

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	smart watch
Test Model:	Y101
Sample ID:	HC-C-202502-0059-01-02#
Environmental Conditions	
Temperature:	25℃
Relative Humidity:	55%
Test Voltage:	DC 3.8V
Test Engineer:	Rick Chen
Note: For a more detailed features description, please refer to the report TBR-C-202502-0059-21 The report only show the worst case data.	

Contents

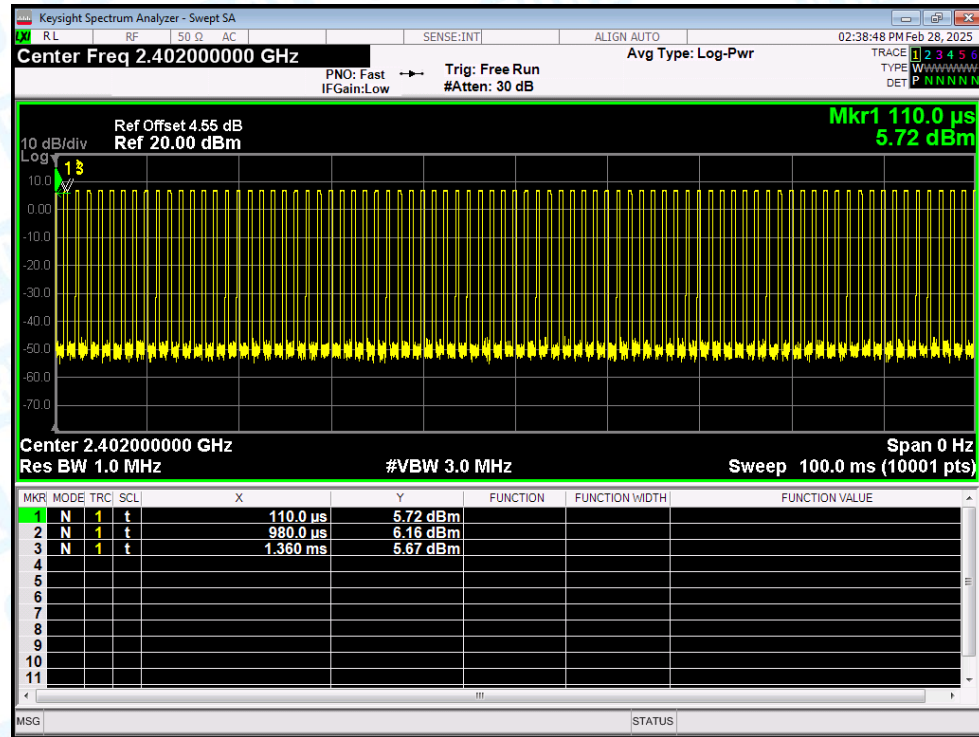
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1. Duty Cycle

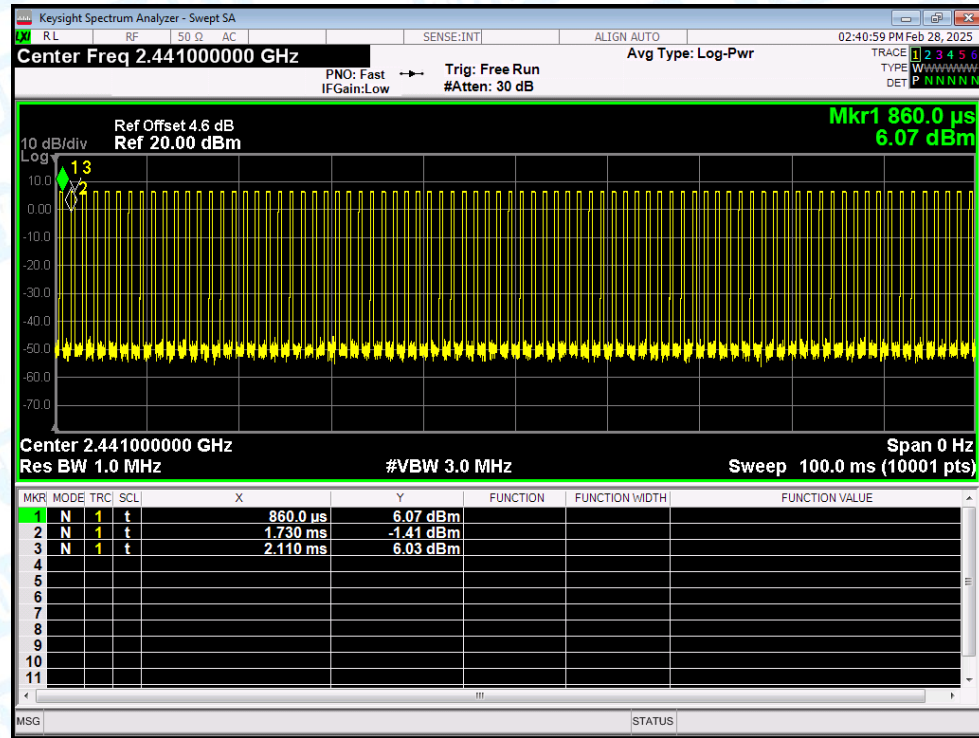
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	29.6	5.29	2.7
NVNT	2-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2480	Ant1	30.4	5.17	2.63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

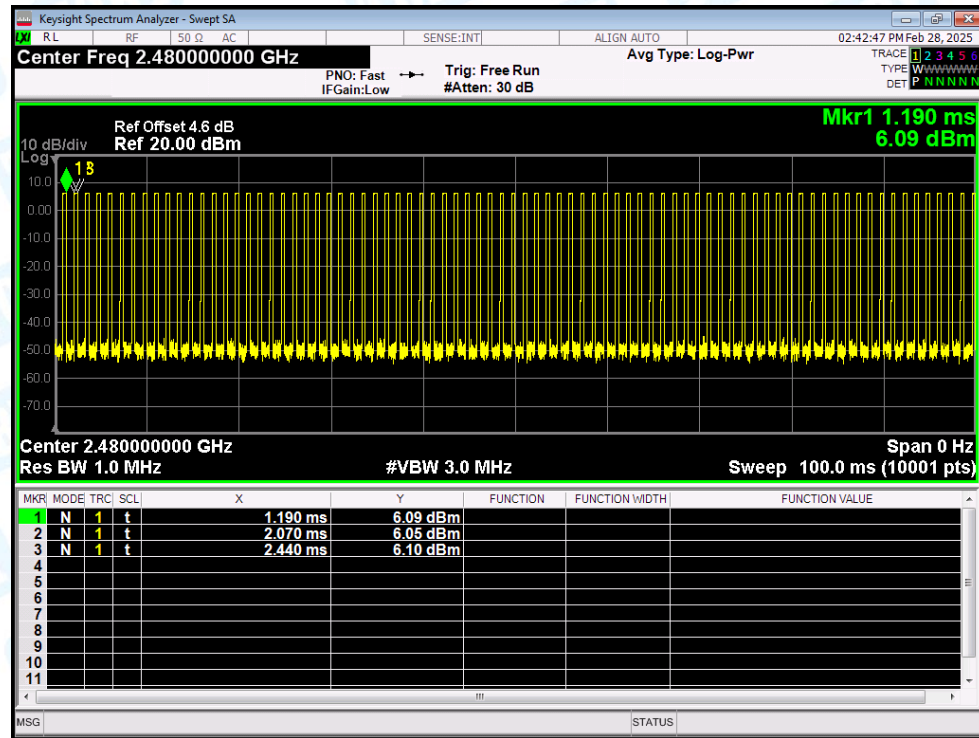
Duty Cycle NVNT 1-DH1 2402MHz Ant1



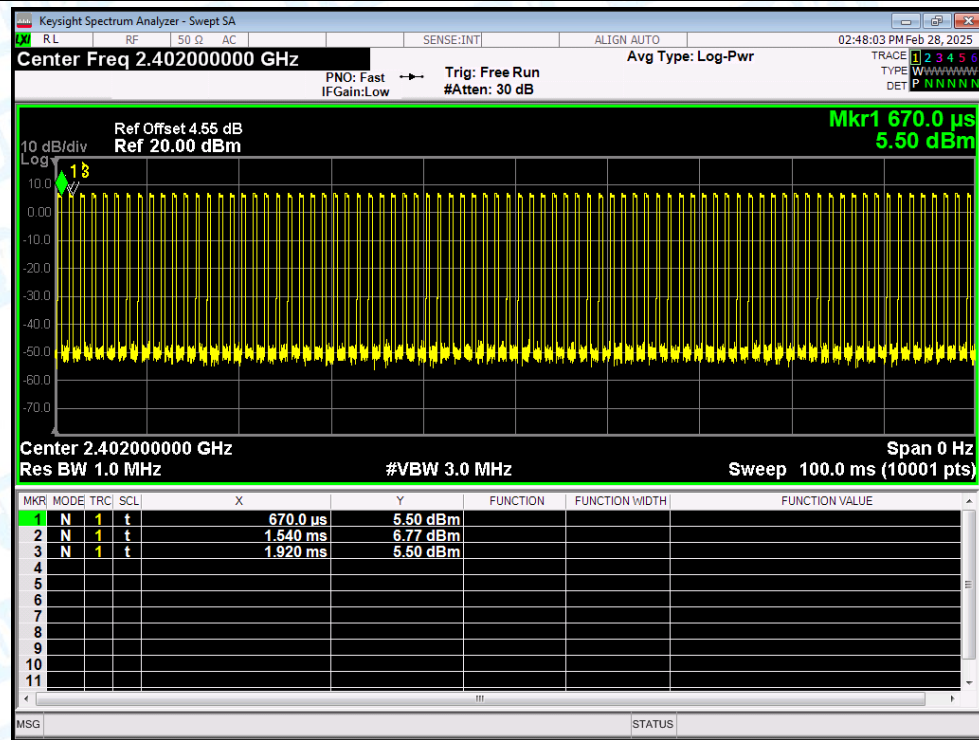
Duty Cycle NVNT 1-DH1 2441MHz Ant1



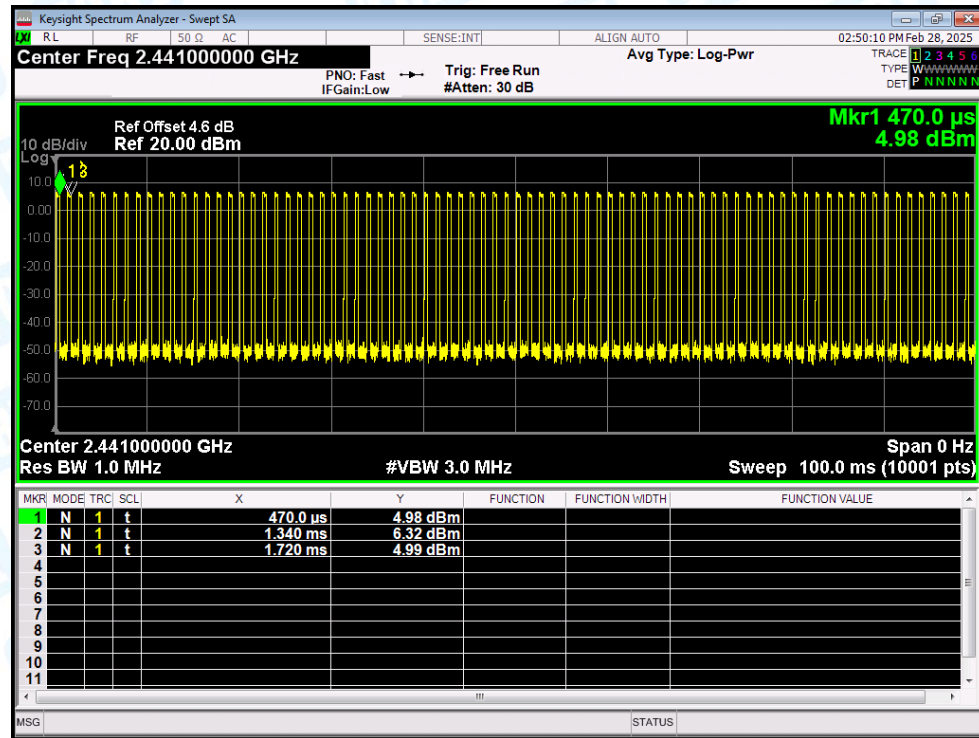
Duty Cycle NVNT 1-DH1 2480MHz Ant1



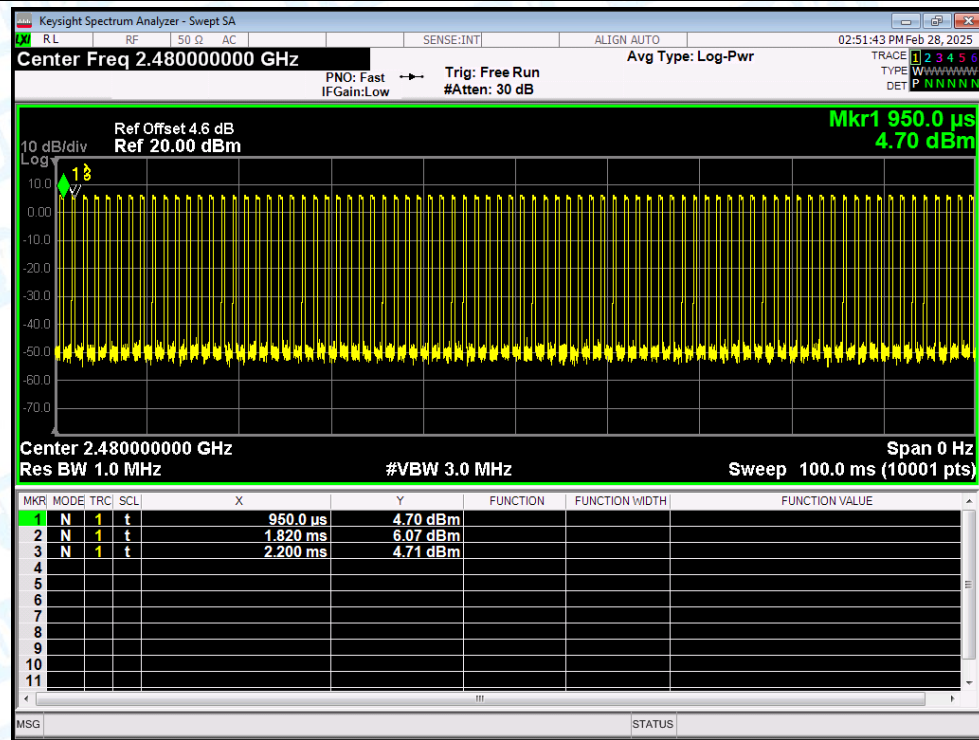
Duty Cycle NVNT 2-DH1 2402MHz Ant1



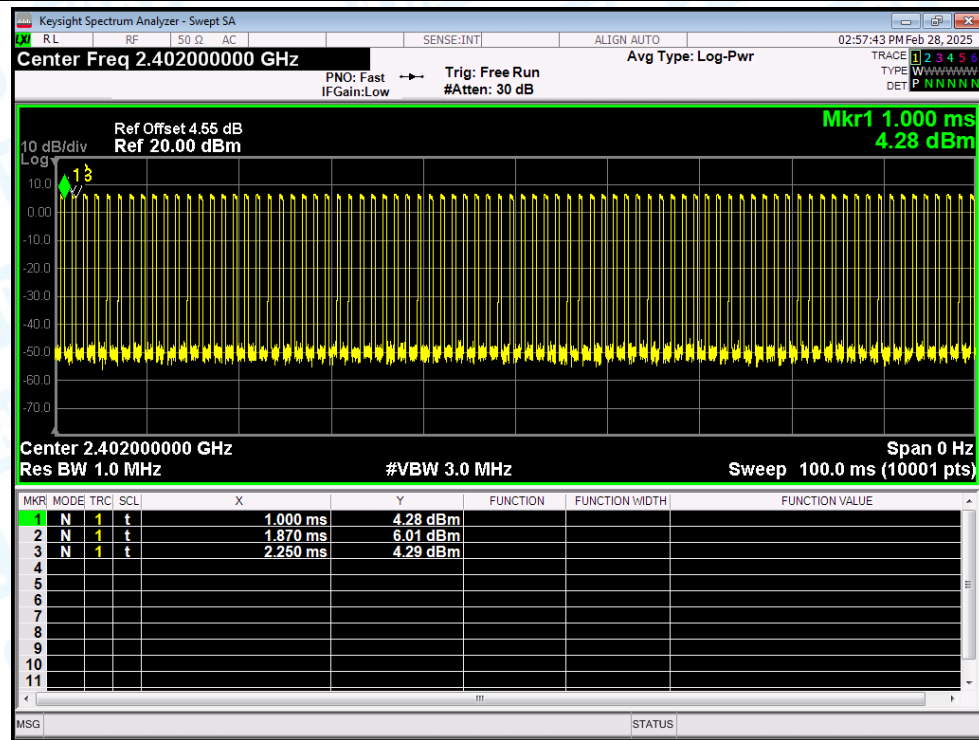
Duty Cycle NVNT 2-DH1 2441MHz Ant1



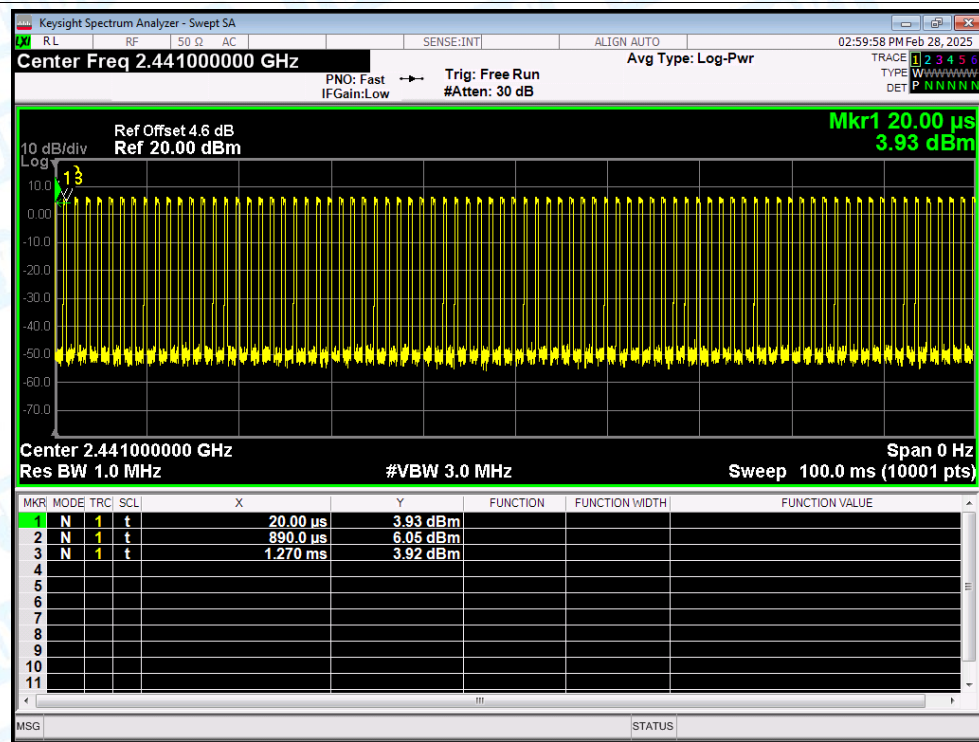
Duty Cycle NVNT 2-DH1 2480MHz Ant1

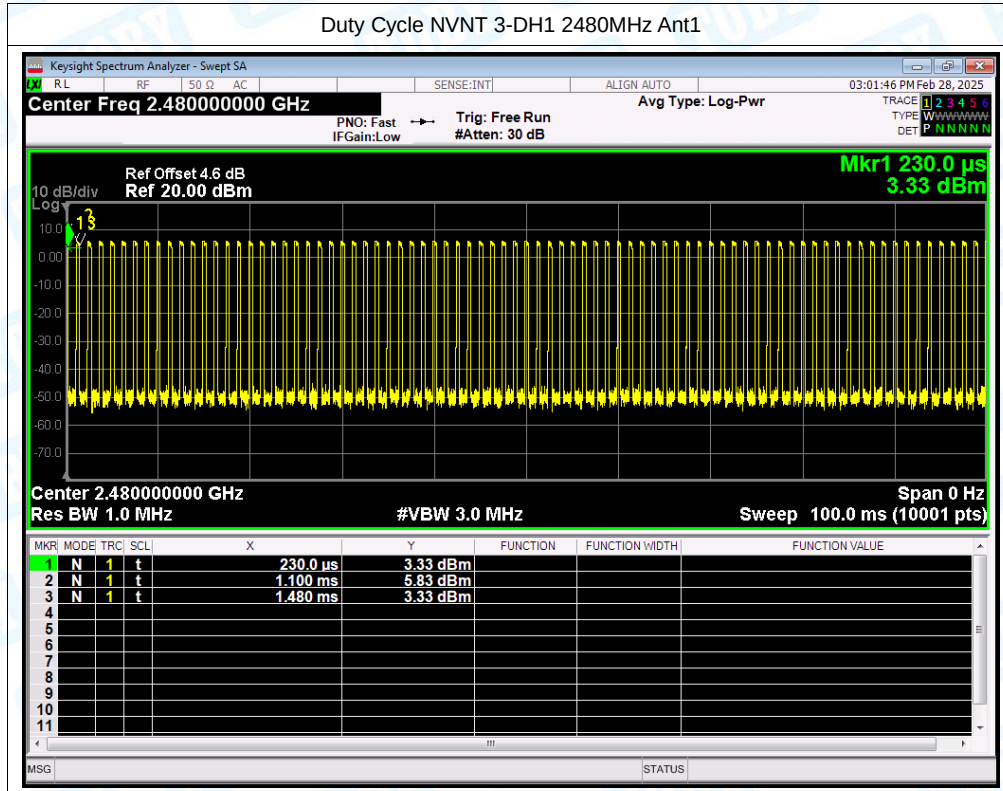


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1





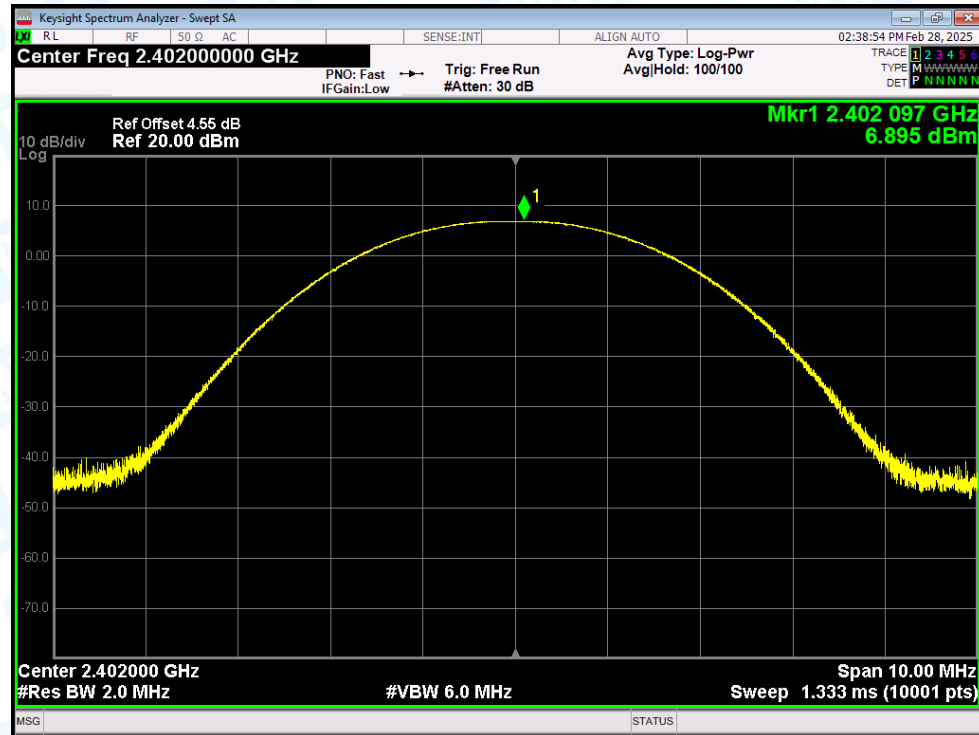
2.Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	6.895	21	Pass
NVNT	1-DH1	2441	Ant1	6.511	21	Pass
NVNT	1-DH1	2480	Ant1	6.225	21	Pass
NVNT	2-DH1	2402	Ant1	6.923	21	Pass
NVNT	2-DH1	2441	Ant1	6.539	21	Pass
NVNT	2-DH1	2480	Ant1	6.256	21	Pass
NVNT	3-DH1	2402	Ant1	6.519	21	Pass
NVNT	3-DH1	2441	Ant1	6.231	21	Pass
NVNT	3-DH1	2480	Ant1	5.985	21	Pass

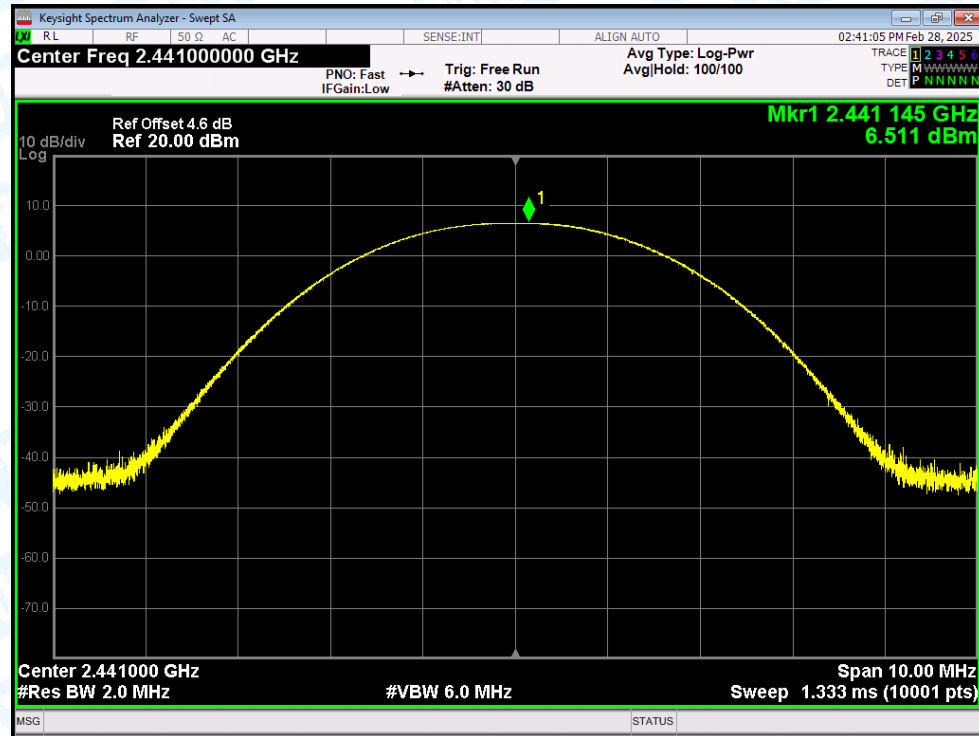
Note: The duty factor has been compensated into the result.

Test Graphs

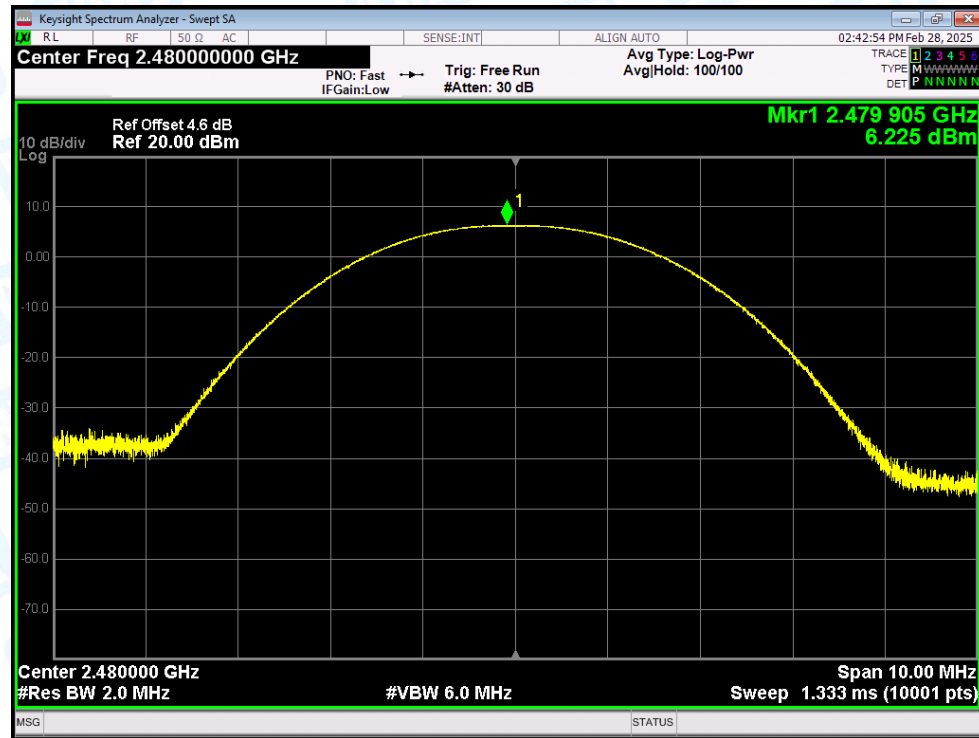
Power NVNT 1-DH1 2402MHz Ant1



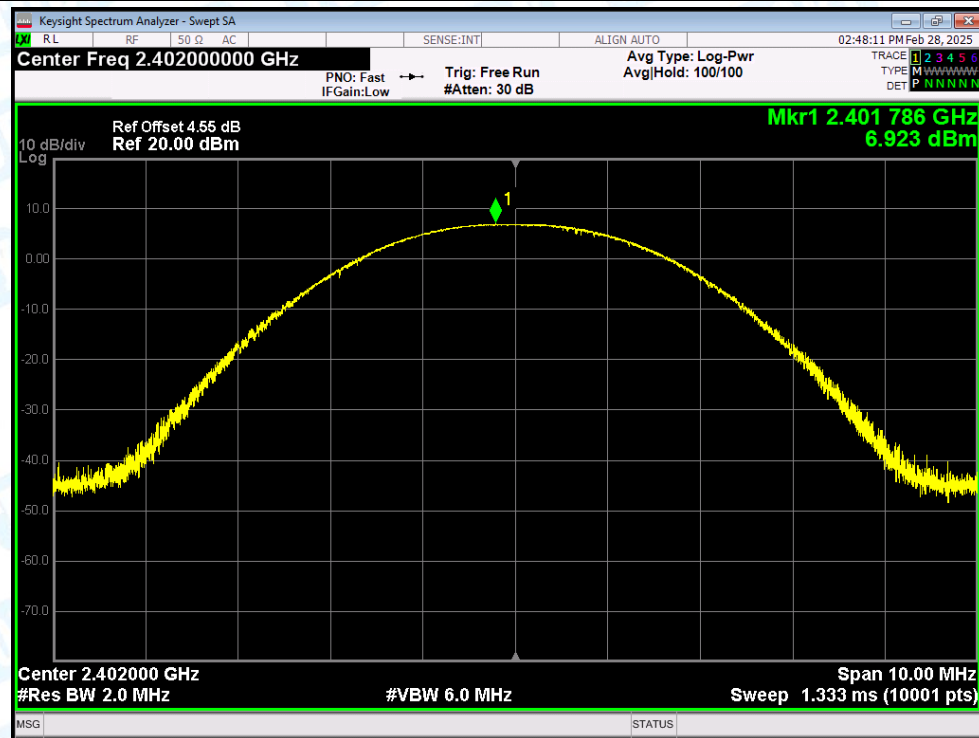
Power NVNT 1-DH1 2441MHz Ant1



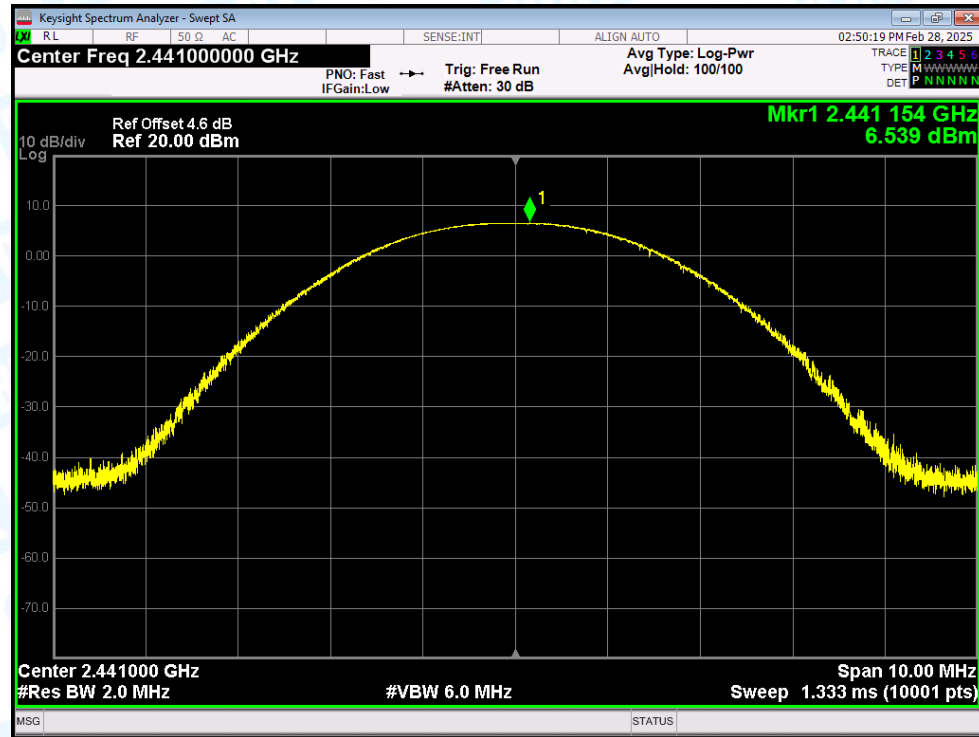
Power NVNT 1-DH1 2480MHz Ant1



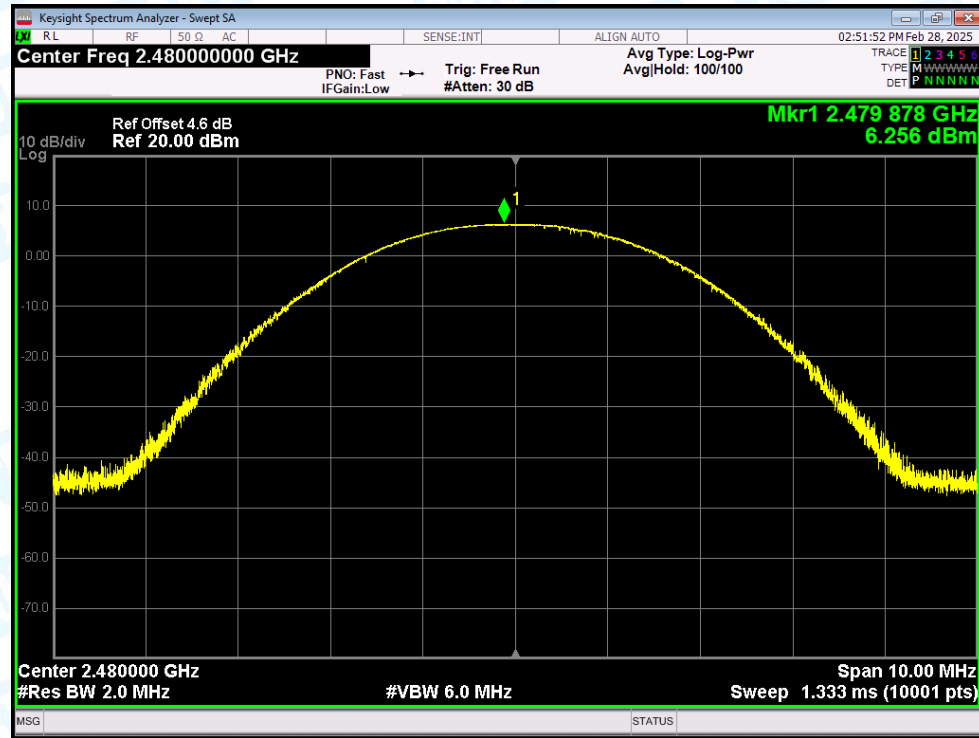
Power NVNT 2-DH1 2402MHz Ant1



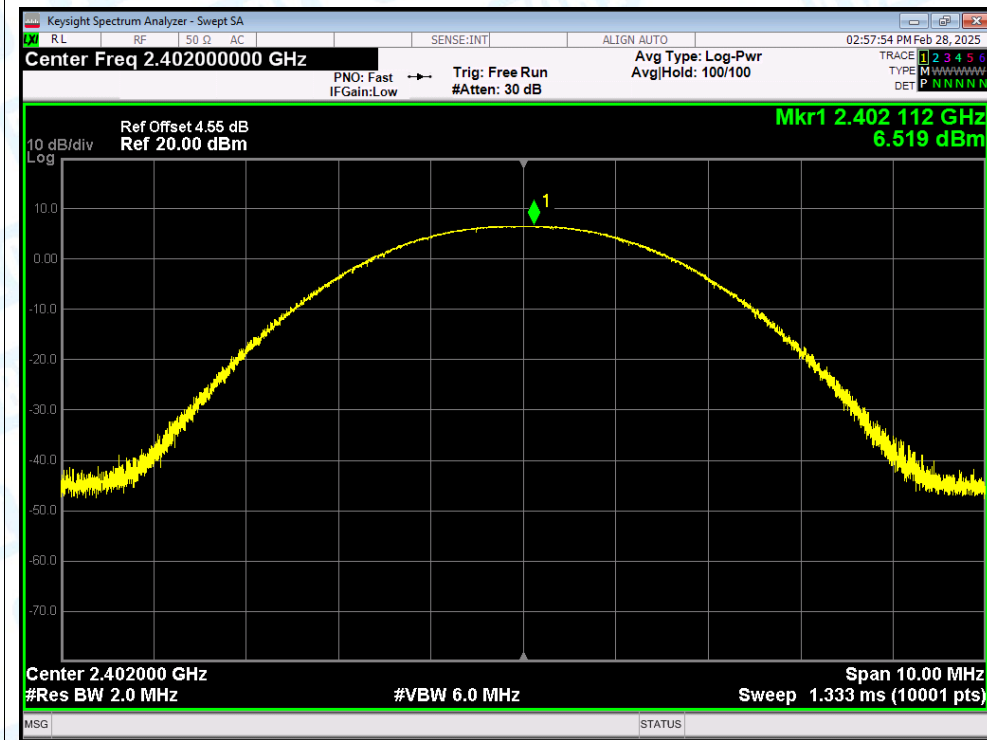
Power NVNT 2-DH1 2441MHz Ant1



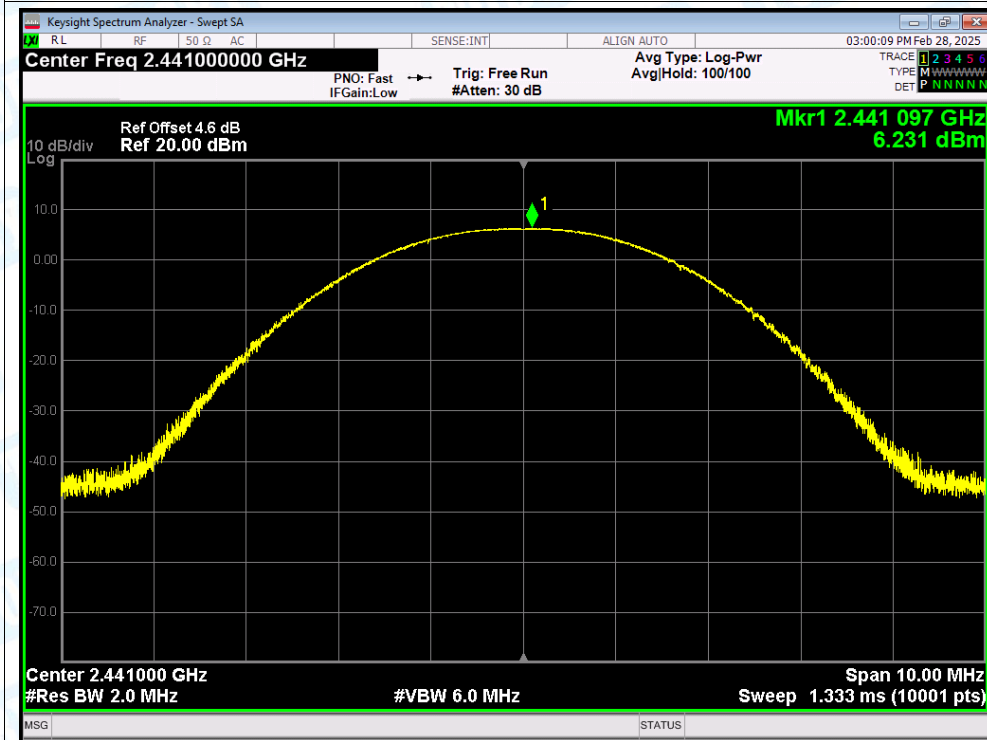
Power NVNT 2-DH1 2480MHz Ant1

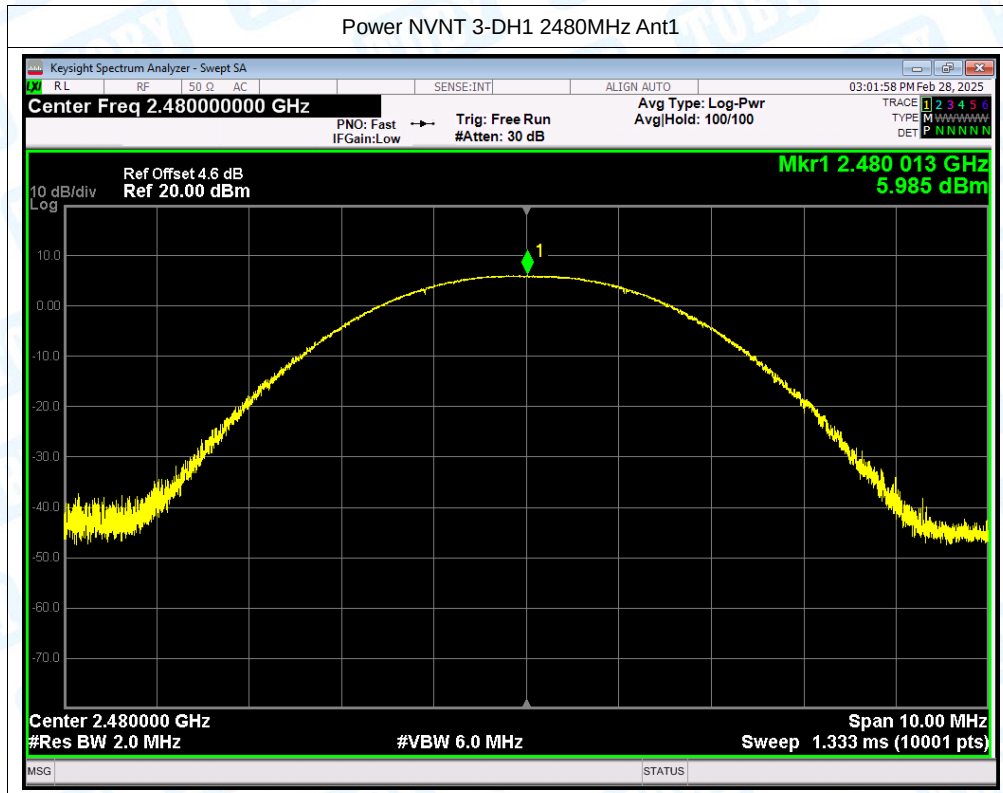


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



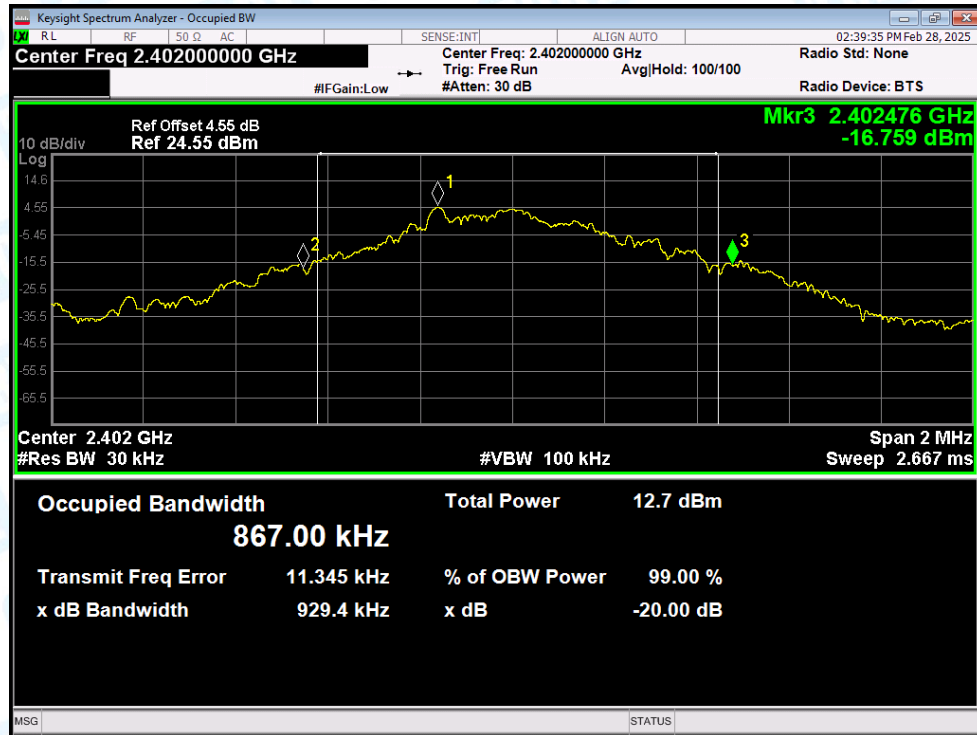


3.-20dB Bandwidth

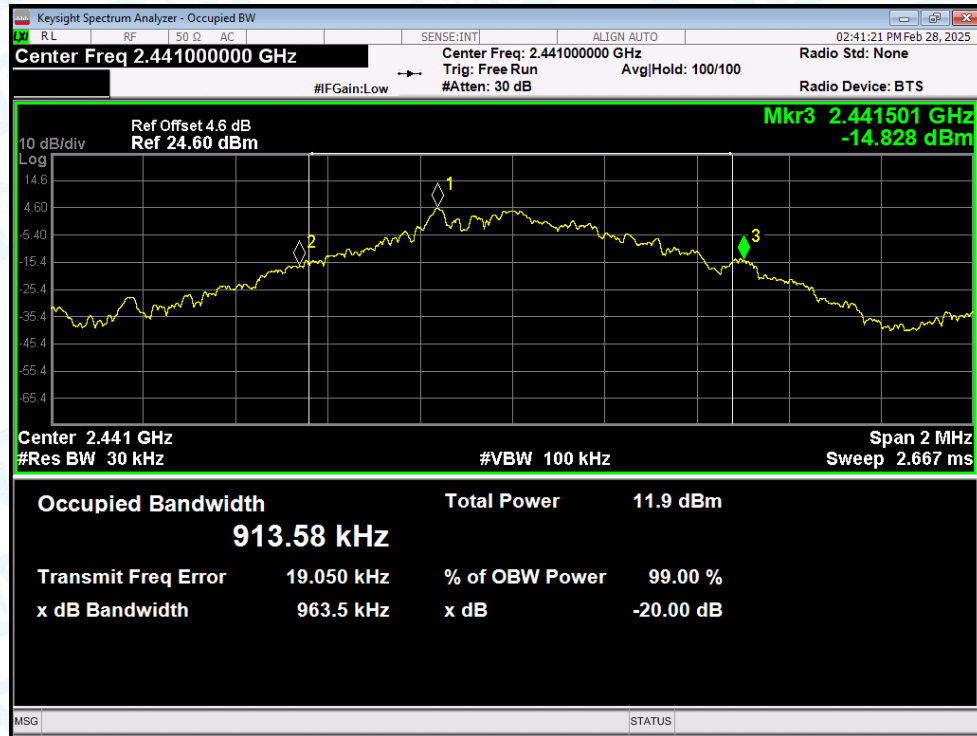
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.93	0	Pass
NVNT	1-DH1	2441	Ant1	0.96	0	Pass
NVNT	1-DH1	2480	Ant1	0.94	0	Pass
NVNT	2-DH1	2402	Ant1	1.2	0	Pass
NVNT	2-DH1	2441	Ant1	1.22	0	Pass
NVNT	2-DH1	2480	Ant1	1.21	0	Pass
NVNT	3-DH1	2402	Ant1	1.22	0	Pass
NVNT	3-DH1	2441	Ant1	1.22	0	Pass
NVNT	3-DH1	2480	Ant1	1.21	0	Pass

Test Graphs

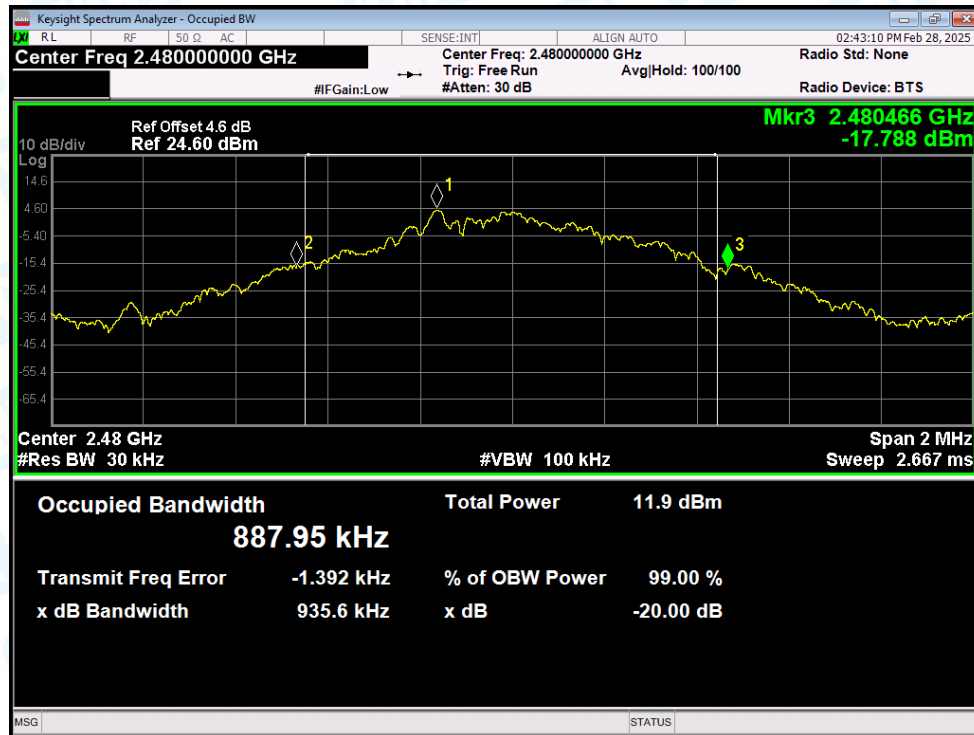
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



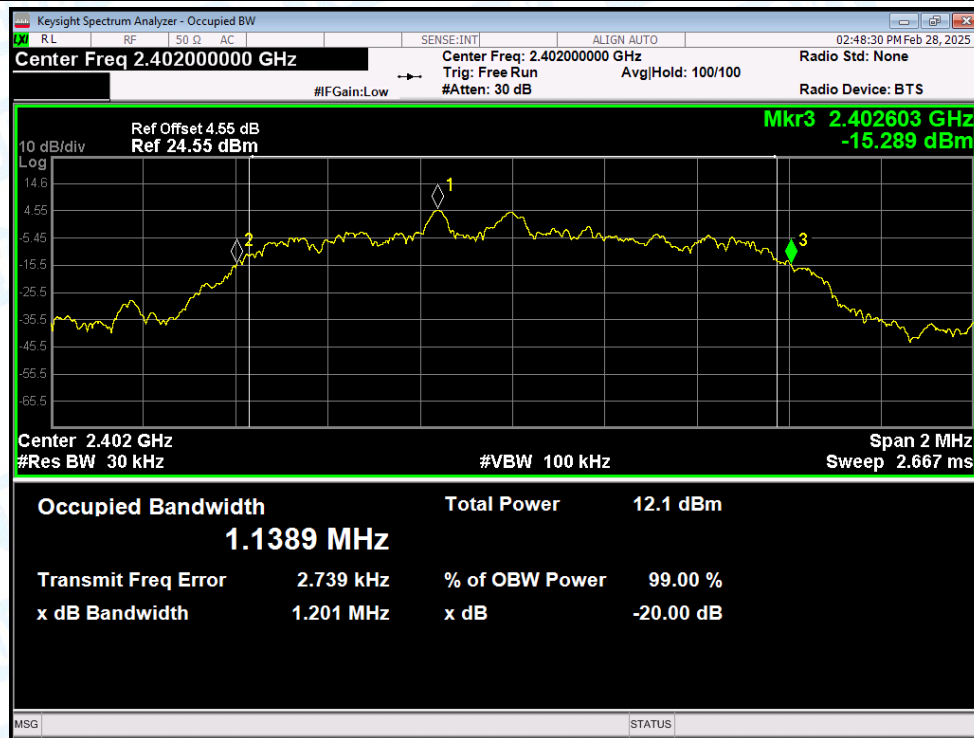
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



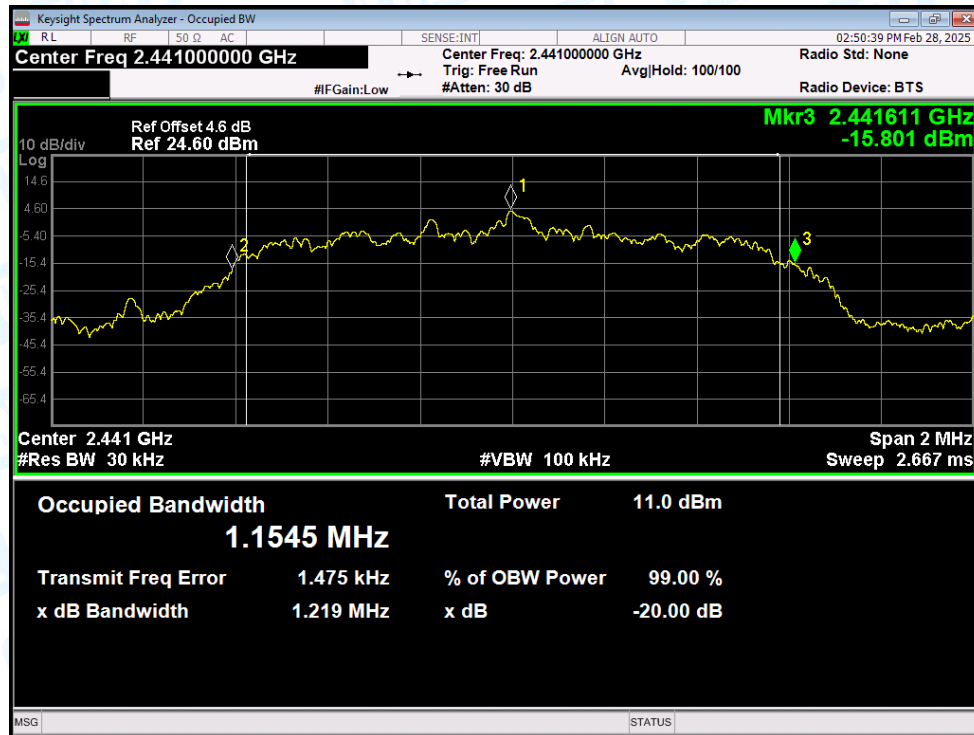
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



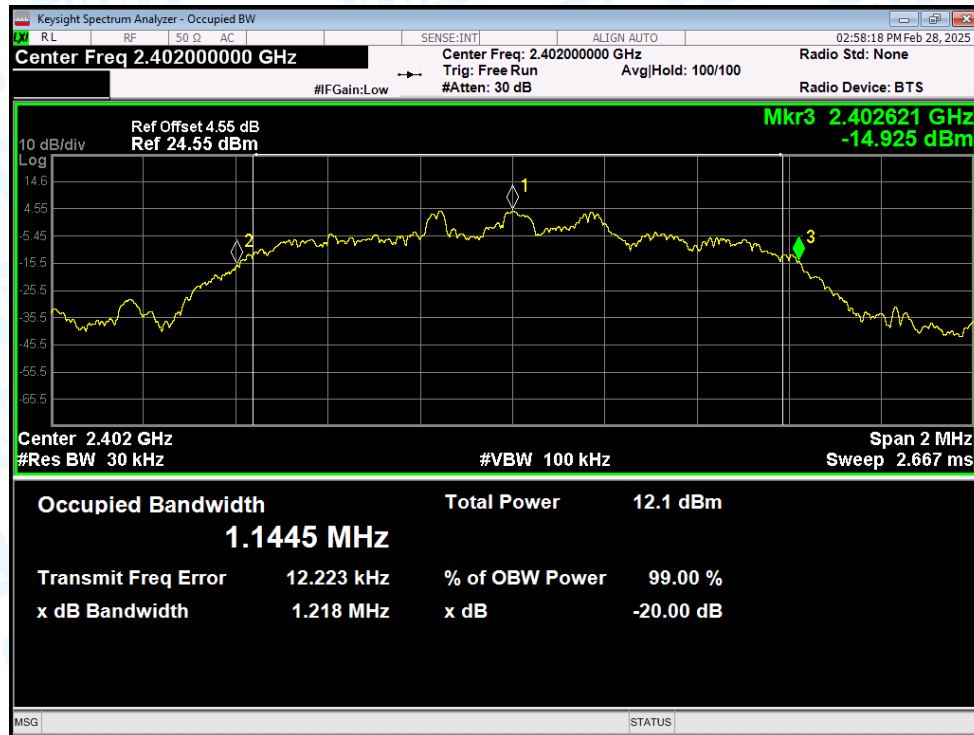
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



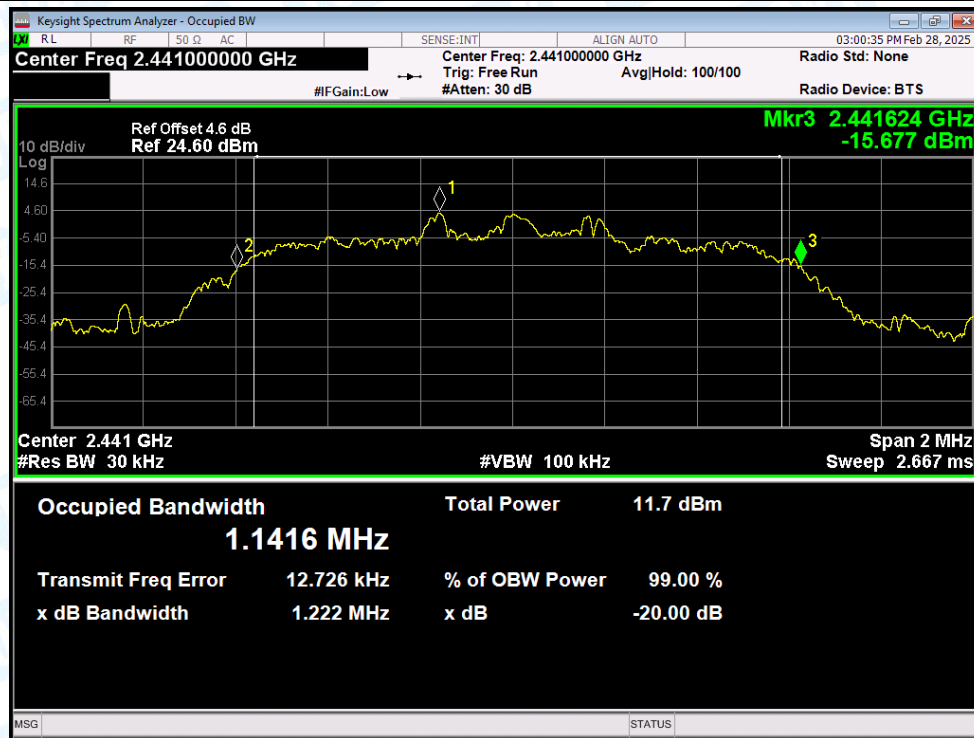
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

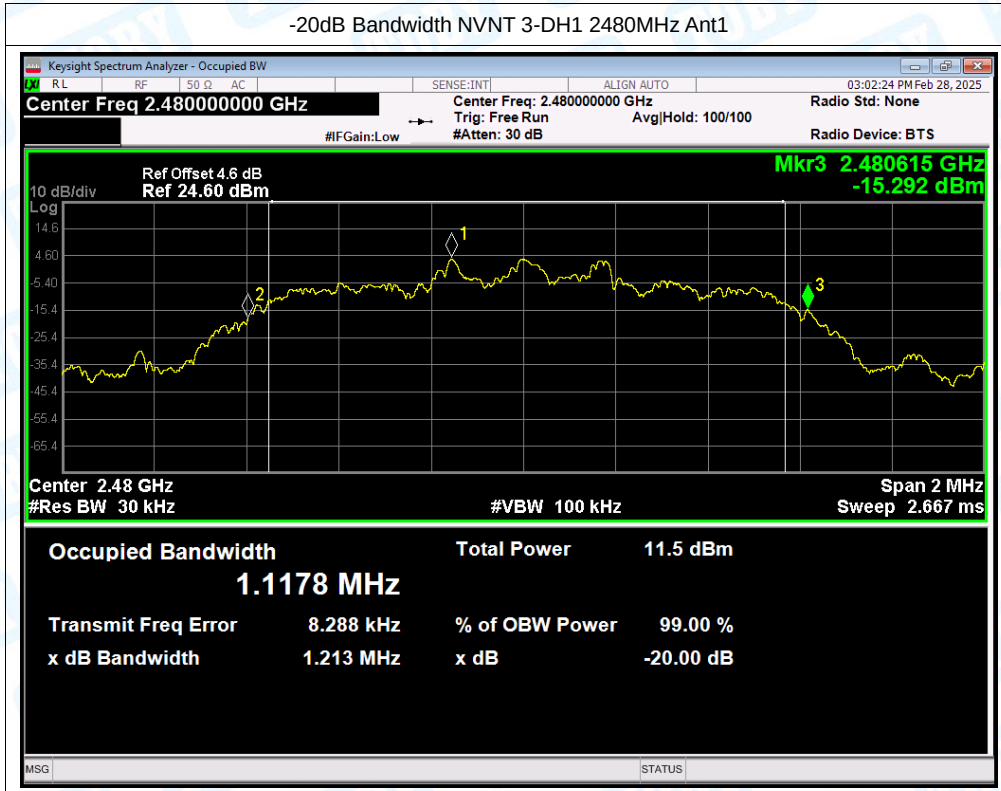


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



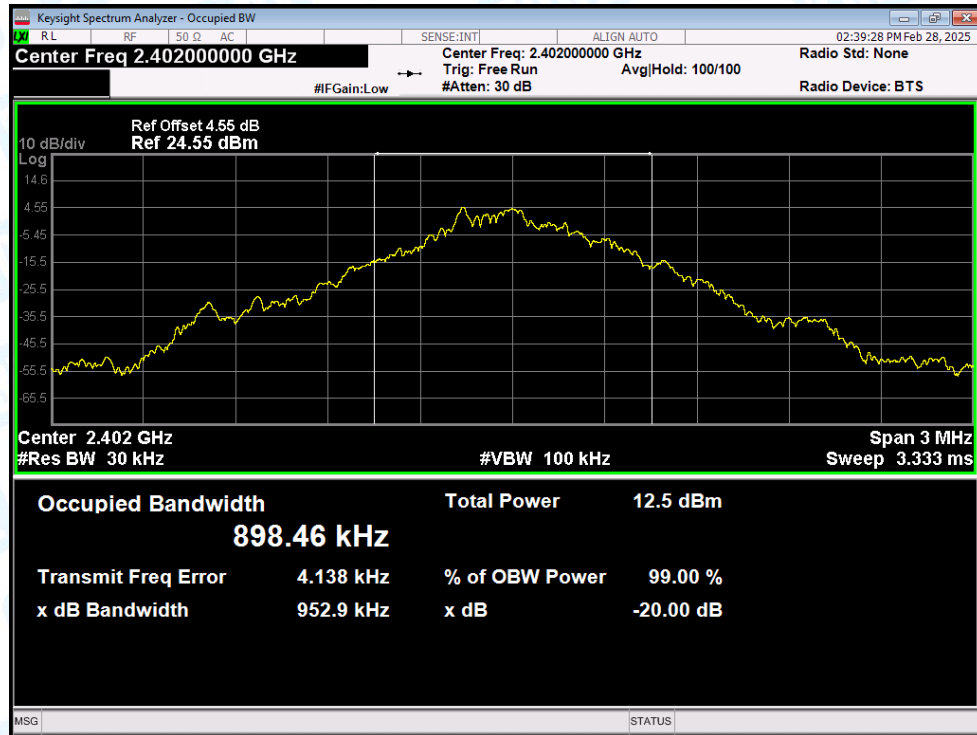


4.Occupied Channel Bandwidth

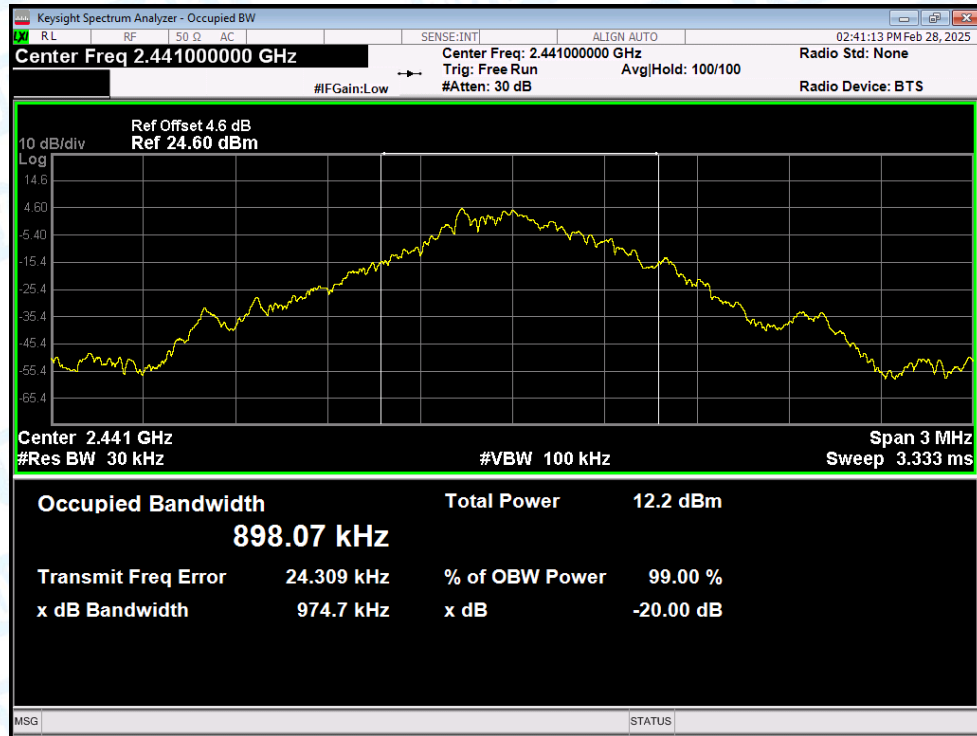
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.898
NVNT	1-DH1	2441	Ant1	0.898
NVNT	1-DH1	2480	Ant1	0.899
NVNT	2-DH1	2402	Ant1	1.139
NVNT	2-DH1	2441	Ant1	1.154
NVNT	2-DH1	2480	Ant1	1.145
NVNT	3-DH1	2402	Ant1	1.144
NVNT	3-DH1	2441	Ant1	1.129
NVNT	3-DH1	2480	Ant1	1.12

Test Graphs

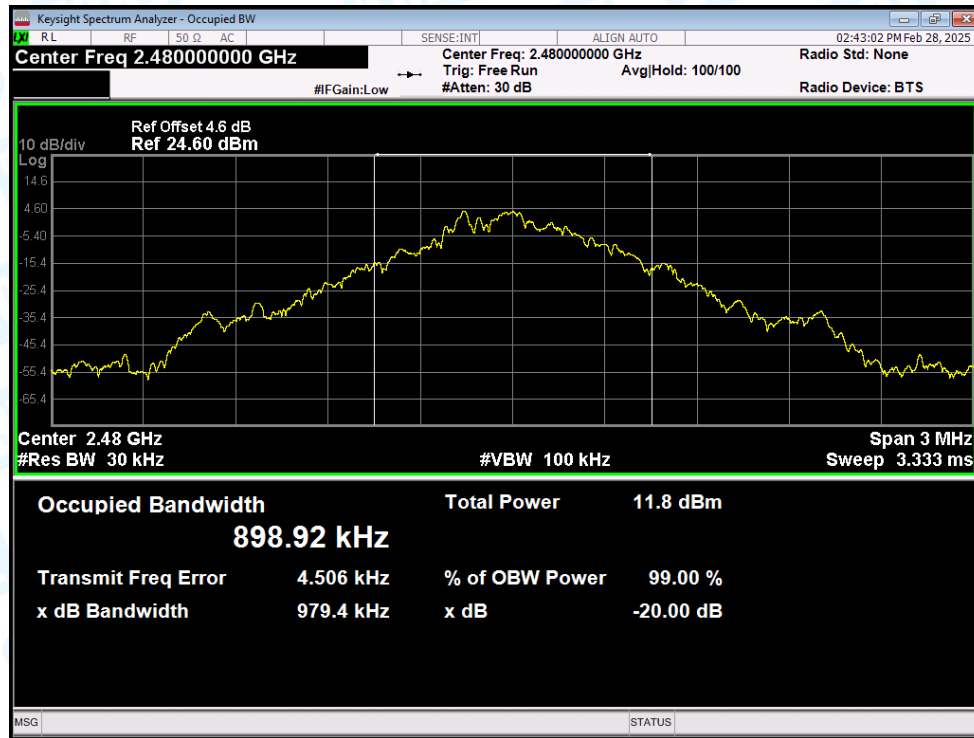
OBW NVNT 1-DH1 2402MHz Ant1



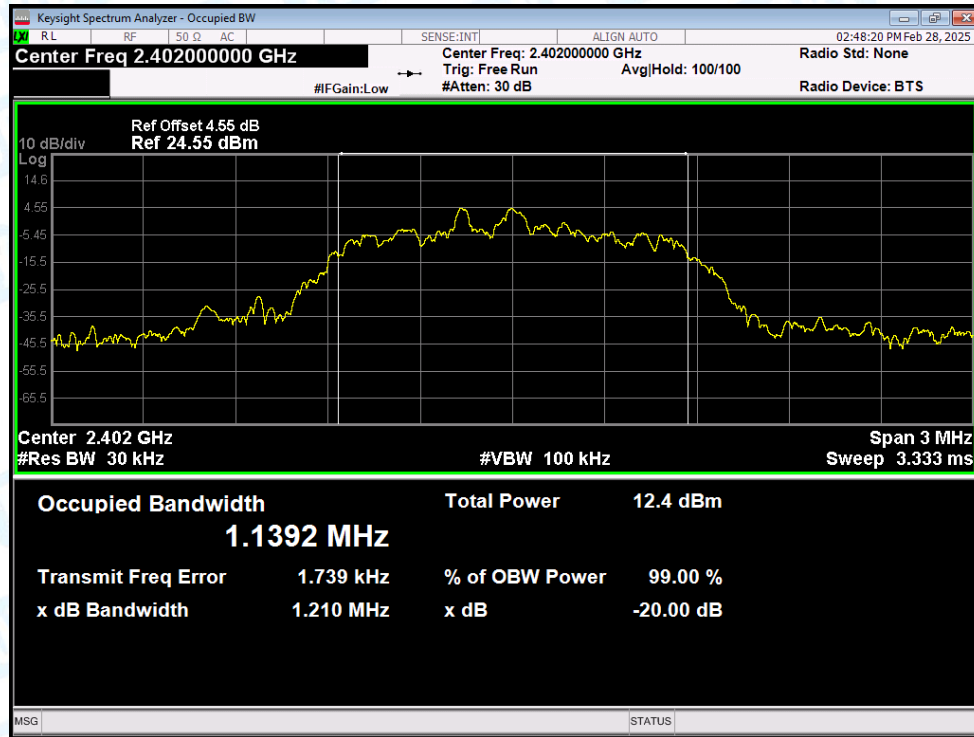
OBW NVNT 1-DH1 2441MHz Ant1



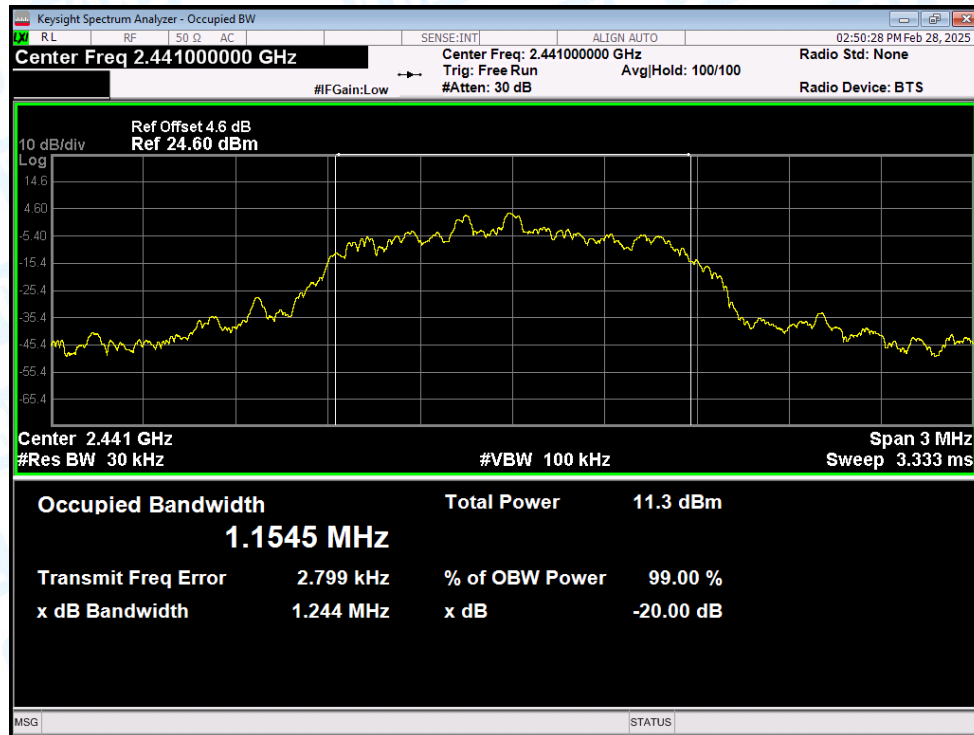
OBW NVNT 1-DH1 2480MHz Ant1



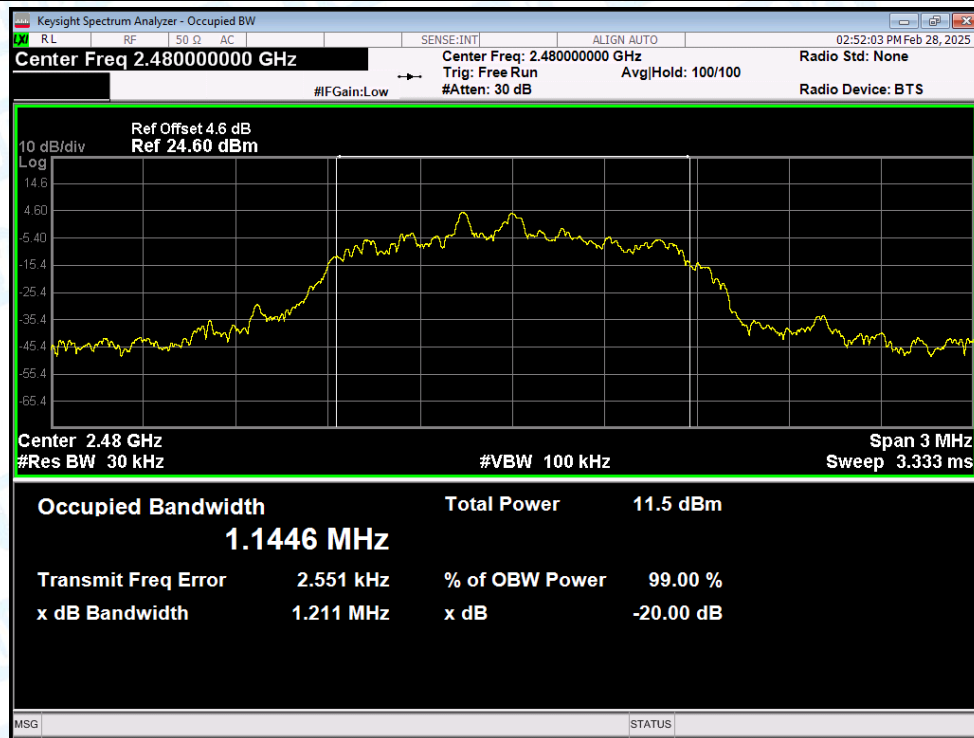
OBW NVNT 2-DH1 2402MHz Ant1



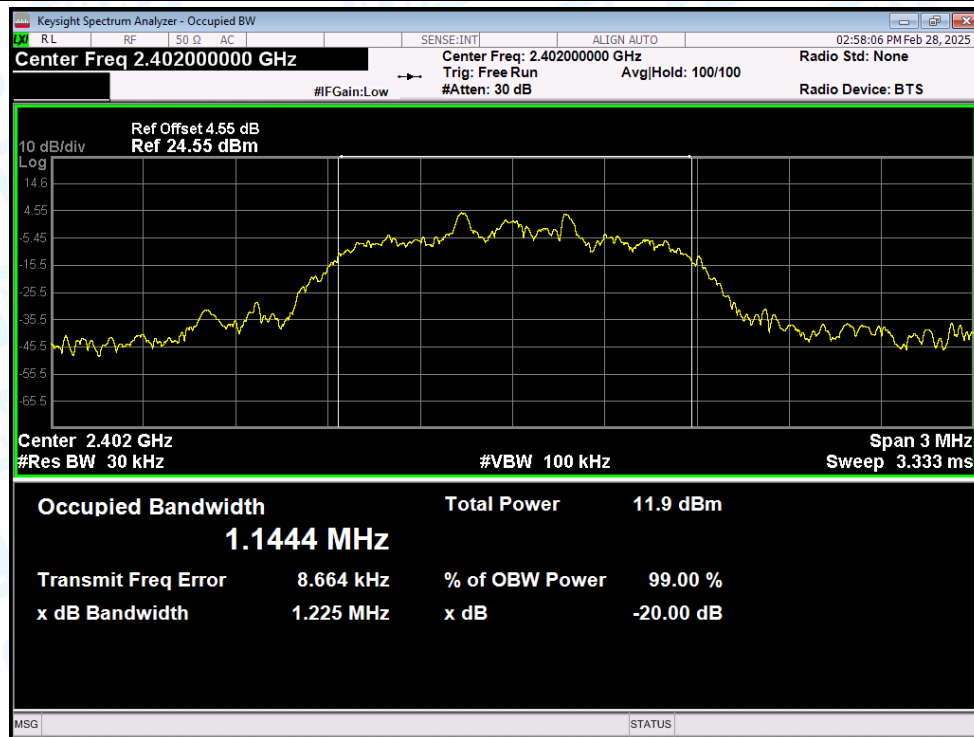
OBW NVNT 2-DH1 2441MHz Ant1



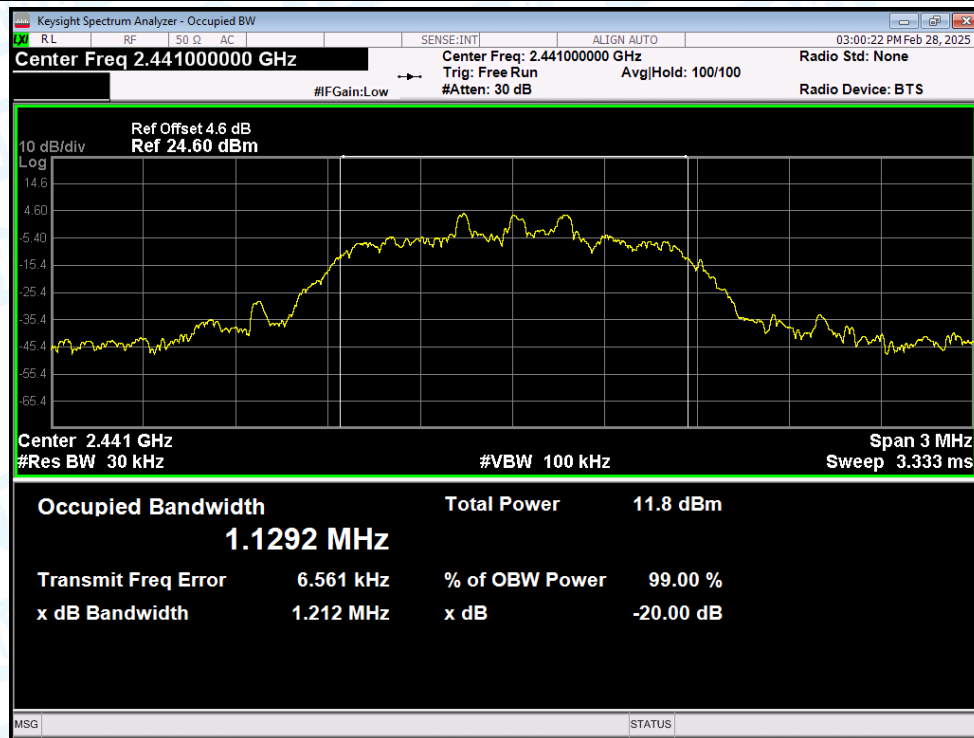
OBW NVNT 2-DH1 2480MHz Ant1

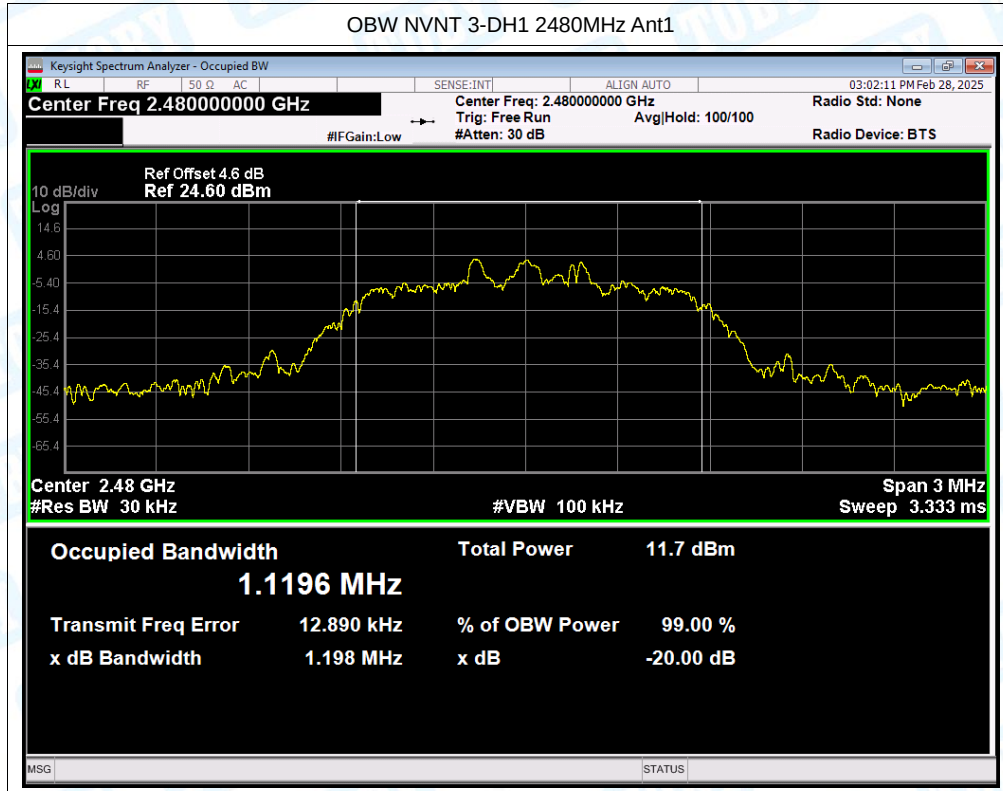


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



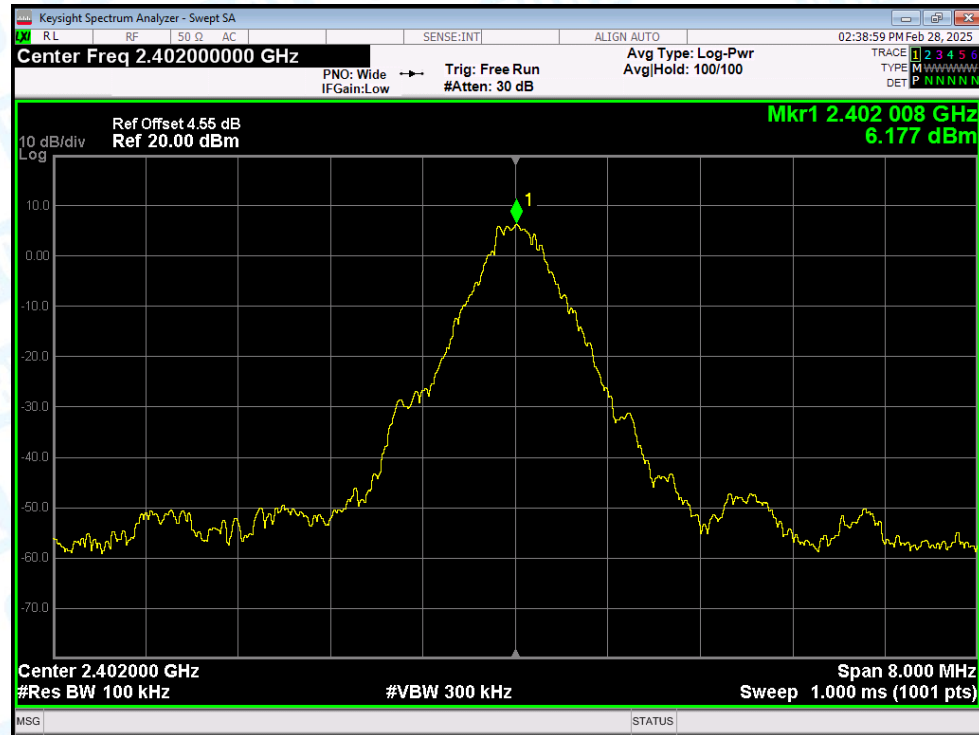


5.Band Edge

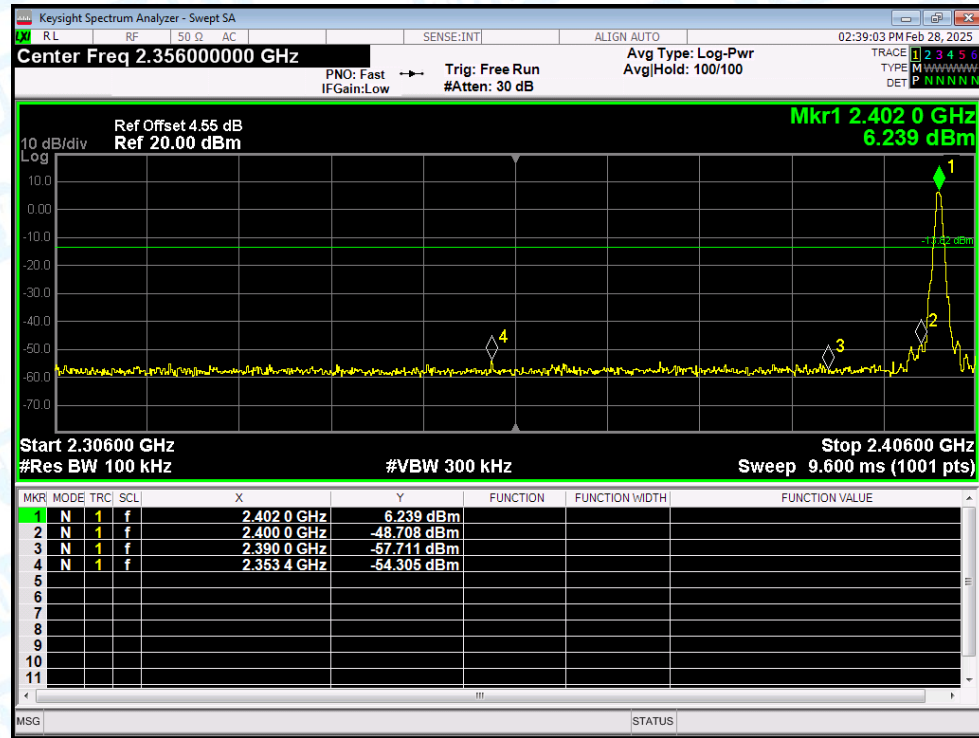
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-60.49	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-59.45	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-60.13	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-59.17	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-61.13	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-59.85	-20	Pass

Test Graphs

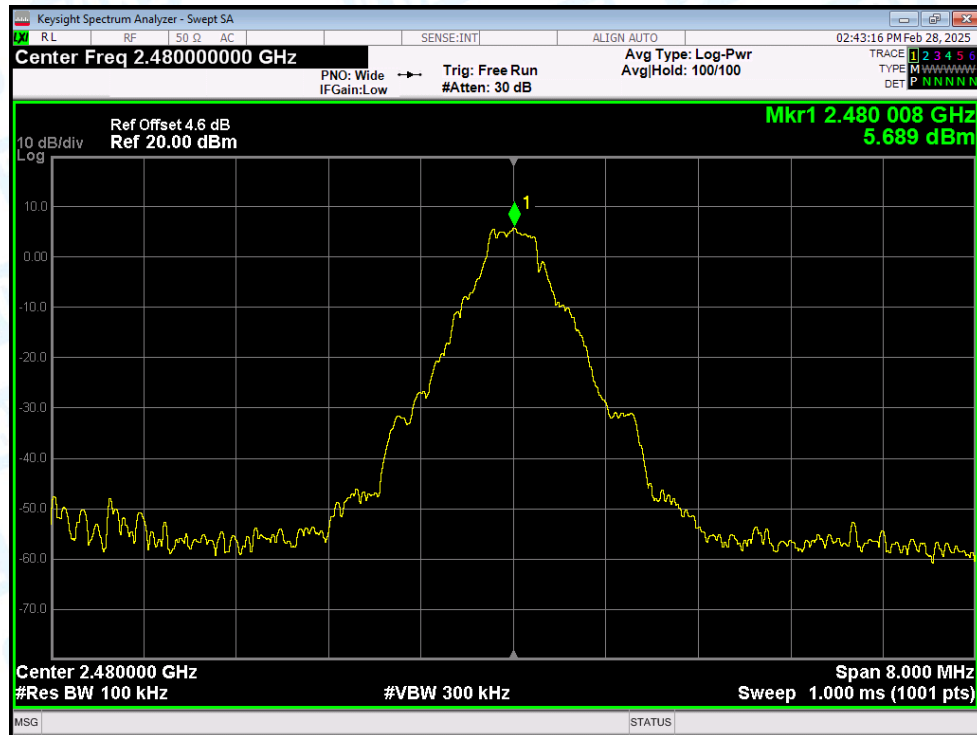
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



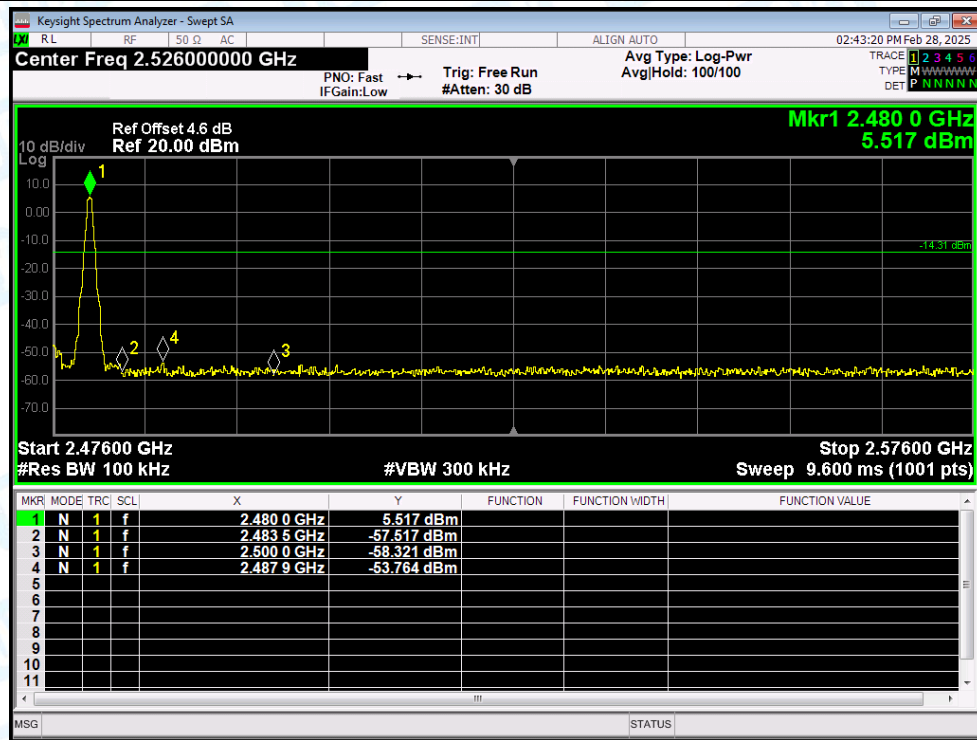
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

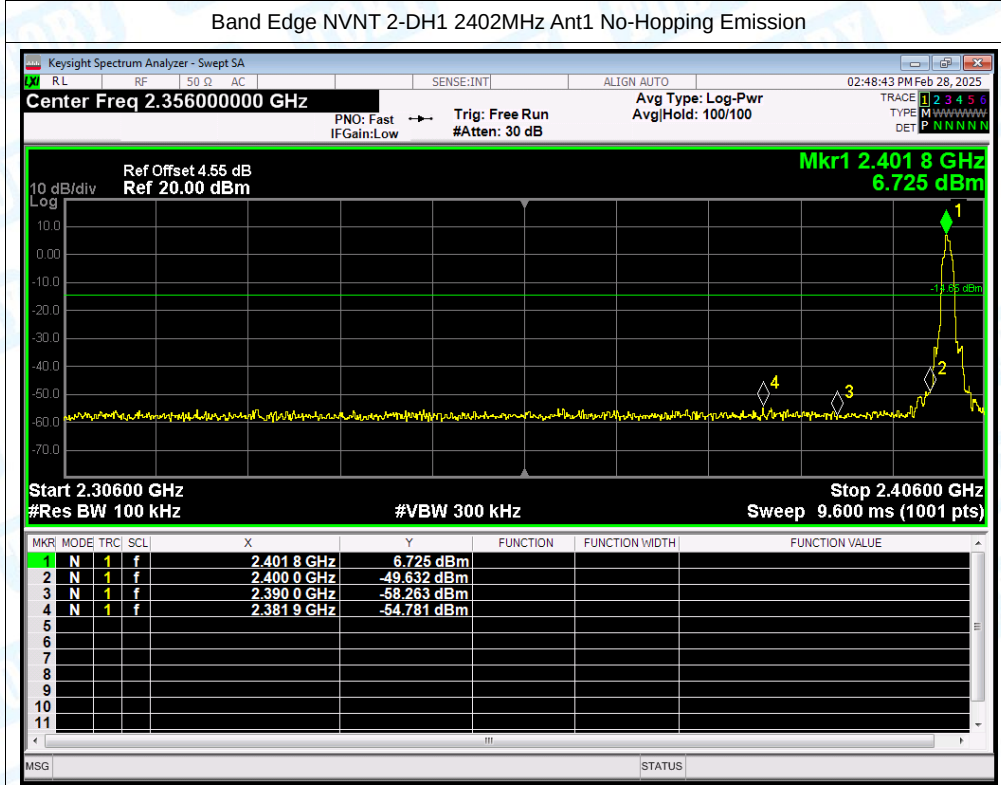
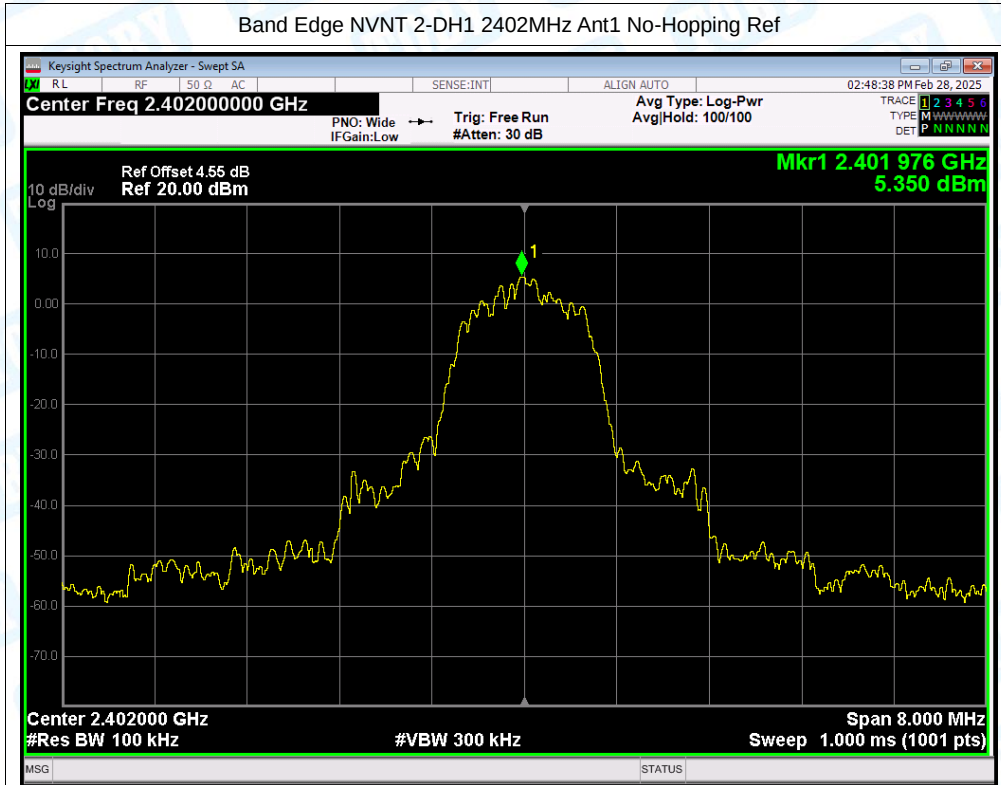


Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



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

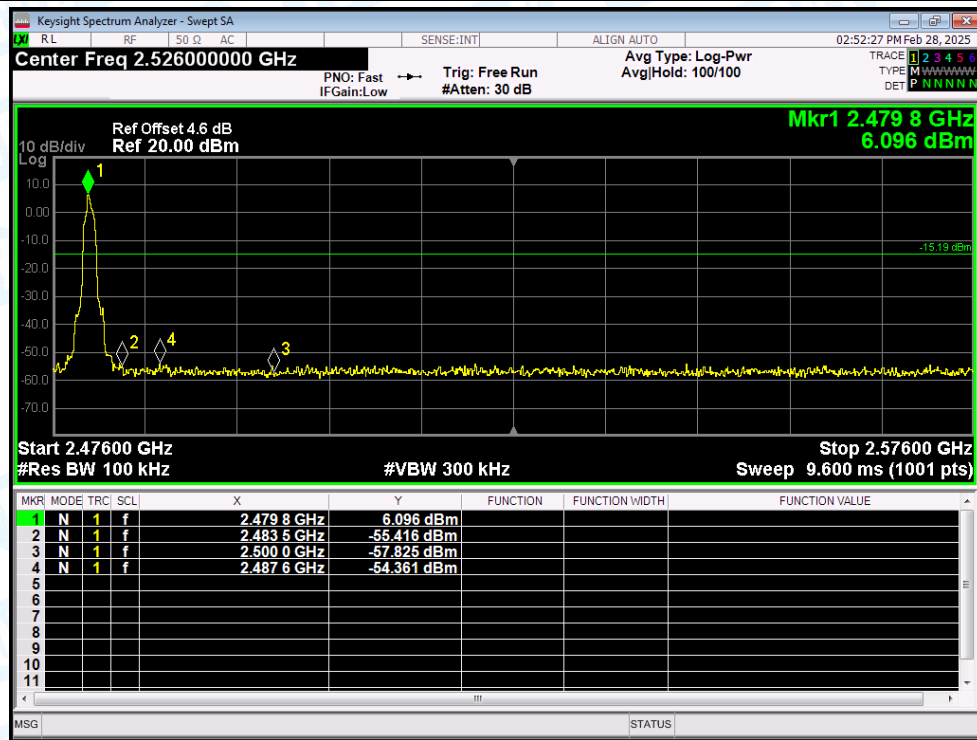


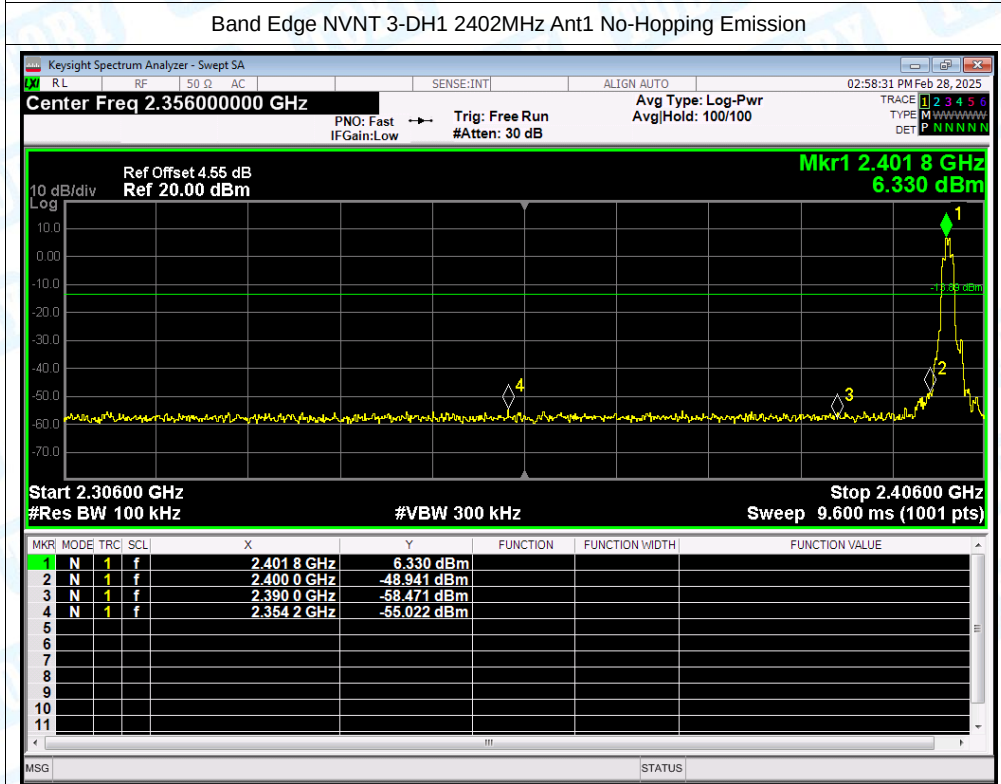
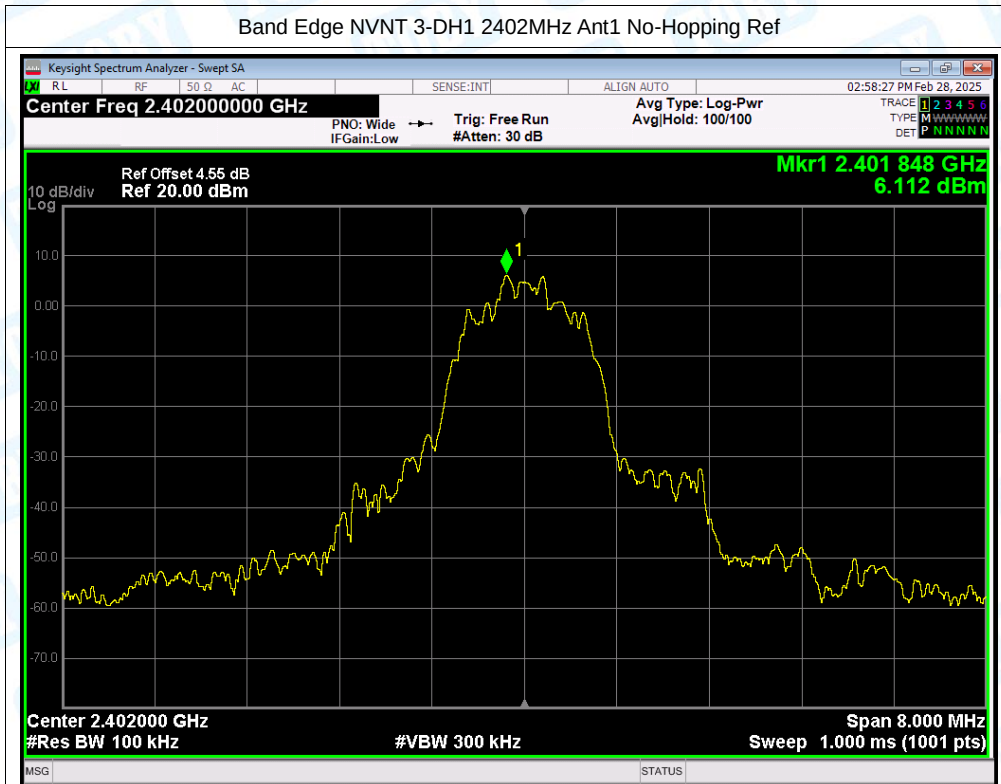


Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



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

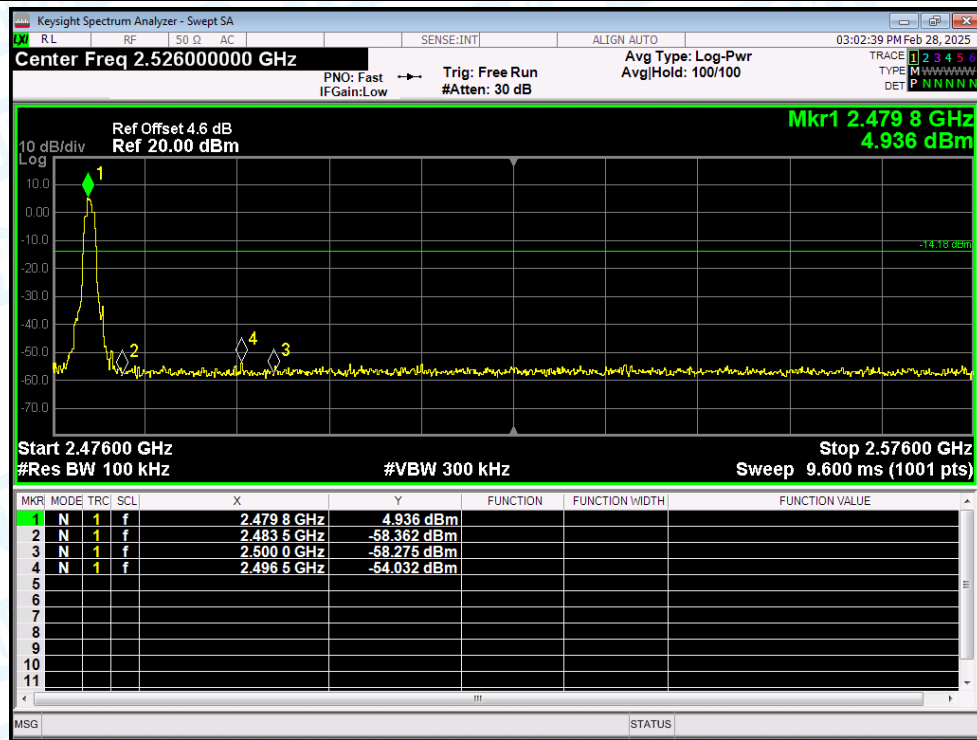




Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref



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



6. Band Edge(Hopping)

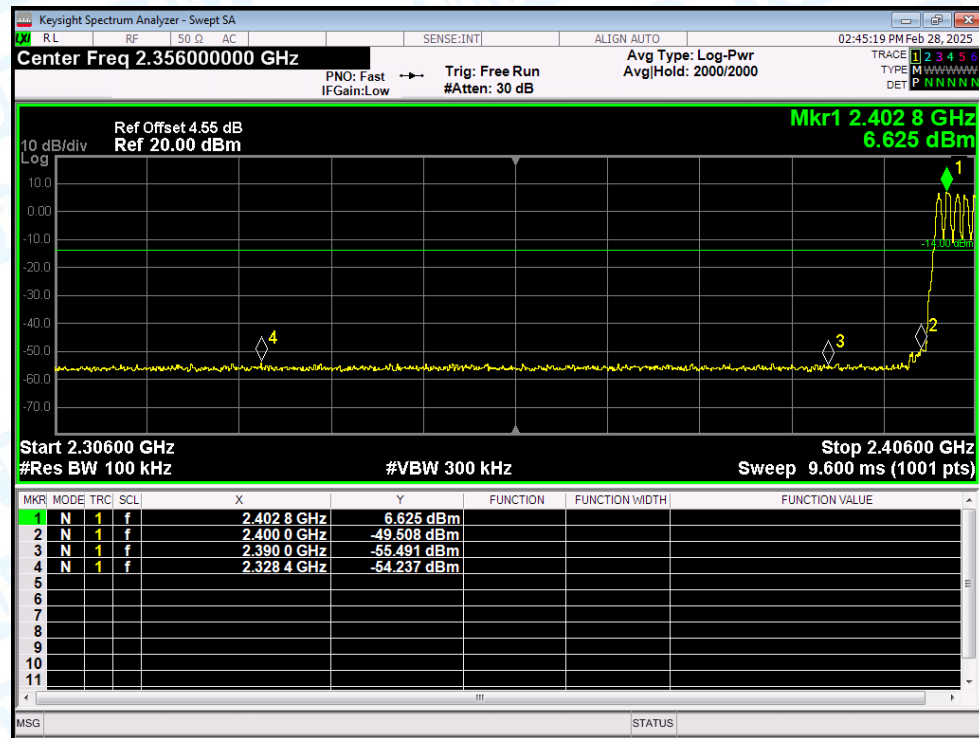
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-60.24	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-58.89	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-59.74	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-59.06	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-60.3	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-59.44	-20	Pass

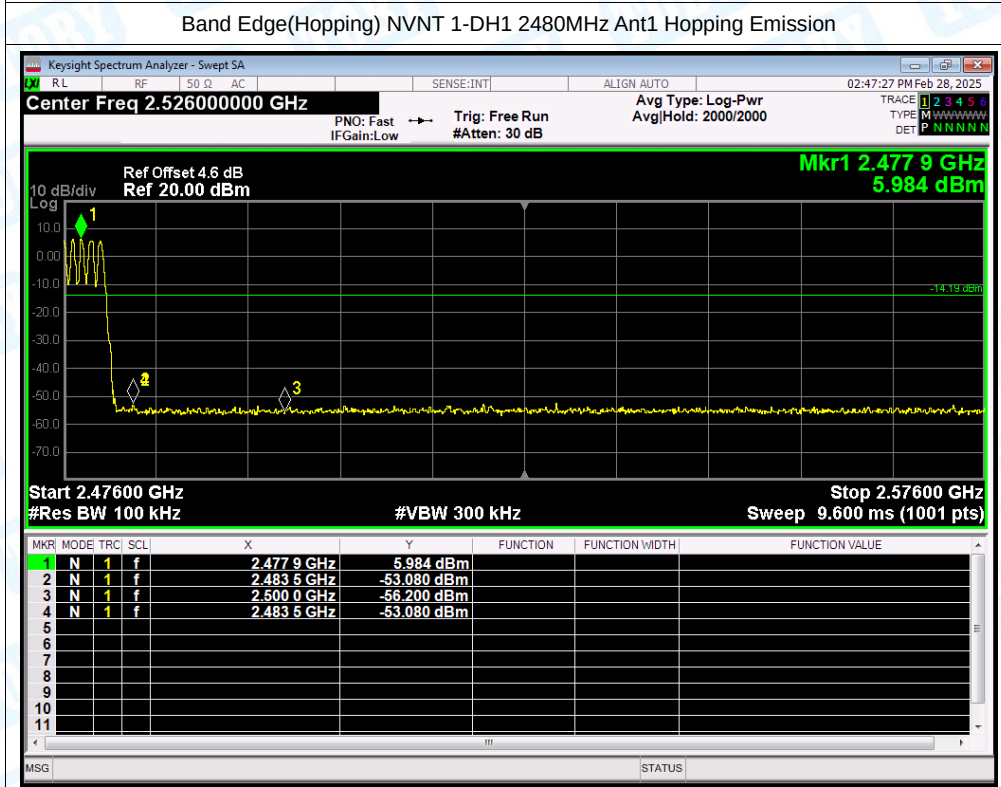
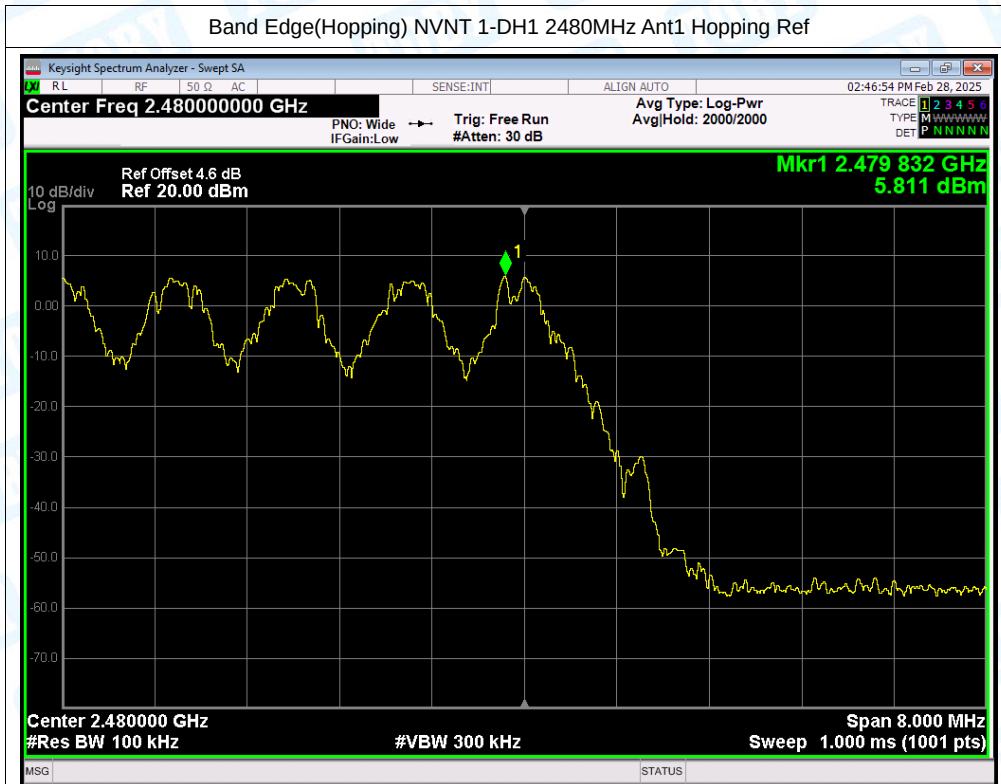
Test Graphs

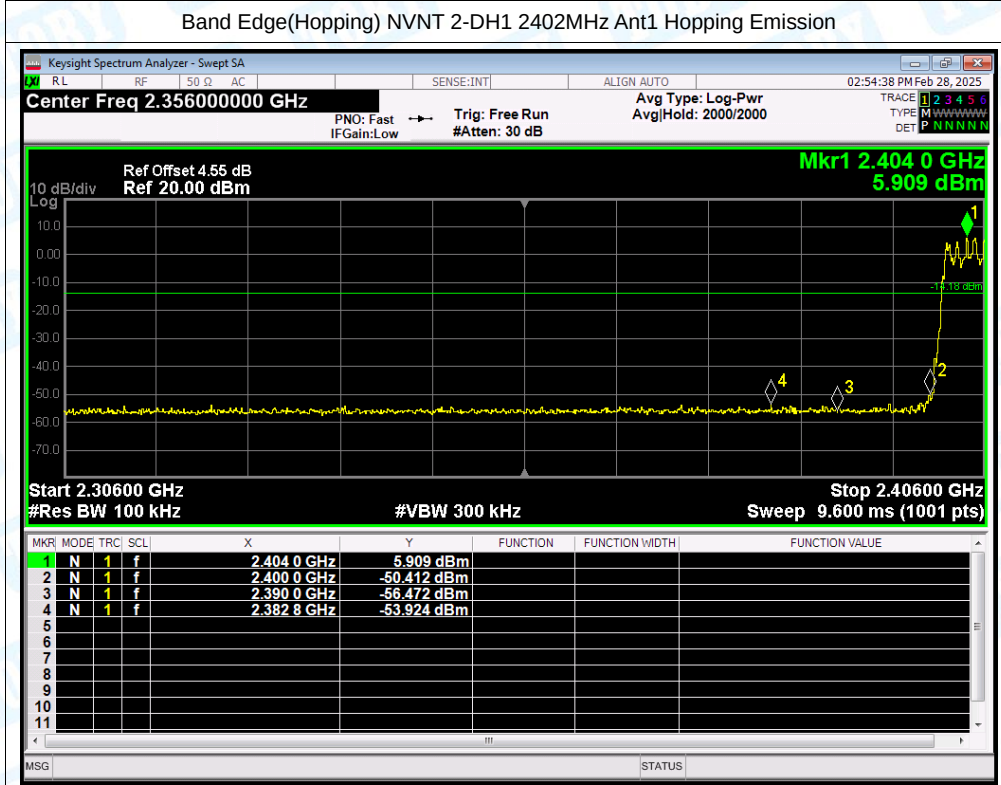
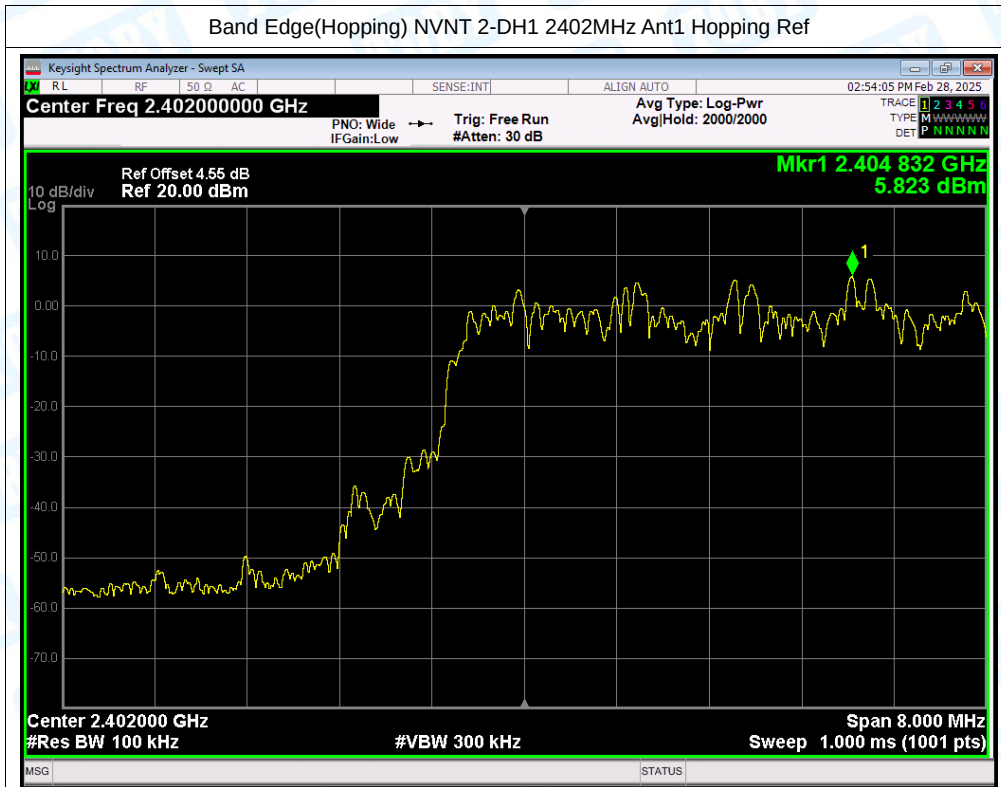
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

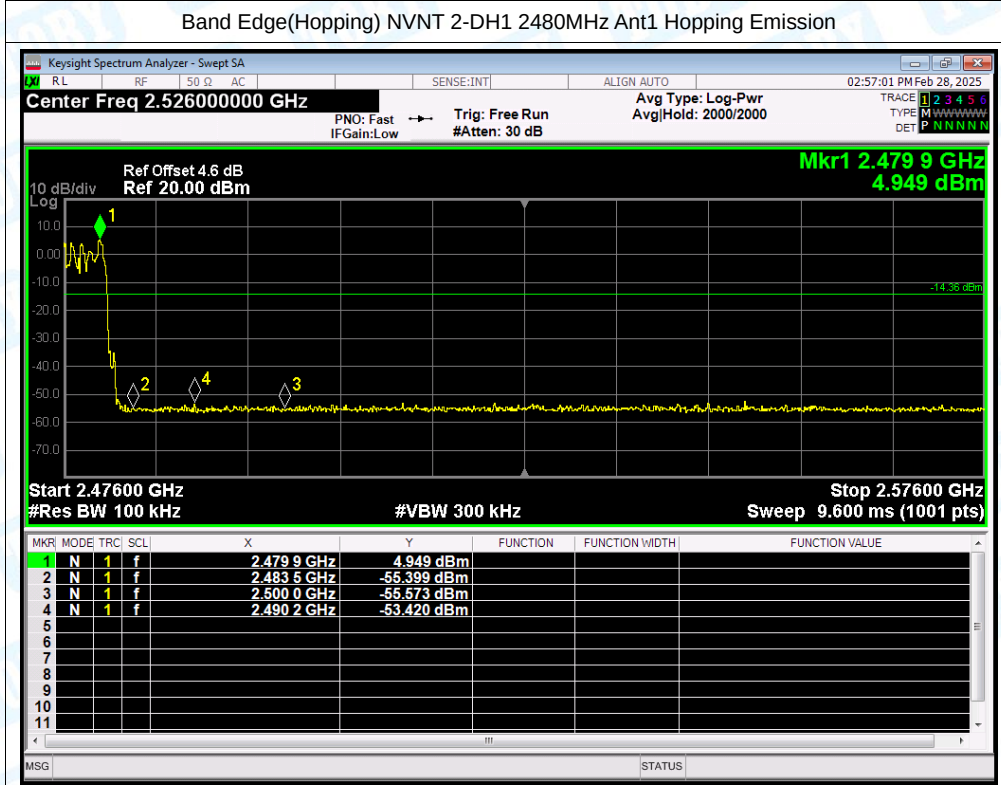


Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission





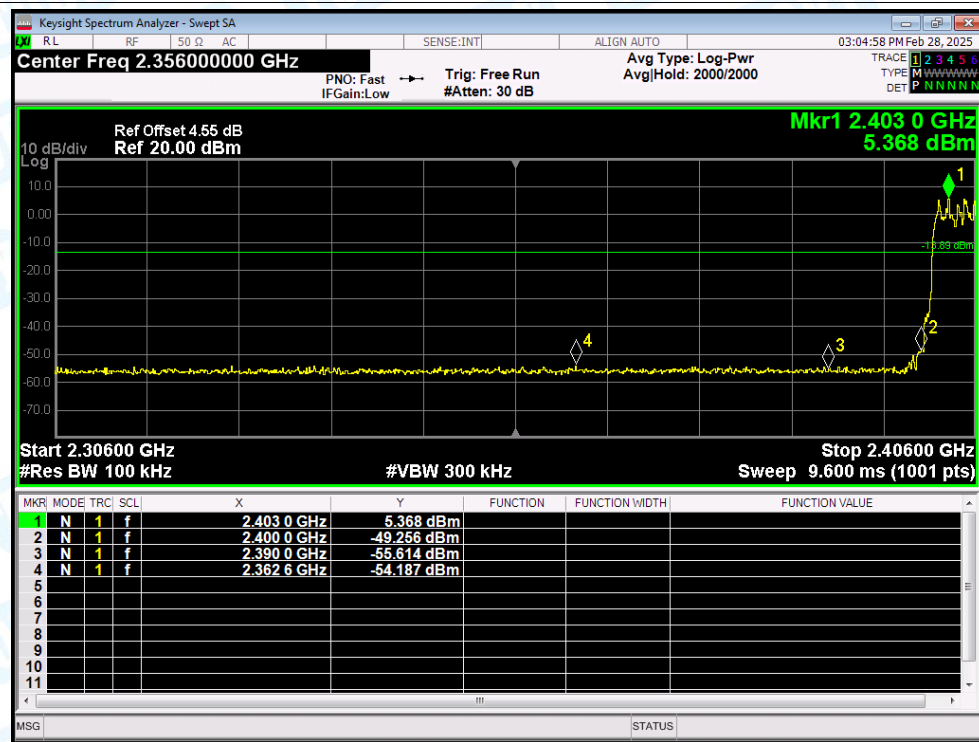


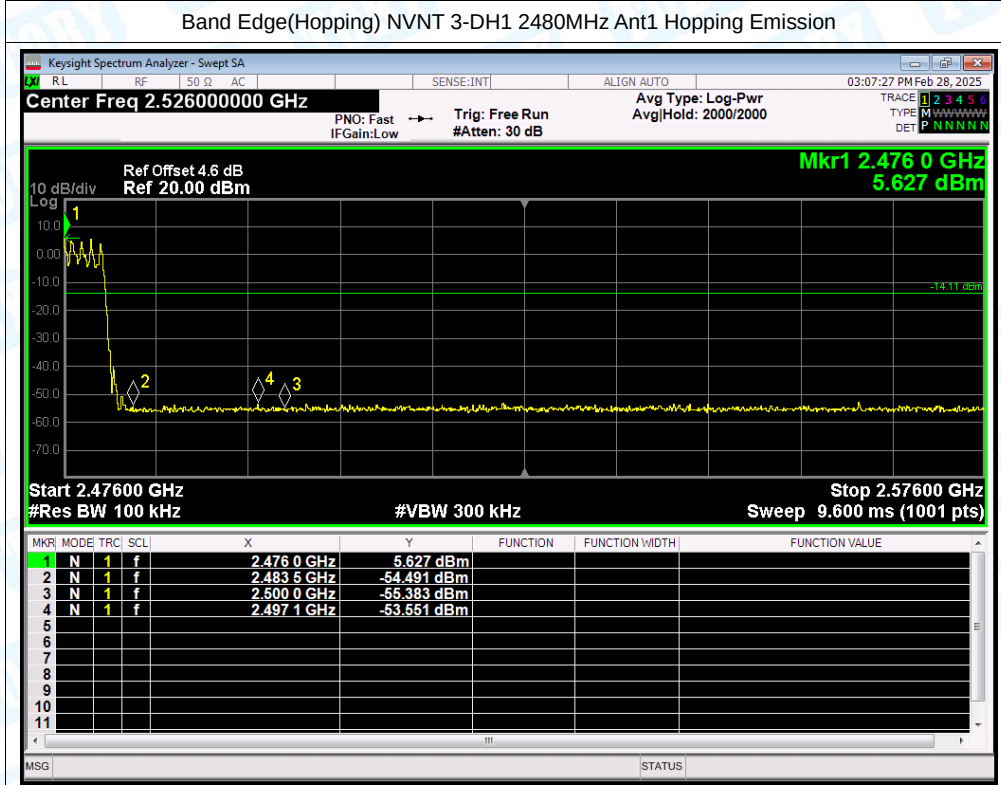


Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



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



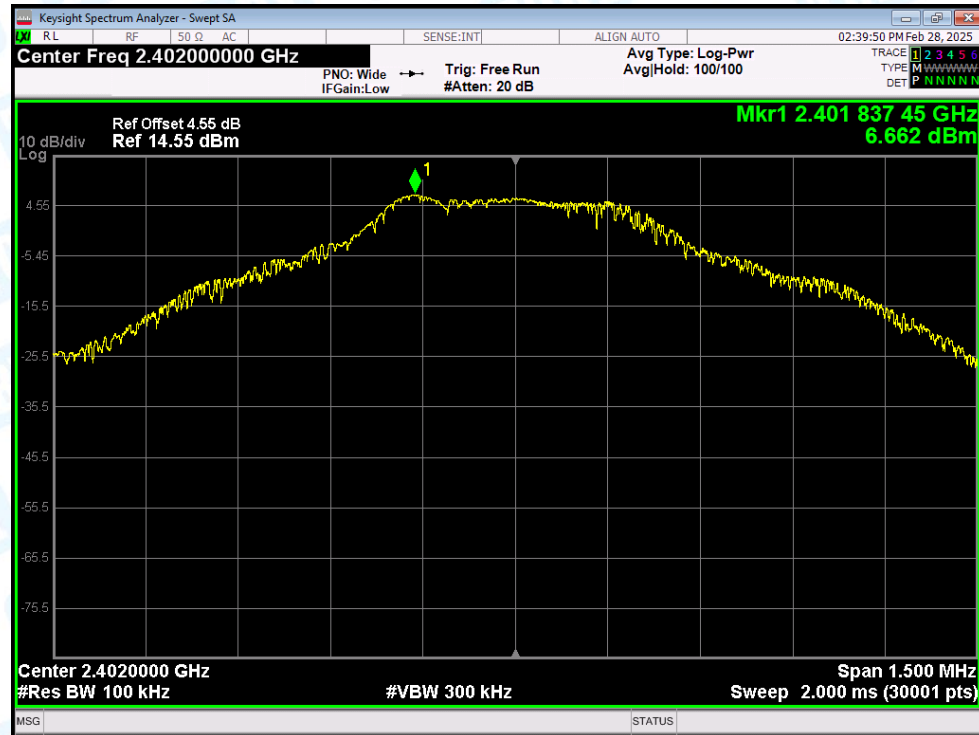


7. Conducted RF Spurious Emission

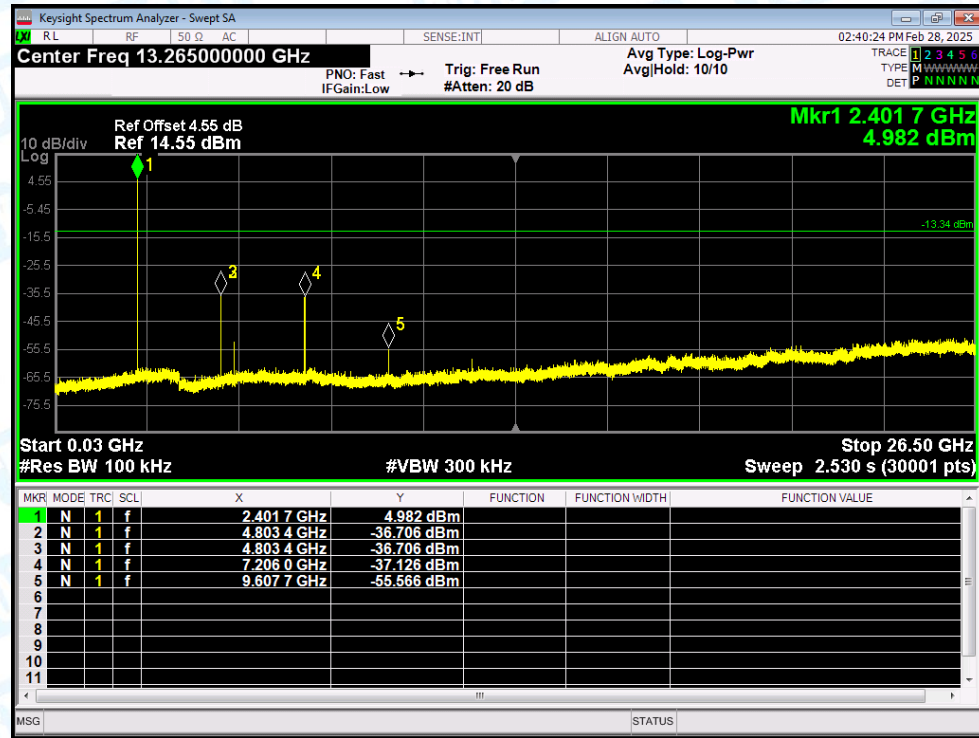
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-43.37	-20	Pass
NVNT	1-DH1	2441	Ant1	-43.72	-20	Pass
NVNT	1-DH1	2480	Ant1	-43.05	-20	Pass
NVNT	2-DH1	2402	Ant1	-50.9	-20	Pass
NVNT	2-DH1	2441	Ant1	-44.07	-20	Pass
NVNT	2-DH1	2480	Ant1	-46.44	-20	Pass
NVNT	3-DH1	2402	Ant1	-43.44	-20	Pass
NVNT	3-DH1	2441	Ant1	-42.94	-20	Pass
NVNT	3-DH1	2480	Ant1	-44.96	-20	Pass

Test Graphs

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



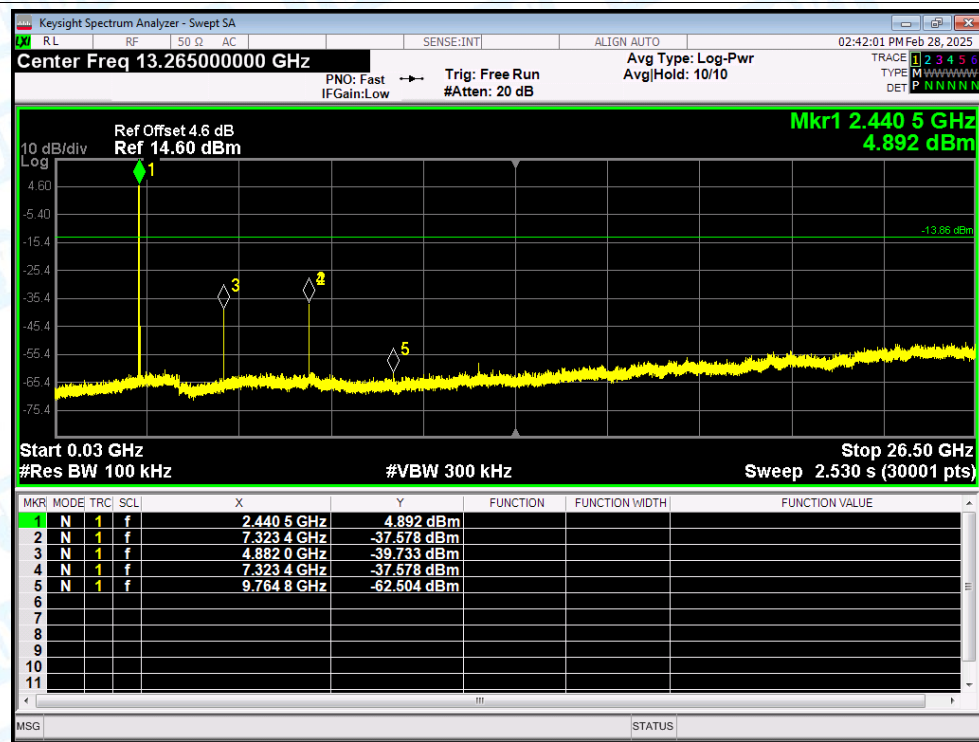
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



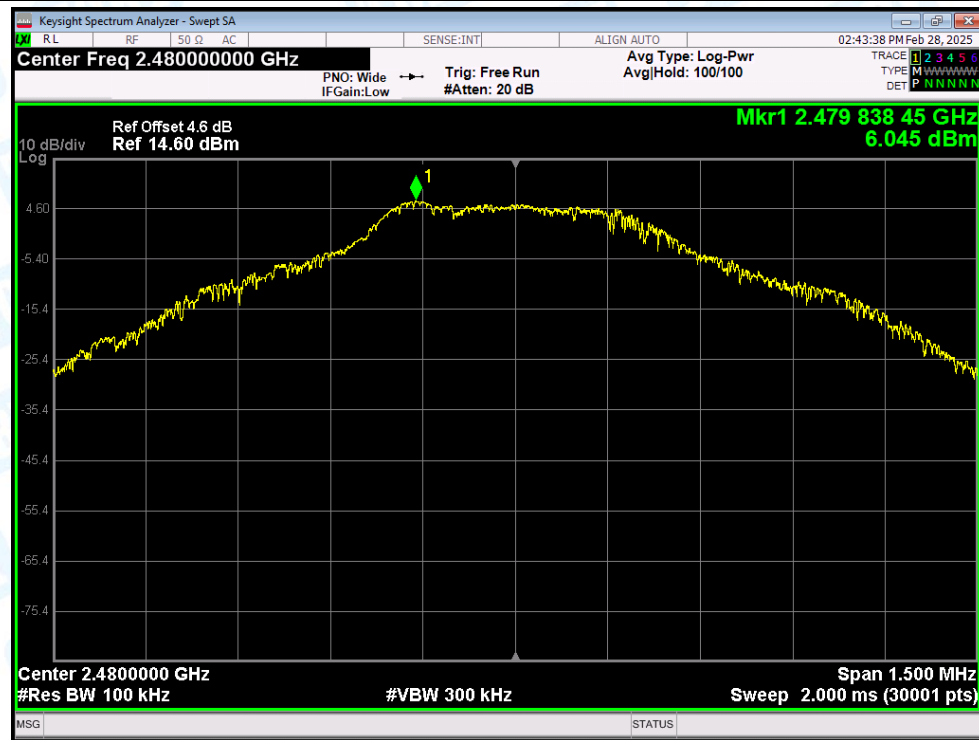
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



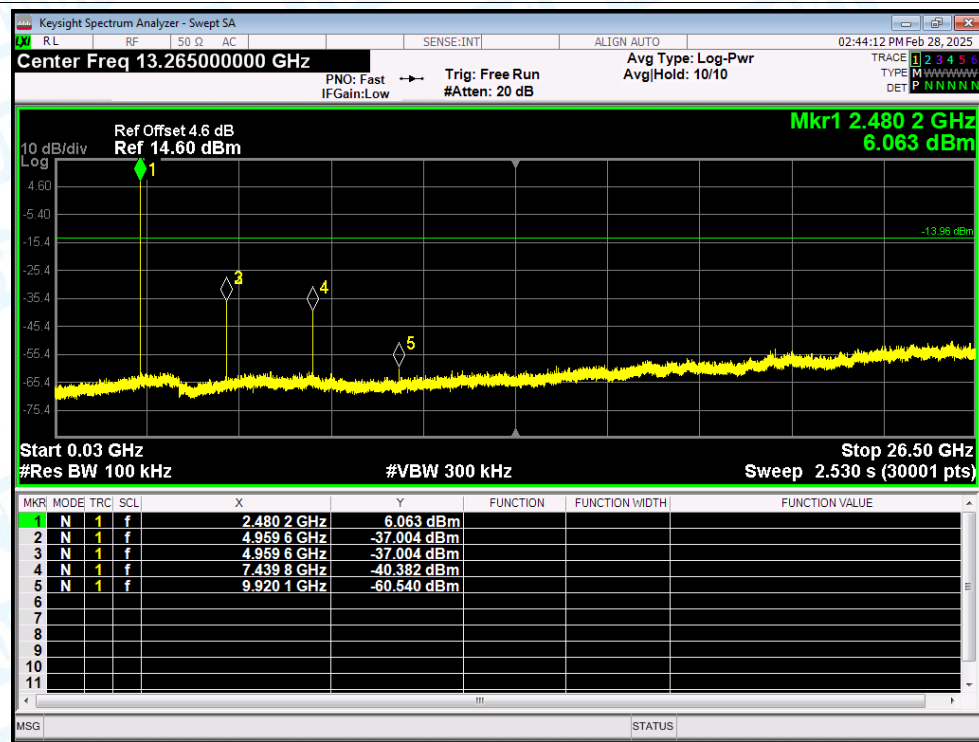
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



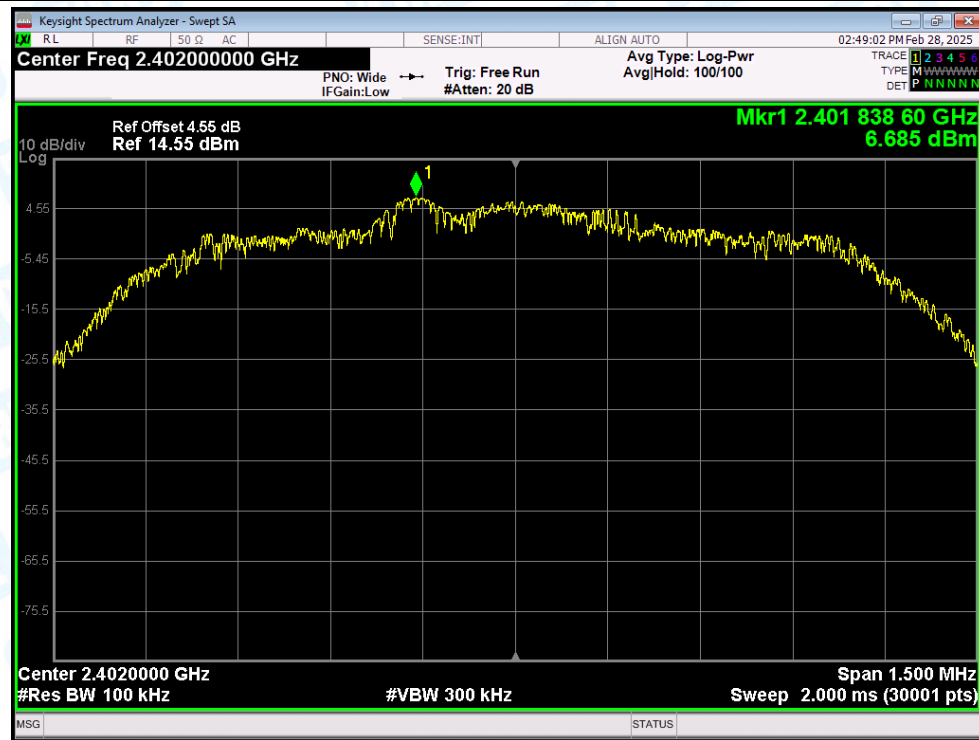
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



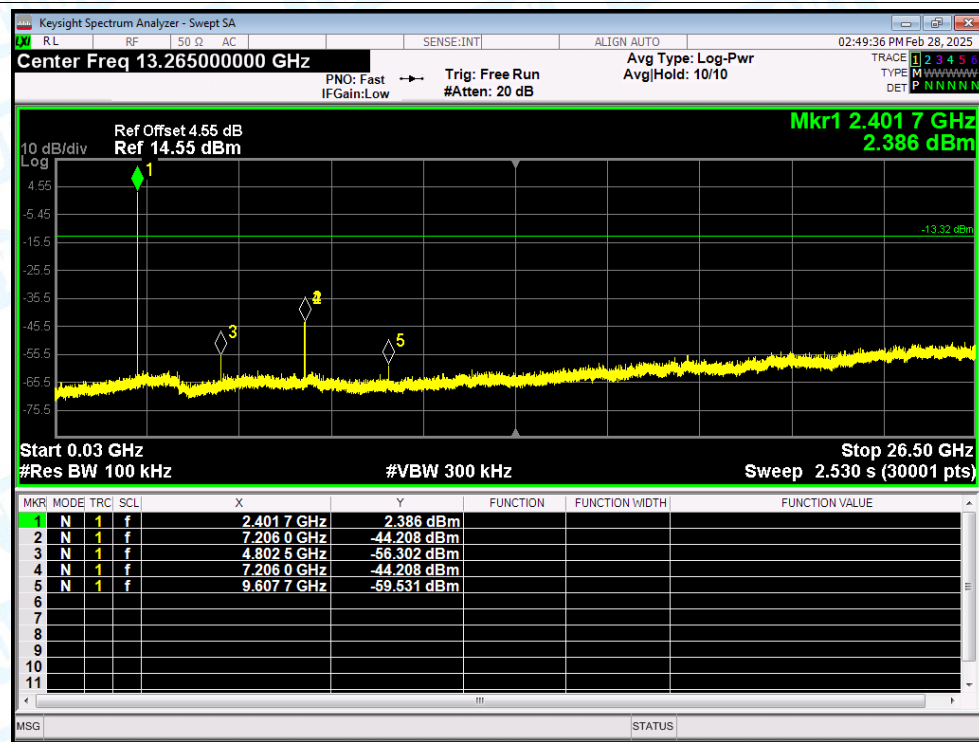
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



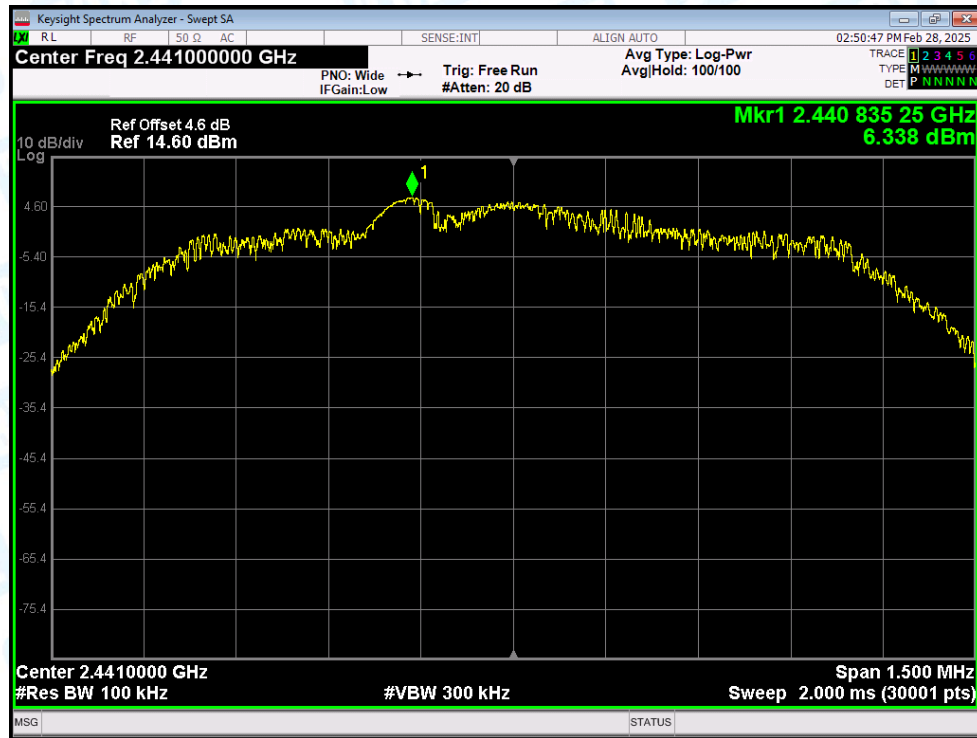
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



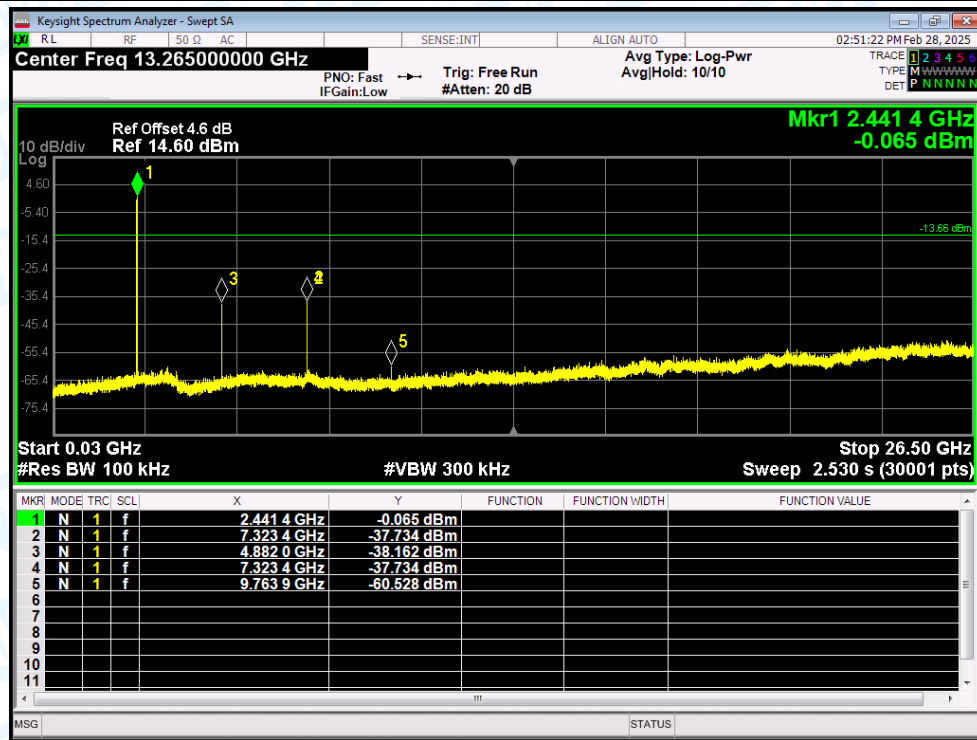
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



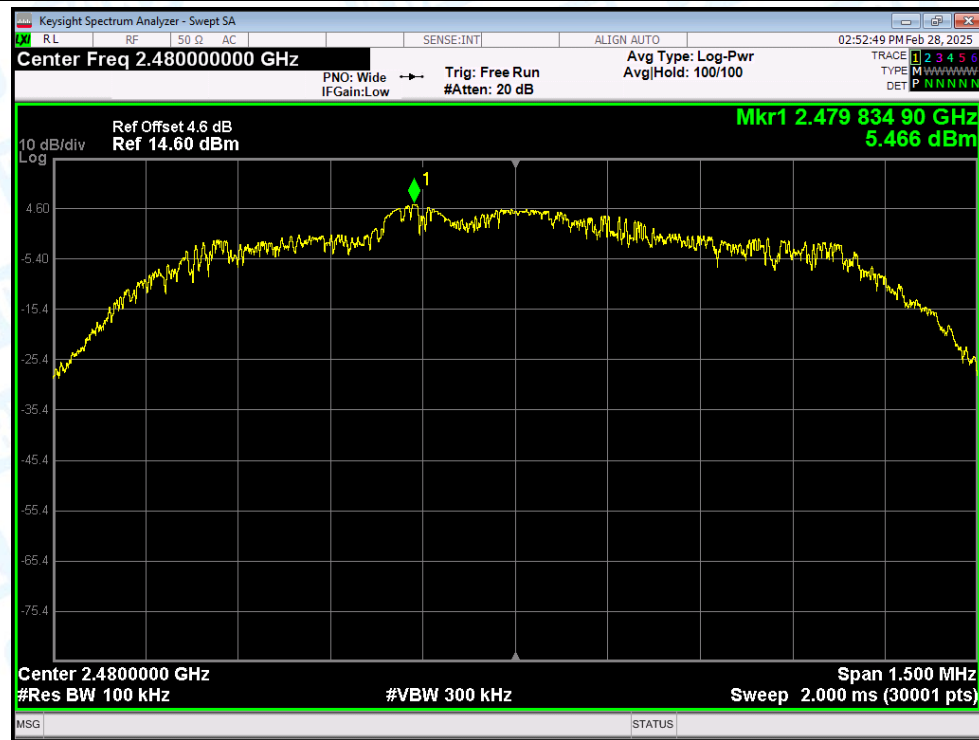
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



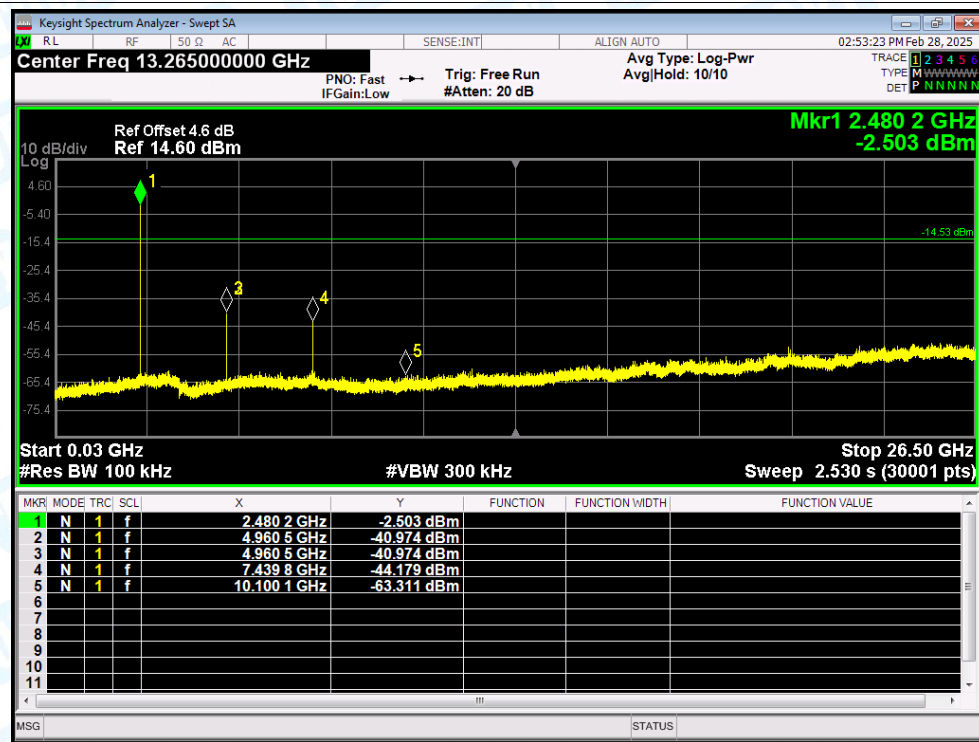
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



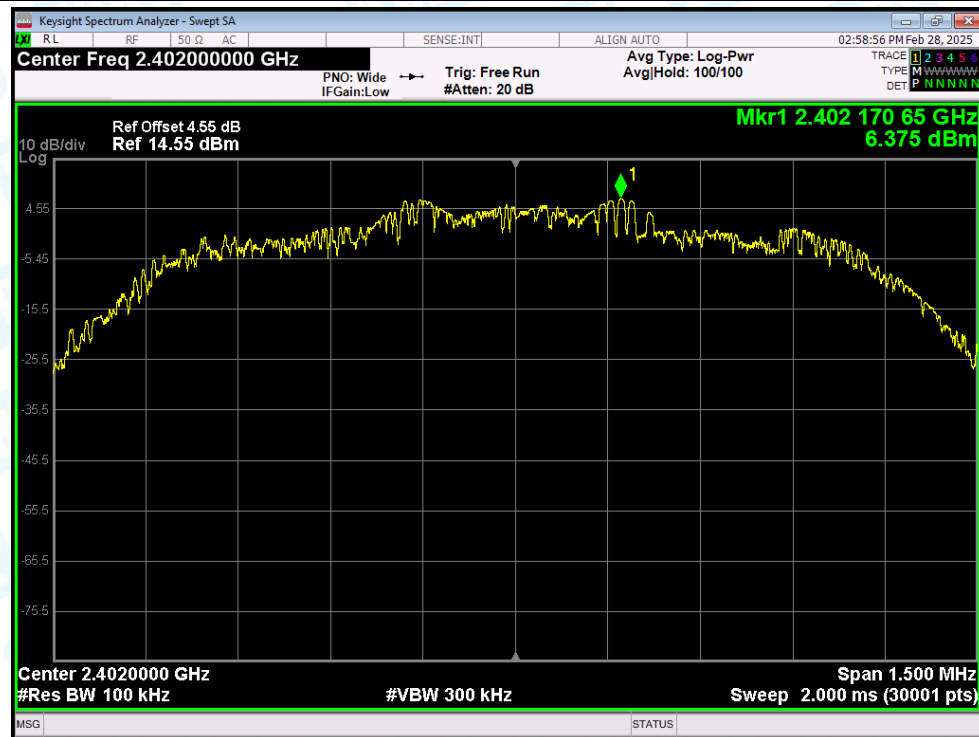
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



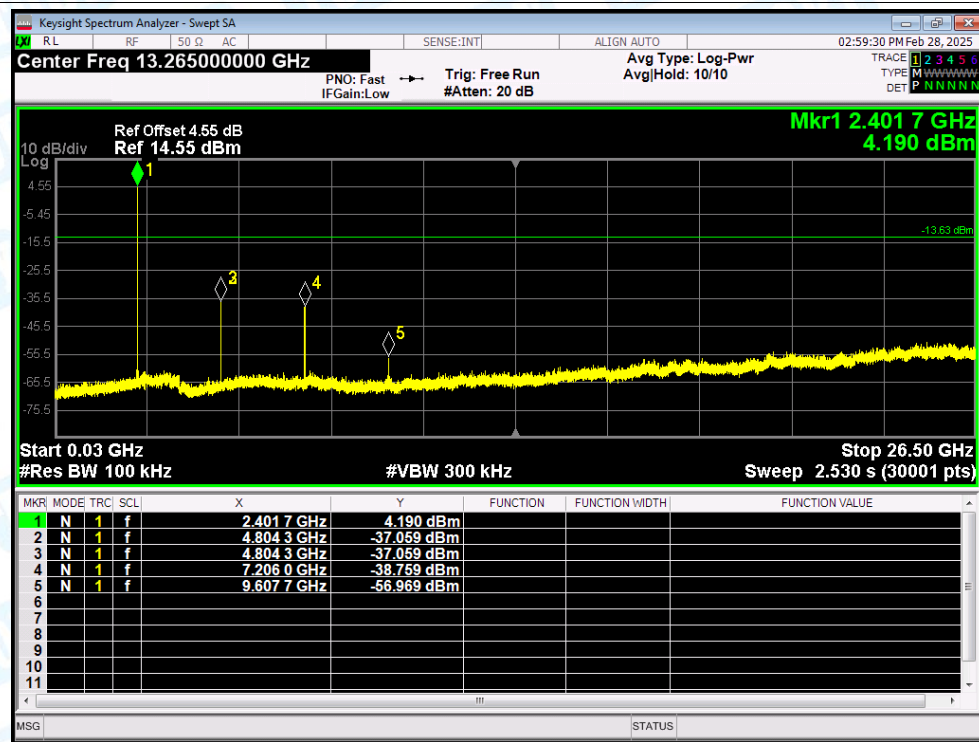
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



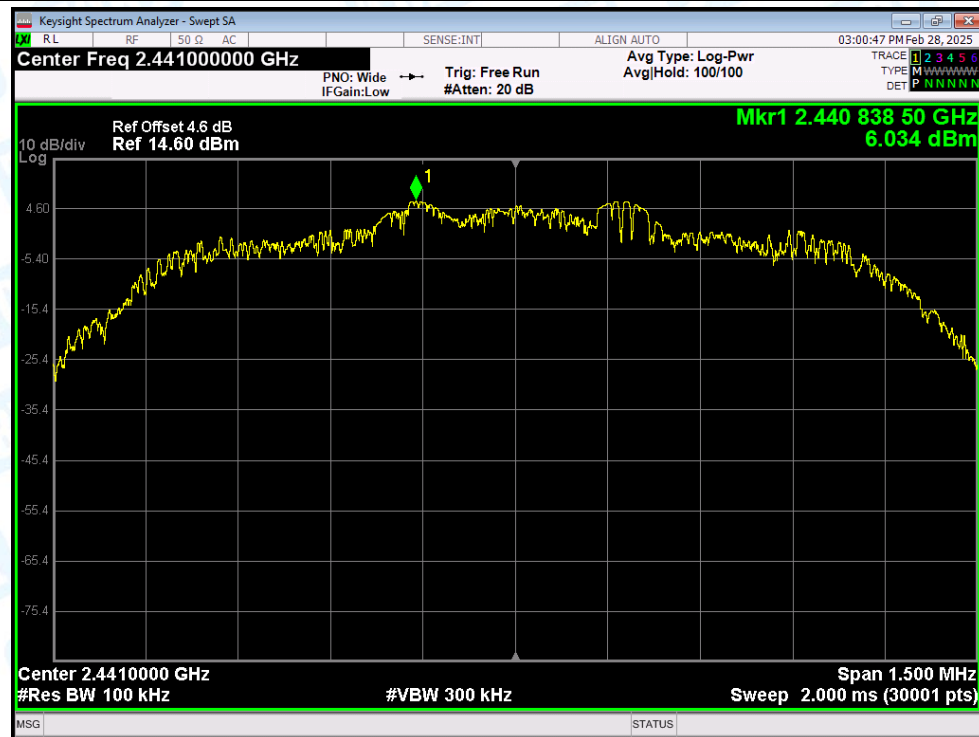
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



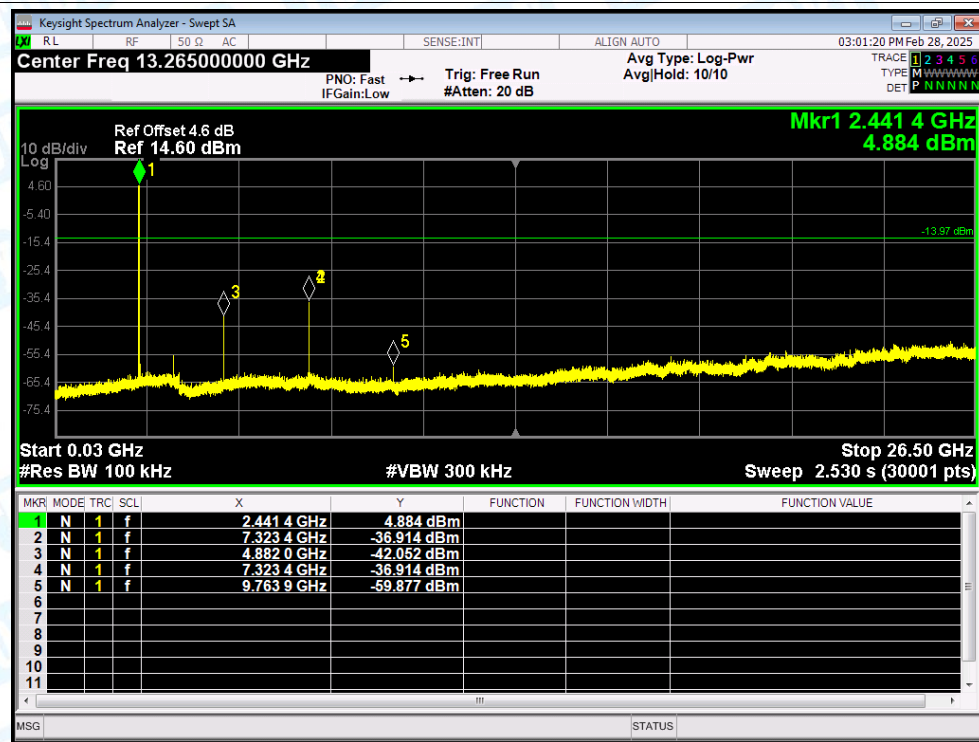
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



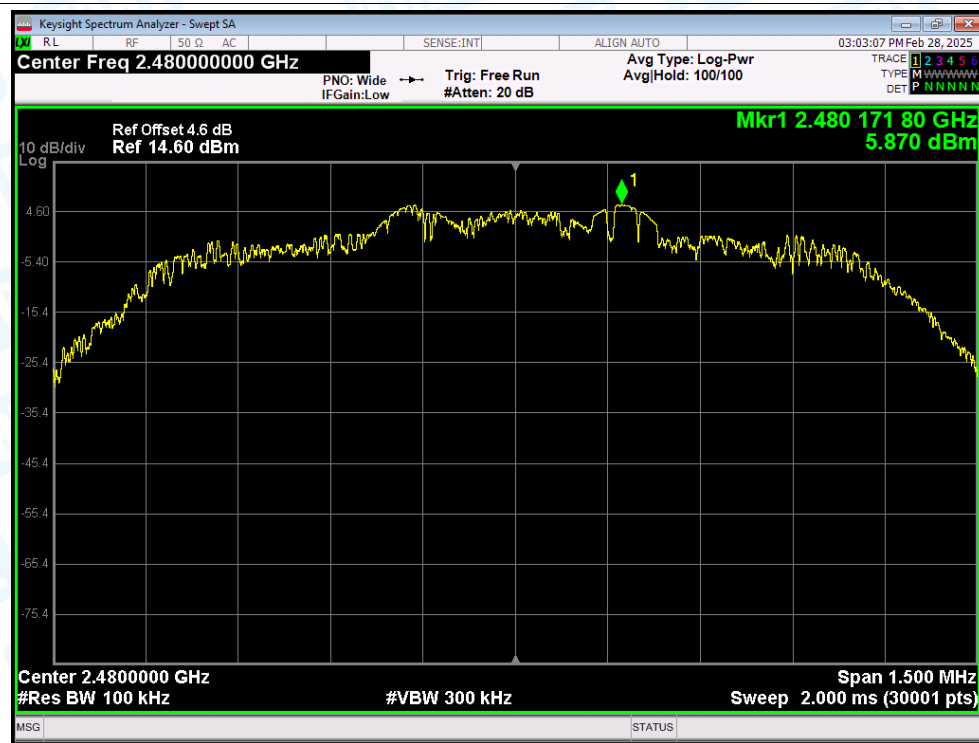
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



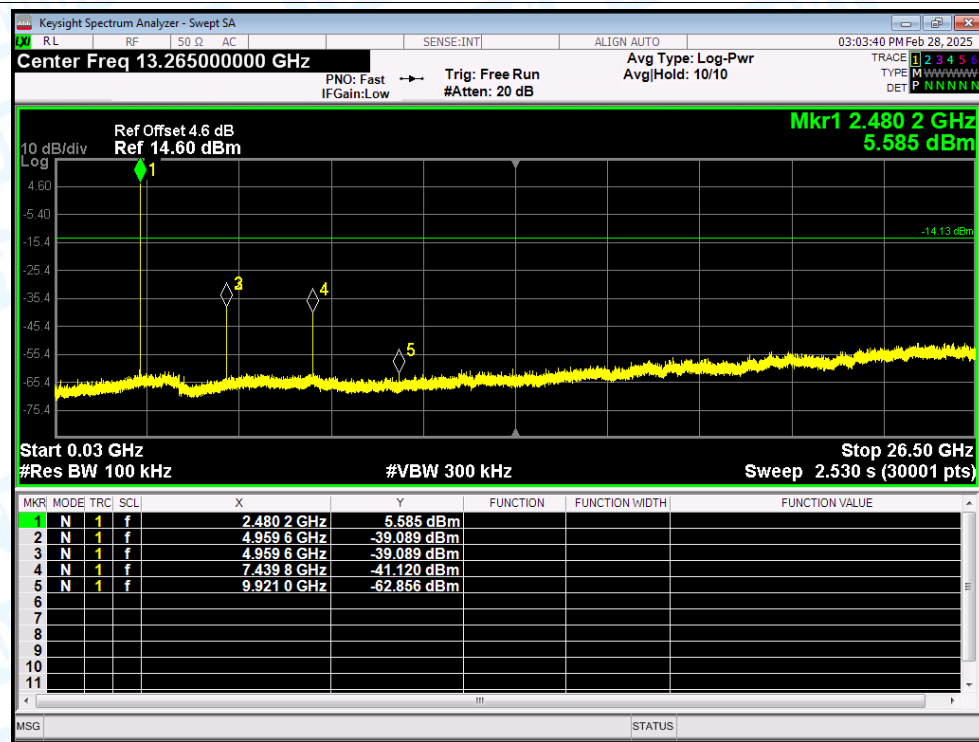
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

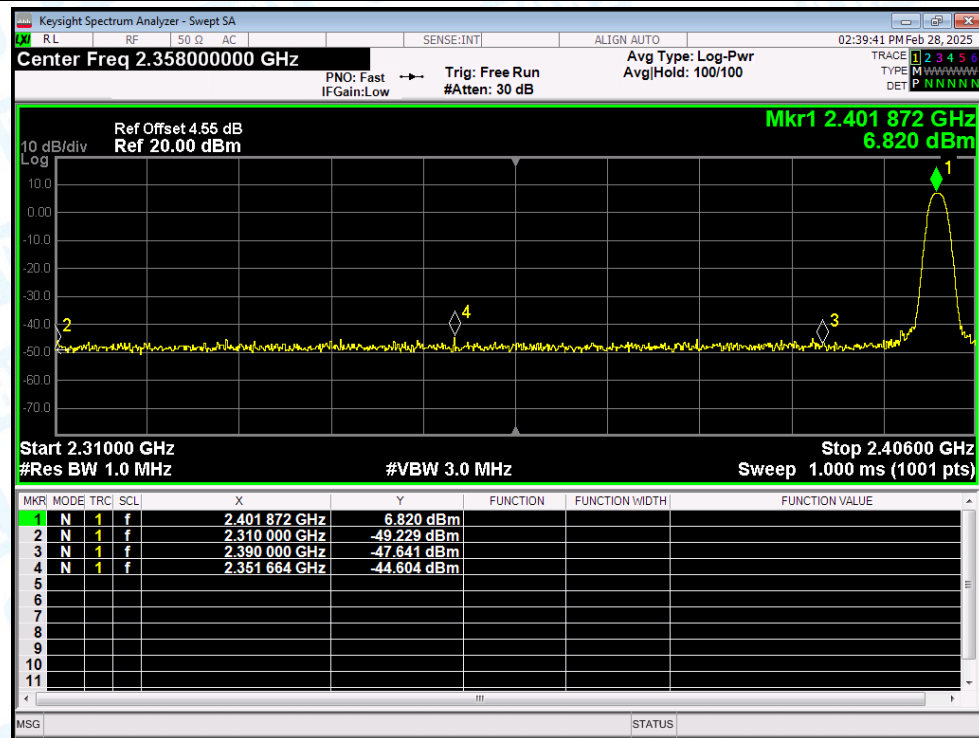


8.Restrict Band

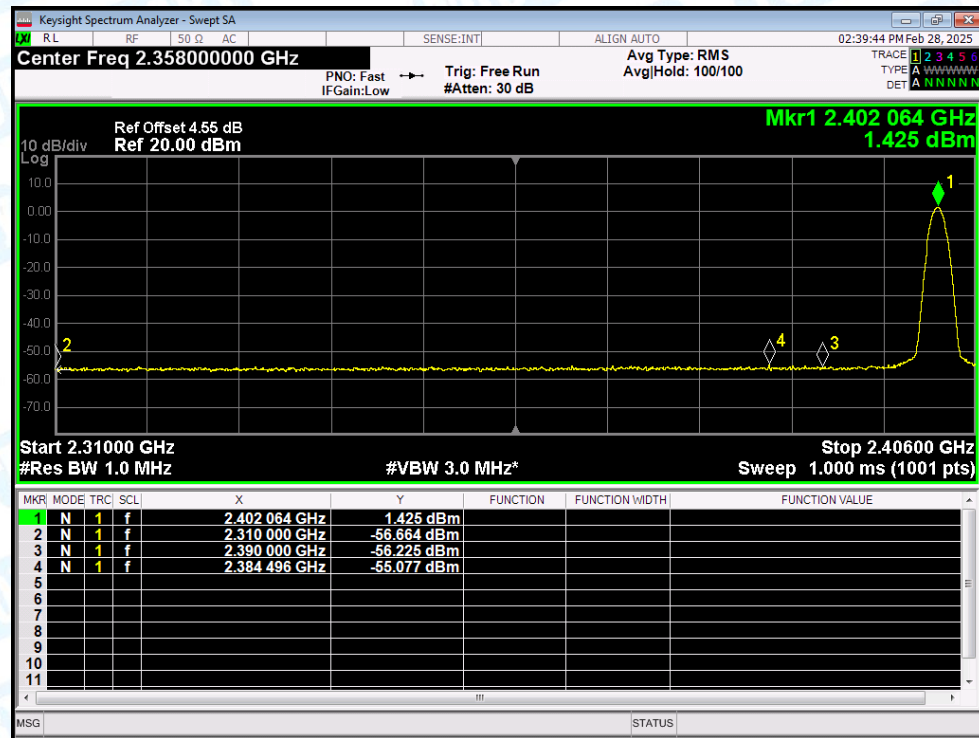
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-49.23	2	-	48.03	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.66	2	5.17	45.77	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2351.664	-44.6	2	-	52.66	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2384.496	-55.08	2	5.17	47.35	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-47.64	2	-	49.62	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.23	2	5.17	46.2	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-44.97	2	-	52.29	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.85	2	5.29	47.7	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2491.912	-44.9	2	-	52.36	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2487.712	-54.56	2	5.29	47.99	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-46.91	2	-	50.35	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-56.01	2	5.29	46.54	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.85	2	-	48.41	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-55.78	2	5.17	46.65	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2362.992	-45.45	2	-	51.81	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2356.176	-55.45	2	5.17	46.98	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-48.71	2	-	48.55	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-56.07	2	5.17	46.36	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-47.35	2	-	49.91	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.61	2	5.17	46.82	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2486.584	-44.64	2	-	52.62	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.16	-54.71	2	5.17	47.72	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.99	2	-	49.27	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.53	2	5.17	46.9	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-47.52	2	-	49.74	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.42	2	5.17	46.01	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2372.976	-45.63	2	-	51.63	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2366.448	-55.42	2	5.17	47.01	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-46.56	2	-	50.7	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.88	2	5.17	46.55	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-47.02	2	-	50.24	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-55.11	2	5.17	47.32	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2489.08	-44.13	2	-	53.13	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2484.592	-54.71	2	5.17	47.72	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-48.37	2	-	48.89	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.7	2	5.17	46.73	Average	54	Pass

Test Graphs

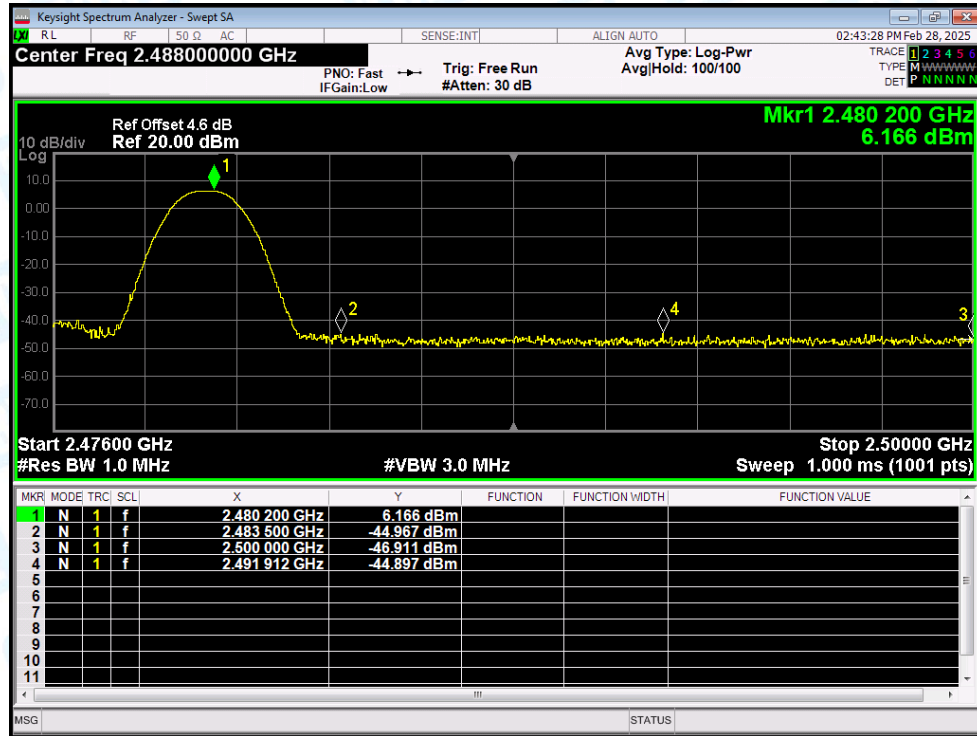
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



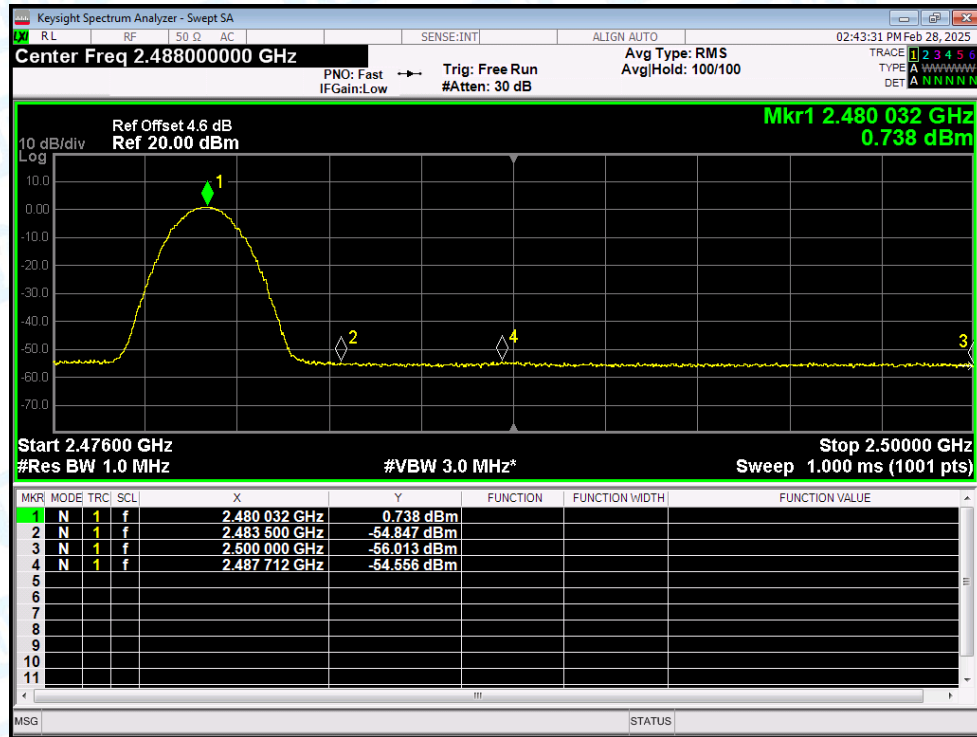
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



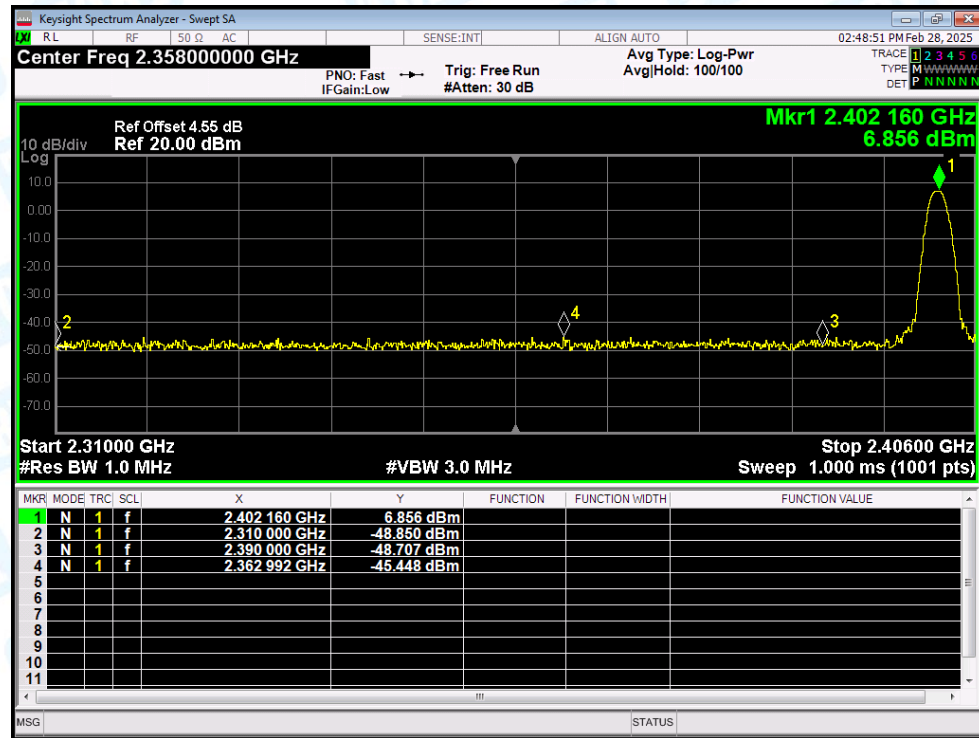
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



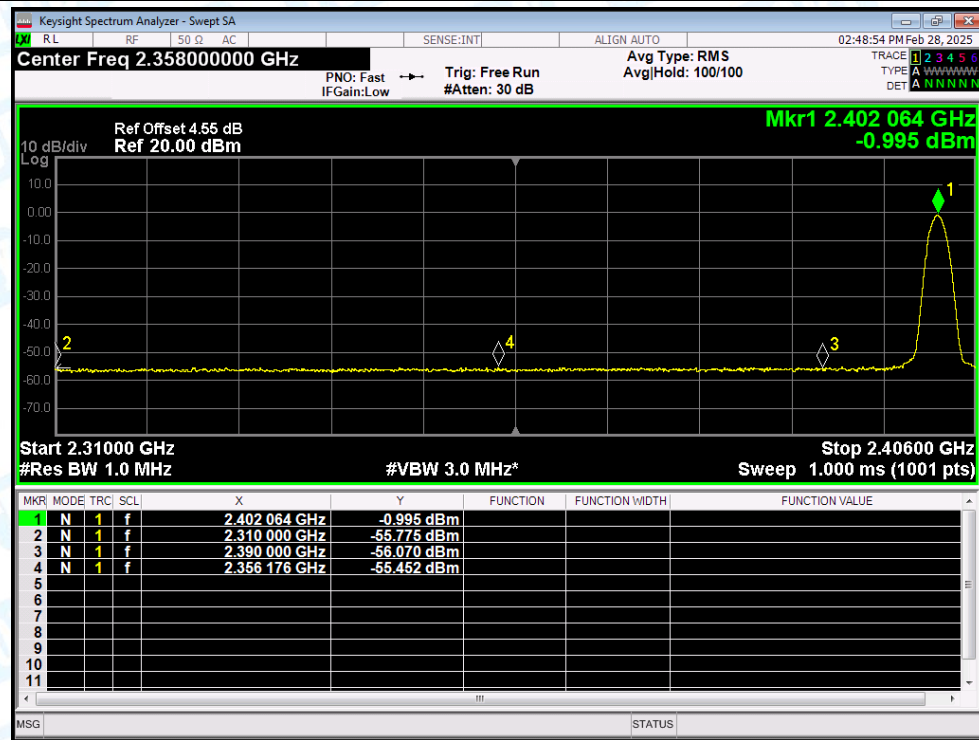
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



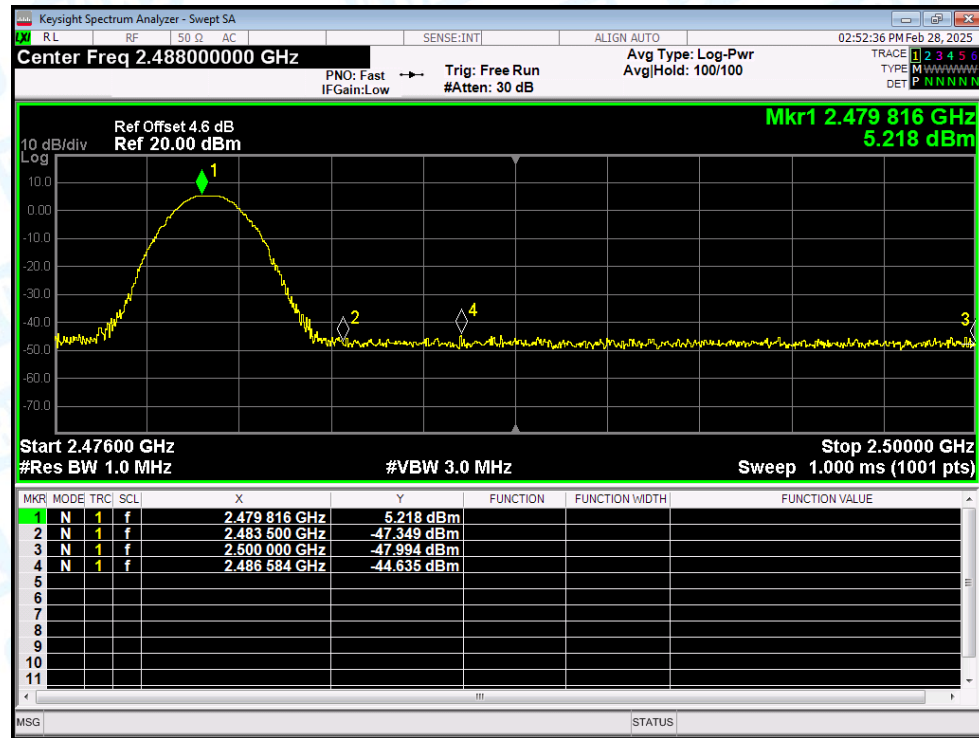
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



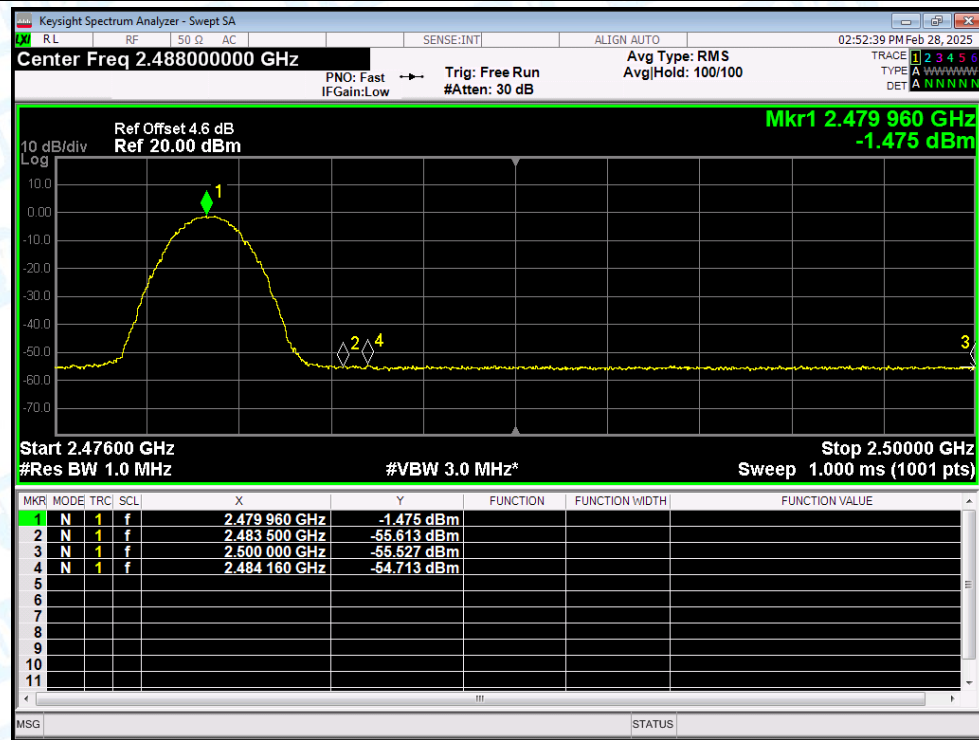
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



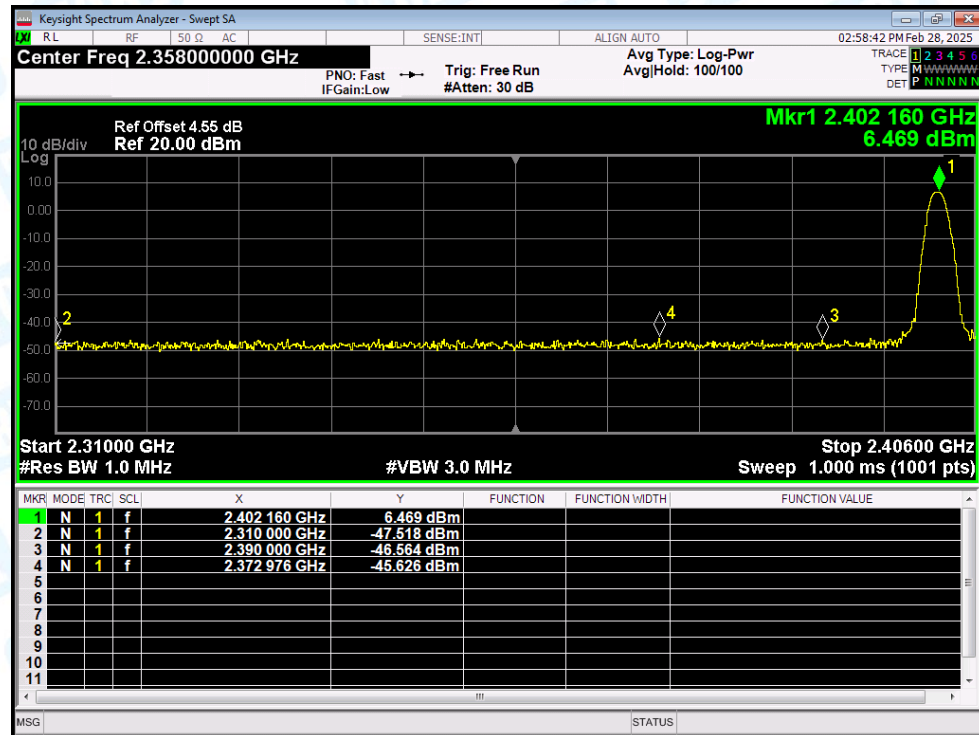
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



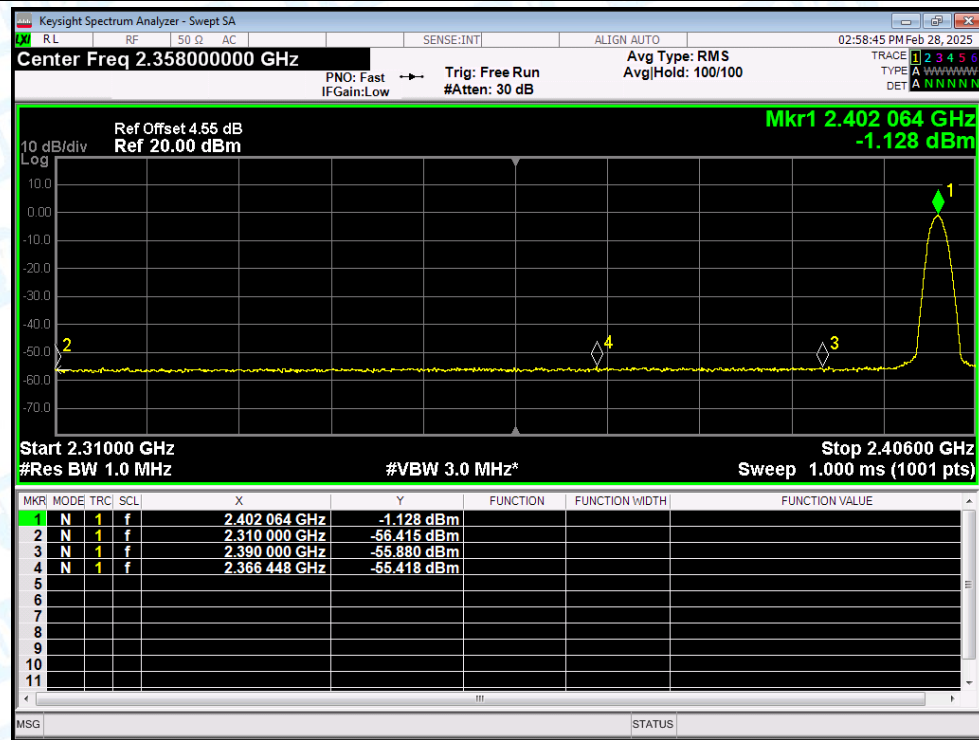
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



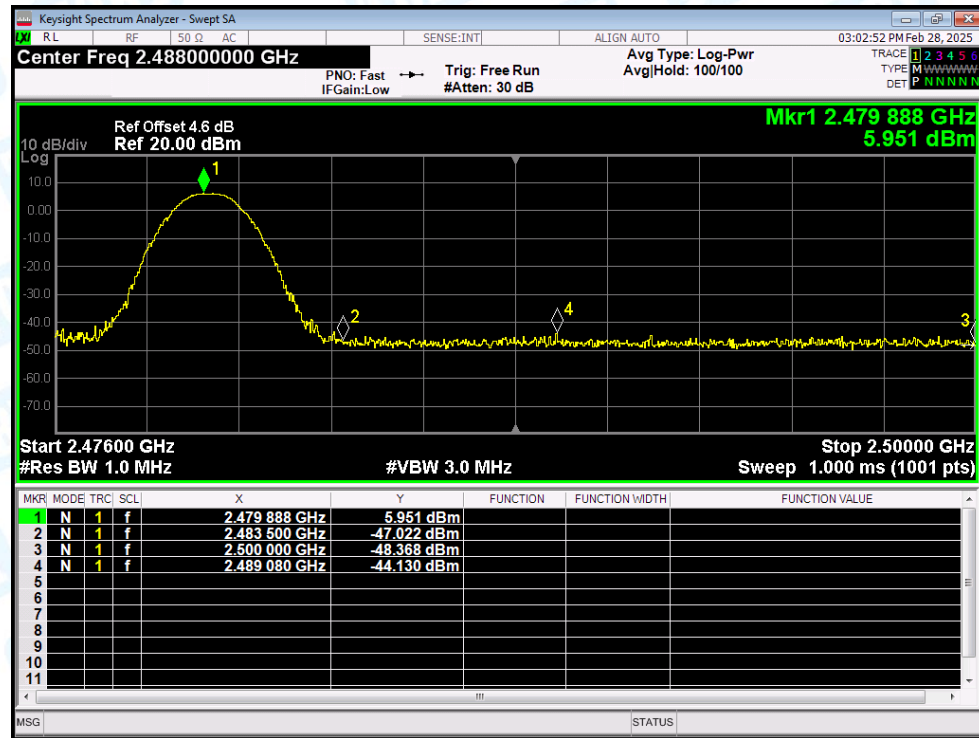
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



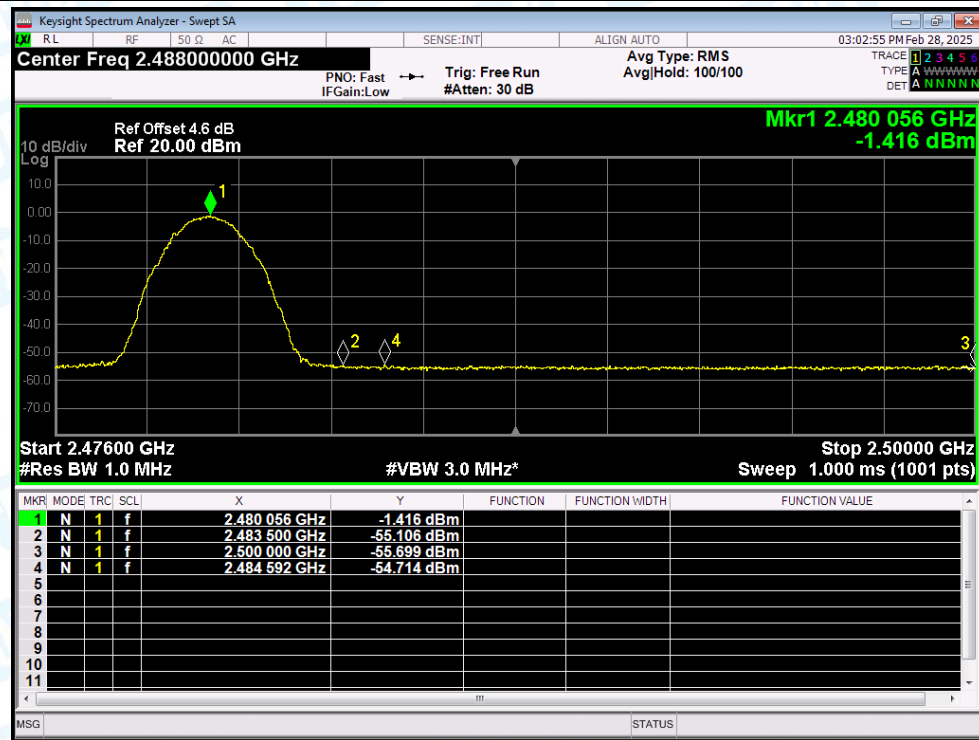
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

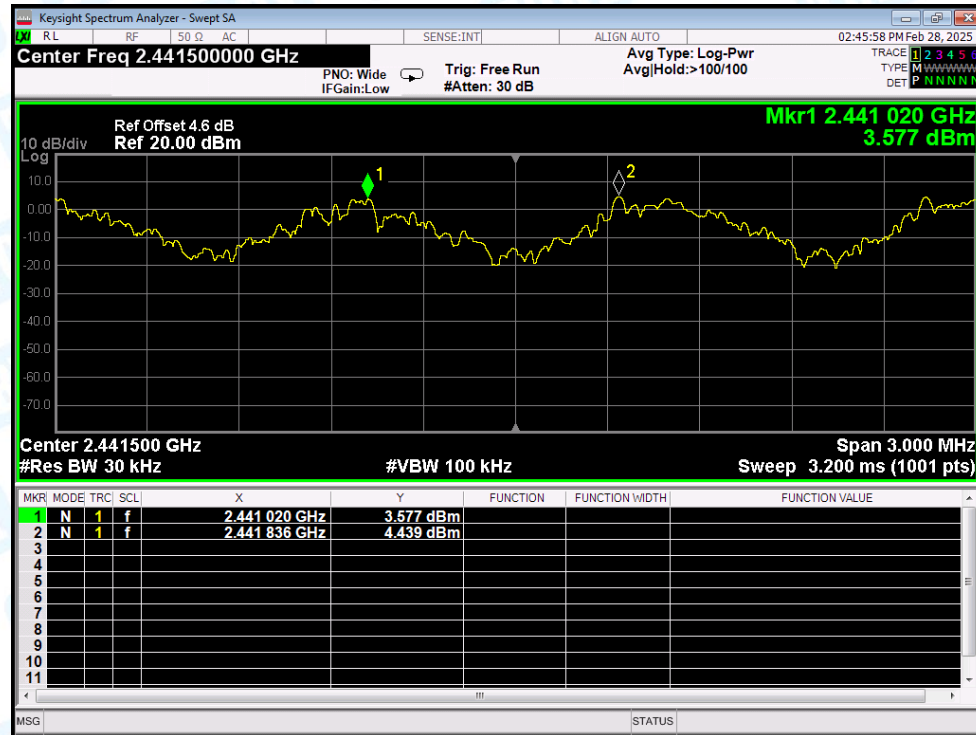


9.Carrier Frequencies Separation

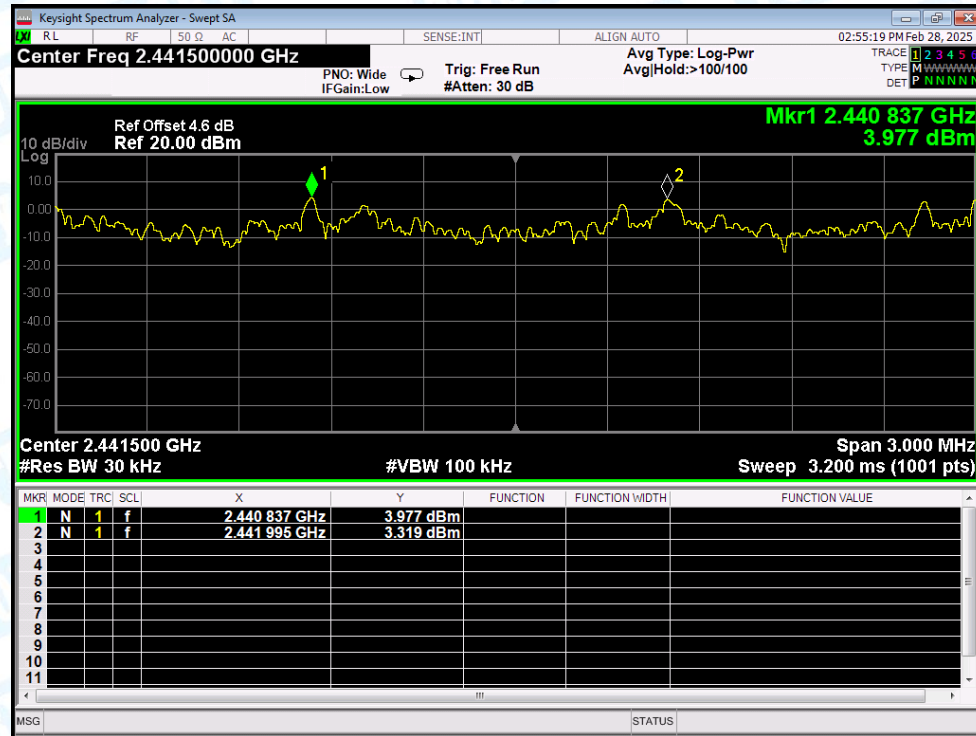
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2441.02	2441.836	0.816	0.64	Pass
NVNT	2-DH1	Ant1	2440.837	2441.995	1.158	0.813	Pass
NVNT	3-DH1	Ant1	2440.993	2441.839	0.846	0.813	Pass

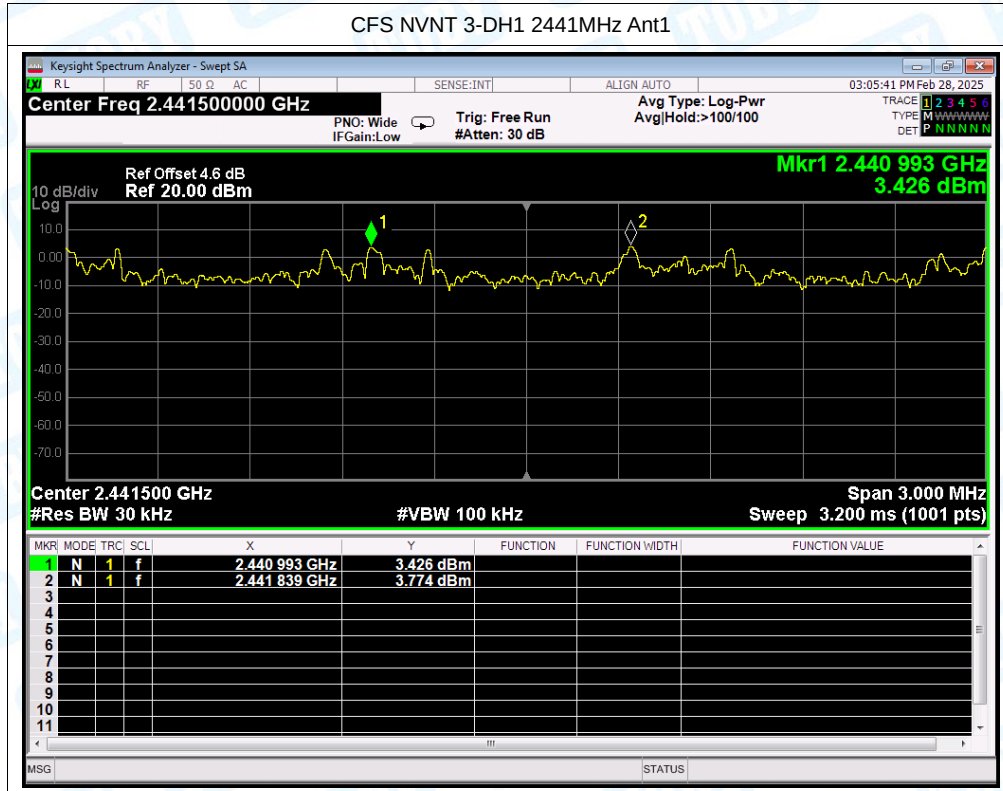
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



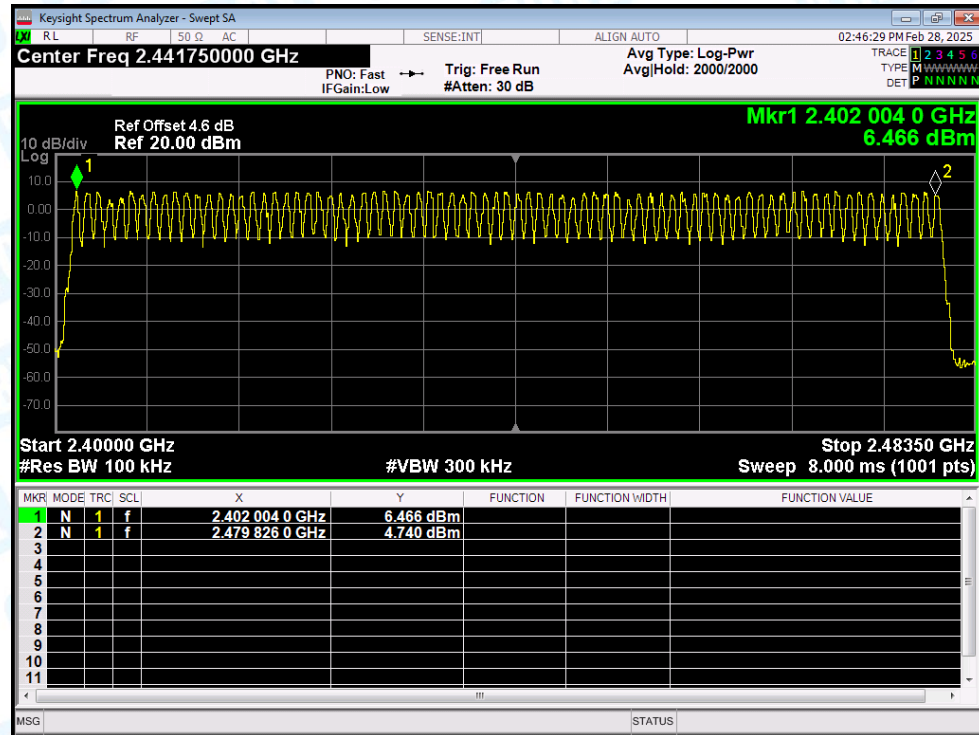


10.Number of Hopping Channel

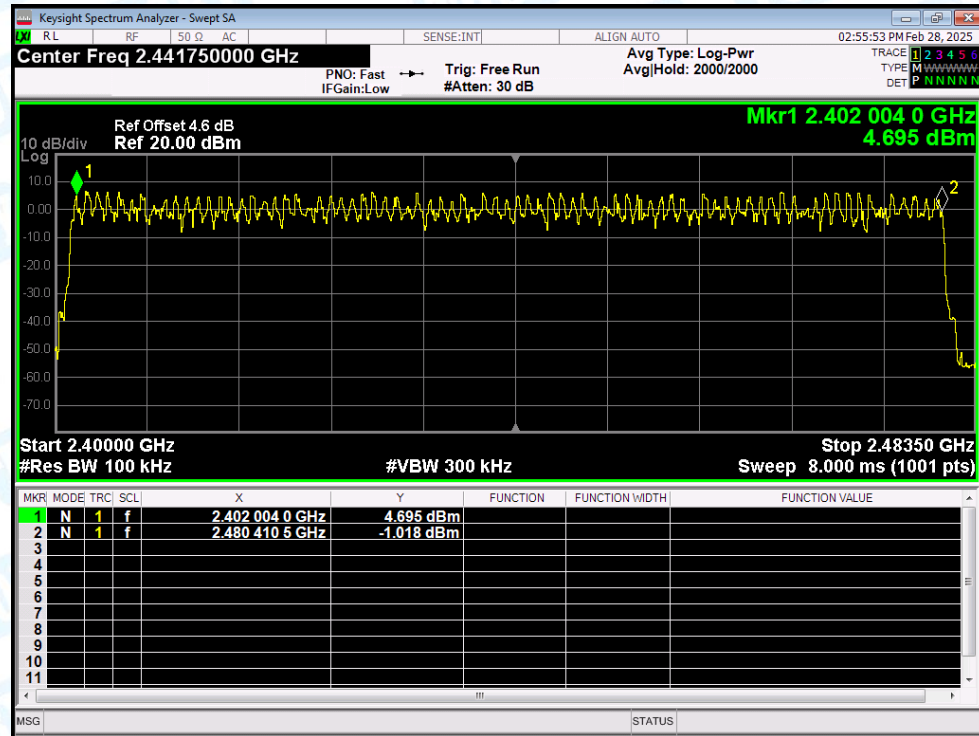
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

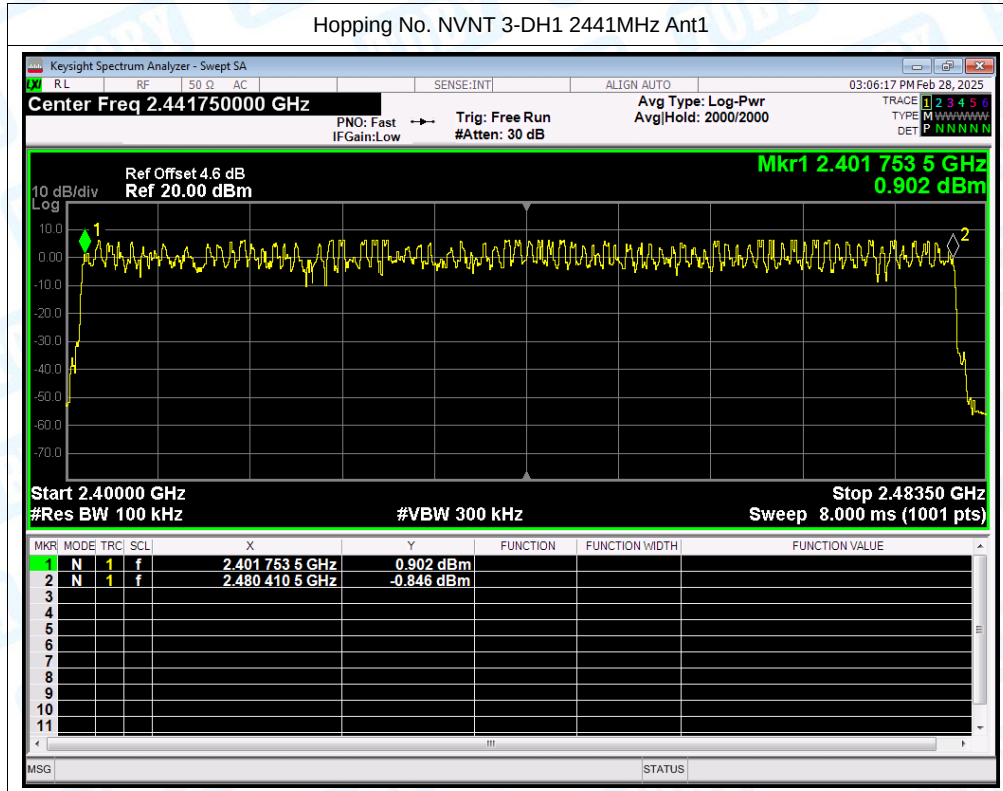
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



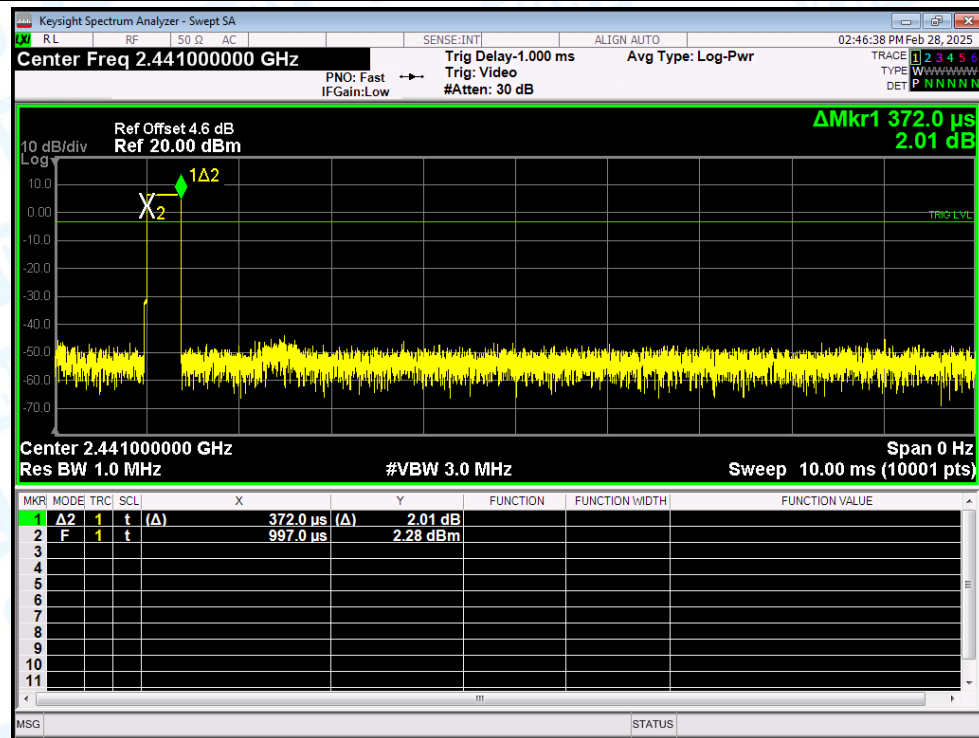


11.Dwell Time

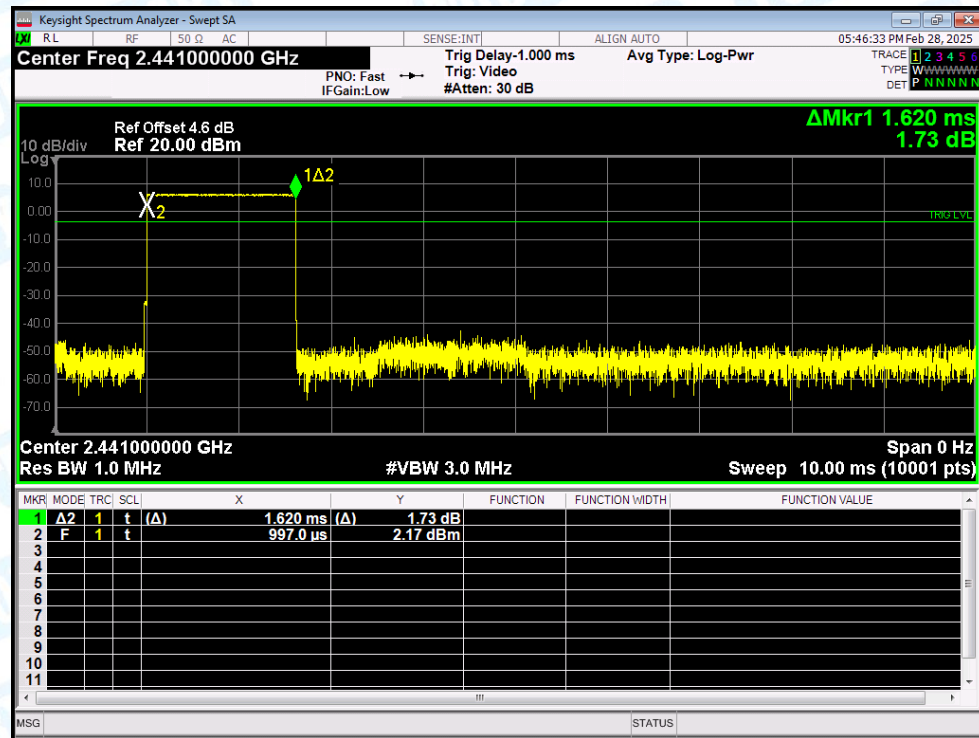
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.372	119.04	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.62	259.2	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.868	305.92	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.381	121.92	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.633	261.28	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.88	307.2	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.381	121.92	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

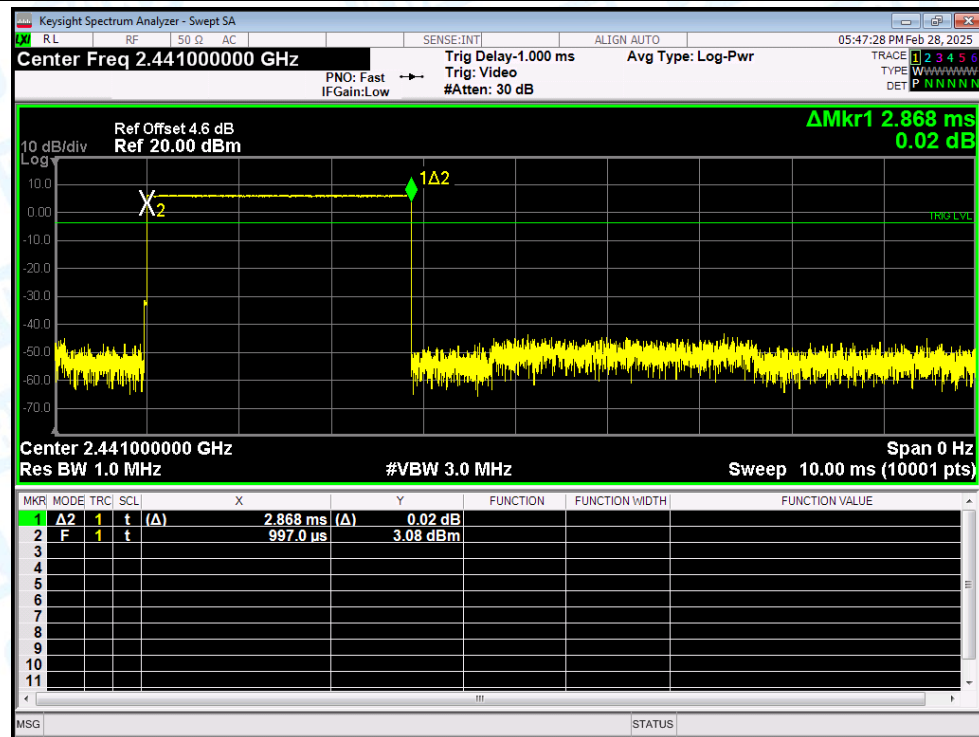
Dwell NVNT 1-DH1 2441MHz Ant1



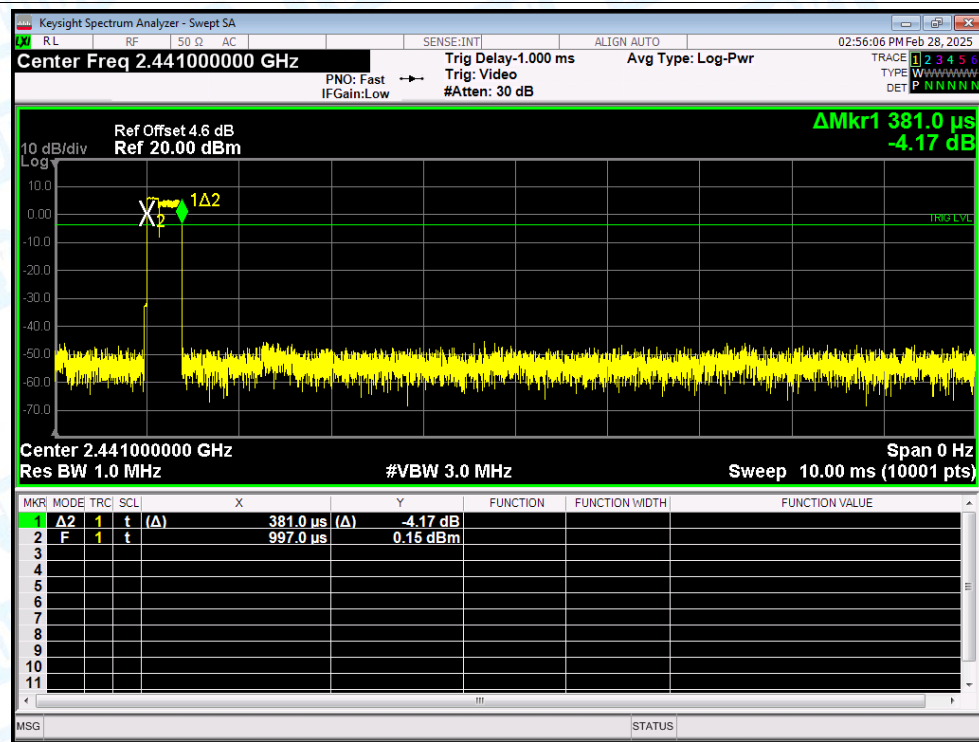
Dwell NVNT 1-DH3 2441MHz Ant1



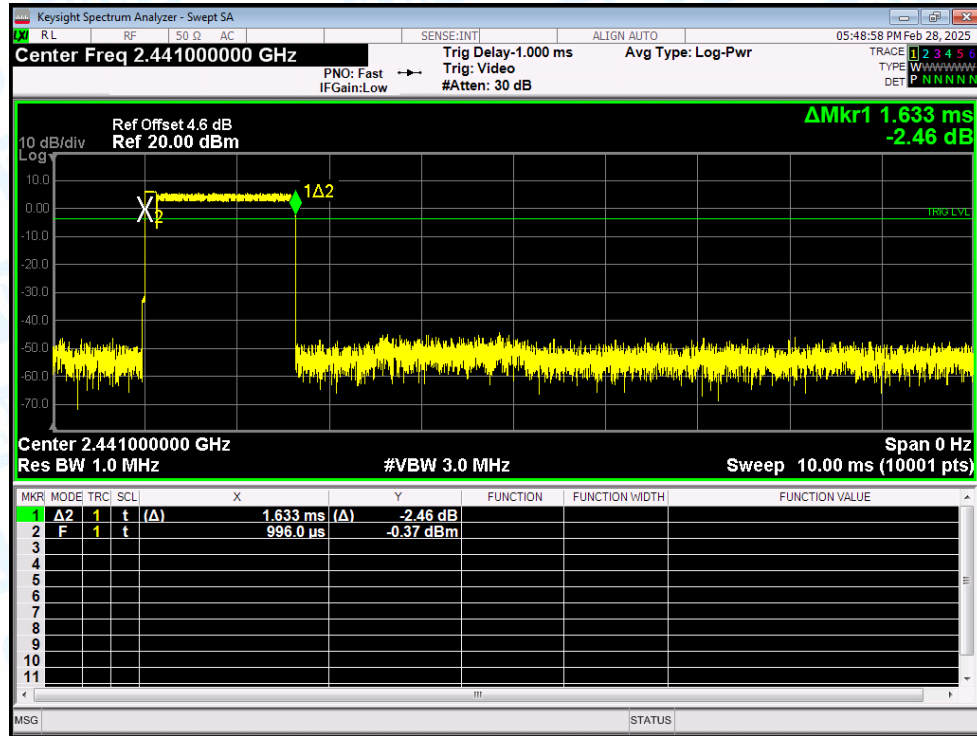
Dwell NVNT 1-DH5 2441MHz Ant1



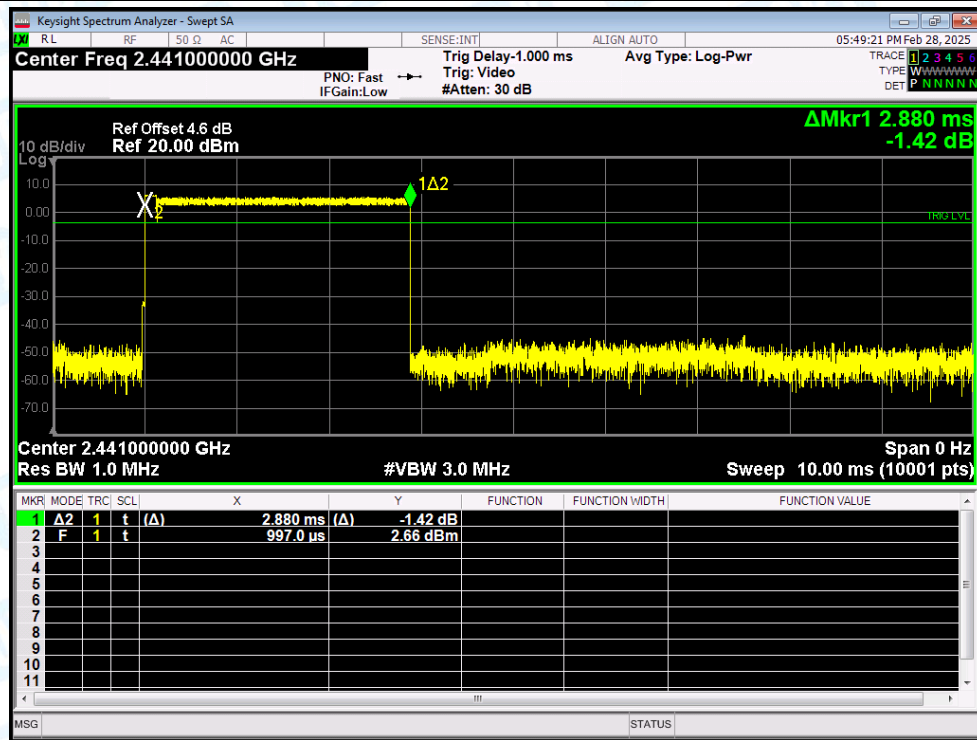
Dwell NVNT 2-DH1 2441MHz Ant1



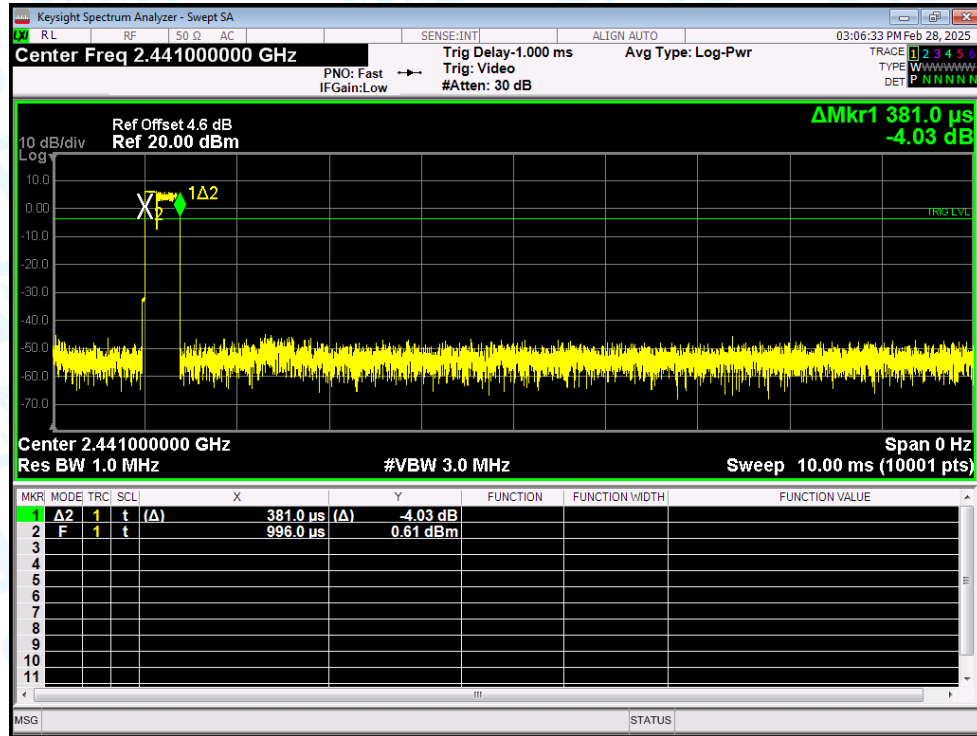
Dwell NVNT 2-DH3 2441MHz Ant1



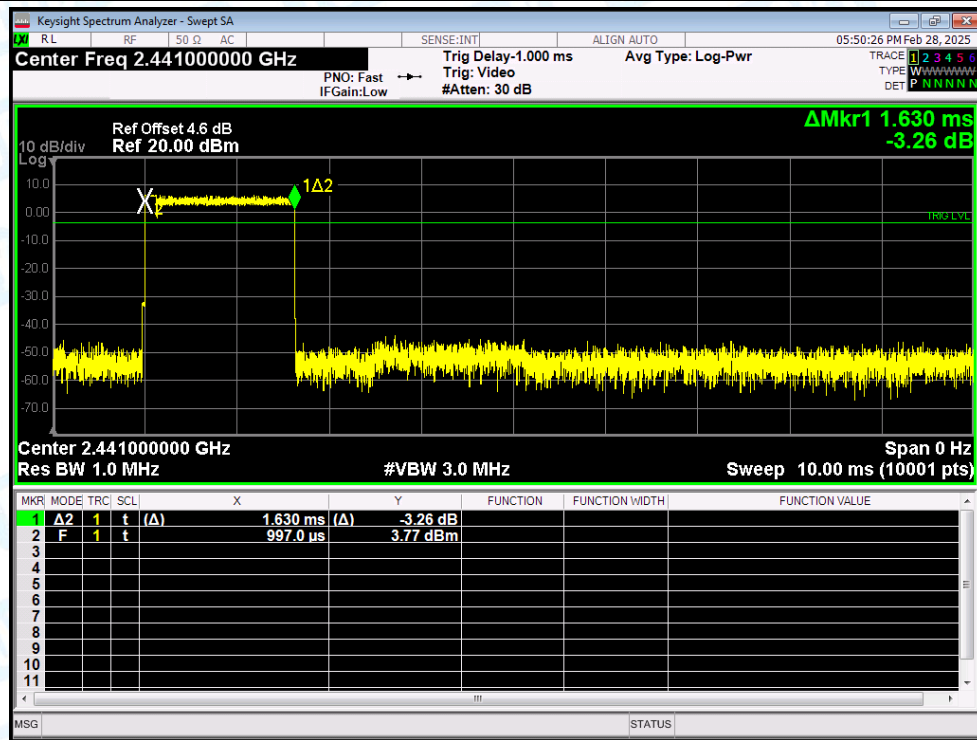
Dwell NVNT 2-DH5 2441MHz Ant1

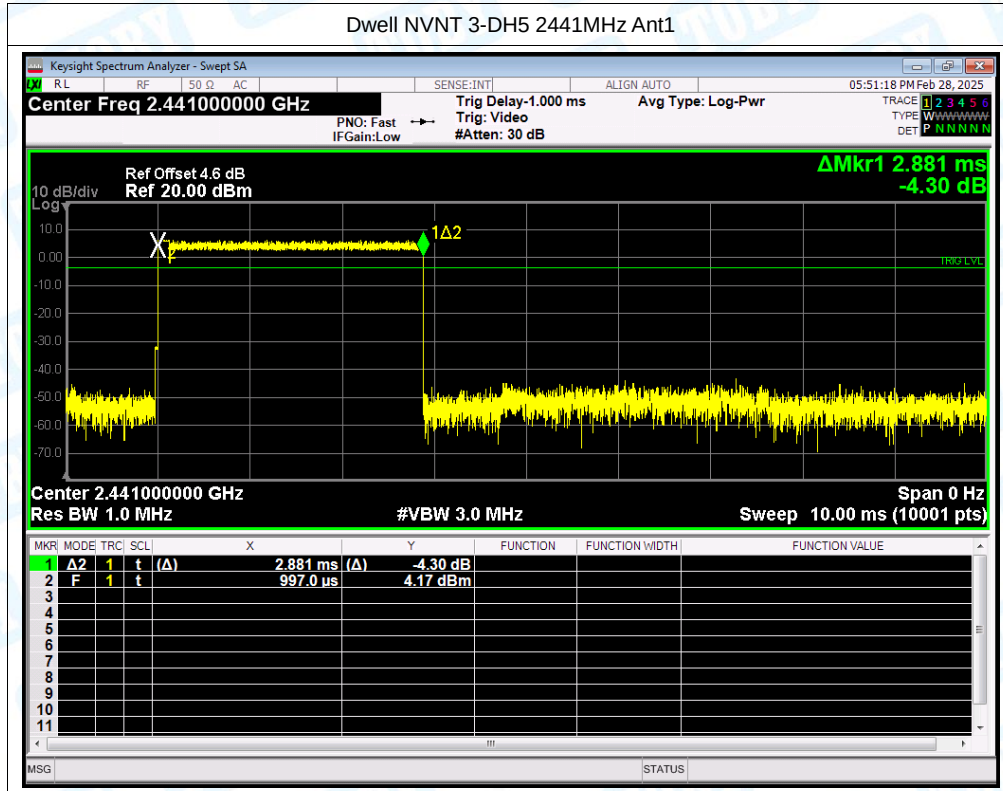


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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