

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	wireless headphone
Test Model:	XL-GSW5-AC7006-V1.0
Sample ID:	HC-C-202408-0119-02-01
Environmental Conditions	
Temperature:	24.8°C
Relative Humidity:	52.4%
Test Voltage:	DC 3.7V
Test Engineer:	Jokin Lee
Note: For a more detailed features description, please refer to the report TBR-C-202408-0119-33 The report only show the worst case data.	

Contents

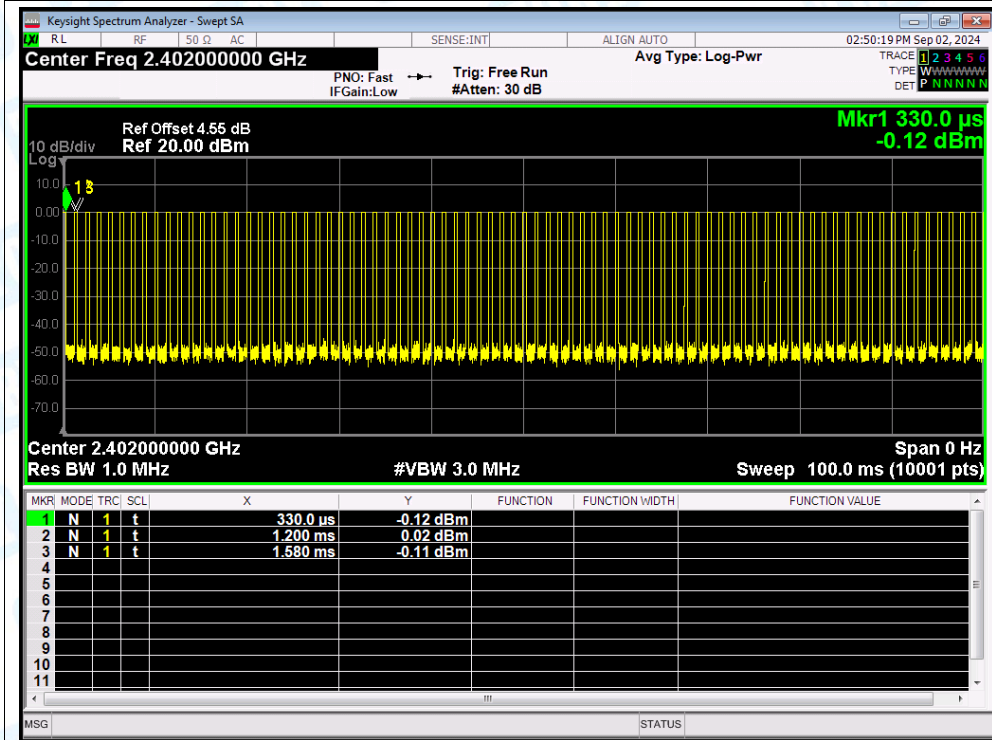
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1. Duty Cycle

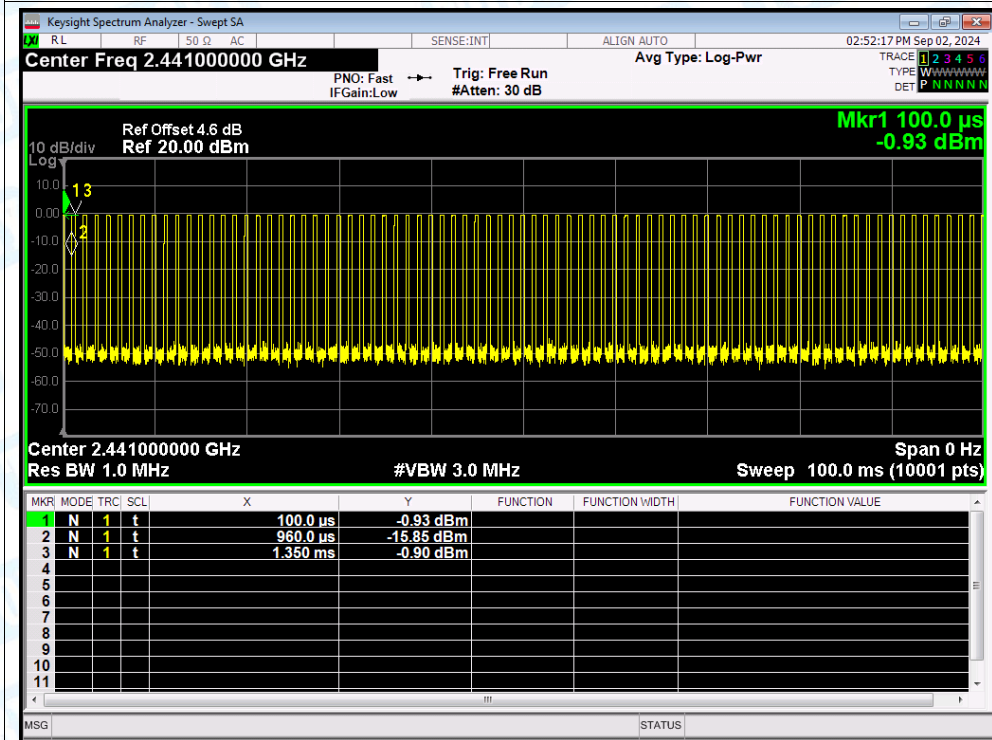
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	1-DH1	2480	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56

Test Graphs

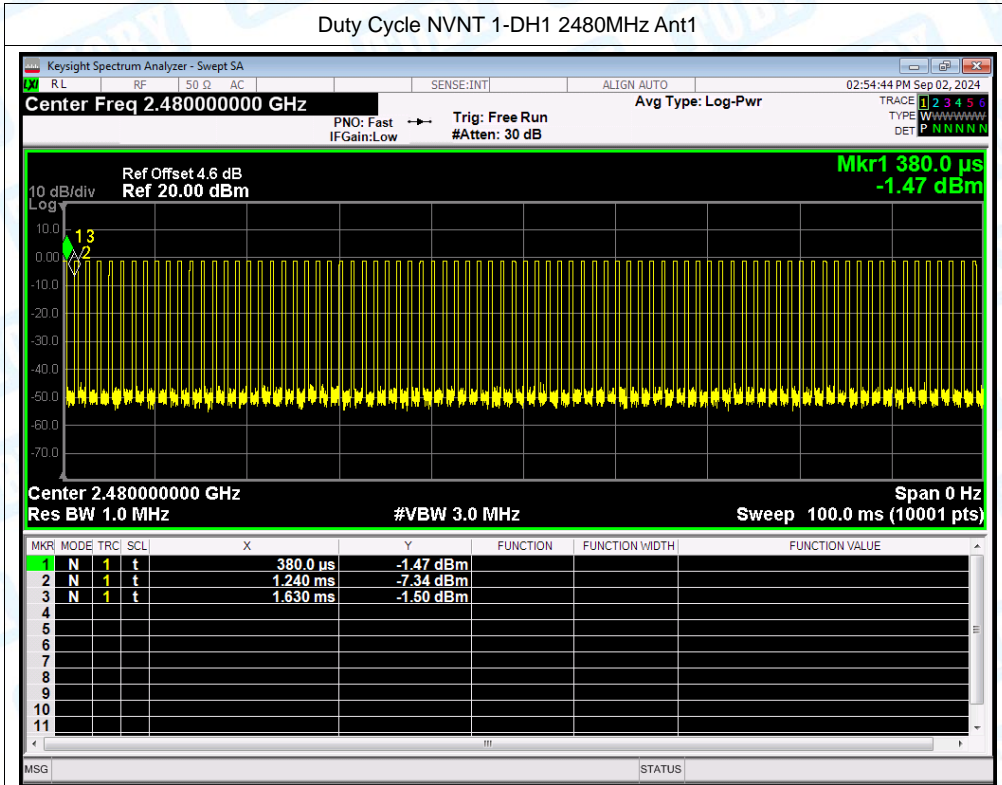
Duty Cycle NVNT 1-DH1 2402MHz Ant1



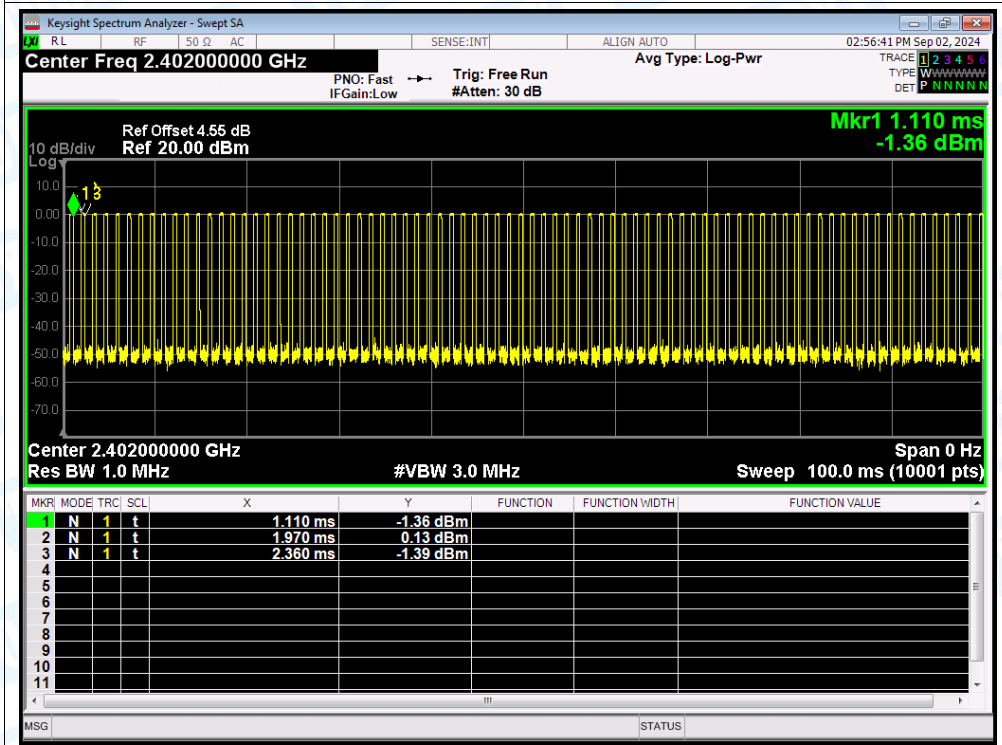
Duty Cycle NVNT 1-DH1 2441MHz Ant1



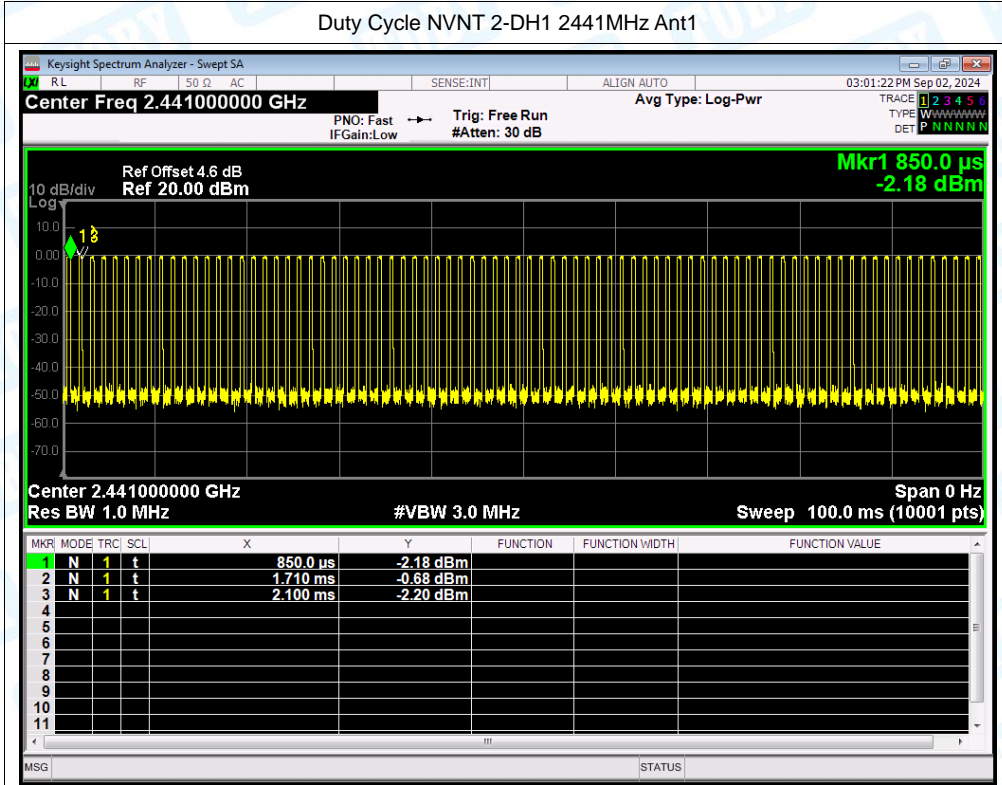
Duty Cycle NVNT 1-DH1 2480MHz Ant1



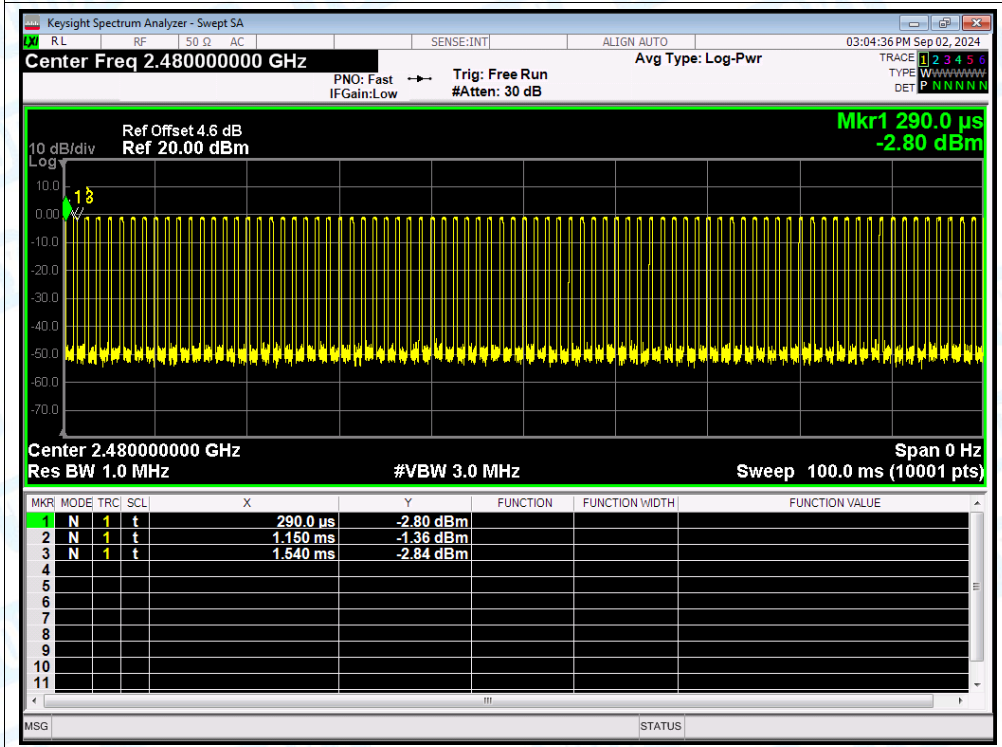
Duty Cycle NVNT 2-DH1 2402MHz Ant1



Duty Cycle NVNT 2-DH1 2441MHz Ant1



Duty Cycle NVNT 2-DH1 2480MHz Ant1

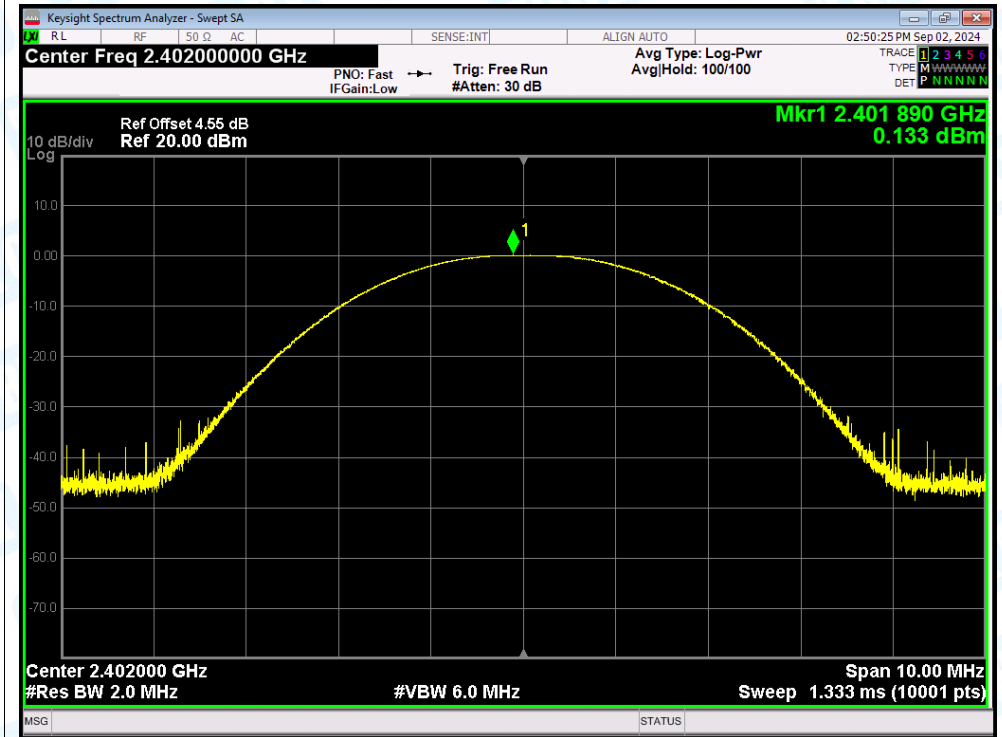


2. Maximum Conducted Output Power

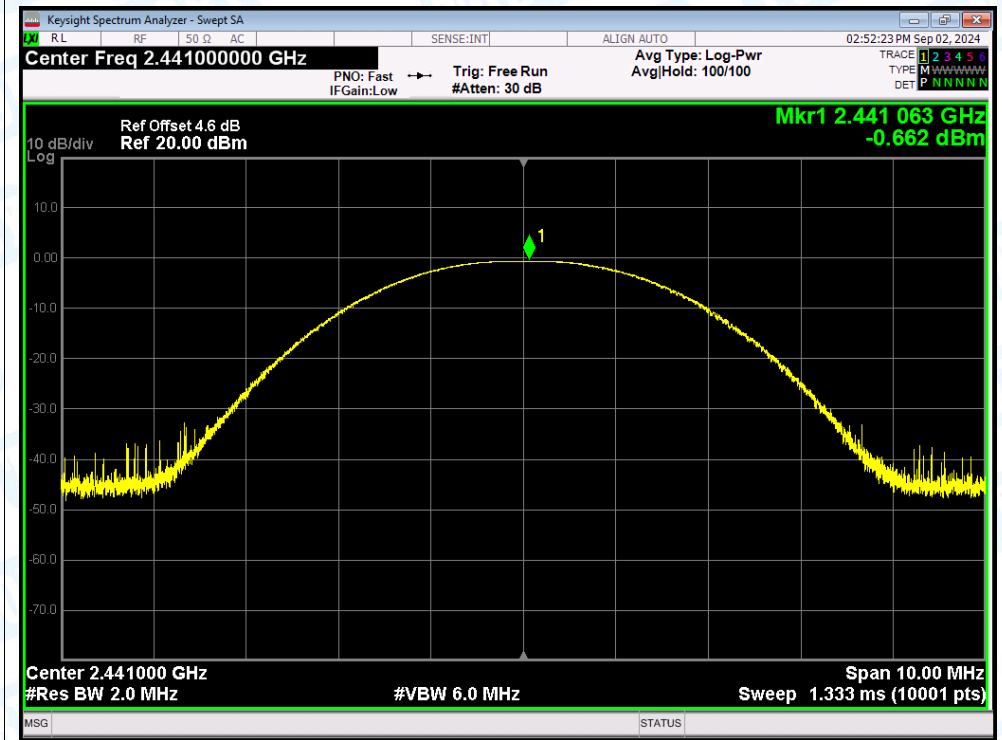
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	0.133	21	Pass
NVNT	1-DH1	2441	Ant1	-0.662	21	Pass
NVNT	1-DH1	2480	Ant1	-1.25	21	Pass
NVNT	2-DH1	2402	Ant1	1.001	21	Pass
NVNT	2-DH1	2441	Ant1	0.152	21	Pass
NVNT	2-DH1	2480	Ant1	-0.464	21	Pass

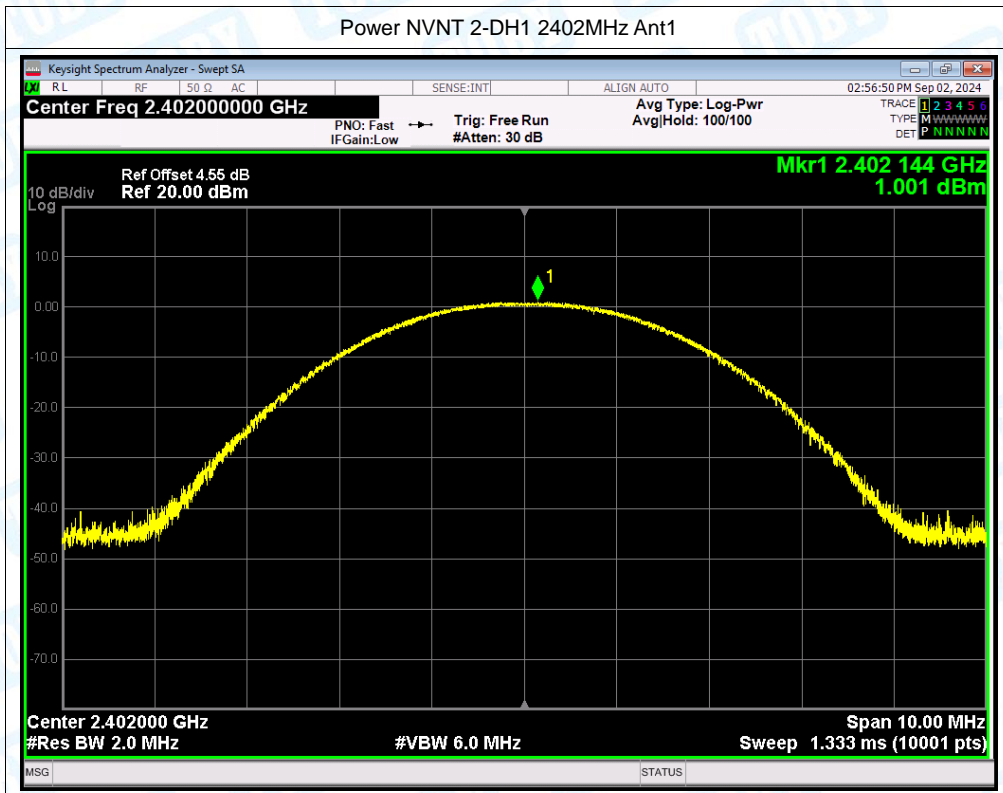
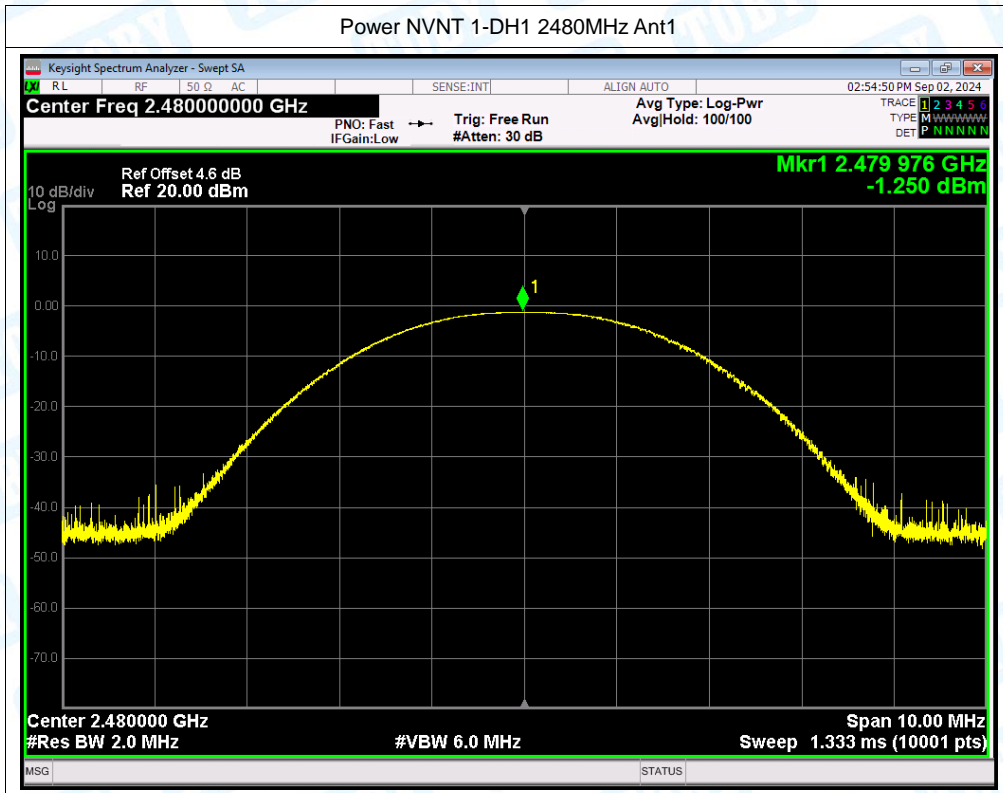
Test Graphs

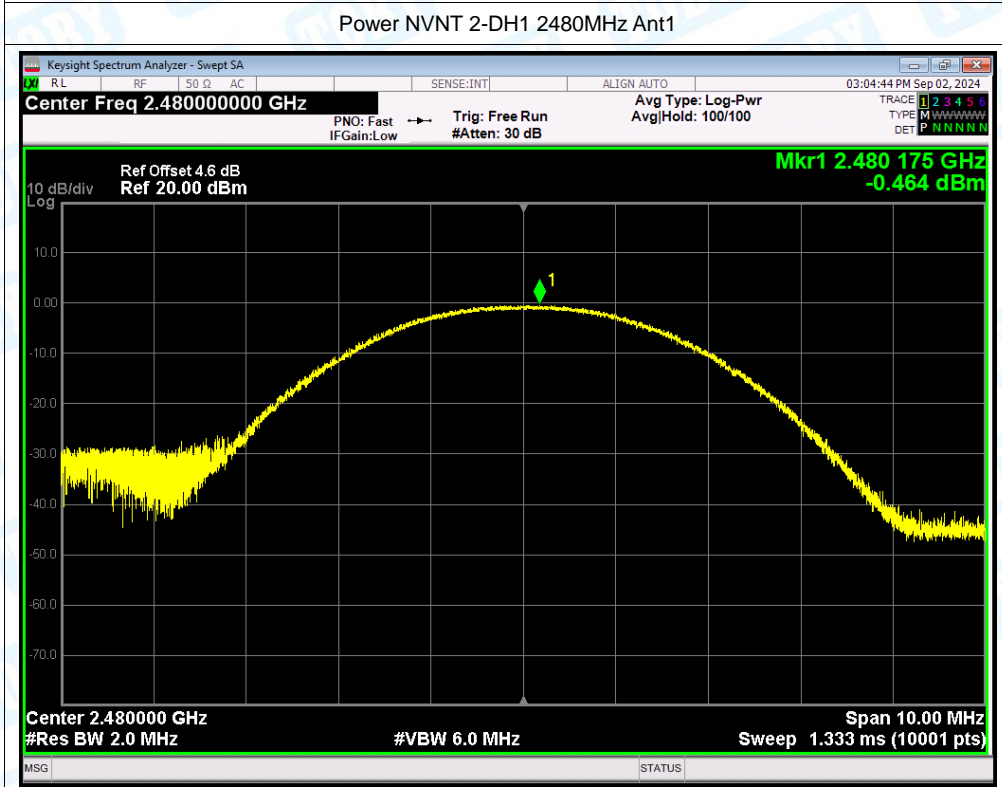
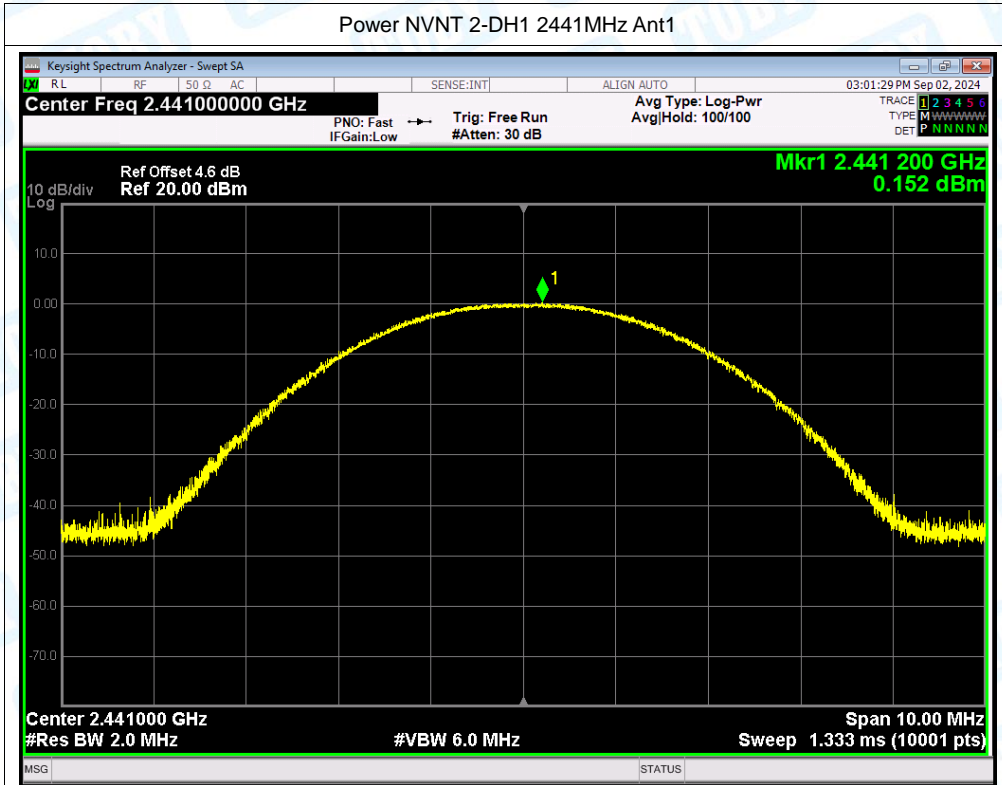
Power NVNT 1-DH1 2402MHz Ant1



Power NVNT 1-DH1 2441MHz Ant1





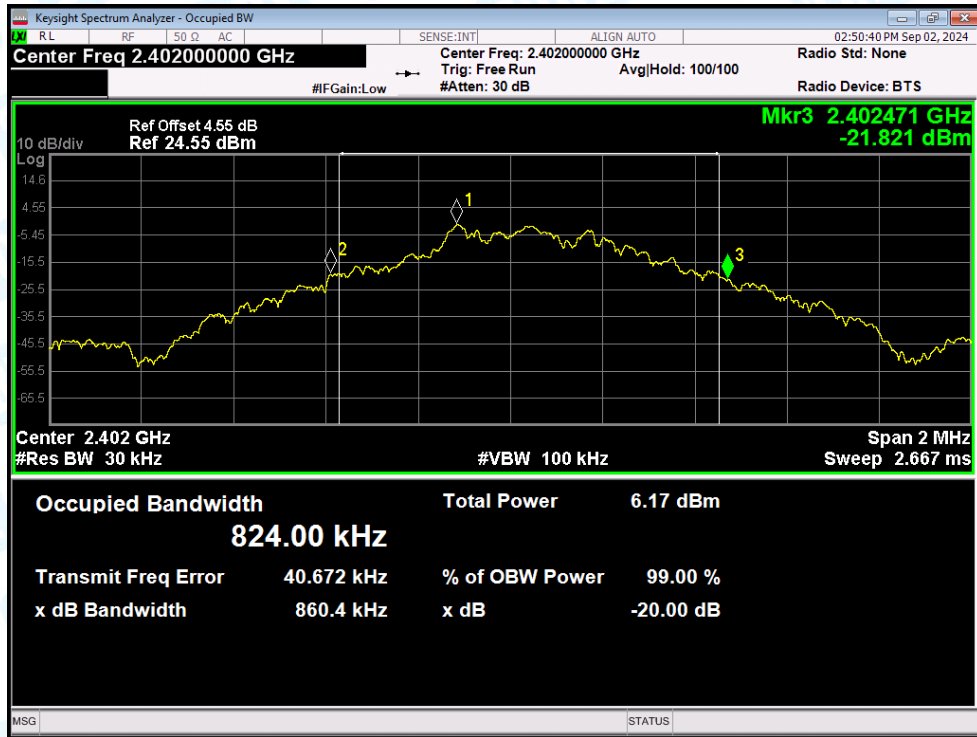


3. -20dB Bandwidth

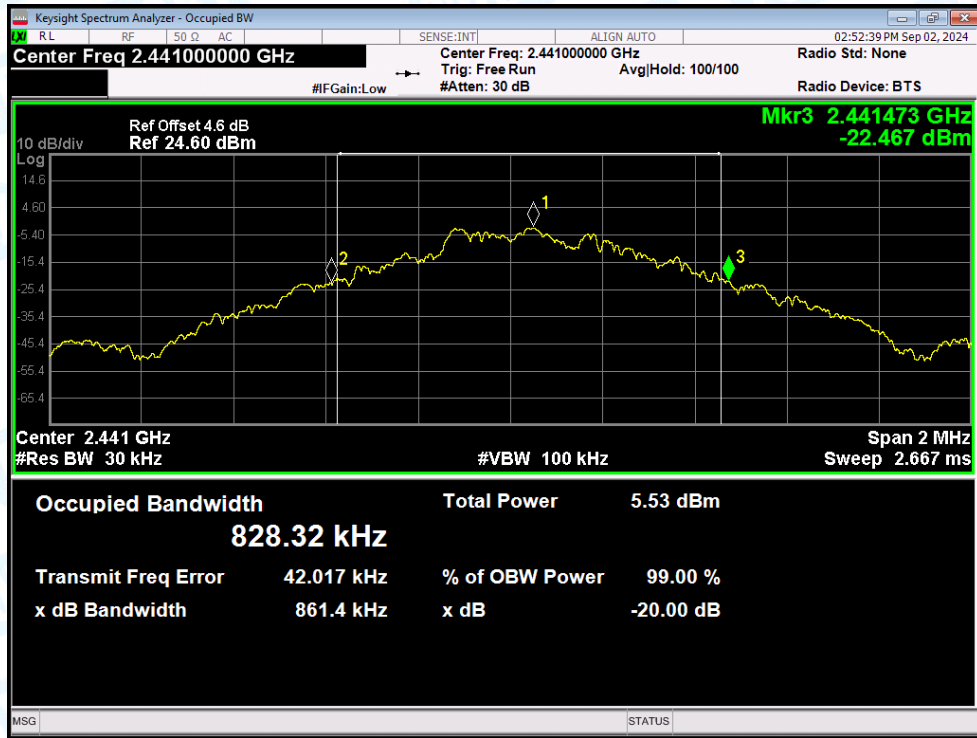
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.86	0	Pass
NVNT	1-DH1	2441	Ant1	0.86	0	Pass
NVNT	1-DH1	2480	Ant1	0.93	0	Pass
NVNT	2-DH1	2402	Ant1	1.23	0	Pass
NVNT	2-DH1	2441	Ant1	1.25	0	Pass
NVNT	2-DH1	2480	Ant1	1.26	0	Pass

Test Graphs

-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



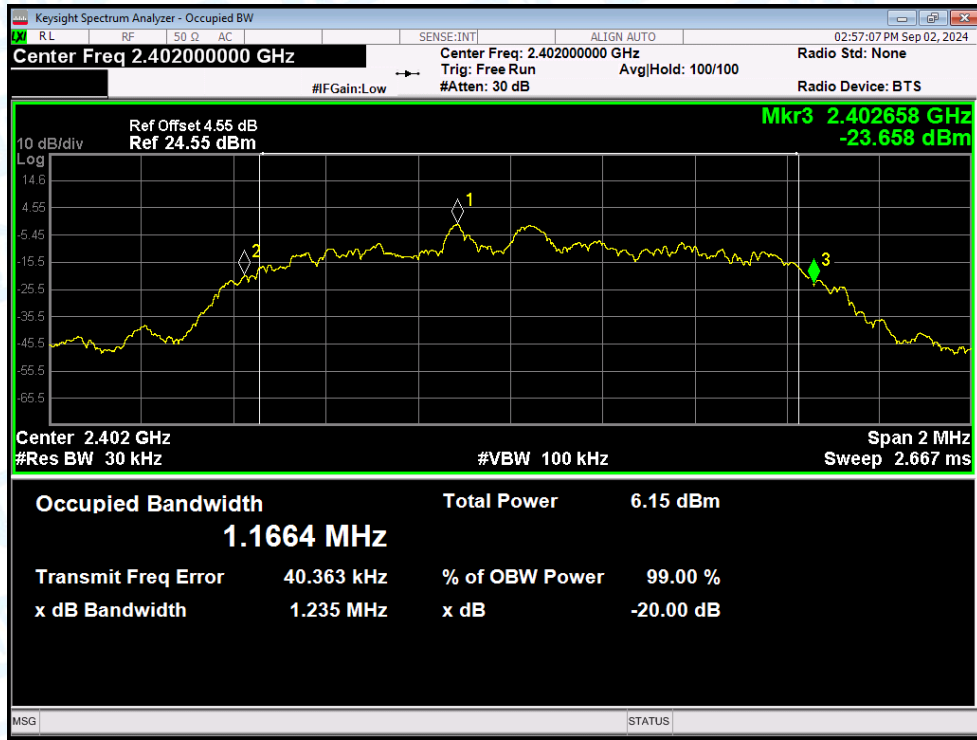
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



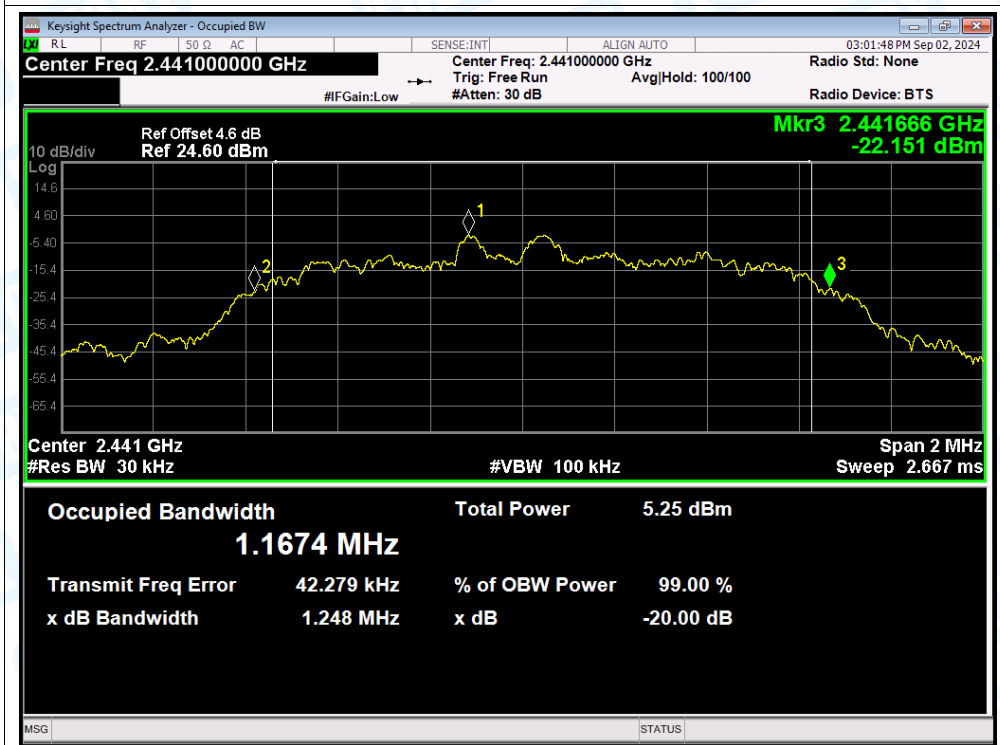
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



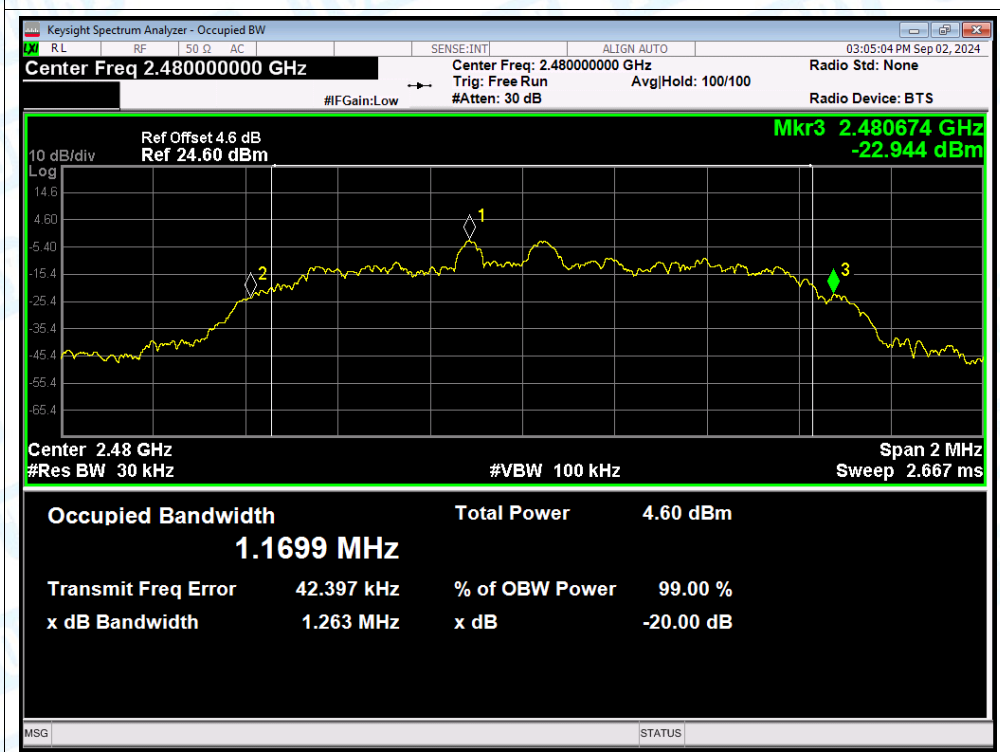
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

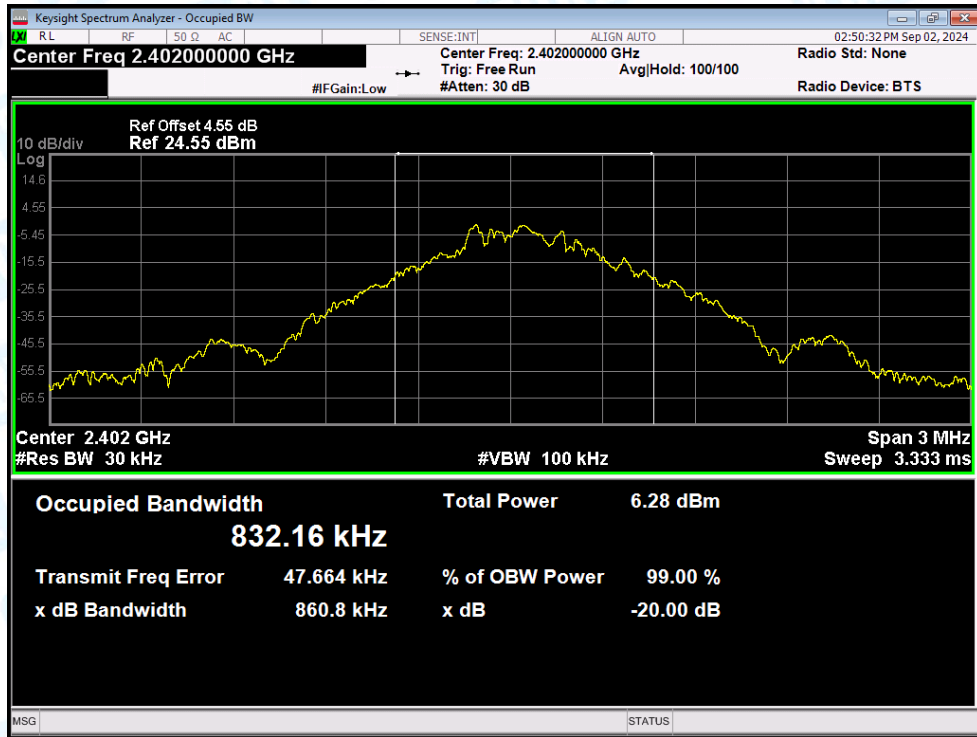


4. Occupied Channel Bandwidth

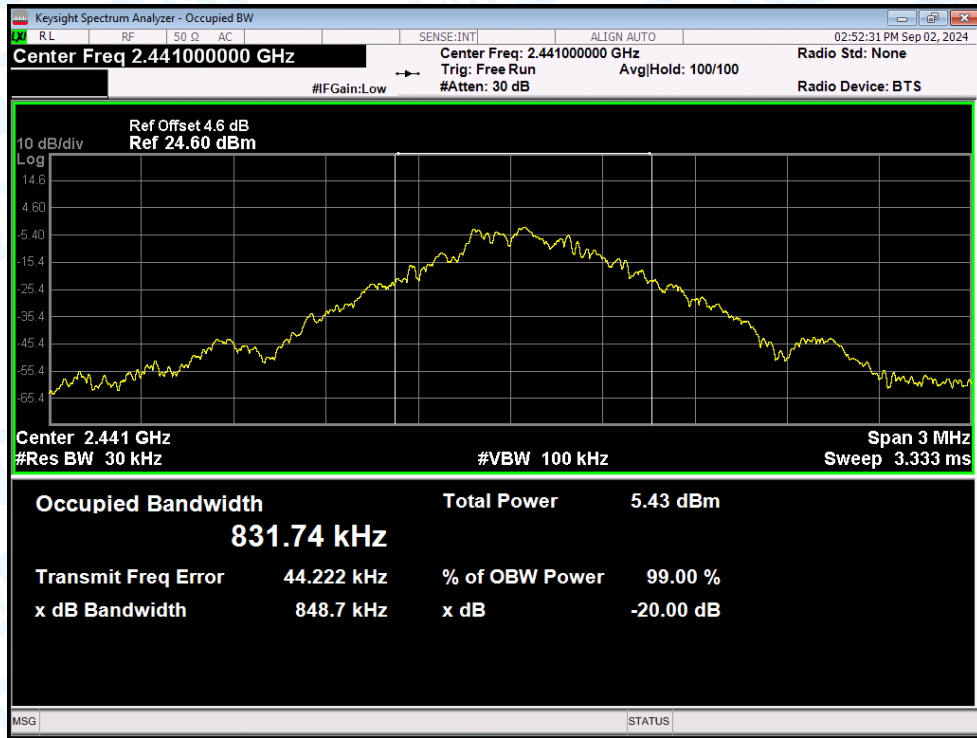
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.832
NVNT	1-DH1	2441	Ant1	0.832
NVNT	1-DH1	2480	Ant1	0.851
NVNT	2-DH1	2402	Ant1	1.138
NVNT	2-DH1	2441	Ant1	1.16
NVNT	2-DH1	2480	Ant1	1.172

Test Graphs

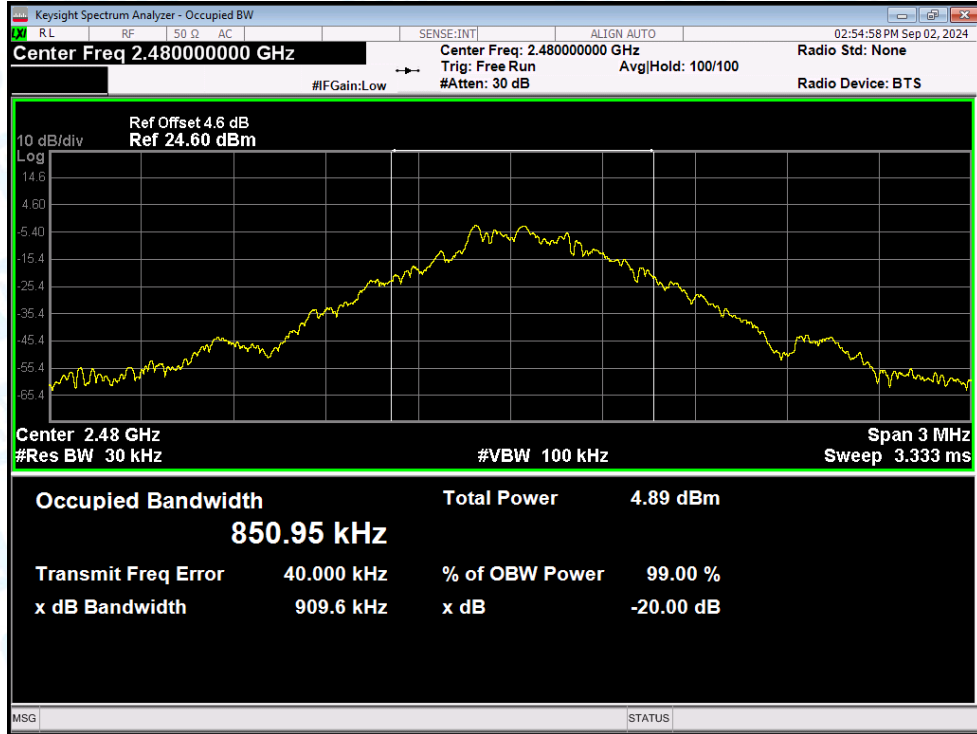
OBW NVNT 1-DH1 2402MHz Ant1



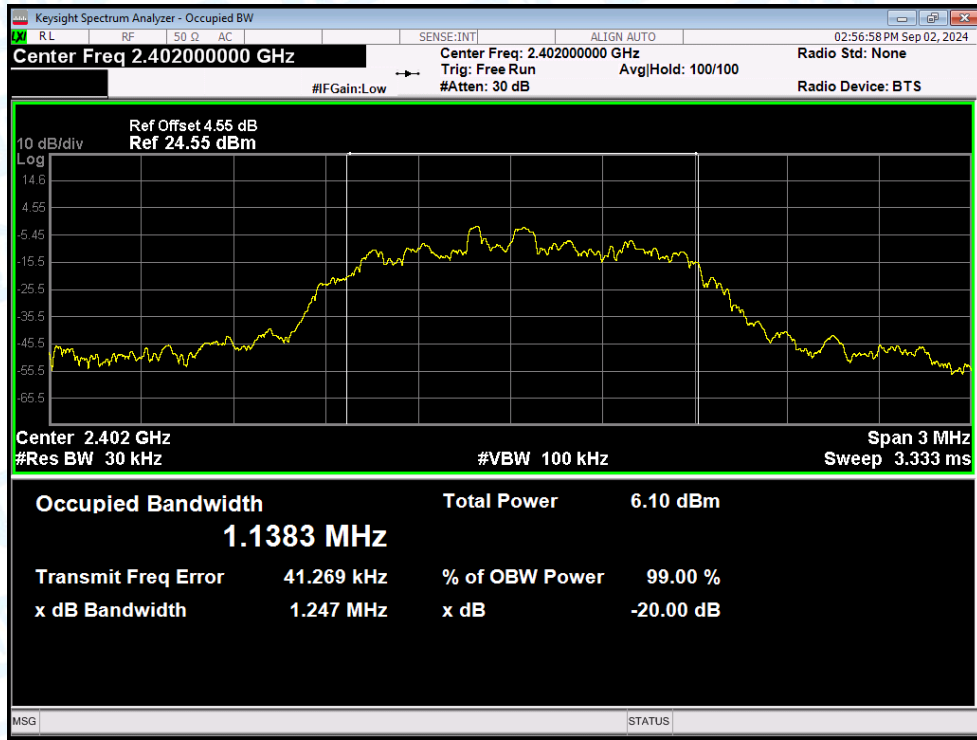
OBW NVNT 1-DH1 2441MHz Ant1



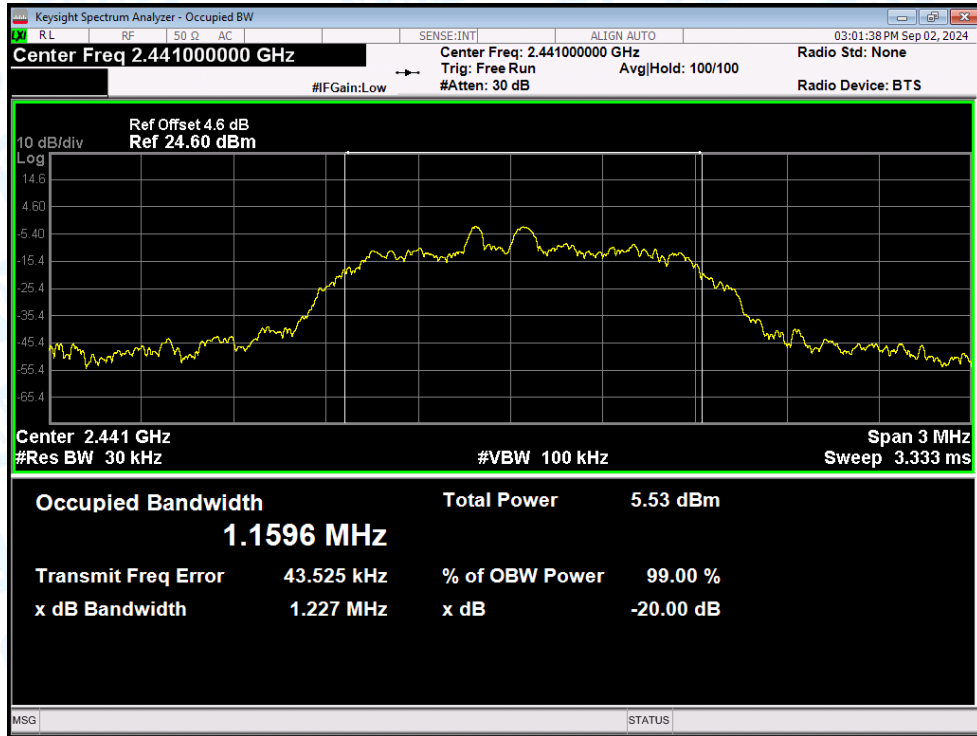
OBW NVNT 1-DH1 2480MHz Ant1



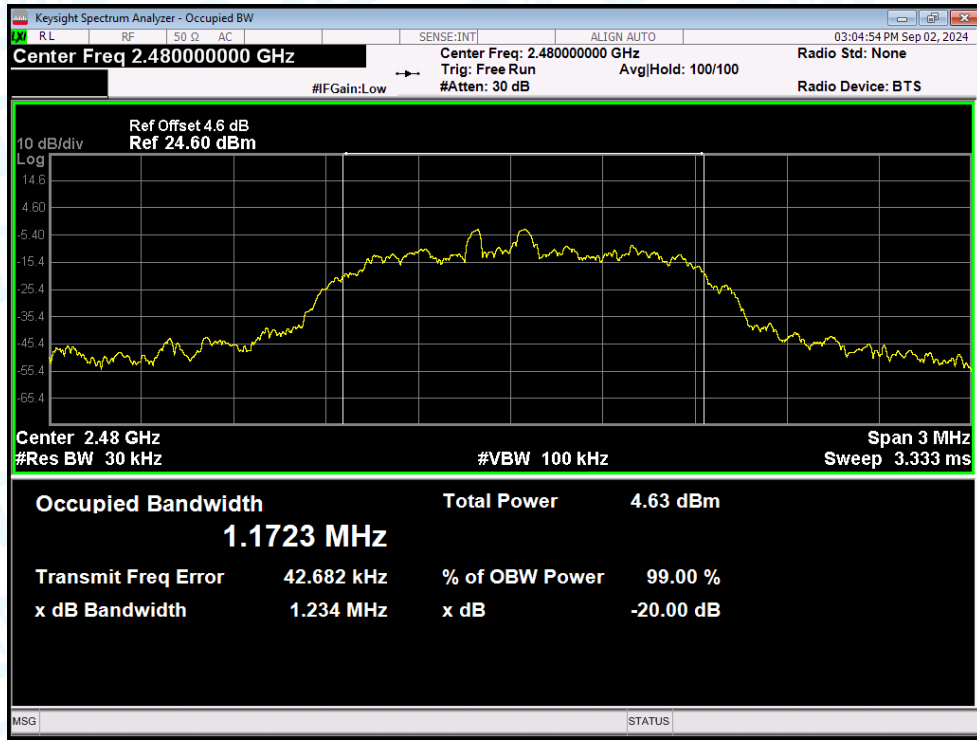
OBW NVNT 2-DH1 2402MHz Ant1



OBW NVNT 2-DH1 2441MHz Ant1



OBW NVNT 2-DH1 2480MHz Ant1

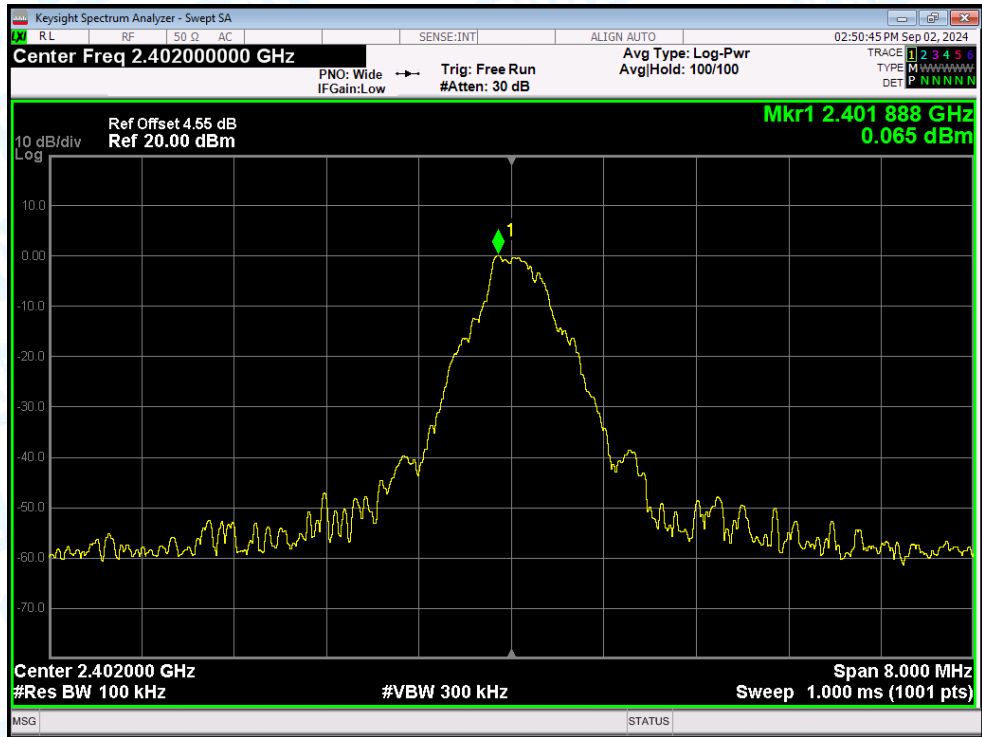


5. Band Edge

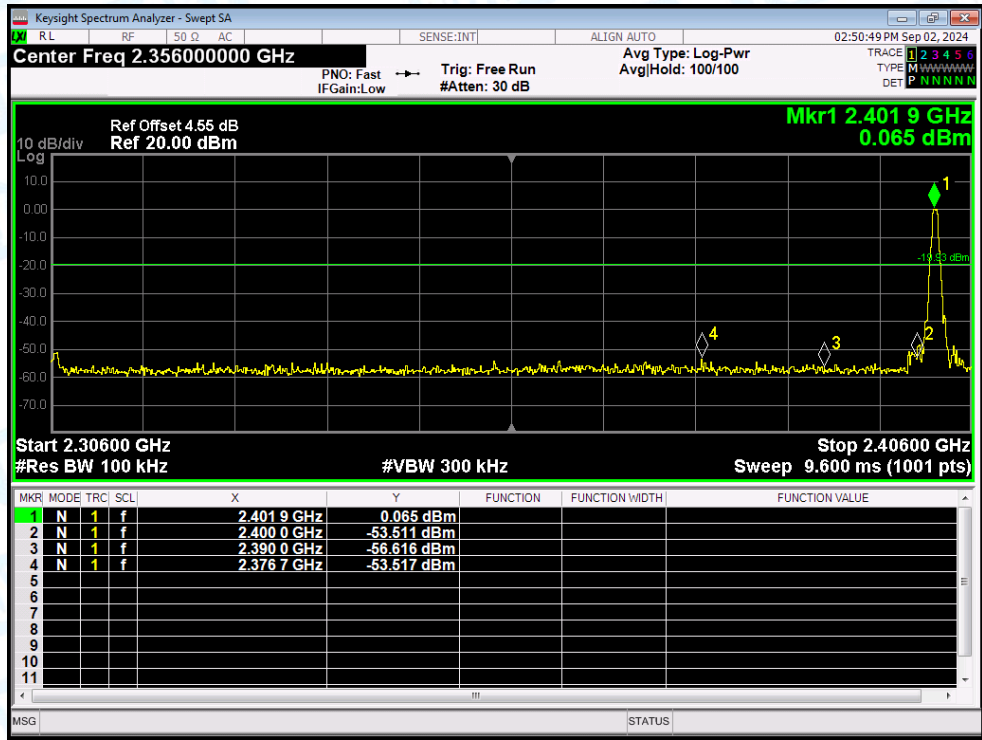
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-53.59	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-52.27	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-54.08	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-53.22	-20	Pass

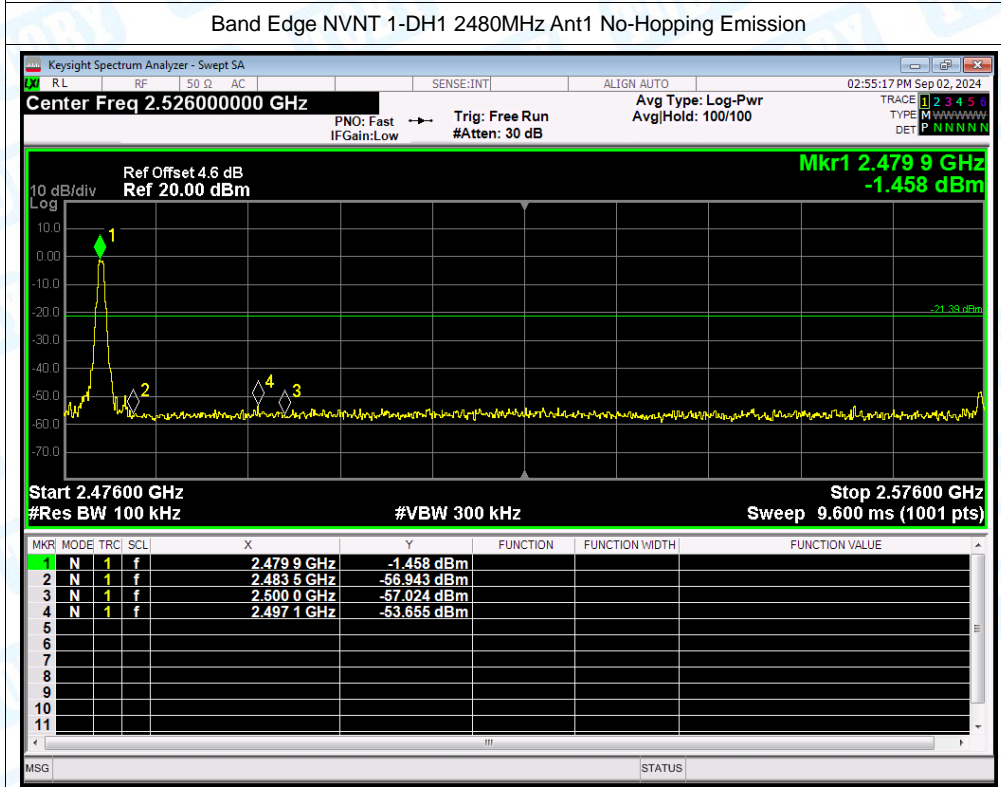
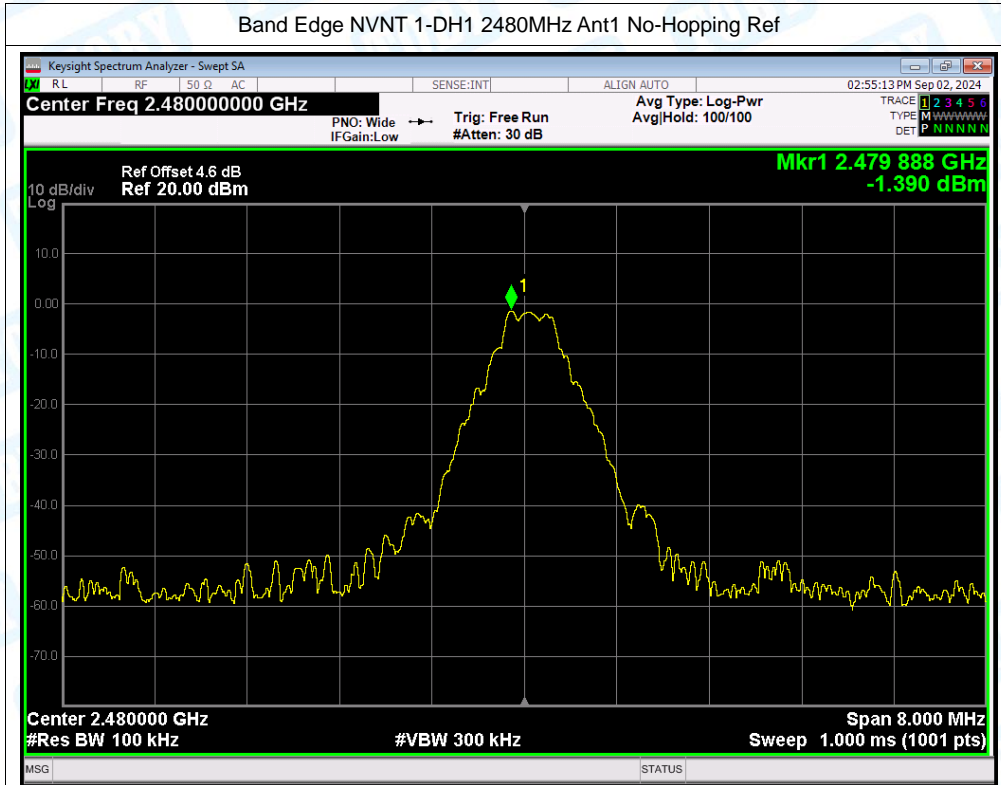
Test Graphs

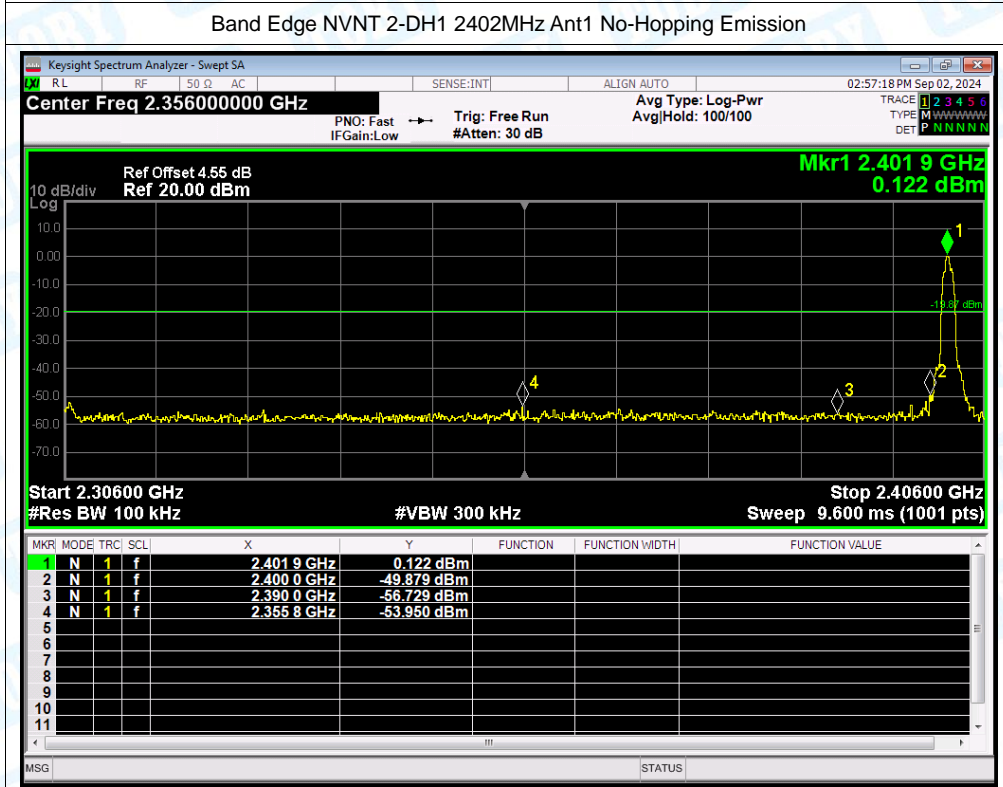
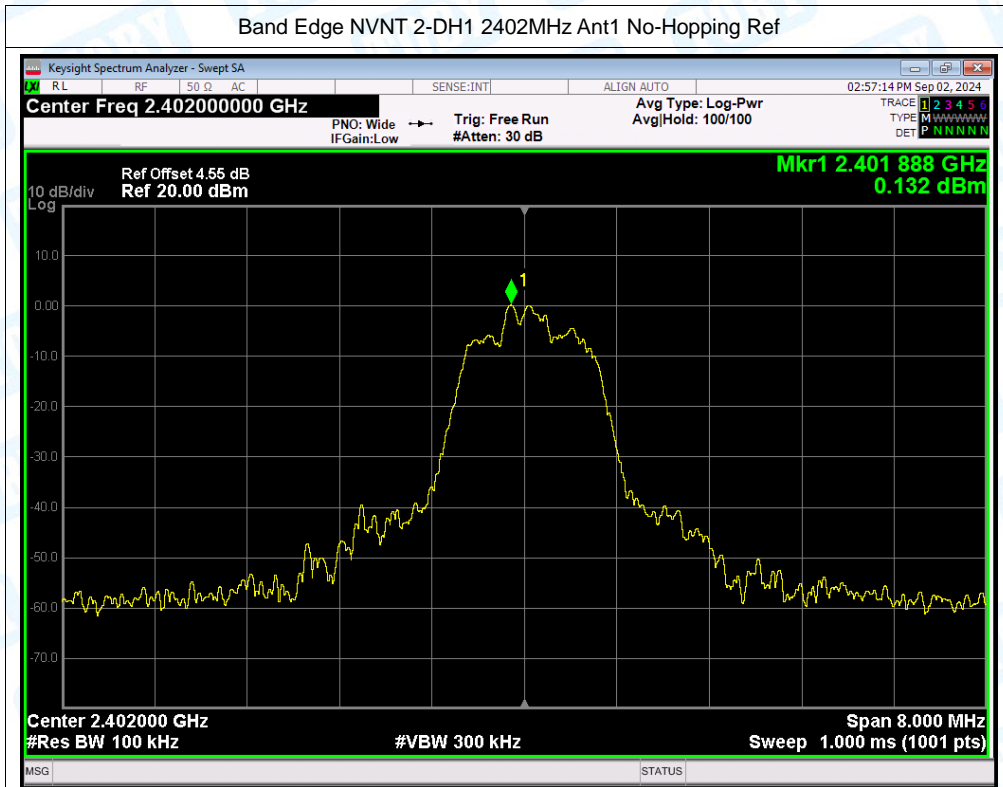
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref

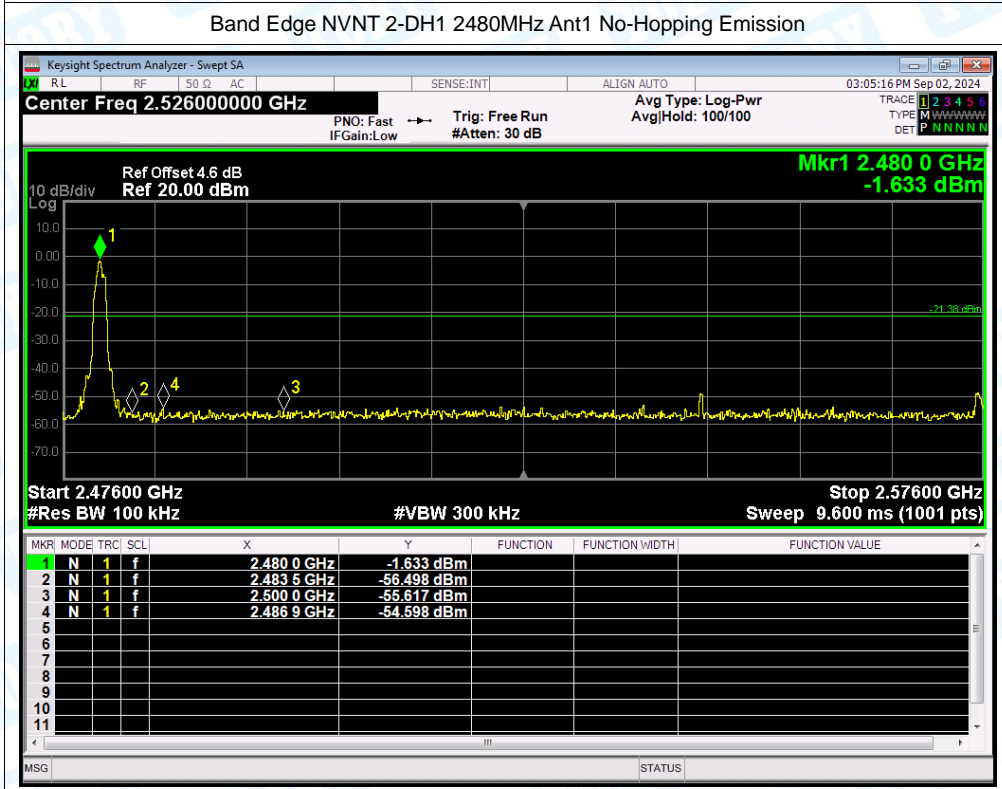
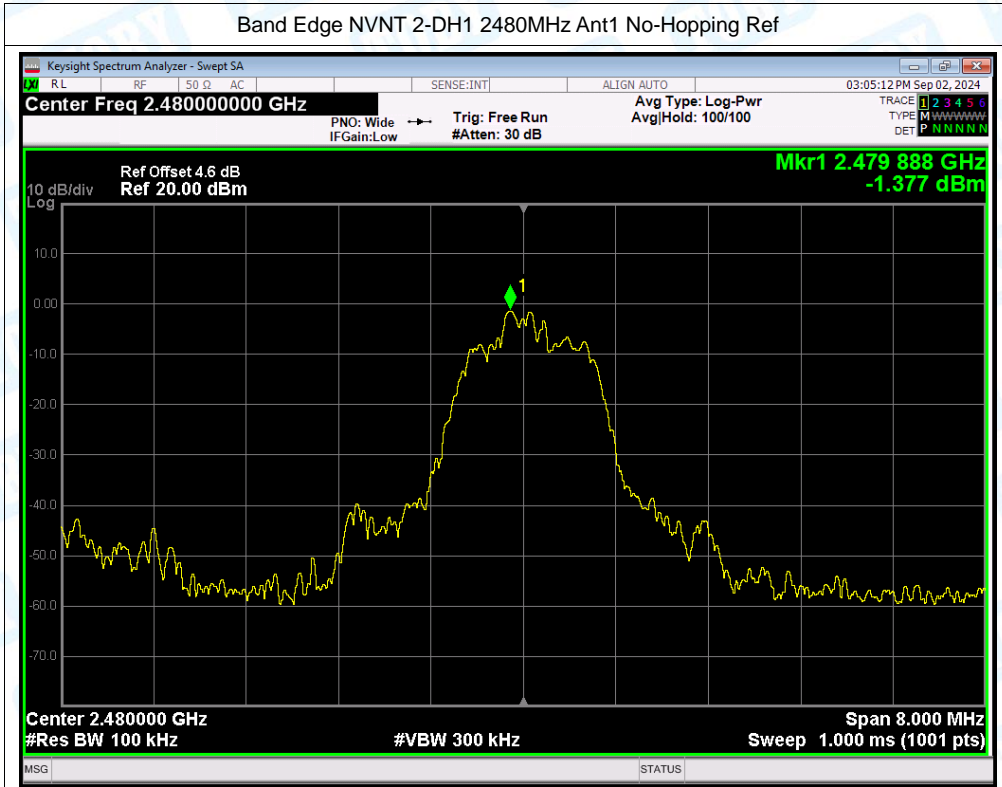


Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission







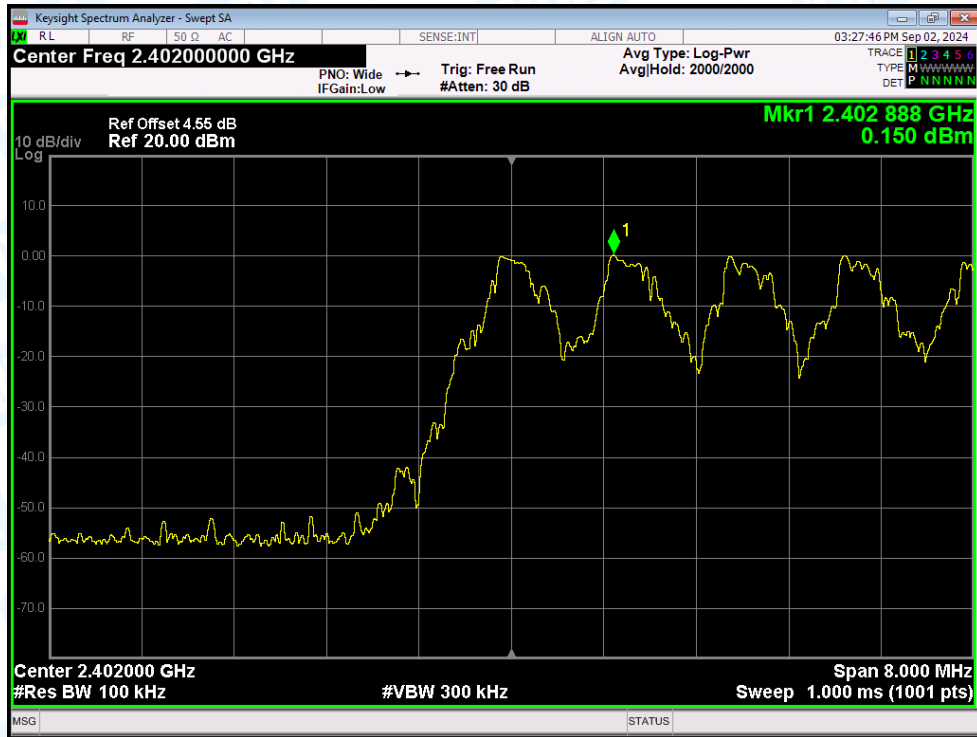


6. Band Edge(Hopping)

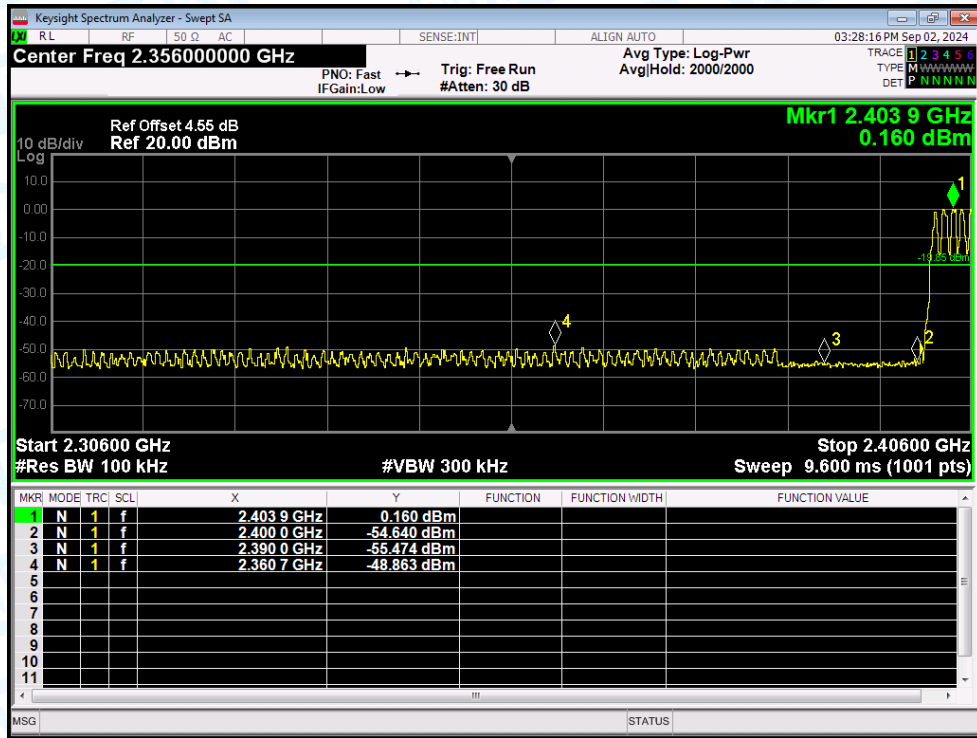
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-49.01	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-47	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-49.11	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-48.22	-20	Pass

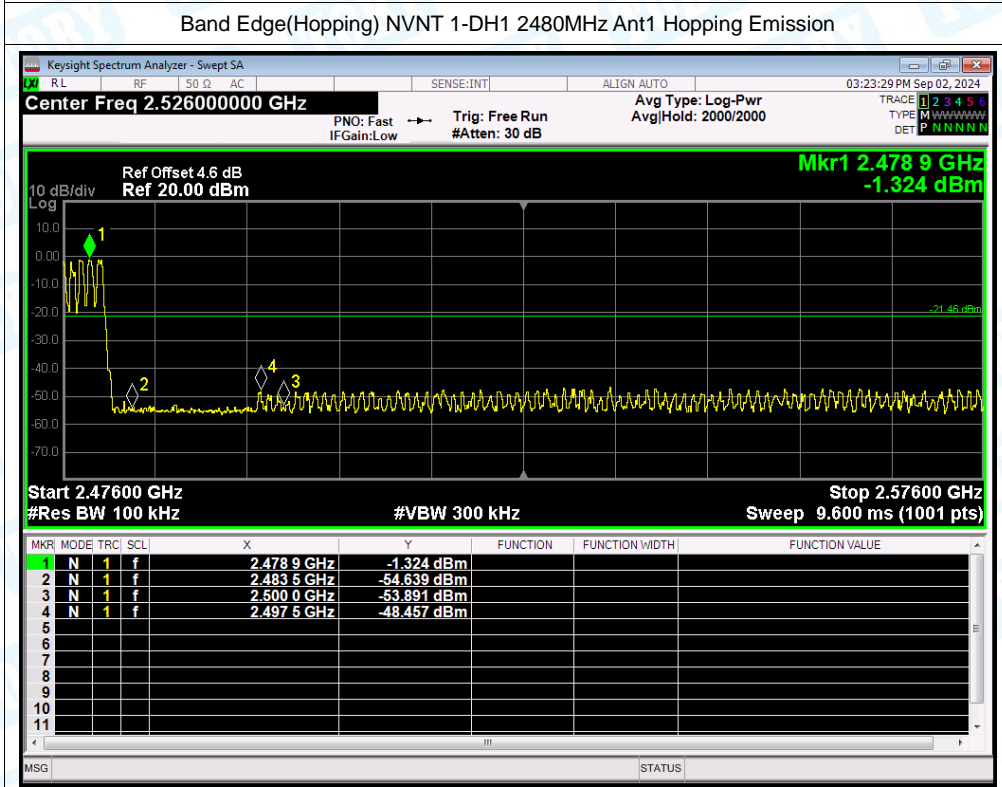
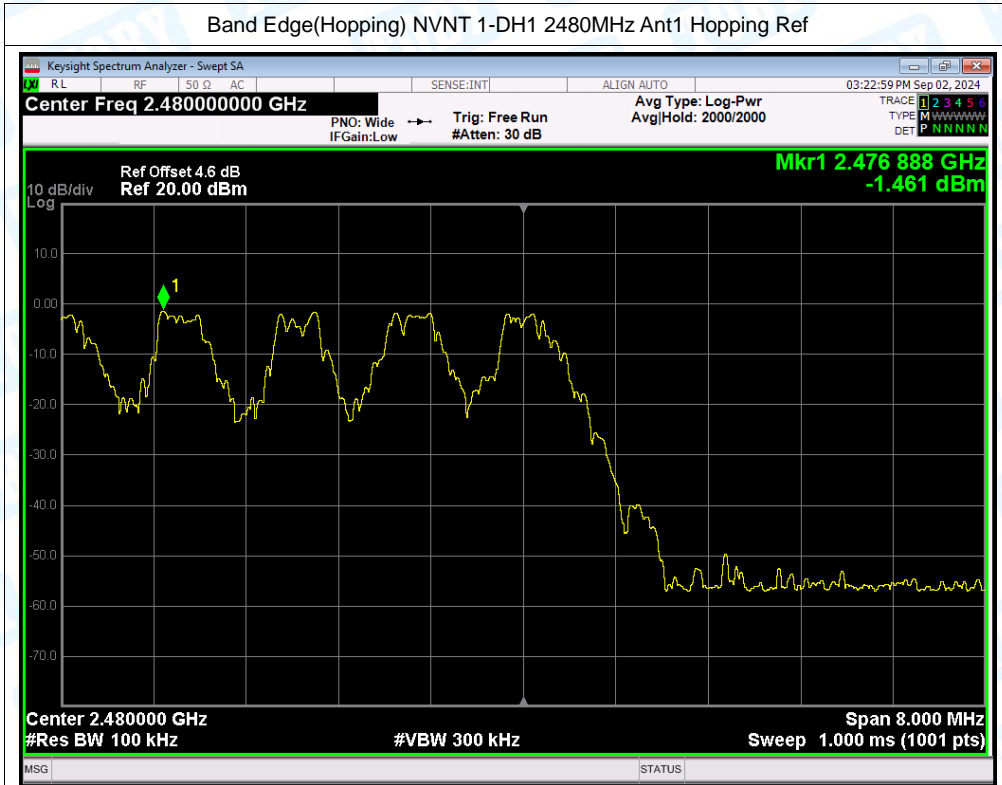
Test Graphs

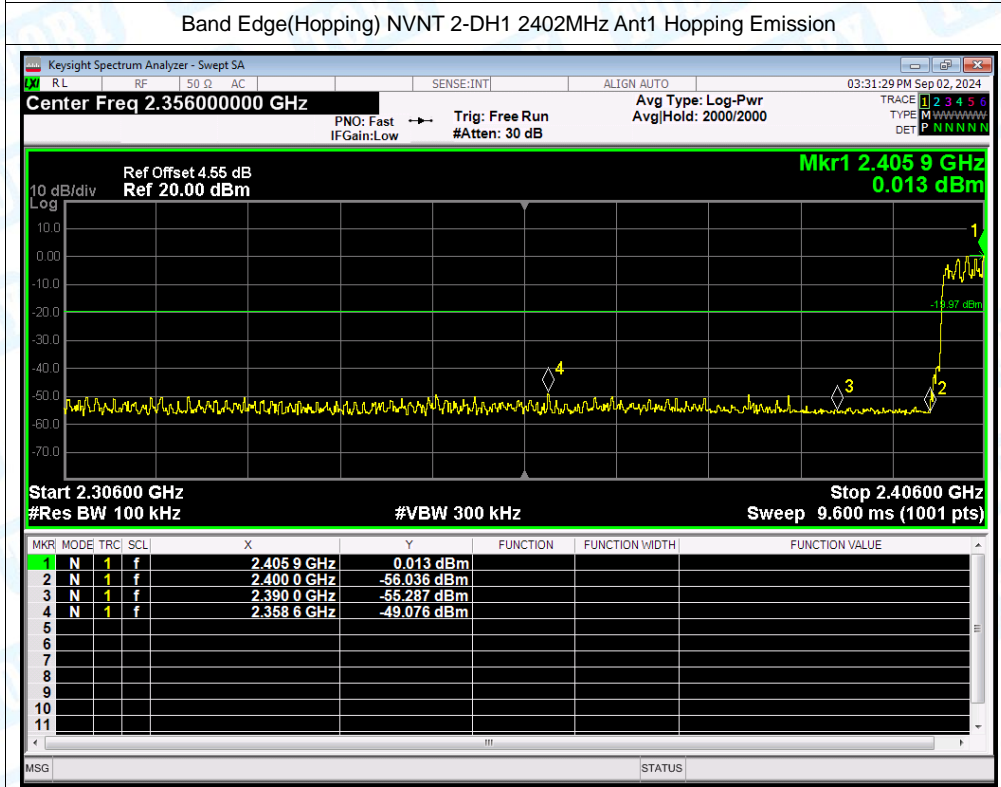
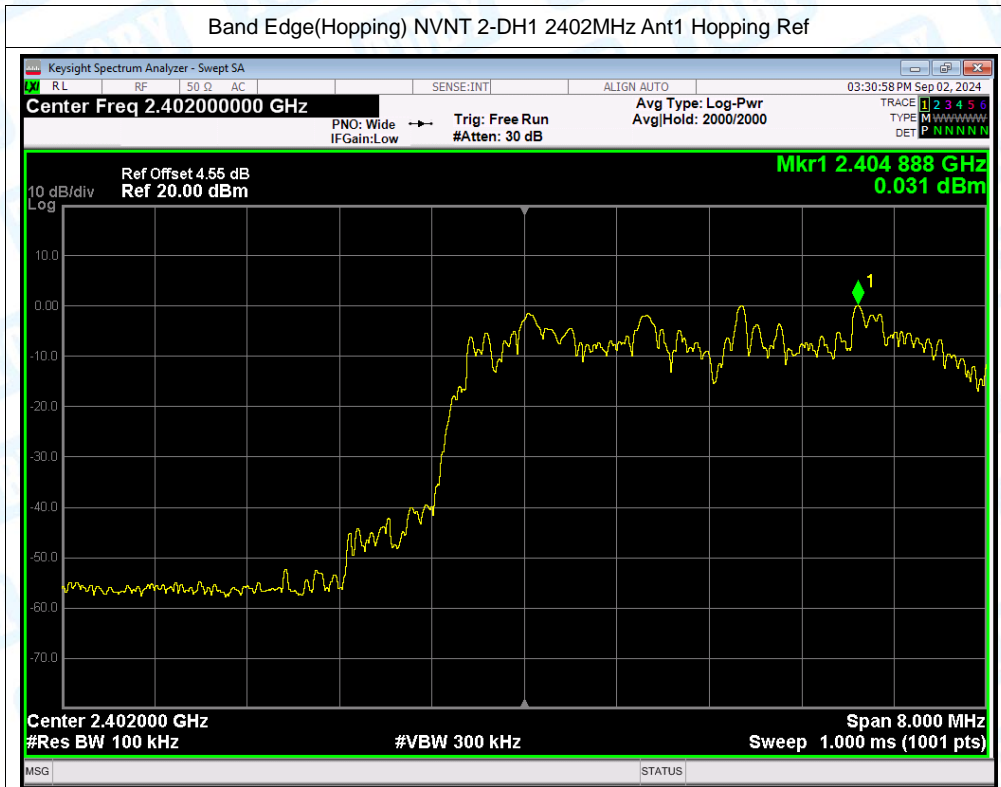
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

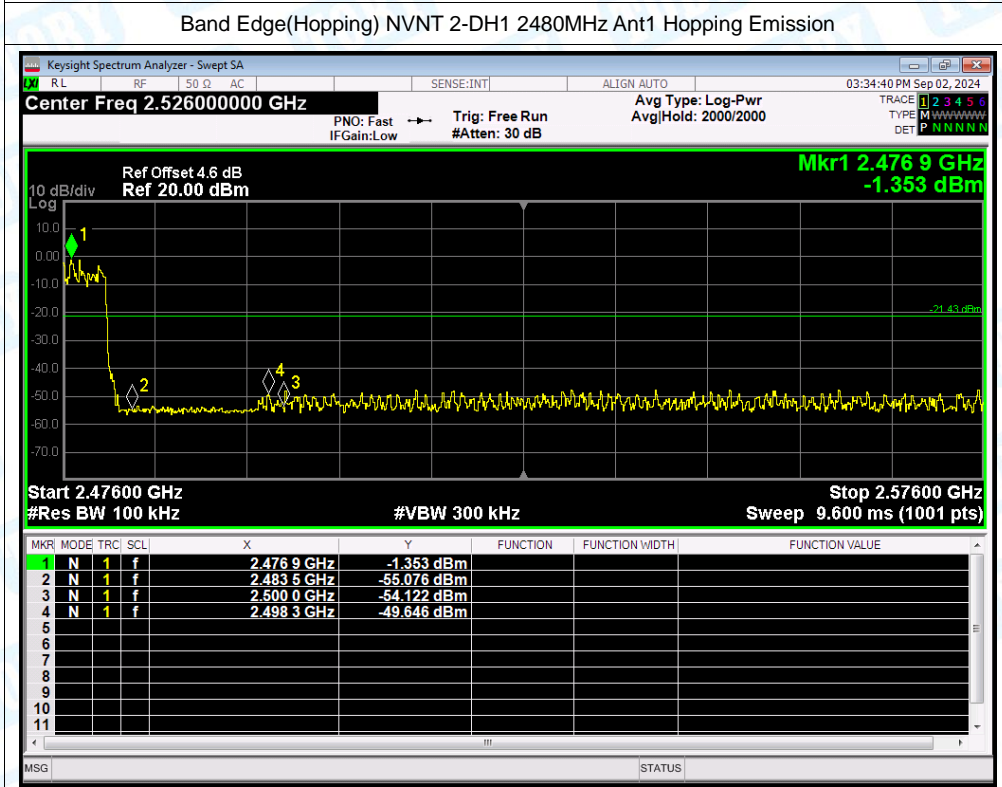


Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission







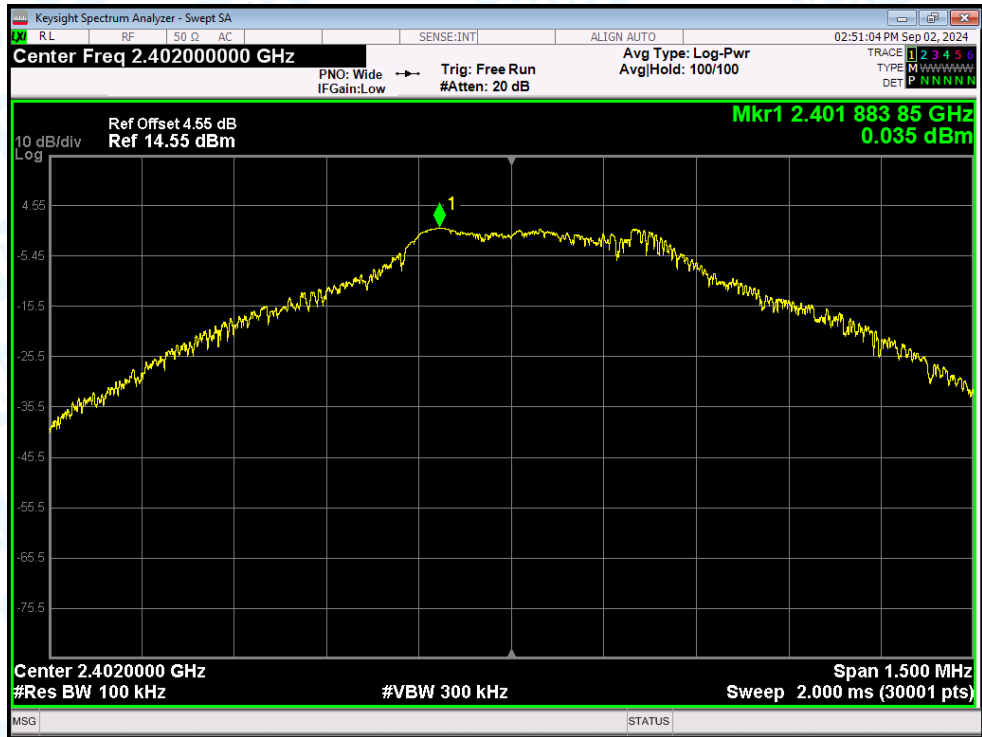


7. Conducted RF Spurious Emission

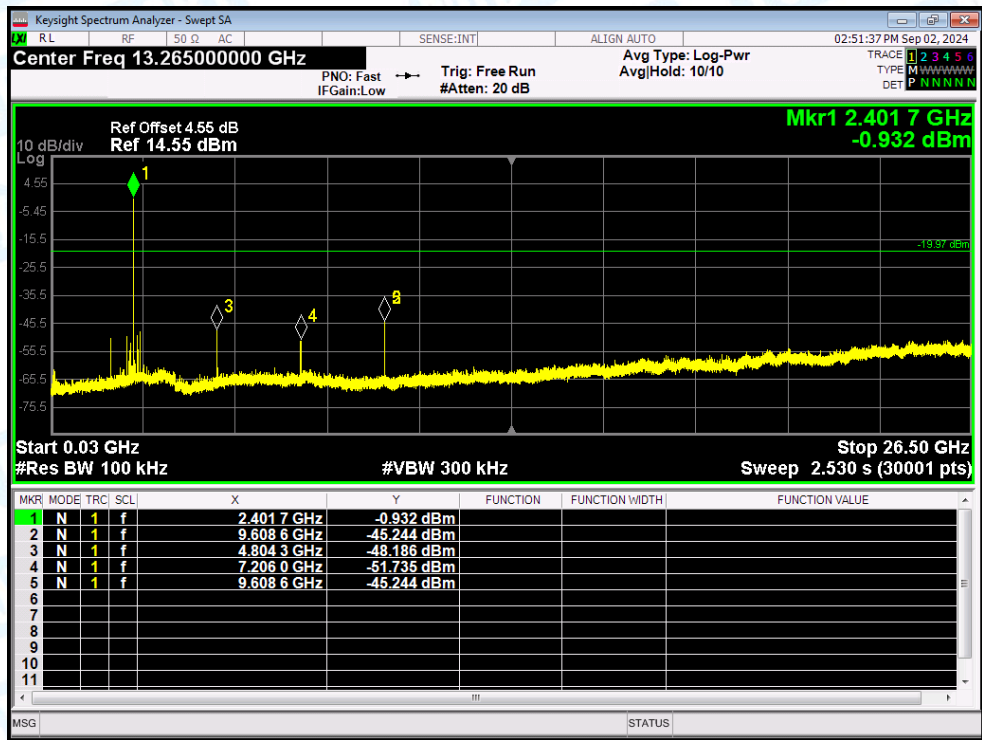
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-45.28	-20	Pass
NVNT	1-DH1	2441	Ant1	-44.41	-20	Pass
NVNT	1-DH1	2480	Ant1	-44.17	-20	Pass
NVNT	2-DH1	2402	Ant1	-45.28	-20	Pass
NVNT	2-DH1	2441	Ant1	-42.7	-20	Pass
NVNT	2-DH1	2480	Ant1	-44.55	-20	Pass

Test Graphs

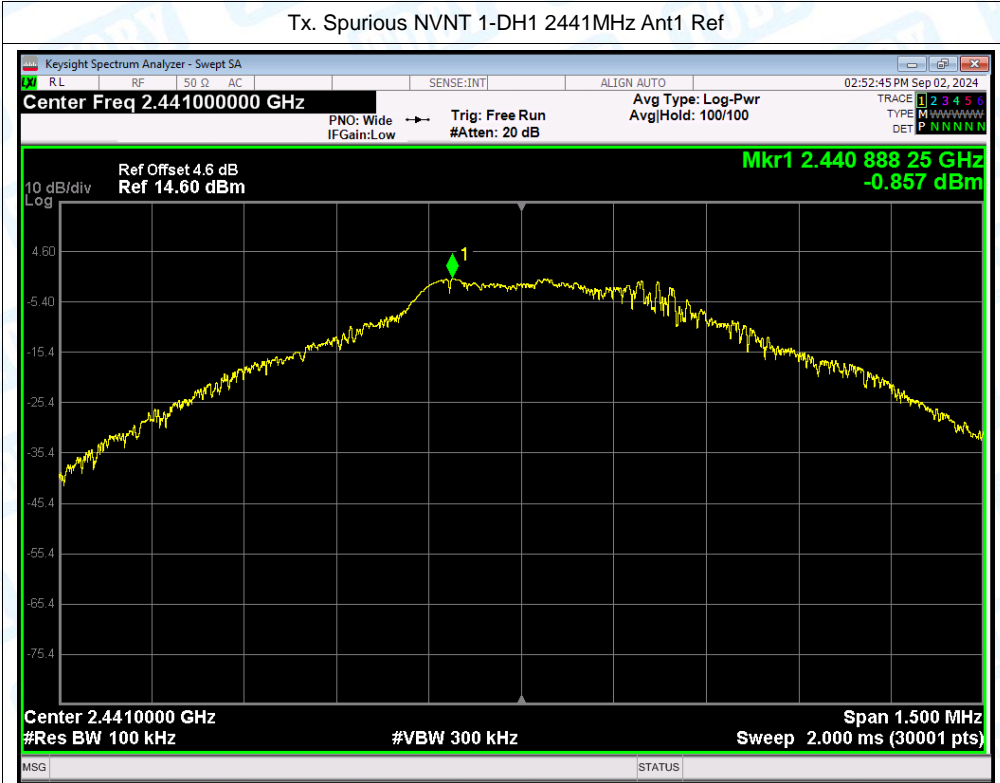
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



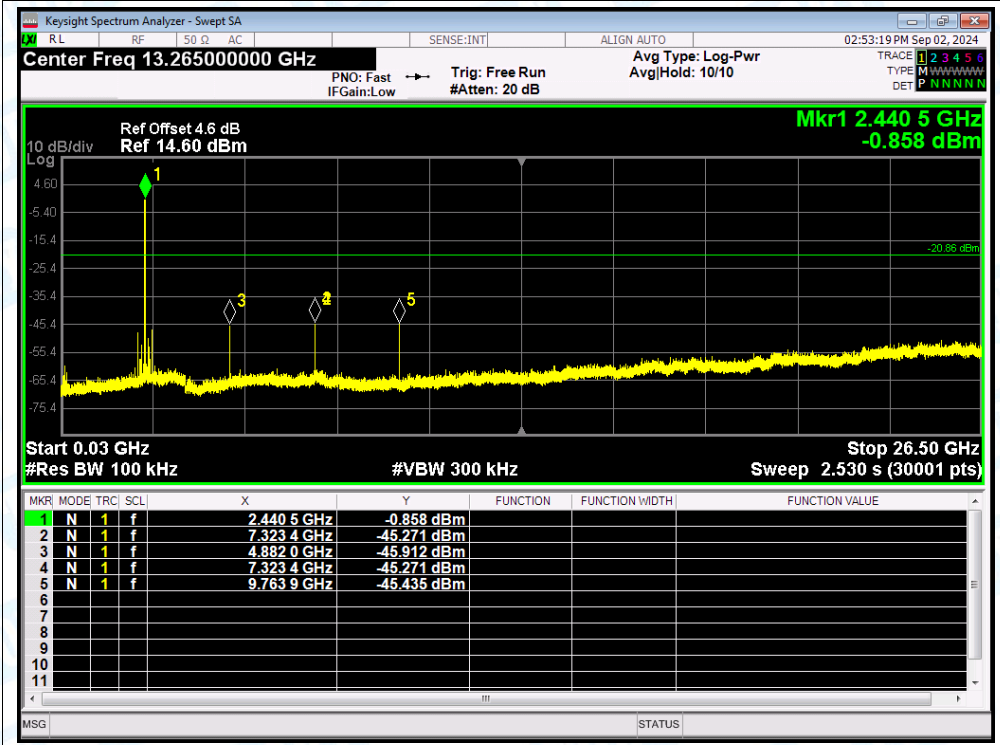
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



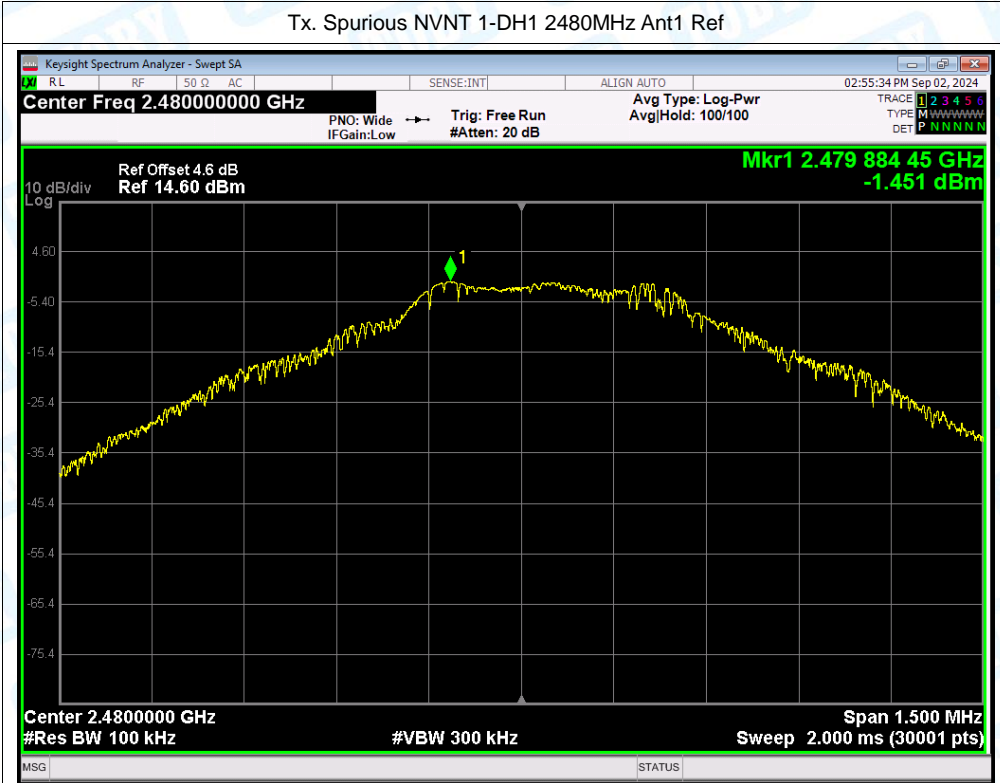
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



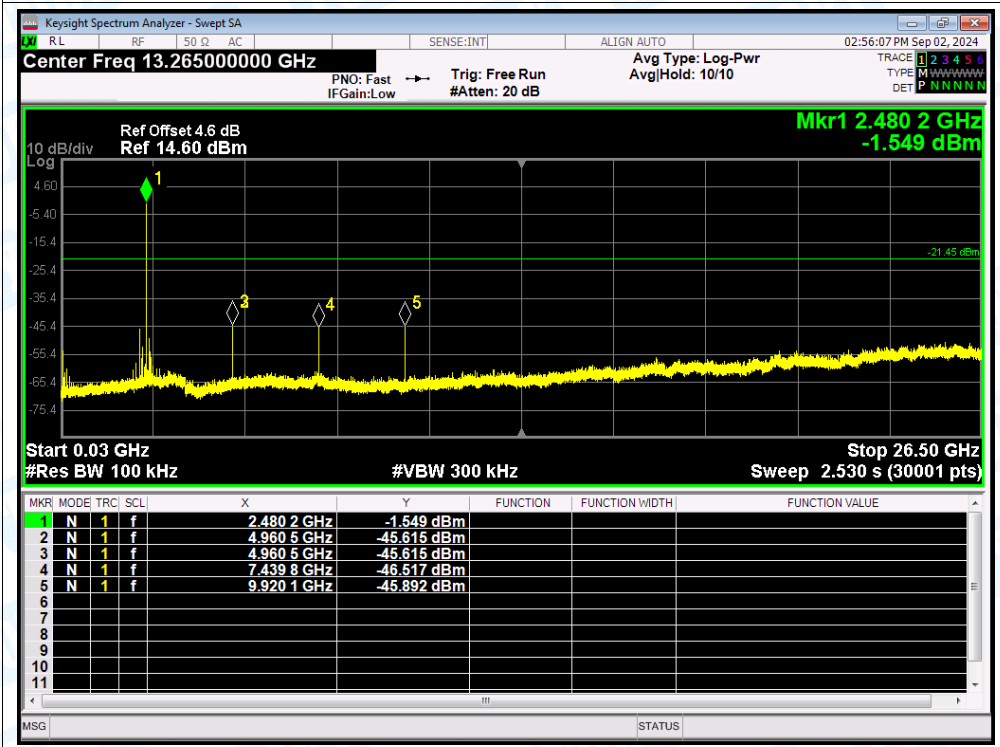
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



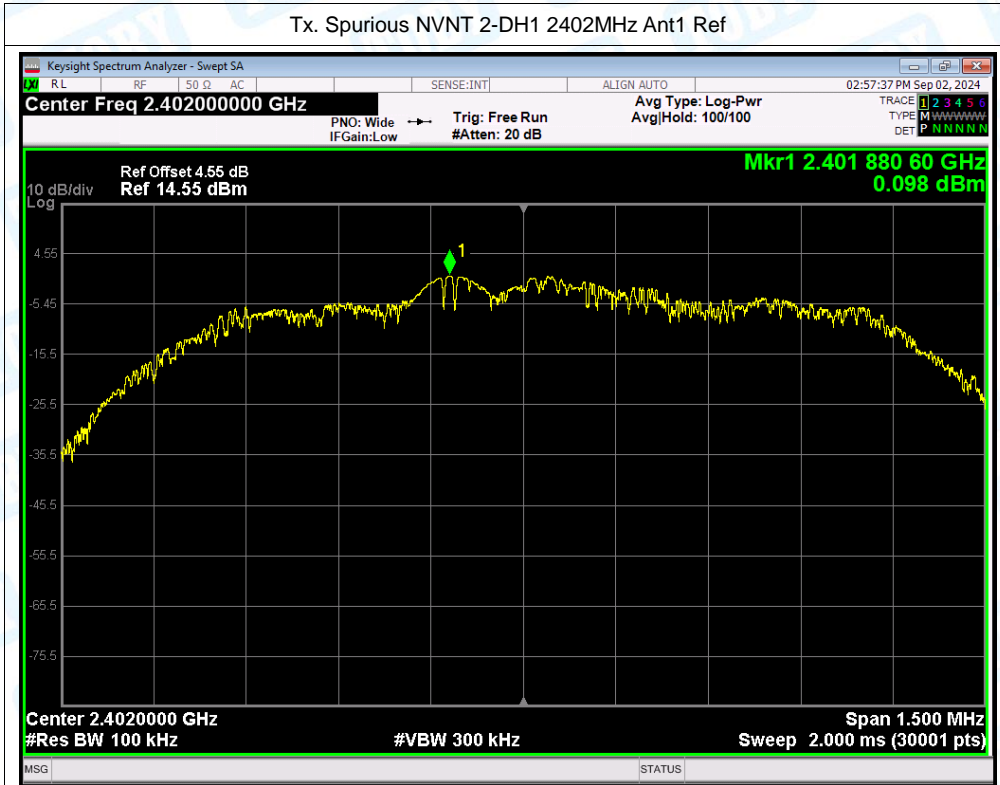
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



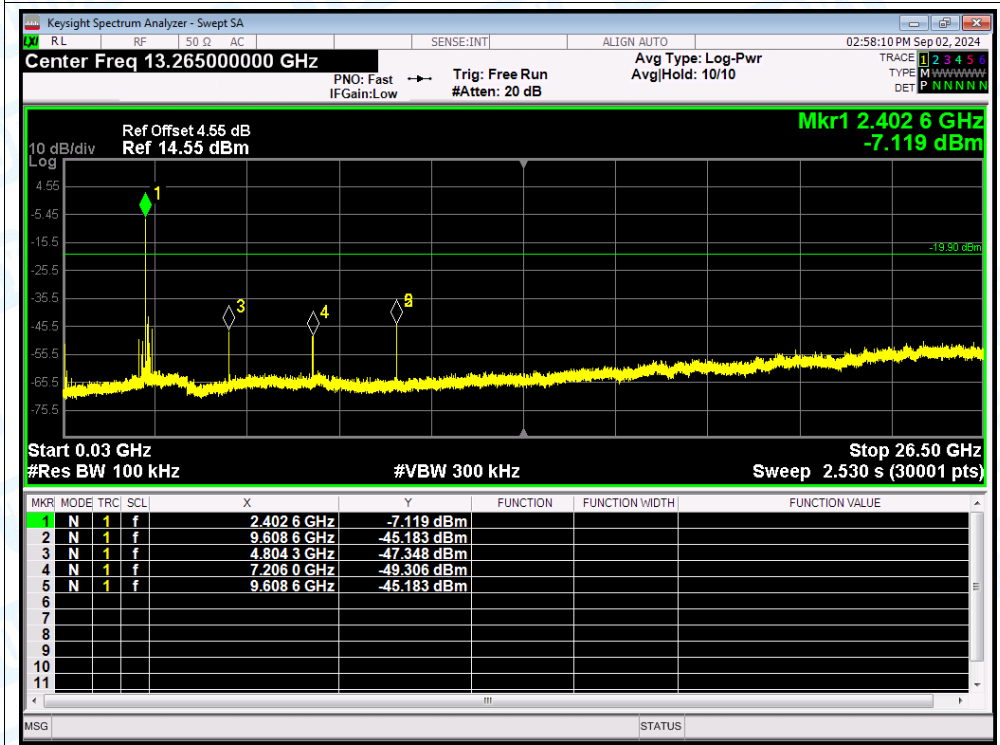
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



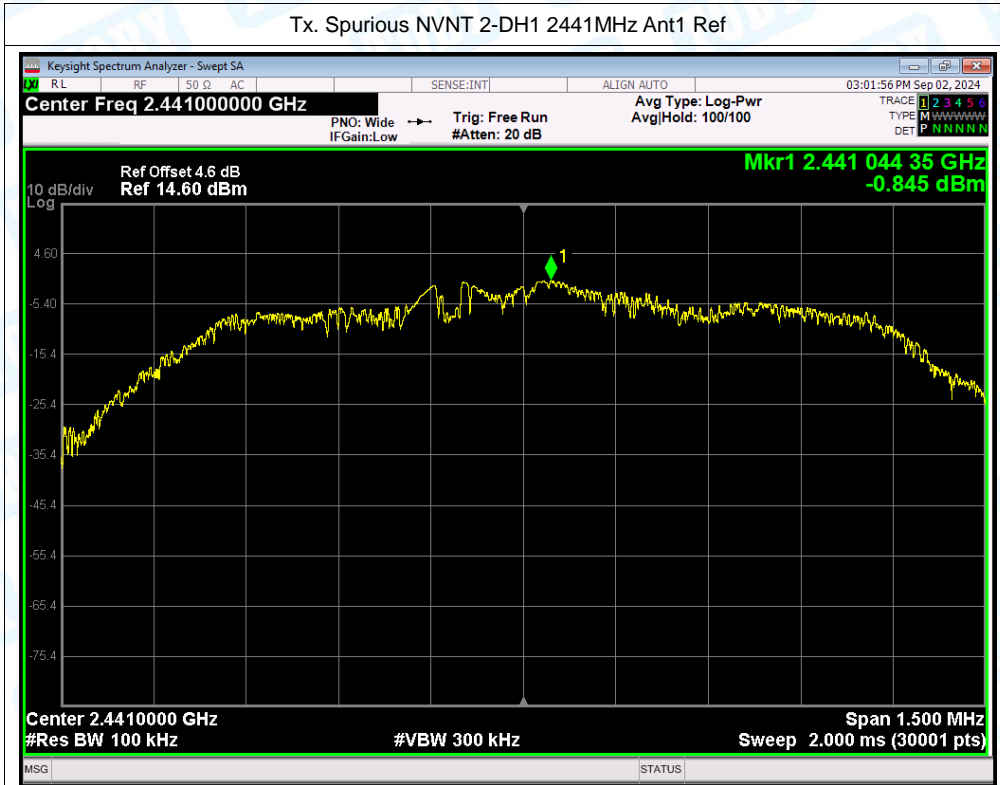
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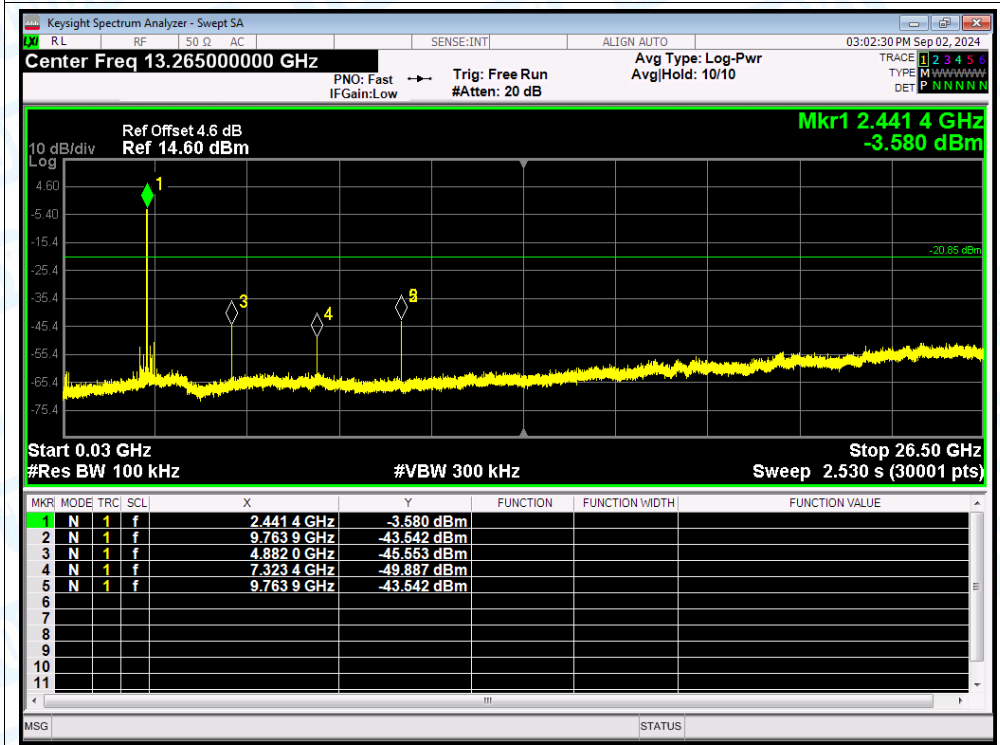
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



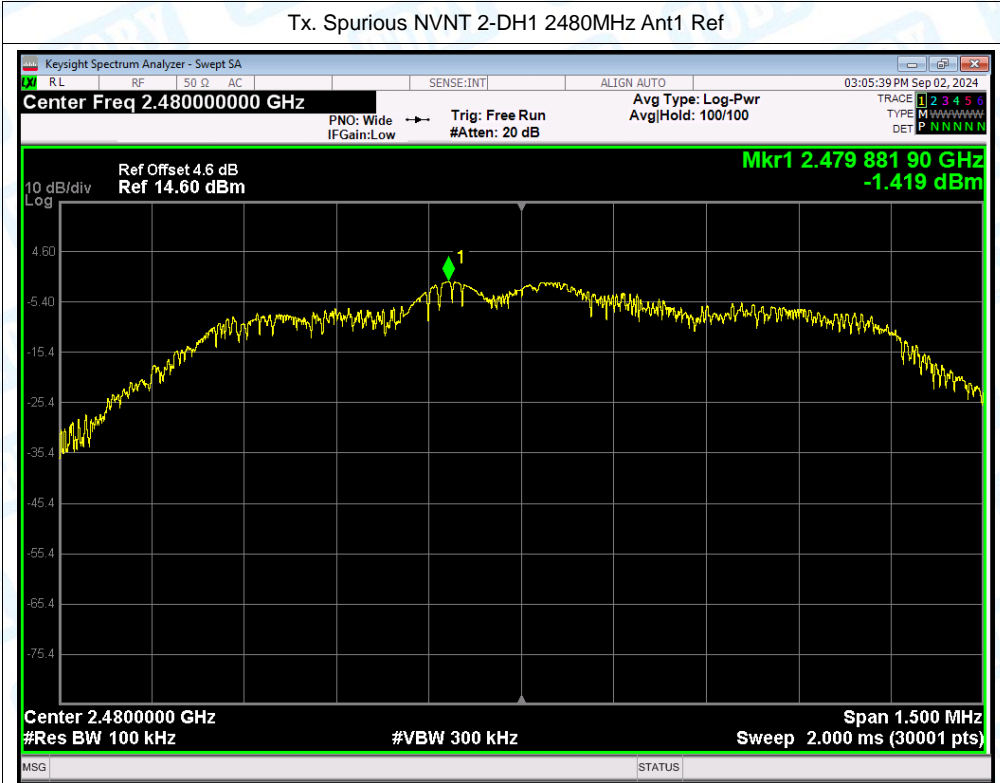
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



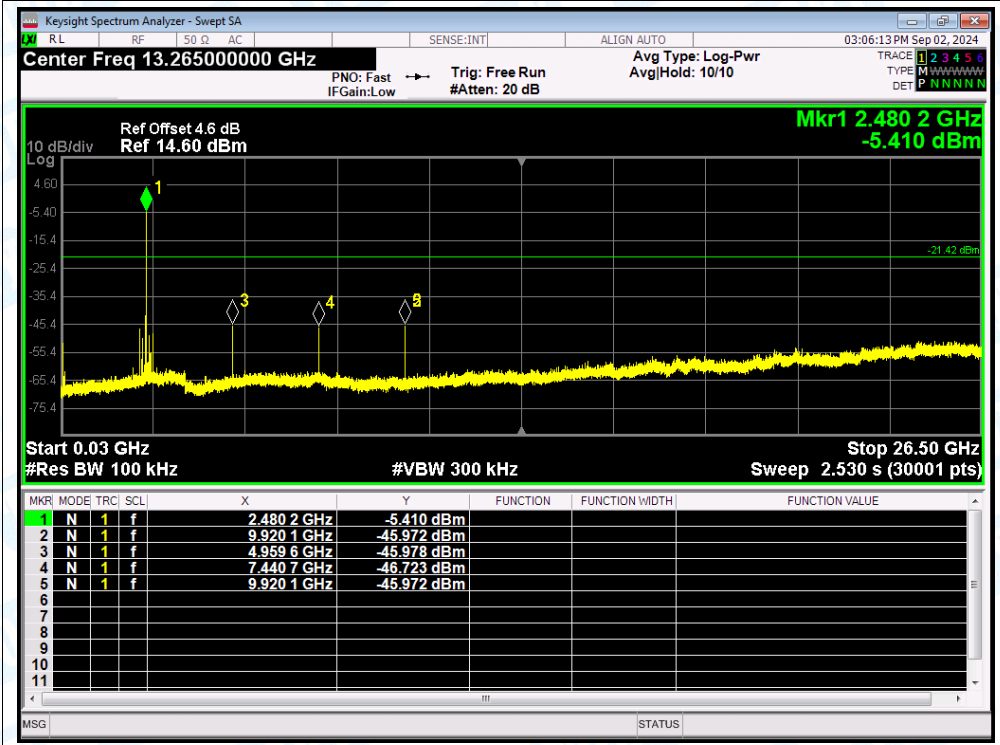
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission

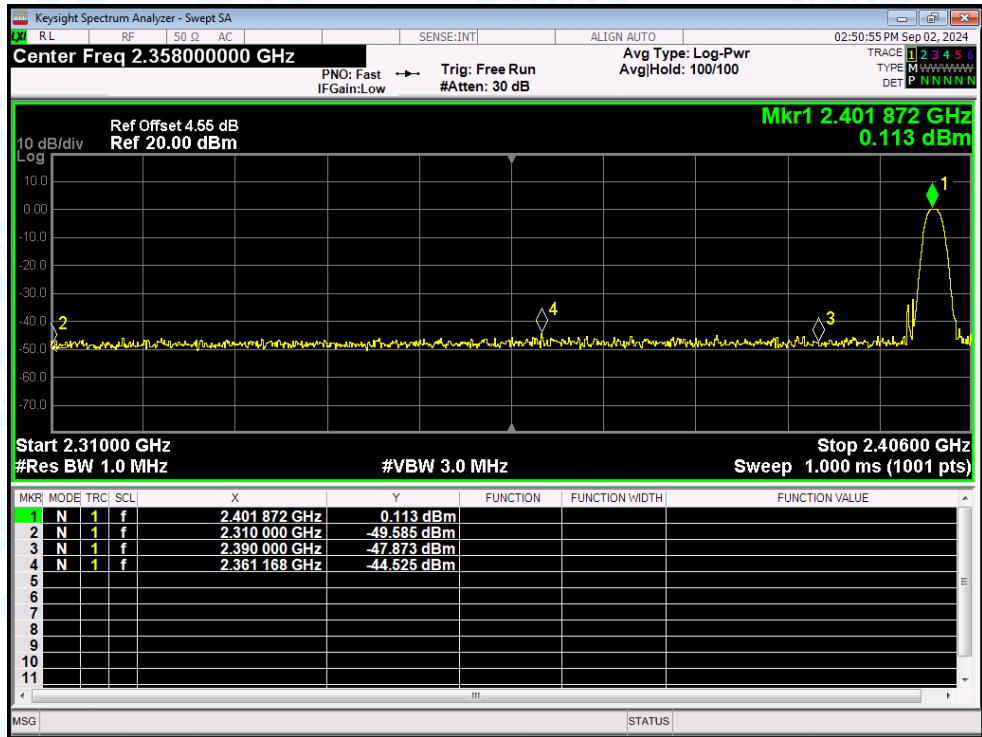


8. Restrict Band

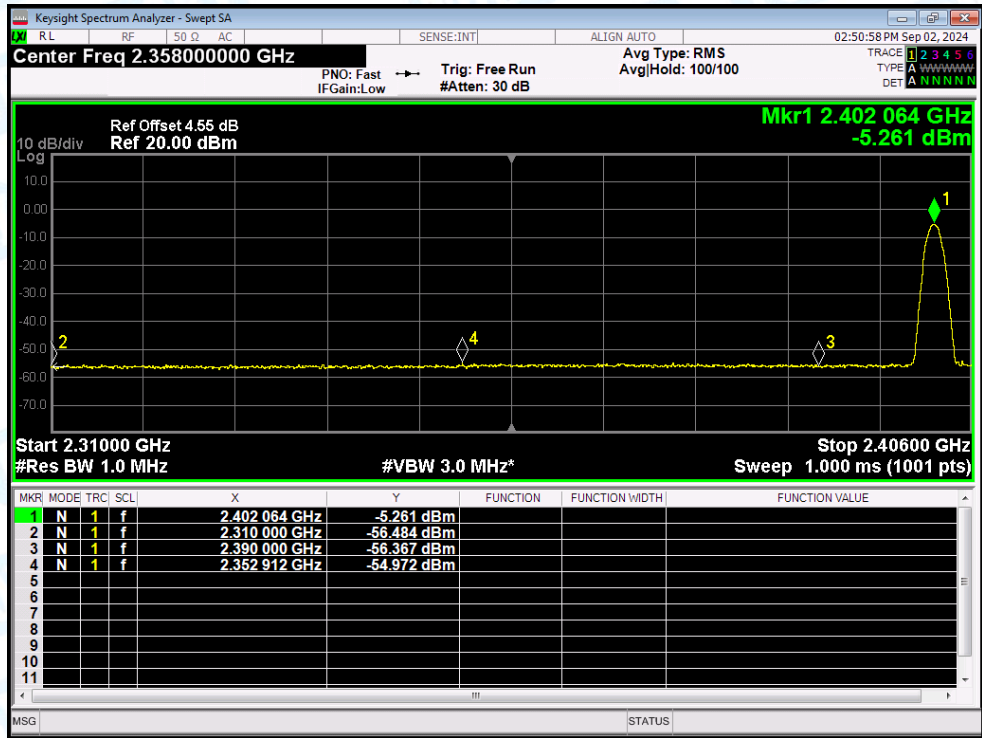
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-49.59	2	-	47.67	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.48	2	5.17	45.95	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2361.168	-44.53	2	-	52.73	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2352.912	-54.97	2	5.17	47.46	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-47.87	2	-	49.39	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.37	2	5.17	46.06	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-45.94	2	-	51.32	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-55.37	2	5.06	46.95	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.632	-39.41	2	-	57.85	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2495.008	-54.66	2	5.06	47.66	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.34	2	-	49.92	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.94	2	5.06	46.38	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-50.21	2	-	47.05	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.53	2	5.06	45.79	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2348.496	-44.48	2	-	52.78	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2359.44	-54.9	2	5.06	47.42	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-48.09	2	-	49.17	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.55	2	5.06	46.77	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-45.79	2	-	51.47	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.78	2	5.06	46.54	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2490.736	-43.84	2	-	53.42	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2497.336	-54.57	2	5.06	47.75	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.55	2	-	49.71	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.74	2	5.06	46.58	Average	54	Pass

Test Graphs

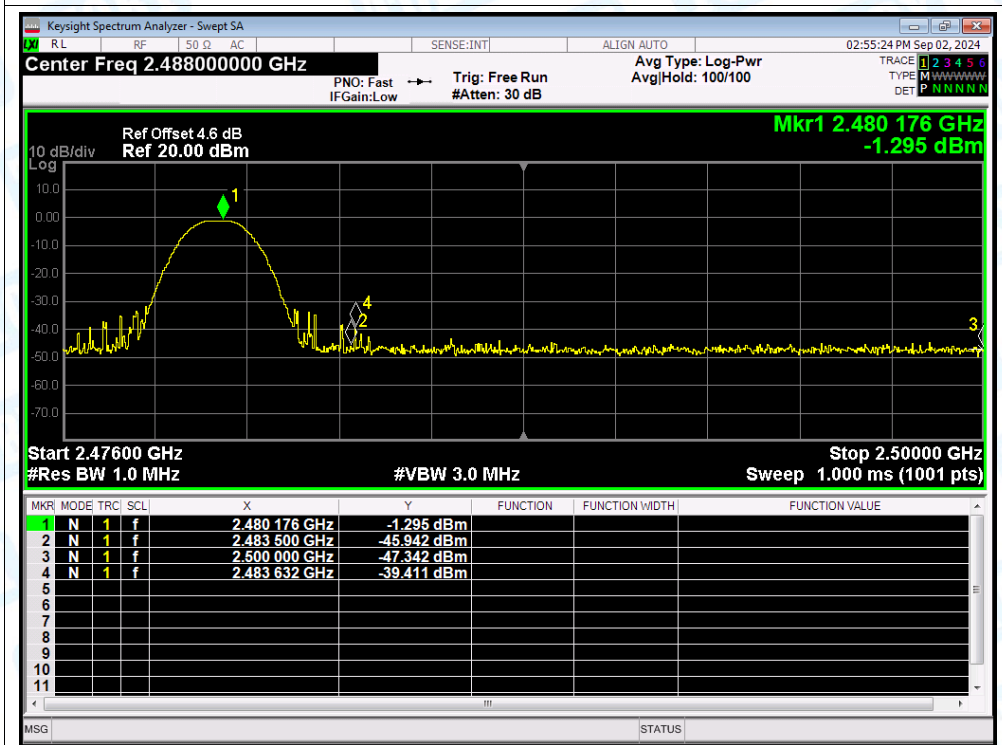
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



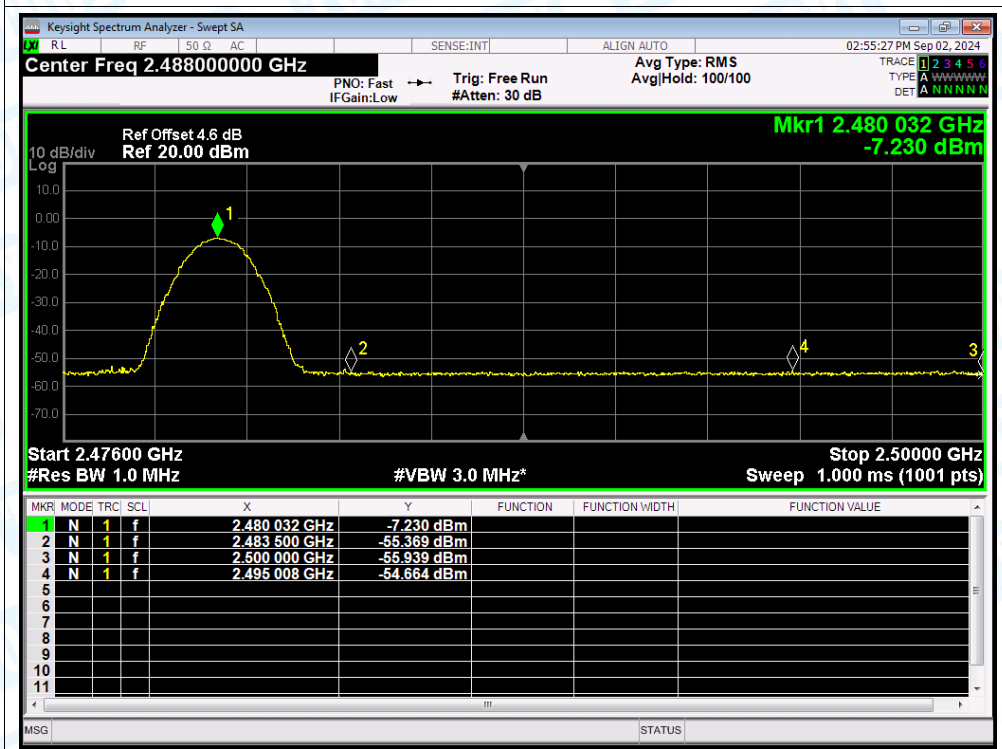
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average

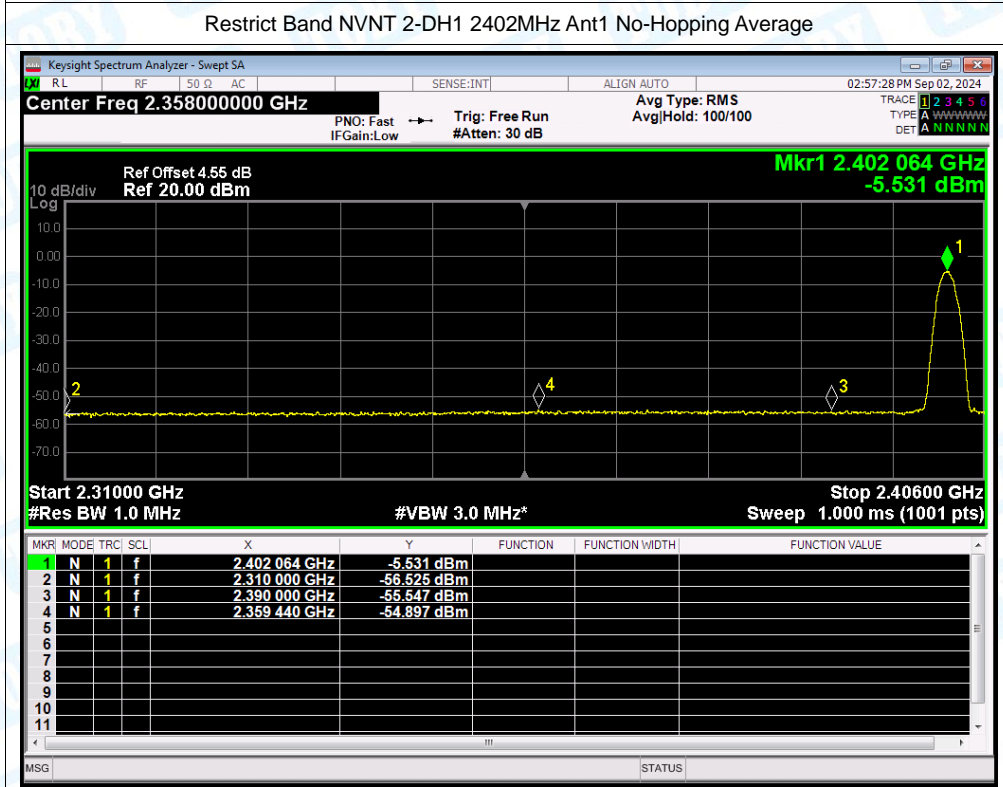
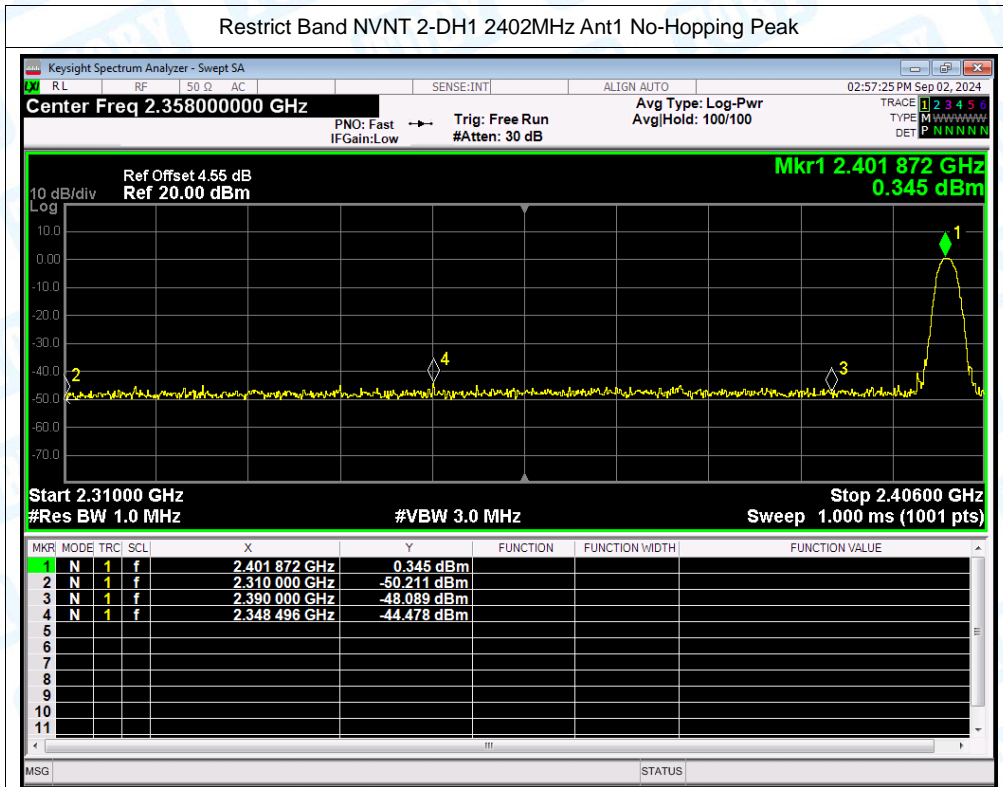


Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak

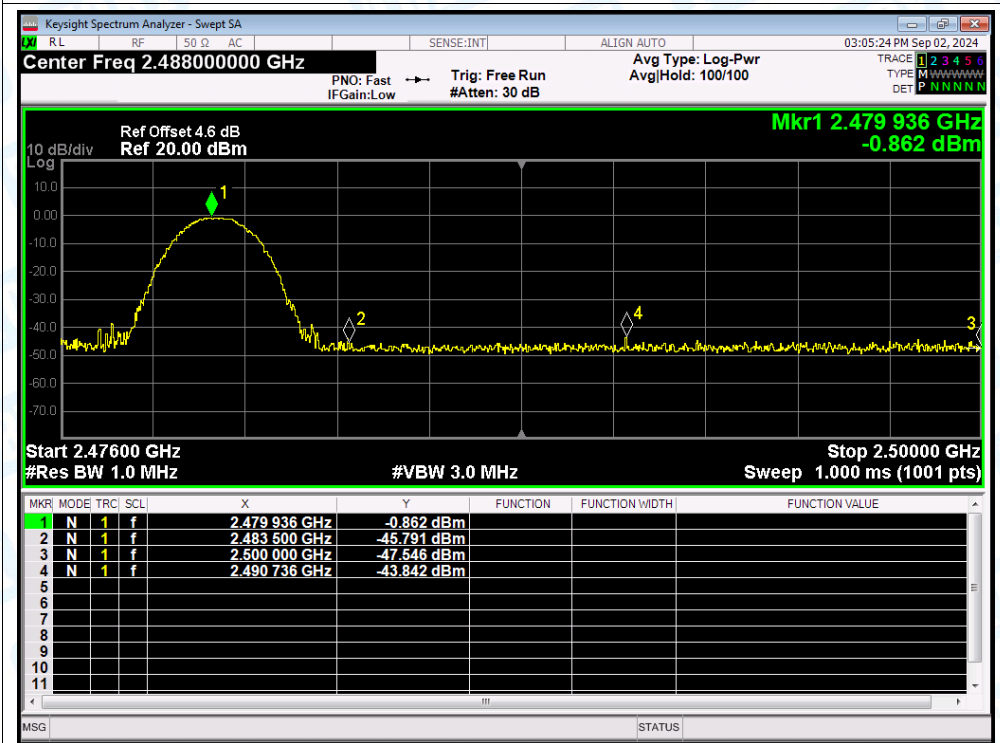


Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average

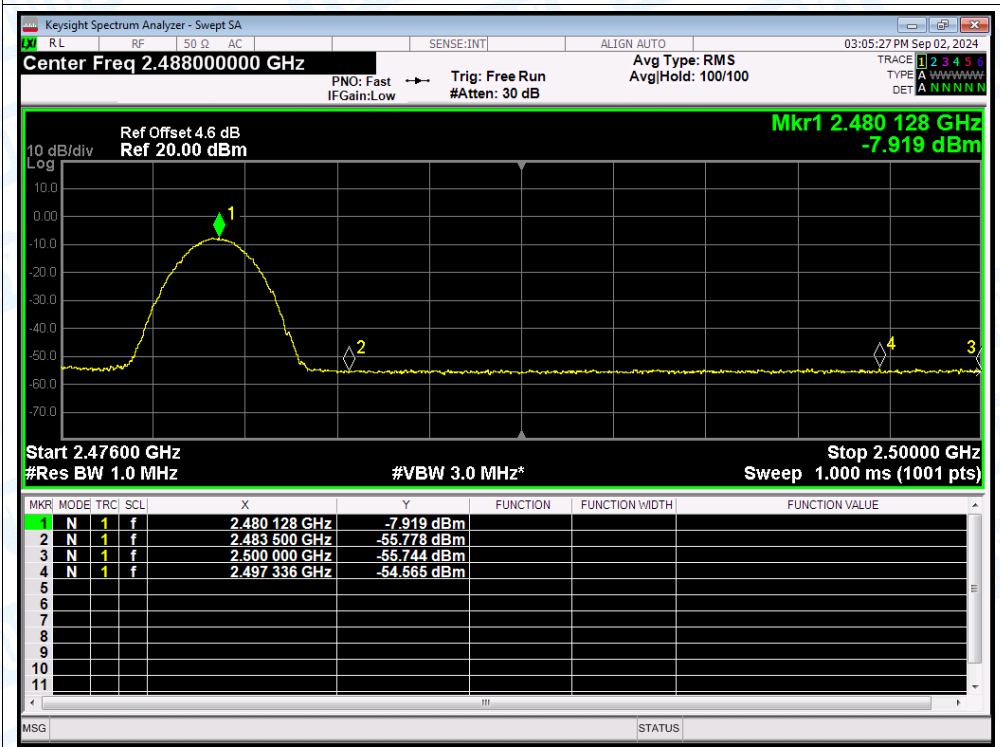




Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



9. Carrier Frequencies Separation

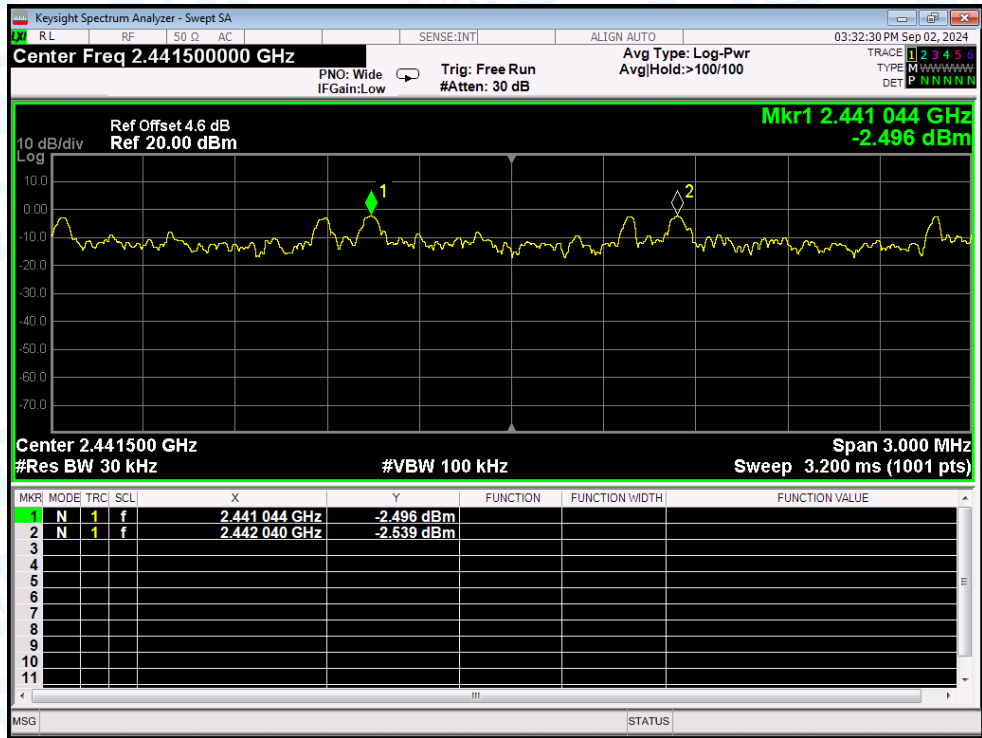
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2441.044	2442.043	0.999	0.573	Pass
NVNT	2-DH1	Ant1	2441.044	2442.04	0.996	0.833	Pass

Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1

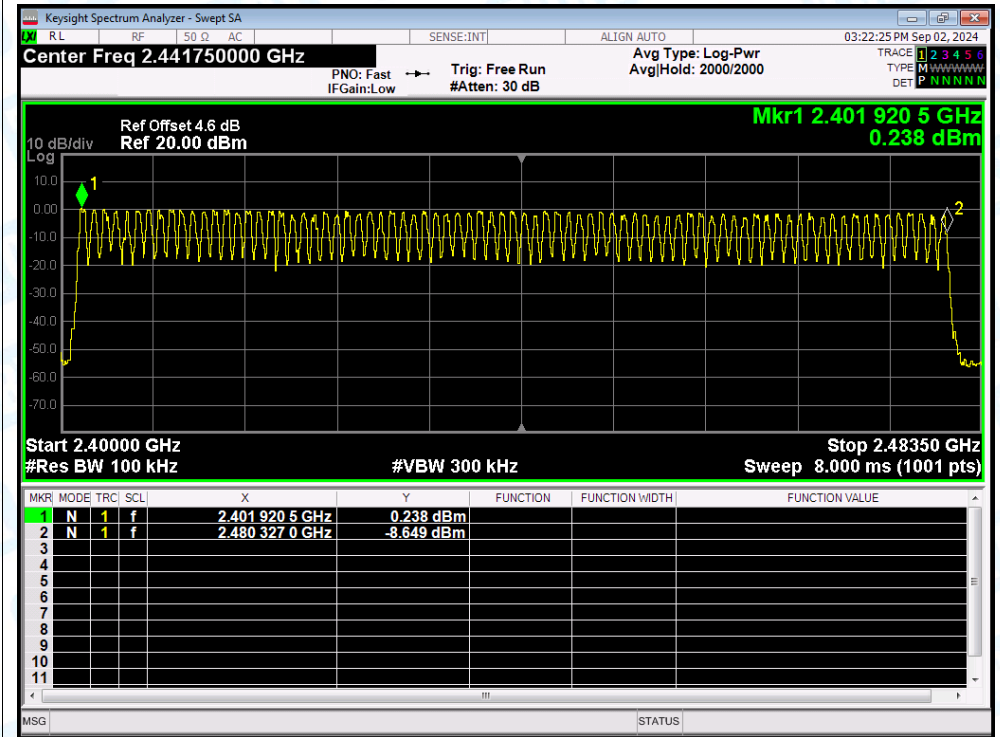


10. Number of Hopping Channel

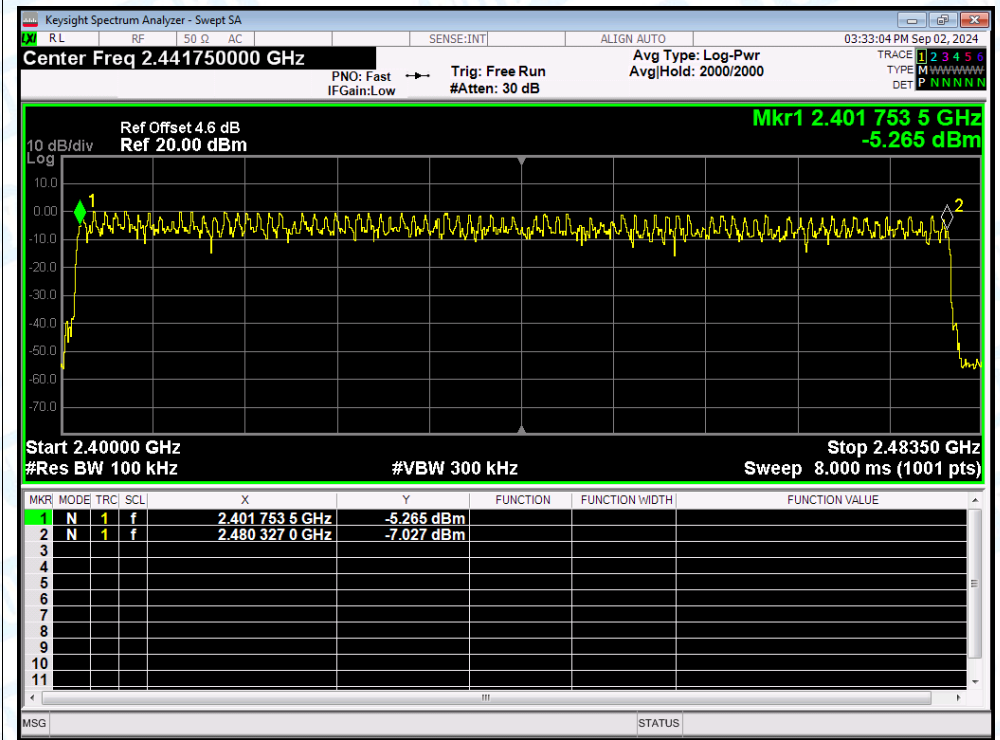
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass

Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1

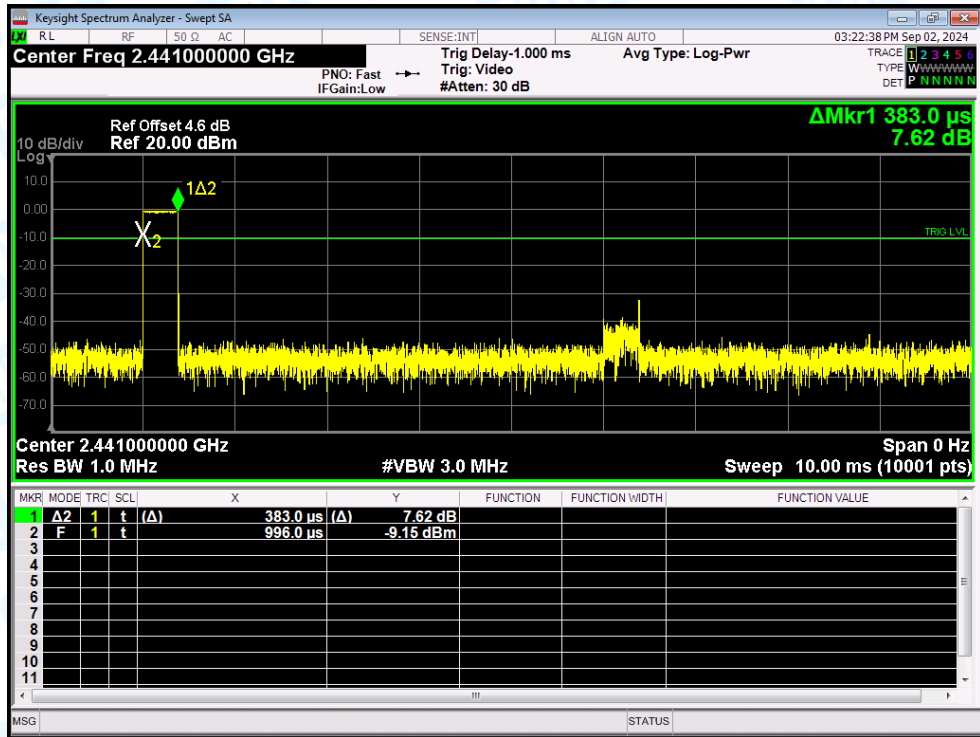


11. Dwell Time

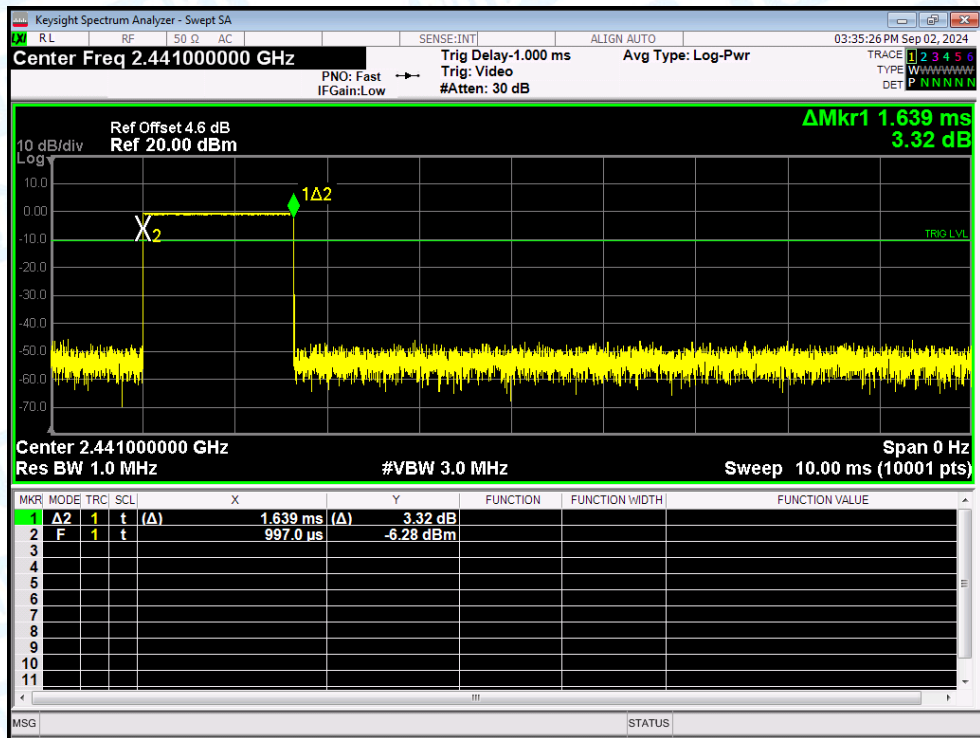
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.383	122.56	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.392	125.44	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.644	263.04	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.891	308.373	31600	400	Pass

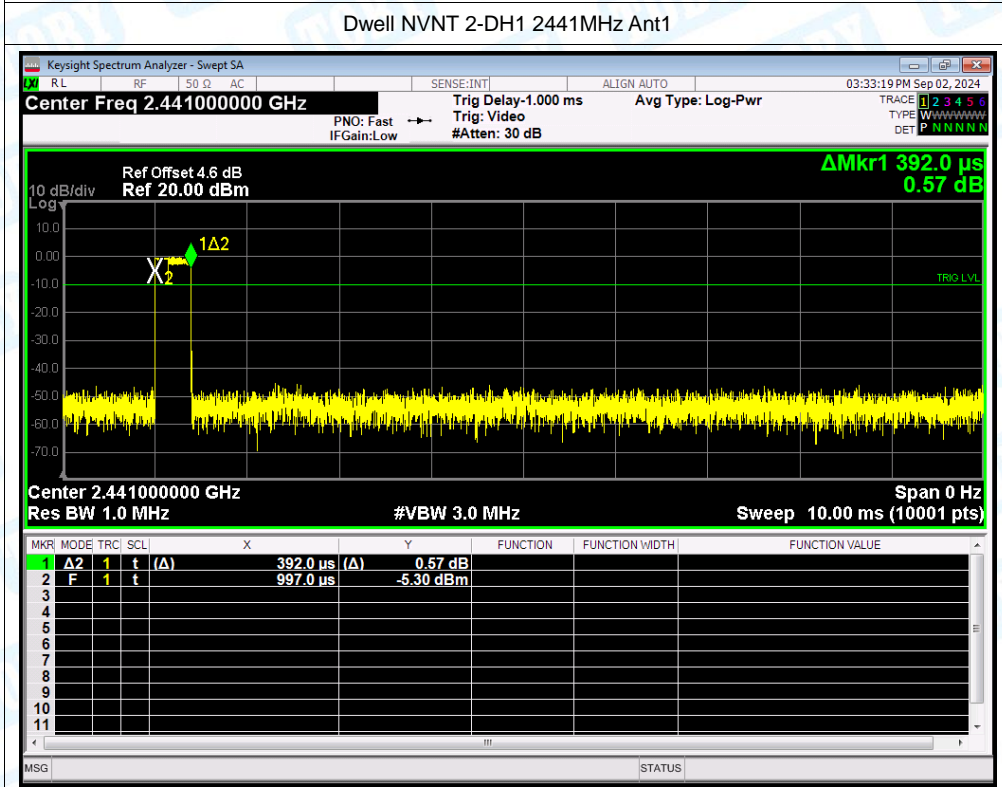
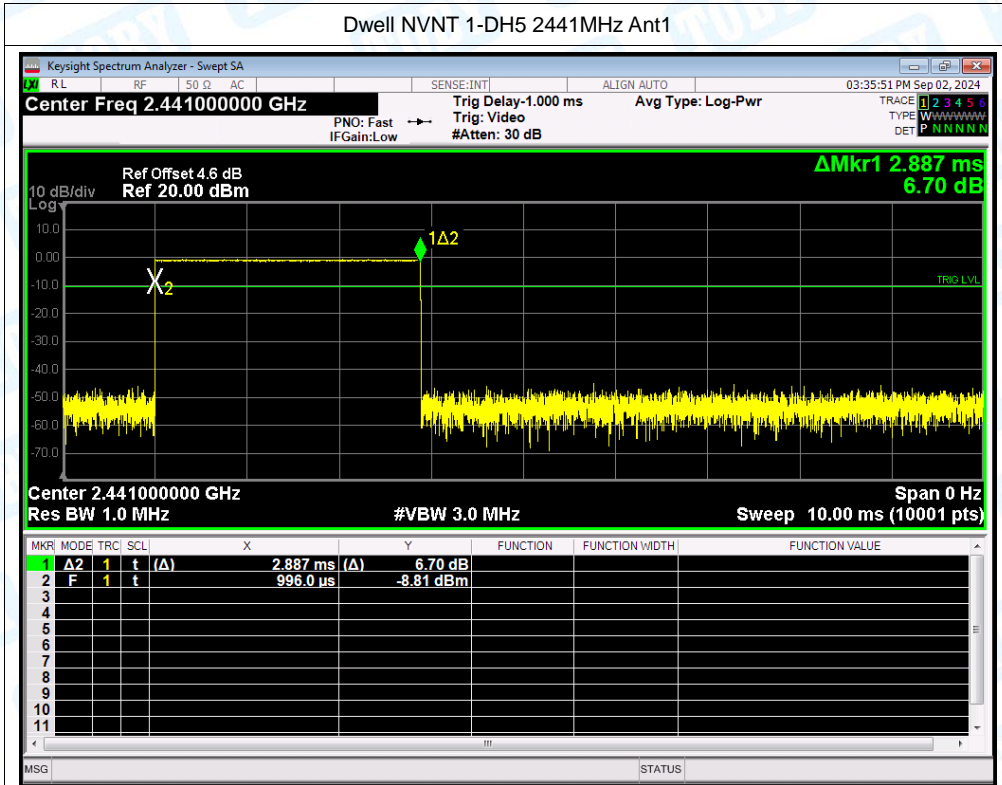
Test Graphs

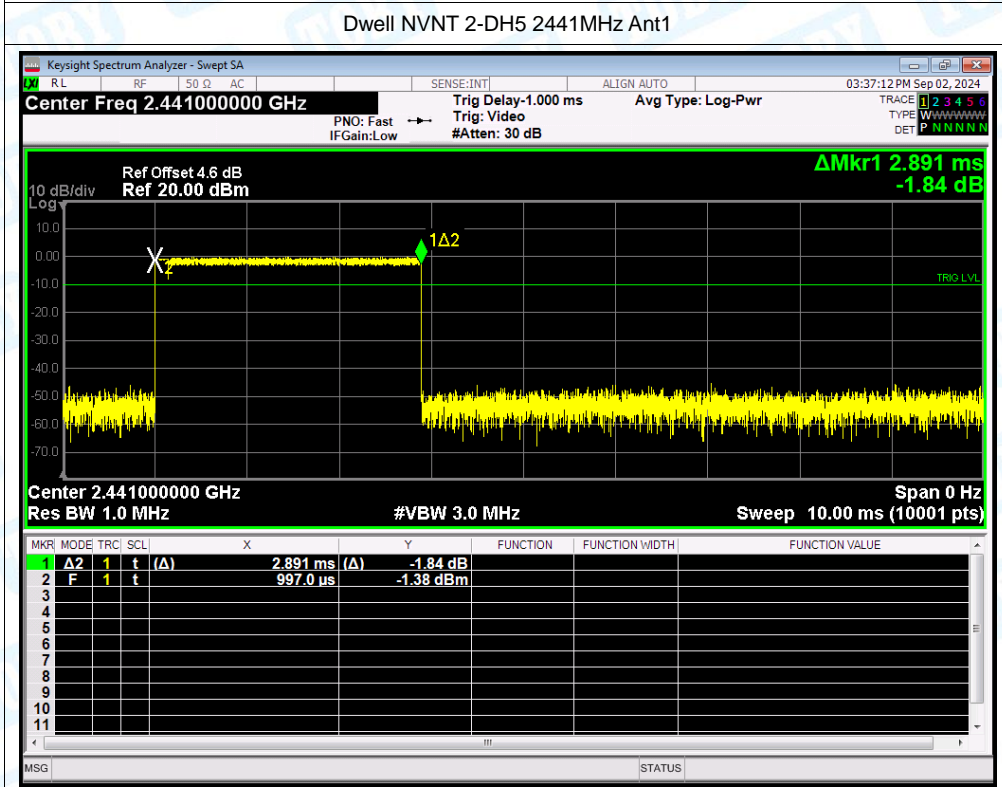
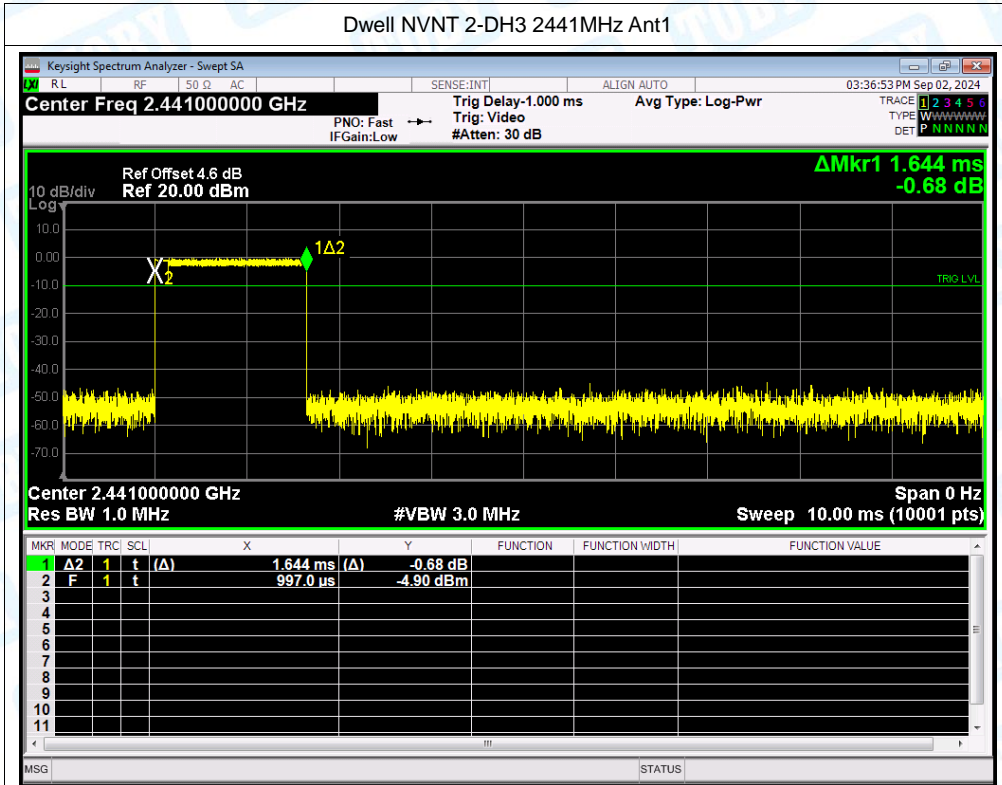
Dwell NVNT 1-DH1 2441MHz Ant1



Dwell NVNT 1-DH3 2441MHz Ant1







---- END OF REPORT ----