



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: PROFESSIONAL SPEAKER

Test Model: MPD1511XB

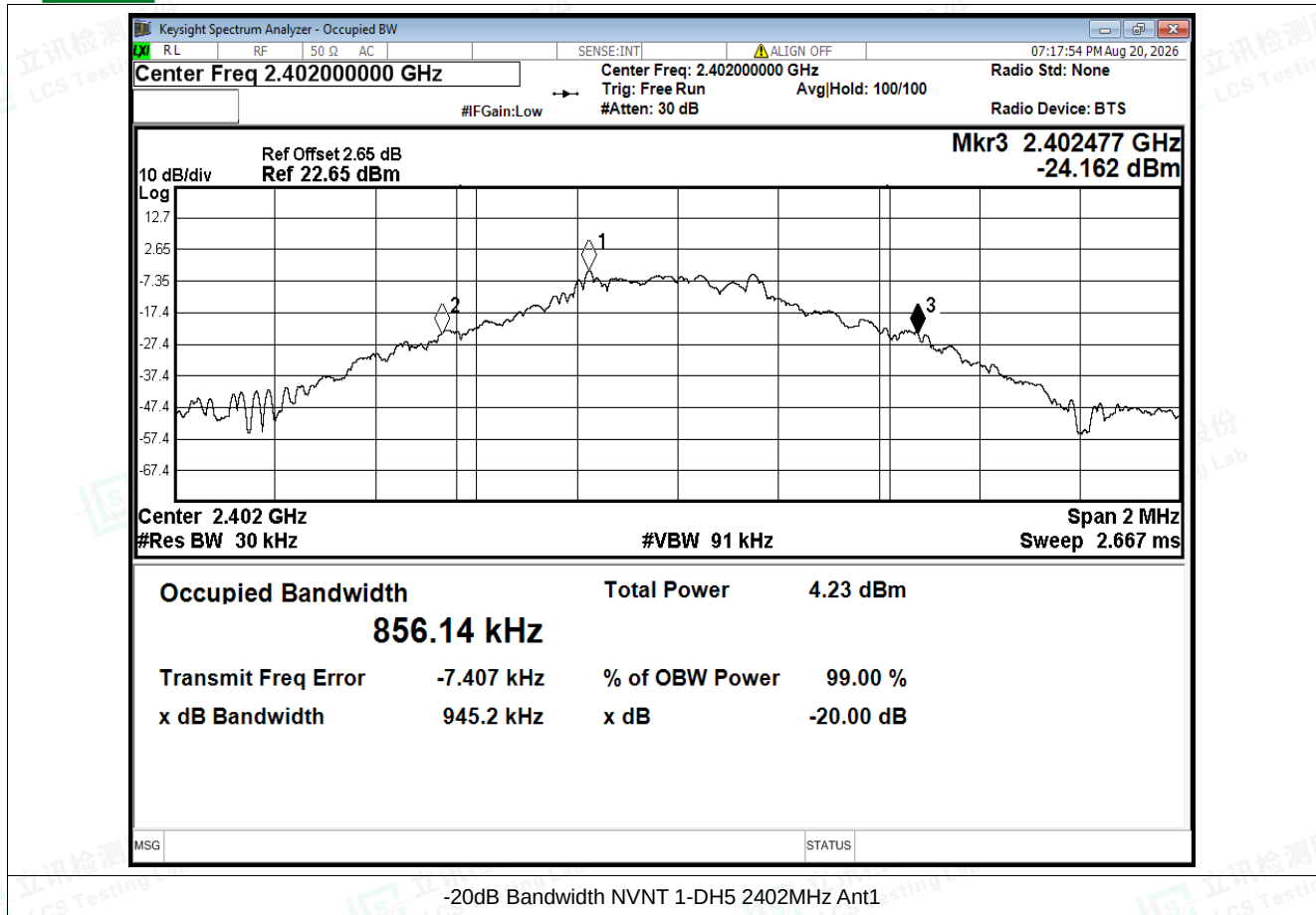
Environmental Conditions

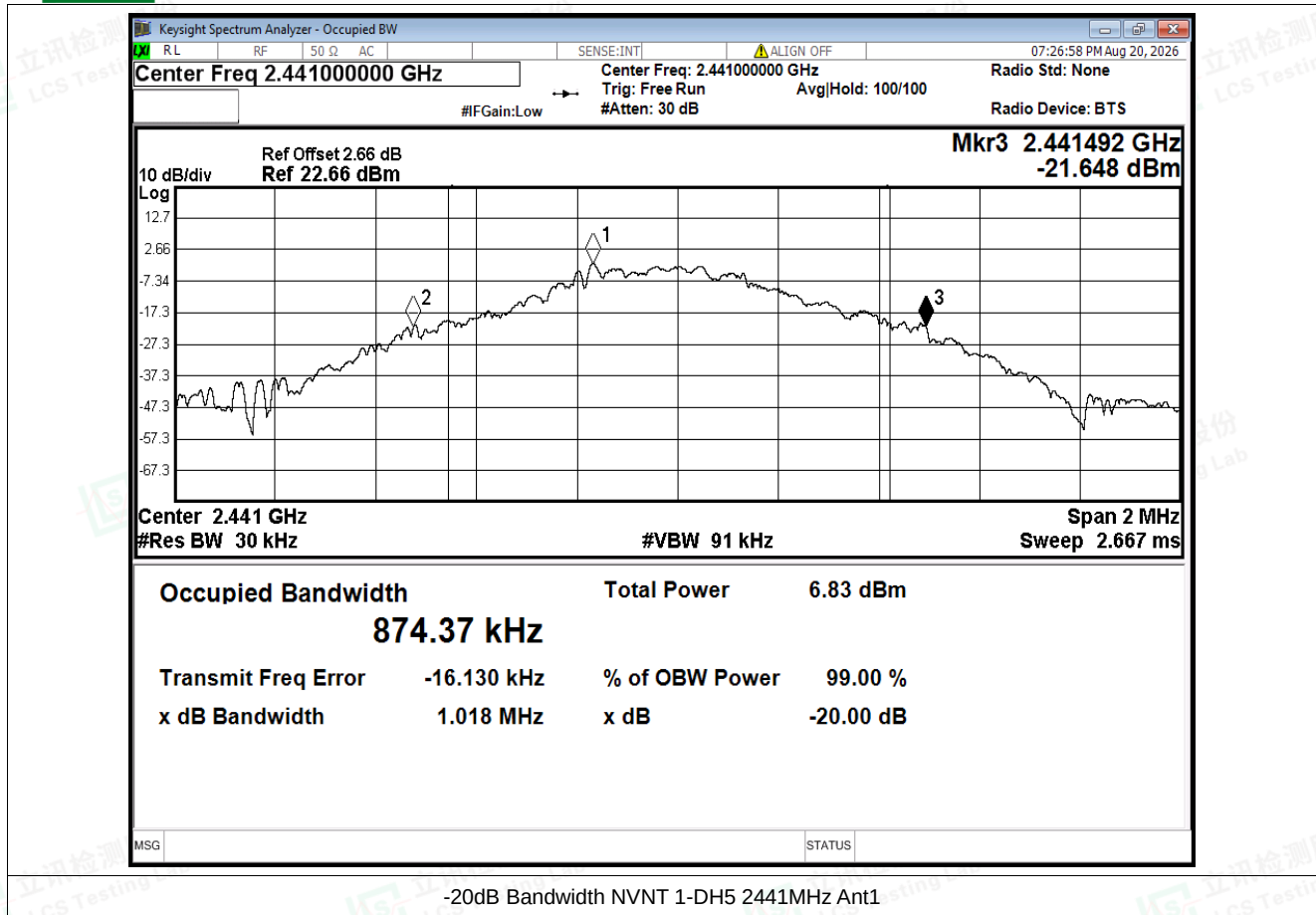
Temperature:	24.5°C
Relative Humidity:	53.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Jerry Chu
Supervised by:	Can Kun

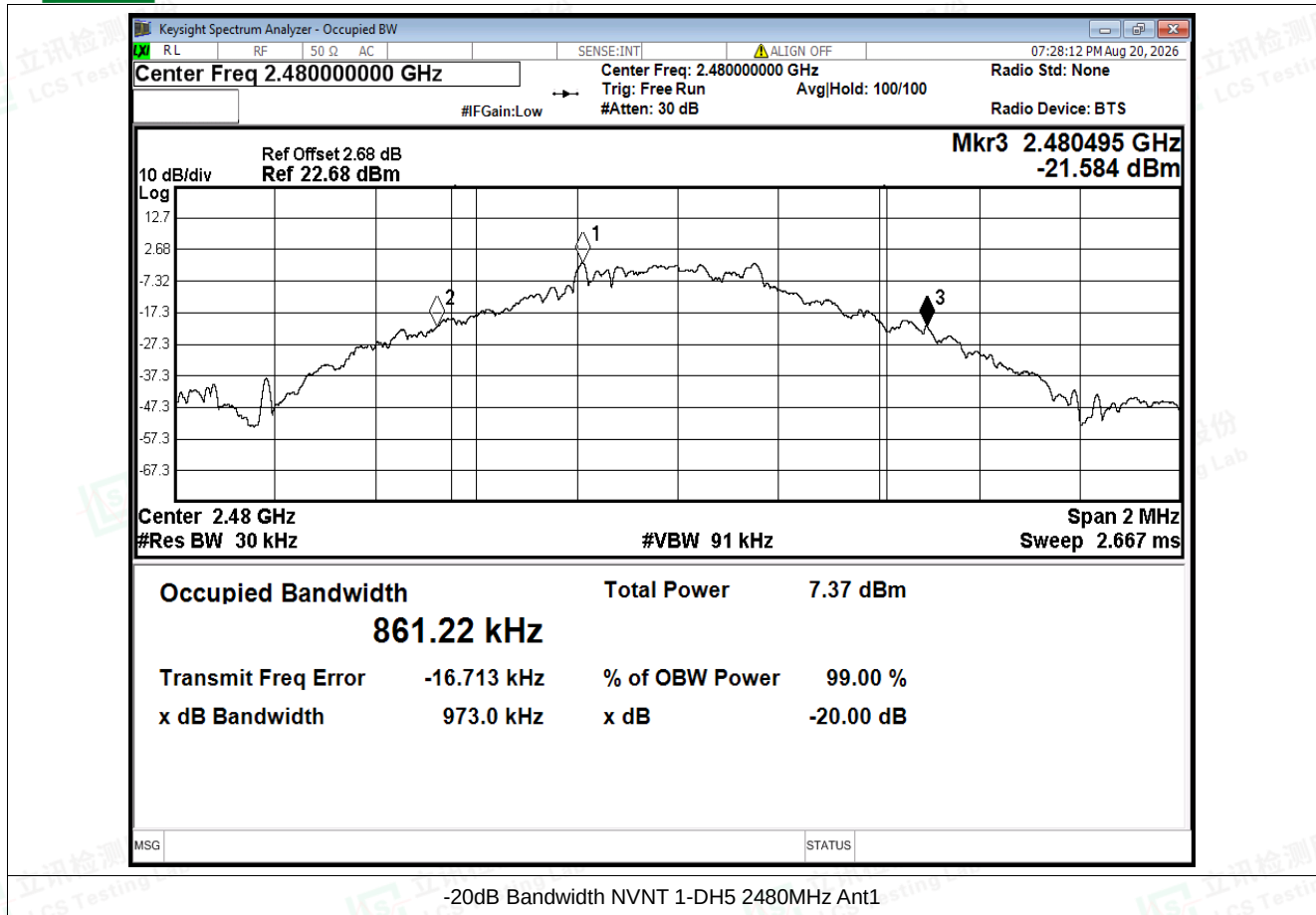


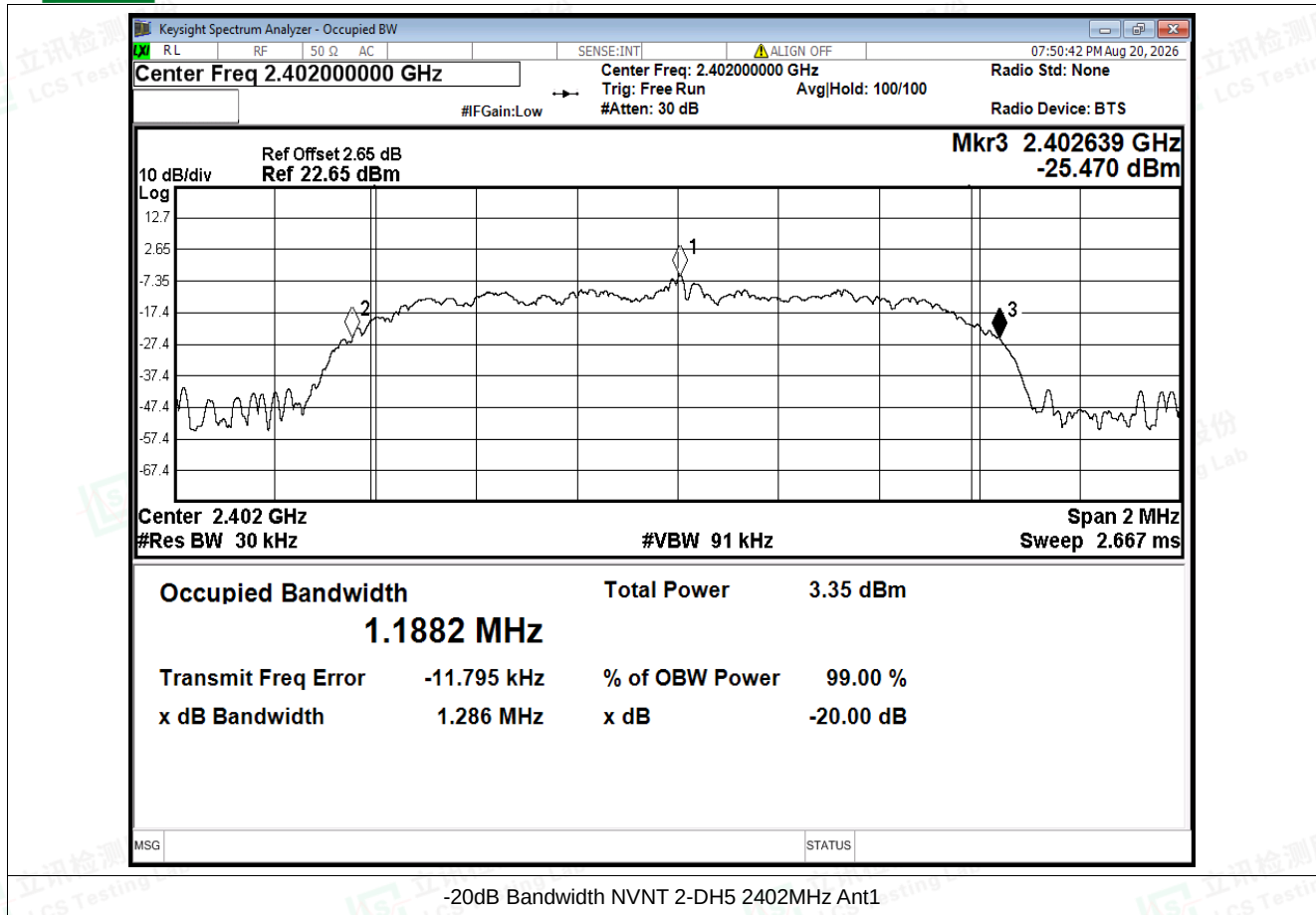
A.1 -20dB Bandwidth

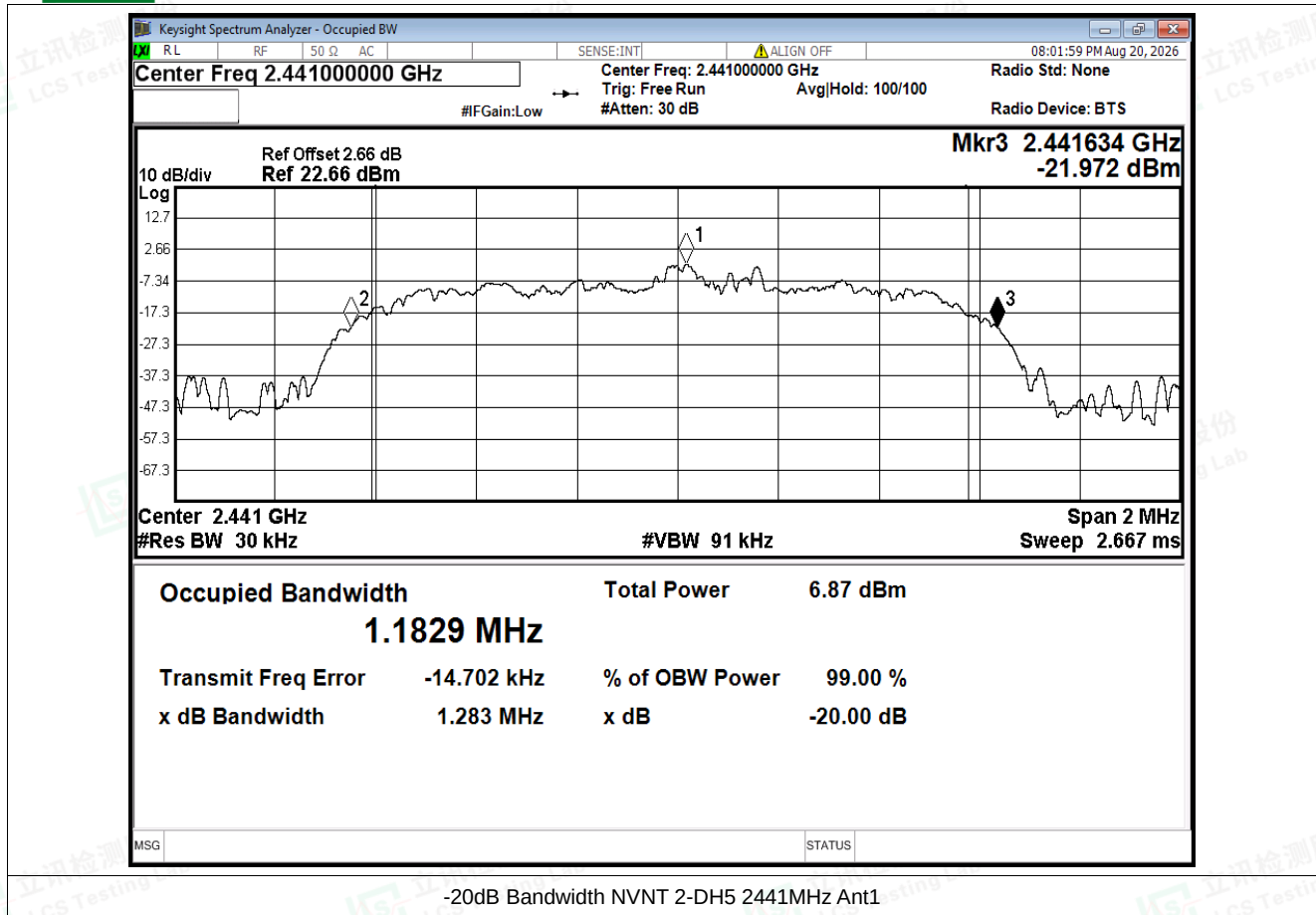
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.9452	0	Pass
NVNT	1-DH5	2441	Ant1	1.018	0	Pass
NVNT	1-DH5	2480	Ant1	0.973	0	Pass
NVNT	2-DH5	2402	Ant1	1.286	0	Pass
NVNT	2-DH5	2441	Ant1	1.283	0	Pass
NVNT	2-DH5	2480	Ant1	1.287	0	Pass
NVNT	3-DH5	2402	Ant1	1.313	0	Pass
NVNT	3-DH5	2441	Ant1	1.282	0	Pass
NVNT	3-DH5	2480	Ant1	1.297	0	Pass

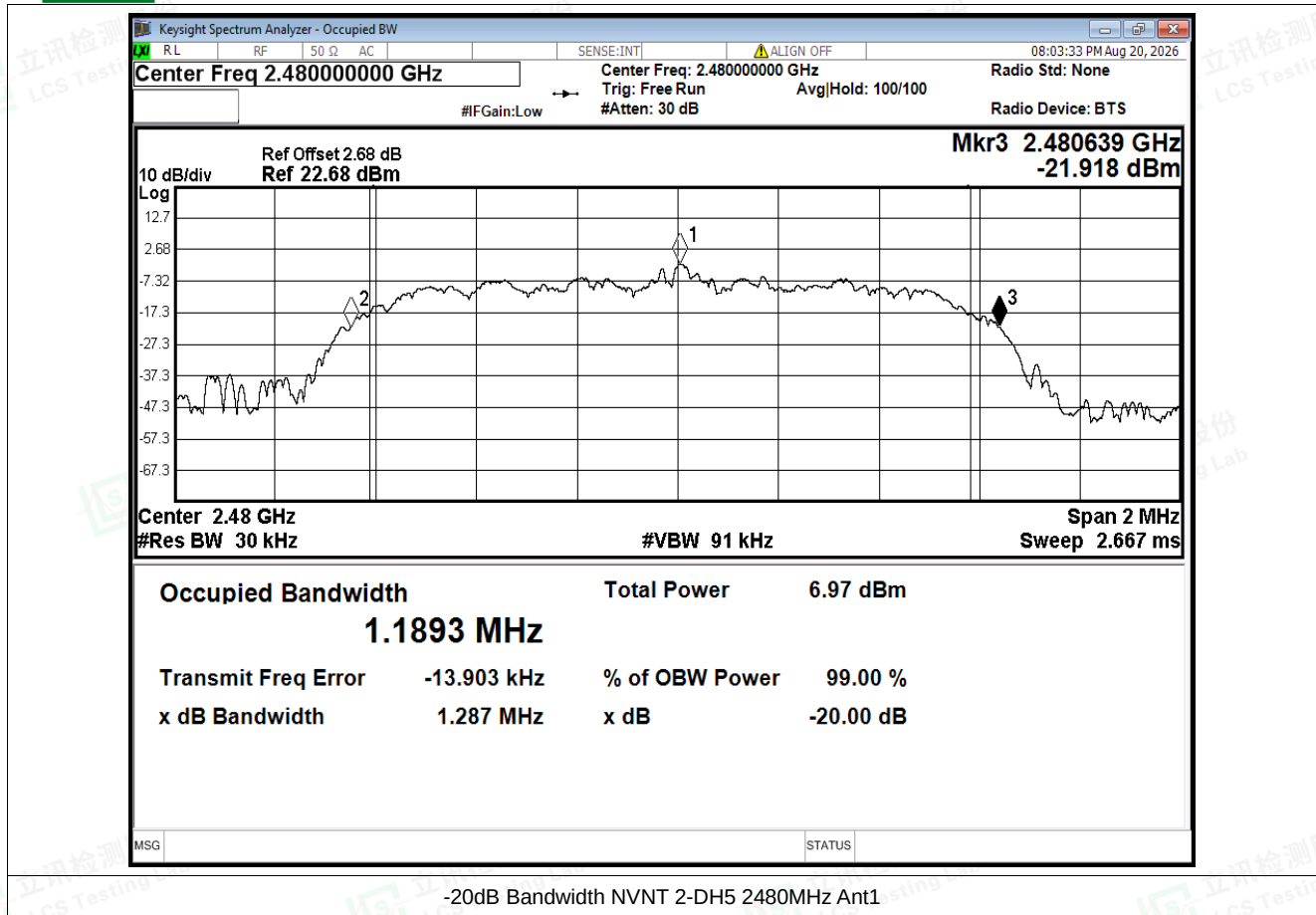


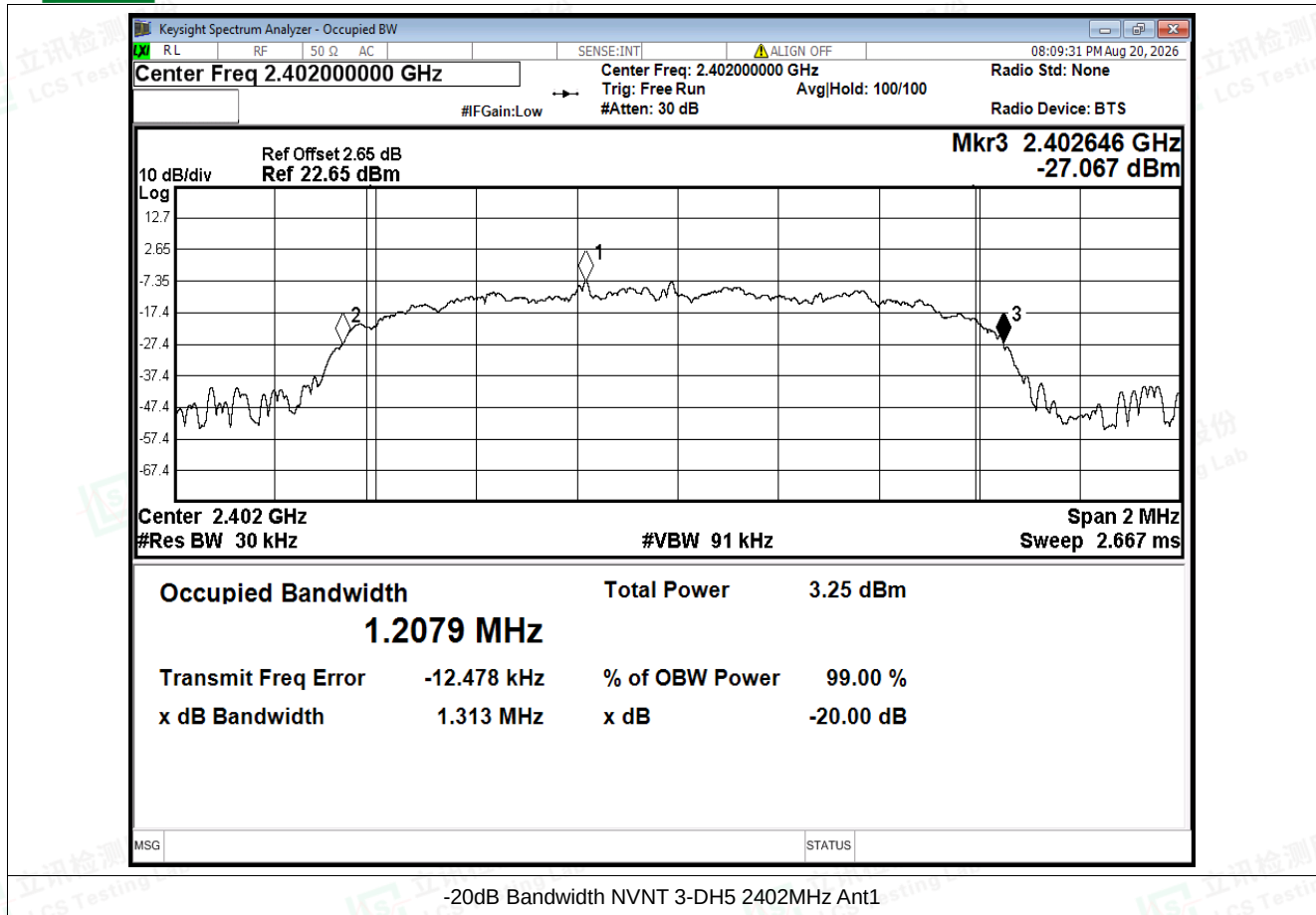


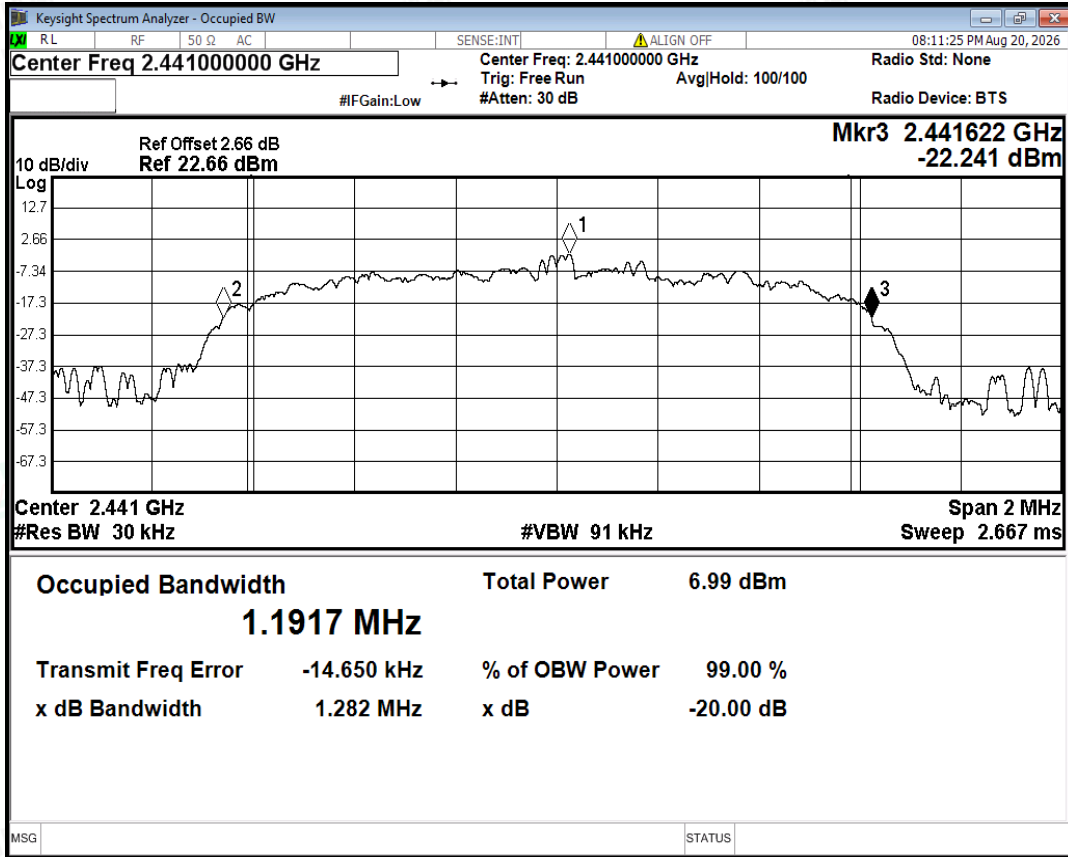




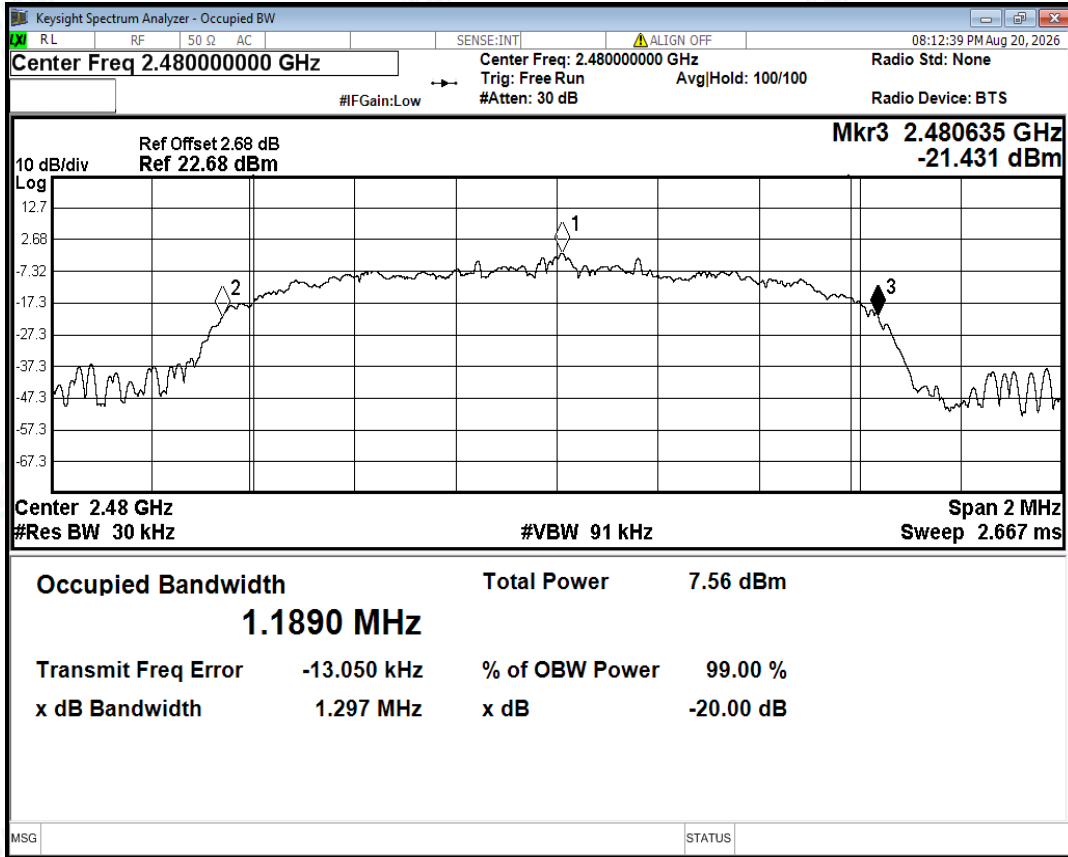








-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1

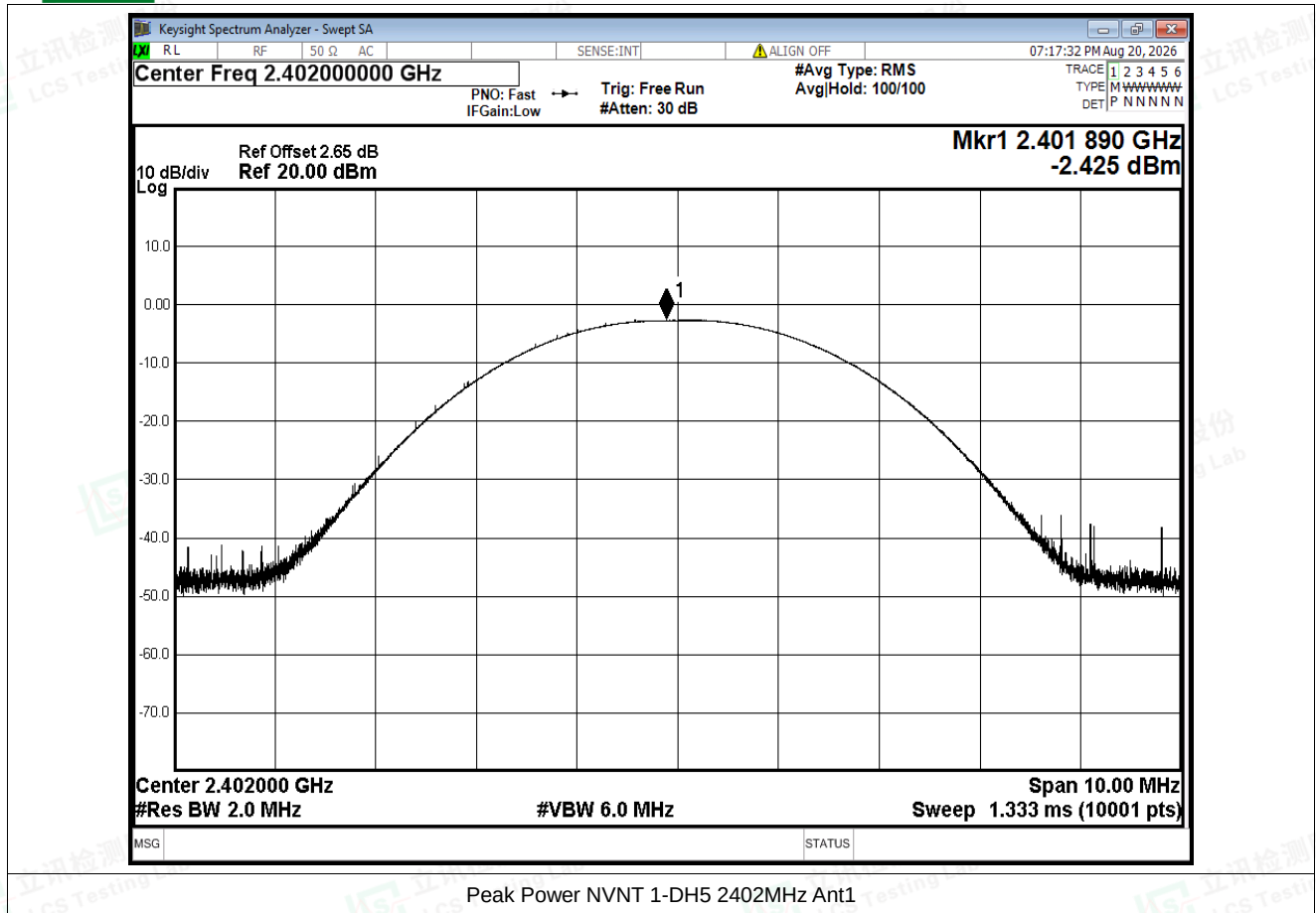


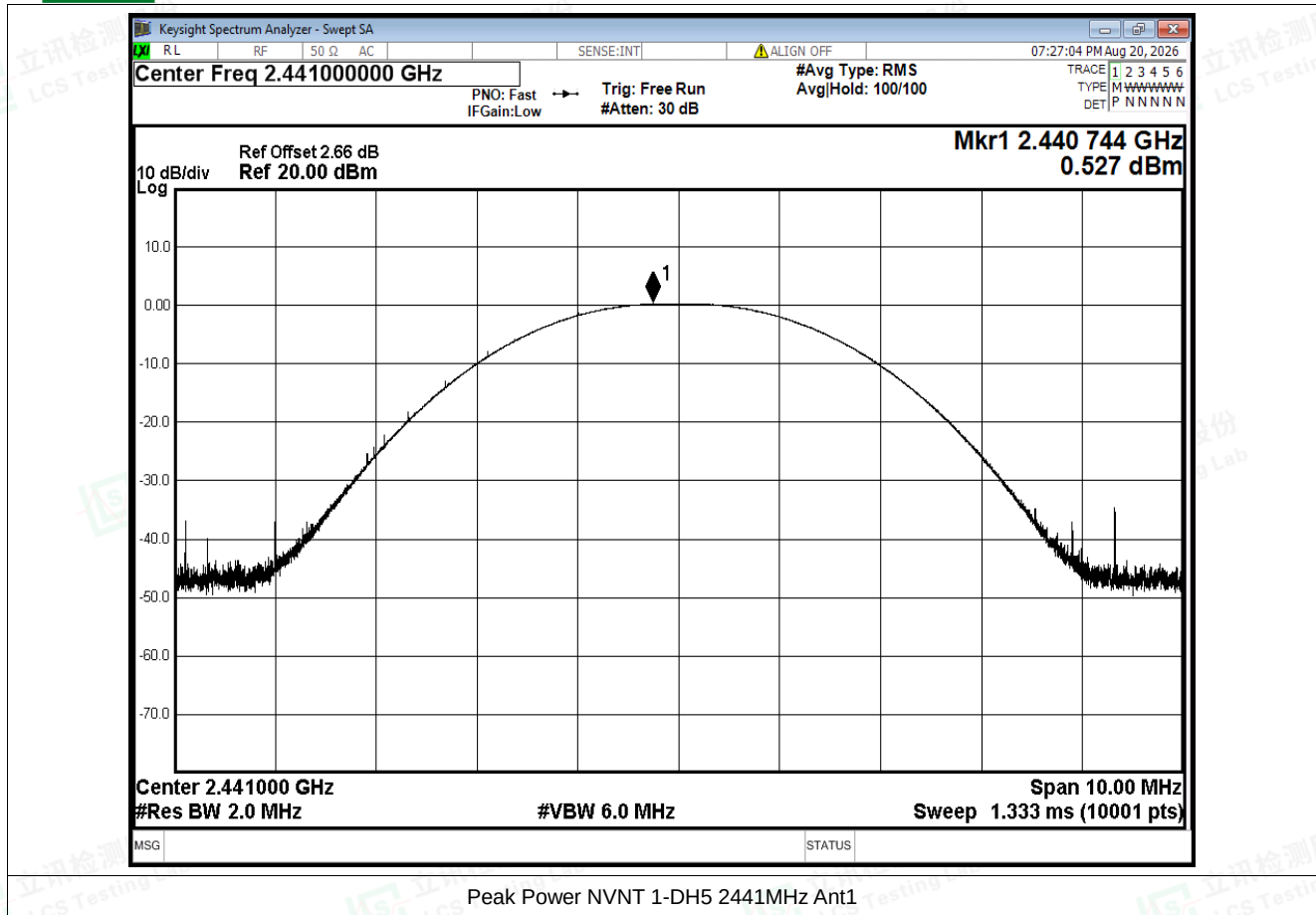
-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

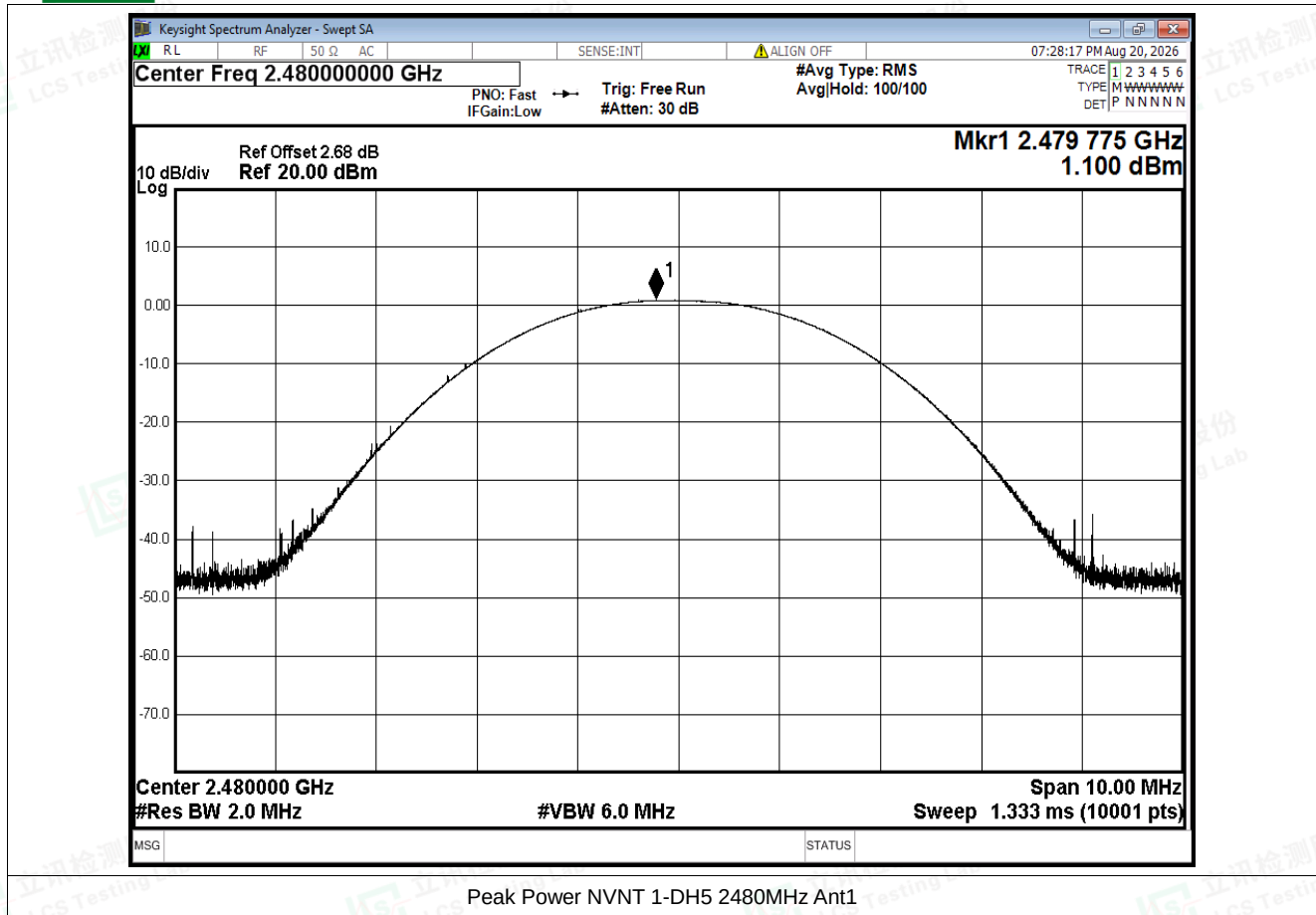


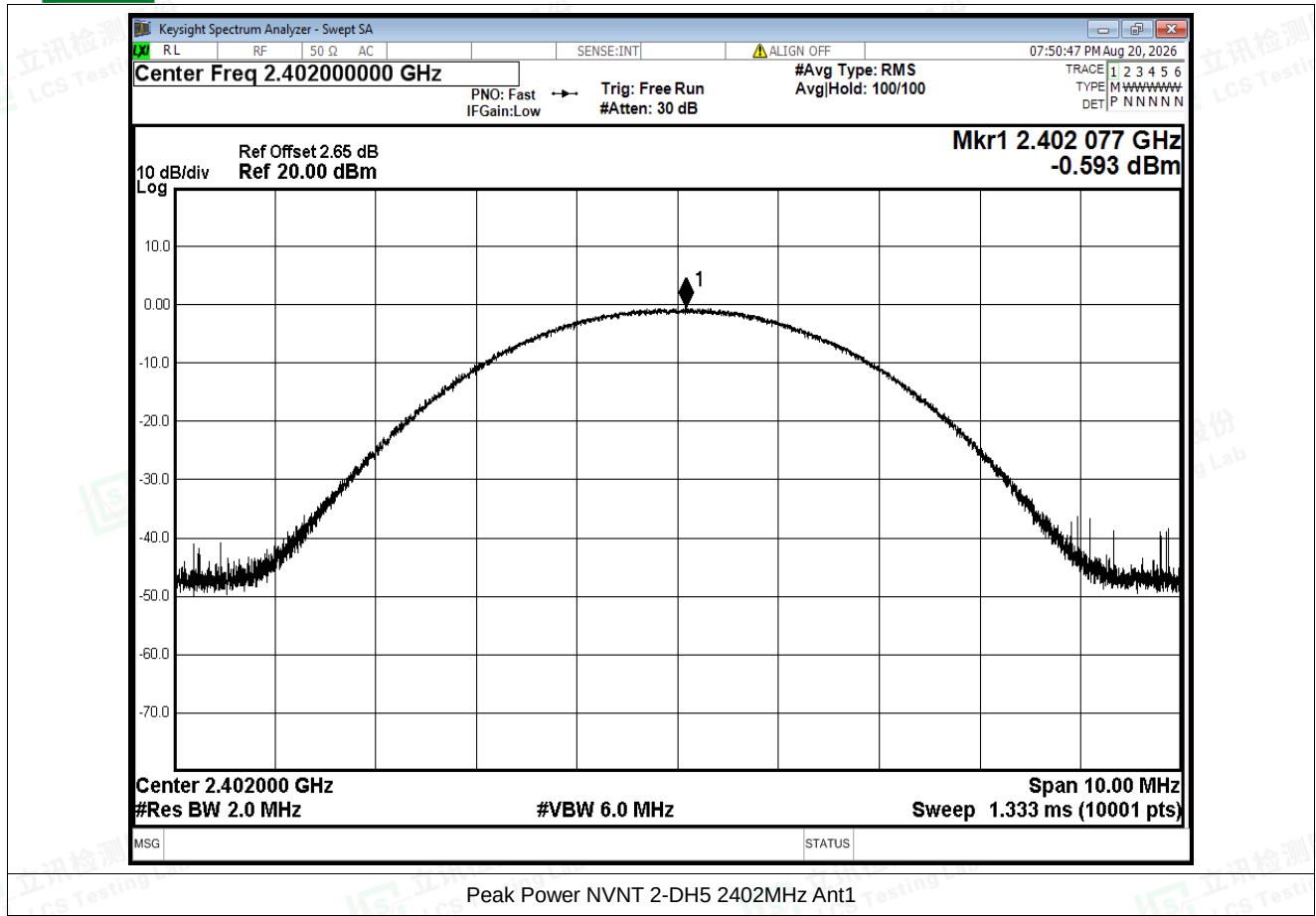
A.2 Maximum Peak Conducted Output Power

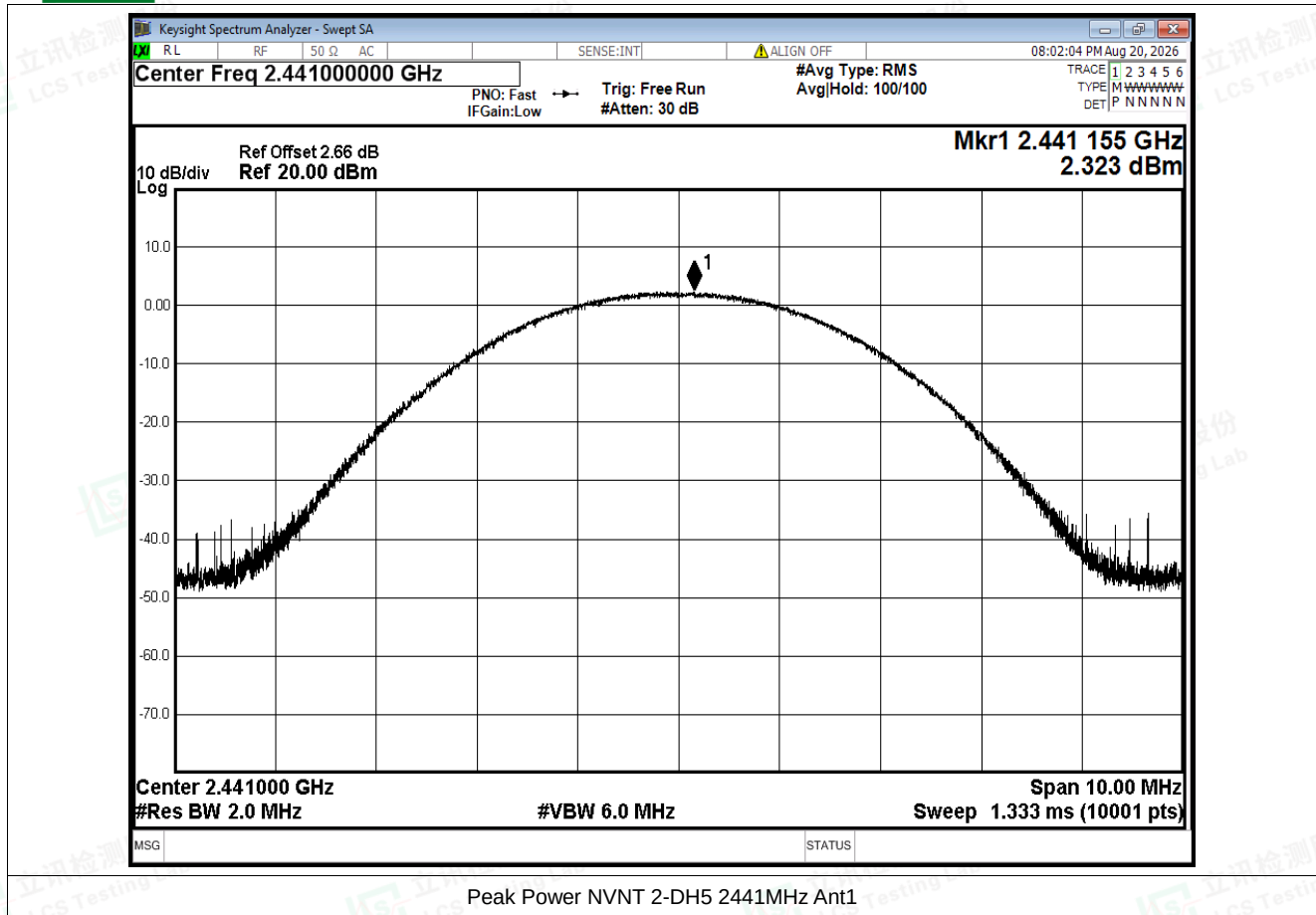
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit Conducted(dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-2.42	30	Pass
NVNT	1-DH5	2441	Ant1	0.53	30	Pass
NVNT	1-DH5	2480	Ant1	1.1	30	Pass
NVNT	2-DH5	2402	Ant1	-0.59	30	Pass
NVNT	2-DH5	2441	Ant1	2.32	30	Pass
NVNT	2-DH5	2480	Ant1	2.82	30	Pass
NVNT	3-DH5	2402	Ant1	-0.15	30	Pass
NVNT	3-DH5	2441	Ant1	2.81	30	Pass
NVNT	3-DH5	2480	Ant1	3.31	30	Pass

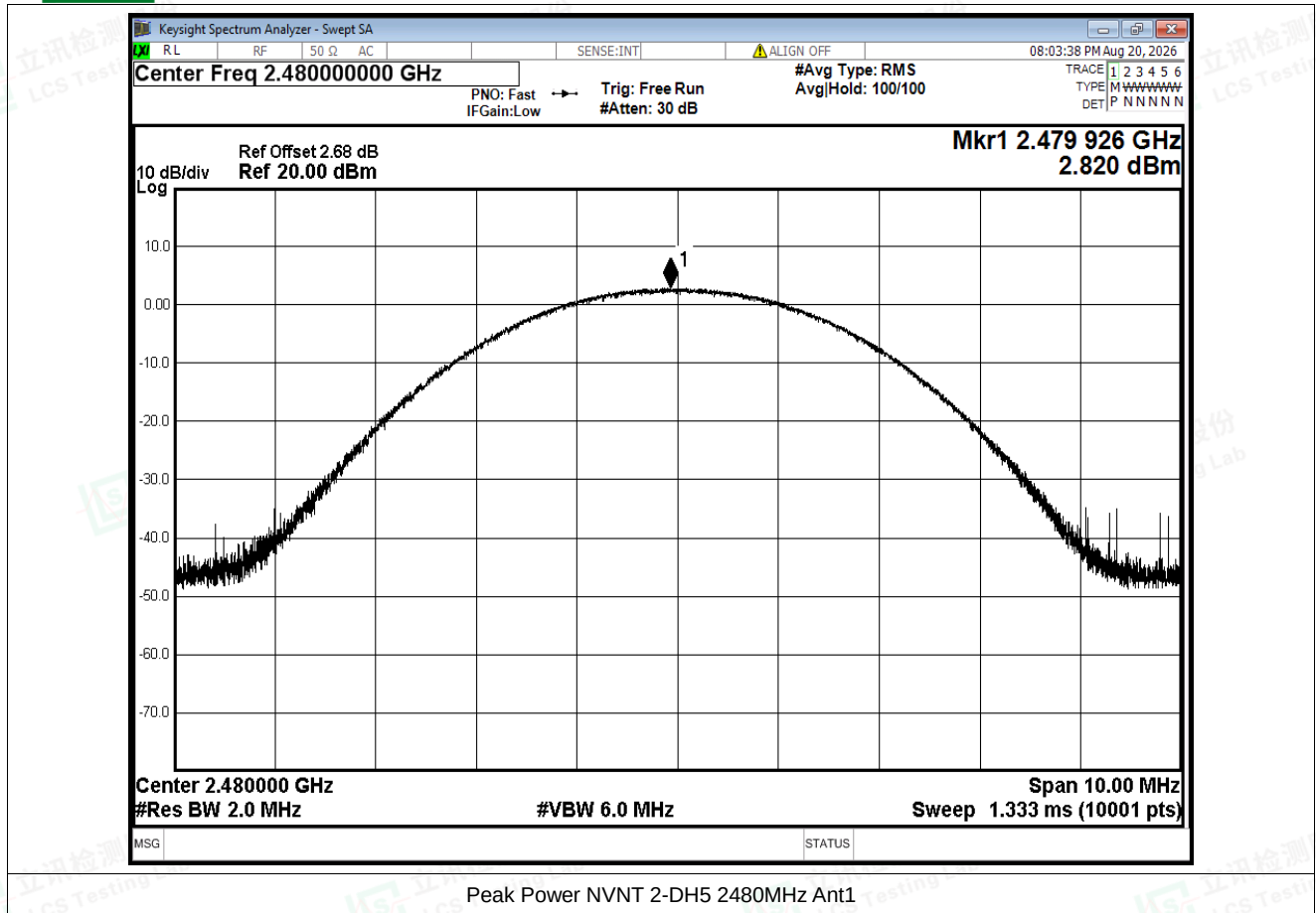


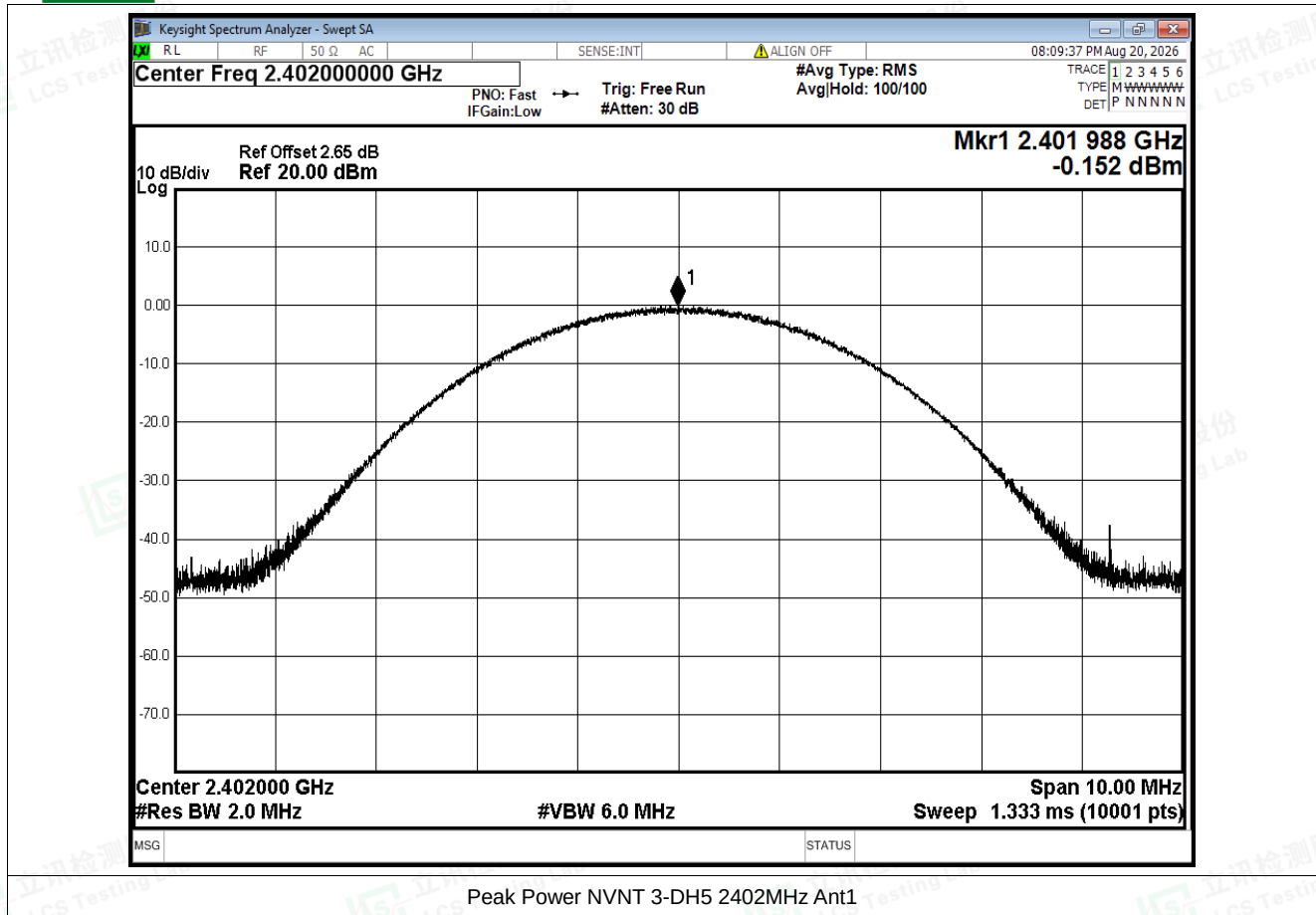


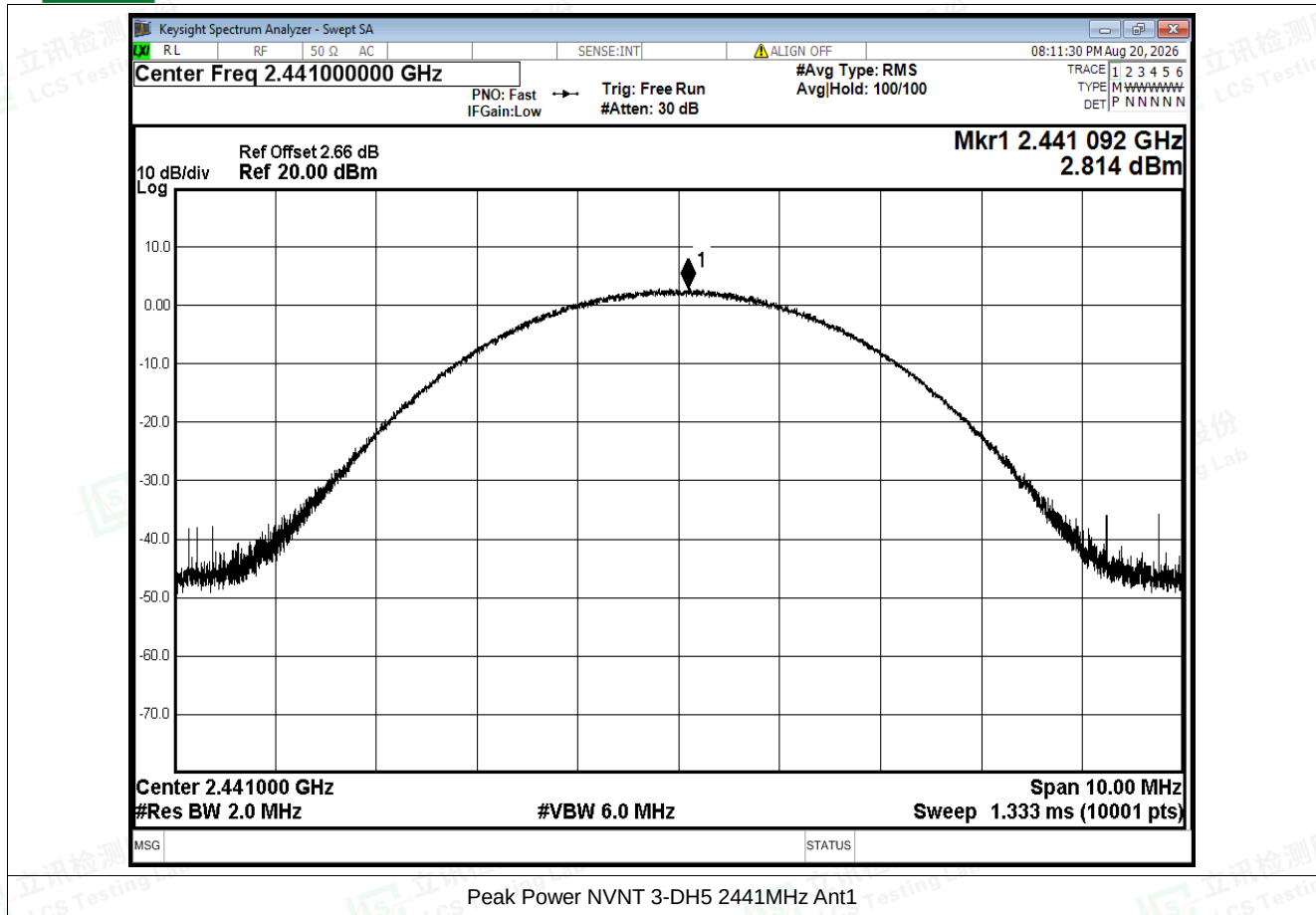


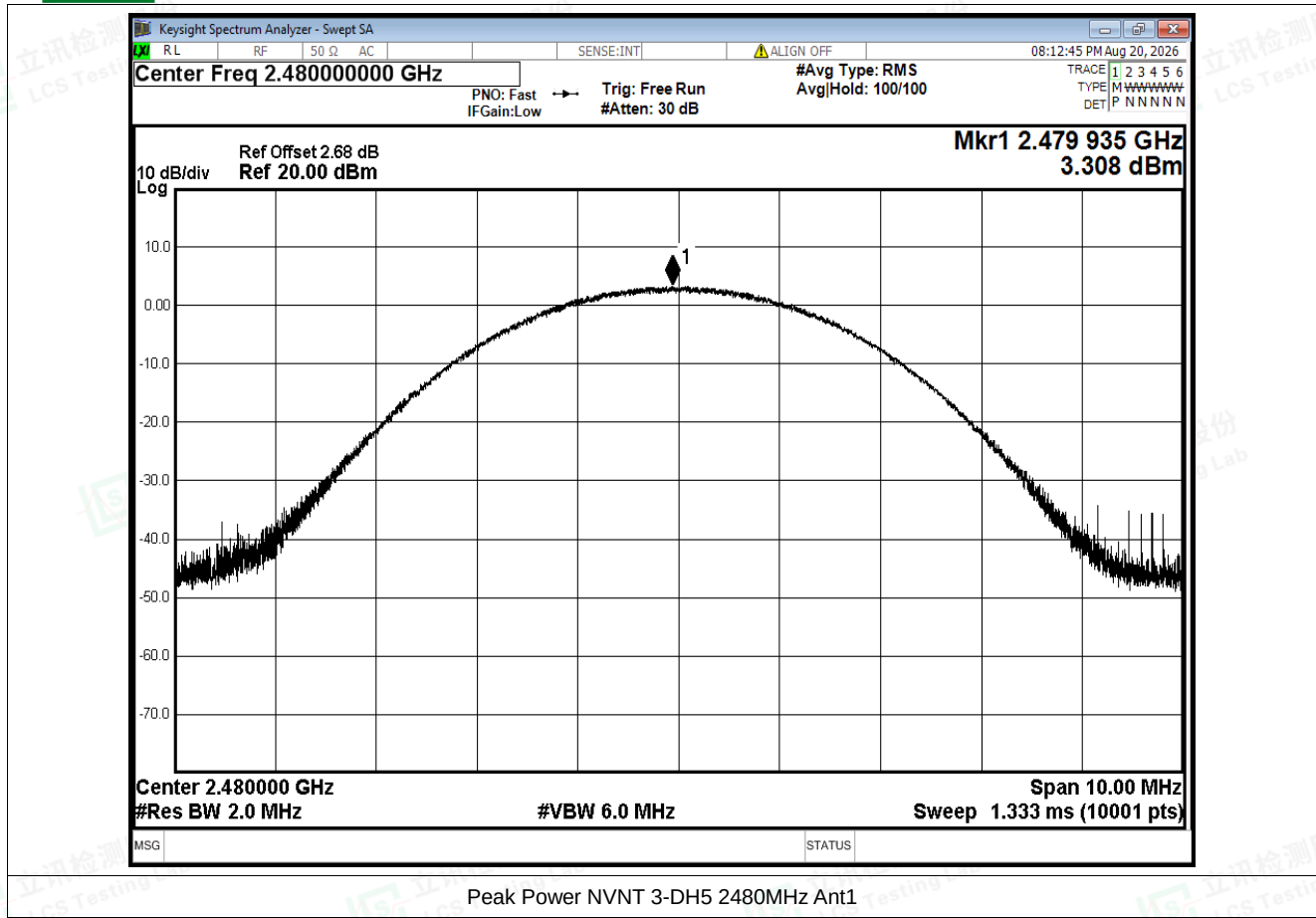








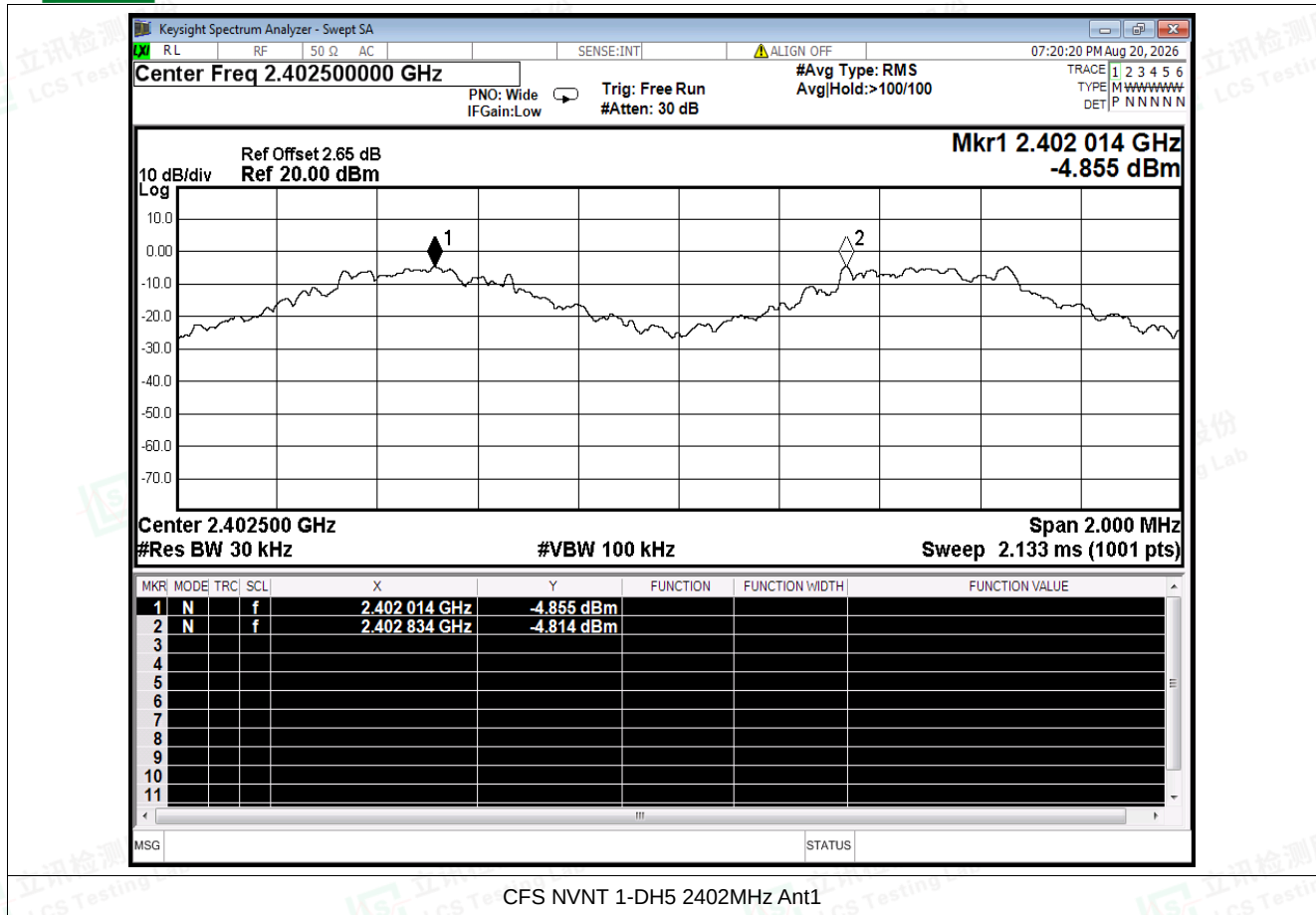


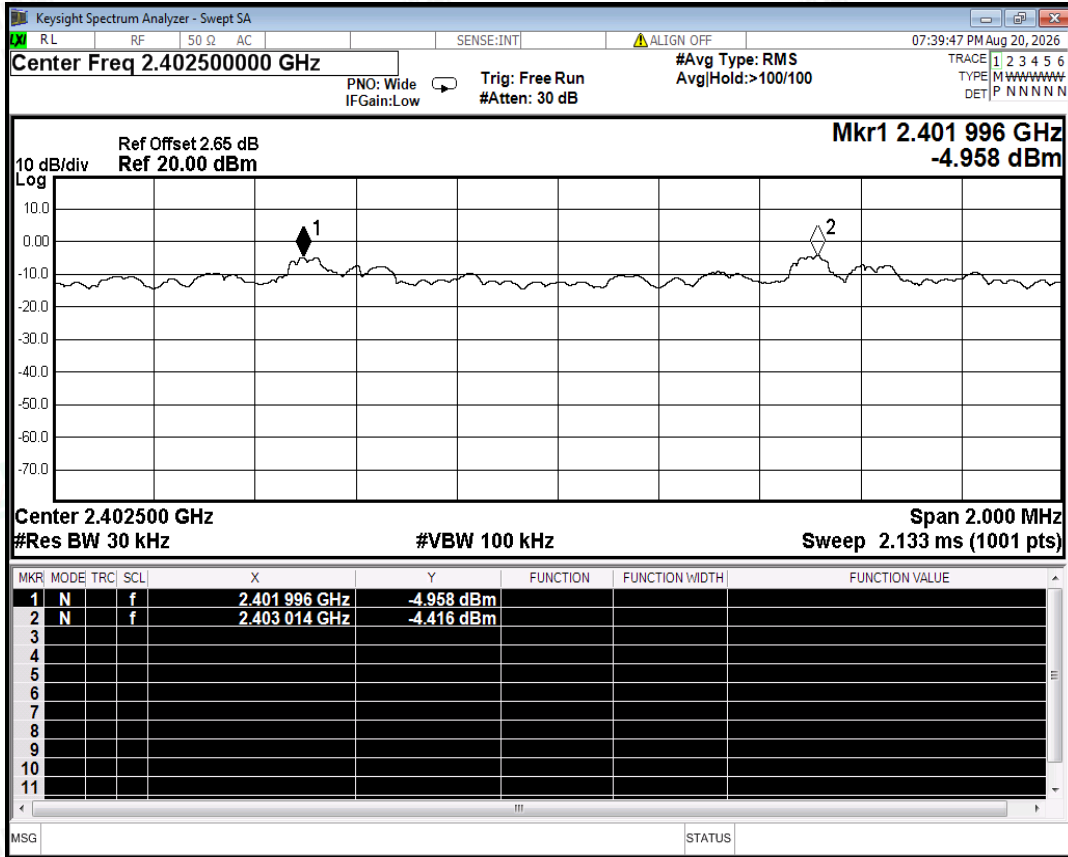




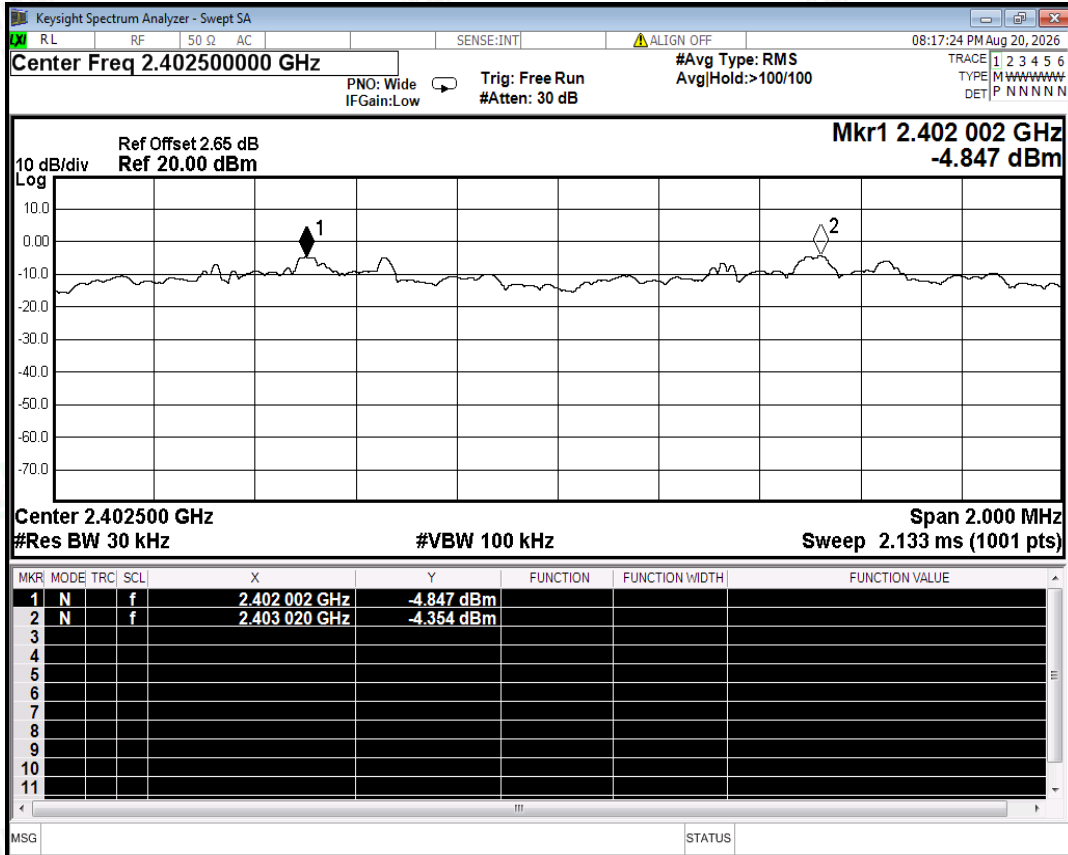
A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.014	2402.834	0.82	0.679	Pass
NVNT	2-DH5	Ant1	2401.996	2403.014	1.018	0.858	Pass
NVNT	3-DH5	Ant1	2402.002	2403.02	1.018	0.875	Pass





CFS NVNT 2-DH5 2402MHz Ant1

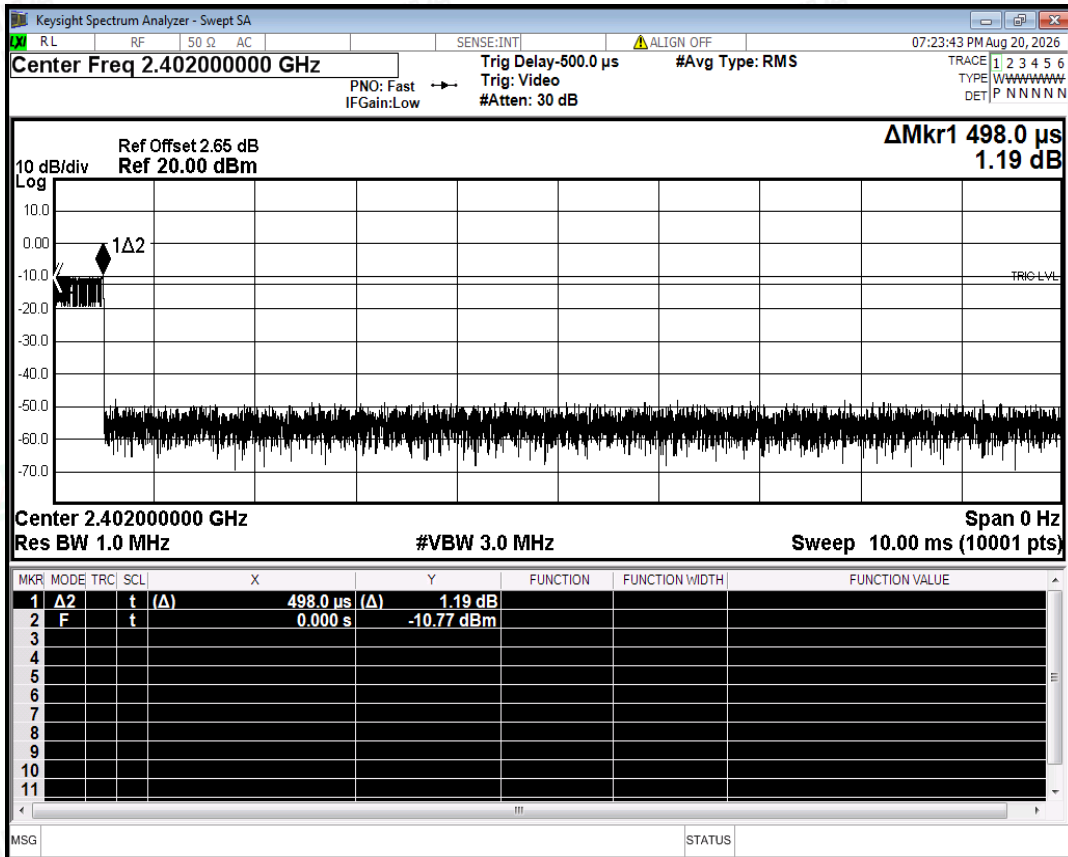


CFS NVNT 3-DH5 2402MHz Ant1

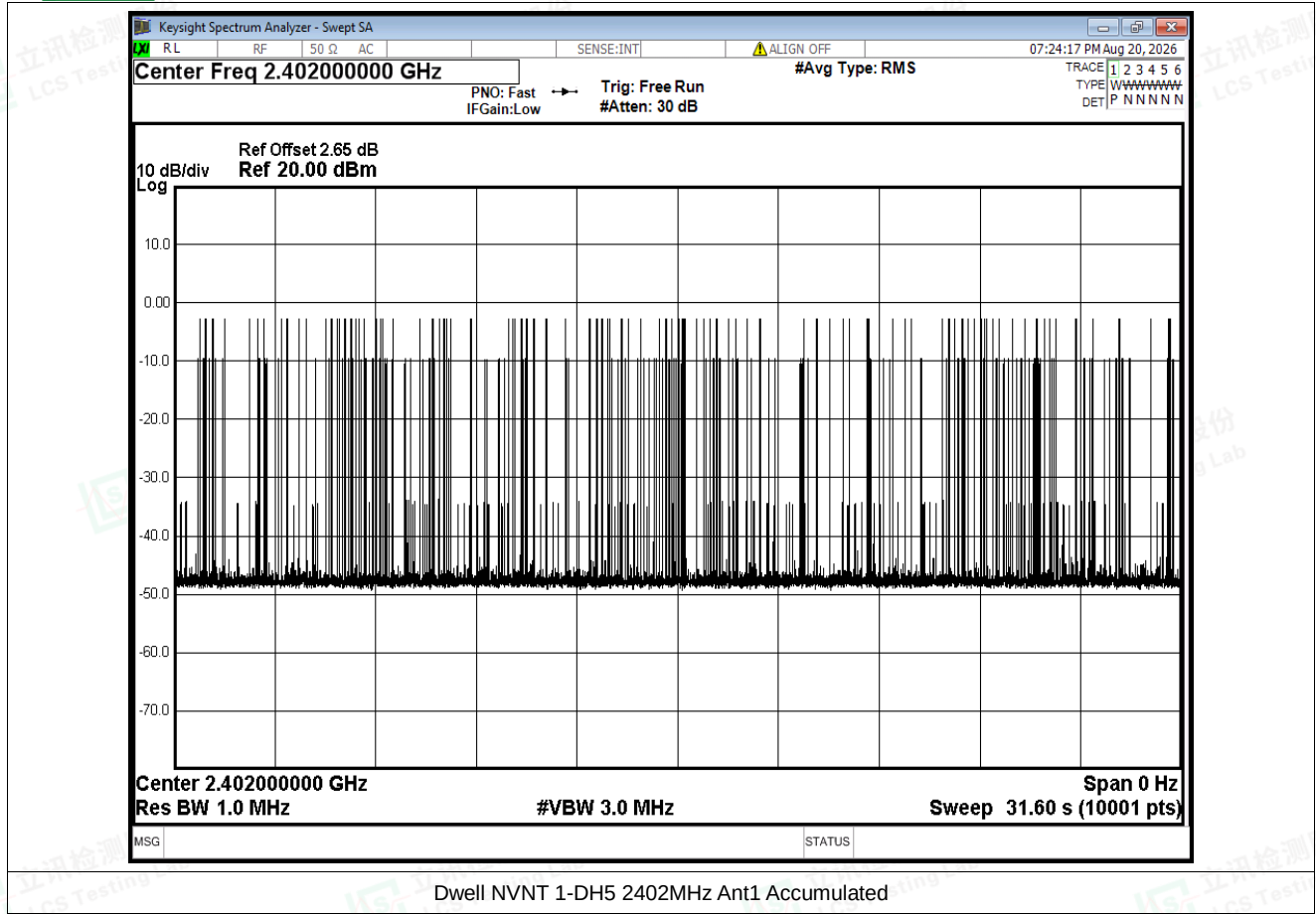


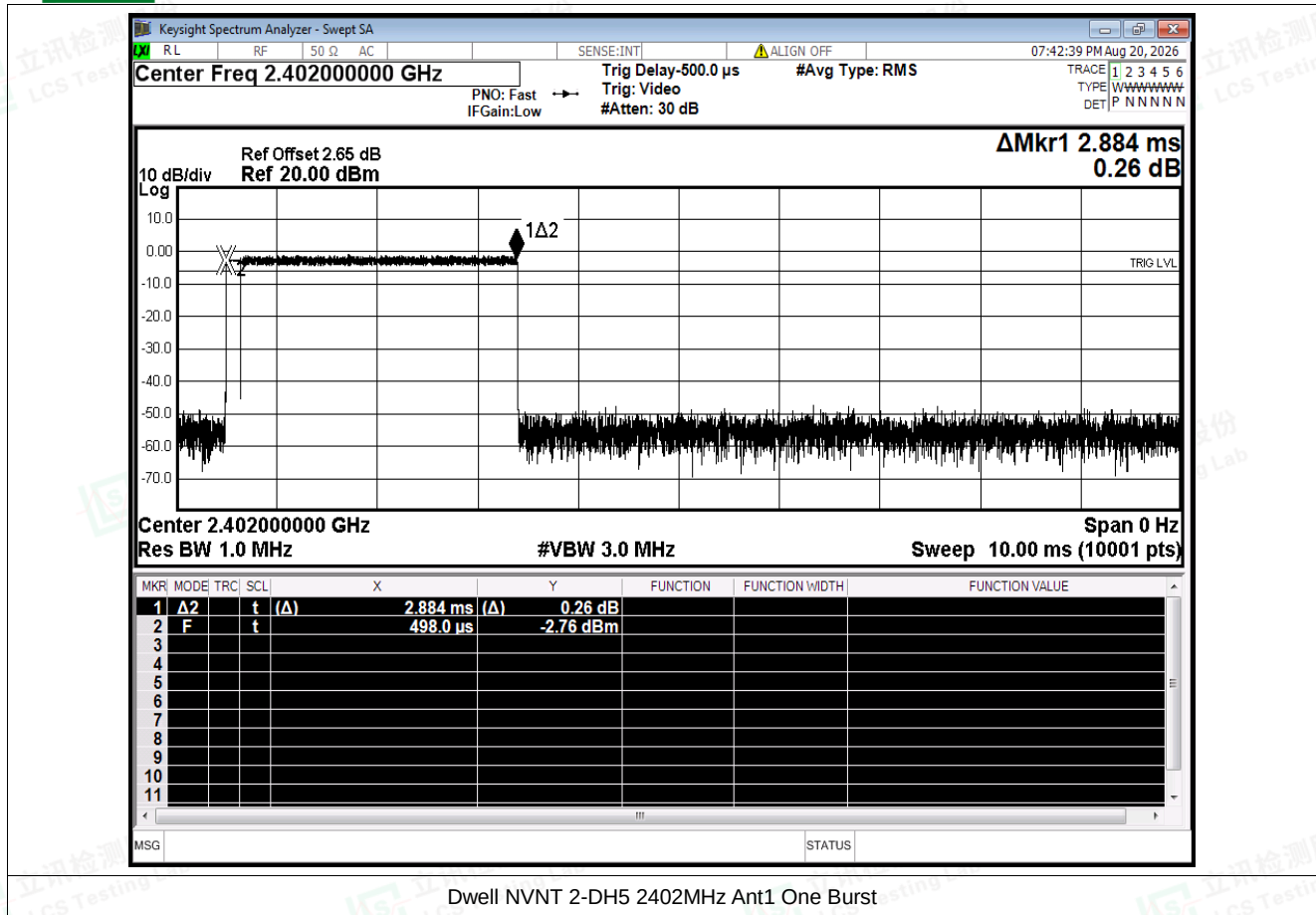
A.4 Dwell Time

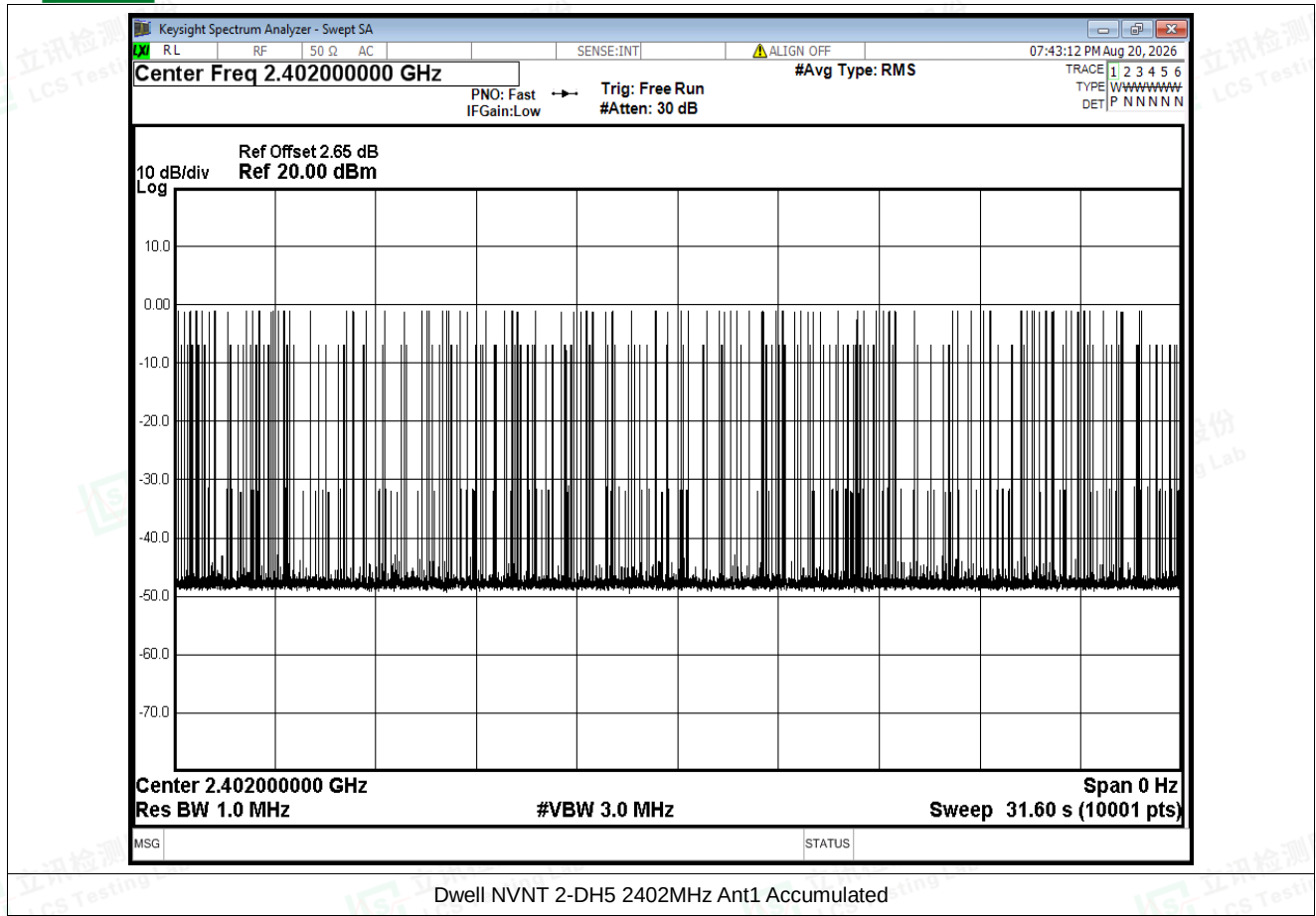
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	0.498	55.278	111	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.884	311.472	108	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.883	296.949	103	31600	400	Pass

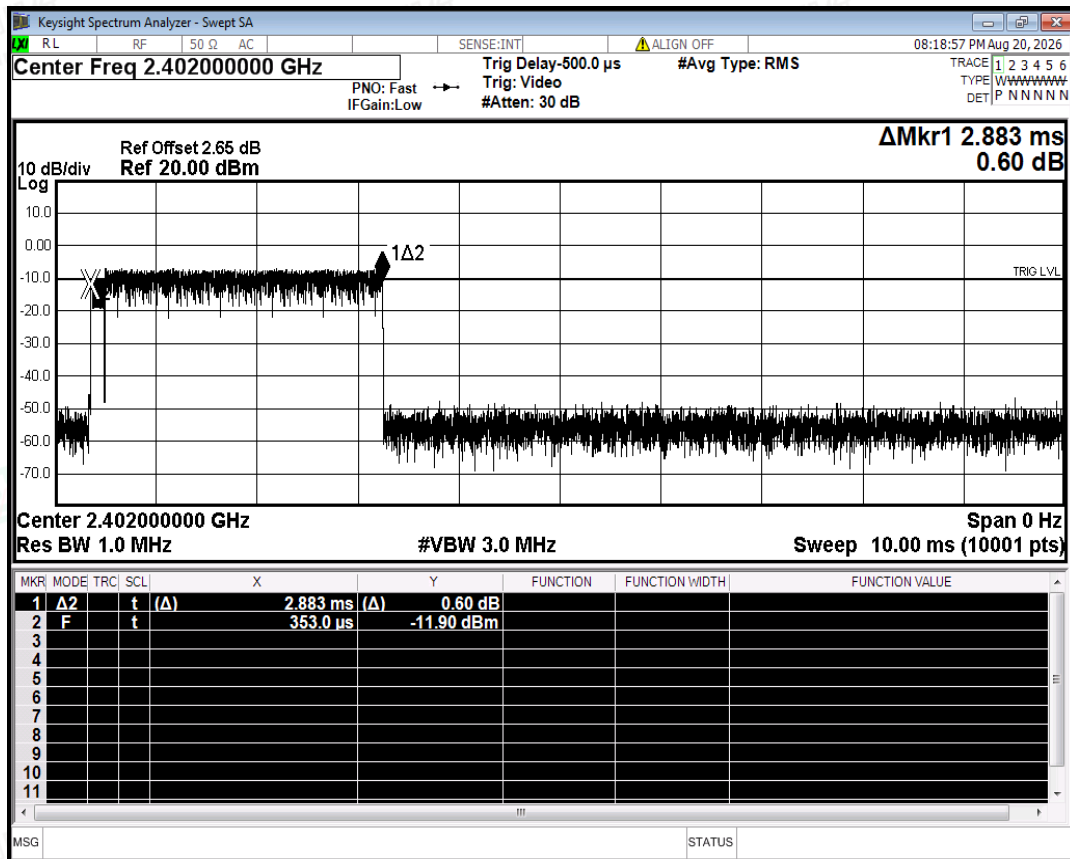


Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

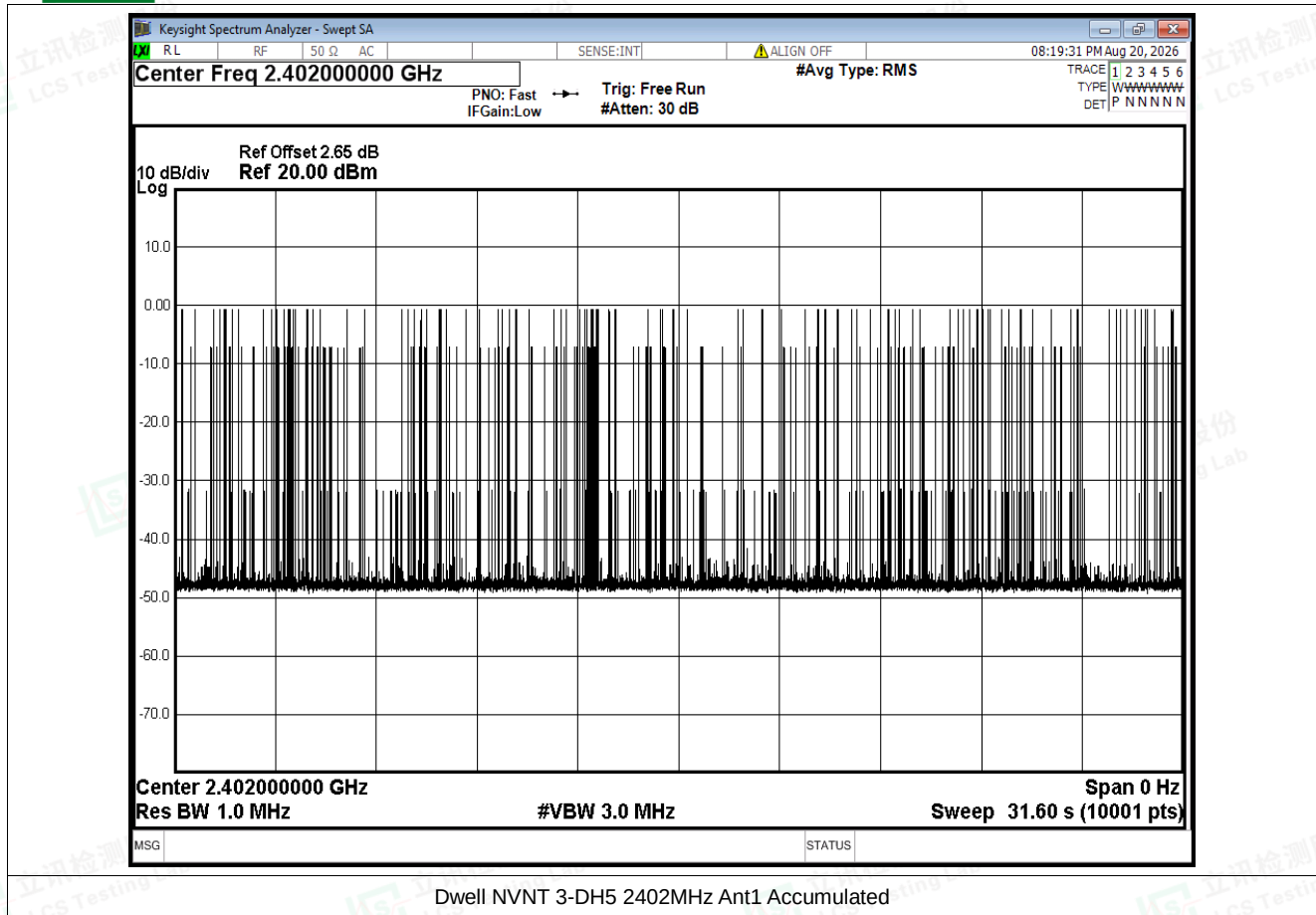








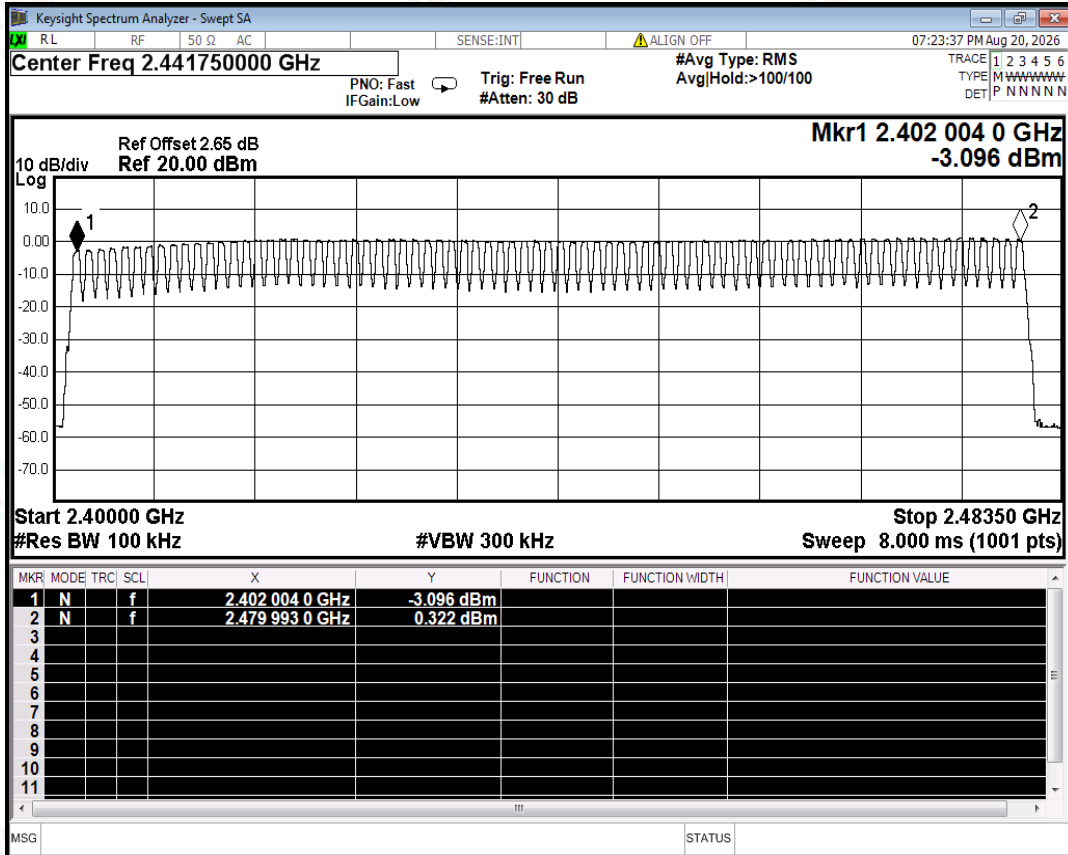
Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



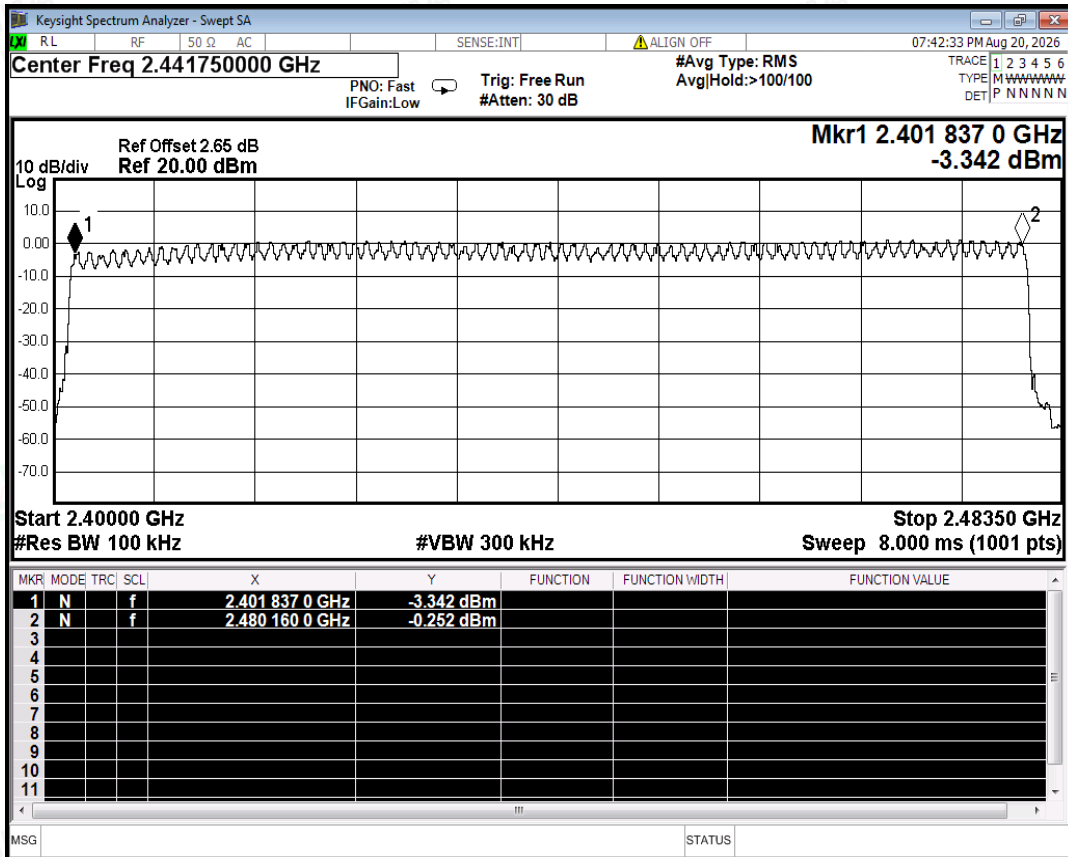


A.5 Number of Hopping Channel

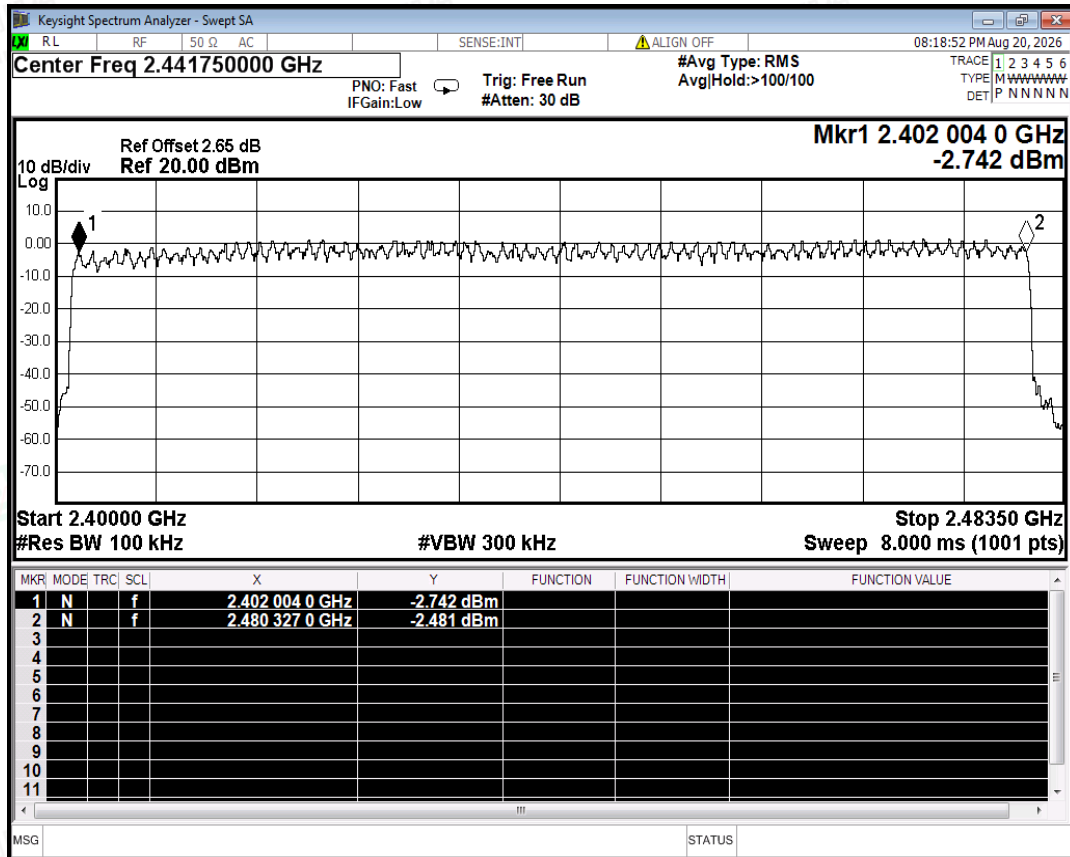
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1

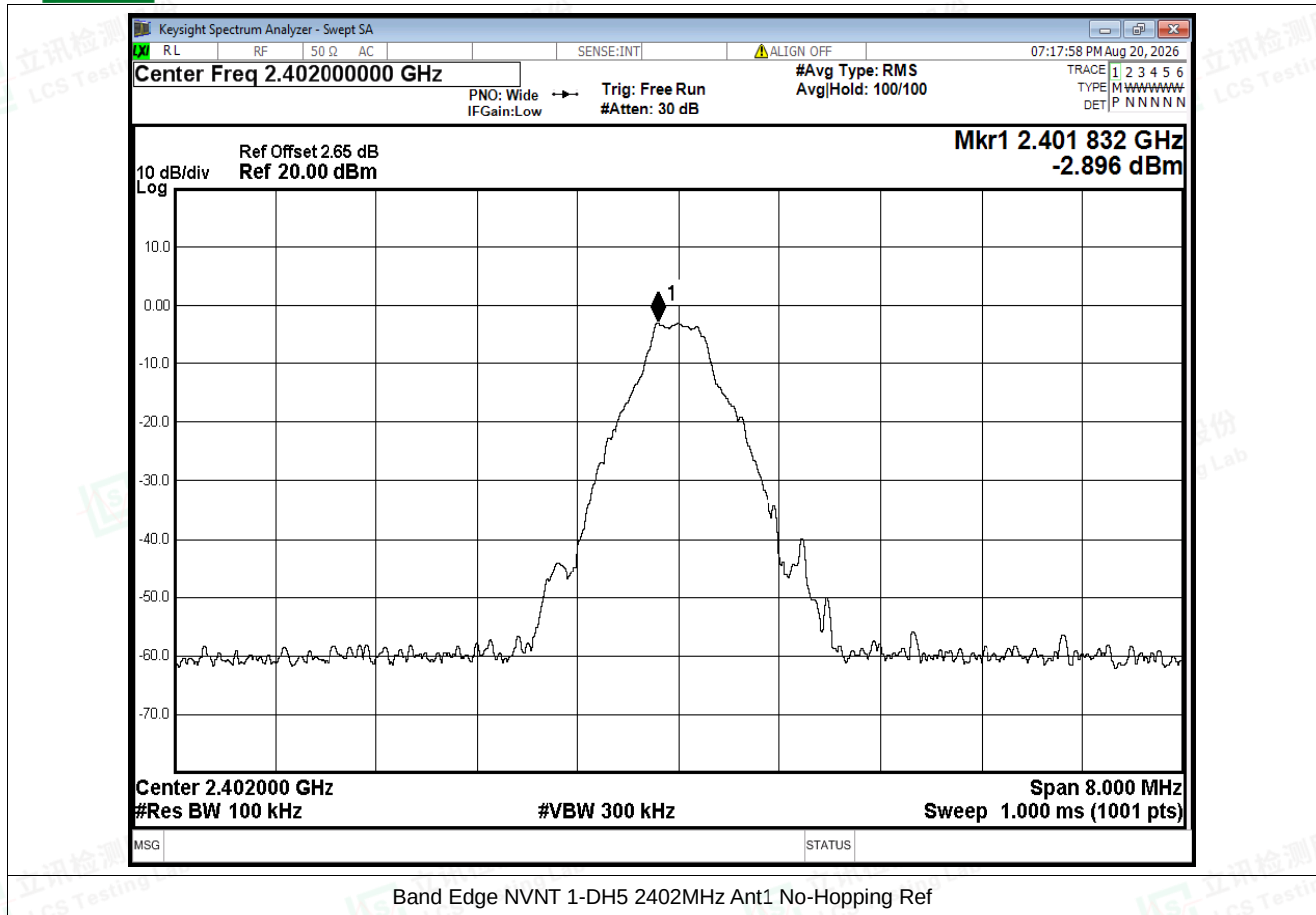


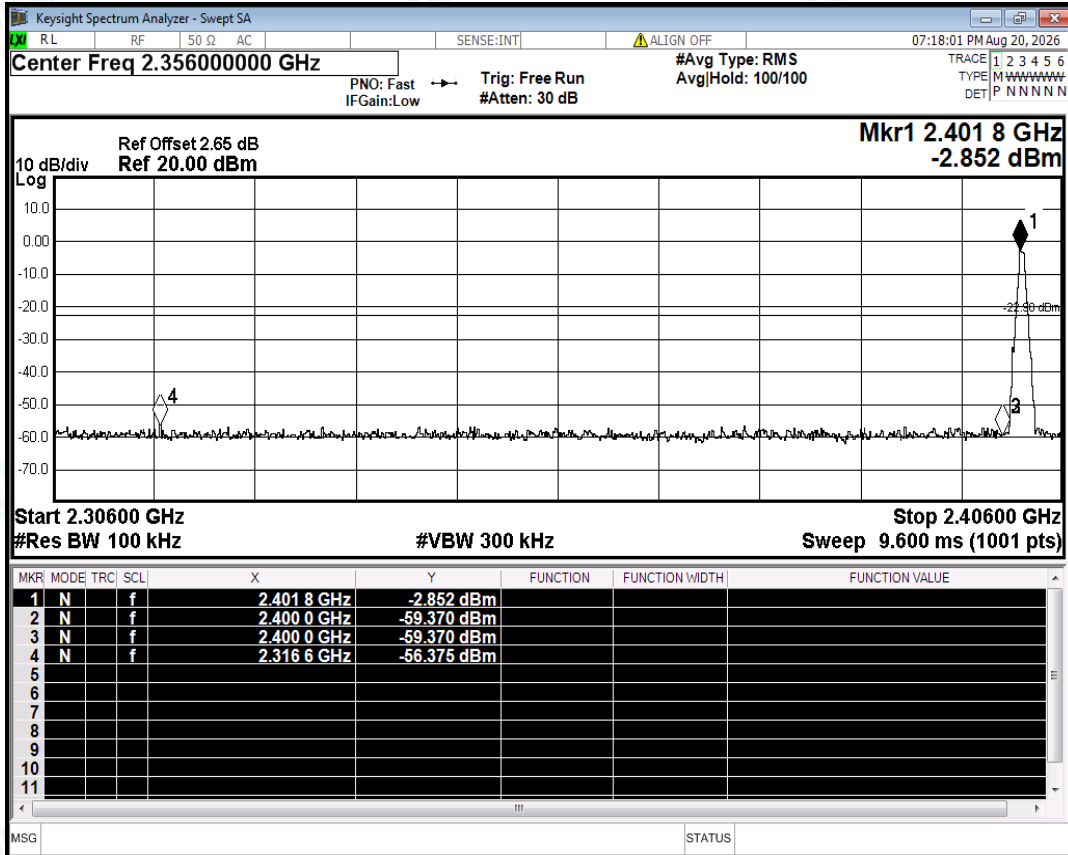
Hopping No. NVNT 3-DH5 2402MHz Ant1



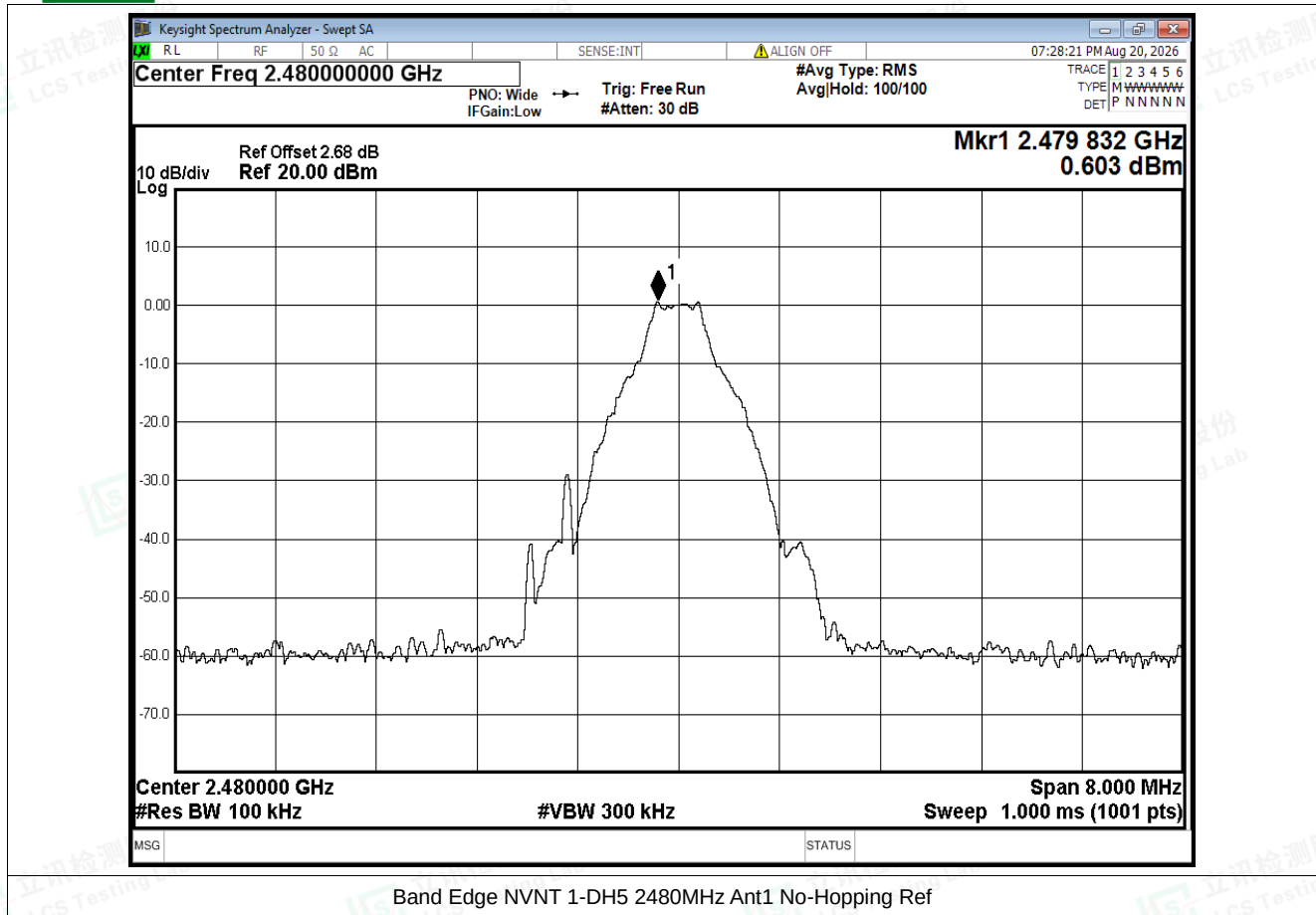
A.6 Band Edge

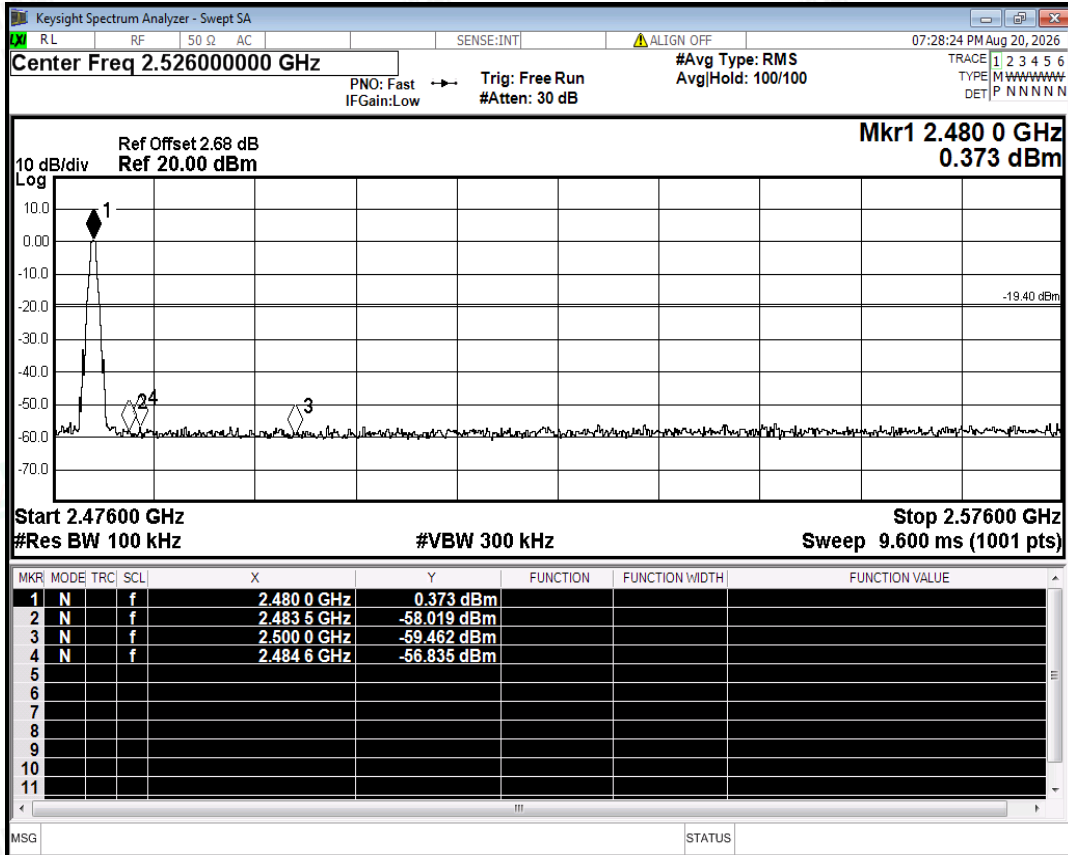
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-53.47	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-57.43	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-49.44	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-56.34	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-50.13	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-56.3	-20	Pass



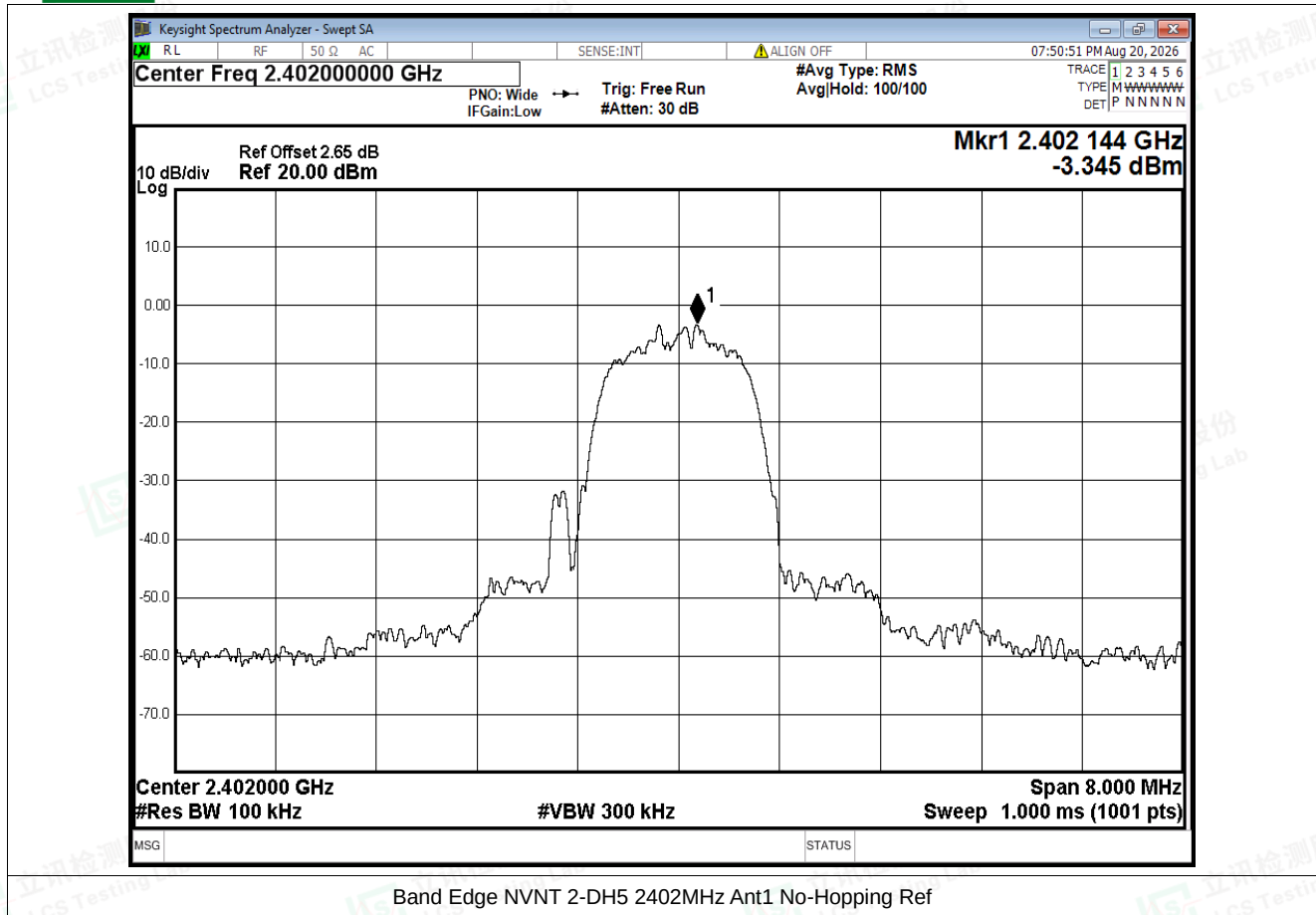


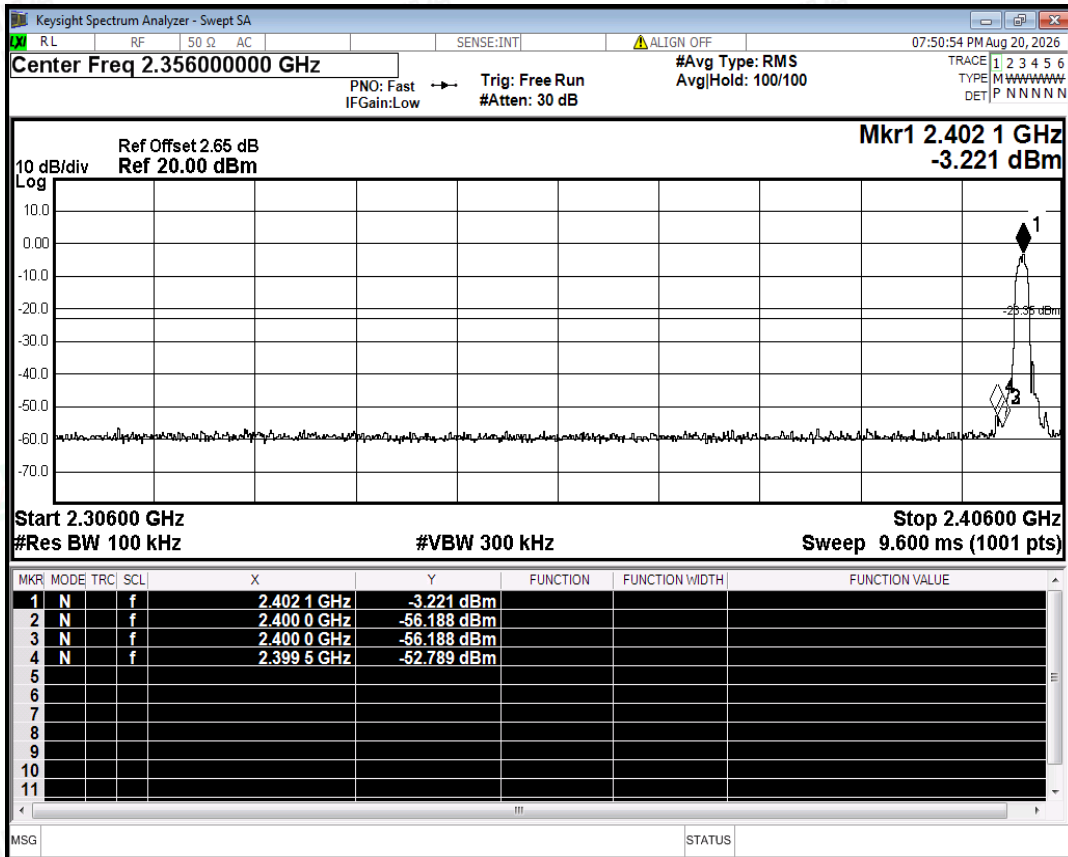
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



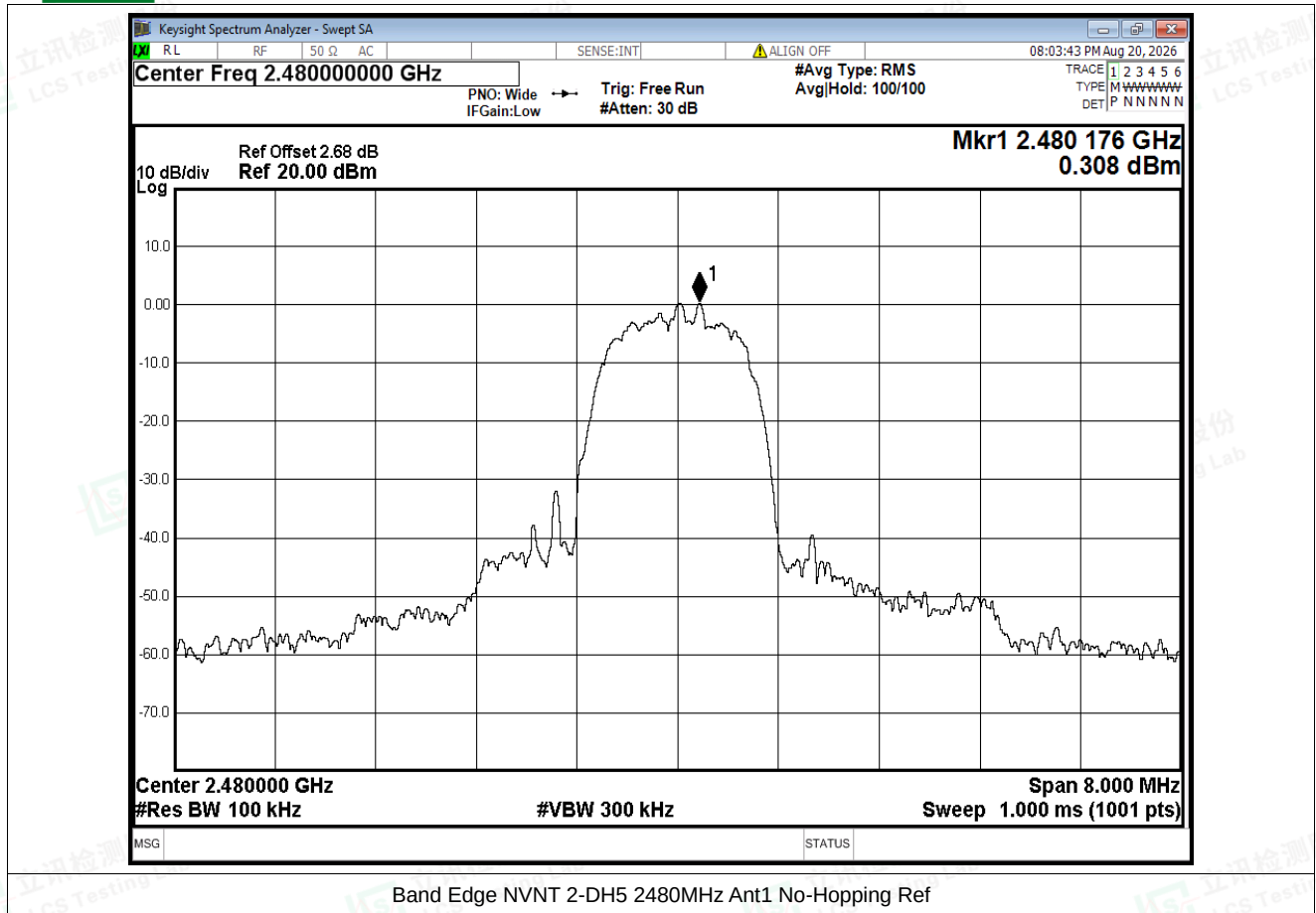


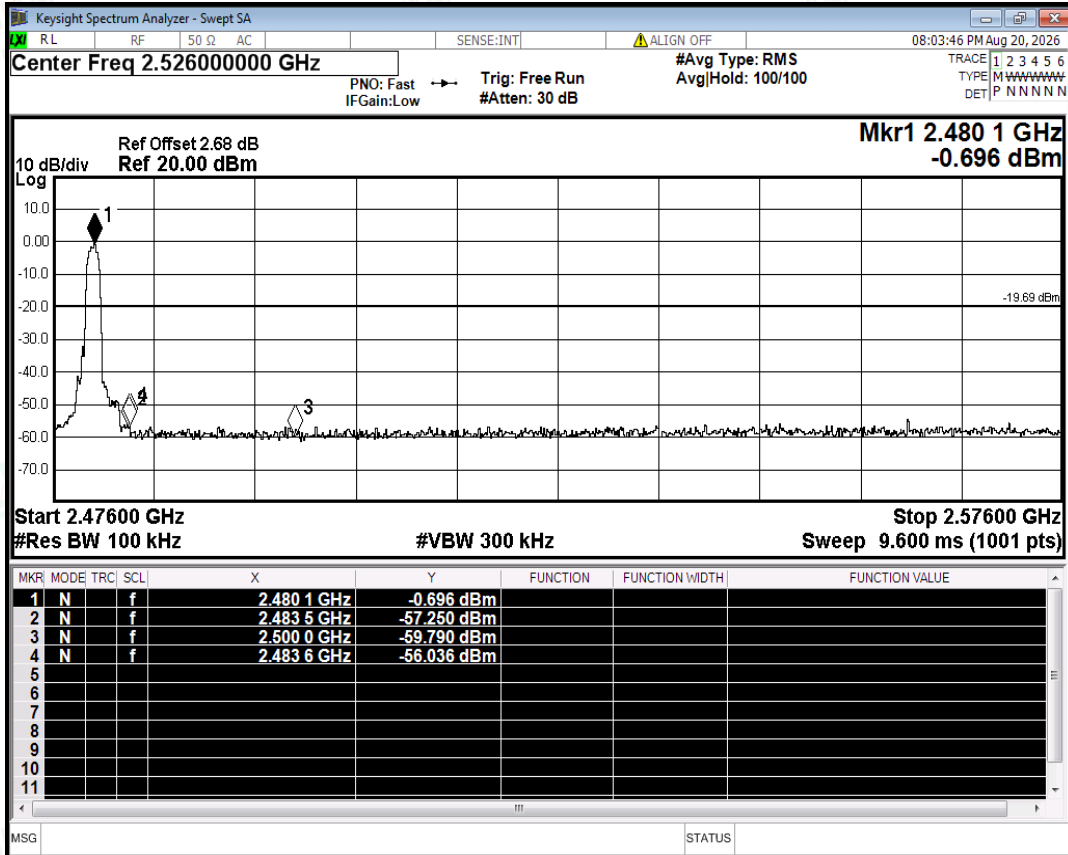
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



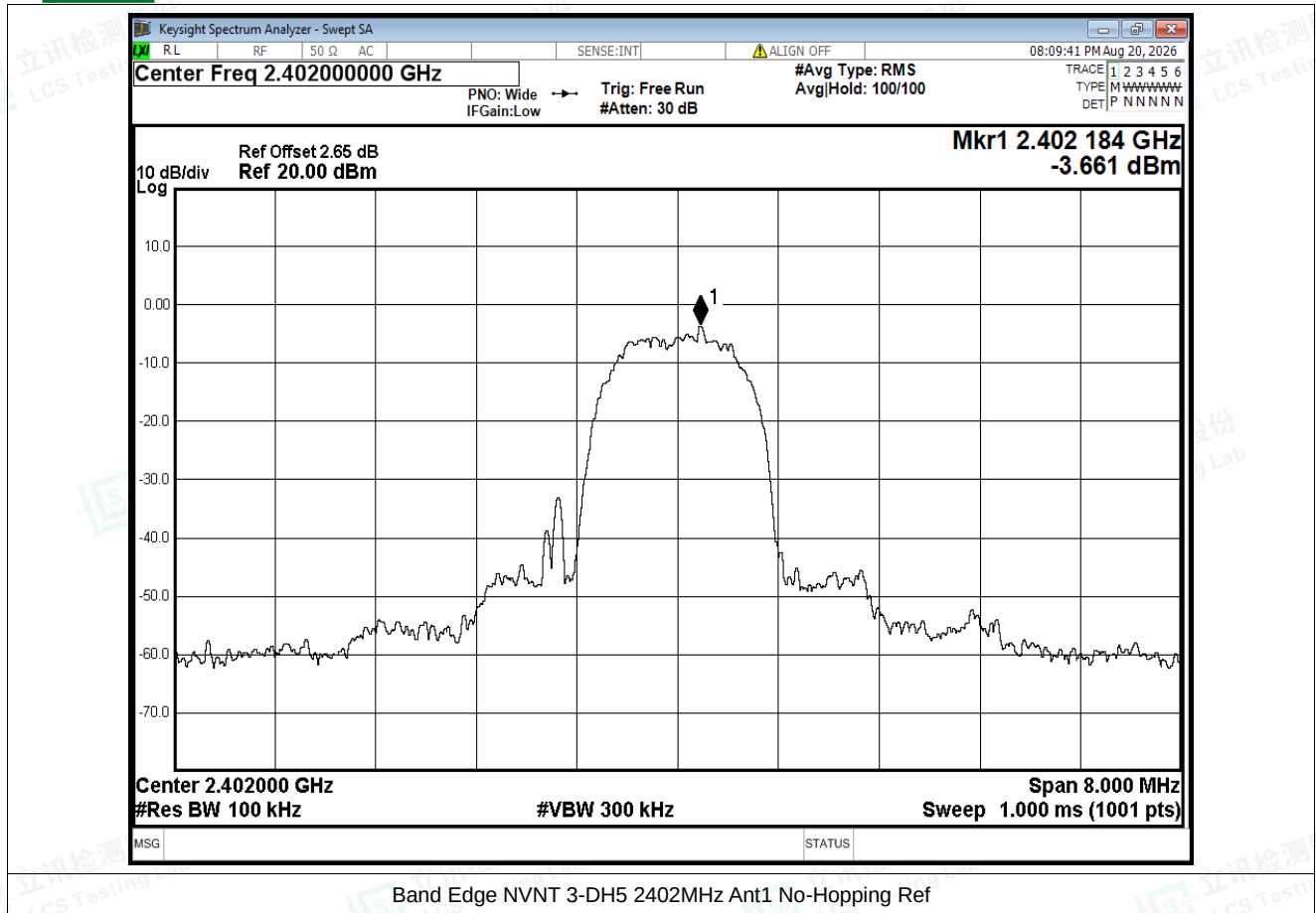


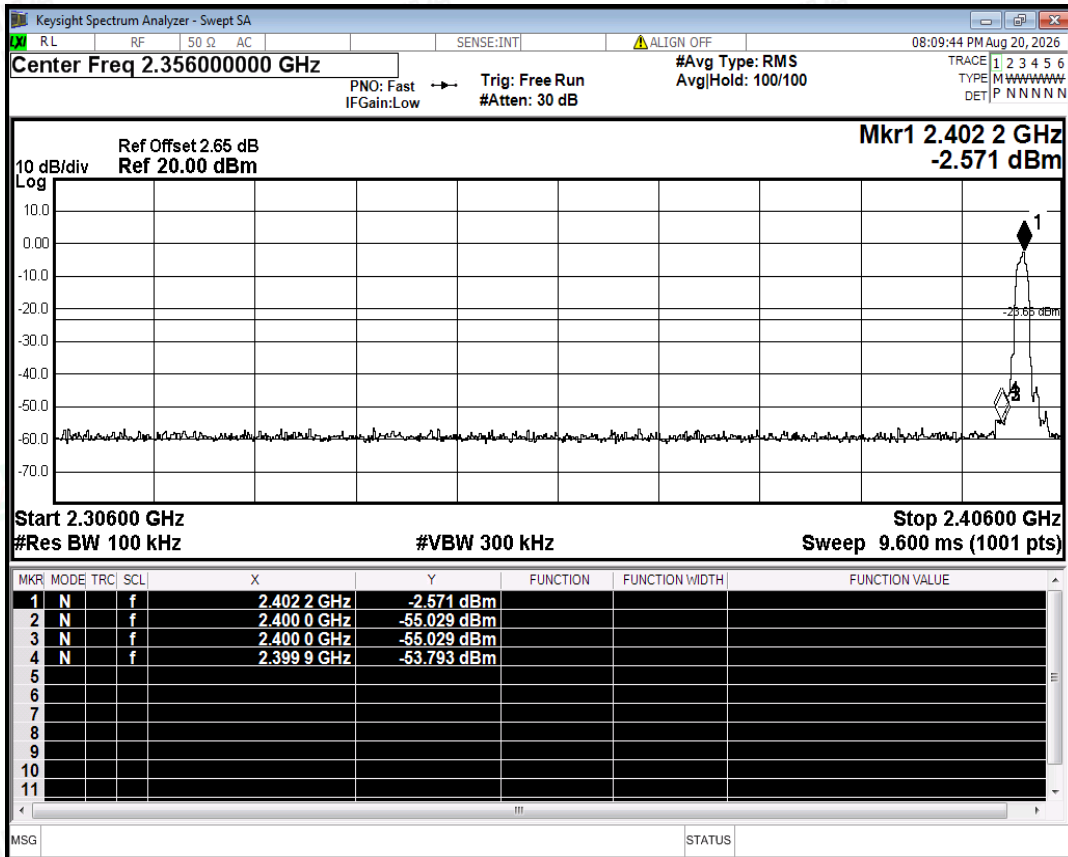
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



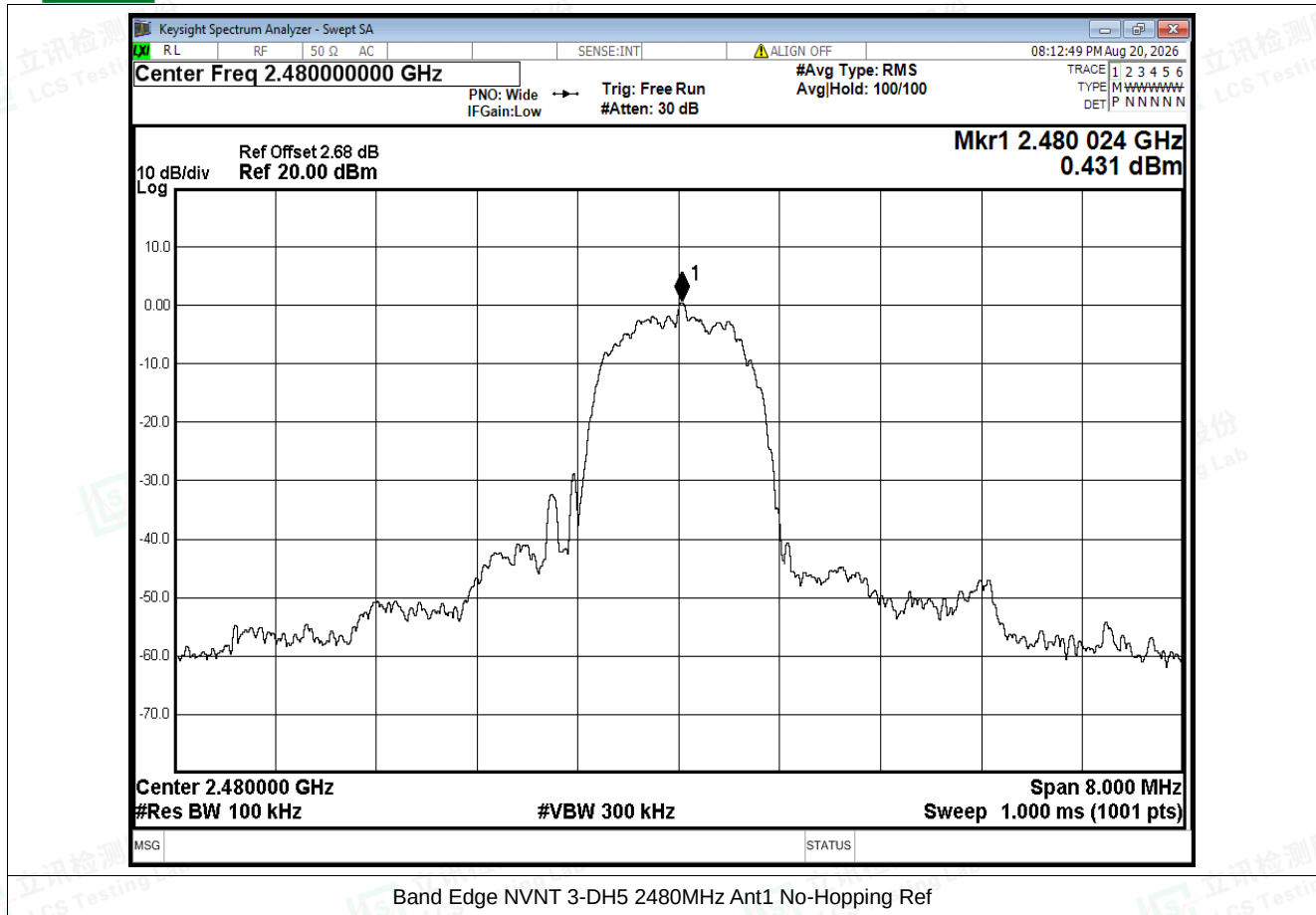


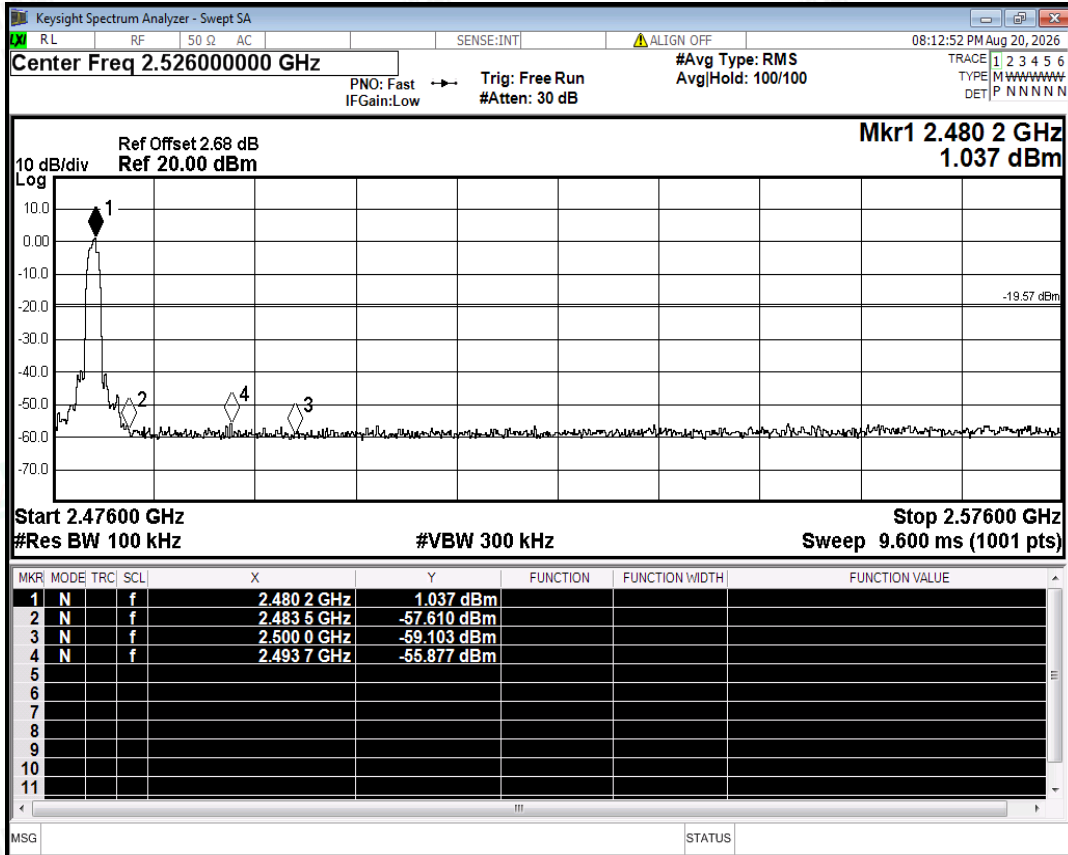
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission





Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



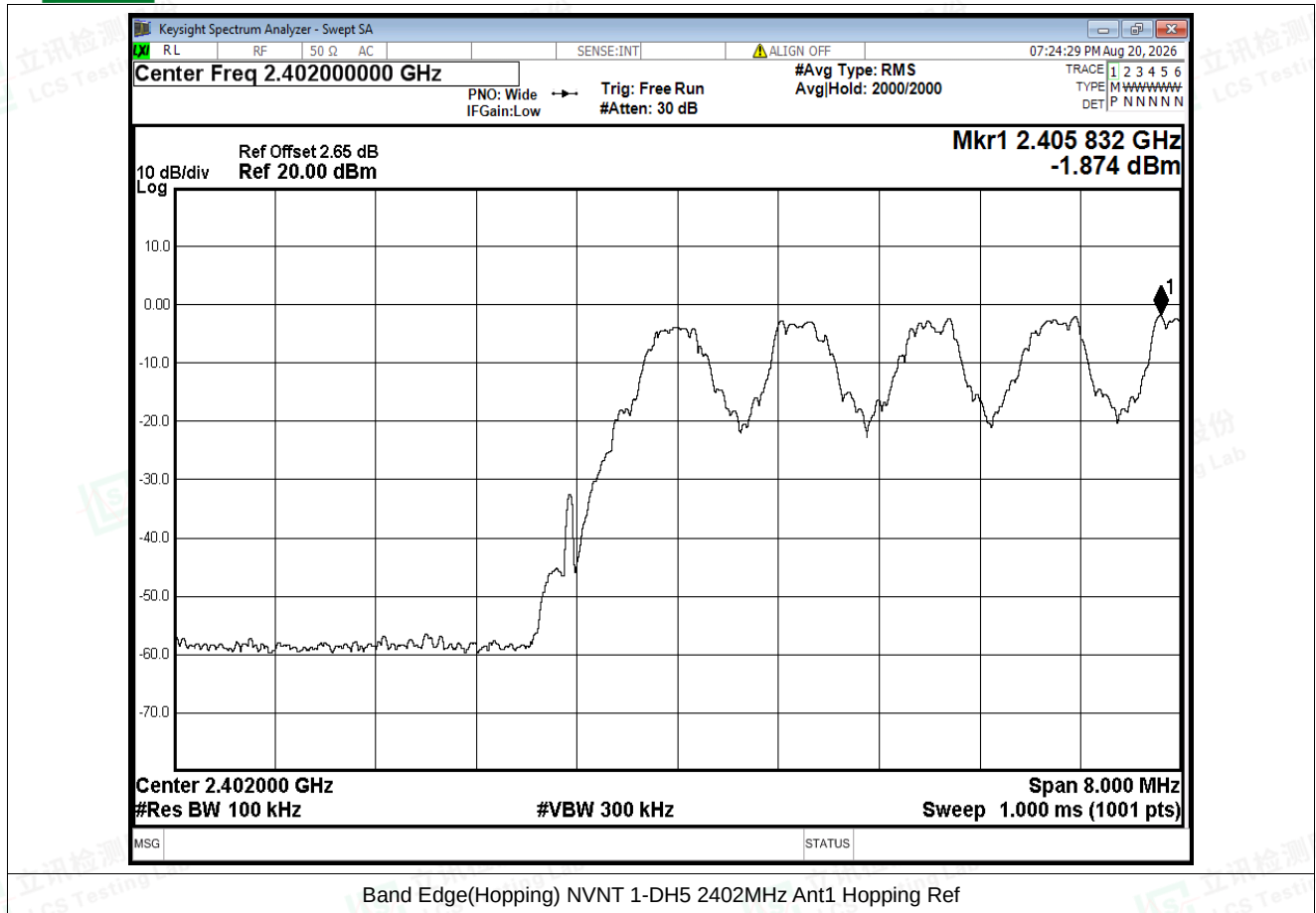


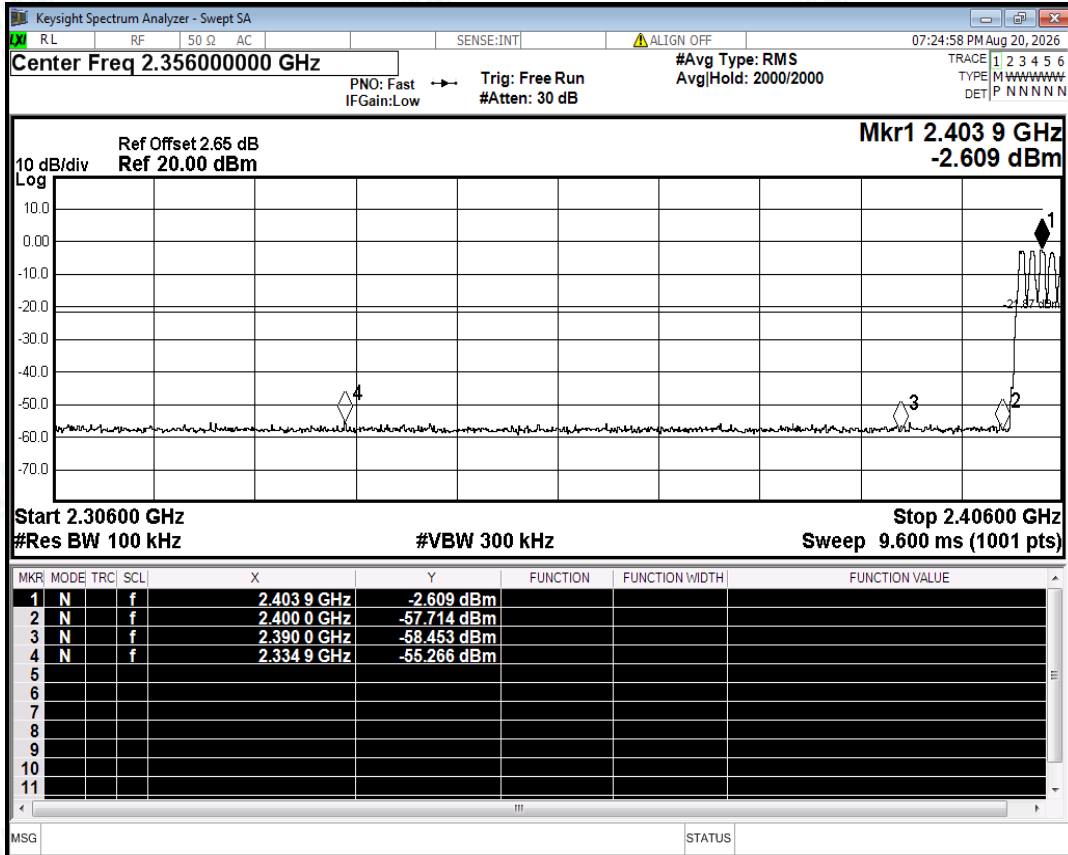
Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Emission



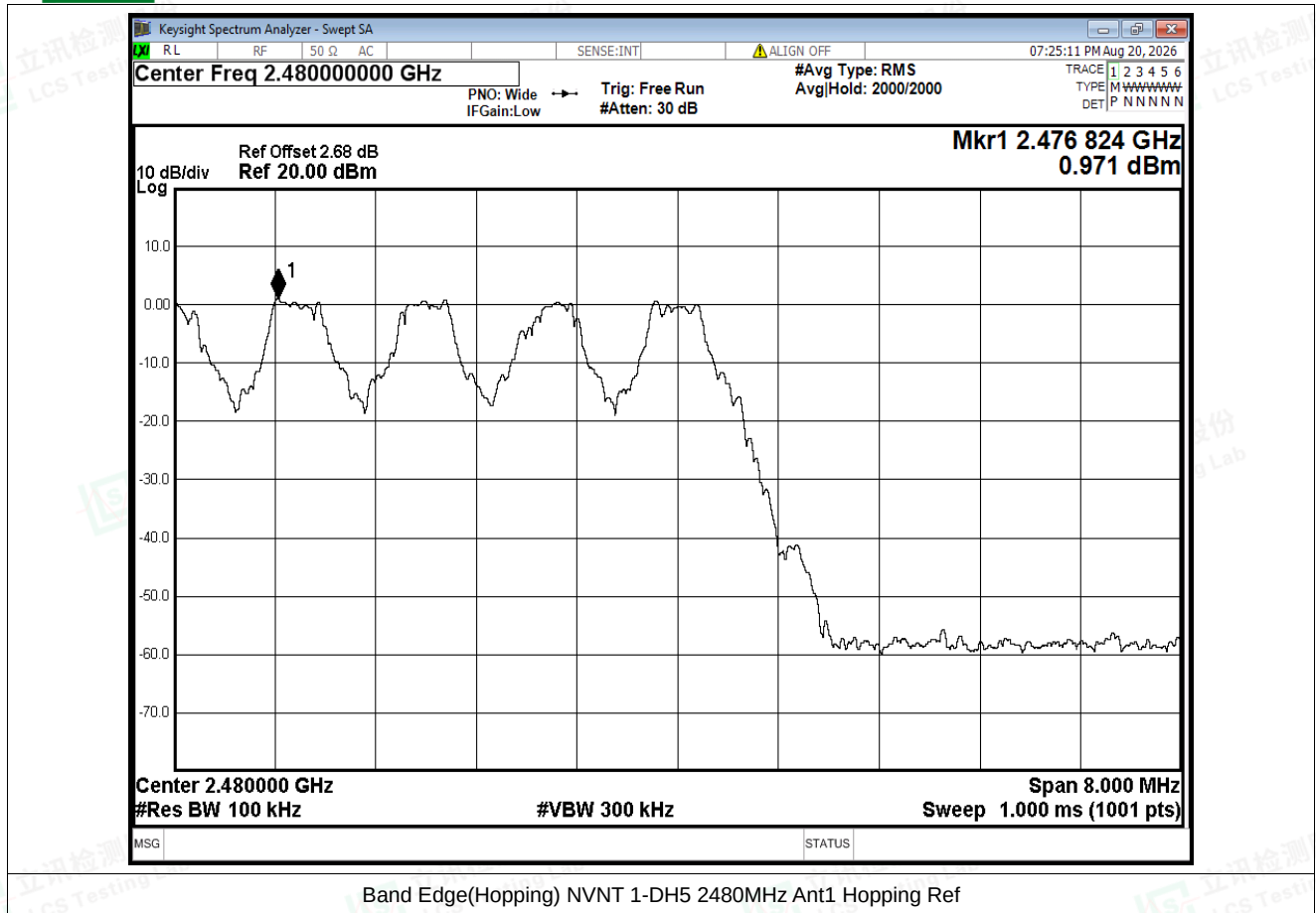
(Hopping)

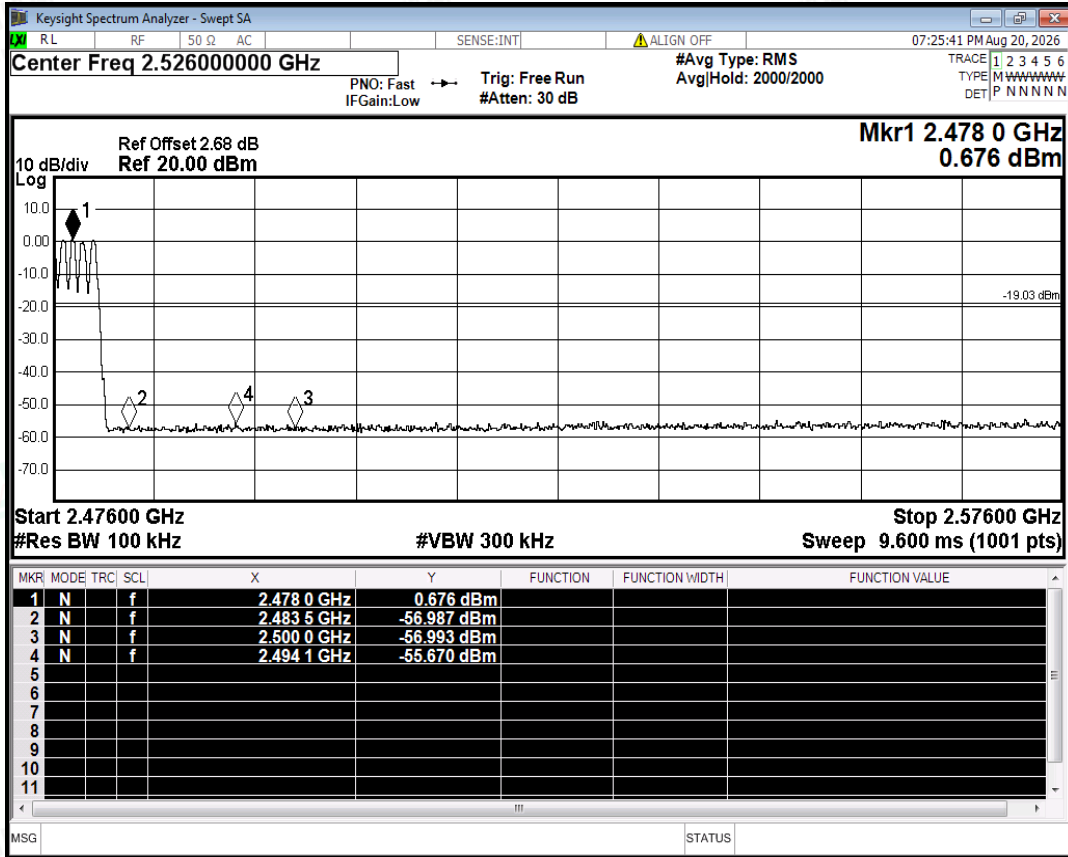
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-53.39	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-56.64	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-52.86	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-55.7	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-50.67	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-56.62	-20	Pass



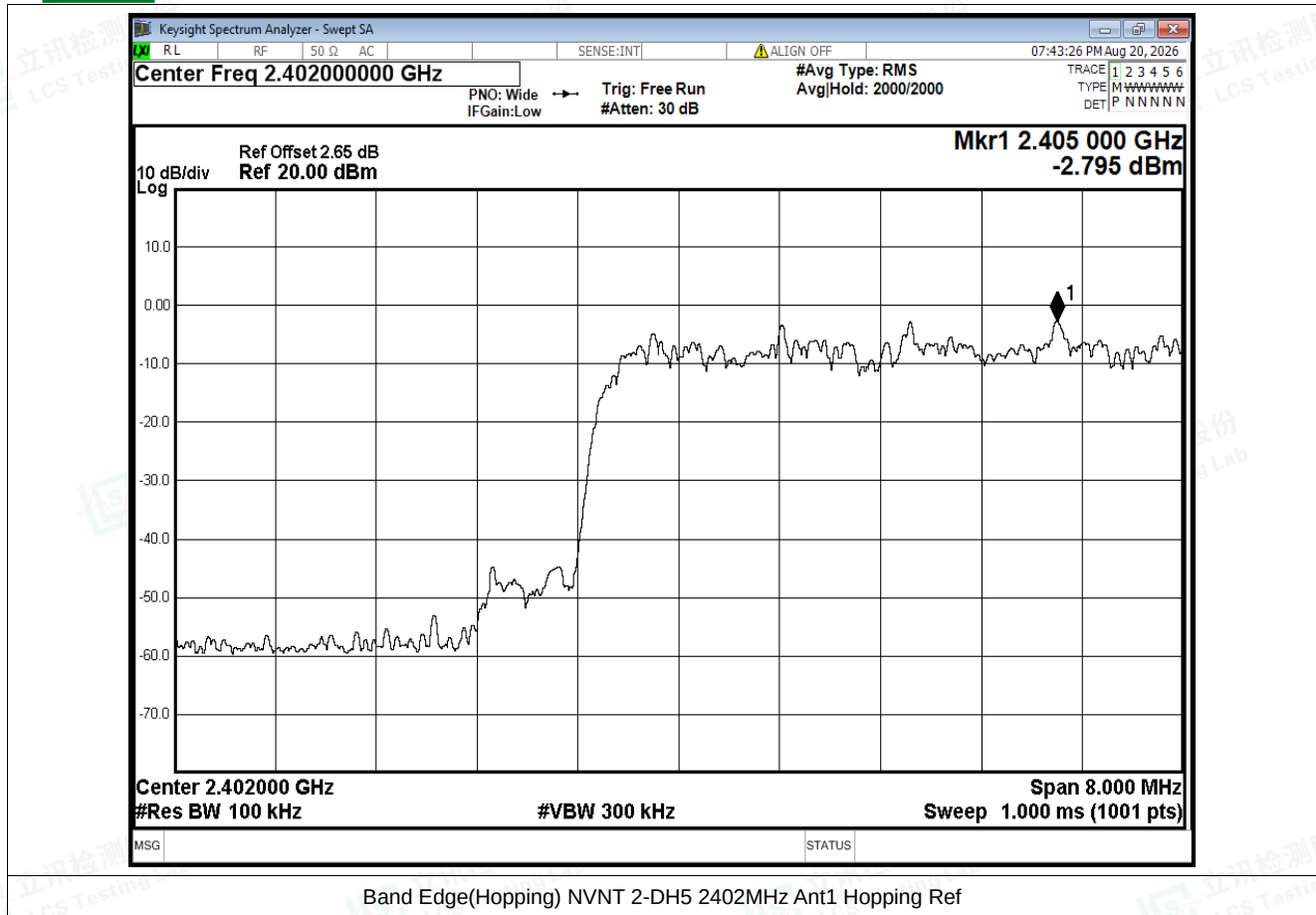


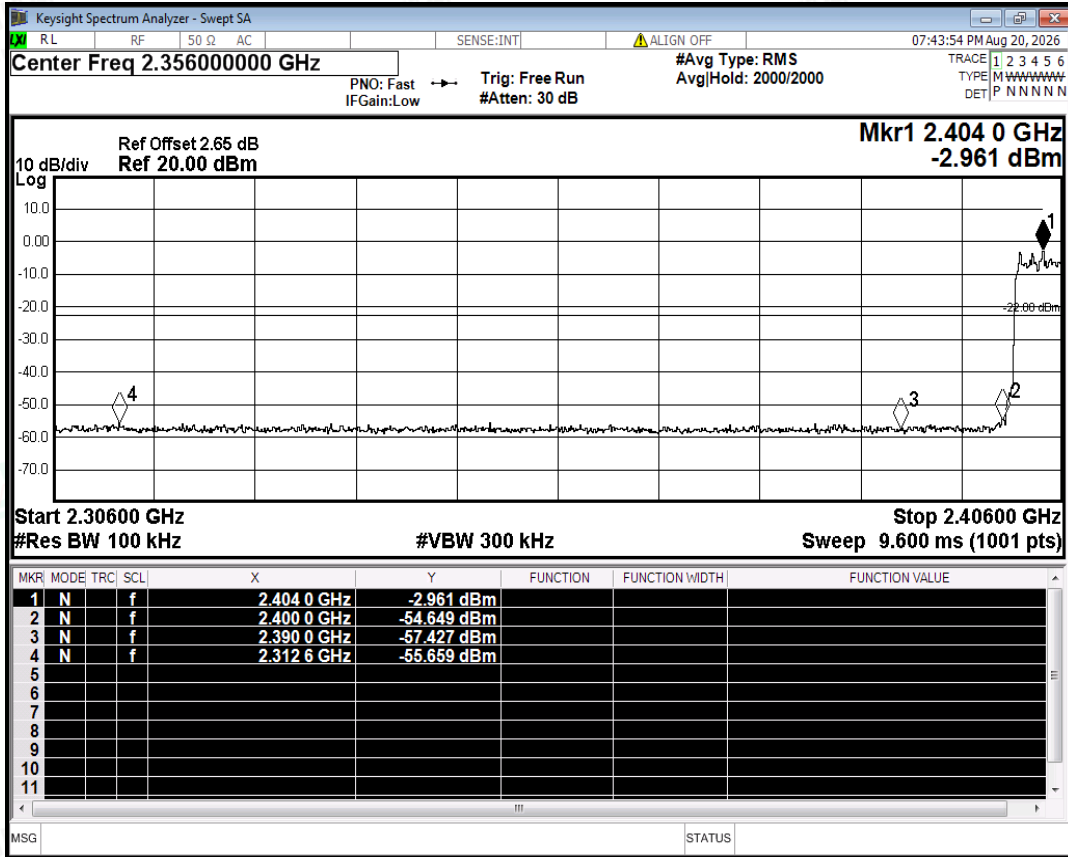
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



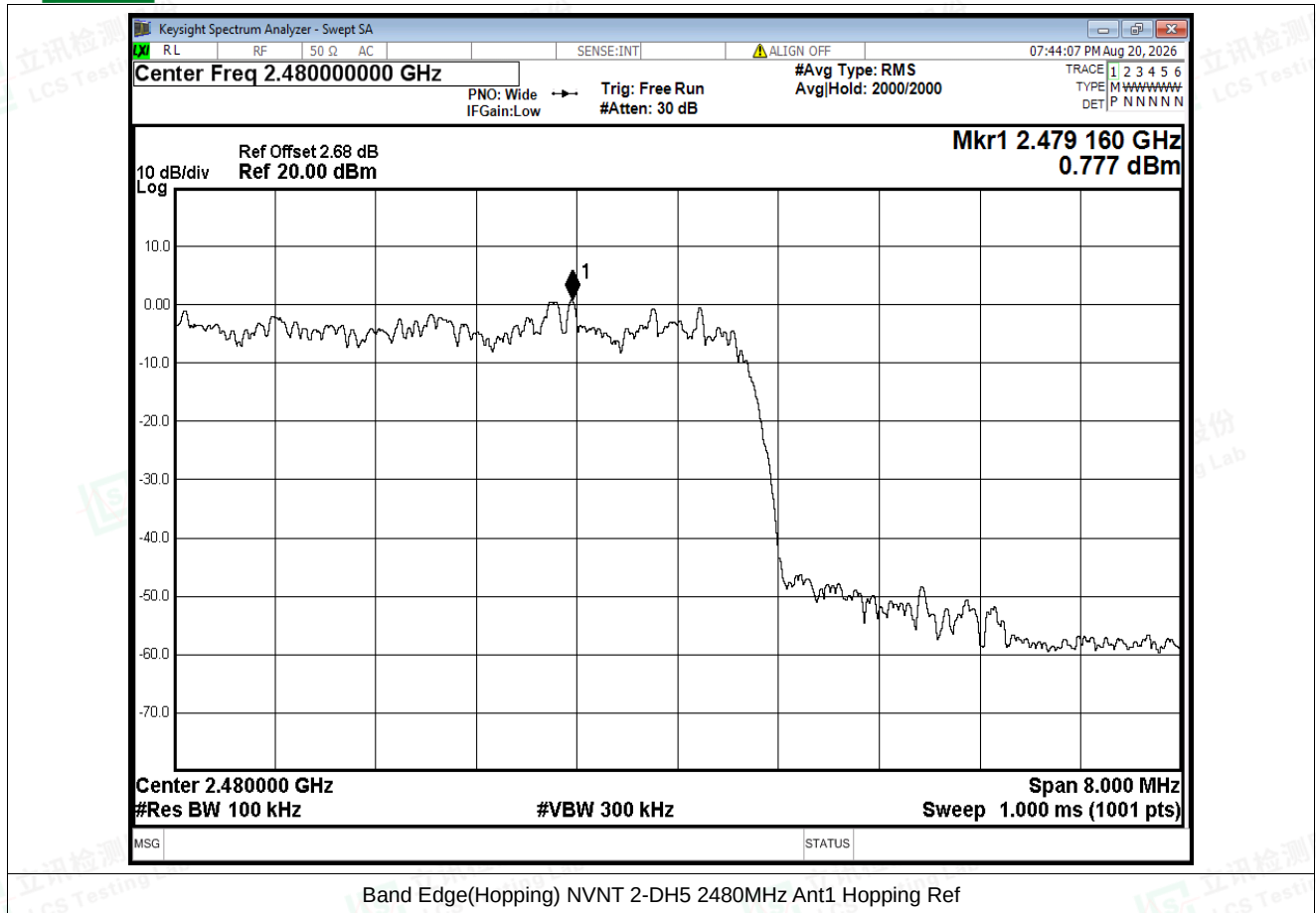


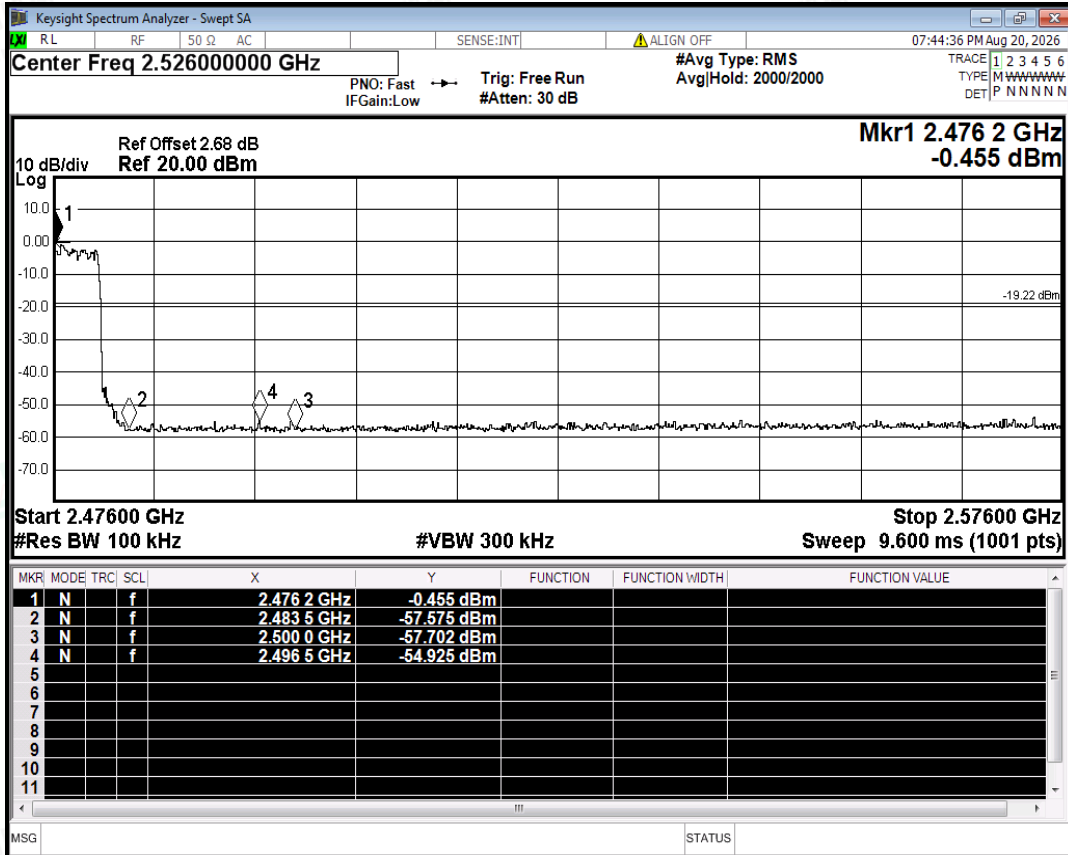
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



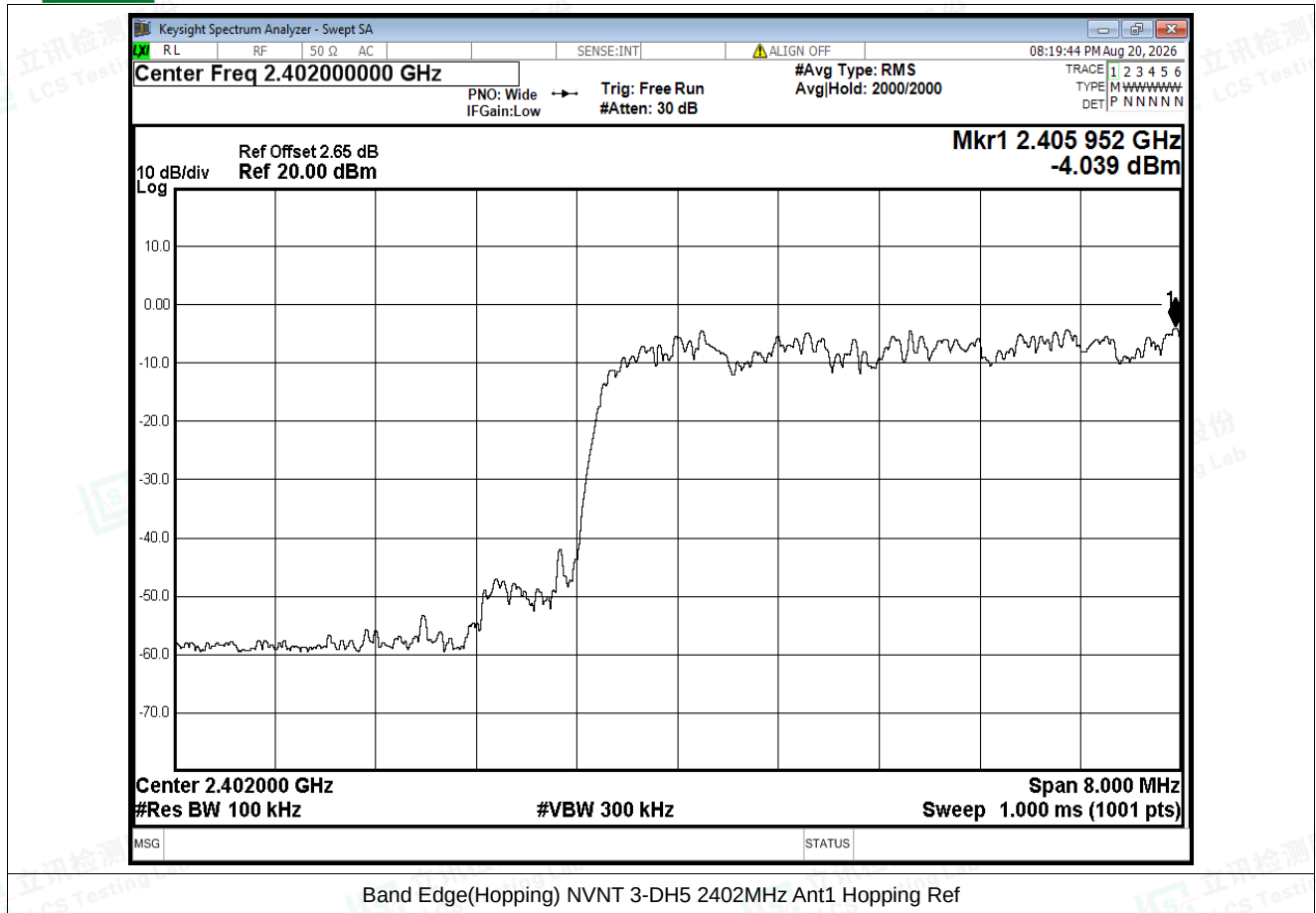


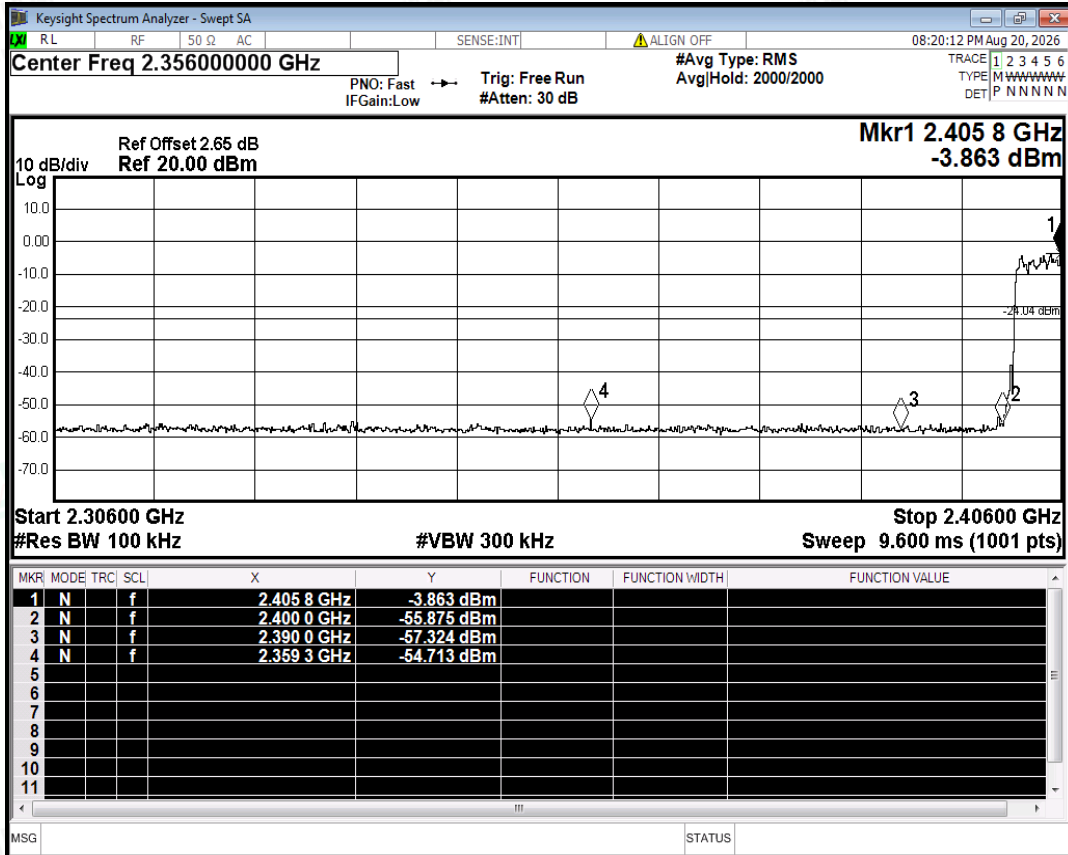
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



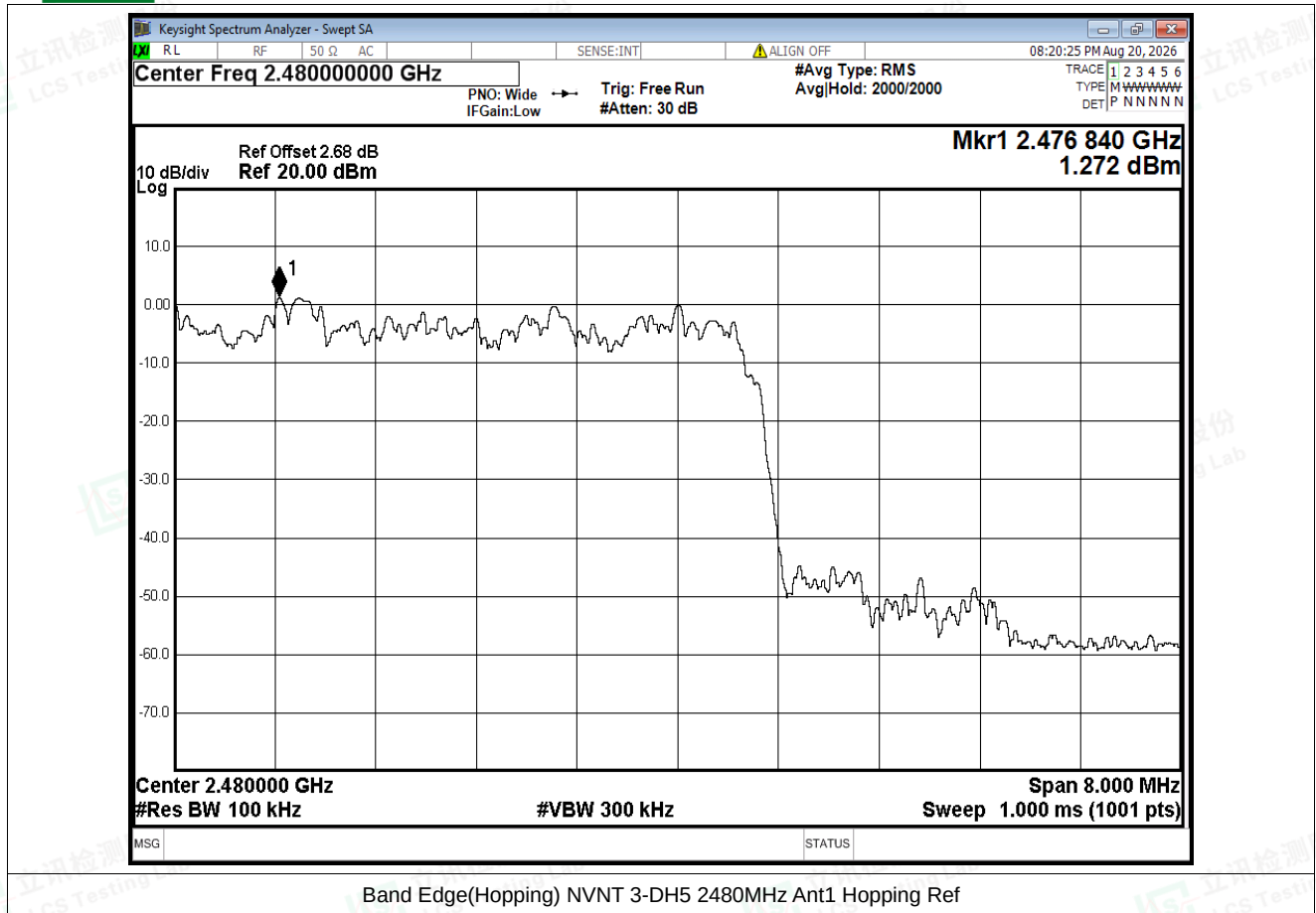


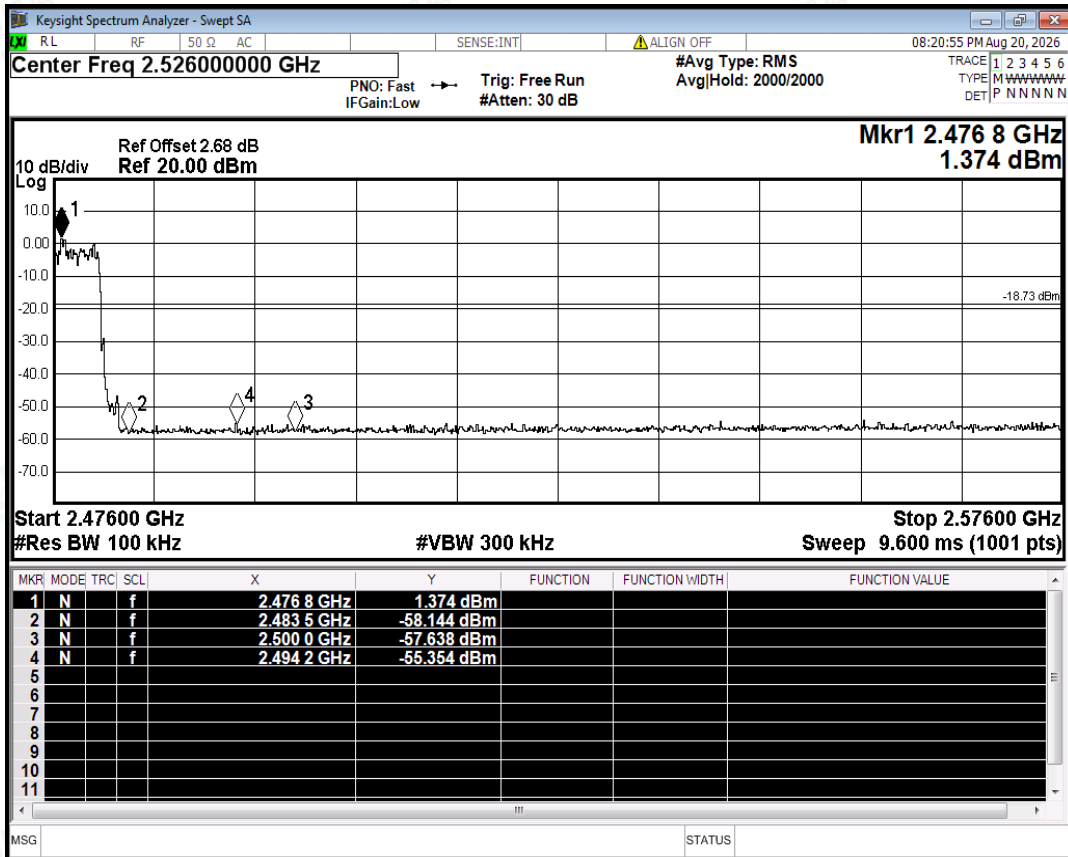
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission





Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



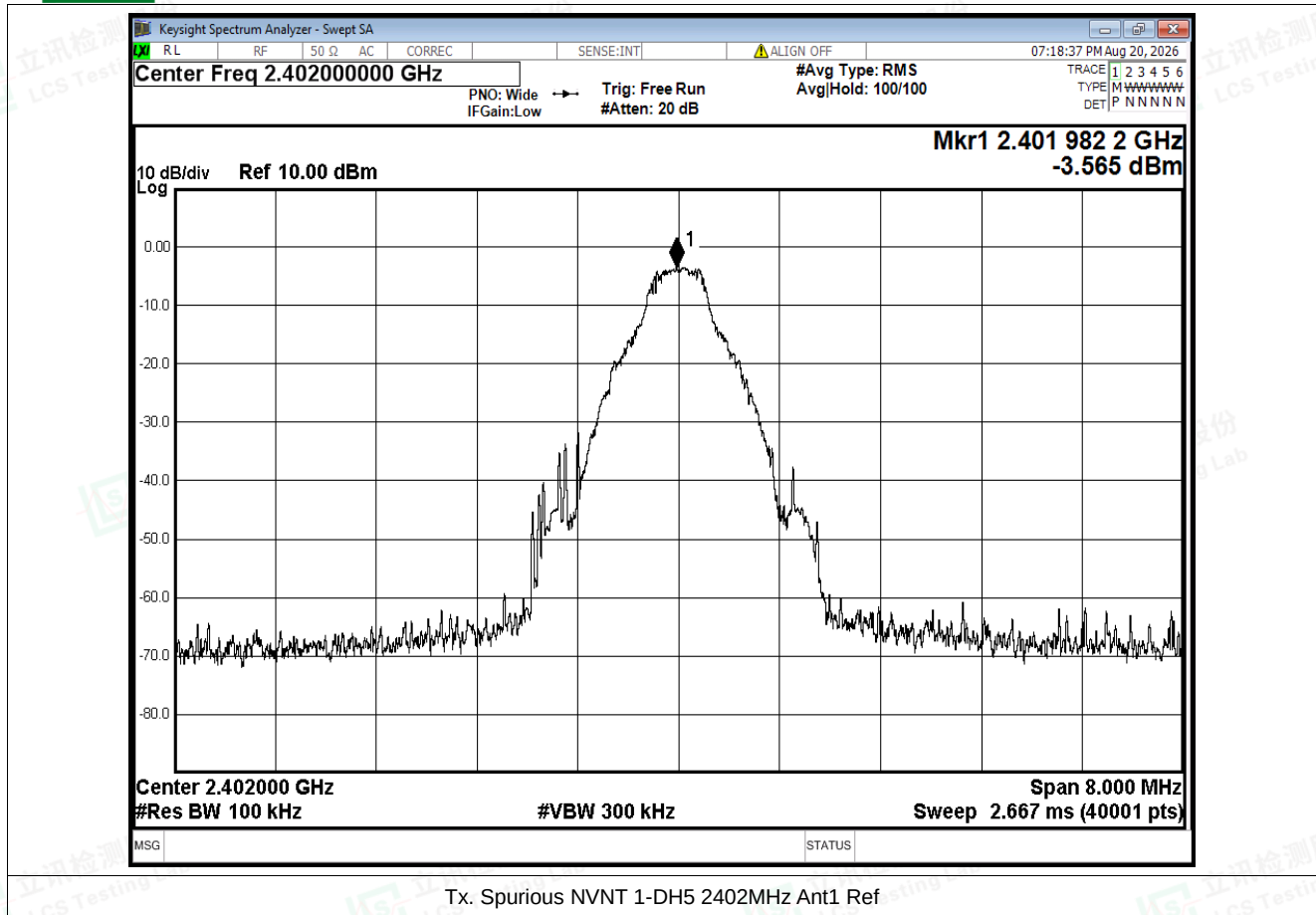


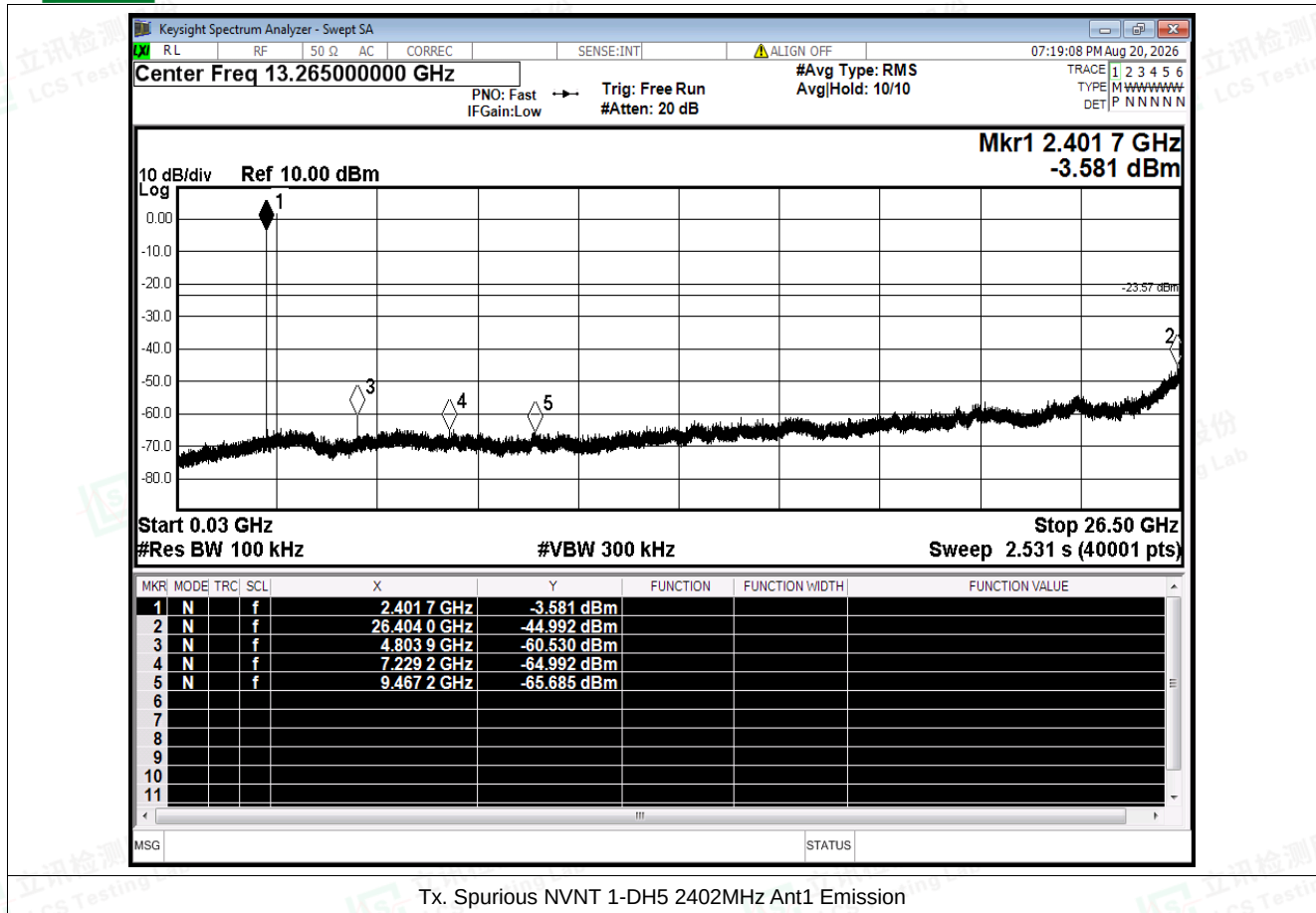
Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Emission

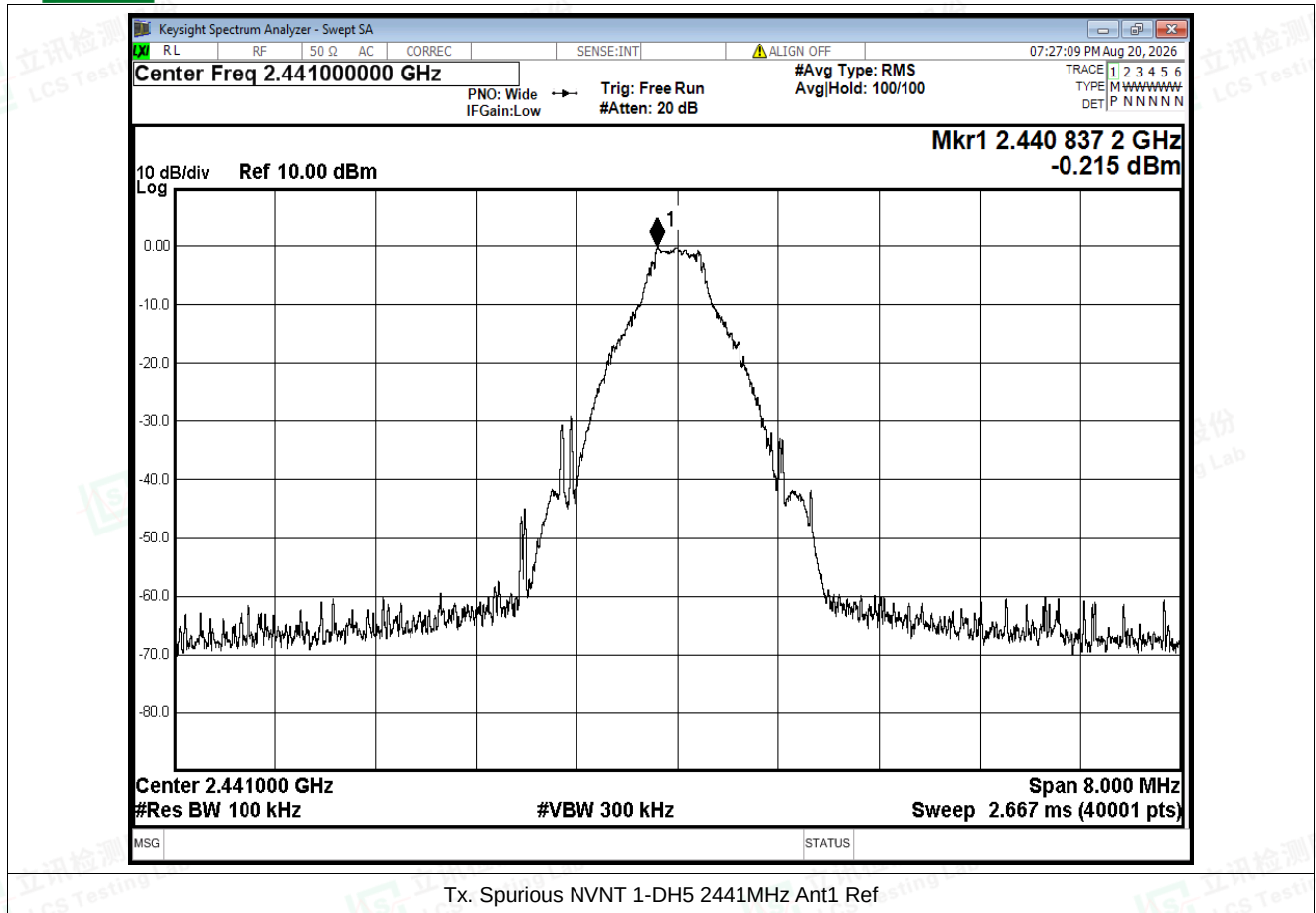


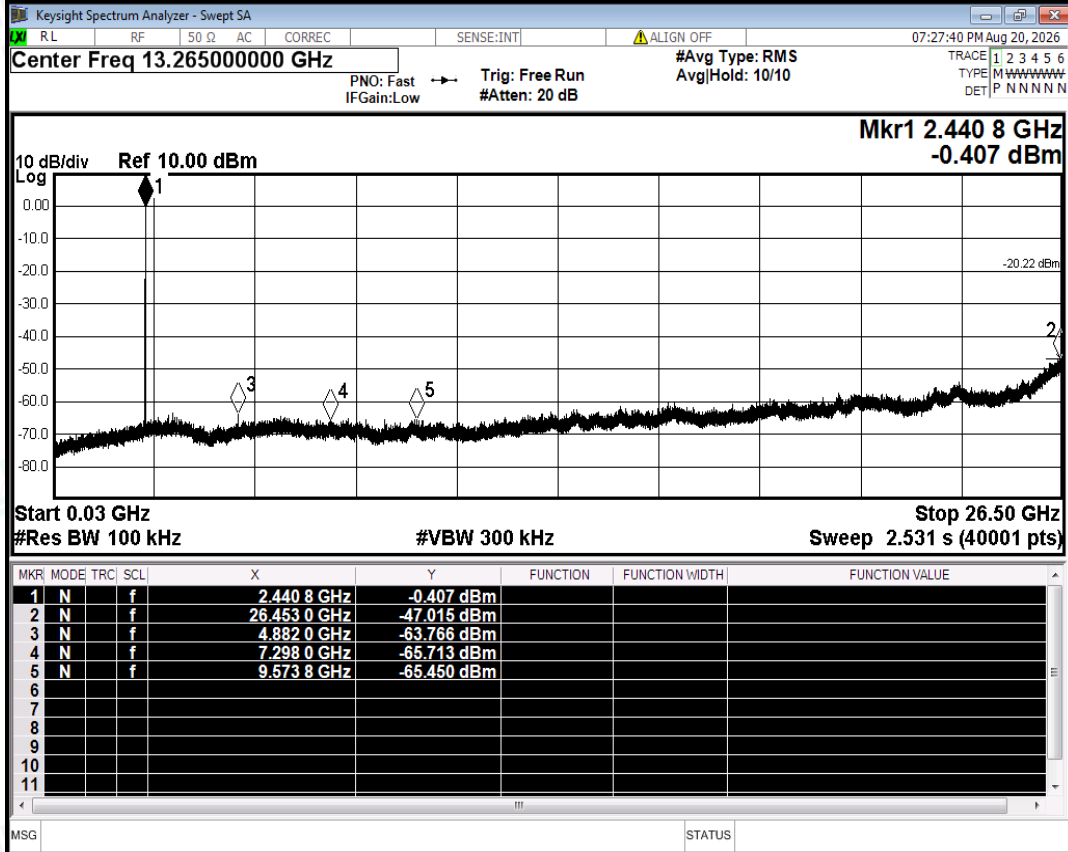
A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-41.43	-20	Pass
NVNT	1-DH5	2441	Ant1	-46.79	-20	Pass
NVNT	1-DH5	2480	Ant1	-47.99	-20	Pass
NVNT	2-DH5	2402	Ant1	-44.08	-20	Pass
NVNT	2-DH5	2441	Ant1	-45.16	-20	Pass
NVNT	2-DH5	2480	Ant1	-47.82	-20	Pass
NVNT	3-DH5	2402	Ant1	-43.57	-20	Pass
NVNT	3-DH5	2441	Ant1	-44.15	-20	Pass
NVNT	3-DH5	2480	Ant1	-47.09	-20	Pass

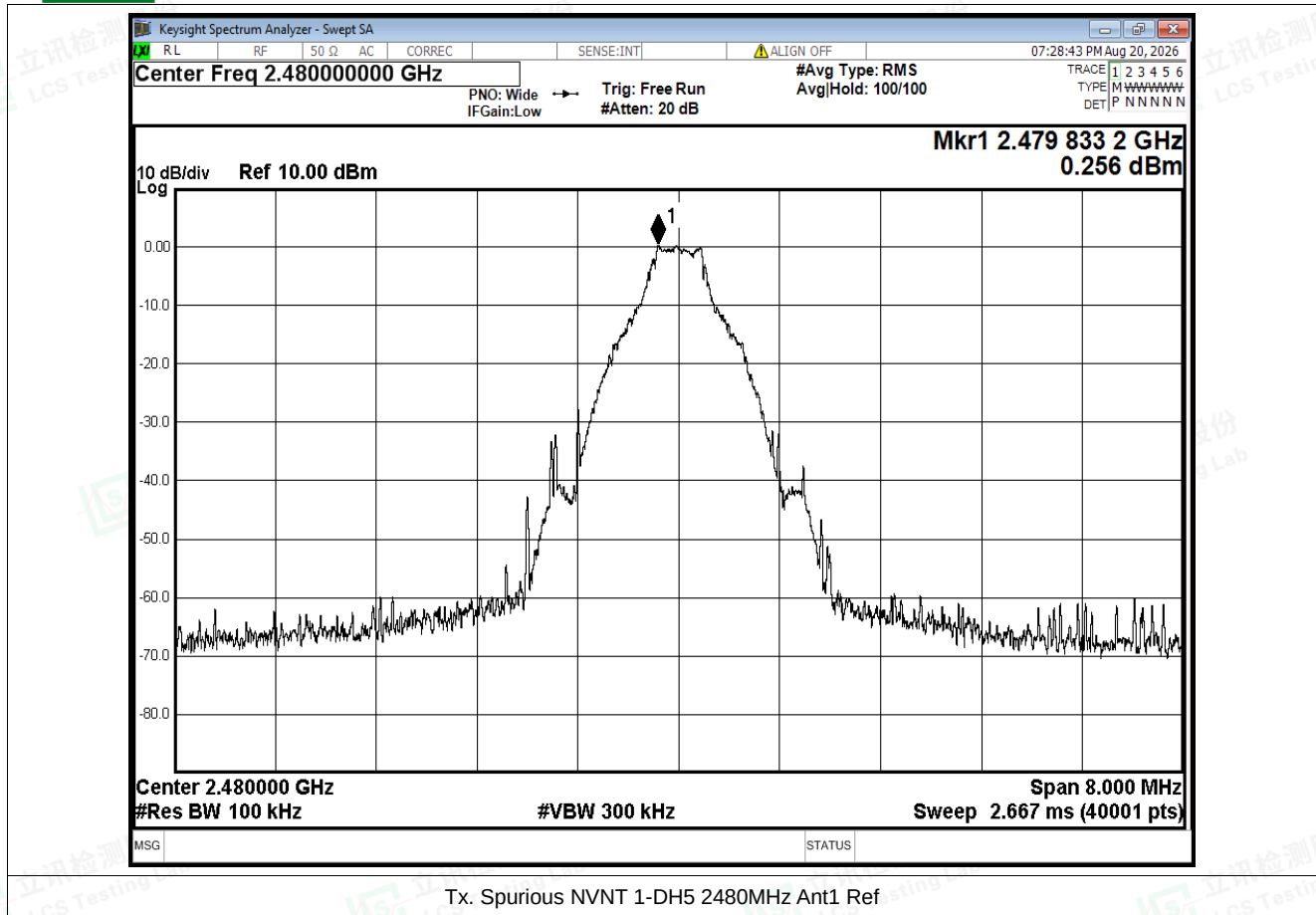


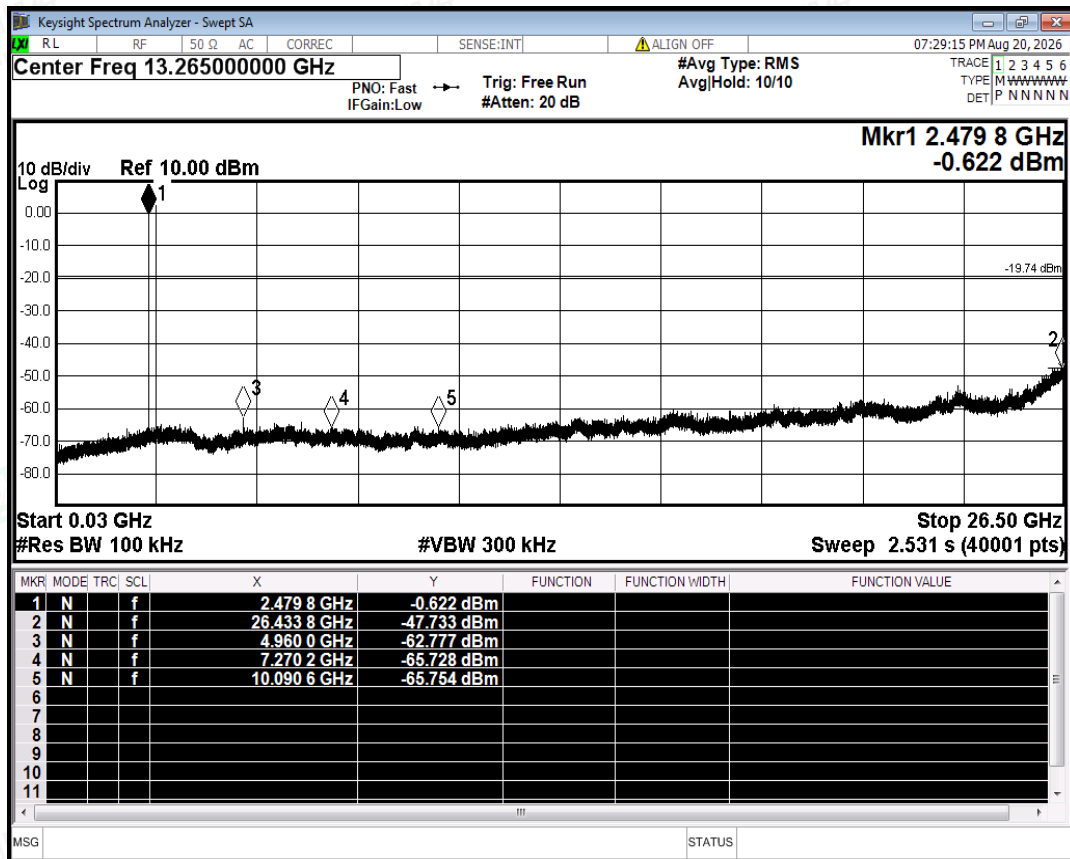




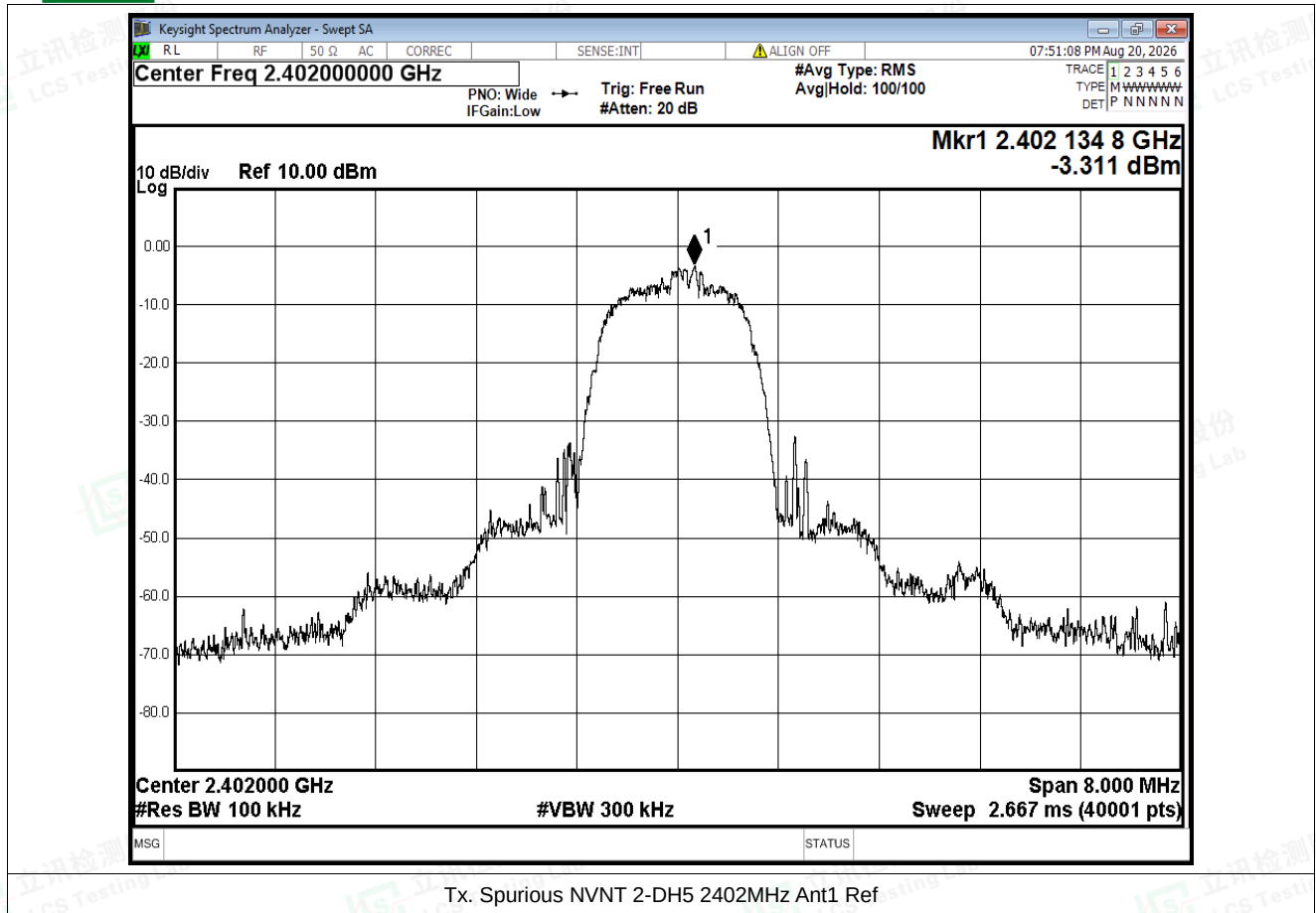


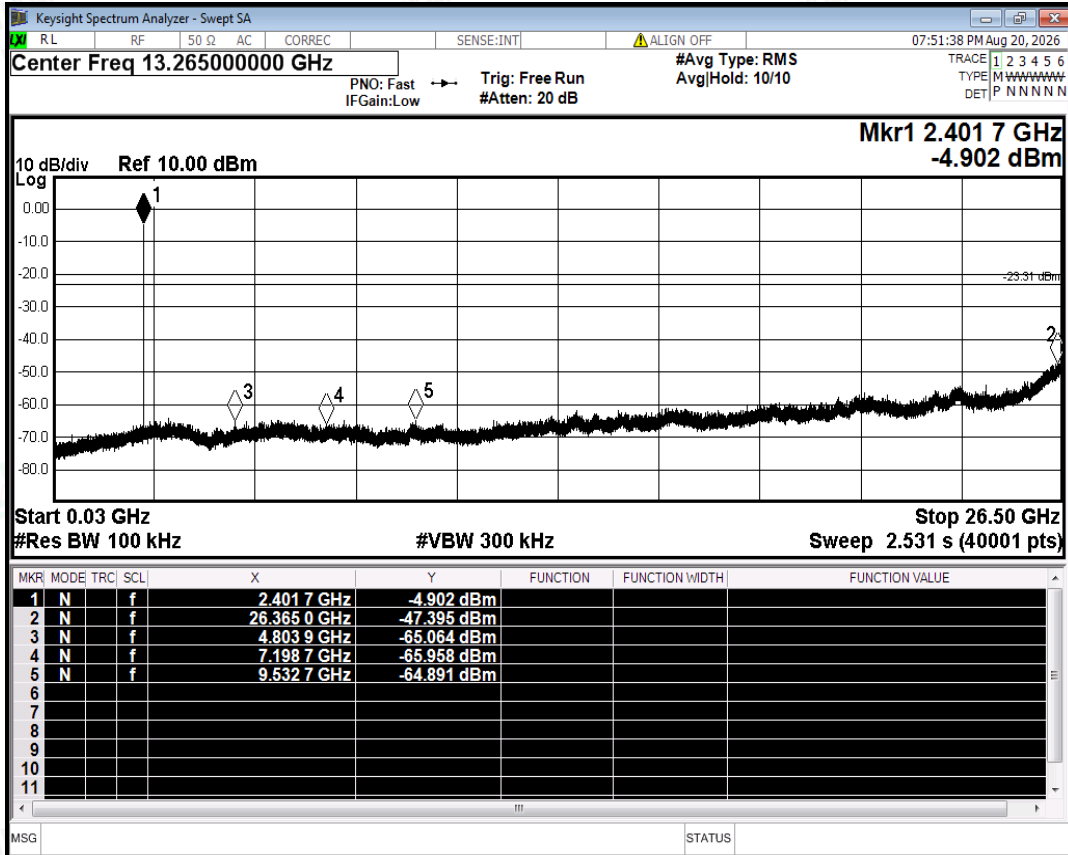
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



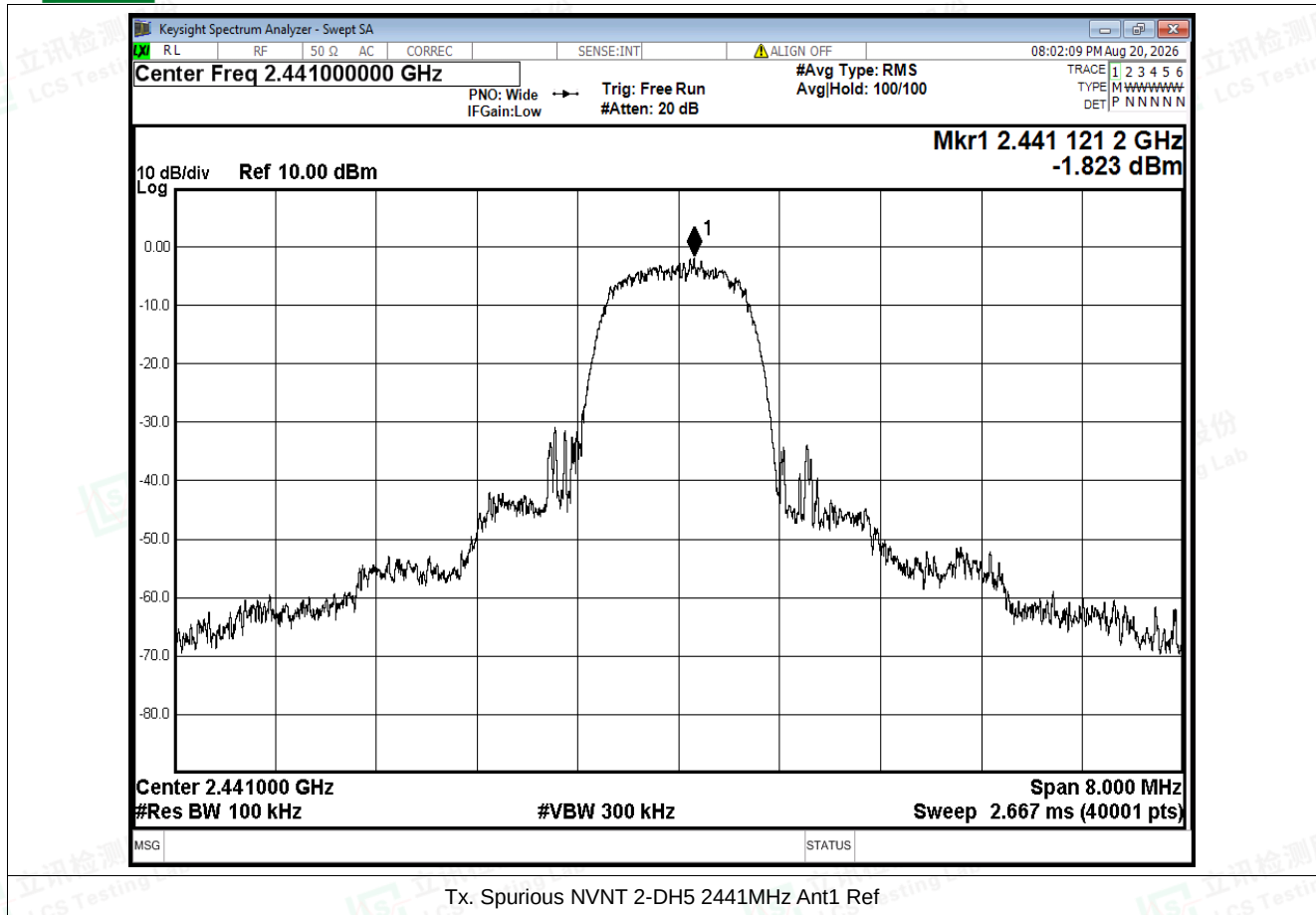


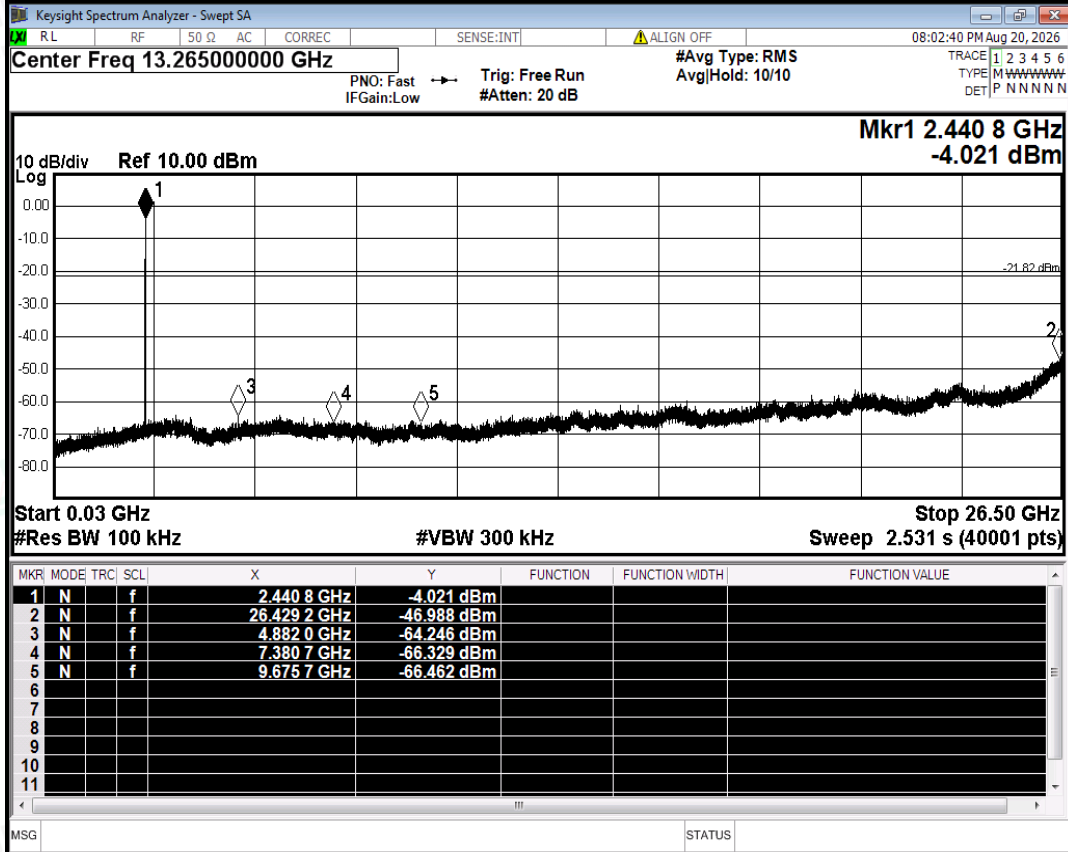
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



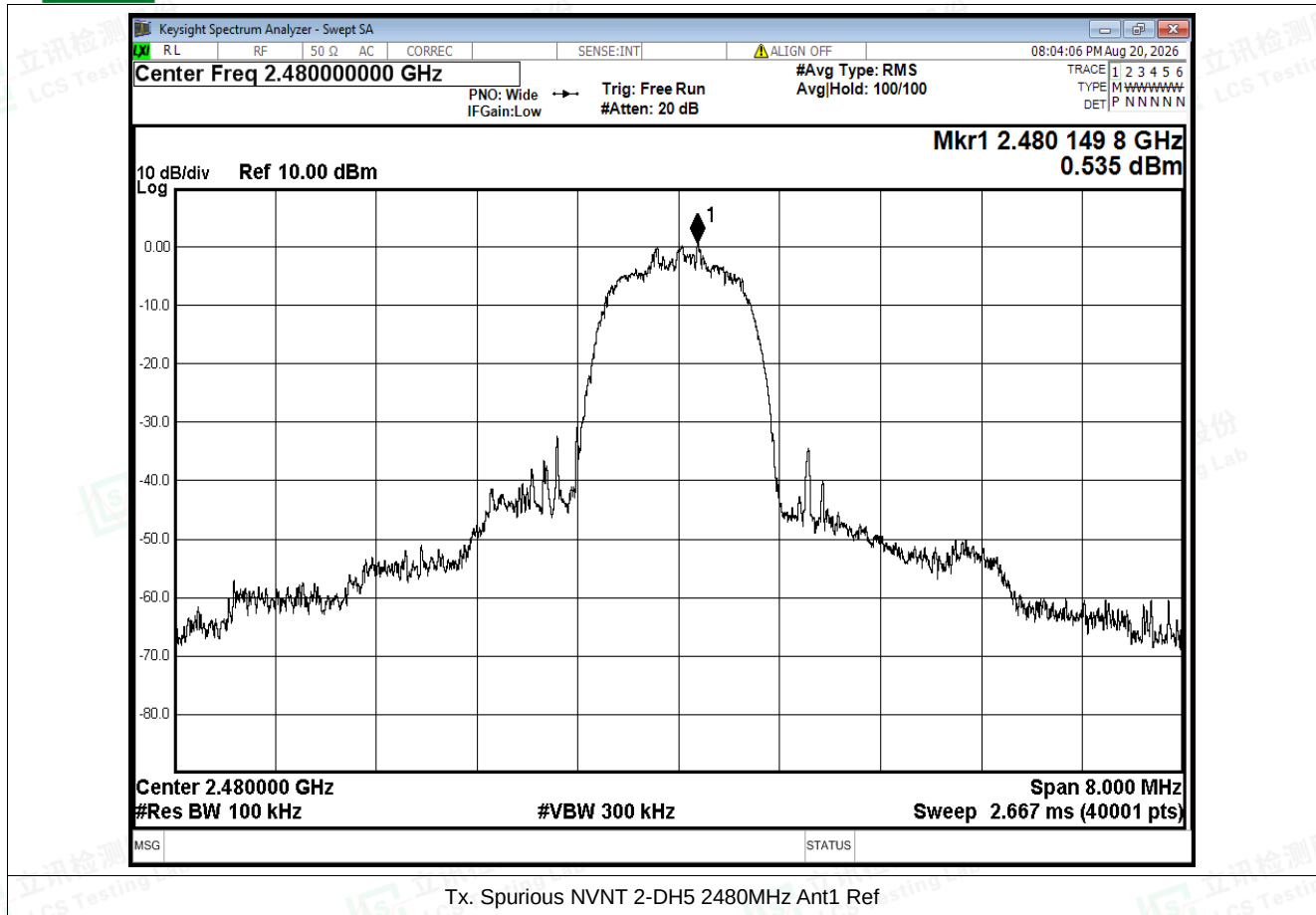


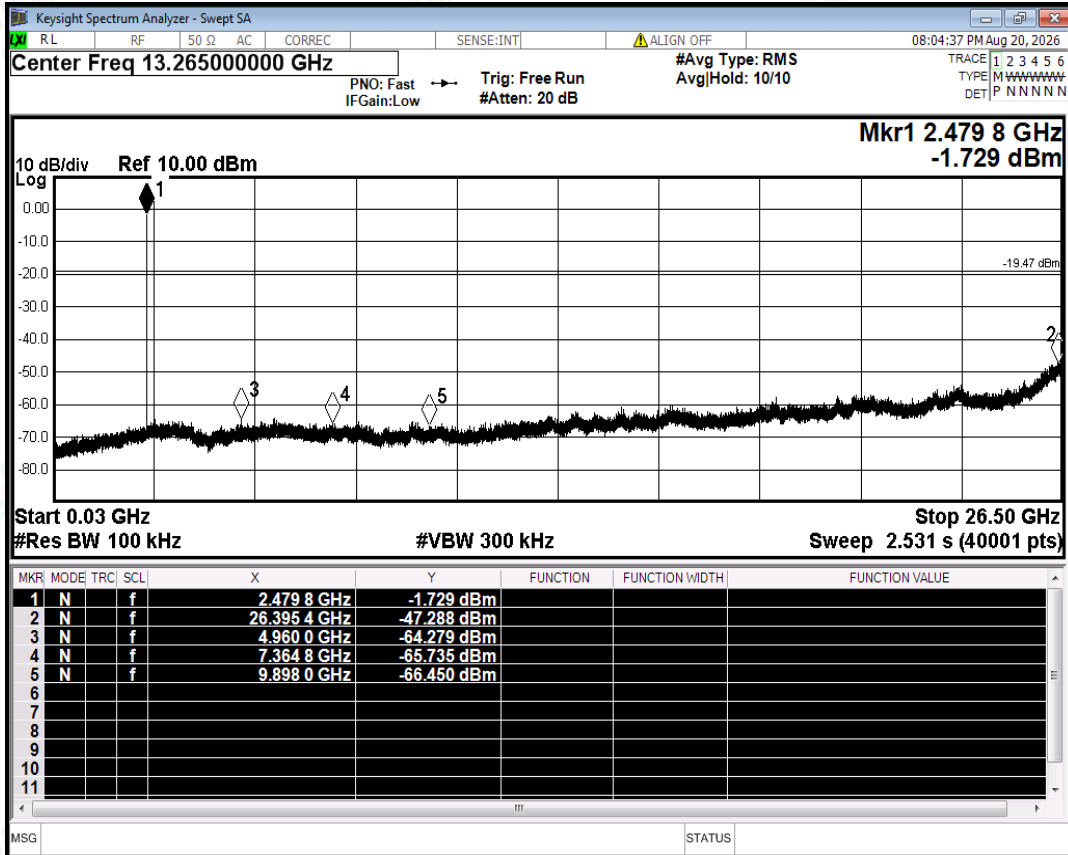
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



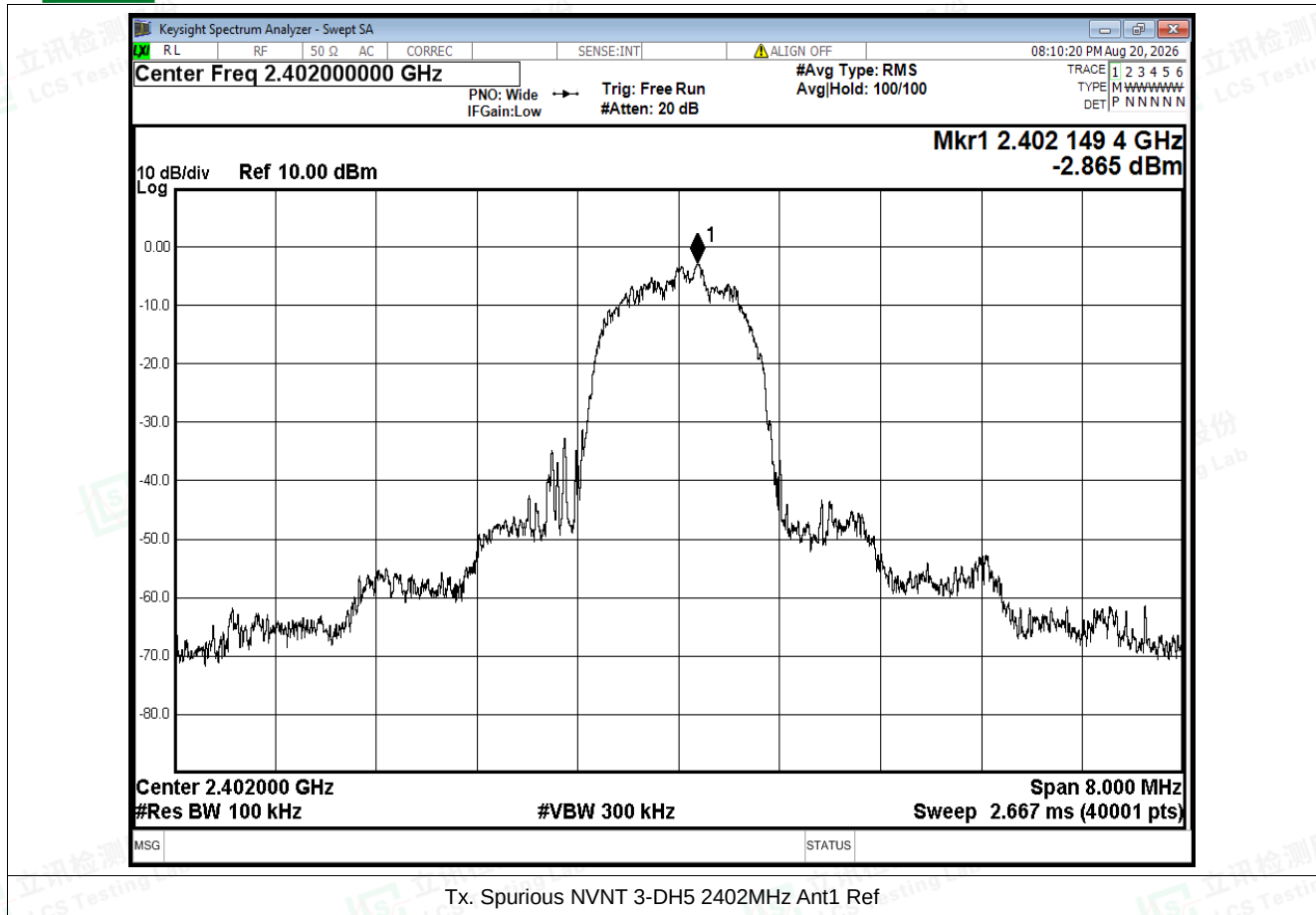


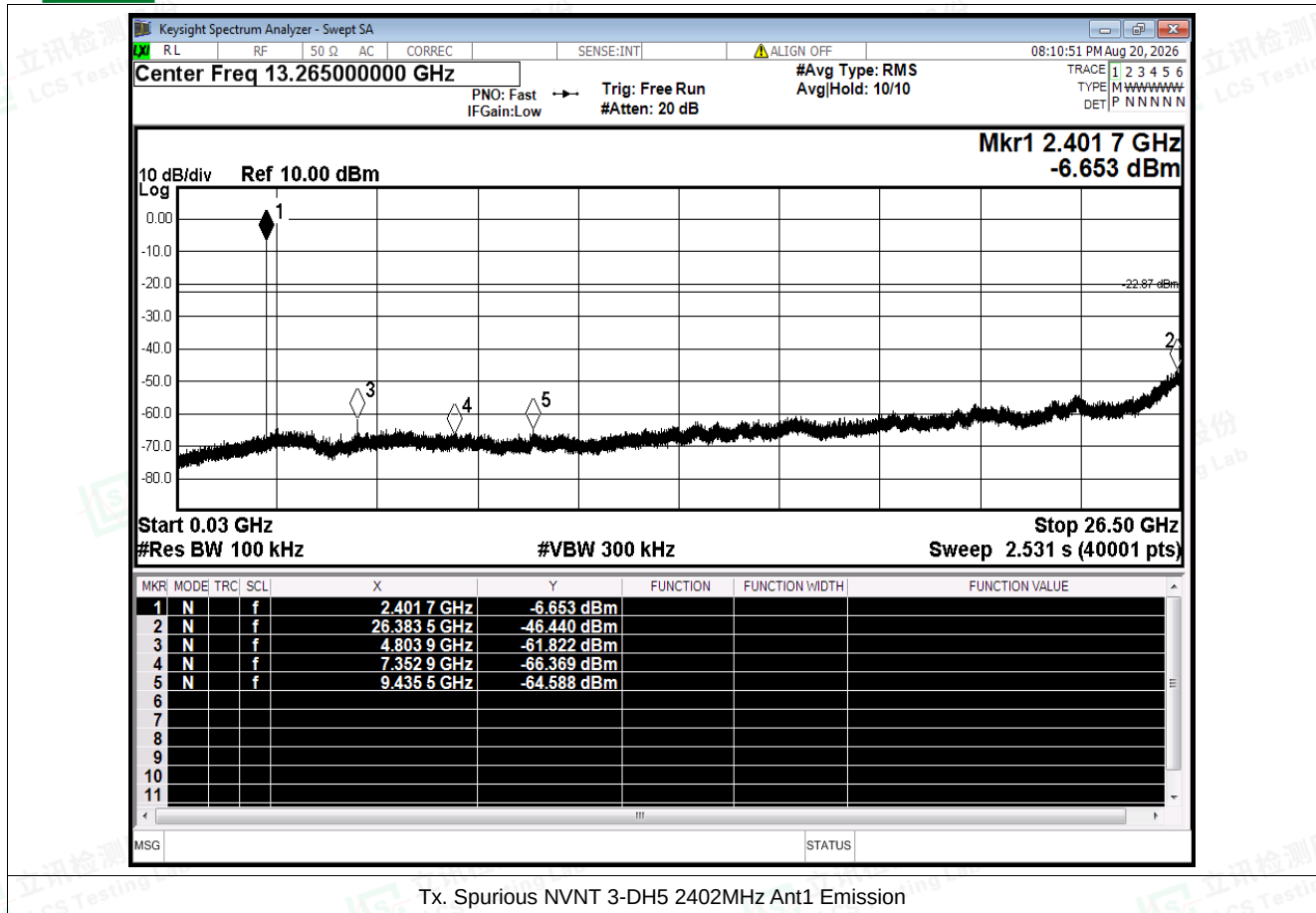
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

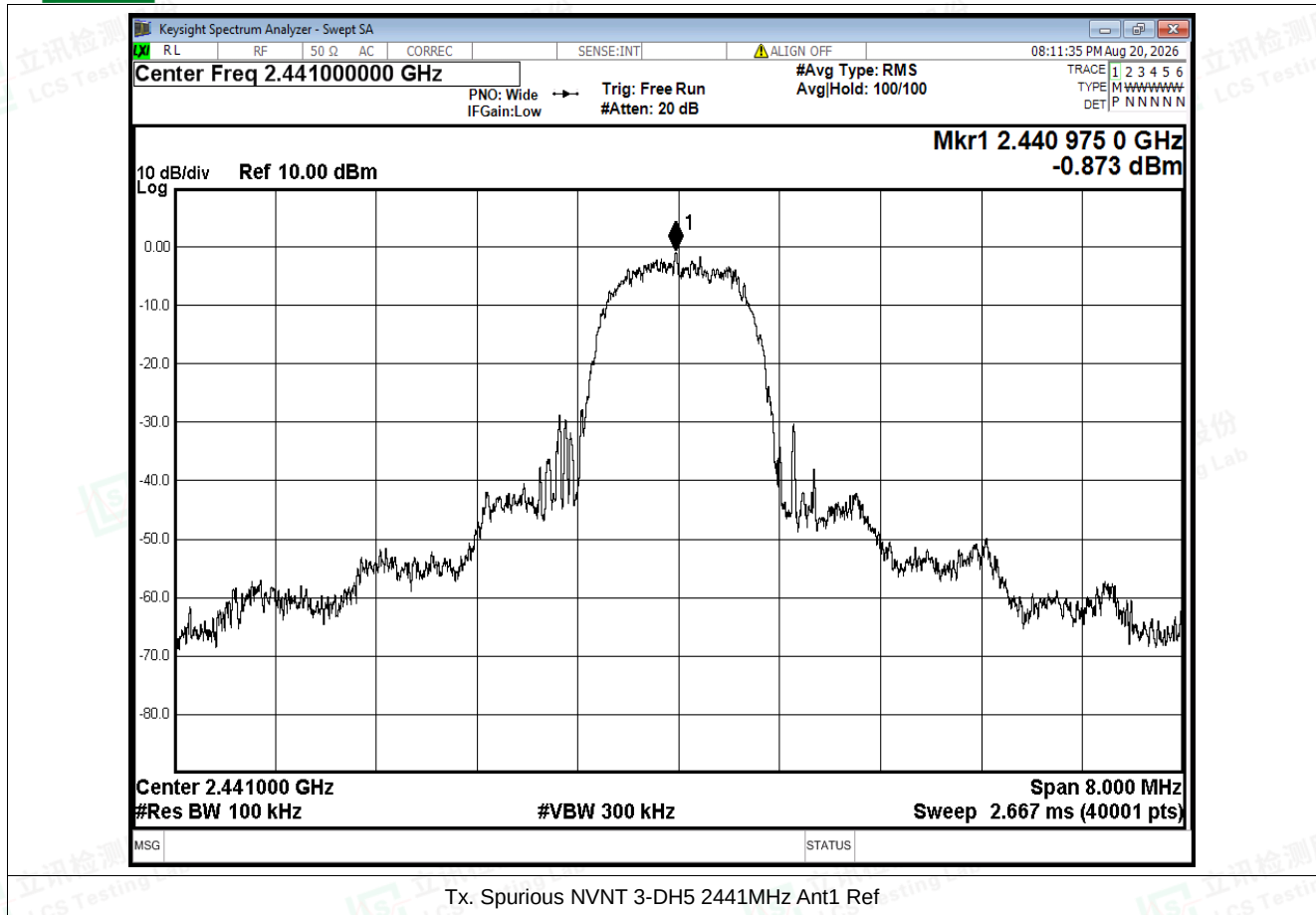


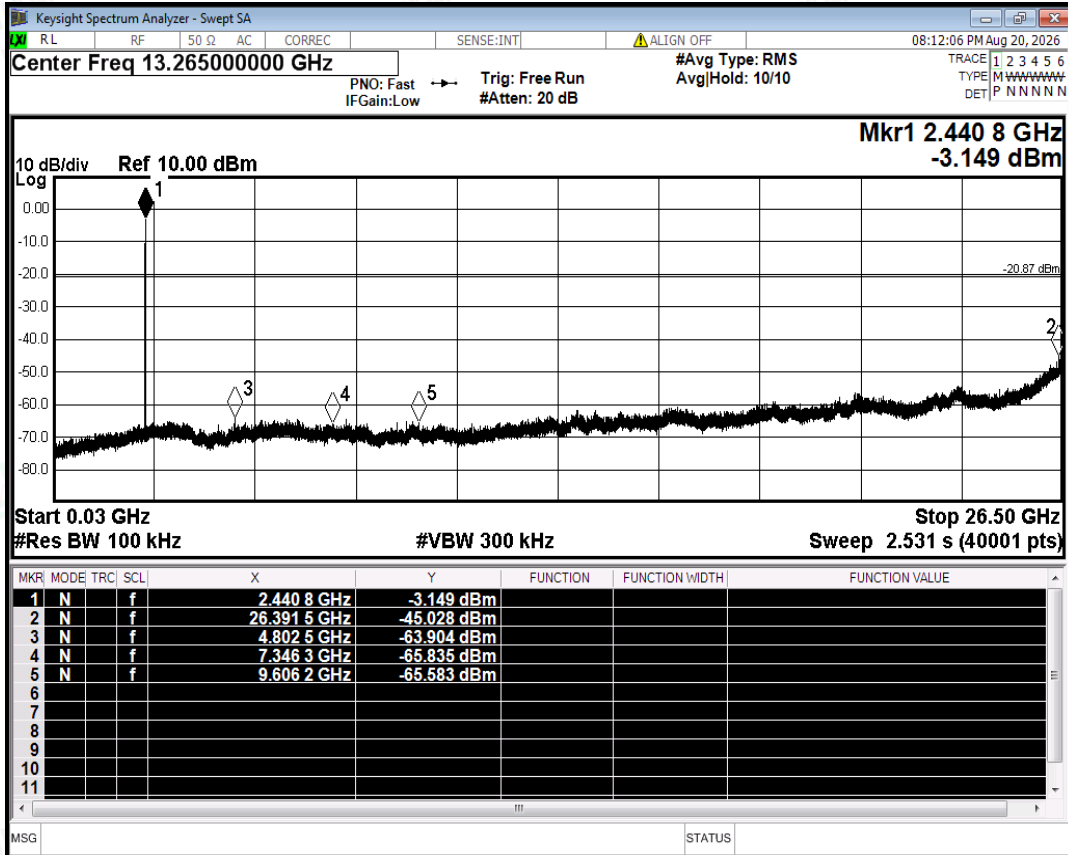


Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

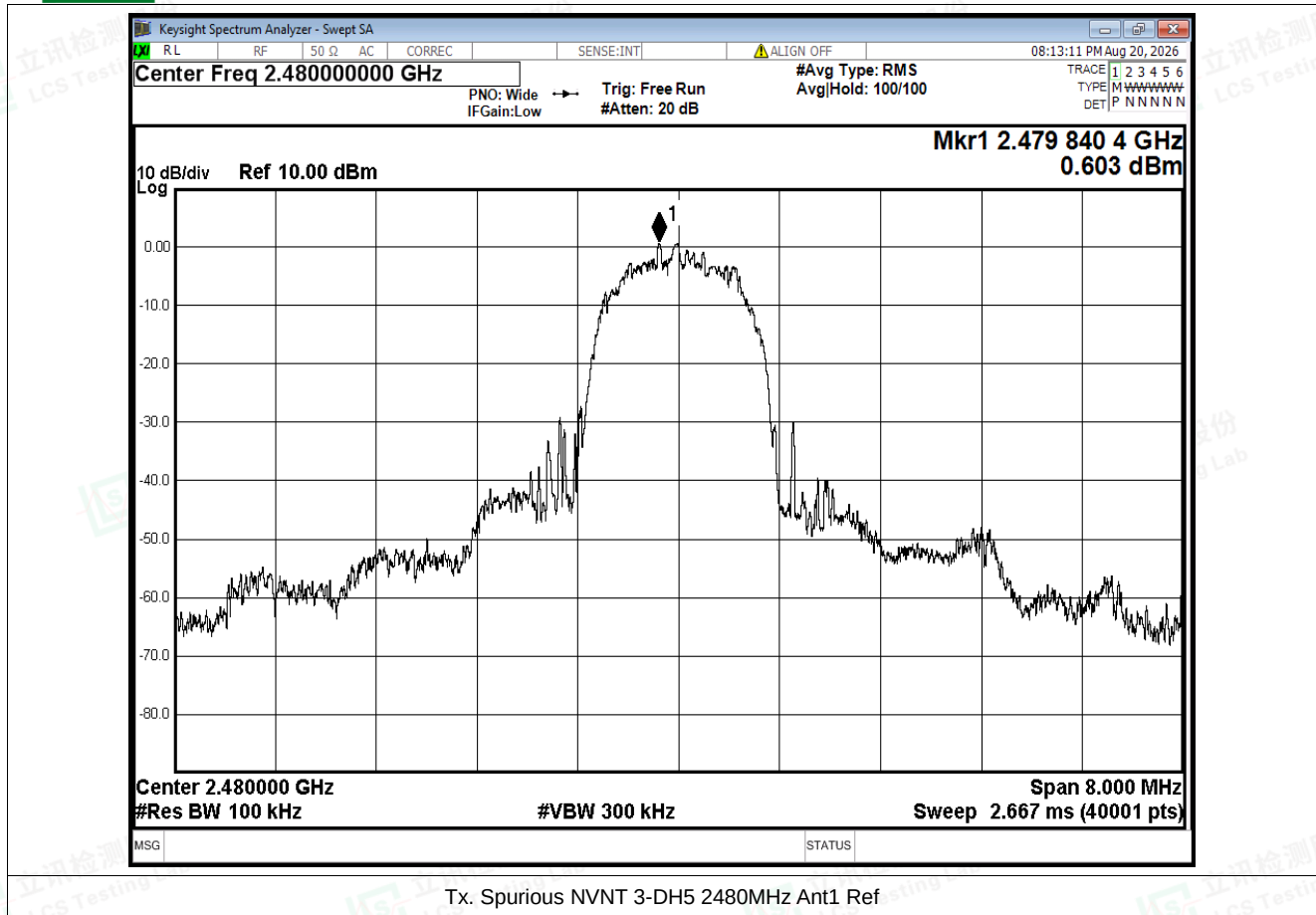


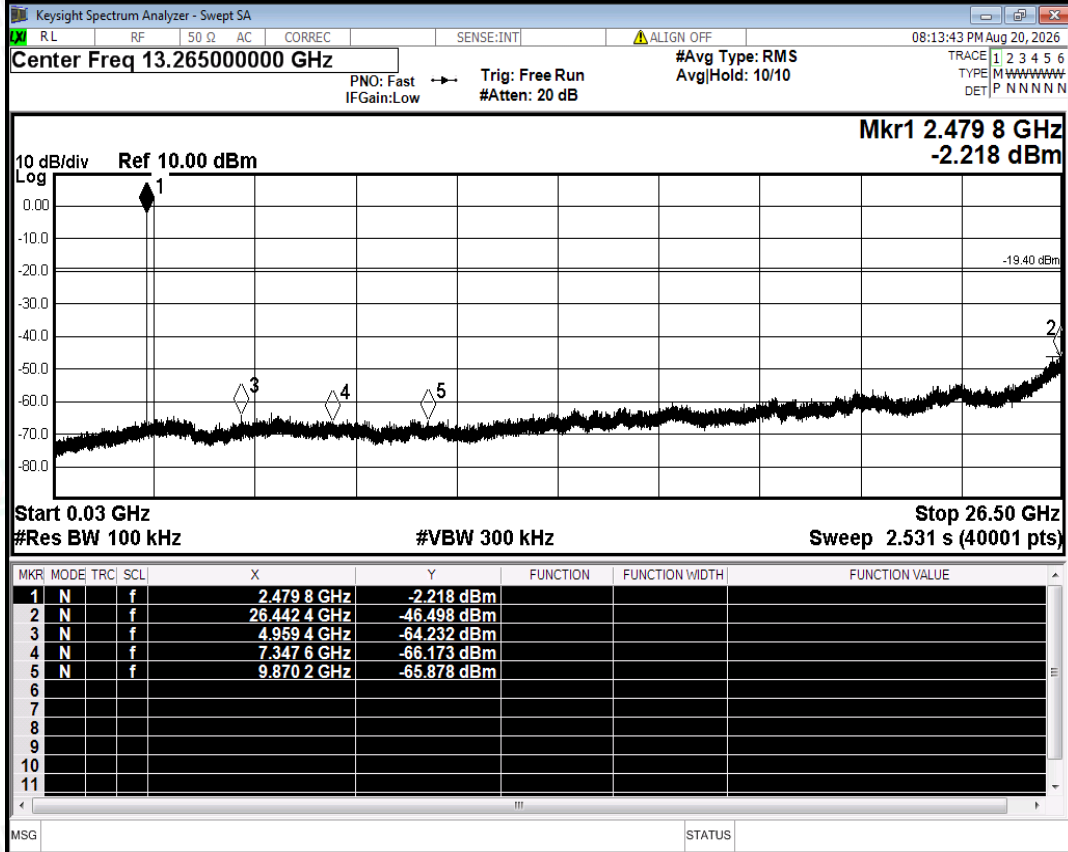






Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



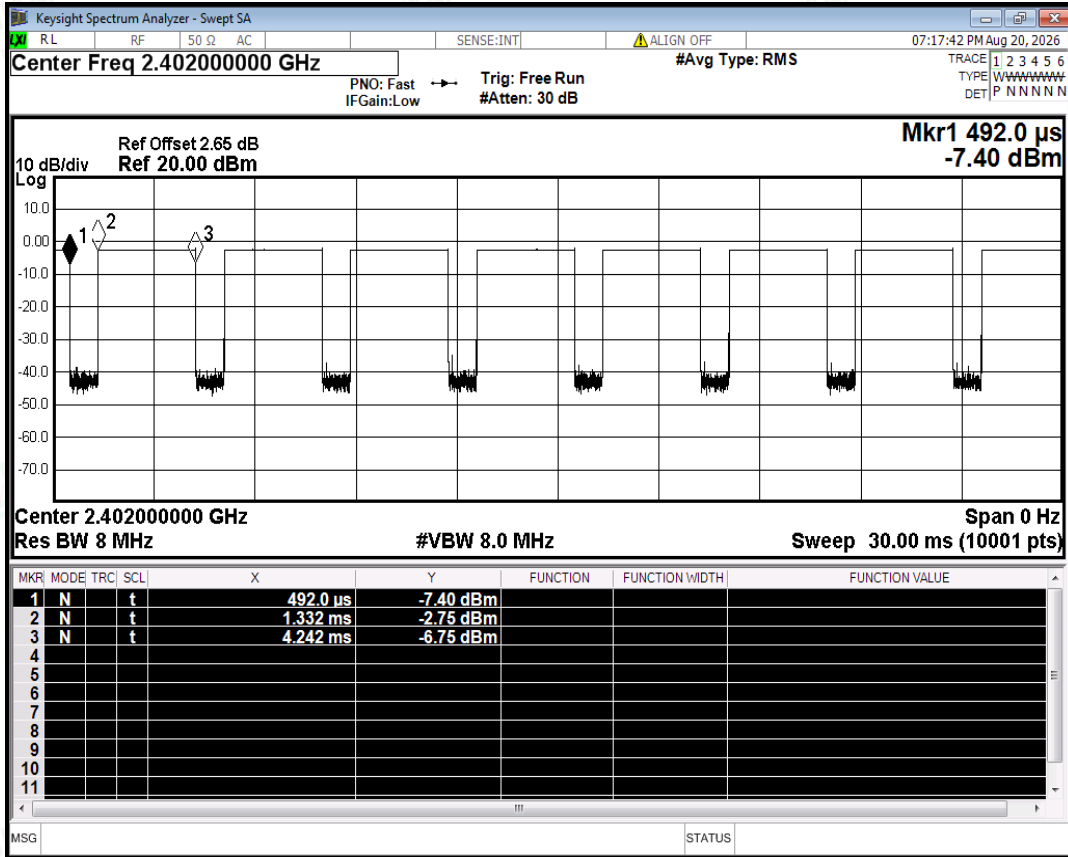


Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

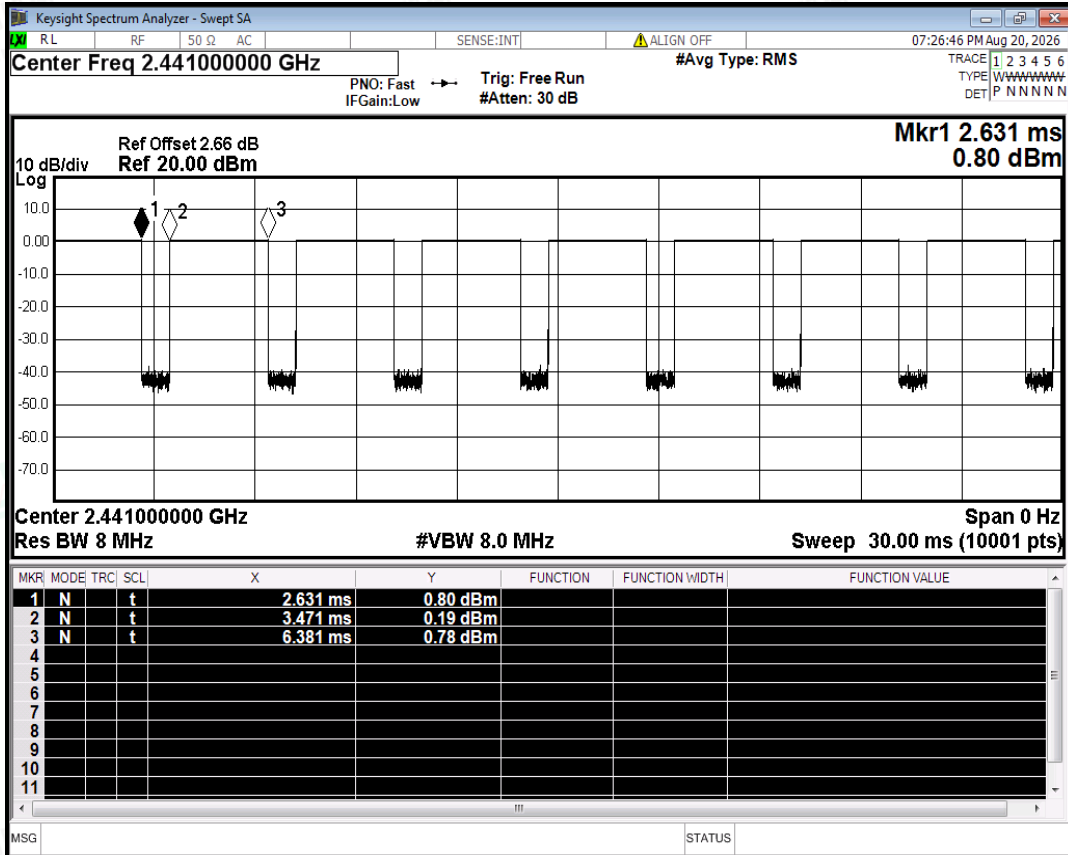


A.8 Duty Cycle

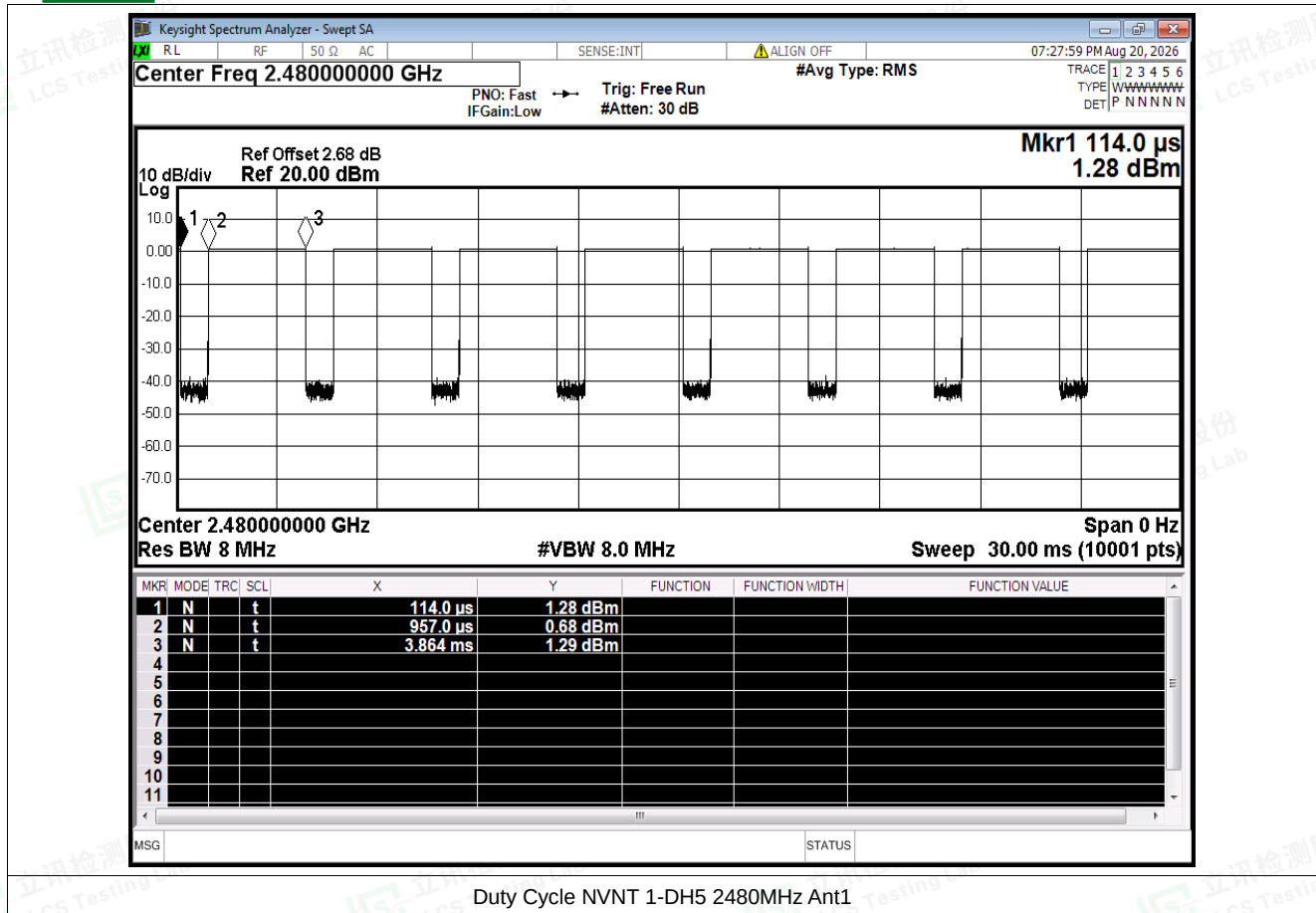
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.52	1.11	0.34
NVNT	2-DH5	2402	Ant1	13.94	8.56	7.25
NVNT	2-DH5	2441	Ant1	13.94	8.56	7.25
NVNT	2-DH5	2480	Ant1	77.28	1.12	0.35
NVNT	3-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	3-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	3-DH5	2480	Ant1	77.28	1.12	0.35

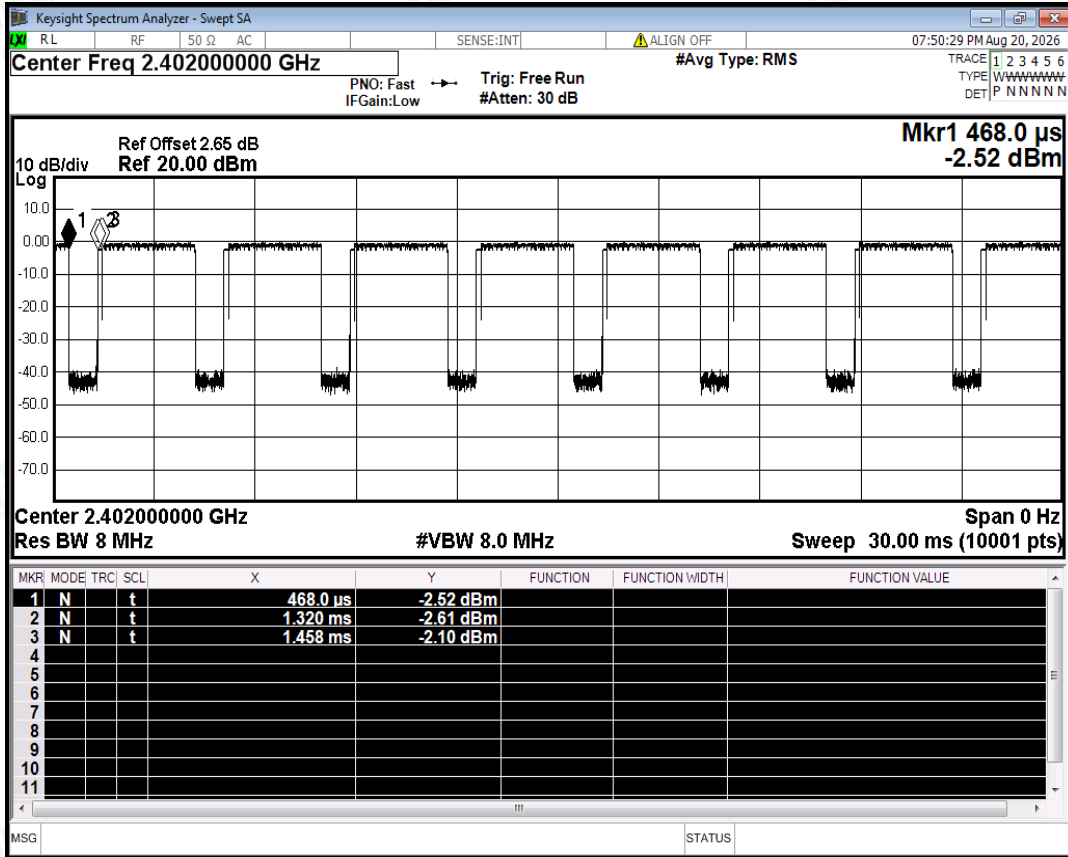


Duty Cycle NVNT 1-DH5 2402MHz Ant1

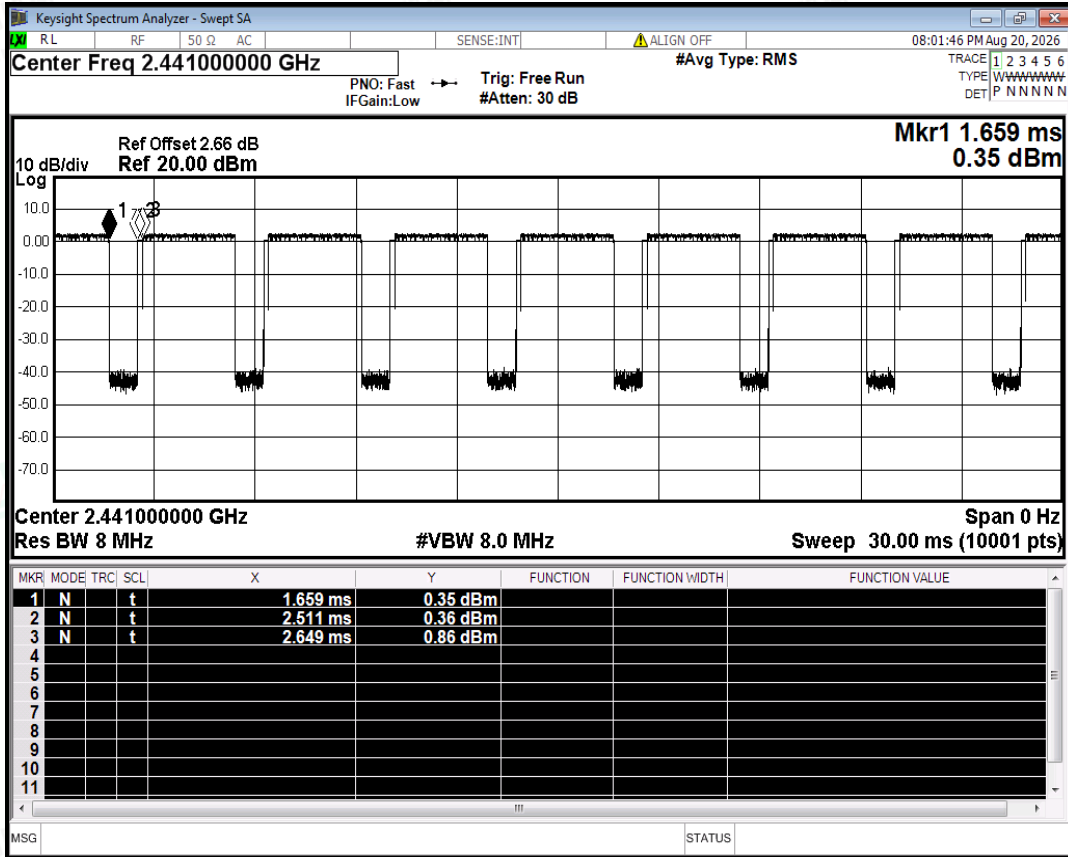


Duty Cycle NVNT 1-DH5 2441MHz Ant1

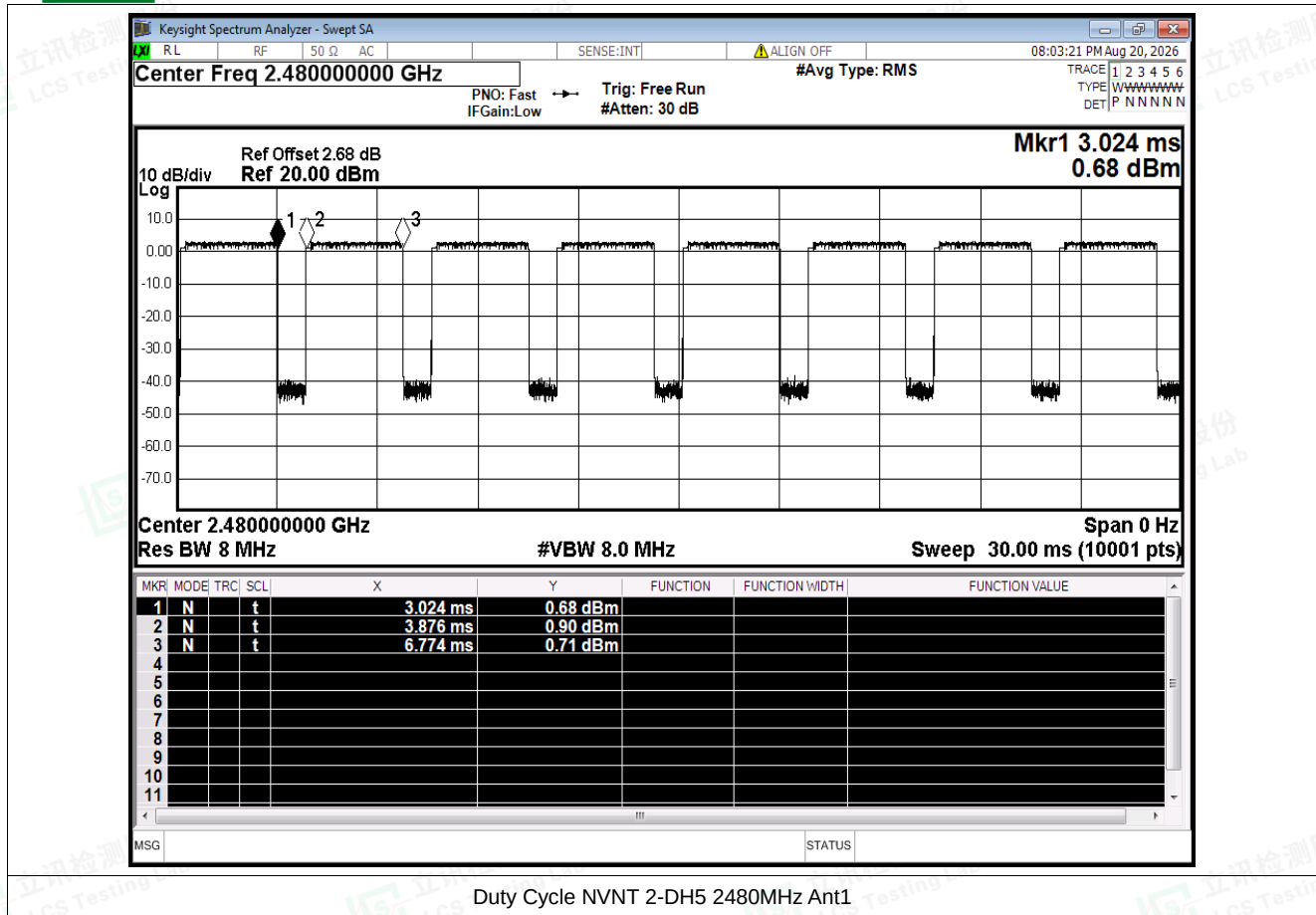


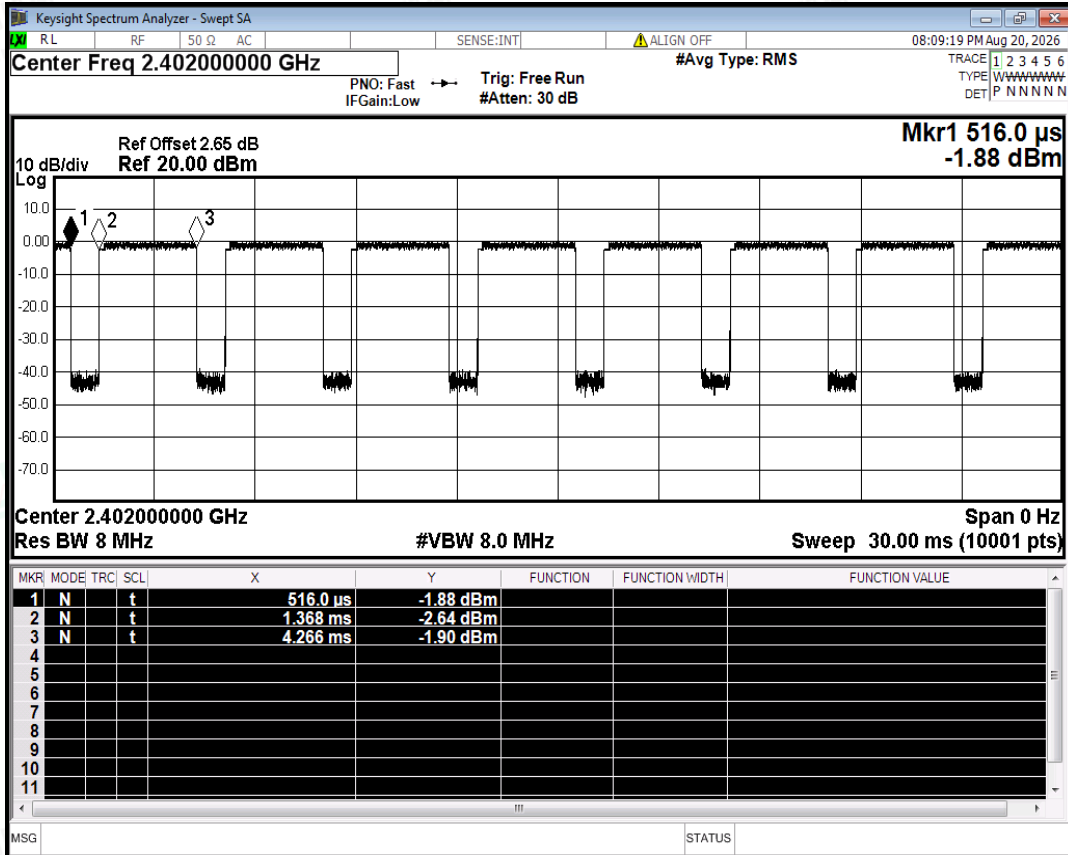


Duty Cycle NVNT 2-DH5 2402MHz Ant1

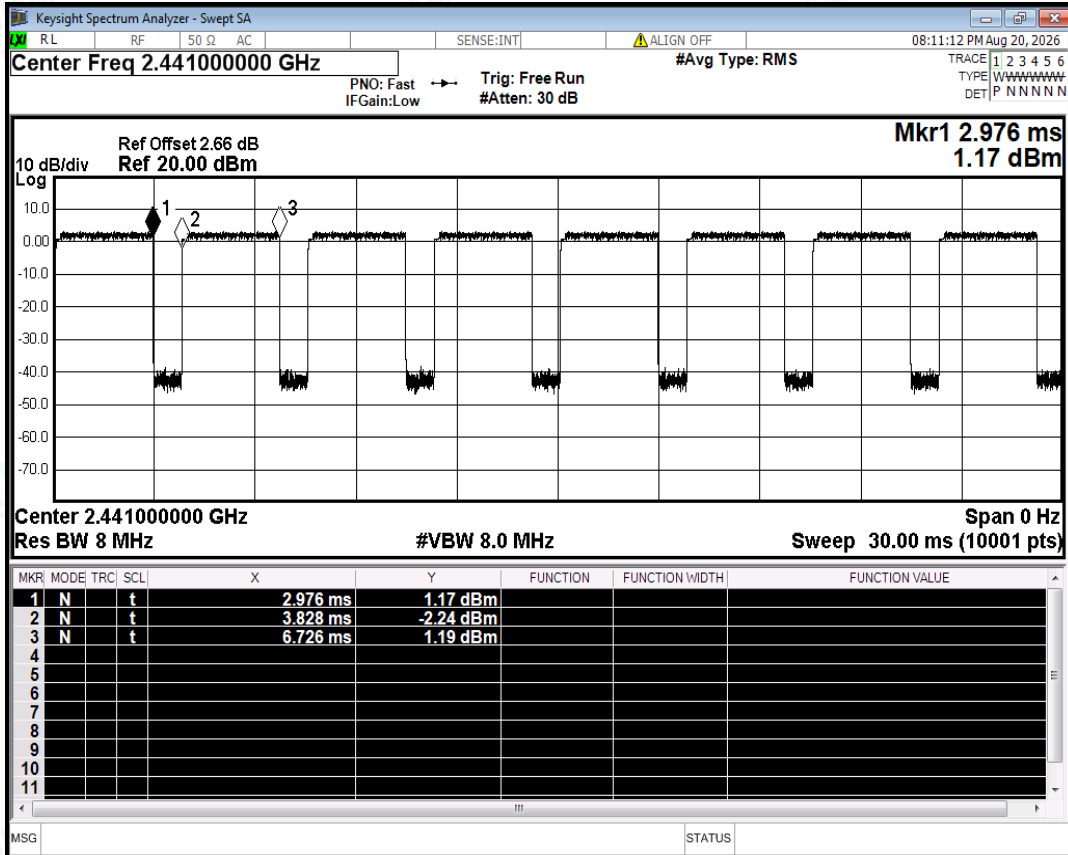


Duty Cycle NVNT 2-DH5 2441MHz Ant1

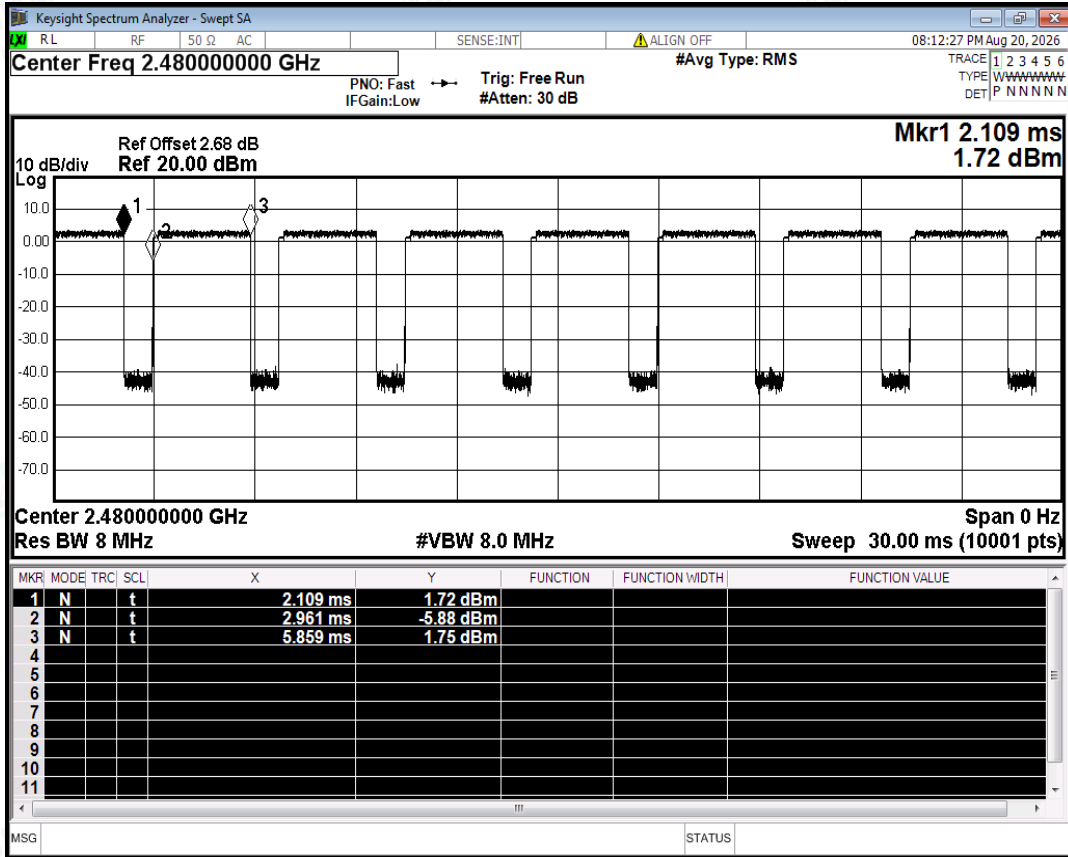




Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1

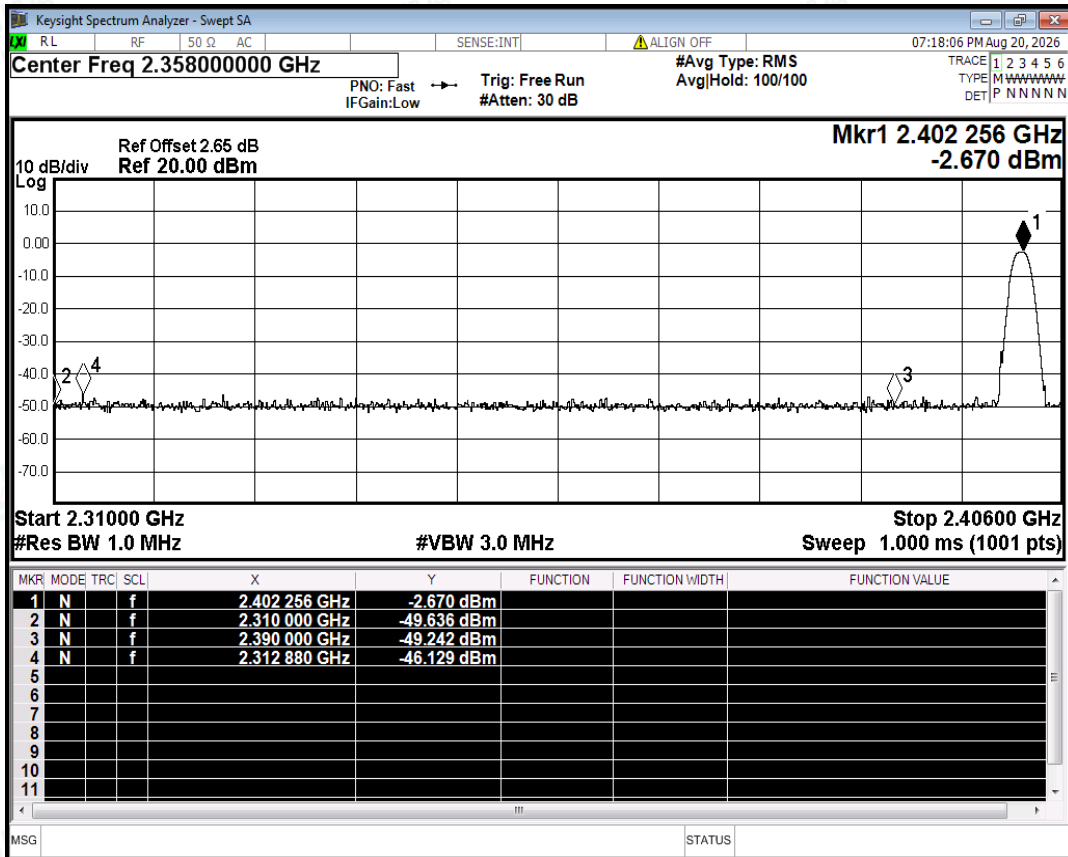


Duty Cycle NVNT 3-DH5 2480MHz Ant1

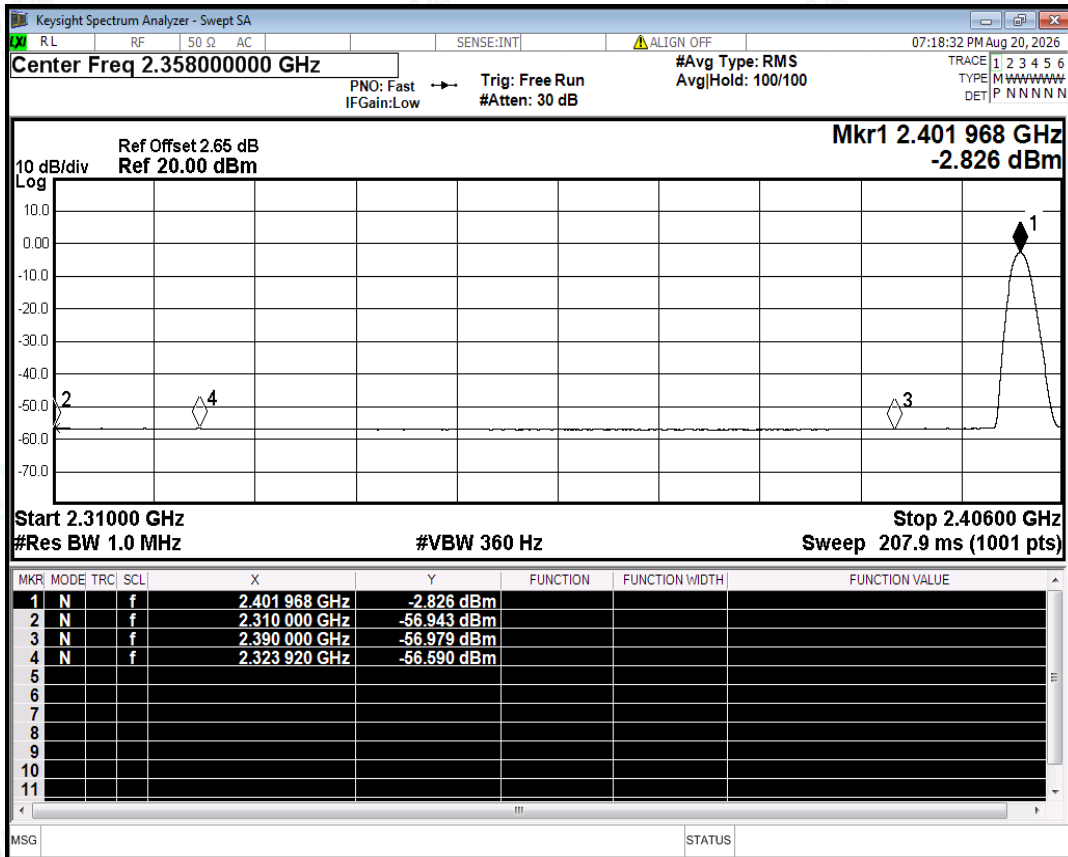


A.9 Restrict Band

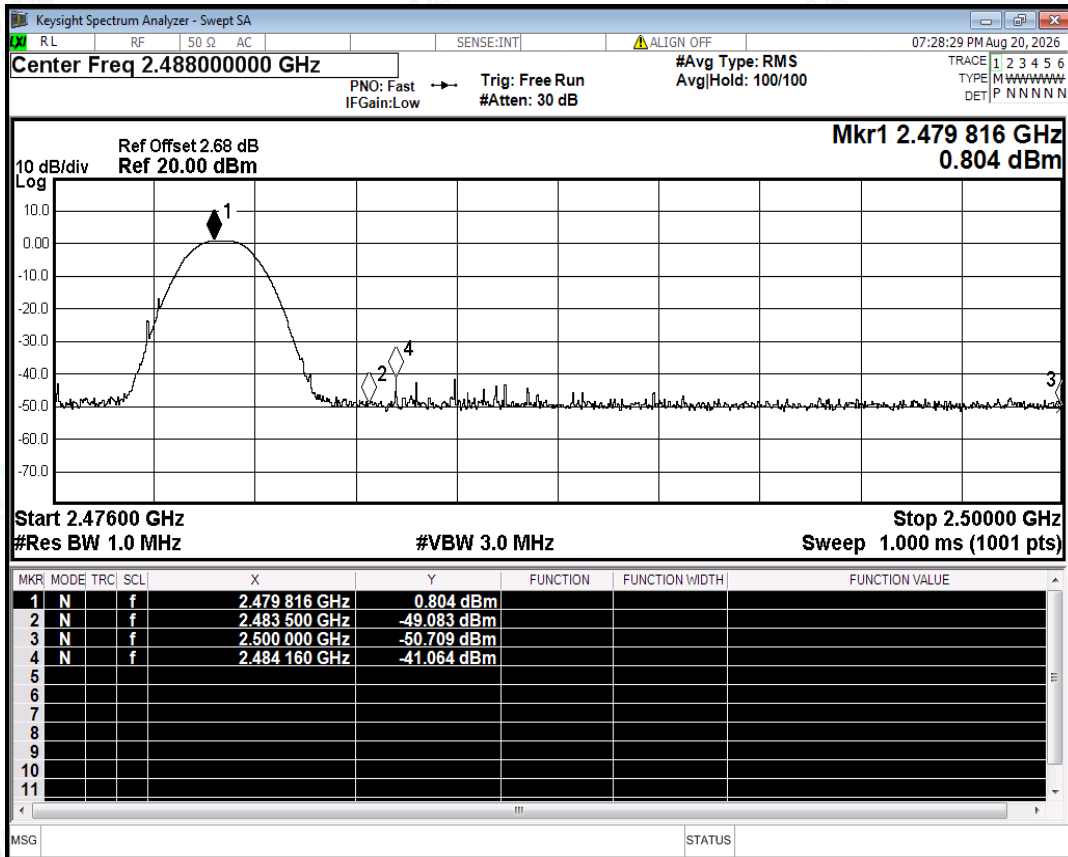
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-49.63	2	47.63	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-56.94	2	40.32	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2312.88	-46.12	2	51.14	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2323.92	-56.59	2	40.67	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.29	2	46.97	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-56.98	2	40.28	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.08	2	48.18	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-55.34	2	41.92	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.16	-41.06	2	56.2	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-55.34	2	41.92	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.7	2	46.56	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-56.8	2	40.46	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.71	2	47.55	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-56.14	2	41.12	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2355.024	-46.75	2	50.51	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2326.896	-54.85	2	42.41	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-49.01	2	48.25	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-55.77	2	41.49	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-44.7	2	52.56	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-53.7	2	43.56	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2485.696	-42.74	2	54.52	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-53.7	2	43.56	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.35	2	46.91	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-56.74	2	40.52	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-48.43	2	48.83	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-56.87	2	40.39	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2389.68	-46.75	2	50.51	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2319.12	-56.75	2	40.51	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.25	2	47.01	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-56.98	2	40.28	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-45.89	2	51.37	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-53.21	2	44.05	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2485.408	-40.61	2	56.65	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-53.21	2	44.05	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-49.84	2	47.42	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-56.71	2	40.55	Average	54	Pass



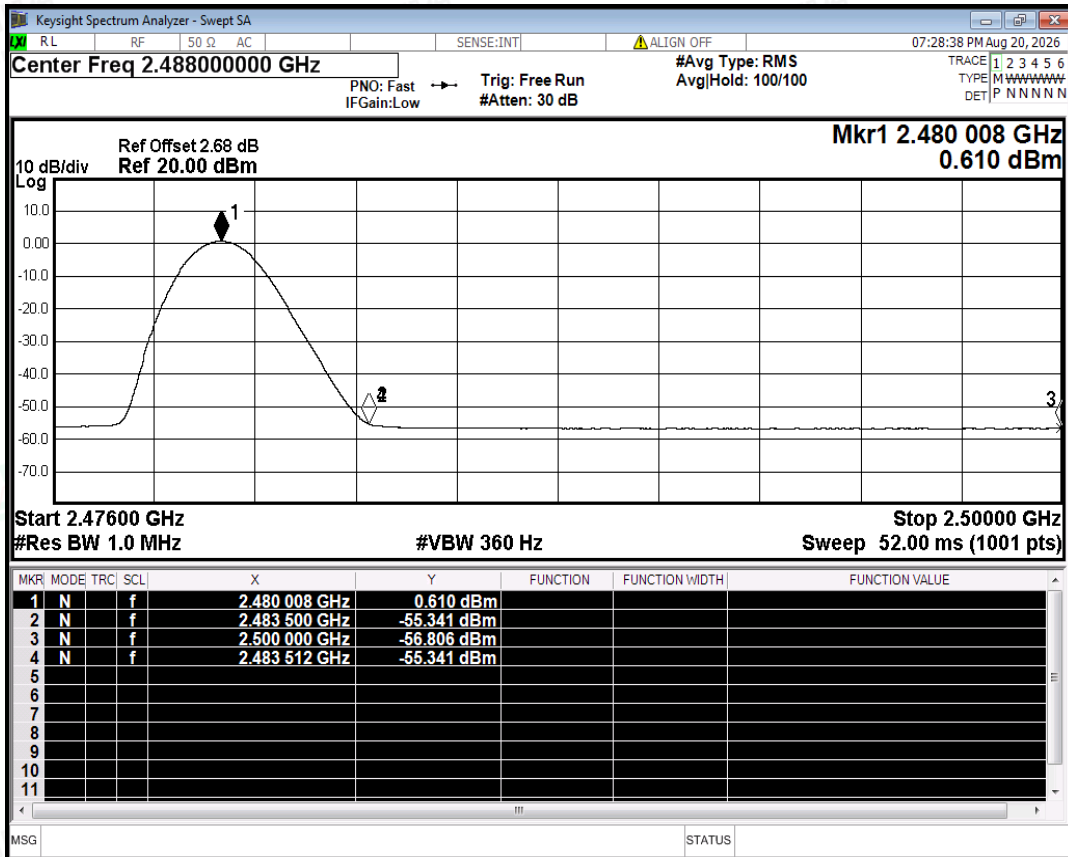
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



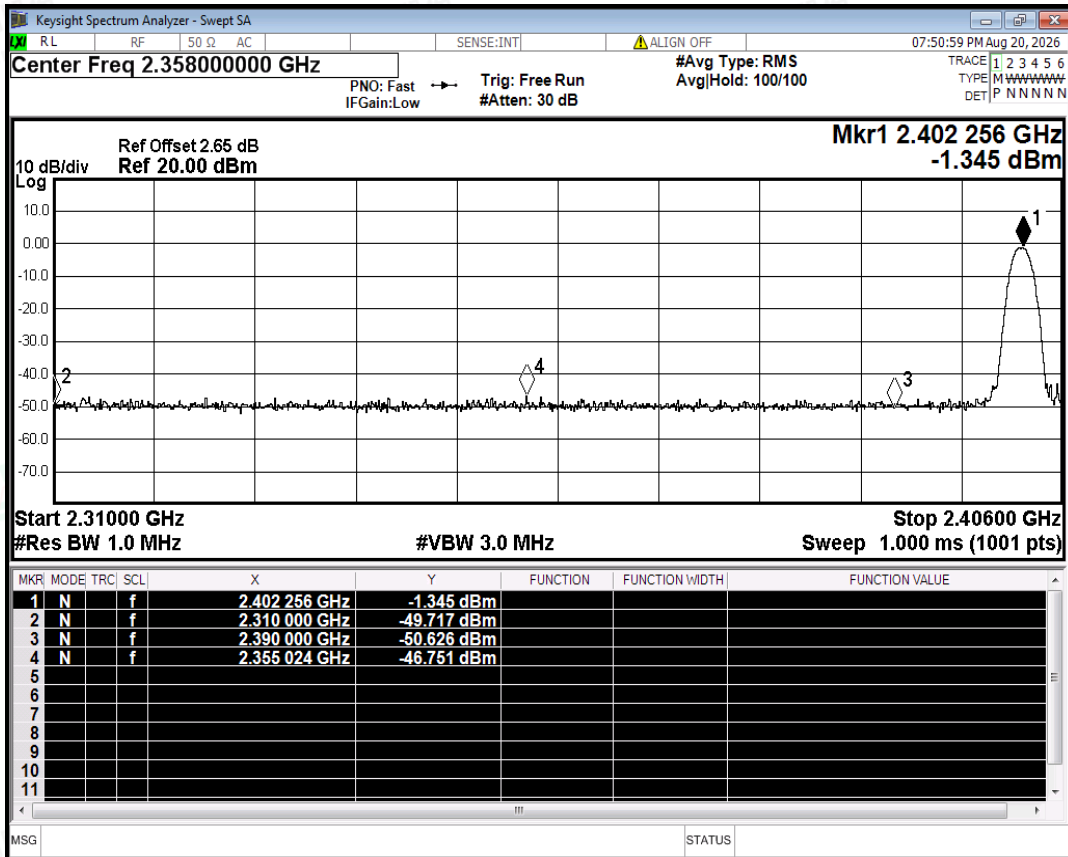
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



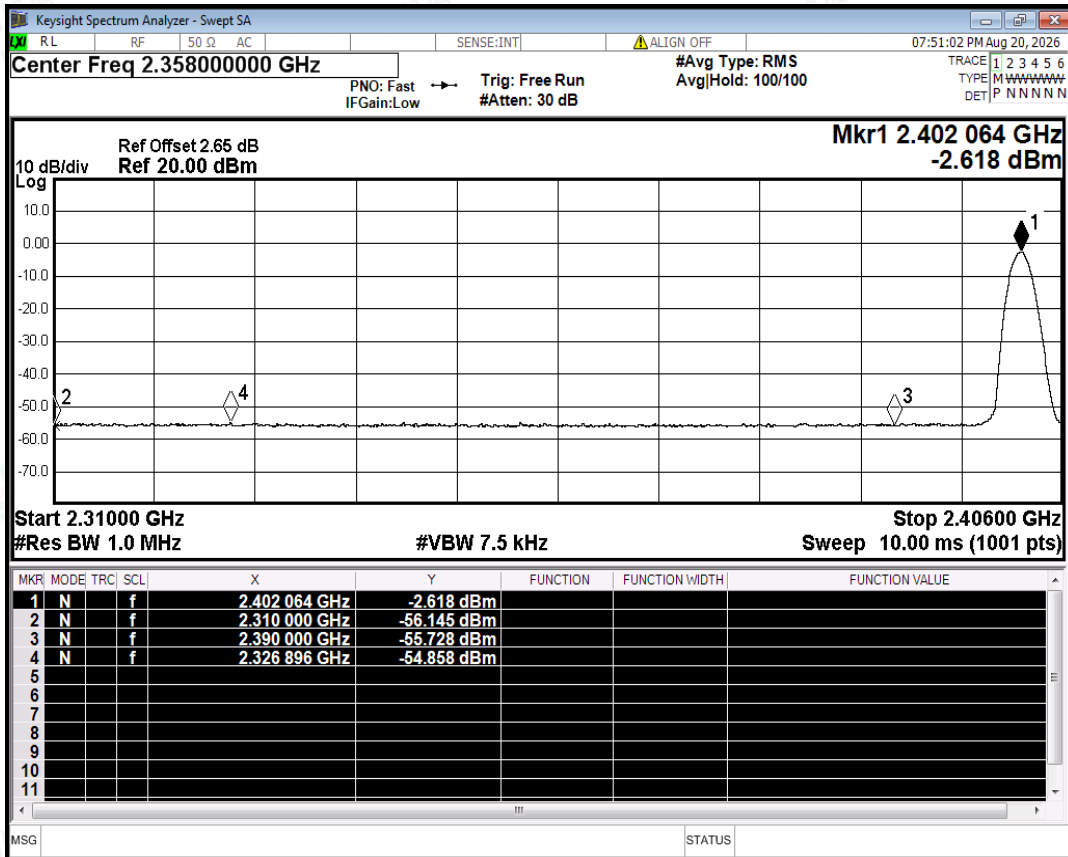
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



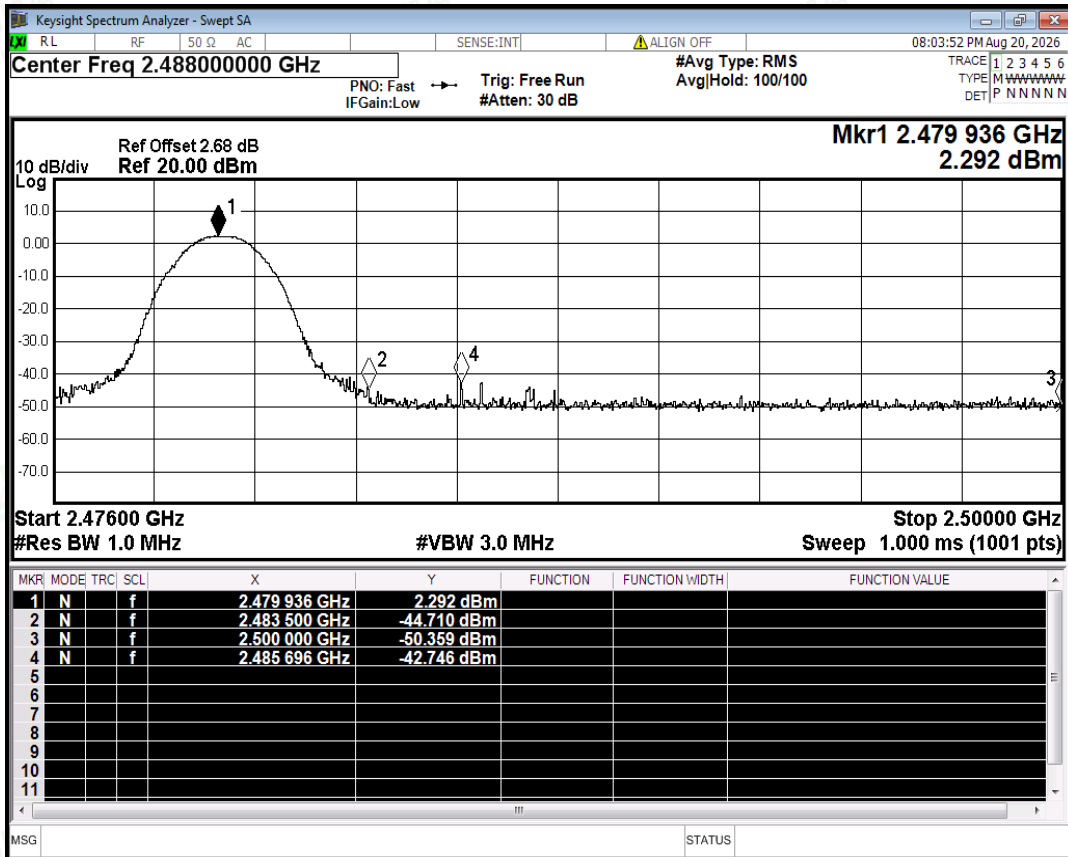
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



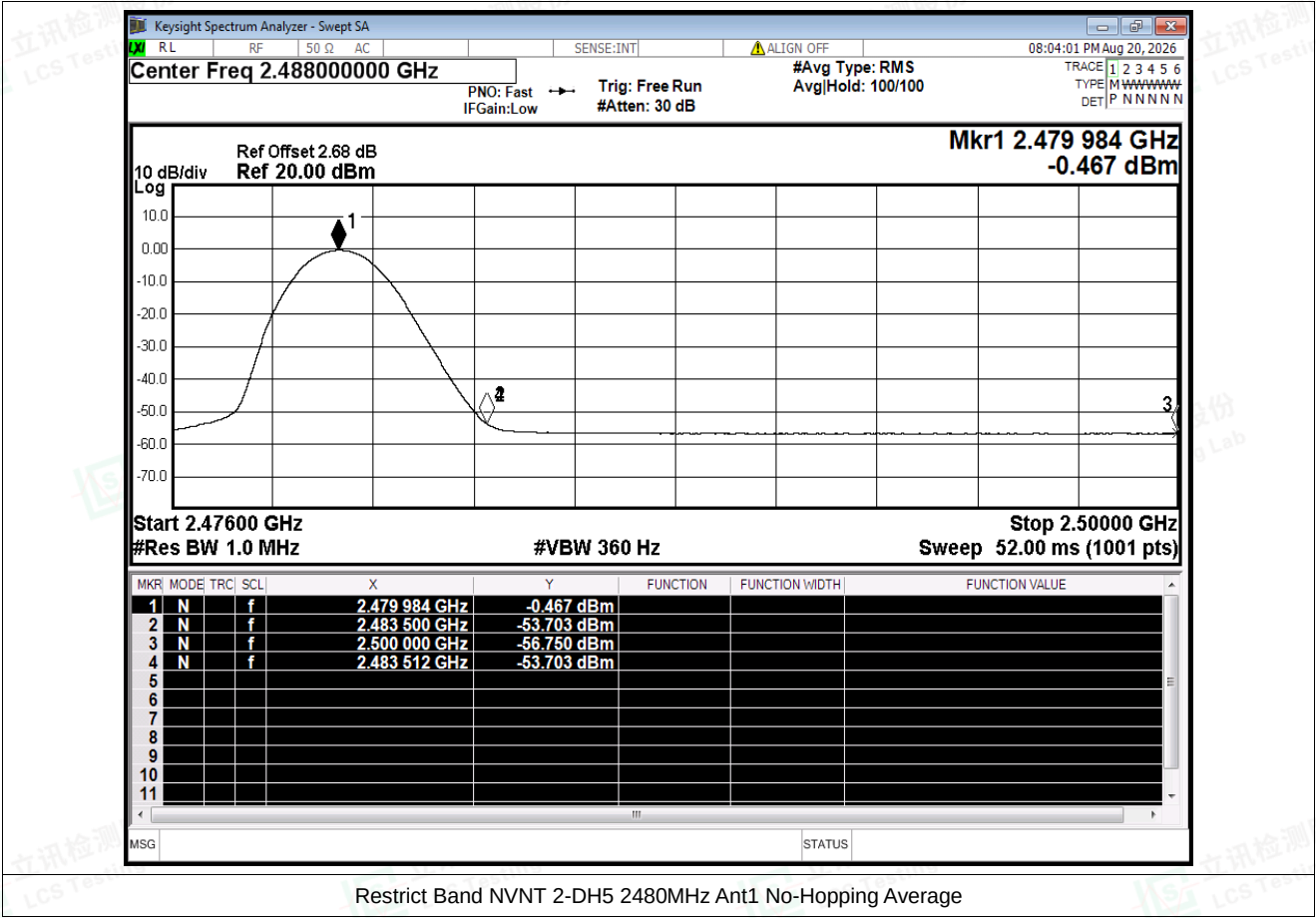
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average

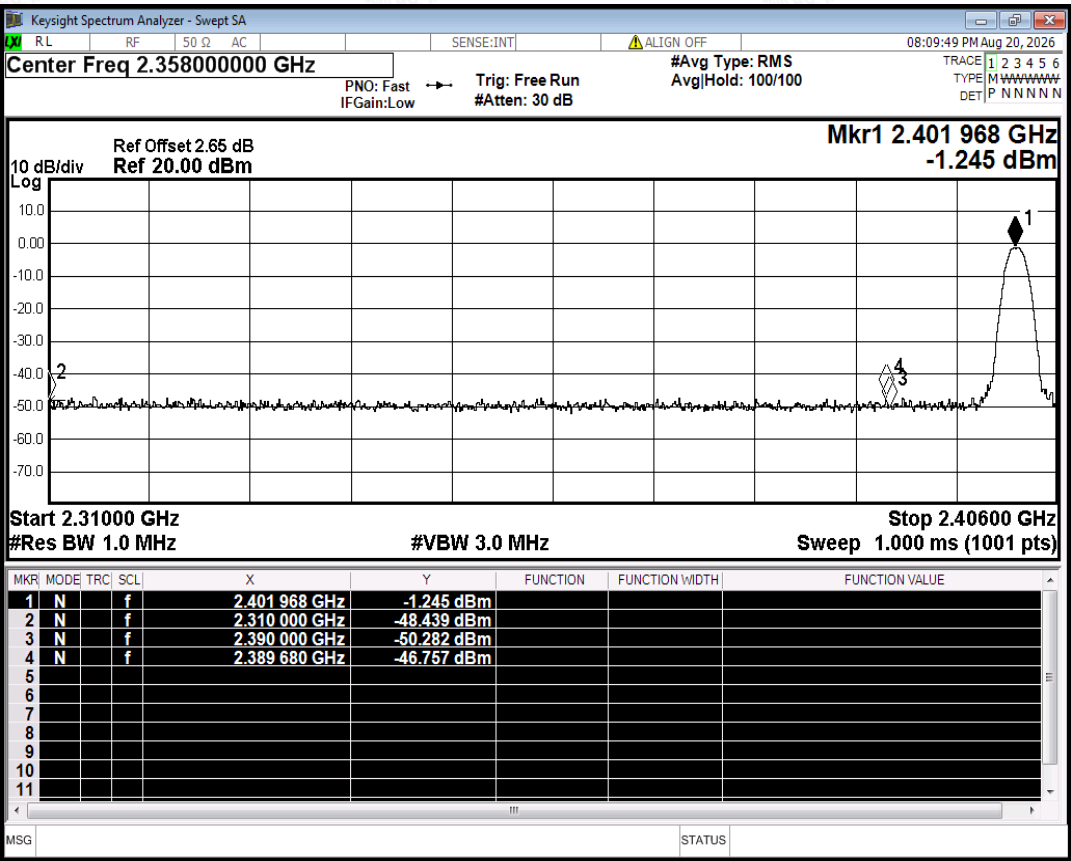


Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak

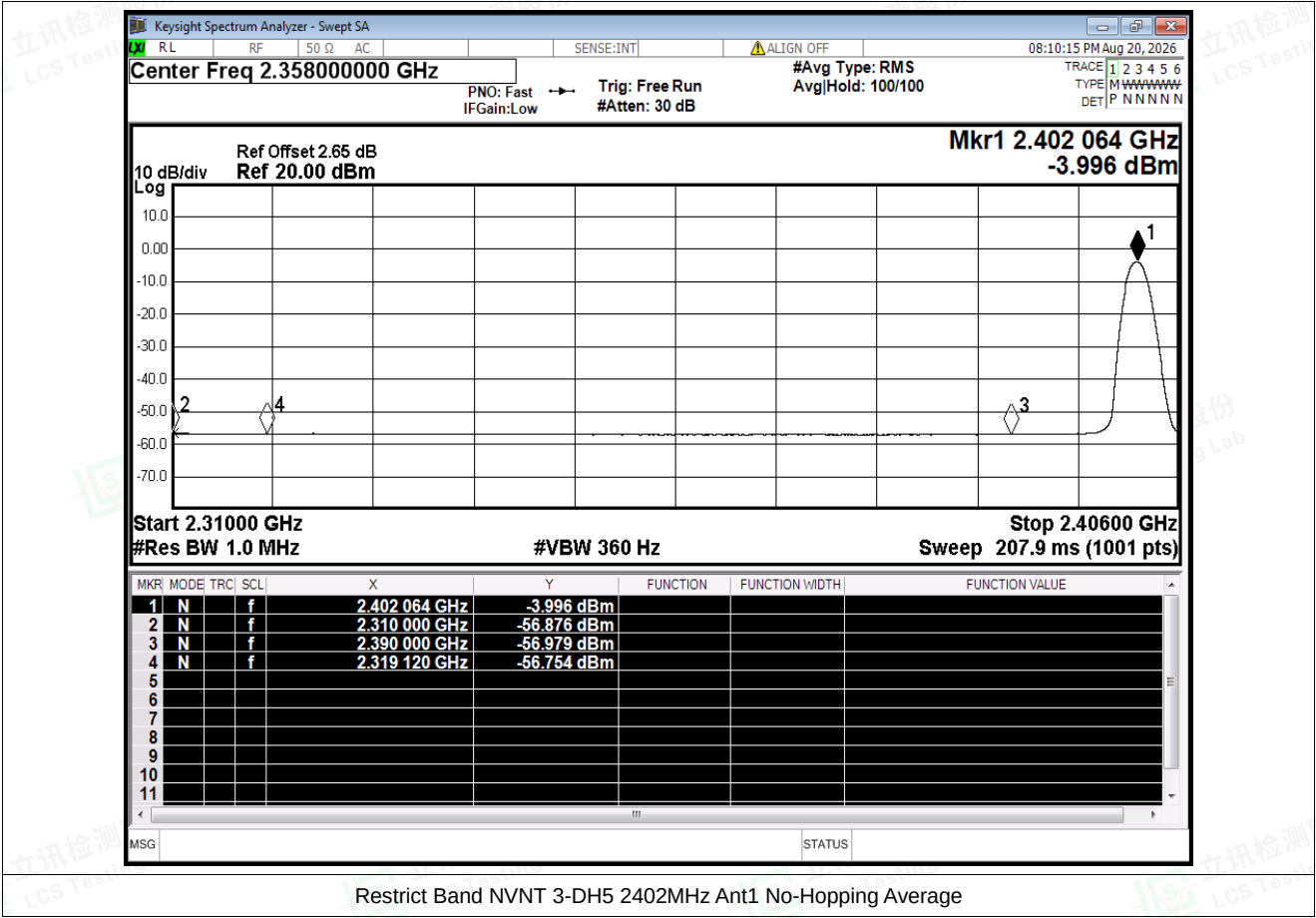




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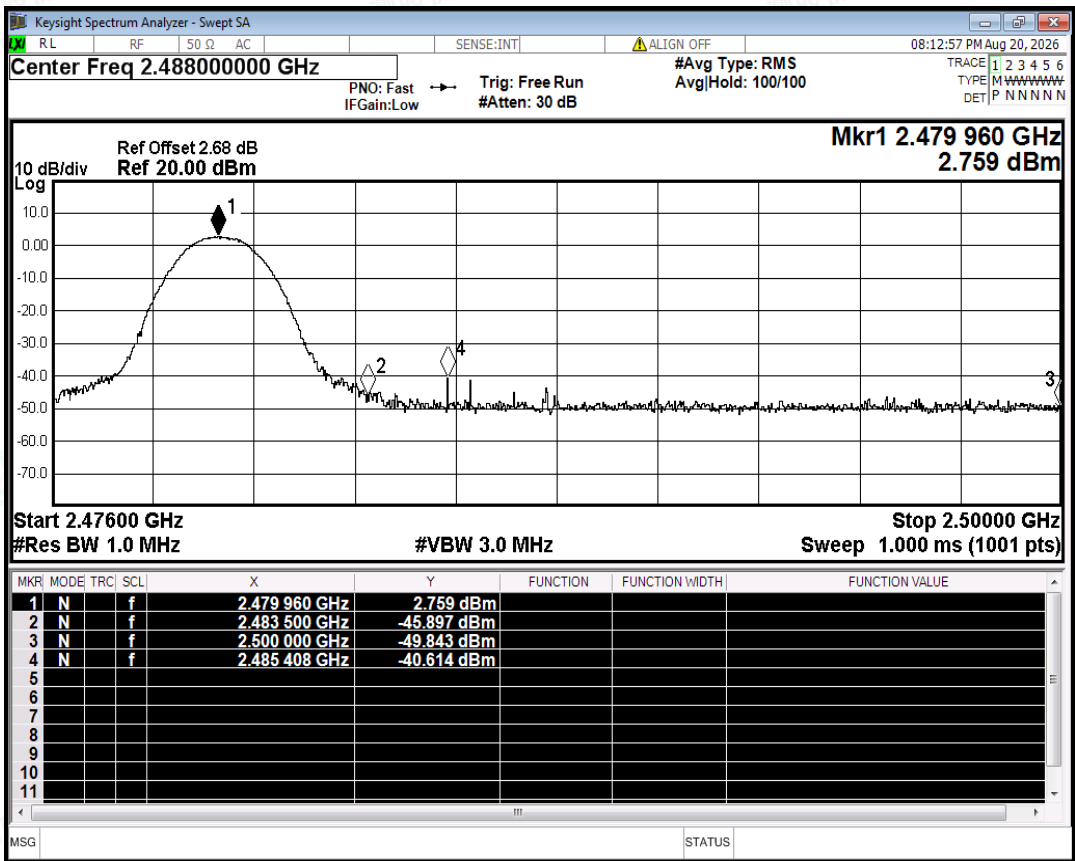


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak





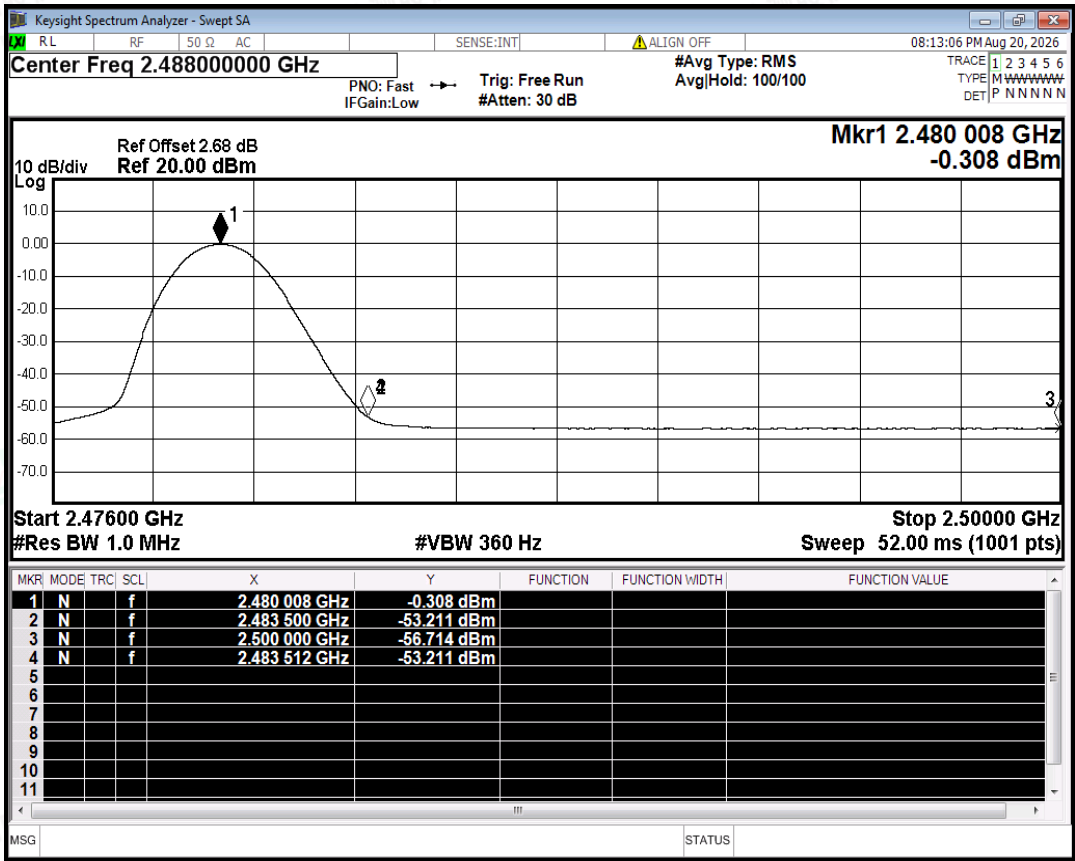
LCS-2023076101EA



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Peak



LCS-2023076101EA



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Average