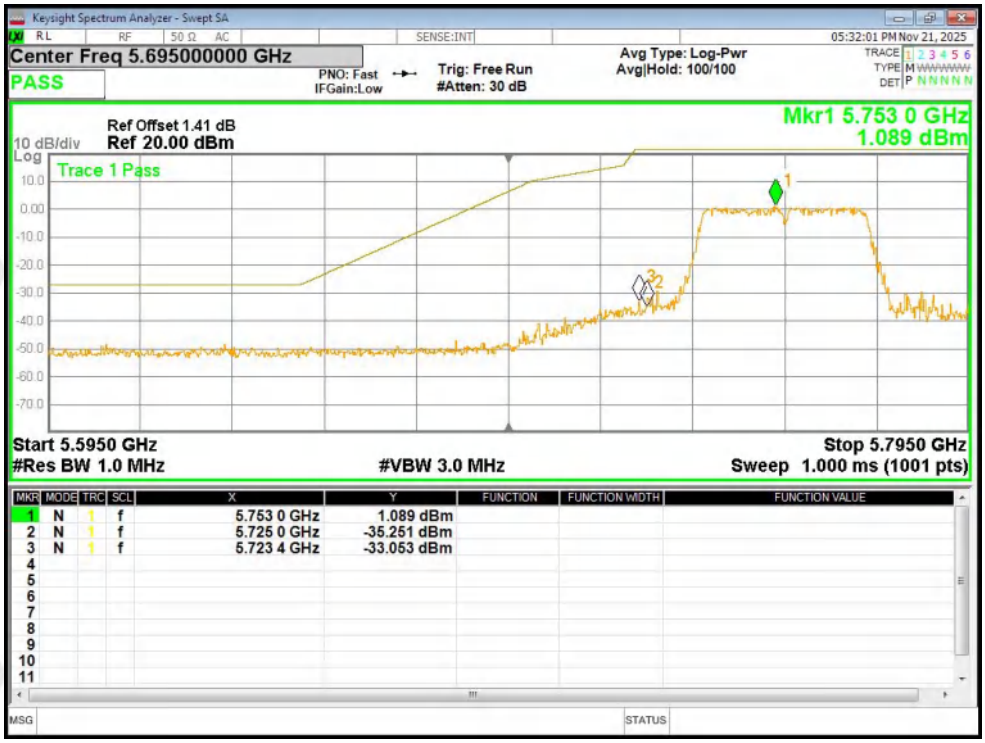
Band Edge NVNT n20 5745MHz Low Ant1



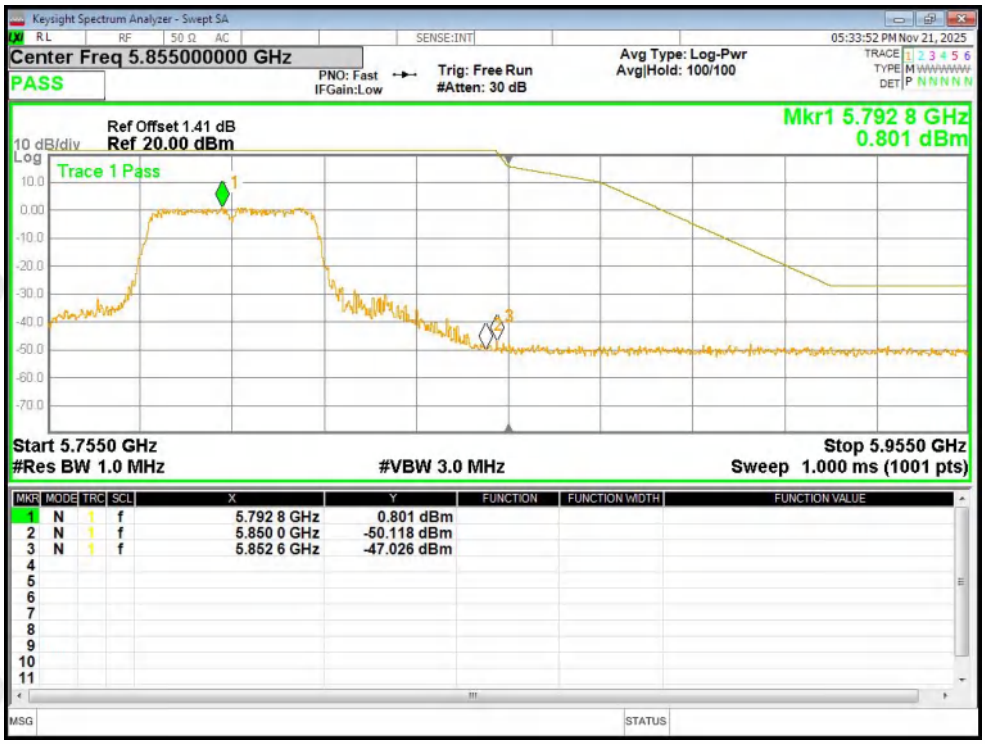
Band Edge NVNT n20 5825MHz High Ant1



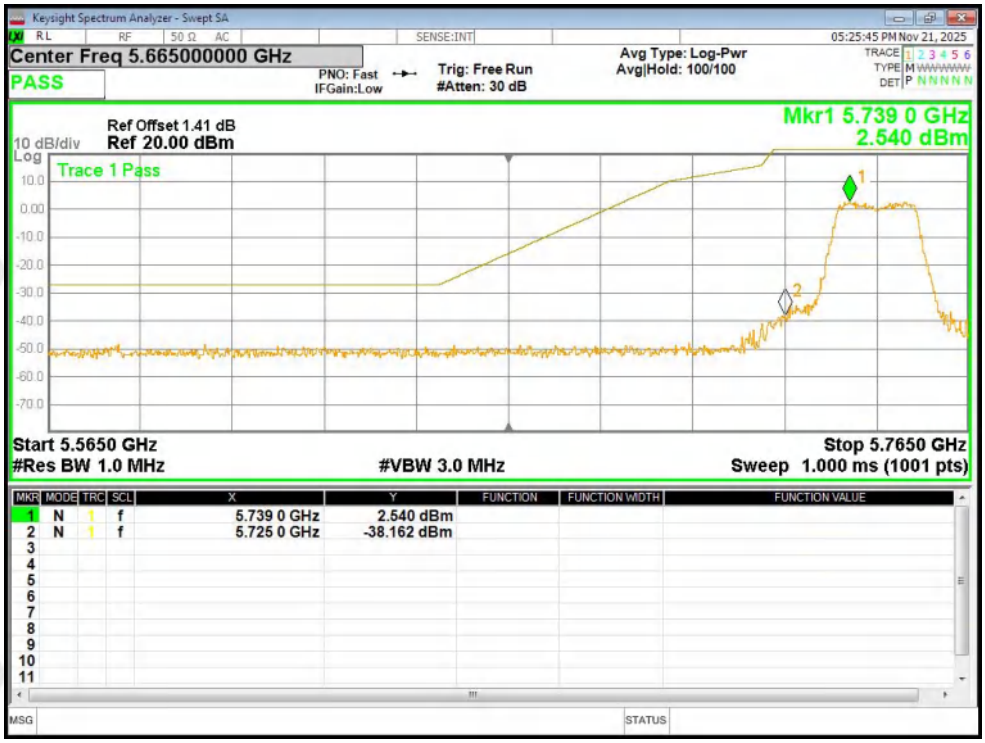
Band Edge NVNT n40 5755MHz Low Ant1



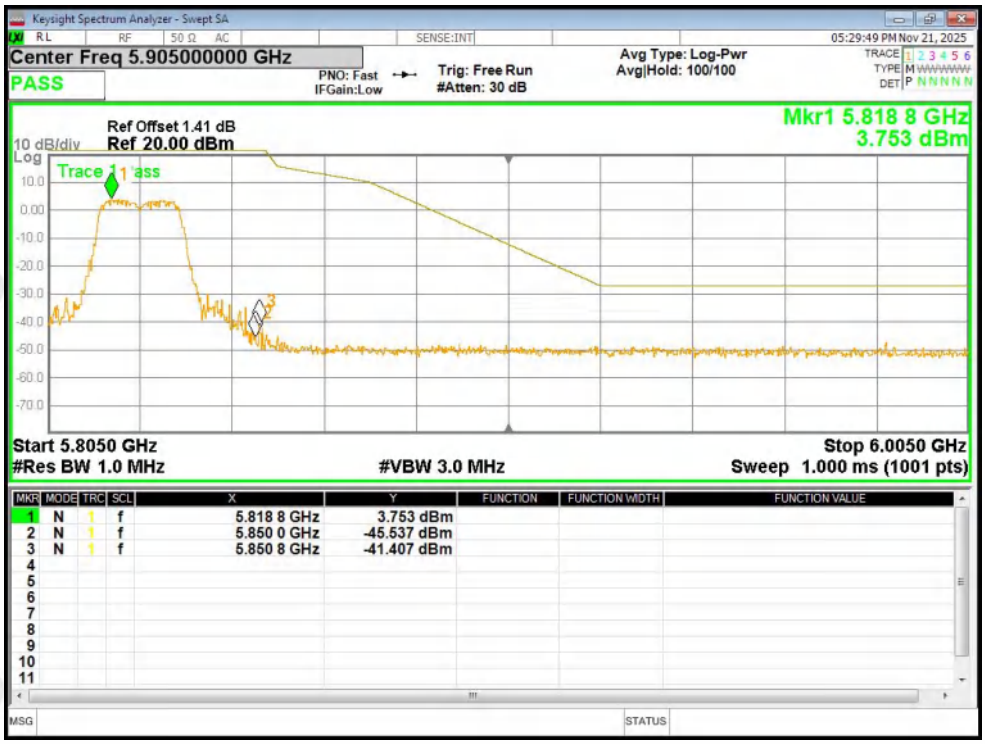
Band Edge NVNT n40 5795MHz High Ant1



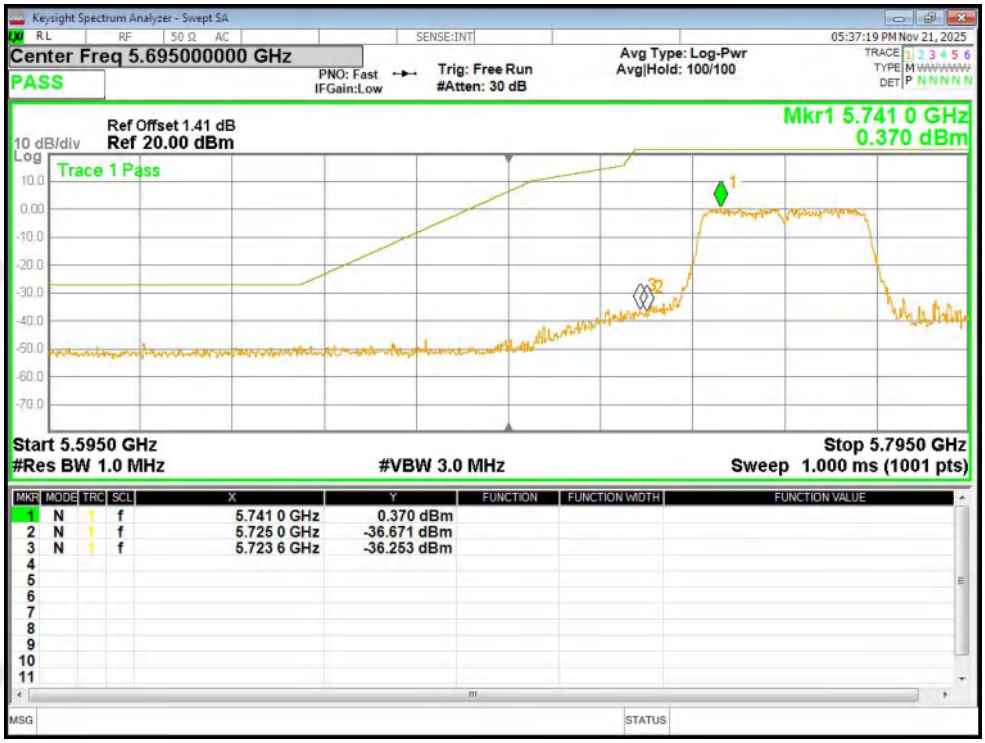
Band Edge NVNT ac20 5745MHz Low Ant1



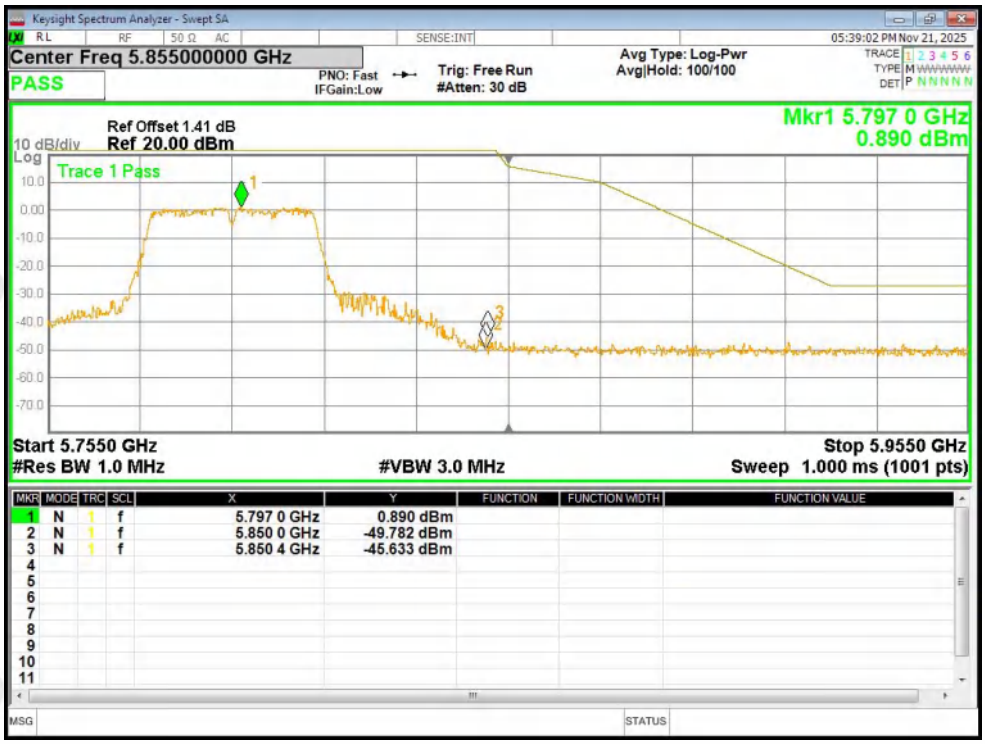
Band Edge NVNT ac20 5825MHz High Ant1



Band Edge NVNT ac40 5755MHz Low Ant1



Band Edge NVNT ac40 5795MHz High Ant1



Band Edge NVNT ac80 5775MHz High Ant1

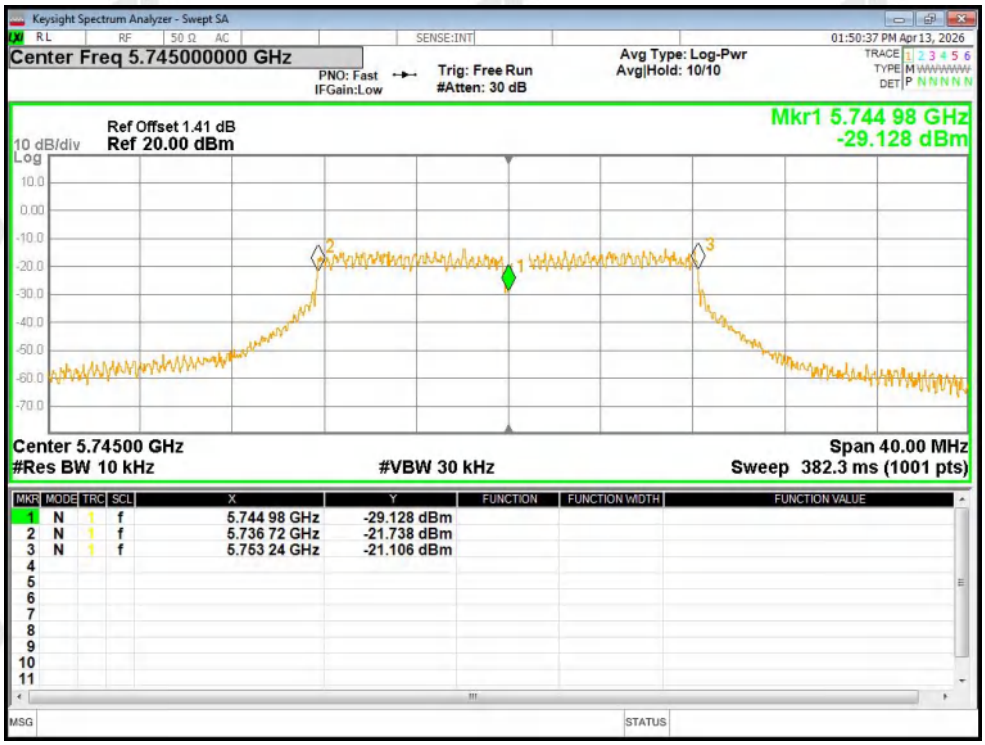


D.7 Frequency Stability

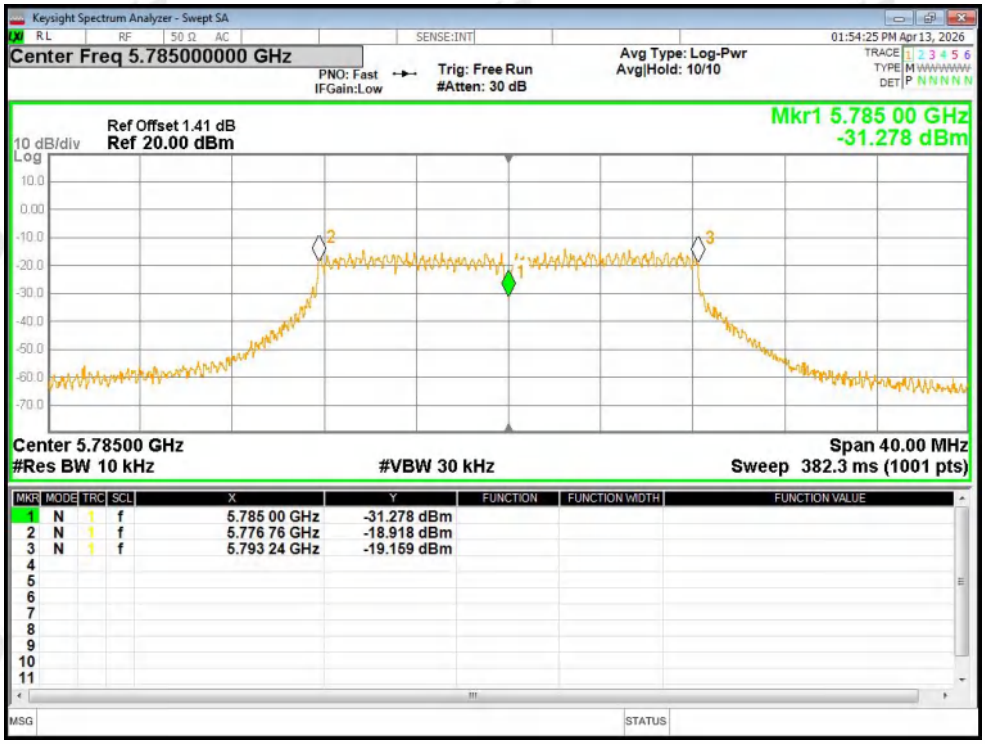
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5745	Ant1	5744.98	-20000	-3.48	Within 5745-5825MHz	Pass
NVNT	a	5785	Ant1	5785	0	0		Pass
NVNT	a	5825	Ant1	5824.98	-20000	-3.43		Pass
NVNT	n20	5745	Ant1	5745	0	0		Pass
NVNT	n20	5785	Ant1	5785	0	0		Pass
NVNT	n20	5825	Ant1	5824.98	-20000	-3.43		Pass
NVNT	n40	5755	Ant1	5755	0	0		Pass
NVNT	n40	5795	Ant1	5795	0	0		Pass
NVNT	ac20	5745	Ant1	5745	0	0		Pass
NVNT	ac20	5785	Ant1	5785.02	20000	3.46		Pass
NVNT	ac20	5825	Ant1	5825	0	0		Pass
NVNT	ac40	5755	Ant1	5755	0	0		Pass
NVNT	ac40	5795	Ant1	5795	0	0		Pass
NVNT	ac80	5775	Ant1	5775.08	80000	13.85		Pass

Test Graphs

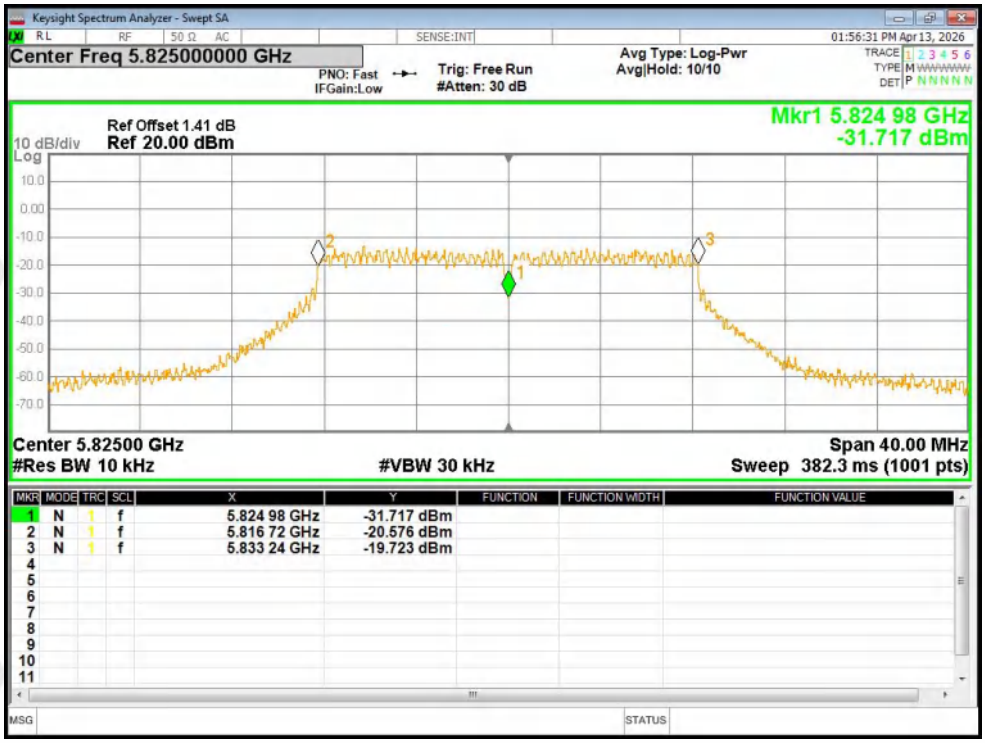
Freq. Stability NVNT a 5745MHz Ant1



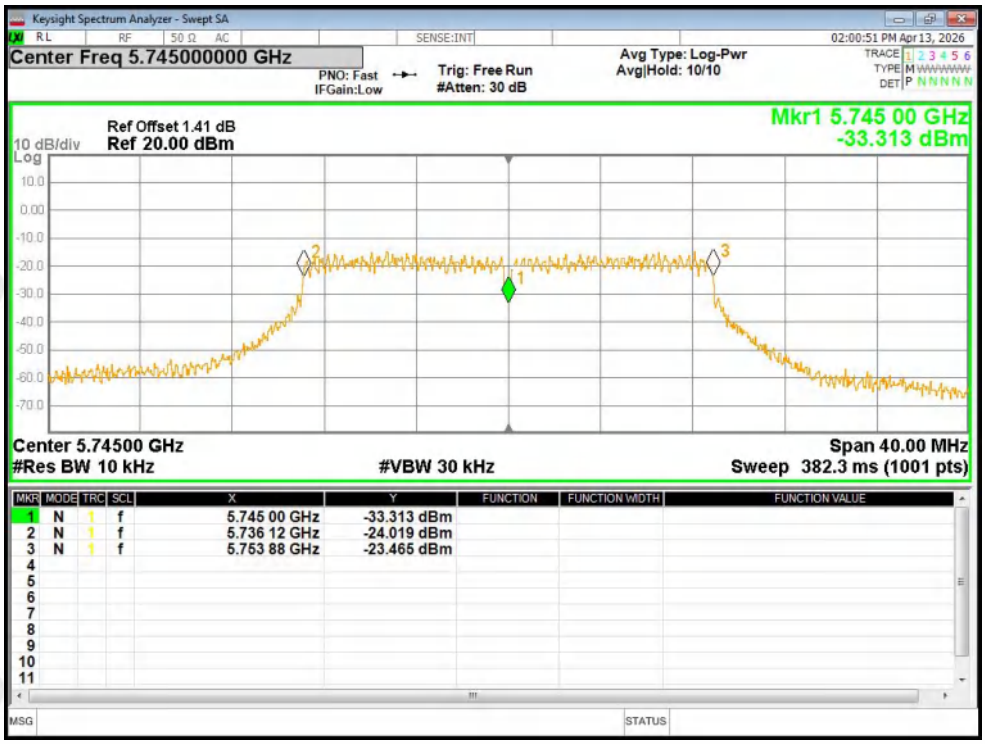
Freq. Stability NVNT a 5785MHz Ant1



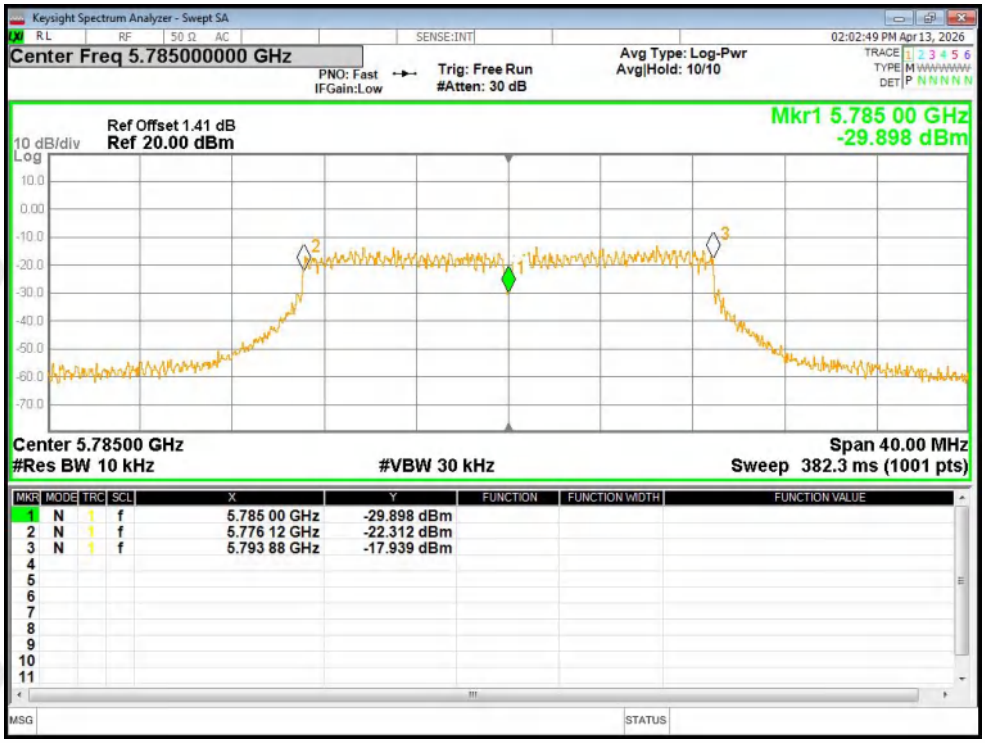
Freq. Stability NVNT a 5825MHz Ant1



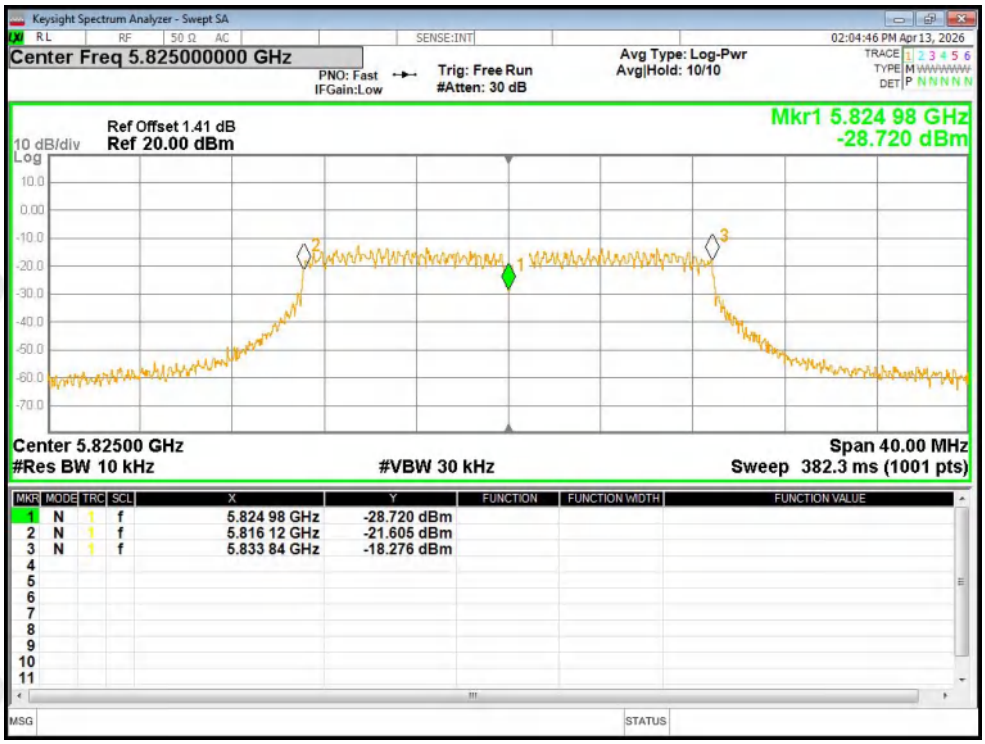
Freq. Stability NVNT n20 5745MHz Ant1



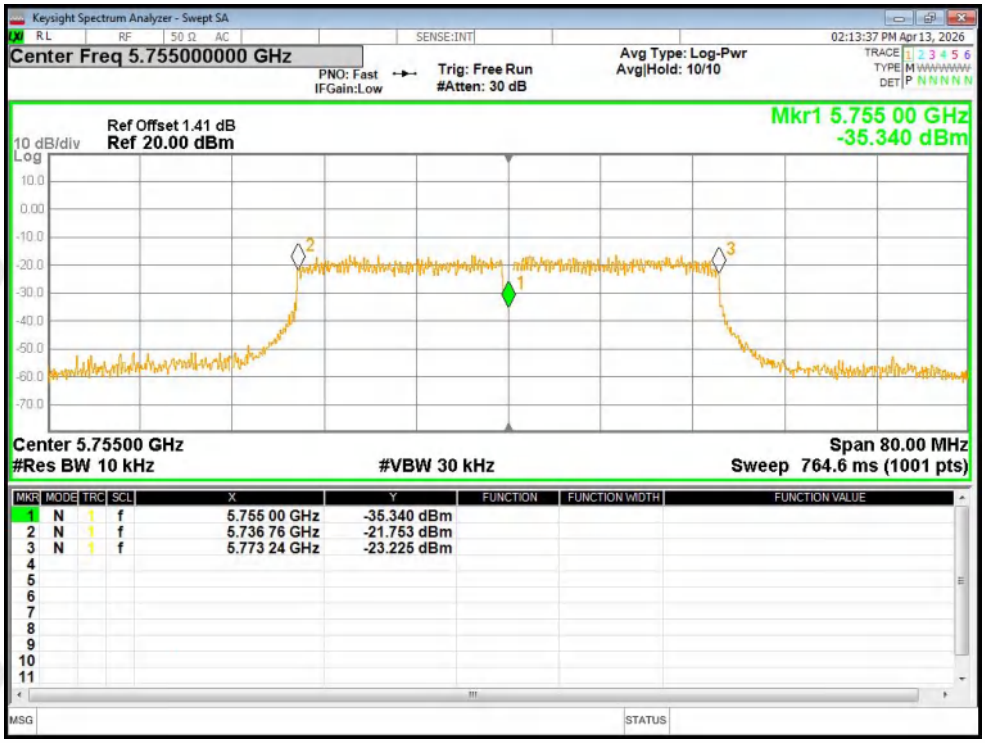
Freq. Stability NVNT n20 5785MHz Ant1



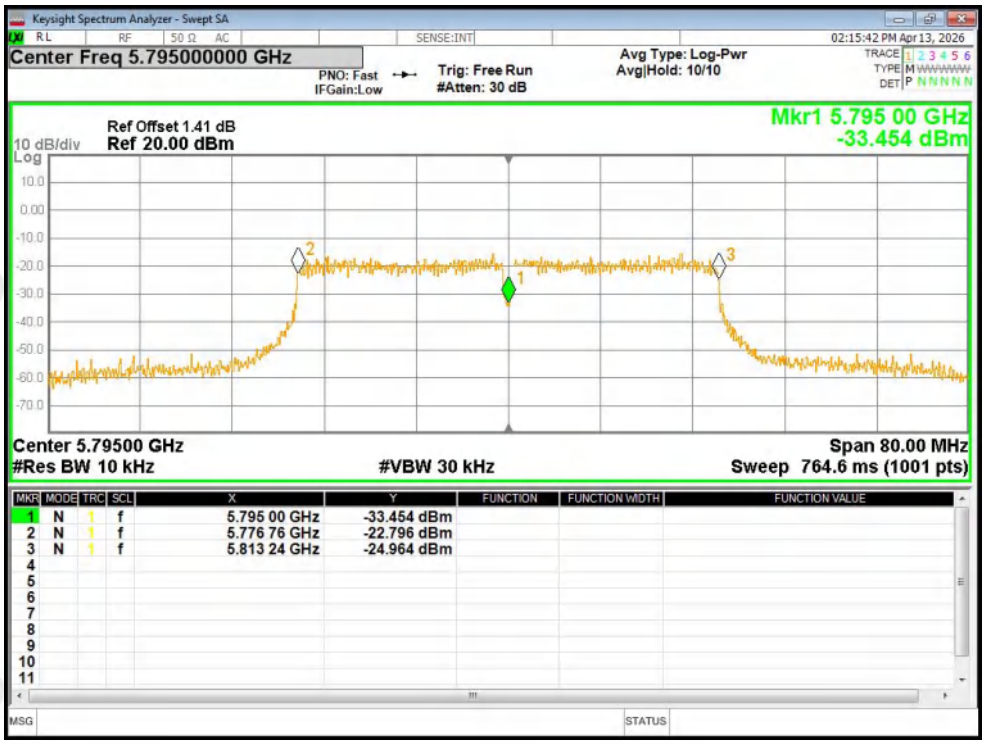
Freq. Stability NVNT n20 5825MHz Ant1



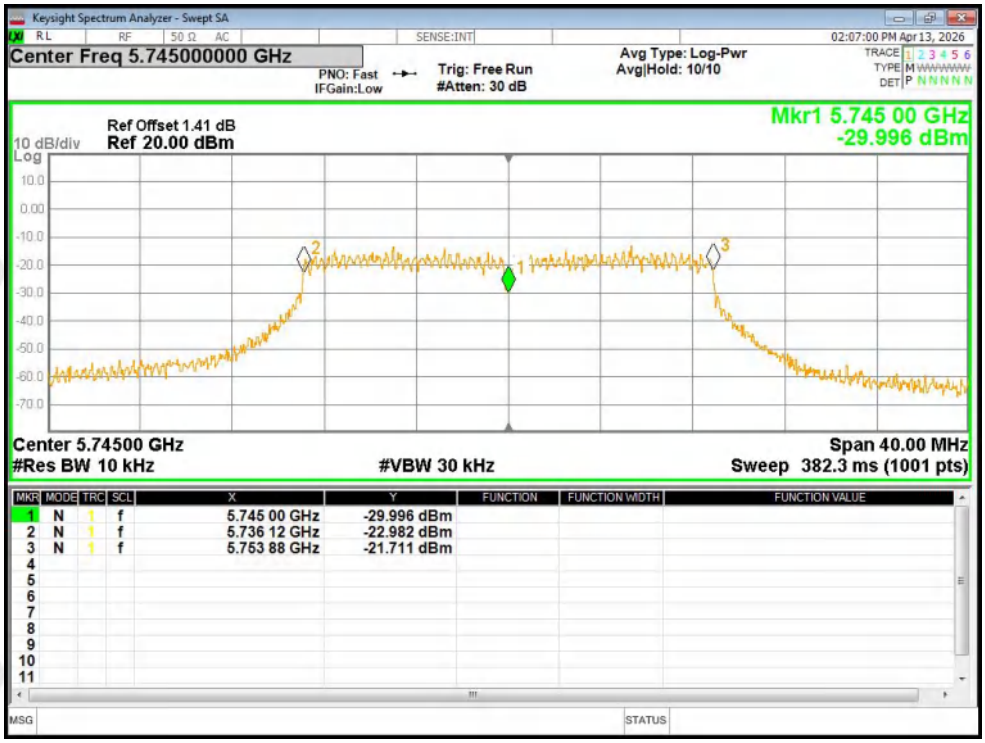
Freq. Stability NVNT n40 5755MHz Ant1



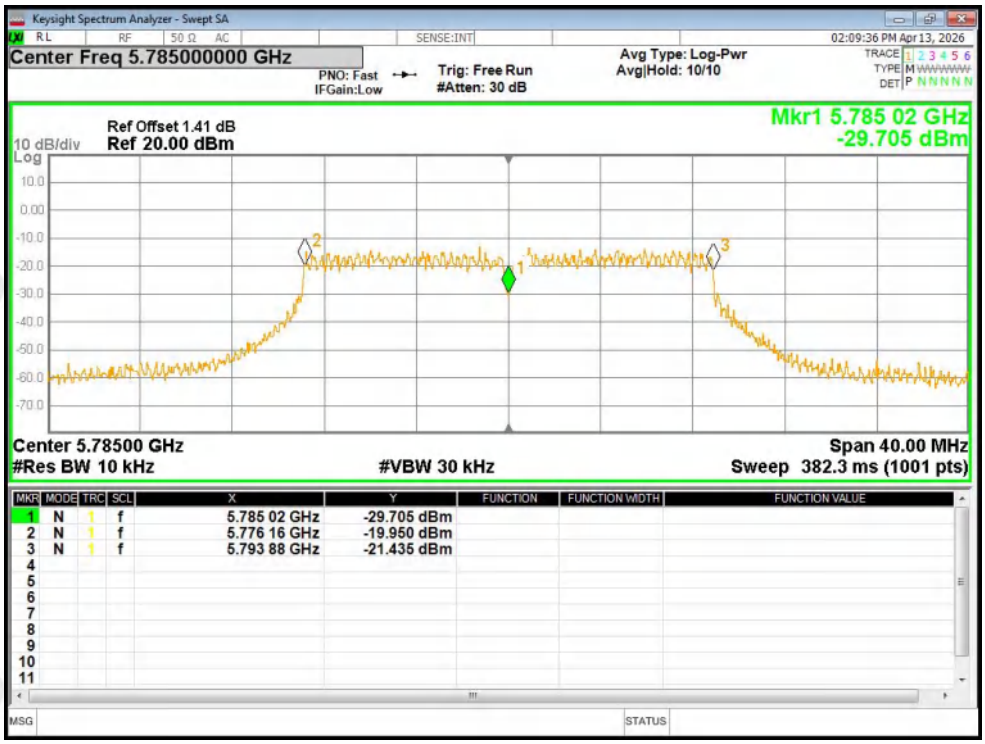
Freq. Stability NVNT n40 5795MHz Ant1



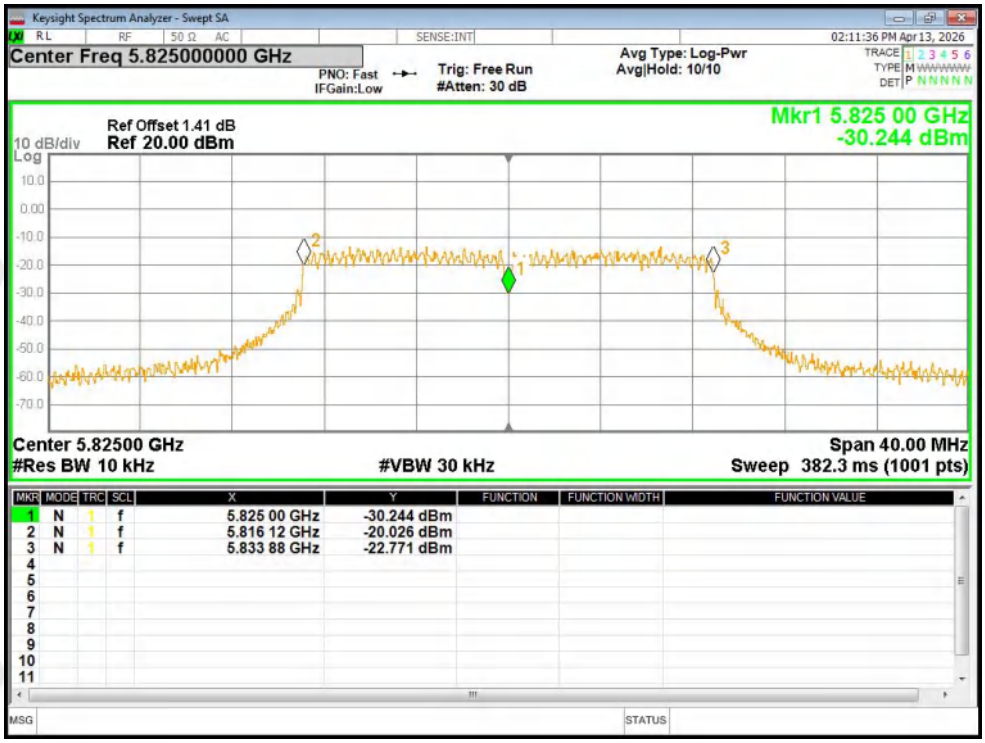
Freq. Stability NVNT ac20 5745MHz Ant1



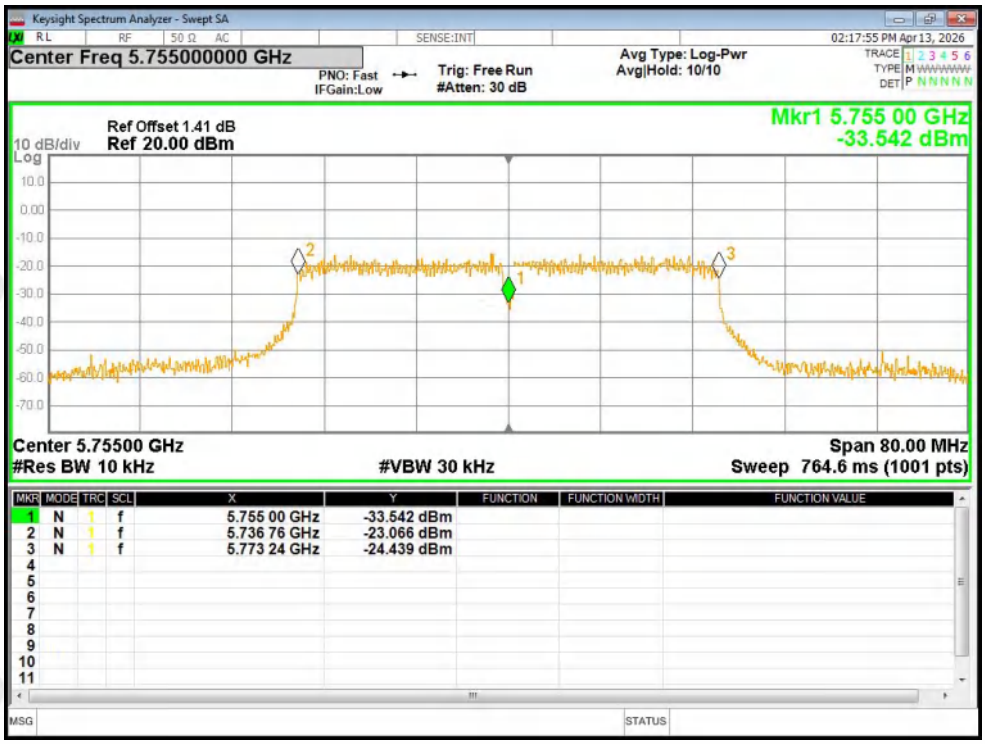
Freq. Stability NVNT ac20 5785MHz Ant1



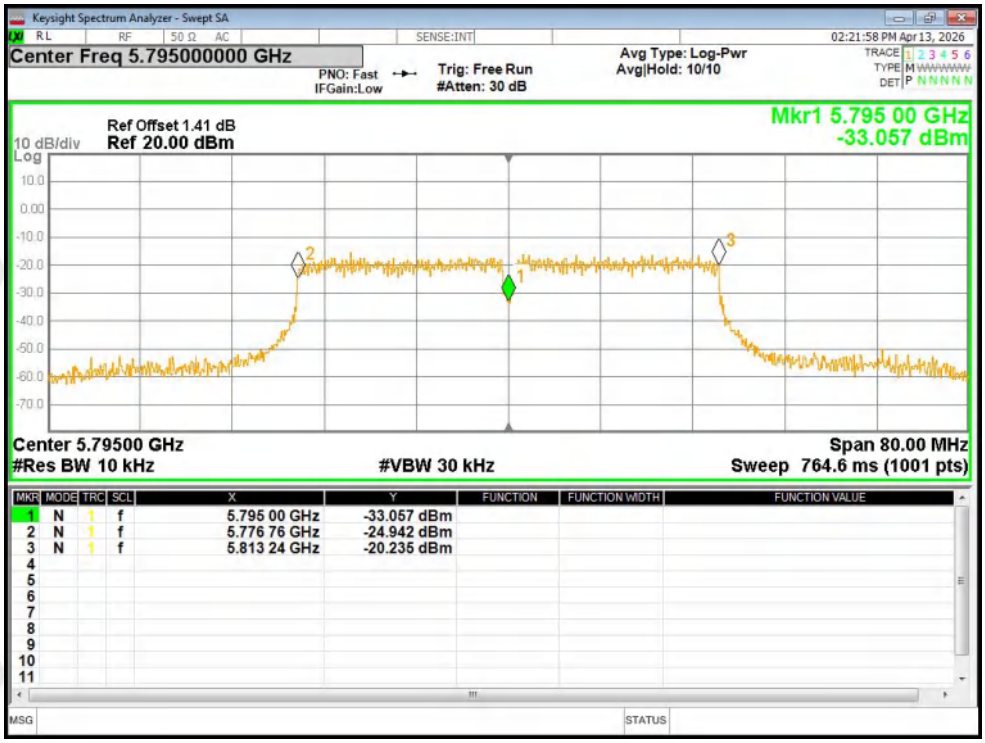
Freq. Stability NVNT ac20 5825MHz Ant1



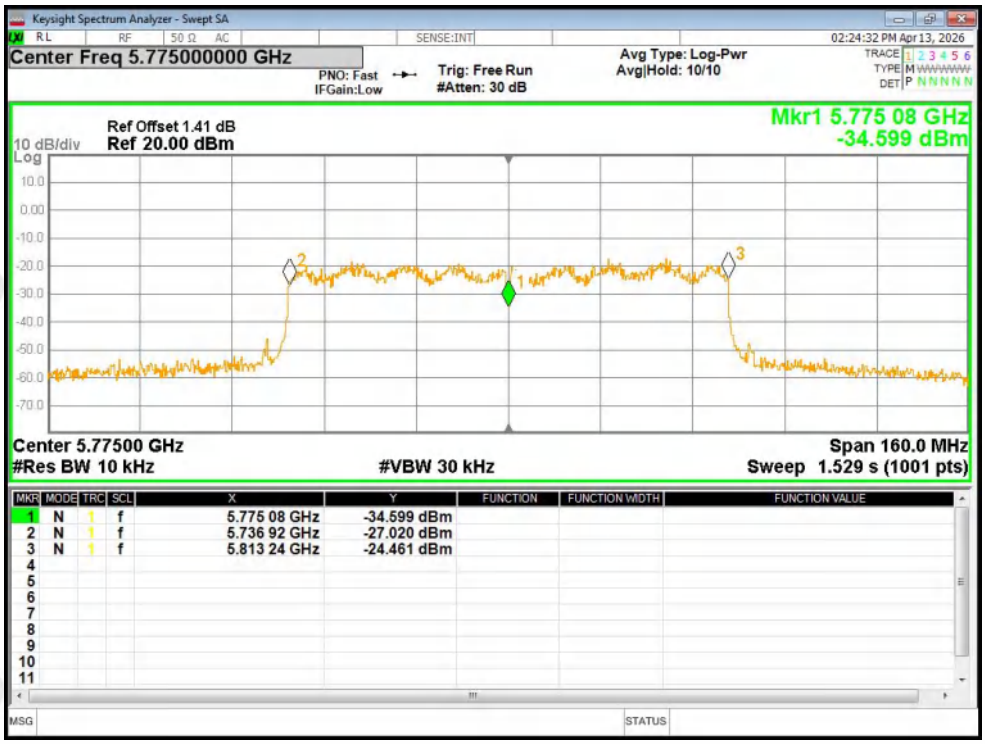
Freq. Stability NVNT ac40 5755MHz Ant1



Freq. Stability NVNT ac40 5795MHz Ant1



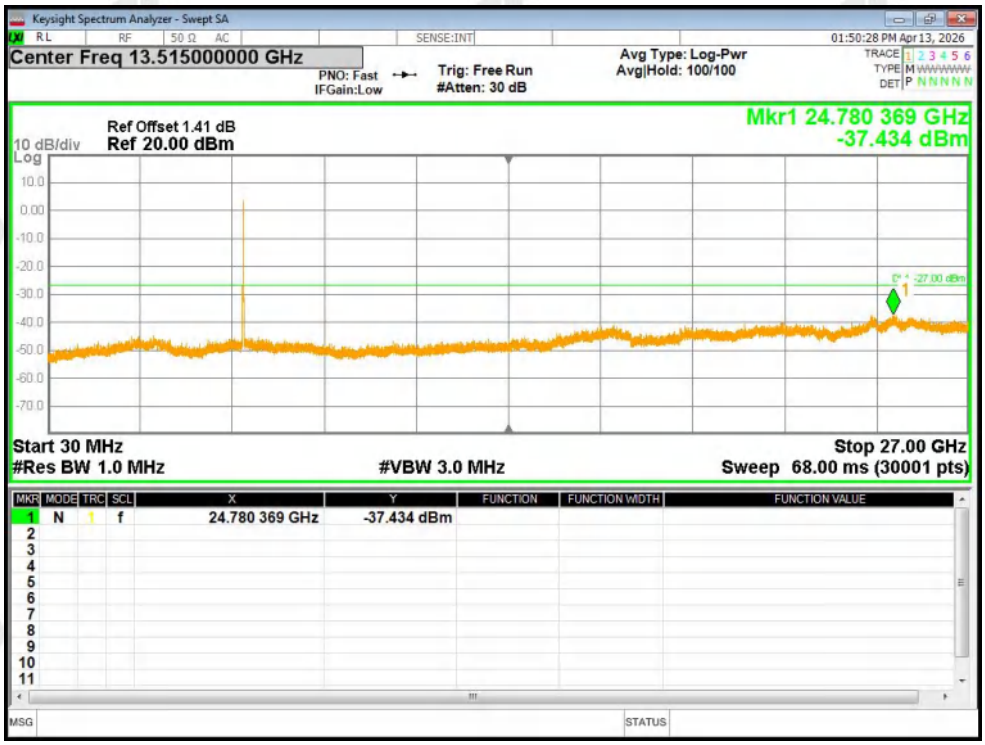
Freq. Stability NVNT ac80 5775MHz Ant1



D.8 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	ANT Gain (dBi)	EIRP Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	-37.43	4.2	-33.23	-27	Pass
NVNT	a	5785	Ant1	-37.67	4.2	-33.47	-27	Pass
NVNT	a	5825	Ant1	-36.88	4.2	-32.68	-27	Pass
NVNT	n20	5745	Ant1	-36.77	4.2	-32.57	-27	Pass
NVNT	n20	5785	Ant1	-36.69	4.2	-32.49	-27	Pass
NVNT	n20	5825	Ant1	-37.39	4.2	-33.19	-27	Pass
NVNT	n40	5755	Ant1	-36.23	4.2	-32.03	-27	Pass
NVNT	n40	5795	Ant1	-37.21	4.2	-33.01	-27	Pass
NVNT	ac20	5745	Ant1	-36.24	4.2	-32.04	-27	Pass
NVNT	ac20	5785	Ant1	-37.41	4.2	-33.21	-27	Pass
NVNT	ac20	5825	Ant1	-37.22	4.2	-33.02	-27	Pass
NVNT	ac40	5755	Ant1	-37.39	4.2	-33.19	-27	Pass
NVNT	ac40	5795	Ant1	-35.37	4.2	-31.17	-27	Pass
NVNT	ac80	5775	Ant1	-36.87	4.2	-32.67	-27	Pass

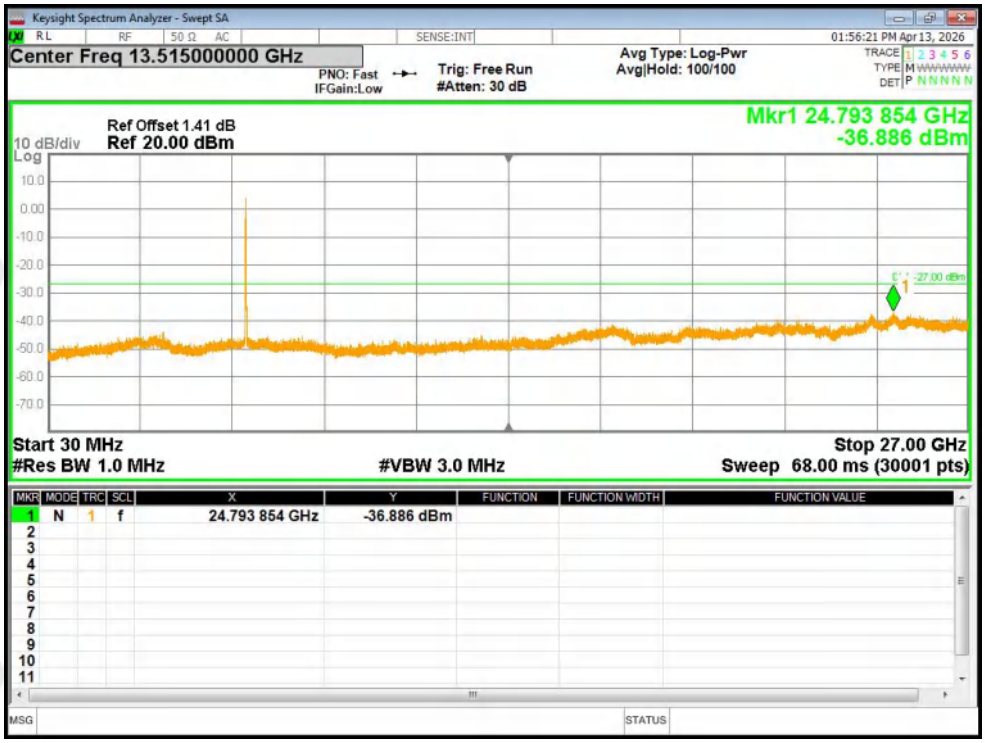
Test Graphs
Tx. Spurious NVNT a 5745MHz Ant1 Emission



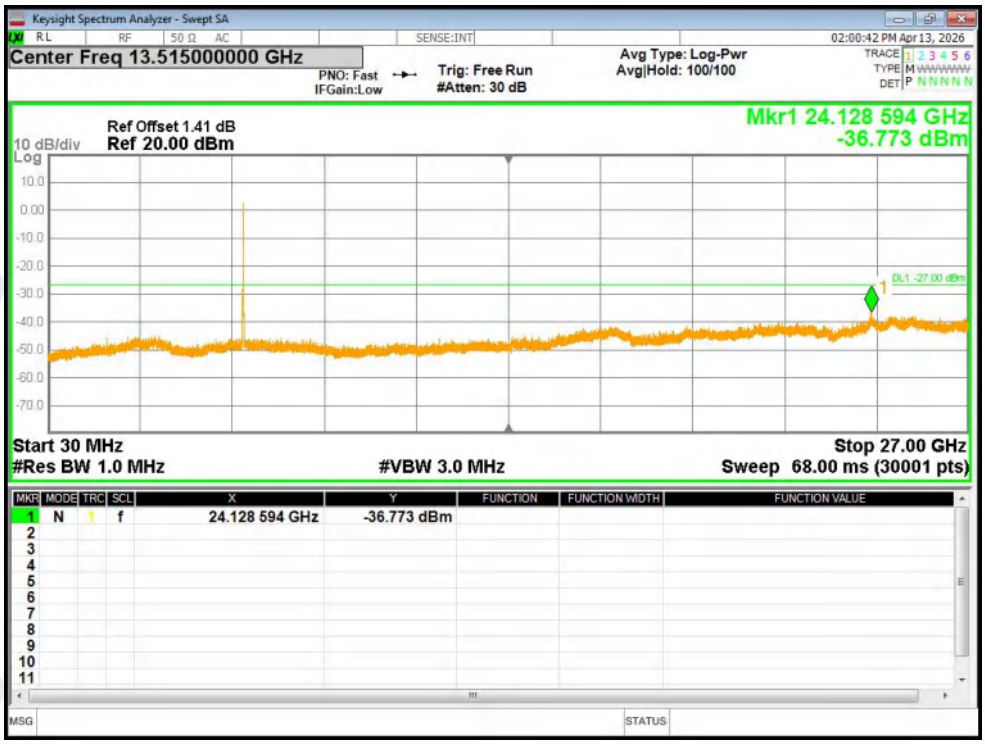
Tx. Spurious NVNT a 5785MHz Ant1 Emission



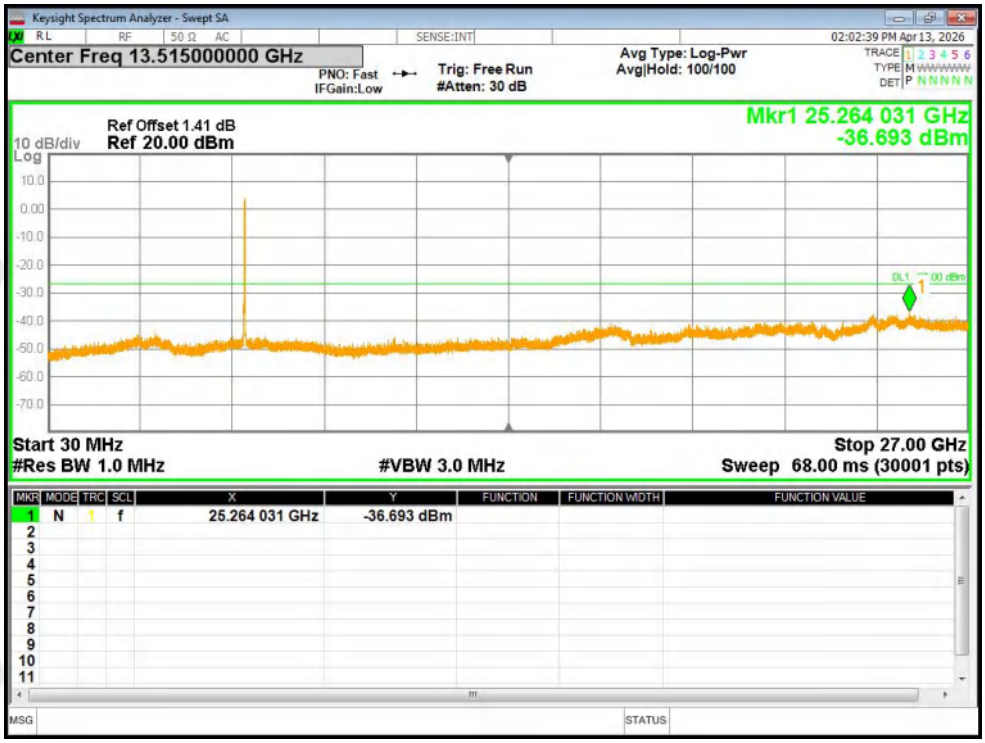
Tx. Spurious NVNT a 5825MHz Ant1 Emission



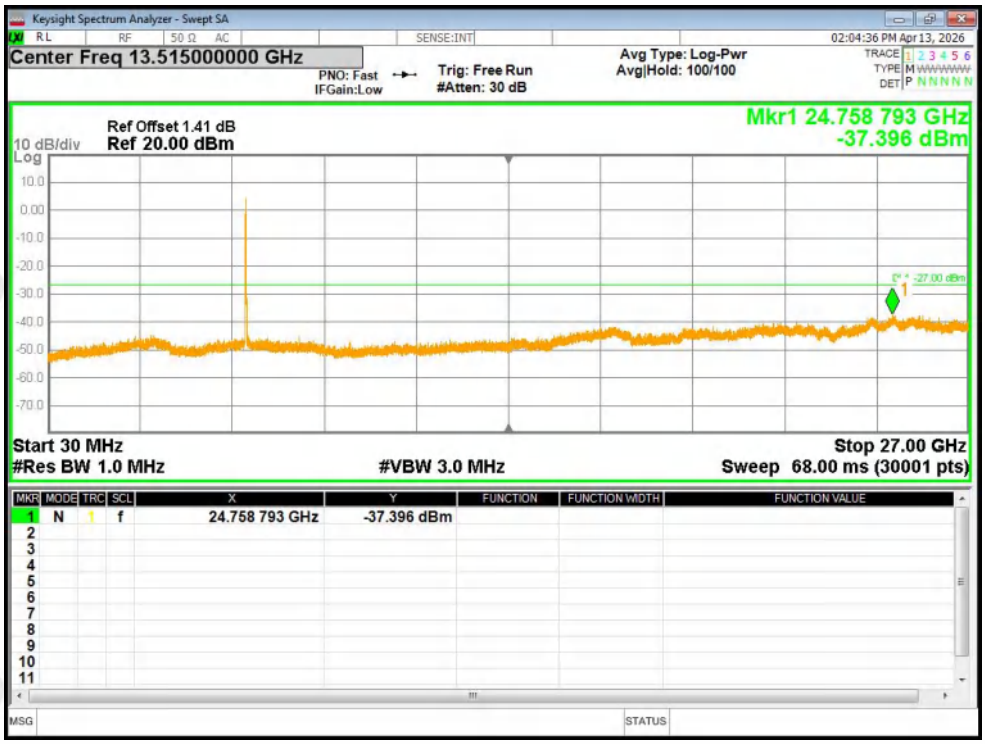
Tx. Spurious NVNT n20 5745MHz Ant1 Emission



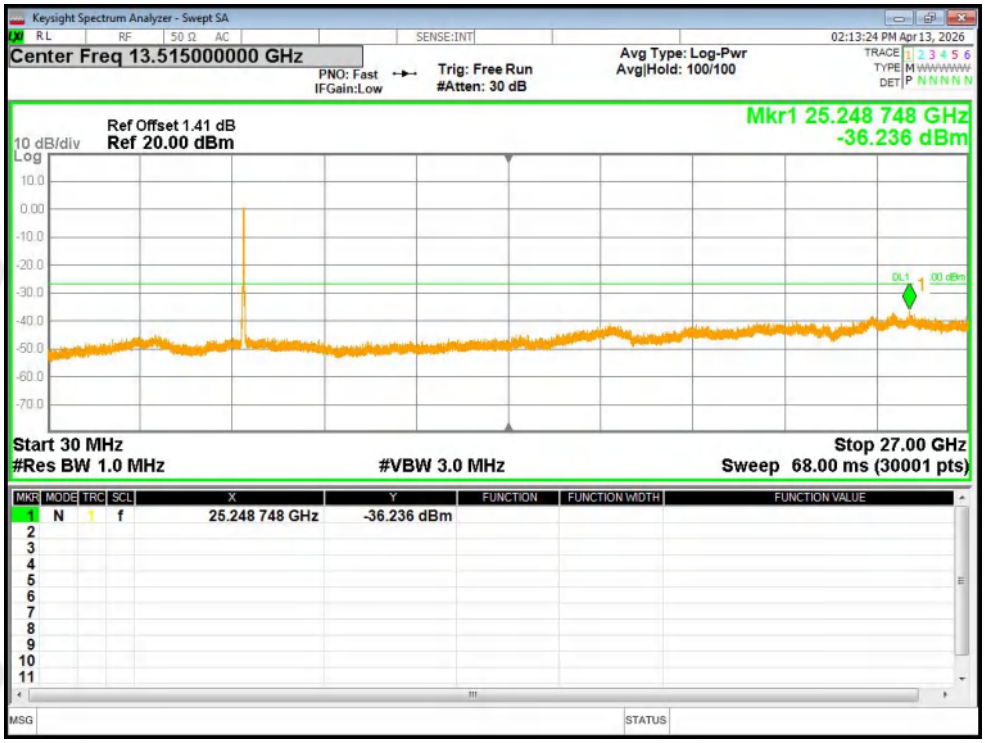
Tx. Spurious NVNT n20 5785MHz Ant1 Emission



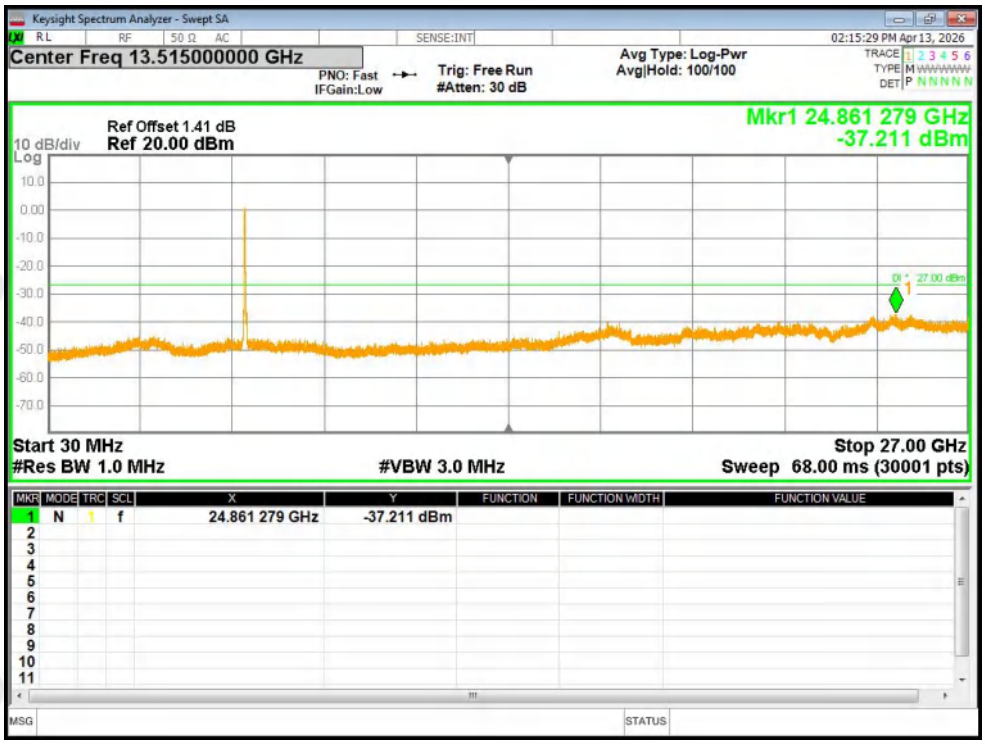
Tx. Spurious NVNT n20 5825MHz Ant1 Emission



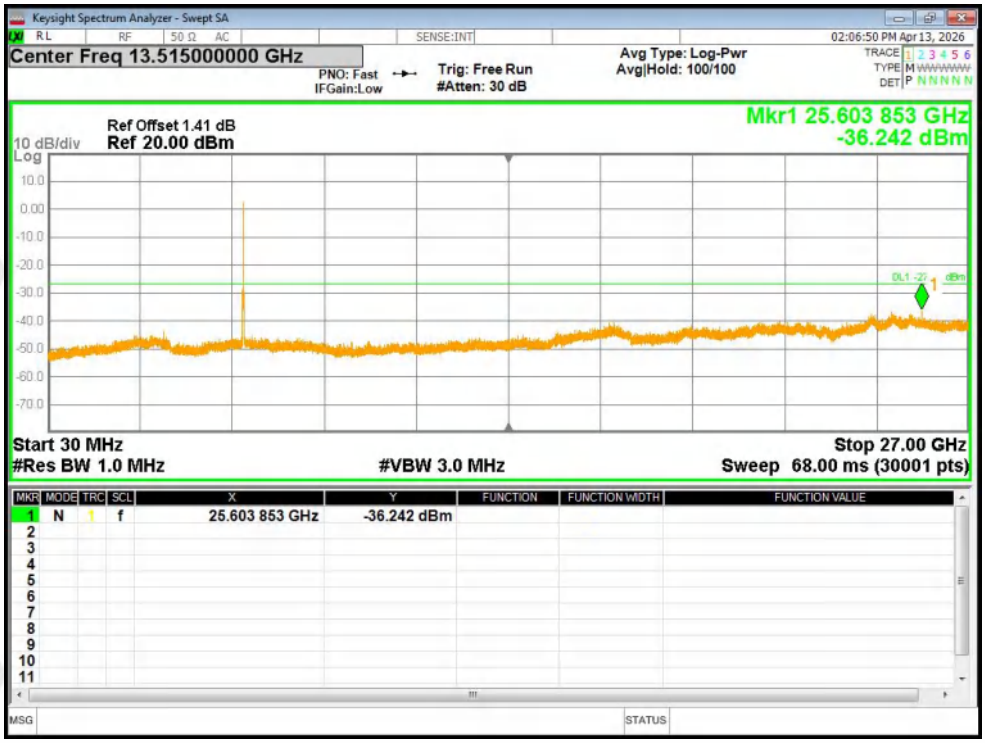
Tx. Spurious NVNT n40 5755MHz Ant1 Emission



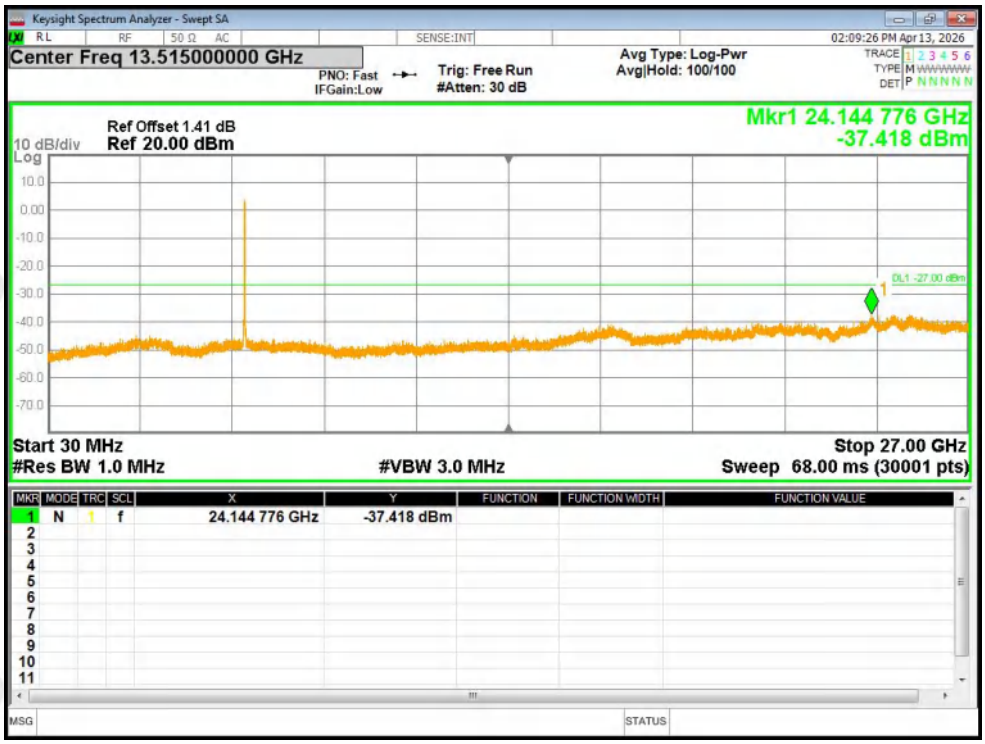
Tx. Spurious NVNT n40 5795MHz Ant1 Emission



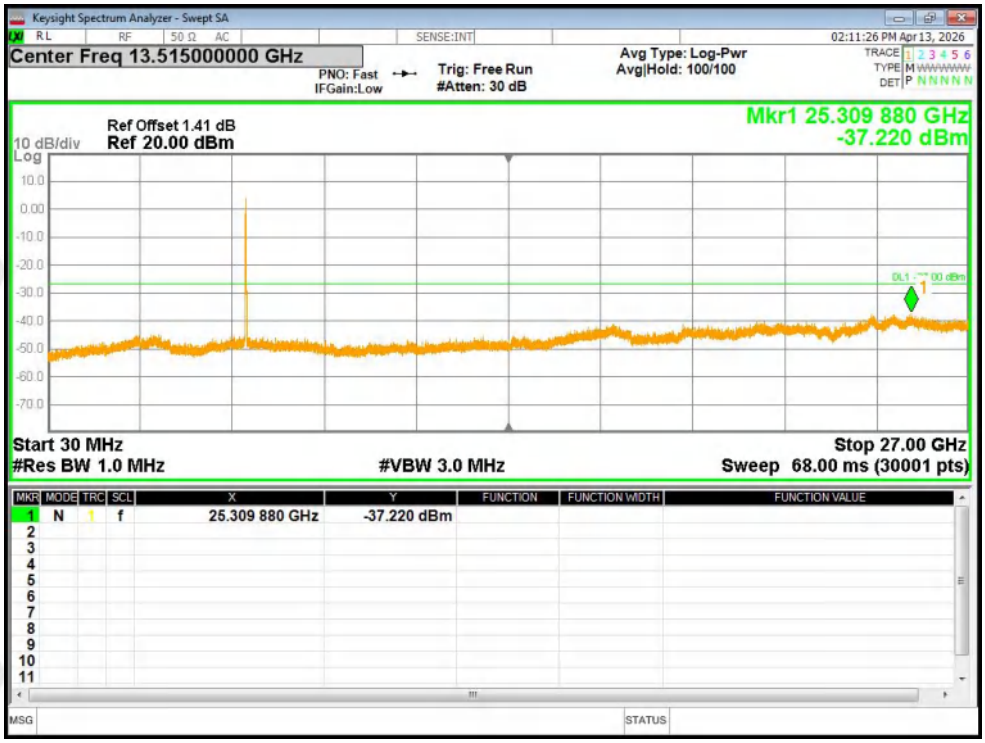
Tx. Spurious NVNT ac20 5745MHz Ant1 Emission



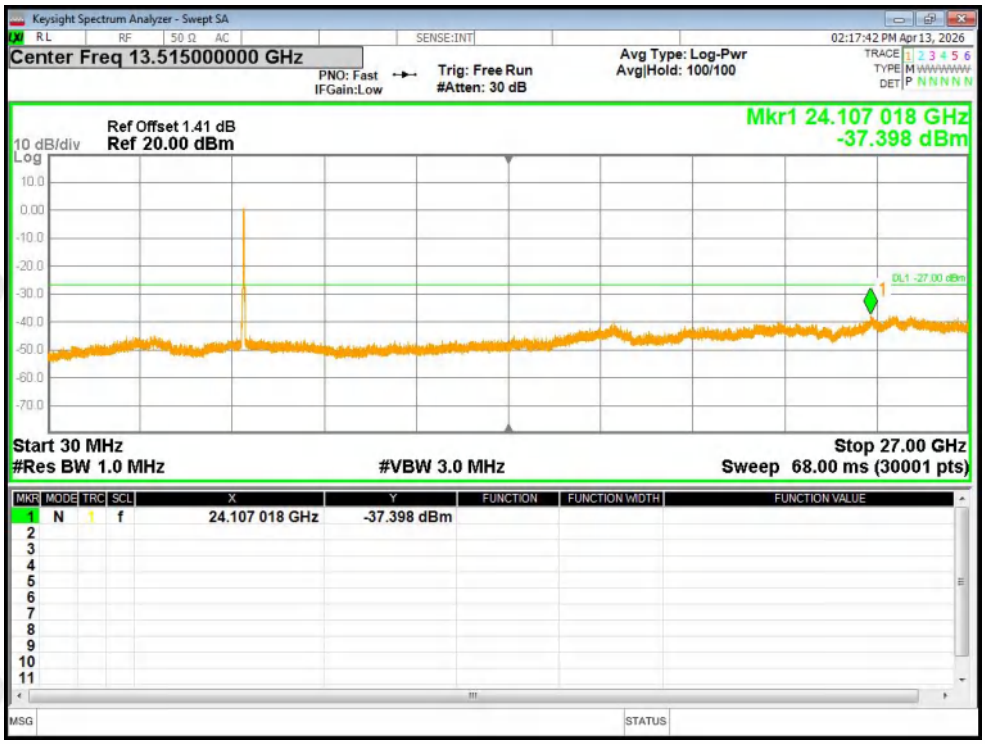
Tx. Spurious NVNT ac20 5785MHz Ant1 Emission



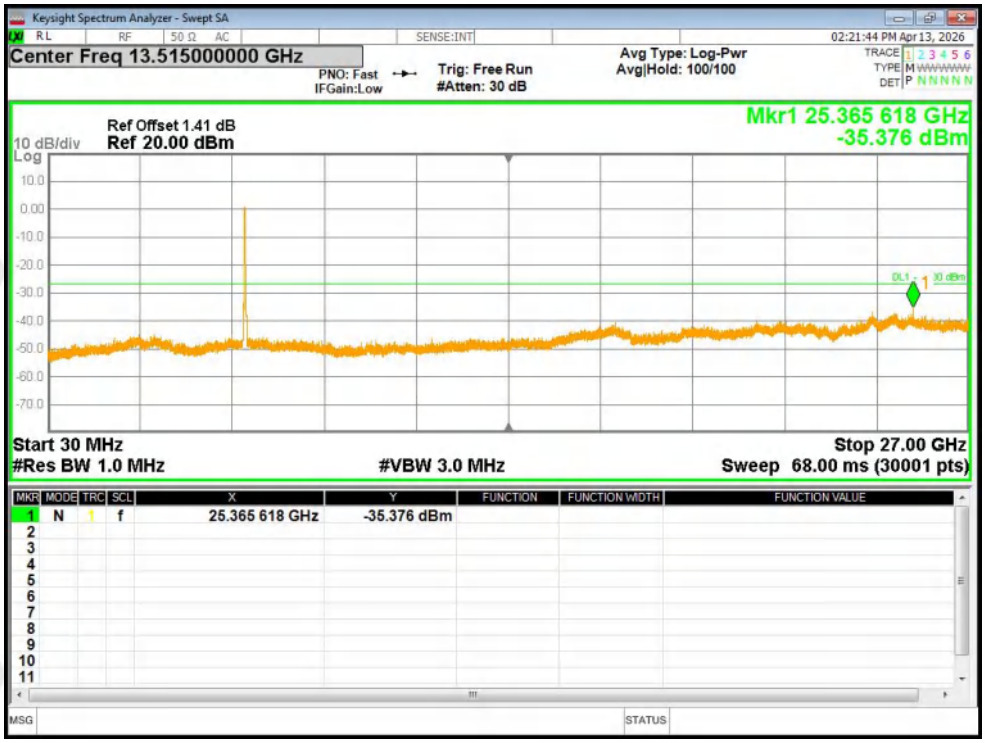
Tx. Spurious NVNT ac20 5825MHz Ant1 Emission



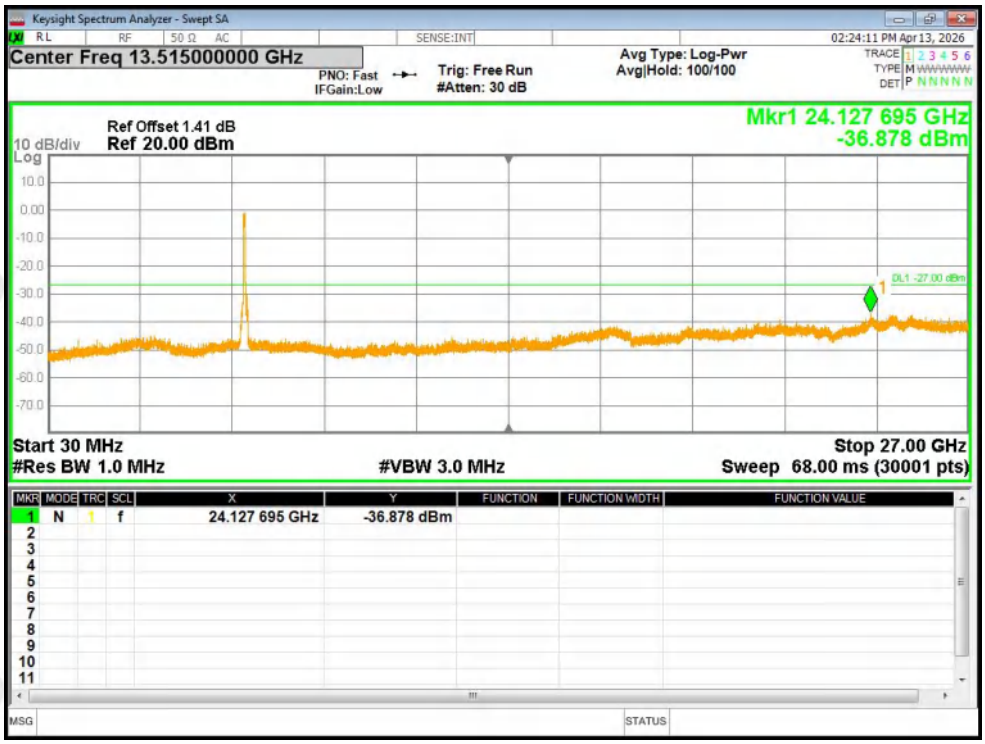
Tx. Spurious NVNT ac40 5755MHz Ant1 Emission



Tx. Spurious NVNT ac40 5795MHz Ant1 Emission



Tx. Spurious NVNT ac80 5775MHz Ant1 Emission



Remark1: From 26.5GHz to 40GHz,the amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.