

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Wearable Bluetooth Speaker
Test Model:	4001984
Sample ID:	HC-C-202407-0266-02-01
Environmental Conditions	
Temperature:	24.6℃
Relative Humidity:	52.6%
Test Voltage:	DC 3.7V
Test Engineer:	Jolin Lee
Note: For a more detailed features description, please refer to the report TBR-C-202407-0266-1 The report only show the worst case data.	

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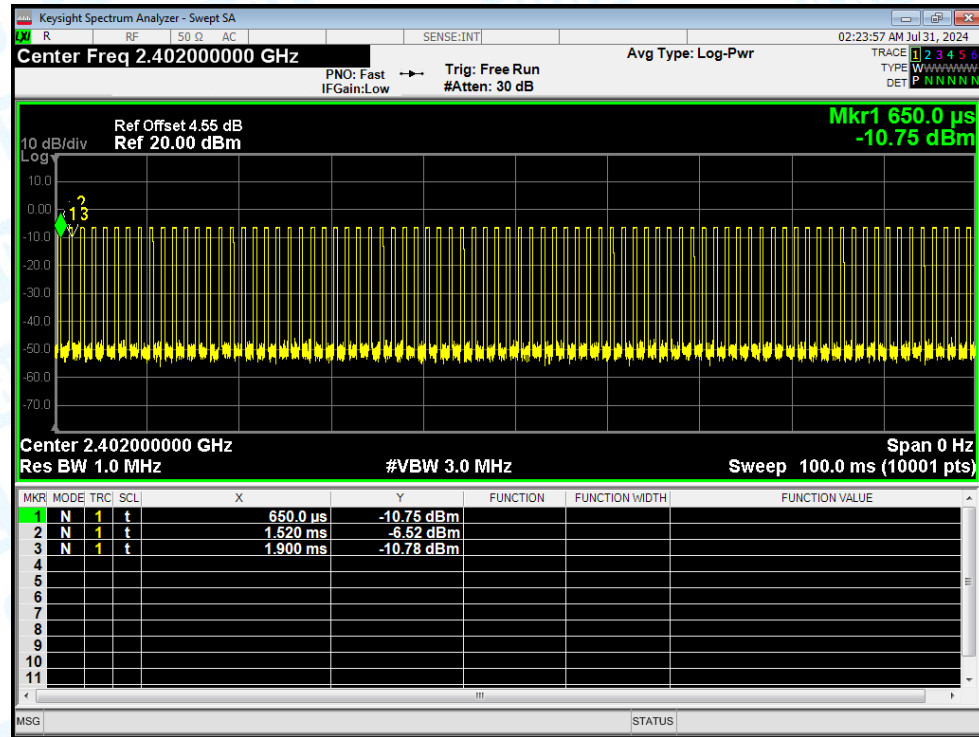
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Duty Cycle

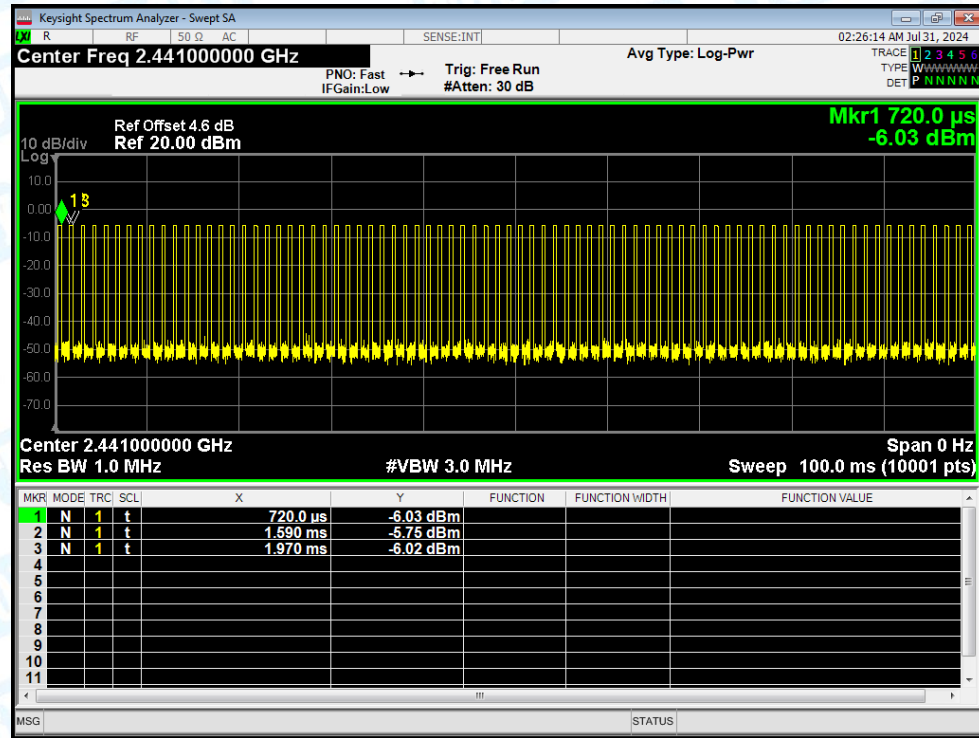
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	29.6	5.29	2.7
NVNT	2-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	30.4	5.17	2.63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

Test Graphs

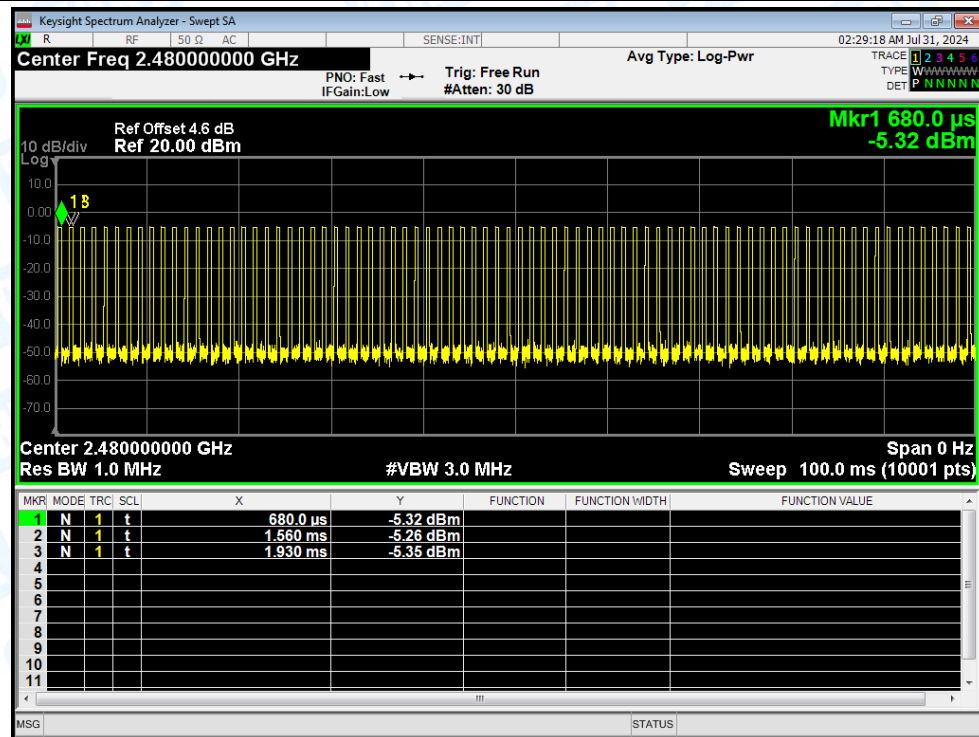
Duty Cycle NVNT 1-DH1 2402MHz Ant1



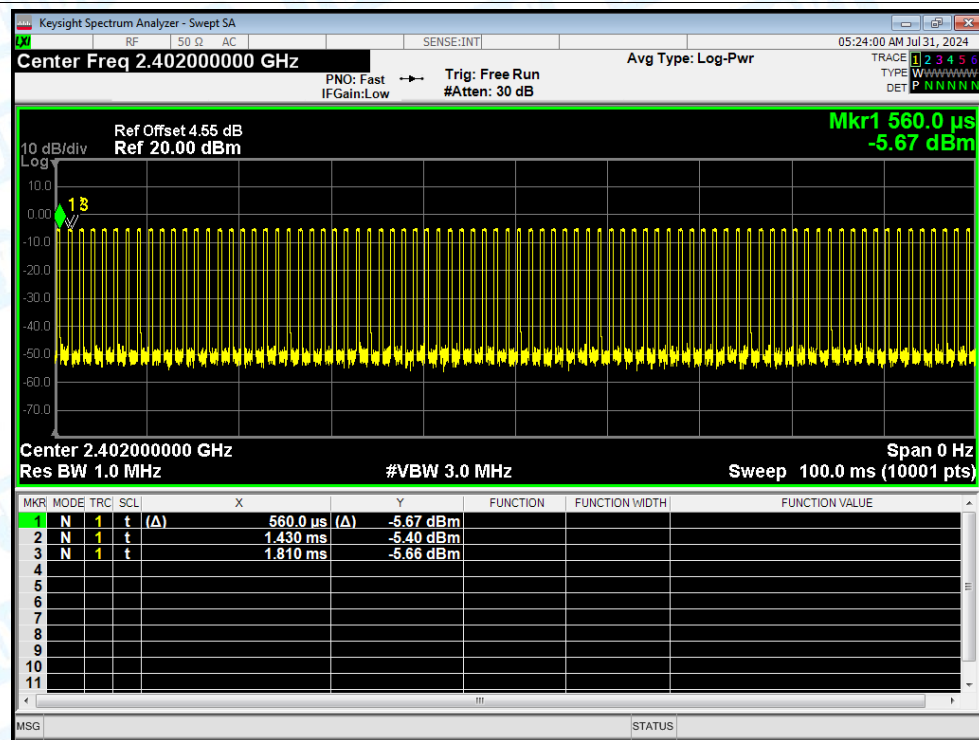
Duty Cycle NVNT 1-DH1 2441MHz Ant1



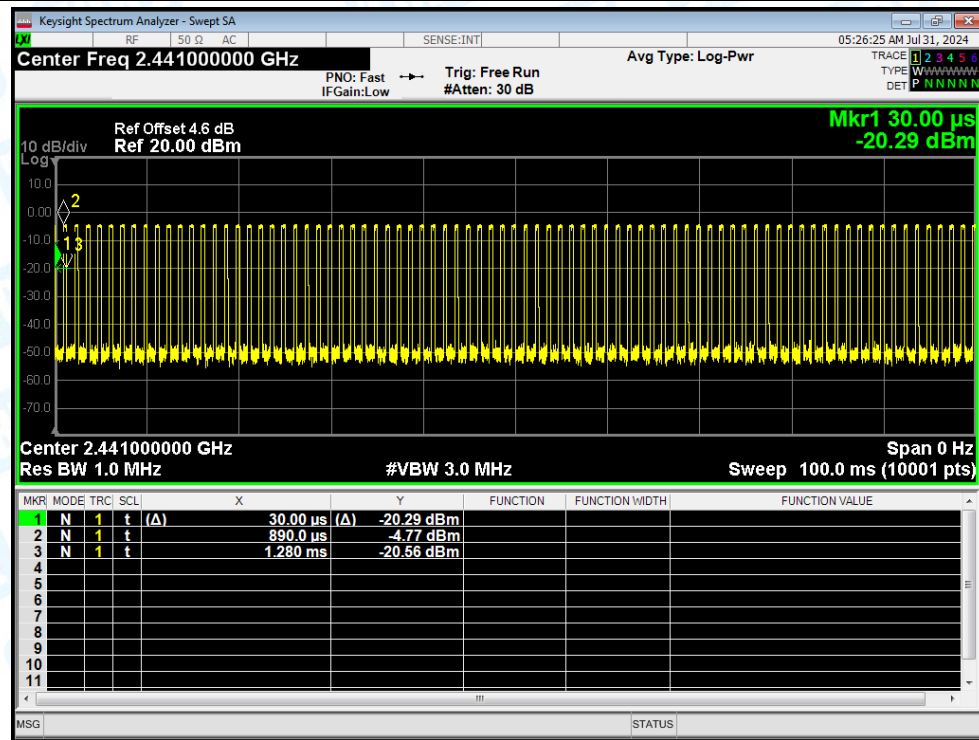
Duty Cycle NVNT 1-DH1 2480MHz Ant1



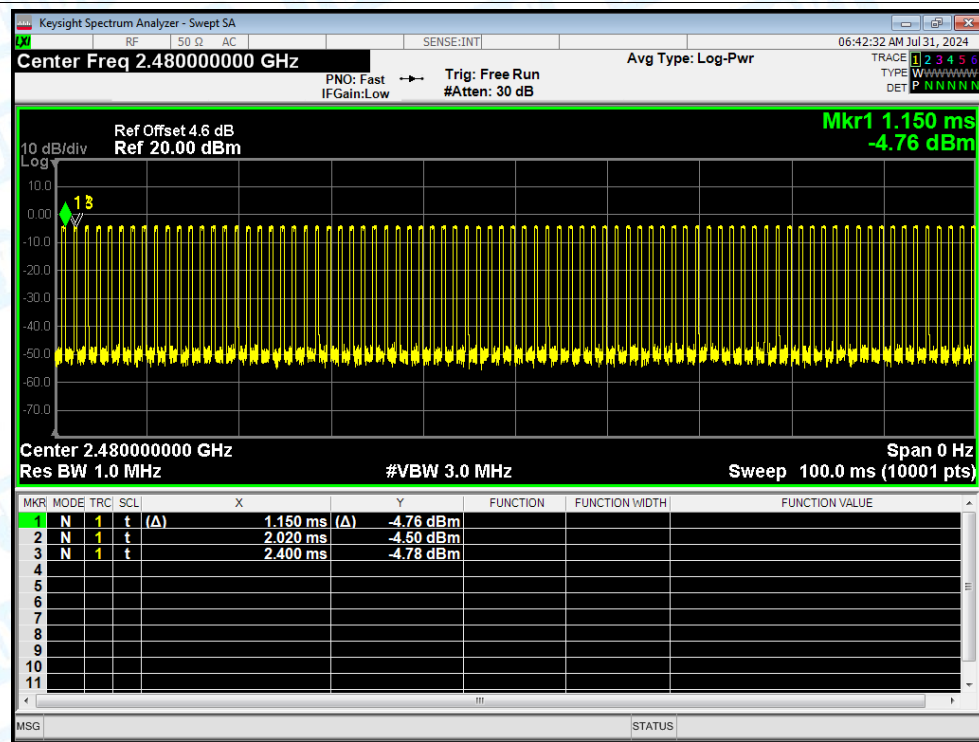
Duty Cycle NVNT 2-DH1 2402MHz Ant1



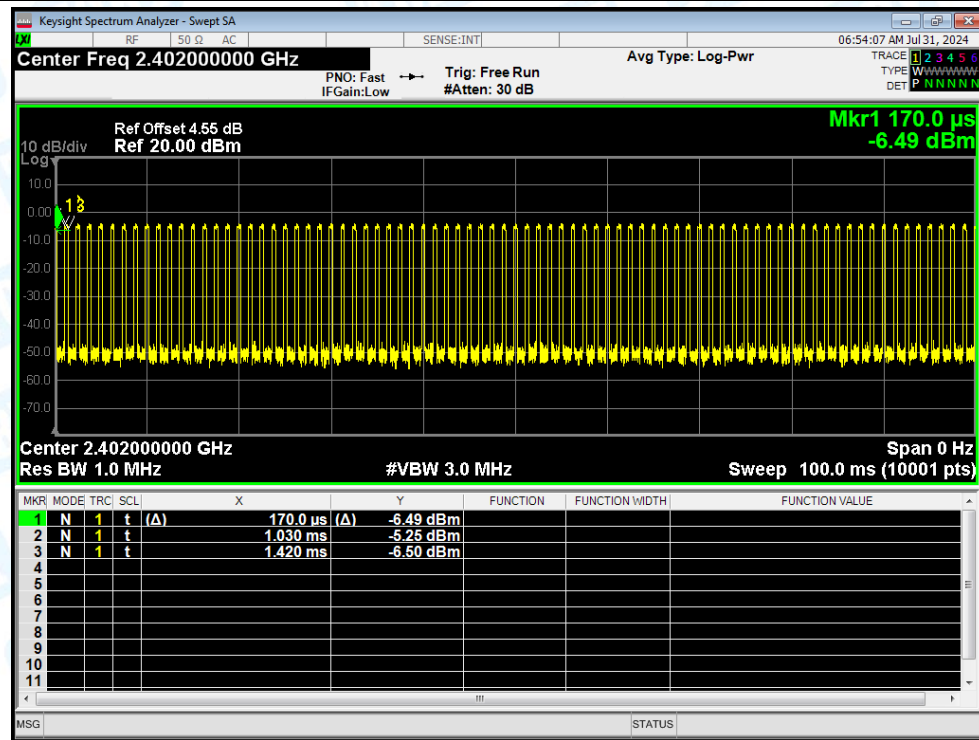
Duty Cycle NVNT 2-DH1 2441MHz Ant1



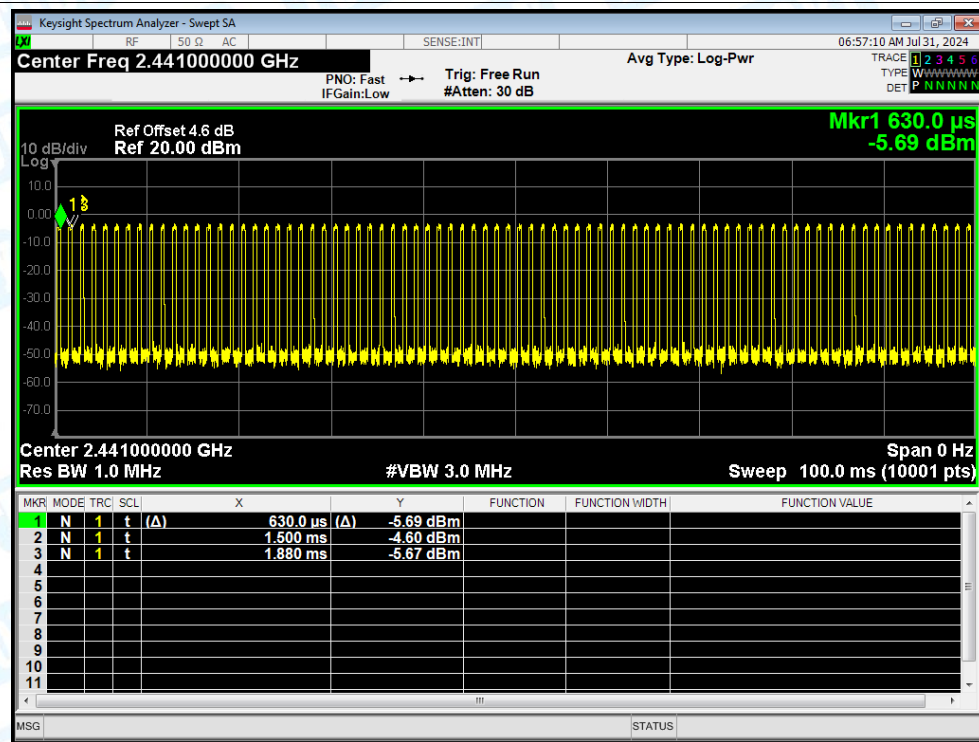
Duty Cycle NVNT 2-DH1 2480MHz Ant1

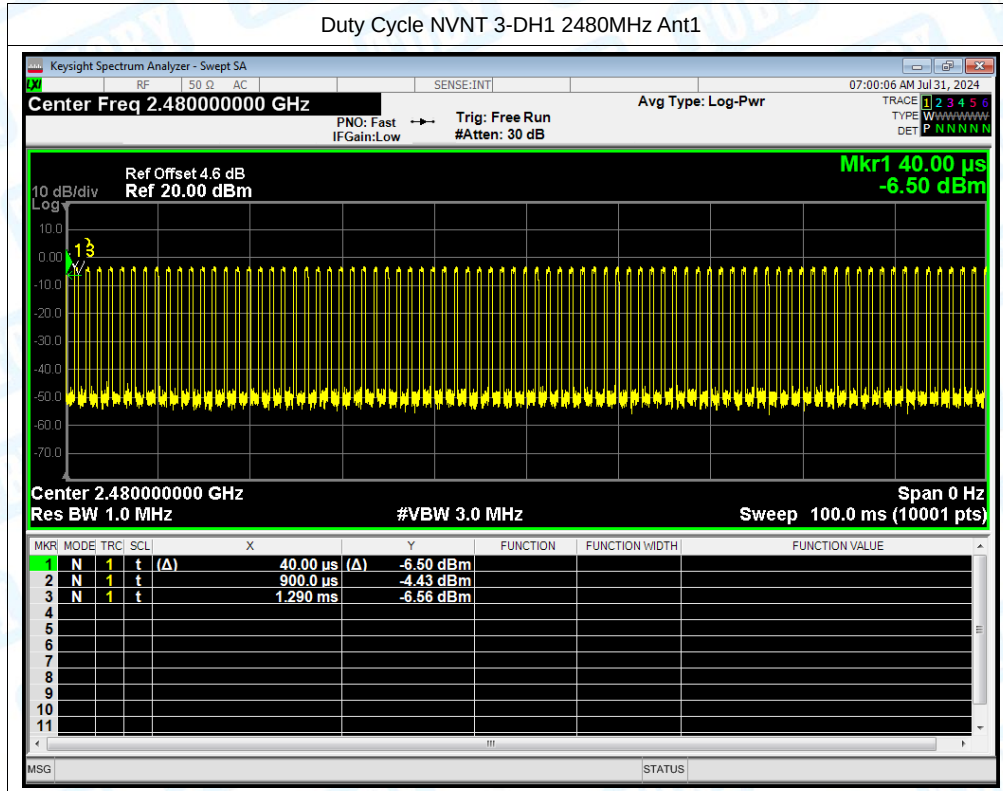


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



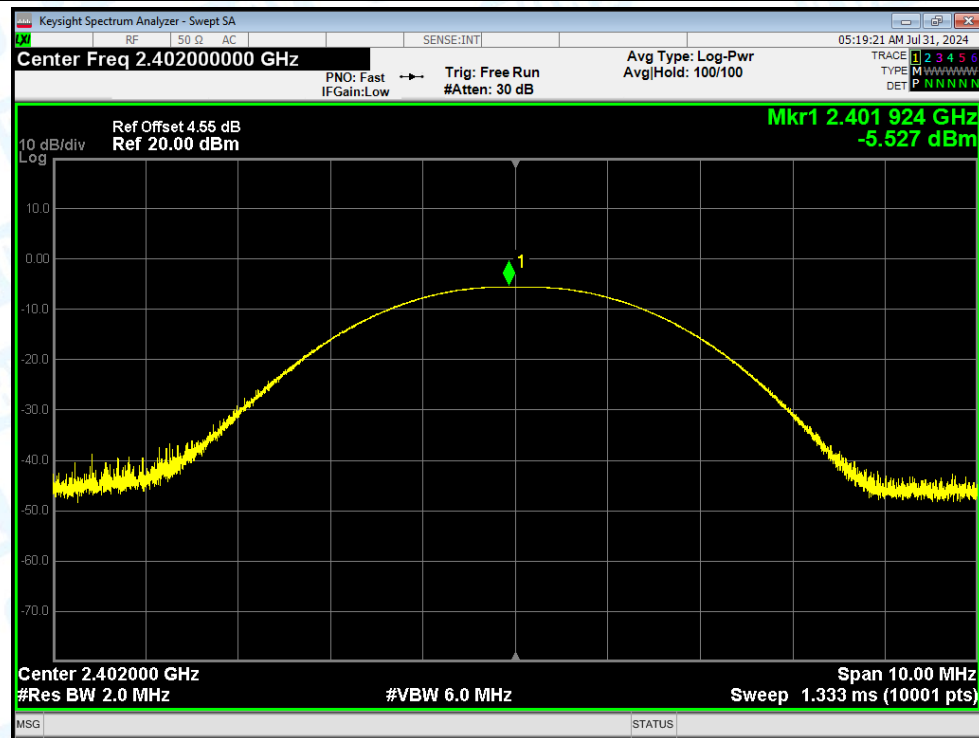


Maximum Conducted Output Power

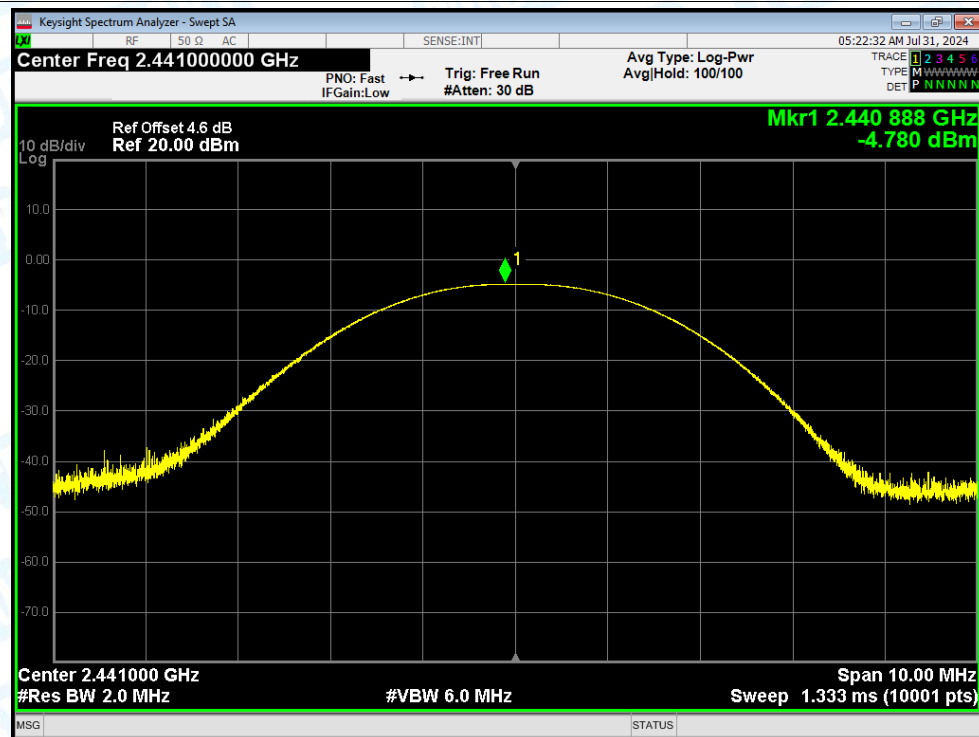
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	-5.527	21	Pass
NVNT	1-DH1	2441	Ant1	-4.78	21	Pass
NVNT	1-DH1	2480	Ant1	-4.611	21	Pass
NVNT	1-DH3	2441	Ant1	-4.495	21	Pass
NVNT	1-DH5	2441	Ant1	-4.512	21	Pass
NVNT	2-DH1	2402	Ant1	-4.436	21	Pass
NVNT	2-DH1	2441	Ant1	-3.816	21	Pass
NVNT	2-DH1	2480	Ant1	-3.511	21	Pass
NVNT	2-DH3	2441	Ant1	-3.591	21	Pass
NVNT	2-DH5	2441	Ant1	-3.634	21	Pass
NVNT	3-DH1	2402	Ant1	-3.653	21	Pass
NVNT	3-DH1	2441	Ant1	-3.039	21	Pass
NVNT	3-DH1	2480	Ant1	-2.859	21	Pass
NVNT	3-DH3	2441	Ant1	-3.174	21	Pass
NVNT	3-DH5	2441	Ant1	-3.182	21	Pass

Test Graphs

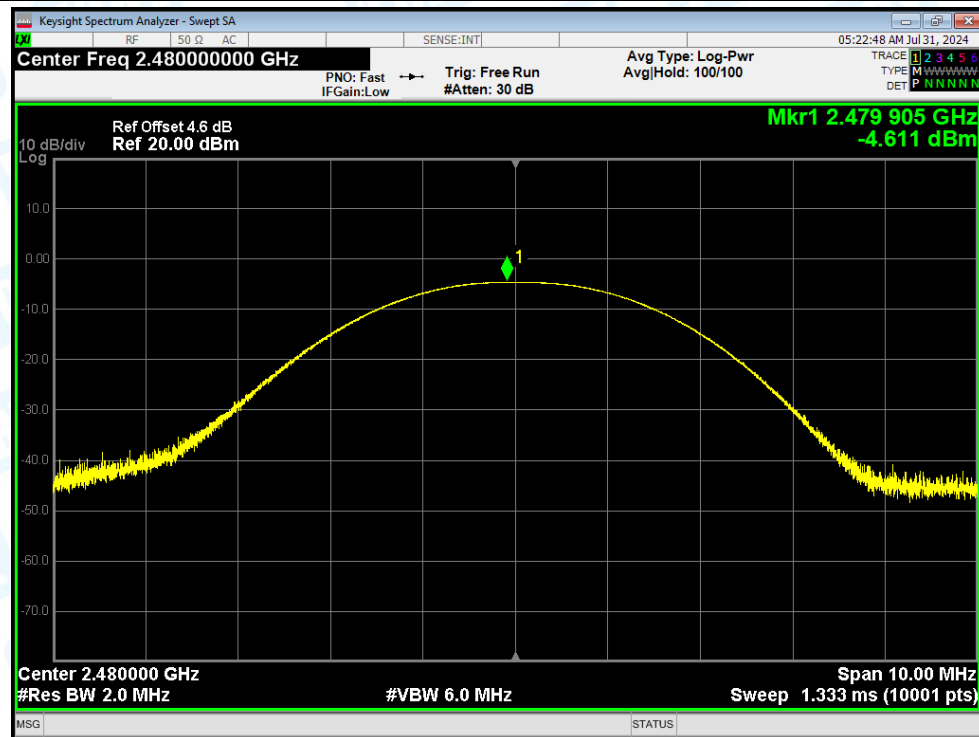
Power NVNT 1-DH1 2402MHz Ant1



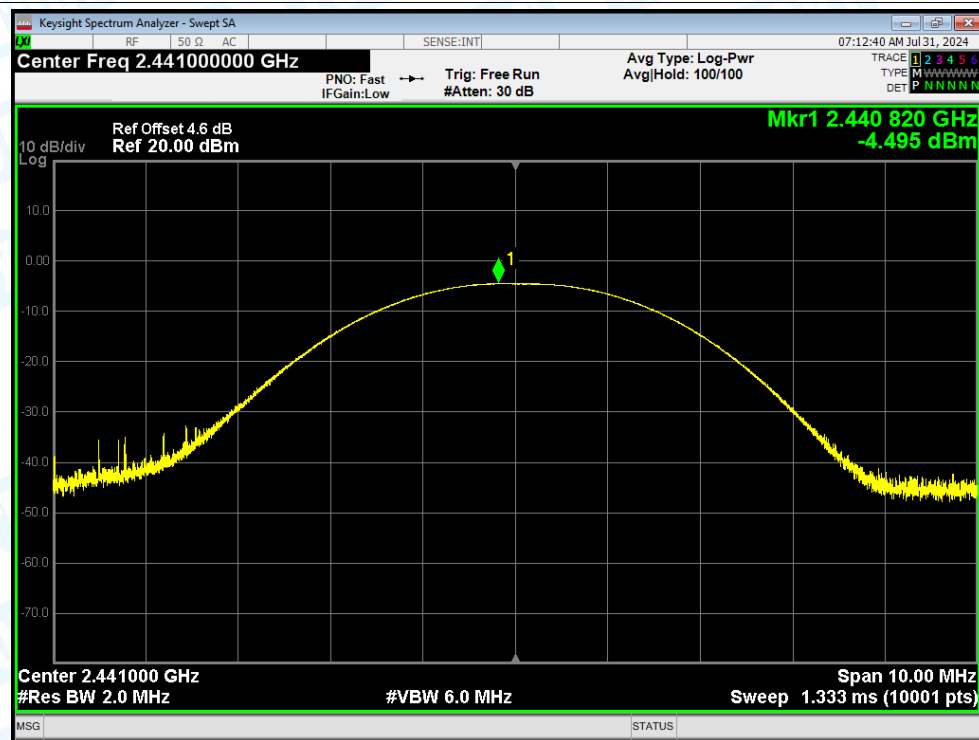
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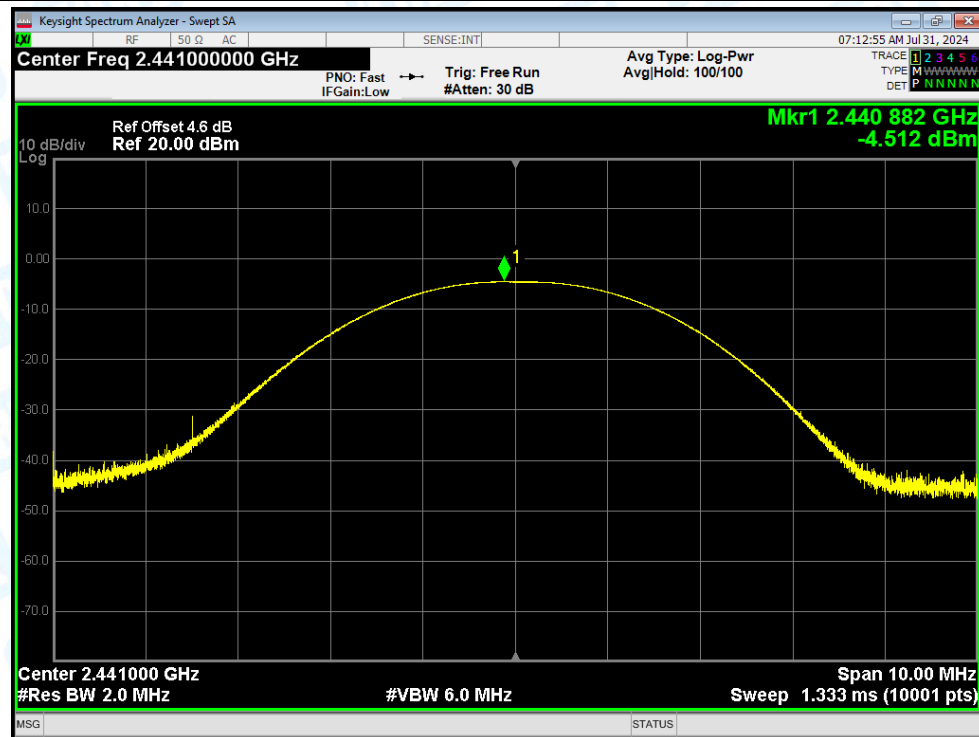
Power NVNT 1-DH1 2480MHz Ant1



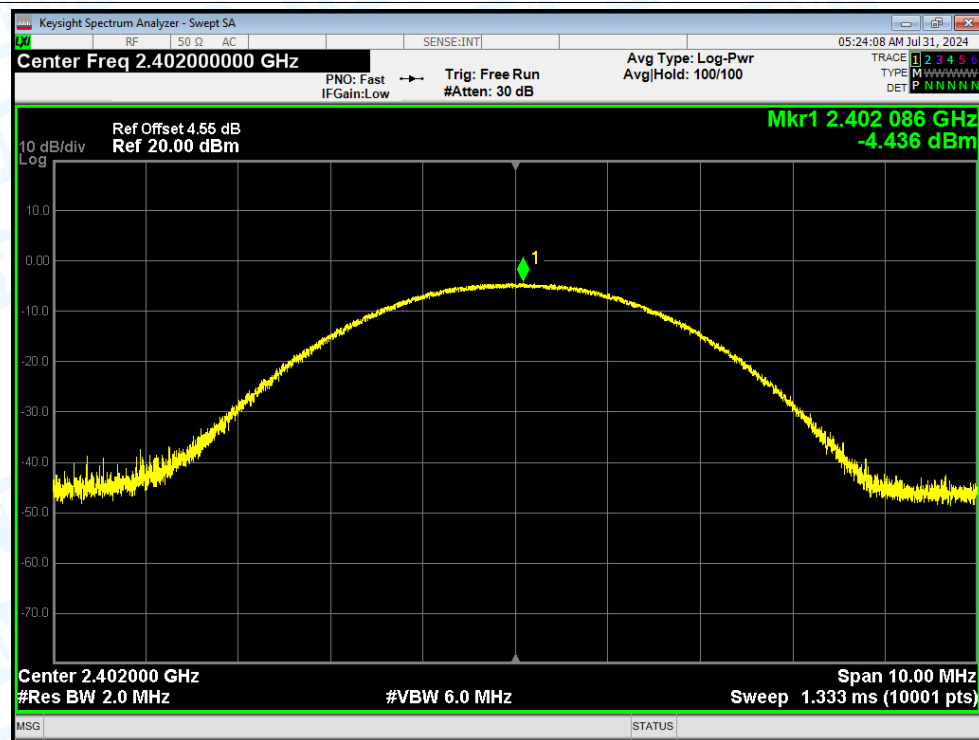
Power NVNT 1-DH3 2441MHz Ant1



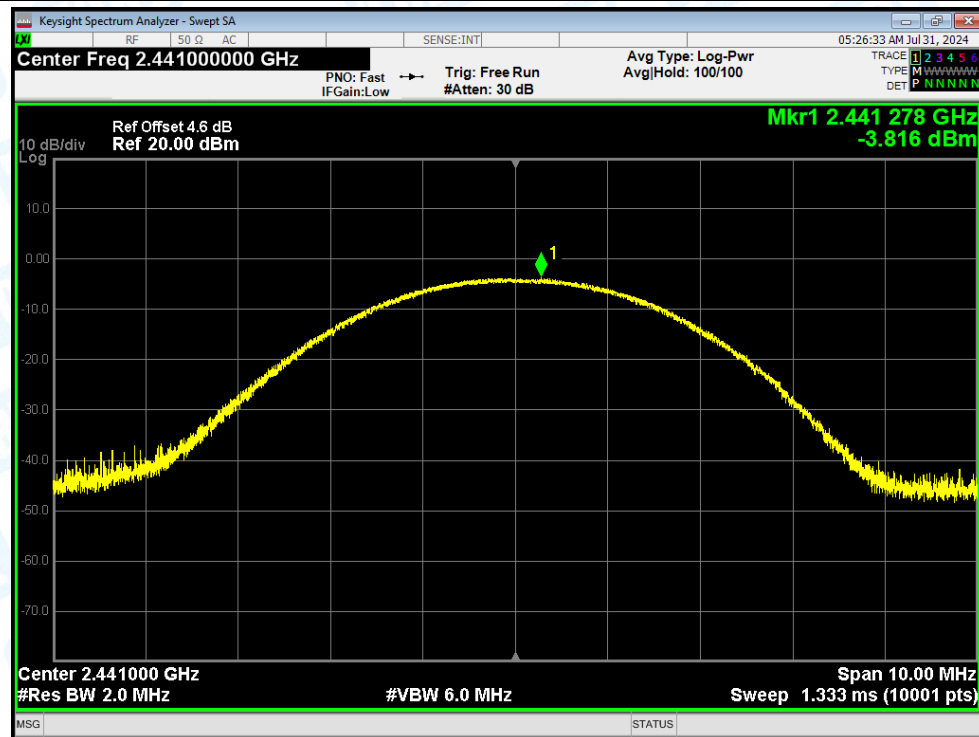
Power NVNT 1-DH5 2441MHz Ant1



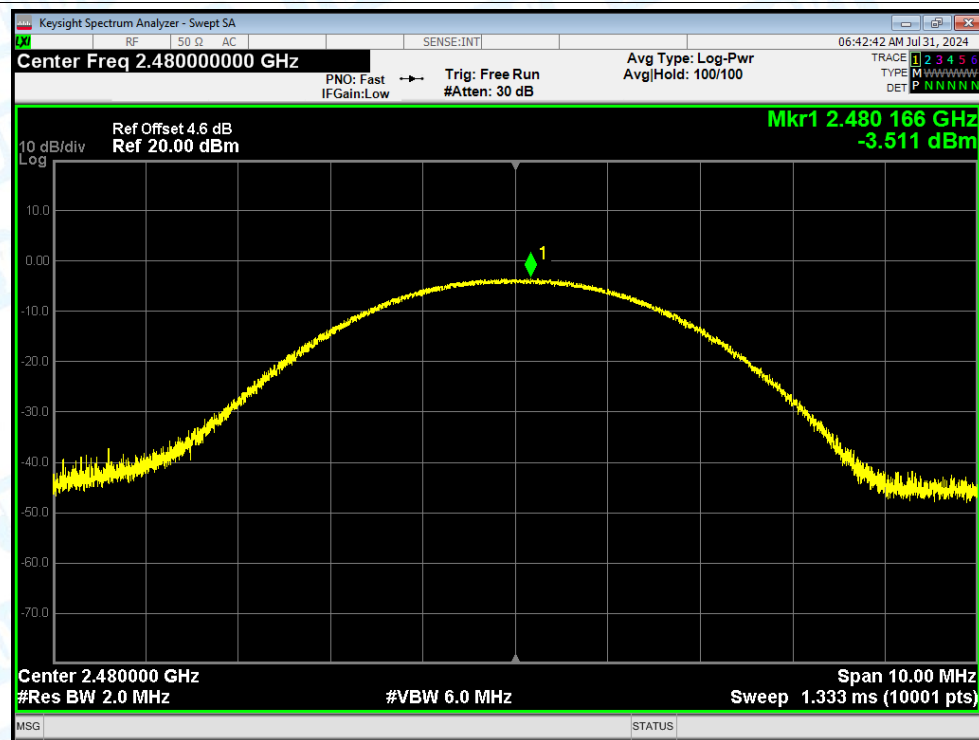
Power NVNT 2-DH1 2402MHz Ant1



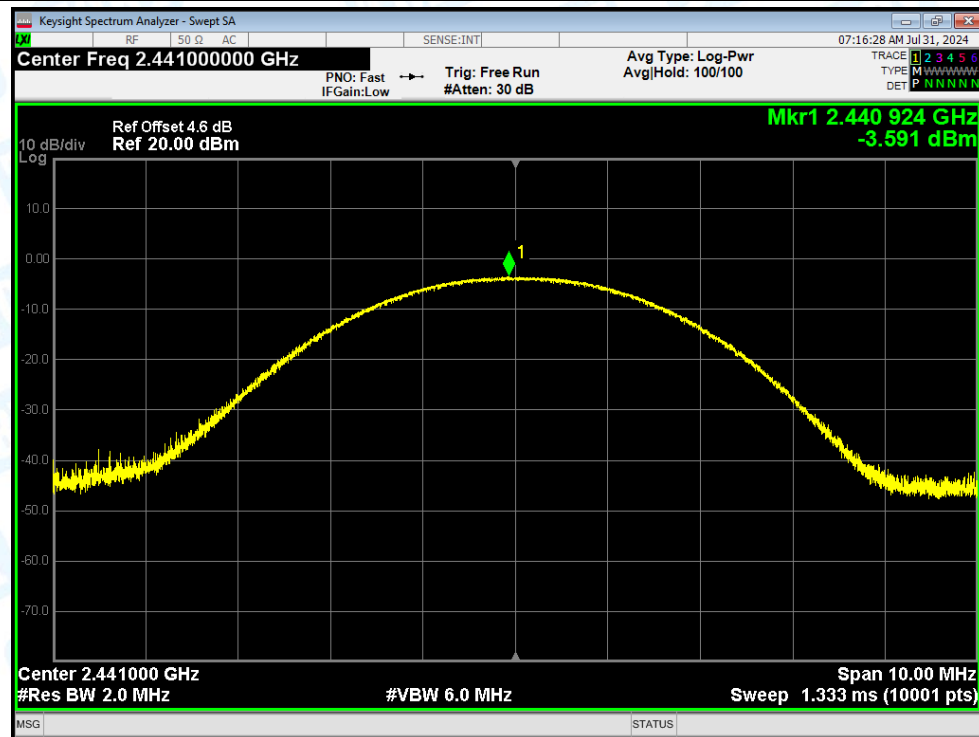
Power NVNT 2-DH1 2441MHz Ant1



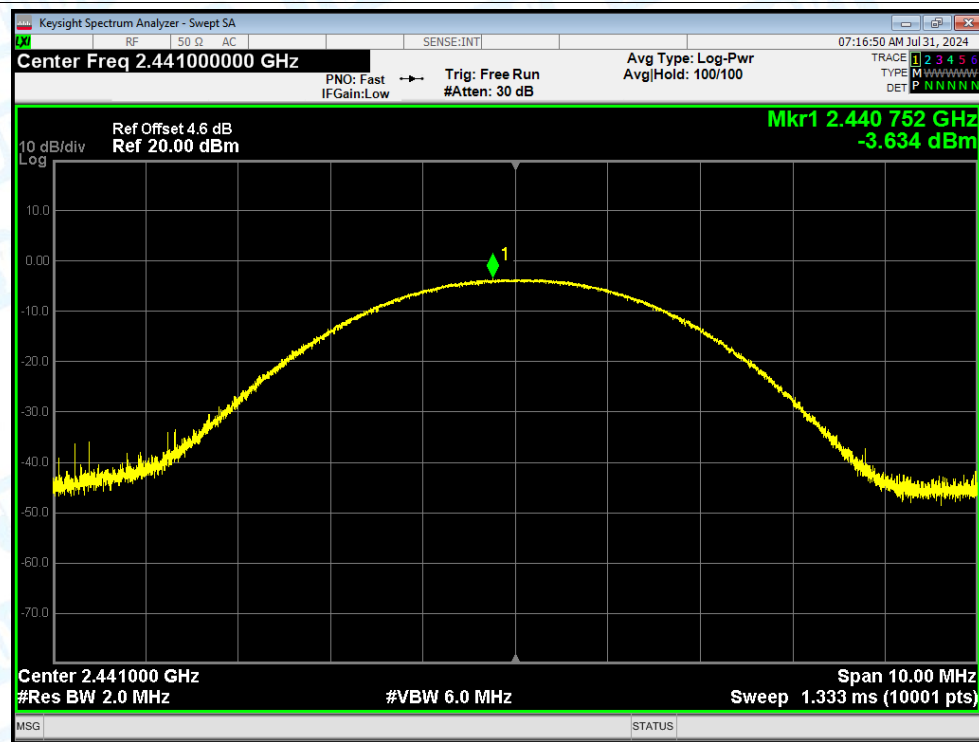
Power NVNT 2-DH1 2480MHz Ant1



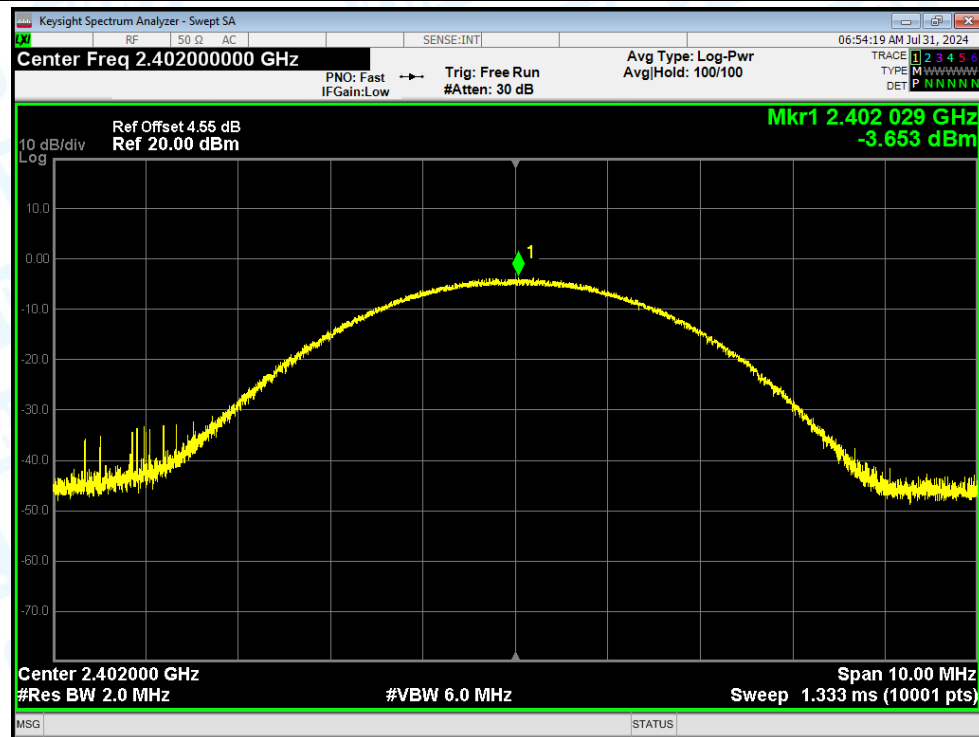
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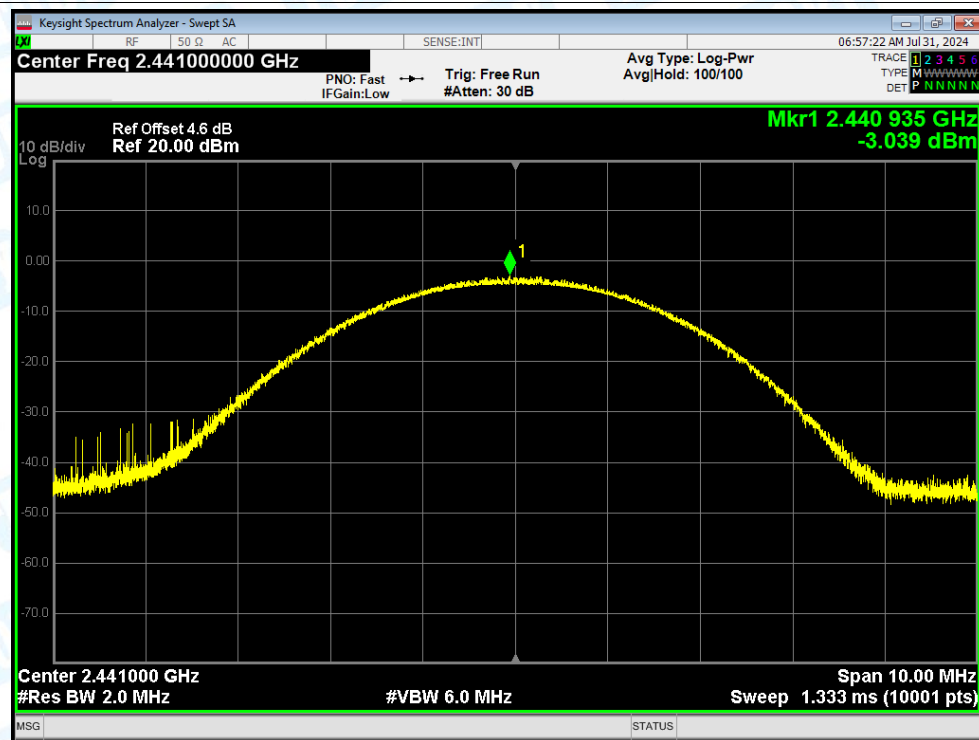
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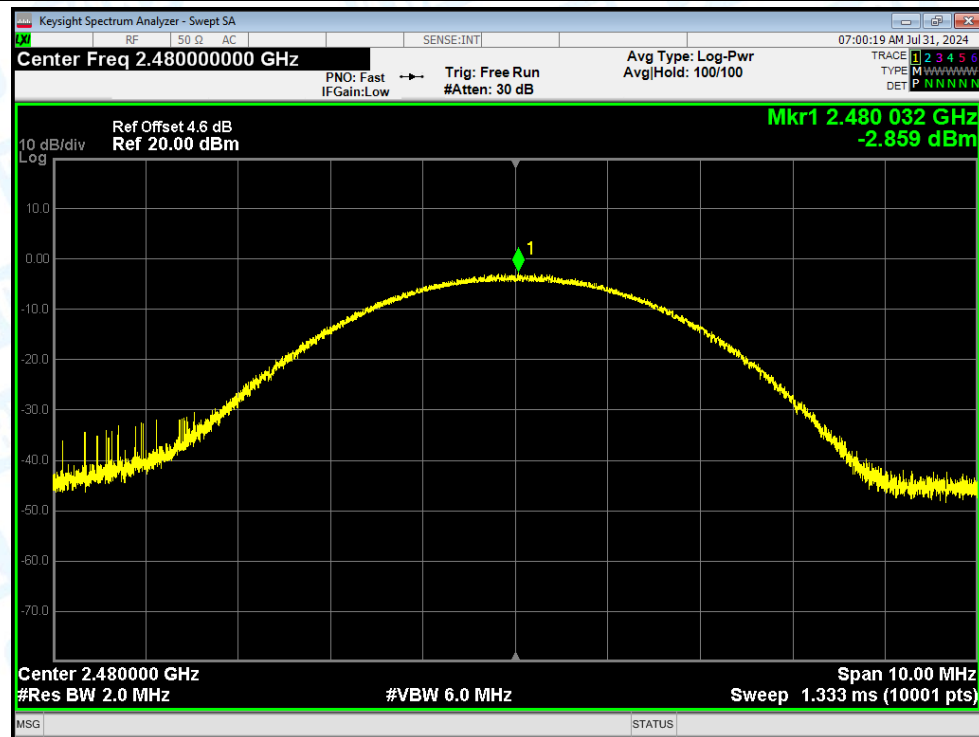
Power NVNT 3-DH1 2402MHz Ant1



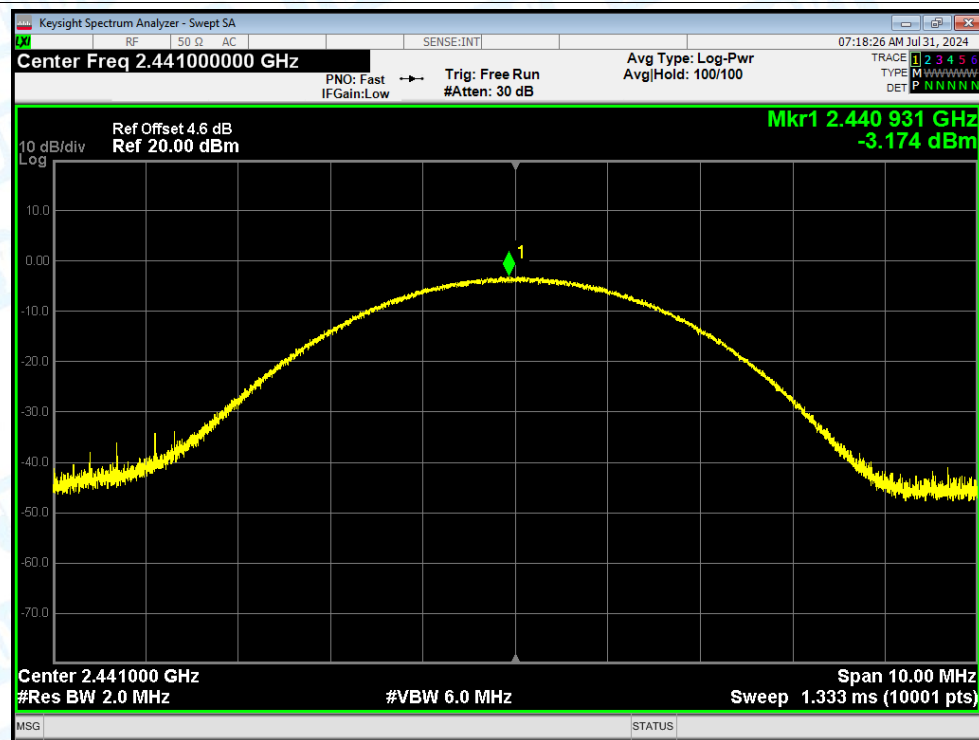
Power NVNT 3-DH1 2441MHz Ant1

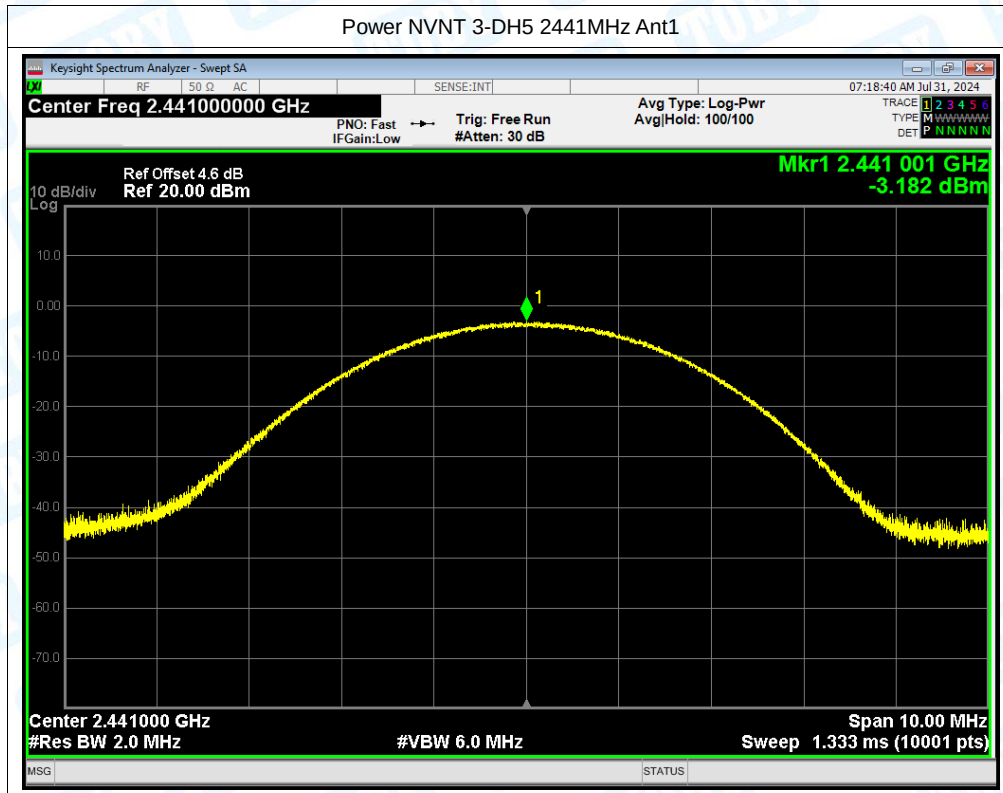


Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1



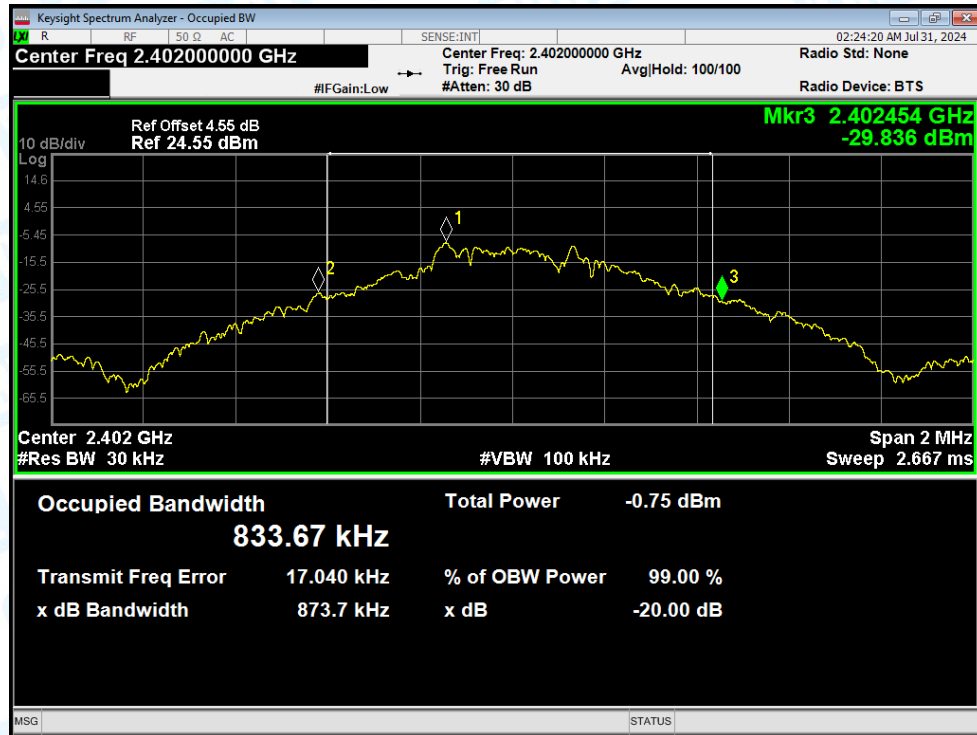


-20dB Bandwidth

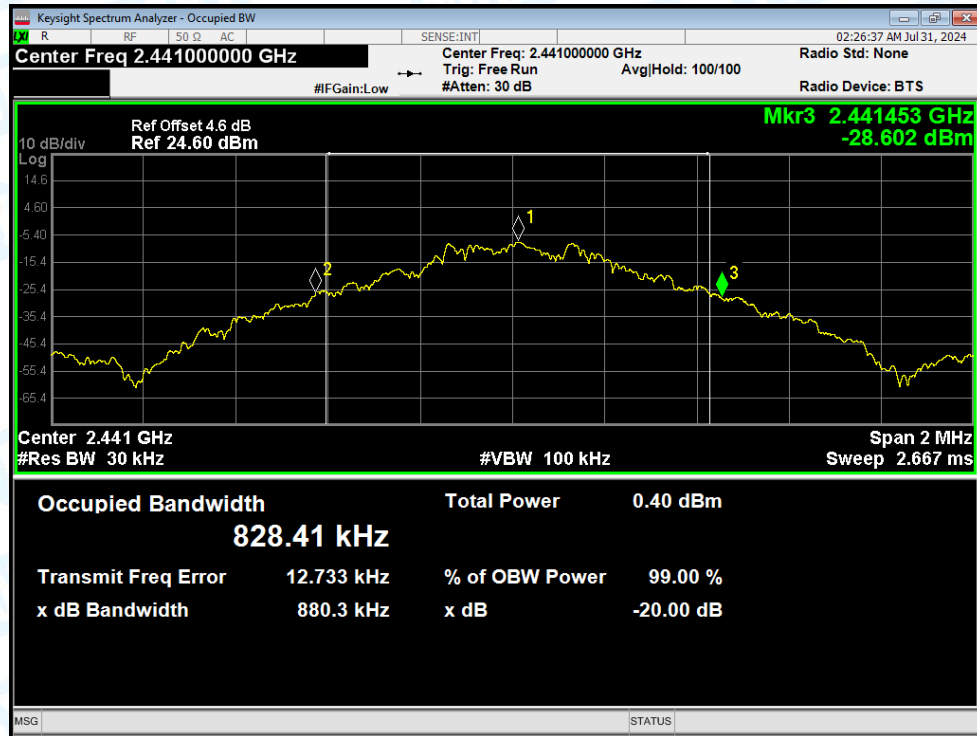
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.87	0	Pass
NVNT	1-DH1	2441	Ant1	0.88	0	Pass
NVNT	1-DH1	2480	Ant1	0.87	0	Pass
NVNT	2-DH1	2402	Ant1	1.24	0	Pass
NVNT	2-DH1	2441	Ant1	1.22	0	Pass
NVNT	2-DH1	2480	Ant1	1.23	0	Pass
NVNT	3-DH1	2402	Ant1	1.21	0	Pass
NVNT	3-DH1	2441	Ant1	1.25	0	Pass
NVNT	3-DH1	2480	Ant1	1.21	0	Pass

Test Graphs

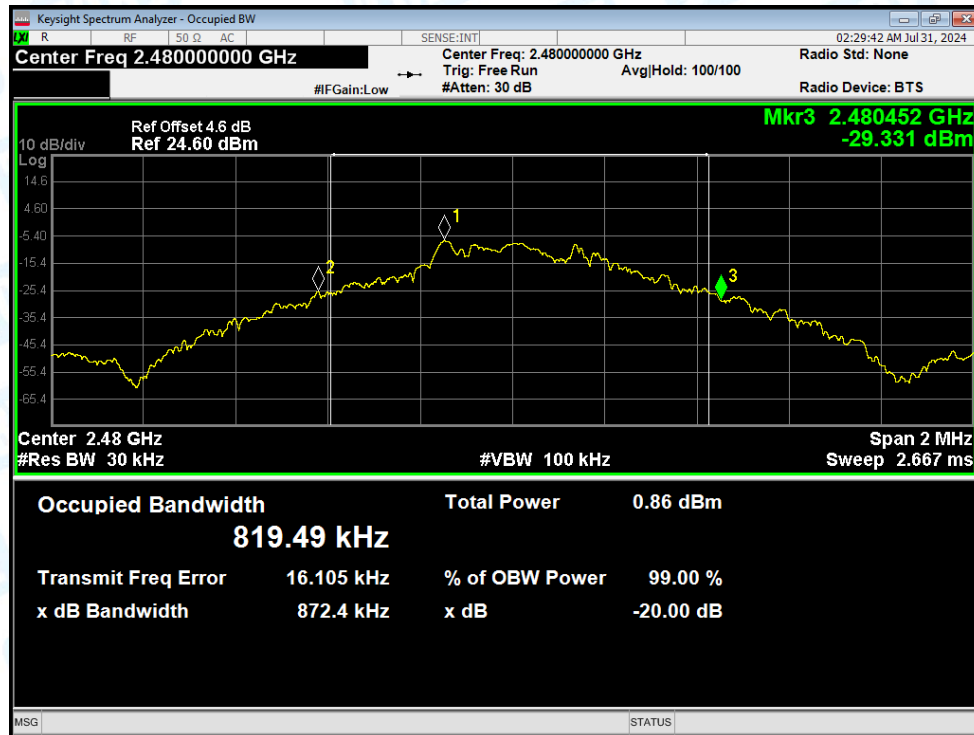
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



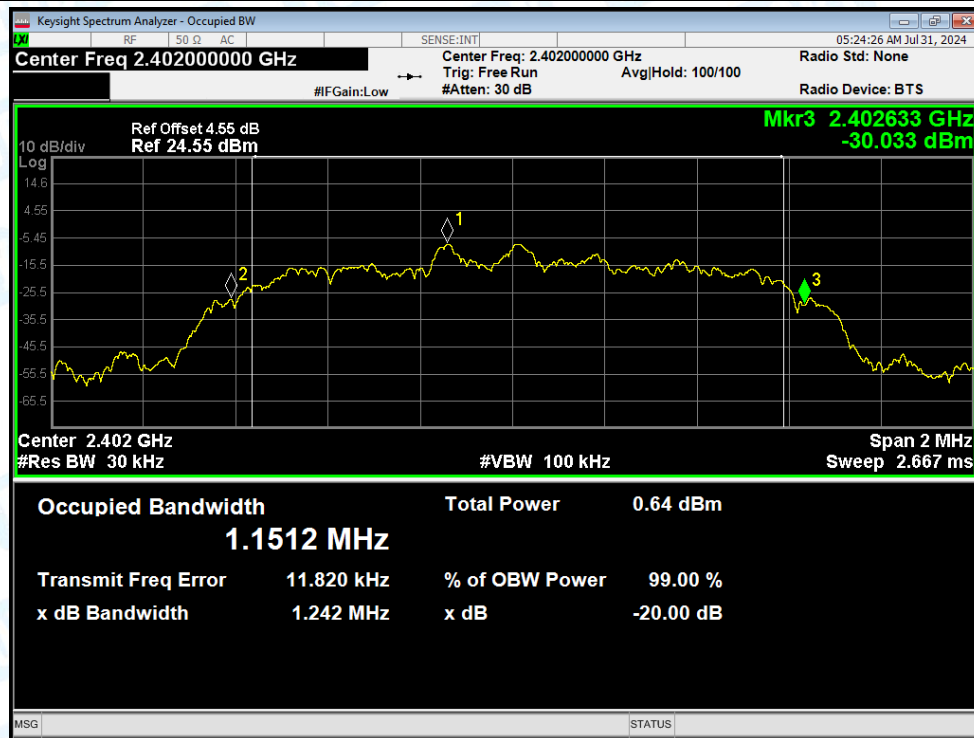
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



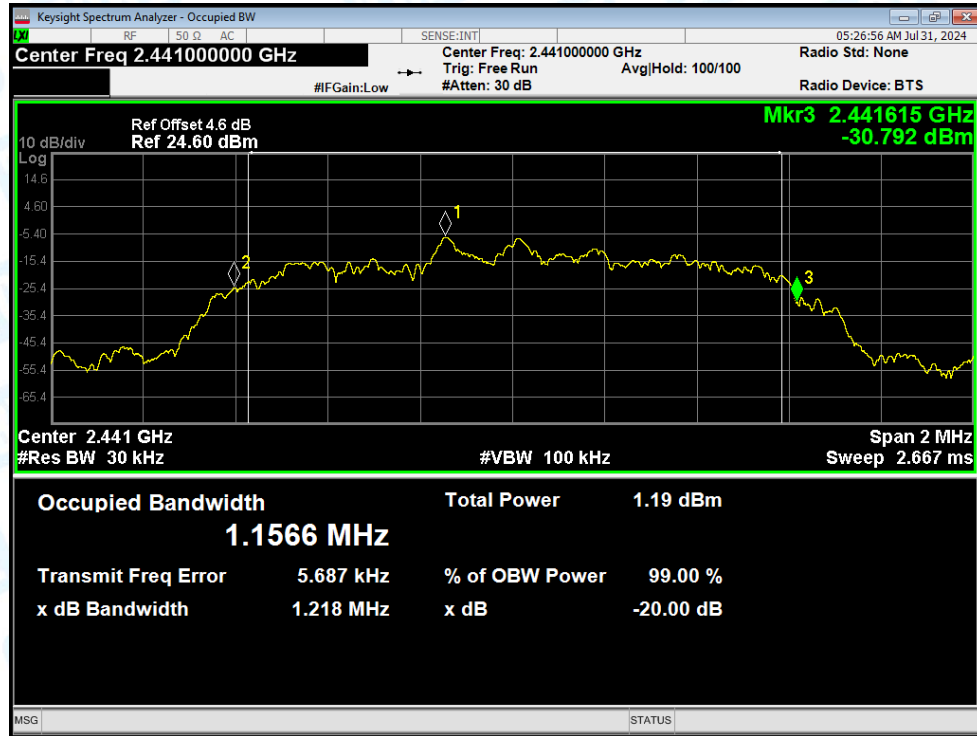
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



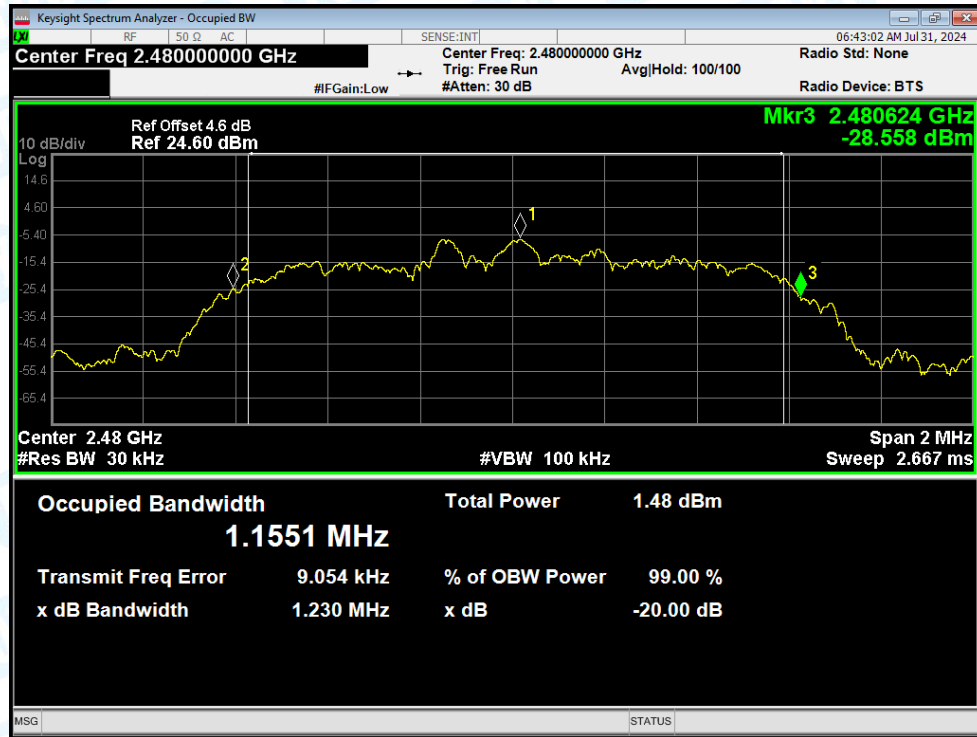
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



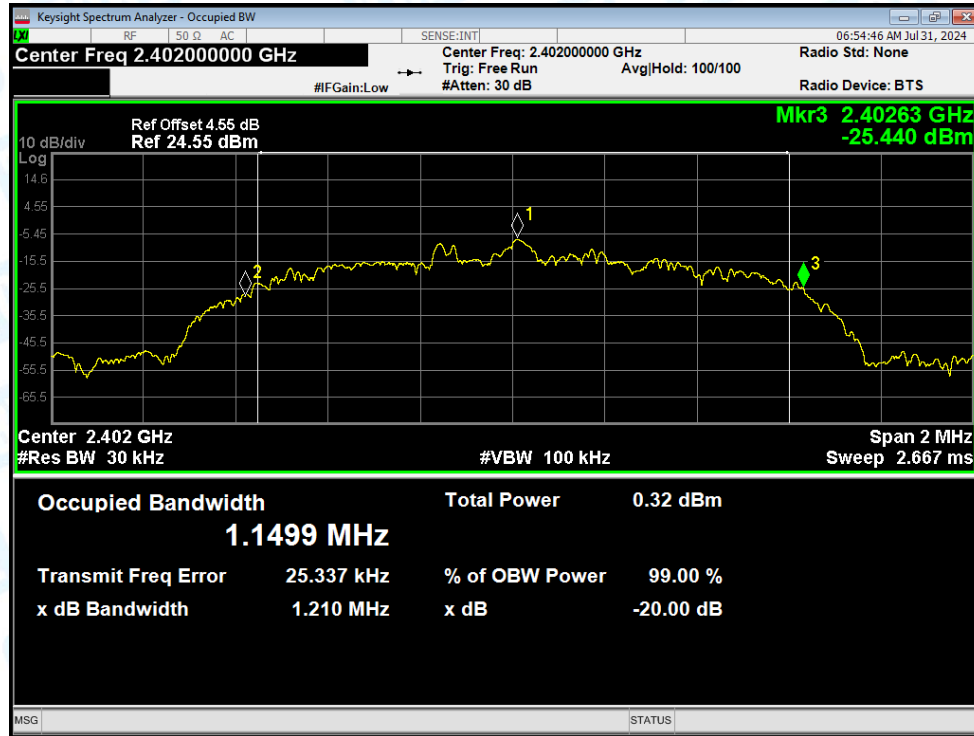
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



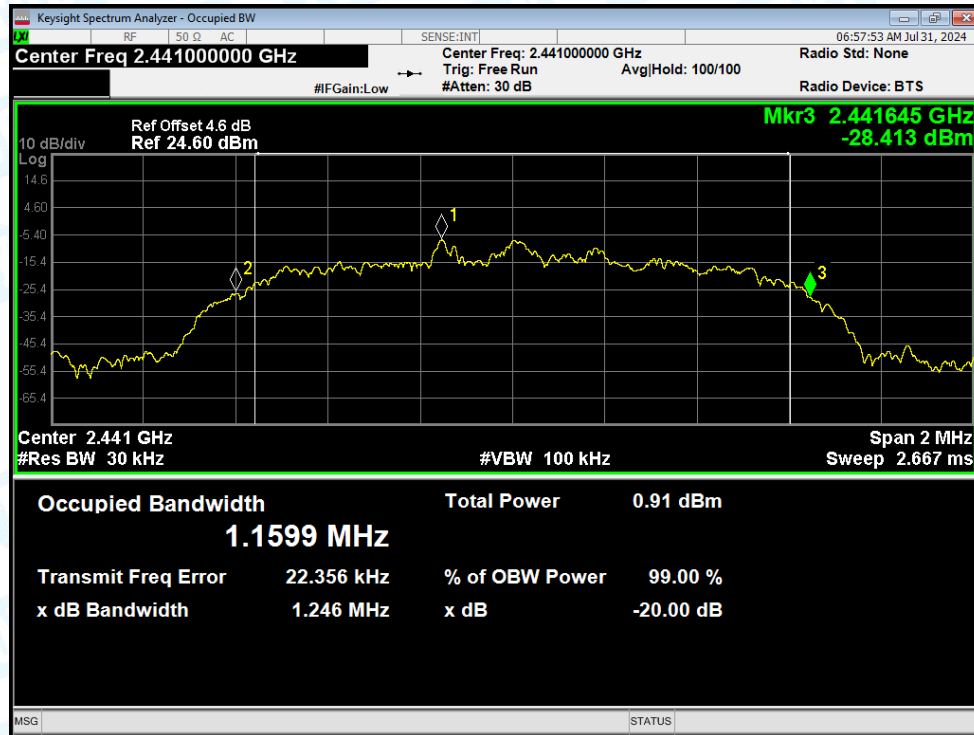
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

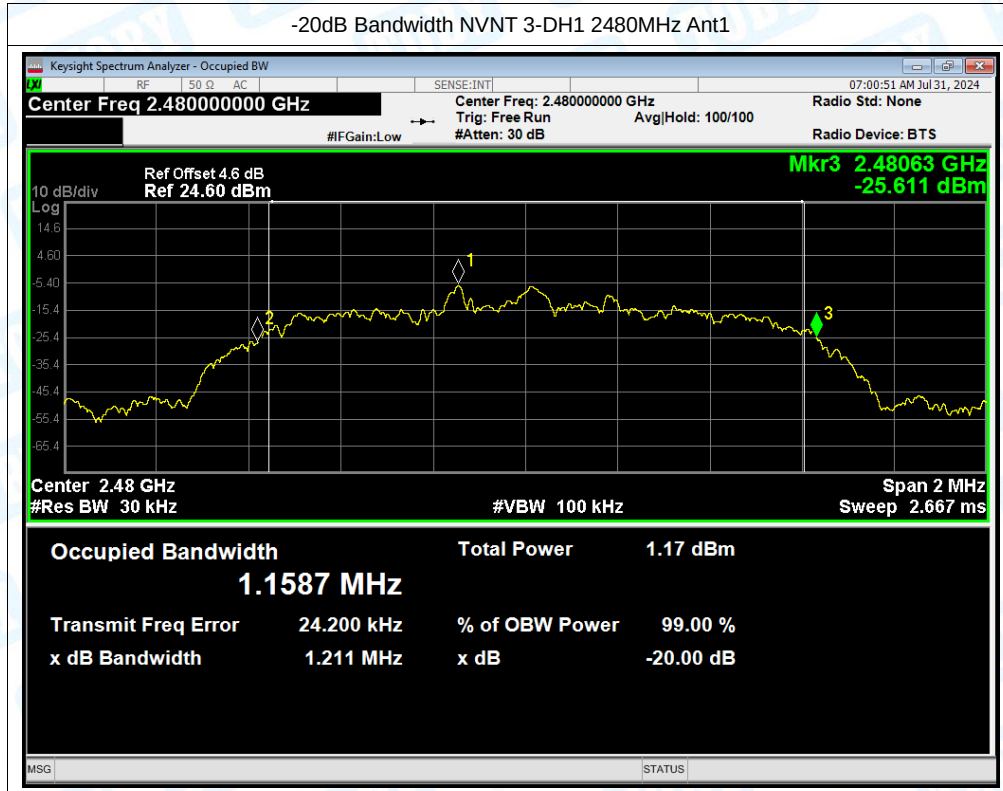


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



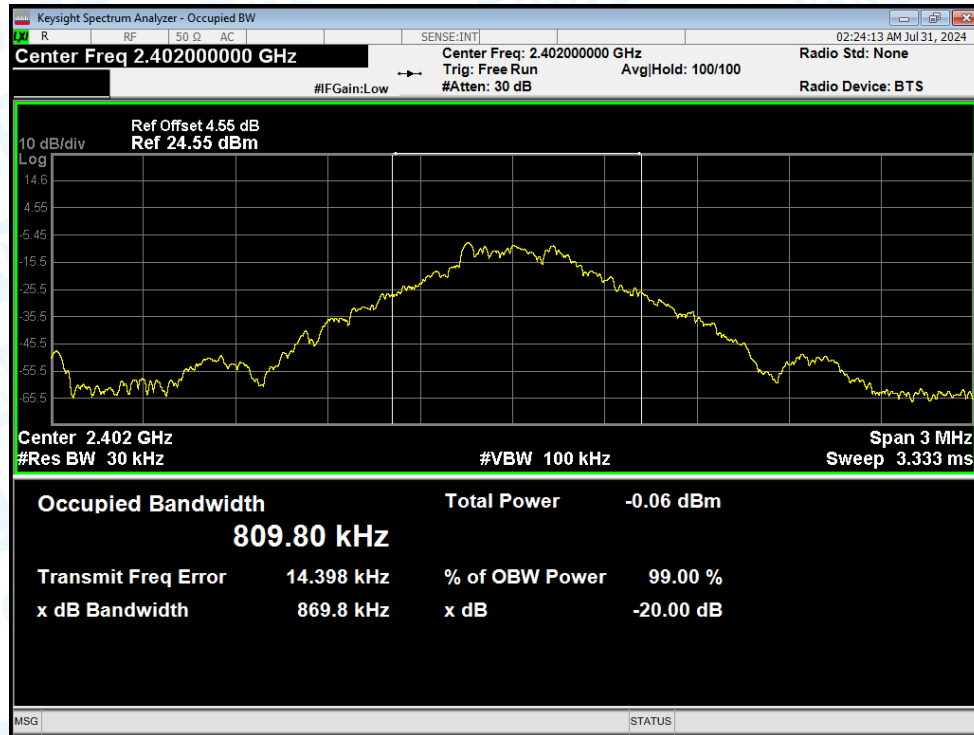


Occupied Channel Bandwidth

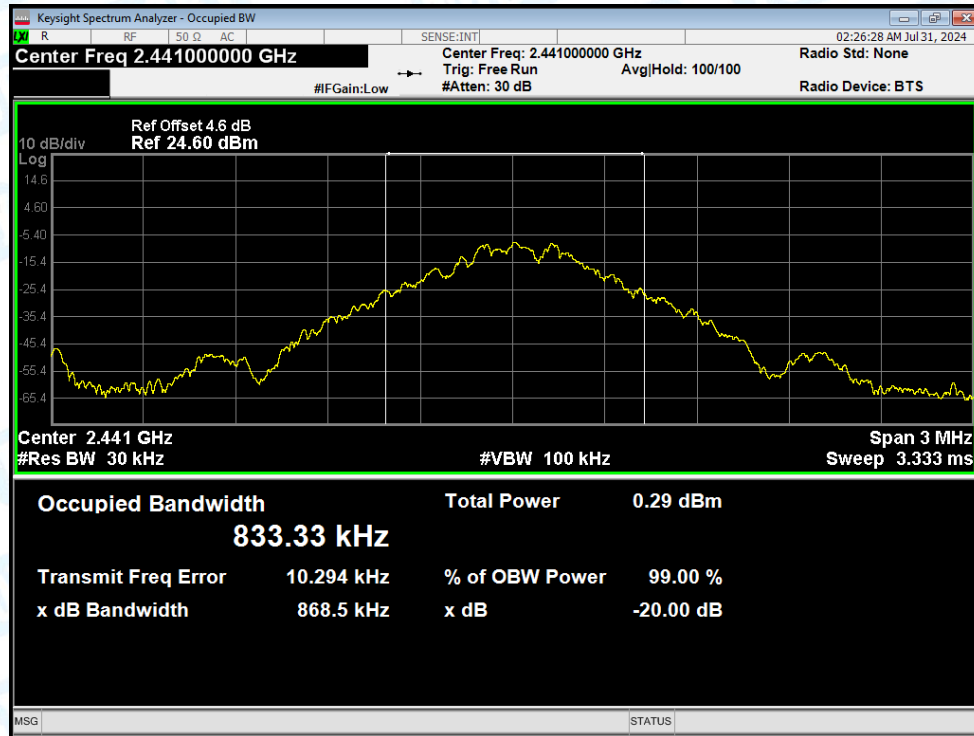
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.81
NVNT	1-DH1	2441	Ant1	0.833
NVNT	1-DH1	2480	Ant1	0.808
NVNT	2-DH1	2402	Ant1	1.16
NVNT	2-DH1	2441	Ant1	1.164
NVNT	2-DH1	2480	Ant1	1.169
NVNT	3-DH1	2402	Ant1	1.152
NVNT	3-DH1	2441	Ant1	1.151
NVNT	3-DH1	2480	Ant1	1.166

Test Graphs

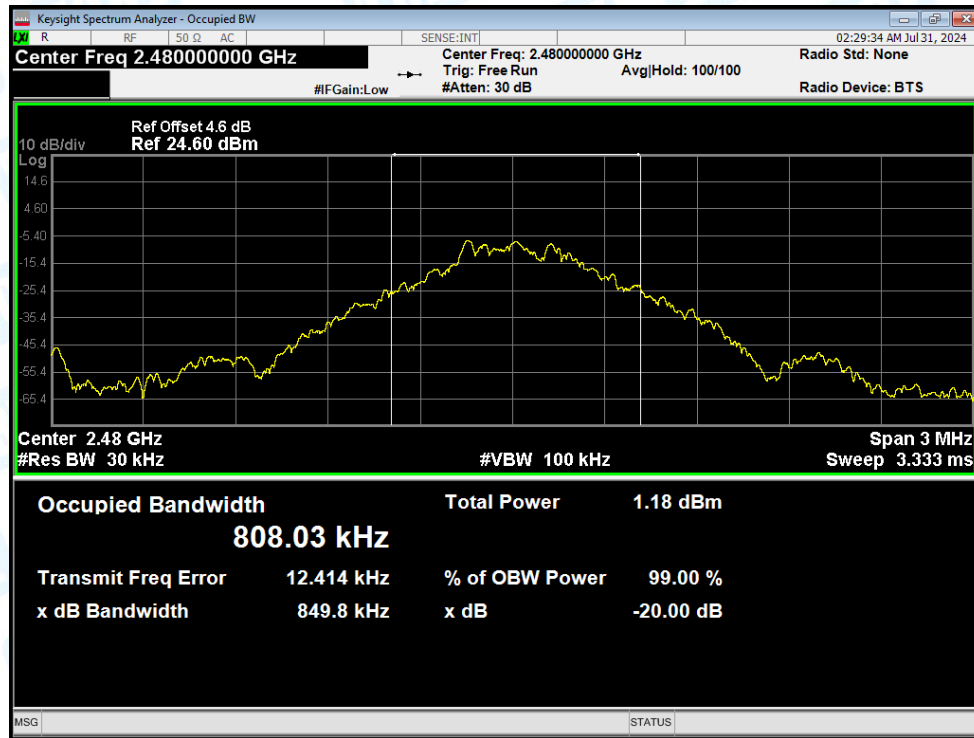
OBW NVNT 1-DH1 2402MHz Ant1



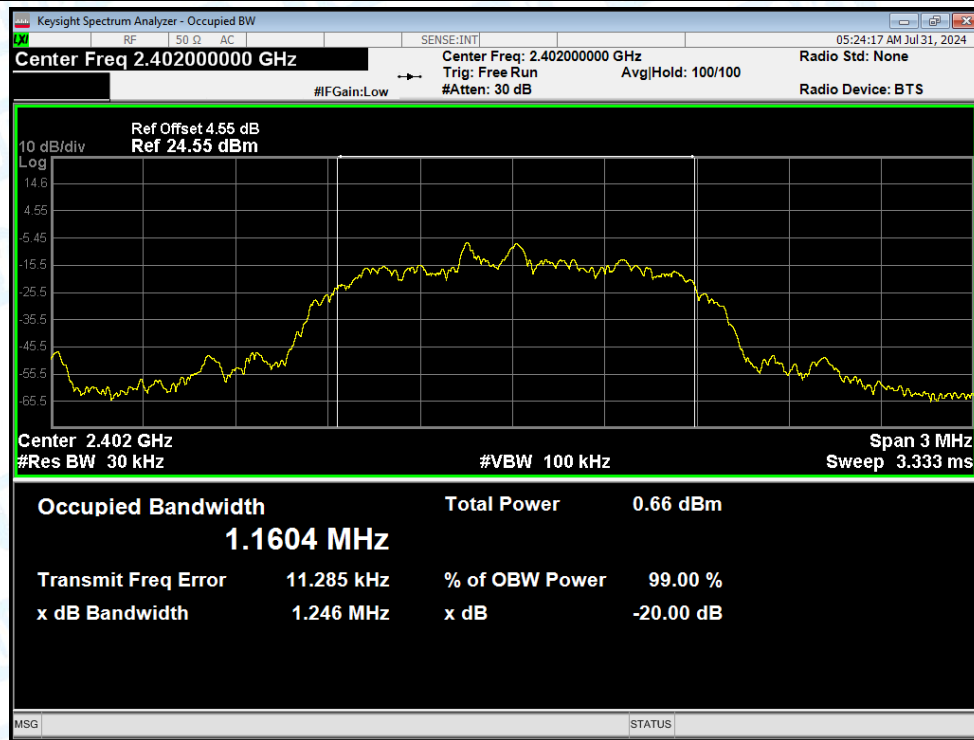
OBW NVNT 1-DH1 2441MHz Ant1



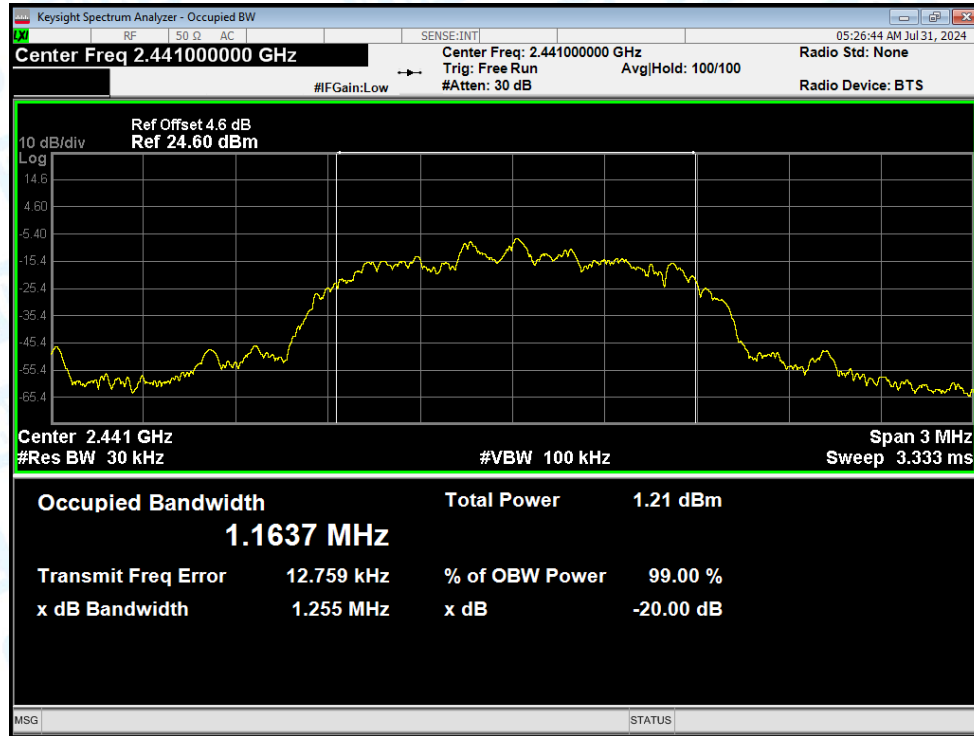
OBW NVNT 1-DH1 2480MHz Ant1



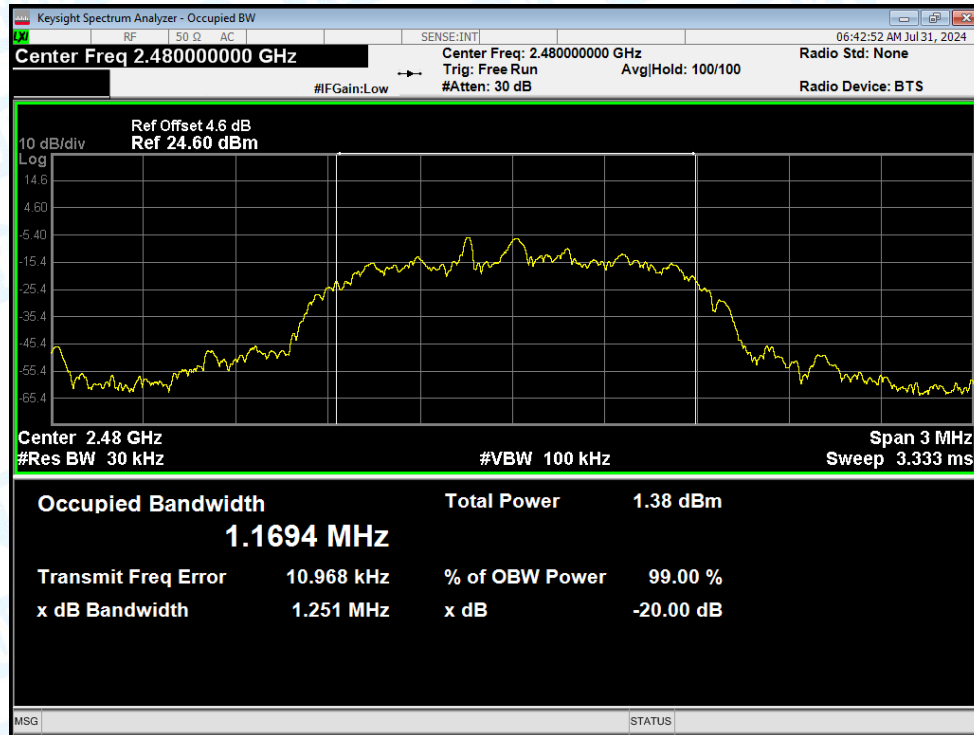
OBW NVNT 2-DH1 2402MHz Ant1



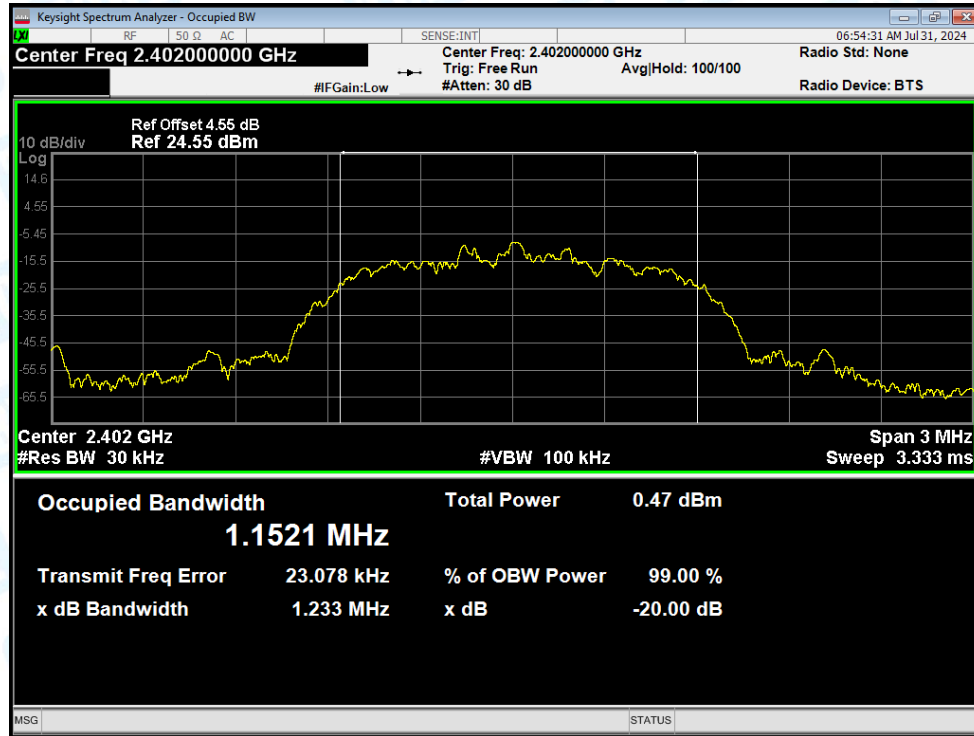
OBW NVNT 2-DH1 2441MHz Ant1



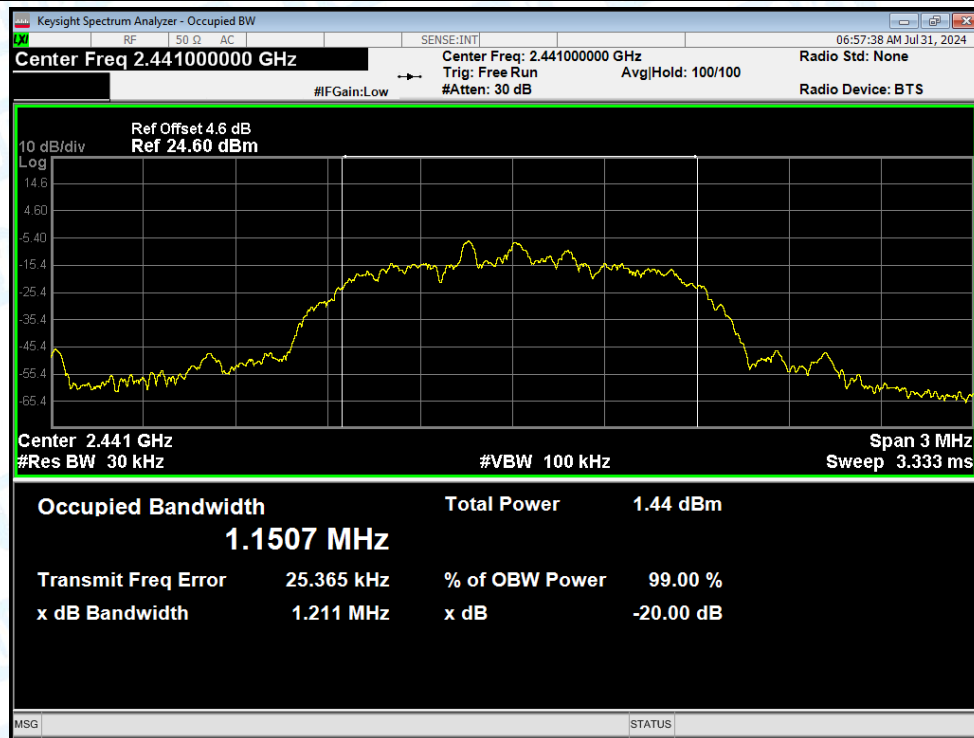
OBW NVNT 2-DH1 2480MHz Ant1

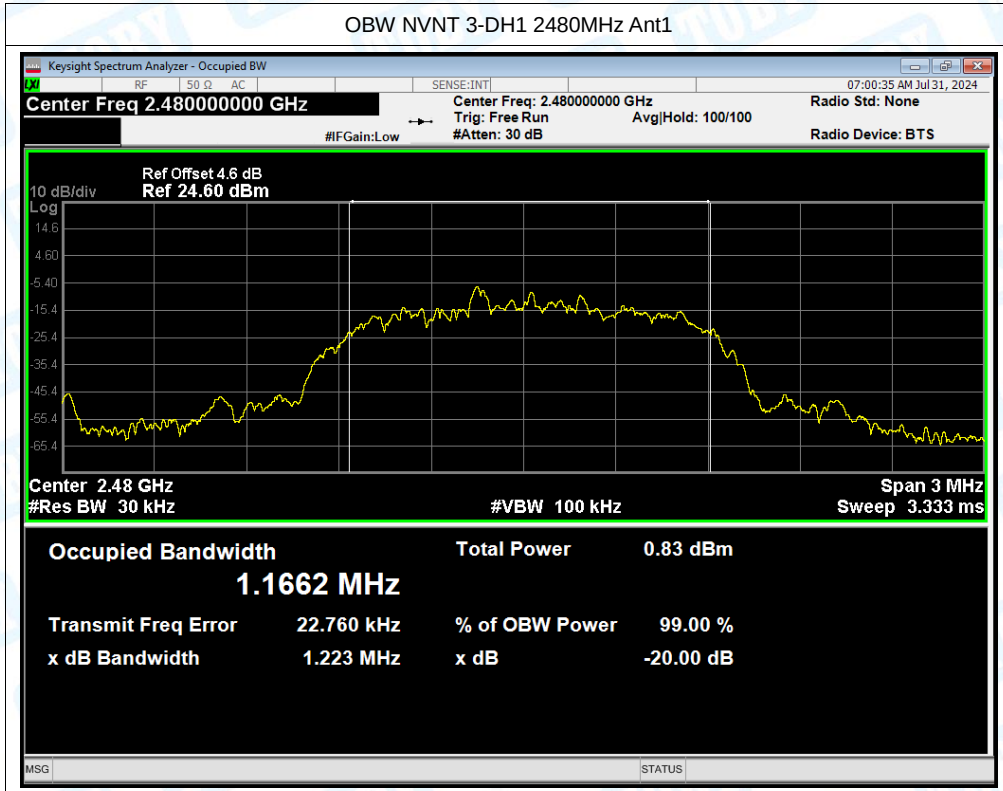


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



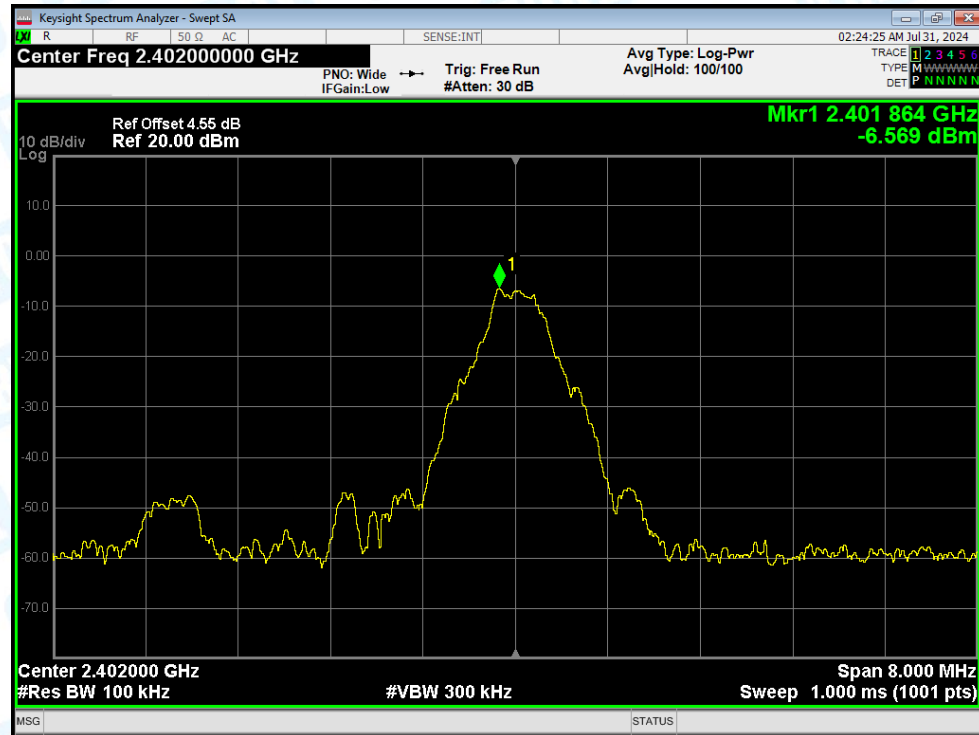


Band Edge

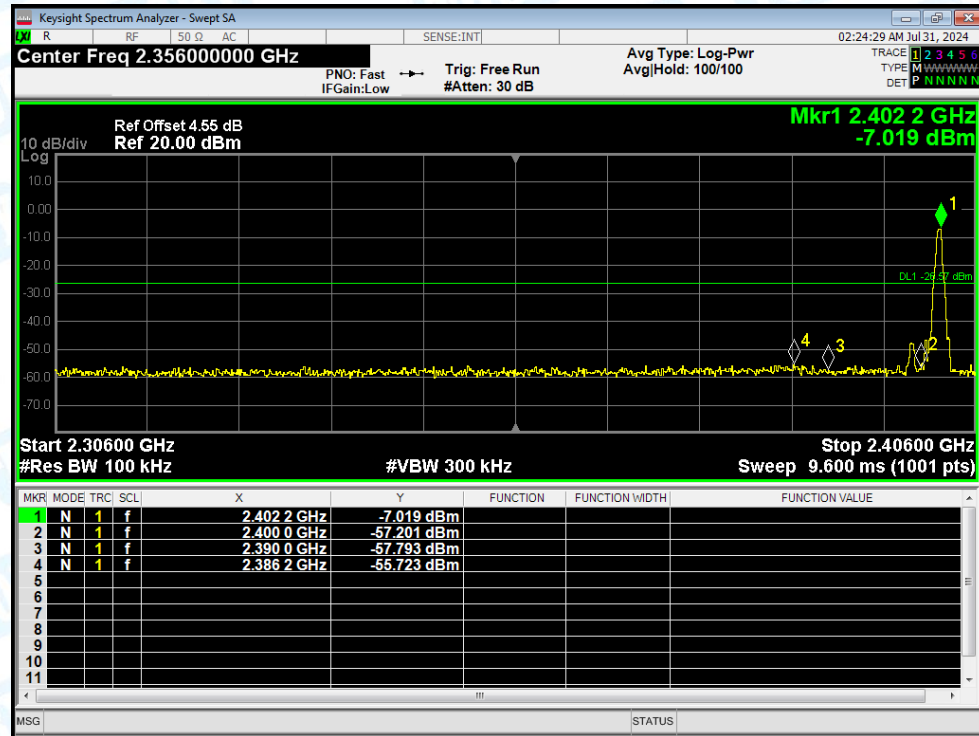
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-49.15	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-48.02	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-49.05	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-49.84	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-48.33	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-49.38	-20	Pass

Test Graphs

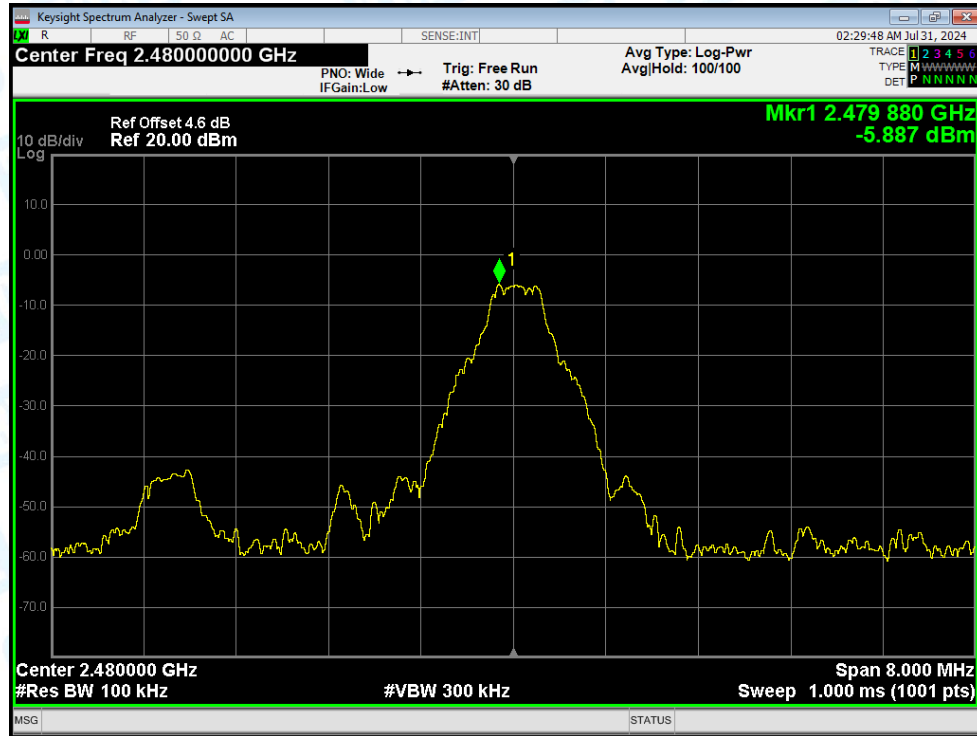
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



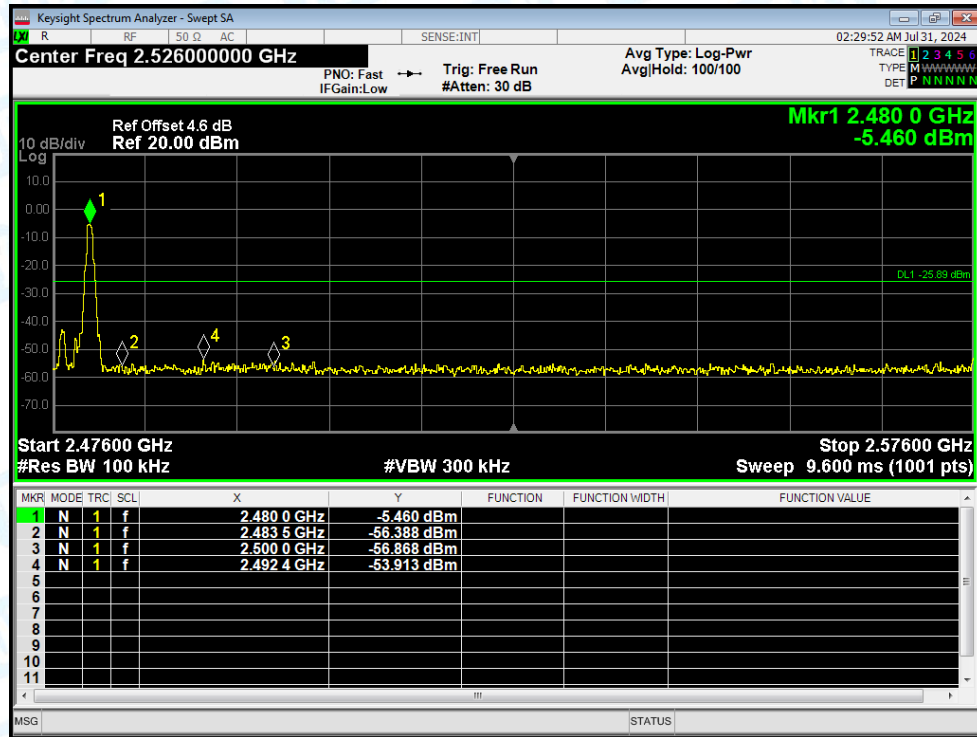
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



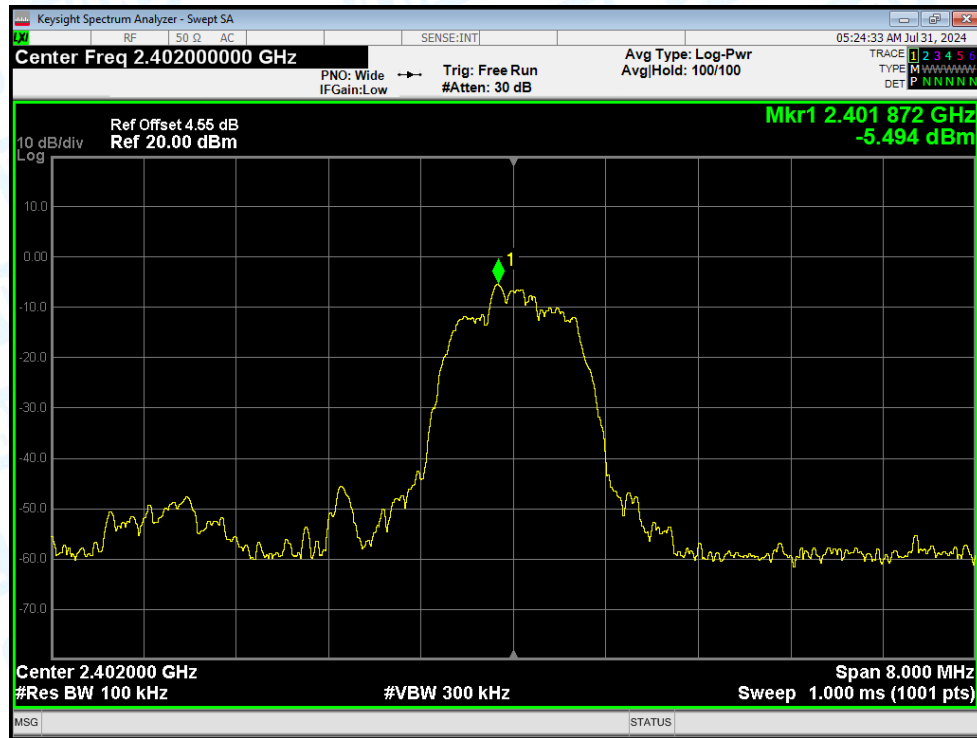
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



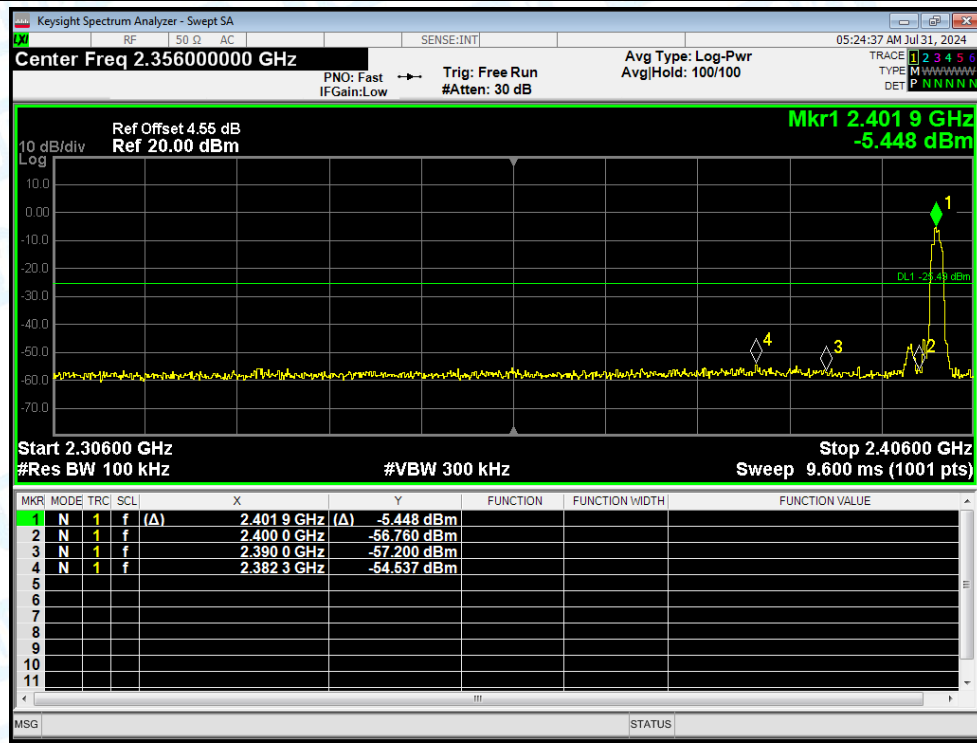
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



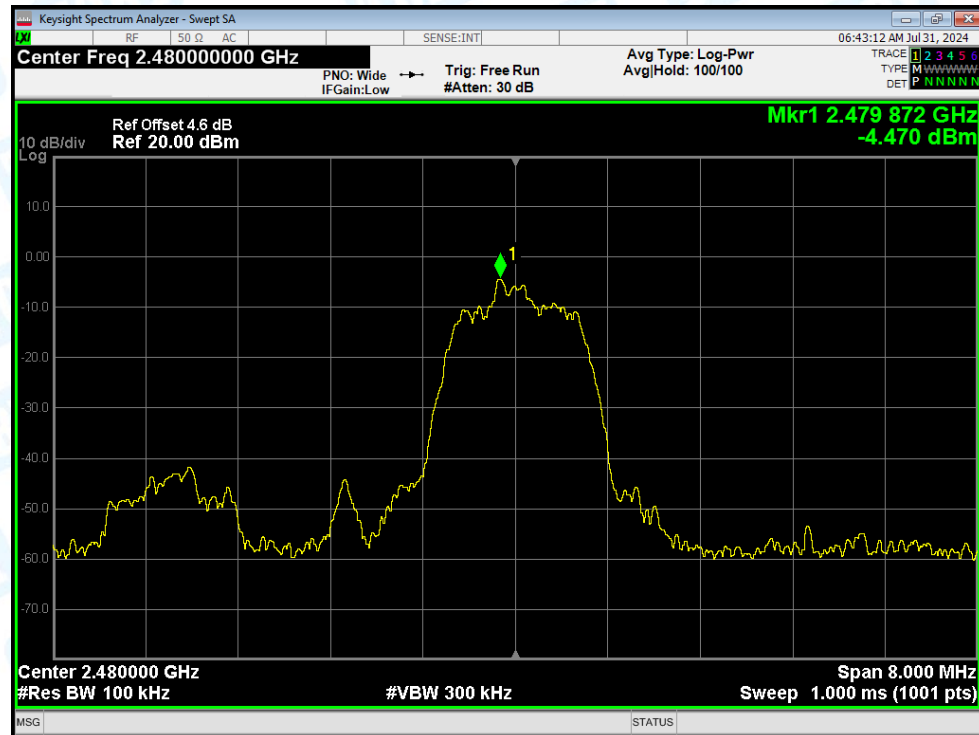
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



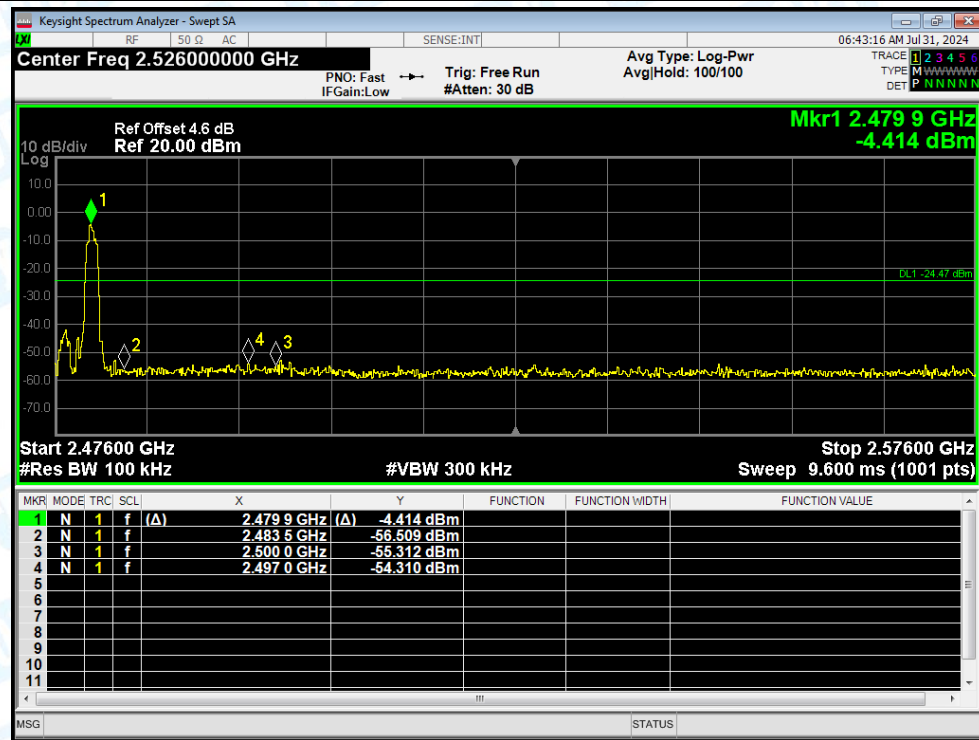
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission

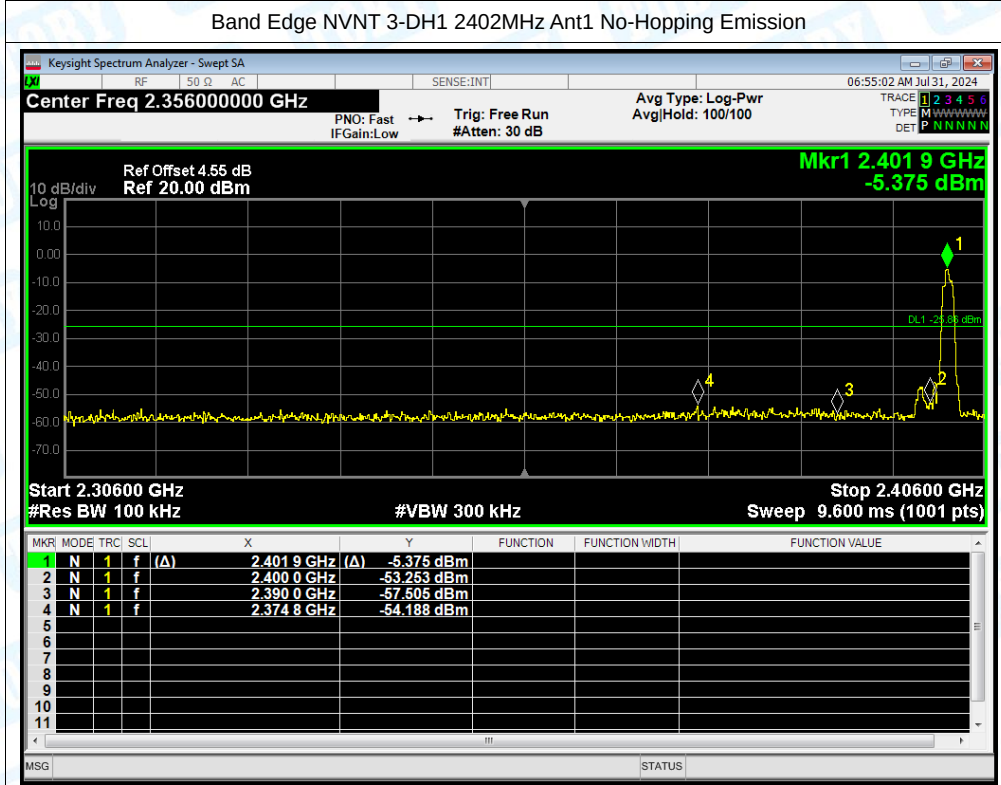
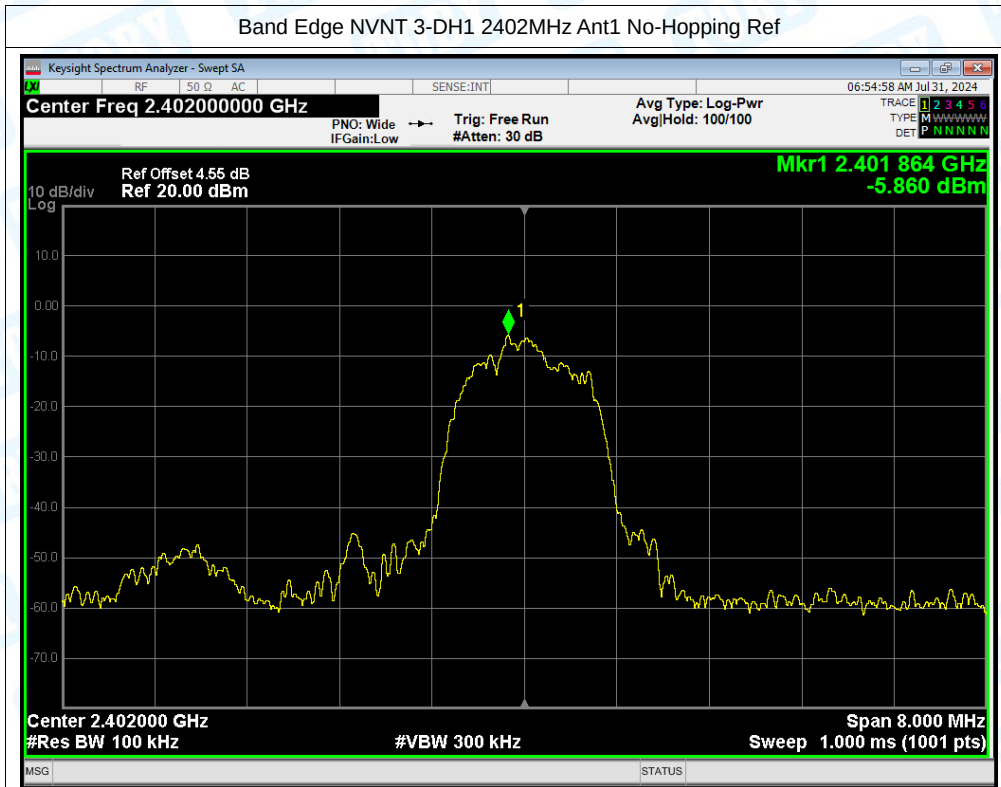


Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref

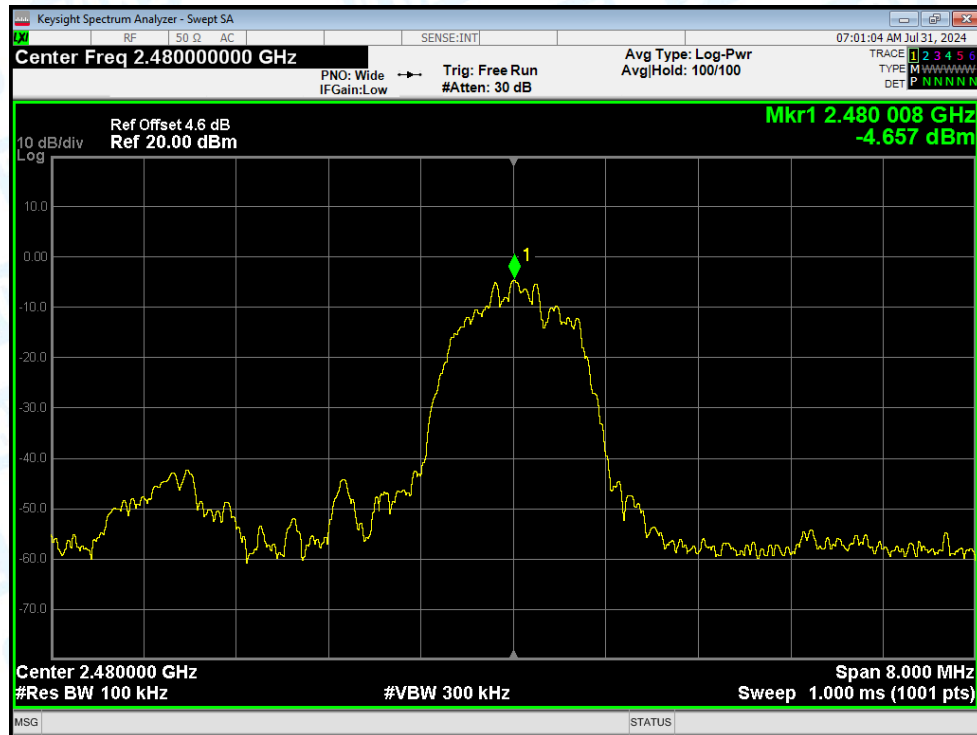


Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission

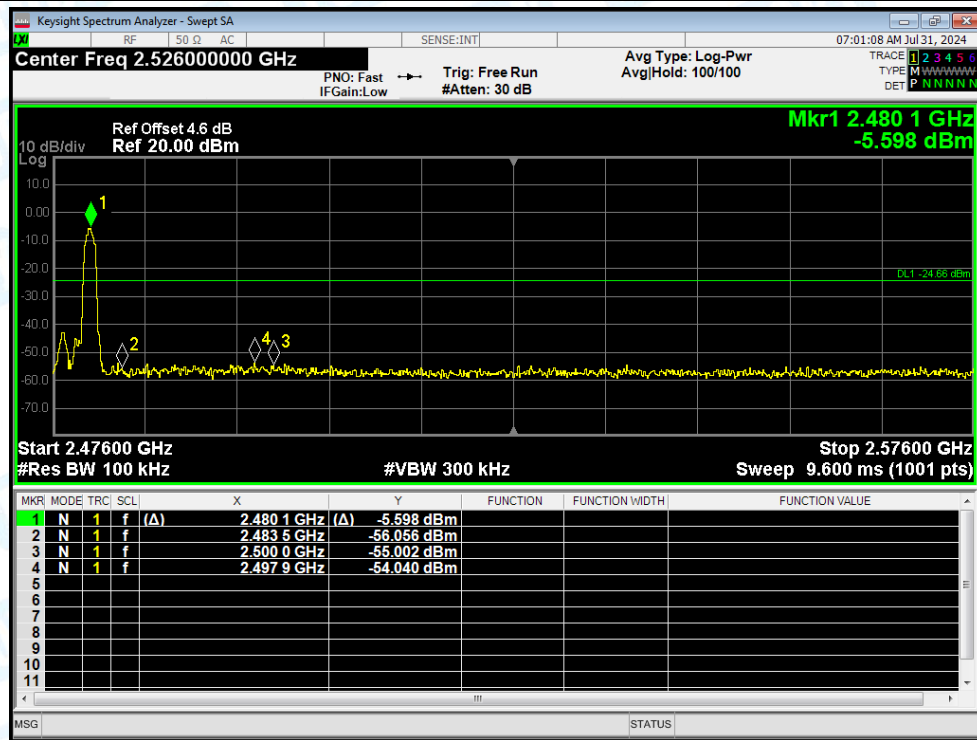




Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref



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

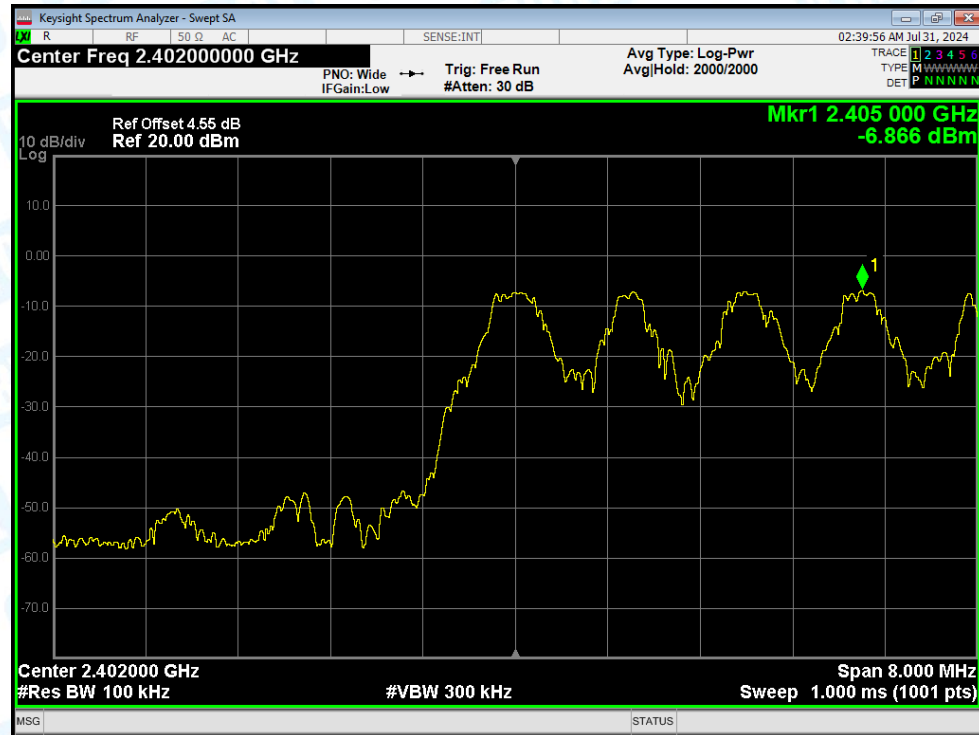


Band Edge(Hopping)

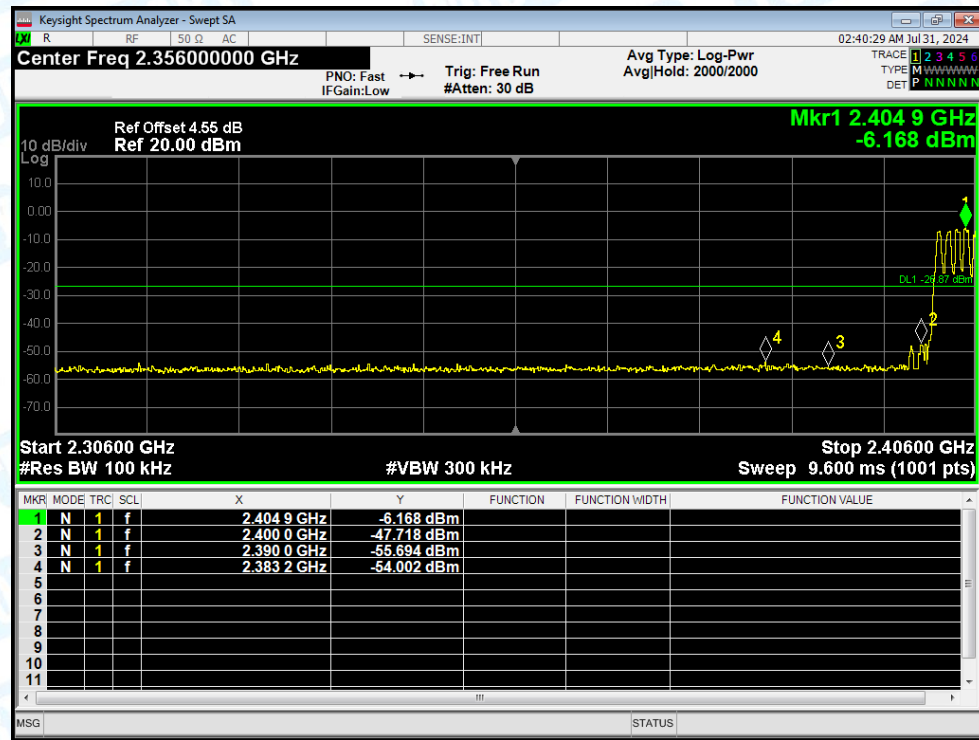
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-47.13	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-48.14	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-48.52	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-48.85	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-48.86	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-48.47	-20	Pass

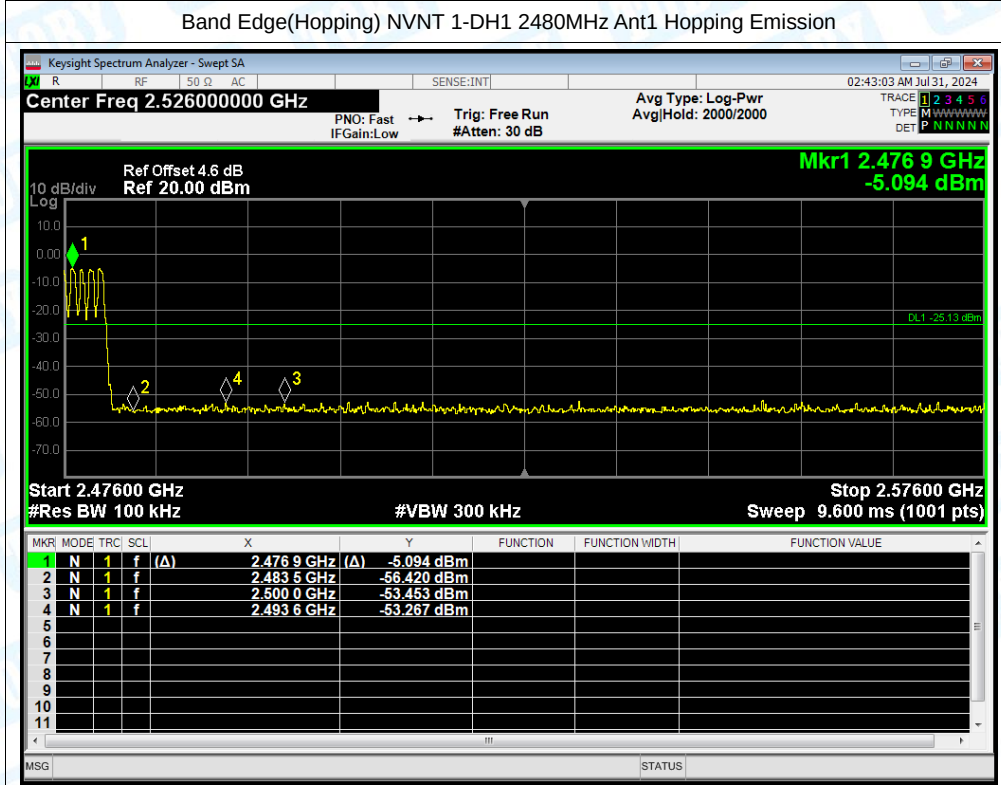
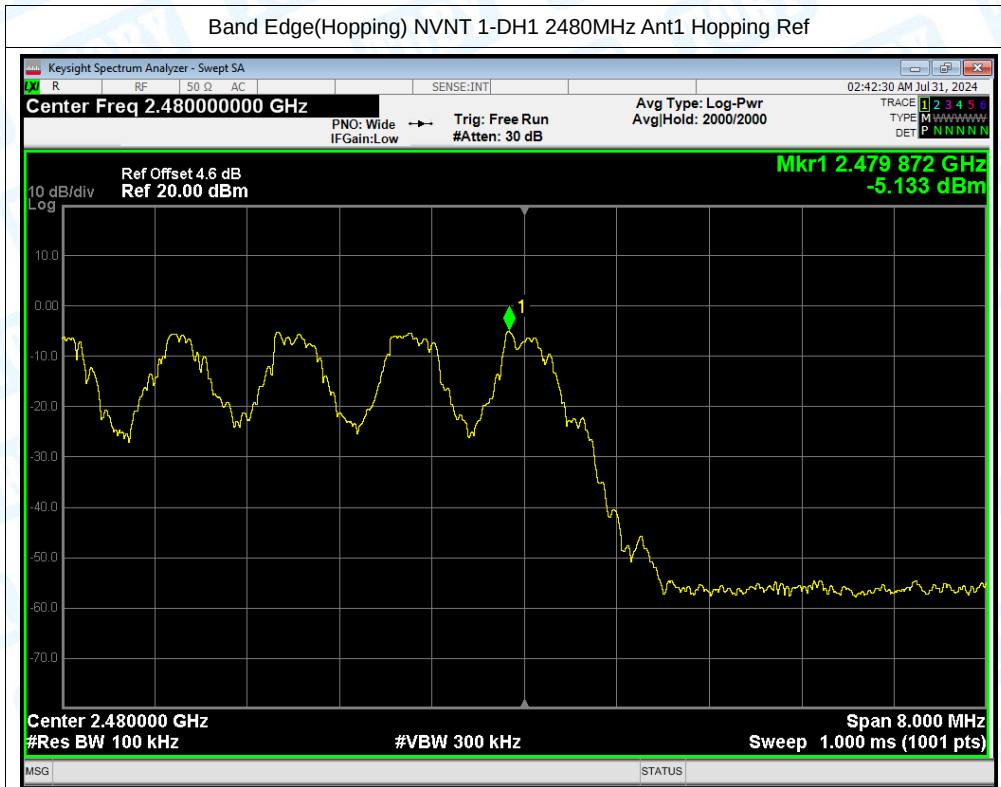
Test Graphs

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

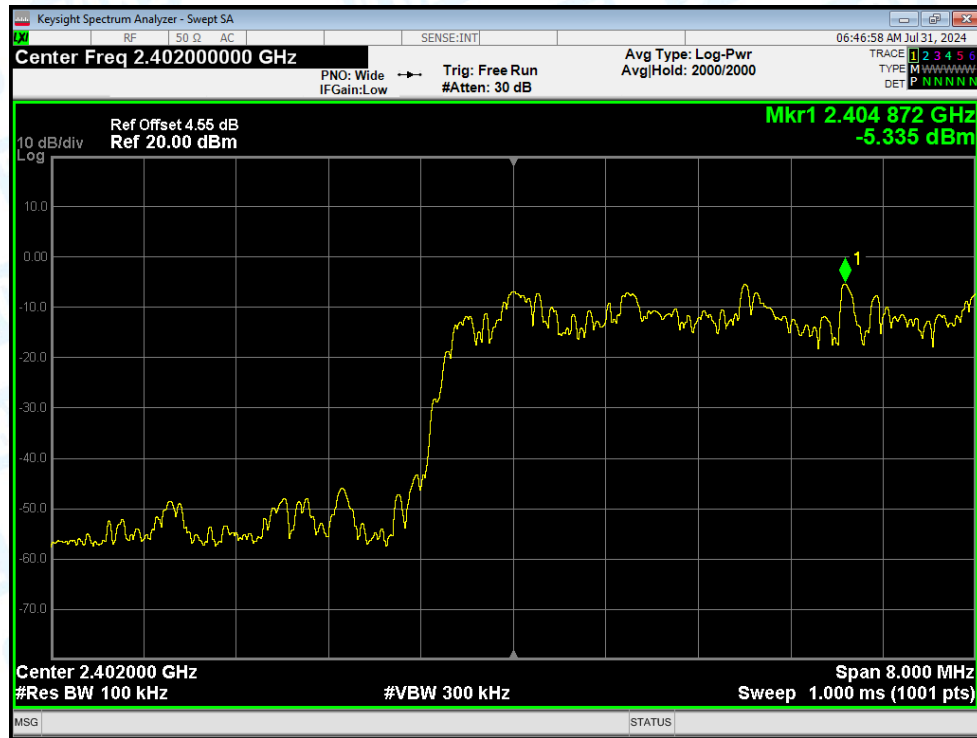


Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

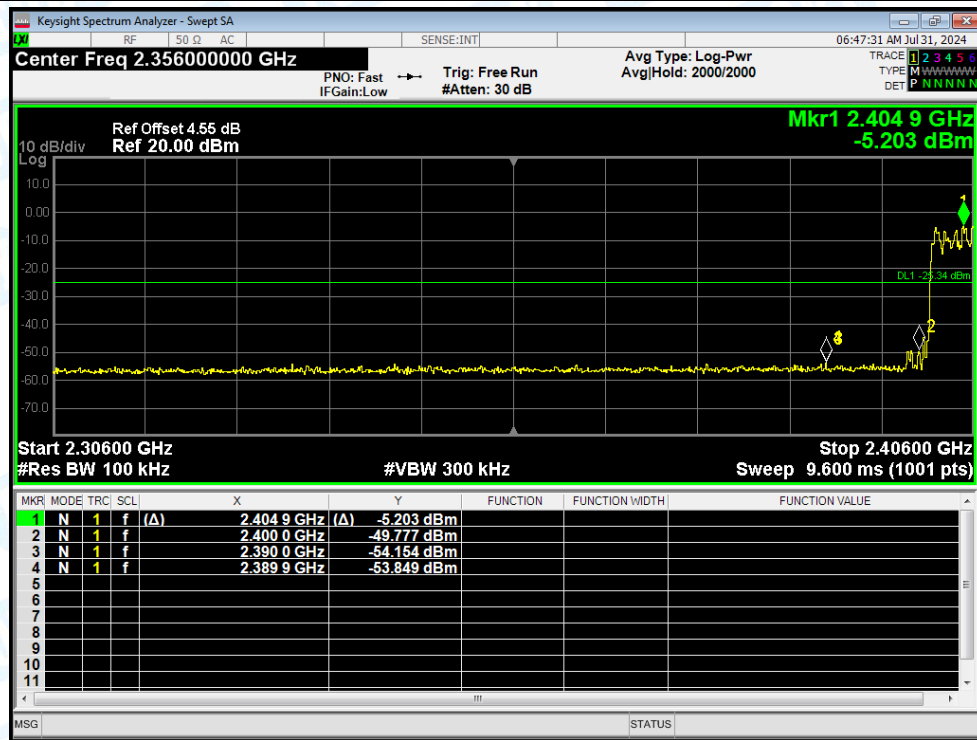




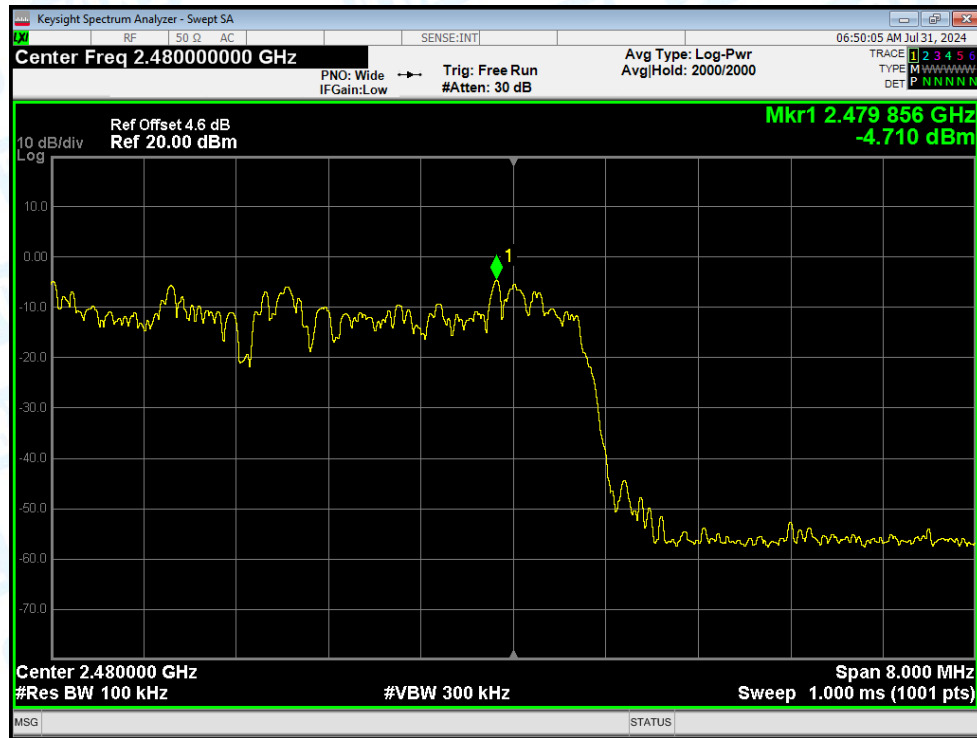
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



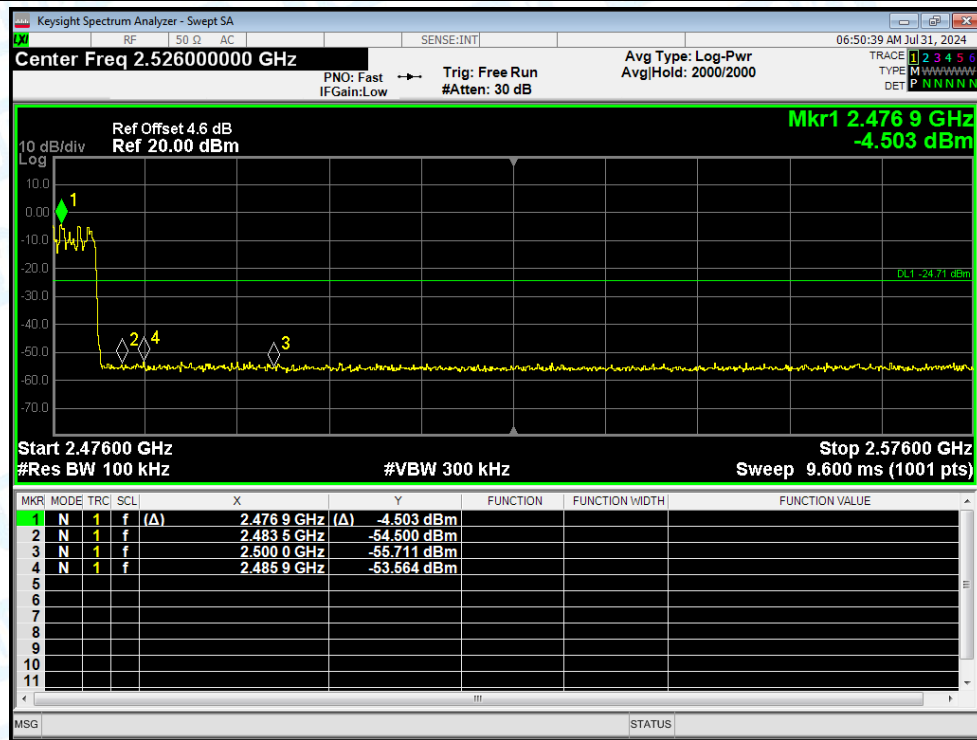
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



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



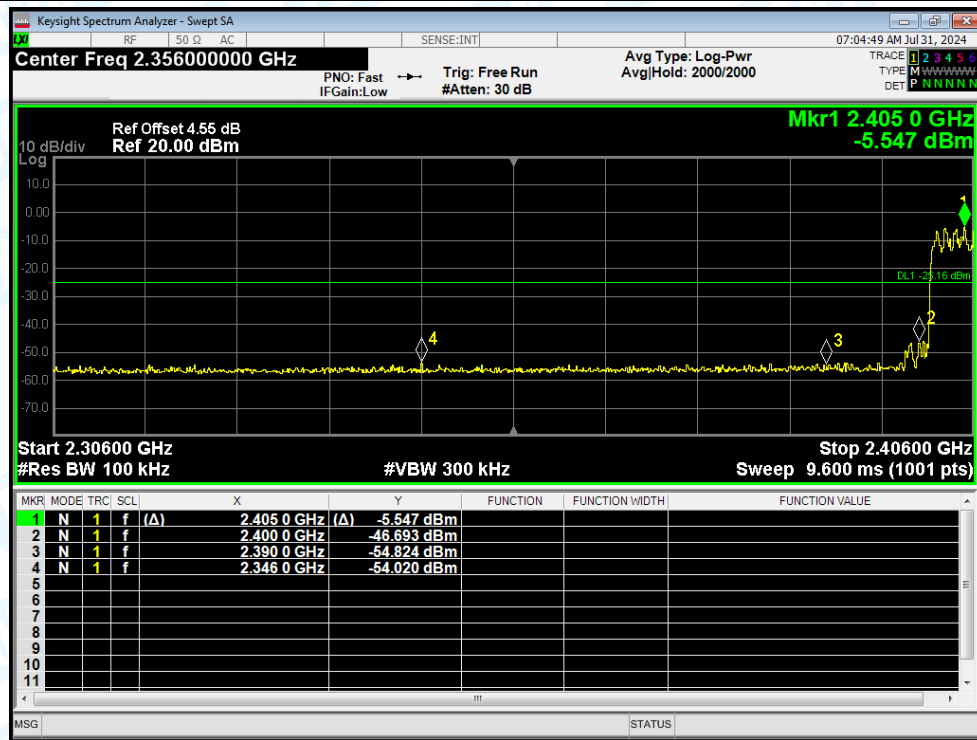
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



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



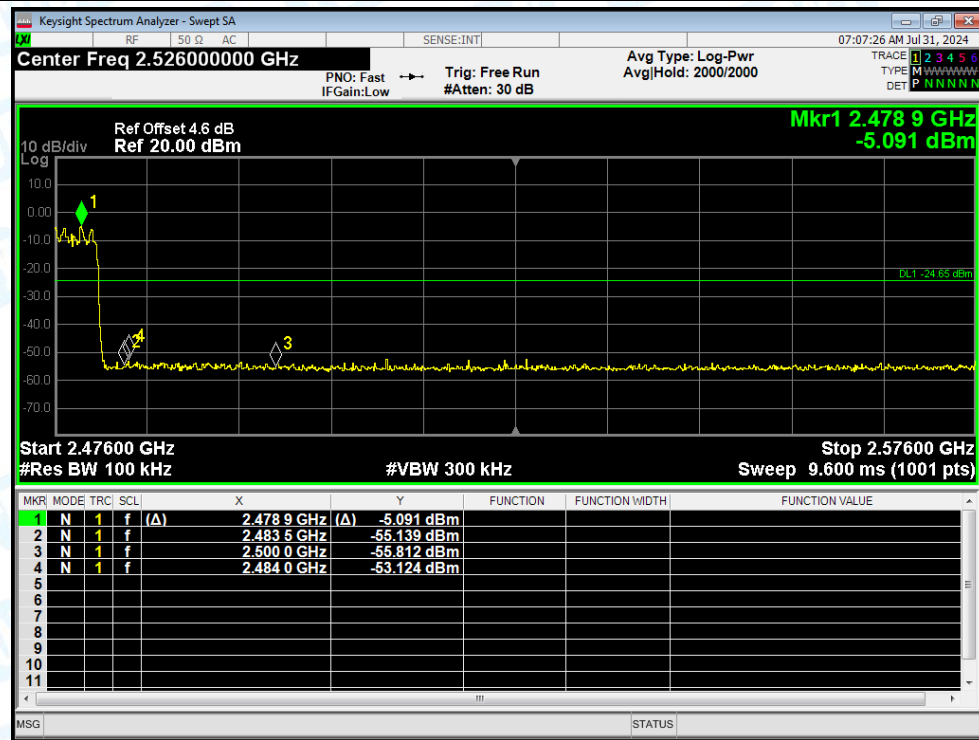
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

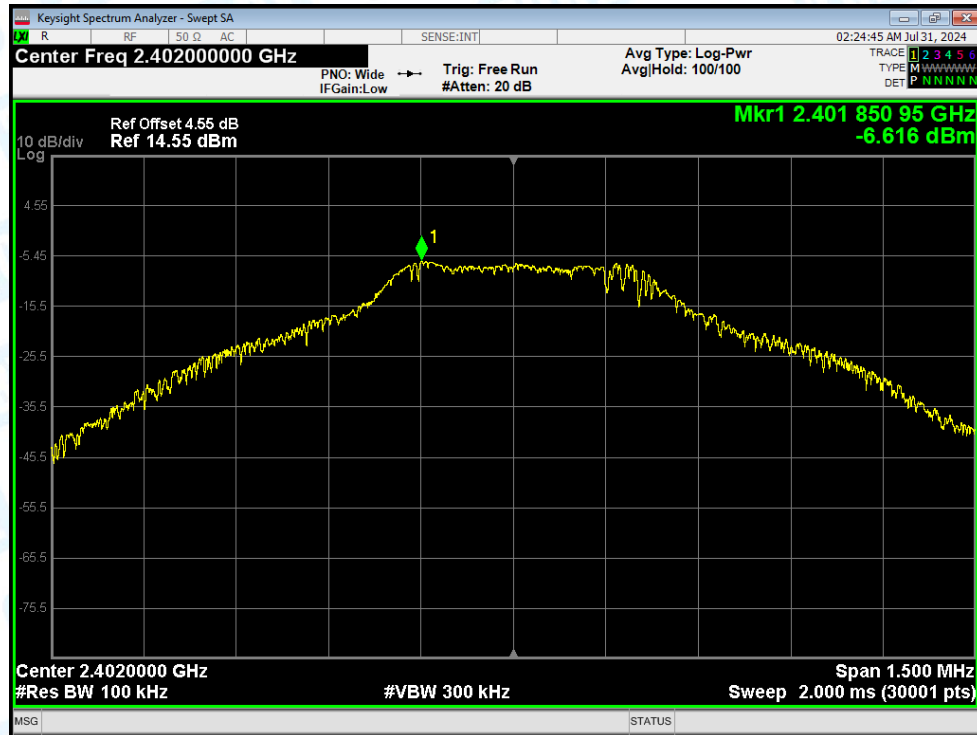


Conducted RF Spurious Emission

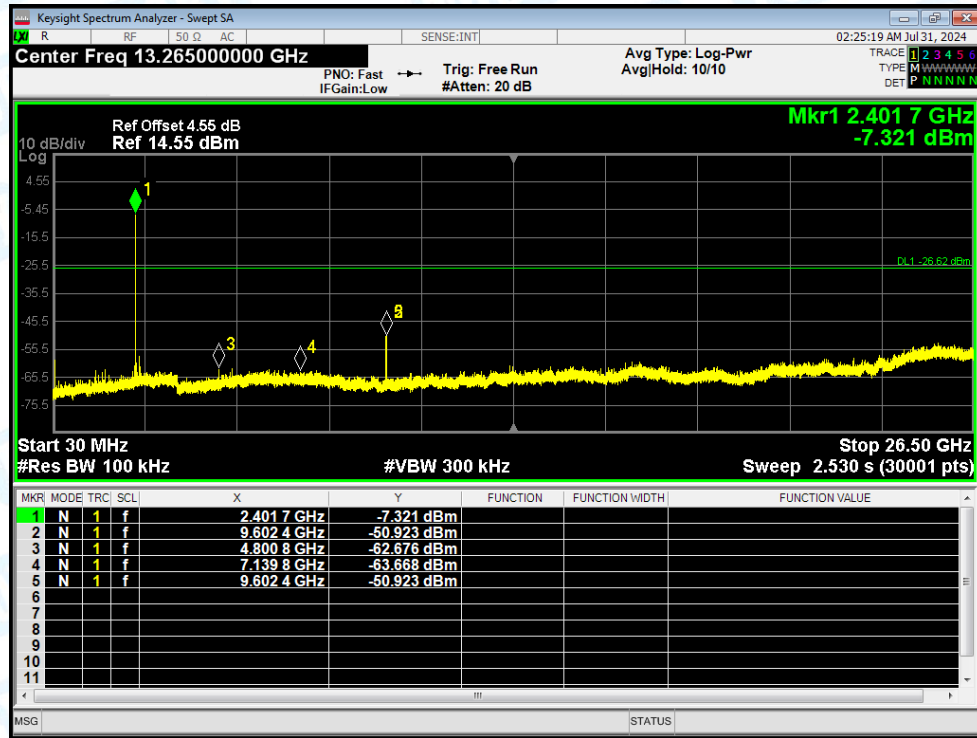
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-44.3	-20	Pass
NVNT	1-DH1	2441	Ant1	-44.92	-20	Pass
NVNT	1-DH1	2480	Ant1	-44.82	-20	Pass
NVNT	2-DH1	2402	Ant1	-44.03	-20	Pass
NVNT	2-DH1	2441	Ant1	-44.37	-20	Pass
NVNT	2-DH1	2480	Ant1	-39.64	-20	Pass
NVNT	3-DH1	2402	Ant1	-43.45	-20	Pass
NVNT	3-DH1	2441	Ant1	-43.98	-20	Pass
NVNT	3-DH1	2480	Ant1	-44.28	-20	Pass

Test Graphs

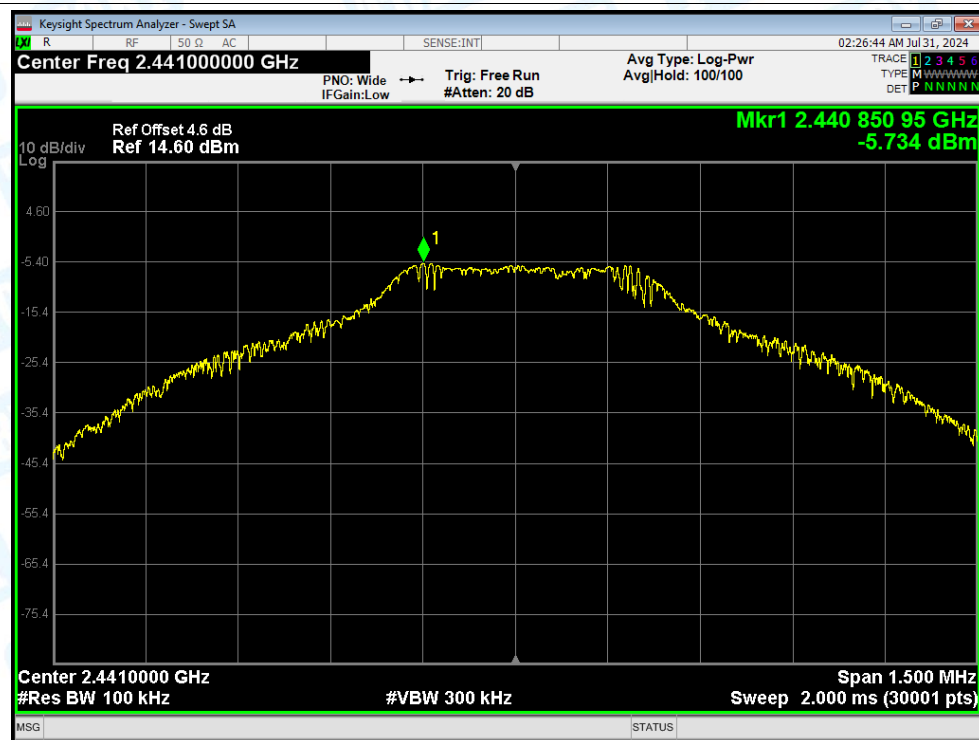
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



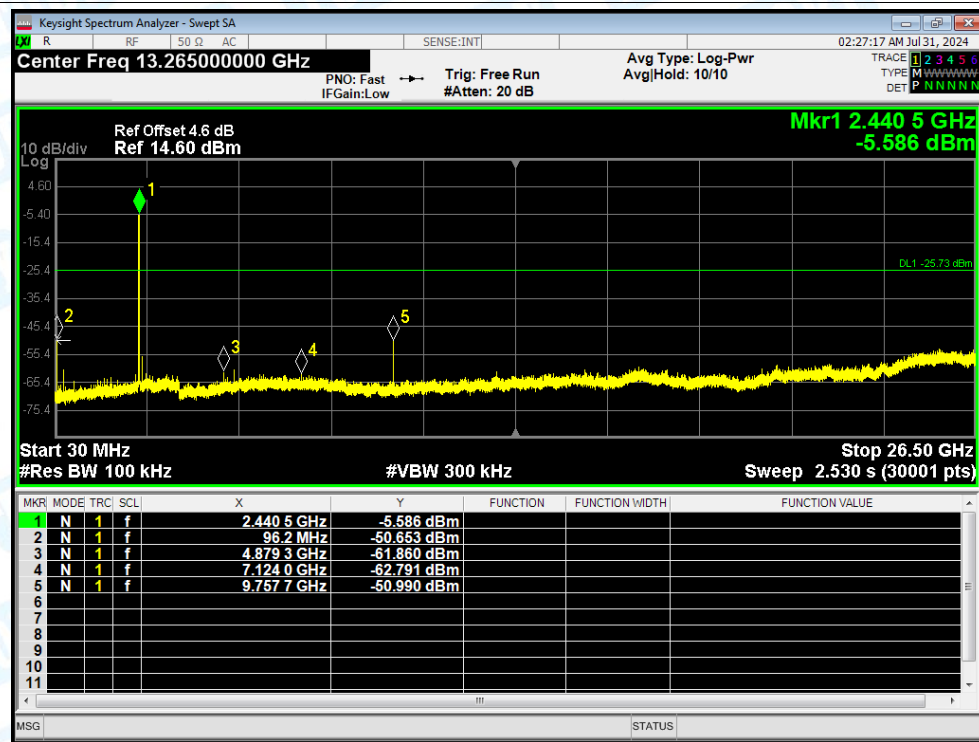
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



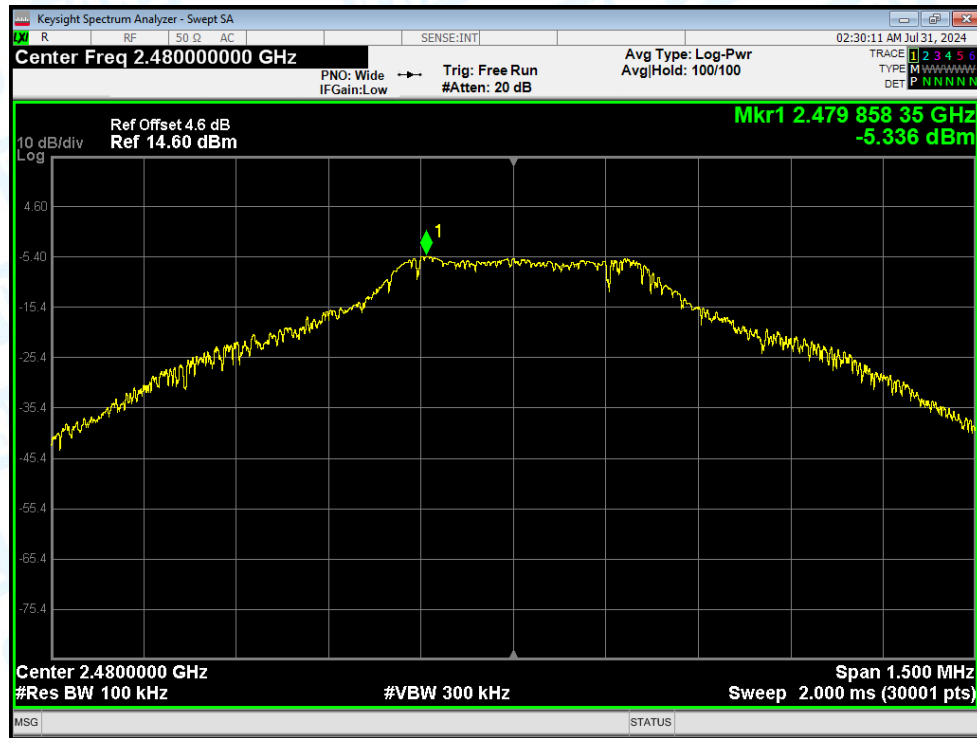
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



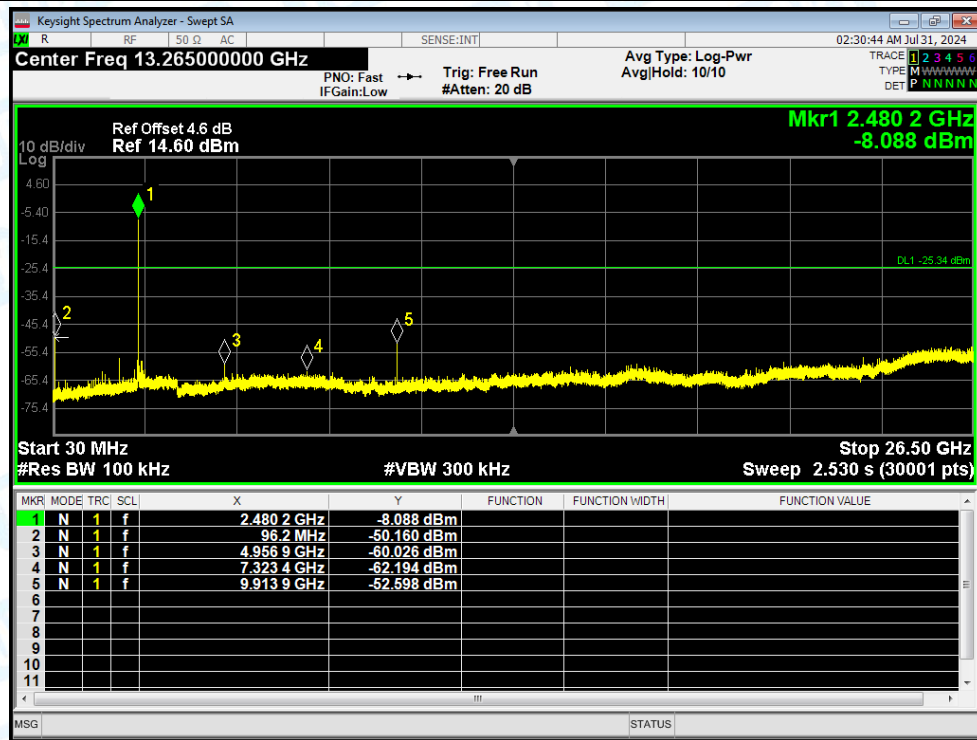
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



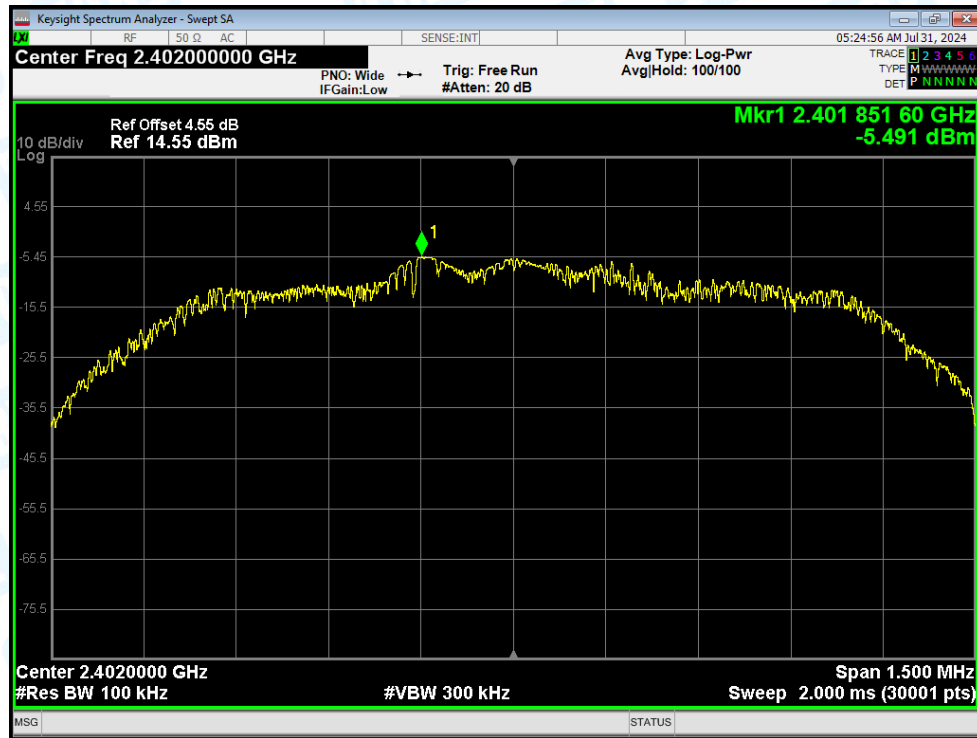
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



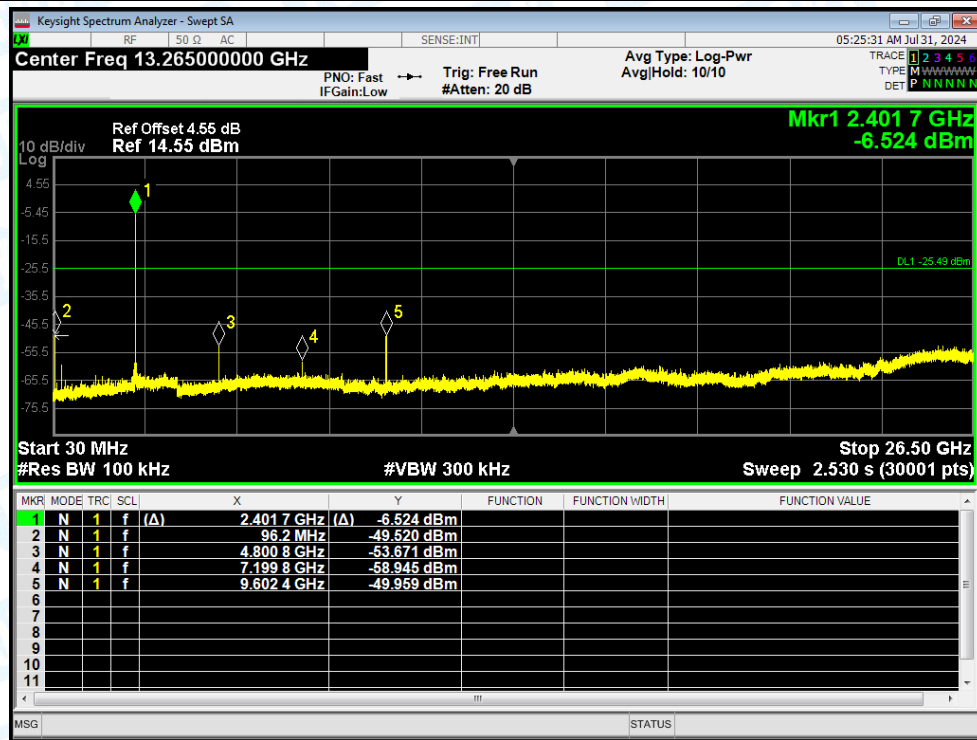
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



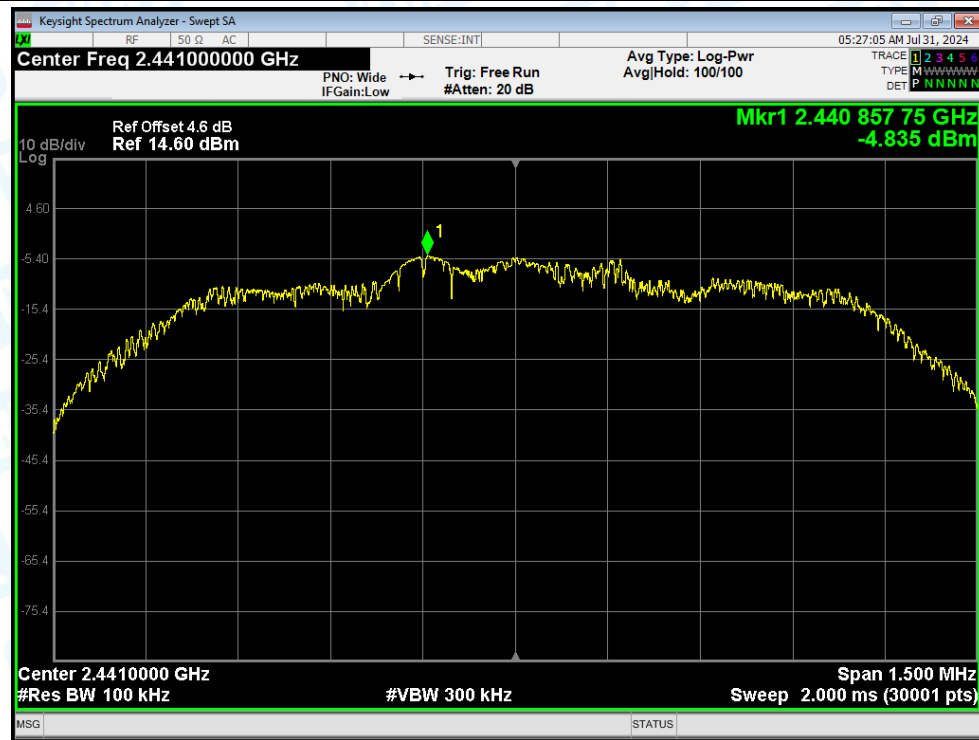
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



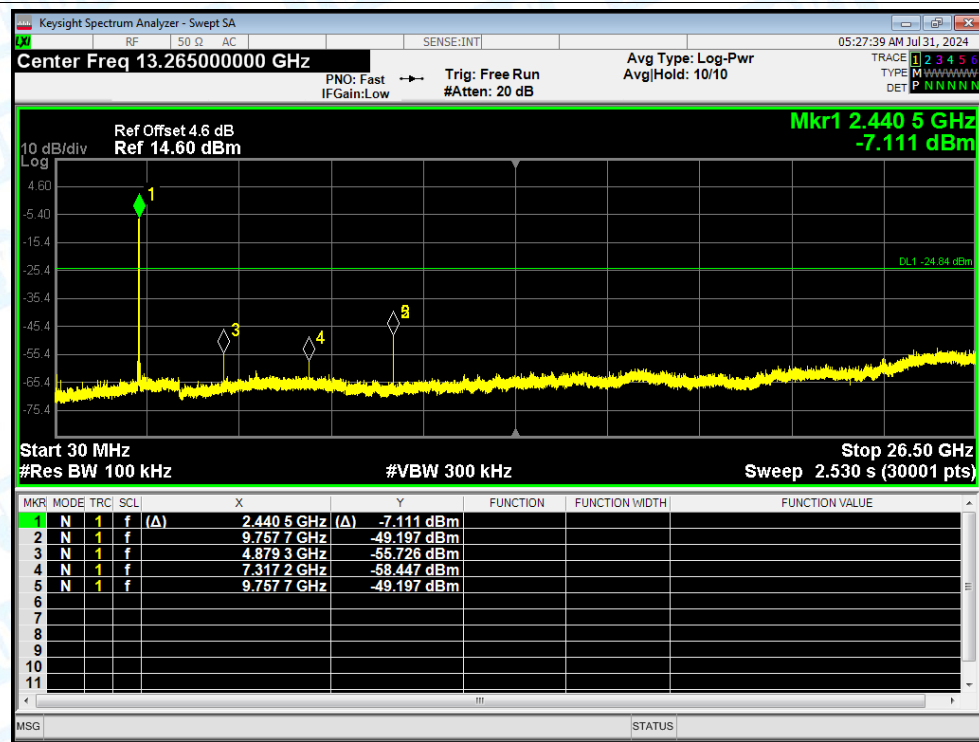
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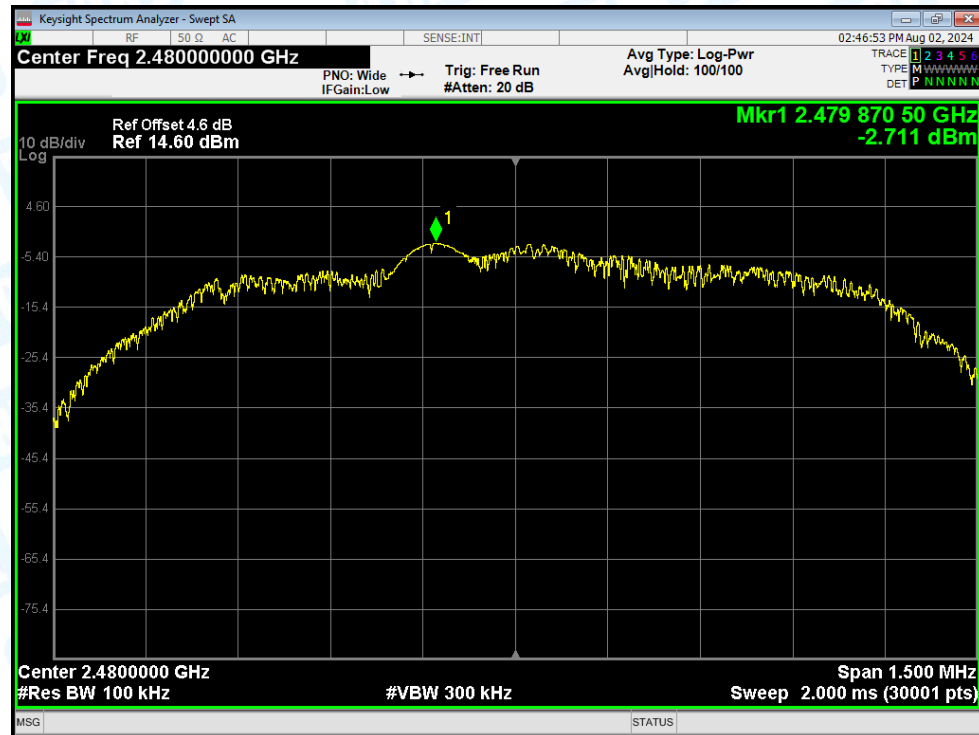
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



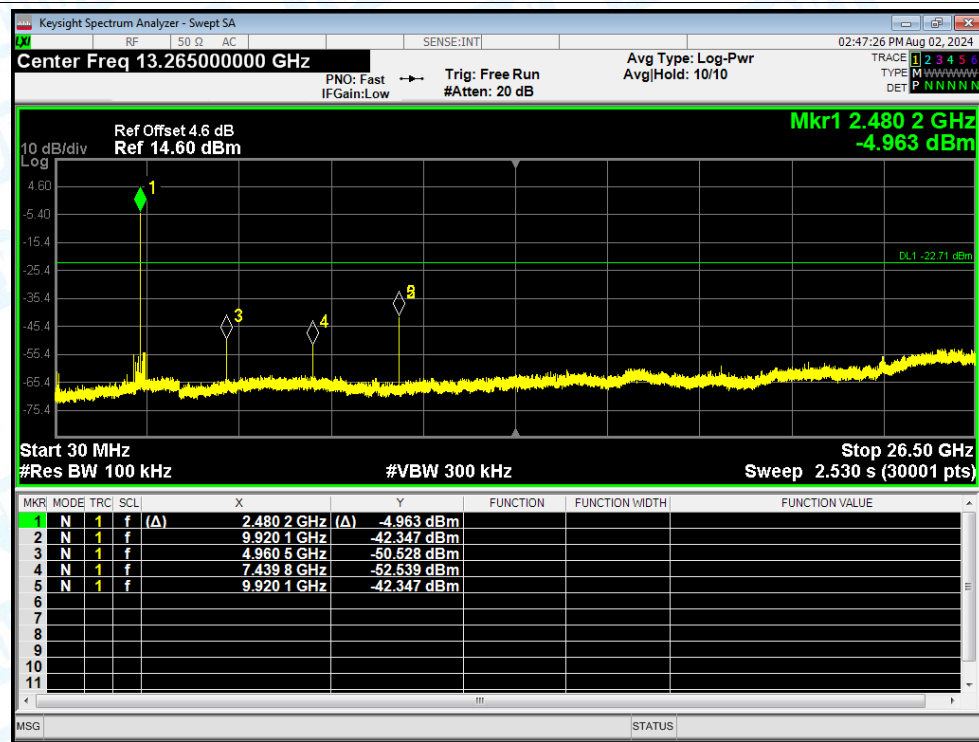
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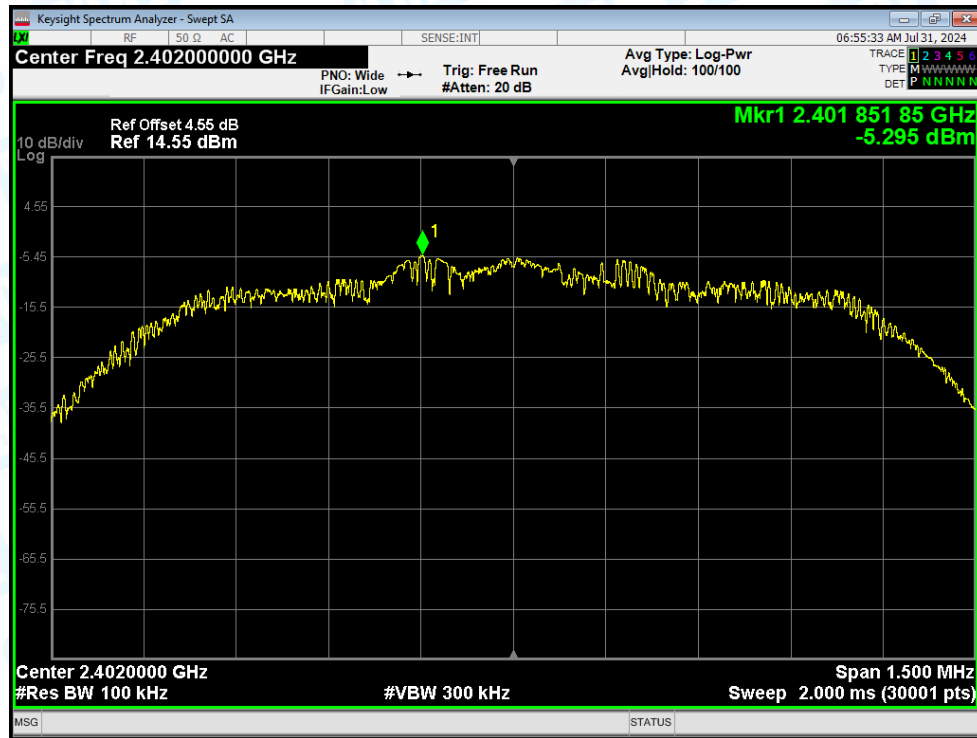
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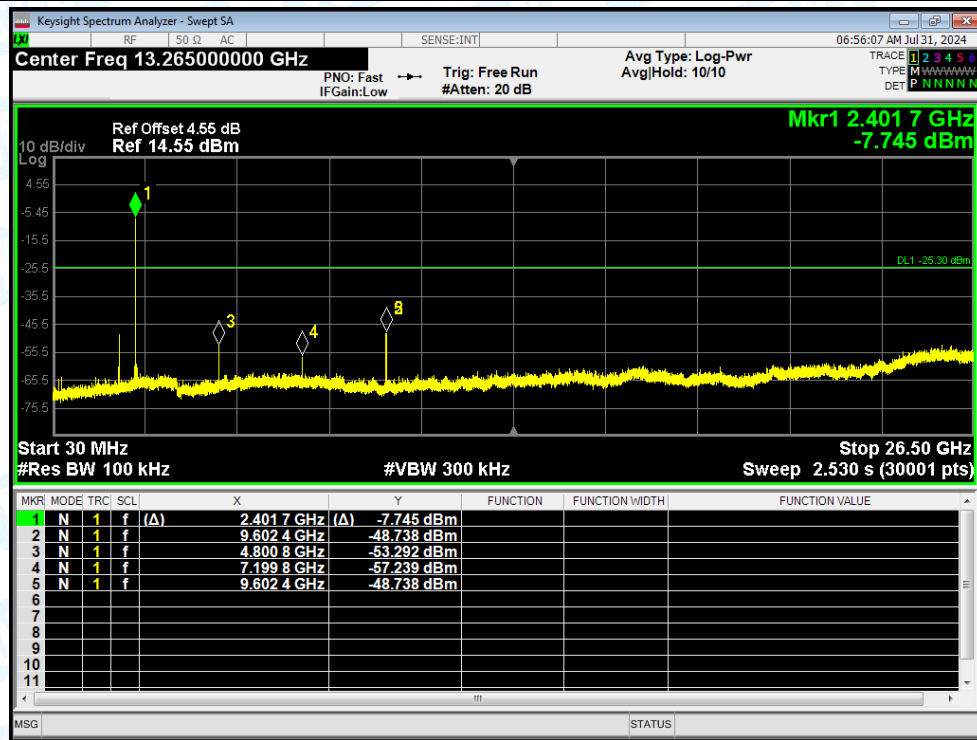
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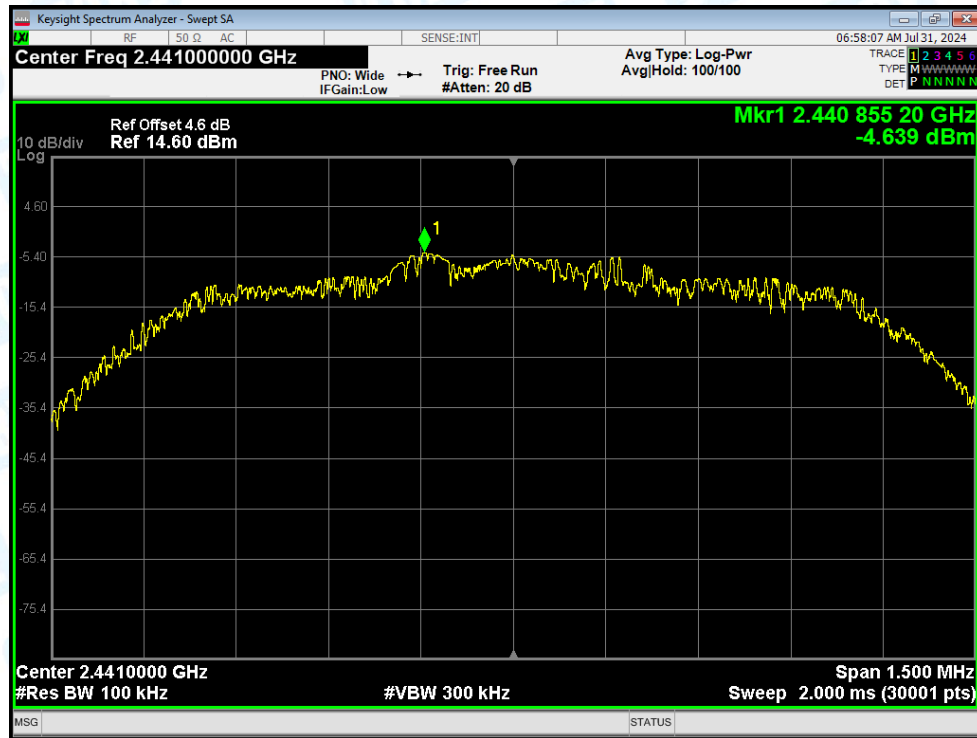
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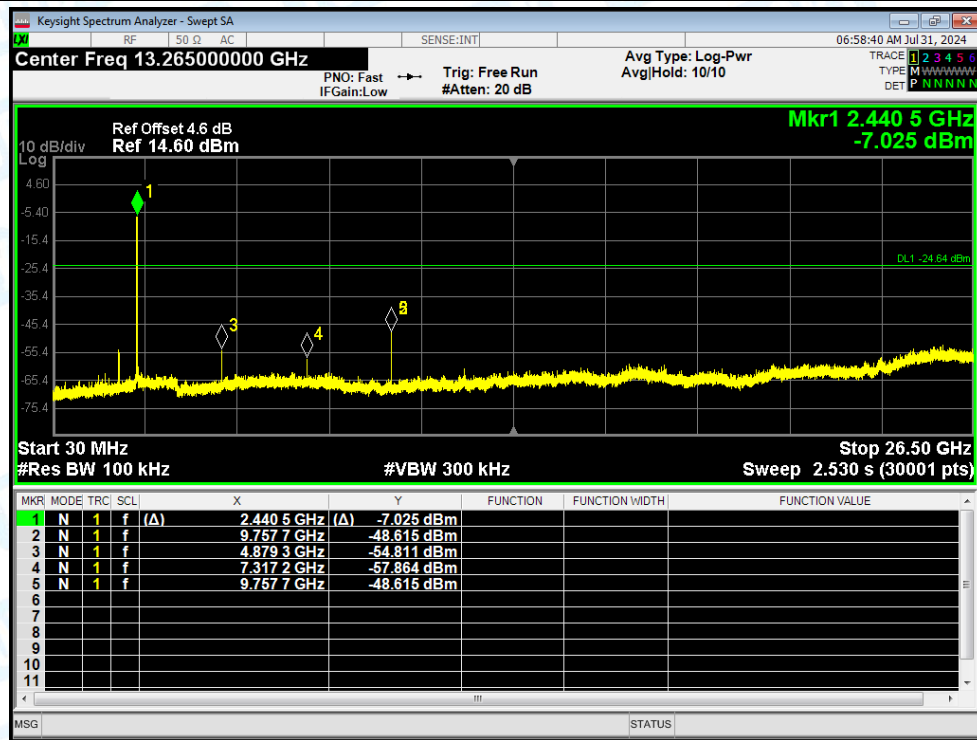
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



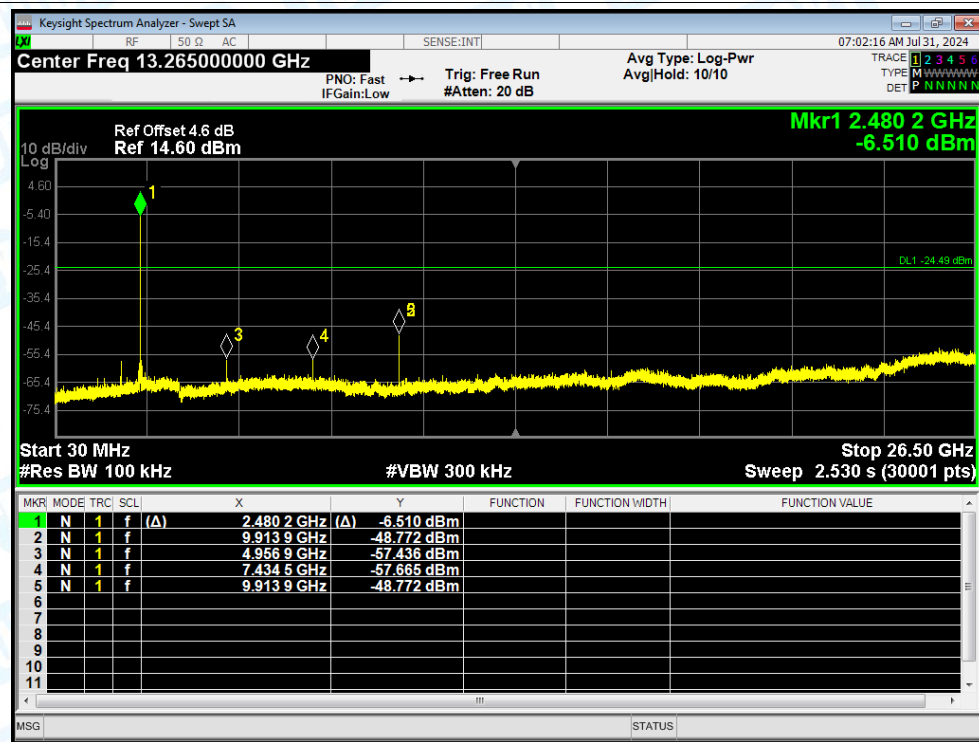
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

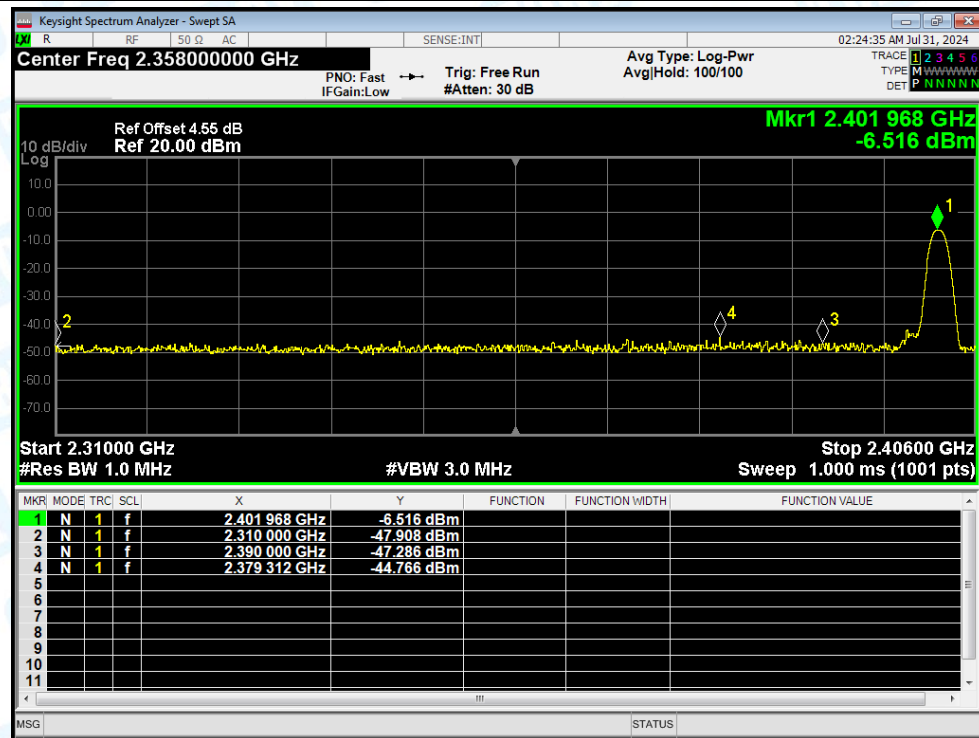


Restrict Band

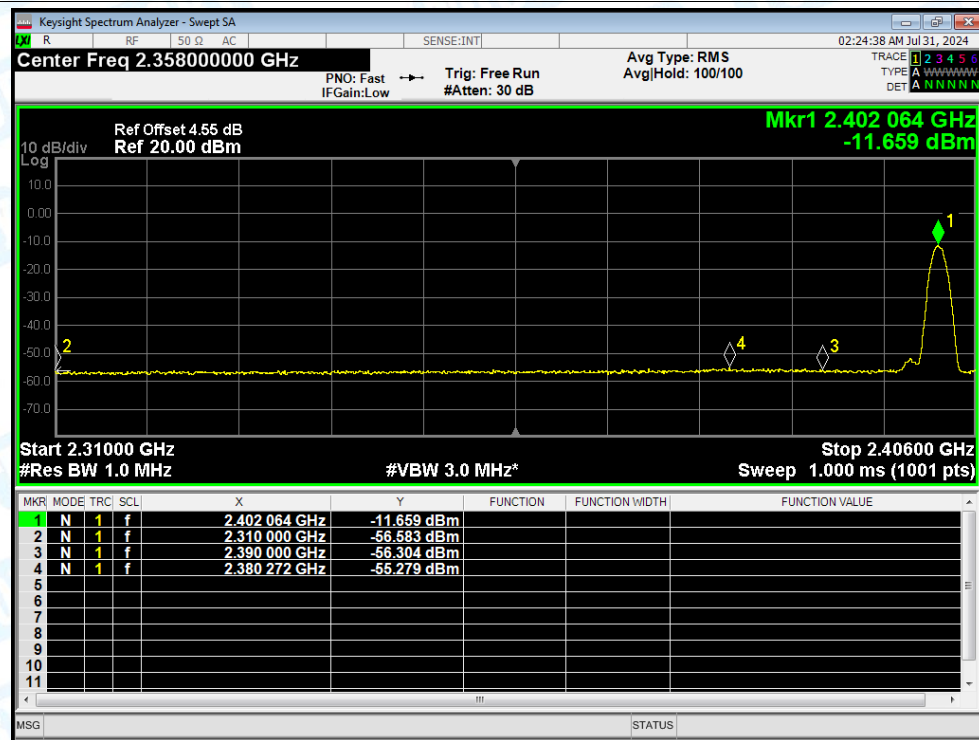
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.91	2	-	49.35	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.58	2	5.17	45.85	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2379.312	-44.77	2	-	52.49	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2380.272	-55.28	2	5.17	47.15	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-47.29	2	-	49.97	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.3	2	5.17	46.13	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-46.5	2	-	50.76	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-55.61	2	5.29	46.94	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.728	-44.06	2	-	53.2	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2489.92	-54.72	2	5.29	47.83	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-46.96	2	-	50.3	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.78	2	5.29	46.77	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-47.67	2	-	49.59	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-57.16	2	5.17	45.27	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2379.6	-45.04	2	-	52.22	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2378.256	-55.39	2	5.17	47.04	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-48.5	2	-	48.76	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.47	2	5.17	46.96	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-48.15	2	-	49.11	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.58	2	5.17	46.85	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2496.928	-43.69	2	-	53.57	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2495.368	-54.32	2	5.17	48.11	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-46.71	2	-	50.55	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.68	2	5.17	46.75	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.13	2	-	49.13	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-57.28	2	5.06	45.04	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2354.256	-45.26	2	-	52	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2386.896	-54.92	2	5.06	47.4	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-47.21	2	-	50.05	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.82	2	5.06	46.5	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-47.8	2	-	49.46	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-55.66	2	5.06	46.66	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2495.296	-44.05	2	-	53.21	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2498.32	-54.34	2	5.06	47.98	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-46.23	2	-	51.03	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-54.83	2	5.06	47.49	Average	54	Pass

Test Graphs

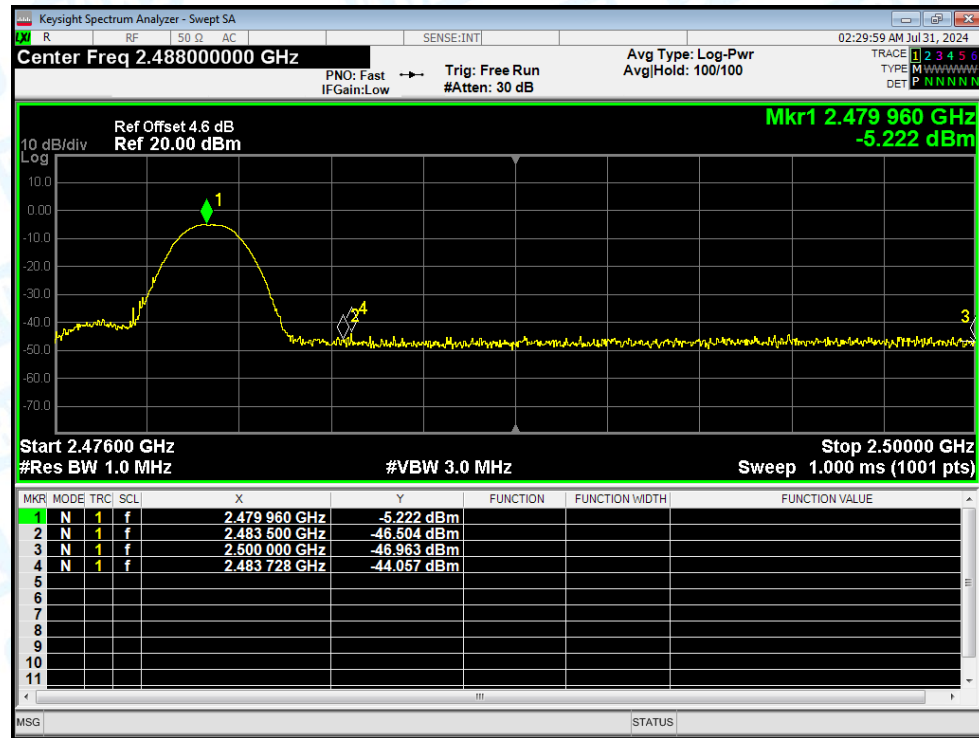
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



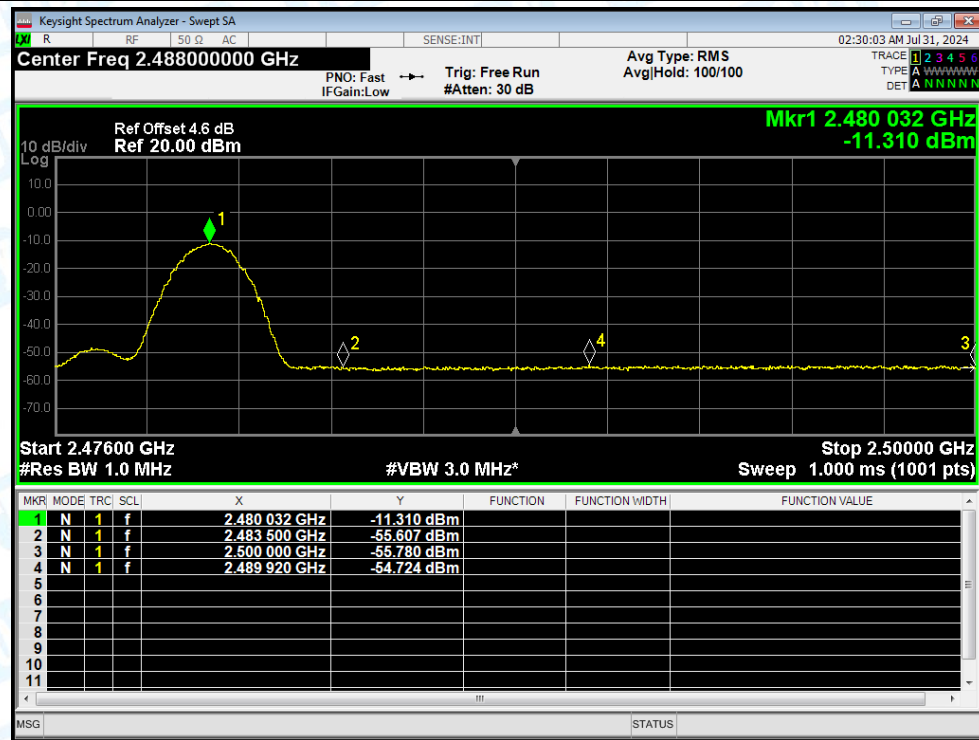
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



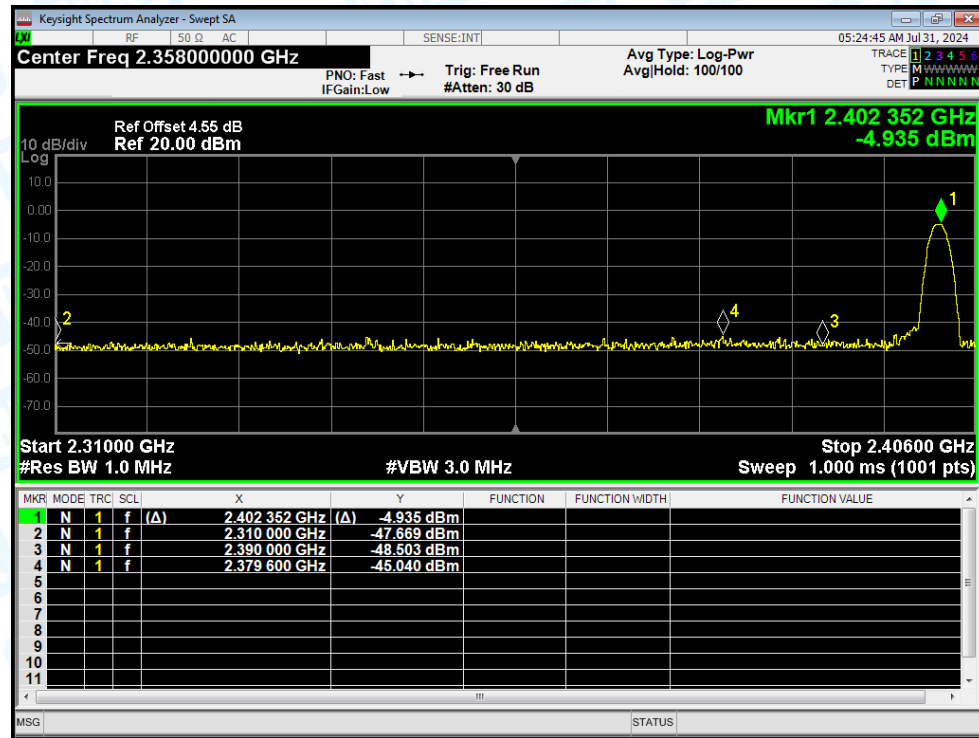
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



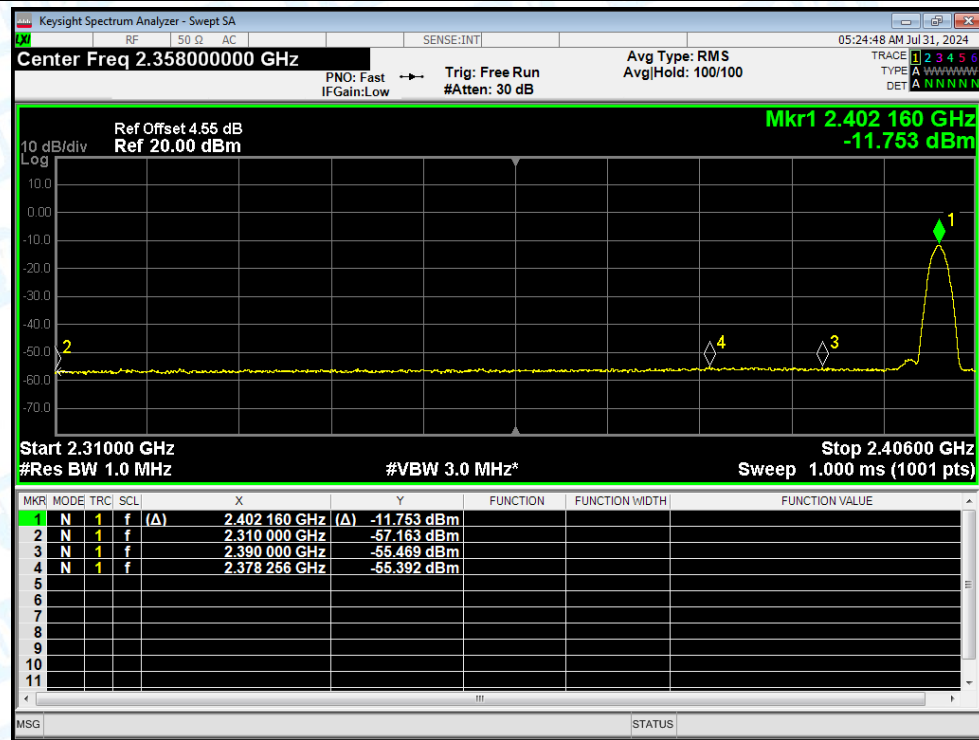
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



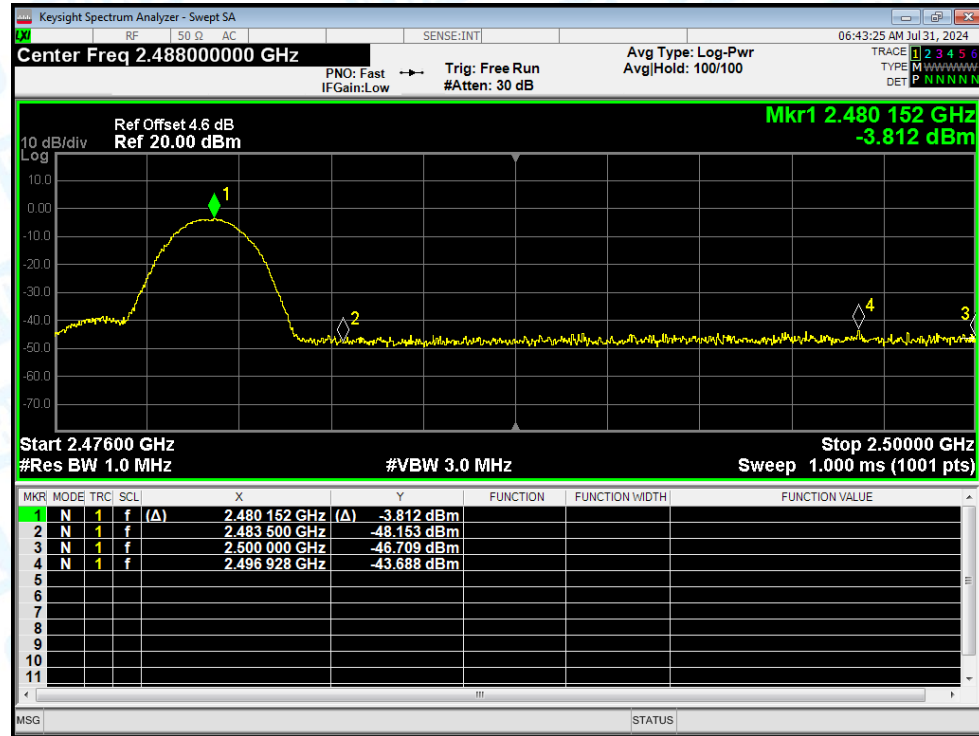
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



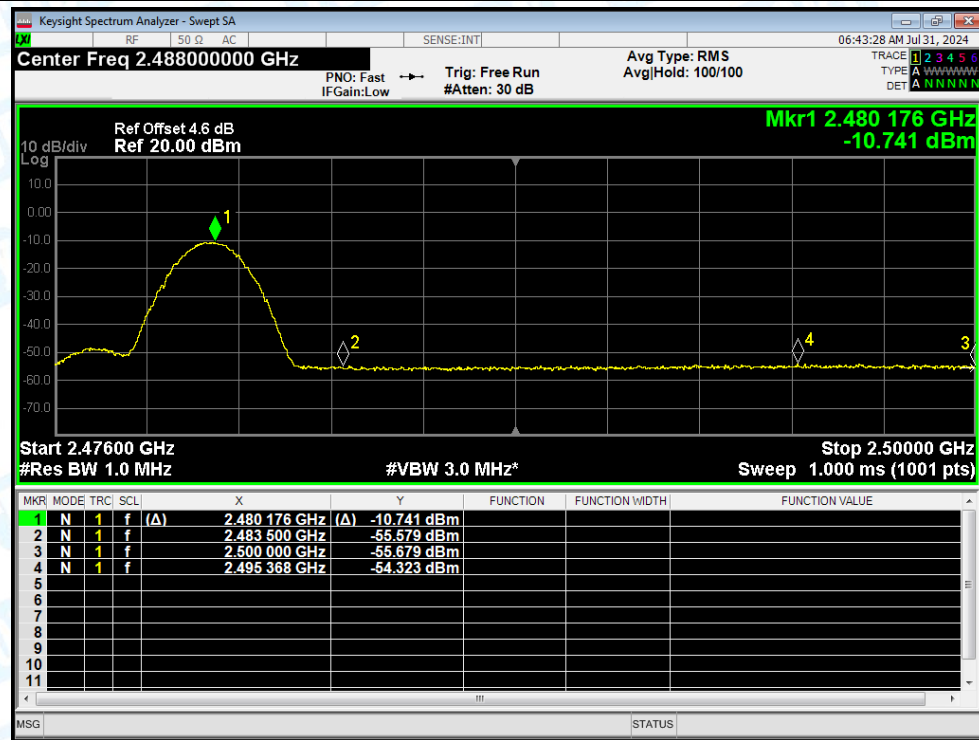
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



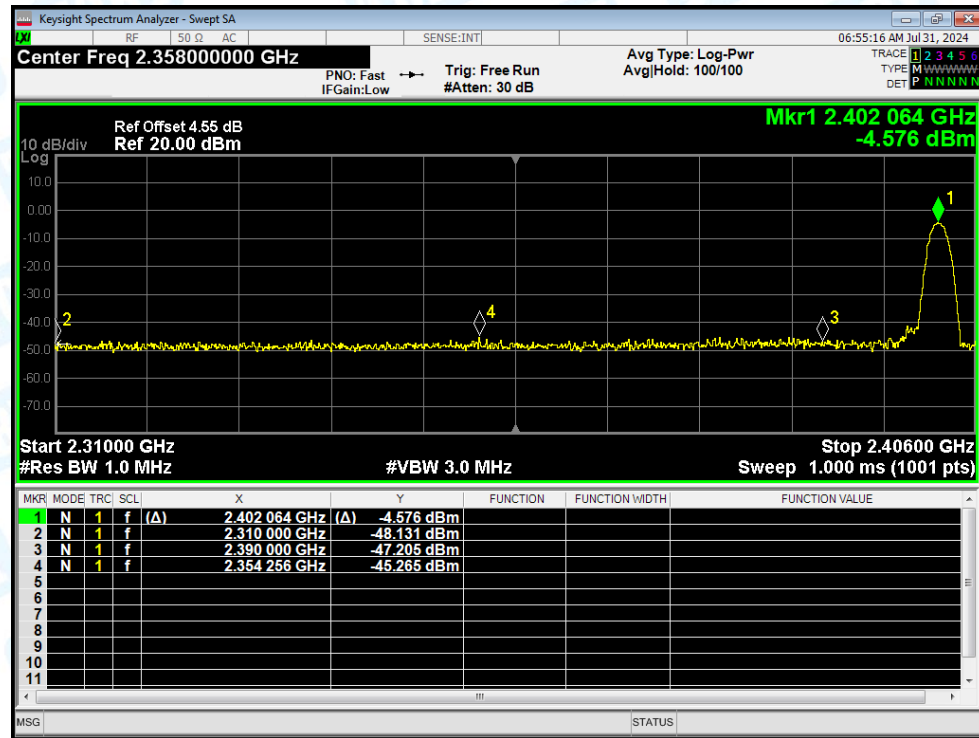
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



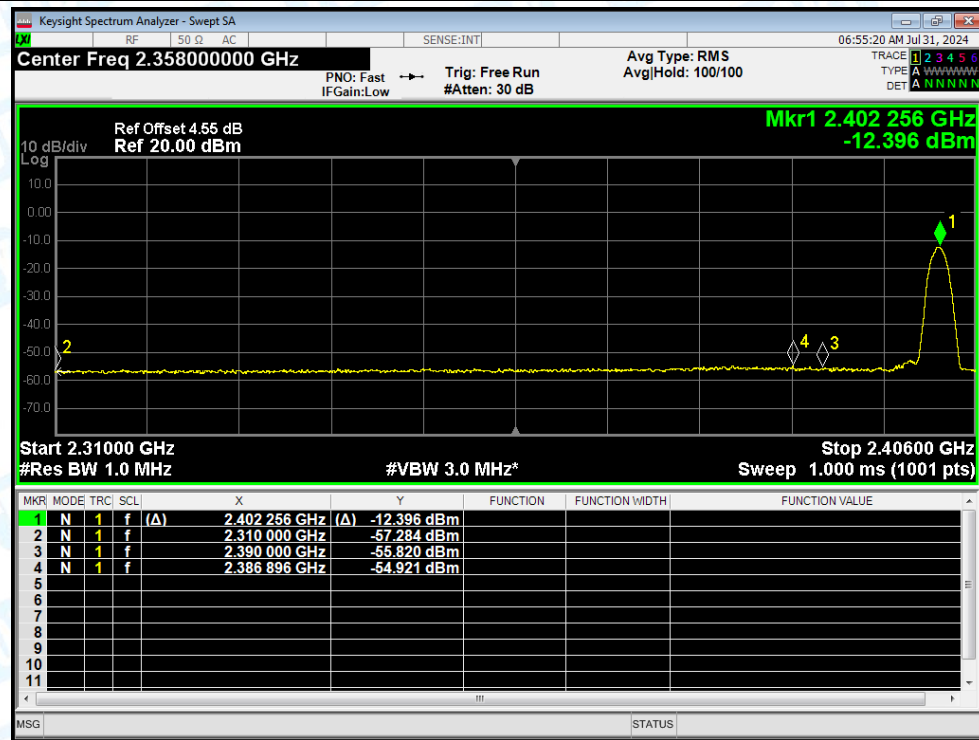
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



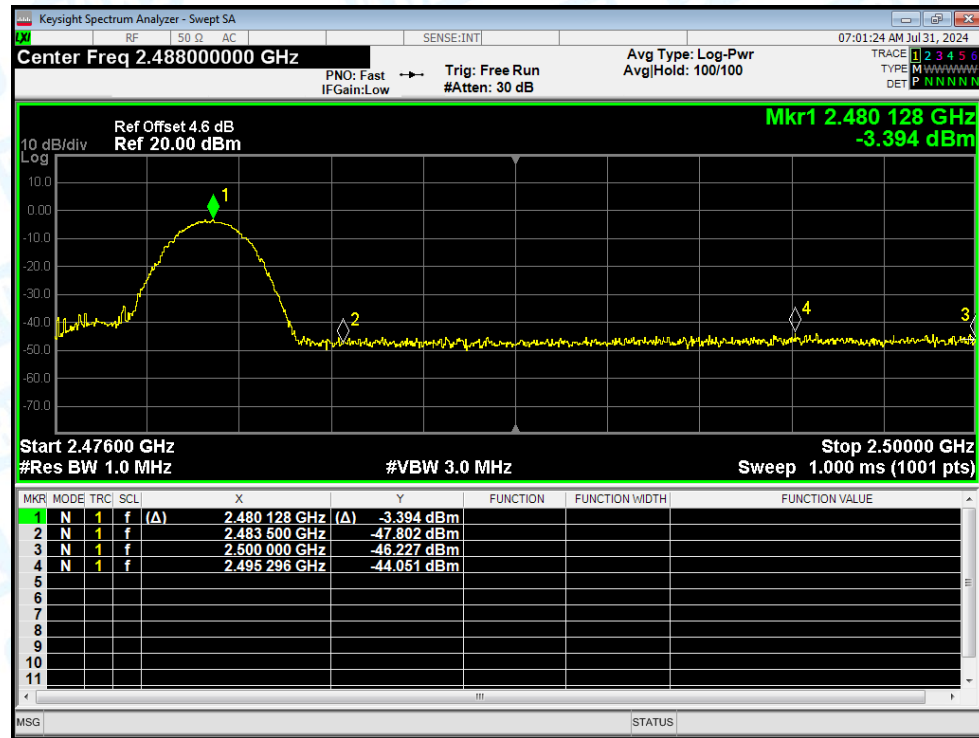
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



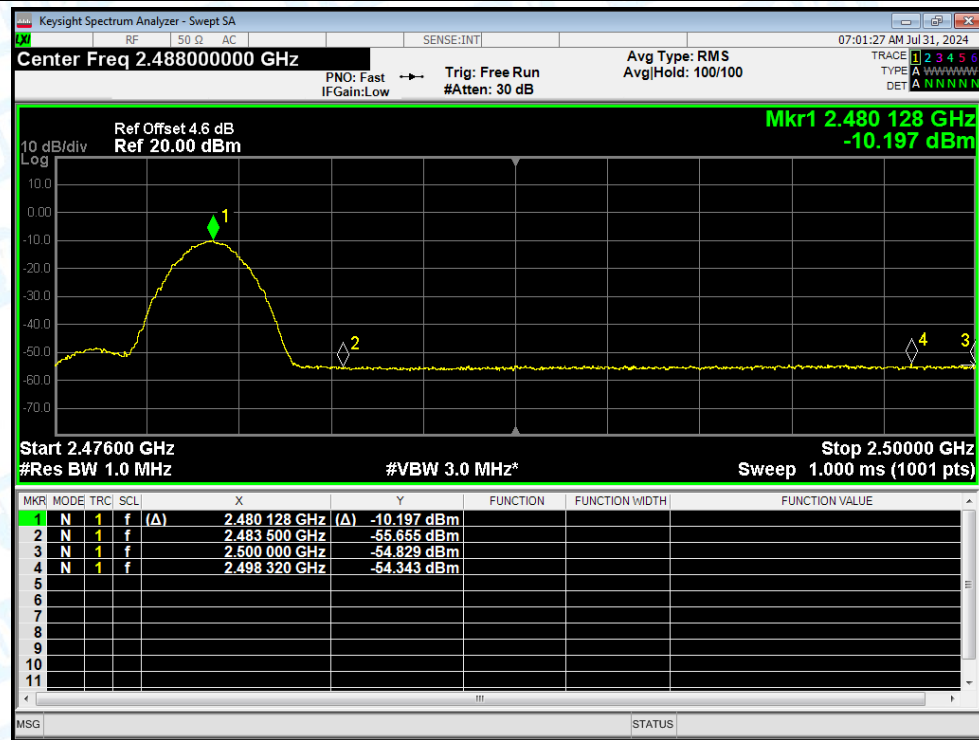
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

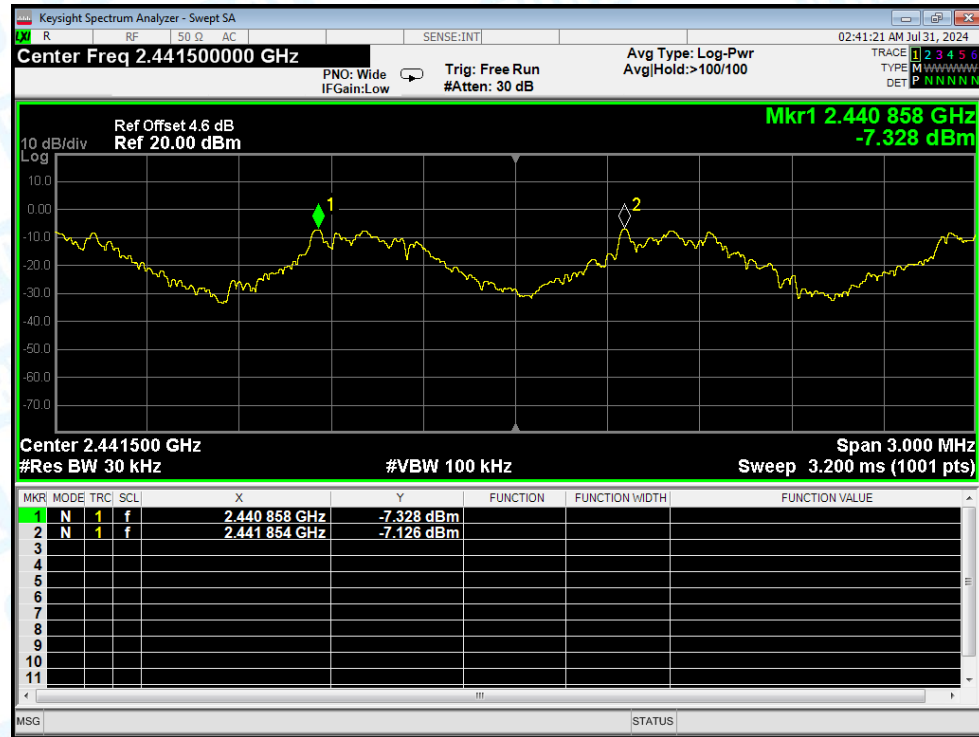


Carrier Frequencies Separation

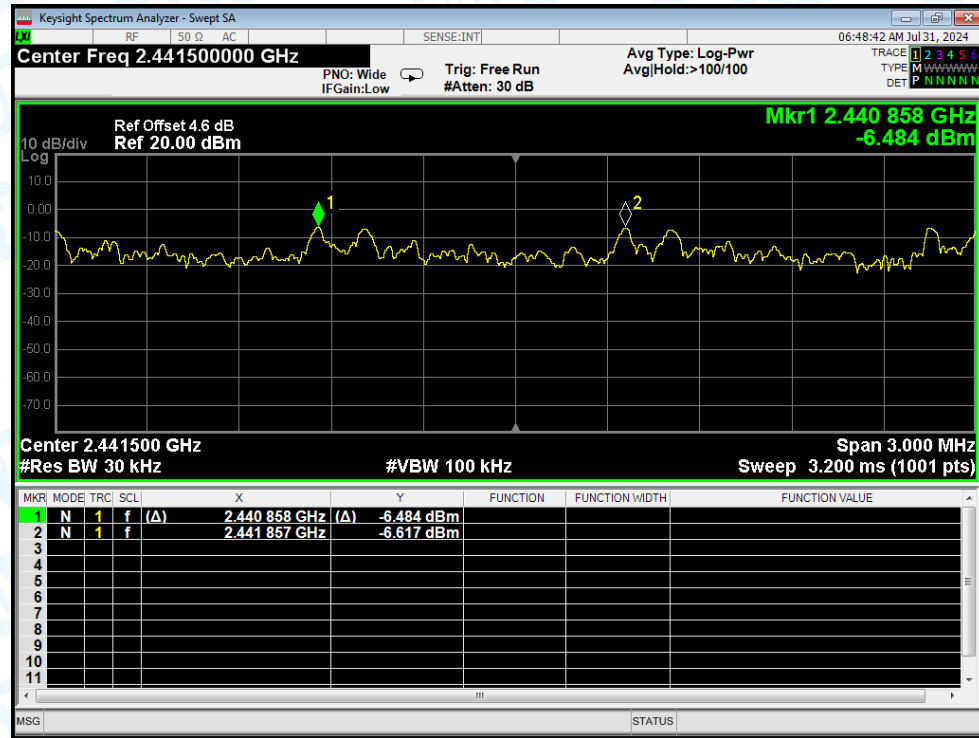
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.858	2441.854	0.996	0.587	Pass
NVNT	2-DH1	Ant1	2440.858	2441.857	0.999	0.813	Pass
NVNT	3-DH1	Ant1	2440.858	2441.848	0.99	0.833	Pass

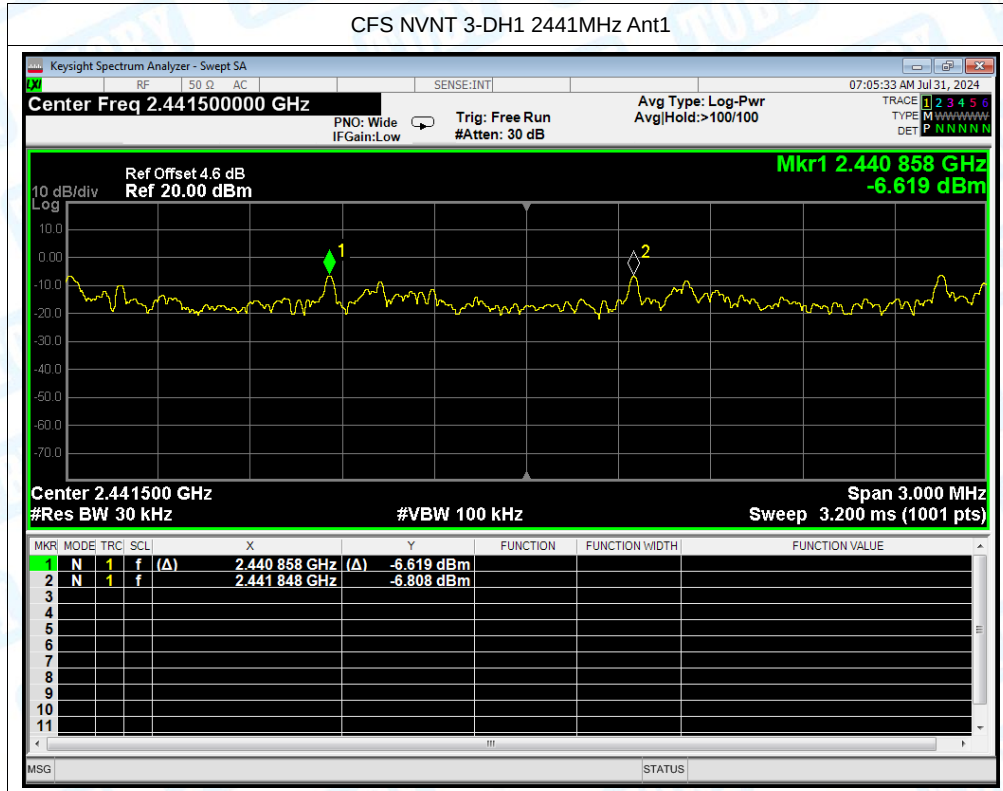
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



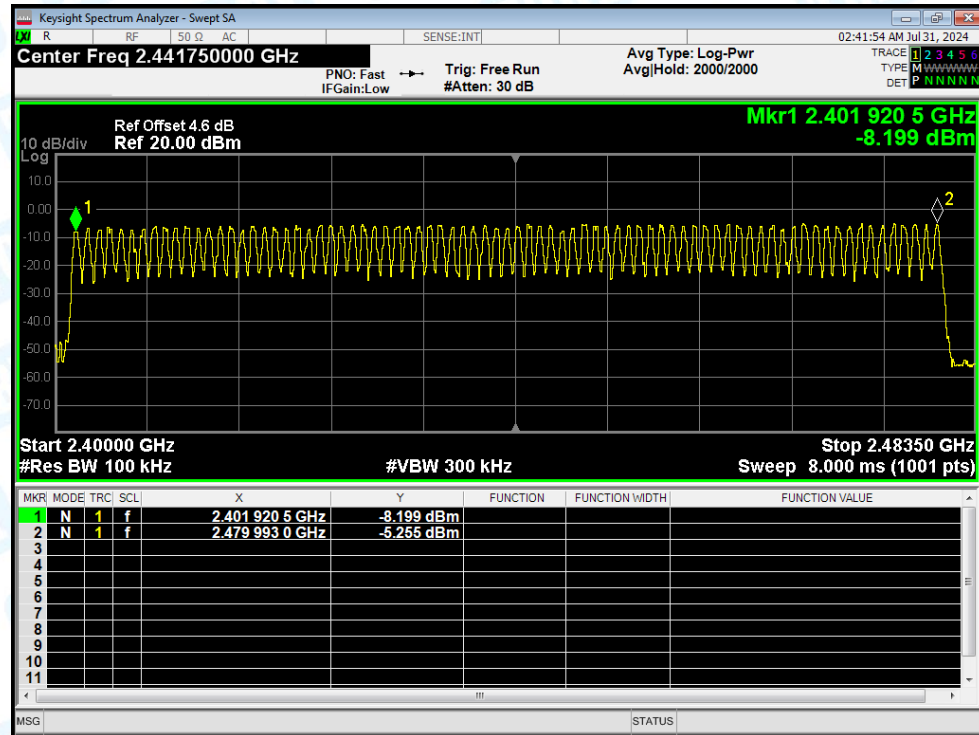


Number of Hopping Channel

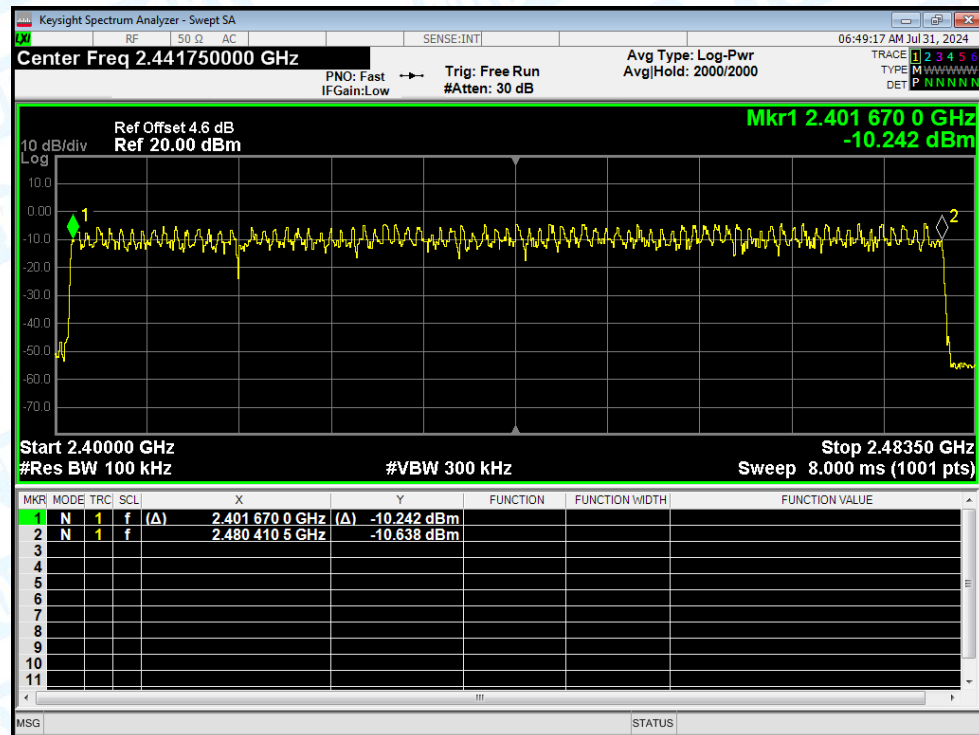
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

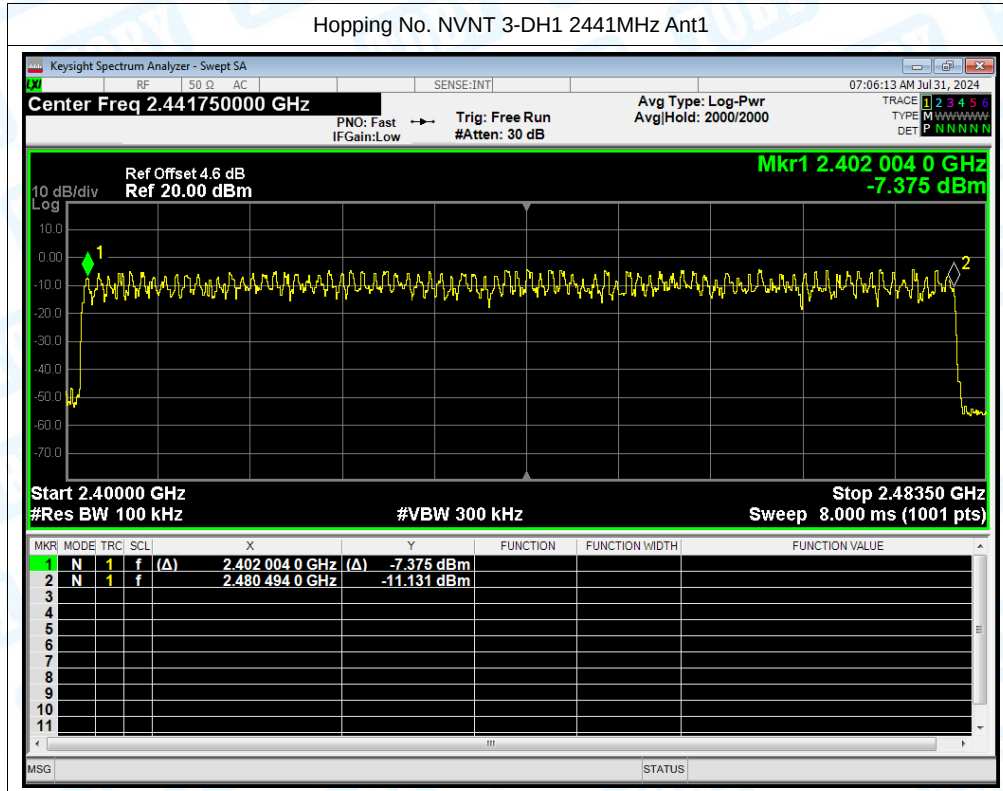
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



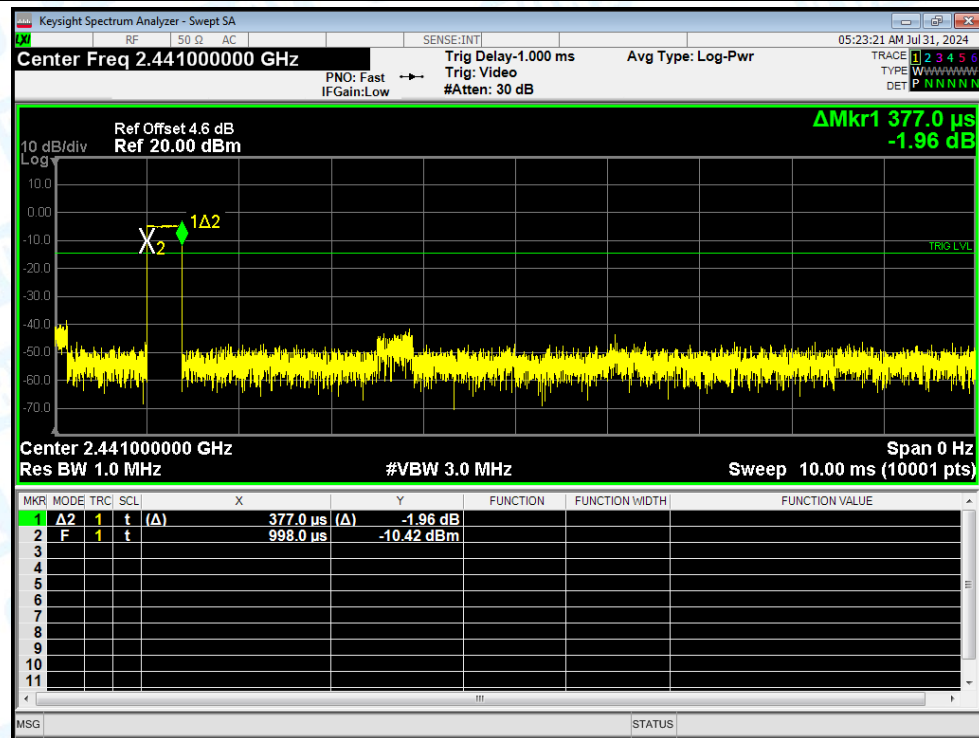


Dwell Time

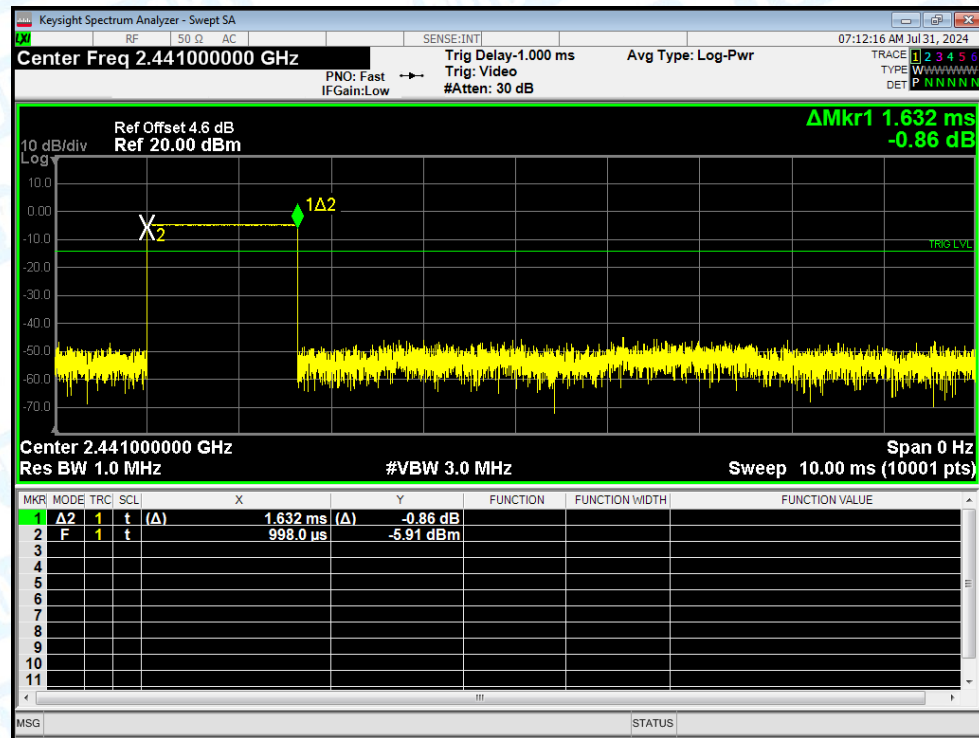
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.377	120.64	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.632	261.12	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.881	307.307	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.386	123.52	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.638	262.08	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.885	307.733	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.386	123.52	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.636	261.76	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.888	308.053	31600	400	Pass

Test Graphs

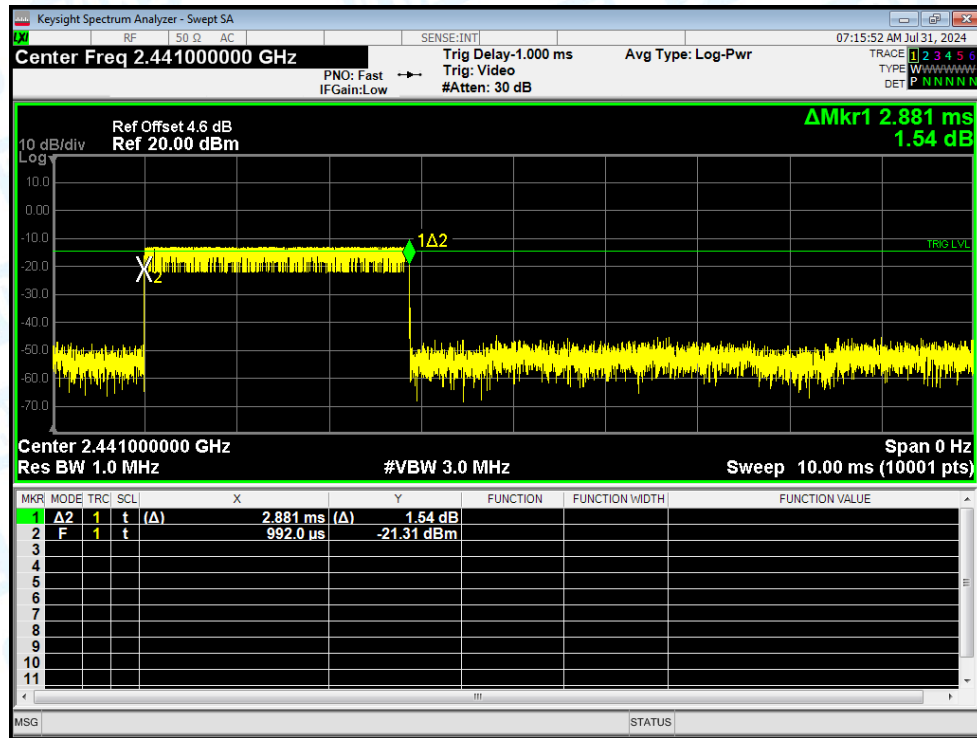
Dwell NVNT 1-DH1 2441MHz Ant1



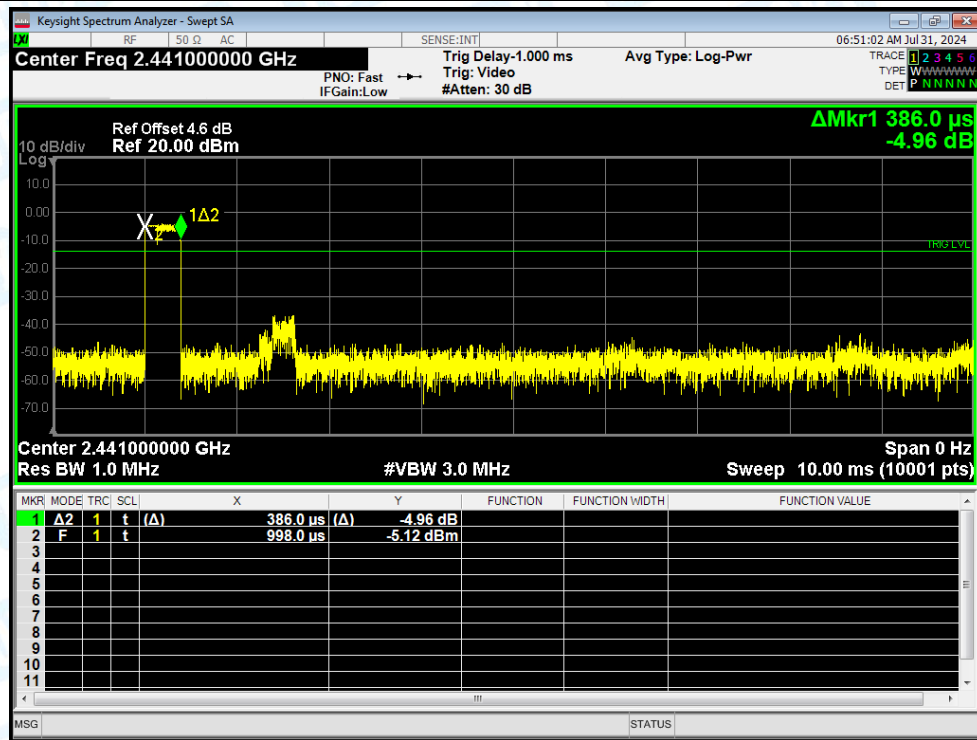
Dwell NVNT 1-DH3 2441MHz Ant1



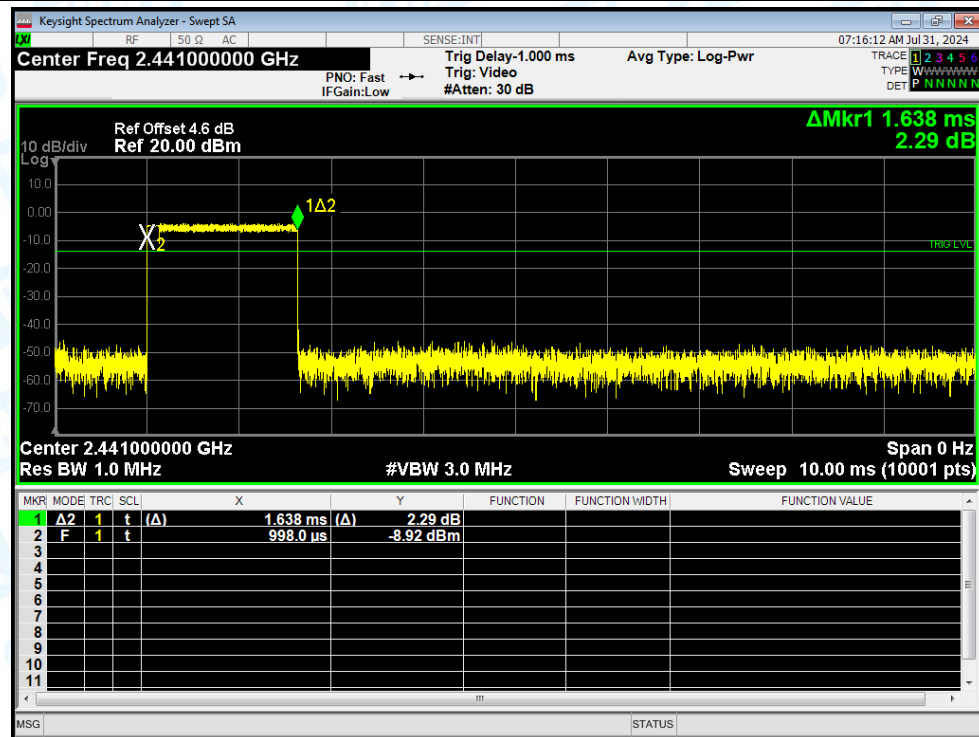
Dwell NVNT 1-DH5 2441MHz Ant1



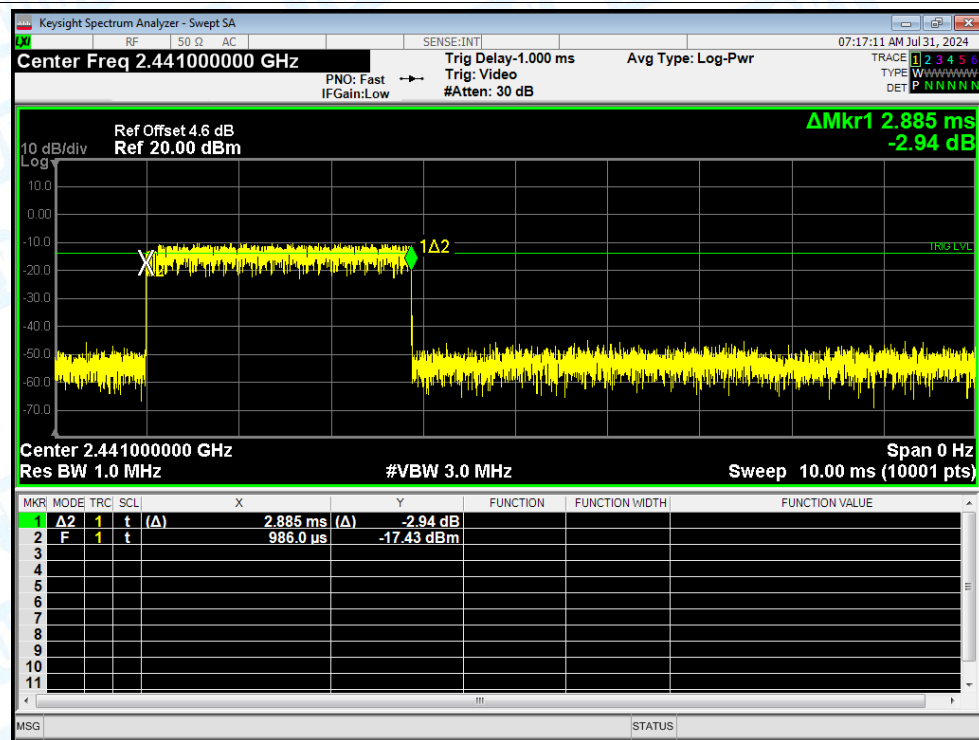
Dwell NVNT 2-DH1 2441MHz Ant1



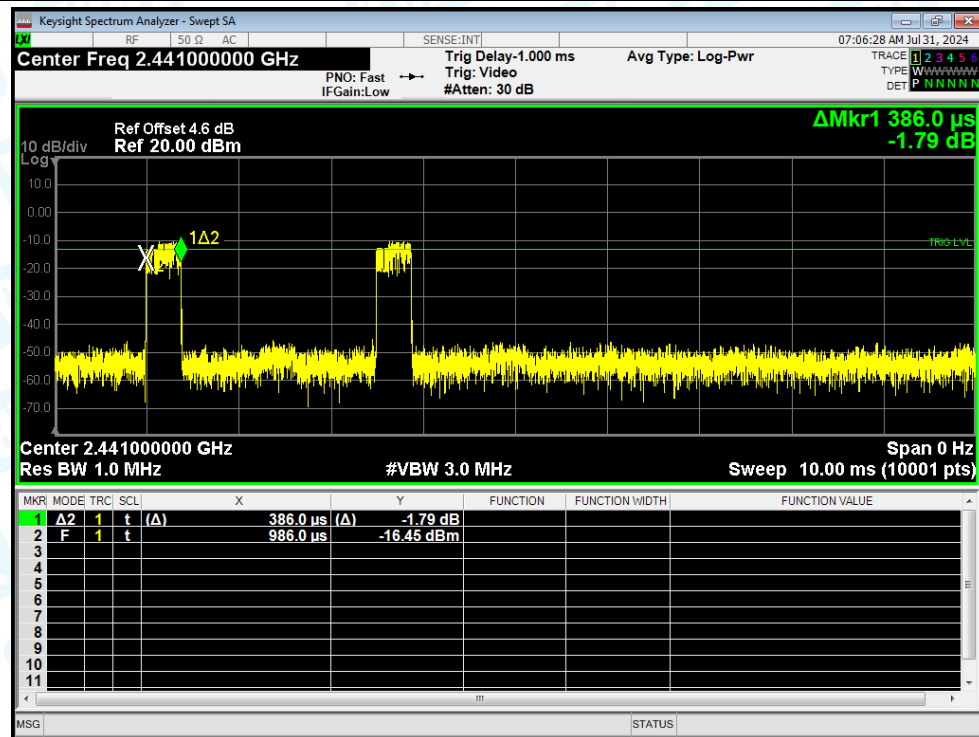
Dwell NVNT 2-DH3 2441MHz Ant1



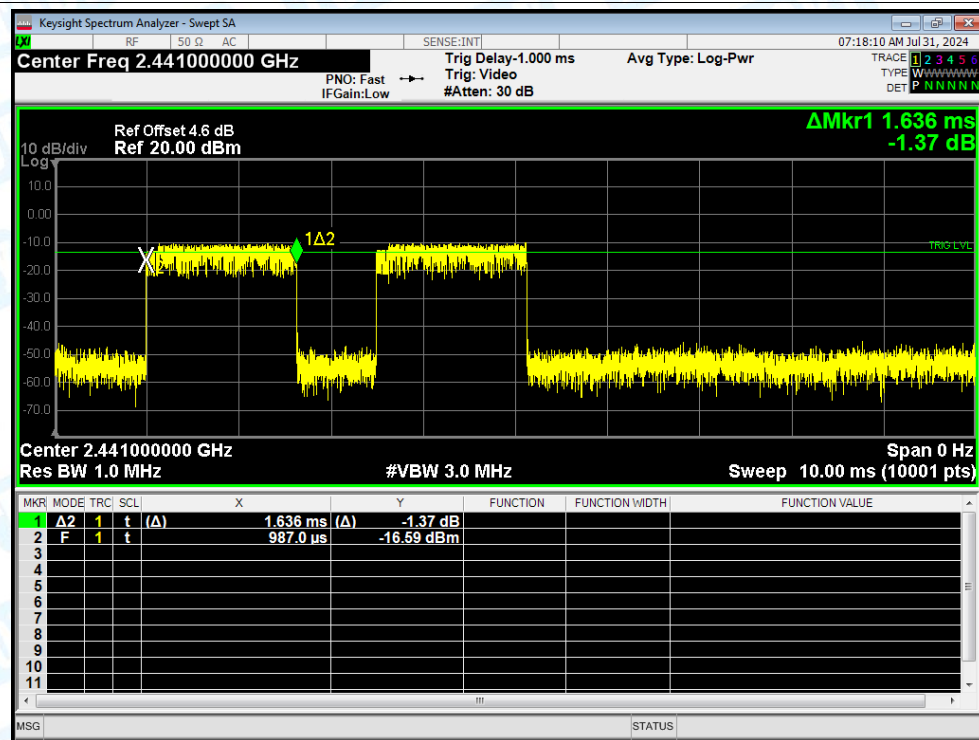
Dwell NVNT 2-DH5 2441MHz Ant1

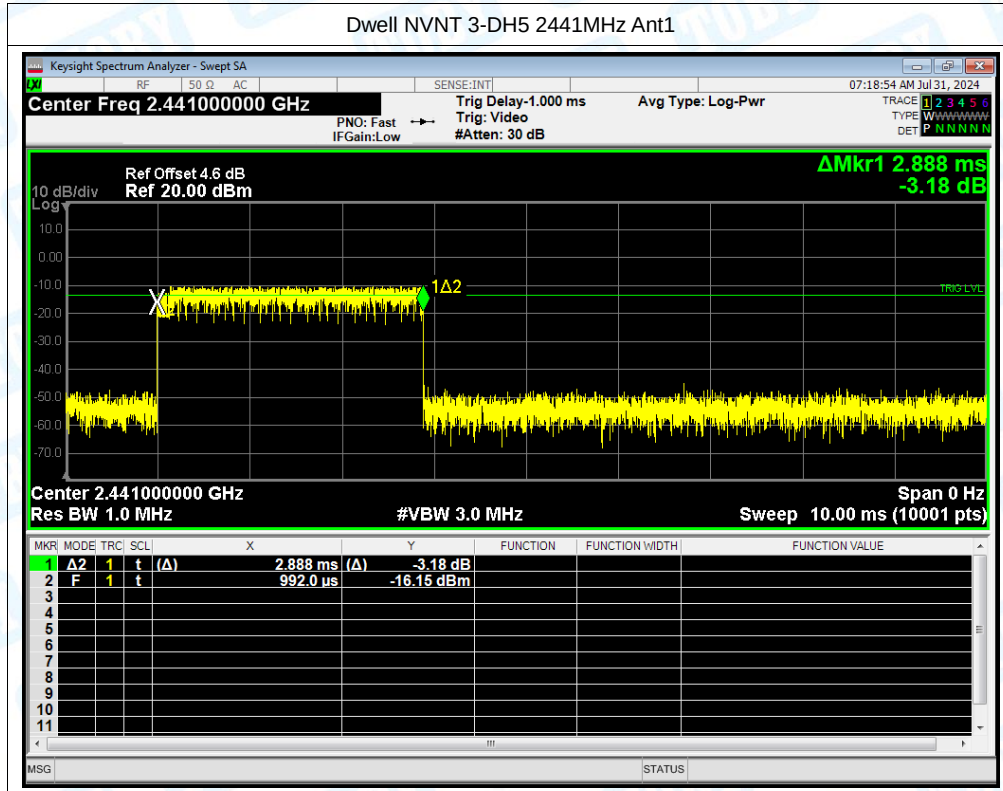


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





----END OF REPORT----