

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	TWS(true wireless stereo)earphones EDR
Test Model:	NE-108
Sample ID:	HC-C-202410-0115-01-01-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 3.7V
Test Engineer:	Rick. chen
Note: For a more detailed features description, please refer to the report TBR-C-202410-0115-4 The report only show the worst case data.	

Contents

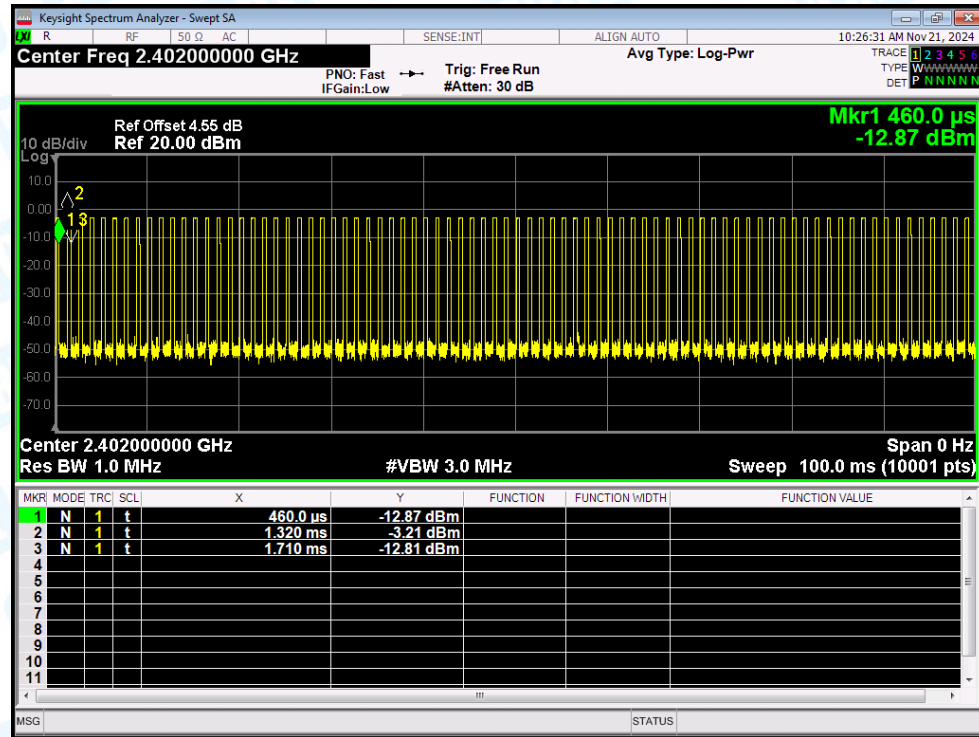
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1. Duty Cycle

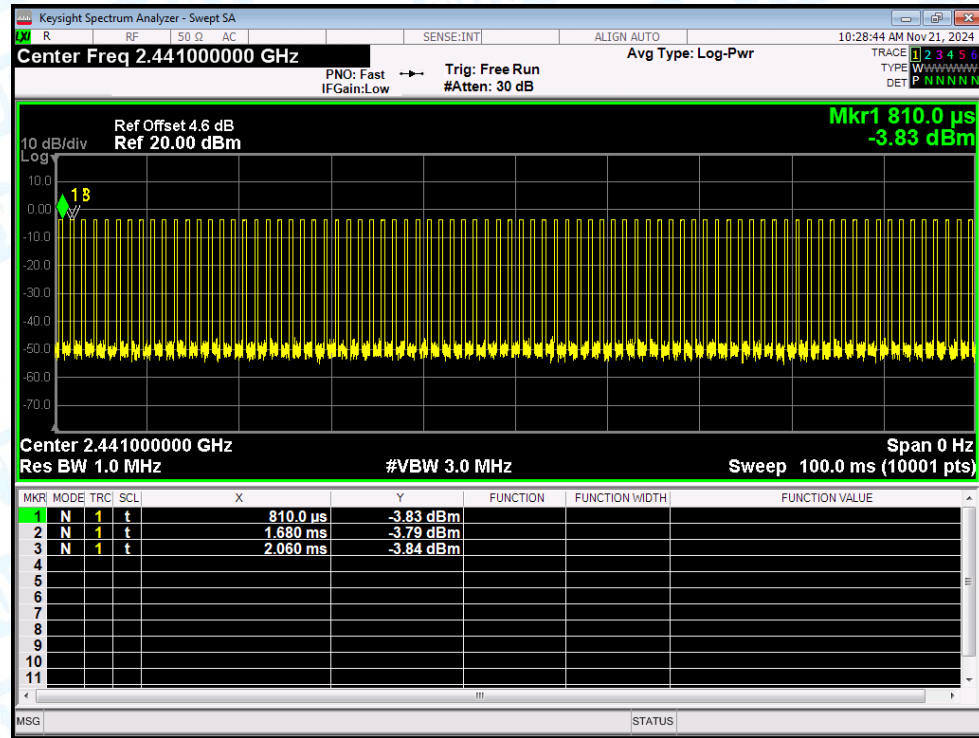
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56

Test Graphs

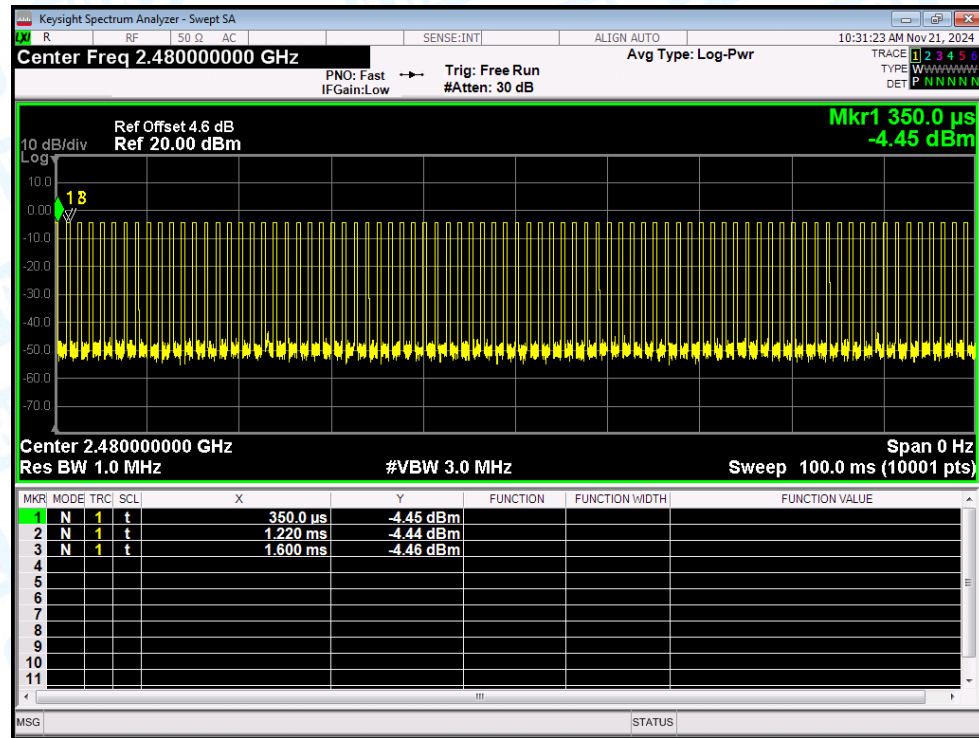
Duty Cycle NVNT 1-DH1 2402MHz Ant1



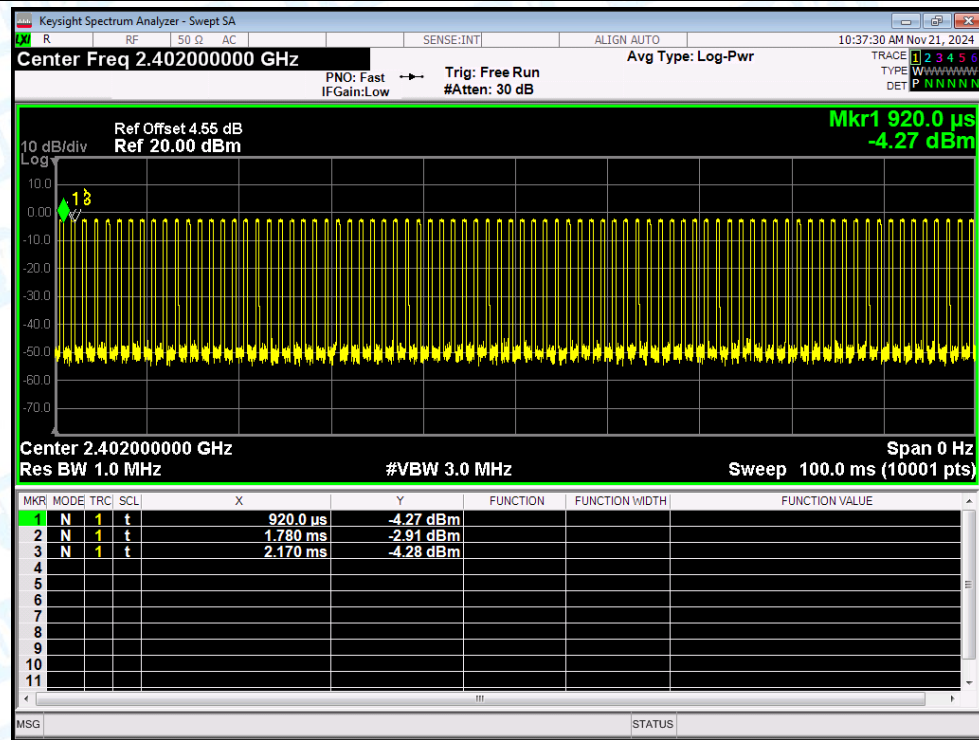
Duty Cycle NVNT 1-DH1 2441MHz Ant1



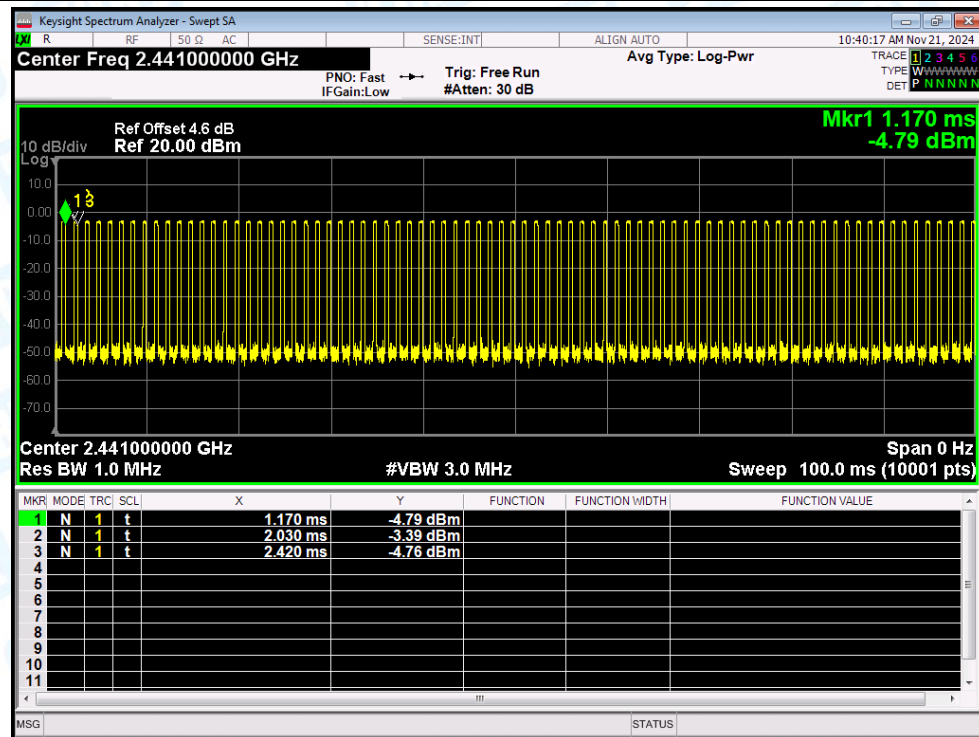
Duty Cycle NVNT 1-DH1 2480MHz Ant1



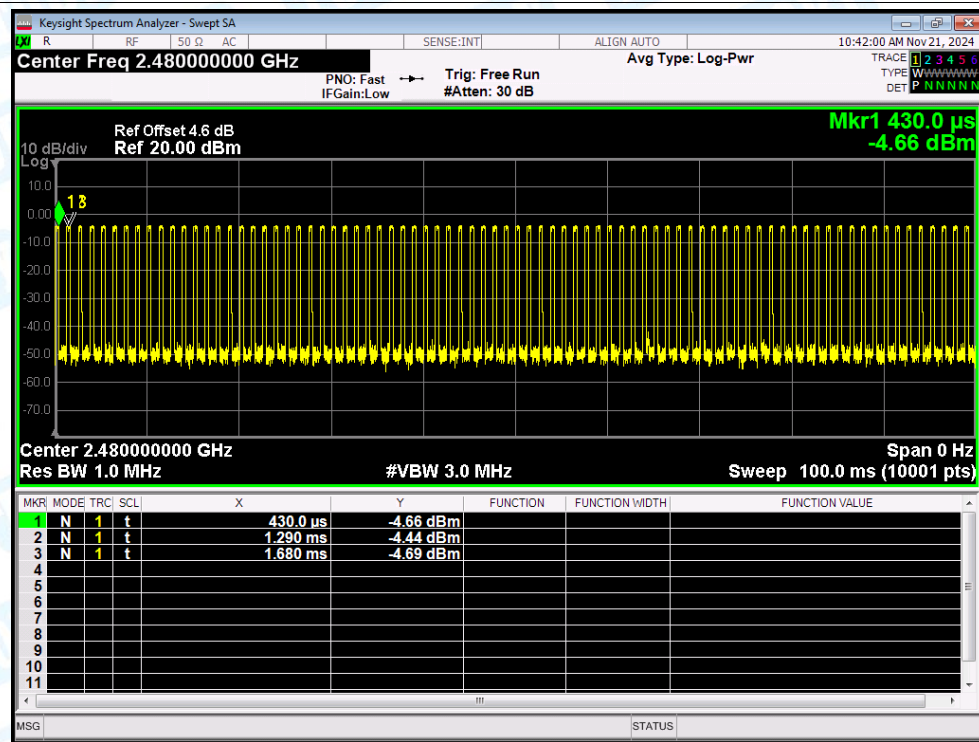
Duty Cycle NVNT 2-DH1 2402MHz Ant1



Duty Cycle NVNT 2-DH1 2441MHz Ant1



Duty Cycle NVNT 2-DH1 2480MHz Ant1

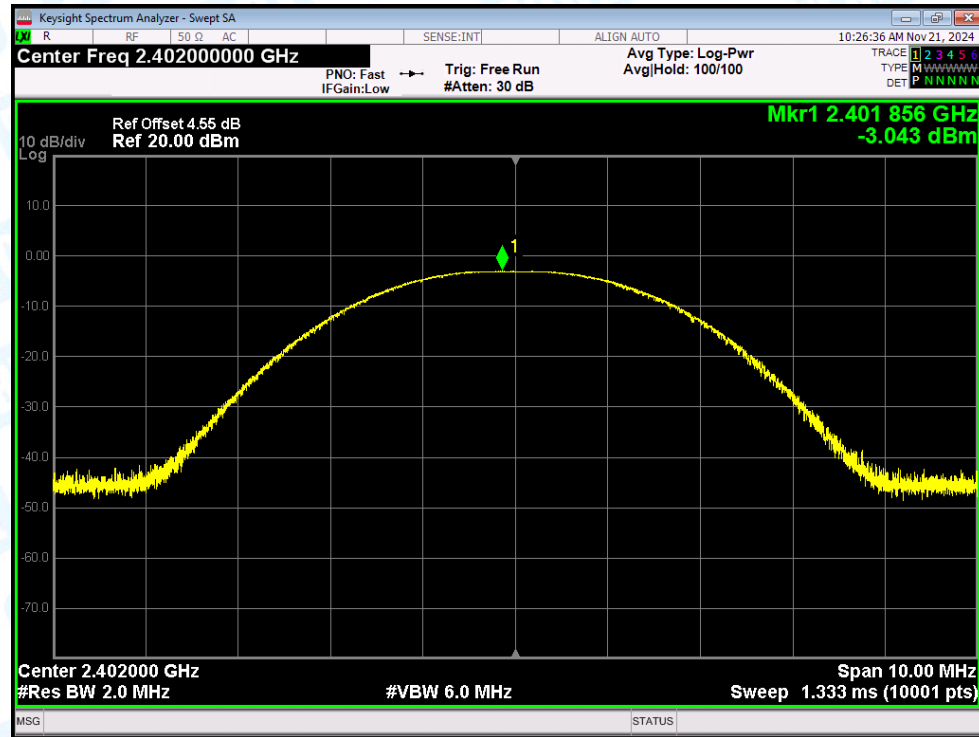


2. Maximum Conducted Peak Output Power

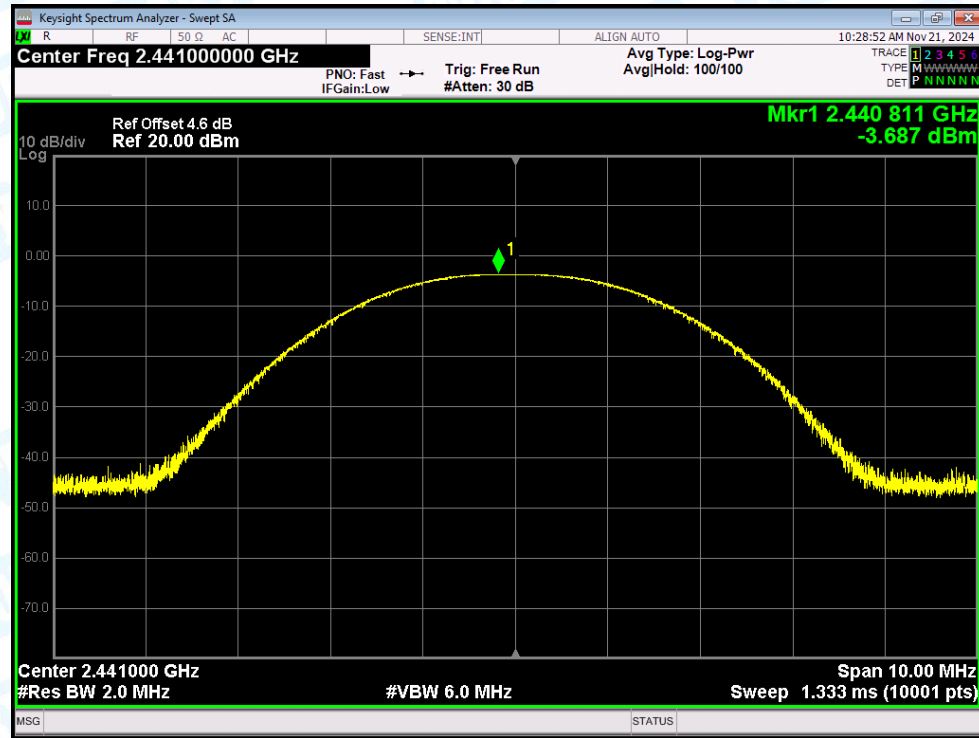
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	-3.043	21	Pass
NVNT	1-DH1	2441	Ant1	-3.687	21	Pass
NVNT	1-DH1	2480	Ant1	-4.317	21	Pass
NVNT	2-DH1	2402	Ant1	-1.919	21	Pass
NVNT	2-DH1	2441	Ant1	-2.458	21	Pass
NVNT	2-DH1	2480	Ant1	-3.489	21	Pass

Test Graphs

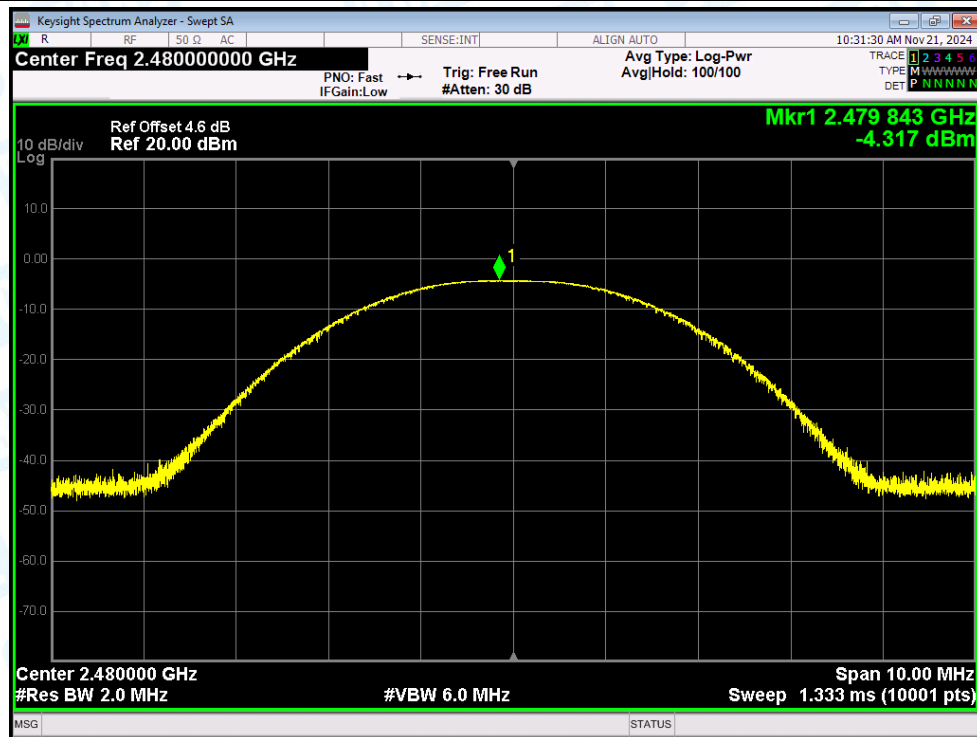
Power NVNT 1-DH1 2402MHz Ant1



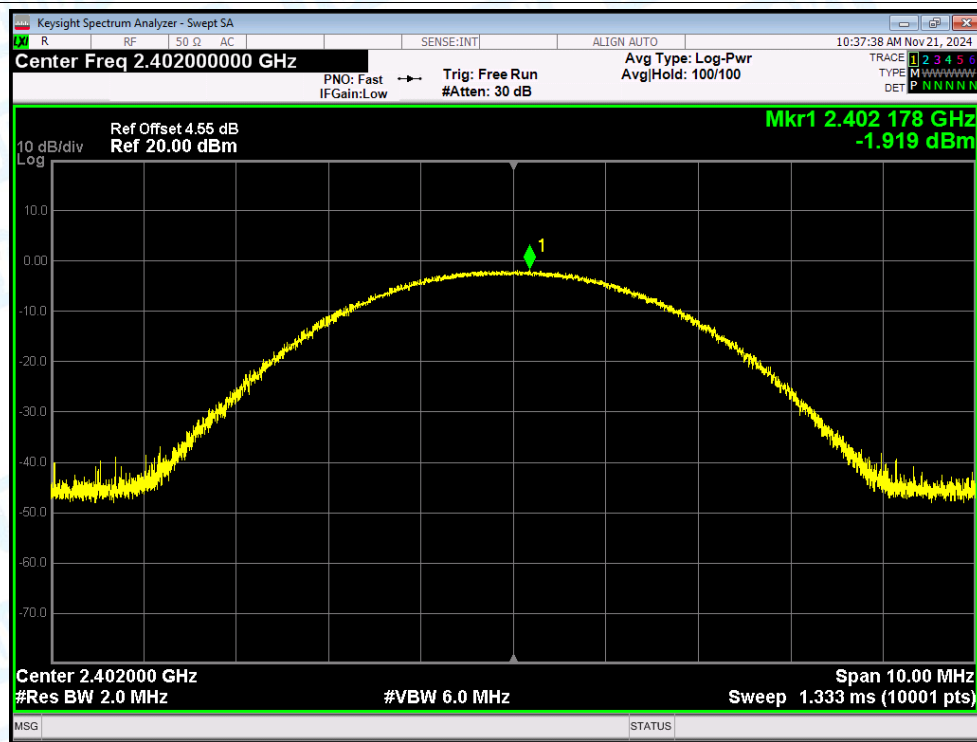
Power NVNT 1-DH1 2441MHz Ant1



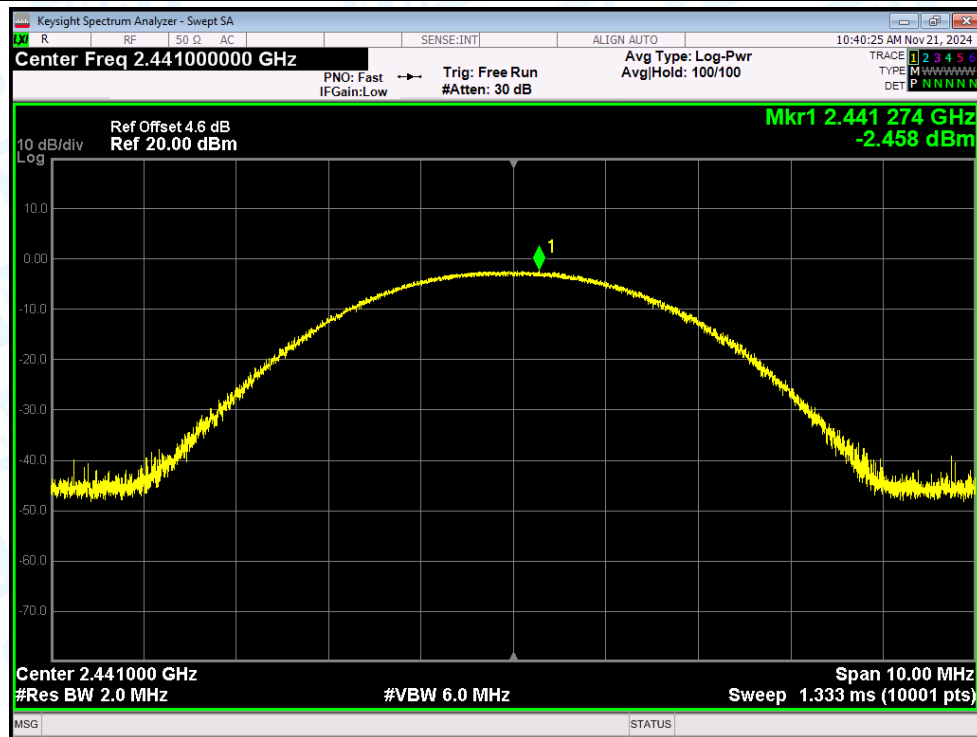
Power NVNT 1-DH1 2480MHz Ant1



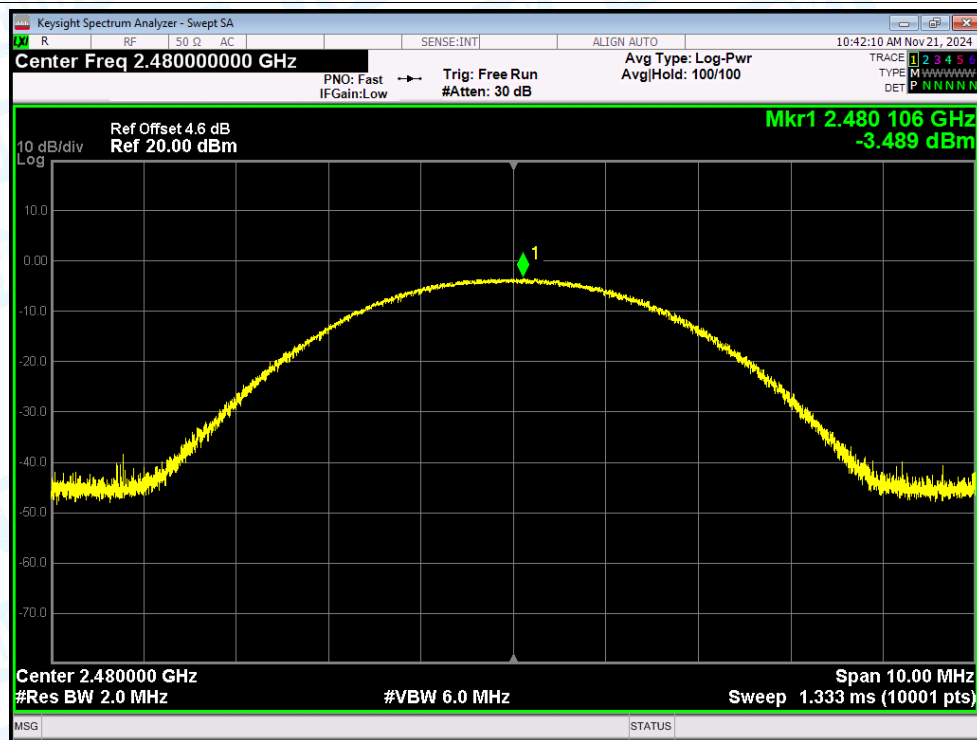
Power NVNT 2-DH1 2402MHz Ant1



Power NVNT 2-DH1 2441MHz Ant1



Power NVNT 2-DH1 2480MHz Ant1

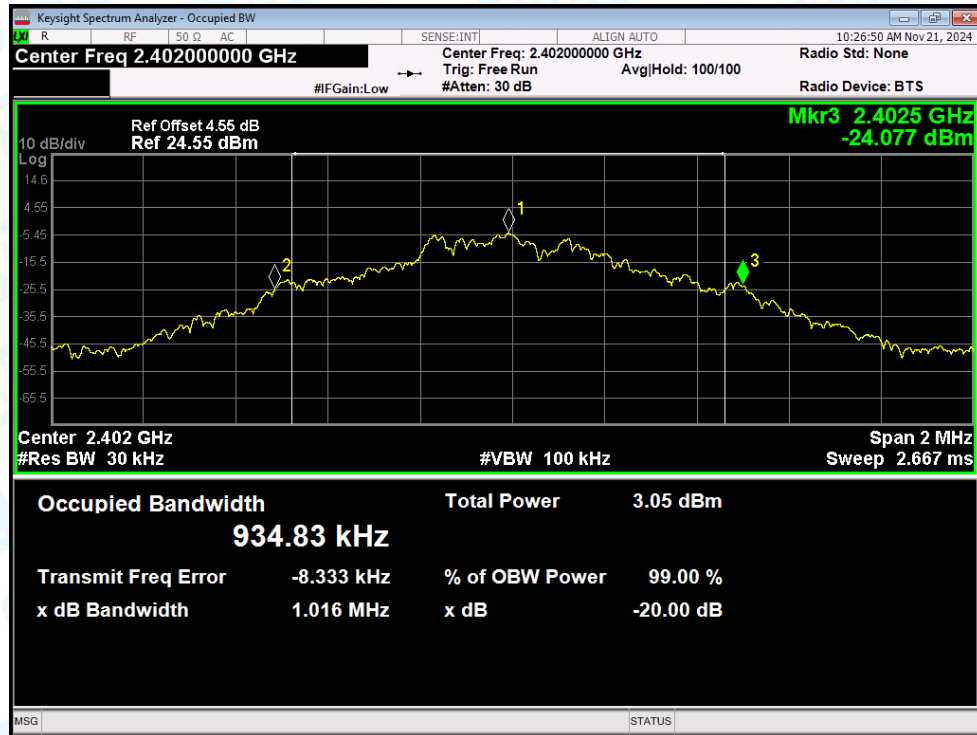


3. -20dB Bandwidth

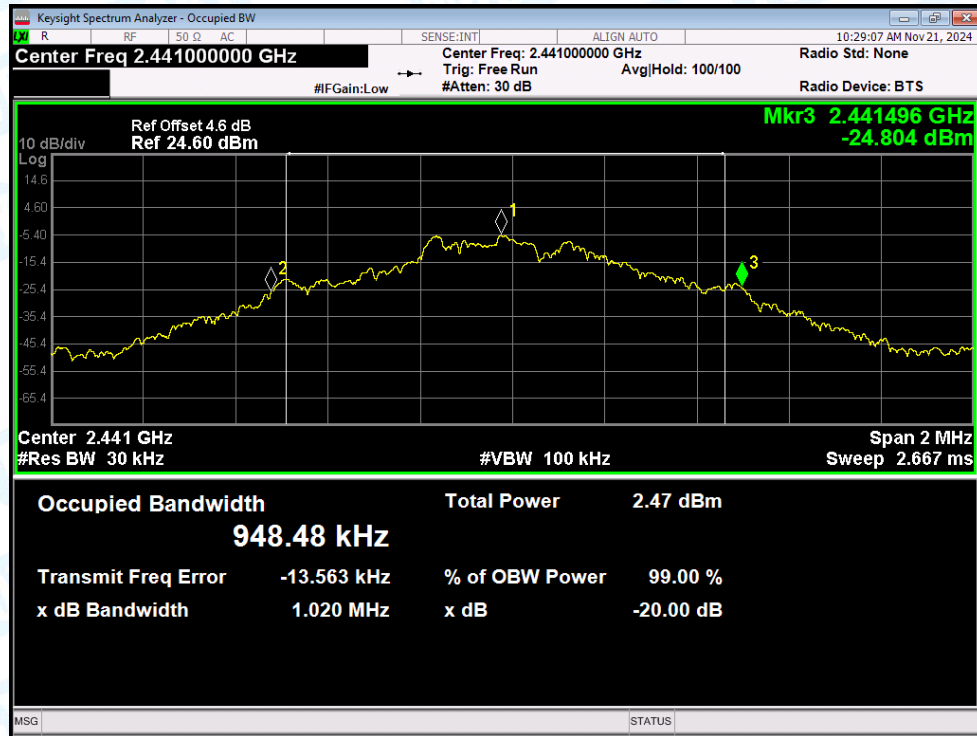
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	1.02	----	Pass
NVNT	1-DH1	2441	Ant1	1.02	----	Pass
NVNT	1-DH1	2480	Ant1	1.02	----	Pass
NVNT	2-DH1	2402	Ant1	1.26	----	Pass
NVNT	2-DH1	2441	Ant1	1.28	----	Pass
NVNT	2-DH1	2480	Ant1	1.25	----	Pass

Test Graphs

-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



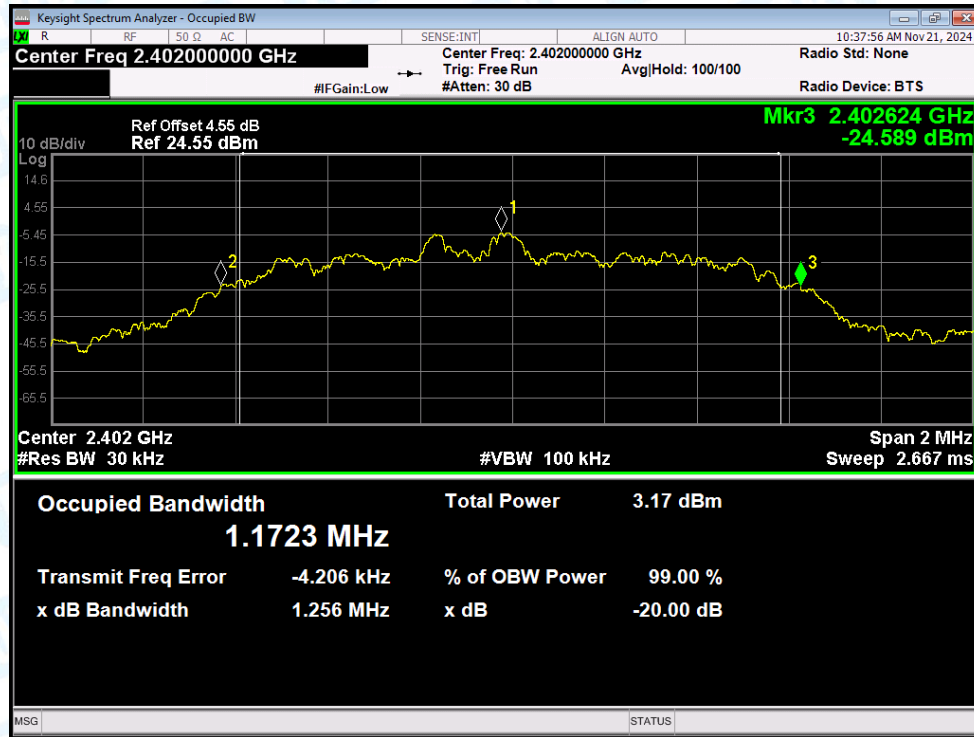
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



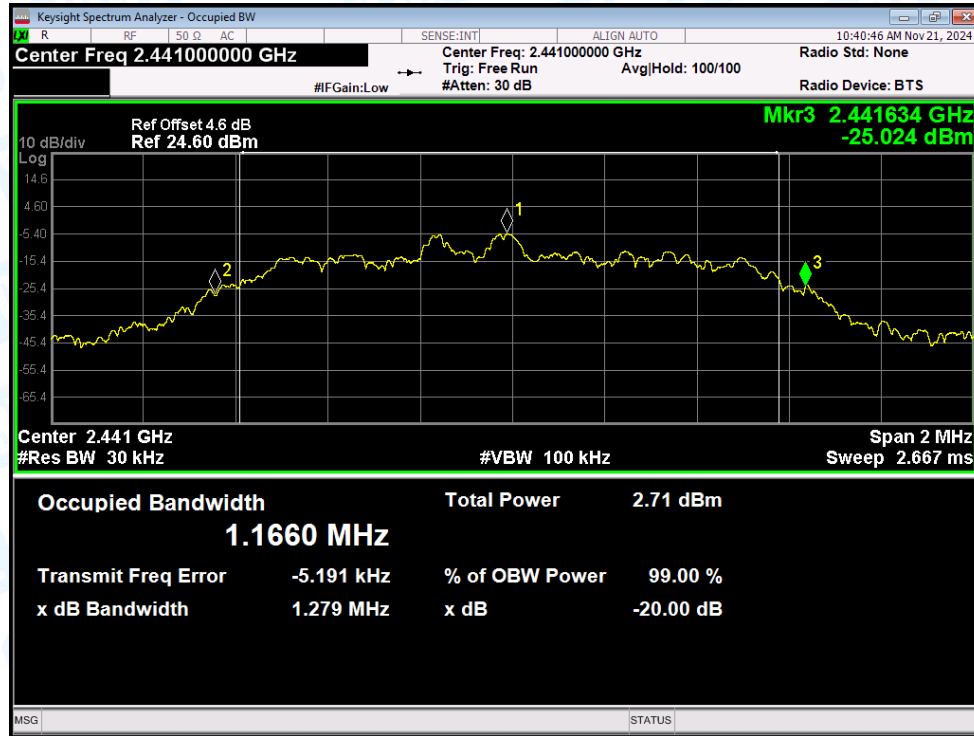
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



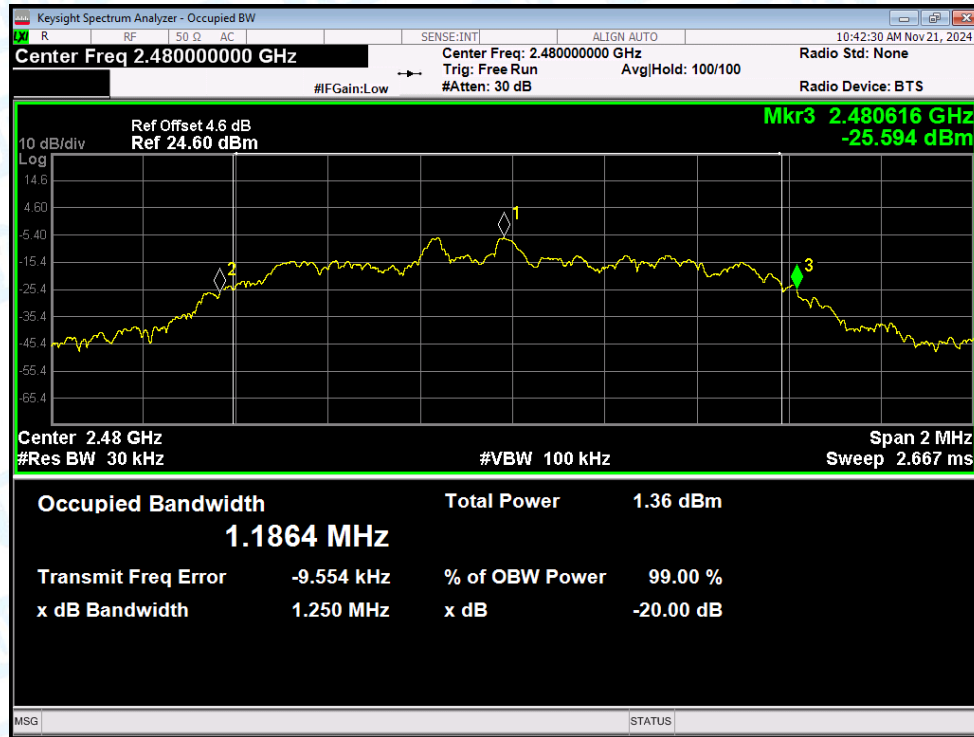
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

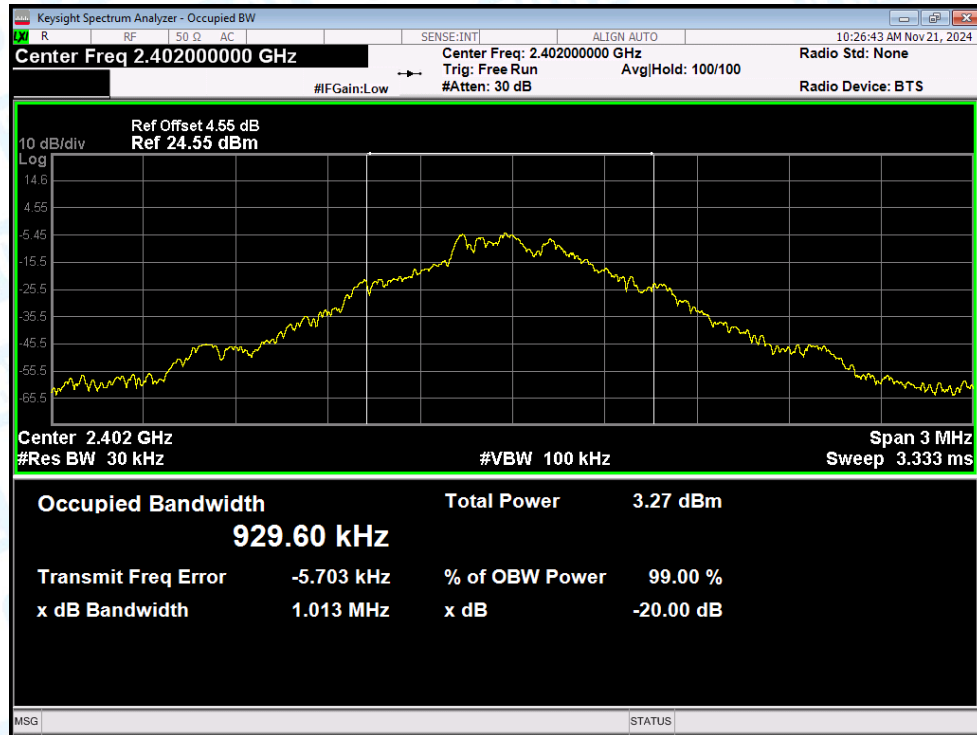


4. Occupied Channel Bandwidth

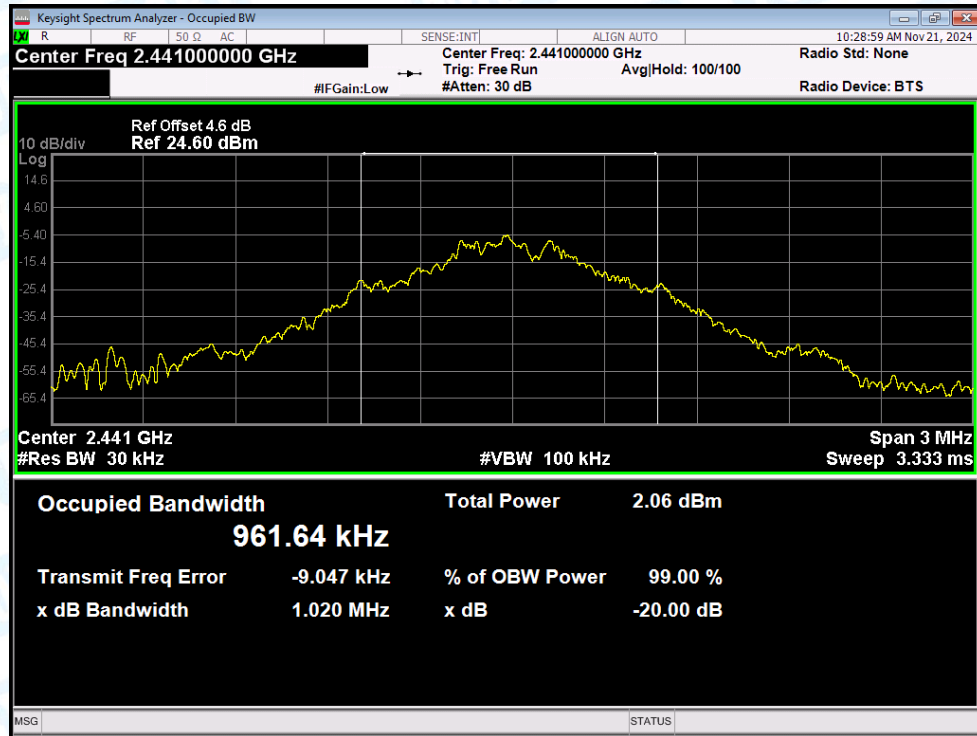
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.93
NVNT	1-DH1	2441	Ant1	0.962
NVNT	1-DH1	2480	Ant1	0.947
NVNT	2-DH1	2402	Ant1	1.205
NVNT	2-DH1	2441	Ant1	1.195
NVNT	2-DH1	2480	Ant1	1.193

Test Graphs

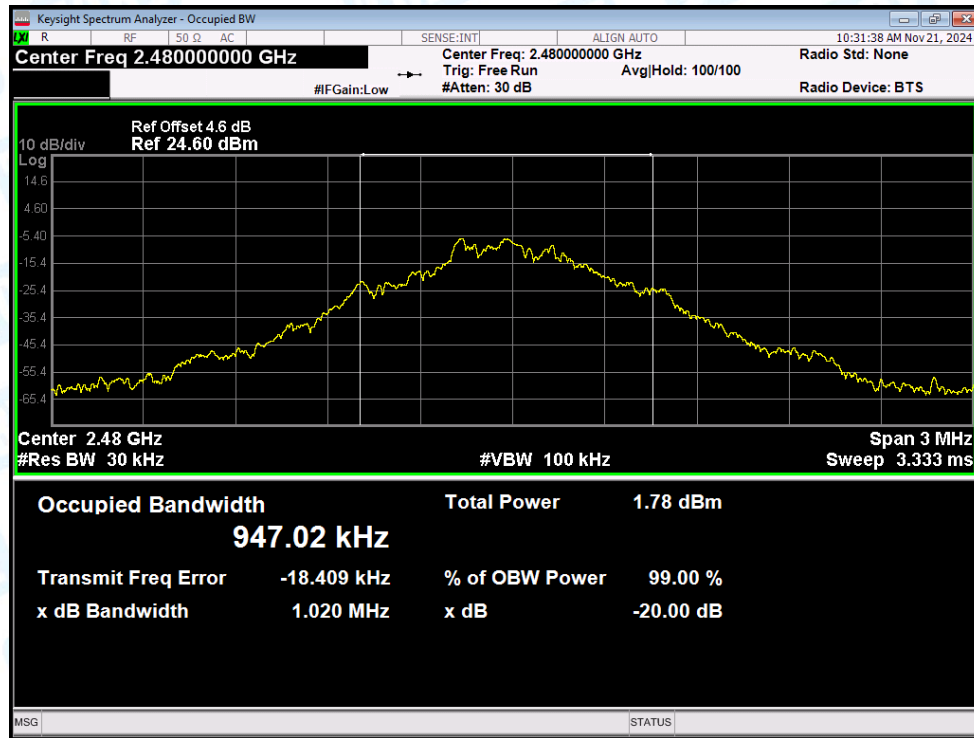
OBW NVNT 1-DH1 2402MHz Ant1



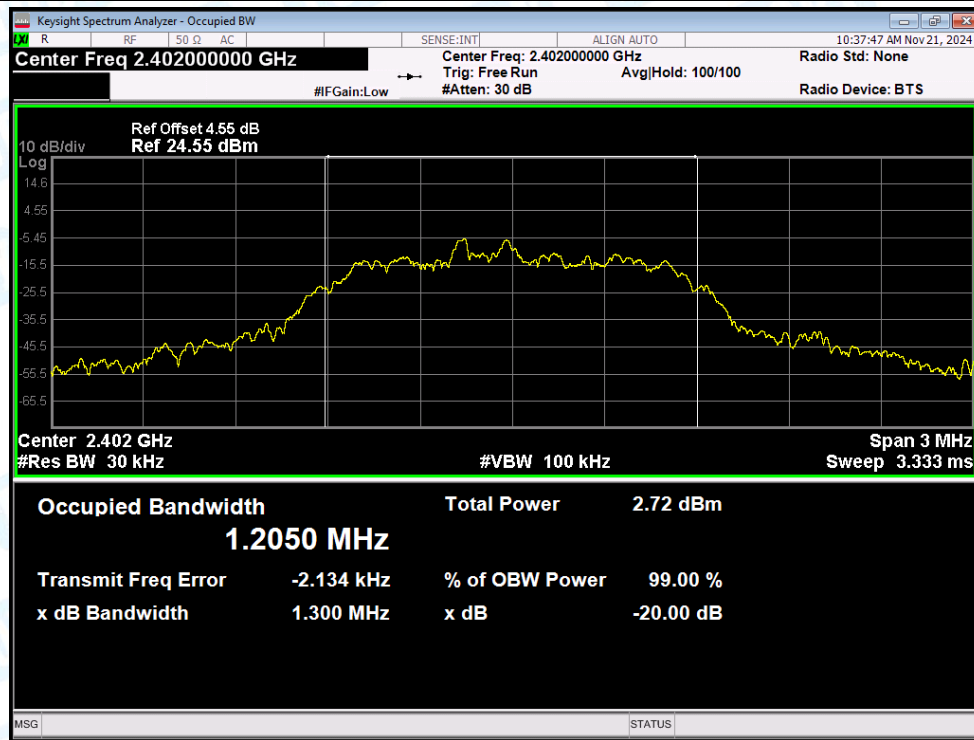
OBW NVNT 1-DH1 2441MHz Ant1



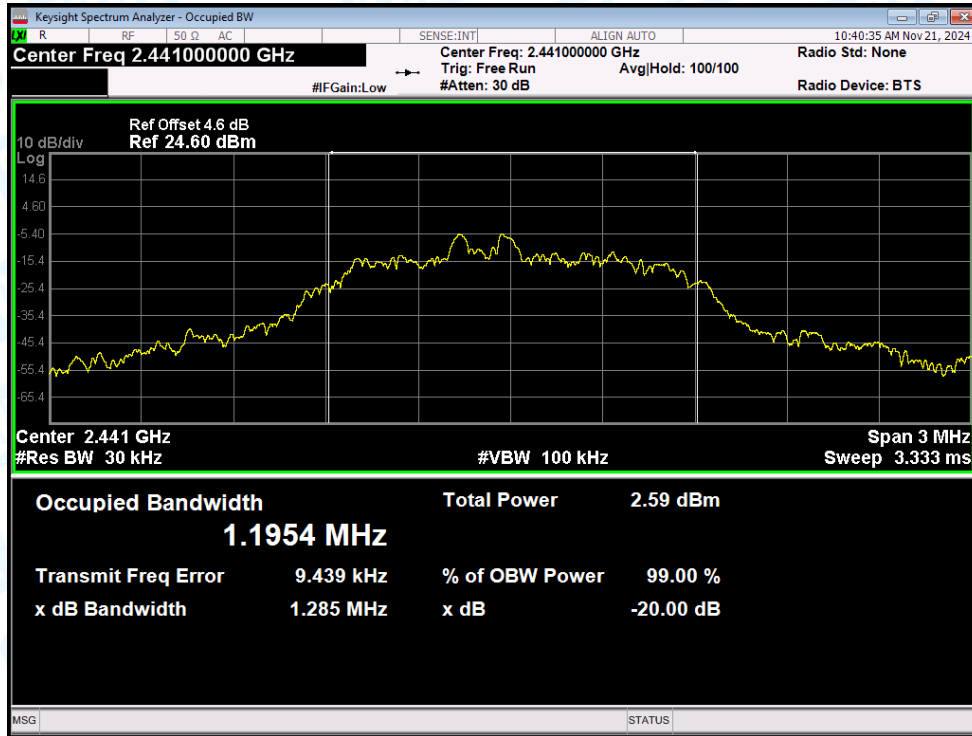
OBW NVNT 1-DH1 2480MHz Ant1



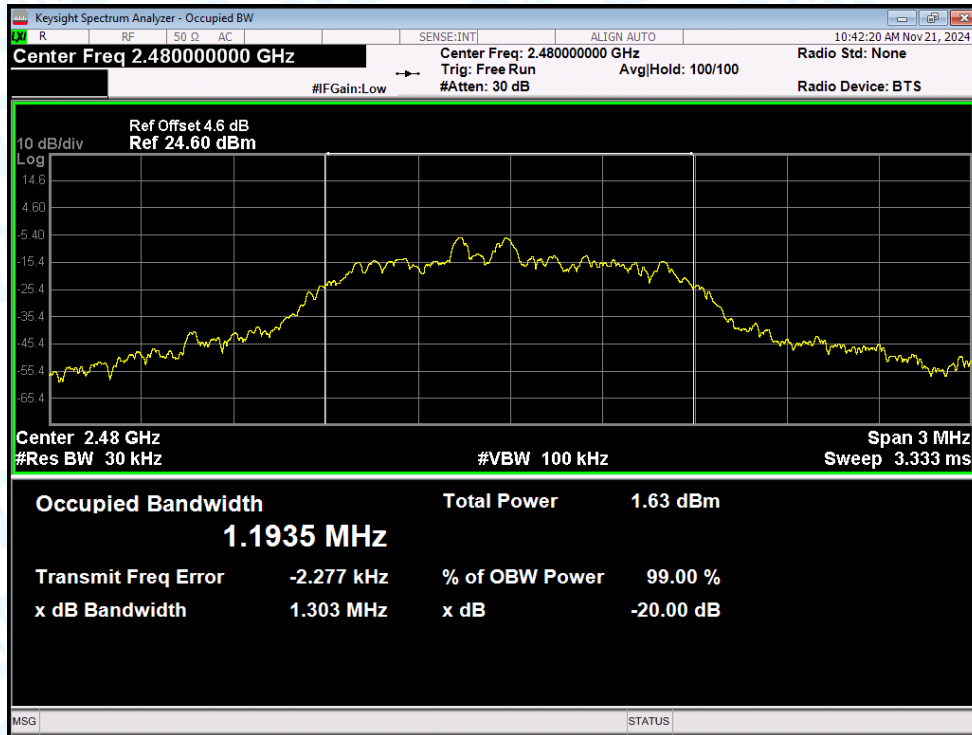
OBW NVNT 2-DH1 2402MHz Ant1



OBW NVNT 2-DH1 2441MHz Ant1



OBW NVNT 2-DH1 2480MHz Ant1

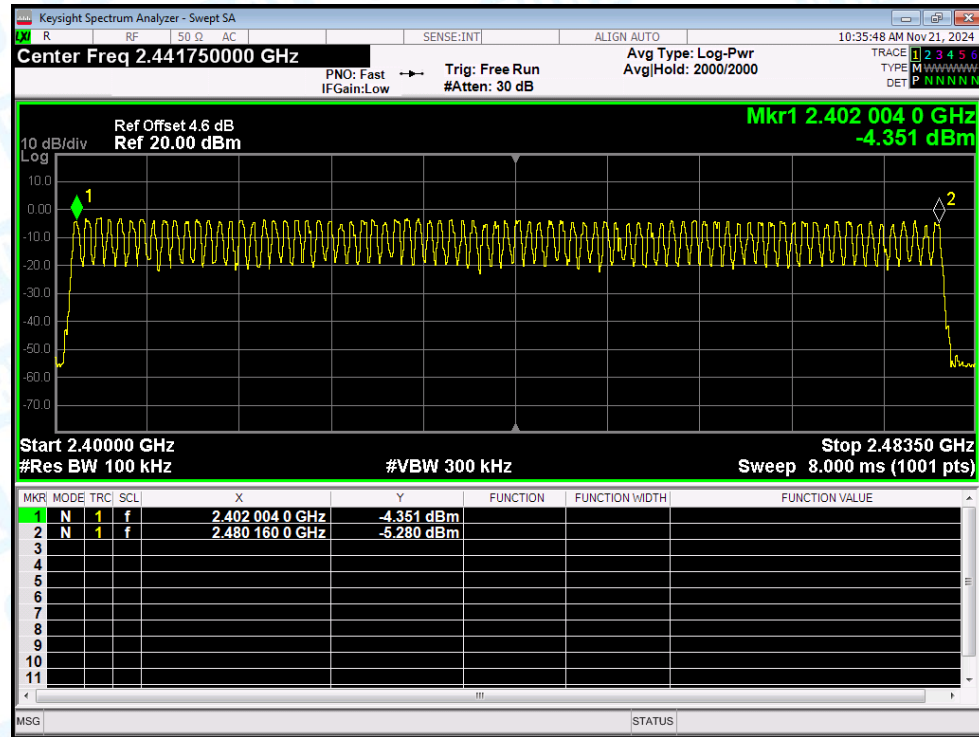


5. Number of Hopping Channel

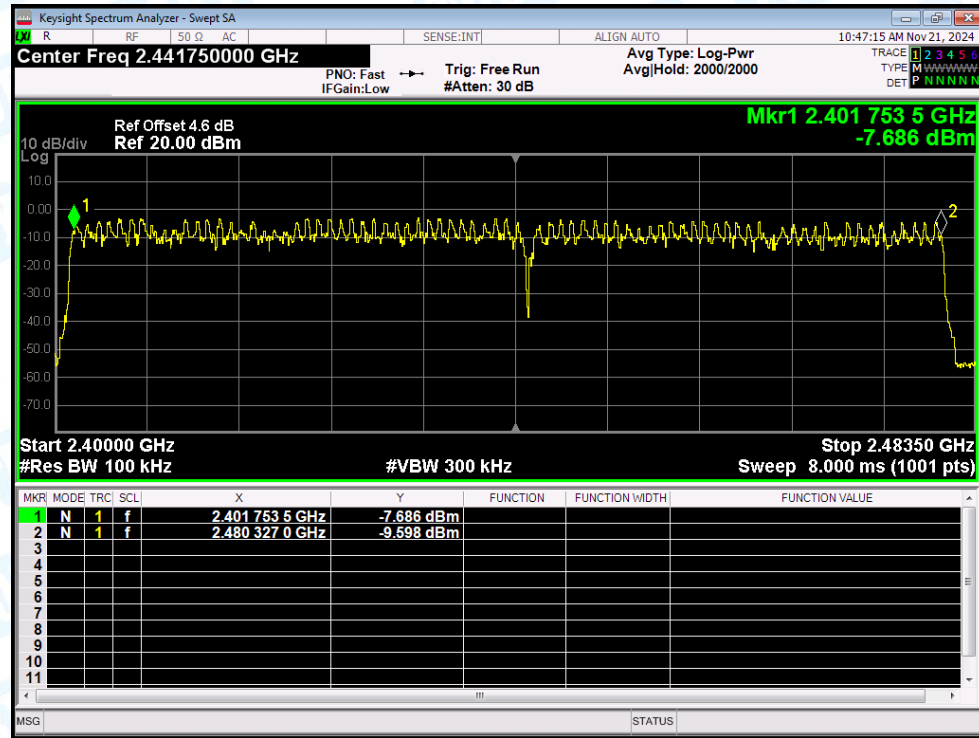
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass

Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1

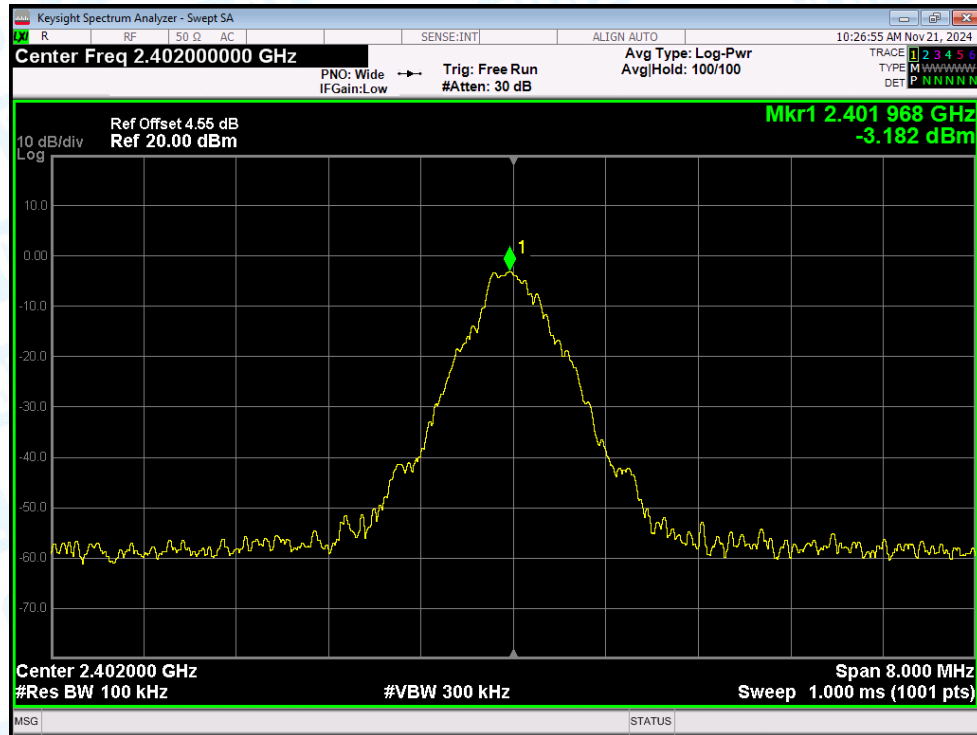


6. Band Edge

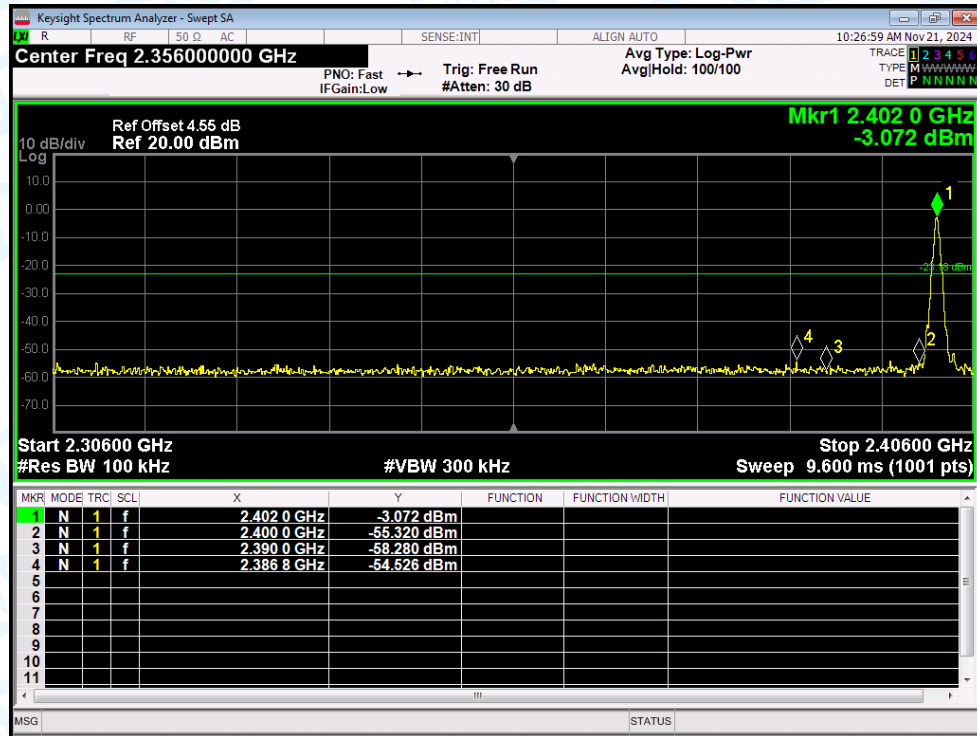
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-51.35	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-49.89	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-51.52	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-49.7	-20	Pass

Test Graphs

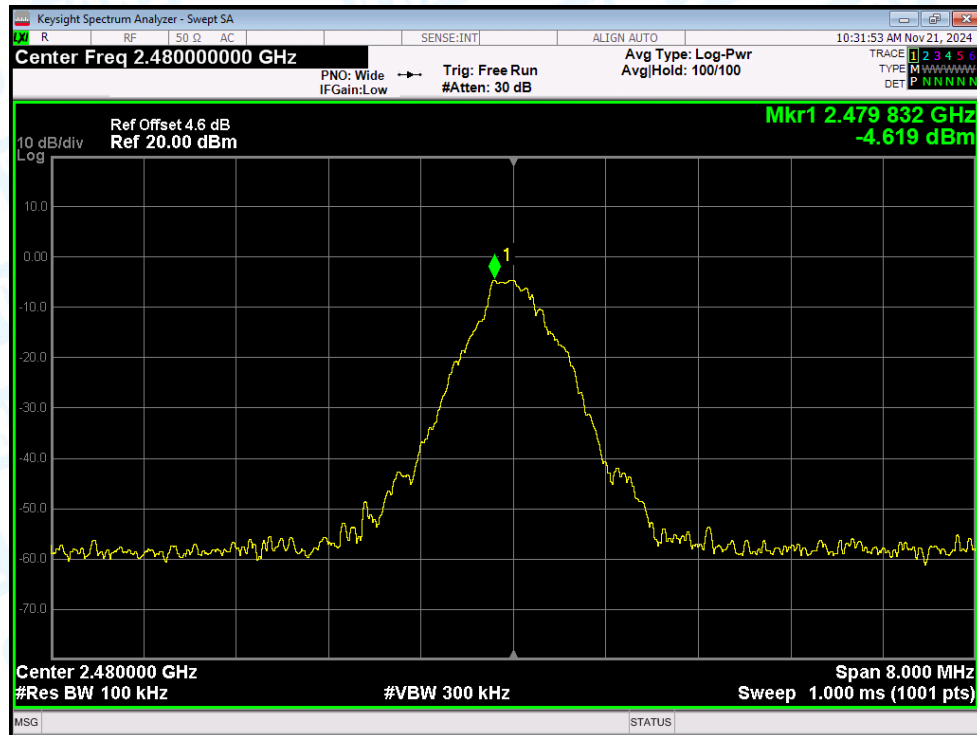
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



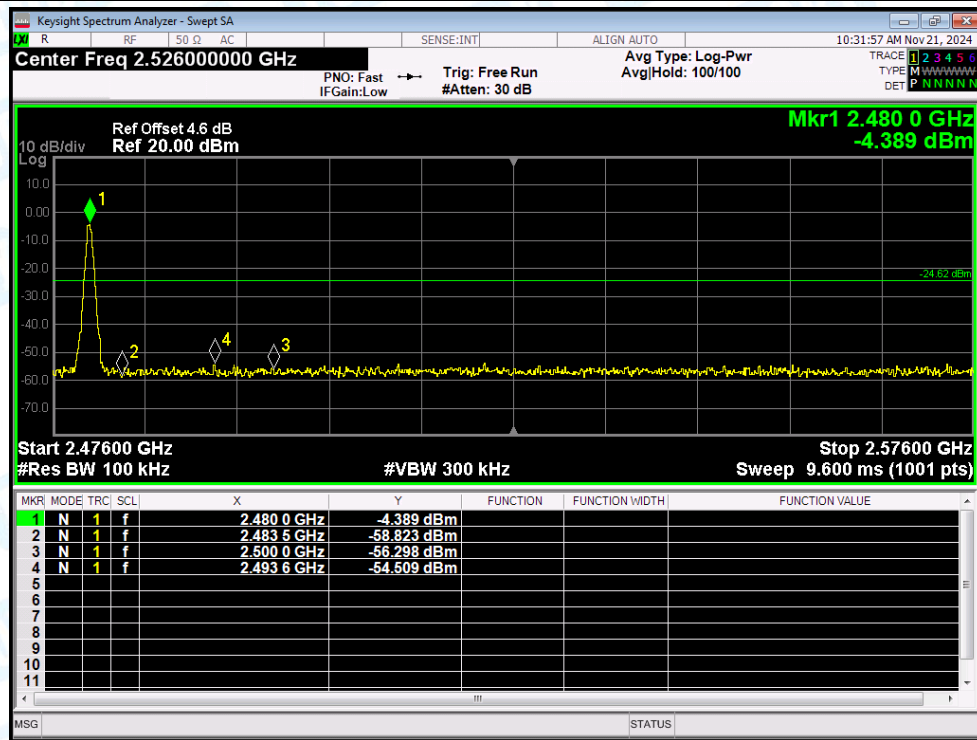
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



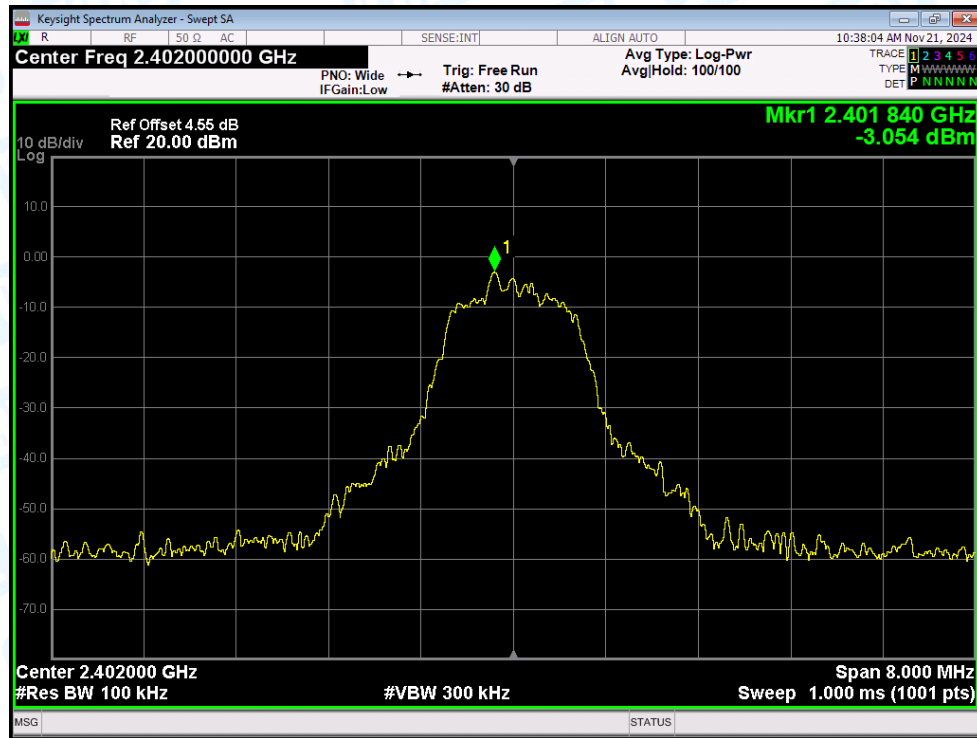
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



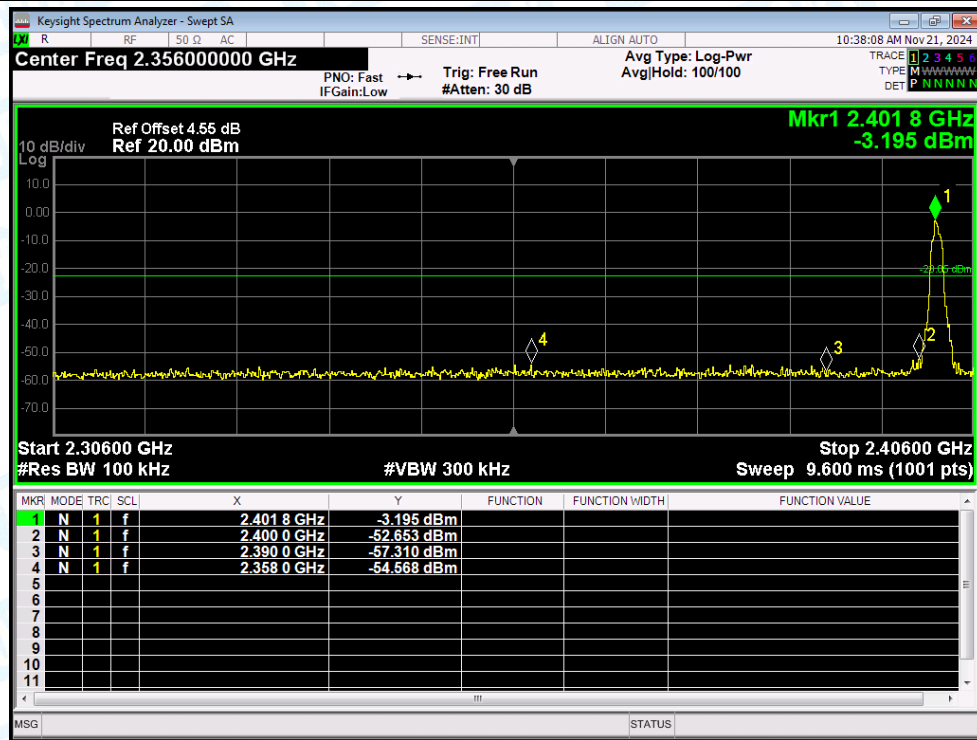
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



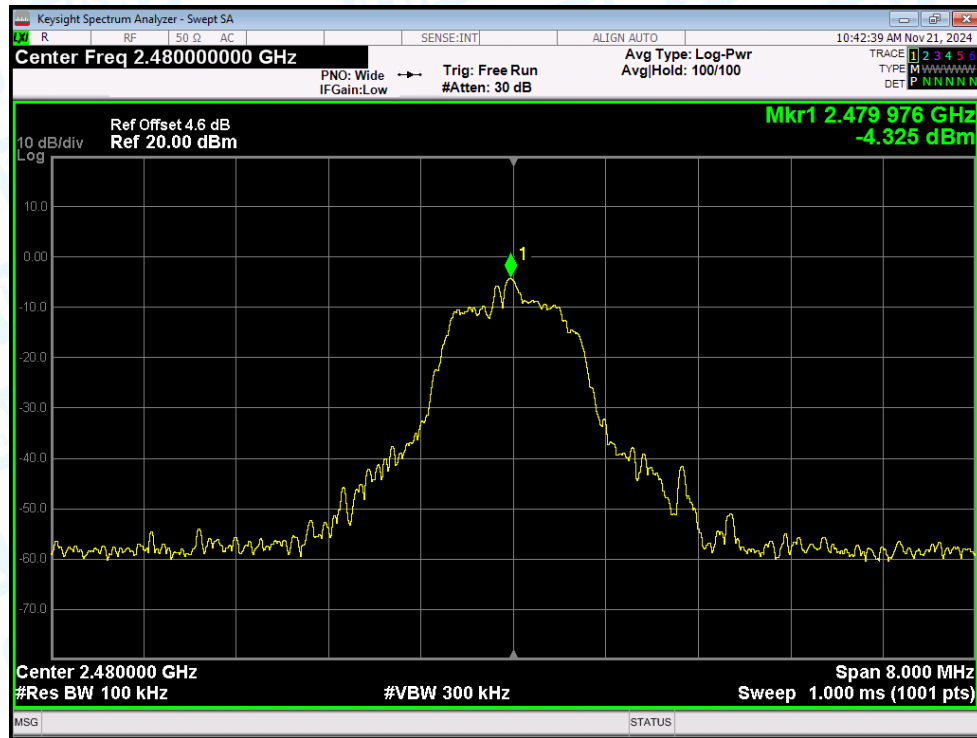
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



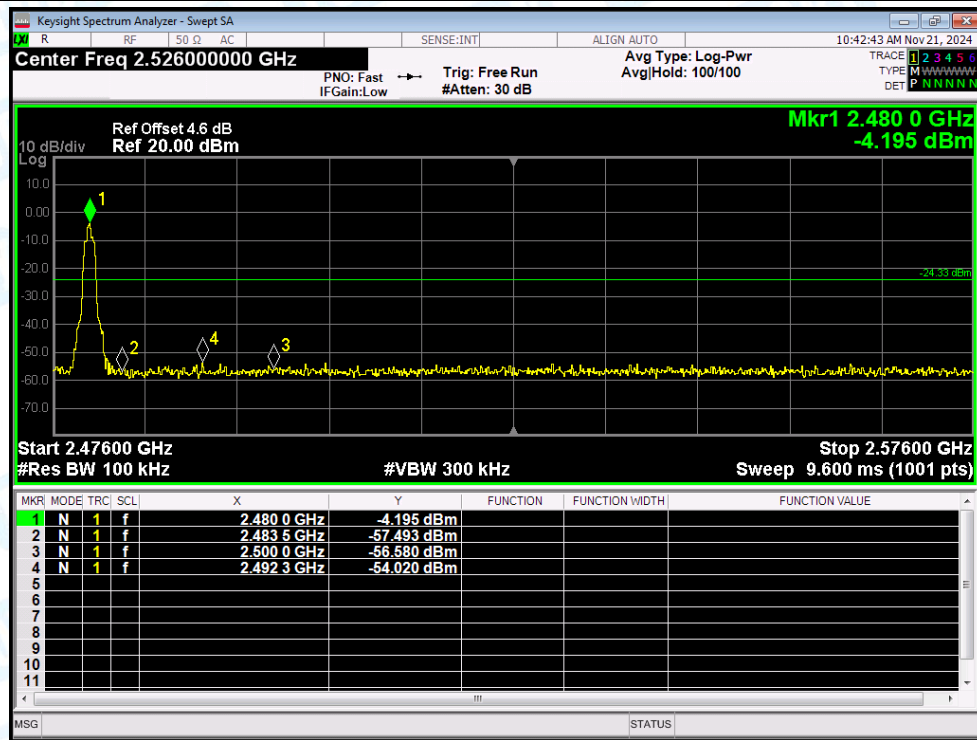
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



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



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

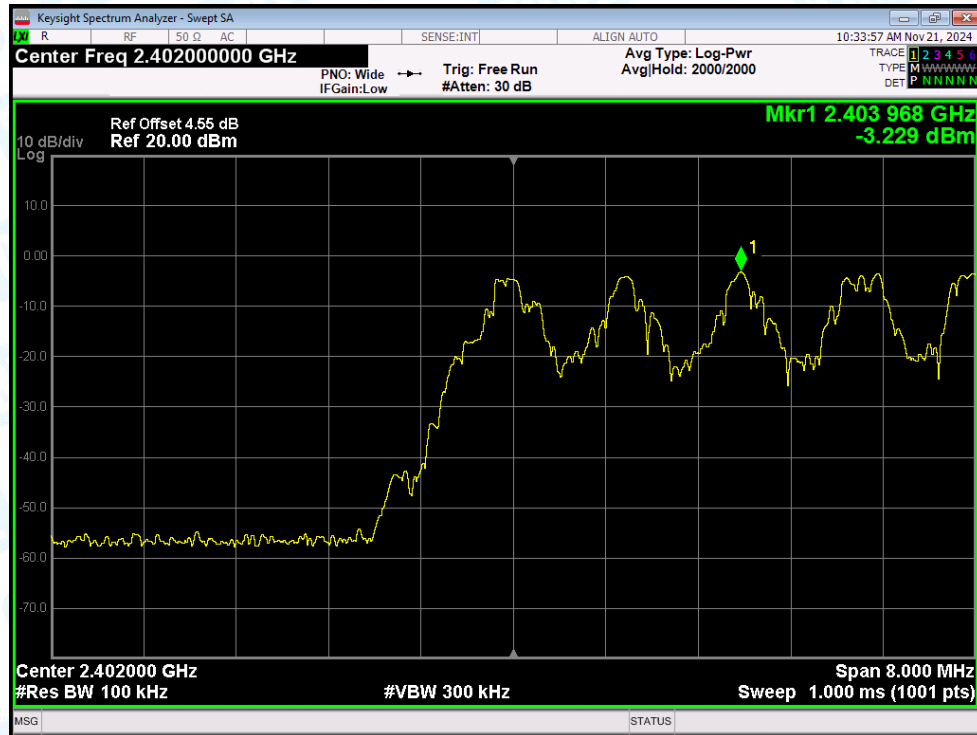


7. Band Edge(Hopping)

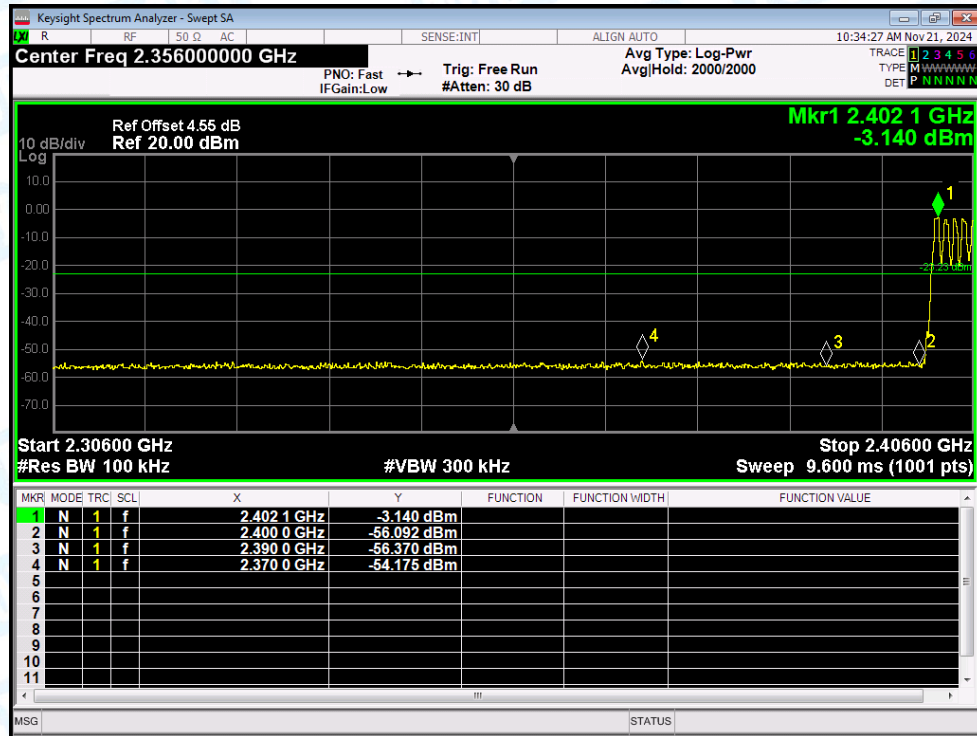
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-50.94	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-49.12	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-50.84	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-48.05	-20	Pass

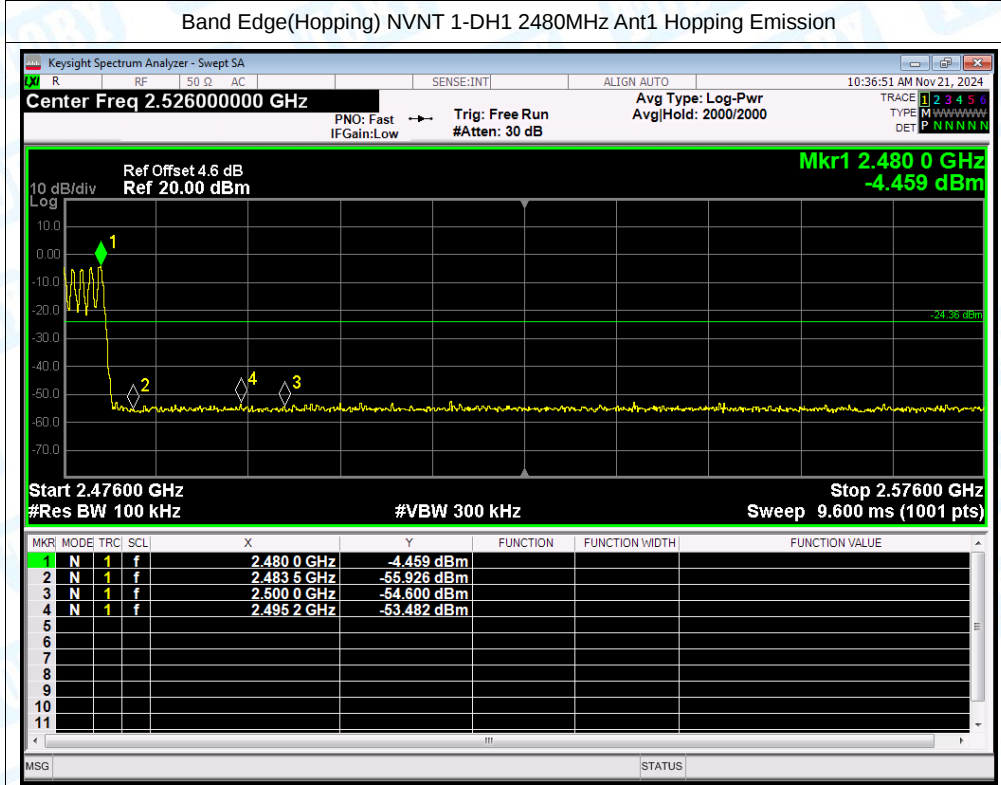
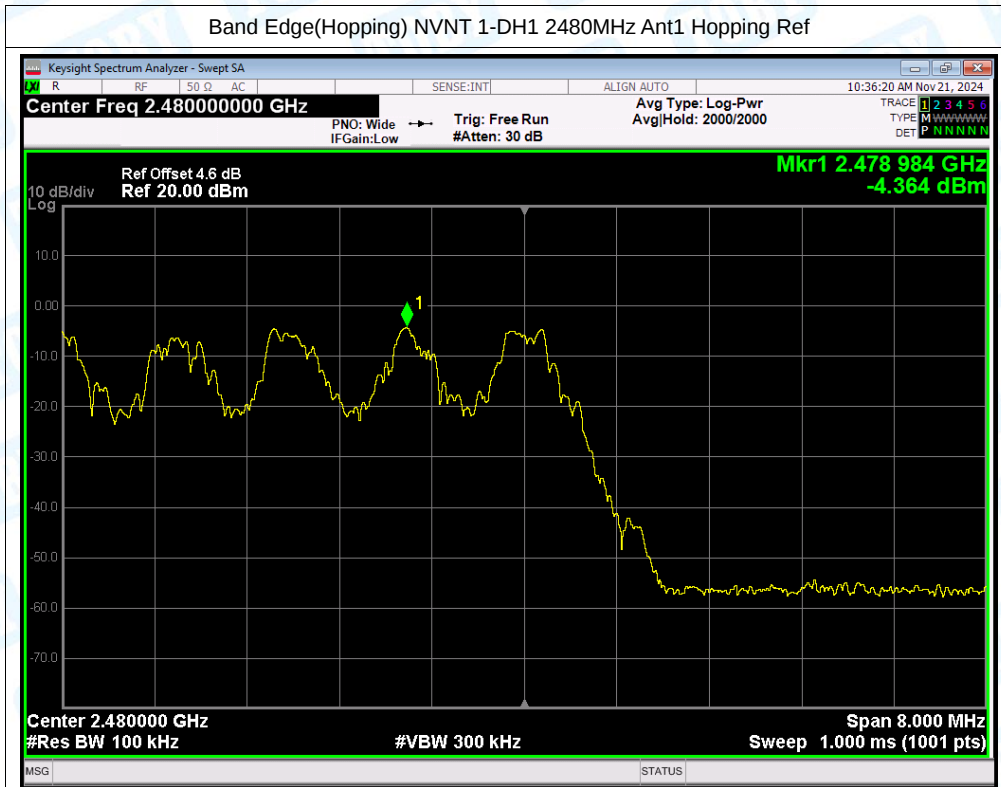
Test Graphs

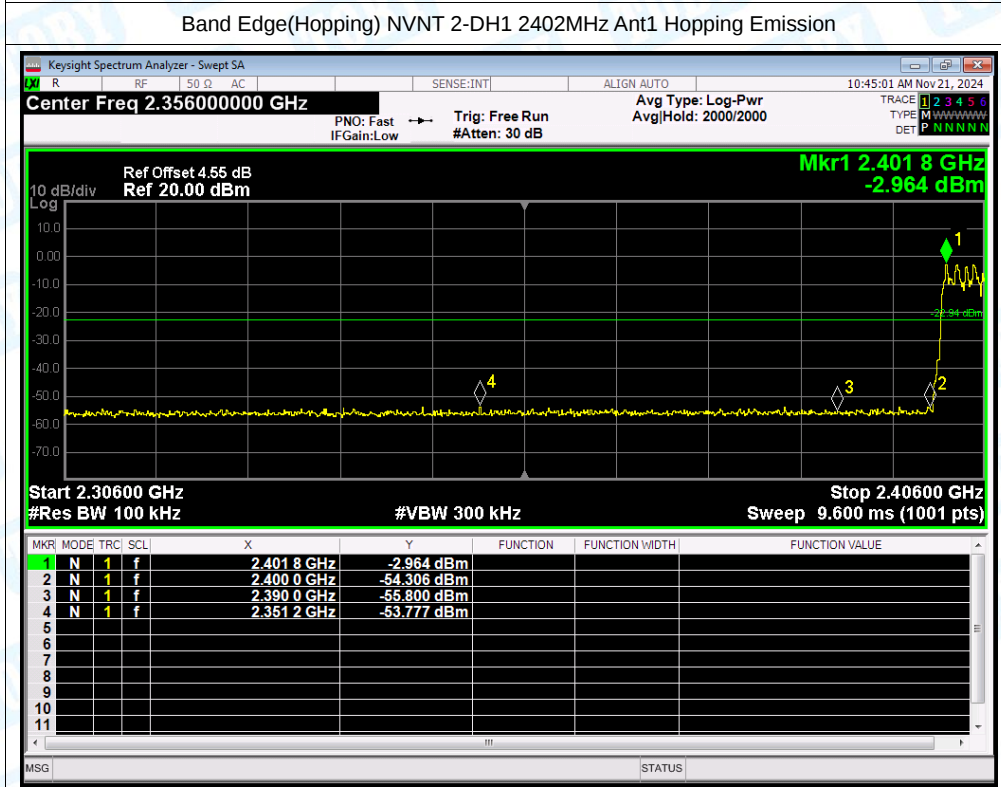
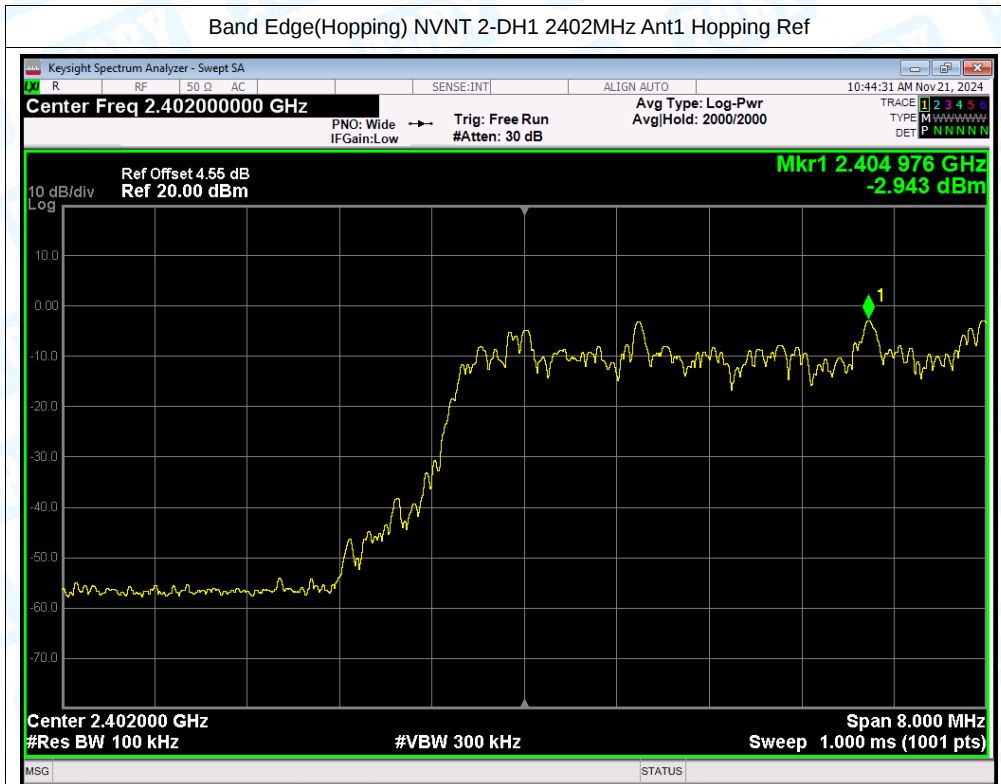
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



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



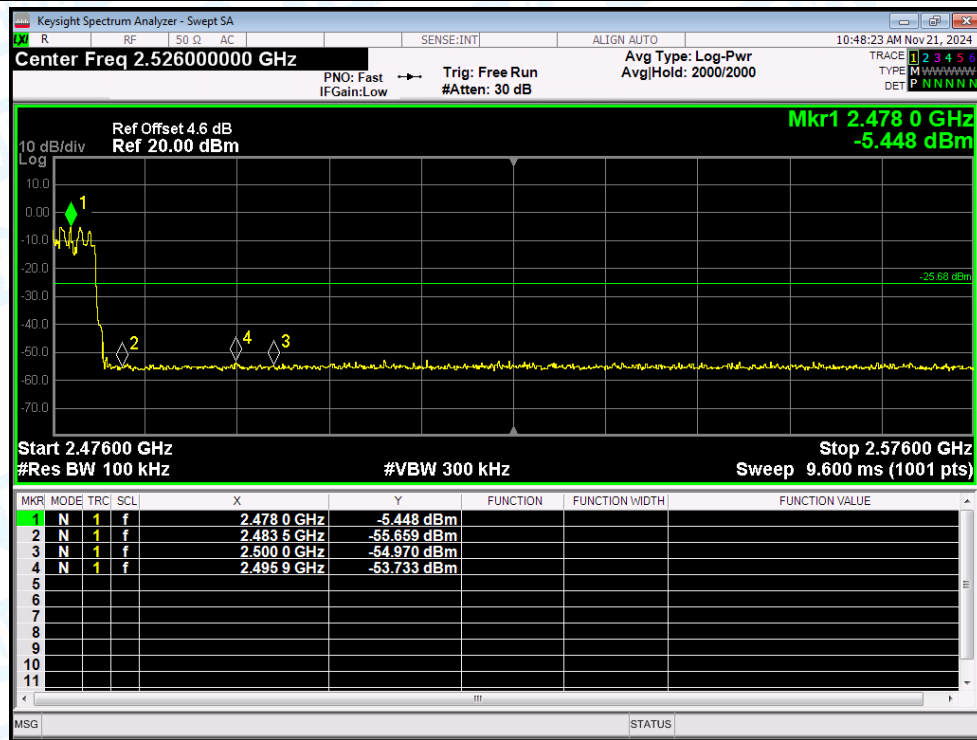




Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



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

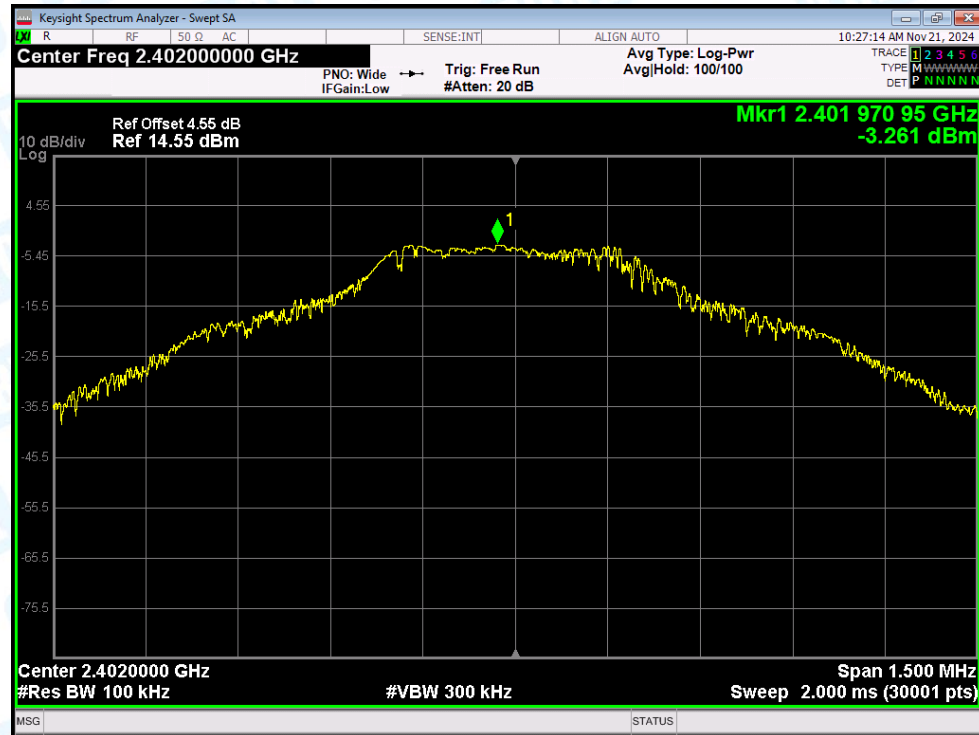


8. Conducted RF Spurious Emission

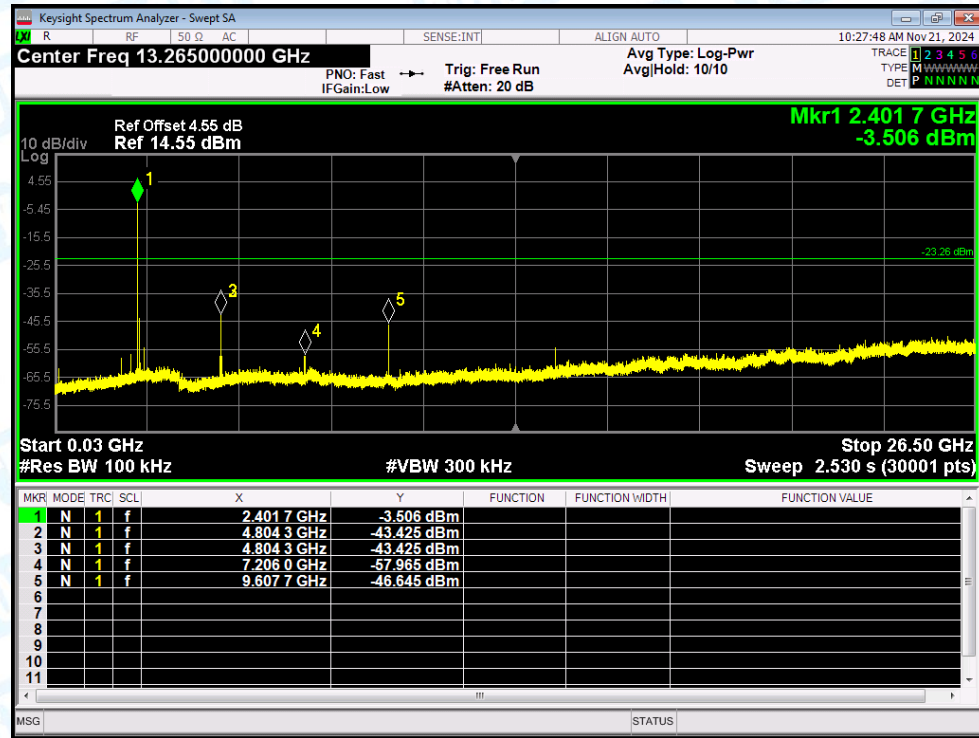
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-40.17	-20	Pass
NVNT	1-DH1	2441	Ant1	-37.46	-20	Pass
NVNT	1-DH1	2480	Ant1	-37.81	-20	Pass
NVNT	2-DH1	2402	Ant1	-35.82	-20	Pass
NVNT	2-DH1	2441	Ant1	-39.53	-20	Pass
NVNT	2-DH1	2480	Ant1	-36.89	-20	Pass

Test Graphs

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



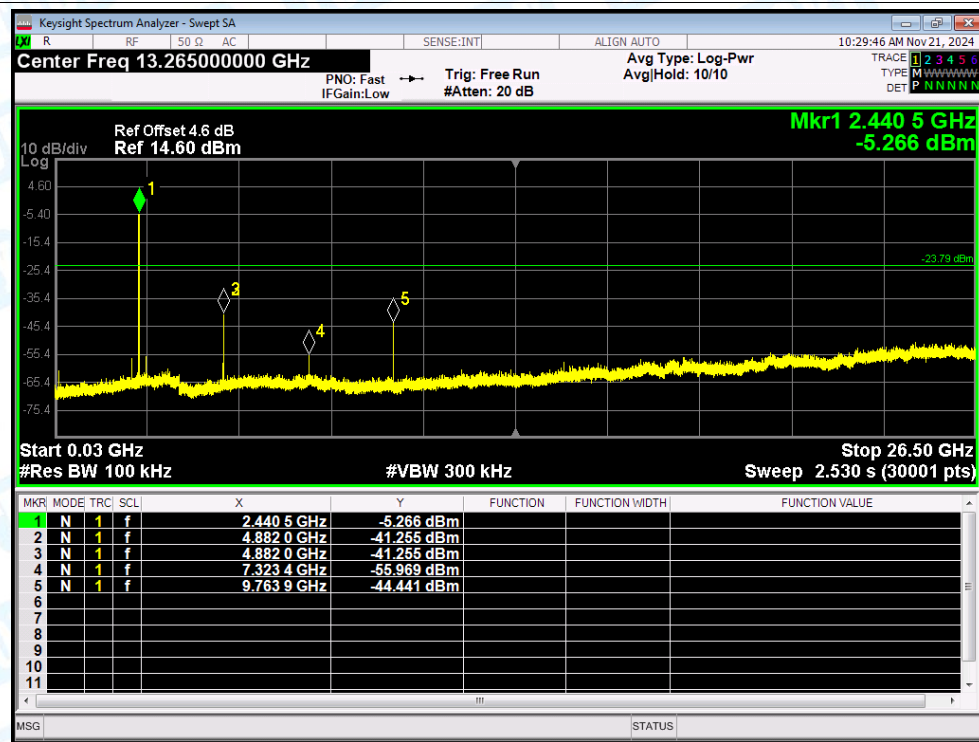
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



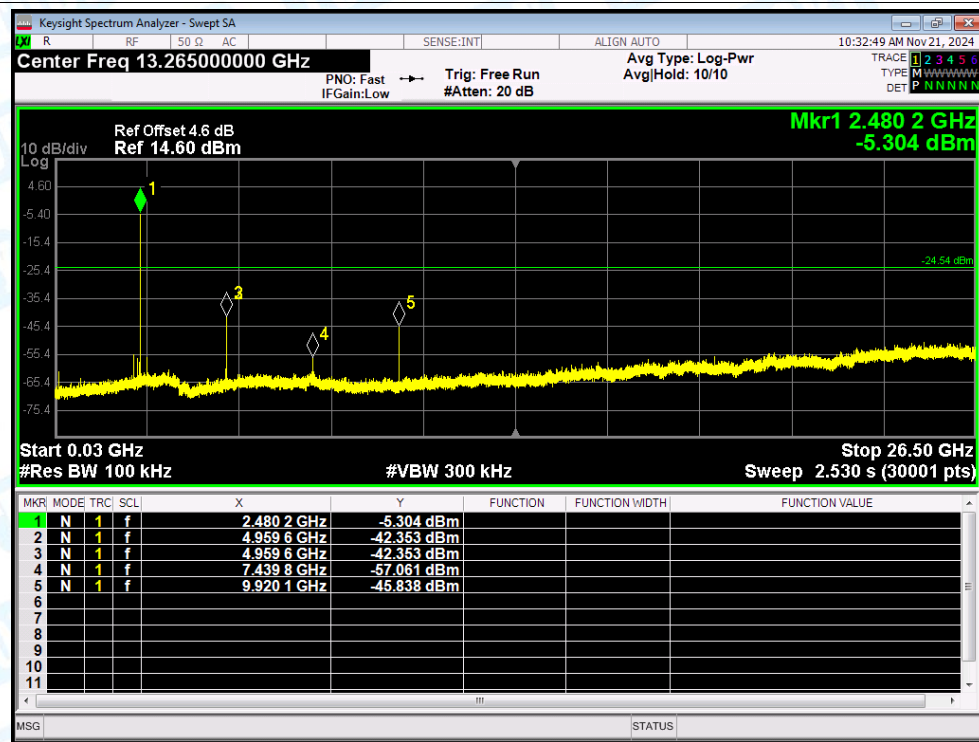
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



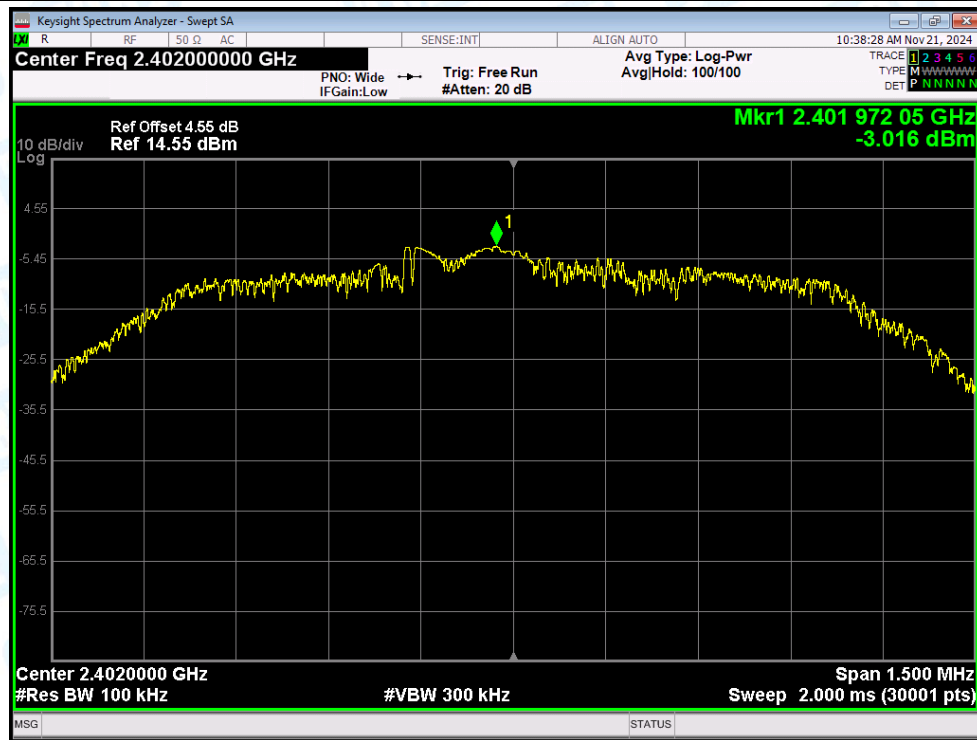
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



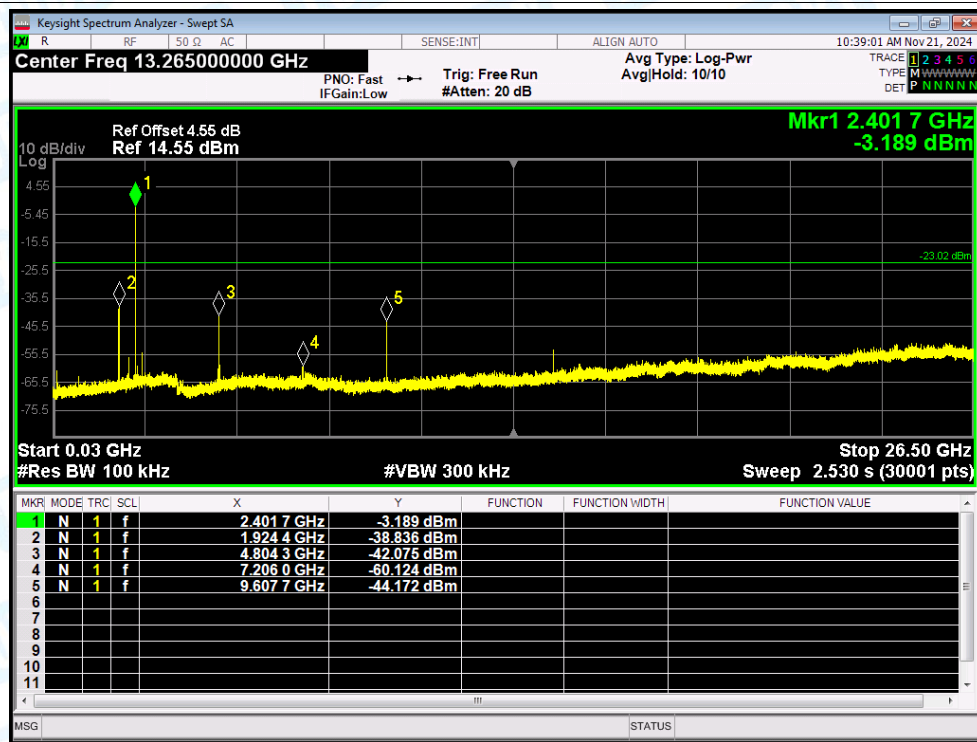
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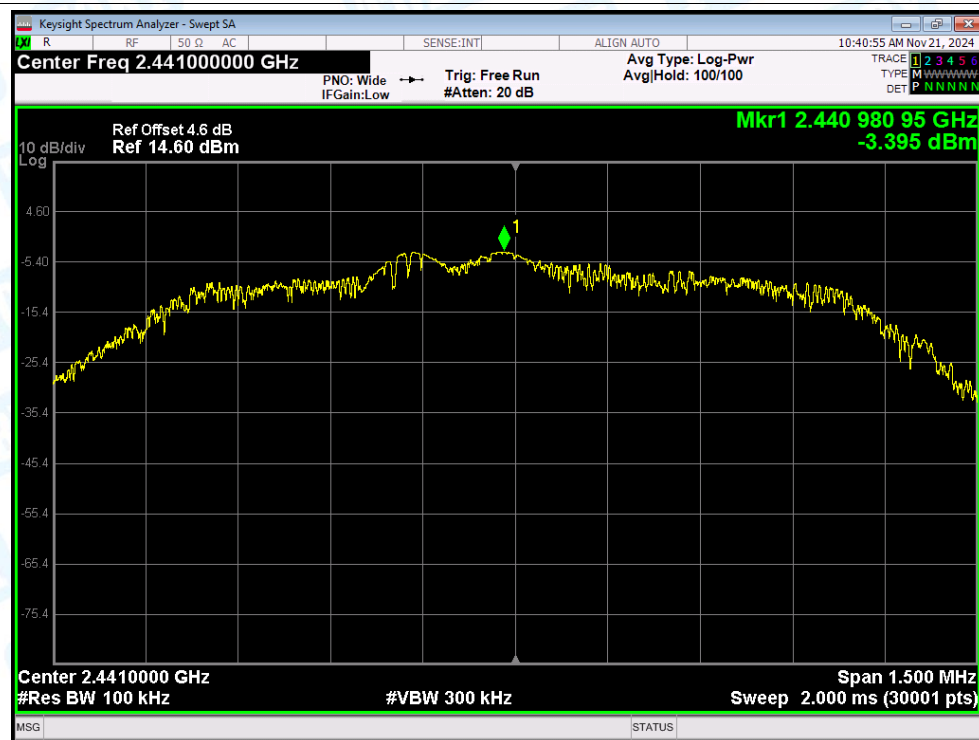
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



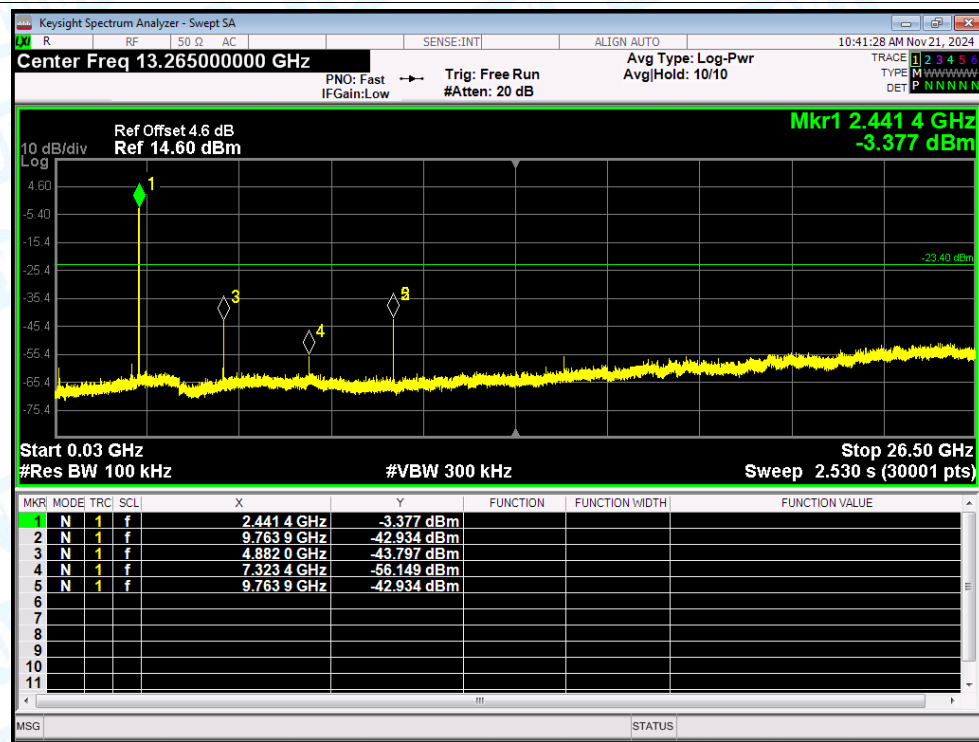
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



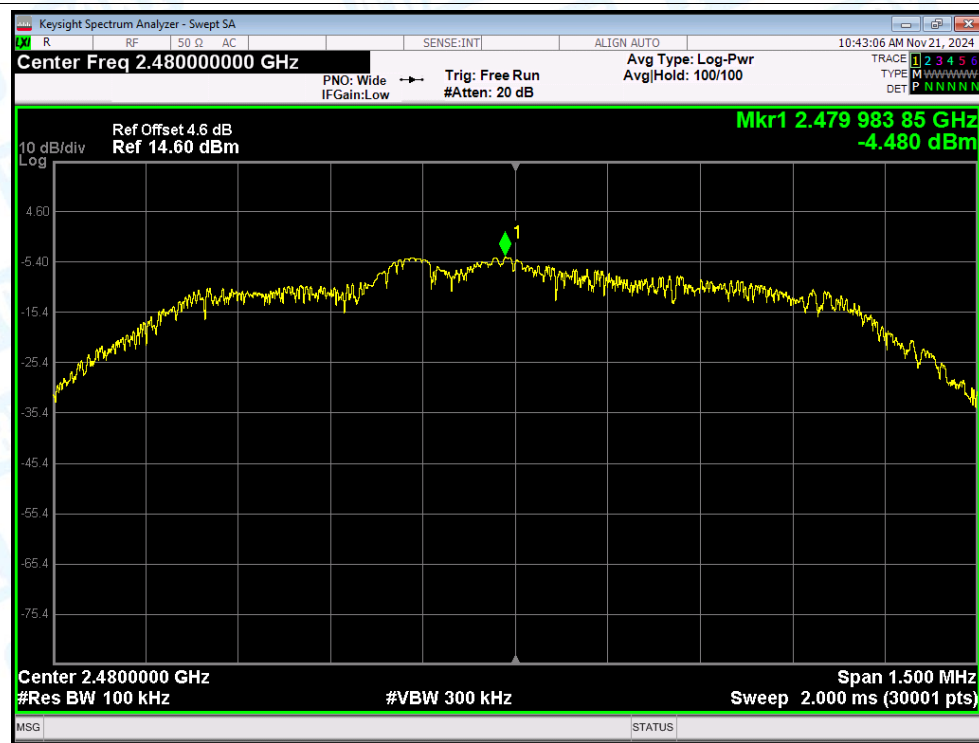
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



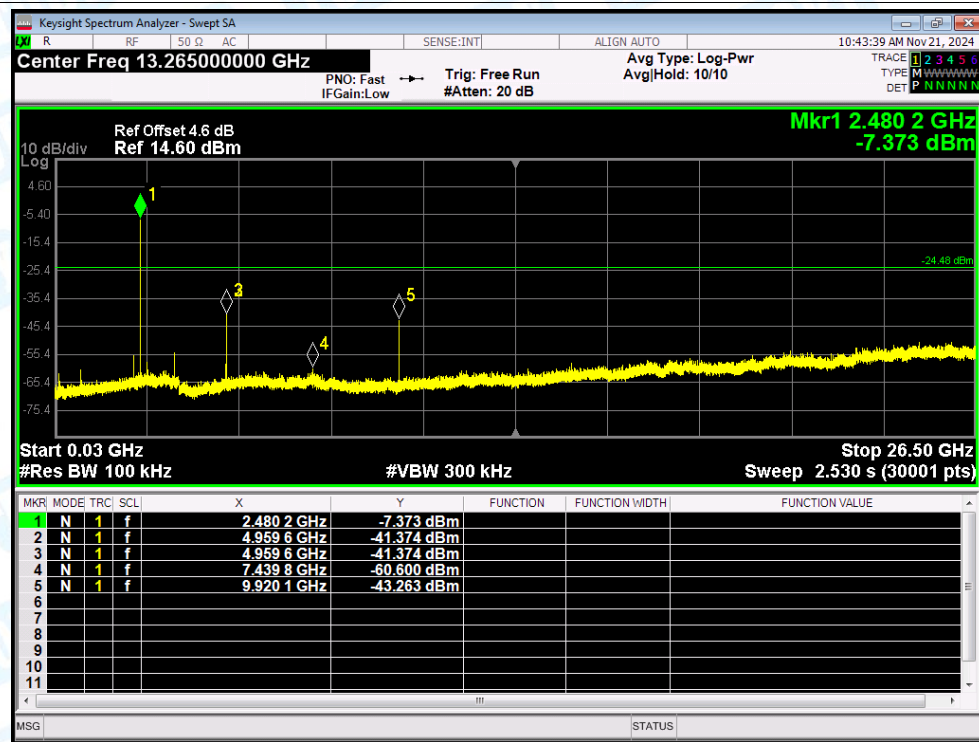
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission

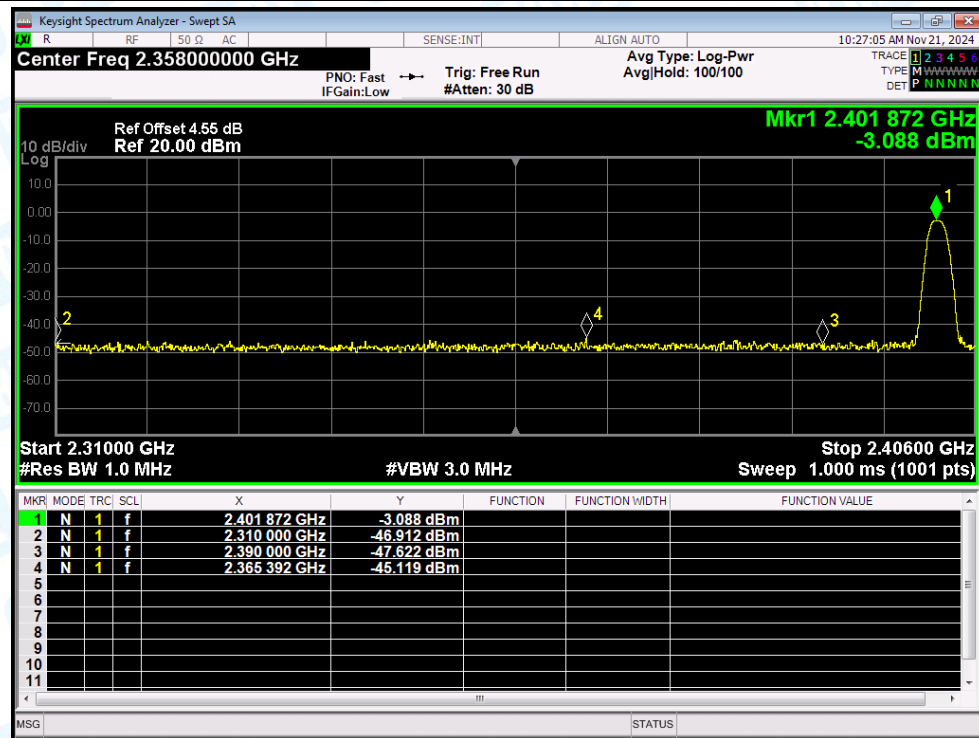


9. Restrict Band

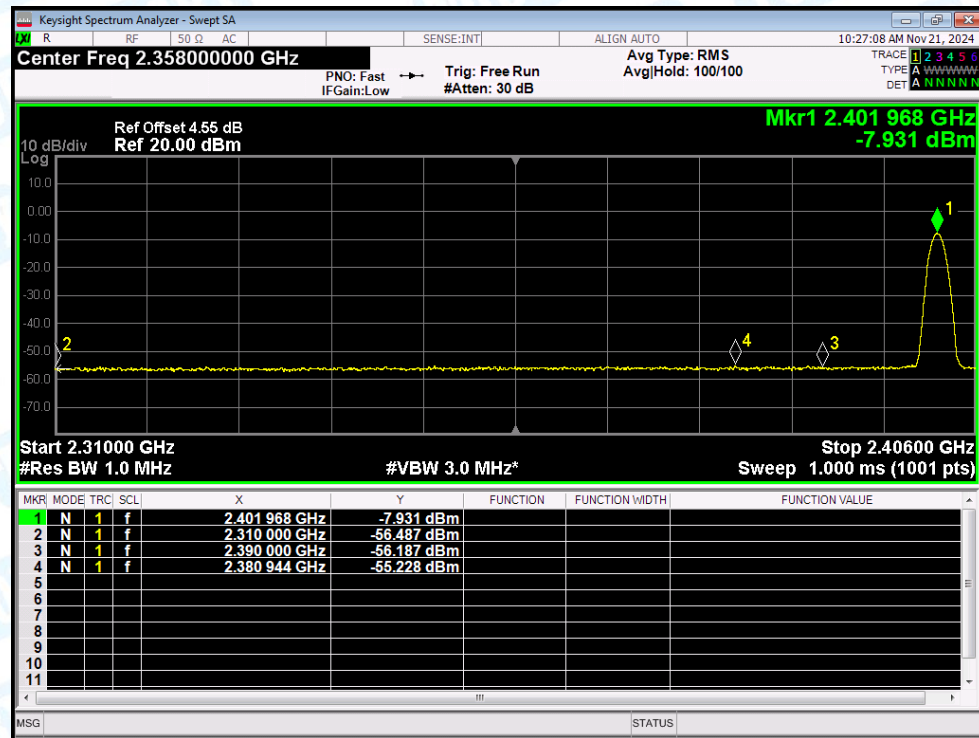
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-46.91	2.5	-	50.85	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.49	2.5	5.06	46.33	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2365.392	-45.12	2.5	-	52.64	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2380.944	-55.23	2.5	5.06	47.59	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-47.62	2.5	-	50.14	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.19	2.5	5.06	46.63	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-48.31	2.5	-	49.45	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-55.62	2.5	5.17	47.31	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2494.504	-44.69	2.5	-	53.07	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2490.952	-54.64	2.5	5.17	48.29	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.81	2.5	-	49.95	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.51	2.5	5.17	47.42	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.17	2.5	-	49.59	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.28	2.5	5.06	46.54	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2369.136	-44.73	2.5	-	53.03	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2379.888	-55.37	2.5	5.06	47.45	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-49.11	2.5	-	48.65	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-56.54	2.5	5.06	46.28	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-46.23	2.5	-	51.53	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.8	2.5	5.06	47.02	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.824	-42.89	2.5	-	54.87	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2499.664	-54.7	2.5	5.06	48.12	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.59	2.5	-	50.17	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.58	2.5	5.06	47.24	Average	54	Pass

Test Graphs

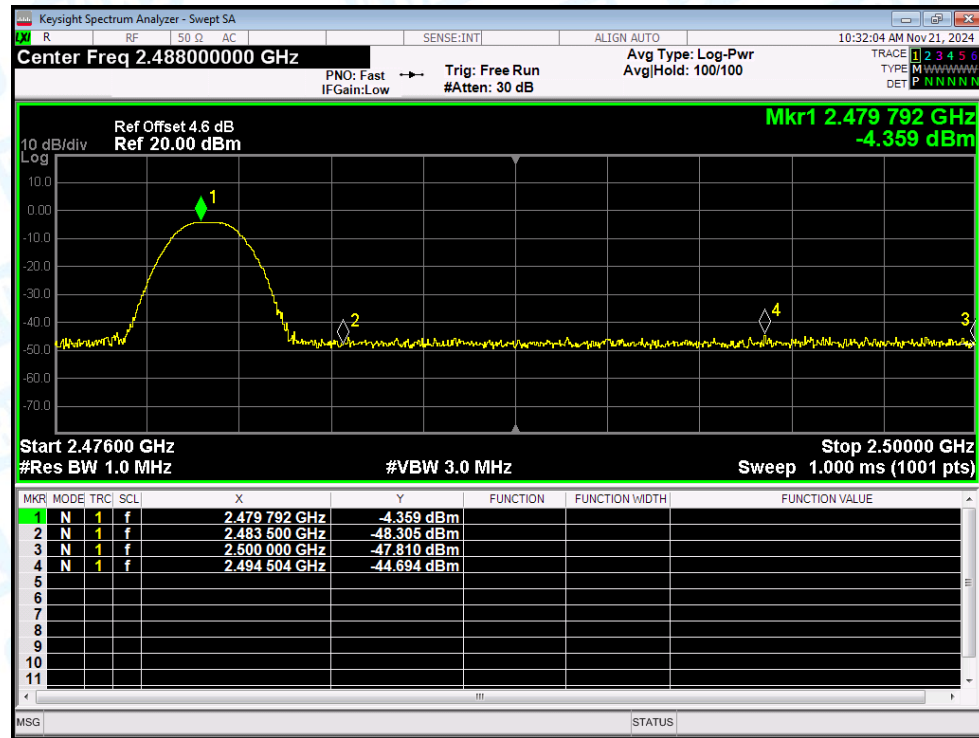
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



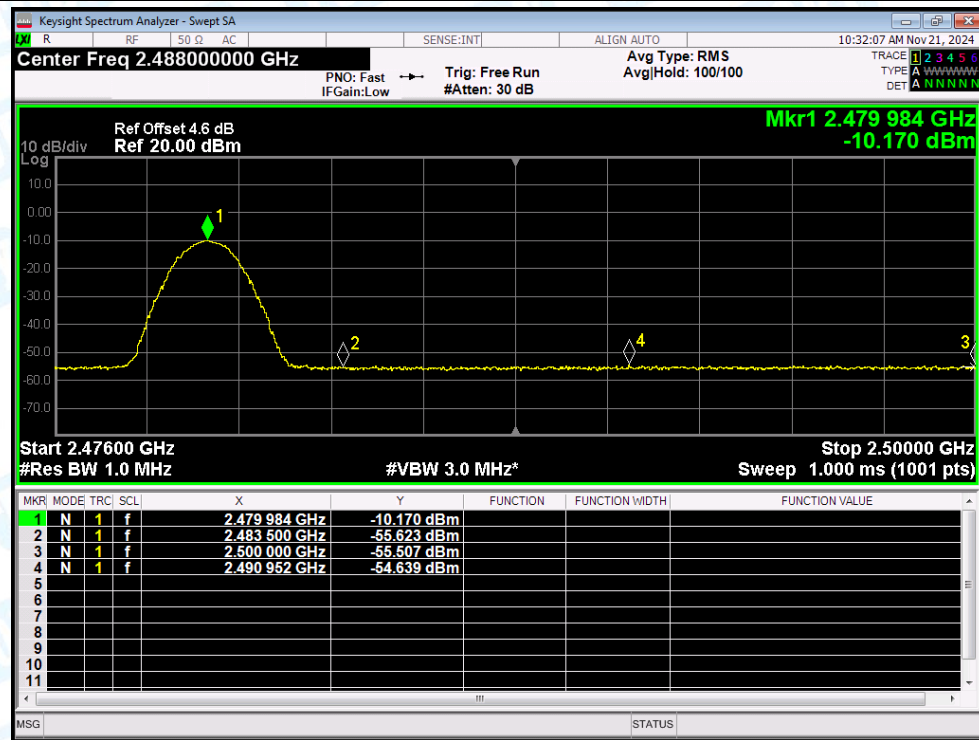
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



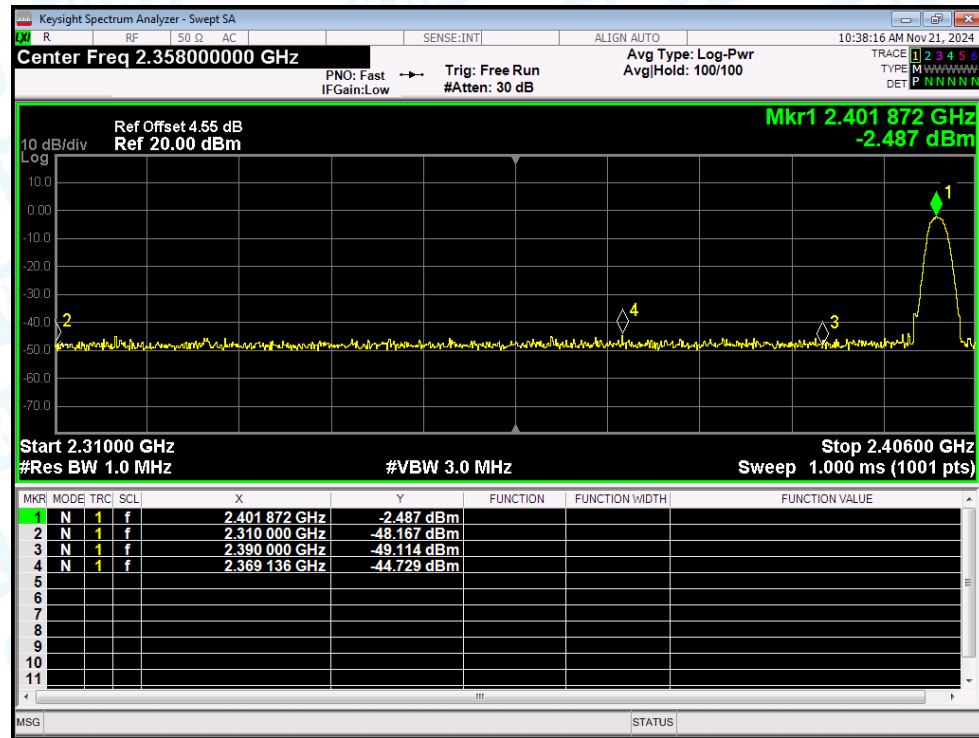
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



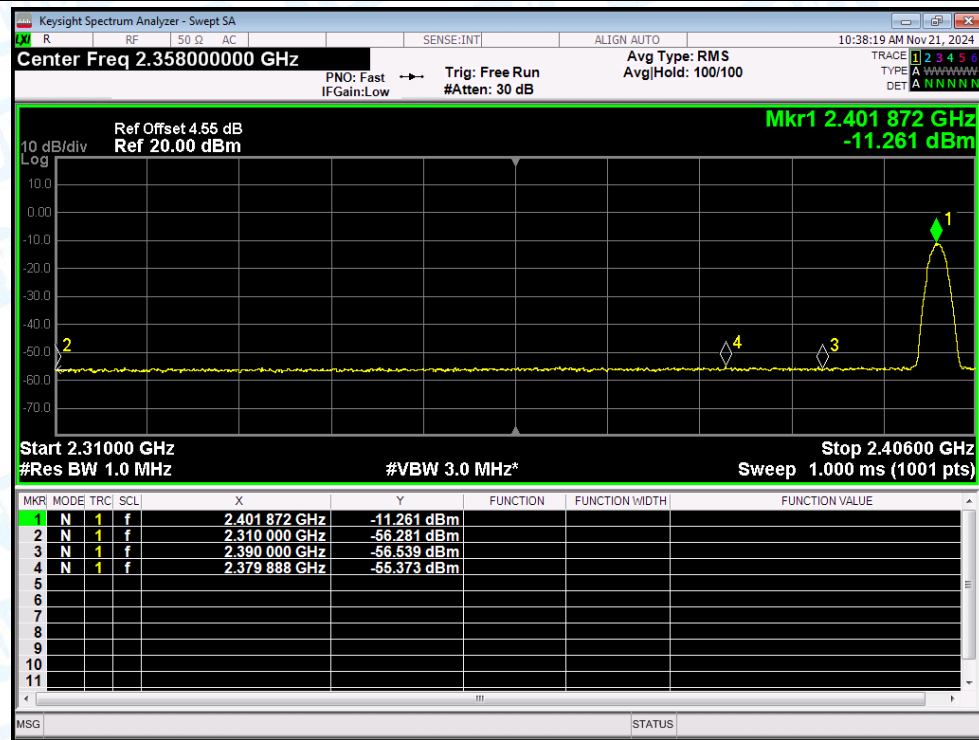
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



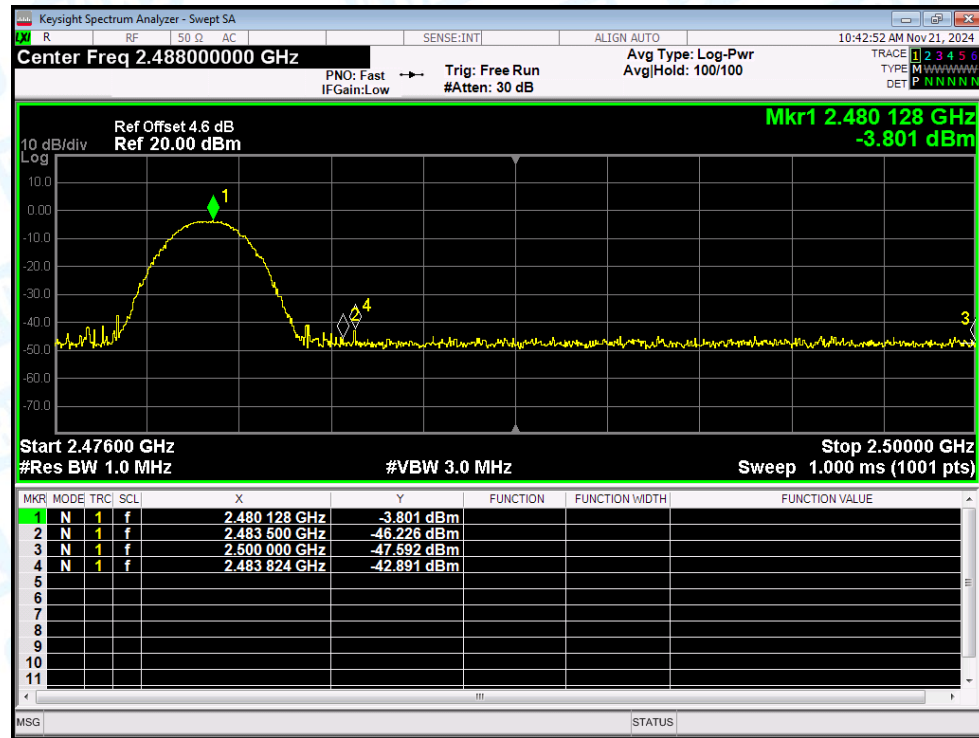
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



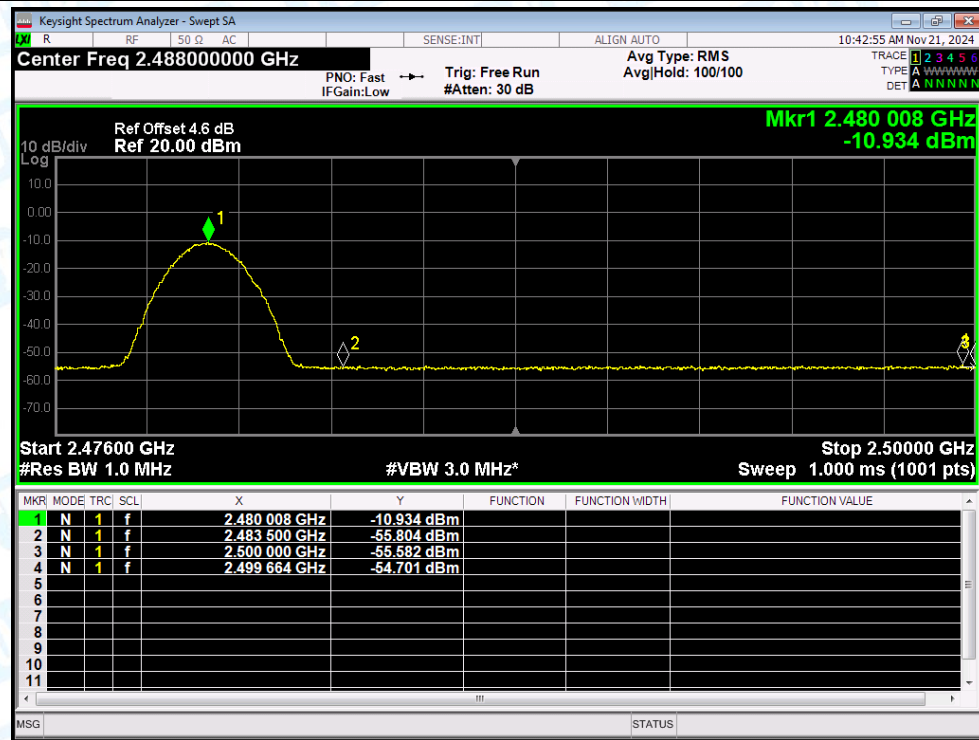
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



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



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

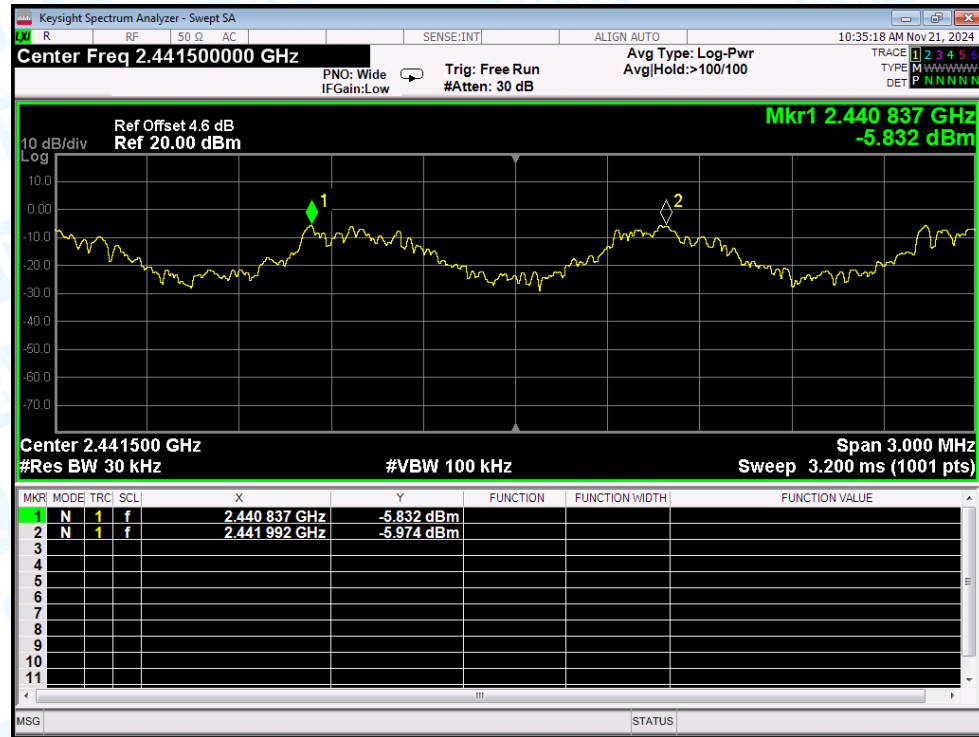


10. Carrier Frequencies Separation

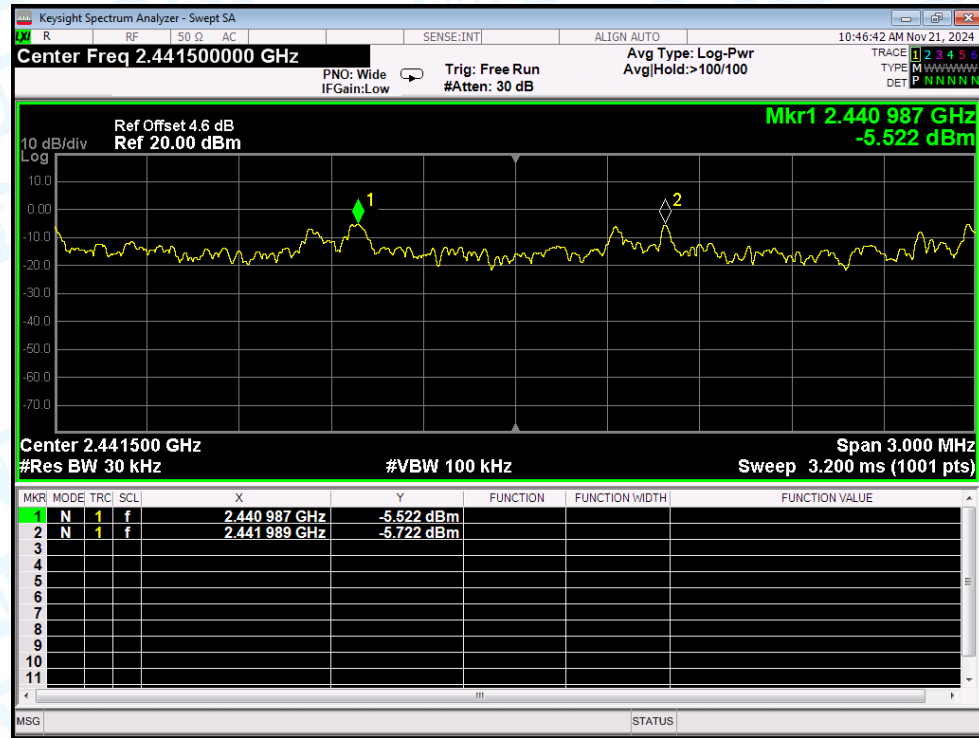
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.837	2441.992	1.155	0.68	Pass
NVNT	2-DH1	Ant1	2440.987	2441.989	1.002	0.853	Pass

Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1

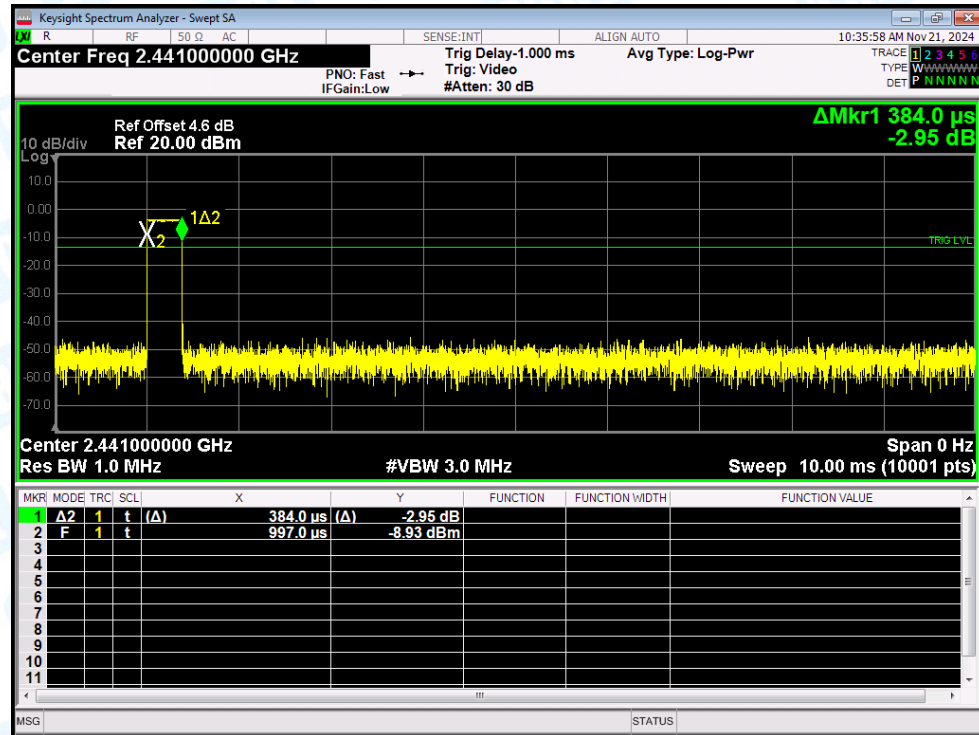


11. Dwell Time

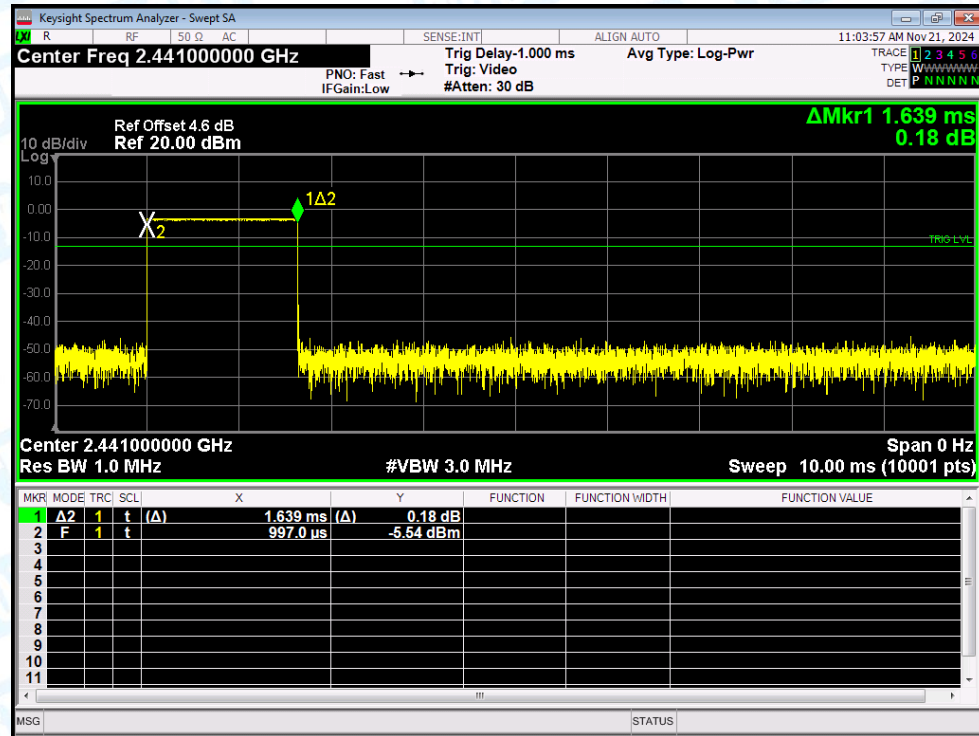
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.384	122.88	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.392	125.44	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.644	263.04	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.892	308.48	31600	400	Pass

Test Graphs

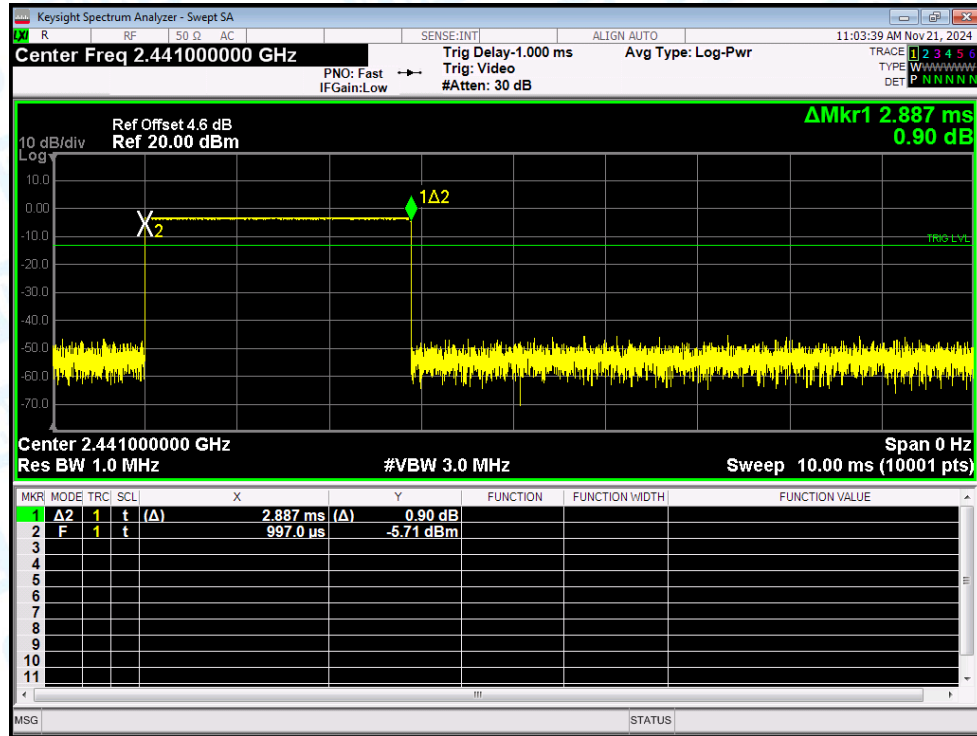
Dwell NVNT 1-DH1 2441MHz Ant1



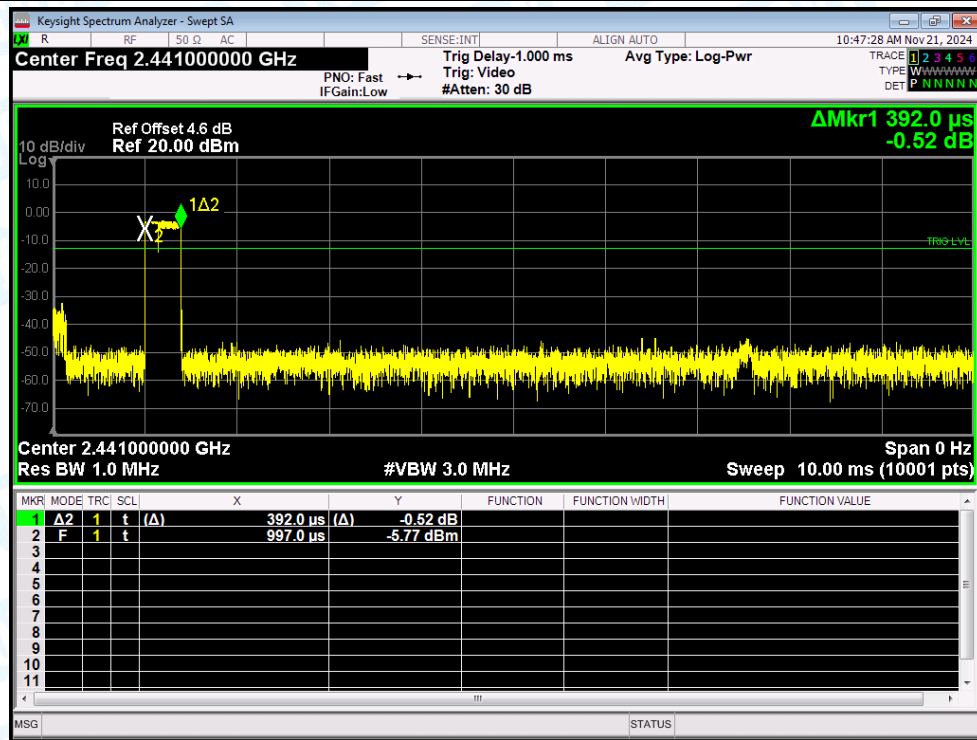
Dwell NVNT 1-DH3 2441MHz Ant1



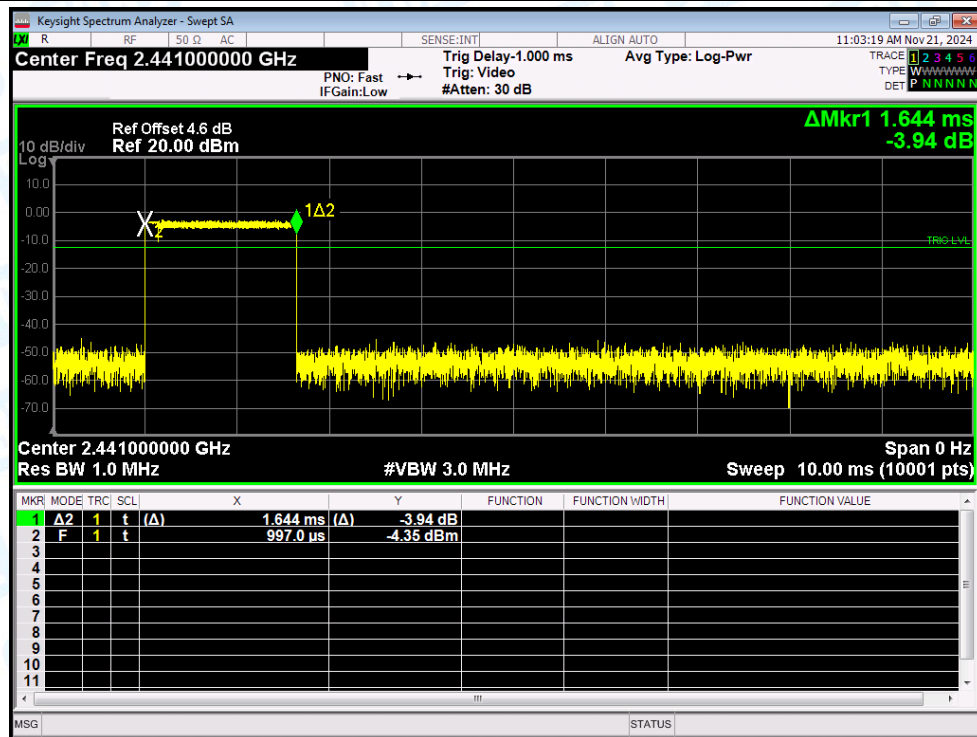
Dwell NVNT 1-DH5 2441MHz Ant1



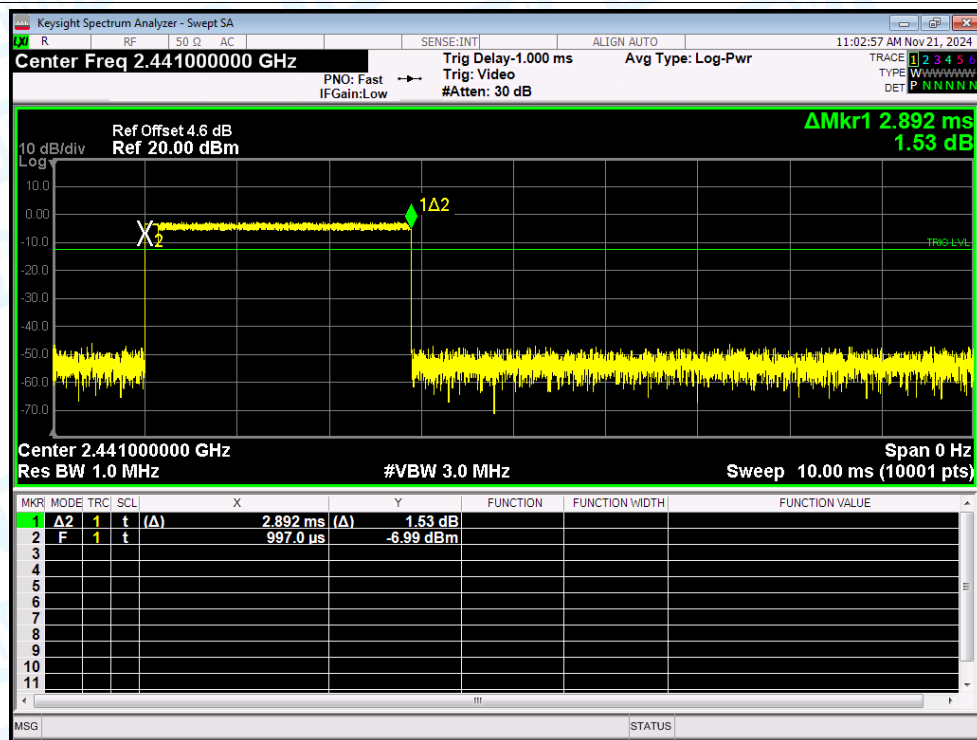
Dwell NVNT 2-DH1 2441MHz Ant1



Dwell NVNT 2-DH3 2441MHz Ant1



Dwell NVNT 2-DH5 2441MHz Ant1



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