RF Test Data for Bluetooth(BR+EDR) (Conducted Measurements)

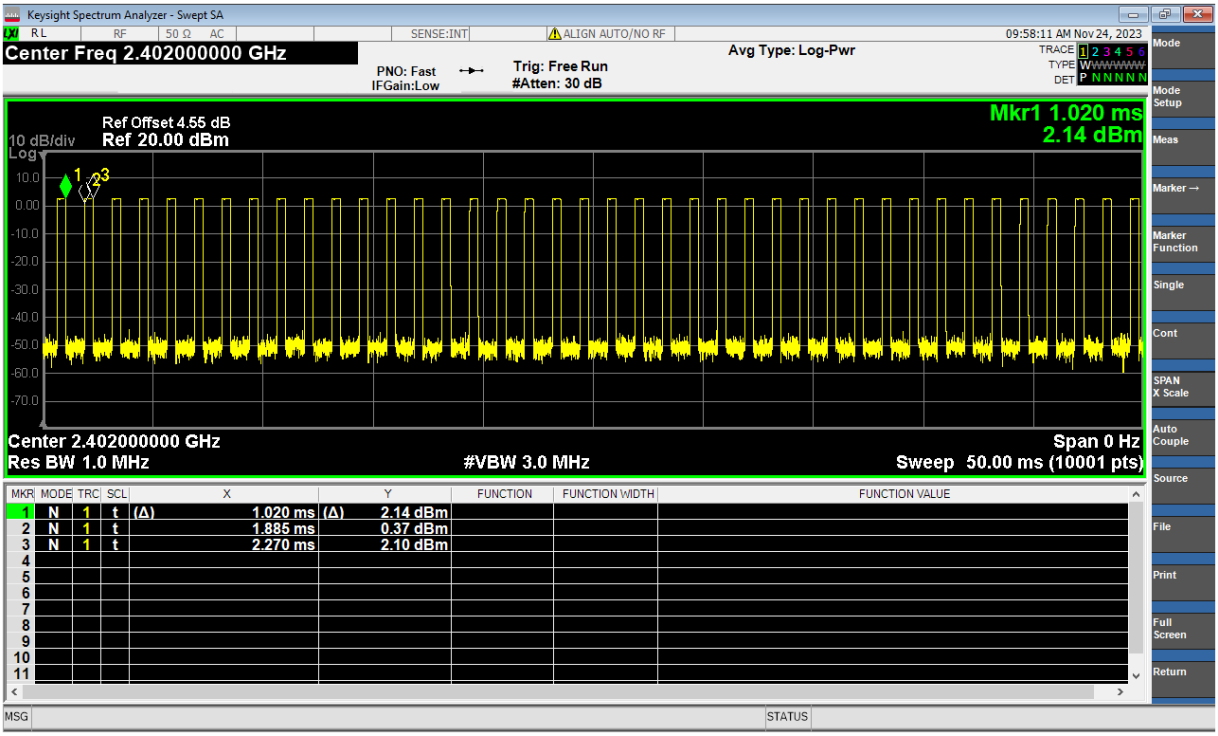
General Description of EUT	
Product Name:	Smart Watch
Test Model:	LW8
Sample ID:	HC-C-202311-0205-01-01-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 3.7V
Test Engineer:	Zhou Zhen
Note: For a more detailed features description, please refer to the report TBR-C-202311-0205-8 The report only show the worst case data.	

1. Duty Cycle

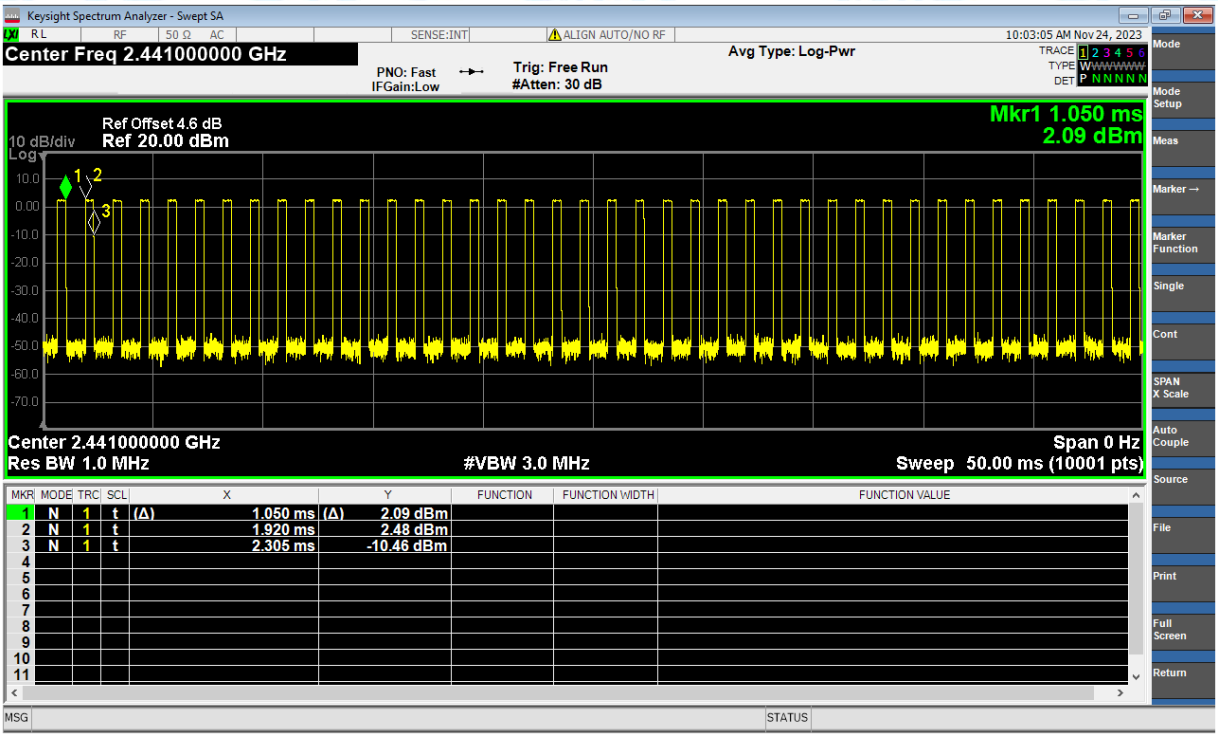
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.8	5.11	2.6
NVNT	1-DH1	2441	Ant1	30.68	5.13	2.6
NVNT	1-DH1	2480	Ant1	30.68	5.13	2.6
NVNT	2-DH1	2402	Ant1	32	4.95	2.5
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56

Test Graphs

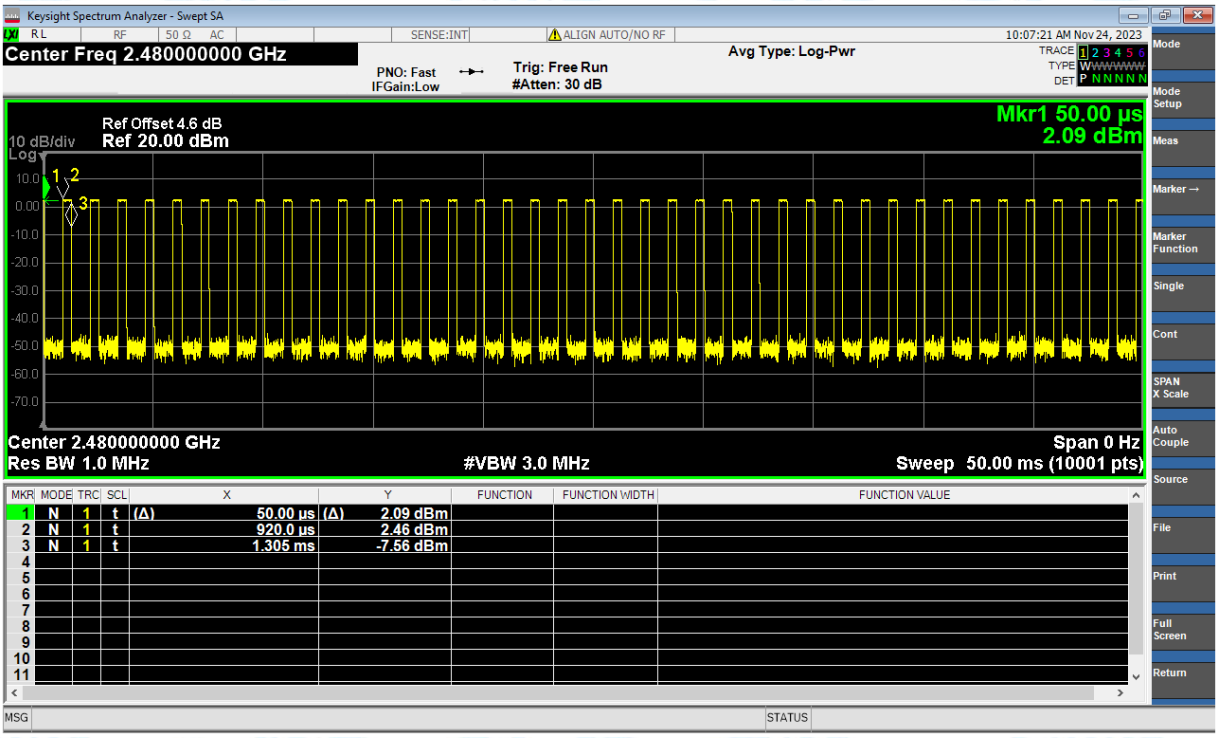
Duty Cycle NVNT 1-DH1 2402MHz Ant1



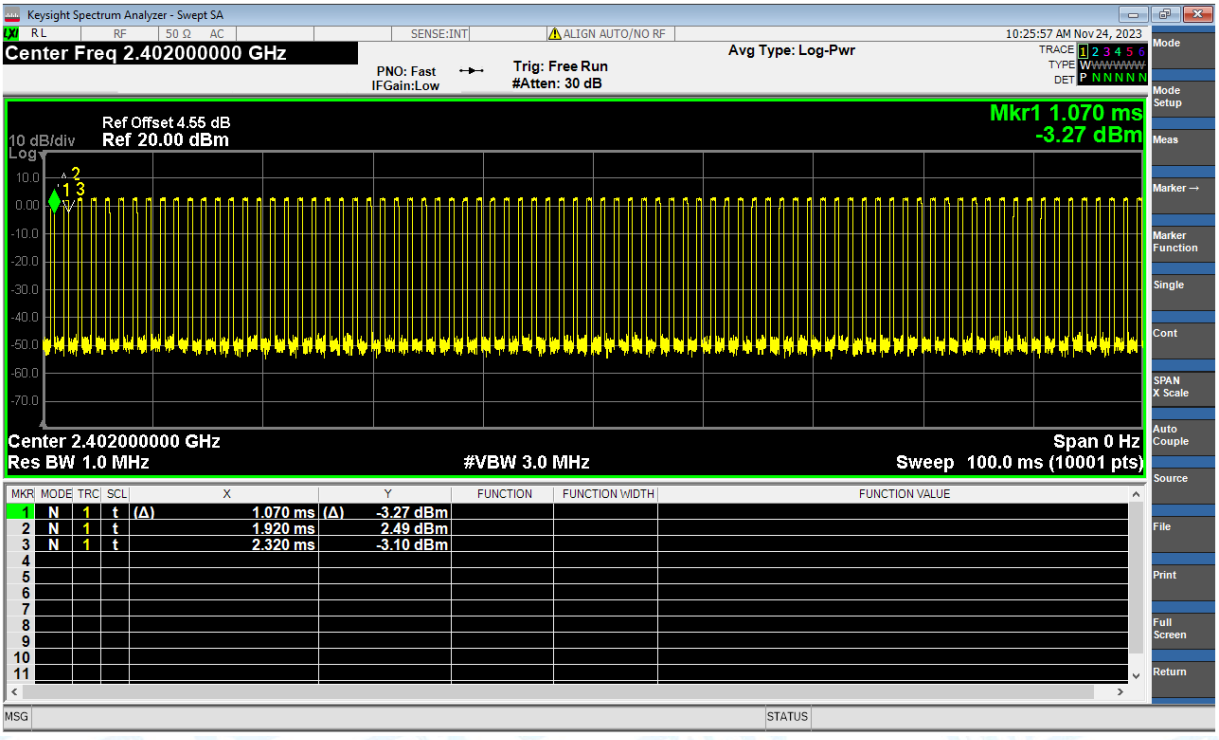
Duty Cycle NVNT 1-DH1 2441MHz Ant1



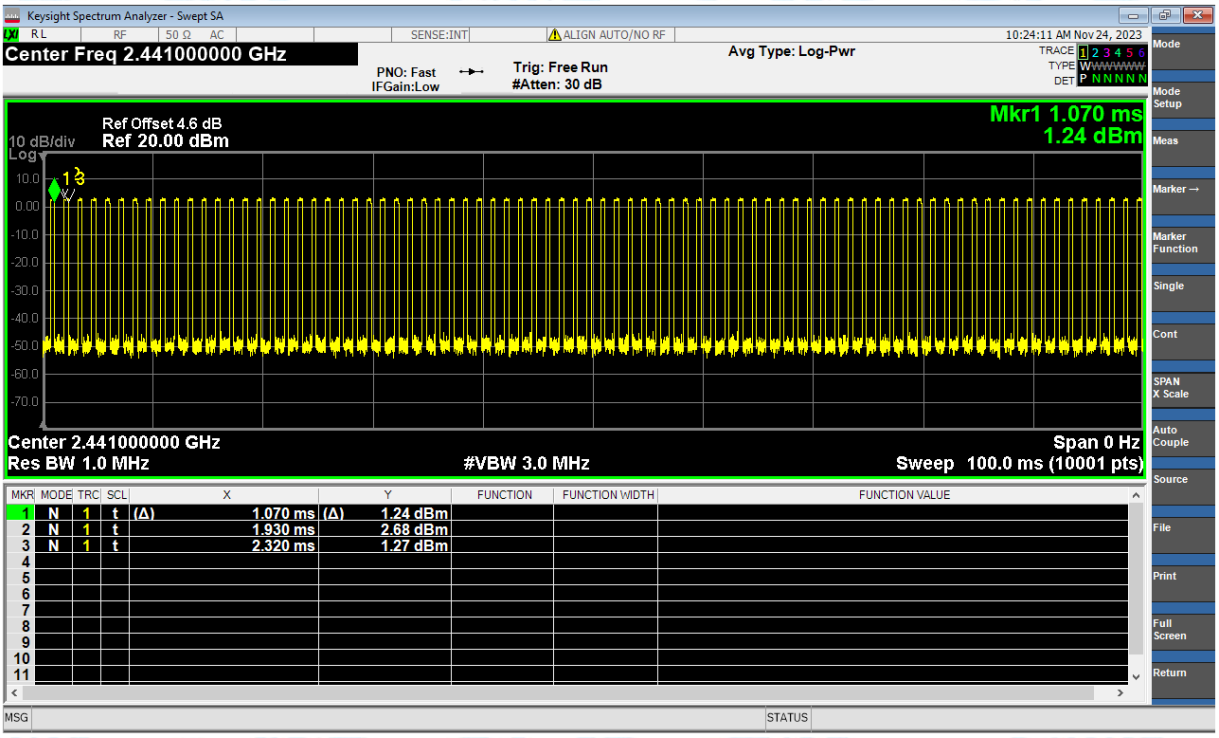
Duty Cycle NVNT 1-DH1 2480MHz Ant1



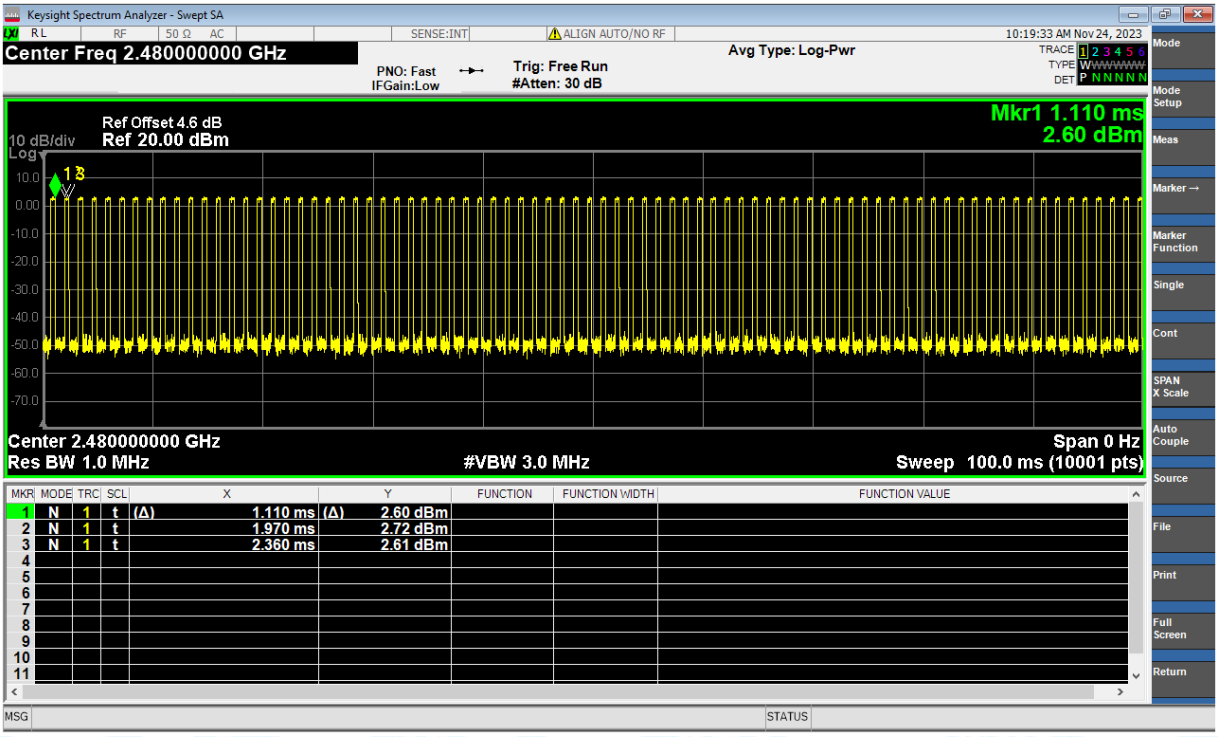
Duty Cycle NVNT 2-DH1 2402MHz Ant1



Duty Cycle NVNT 2-DH1 2441MHz Ant1



Duty Cycle NVNT 2-DH1 2480MHz Ant1

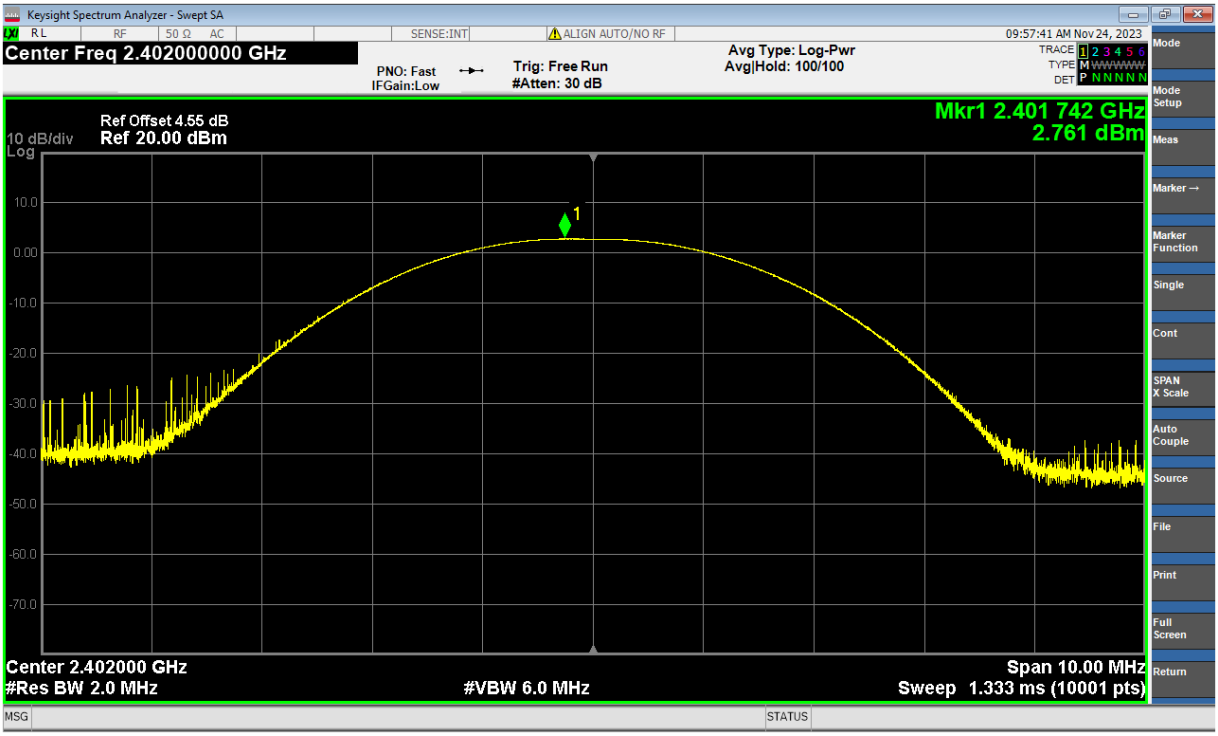


2. Maximum Conducted Output Power

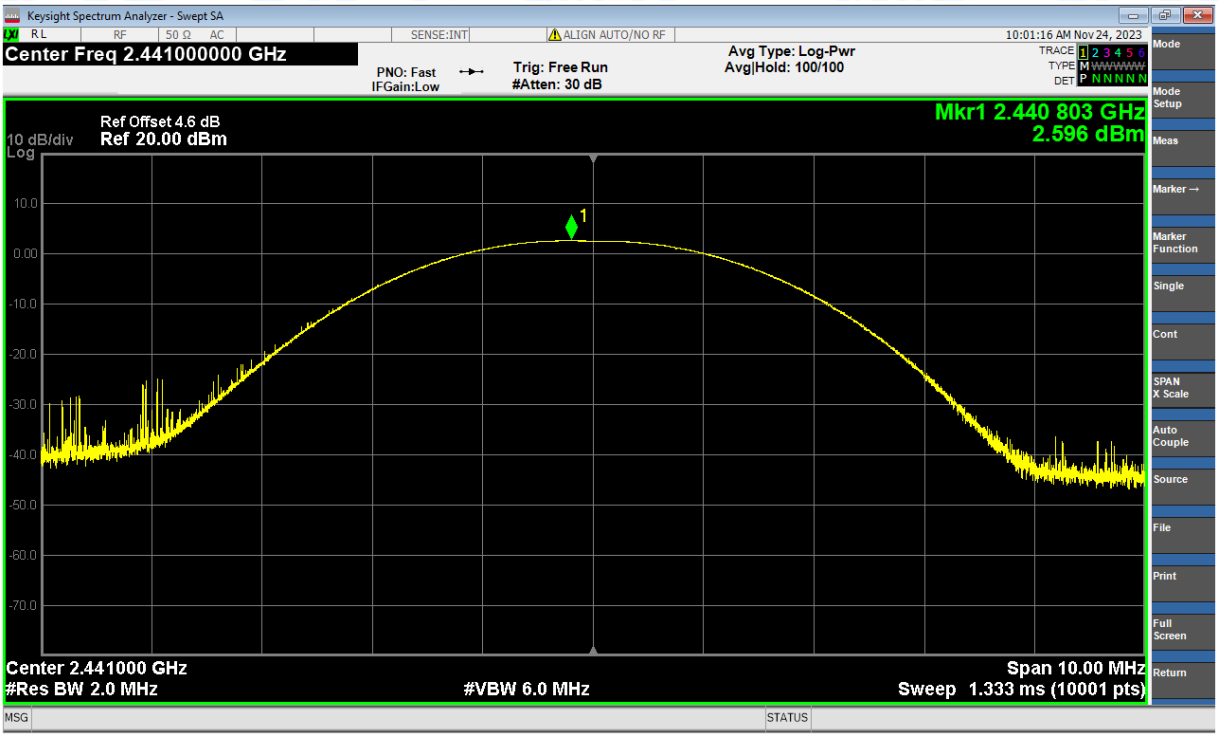
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	2.761	21	Pass
NVNT	1-DH1	2441	Ant1	2.596	21	Pass
NVNT	1-DH1	2480	Ant1	2.857	21	Pass
NVNT	2-DH1	2402	Ant1	3.522	21	Pass
NVNT	2-DH1	2441	Ant1	3.600	21	Pass
NVNT	2-DH1	2480	Ant1	3.705	21	Pass

Test Graphs

Power NVNT 1-DH1 2402MHz Ant1

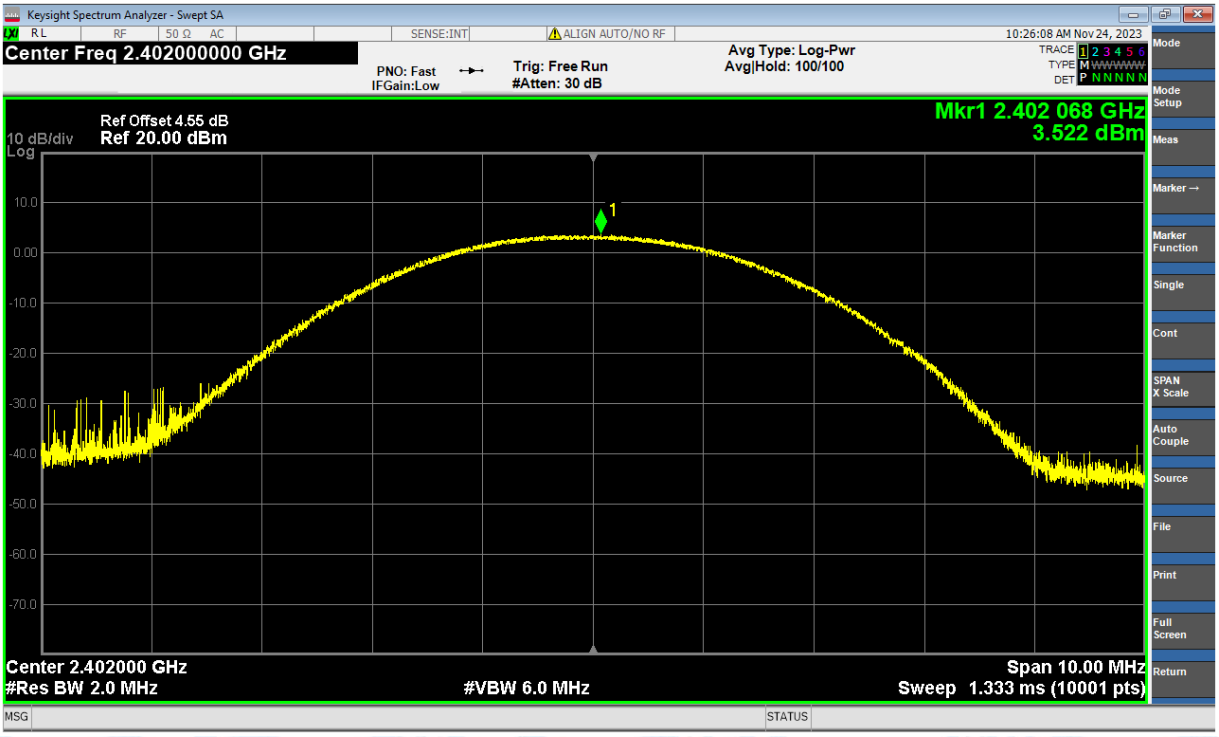


Power NVNT 1-DH1 2441MHz Ant1



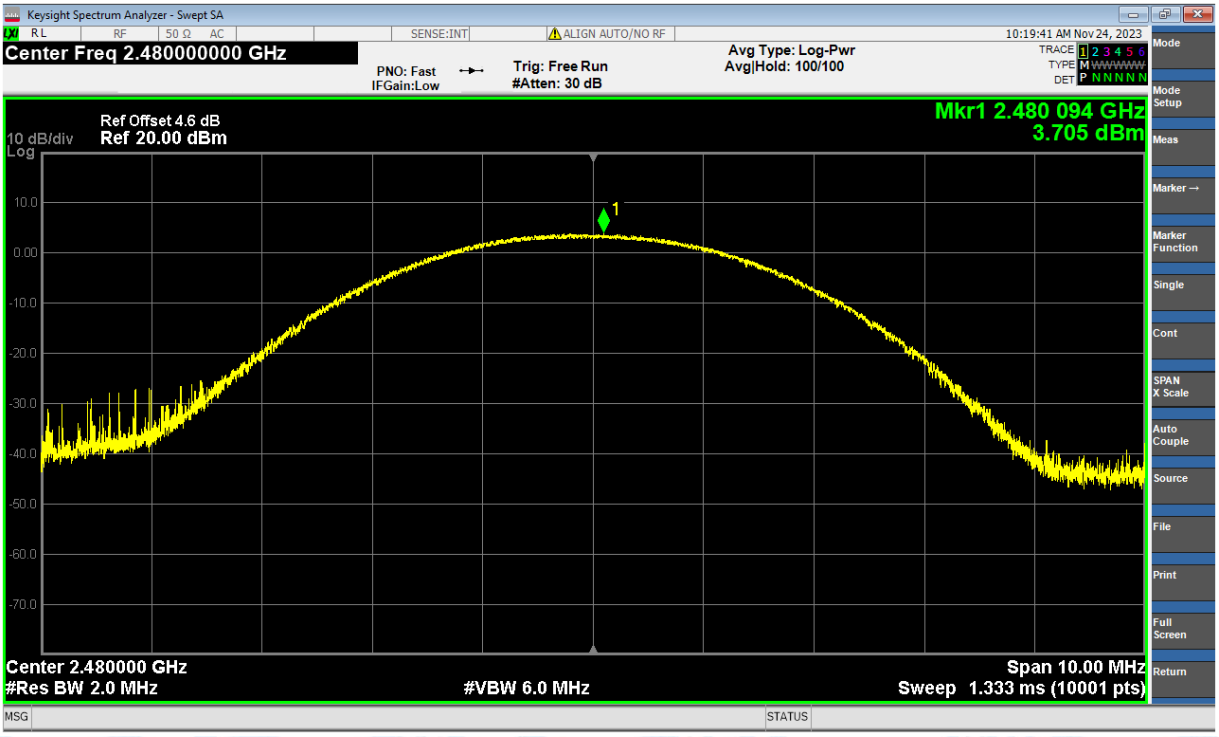
Power NVNT 1-DH1 2480MHz Ant1

Power NVNT 2-DH1 2402MHz Ant1



Power NVNT 2-DH1 2441MHz Ant1

Power NVNT 2-DH1 2480MHz Ant1



3. -20dB Bandwidth

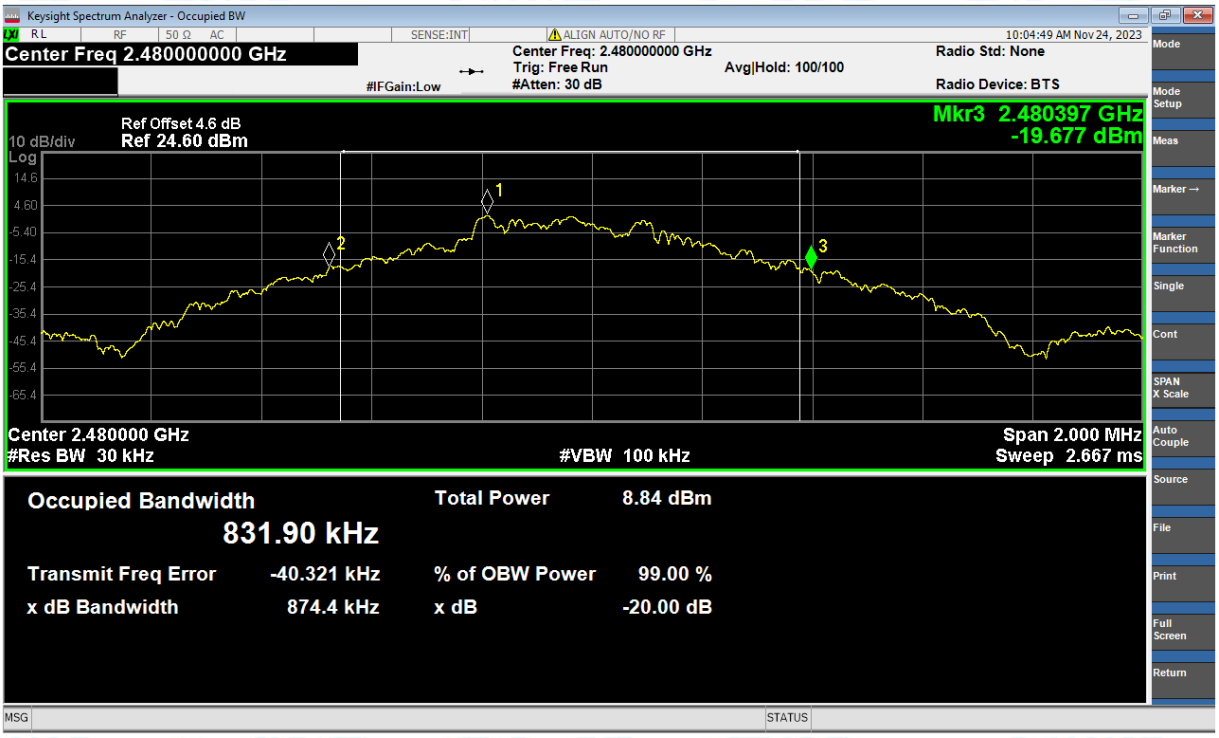
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.87	----	Pass
NVNT	1-DH1	2441	Ant1	0.87	----	Pass
NVNT	1-DH1	2480	Ant1	0.87	----	Pass
NVNT	2-DH1	2402	Ant1	1.25	----	Pass
NVNT	2-DH1	2441	Ant1	1.24	----	Pass
NVNT	2-DH1	2480	Ant1	1.20	----	Pass

Test Graphs

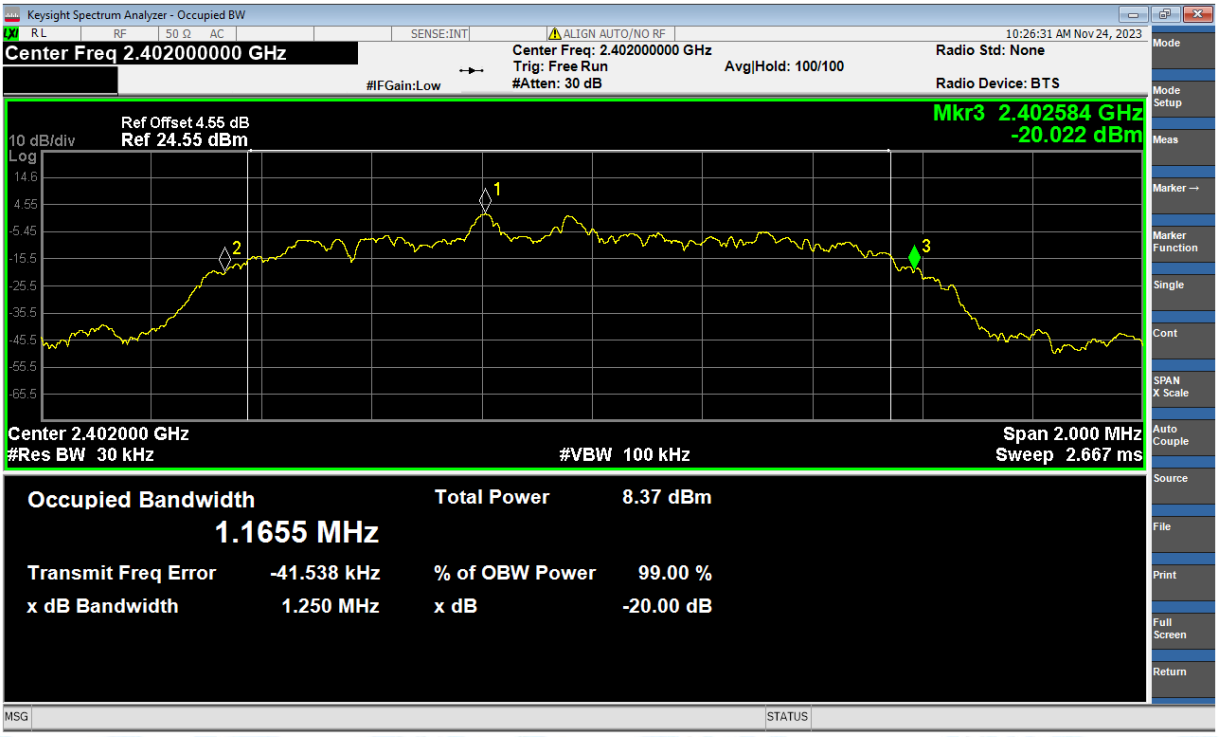
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1

-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1

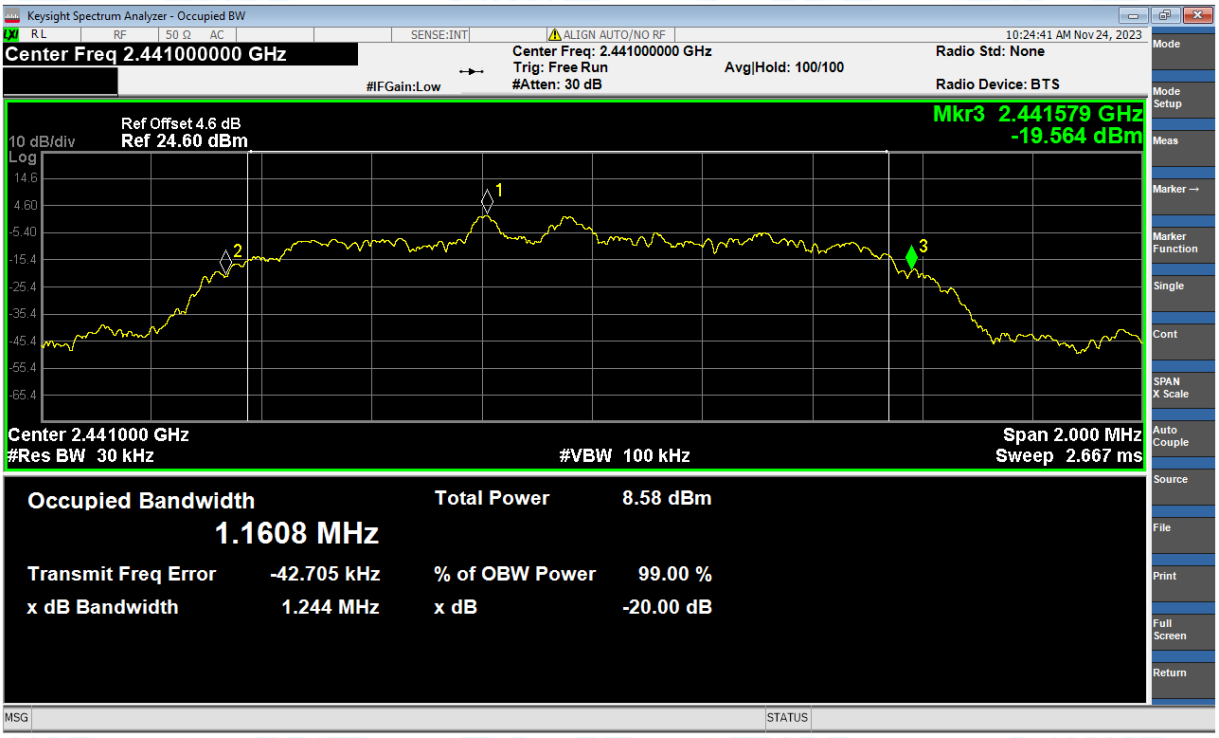
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



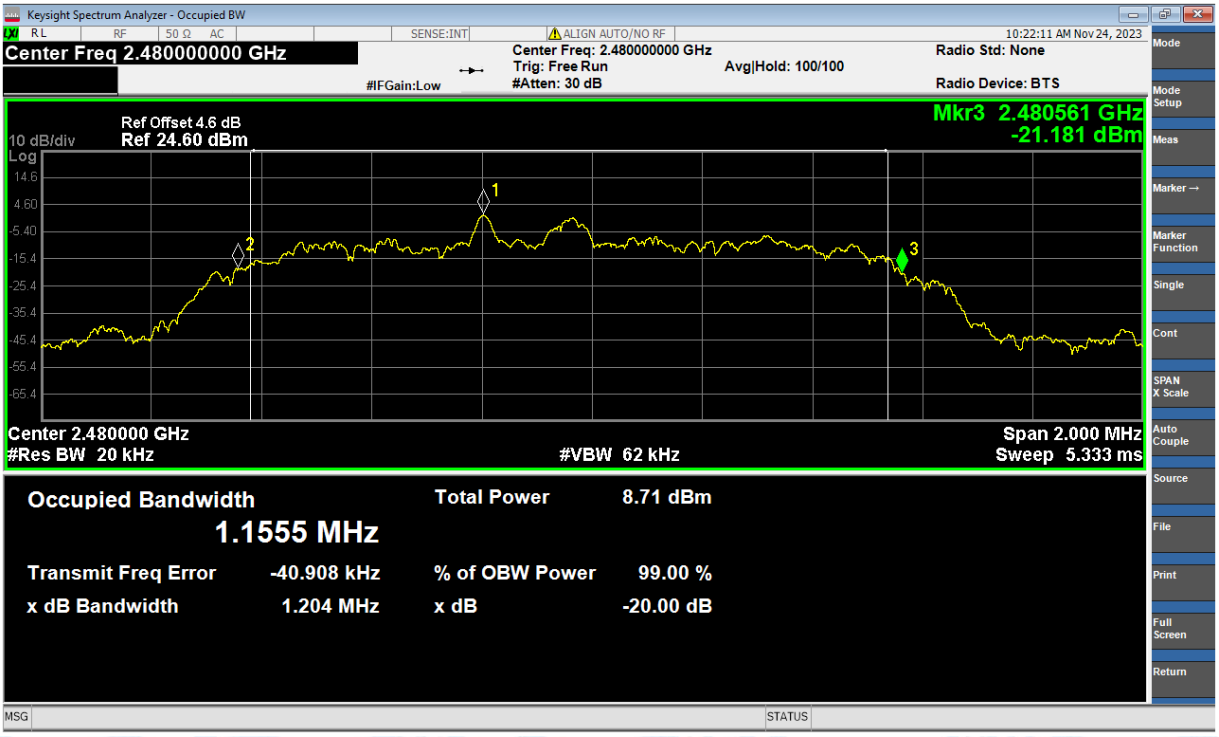
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1



4. Occupied Channel Bandwidth

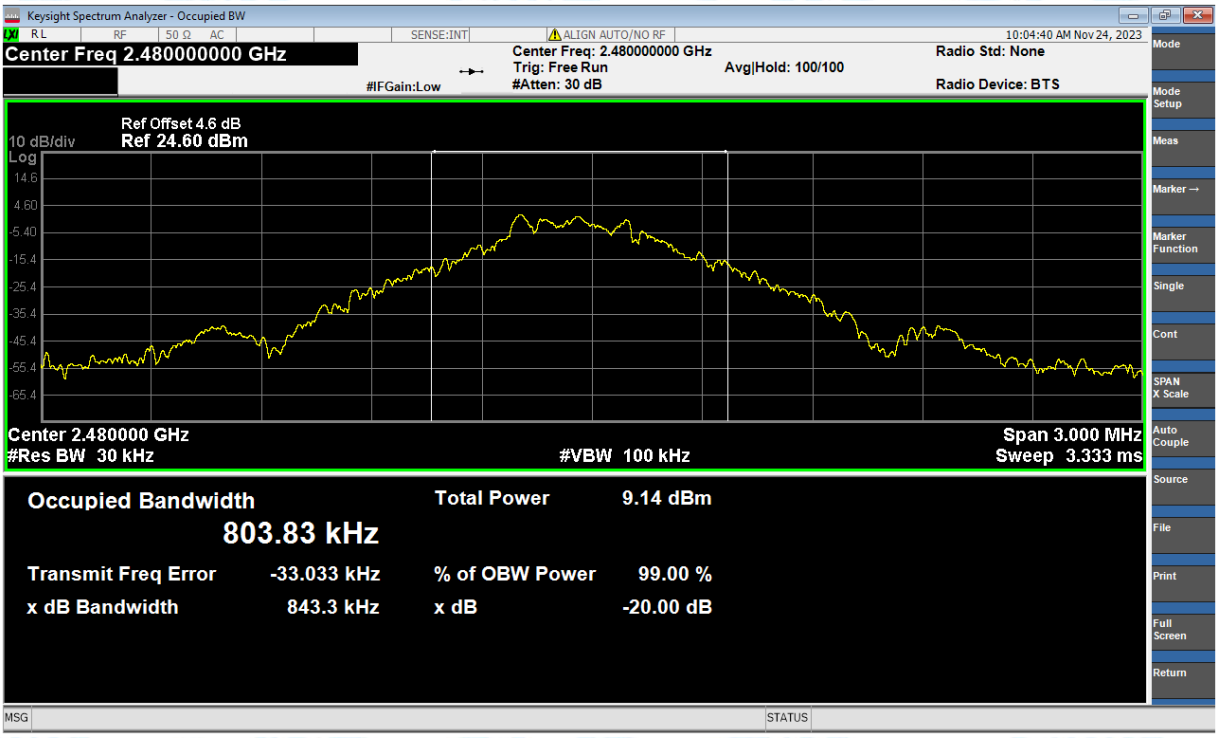
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.837
NVNT	1-DH1	2441	Ant1	0.814
NVNT	1-DH1	2480	Ant1	0.804
NVNT	2-DH1	2402	Ant1	1.156
NVNT	2-DH1	2441	Ant1	1.162
NVNT	2-DH1	2480	Ant1	1.170

Test Graphs

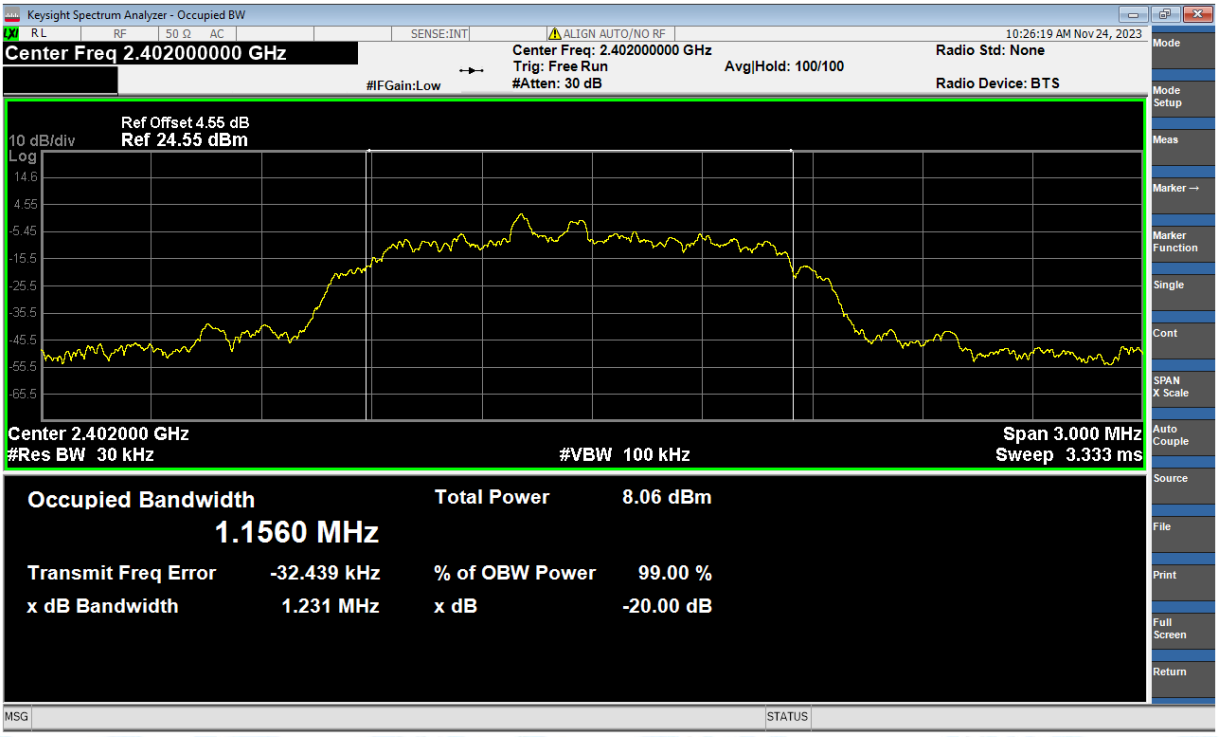
OBW NVNT 1-DH1 2402MHz Ant1

OBW NVNT 1-DH1 2441MHz Ant1

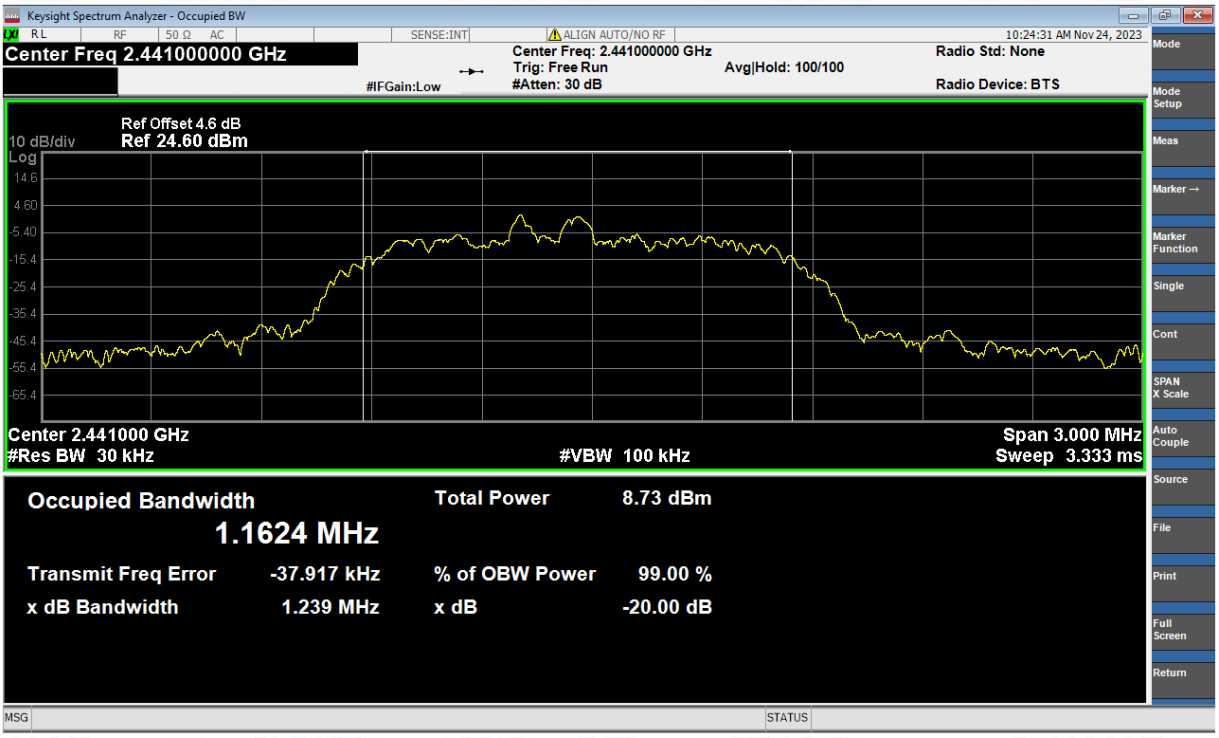
OBW NVNT 1-DH1 2480MHz Ant1



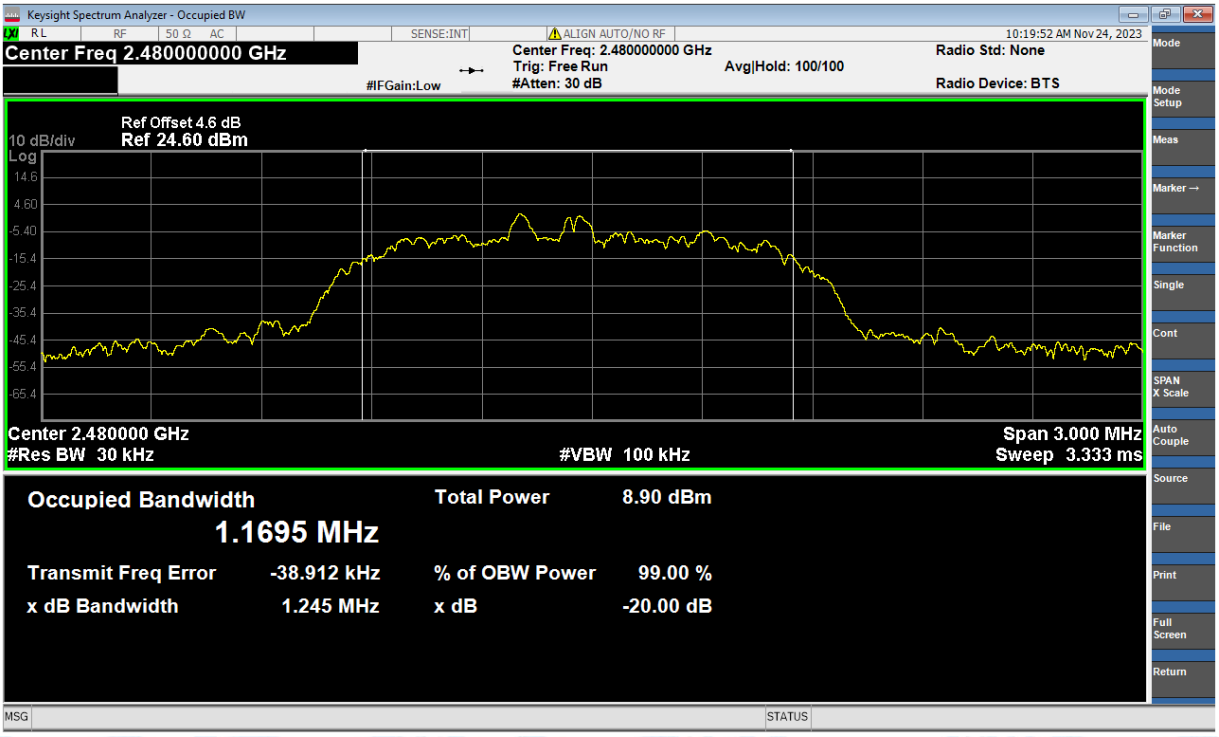
OBW NVNT 2-DH1 2402MHz Ant1



OBW NVNT 2-DH1 2441MHz Ant1



OBW NVNT 2-DH1 2480MHz Ant1

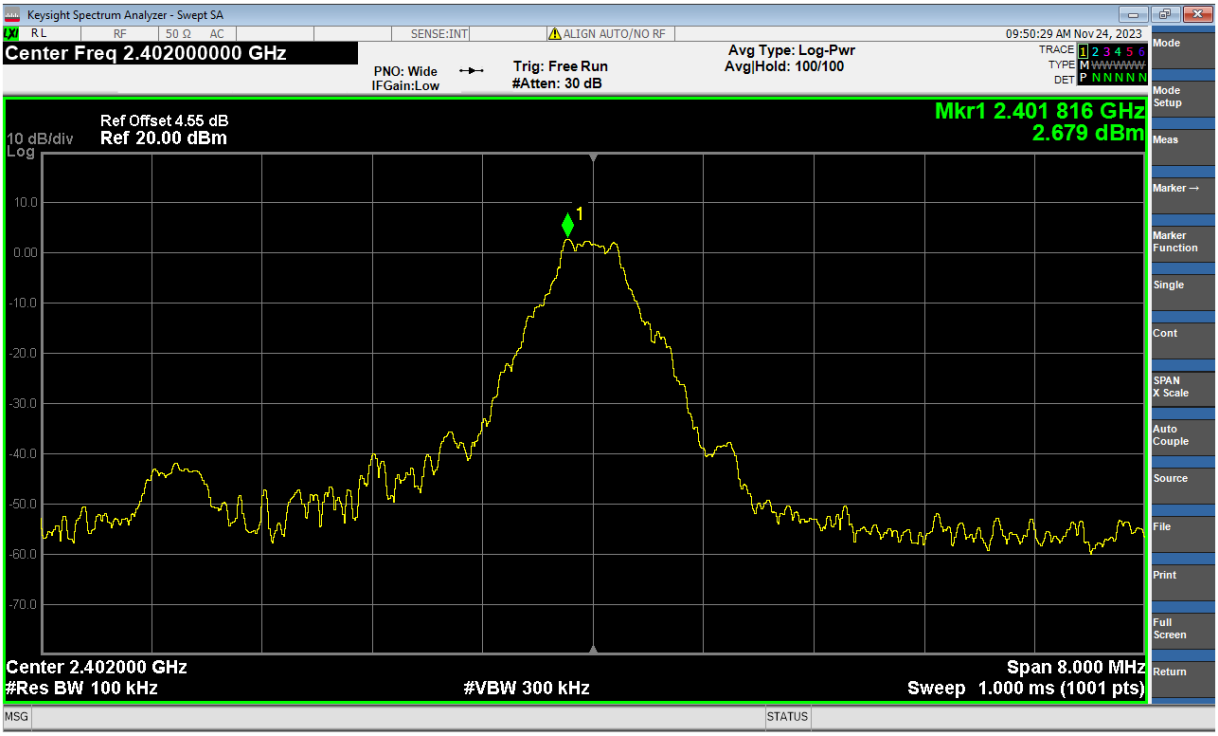


5. Band Edge

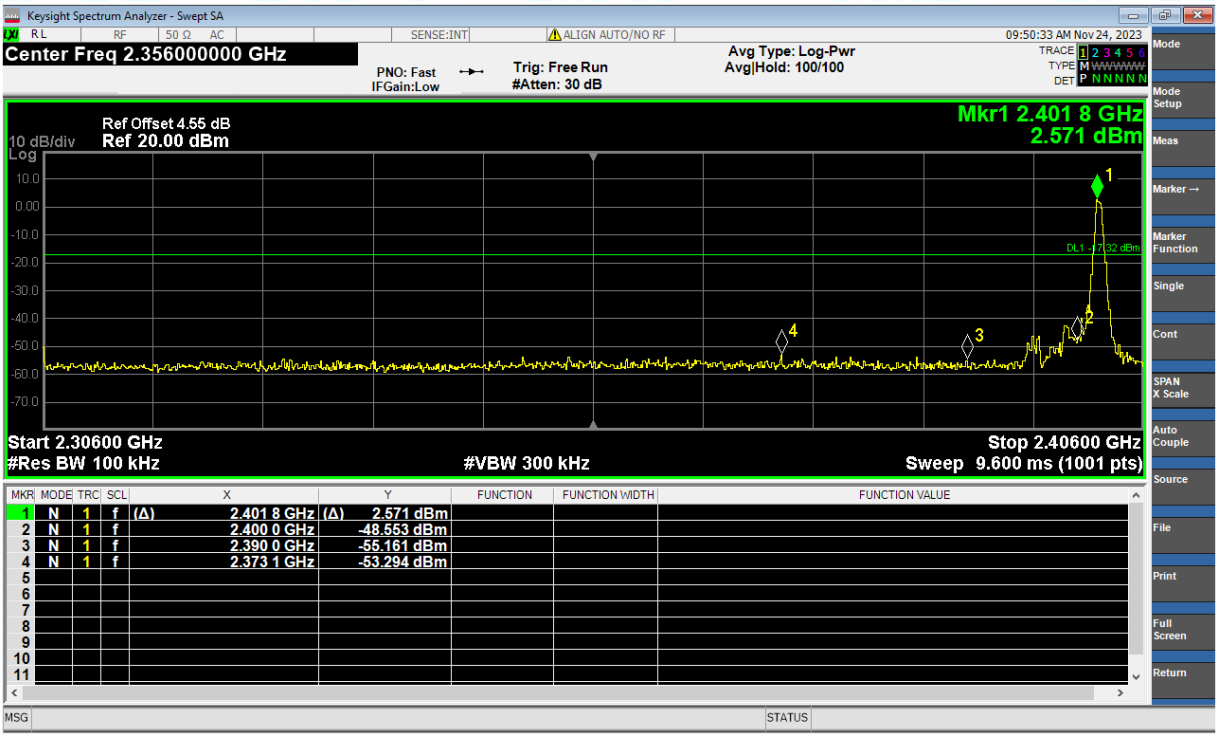
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-55.97	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-55.99	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-56.86	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-54.33	-20	Pass

Test Graphs

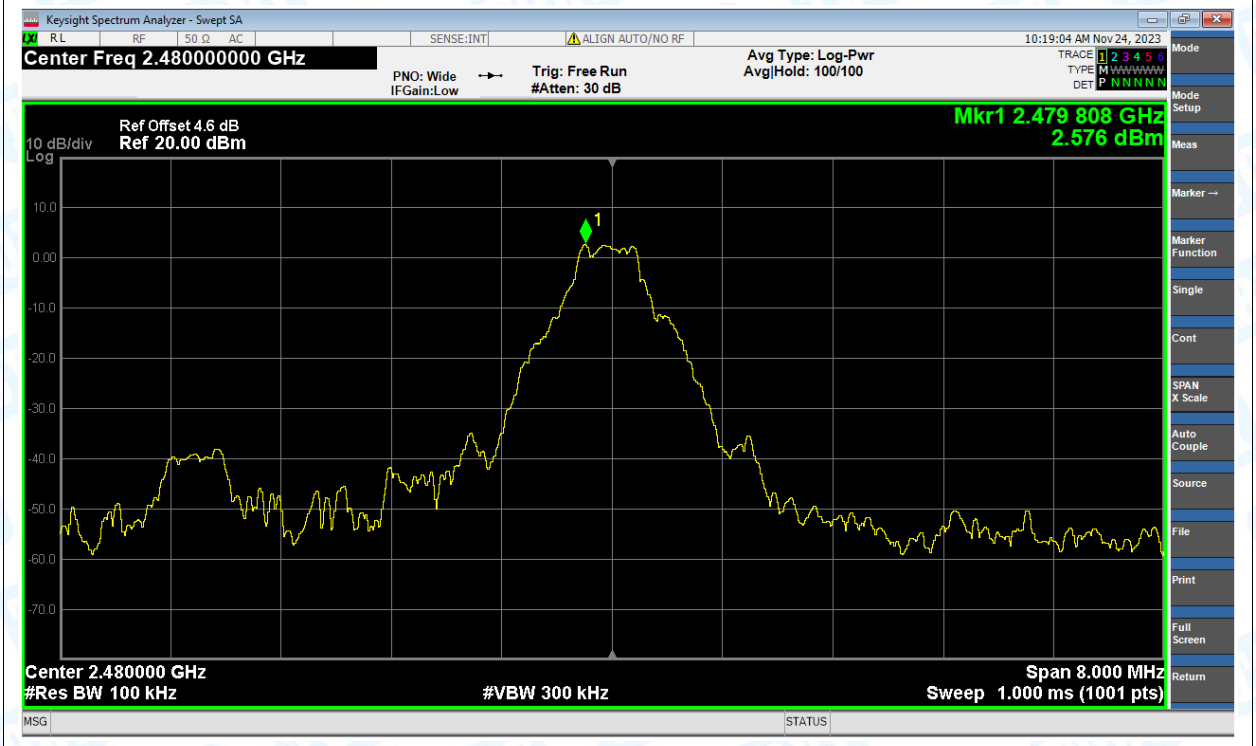
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



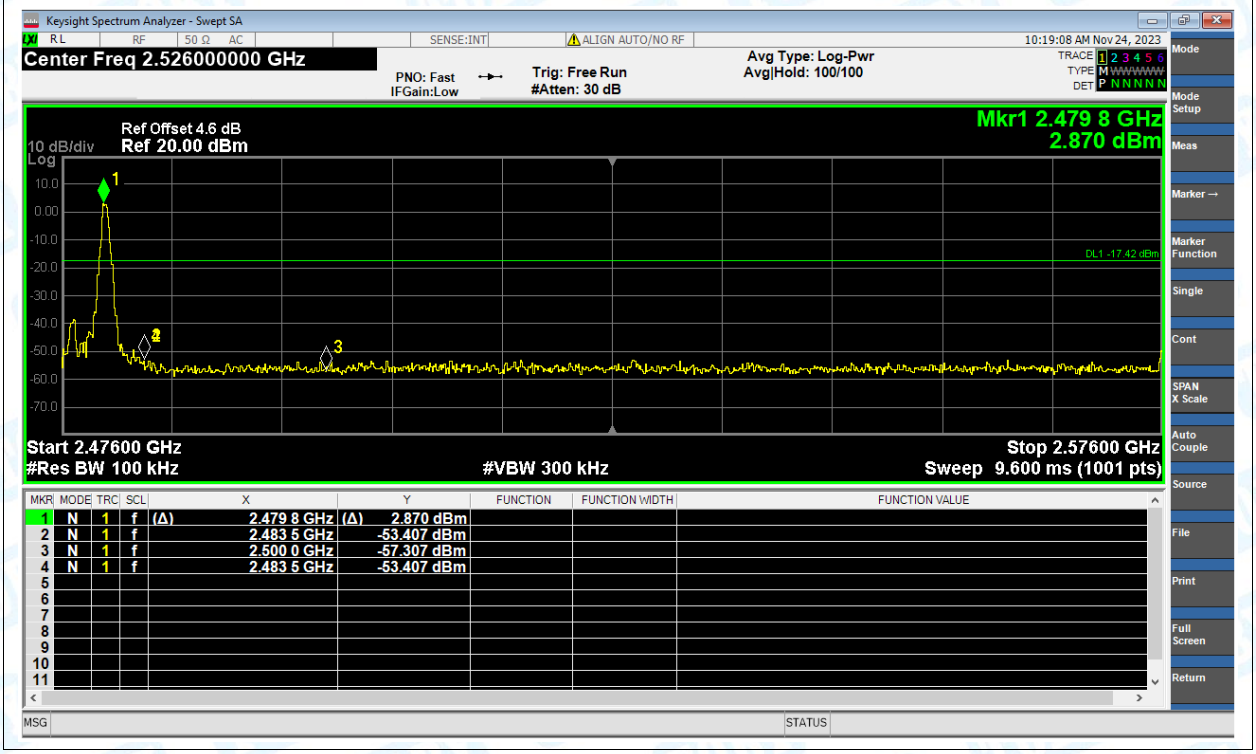
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



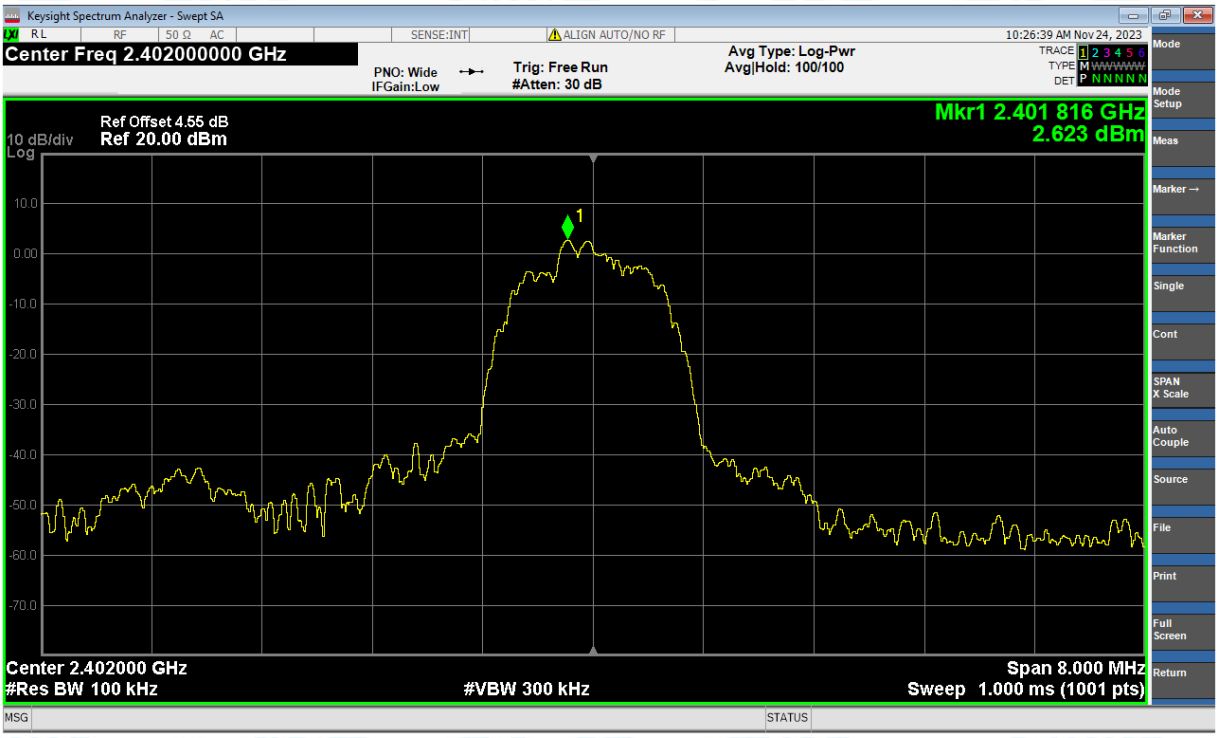
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



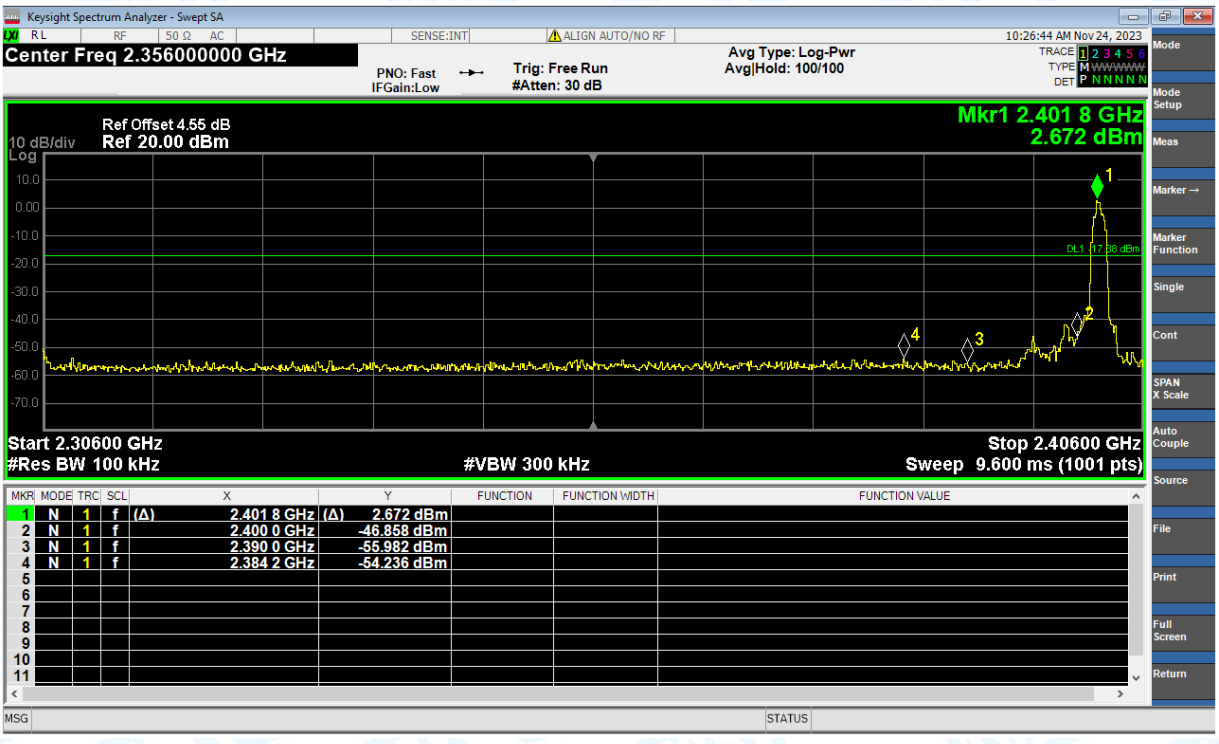
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



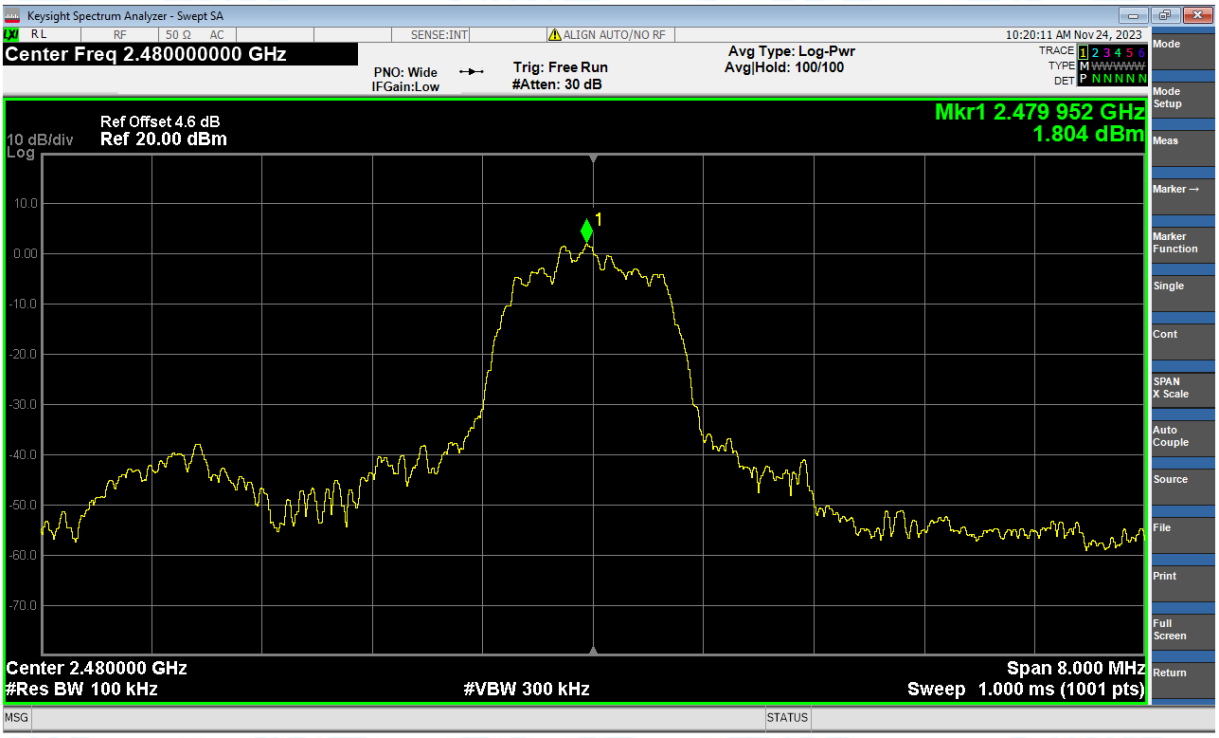
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



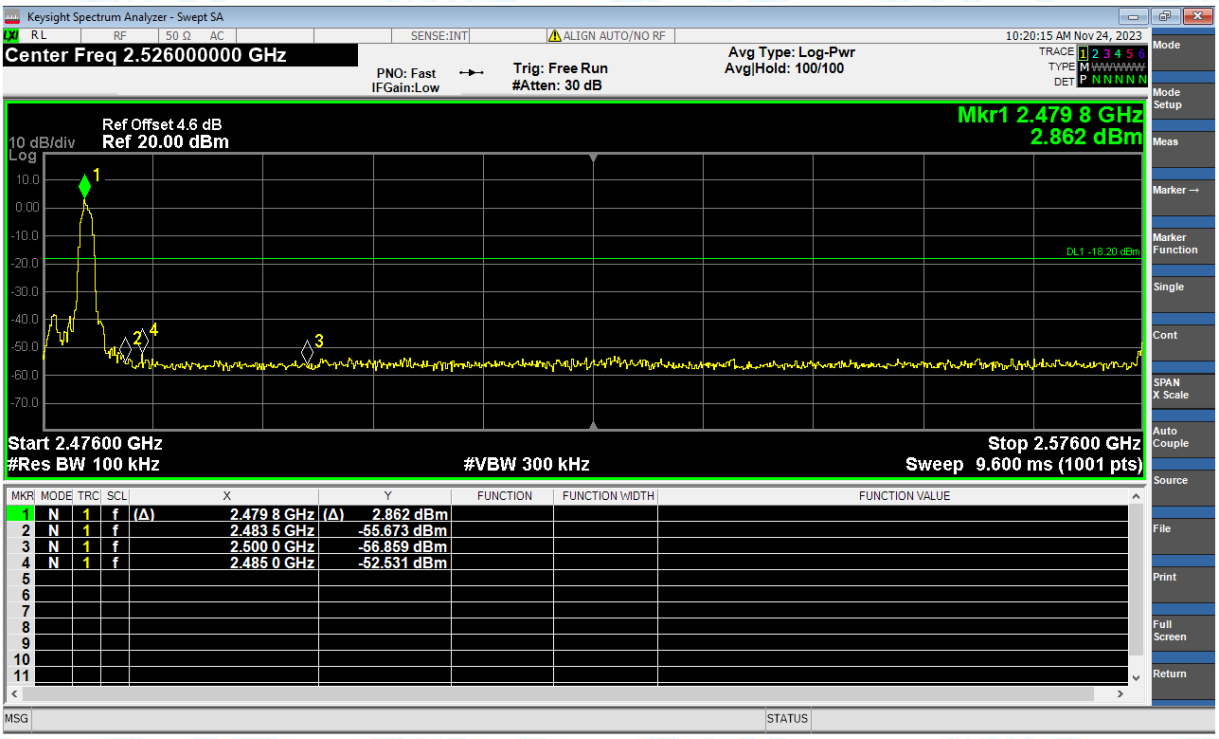
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



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



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



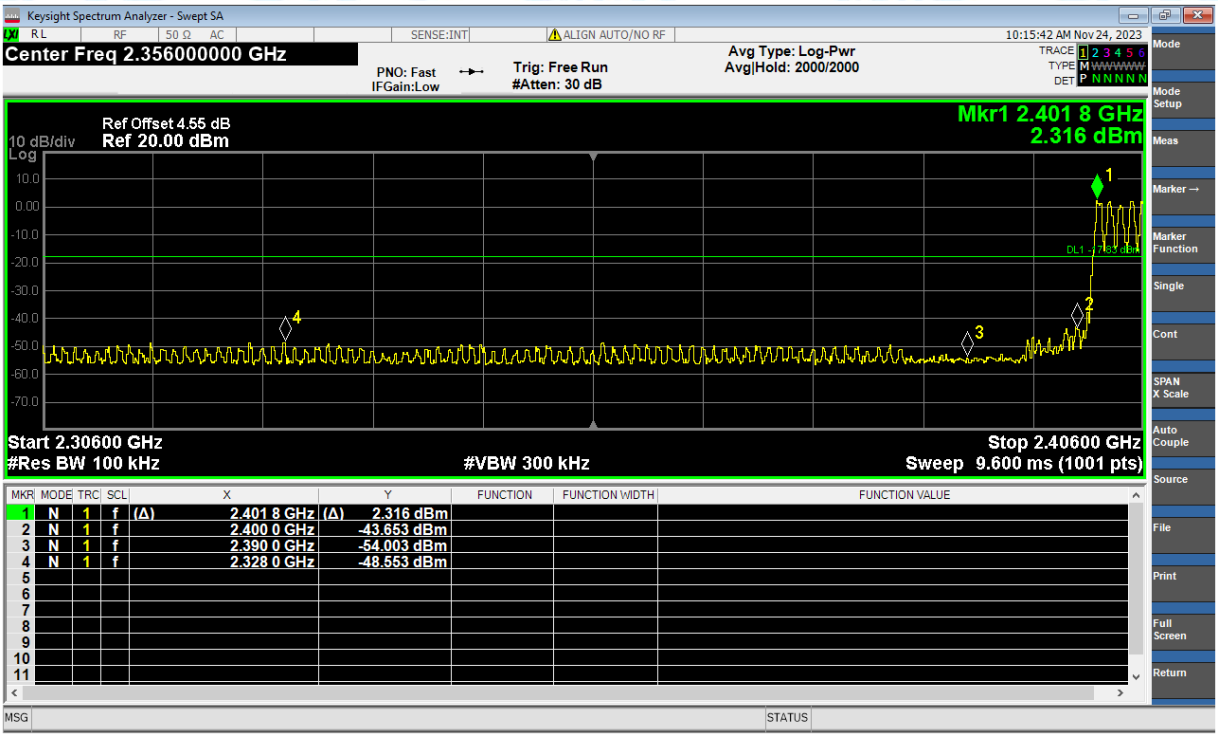
6. Band Edge(Hopping)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-50.72	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-49.95	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-51.13	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-51.49	-20	Pass

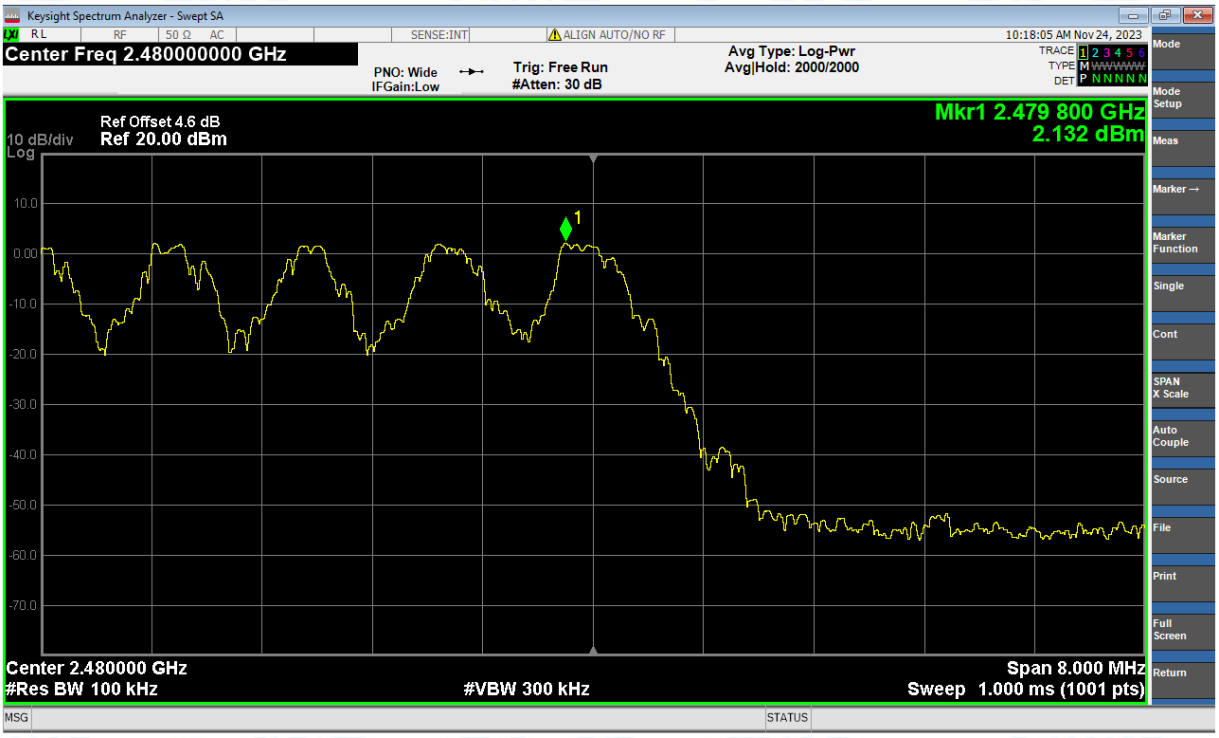
Test Graphs

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

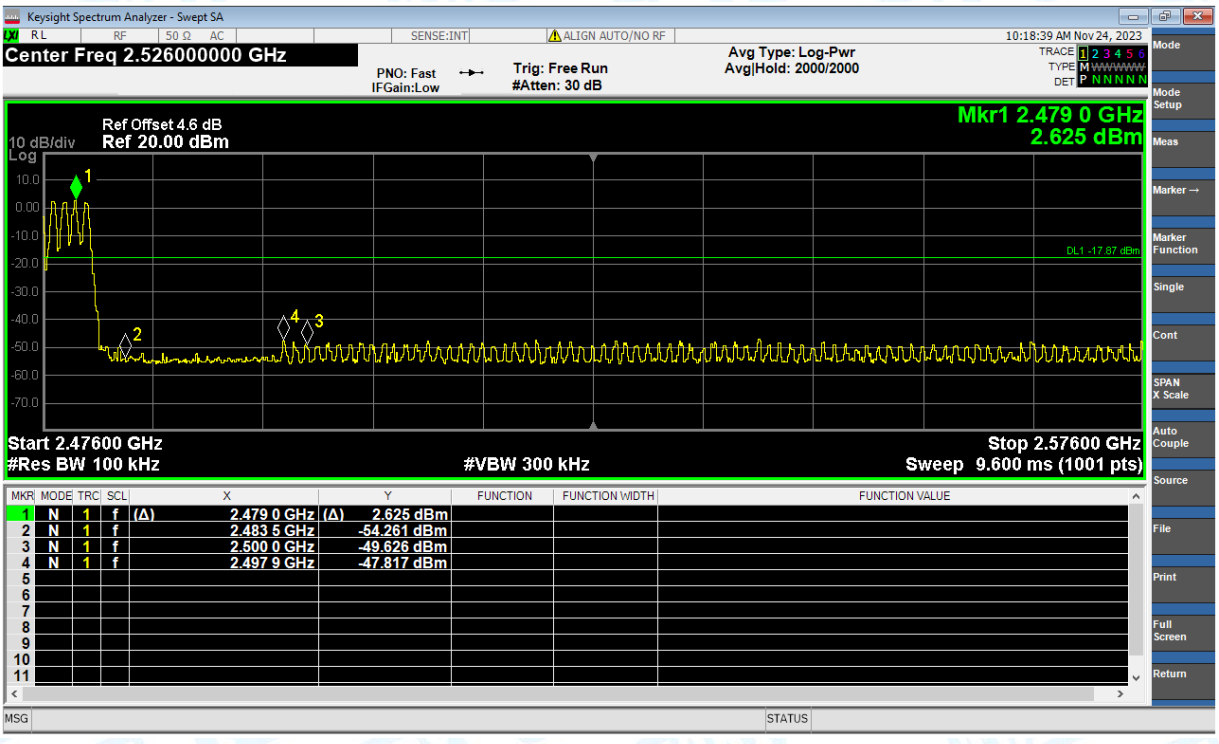
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



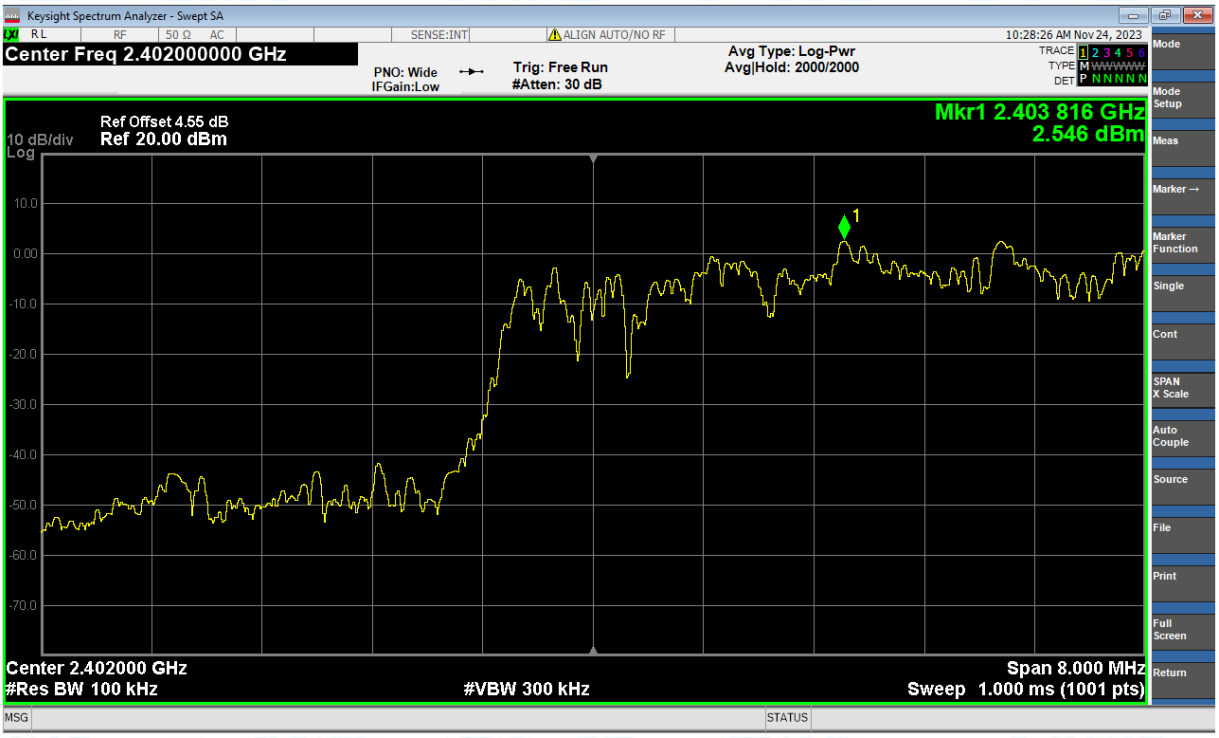
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



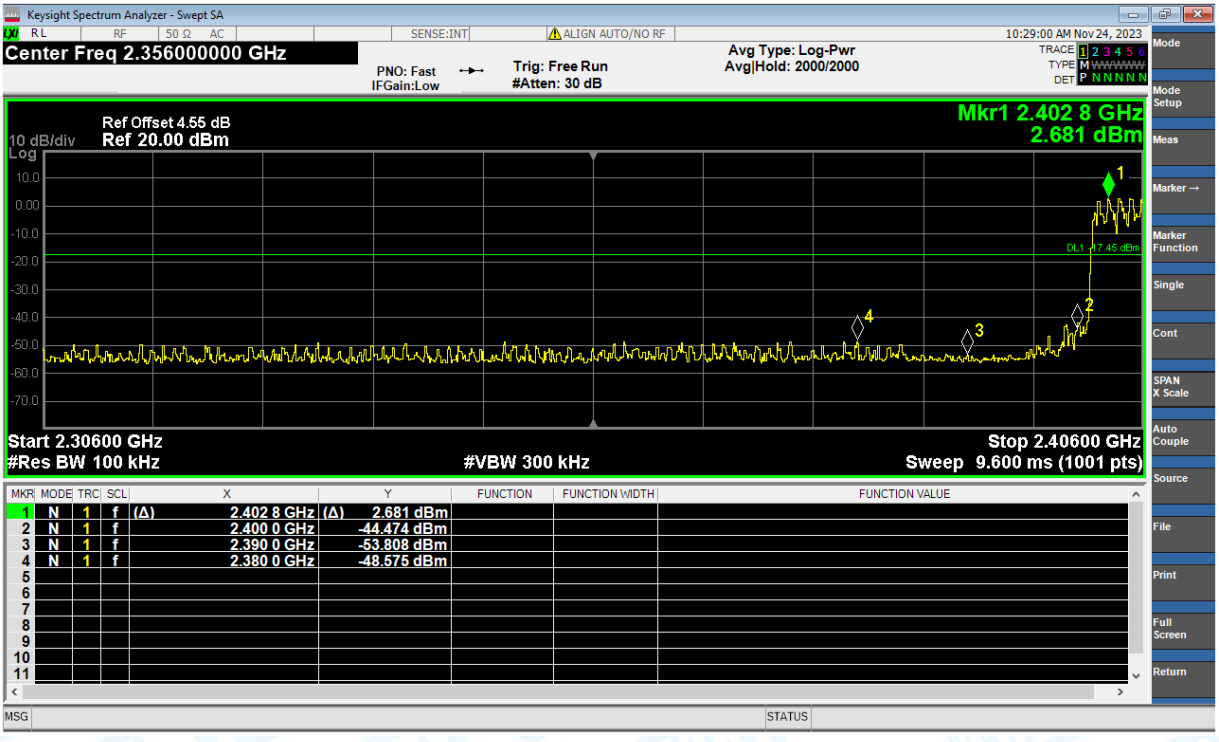
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



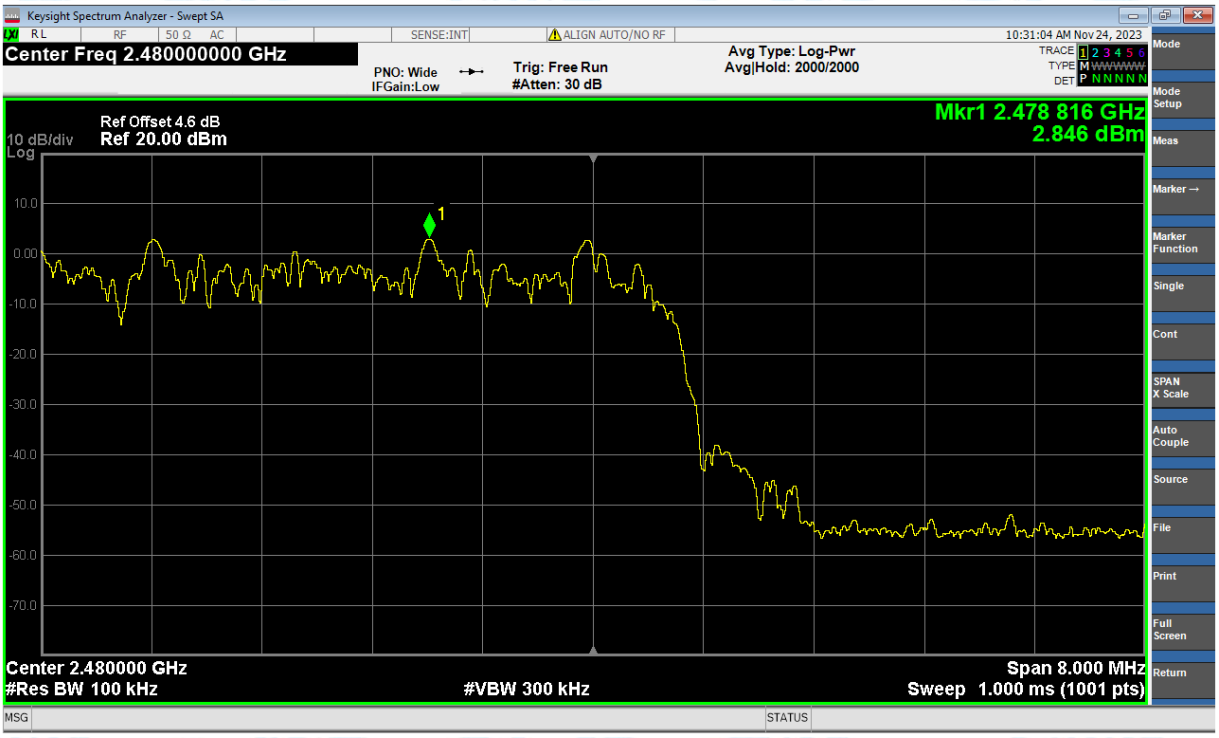
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



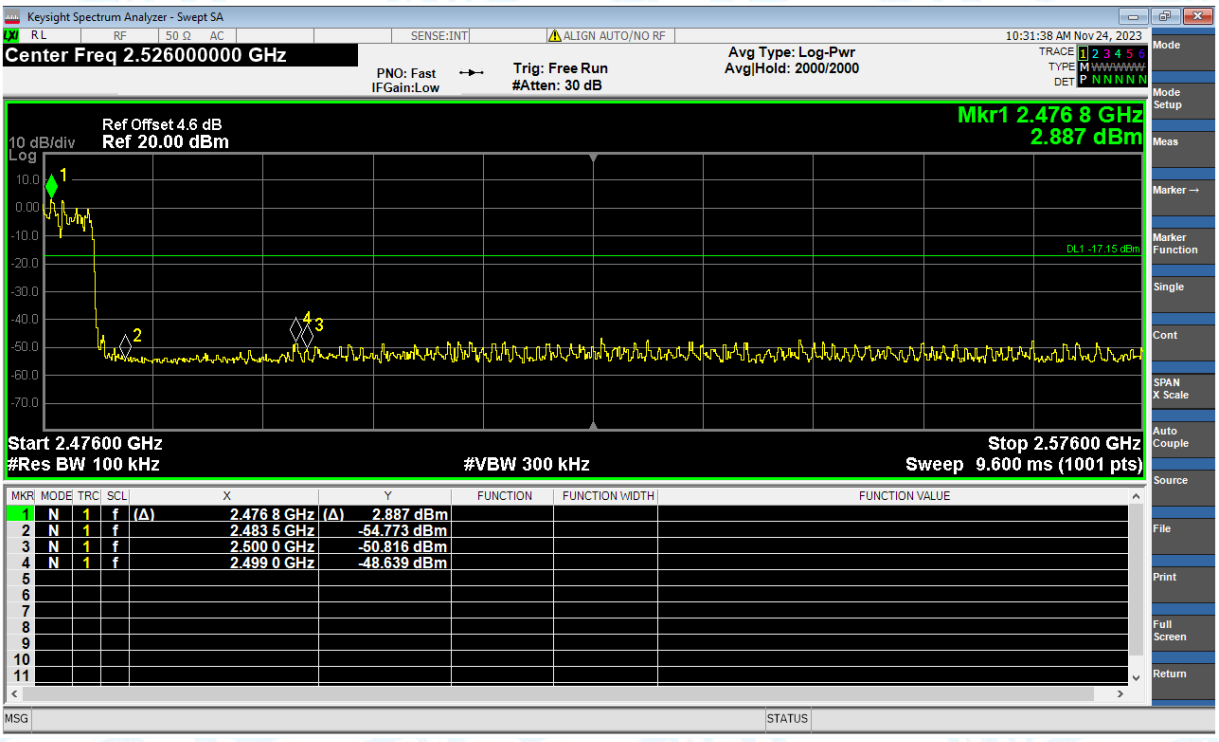
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



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



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

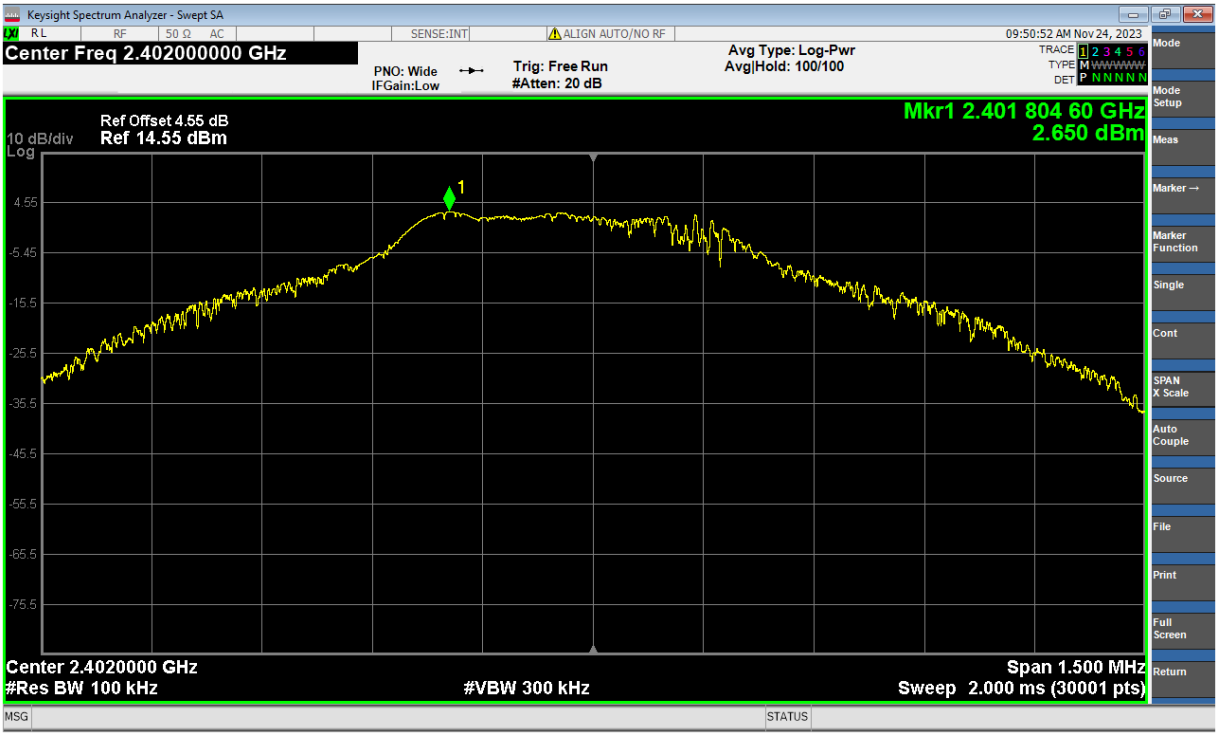


7. Conducted RF Spurious Emission

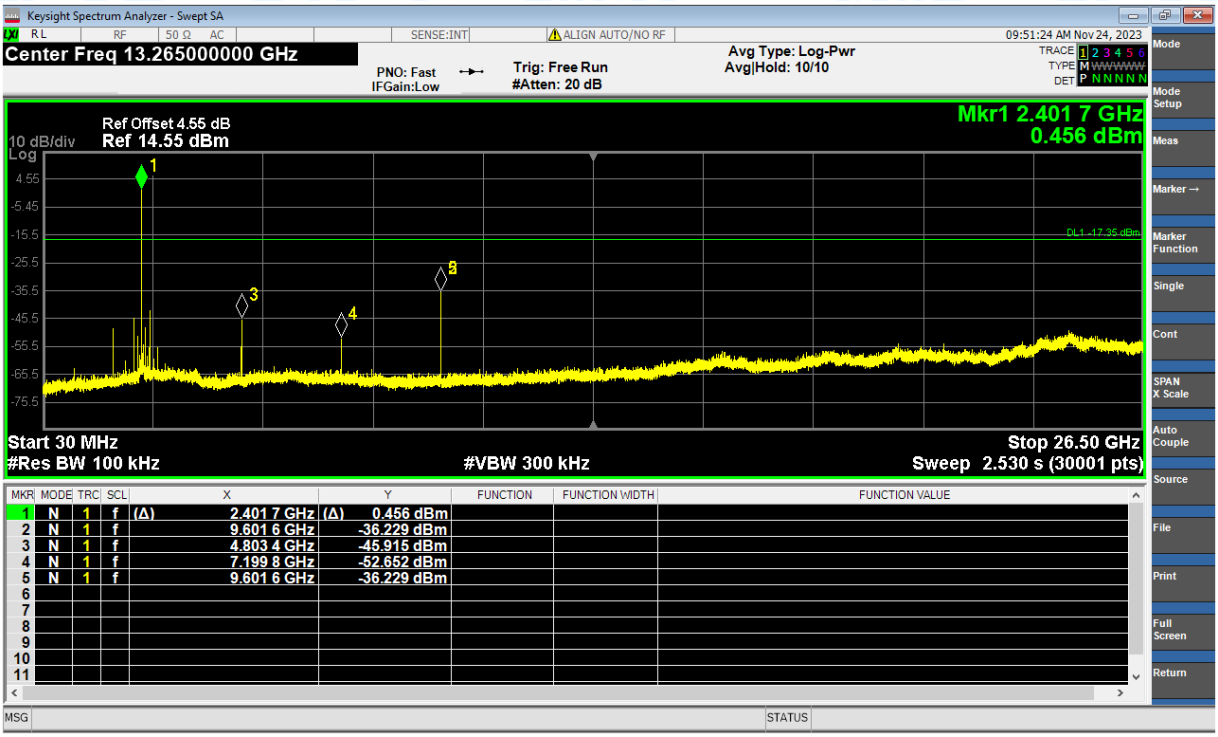
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-38.88	-20	Pass
NVNT	1-DH1	2441	Ant1	-40.37	-20	Pass
NVNT	1-DH1	2480	Ant1	-39.21	-20	Pass
NVNT	2-DH1	2402	Ant1	-39.43	-20	Pass
NVNT	2-DH1	2441	Ant1	-39.86	-20	Pass
NVNT	2-DH1	2480	Ant1	-38.98	-20	Pass

Test Graphs

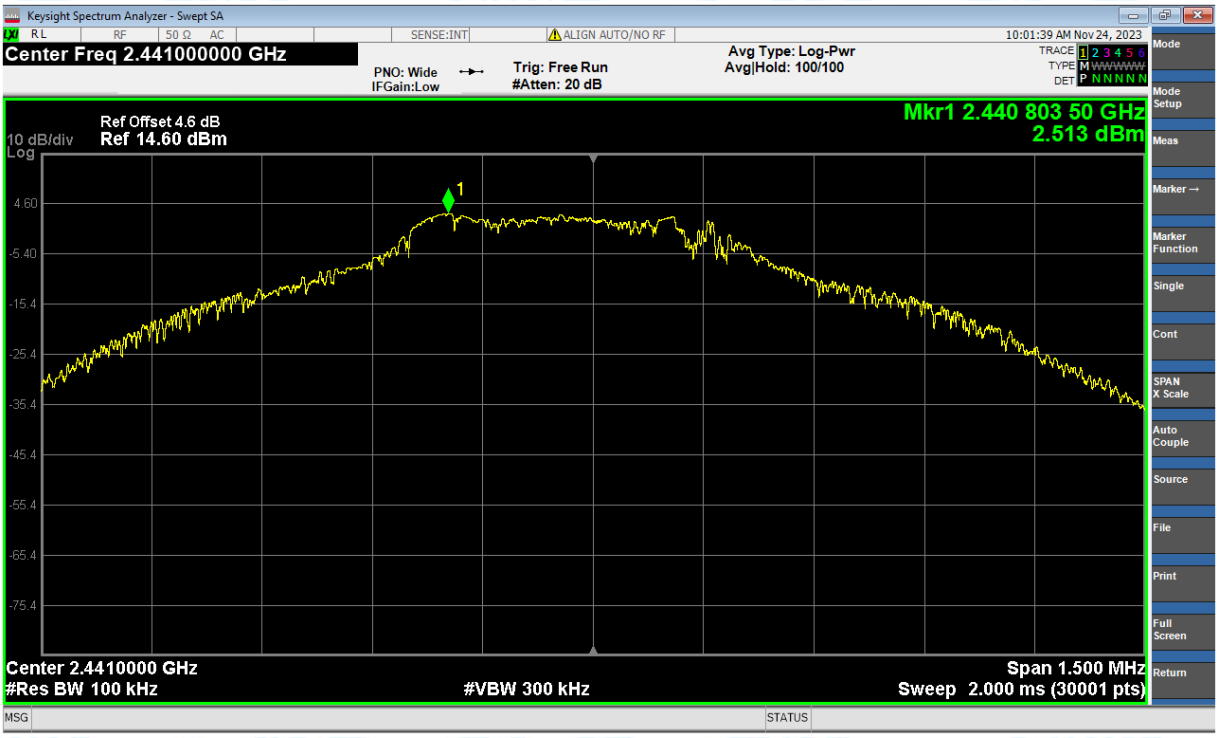
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



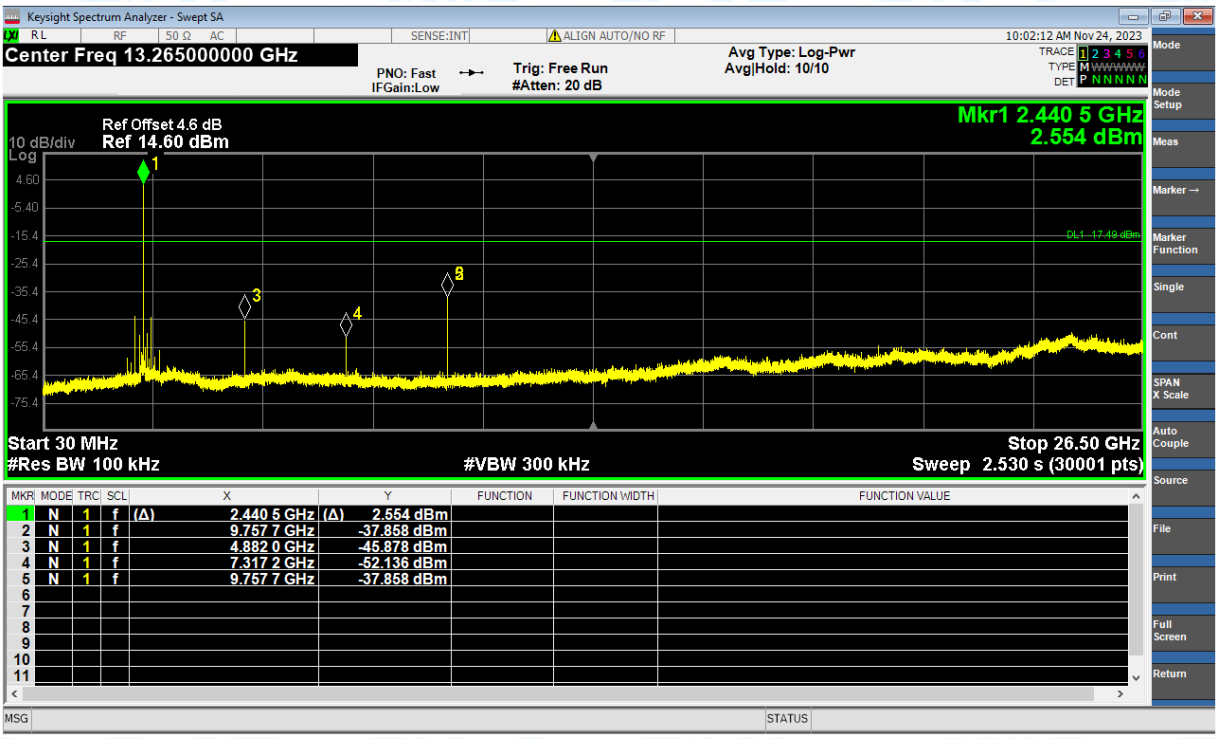
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



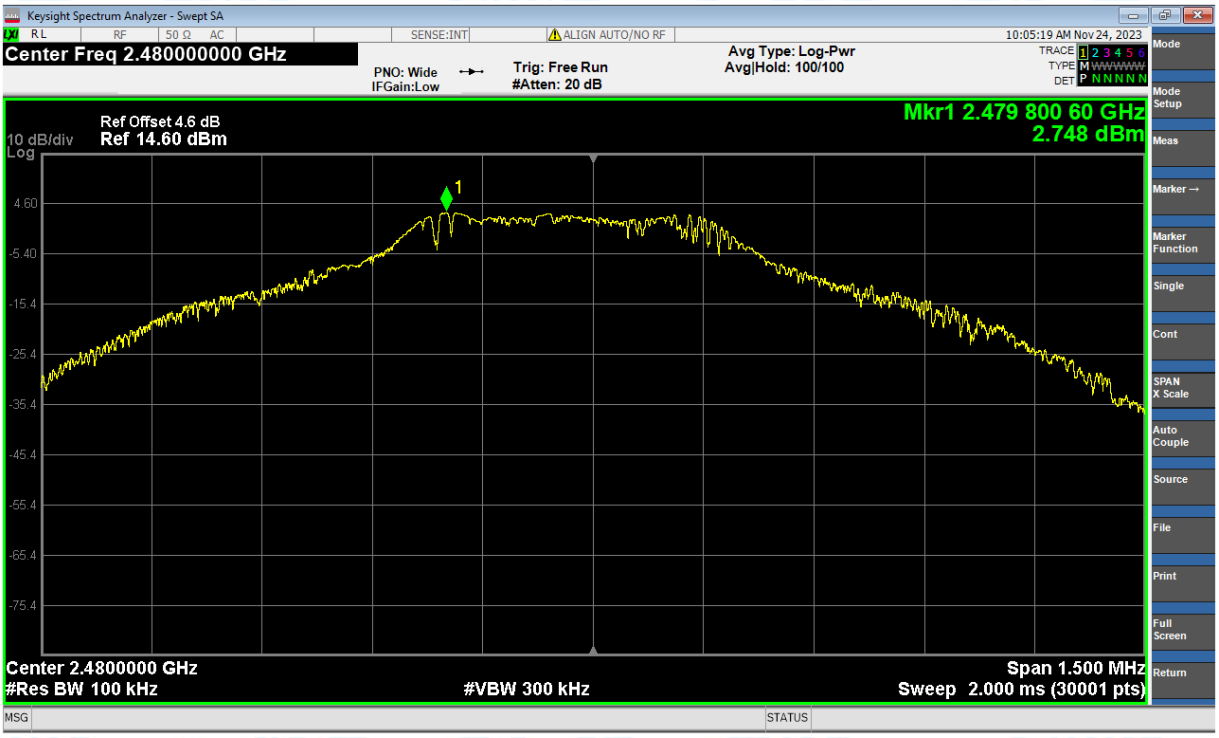
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



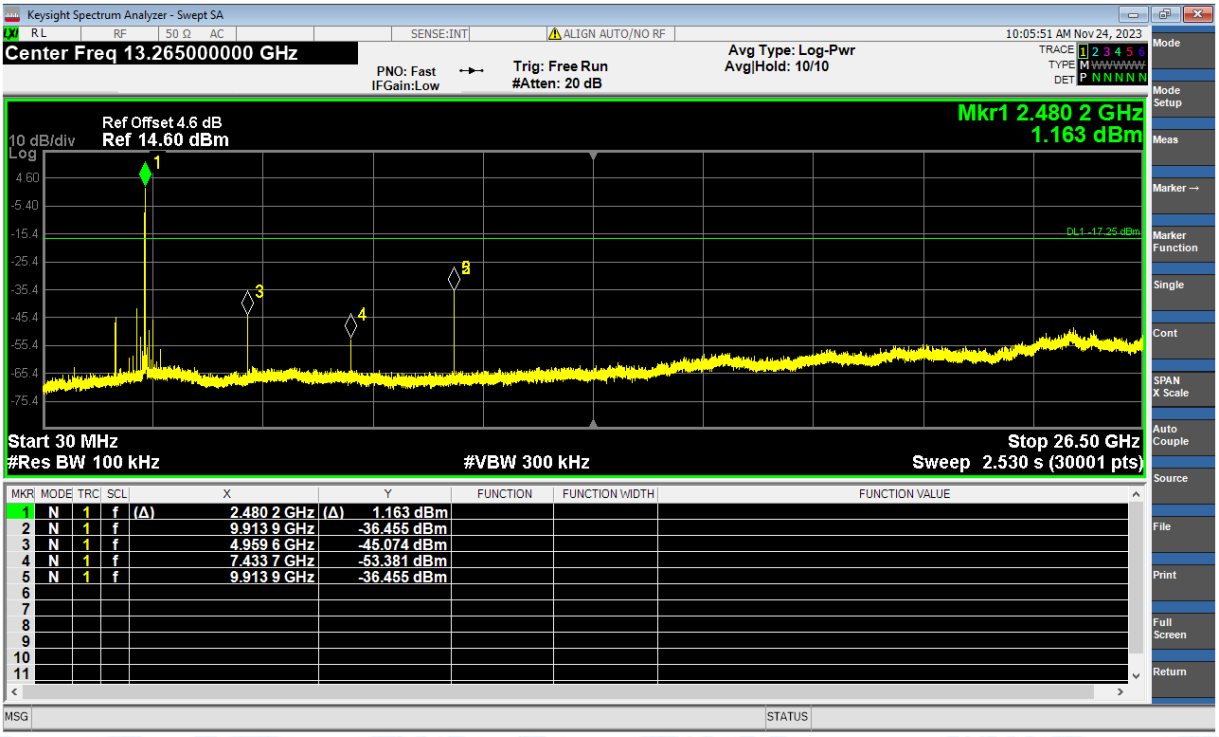
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



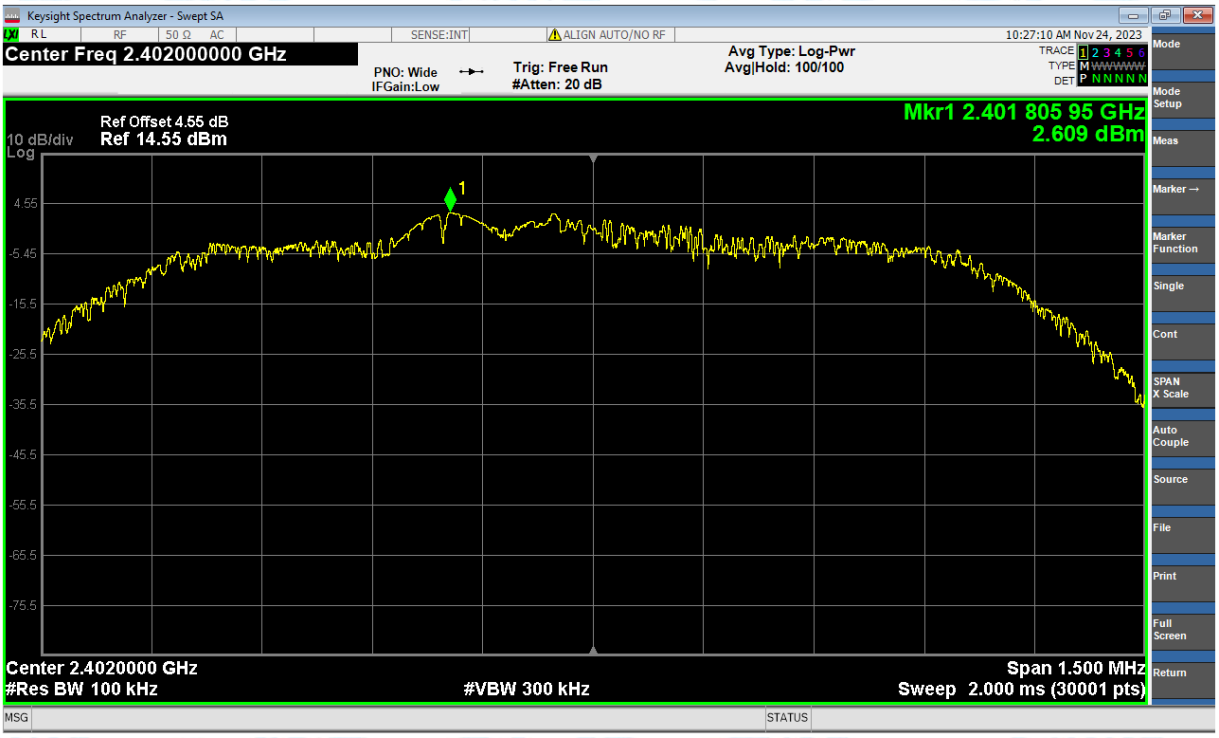
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



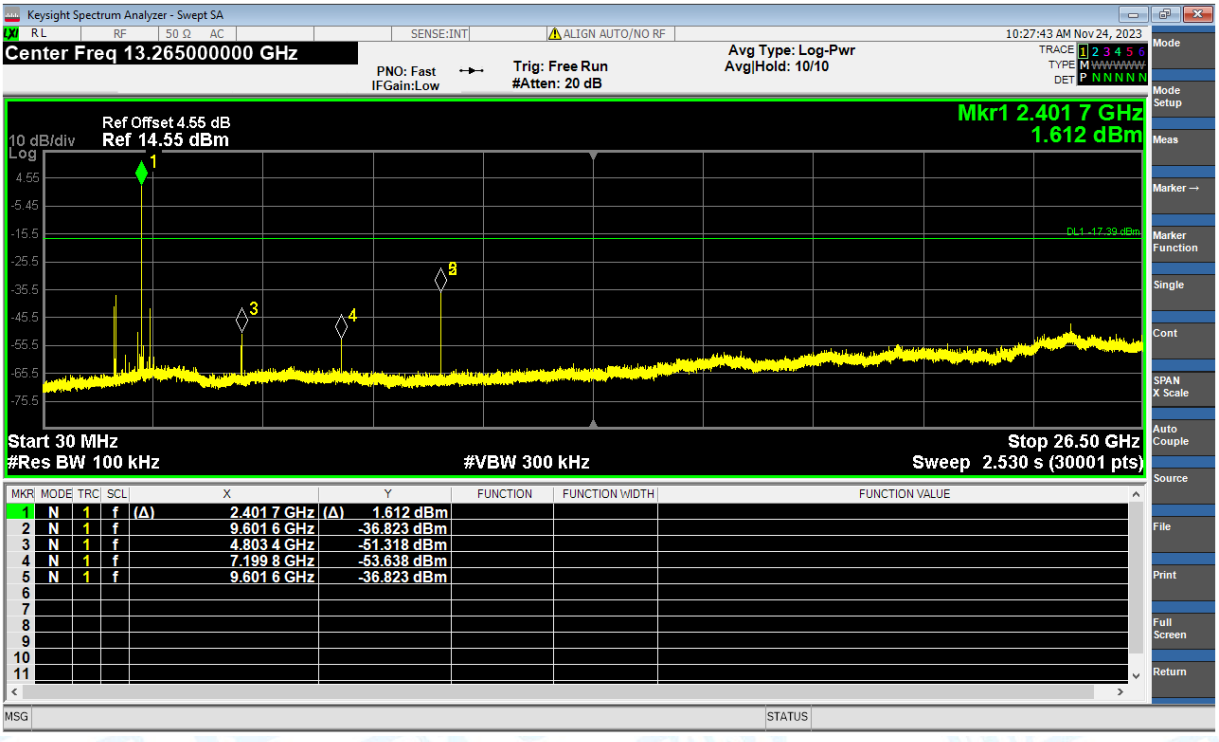
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



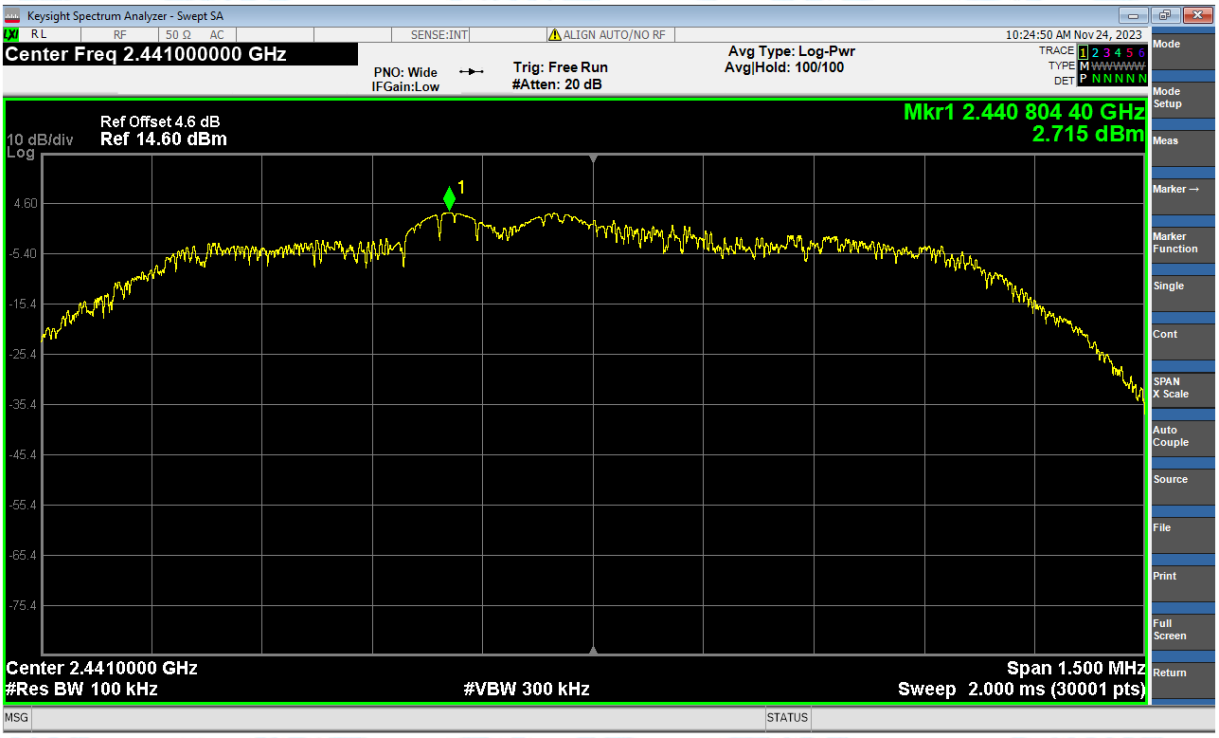
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



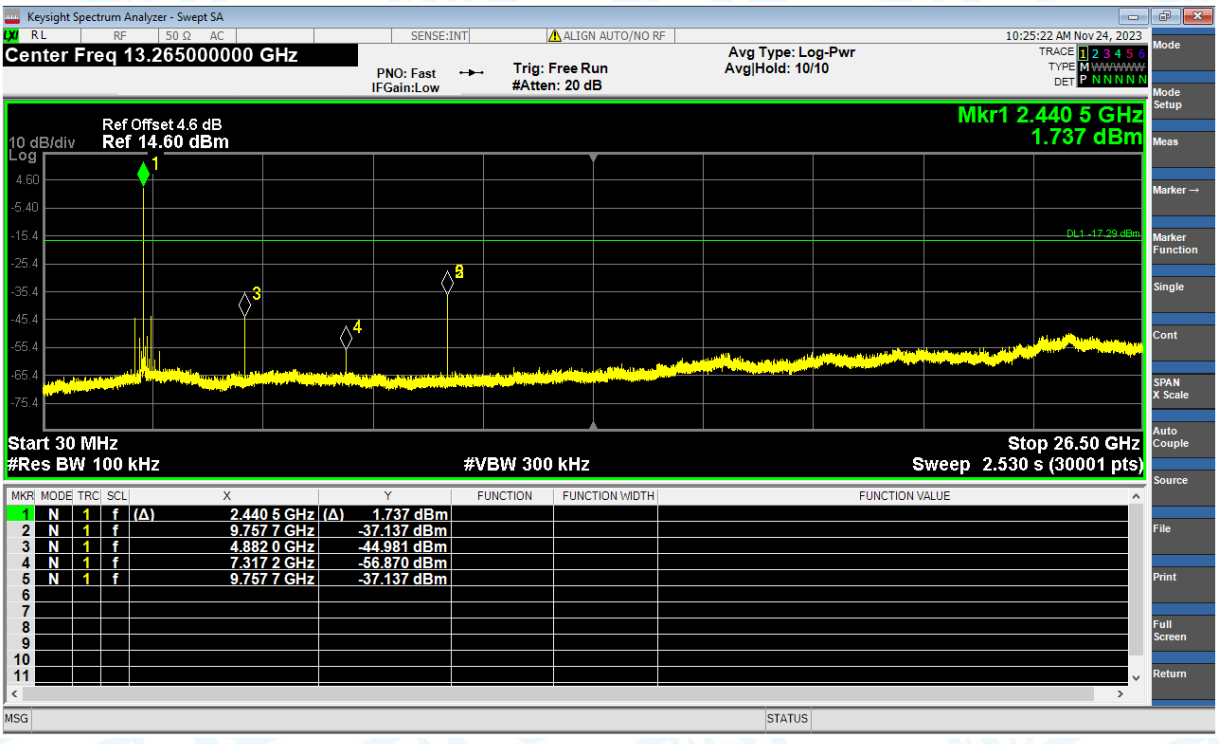
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



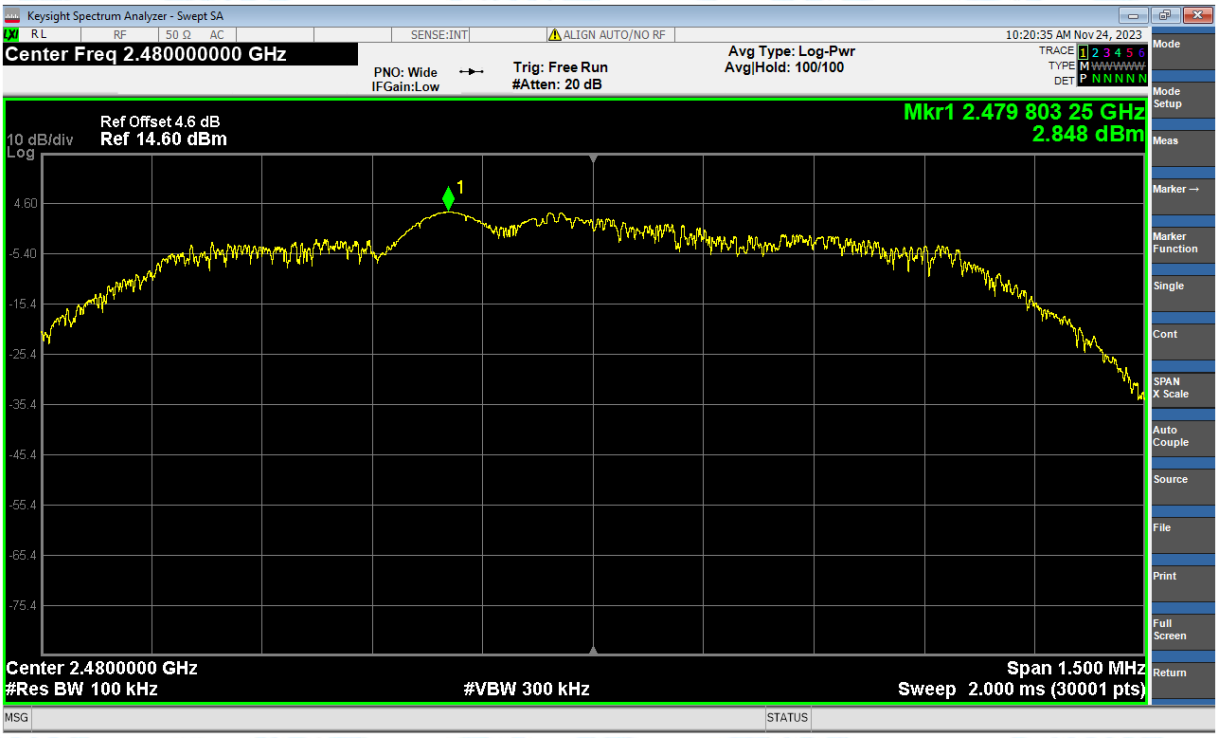
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



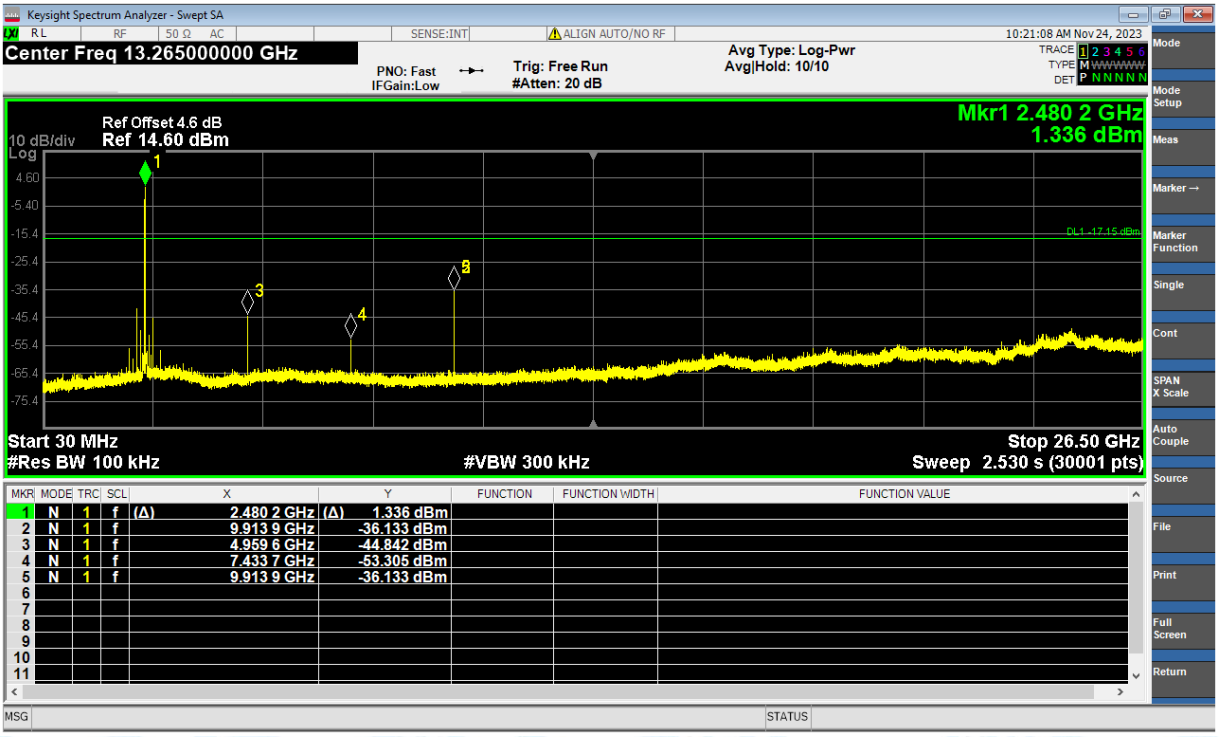
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission

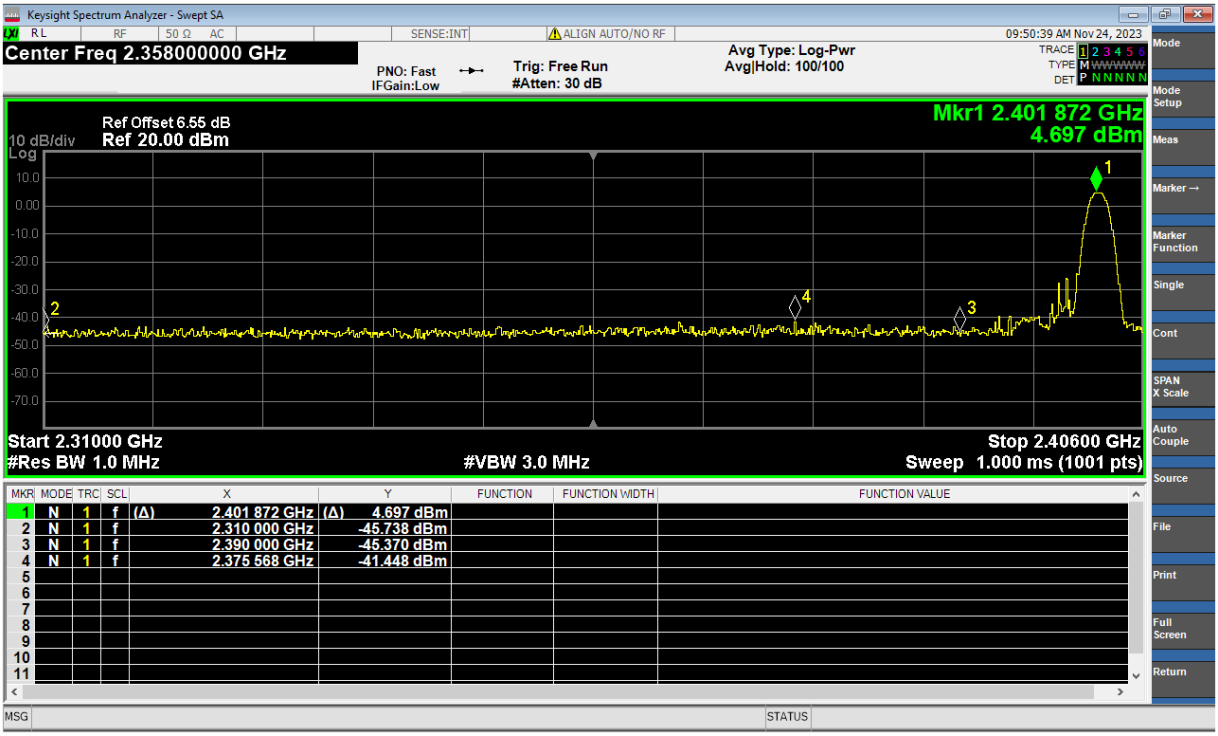


8. Restrict Band

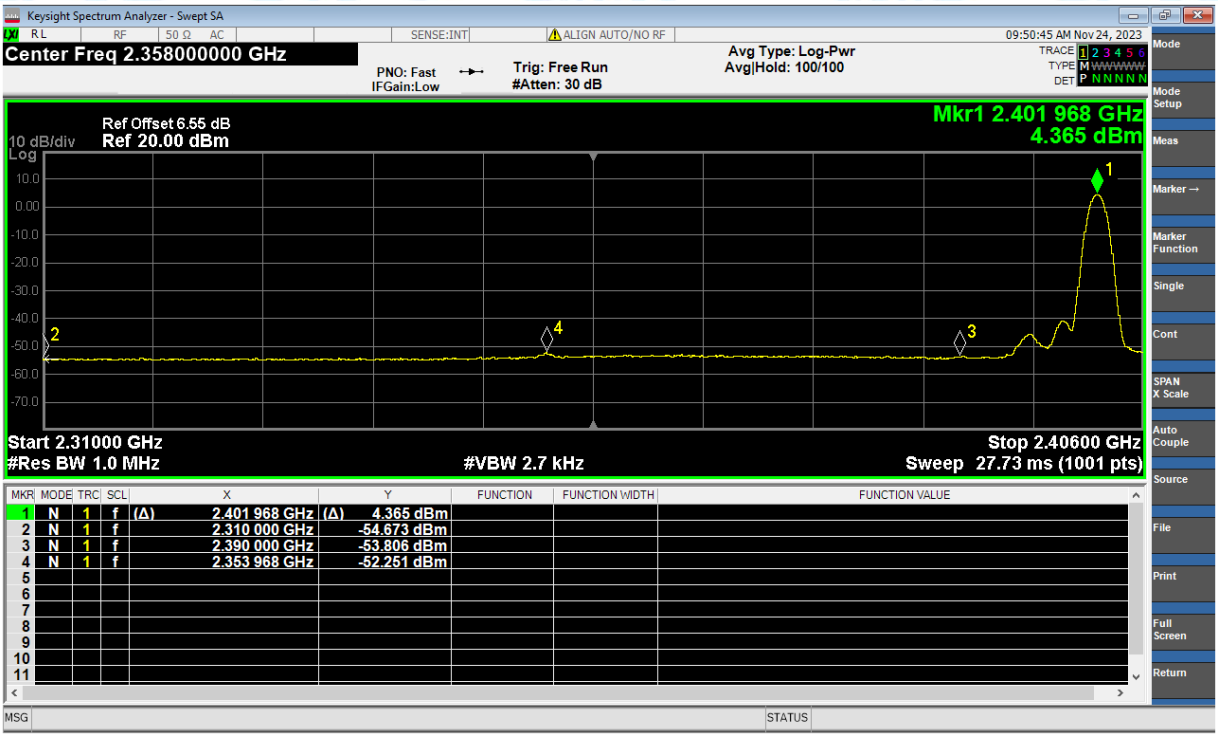
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-45.74	2	51.52	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-54.67	2	42.59	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2375.568	-41.45	2	55.81	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2353.968	-52.25	2	45.01	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-46.64	2	50.62	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-53.64	2	43.62	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-42.37	2	54.89	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-51.02	2	46.24	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2486.344	-40	2	57.26	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.512	-51.02	2	46.24	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-44.37	2	52.89	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-53.48	2	43.78	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-46.54	2	50.72	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-54.58	2	42.68	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2356.56	-42.16	2	55.1	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2353.968	-52.63	2	44.63	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-45.26	2	52	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-53.91	2	43.35	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-42.84	2	54.42	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-51.9	2	45.36	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.472	-38.71	2	58.55	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.512	-51.9	2	45.36	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-46.16	2	51.1	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-53.44	2	43.82	Average	54	Pass

Test Graphs

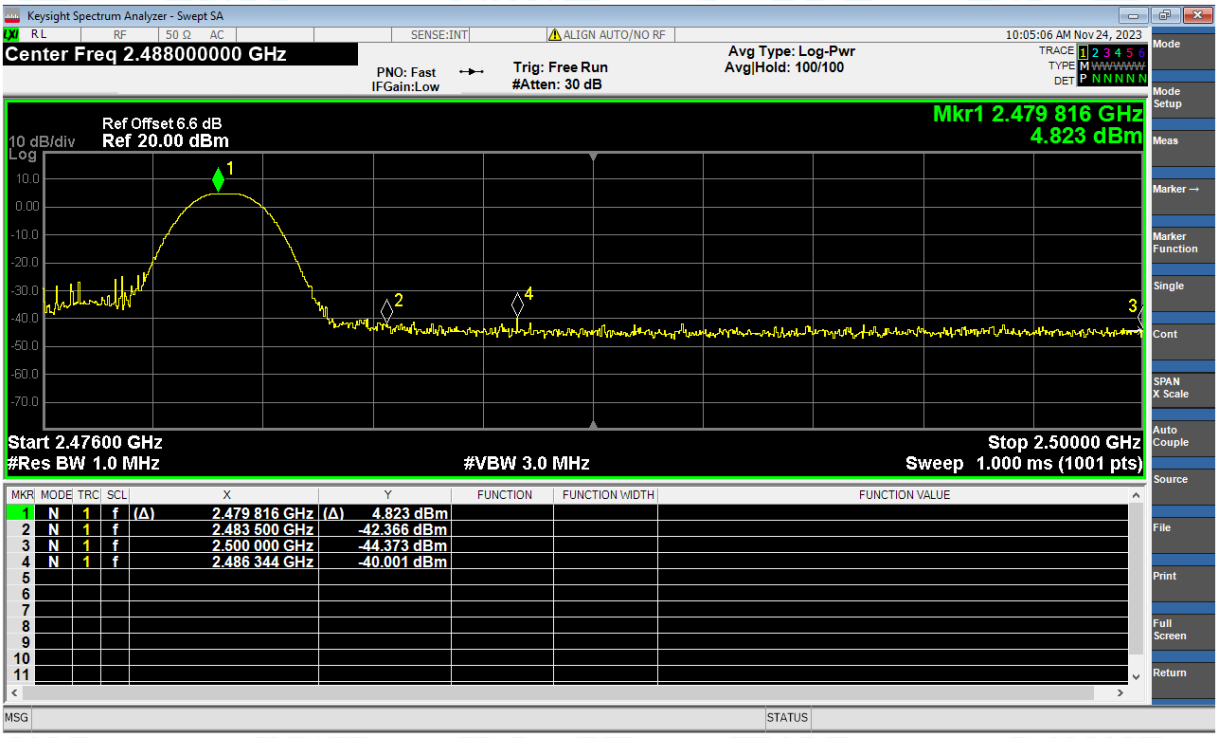
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



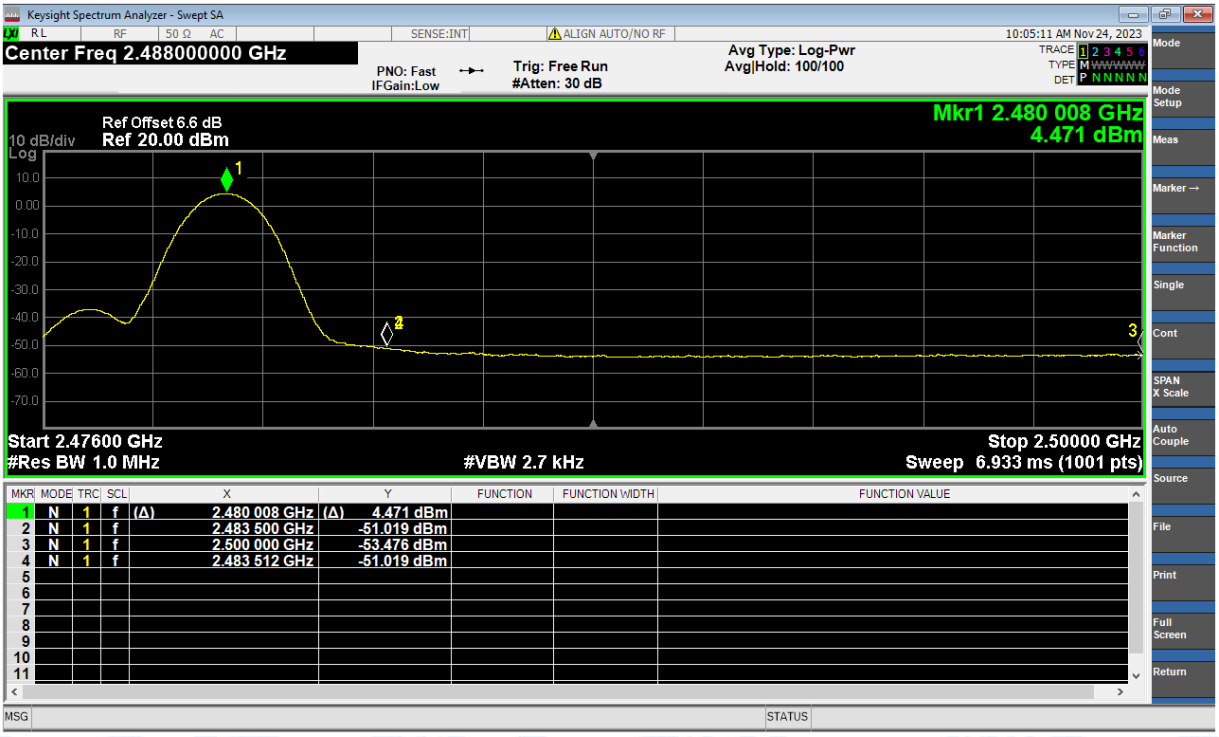
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



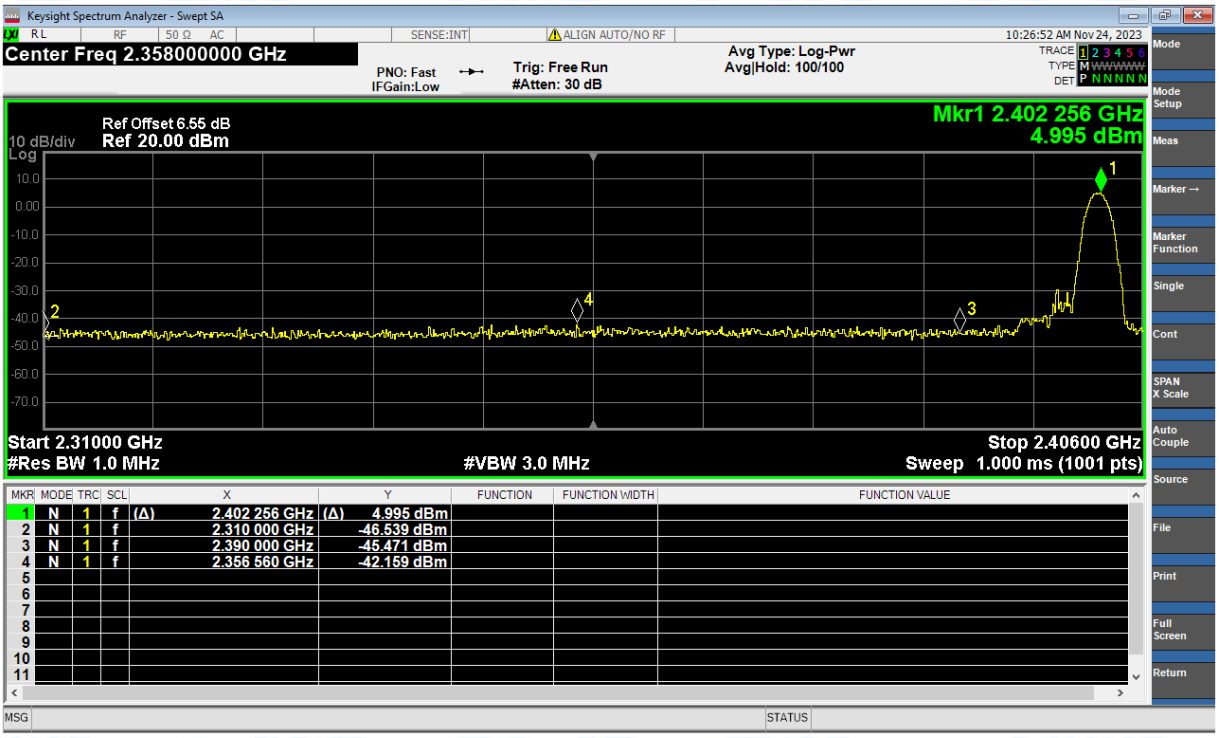
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



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

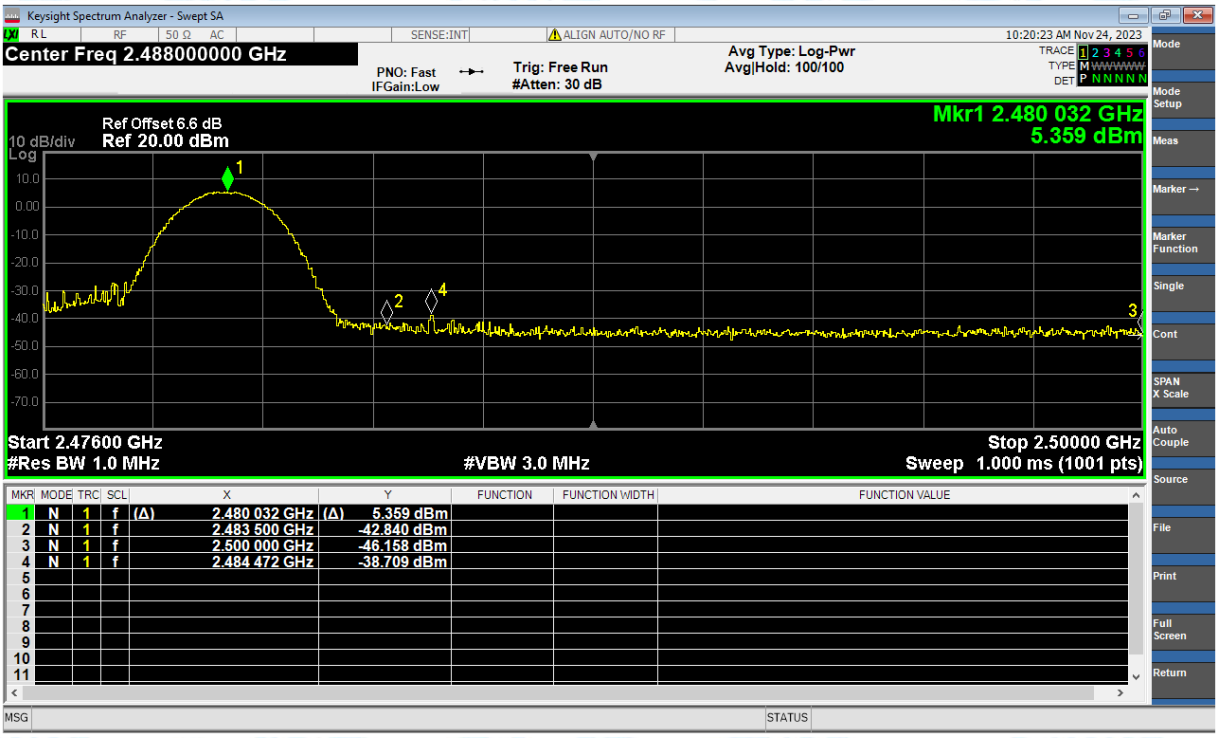


Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



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

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



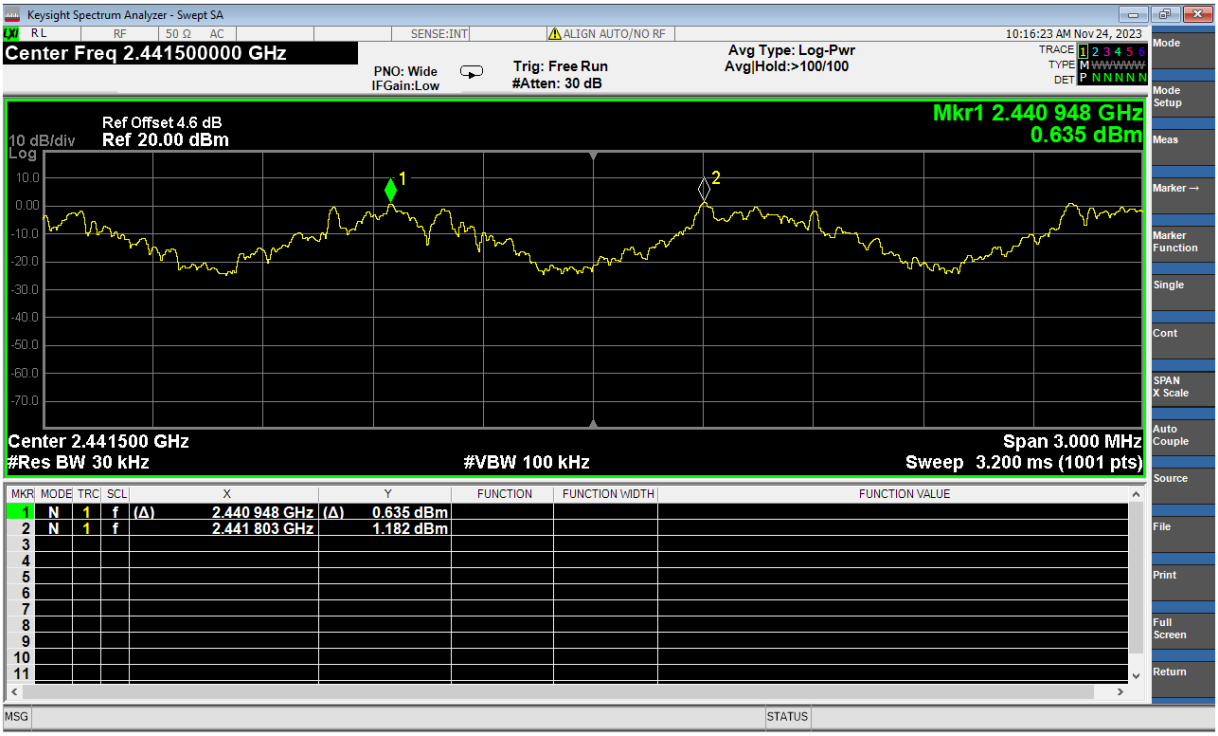
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average

9. Carrier Frequencies Separation

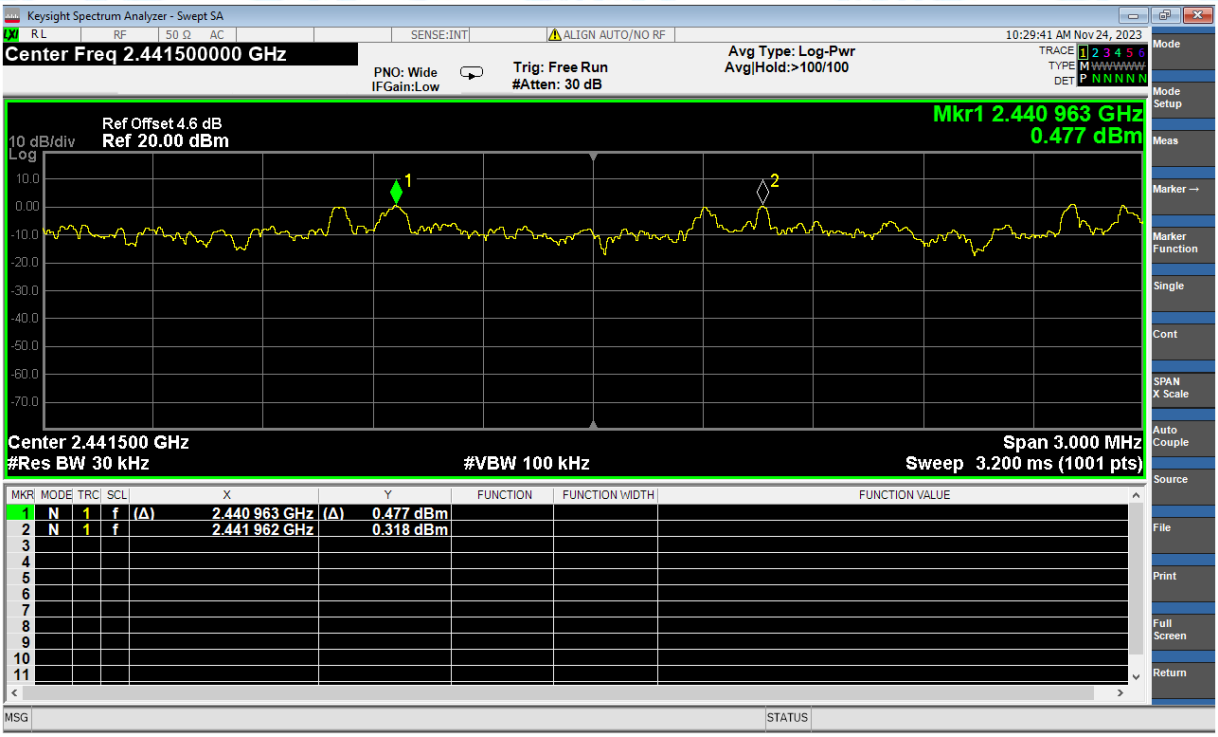
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.948	2441.803	0.855	0.58	Pass
NVNT	2-DH1	Ant1	2440.963	2441.962	0.999	0.83	Pass

Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1

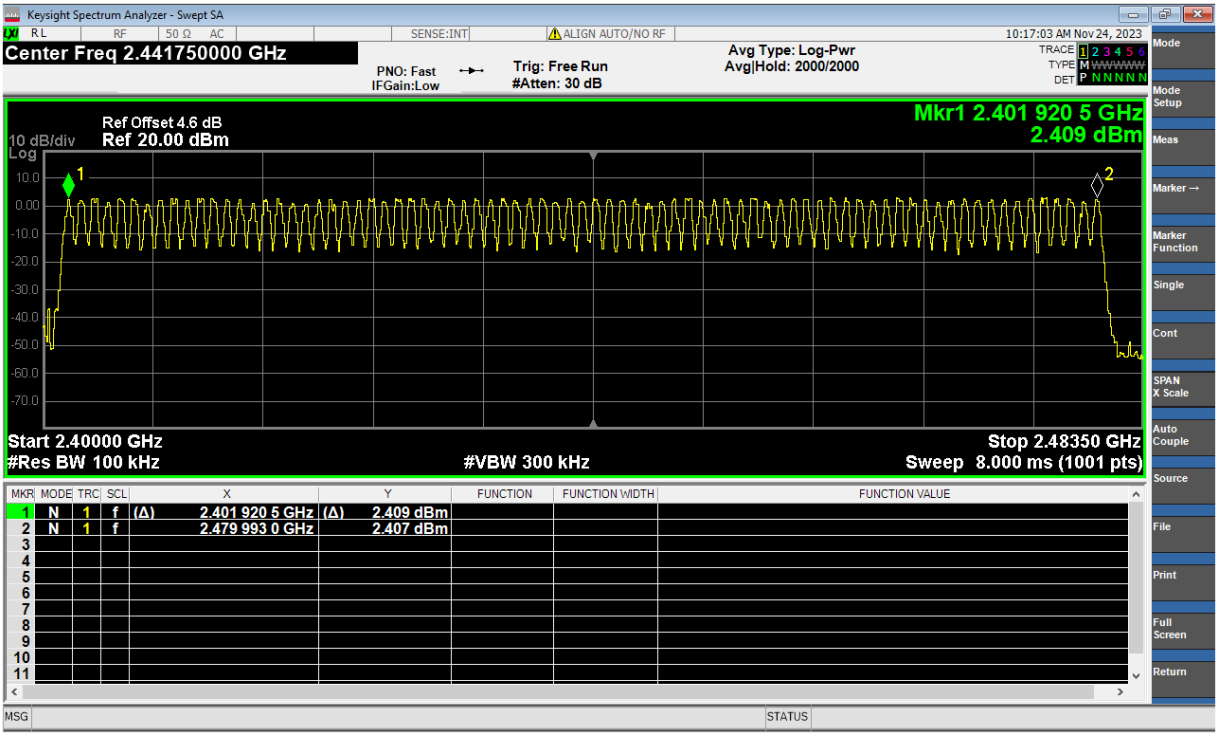


10. Number of Hopping Channel

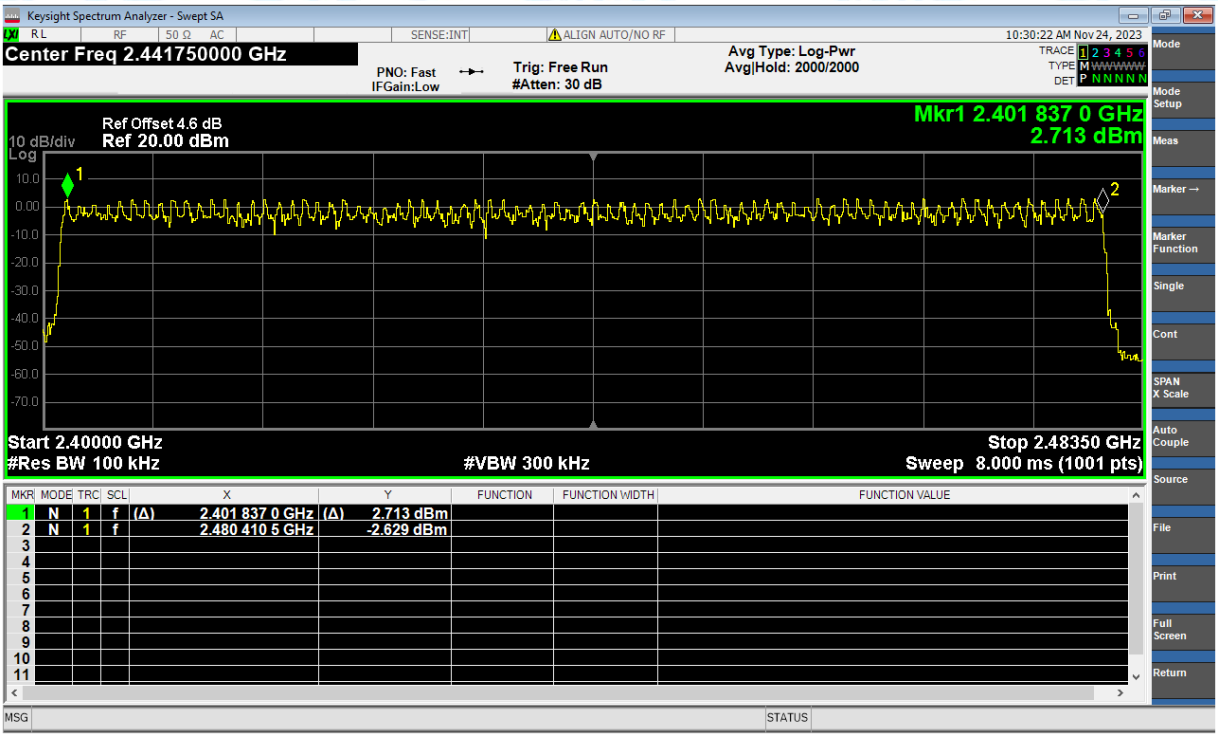
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass

Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1

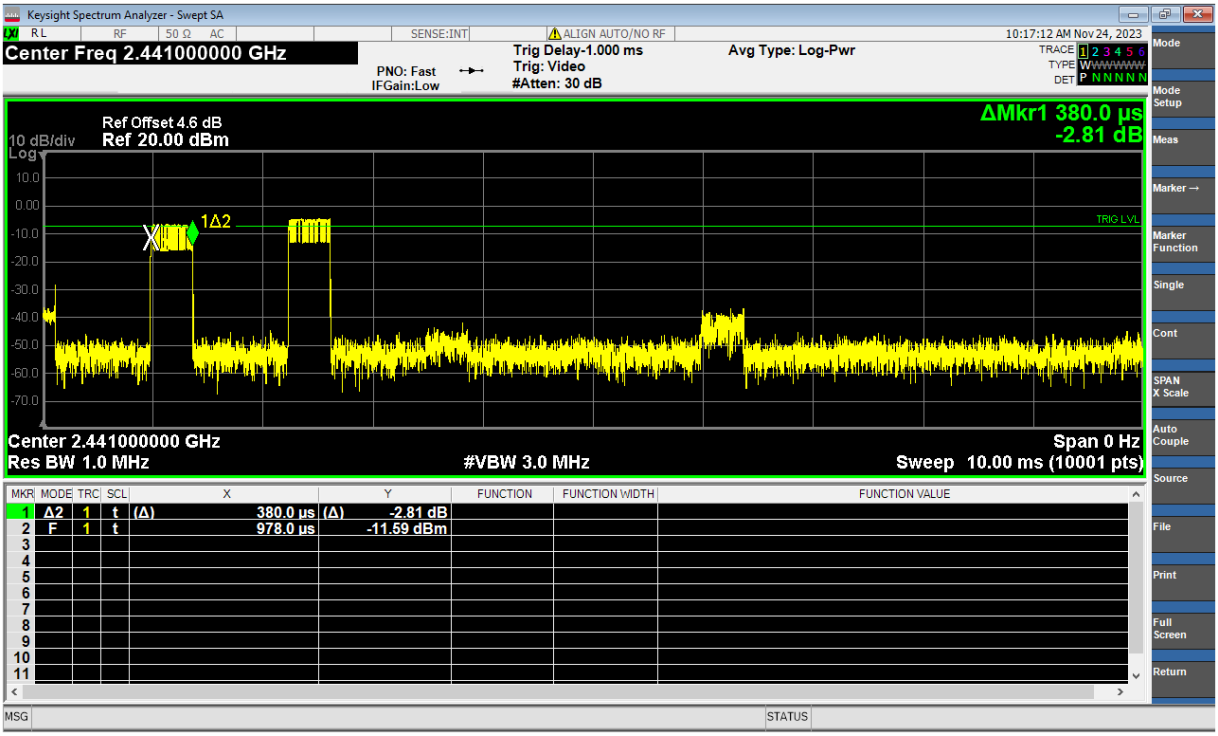


11. Dwell Time

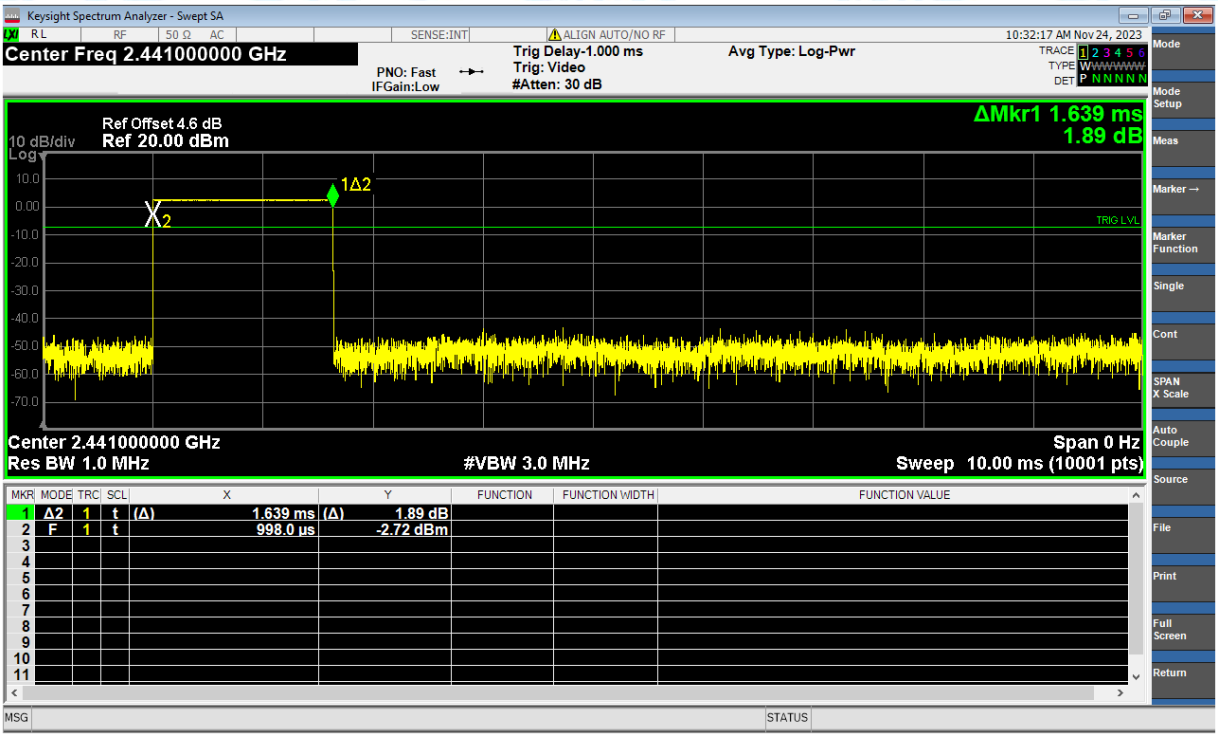
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.38	121.6	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.391	125.12	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.643	262.88	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.891	308.373	31600	400	Pass

Test Graphs

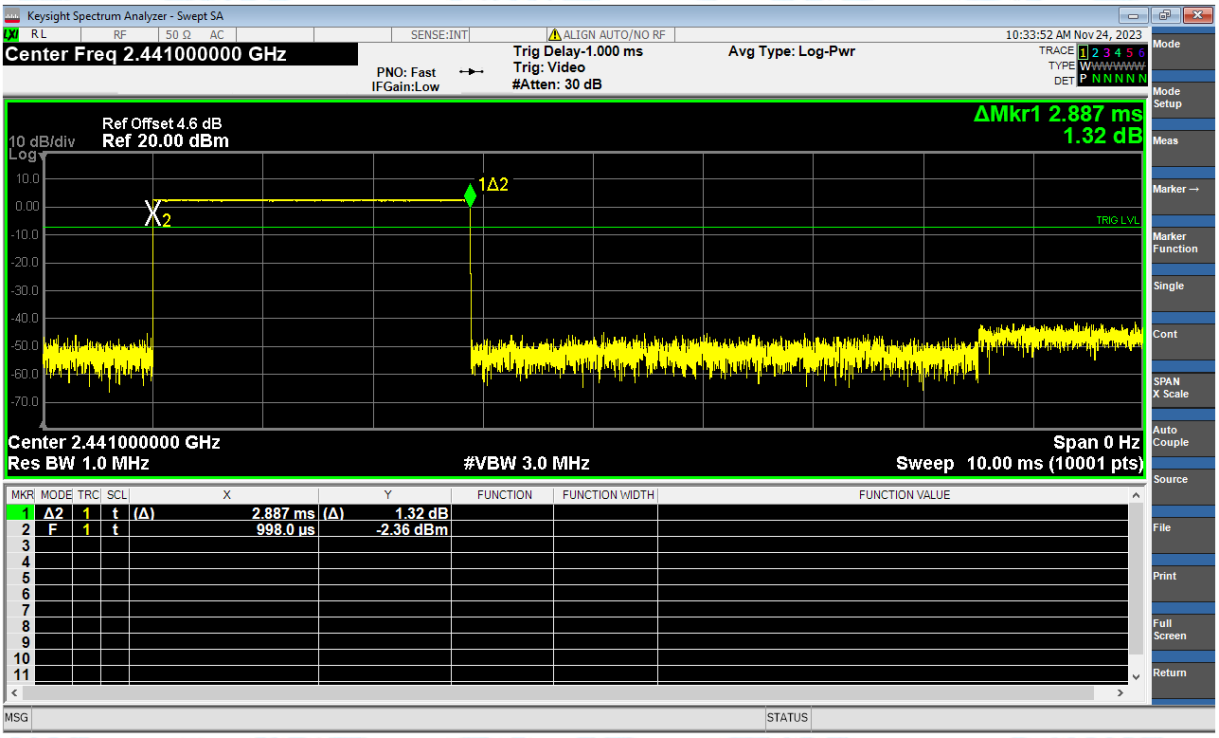
Dwell NVNT 1-DH1 2441MHz Ant1



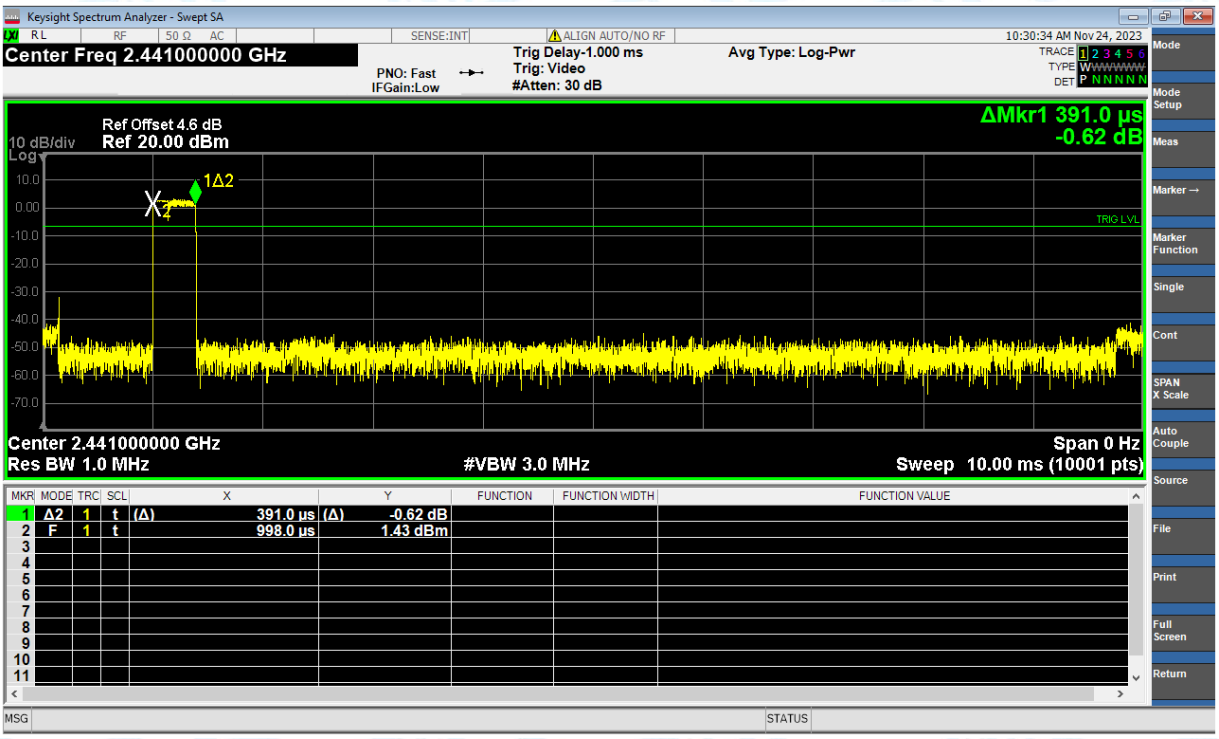
Dwell NVNT 1-DH3 2441MHz Ant1



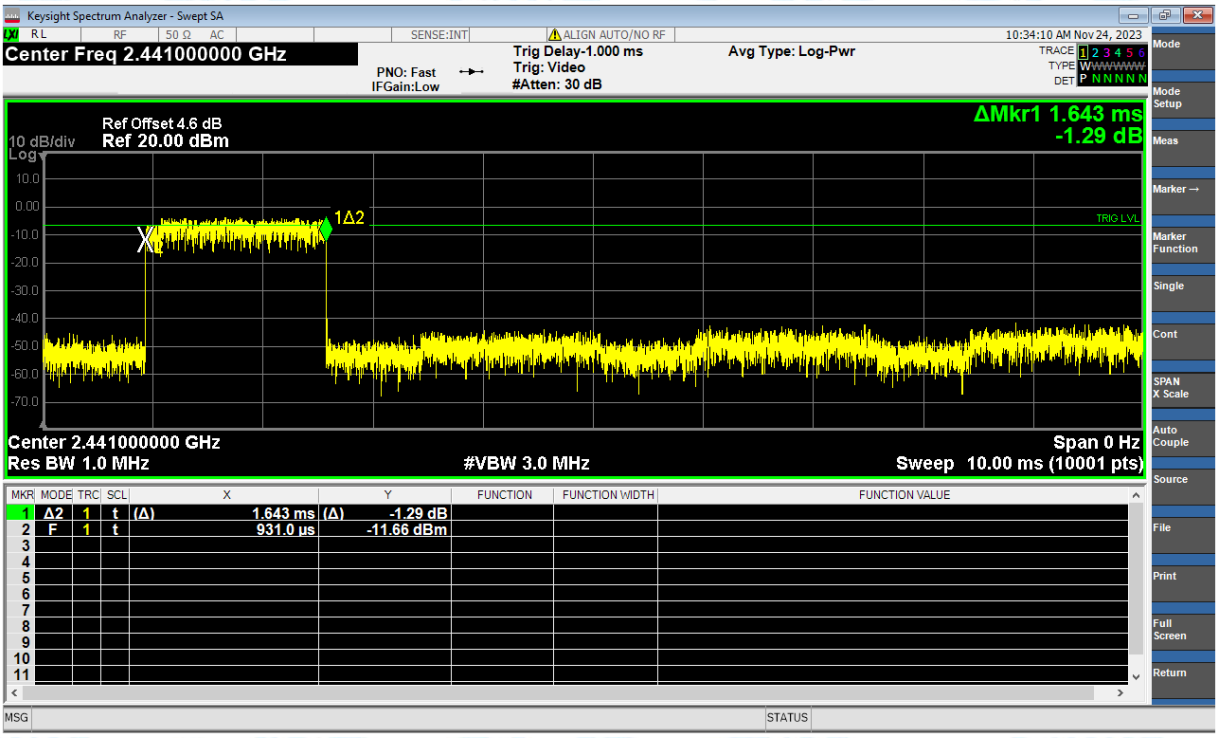
Dwell NVNT 1-DH5 2441MHz Ant1



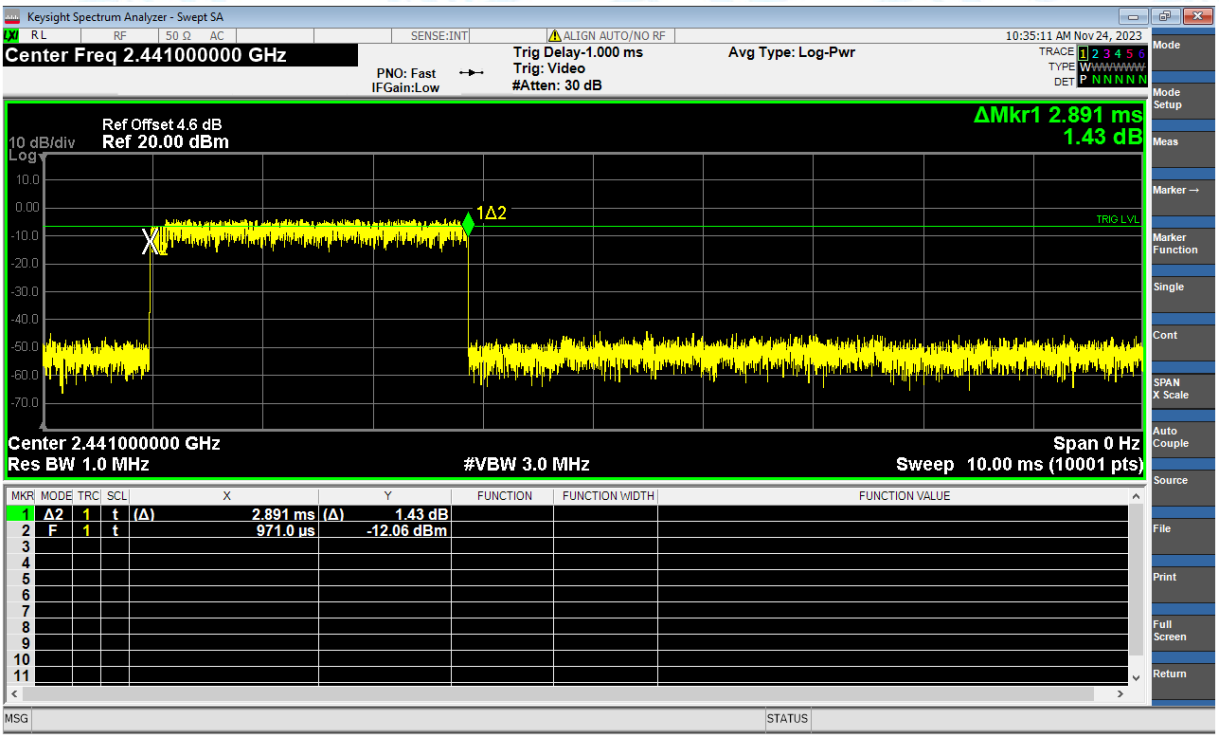
Dwell NVNT 2-DH1 2441MHz Ant1



Dwell NVNT 2-DH3 2441MHz Ant1



Dwell NVNT 2-DH5 2441MHz Ant1



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