

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Helmet Bluetooth Headset
Test Model:	X6
Sample ID:	HC-C-202410-0205-01-01-2#
Environmental Conditions	
Temperature:	23.8°C
Relative Humidity:	48%
Test Voltage:	DC 3.7V
Test Engineer:	Rick. chen
Note: For a more detailed features description, please refer to the report TBR-C-202410-0205-12 The report only show the worst case data.	

Contents

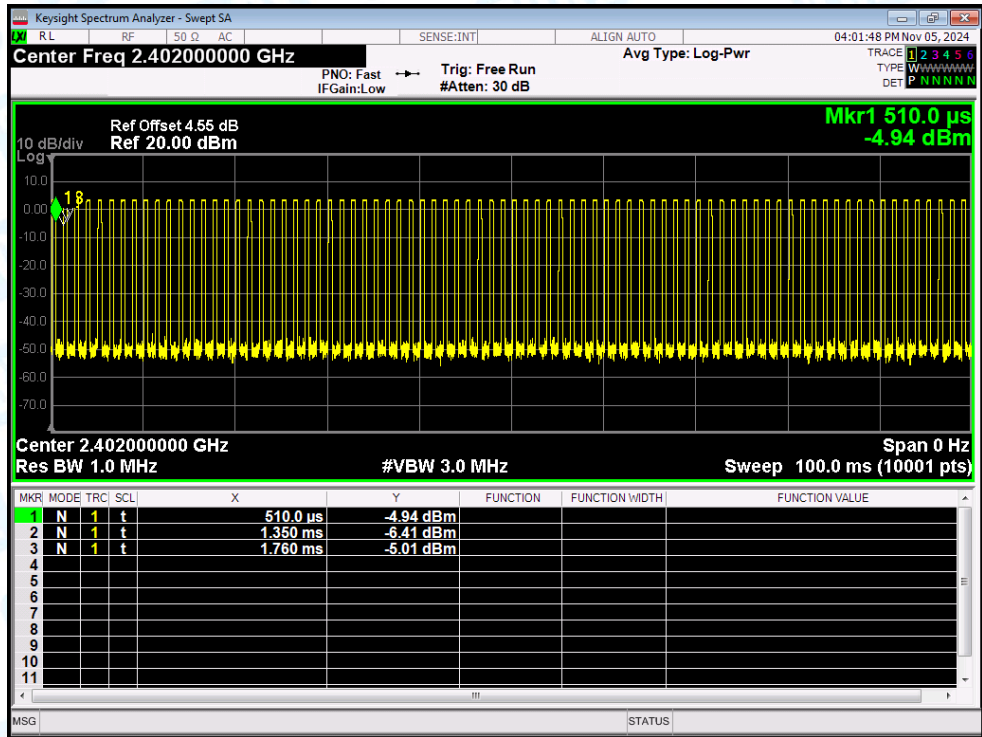
1.	Duty Cycle	3
2.	Maximum Conducted Peak Output Power	7
3.	-20dB Bandwidth	11
4.	Occupied Channel Bandwidth	15
5.	Band Edge	19
6.	Band Edge(Hopping)	24
7.	Conducted RF Spurious Emission	29
8.	Restrict Band	36
9.	Carrier Frequencies Separation	41
10.	Number of Hopping Channel	43
11.	Dwell Time	45

1. Duty Cycle

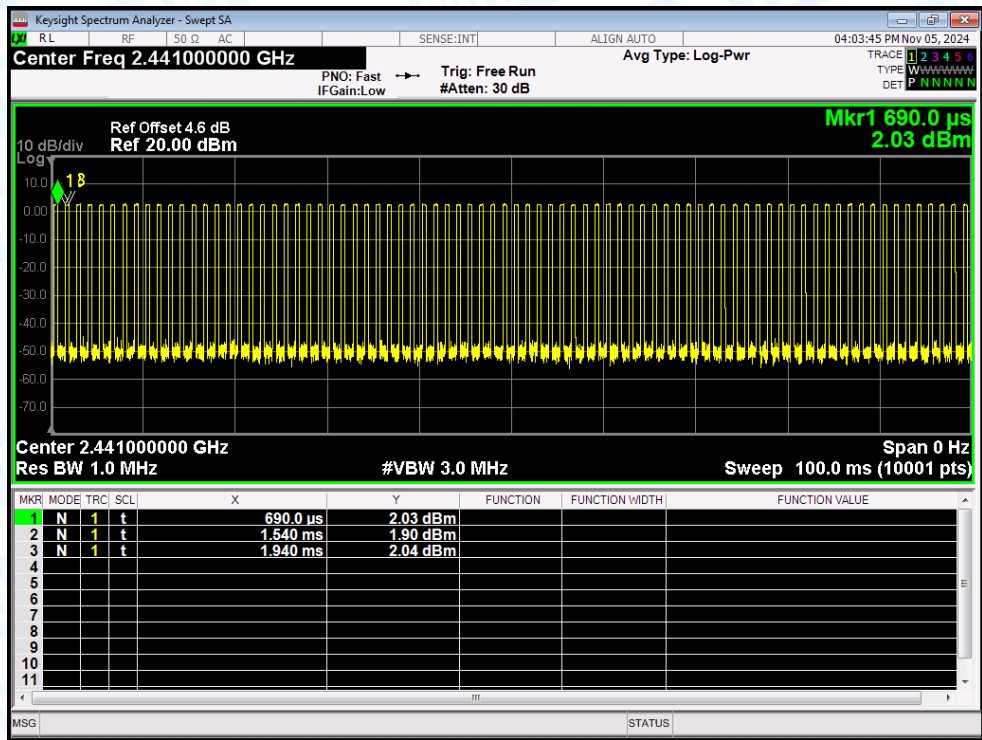
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2441	Ant1	32	4.95	2.5
NVNT	1-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2402	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2441	Ant1	33.6	4.74	2.38
NVNT	2-DH1	2480	Ant1	33.6	4.74	2.38

Test Graphs

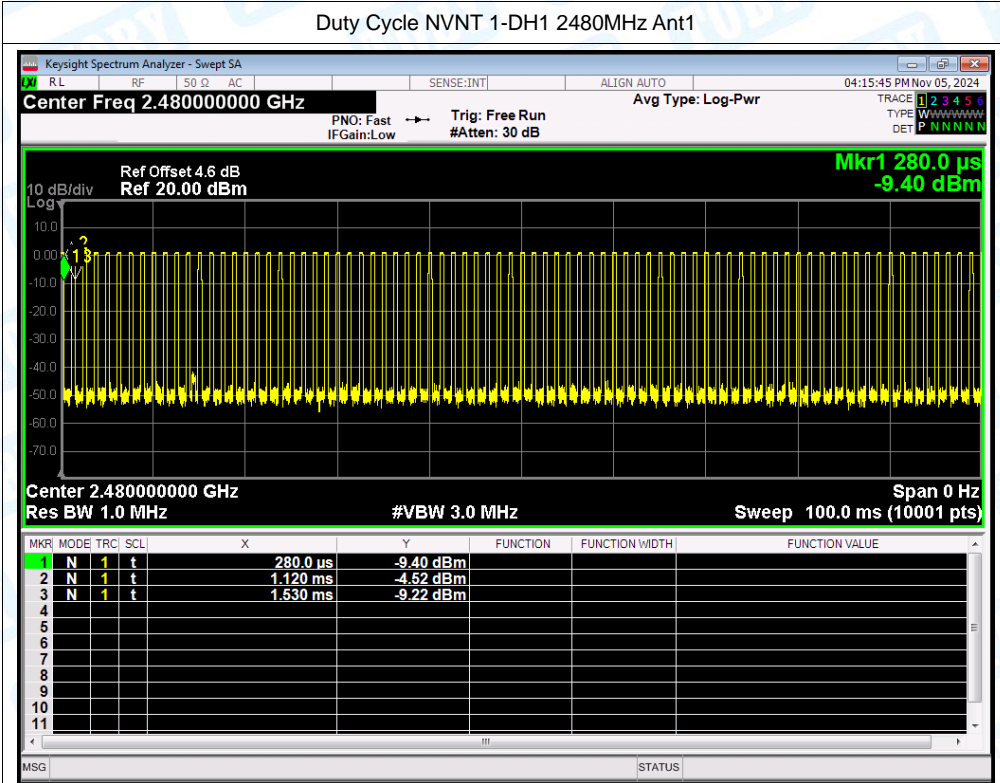
Duty Cycle NVNT 1-DH1 2402MHz Ant1



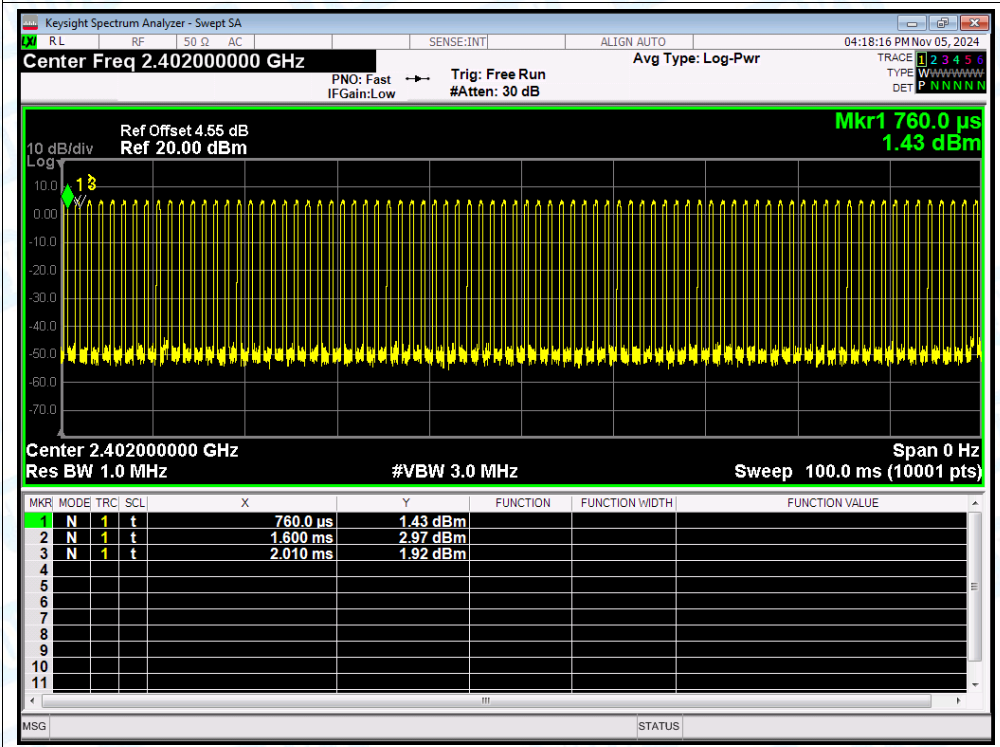
Duty Cycle NVNT 1-DH1 2441MHz Ant1



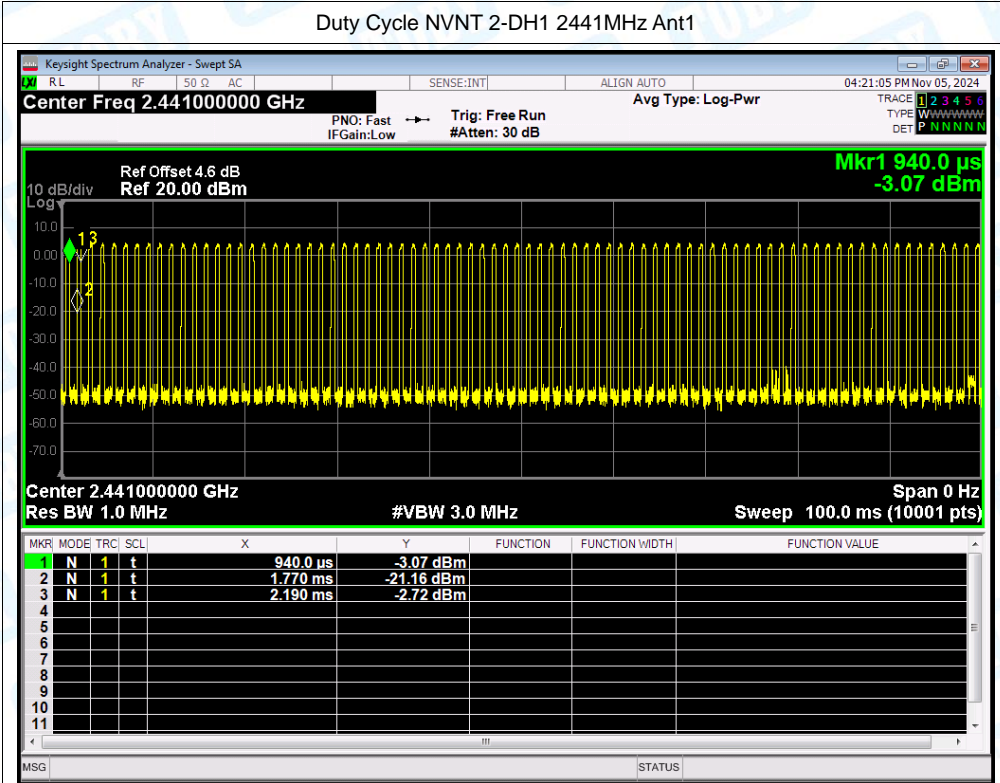
Duty Cycle NVNT 1-DH1 2480MHz Ant1



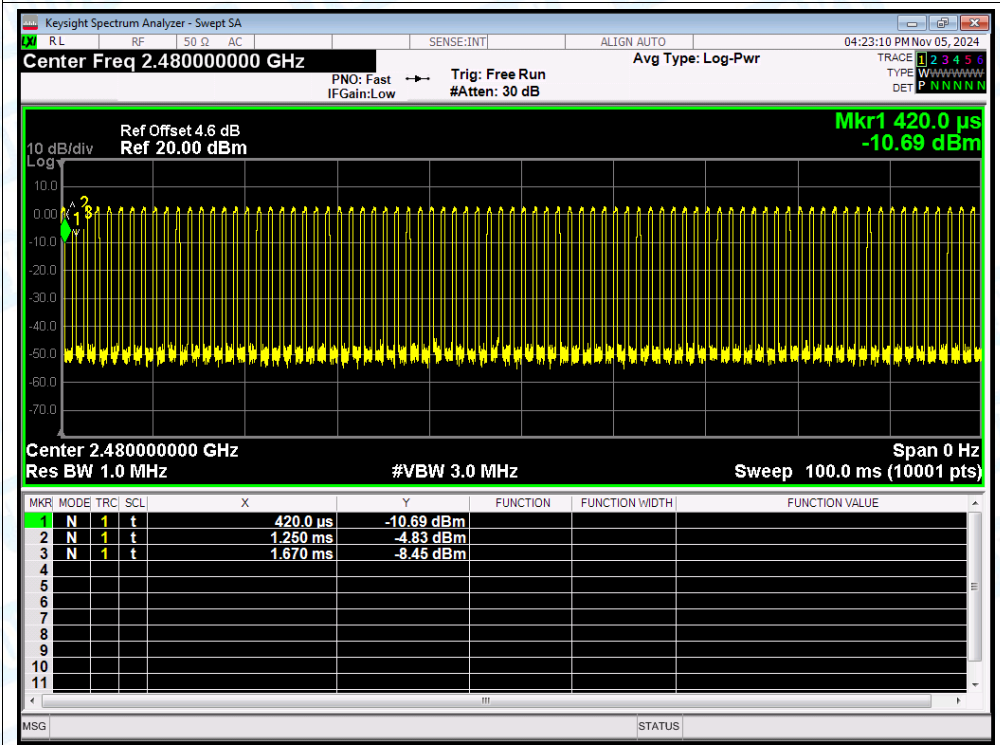
Duty Cycle NVNT 2-DH1 2402MHz Ant1



Duty Cycle NVNT 2-DH1 2441MHz Ant1



Duty Cycle NVNT 2-DH1 2480MHz Ant1

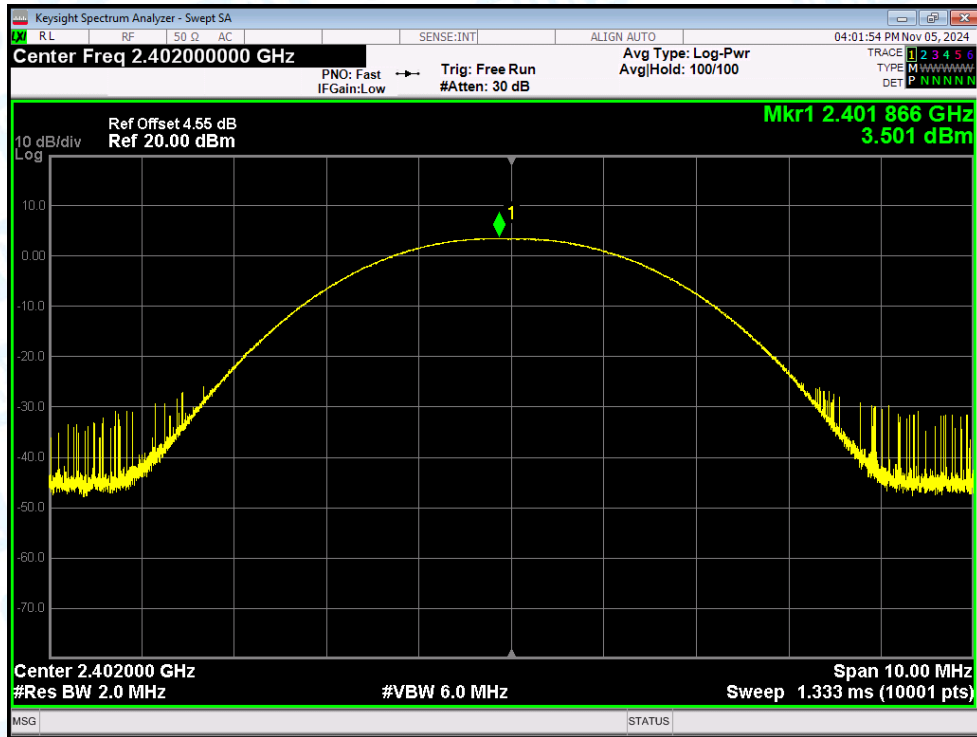


2. Maximum Conducted Peak Output Power

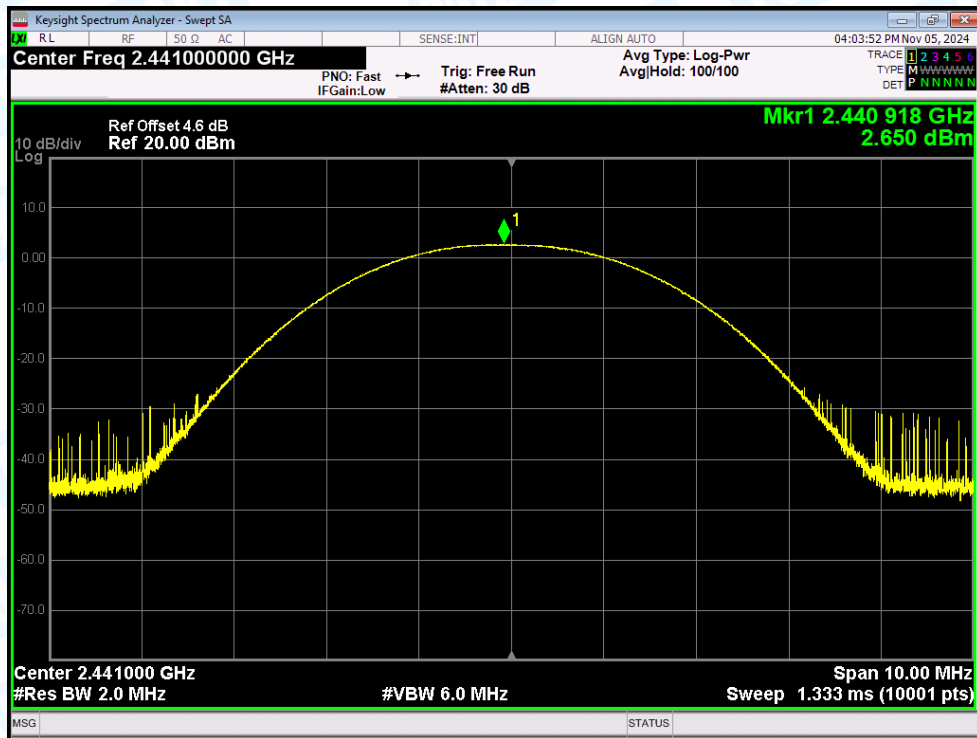
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	3.501	21	Pass
NVNT	1-DH1	2441	Ant1	2.65	21	Pass
NVNT	1-DH1	2480	Ant1	1.033	21	Pass
NVNT	2-DH1	2402	Ant1	5.429	21	Pass
NVNT	2-DH1	2441	Ant1	4.673	21	Pass
NVNT	2-DH1	2480	Ant1	3.059	21	Pass

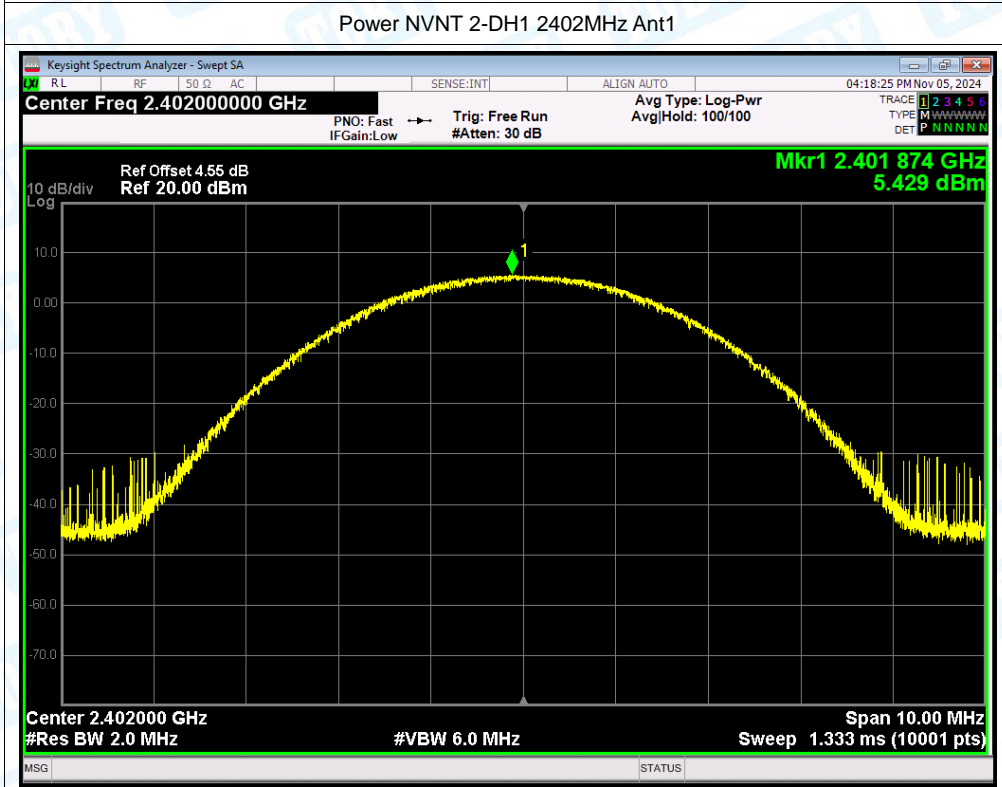
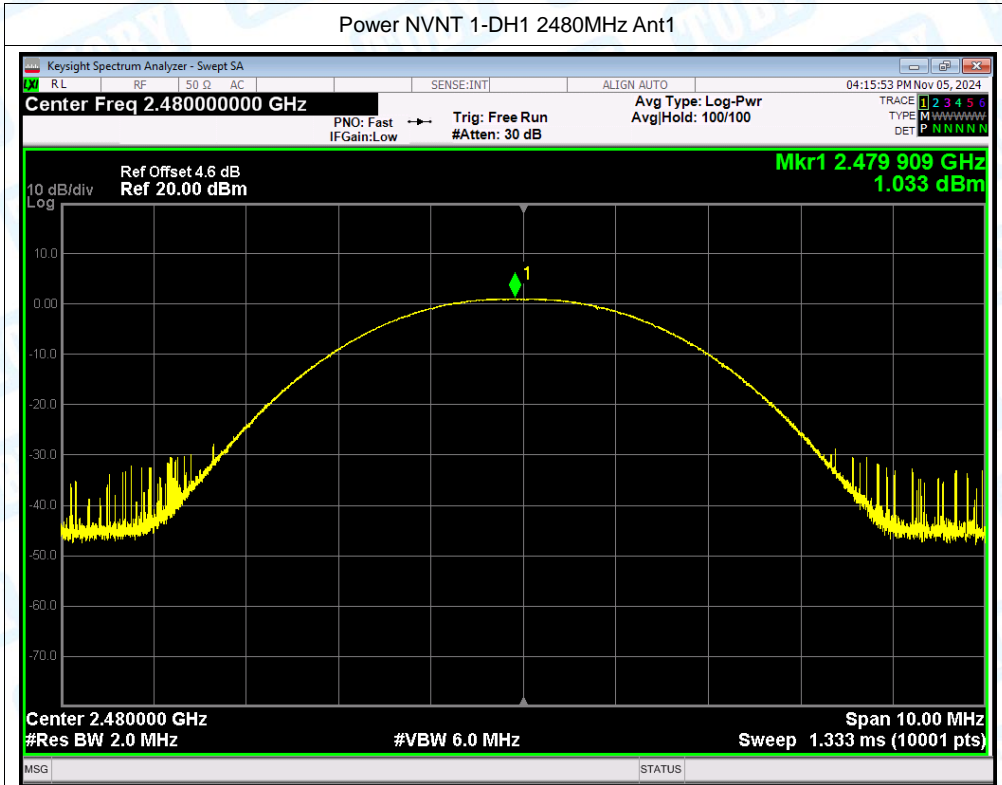
Test Graphs

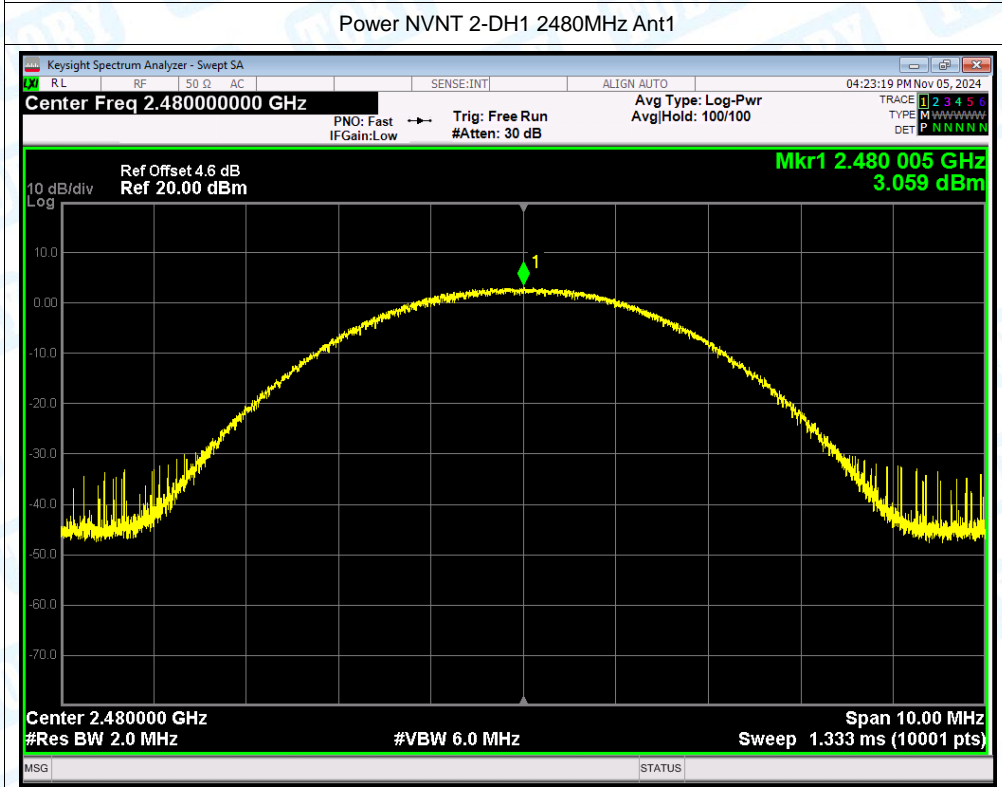
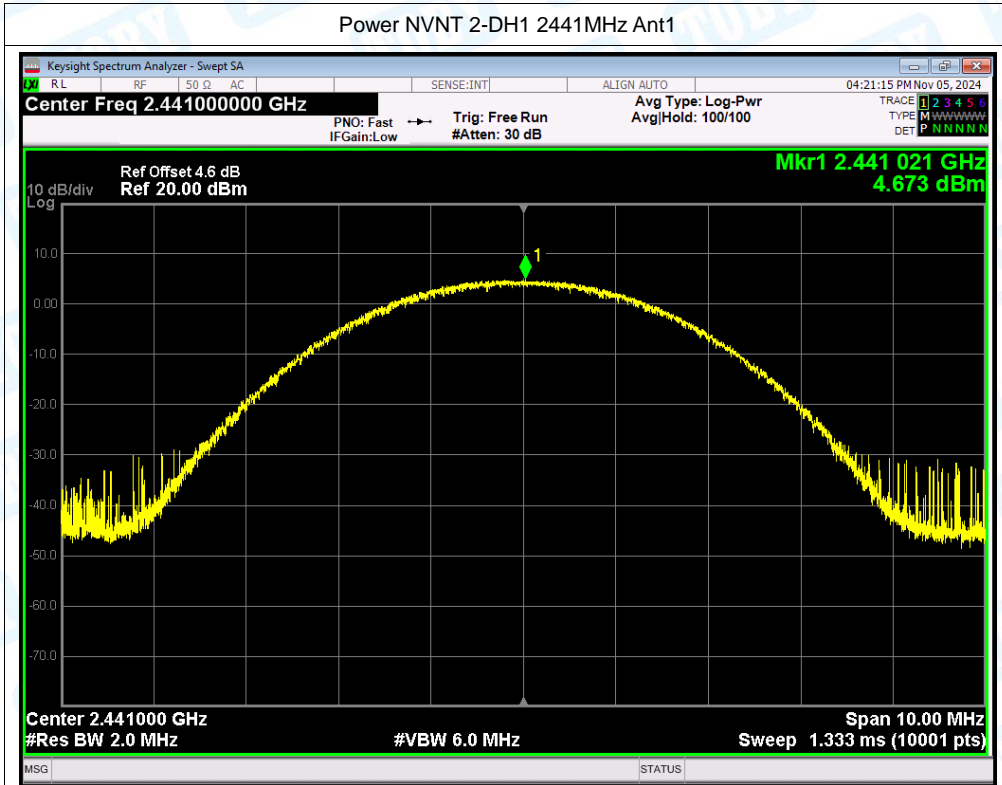
Power NVNT 1-DH1 2402MHz Ant1



Power NVNT 1-DH1 2441MHz Ant1





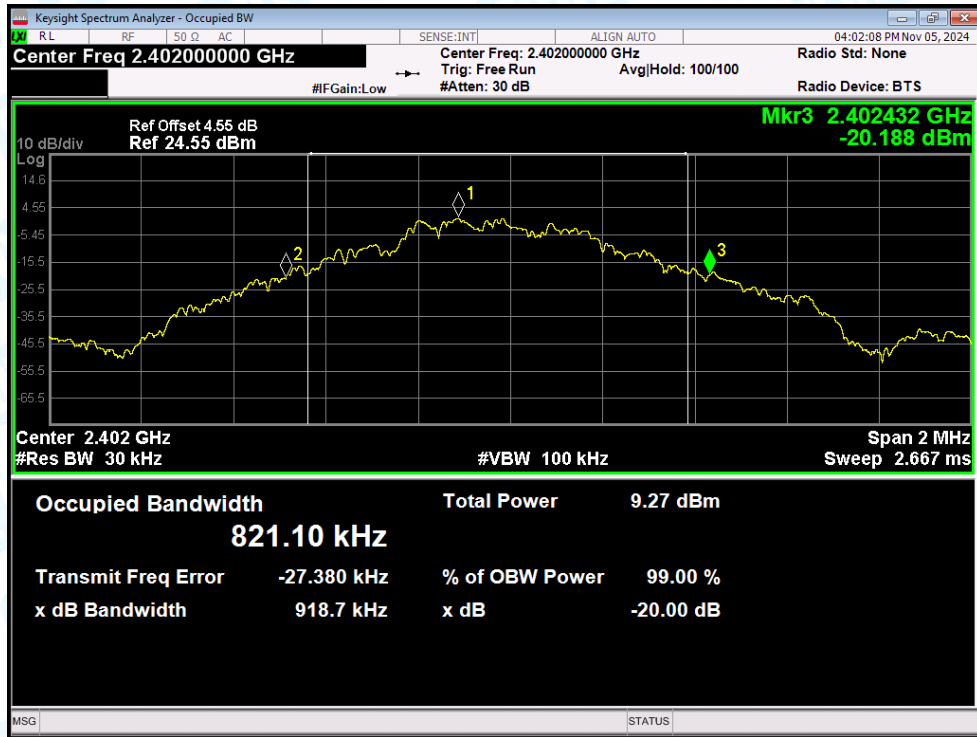


3. -20dB Bandwidth

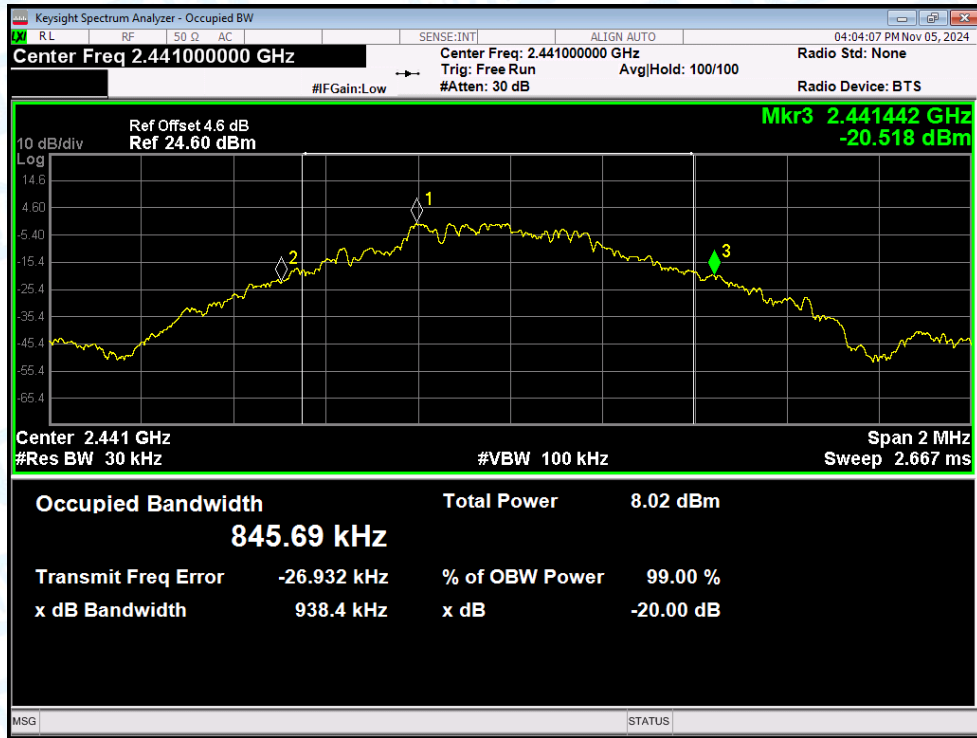
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.92	----	Pass
NVNT	1-DH1	2441	Ant1	0.94	----	Pass
NVNT	1-DH1	2480	Ant1	0.92	----	Pass
NVNT	2-DH1	2402	Ant1	1.29	----	Pass
NVNT	2-DH1	2441	Ant1	1.23	----	Pass
NVNT	2-DH1	2480	Ant1	1.26	----	Pass

Test Graphs

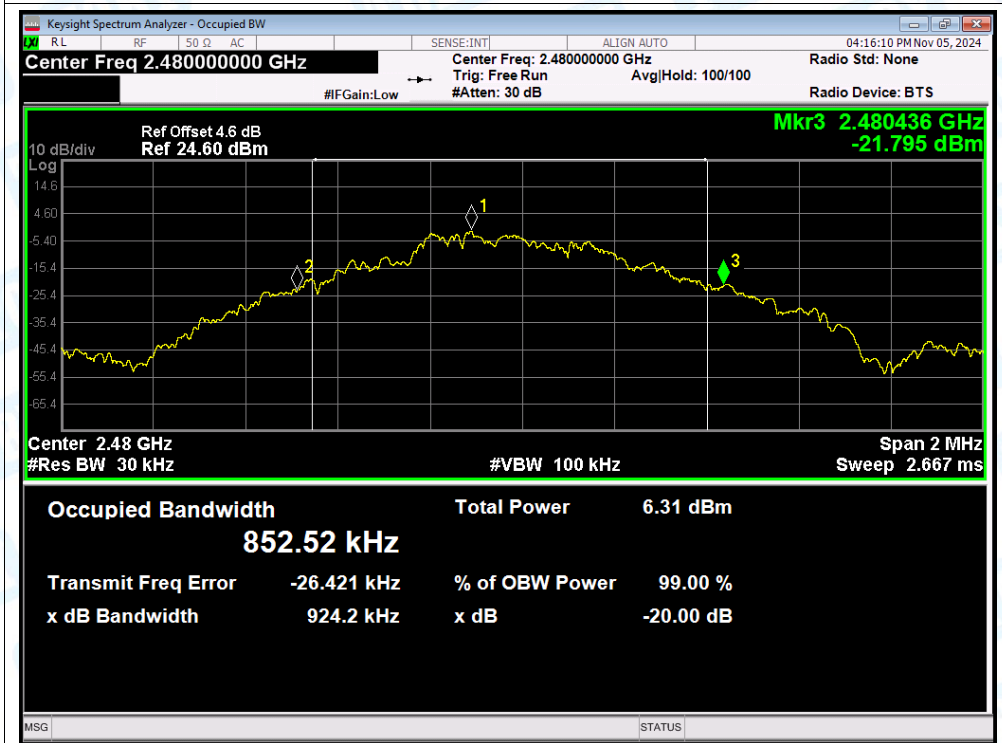
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



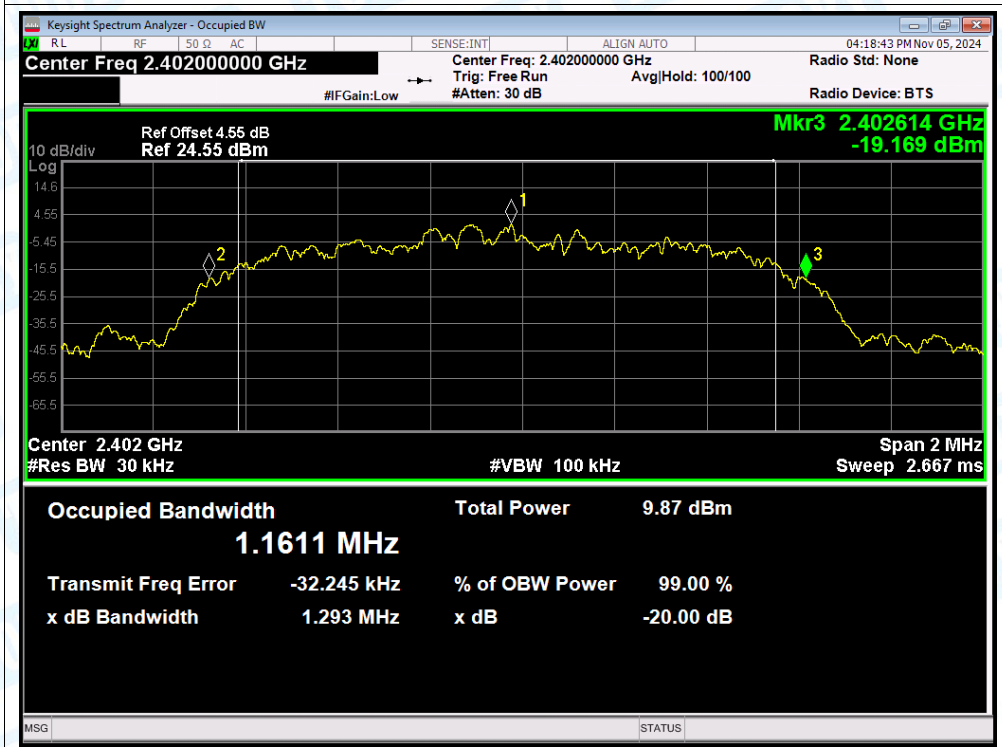
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



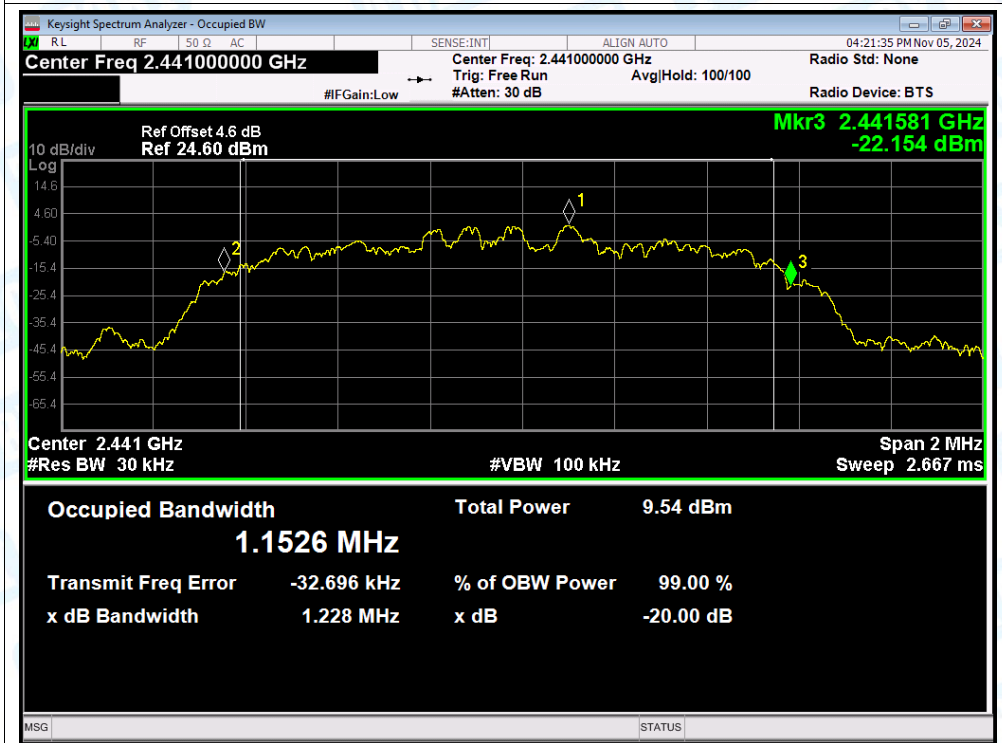
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



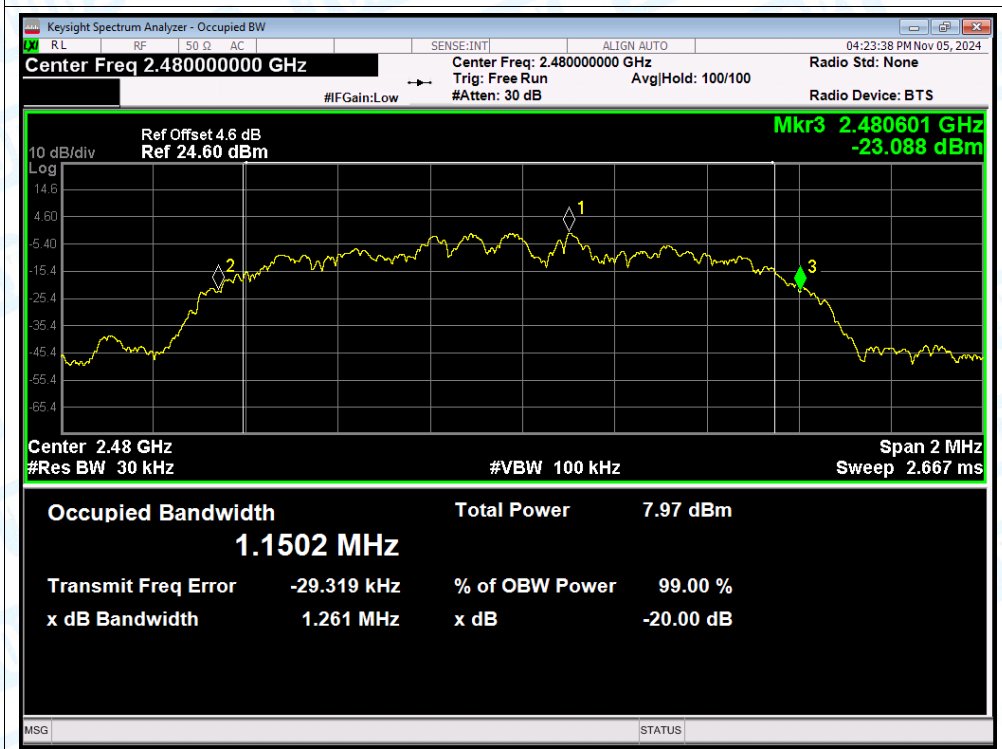
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

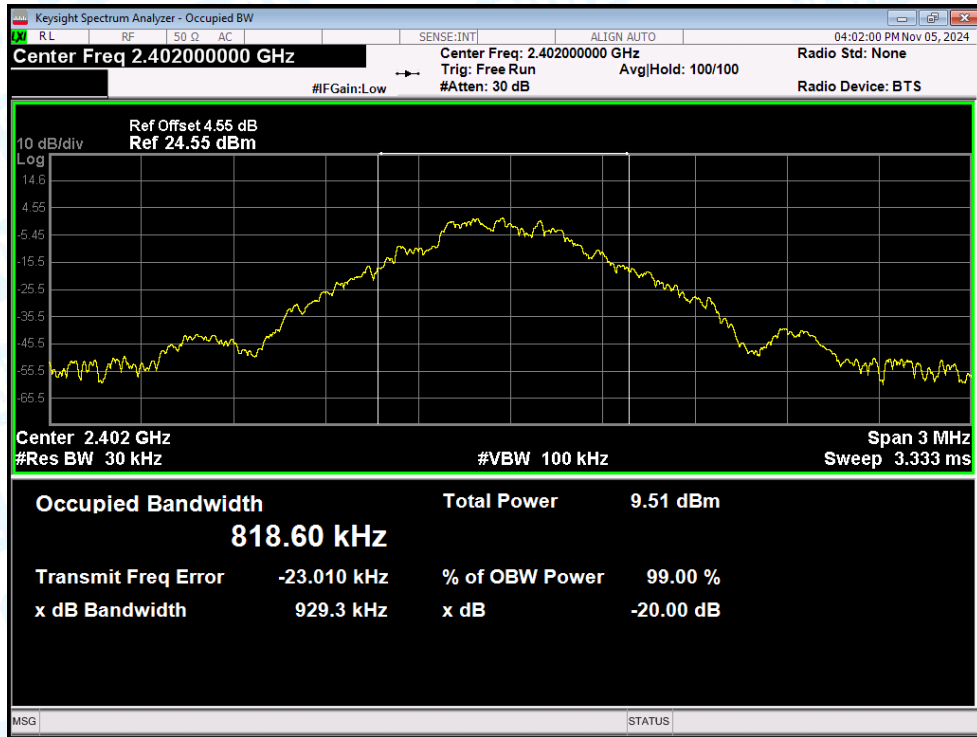


4. Occupied Channel Bandwidth

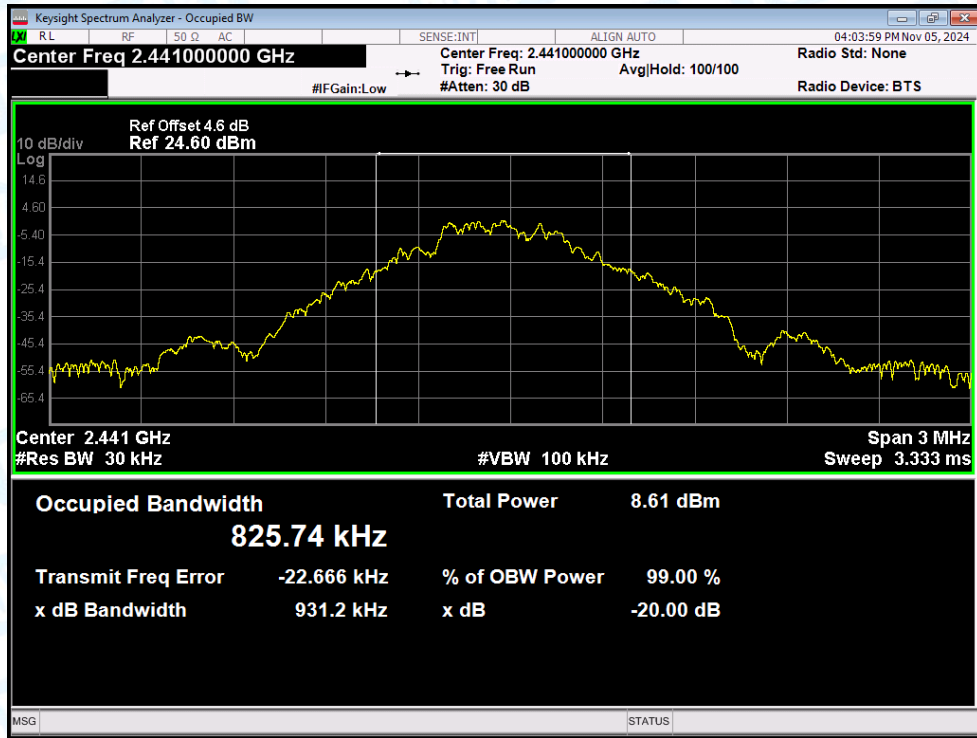
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.819
NVNT	1-DH1	2441	Ant1	0.826
NVNT	1-DH1	2480	Ant1	0.801
NVNT	2-DH1	2402	Ant1	1.137
NVNT	2-DH1	2441	Ant1	1.162
NVNT	2-DH1	2480	Ant1	1.161

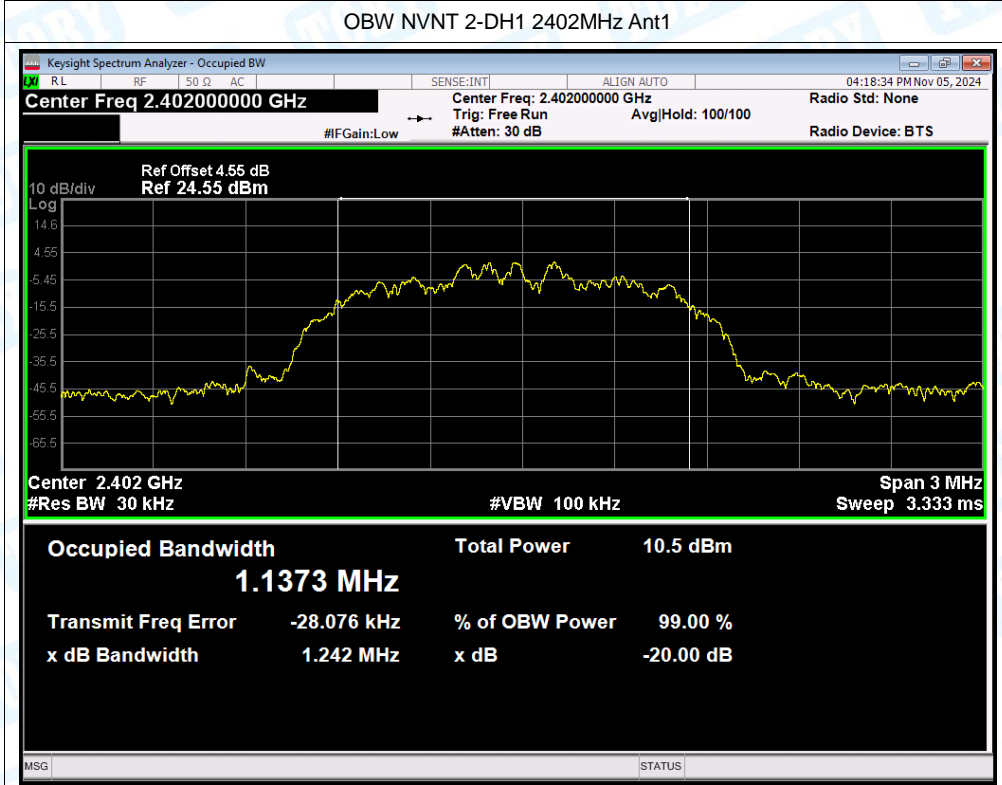
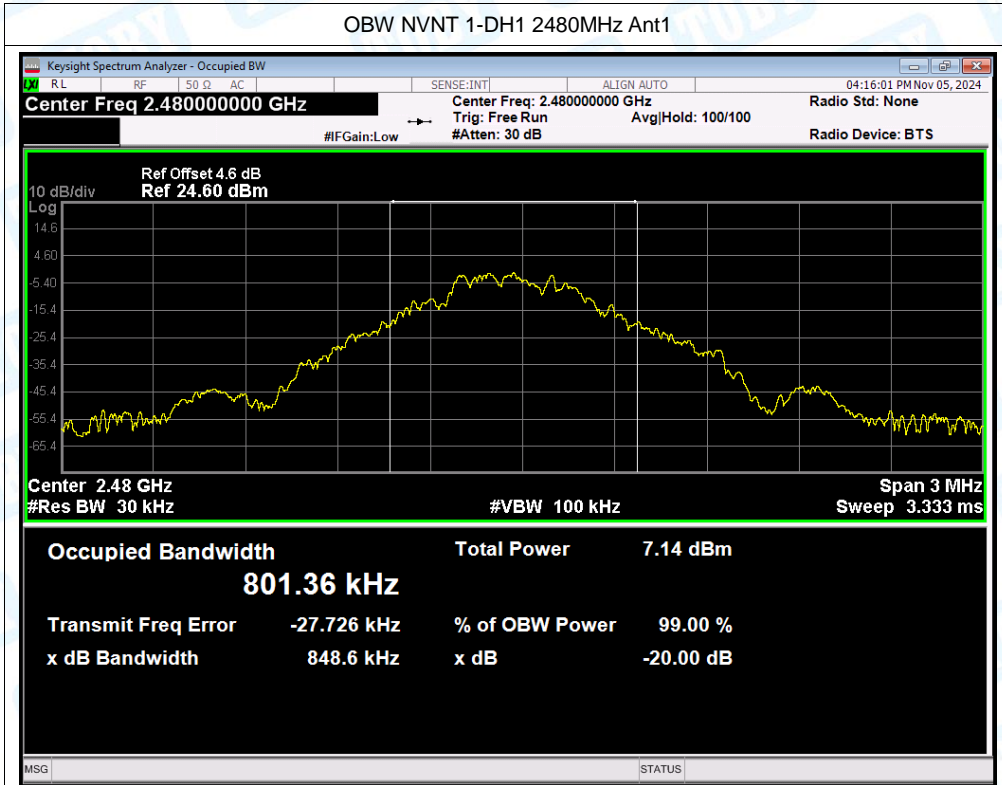
Test Graphs

OBW NVNT 1-DH1 2402MHz Ant1

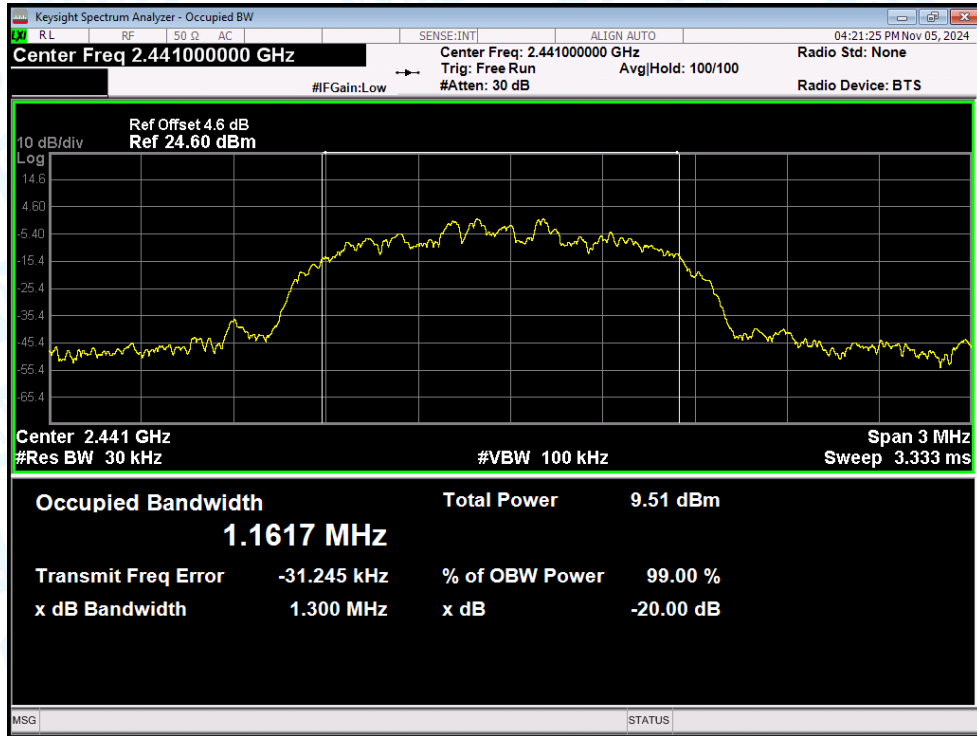


OBW NVNT 1-DH1 2441MHz Ant1

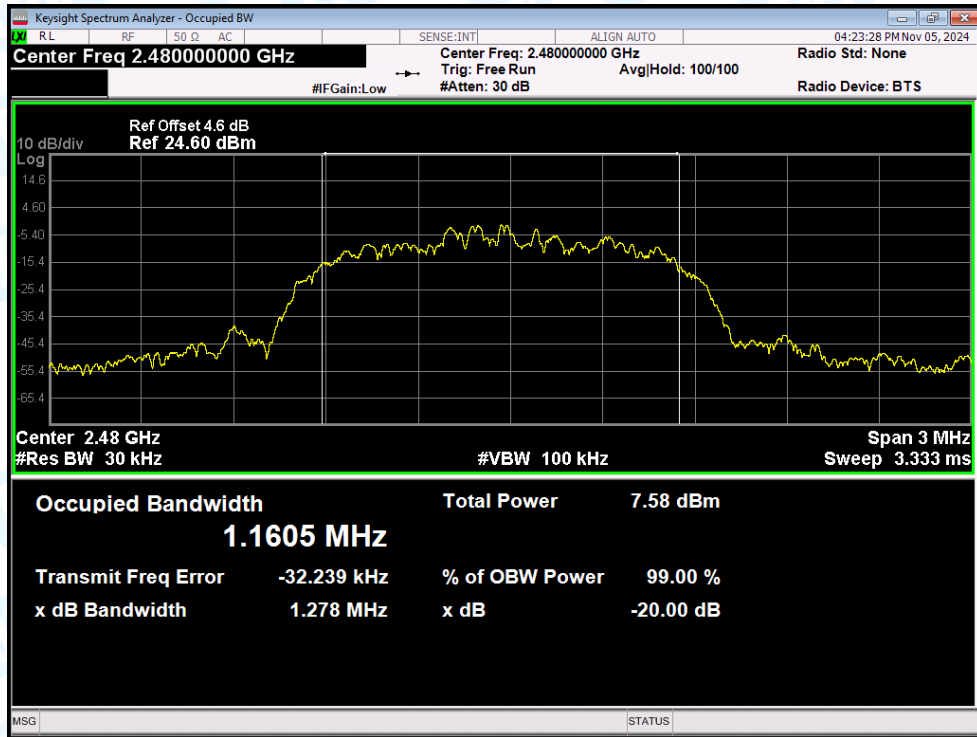




OBW NVNT 2-DH1 2441MHz Ant1



OBW NVNT 2-DH1 2480MHz Ant1

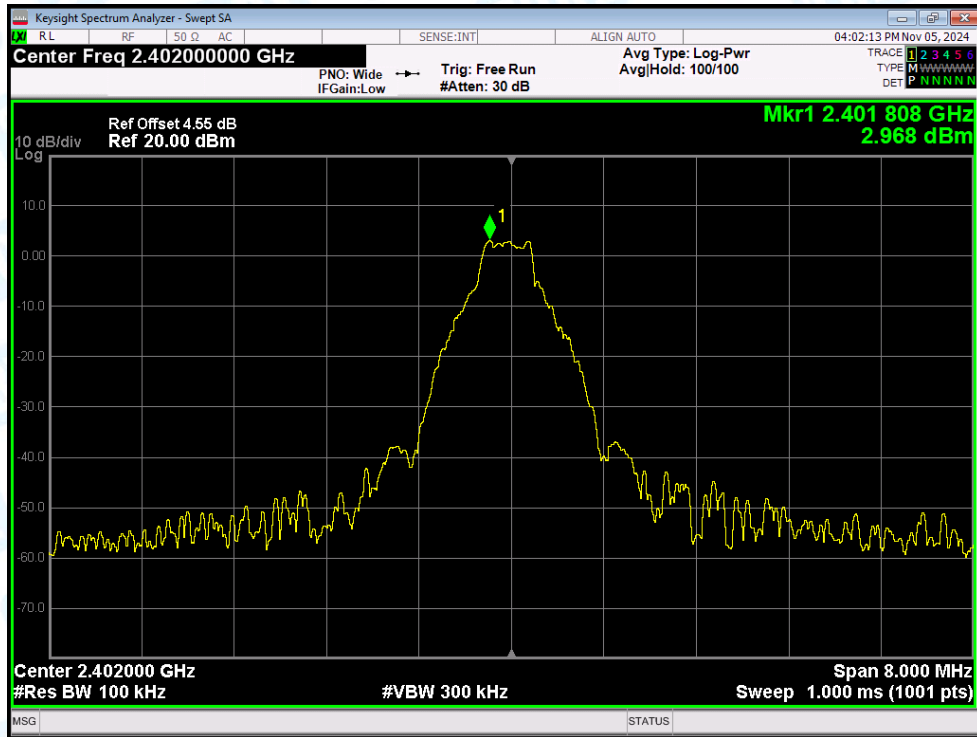


5. Band Edge

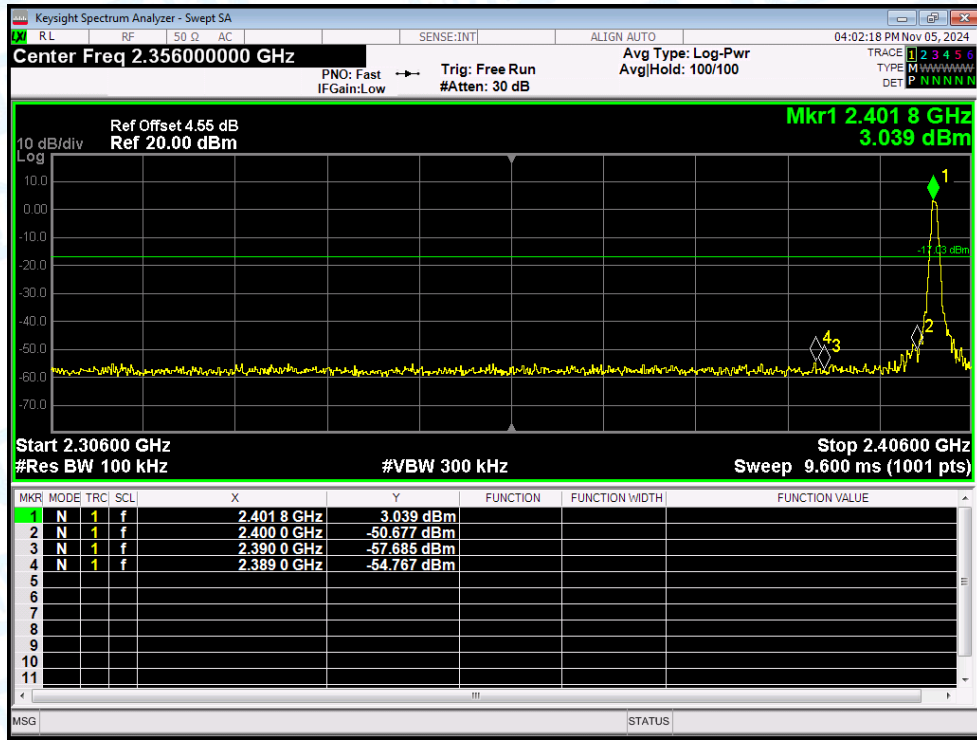
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-57.74	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-55.02	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-57.92	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-54.95	-20	Pass

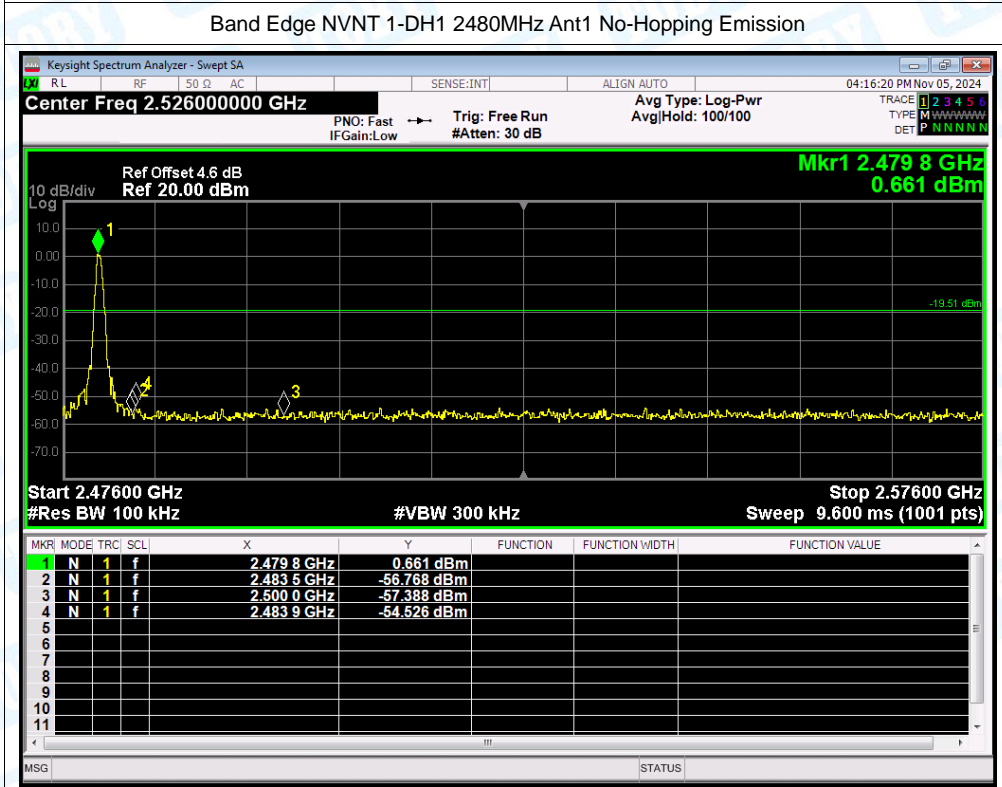
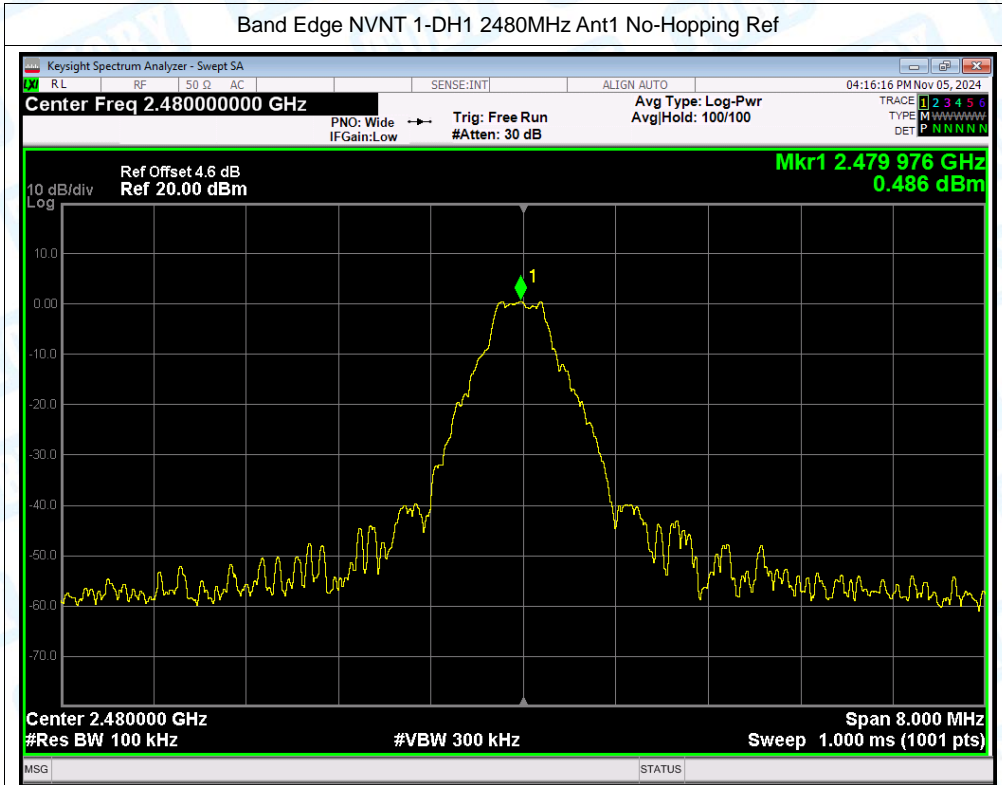
Test Graphs

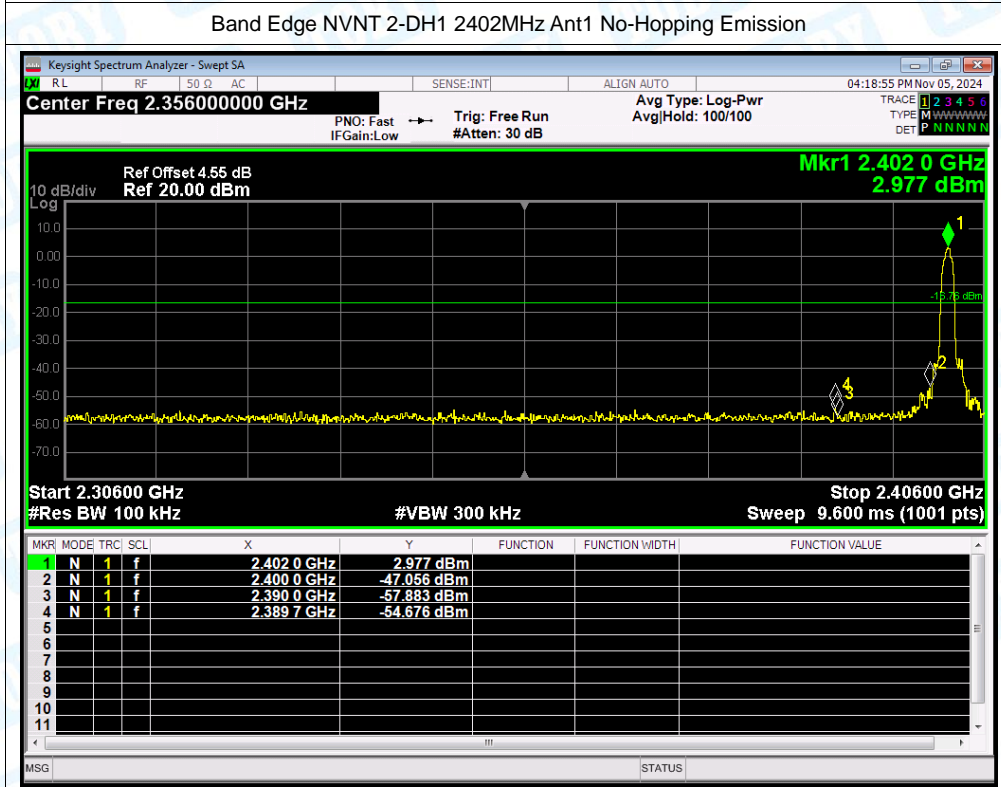
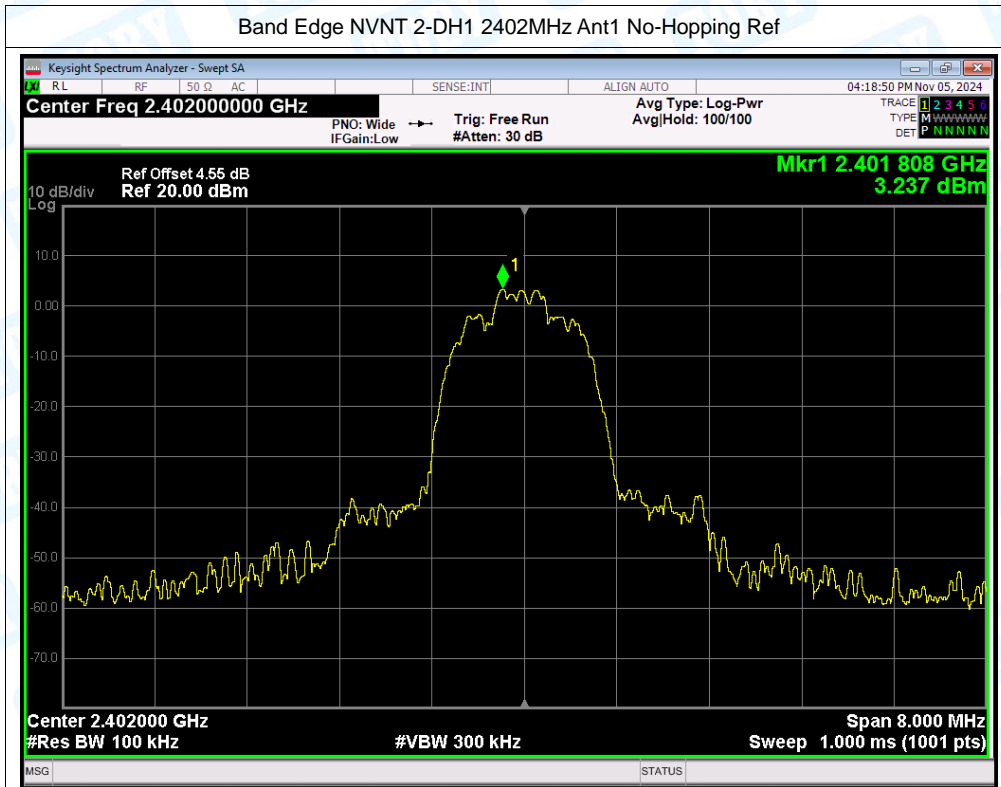
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref

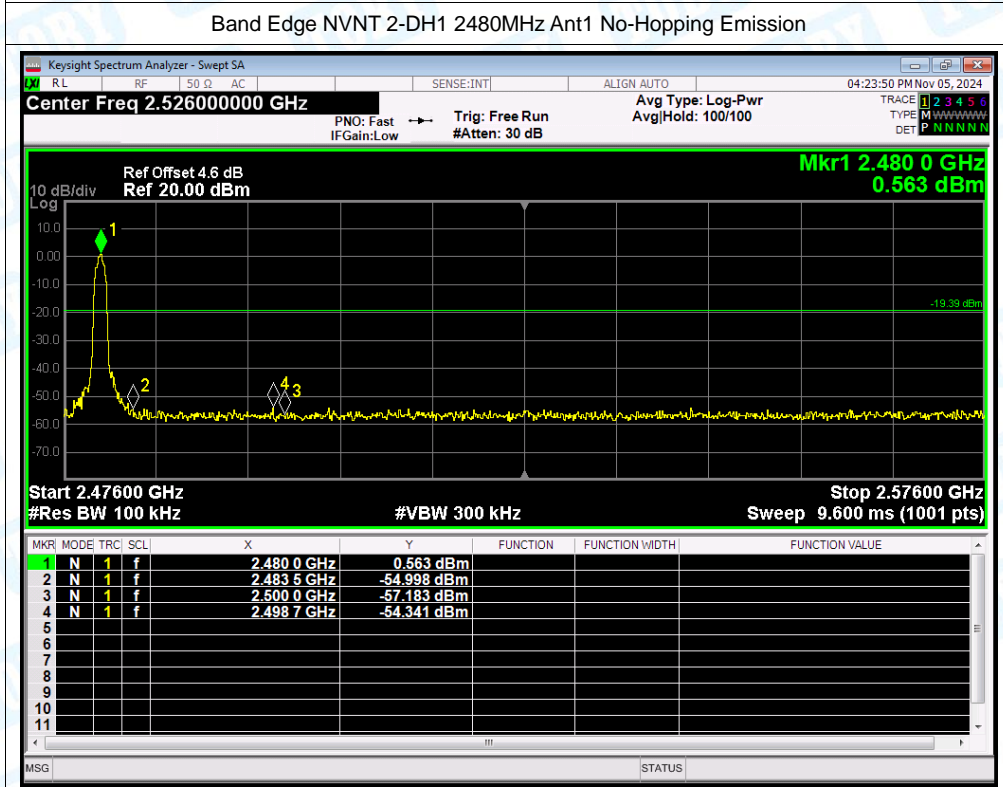
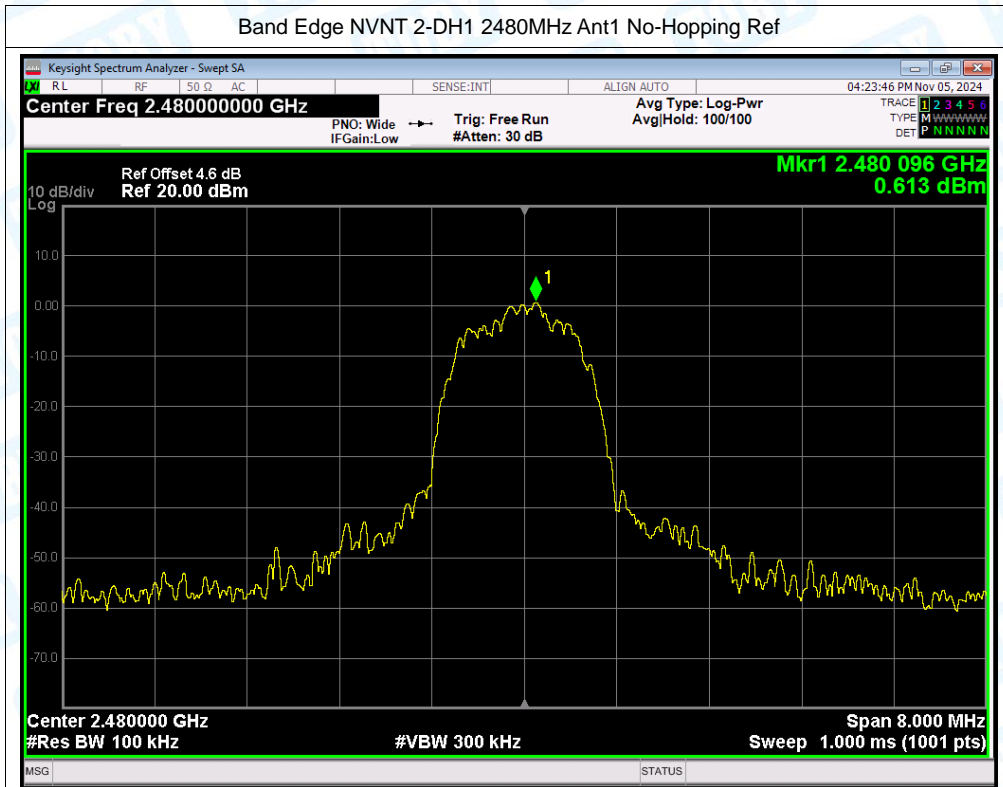


Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission







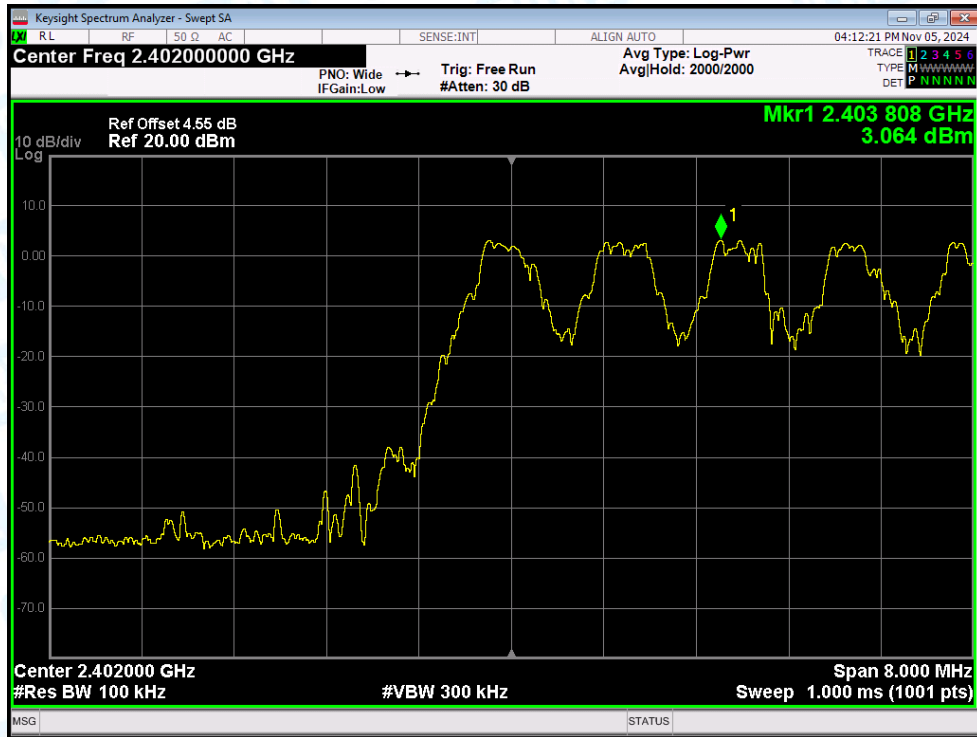


6. Band Edge(Hopping)

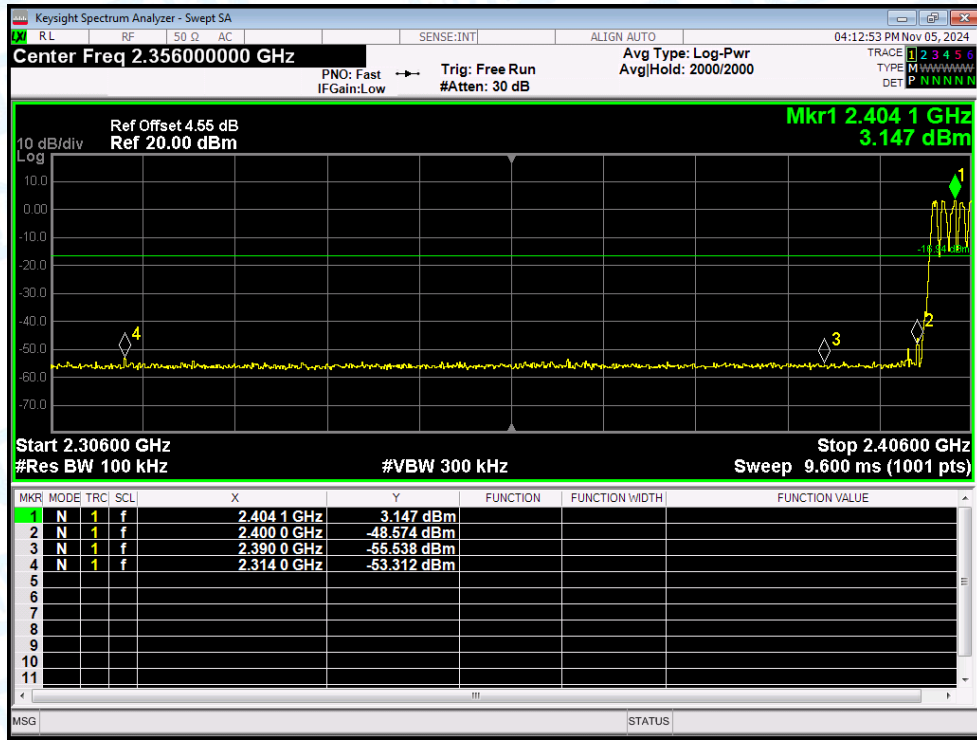
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-56.37	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-54.48	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-57.09	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-54.45	-20	Pass

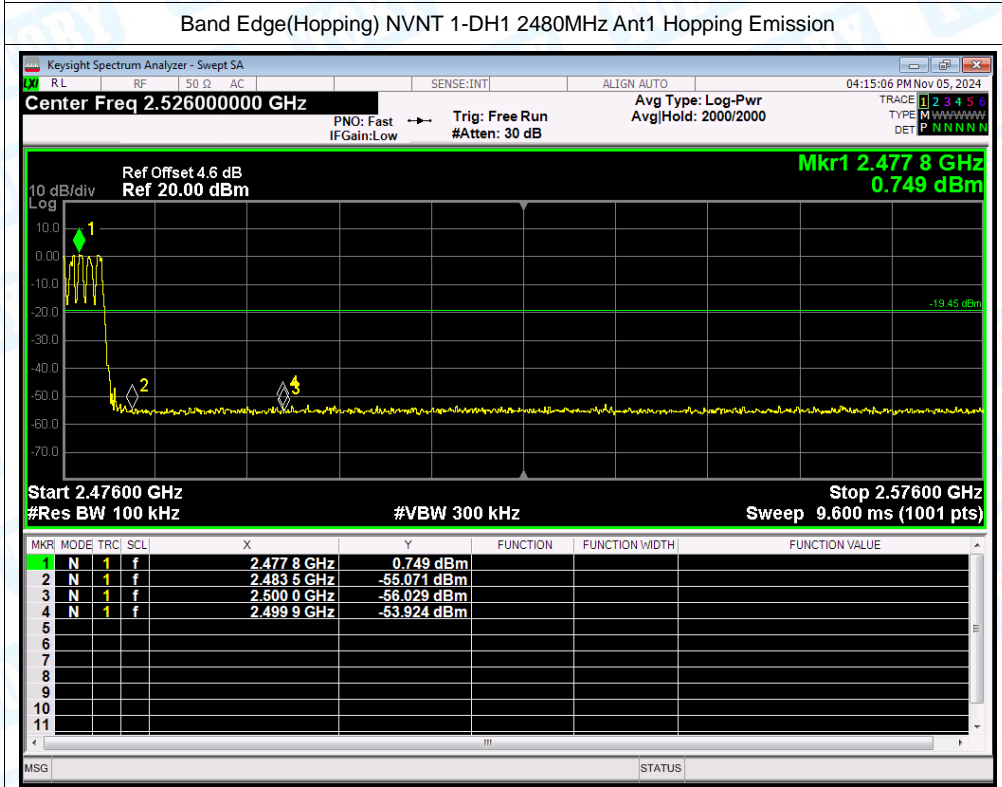
Test Graphs

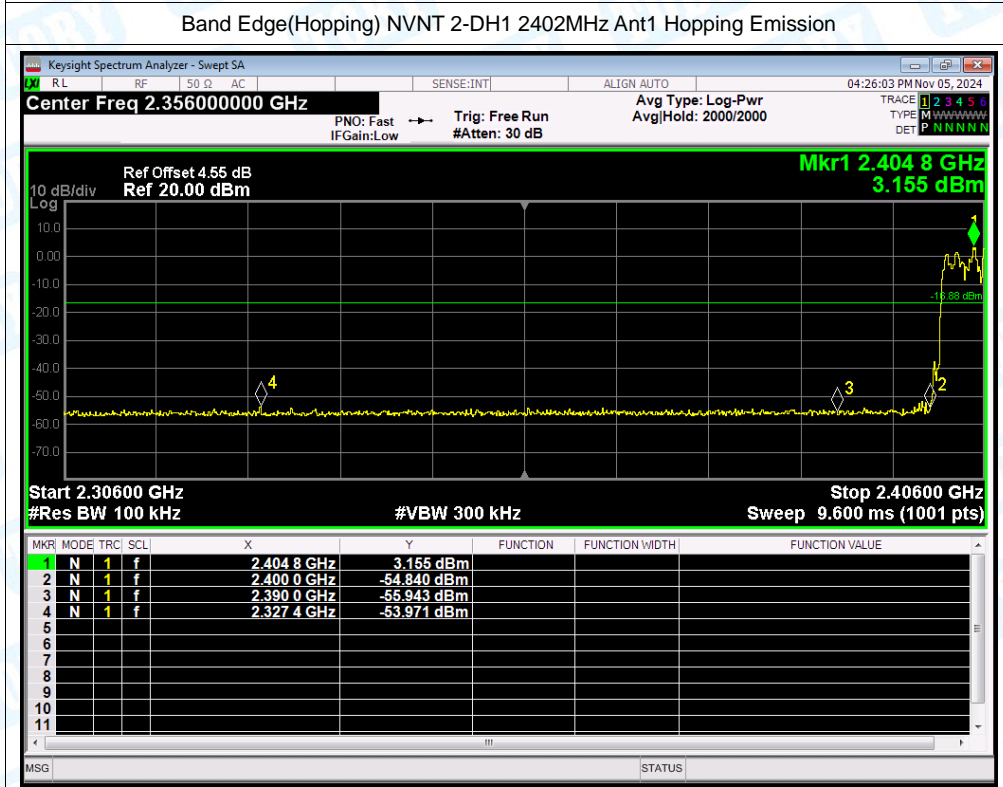
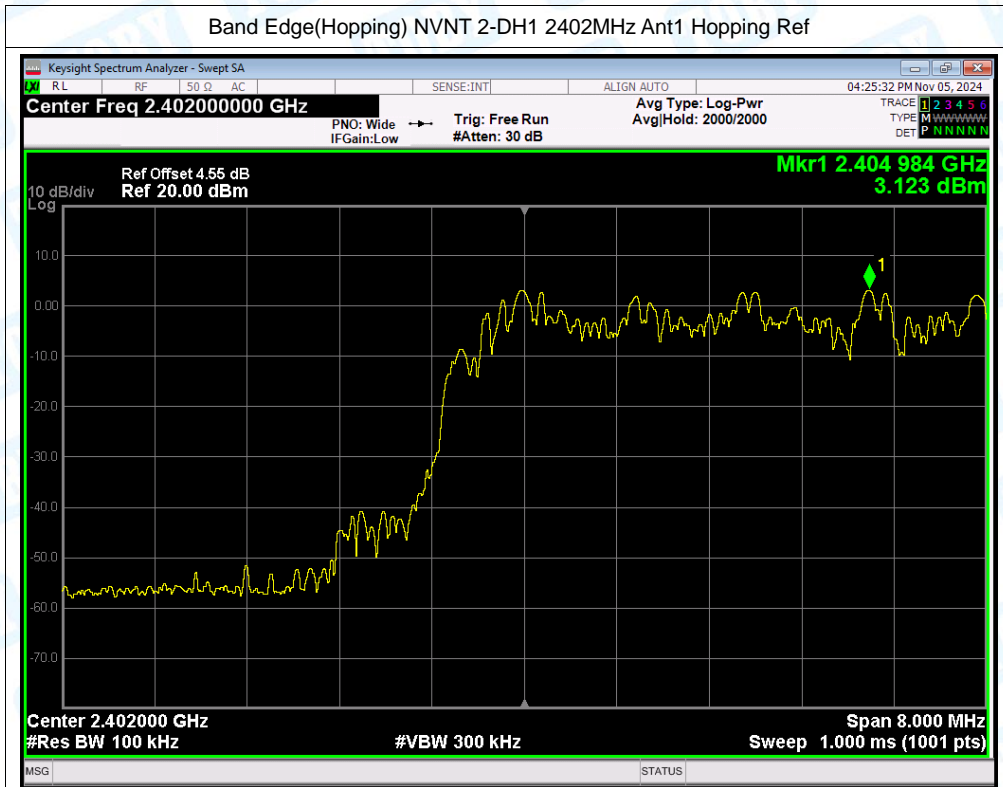
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

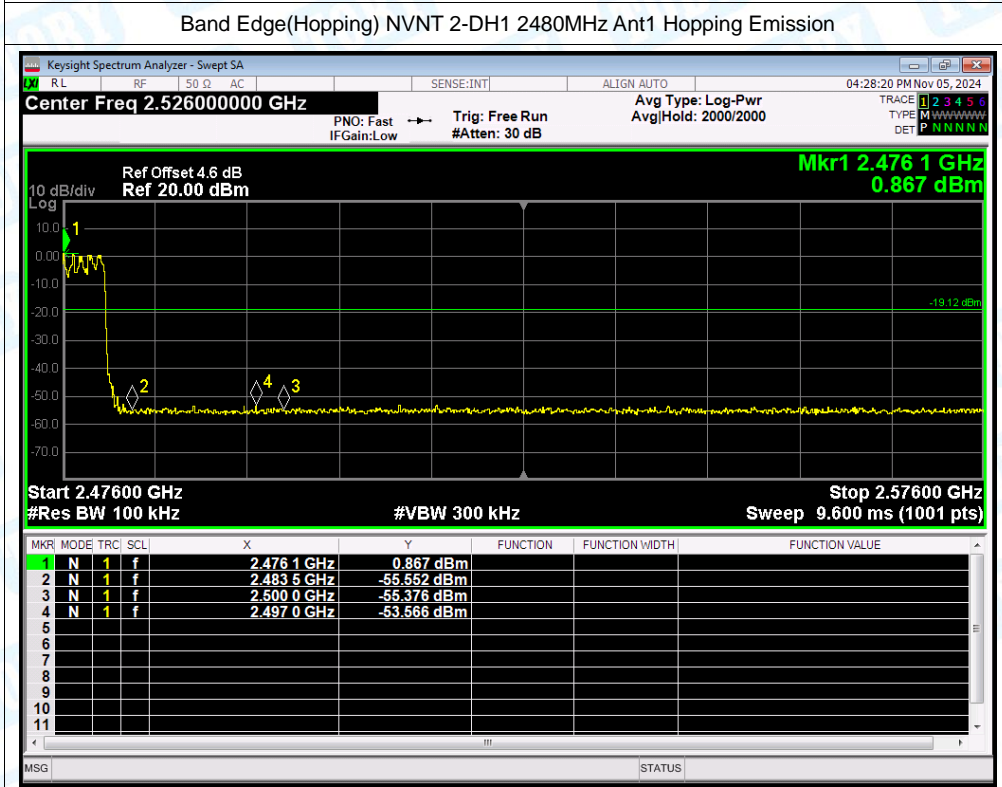
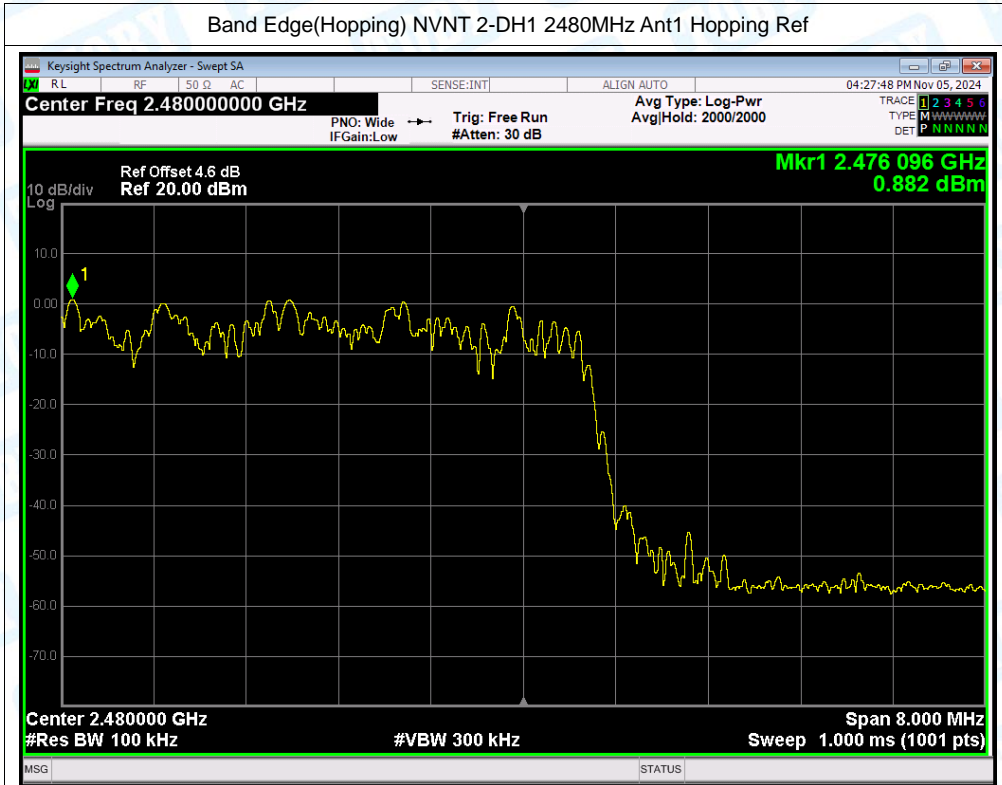


Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission







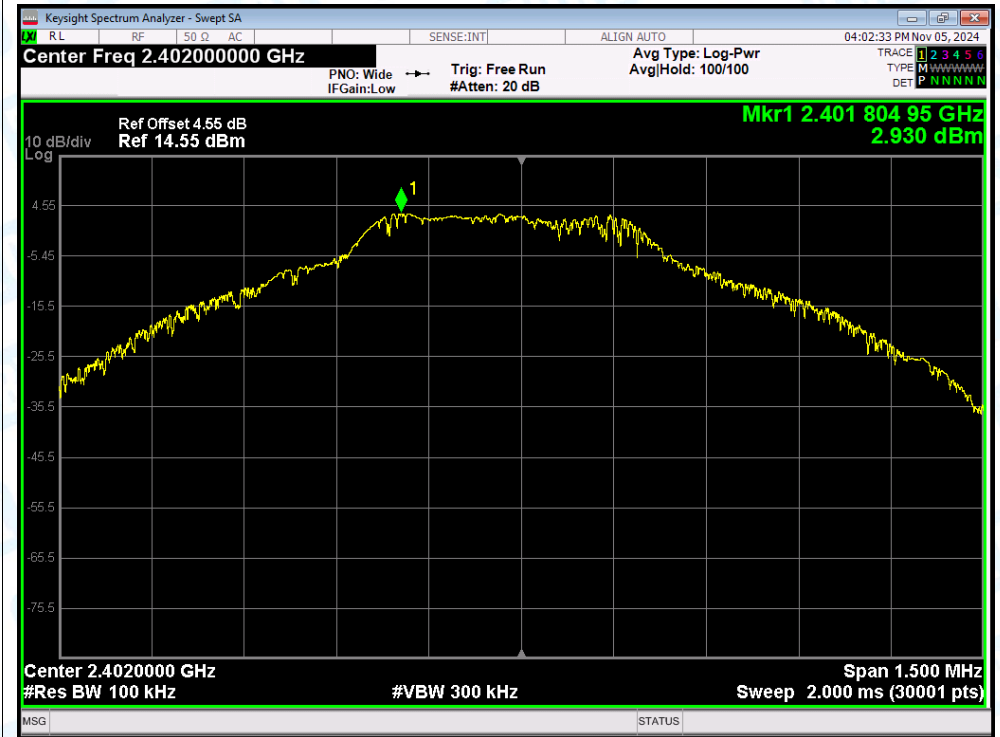


7. Conducted RF Spurious Emission

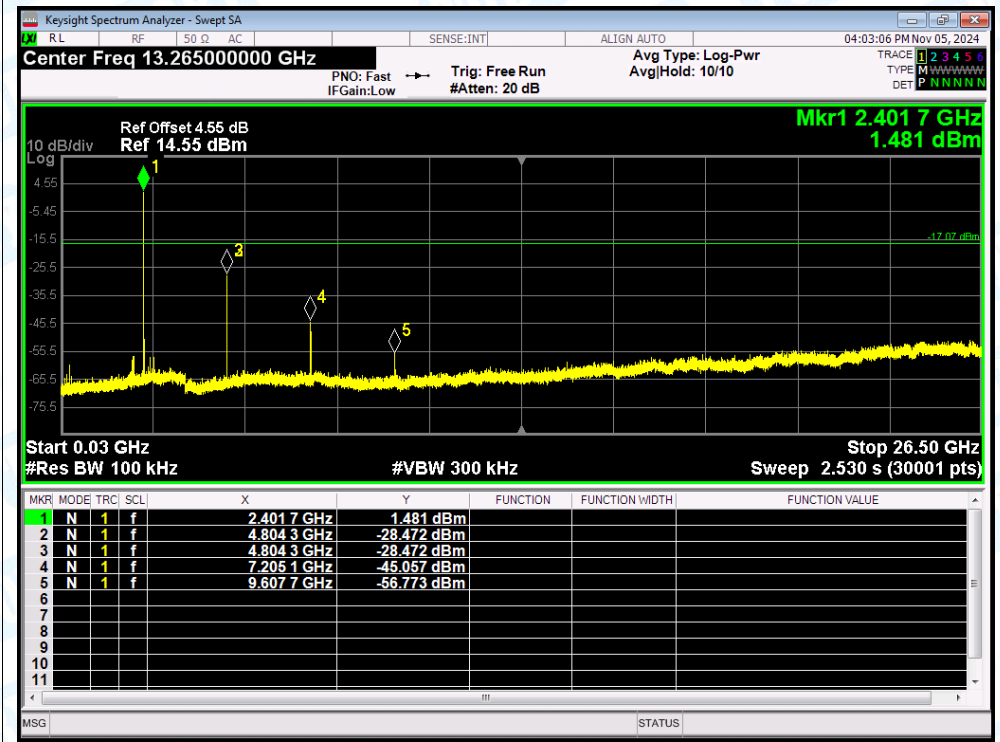
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-31.4	-20	Pass
NVNT	1-DH1	2441	Ant1	-30.51	-20	Pass
NVNT	1-DH1	2480	Ant1	-32.38	-20	Pass
NVNT	2-DH1	2402	Ant1	-29.67	-20	Pass
NVNT	2-DH1	2441	Ant1	-32.31	-20	Pass
NVNT	2-DH1	2480	Ant1	-33.6	-20	Pass

Test Graphs

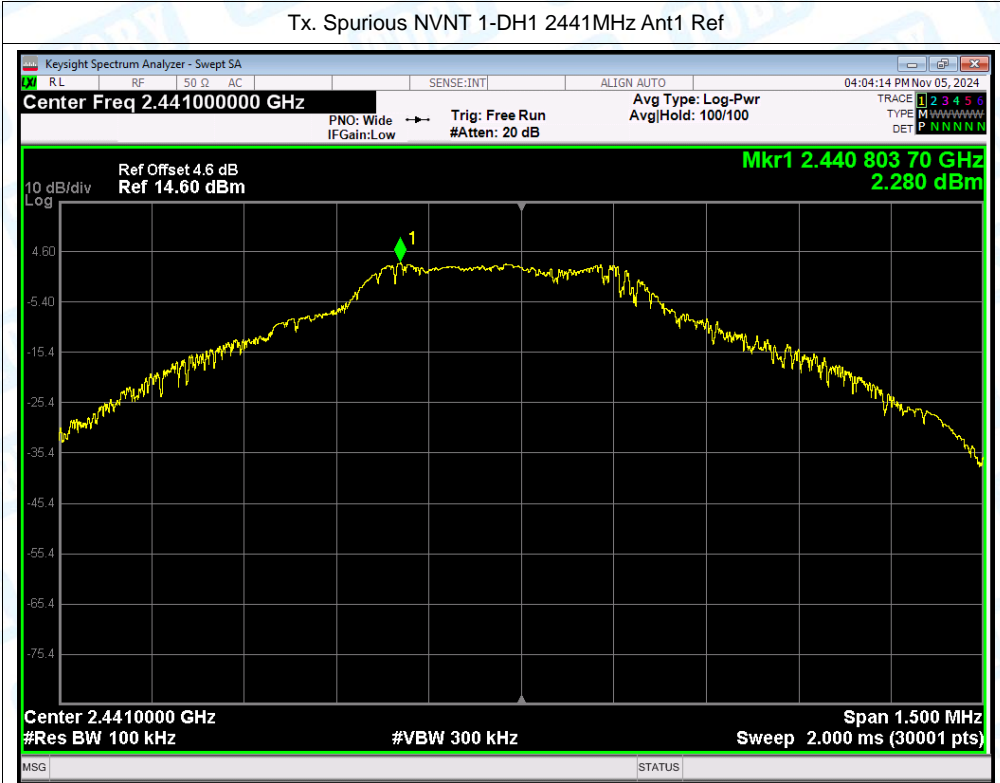
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



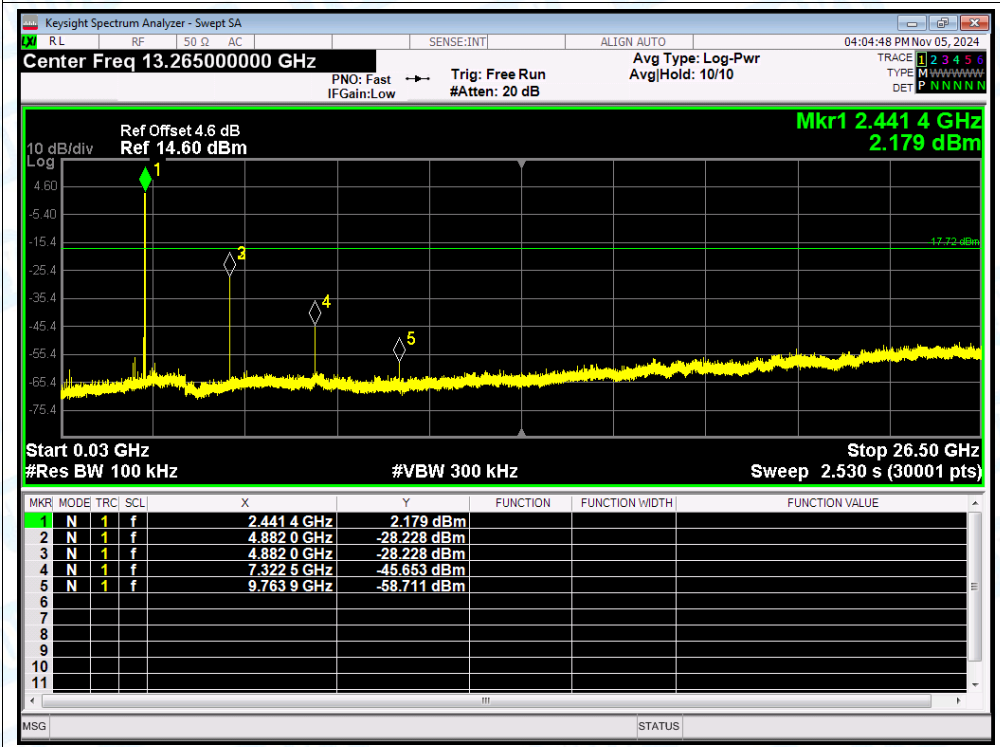
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



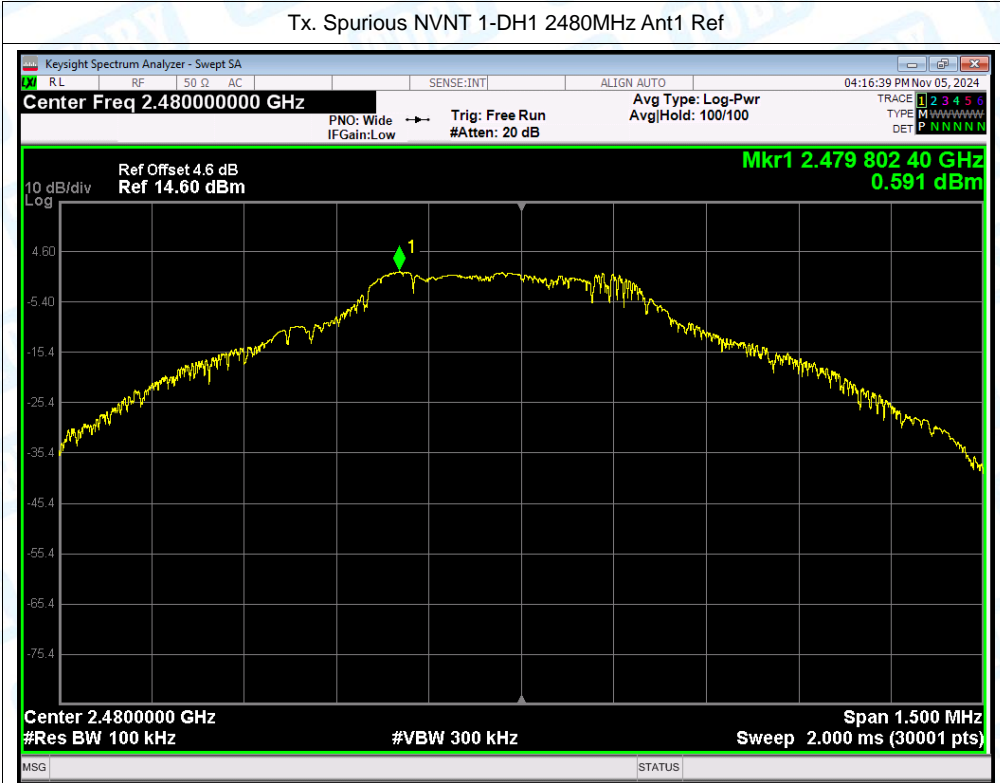
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



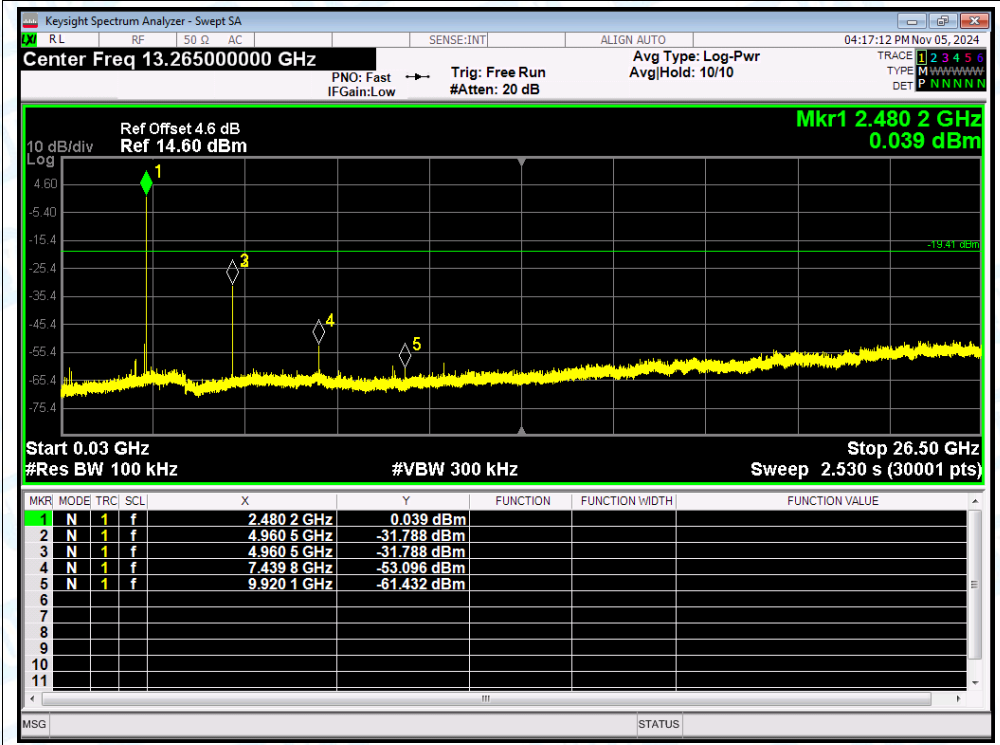
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



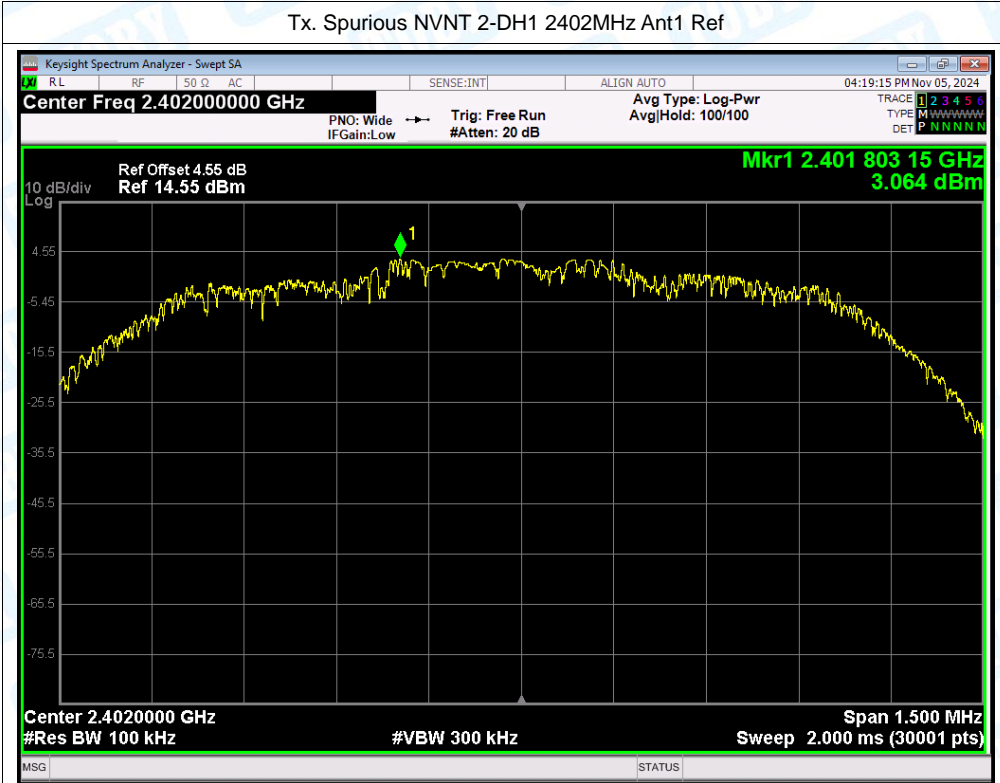
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



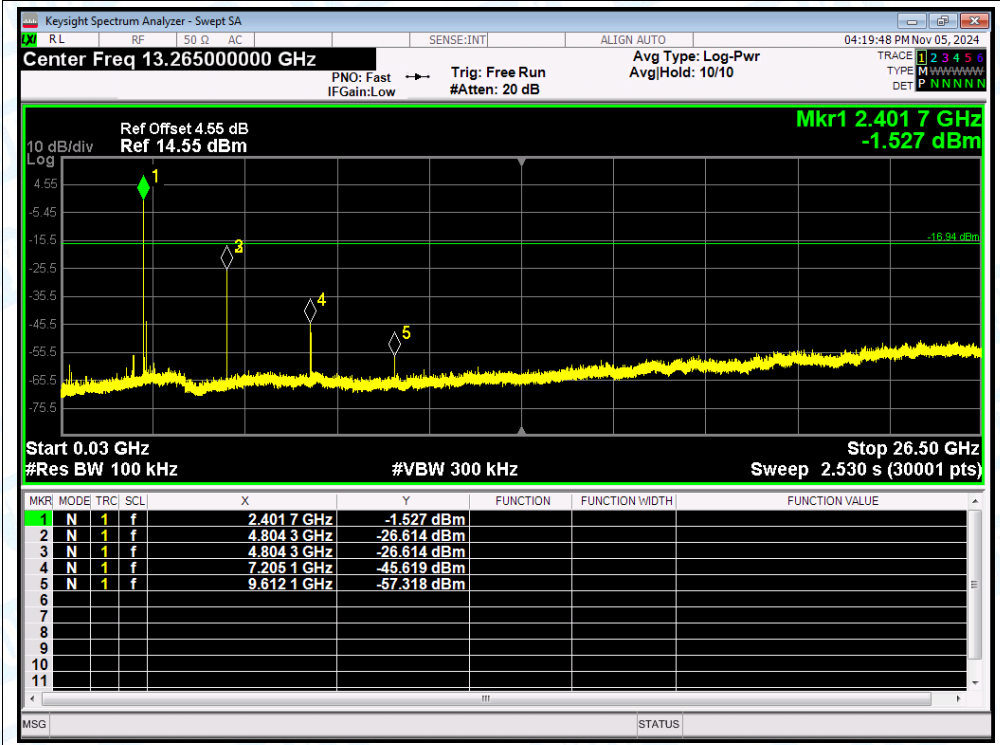
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



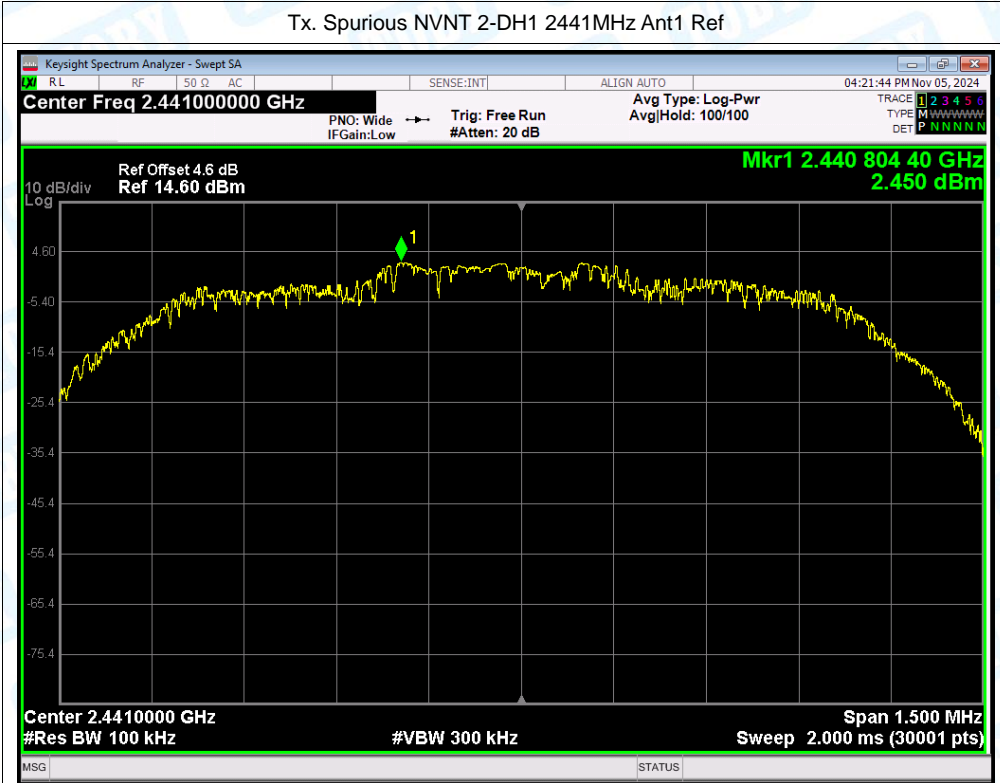
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



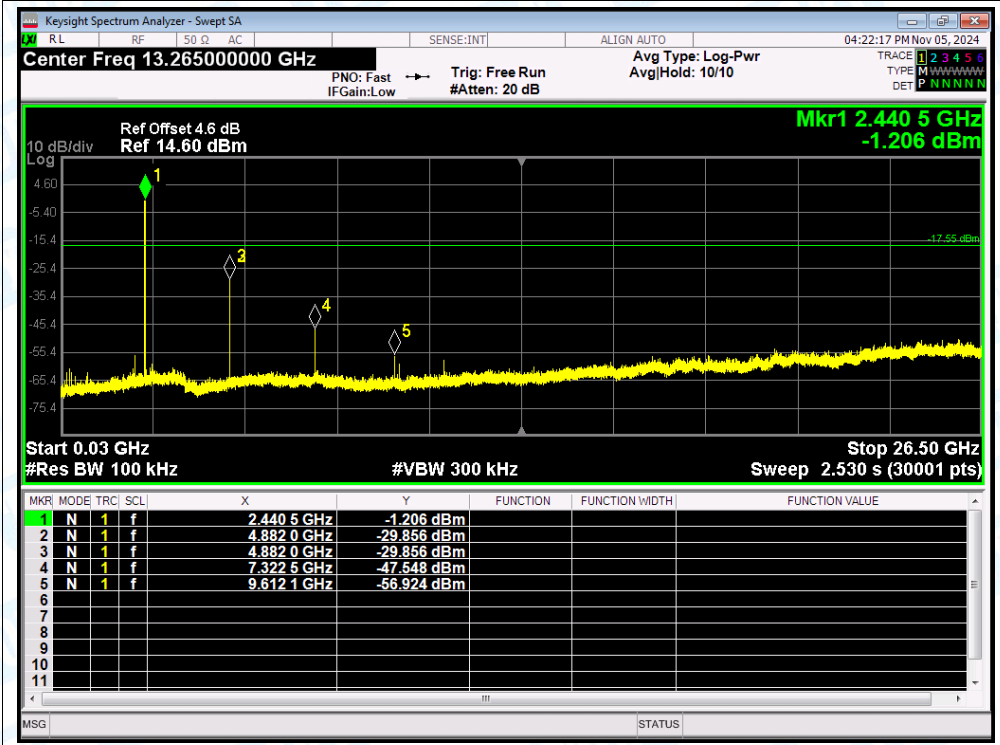
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



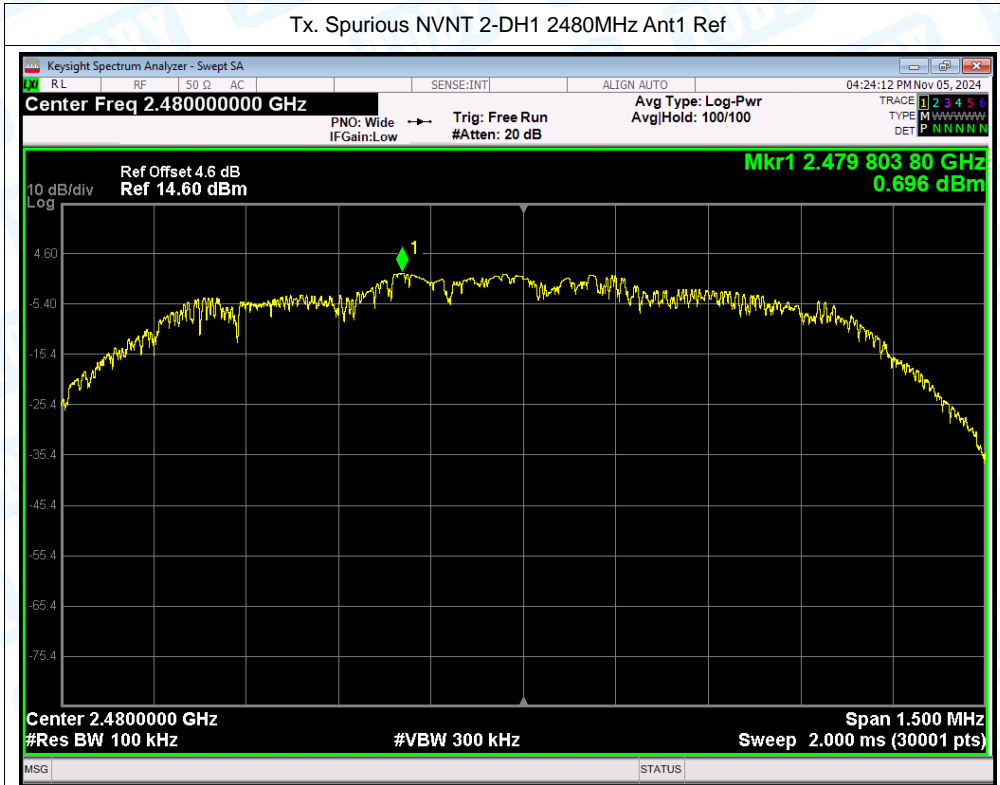
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



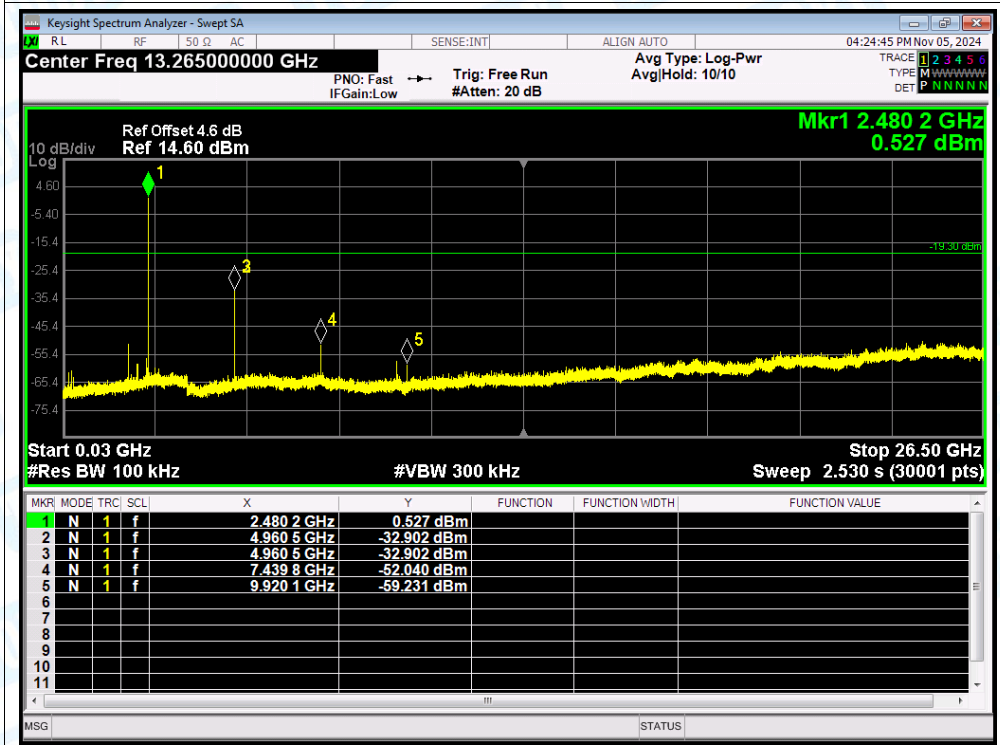
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission

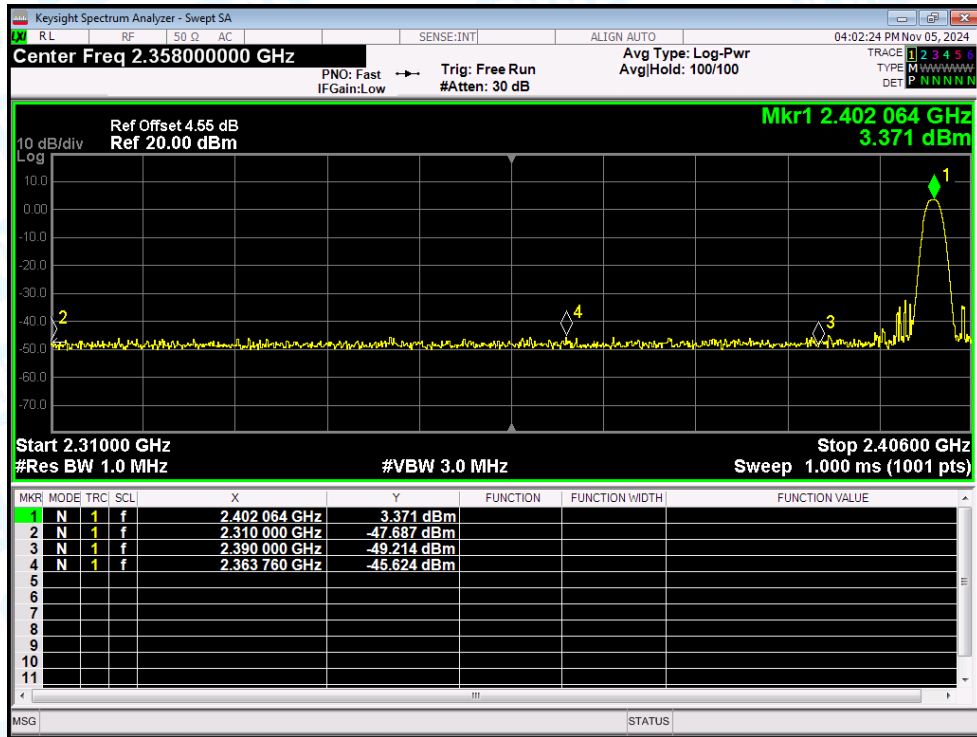


8. Restrict Band

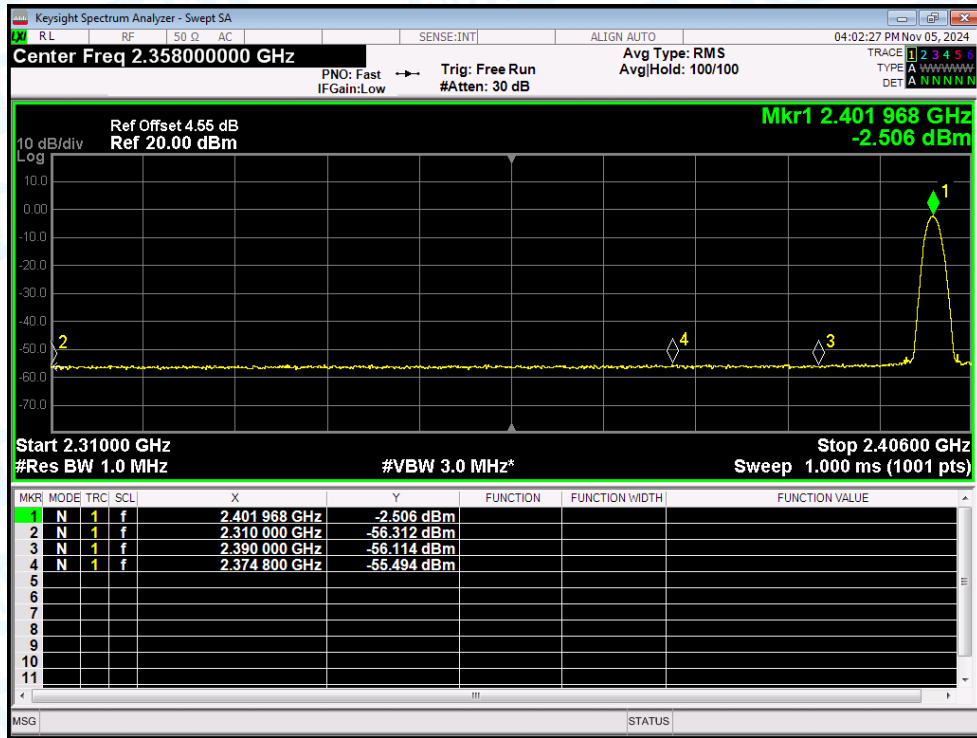
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBUV/m)	Detector	Limit (dBUV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.69	2	-	49.57	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.31	2	4.84	45.79	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2363.76	-45.62	2	-	51.64	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2374.8	-55.49	2	4.84	46.61	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-49.21	2	-	48.05	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.11	2	4.84	45.99	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-47.83	2	-	49.43	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-55.08	2	4.84	47.02	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.632	-37.68	2	-	59.58	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.776	-54.19	2	4.84	47.91	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.97	2	-	49.29	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.67	2	4.84	46.43	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.06	2	-	49.2	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.82	2	4.84	45.28	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2334.768	-45.34	2	-	51.92	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2383.056	-55.36	2	4.84	46.74	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.31	2	-	49.95	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-56.59	2	4.84	45.51	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-39.1	2	-	58.16	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-54.97	2	4.74	47.03	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.584	-36.48	2	-	60.78	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.68	-54.4	2	4.74	47.6	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.73	2	-	49.53	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.74	2	4.74	46.26	Average	54	Pass

Test Graphs

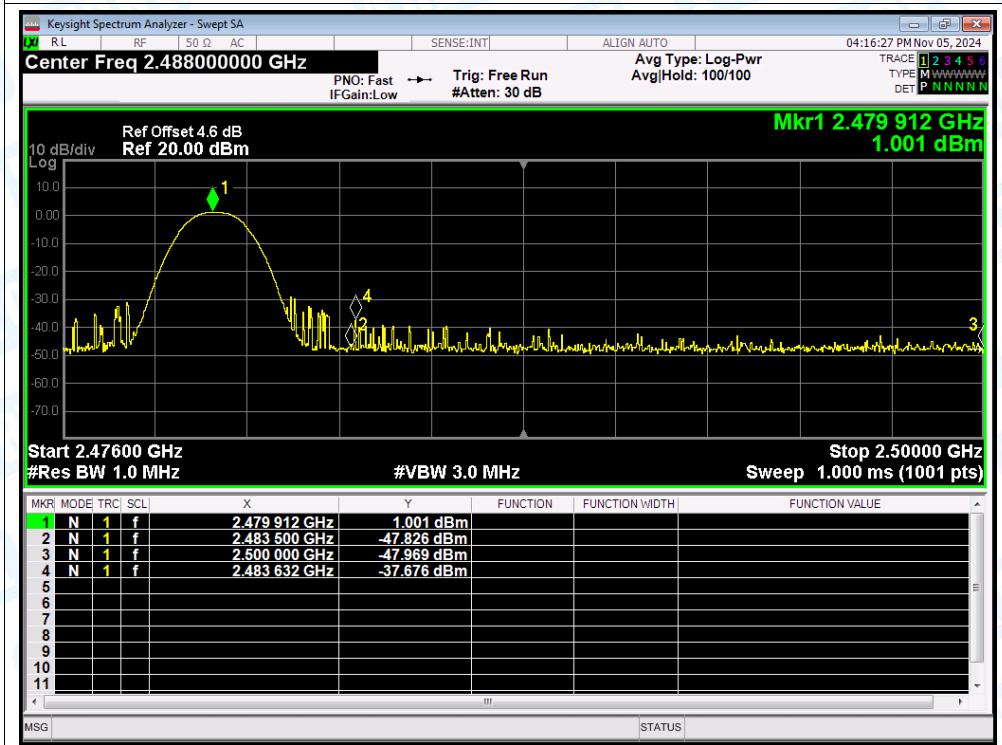
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



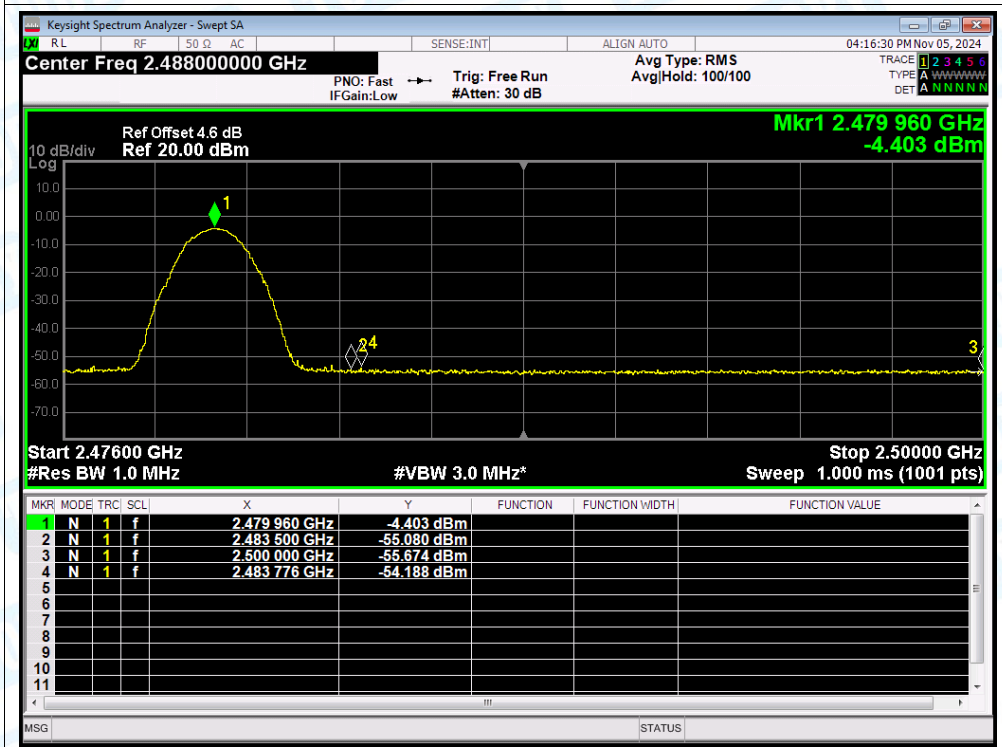
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



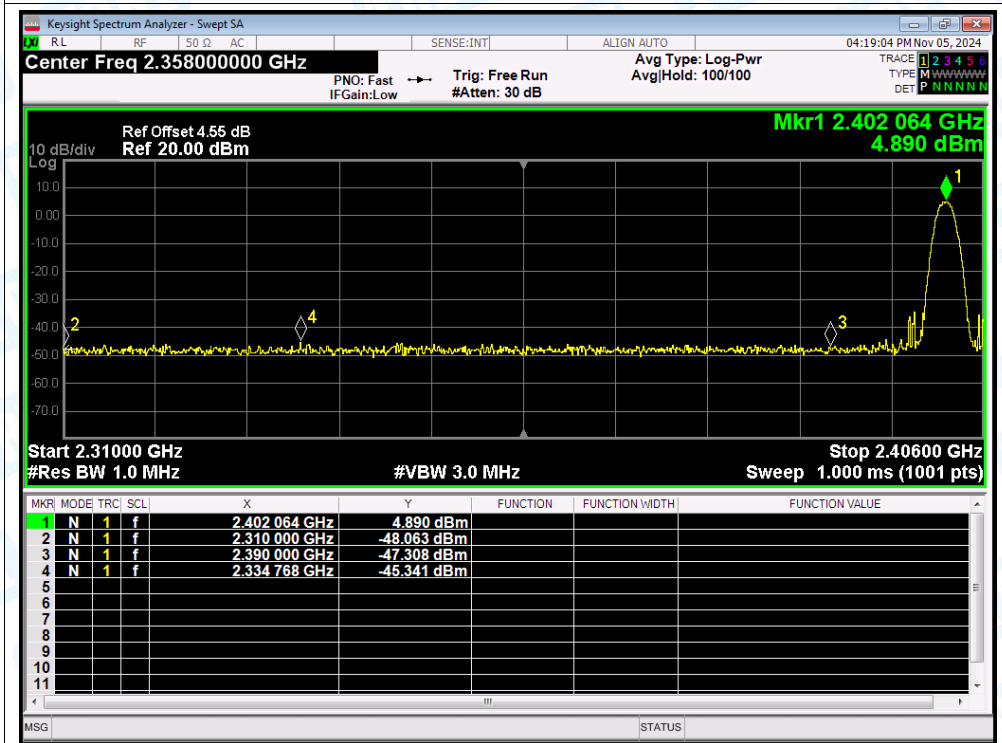
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



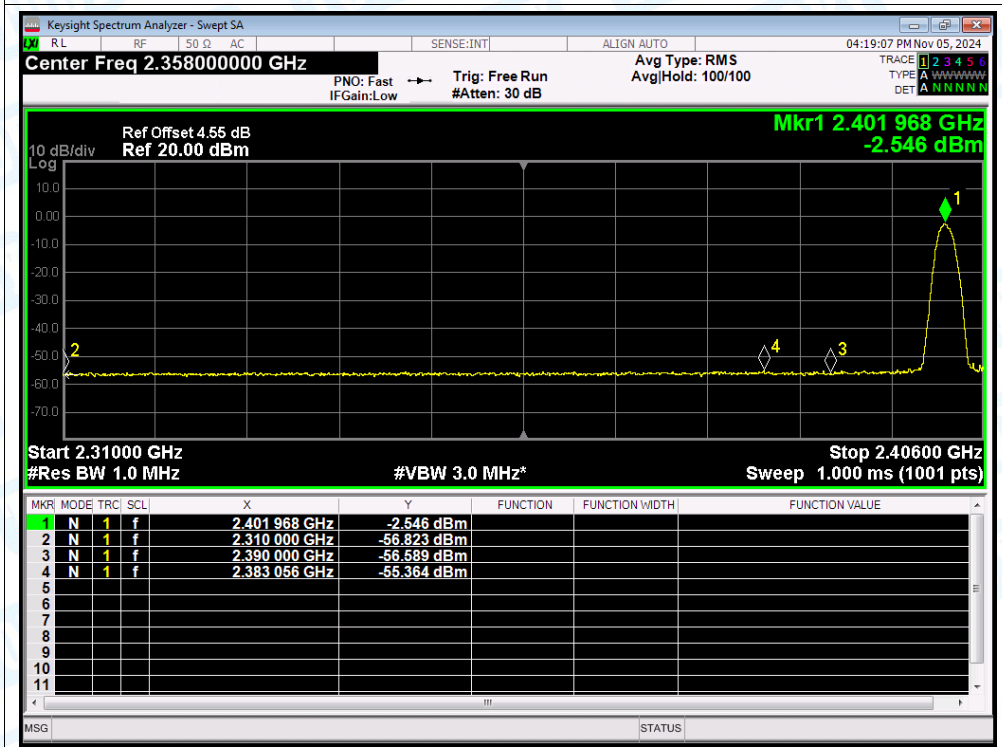
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



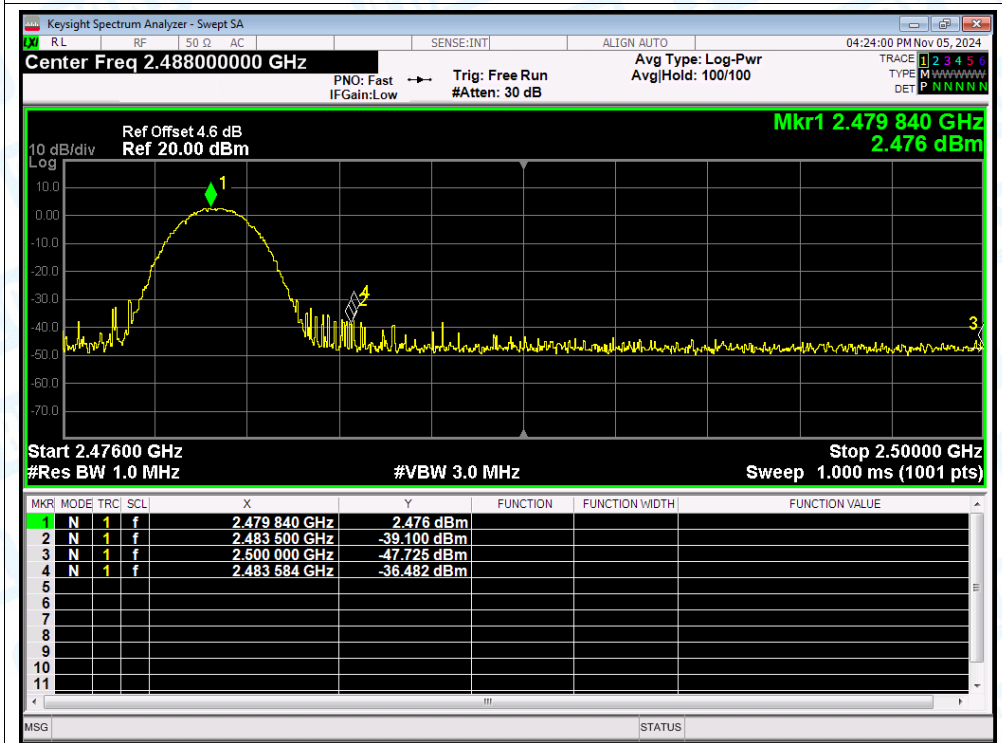
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



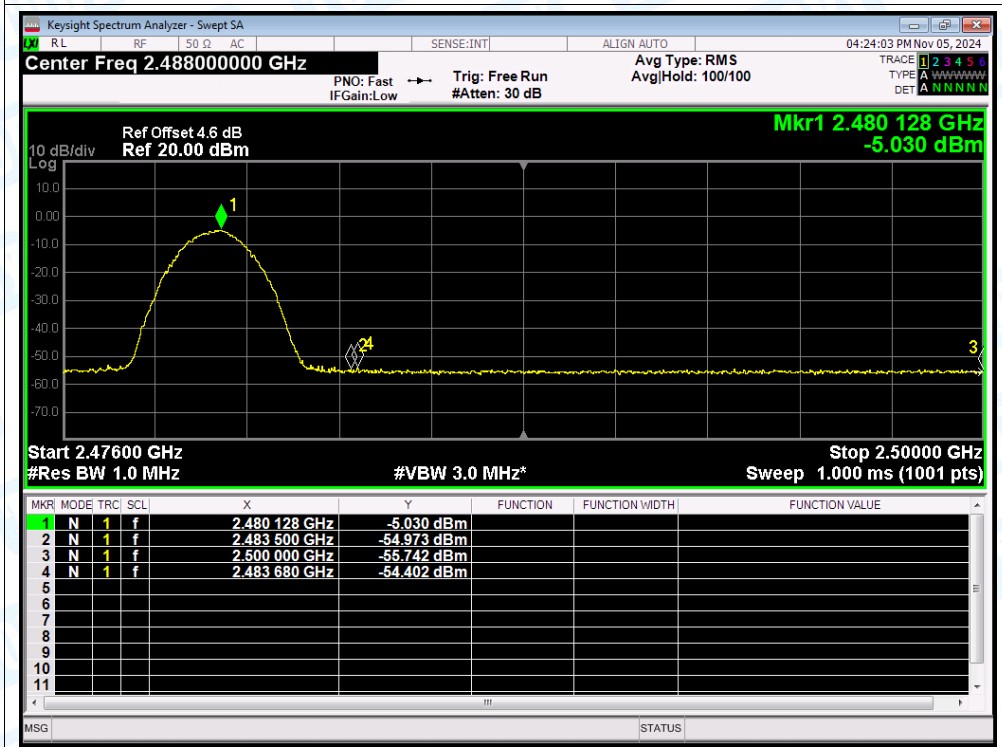
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



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



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

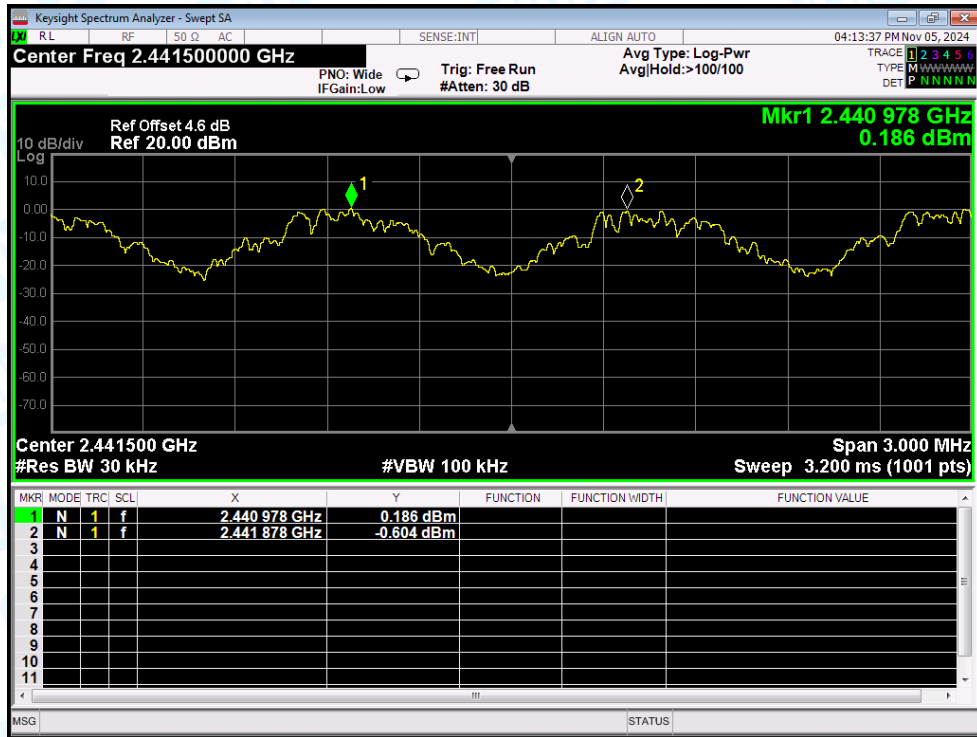


9. Carrier Frequencies Separation

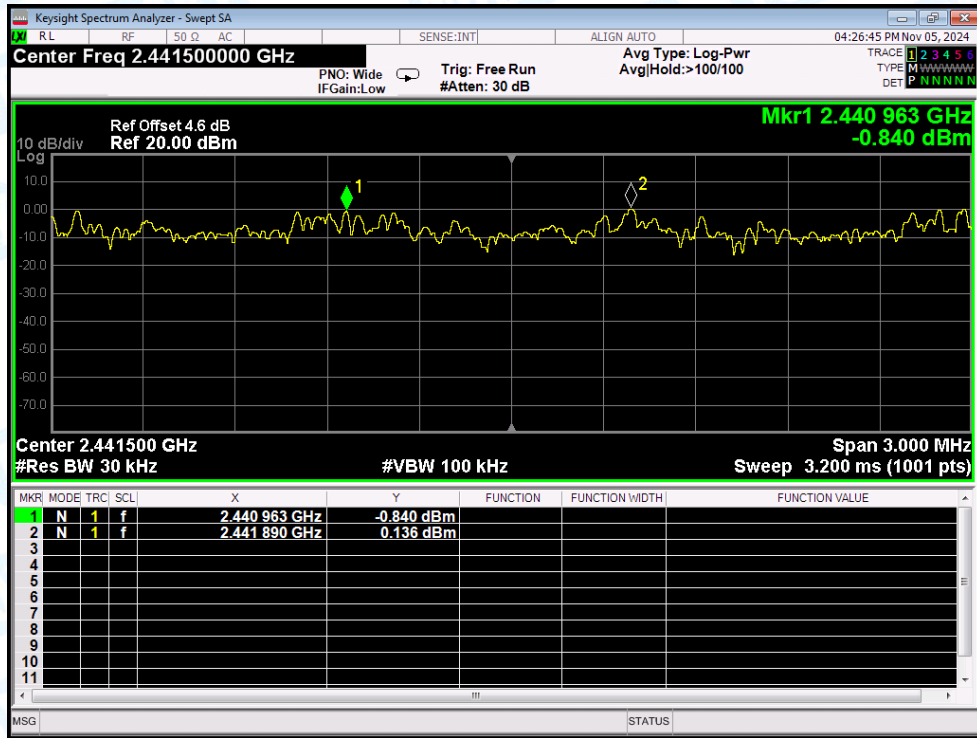
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.978	2441.878	0.9	0.627	Pass
NVNT	2-DH1	Ant1	2440.963	2441.89	0.927	0.86	Pass

Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1

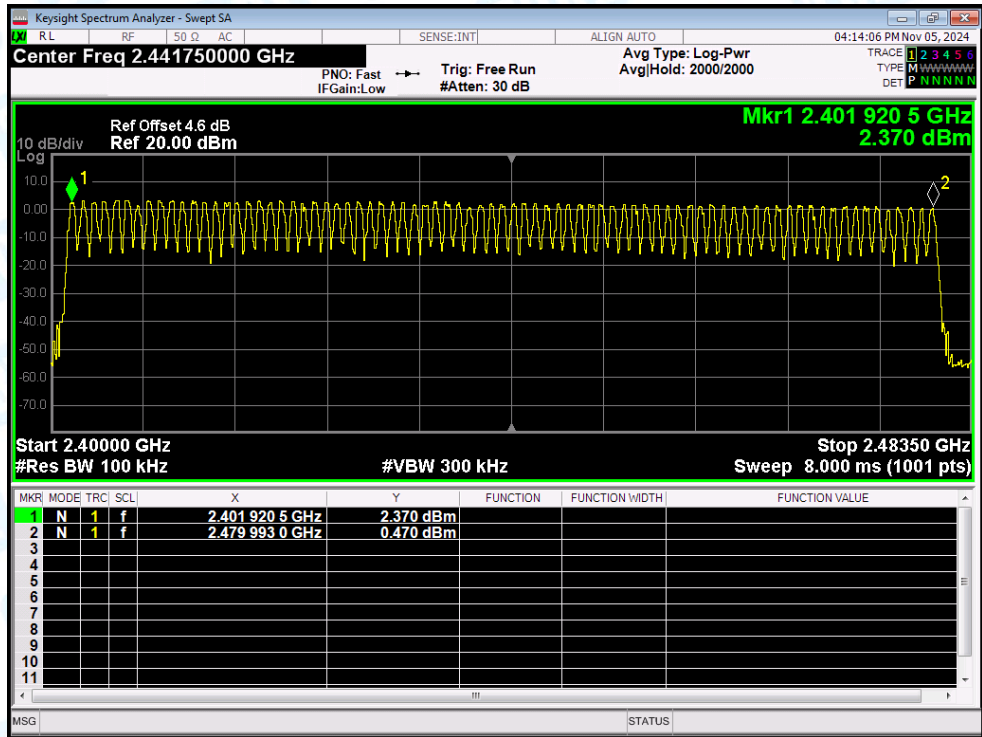


10. Number of Hopping Channel

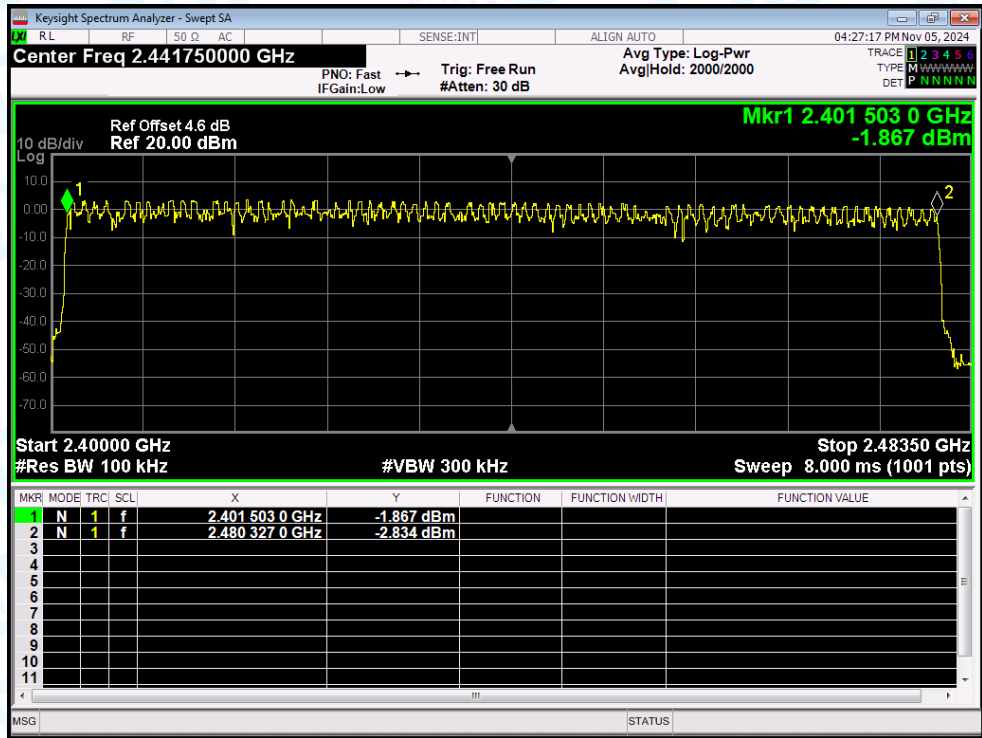
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass

Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1

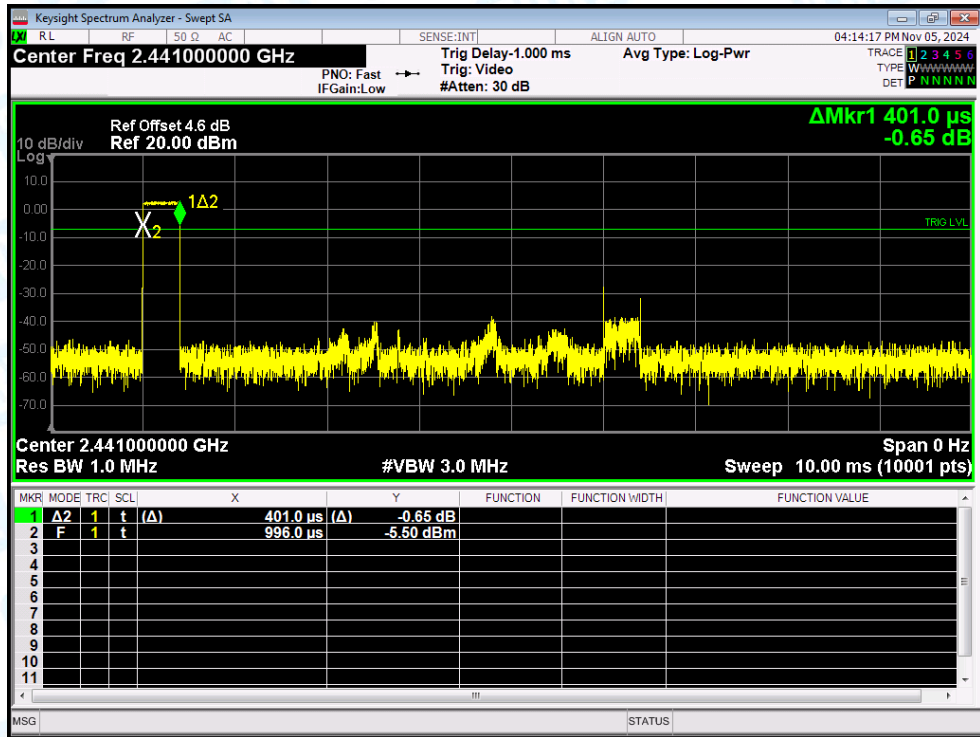


11. Dwell Time

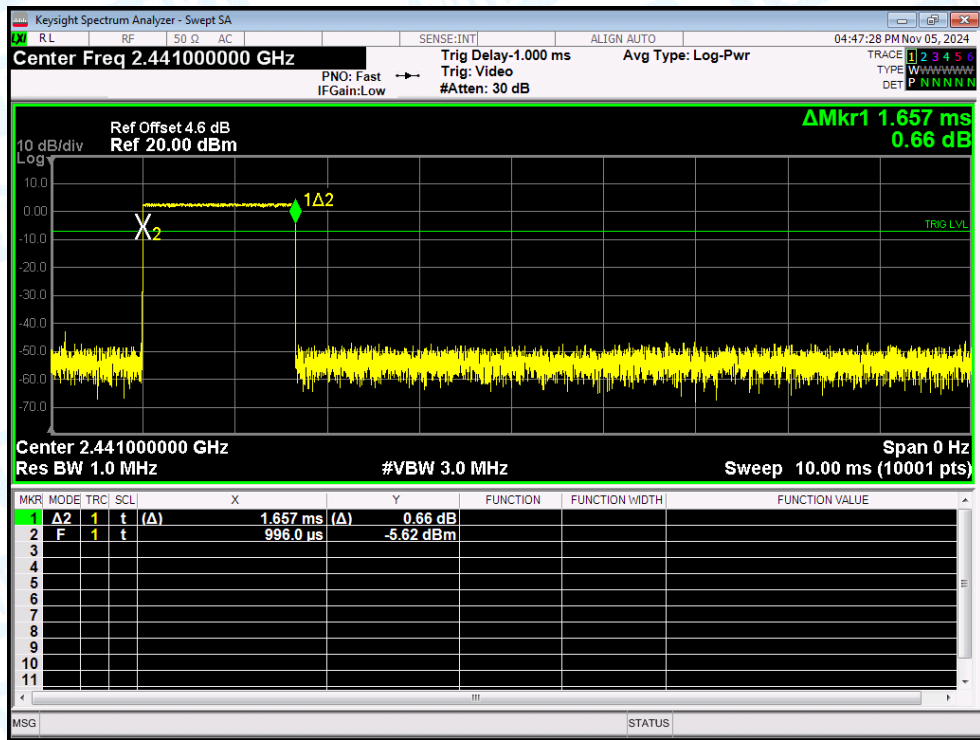
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.401	128.32	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.657	265.12	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.904	309.76	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.411	131.52	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.662	265.92	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.91	310.4	31600	400	Pass

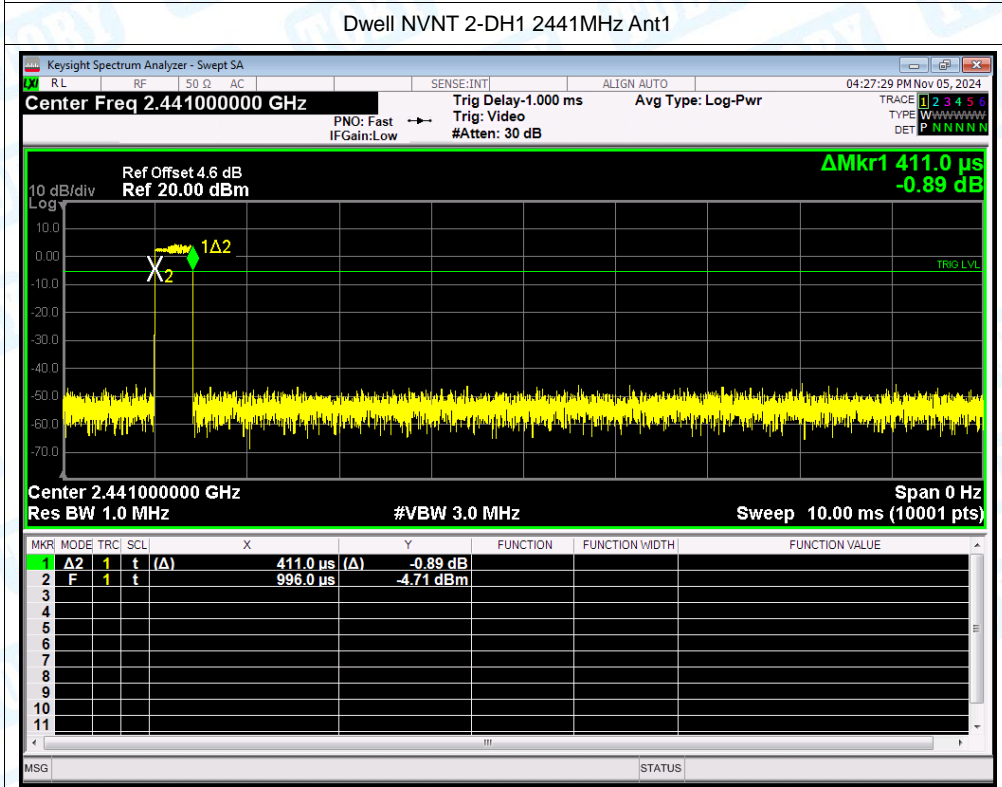
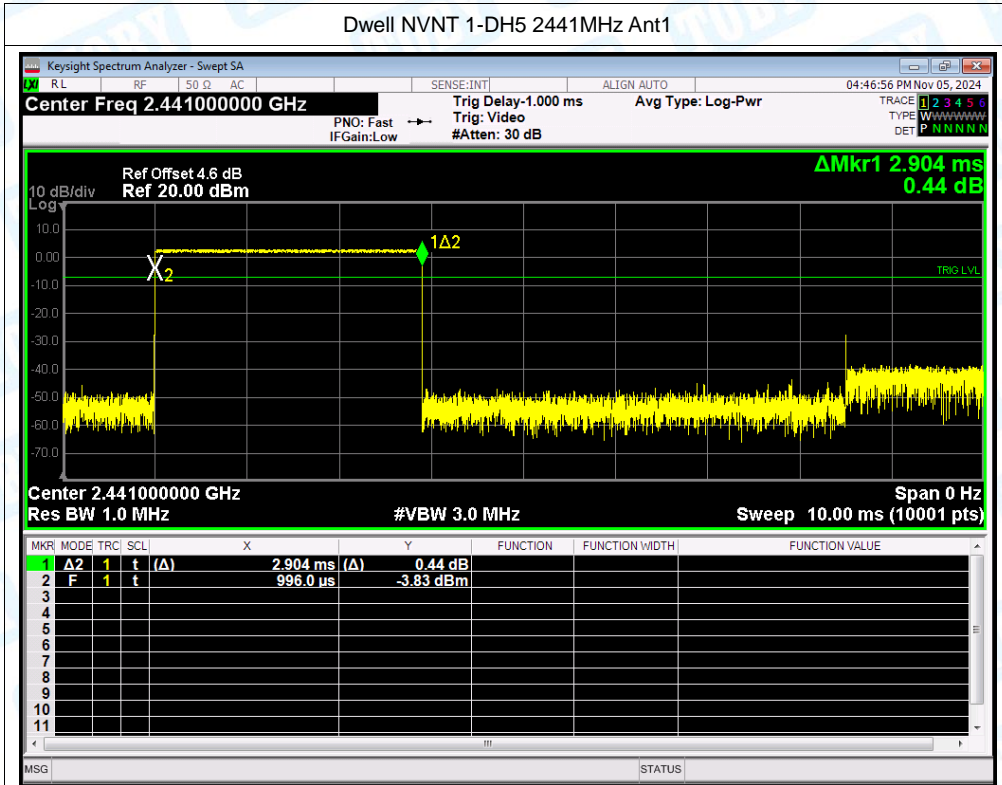
Test Graphs

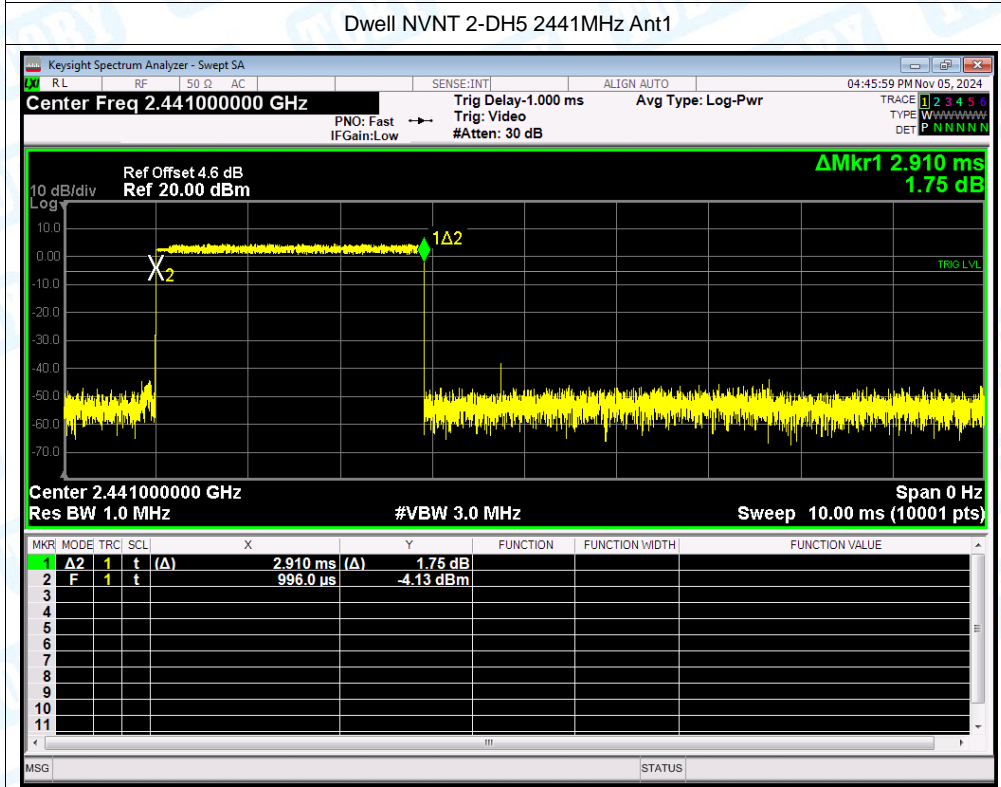
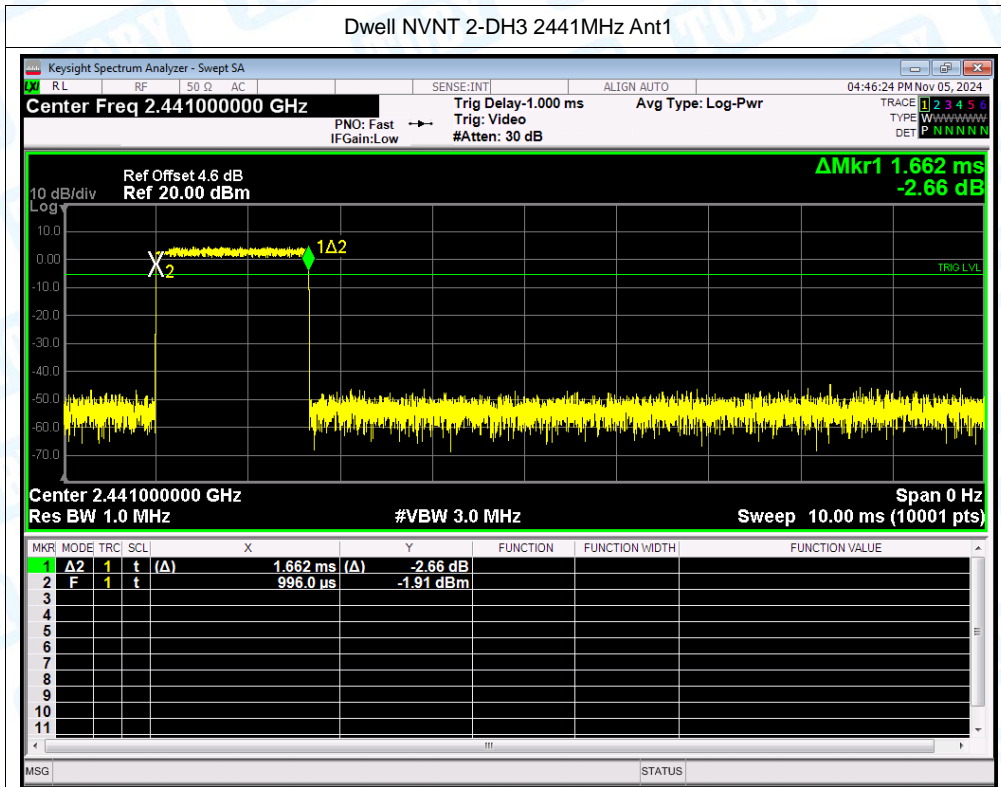
Dwell NVNT 1-DH1 2441MHz Ant1



Dwell NVNT 1-DH3 2441MHz Ant1







-----END OF THE REPORT-----