

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Smart Watch
Test Model:	N7
Sample ID:	HC-C-202406-0248-01-01
Environmental Conditions	
Temperature:	24.6℃
Relative Humidity:	52.6%
Test Voltage:	DC 3.8V
Test Engineer:	Jolin Lee
Note: For a more detailed features description, please refer to the report TBR-C-202406-0248-9 The report only show the worst case data.	

Contents

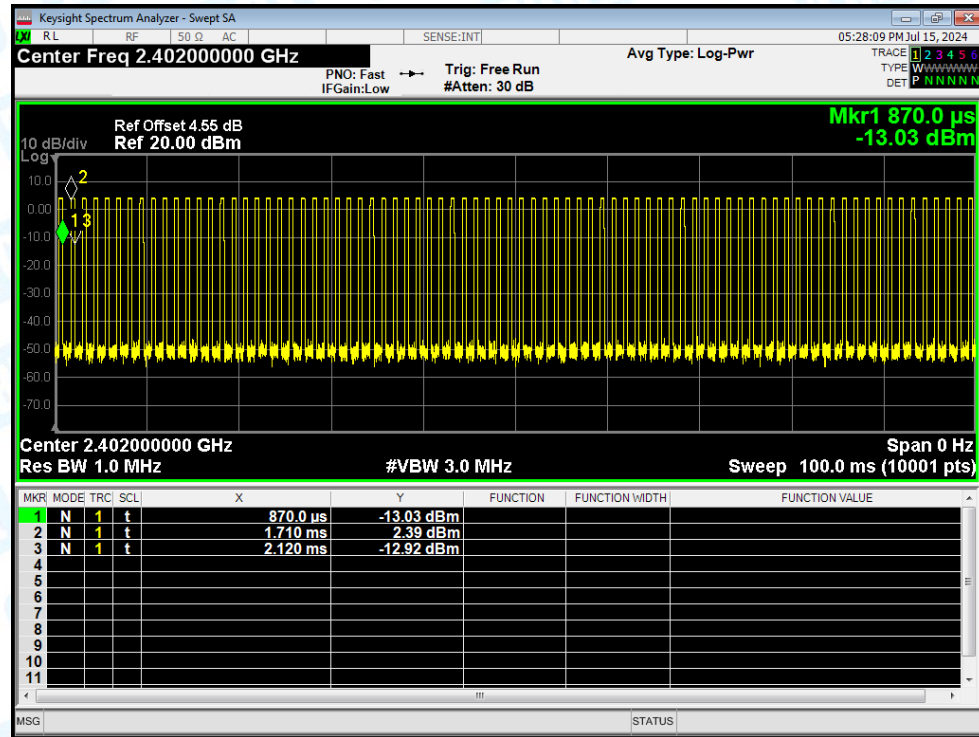
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1. Duty Cycle

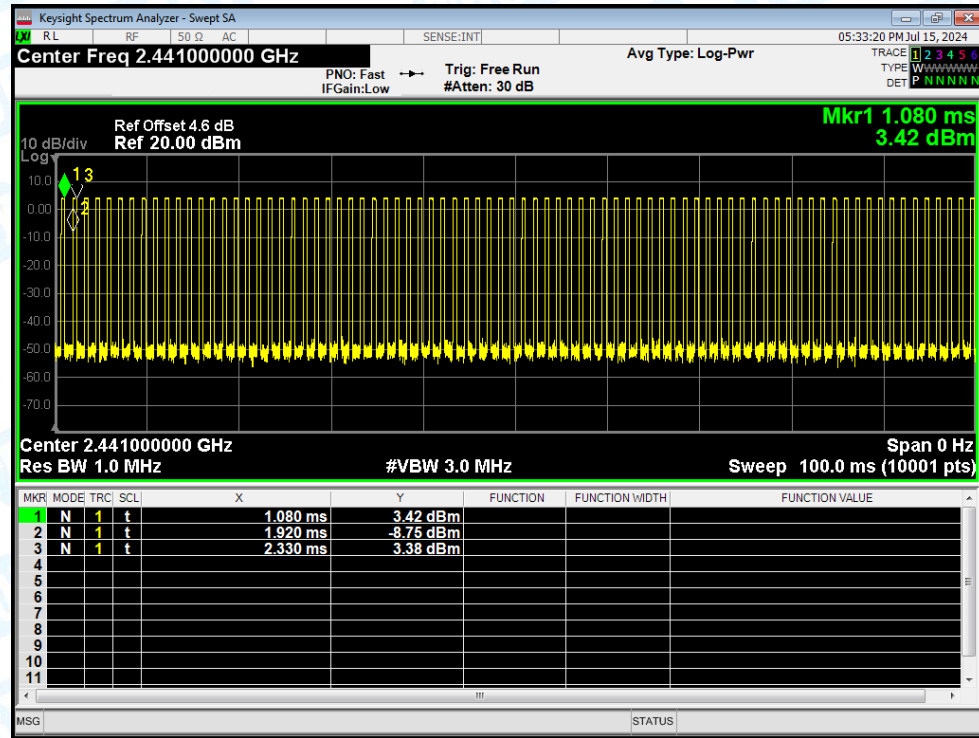
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2402	Ant1	33.6	4.74	2.38
NVNT	2-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	3-DH1	2402	Ant1	33.6	4.74	2.38
NVNT	3-DH1	2441	Ant1	33.33	4.77	2.38
NVNT	3-DH1	2480	Ant1	33.6	4.74	2.38

Test Graphs

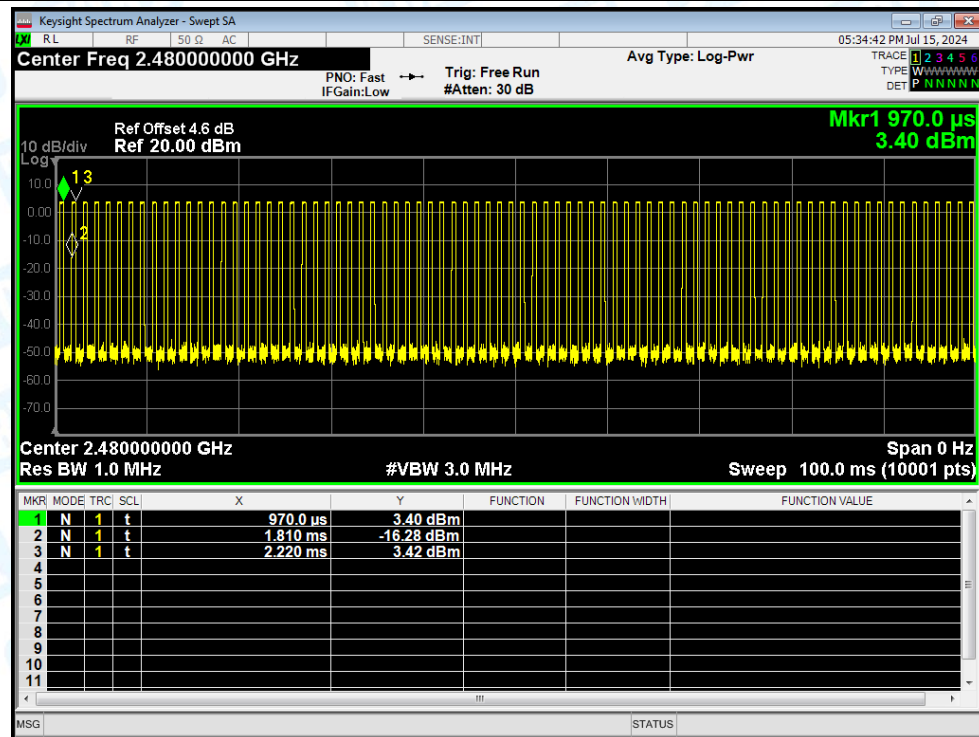
Duty Cycle NVNT 1-DH1 2402MHz Ant1



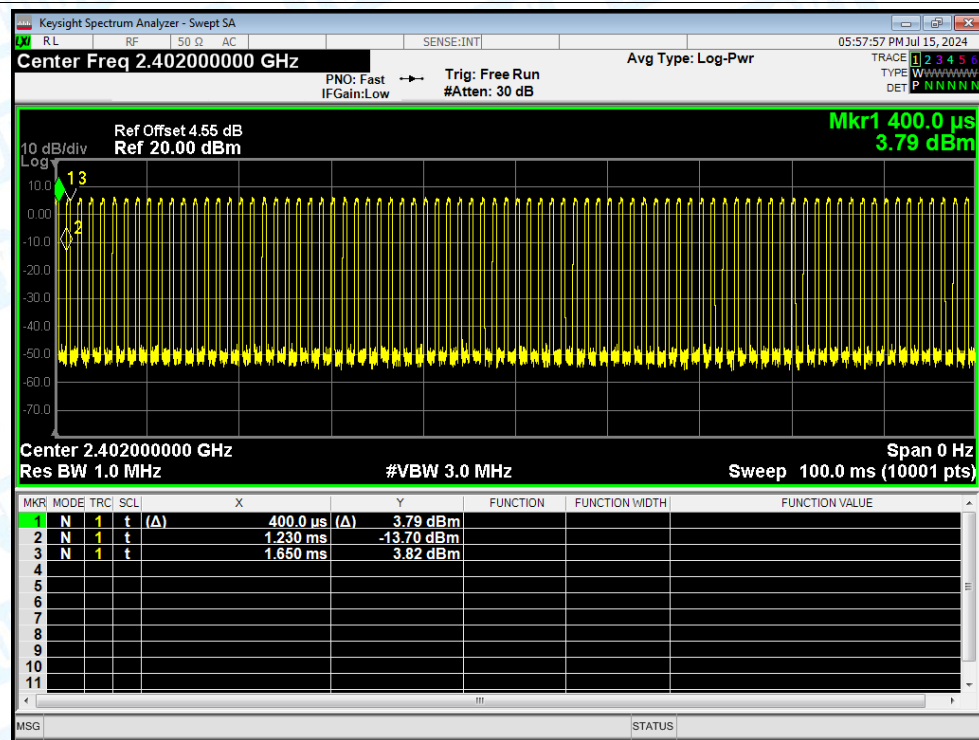
Duty Cycle NVNT 1-DH1 2441MHz Ant1



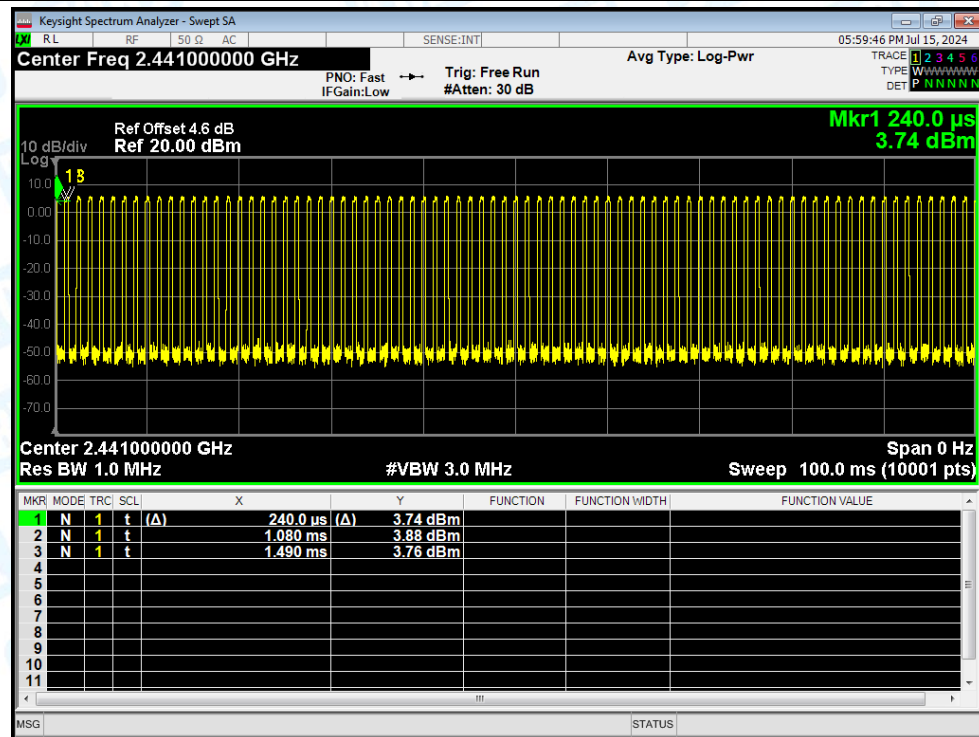
Duty Cycle NVNT 1-DH1 2480MHz Ant1



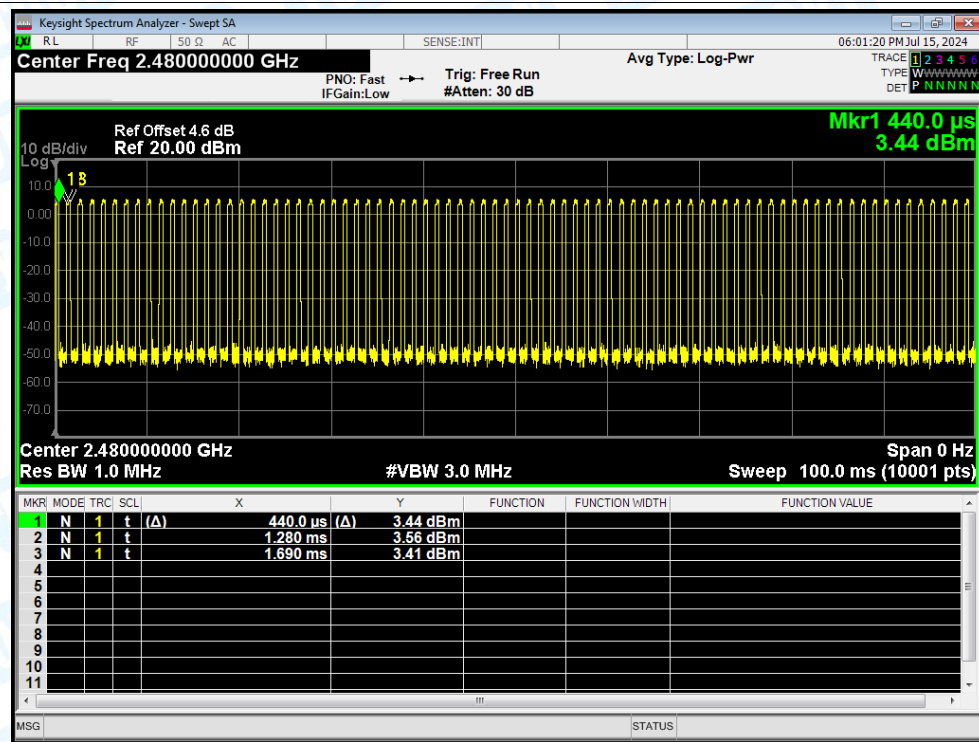
Duty Cycle NVNT 2-DH1 2402MHz Ant1



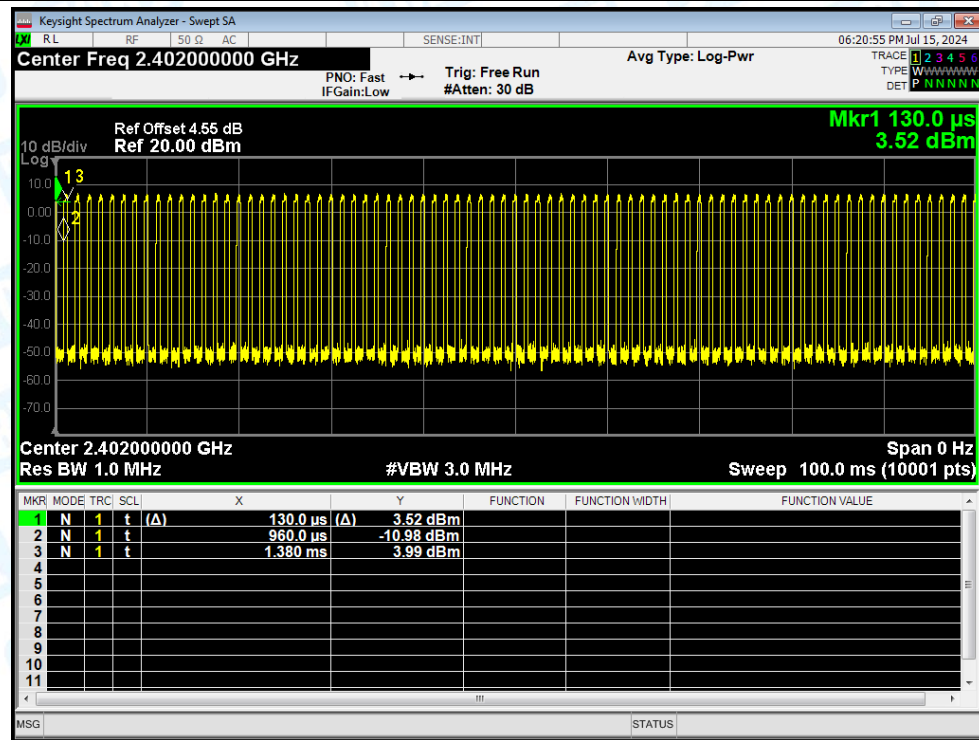
Duty Cycle NVNT 2-DH1 2441MHz Ant1



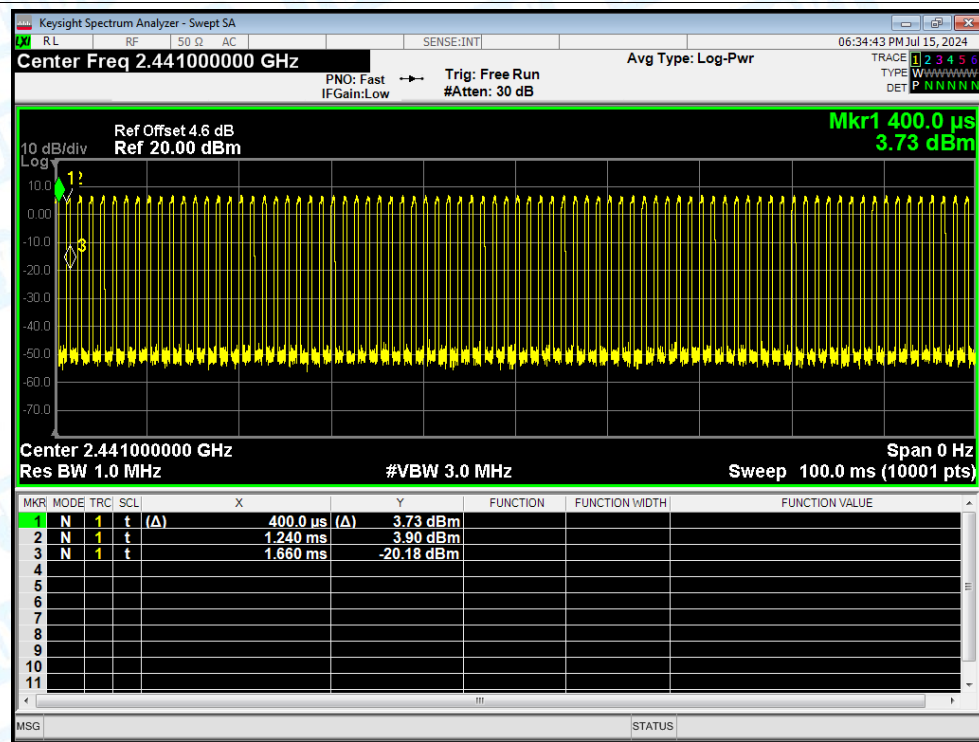
Duty Cycle NVNT 2-DH1 2480MHz Ant1

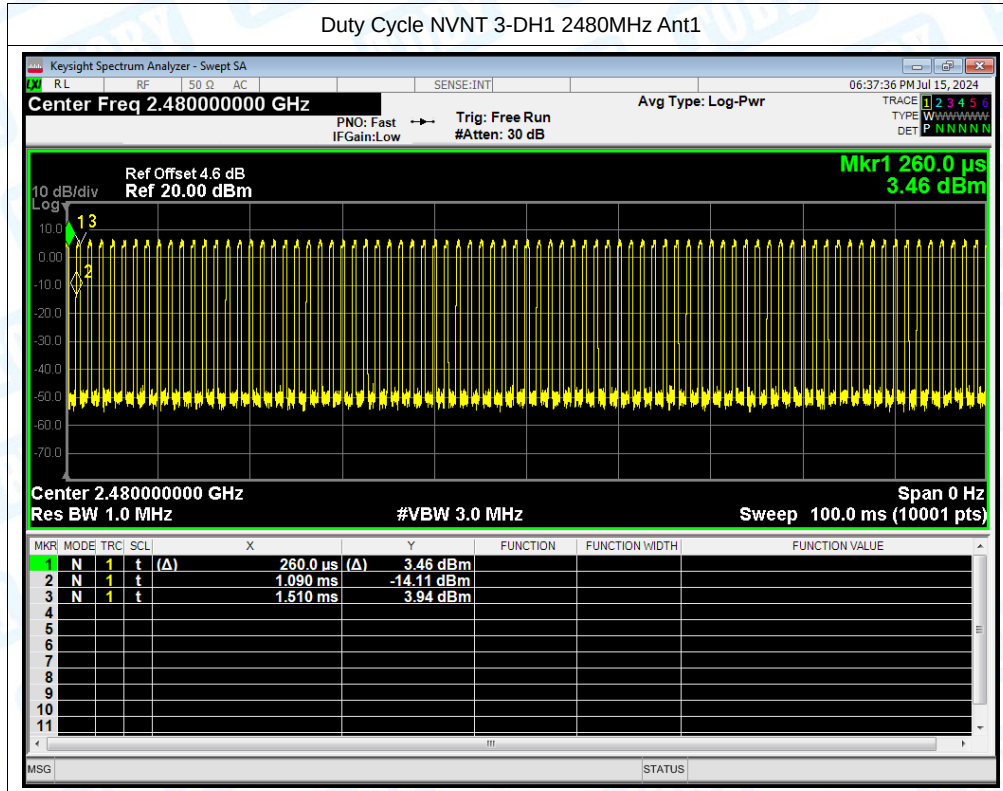


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



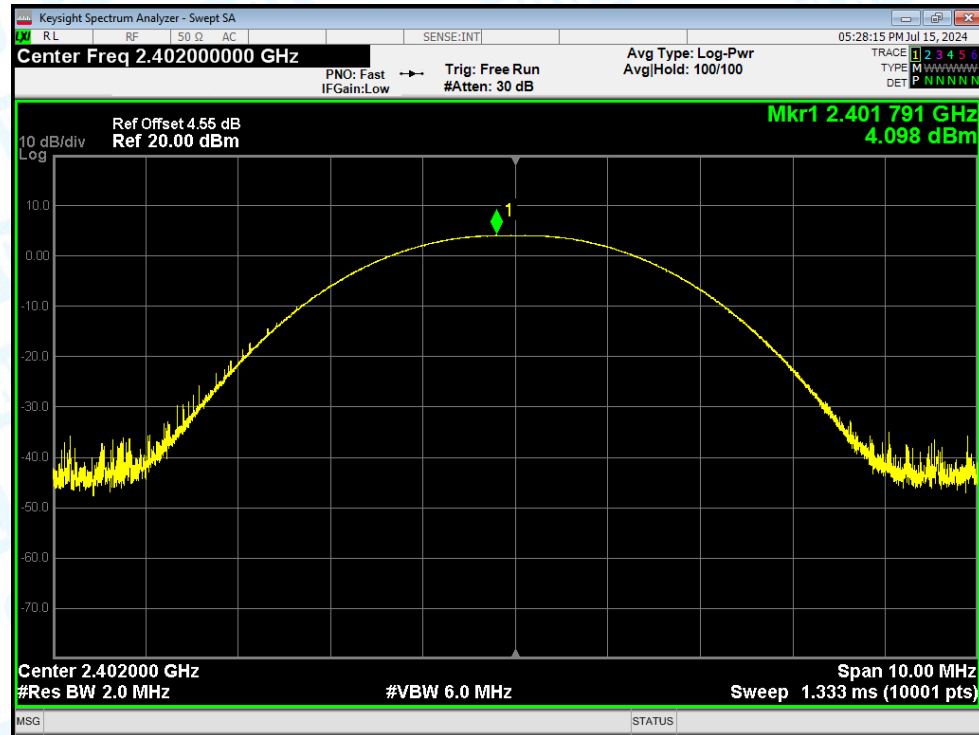


2. Maximum Conducted Output Power

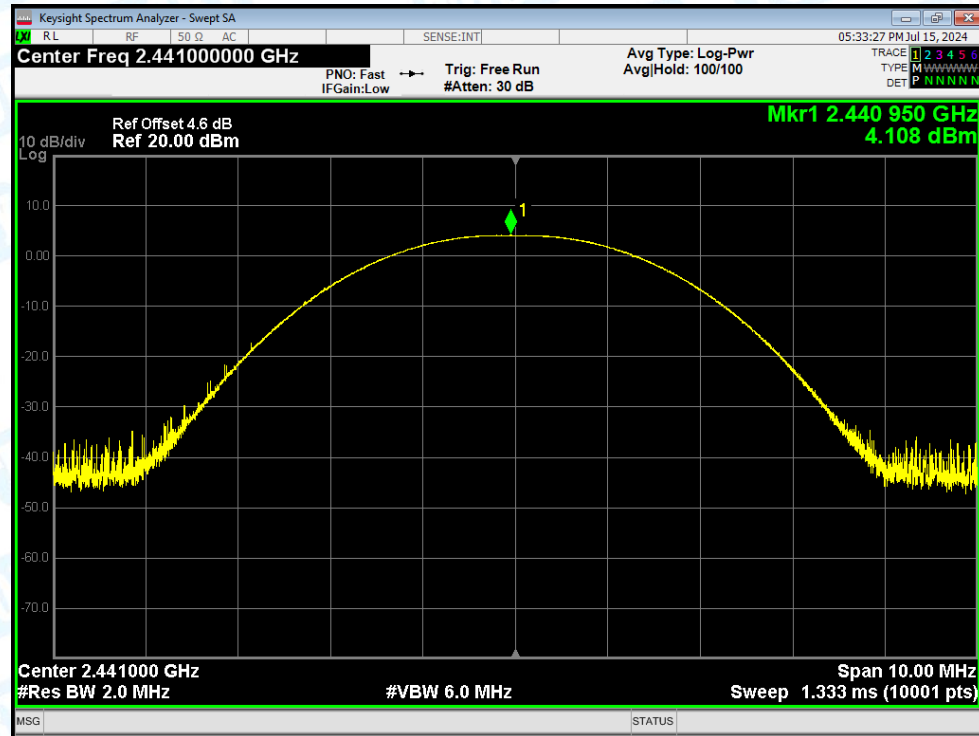
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	4.098	21	Pass
NVNT	1-DH1	2441	Ant1	4.108	21	Pass
NVNT	1-DH1	2480	Ant1	3.724	21	Pass
NVNT	1-DH3	2441	Ant1	4.49	21	Pass
NVNT	1-DH5	2441	Ant1	4.46	21	Pass
NVNT	2-DH1	2402	Ant1	6.359	21	Pass
NVNT	2-DH1	2441	Ant1	6.296	21	Pass
NVNT	2-DH1	2480	Ant1	5.948	21	Pass
NVNT	2-DH3	2441	Ant1	6.768	21	Pass
NVNT	2-DH5	2441	Ant1	6.657	21	Pass
NVNT	3-DH1	2402	Ant1	4.215	21	Pass
NVNT	3-DH1	2441	Ant1	4.123	21	Pass
NVNT	3-DH1	2480	Ant1	3.956	21	Pass
NVNT	3-DH3	2441	Ant1	4.296	21	Pass
NVNT	3-DH5	2441	Ant1	3.721	21	Pass

Test Graphs

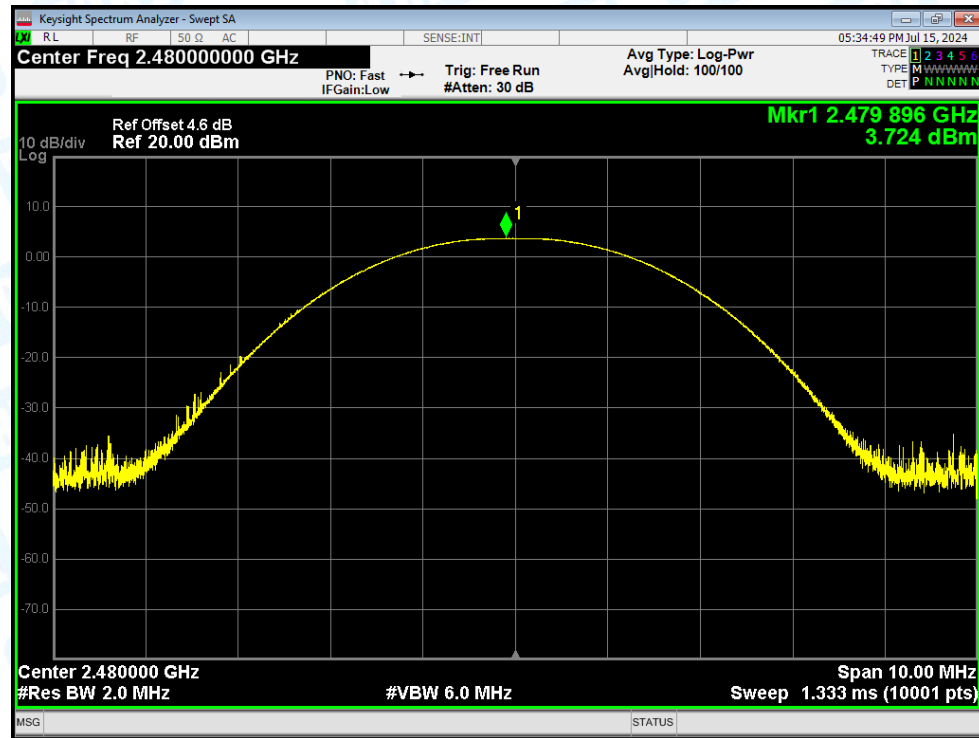
Power NVNT 1-DH1 2402MHz Ant1



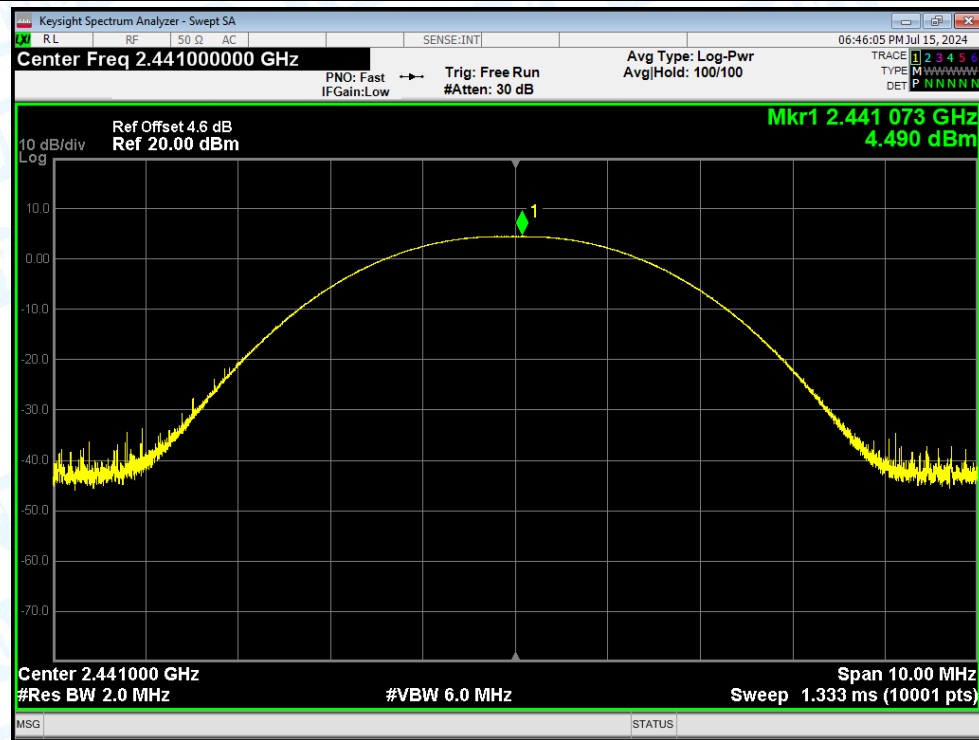
Power NVNT 1-DH1 2441MHz Ant1



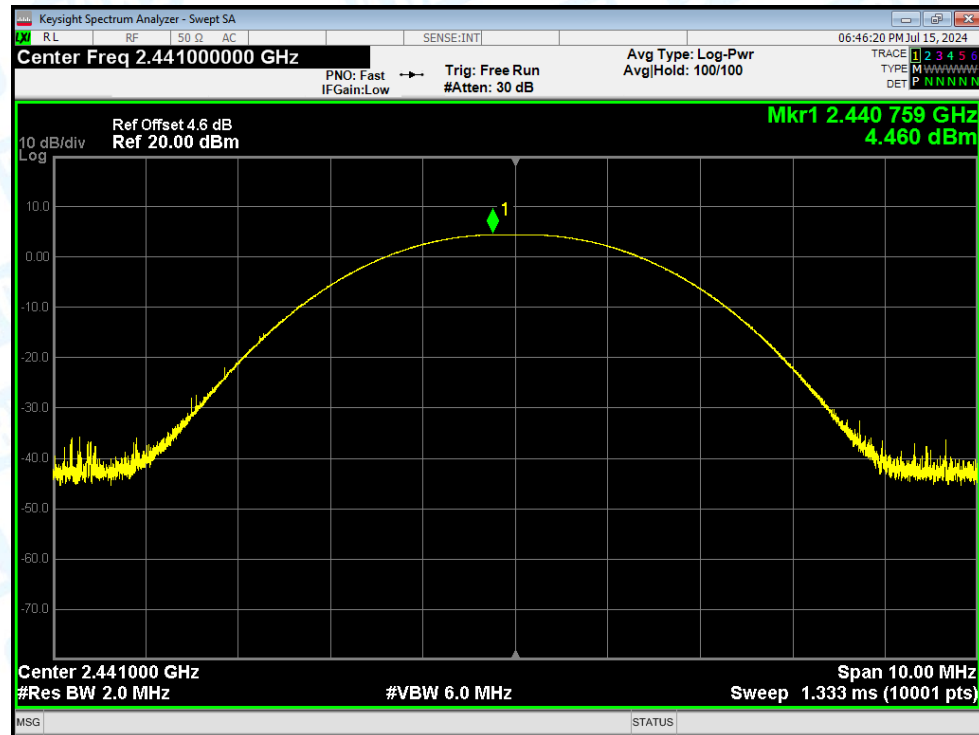
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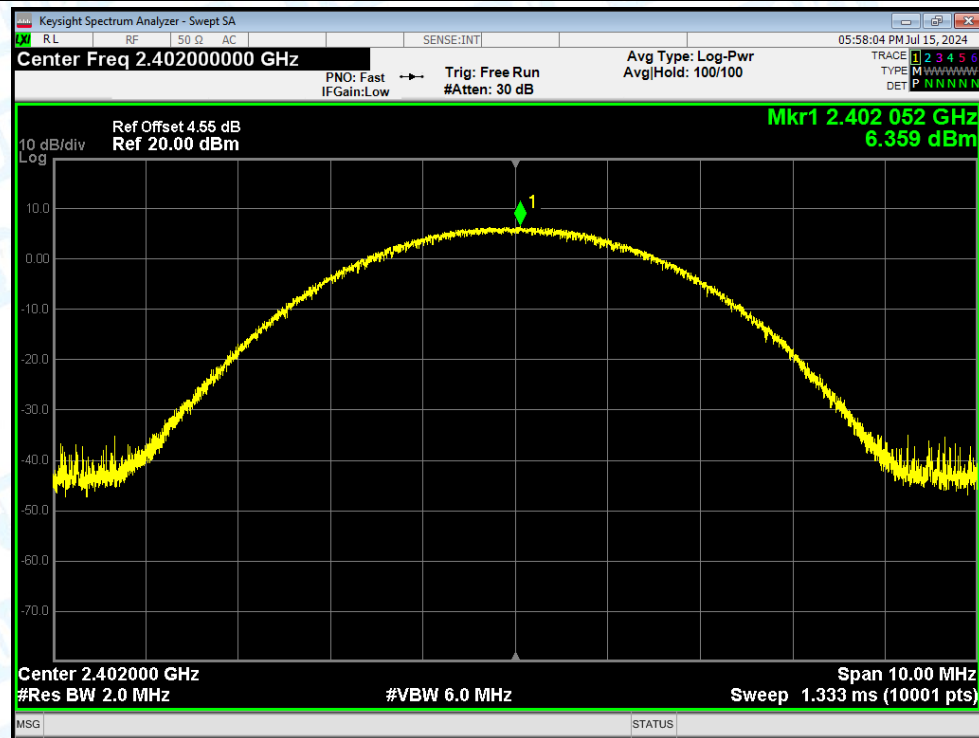
Power NVNT 1-DH3 2441MHz Ant1



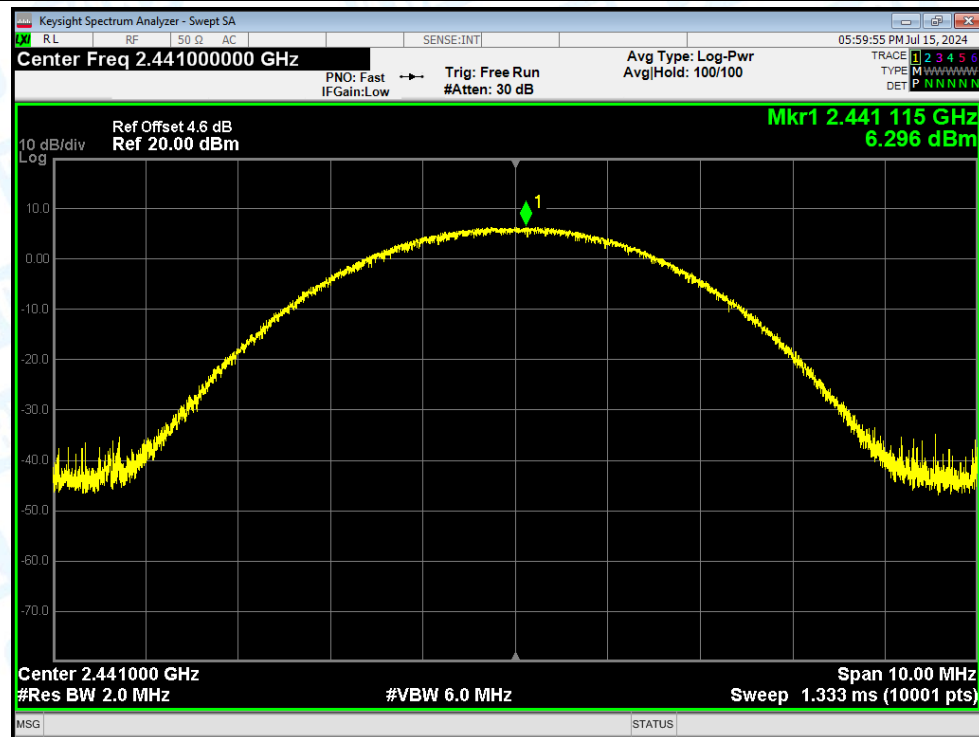
Power NVNT 1-DH5 2441MHz Ant1



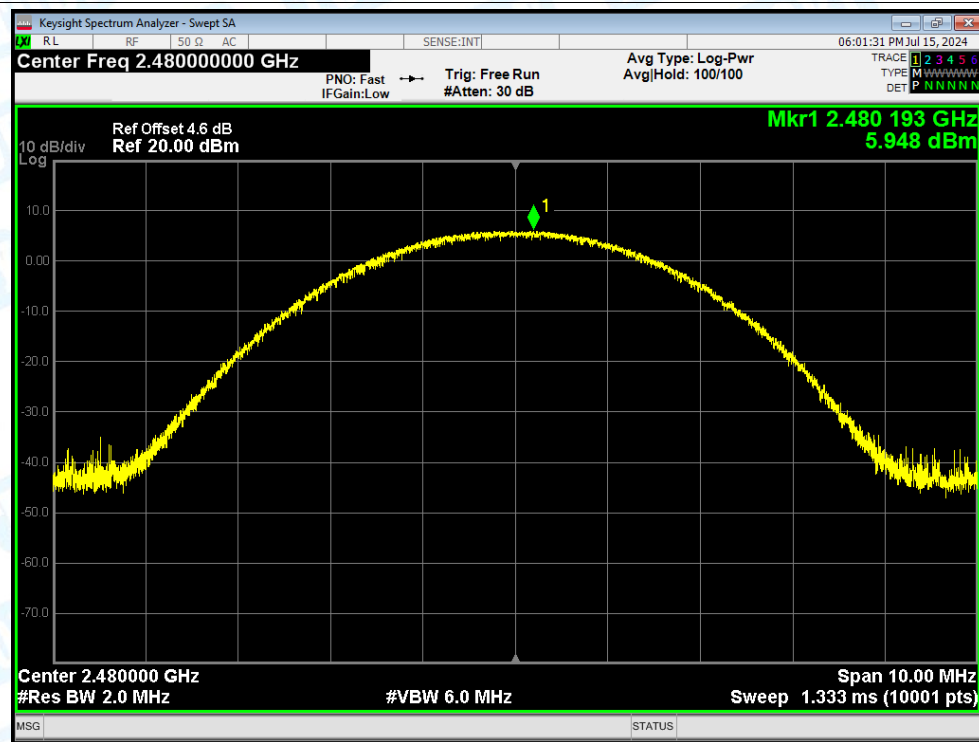
Power NVNT 2-DH1 2402MHz Ant1



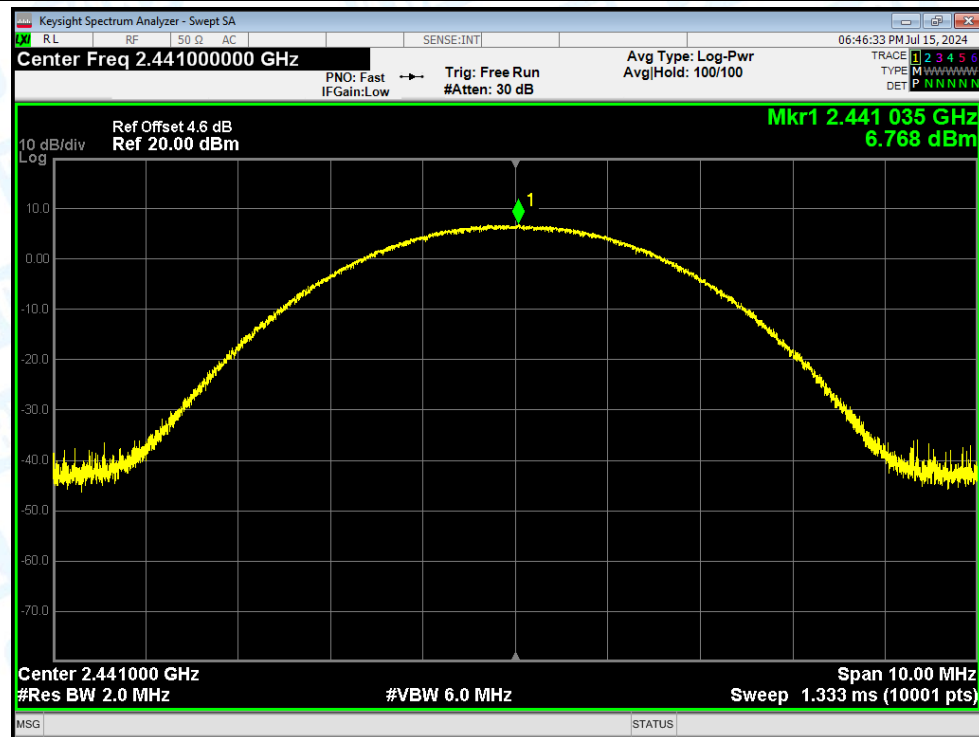
Power NVNT 2-DH1 2441MHz Ant1



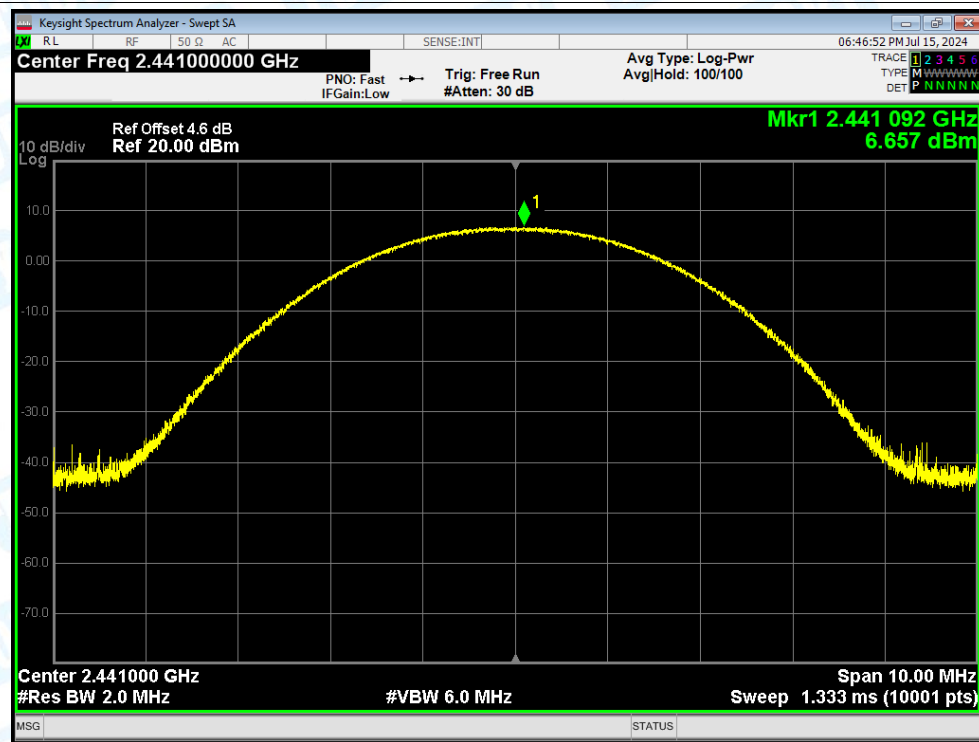
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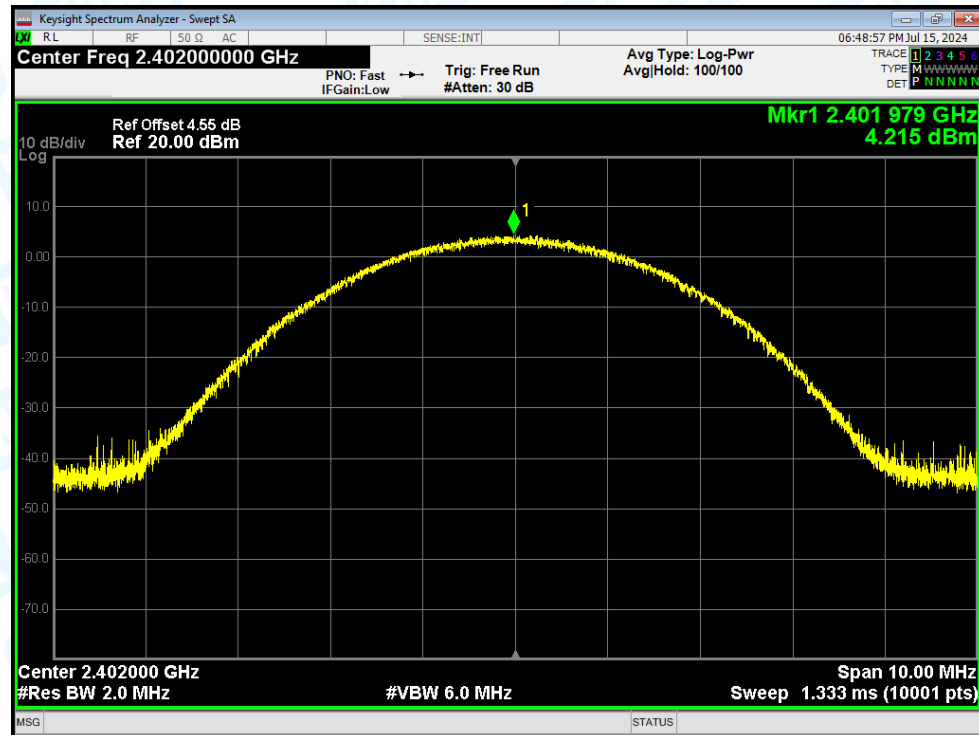
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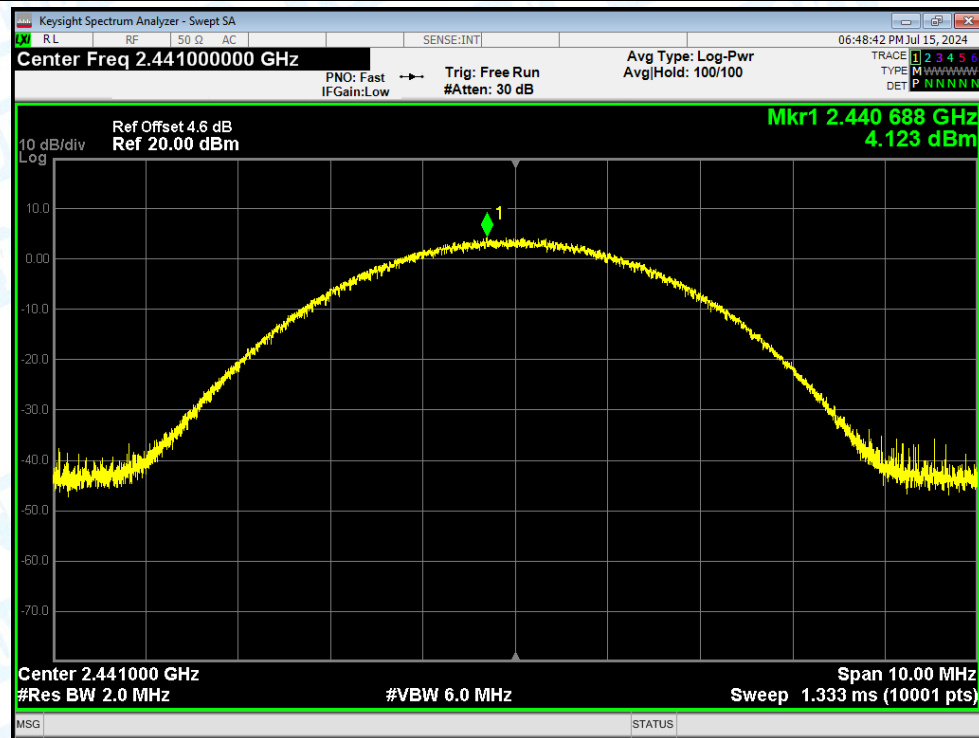
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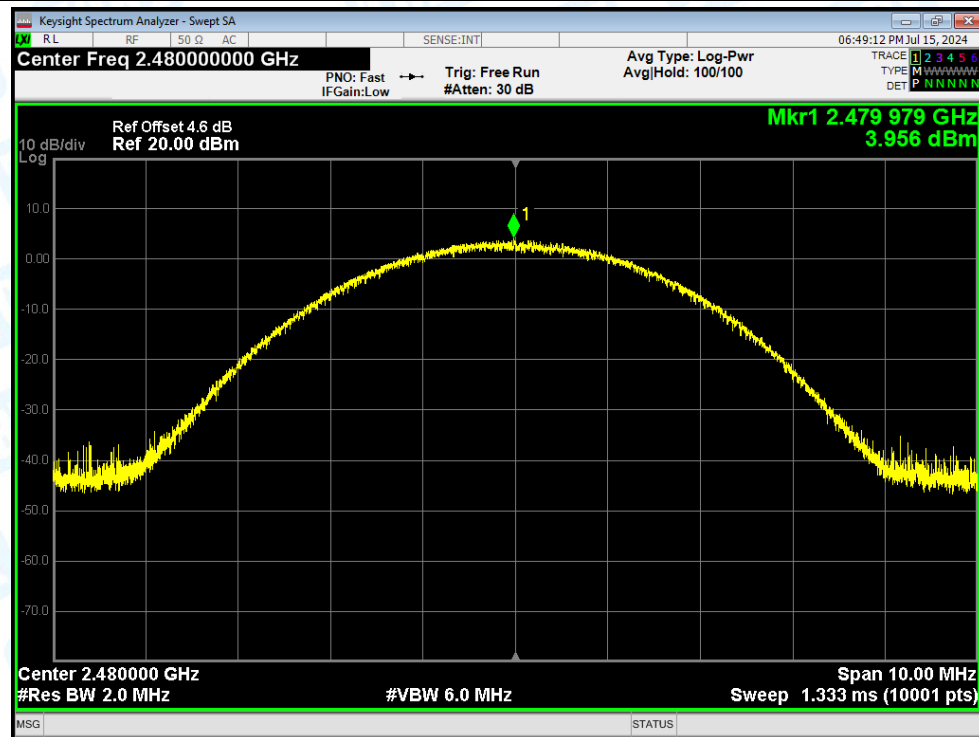
Power NVNT 3-DH1 2402MHz Ant1



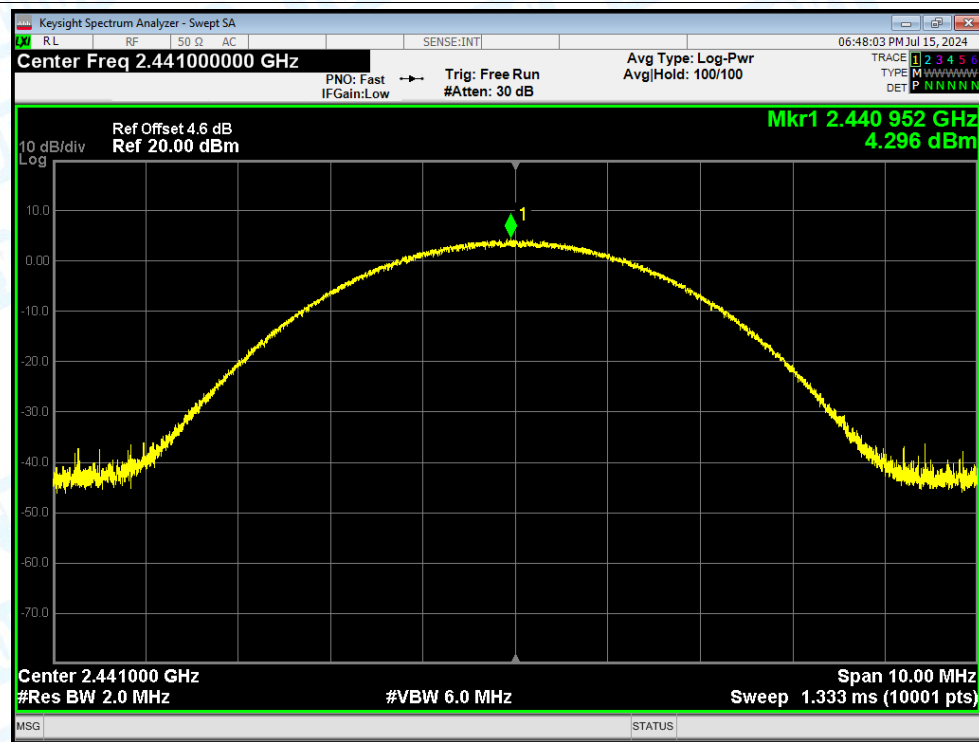
Power NVNT 3-DH1 2441MHz Ant1

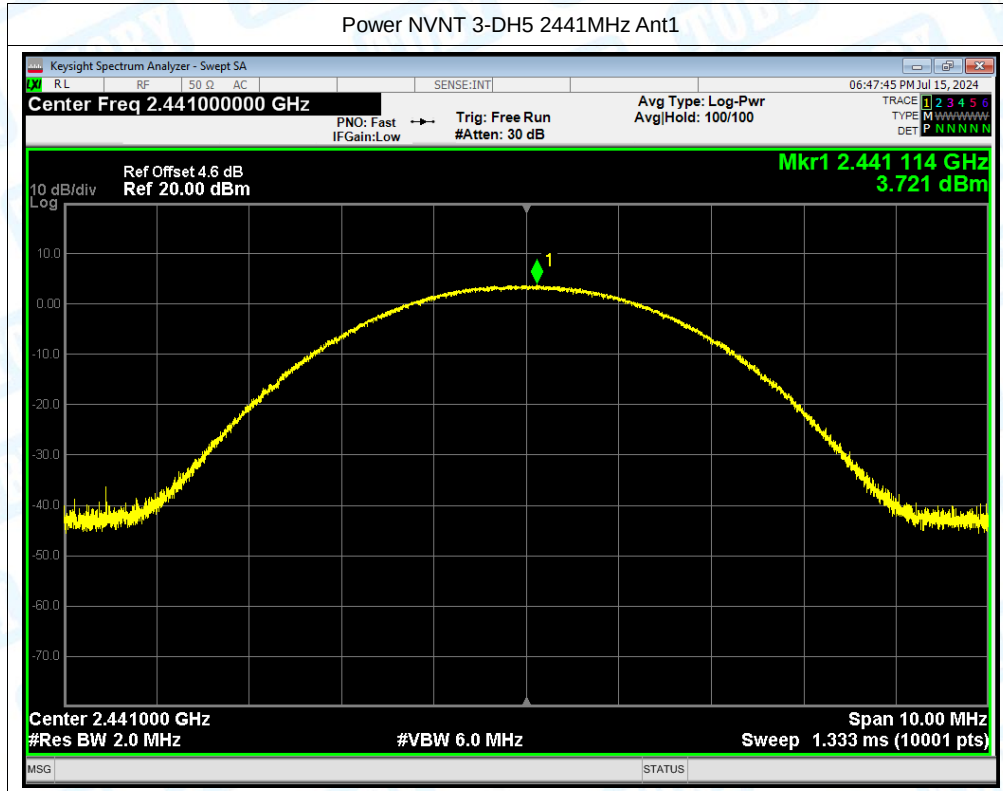


Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1



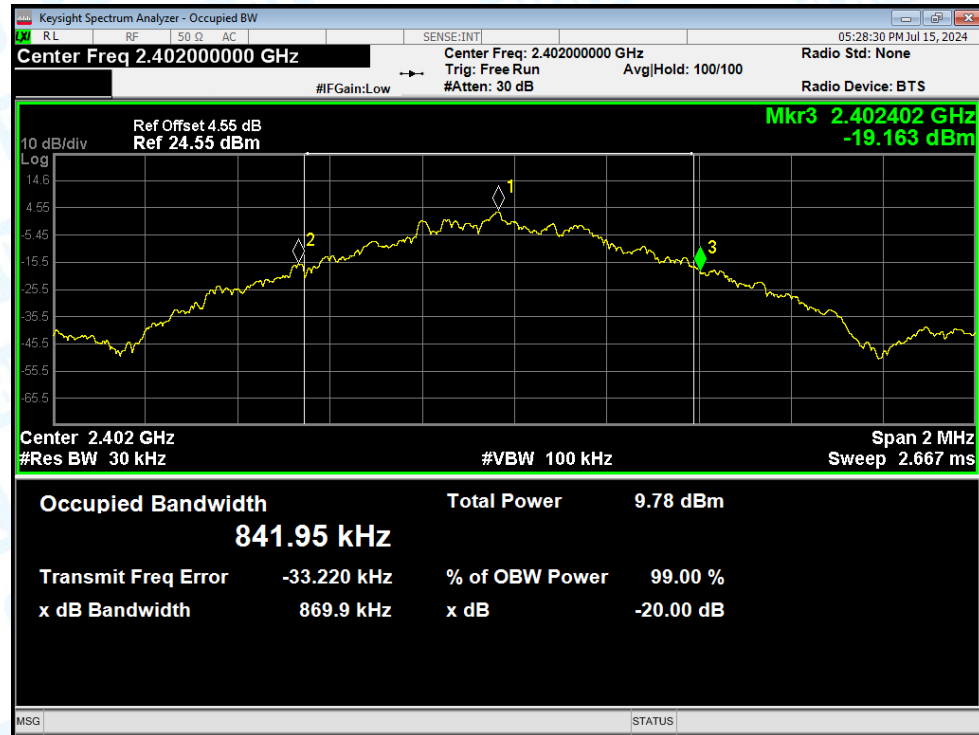


3. -20dB Bandwidth

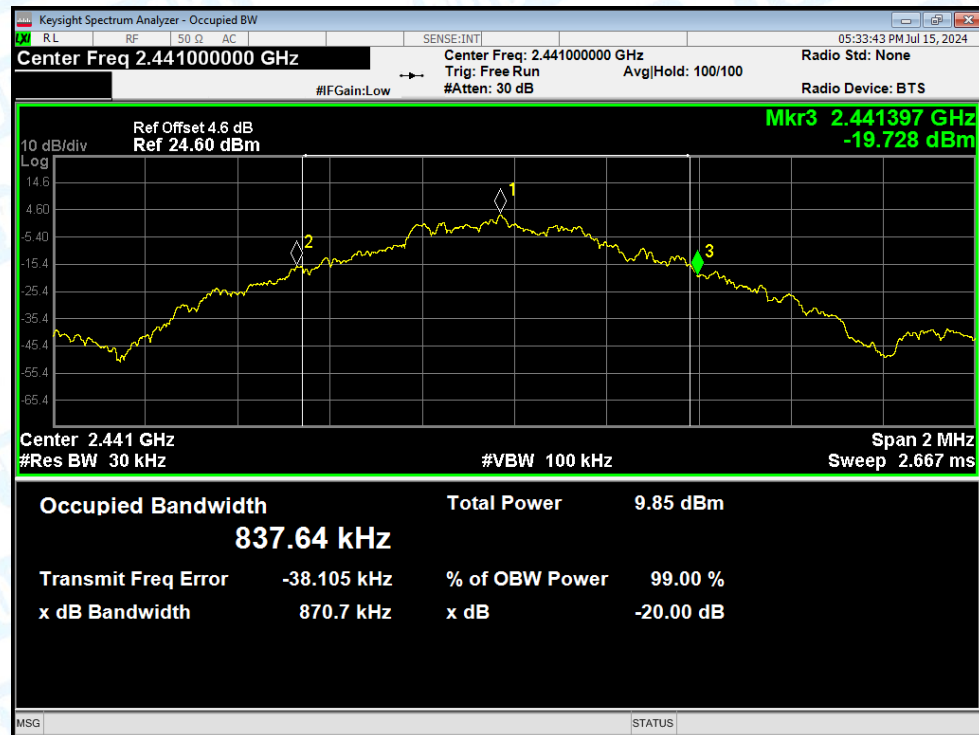
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.87	0	Pass
NVNT	1-DH1	2441	Ant1	0.87	0	Pass
NVNT	1-DH1	2480	Ant1	0.83	0	Pass
NVNT	2-DH1	2402	Ant1	1.23	0	Pass
NVNT	2-DH1	2441	Ant1	1.25	0	Pass
NVNT	2-DH1	2480	Ant1	1.24	0	Pass
NVNT	3-DH1	2402	Ant1	1.22	0	Pass
NVNT	3-DH1	2441	Ant1	1.22	0	Pass
NVNT	3-DH1	2480	Ant1	1.22	0	Pass

Test Graphs

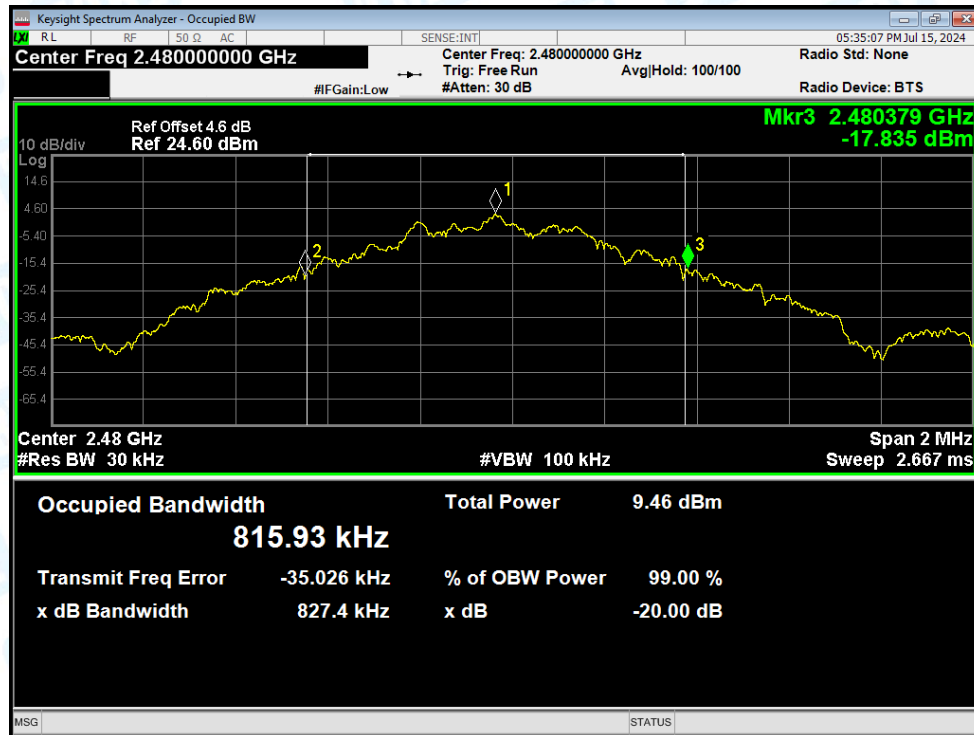
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



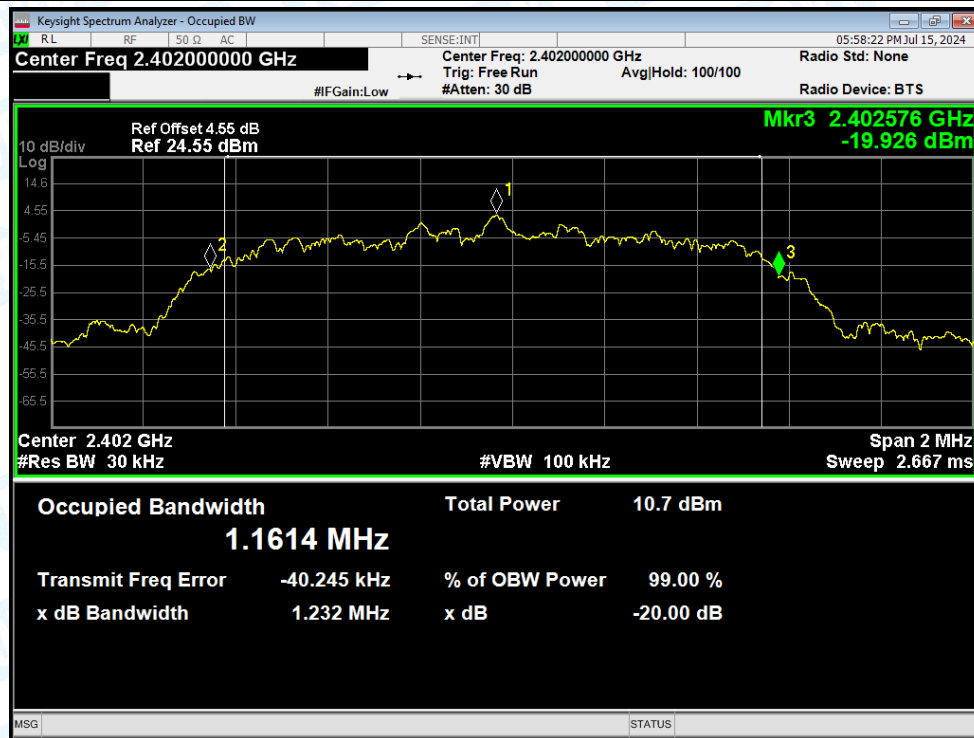
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



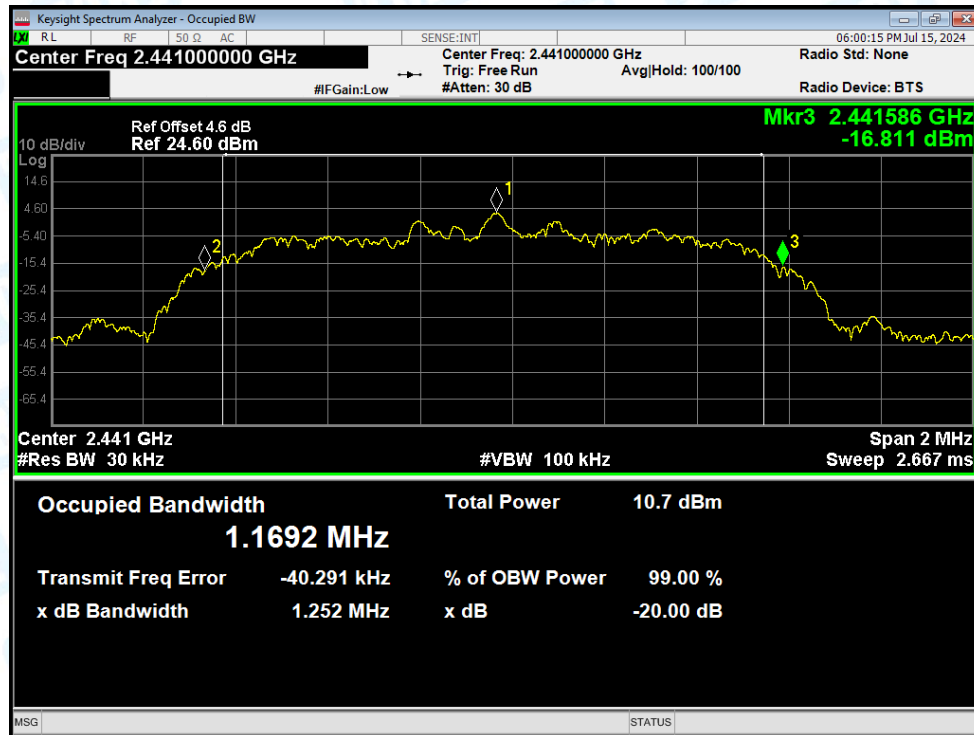
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



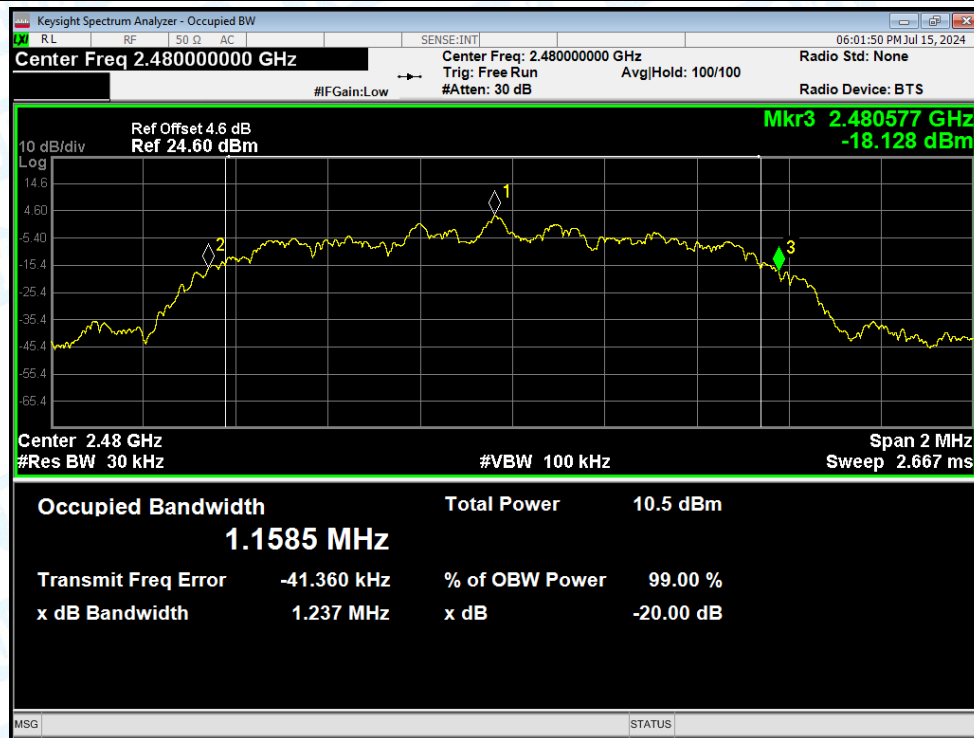
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



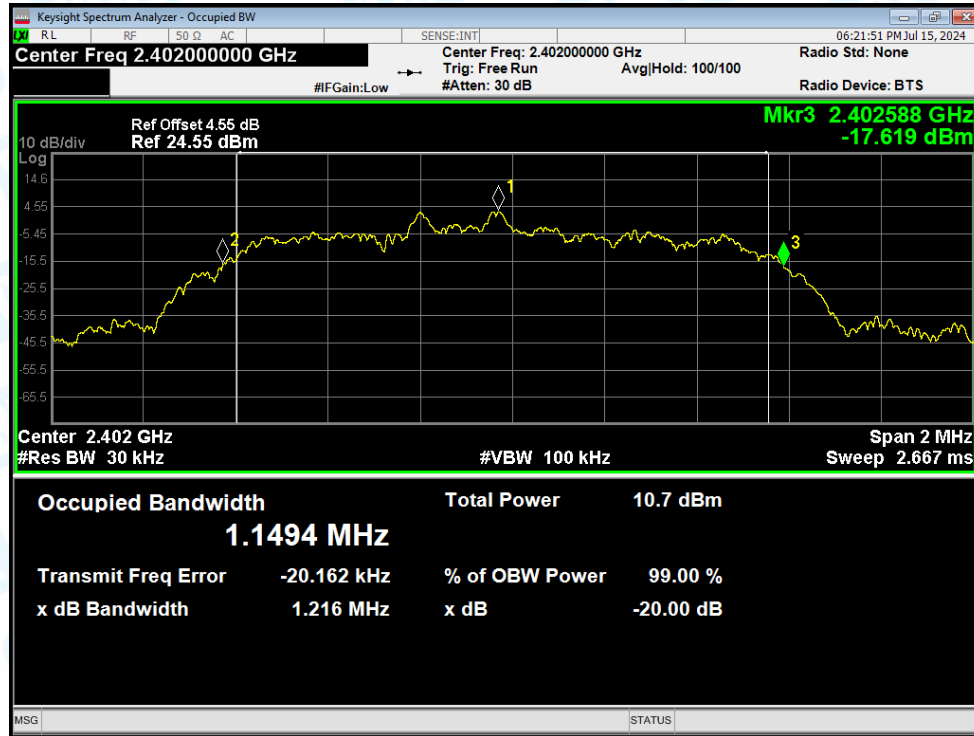
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



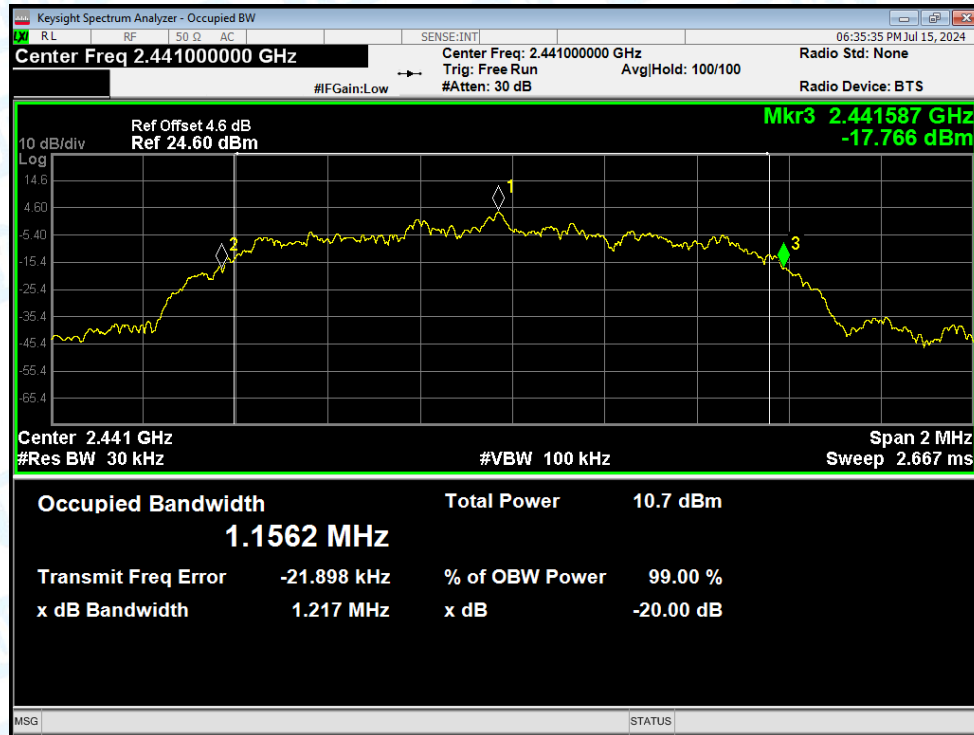
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

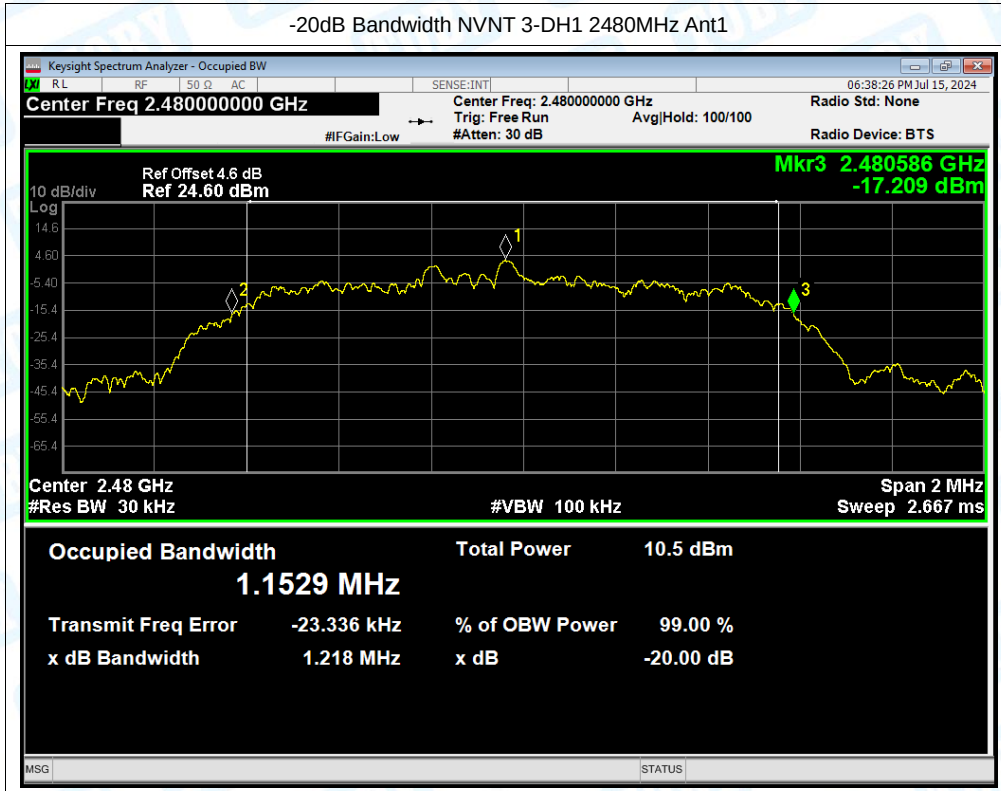


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



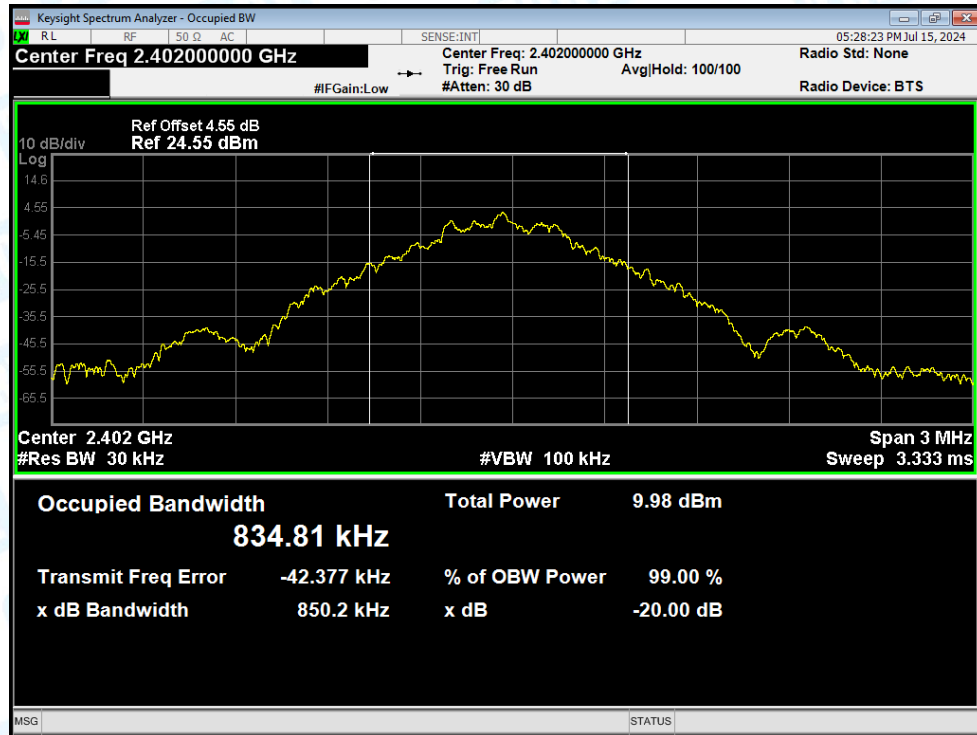


4. Occupied Channel Bandwidth

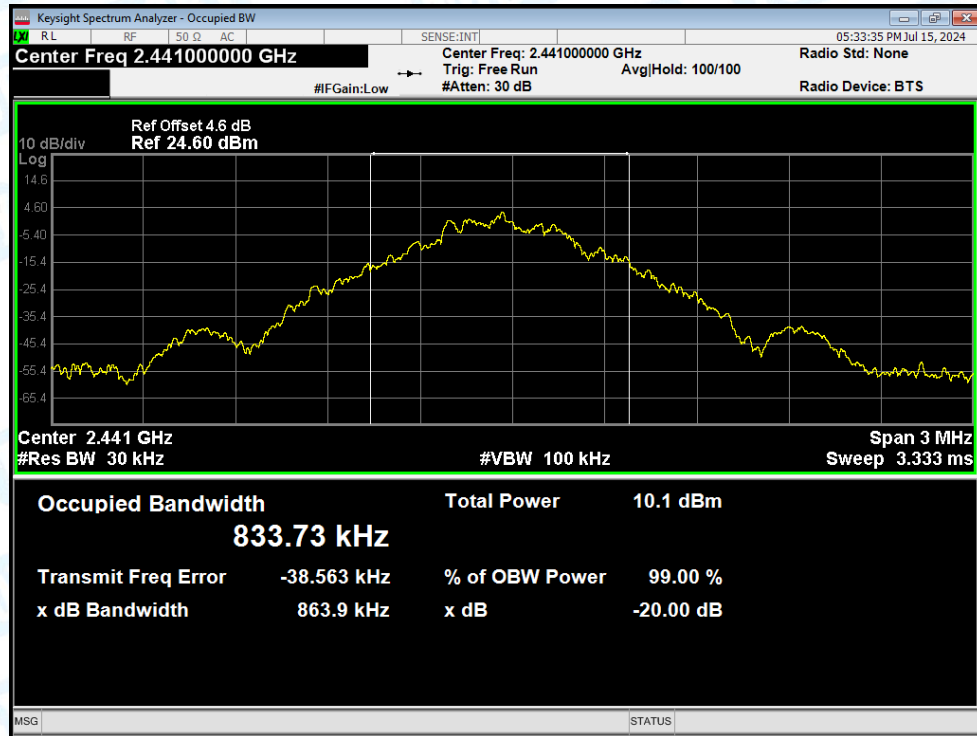
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.835
NVNT	1-DH1	2441	Ant1	0.834
NVNT	1-DH1	2480	Ant1	0.847
NVNT	2-DH1	2402	Ant1	1.164
NVNT	2-DH1	2441	Ant1	1.169
NVNT	2-DH1	2480	Ant1	1.164
NVNT	3-DH1	2402	Ant1	1.153
NVNT	3-DH1	2441	Ant1	1.148
NVNT	3-DH1	2480	Ant1	1.157

Test Graphs

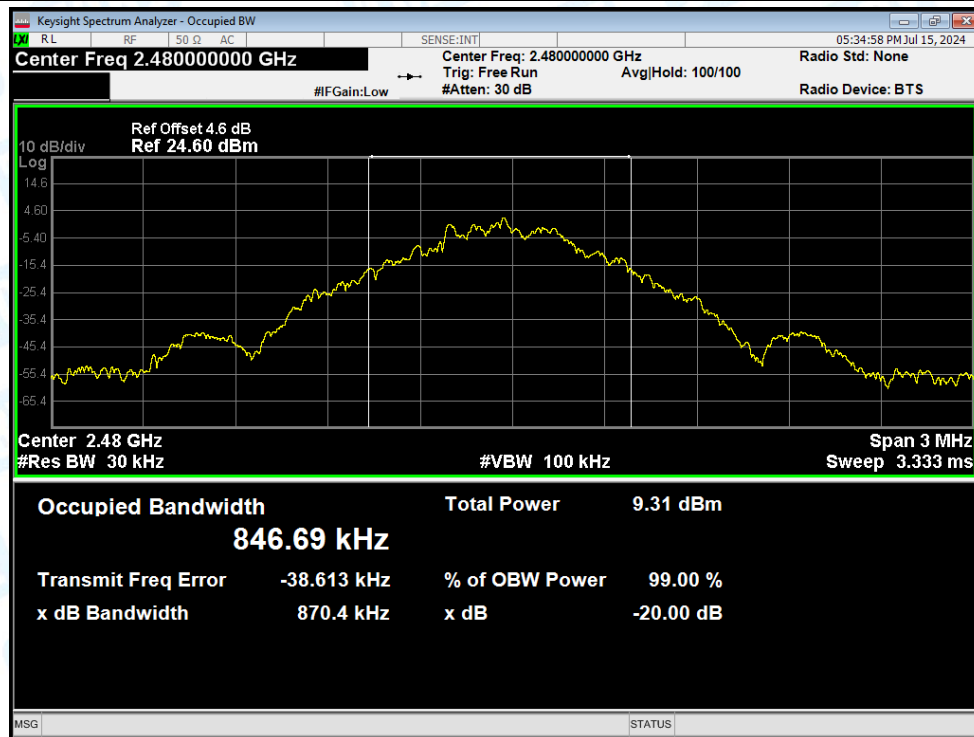
OBW NVNT 1-DH1 2402MHz Ant1



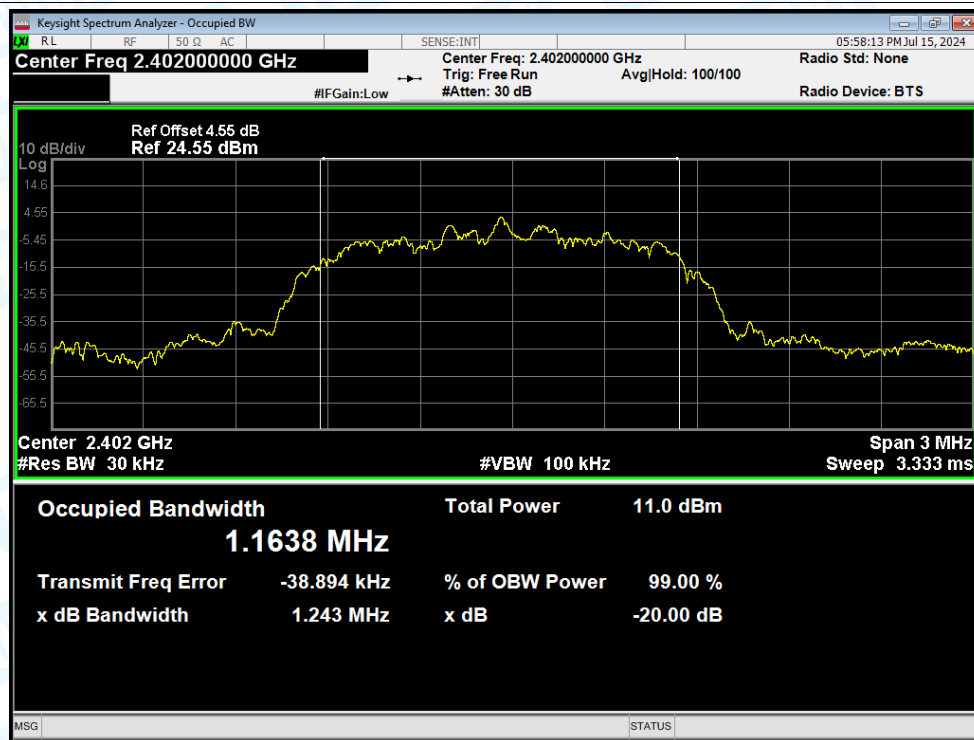
OBW NVNT 1-DH1 2441MHz Ant1



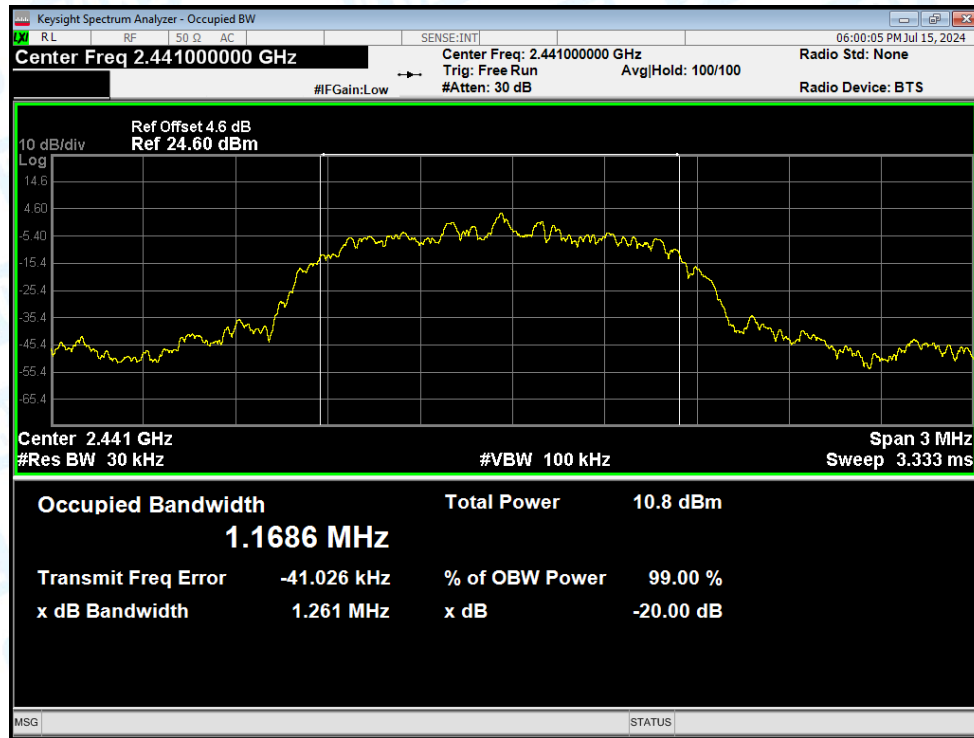
OBW NVNT 1-DH1 2480MHz Ant1



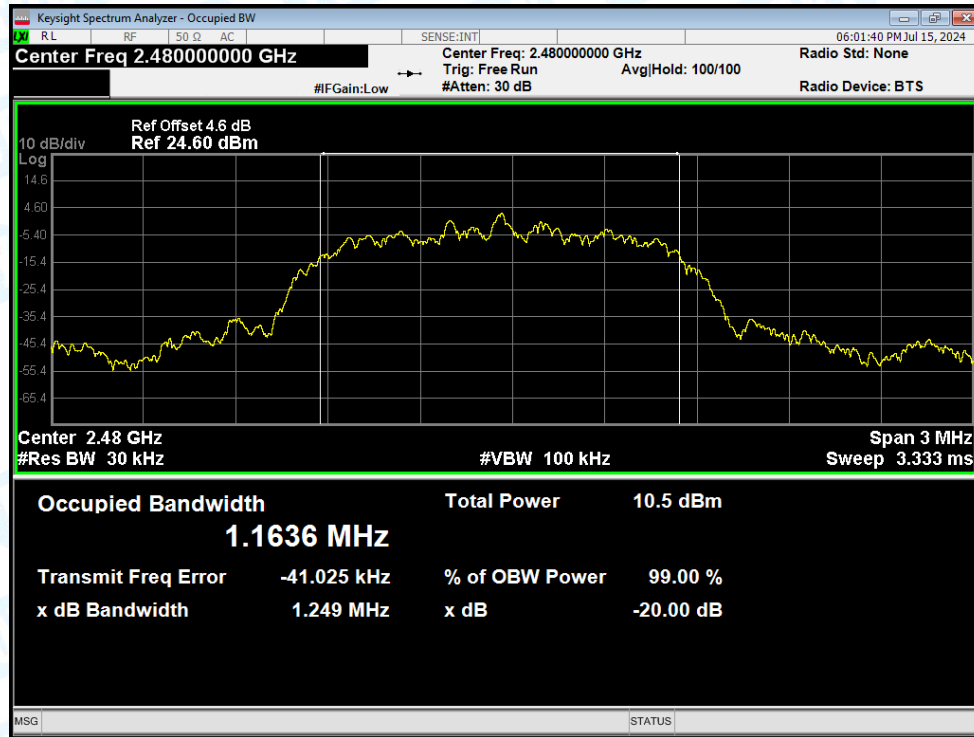
OBW NVNT 2-DH1 2402MHz Ant1



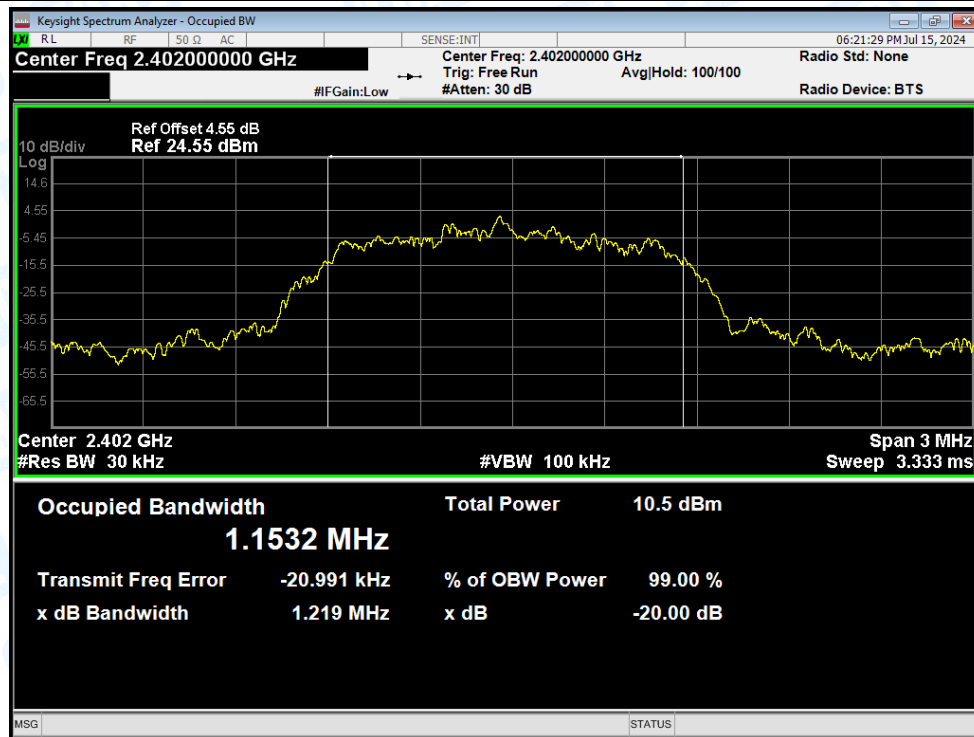
OBW NVNT 2-DH1 2441MHz Ant1



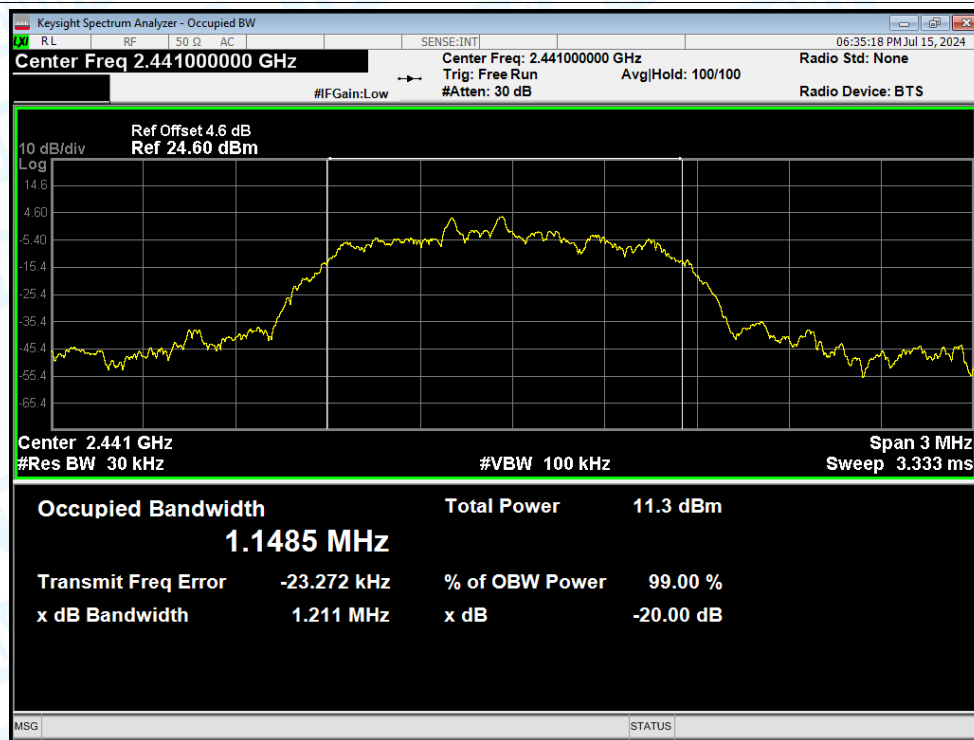
OBW NVNT 2-DH1 2480MHz Ant1

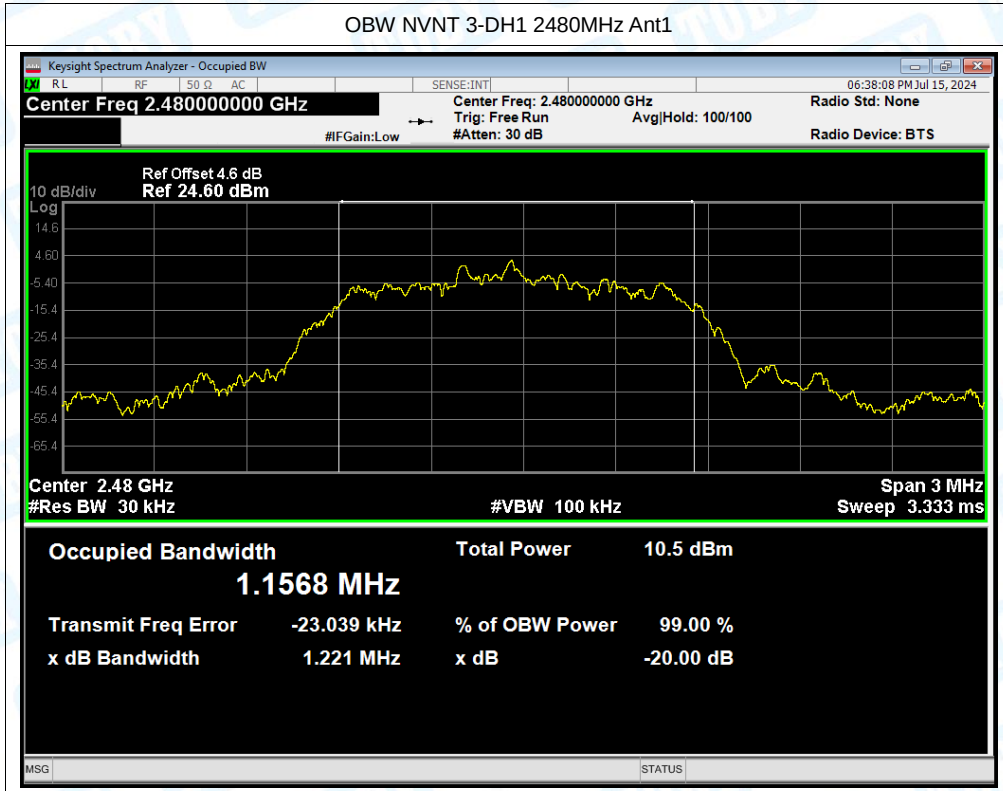


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



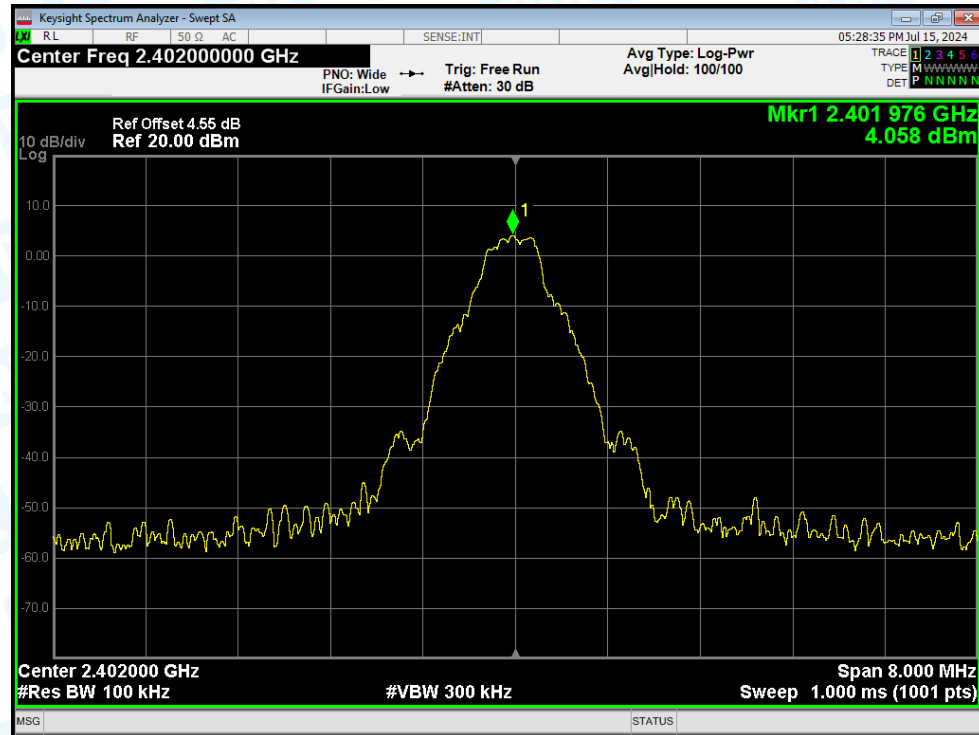


5. Band Edge

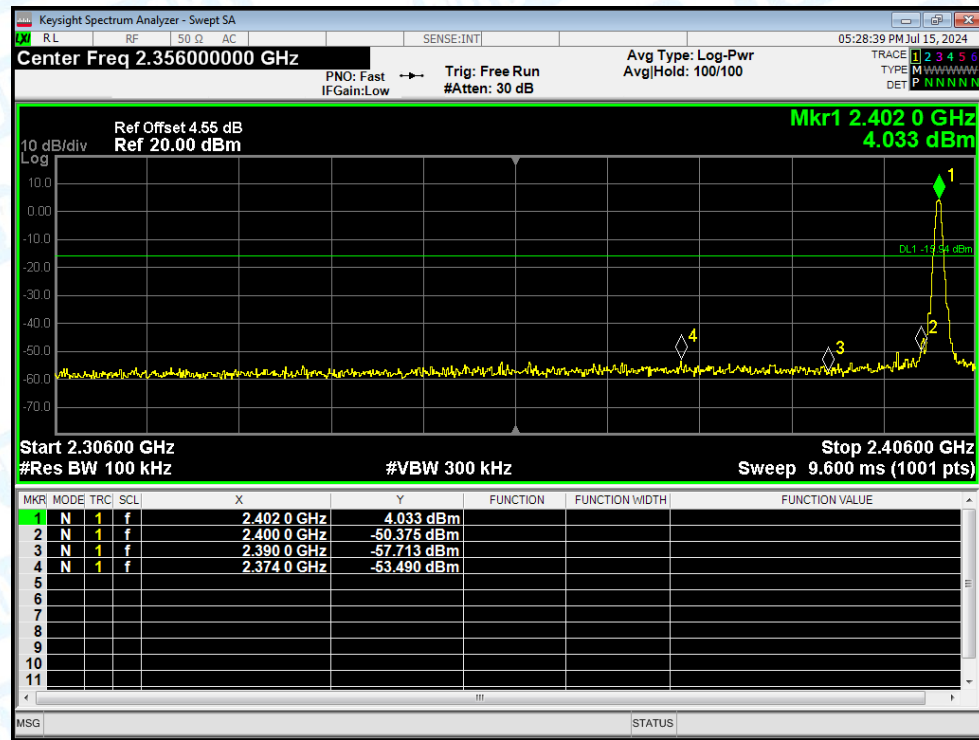
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-57.55	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-51.3	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-56.31	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-53.59	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-57.72	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-56.11	-20	Pass

Test Graphs

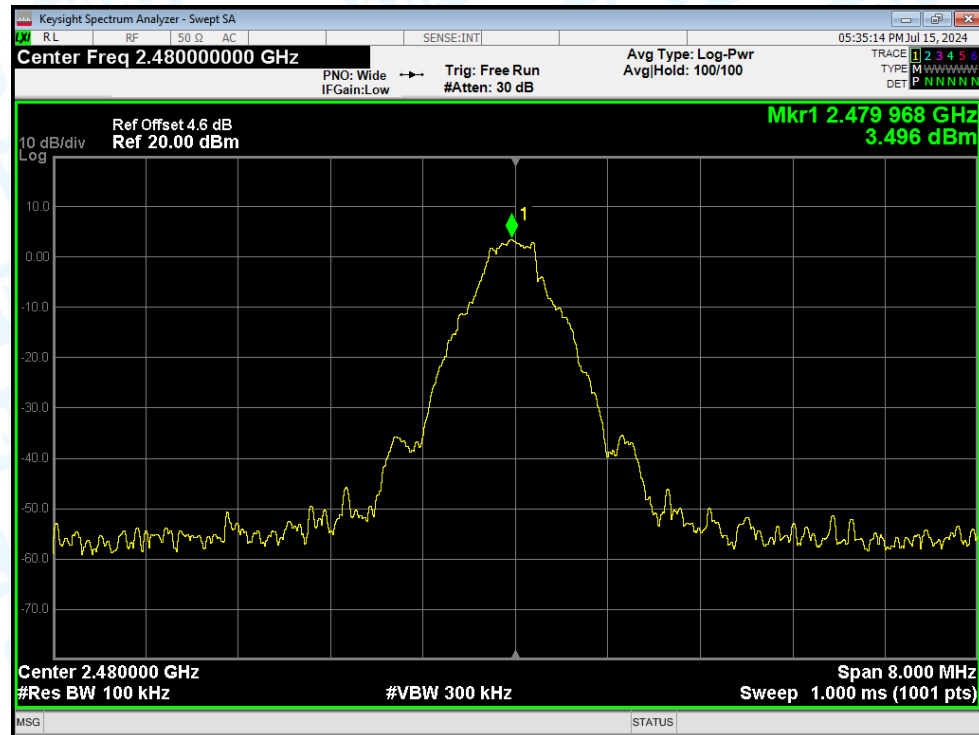
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



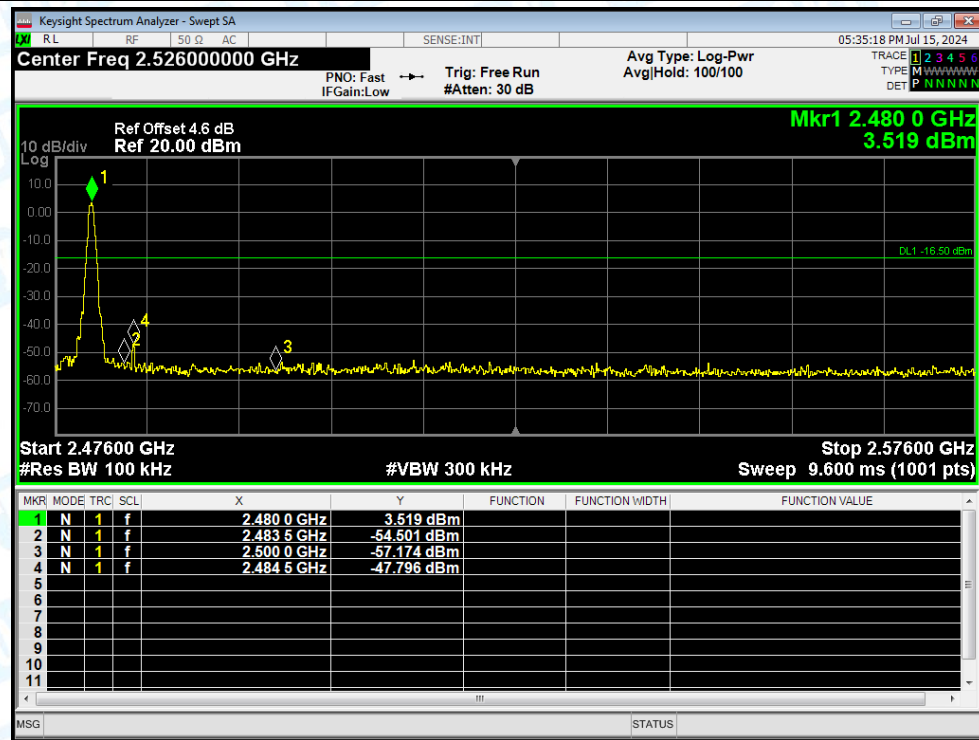
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



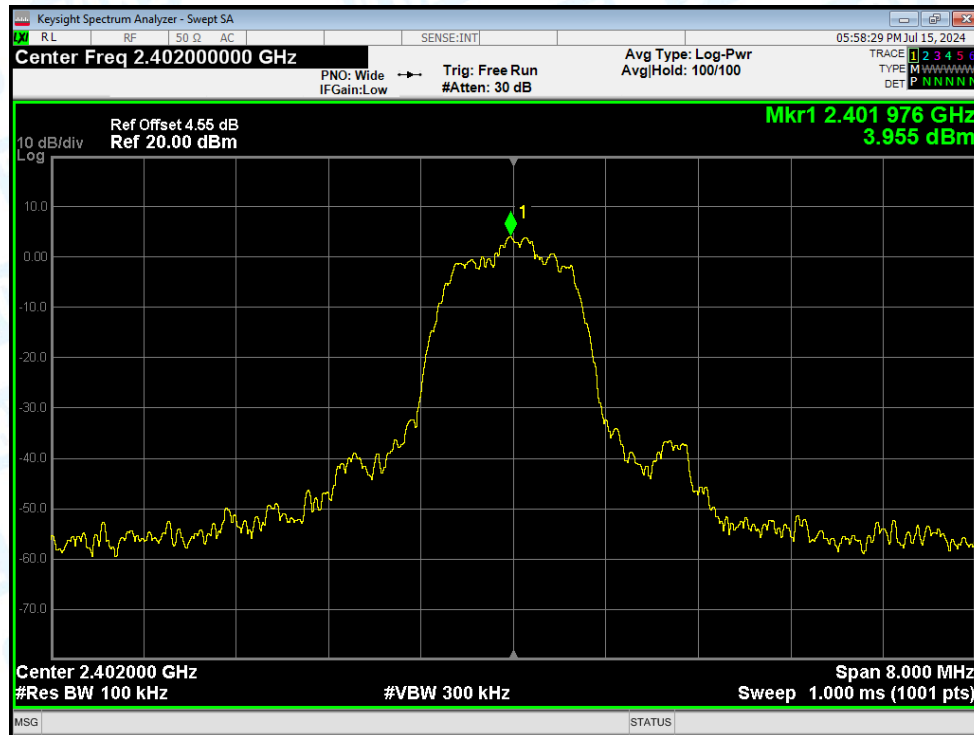
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



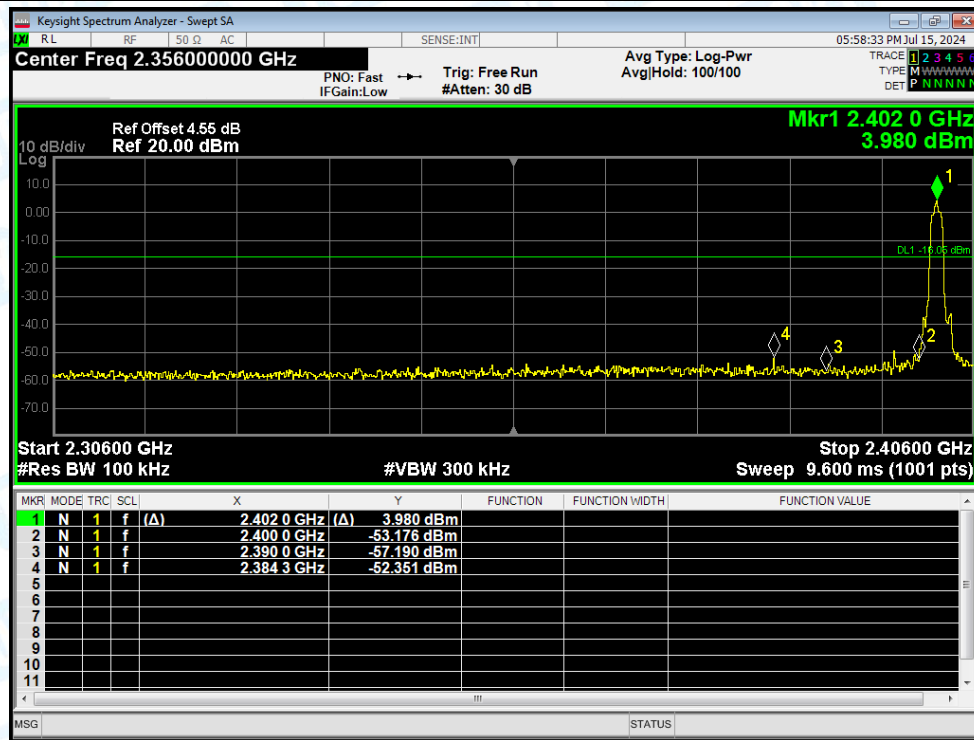
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission

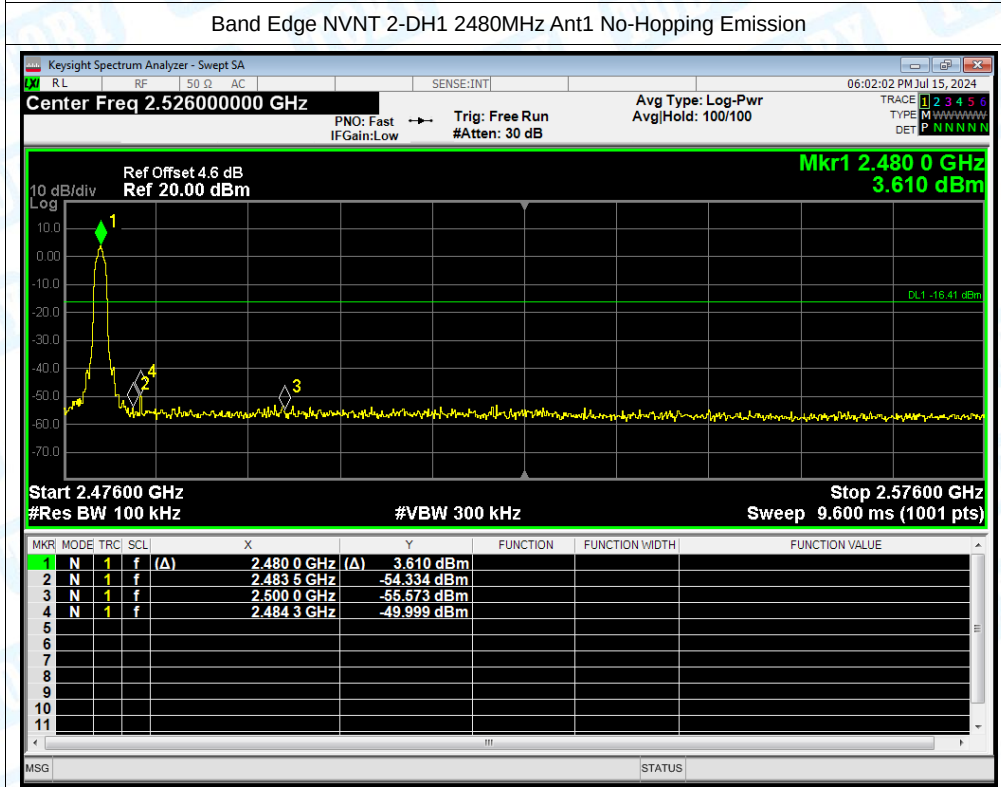
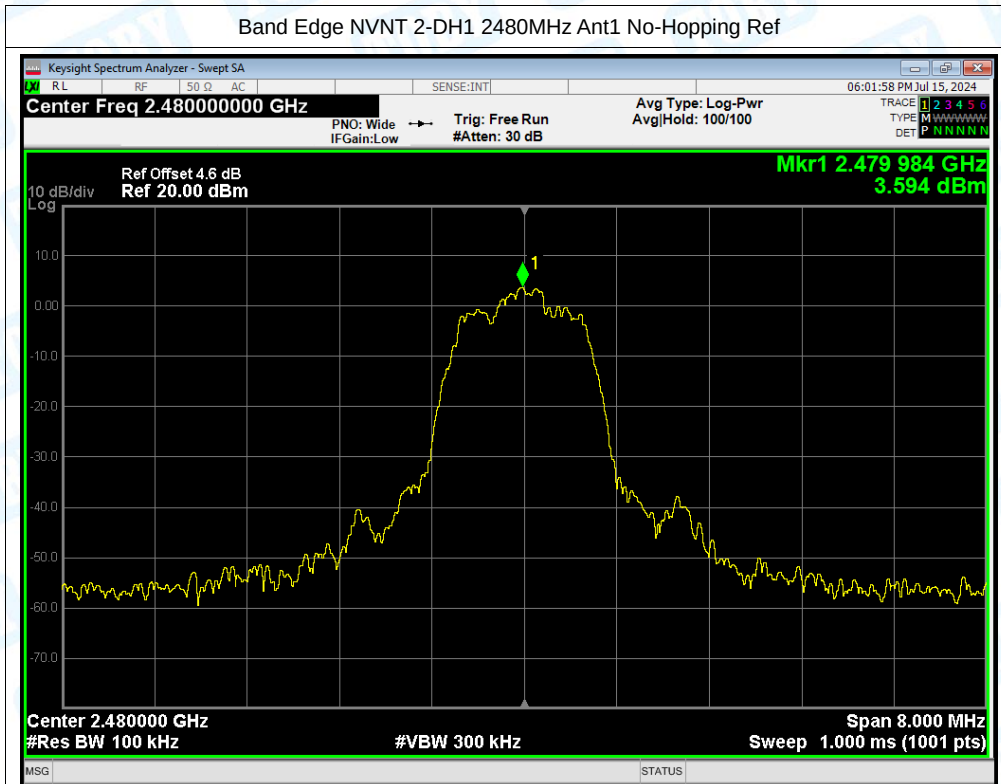


Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref

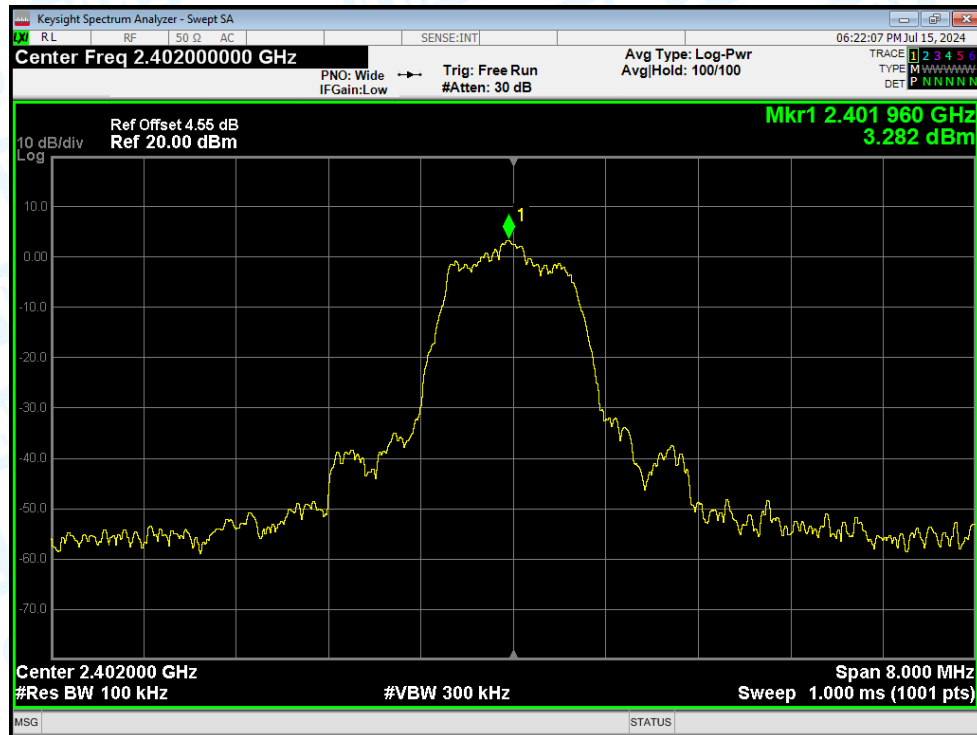


Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission

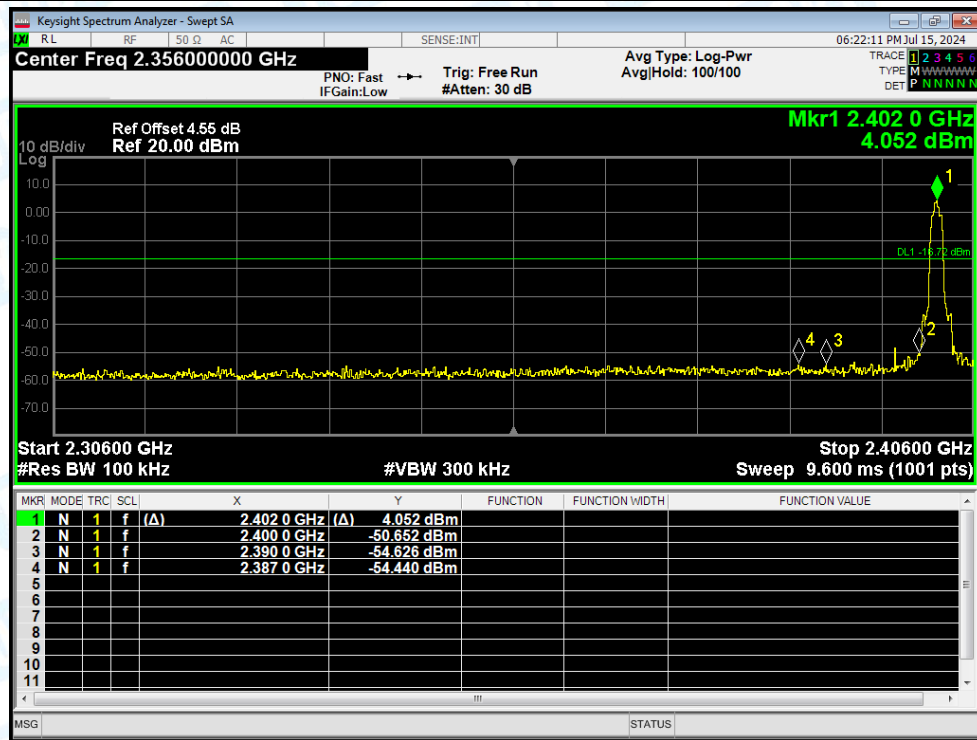




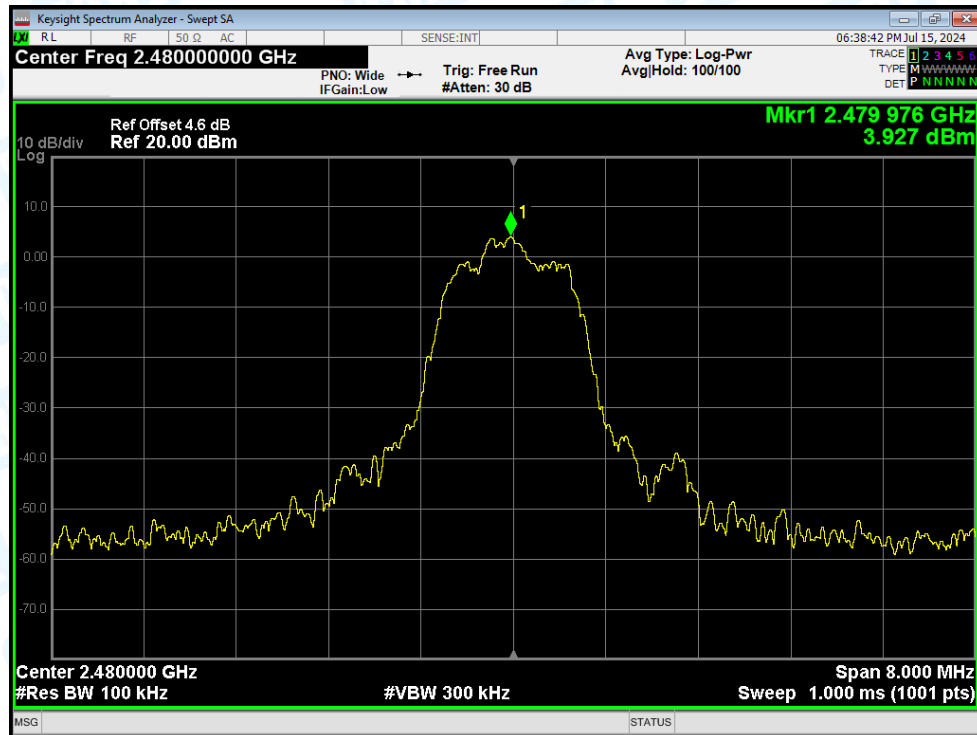
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



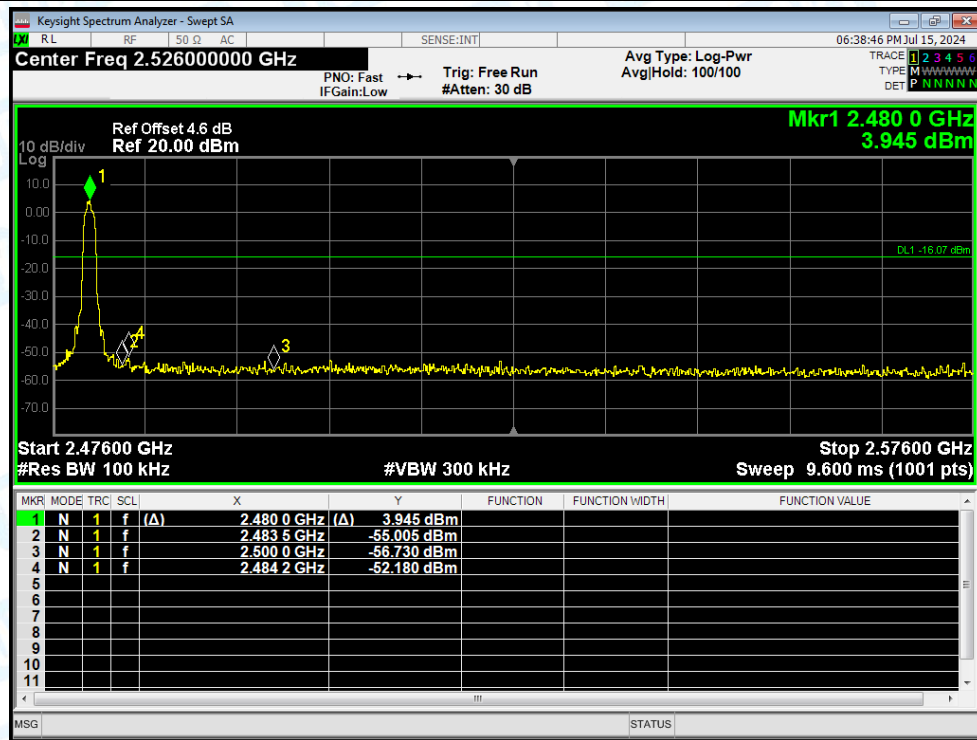
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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

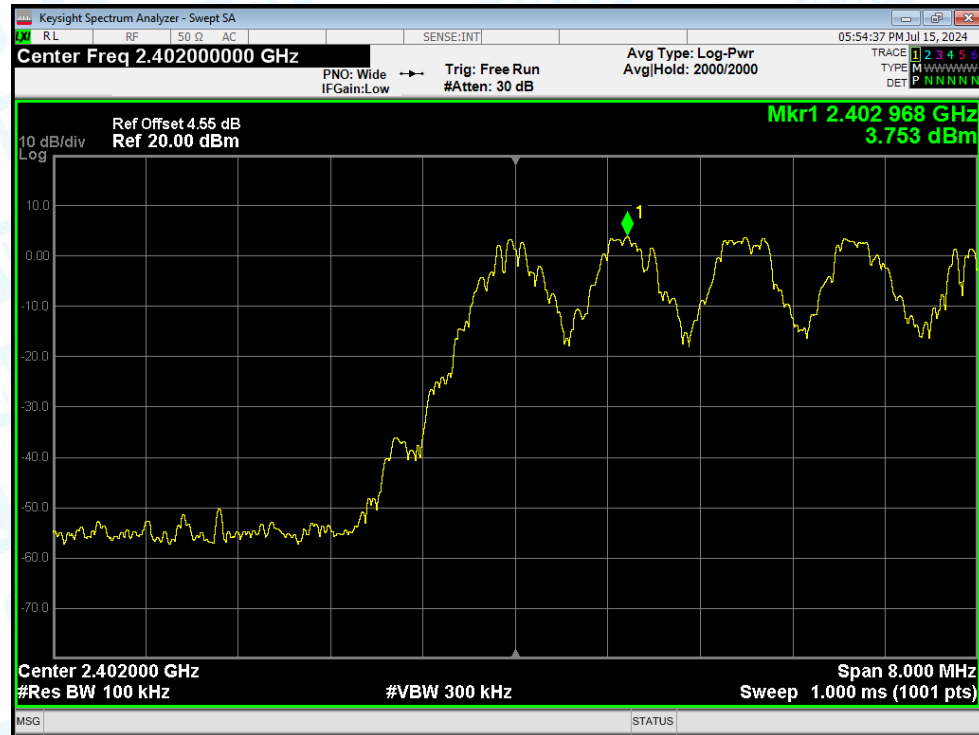


6. Band Edge(Hopping)

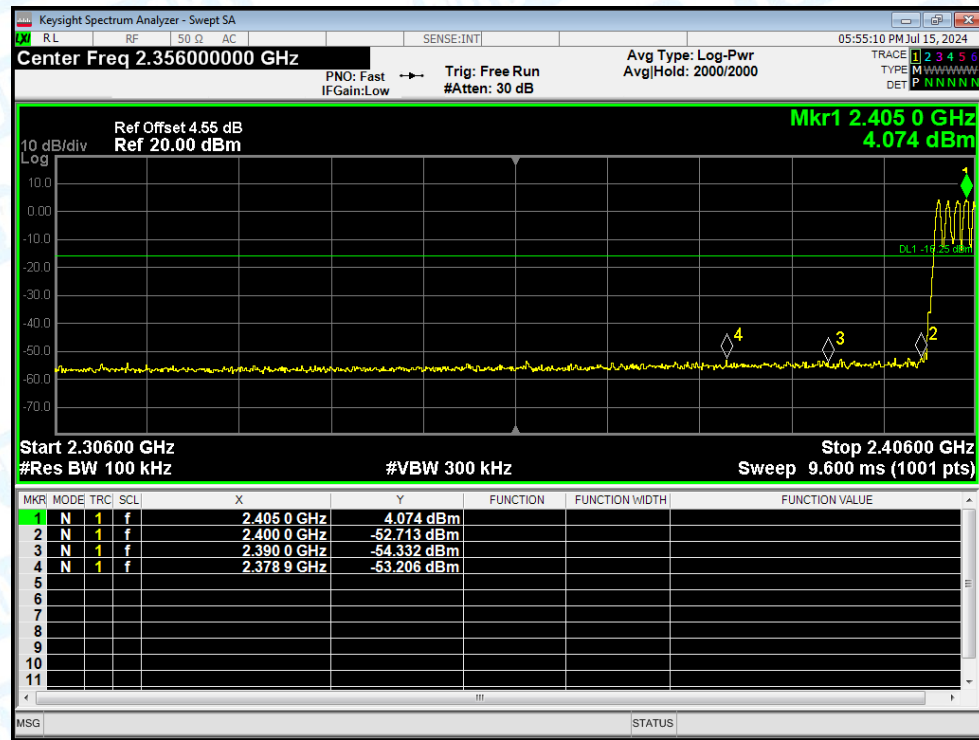
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-56.96	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-56.13	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-56.45	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-52.96	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-56.75	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-55.4	-20	Pass

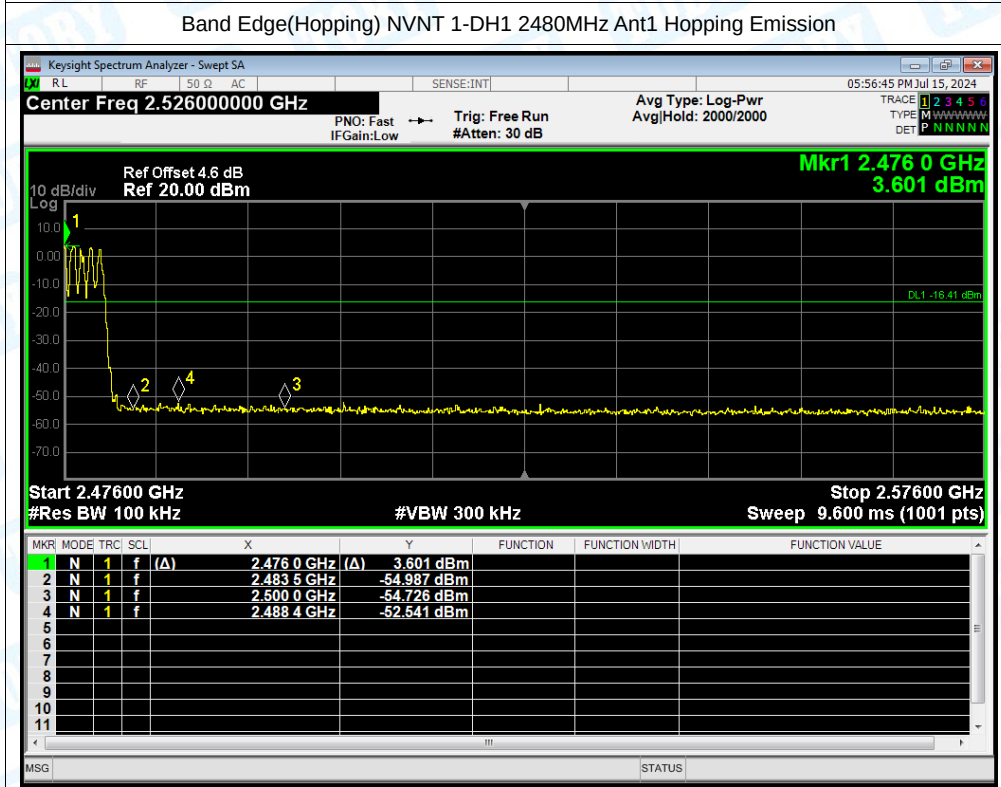
Test Graphs

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

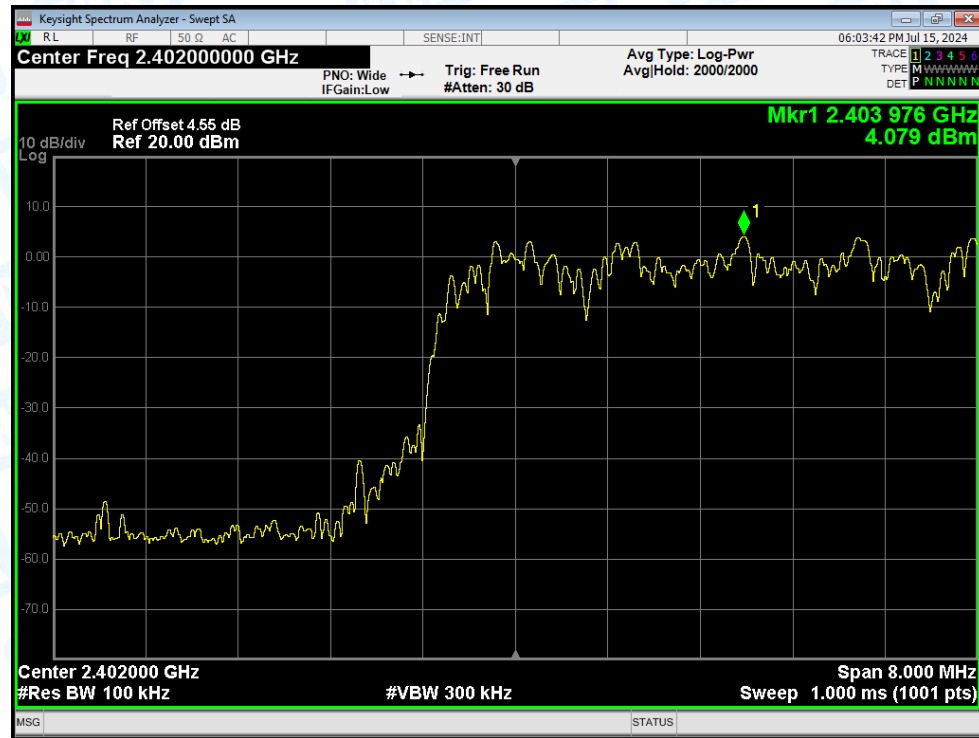


Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

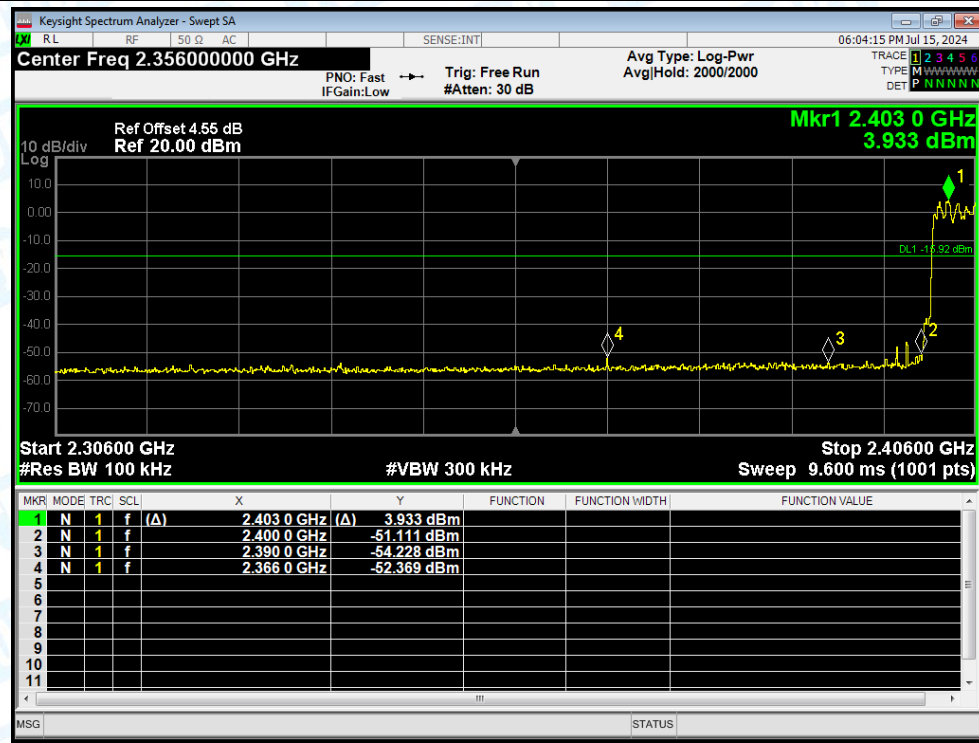


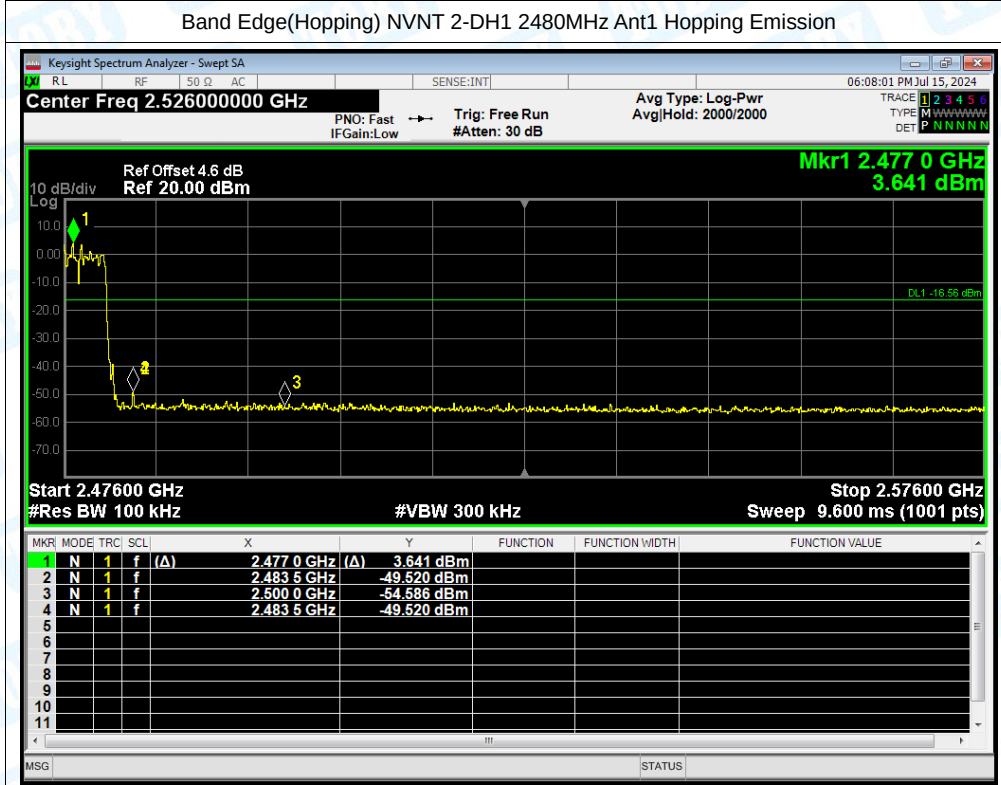


Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref

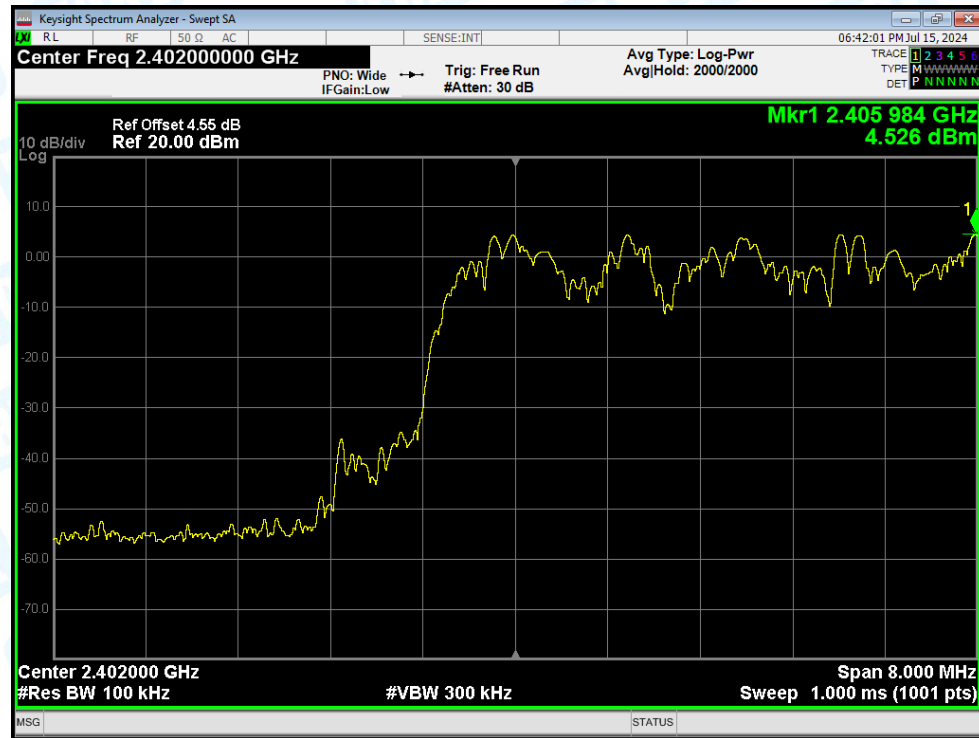


Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission

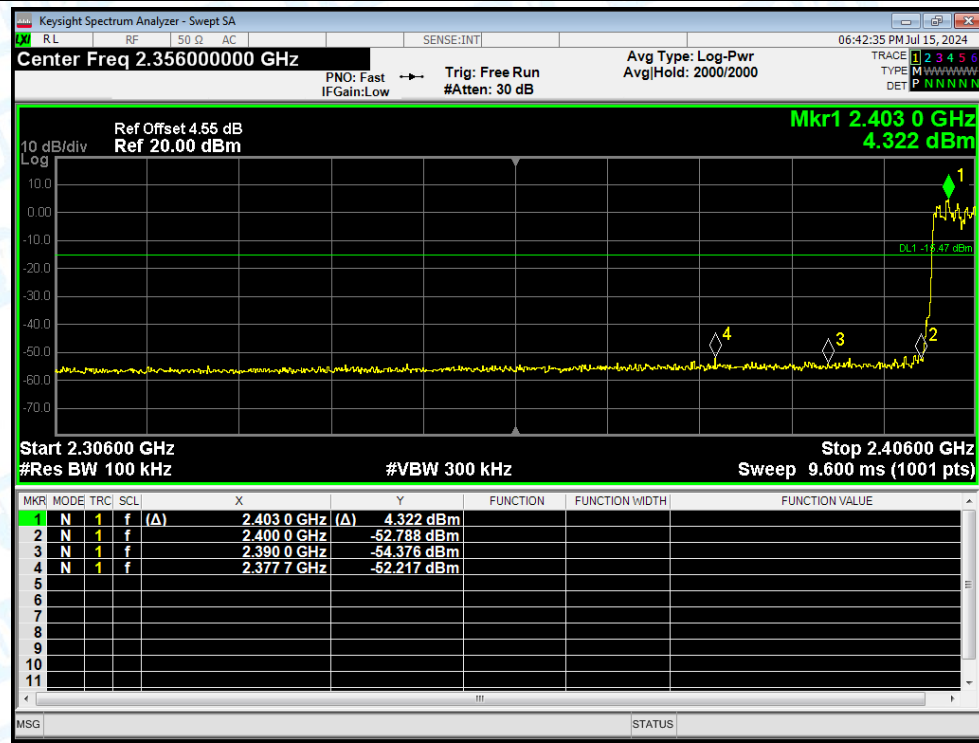




Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



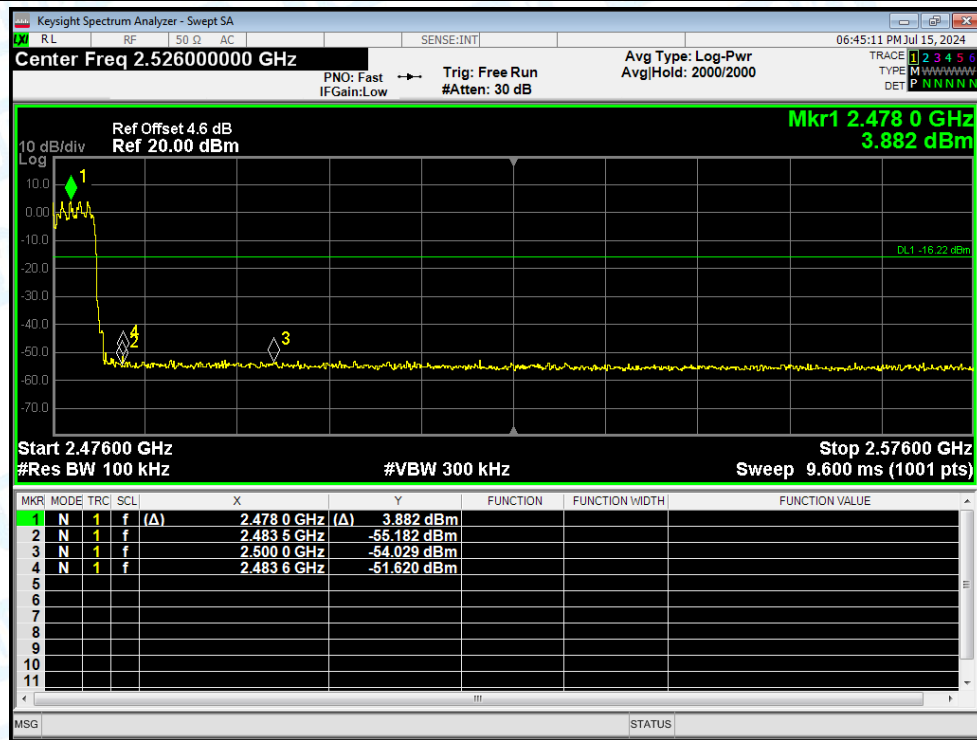
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

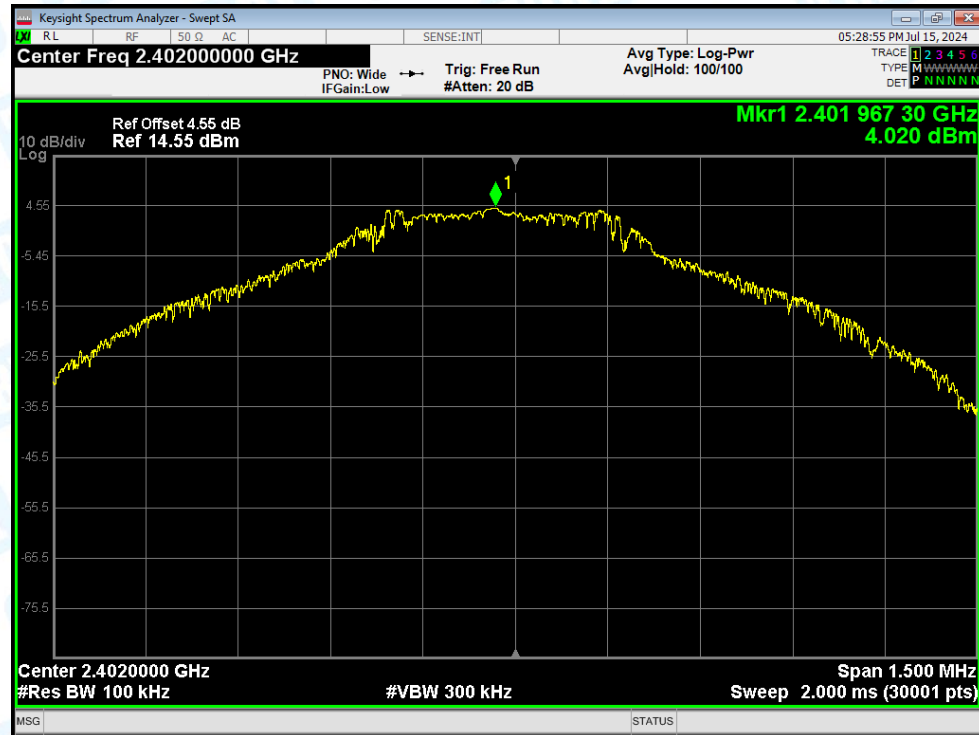


7. Conducted RF Spurious Emission

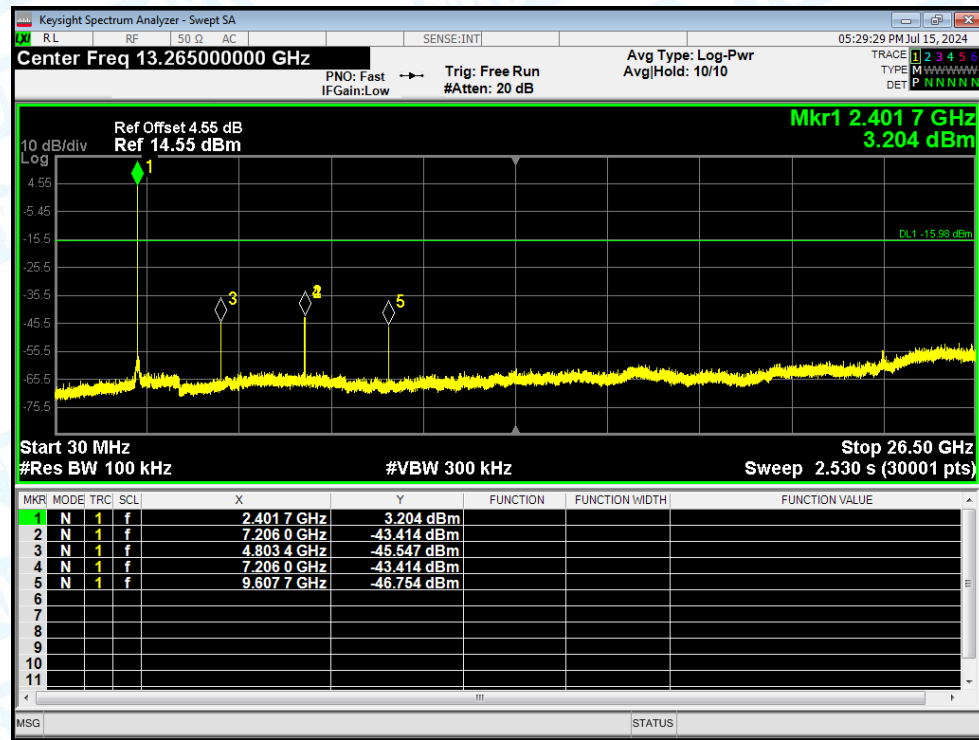
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-47.43	-20	Pass
NVNT	1-DH1	2441	Ant1	-48.2	-20	Pass
NVNT	1-DH1	2480	Ant1	-45.31	-20	Pass
NVNT	2-DH1	2402	Ant1	-45.24	-20	Pass
NVNT	2-DH1	2441	Ant1	-47.52	-20	Pass
NVNT	2-DH1	2480	Ant1	-49.91	-20	Pass
NVNT	3-DH1	2402	Ant1	-50.01	-20	Pass
NVNT	3-DH1	2441	Ant1	-45.99	-20	Pass
NVNT	3-DH1	2480	Ant1	-47.65	-20	Pass

Test Graphs

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



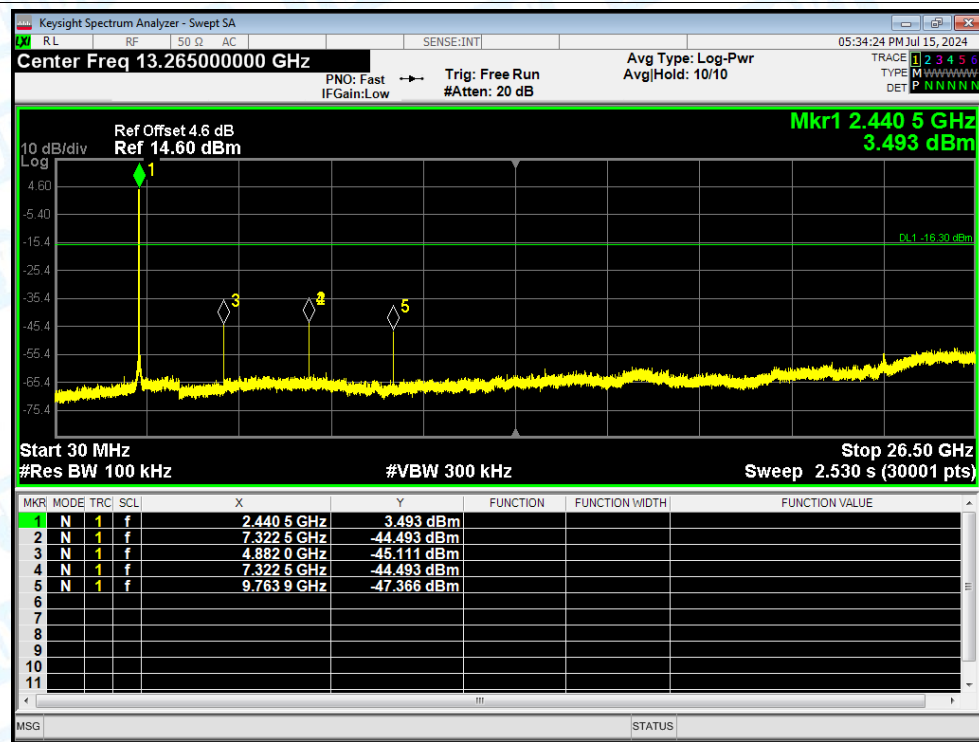
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



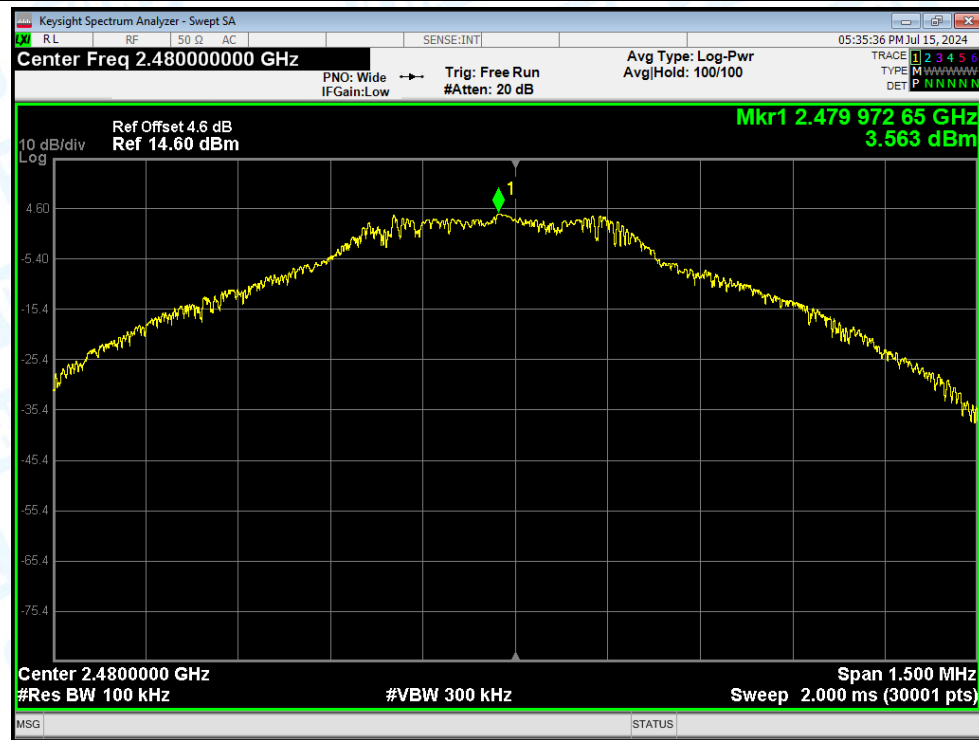
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



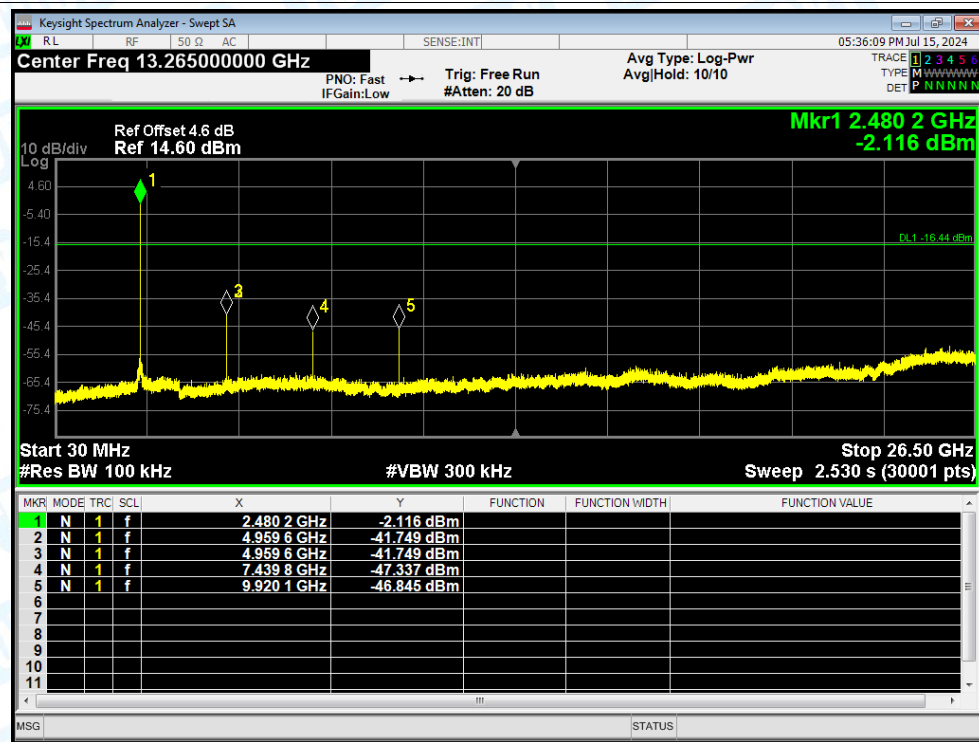
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



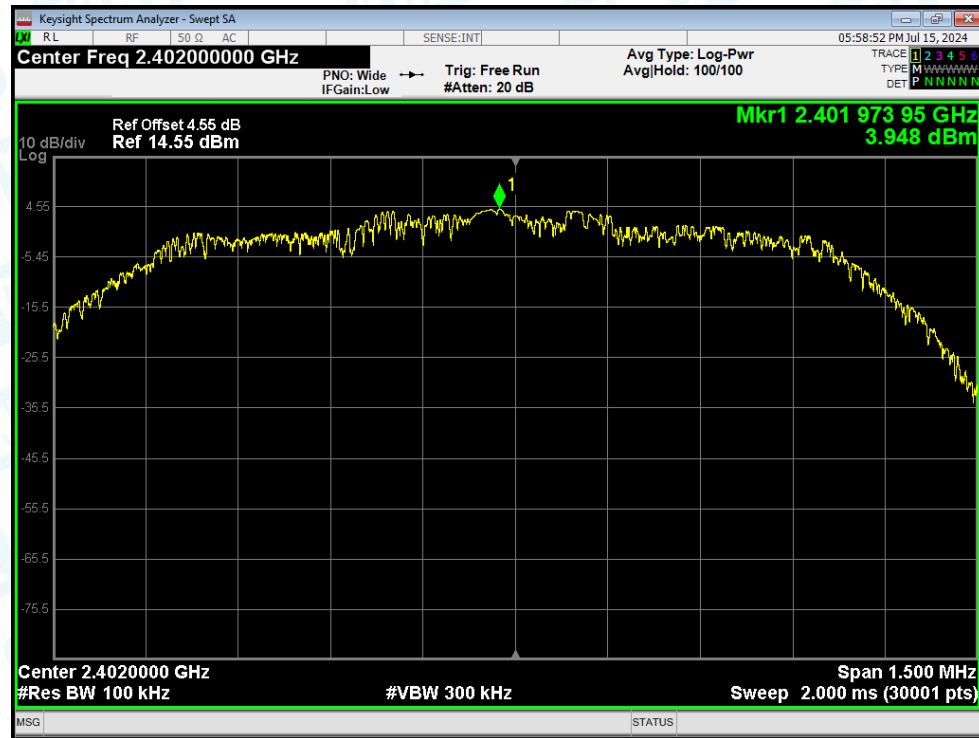
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



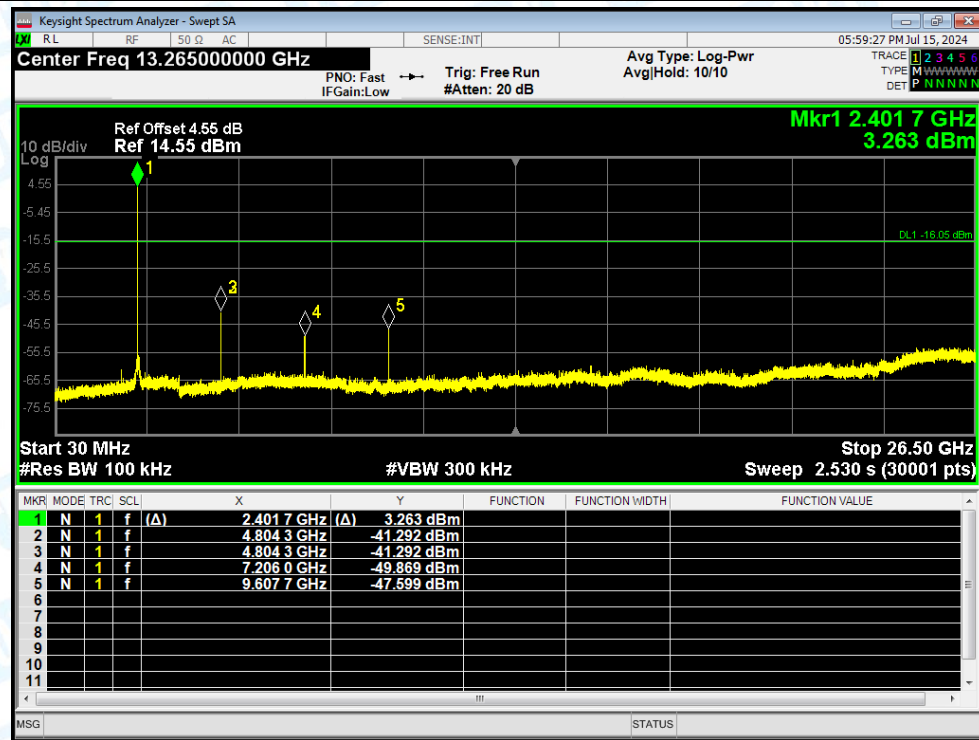
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



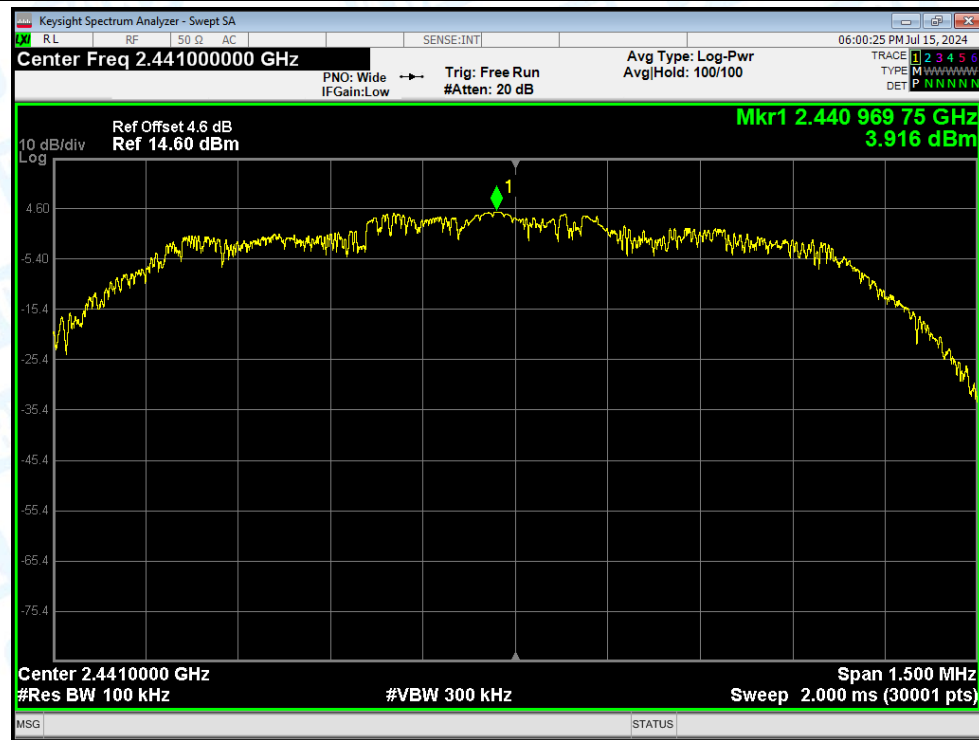
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



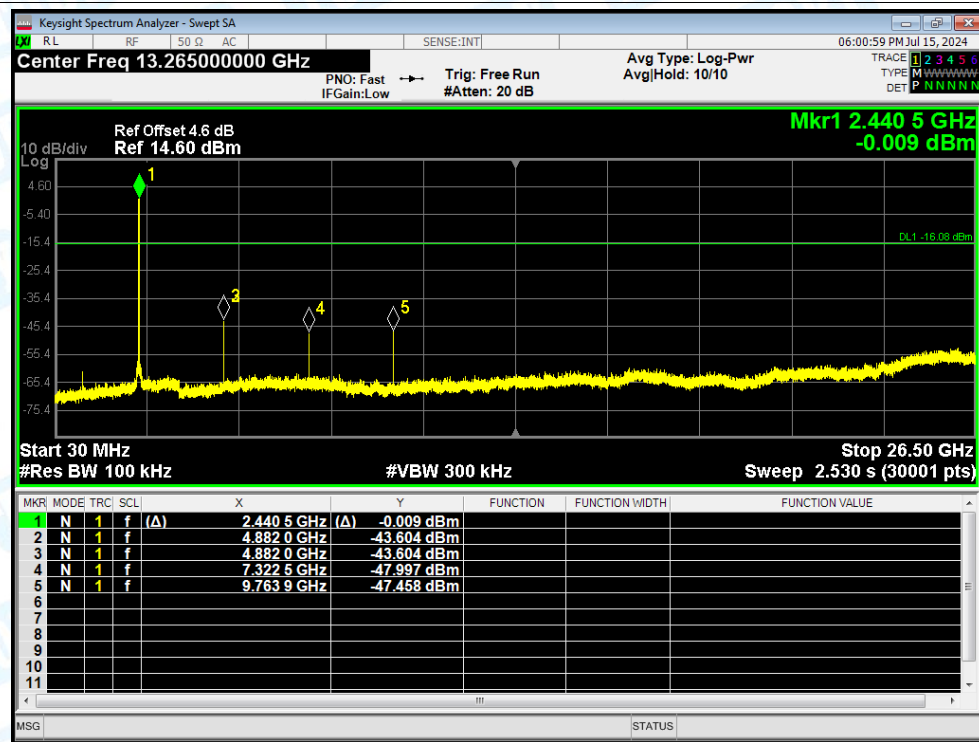
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



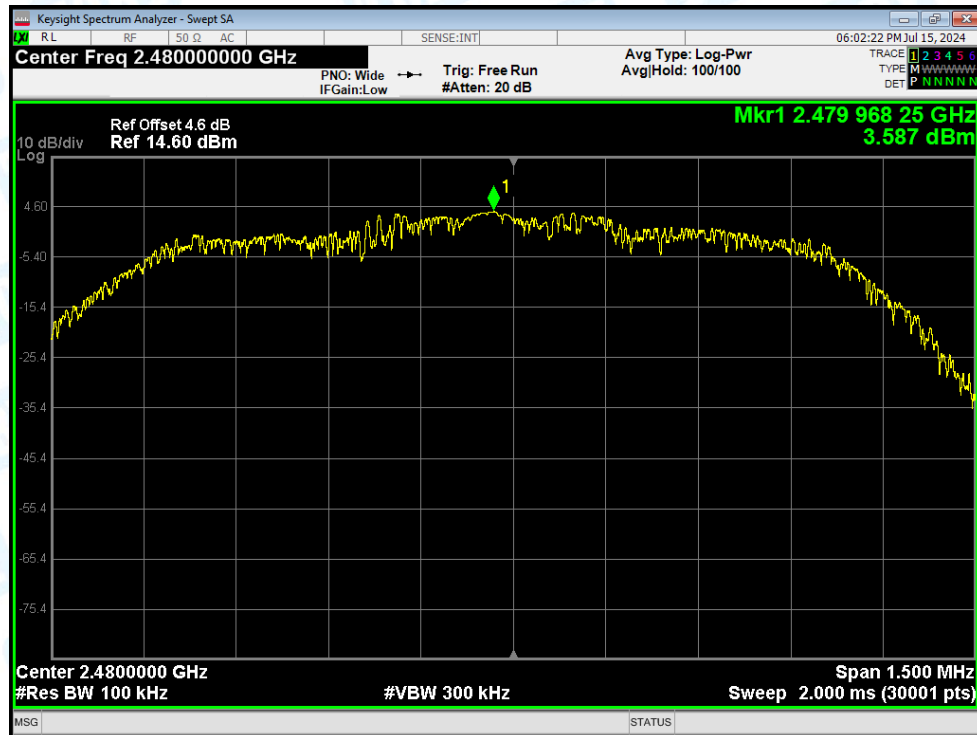
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



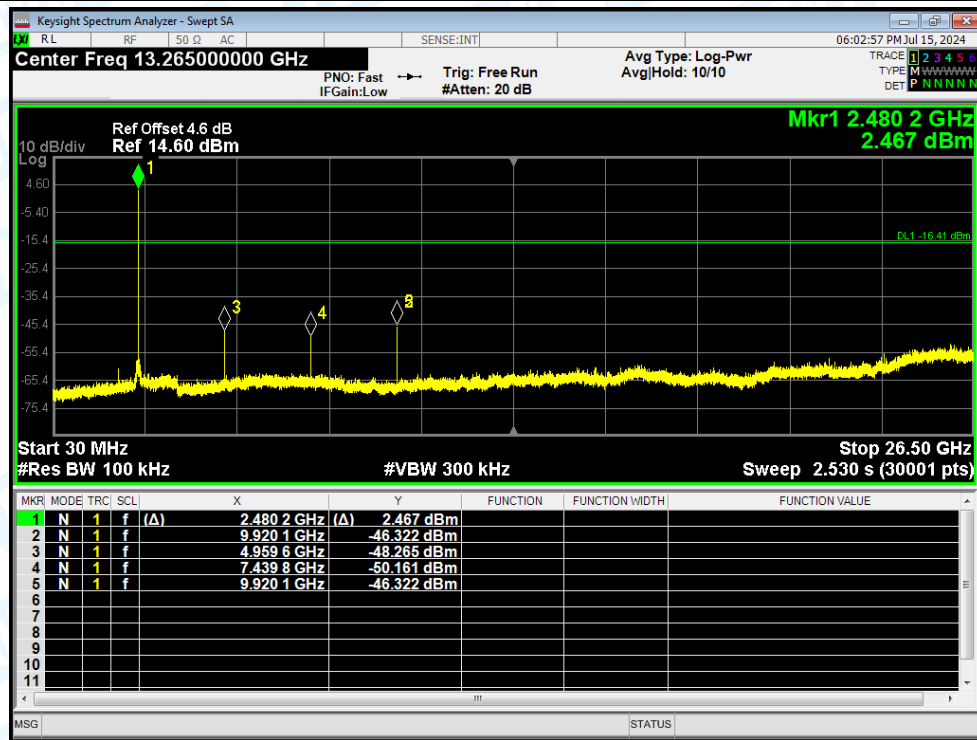
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



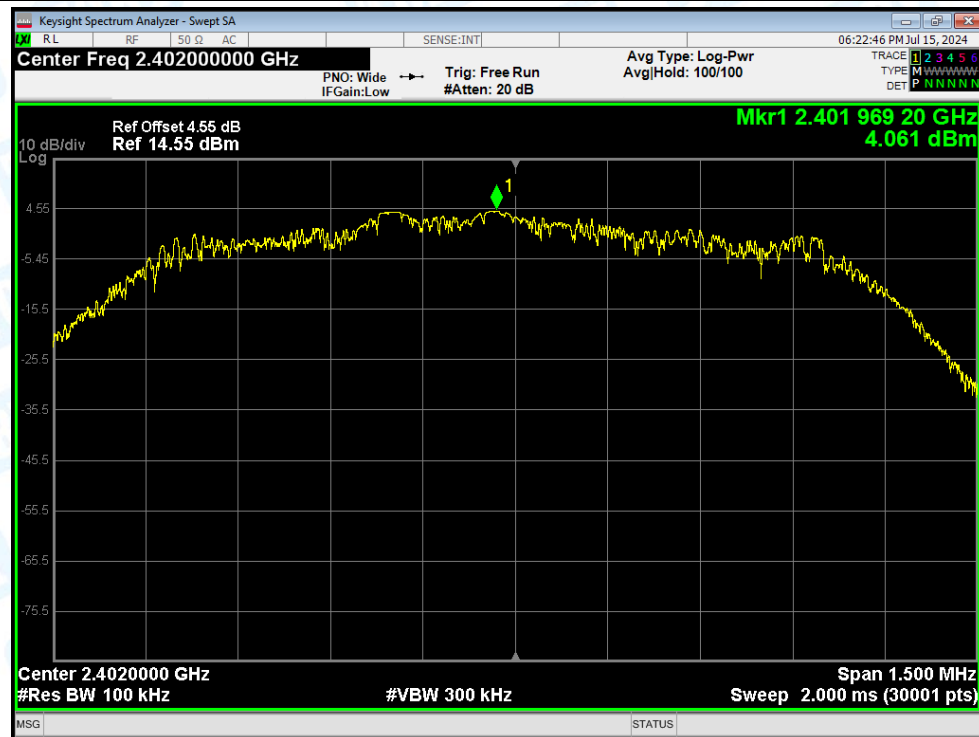
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



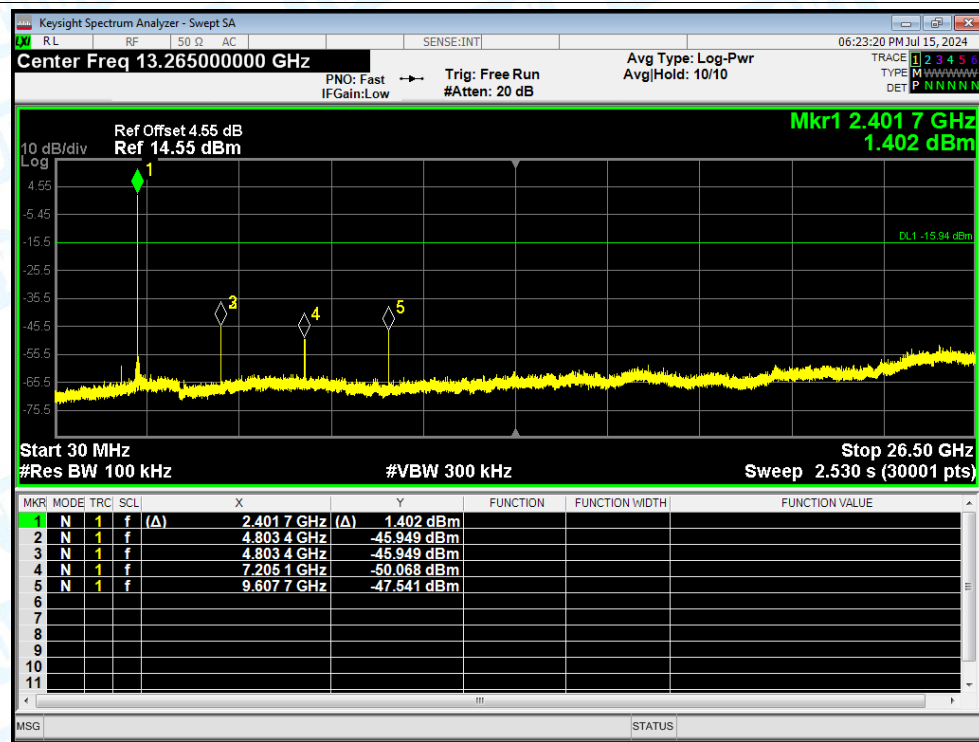
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



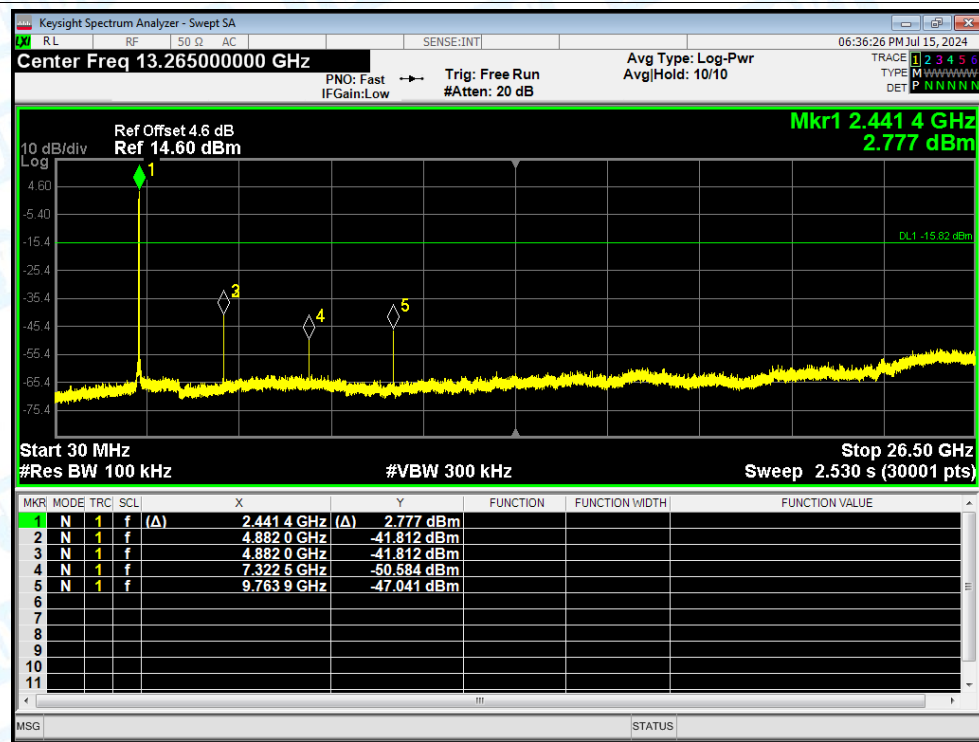
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



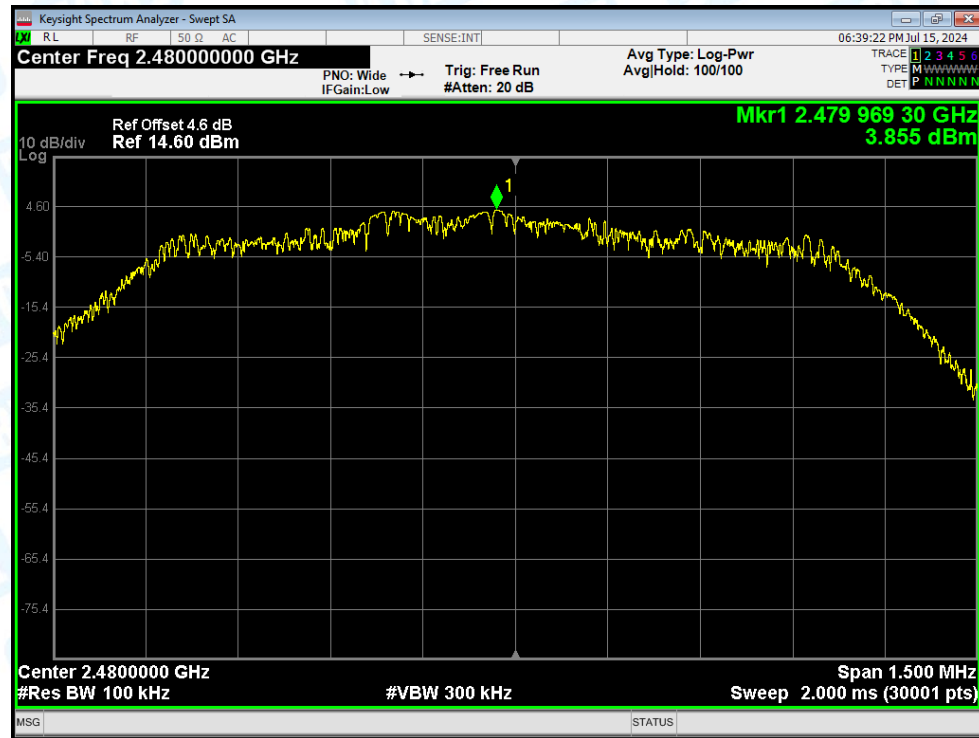
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



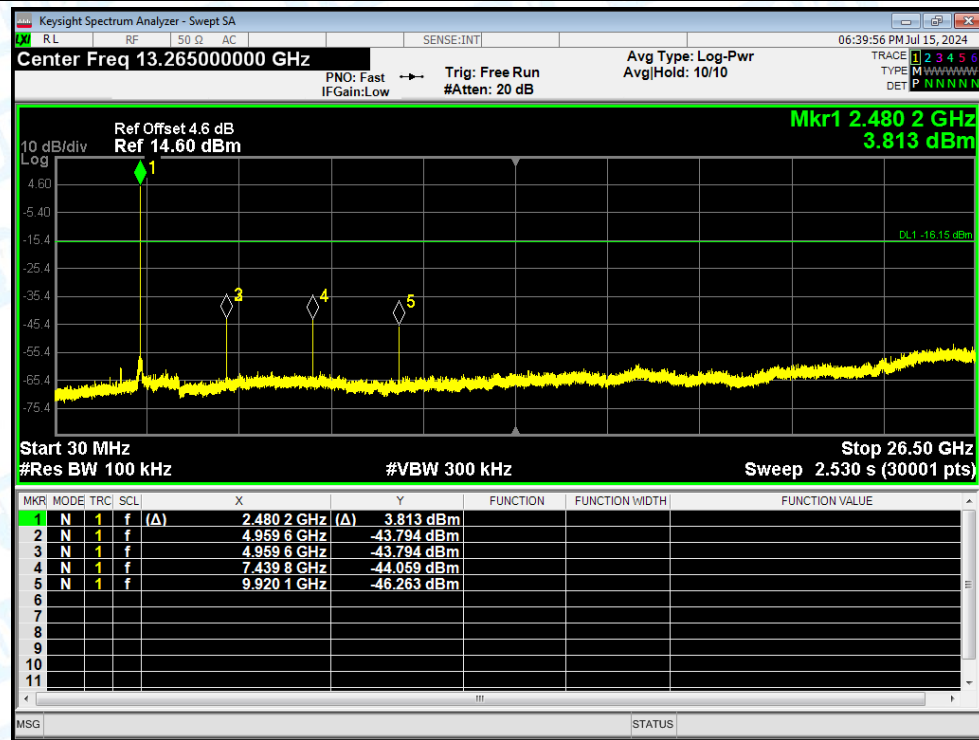
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

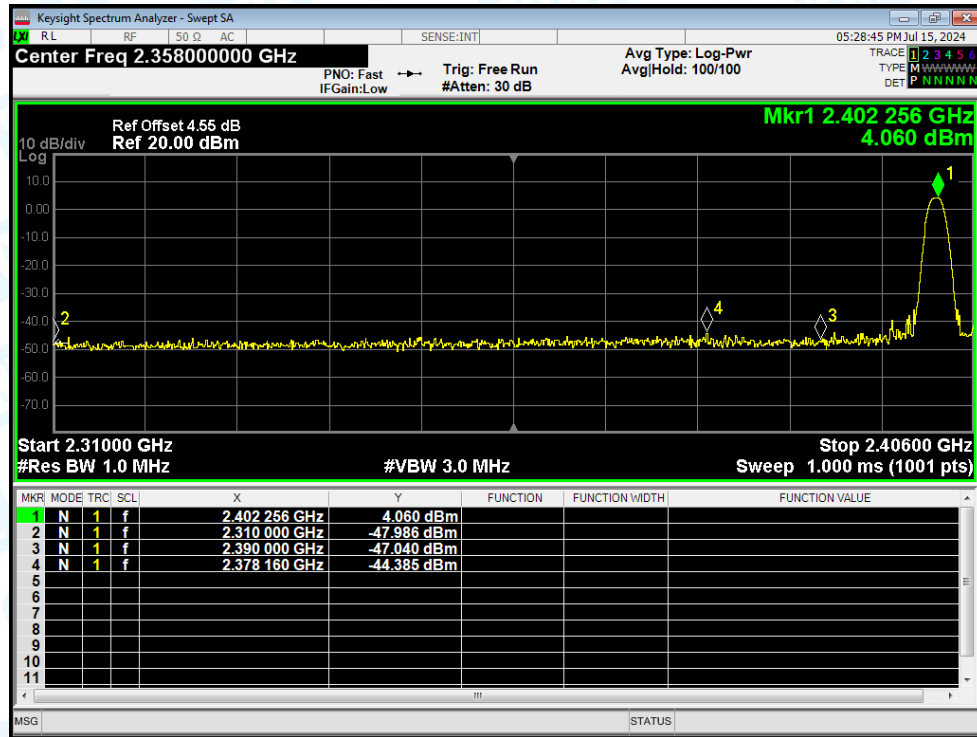


8. Restrict Band

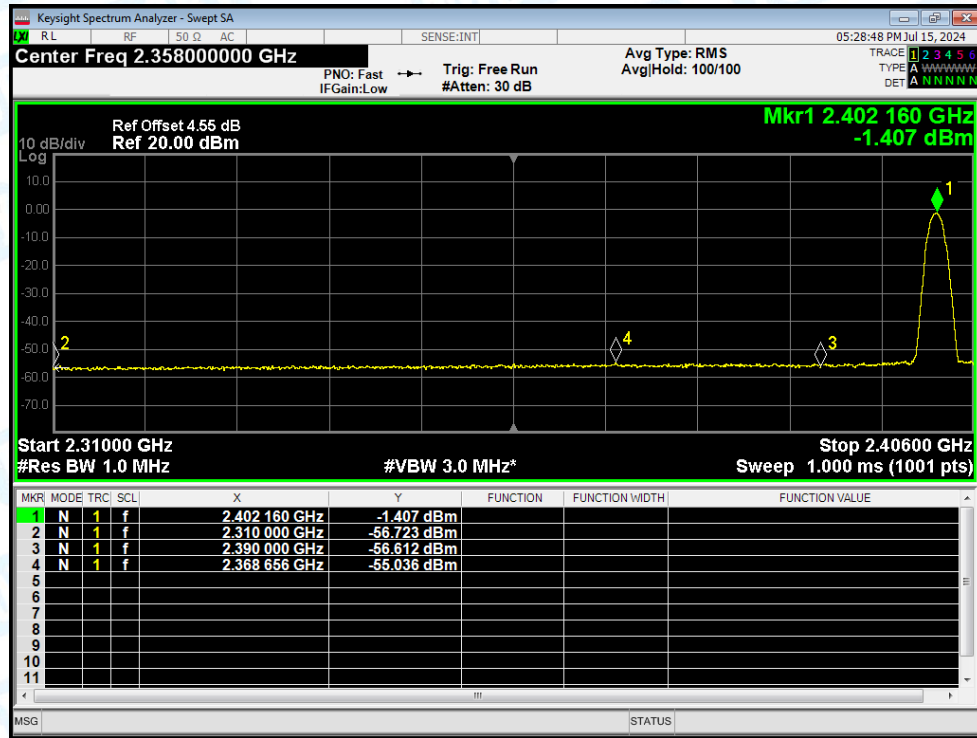
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.99	2	-	49.27	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.72	2	4.84	45.38	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2378.16	-44.39	2	-	52.87	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2368.656	-55.04	2	4.84	47.06	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-47.04	2	-	50.22	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.61	2	4.84	45.49	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-44.67	2	-	52.59	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.62	2	4.84	47.48	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2484.64	-39.46	2	-	57.8	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2484.52	-53.98	2	4.84	48.12	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-48.22	2	-	49.04	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.73	2	4.84	46.37	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-50.44	2	-	46.82	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.92	2	4.74	45.08	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2377.296	-44.36	2	-	52.9	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2372.4	-54.99	2	4.74	47.01	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.37	2	-	49.89	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.8	2	4.74	46.2	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-42.12	2	-	55.14	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-54.55	2	4.84	47.55	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.88	-39.88	2	-	57.38	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.016	-53.9	2	4.84	48.2	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-46.12	2	-	51.14	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.66	2	4.84	46.44	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.71	2	-	48.55	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.66	2	4.74	45.34	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2366.256	-44.12	2	-	53.14	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2374.224	-55.01	2	4.74	46.99	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-47.68	2	-	49.58	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.73	2	4.74	46.27	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-47.22	2	-	50.04	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-54.71	2	4.74	47.29	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2484.832	-37.83	2	-	59.43	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2484.352	-53.13	2	4.74	48.87	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-45.26	2	-	52	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.19	2	4.74	46.81	Average	54	Pass

Test Graphs

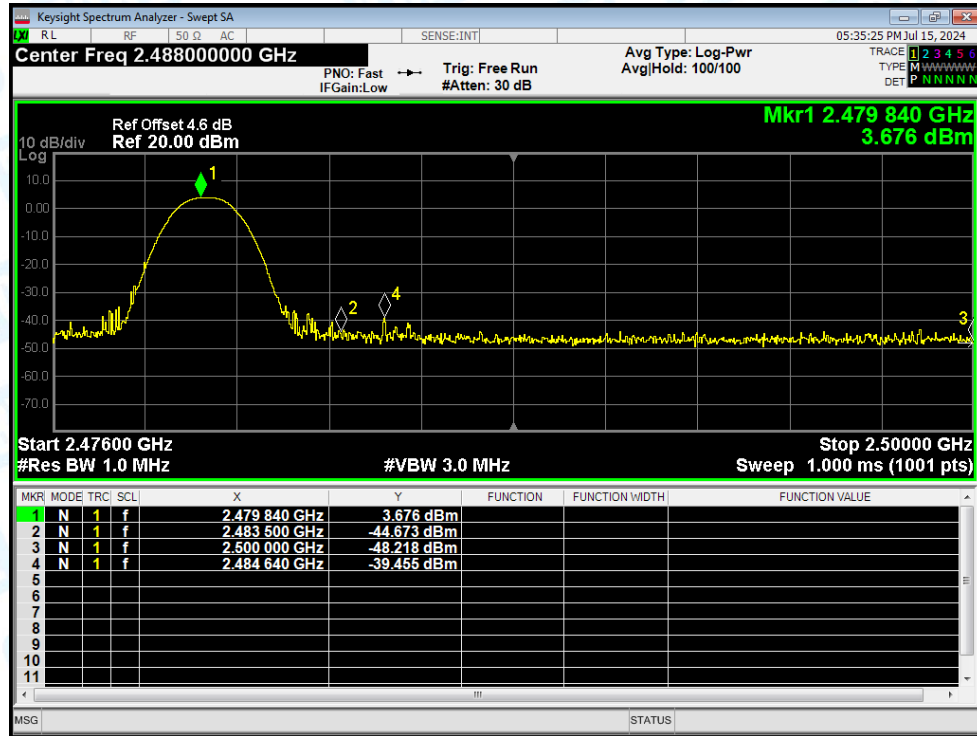
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



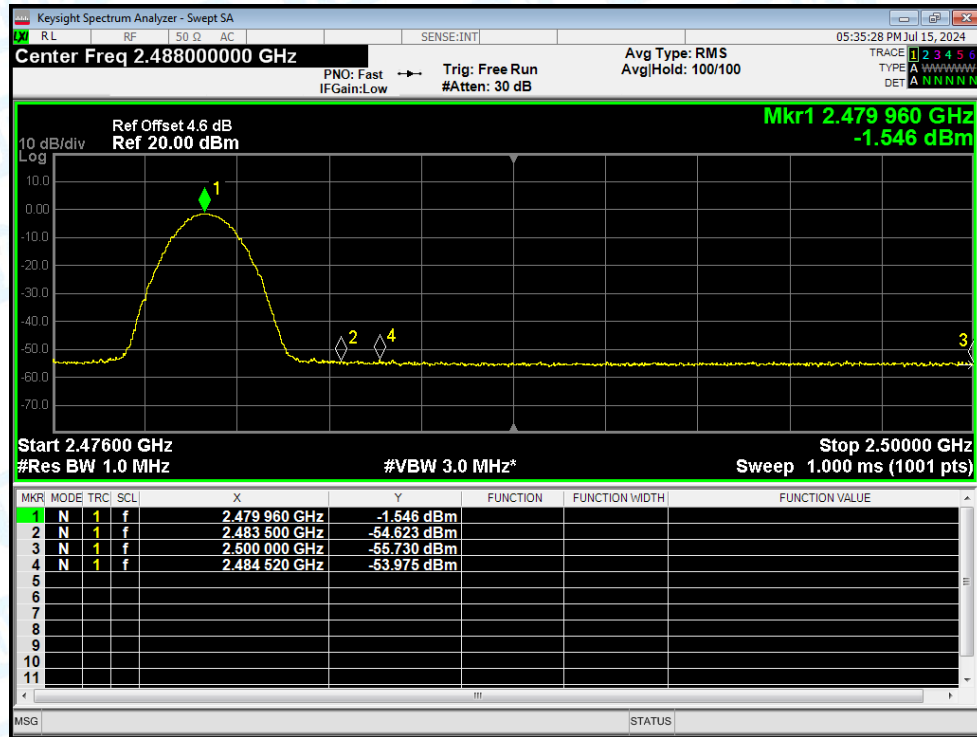
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



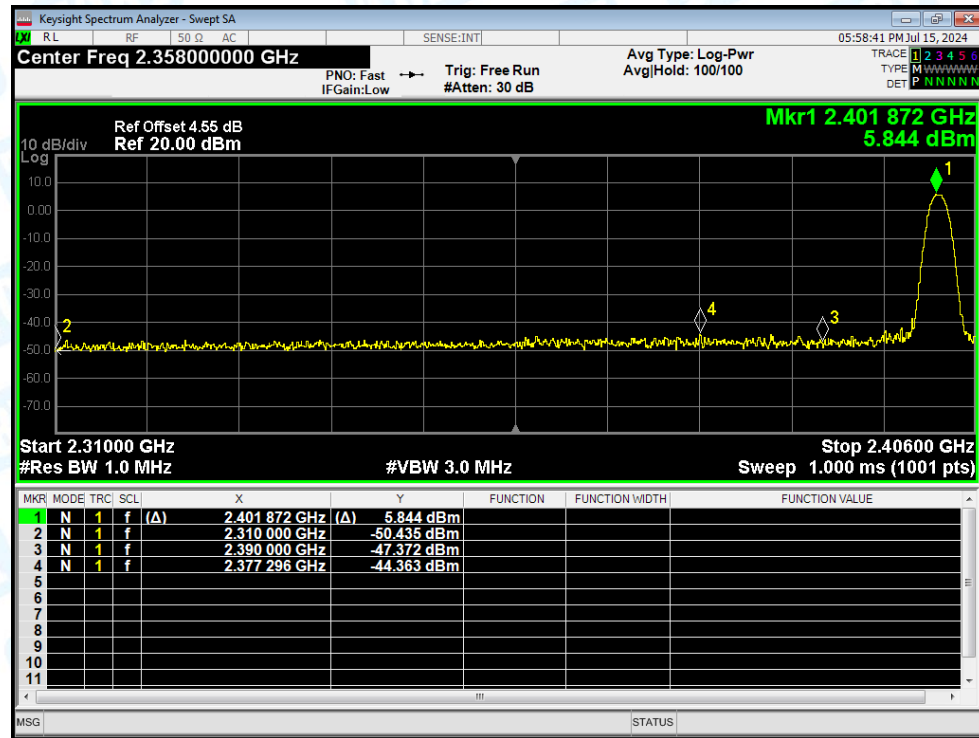
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



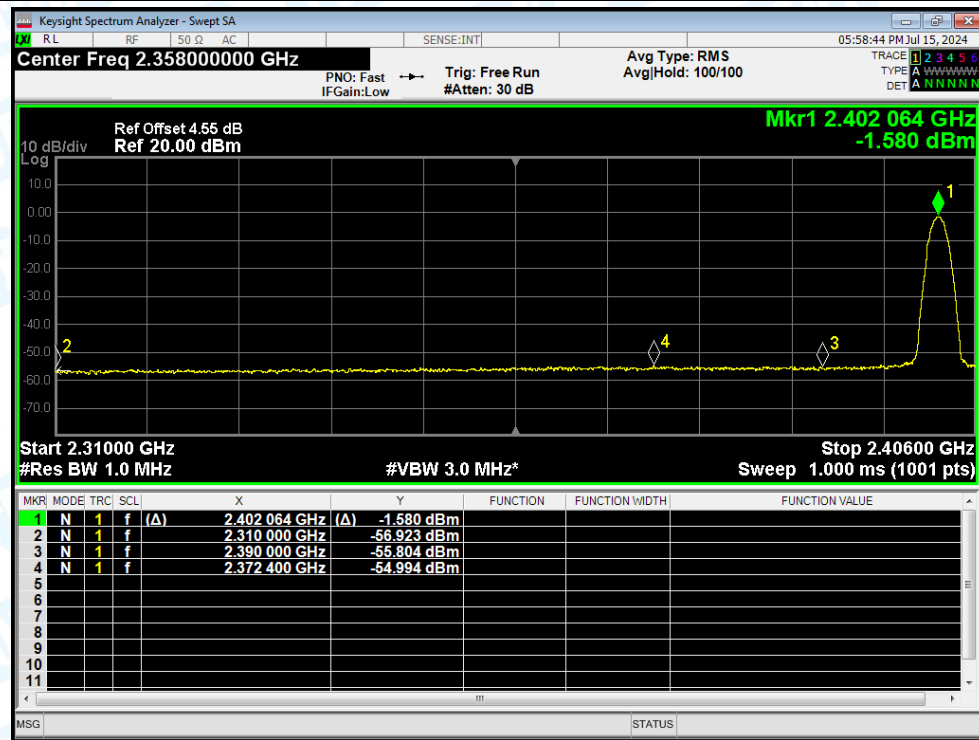
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



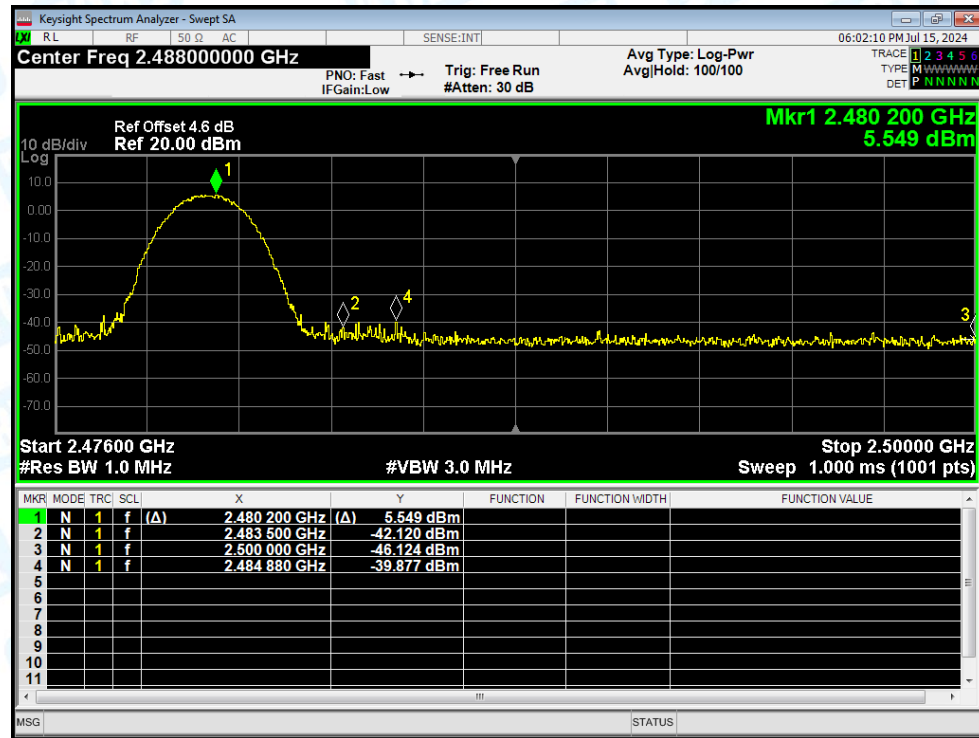
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



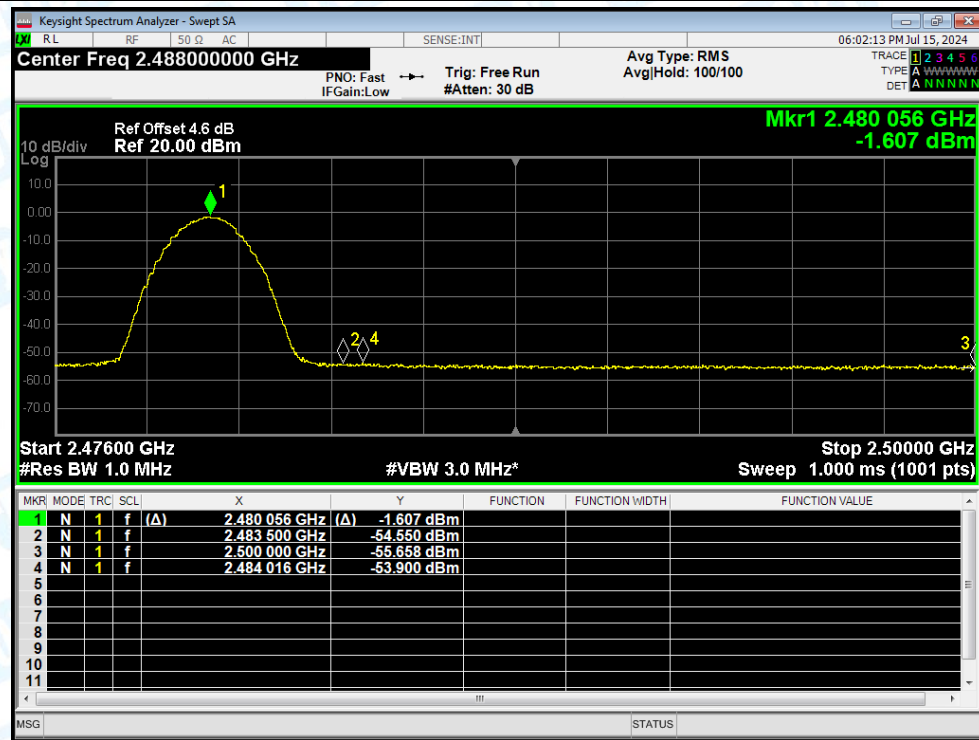
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



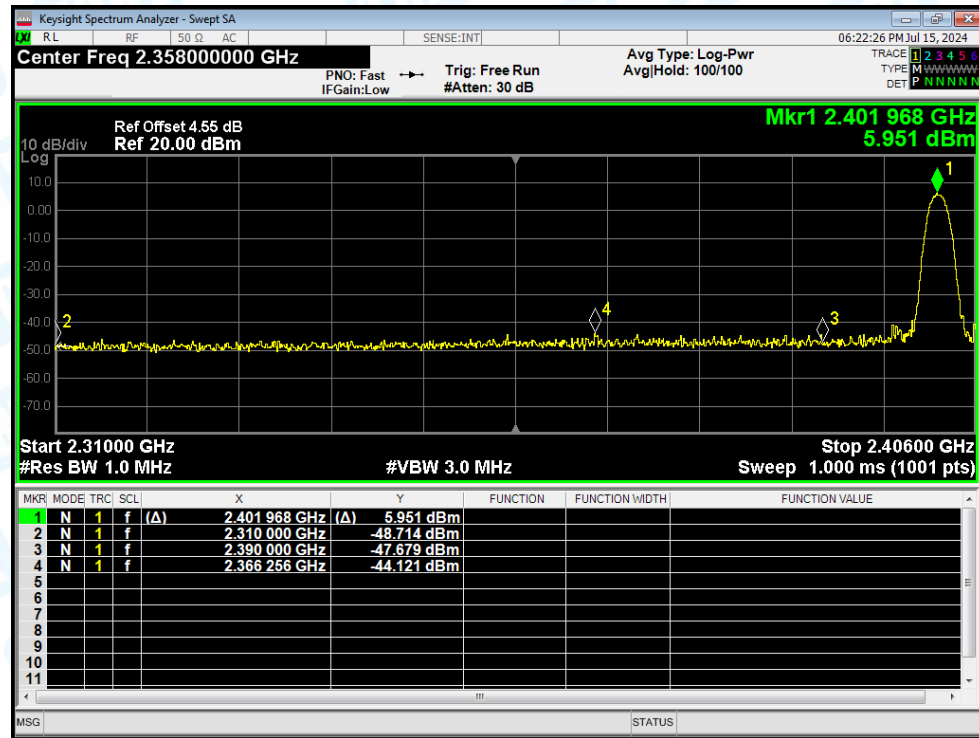
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



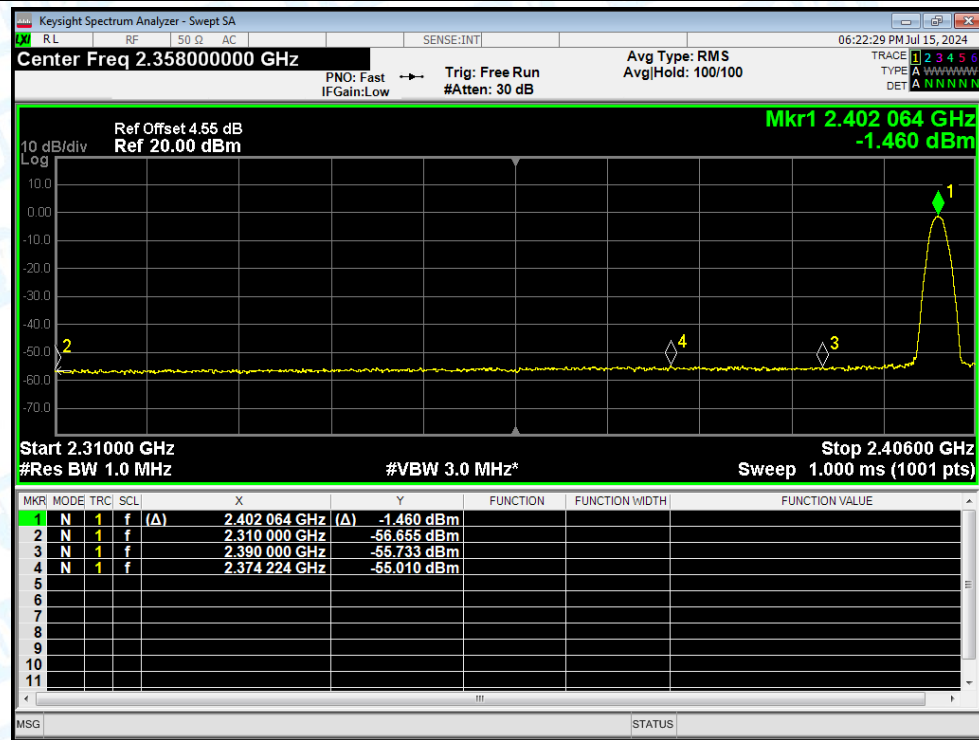
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



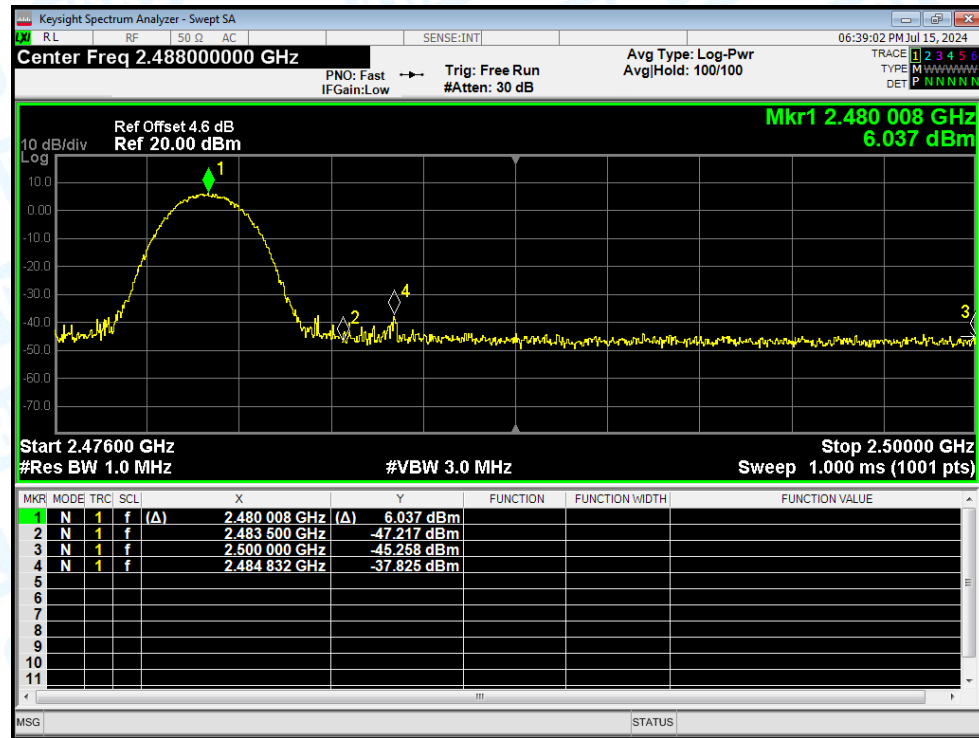
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



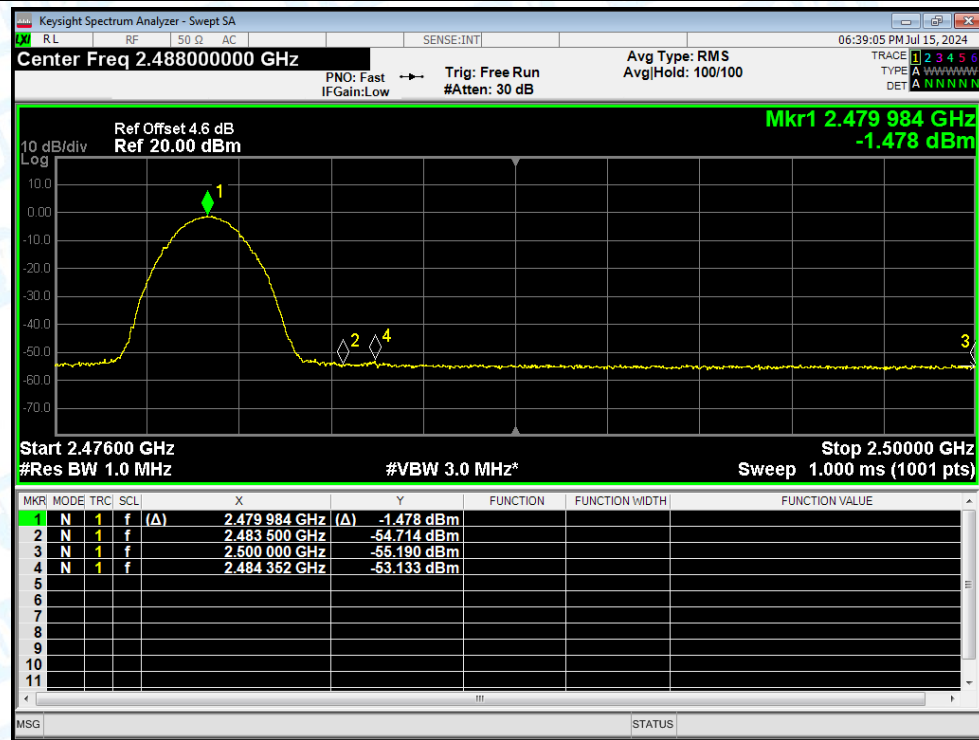
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

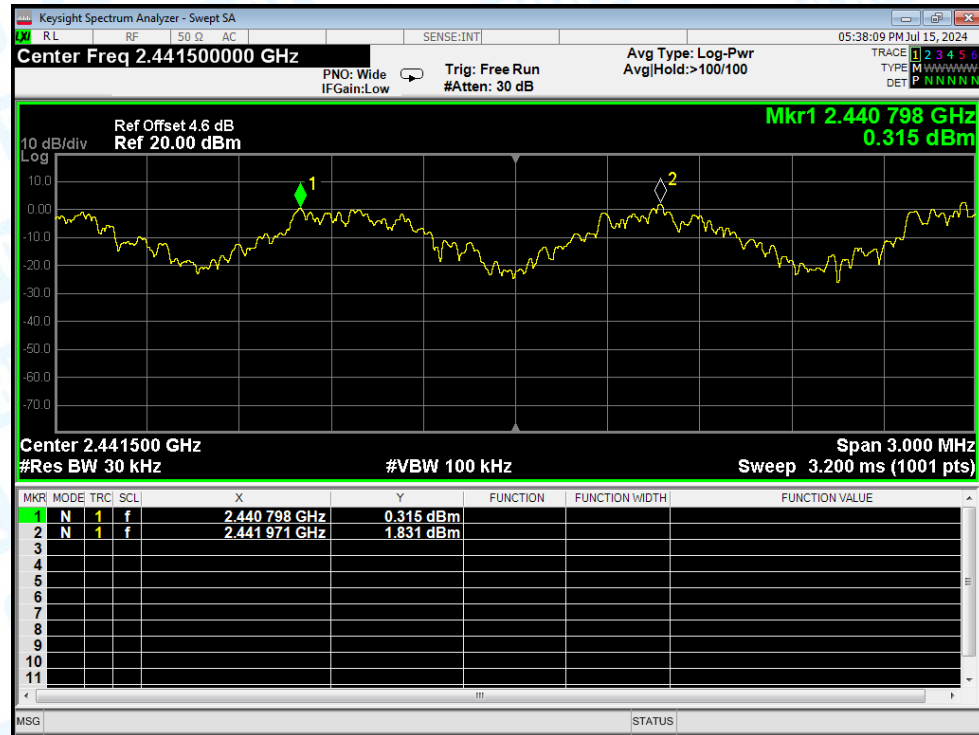


9. Carrier Frequencies Separation

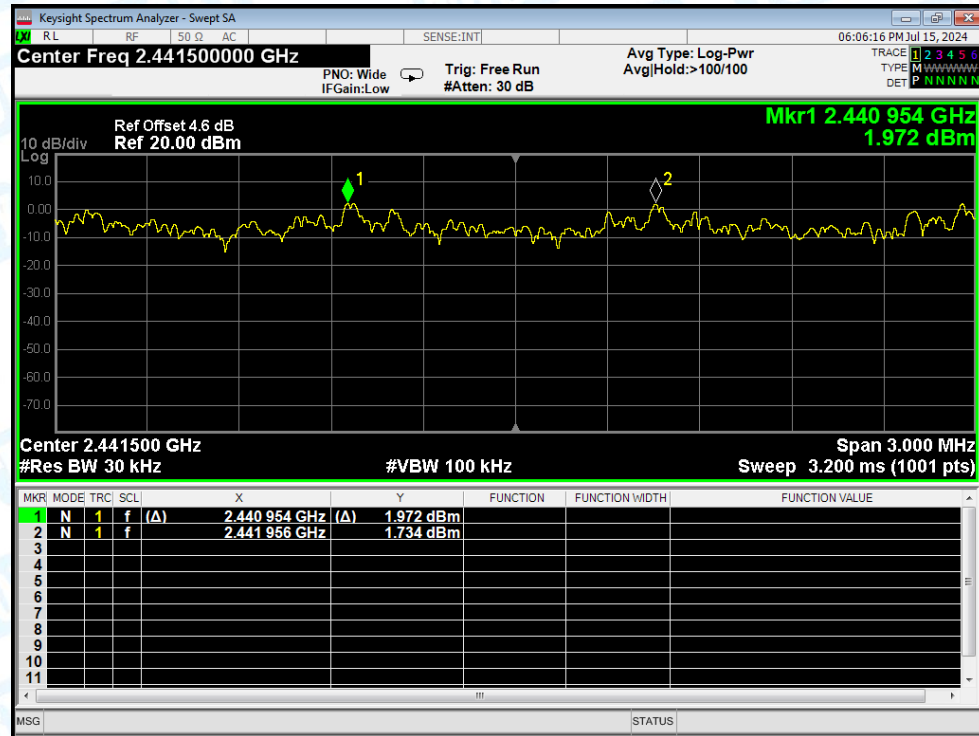
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.798	2441.971	1.173	0.58	Pass
NVNT	2-DH1	Ant1	2440.954	2441.956	1.002	0.833	Pass
NVNT	3-DH1	Ant1	2440.792	2441.8	1.008	0.813	Pass

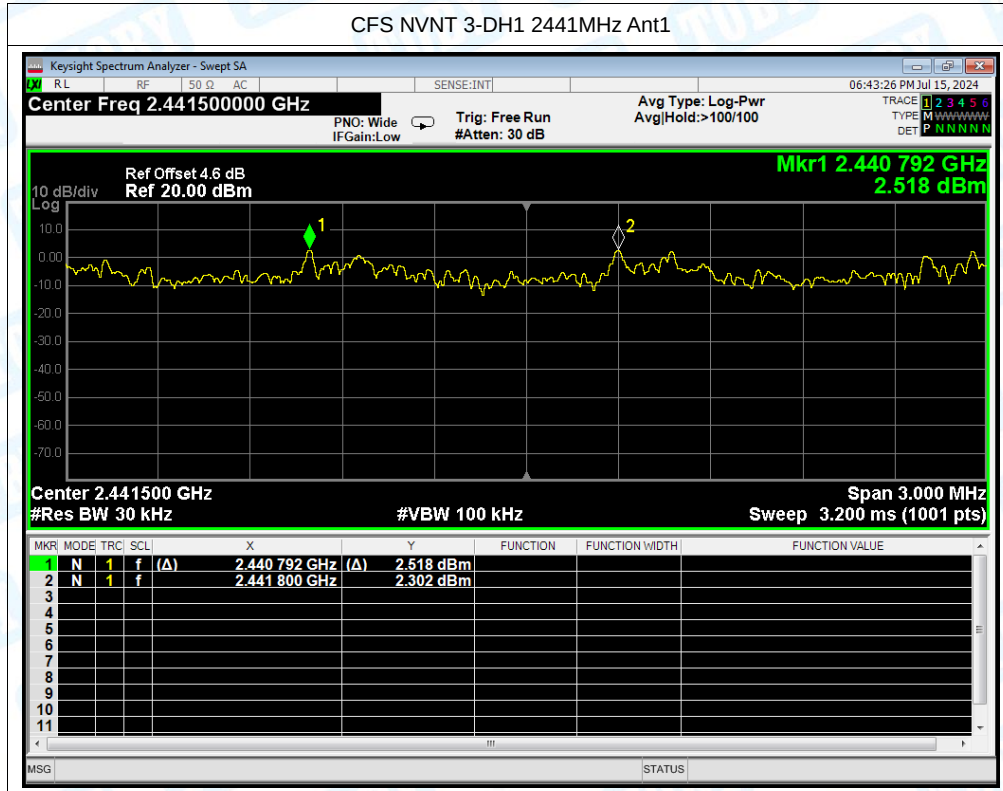
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



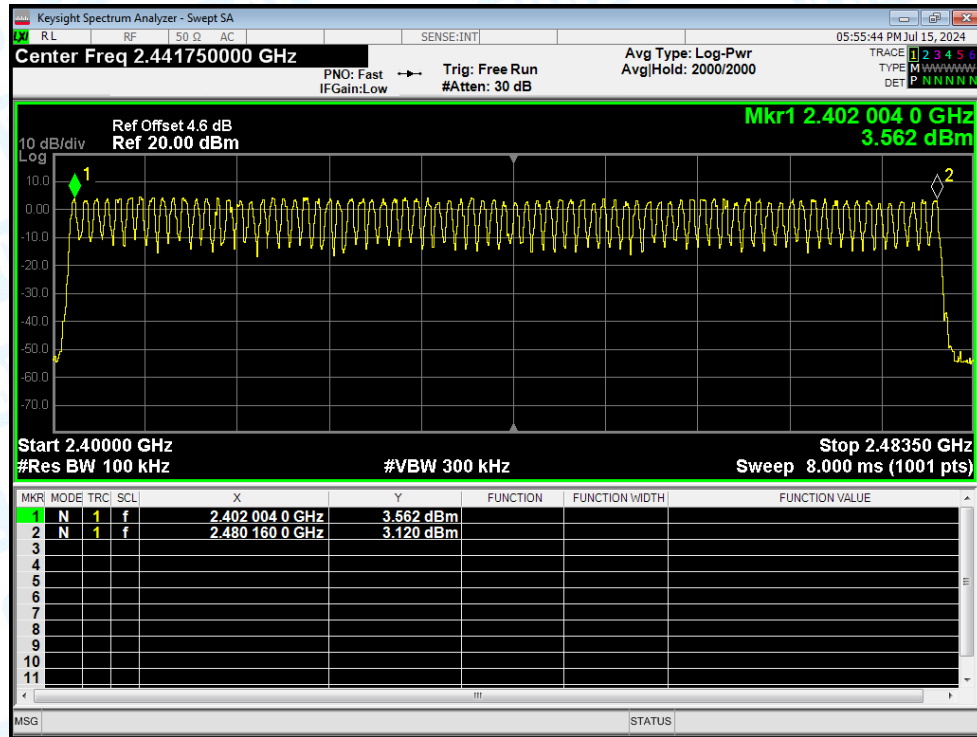


10. Number of Hopping Channel

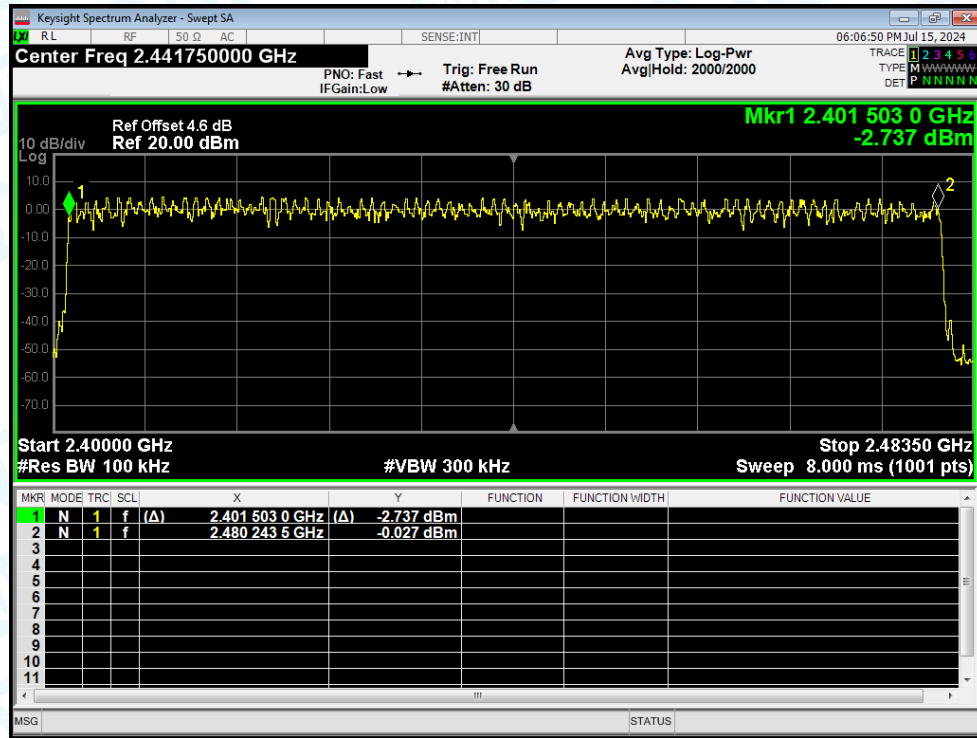
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

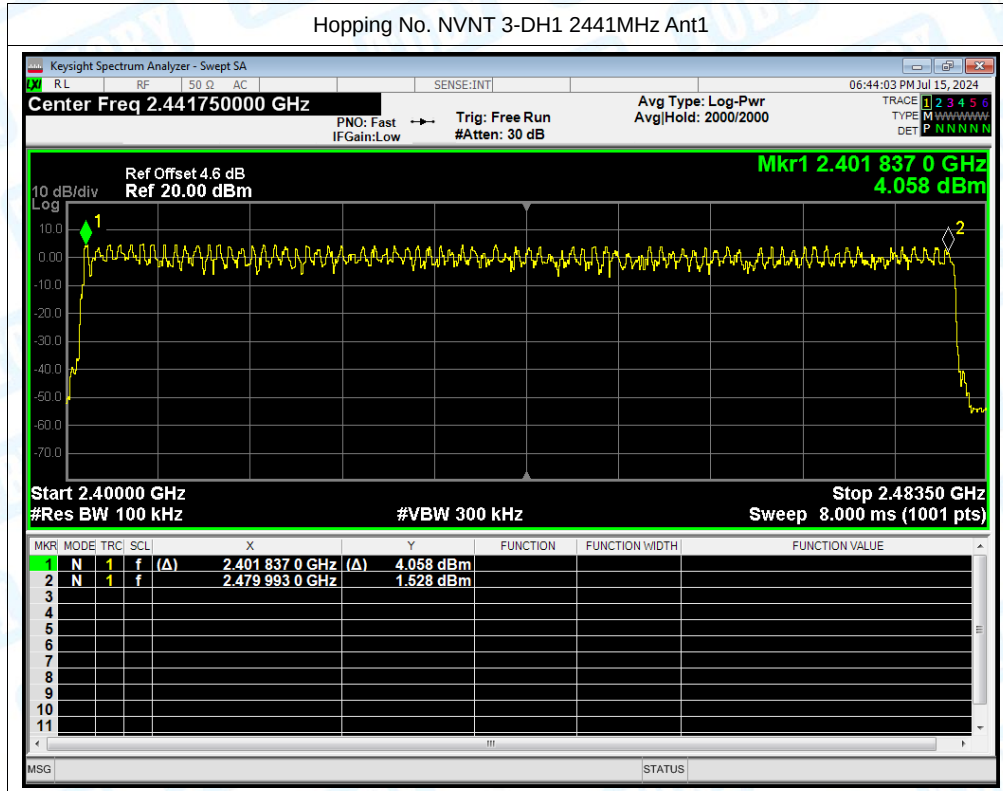
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



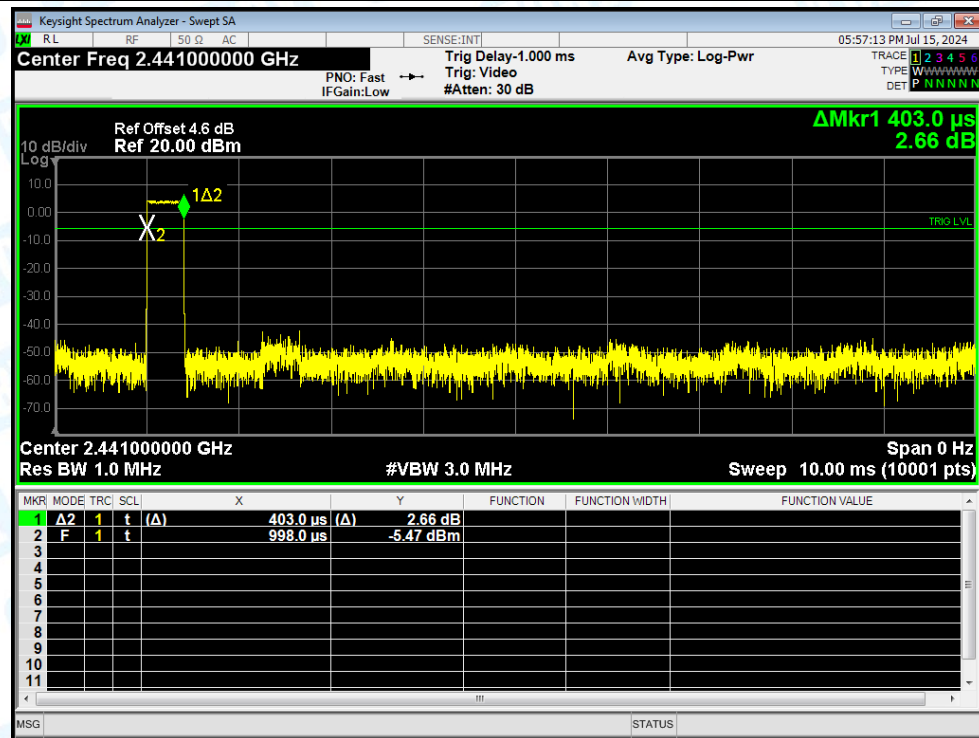


11. Dwell Time

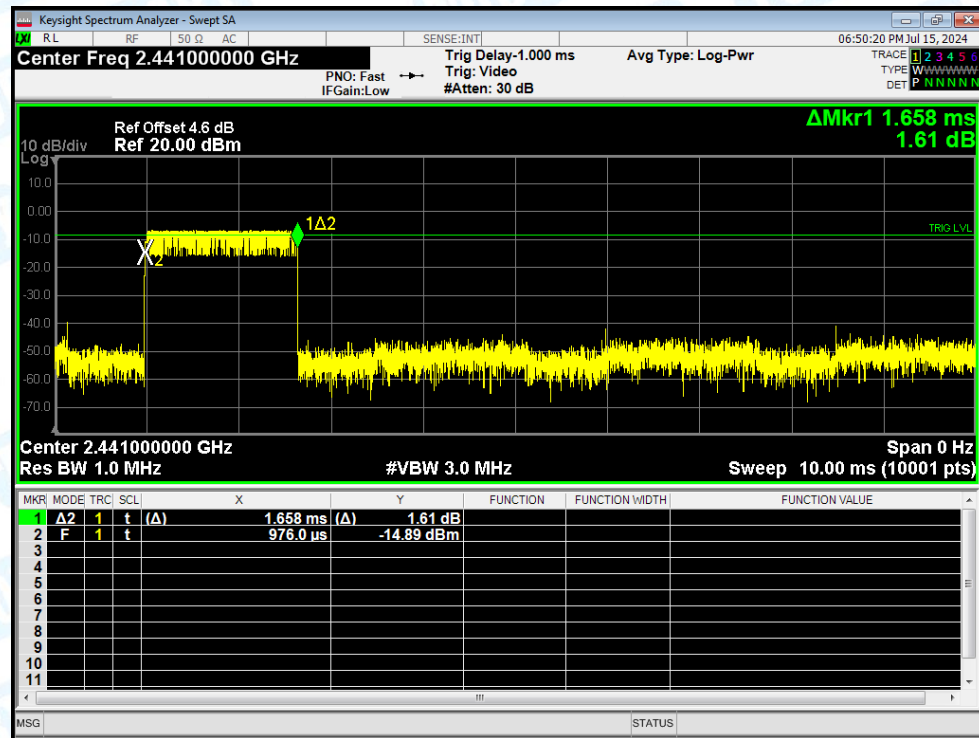
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.403	128.96	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.658	265.28	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.906	309.973	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.412	131.84	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.665	266.4	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.913	310.72	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.408	130.56	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.663	266.08	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.895	308.8	31600	400	Pass

Test Graphs

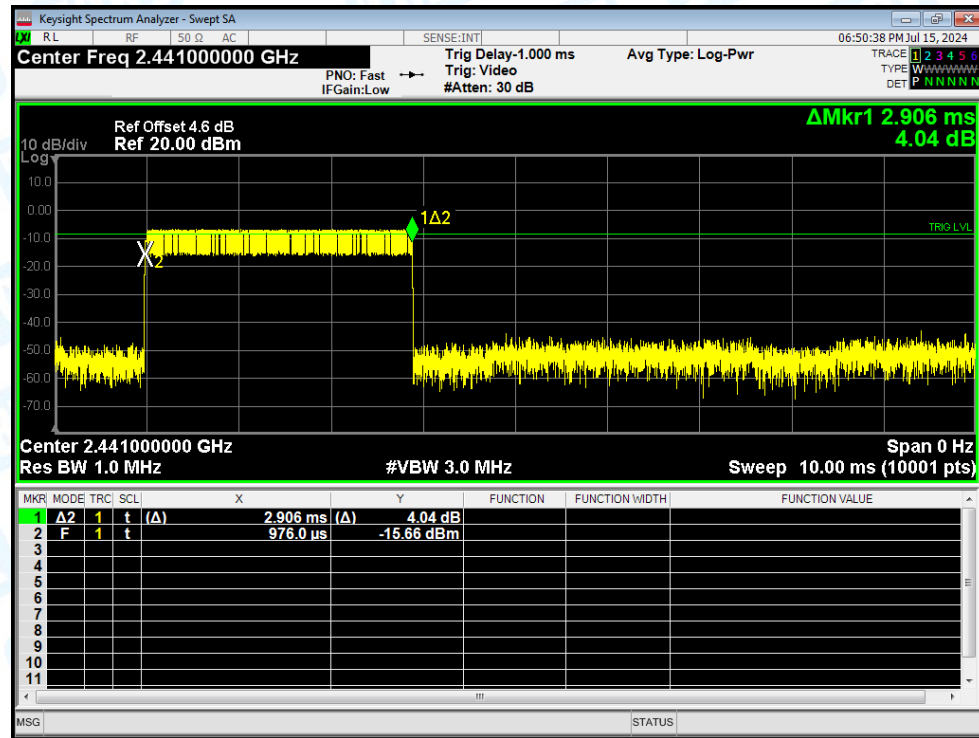
Dwell NVNT 1-DH1 2441MHz Ant1



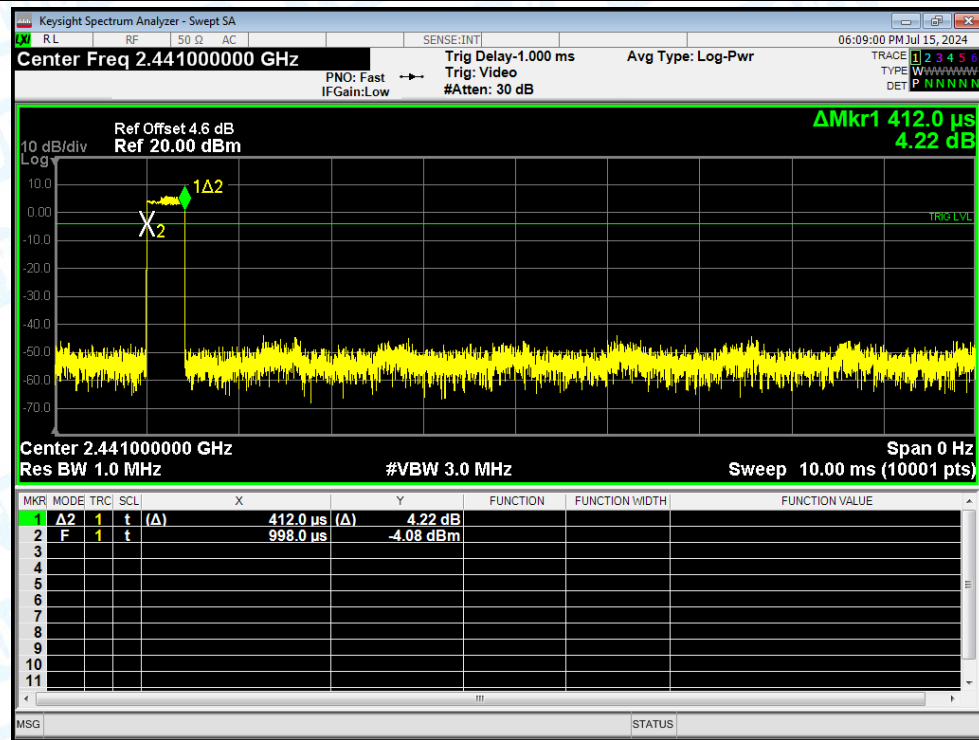
Dwell NVNT 1-DH3 2441MHz Ant1



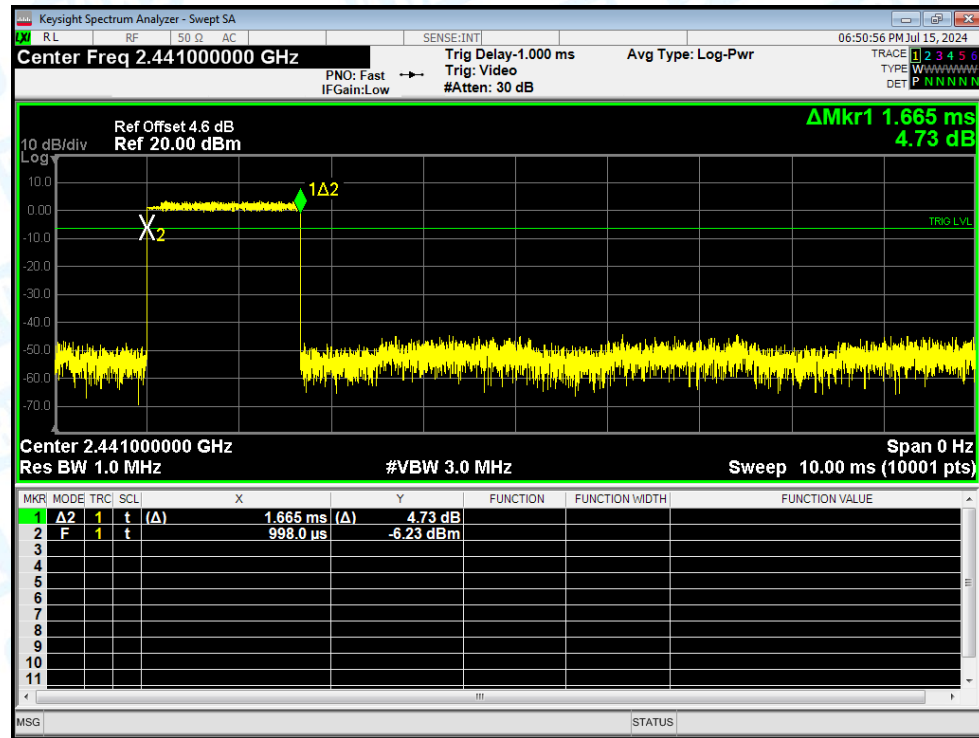
Dwell NVNT 1-DH5 2441MHz Ant1



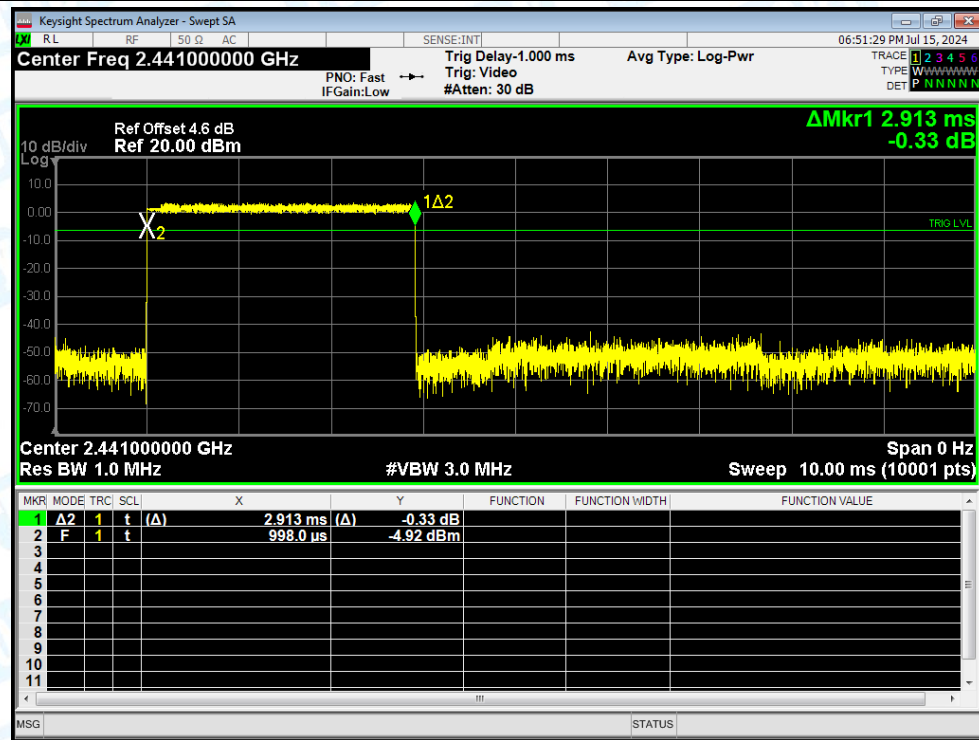
Dwell NVNT 2-DH1 2441MHz Ant1



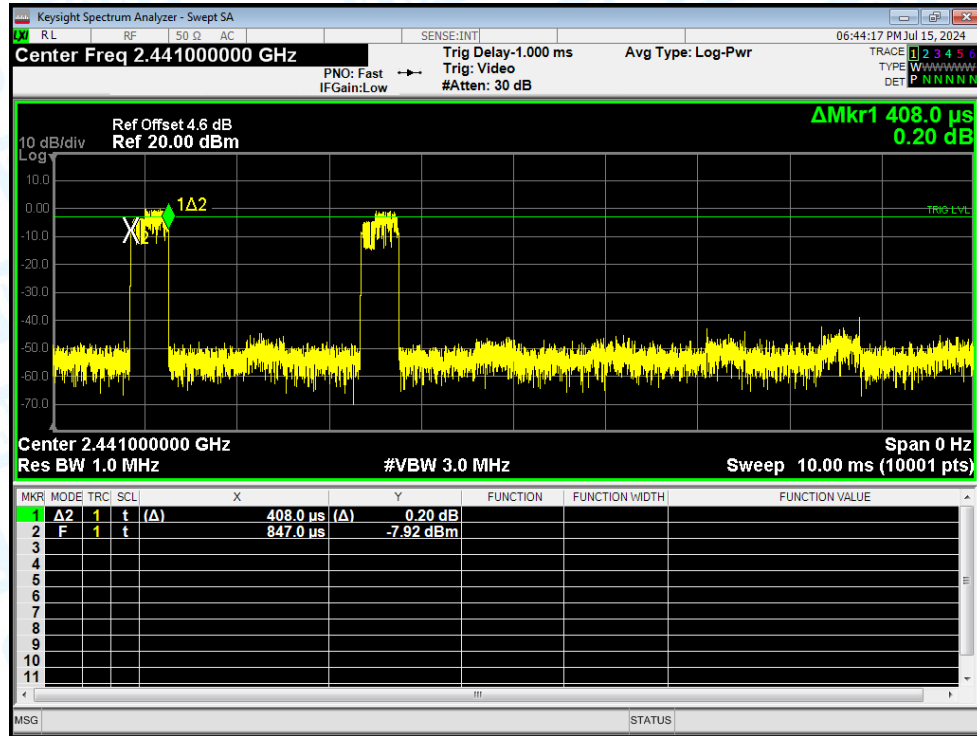
Dwell NVNT 2-DH3 2441MHz Ant1



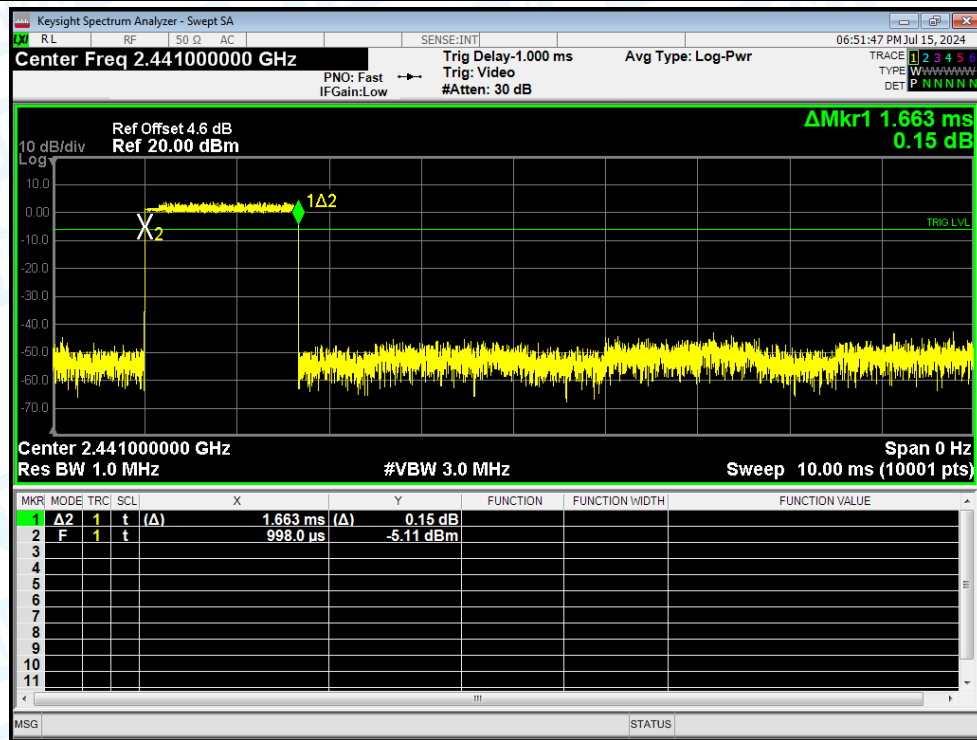
Dwell NVNT 2-DH5 2441MHz Ant1

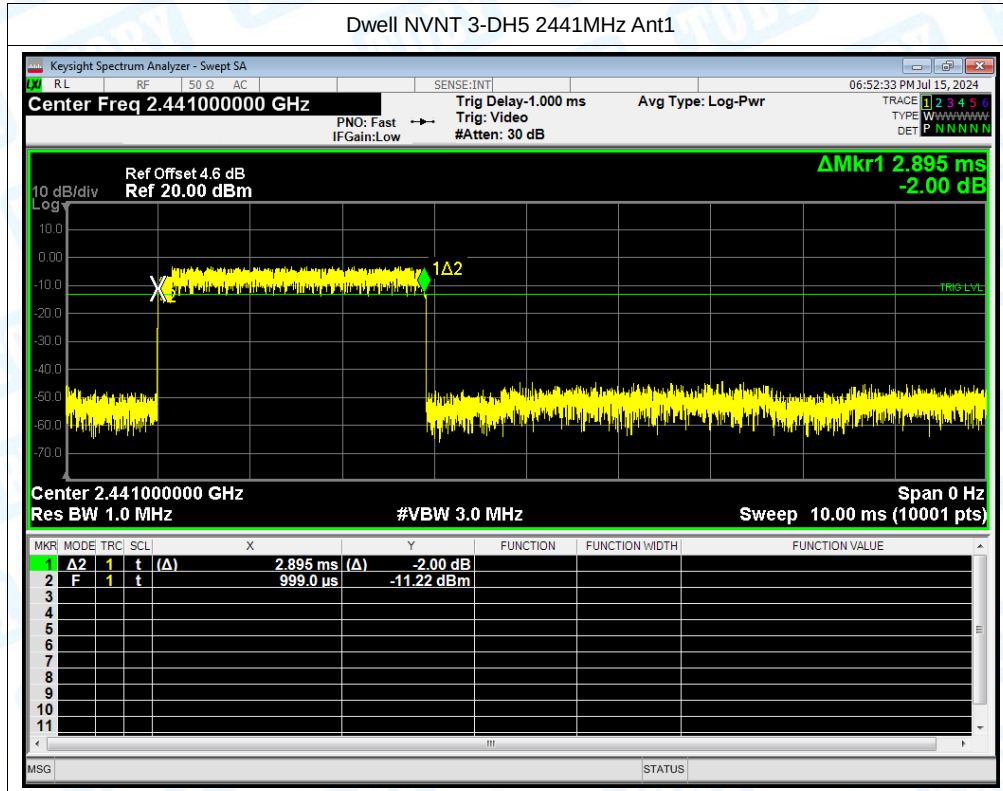


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





----END OF REPORT----