

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Wireless noise isolating earbuds
Test Model:	MI08
Sample ID:	HC-C-202406-0207-01-02
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	52.4%
Test Voltage:	DC 3.7V
Test Engineer:	Jolin Lee
Note: For a more detailed features description, please refer to the report TBR-C-202406-0207-21 The report only show the worst case data.	

Contents

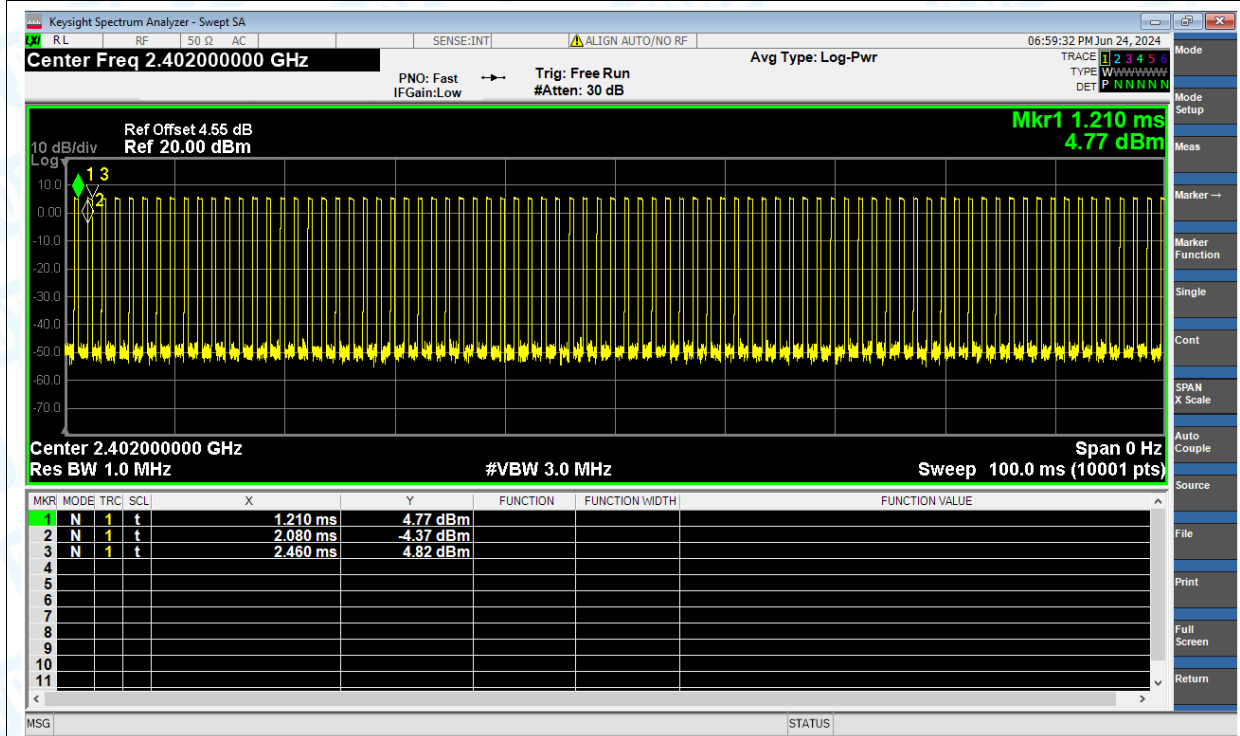
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1. Duty Cycle

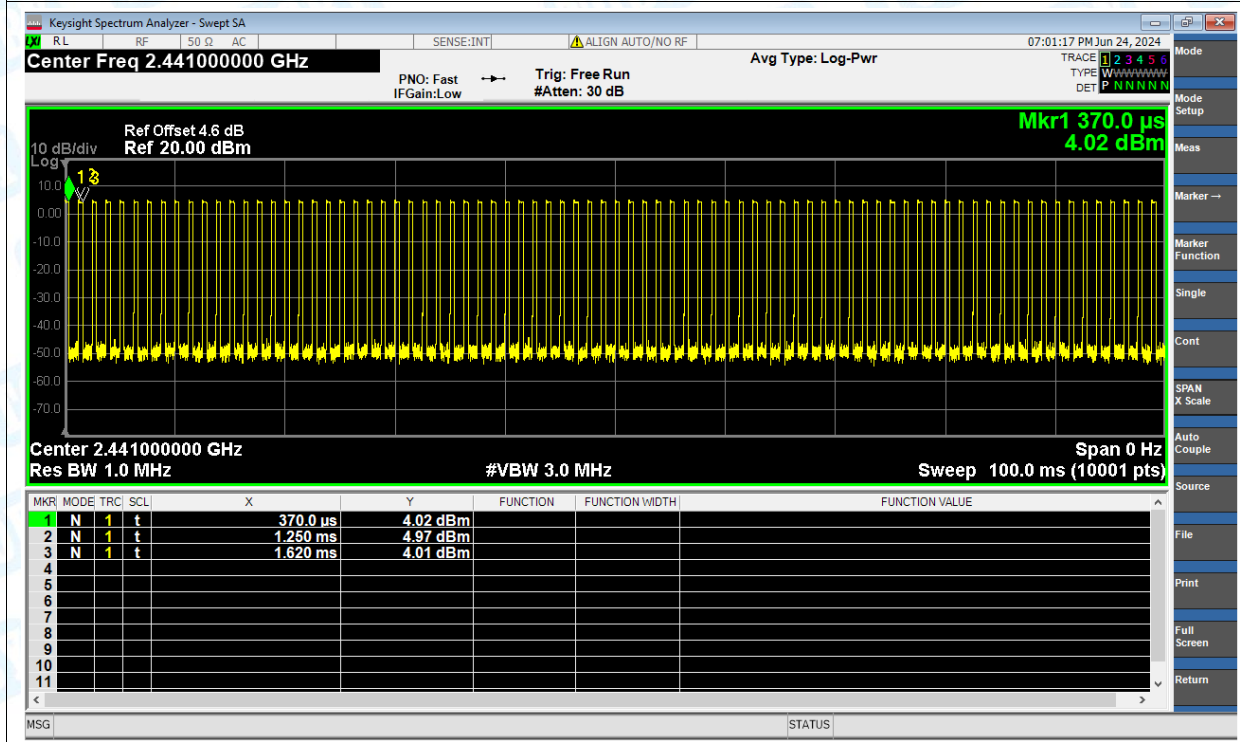
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	29.6	5.29	2.7
NVNT	1-DH1	2480	Ant1	29.6	5.29	2.7
NVNT	2-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	3-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	3-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	3-DH1	2480	Ant1	30.4	5.17	2.63

Test Graphs

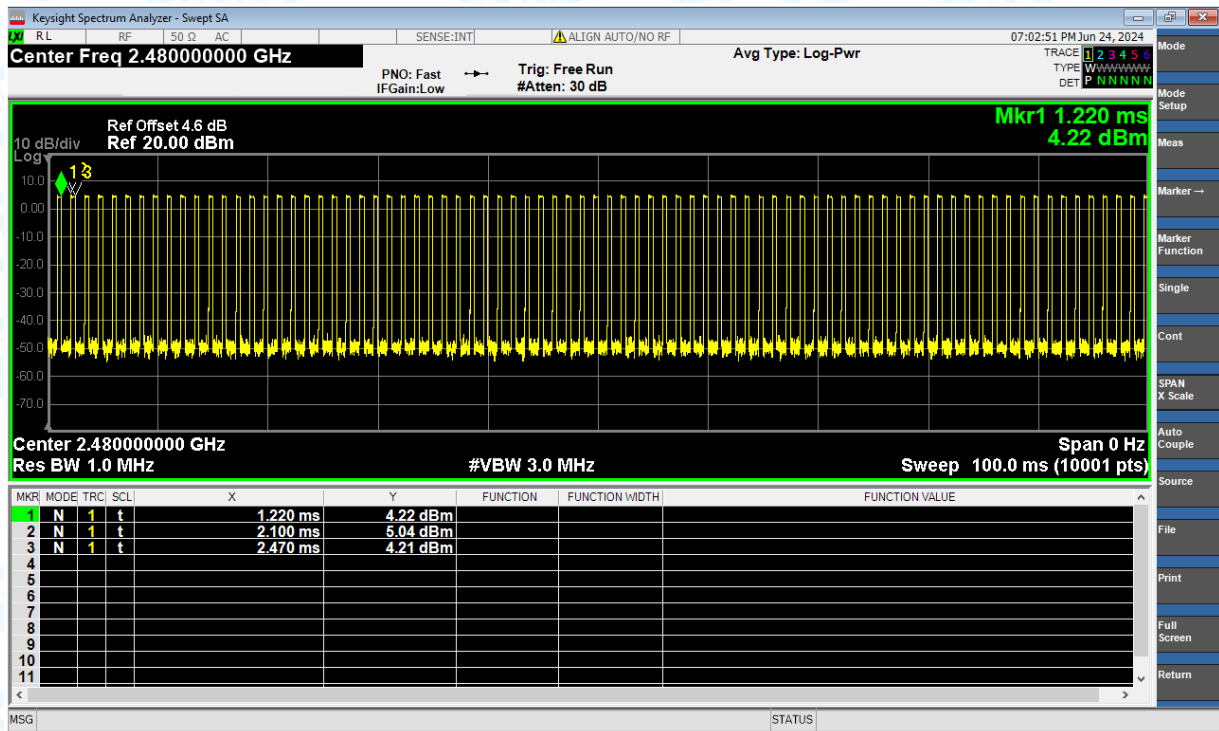
Duty Cycle NVNT 1-DH1 2402MHz Ant1



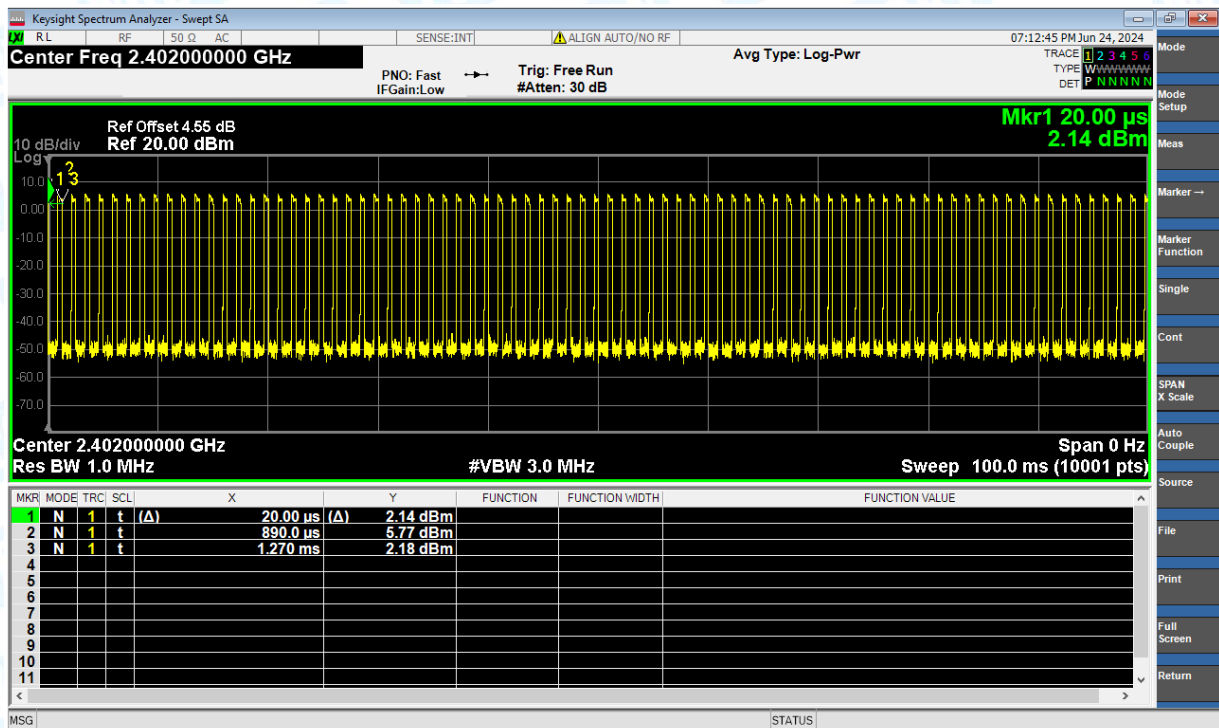
Duty Cycle NVNT 1-DH1 2441MHz Ant1



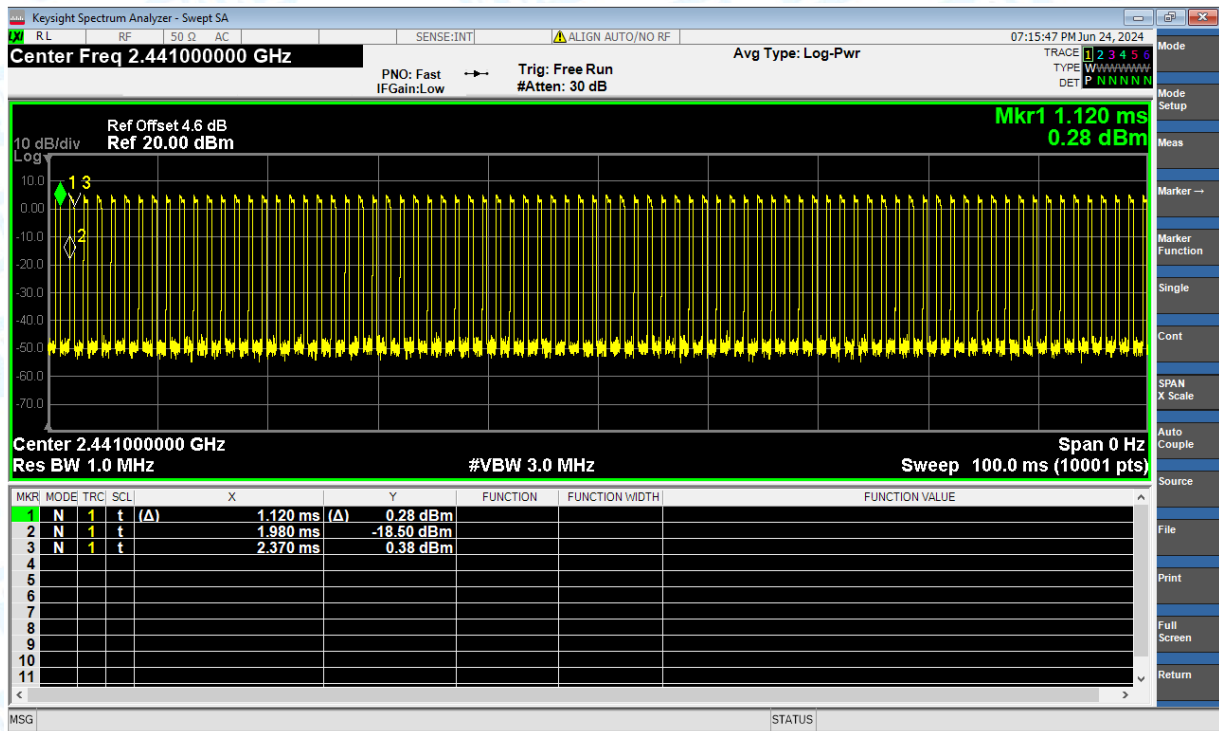
Duty Cycle NVNT 1-DH1 2480MHz Ant1



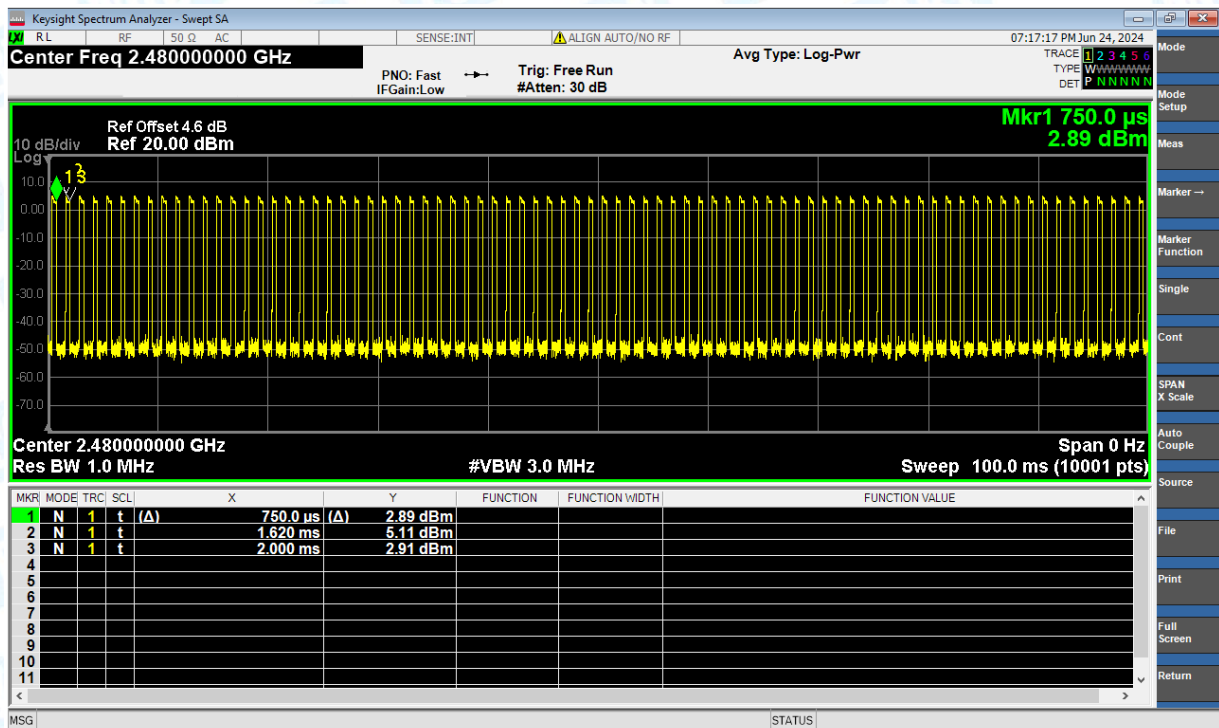
Duty Cycle NVNT 2-DH1 2402MHz Ant1



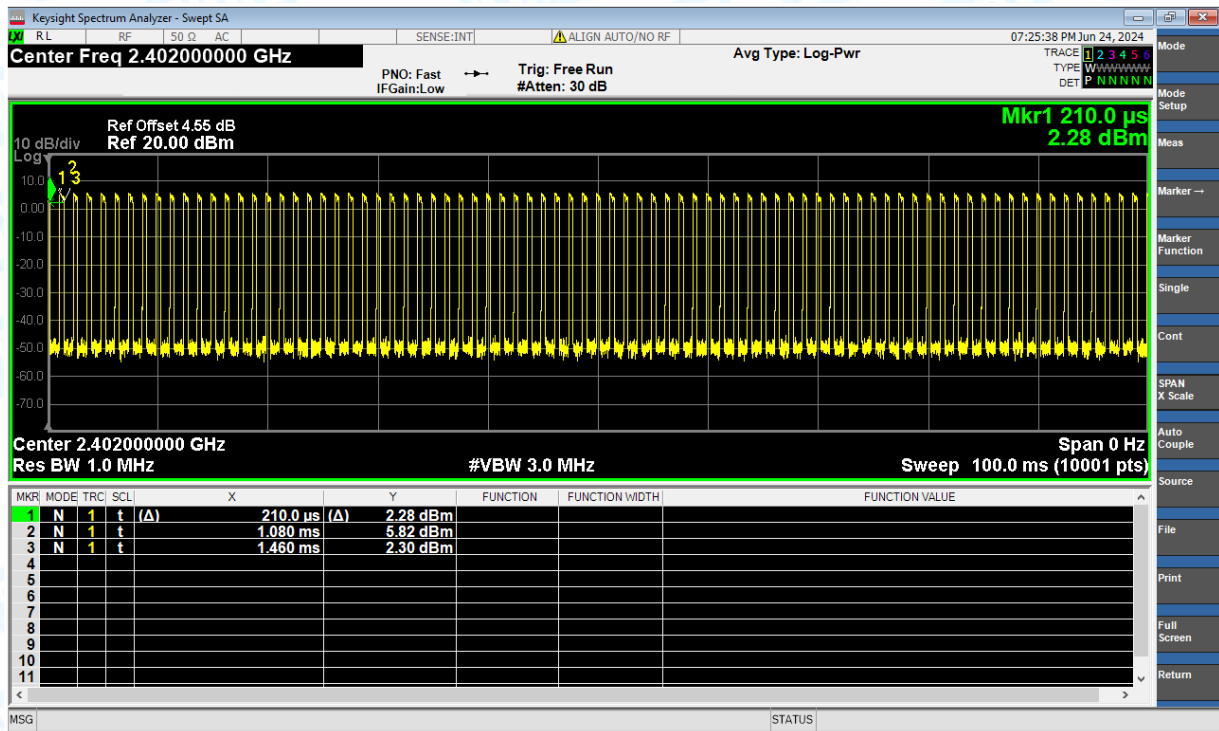
Duty Cycle NVNT 2-DH1 2441MHz Ant1



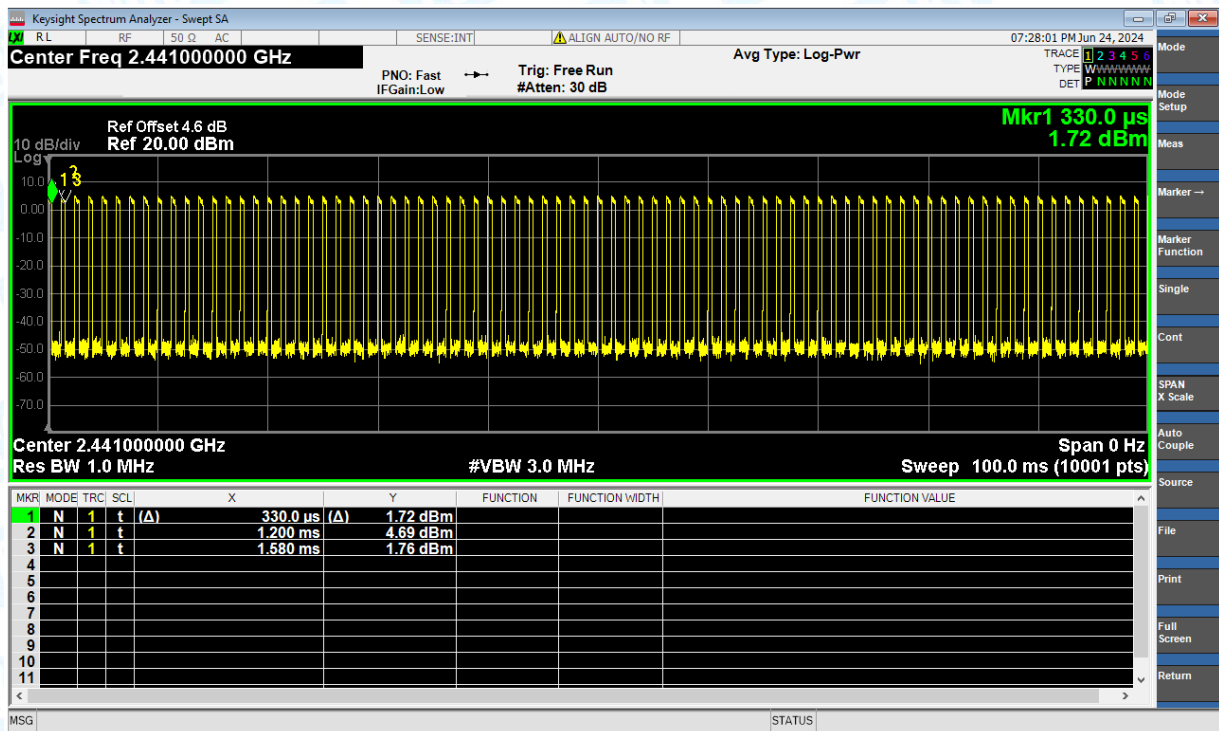
Duty Cycle NVNT 2-DH1 2480MHz Ant1

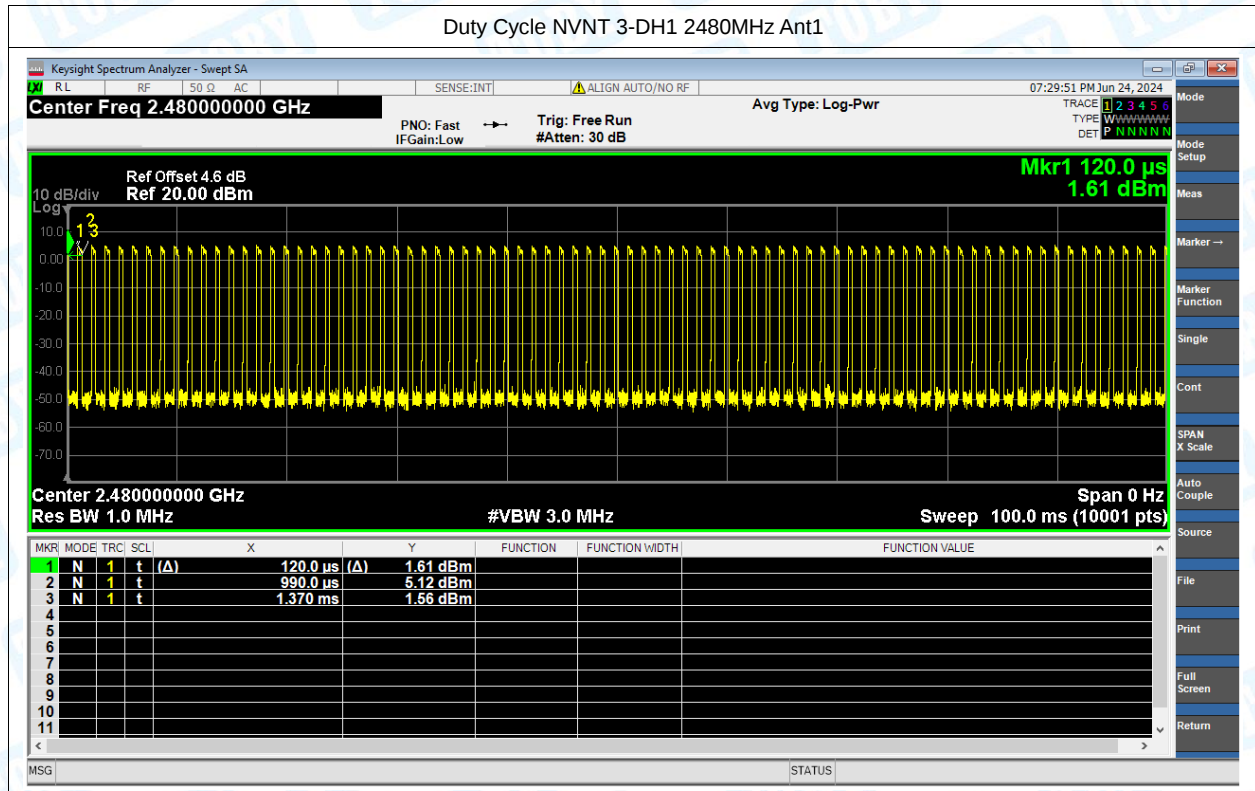


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



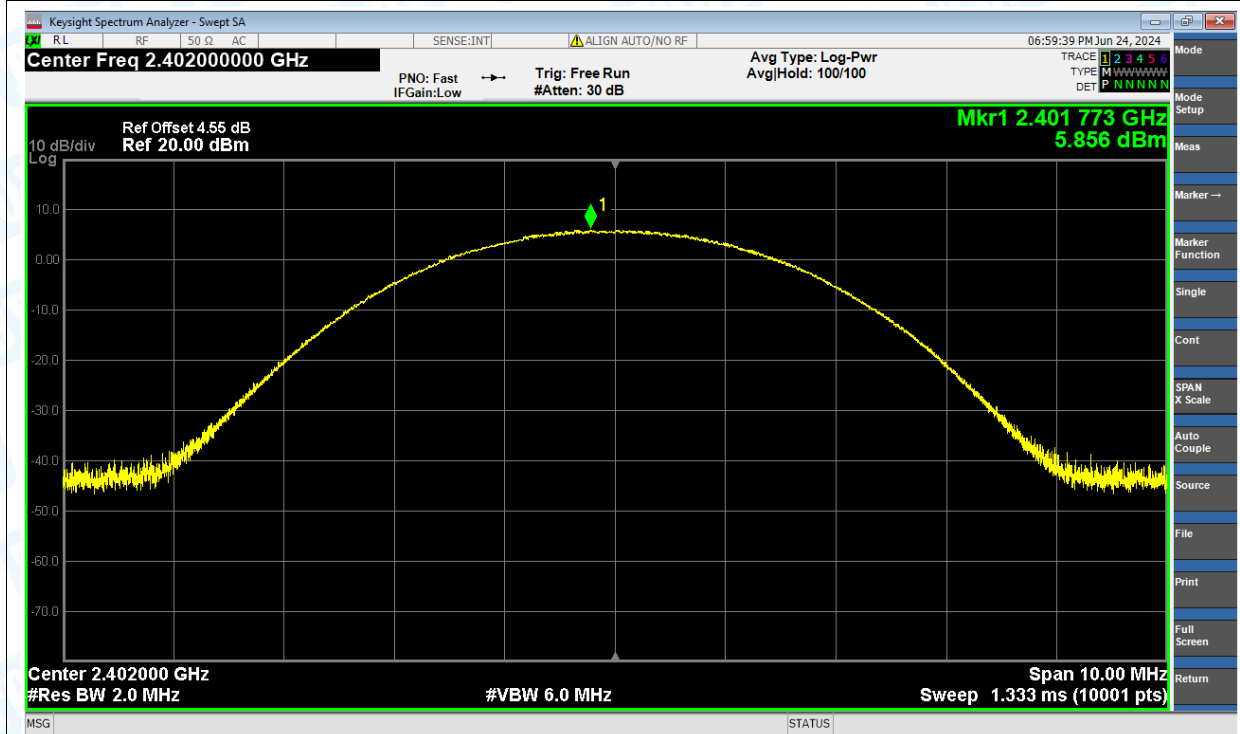


2. Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	5.856	21	Pass
NVNT	1-DH1	2441	Ant1	5.092	21	Pass
NVNT	1-DH1	2480	Ant1	5.183	21	Pass
NVNT	1-DH3	2441	Ant1	5.034	21	Pass
NVNT	1-DH5	2441	Ant1	4.928	21	Pass
NVNT	2-DH1	2402	Ant1	5.862	21	Pass
NVNT	2-DH1	2441	Ant1	5.103	21	Pass
NVNT	2-DH1	2480	Ant1	5.105	21	Pass
NVNT	2-DH3	2441	Ant1	4.999	21	Pass
NVNT	2-DH5	2441	Ant1	4.975	21	Pass
NVNT	3-DH1	2402	Ant1	5.936	21	Pass
NVNT	3-DH1	2441	Ant1	5.129	21	Pass
NVNT	3-DH1	2480	Ant1	5.23	21	Pass
NVNT	3-DH3	2441	Ant1	5.149	21	Pass
NVNT	3-DH5	2441	Ant1	5.025	21	Pass

Test Graphs

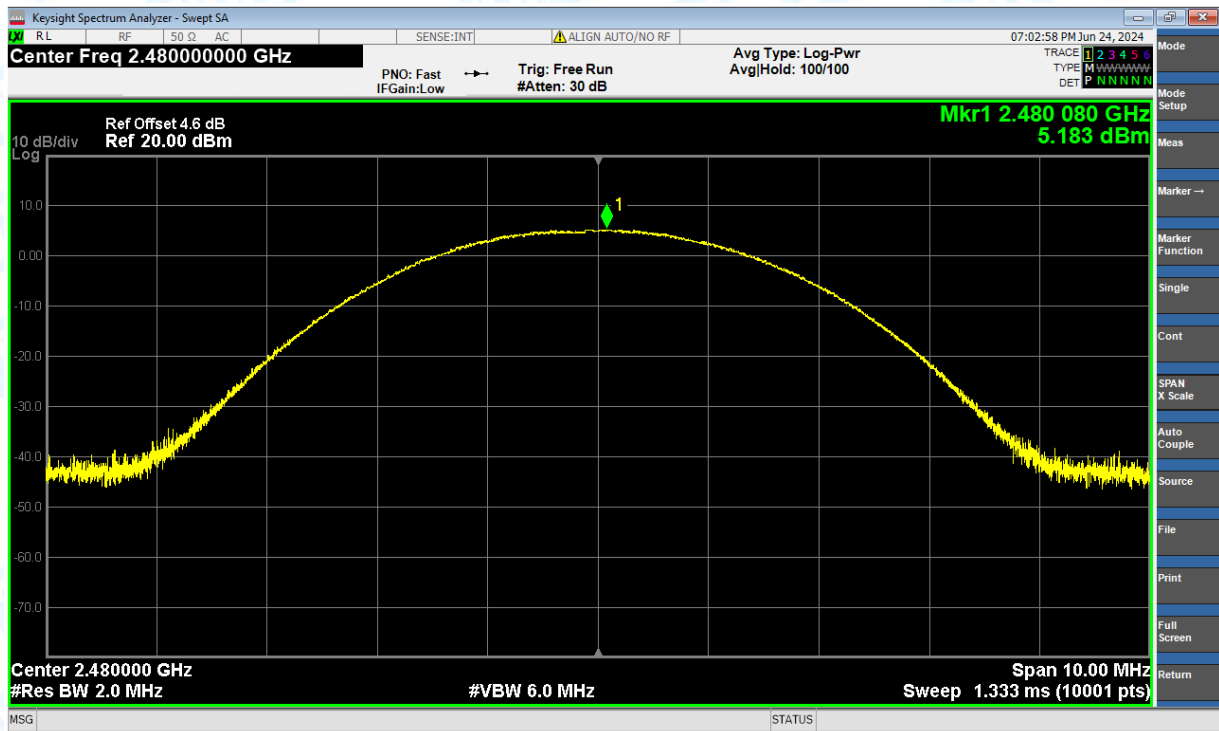
Power NVNT 1-DH1 2402MHz Ant1



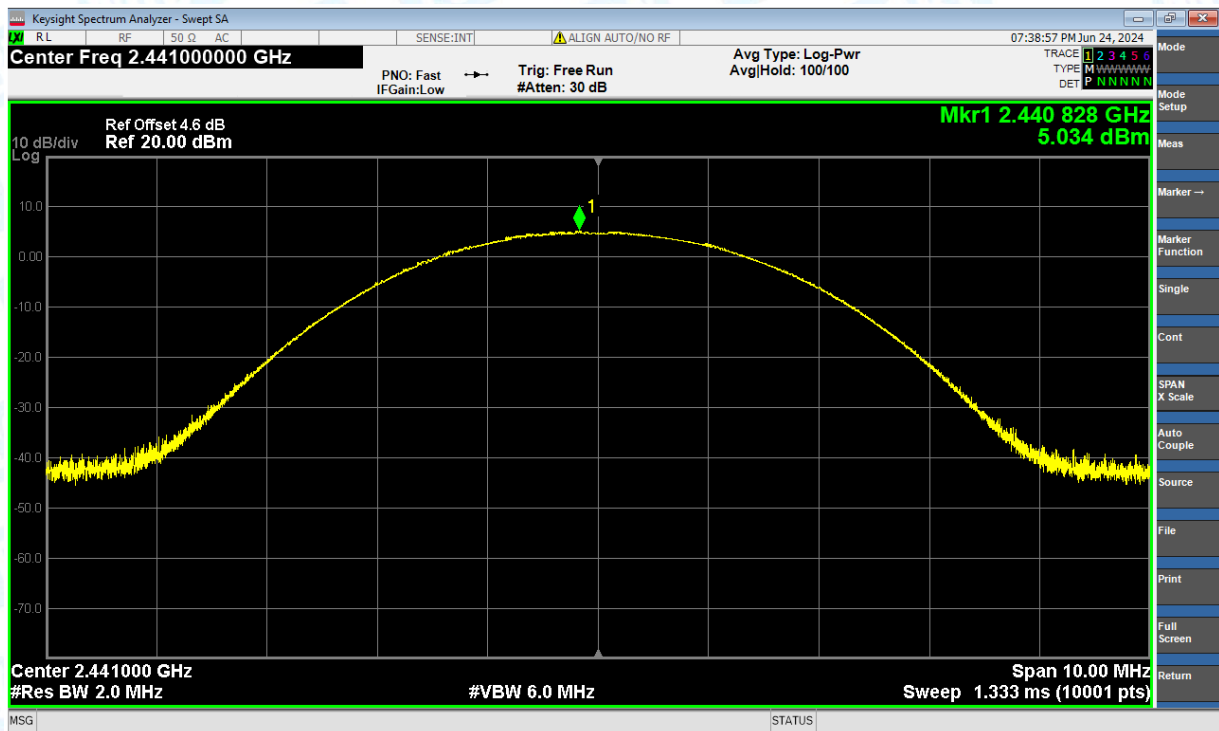
Power NVNT 1-DH1 2441MHz Ant1



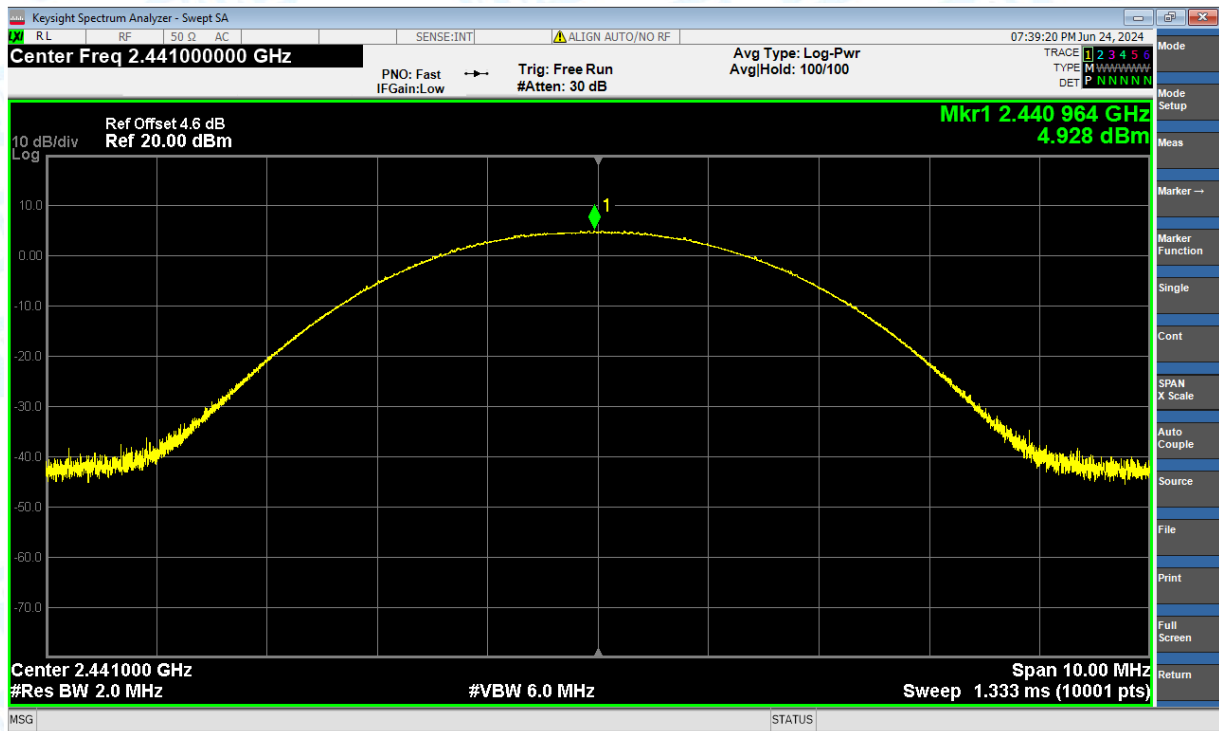
Power NVNT 1-DH1 2480MHz Ant1



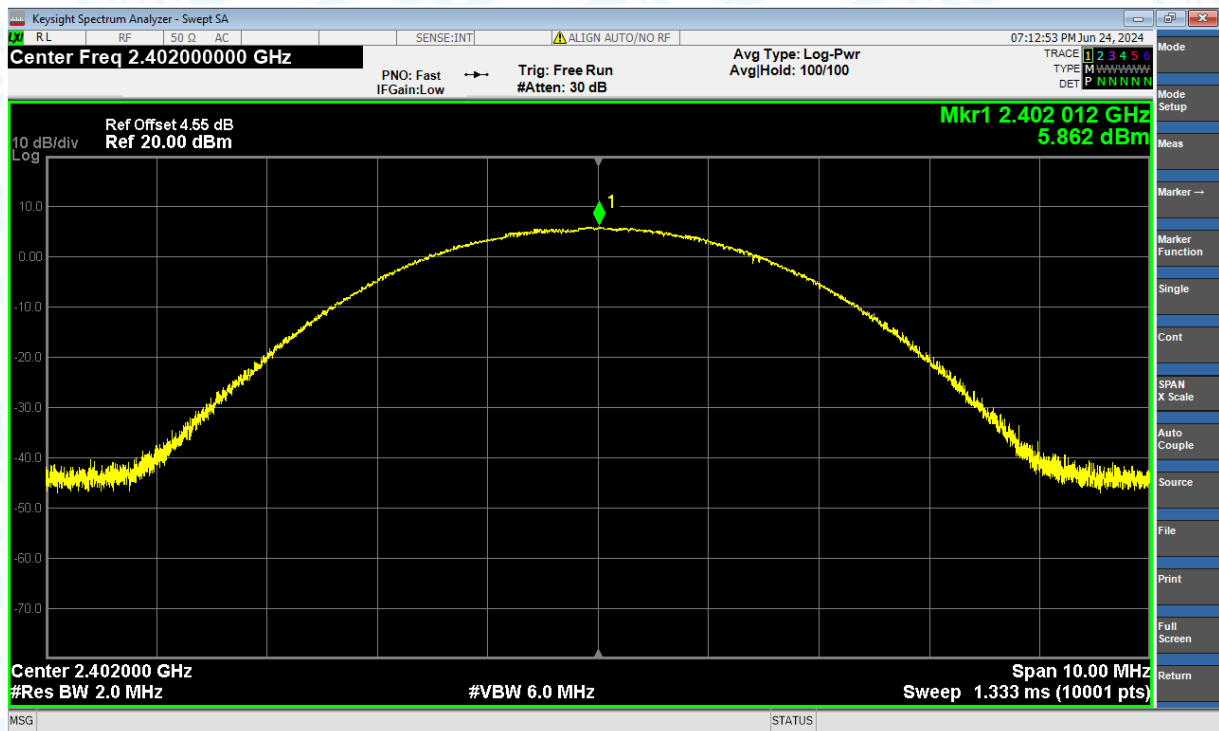
Power NVNT 1-DH3 2441MHz Ant1



Power NVNT 1-DH5 2441MHz Ant1



Power NVNT 2-DH1 2402MHz Ant1



Power NVNT 2-DH1 2441MHz Ant1



Power NVNT 2-DH1 2480MHz Ant1



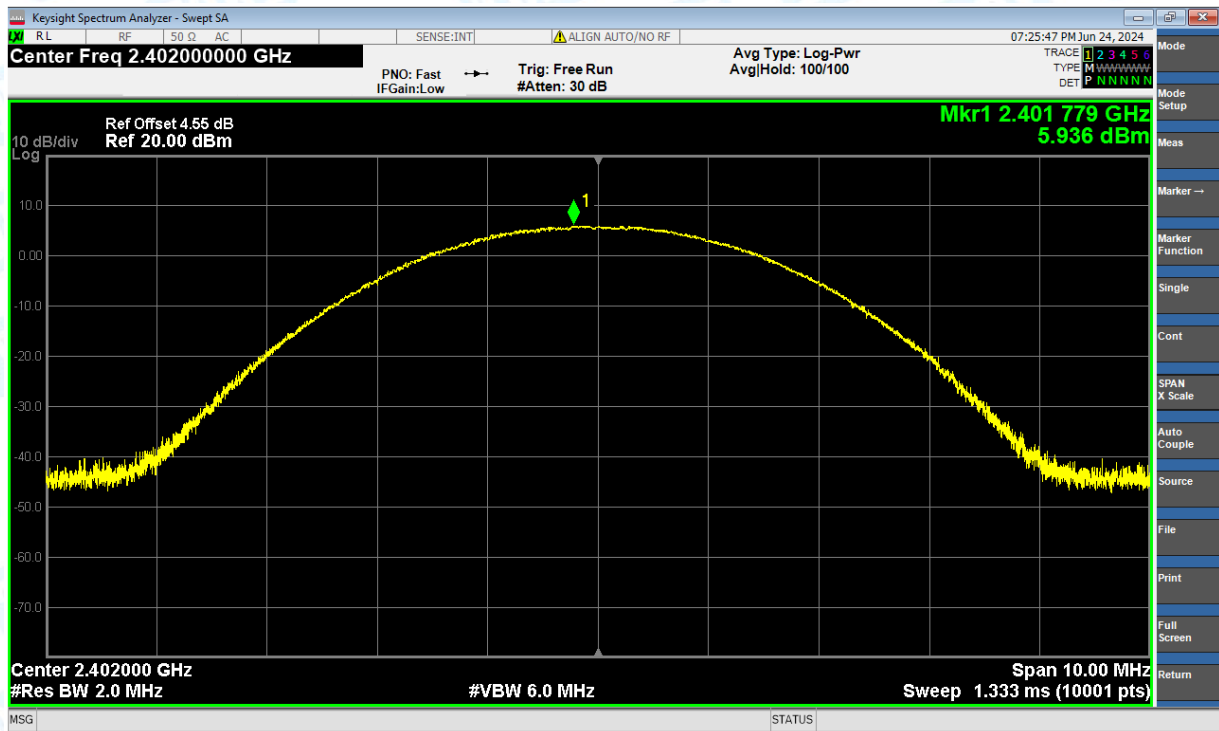
Power NVNT 2-DH3 2441MHz Ant1



Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1

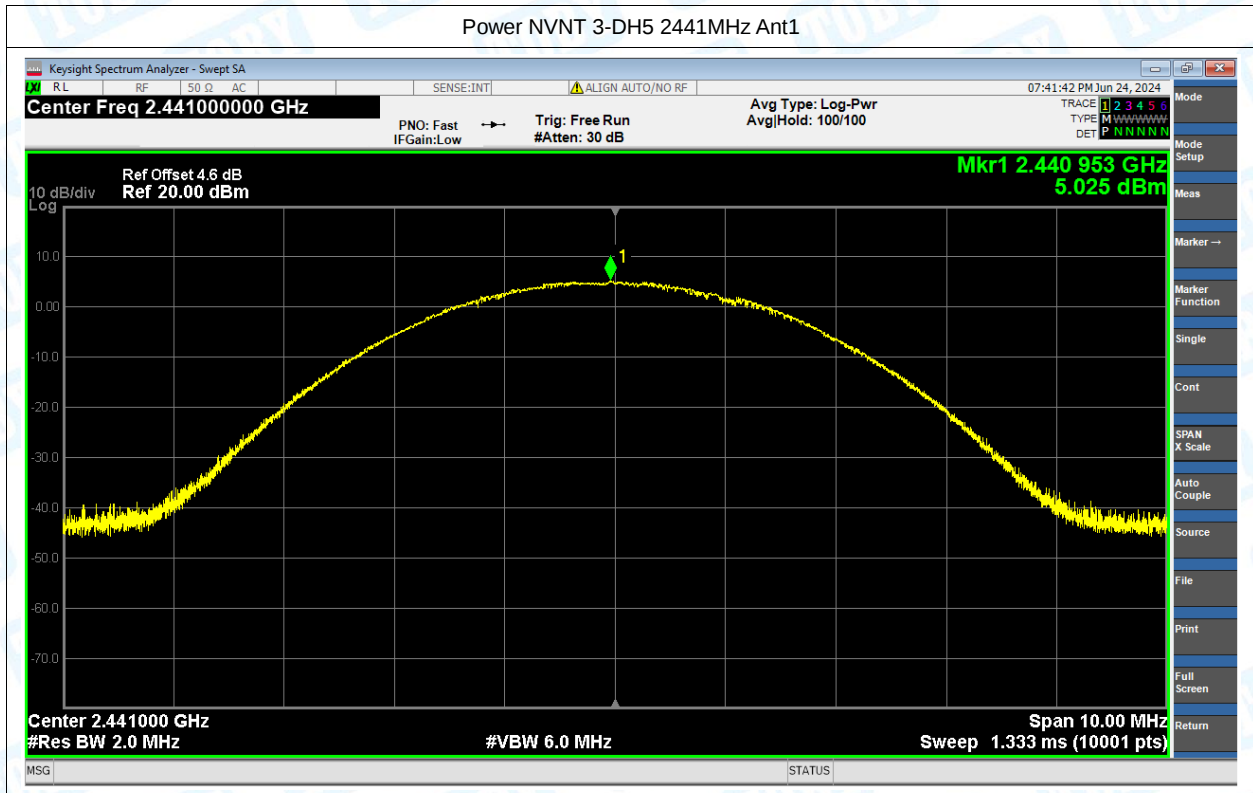


Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1



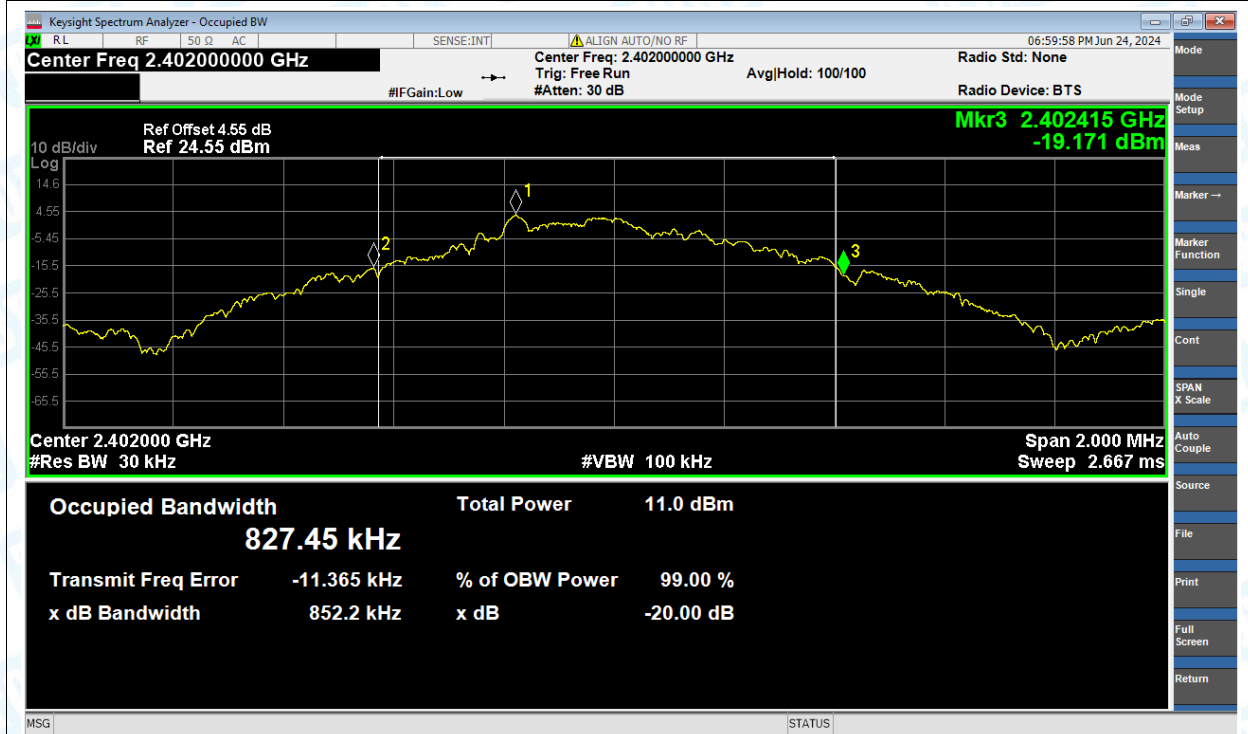


3. -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.85	0	Pass
NVNT	1-DH1	2441	Ant1	0.92	0	Pass
NVNT	1-DH1	2480	Ant1	0.84	0	Pass
NVNT	2-DH1	2402	Ant1	1.2	0	Pass
NVNT	2-DH1	2441	Ant1	1.19	0	Pass
NVNT	2-DH1	2480	Ant1	1.18	0	Pass
NVNT	3-DH1	2402	Ant1	1.21	0	Pass
NVNT	3-DH1	2441	Ant1	1.21	0	Pass
NVNT	3-DH1	2480	Ant1	1.2	0	Pass

Test Graphs

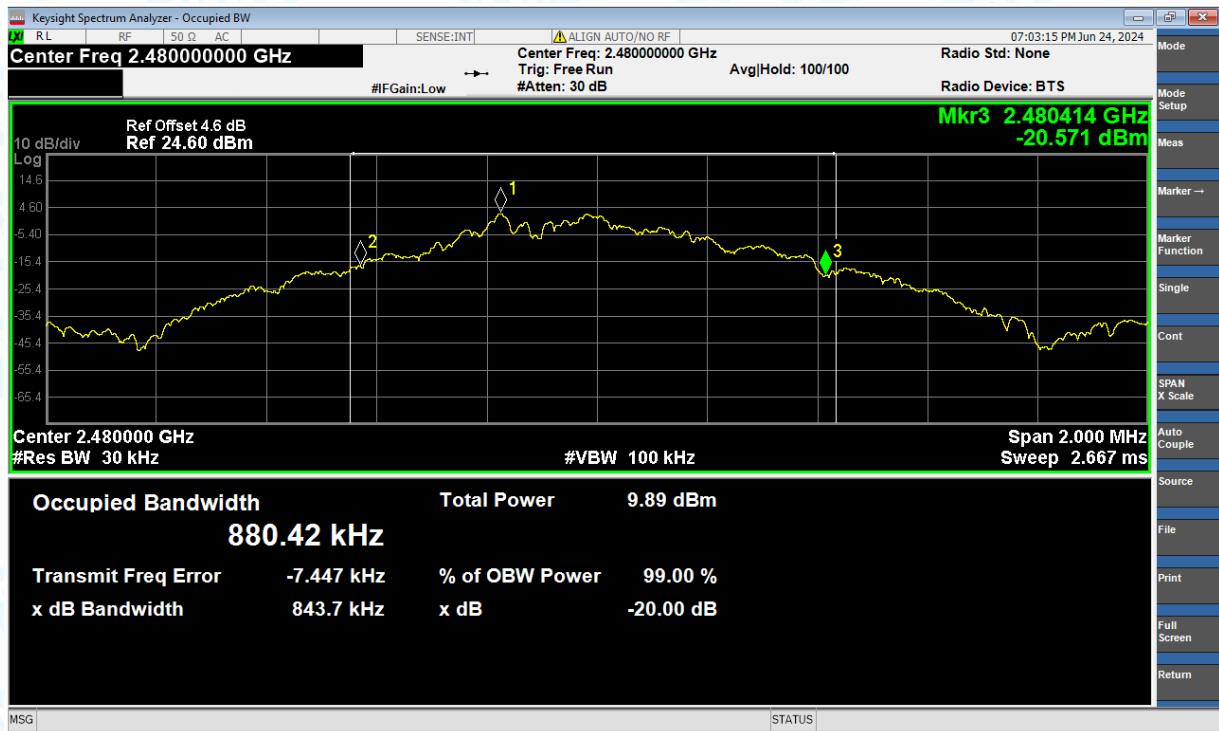
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



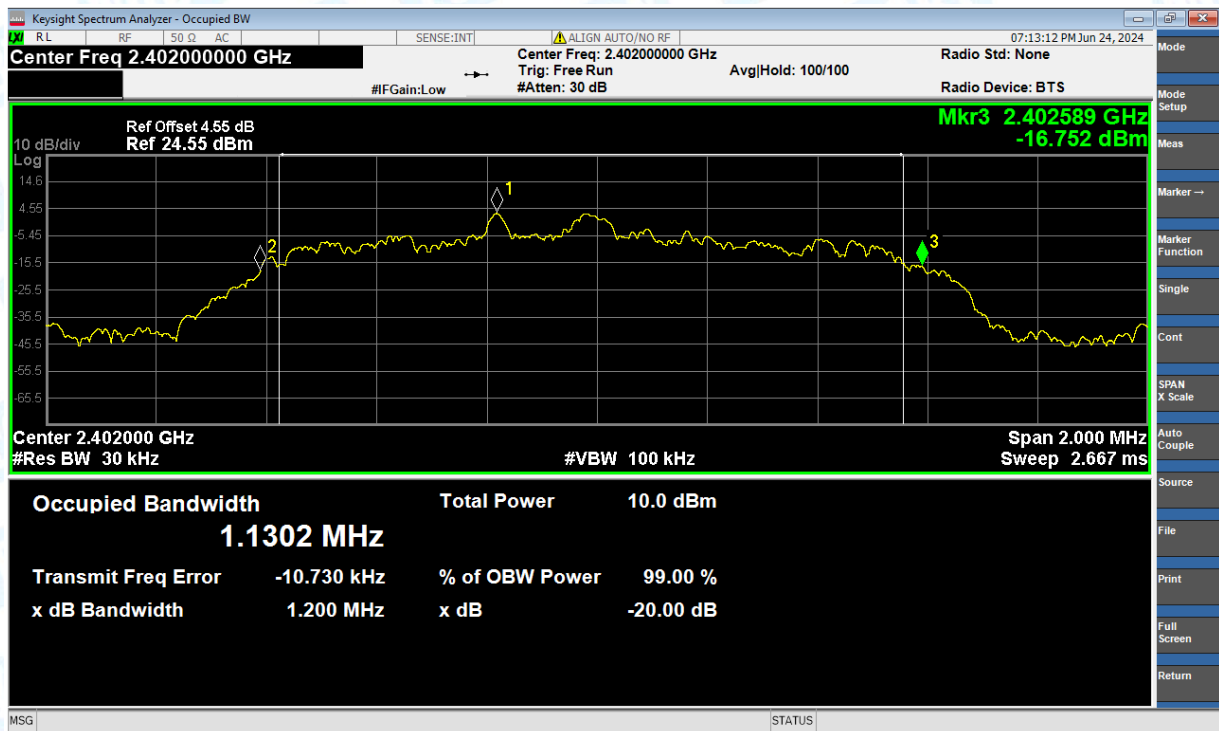
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



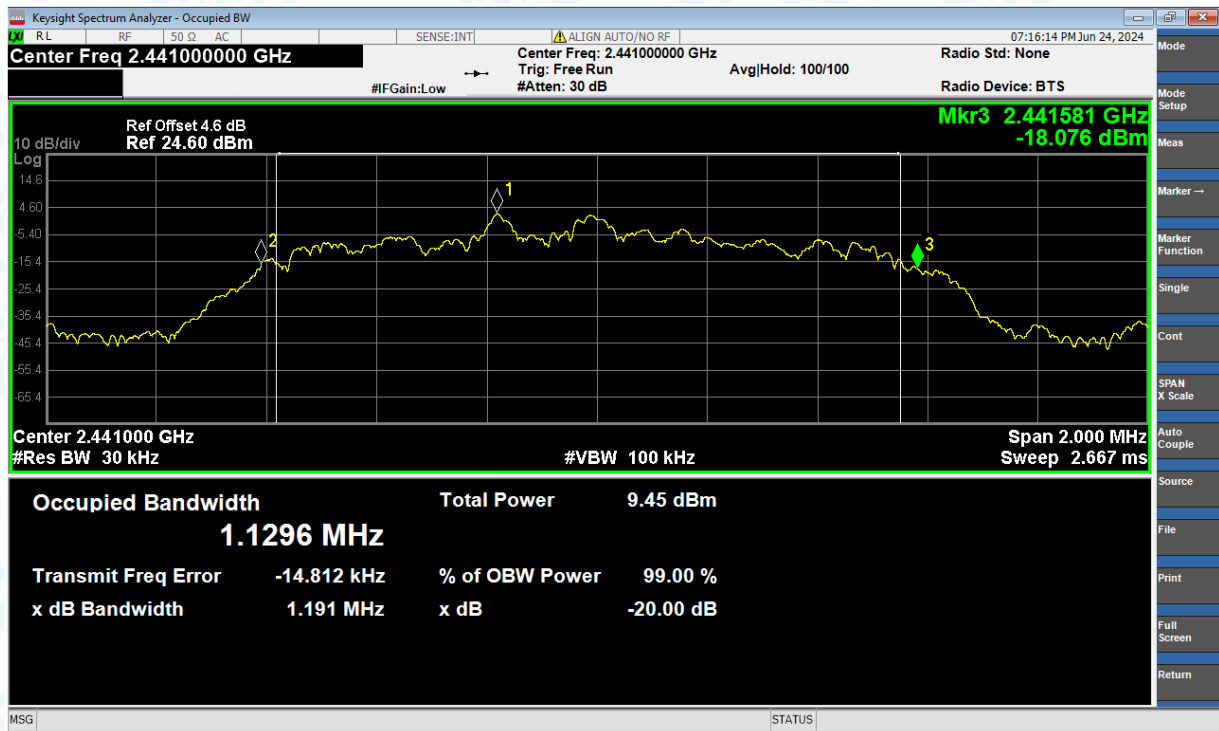
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



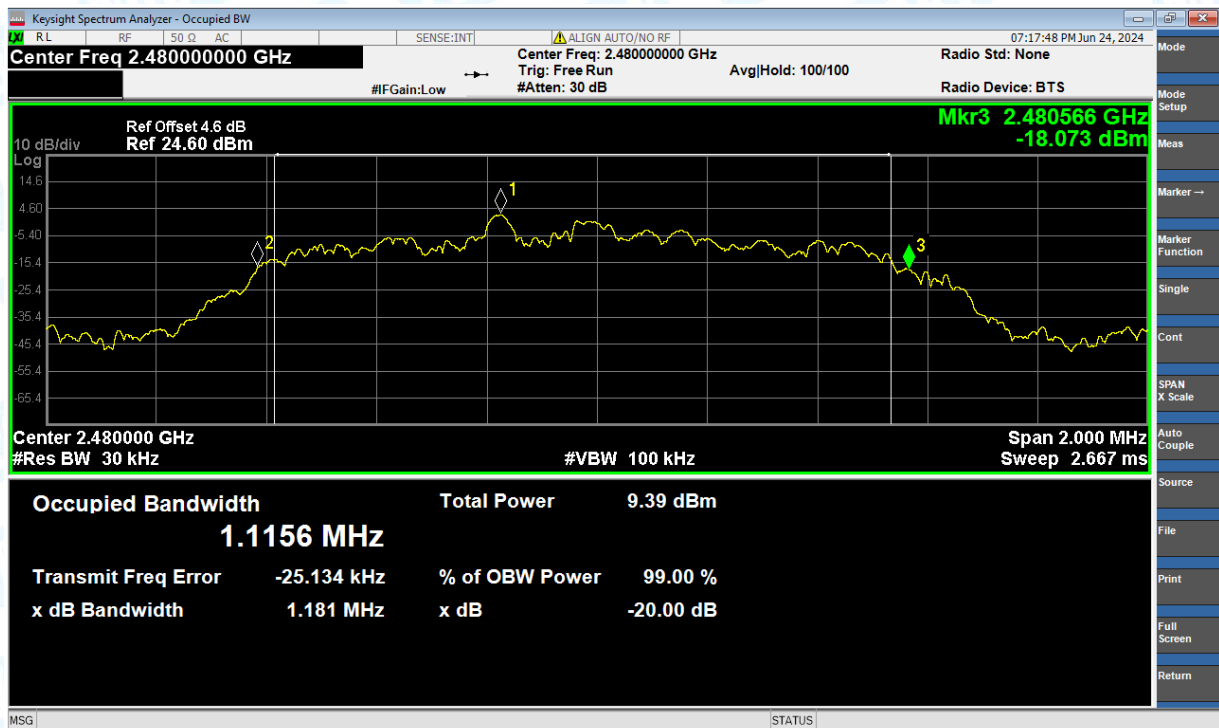
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



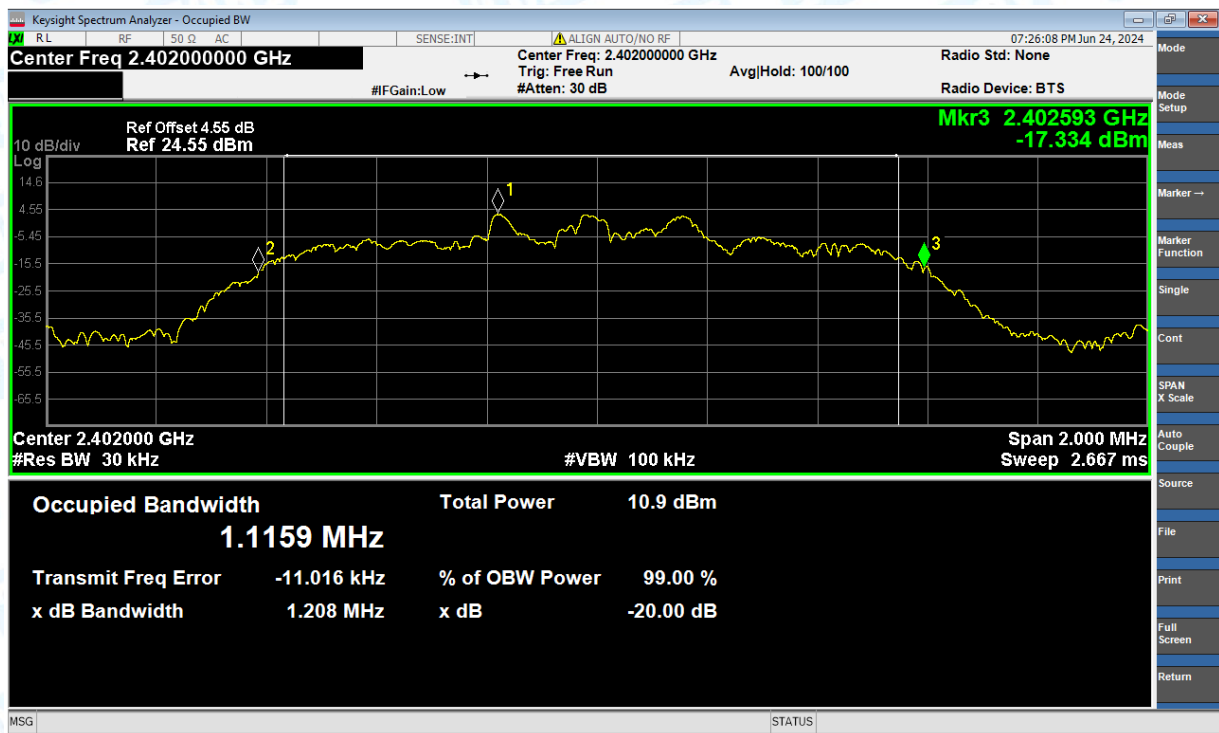
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



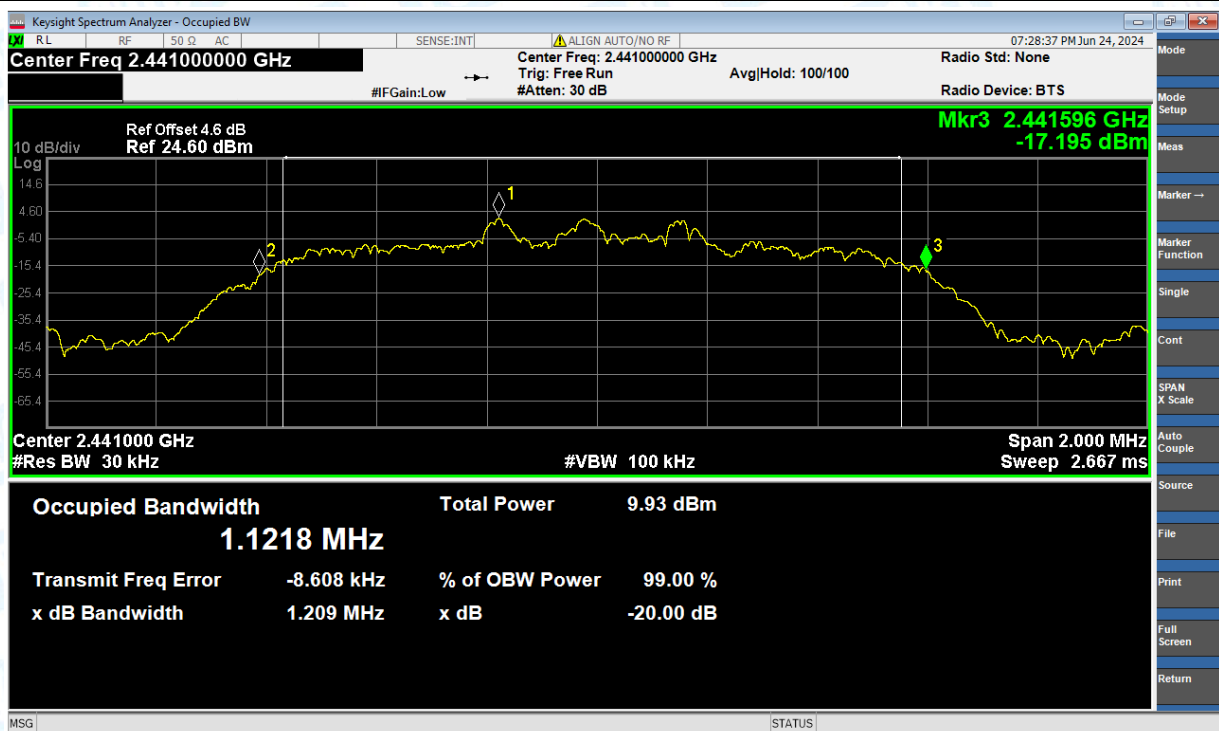
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

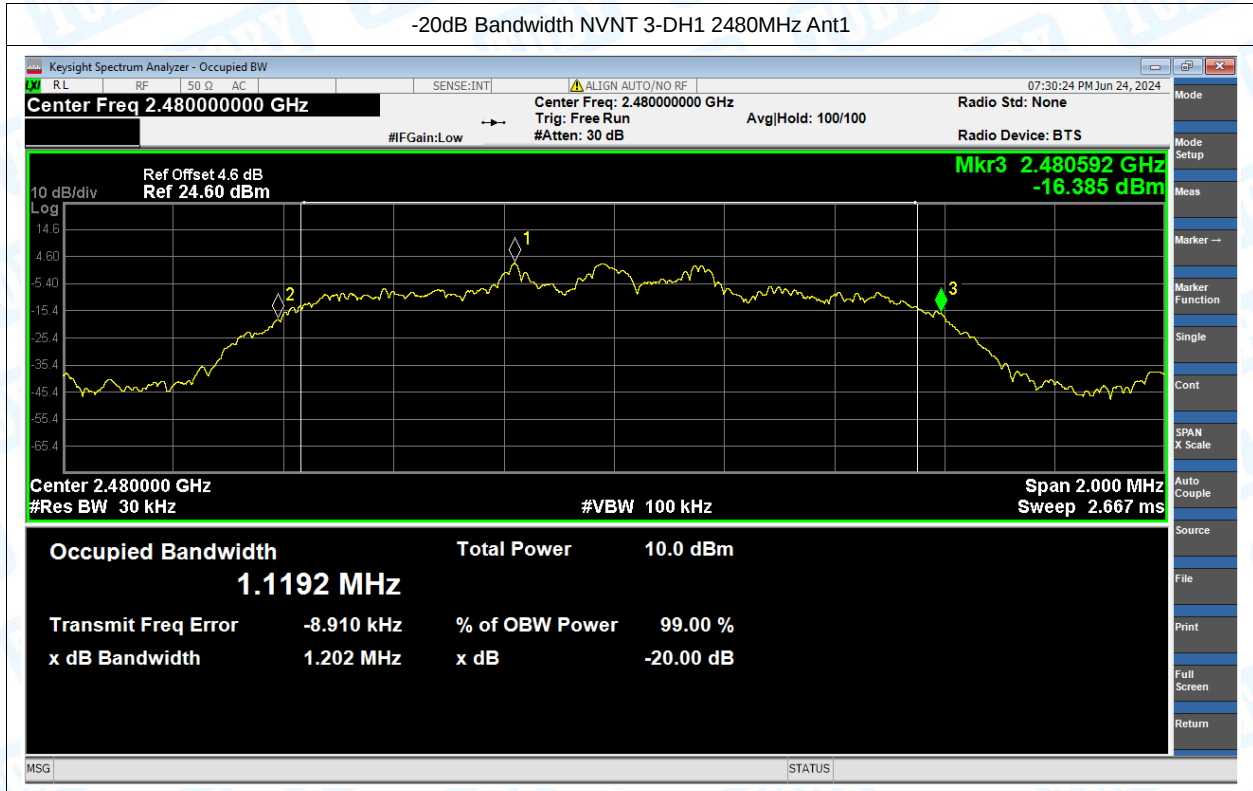


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



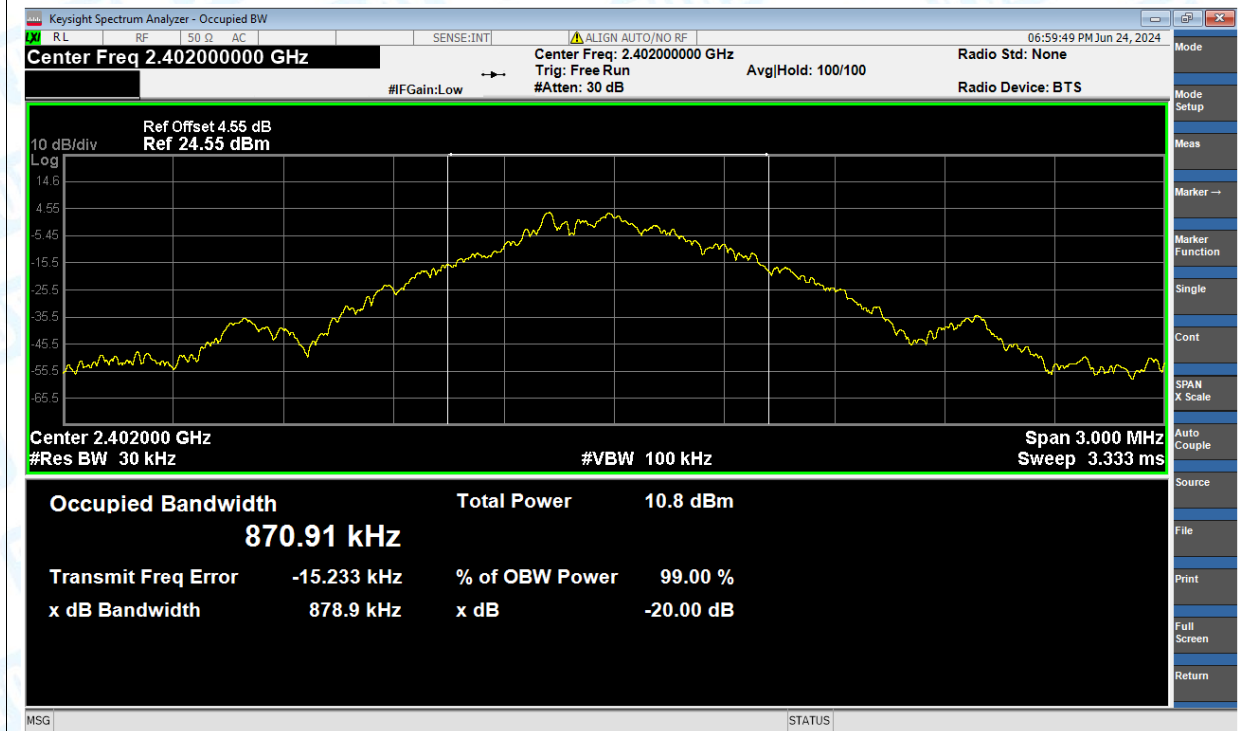


4. Occupied Channel Bandwidth

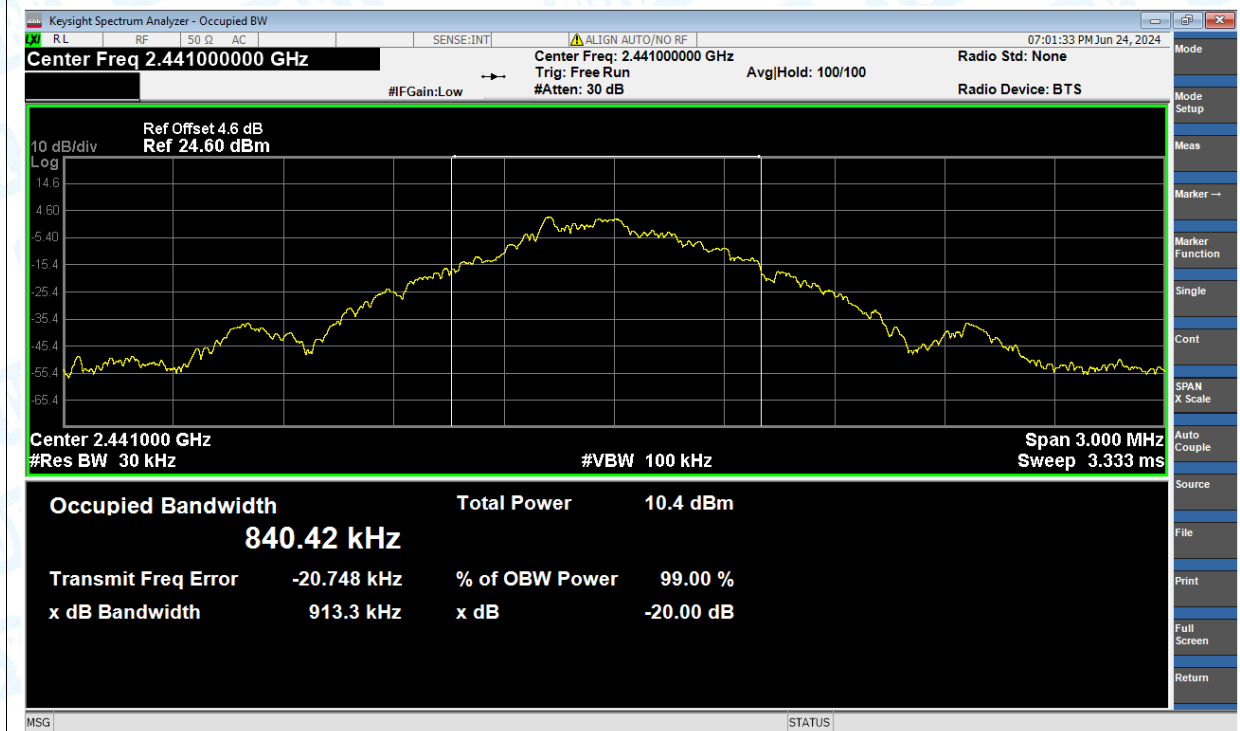
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.871
NVNT	1-DH1	2441	Ant1	0.84
NVNT	1-DH1	2480	Ant1	0.879
NVNT	2-DH1	2402	Ant1	1.132
NVNT	2-DH1	2441	Ant1	1.125
NVNT	2-DH1	2480	Ant1	1.132
NVNT	3-DH1	2402	Ant1	1.114
NVNT	3-DH1	2441	Ant1	1.105
NVNT	3-DH1	2480	Ant1	1.108

Test Graphs

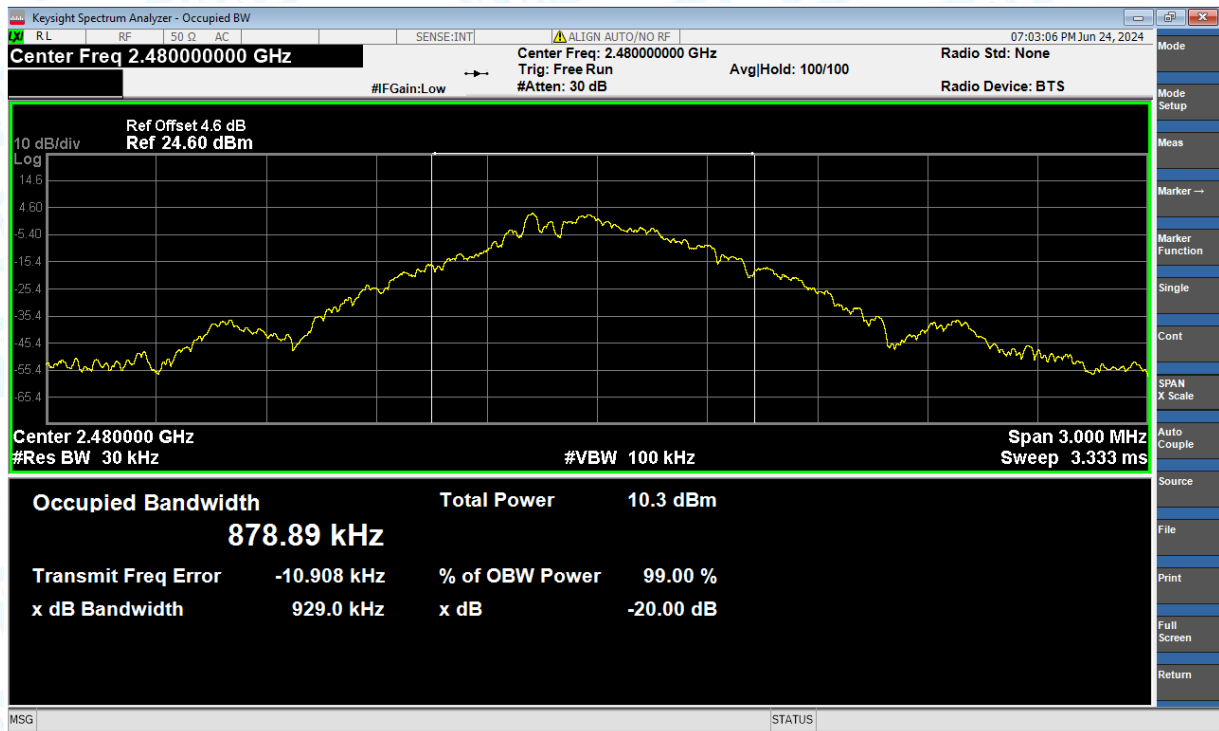
OBW NVNT 1-DH1 2402MHz Ant1



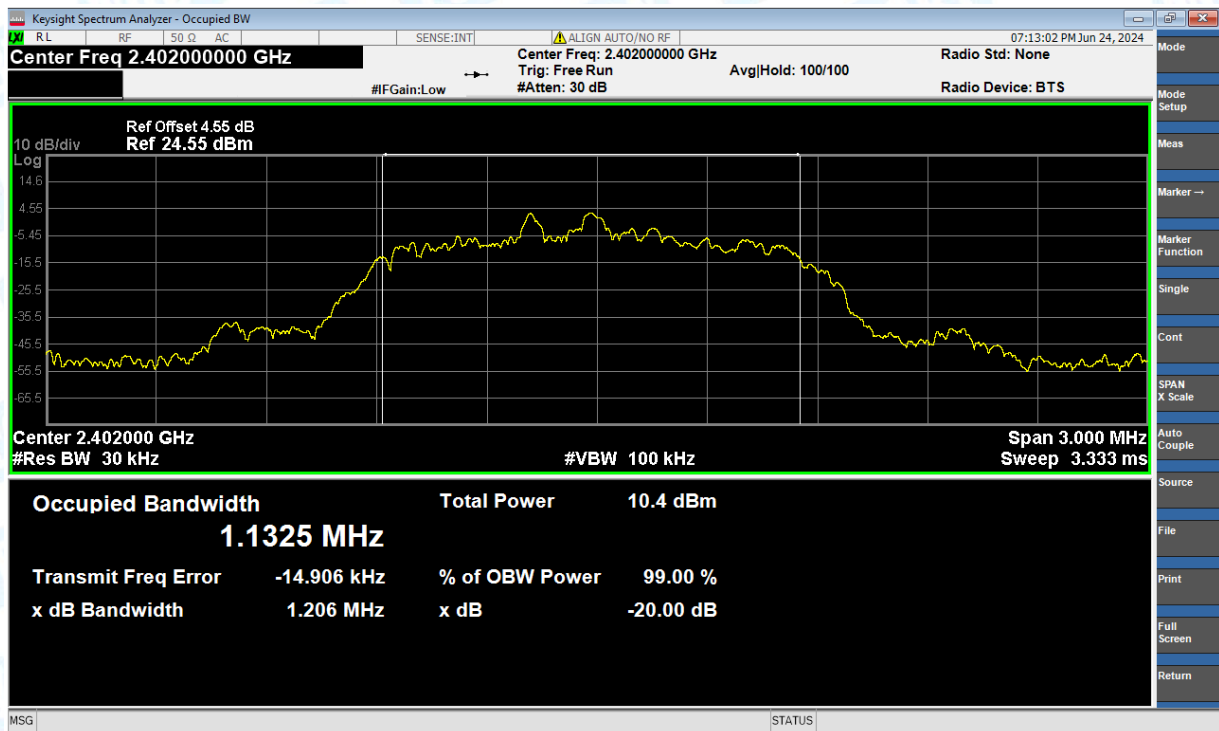
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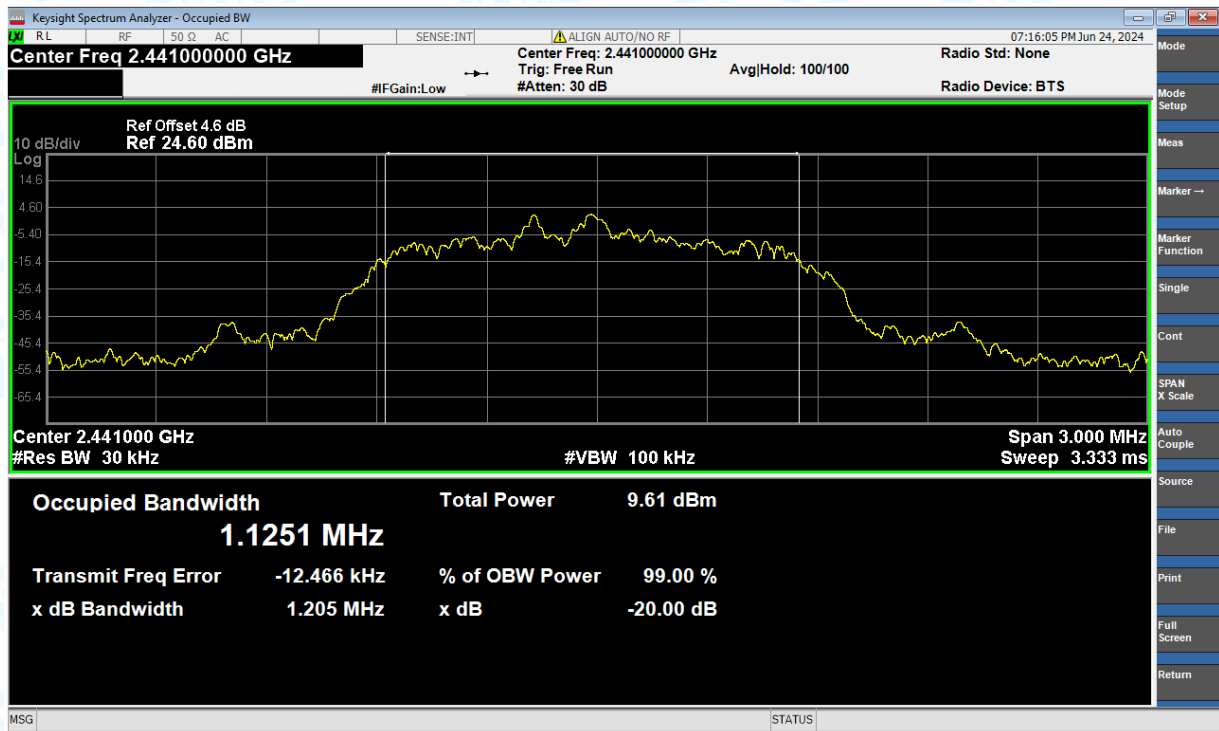
OBW NVNT 1-DH1 2480MHz Ant1



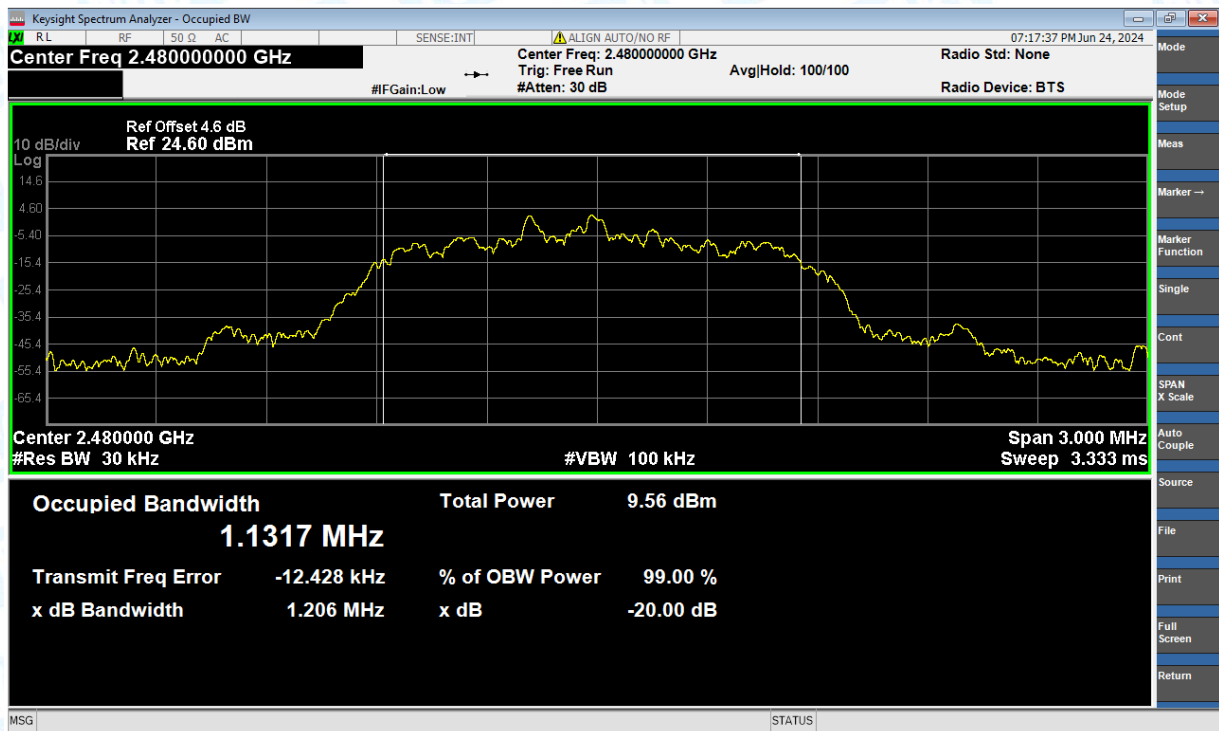
OBW NVNT 2-DH1 2402MHz Ant1



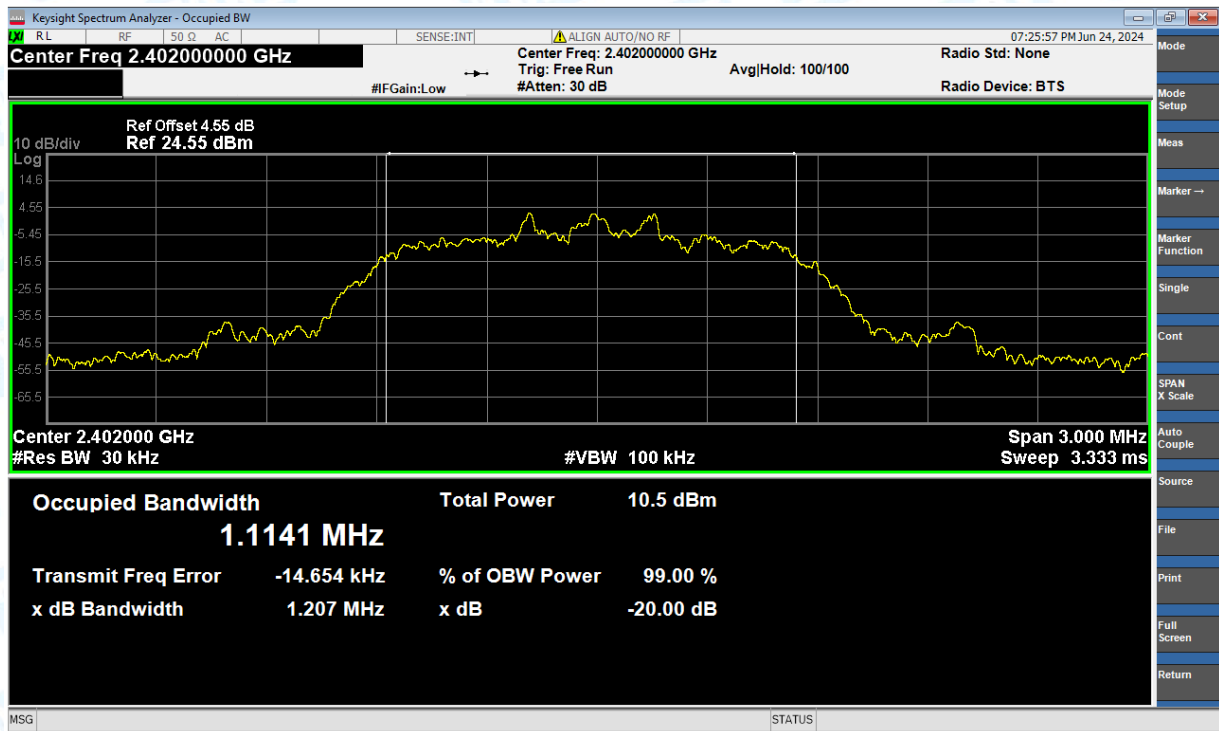
OBW NVNT 2-DH1 2441MHz Ant1



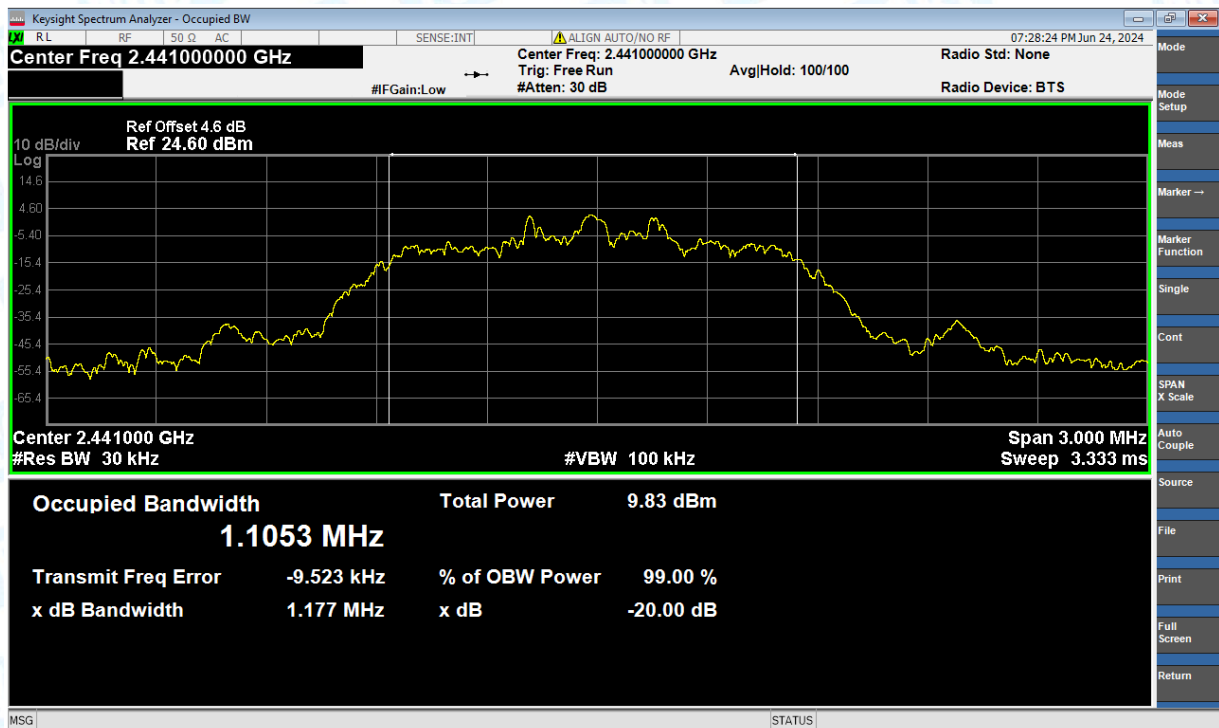
OBW NVNT 2-DH1 2480MHz Ant1

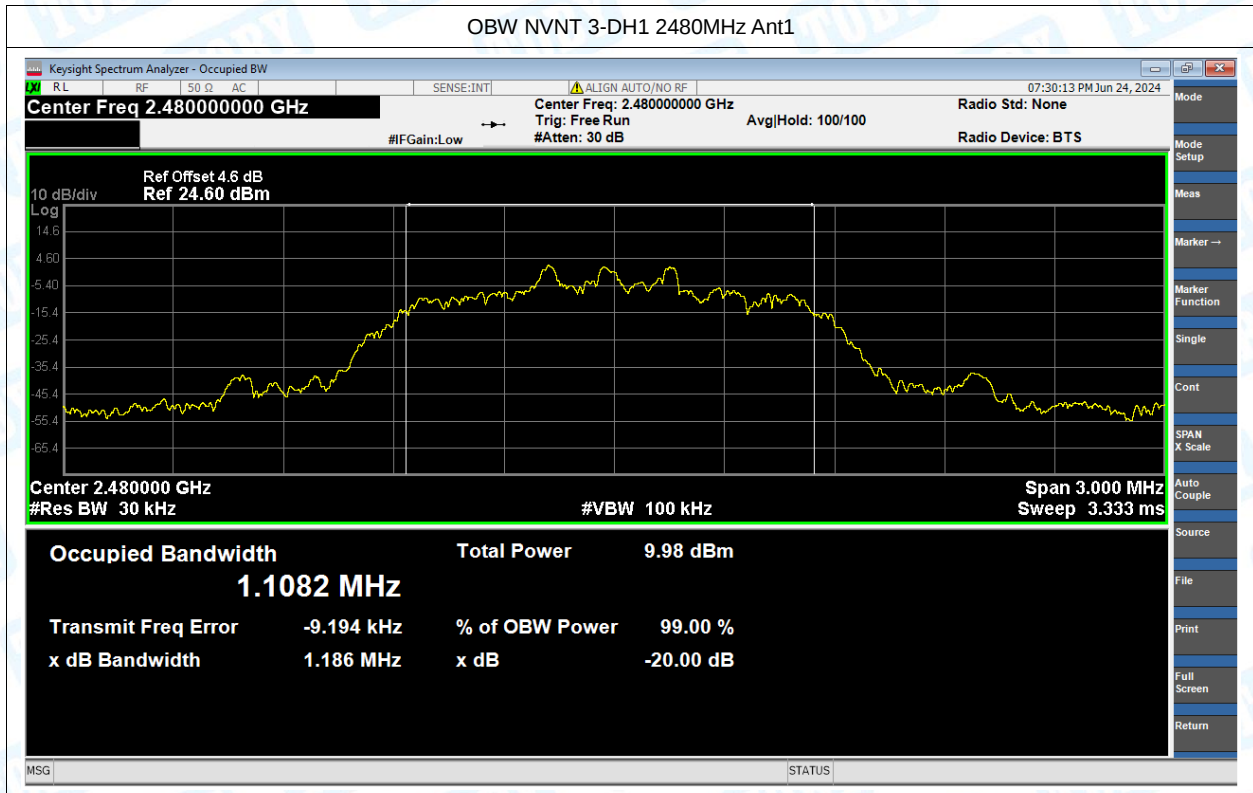


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



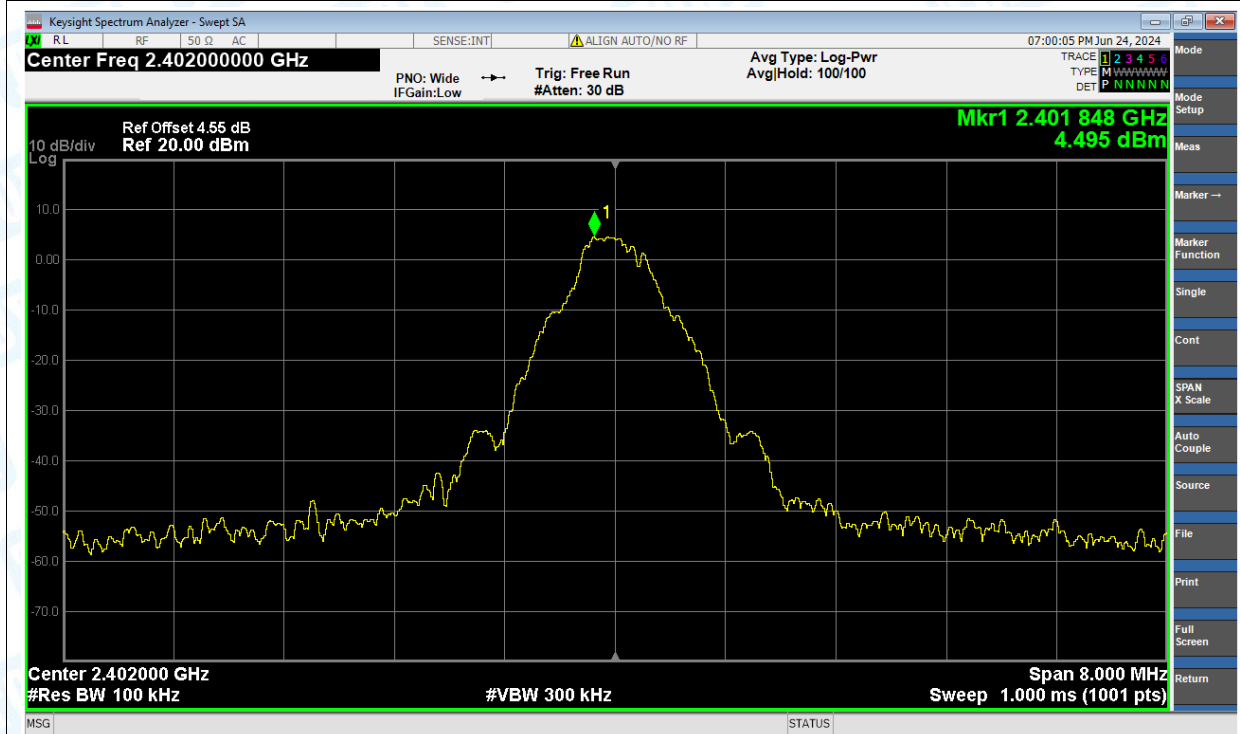


5. Band Edge

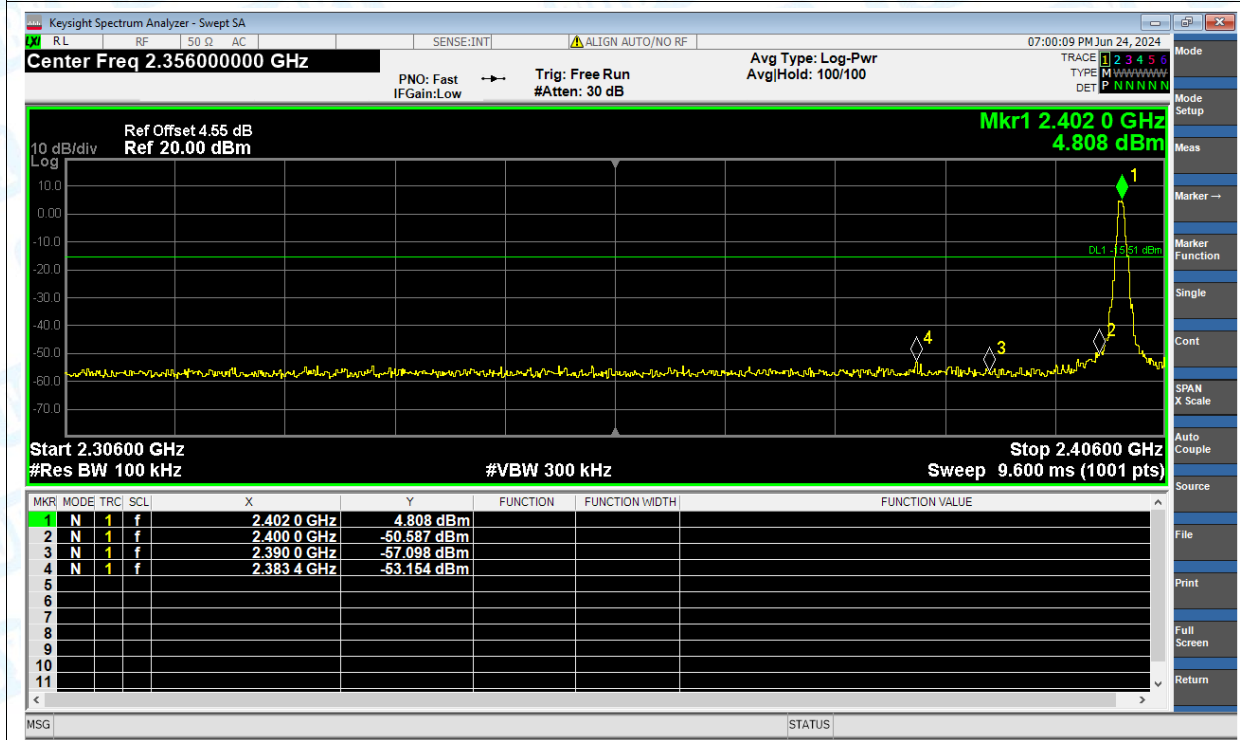
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-57.65	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-55.78	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-57.8	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-54.36	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-59	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-55.34	-20	Pass

Test Graphs

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



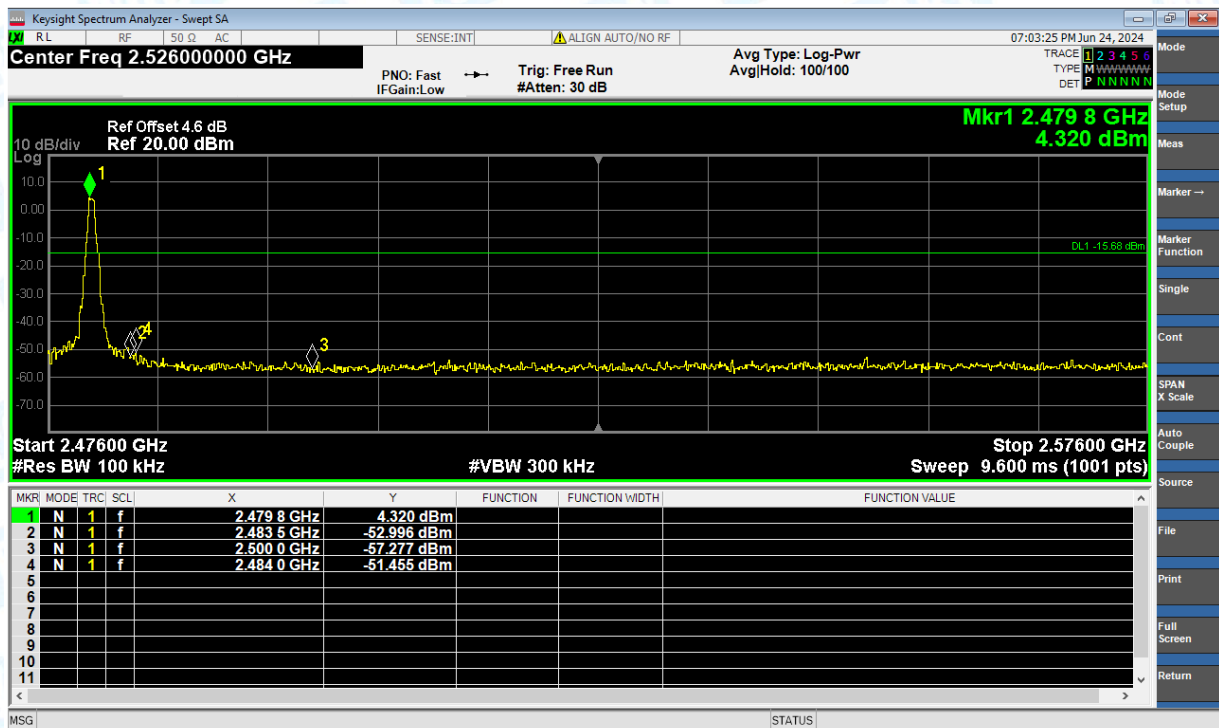
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



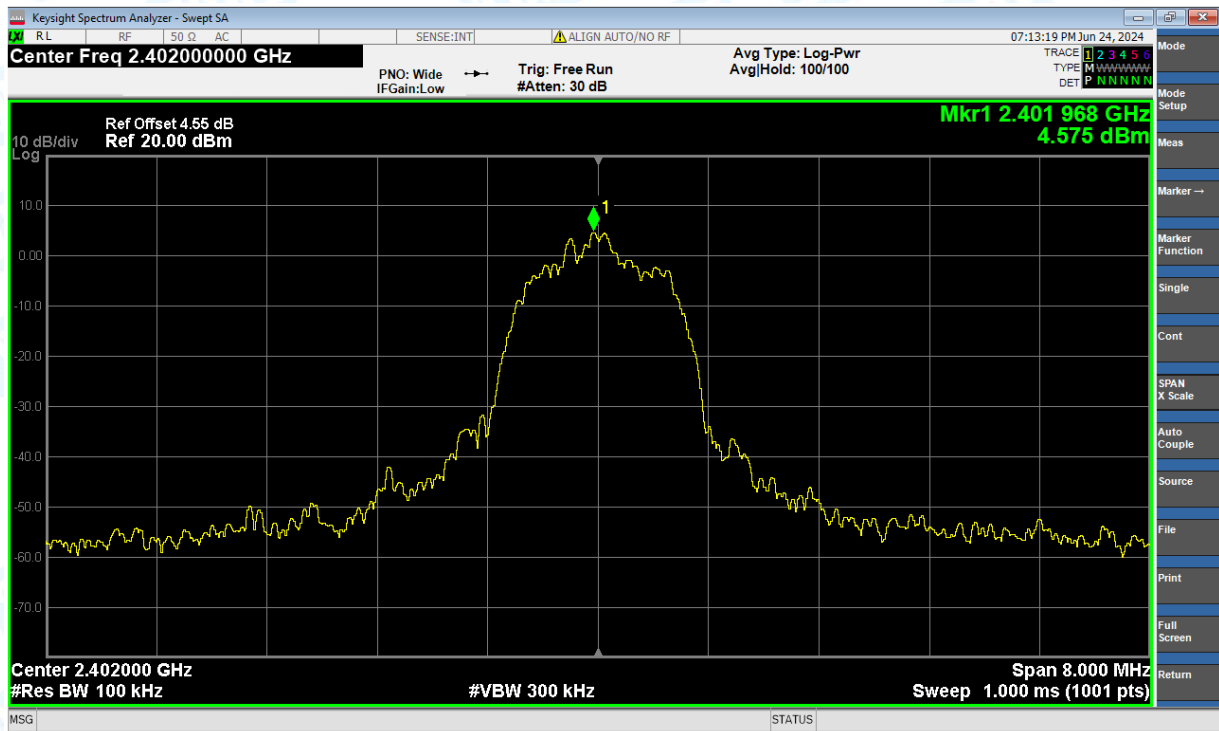
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



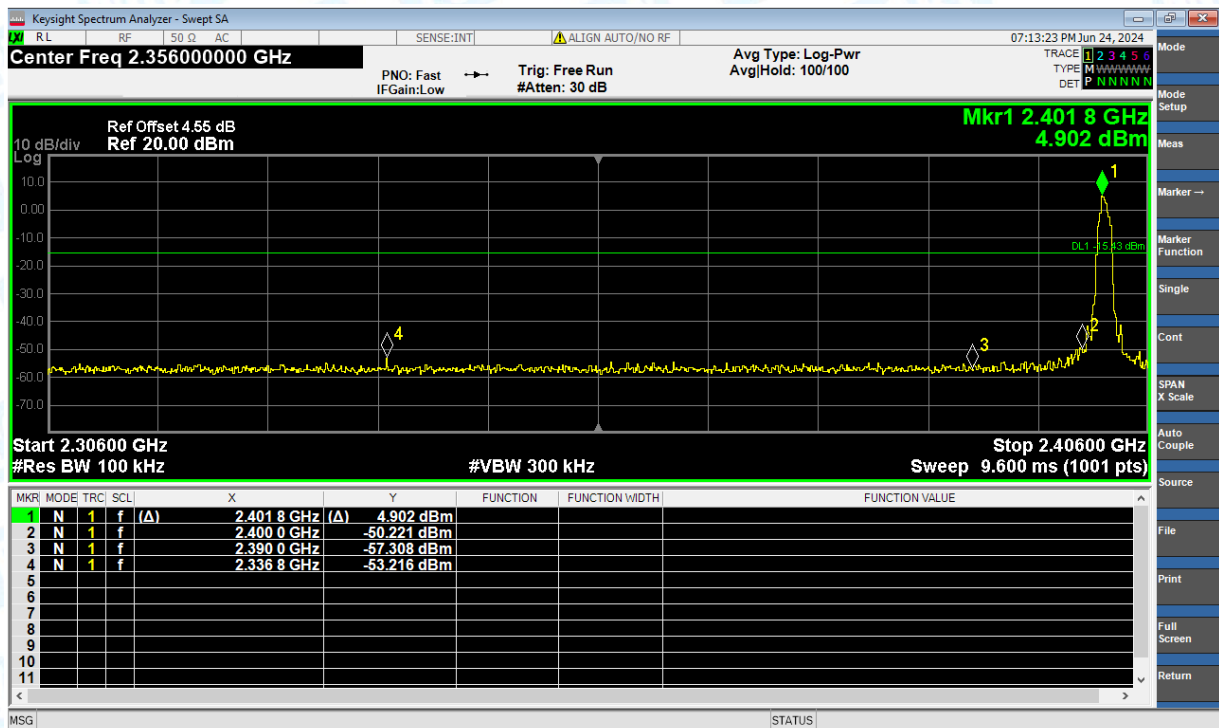
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



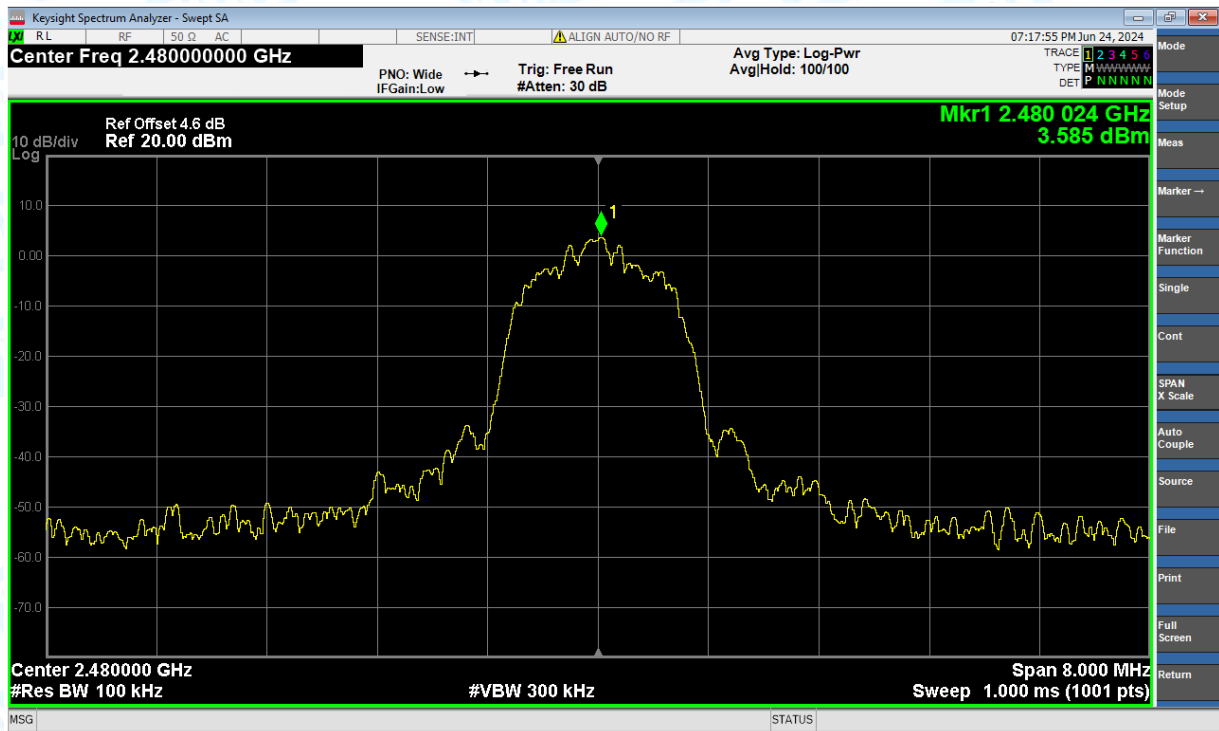
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



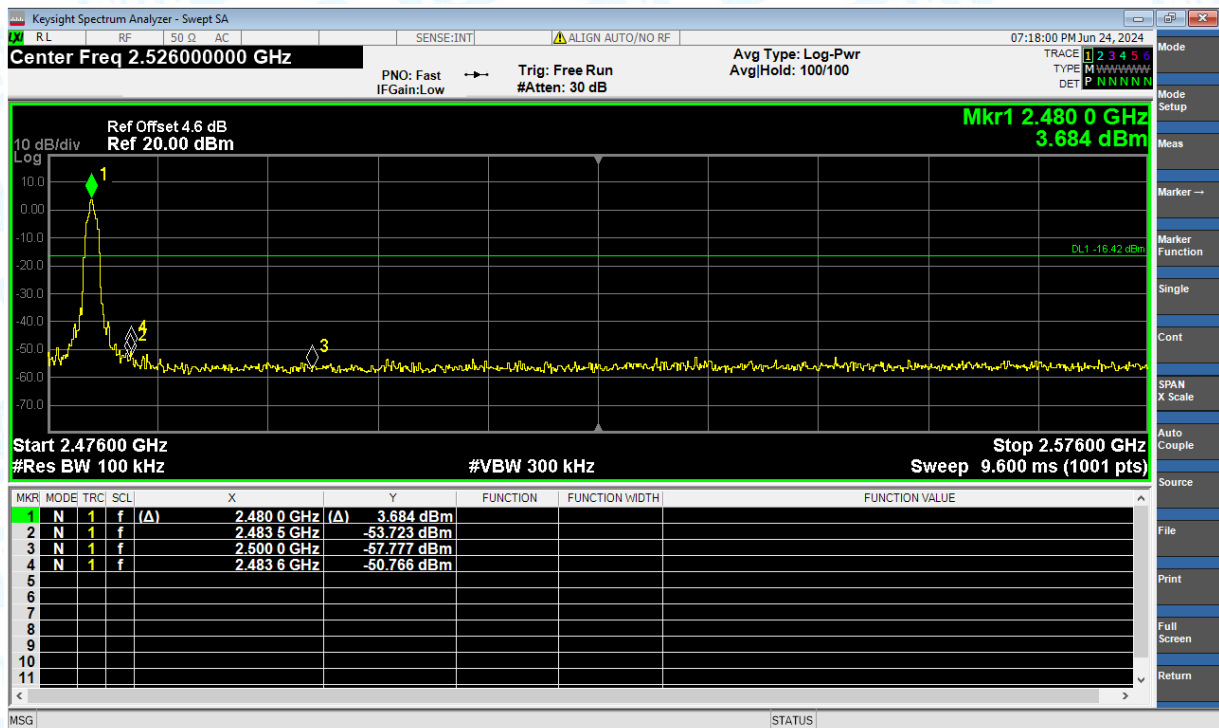
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



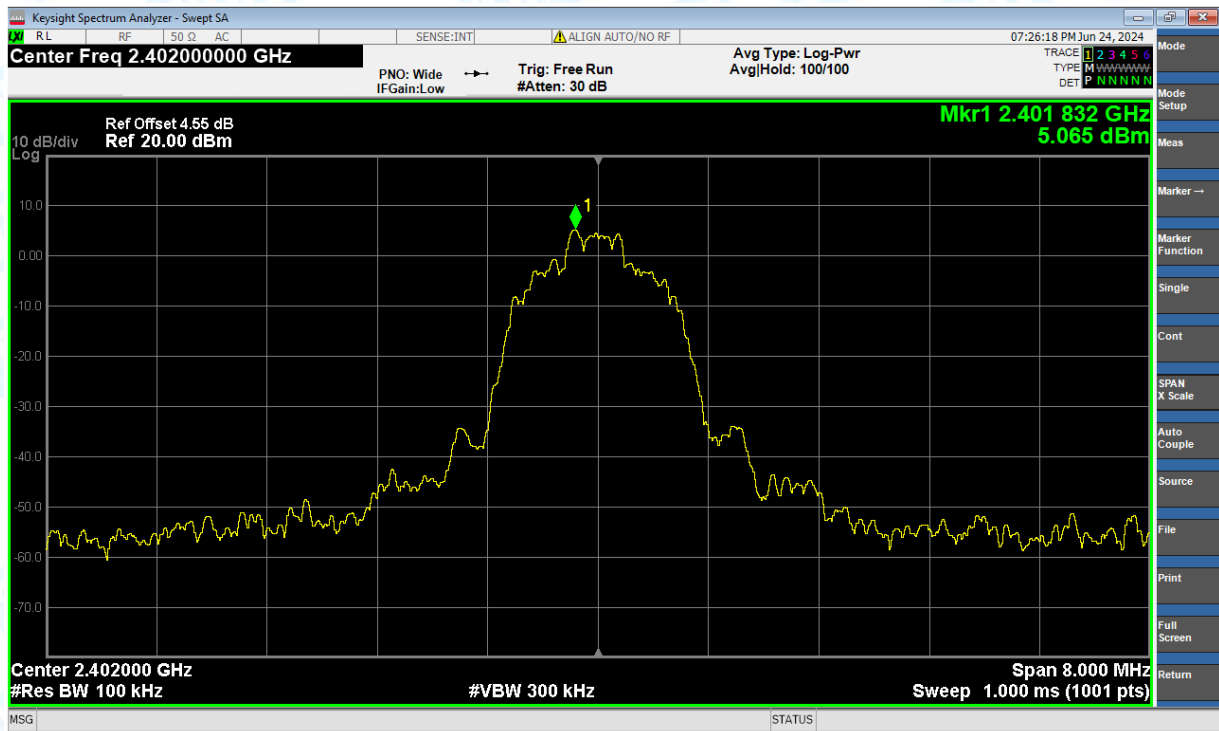
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



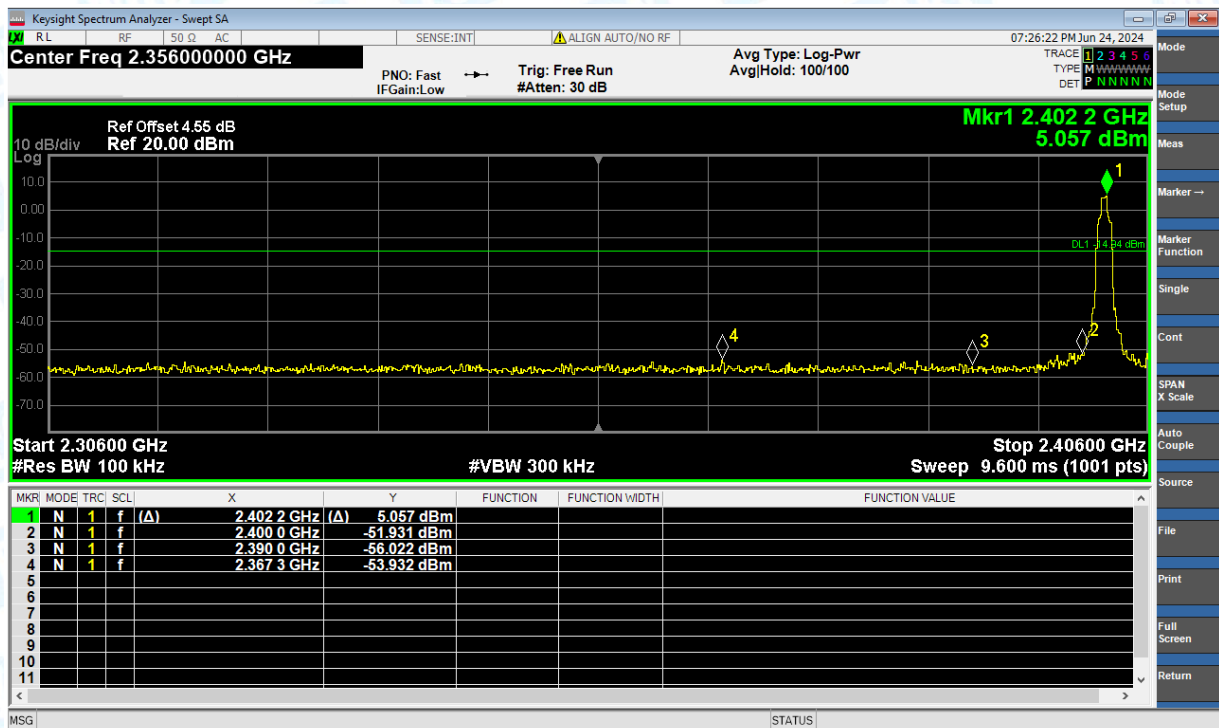
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



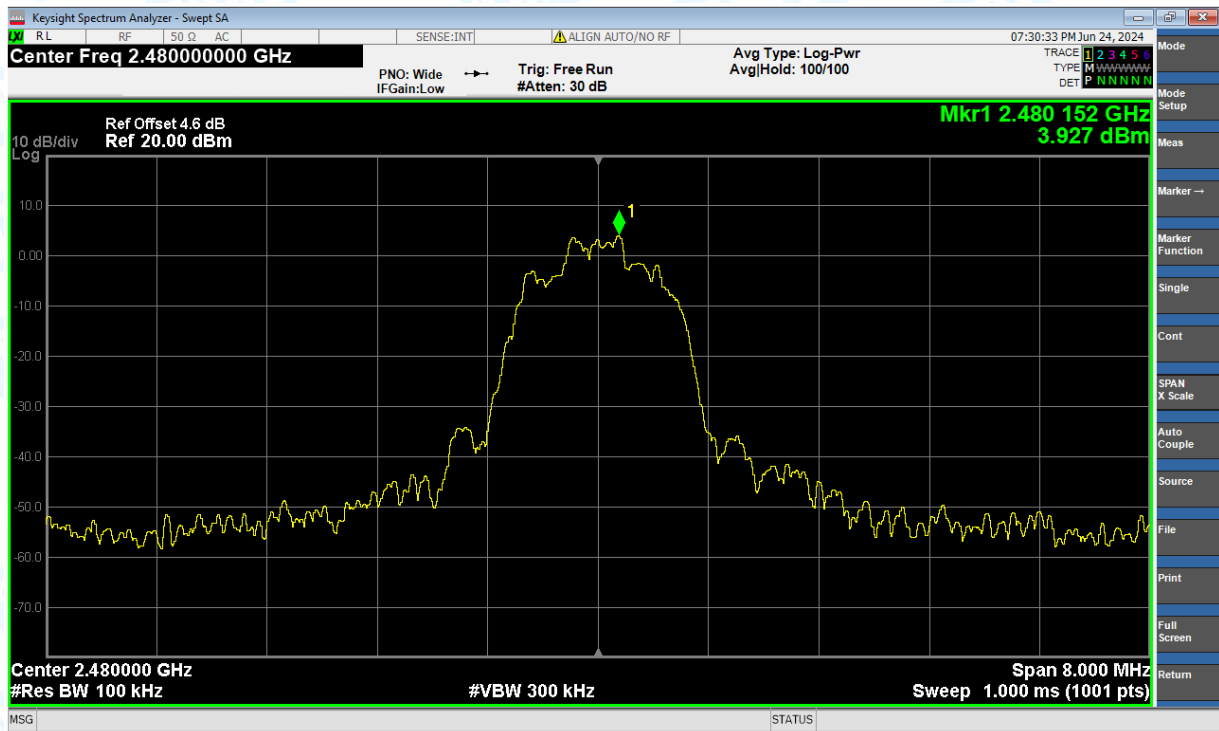
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



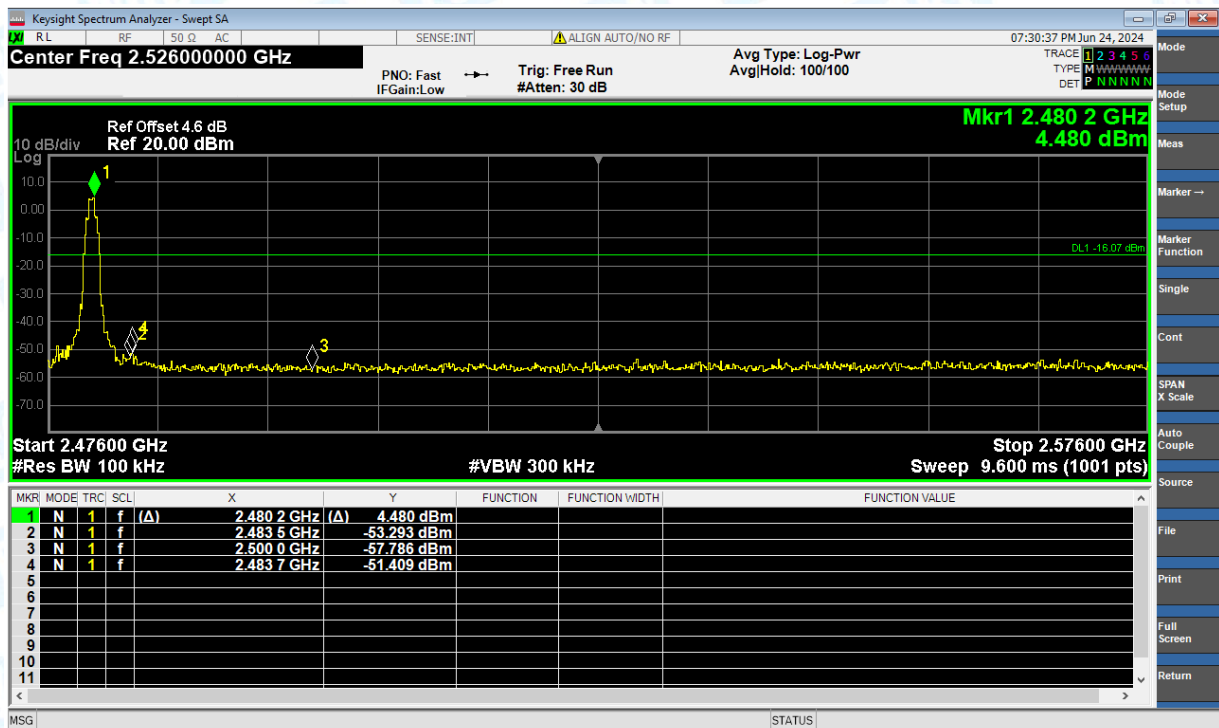
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Emission



6. Band Edge(Hopping)

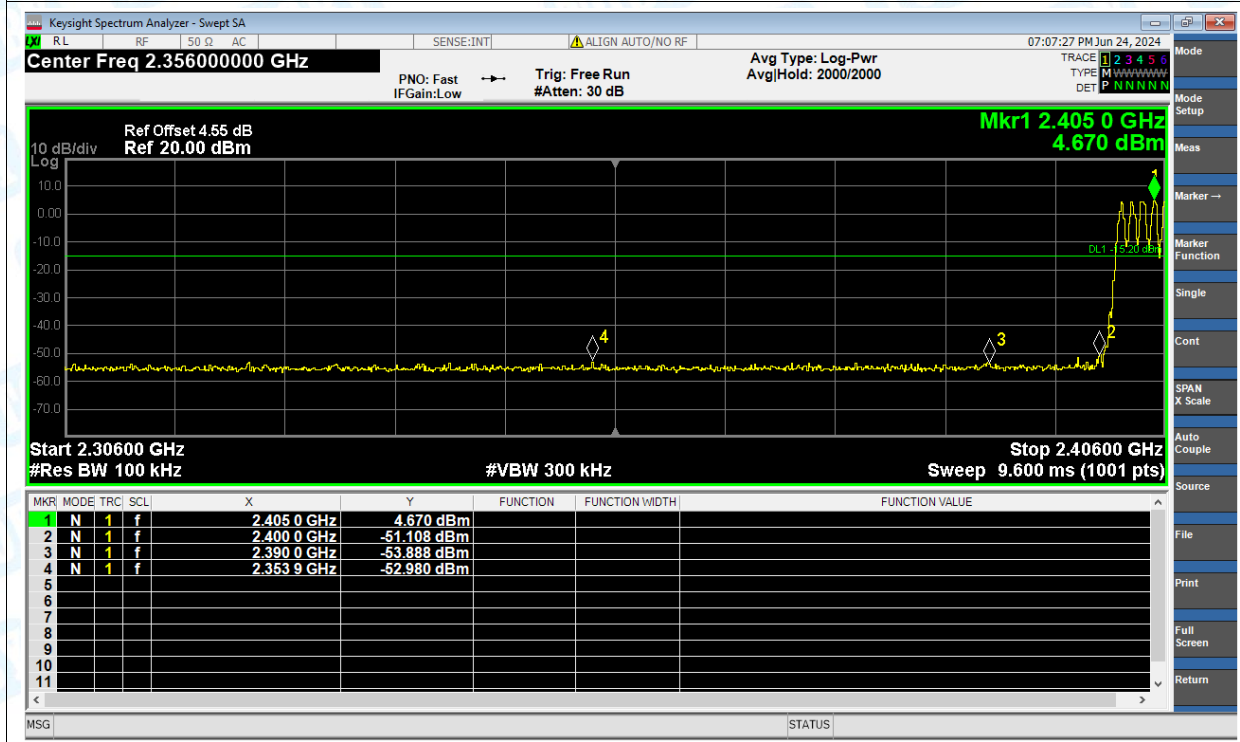
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-57.78	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-55.12	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-57.6	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-56.18	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-58.23	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-54.49	-20	Pass

Test Graphs

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



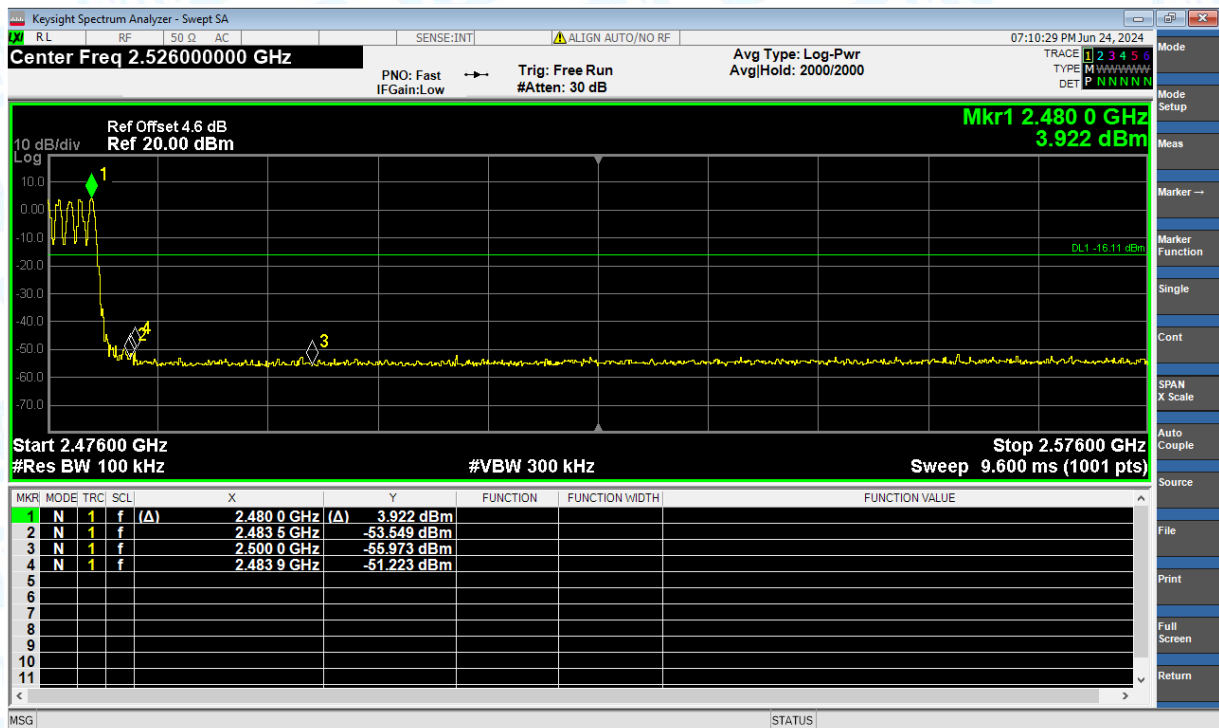
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



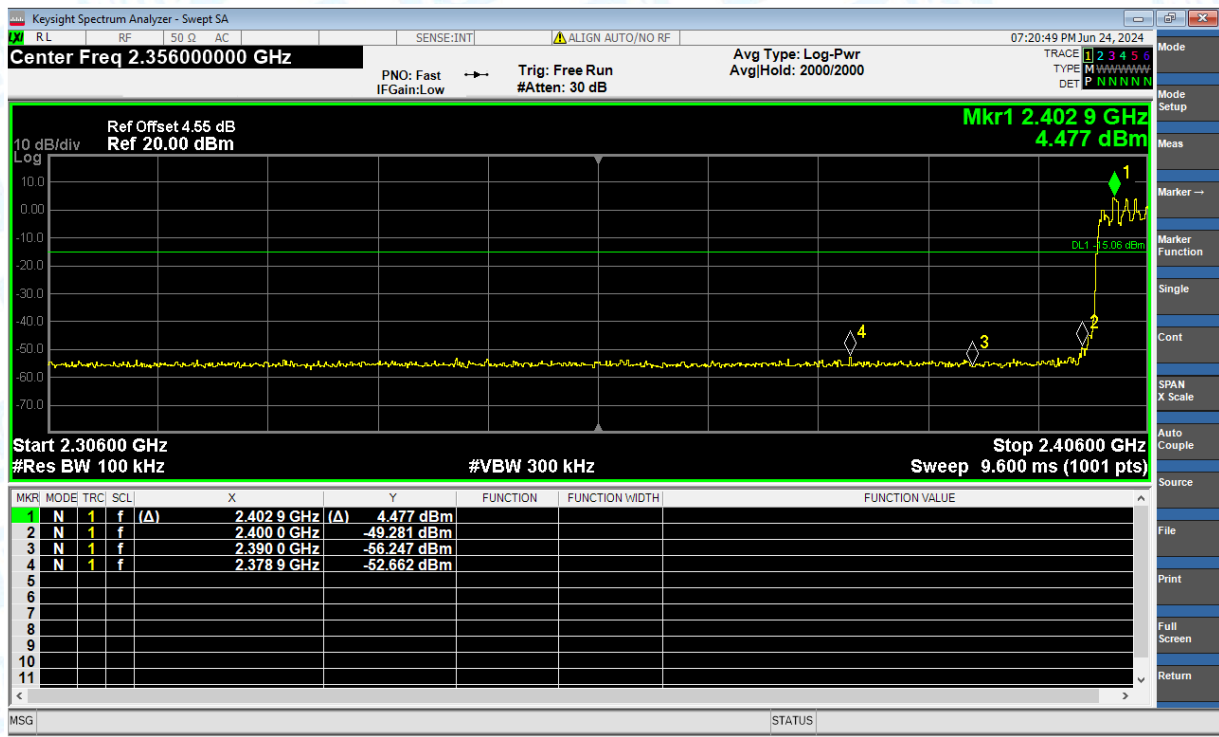
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



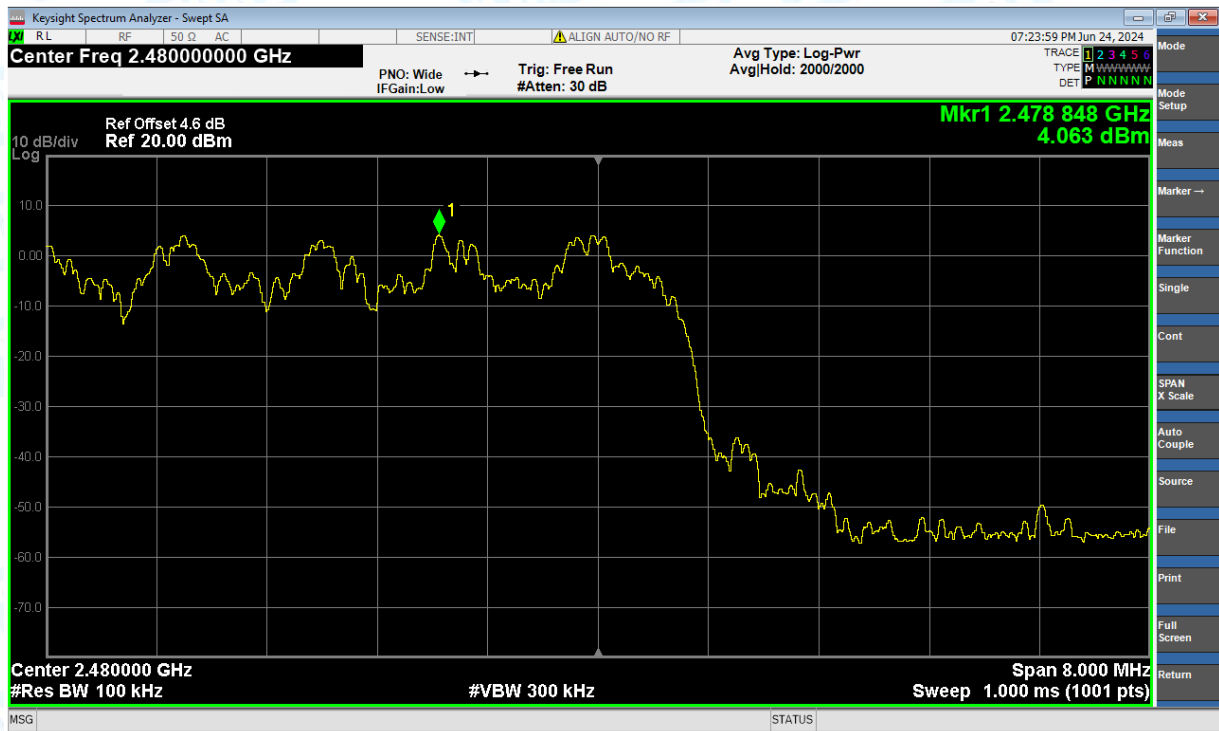
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



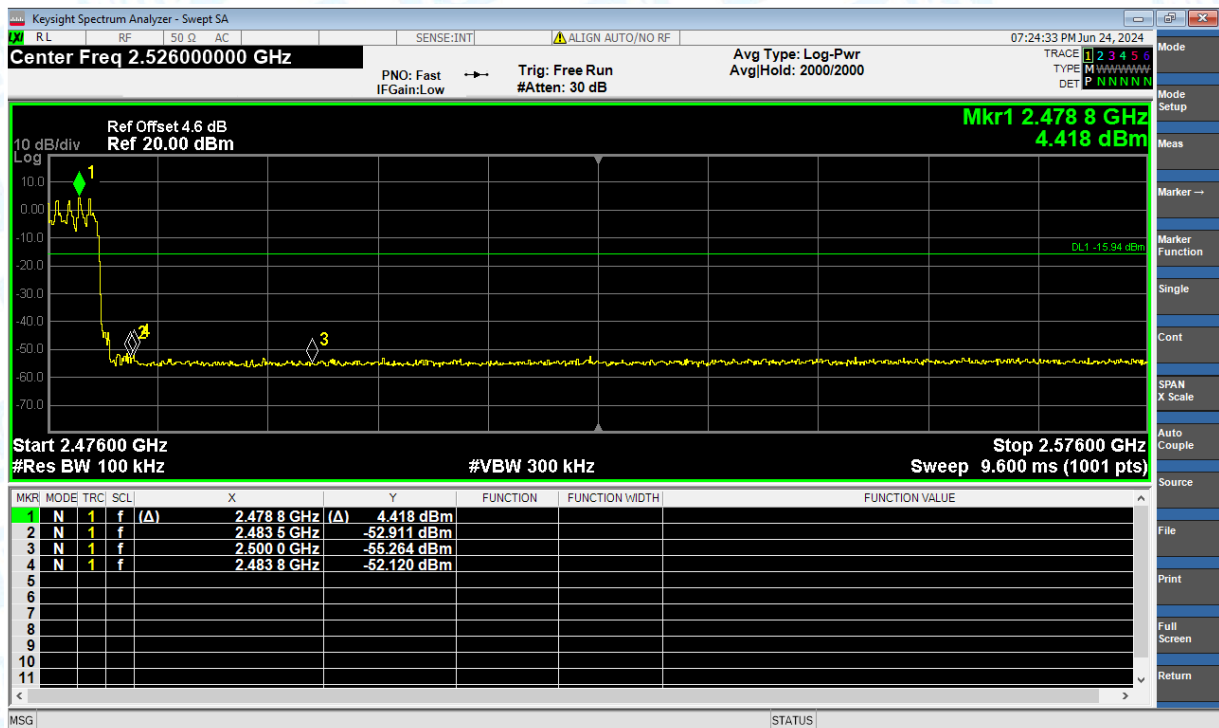
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



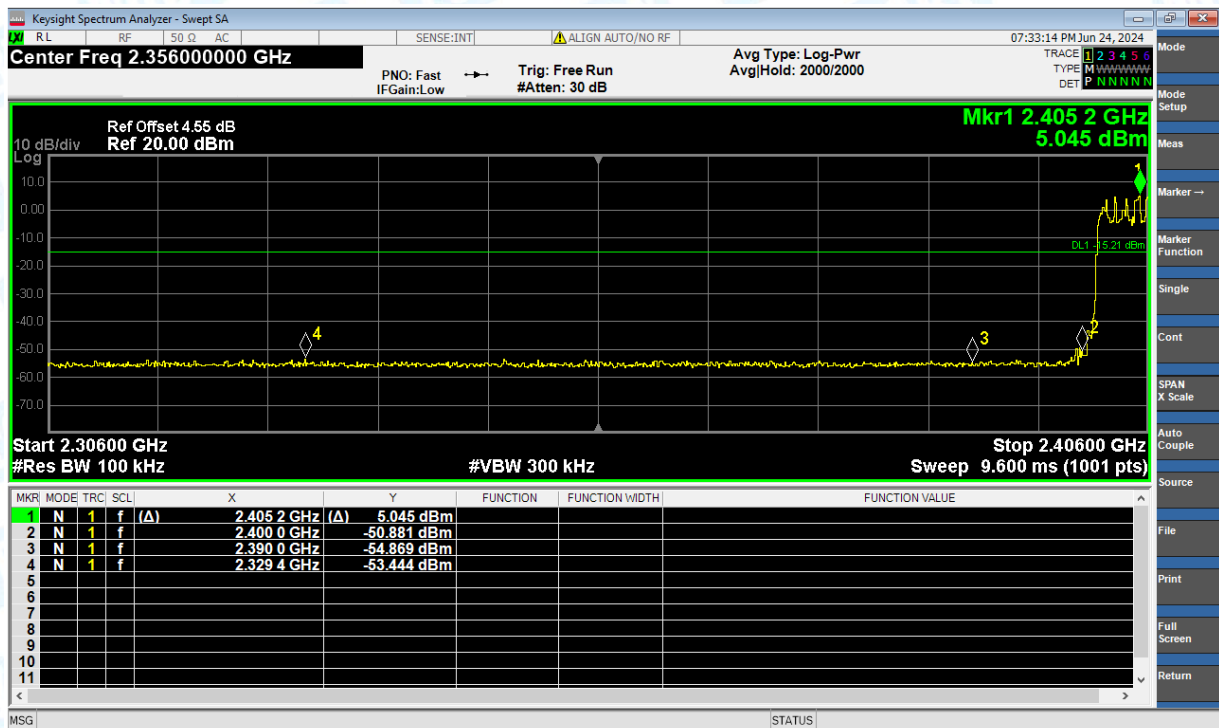
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



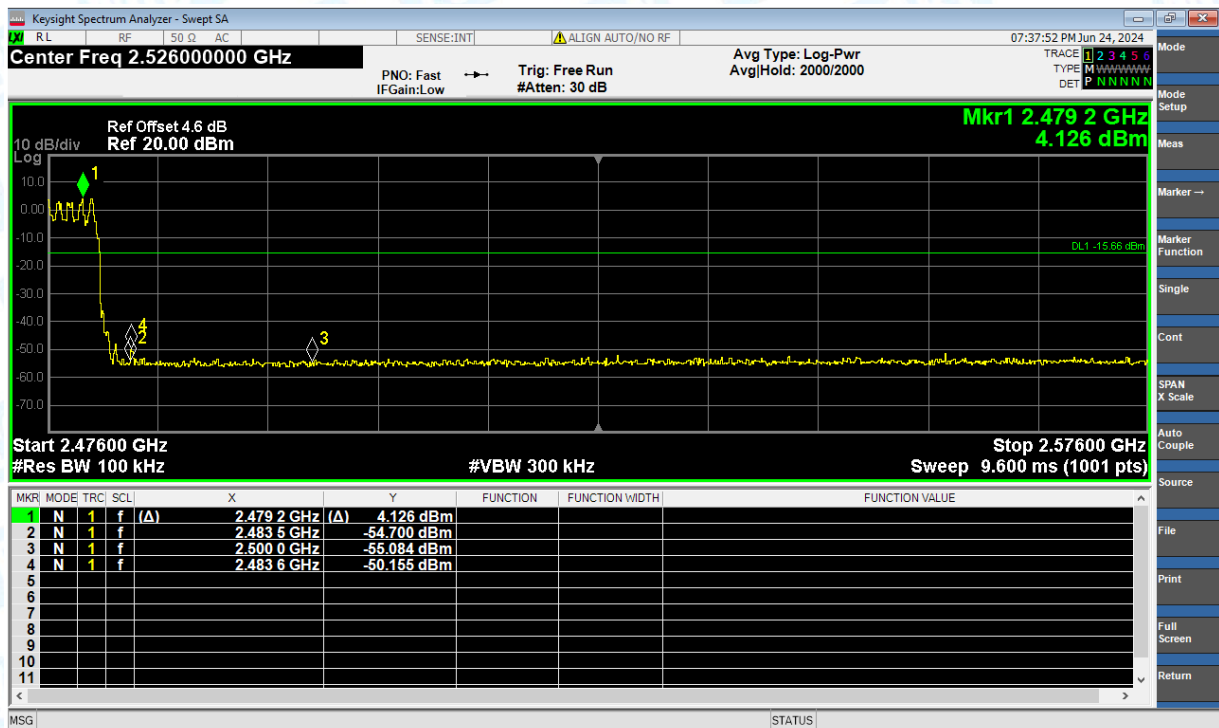
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Emission

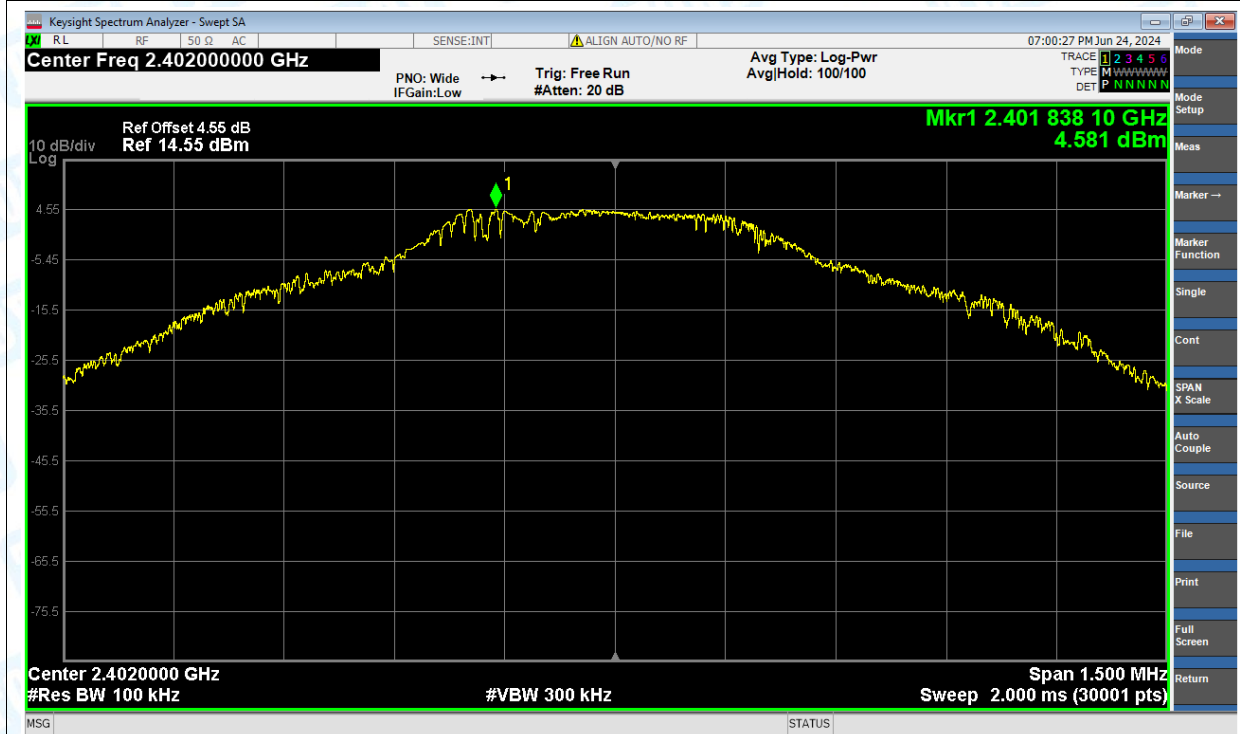


7. Conducted RF Spurious Emission

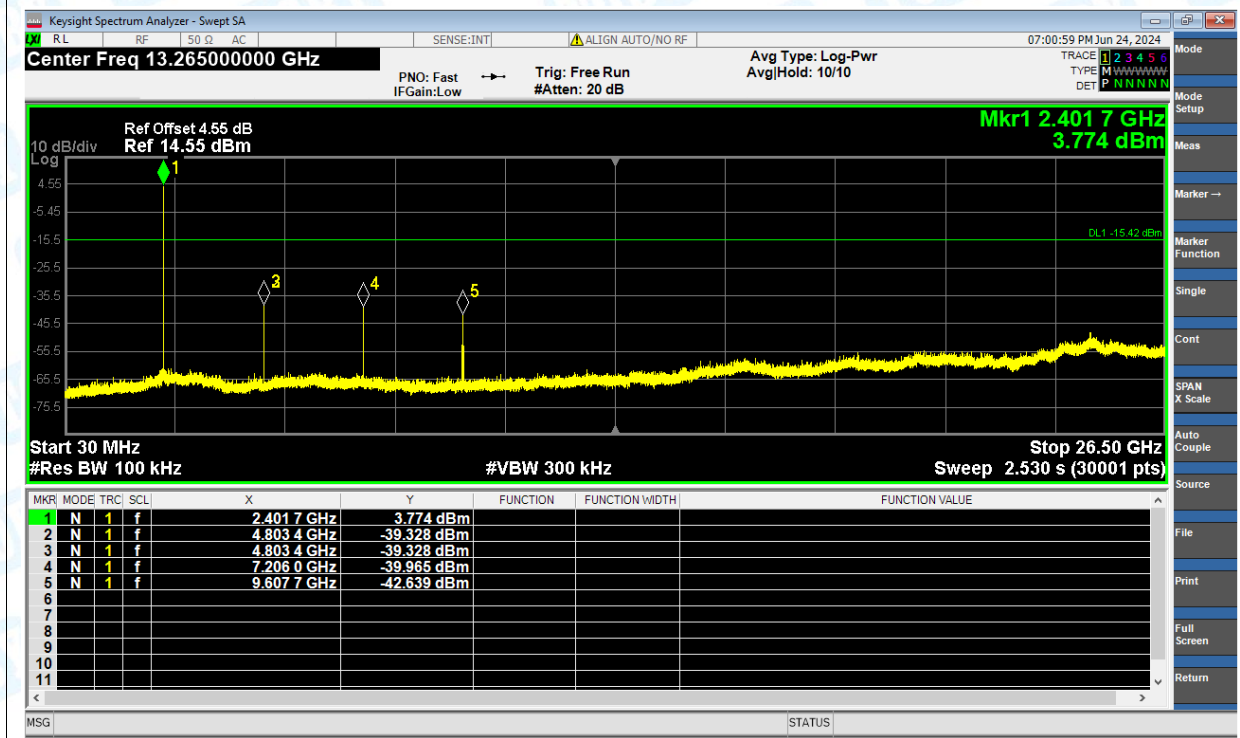
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-43.91	-20	Pass
NVNT	1-DH1	2441	Ant1	-44.06	-20	Pass
NVNT	1-DH1	2480	Ant1	-44.87	-20	Pass
NVNT	2-DH1	2402	Ant1	-45.02	-20	Pass
NVNT	2-DH1	2441	Ant1	-45.07	-20	Pass
NVNT	2-DH1	2480	Ant1	-44.83	-20	Pass
NVNT	3-DH1	2402	Ant1	-44.55	-20	Pass
NVNT	3-DH1	2441	Ant1	-48.43	-20	Pass
NVNT	3-DH1	2480	Ant1	-41.88	-20	Pass

Test Graphs

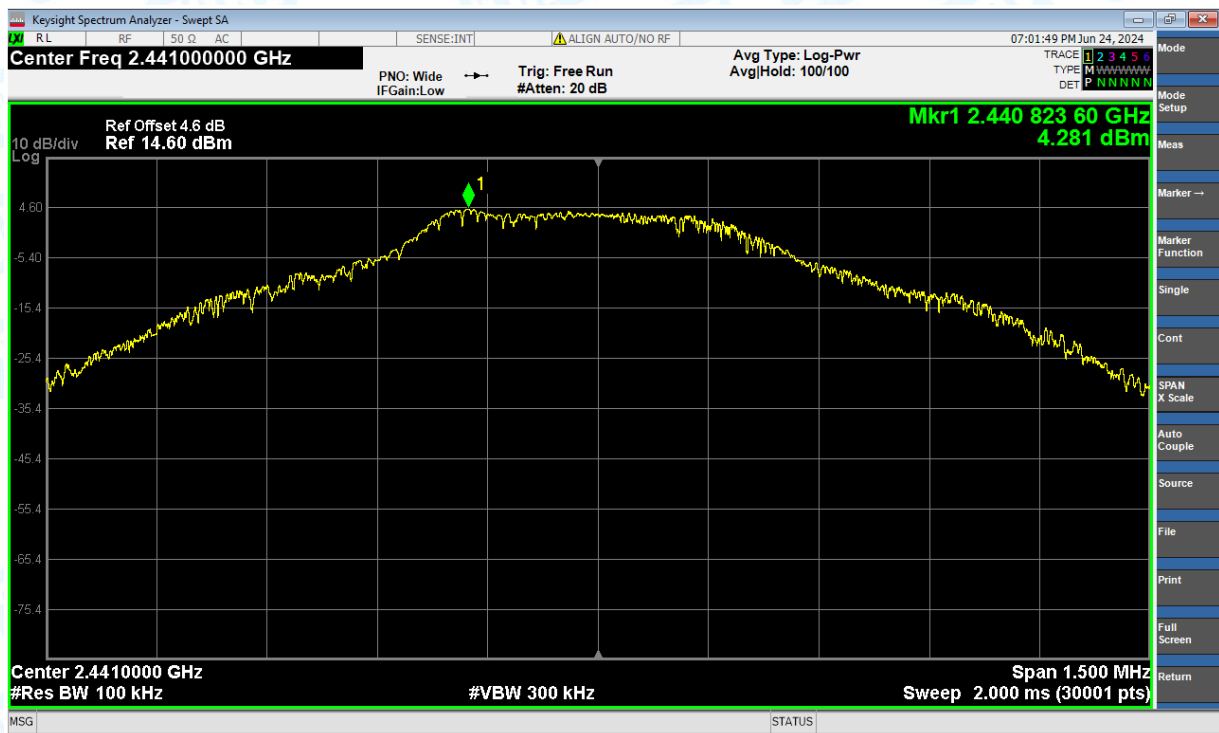
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



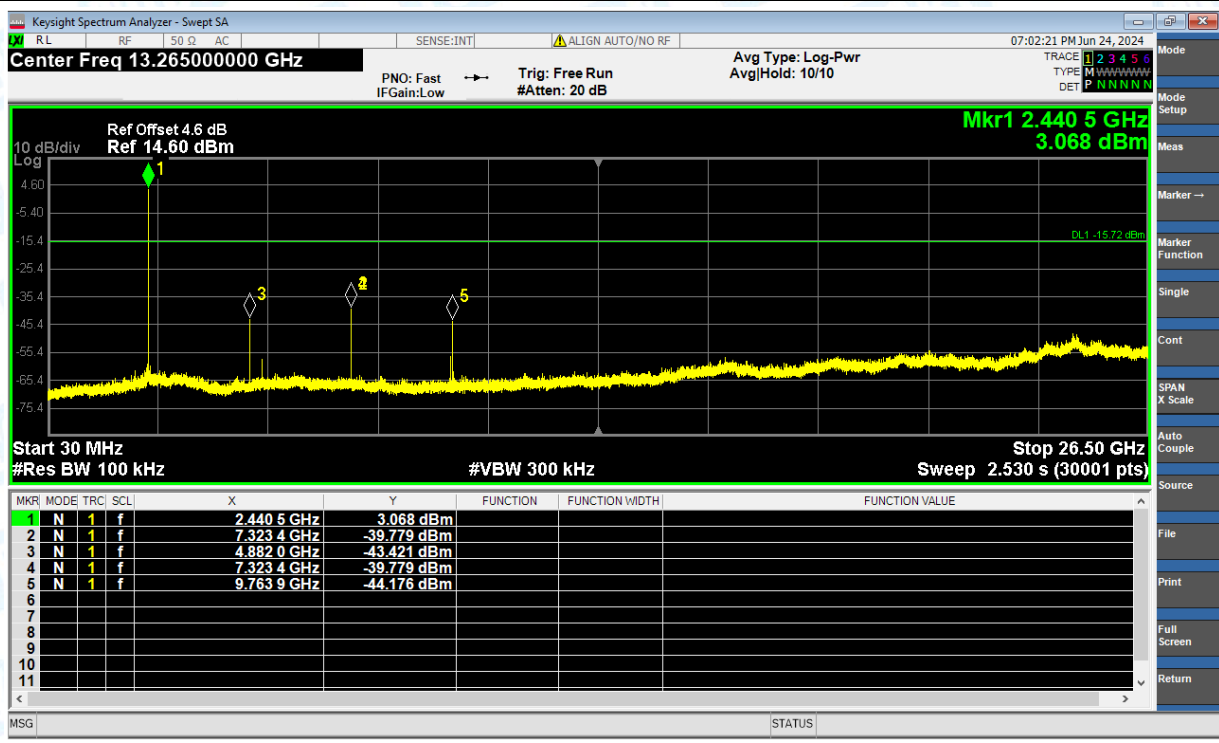
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



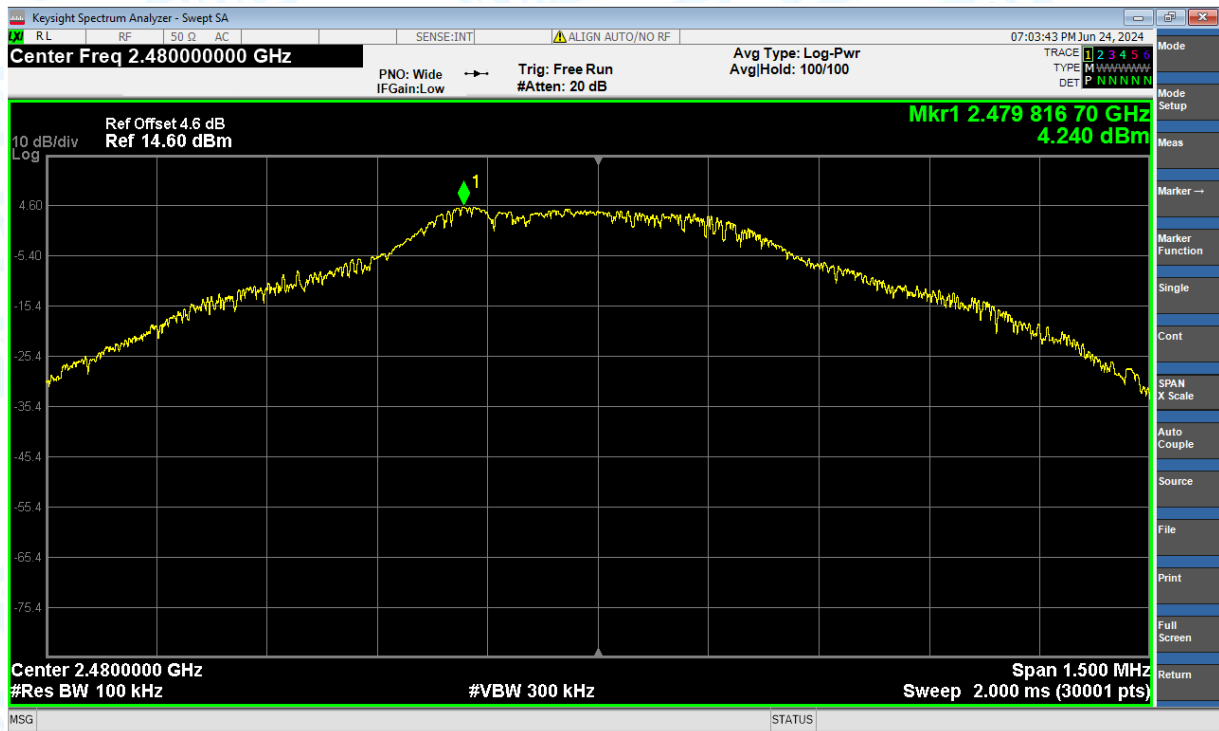
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



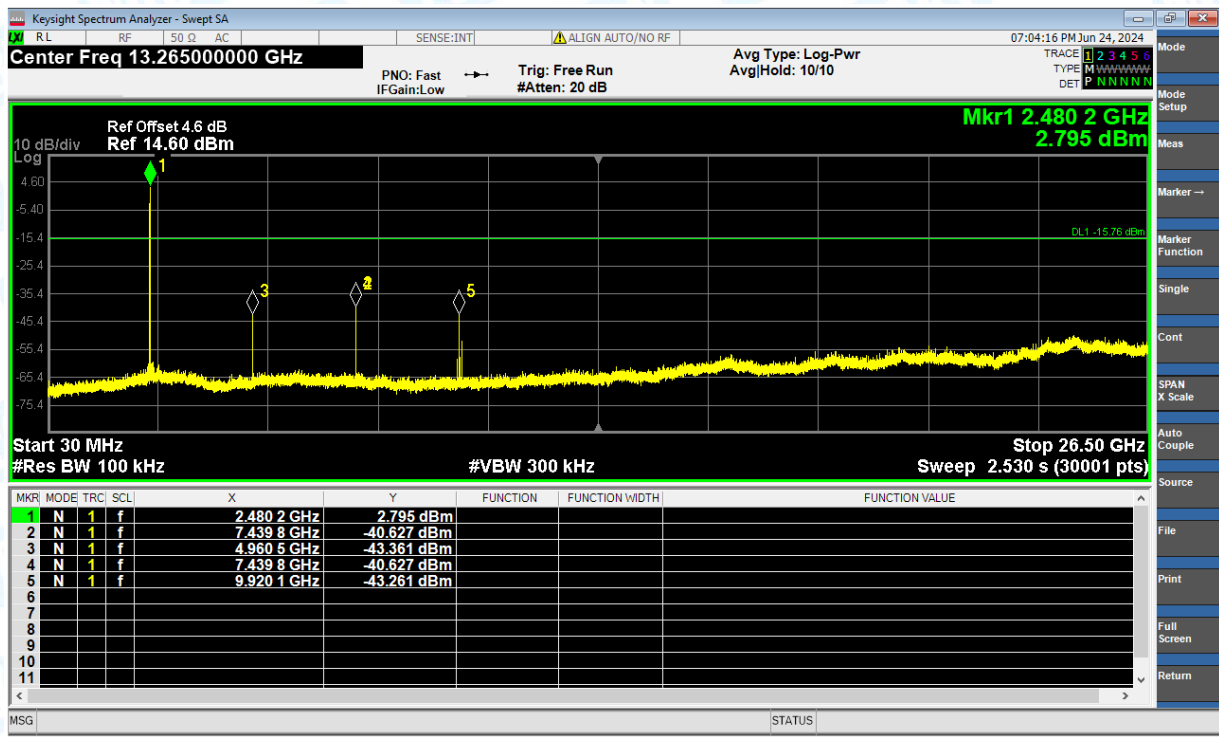
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



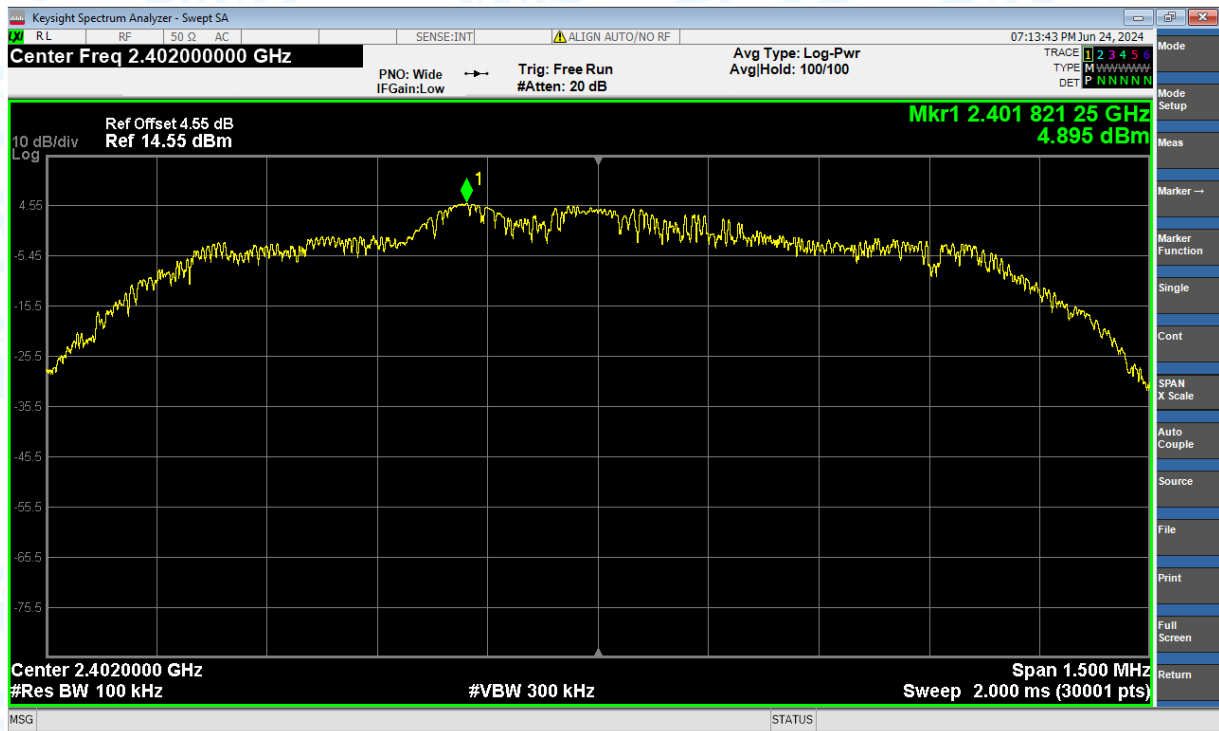
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



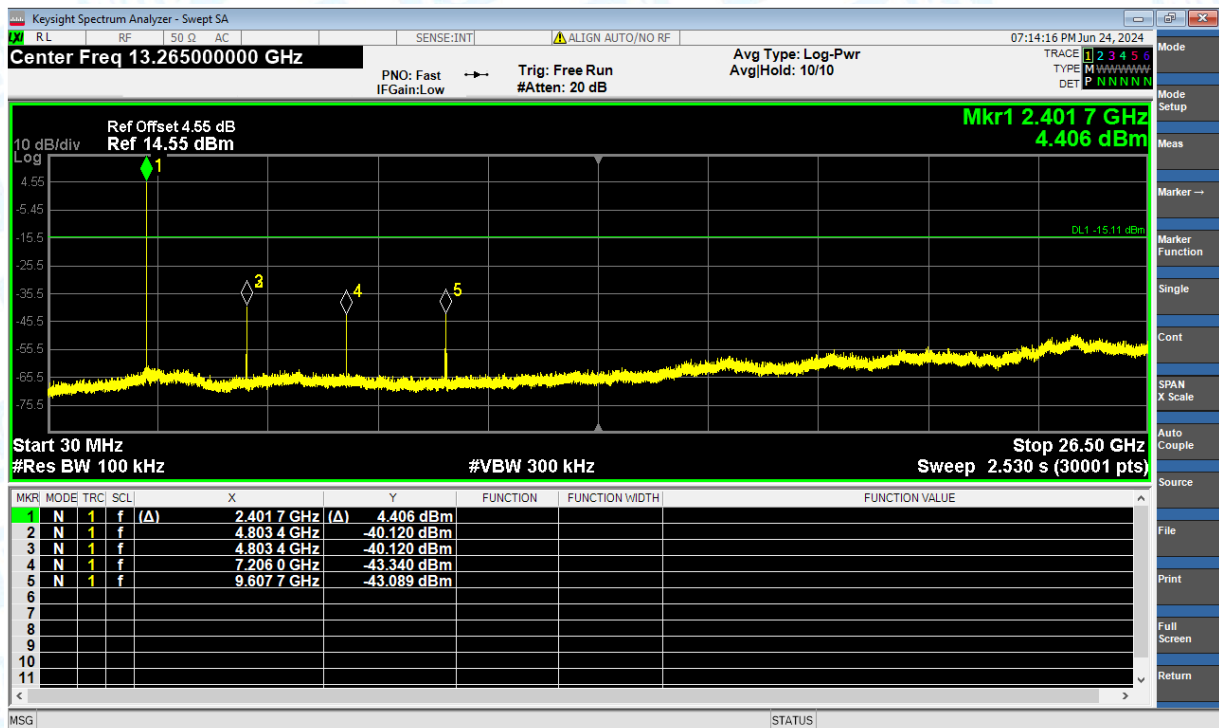
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



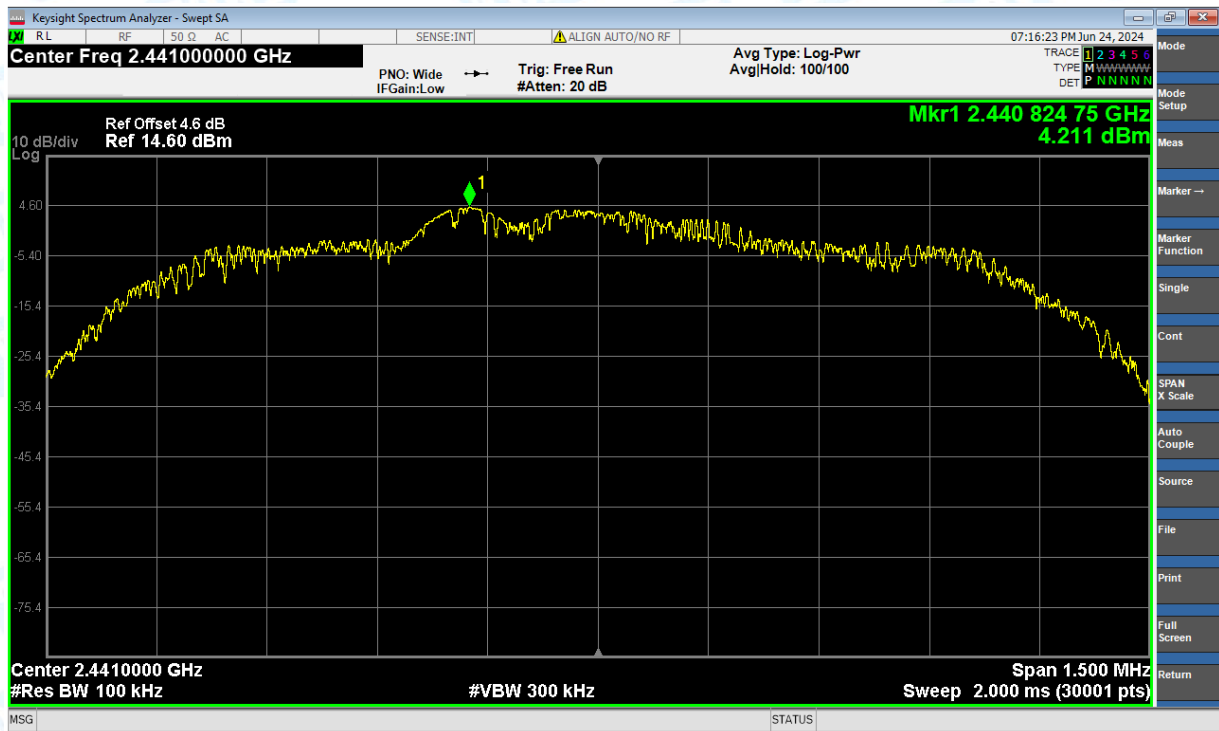
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



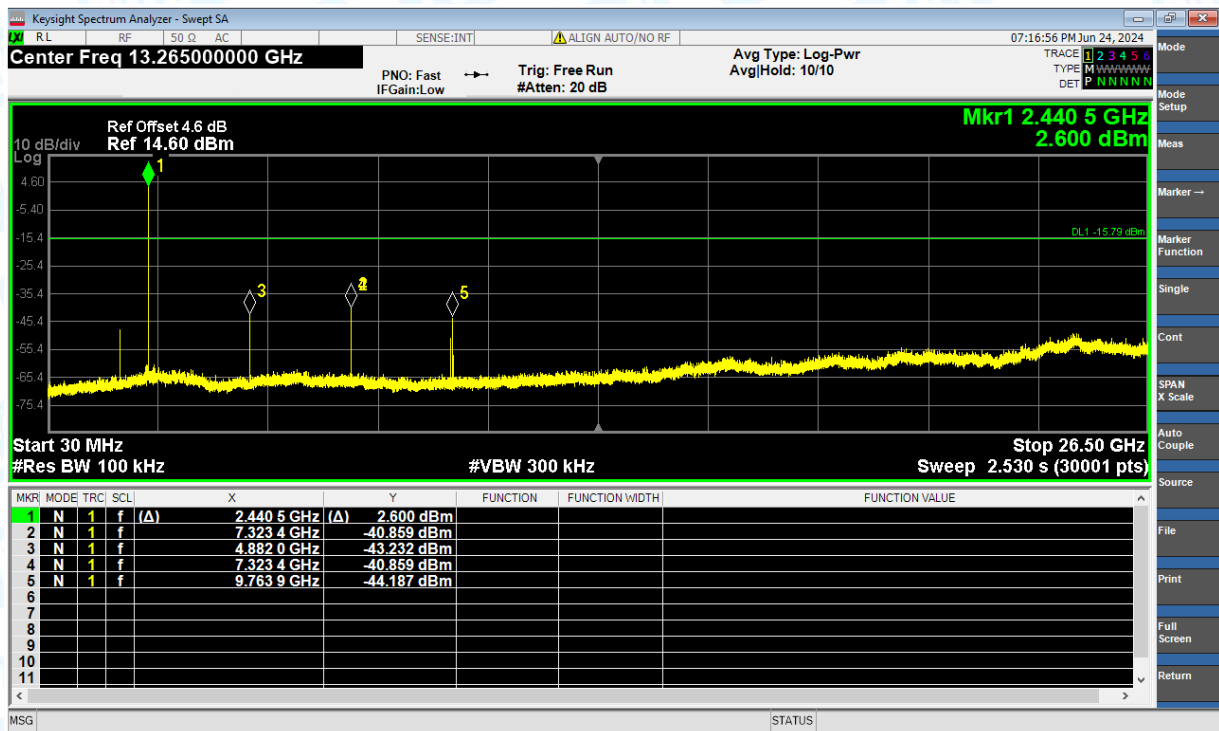
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



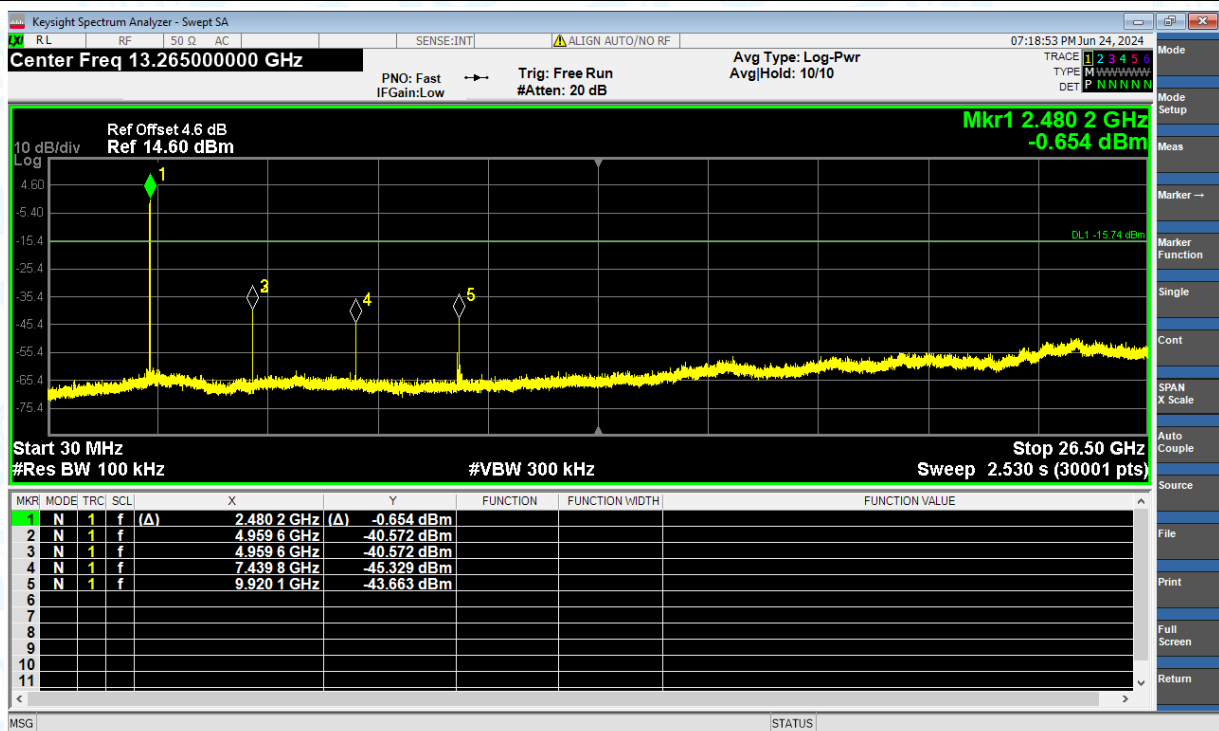
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



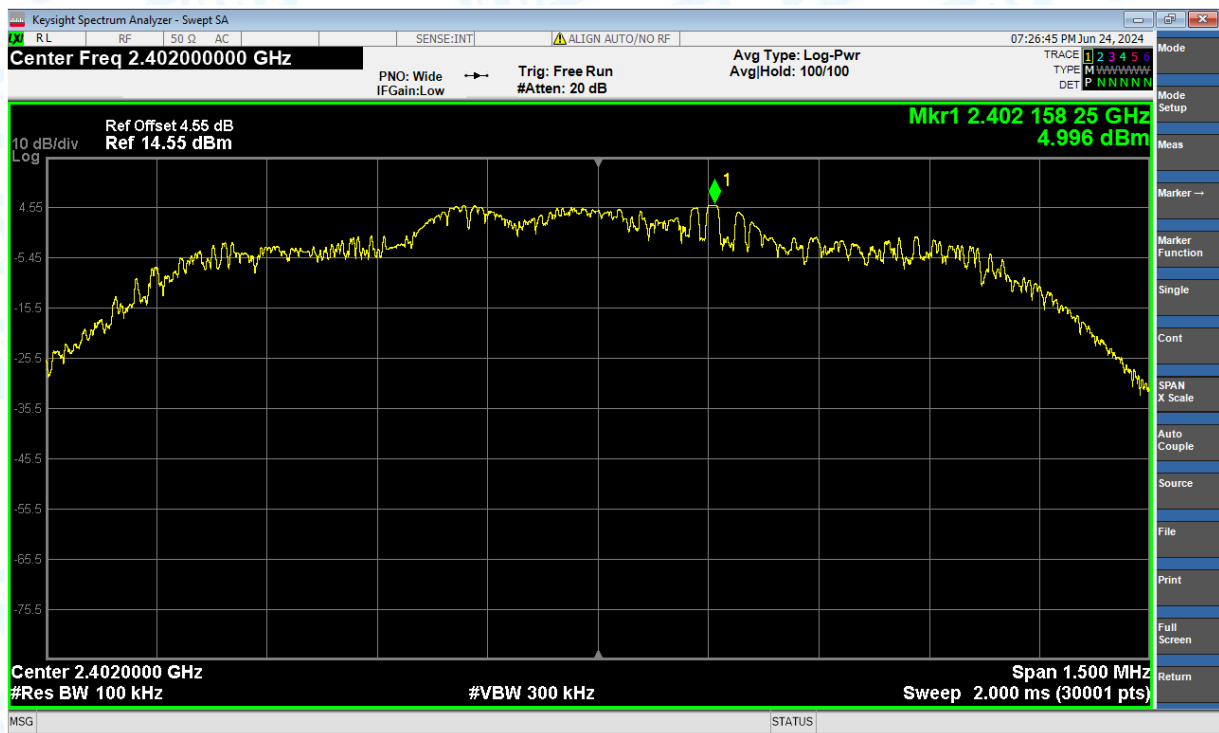
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



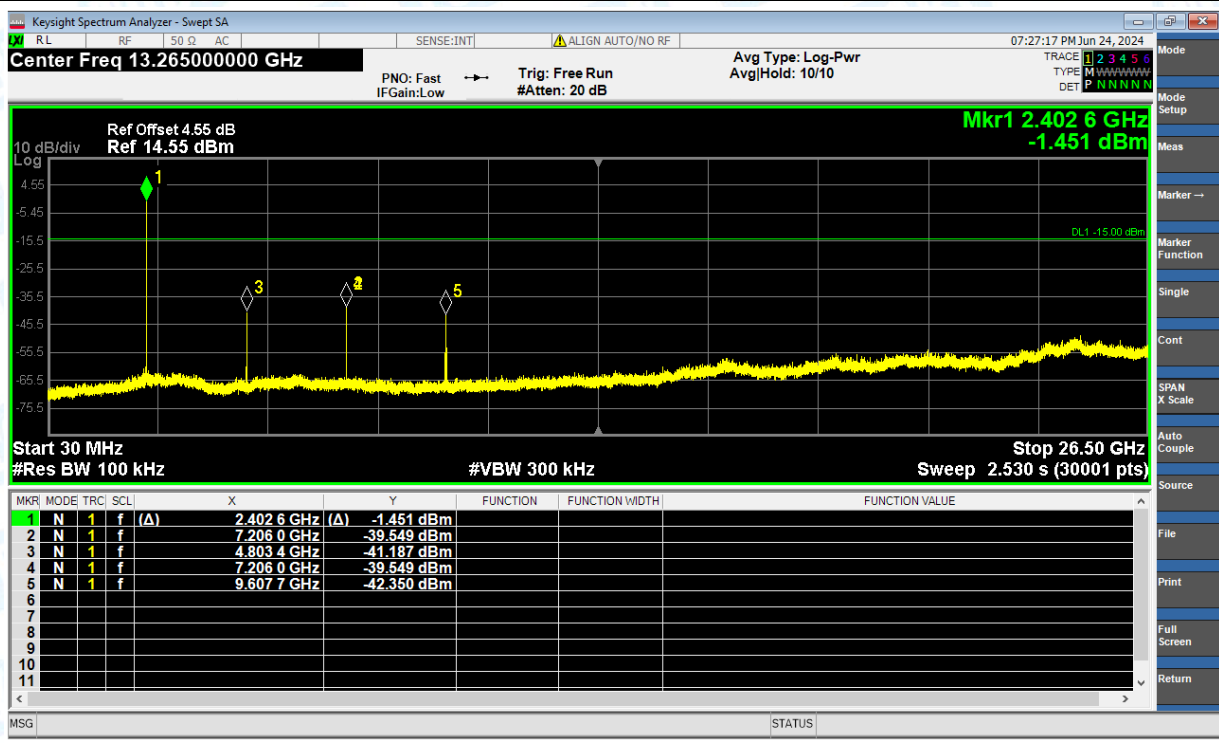
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



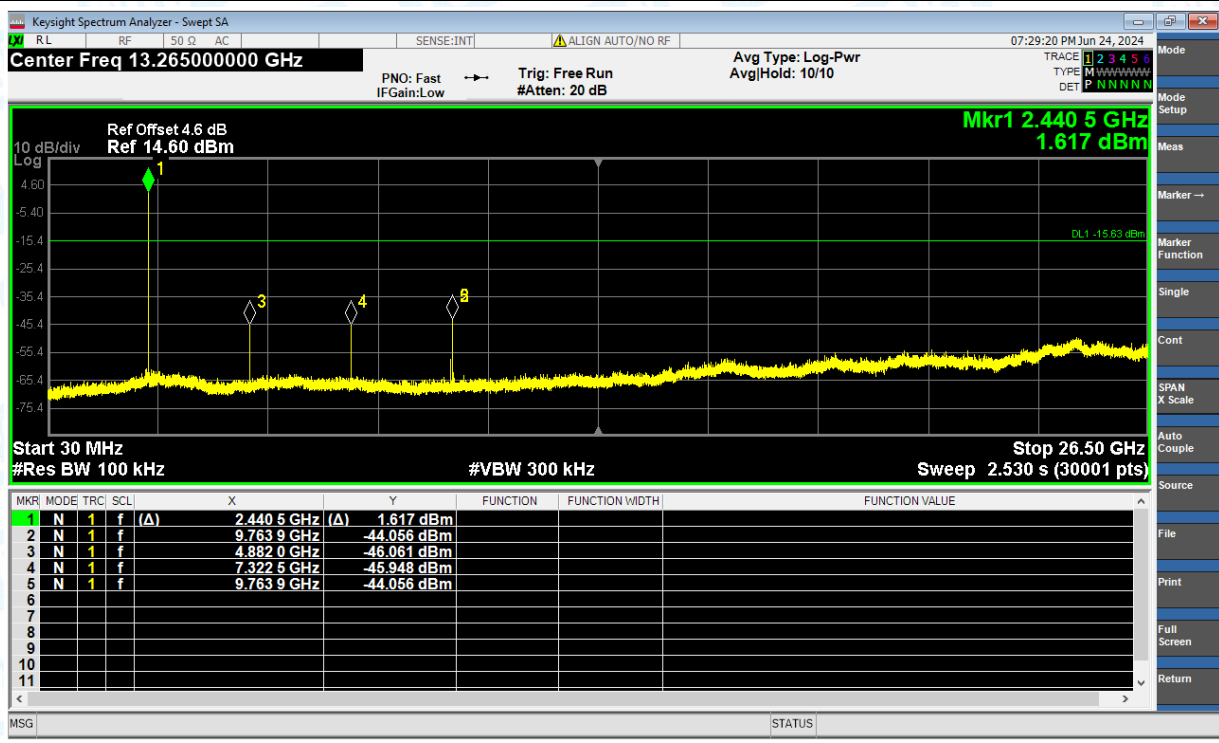
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



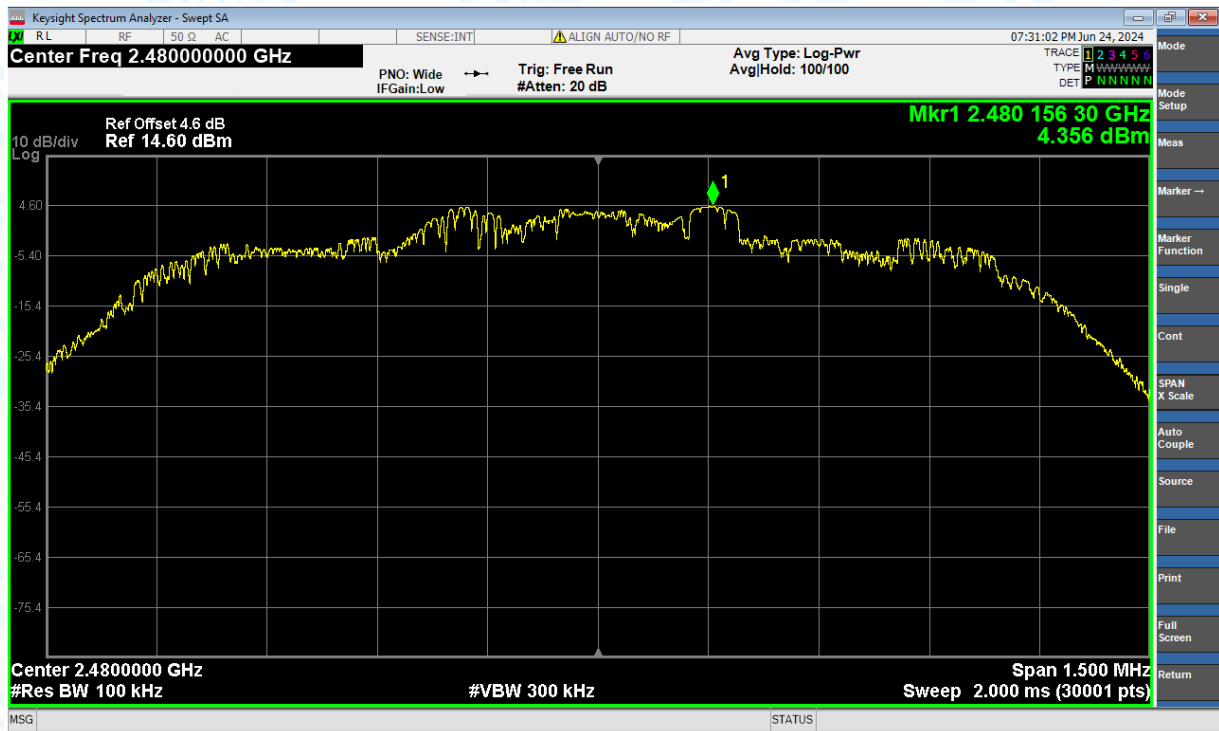
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



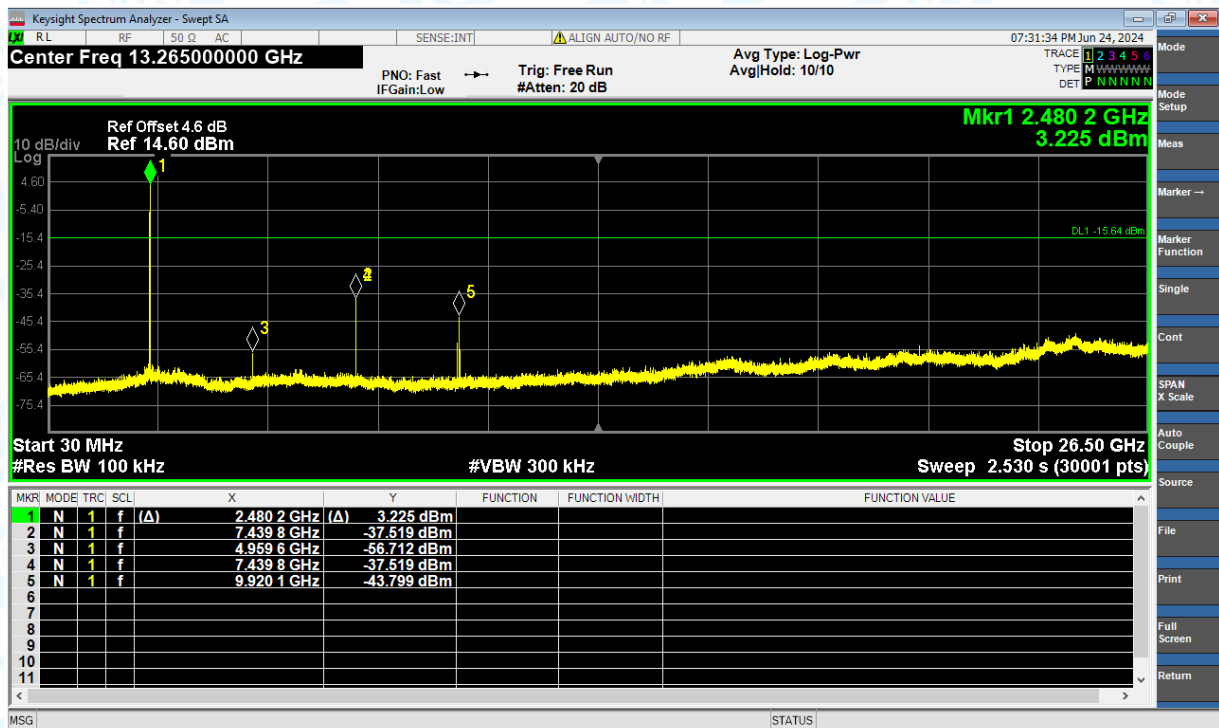
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

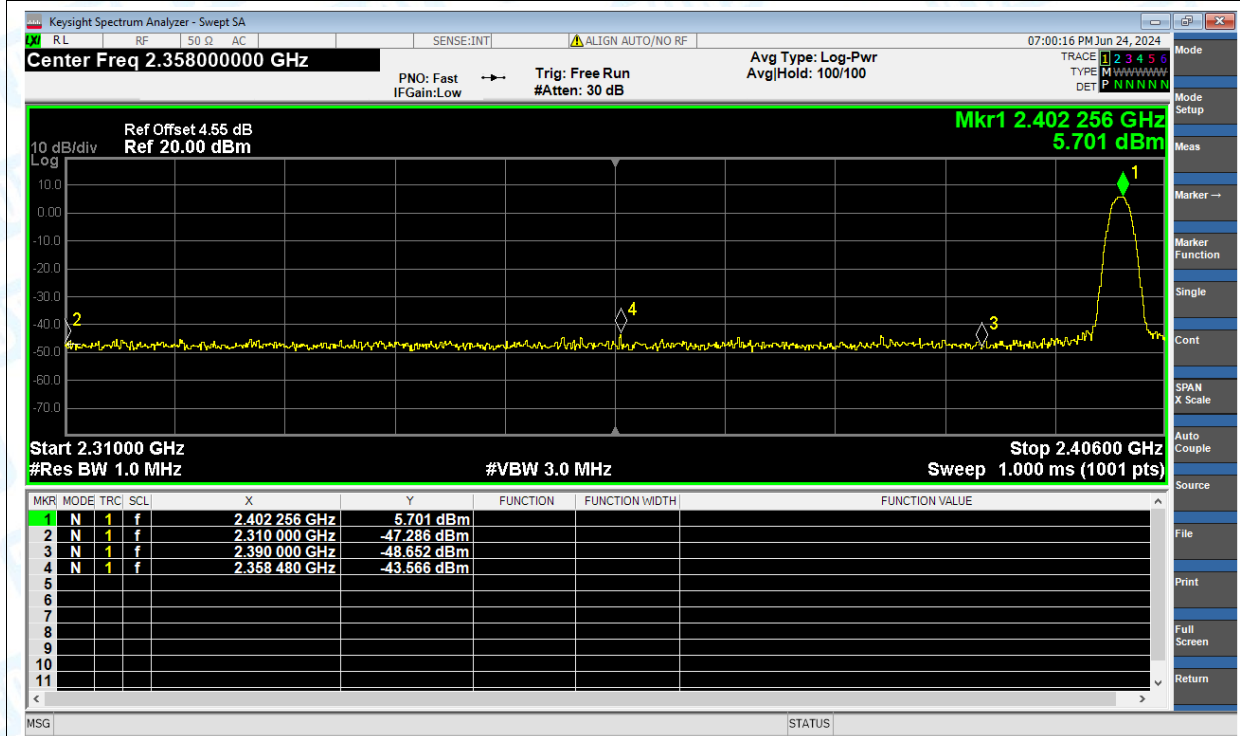


8. Restrict Band

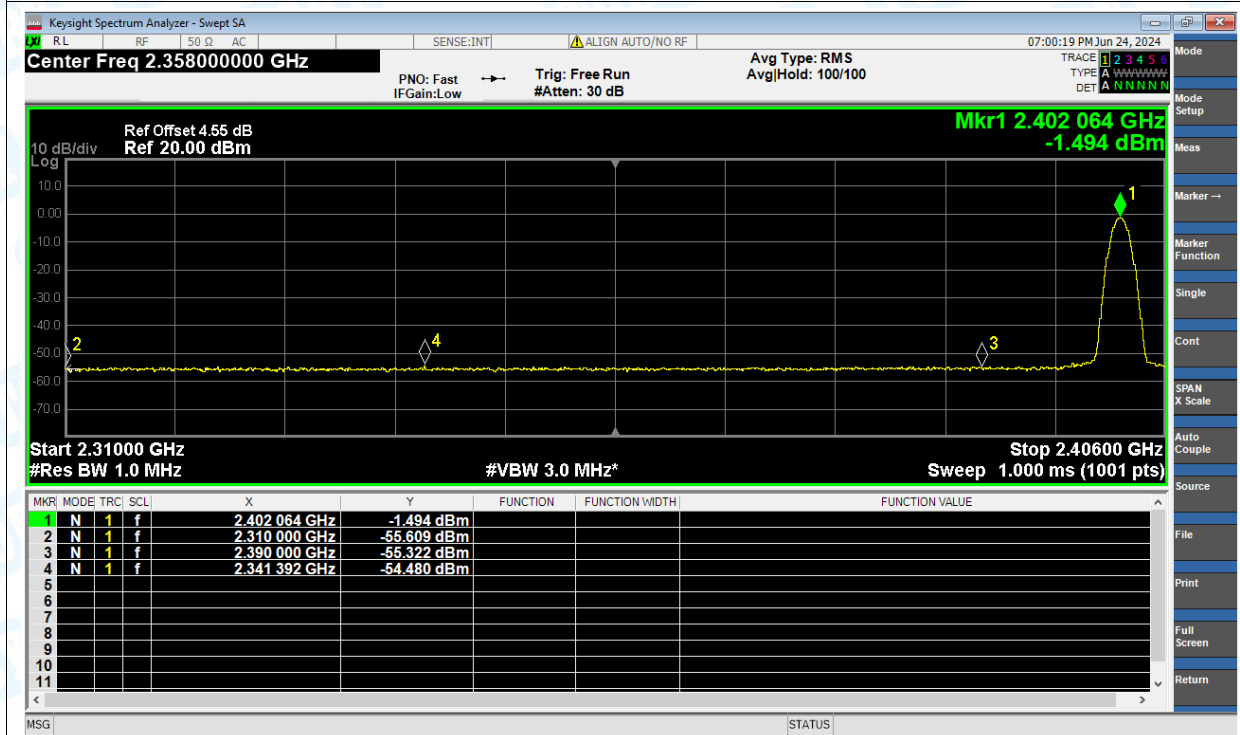
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.29	2	-	49.97	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-55.61	2	5.17	46.82	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2358.48	-43.57	2	-	53.69	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2341.392	-54.48	2	5.17	47.95	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.65	2	-	48.61	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.32	2	5.17	47.11	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-43.93	2	-	53.33	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-53.87	2	5.29	48.68	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2484.184	-41.19	2	-	56.07	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.704	-53.28	2	5.29	49.27	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-45.61	2	-	51.65	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.2	2	5.29	47.35	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-47.44	2	-	49.82	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-55.73	2	5.17	46.7	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2386.704	-44.41	2	-	52.85	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2325.456	-54.75	2	5.17	47.68	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.35	2	-	49.91	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.51	2	5.17	46.92	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-45.11	2	-	52.15	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-53.44	2	5.17	48.99	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.632	-42.31	2	-	54.95	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.56	-53.13	2	5.17	49.3	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.89	2	-	49.37	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.02	2	5.17	47.41	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-46.33	2	-	50.93	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.11	2	5.17	46.32	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2360.688	-44.22	2	-	53.04	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2387.376	-54.82	2	5.17	47.61	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-48.65	2	-	48.61	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.03	2	5.17	47.4	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-43.17	2	-	54.09	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-54.13	2	5.17	48.3	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.536	-42.38	2	-	54.88	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2484.424	-53.59	2	5.17	48.84	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-48.38	2	-	48.88	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.4	2	5.17	47.03	Average	54	Pass

Test Graphs

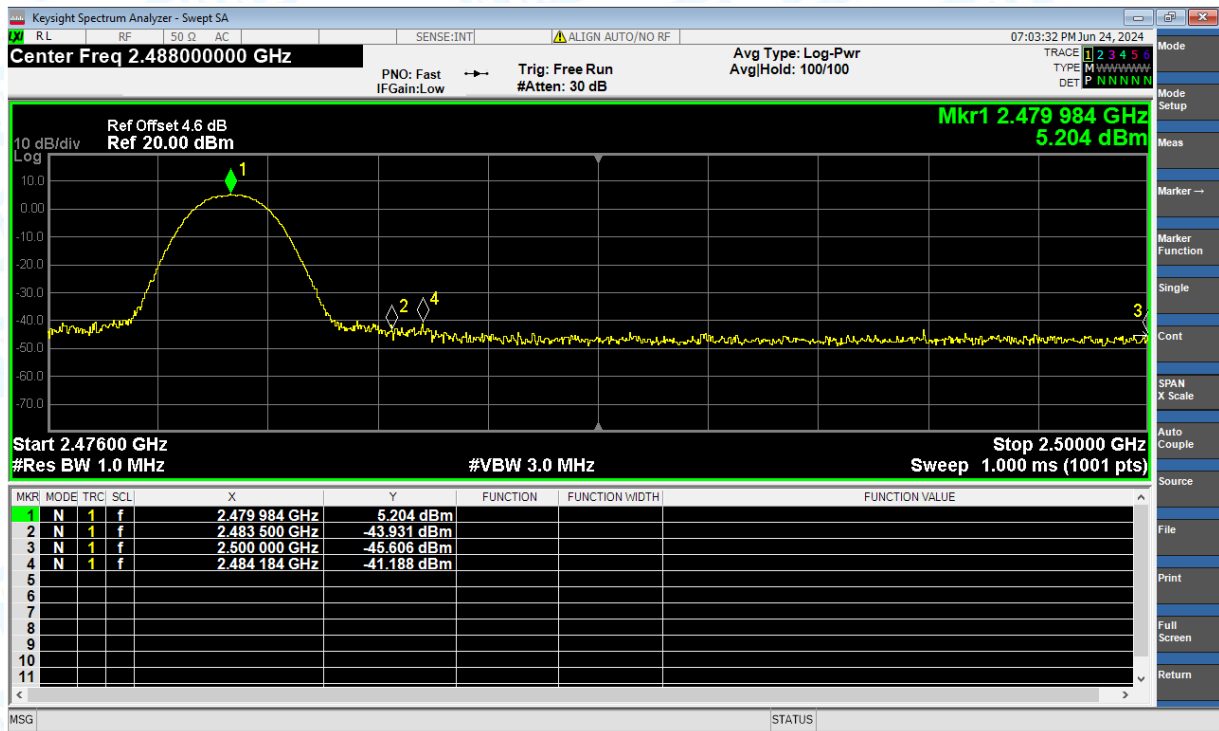
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



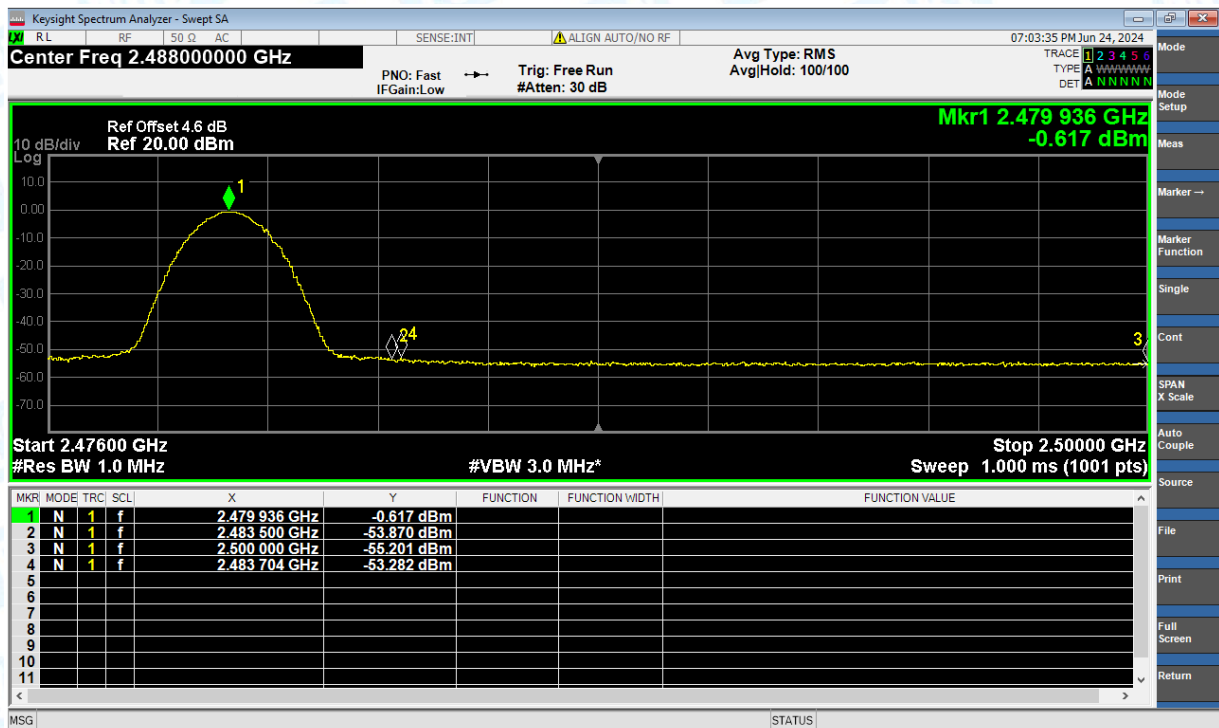
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



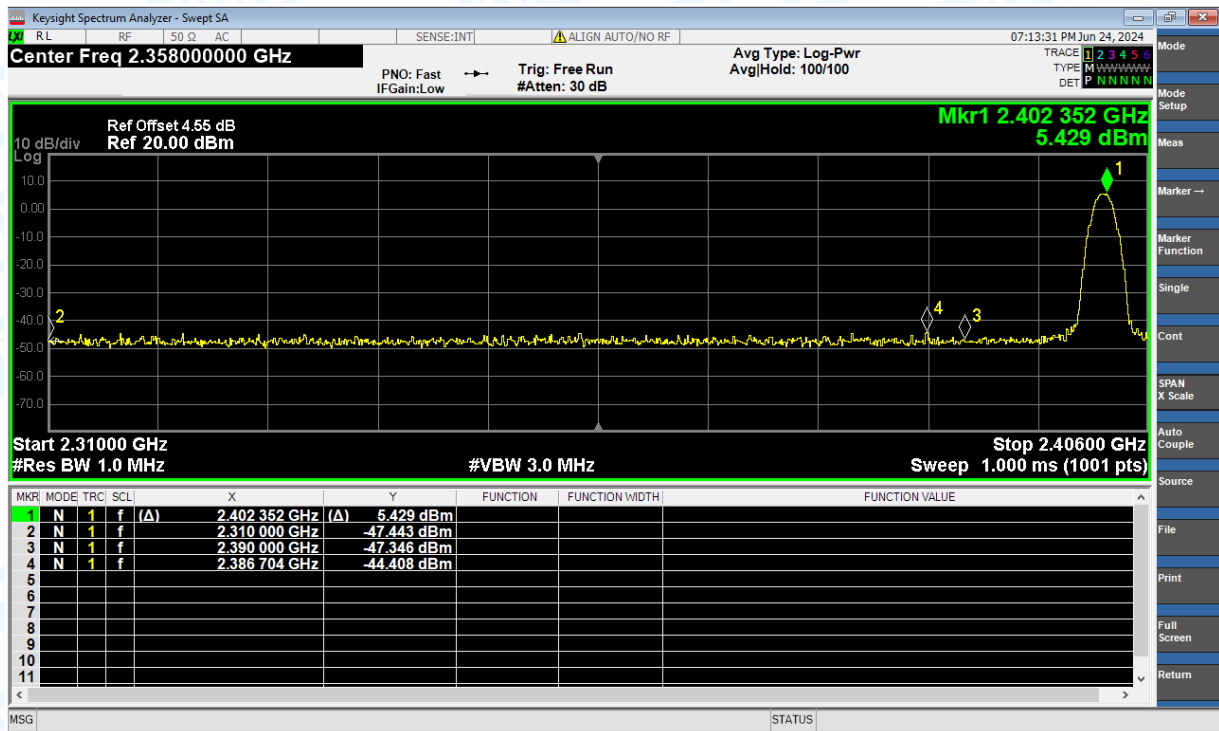
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



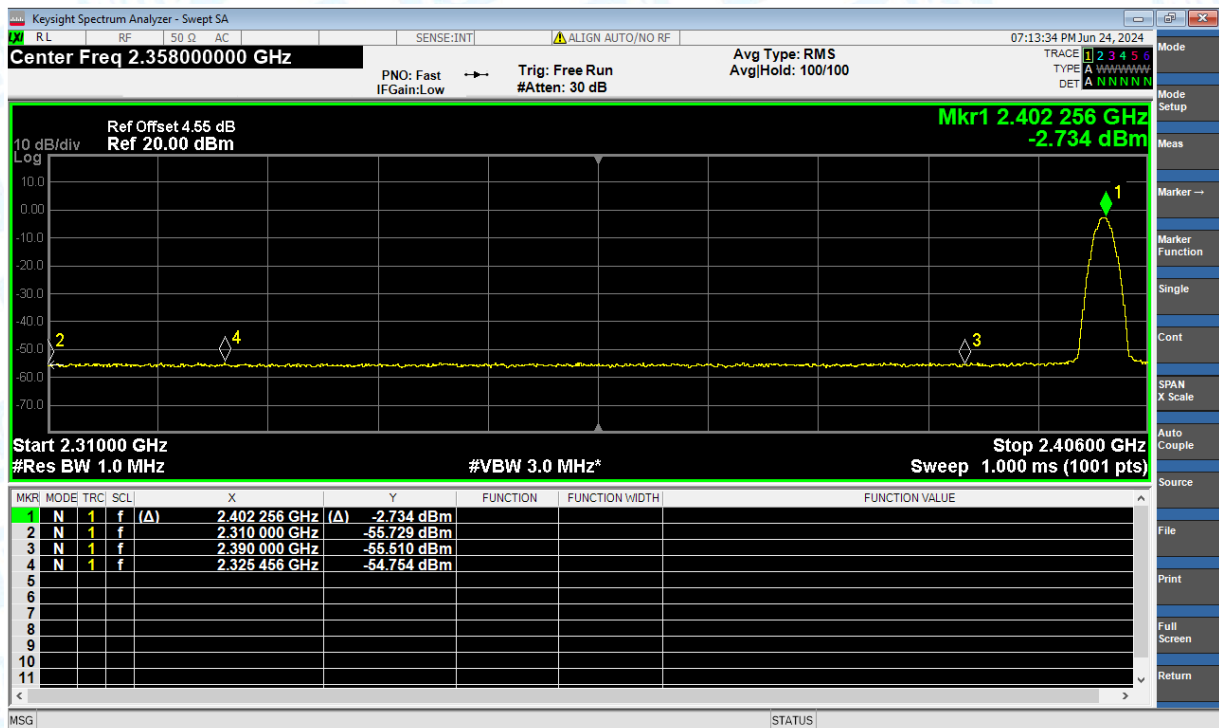
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



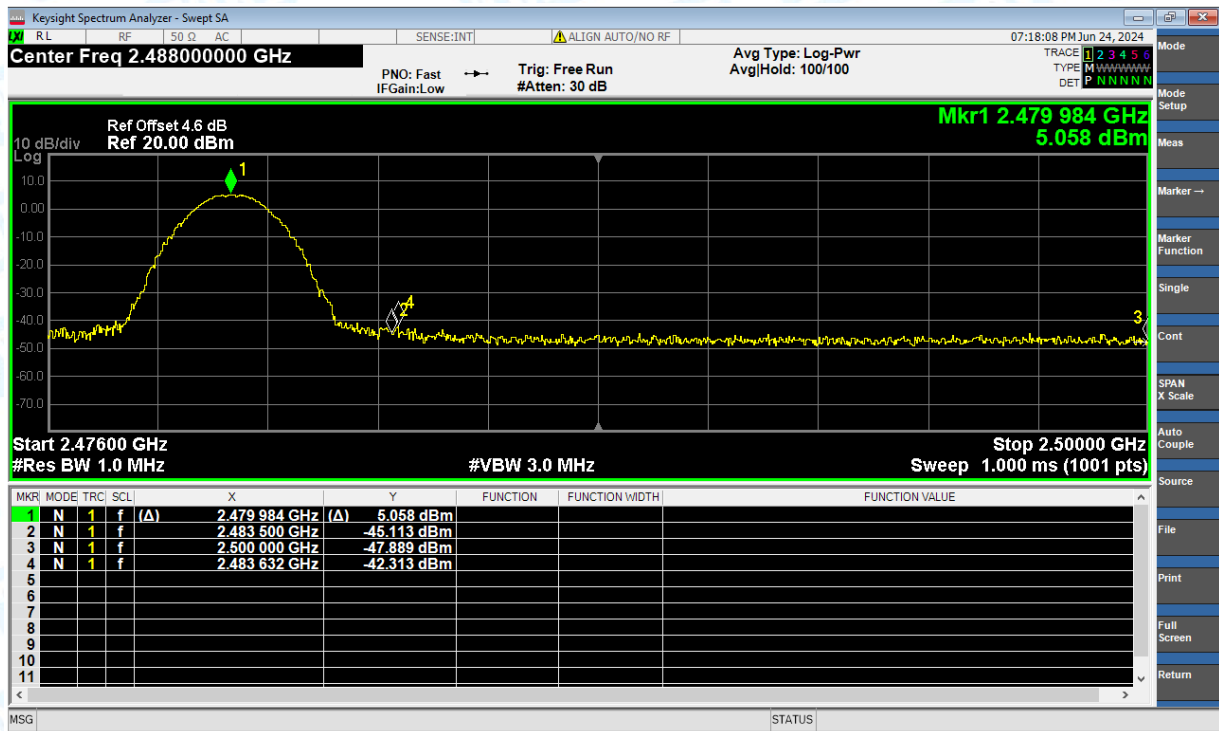
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



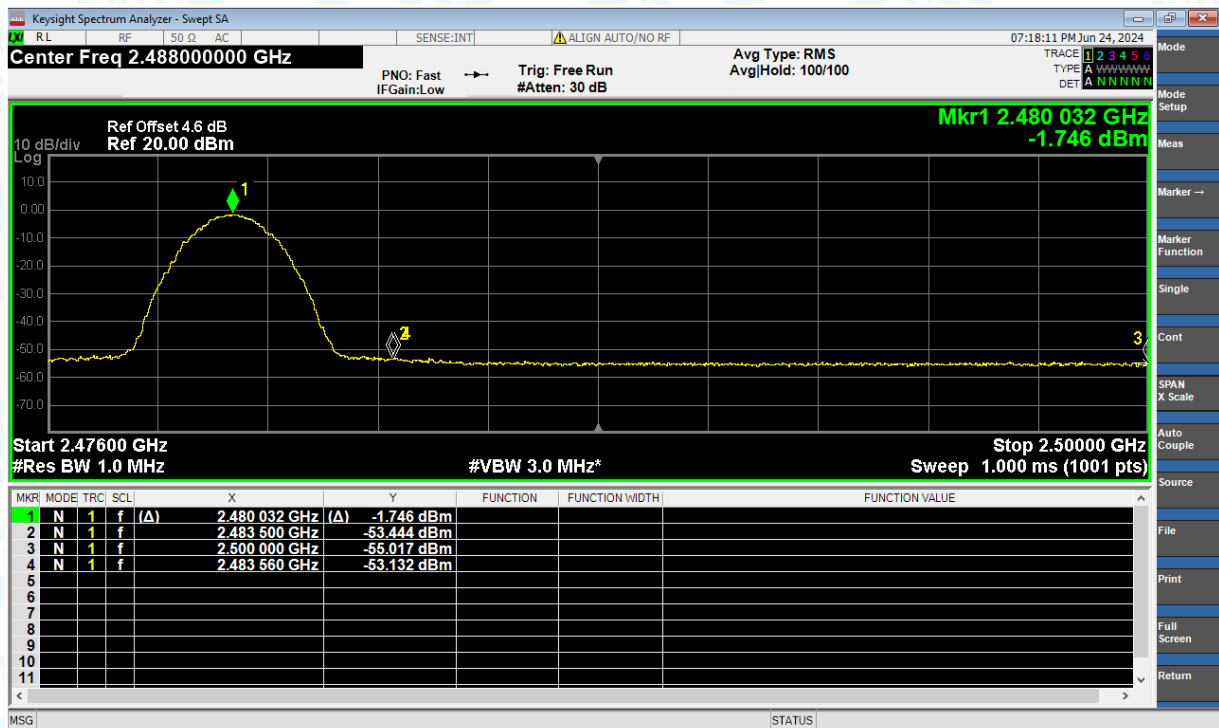
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



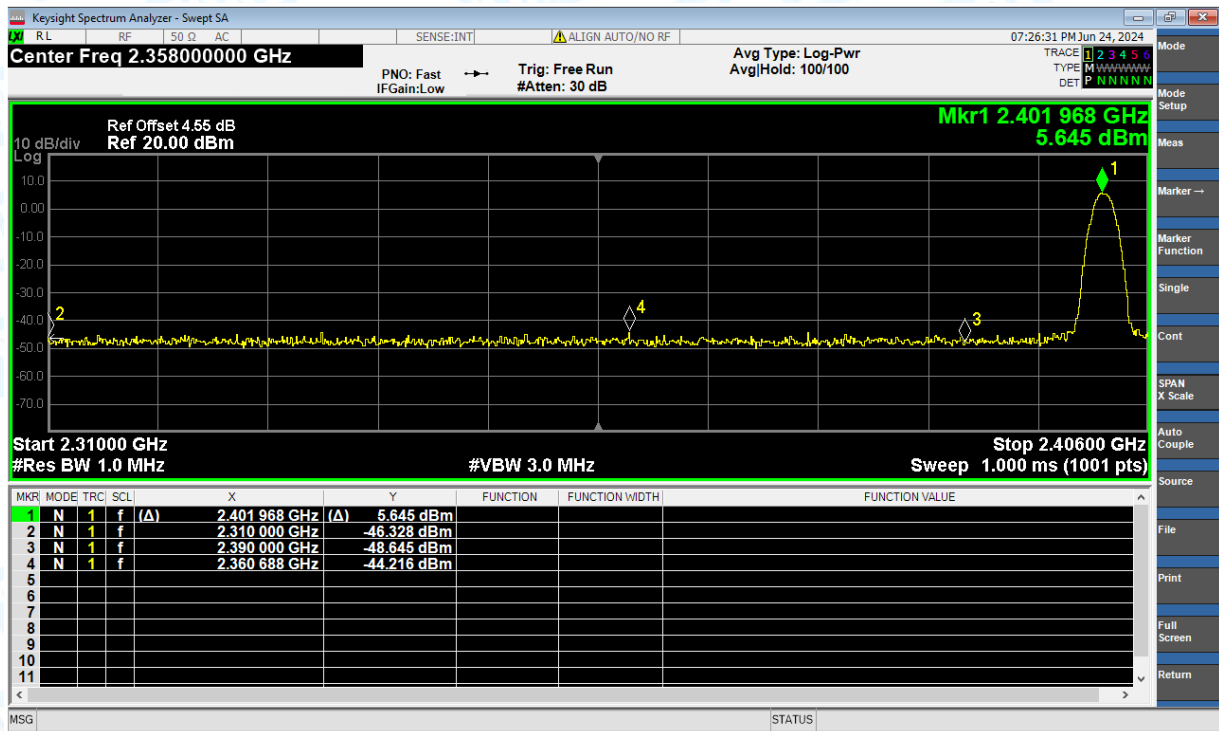
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



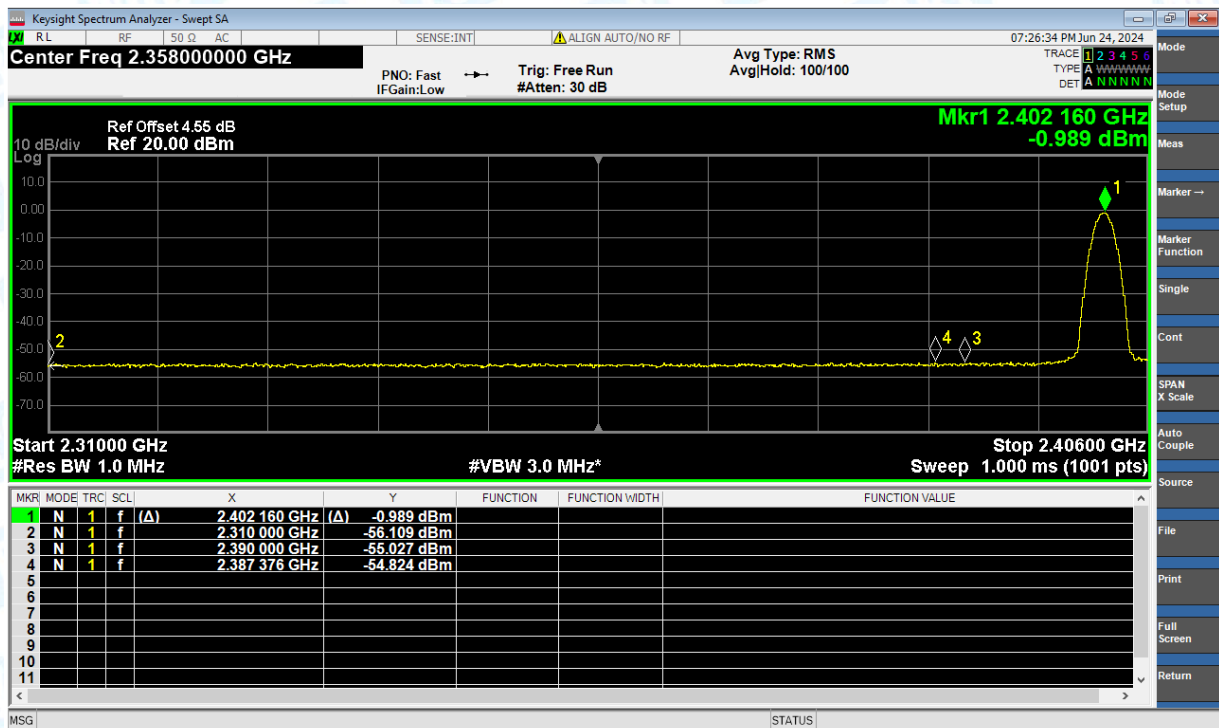
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



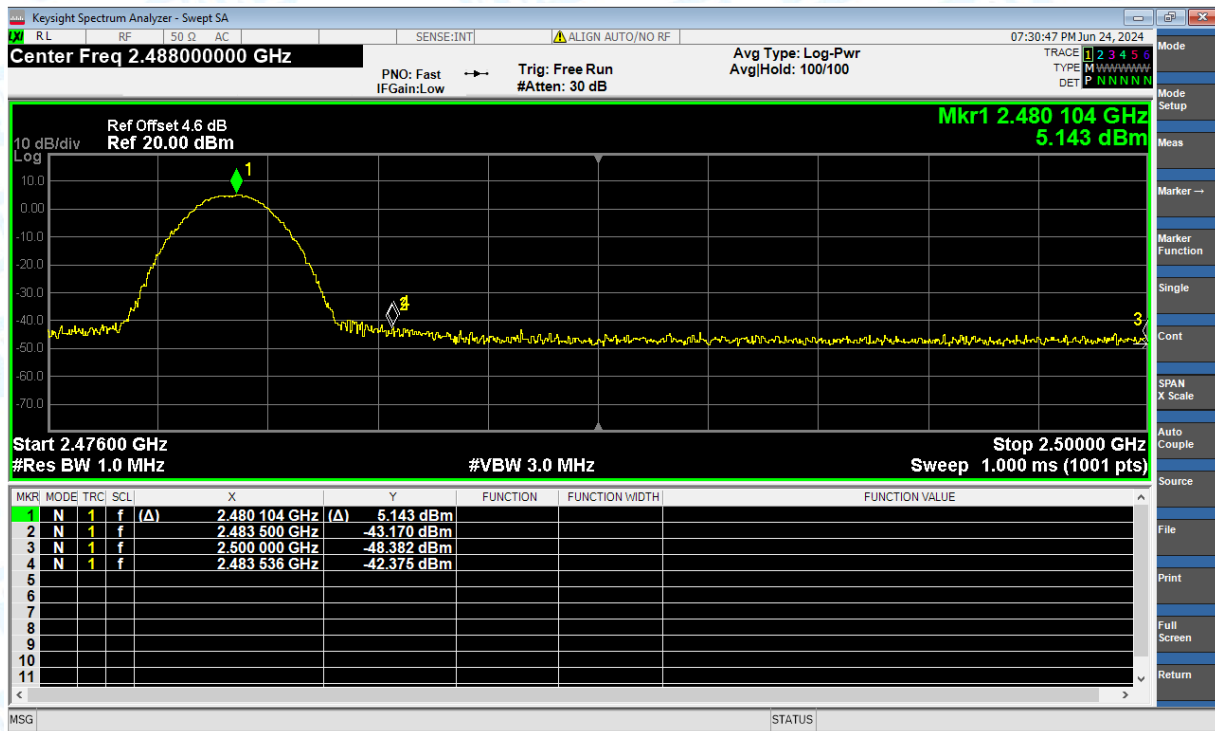
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



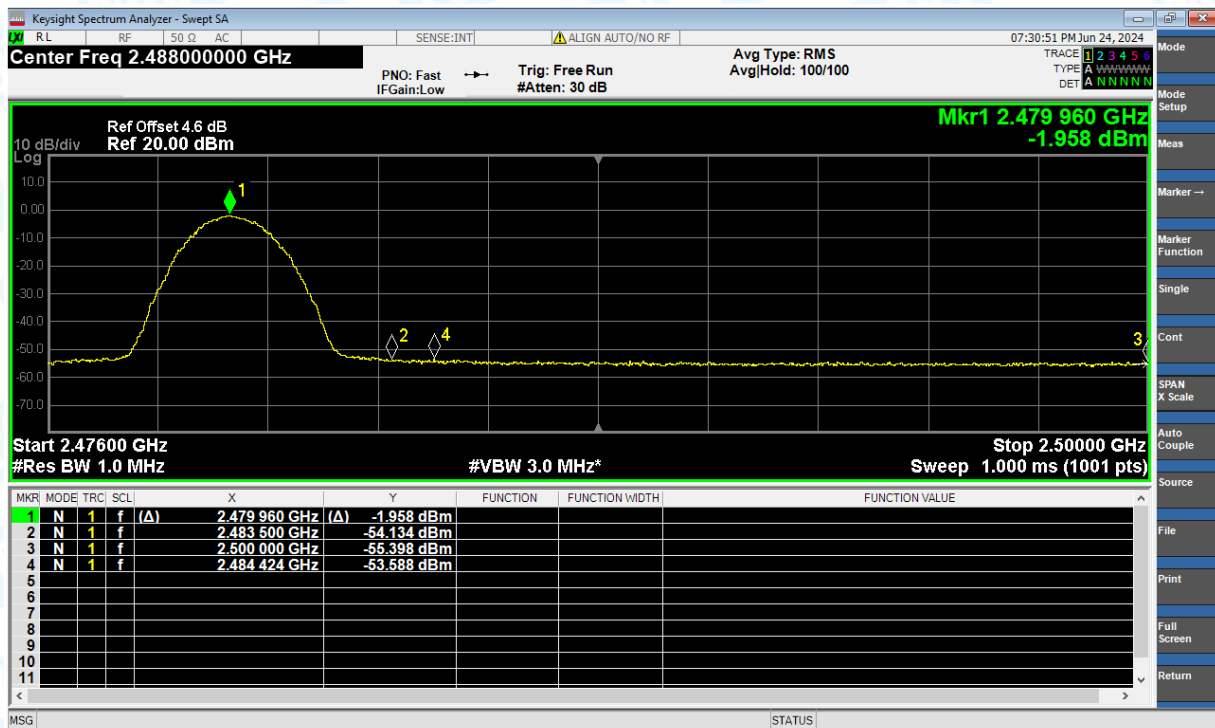
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



Restrict Band NVNT 3-DH1 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH1 2480MHz Ant1 No-Hopping Average

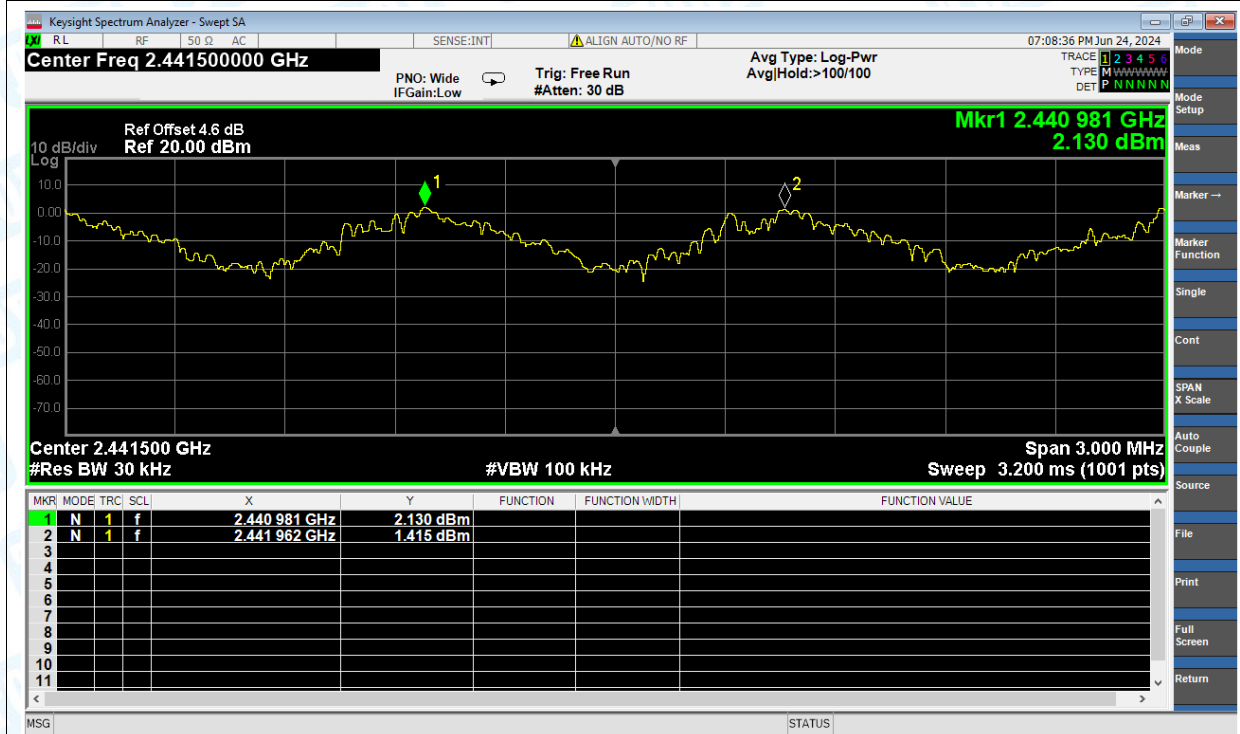


9. Carrier Frequencies Separation

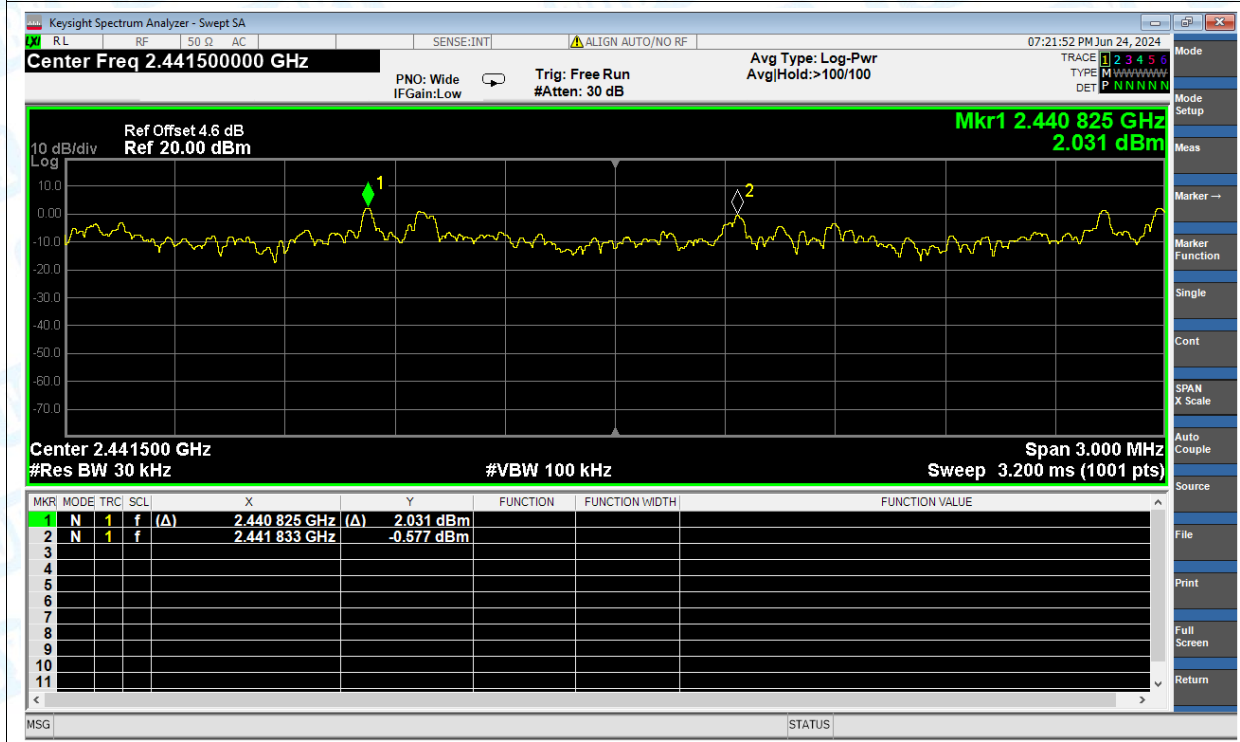
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.981	2441.962	0.981	0.613	Pass
NVNT	2-DH1	Ant1	2440.825	2441.833	1.008	0.793	Pass
NVNT	3-DH1	Ant1	2440.984	2441.812	0.828	0.807	Pass

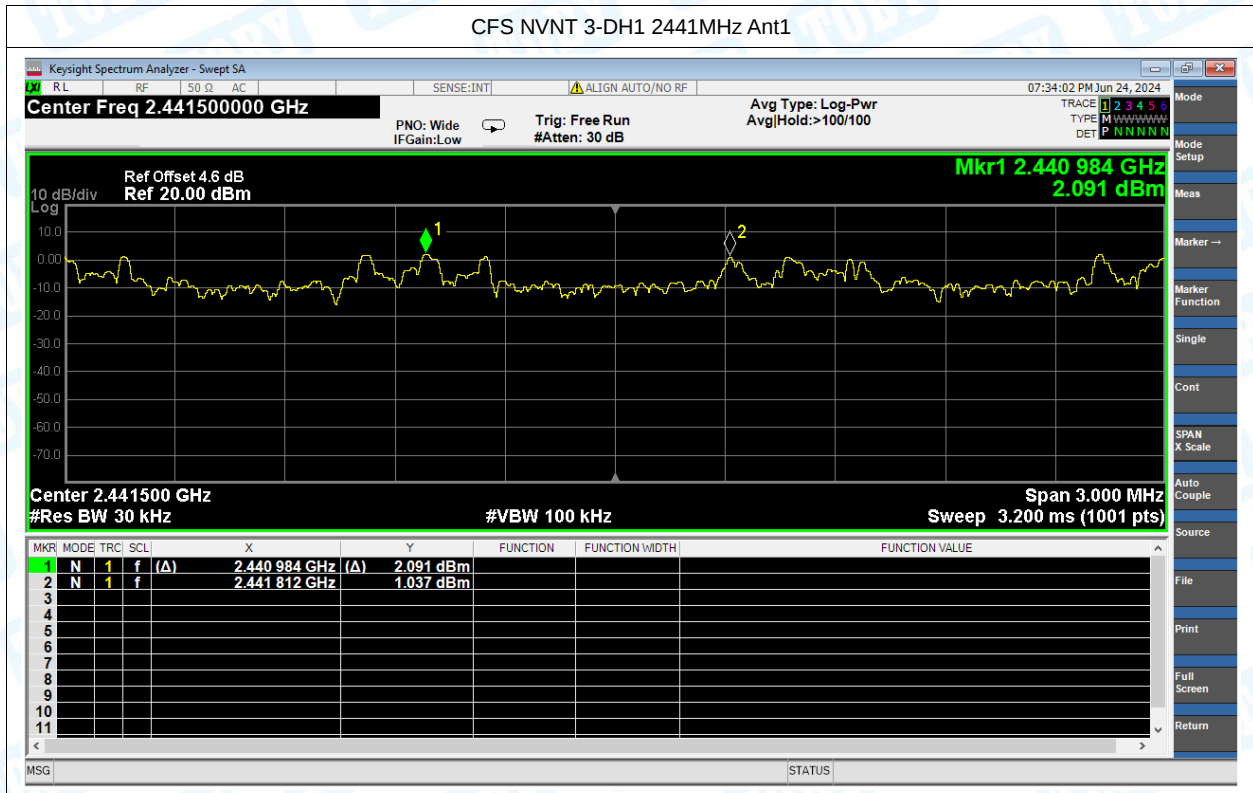
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



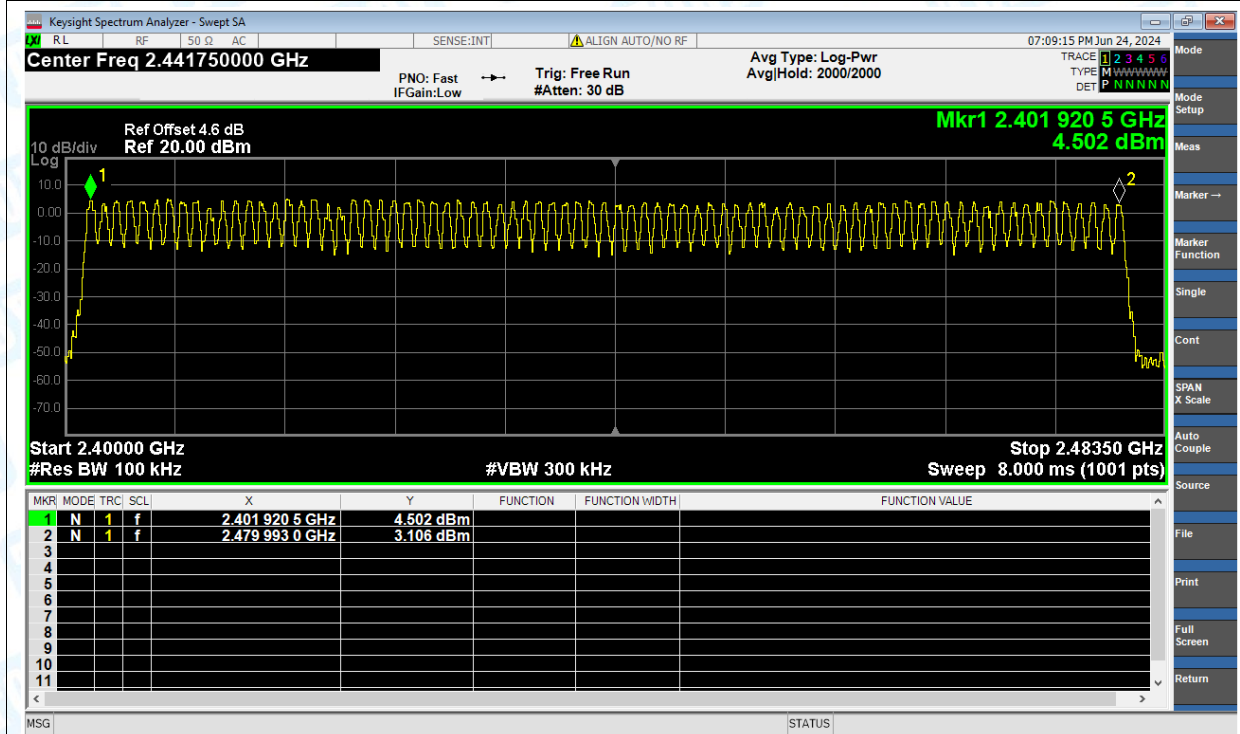


10. Number of Hopping Channel

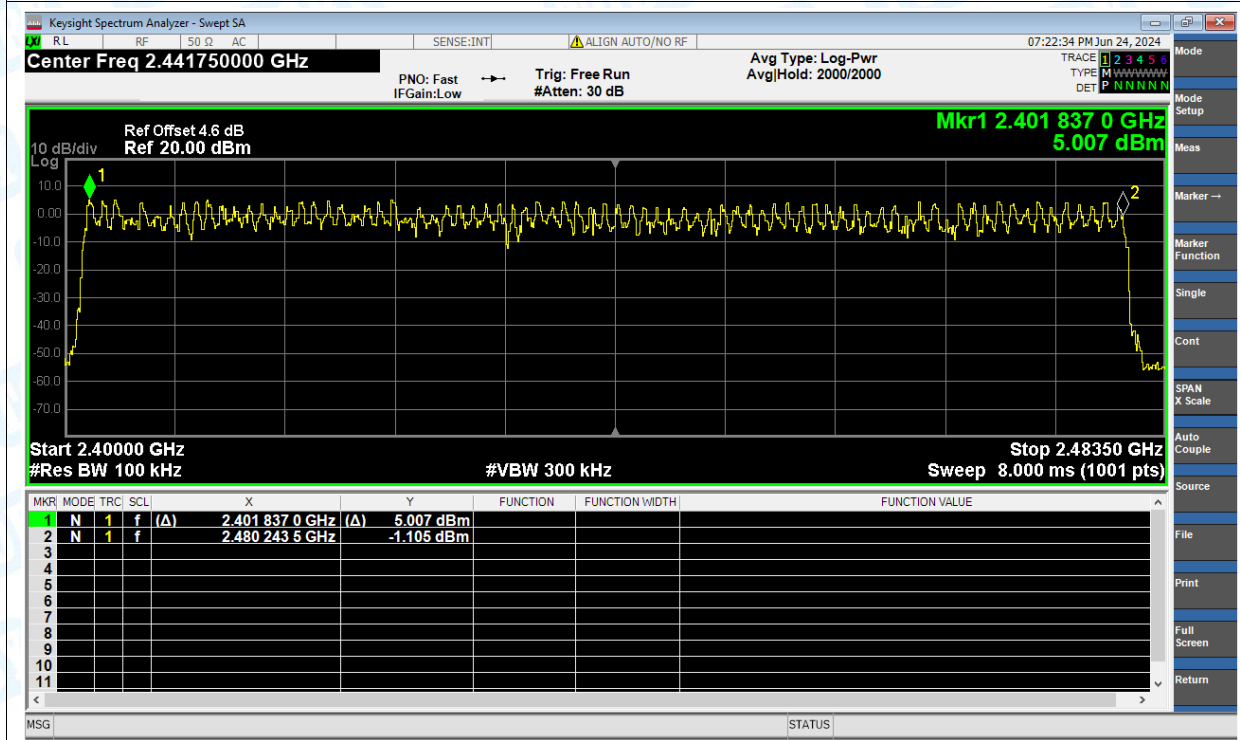
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

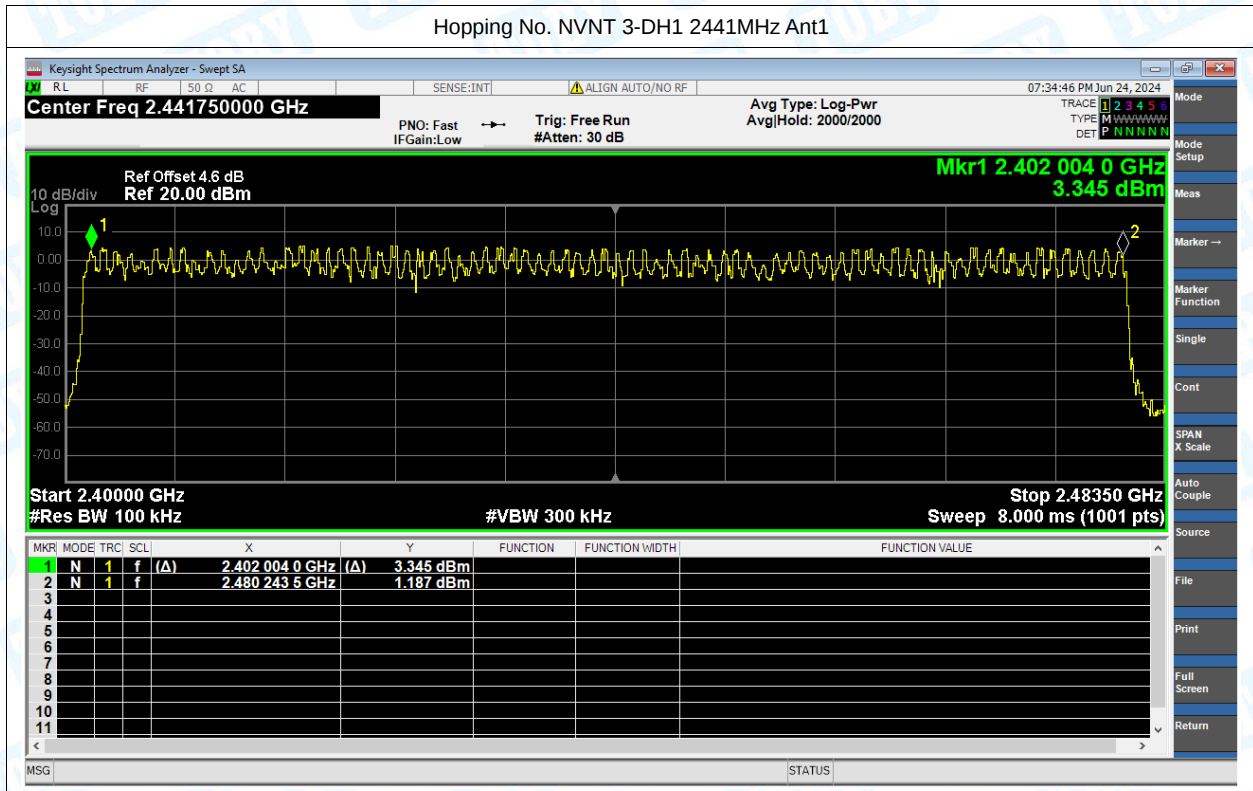
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



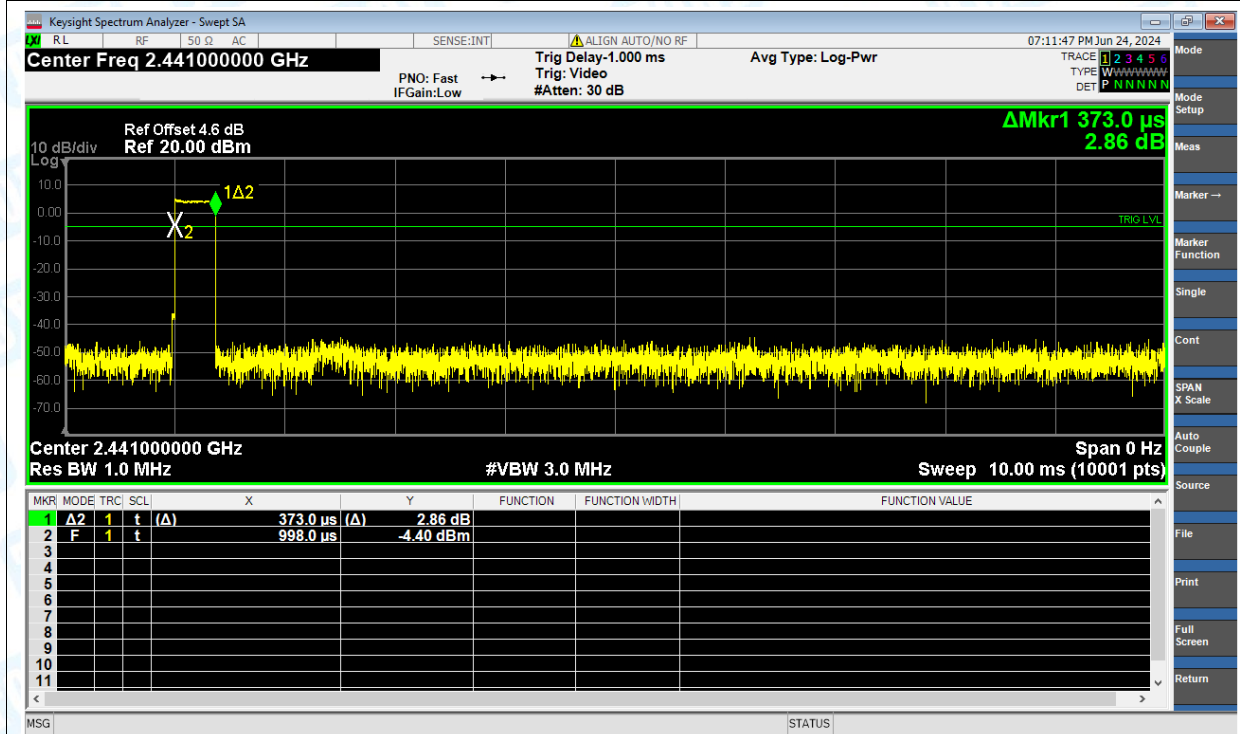


11. Dwell Time

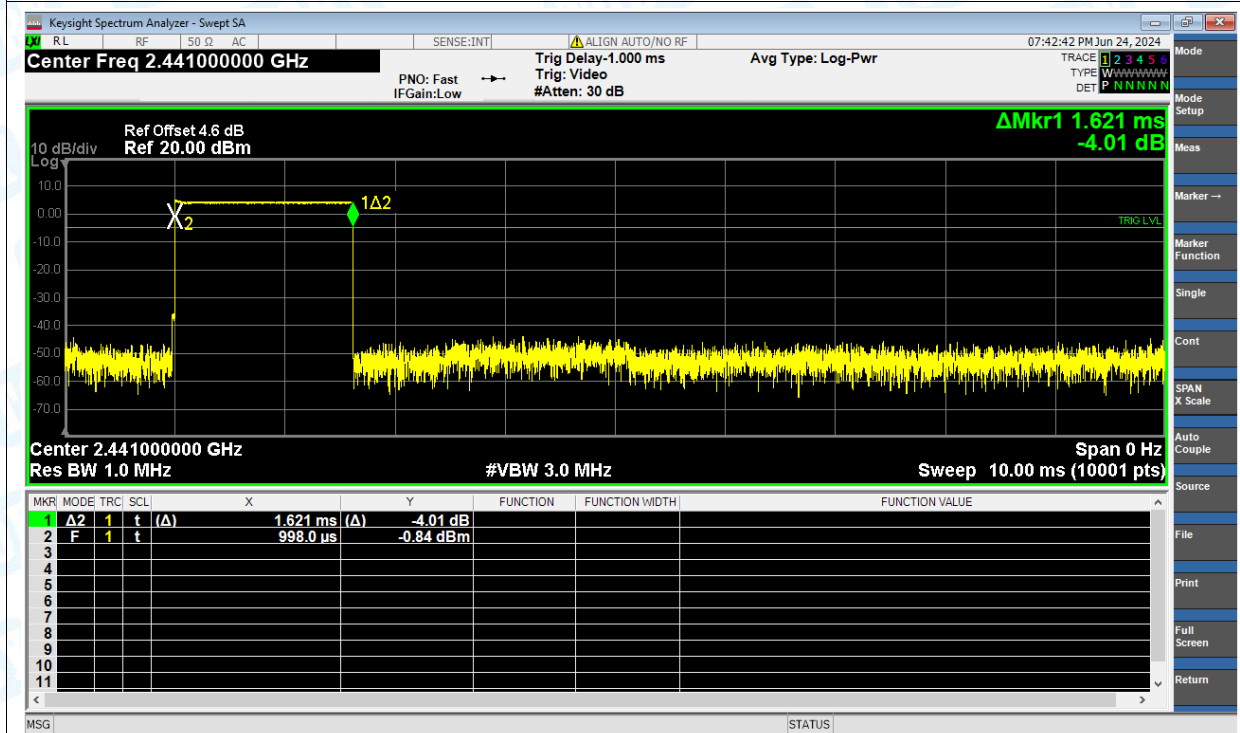
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.373	119.36	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.621	259.36	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.868	305.92	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.38	121.6	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.632	261.12	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.881	307.307	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.38	121.6	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.631	260.96	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.881	307.307	31600	400	Pass

Test Graphs

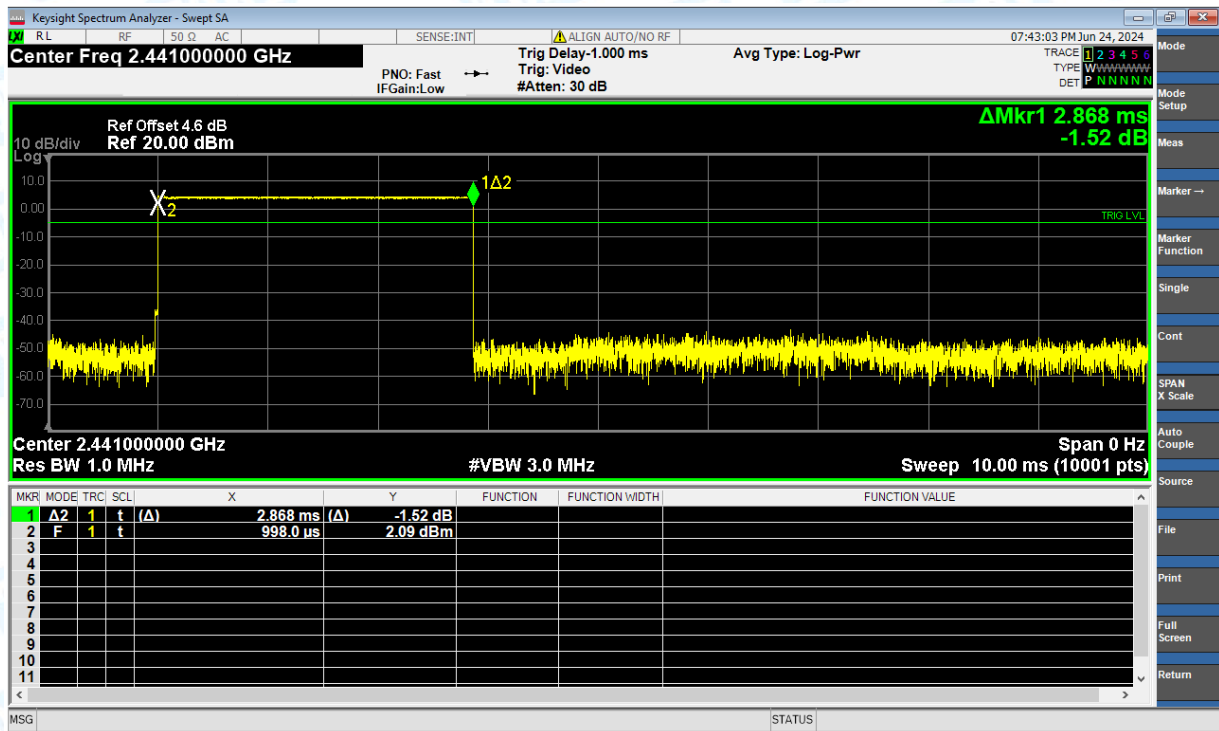
Dwell NVNT 1-DH1 2441MHz Ant1



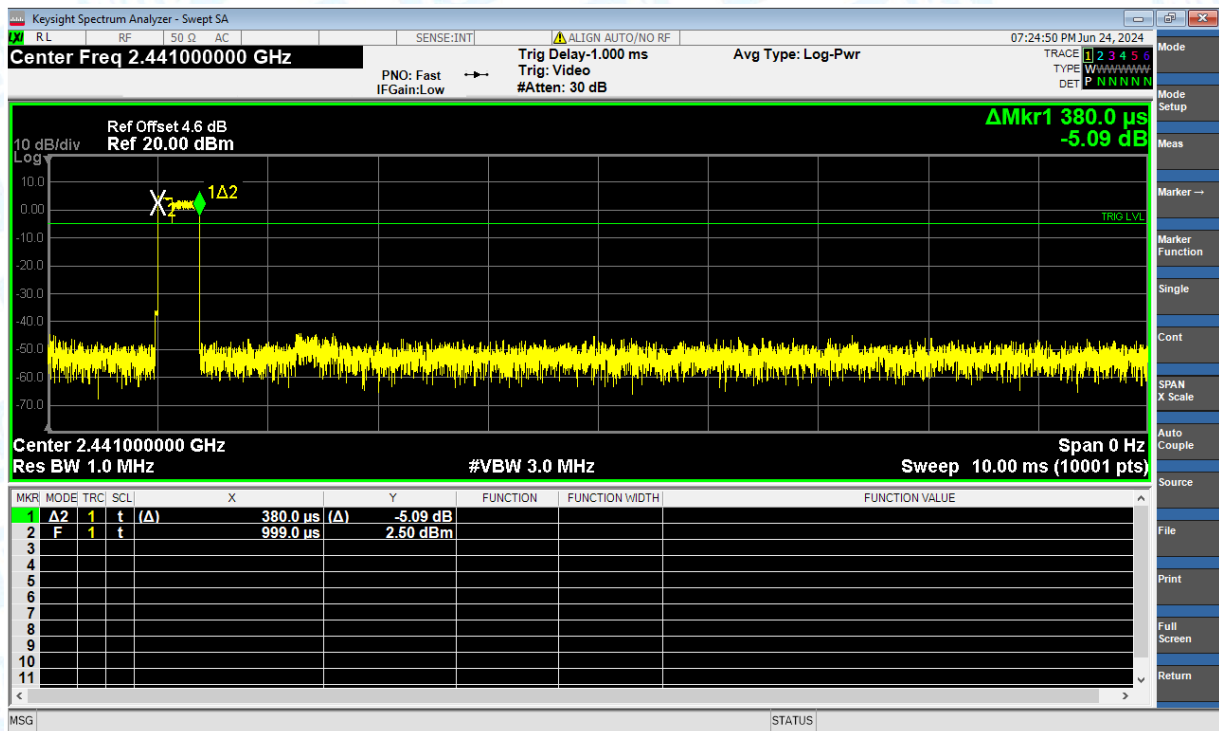
Dwell NVNT 1-DH3 2441MHz Ant1



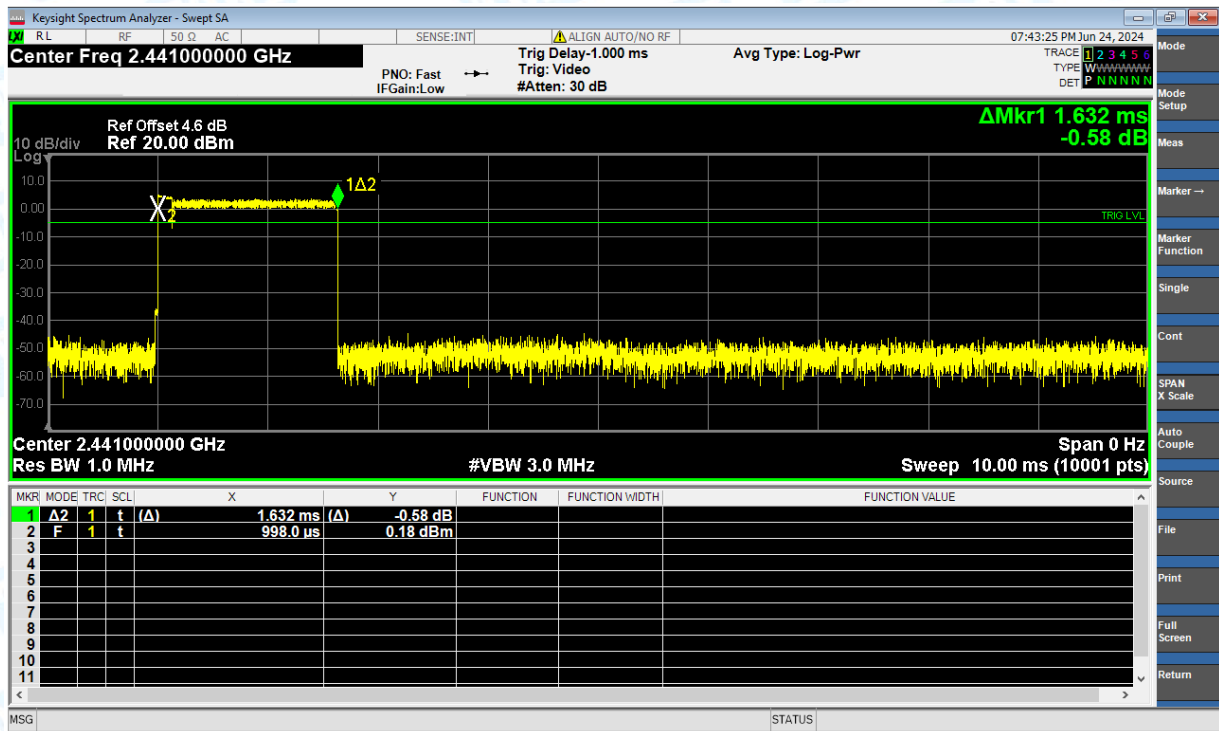
Dwell NVNT 1-DH5 2441MHz Ant1



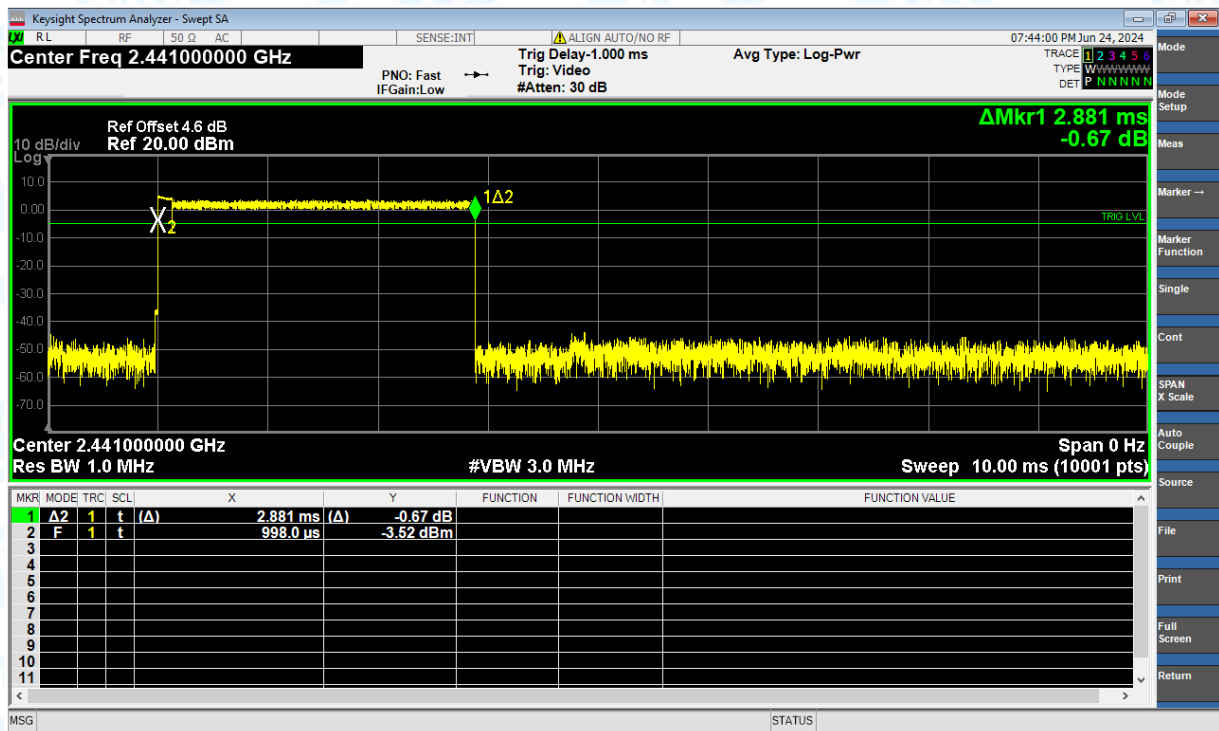
Dwell NVNT 2-DH1 2441MHz Ant1



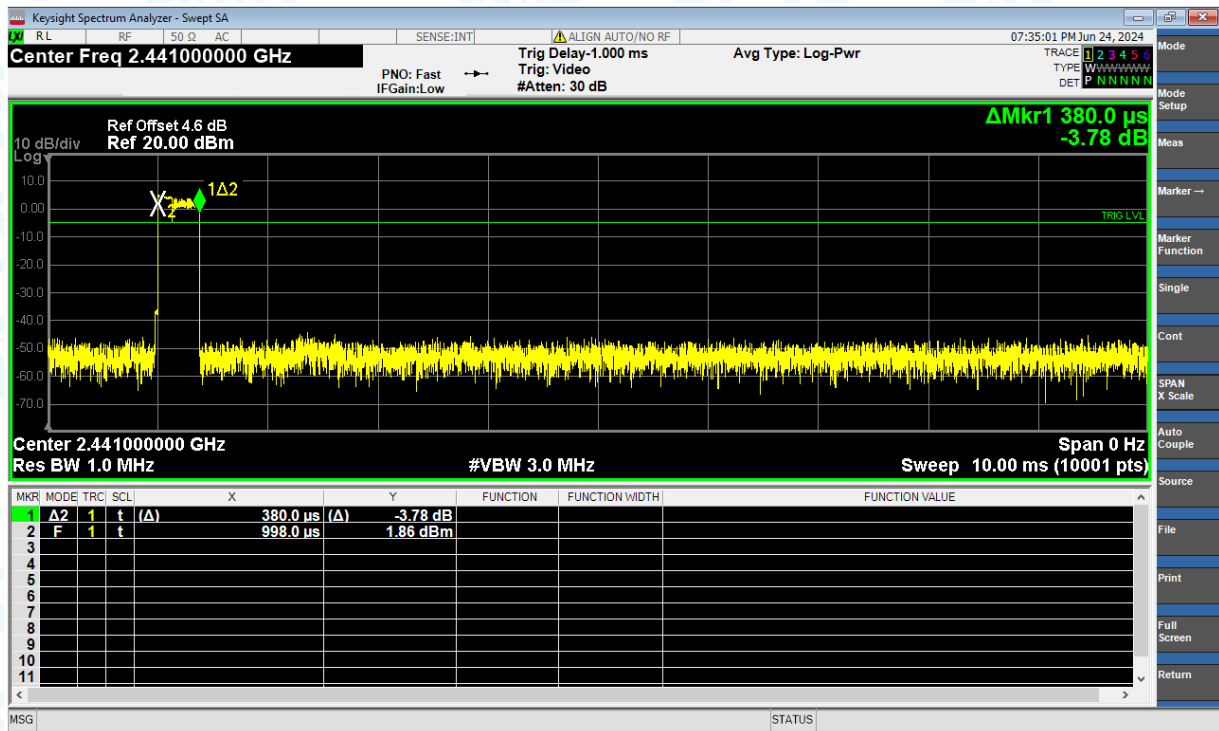
Dwell NVNT 2-DH3 2441MHz Ant1



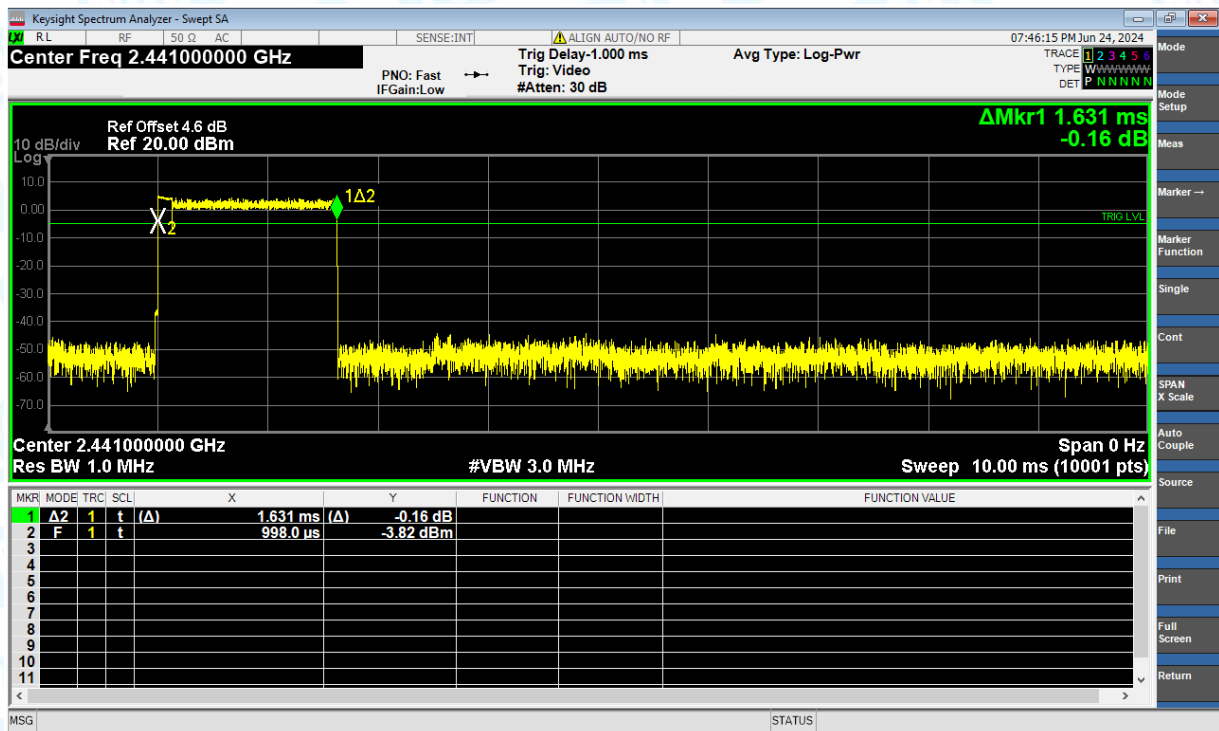
Dwell NVNT 2-DH5 2441MHz Ant1

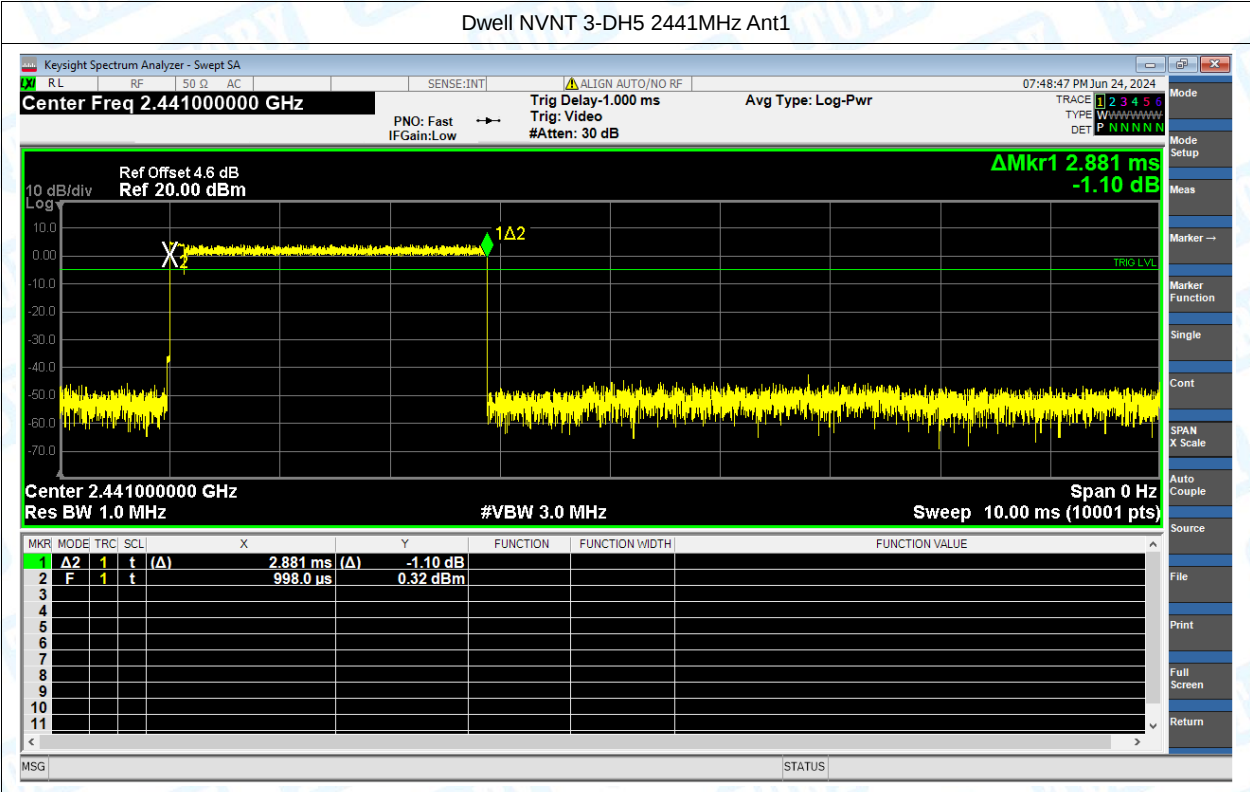


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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