

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	smart watch
Test Model:	K71
Sample ID:	HC-C-202505-0043-01-01
Environmental Conditions	
Temperature:	25.6℃
Relative Humidity:	52.6%
Test Voltage:	DC 3.8V
Test Engineer:	Gold zhang
Note: For a more detailed features description, please refer to the report TBR-C-202505-0043-17 The report only show the worst case data.	

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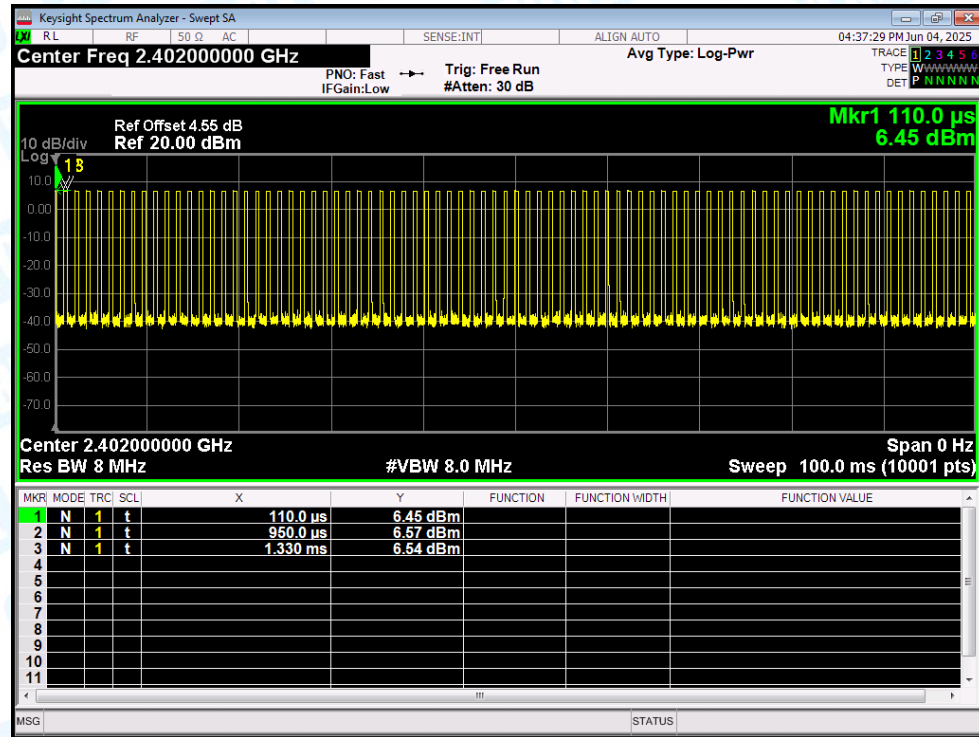
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1. Duty Cycle

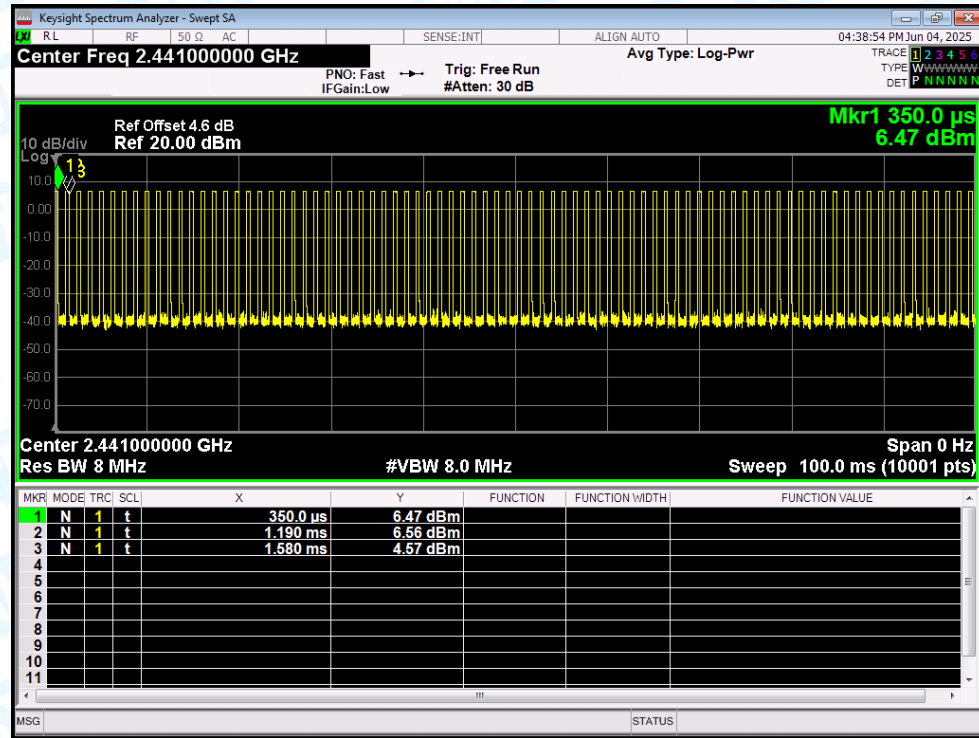
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	31.15	5.07	2.63
NVNT	1-DH1	2441	Ant1	31.71	4.99	2.56
NVNT	1-DH1	2480	Ant1	30.89	5.1	2.63
NVNT	2-DH1	2402	Ant1	31.71	4.99	2.56
NVNT	2-DH1	2441	Ant1	31.71	4.99	2.56
NVNT	2-DH1	2480	Ant1	31.71	4.99	2.56
NVNT	3-DH1	2402	Ant1	31.71	4.99	2.56
NVNT	3-DH1	2441	Ant1	31.71	4.99	2.56
NVNT	3-DH1	2480	Ant1	32.26	4.91	2.5

Test Graphs

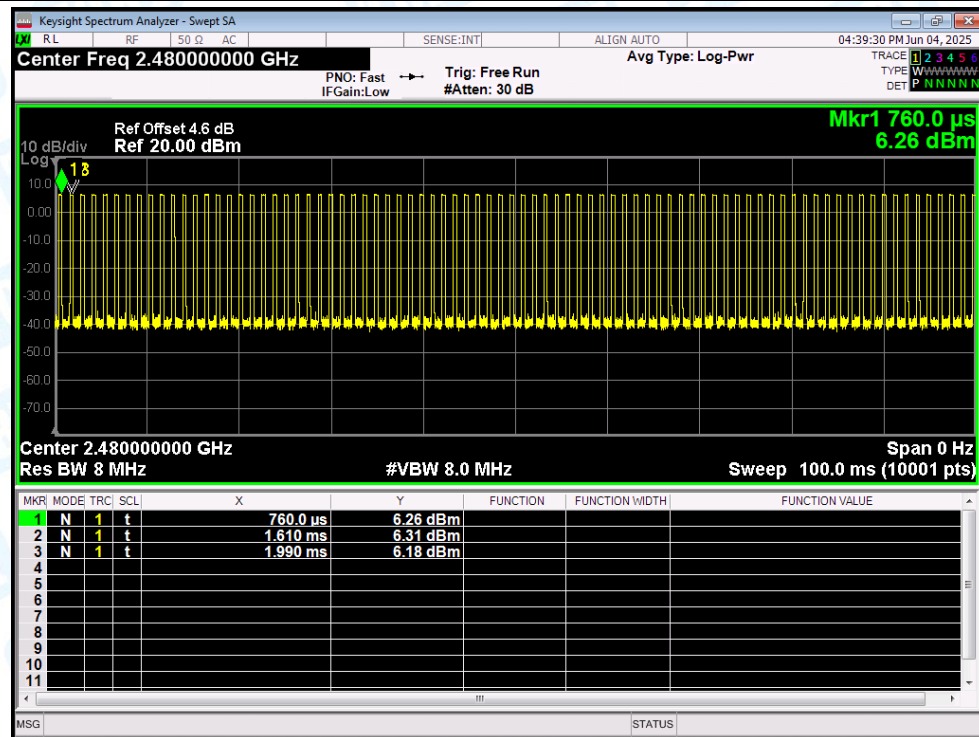
Duty Cycle NVNT 1-DH1 2402MHz Ant1



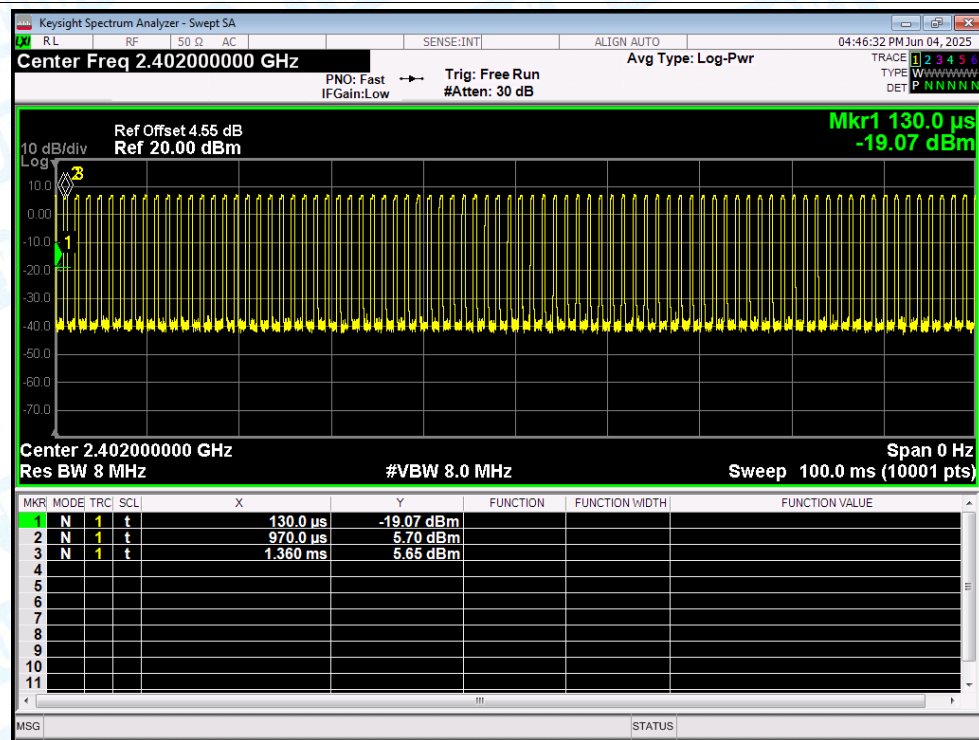
Duty Cycle NVNT 1-DH1 2441MHz Ant1



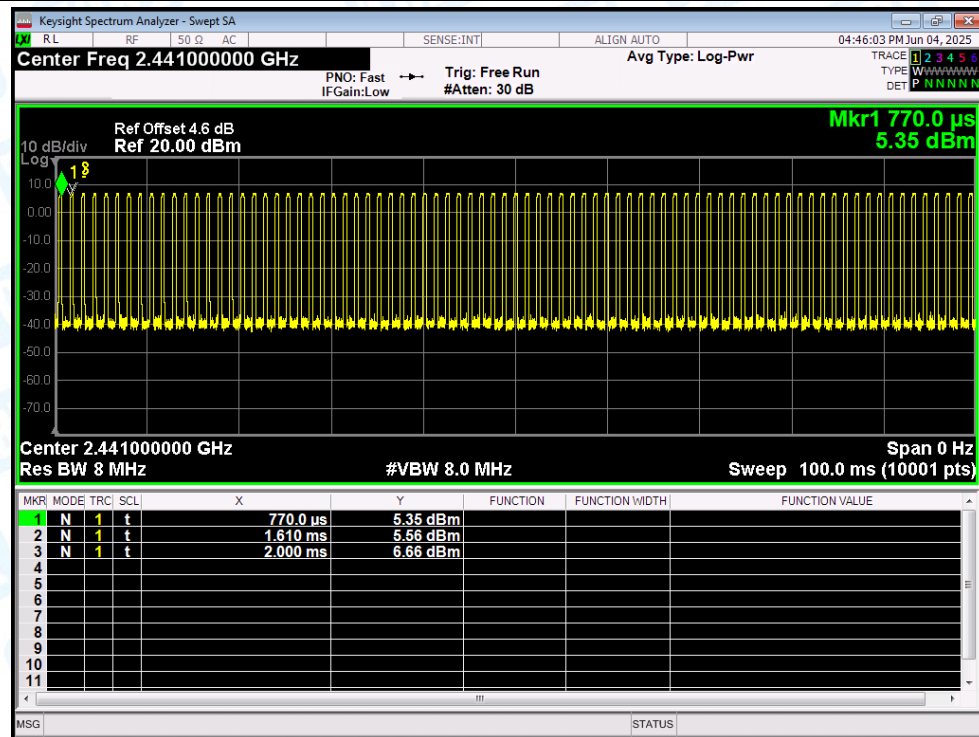
Duty Cycle NVNT 1-DH1 2480MHz Ant1



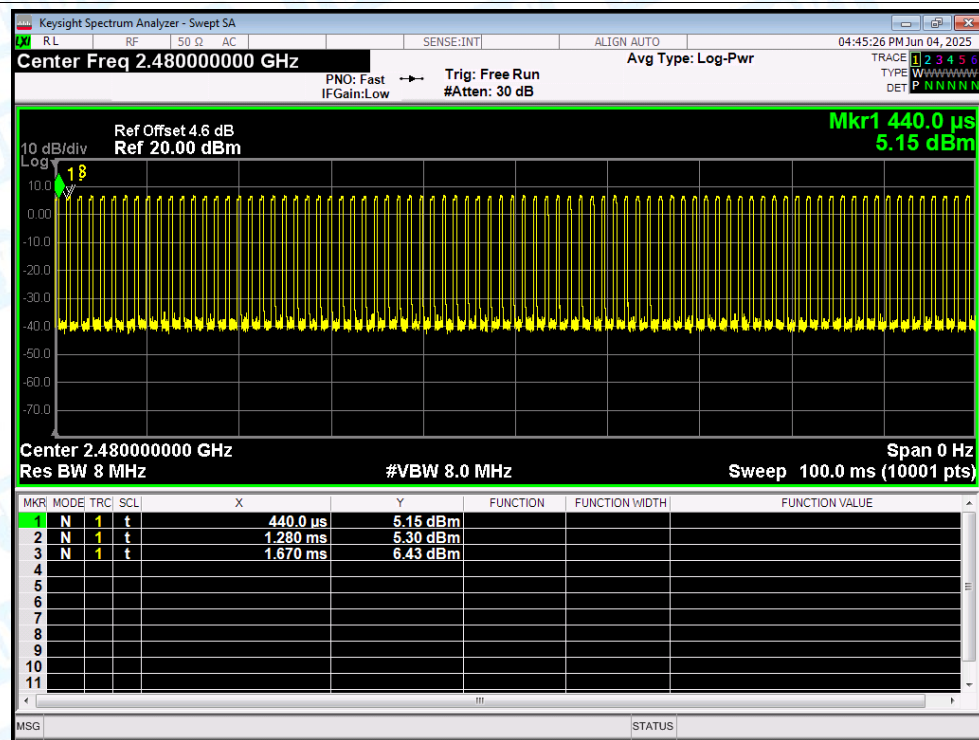
Duty Cycle NVNT 2-DH1 2402MHz Ant1



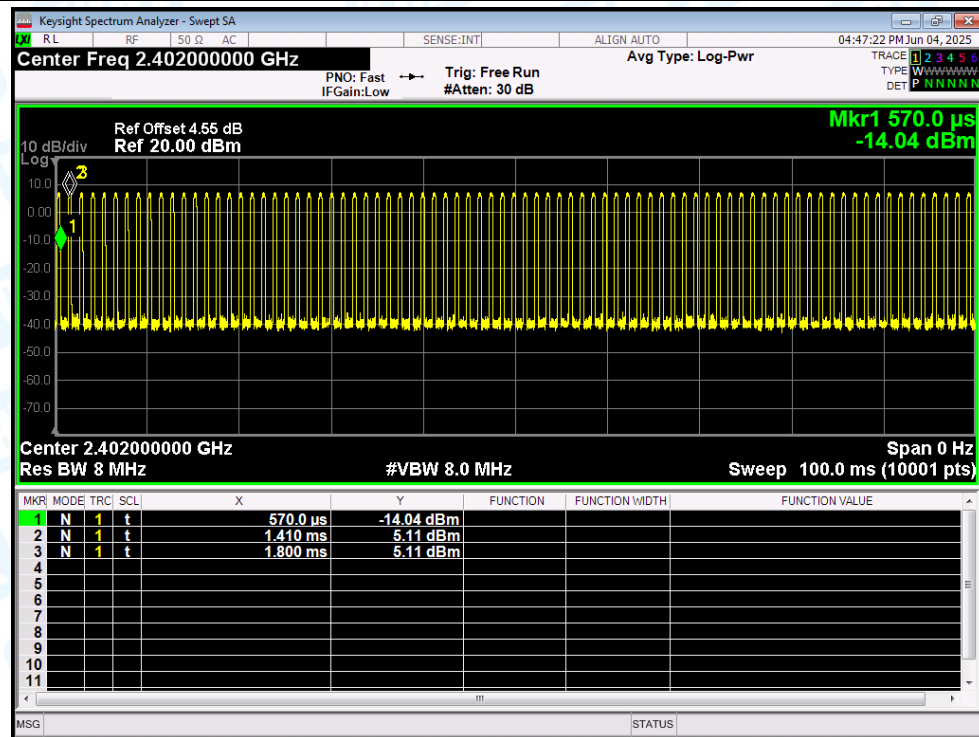
Duty Cycle NVNT 2-DH1 2441MHz Ant1



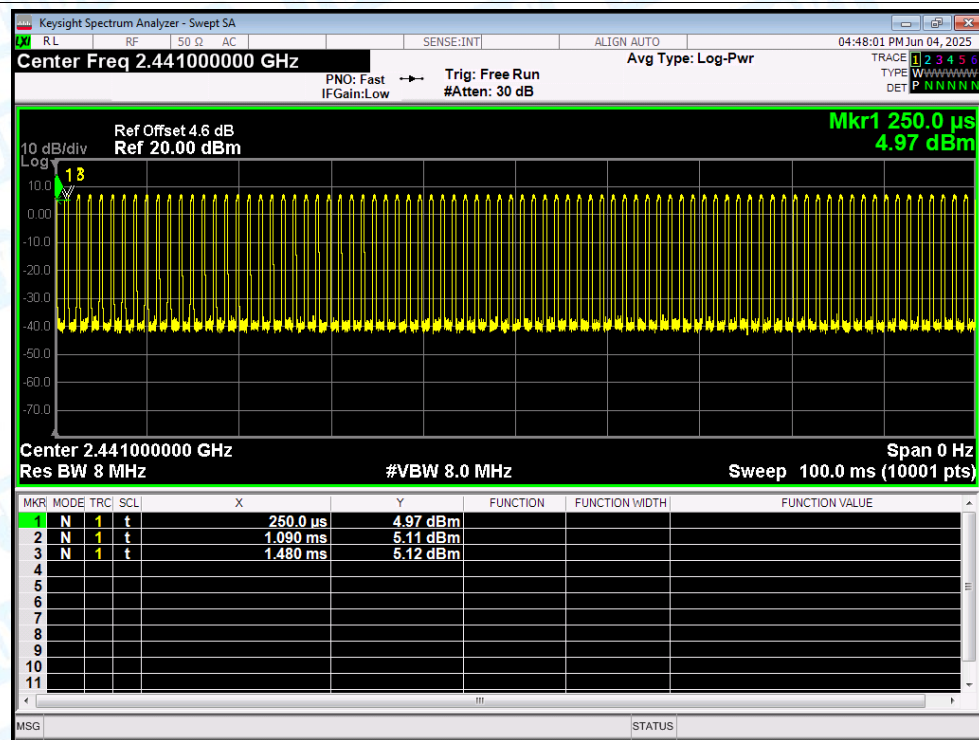
Duty Cycle NVNT 2-DH1 2480MHz Ant1

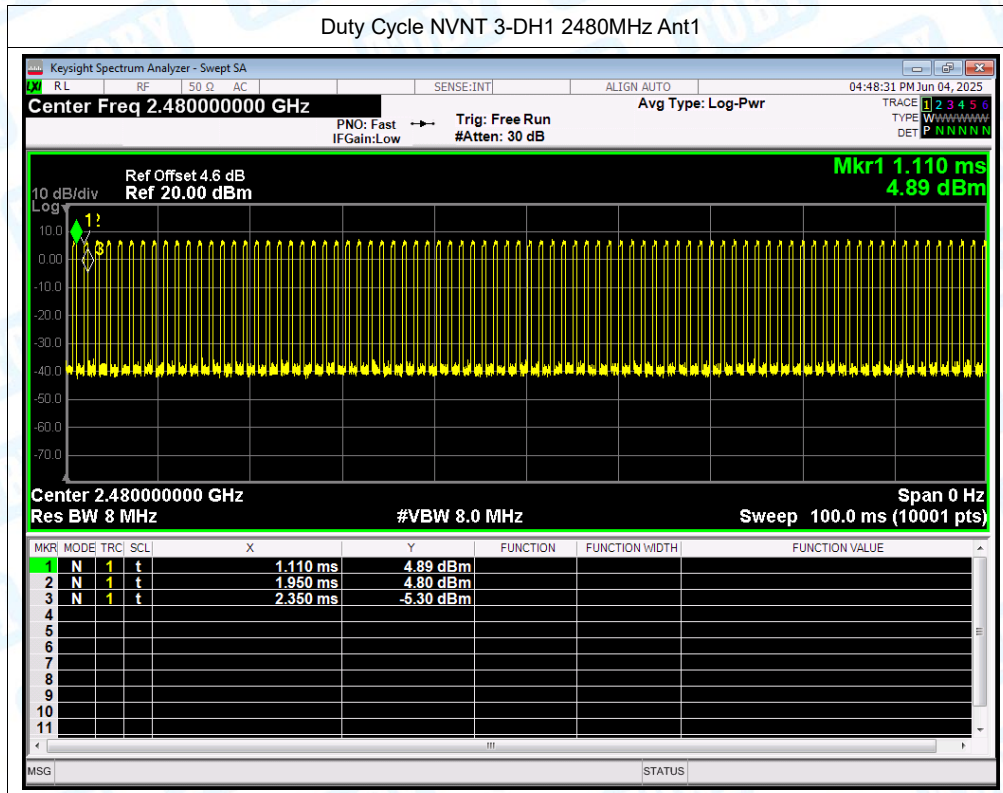


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



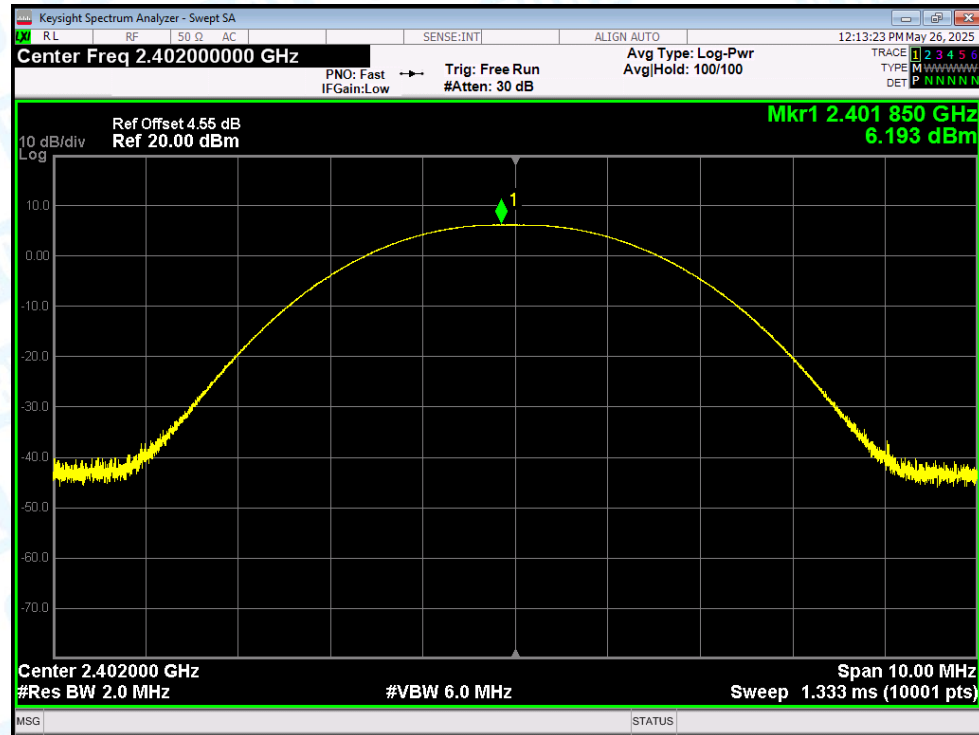


2. Maximum Conducted Output Power

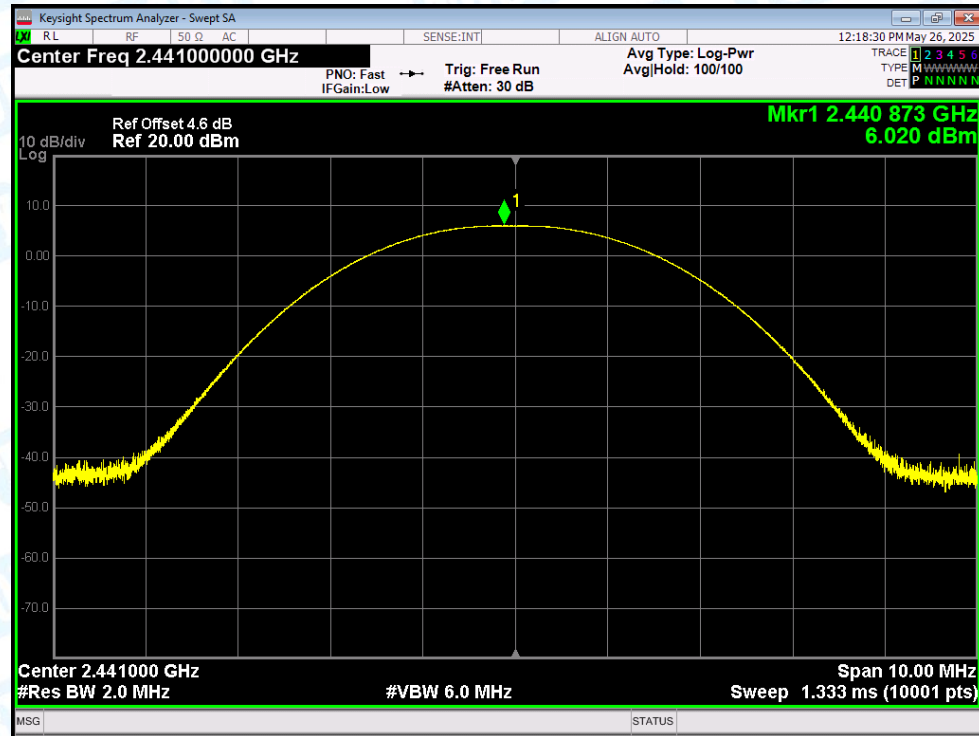
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	6.193	21	Pass
NVNT	1-DH1	2441	Ant1	6.02	21	Pass
NVNT	1-DH1	2480	Ant1	5.878	21	Pass
NVNT	2-DH1	2402	Ant1	6.593	21	Pass
NVNT	2-DH1	2441	Ant1	6.414	21	Pass
NVNT	2-DH1	2480	Ant1	6.235	21	Pass
NVNT	3-DH1	2402	Ant1	6.743	21	Pass
NVNT	3-DH1	2441	Ant1	6.47	21	Pass
NVNT	3-DH1	2480	Ant1	6.268	21	Pass

Test Graphs

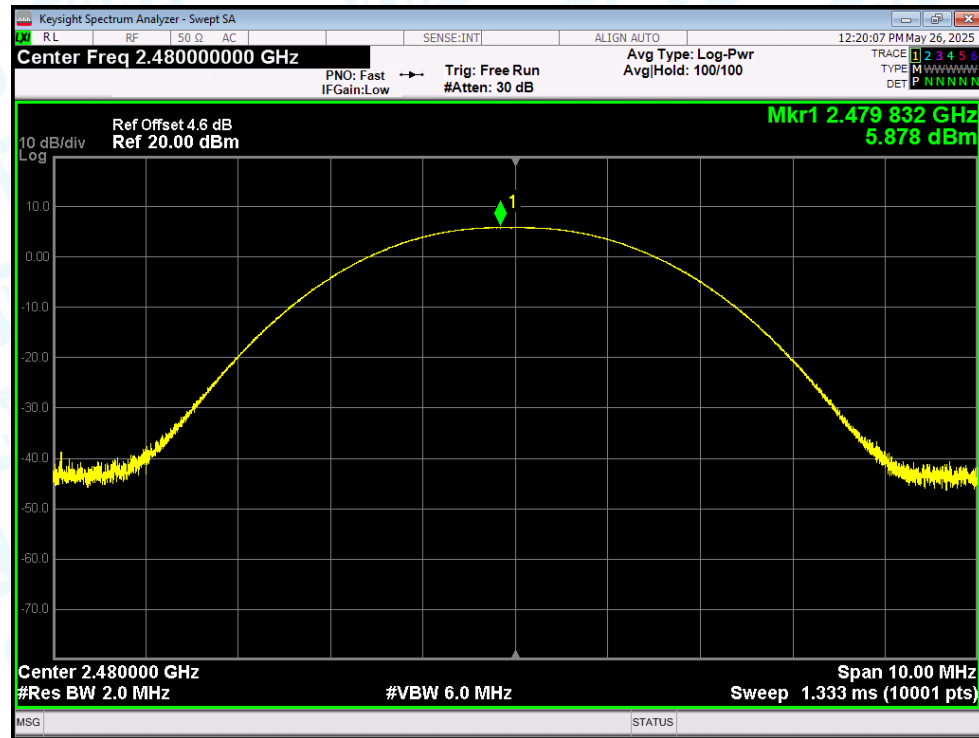
Power NVNT 1-DH1 2402MHz Ant1



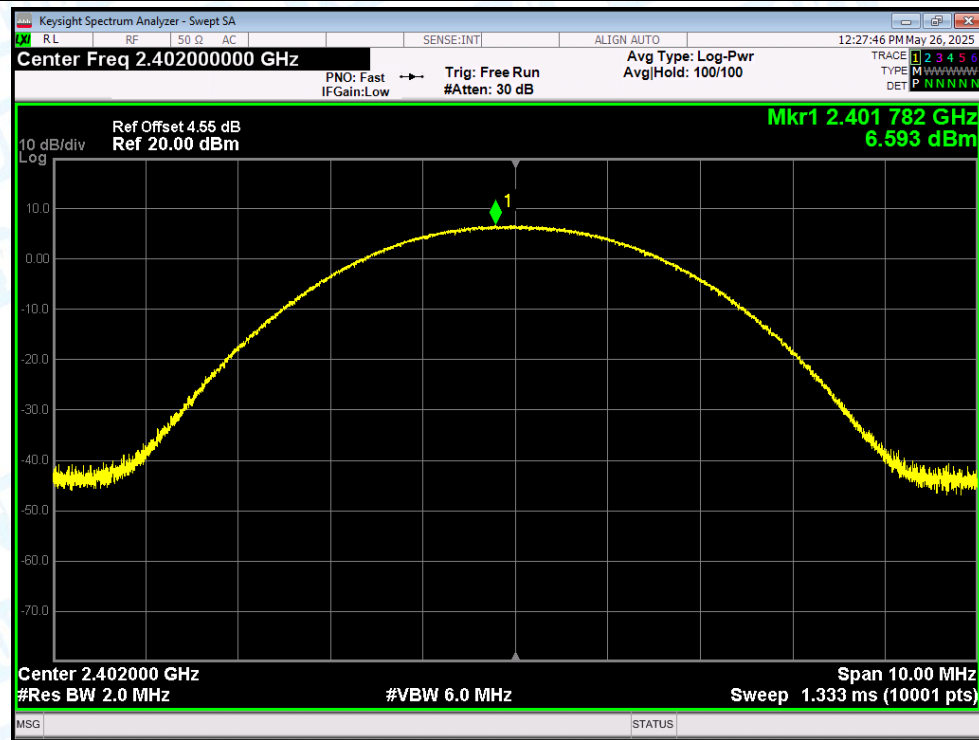
Power NVNT 1-DH1 2441MHz Ant1



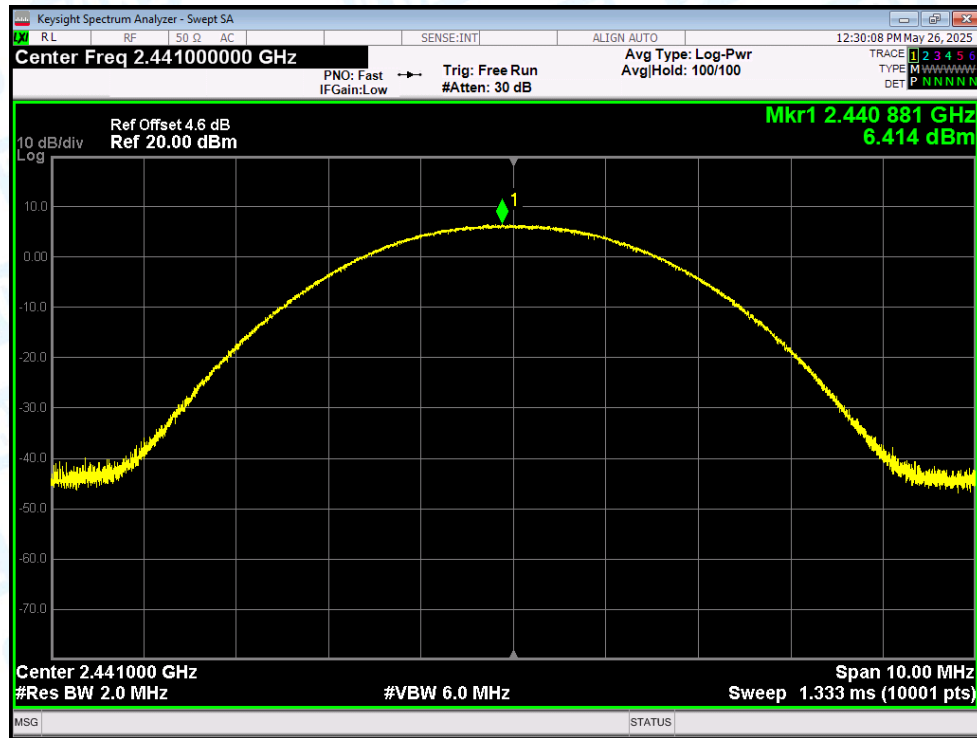
Power NVNT 1-DH1 2480MHz Ant1



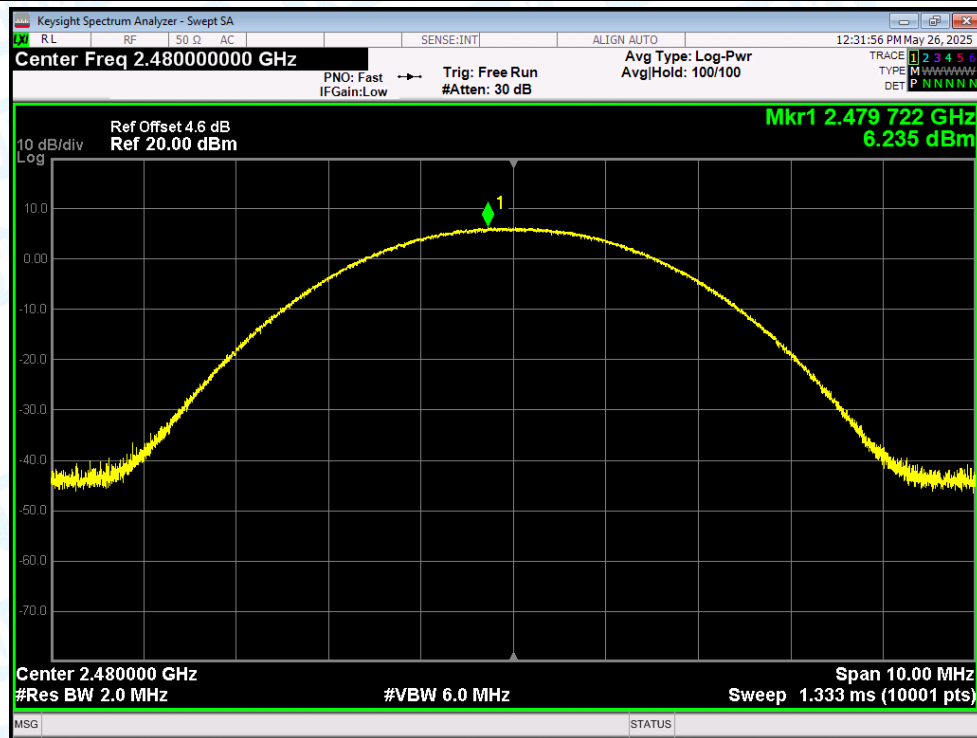
Power NVNT 2-DH1 2402MHz Ant1



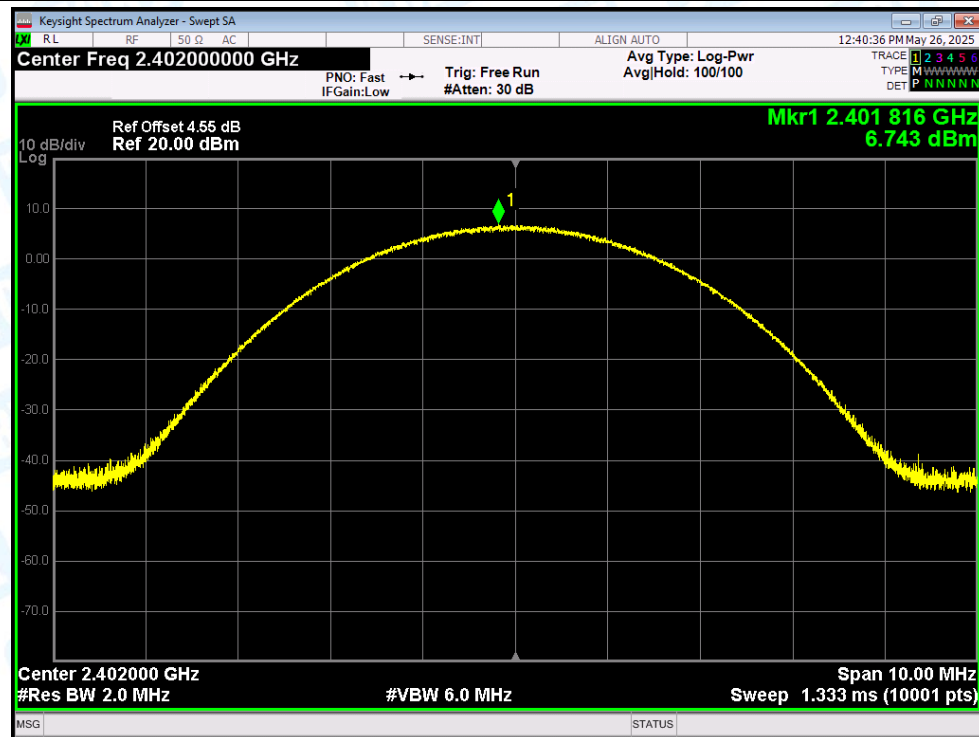
Power NVNT 2-DH1 2441MHz Ant1



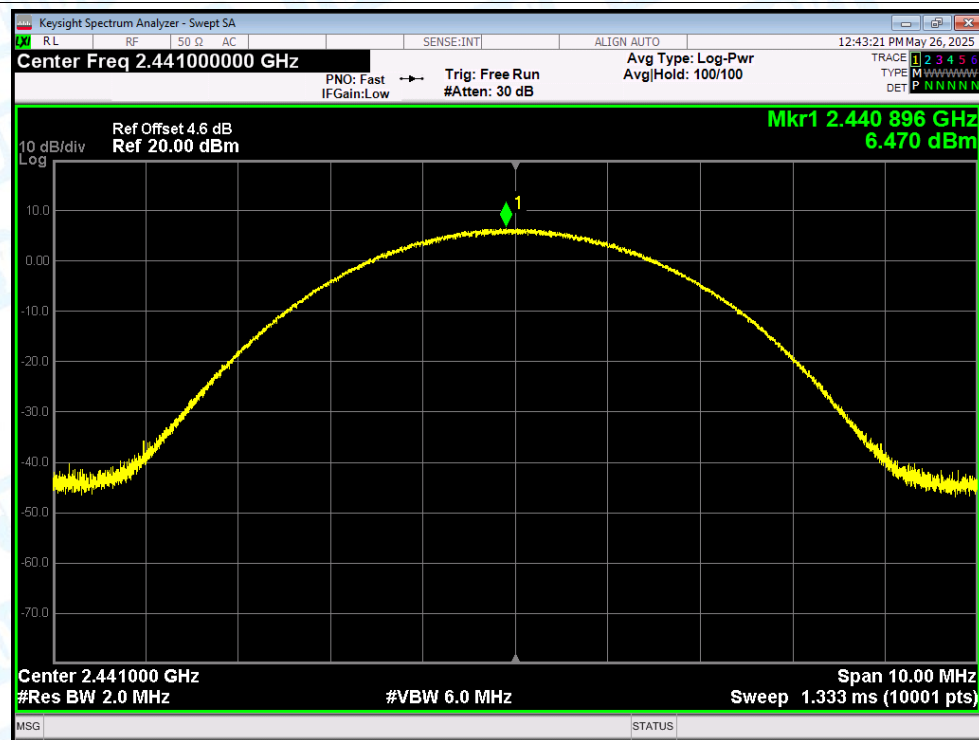
Power NVNT 2-DH1 2480MHz Ant1

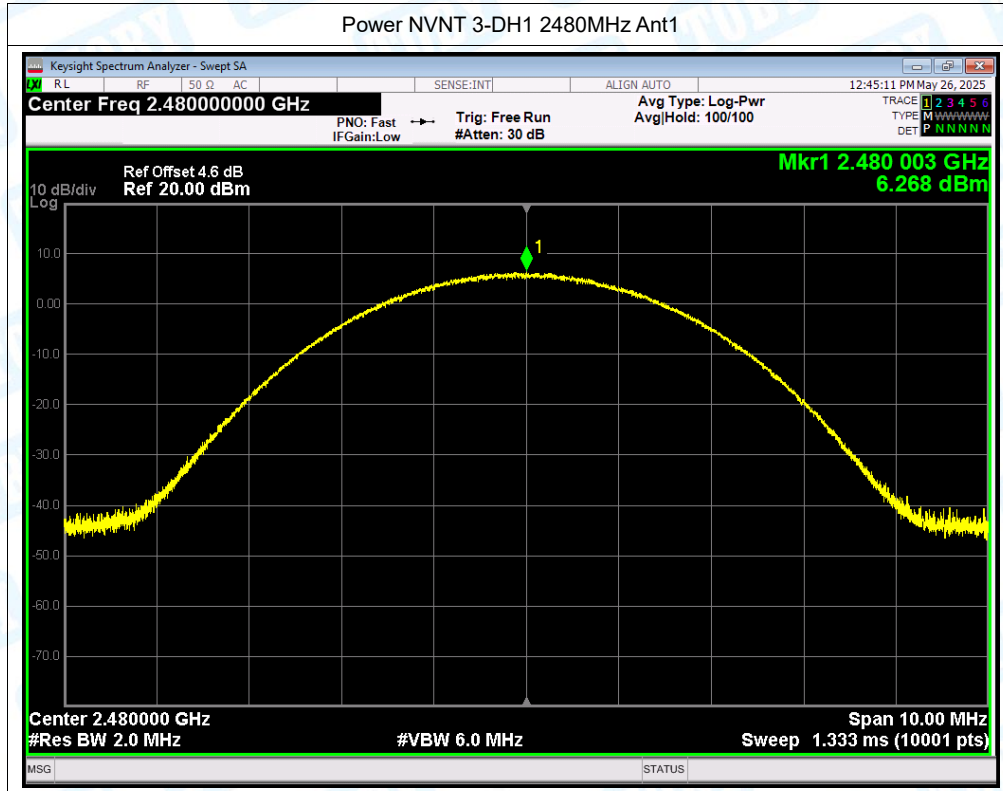


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



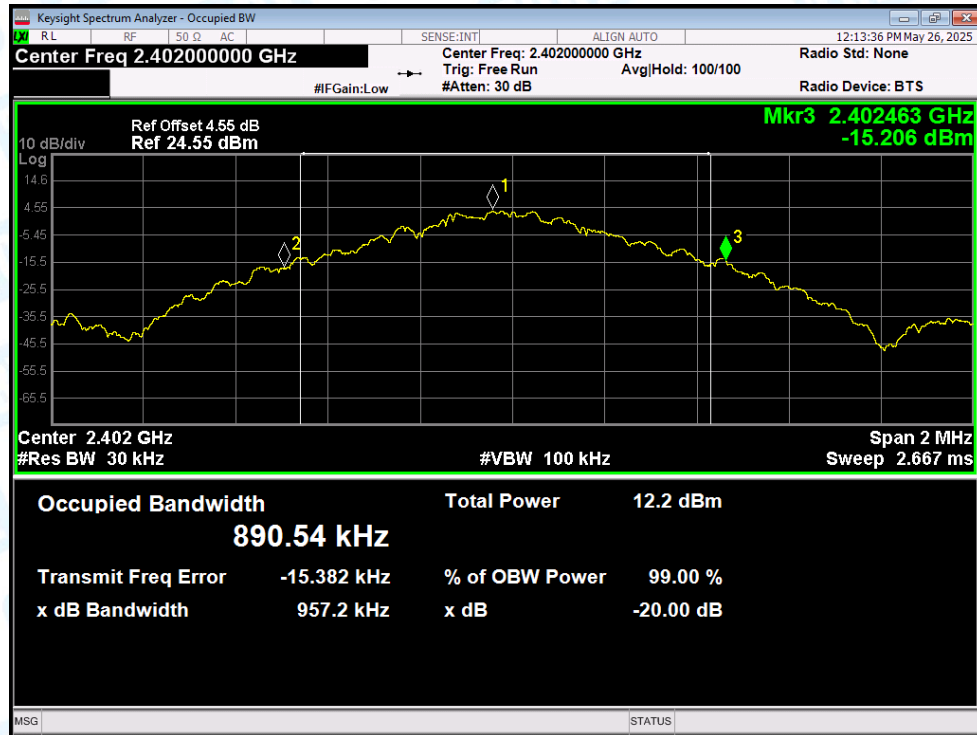


3. -20dB Bandwidth

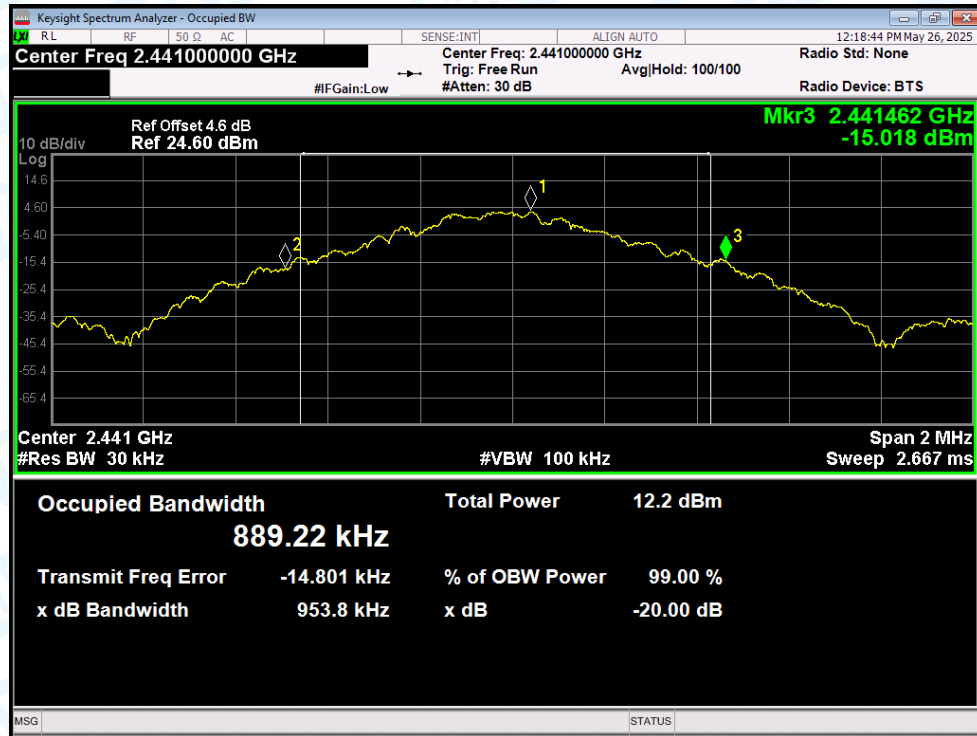
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.96	0	Pass
NVNT	1-DH1	2441	Ant1	0.95	0	Pass
NVNT	1-DH1	2480	Ant1	0.96	0	Pass
NVNT	2-DH1	2402	Ant1	1.36	0	Pass
NVNT	2-DH1	2441	Ant1	1.36	0	Pass
NVNT	2-DH1	2480	Ant1	1.36	0	Pass
NVNT	3-DH1	2402	Ant1	1.35	0	Pass
NVNT	3-DH1	2441	Ant1	1.35	0	Pass
NVNT	3-DH1	2480	Ant1	1.35	0	Pass

Test Graphs

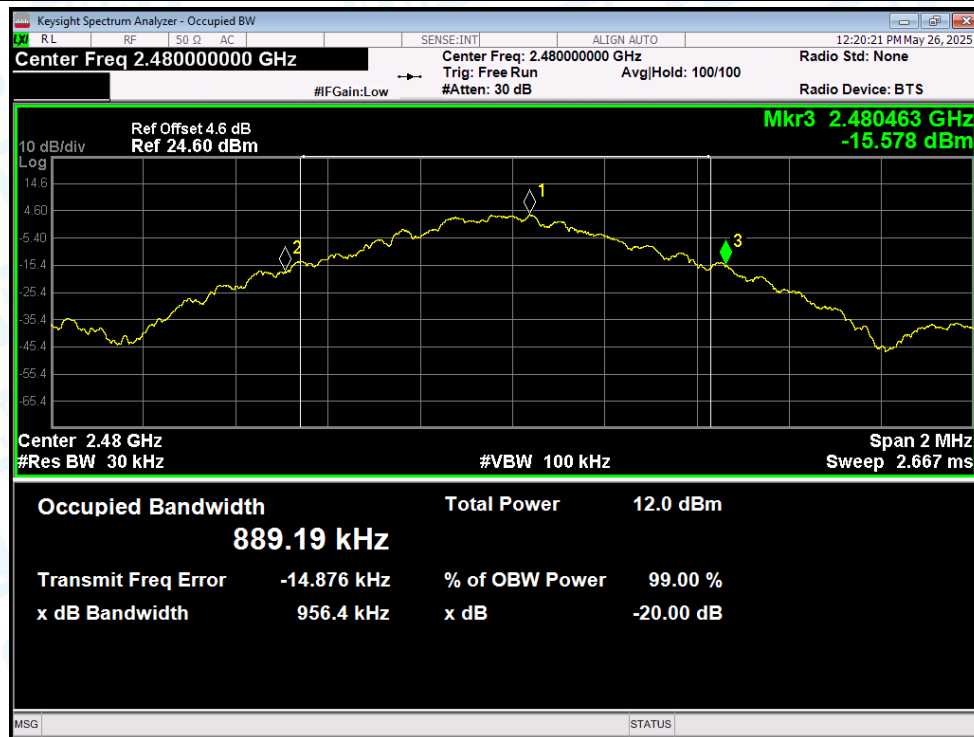
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



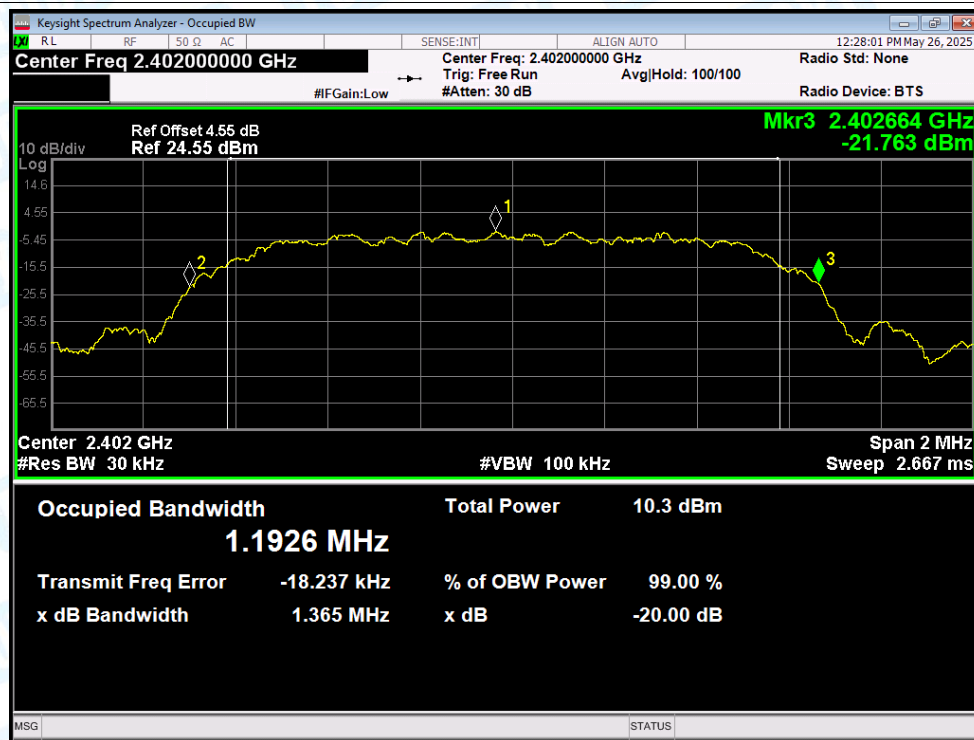
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



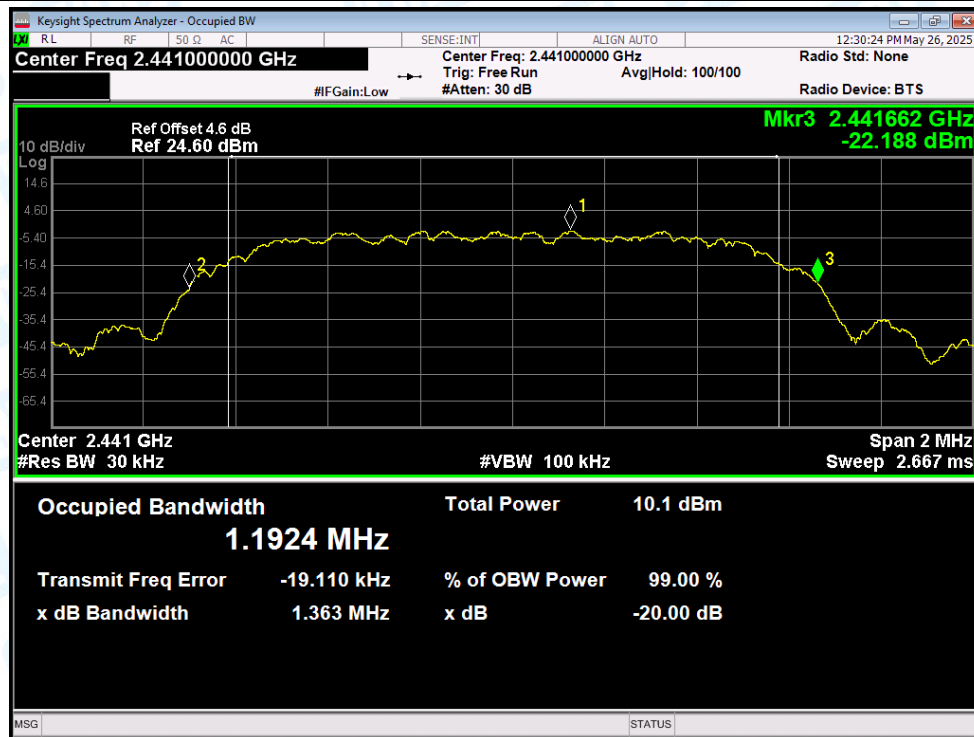
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



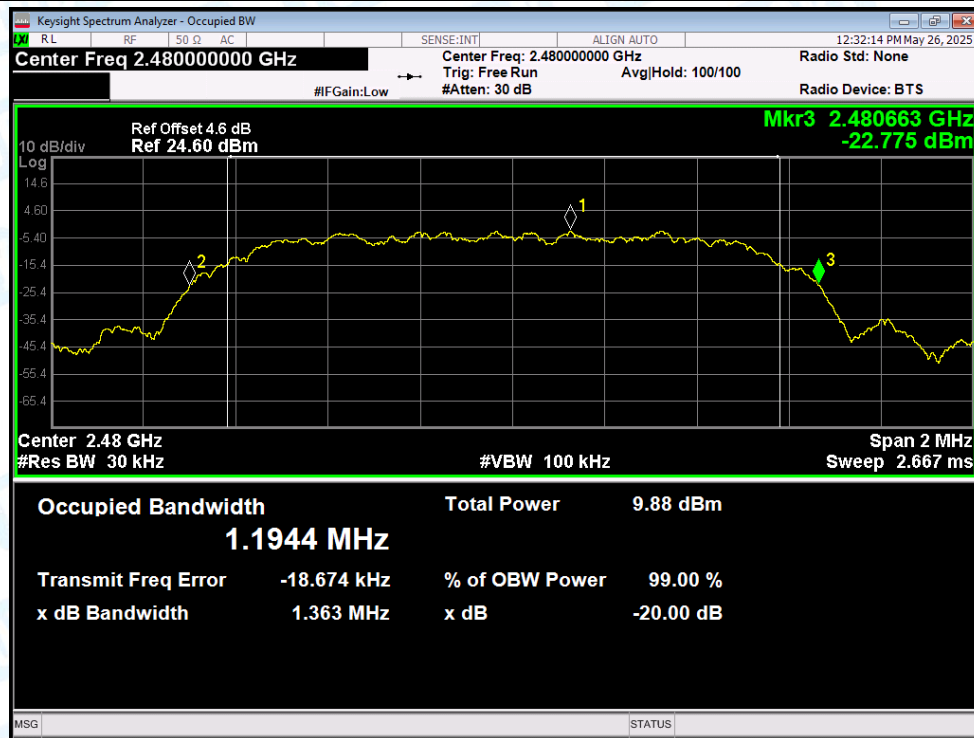
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



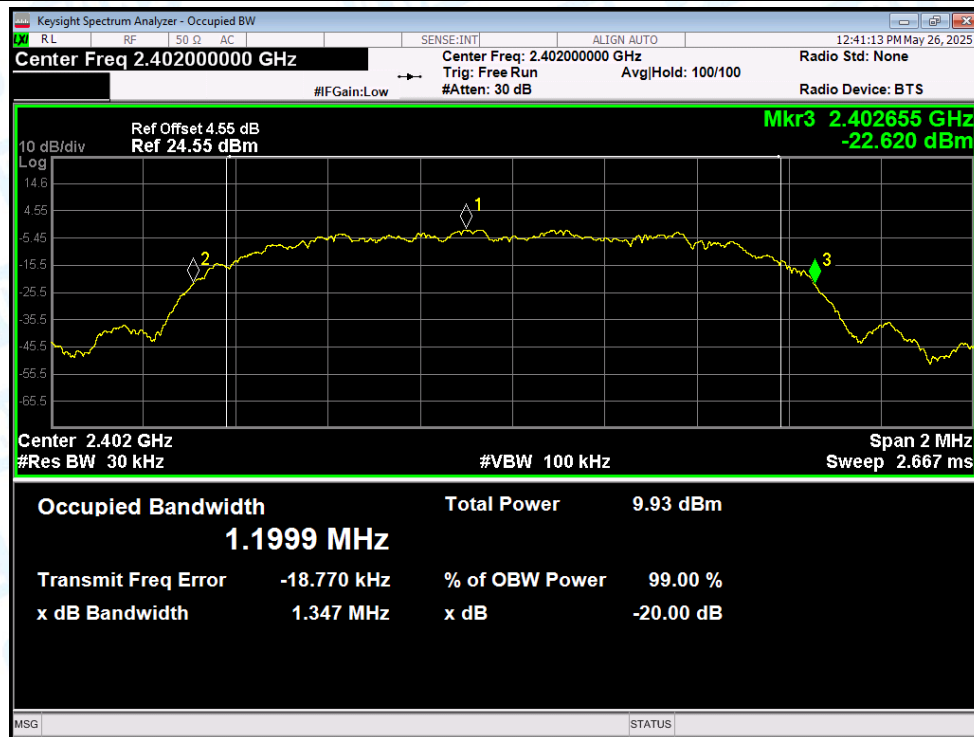
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



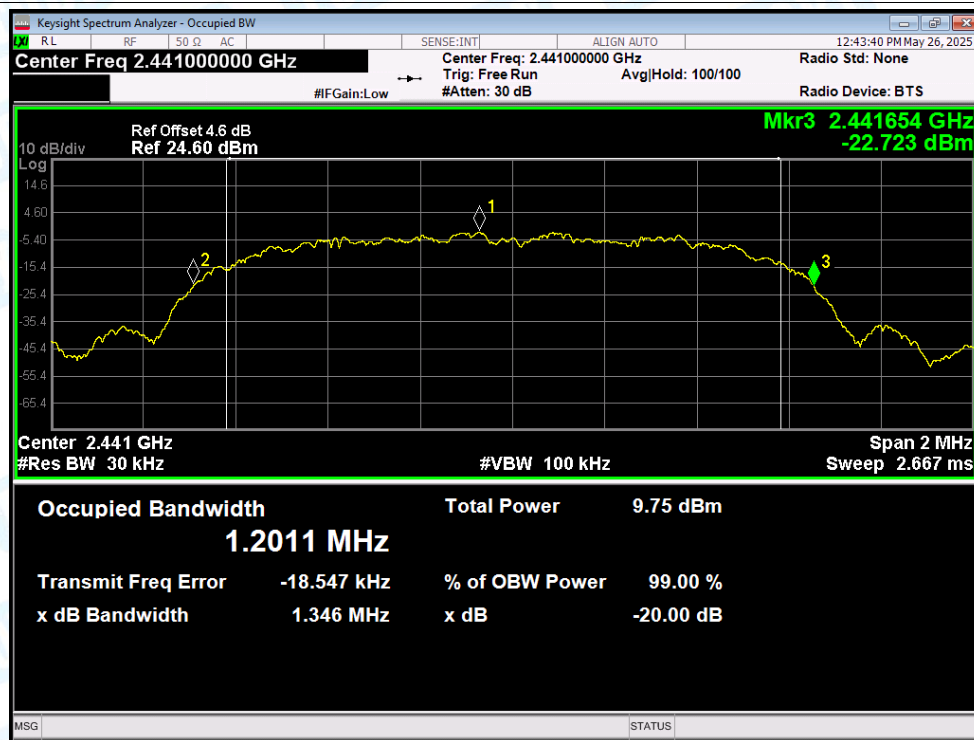
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

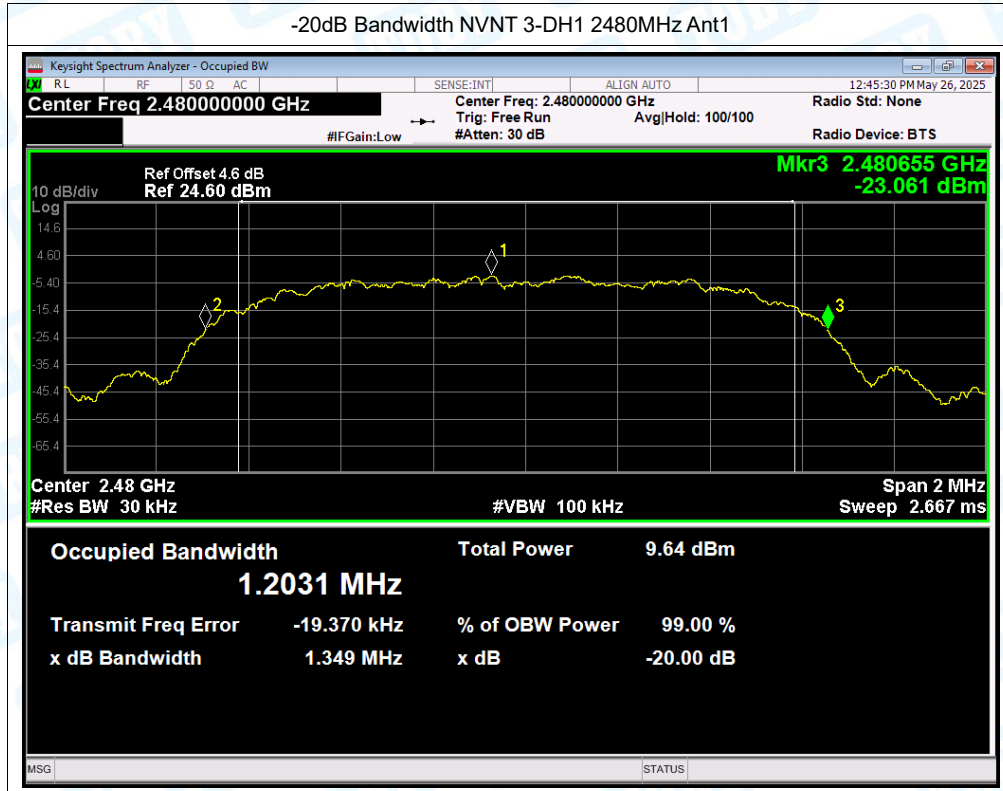


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



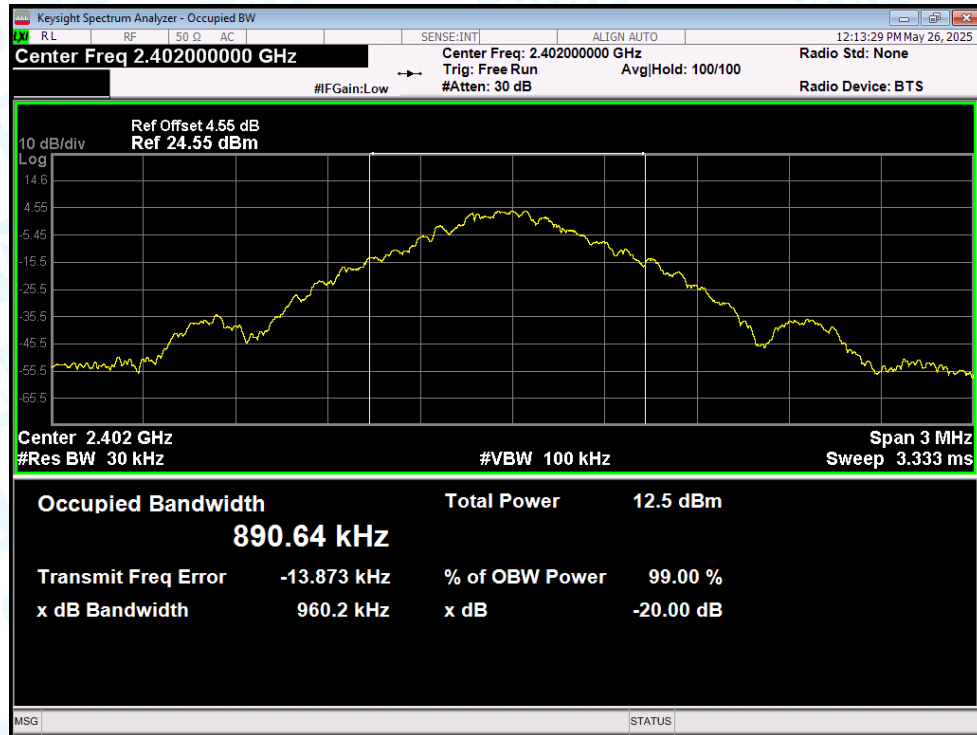


4. Occupied Channel Bandwidth

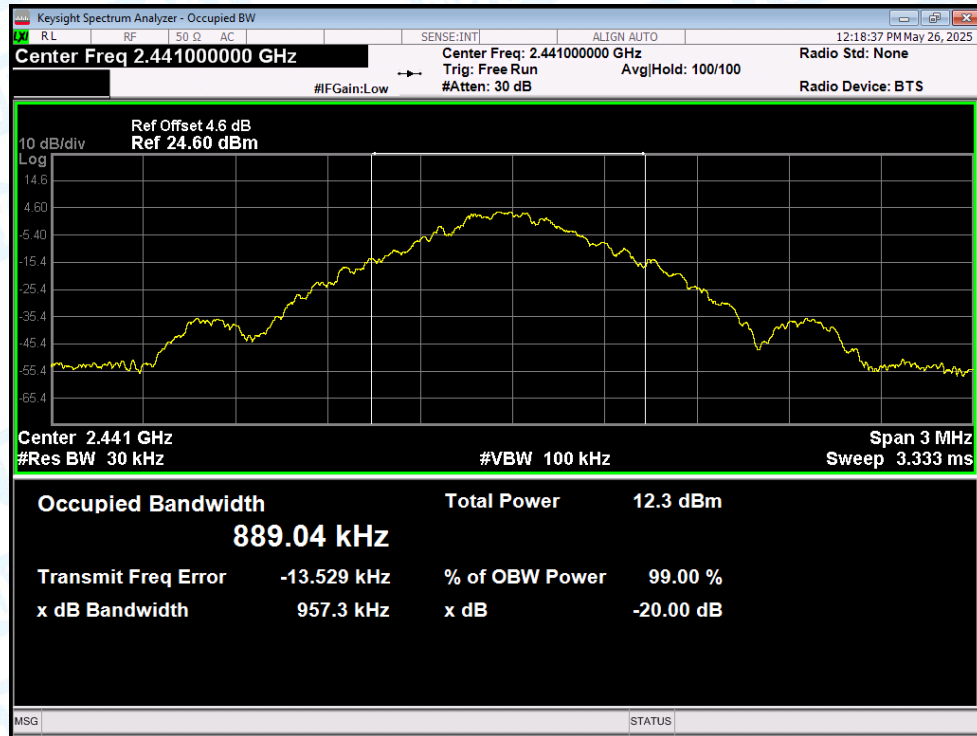
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.891
NVNT	1-DH1	2441	Ant1	0.889
NVNT	1-DH1	2480	Ant1	0.882
NVNT	2-DH1	2402	Ant1	1.193
NVNT	2-DH1	2441	Ant1	1.195
NVNT	2-DH1	2480	Ant1	1.194
NVNT	3-DH1	2402	Ant1	1.188
NVNT	3-DH1	2441	Ant1	1.196
NVNT	3-DH1	2480	Ant1	1.201

Test Graphs

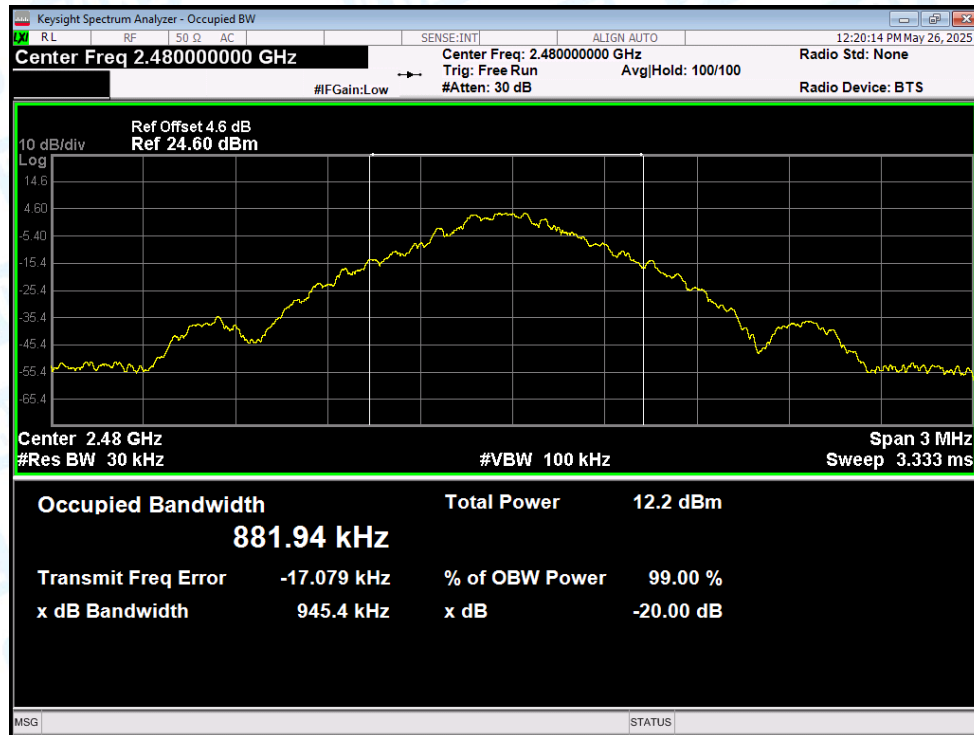
OBW NVNT 1-DH1 2402MHz Ant1



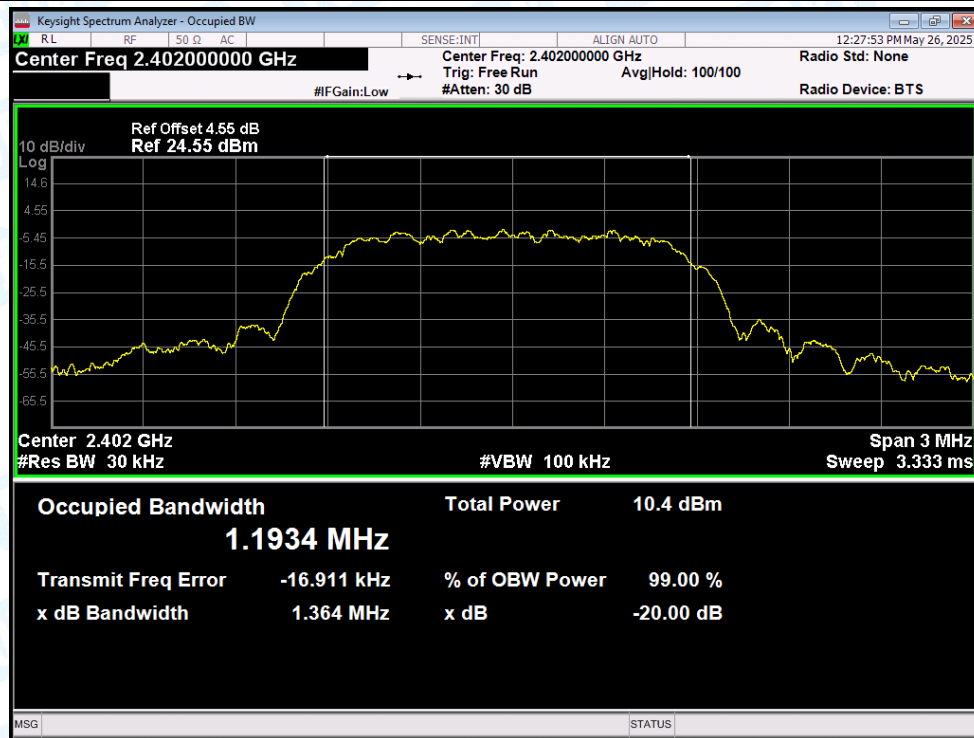
OBW NVNT 1-DH1 2441MHz Ant1



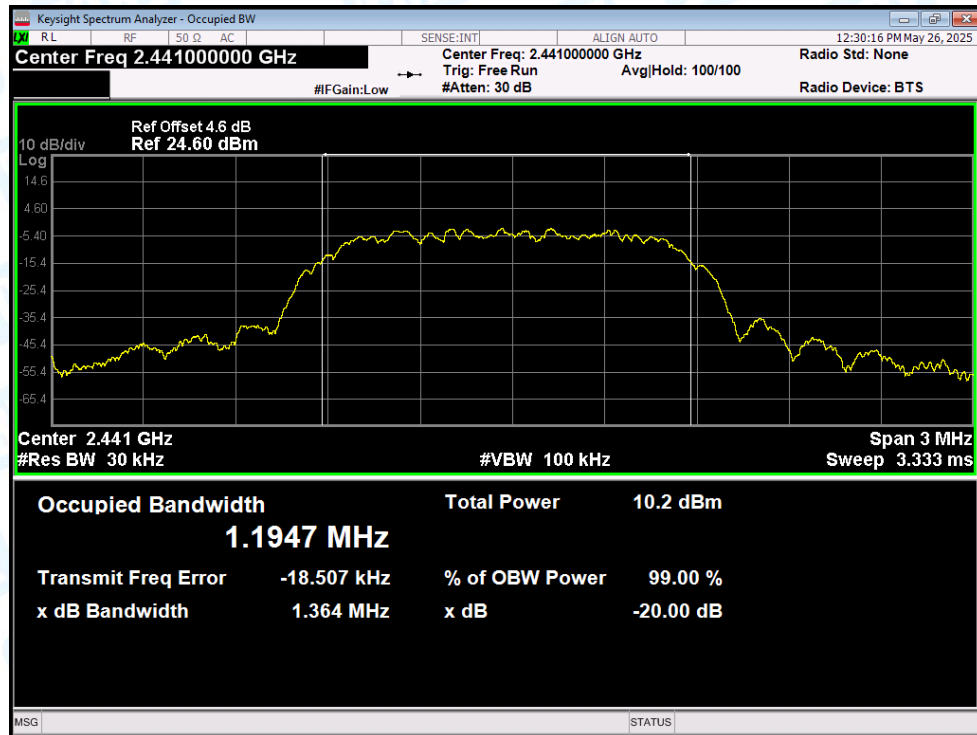
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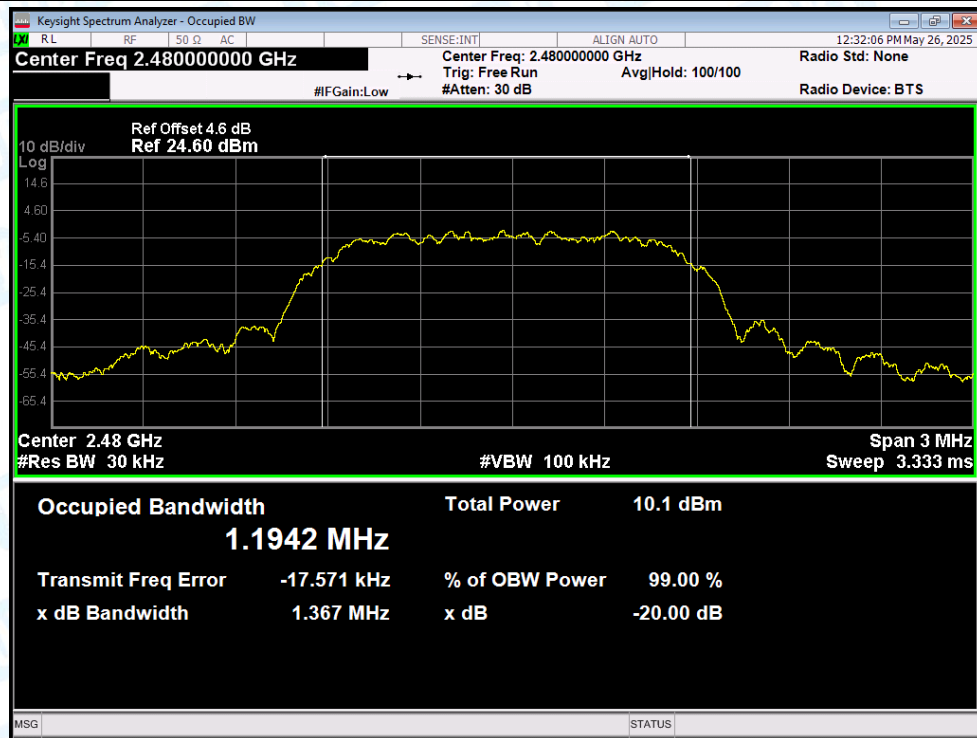
OBW NVNT 2-DH1 2402MHz Ant1



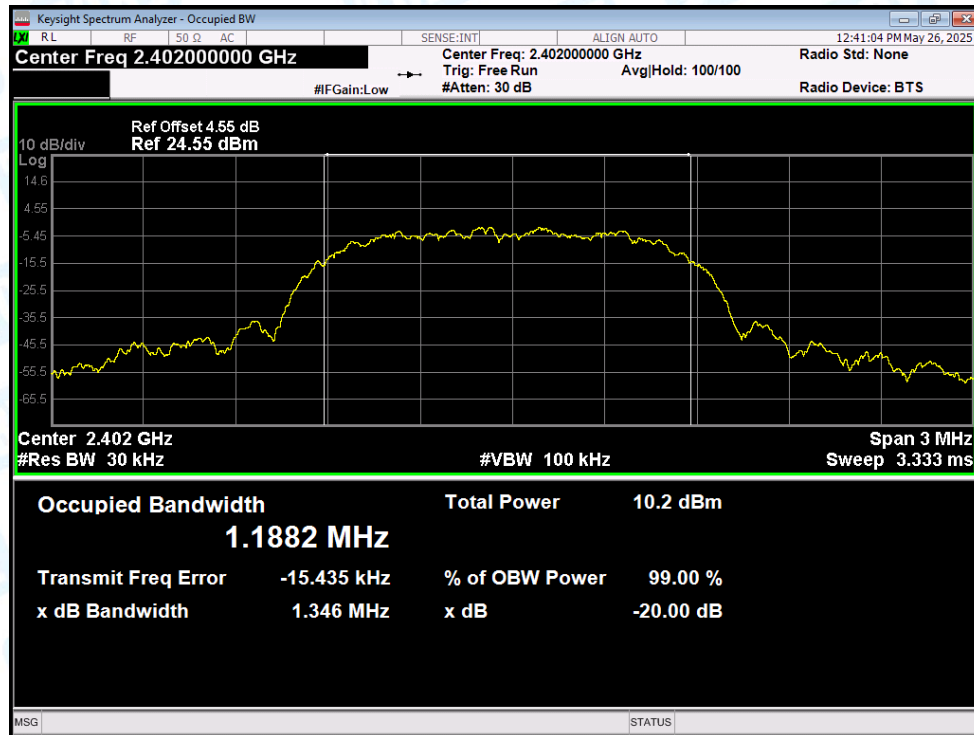
OBW NVNT 2-DH1 2441MHz Ant1



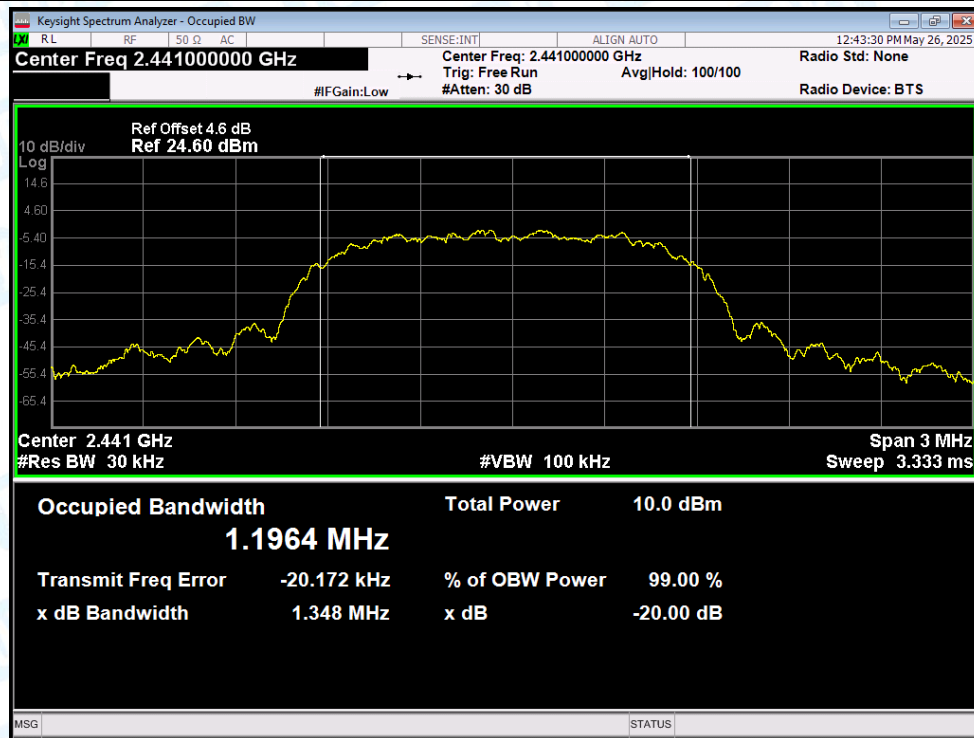
OBW NVNT 2-DH1 2480MHz Ant1

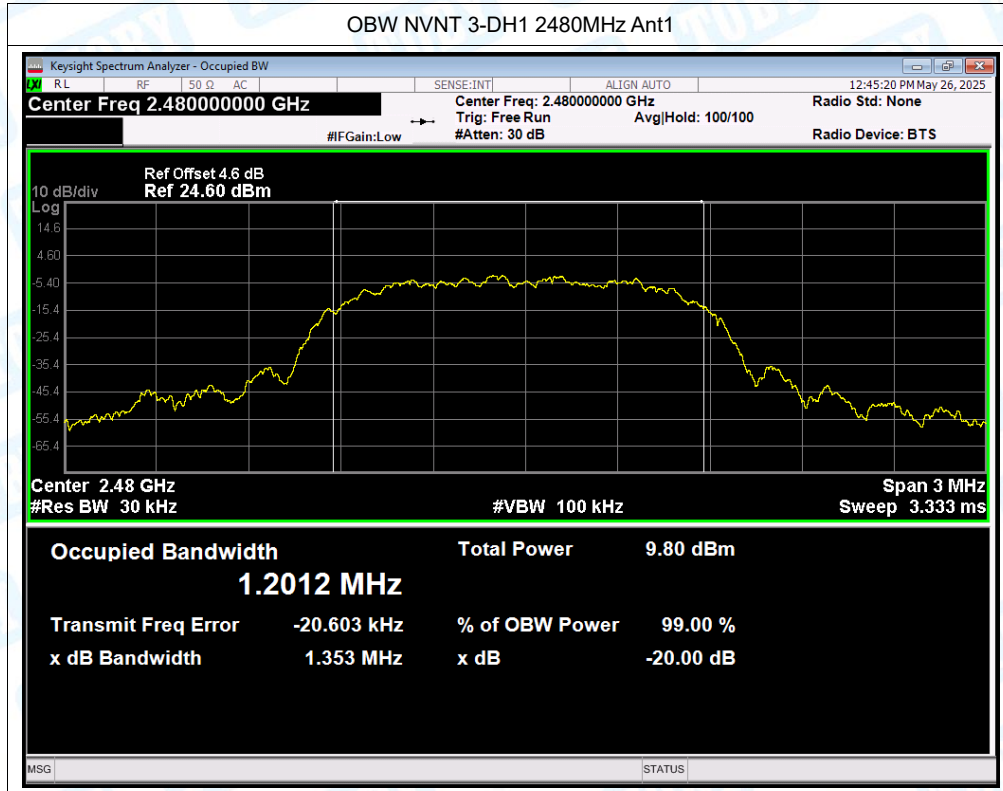


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



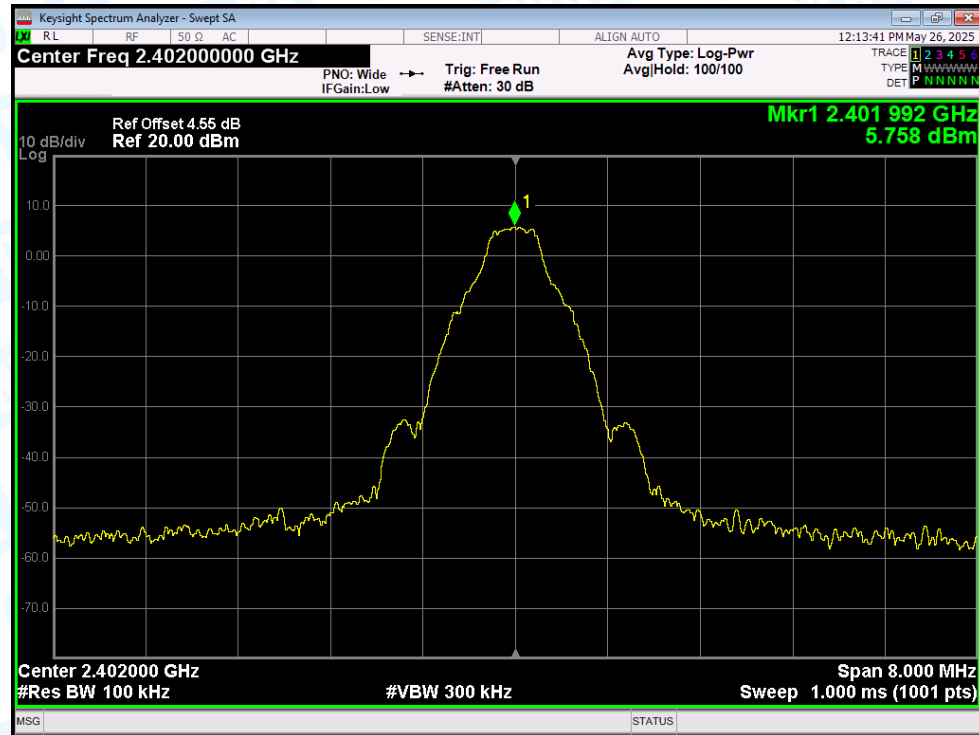


5. Band Edge

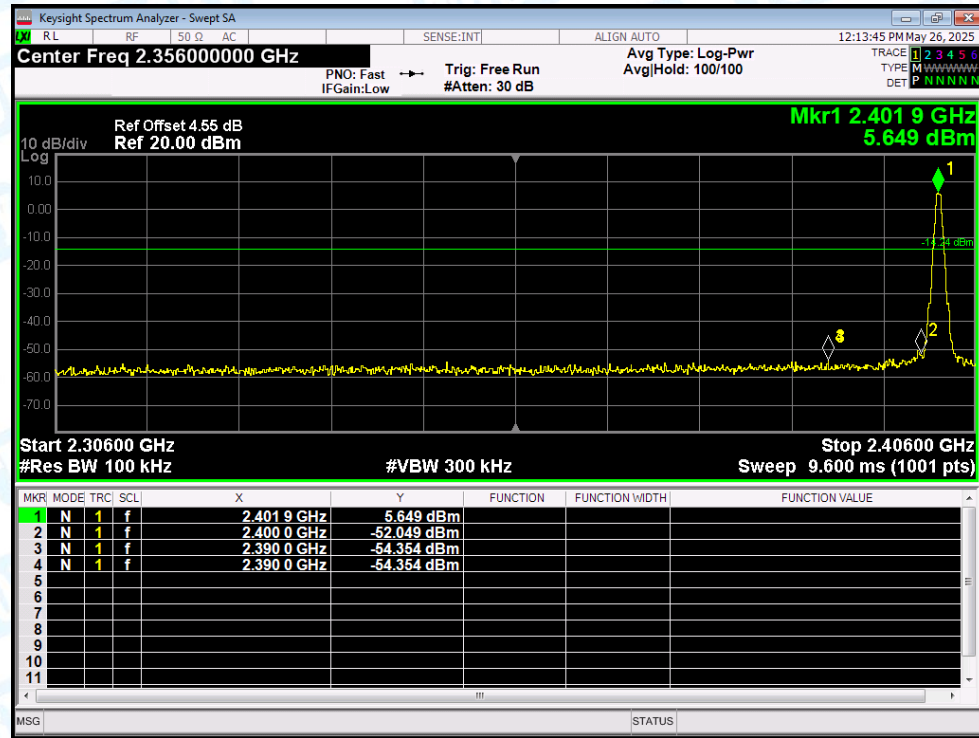
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-60.11	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-59.04	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-56.38	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-55.64	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-56.59	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-55.86	-20	Pass

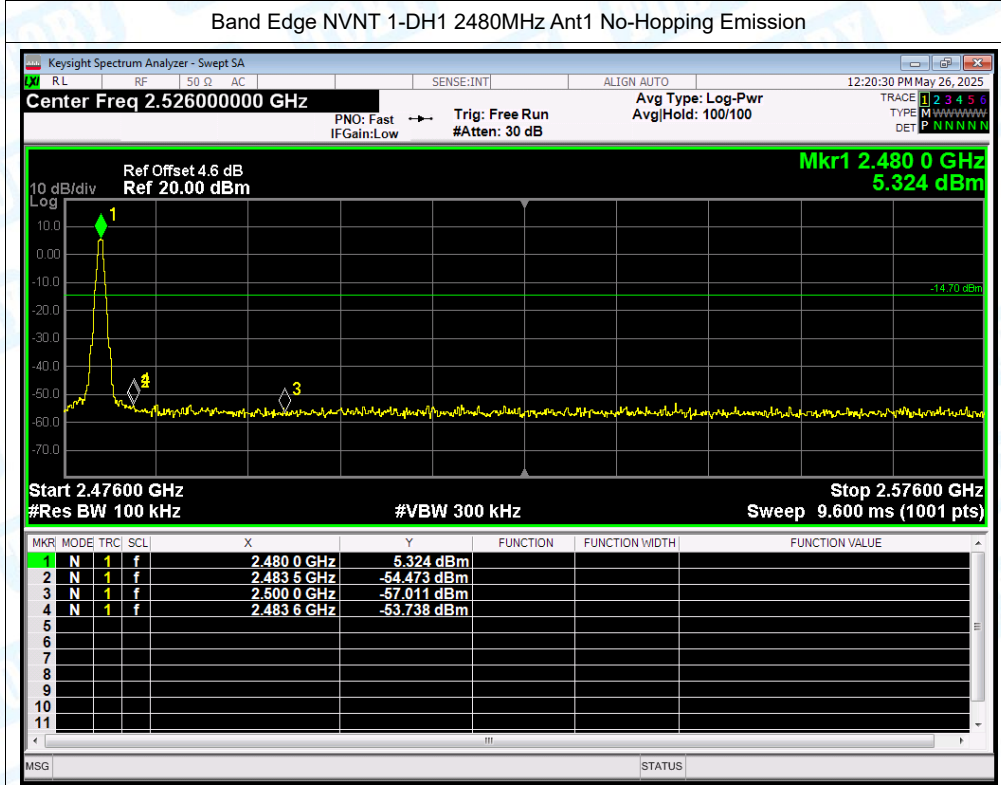
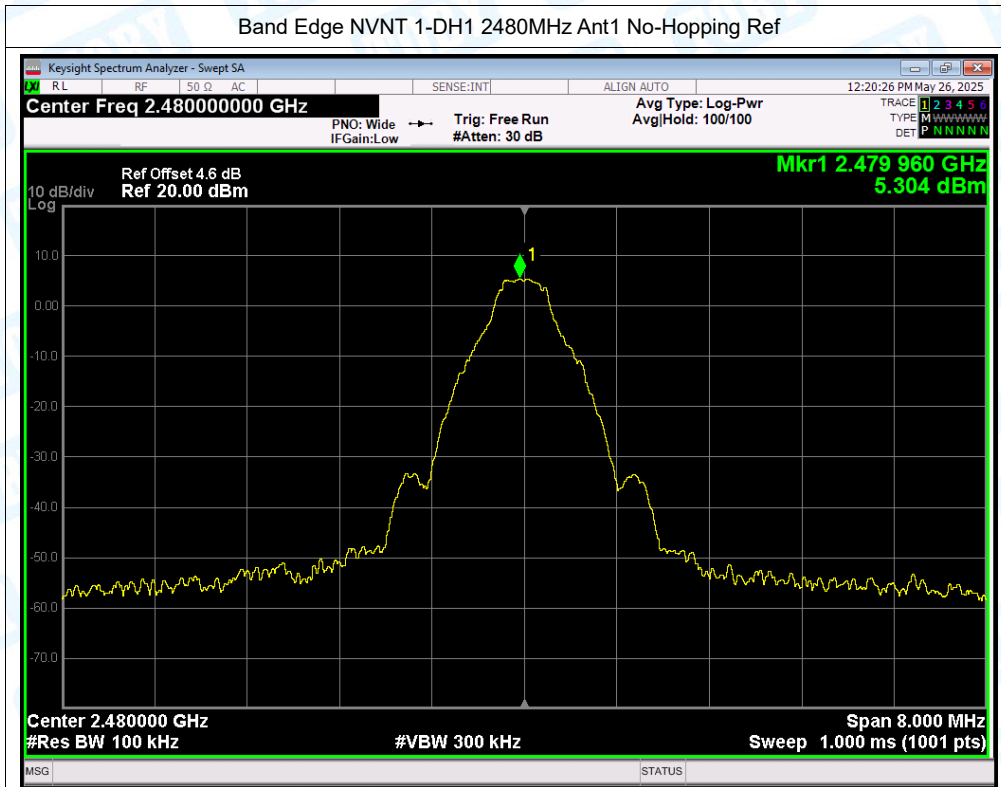
Test Graphs

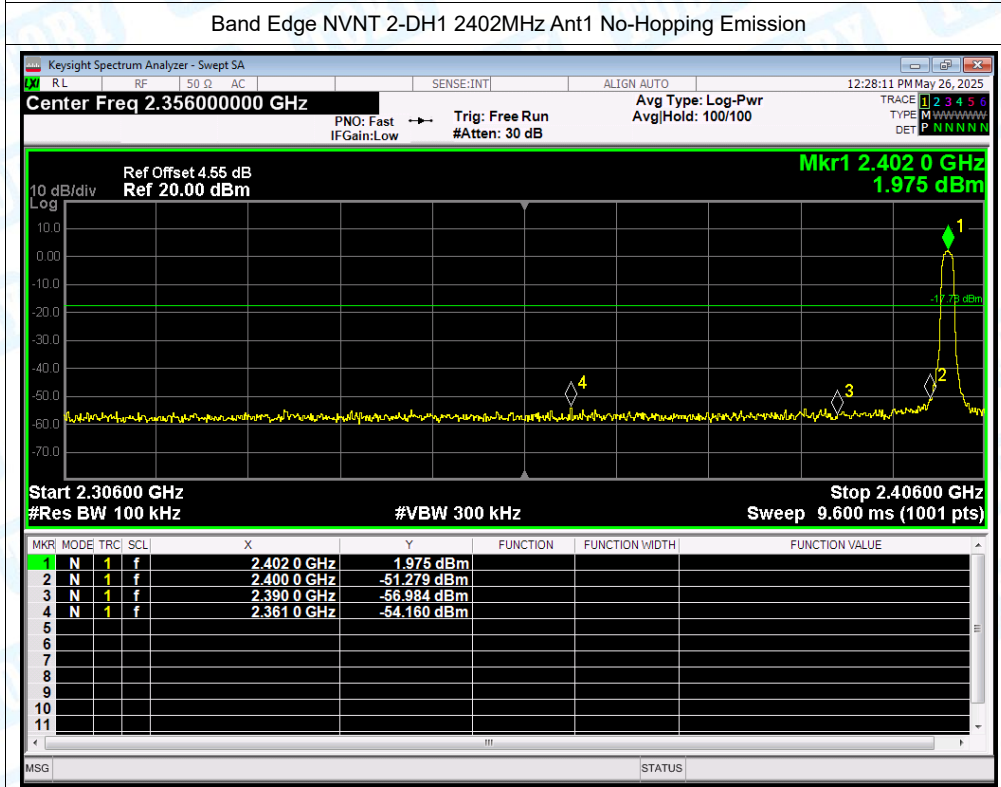
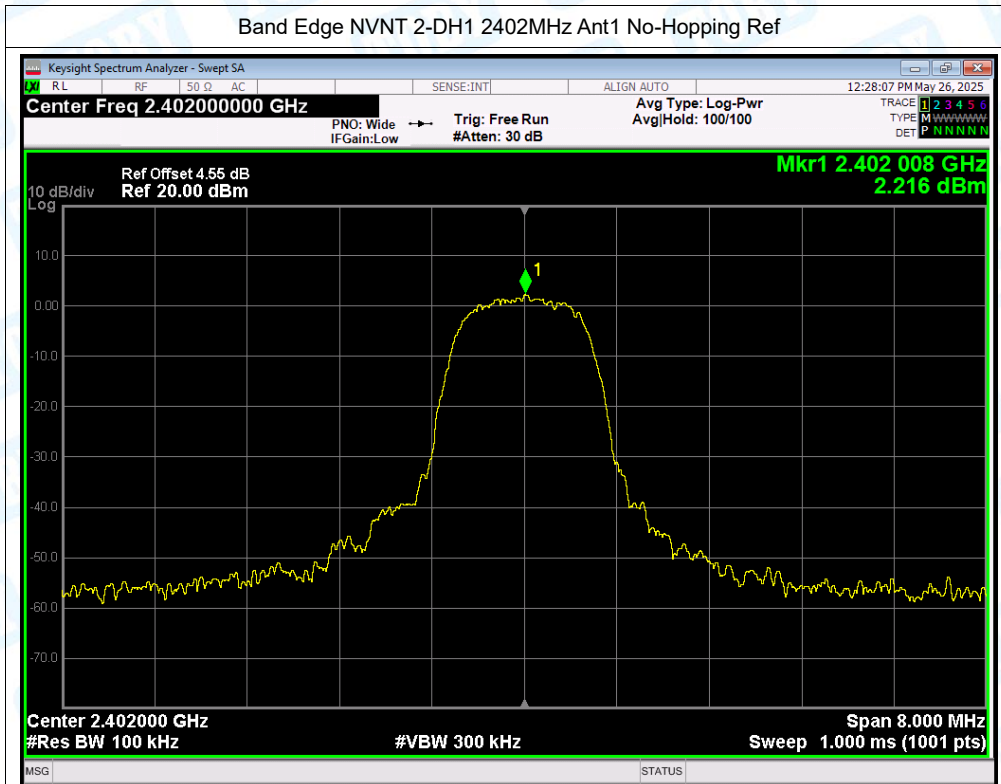
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref

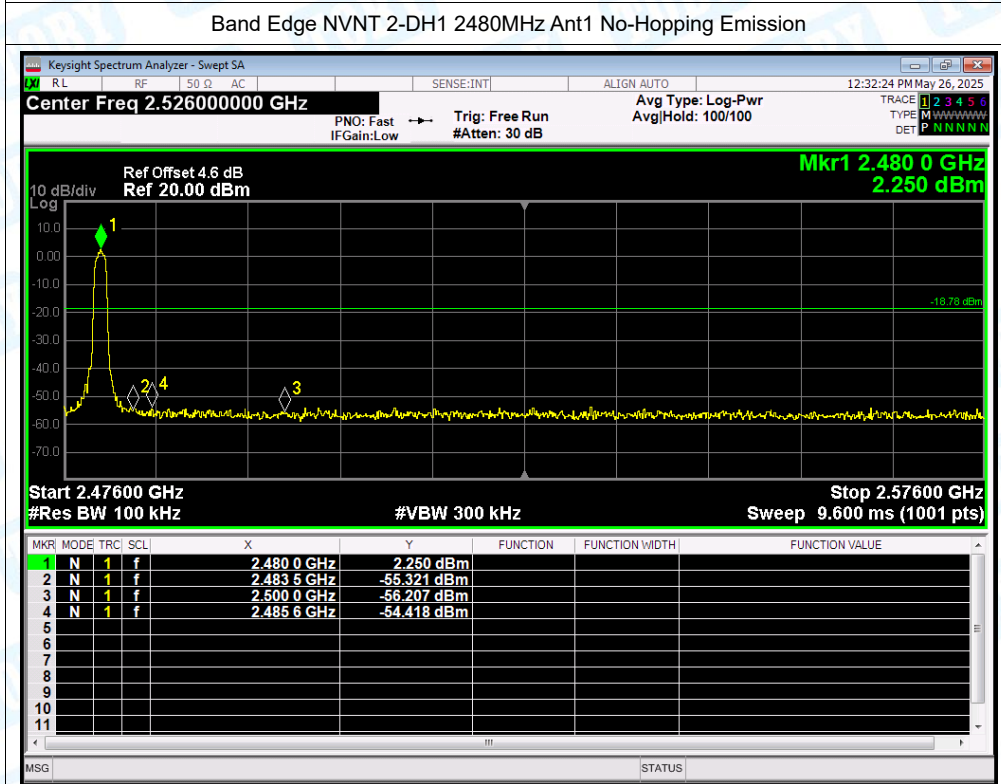
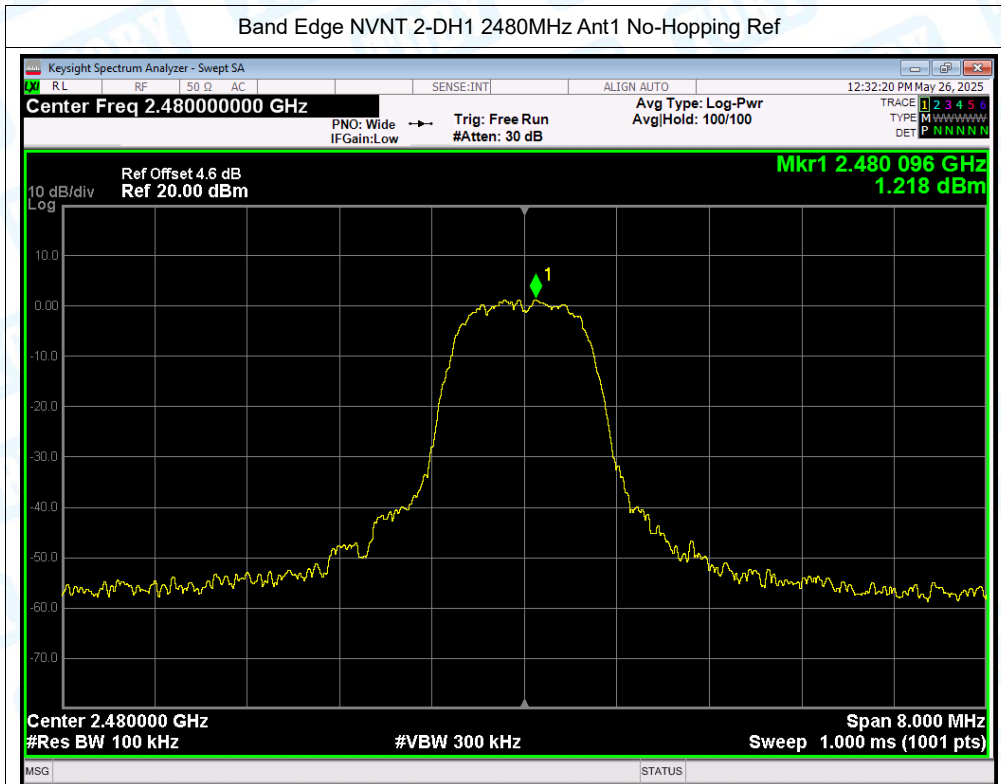


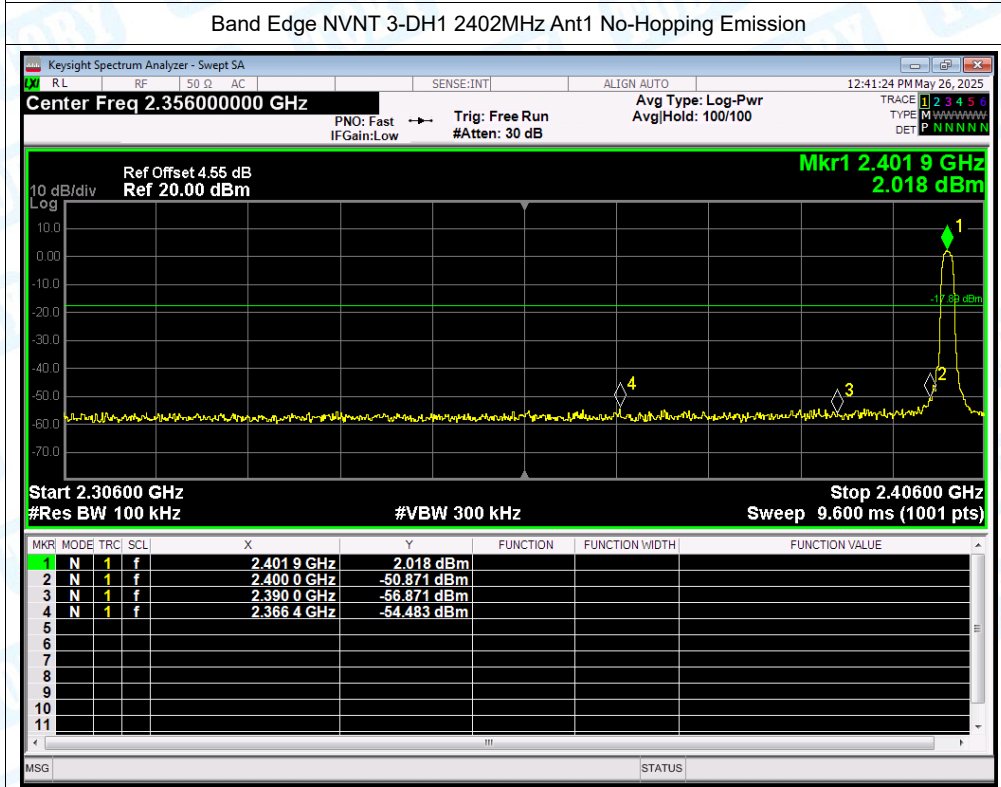
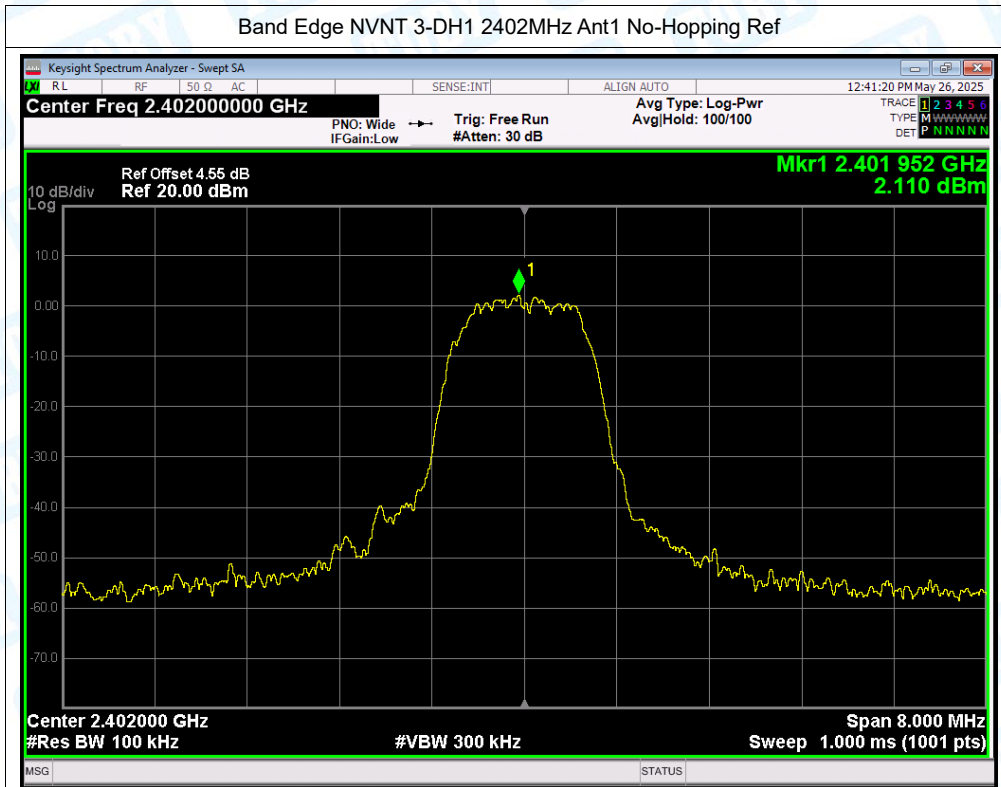
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

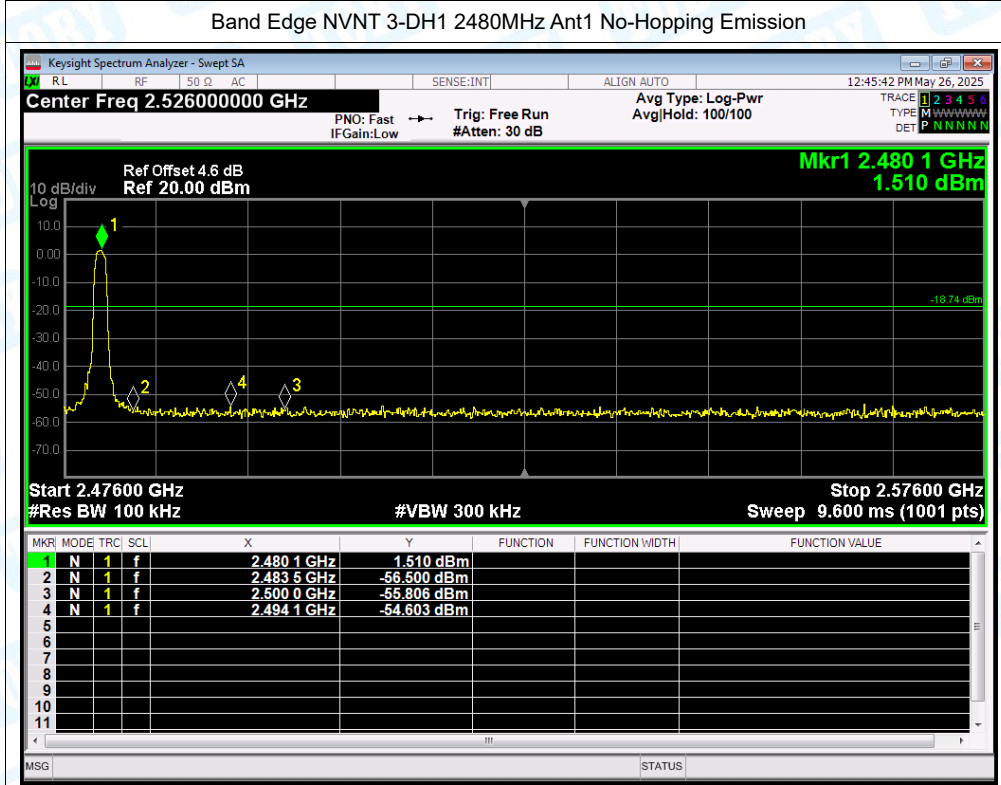
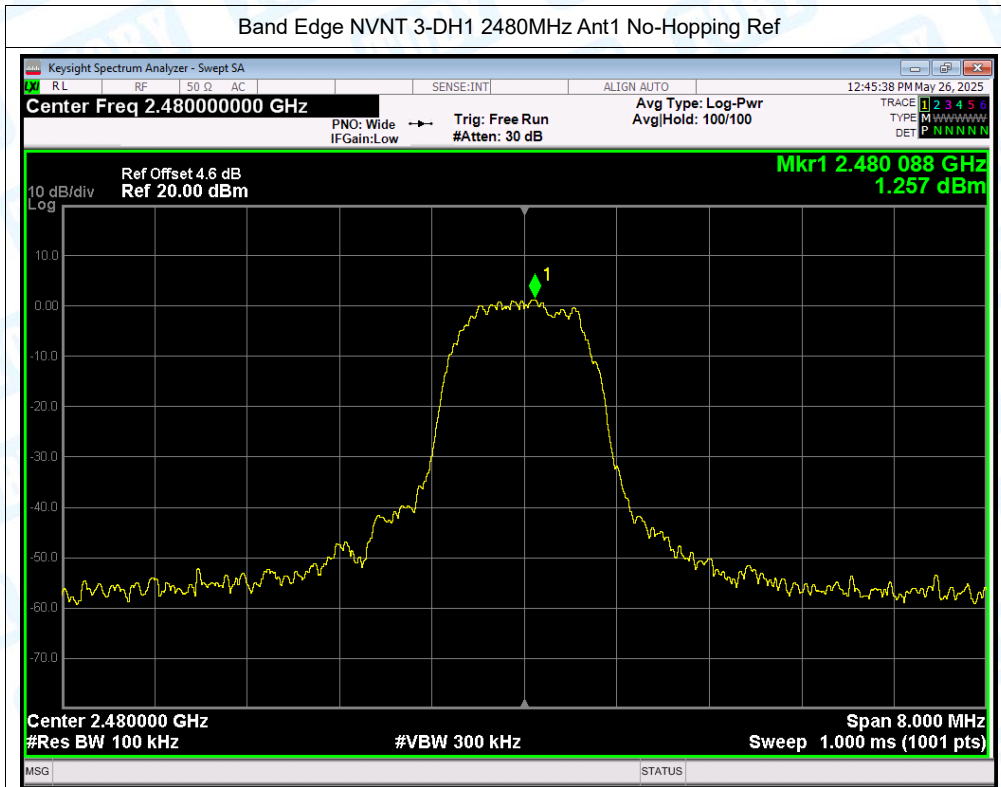










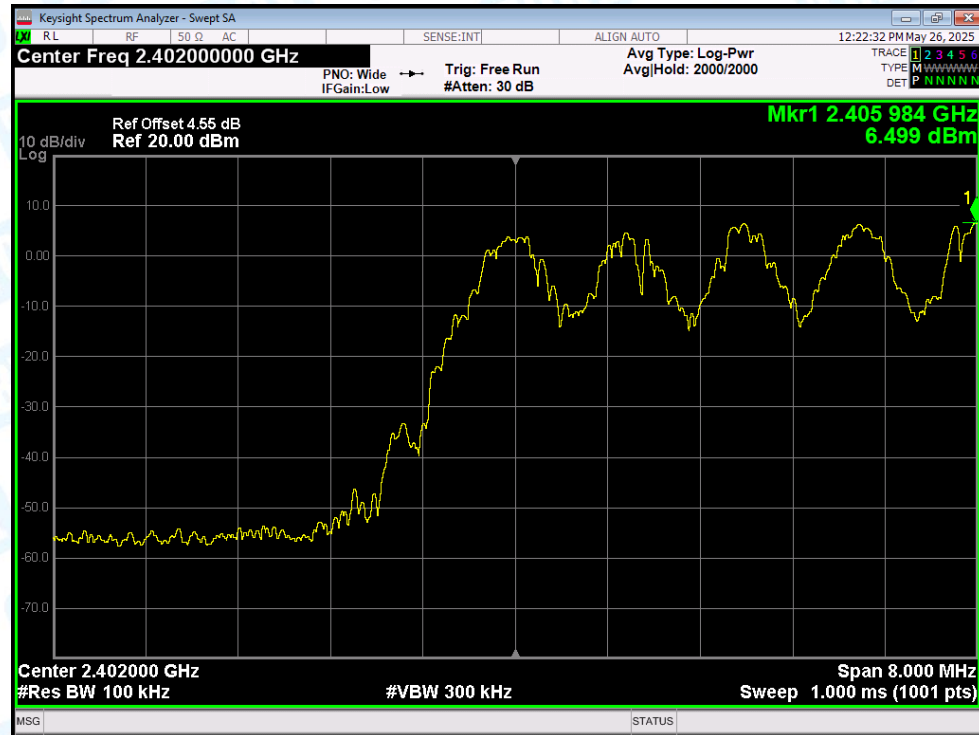


6. Band Edge(Hopping)

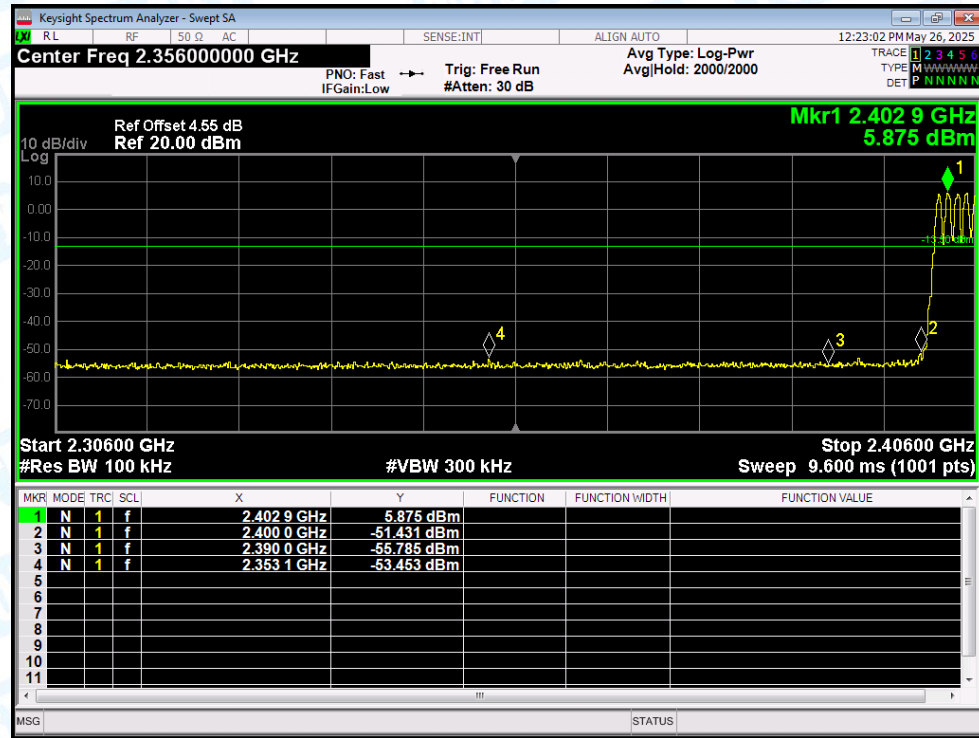
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-59.95	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-59.38	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-59.07	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-58.02	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-58.8	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-58.14	-20	Pass

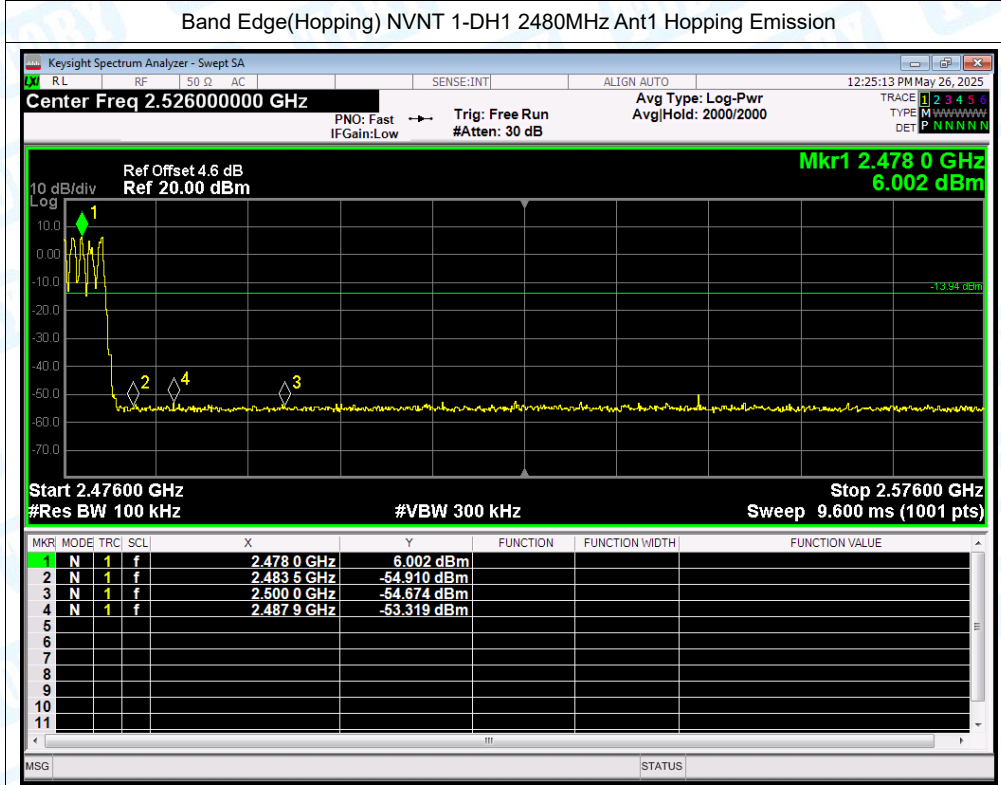
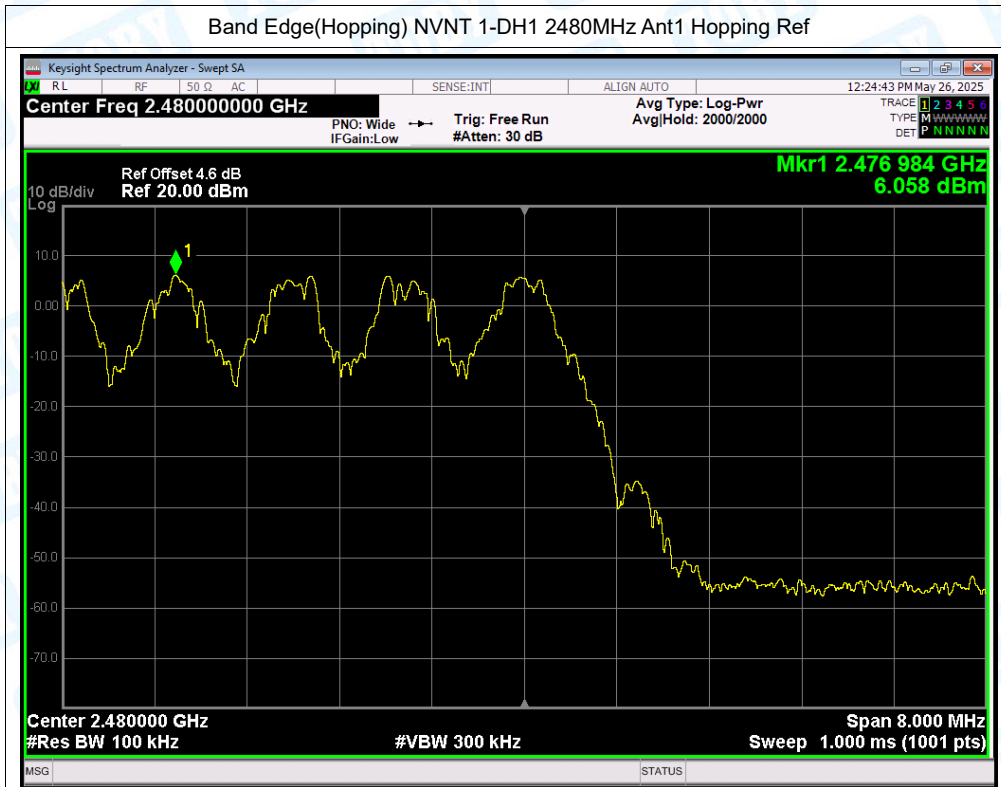
Test Graphs

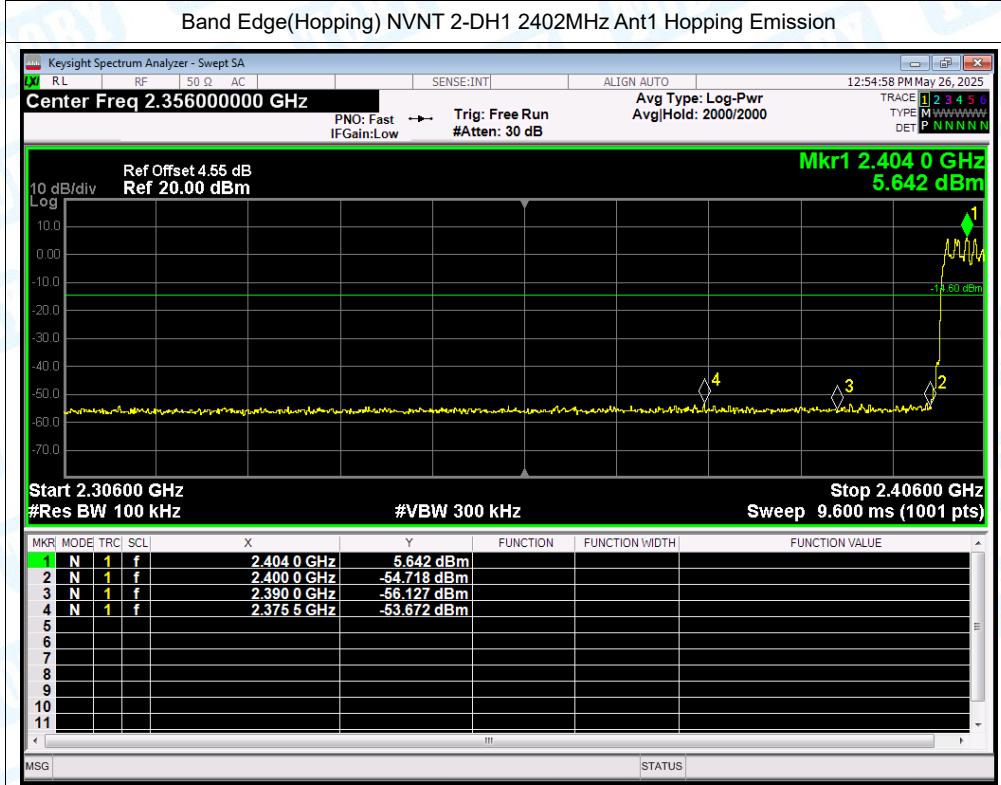
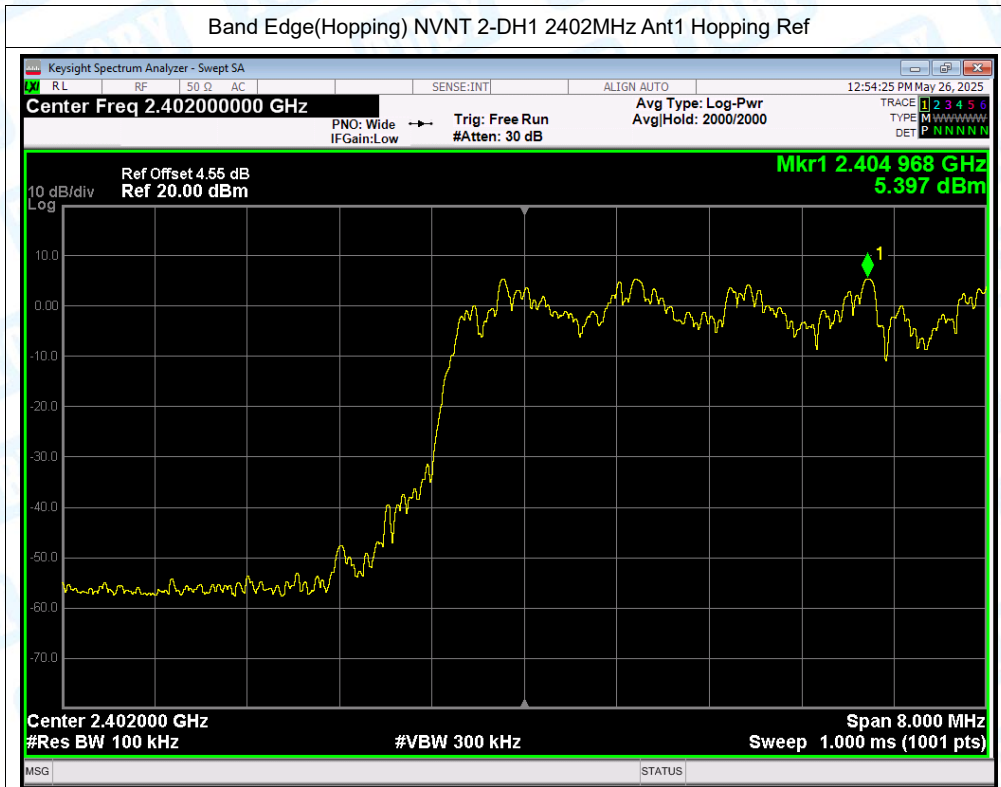
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

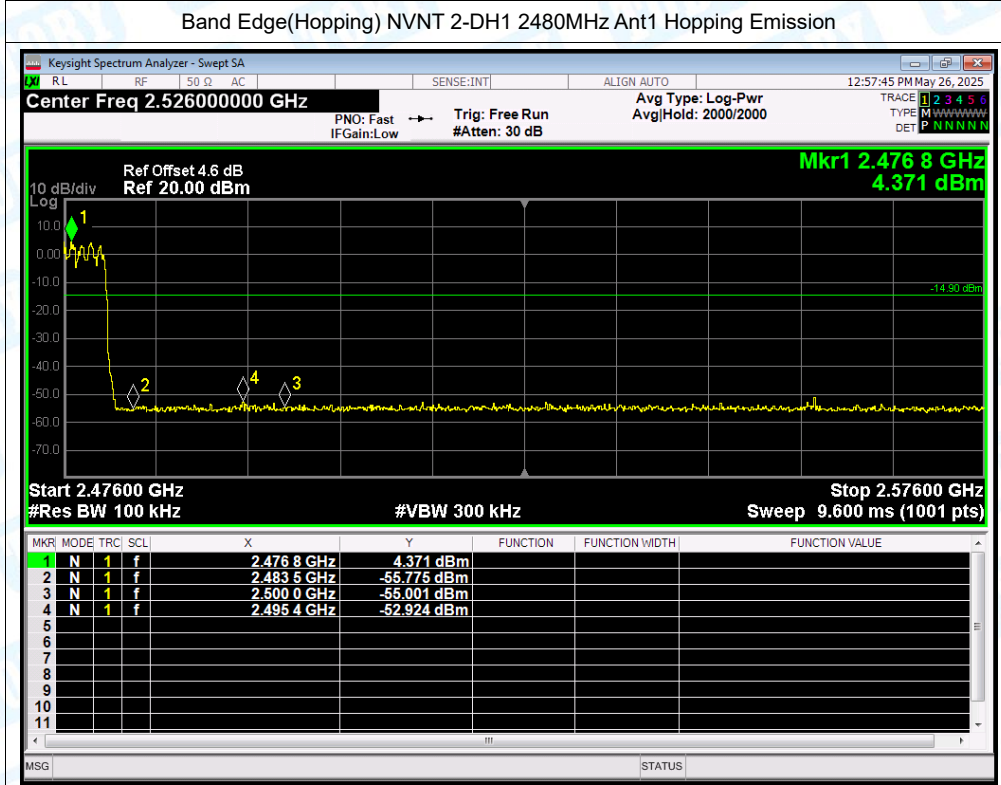


Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

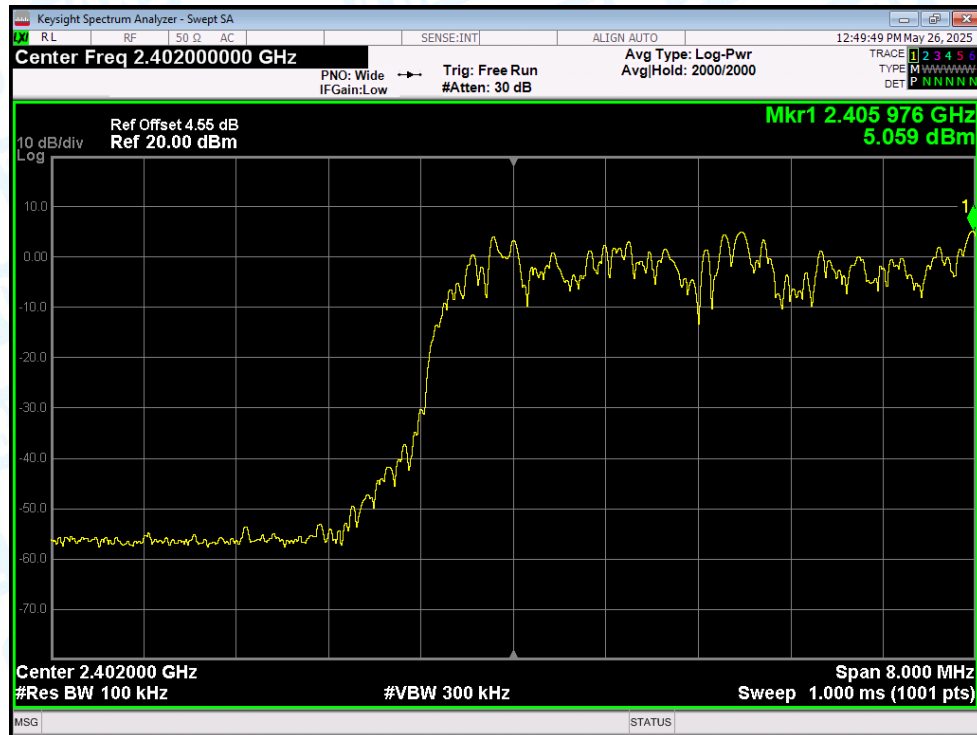




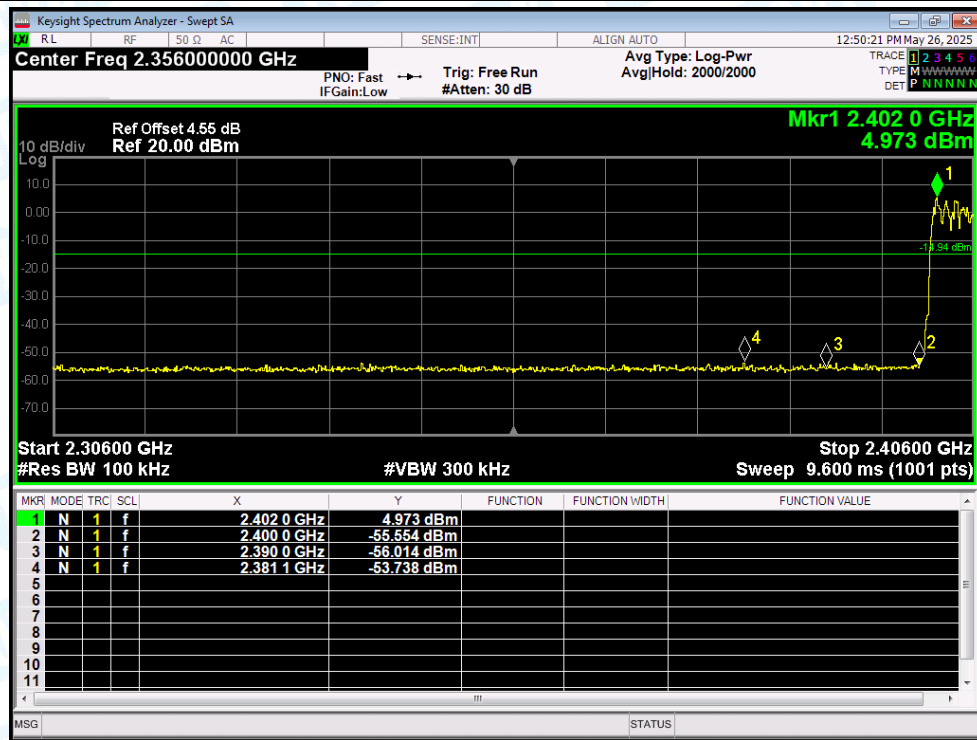


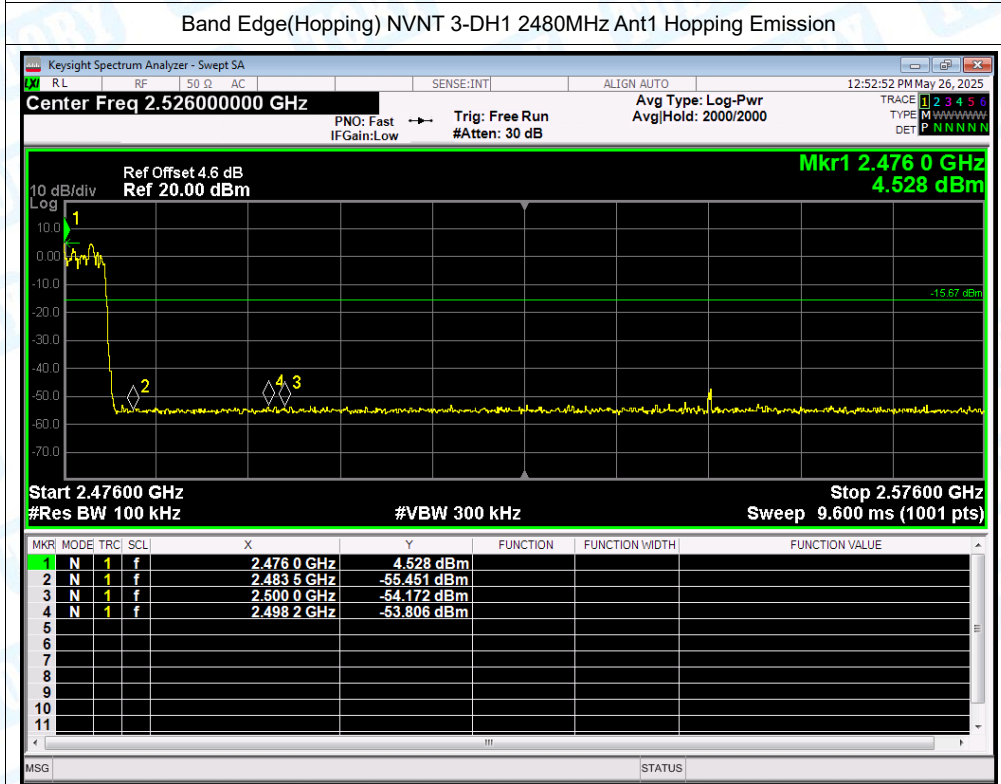
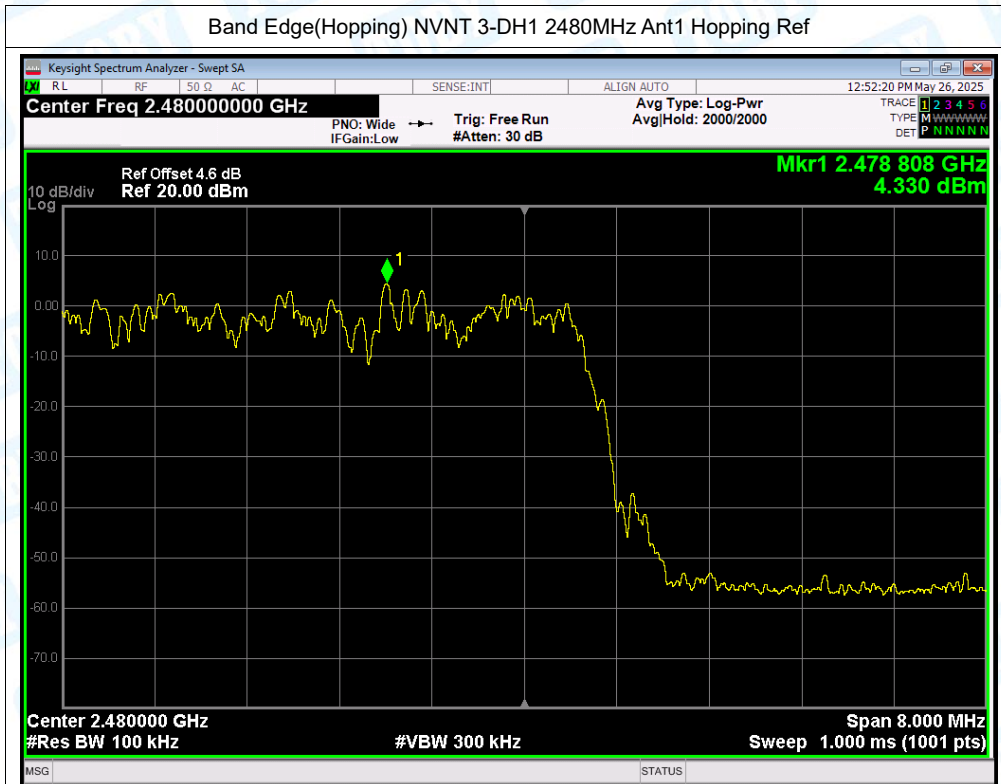


Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



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



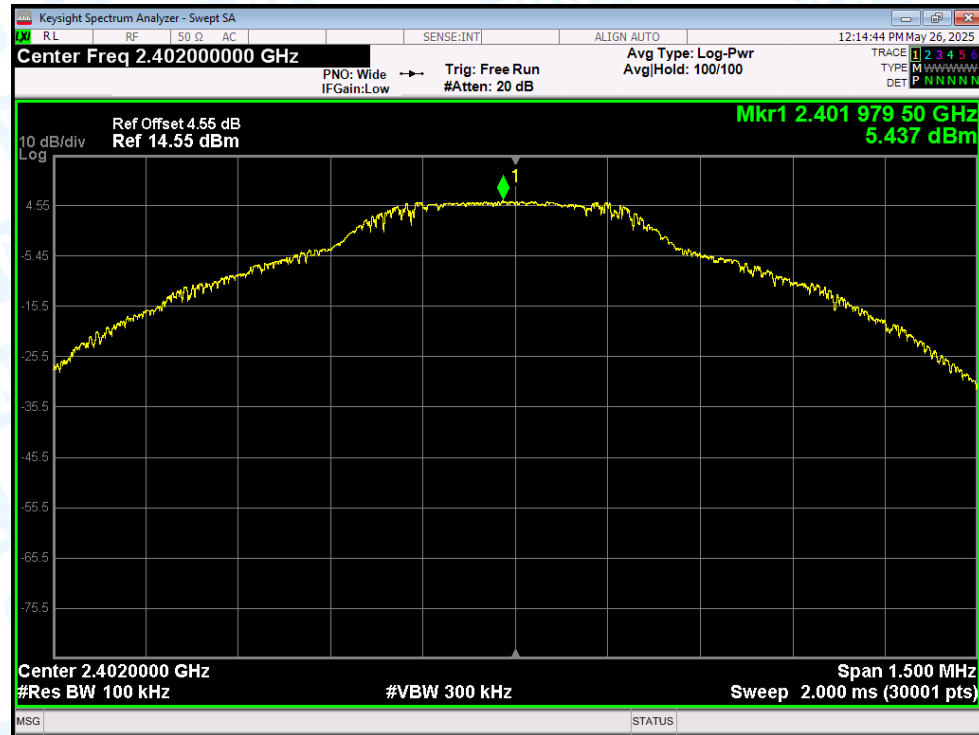


7. Conducted RF Spurious Emission

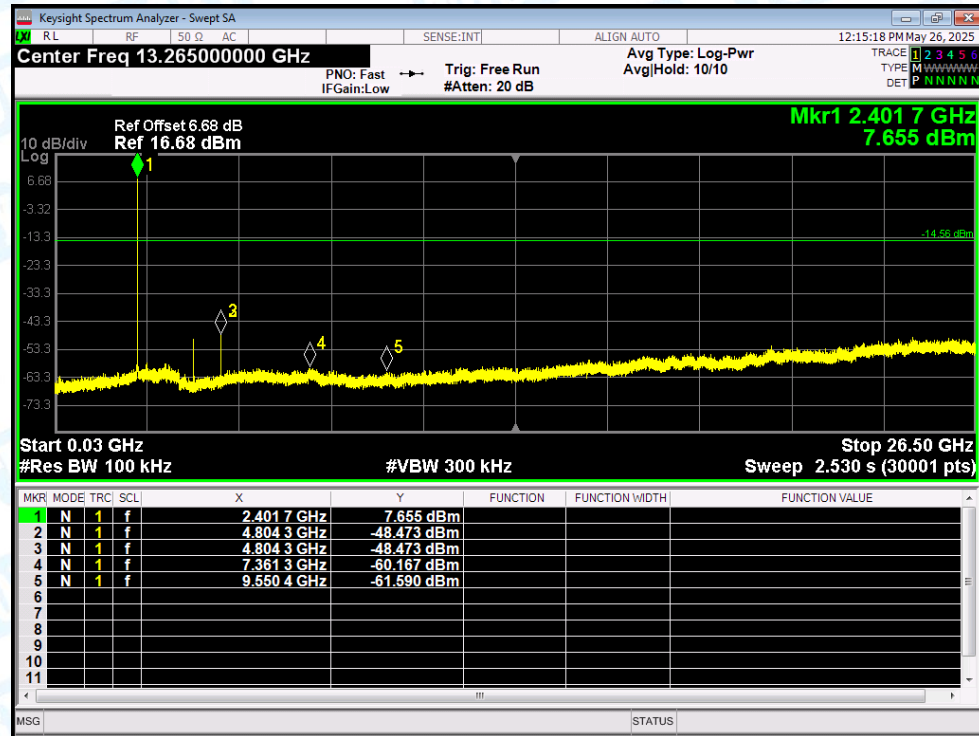
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-53.91	-20	Pass
NVNT	1-DH1	2441	Ant1	-54.19	-20	Pass
NVNT	1-DH1	2480	Ant1	-53.61	-20	Pass
NVNT	2-DH1	2402	Ant1	-51.36	-20	Pass
NVNT	2-DH1	2441	Ant1	-51.06	-20	Pass
NVNT	2-DH1	2480	Ant1	-51.24	-20	Pass
NVNT	3-DH1	2402	Ant1	-50.82	-20	Pass
NVNT	3-DH1	2441	Ant1	-50.72	-20	Pass
NVNT	3-DH1	2480	Ant1	-50.74	-20	Pass

Test Graphs

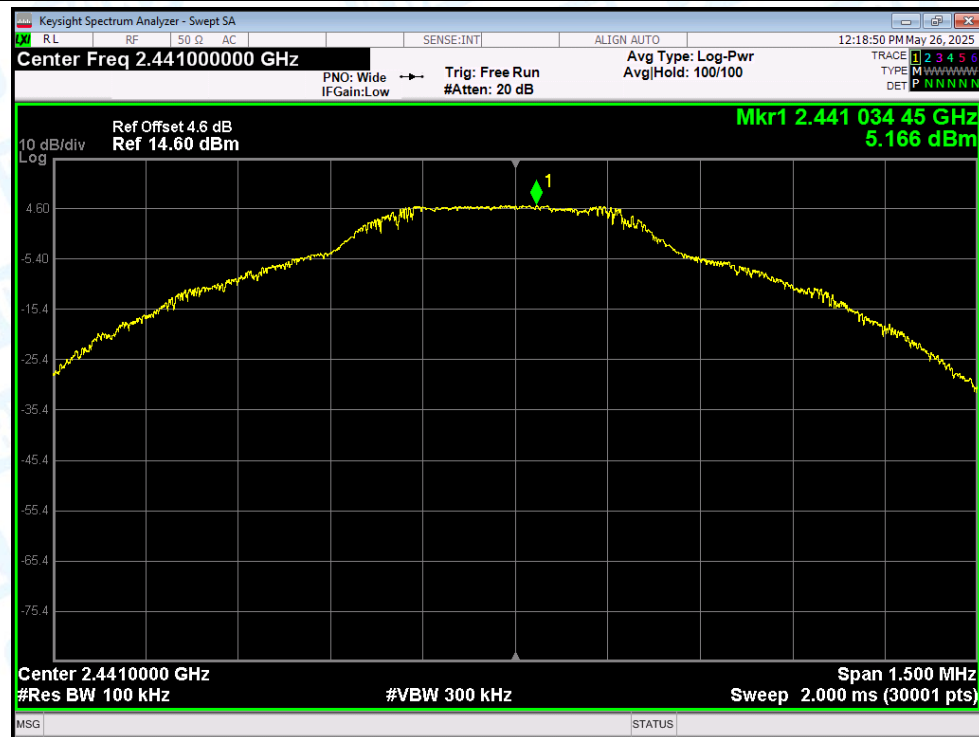
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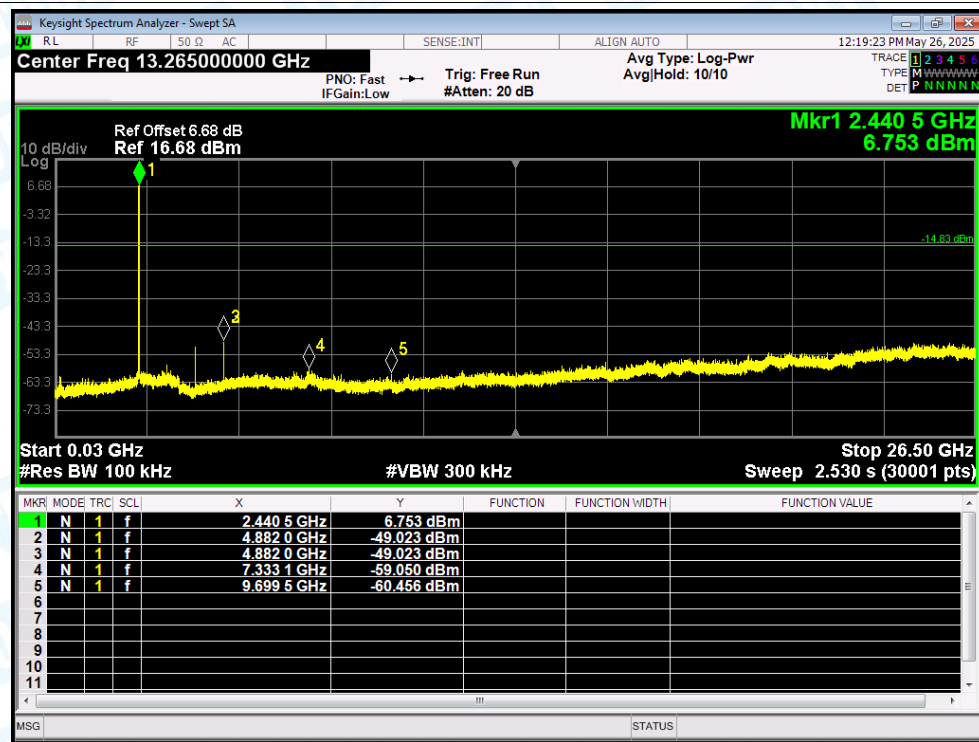
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



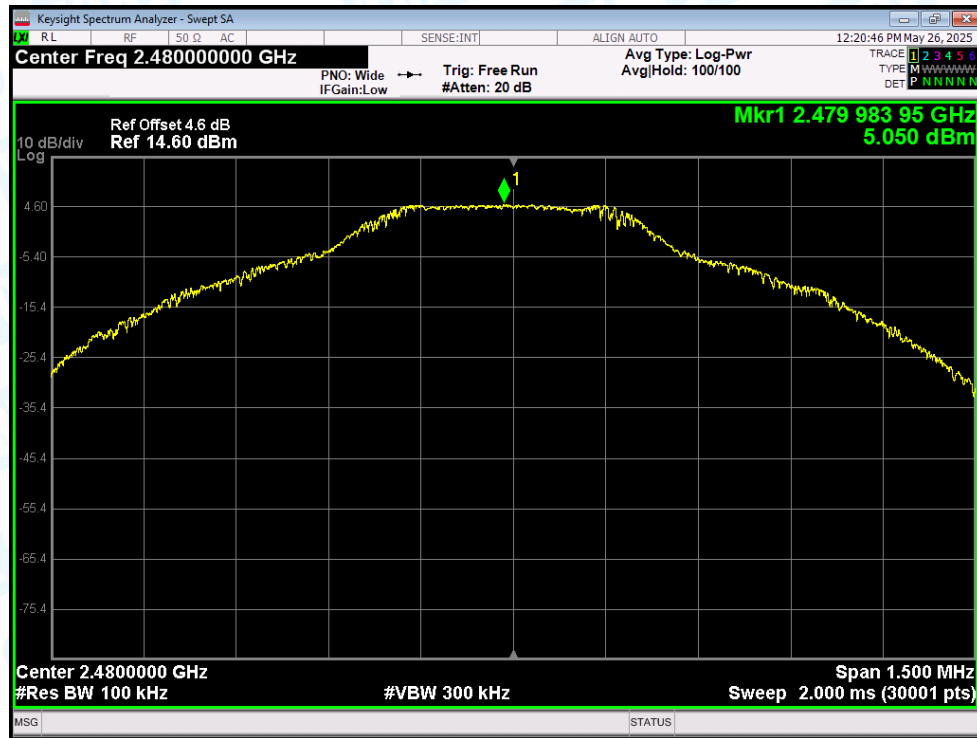
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



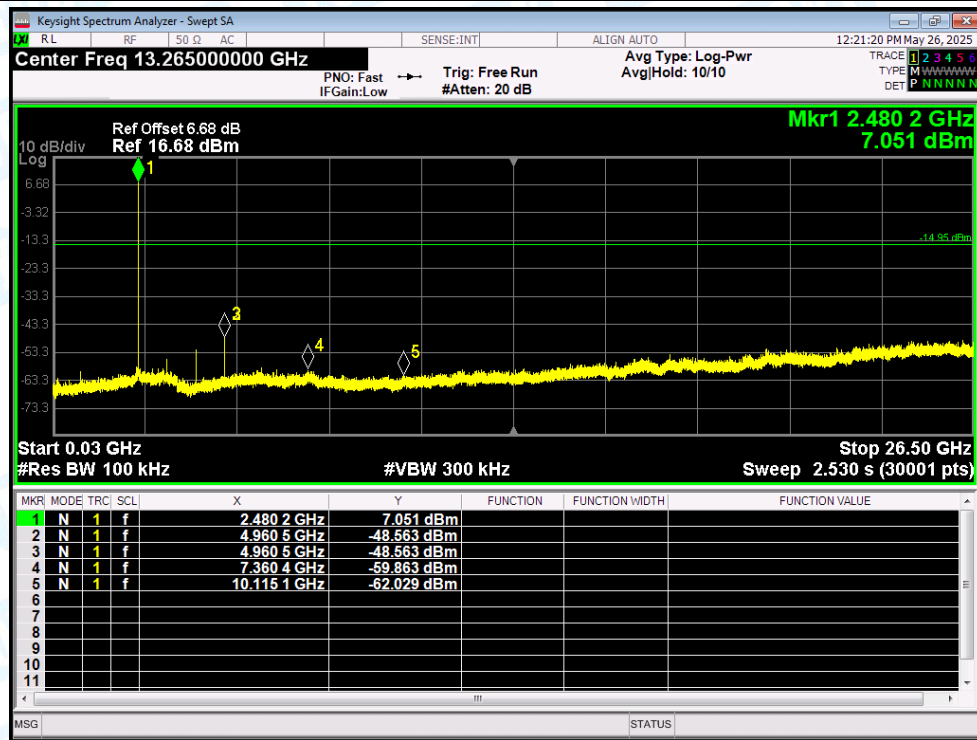
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



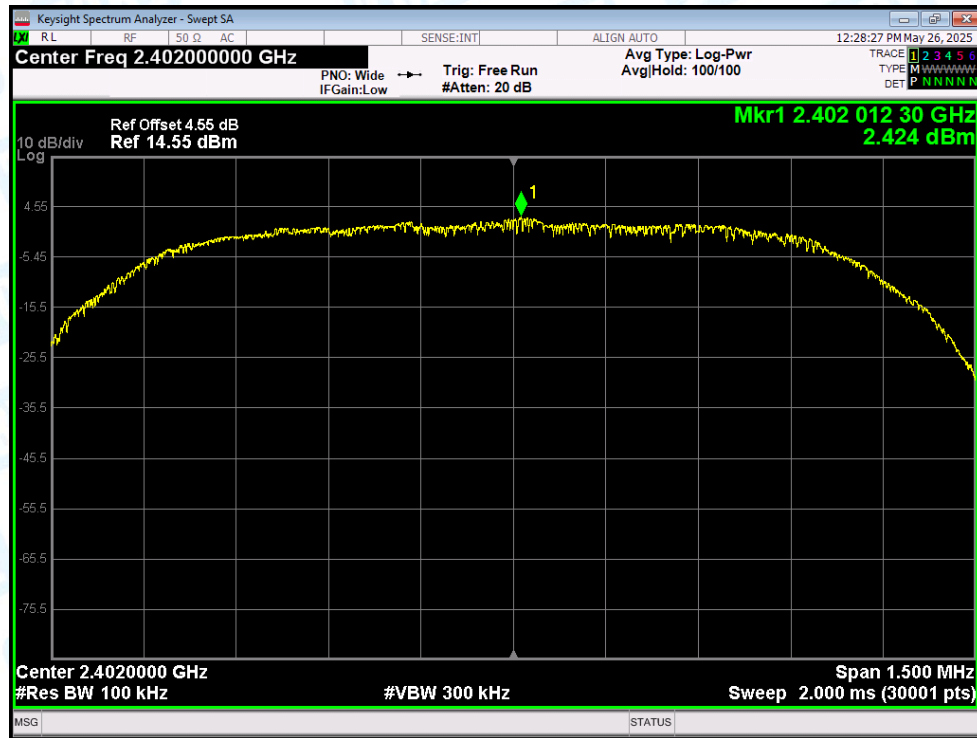
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



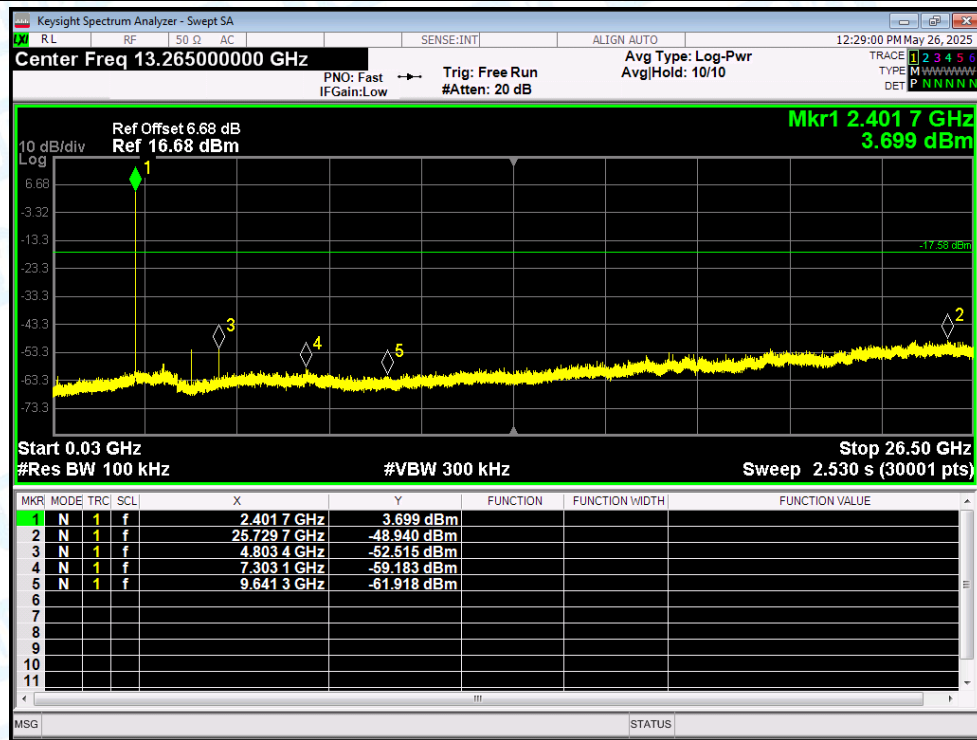
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



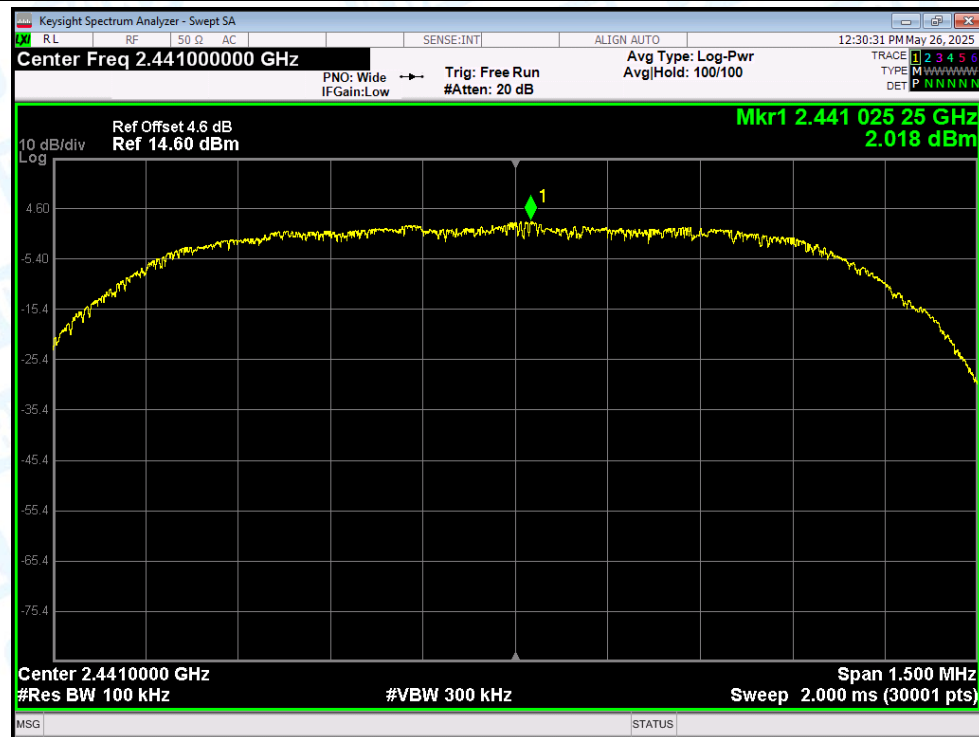
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



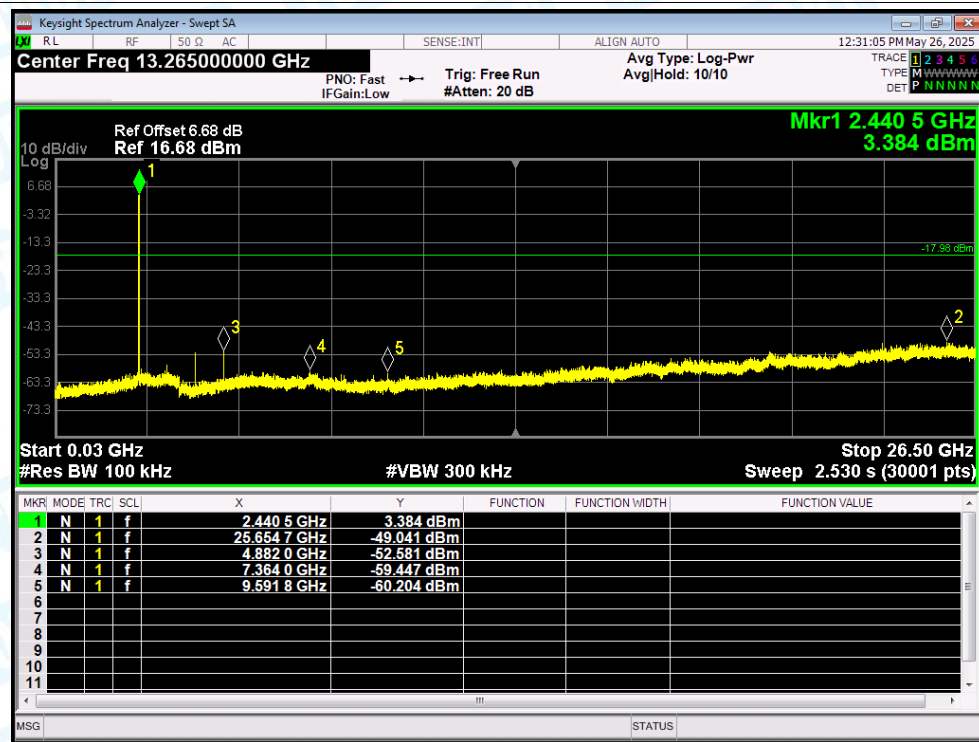
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



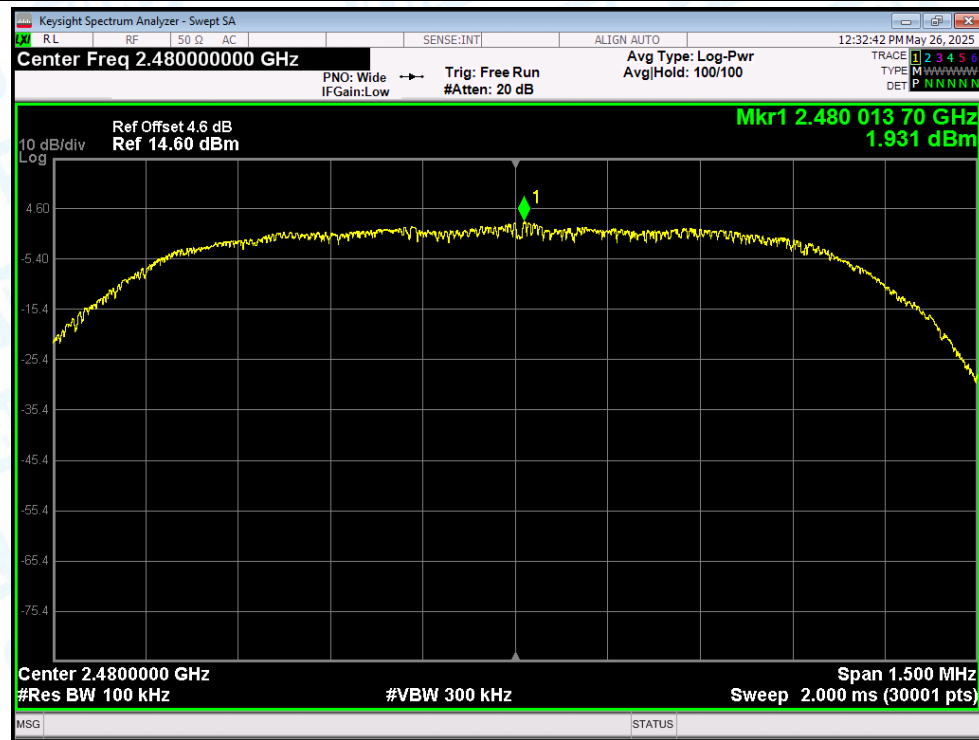
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



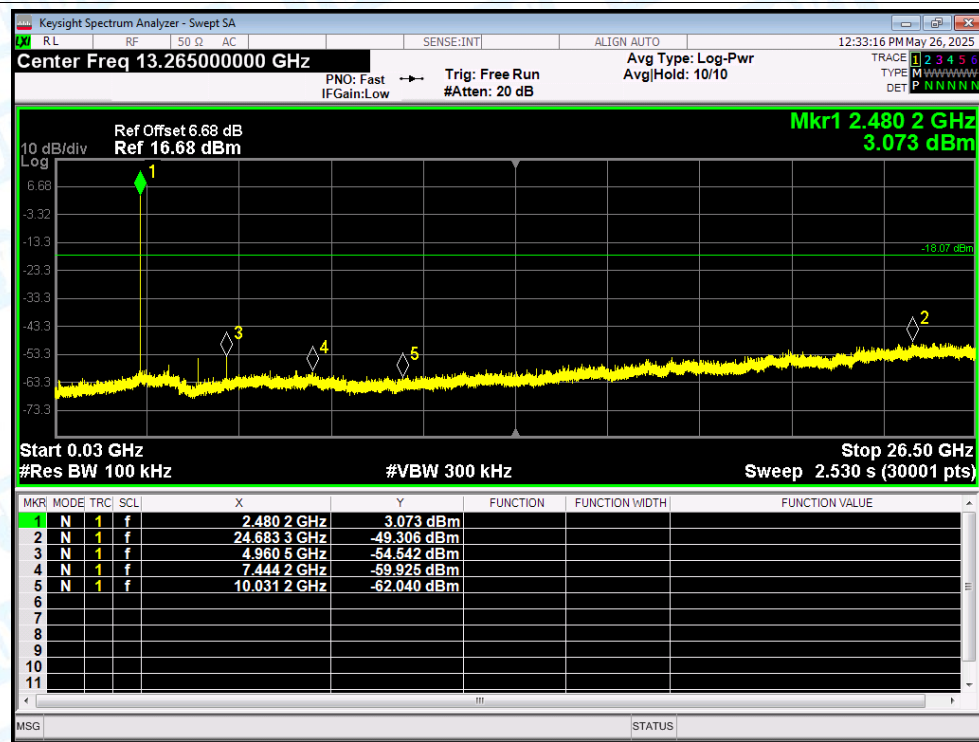
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



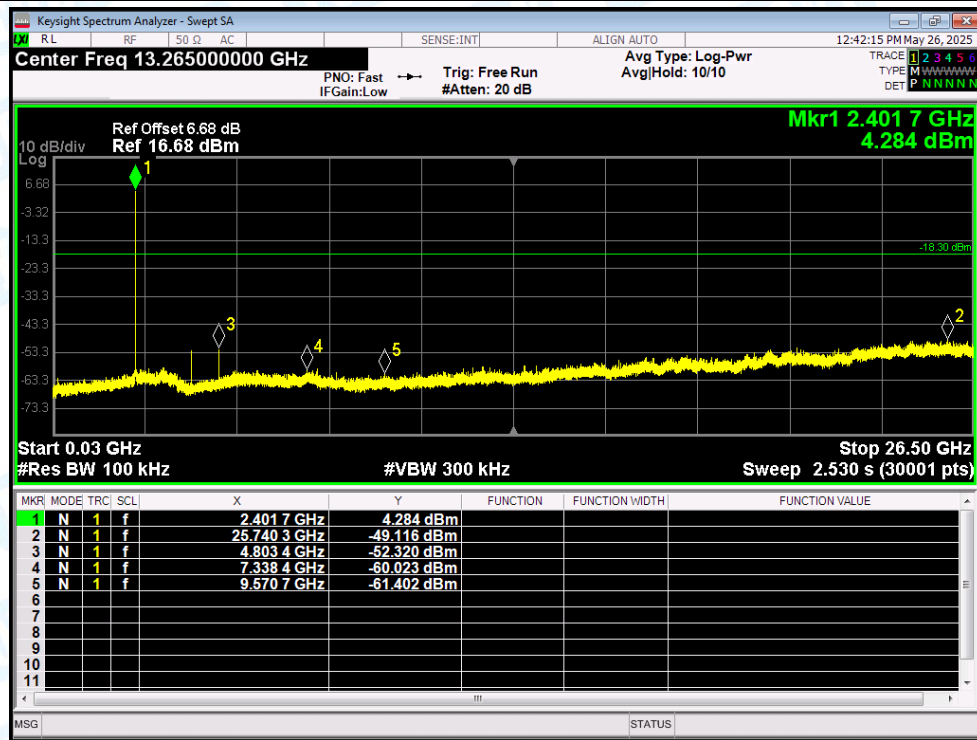
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



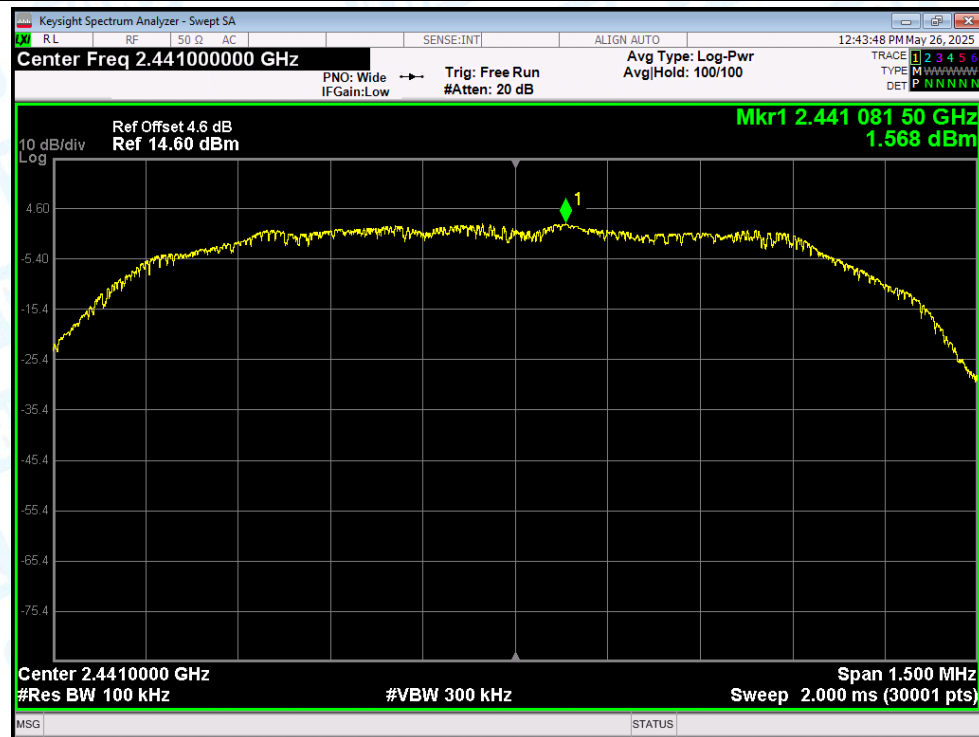
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



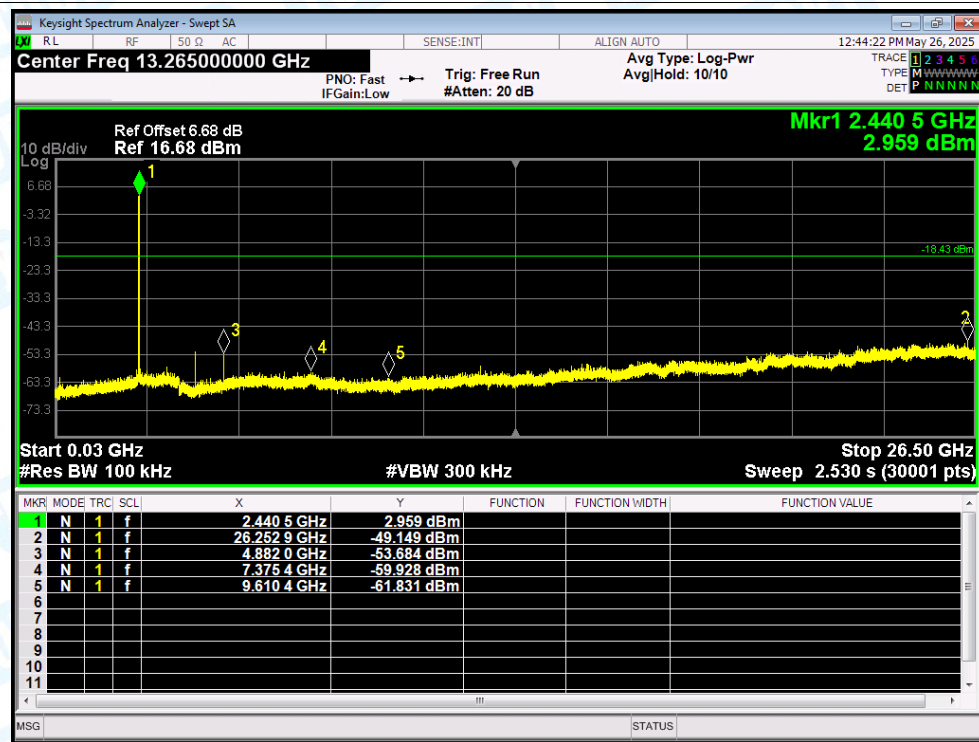
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



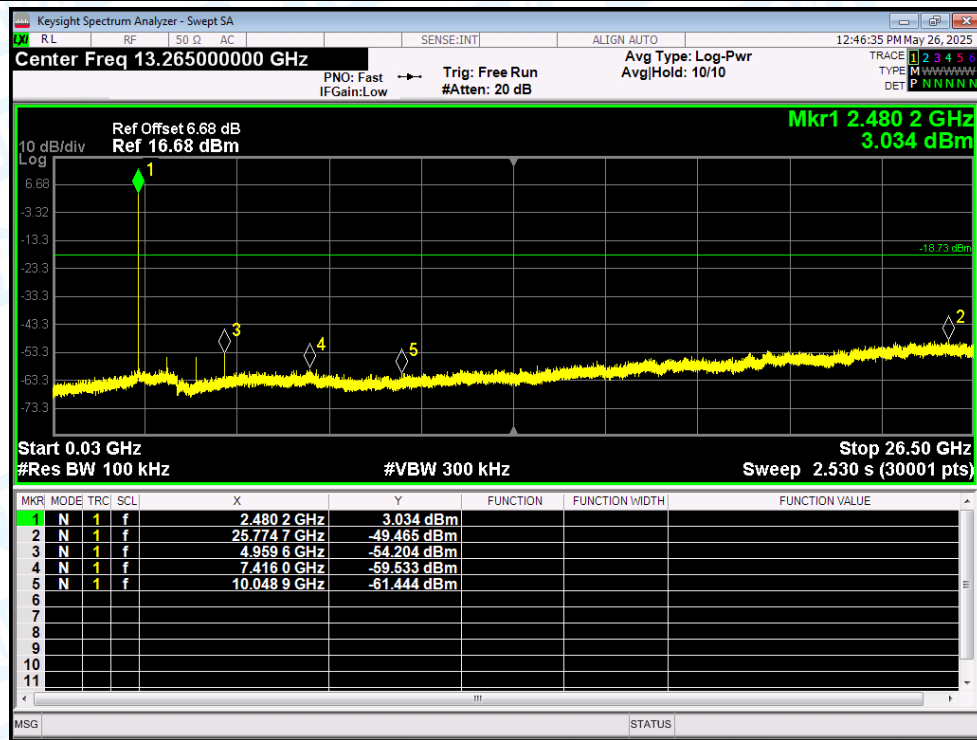
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

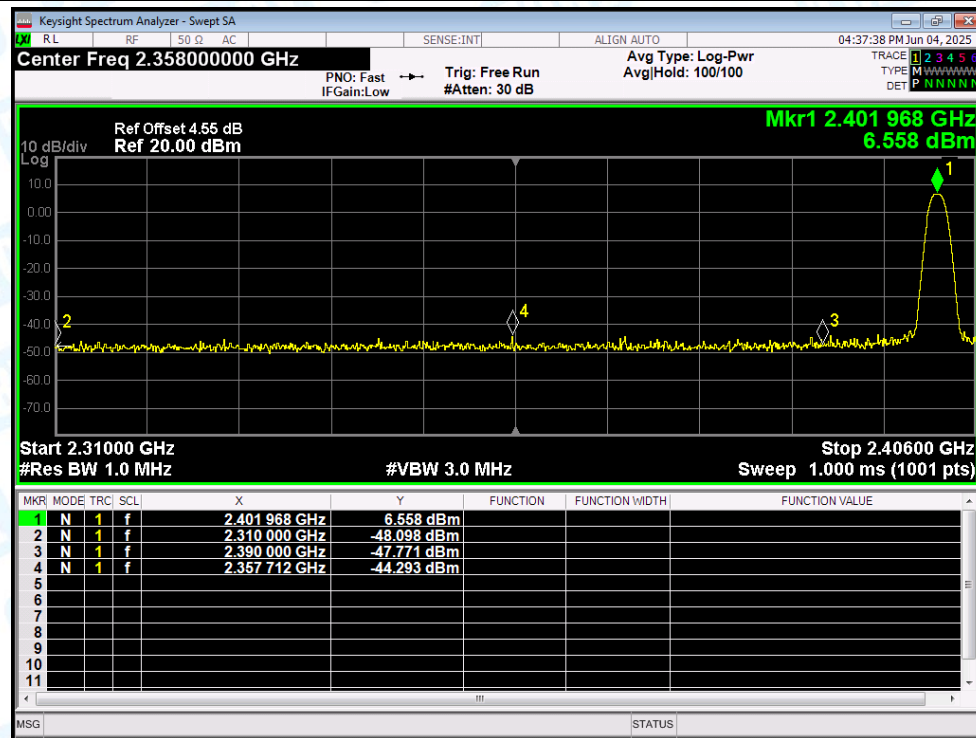


8. Restrict Band

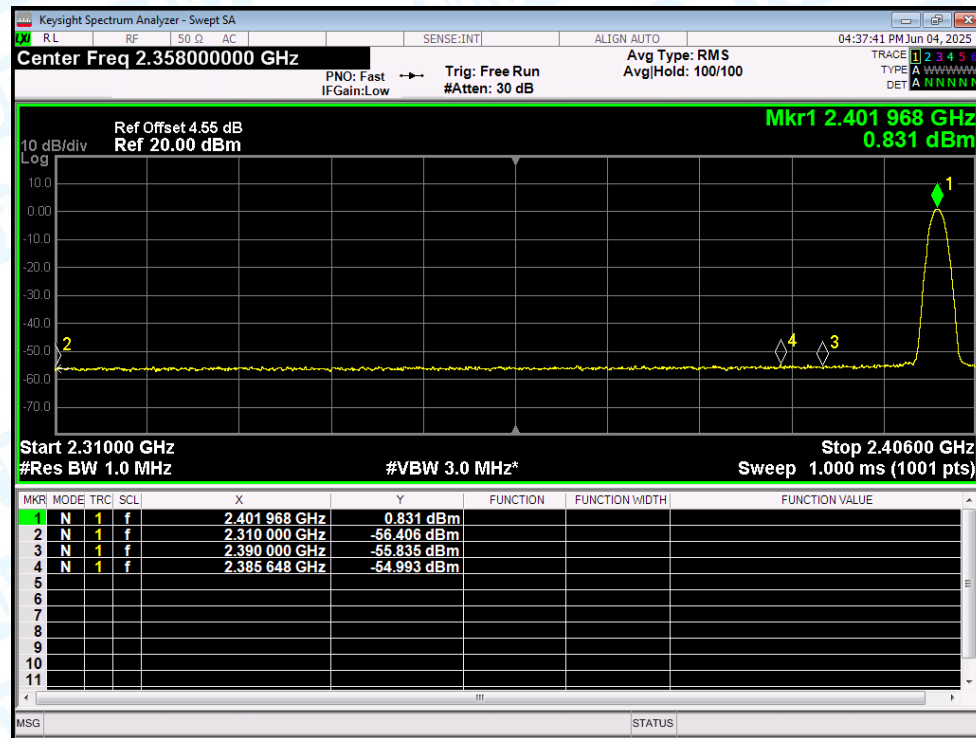
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-48.1	2	-	49.16	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.41	2	5.07	45.92	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2357.712	-44.29	2	-	52.97	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2385.648	-54.99	2	5.07	47.34	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-47.77	2	-	49.49	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.84	2	5.07	46.49	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-47.18	2	-	50.08	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.72	2	5.1	47.64	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2484.16	-43.26	2	-	54	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.92	-54.28	2	5.1	48.08	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.61	2	-	49.65	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.03	2	5.1	47.33	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.21	2	-	49.05	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.46	2	4.99	45.79	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2369.136	-45.17	2	-	52.09	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2384.88	-55.15	2	4.99	47.1	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-48.18	2	-	49.08	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-56.19	2	4.99	46.06	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-43.91	2	-	53.35	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-54.87	2	4.99	47.38	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2496.4	-43.83	2	-	53.43	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.232	-54.56	2	4.99	47.69	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-48.44	2	-	48.82	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.84	2	4.99	46.41	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-49.3	2	-	47.96	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.56	2	4.99	45.69	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2367.984	-44.83	2	-	52.43	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2374.8	-54.96	2	4.99	47.29	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-45.96	2	-	51.3	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-56.17	2	4.99	46.08	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-46.58	2	-	50.68	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-54.75	2	4.91	47.42	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.92	-44.38	2	-	52.88	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.536	-54.42	2	4.91	47.75	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-44.41	2	-	52.85	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.41	2	4.91	46.76	Average	54	Pass

Test Graphs

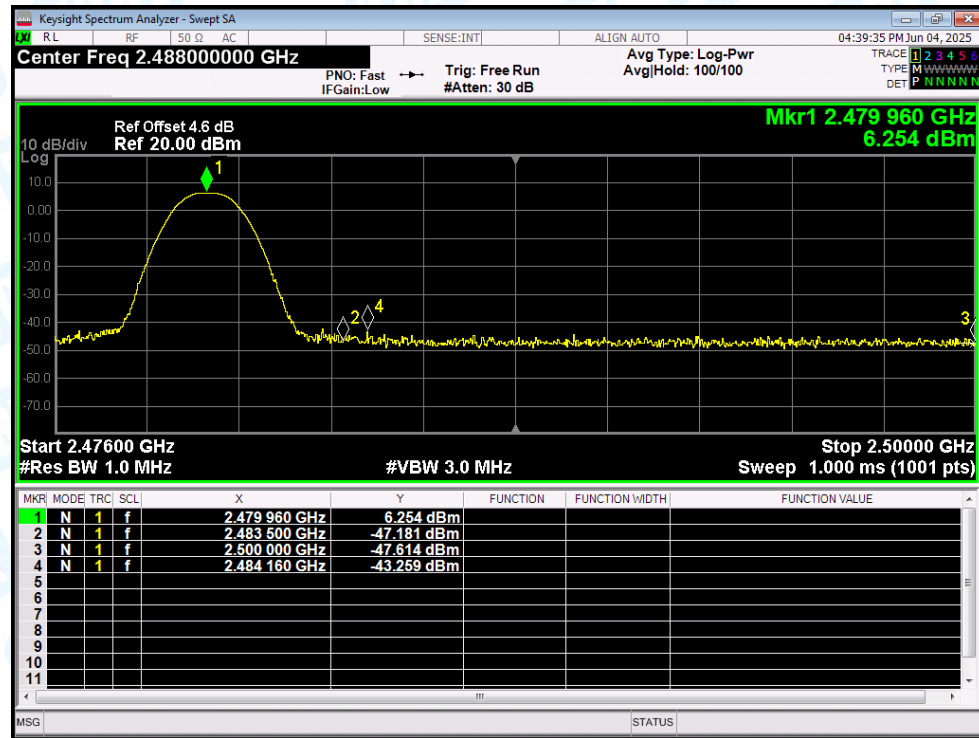
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



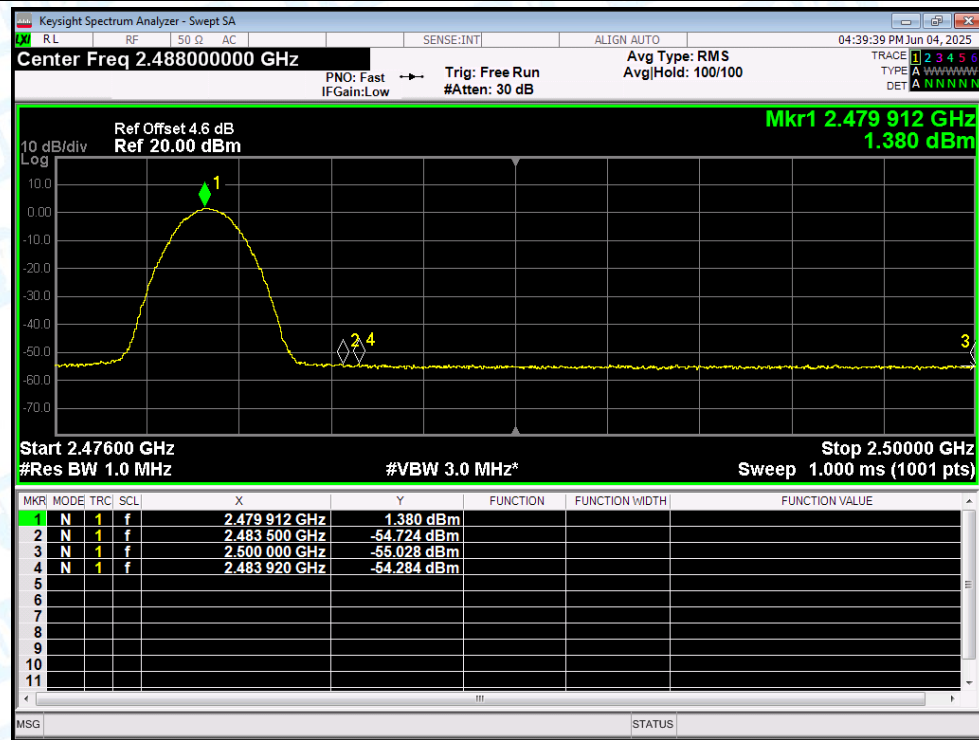
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



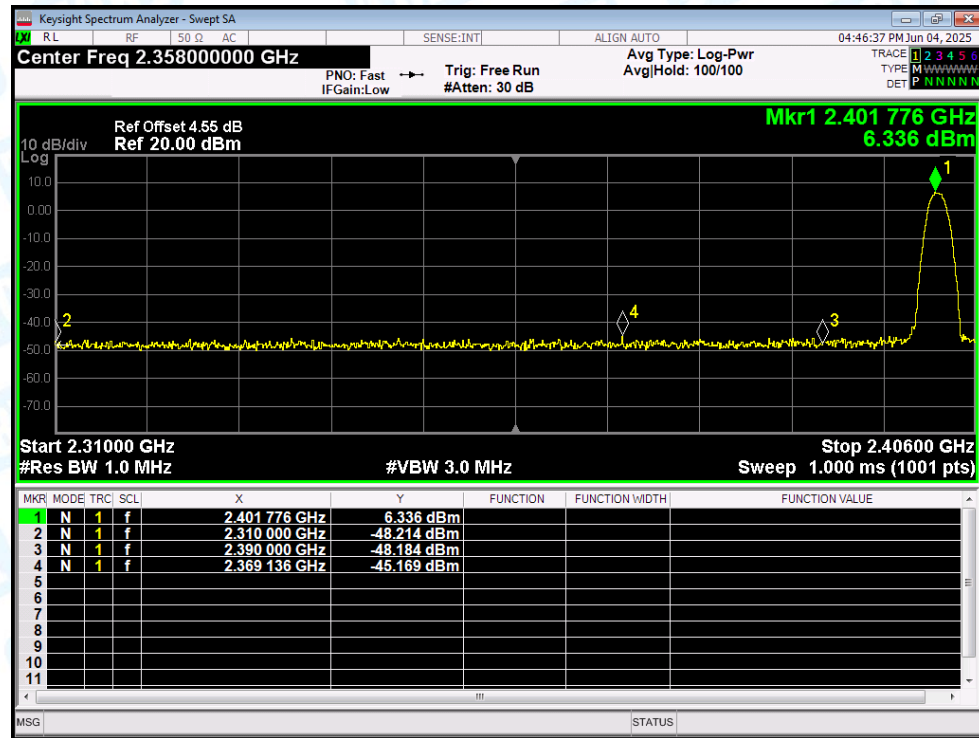
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



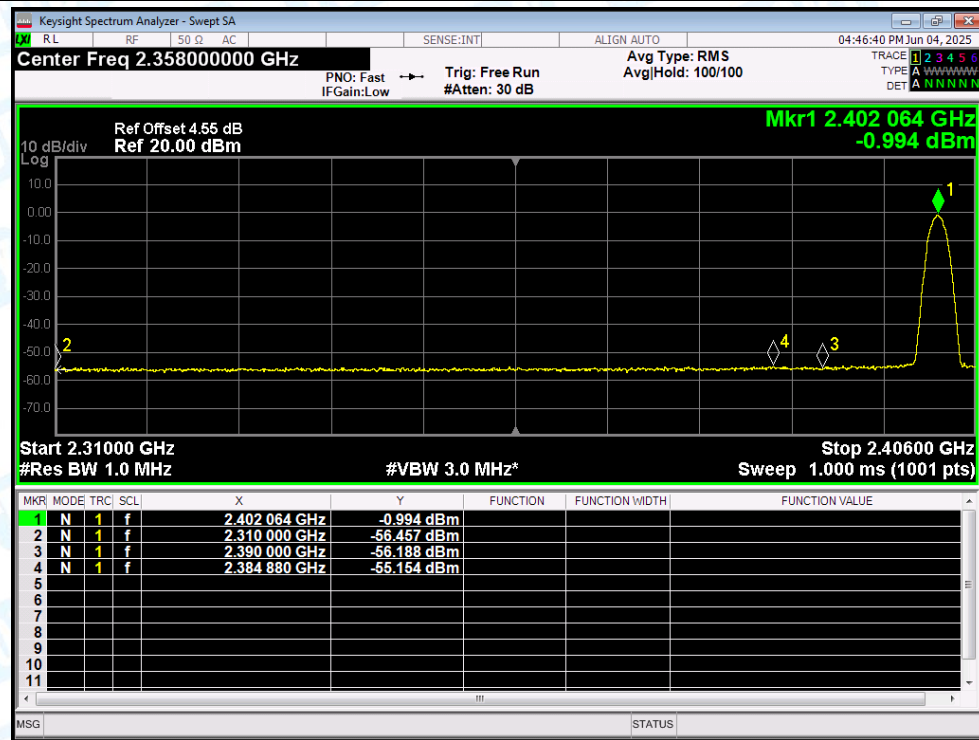
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



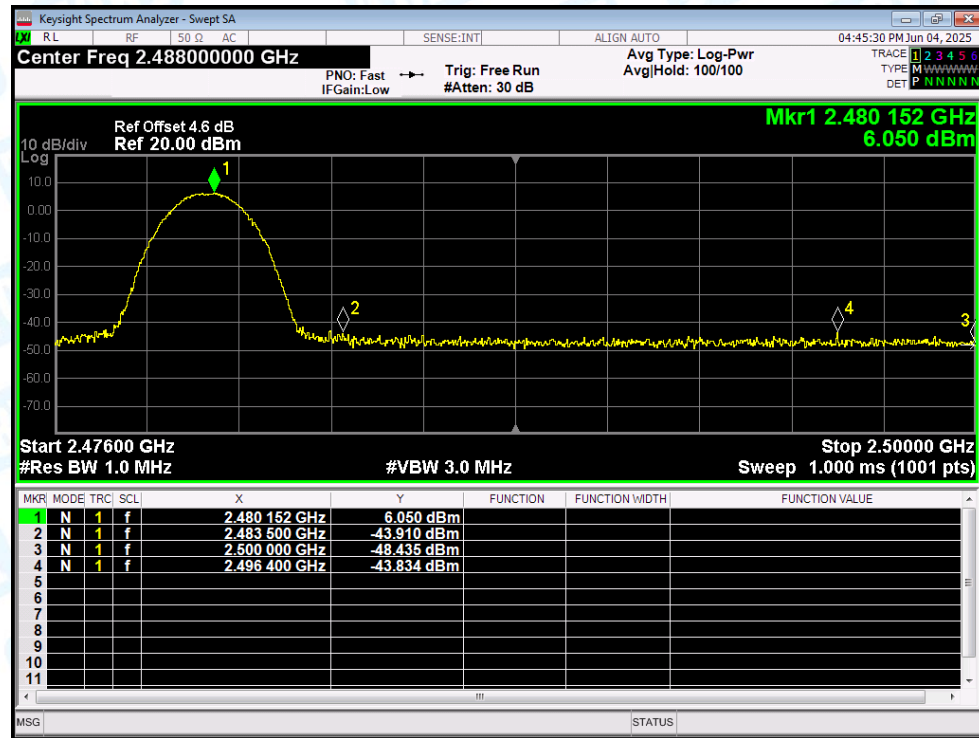
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



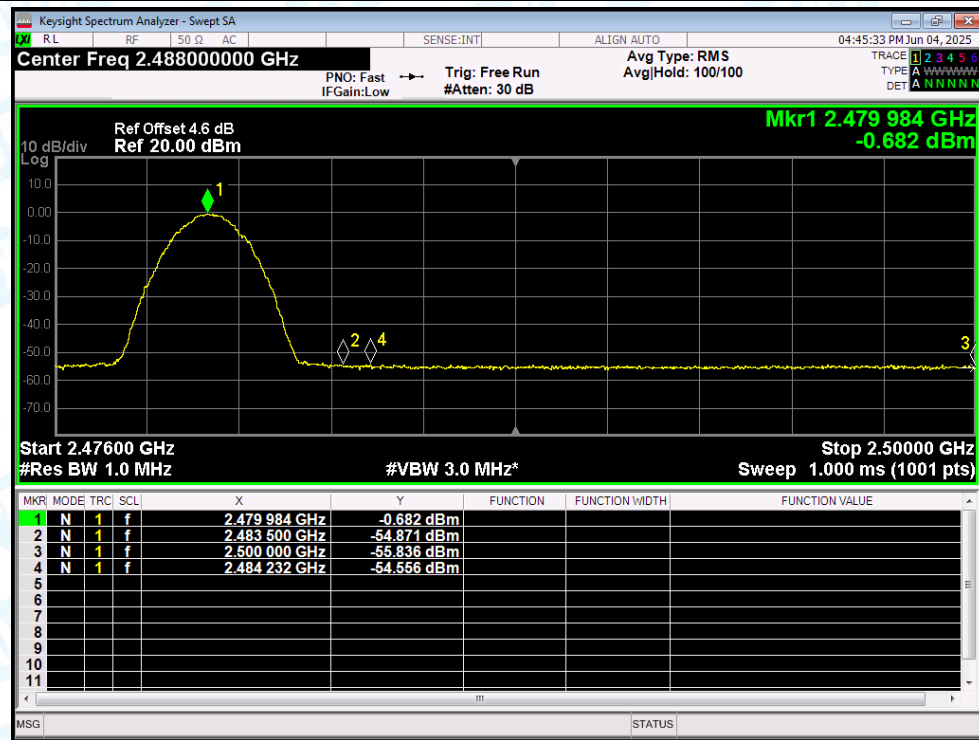
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



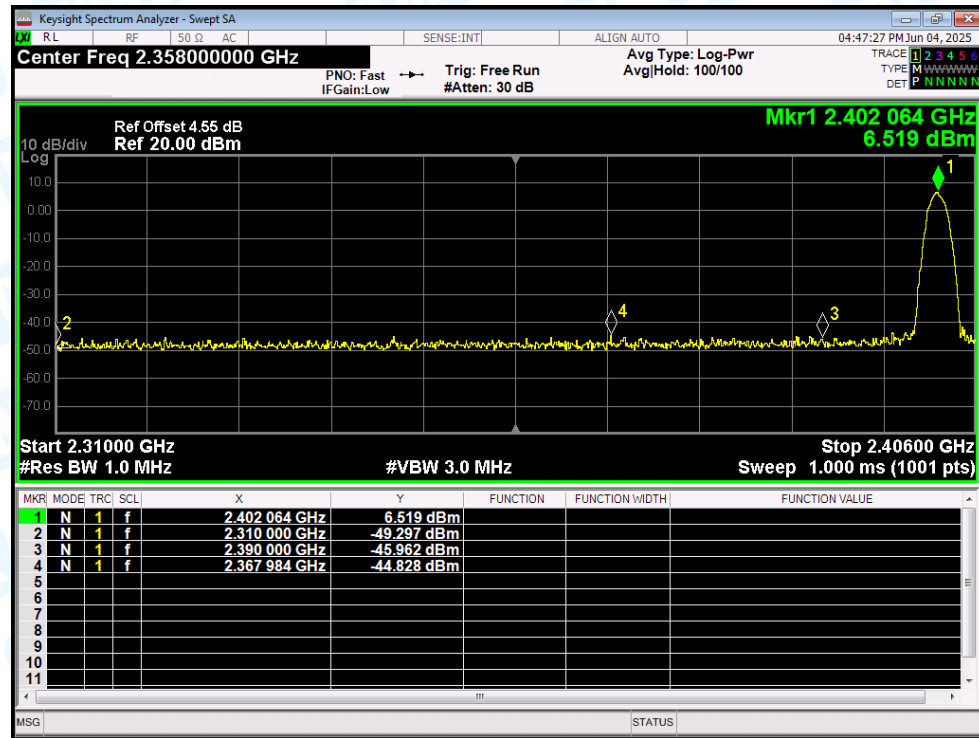
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



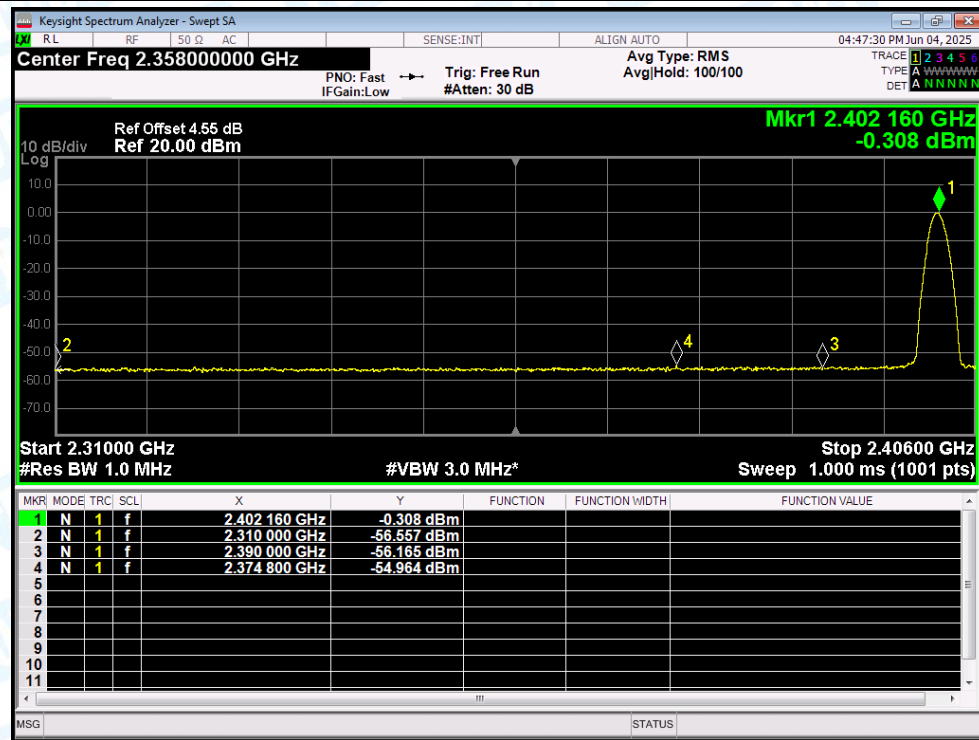
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



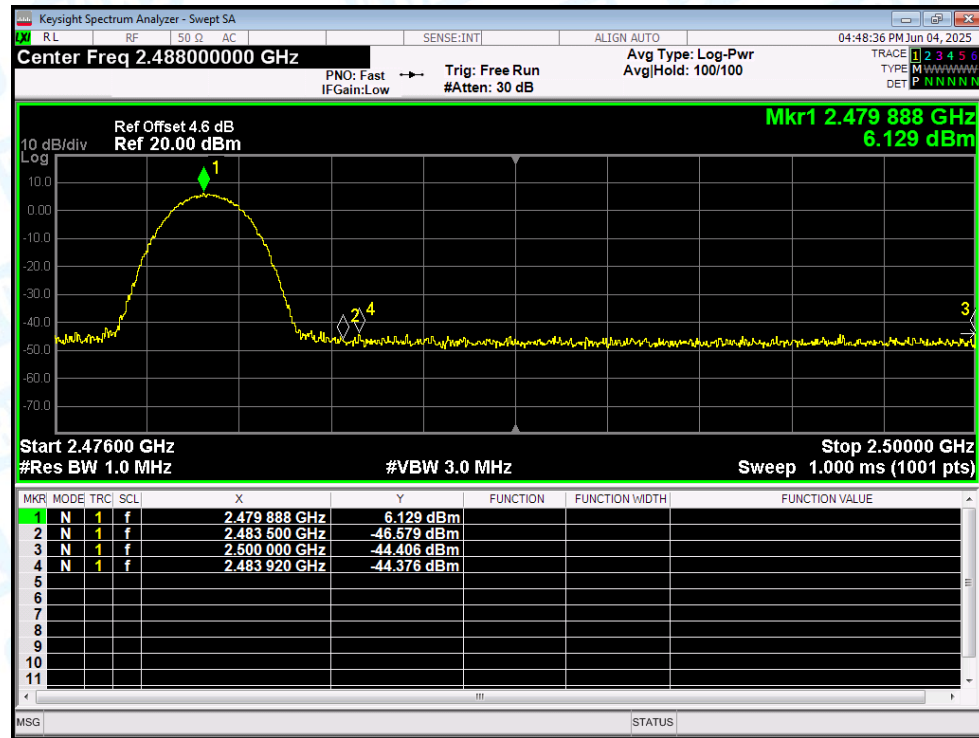
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



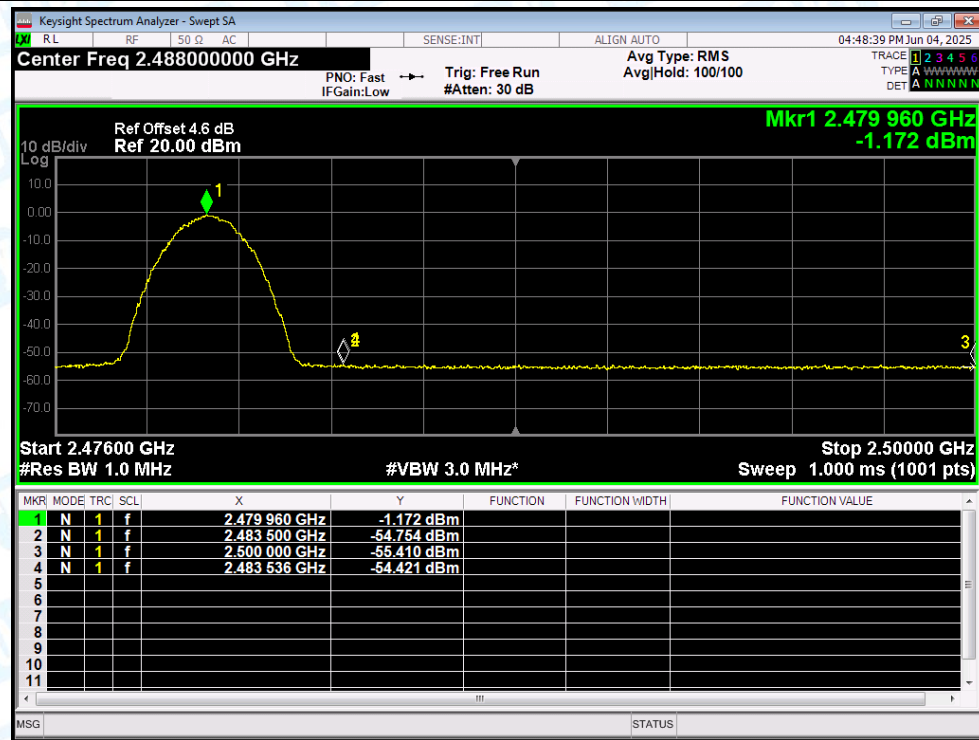
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

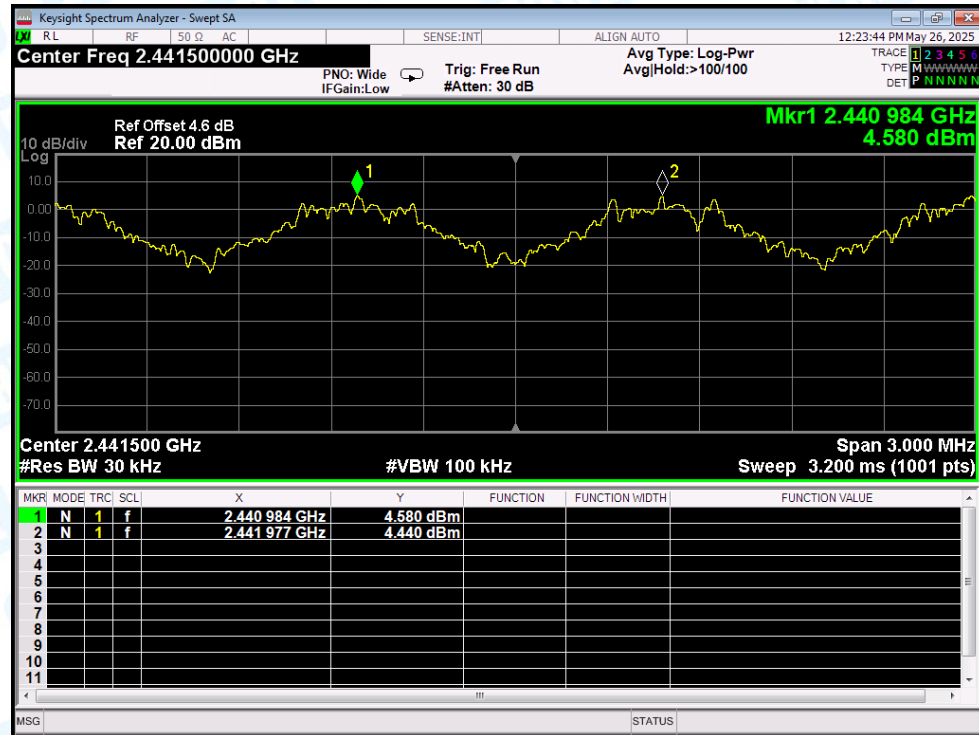


9. Carrier Frequencies Separation

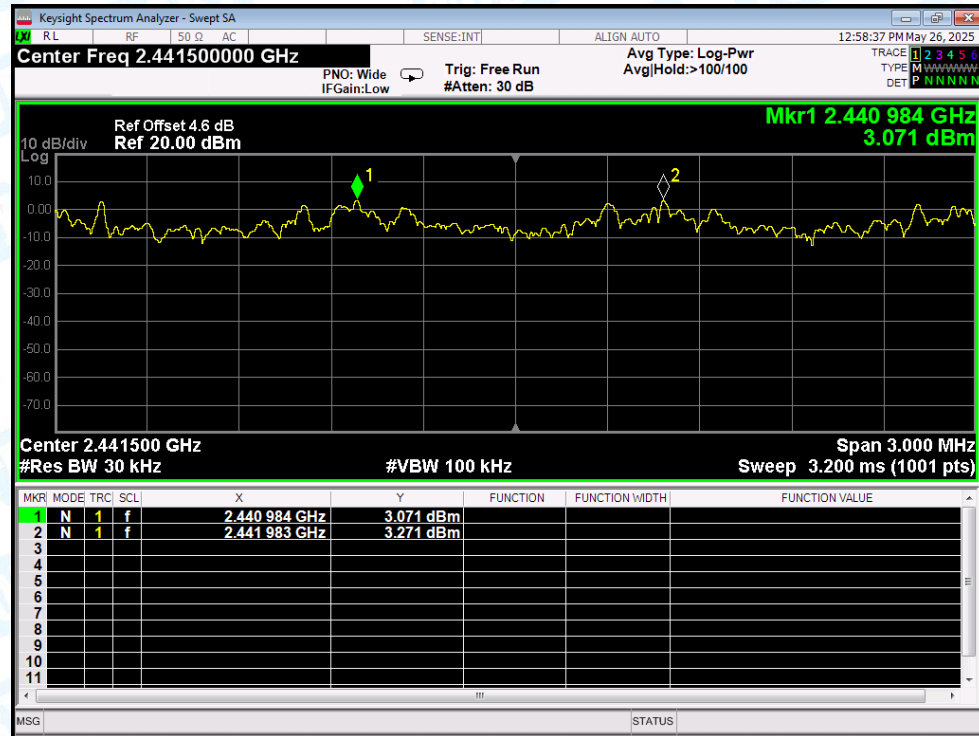
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.984	2441.977	0.993	0.633	Pass
NVNT	2-DH1	Ant1	2440.984	2441.983	0.999	0.907	Pass
NVNT	3-DH1	Ant1	2440.987	2441.986	0.999	0.9	Pass

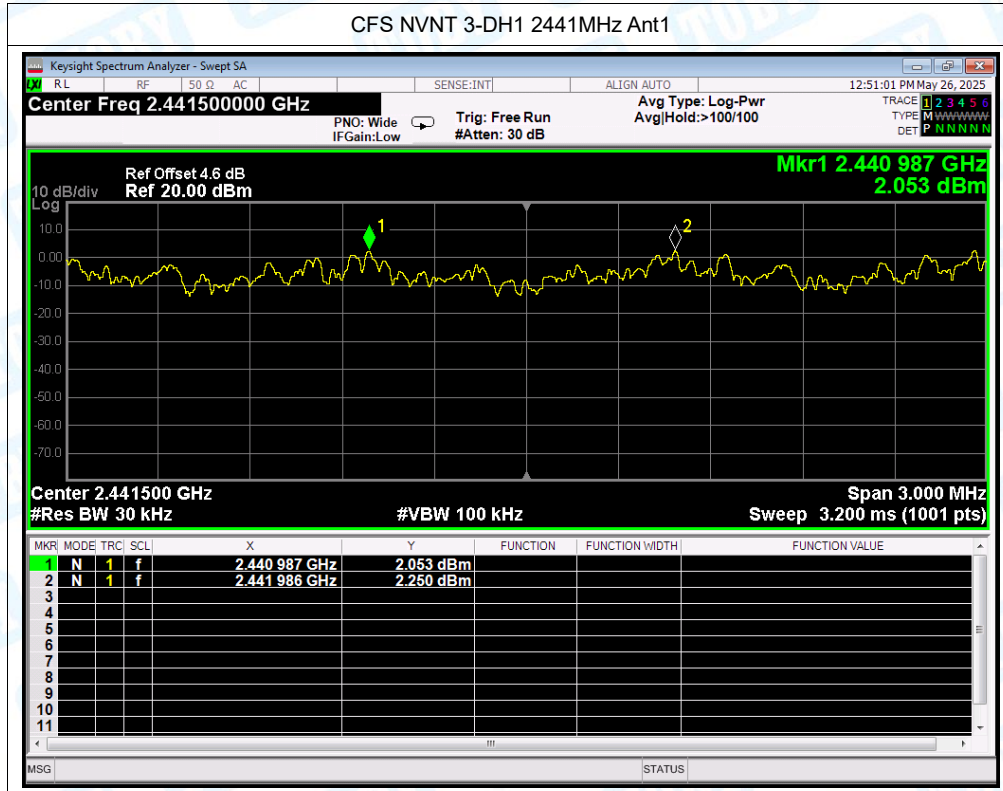
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



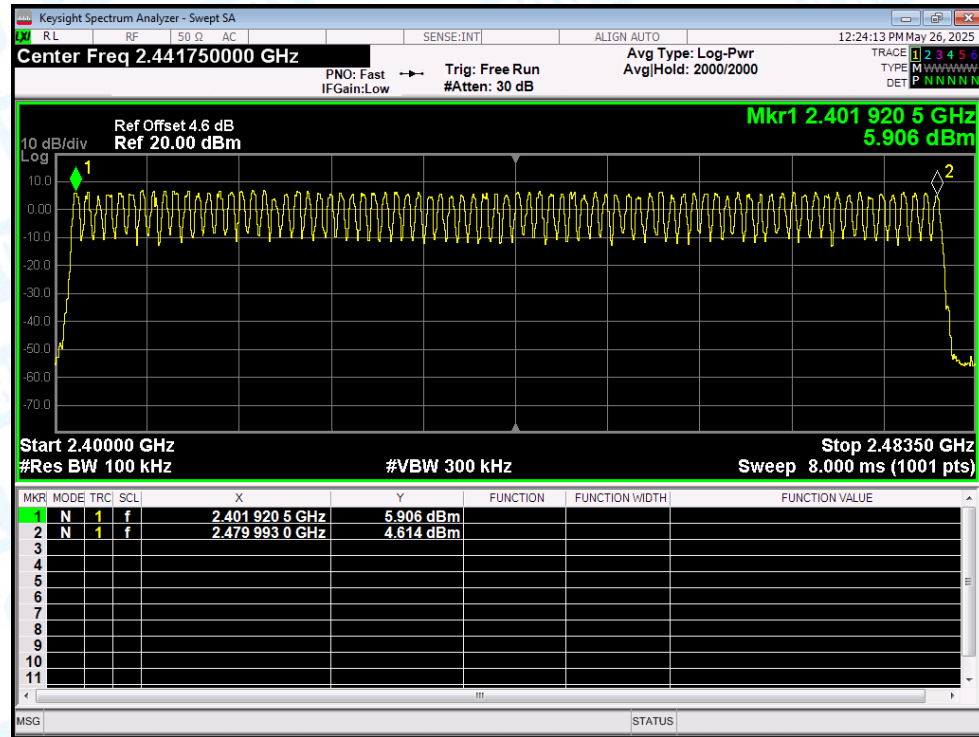


10. Number of Hopping Channel

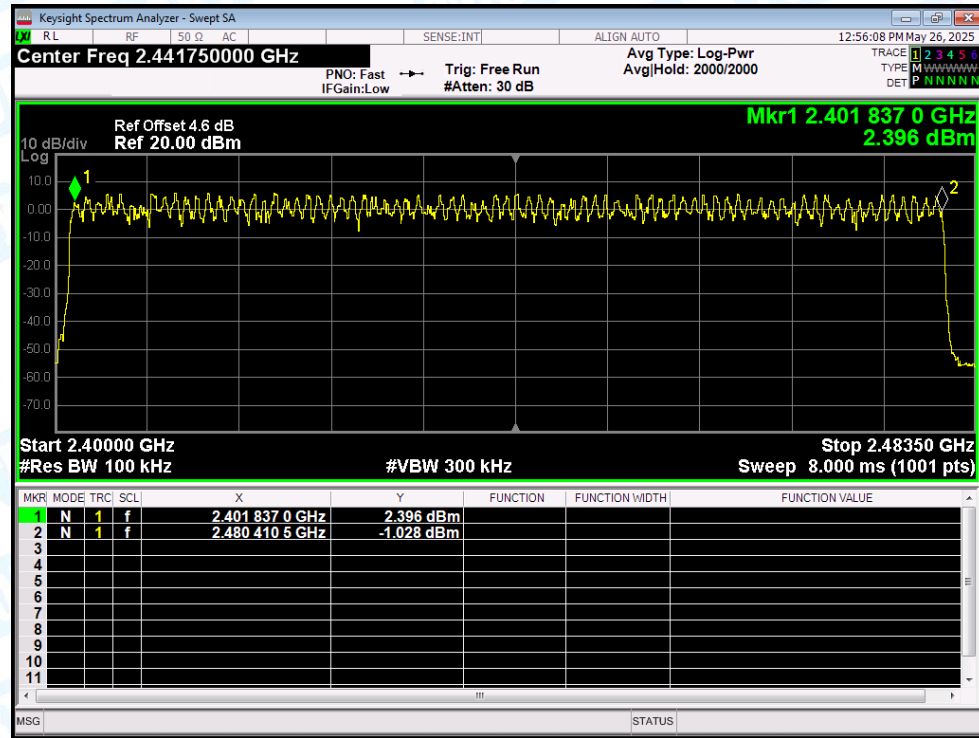
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

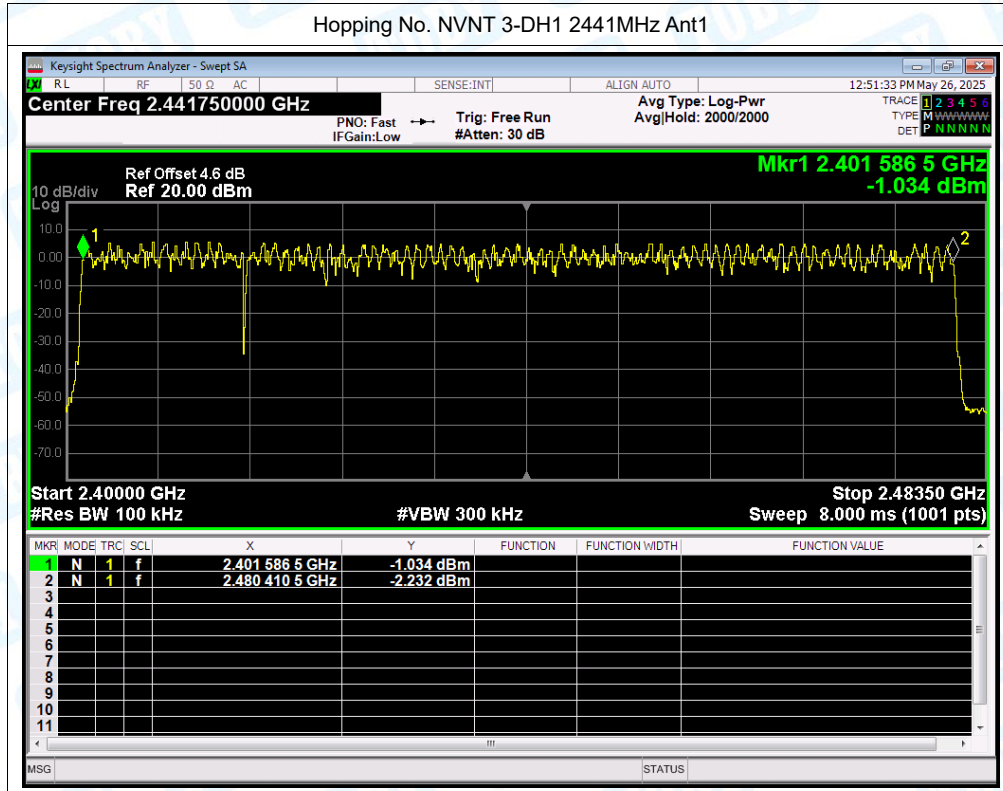
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



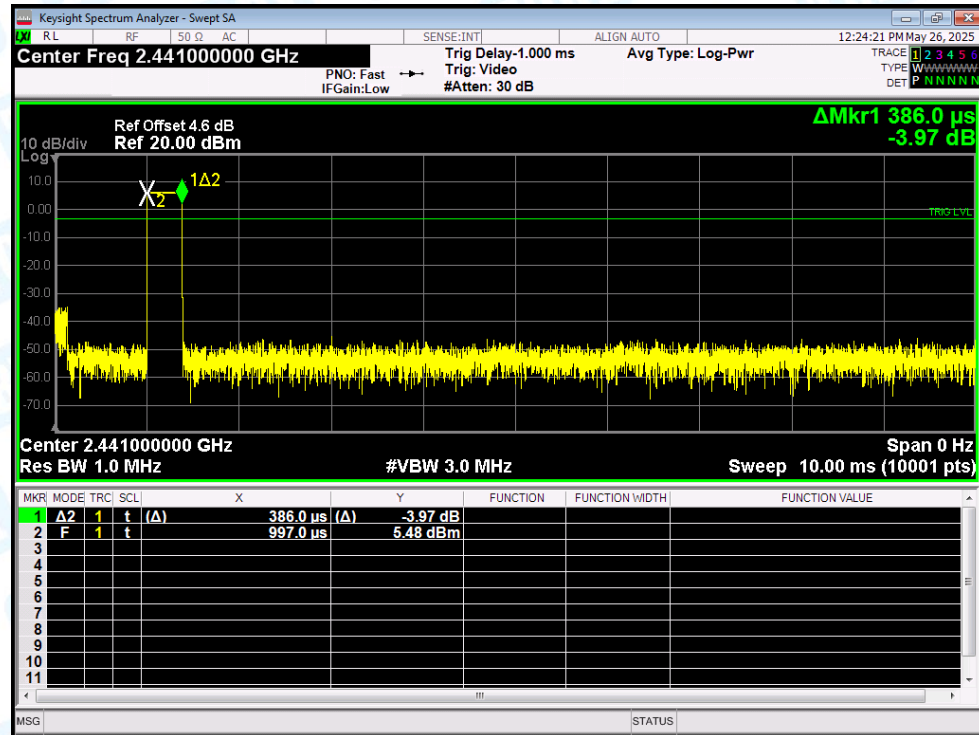


11. Dwell Time

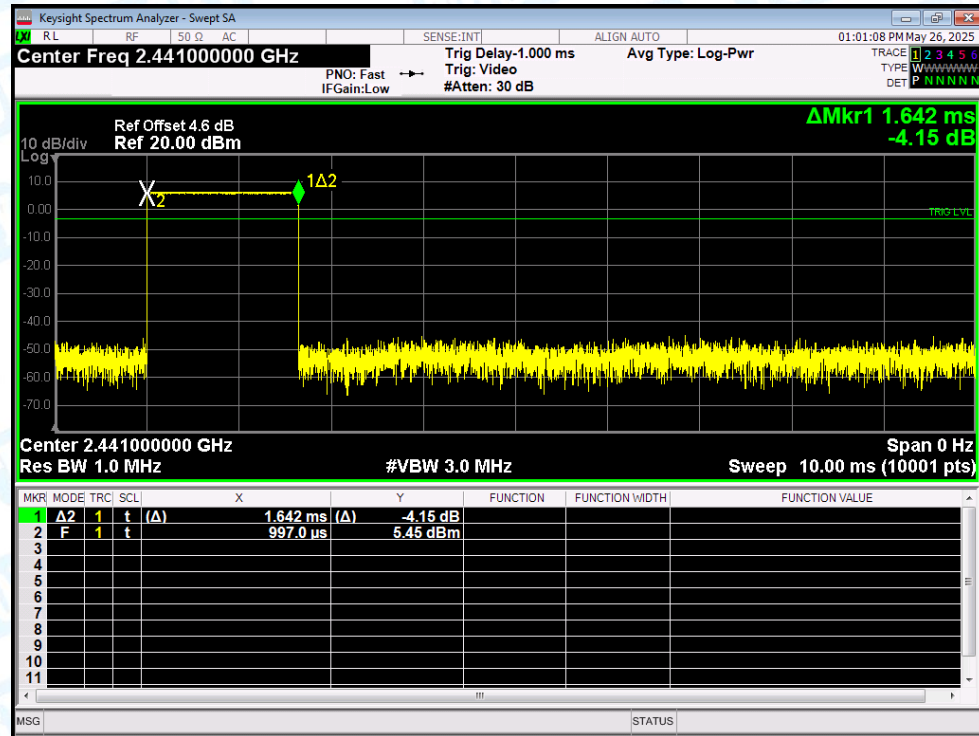
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.386	123.52	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.642	262.72	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.89	308.267	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.394	126.08	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.646	263.36	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.895	308.8	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.394	126.08	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.646	263.36	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.897	309.013	31600	400	Pass

Test Graphs

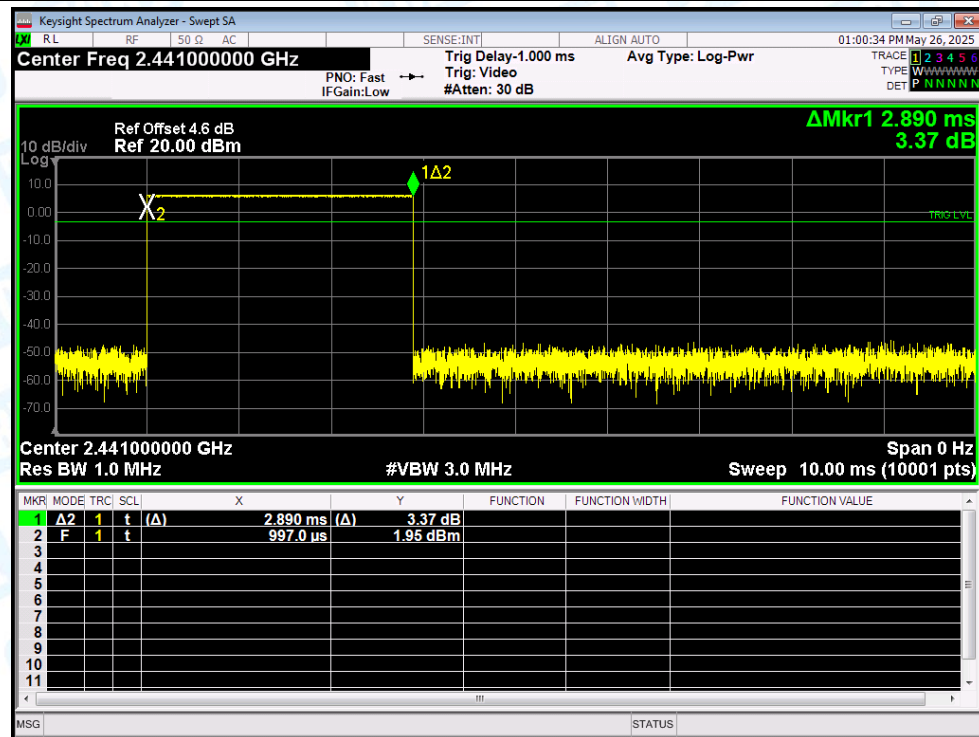
Dwell NVNT 1-DH1 2441MHz Ant1



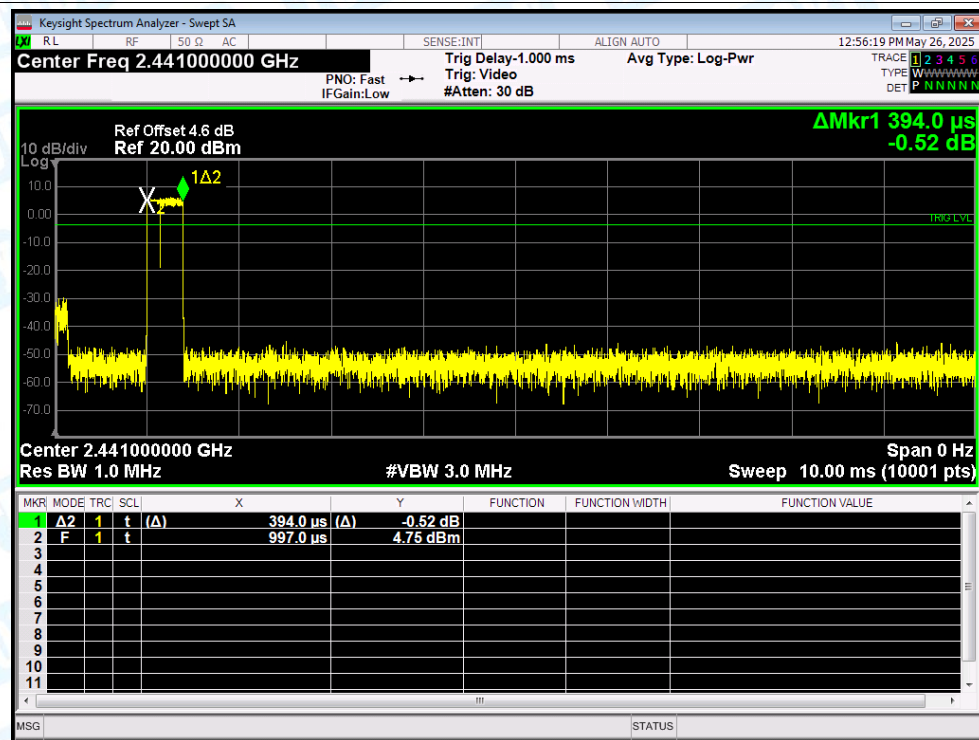
Dwell NVNT 1-DH3 2441MHz Ant1



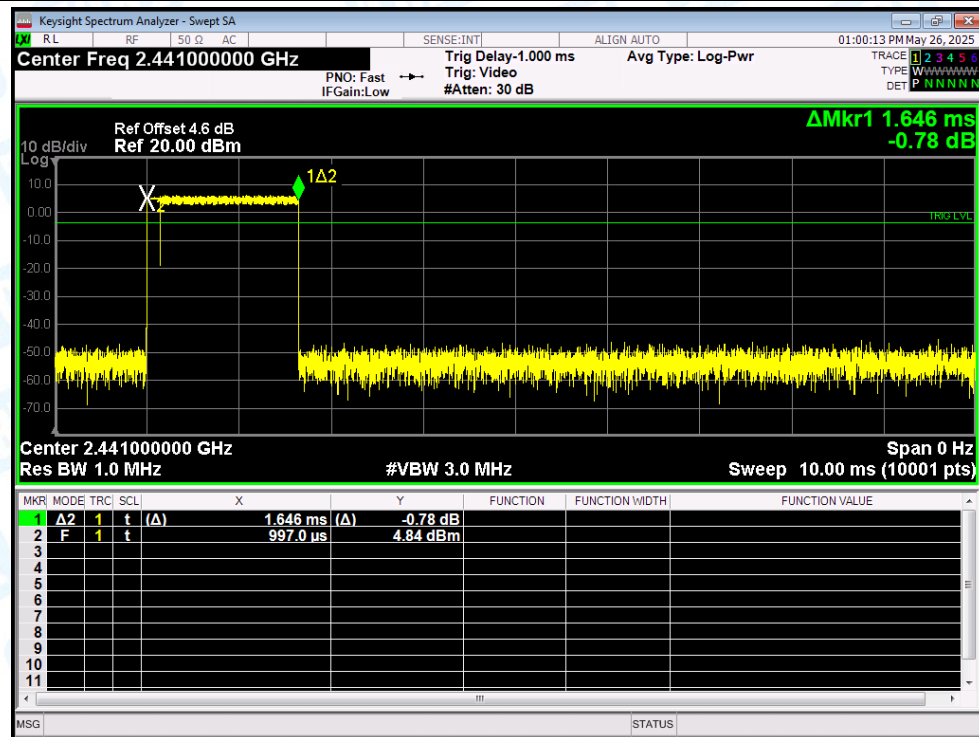
Dwell NVNT 1-DH5 2441MHz Ant1



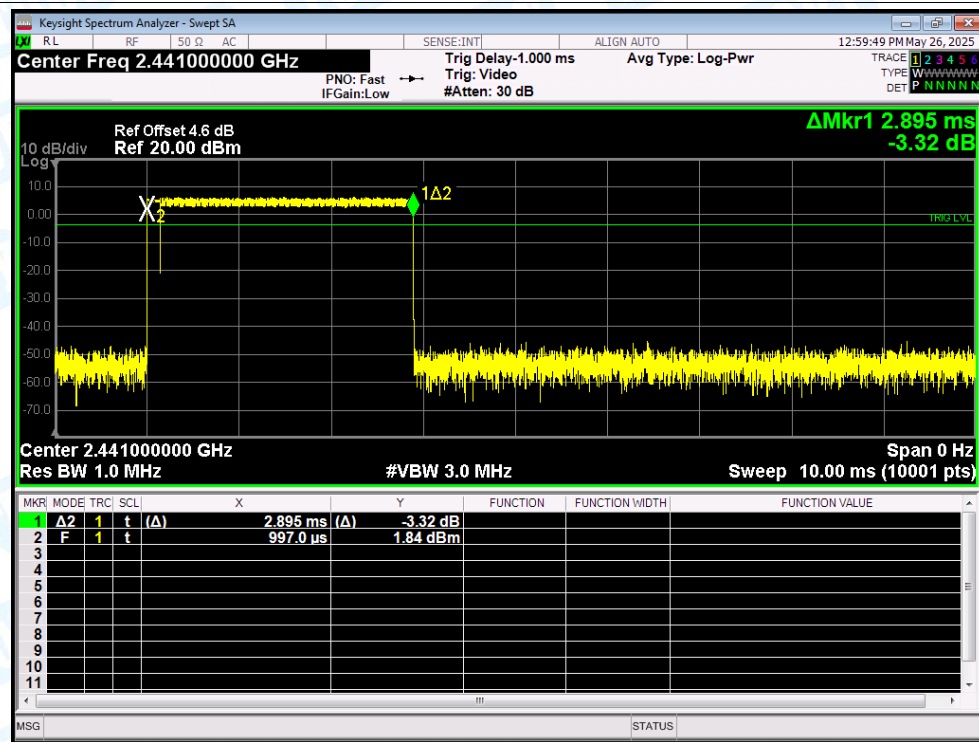
Dwell NVNT 2-DH1 2441MHz Ant1



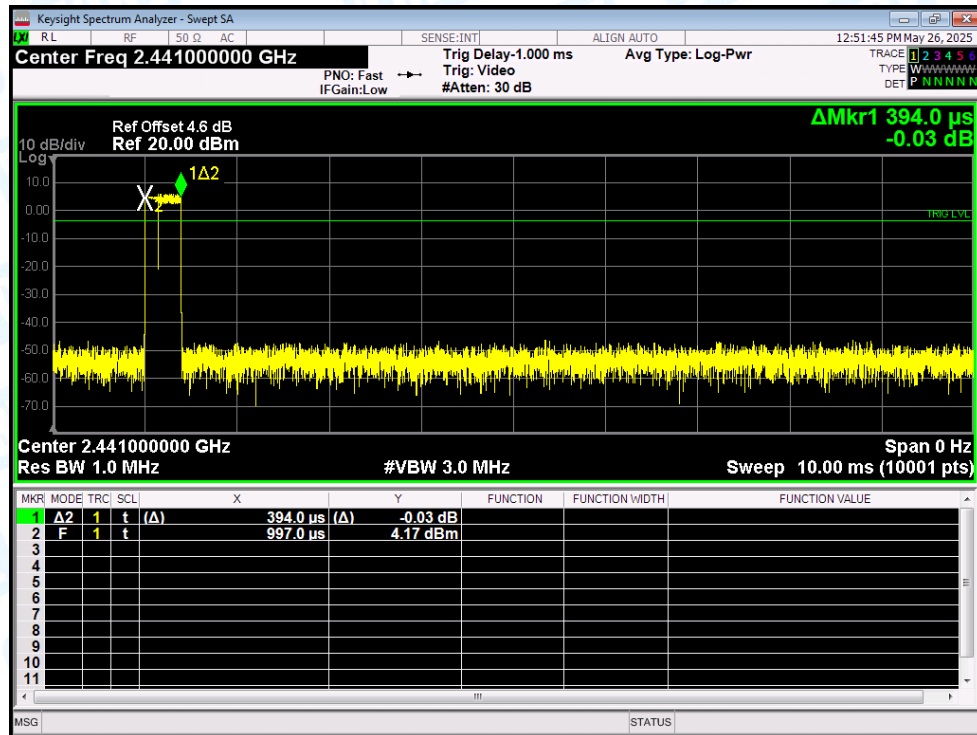
Dwell NVNT 2-DH3 2441MHz Ant1



Dwell NVNT 2-DH5 2441MHz Ant1



Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1

