

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	AI Reader
Test Model:	Read
Sample ID:	HC-C-202503-0095-13-01-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 3.7V
Test Engineer:	Lily. zhang
Note: For a more detailed features description, please refer to the report TBR-C-202503-0095-16 The report only show the worst case data.	

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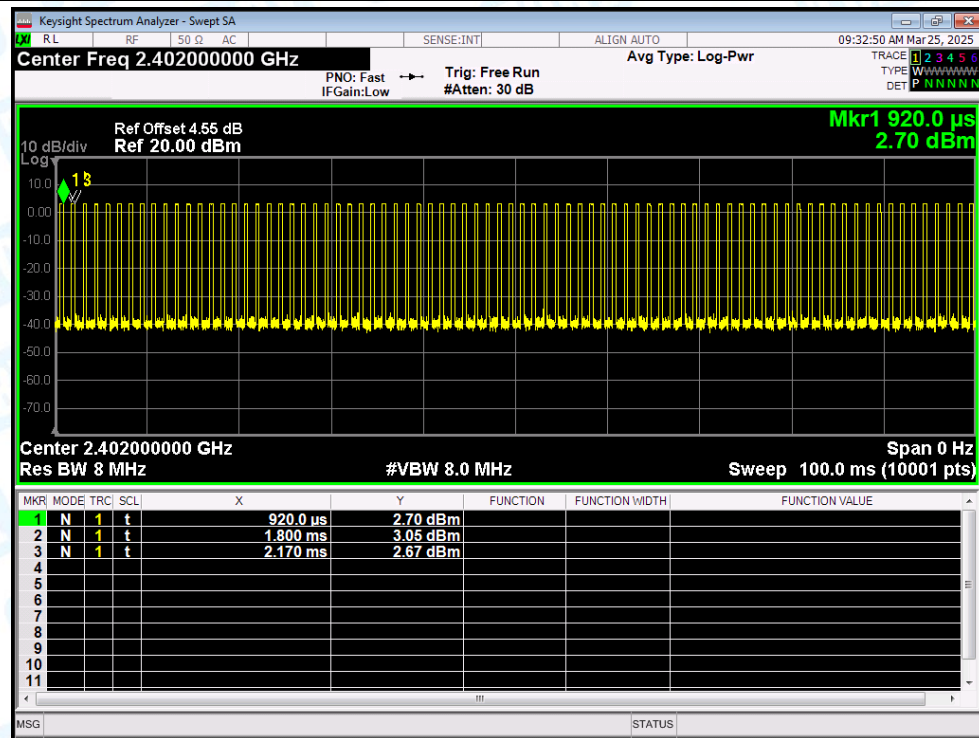
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1. Duty Cycle

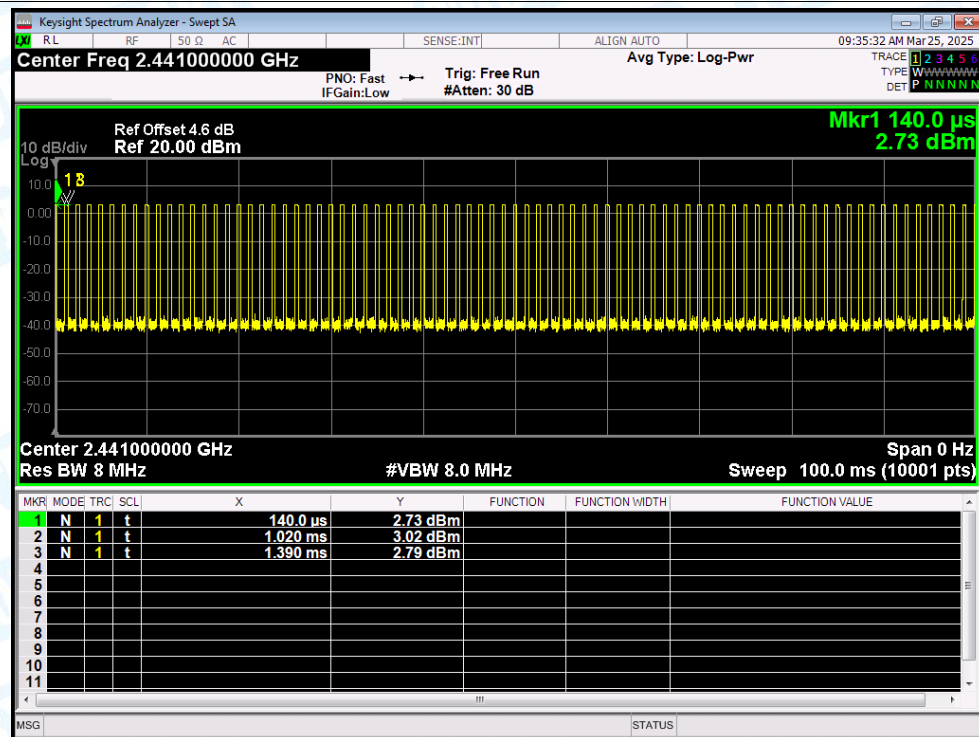
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	29.6	5.29	2.7
NVNT	1-DH1	2441	Ant1	29.6	5.29	2.7
NVNT	1-DH1	2480	Ant1	29.6	5.29	2.7
NVNT	2-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2480	Ant1	30.4	5.17	2.63
NVNT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

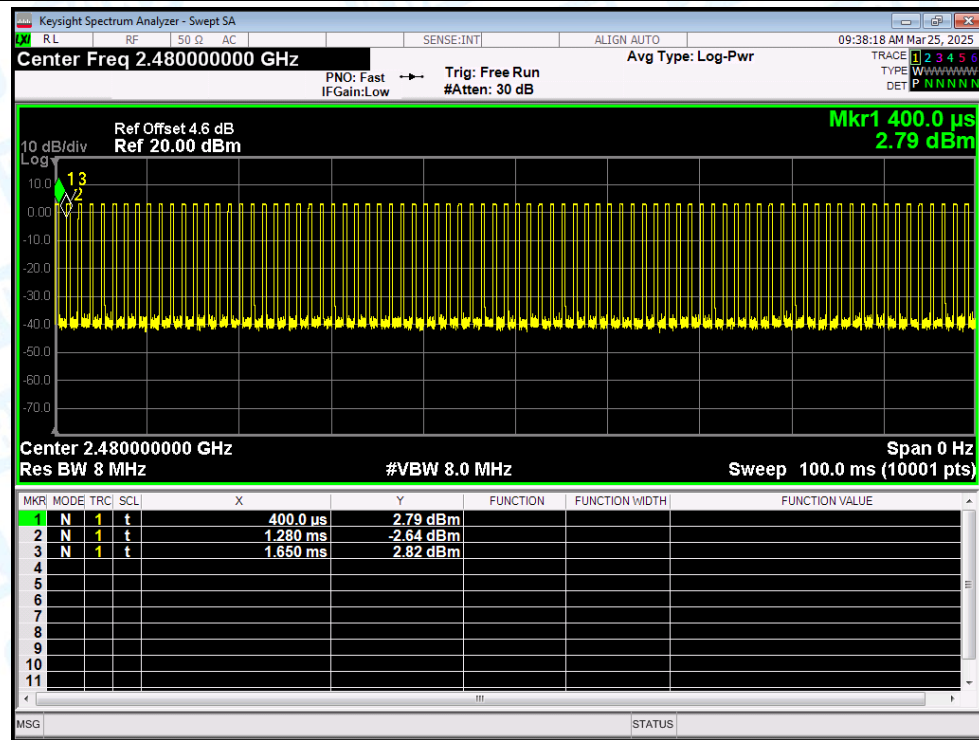
Duty Cycle NVNT 1-DH1 2402MHz Ant1



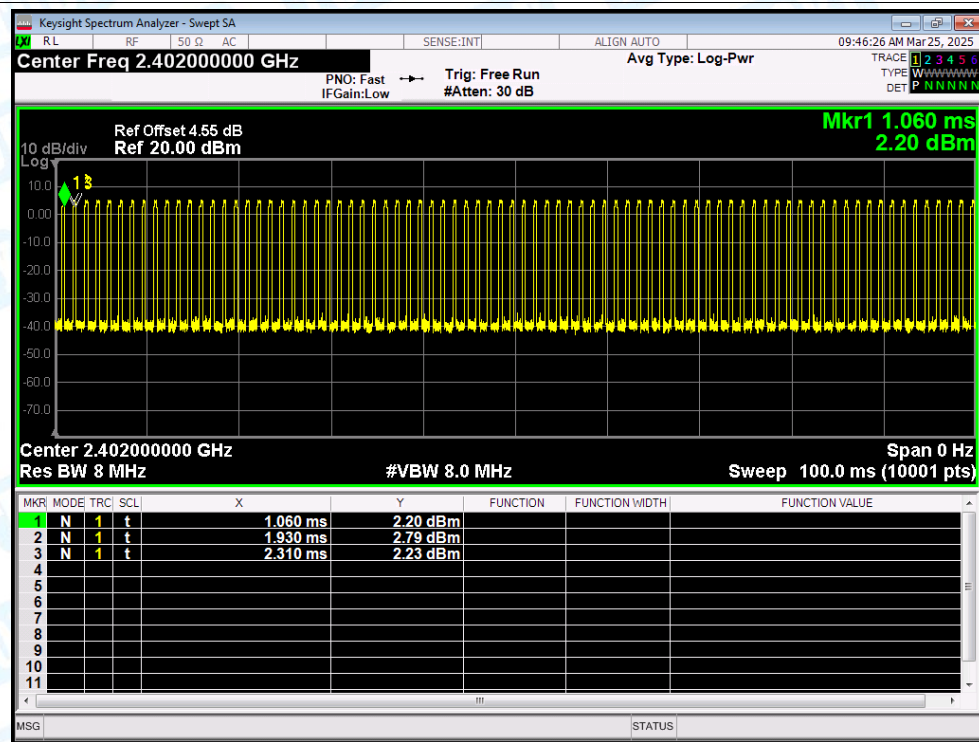
Duty Cycle NVNT 1-DH1 2441MHz Ant1



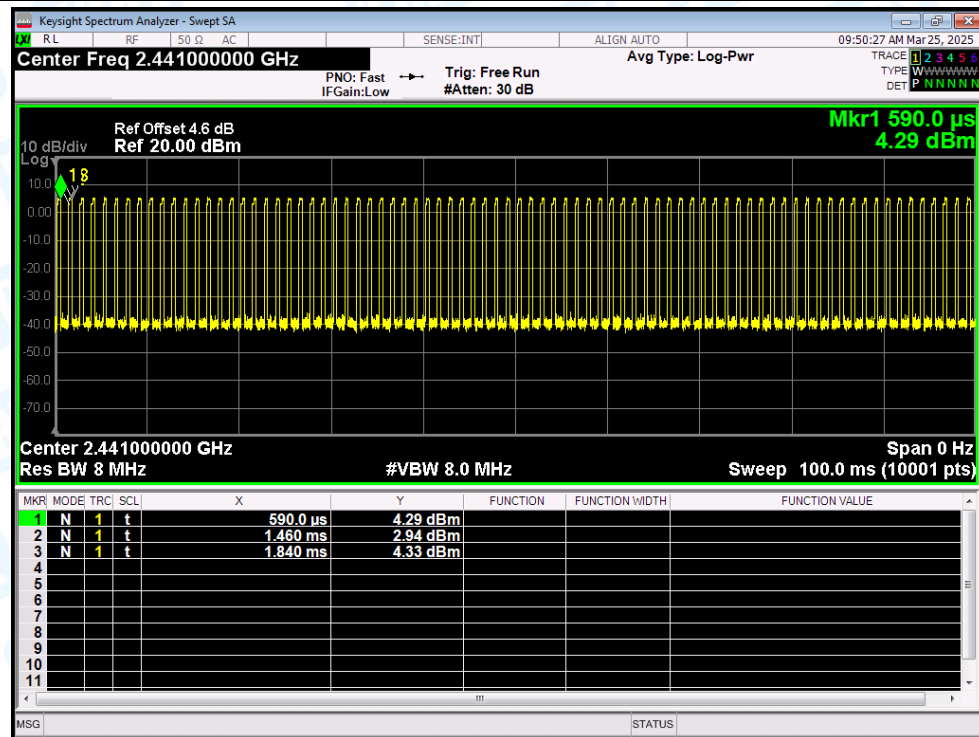
Duty Cycle NVNT 1-DH1 2480MHz Ant1



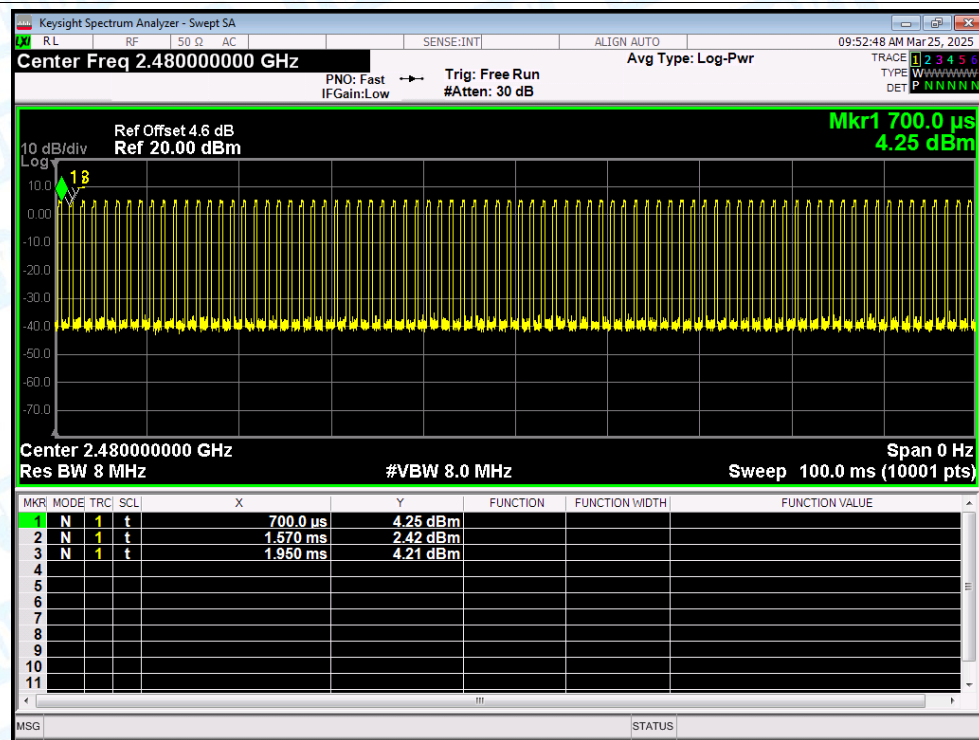
Duty Cycle NVNT 2-DH1 2402MHz Ant1



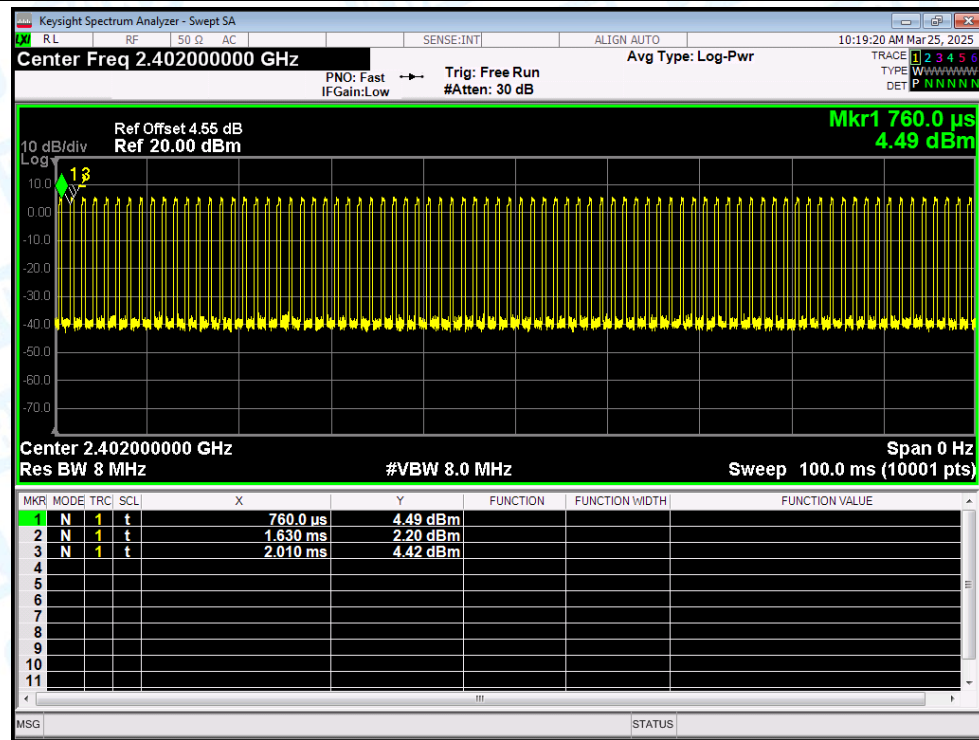
Duty Cycle NVNT 2-DH1 2441MHz Ant1



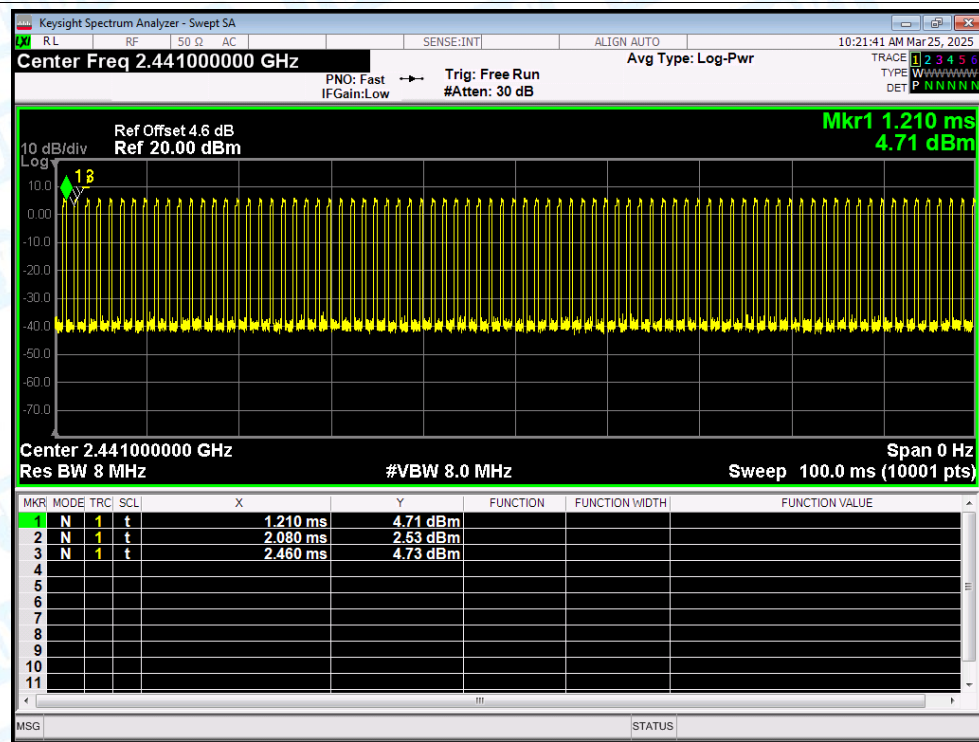
Duty Cycle NVNT 2-DH1 2480MHz Ant1

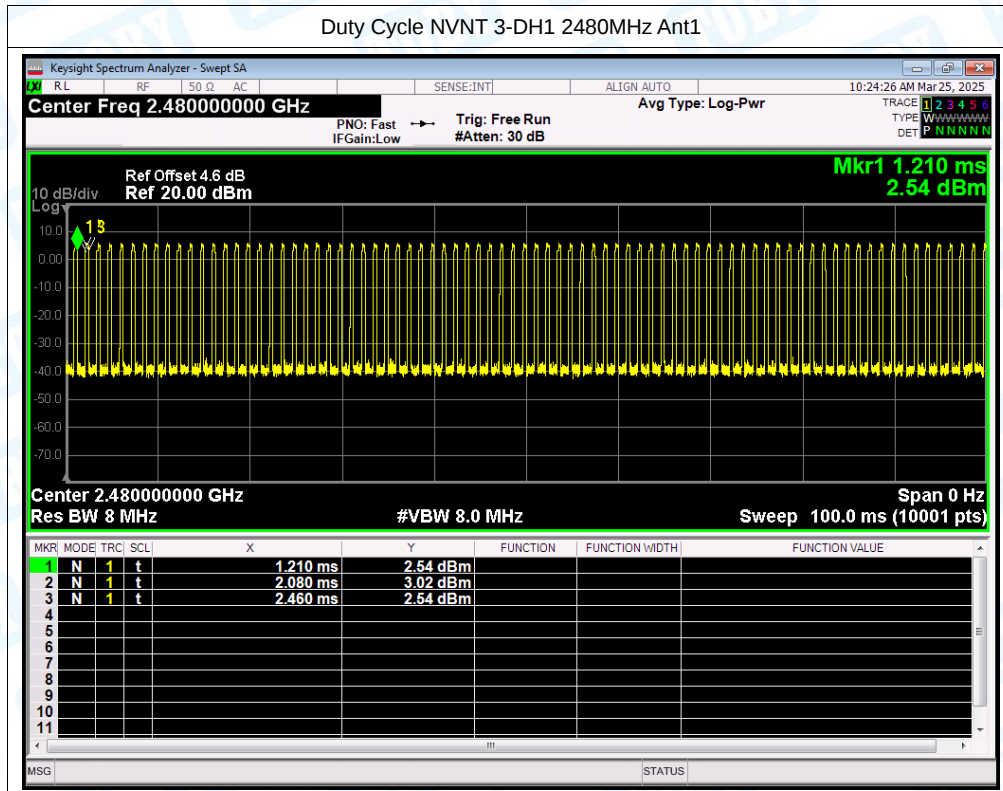


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



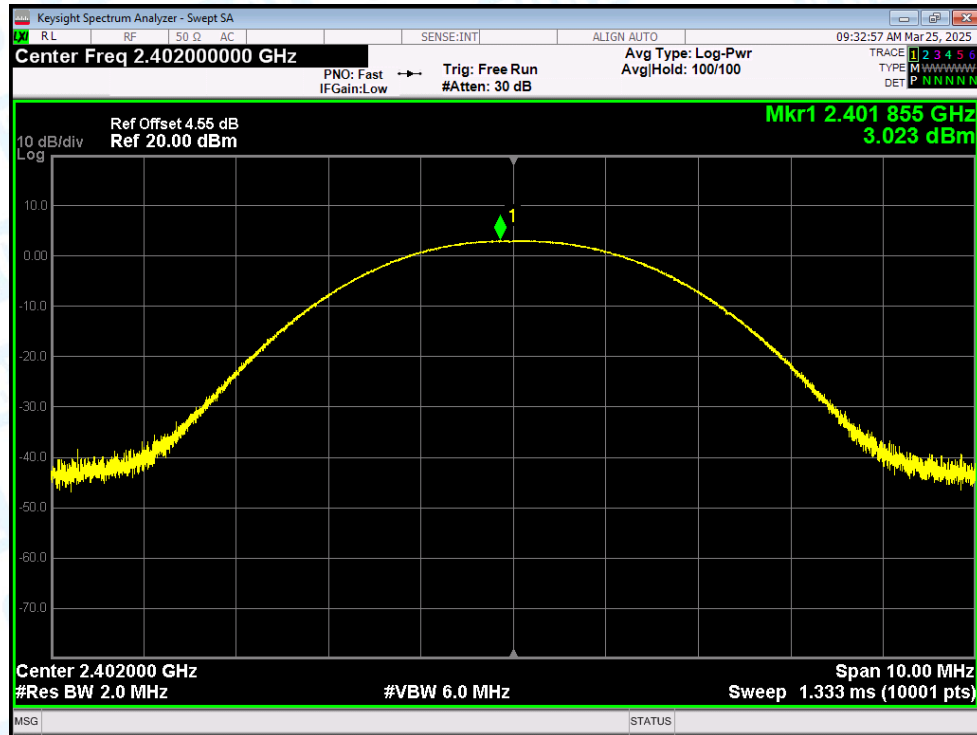


2. Maximum Conducted Peak Output Power

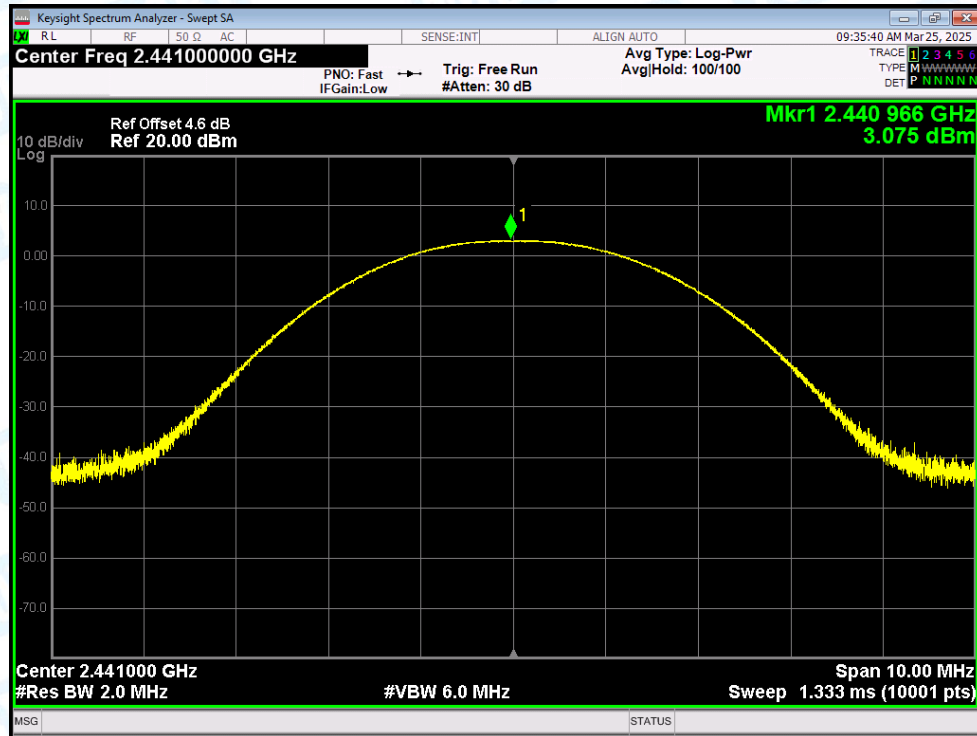
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	3.023	21	Pass
NVNT	1-DH1	2441	Ant1	3.075	21	Pass
NVNT	1-DH1	2480	Ant1	2.936	21	Pass
NVNT	2-DH1	2402	Ant1	4.623	21	Pass
NVNT	2-DH1	2441	Ant1	4.808	21	Pass
NVNT	2-DH1	2480	Ant1	4.73	21	Pass
NVNT	3-DH1	2402	Ant1	5.292	21	Pass
NVNT	3-DH1	2441	Ant1	5.564	21	Pass
NVNT	3-DH1	2480	Ant1	5.542	21	Pass

Test Graphs

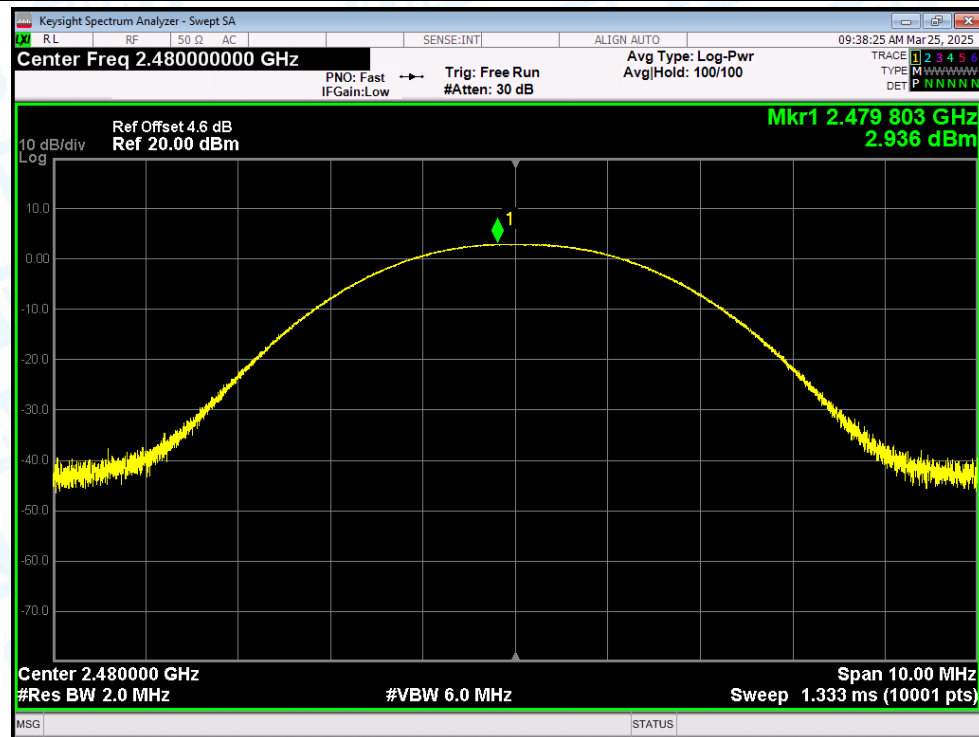
Power NVNT 1-DH1 2402MHz Ant1



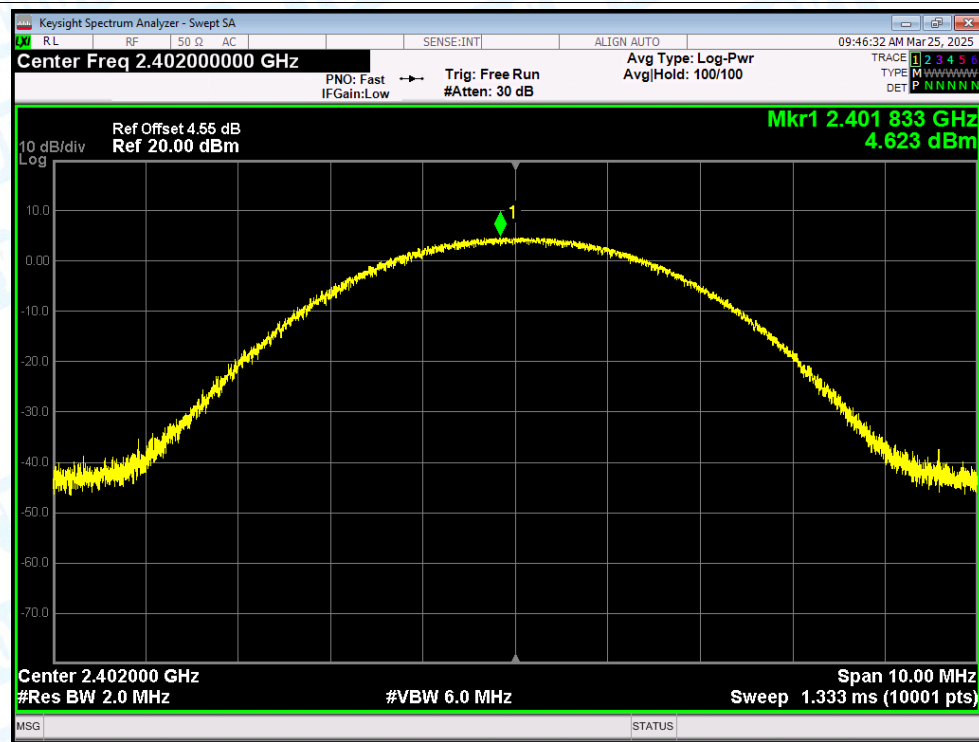
Power NVNT 1-DH1 2441MHz Ant1



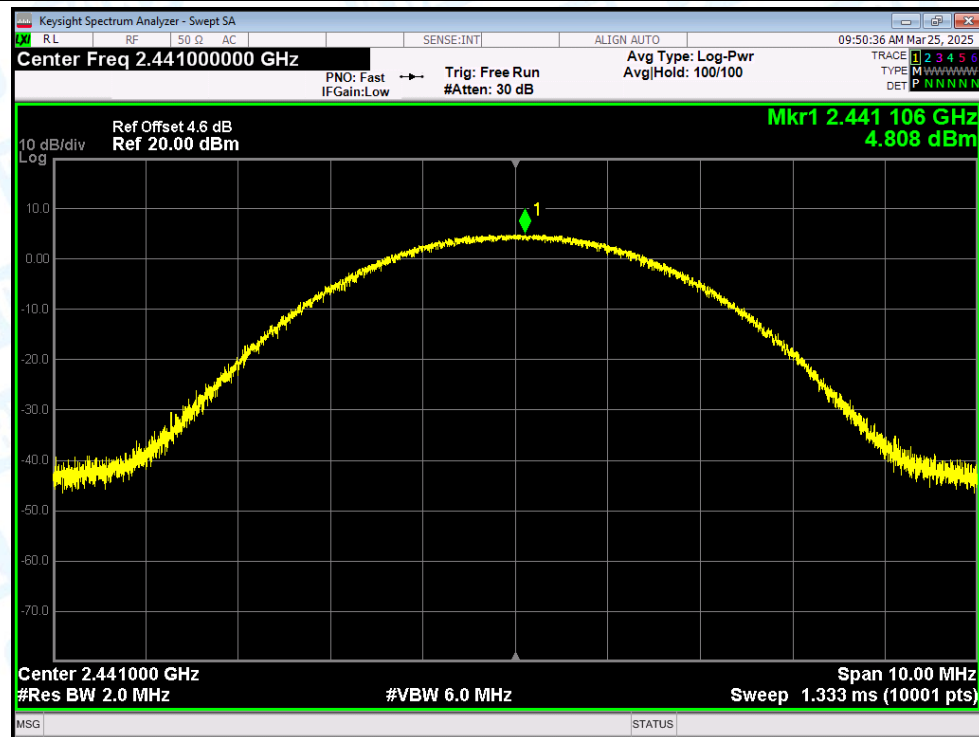
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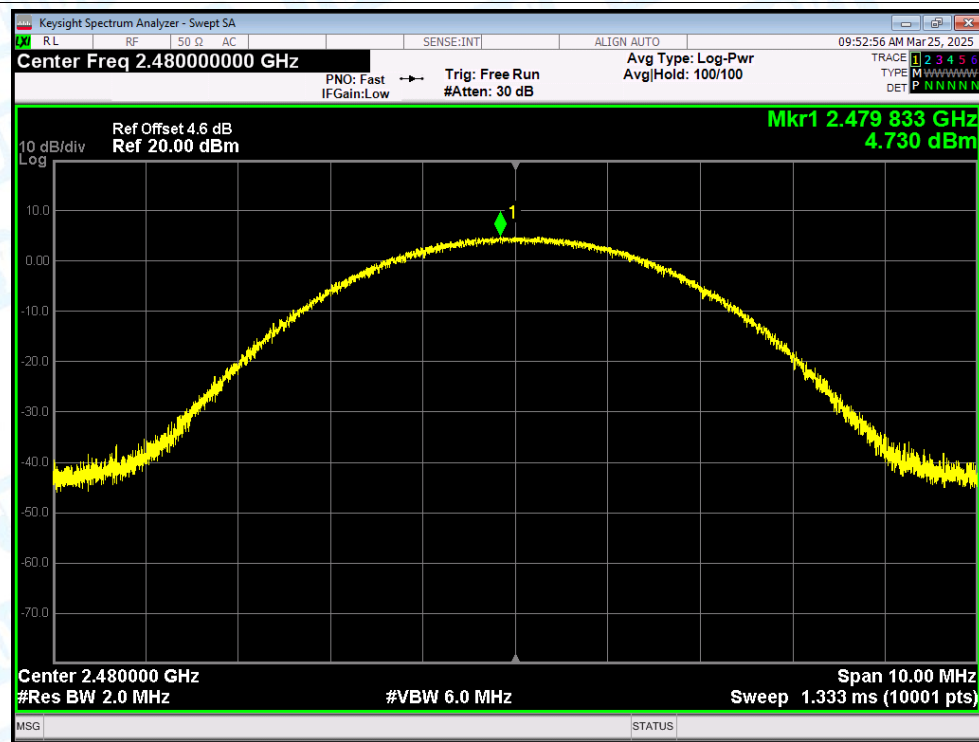
Power NVNT 2-DH1 2402MHz Ant1



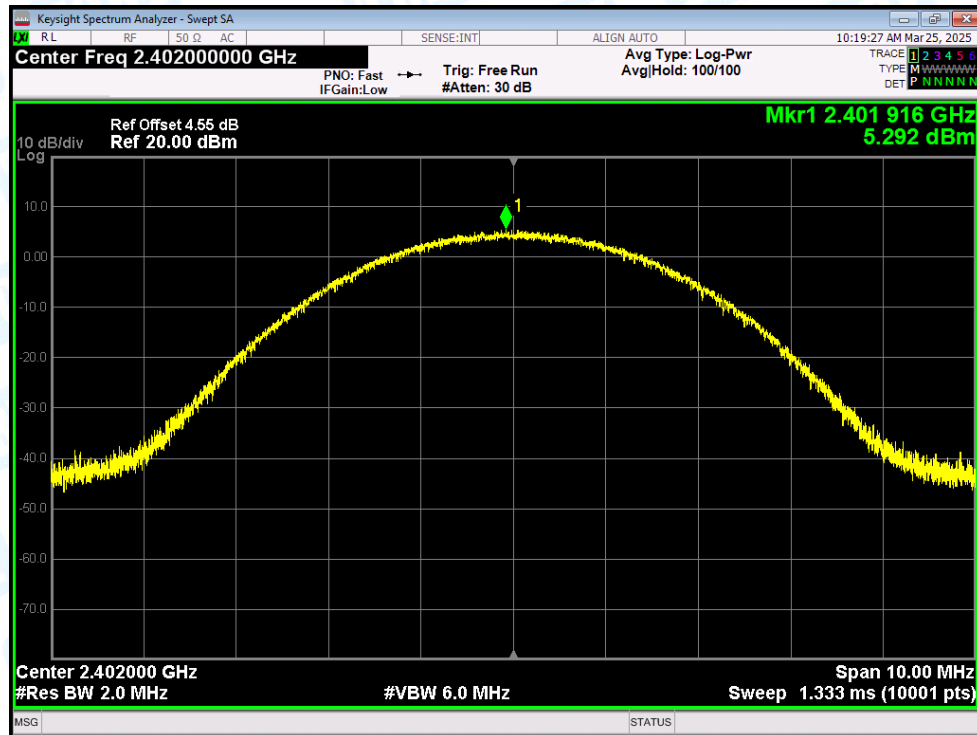
Power NVNT 2-DH1 2441MHz Ant1



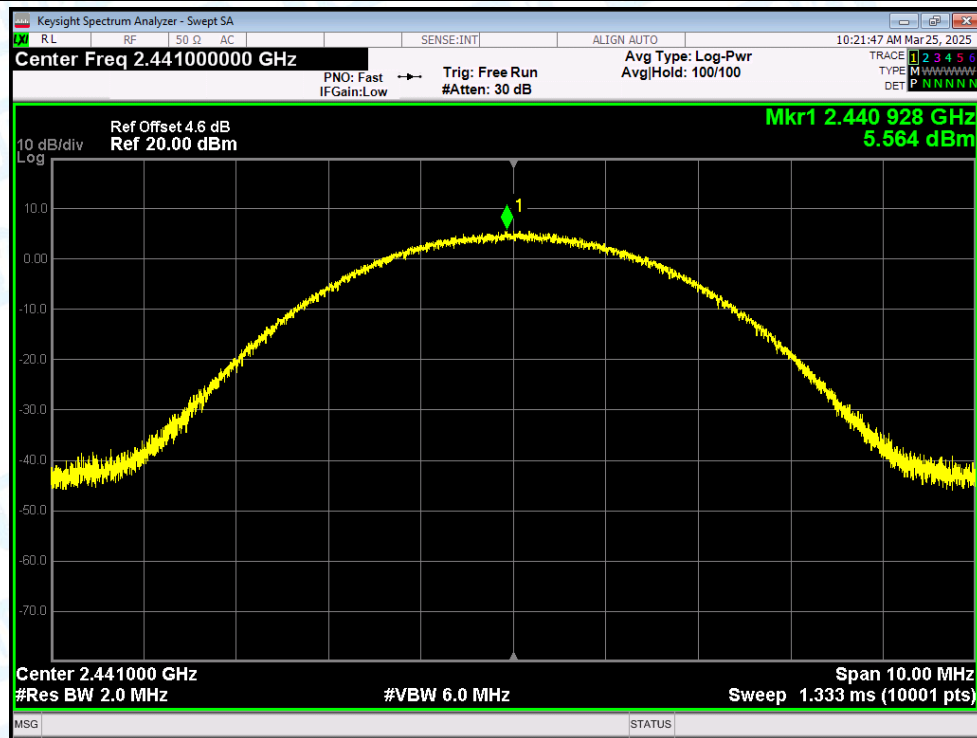
Power NVNT 2-DH1 2480MHz Ant1

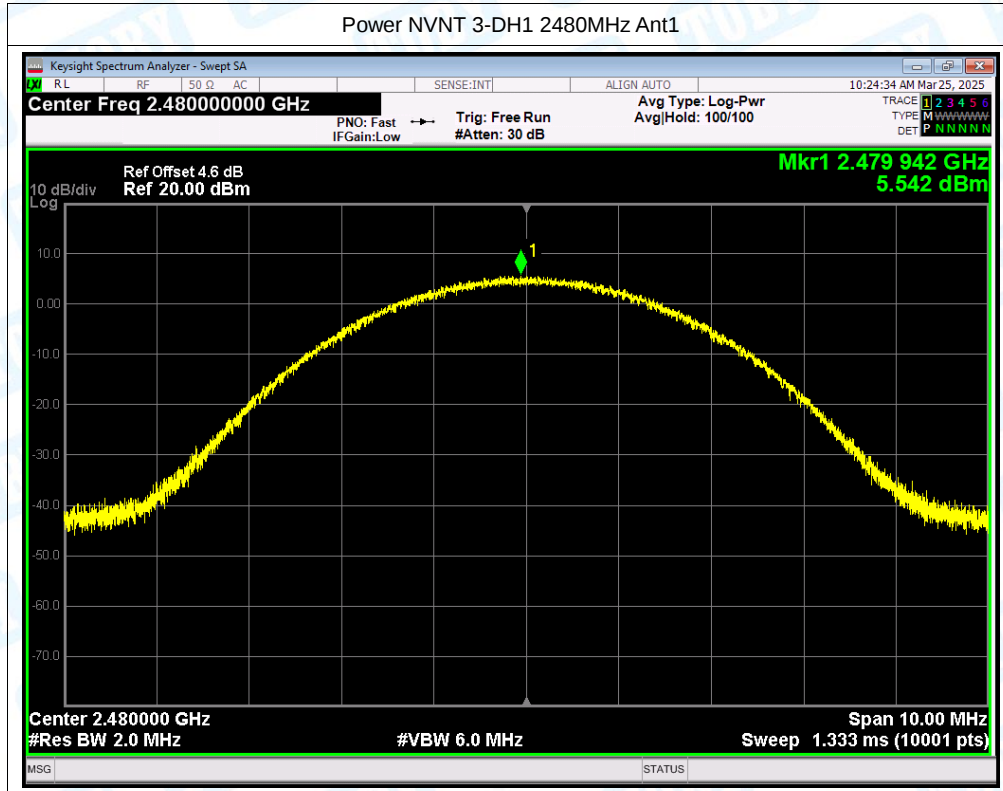


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



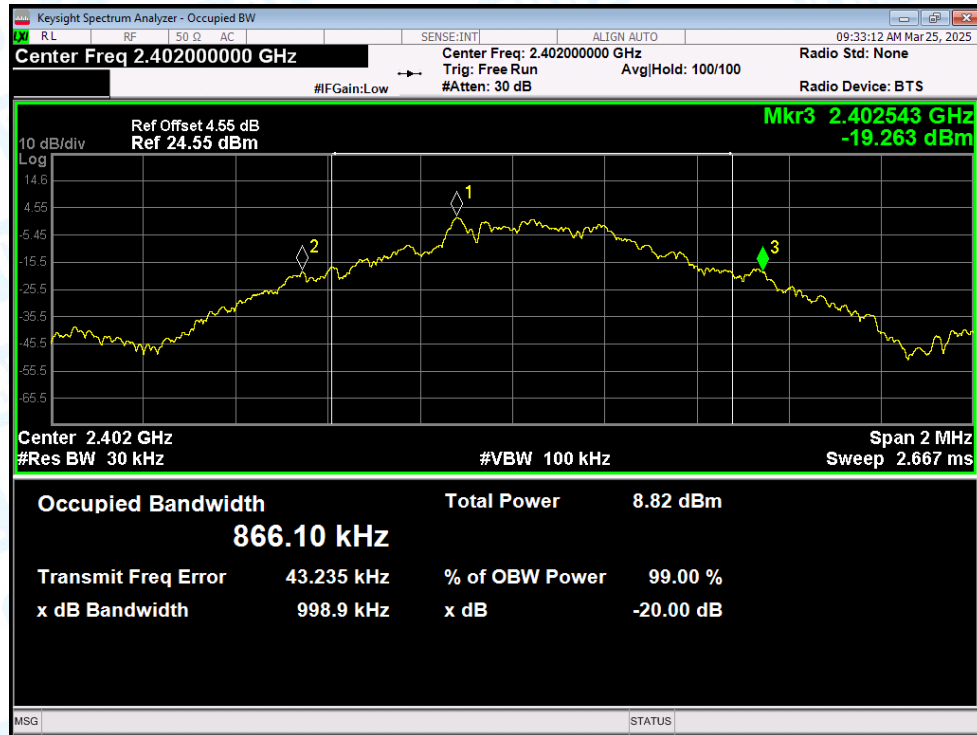


3. -20dB Bandwidth

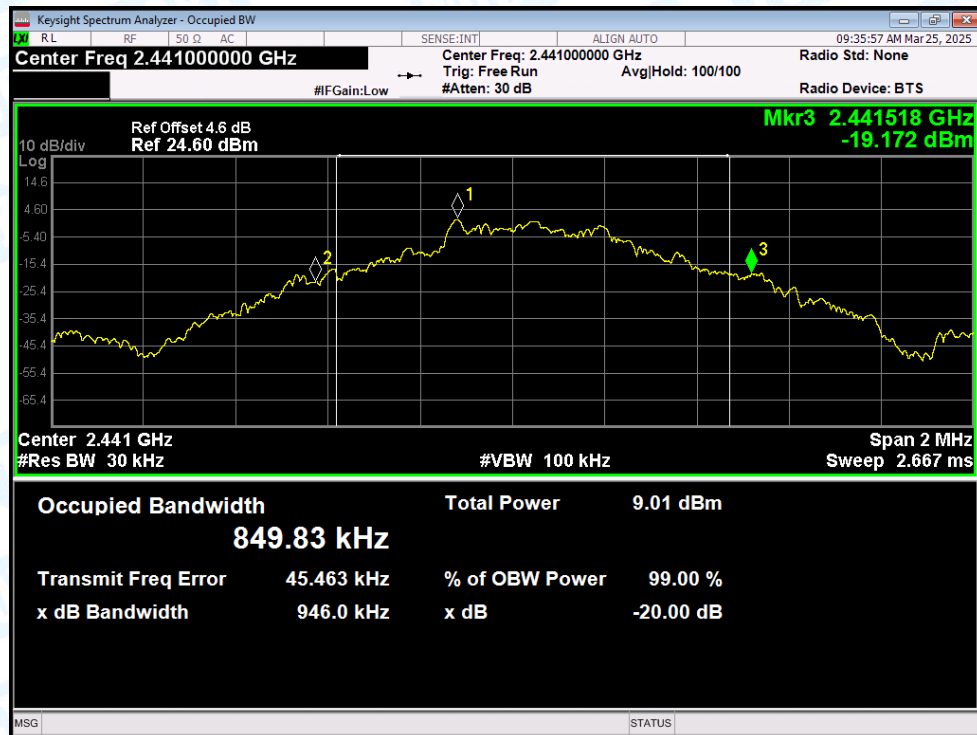
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	1	----	Pass
NVNT	1-DH1	2441	Ant1	0.95	----	Pass
NVNT	1-DH1	2480	Ant1	0.95	----	Pass
NVNT	2-DH1	2402	Ant1	1.26	----	Pass
NVNT	2-DH1	2441	Ant1	1.25	----	Pass
NVNT	2-DH1	2480	Ant1	1.26	----	Pass
NVNT	3-DH1	2402	Ant1	1.24	----	Pass
NVNT	3-DH1	2441	Ant1	1.24	----	Pass
NVNT	3-DH1	2480	Ant1	1.24	----	Pass

Test Graphs

-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



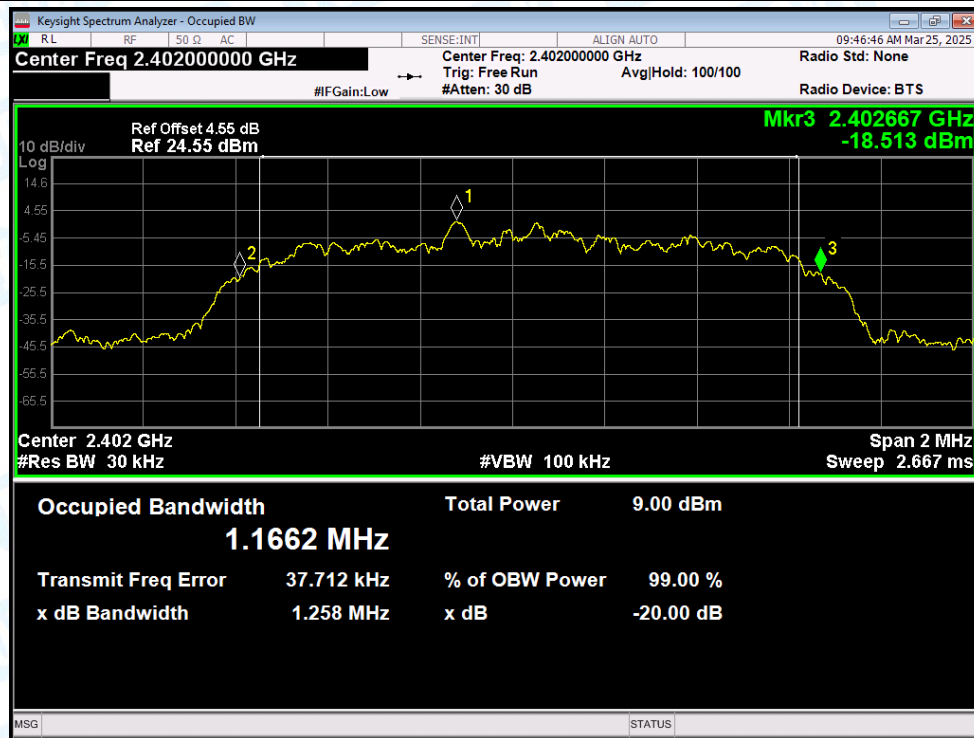
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



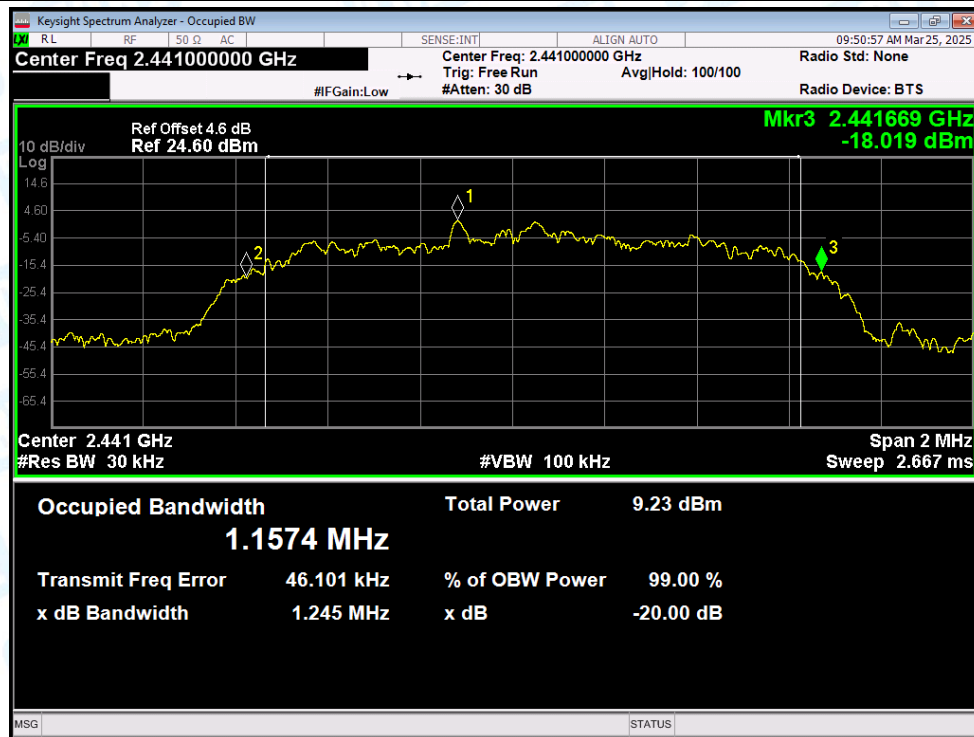
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



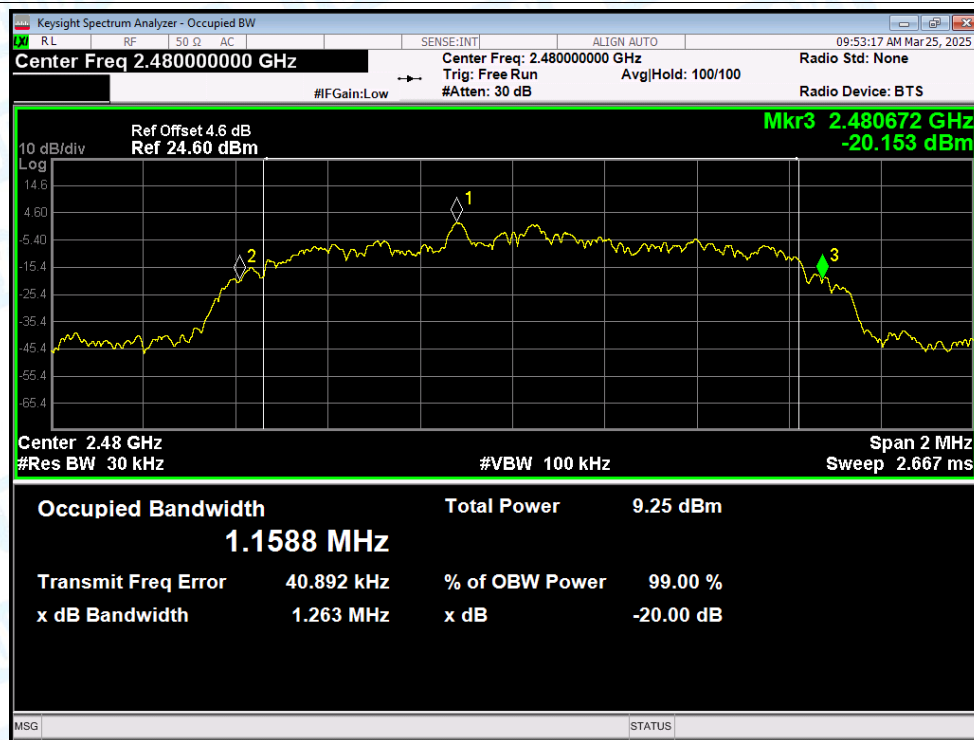
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



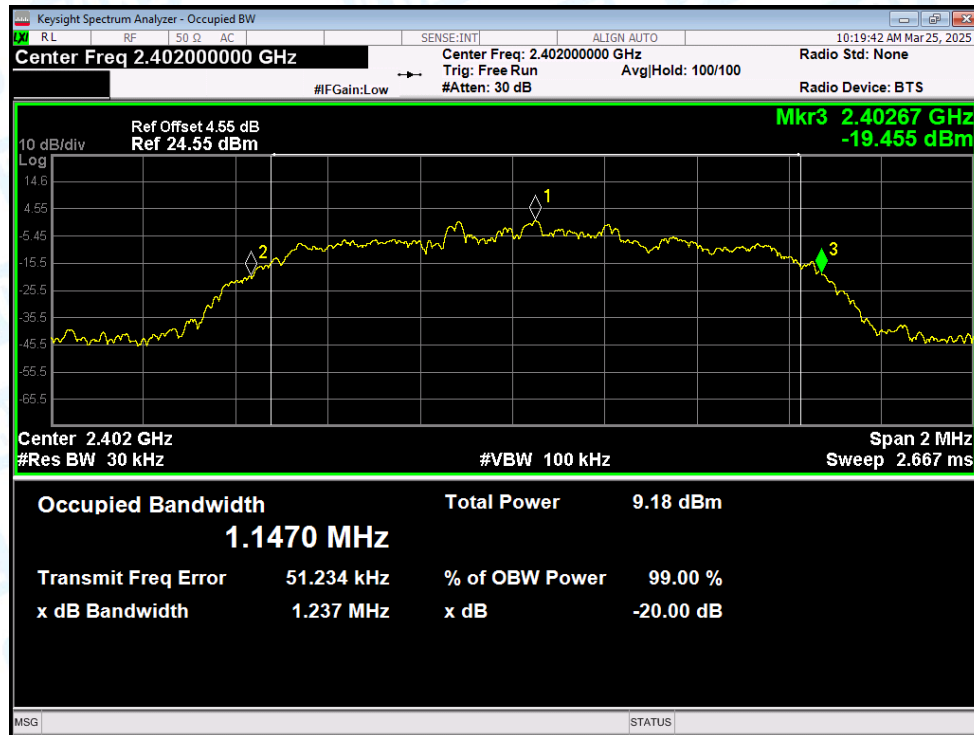
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



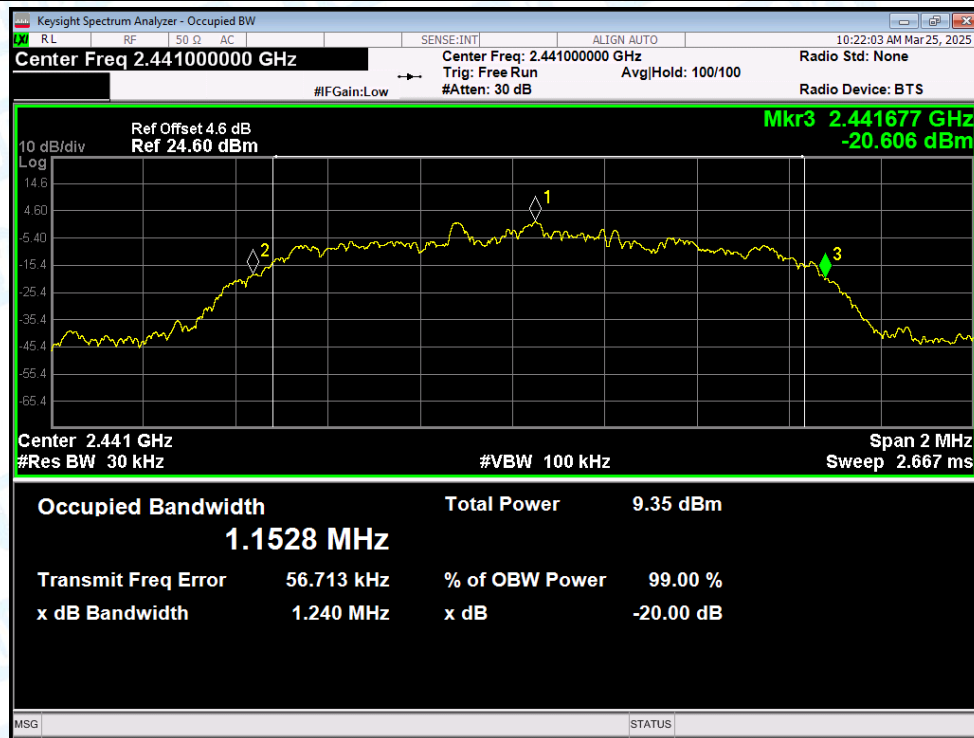
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

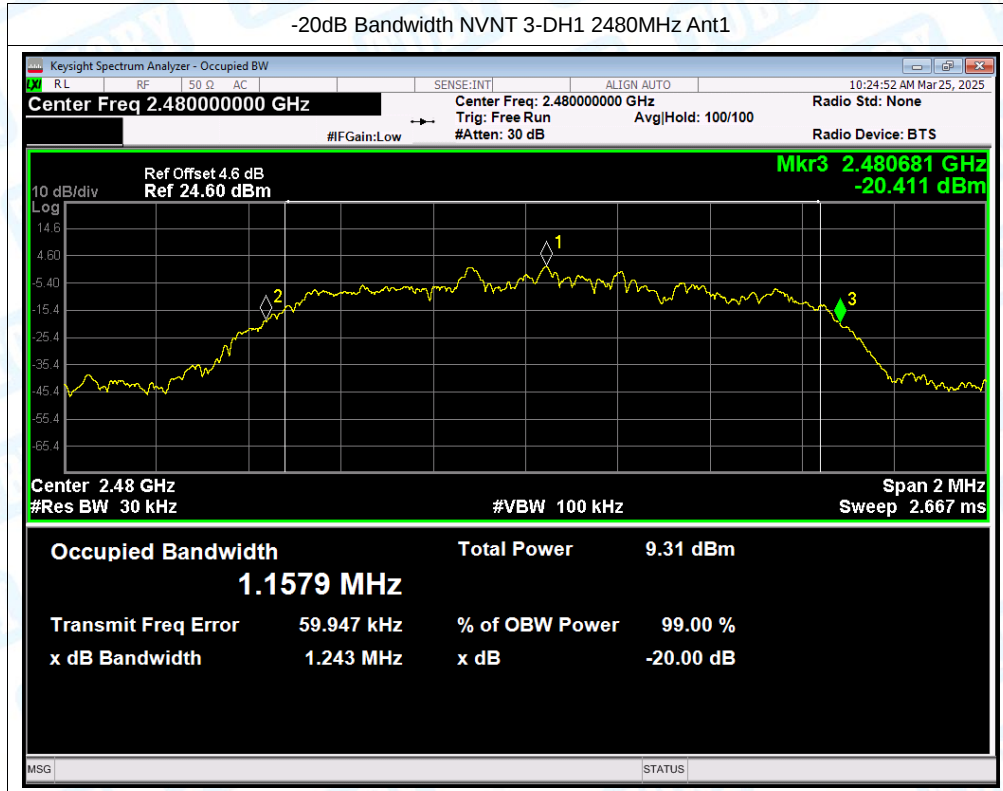


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



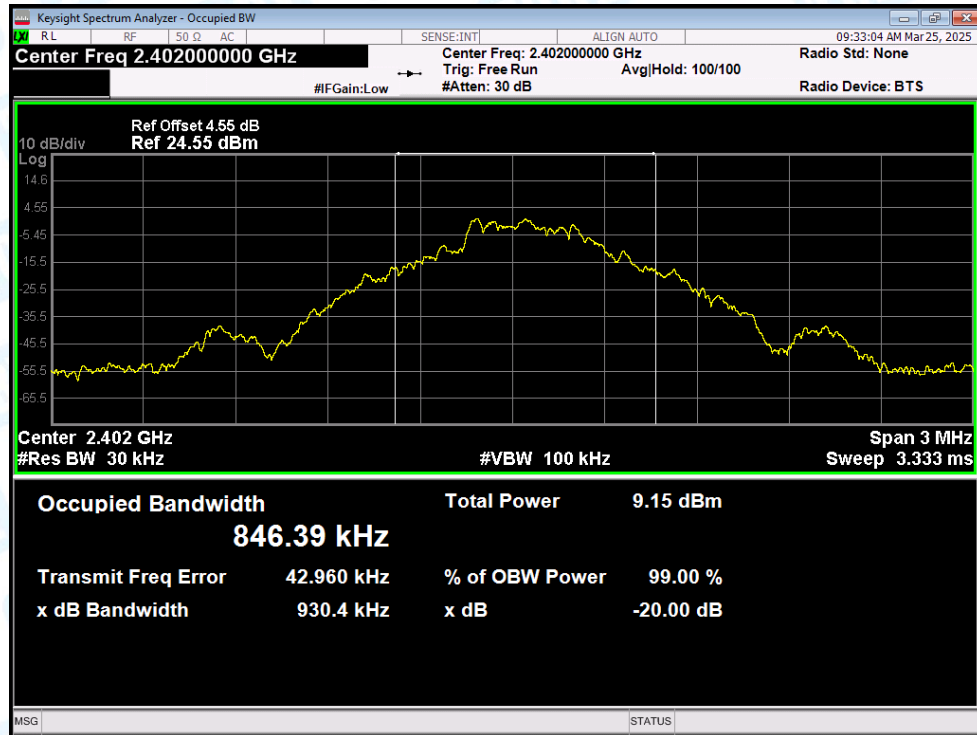


4. Occupied Channel Bandwidth

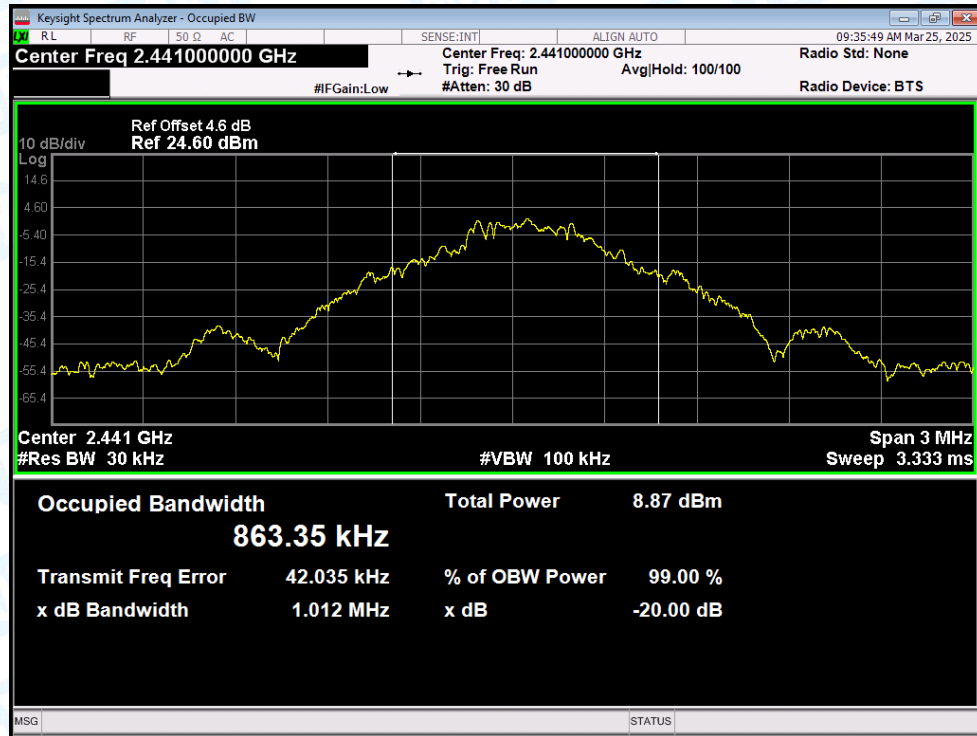
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.846
NVNT	1-DH1	2441	Ant1	0.863
NVNT	1-DH1	2480	Ant1	0.853
NVNT	2-DH1	2402	Ant1	1.158
NVNT	2-DH1	2441	Ant1	1.172
NVNT	2-DH1	2480	Ant1	1.184
NVNT	3-DH1	2402	Ant1	1.154
NVNT	3-DH1	2441	Ant1	1.152
NVNT	3-DH1	2480	Ant1	1.151

Test Graphs

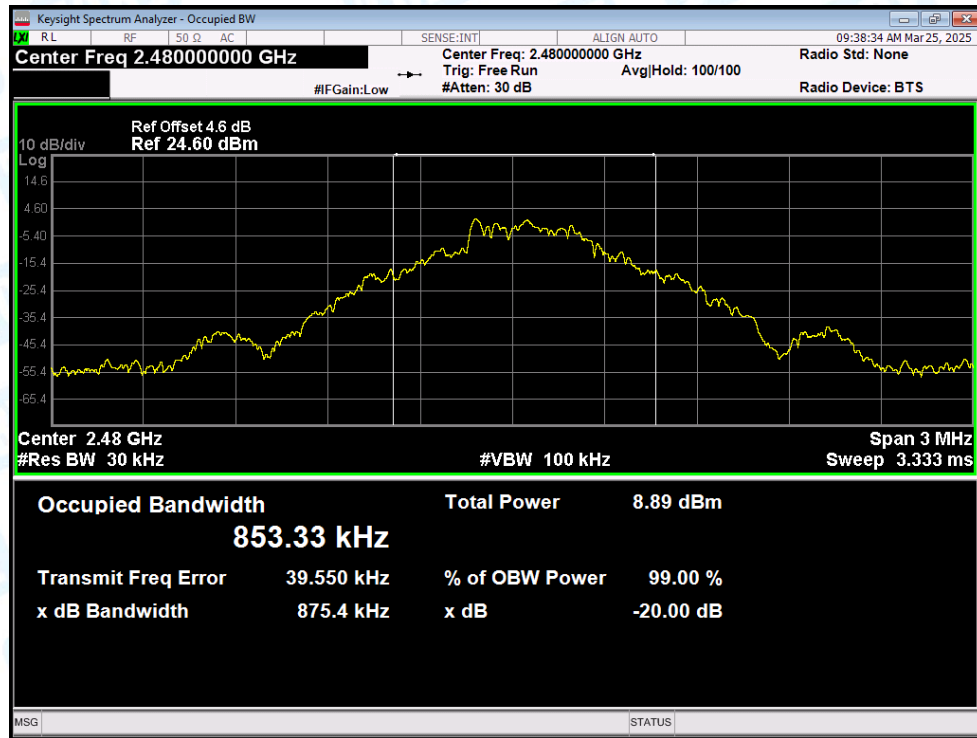
OBW NVNT 1-DH1 2402MHz Ant1



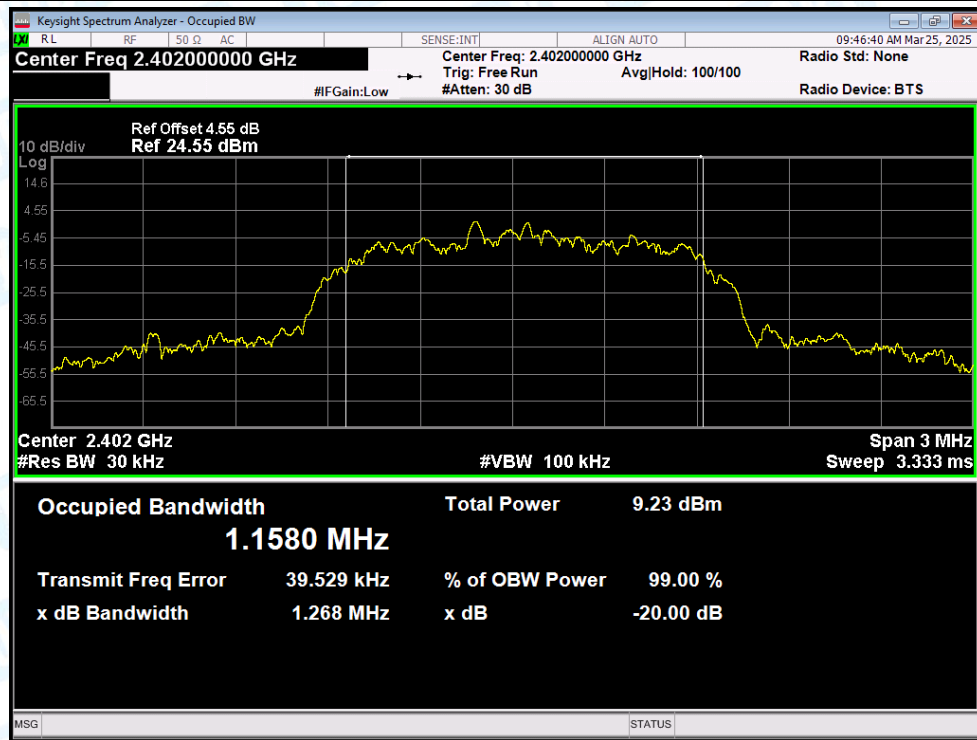
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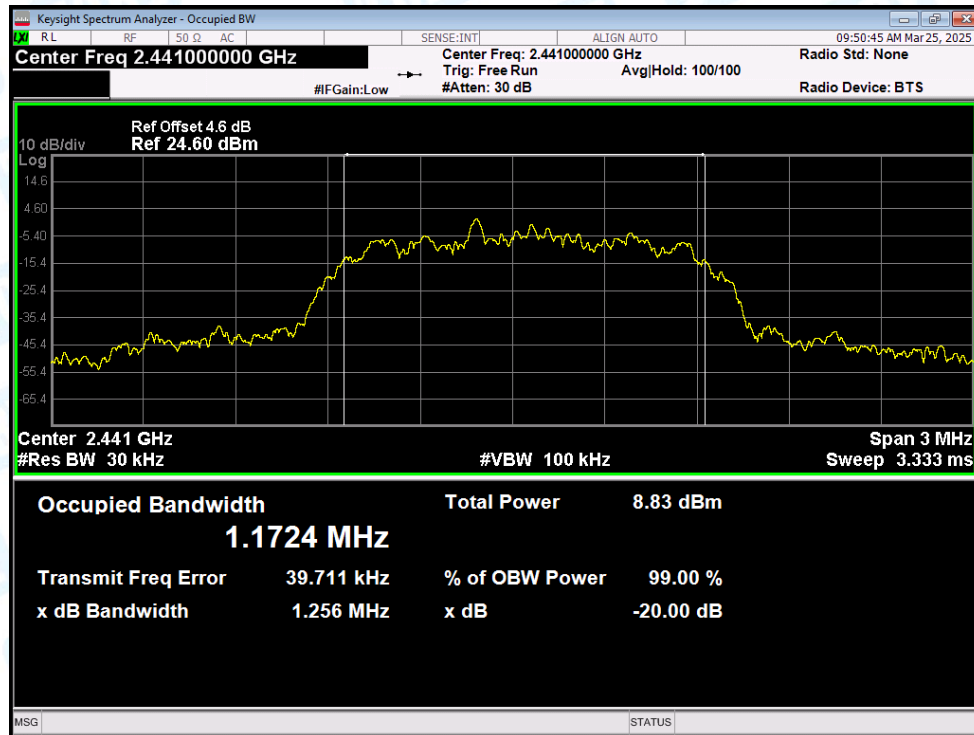
OBW NVNT 1-DH1 2480MHz Ant1



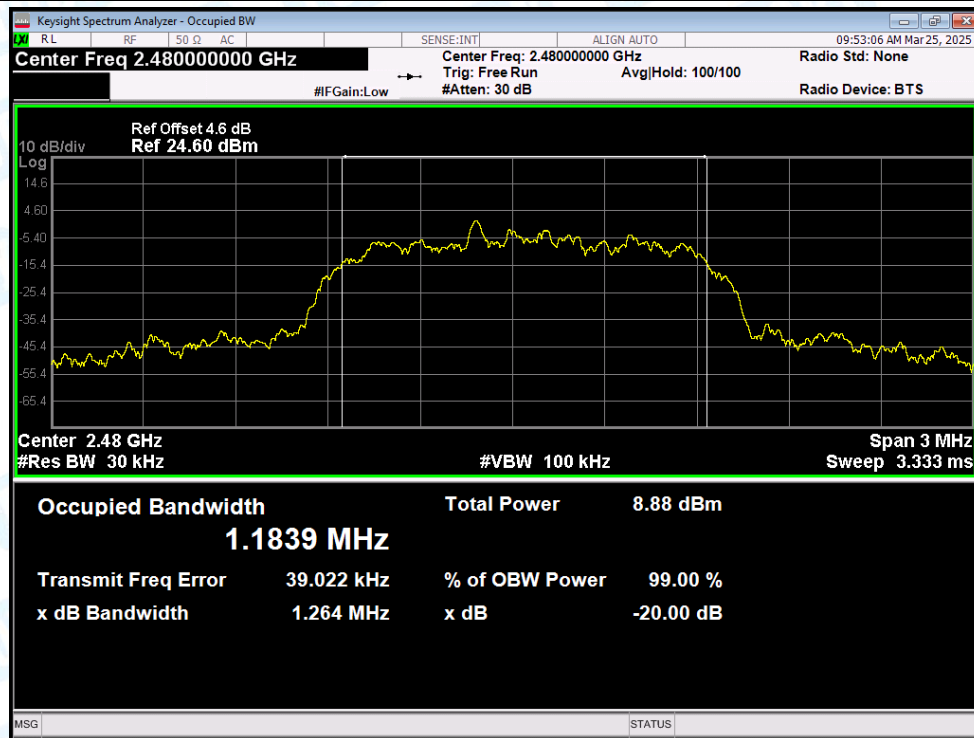
OBW NVNT 2-DH1 2402MHz Ant1



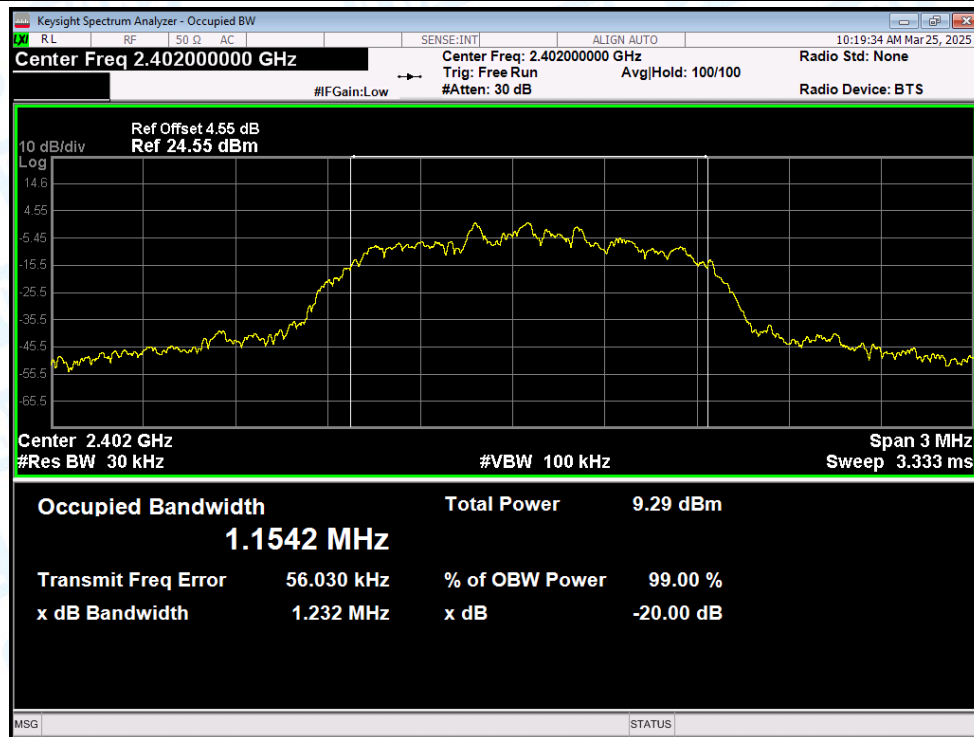
OBW NVNT 2-DH1 2441MHz Ant1



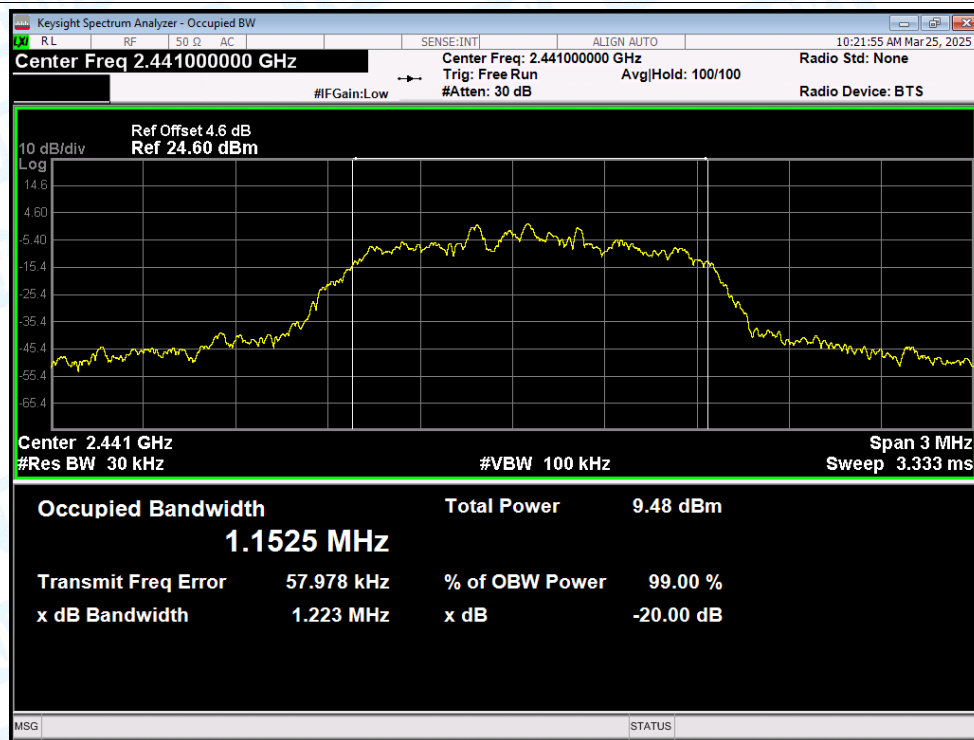
OBW NVNT 2-DH1 2480MHz Ant1

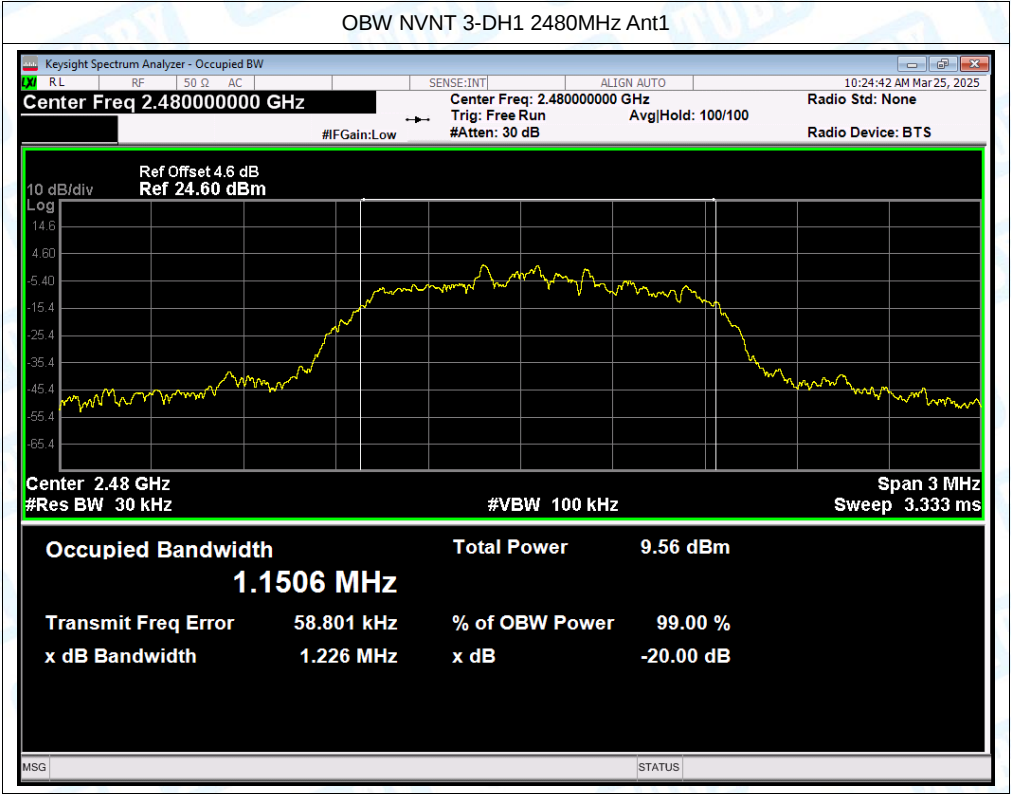


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1





5. Band Edge

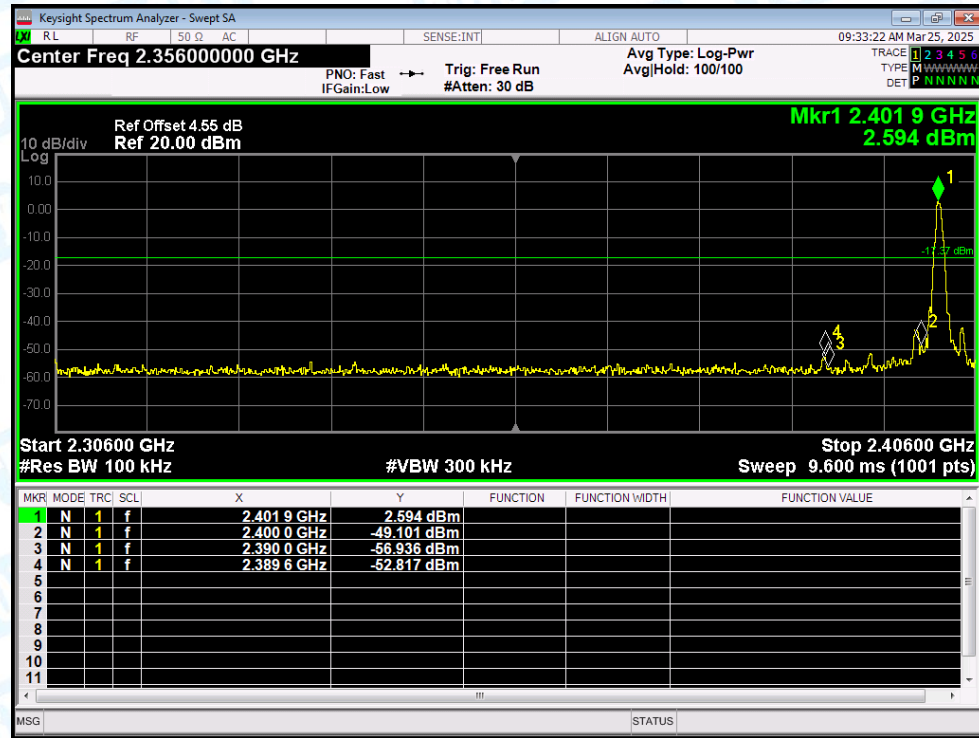
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-55.45	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-53.21	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-56.37	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-53.08	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-57.2	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-52.57	-20	Pass

Test Graphs

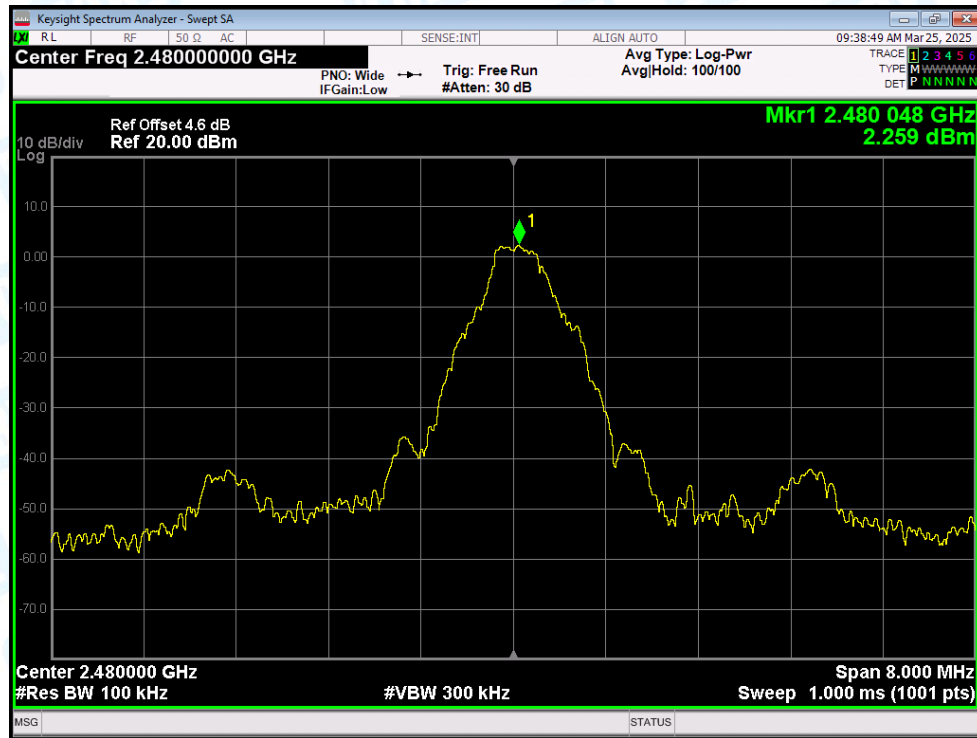
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



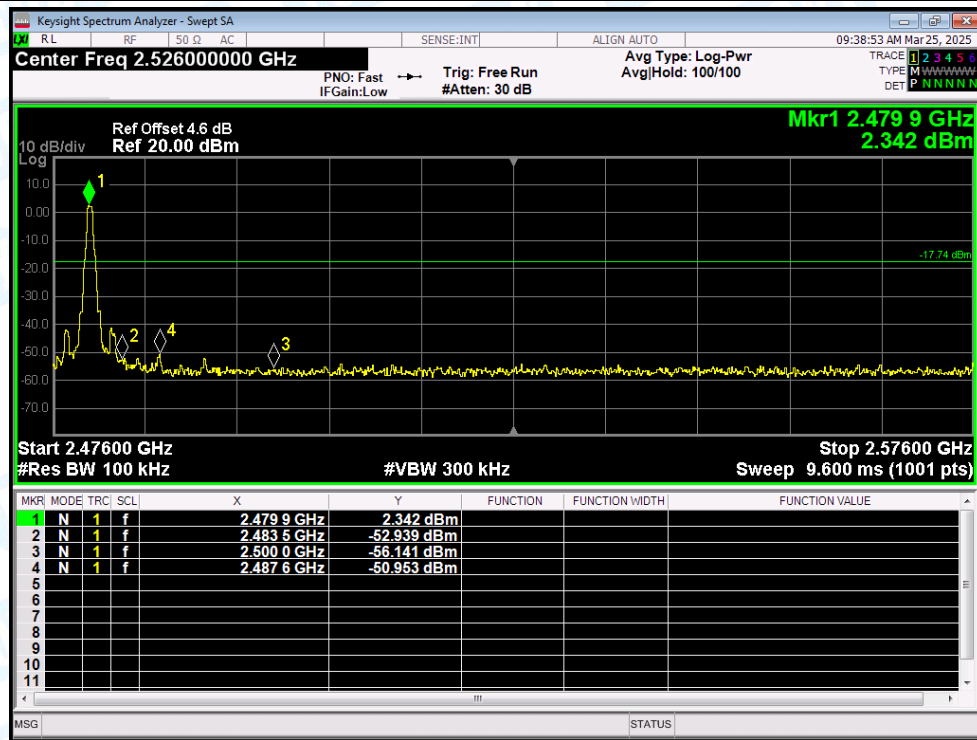
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

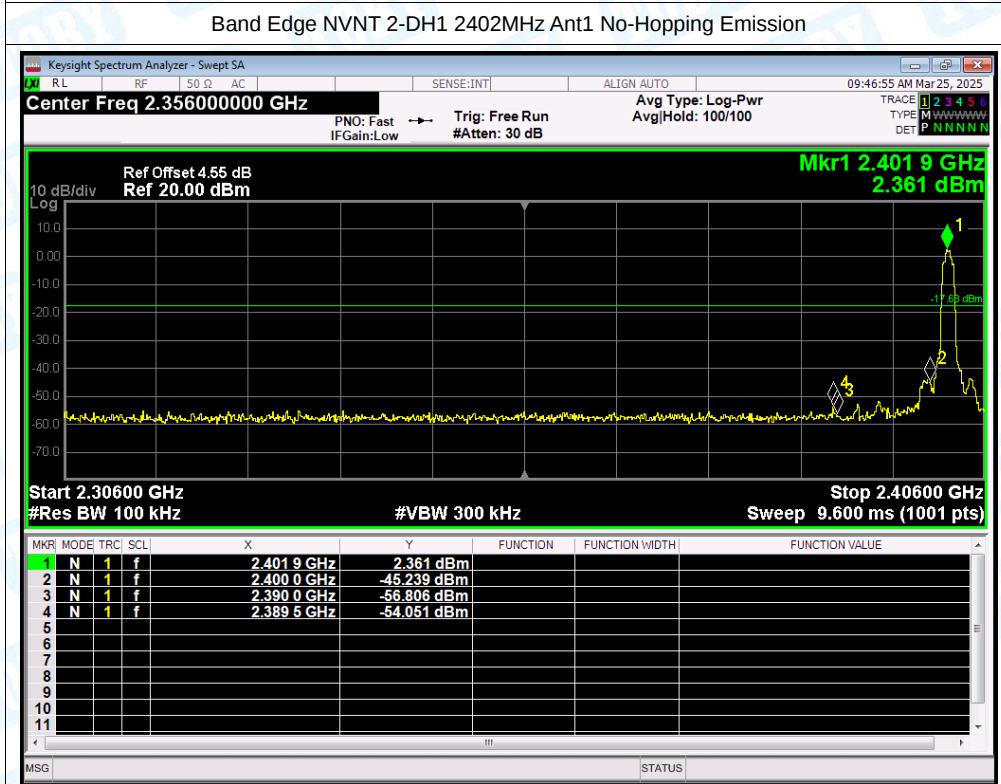
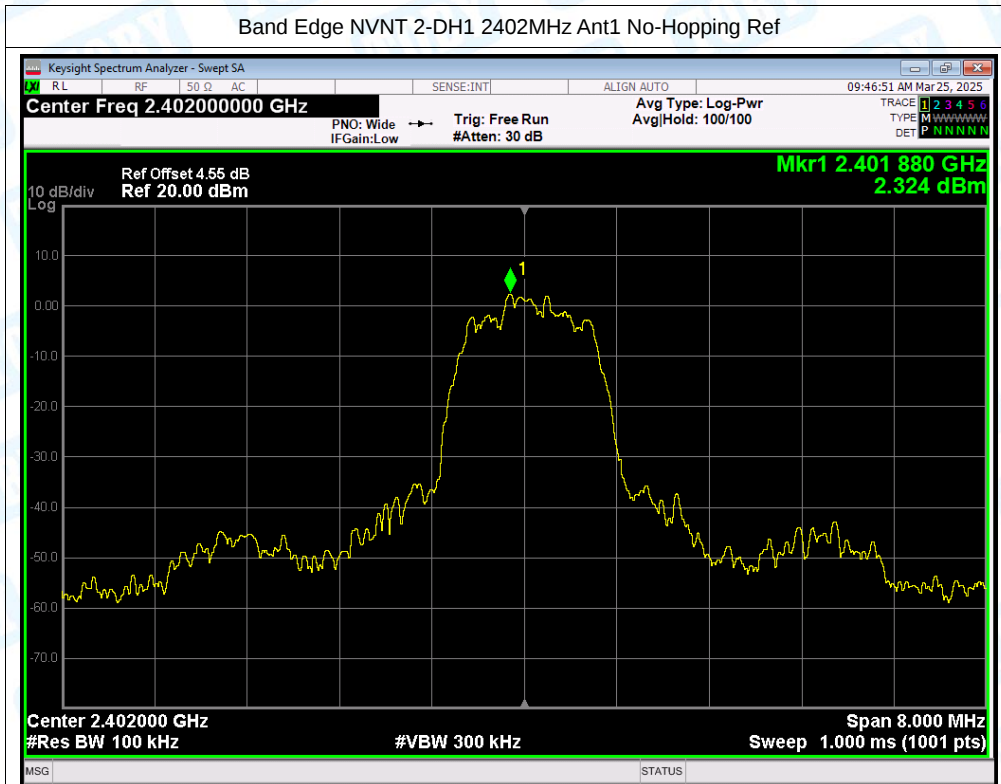


Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref

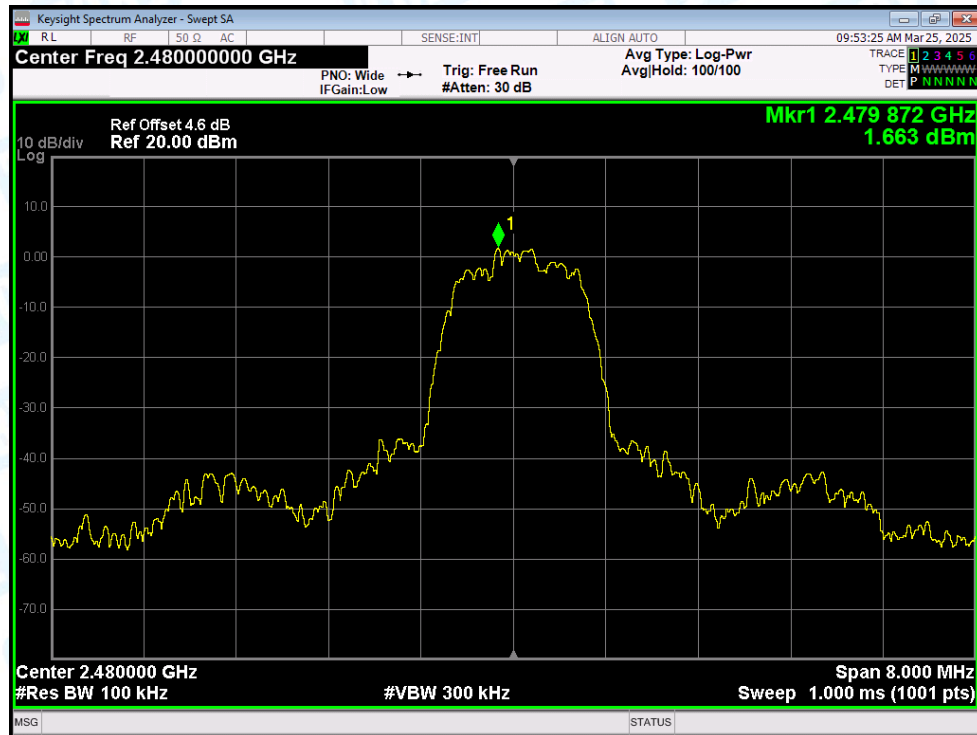


Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission

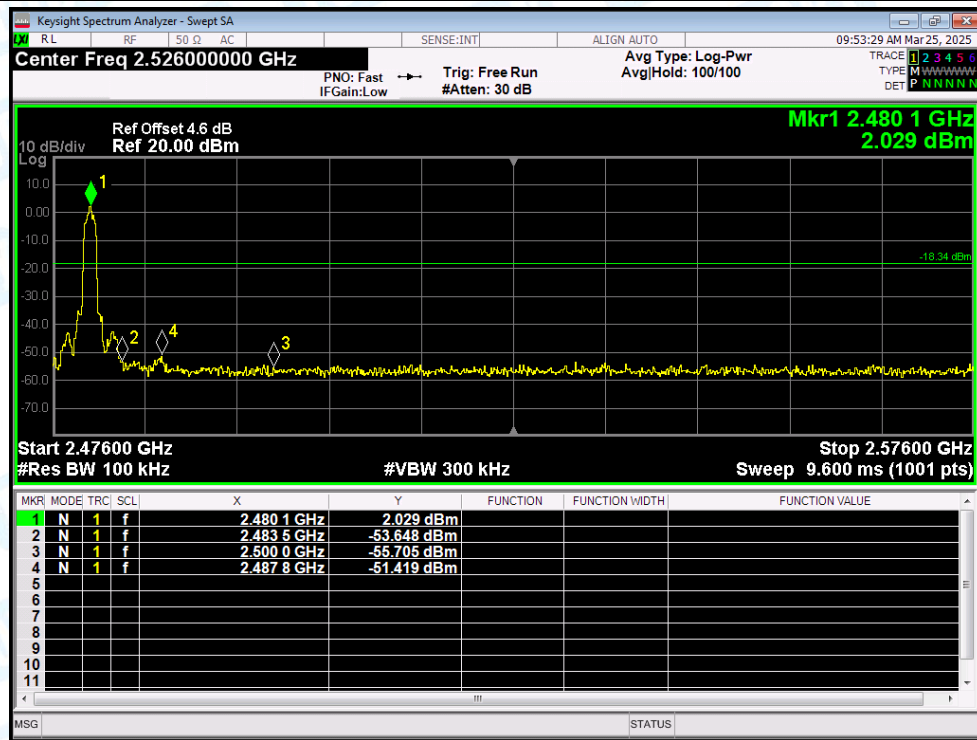




Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



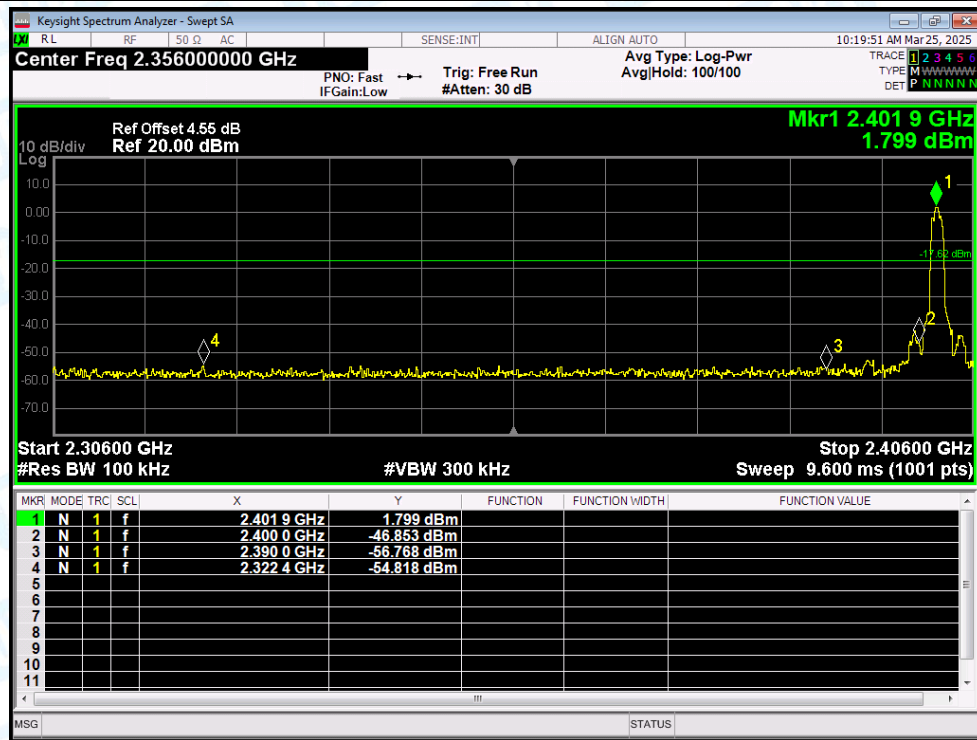
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



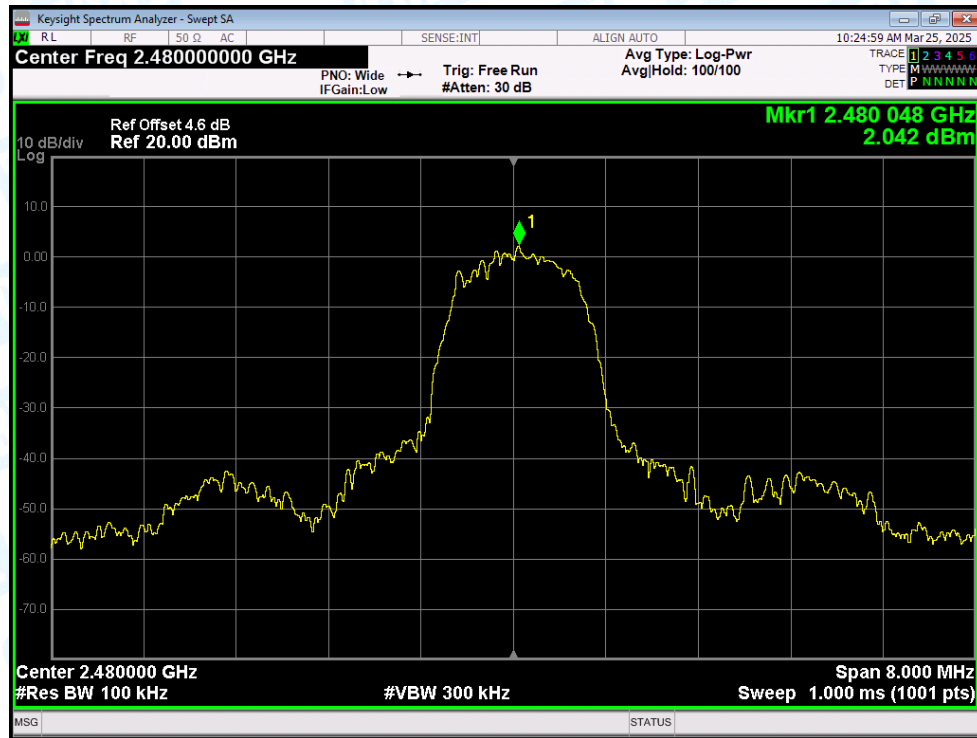
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



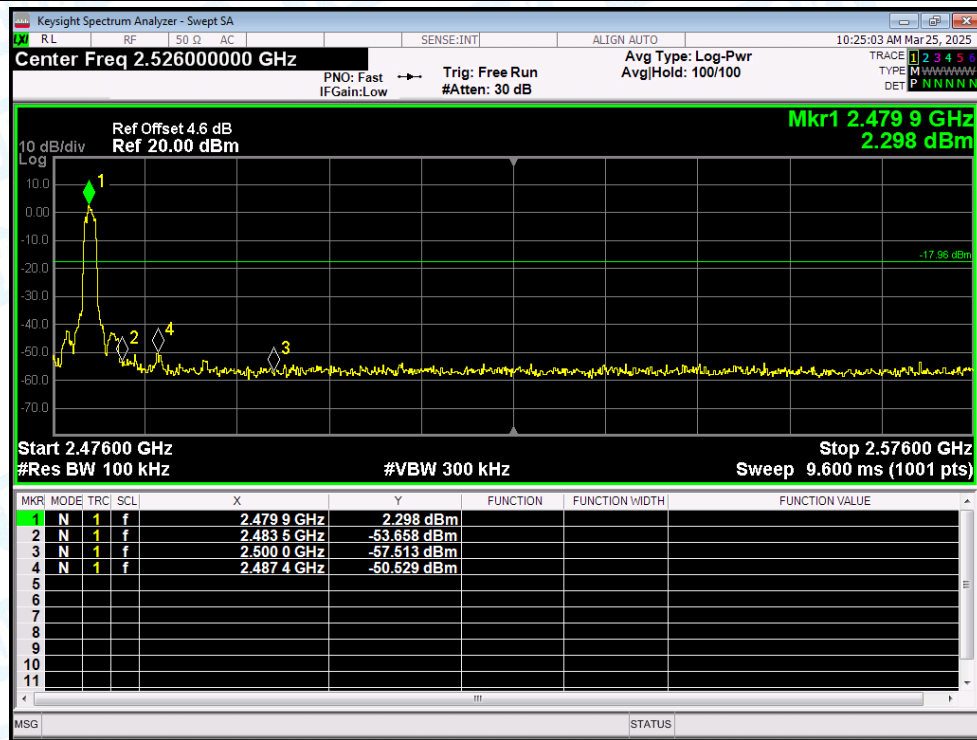
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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



6. Band Edge(Hopping)

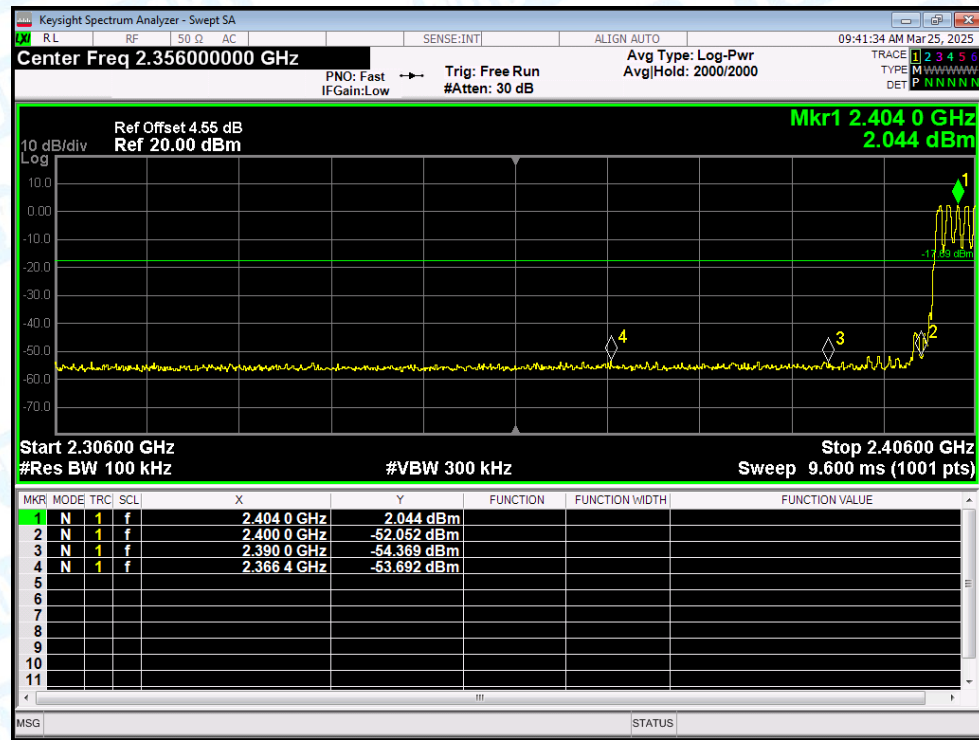
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-56	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-52.35	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-55.71	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-55.11	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-43.18	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-42.32	-20	Pass

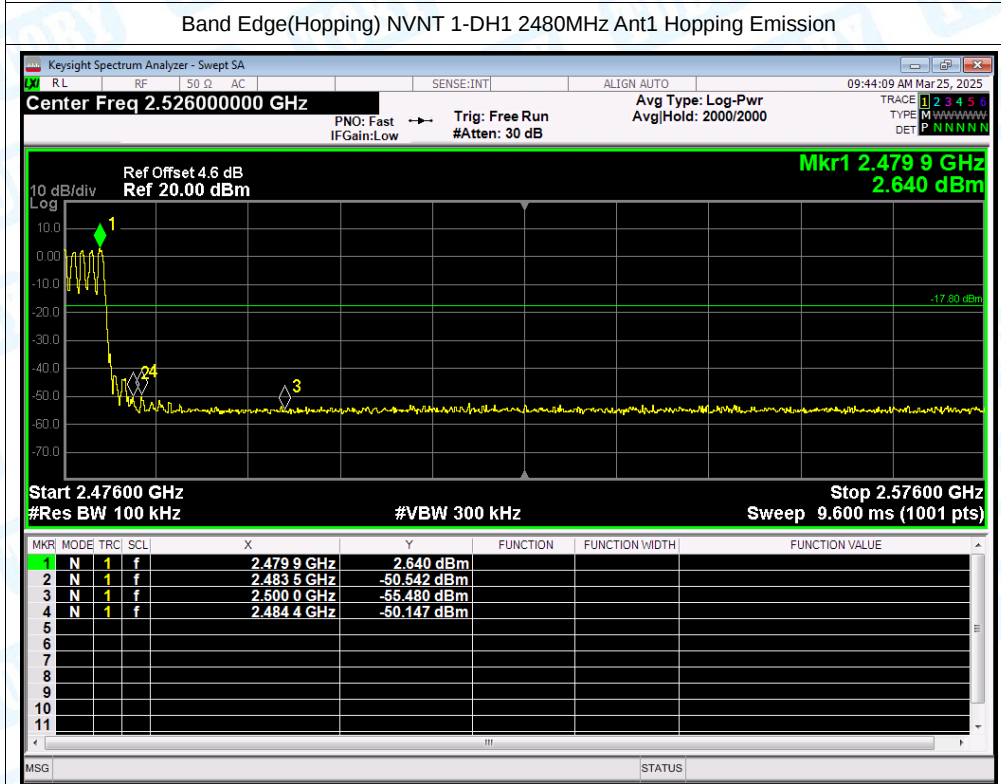
Test Graphs

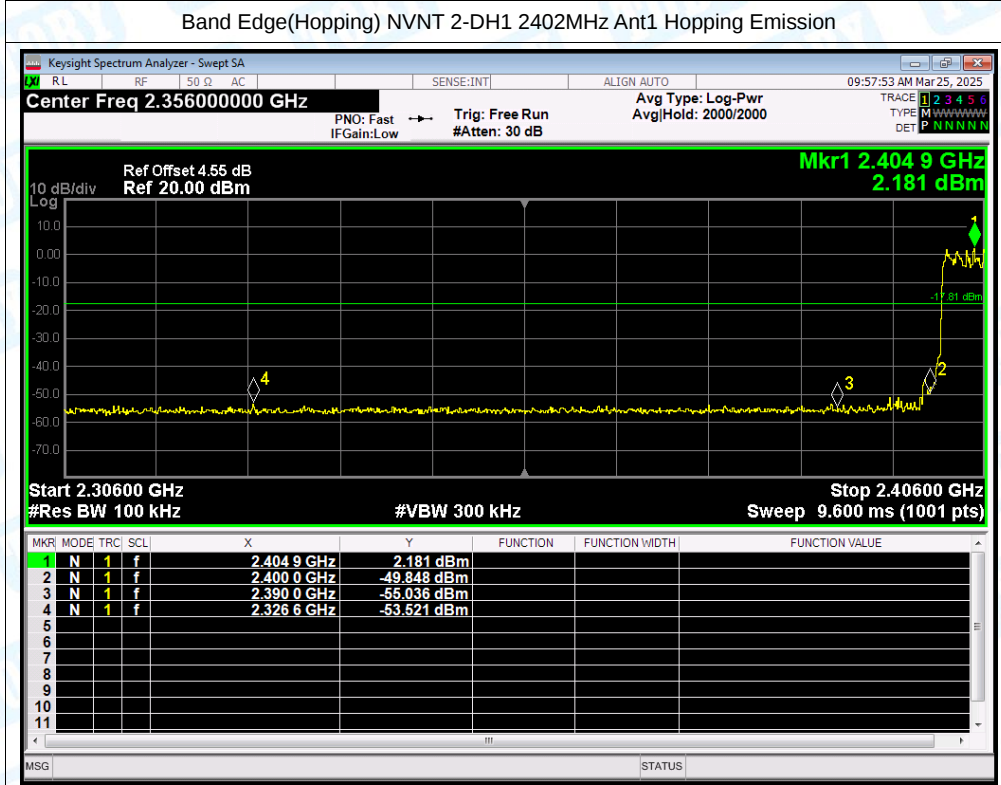
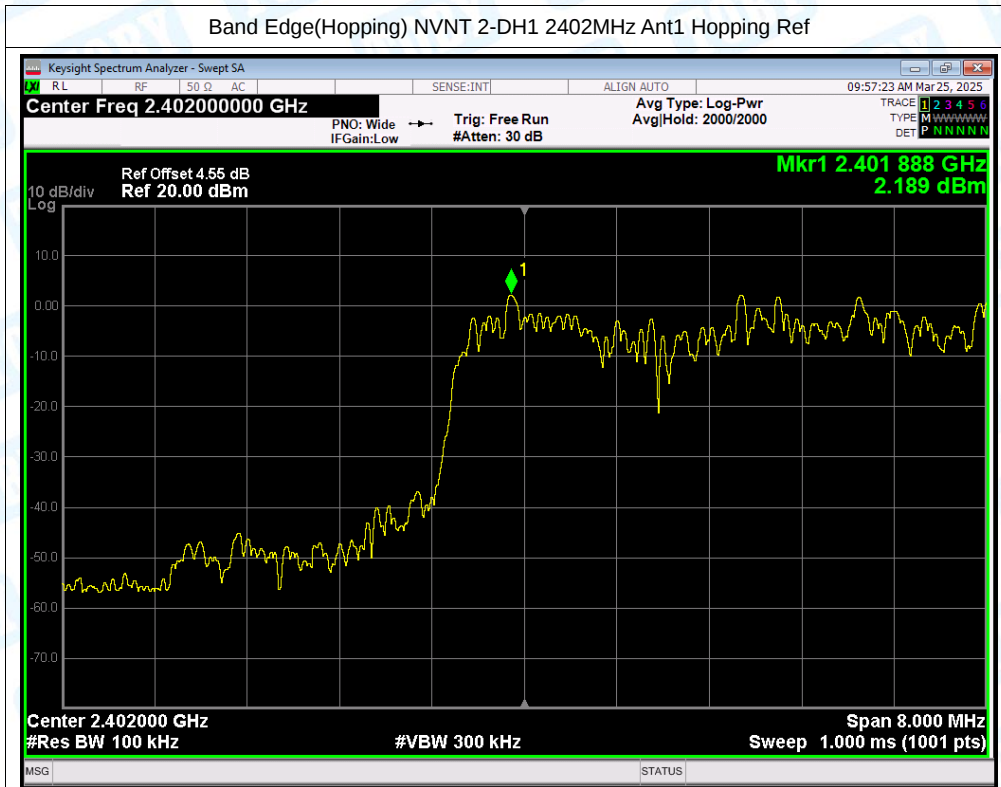
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

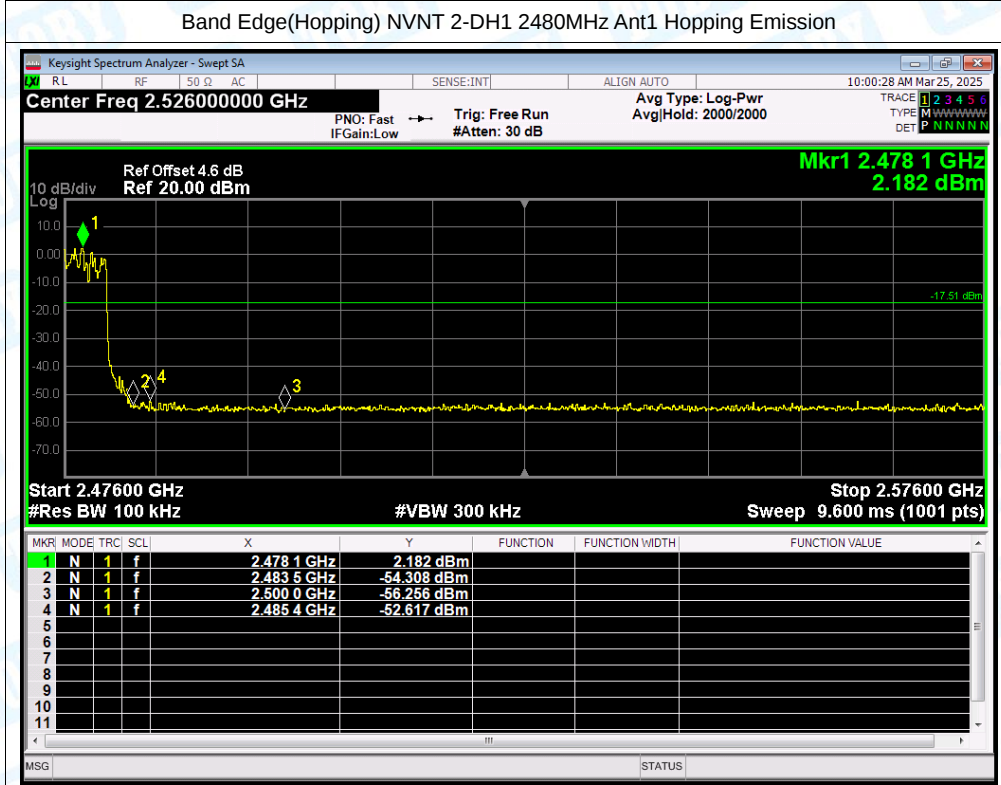


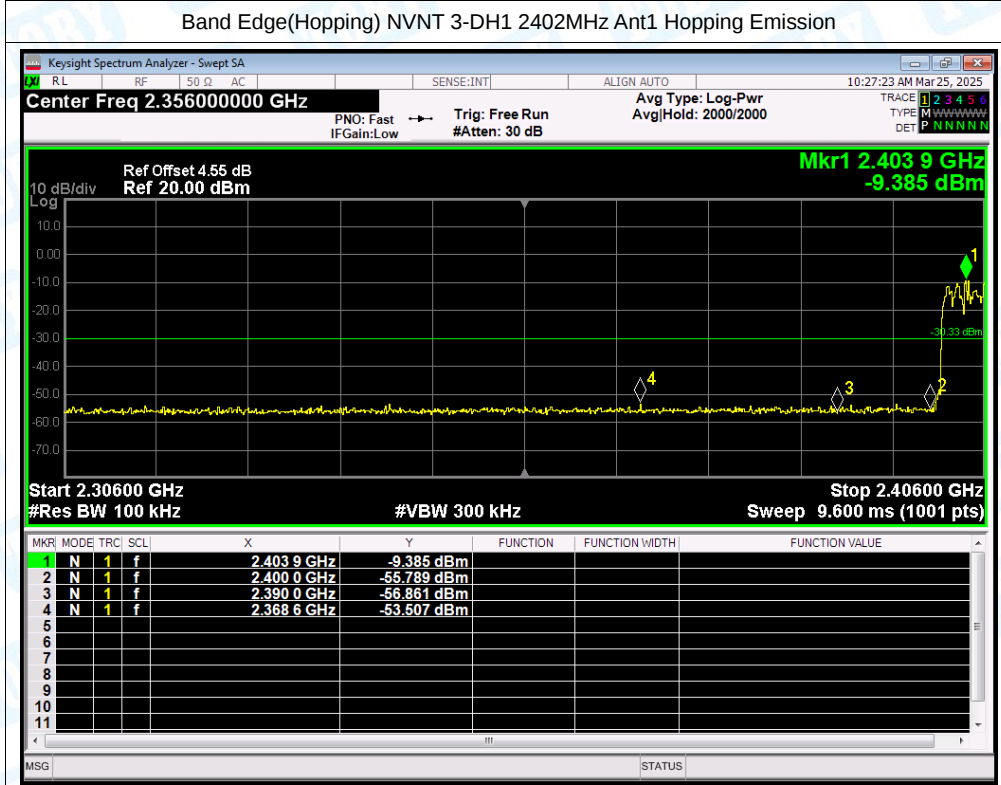
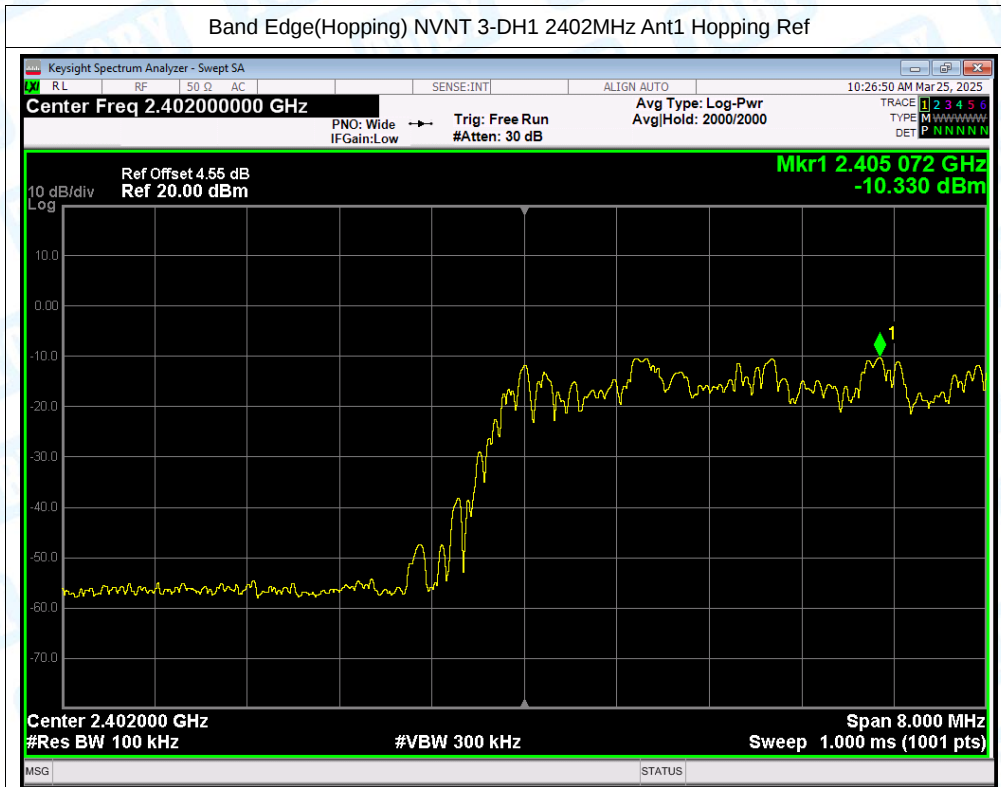
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

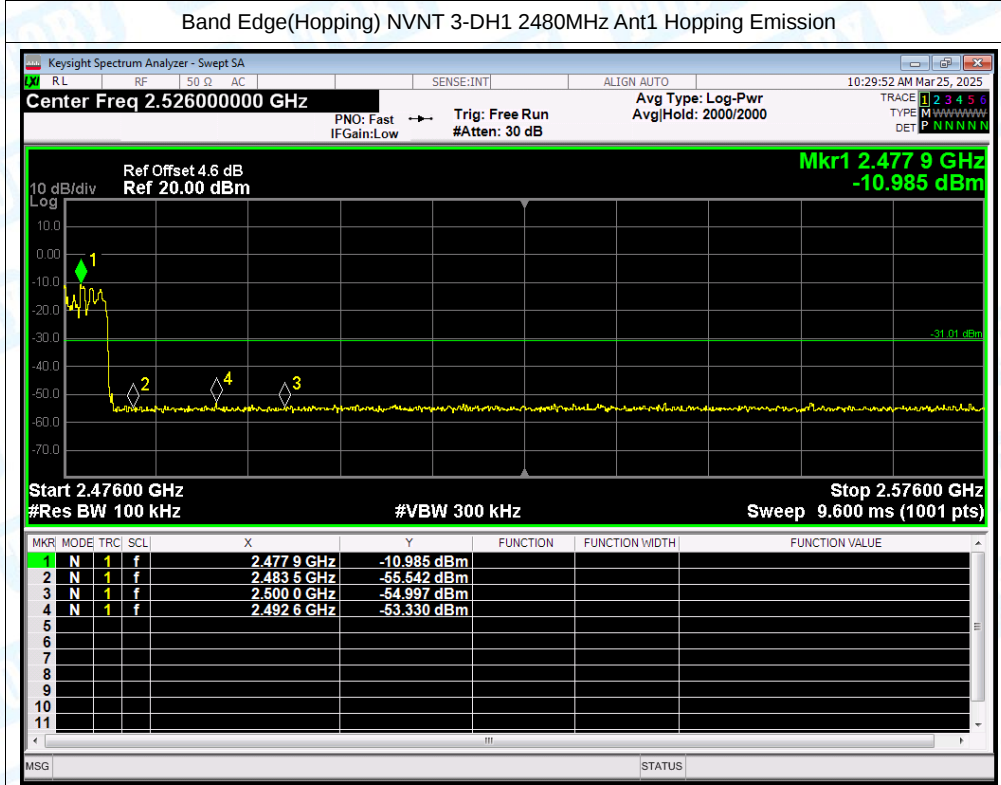
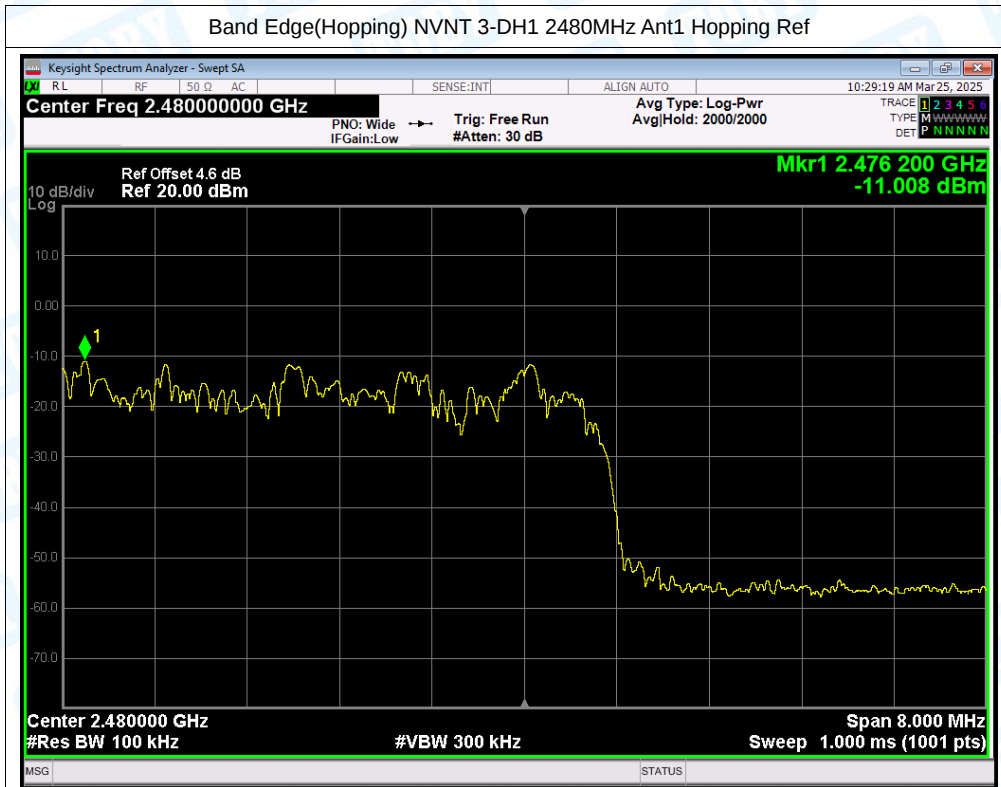










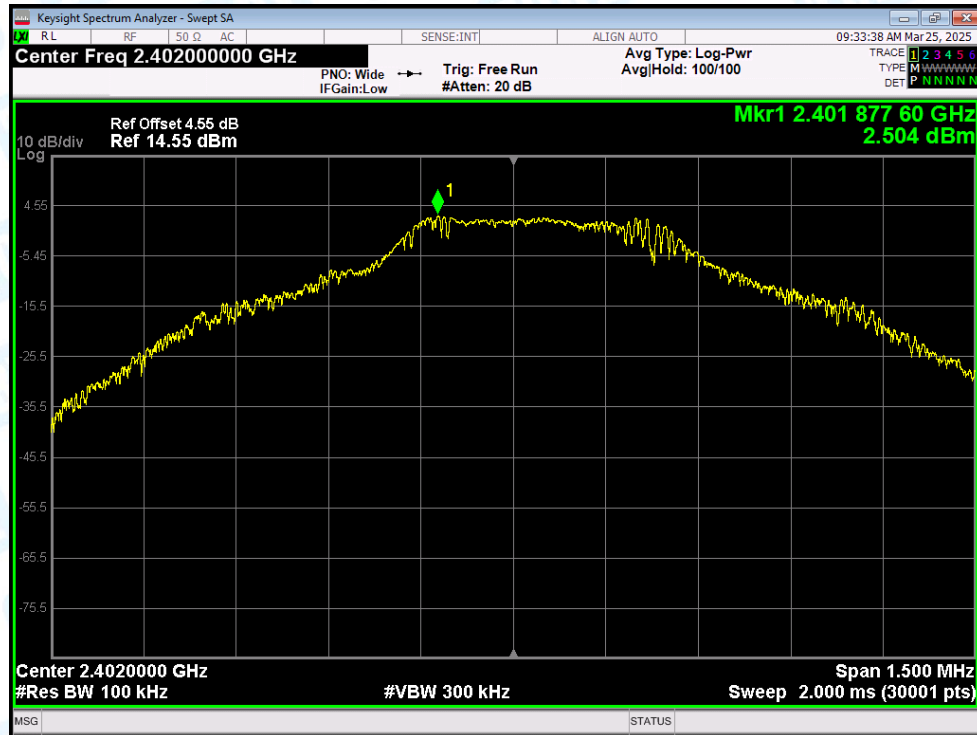


7. Conducted RF Spurious Emission

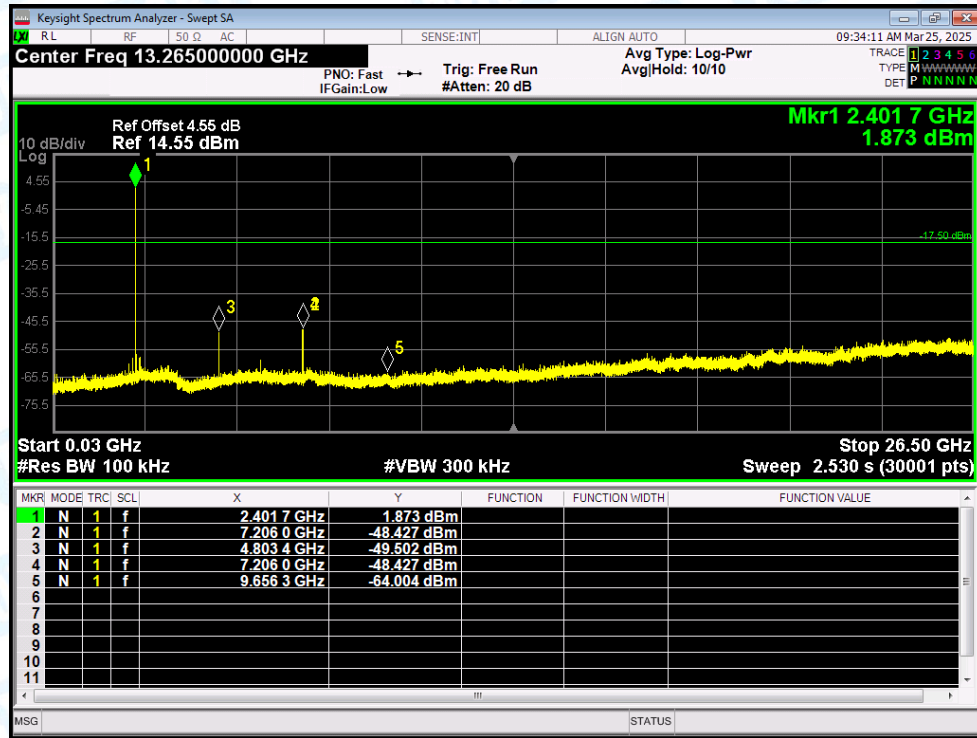
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-50.93	-20	Pass
NVNT	1-DH1	2441	Ant1	-49.4	-20	Pass
NVNT	1-DH1	2480	Ant1	-46.69	-20	Pass
NVNT	2-DH1	2402	Ant1	-47.59	-20	Pass
NVNT	2-DH1	2441	Ant1	-42.19	-20	Pass
NVNT	2-DH1	2480	Ant1	-41.73	-20	Pass
NVNT	3-DH1	2402	Ant1	-39	-20	Pass
NVNT	3-DH1	2441	Ant1	-34.9	-20	Pass
NVNT	3-DH1	2480	Ant1	-40.74	-20	Pass

Test Graphs

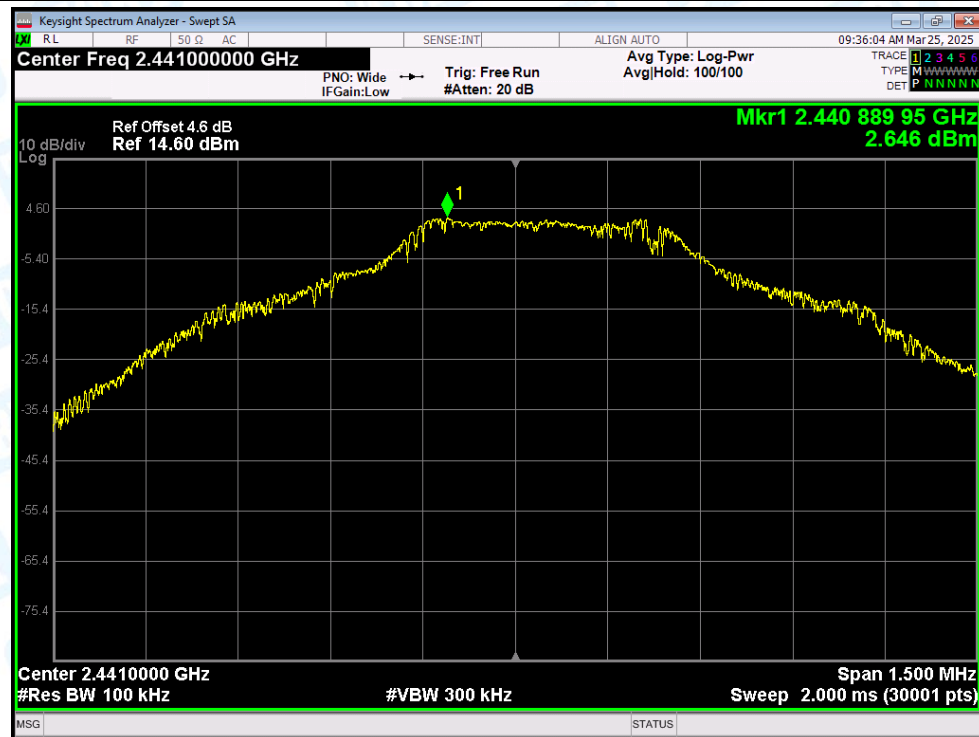
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



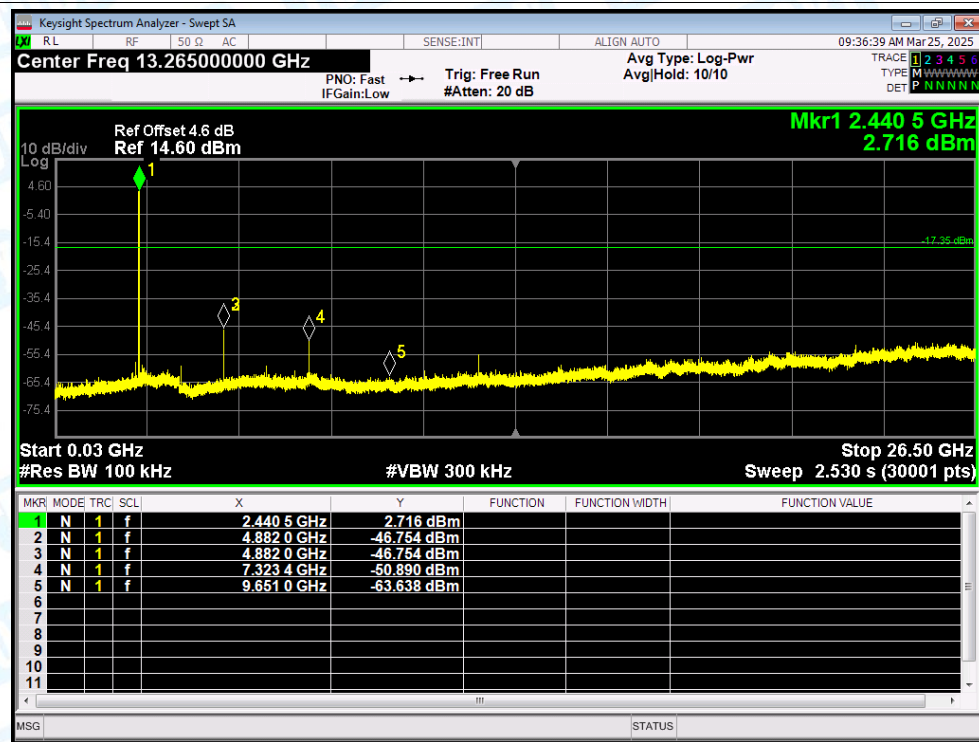
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



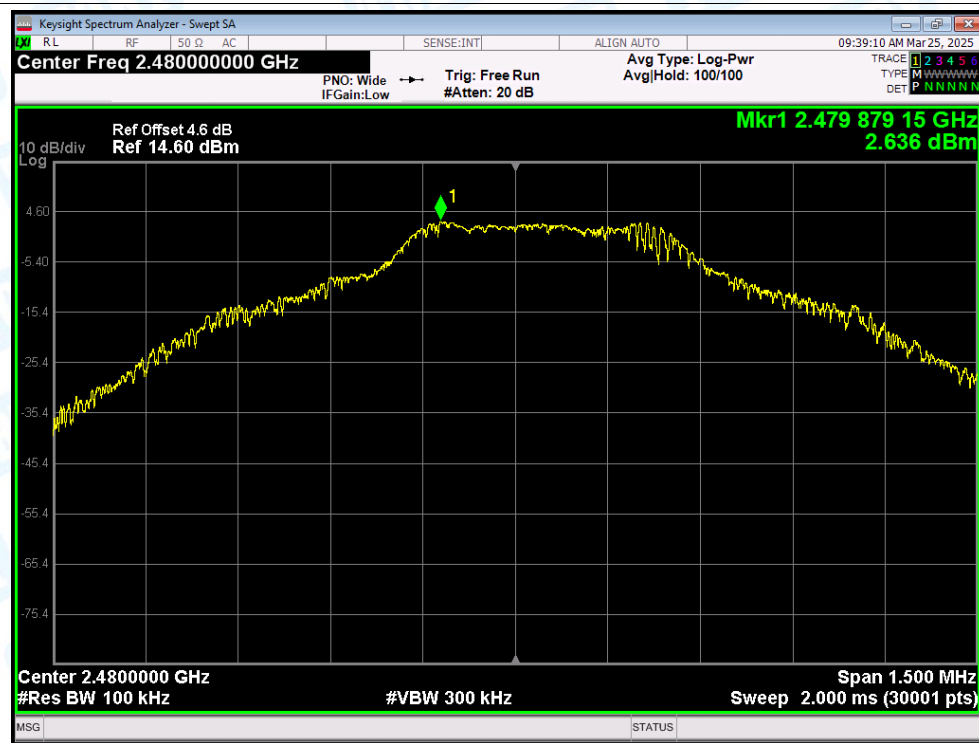
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



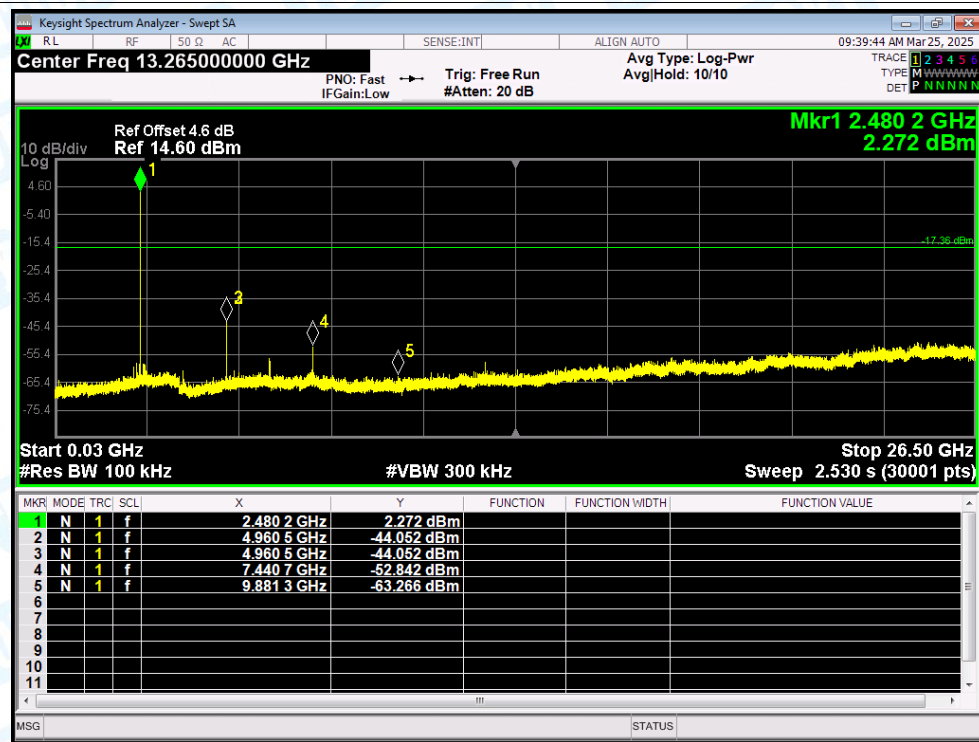
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



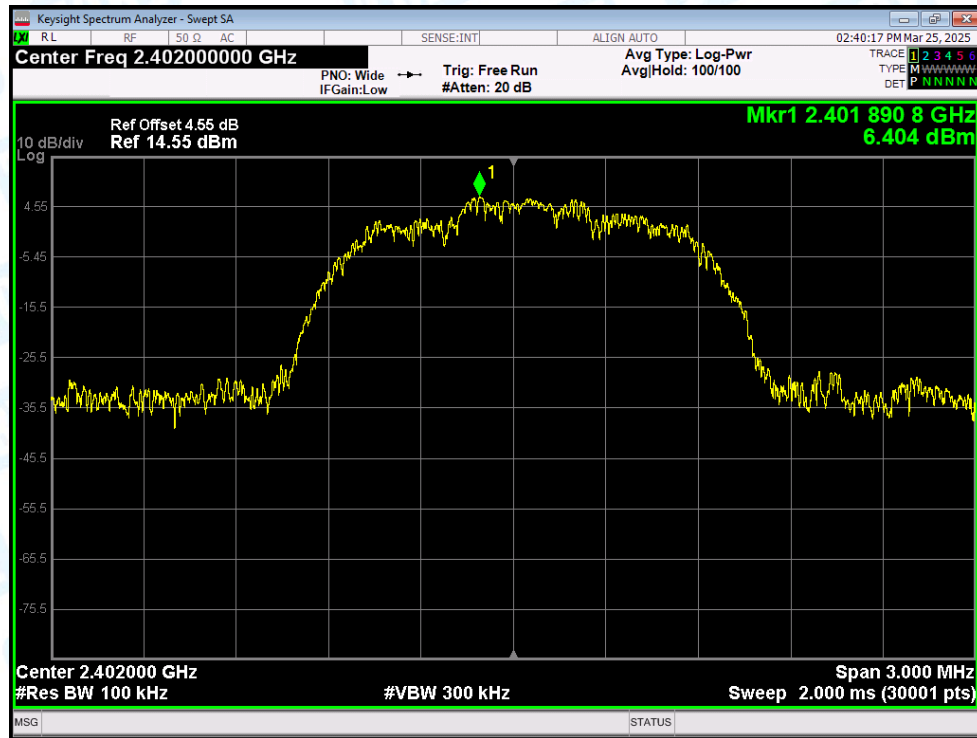
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



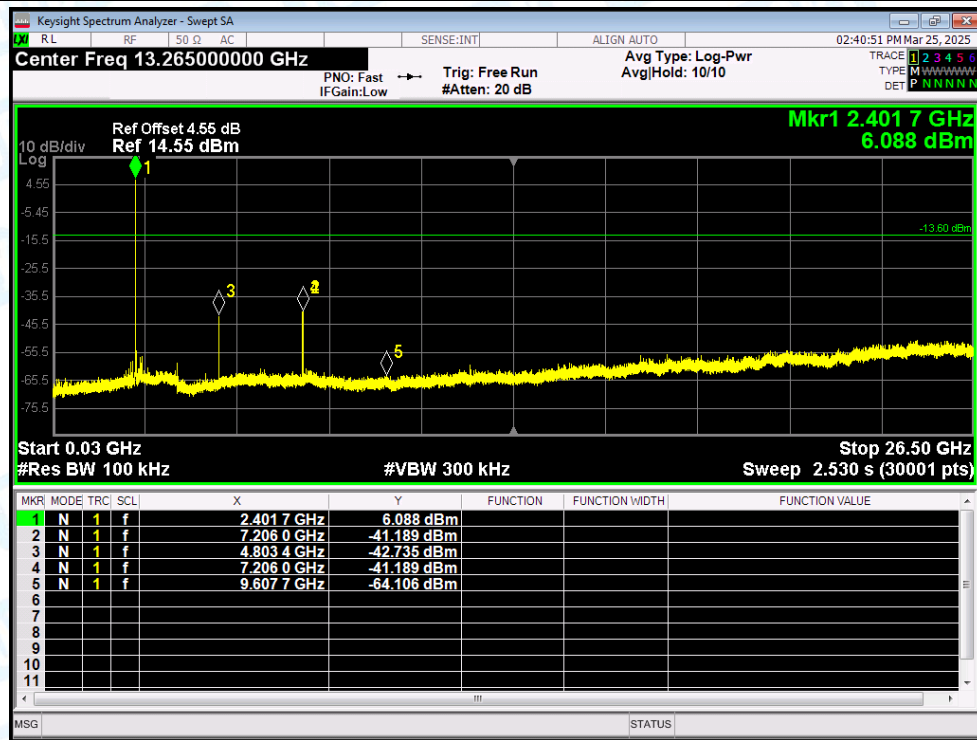
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



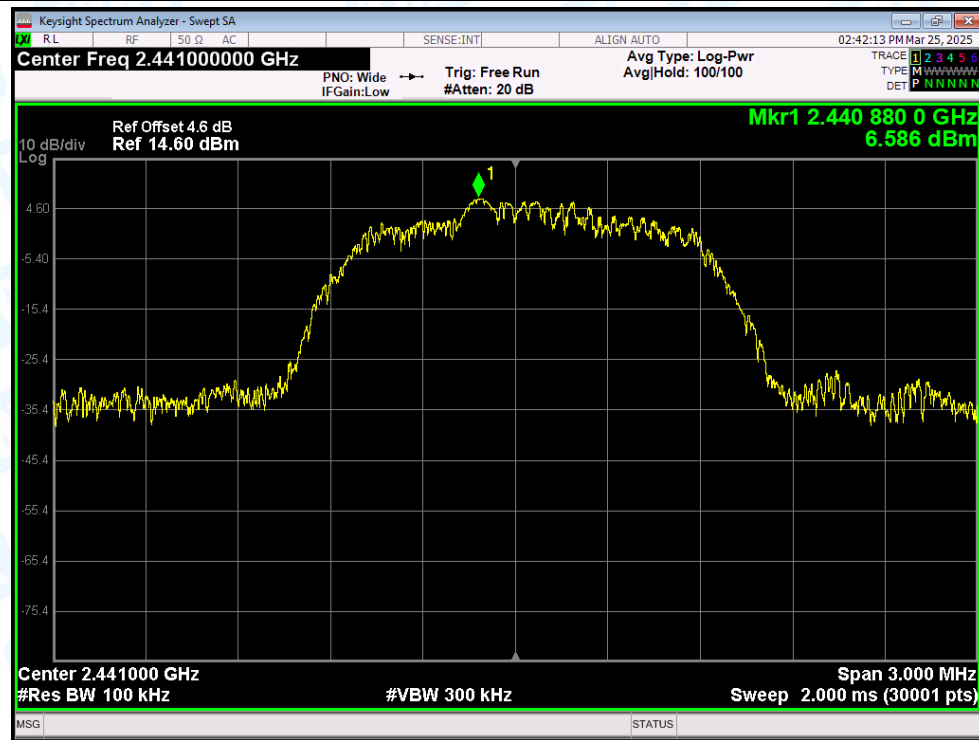
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



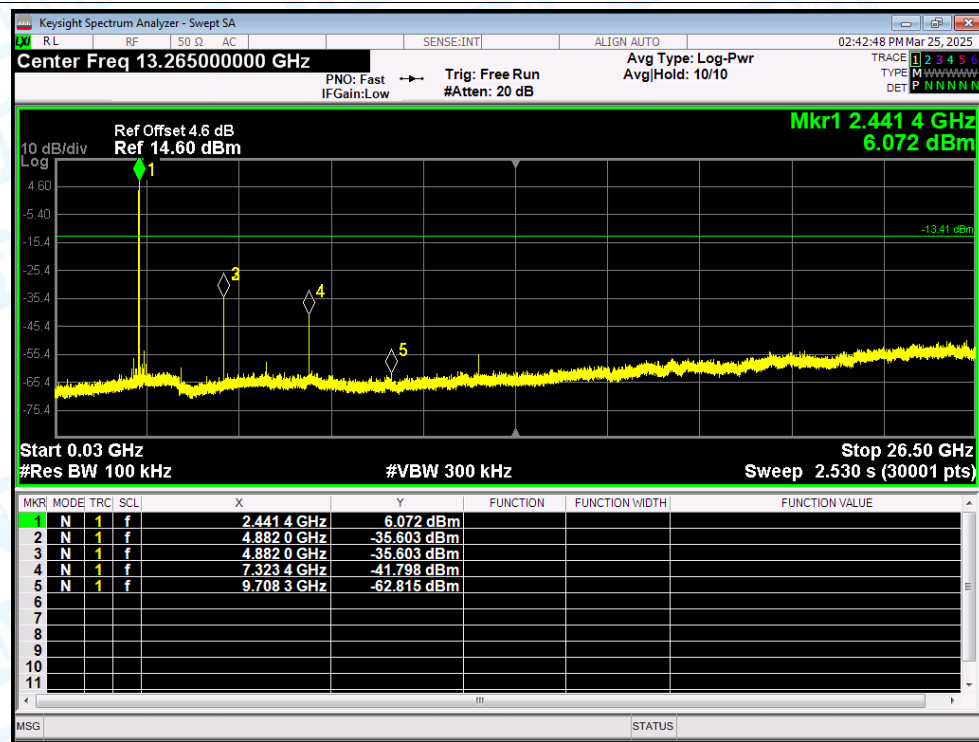
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



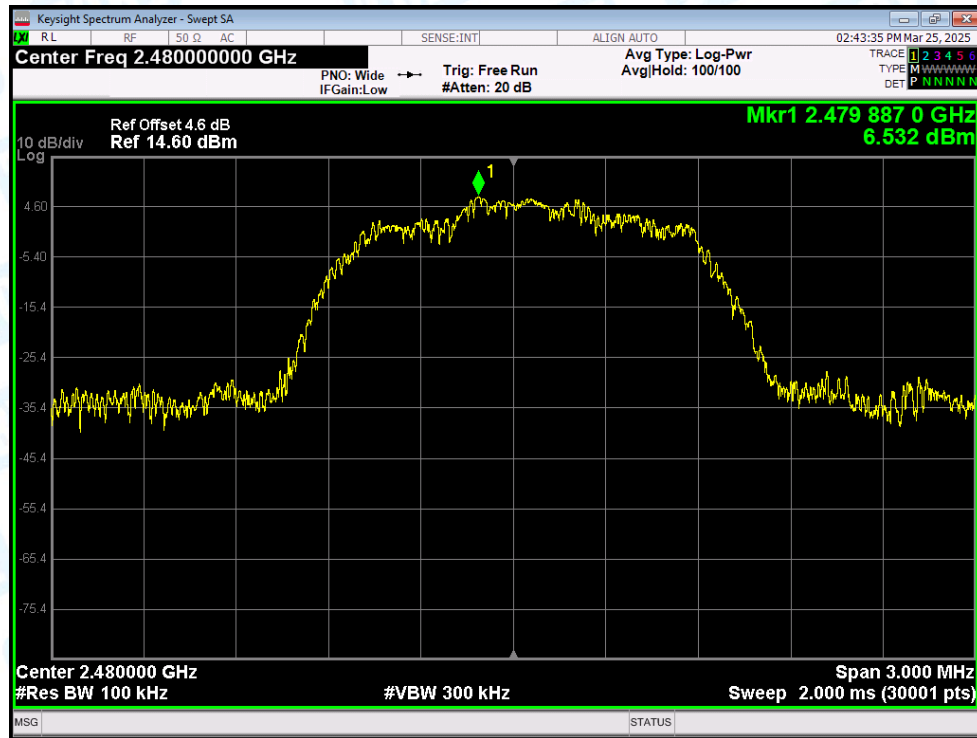
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



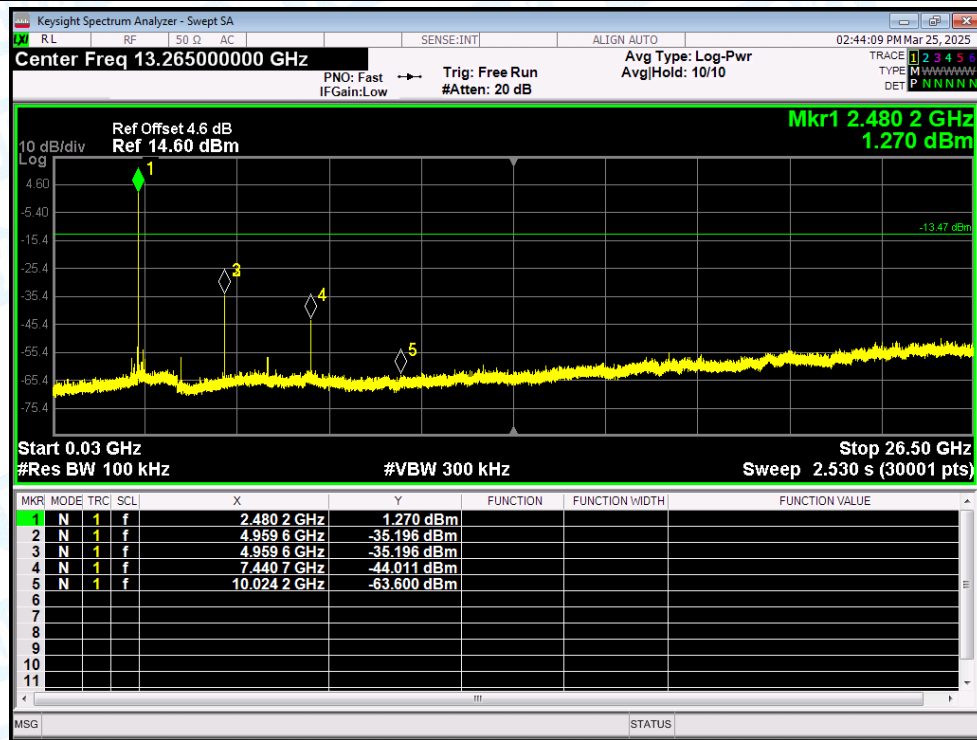
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



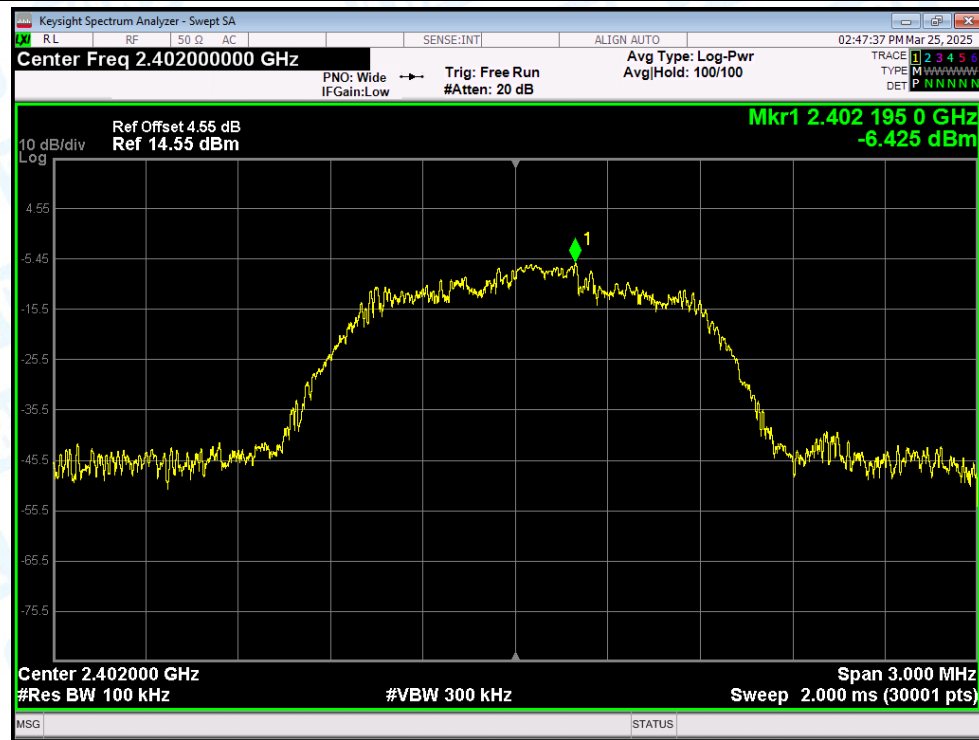
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



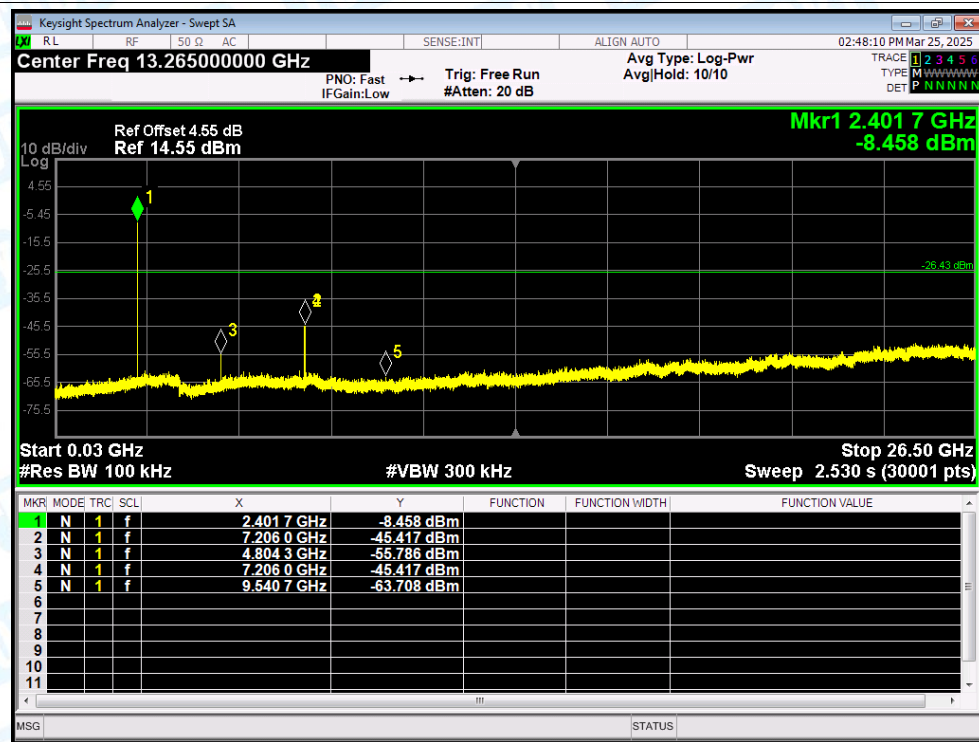
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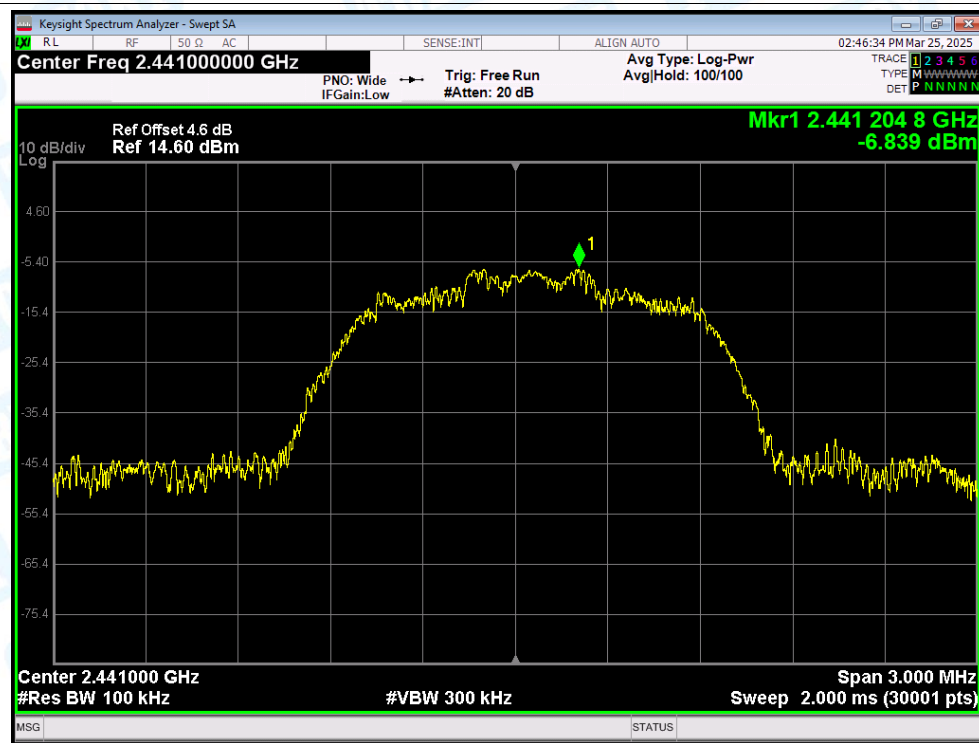
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



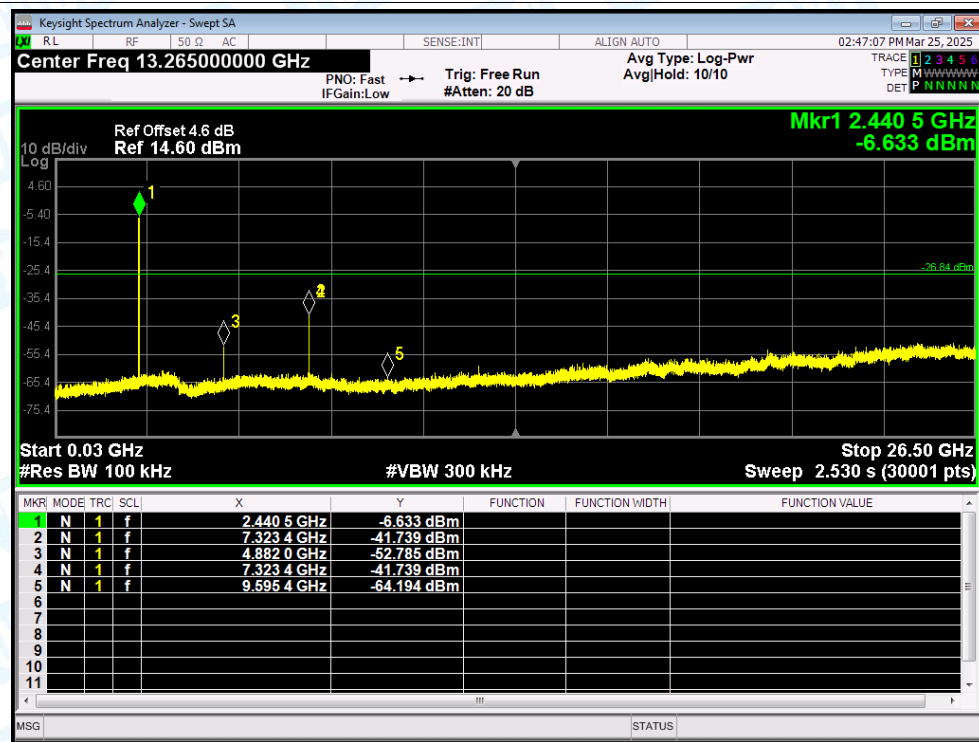
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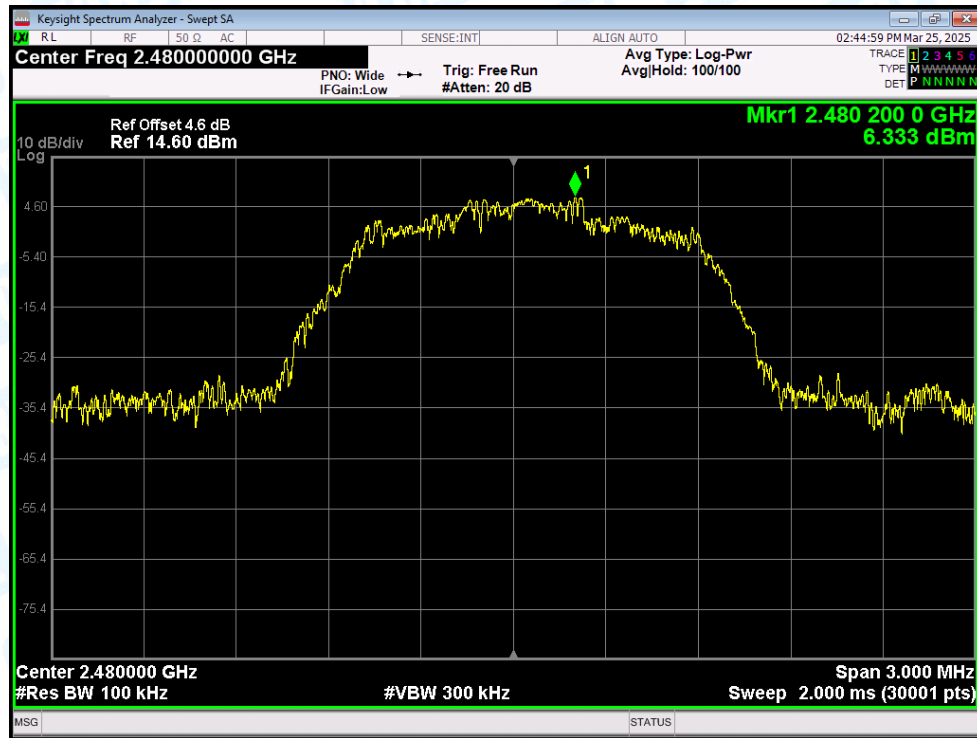
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



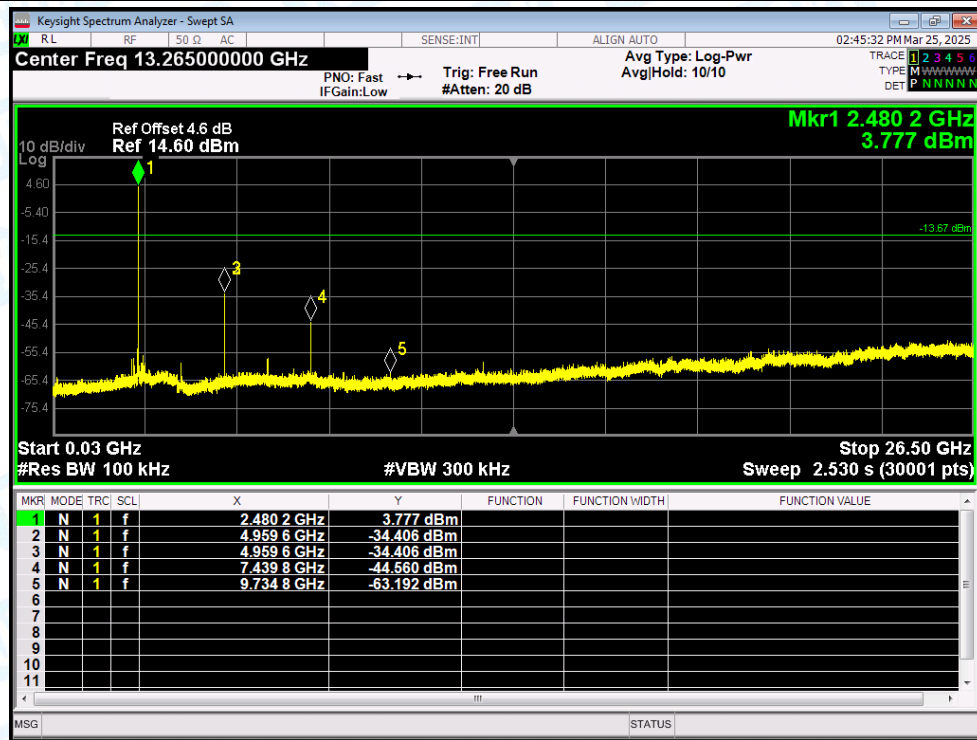
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

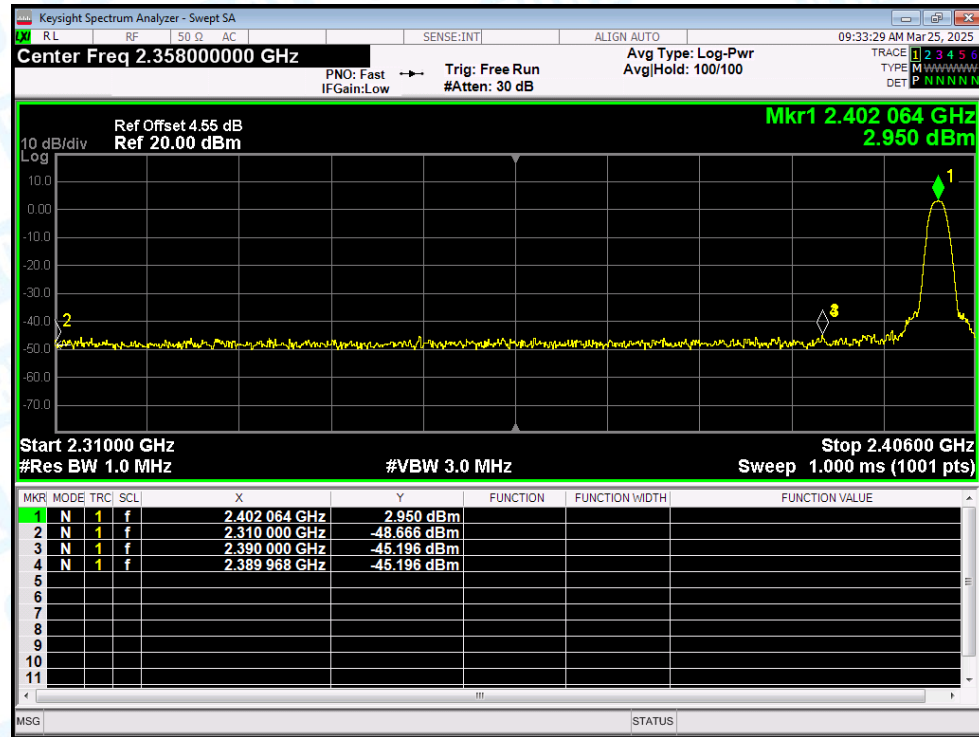


8. Restrict Band

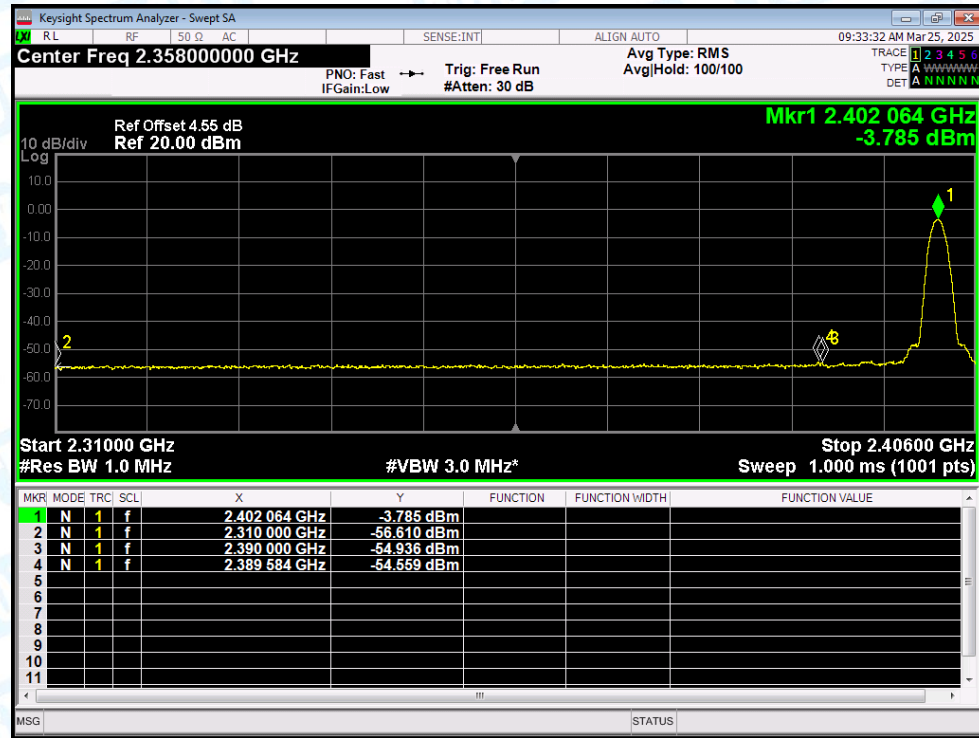
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-48.67	2.91	-	49.5	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.61	2.91	5.29	46.85	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2389.968	-45.2	2.91	-	52.97	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2389.584	-54.56	2.91	5.29	48.9	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-45.2	2.91	-	52.97	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-54.94	2.91	5.29	48.52	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-42.84	2.91	-	55.33	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-53.49	2.91	5.29	49.97	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.68	-42.03	2.91	-	56.14	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.536	-52.39	2.91	5.29	51.07	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.67	2.91	-	50.5	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.56	2.91	5.29	47.9	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-49.5	2.91	-	48.67	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.3	2.91	5.17	47.04	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2362.224	-44.06	2.91	-	54.11	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2389.392	-54.86	2.91	5.17	48.48	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.27	2.91	-	50.9	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.21	2.91	5.17	48.13	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-41.94	2.91	-	56.23	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-52.89	2.91	5.17	50.45	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.56	-40.04	2.91	-	58.13	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.632	-52.87	2.91	5.17	50.47	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-46.98	2.91	-	51.19	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.46	2.91	5.17	47.88	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-47.3	2.91	-	50.87	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.14	2.91	5.17	47.2	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2311.44	-44.67	2.91	-	53.5	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2389.392	-55	2.91	5.17	48.34	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-46.63	2.91	-	51.54	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.53	2.91	5.17	47.81	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-42.49	2.91	-	55.68	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-51.83	2.91	5.17	51.51	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.608	-41.19	2.91	-	56.98	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.512	-51.83	2.91	5.17	51.51	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.25	2.91	-	50.92	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.57	2.91	5.17	47.77	Average	54	Pass

Test Graphs

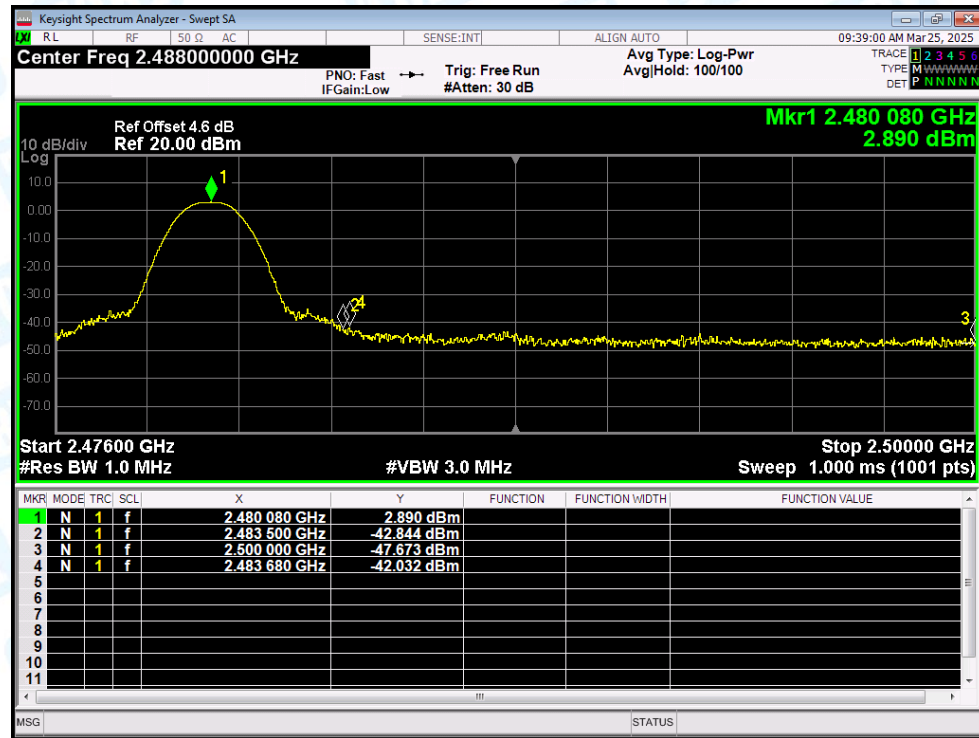
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



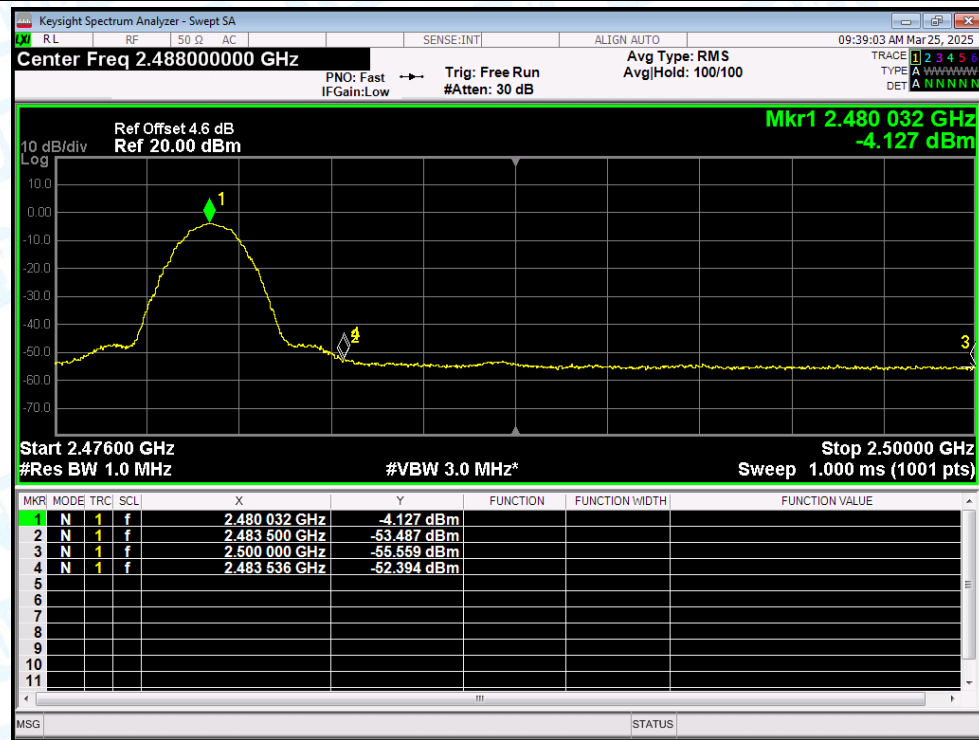
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



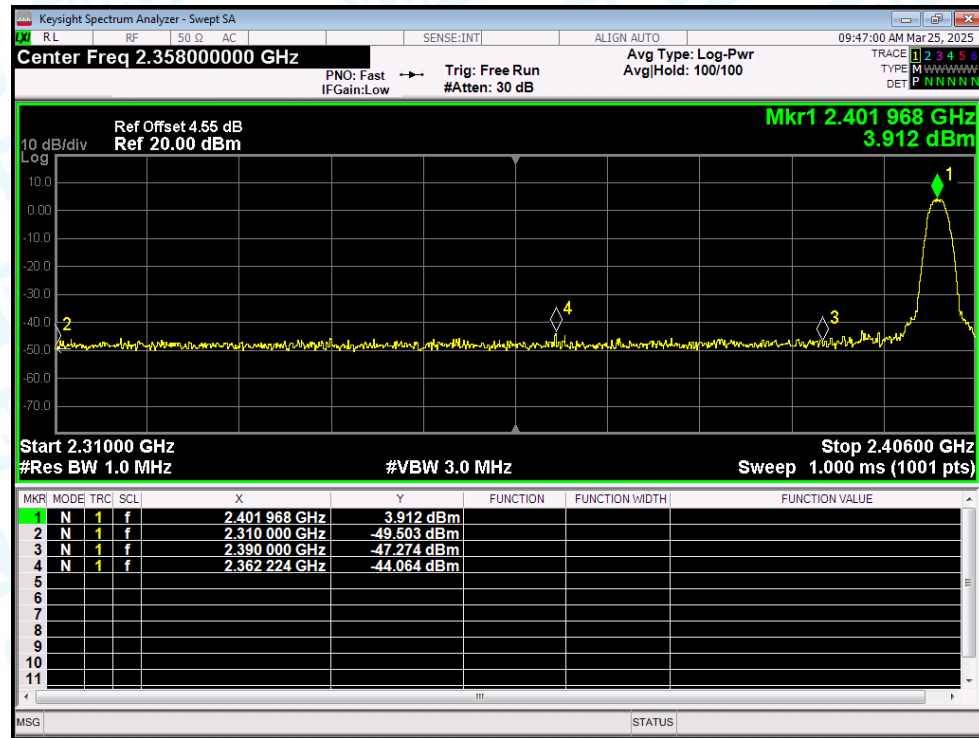
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



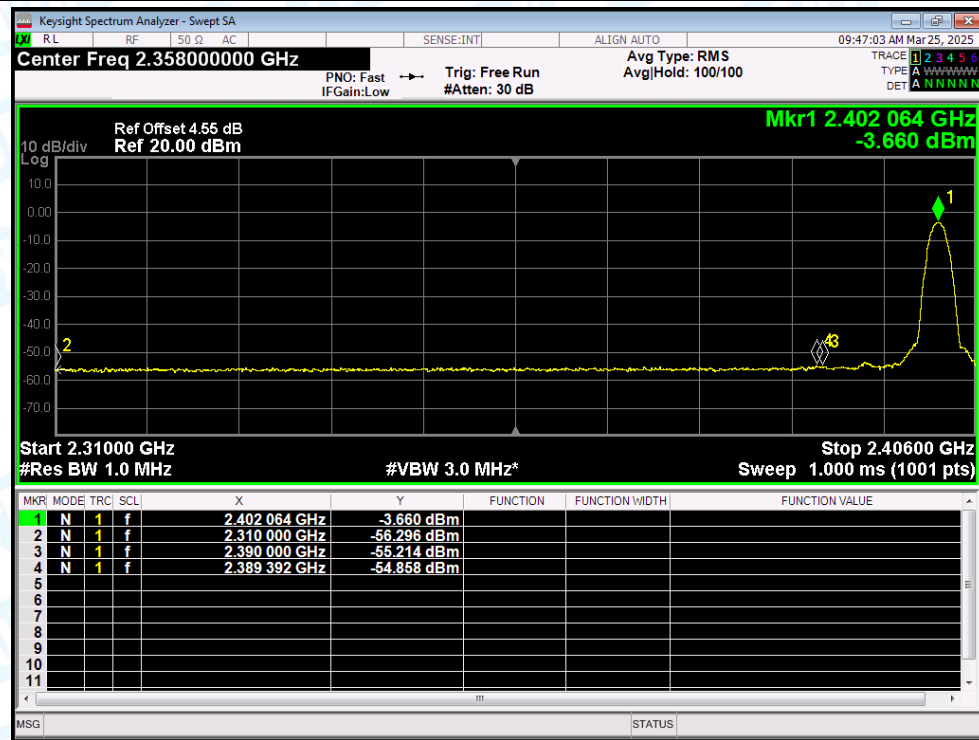
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



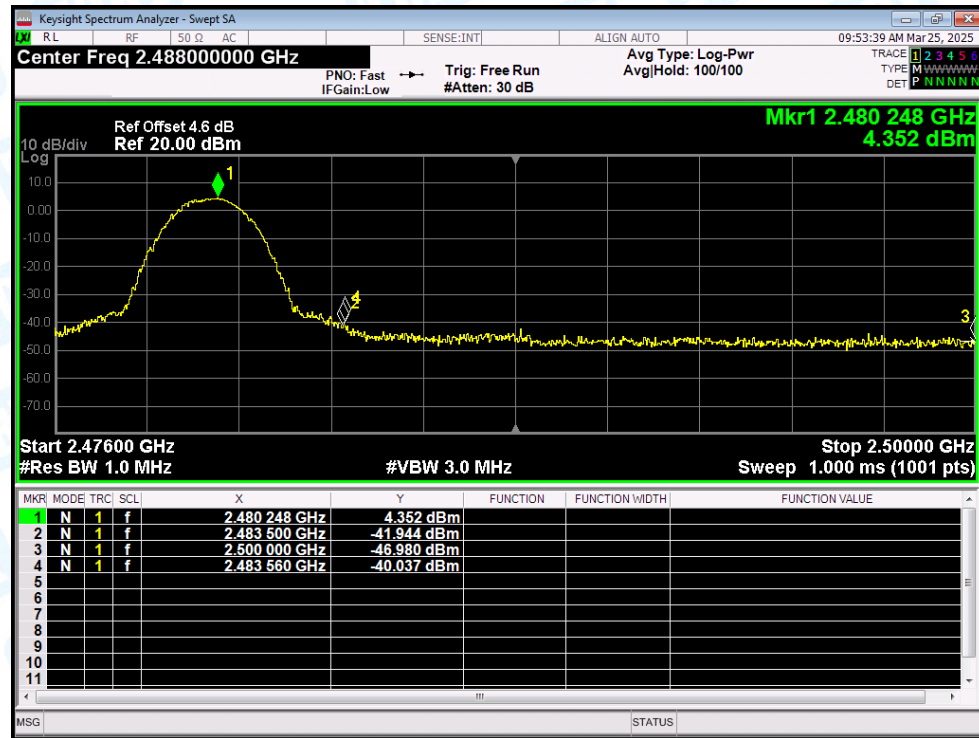
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



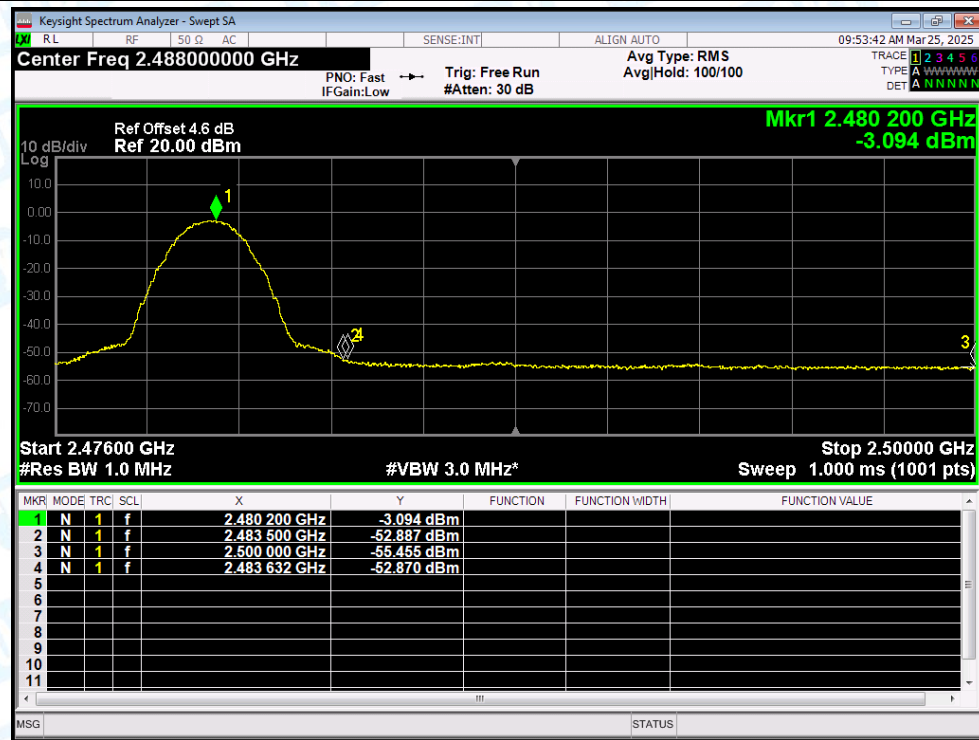
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



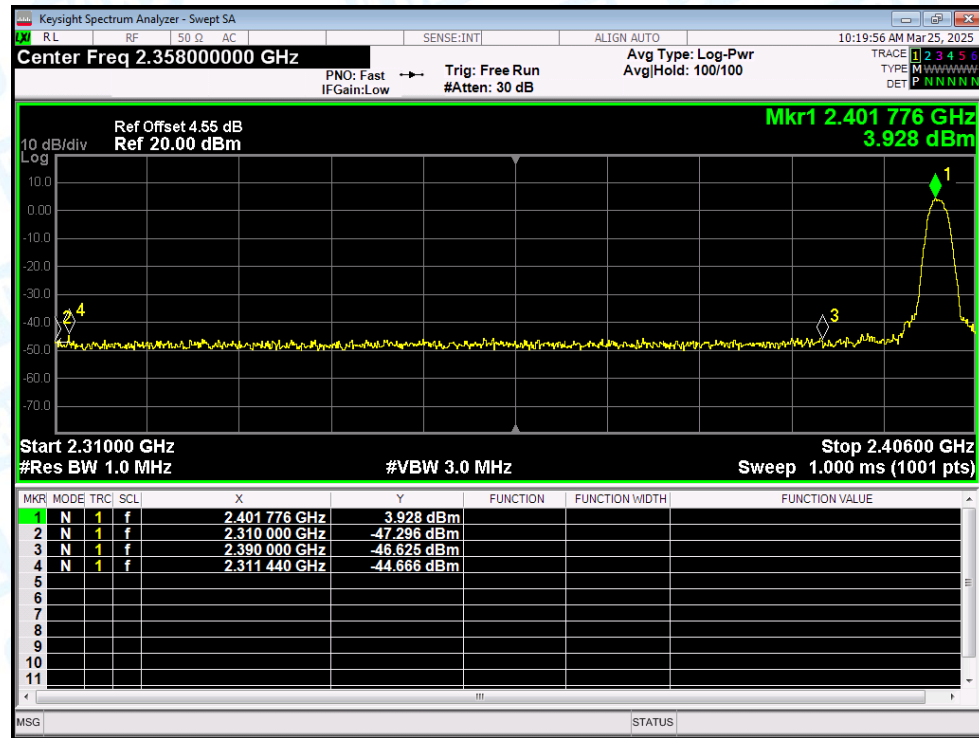
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



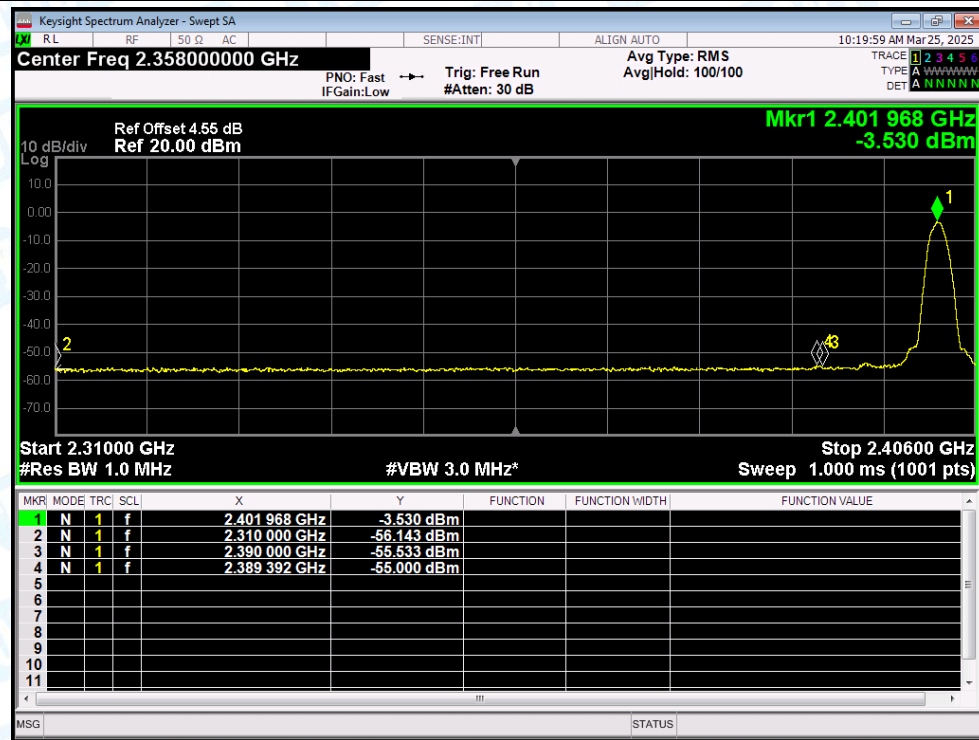
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



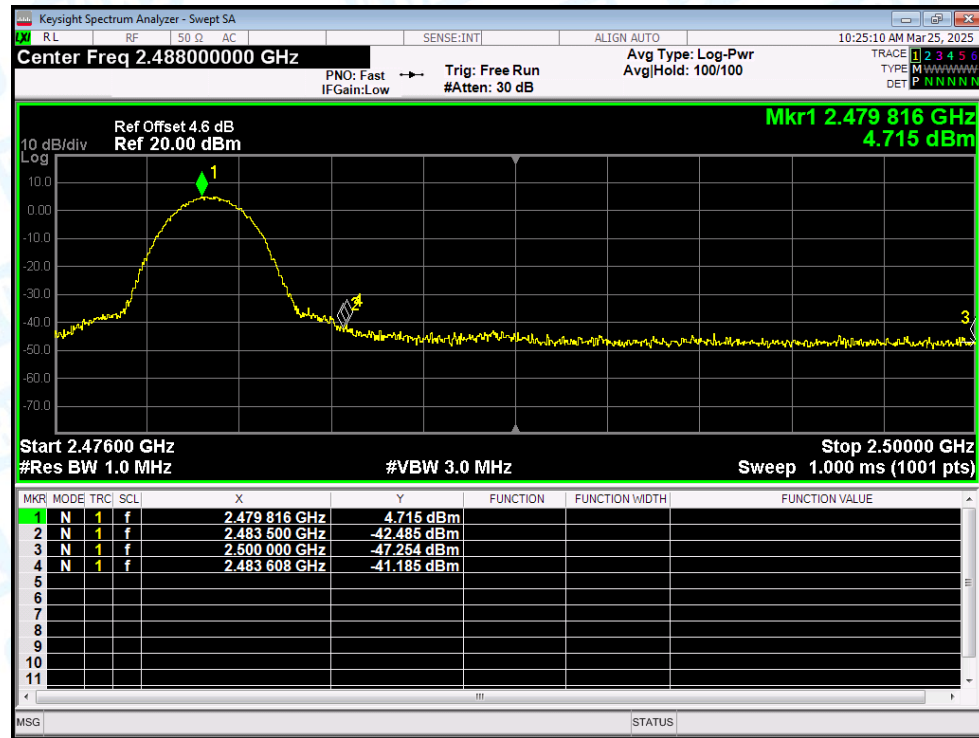
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



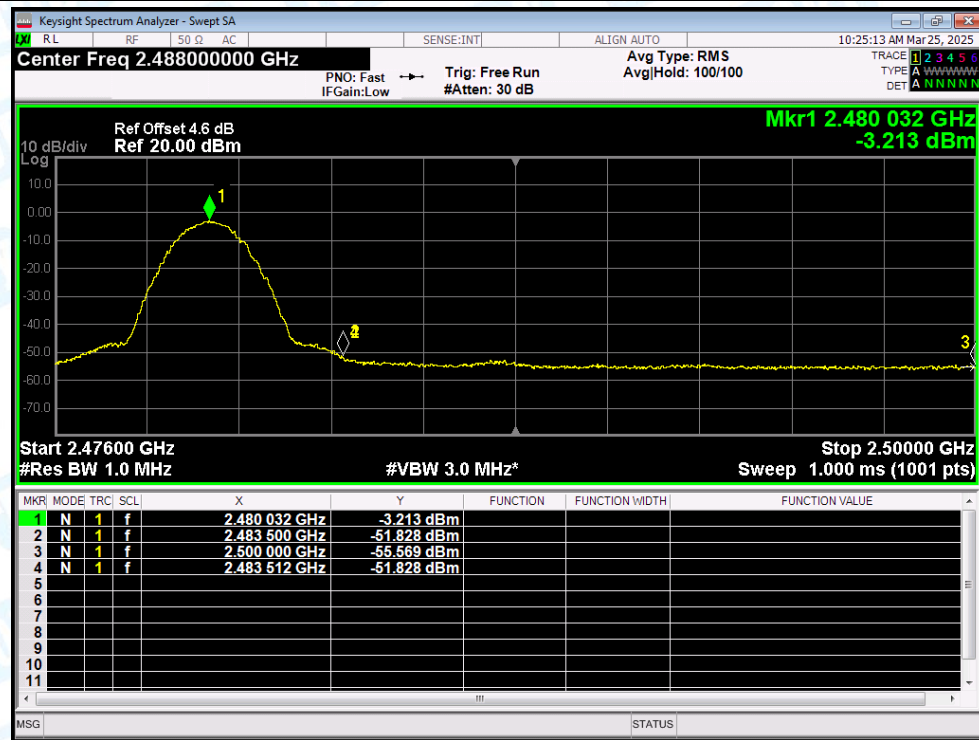
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

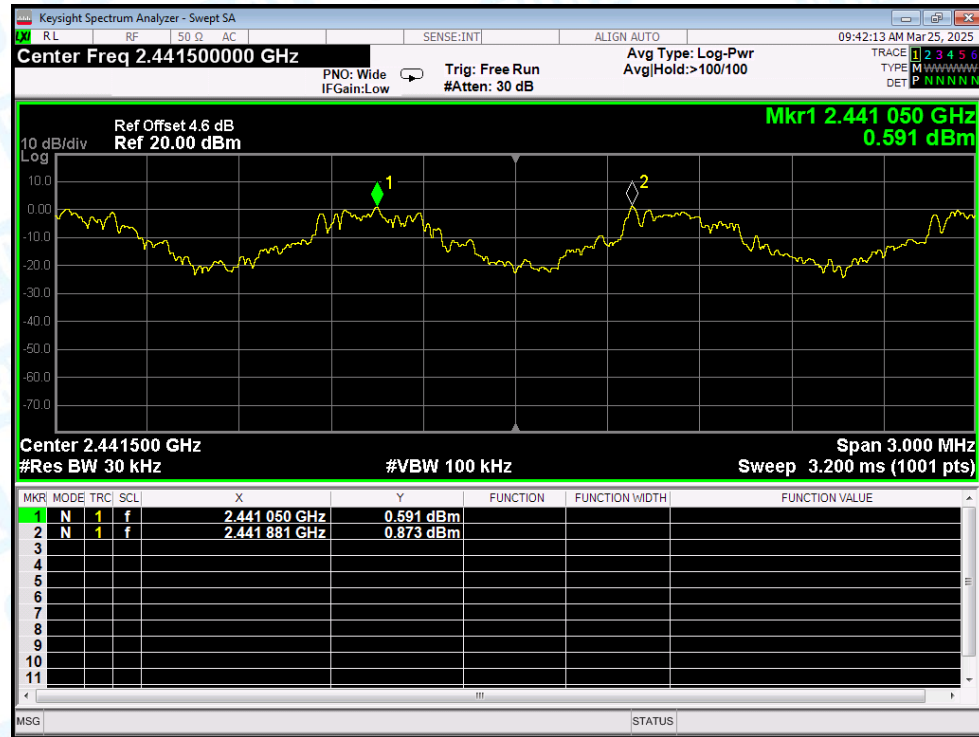


9. Carrier Frequencies Separation

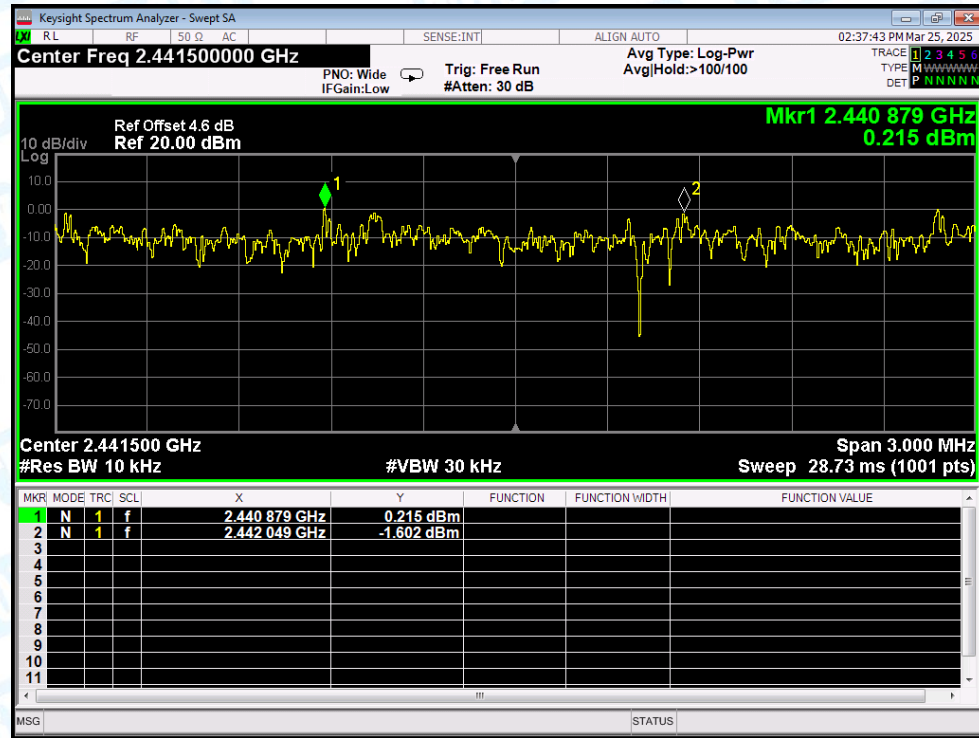
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2441.05	2441.881	0.831	0.667	Pass
NVNT	2-DH1	Ant1	2440.879	2442.049	1.17	0.840	Pass
NVNT	3-DH1	Ant1	2440.879	2442.04	1.161	0.827	Pass

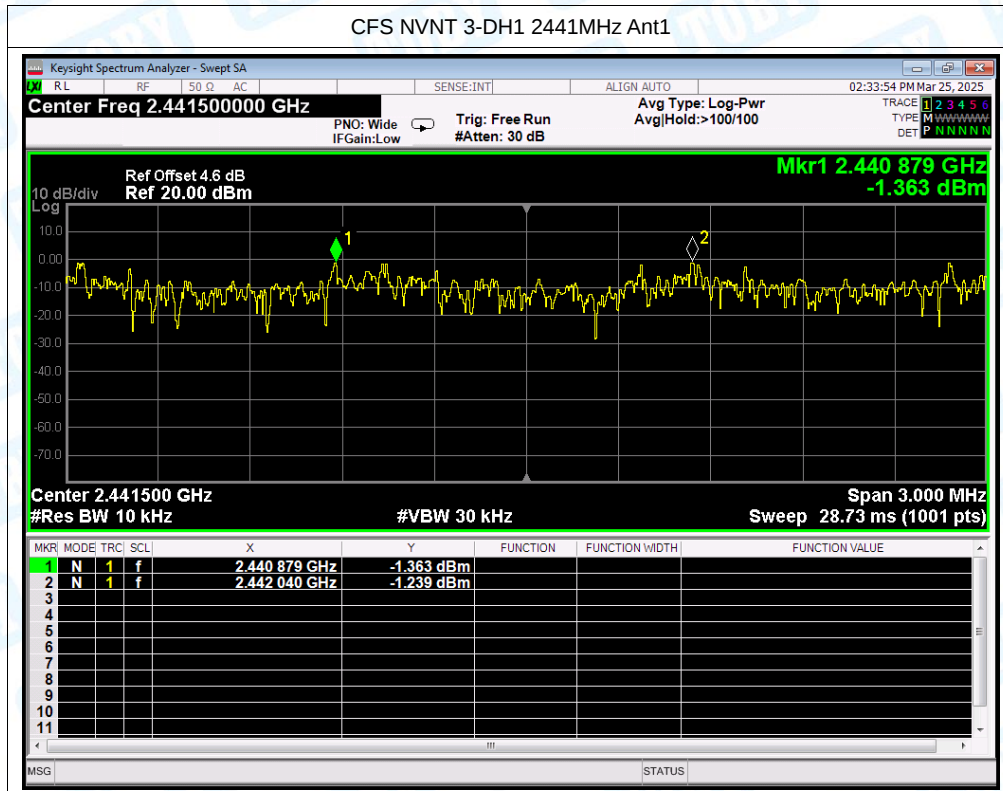
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



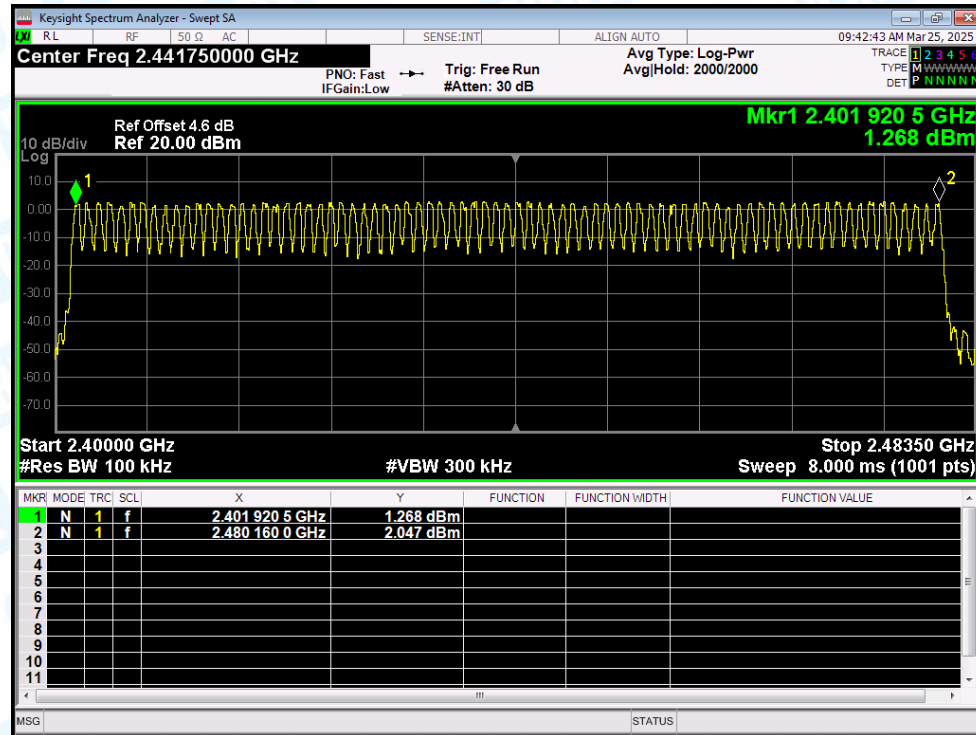


10. Number of Hopping Channel

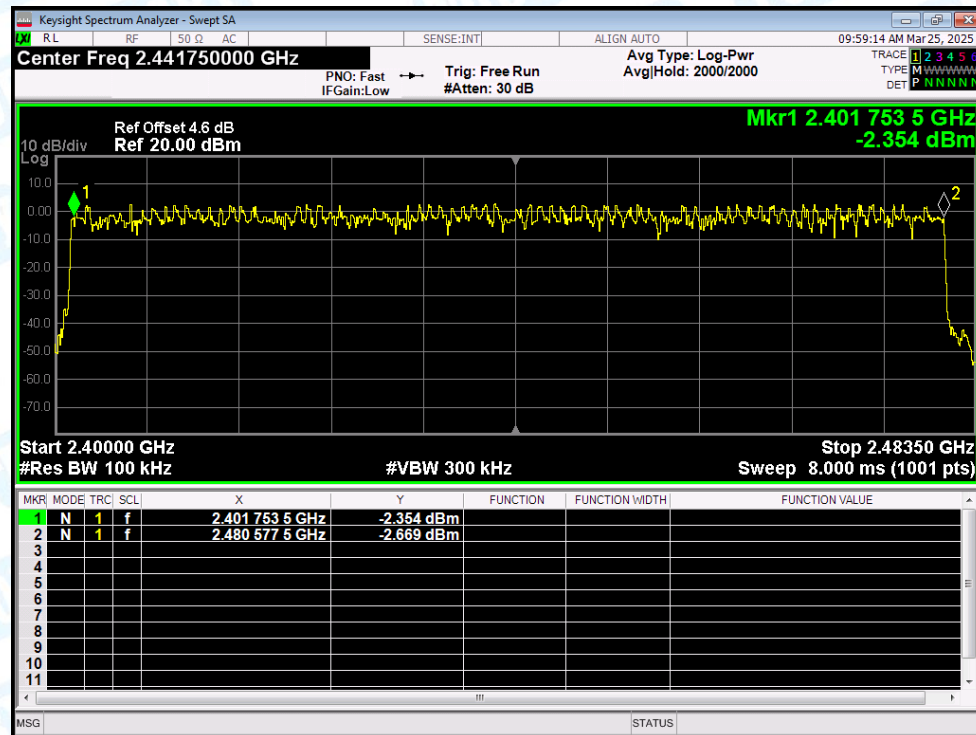
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

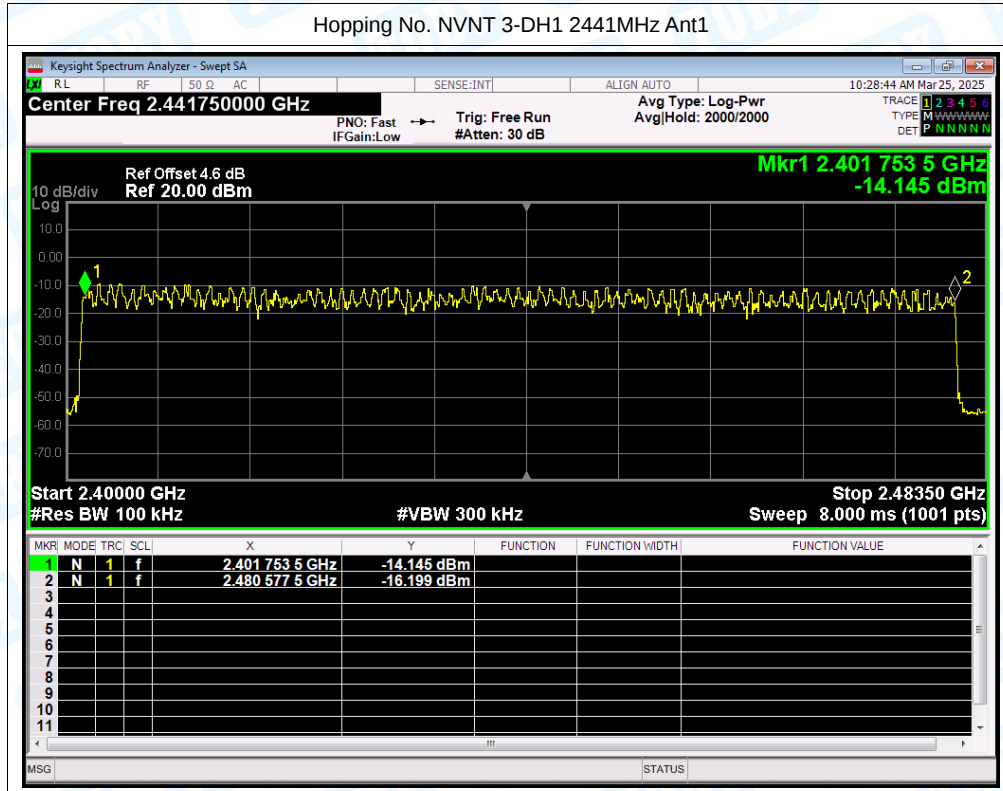
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



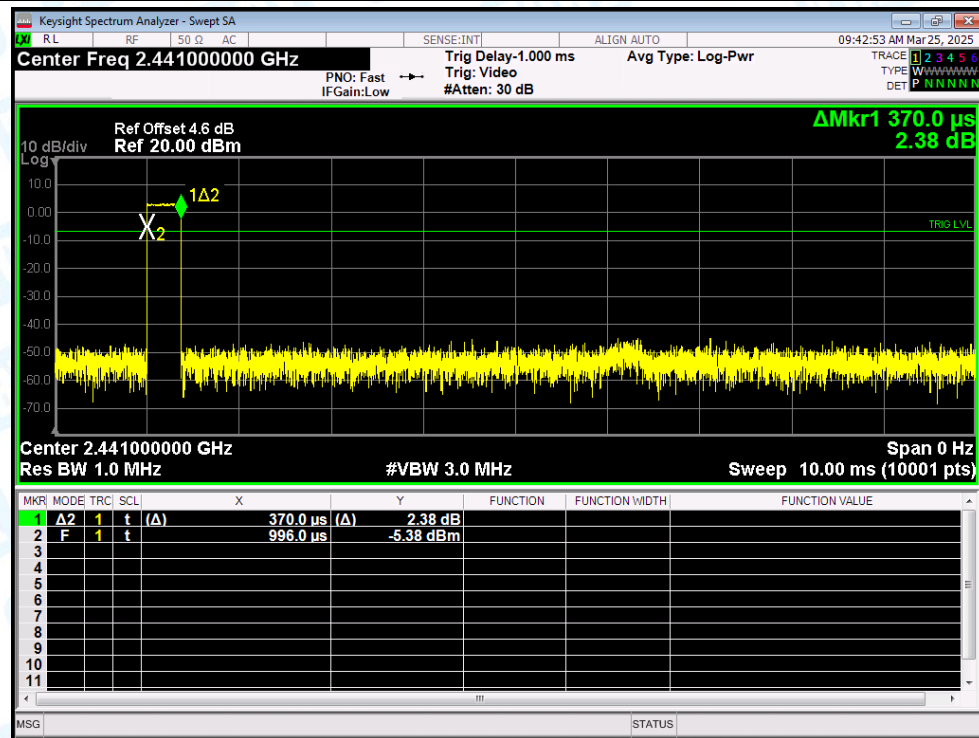


11. Dwell Time

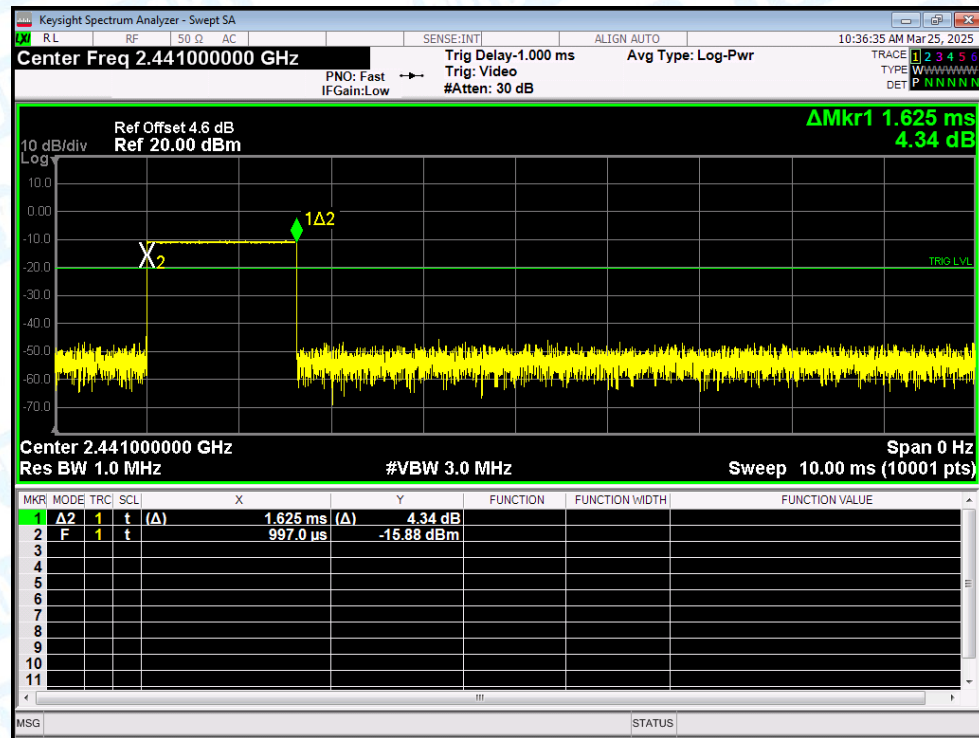
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.37	118.4	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.625	260	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.873	306.453	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.38	121.6	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.632	261.12	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.88	307.2	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

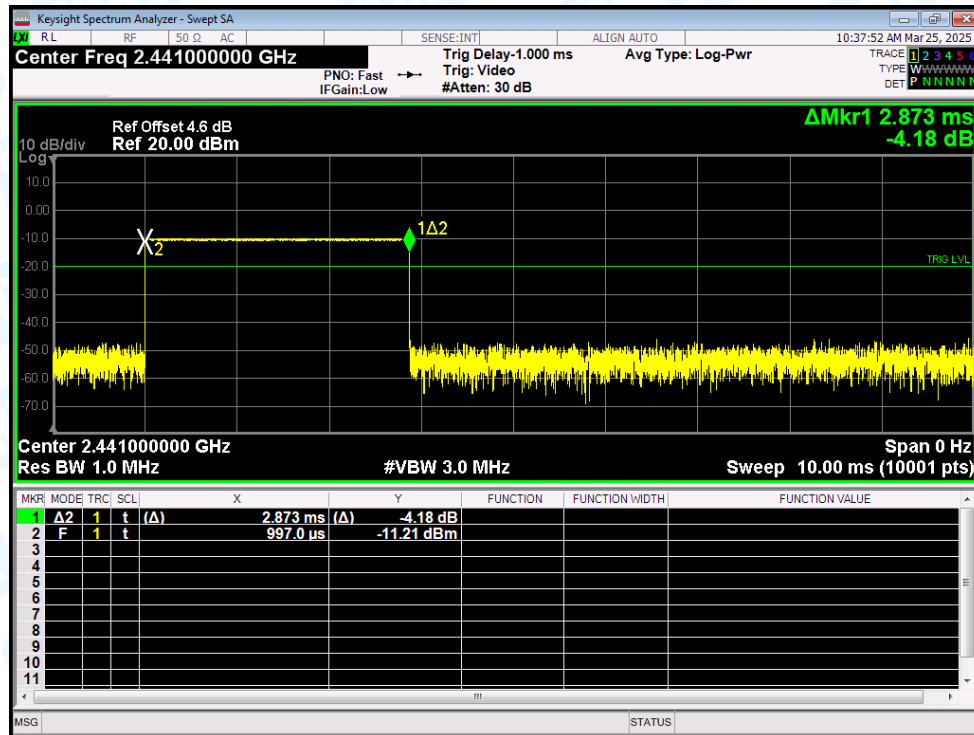
Dwell NVNT 1-DH1 2441MHz Ant1



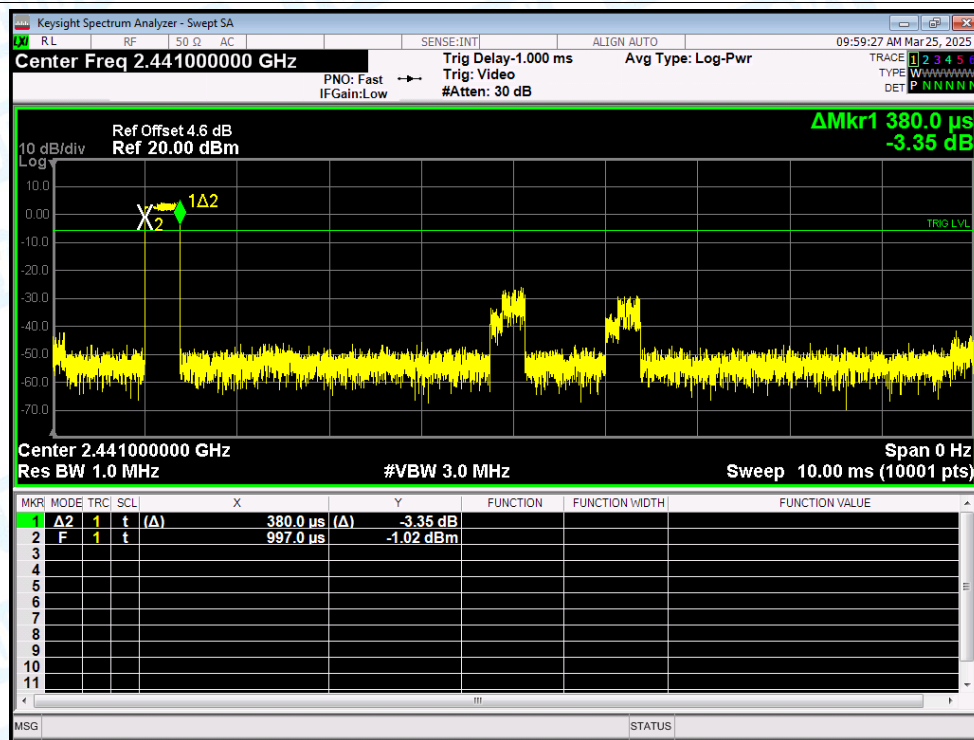
Dwell NVNT 1-DH3 2441MHz Ant1



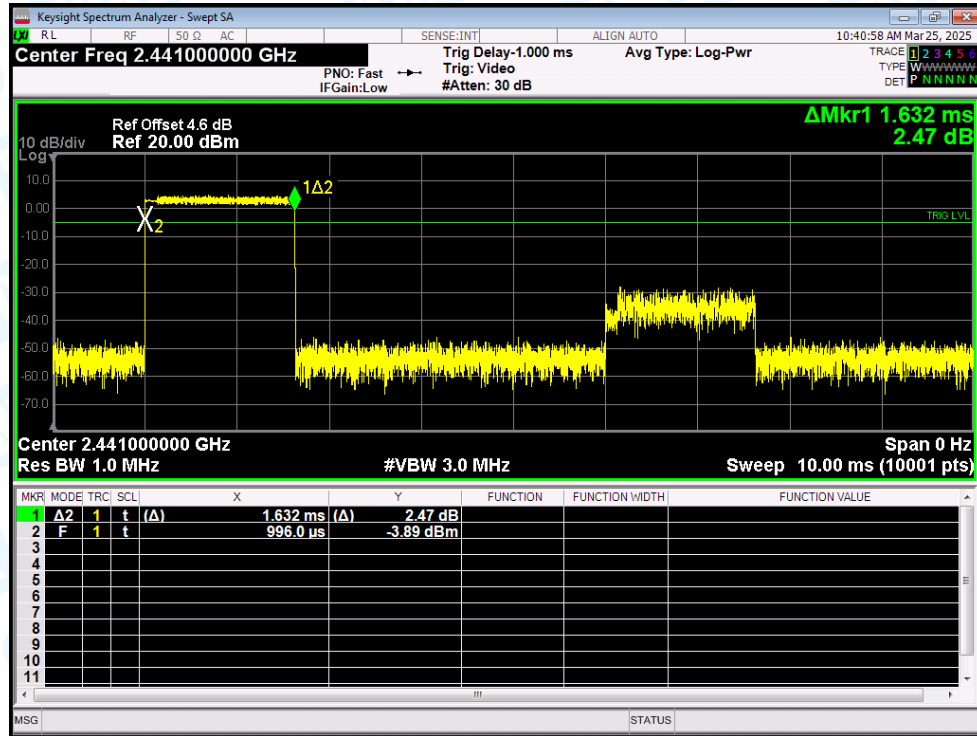
Dwell NVNT 1-DH5 2441MHz Ant1



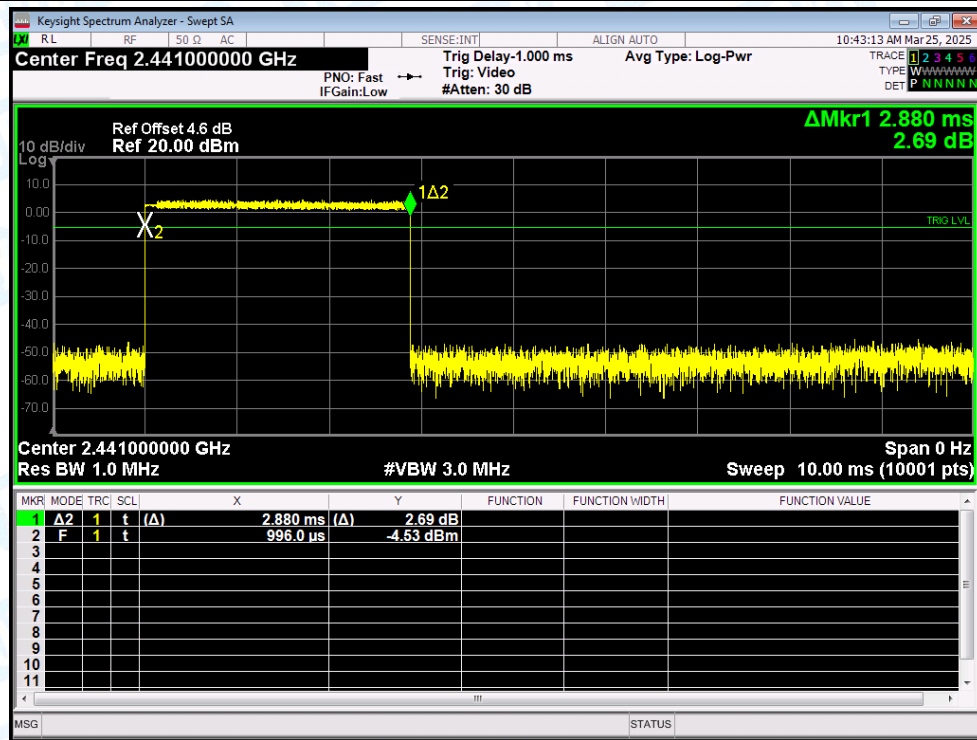
Dwell NVNT 2-DH1 2441MHz Ant1



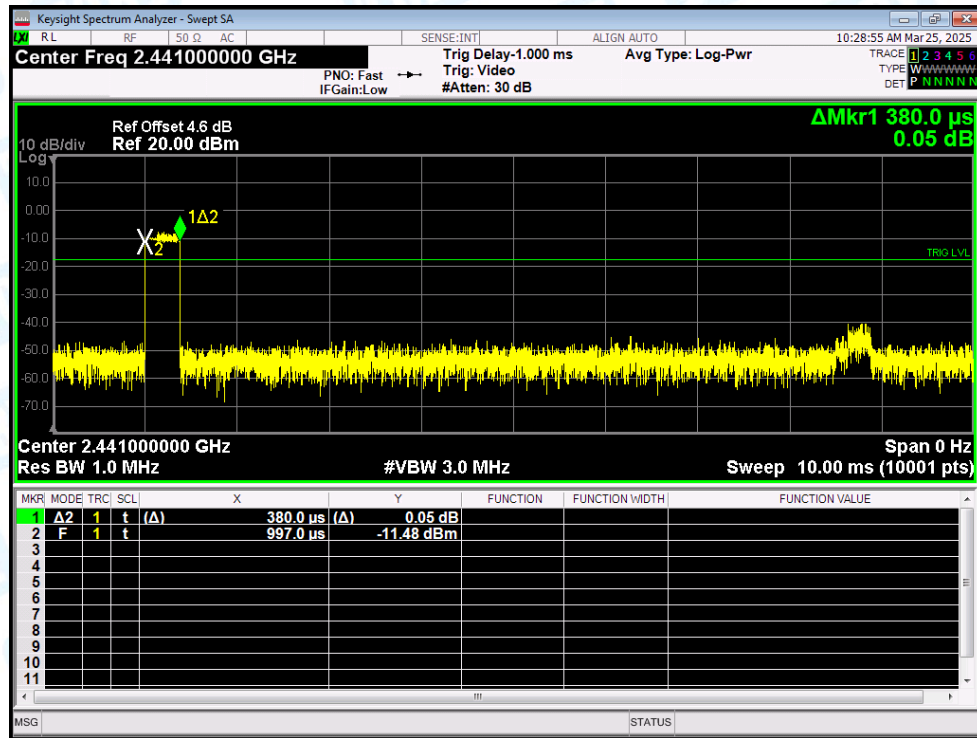
Dwell NVNT 2-DH3 2441MHz Ant1



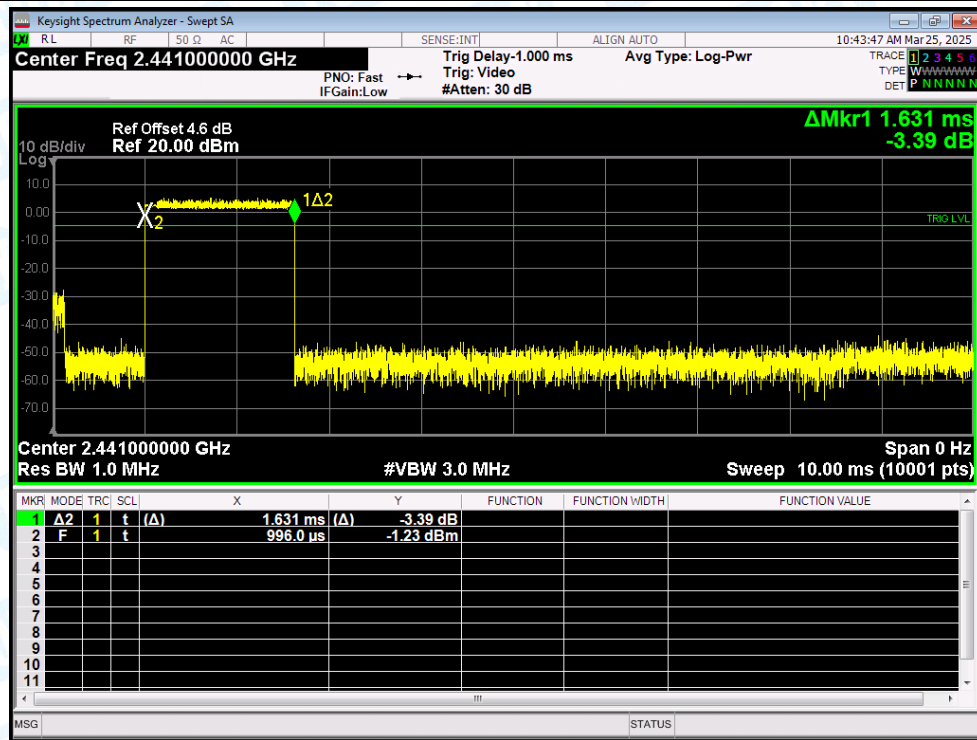
Dwell NVNT 2-DH5 2441MHz Ant1

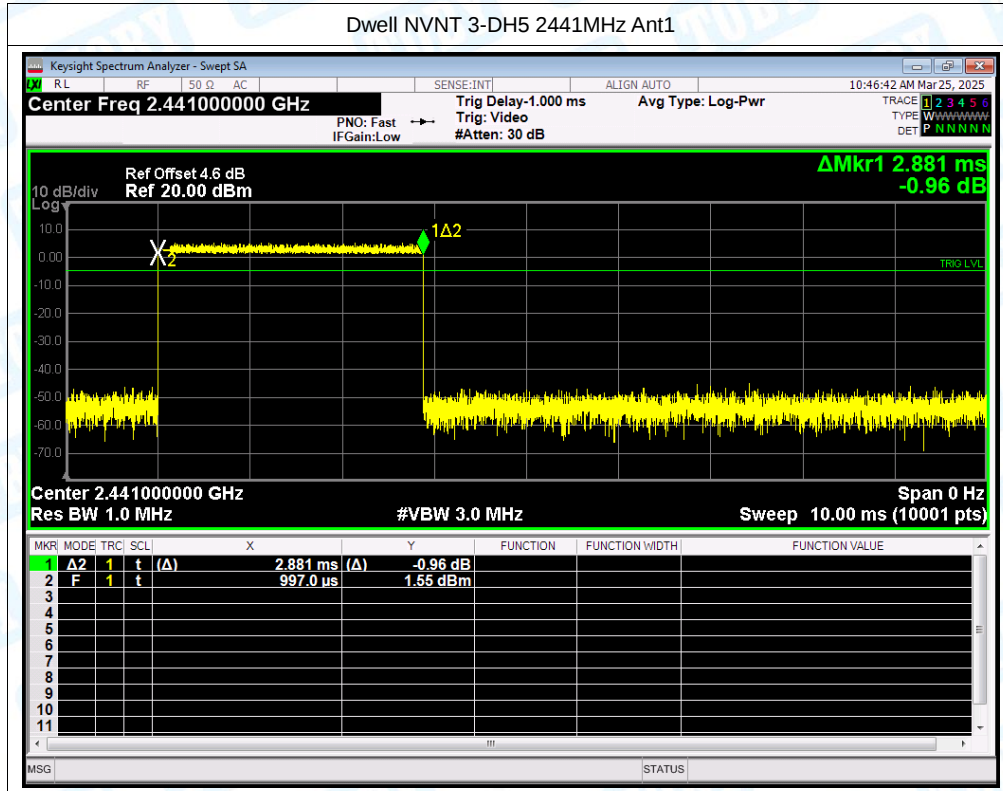


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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