

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

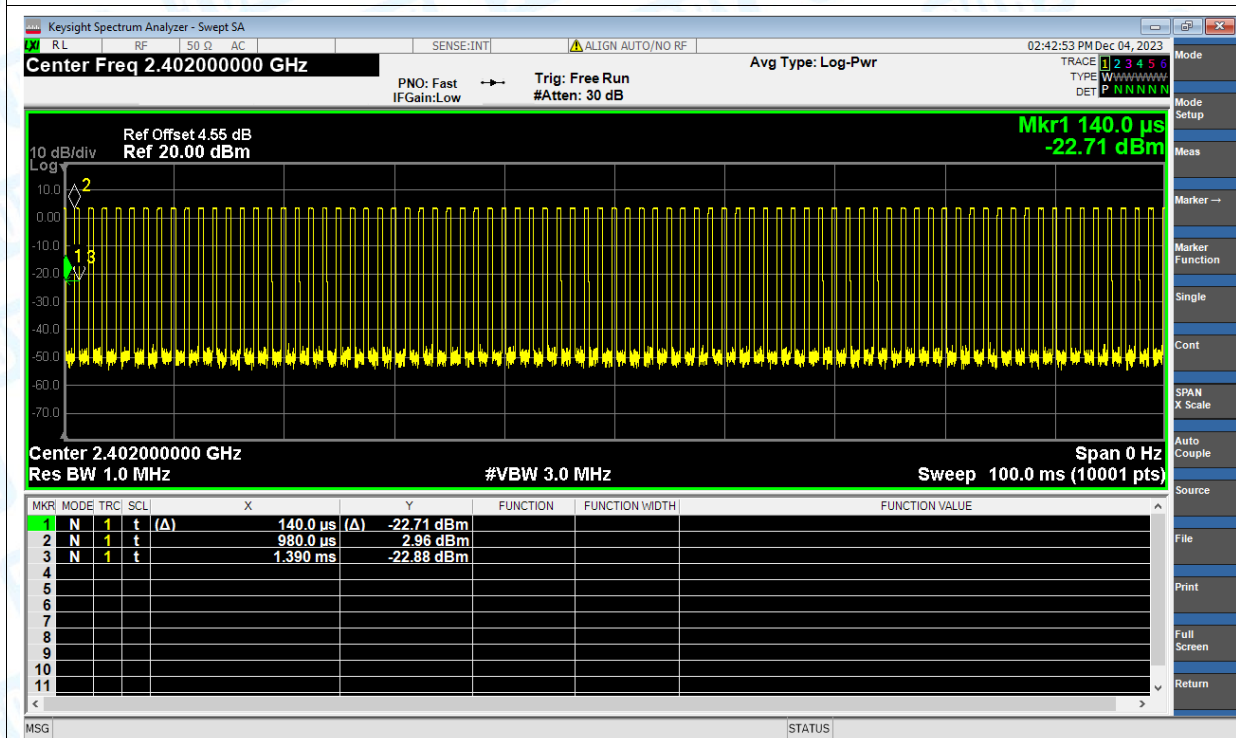
General Description of EUT	
Product Name:	Flashing LED Wireless Headphones
Test Model:	N31
Sample ID:	HC-C-202311-0350-01-01-2#
Environmental Conditions	
Temperature:	24℃
Relative Humidity:	50%
Test Voltage:	DC 3.7V
Test Engineer:	Liyijing
Note: For a more detailed features description, please refer to the report TBR-C-202311-0350-1. The report only show the worst case data.	

Duty Cycle

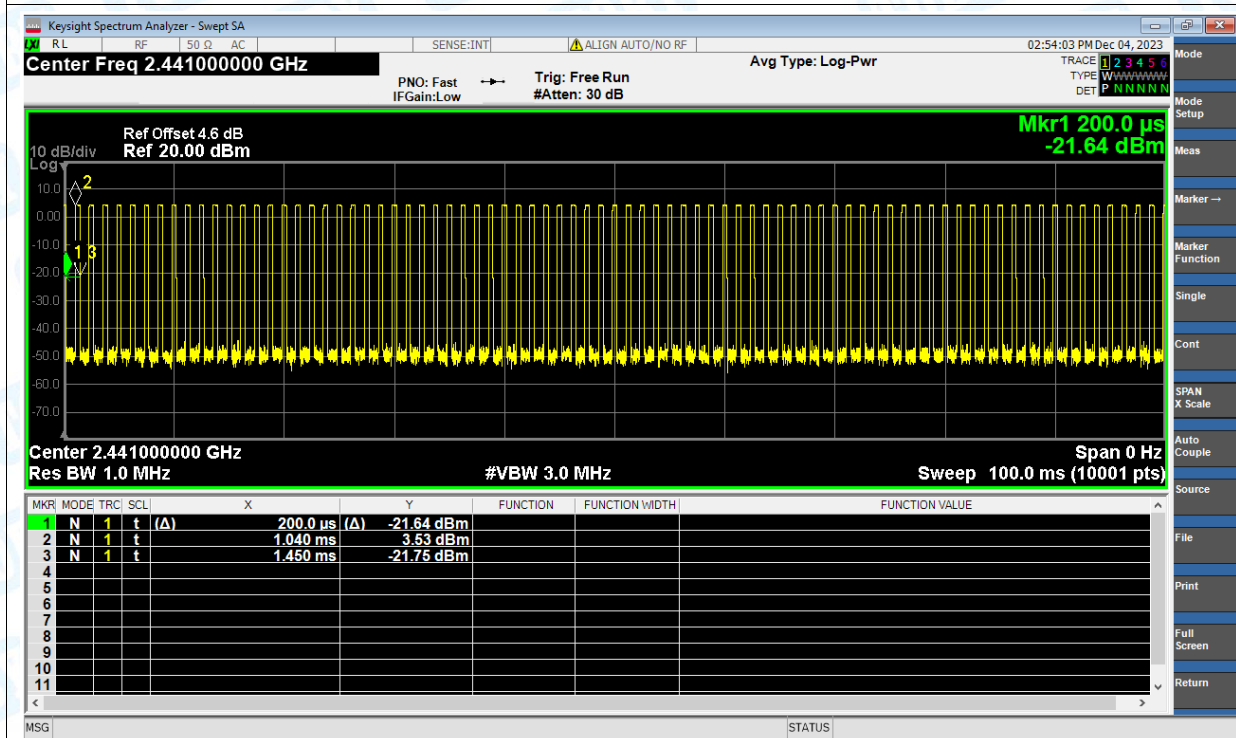
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2402	Ant1	33.6	4.74	2.38
NVNT	2-DH1	2441	Ant1	33.6	4.74	2.38
NVNT	2-DH1	2480	Ant1	33.6	4.74	2.38
NVNT	3-DH1	2402	Ant1	34.4	4.63	2.33
NVNT	3-DH1	2441	Ant1	34.4	4.63	2.33
NVNT	3-DH1	2480	Ant1	33.6	4.74	2.38

Test Graphs

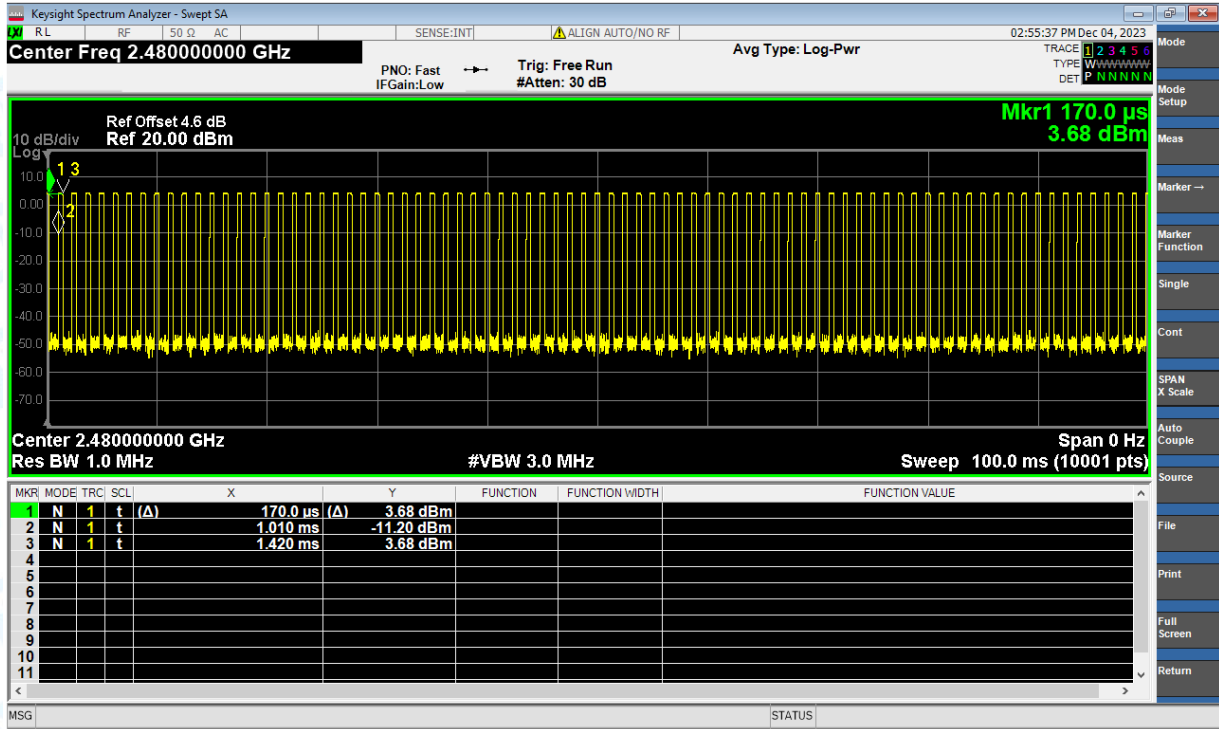
Duty Cycle NVNT 1-DH1 2402MHz Ant1



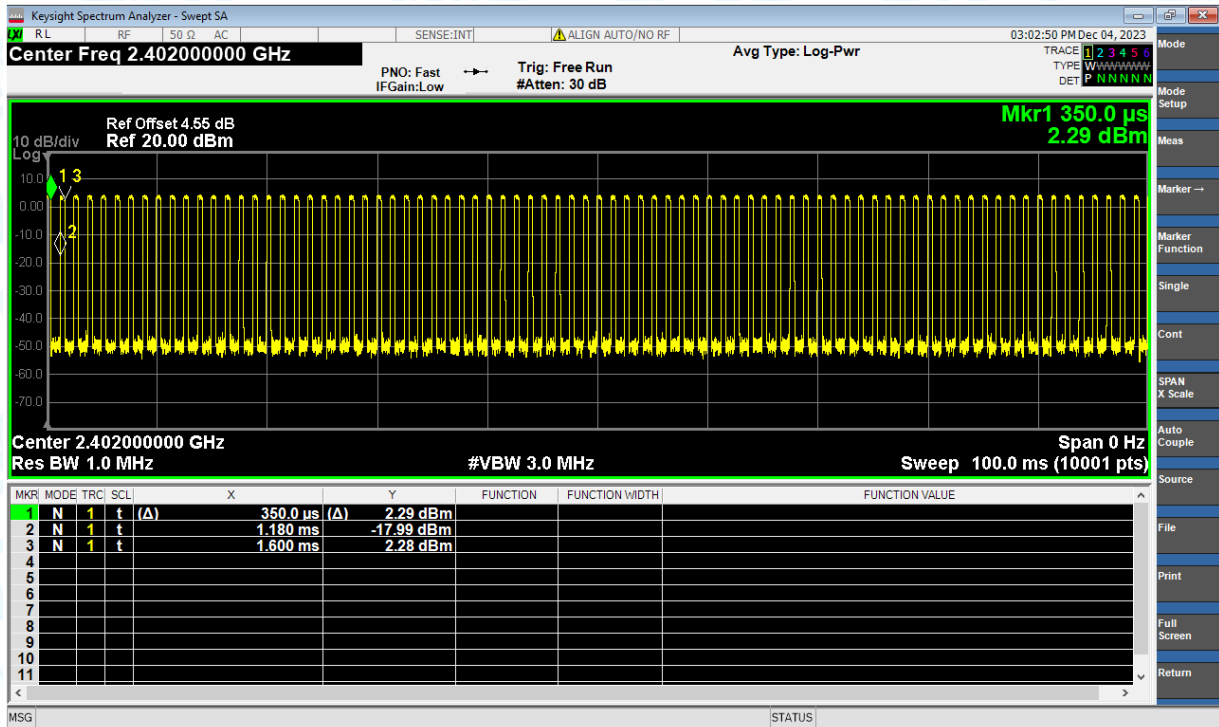
Duty Cycle NVNT 1-DH1 2441MHz Ant1



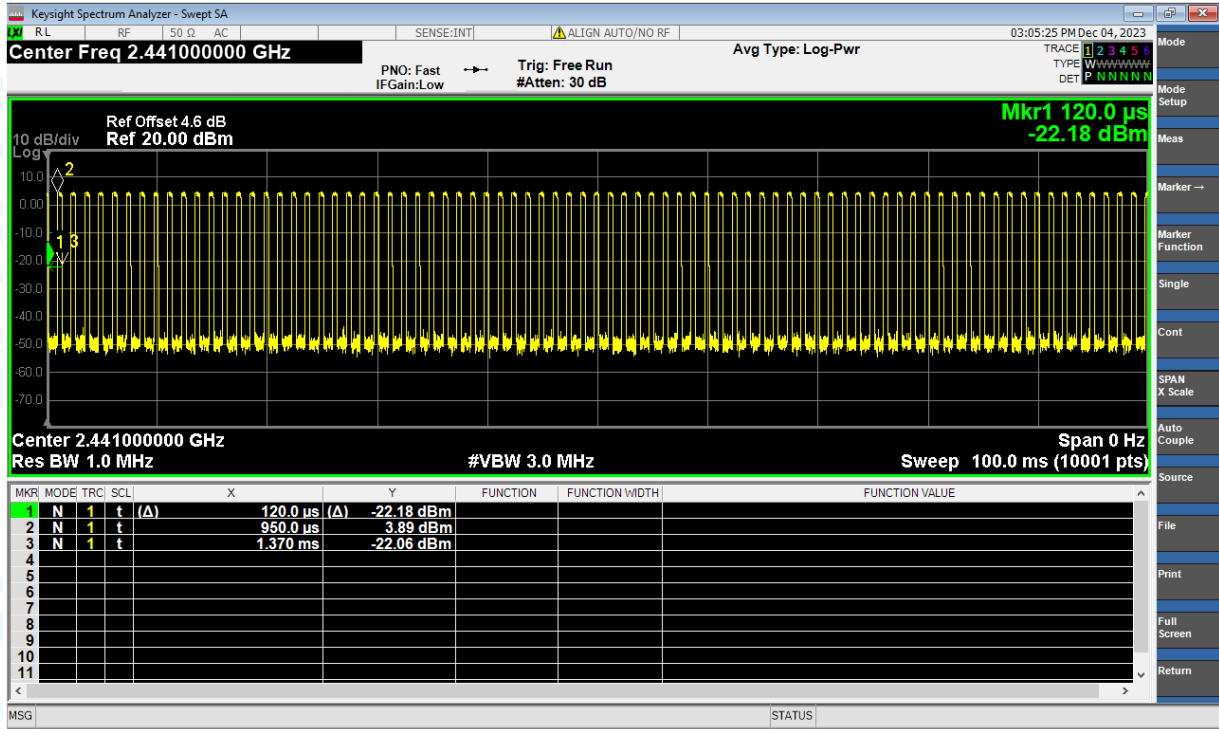
Duty Cycle NVNT 1-DH1 2480MHz Ant1



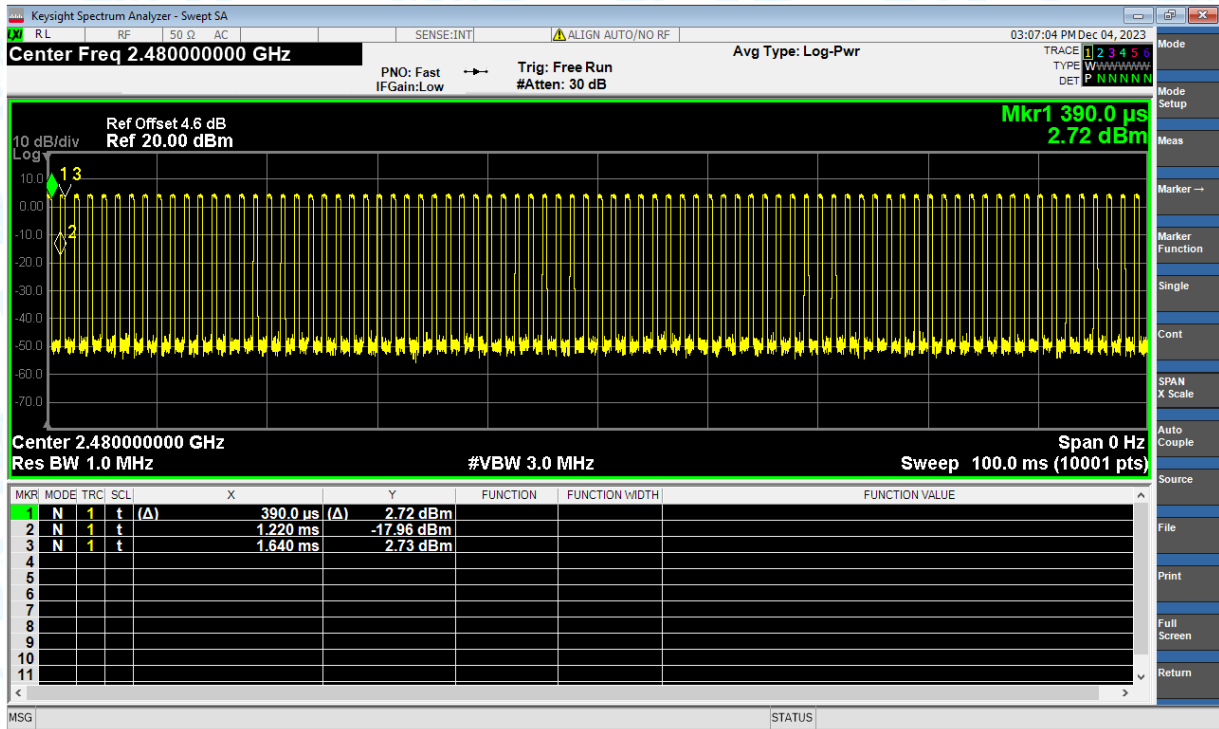
Duty Cycle NVNT 2-DH1 2402MHz Ant1



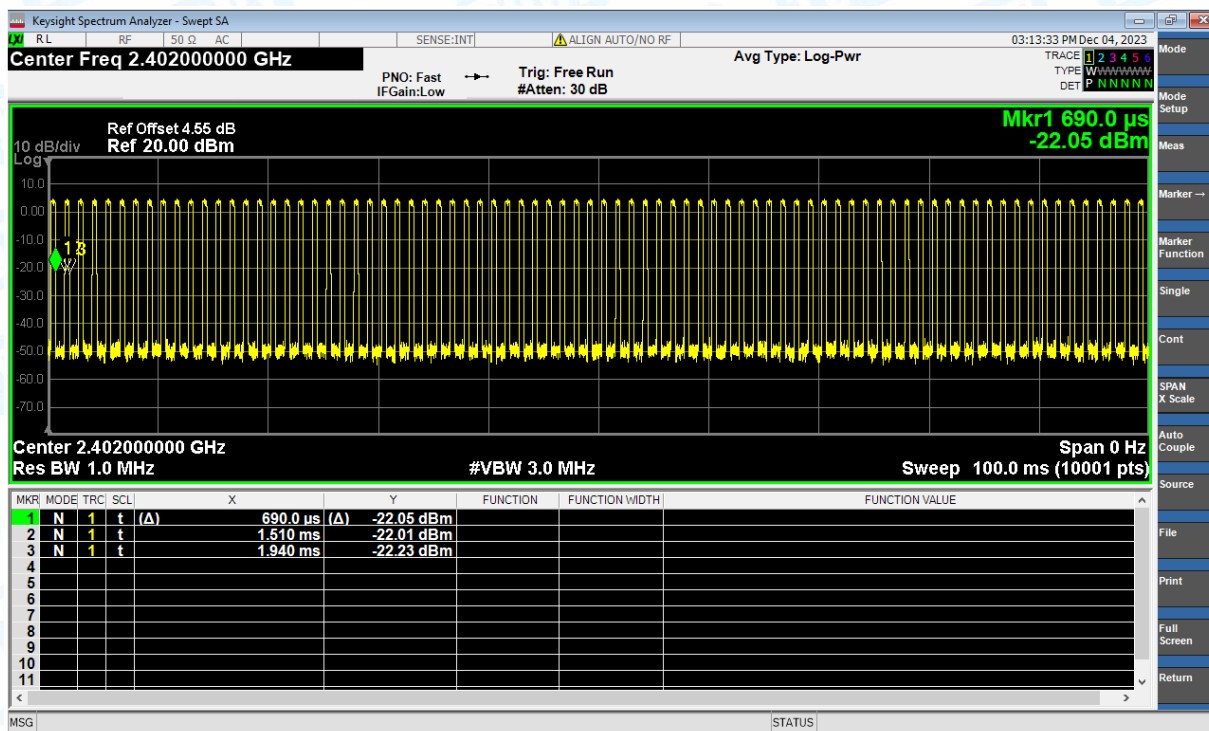
Duty Cycle NVNT 2-DH1 2441MHz Ant1



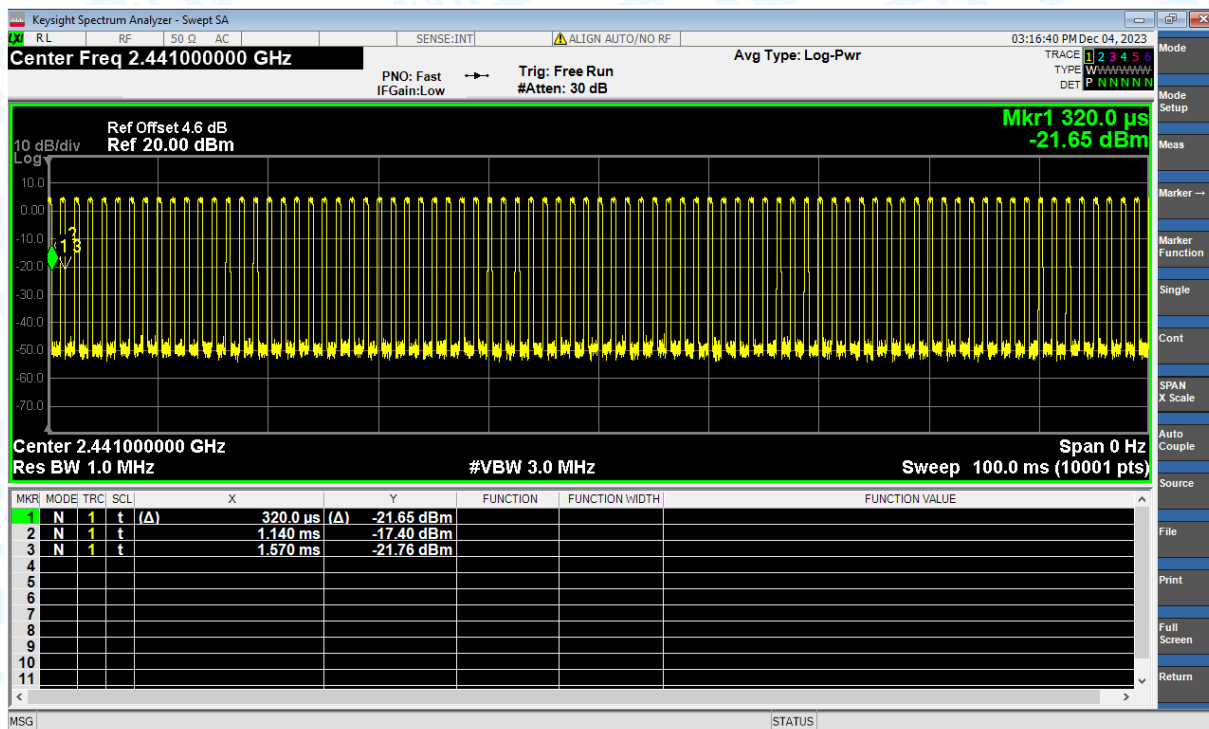
Duty Cycle NVNT 2-DH1 2480MHz Ant1

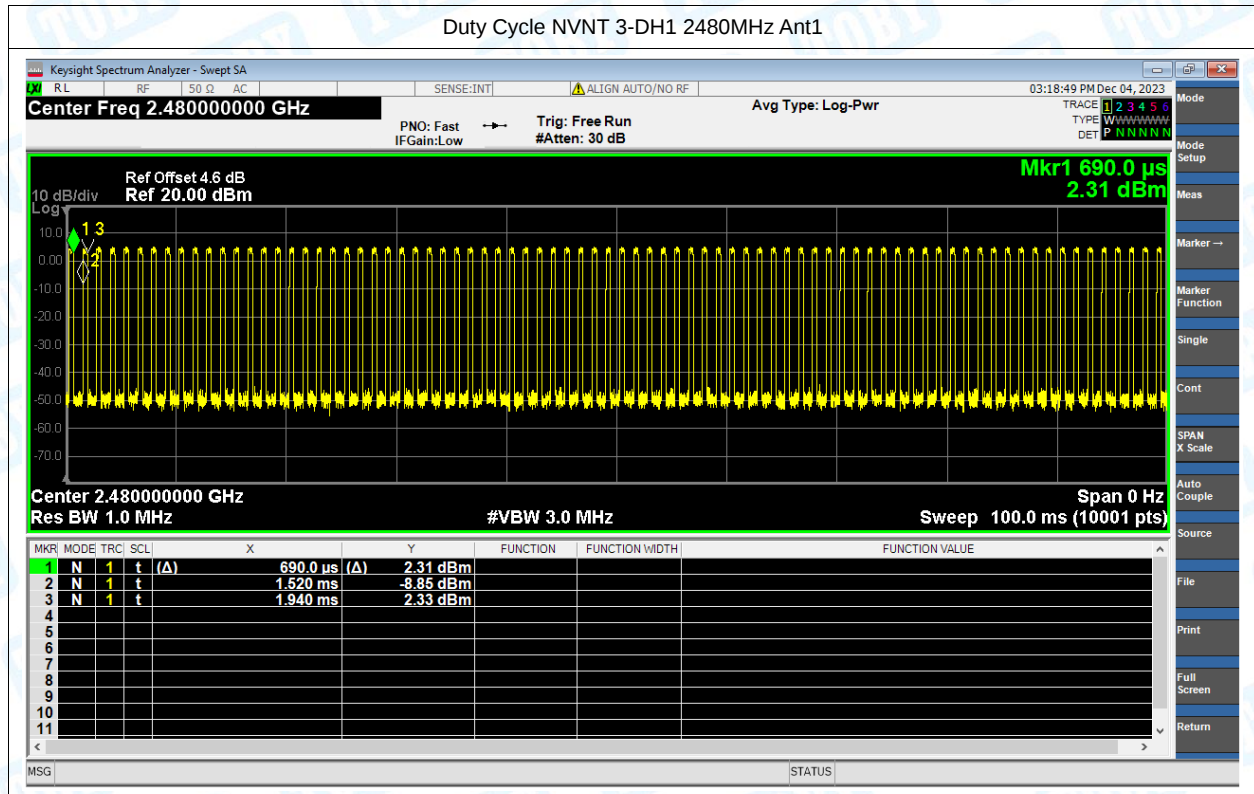


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



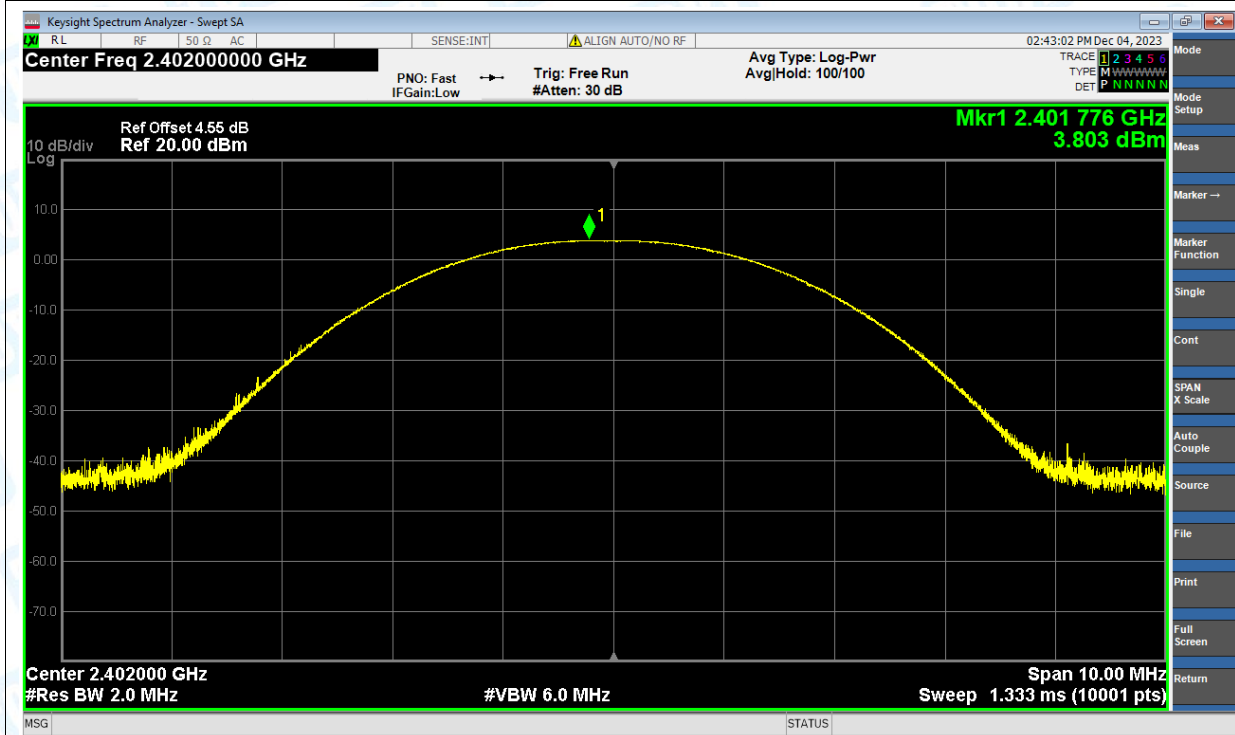


Maximum Conducted Output Power

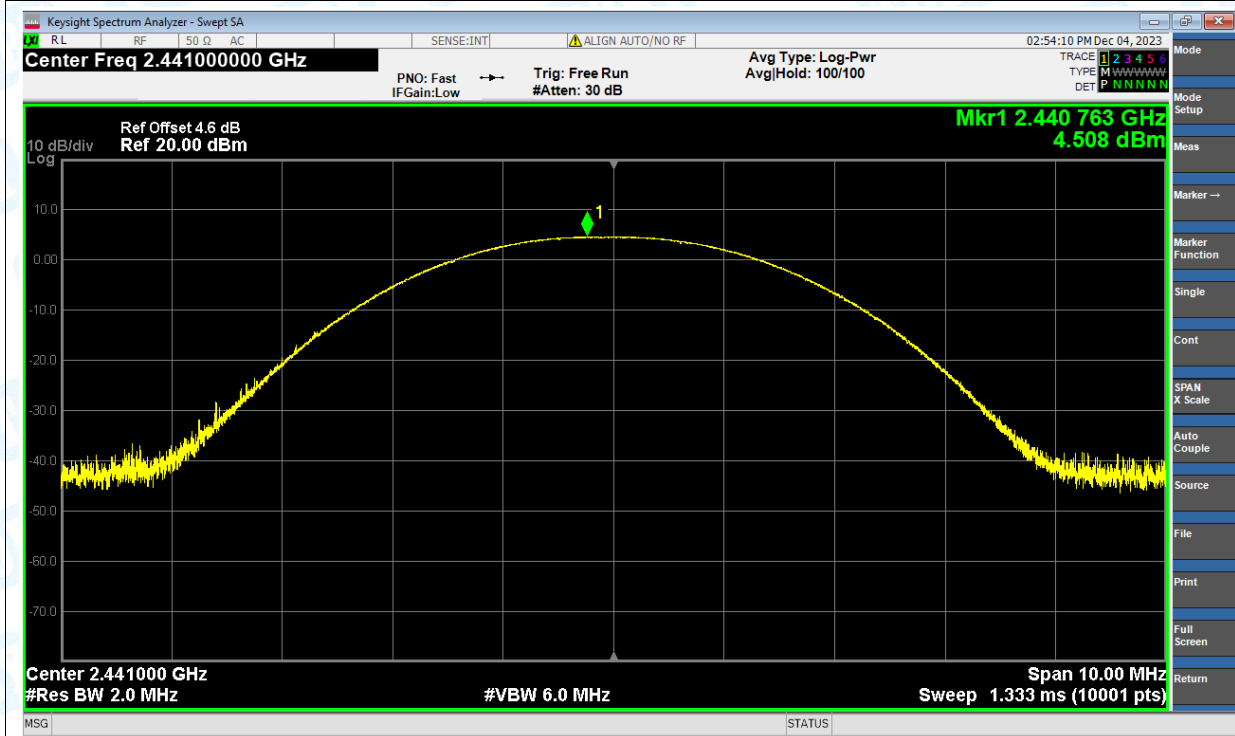
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	3.803	21	Pass
NVNT	1-DH1	2441	Ant1	4.508	21	Pass
NVNT	1-DH1	2480	Ant1	4.458	21	Pass
NVNT	2-DH1	2402	Ant1	4.767	21	Pass
NVNT	2-DH1	2441	Ant1	5.255	21	Pass
NVNT	2-DH1	2480	Ant1	5.274	21	Pass
NVNT	3-DH1	2402	Ant1	5.134	21	Pass
NVNT	3-DH1	2441	Ant1	5.613	21	Pass
NVNT	3-DH1	2480	Ant1	5.589	21	Pass

Test Graphs

Power NVNT 1-DH1 2402MHz Ant1



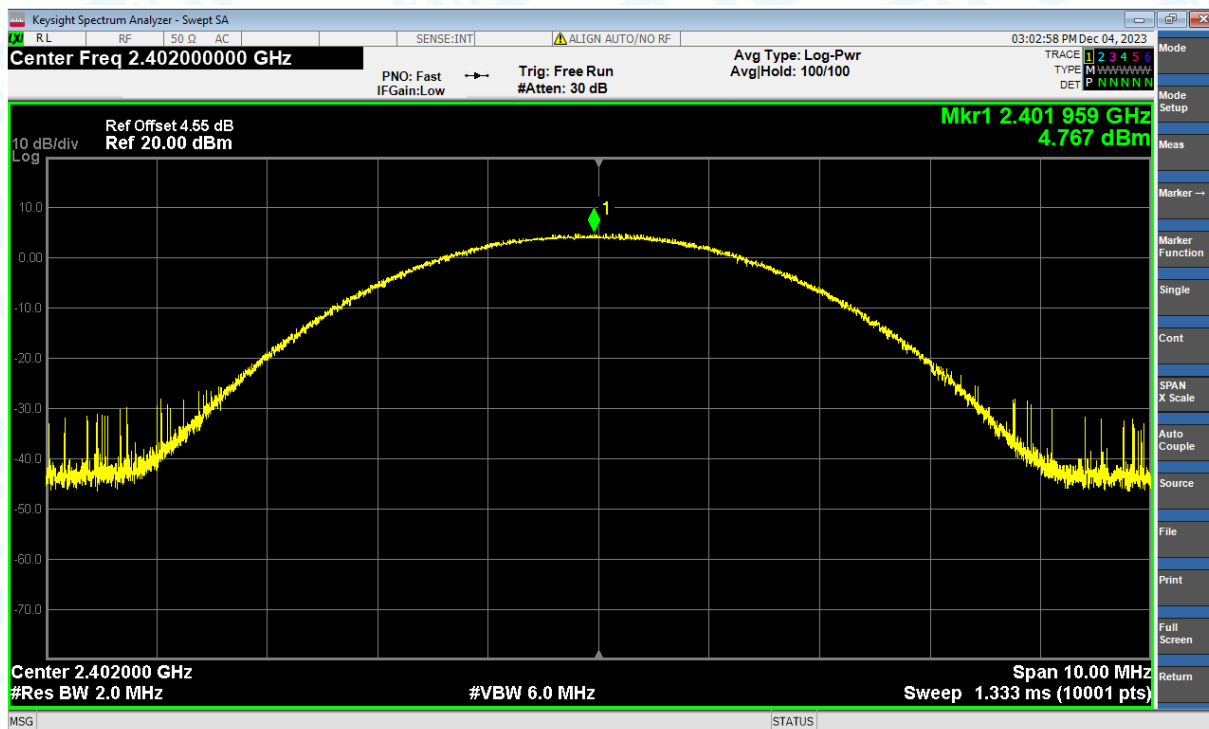
Power NVNT 1-DH1 2441MHz Ant1



Power NVNT 1-DH1 2480MHz Ant1



Power NVNT 2-DH1 2402MHz Ant1



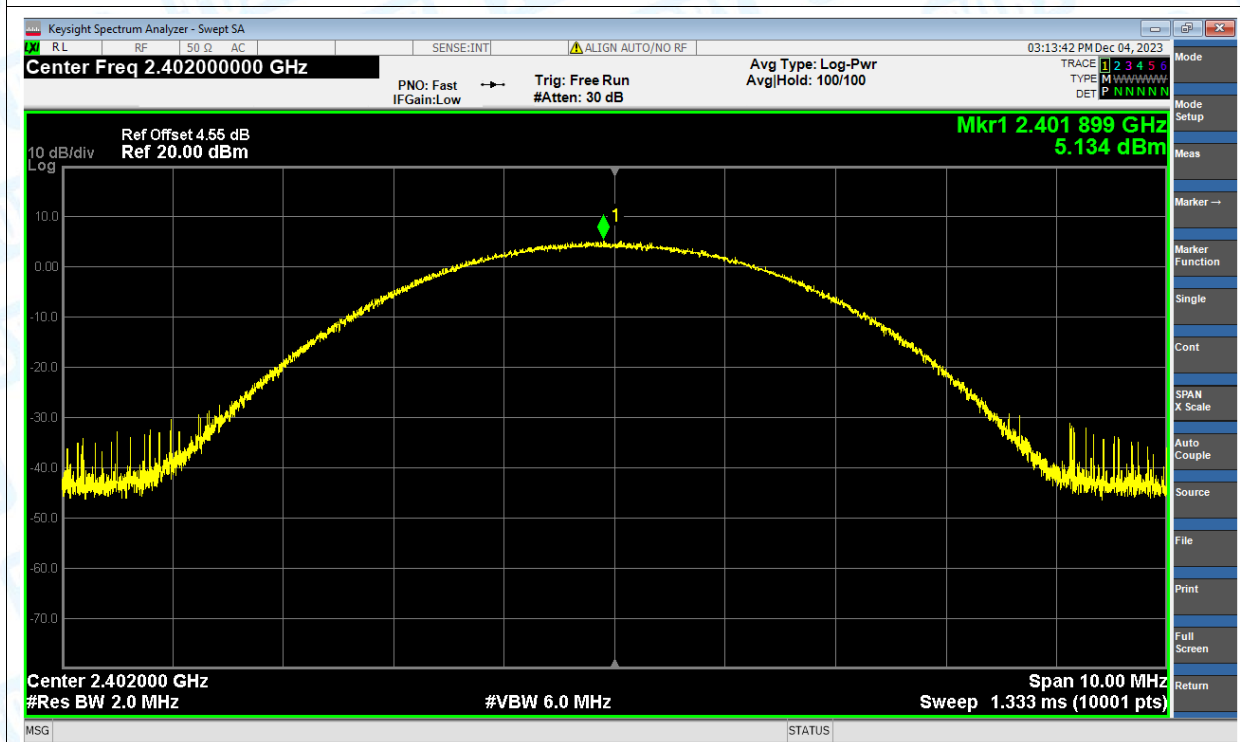
Power NVNT 2-DH1 2441MHz Ant1



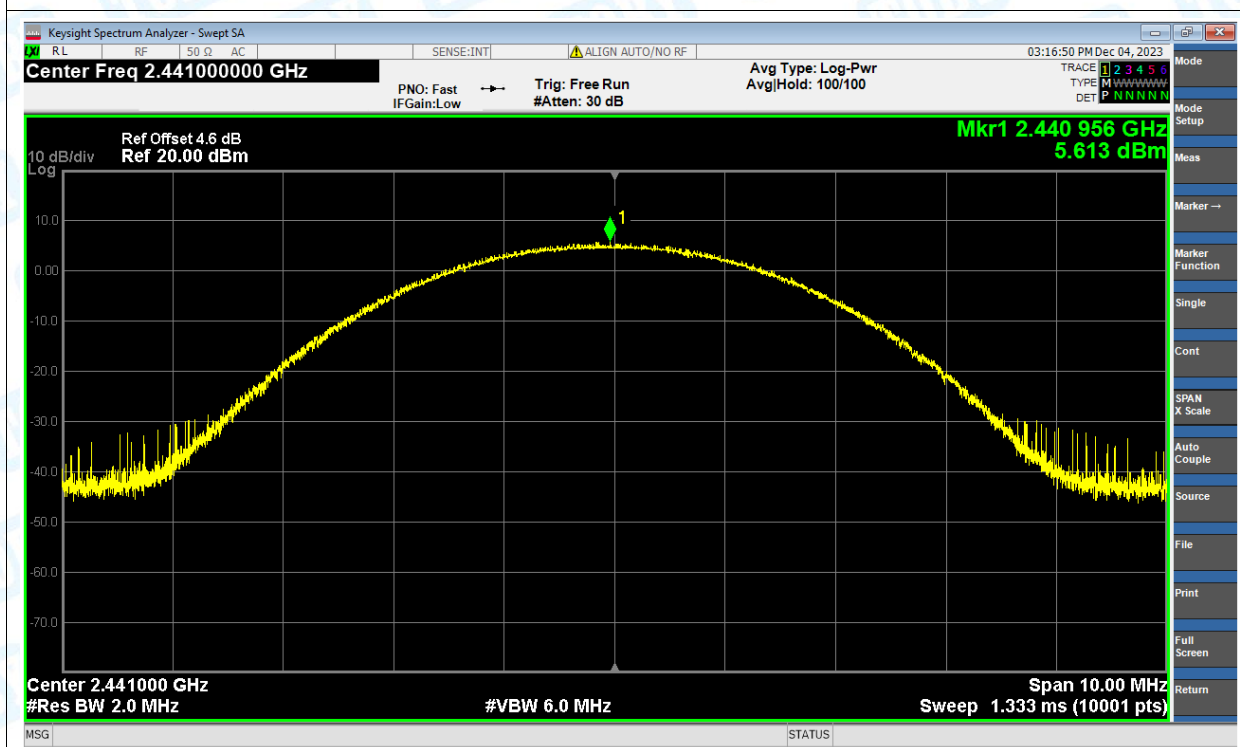
Power NVNT 2-DH1 2480MHz Ant1



Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1





-20dB Bandwidth

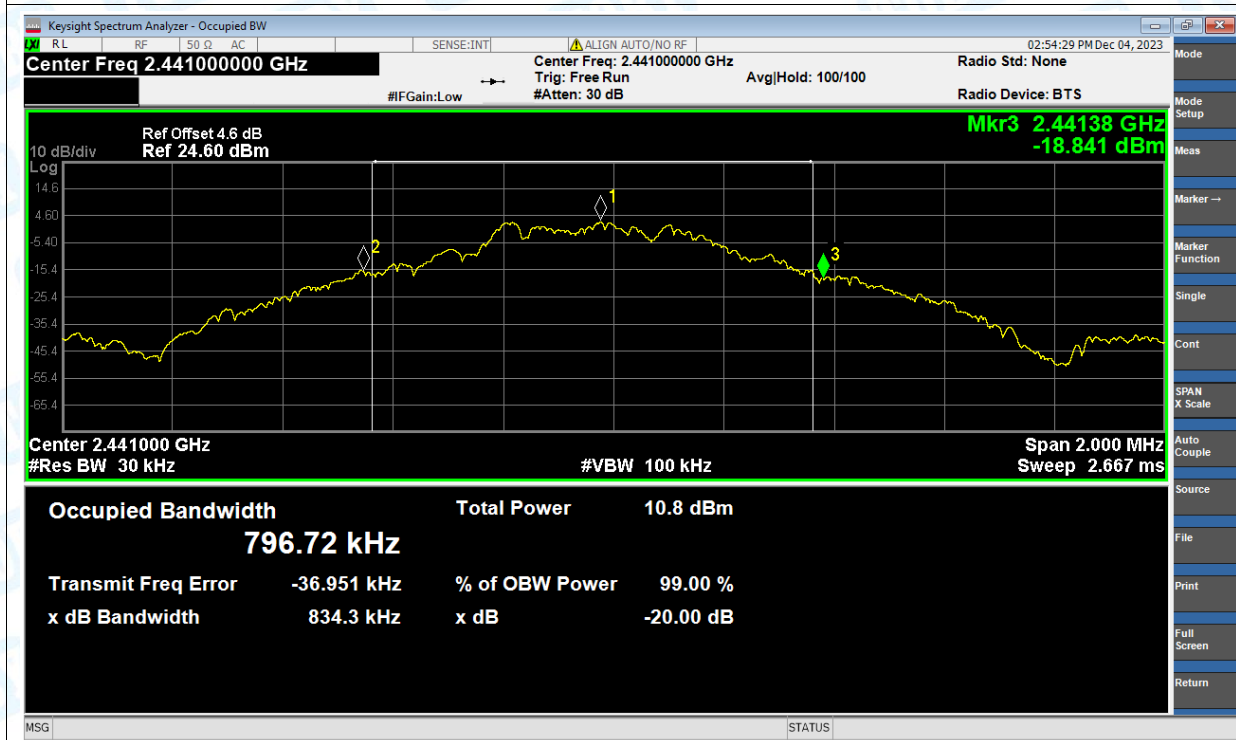
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.86	0	Pass
NVNT	1-DH1	2441	Ant1	0.83	0	Pass
NVNT	1-DH1	2480	Ant1	0.89	0	Pass
NVNT	2-DH1	2402	Ant1	1.24	0	Pass
NVNT	2-DH1	2441	Ant1	1.22	0	Pass
NVNT	2-DH1	2480	Ant1	1.22	0	Pass
NVNT	3-DH1	2402	Ant1	1.2	0	Pass
NVNT	3-DH1	2441	Ant1	1.2	0	Pass
NVNT	3-DH1	2480	Ant1	1.21	0	Pass

Test Graphs

-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



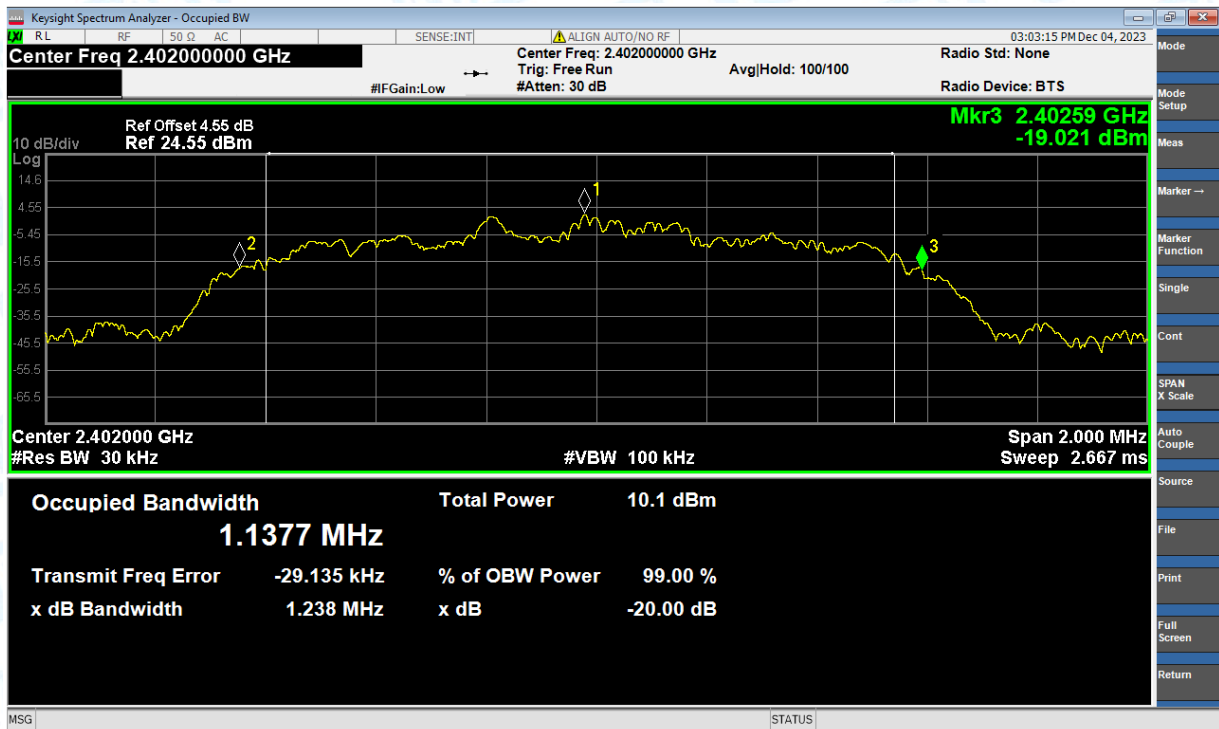
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



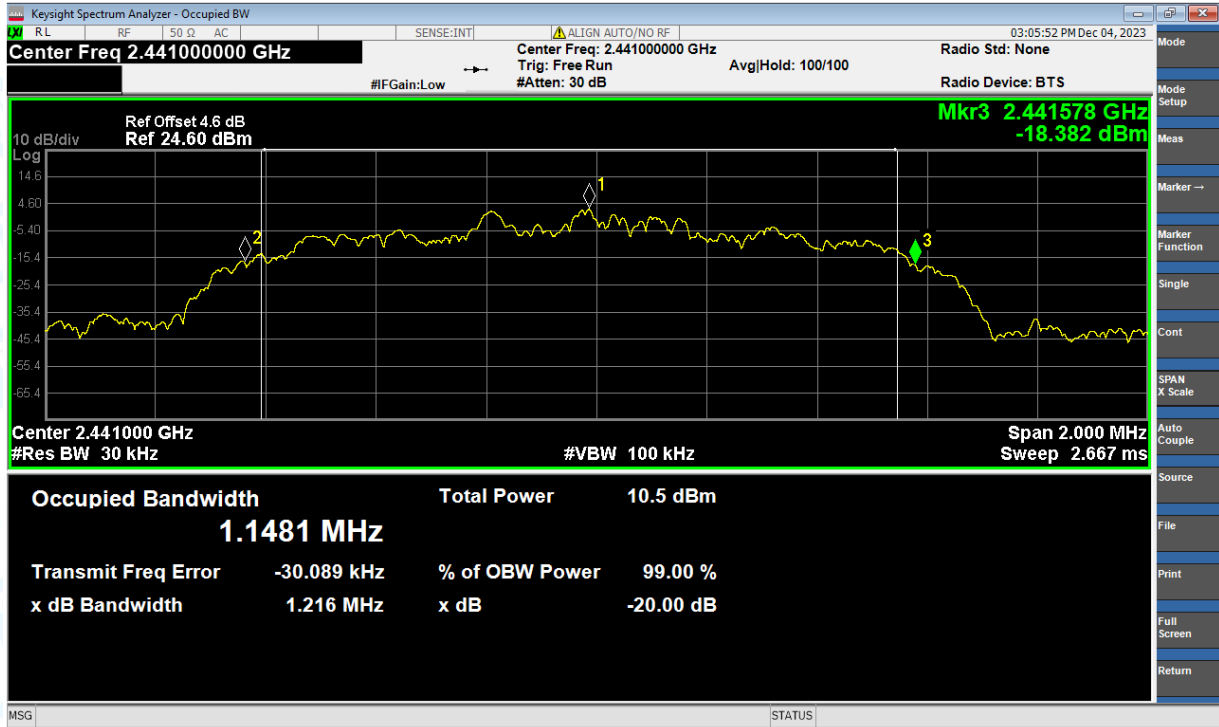
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



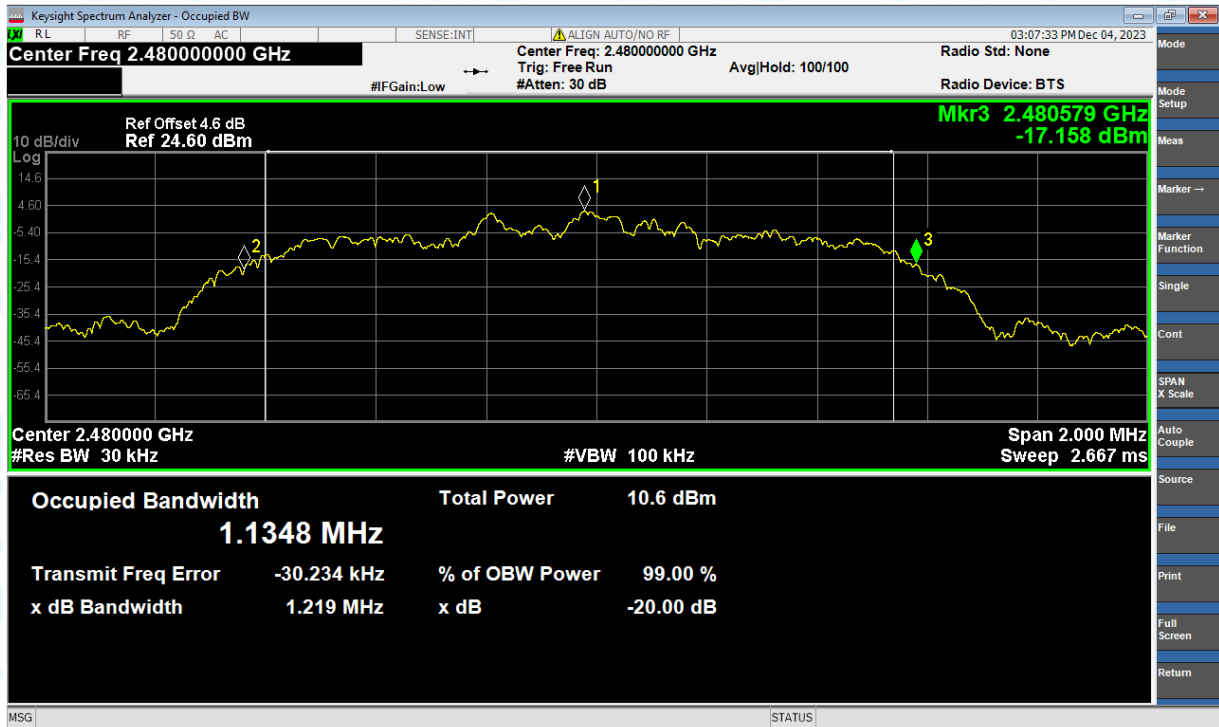
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



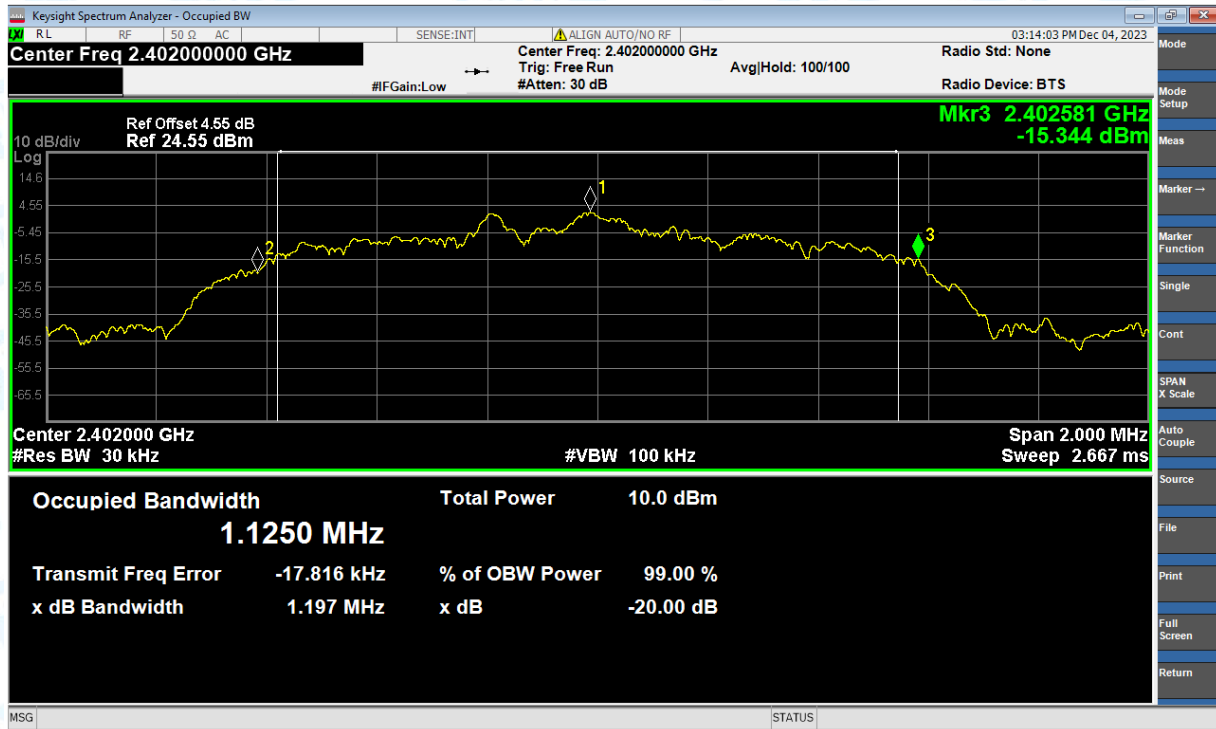
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



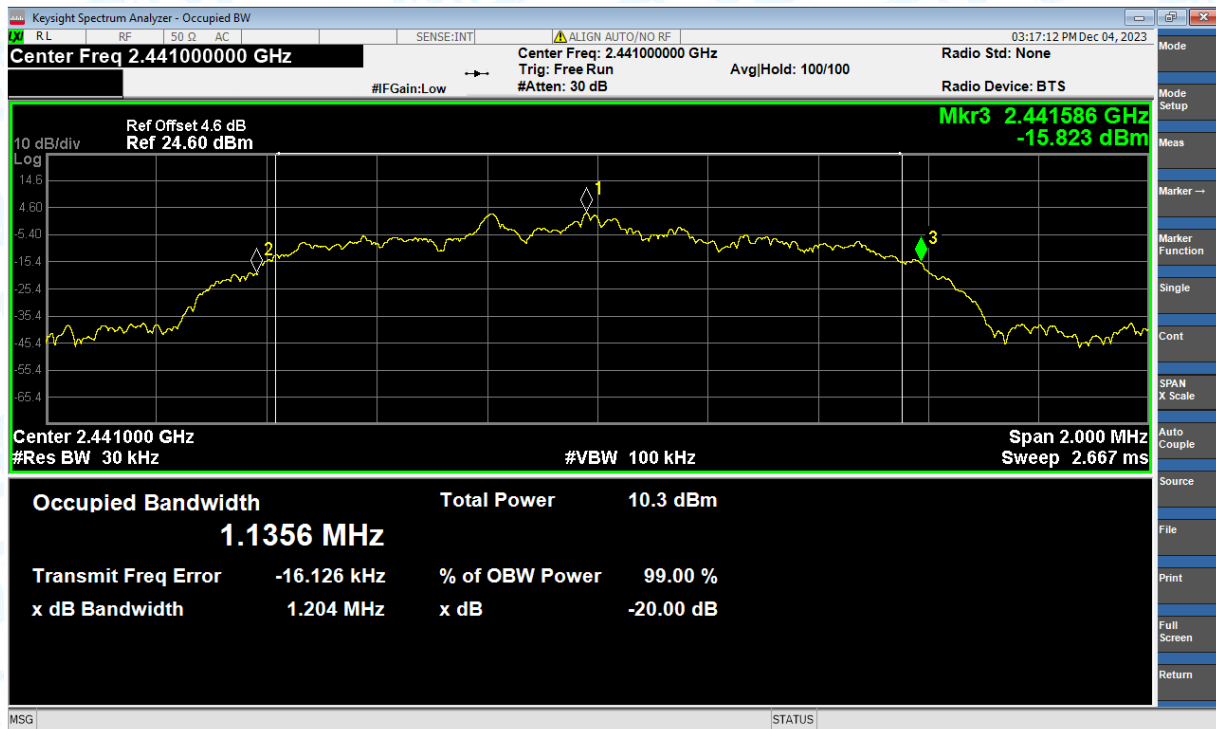
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

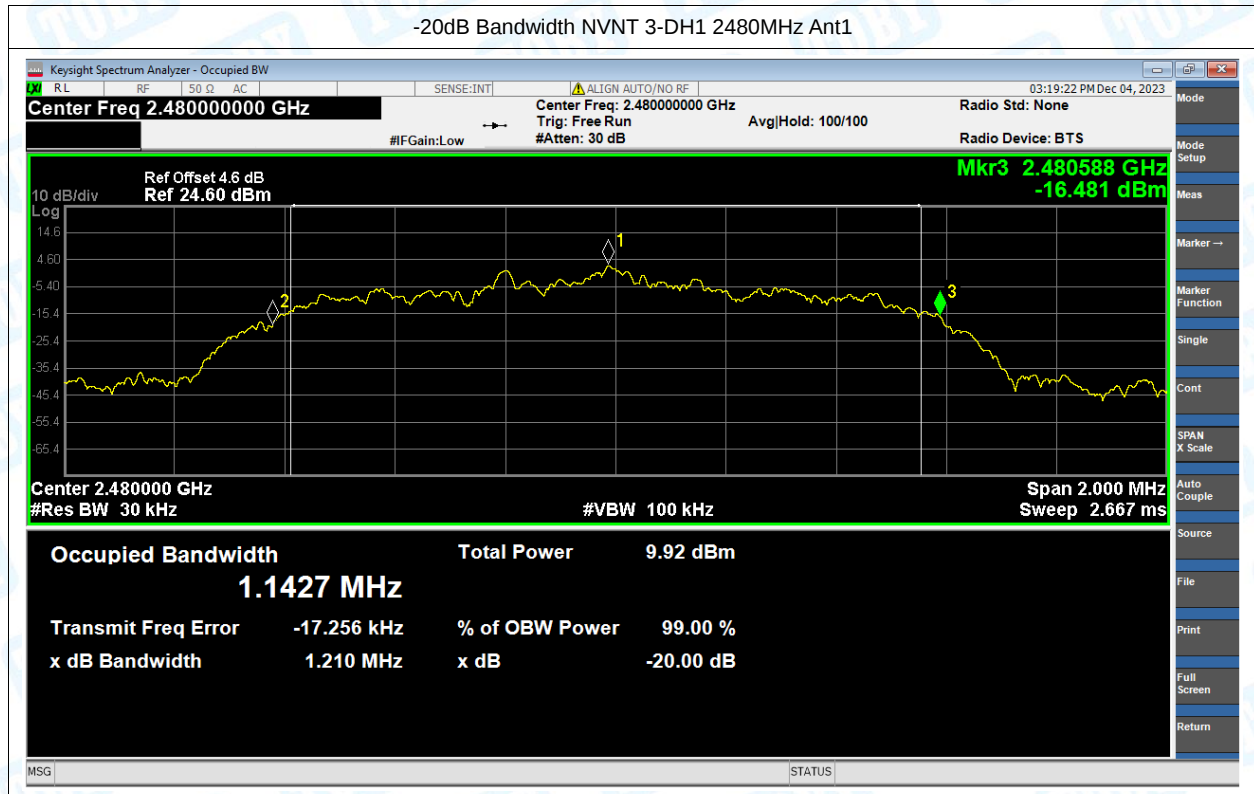


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



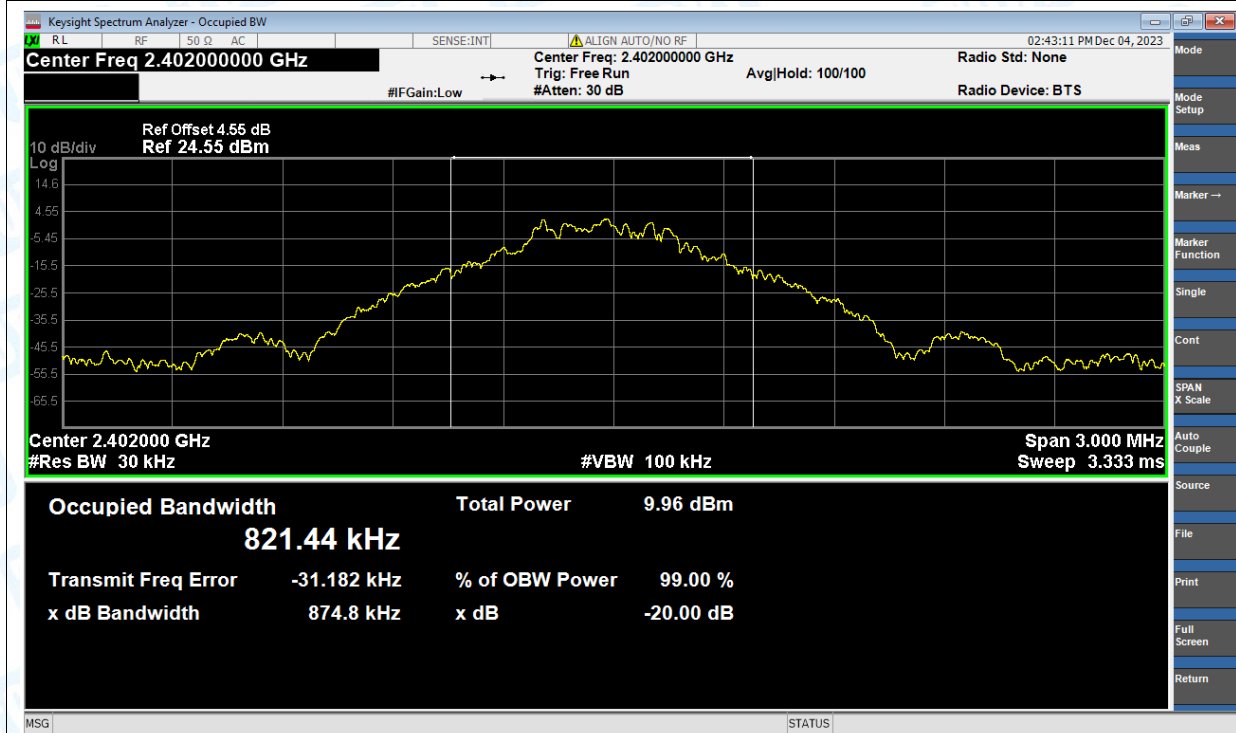


Occupied Channel Bandwidth

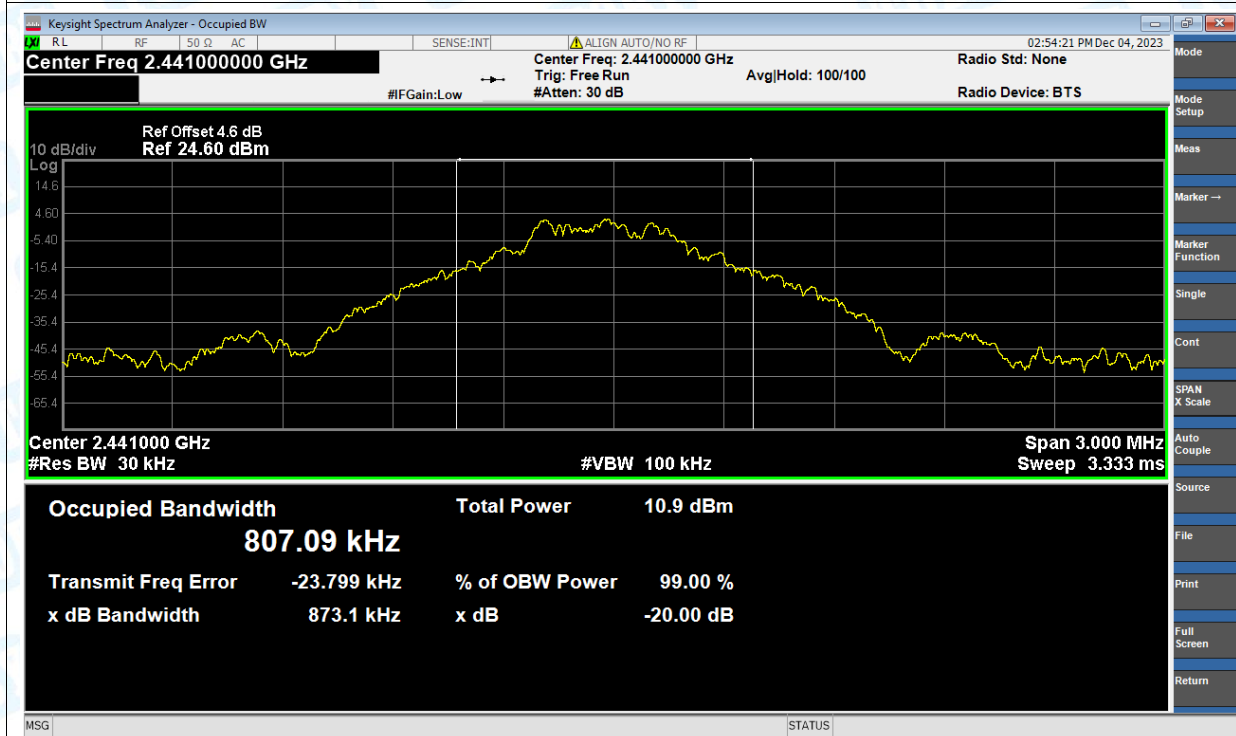
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.821
NVNT	1-DH1	2441	Ant1	0.807
NVNT	1-DH1	2480	Ant1	0.833
NVNT	2-DH1	2402	Ant1	1.144
NVNT	2-DH1	2441	Ant1	1.13
NVNT	2-DH1	2480	Ant1	1.147
NVNT	3-DH1	2402	Ant1	1.143
NVNT	3-DH1	2441	Ant1	1.14
NVNT	3-DH1	2480	Ant1	1.142

Test Graphs

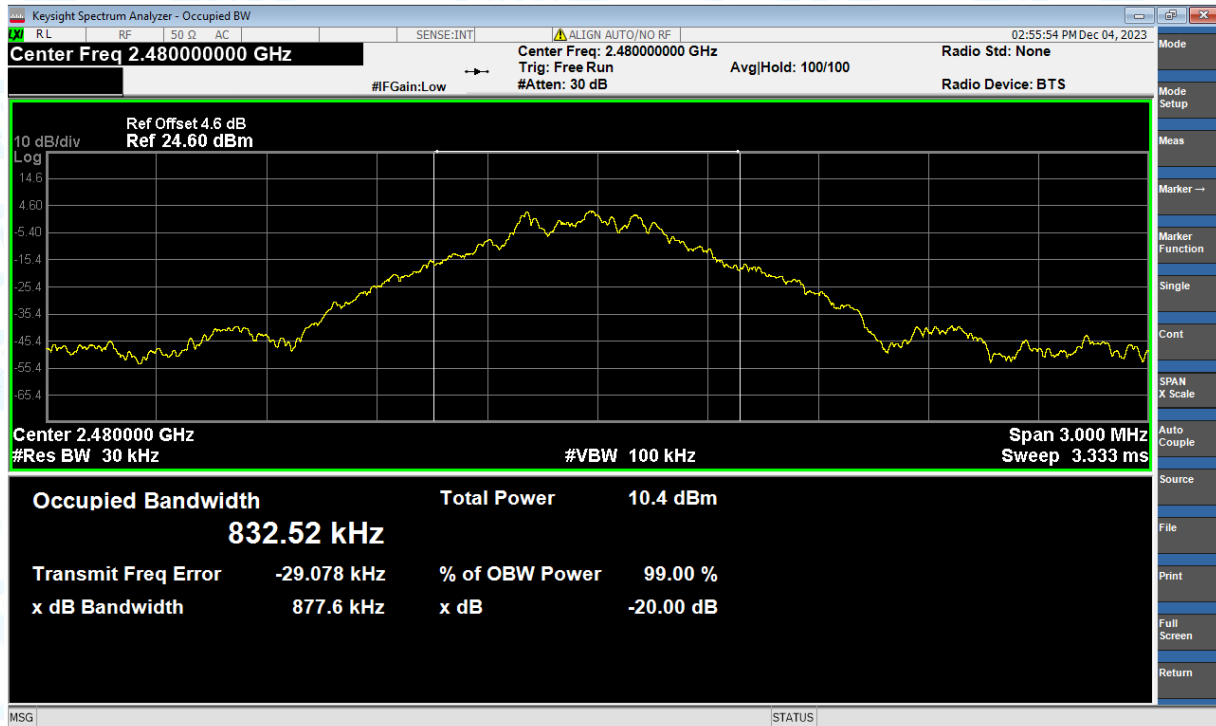
OBW NVNT 1-DH1 2402MHz Ant1



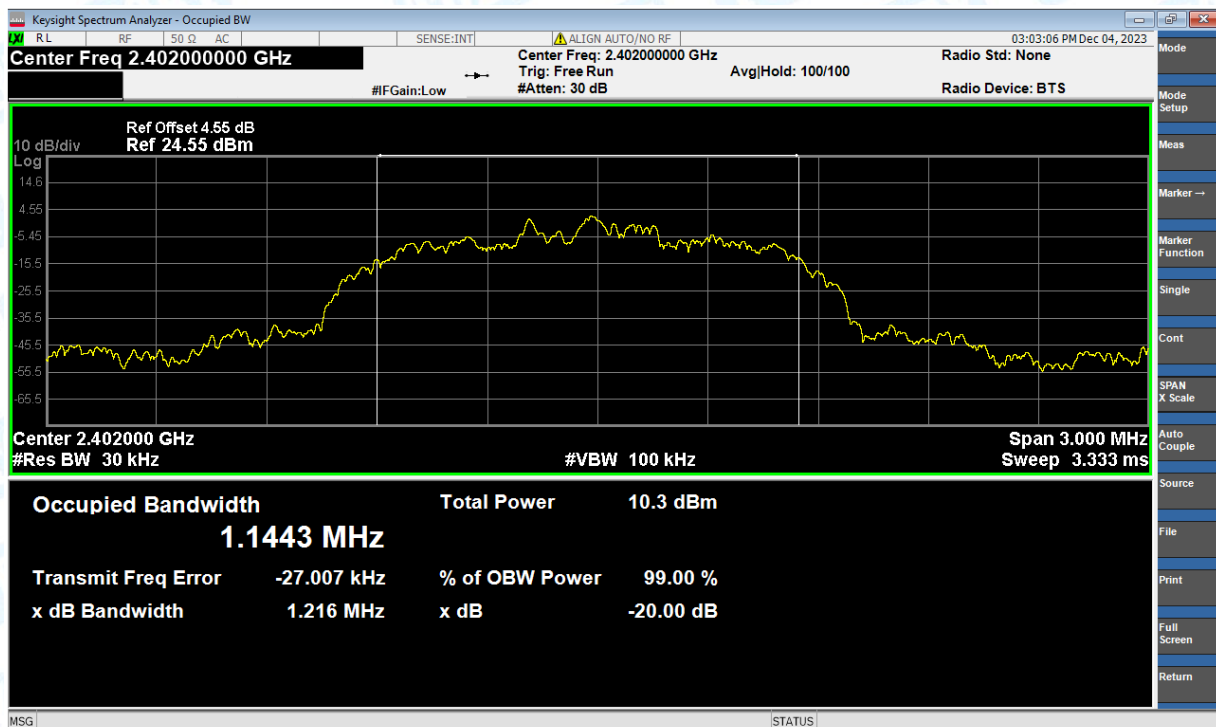
OBW NVNT 1-DH1 2441MHz Ant1



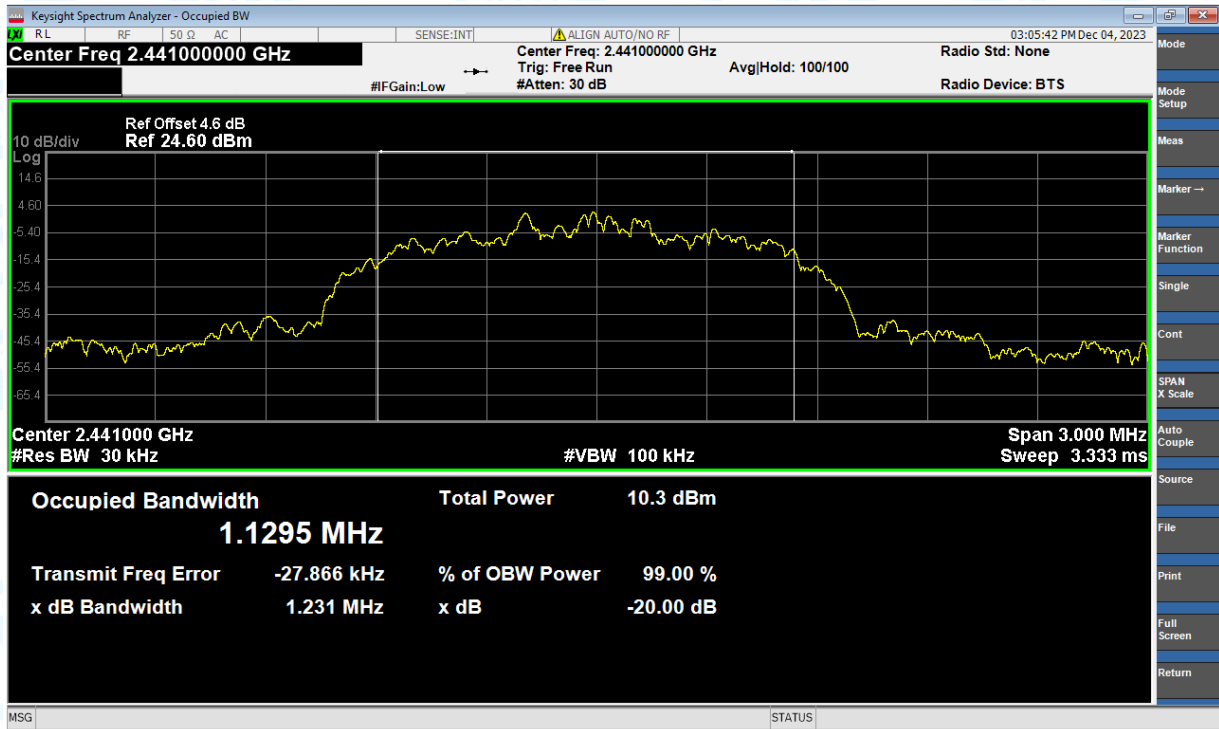
OBW NVNT 1-DH1 2480MHz Ant1



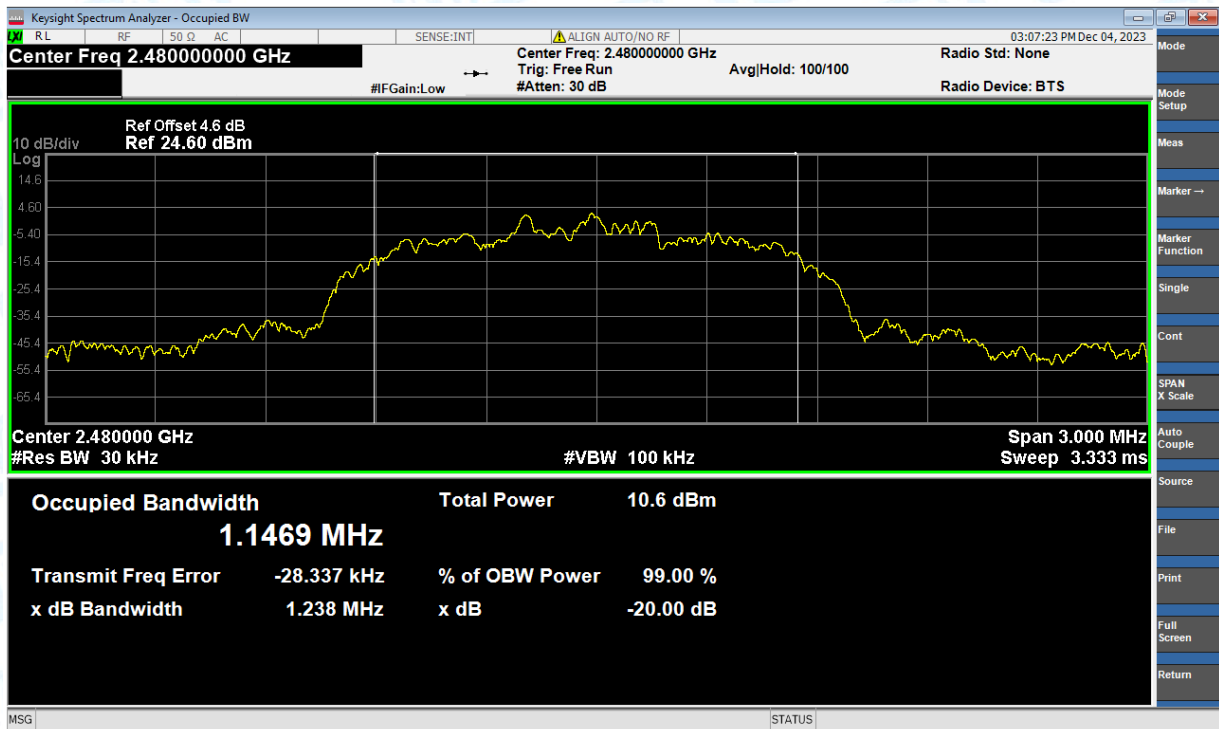
OBW NVNT 2-DH1 2402MHz Ant1



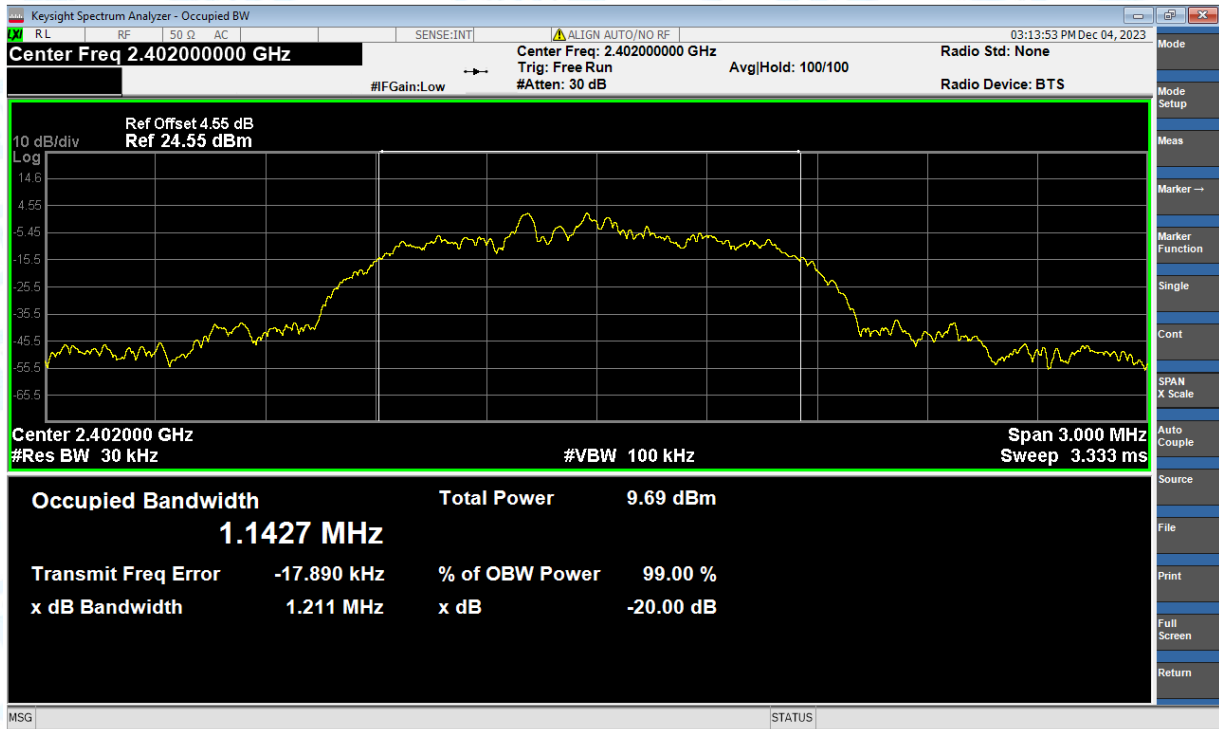
OBW NVNT 2-DH1 2441MHz Ant1



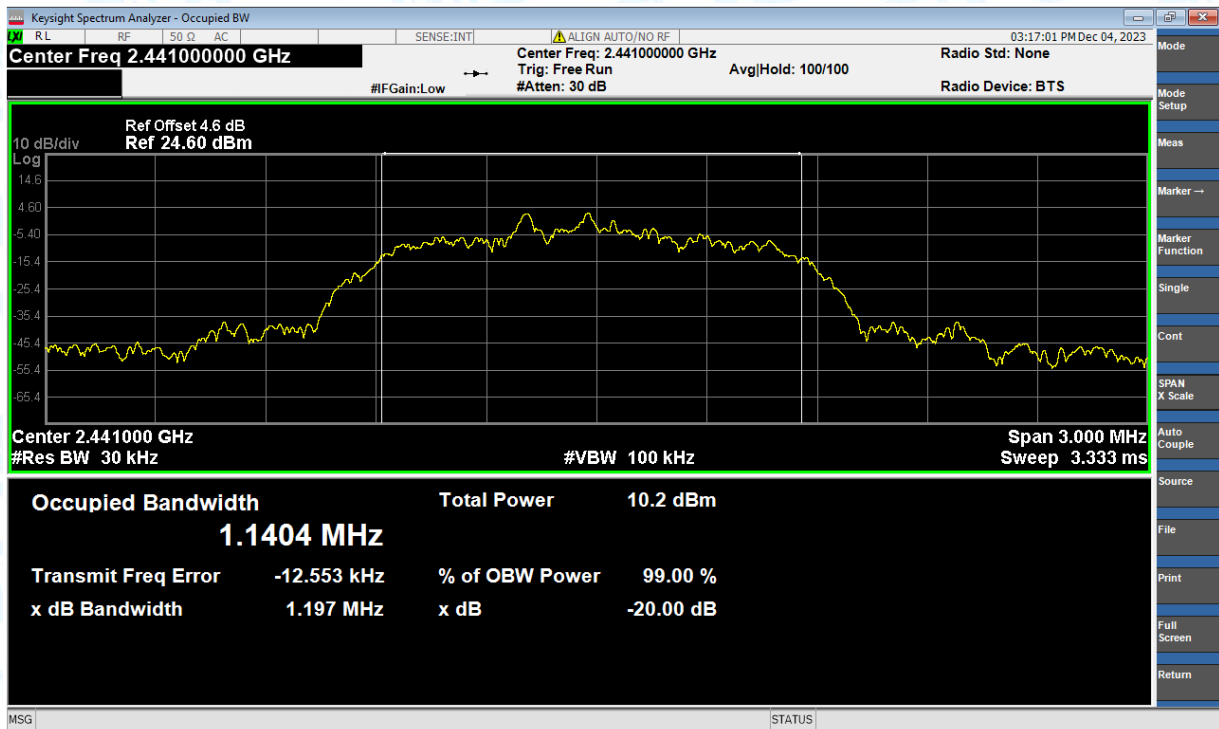
OBW NVNT 2-DH1 2480MHz Ant1

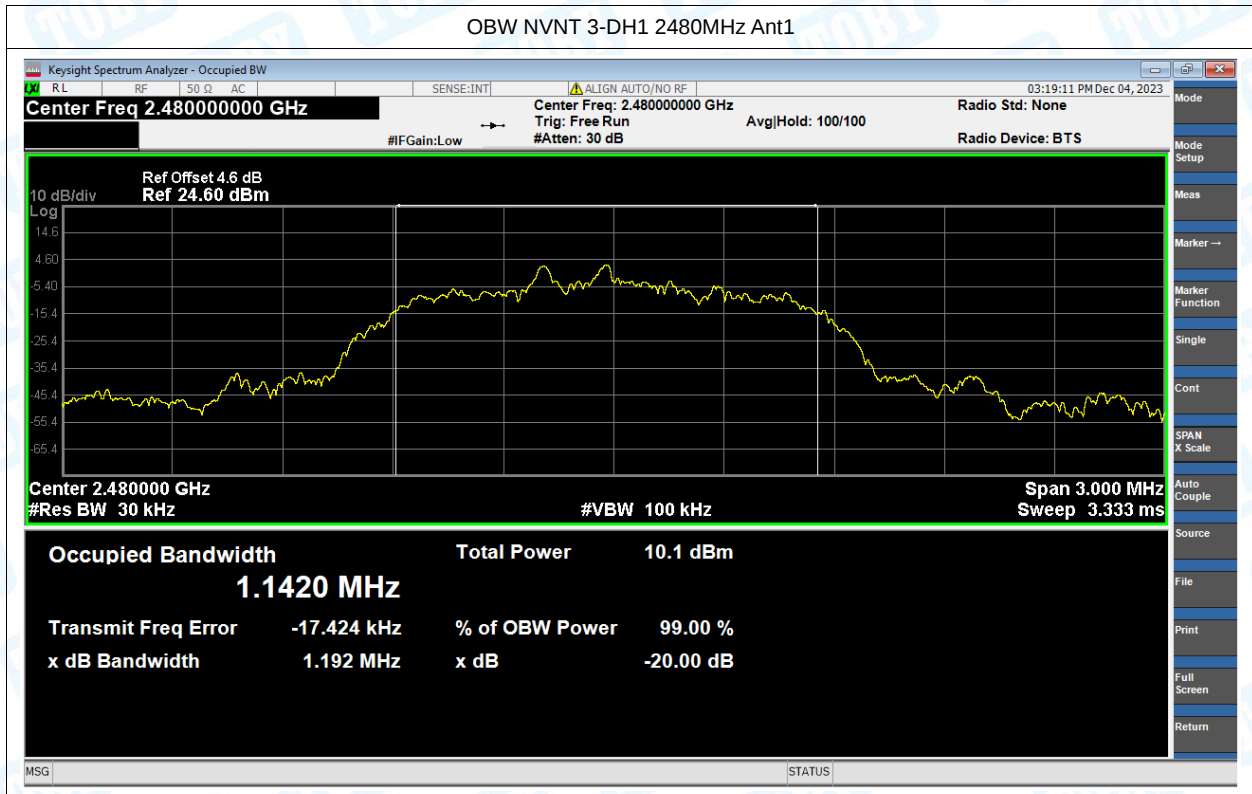


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1





Band Edge

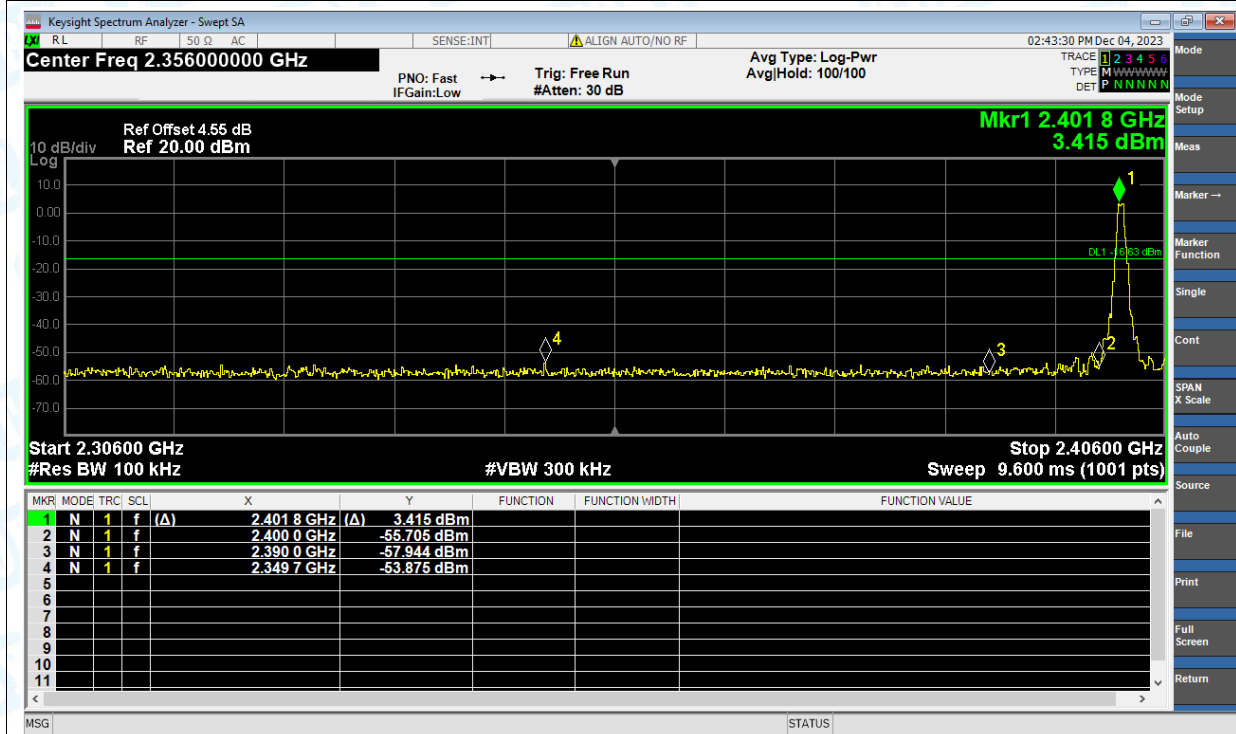
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-57.25	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-54.18	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-58.14	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-54.64	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-56.92	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-54.26	-20	Pass

Test Graphs

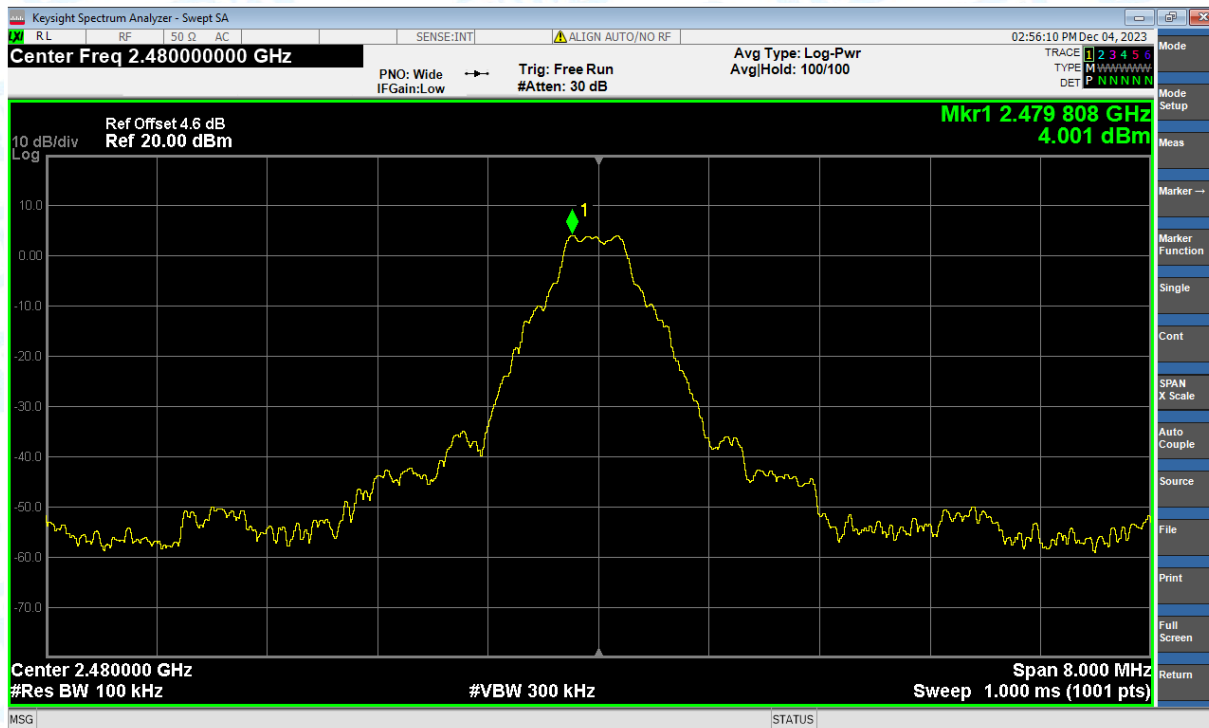
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



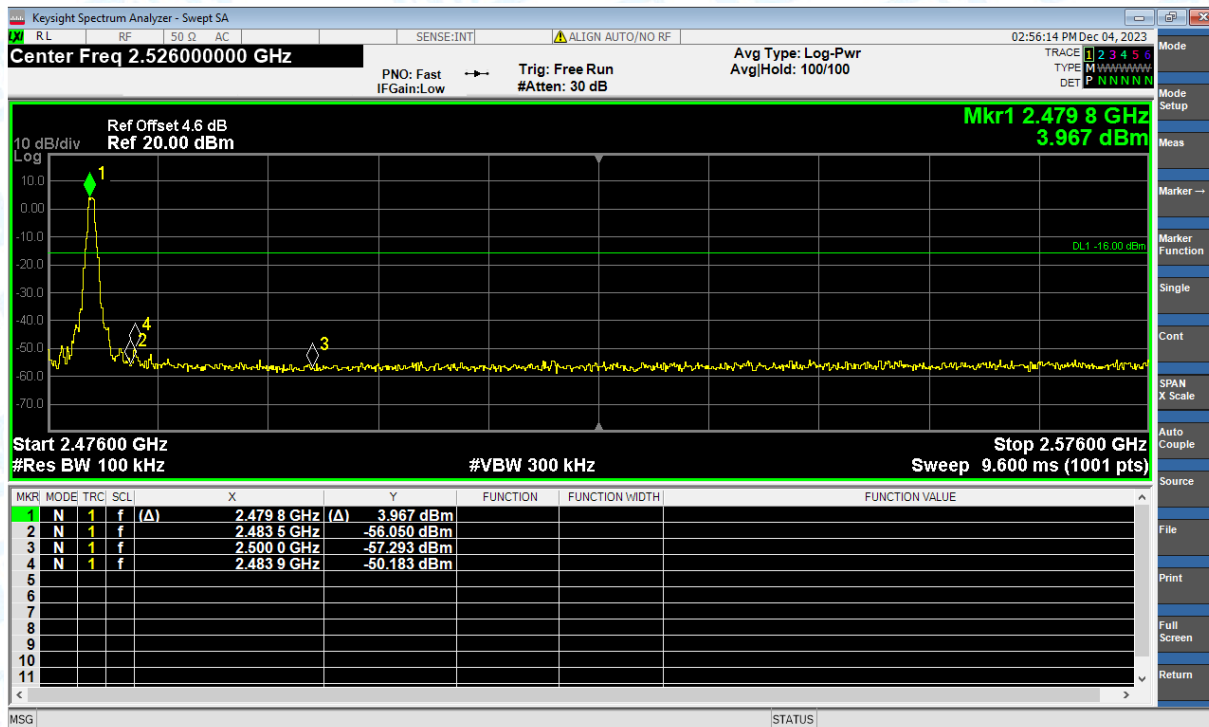
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



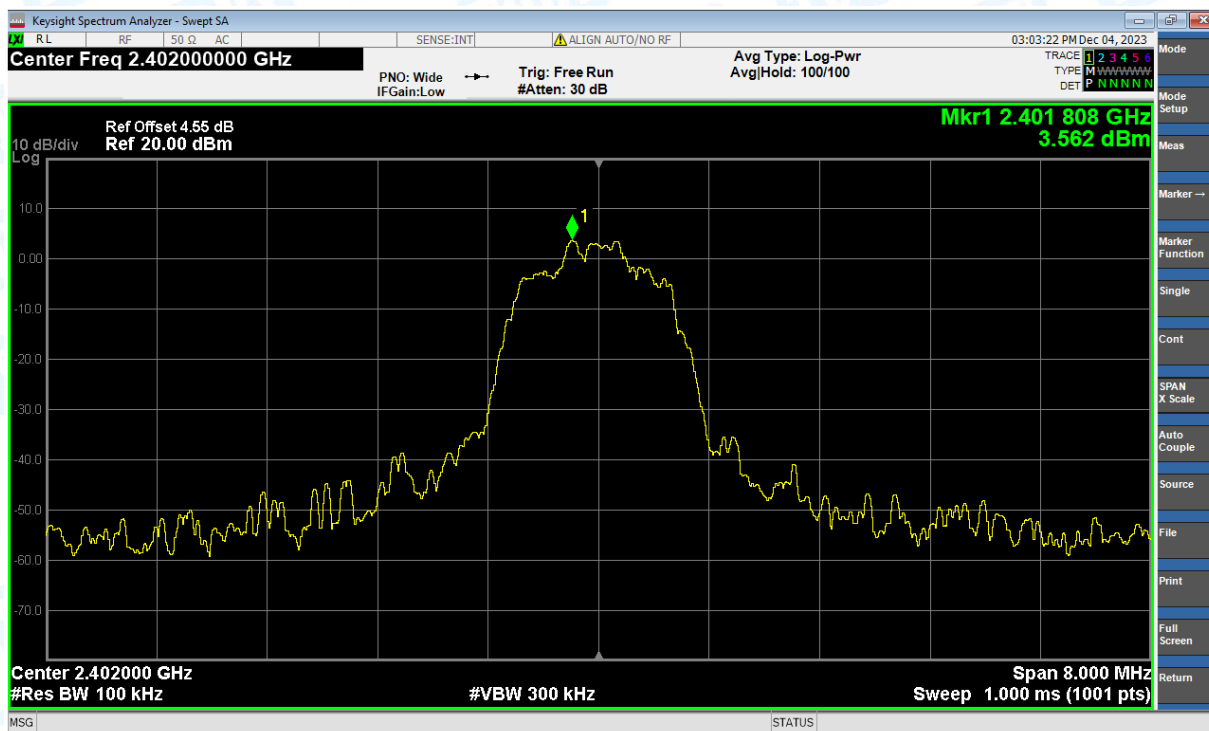
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



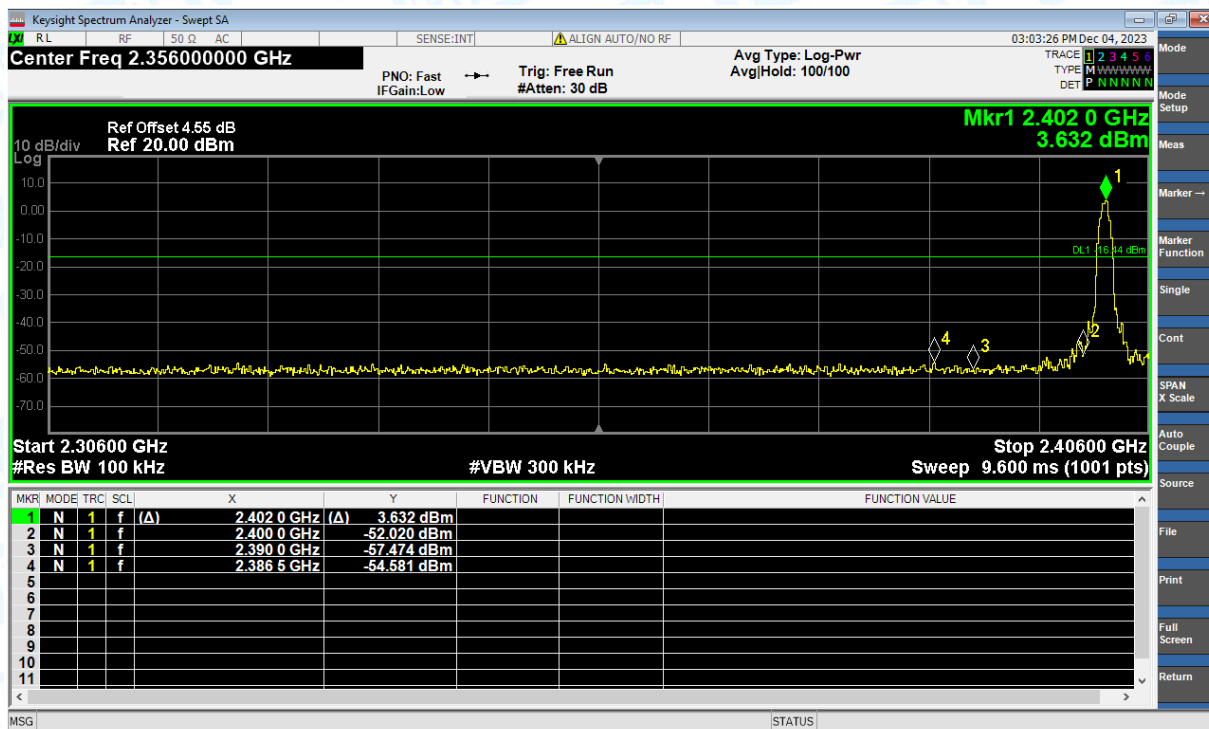
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



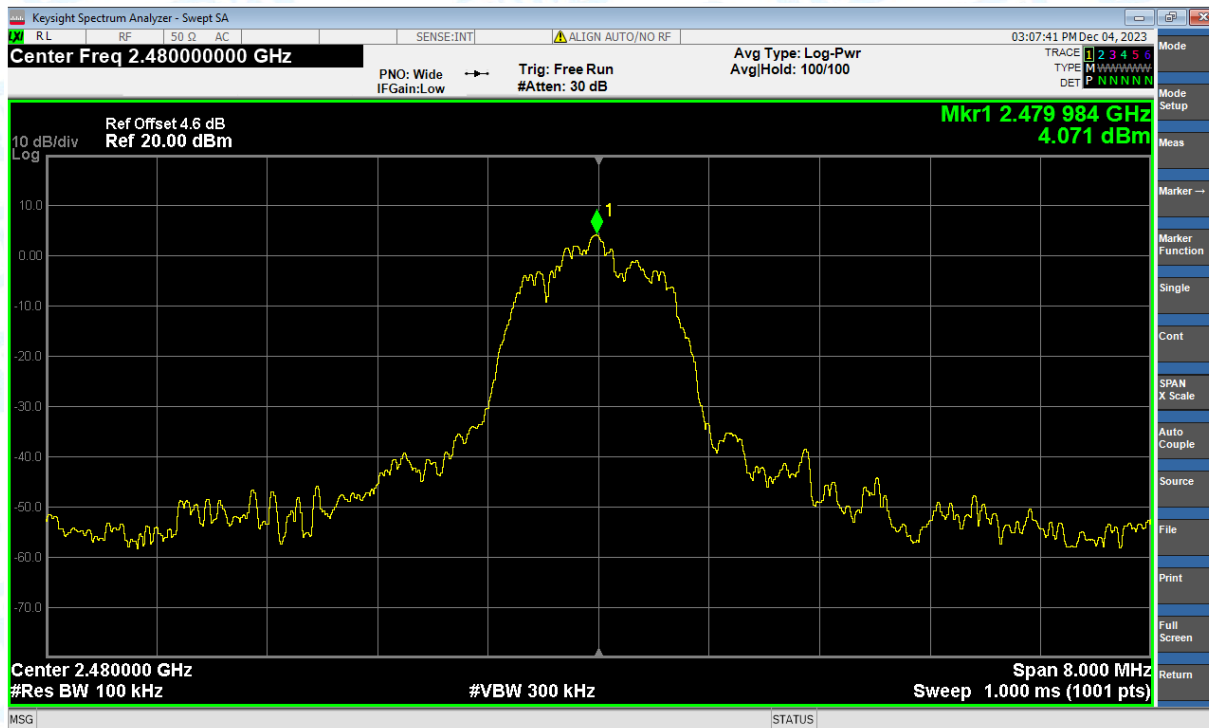
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



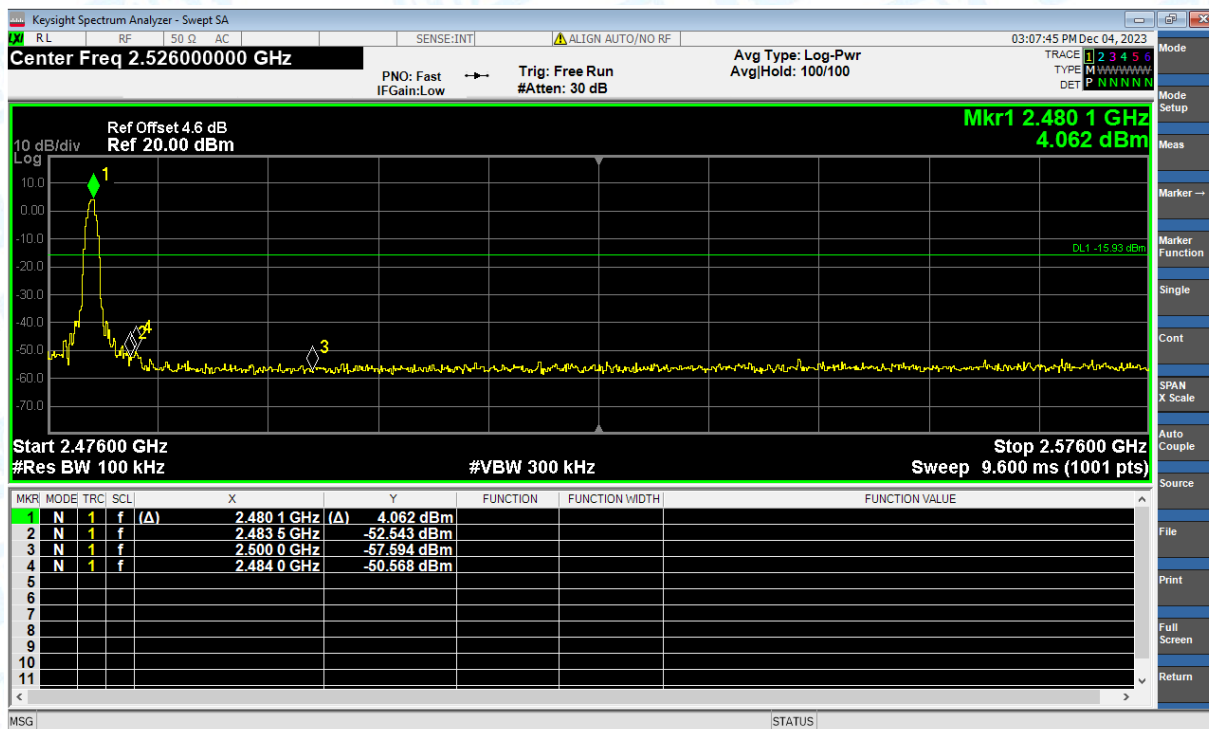
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



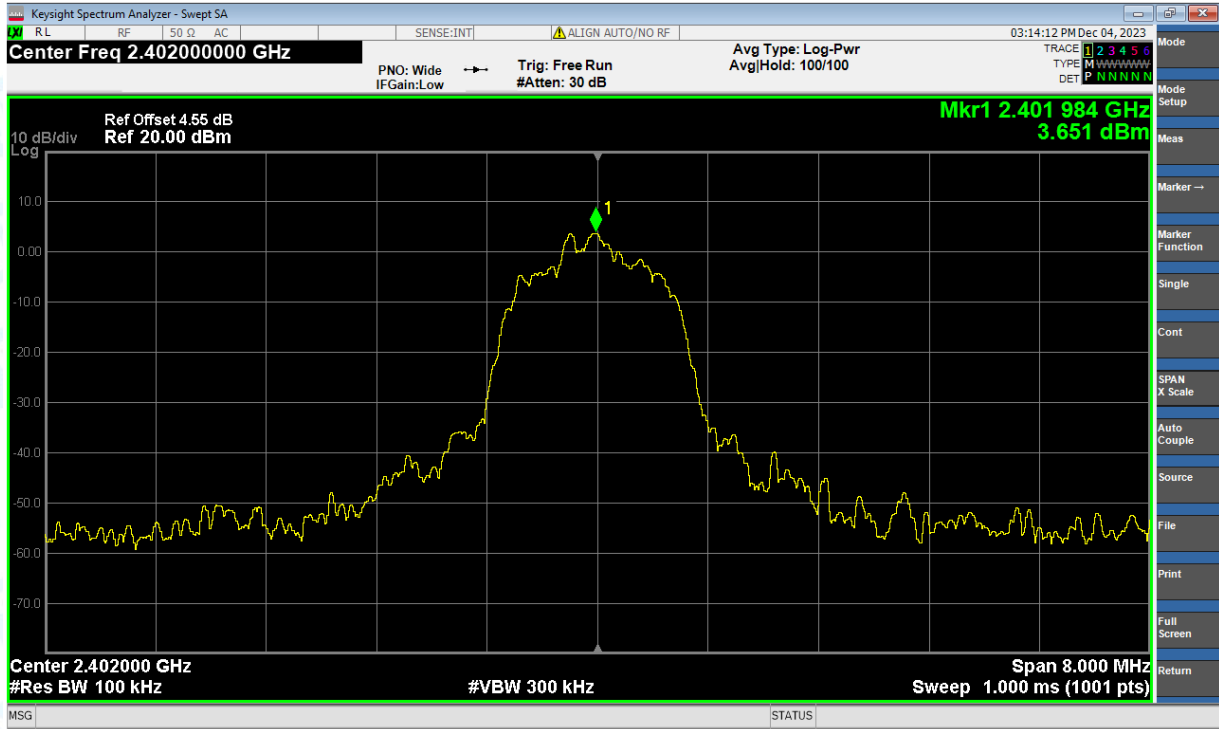
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



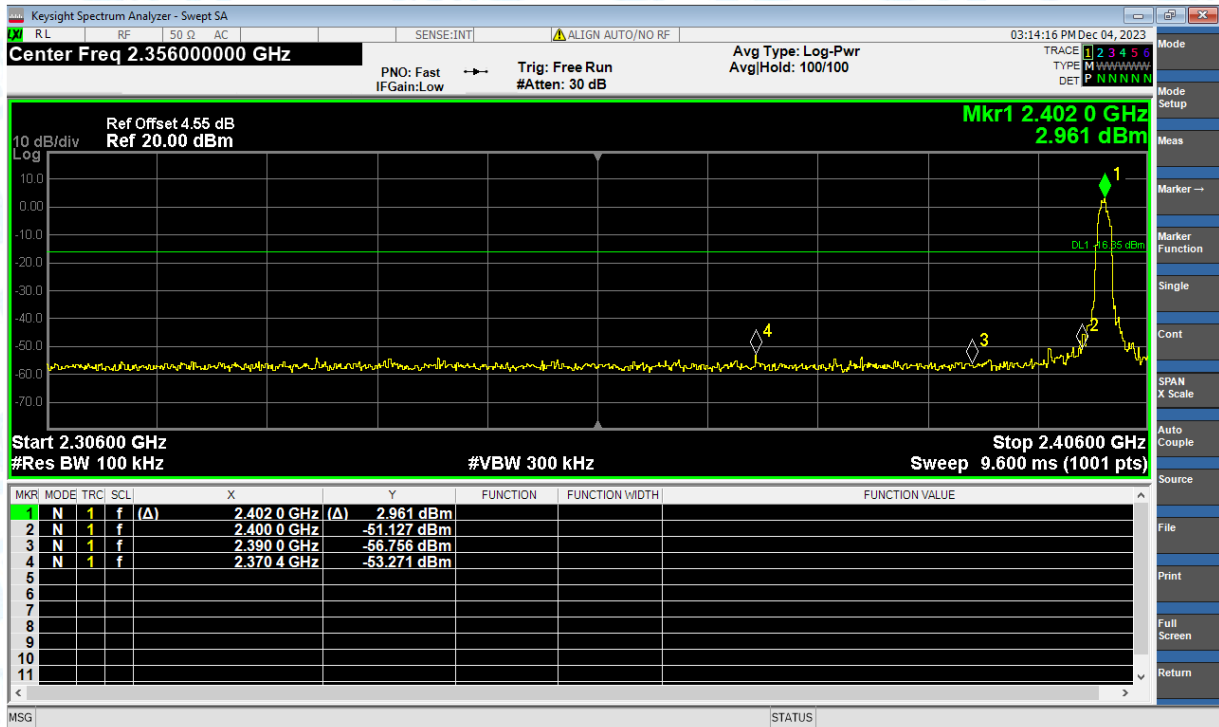
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



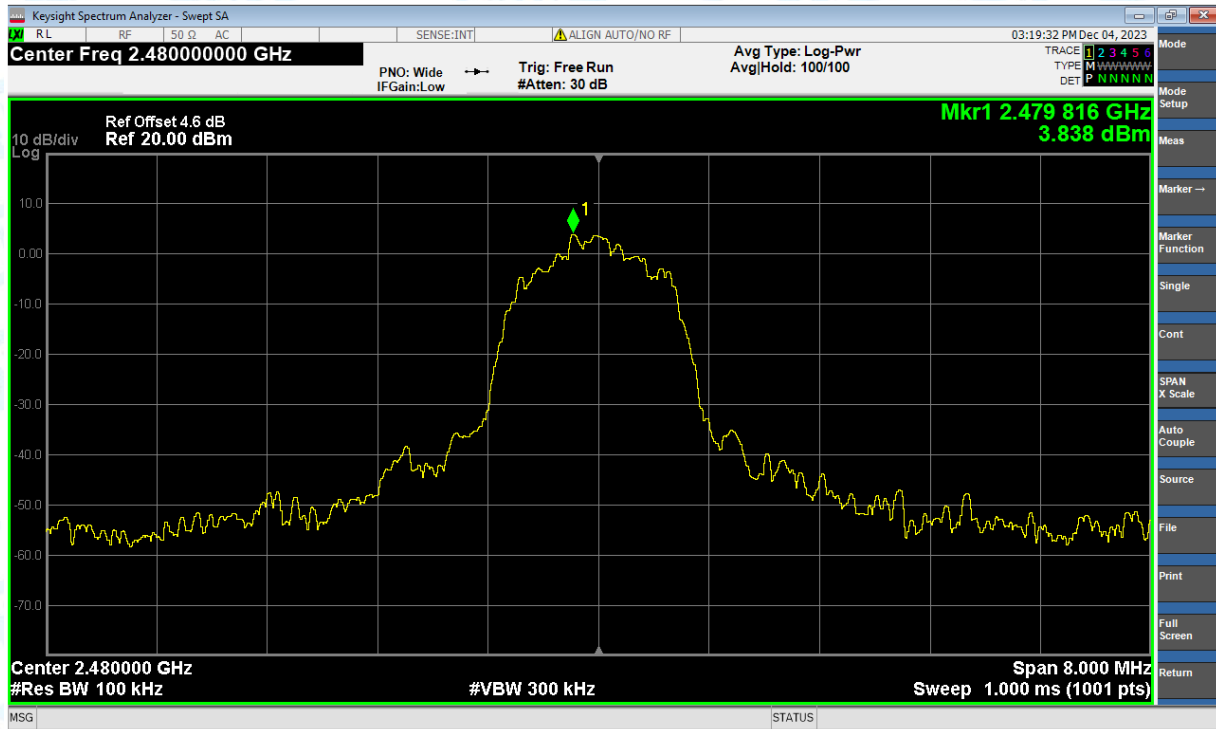
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



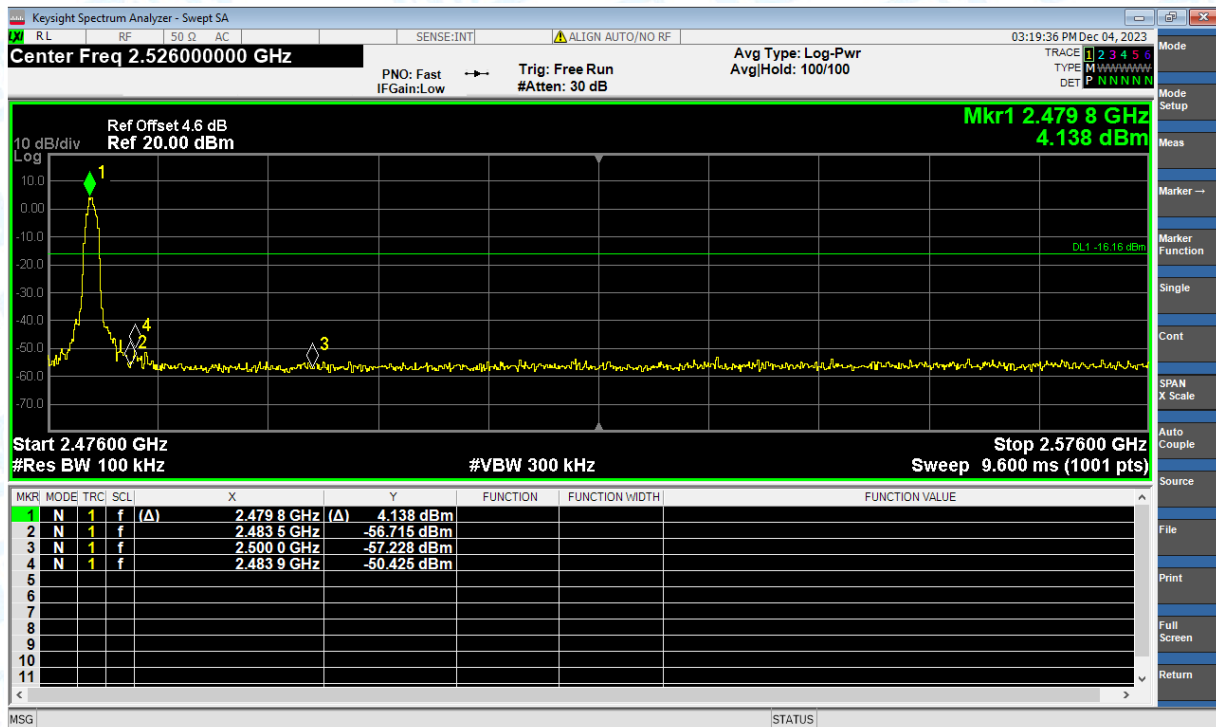
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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

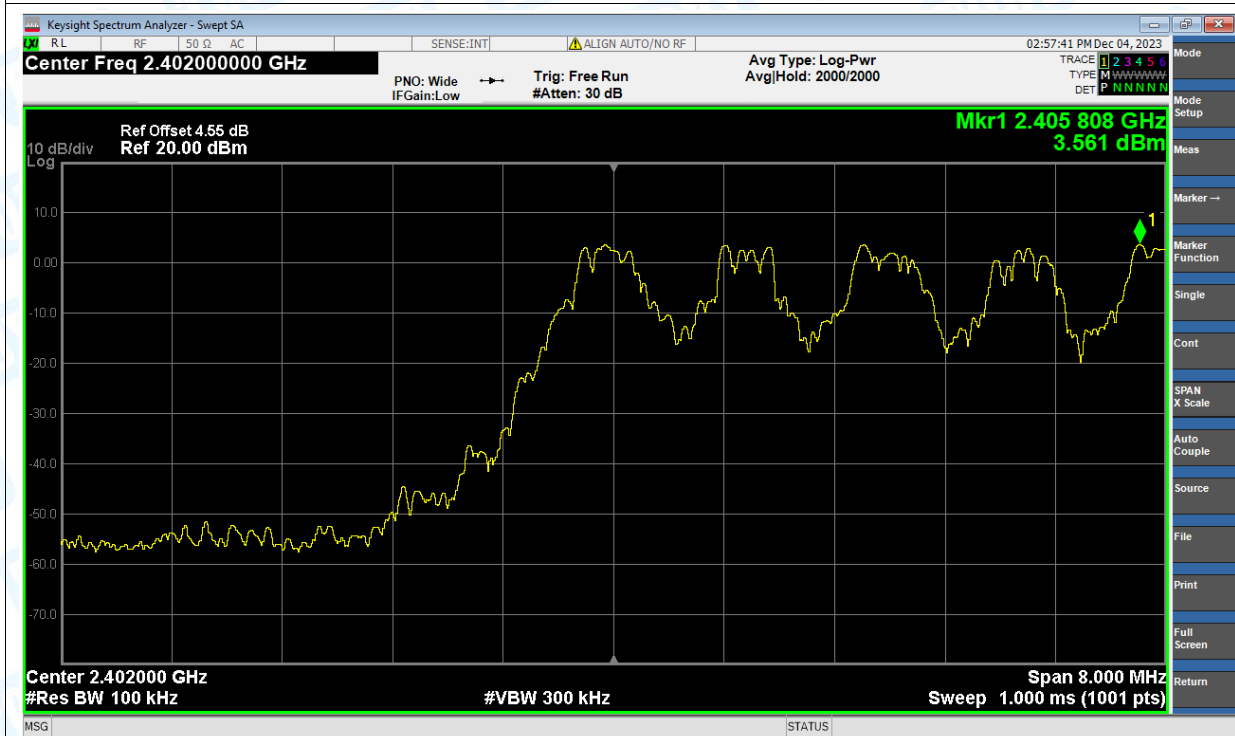


Band Edge(Hopping)

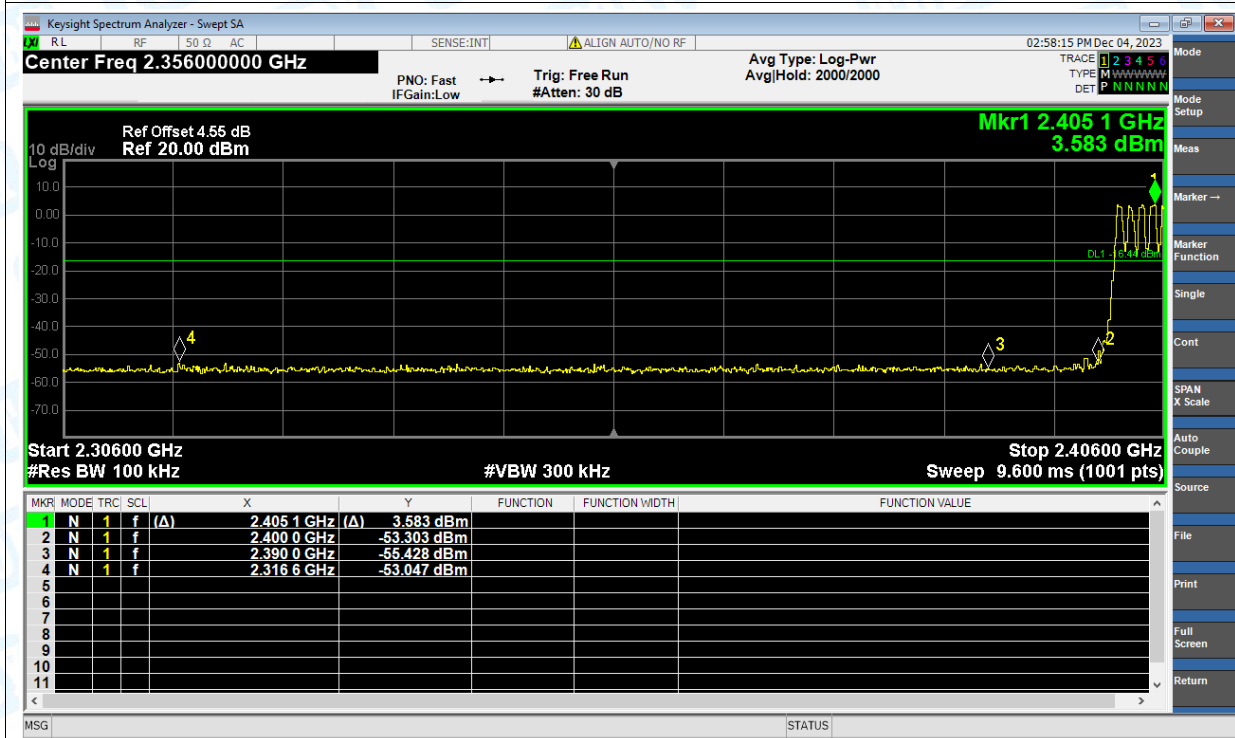
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-56.61	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-55.69	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-57.02	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-54.94	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-57.06	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-54.49	-20	Pass

Test Graphs

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



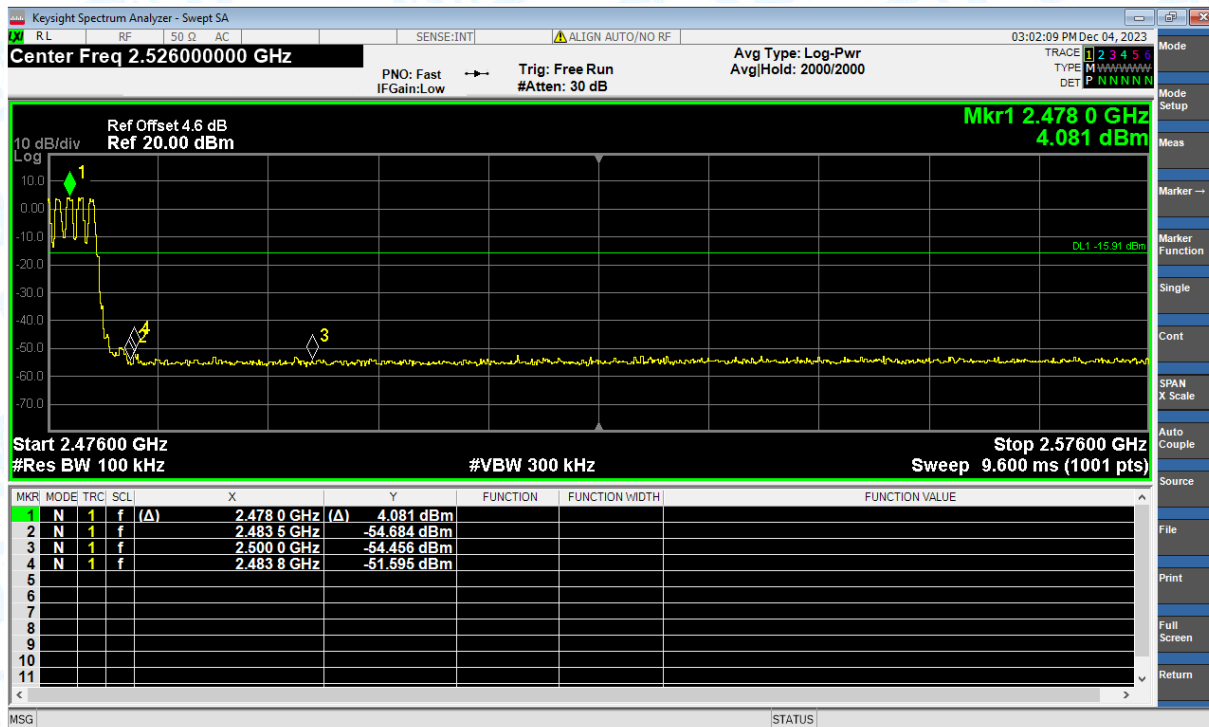
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



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



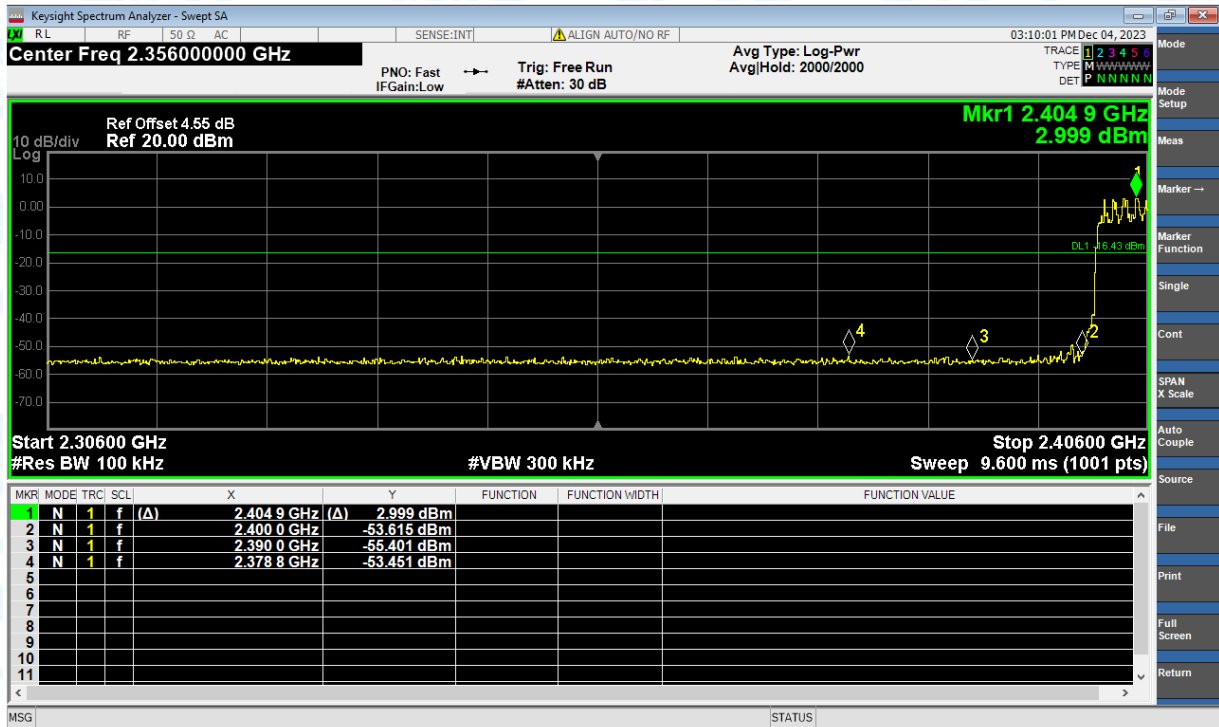
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



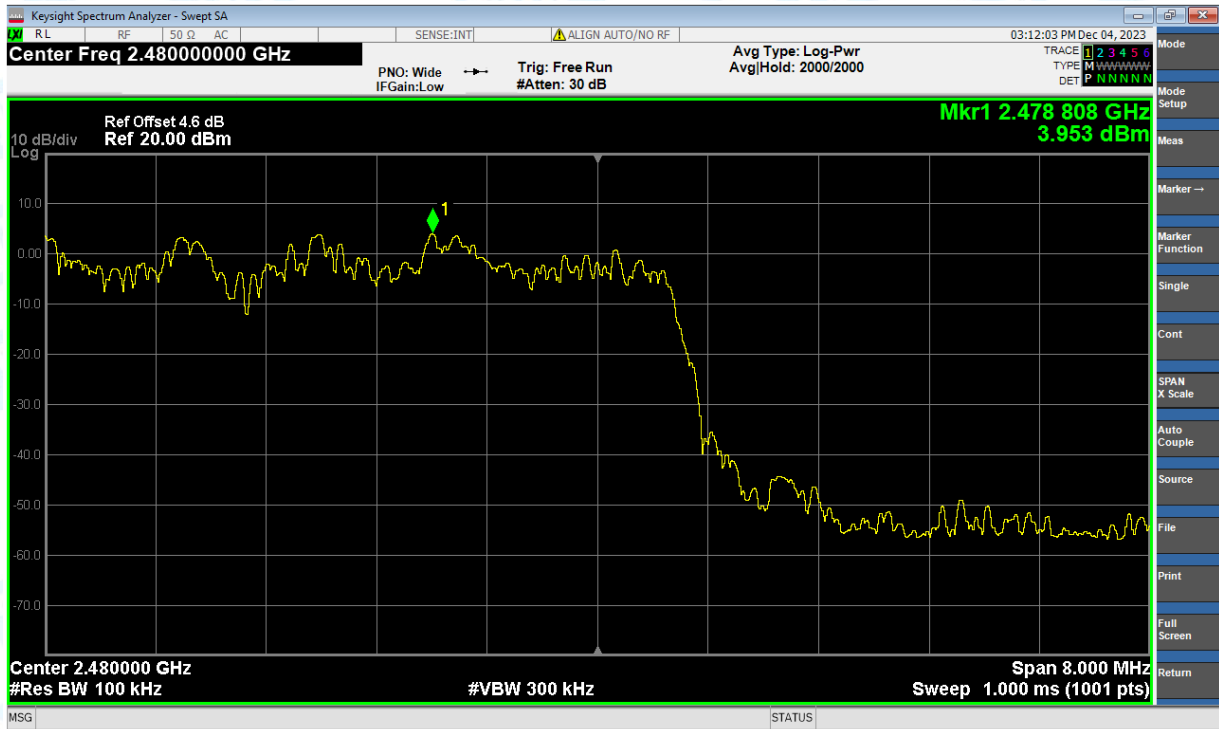
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



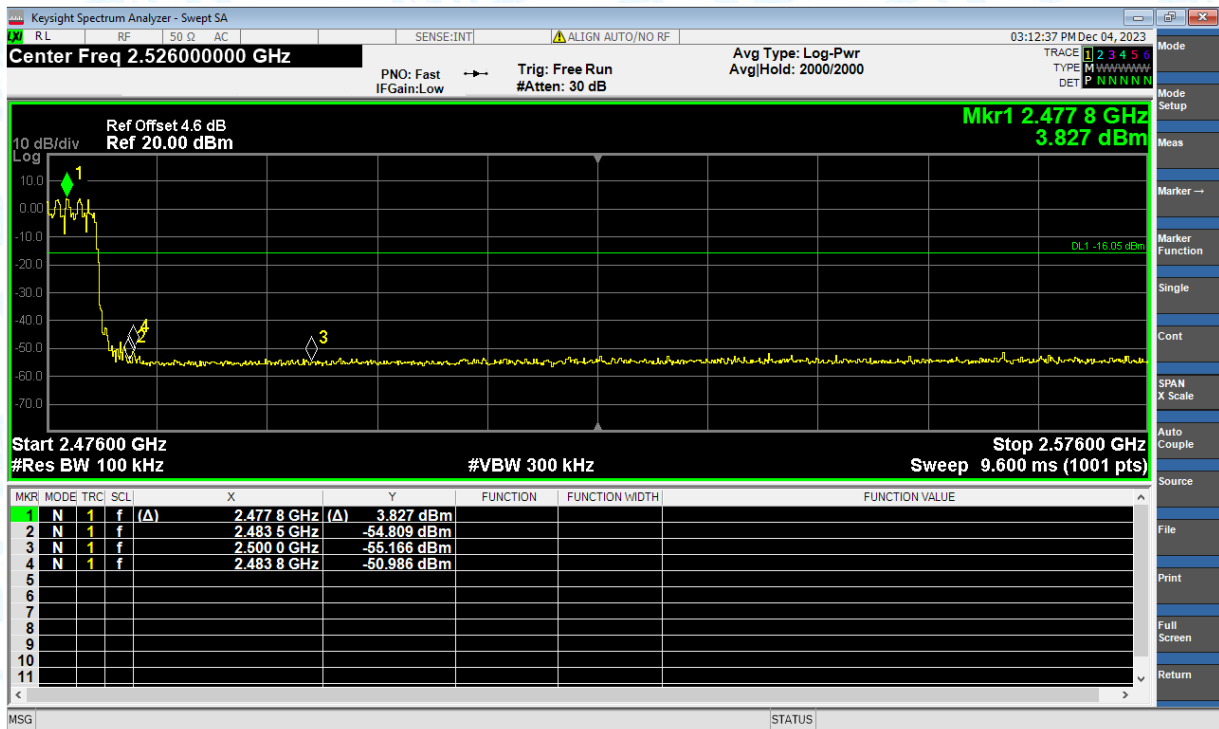
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



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



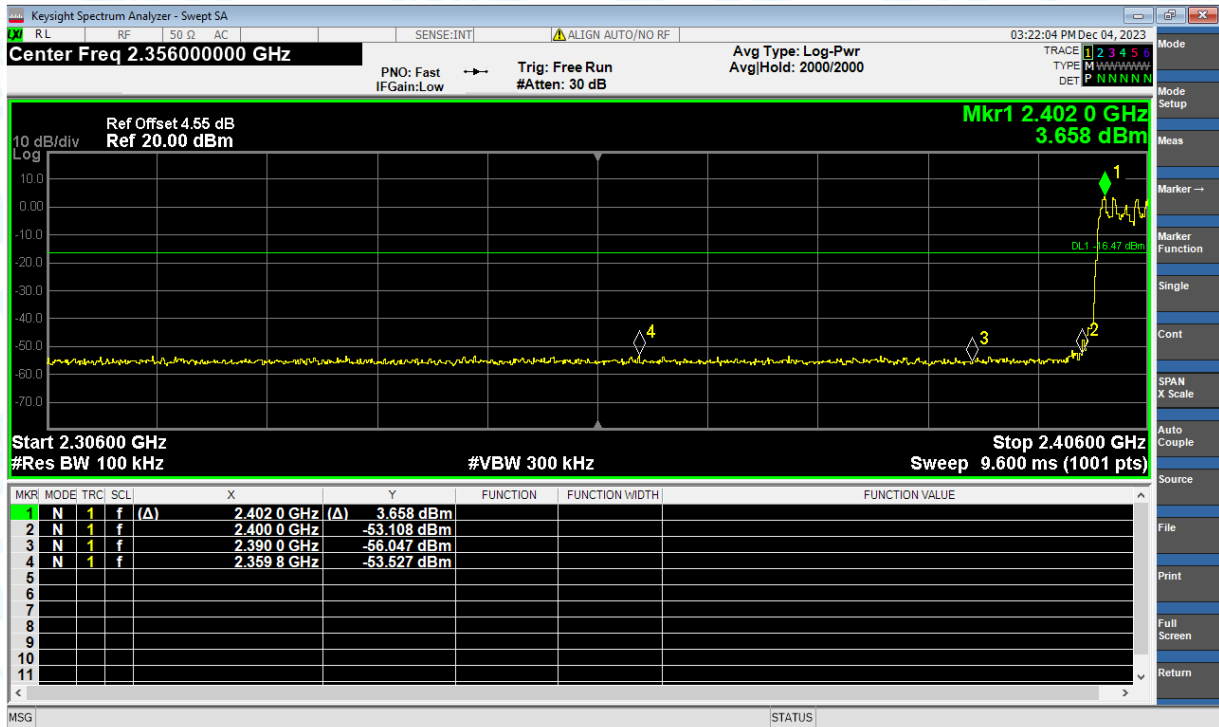
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



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



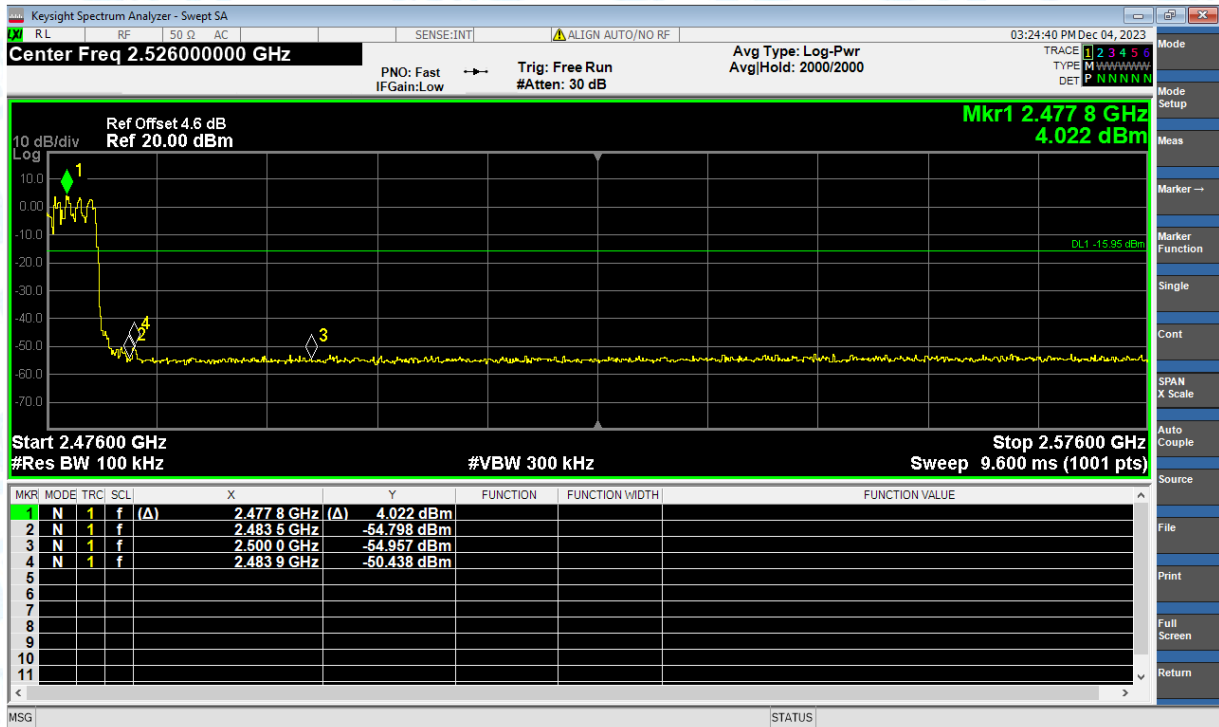
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

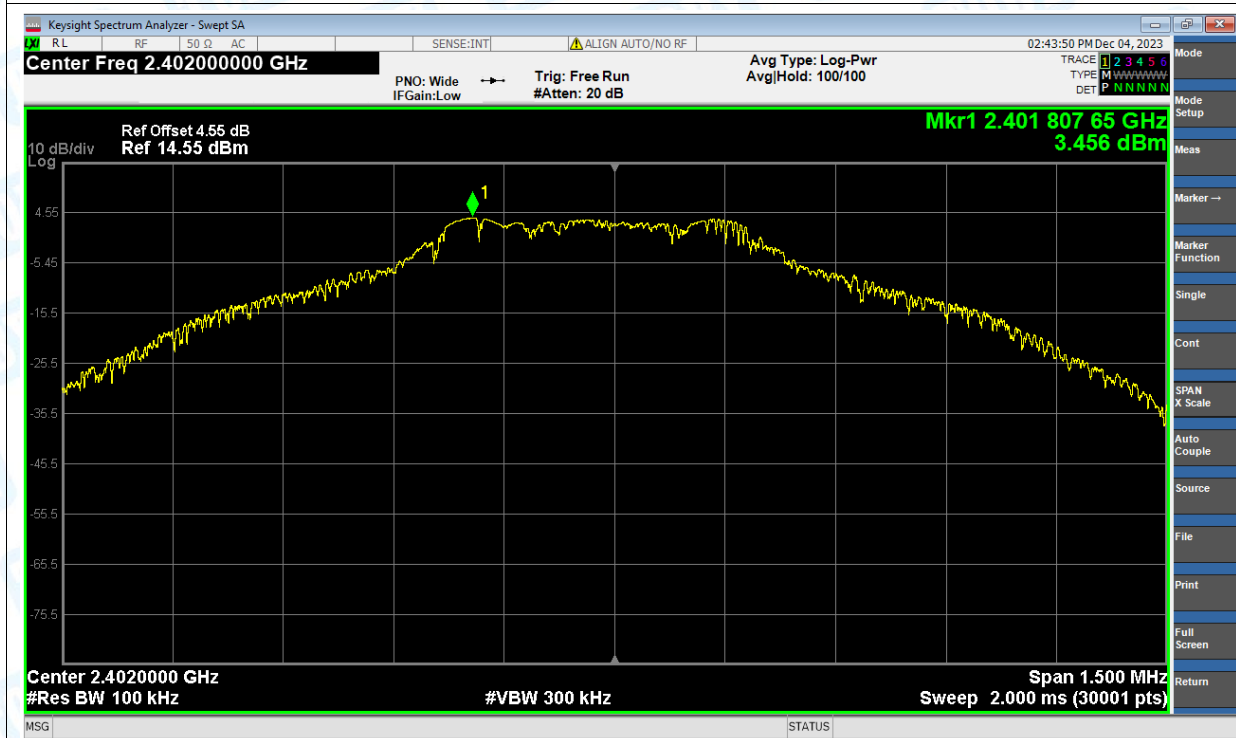


Conducted RF Spurious Emission

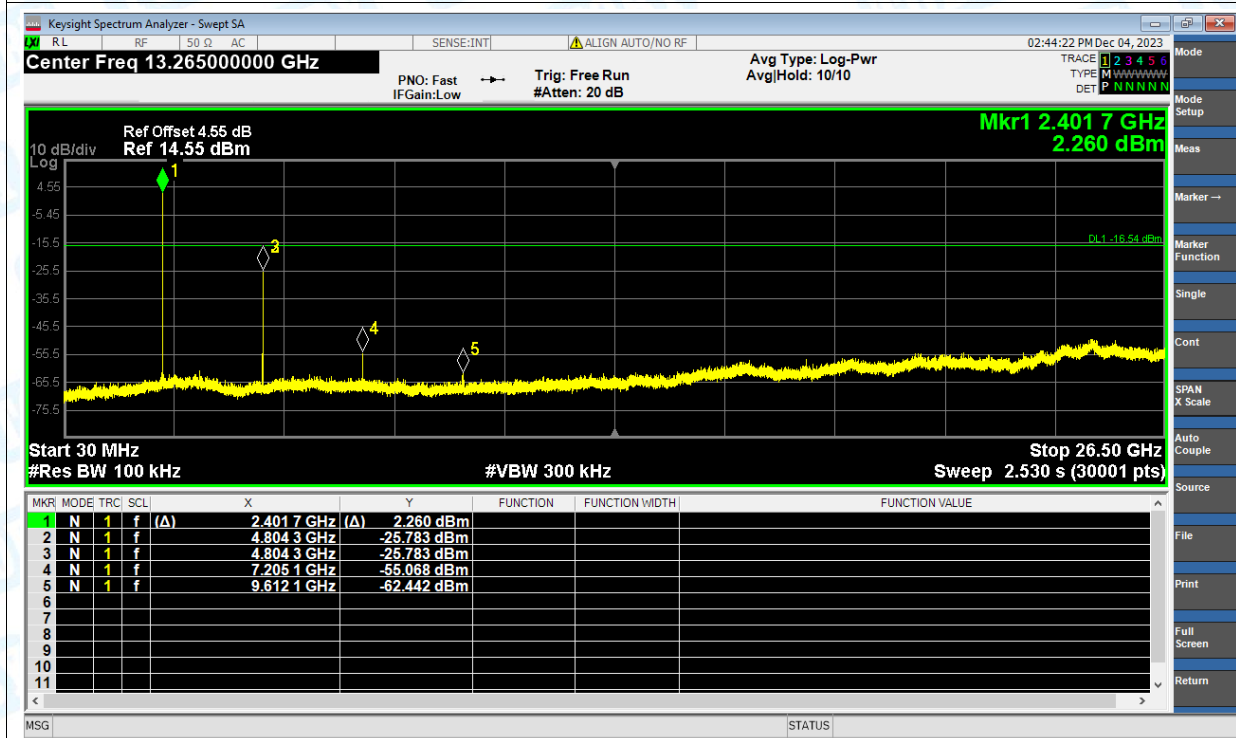
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-29.24	-20	Pass
NVNT	1-DH1	2441	Ant1	-30.54	-20	Pass
NVNT	1-DH1	2480	Ant1	-30.39	-20	Pass
NVNT	2-DH1	2402	Ant1	-33.83	-20	Pass
NVNT	2-DH1	2441	Ant1	-30.24	-20	Pass
NVNT	2-DH1	2480	Ant1	-29.78	-20	Pass
NVNT	3-DH1	2402	Ant1	-33.5	-20	Pass
NVNT	3-DH1	2441	Ant1	-29	-20	Pass
NVNT	3-DH1	2480	Ant1	-36.29	-20	Pass

Test Graphs

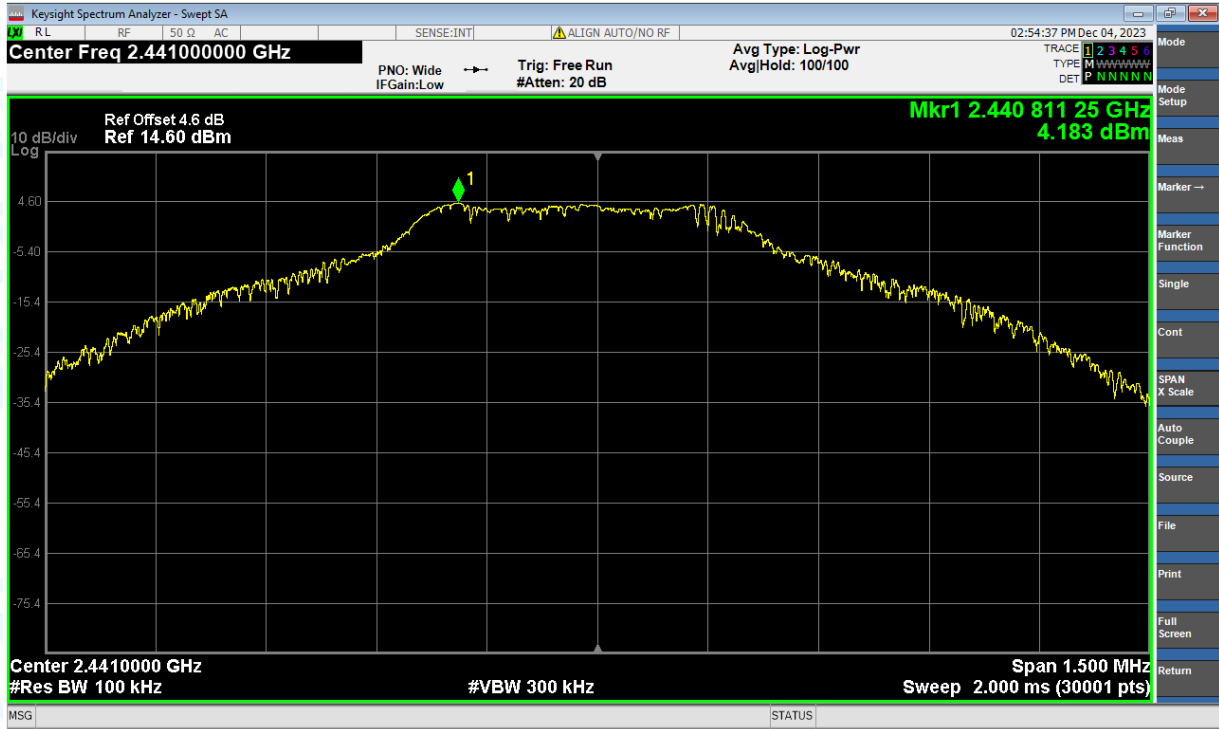
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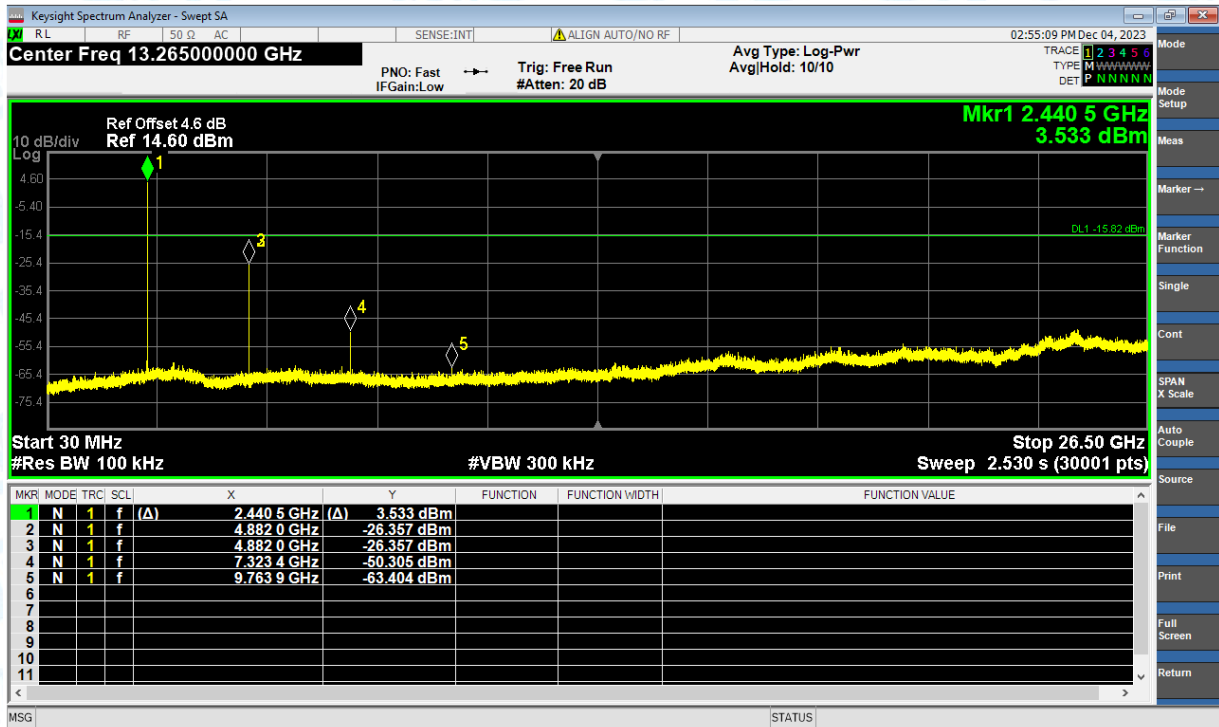
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



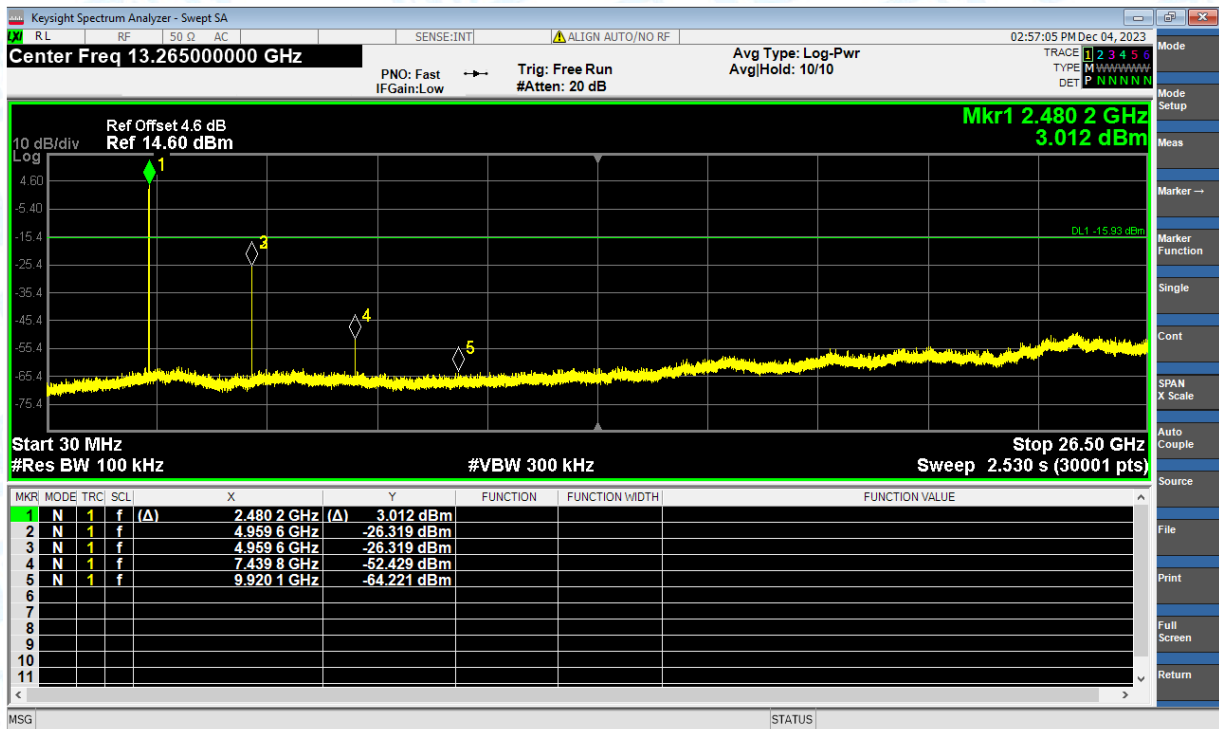
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



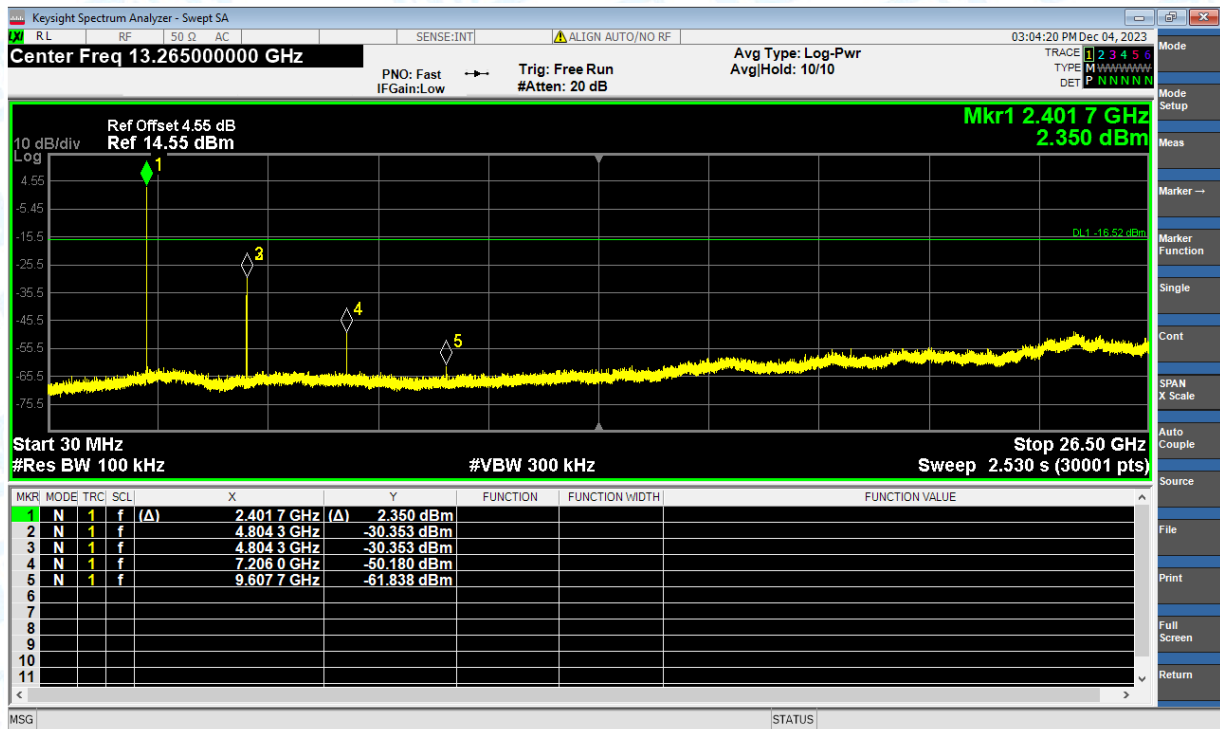
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



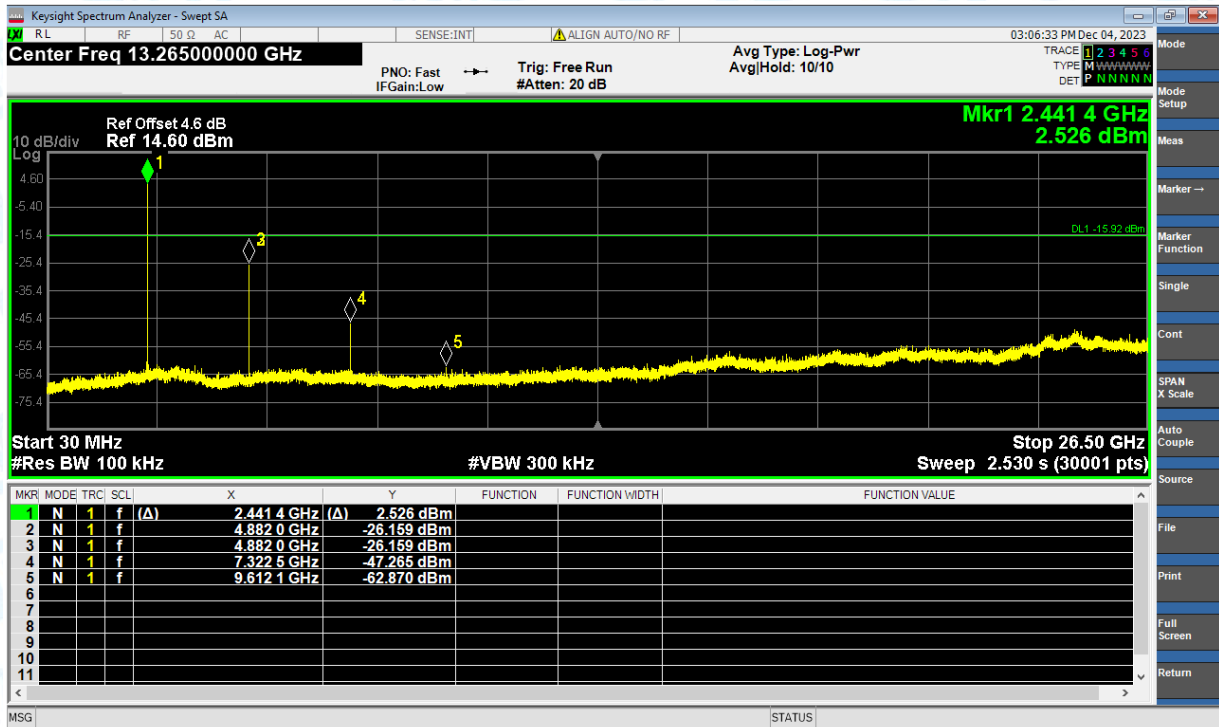
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



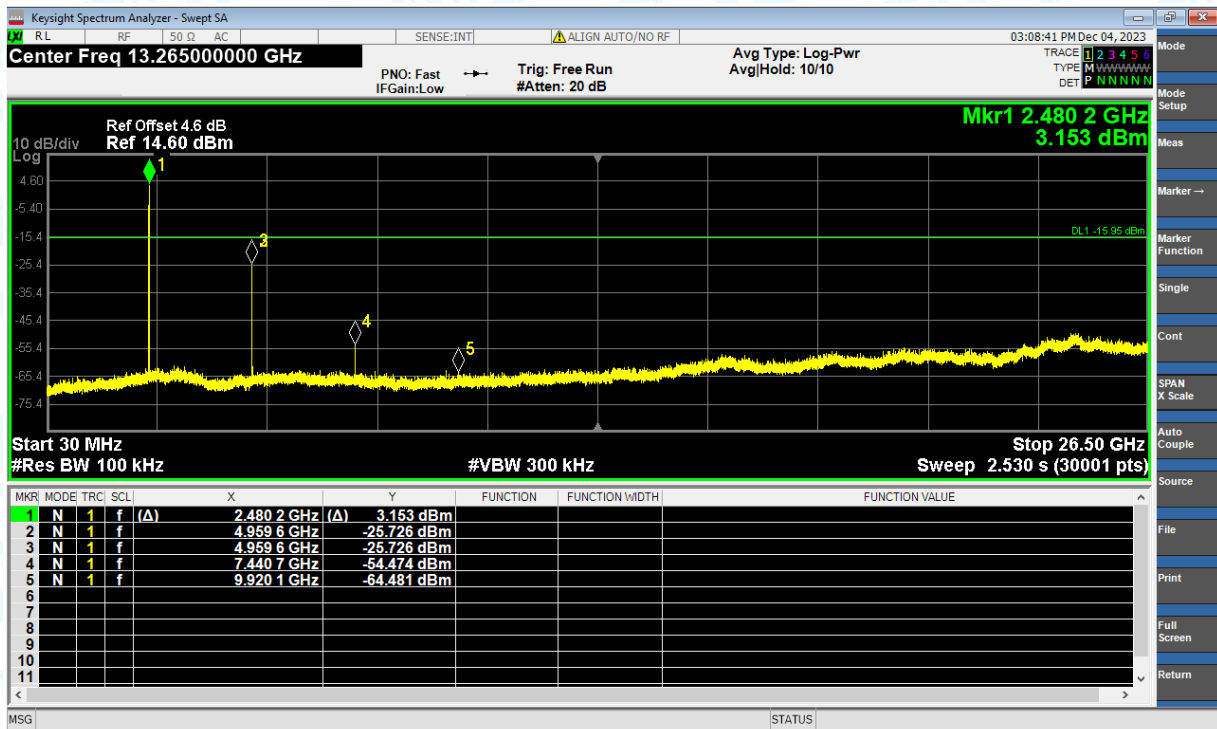
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



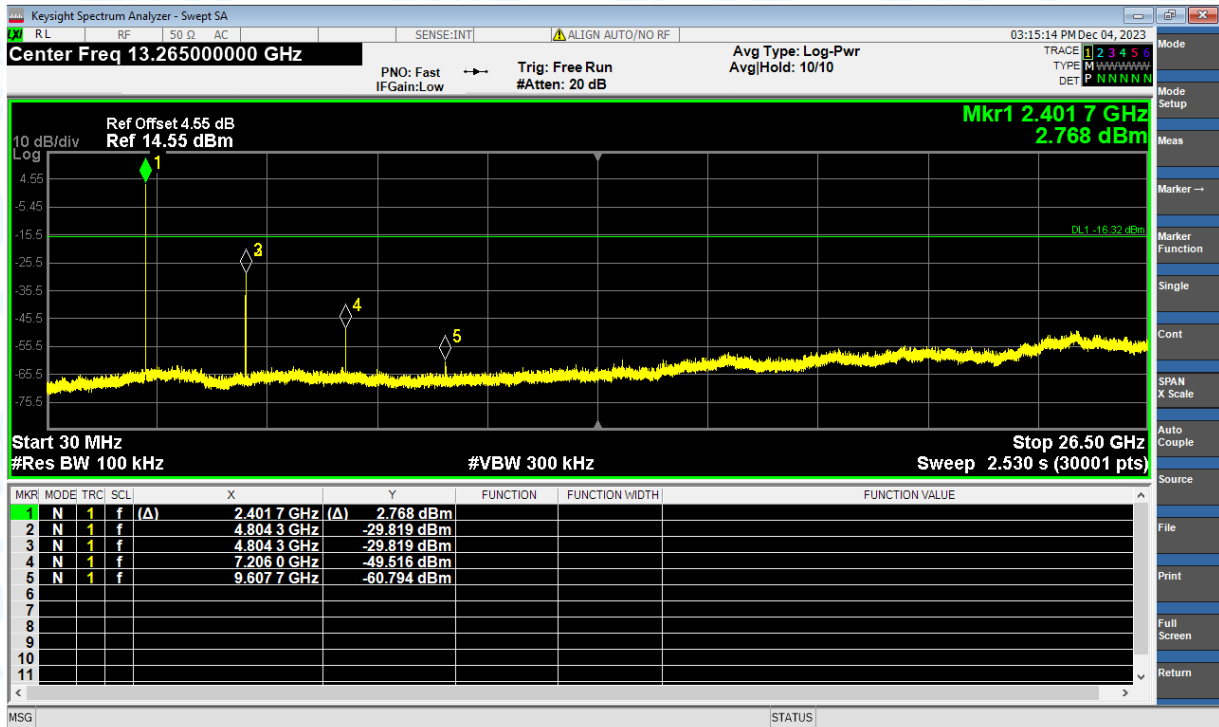
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



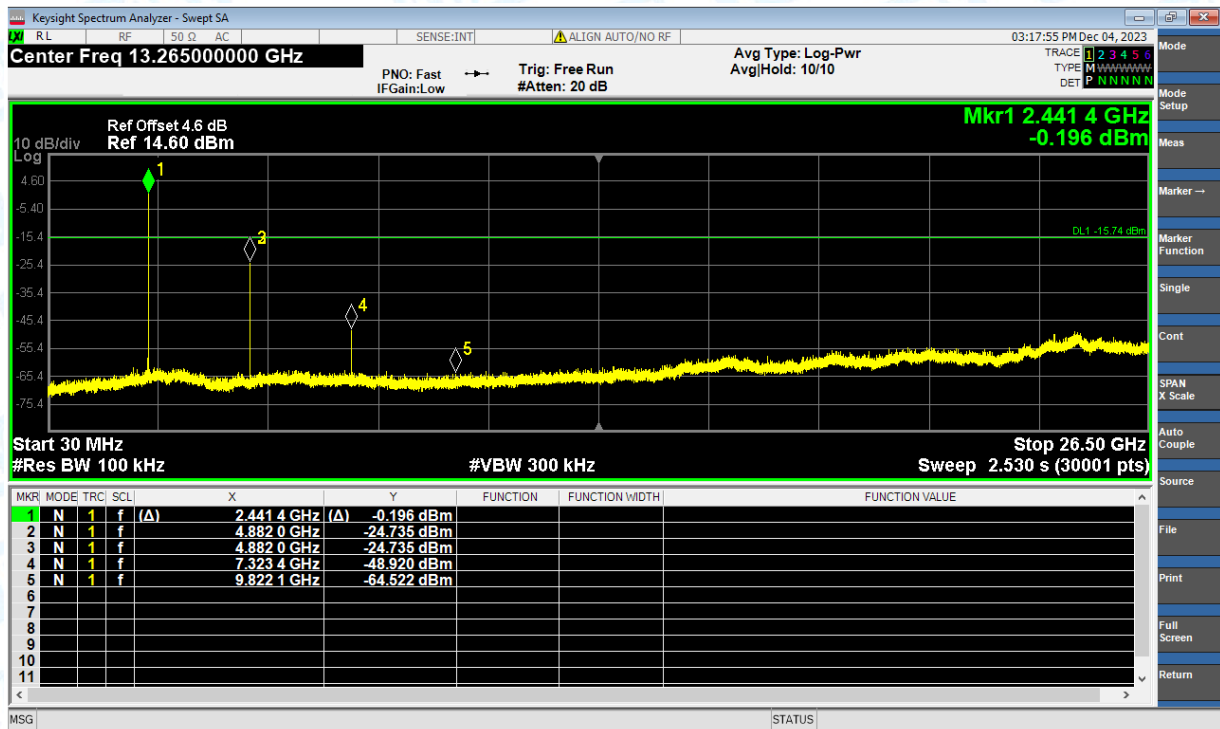
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



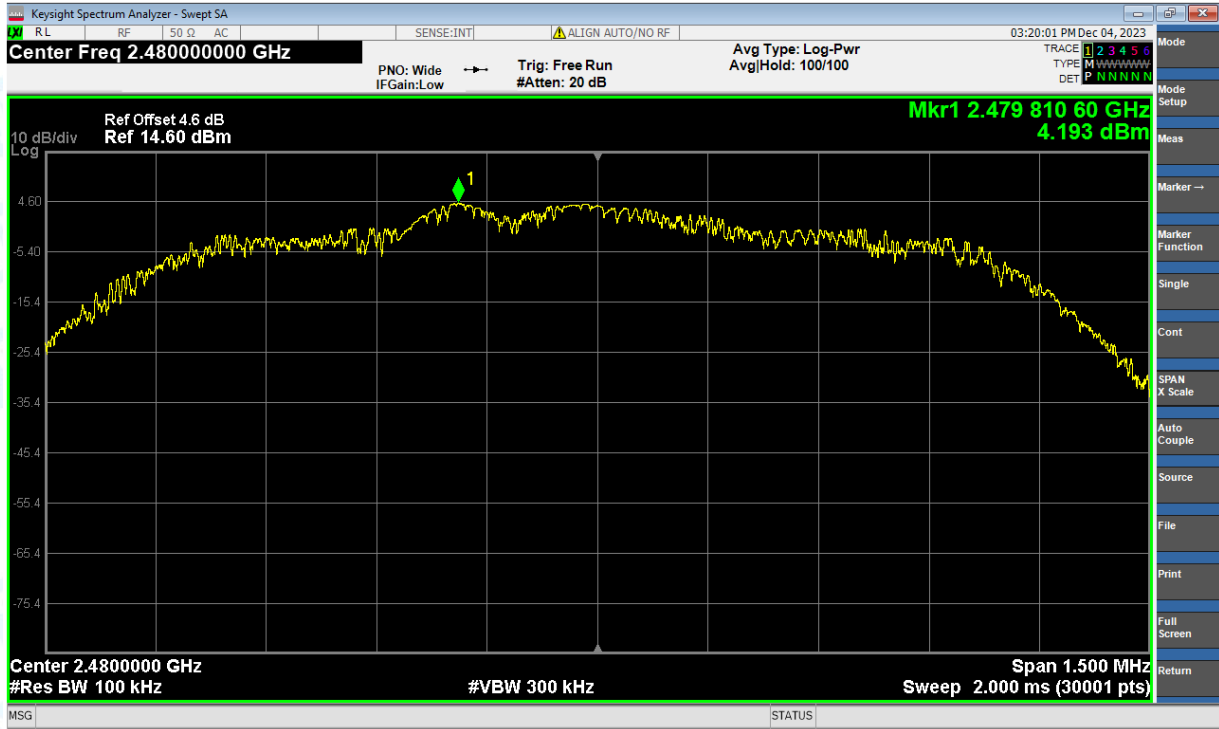
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



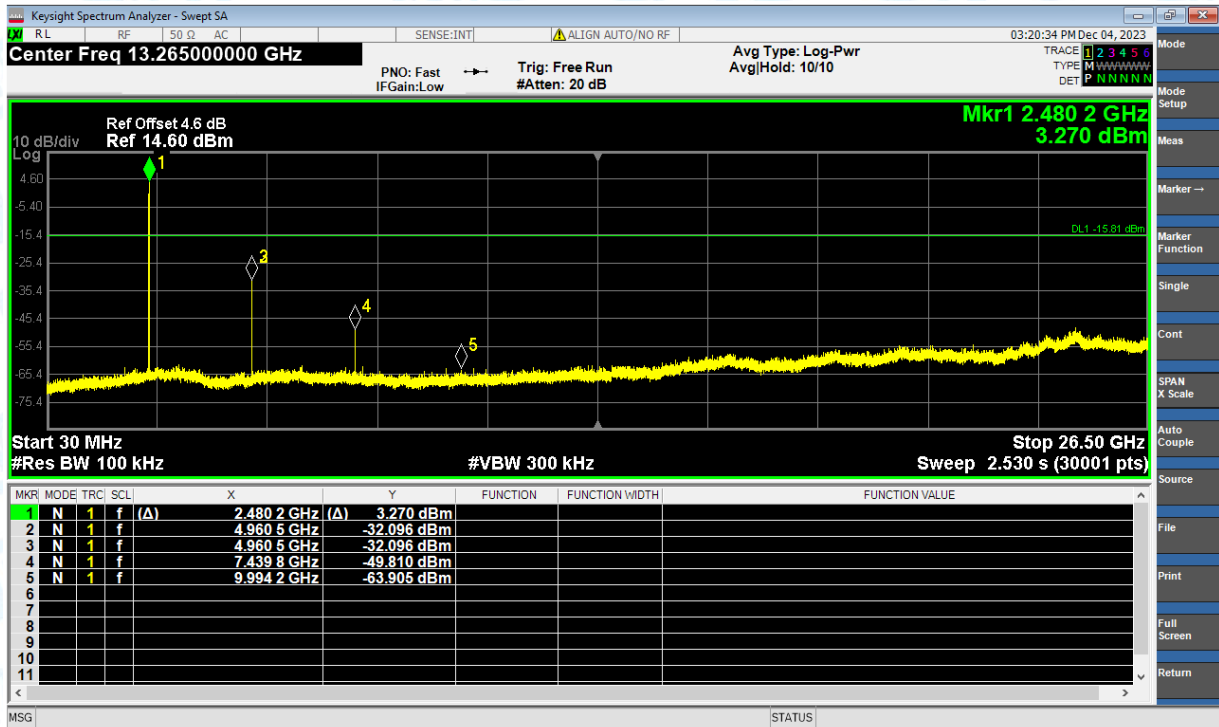
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

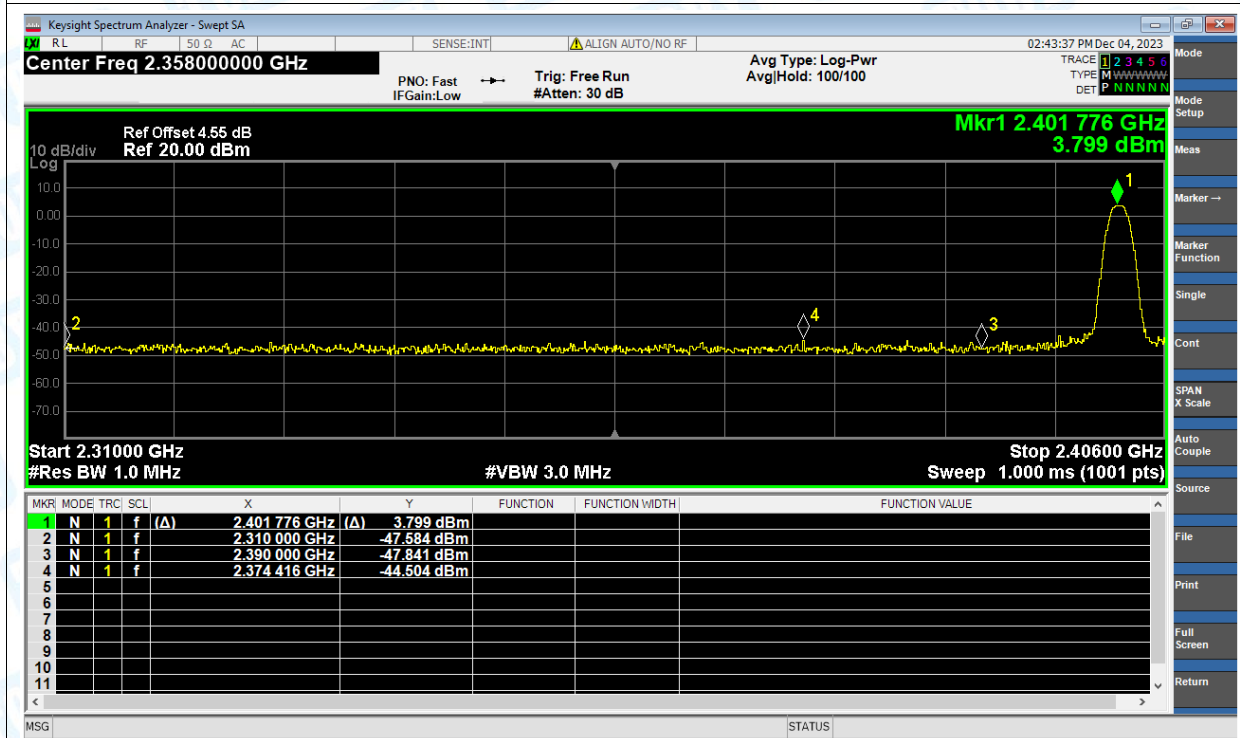


Restrict Band

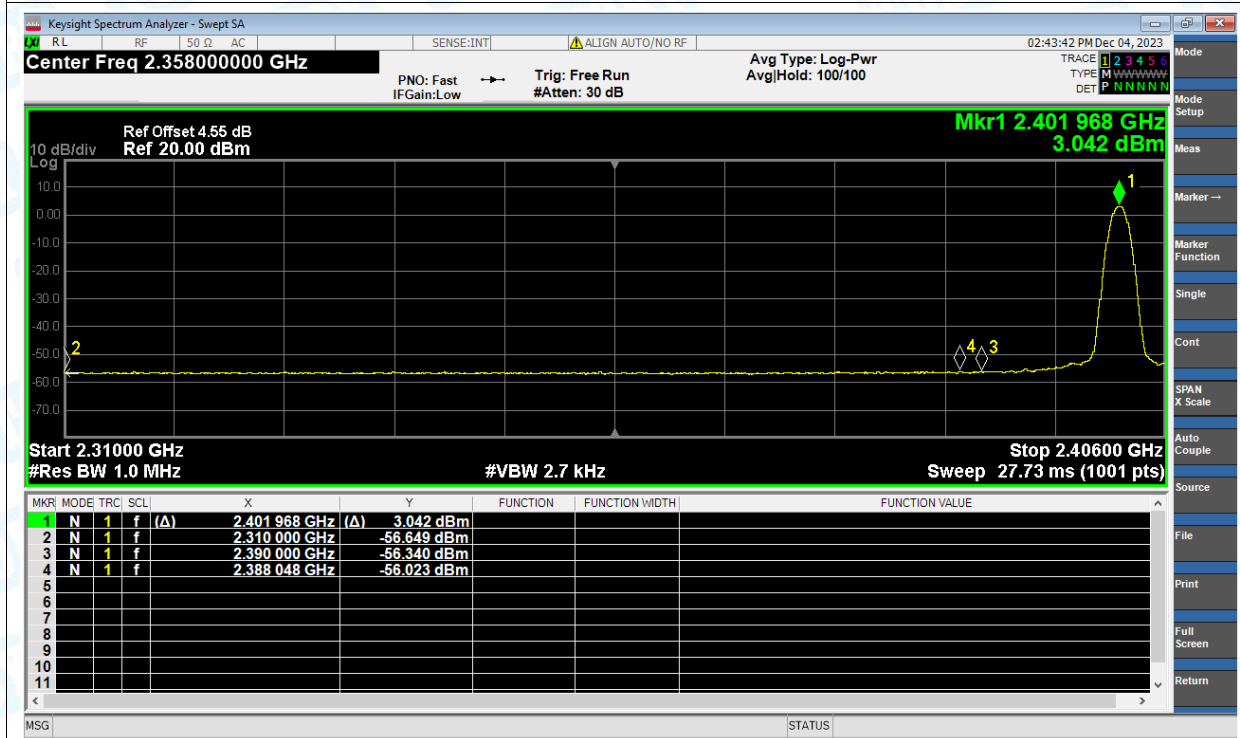
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.58	5.54	53.22	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.65	5.54	44.15	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2374.416	-44.5	5.54	56.3	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2388.048	-56.02	5.54	44.78	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-47.54	5.54	53.26	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.2	5.54	44.6	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-43.46	5.54	57.34	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-52.69	5.54	48.11	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.992	-42.07	5.54	58.73	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2484.04	-52.05	5.54	48.75	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.9	5.54	52.9	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-56.58	5.54	44.22	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-47.32	5.54	53.48	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.68	5.54	44.12	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2326.896	-44.49	5.54	56.31	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2387.952	-56.16	5.54	44.64	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.18	5.54	53.62	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-56.29	5.54	44.51	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-42	5.54	58.8	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-53.06	5.54	47.74	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.376	-39.07	5.54	61.73	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.896	-52.45	5.54	48.35	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-48.35	5.54	52.45	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-56.51	5.54	44.29	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-49.8	5.54	51	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.85	5.54	43.95	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2360.88	-45.36	5.54	55.44	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2385.84	-56.11	5.54	44.69	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-46.52	5.54	54.28	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-56.34	5.54	44.46	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-36.29	5.54	64.51	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-52.97	5.54	47.83	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.512	-36.29	5.54	64.51	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.776	-52.4	5.54	48.4	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.33	5.54	53.47	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-56.36	5.54	44.44	Average	54	Pass

Test Graphs

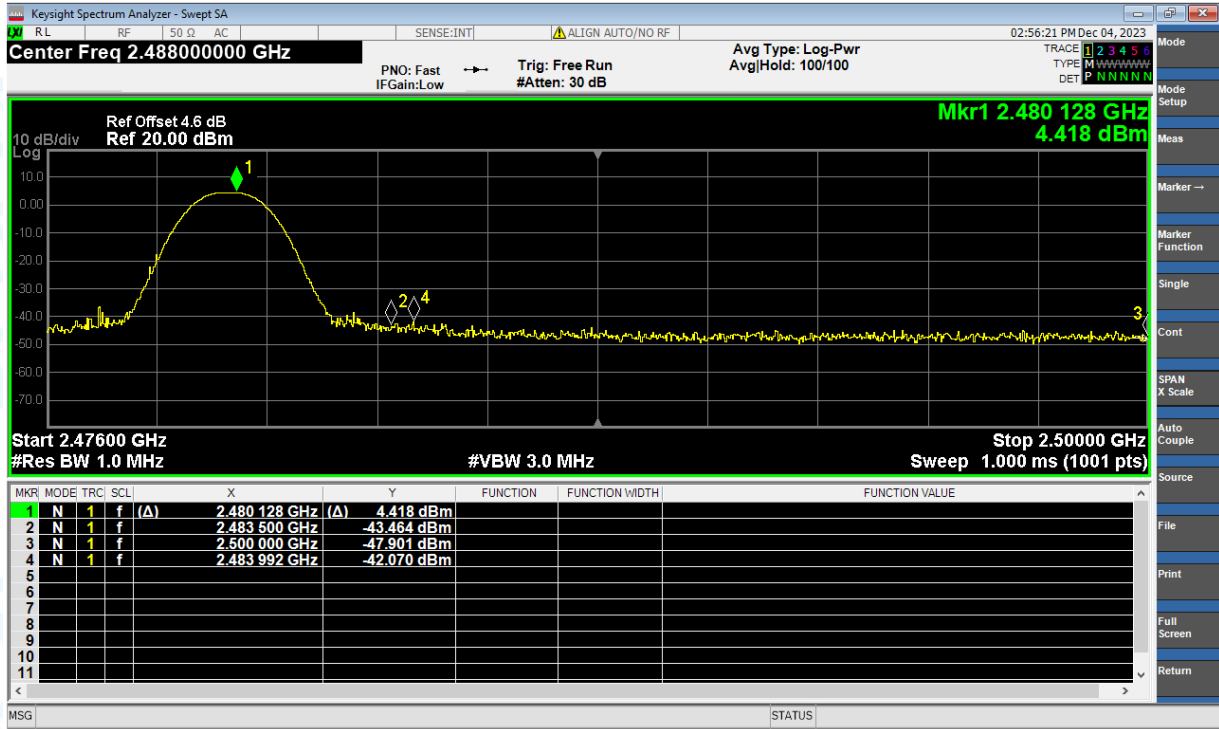
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



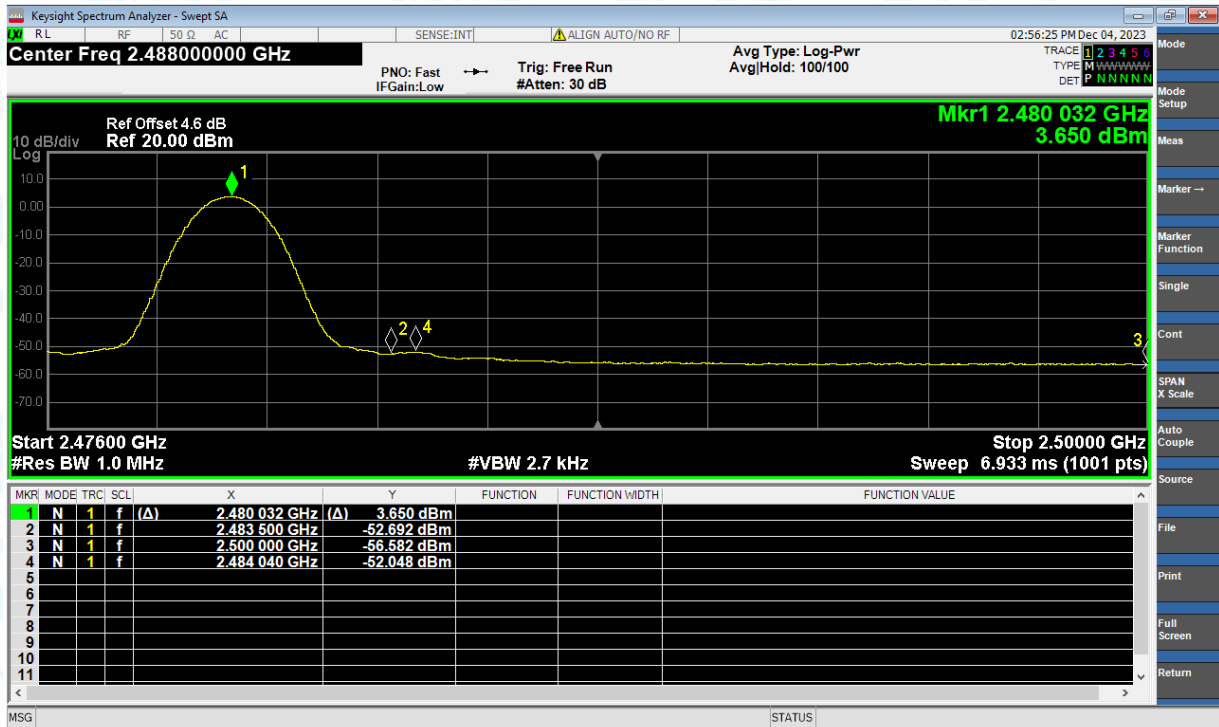
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



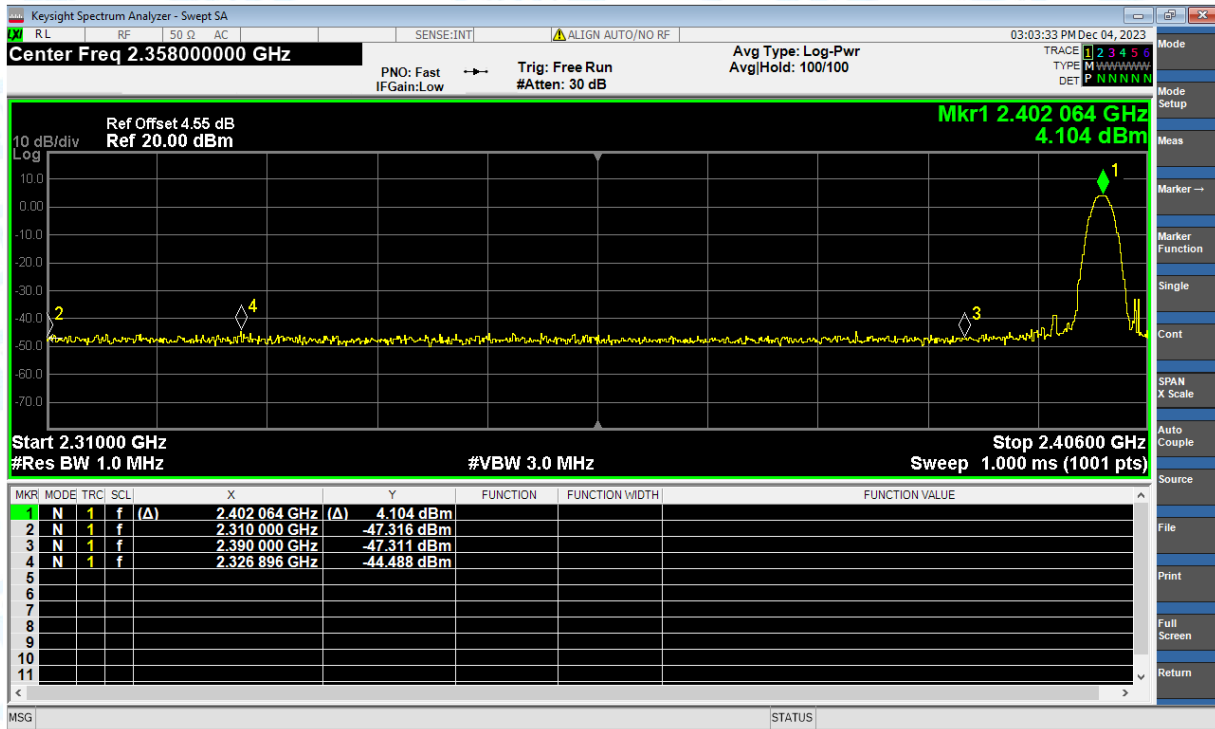
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



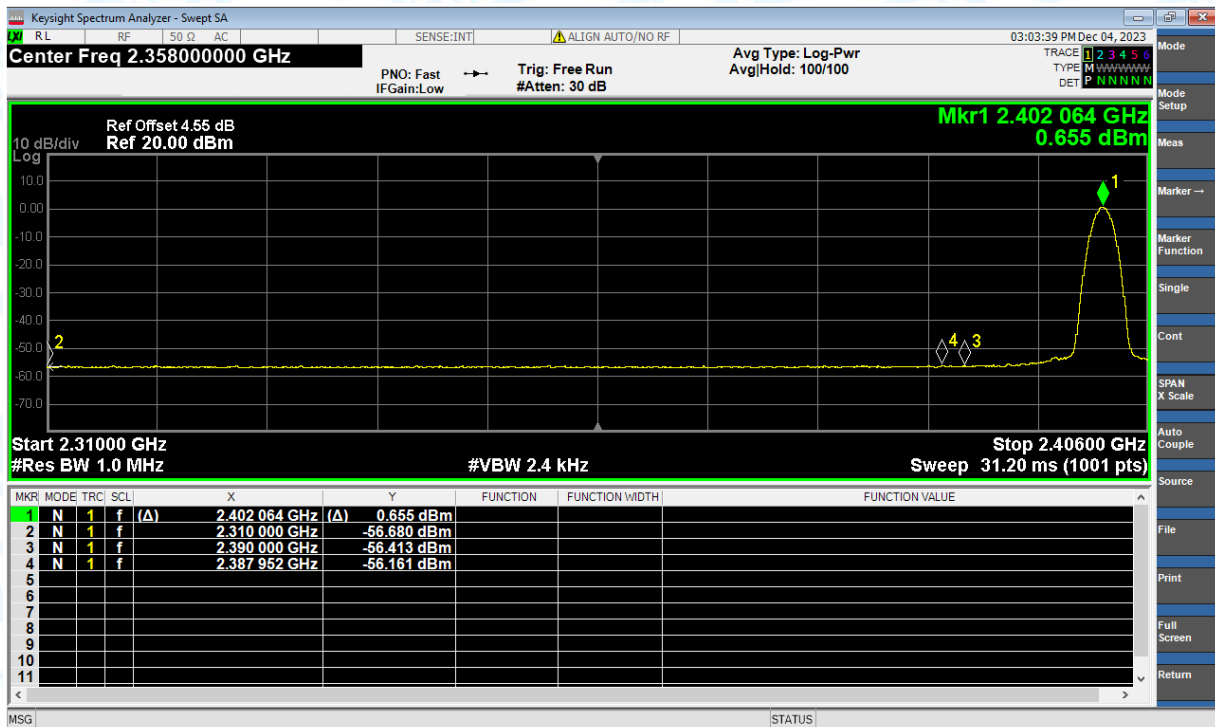
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



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



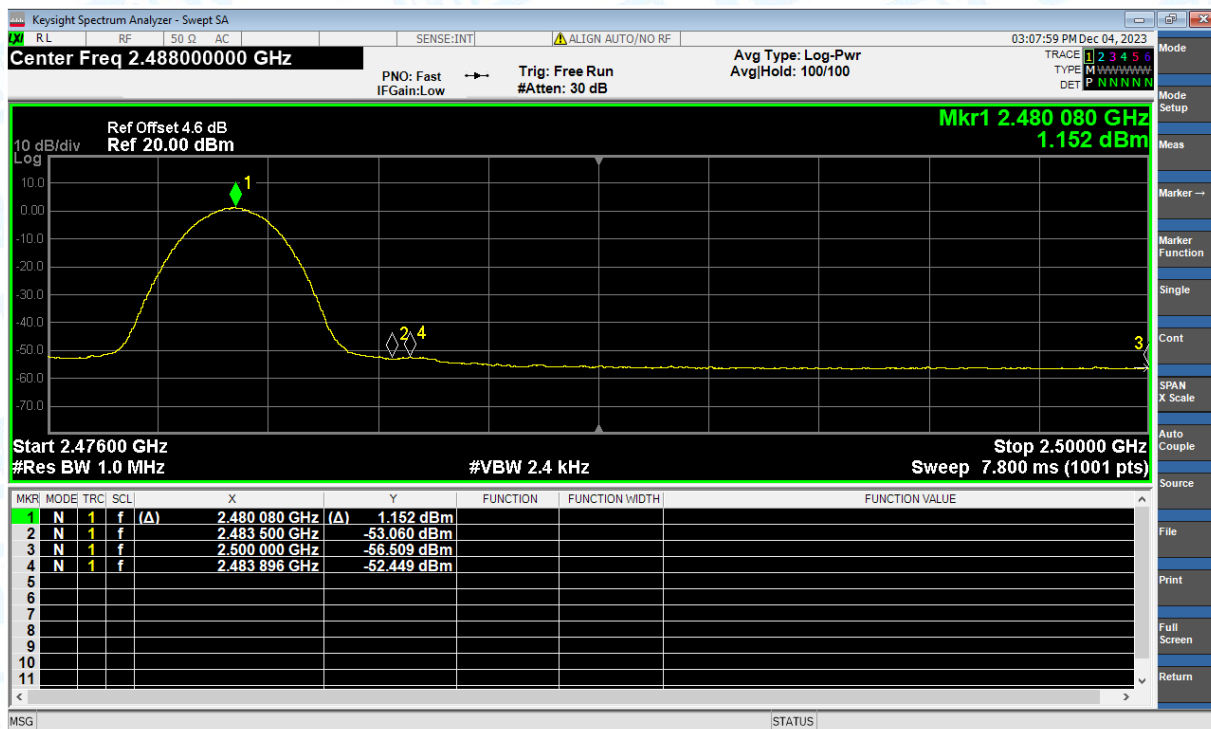
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



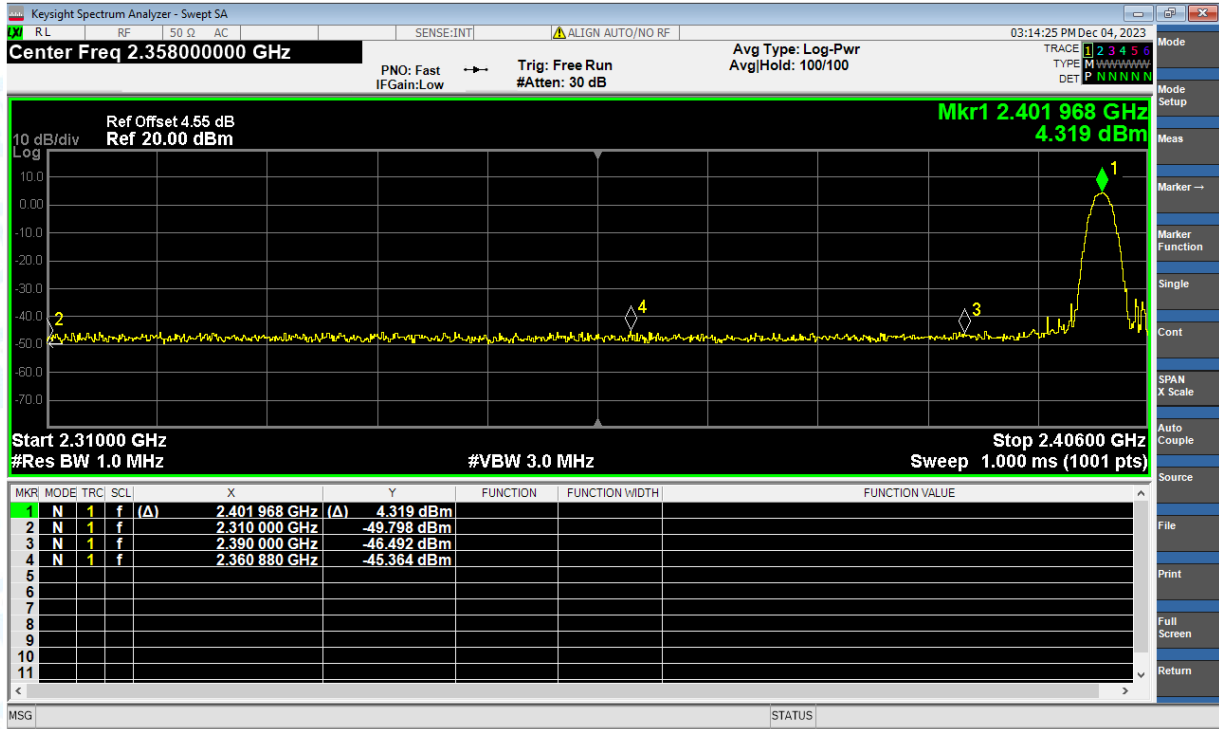
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



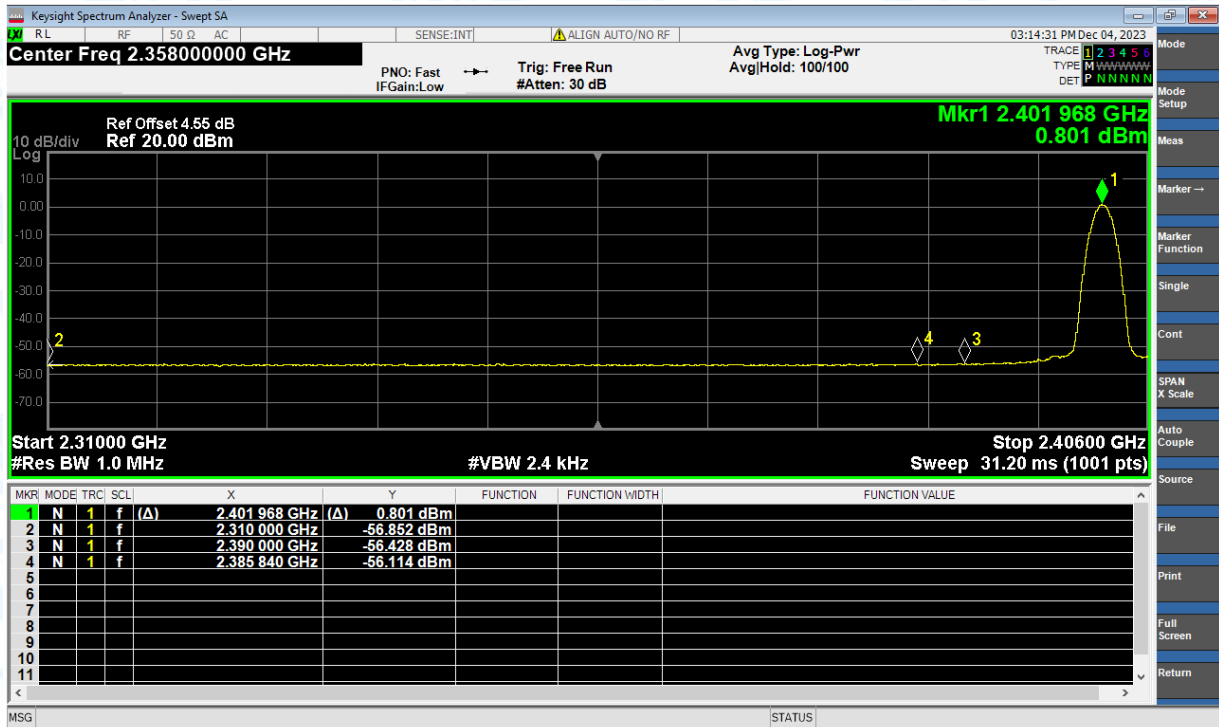
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



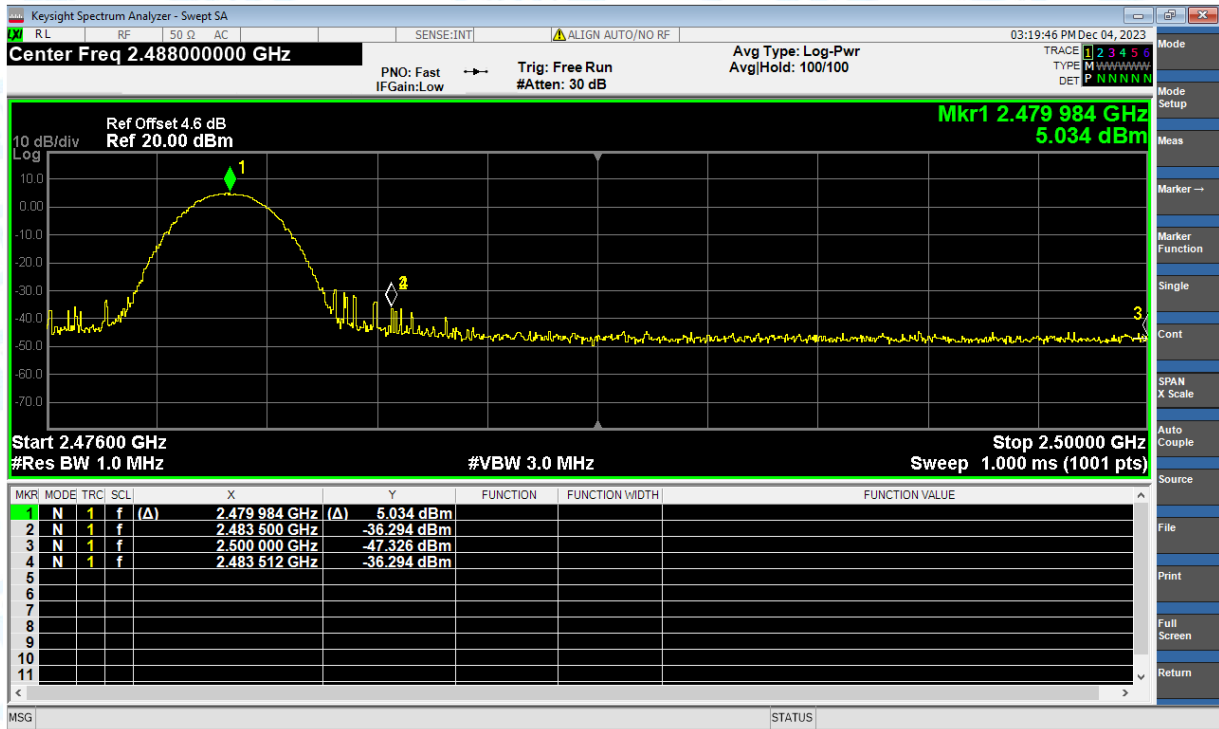
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



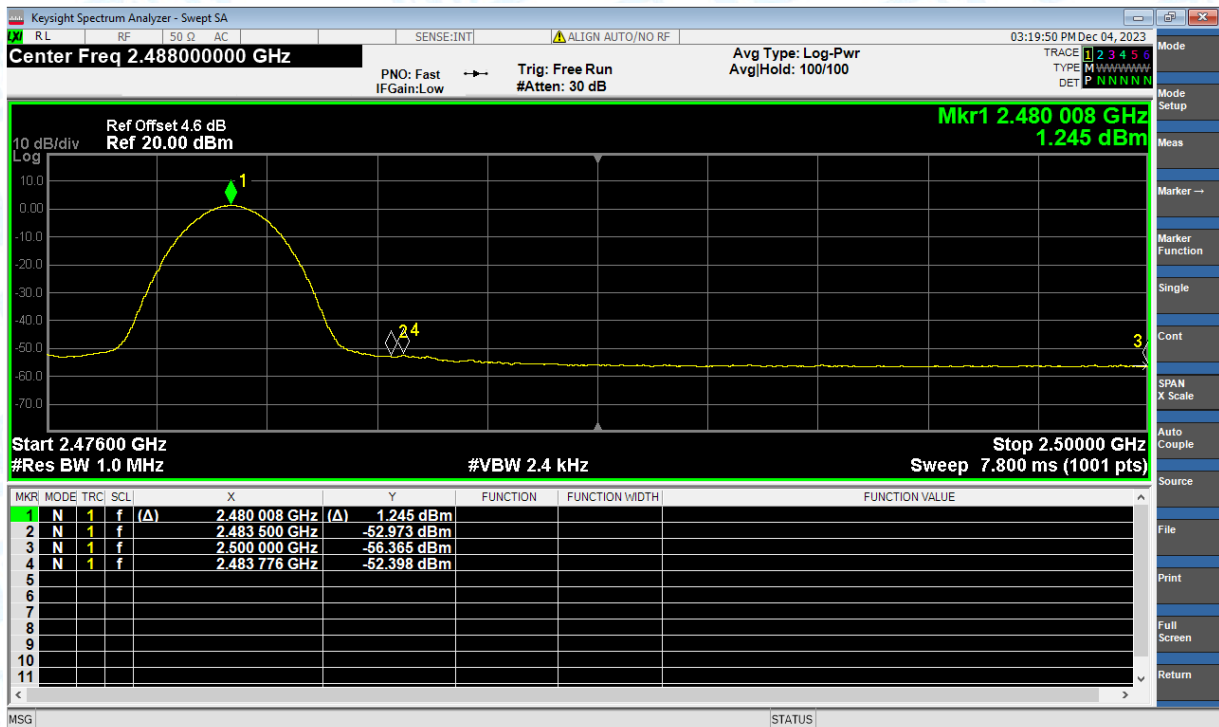
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

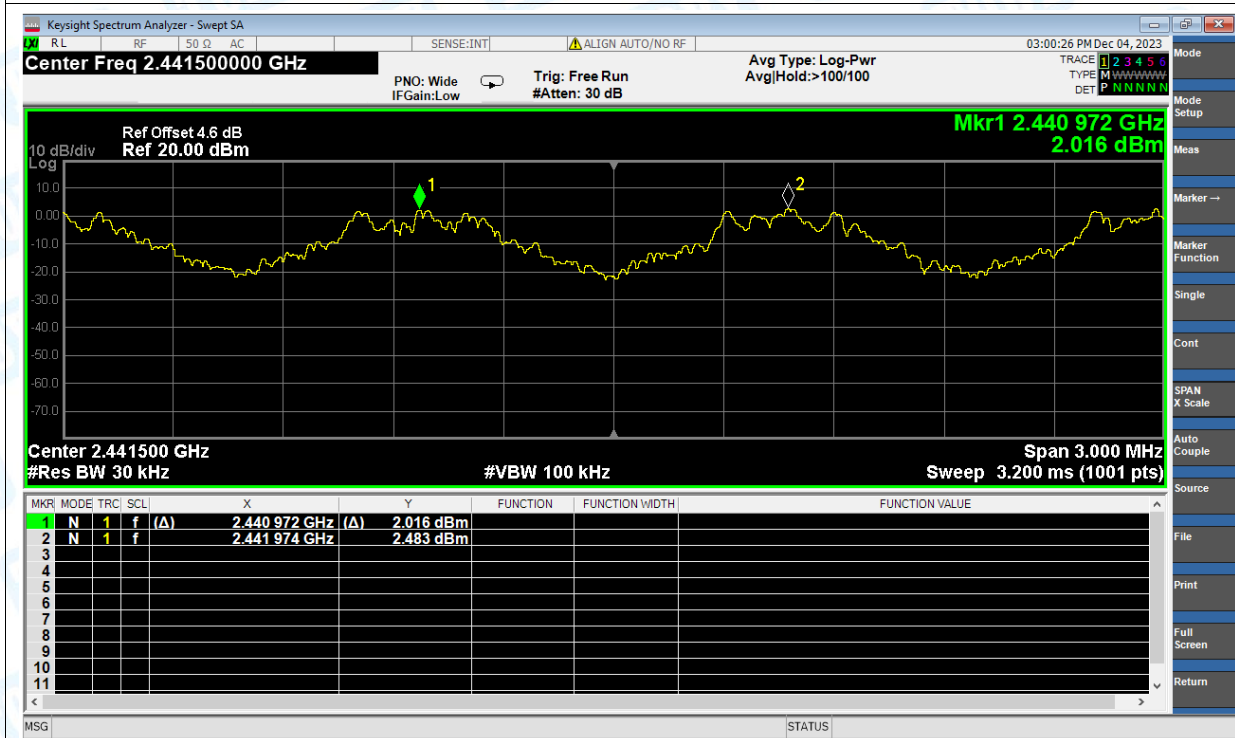


Carrier Frequencies Separation

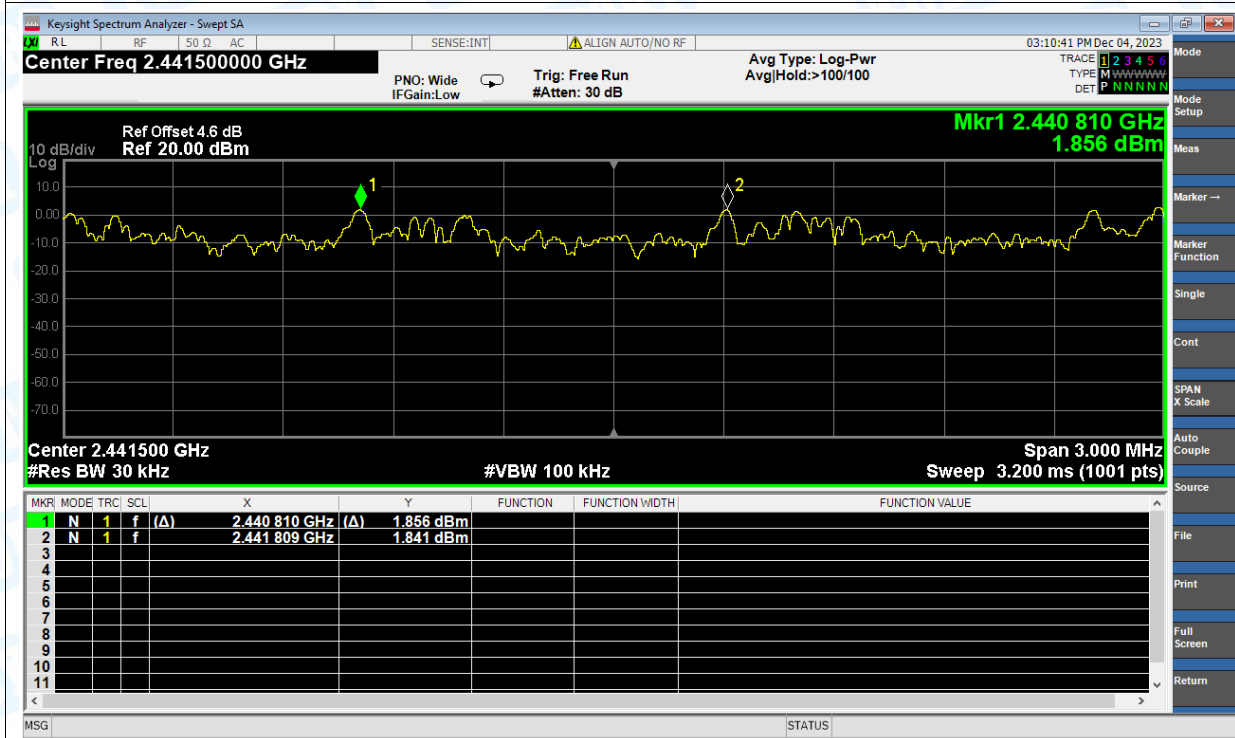
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.972	2441.974	1.002	0.553	Pass
NVNT	2-DH1	Ant1	2440.81	2441.809	0.999	0.813	Pass
NVNT	3-DH1	Ant1	2440.987	2441.986	0.999	0.8	Pass

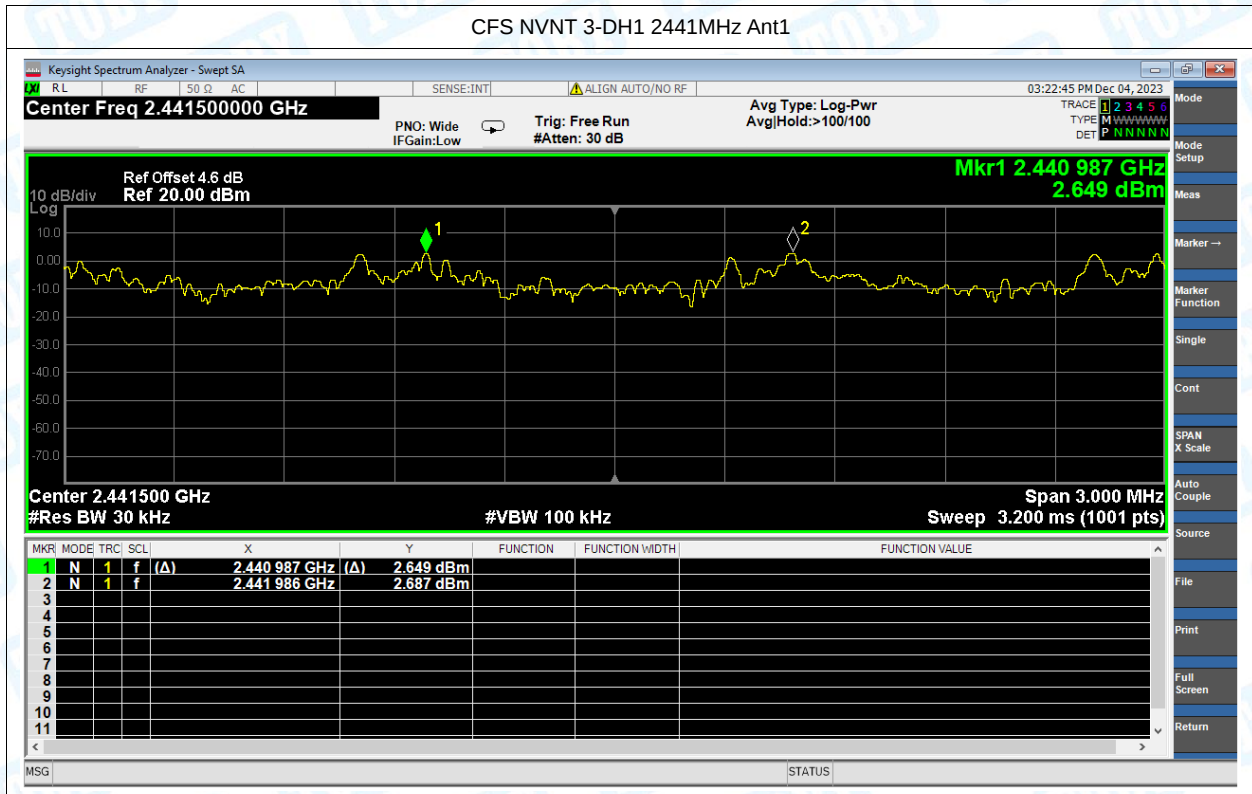
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



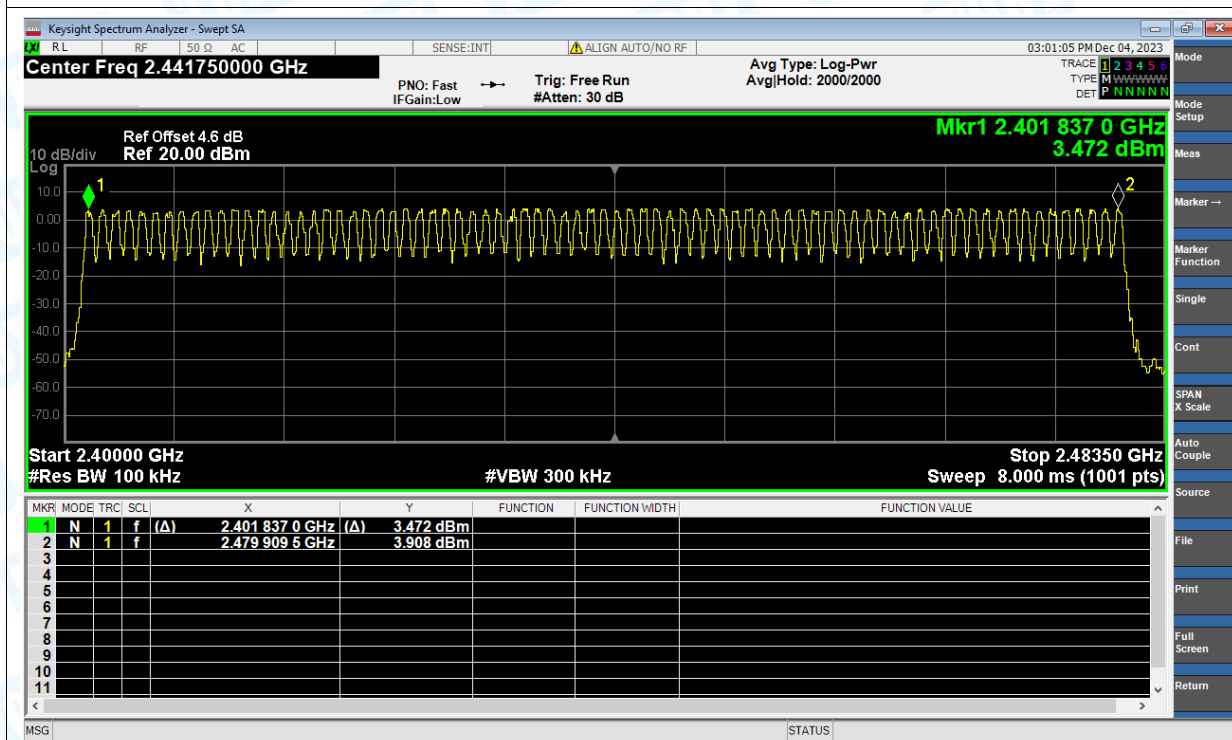


Number of Hopping Channel

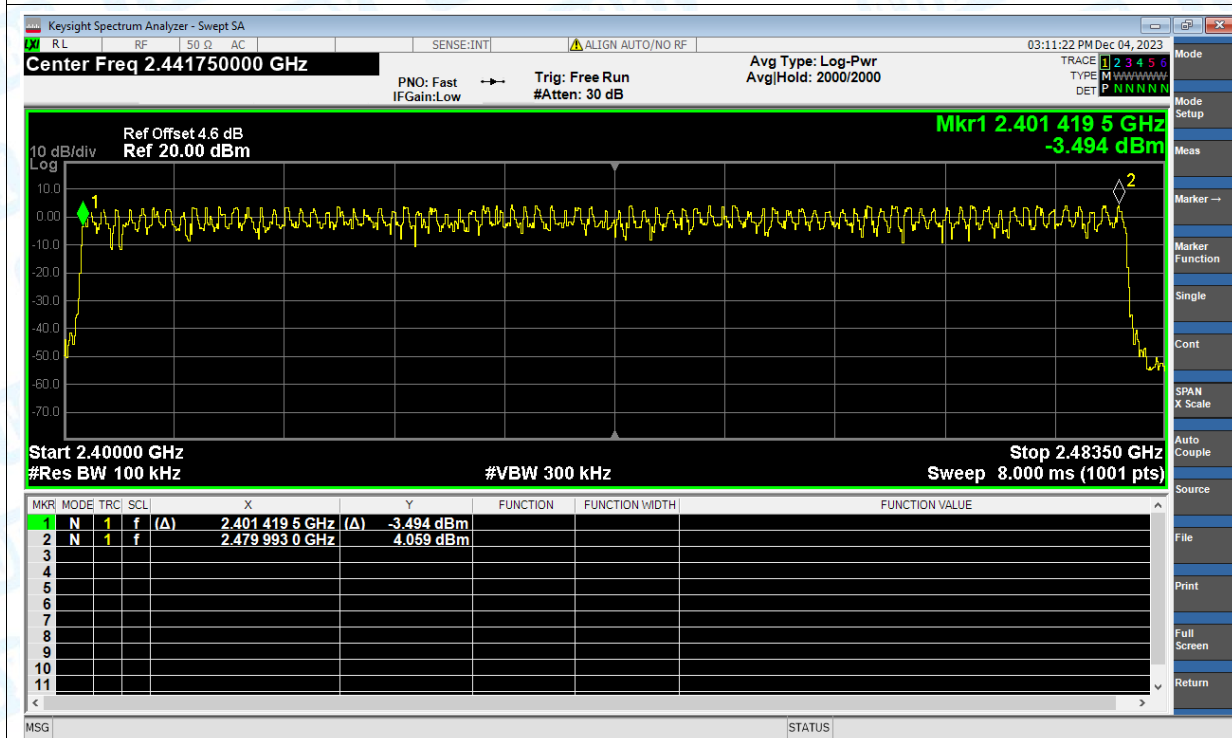
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

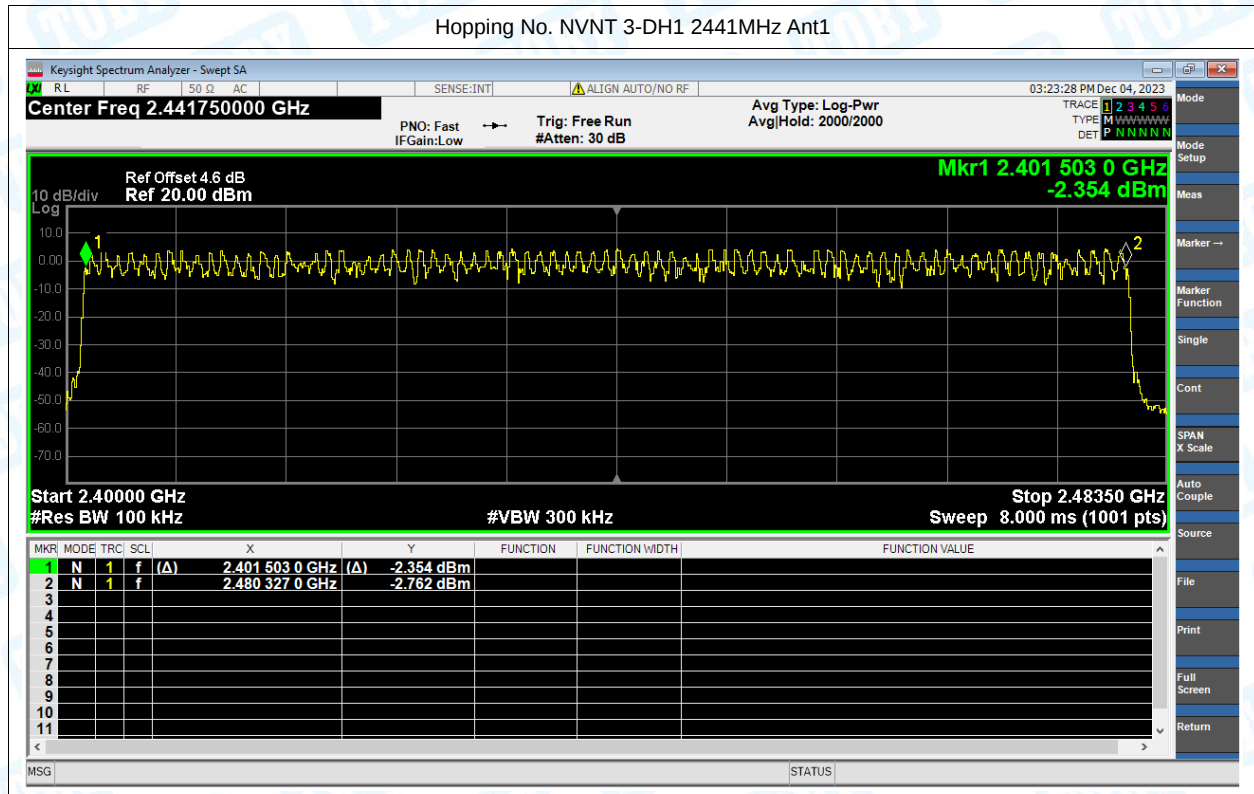
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



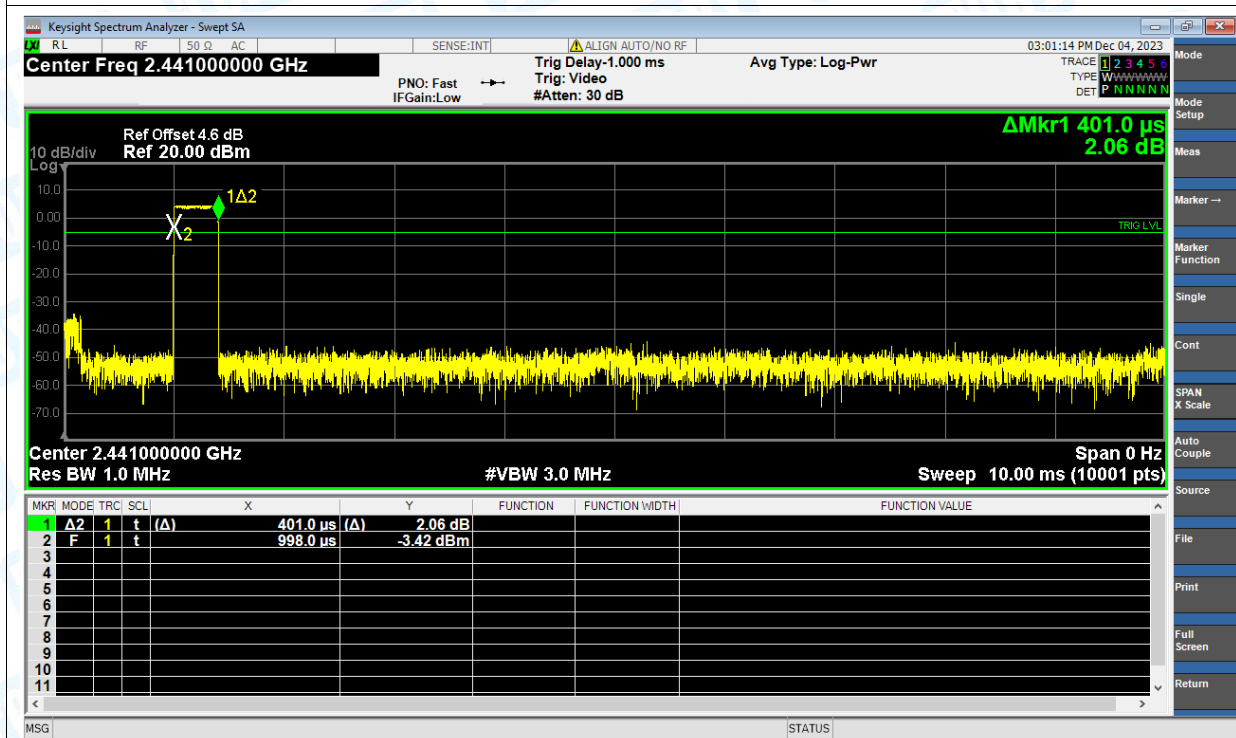


Dwell Time

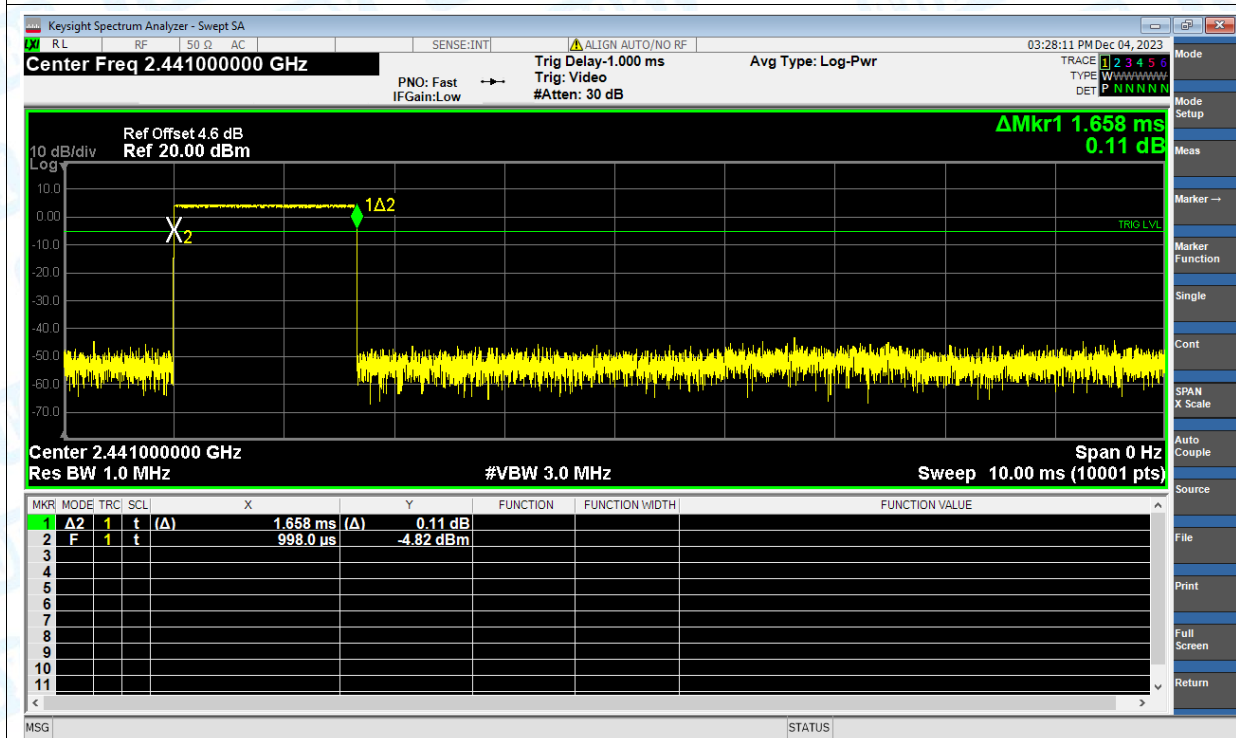
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.401	128.32	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.658	265.28	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.905	309.867	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.411	131.52	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.663	266.08	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.911	310.507	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.413	132.16	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.663	266.08	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.913	310.72	31600	400	Pass

Test Graphs

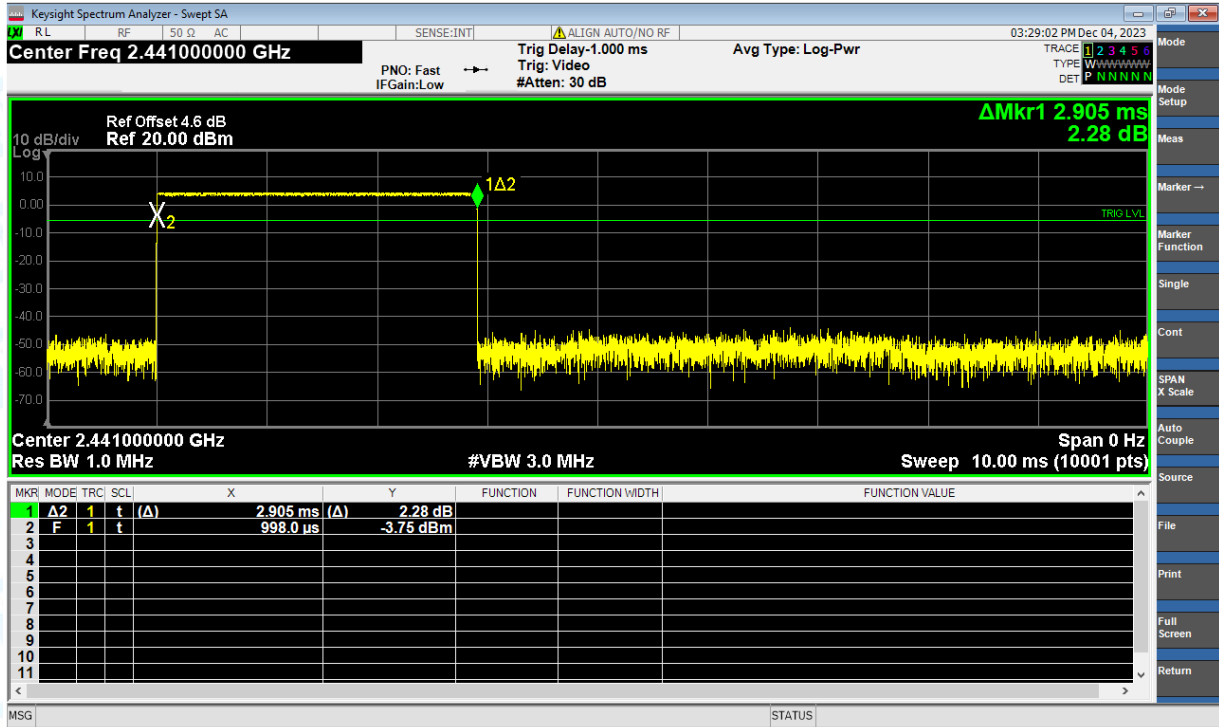
Dwell NVNT 1-DH1 2441MHz Ant1



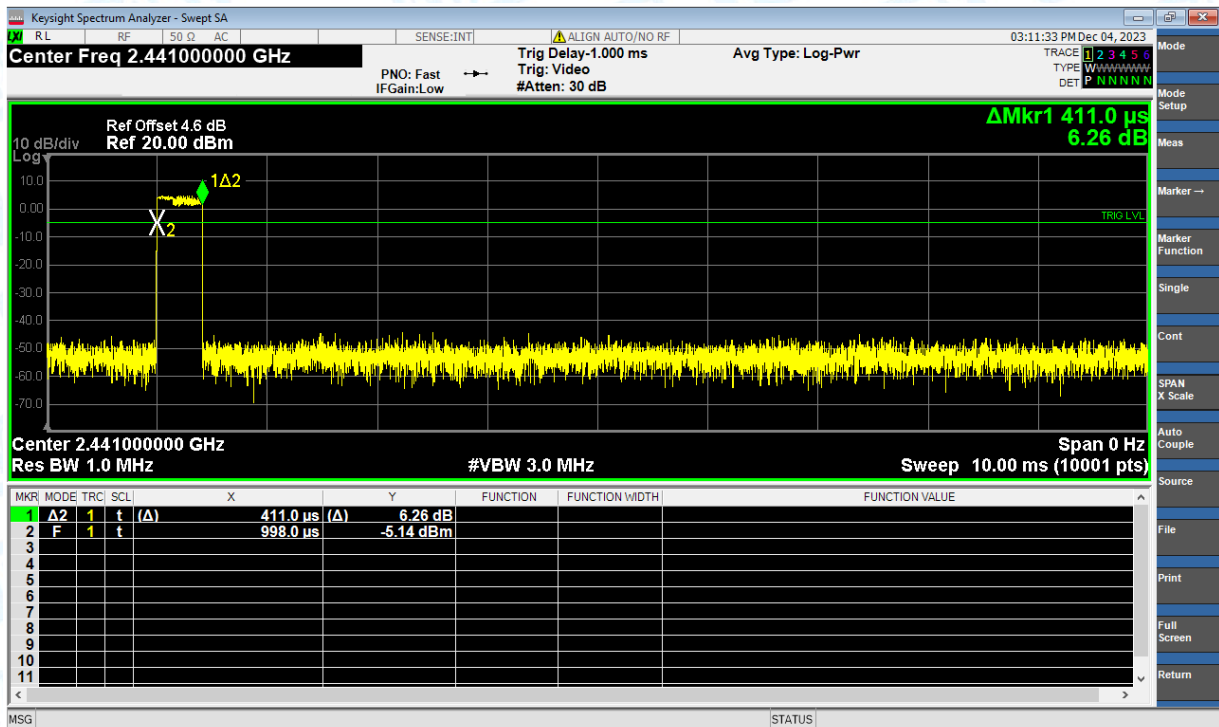
Dwell NVNT 1-DH3 2441MHz Ant1



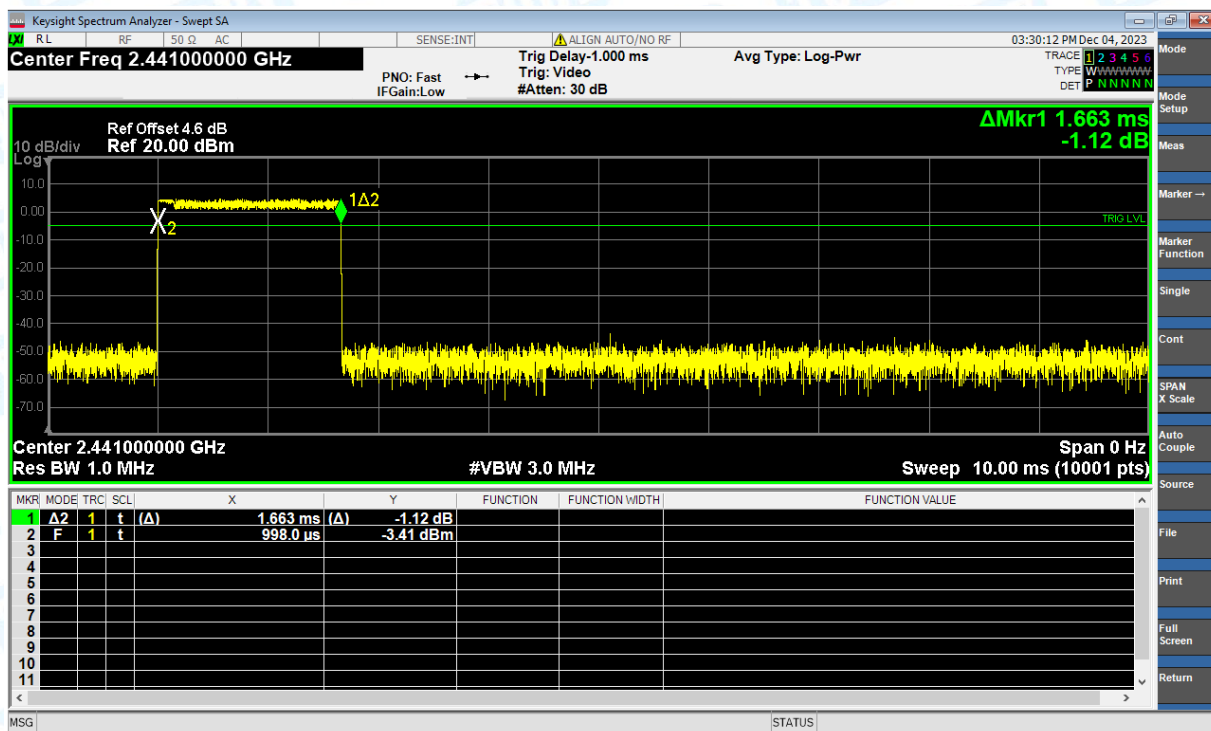
Dwell NVNT 1-DH5 2441MHz Ant1



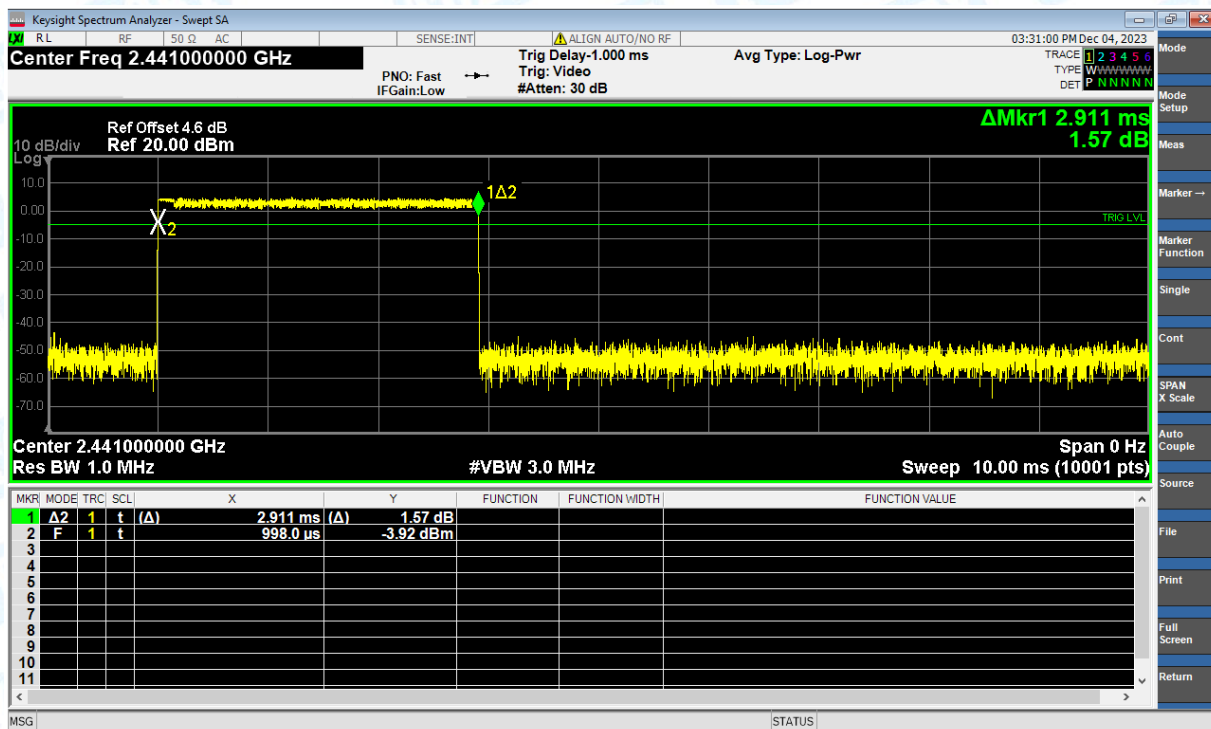
Dwell NVNT 2-DH1 2441MHz Ant1



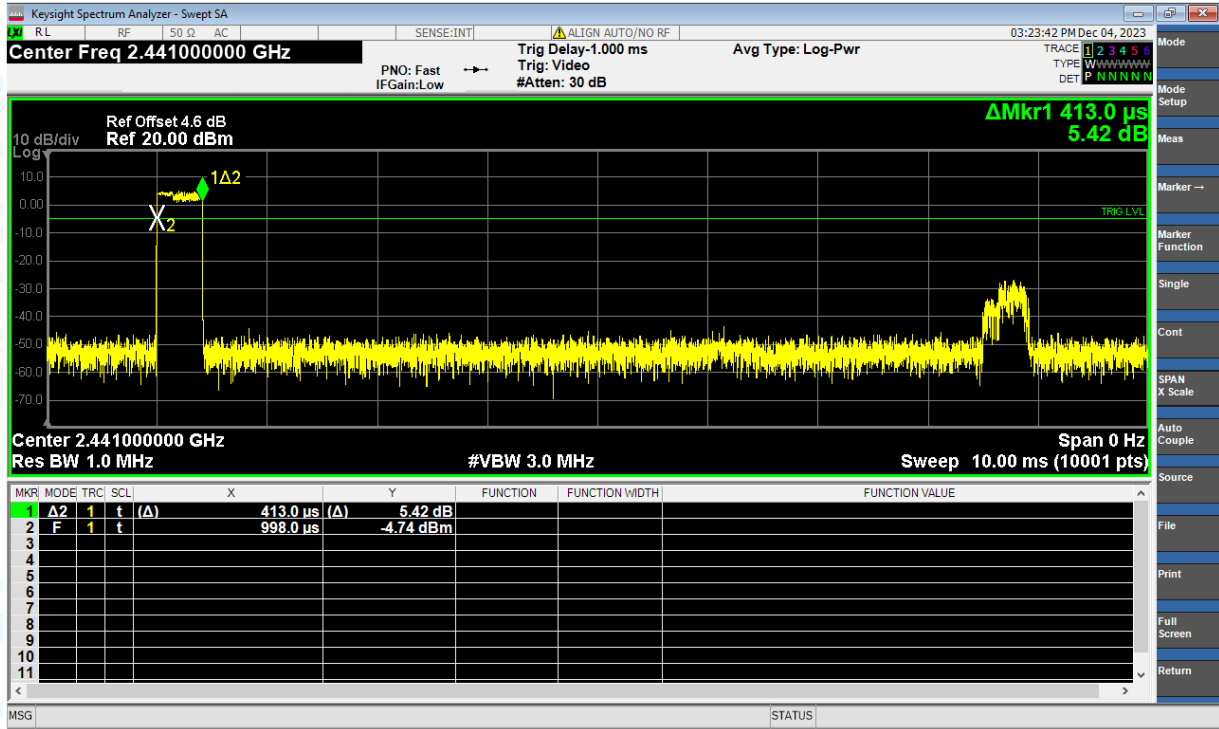
Dwell NVNT 2-DH3 2441MHz Ant1



Dwell NVNT 2-DH5 2441MHz Ant1



Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1

