

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Smart Watch
Test Model:	KC100
Sample ID:	HC-C-202509-0126-01-01
Environmental Conditions	
Temperature:	25.6℃
Relative Humidity:	48.6%
Test Voltage:	DC 3.8V
Test Engineer:	Lily zhang
Note: For a more detailed features description, please refer to the report TBR-C-202509-0126-20 The report only show the worst case data.	

Contents

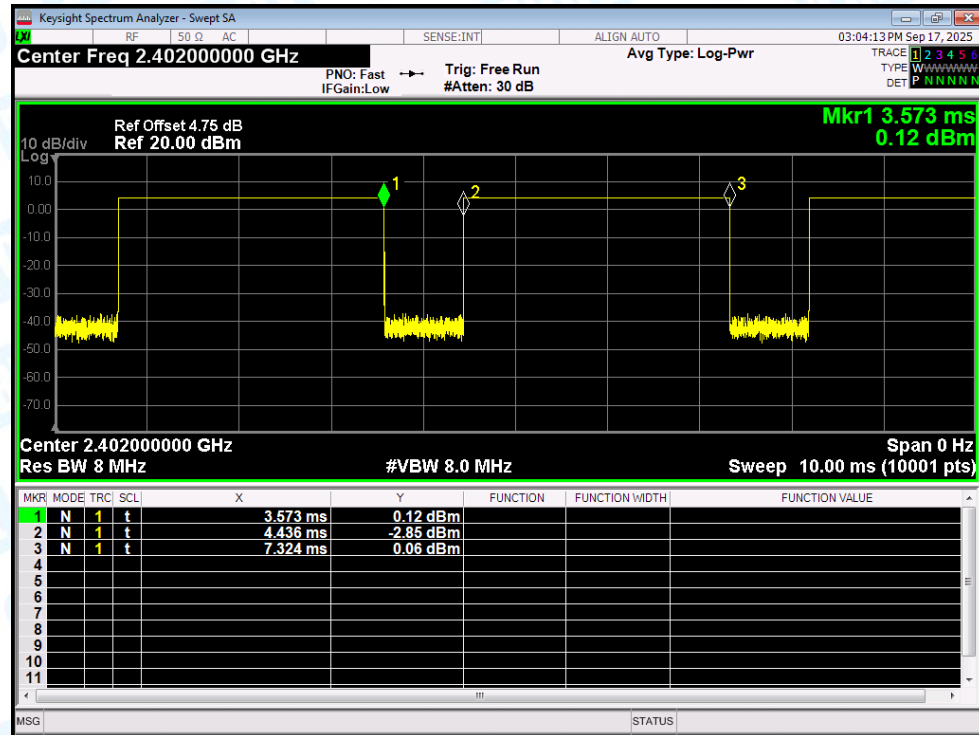
1.	Duty Cycle	3
2.	Dwell Time	9
3.	Maximum Conducted Output Power	15
4.	-20dB Bandwidth	21
5.	Occupied Channel Bandwidth	27
6.	Band Edge	33
7.	Band Edge(Hopping)	40
8.	Conducted RF Spurious Emission	47
9.	Restrict Band	57
10.	Carrier Frequencies Separation	64
11.	Number of Hopping Channel	67

1. Duty Cycle

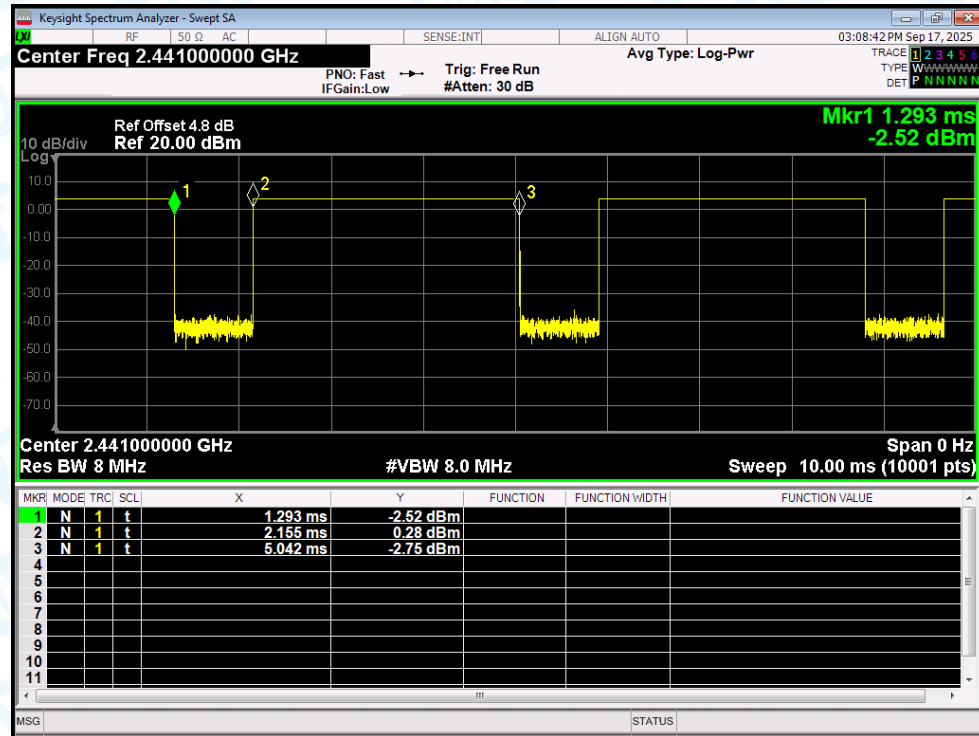
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	76.99	1.14	0.35
NVNT	1-DH5	2441	Ant1	77.01	1.13	0.35
NVNT	1-DH5	2480	Ant1	77.01	1.13	0.35
NVNT	2-DH5	2402	Ant1	77.15	1.13	0.35
NVNT	2-DH5	2441	Ant1	77.15	1.13	0.35
NVNT	2-DH5	2480	Ant1	77.12	1.13	0.35
NVNT	3-DH5	2402	Ant1	77.2	1.12	0.35
NVNT	3-DH5	2441	Ant1	77.2	1.12	0.35
NVNT	3-DH5	2480	Ant1	77.2	1.12	0.35

Test Graphs

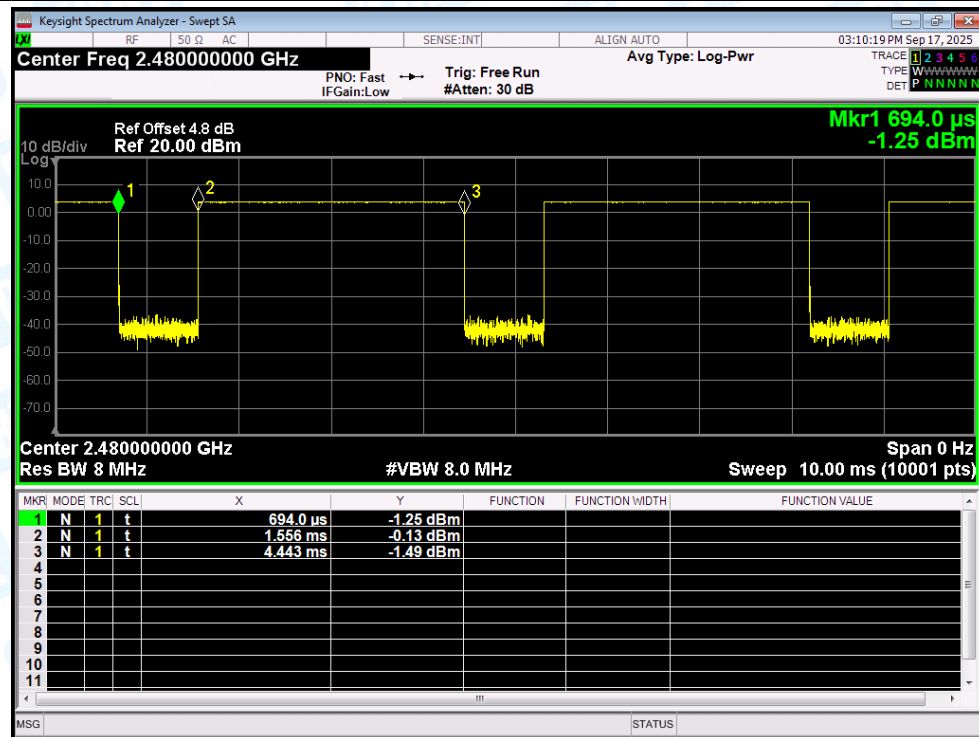
Duty Cycle NVNT 1-DH5 2402MHz Ant1



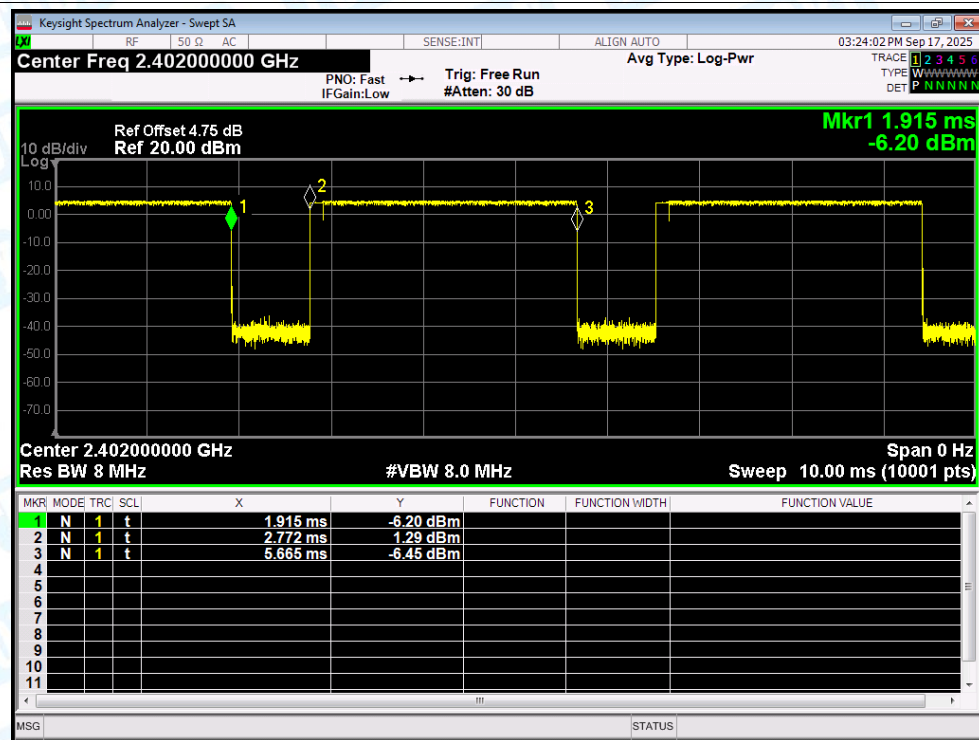
Duty Cycle NVNT 1-DH5 2441MHz Ant1



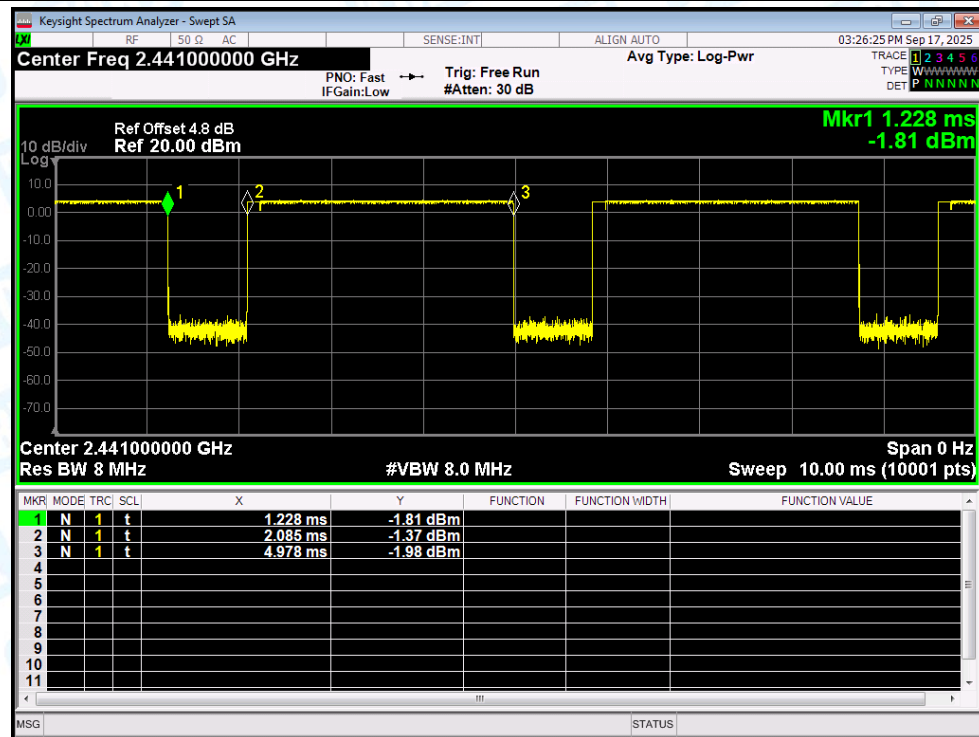
Duty Cycle NVNT 1-DH5 2480MHz Ant1



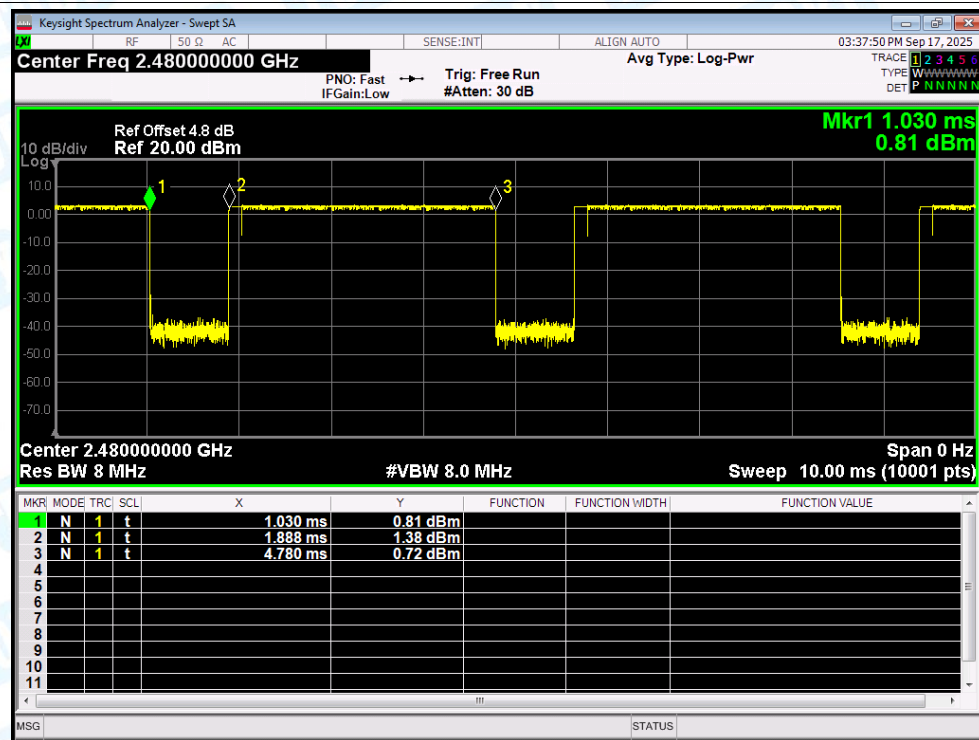
Duty Cycle NVNT 2-DH5 2402MHz Ant1



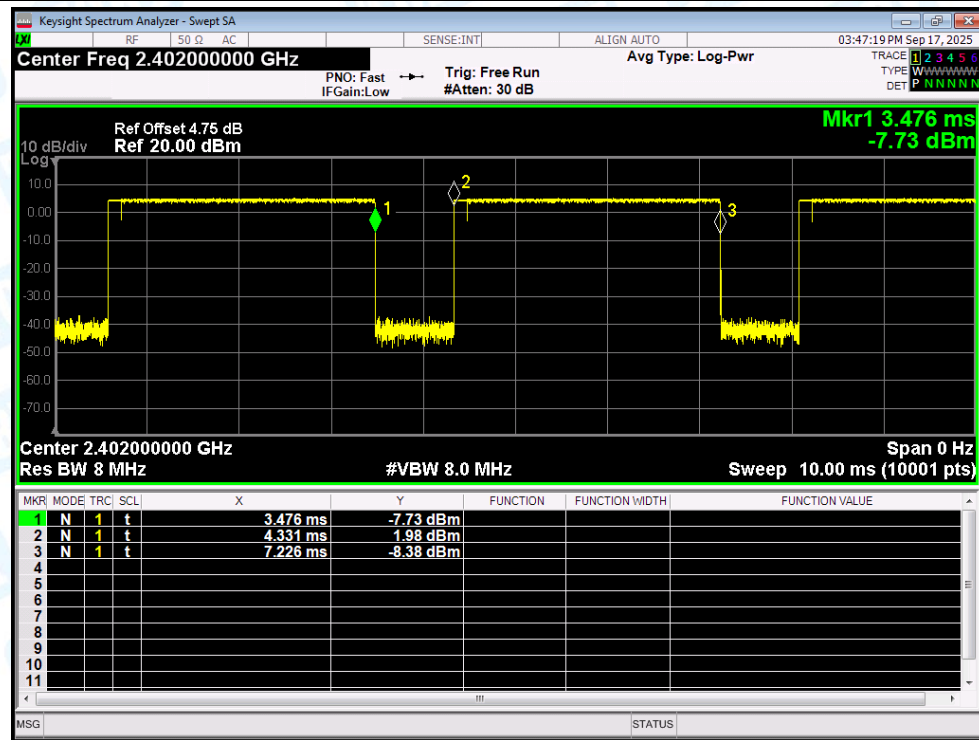
Duty Cycle NVNT 2-DH5 2441MHz Ant1



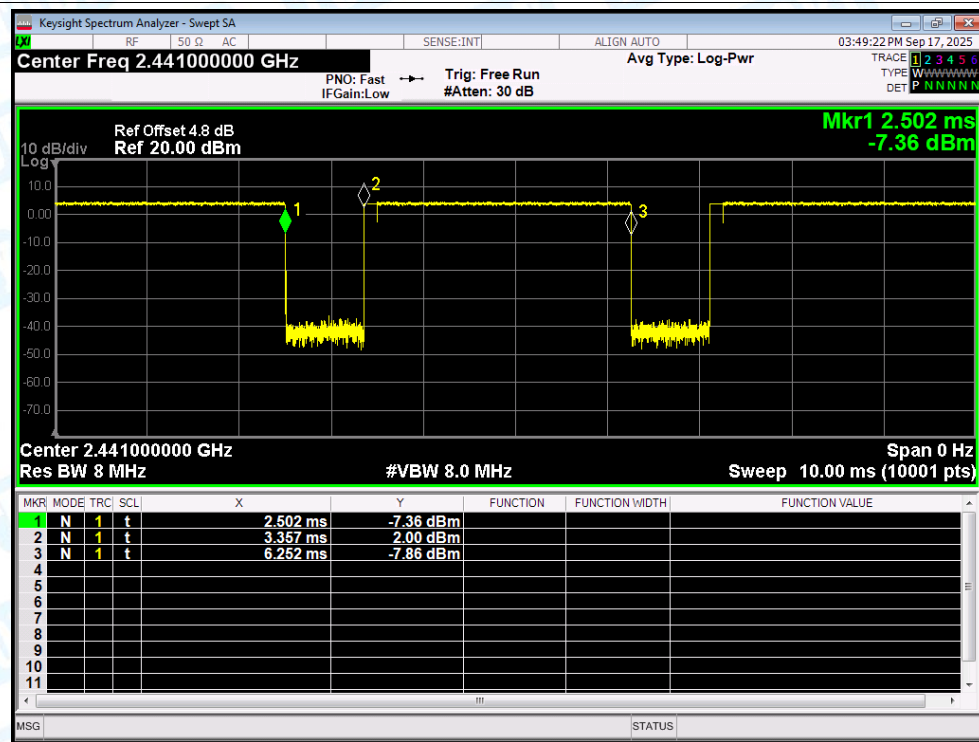
Duty Cycle NVNT 2-DH5 2480MHz Ant1

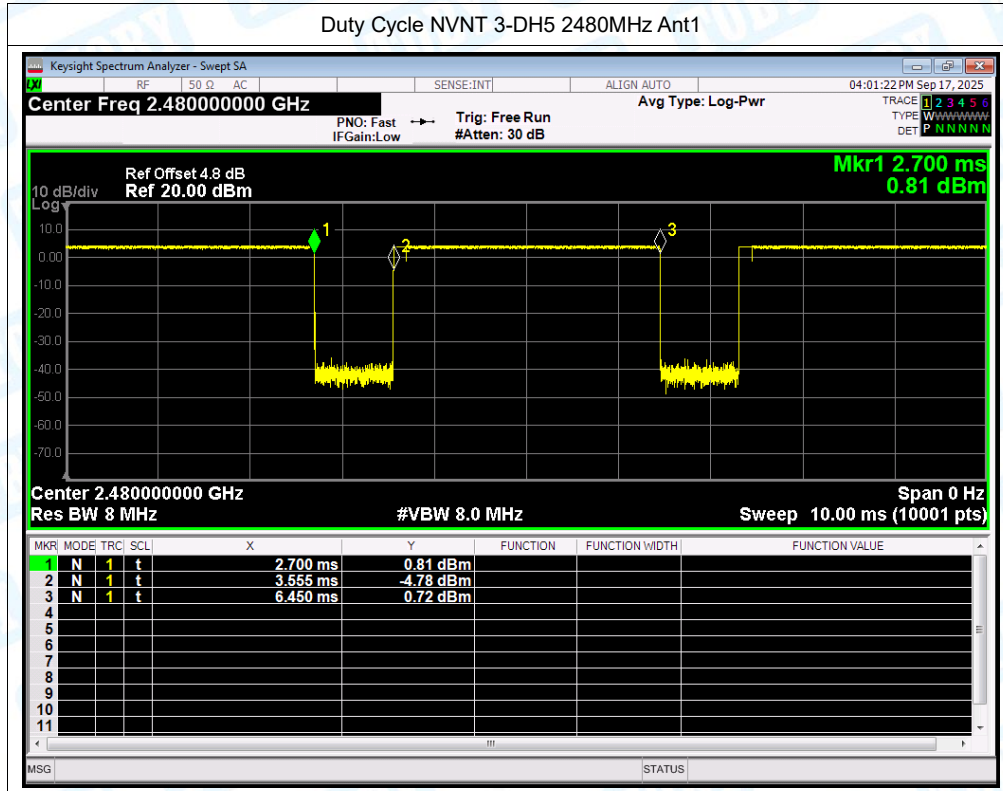


Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



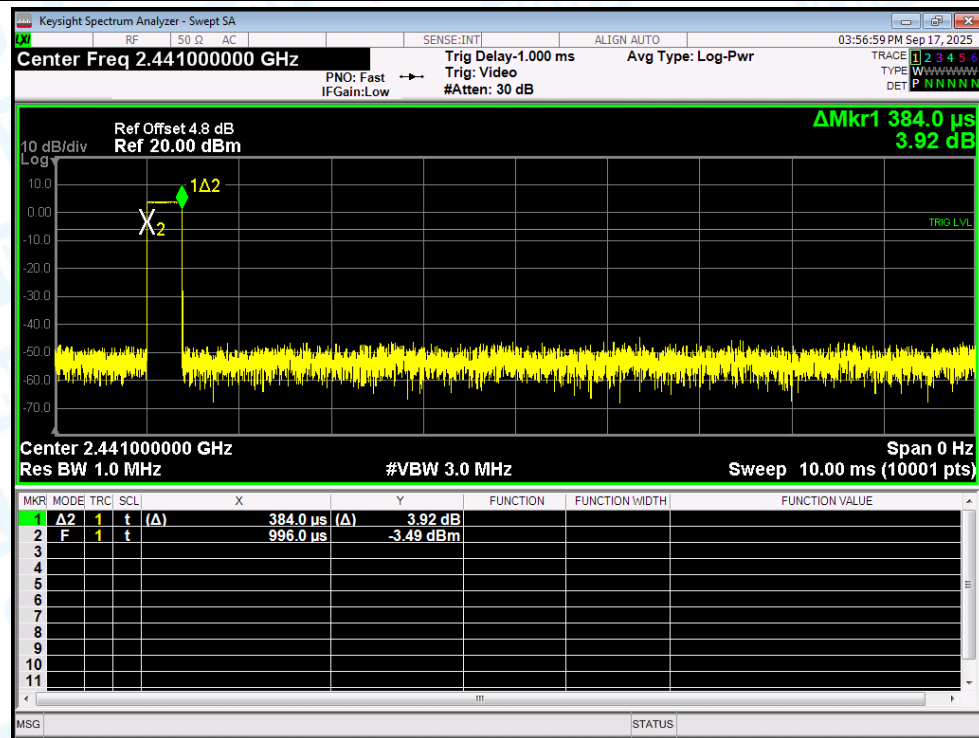


2. Dwell Time

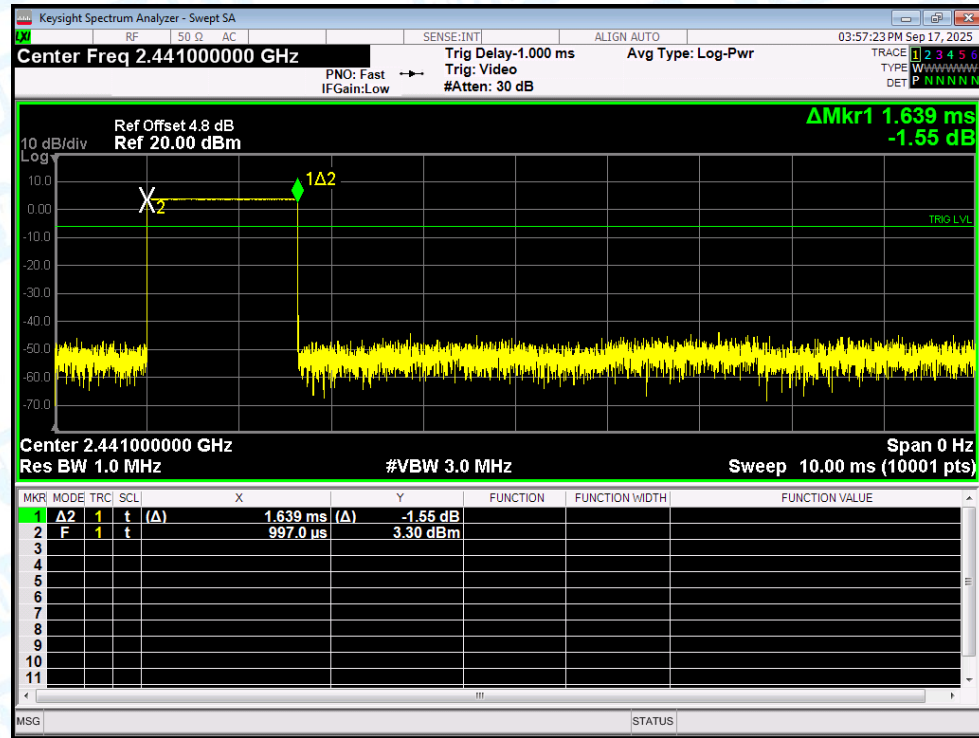
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.384	122.88	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.392	125.44	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.637	261.92	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.892	308.48	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.392	125.44	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.644	263.04	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.894	308.693	31600	400	Pass

Test Graphs

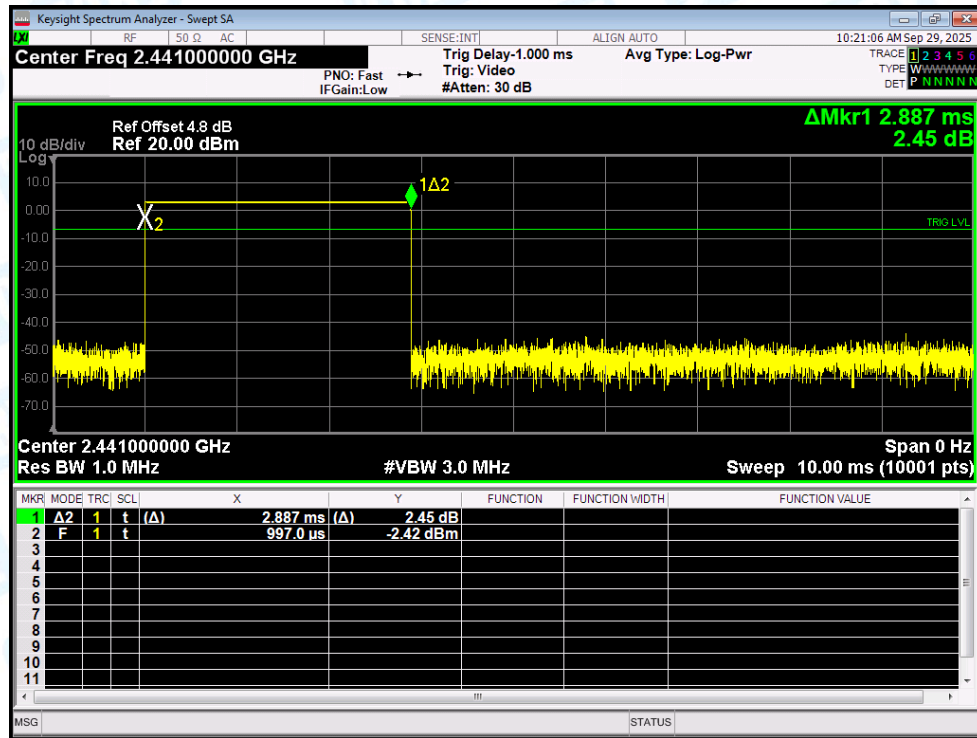
Dwell NVNT 1-DH1 2441MHz Ant1



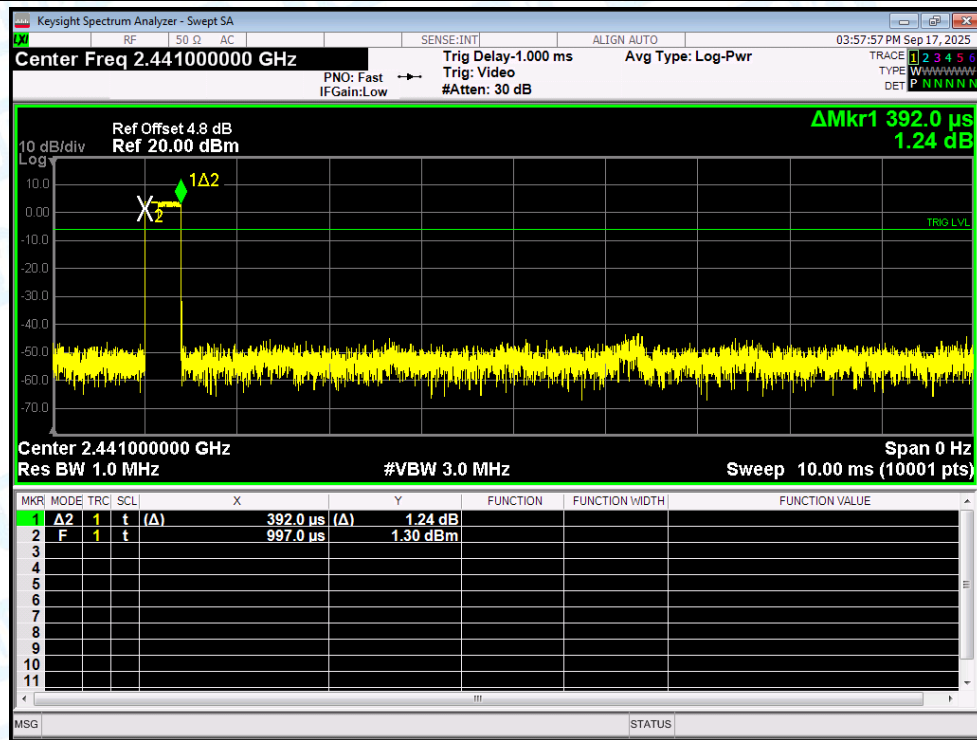
Dwell NVNT 1-DH3 2441MHz Ant1



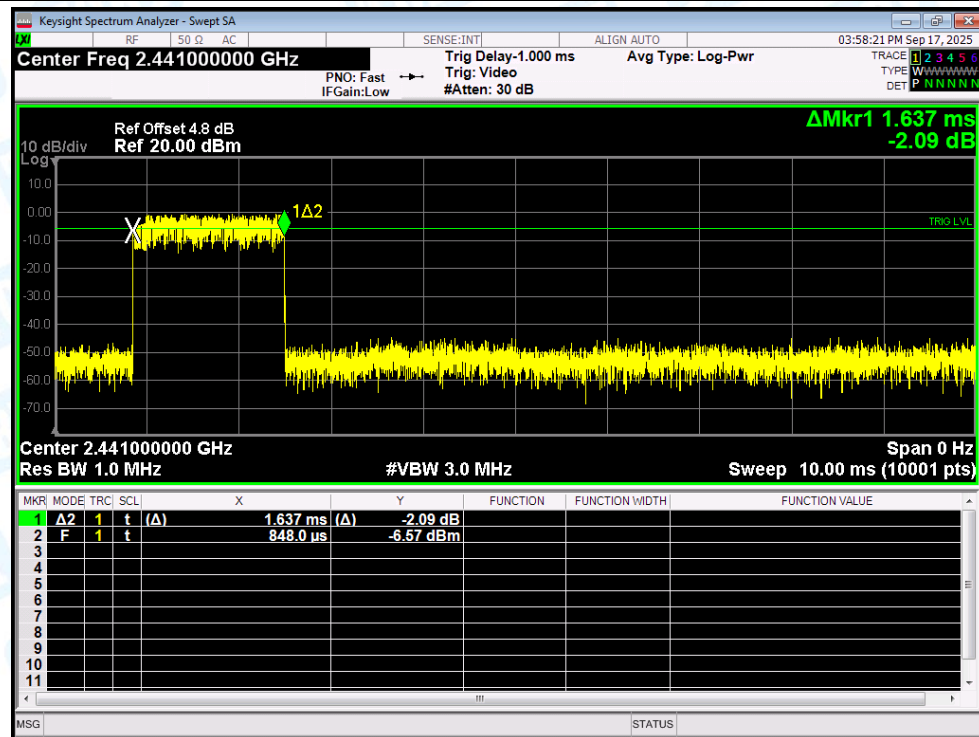
Dwell NVNT 1-DH5 2441MHz Ant1



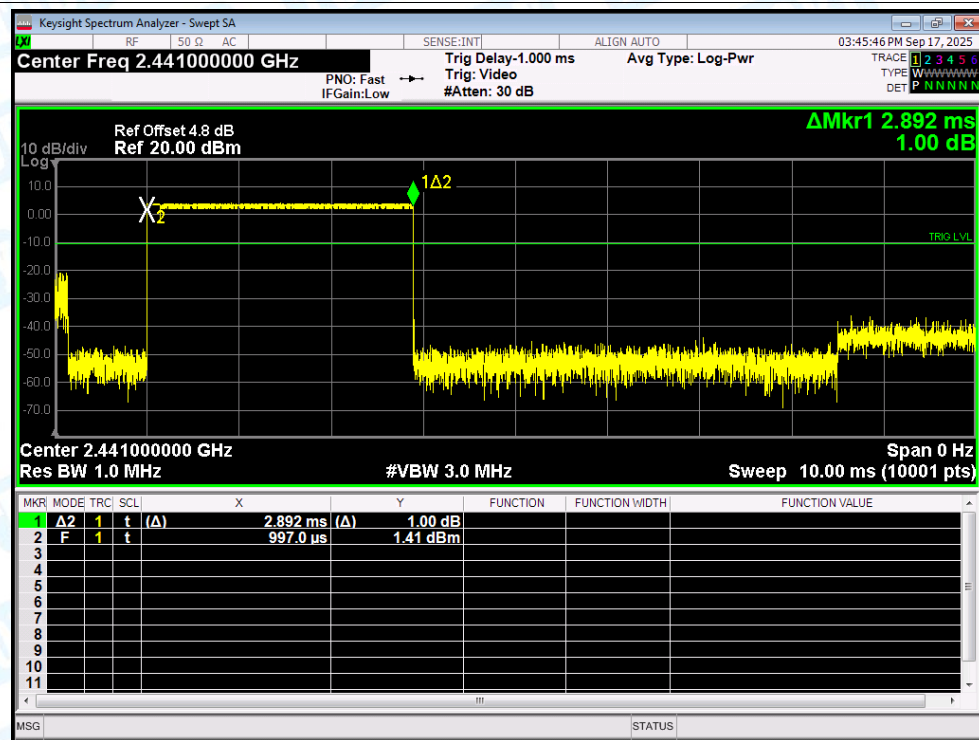
Dwell NVNT 2-DH1 2441MHz Ant1



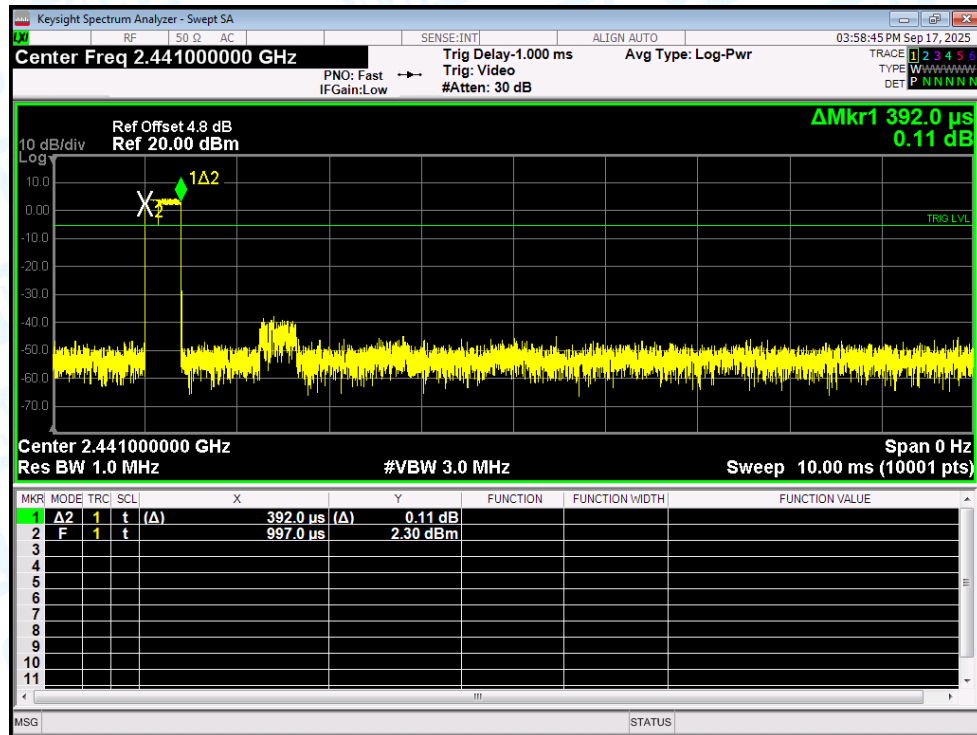
Dwell NVNT 2-DH3 2441MHz Ant1



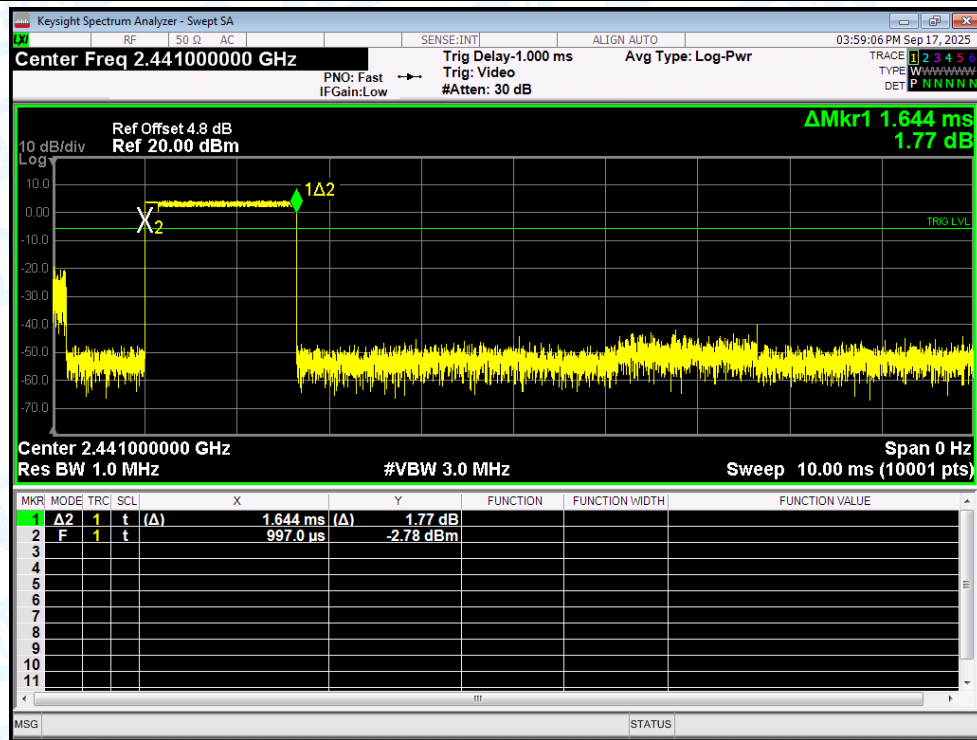
Dwell NVNT 2-DH5 2441MHz Ant1

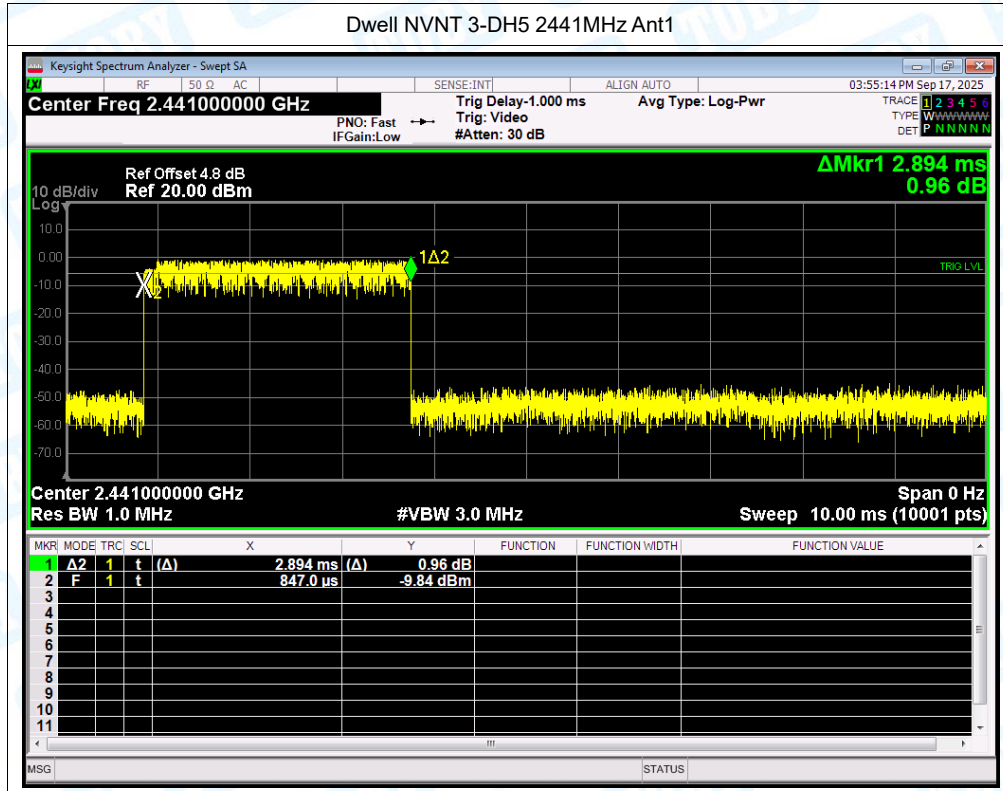


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1



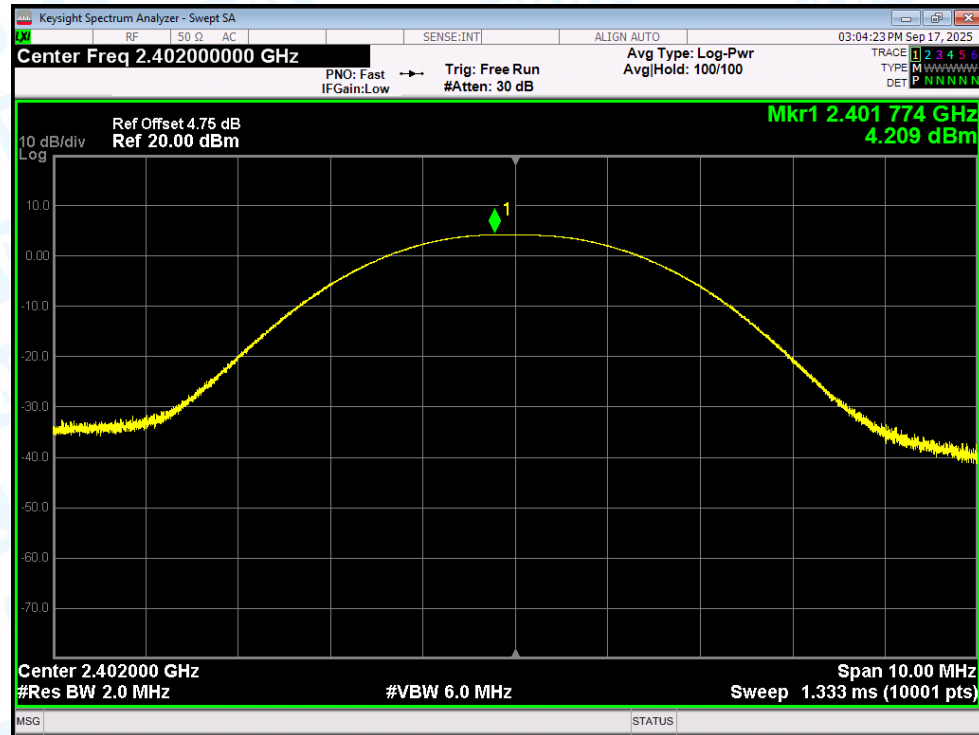


3. Maximum Conducted Output Power

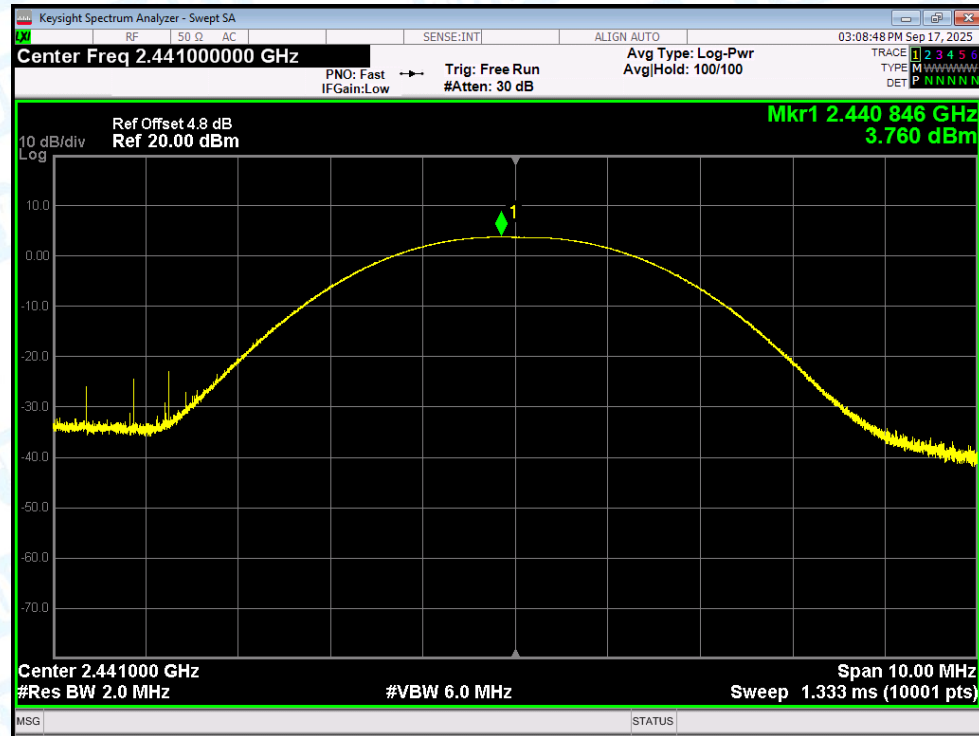
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	4.209	21	Pass
NVNT	1-DH5	2441	Ant1	3.76	21	Pass
NVNT	1-DH5	2480	Ant1	2.579	21	Pass
NVNT	2-DH5	2402	Ant1	4.667	21	Pass
NVNT	2-DH5	2441	Ant1	4.189	21	Pass
NVNT	2-DH5	2480	Ant1	3.148	21	Pass
NVNT	3-DH5	2402	Ant1	4.898	21	Pass
NVNT	3-DH5	2441	Ant1	4.351	21	Pass
NVNT	3-DH5	2480	Ant1	4.116	21	Pass

Test Graphs

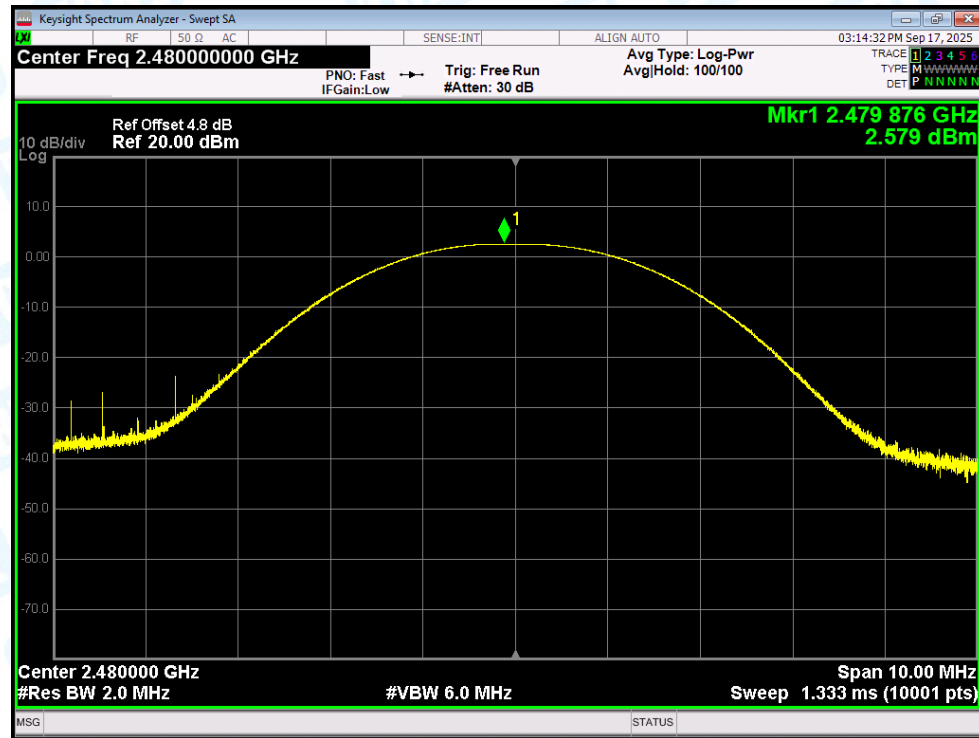
Power NVNT 1-DH5 2402MHz Ant1



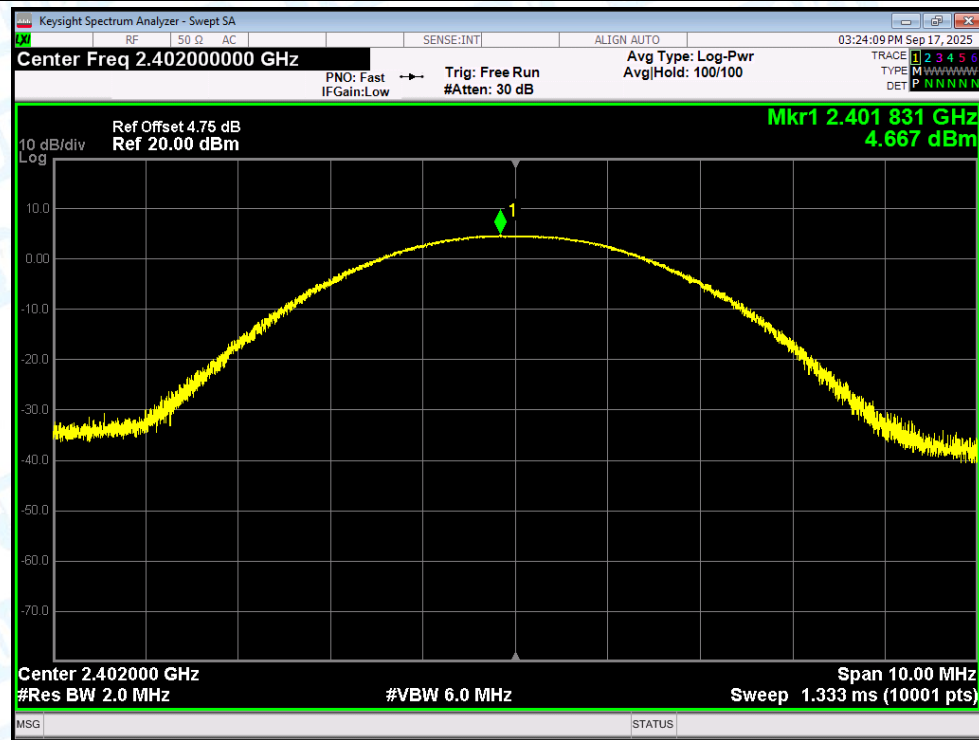
Power NVNT 1-DH5 2441MHz Ant1



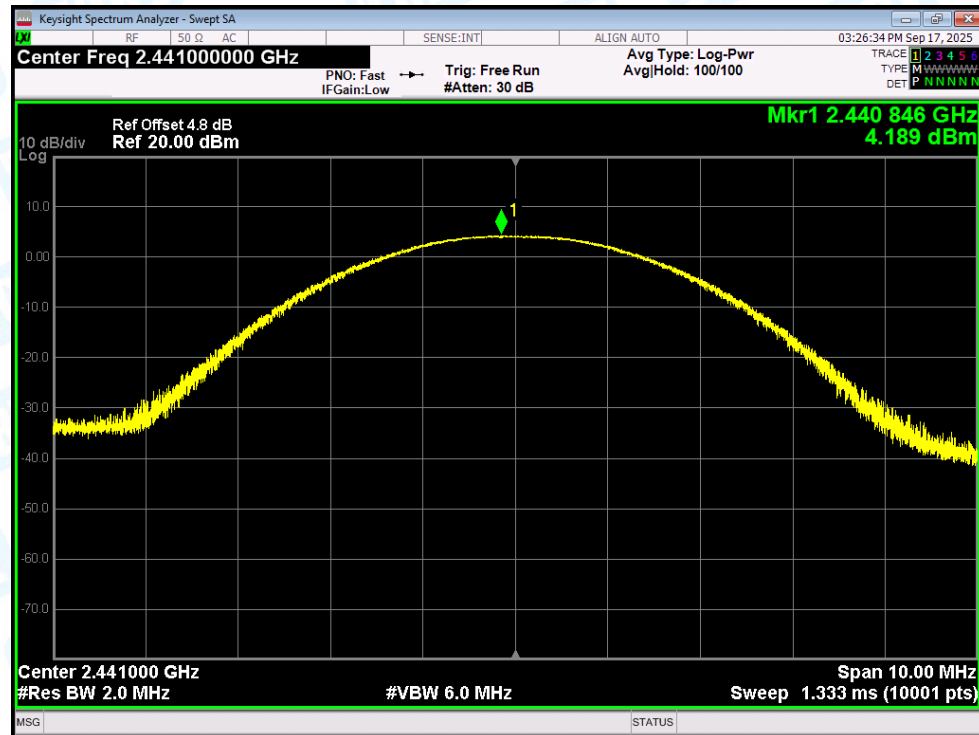
Power NVNT 1-DH5 2480MHz Ant1



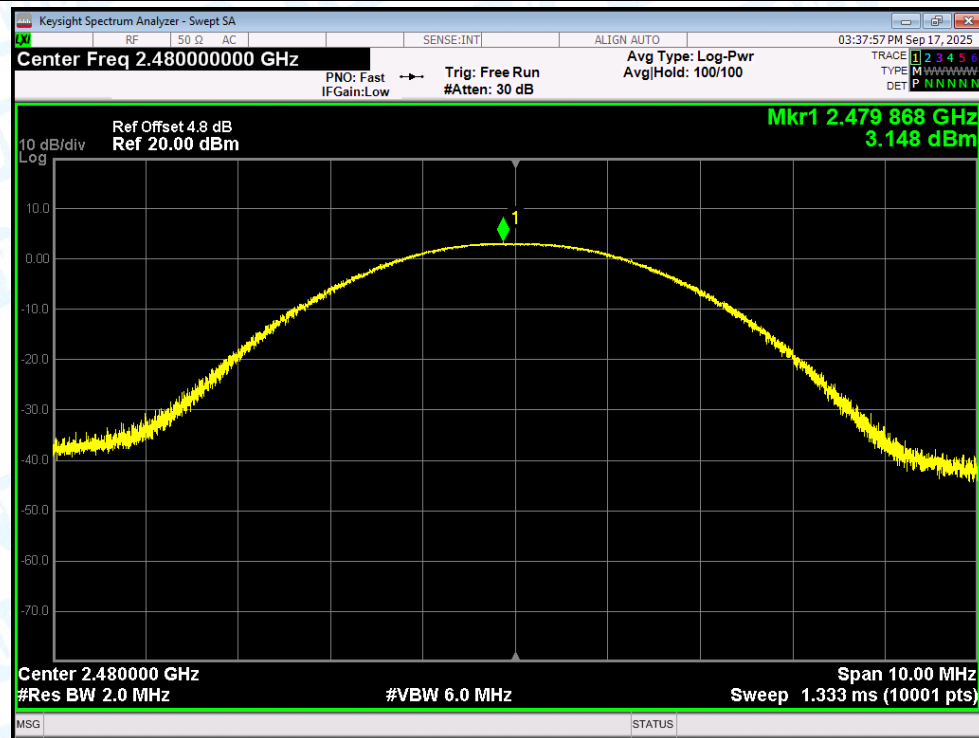
Power NVNT 2-DH5 2402MHz Ant1



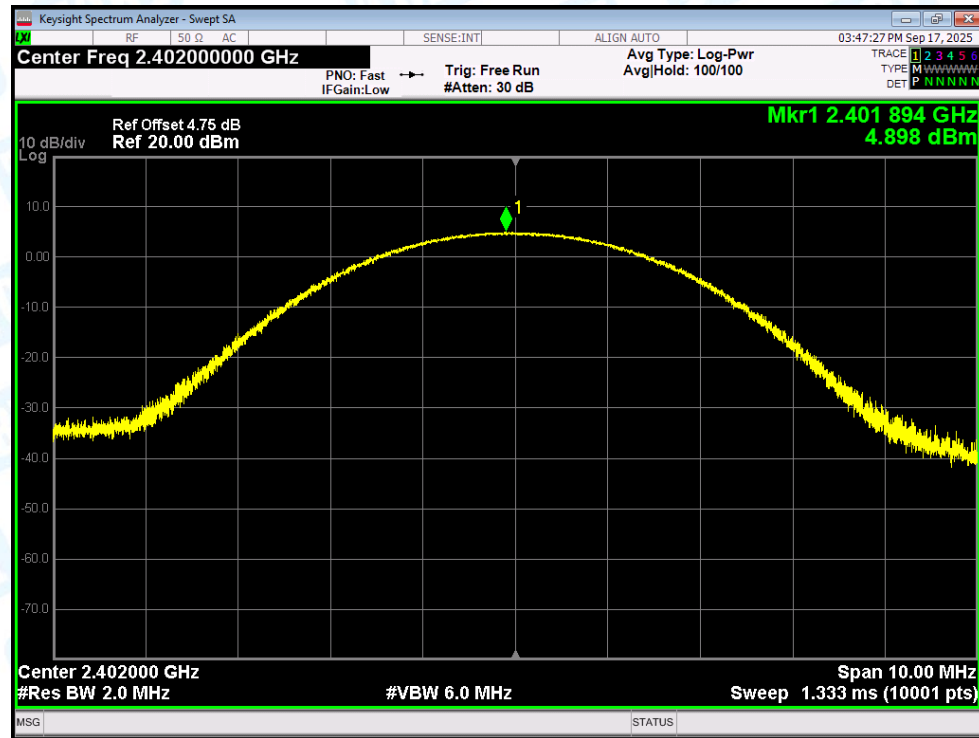
Power NVNT 2-DH5 2441MHz Ant1



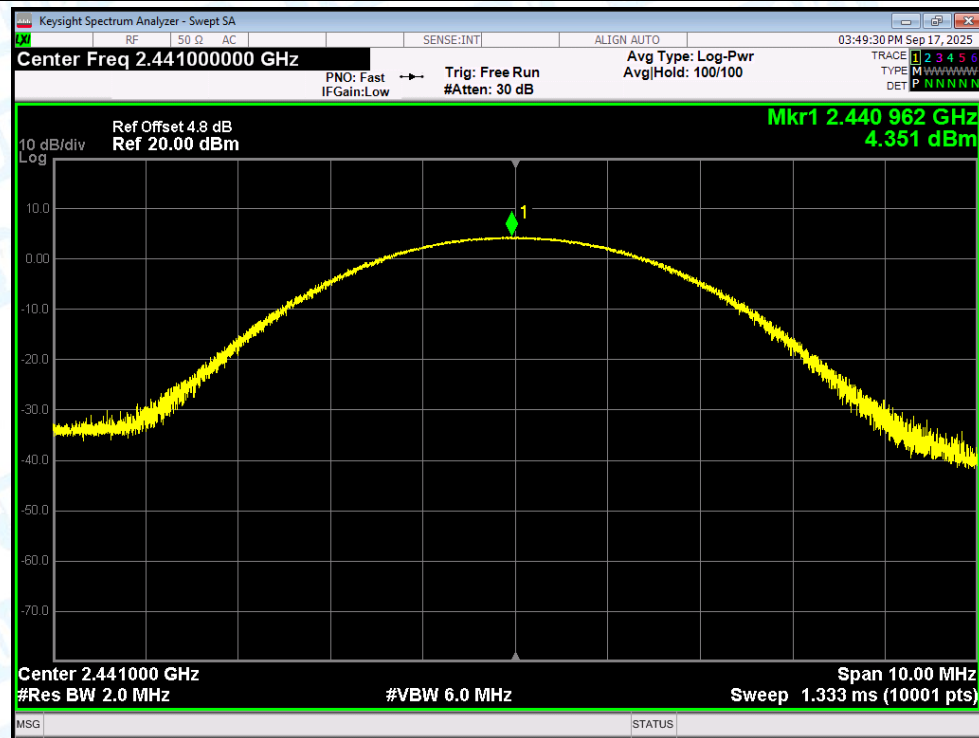
Power NVNT 2-DH5 2480MHz Ant1

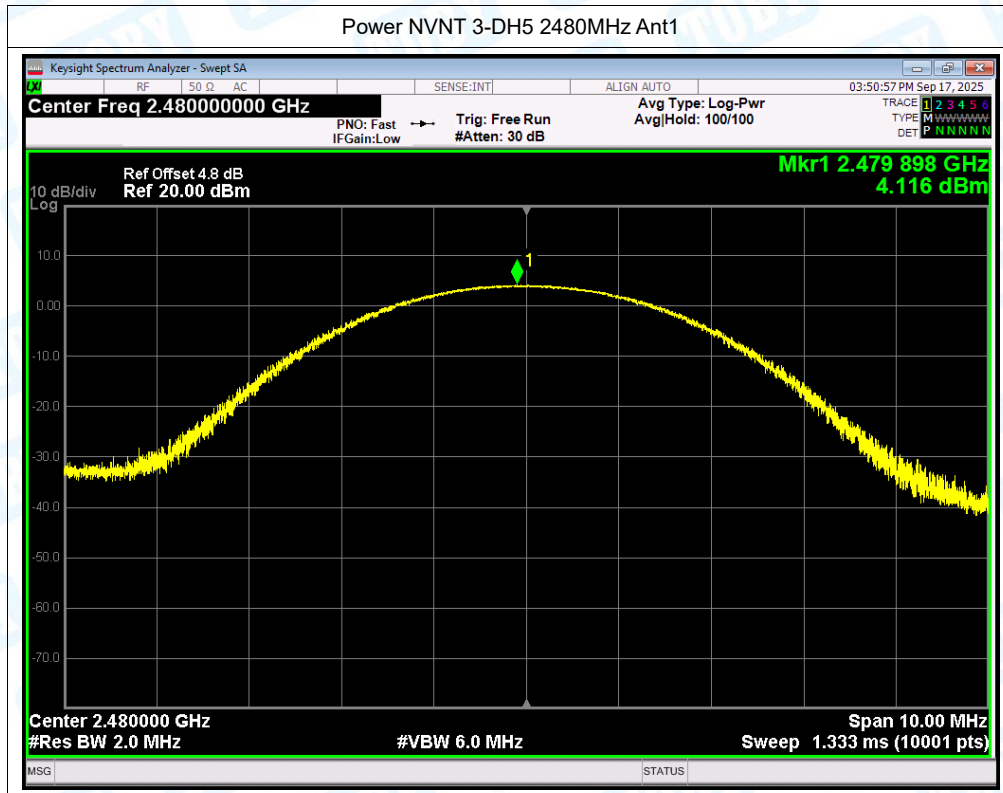


Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



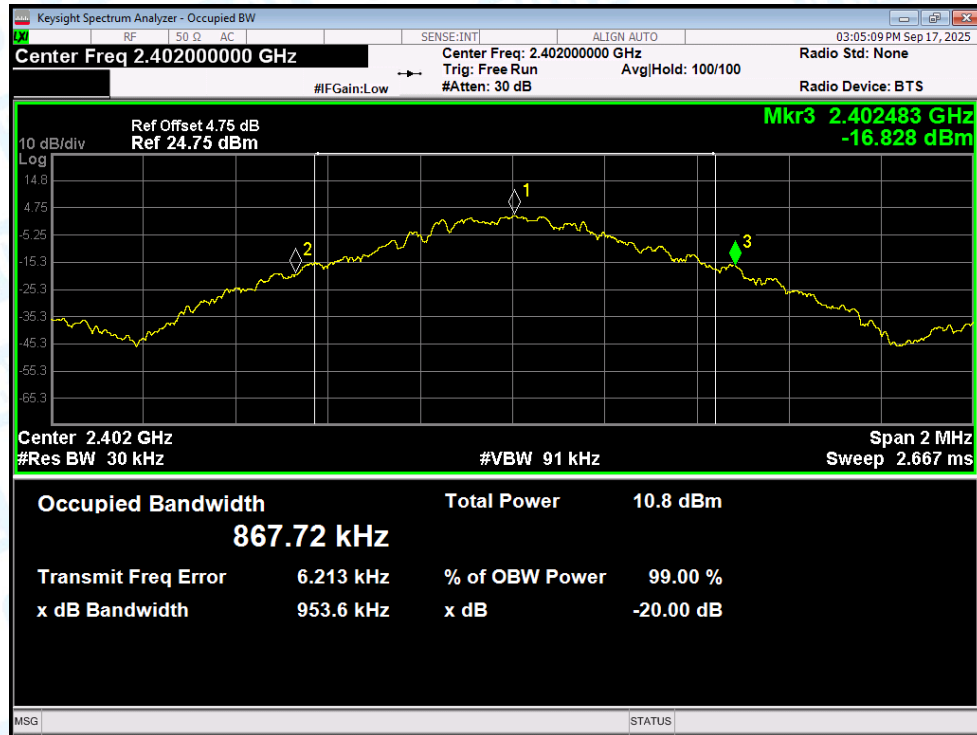


4. -20dB Bandwidth

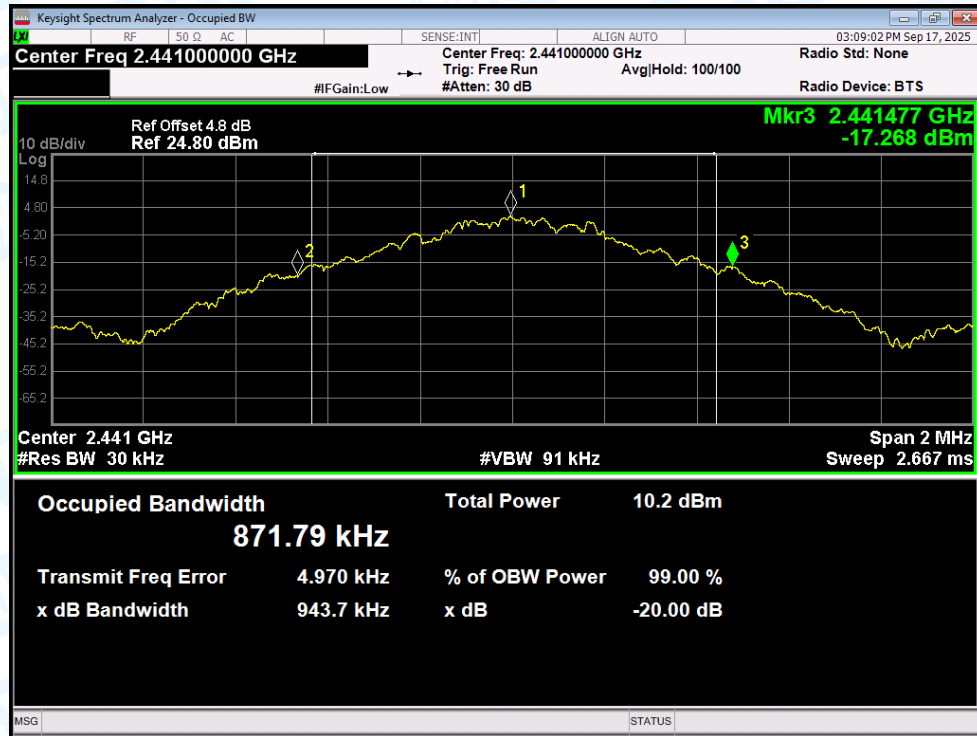
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.95	/	Pass
NVNT	1-DH5	2441	Ant1	0.94	/	Pass
NVNT	1-DH5	2480	Ant1	0.95	/	Pass
NVNT	2-DH5	2402	Ant1	1.32	/	Pass
NVNT	2-DH5	2441	Ant1	1.33	/	Pass
NVNT	2-DH5	2480	Ant1	1.31	/	Pass
NVNT	3-DH5	2402	Ant1	1.33	/	Pass
NVNT	3-DH5	2441	Ant1	1.3	/	Pass
NVNT	3-DH5	2480	Ant1	1.31	/	Pass

Test Graphs

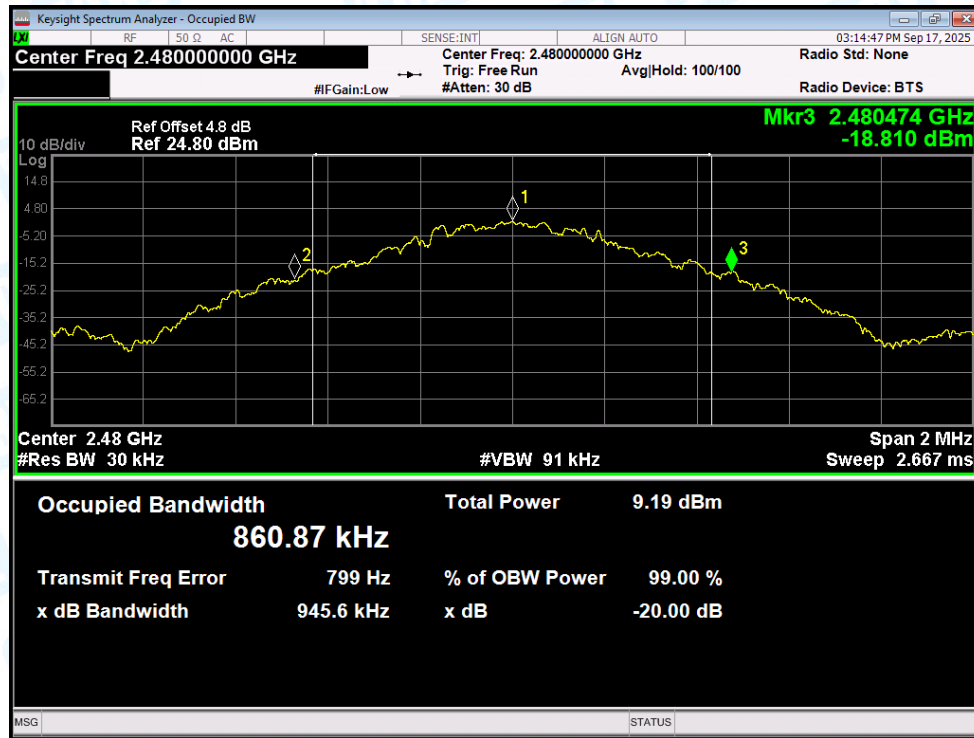
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



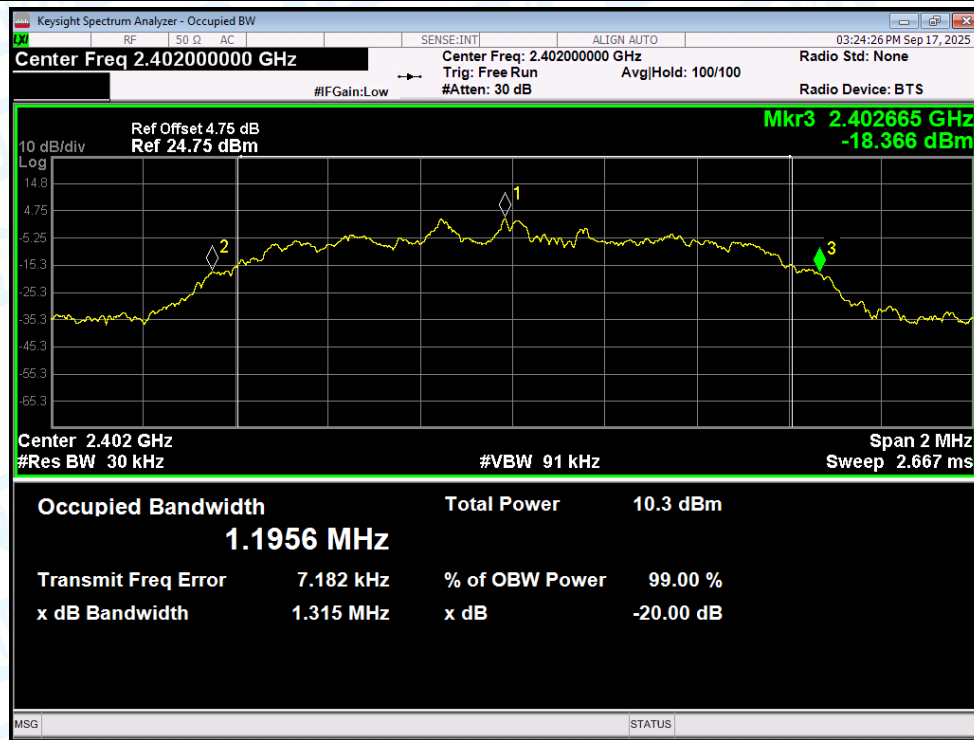
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



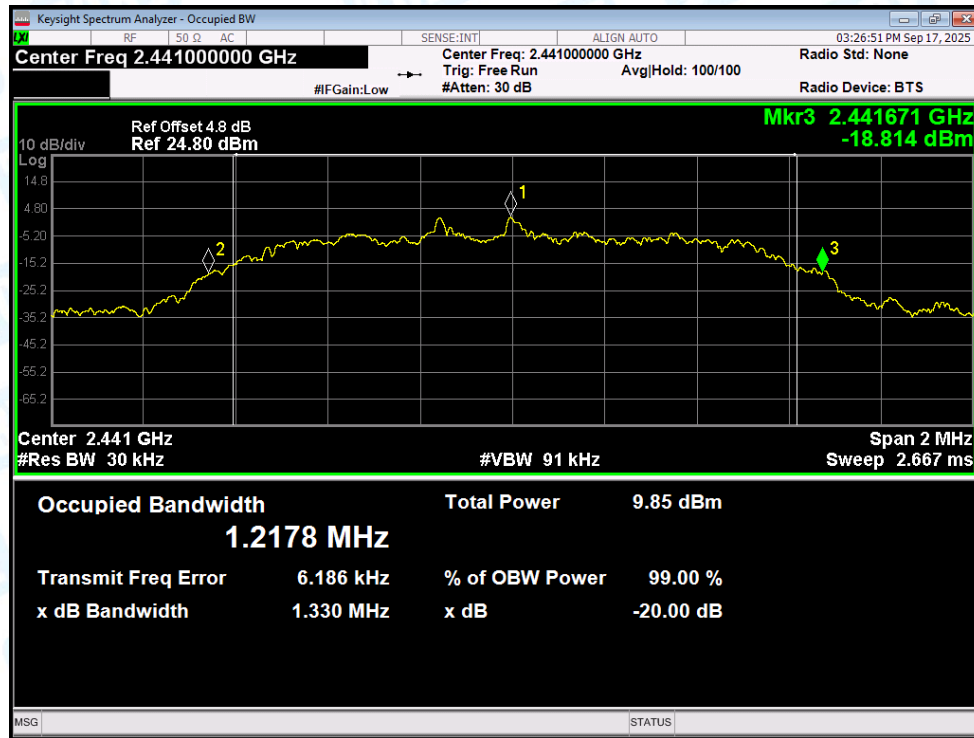
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



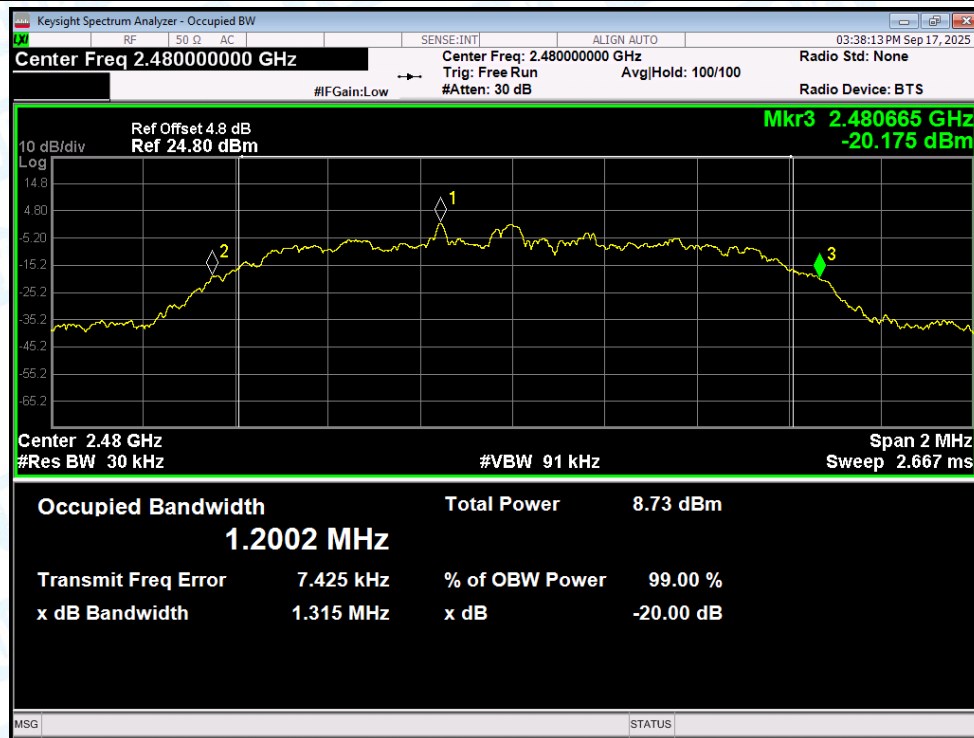
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



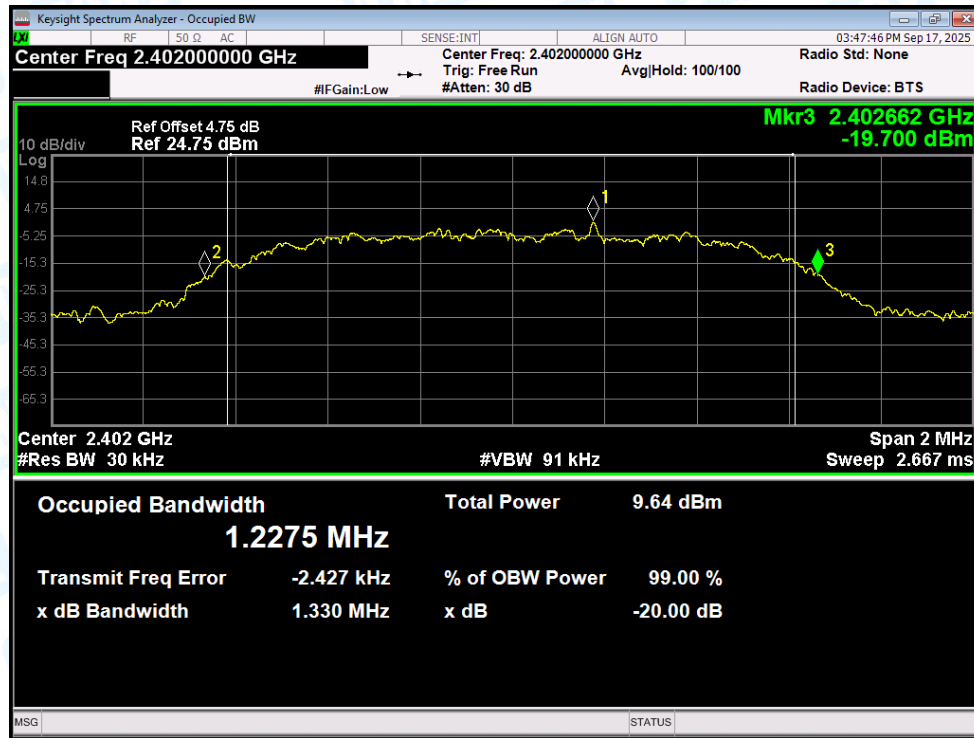
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



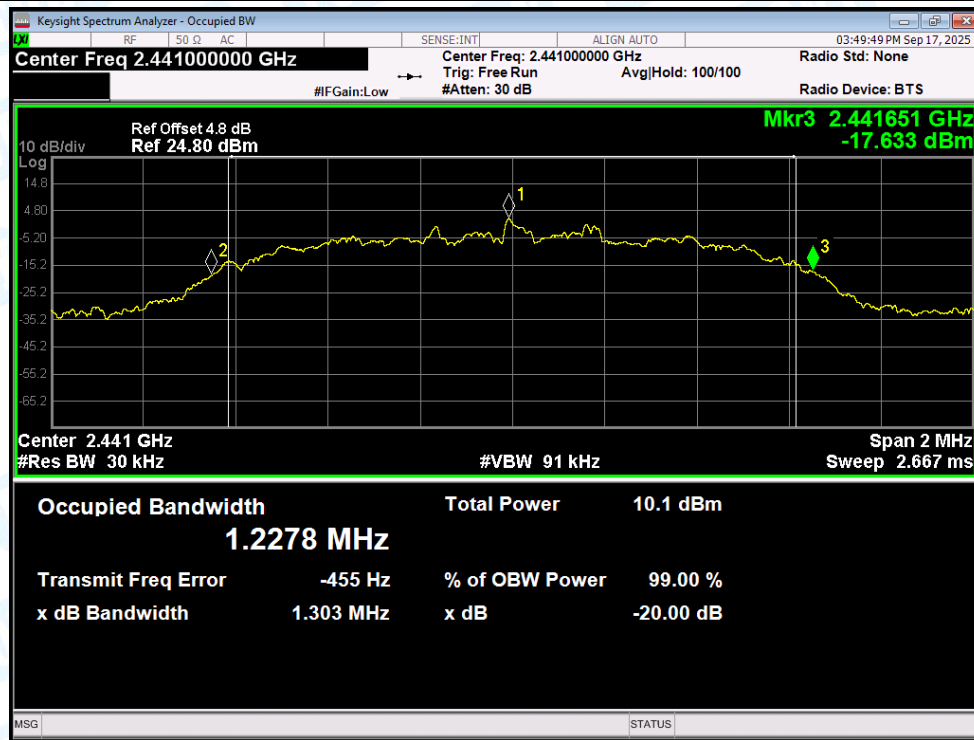
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

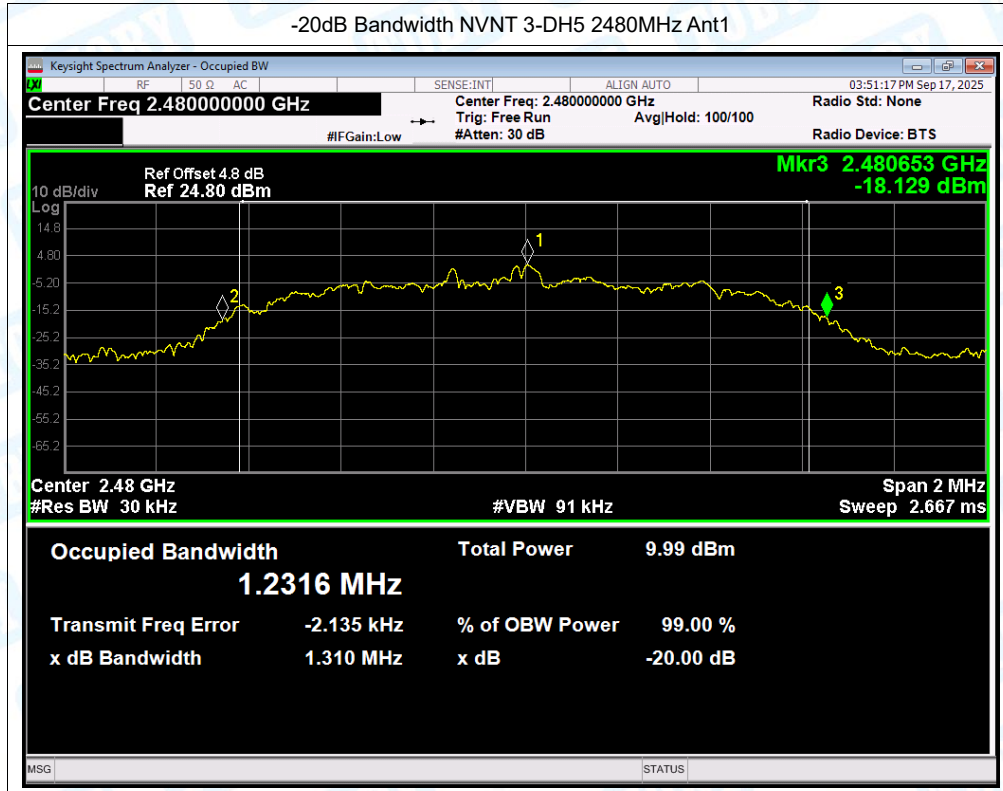


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



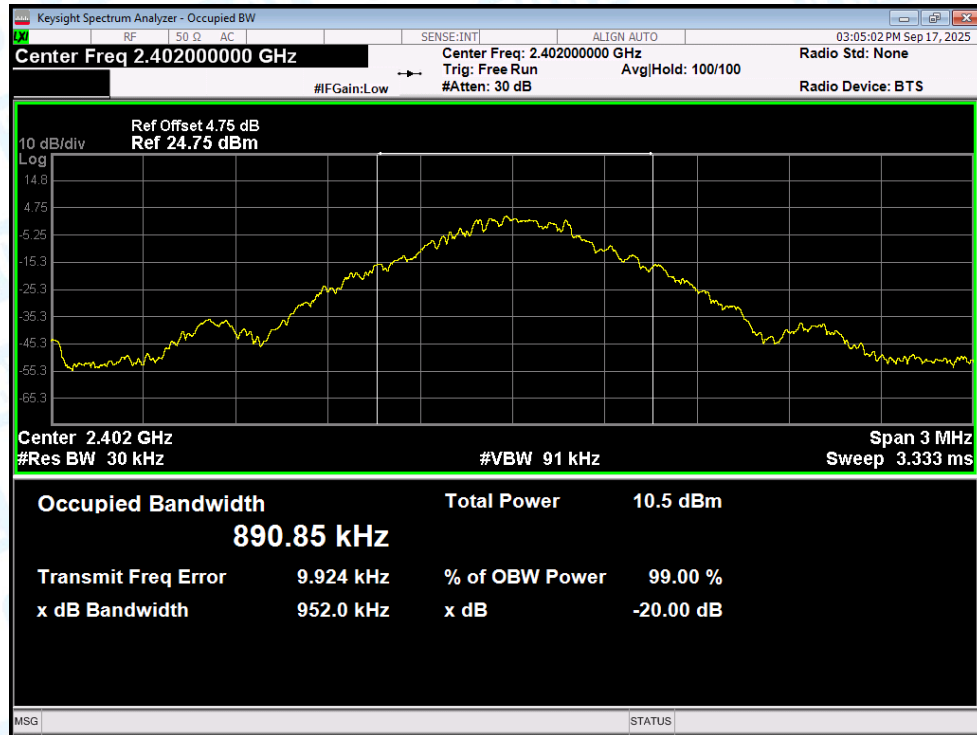


5. Occupied Channel Bandwidth

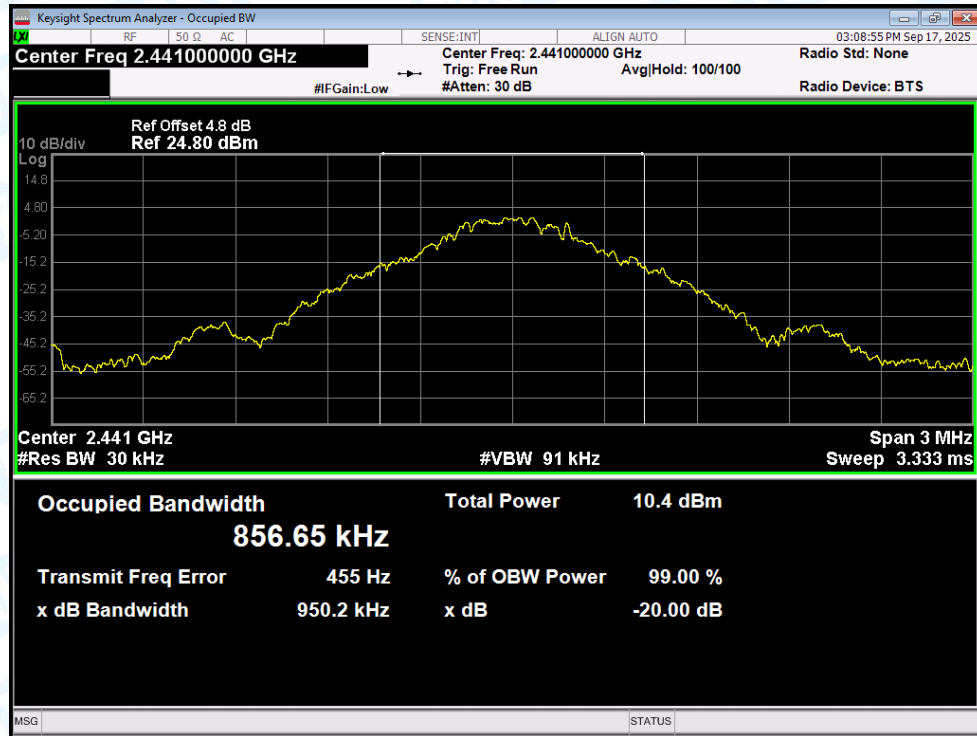
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH5	2402	Ant1	0.891
NVNT	1-DH5	2441	Ant1	0.857
NVNT	1-DH5	2480	Ant1	0.859
NVNT	2-DH5	2402	Ant1	1.226
NVNT	2-DH5	2441	Ant1	1.227
NVNT	2-DH5	2480	Ant1	1.215
NVNT	3-DH5	2402	Ant1	1.222
NVNT	3-DH5	2441	Ant1	1.261
NVNT	3-DH5	2480	Ant1	1.252

Test Graphs

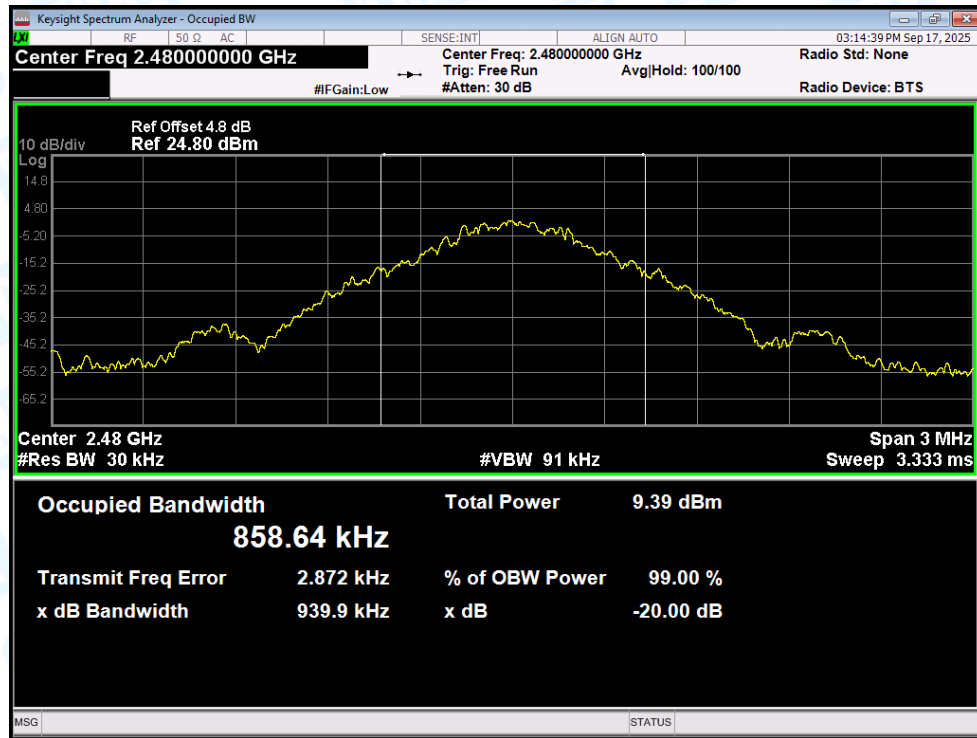
OBW NVNT 1-DH5 2402MHz Ant1



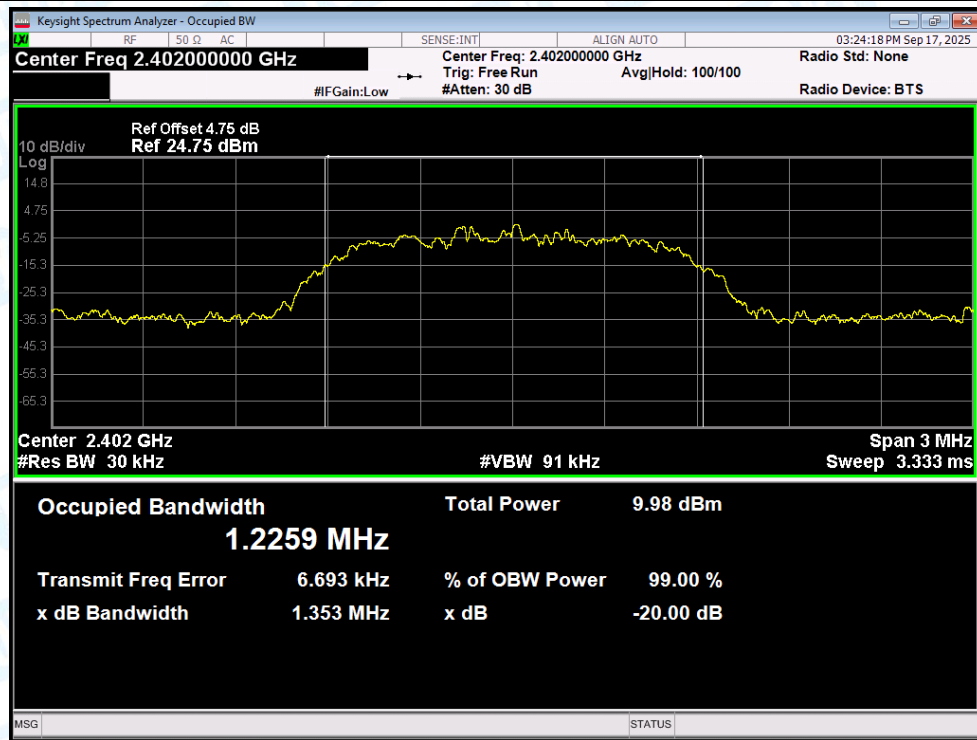
OBW NVNT 1-DH5 2441MHz Ant1



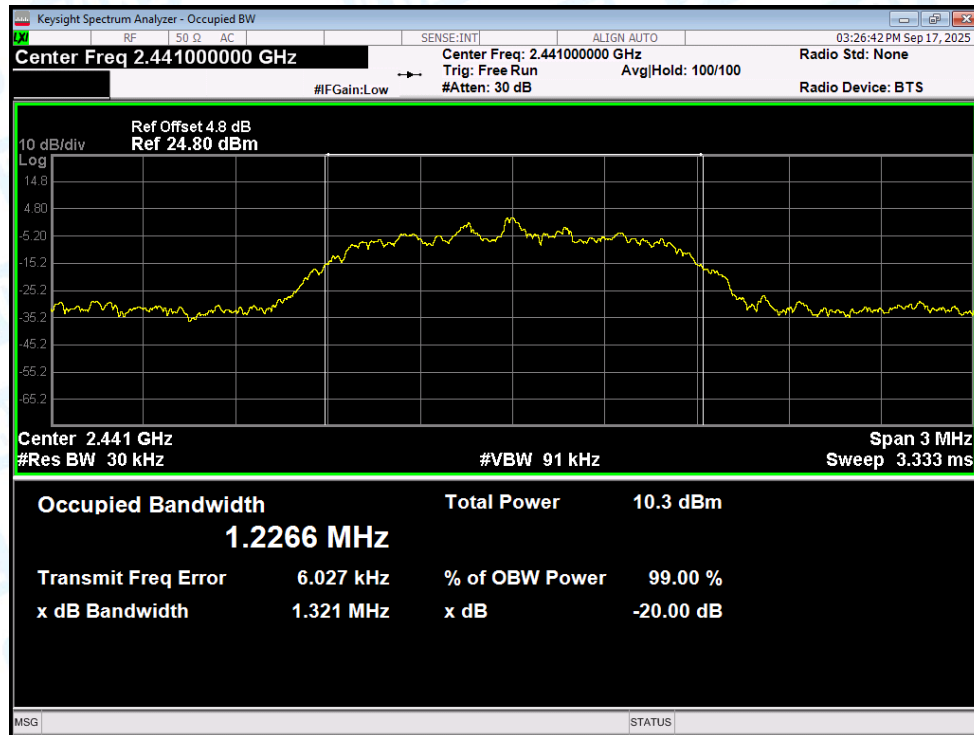
OBW NVNT 1-DH5 2480MHz Ant1



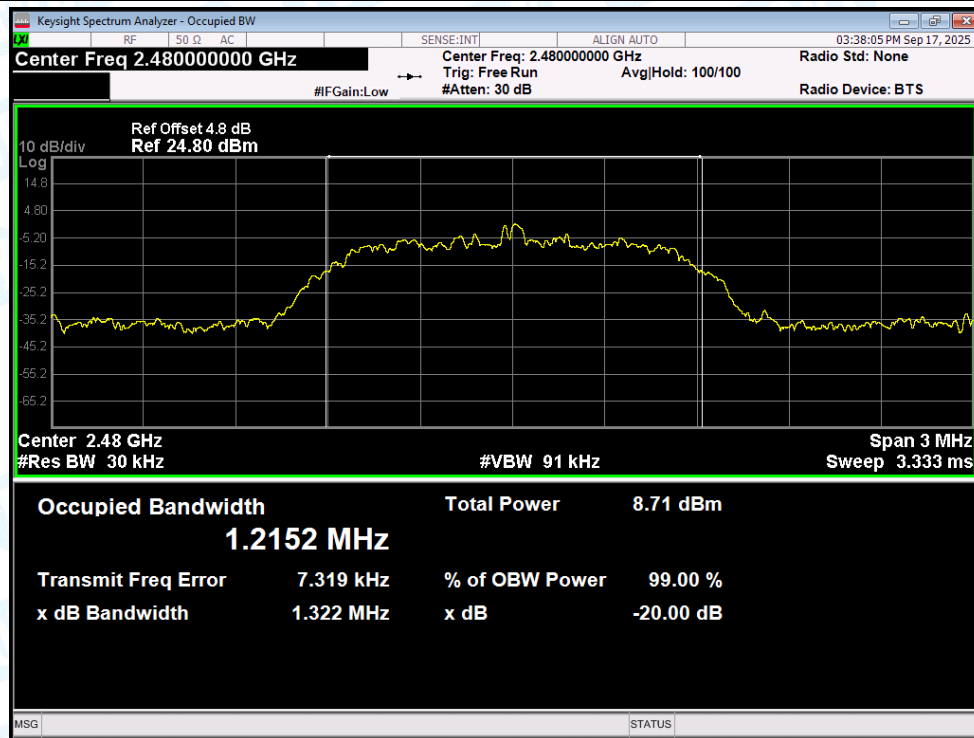
OBW NVNT 2-DH5 2402MHz Ant1



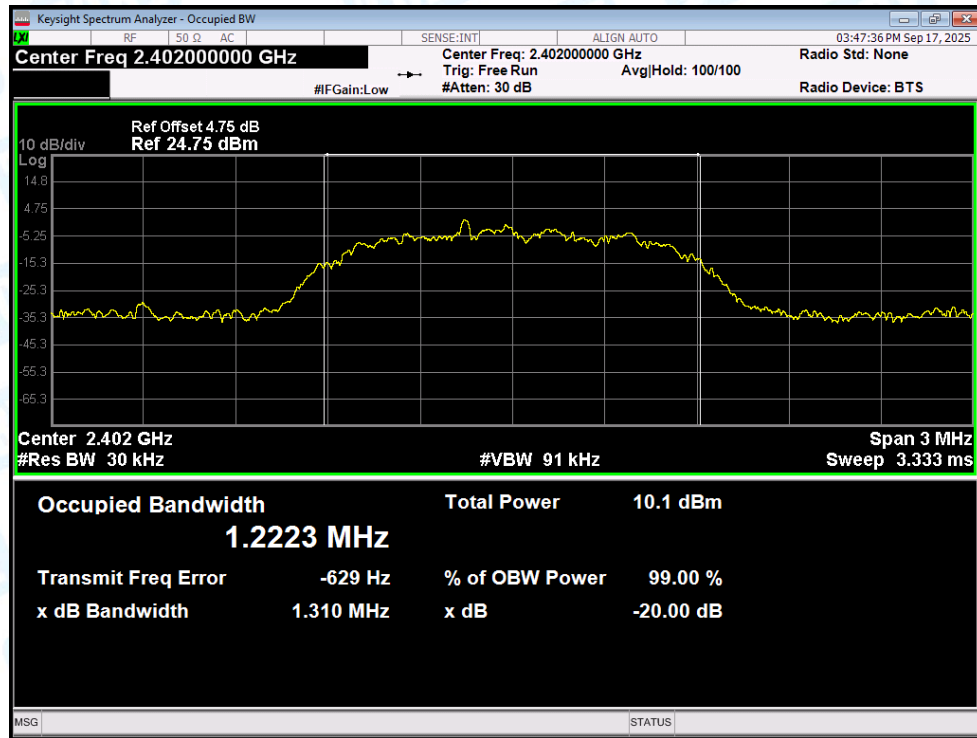
OBW NVNT 2-DH5 2441MHz Ant1



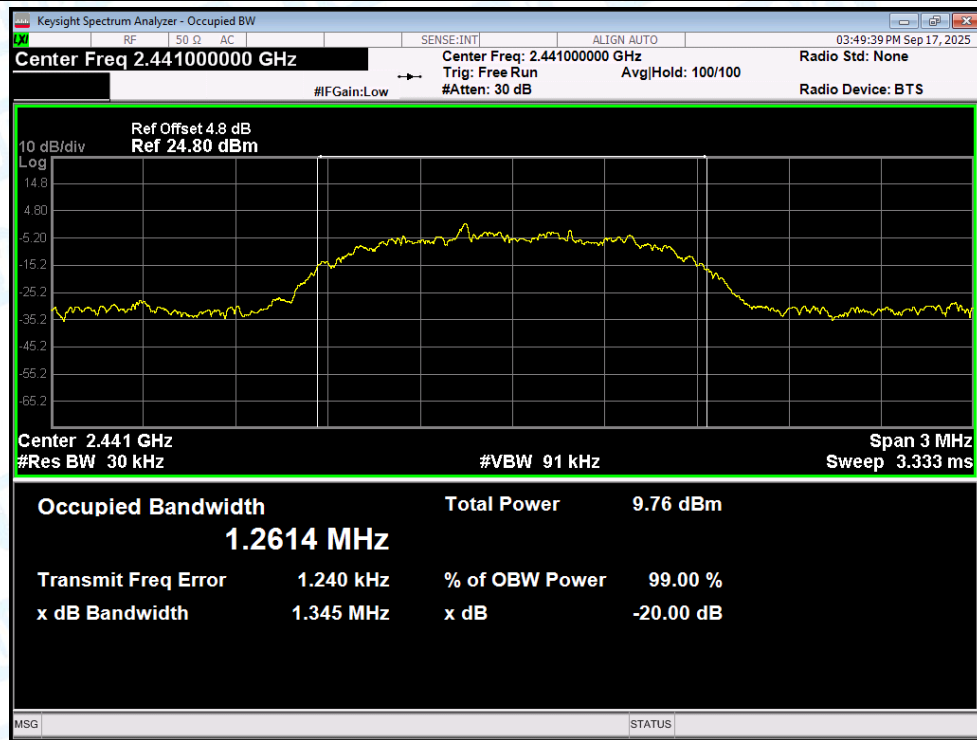
OBW NVNT 2-DH5 2480MHz Ant1

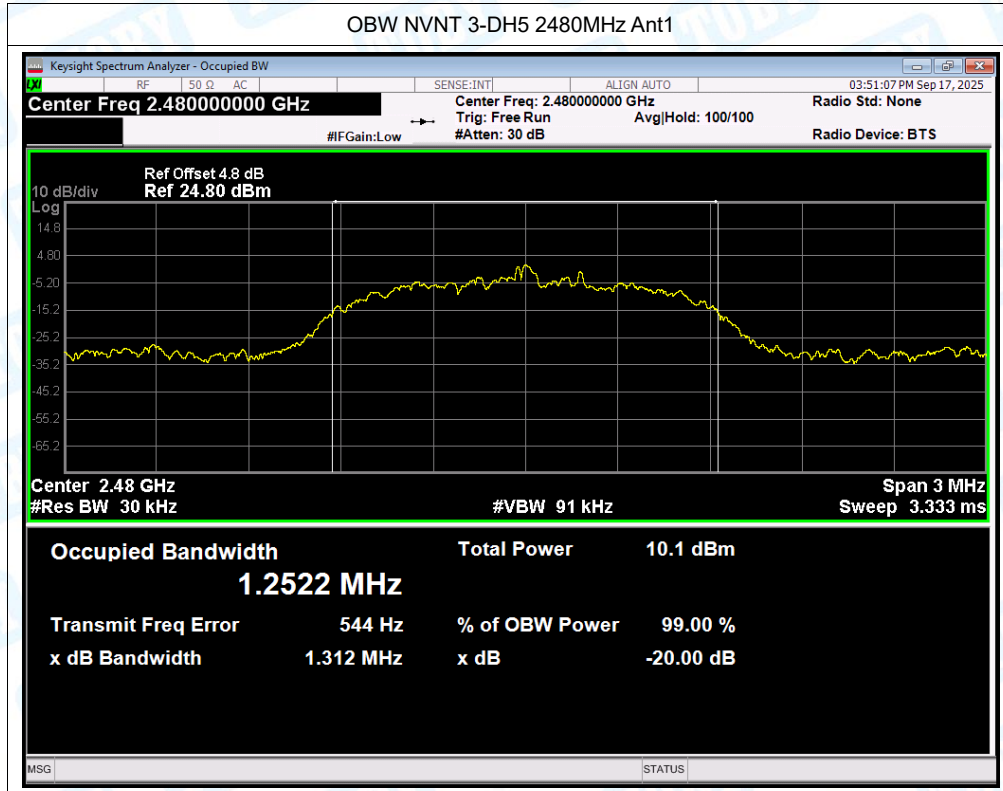


OBW NVNT 3-DH5 2402MHz Ant1



OBW NVNT 3-DH5 2441MHz Ant1



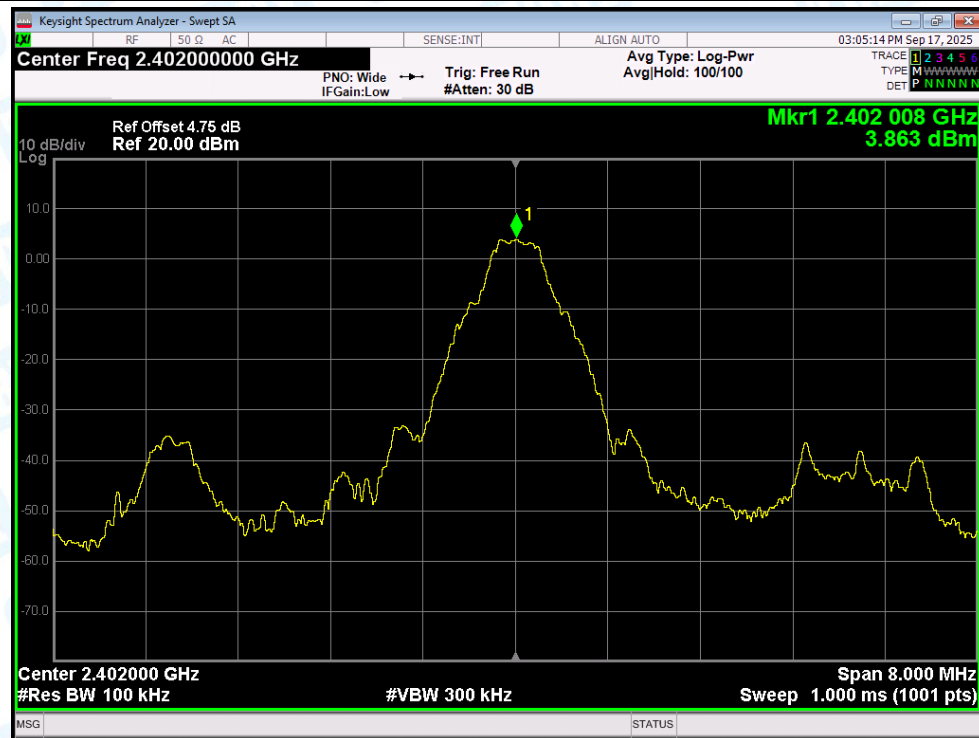


6. Band Edge

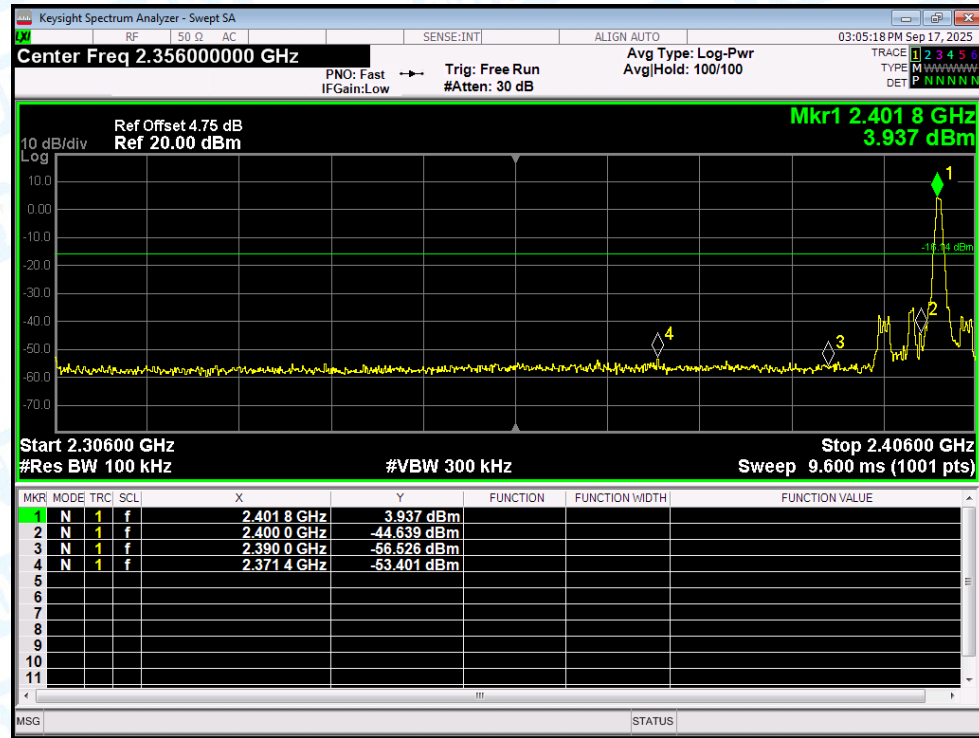
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-57.26	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-43.59	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-58.4	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-50.67	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-58.31	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-46.57	-20	Pass

Test Graphs

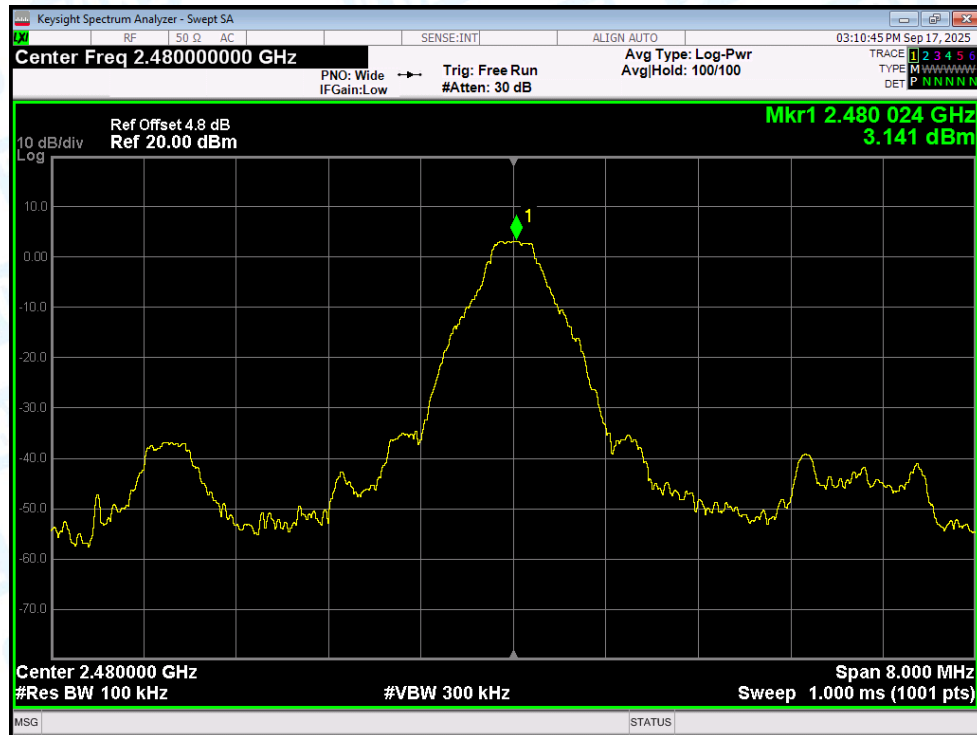
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



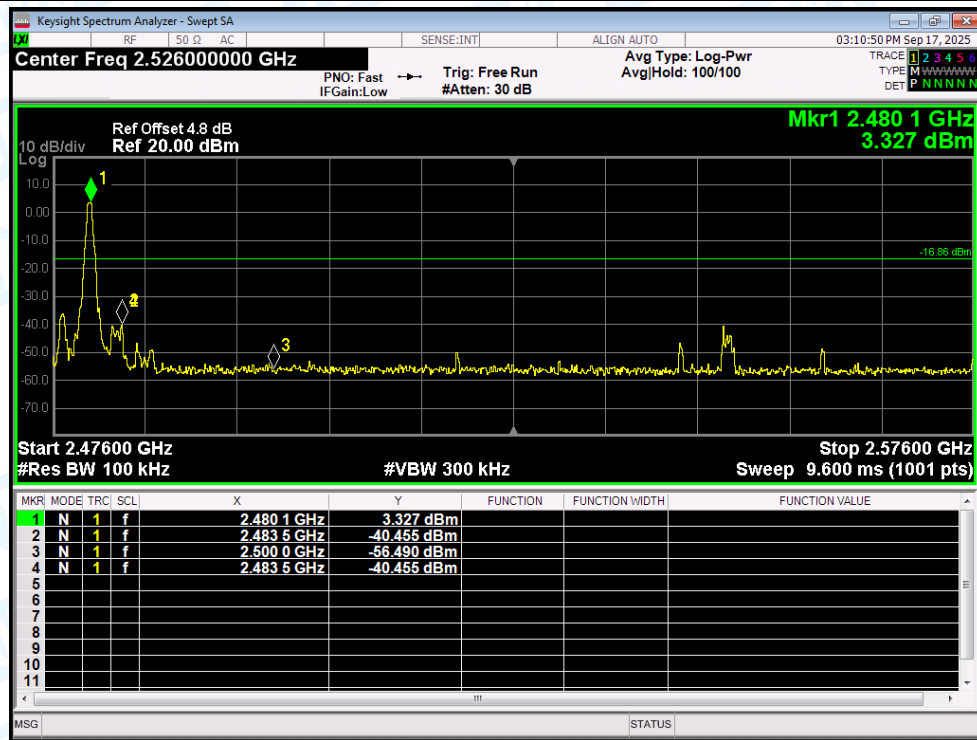
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



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



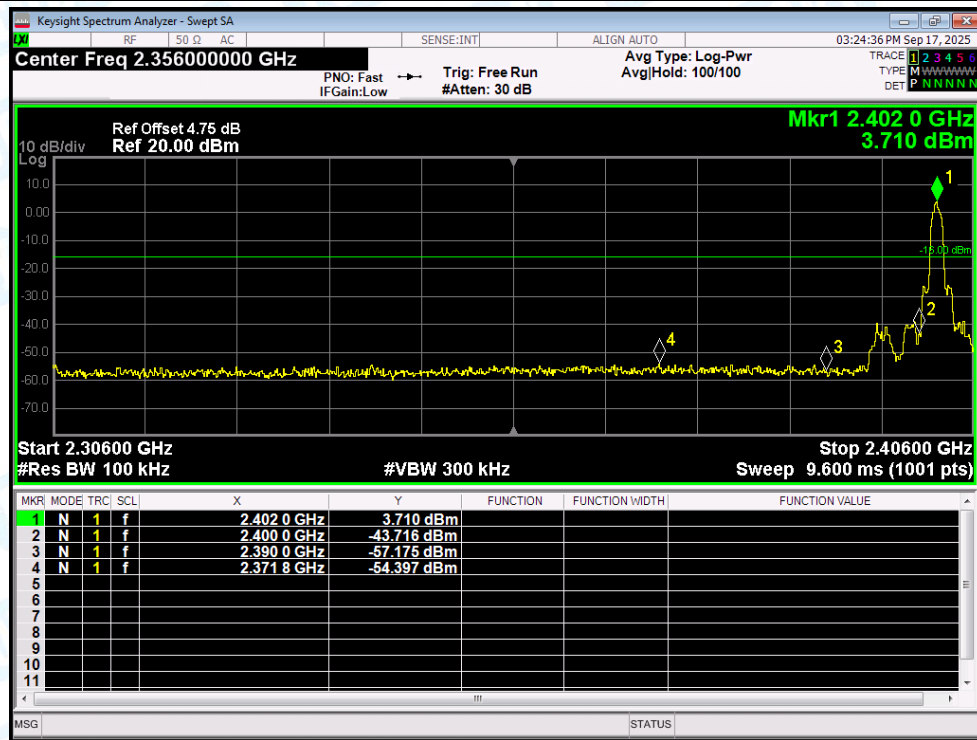
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

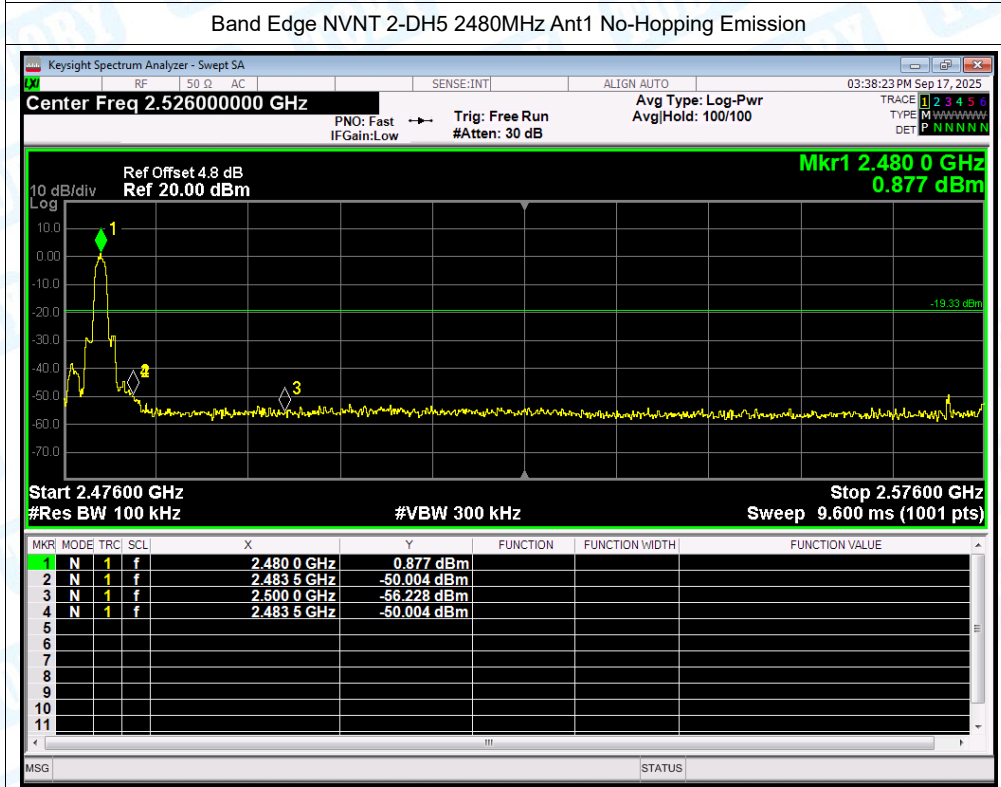
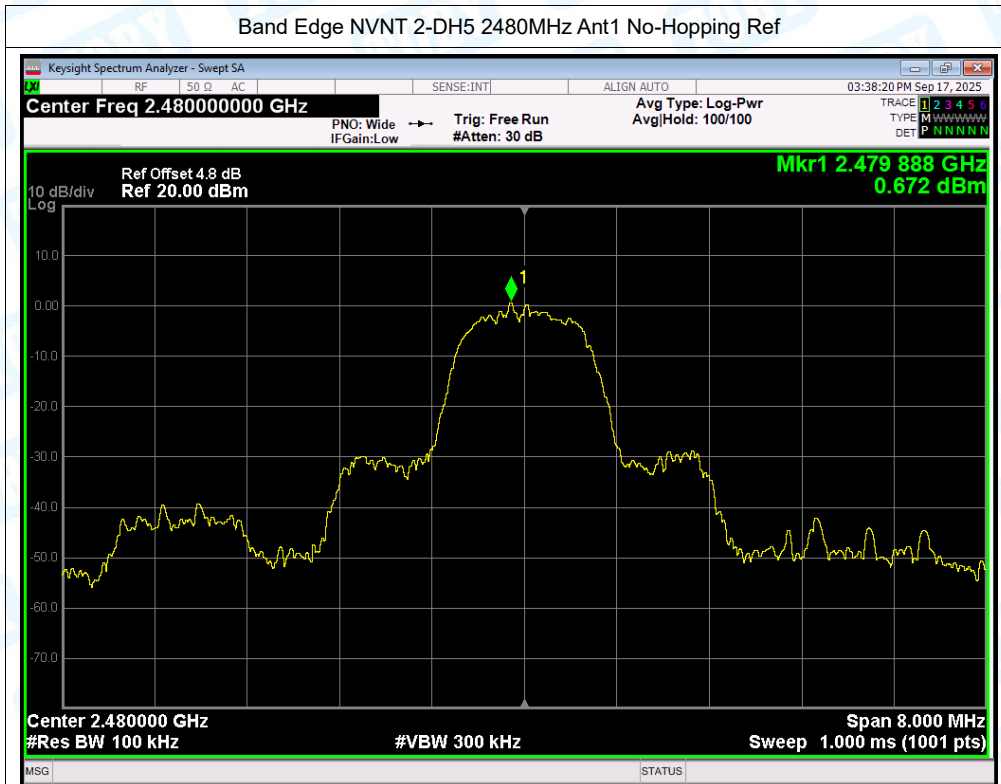


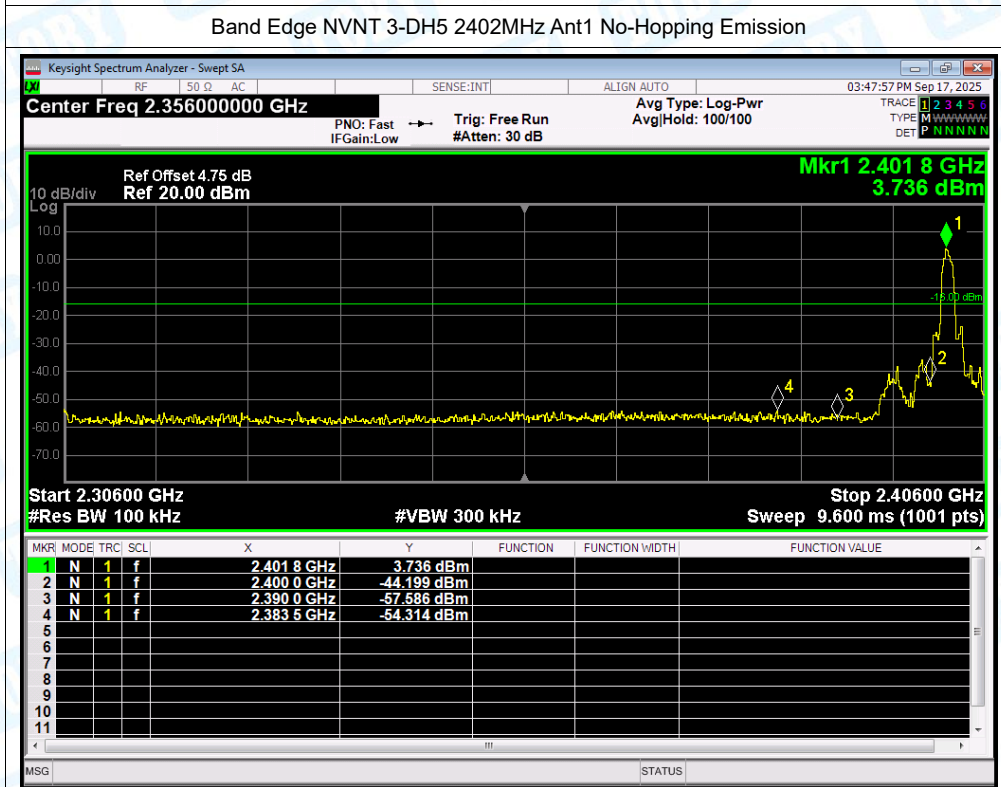
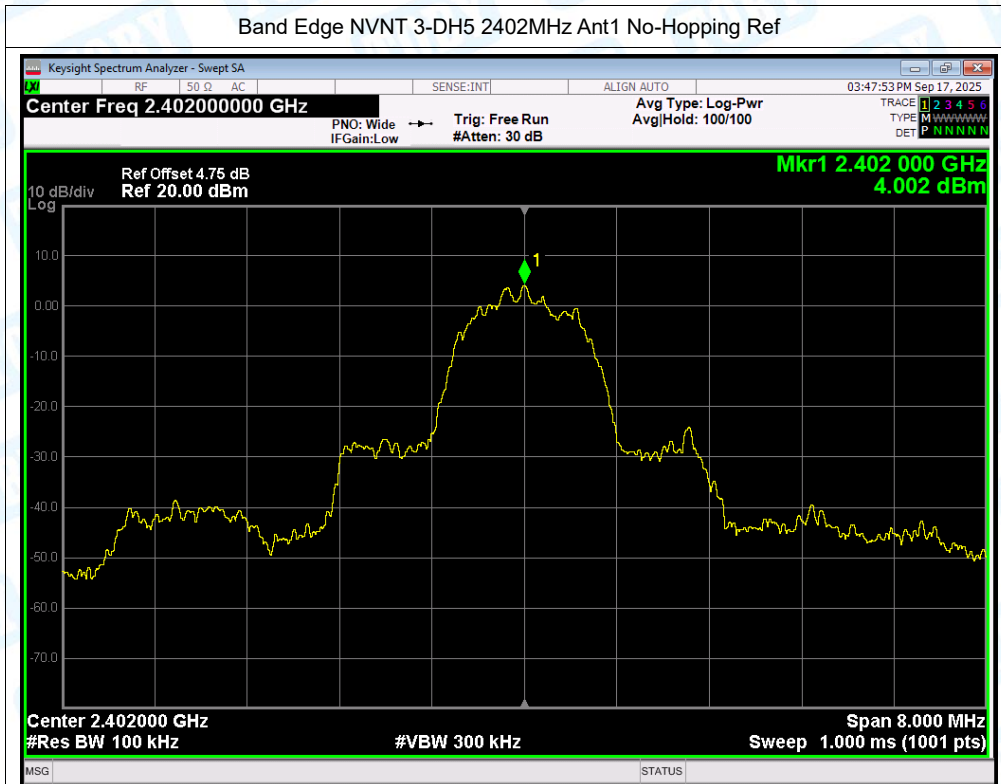
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

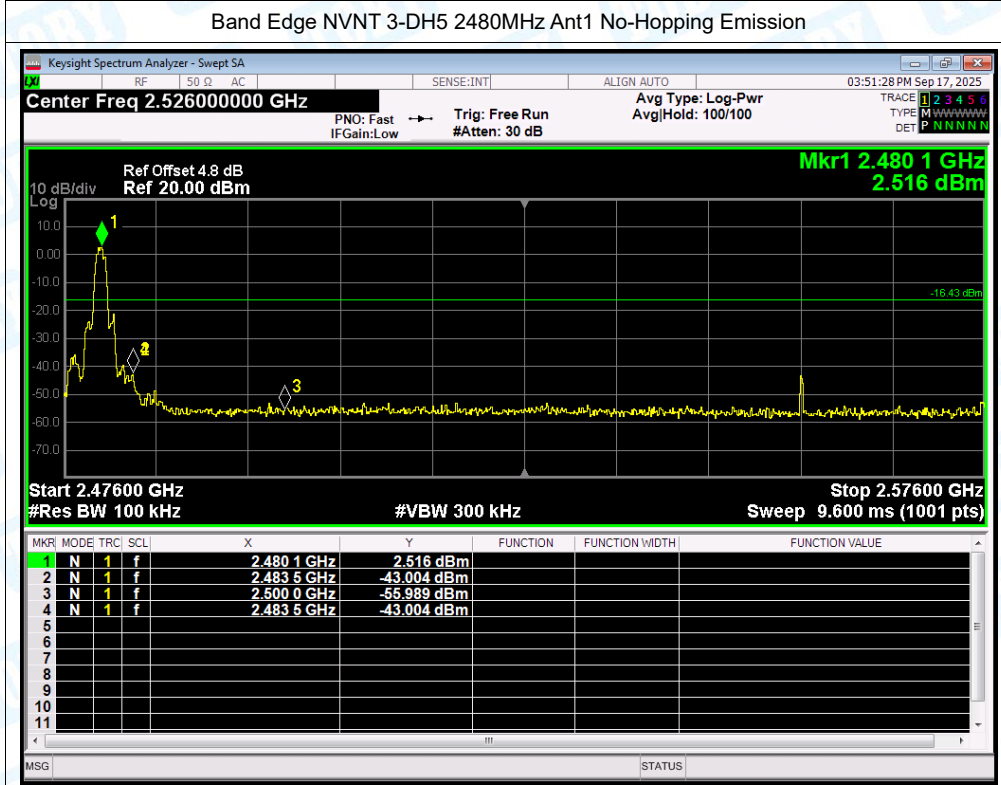
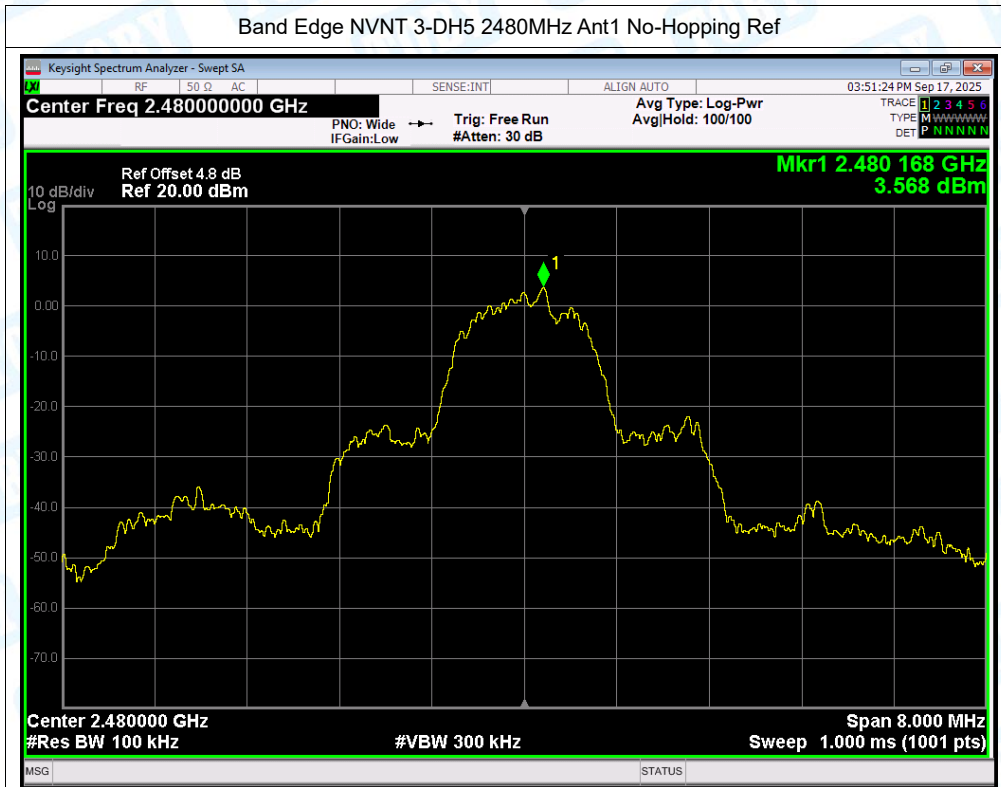


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission







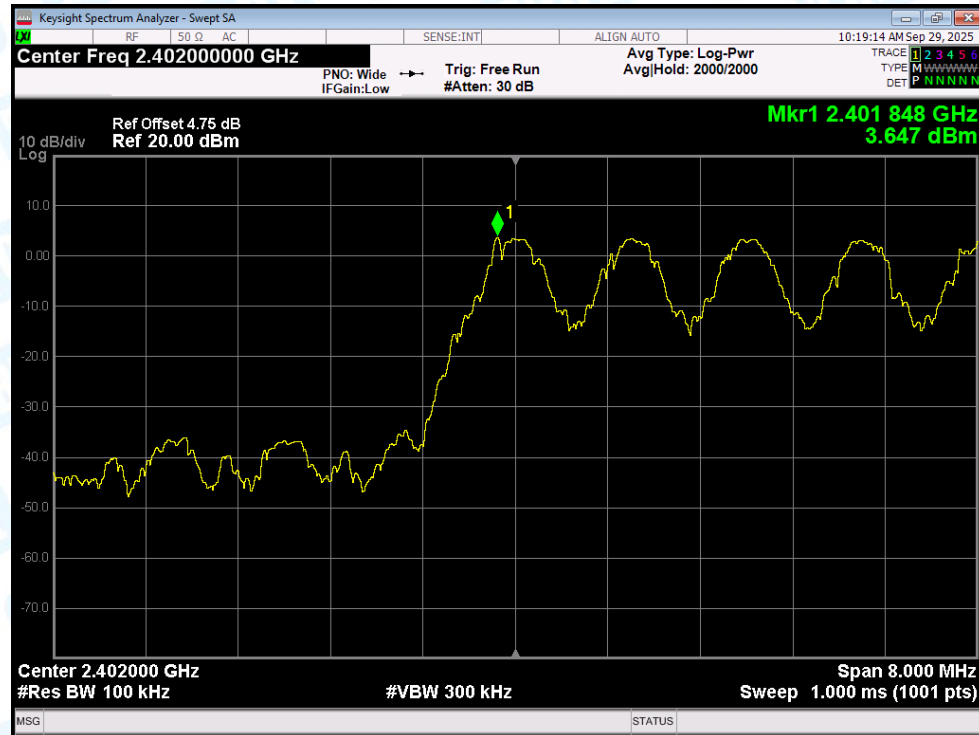


7. Band Edge(Hopping)

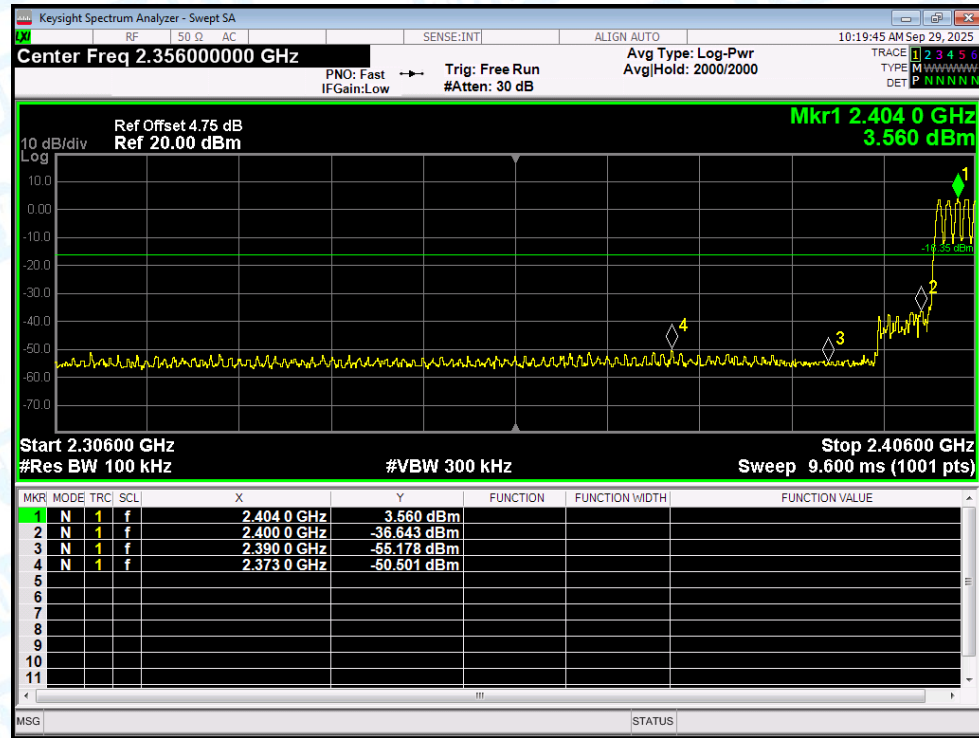
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-54.15	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-49.23	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-55.27	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-49.03	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-54.35	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-49.75	-20	Pass

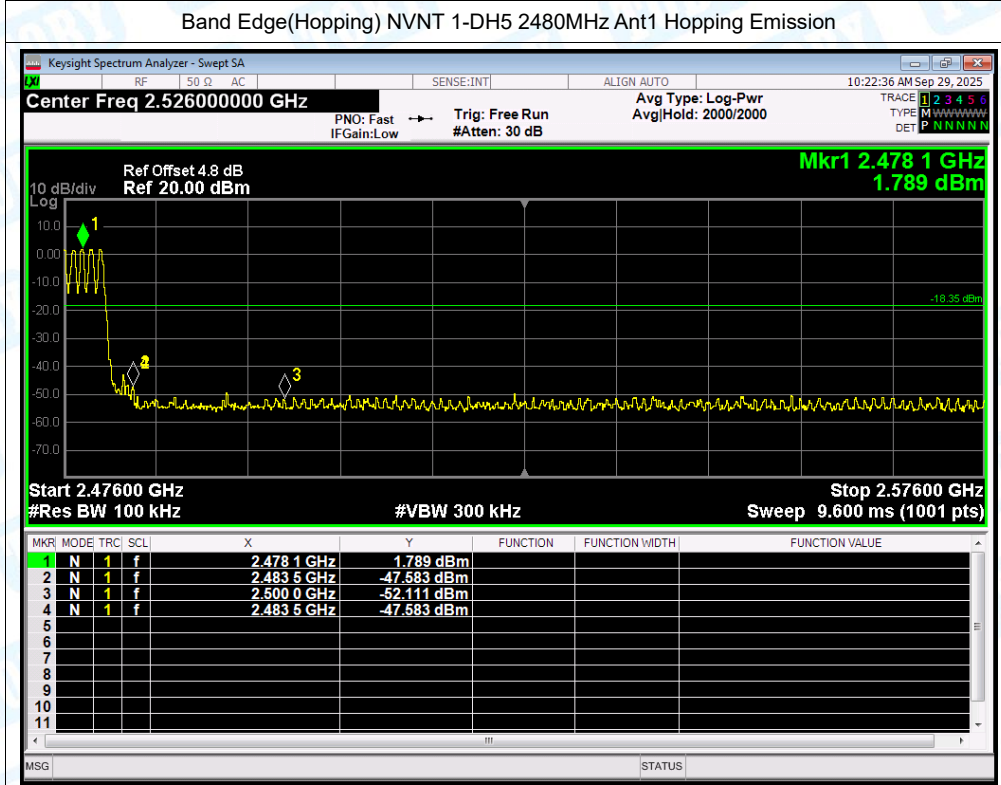
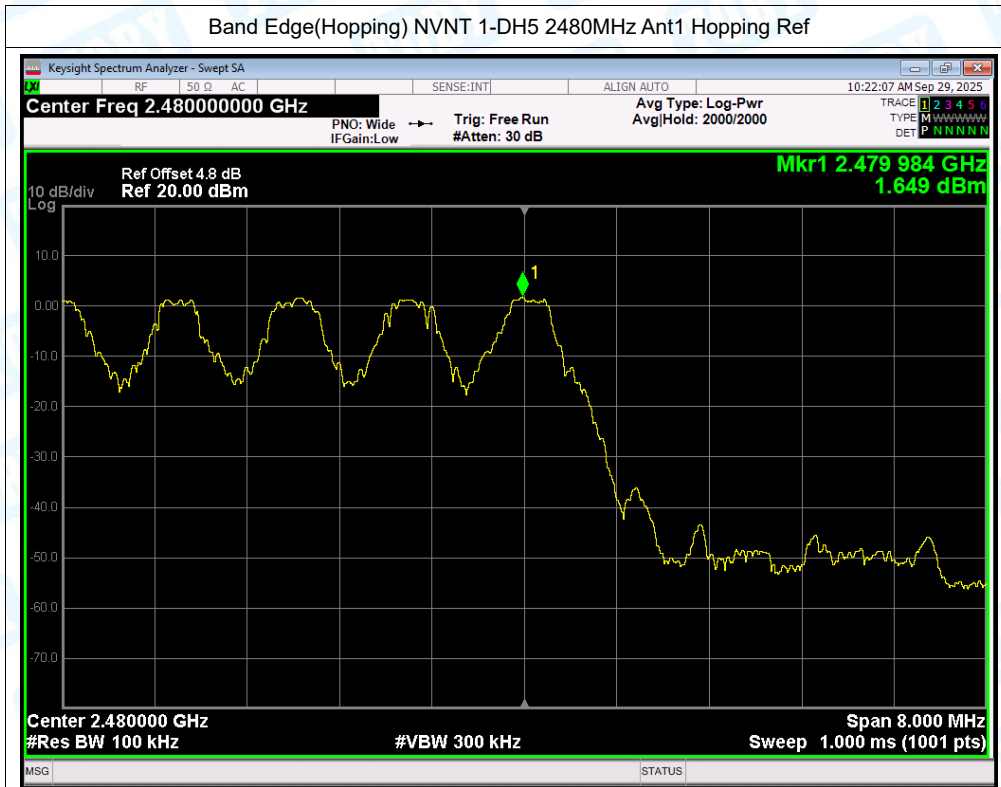
Test Graphs

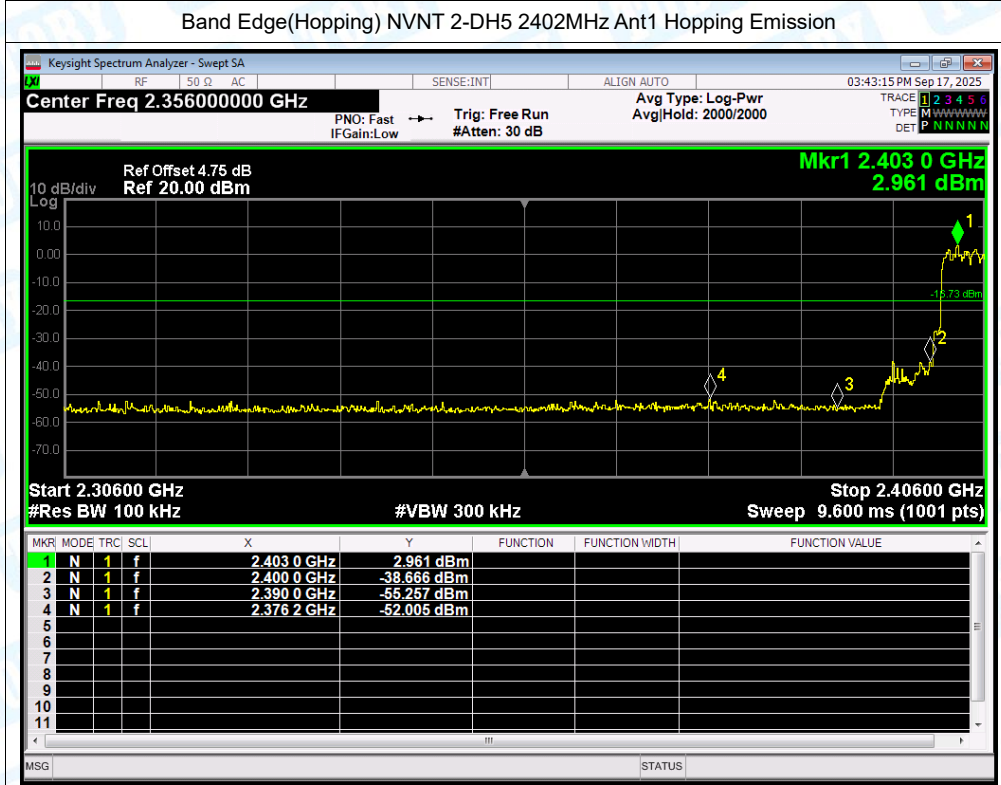
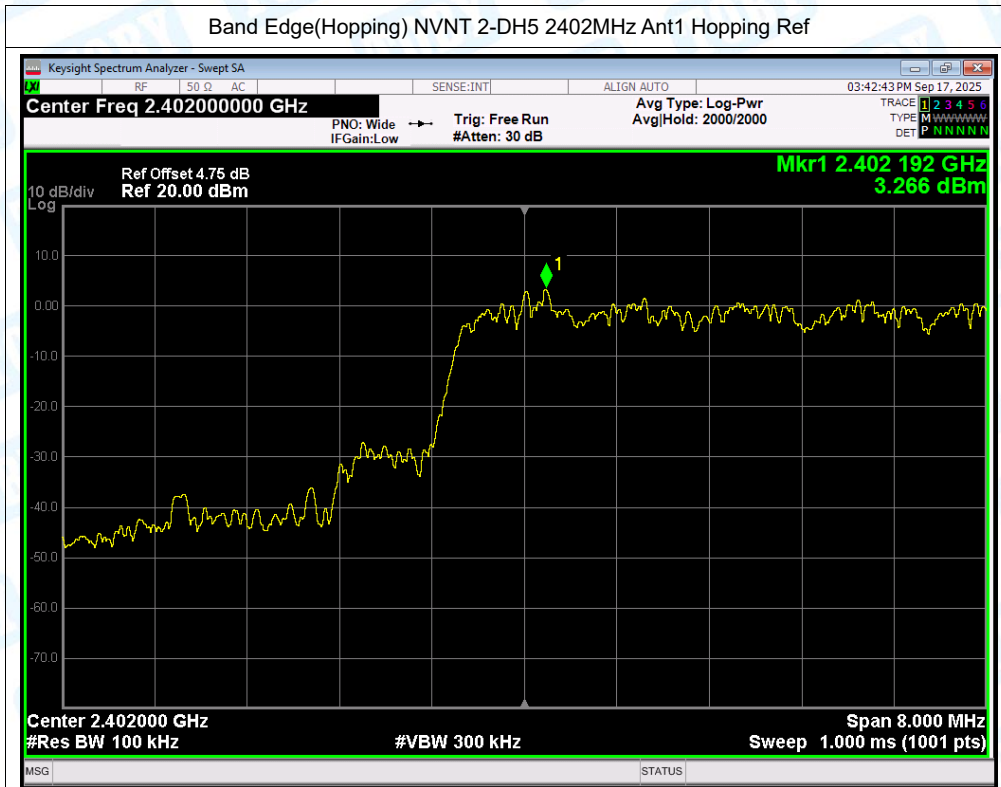
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

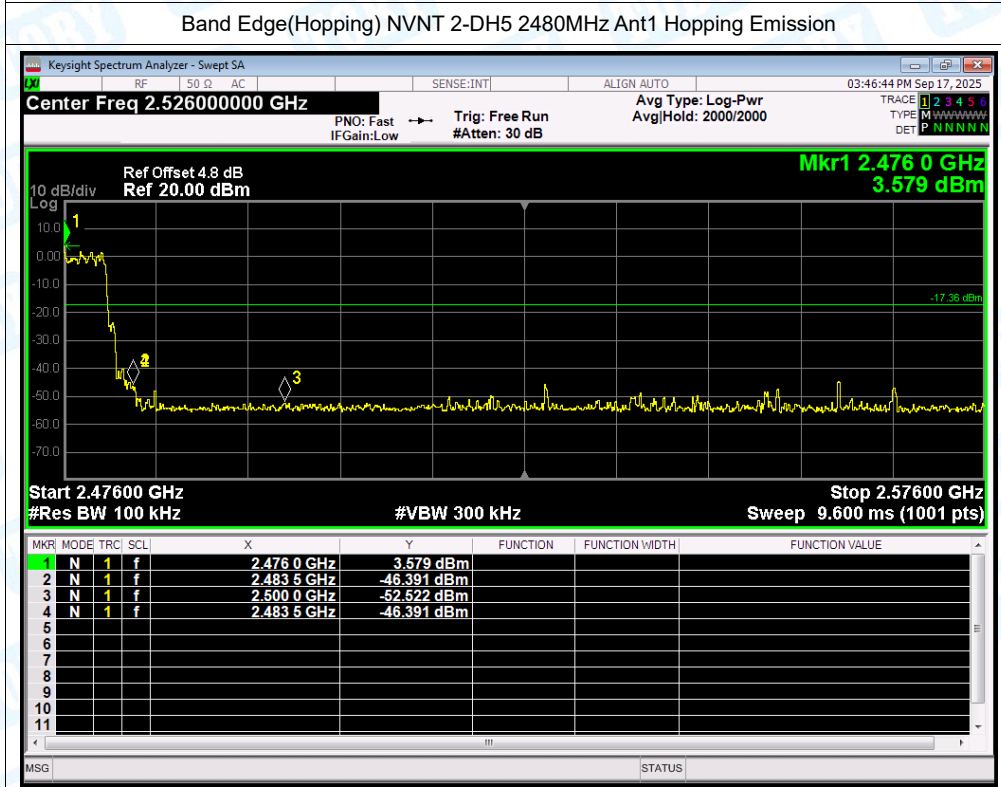
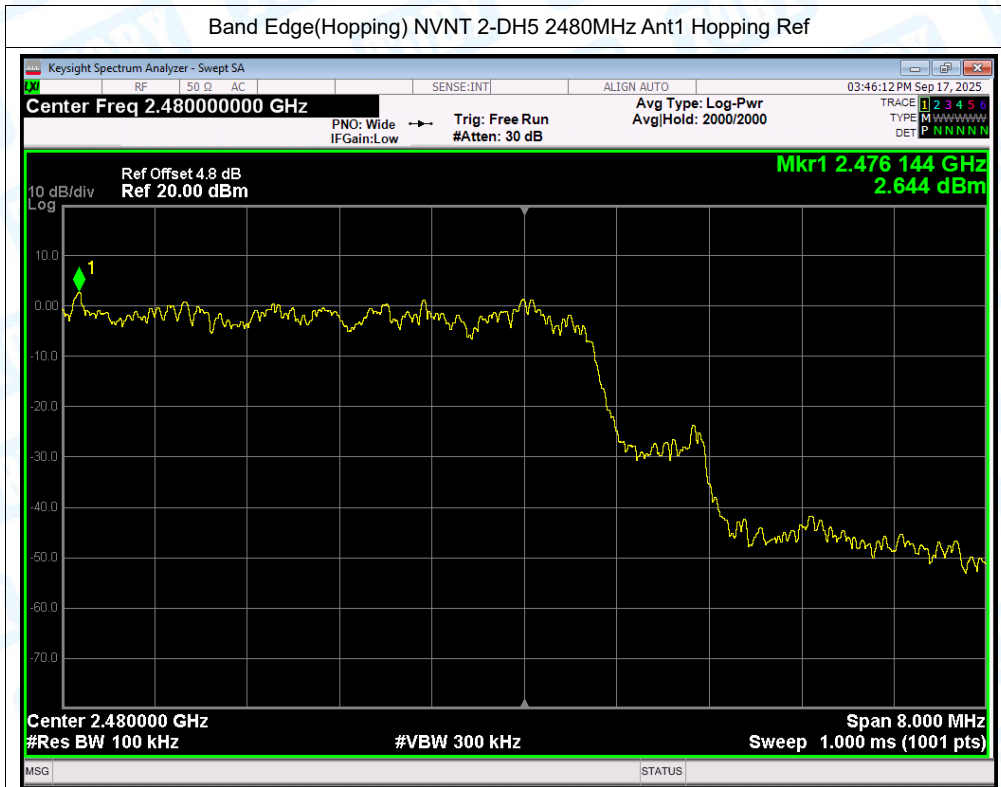


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission





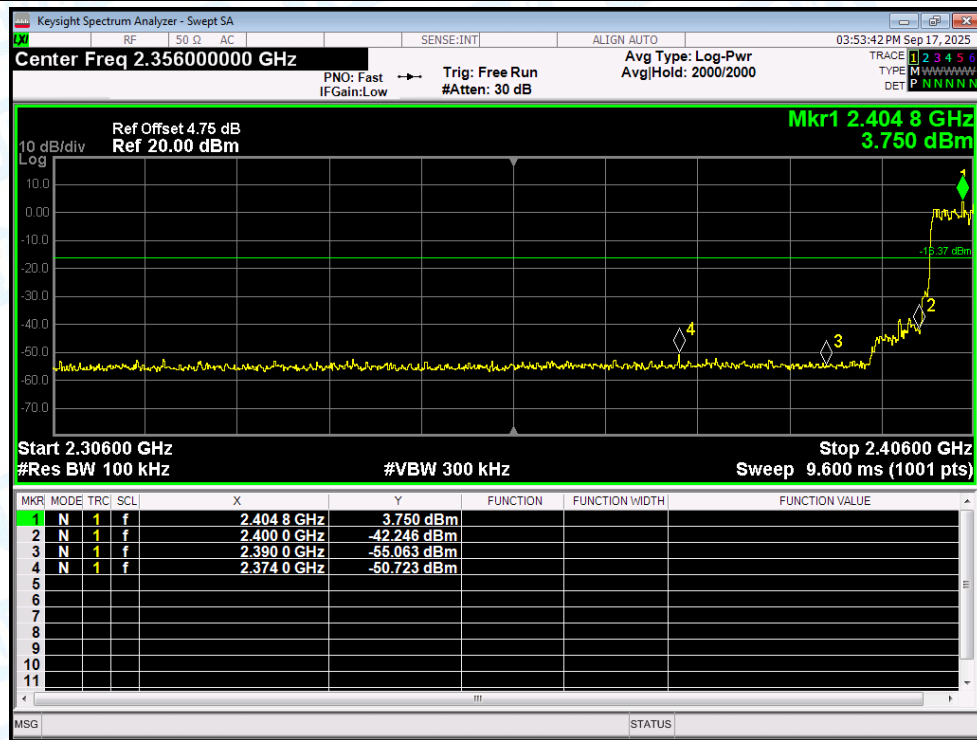




Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



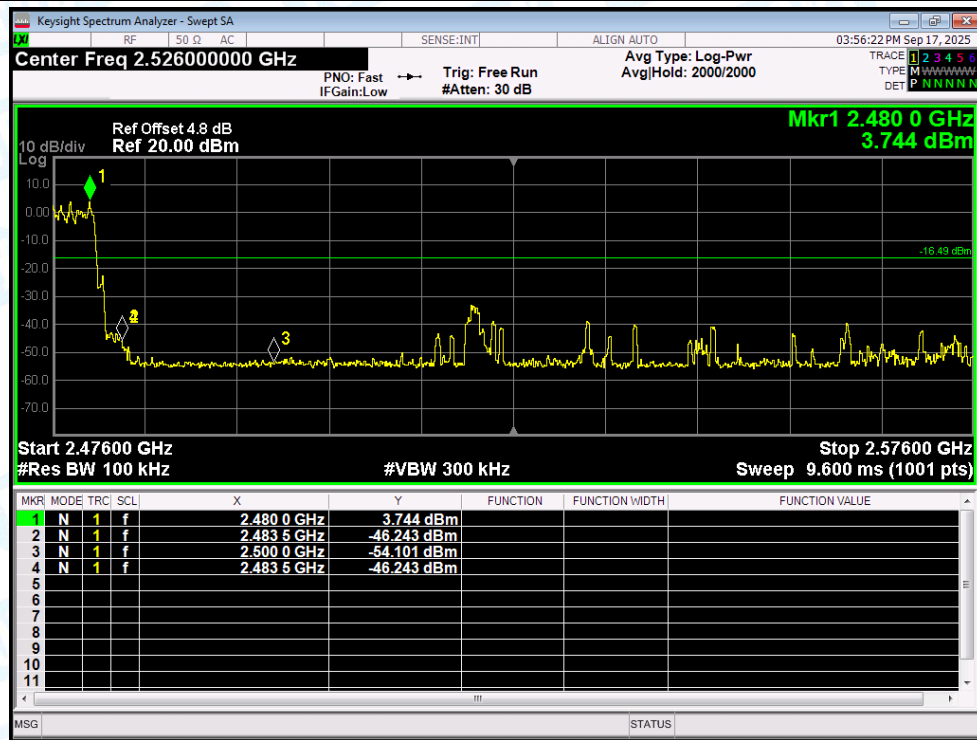
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



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



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

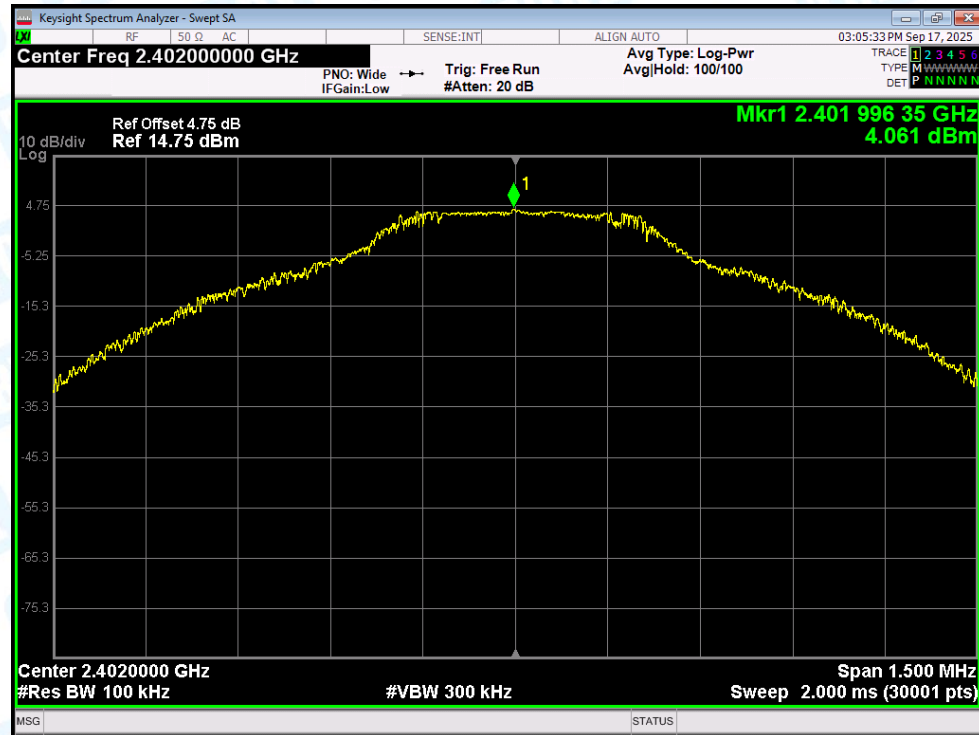


8. Conducted RF Spurious Emission

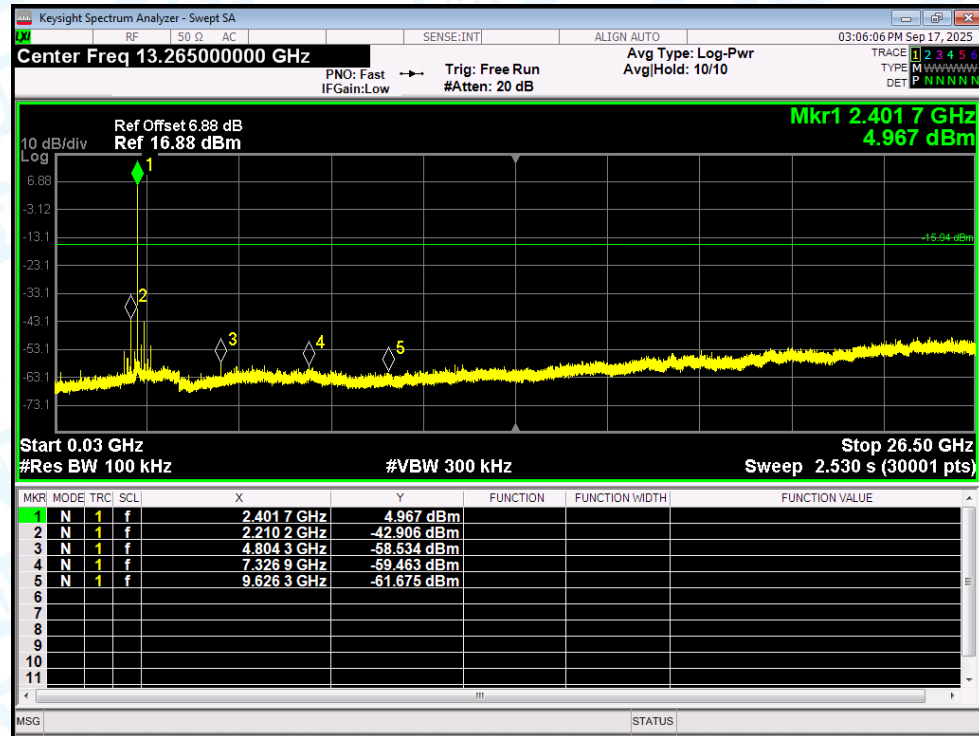
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-46.97	-20	Pass
NVNT	1-DH5	2441	Ant1	-46.32	-20	Pass
NVNT	1-DH5	2480	Ant1	-45.04	-20	Pass
NVNT	2-DH5	2402	Ant1	-47.96	-20	Pass
NVNT	2-DH5	2441	Ant1	-45.89	-20	Pass
NVNT	2-DH5	2480	Ant1	-45.29	-20	Pass
NVNT	3-DH5	2402	Ant1	-50.49	-20	Pass
NVNT	3-DH5	2441	Ant1	-44.57	-20	Pass
NVNT	3-DH5	2480	Ant1	-44.29	-20	Pass

Test Graphs

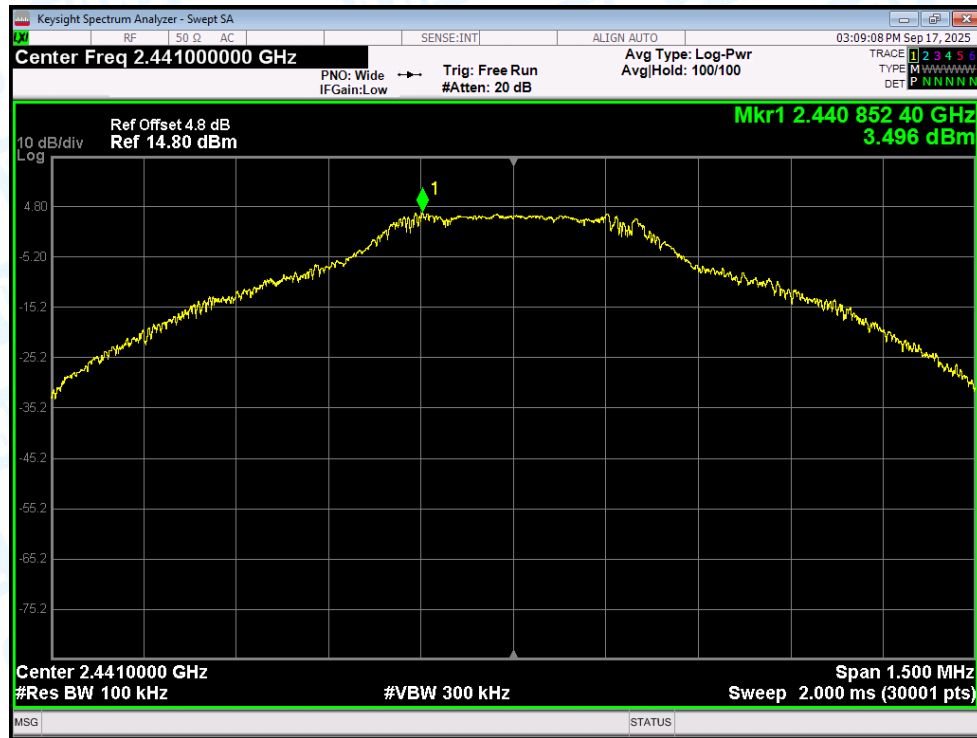
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



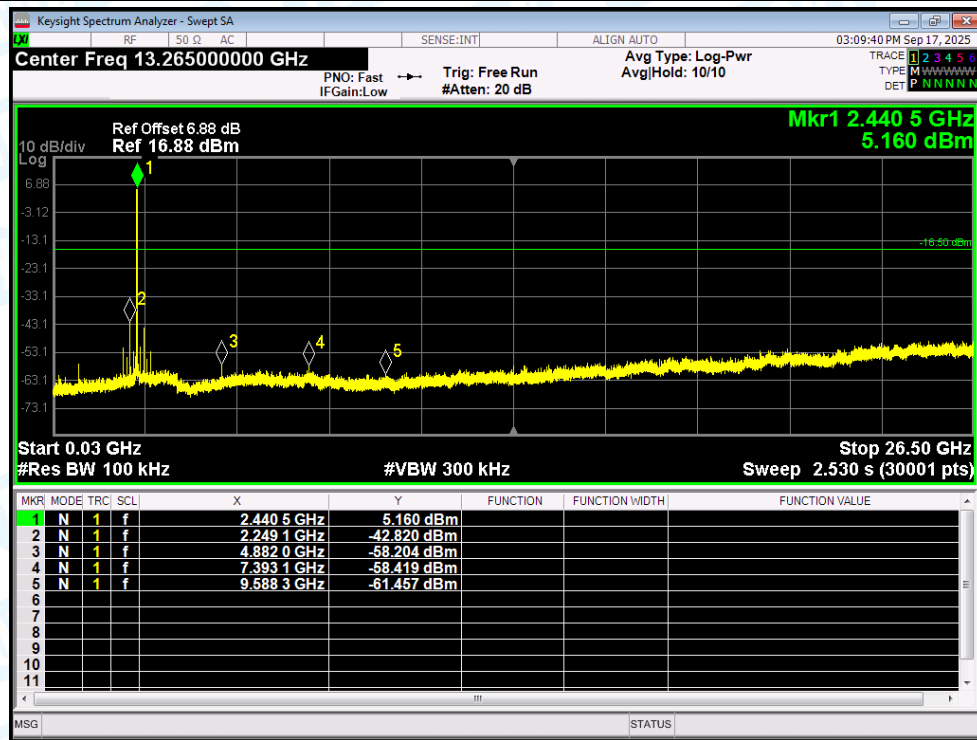
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



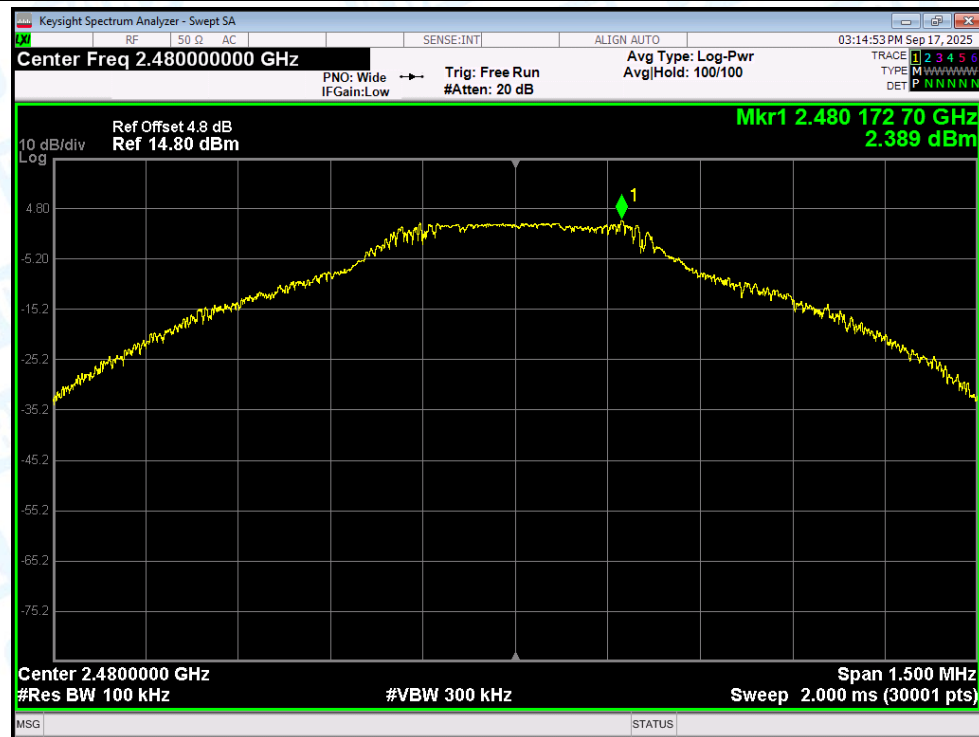
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



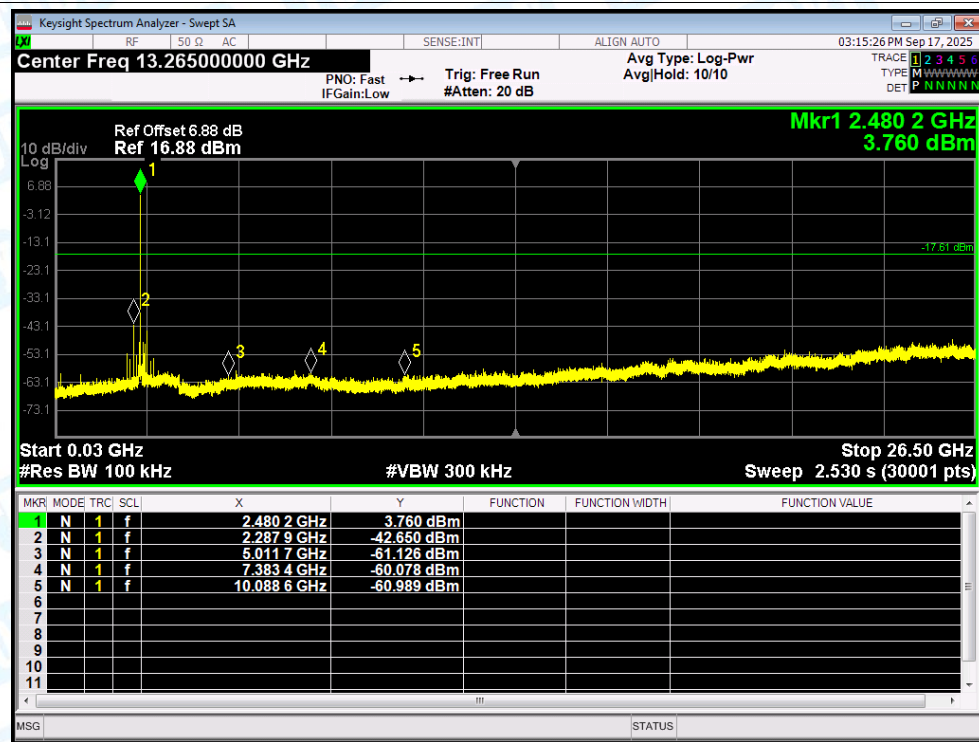
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



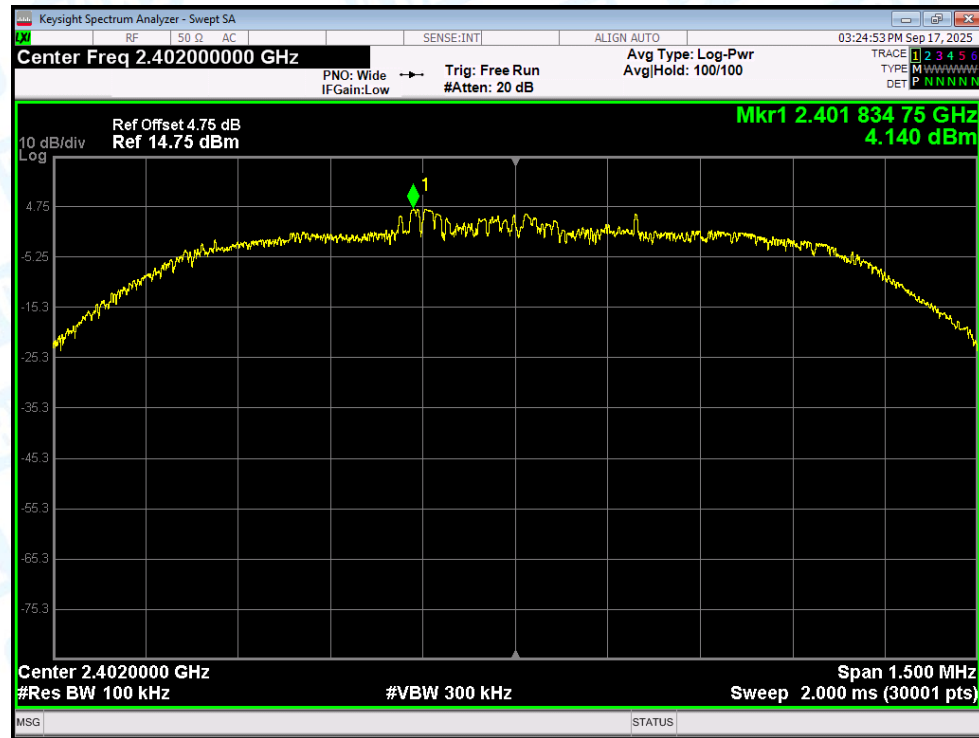
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



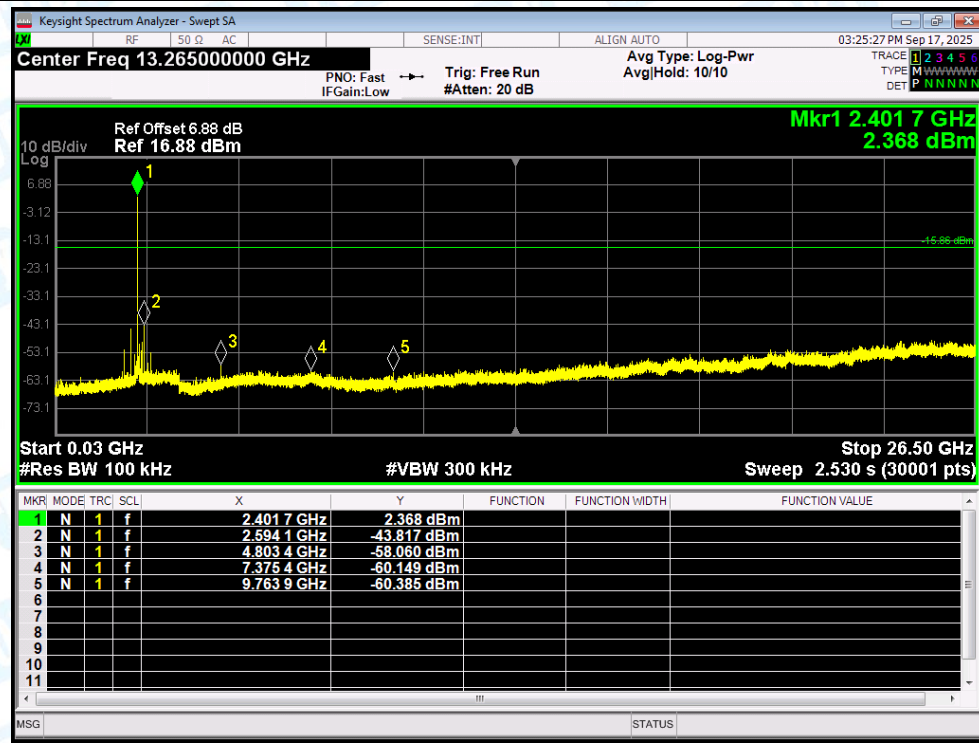
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



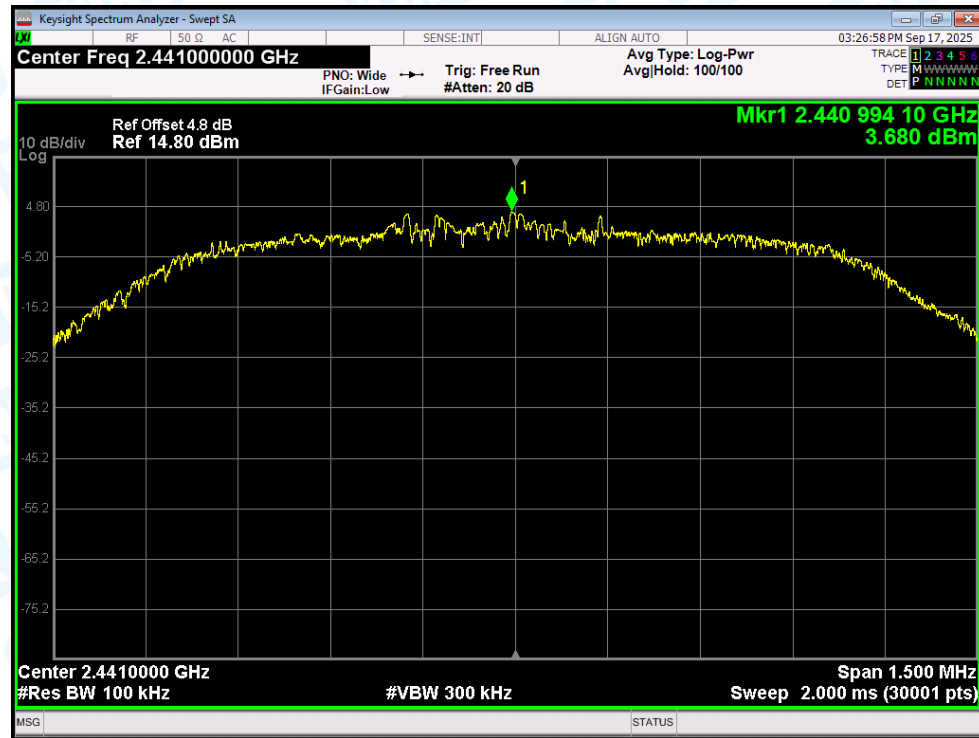
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



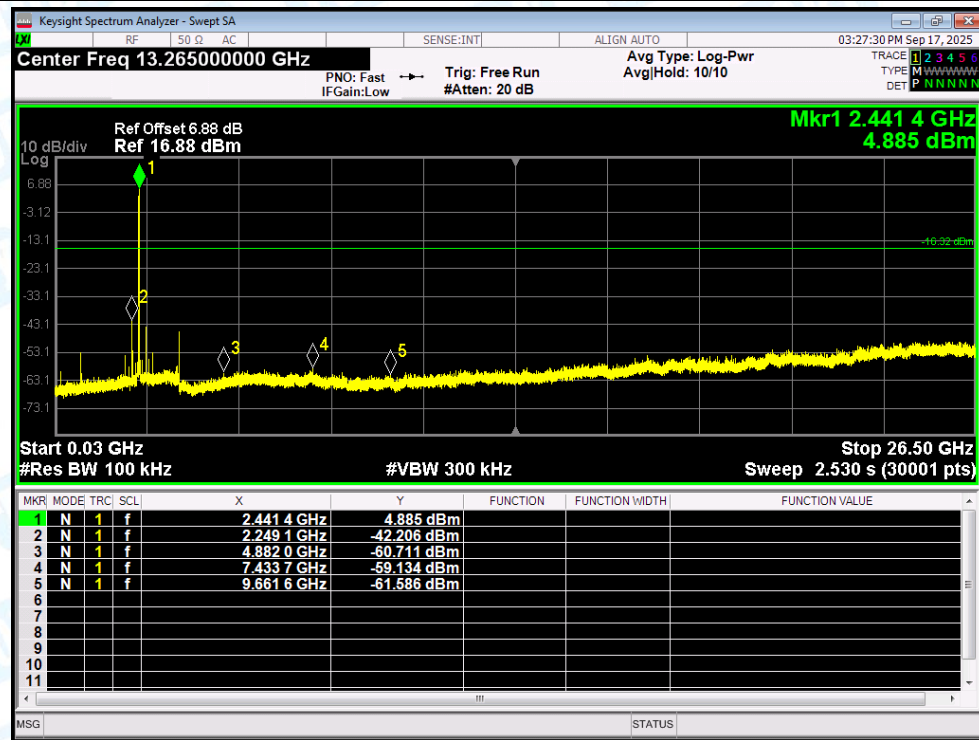
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



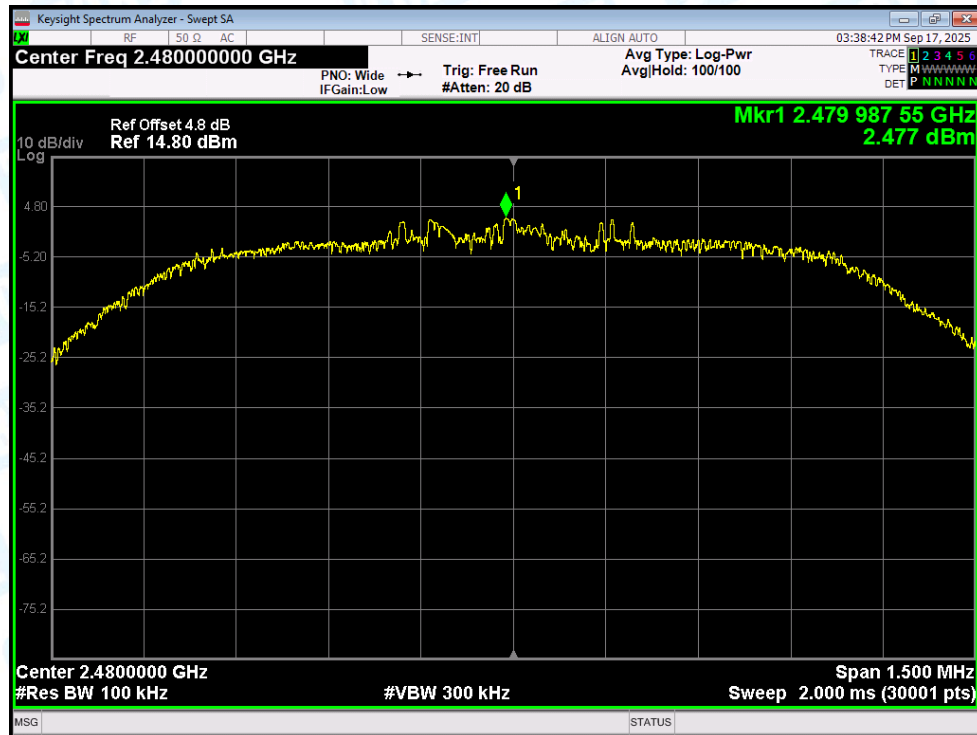
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



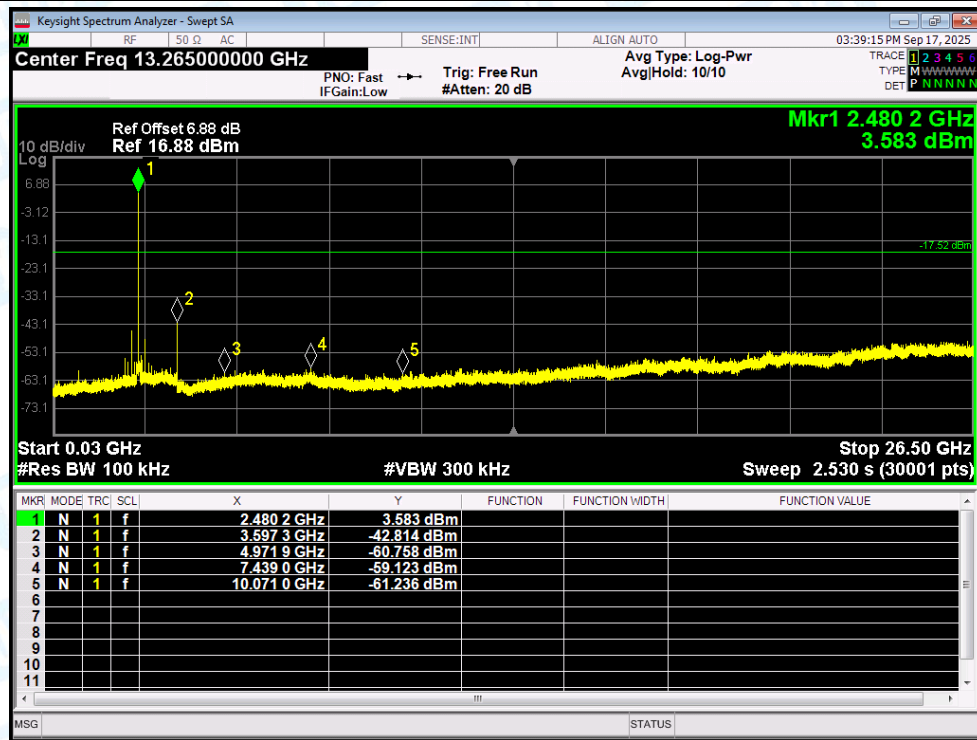
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



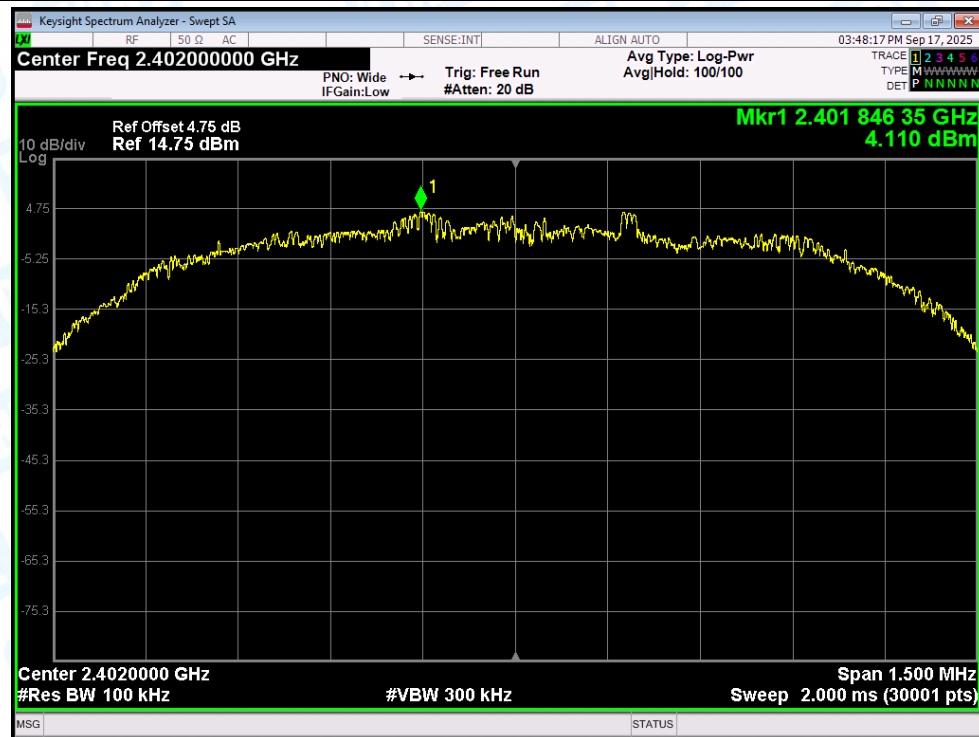
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



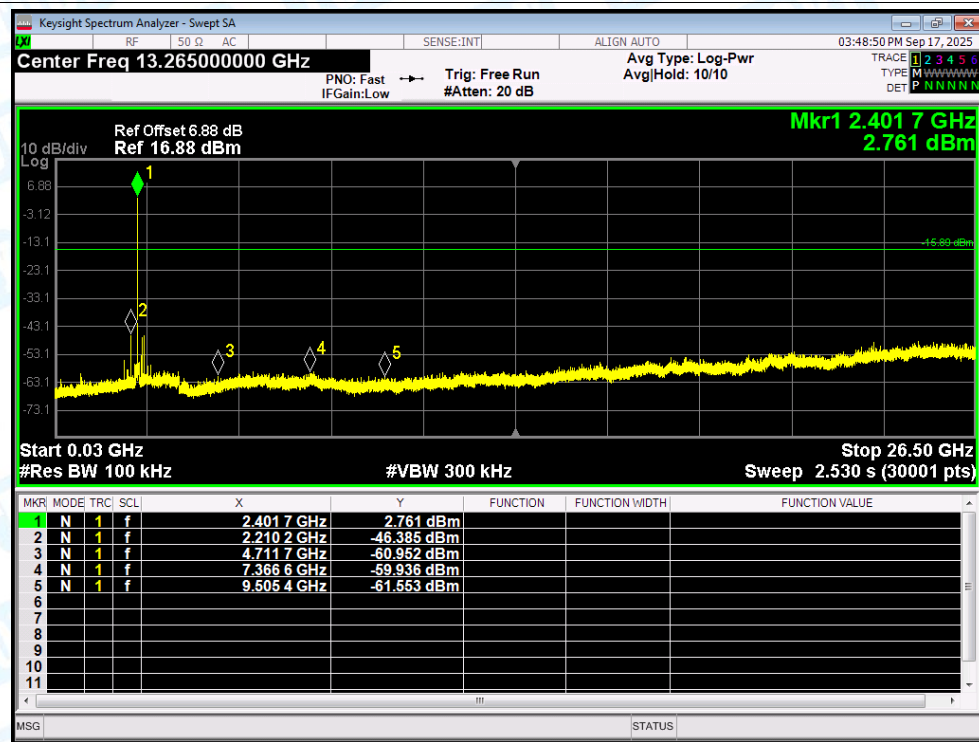
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



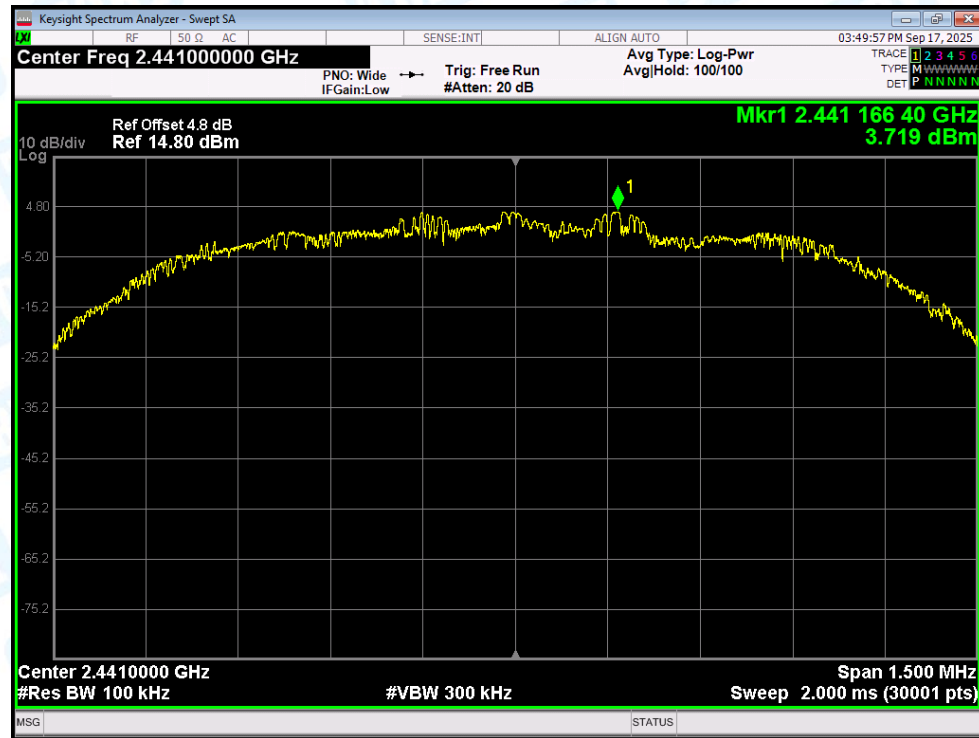
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



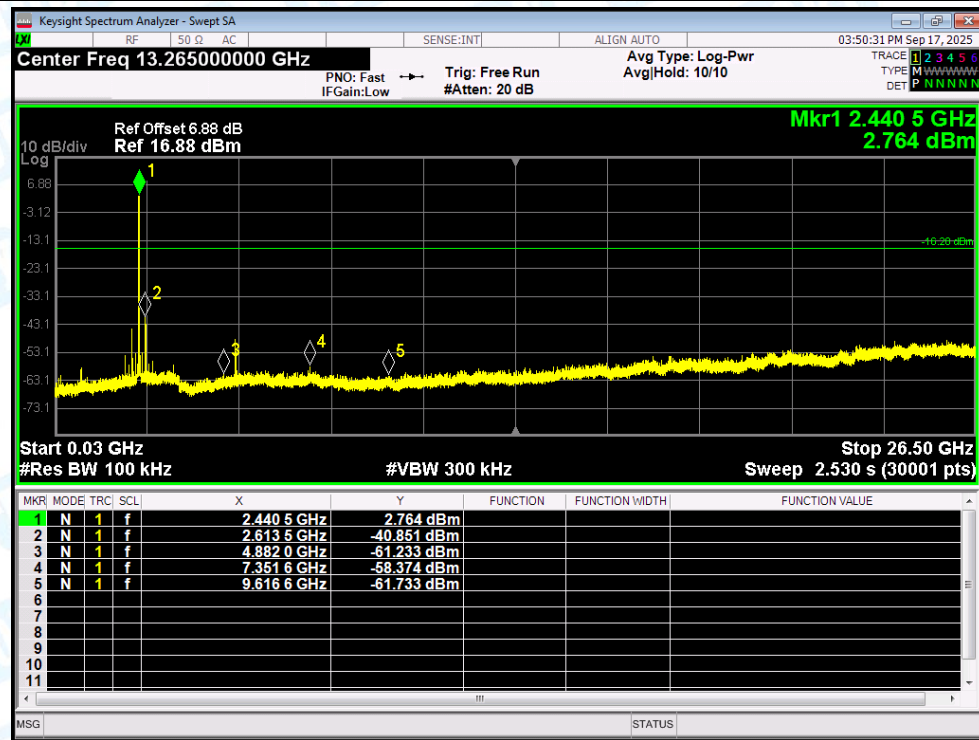
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



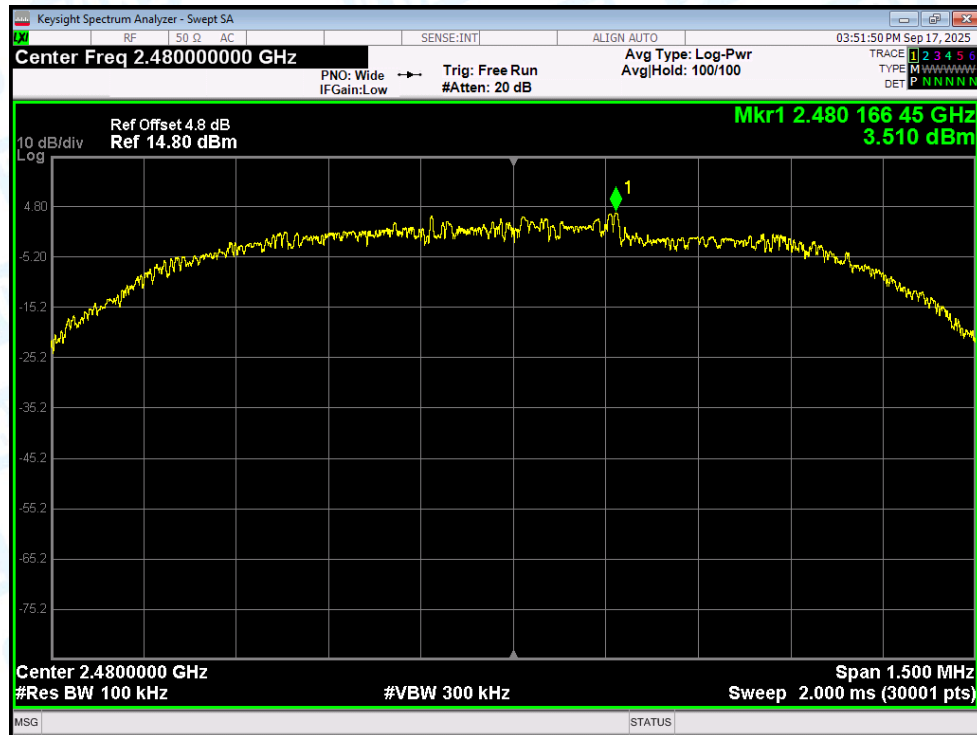
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



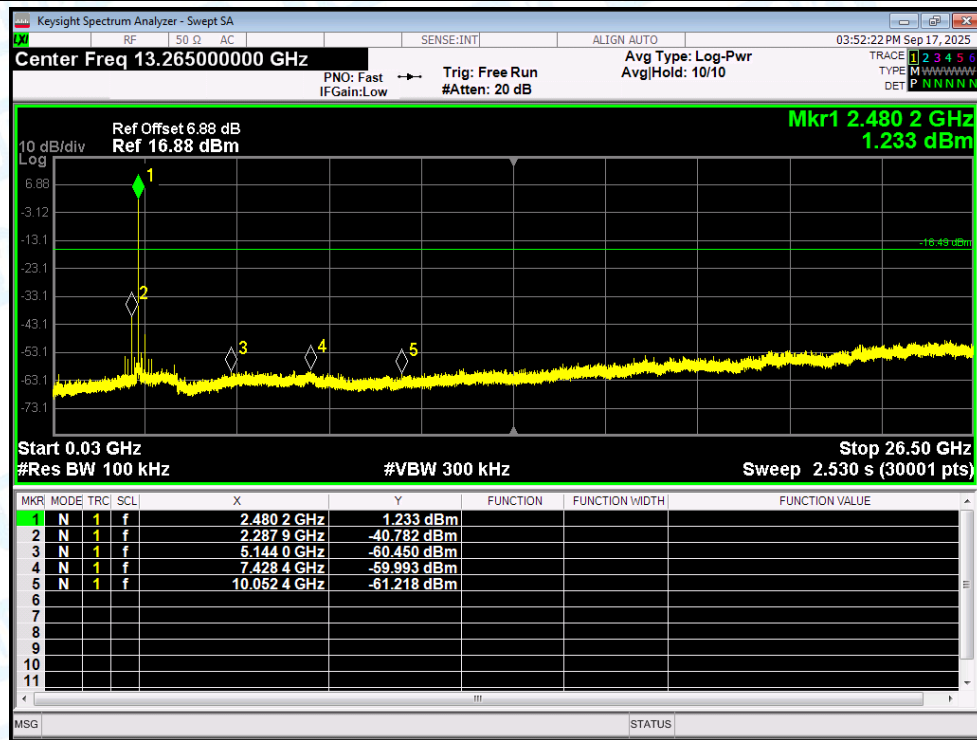
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

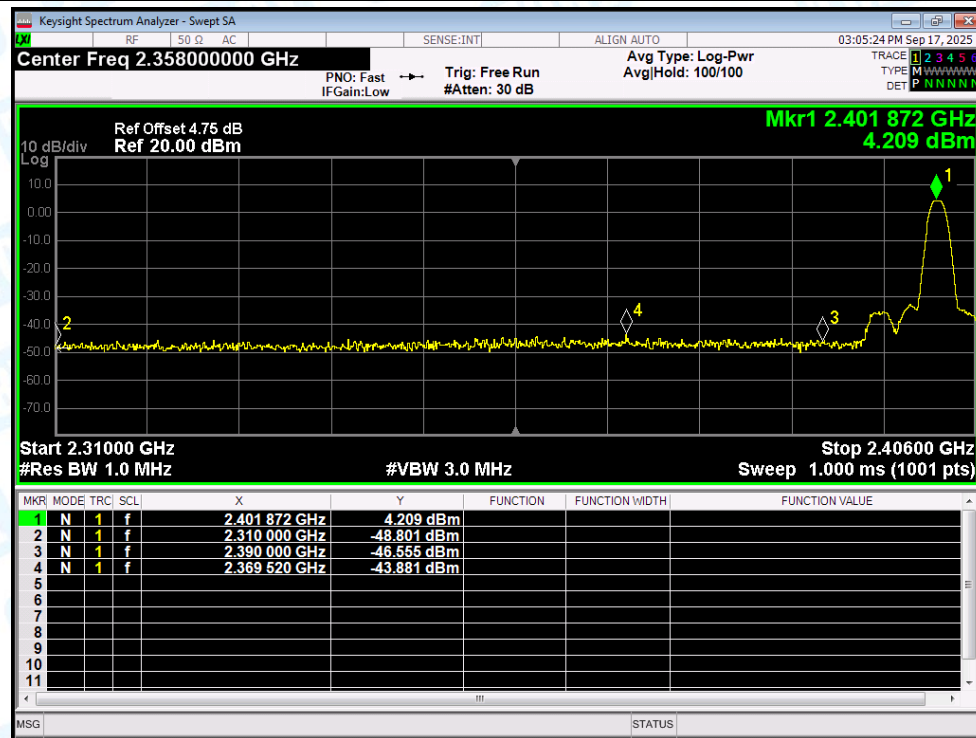


9. Restrict Band

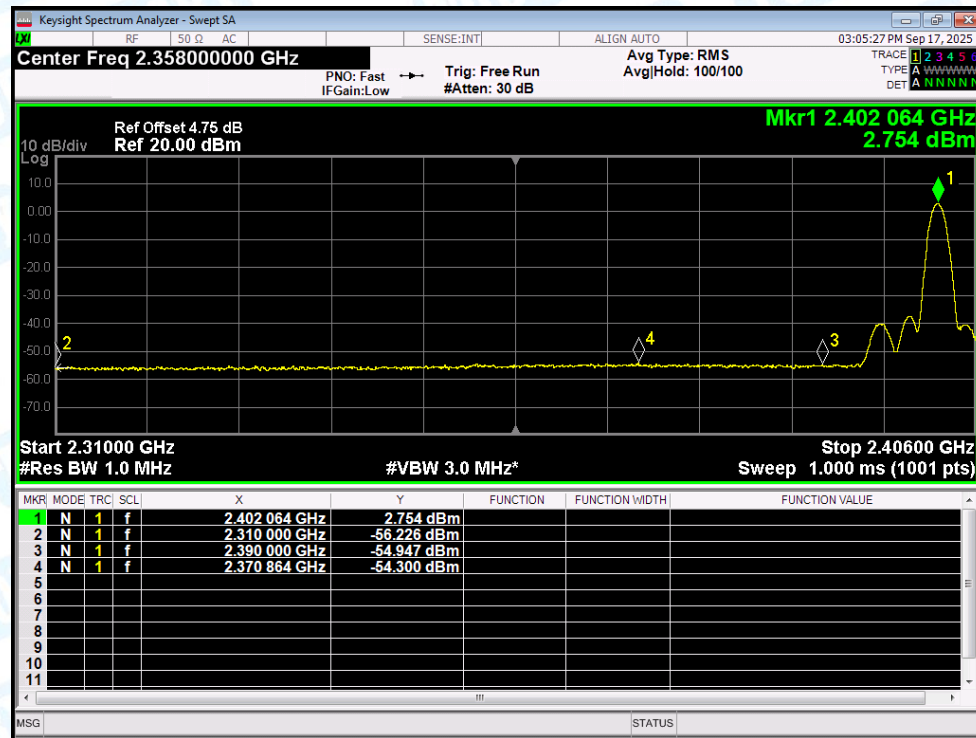
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-48.8	2	-	48.46	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-56.23	2	1.14	42.17	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2369.52	-43.88	2	-	53.38	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2370.864	-54.3	2	1.14	44.1	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-46.56	2	-	50.7	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-54.95	2	1.14	43.45	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-39.97	2	-	57.29	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-46.15	2	1.13	52.24	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.656	-39.6	2	-	57.66	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-46.15	2	1.13	52.24	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-47.53	2	-	49.73	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-54.96	2	1.13	43.43	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-47.88	2	-	49.38	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-55.98	2	1.13	42.41	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2341.968	-44.28	2	-	52.98	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2369.616	-54.34	2	1.13	44.05	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-45.82	2	-	51.44	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-55.52	2	1.13	42.87	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-40.21	2	-	57.05	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-48.84	2	1.13	49.55	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.704	-39.84	2	-	57.42	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-48.84	2	1.13	49.55	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-46.5	2	-	50.76	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-54.06	2	1.13	44.33	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-49.2	2	-	48.06	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-56.48	2	1.12	41.9	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2384.304	-43.99	2	-	53.27	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2361.36	-54.23	2	1.12	44.15	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-46.74	2	-	50.52	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-54.94	2	1.12	43.44	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-37.86	2	-	59.4	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-44.88	2	1.13	53.51	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.656	-36.75	2	-	60.51	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-44.88	2	1.13	53.51	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-47.66	2	-	49.6	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-54.49	2	1.13	43.9	Average	54	Pass

Test Graphs

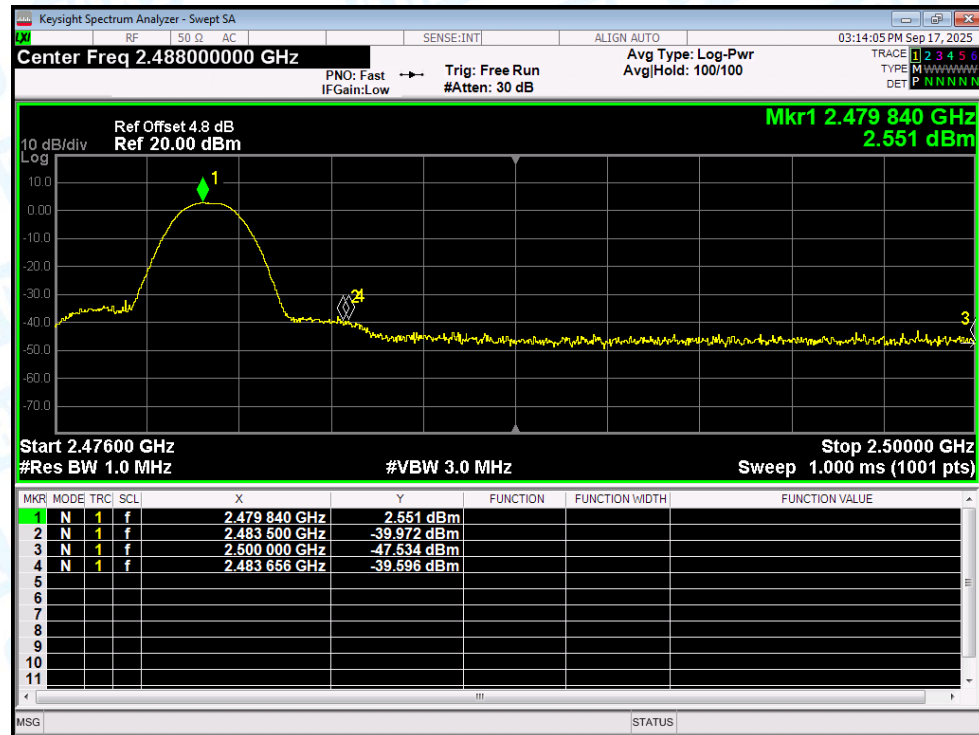
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



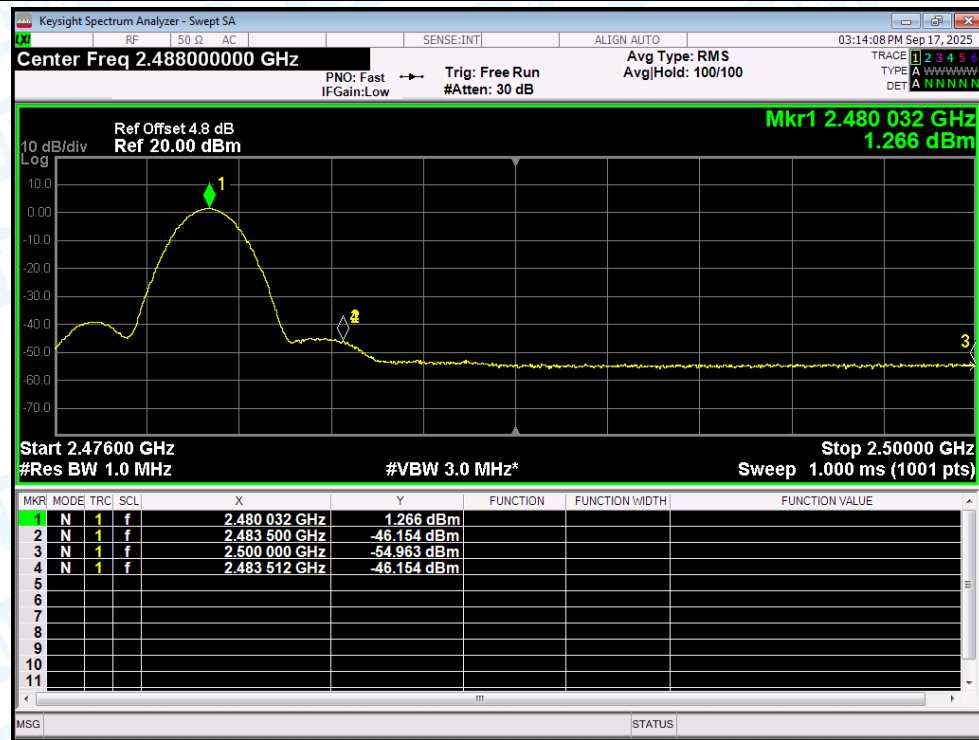
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



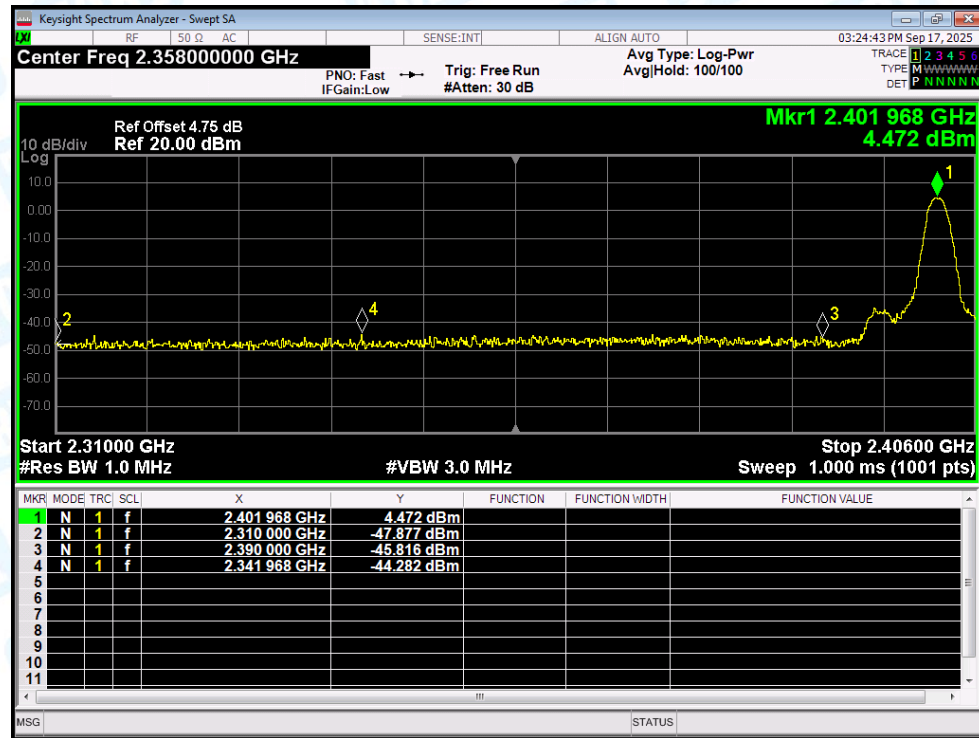
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



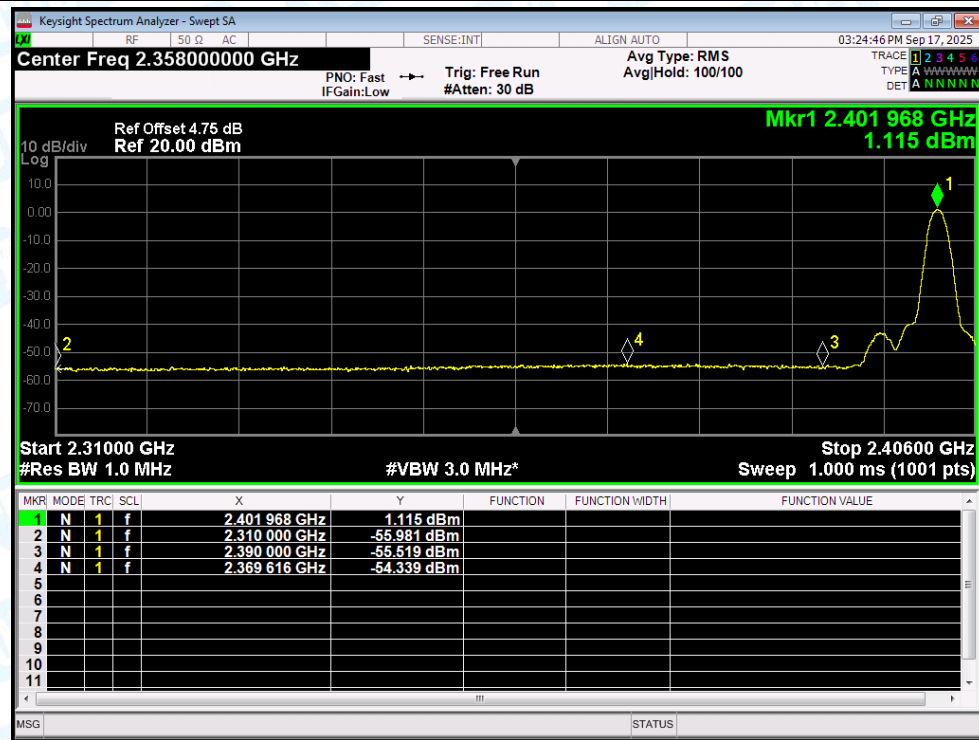
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



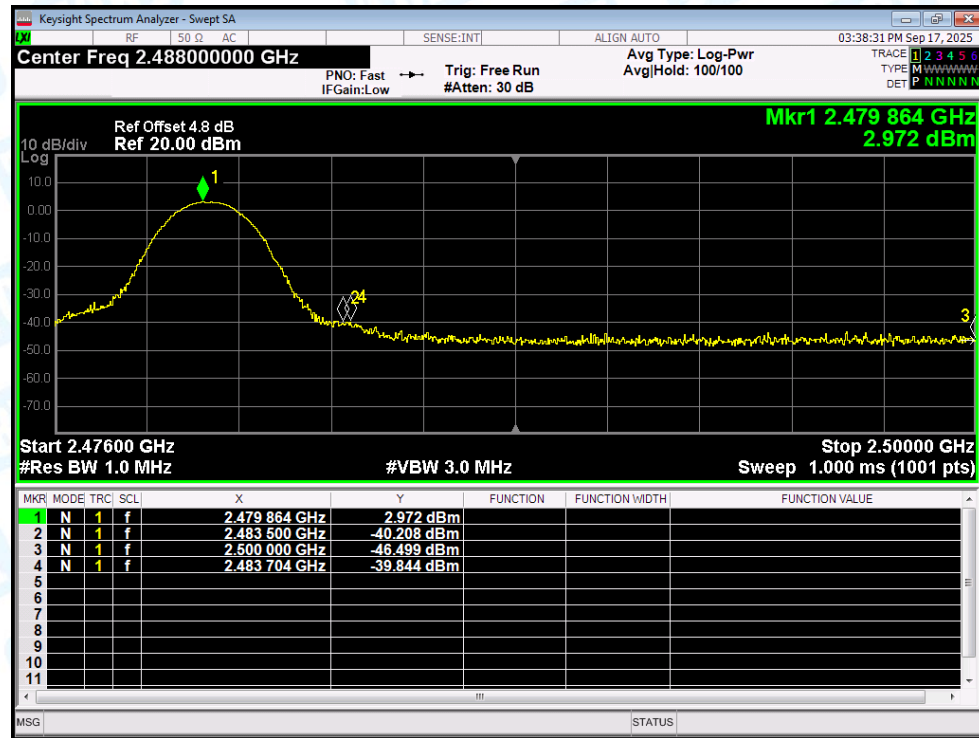
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



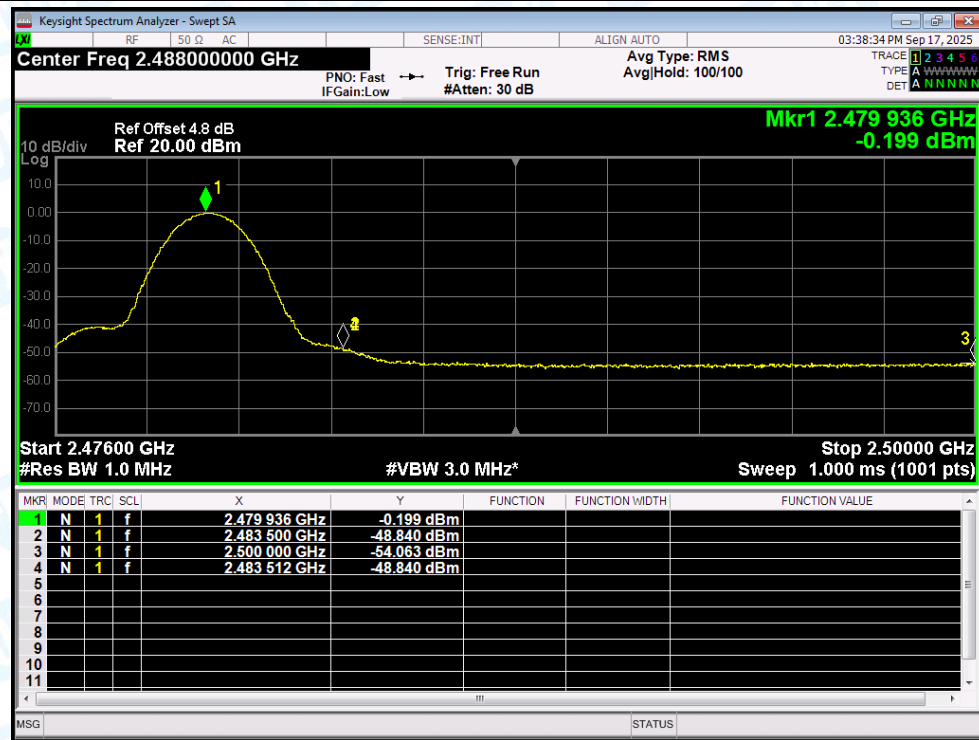
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average



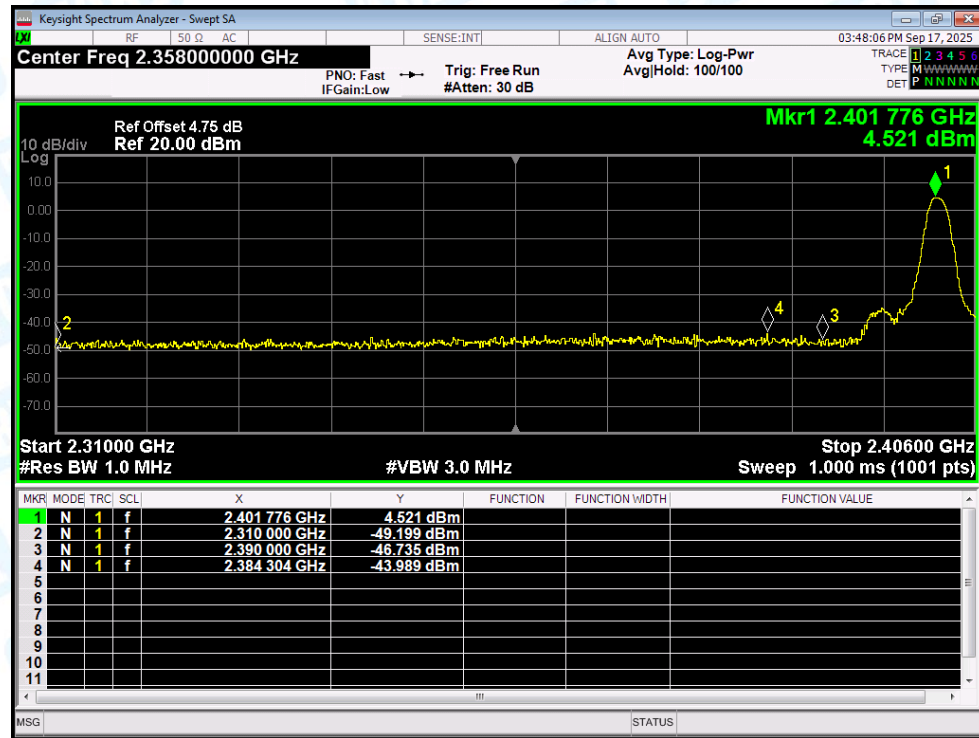
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



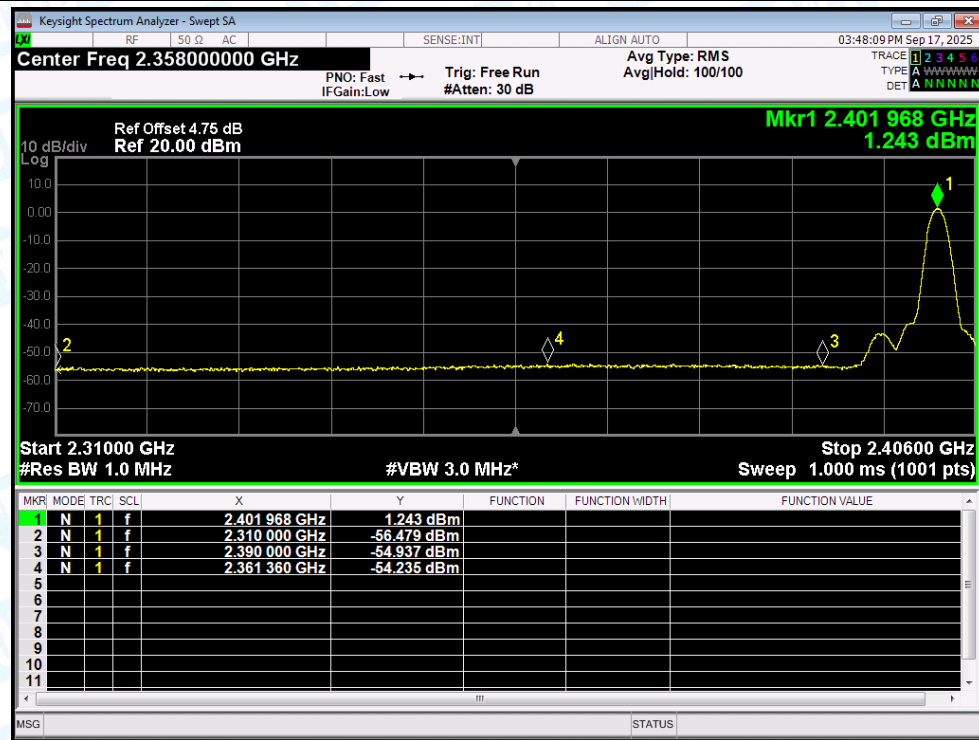
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average



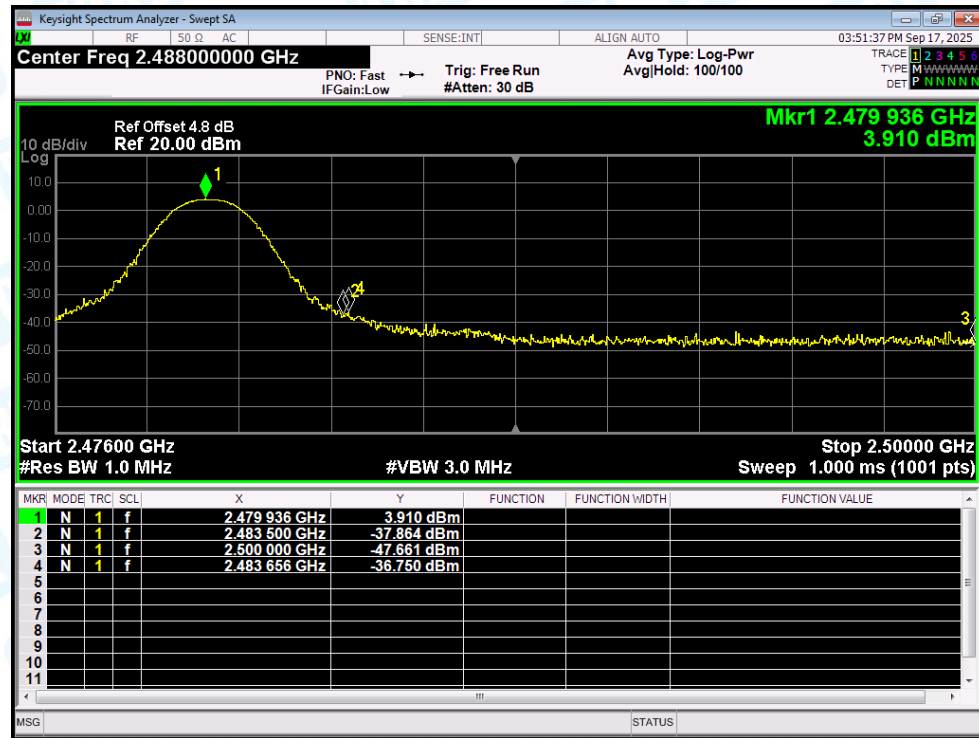
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



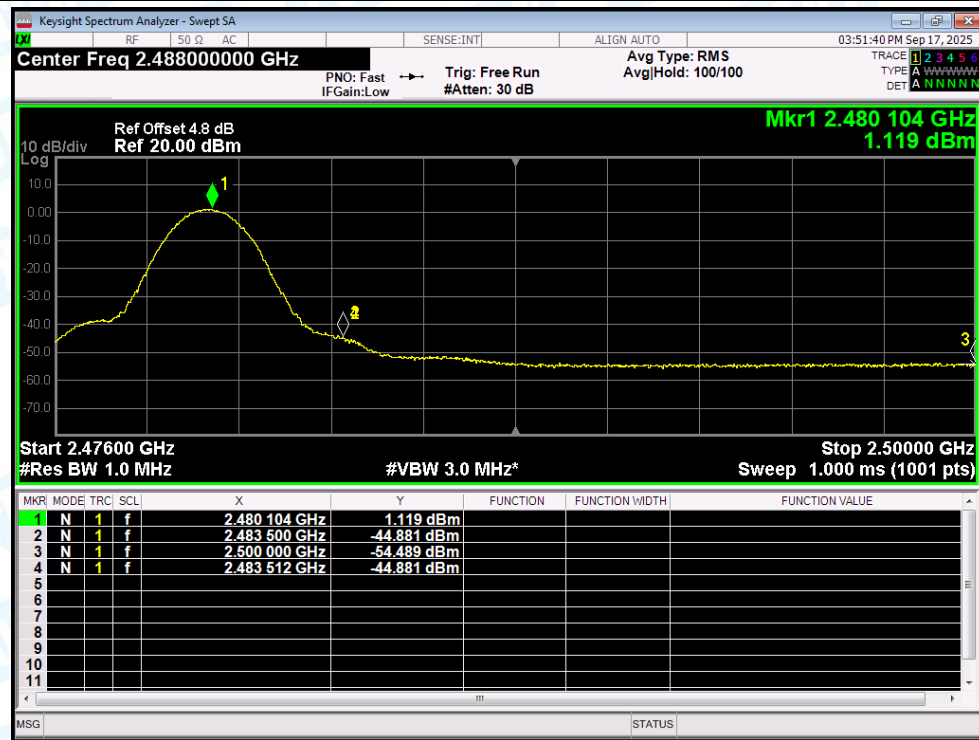
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average



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



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

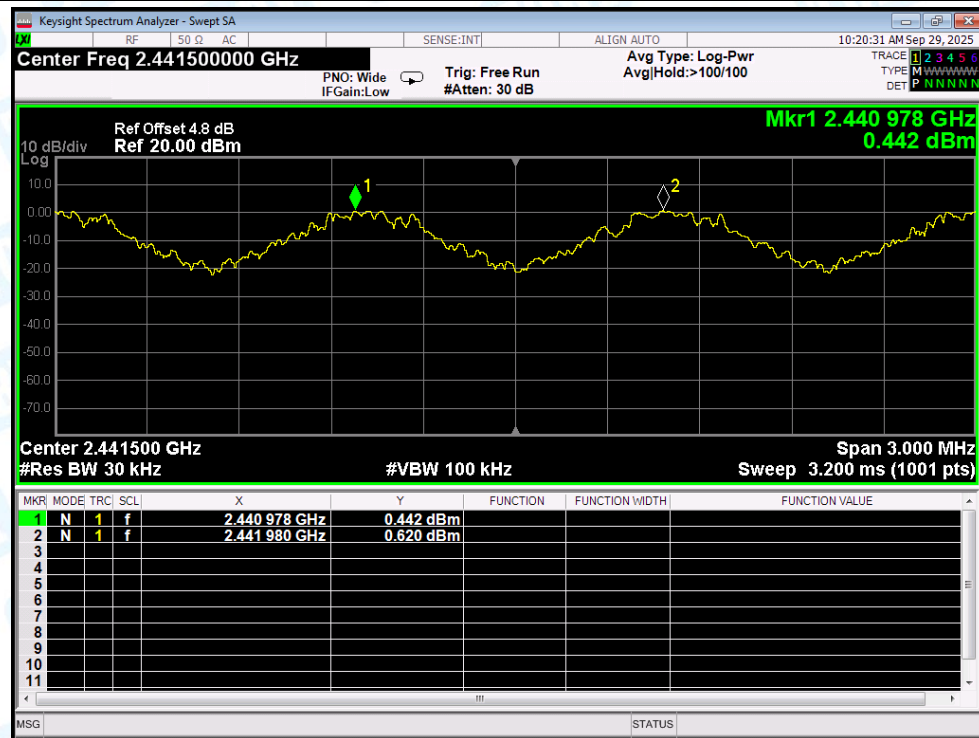


10. Carrier Frequencies Separation

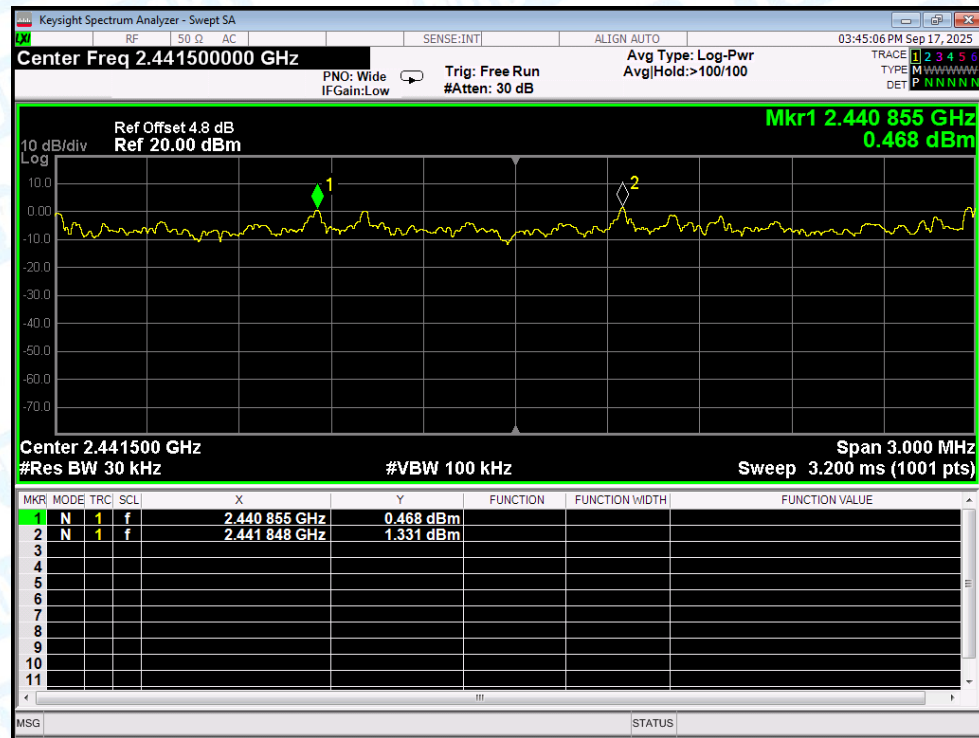
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2440.978	2441.98	1.002	0.025	Pass
NVNT	2-DH5	Ant1	2440.855	2441.848	0.993	0.887	Pass
NVNT	3-DH5	Ant1	2440.852	2441.995	1.143	0.867	Pass

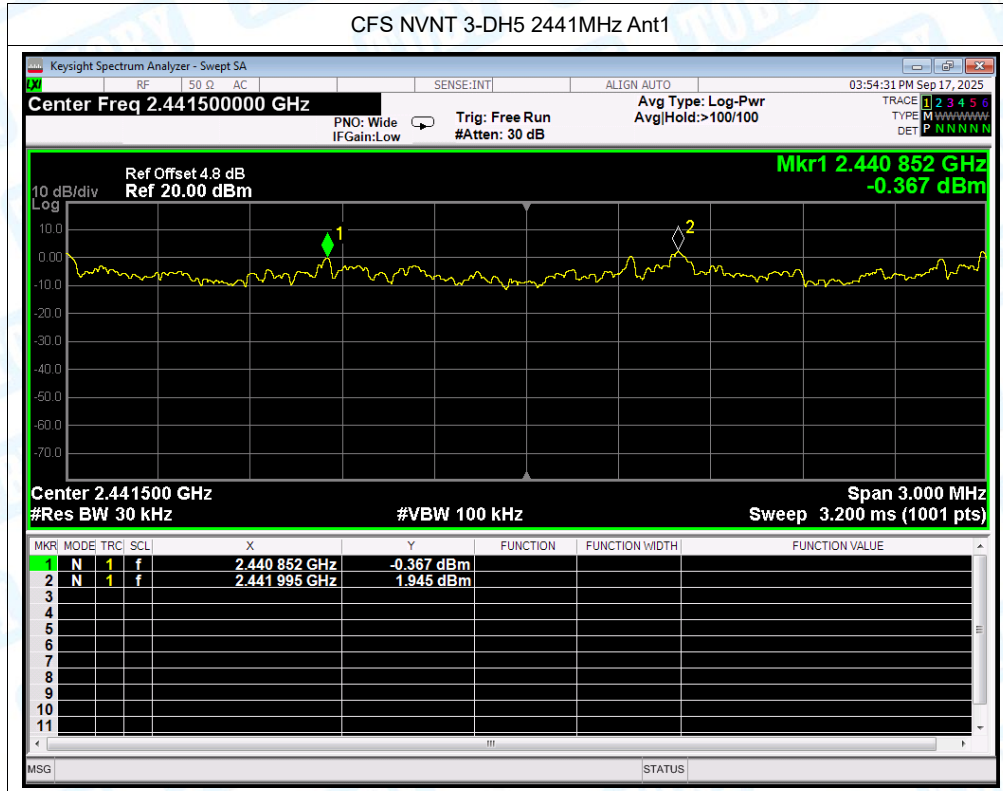
Test Graphs

CFS NVNT 1-DH5 2441MHz Ant1



CFS NVNT 2-DH5 2441MHz Ant1



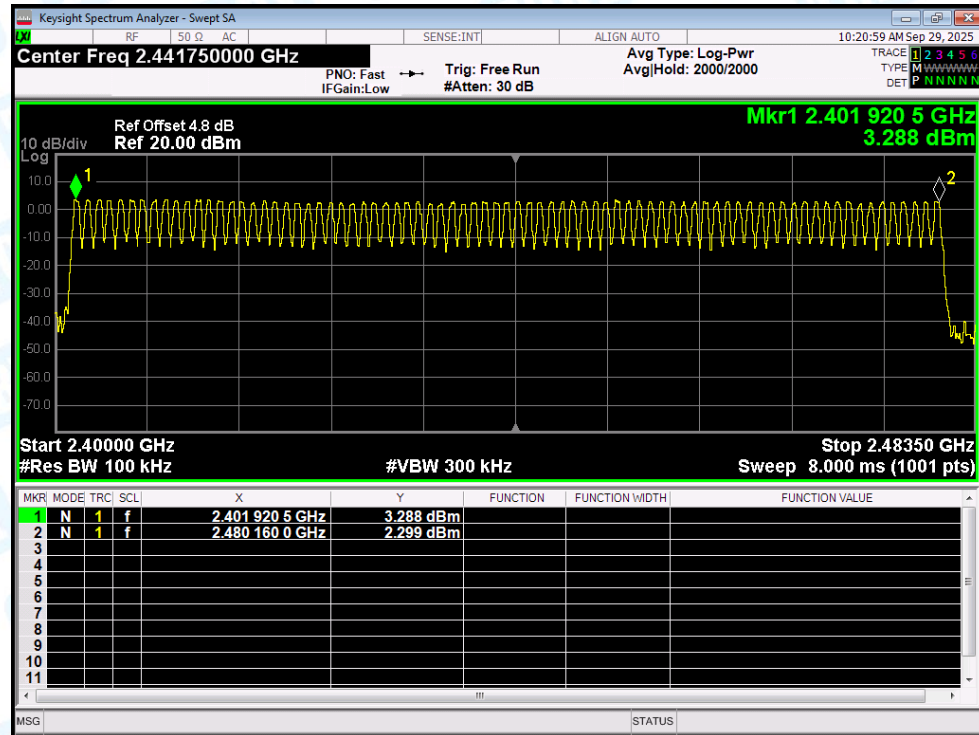


11. Number of Hopping Channel

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

Test Graphs

Hopping No. NVNT 1-DH5 2441MHz Ant1



Hopping No. NVNT 2-DH5 2441MHz Ant1

