

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	ROX
Test Model:	ALKROX
Sample ID:	HC-C-202501-0146-01-05#
Environmental Conditions	
Temperature:	25℃
Relative Humidity:	55%
Test Voltage:	DC 3.7V
Test Engineer:	Gold Zhang
Note: For a more detailed features description, please refer to the report TBR-C-202501-0146-71 The report only show the worst case data.	

Contents

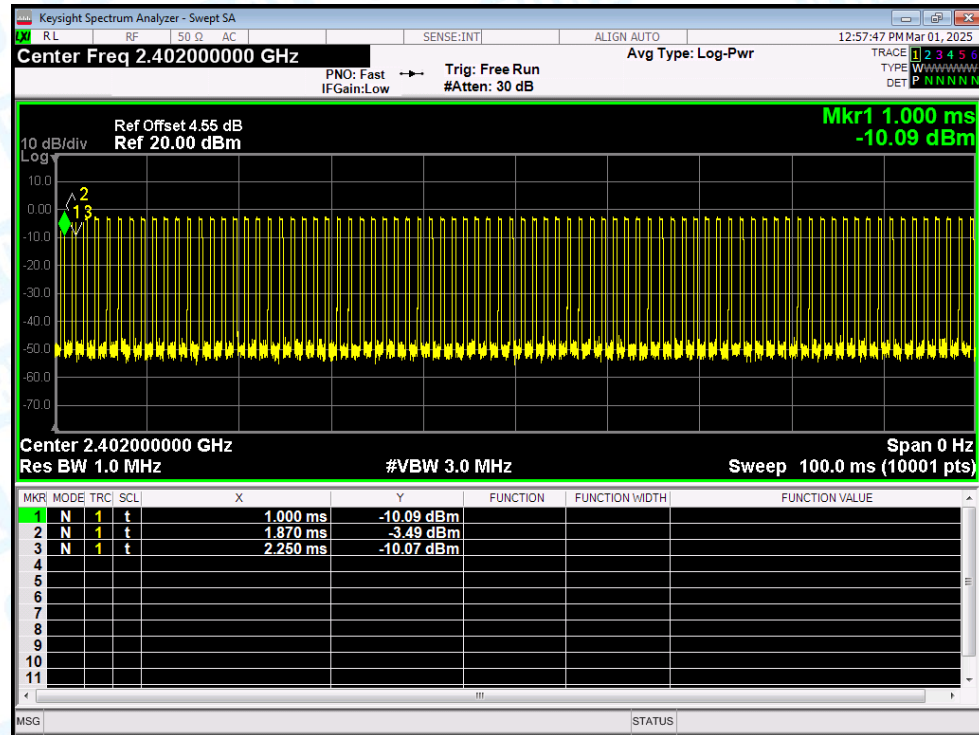
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1.Duty Cycle

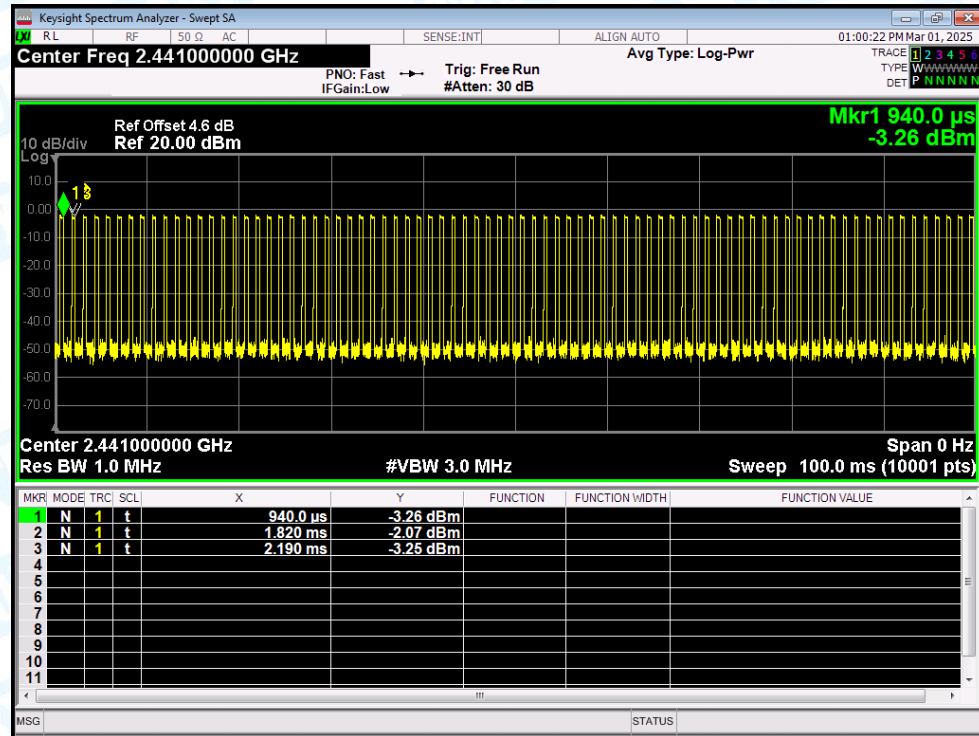
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	29.6	5.29	2.7
NVNT	1-DH1	2480	Ant1	29.6	5.29	2.7
NVNT	2-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56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

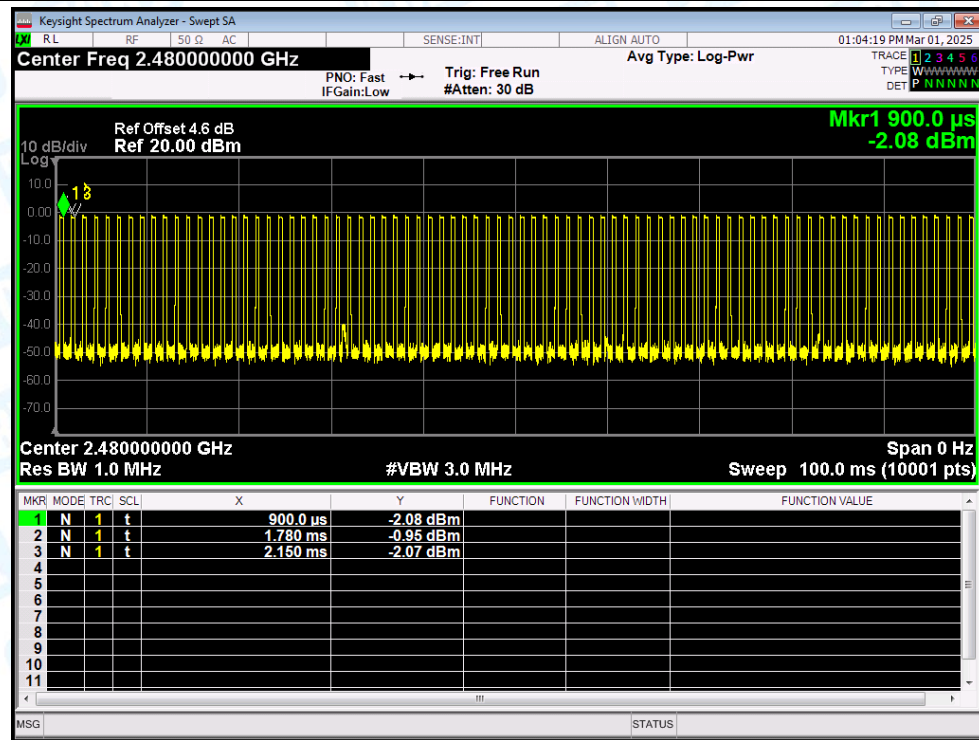
Duty Cycle NVNT 1-DH1 2402MHz Ant1



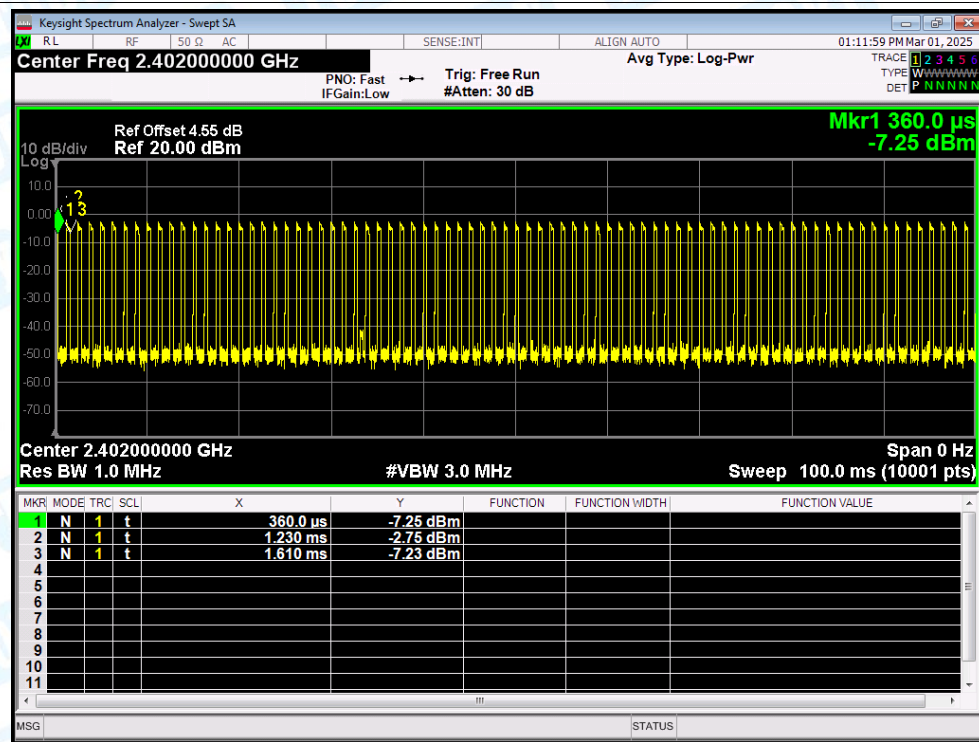
Duty Cycle NVNT 1-DH1 2441MHz Ant1



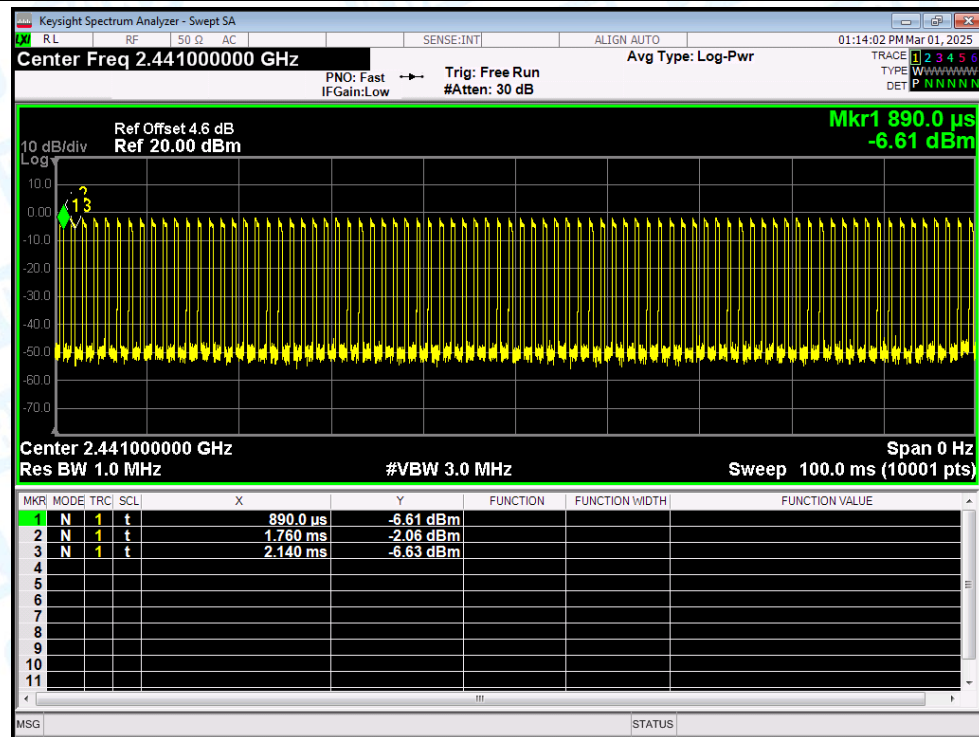
Duty Cycle NVNT 1-DH1 2480MHz Ant1



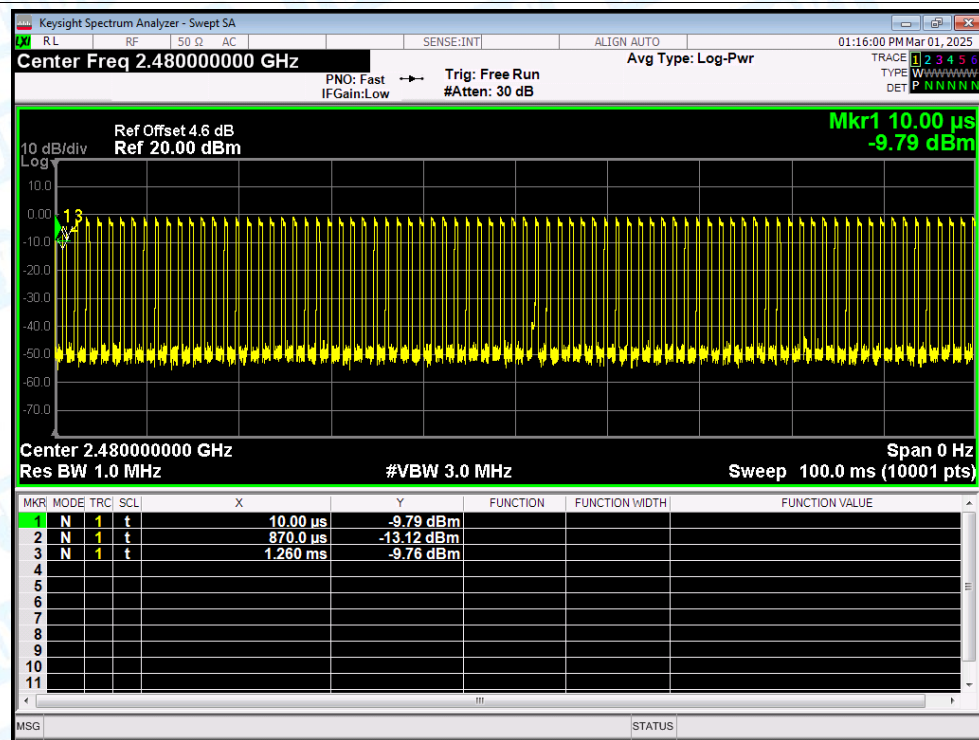
Duty Cycle NVNT 2-DH1 2402MHz Ant1



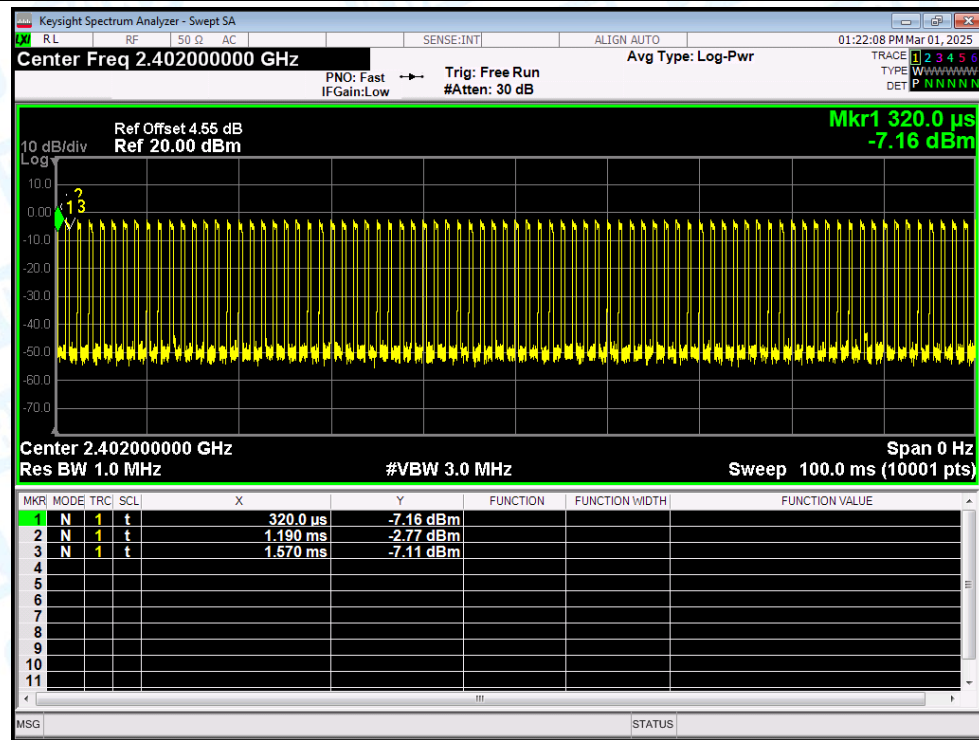
Duty Cycle NVNT 2-DH1 2441MHz Ant1



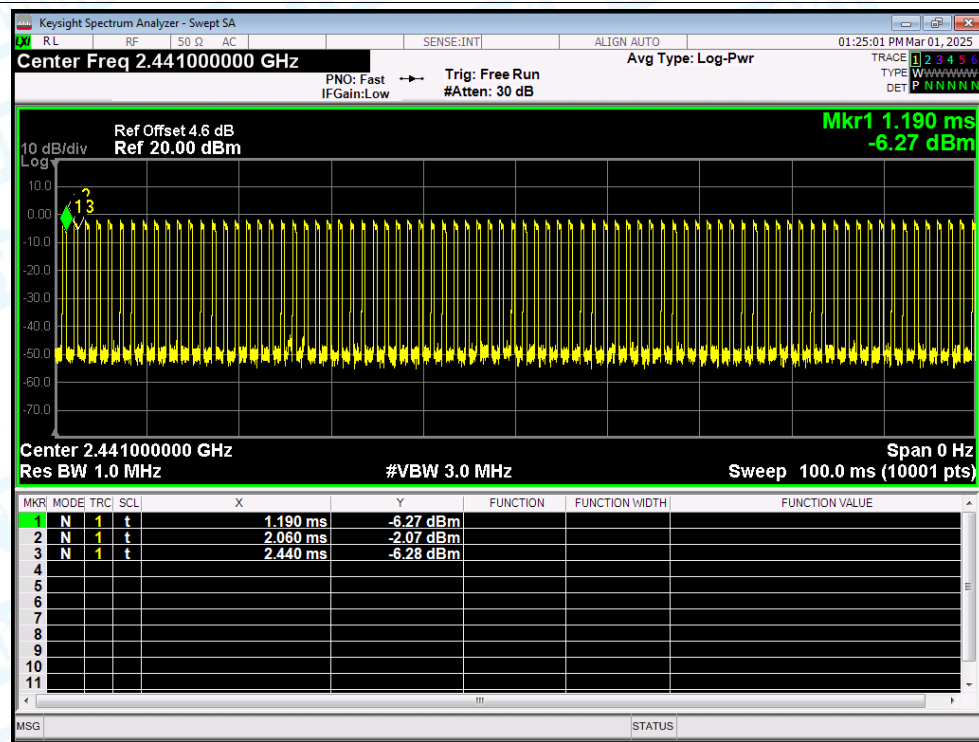
Duty Cycle NVNT 2-DH1 2480MHz Ant1

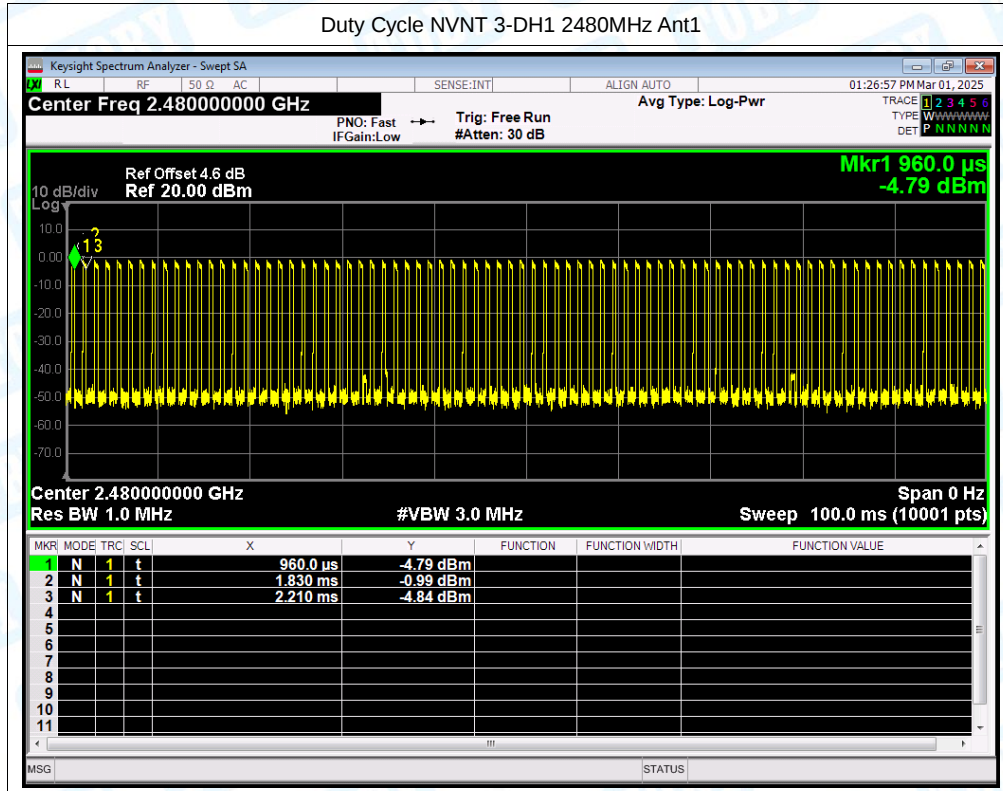


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



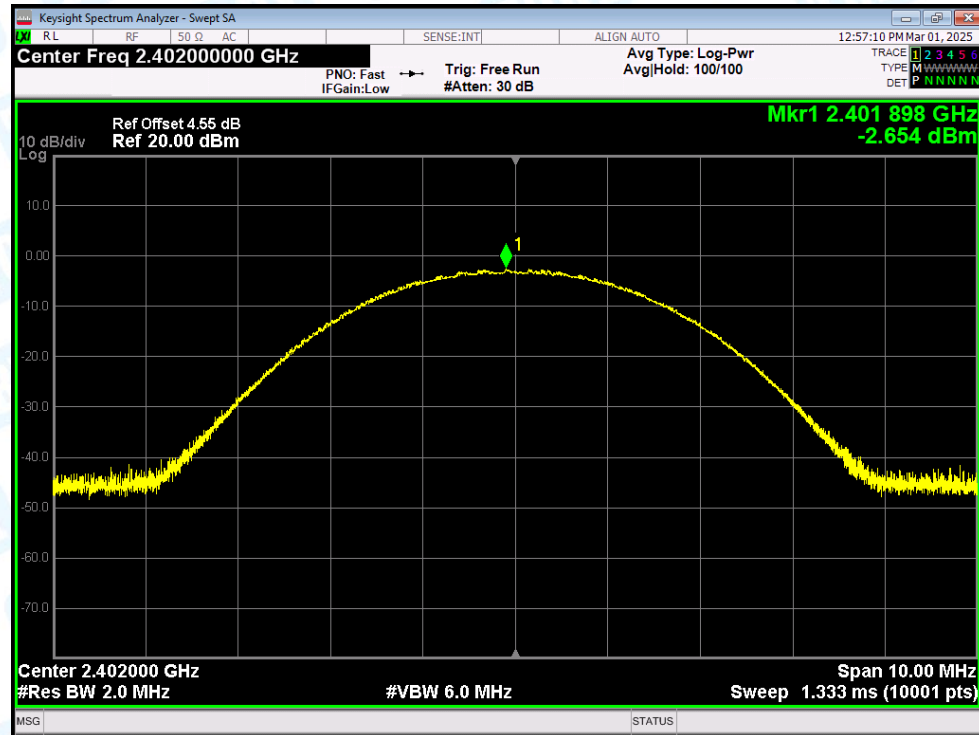


2.Maximum Conducted Output Power

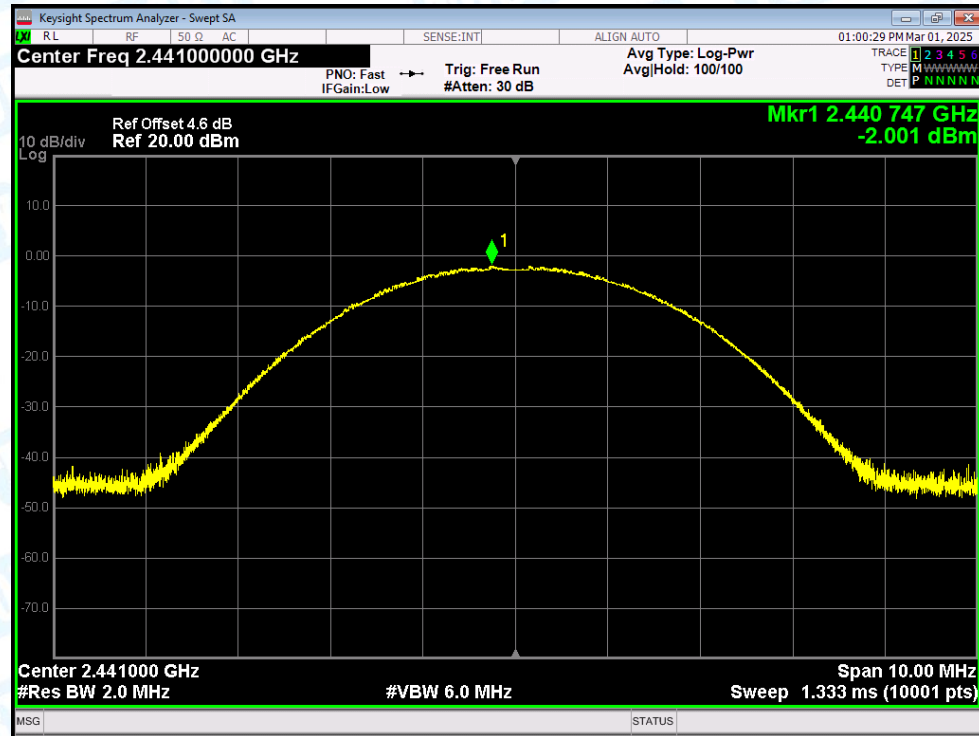
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	-2.654	21	Pass
NVNT	1-DH1	2441	Ant1	-2.001	21	Pass
NVNT	1-DH1	2480	Ant1	-0.866	21	Pass
NVNT	2-DH1	2402	Ant1	-2.654	21	Pass
NVNT	2-DH1	2441	Ant1	-1.991	21	Pass
NVNT	2-DH1	2480	Ant1	-0.838	21	Pass
NVNT	3-DH1	2402	Ant1	-2.691	21	Pass
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NVNT	3-DH1	2480	Ant1	-0.836	21	Pass

Test Graphs

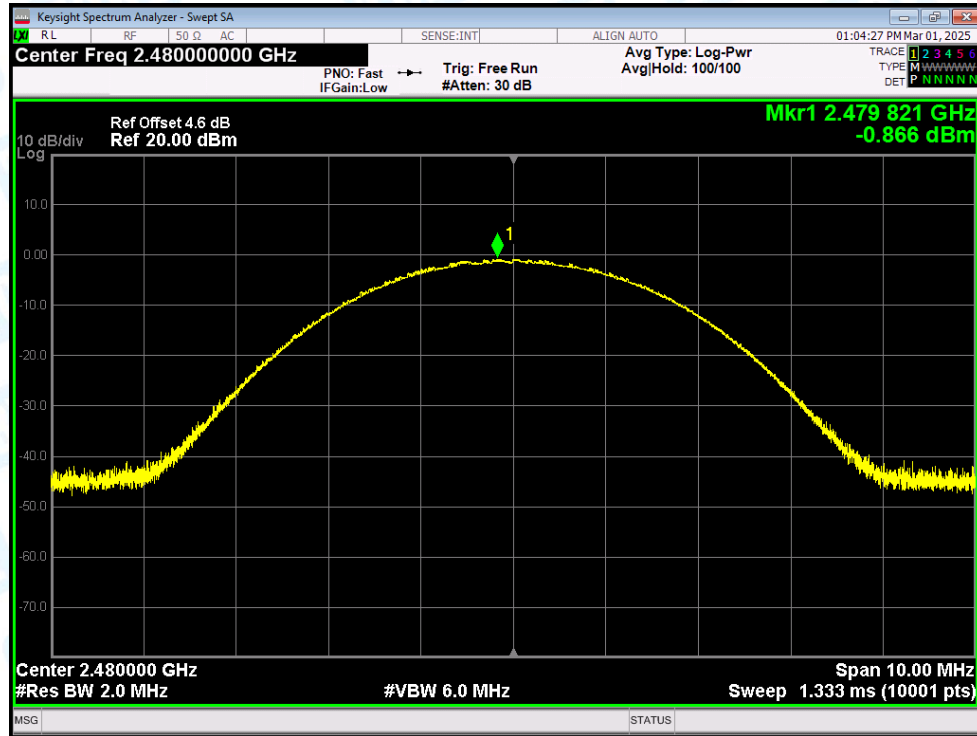
Power NVNT 1-DH1 2402MHz Ant1



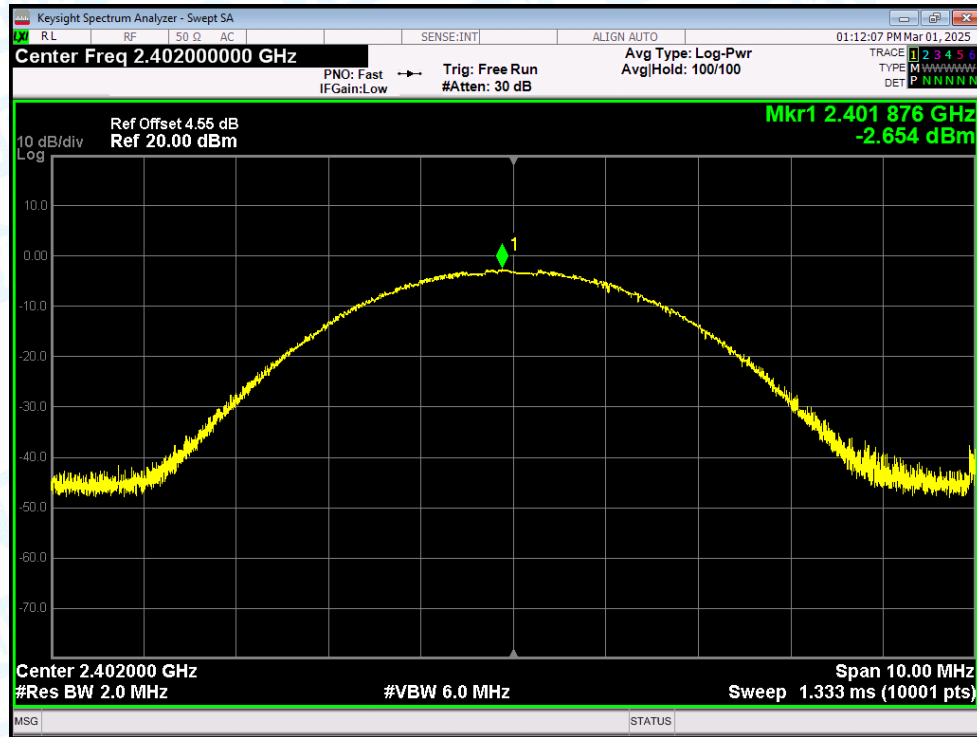
Power NVNT 1-DH1 2441MHz Ant1



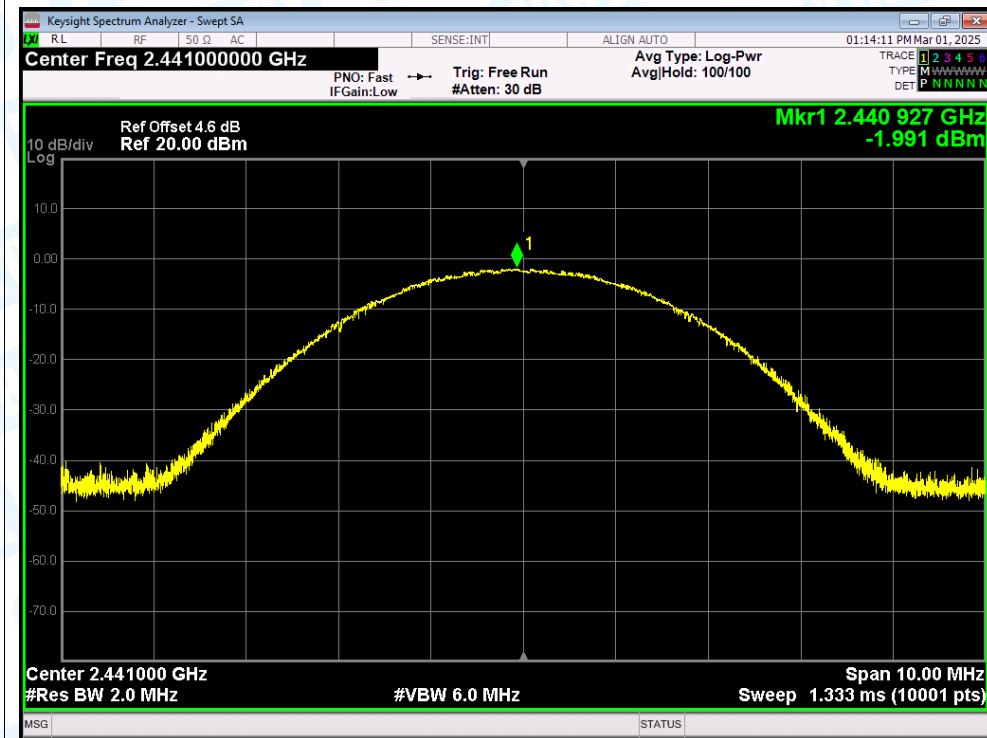
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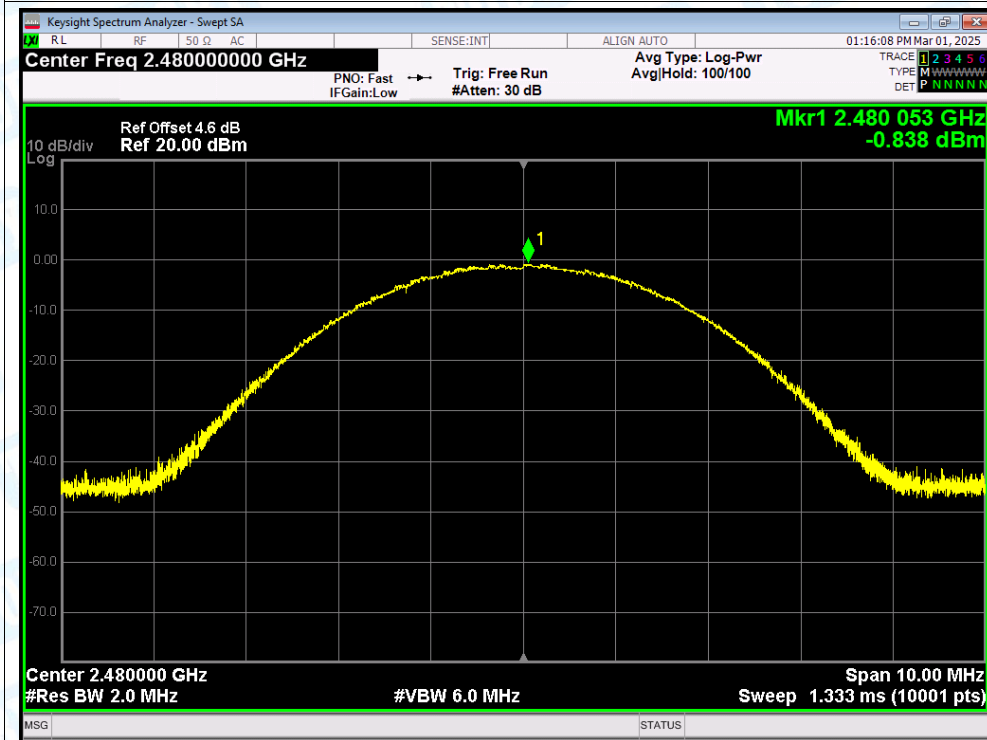
Power NVNT 2-DH1 2402MHz Ant1



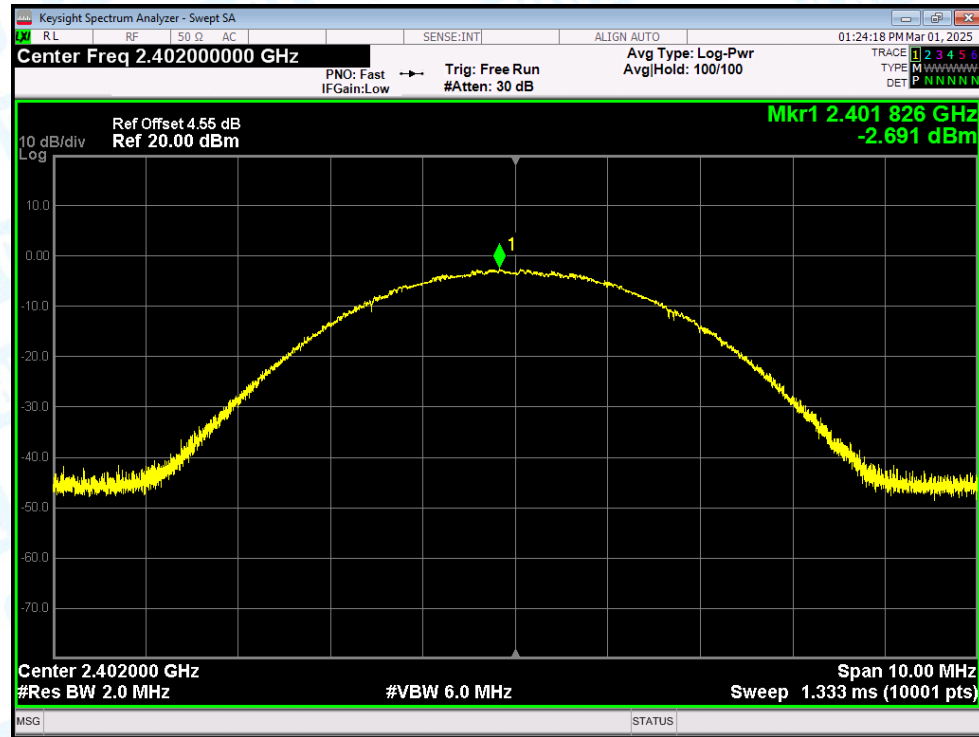
Power NVNT 2-DH1 2441MHz Ant1



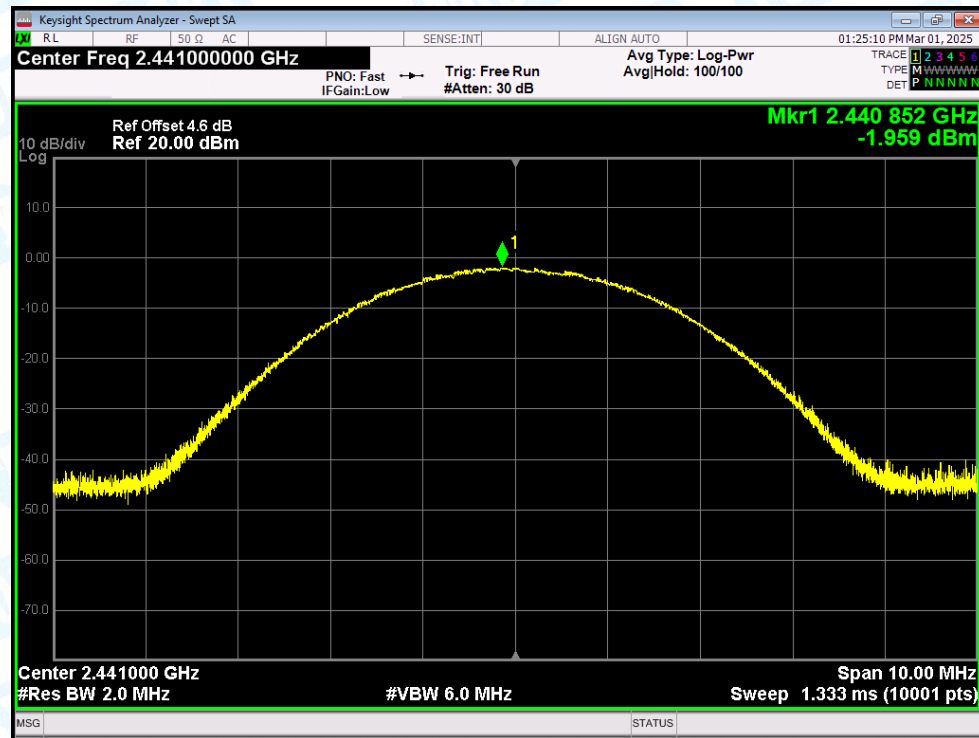
Power NVNT 2-DH1 2480MHz Ant1

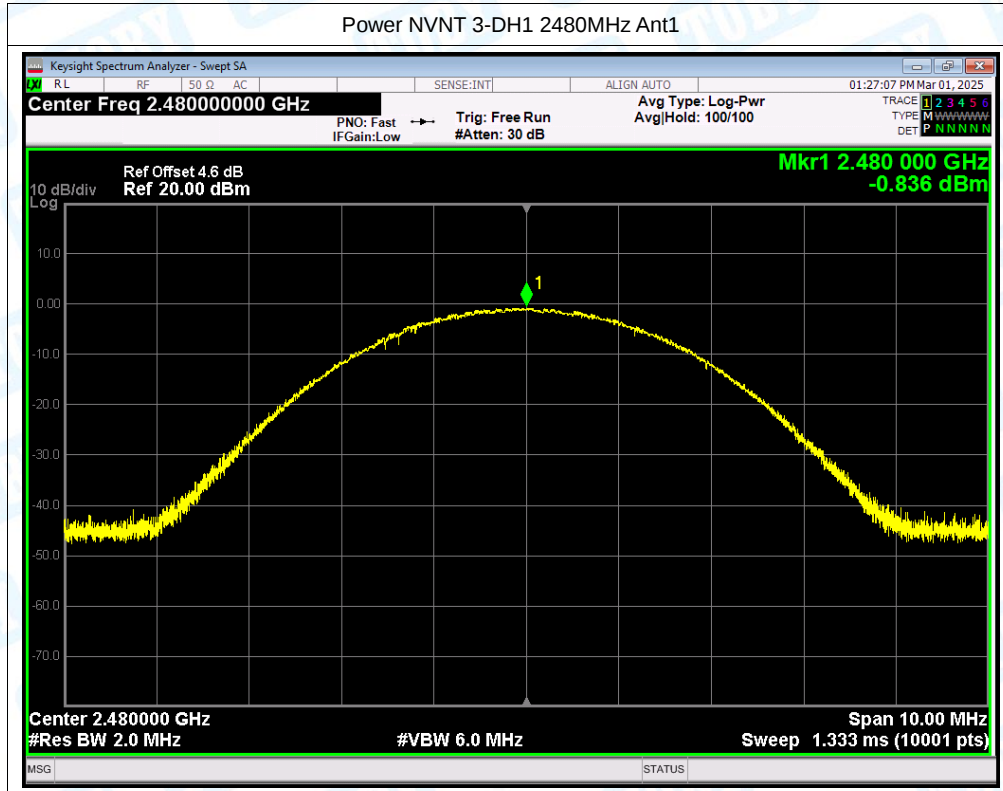


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



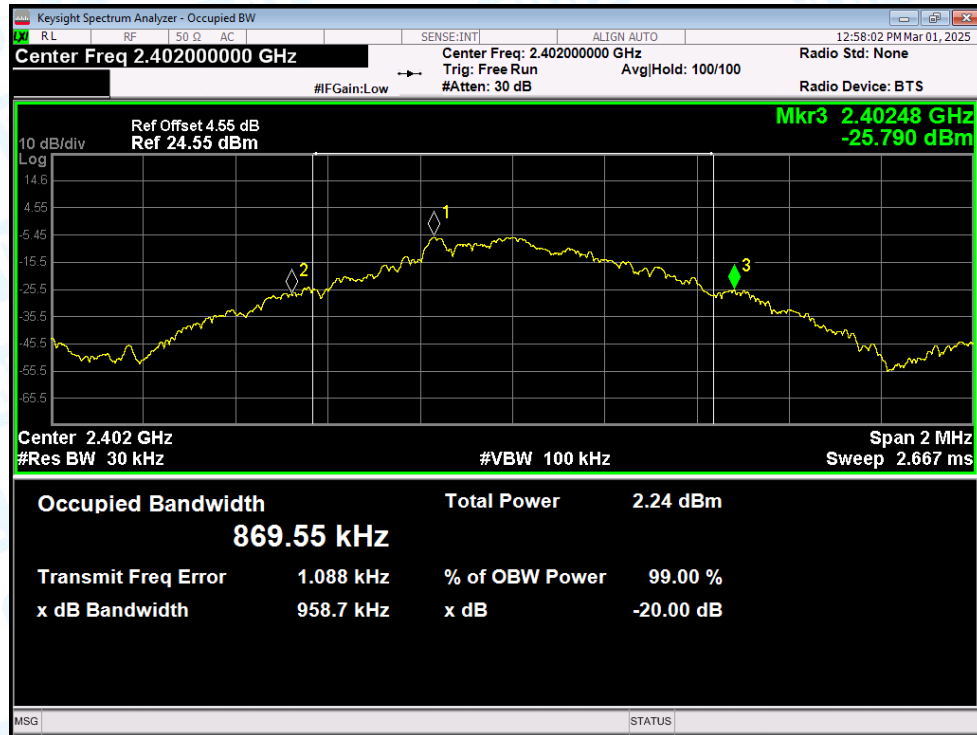


3.-20dB Bandwidth

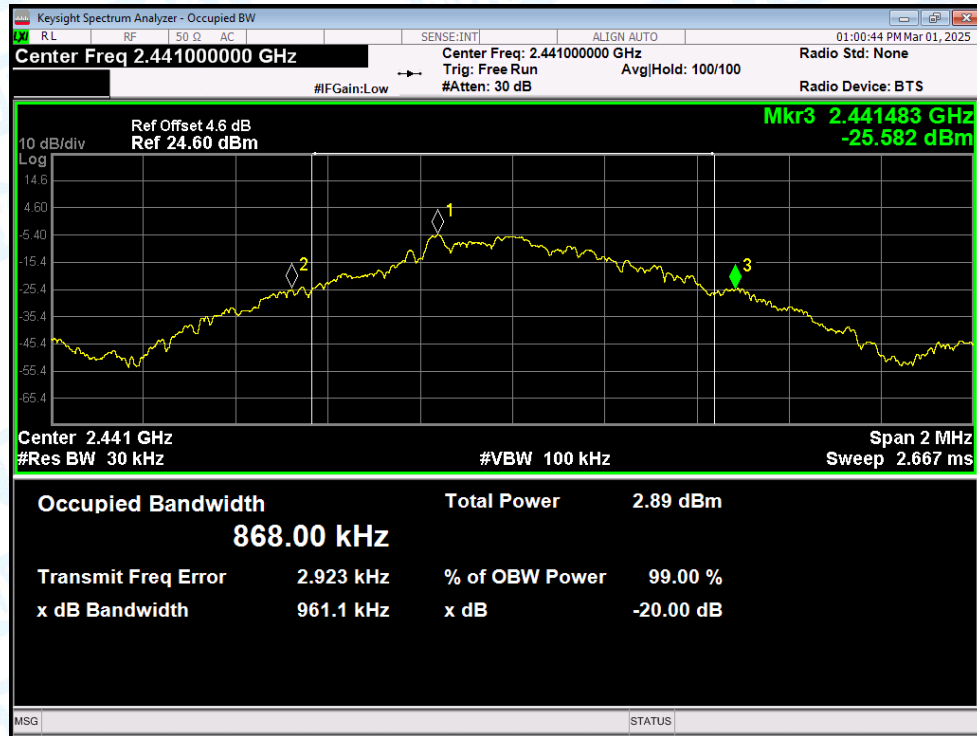
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.96	0	Pass
NVNT	1-DH1	2441	Ant1	0.96	0	Pass
NVNT	1-DH1	2480	Ant1	0.87	0	Pass
NVNT	2-DH1	2402	Ant1	1.2	0	Pass
NVNT	2-DH1	2441	Ant1	1.19	0	Pass
NVNT	2-DH1	2480	Ant1	1.2	0	Pass
NVNT	3-DH1	2402	Ant1	1.19	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



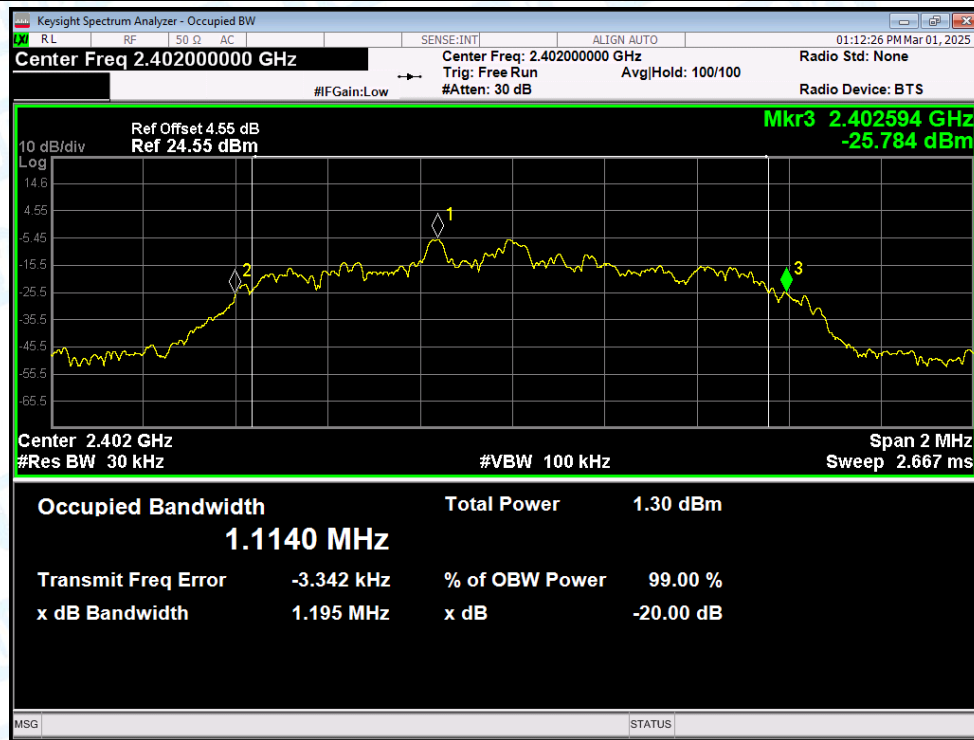
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



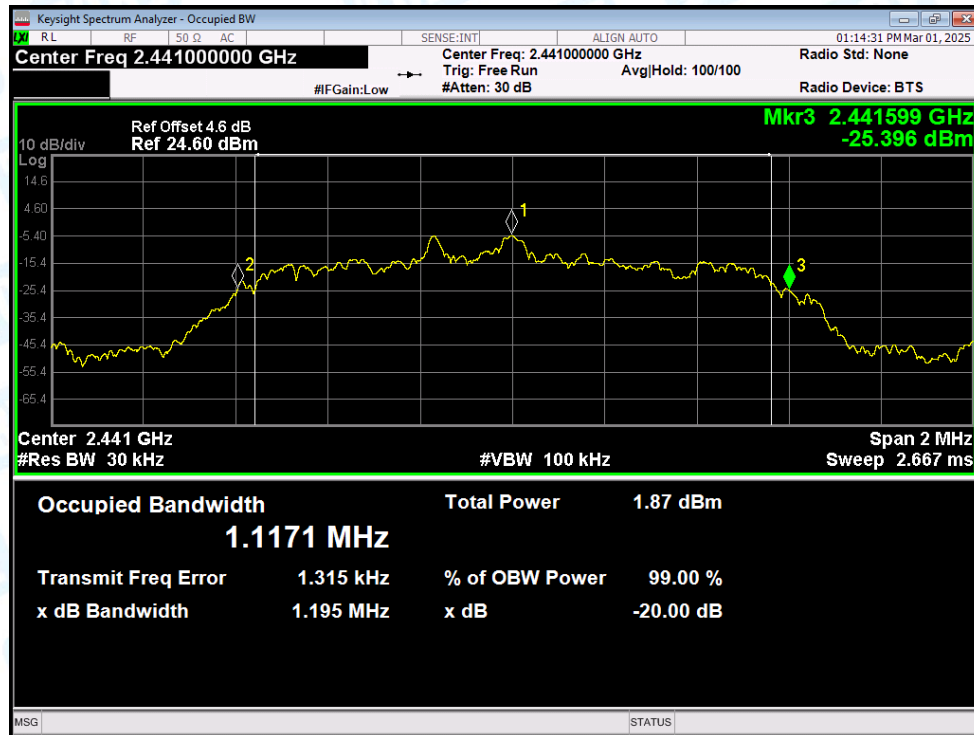
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



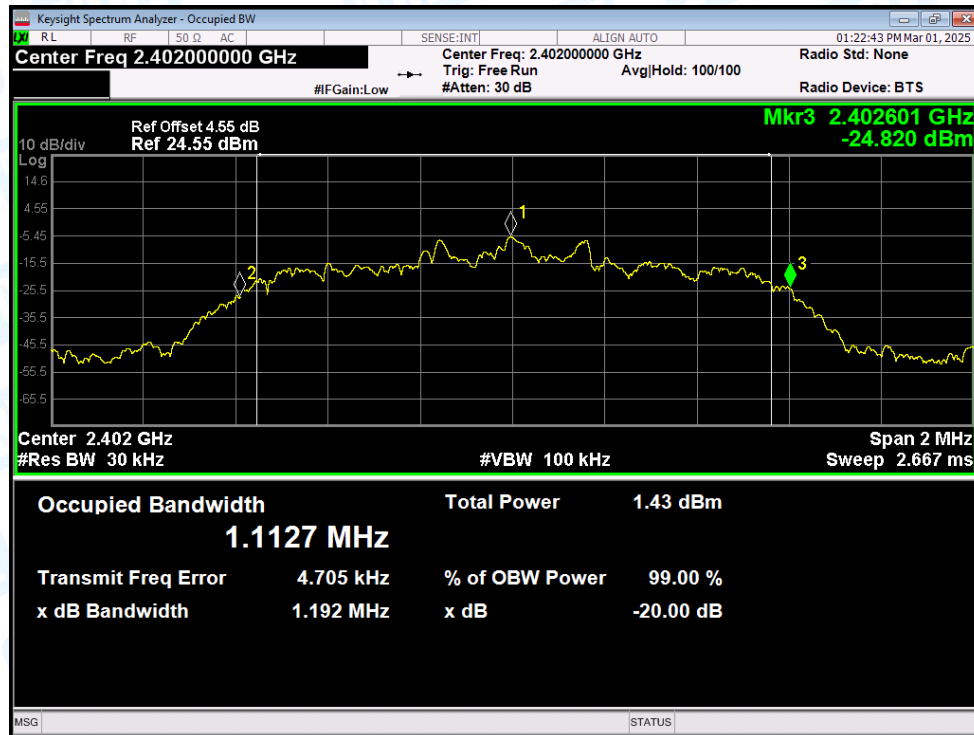
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



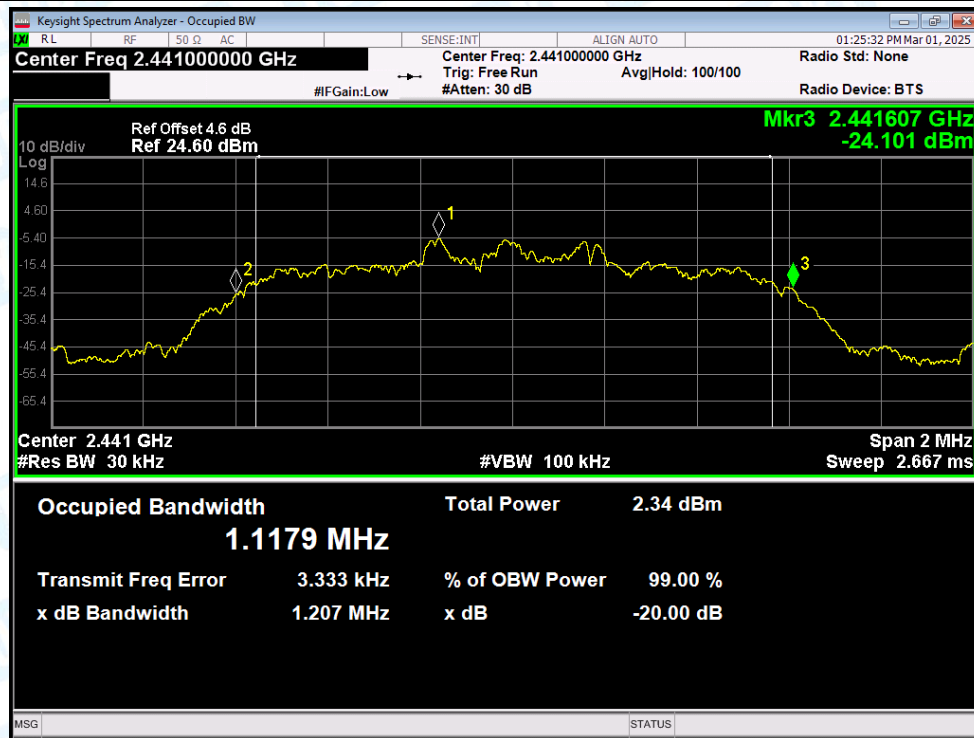
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

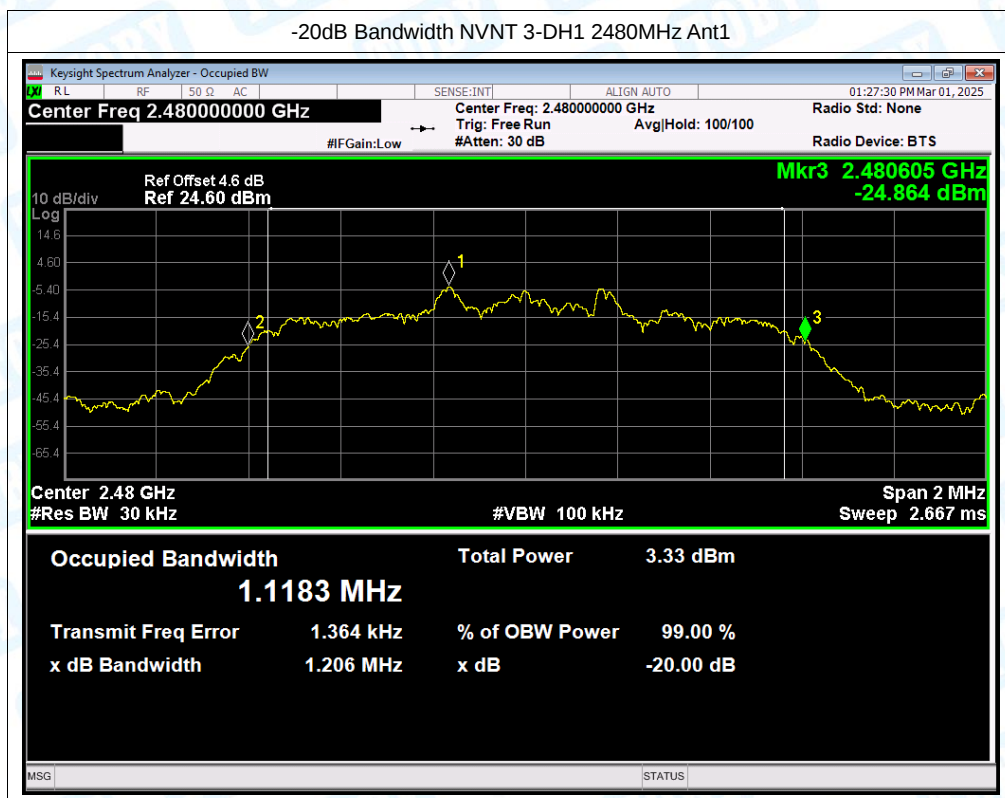


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



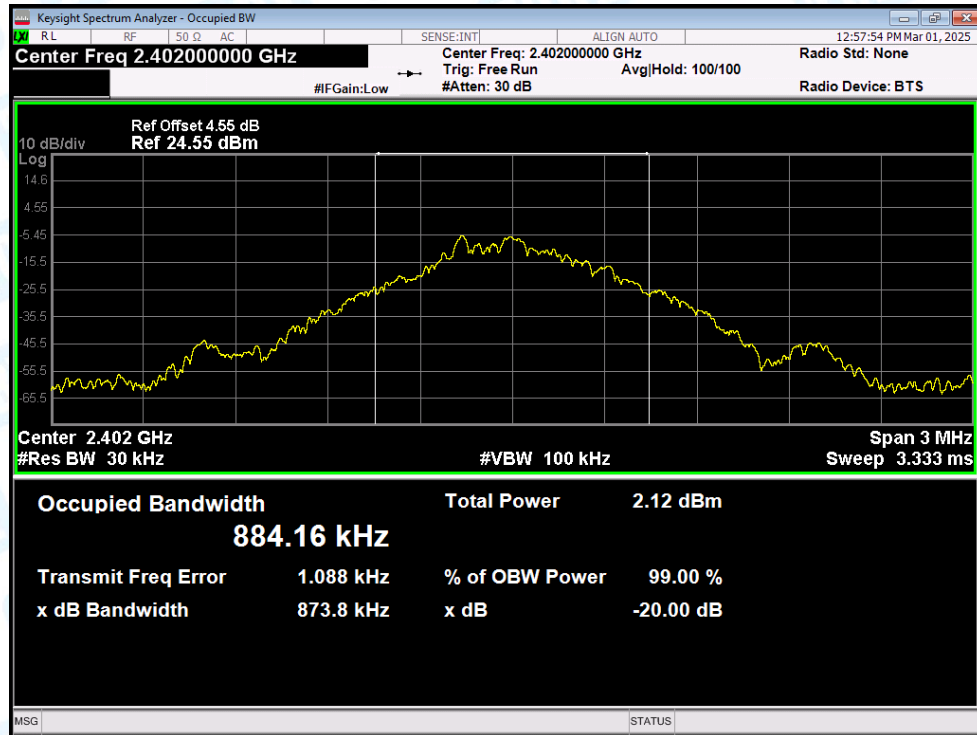


4.Occupied Channel Bandwidth

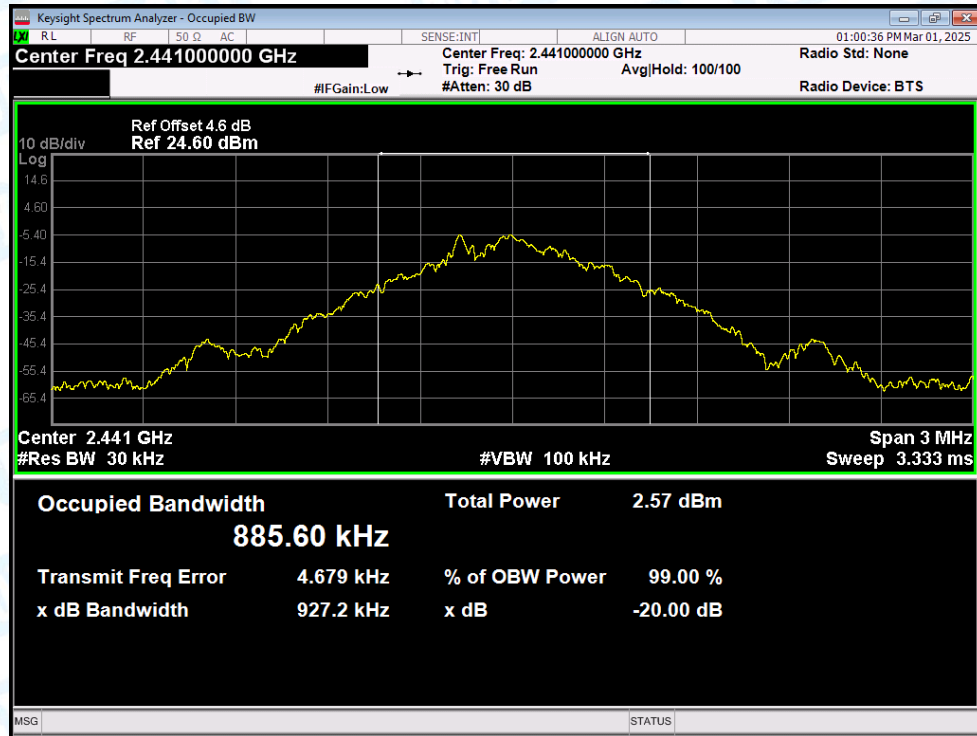
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.884
NVNT	1-DH1	2441	Ant1	0.886
NVNT	1-DH1	2480	Ant1	0.874
NVNT	2-DH1	2402	Ant1	1.139
NVNT	2-DH1	2441	Ant1	1.132
NVNT	2-DH1	2480	Ant1	1.123
NVNT	3-DH1	2402	Ant1	1.12
NVNT	3-DH1	2441	Ant1	1.111
NVNT	3-DH1	2480	Ant1	1.109

Test Graphs

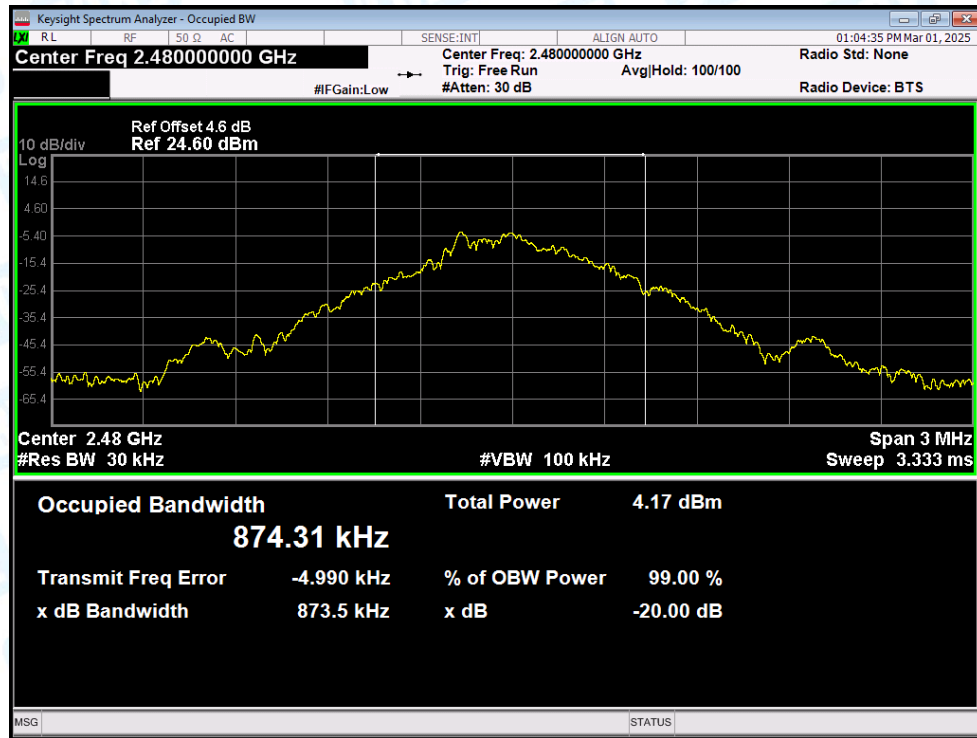
OBW NVNT 1-DH1 2402MHz Ant1



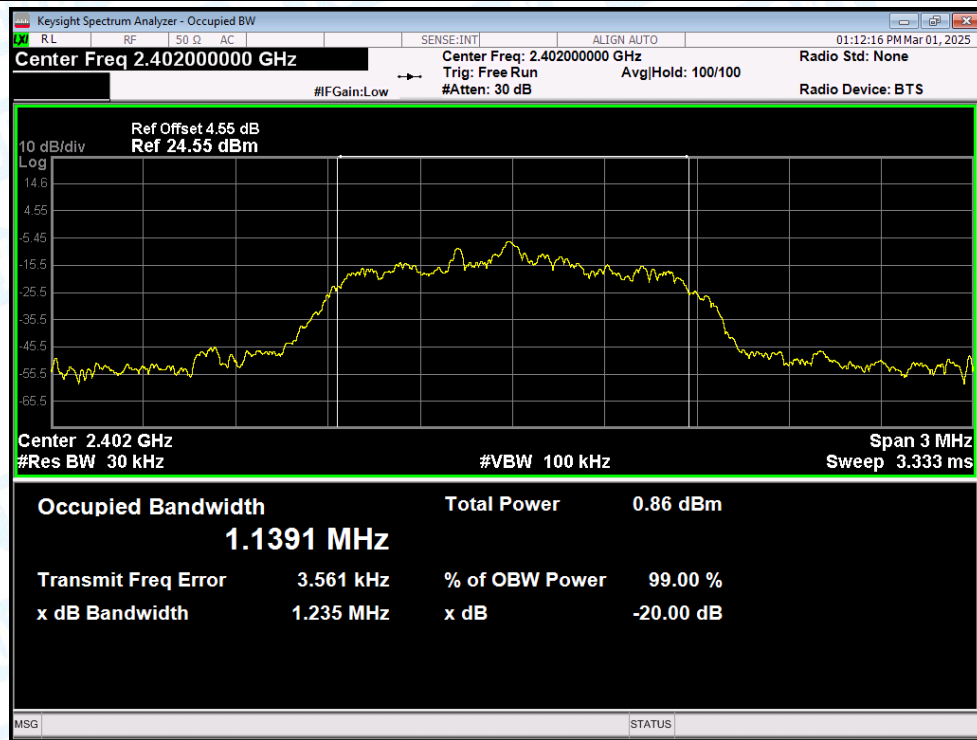
OBW NVNT 1-DH1 2441MHz Ant1



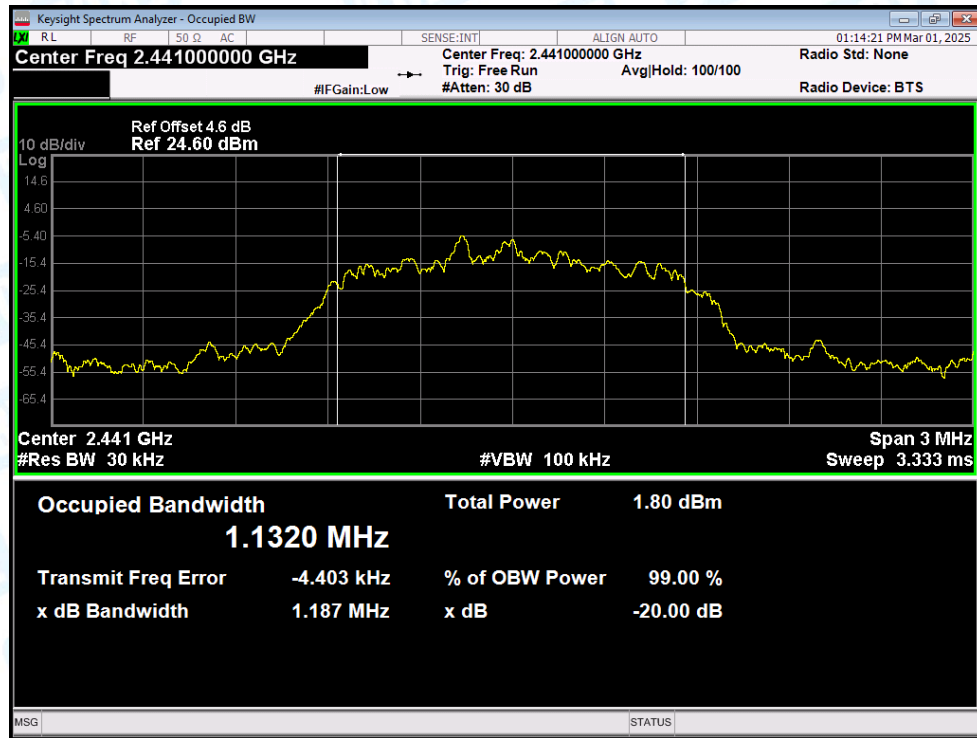
OBW NVNT 1-DH1 2480MHz Ant1



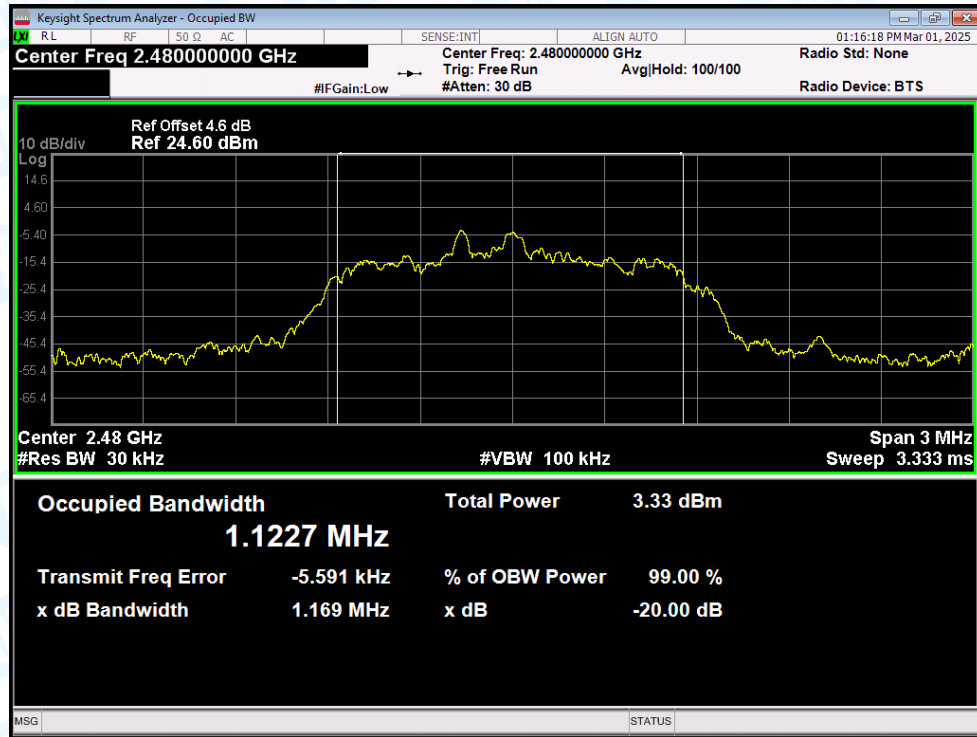
OBW NVNT 2-DH1 2402MHz Ant1



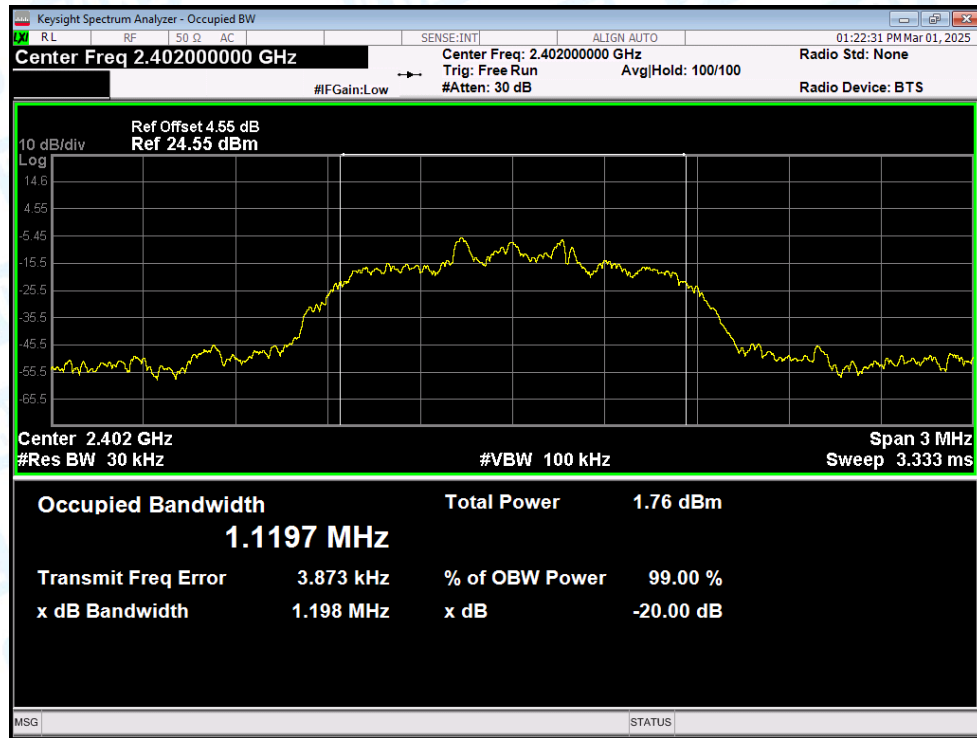
OBW NVNT 2-DH1 2441MHz Ant1



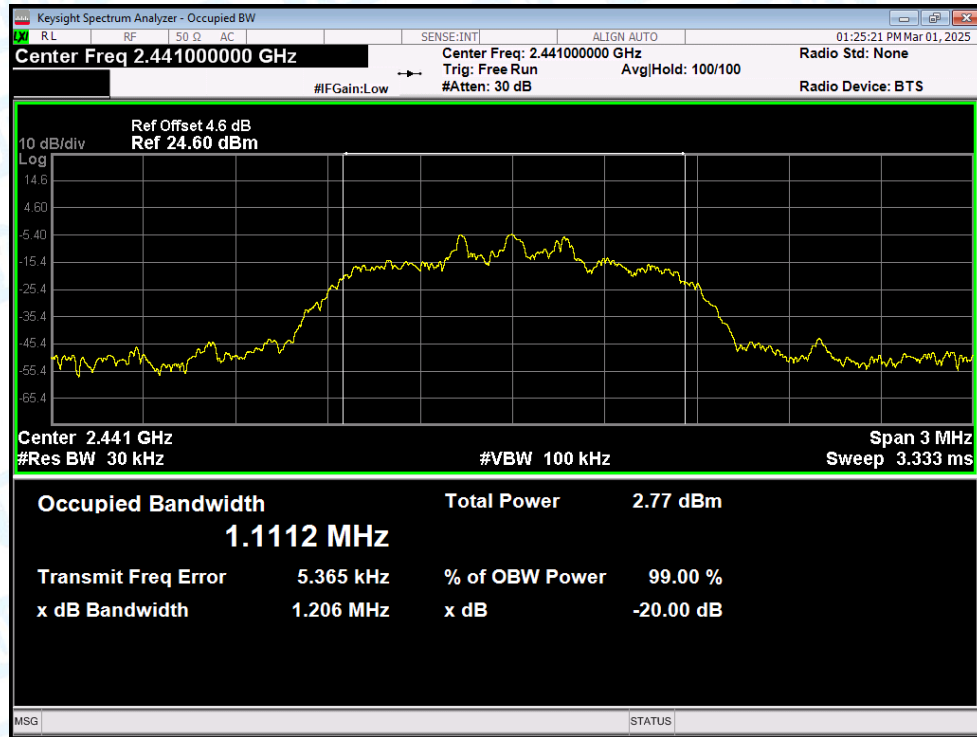
OBW NVNT 2-DH1 2480MHz Ant1

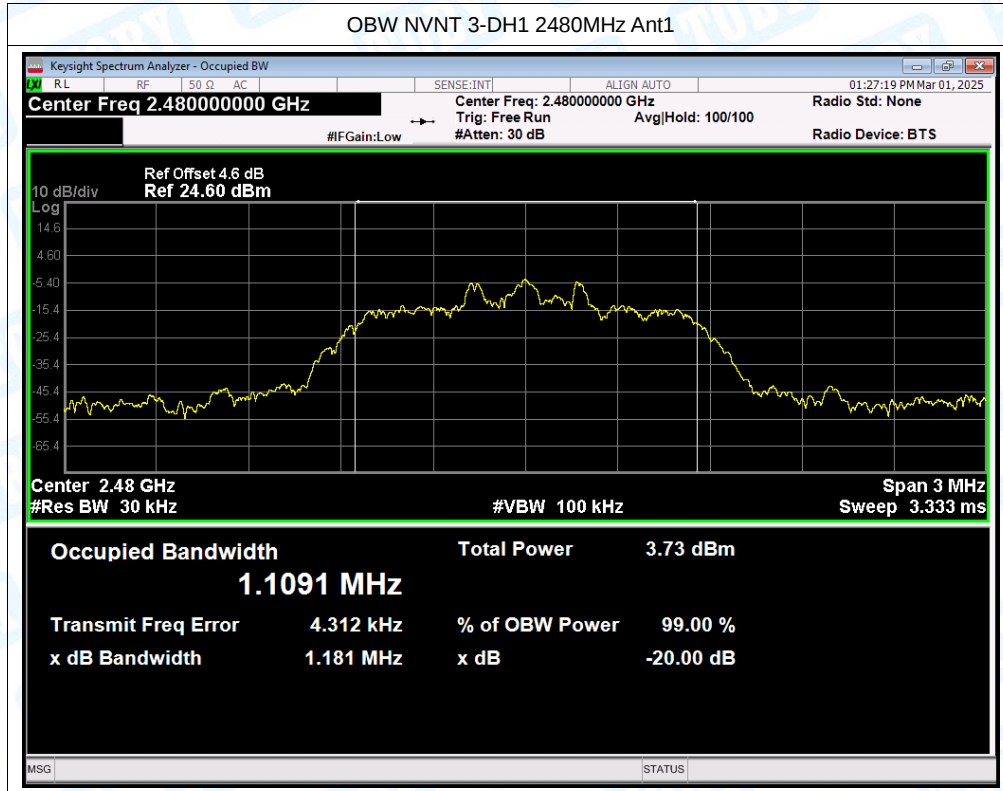


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



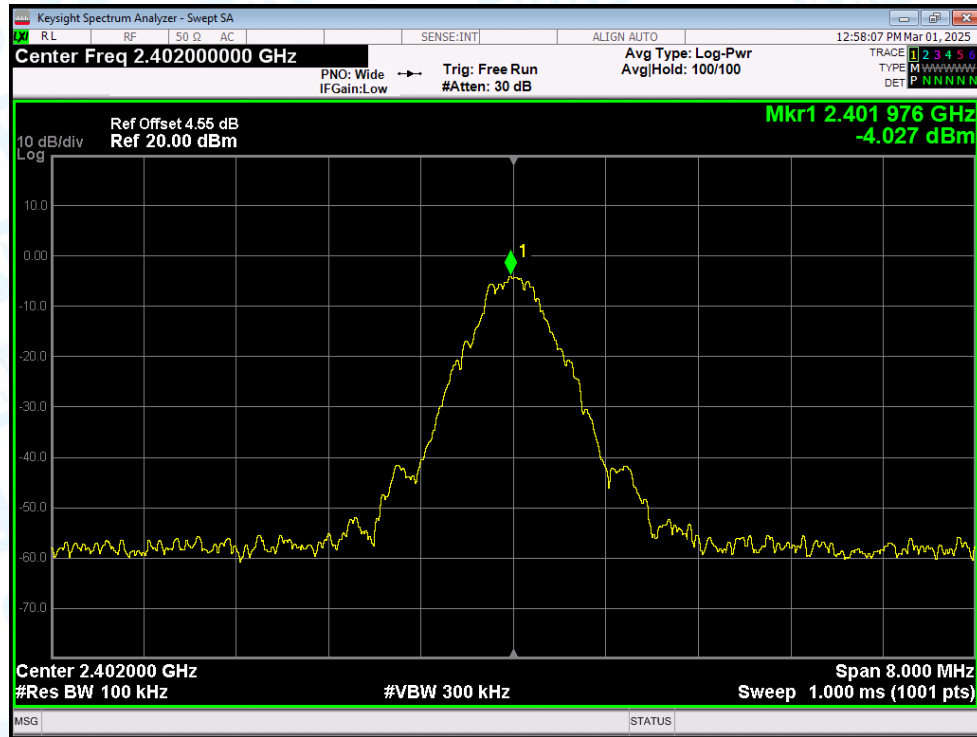


5.Band Edge

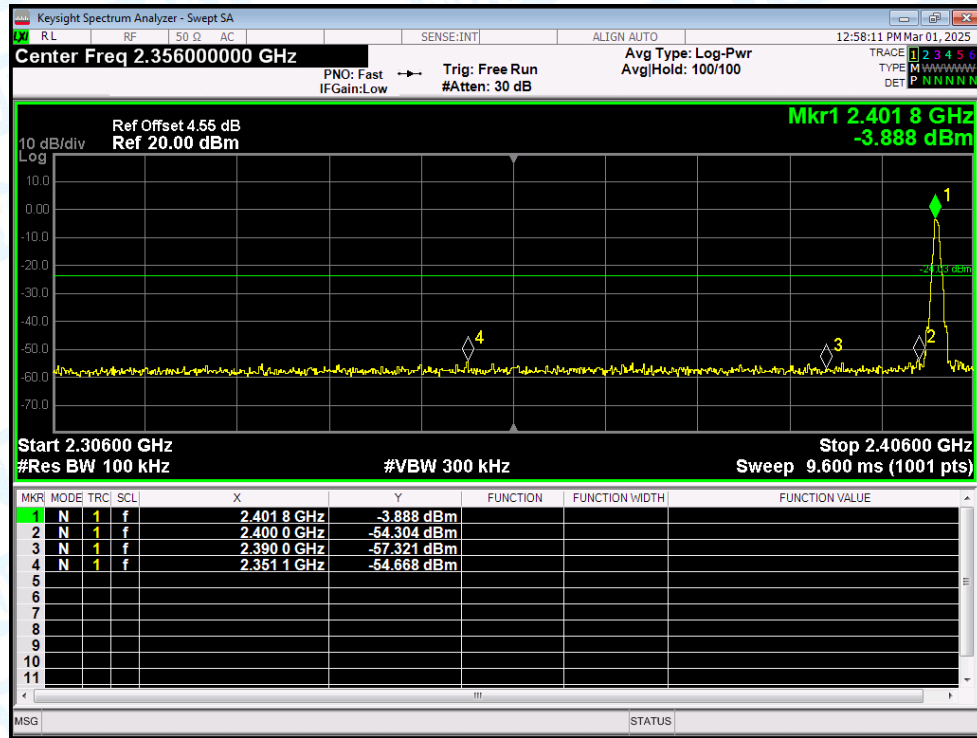
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-50.64	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-51.7	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-51.07	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-52.26	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-50.76	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-52.77	-20	Pass

Test Graphs

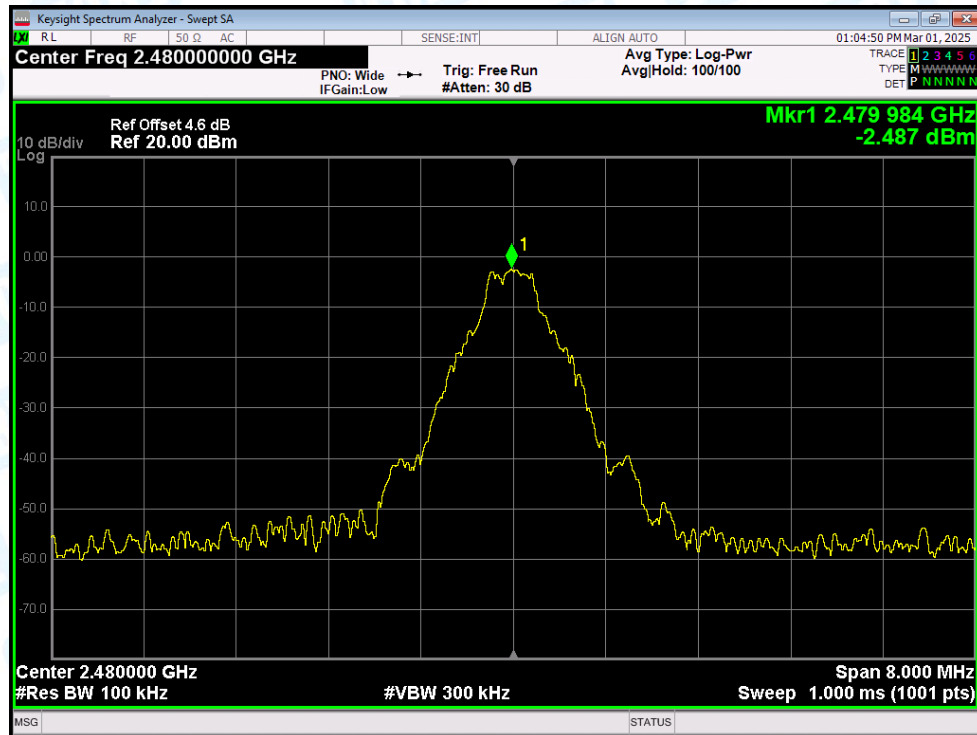
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



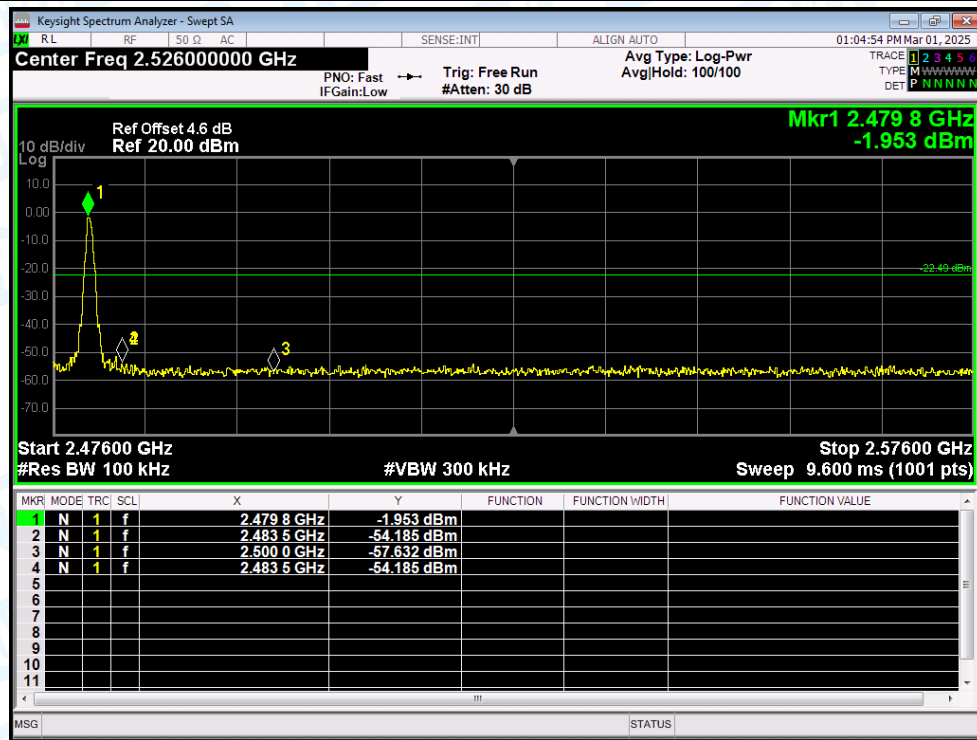
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

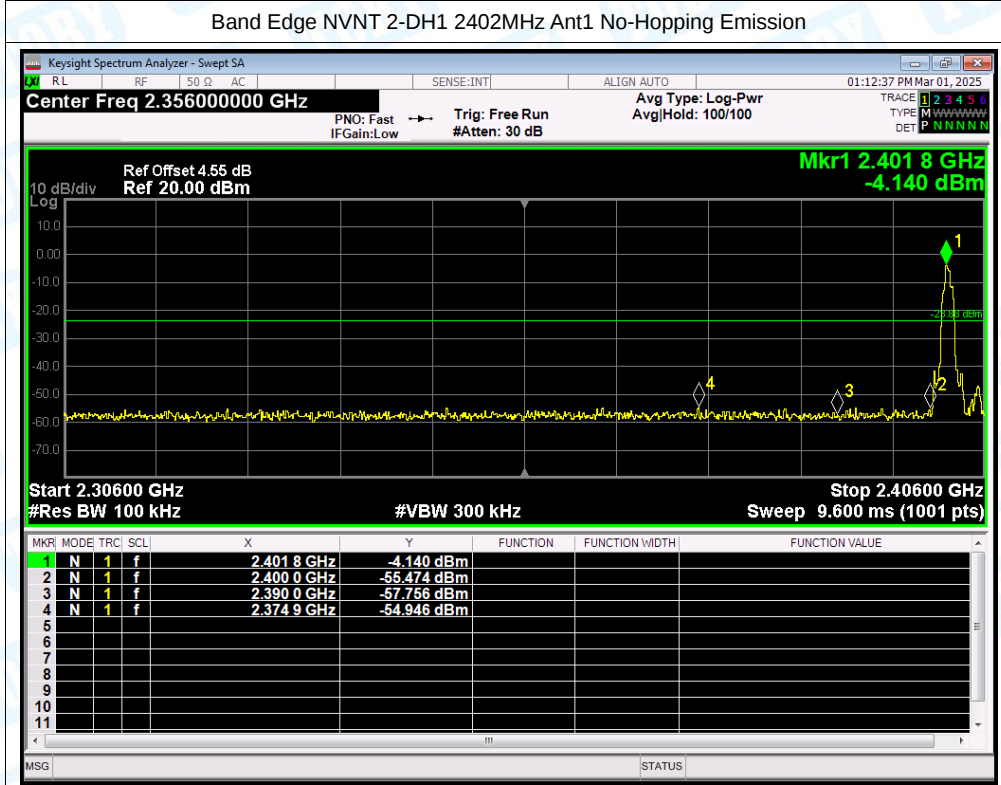
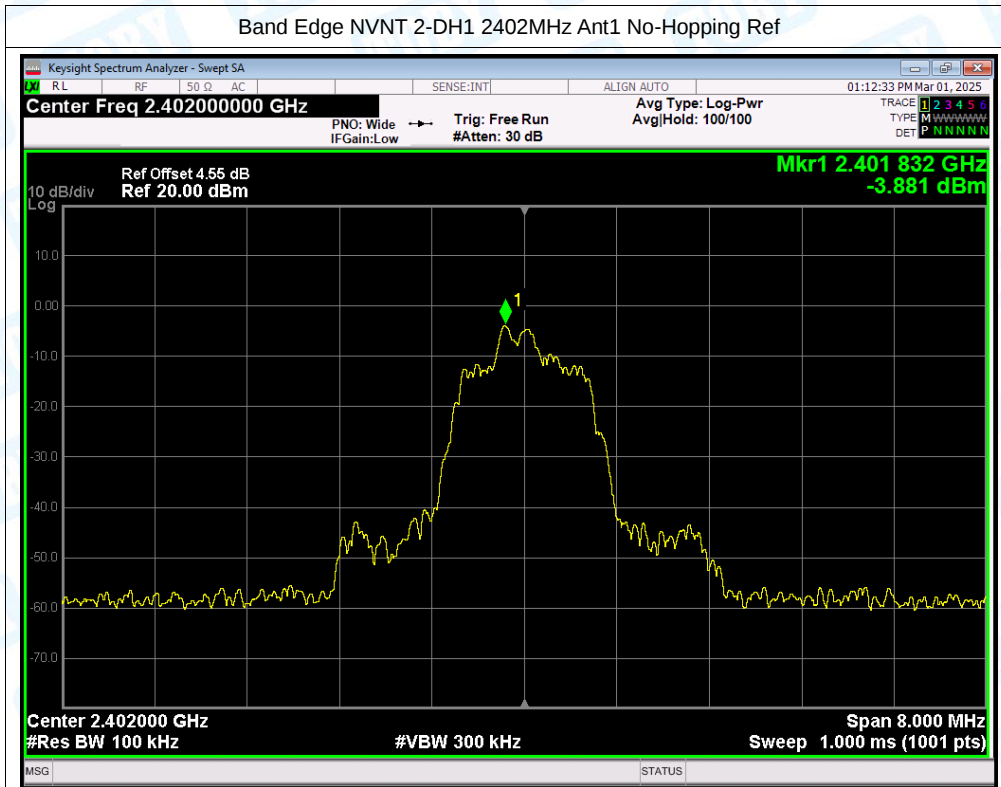


Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref

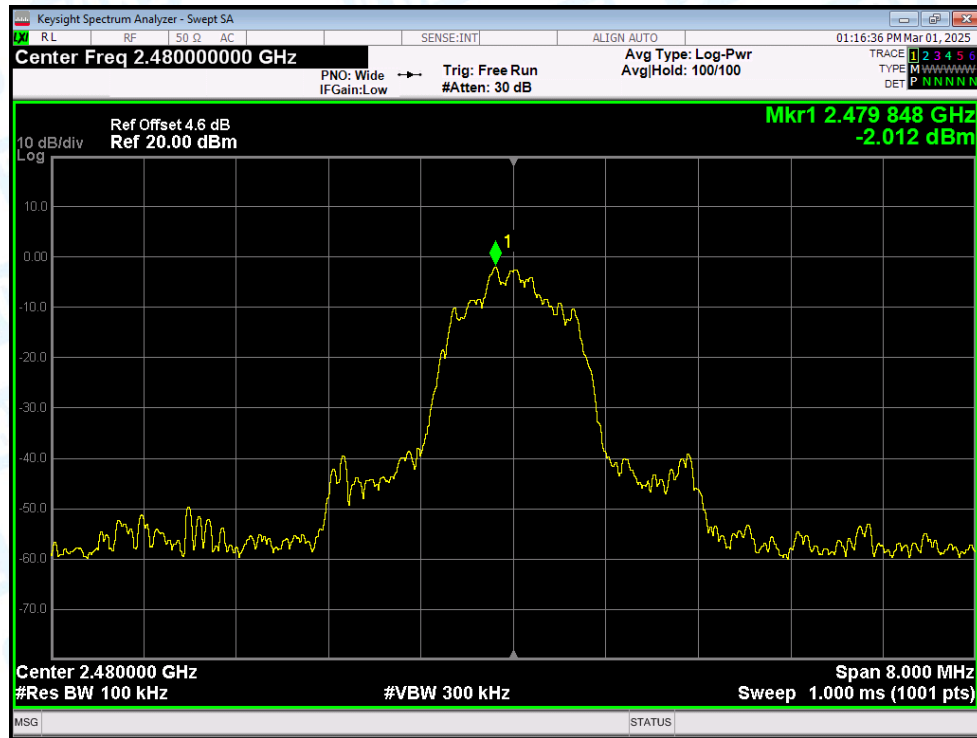


Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission

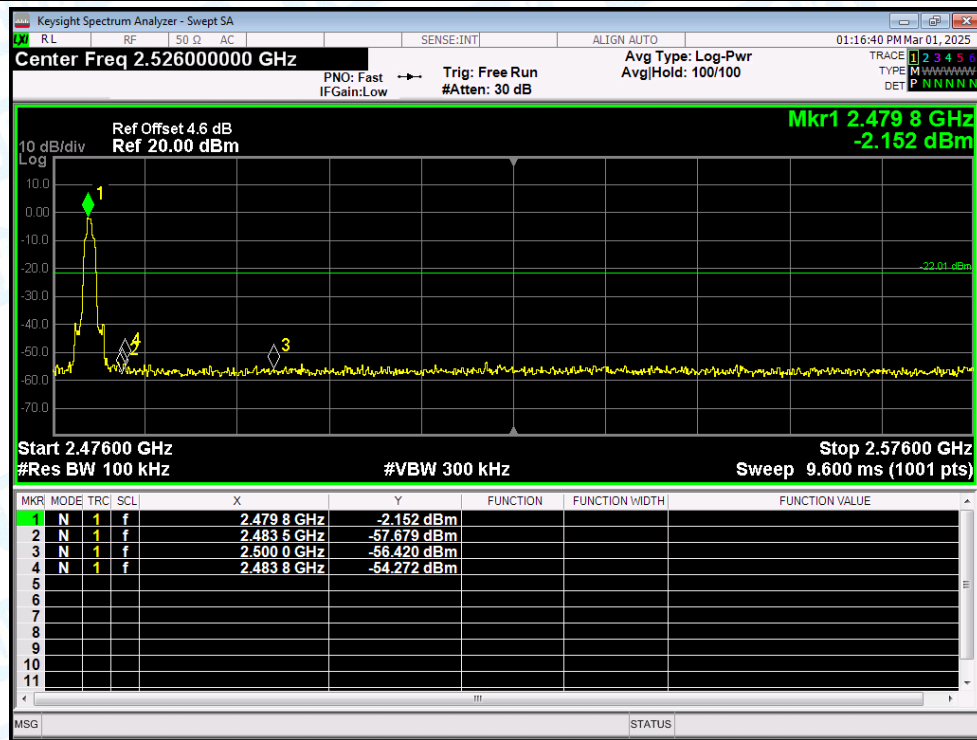




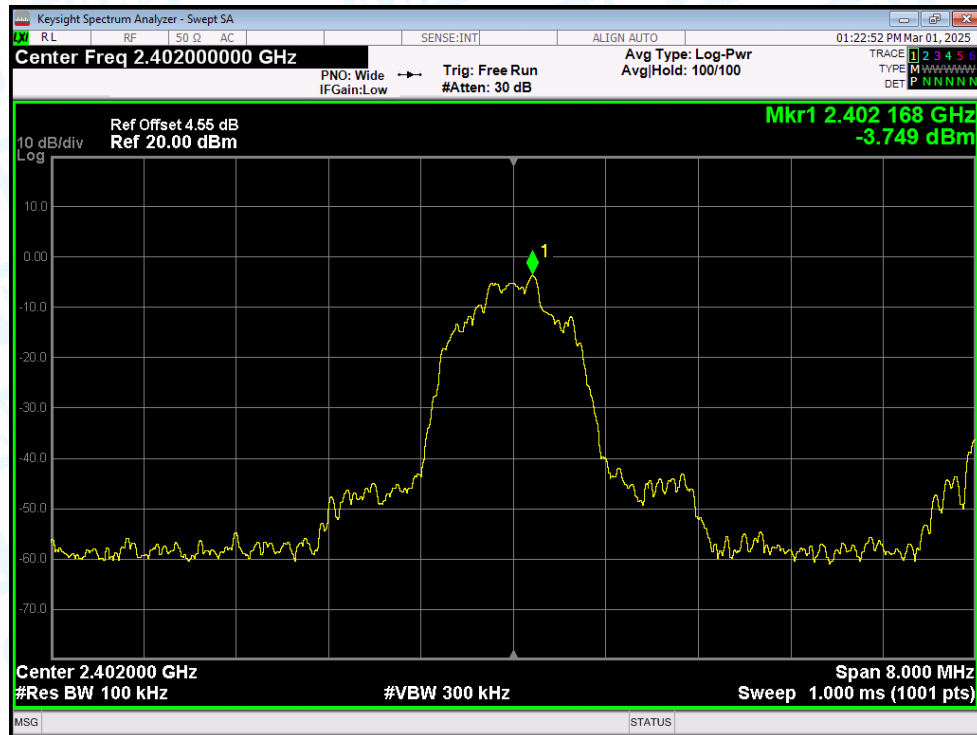
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



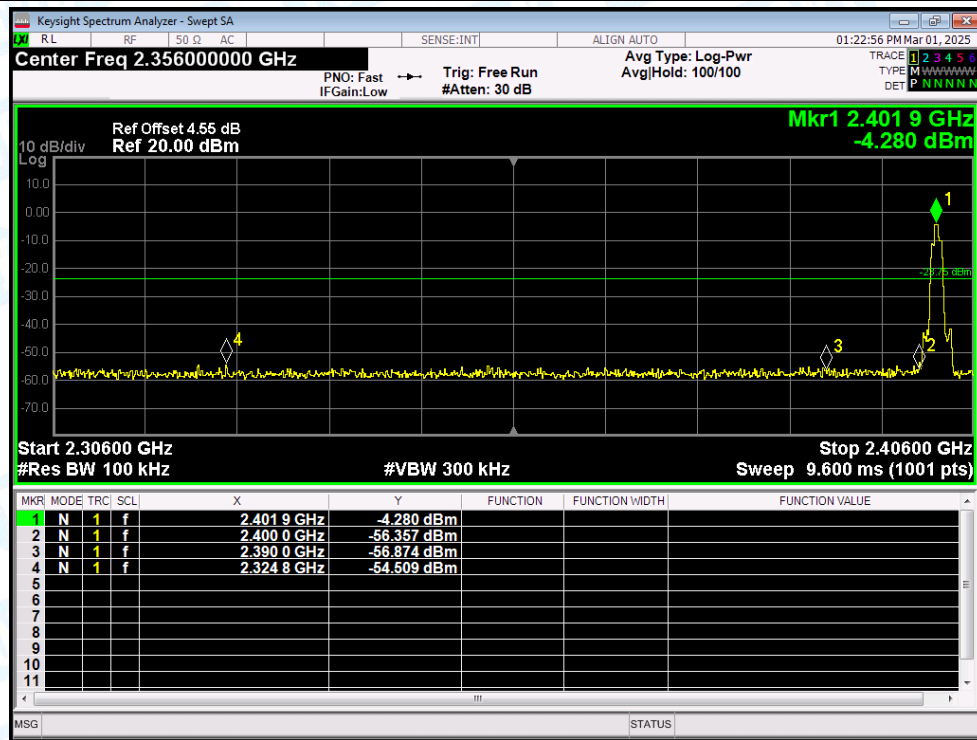
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



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



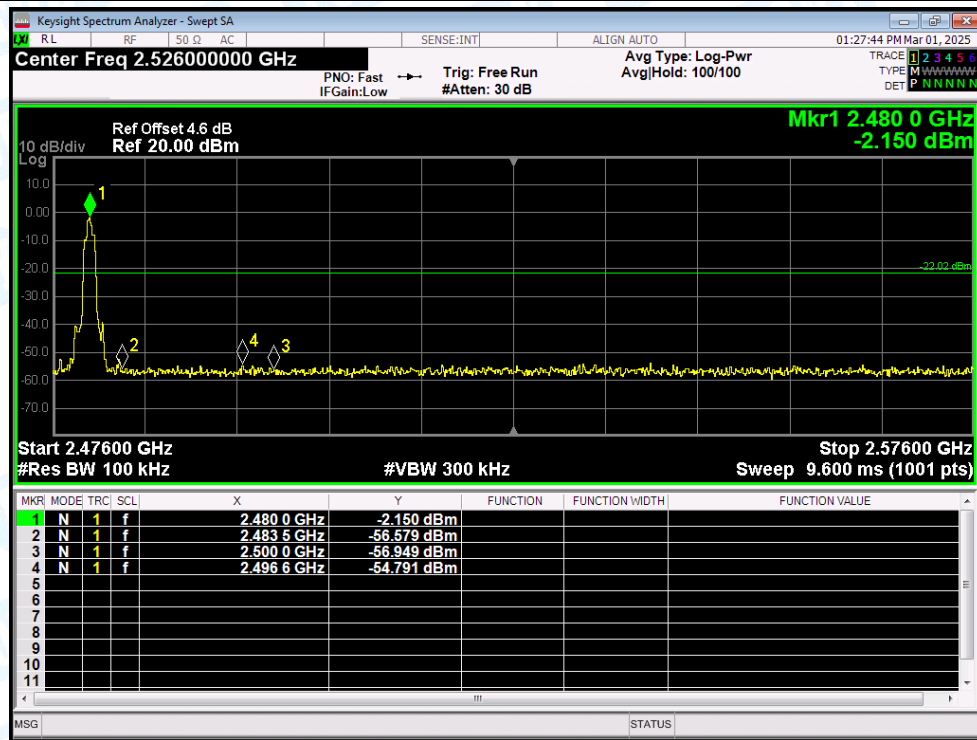
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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

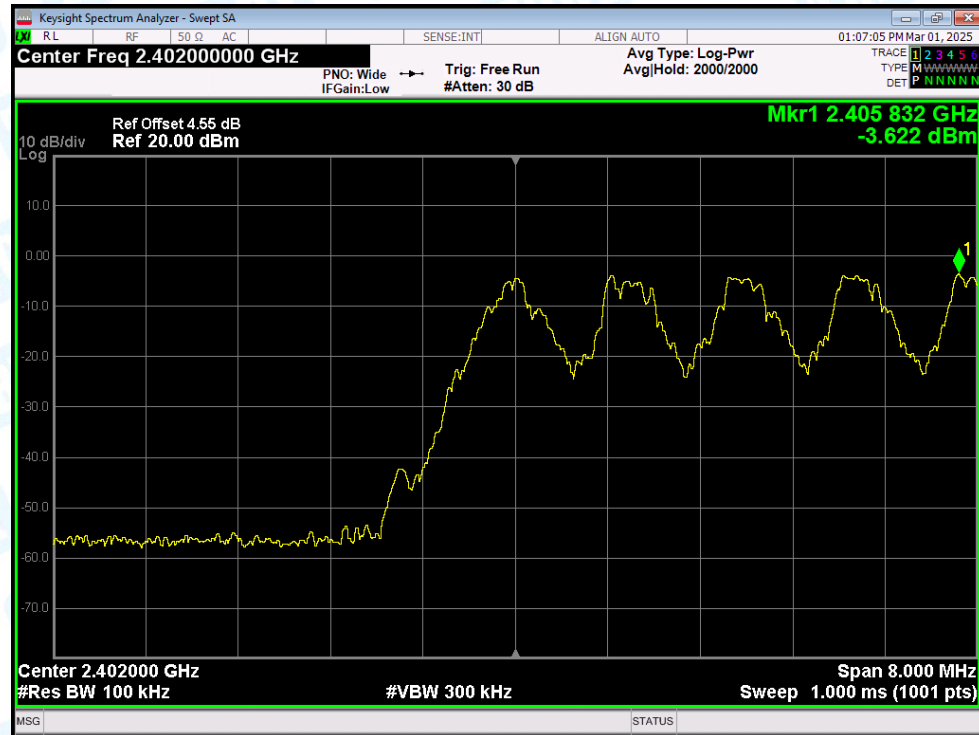


6. Band Edge(Hopping)

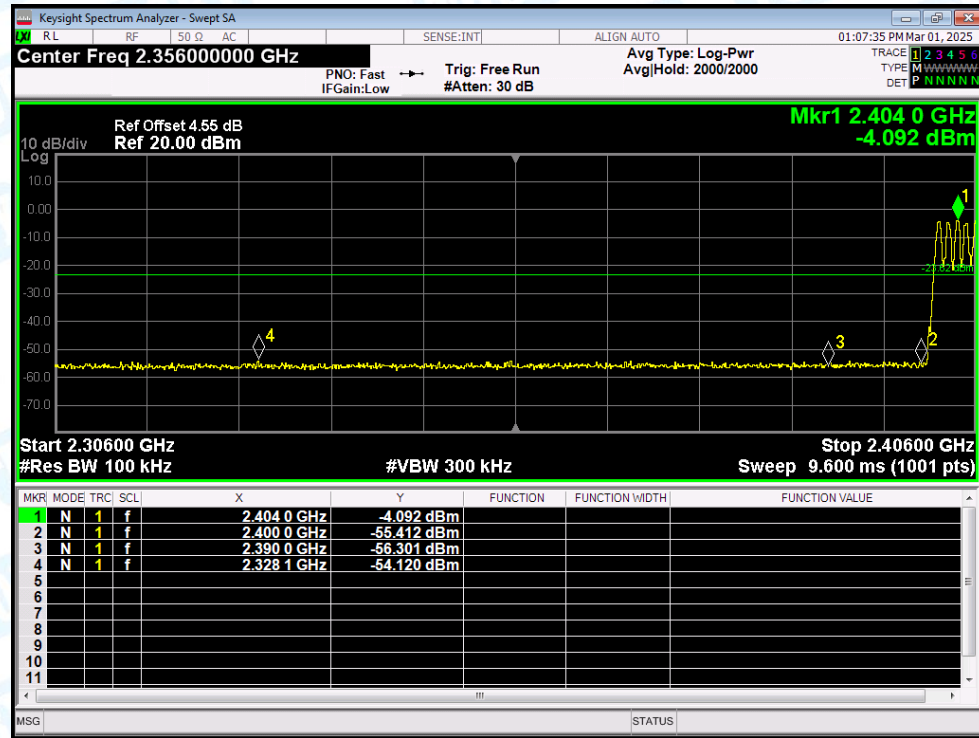
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-50.5	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-51.68	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-49.57	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-51.72	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-50.02	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-51.74	-20	Pass

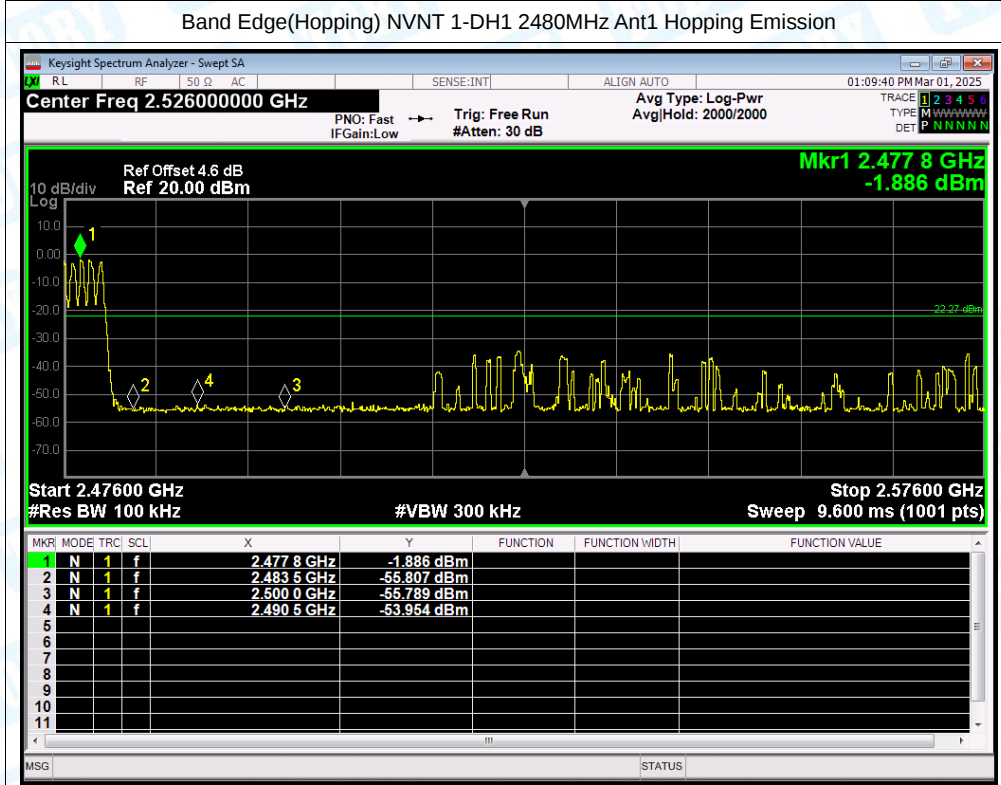
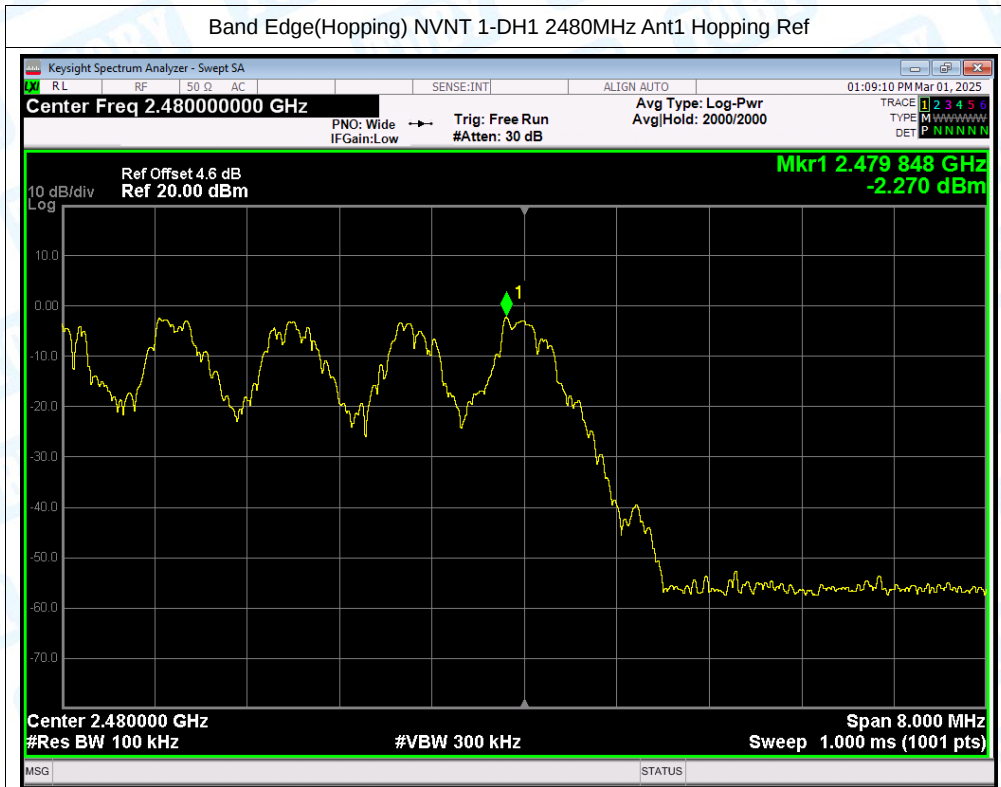
Test Graphs

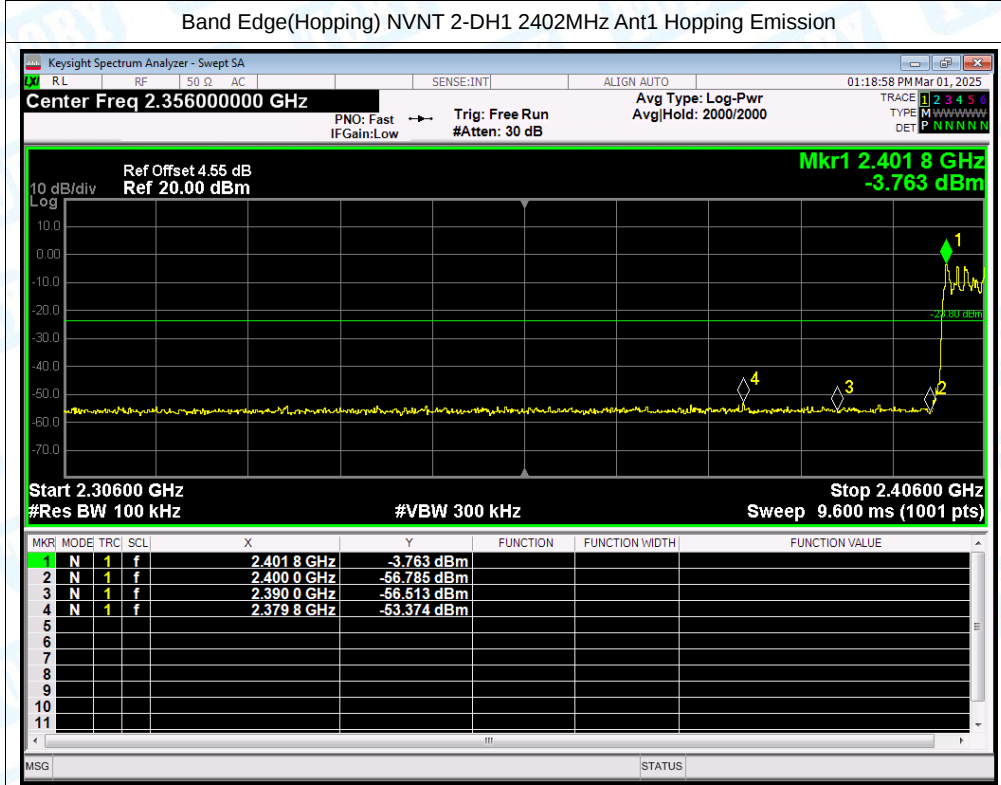
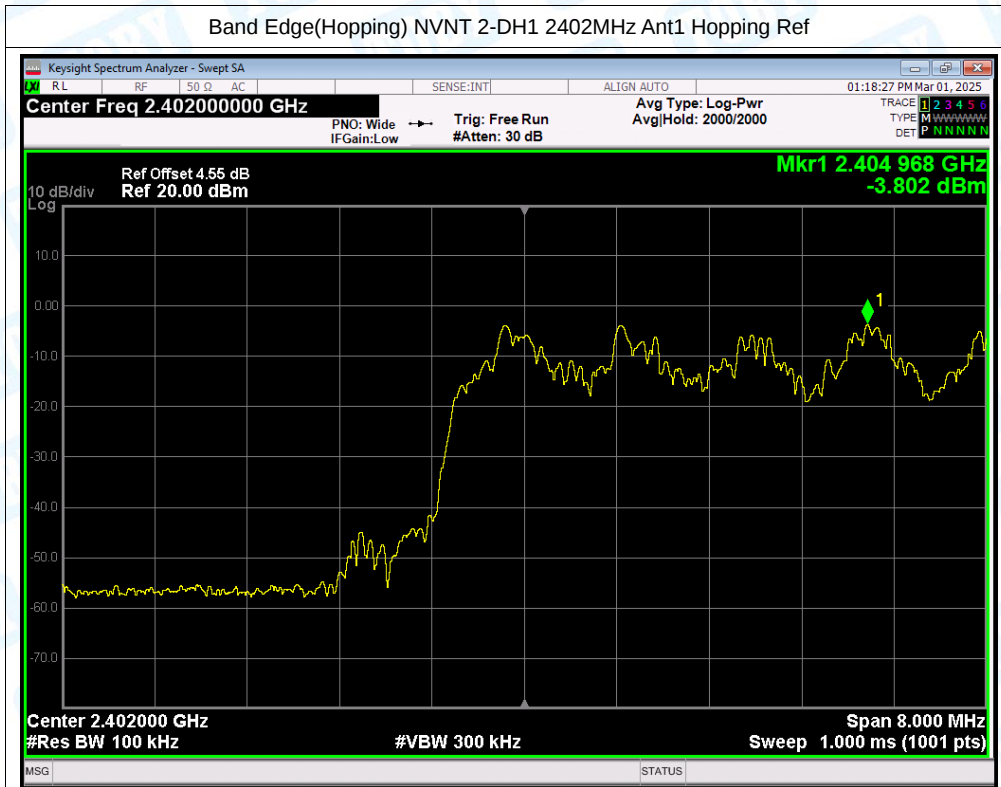
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

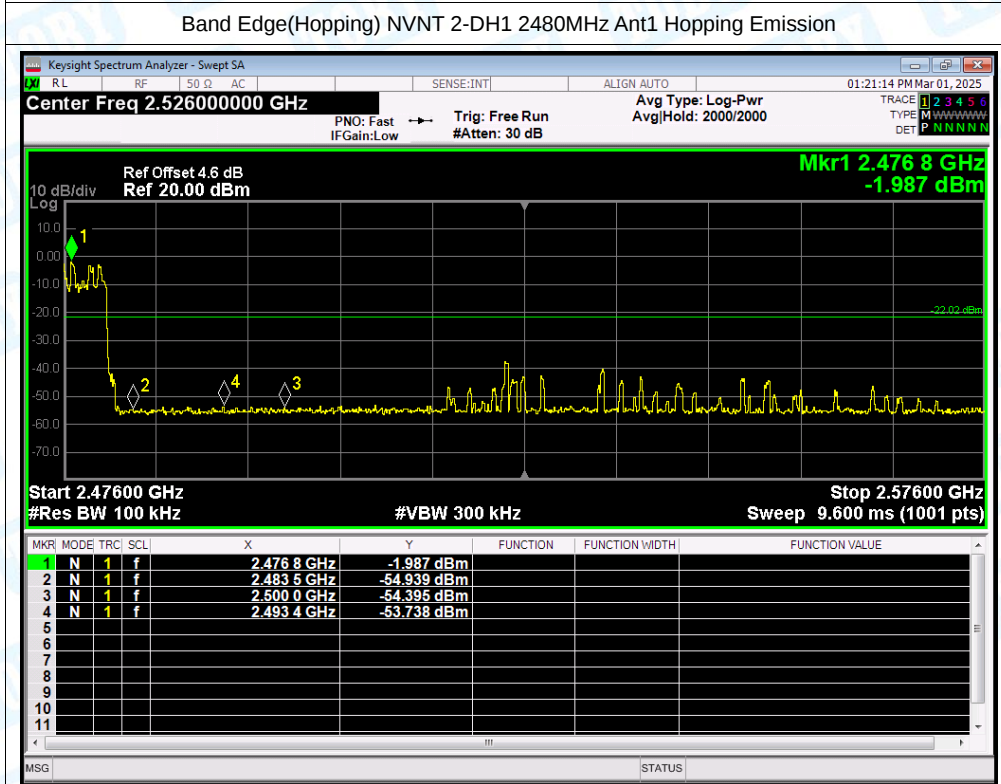


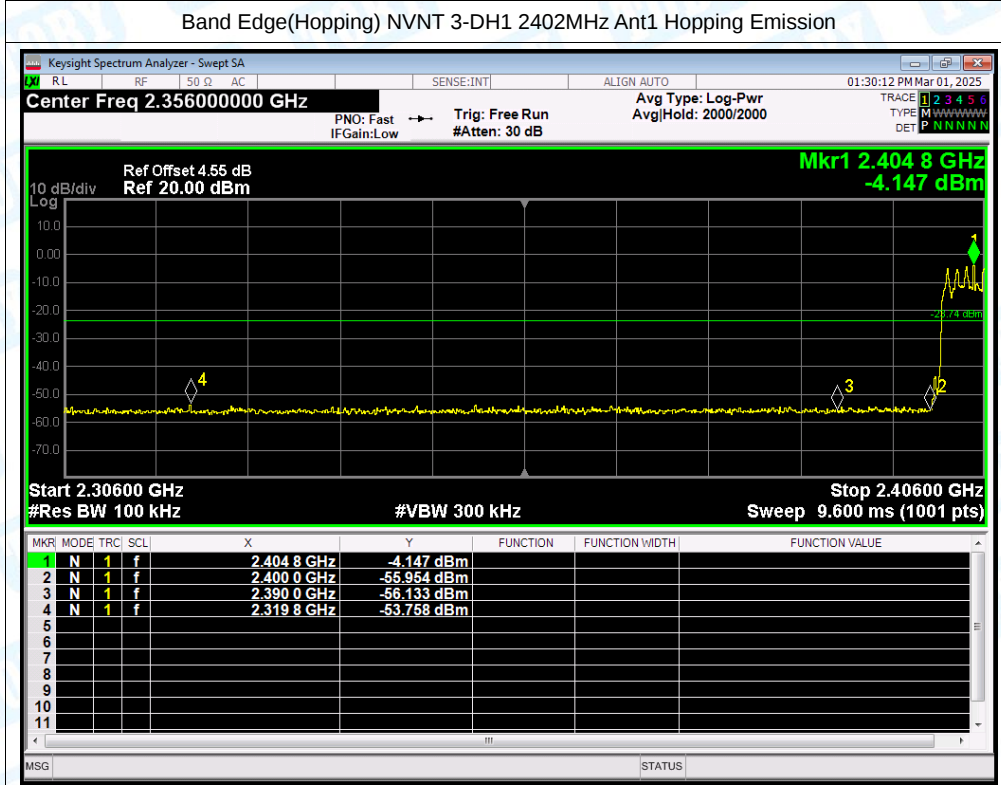
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

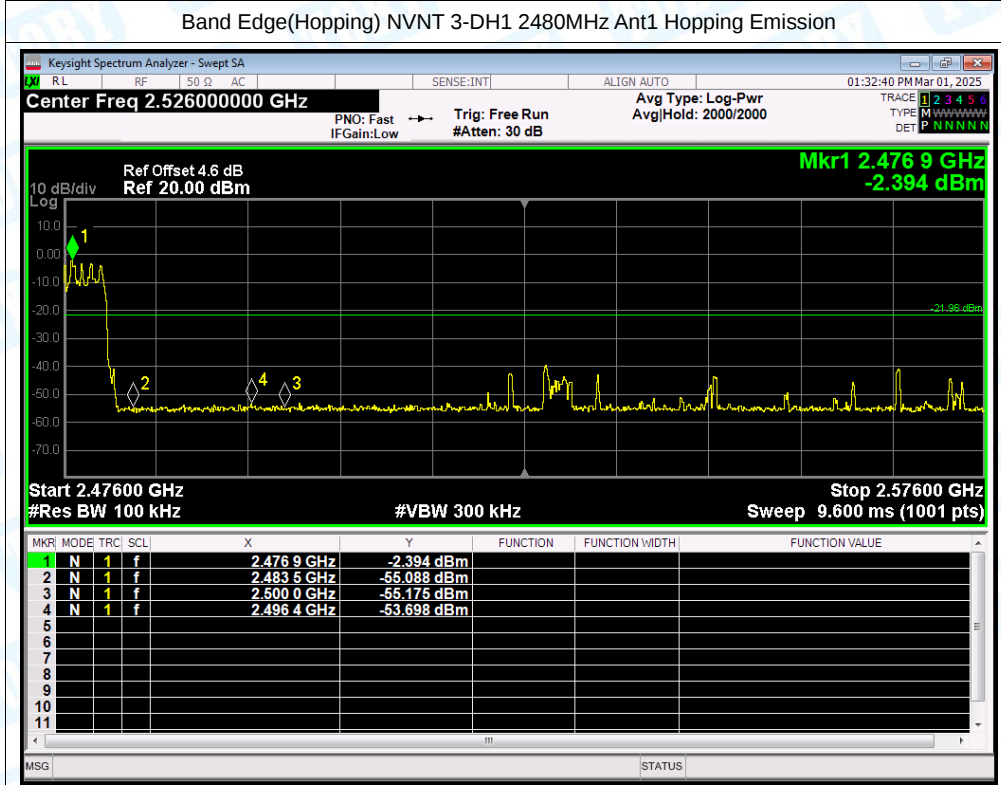










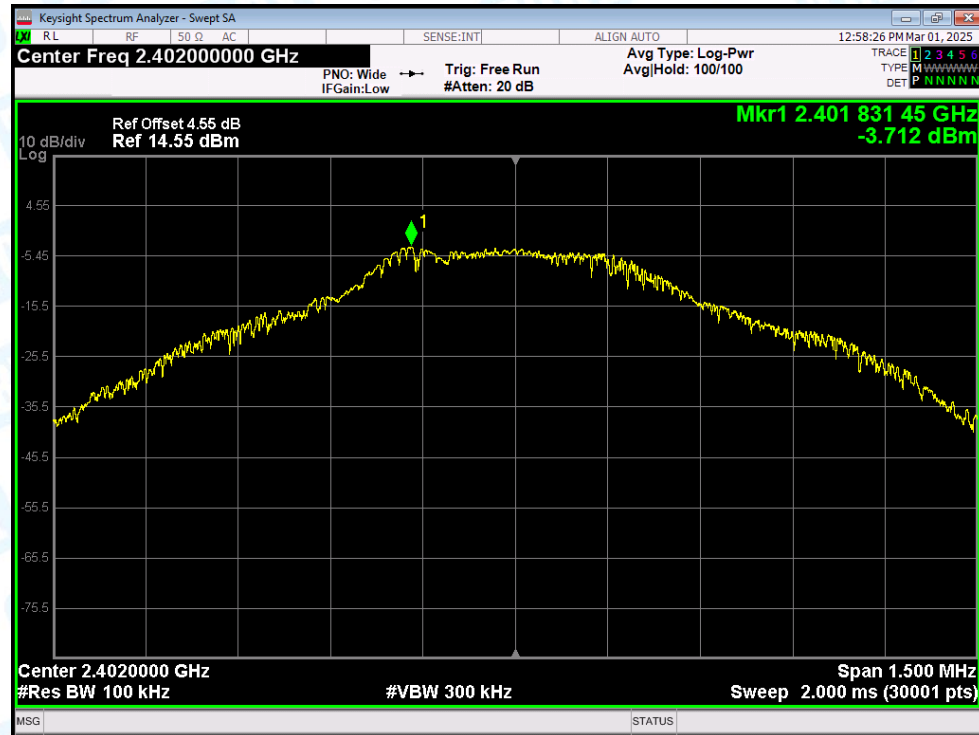


7. Conducted RF Spurious Emission

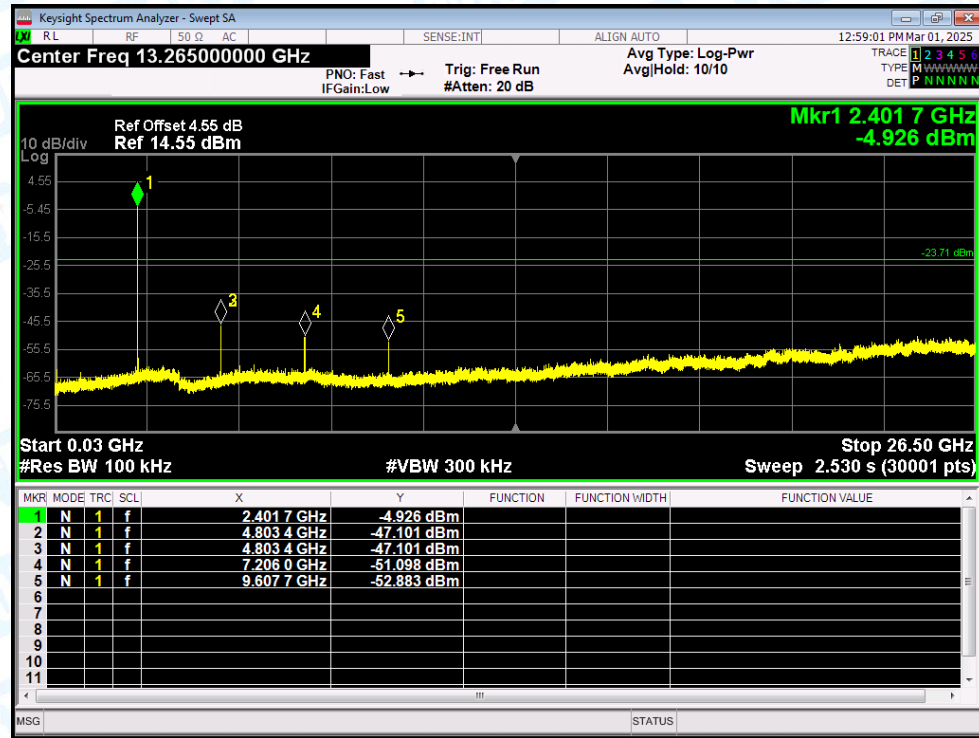
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-43.39	-20	Pass
NVNT	1-DH1	2441	Ant1	-38.35	-20	Pass
NVNT	1-DH1	2480	Ant1	-48.14	-20	Pass
NVNT	2-DH1	2402	Ant1	-43.92	-20	Pass
NVNT	2-DH1	2441	Ant1	-46.47	-20	Pass
NVNT	2-DH1	2480	Ant1	-49.43	-20	Pass
NVNT	3-DH1	2402	Ant1	-38.93	-20	Pass
NVNT	3-DH1	2441	Ant1	-47.08	-20	Pass
NVNT	3-DH1	2480	Ant1	-47.12	-20	Pass

Test Graphs

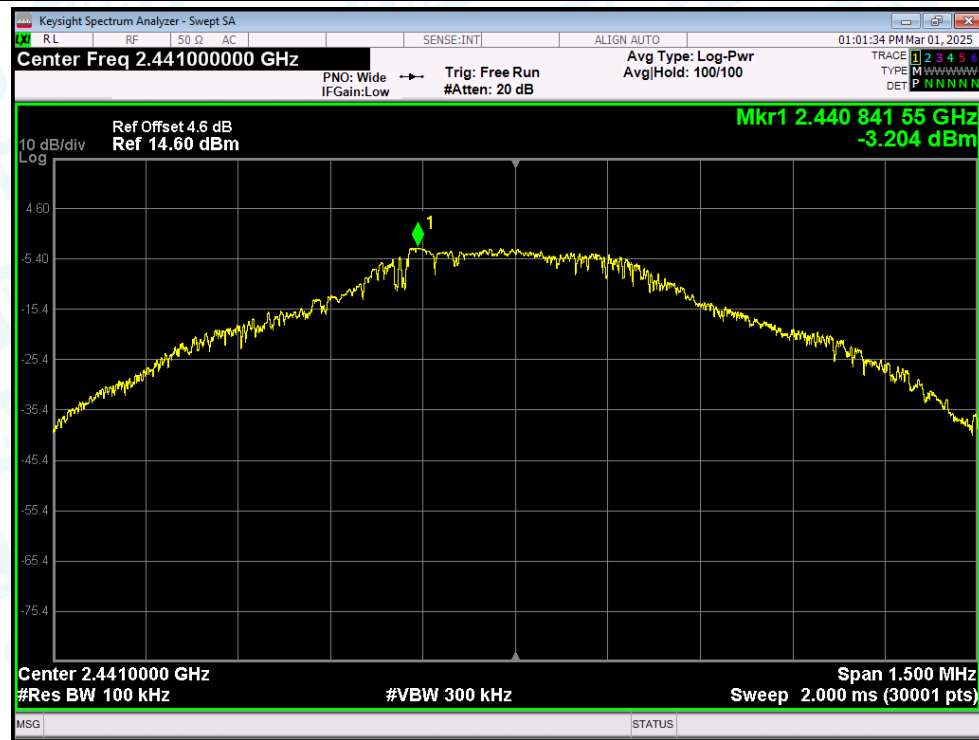
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



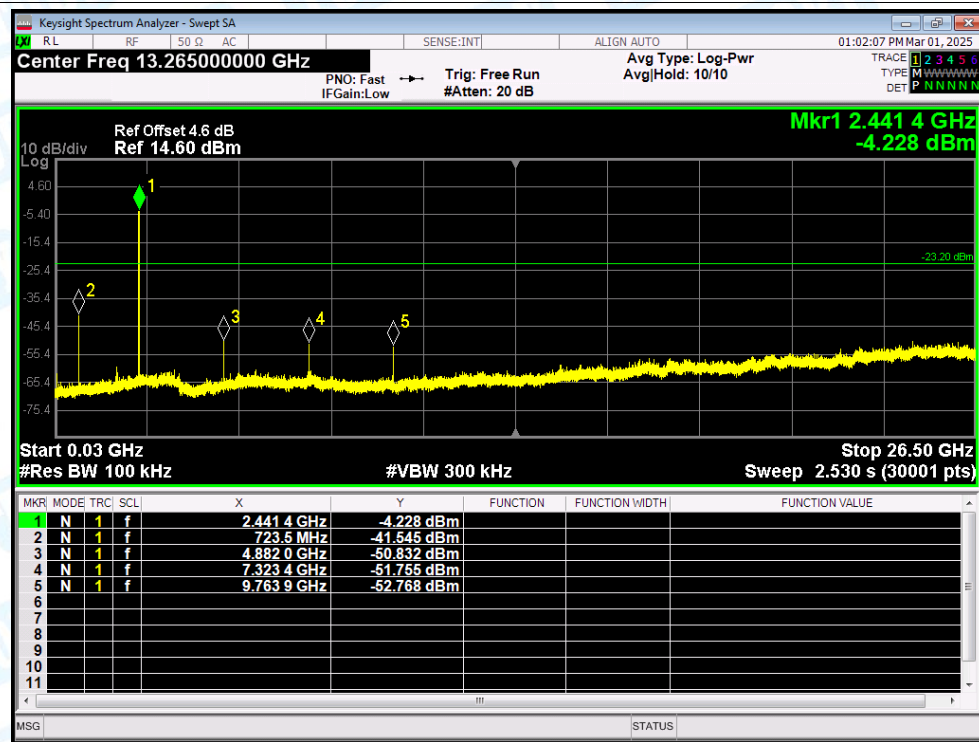
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



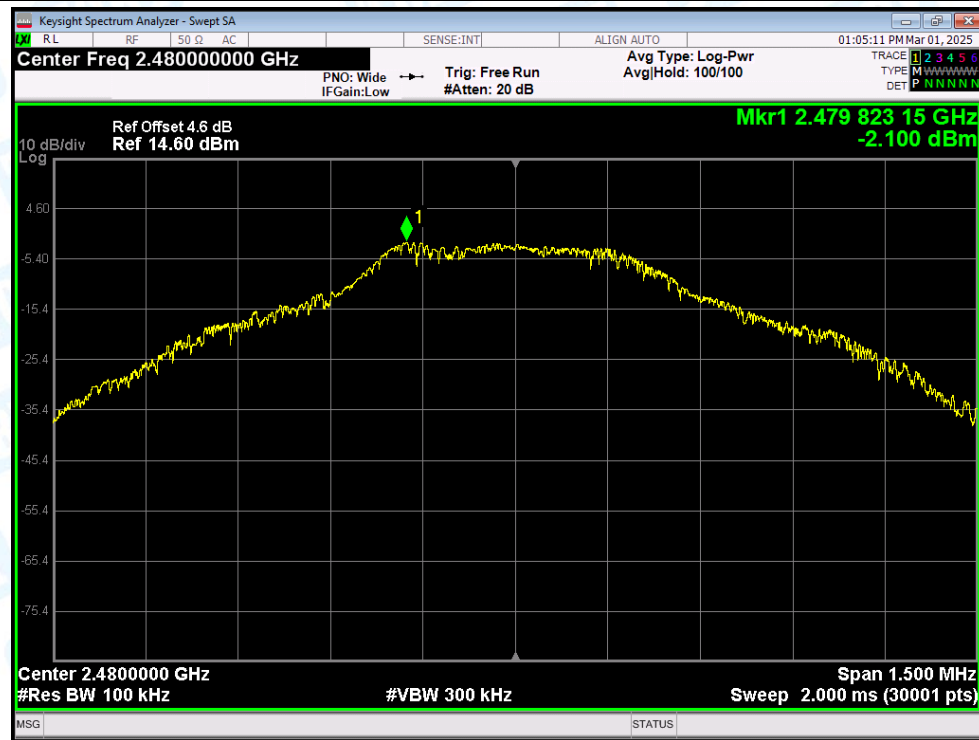
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



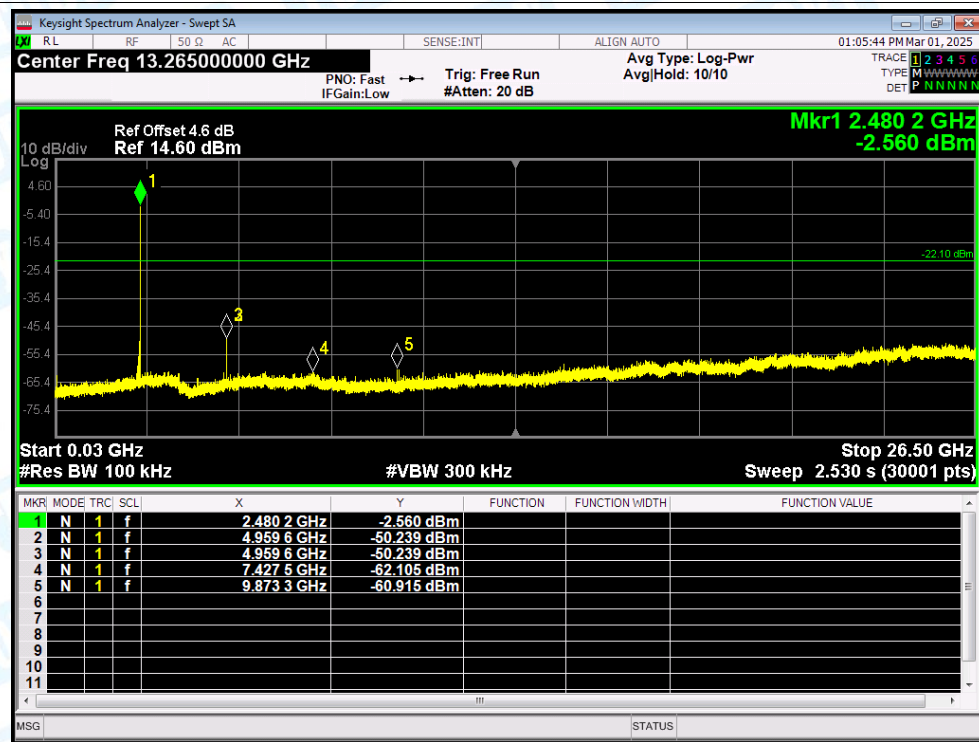
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



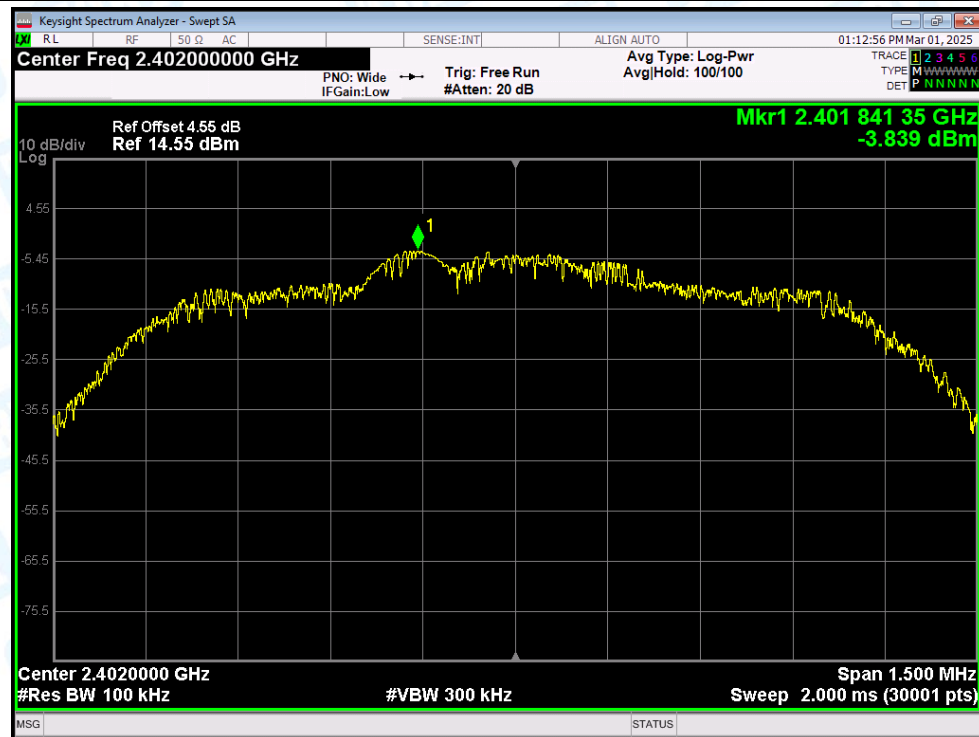
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



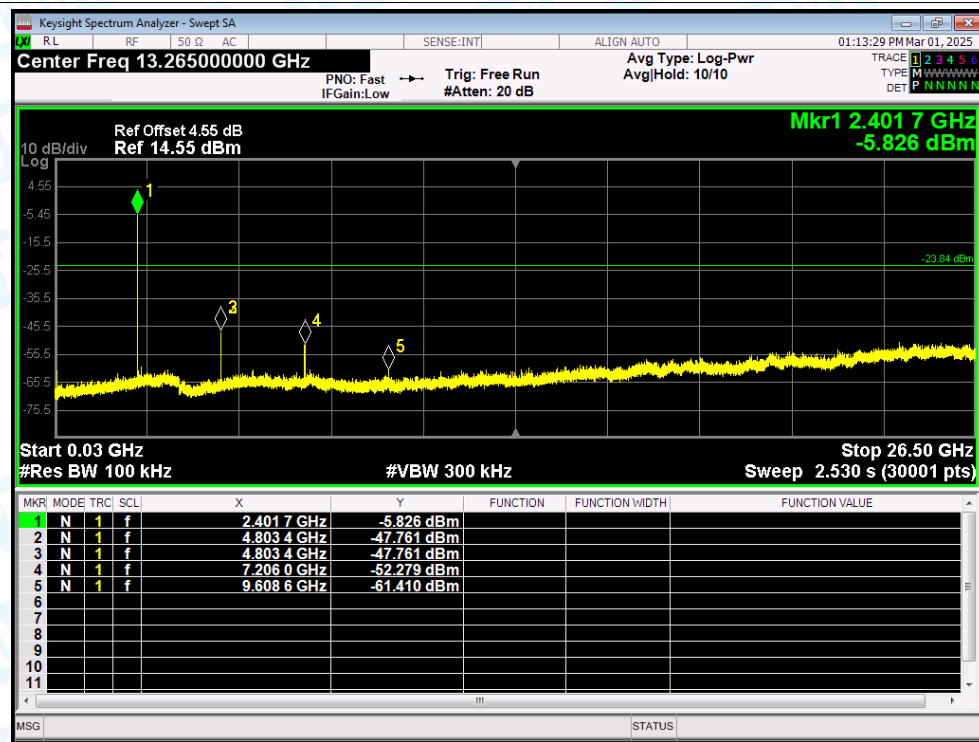
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



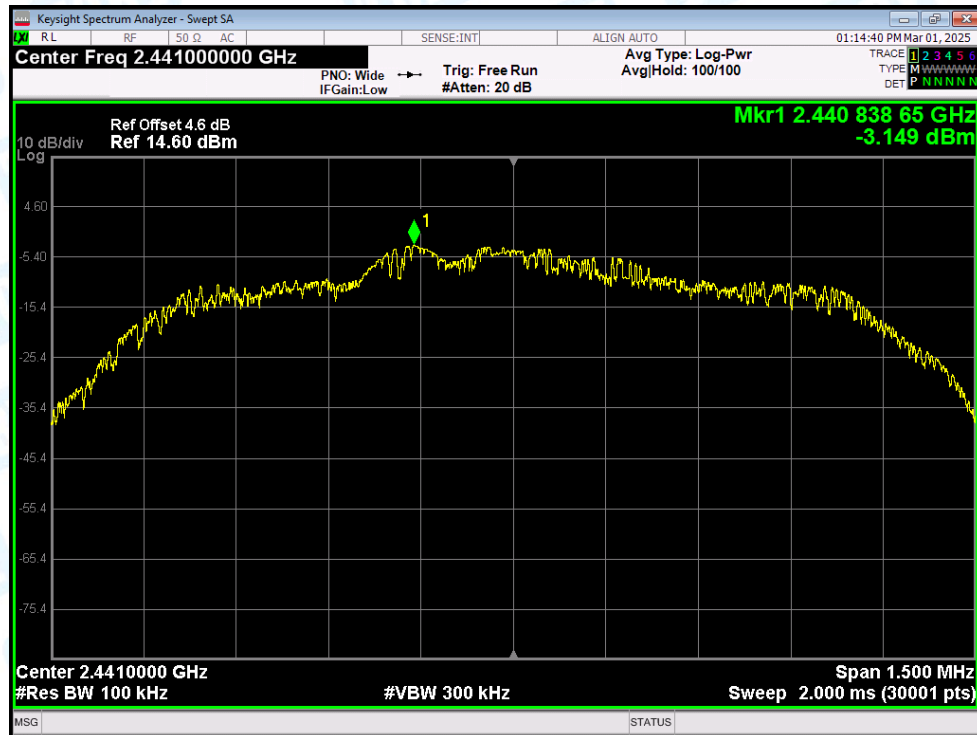
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



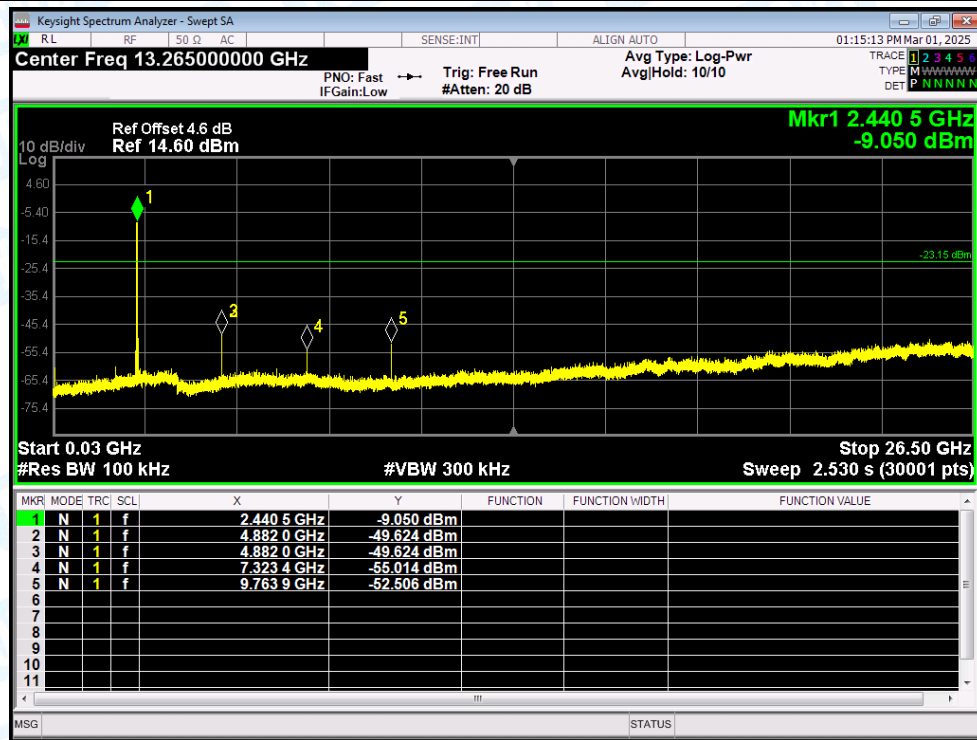
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



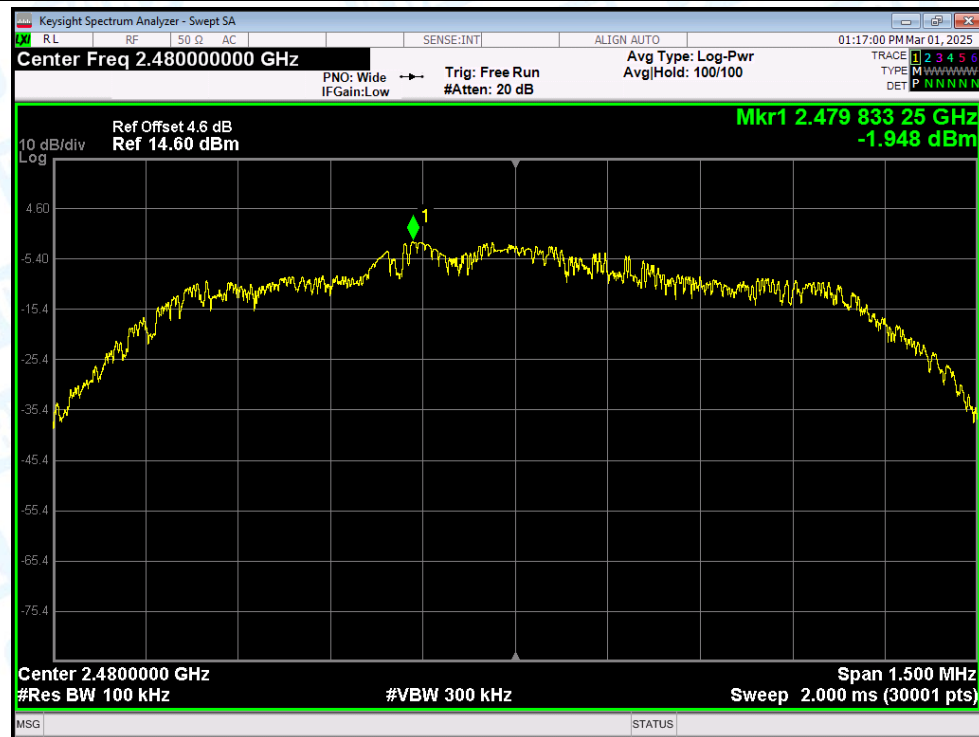
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



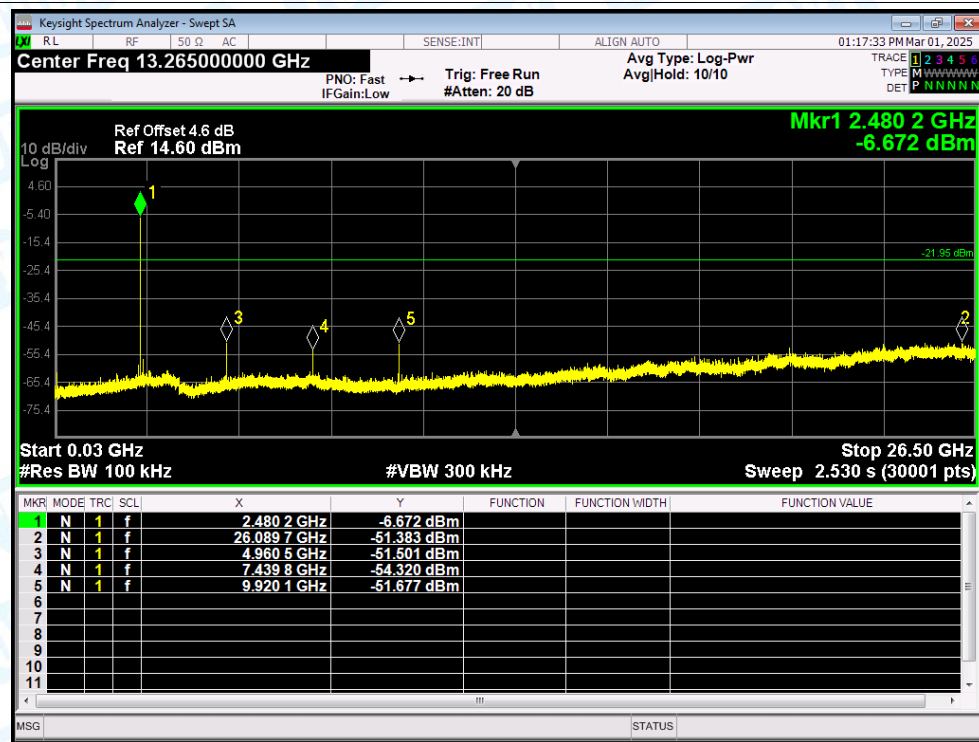
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



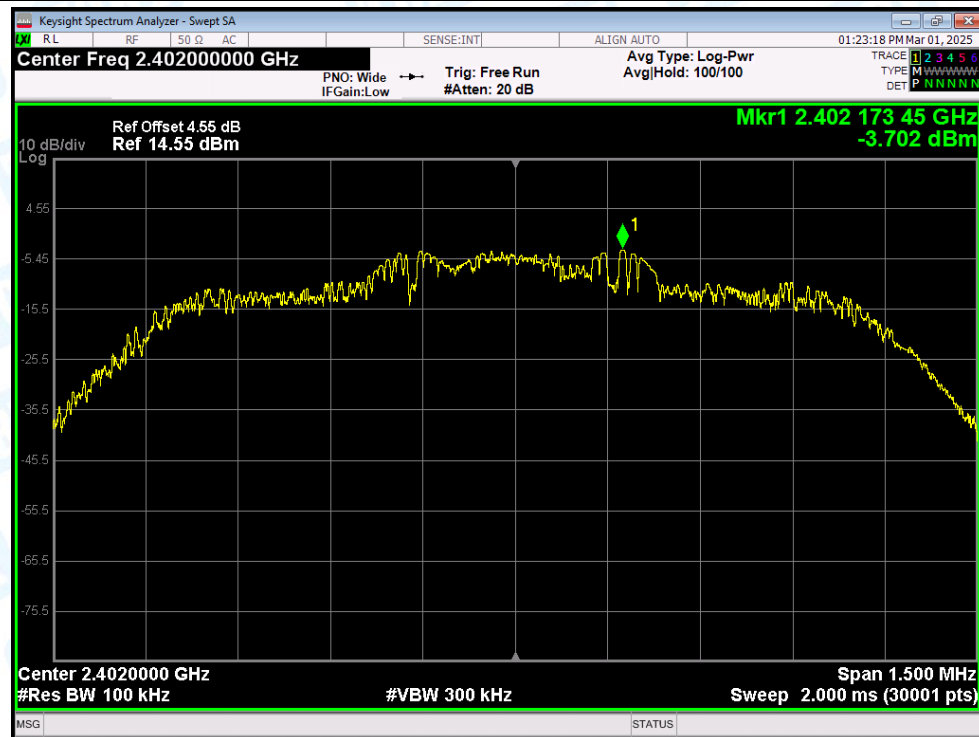
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



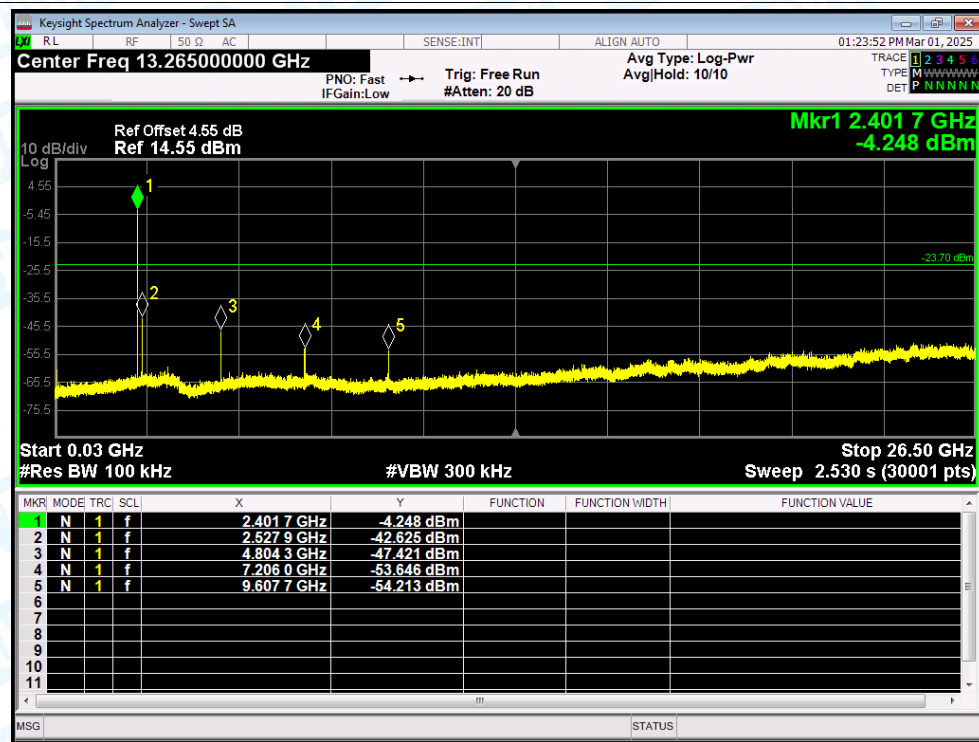
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



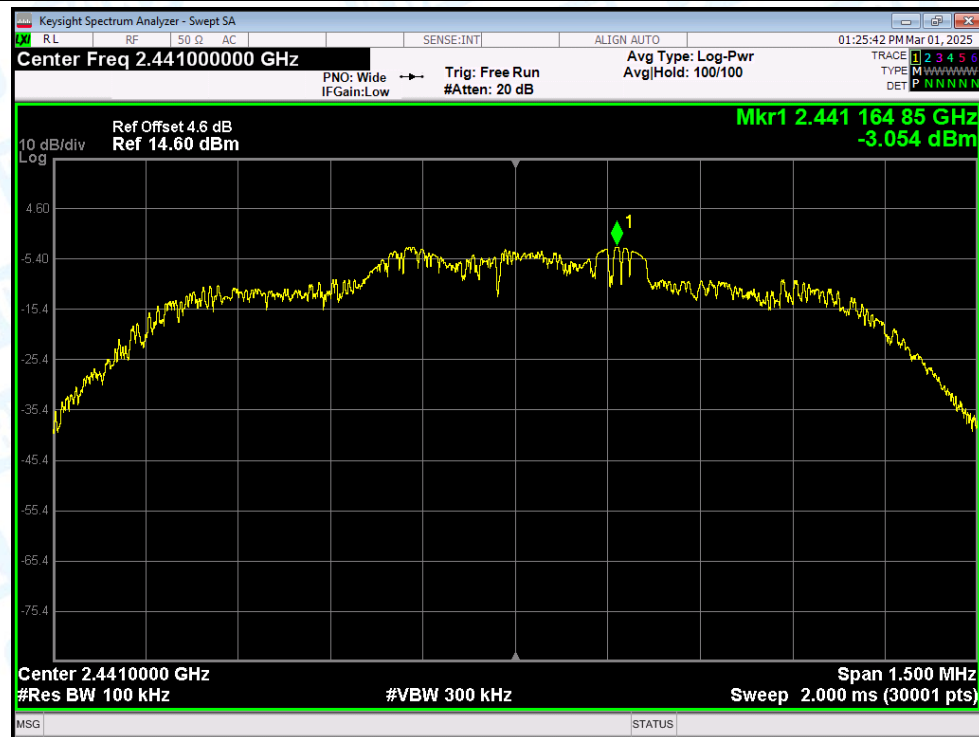
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



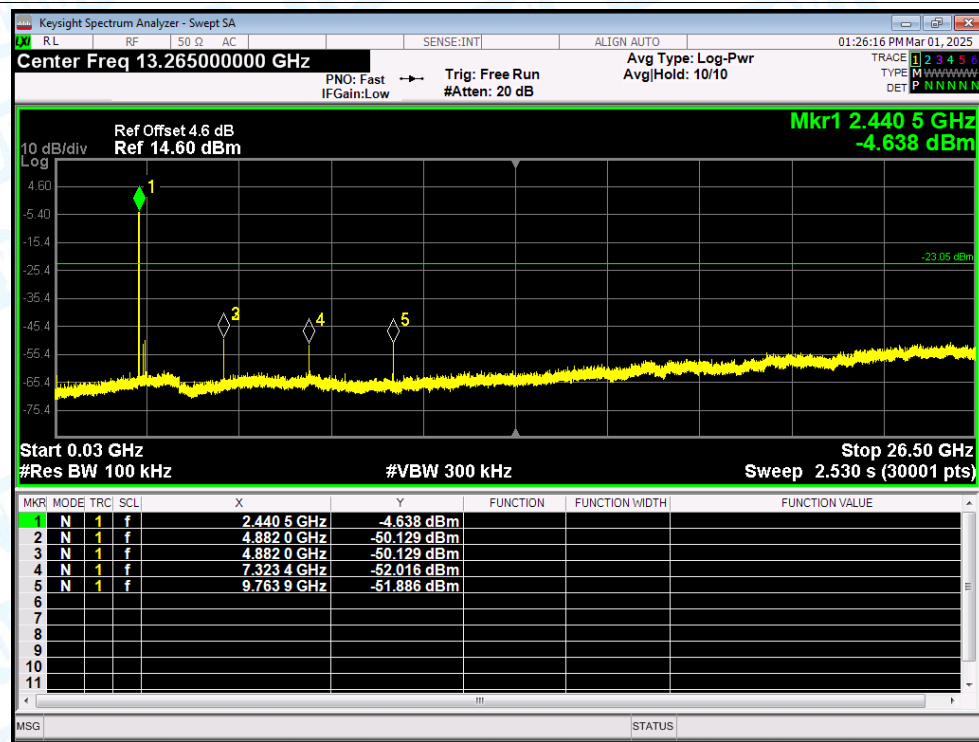
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



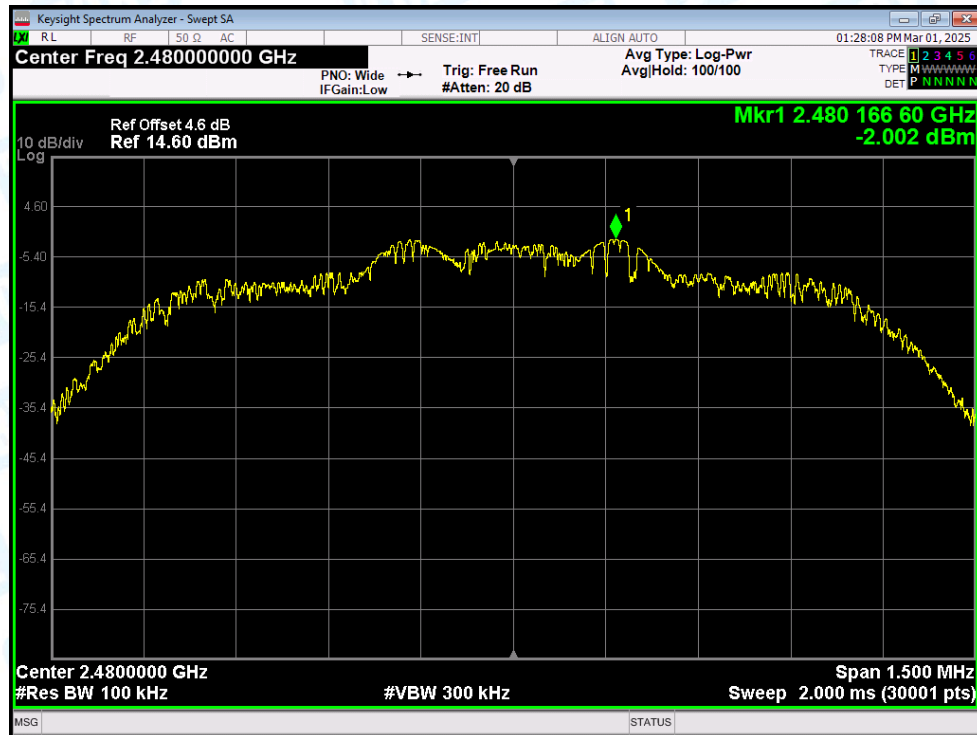
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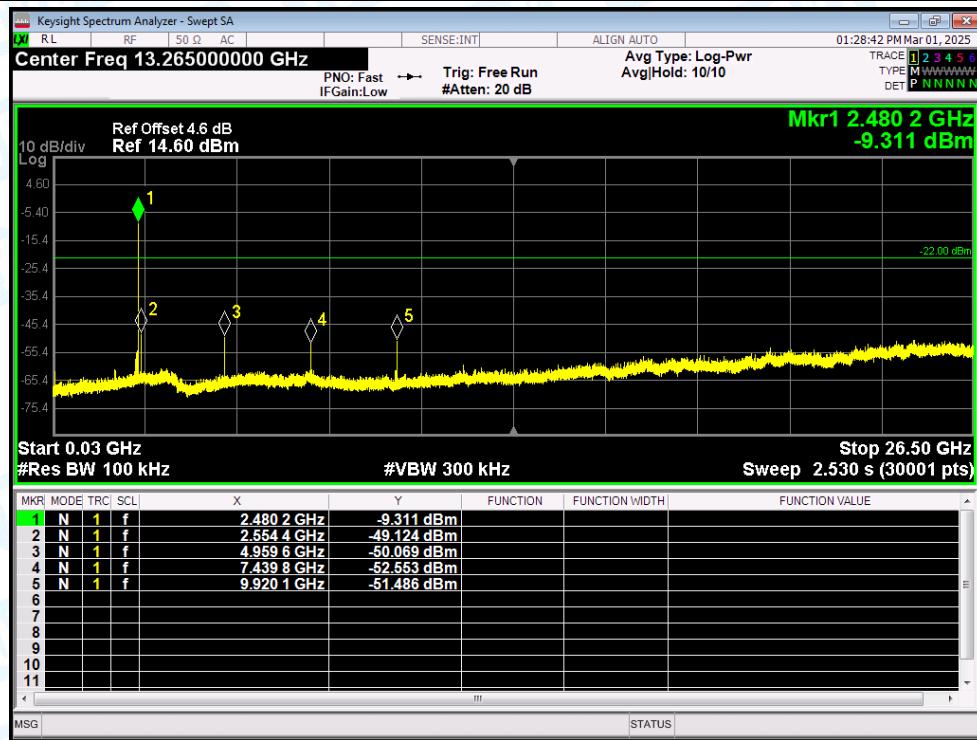
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

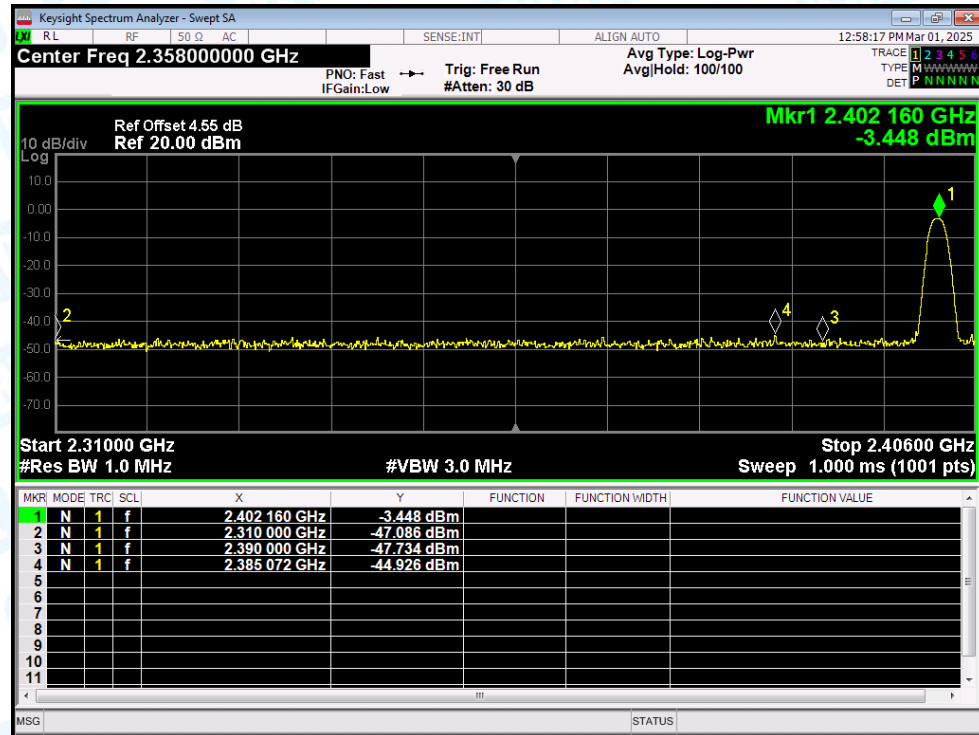


8.Restrict Band

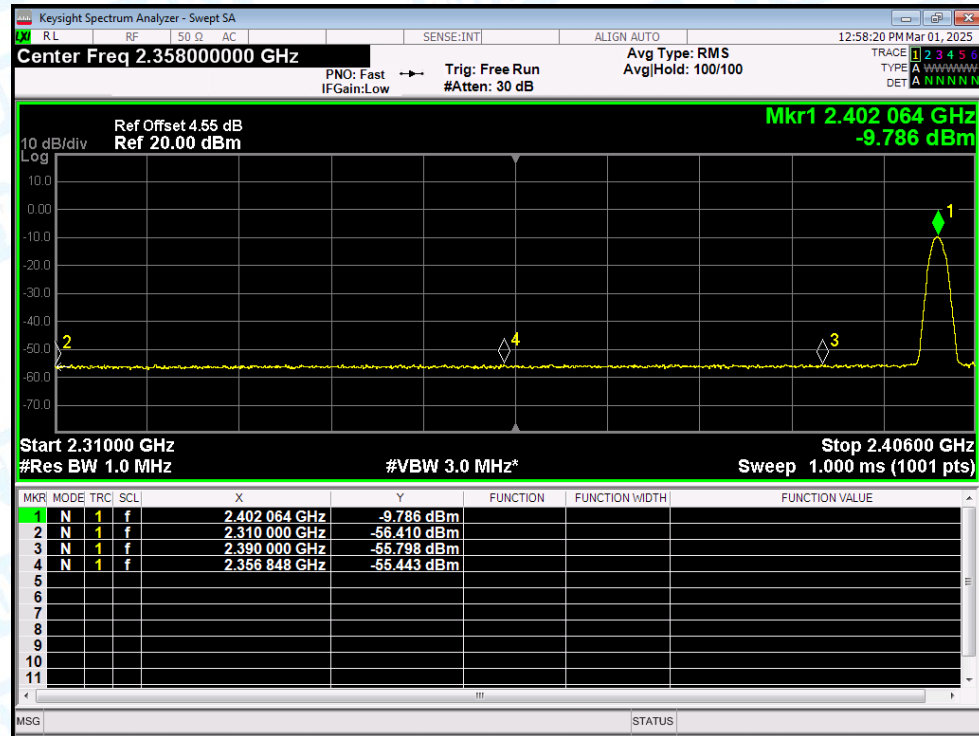
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.09	2.81	-	50.98	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.41	2.81	5.17	46.83	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2385.072	-44.93	2.81	-	53.14	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2356.848	-55.44	2.81	5.17	47.8	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-47.73	2.81	-	50.34	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.8	2.81	5.17	47.44	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-46.6	2.81	-	51.47	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.98	2.81	5.29	48.38	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2499.184	-44.5	2.81	-	53.57	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.632	-54.6	2.81	5.29	48.76	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-48.57	2.81	-	49.5	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.61	2.81	5.29	47.75	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.76	2.81	-	49.31	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-55.99	2.81	5.17	47.25	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2355.216	-45.05	2.81	-	53.02	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2383.152	-55.4	2.81	5.17	47.84	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-48.29	2.81	-	49.78	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-56.39	2.81	5.17	46.85	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-46.55	2.81	-	51.52	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.42	2.81	5.06	47.71	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2499.856	-44.41	2.81	-	53.66	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2495.296	-54.72	2.81	5.06	48.41	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-48.97	2.81	-	49.1	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.51	2.81	5.06	47.62	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.15	2.81	-	49.92	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.3	2.81	5.17	46.94	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2324.208	-44.97	2.81	-	53.1	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2378.736	-55.26	2.81	5.17	47.98	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-48.37	2.81	-	49.7	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.99	2.81	5.17	47.25	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-46.25	2.81	-	51.82	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-55.81	2.81	5.17	47.43	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2492.08	-44.04	2.81	-	54.03	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2494.024	-54.78	2.81	5.17	48.46	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-48.03	2.81	-	50.04	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-56.05	2.81	5.17	47.19	Average	54	Pass

Test Graphs

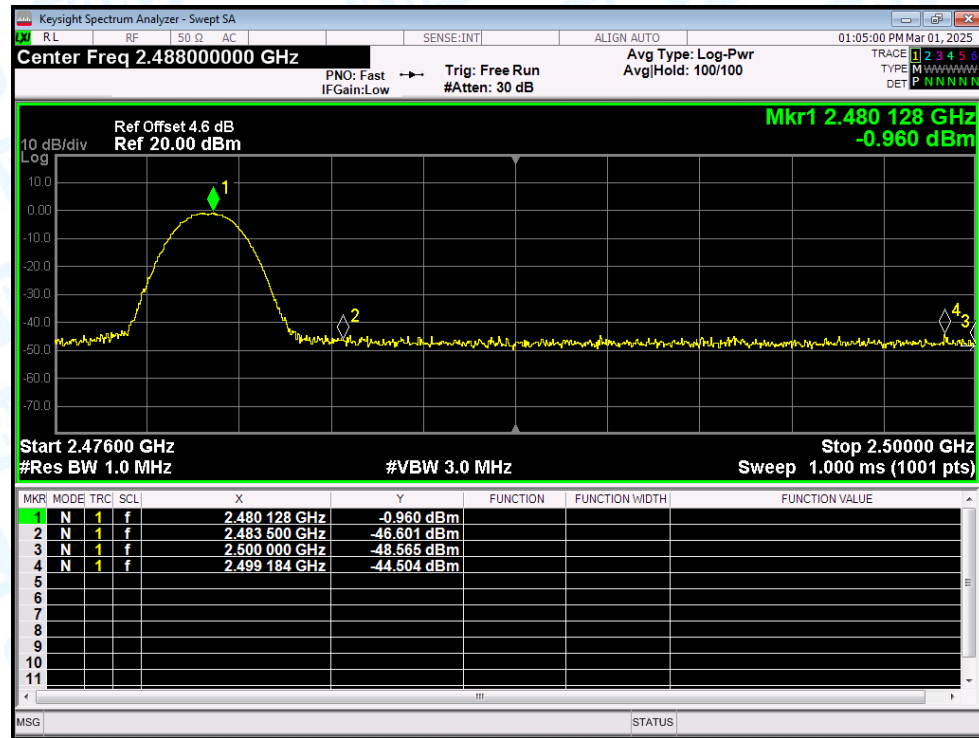
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



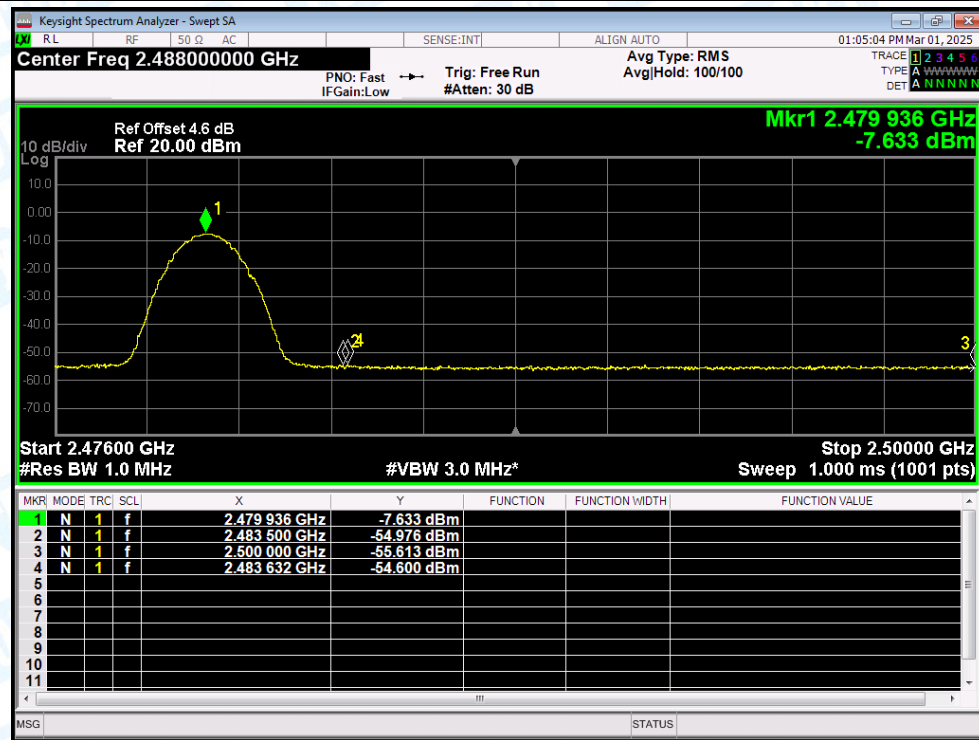
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



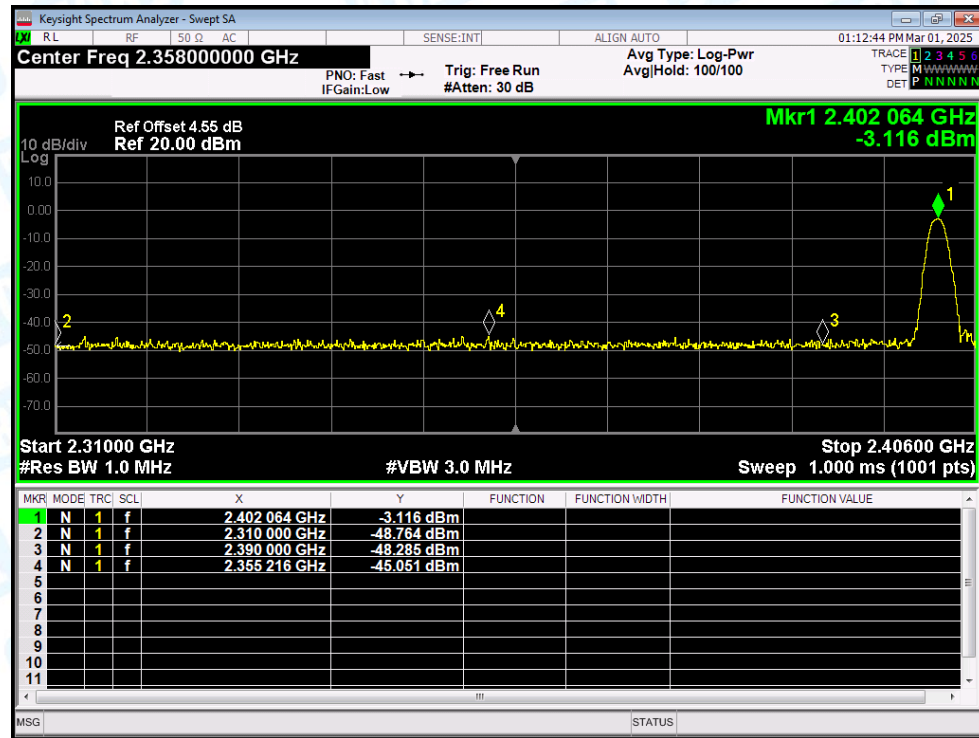
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



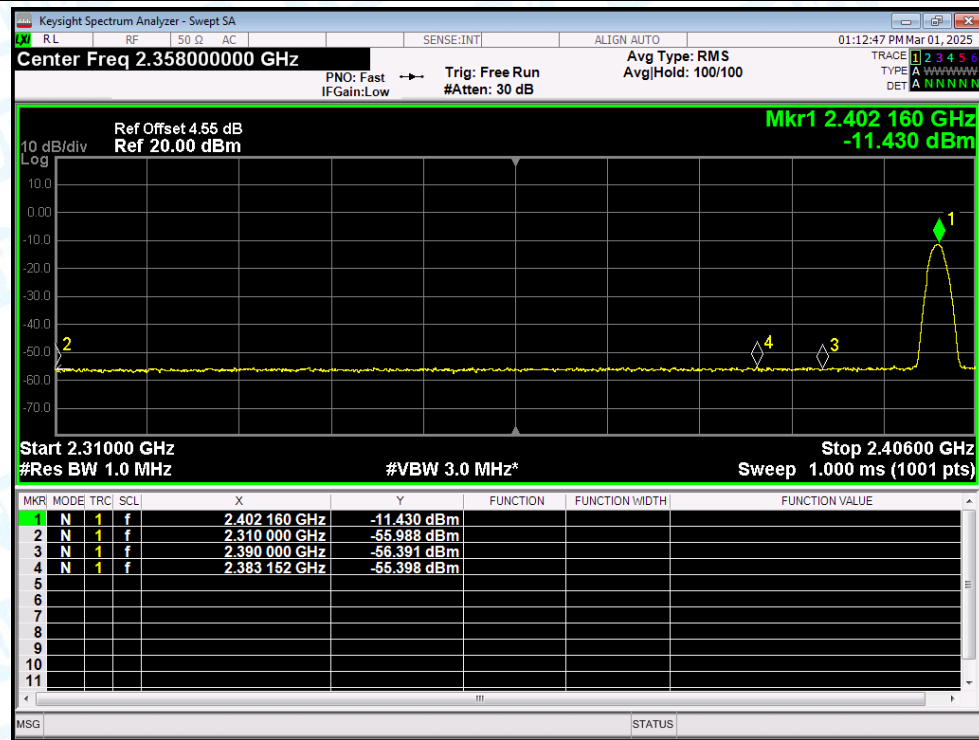
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



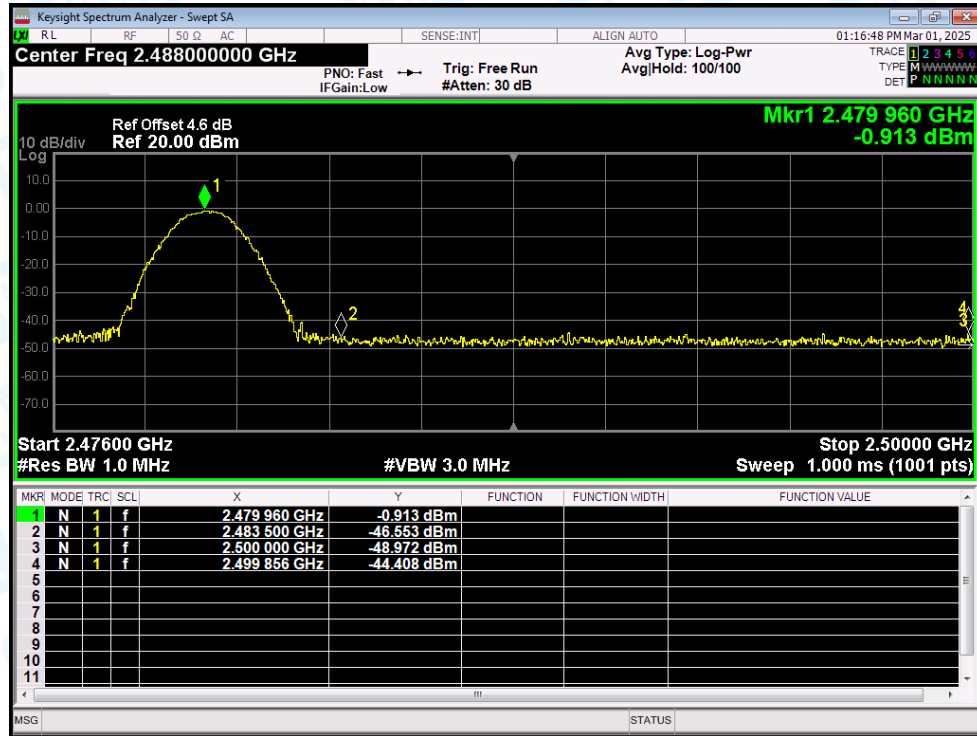
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



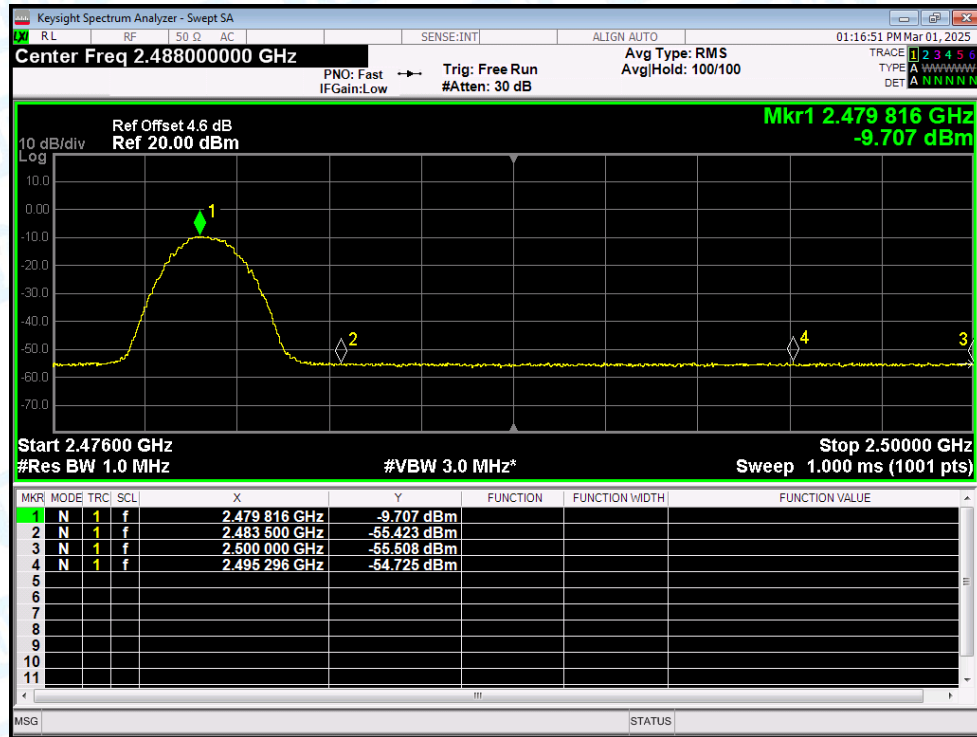
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



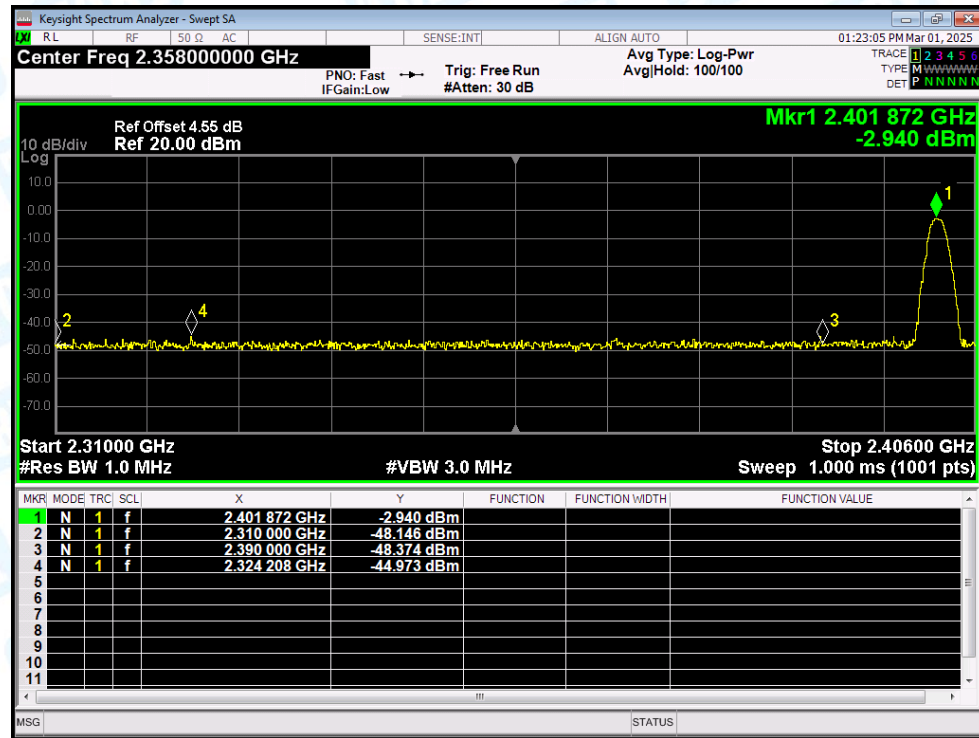
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



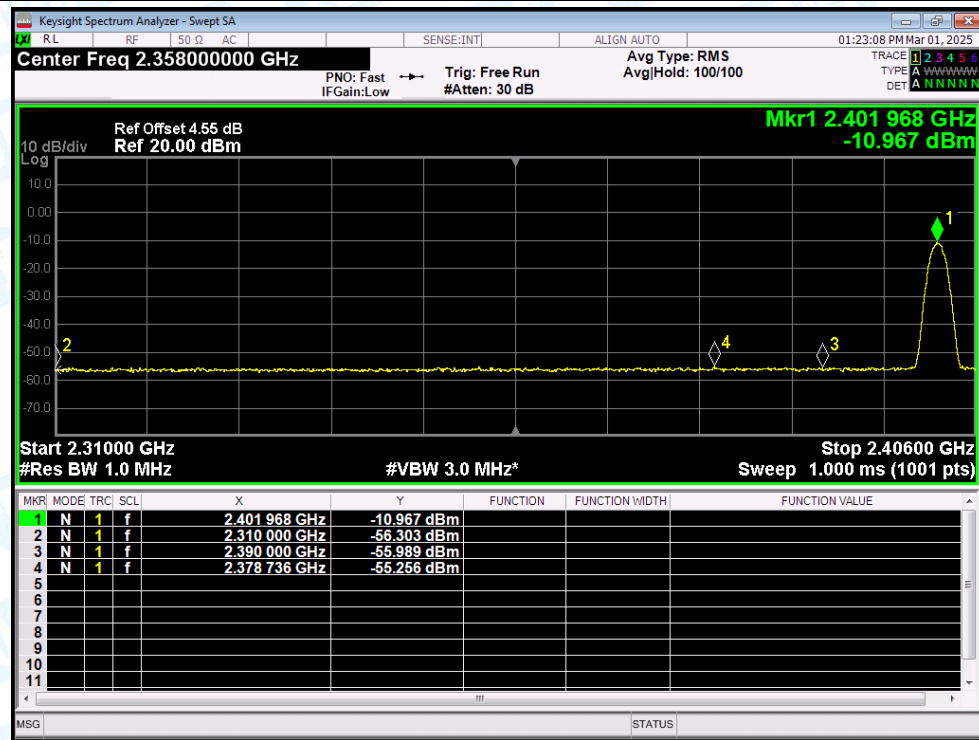
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



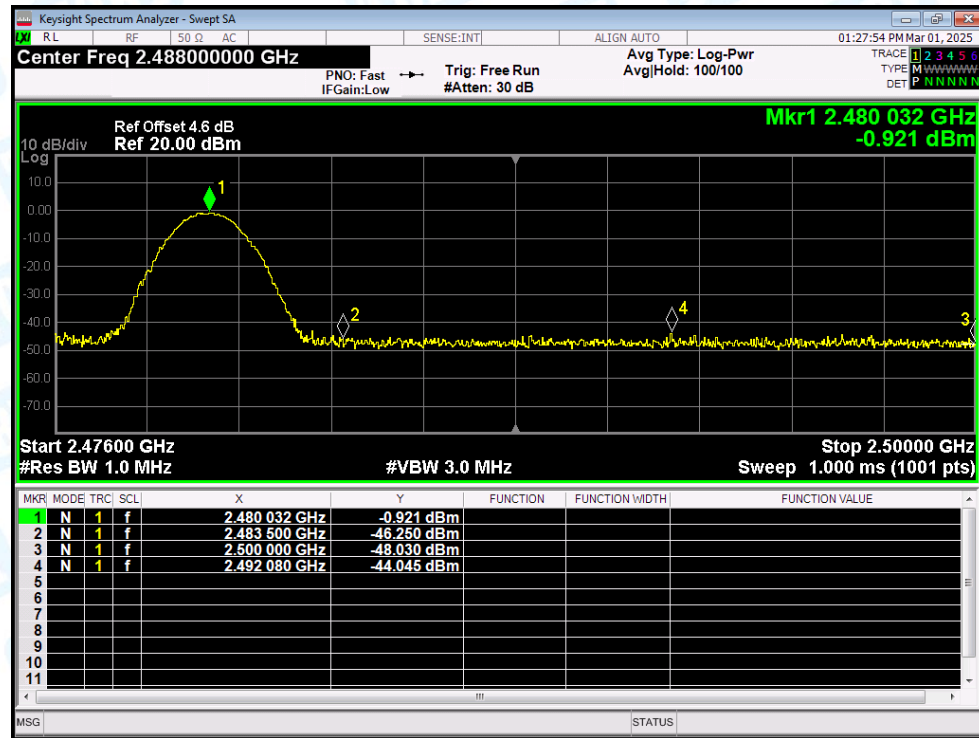
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



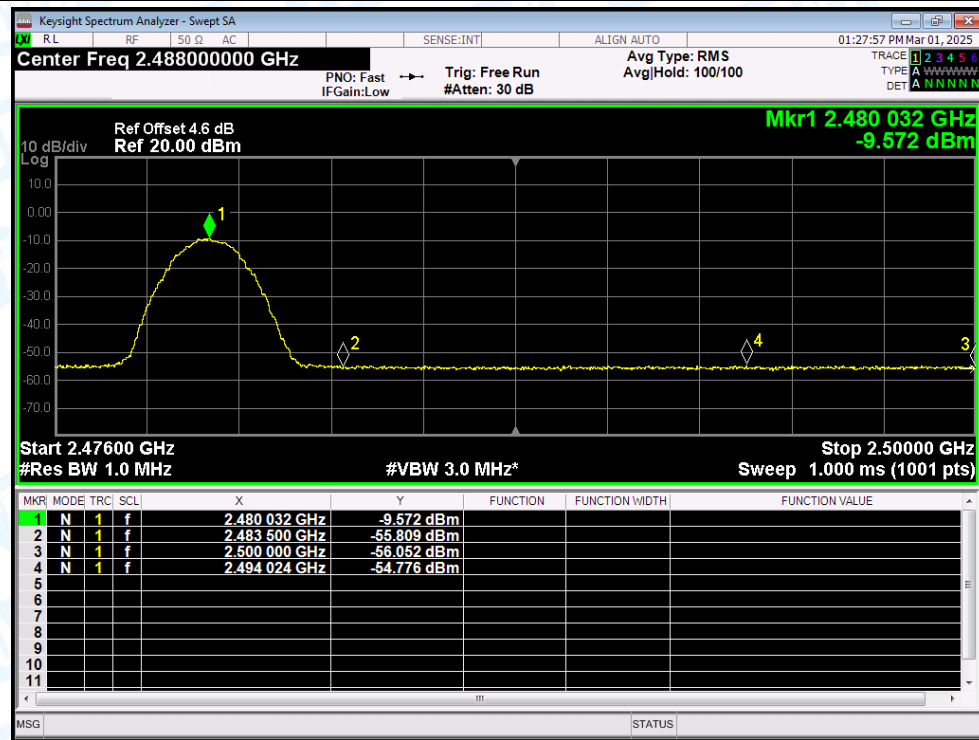
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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



9.Carrier Frequencies Separation

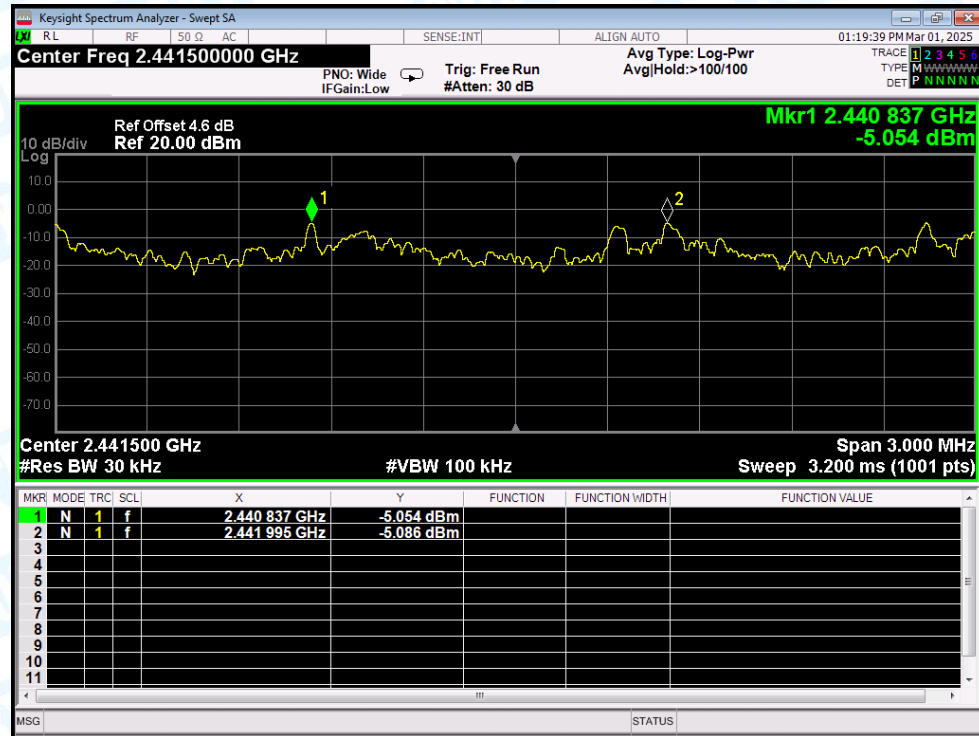
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.837	2441.998	1.161	0.64	Pass
NVNT	2-DH1	Ant1	2440.837	2441.995	1.158	0.793	Pass
NVNT	3-DH1	Ant1	2441.164	2441.998	0.834	0.807	Pass

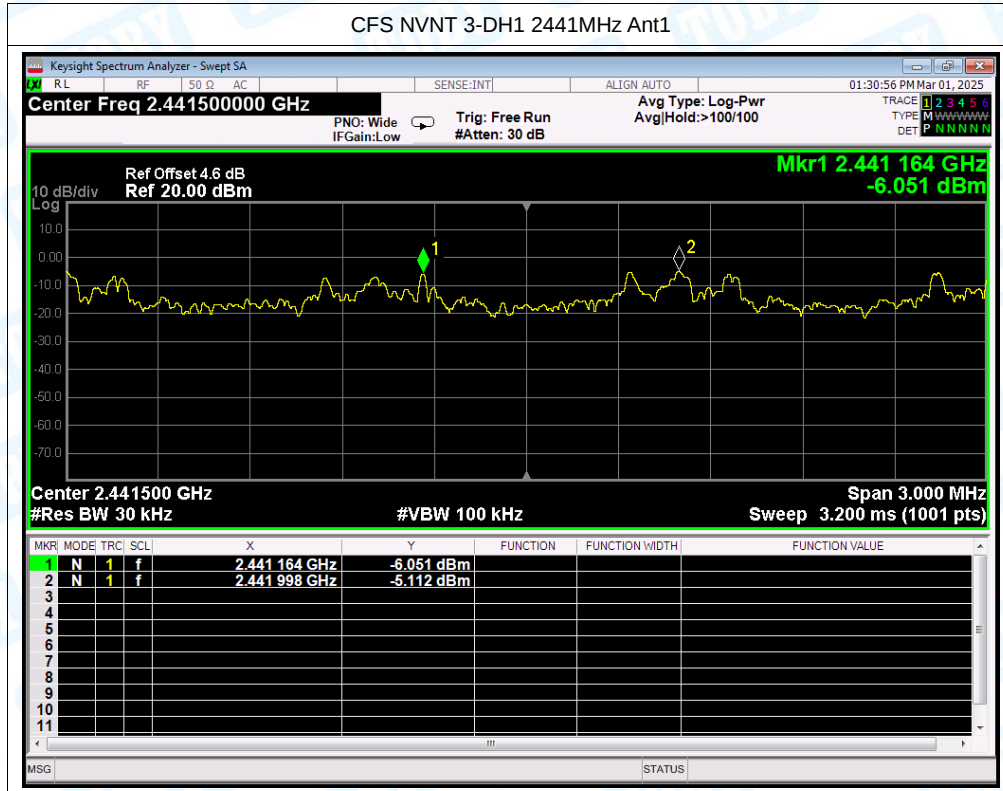
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



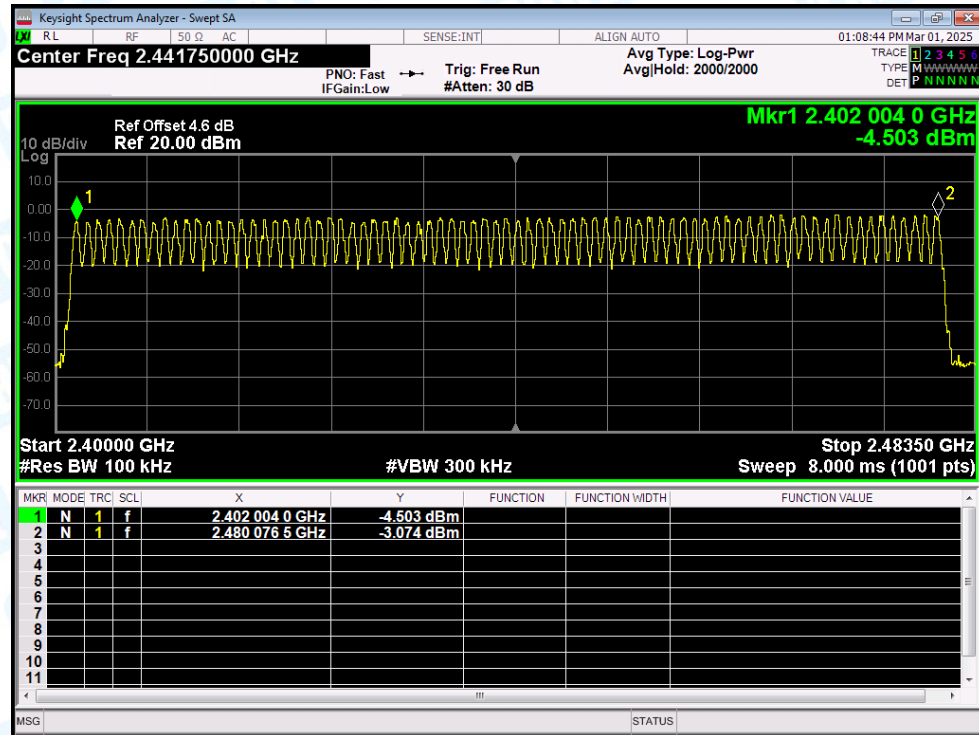


10.Number of Hopping Channel

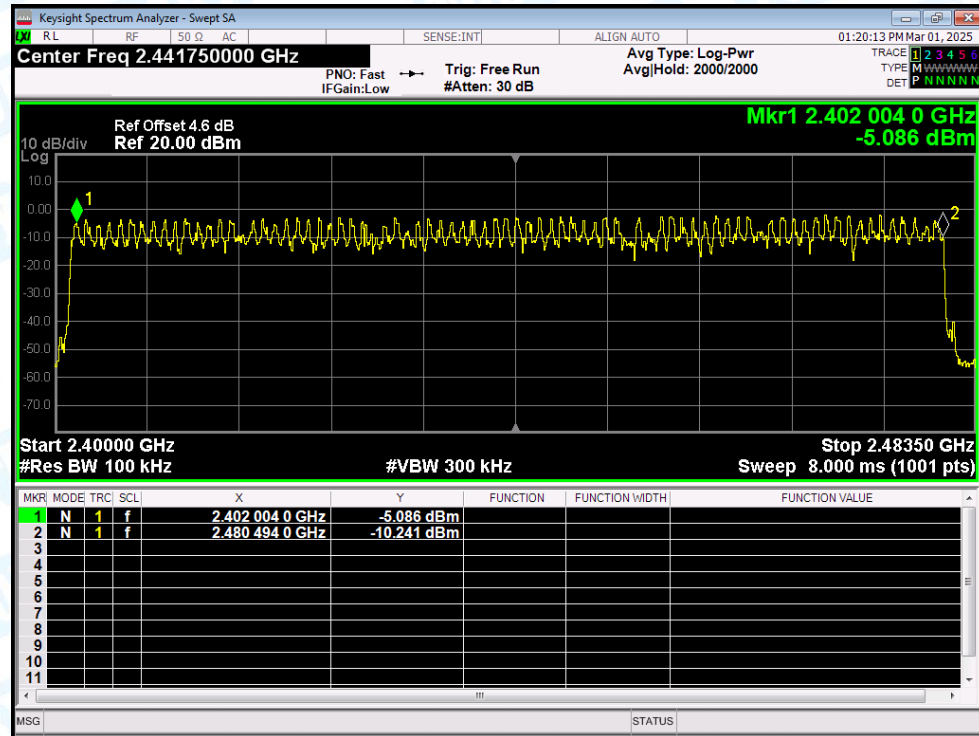
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

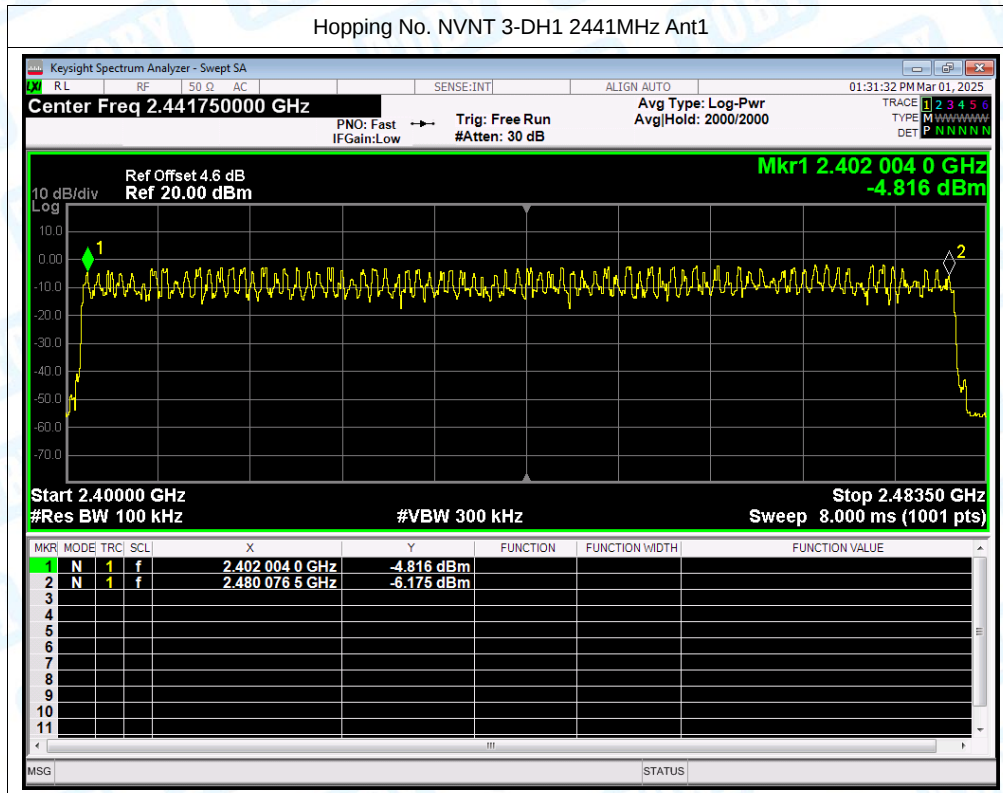
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



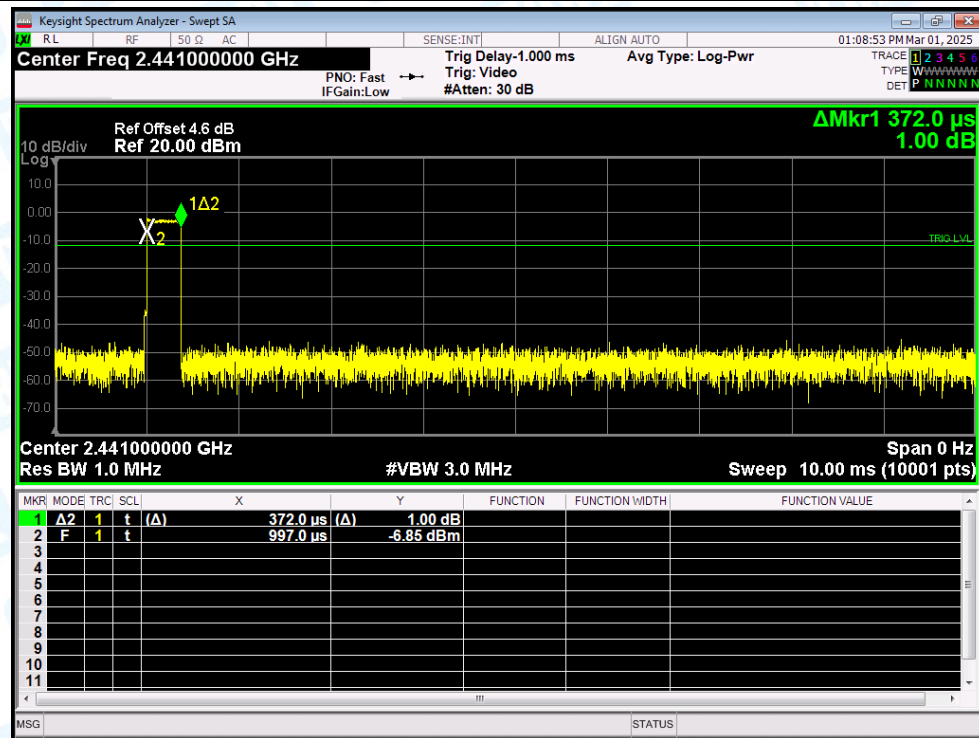


11.Dwell Time

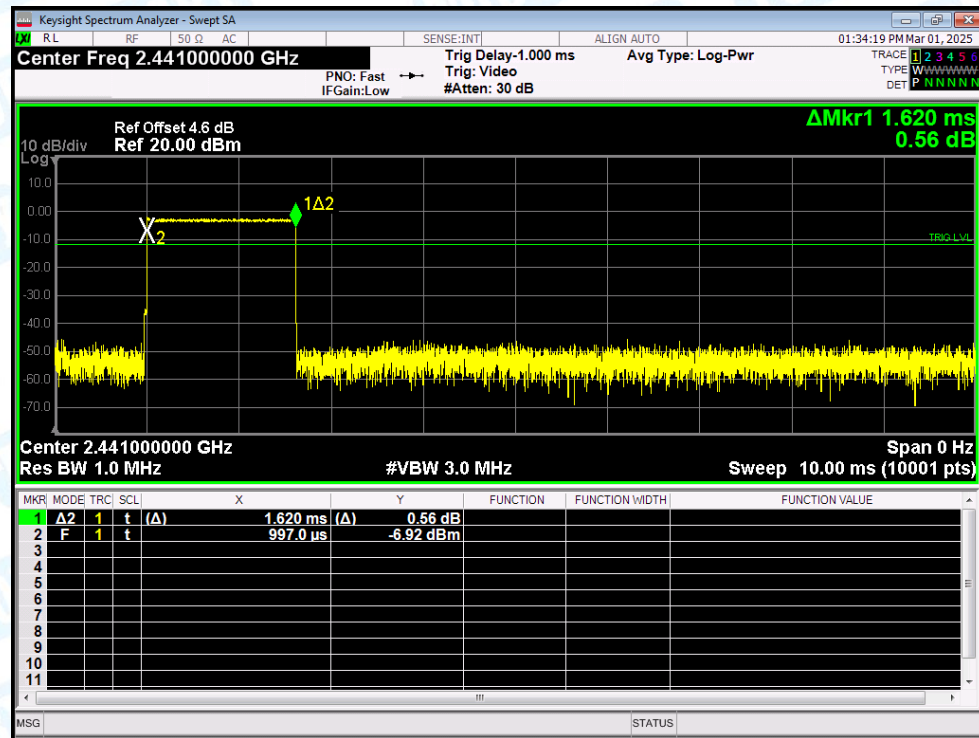
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.372	119.04	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.62	259.2	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.868	305.92	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.38	121.6	31600	400	Pass
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	1.63	260.8	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.881	307.307	31600	400	Pass

Test Graphs

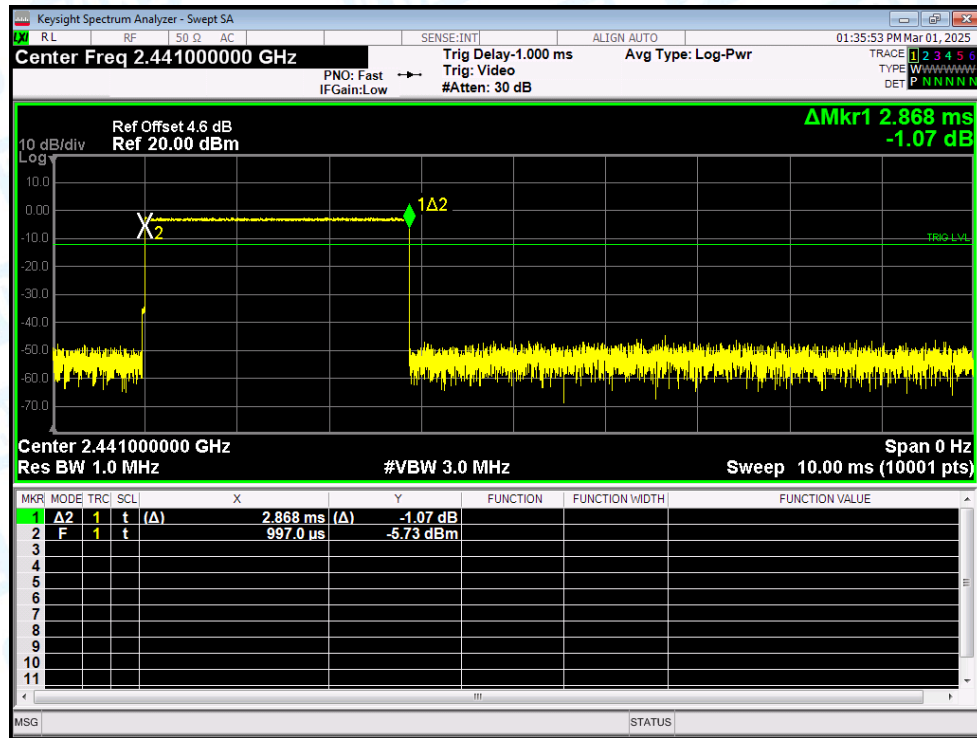
Dwell NVNT 1-DH1 2441MHz Ant1



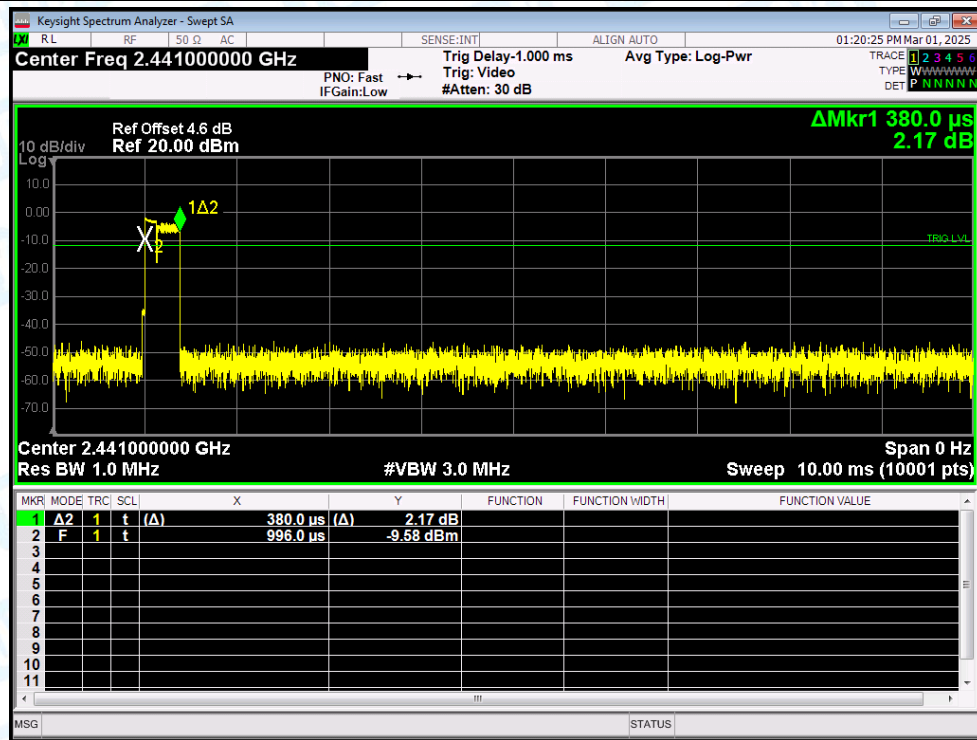
Dwell NVNT 1-DH3 2441MHz Ant1



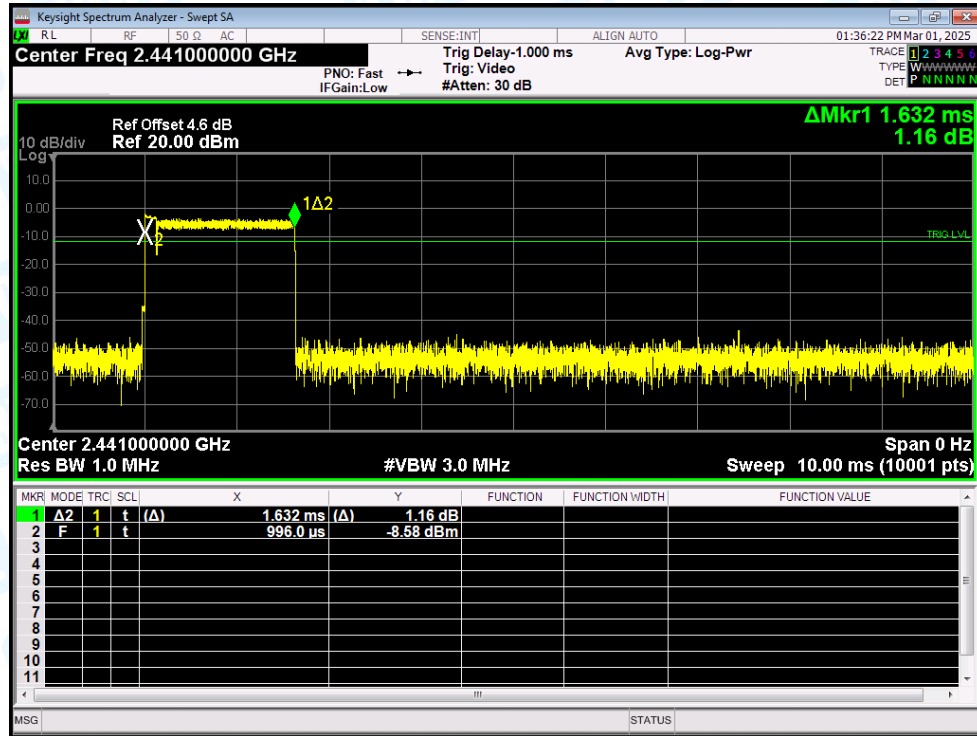
Dwell NVNT 1-DH5 2441MHz Ant1



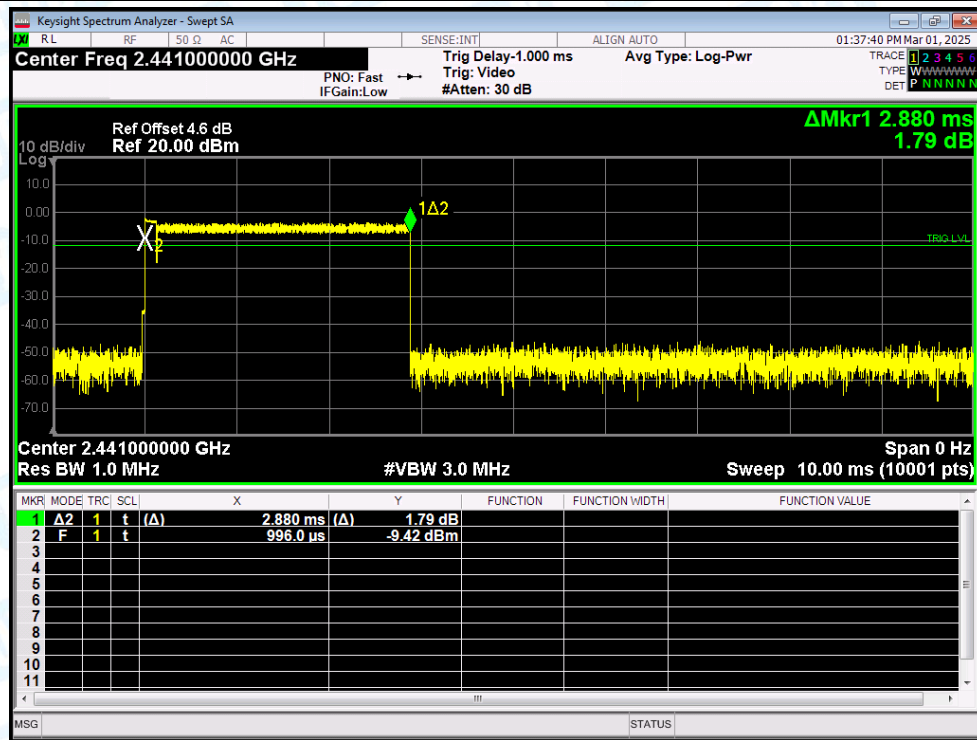
Dwell NVNT 2-DH1 2441MHz Ant1



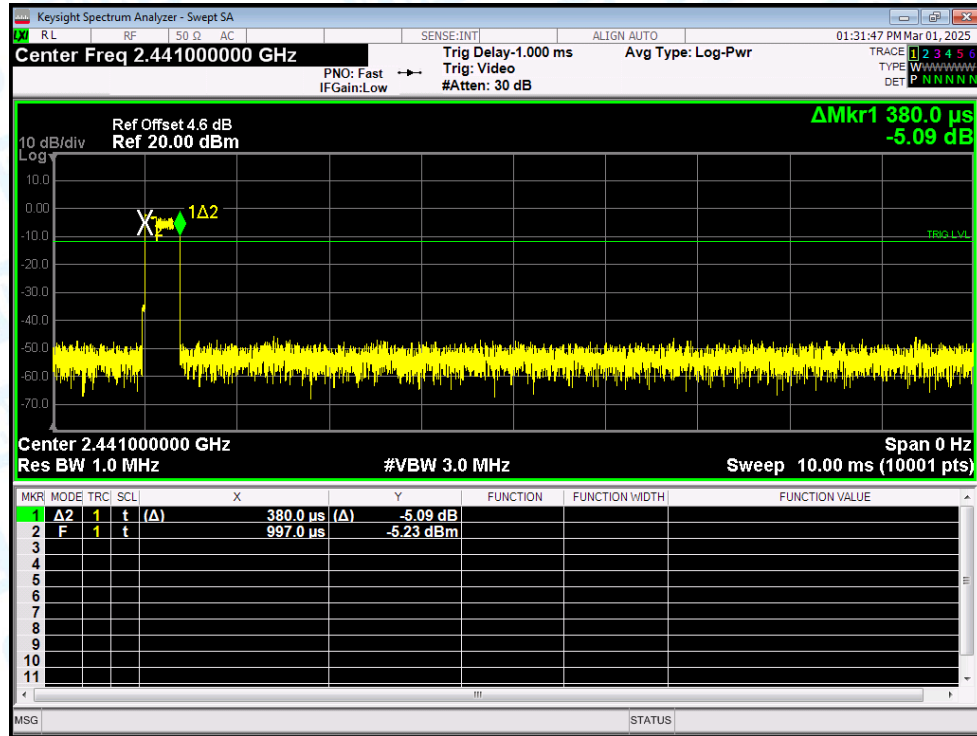
Dwell NVNT 2-DH3 2441MHz Ant1



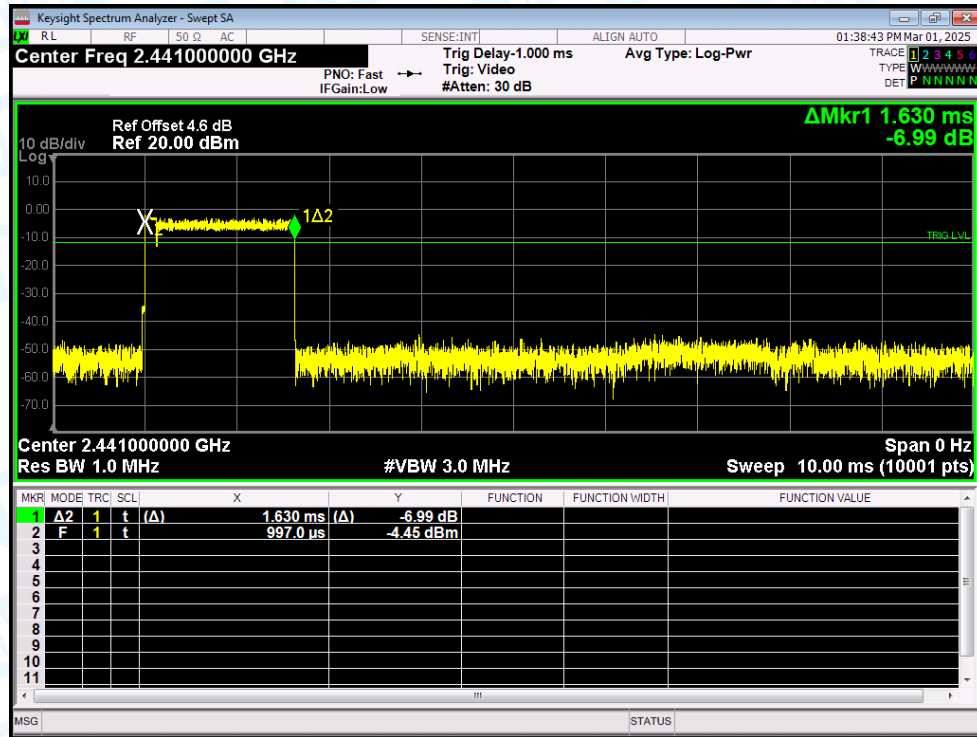
Dwell NVNT 2-DH5 2441MHz Ant1

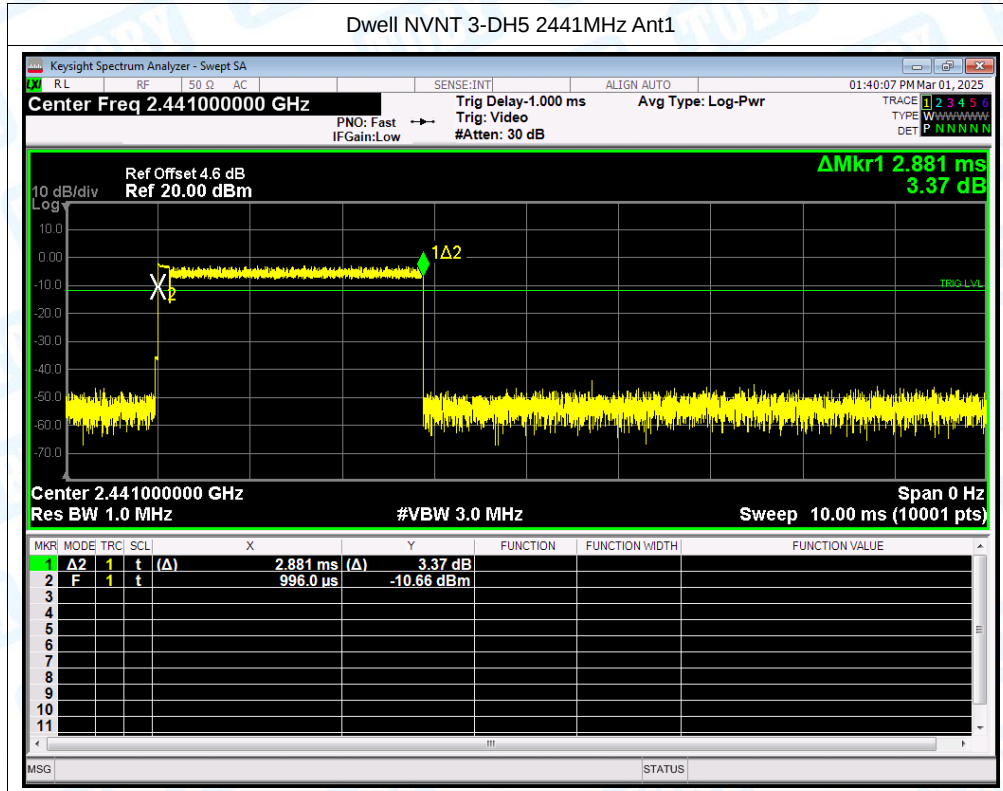


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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