

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	smart watch
Test Model:	K72
Sample ID:	HC-C-202508-0013-01-2#
Environmental Conditions	
Temperature:	23.9℃
Relative Humidity:	48%
Test Voltage:	DC 5V
Test Engineer:	Lily Zhang
Note: For a more detailed features description, please refer to the report TBR-C-202508-0013-2 The report only show the worst case data.	

Contents

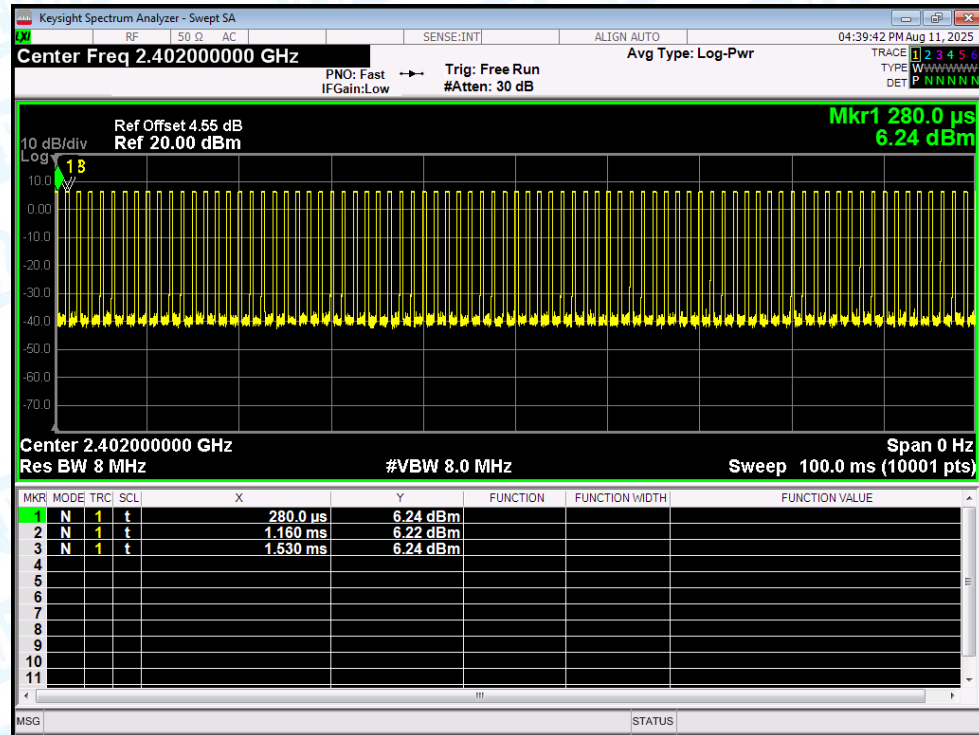
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1. Duty Cycle

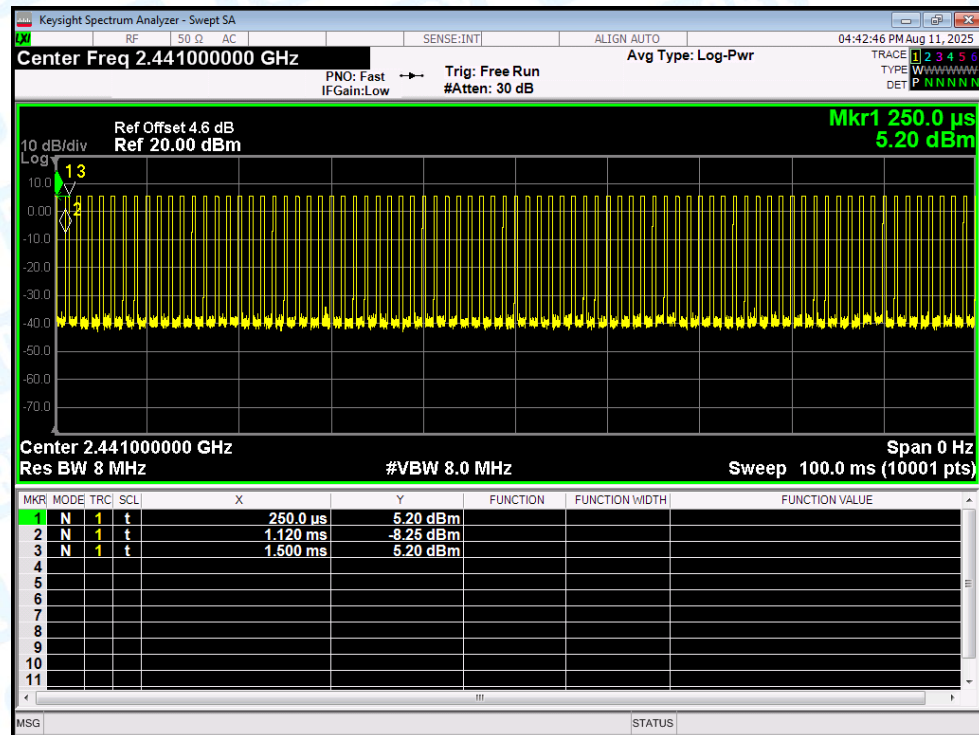
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	29.6	5.29	2.7
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	29.6	5.29	2.7
NVNT	2-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2480	Ant1	30.4	5.17	2.63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

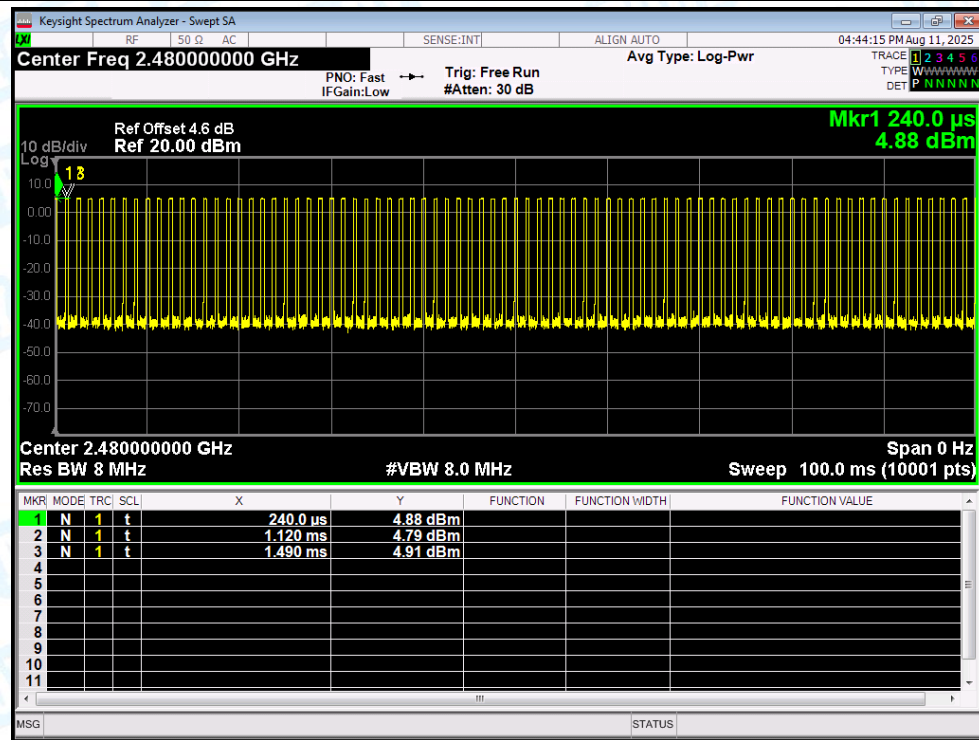
Duty Cycle NVNT 1-DH1 2402MHz Ant1



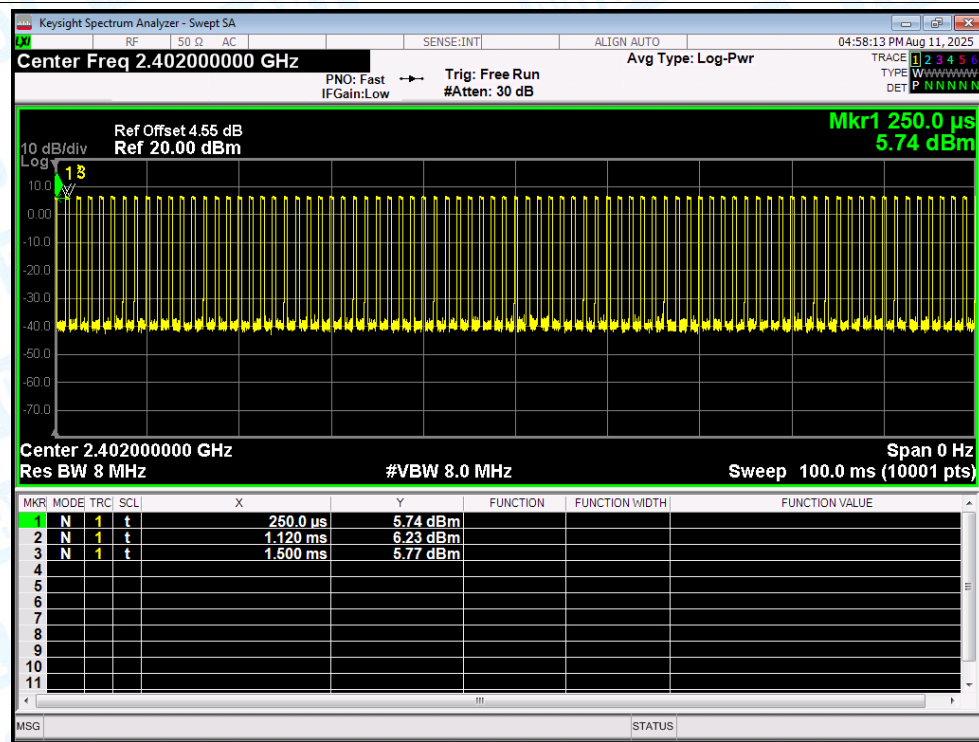
Duty Cycle NVNT 1-DH1 2441MHz Ant1



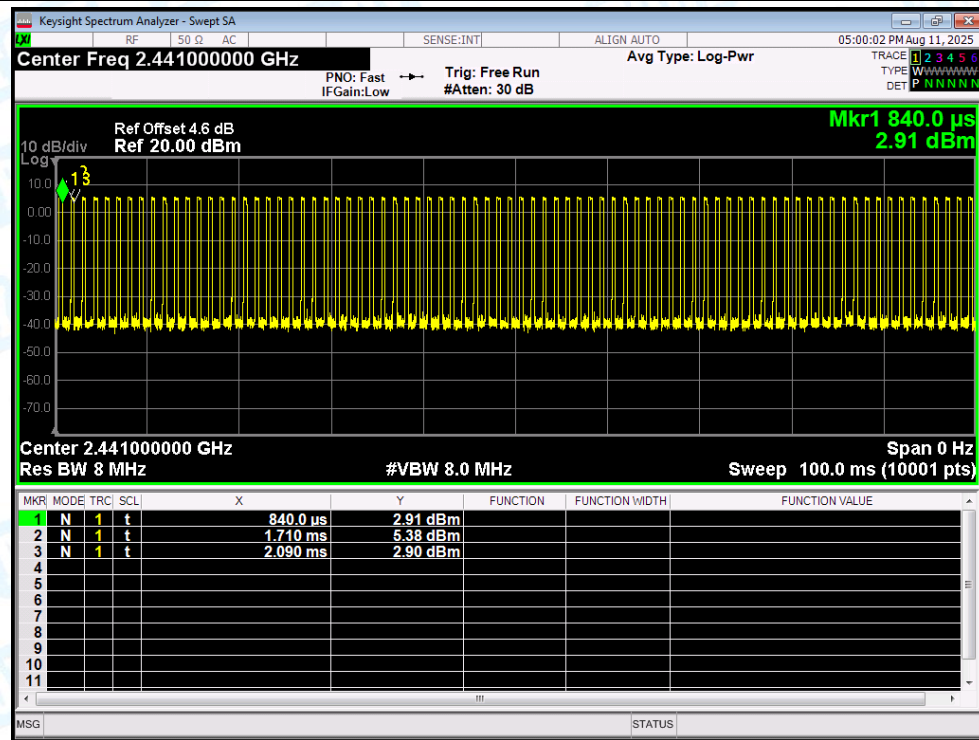
Duty Cycle NVNT 1-DH1 2480MHz Ant1



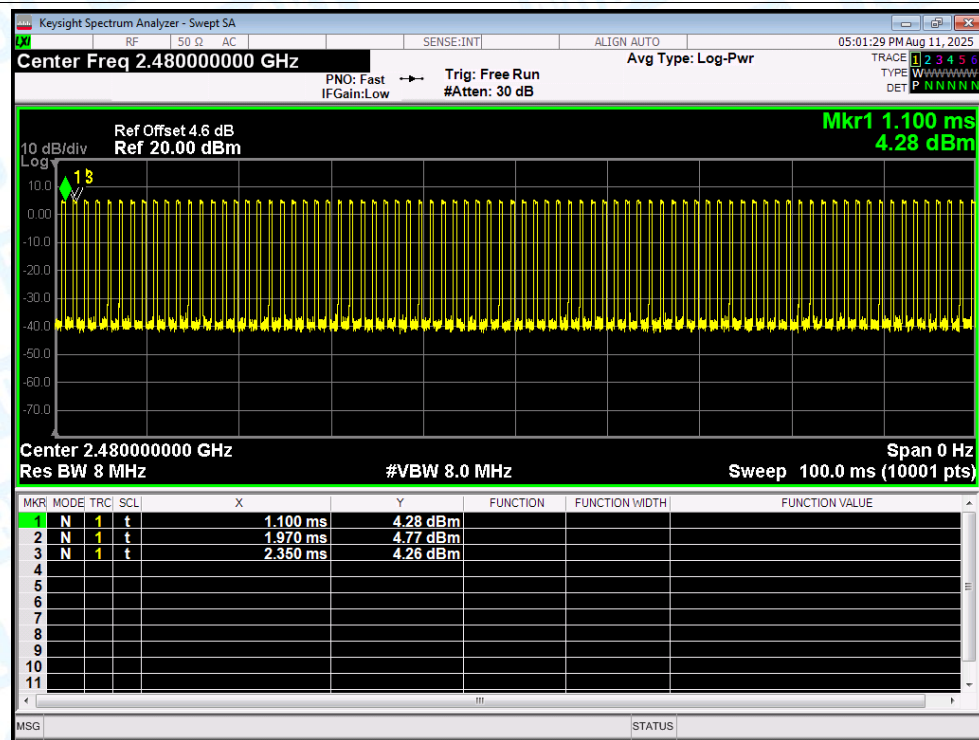
Duty Cycle NVNT 2-DH1 2402MHz Ant1



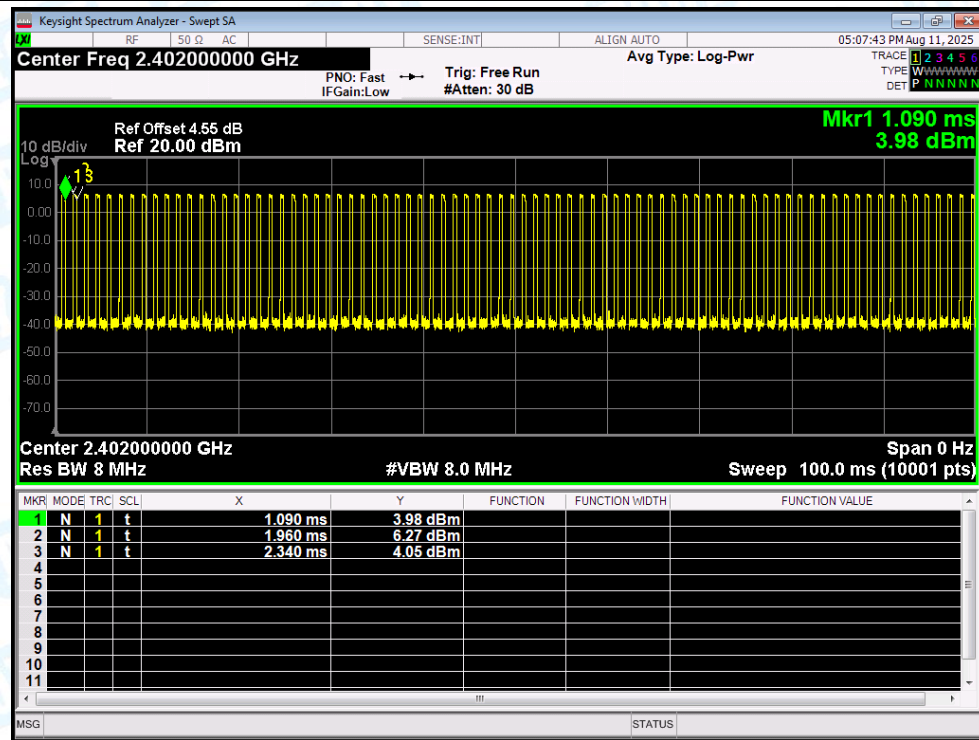
Duty Cycle NVNT 2-DH1 2441MHz Ant1



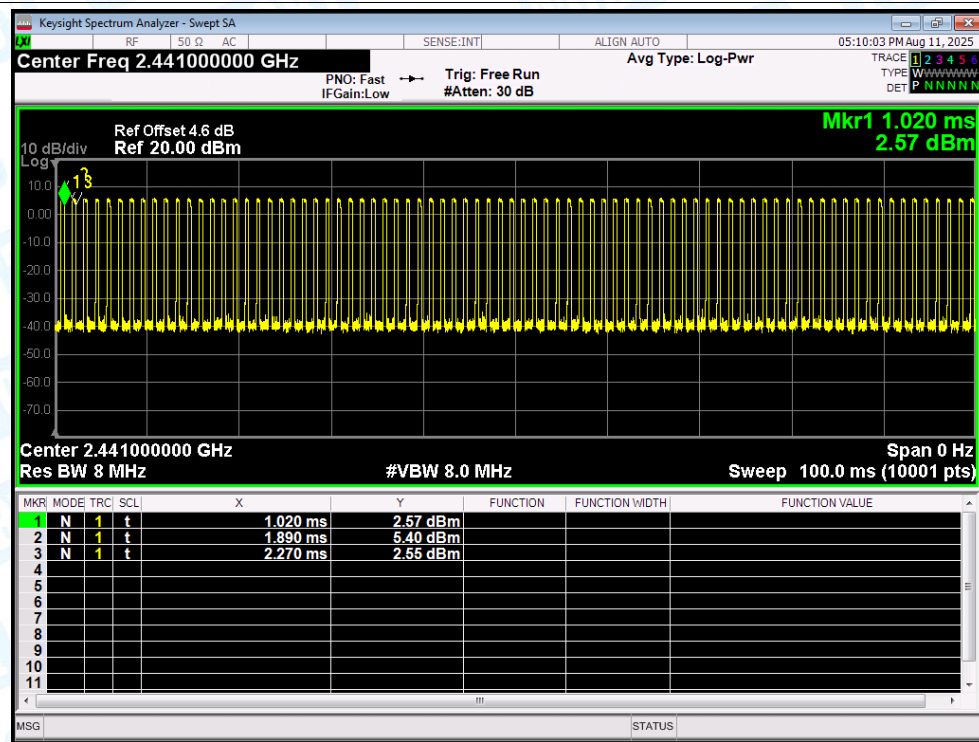
Duty Cycle NVNT 2-DH1 2480MHz Ant1

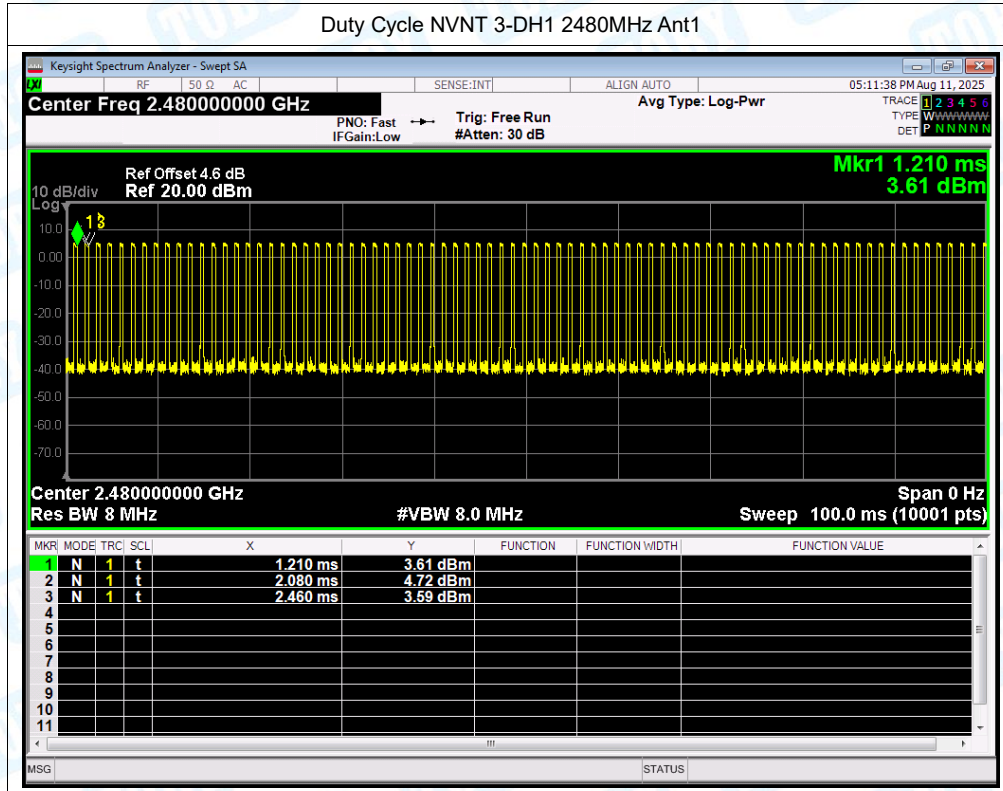


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



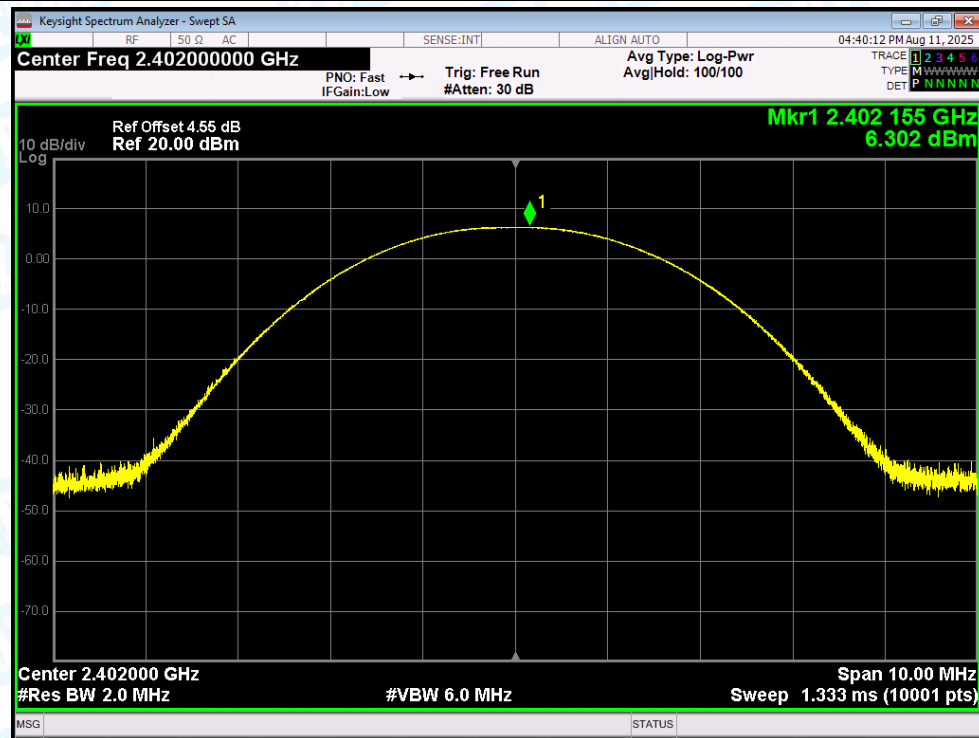


2. Maximum Conducted Output Power

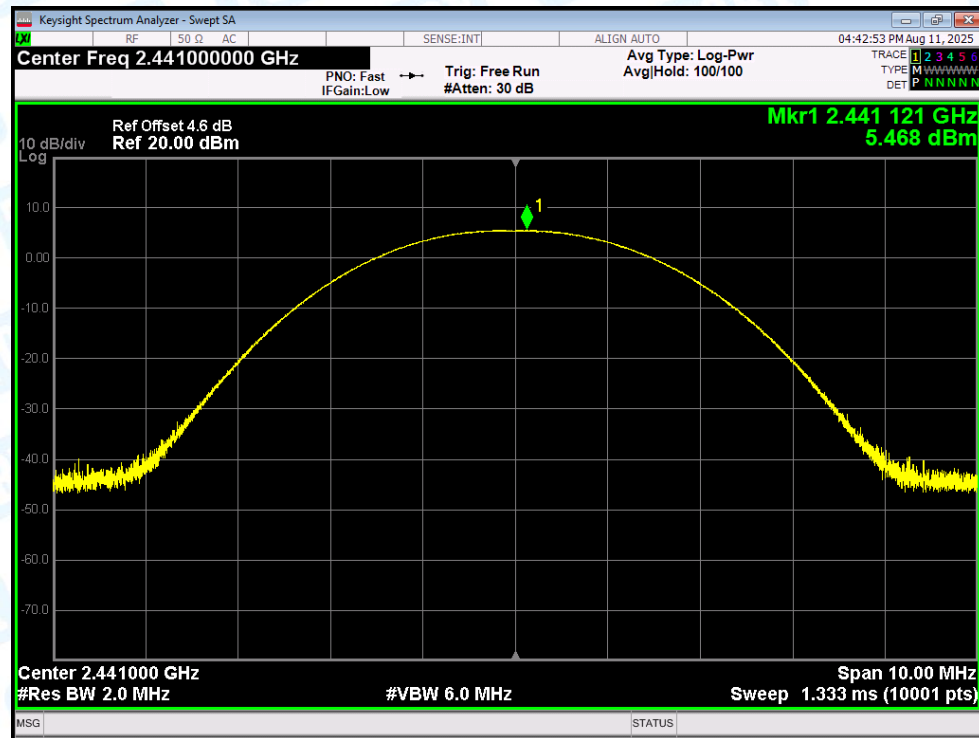
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	6.302	21	Pass
NVNT	1-DH1	2441	Ant1	5.468	21	Pass
NVNT	1-DH1	2480	Ant1	4.903	21	Pass
NVNT	2-DH1	2402	Ant1	6.318	21	Pass
NVNT	2-DH1	2441	Ant1	5.488	21	Pass
NVNT	2-DH1	2480	Ant1	4.909	21	Pass
NVNT	3-DH1	2402	Ant1	6.364	21	Pass
NVNT	3-DH1	2441	Ant1	5.507	21	Pass
NVNT	3-DH1	2480	Ant1	4.934	21	Pass

Test Graphs

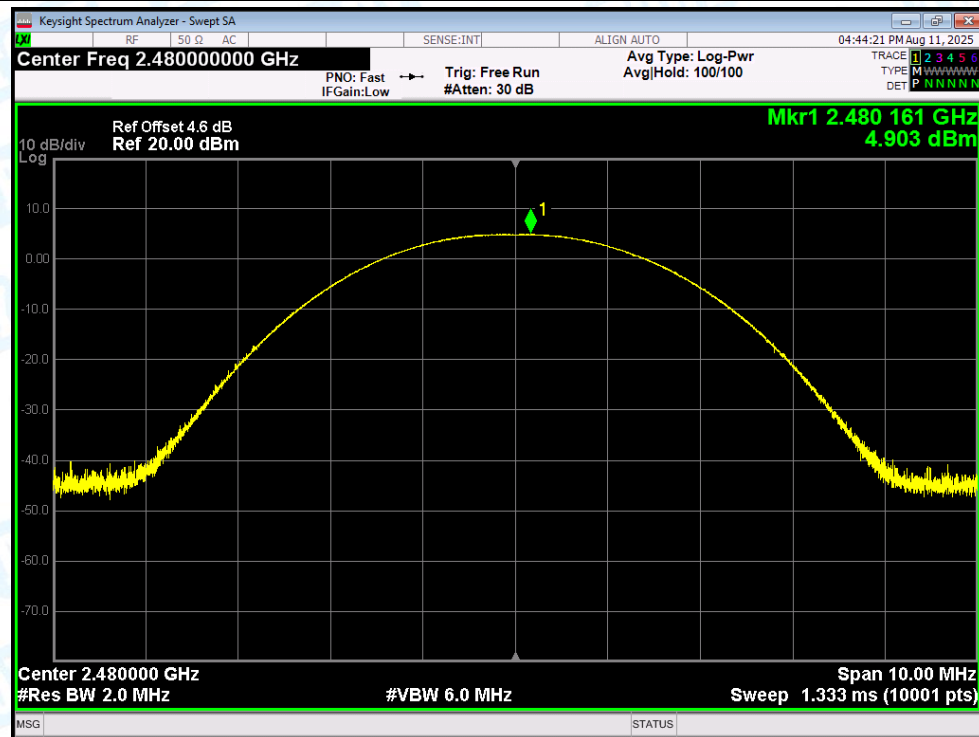
Power NVNT 1-DH1 2402MHz Ant1



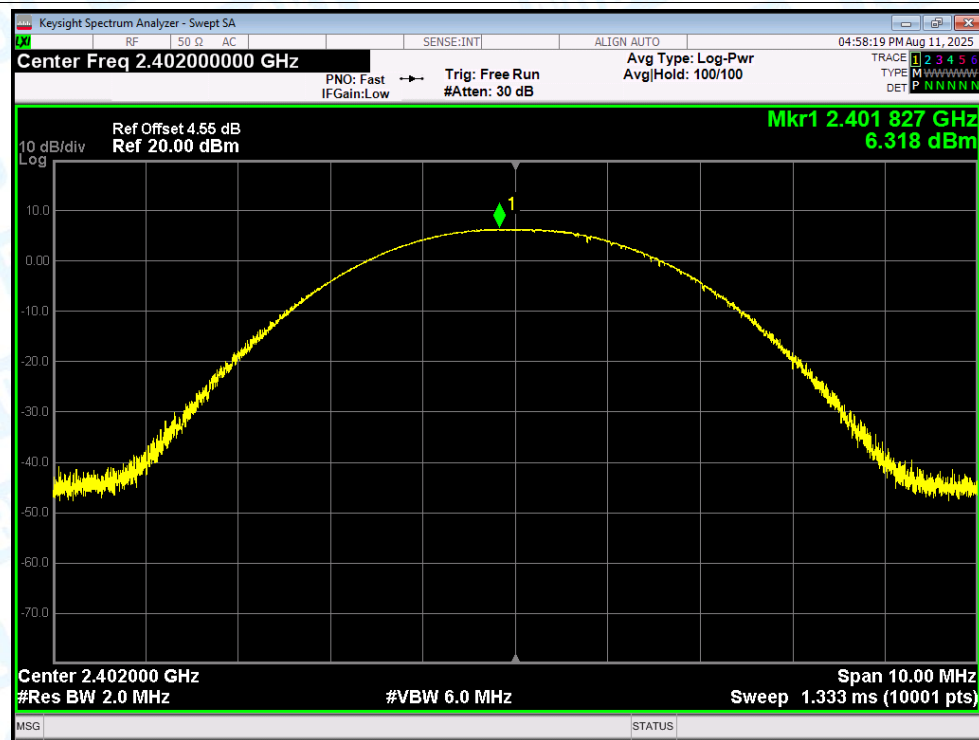
Power NVNT 1-DH1 2441MHz Ant1



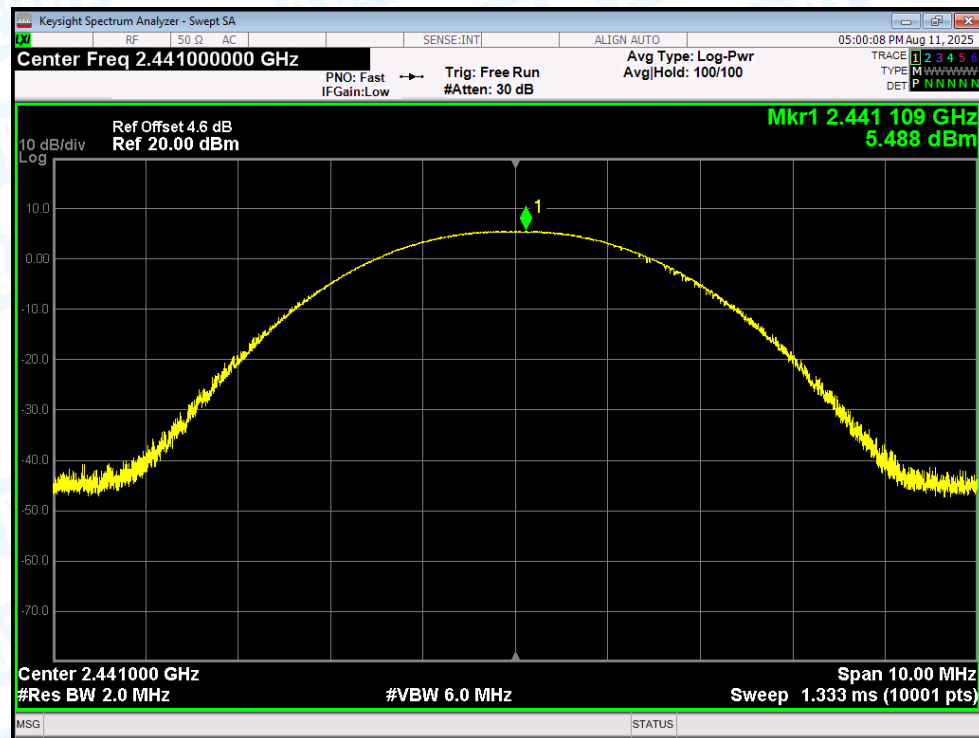
Power NVNT 1-DH1 2480MHz Ant1



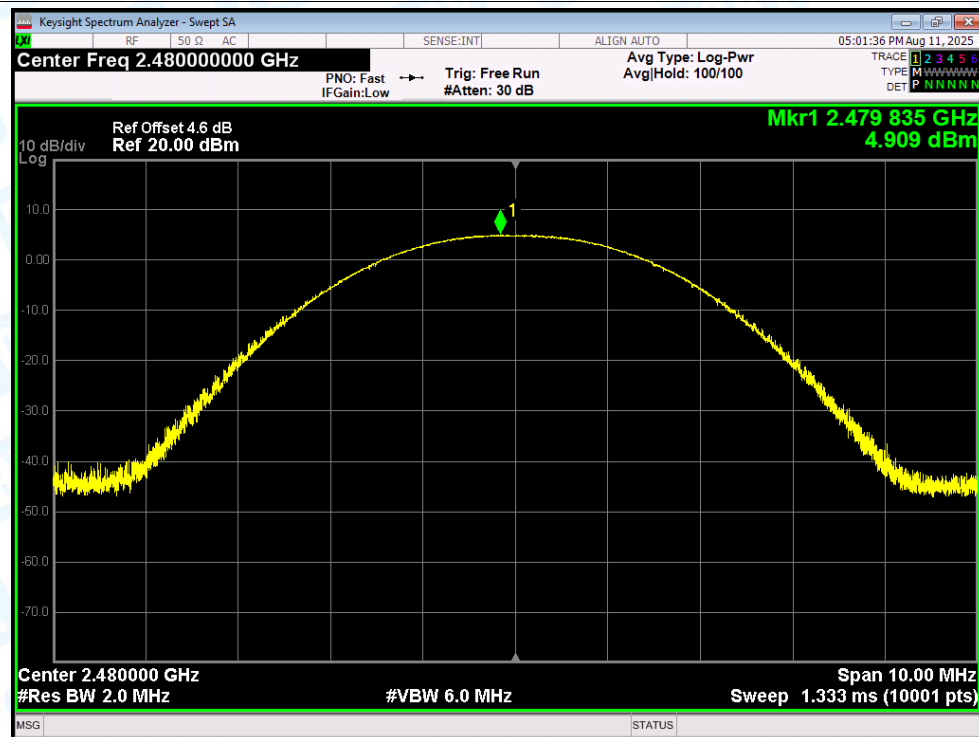
Power NVNT 2-DH1 2402MHz Ant1

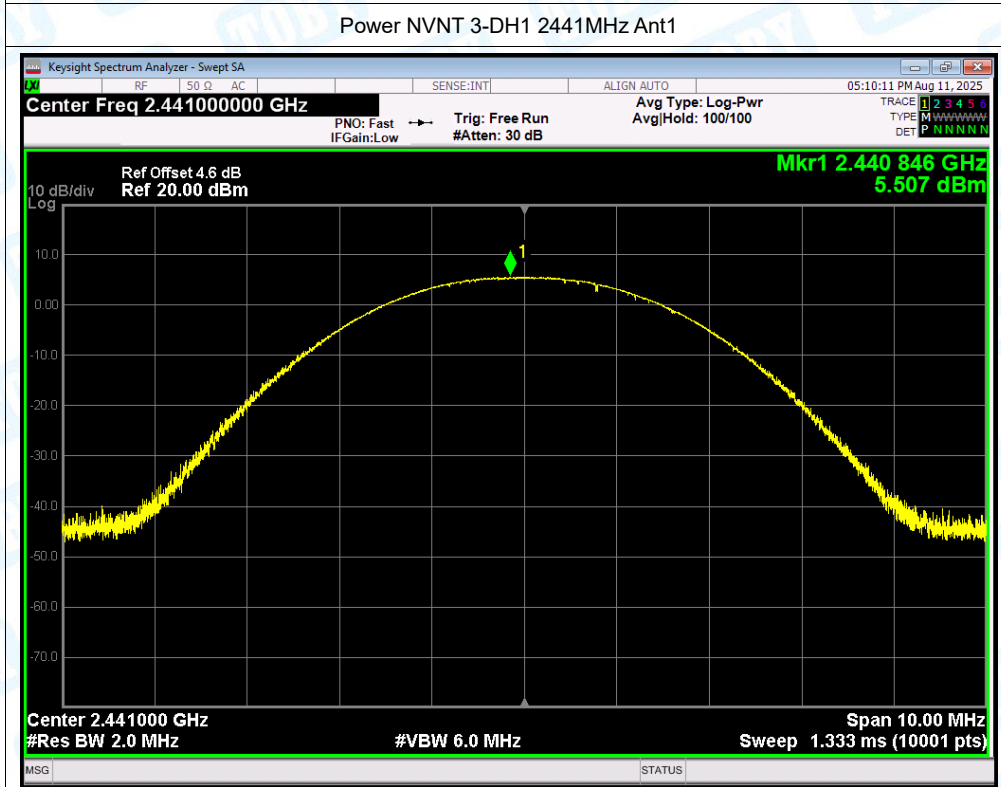
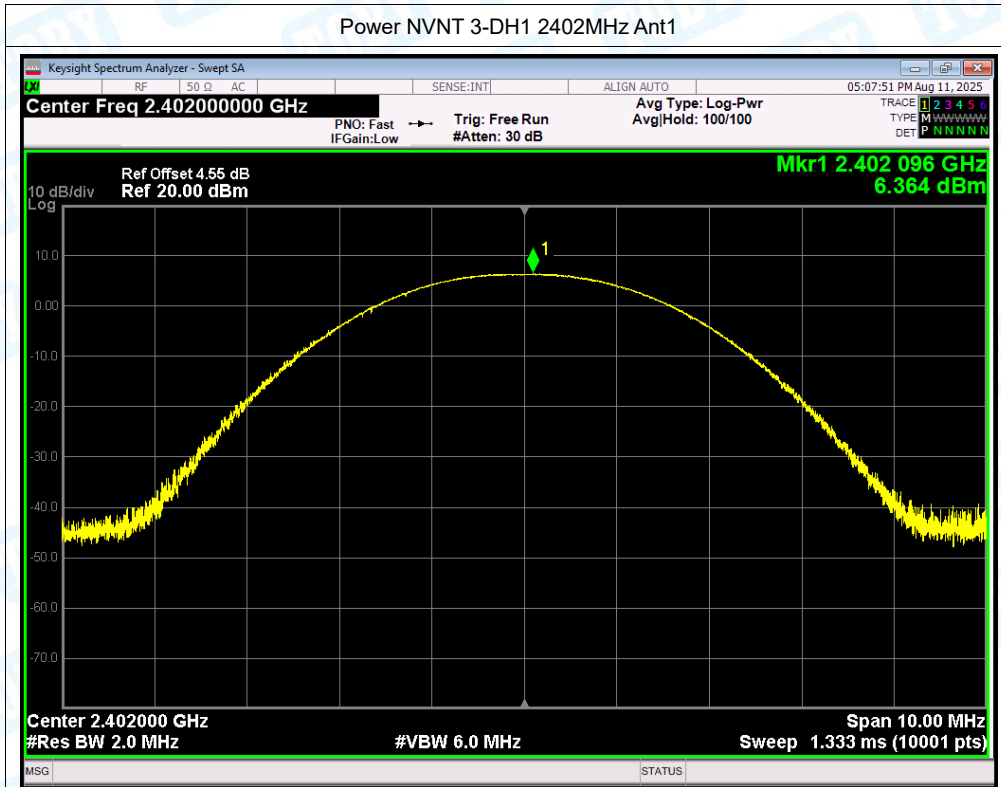


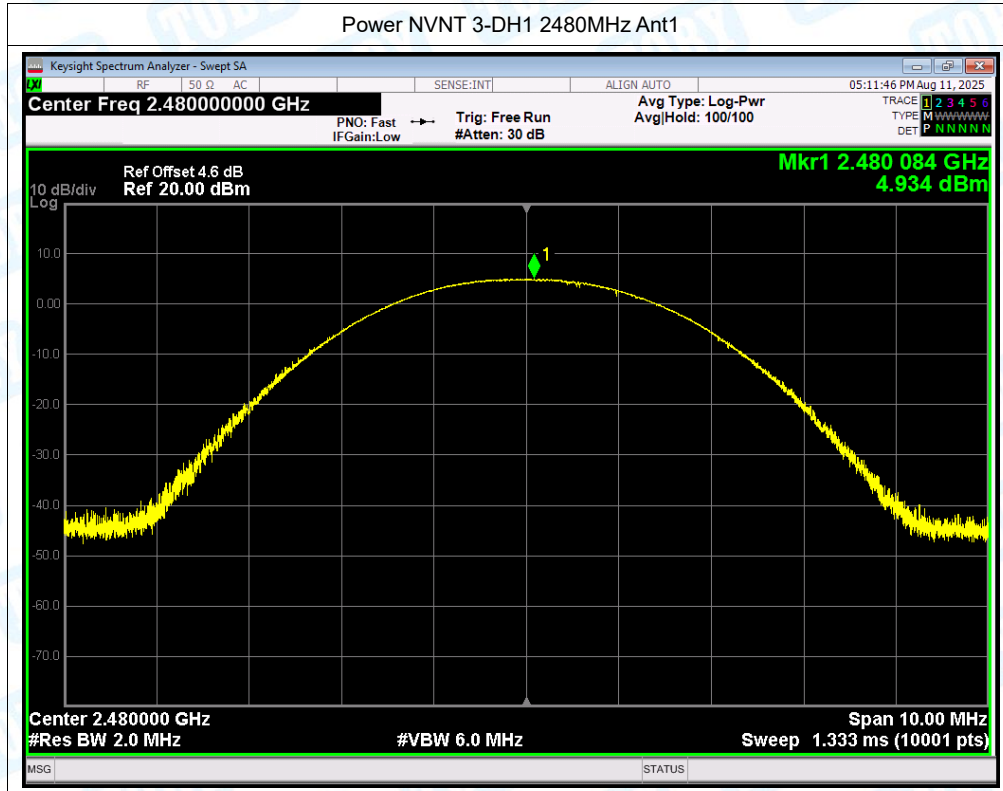
Power NVNT 2-DH1 2441MHz Ant1



Power NVNT 2-DH1 2480MHz Ant1





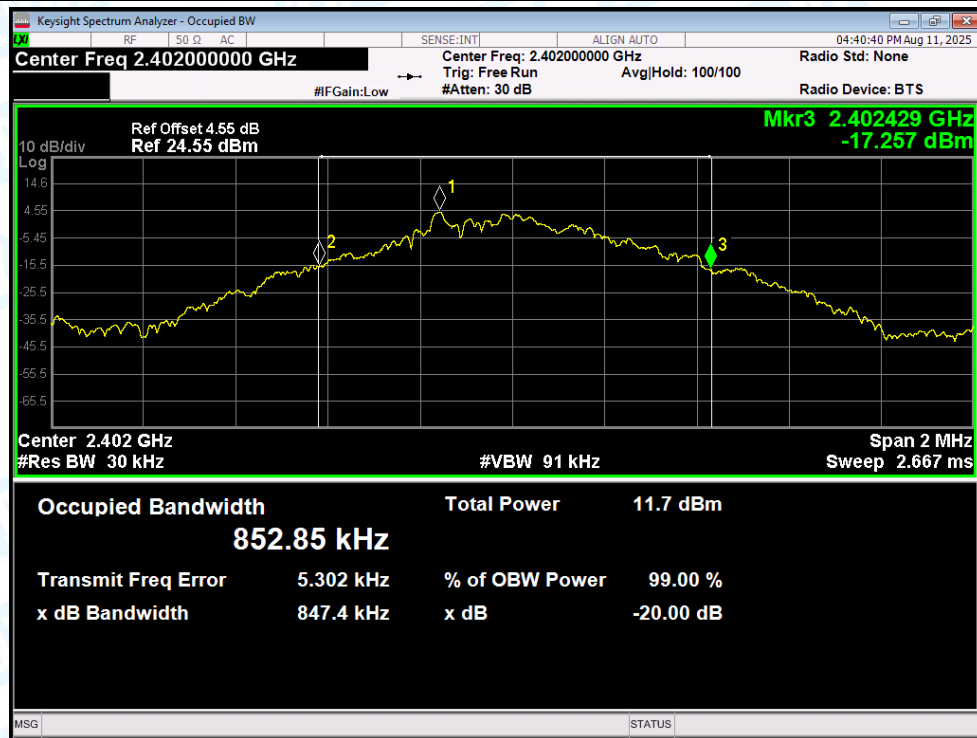


3. -20dB Bandwidth

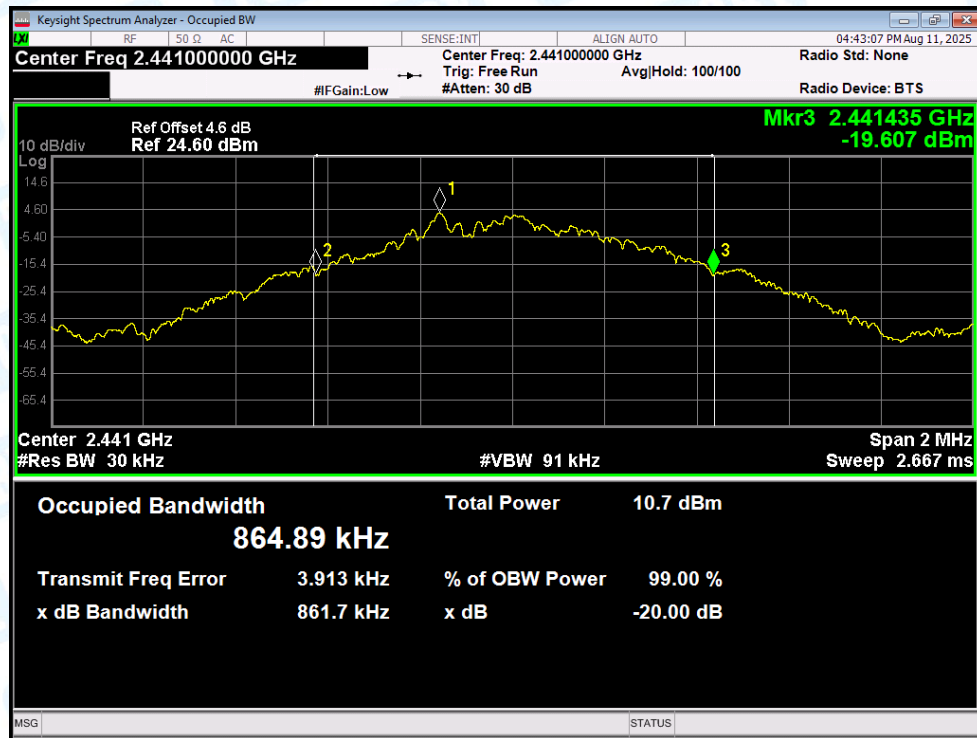
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.85	0	Pass
NVNT	1-DH1	2441	Ant1	0.86	0	Pass
NVNT	1-DH1	2480	Ant1	0.87	0	Pass
NVNT	2-DH1	2402	Ant1	1.21	0	Pass
NVNT	2-DH1	2441	Ant1	1.2	0	Pass
NVNT	2-DH1	2480	Ant1	1.21	0	Pass
NVNT	3-DH1	2402	Ant1	1.21	0	Pass
NVNT	3-DH1	2441	Ant1	1.21	0	Pass
NVNT	3-DH1	2480	Ant1	1.21	0	Pass

Test Graphs

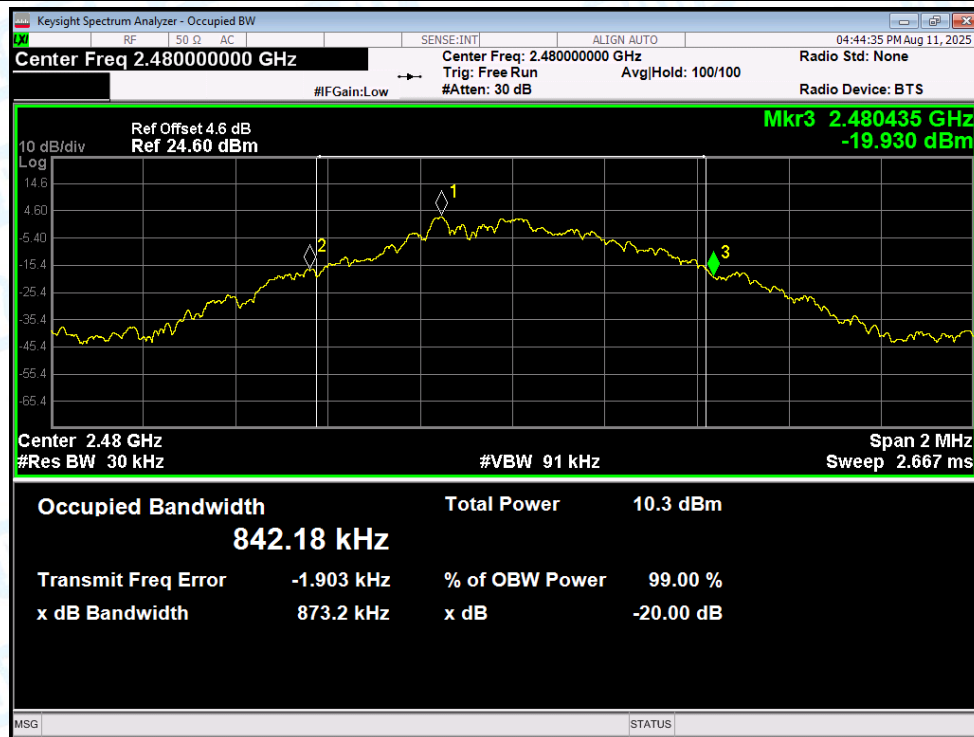
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



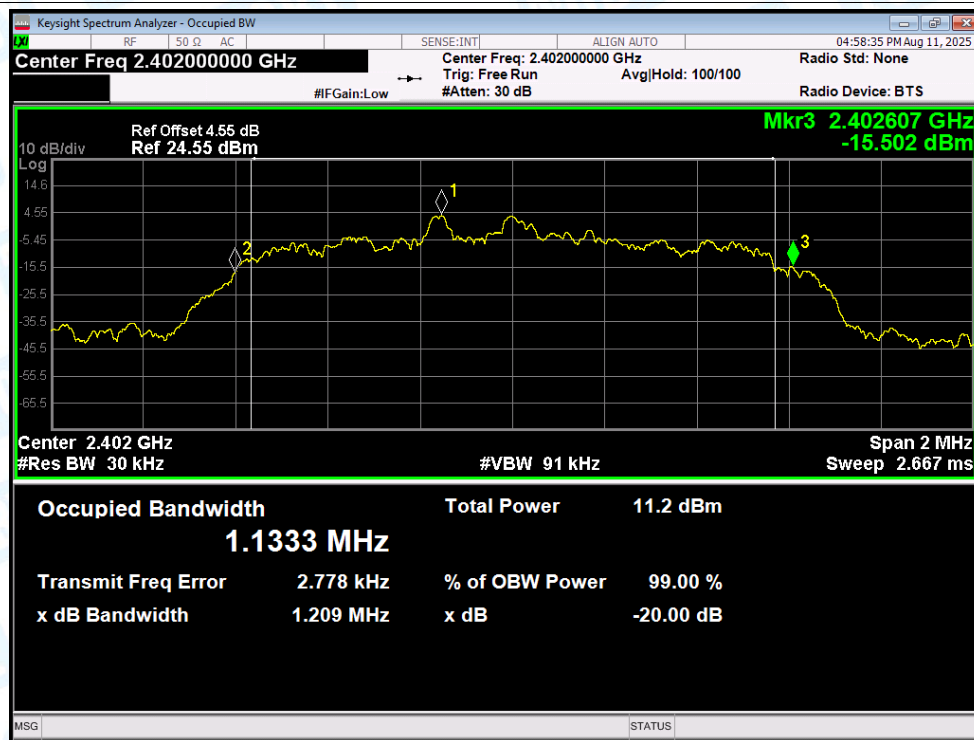
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



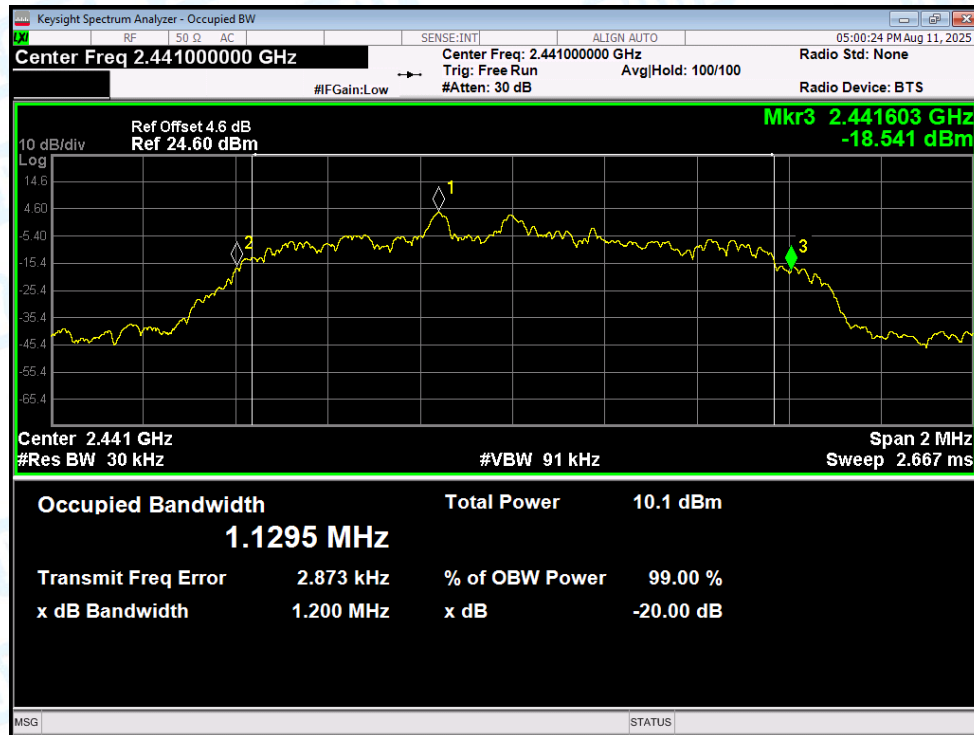
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



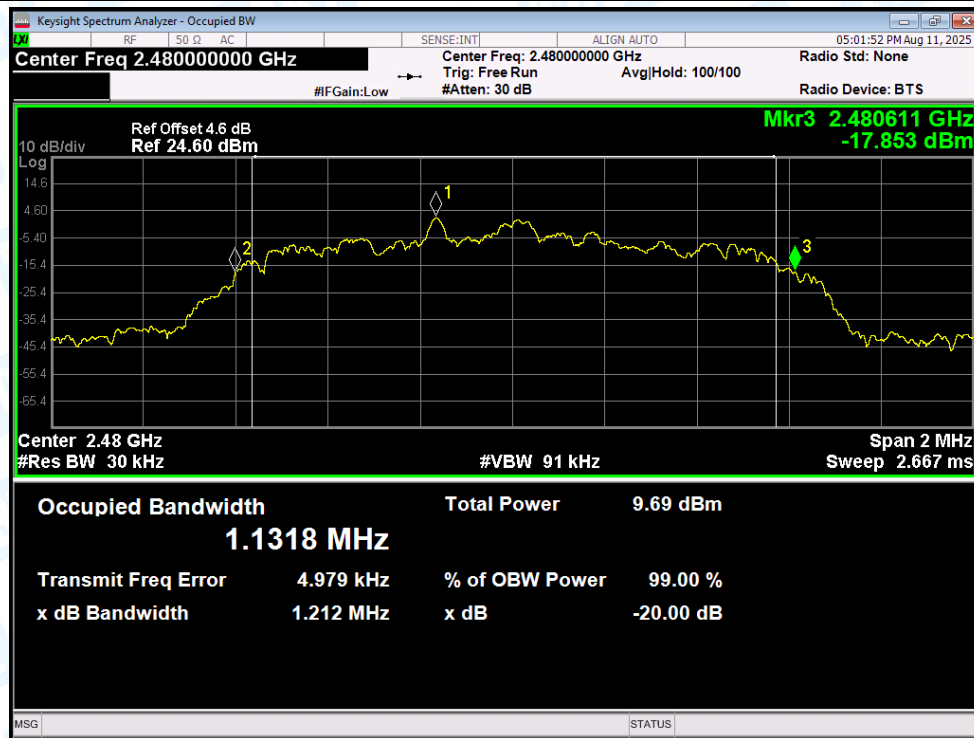
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



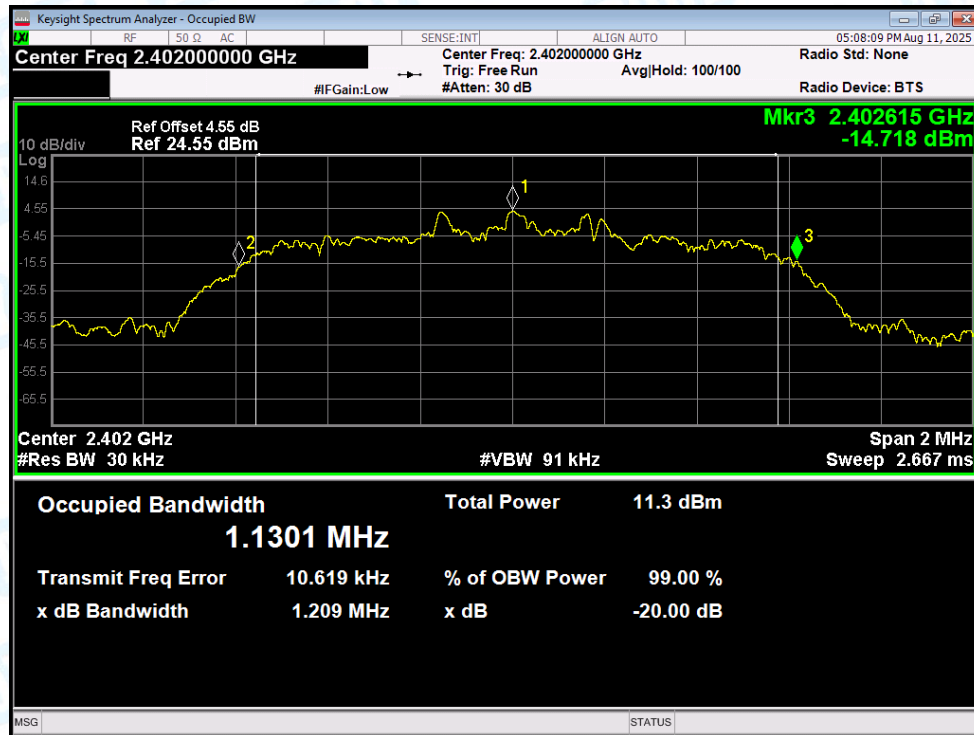
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



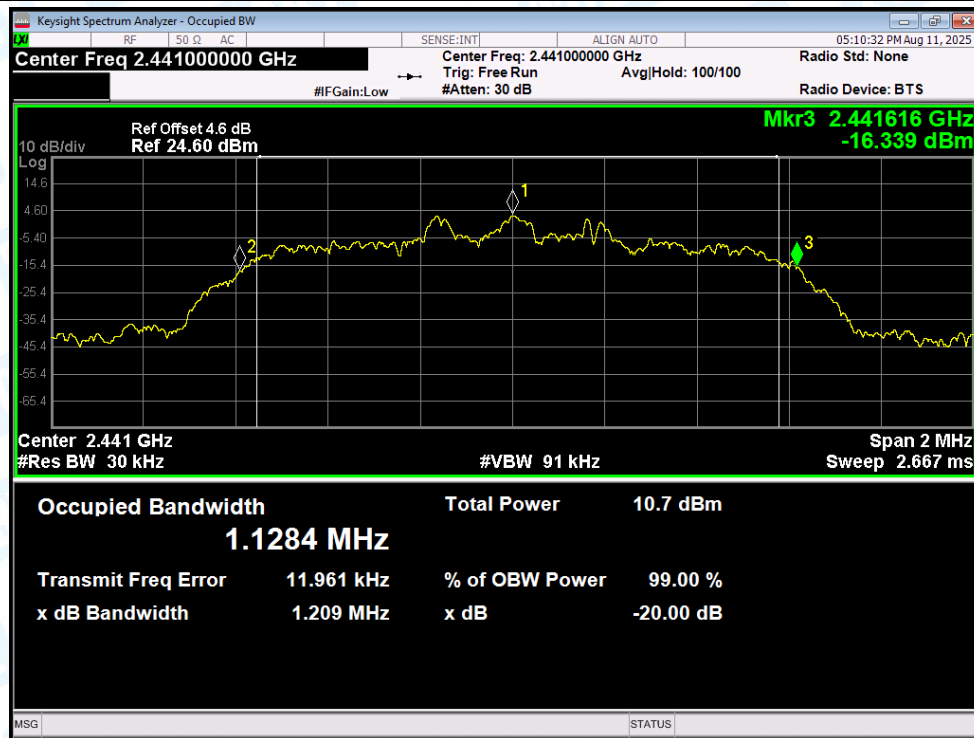
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

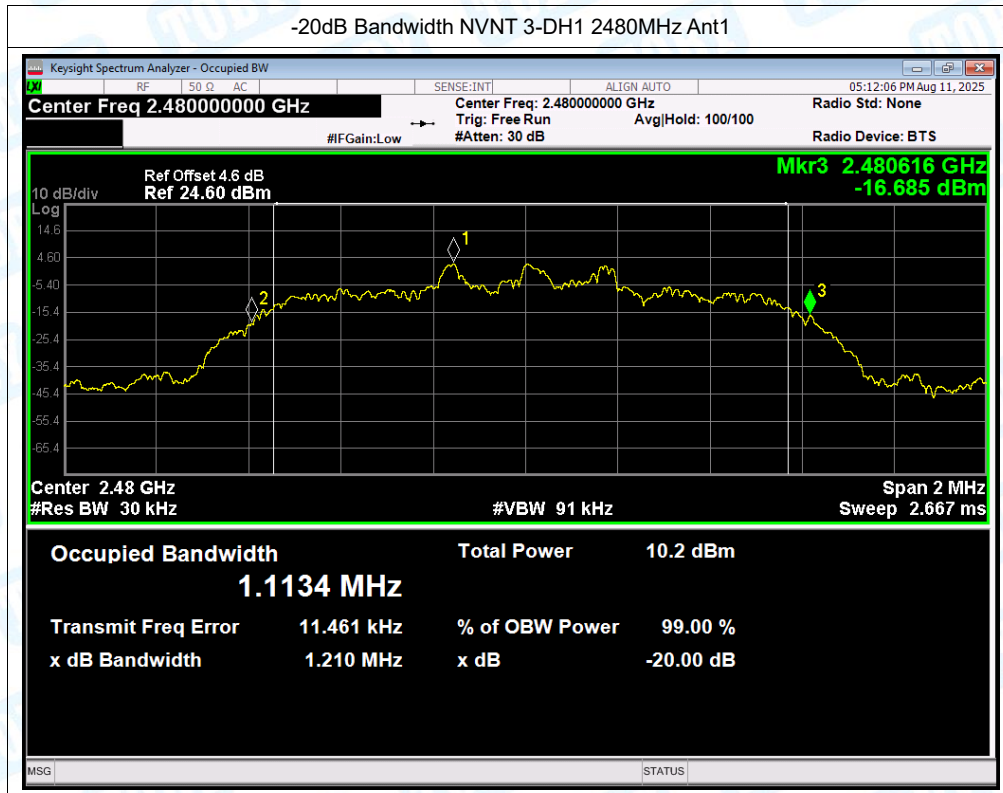


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



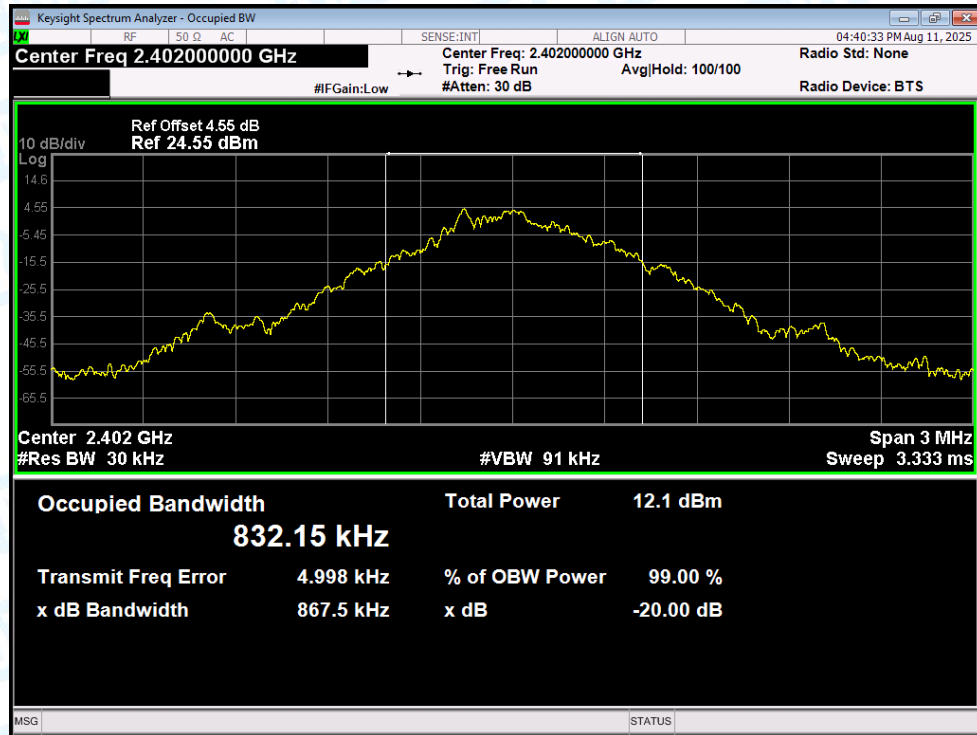


4. Occupied Channel Bandwidth

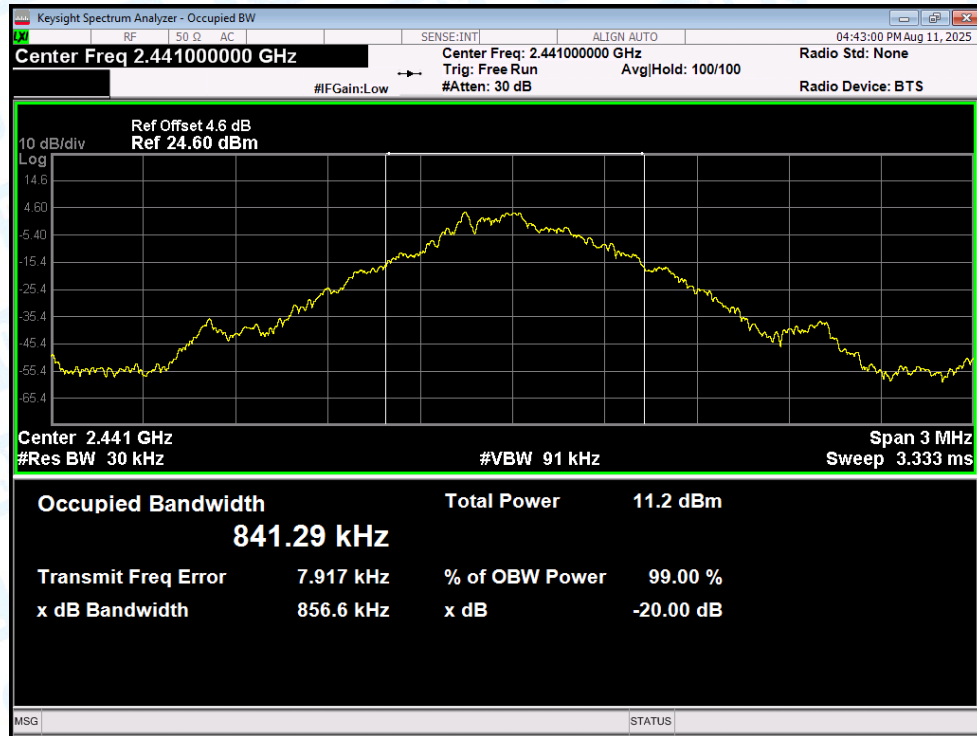
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.832
NVNT	1-DH1	2441	Ant1	0.841
NVNT	1-DH1	2480	Ant1	0.83
NVNT	2-DH1	2402	Ant1	1.126
NVNT	2-DH1	2441	Ant1	1.134
NVNT	2-DH1	2480	Ant1	1.115
NVNT	3-DH1	2402	Ant1	1.126
NVNT	3-DH1	2441	Ant1	1.125
NVNT	3-DH1	2480	Ant1	1.117

Test Graphs

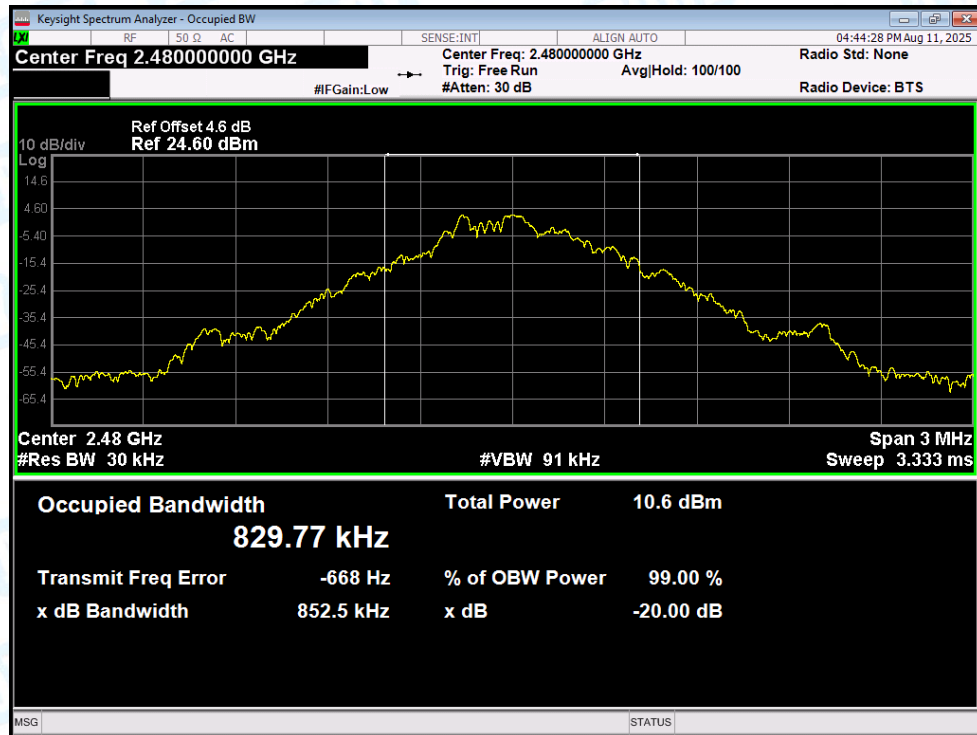
OBW NVNT 1-DH1 2402MHz Ant1



OBW NVNT 1-DH1 2441MHz Ant1



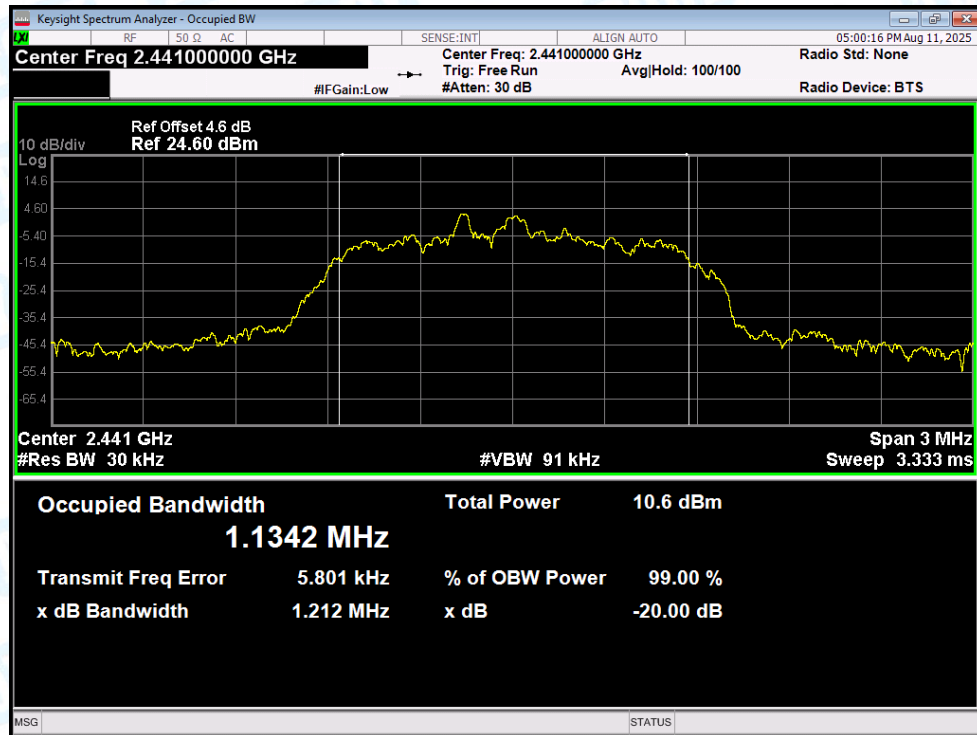
OBW NVNT 1-DH1 2480MHz Ant1



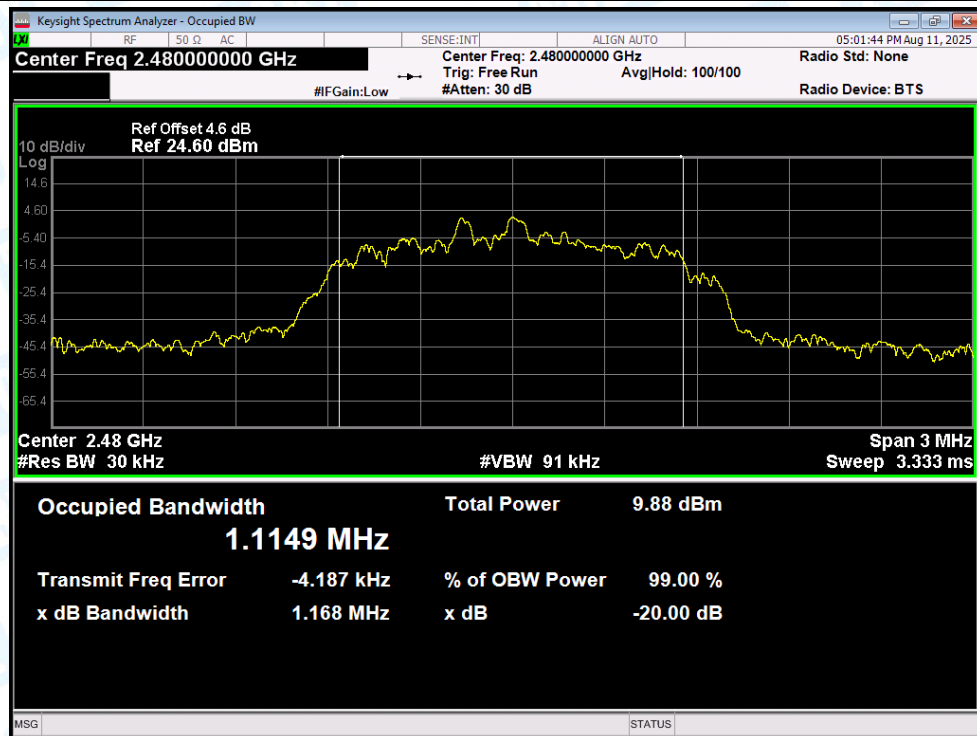
OBW NVNT 2-DH1 2402MHz Ant1



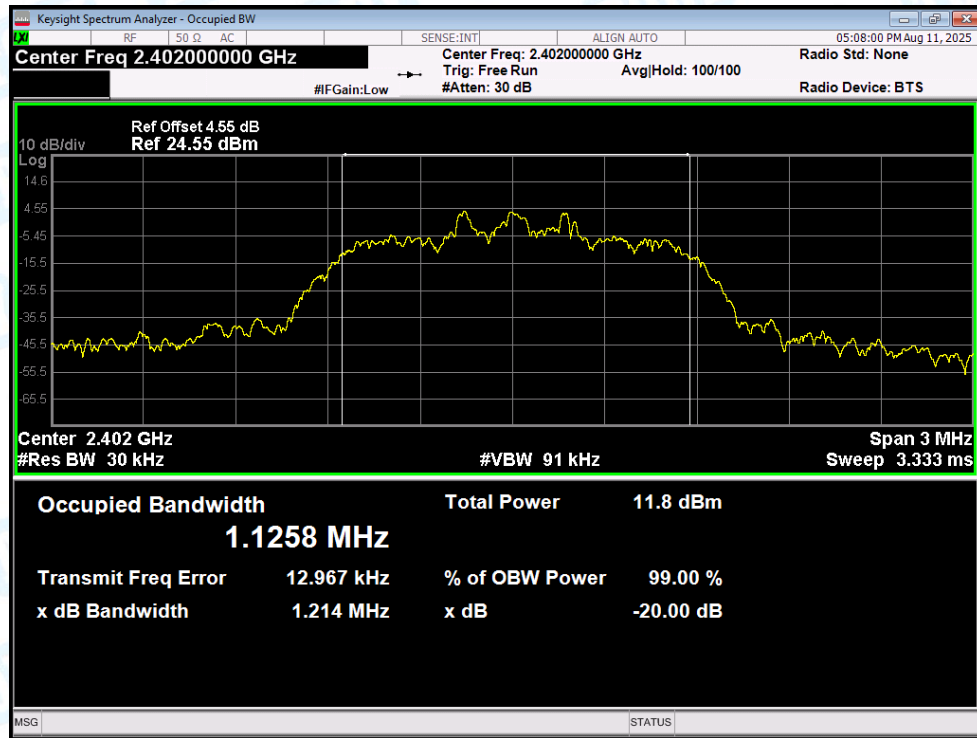
OBW NVNT 2-DH1 2441MHz Ant1



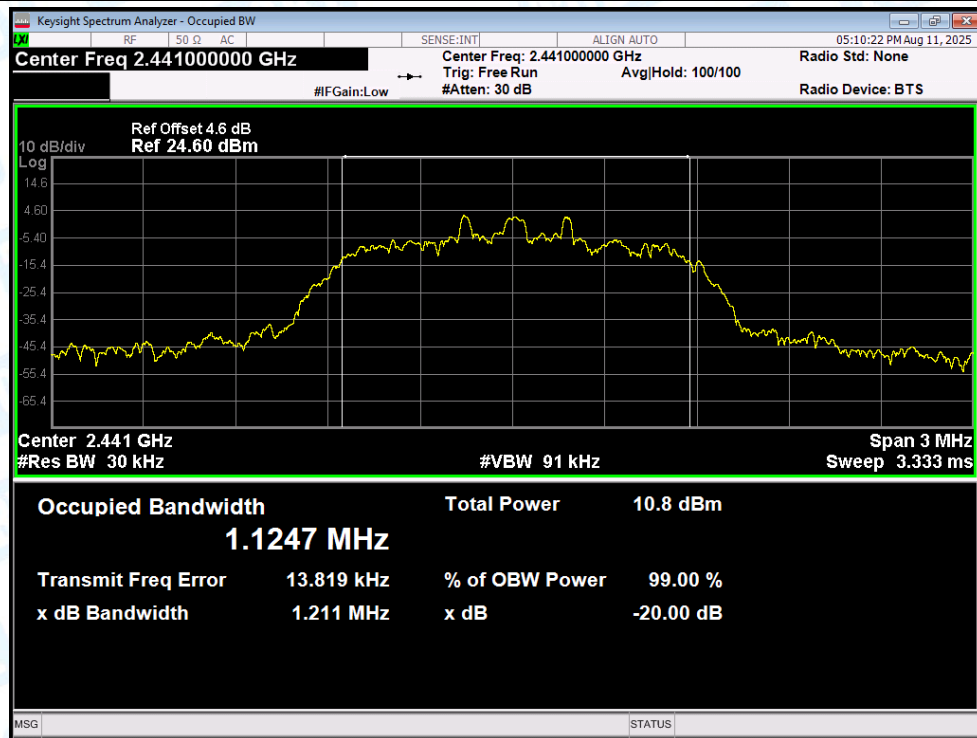
OBW NVNT 2-DH1 2480MHz Ant1

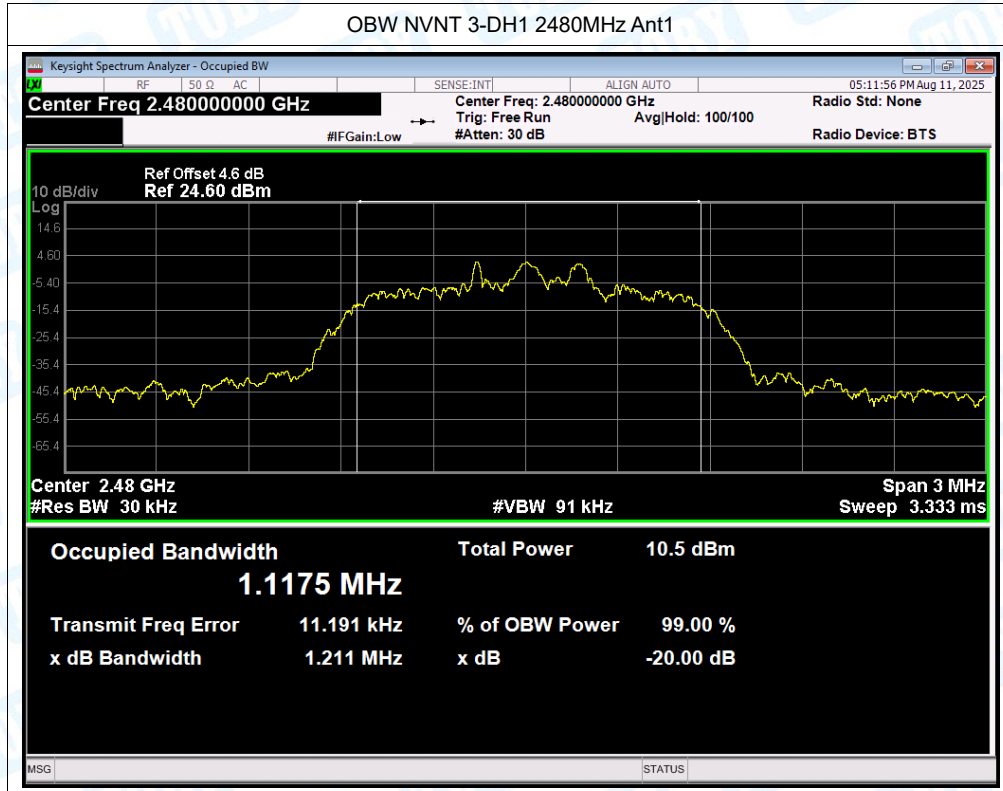


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



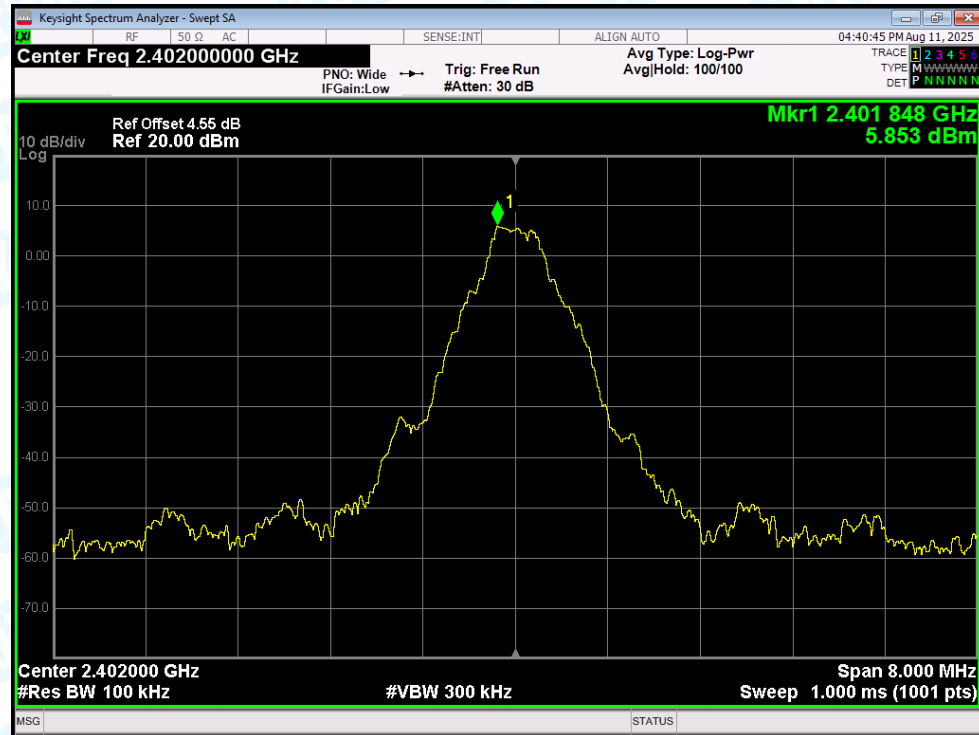


5. Band Edge

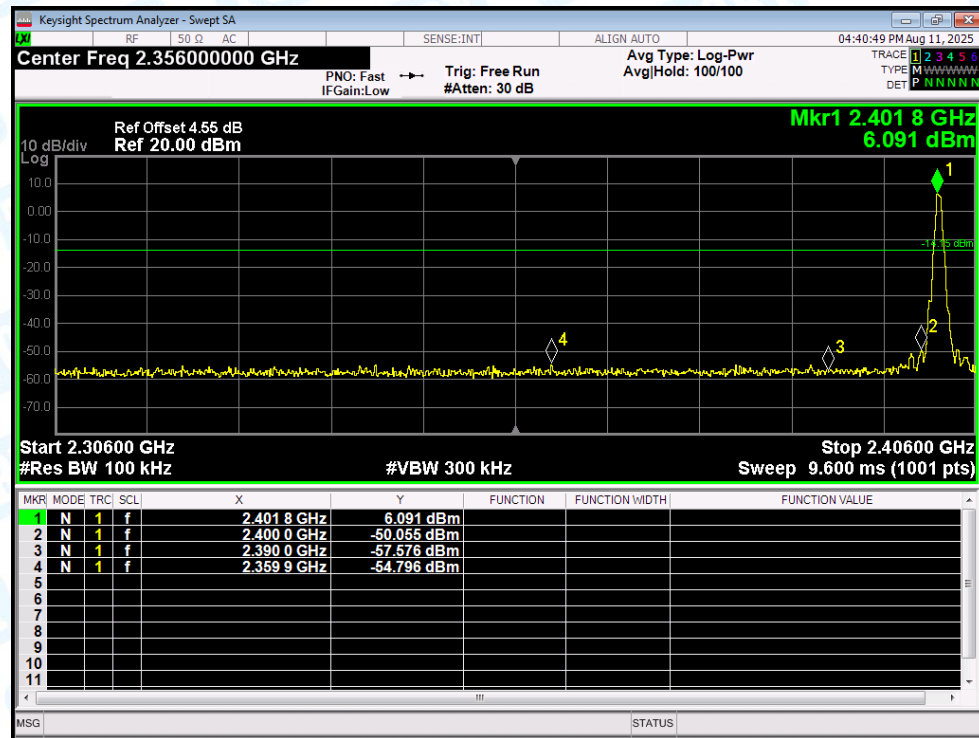
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-60.65	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-57.83	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-59.67	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-58.92	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-60.87	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-59.05	-20	Pass

Test Graphs

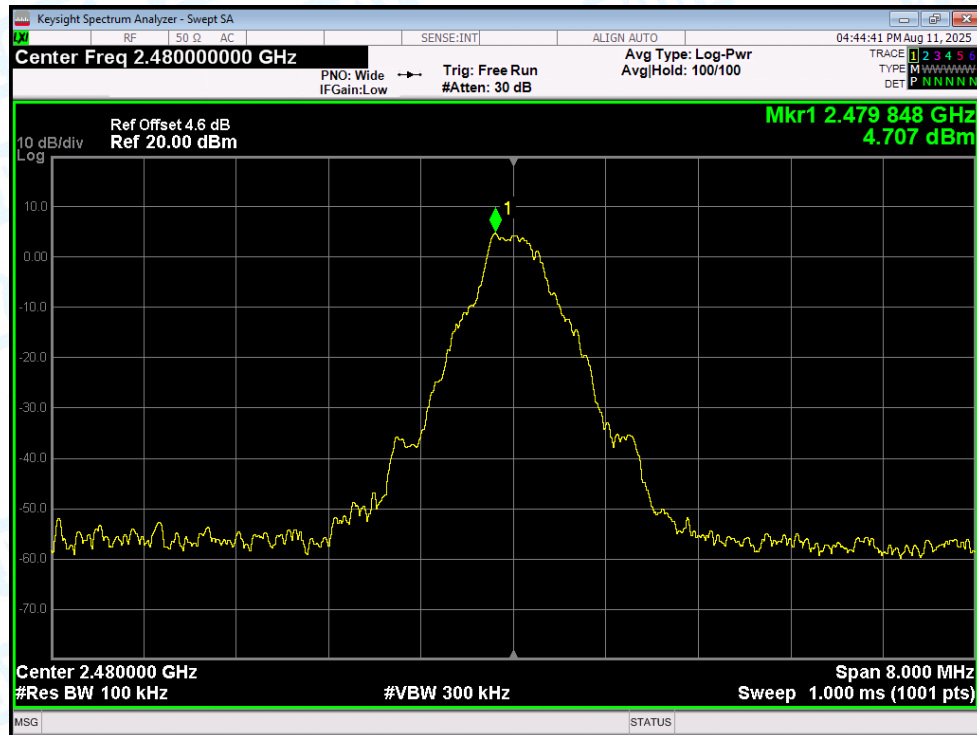
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



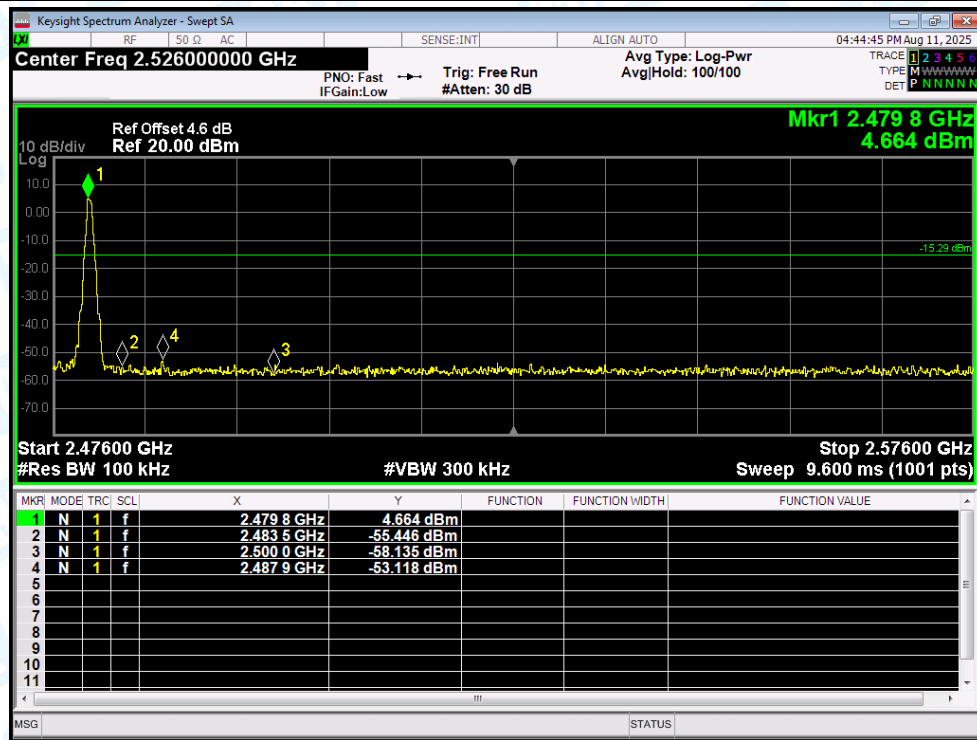
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



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



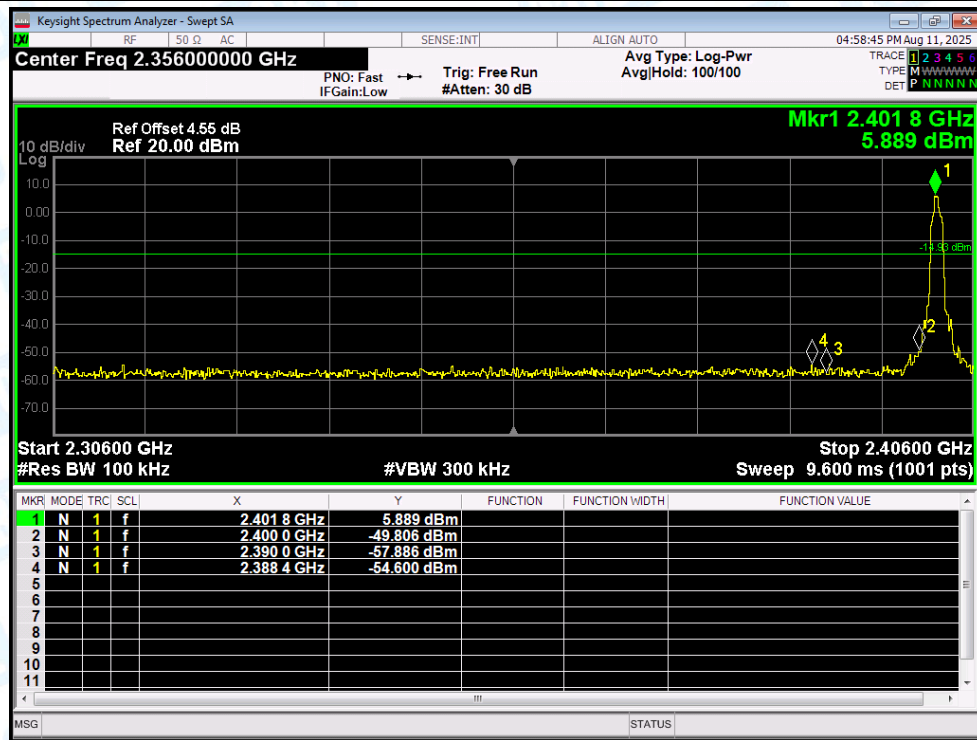
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



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



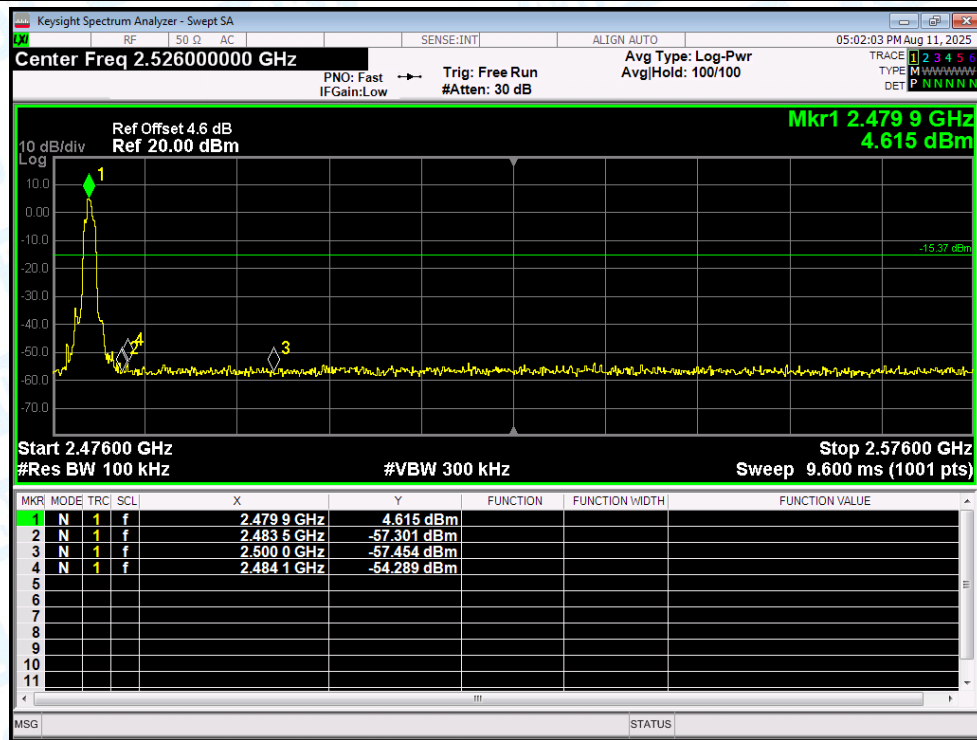
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



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



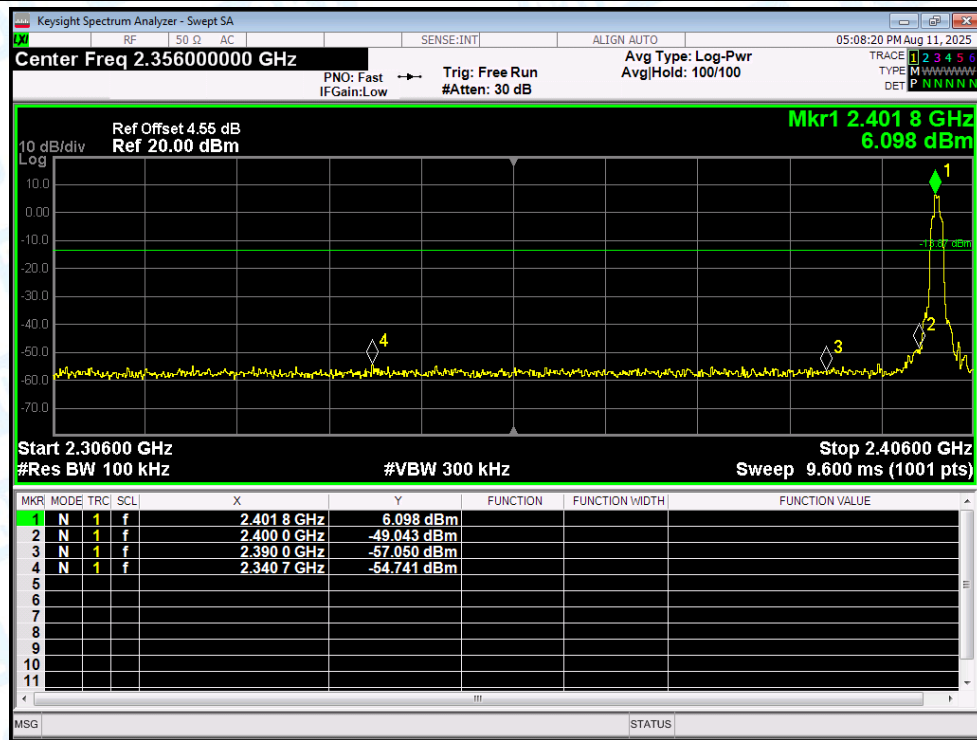
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



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



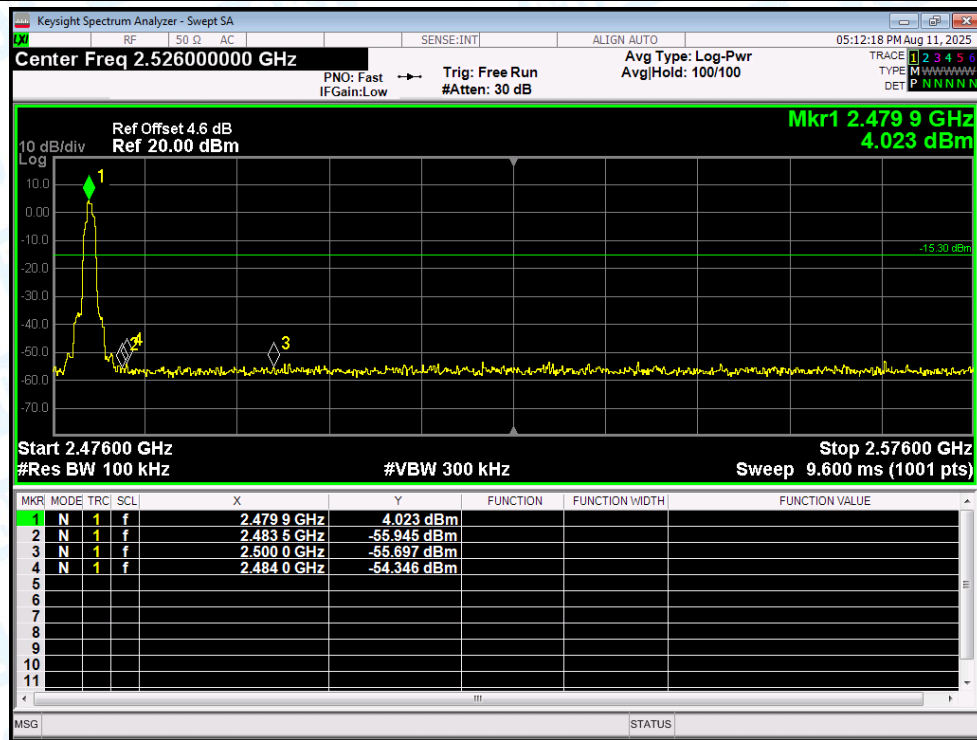
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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



6. Band Edge(Hopping)

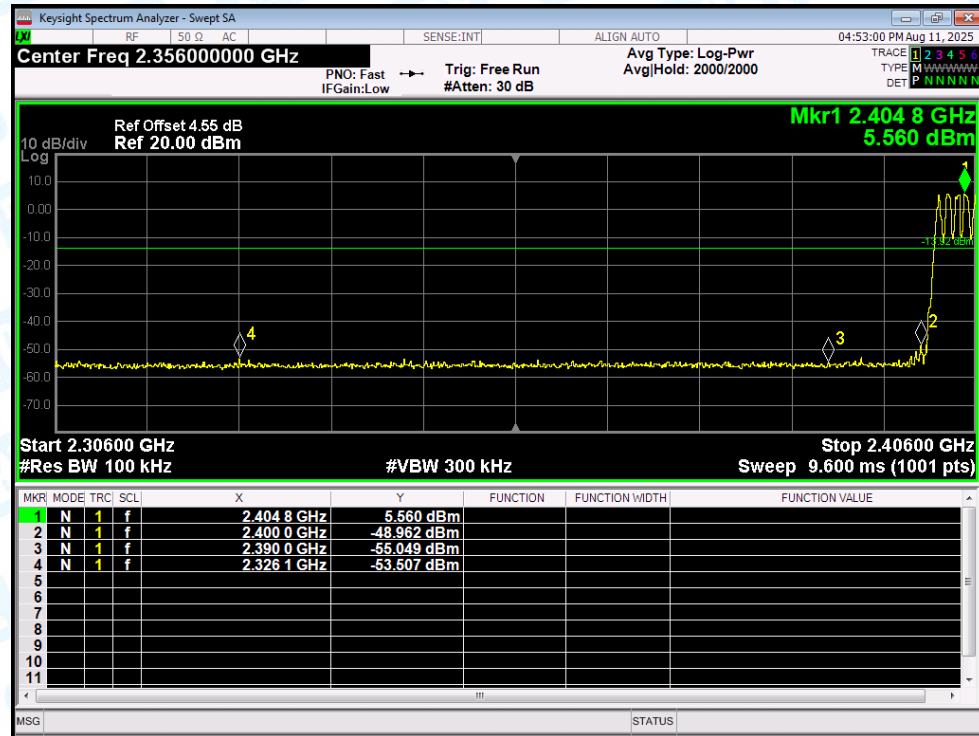
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-59.59	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-58.72	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-59.3	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-58.2	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-59.52	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-57.99	-20	Pass

Test Graphs

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



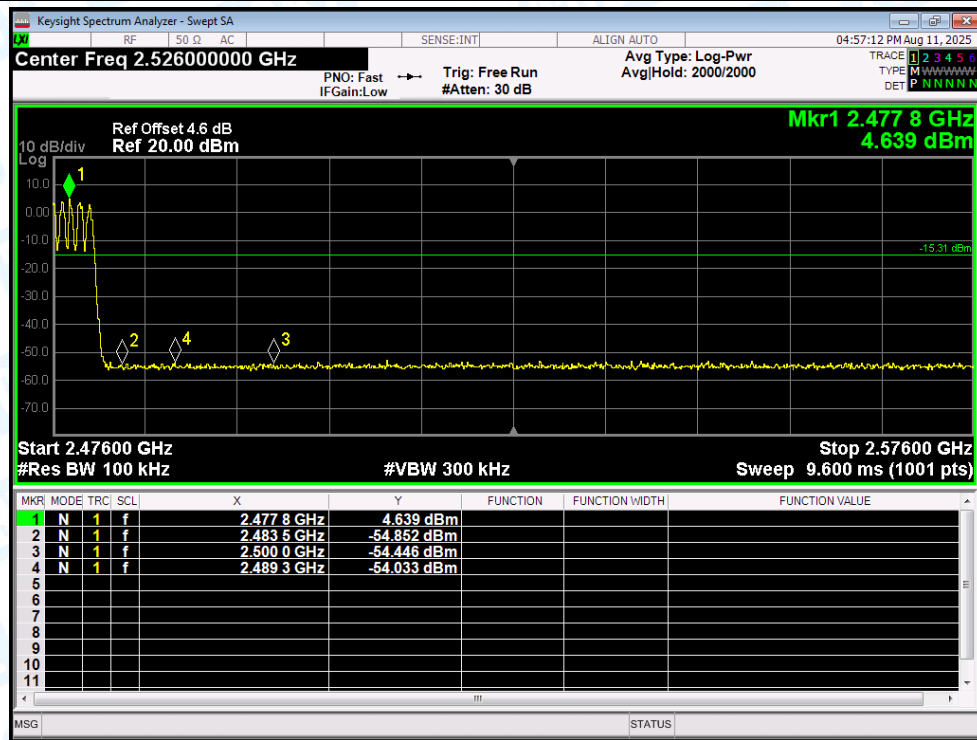
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



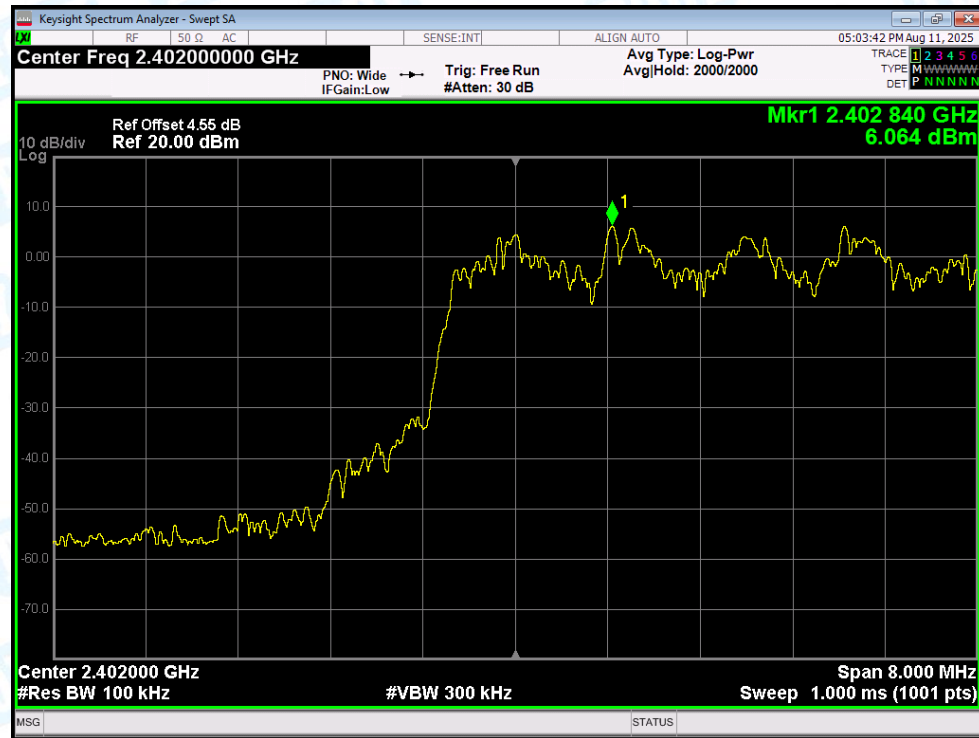
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



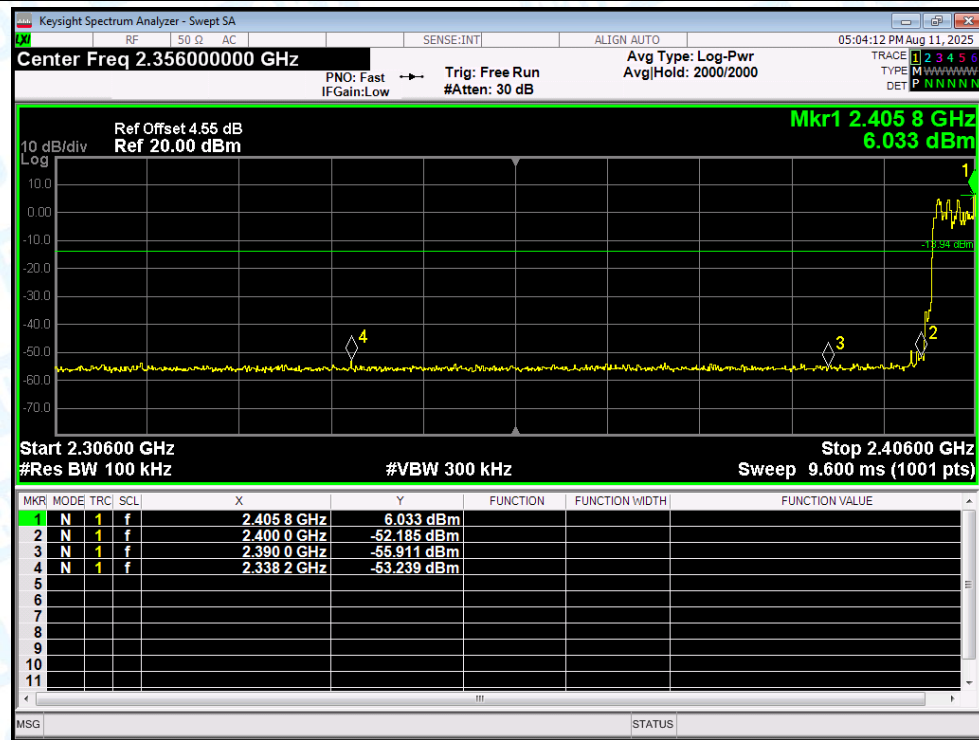
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



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



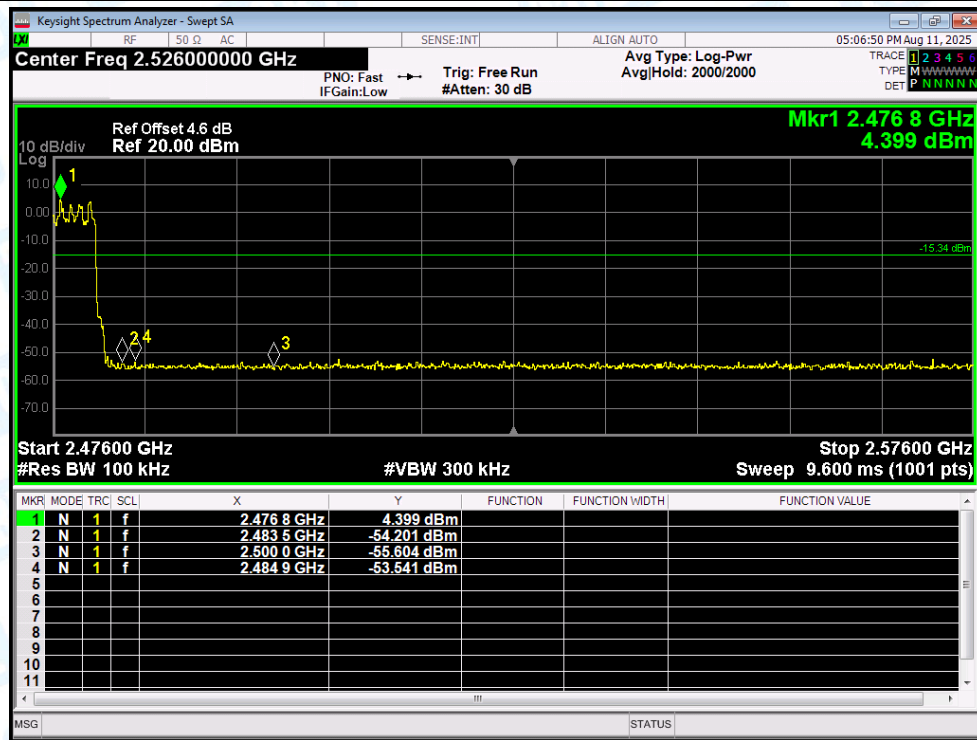
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



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



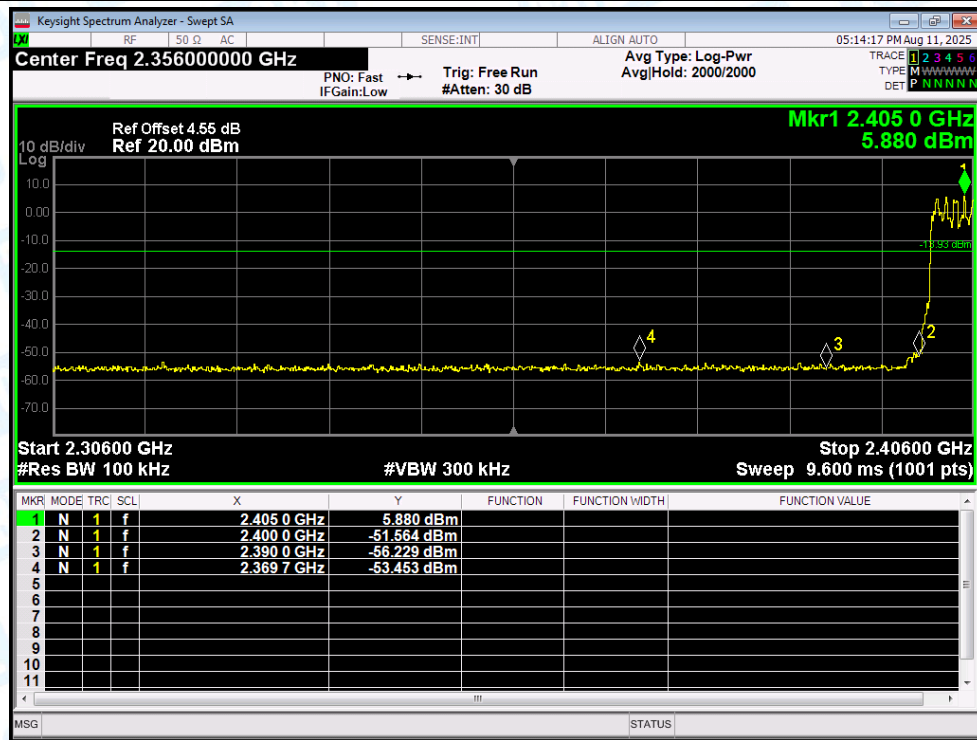
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



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



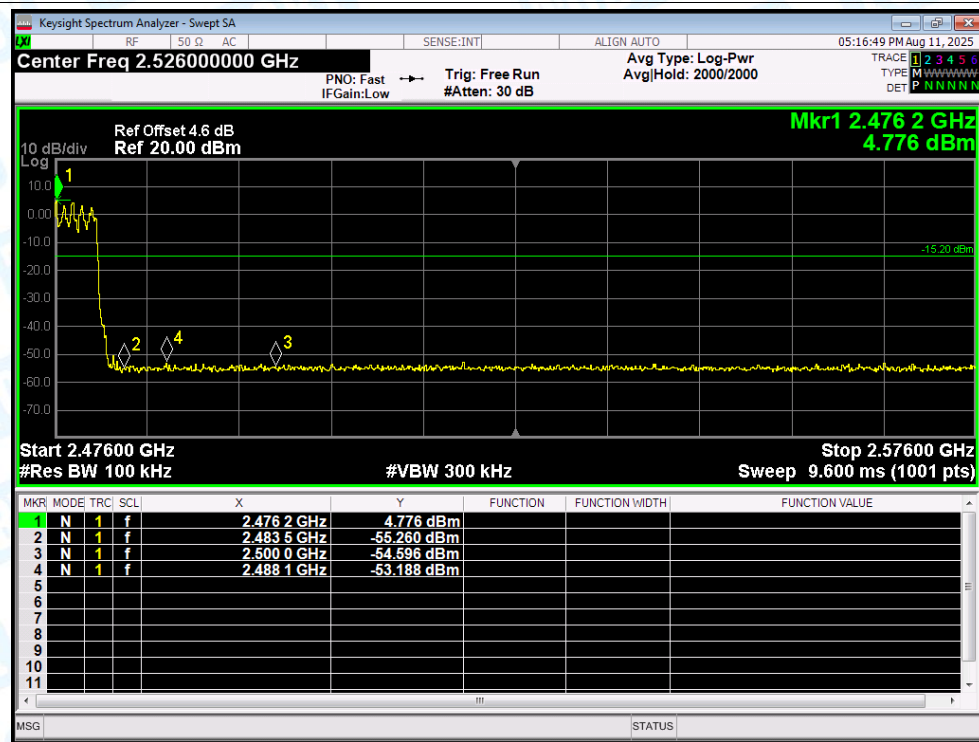
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

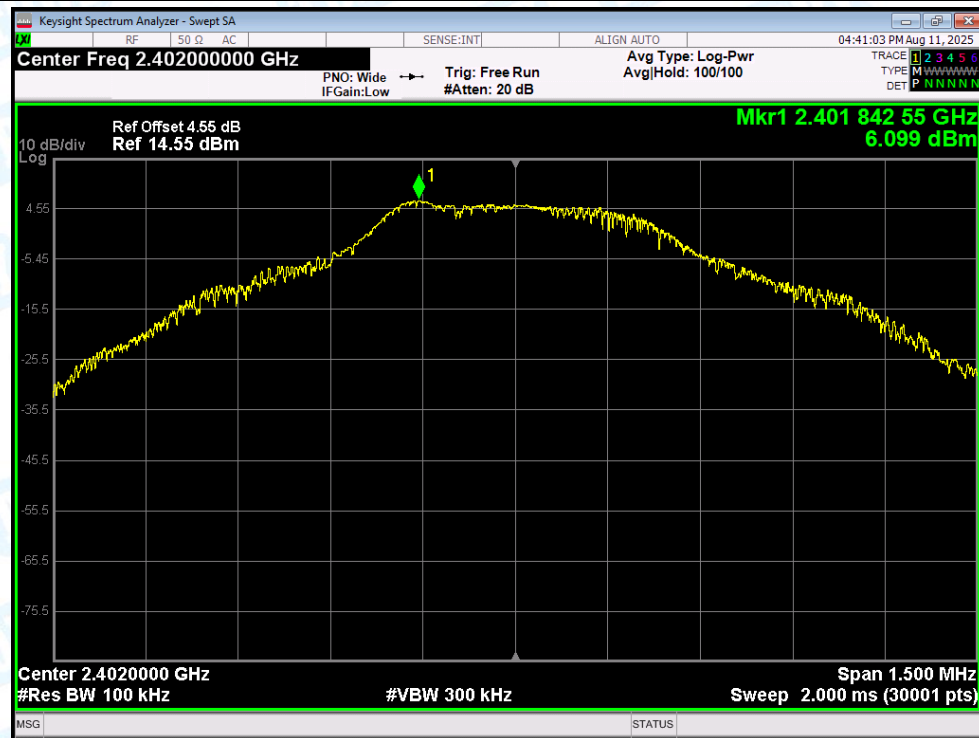


7. Conducted RF Spurious Emission

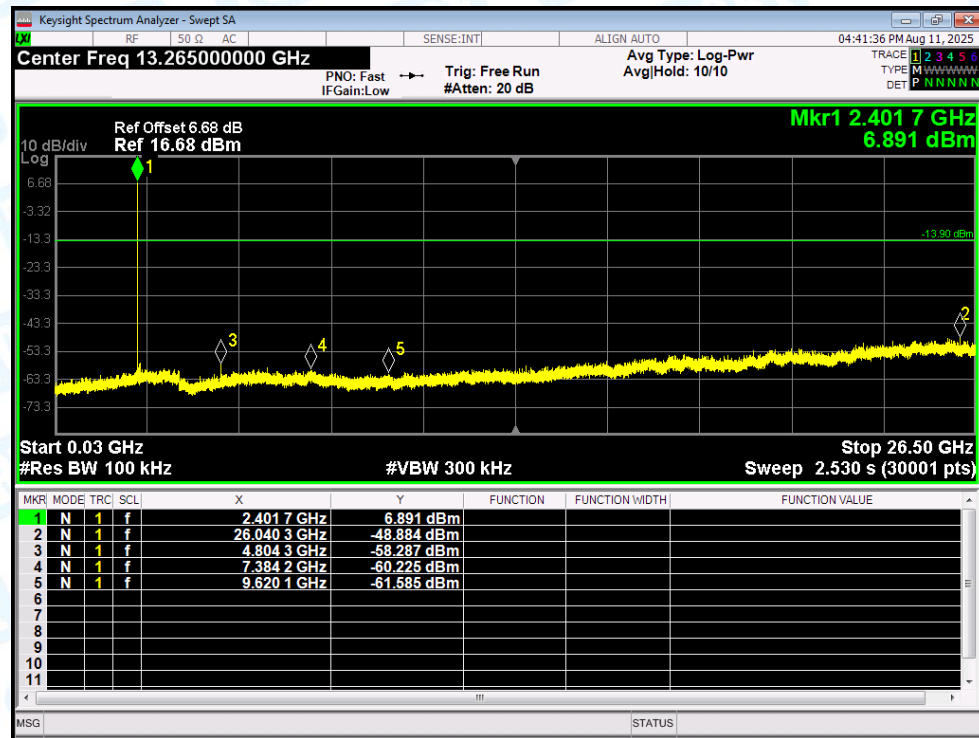
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-54.98	-20	Pass
NVNT	1-DH1	2441	Ant1	-53.99	-20	Pass
NVNT	1-DH1	2480	Ant1	-53.25	-20	Pass
NVNT	2-DH1	2402	Ant1	-54.36	-20	Pass
NVNT	2-DH1	2441	Ant1	-53.33	-20	Pass
NVNT	2-DH1	2480	Ant1	-53.67	-20	Pass
NVNT	3-DH1	2402	Ant1	-55.31	-20	Pass
NVNT	3-DH1	2441	Ant1	-52.33	-20	Pass
NVNT	3-DH1	2480	Ant1	-53.38	-20	Pass

Test Graphs

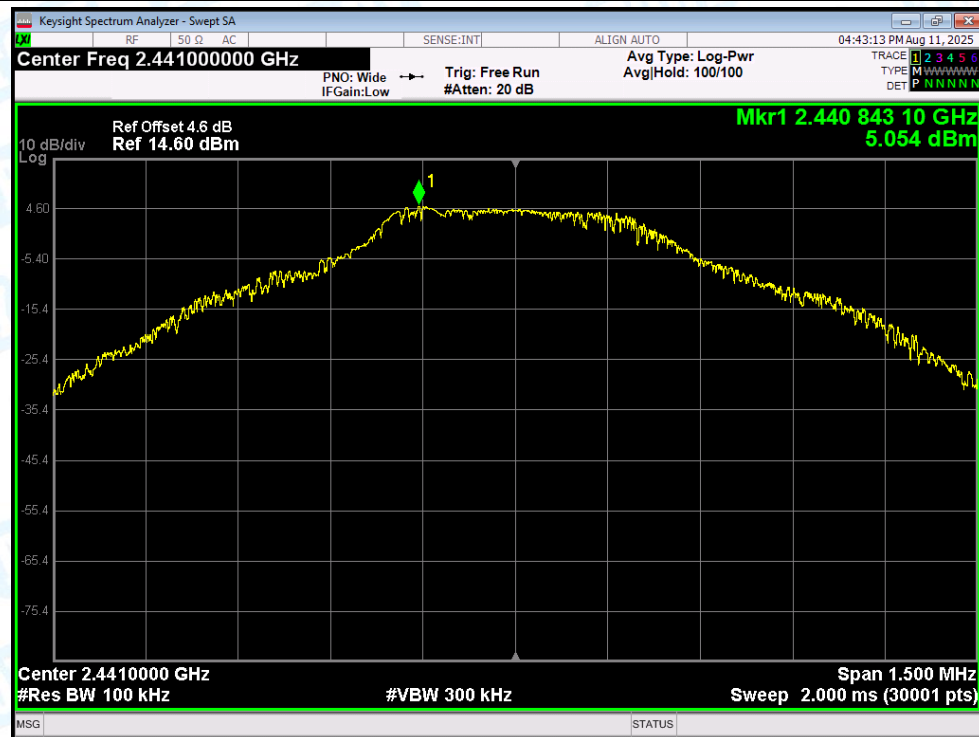
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



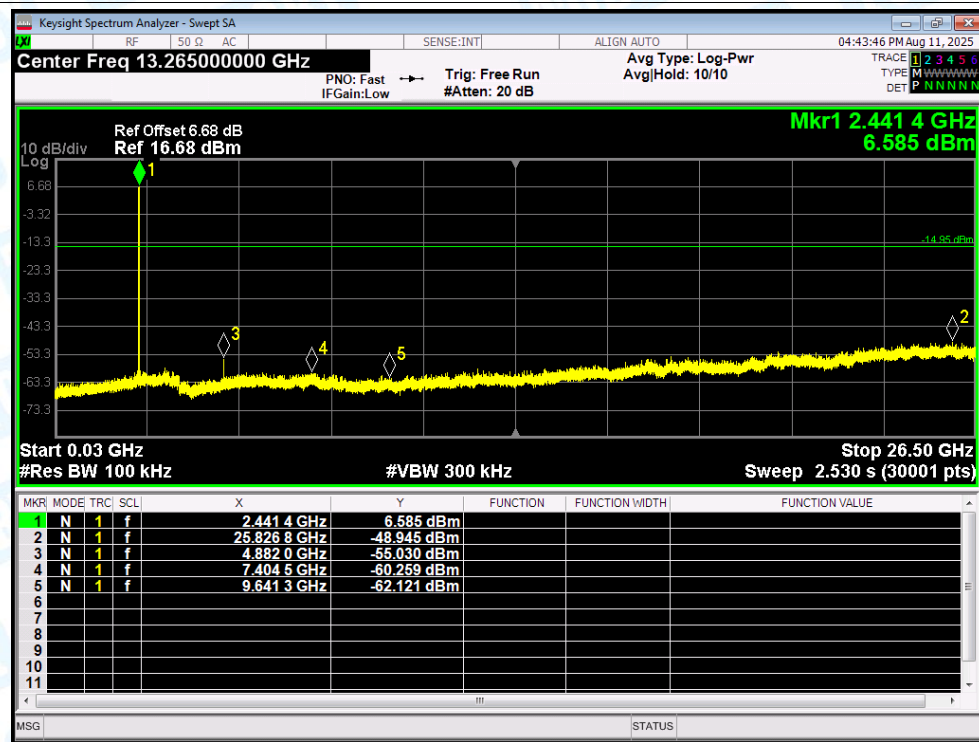
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



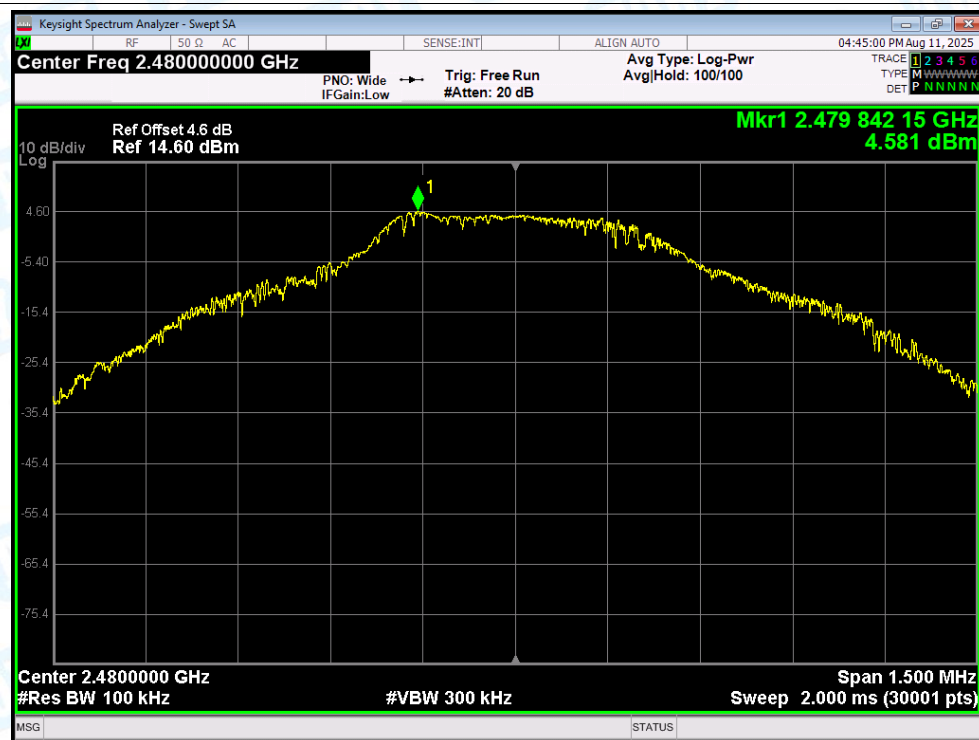
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



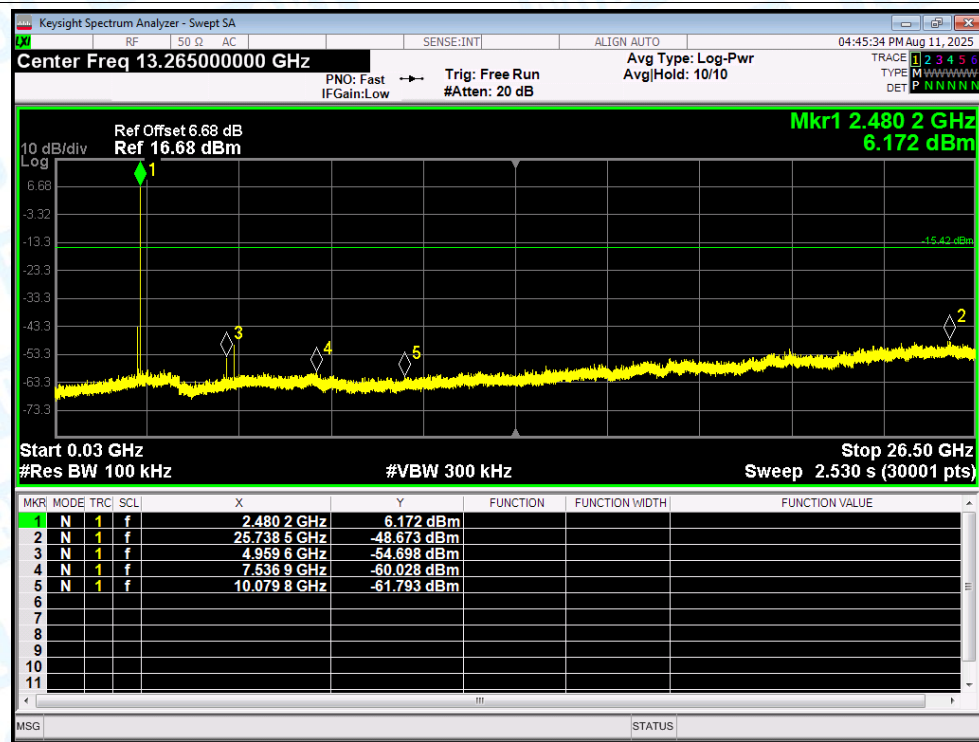
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



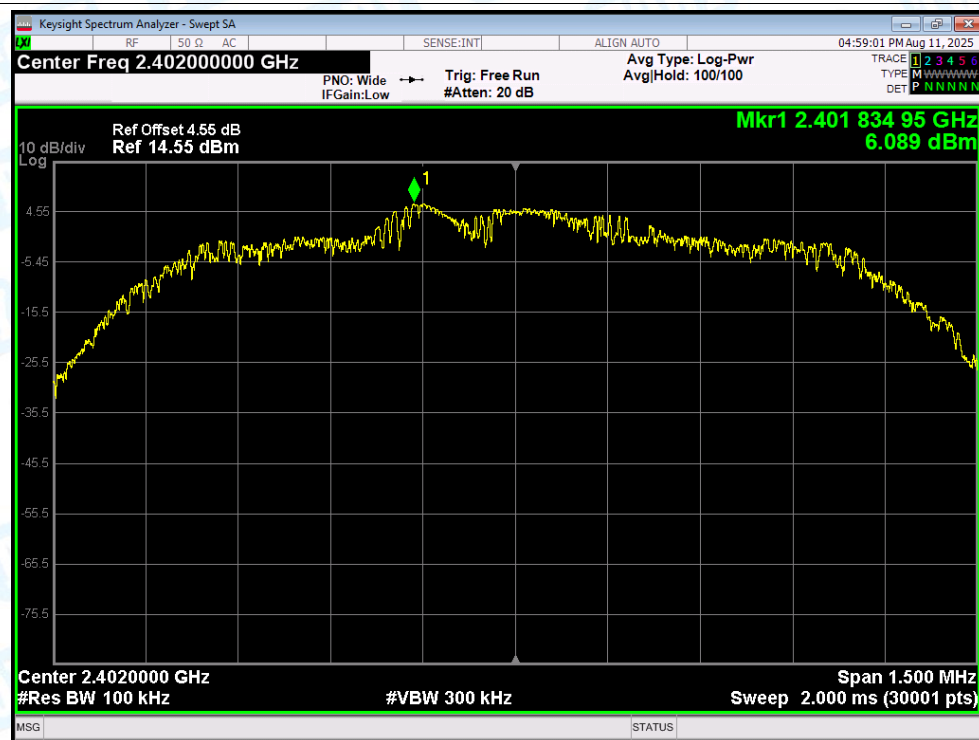
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



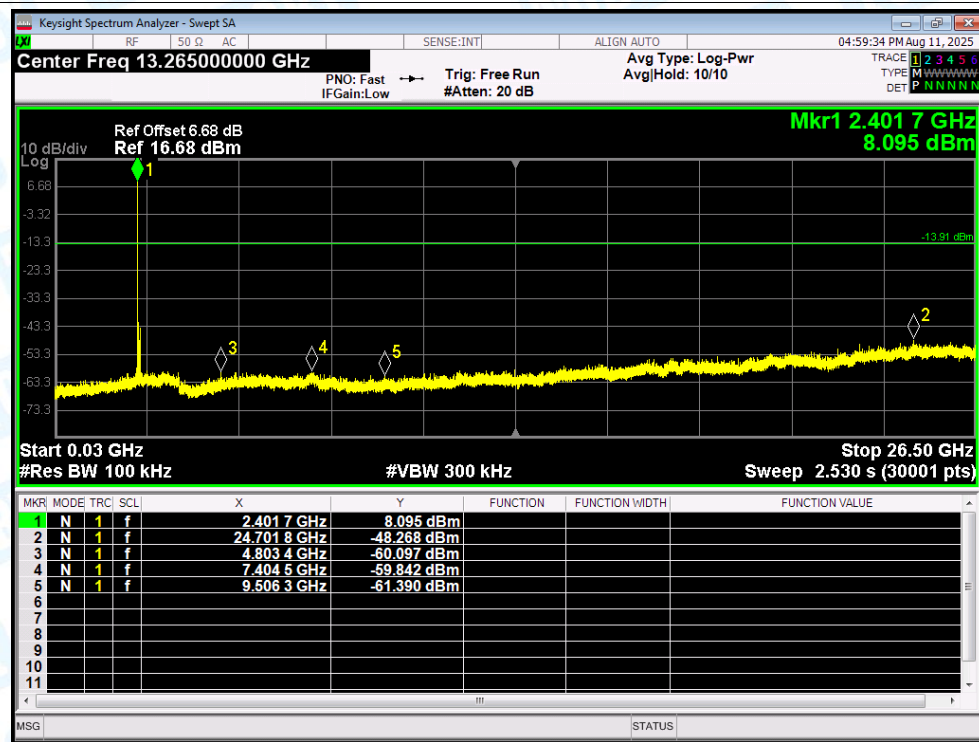
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



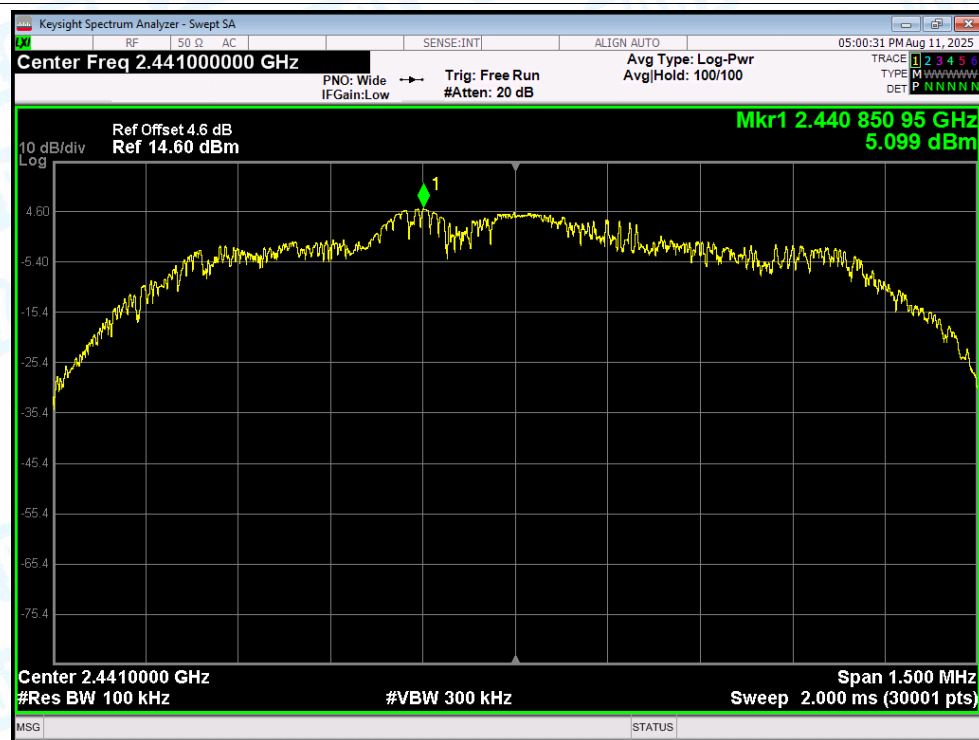
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



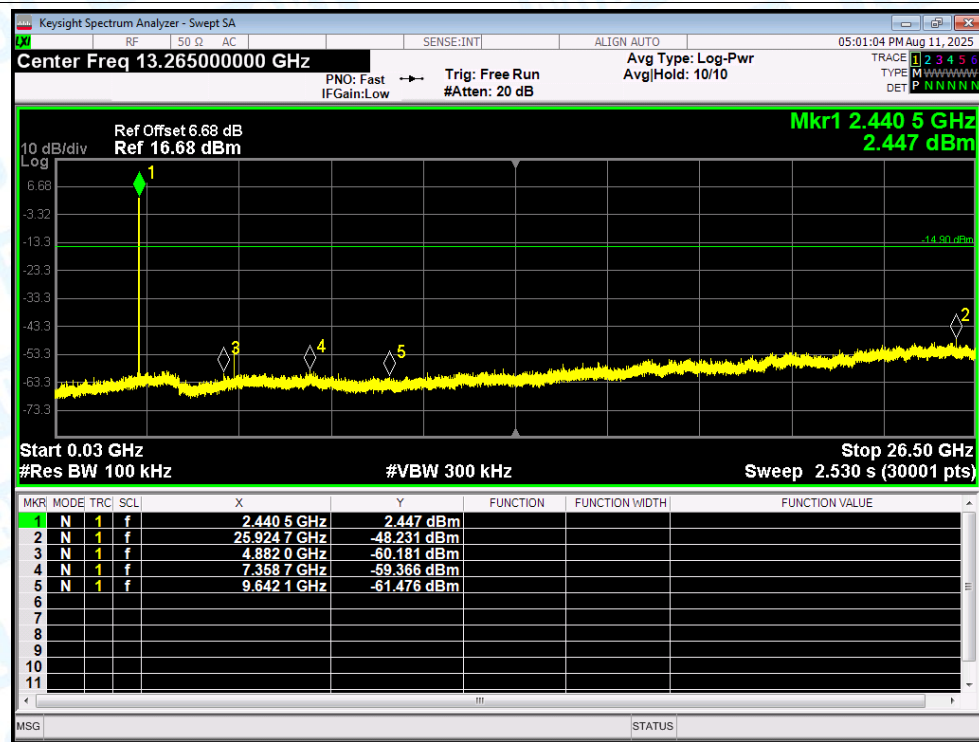
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



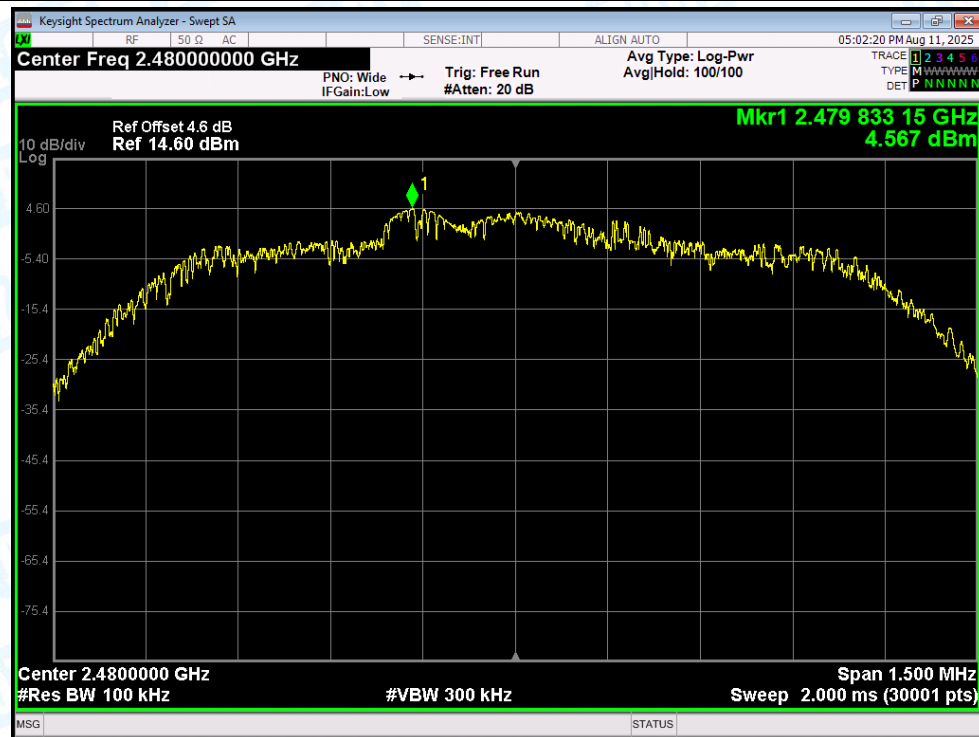
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



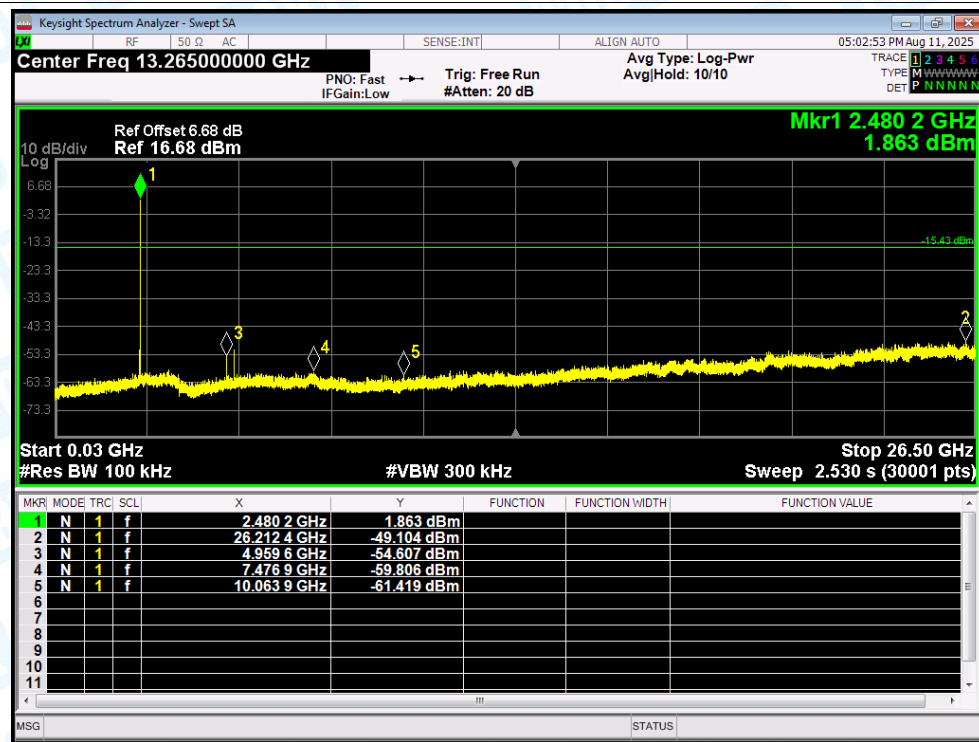
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



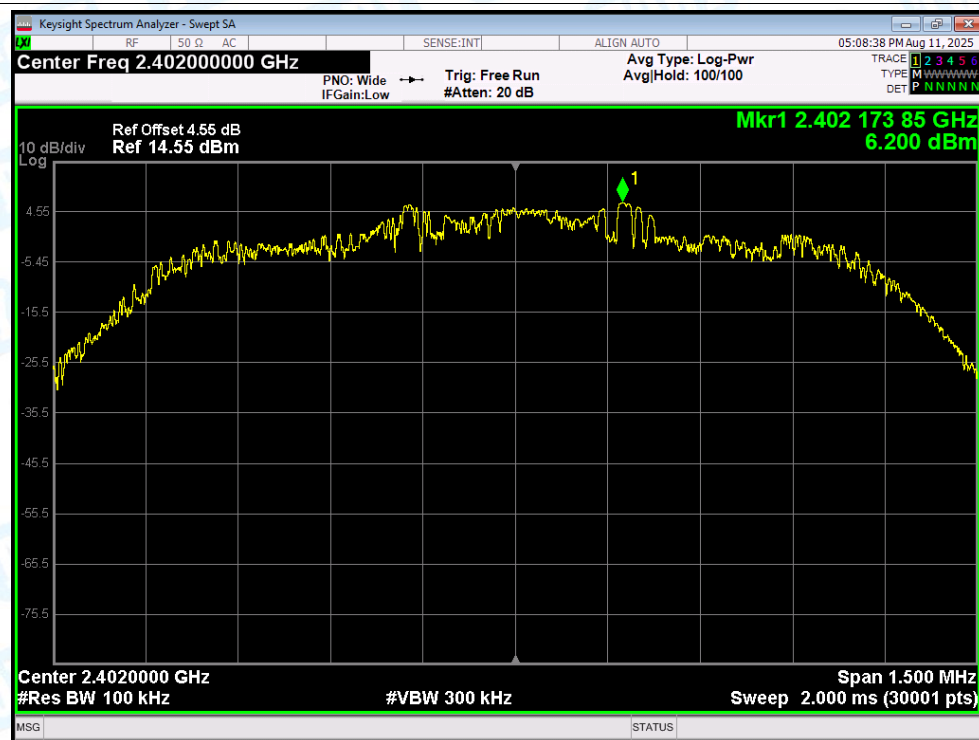
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



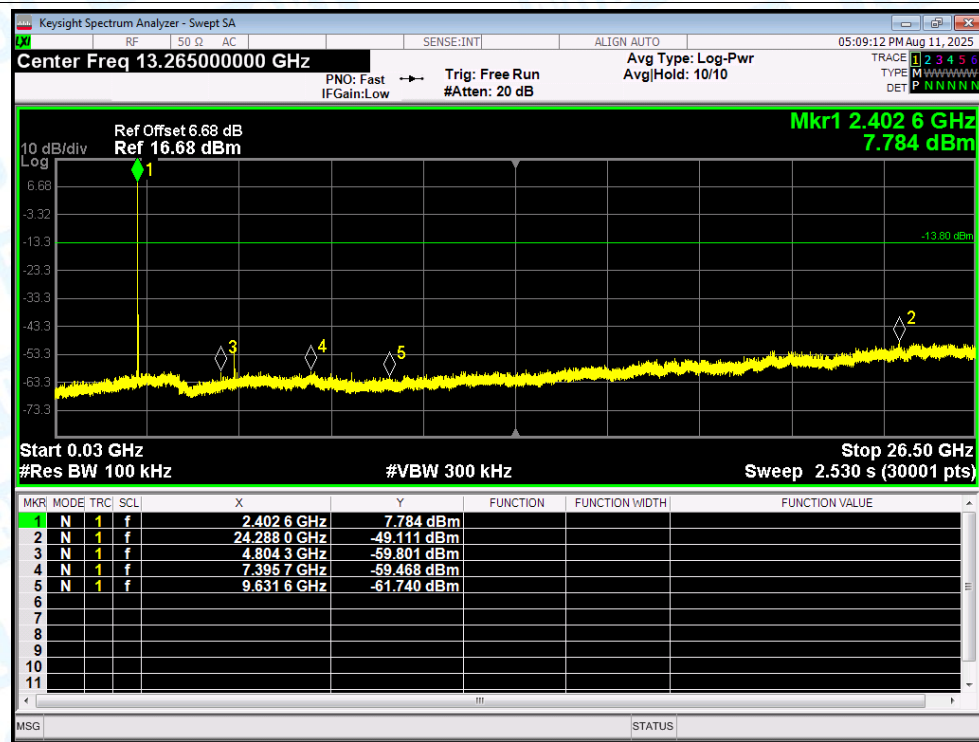
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



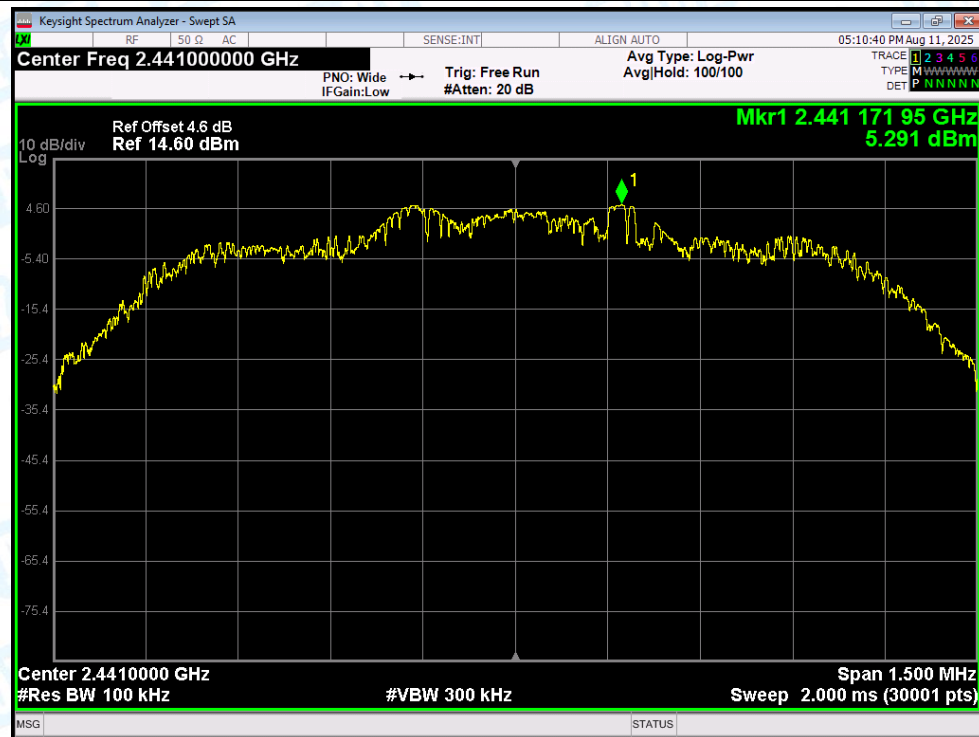
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



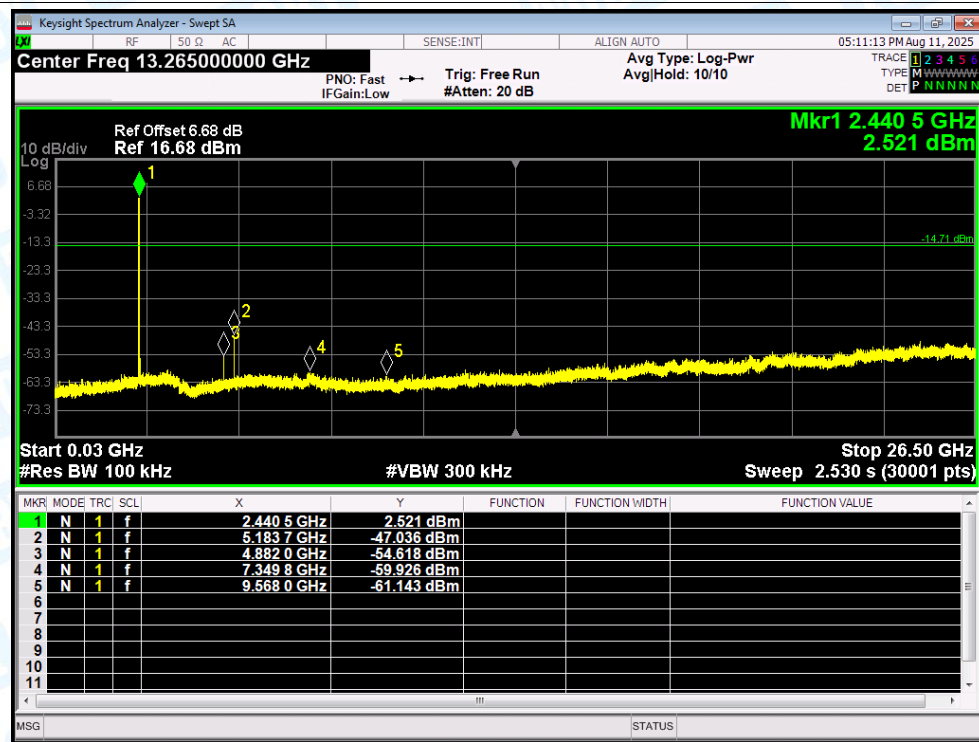
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



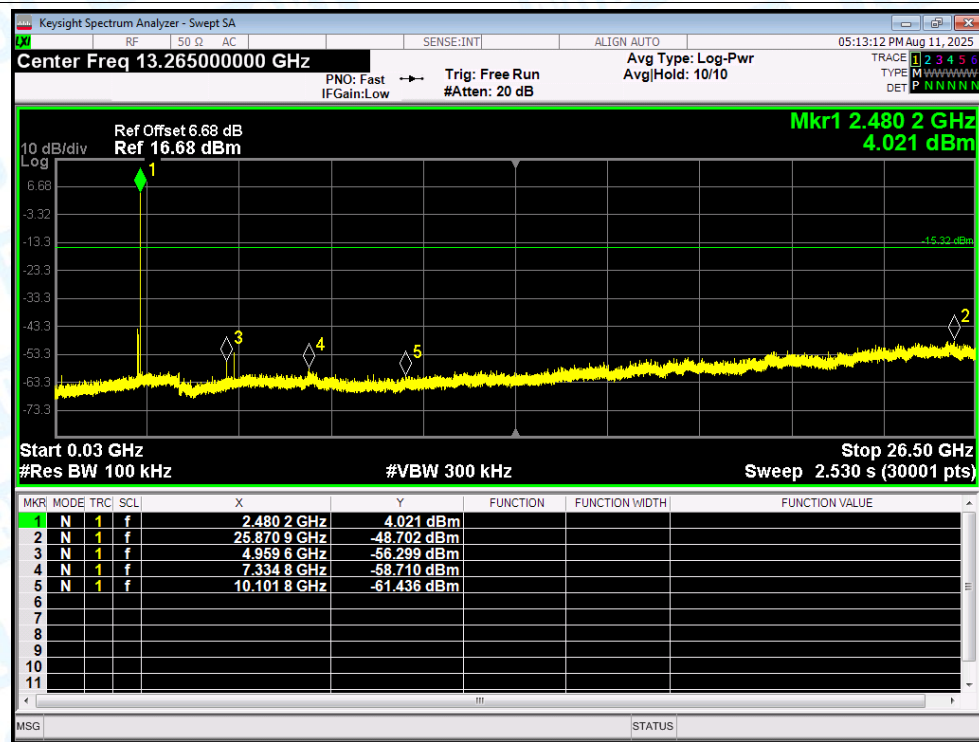
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

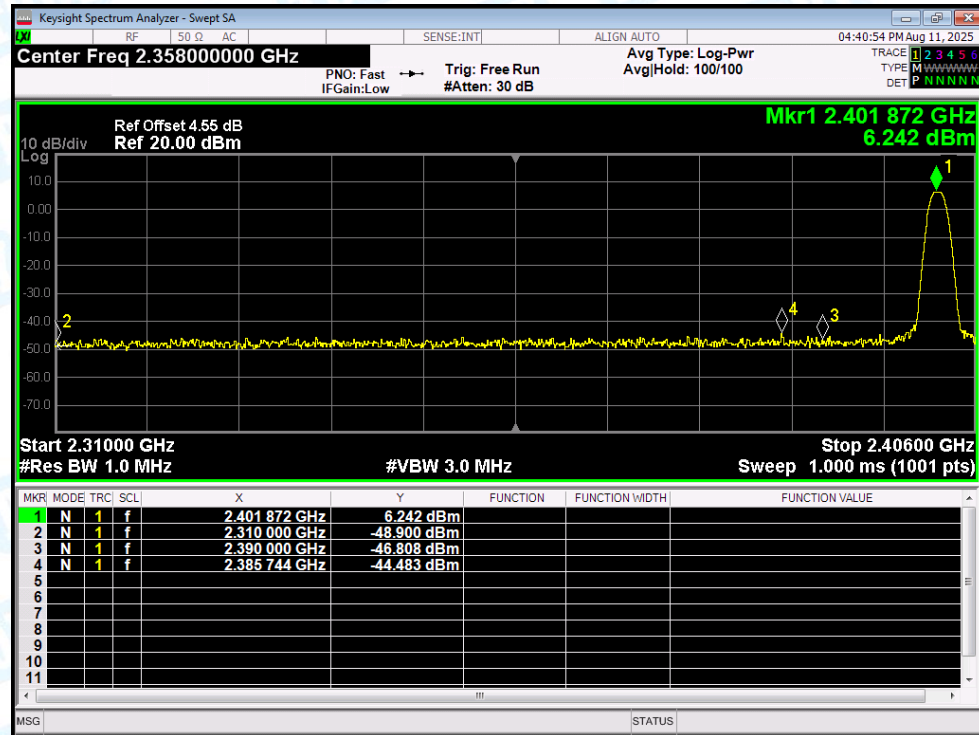


8. Restrict Band

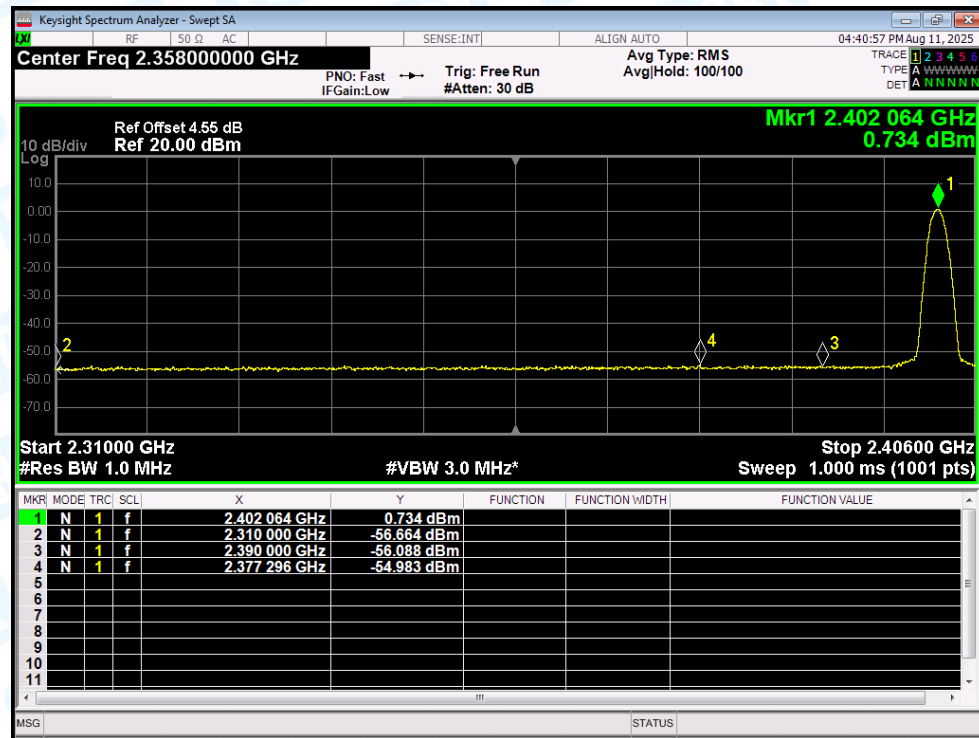
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-48.9	2	-	48.36	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.66	2	5.29	45.89	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2385.744	-44.48	2	-	52.78	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2377.296	-54.98	2	5.29	47.57	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-46.81	2	-	50.45	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.09	2	5.29	46.46	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-48.18	2	-	49.08	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-55.28	2	5.29	47.27	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2497.72	-44.24	2	-	53.02	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2484.064	-54.4	2	5.29	48.15	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	-56.17	2	5.29	46.38	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.71	2	-	48.55	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.67	2	5.17	45.76	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2380.272	-45.36	2	-	51.9	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2388.432	-55.16	2	5.17	47.27	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-49.37	2	-	47.89	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.94	2	5.17	46.49	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-48.54	2	-	48.72	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.51	2	5.17	46.92	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2488.024	-44.31	2	-	52.95	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2488.072	-54.52	2	5.17	47.91	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-46.75	2	-	50.51	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.14	2	5.17	47.29	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-47.69	2	-	49.57	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.07	2	5.17	46.36	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2341.872	-44.72	2	-	52.54	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2361.552	-55.03	2	5.17	47.4	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-47.46	2	-	49.8	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.49	2	5.17	46.94	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-46.83	2	-	50.43	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-55.2	2	5.17	47.23	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2499.136	-44.24	2	-	53.02	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2487.424	-54.6	2	5.17	47.83	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.22	2	-	50.04	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.21	2	5.17	47.22	Average	54	Pass

Test Graphs

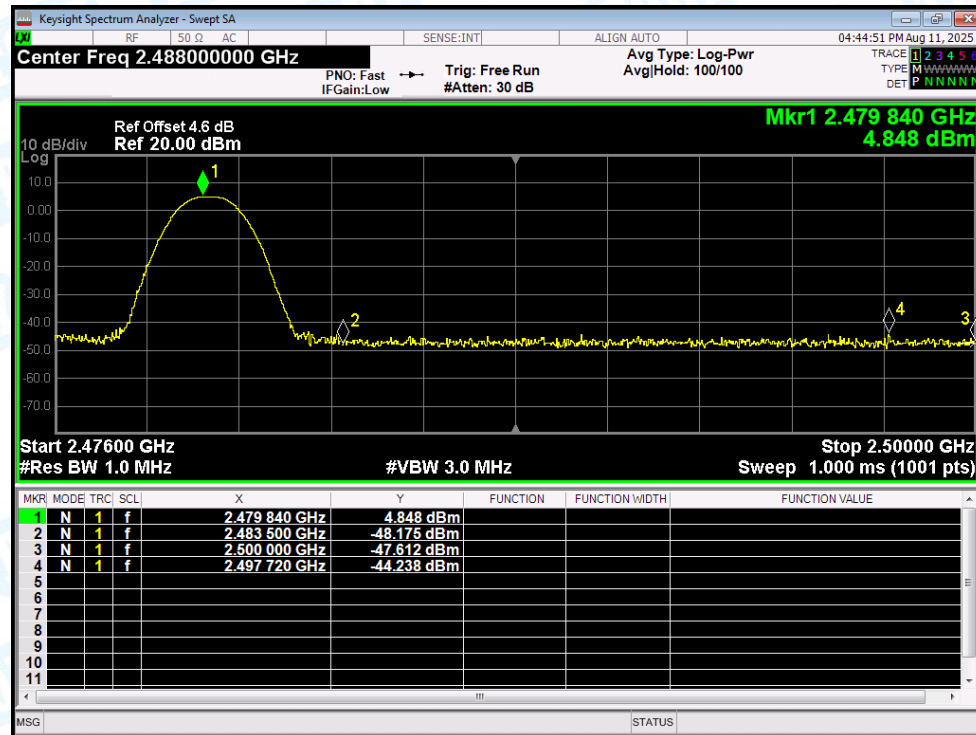
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



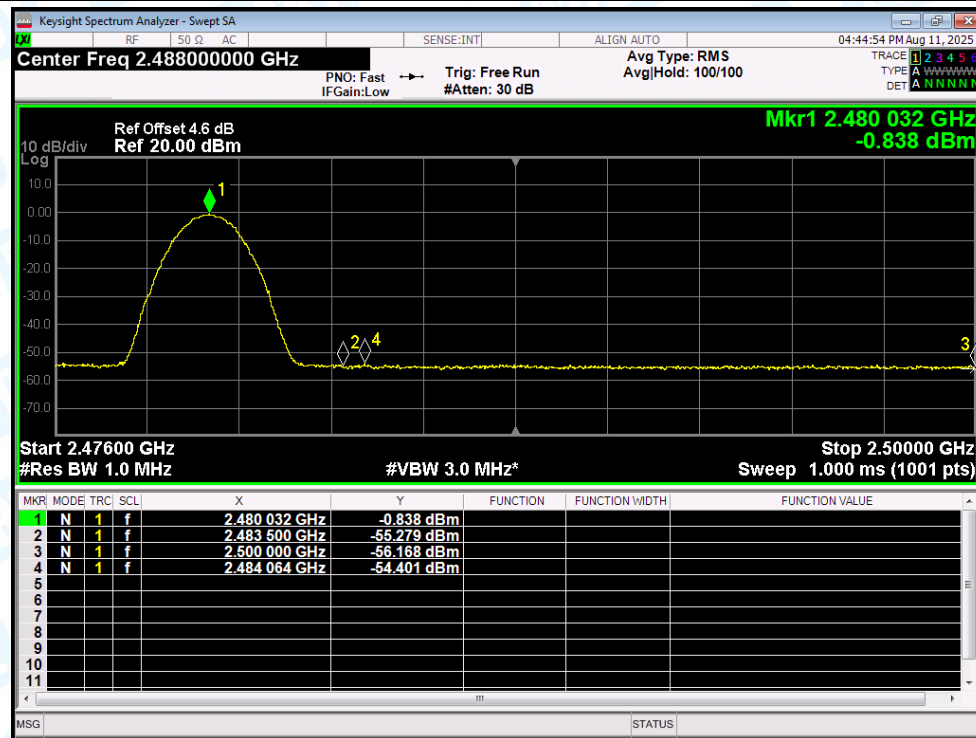
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



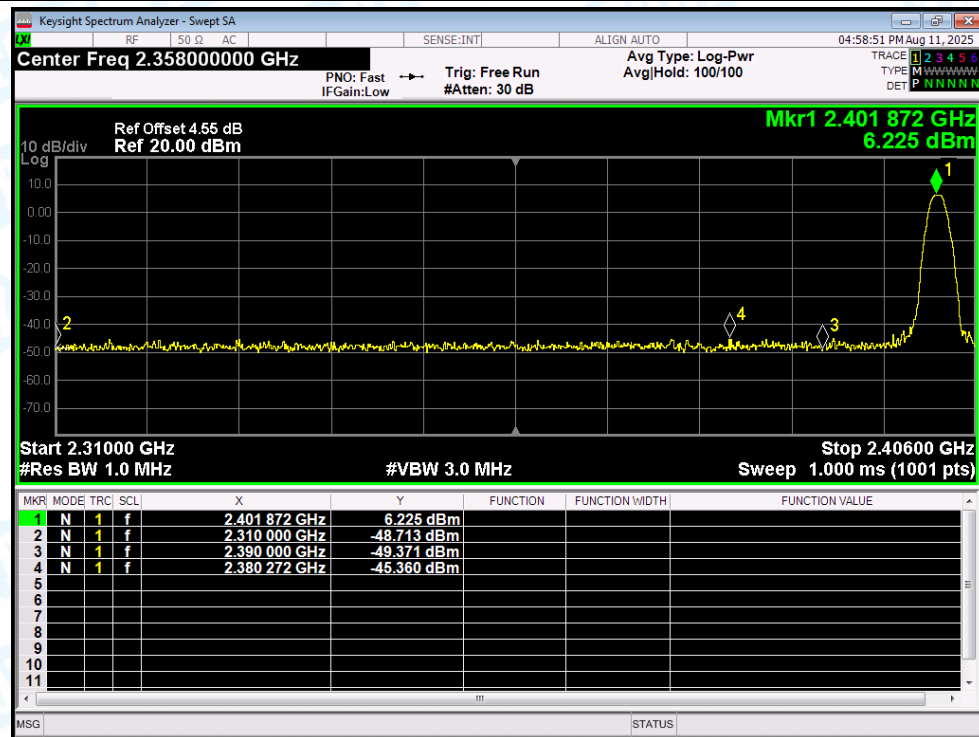
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



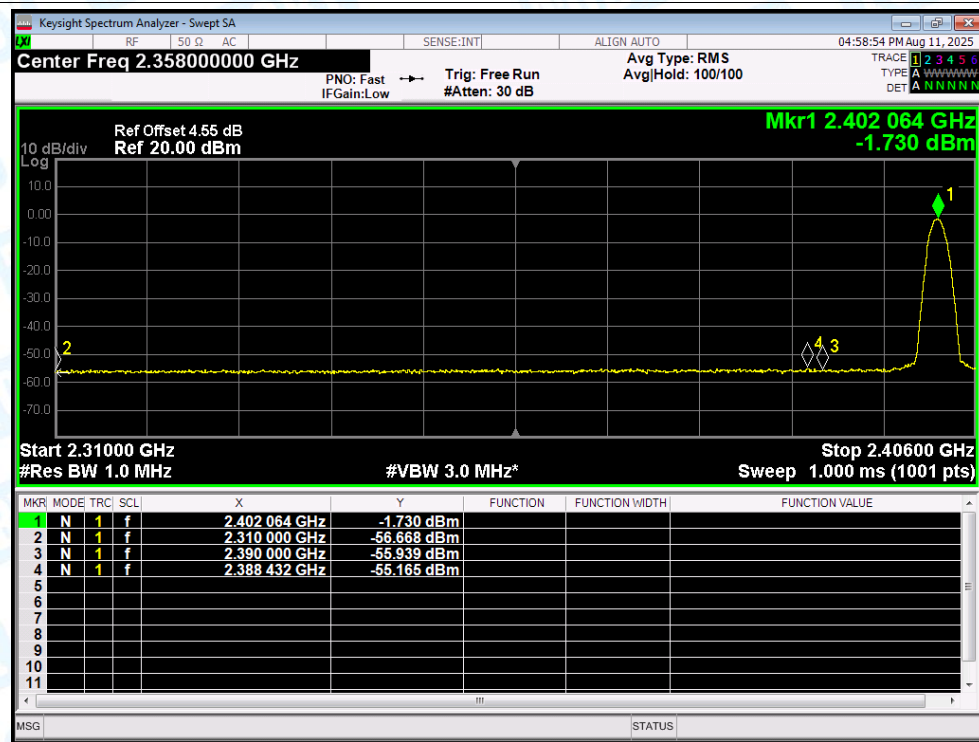
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



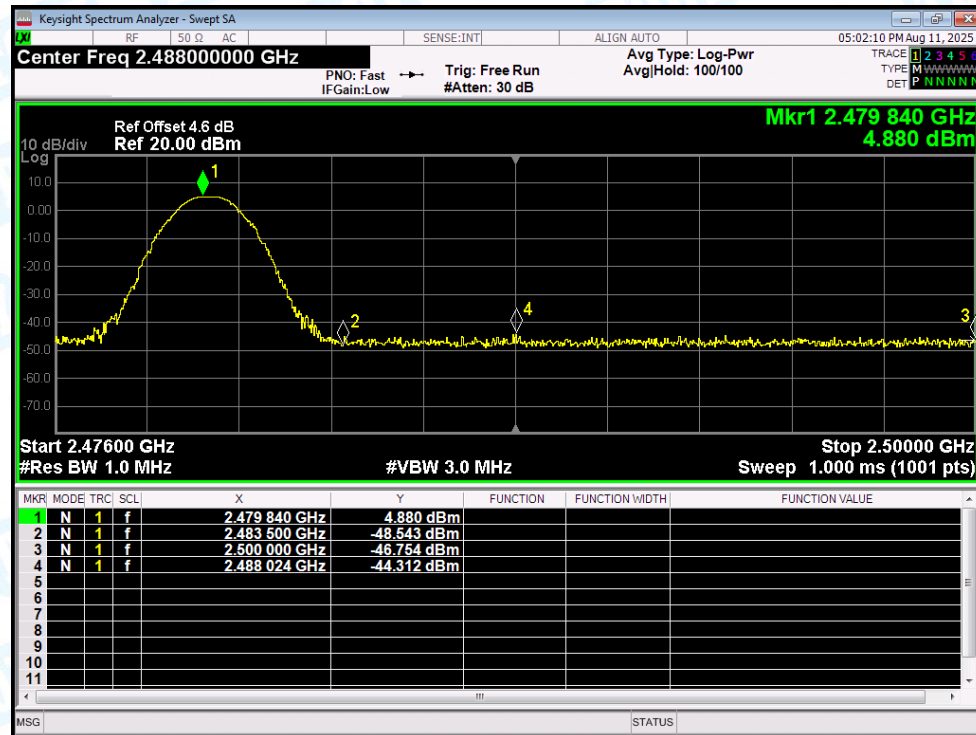
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



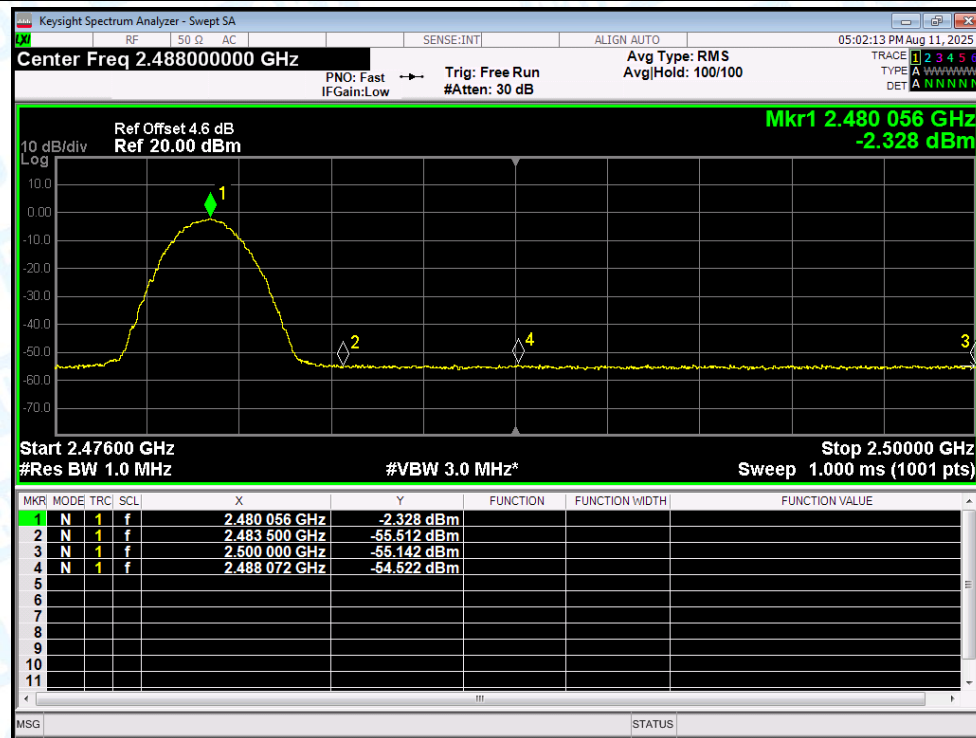
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



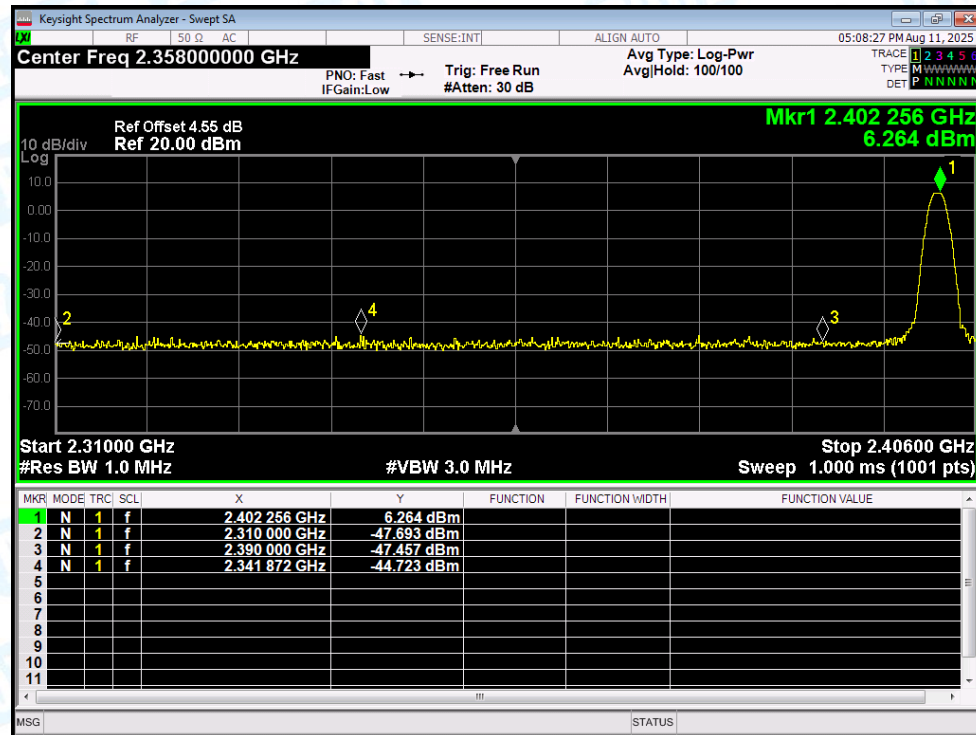
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



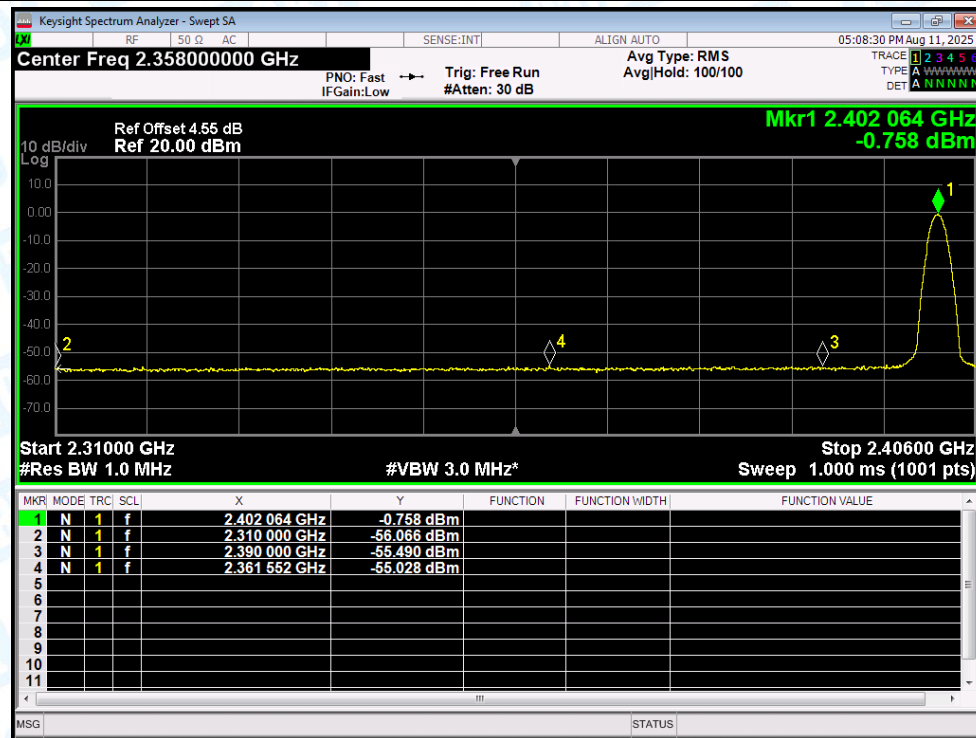
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



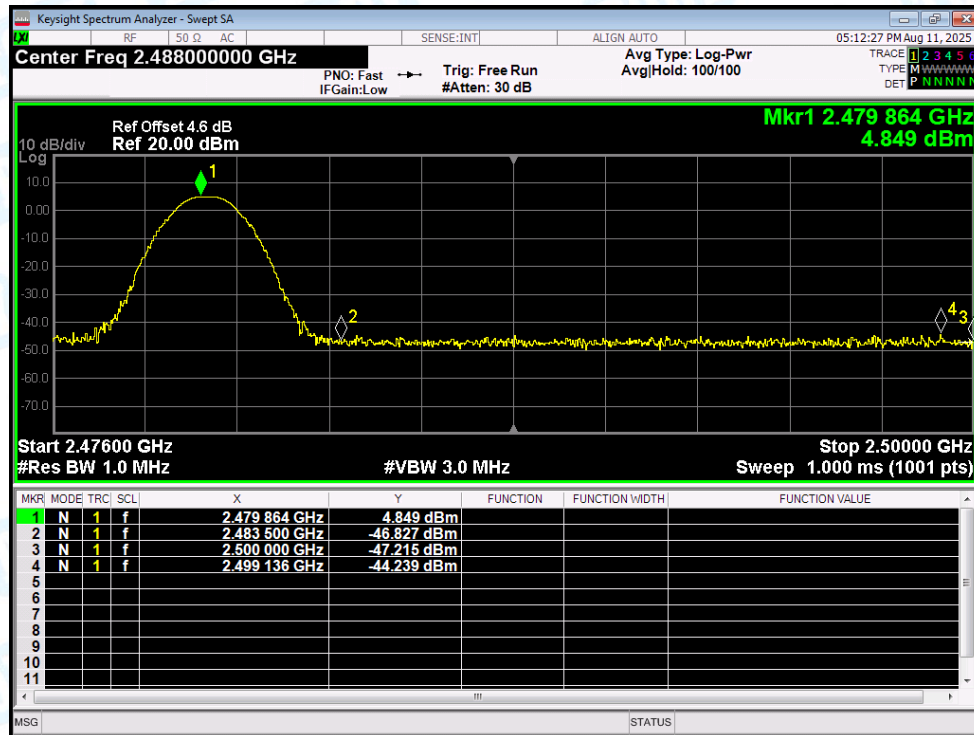
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



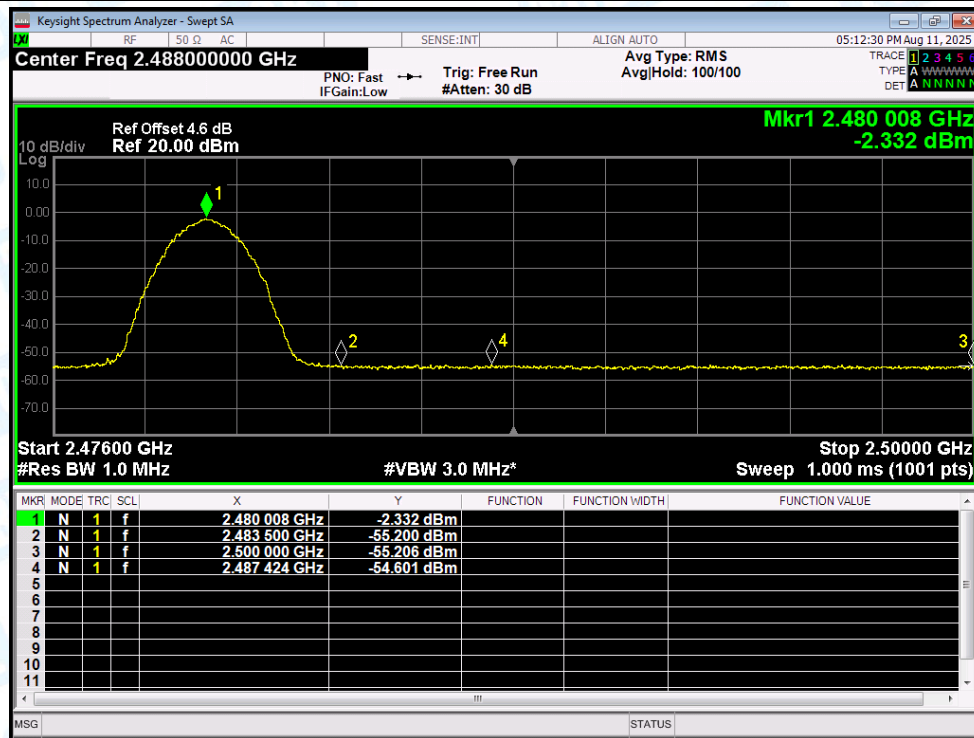
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

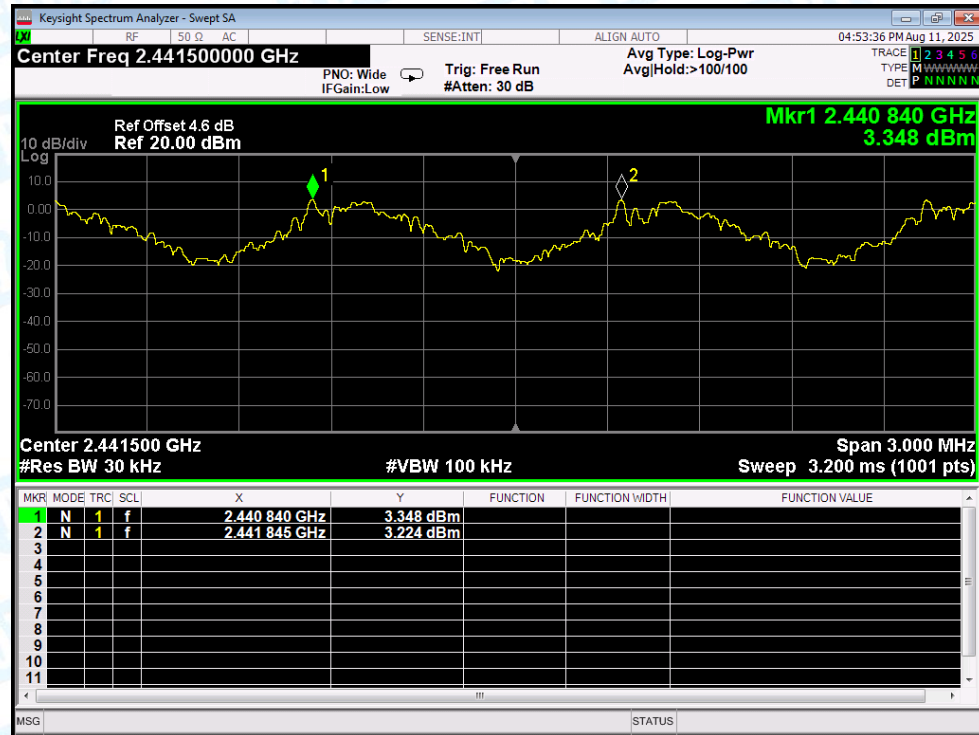


9. Carrier Frequencies Separation

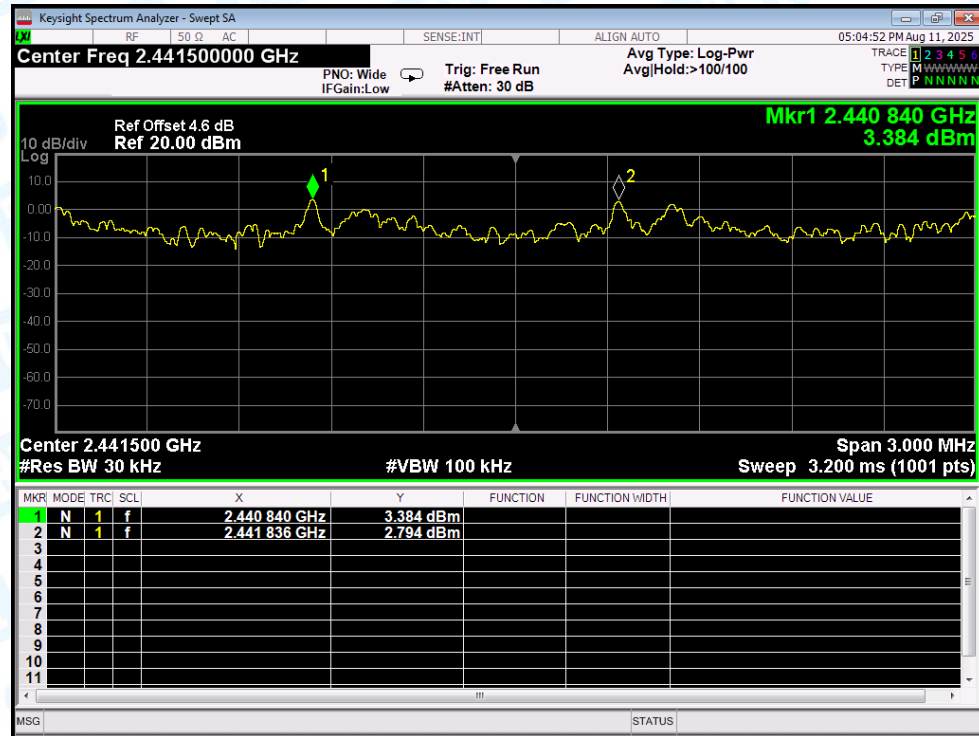
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.84	2441.845	1.005	0.573	Pass
NVNT	2-DH1	Ant1	2440.84	2441.836	0.996	0.8	Pass
NVNT	3-DH1	Ant1	2440.825	2442.172	1.347	0.807	Pass

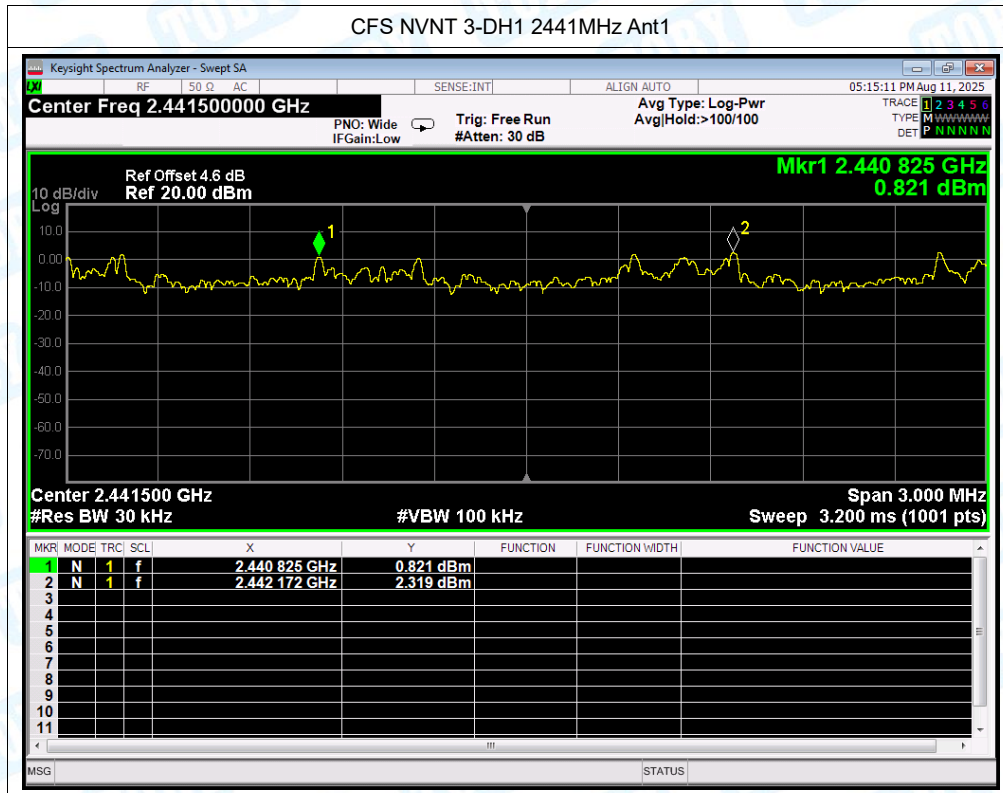
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



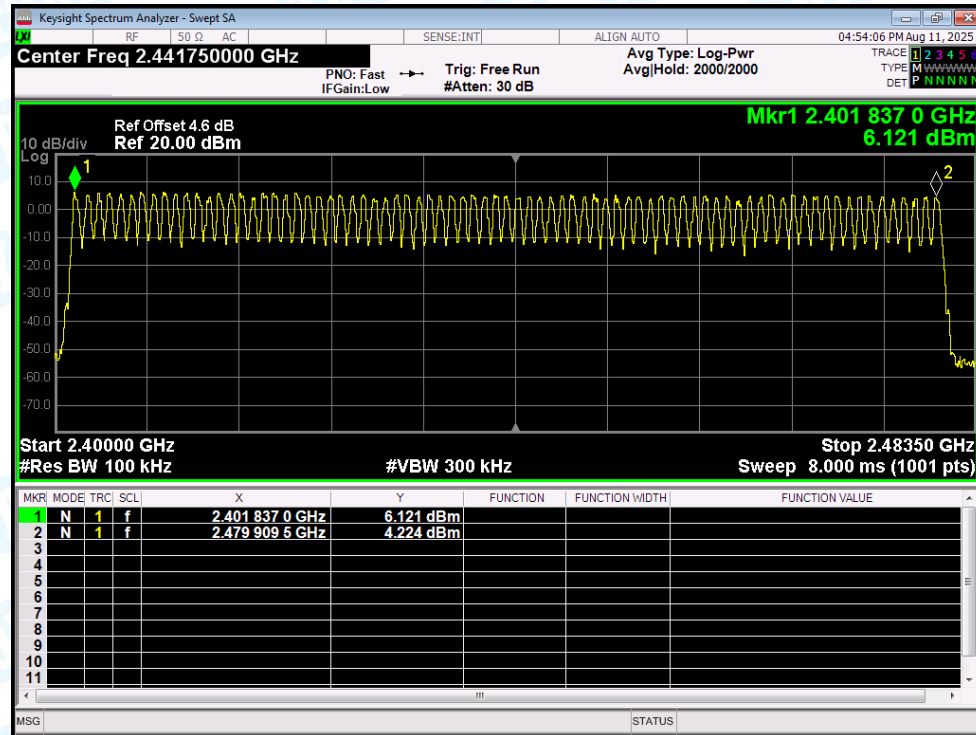


10. Number of Hopping Channel

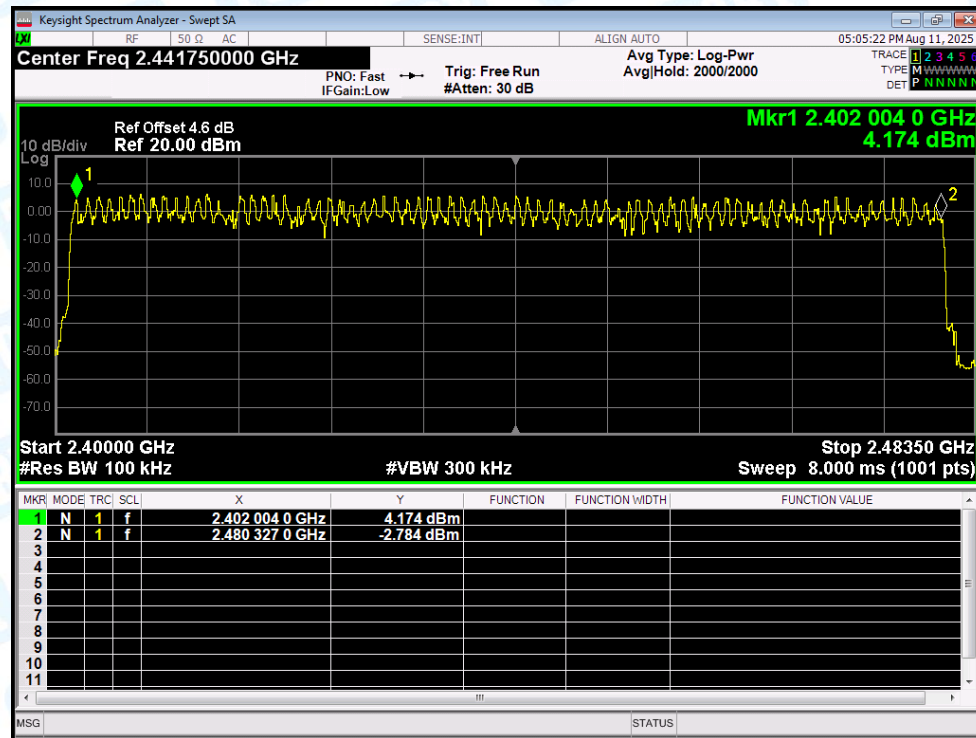
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

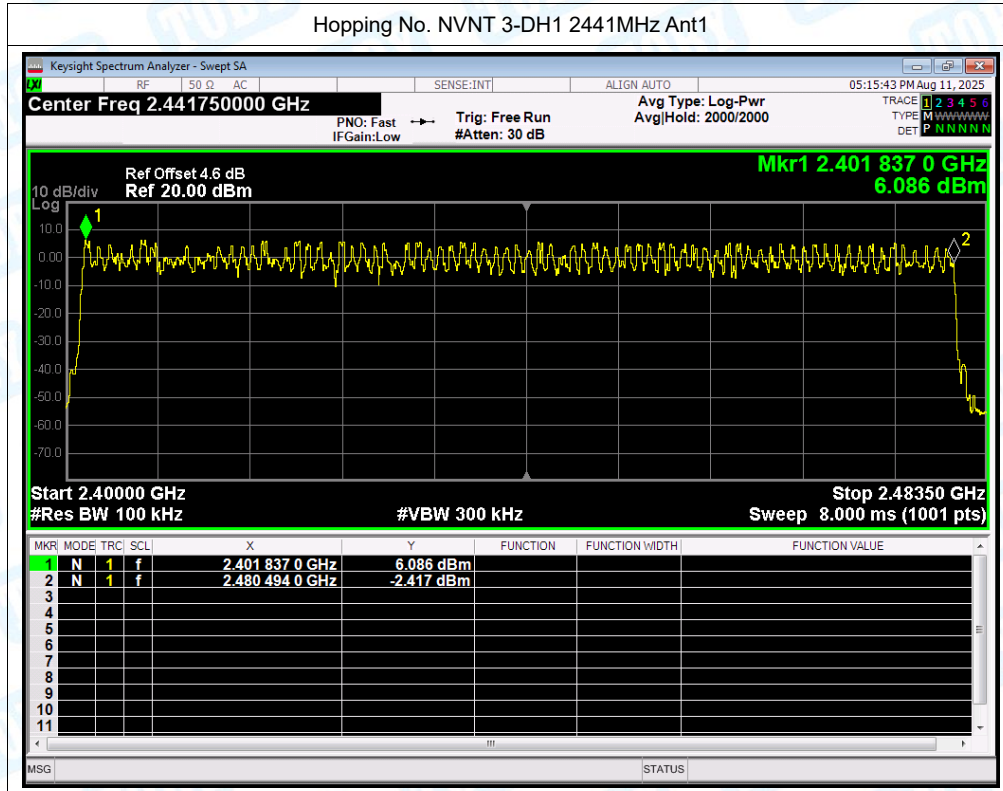
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



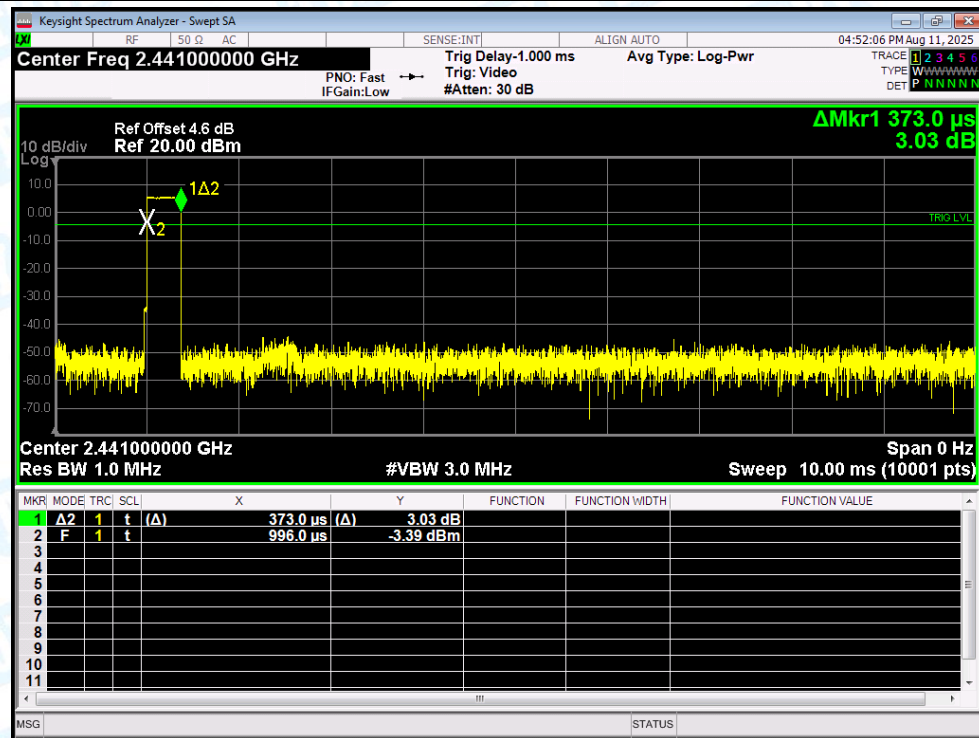


11. Dwell Time

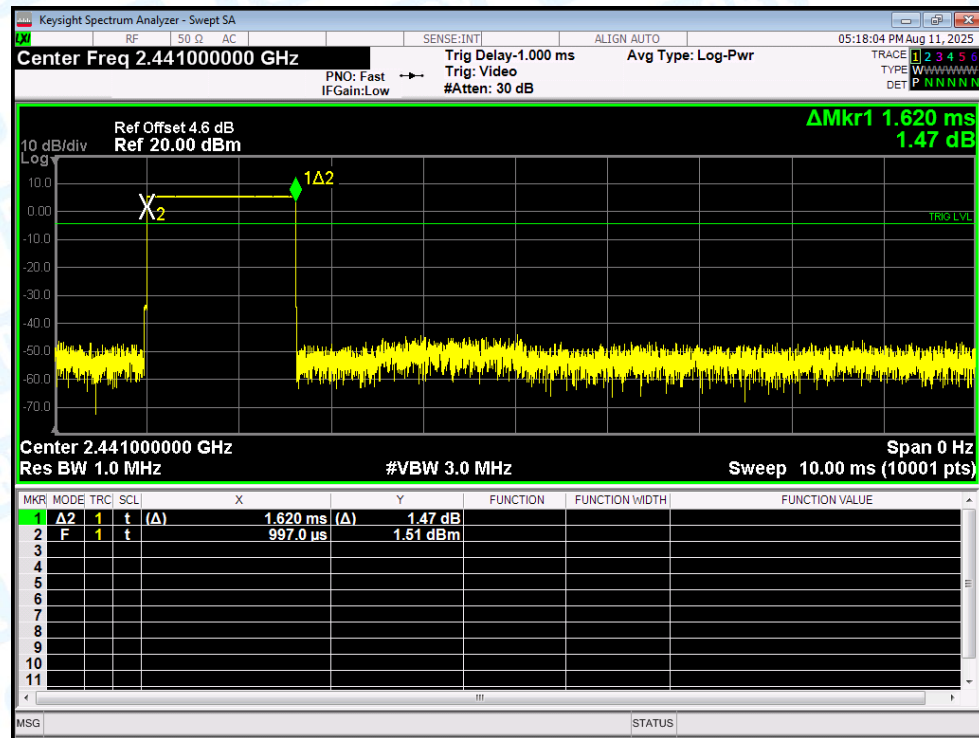
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.373	119.36	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.62	259.2	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.868	305.92	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.38	121.6	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.632	261.12	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.881	307.307	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.38	121.6	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.63	260.8	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.881	307.307	31600	400	Pass

Test Graphs

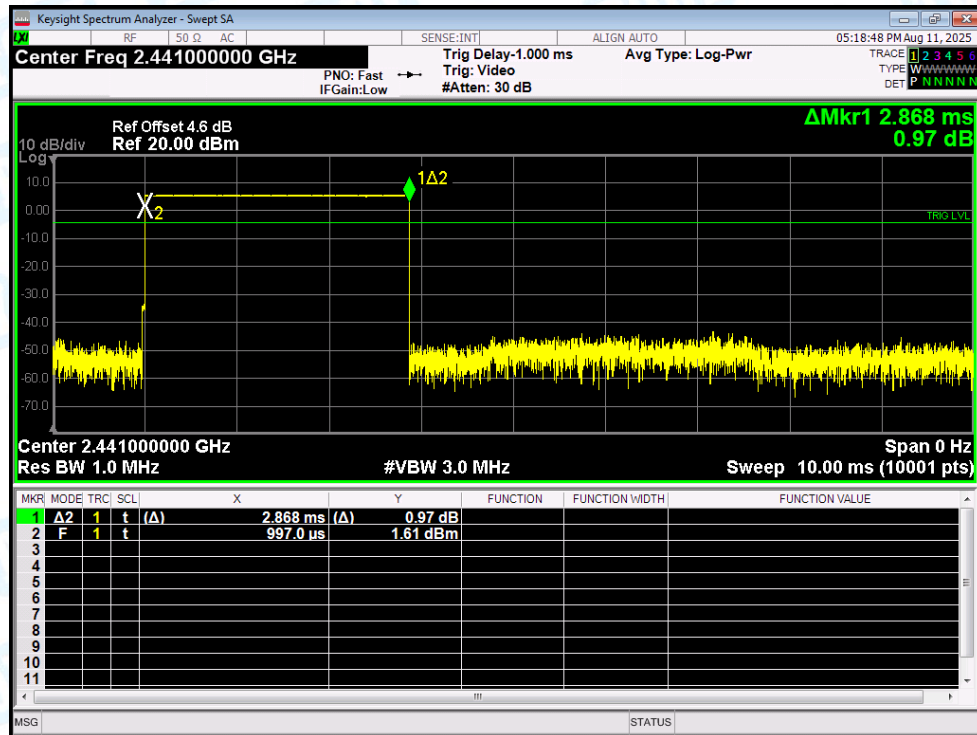
Dwell NVNT 1-DH1 2441MHz Ant1



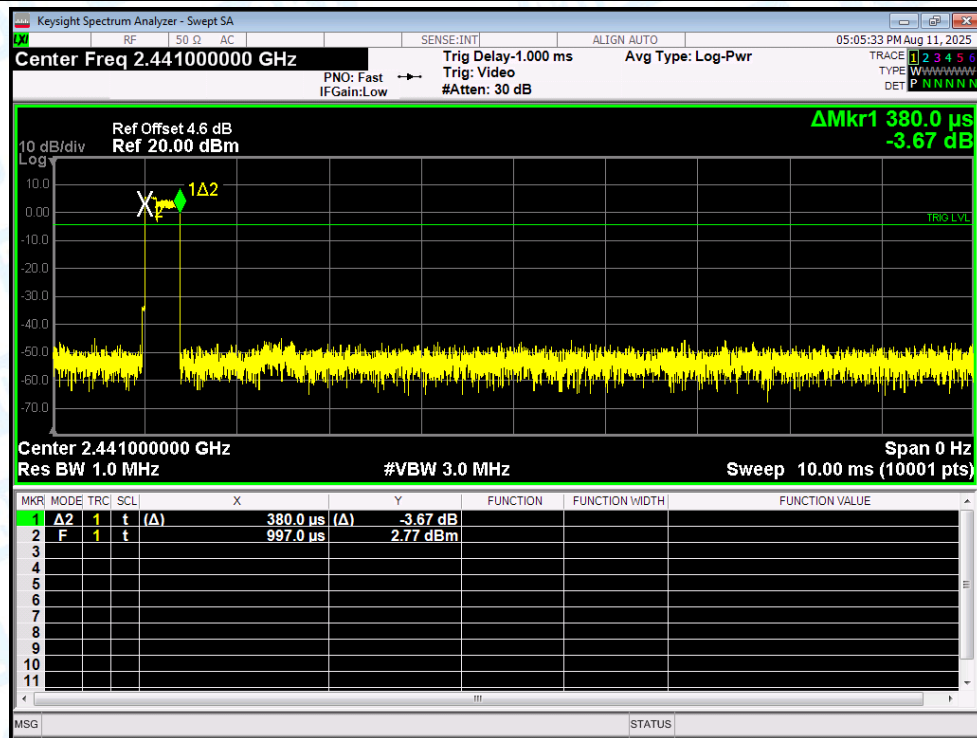
Dwell NVNT 1-DH3 2441MHz Ant1



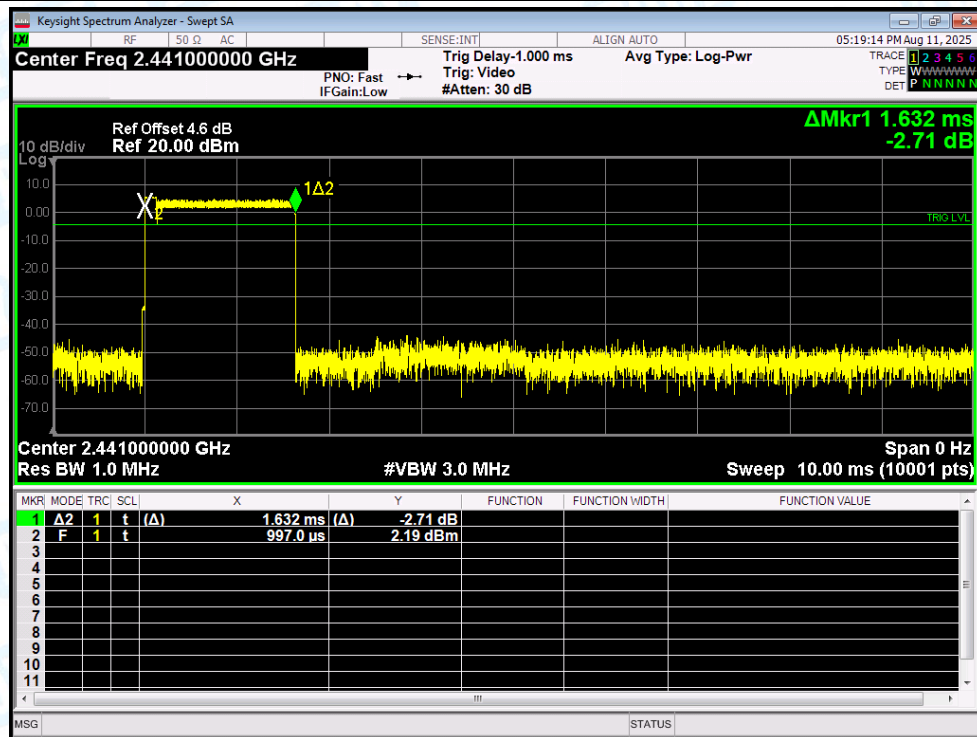
Dwell NVNT 1-DH5 2441MHz Ant1



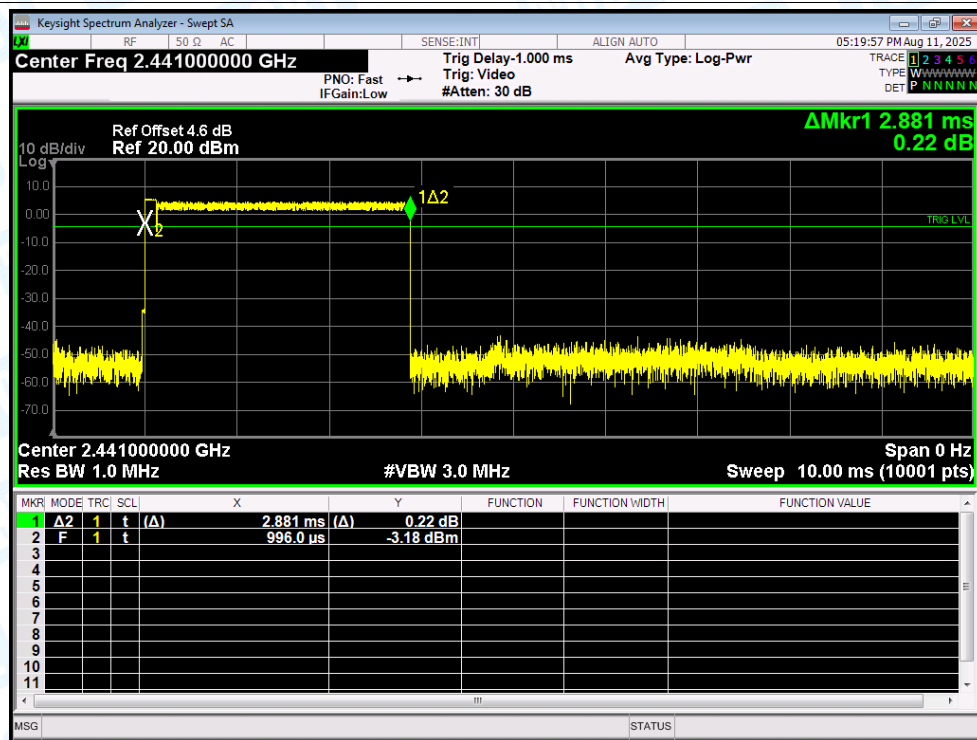
Dwell NVNT 2-DH1 2441MHz Ant1



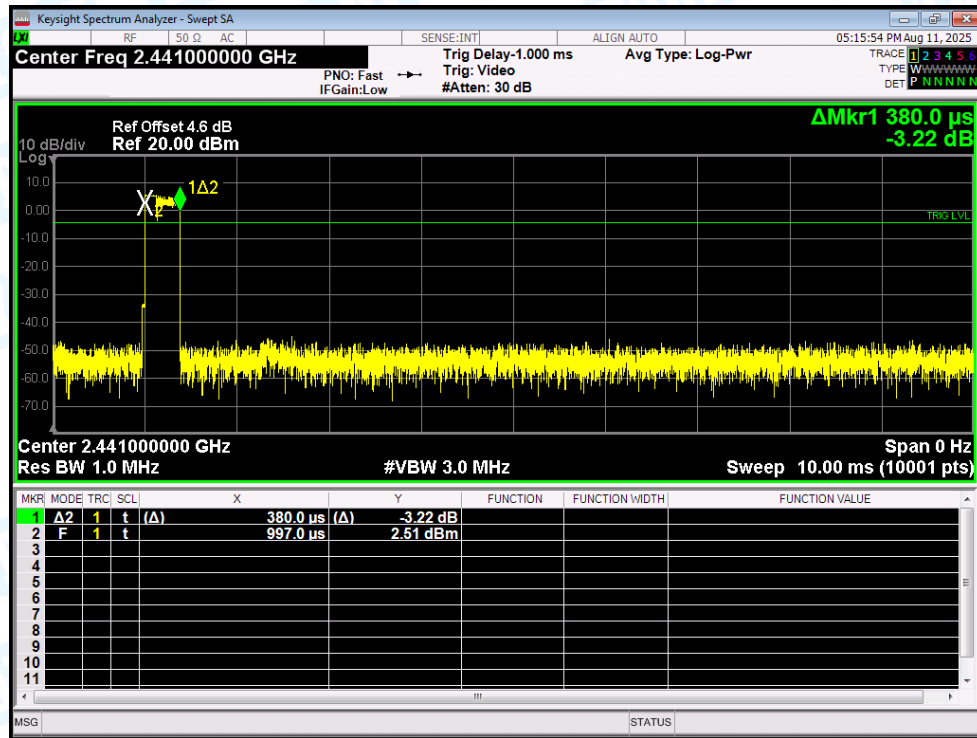
Dwell NVNT 2-DH3 2441MHz Ant1



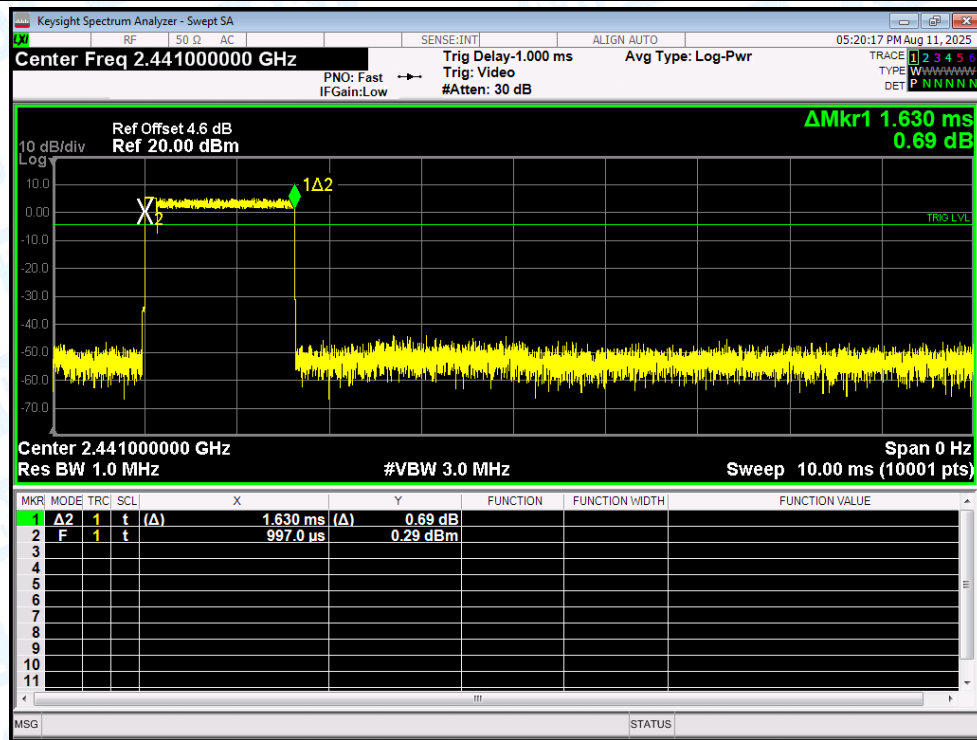
Dwell NVNT 2-DH5 2441MHz Ant1

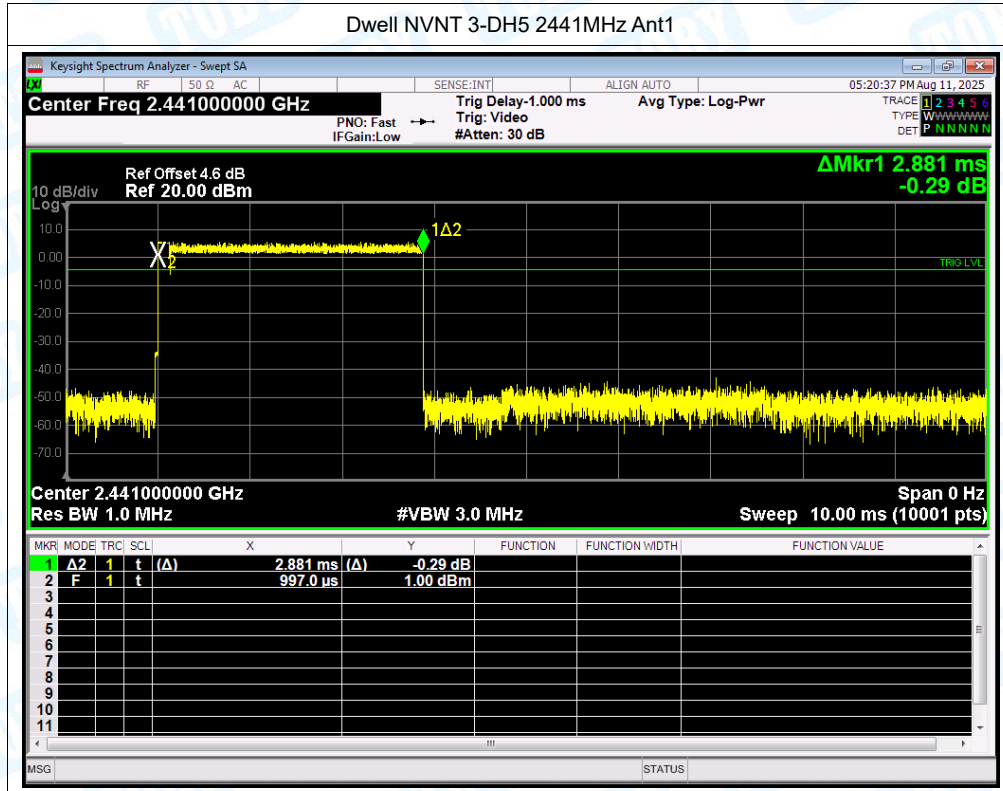


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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