

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

General Description of EUT	
Product Name:	2.4GHz Digital Wireless Audio Parent Unit
Test Model:	HB168
Sample ID:	202311-0255-1-2#
Environmental Conditions	
Temperature:	25°C
Relative Humidity:	55%
Test Voltage:	DC 5V
Test Engineer:	Li ying jing
Note: For a more detailed features description, please refer to the report TBR-C-202311-0255-1 The report only show the worst case data.	

Contents

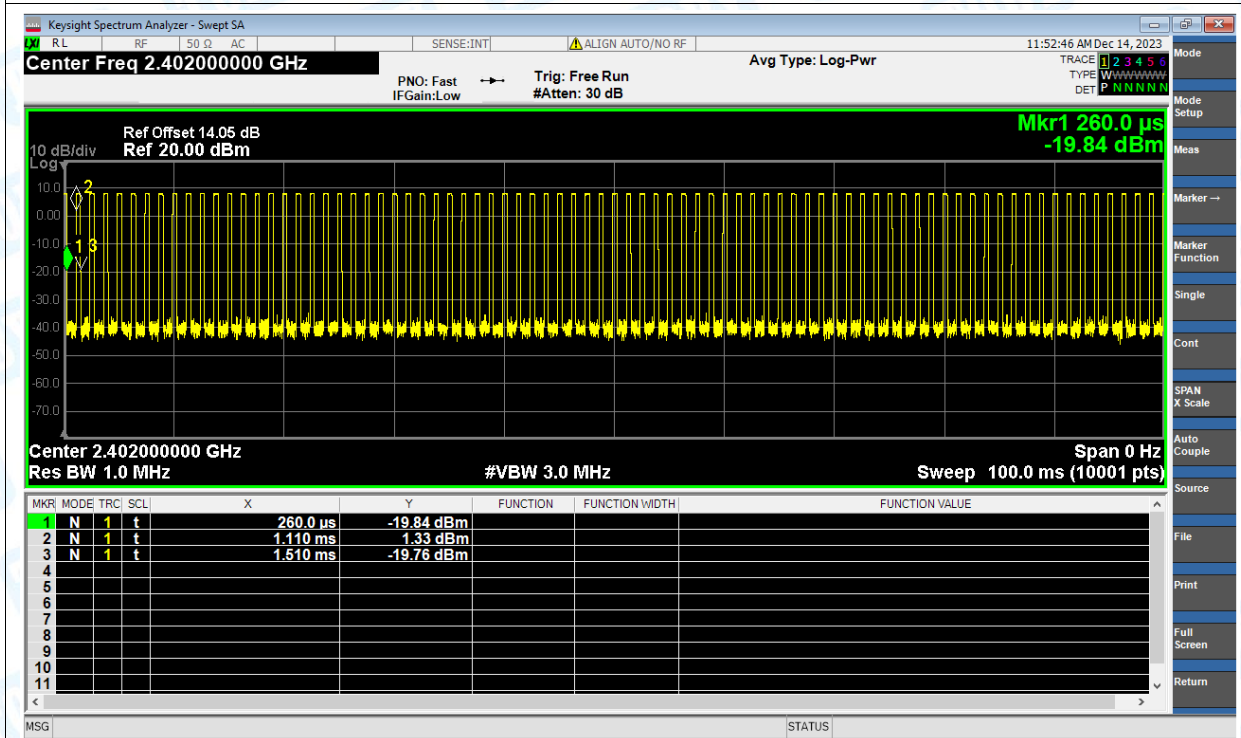
1. Duty Cycle.....	3
2. Maximum Conducted Output Power.....	9
3. -20dB Bandwidth.....	15
4. Occupied Channel Bandwidth.....	21
5. Band Edge.....	27
6. Band Edge(Hopping).....	34
7. Conducted RF Spurious Emission.....	41
8. Restrict Band.....	51
9. Carrier Frequencies Separation.....	58
10. Number of Hopping Channel.....	61
11. Dwell Time.....	64

1. Duty Cycle

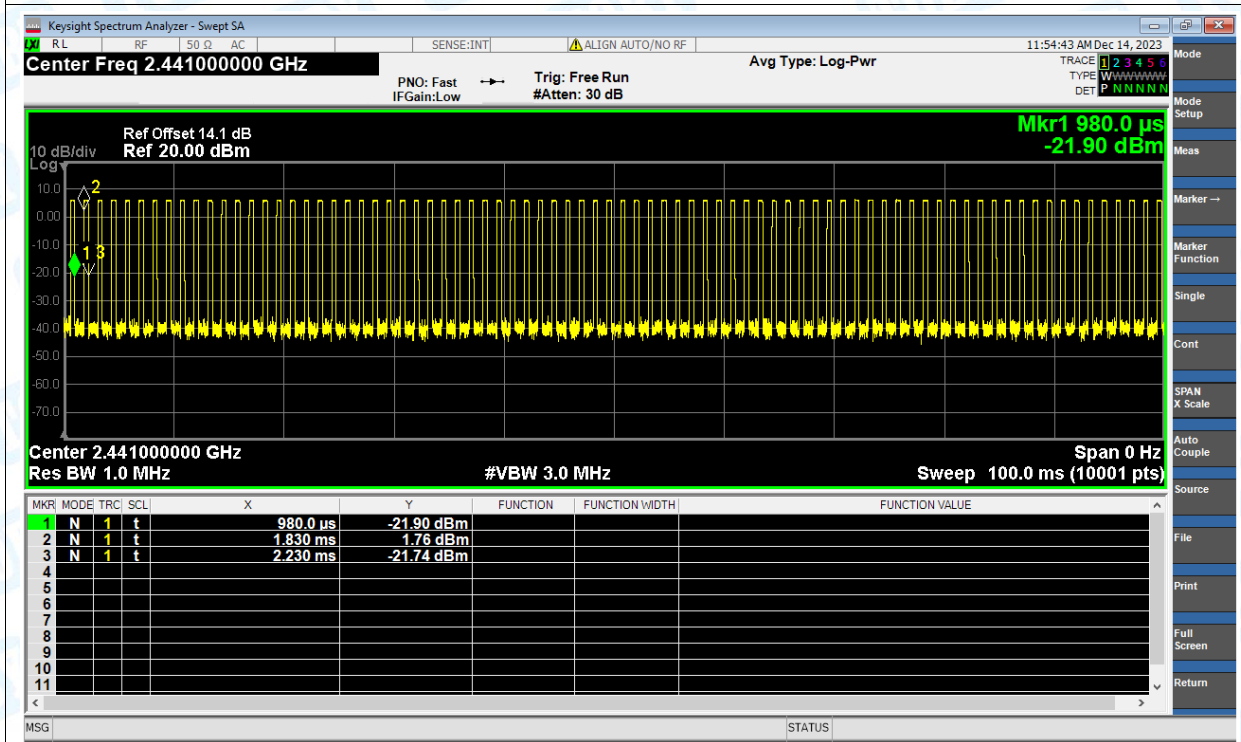
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	32	4.95	2.5
NVNT	1-DH1	2441	Ant1	32	4.95	2.5
NVNT	1-DH1	2480	Ant1	32	4.95	2.5
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2480	Ant1	31.2	5.06	2.56

Test Graphs

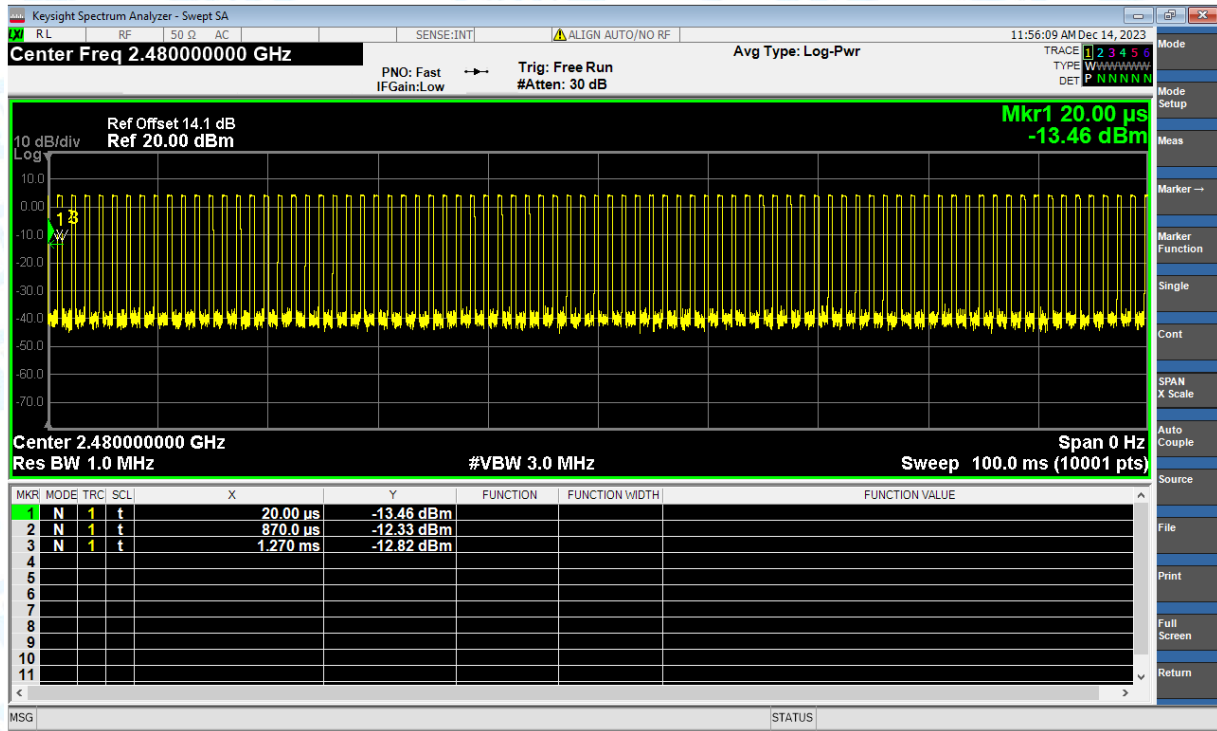
Duty Cycle NVNT 1-DH1 2402MHz Ant1



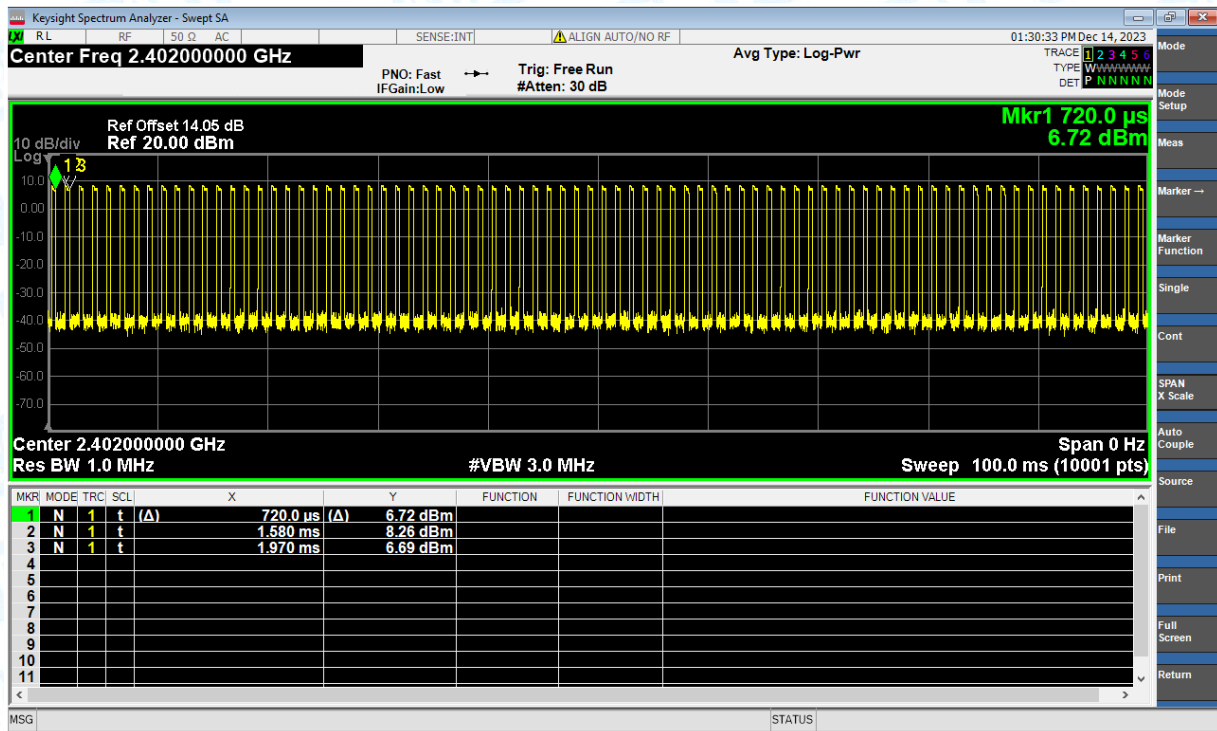
Duty Cycle NVNT 1-DH1 2441MHz Ant1



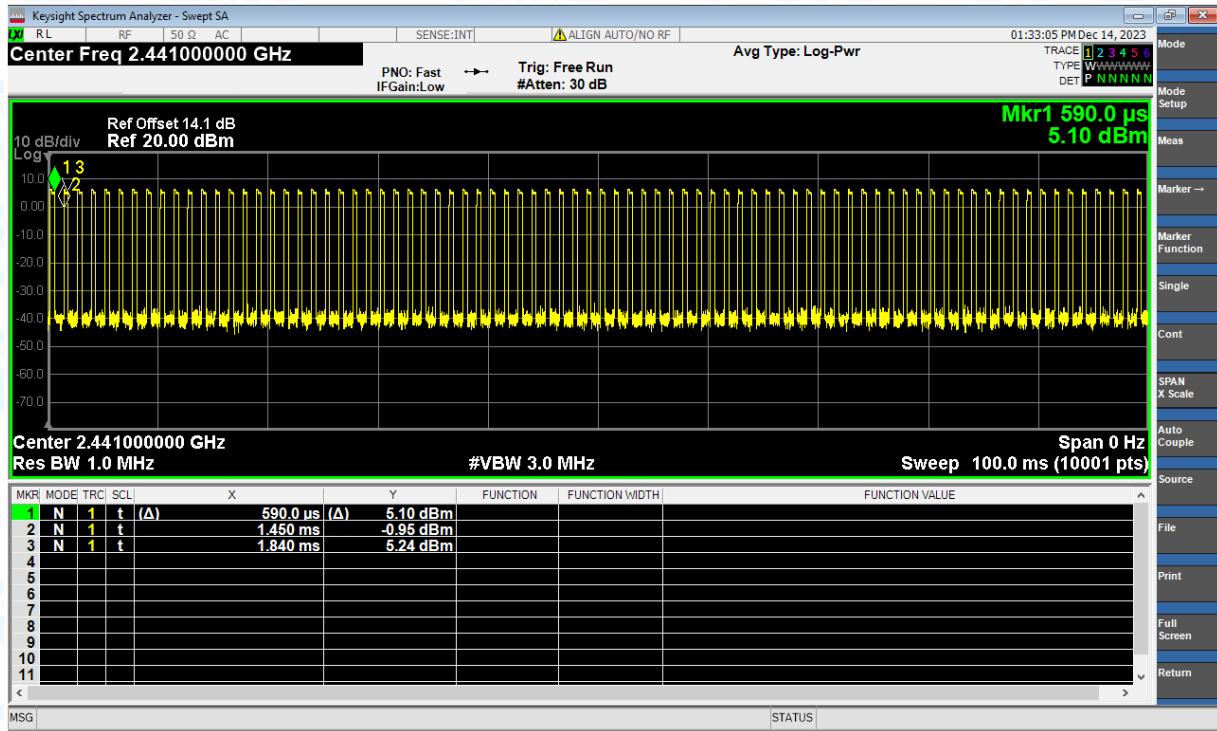
Duty Cycle NVNT 1-DH1 2480MHz Ant1



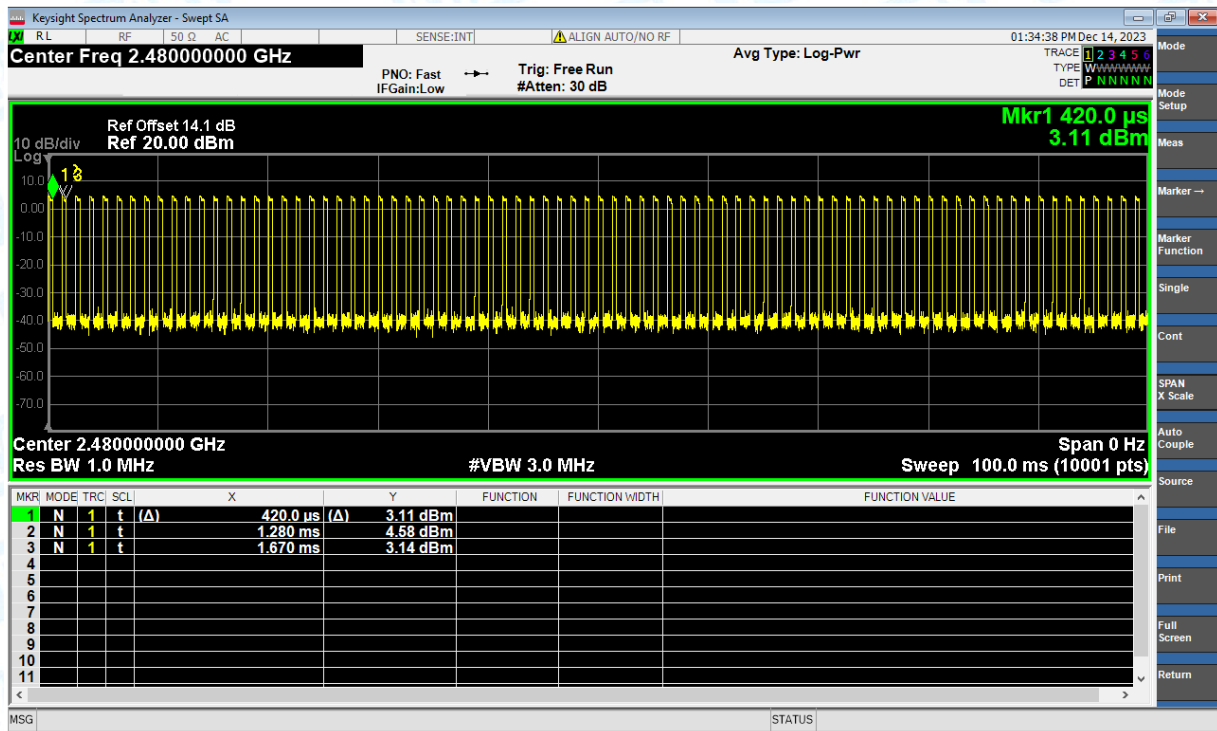
Duty Cycle NVNT 2-DH1 2402MHz Ant1



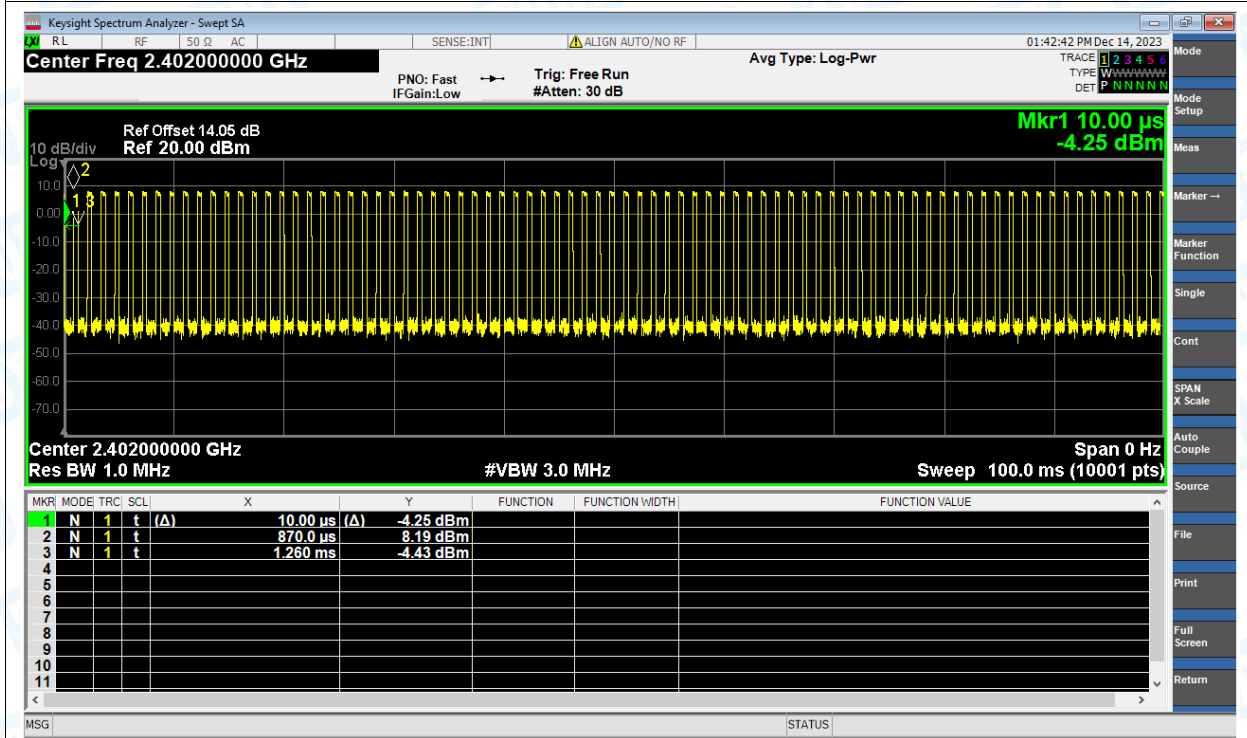
Duty Cycle NVNT 2-DH1 2441MHz Ant1



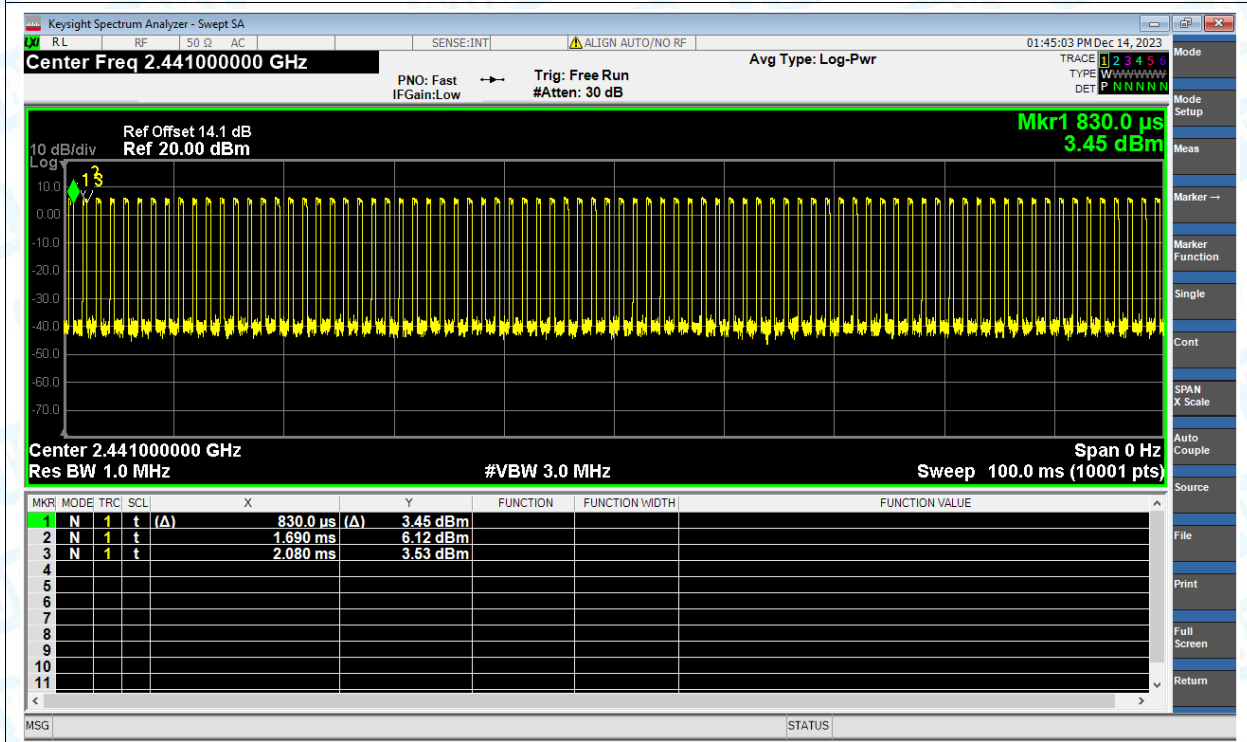
Duty Cycle NVNT 2-DH1 2480MHz Ant1

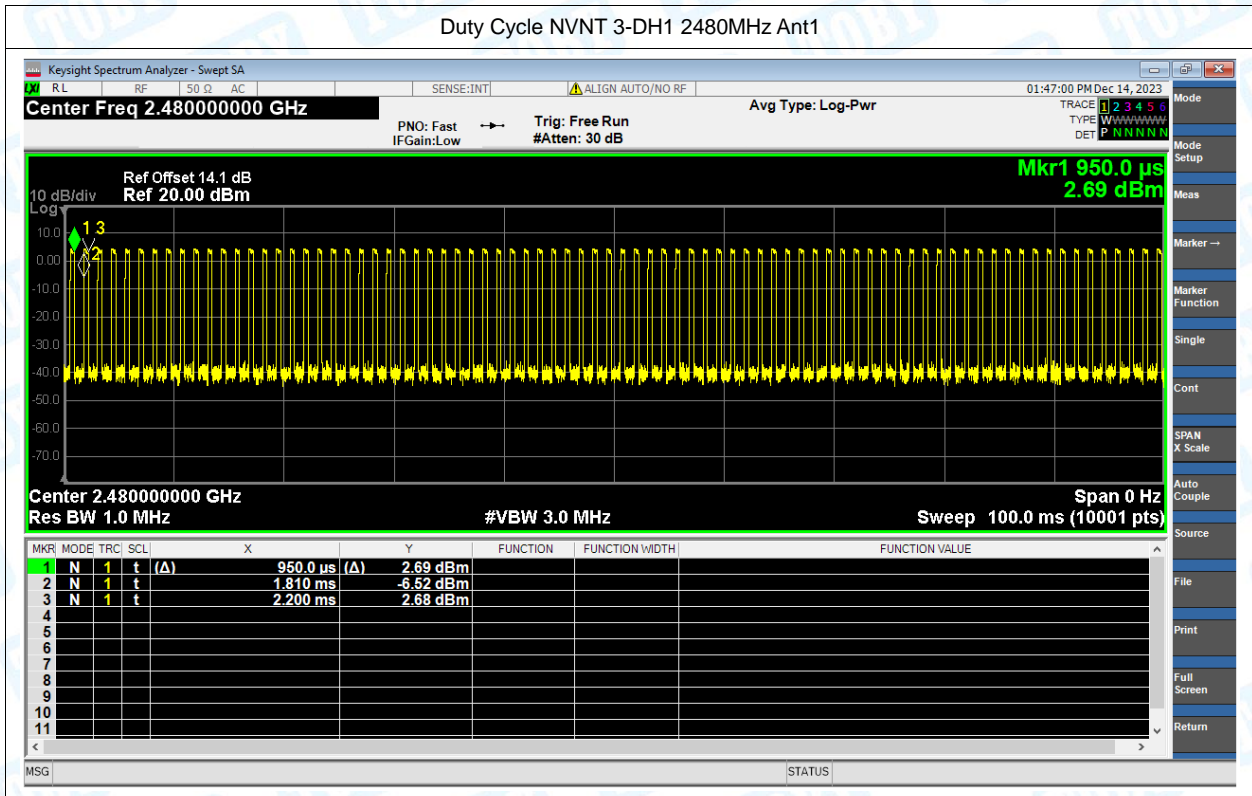


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1





2. Maximum Conducted Output Power

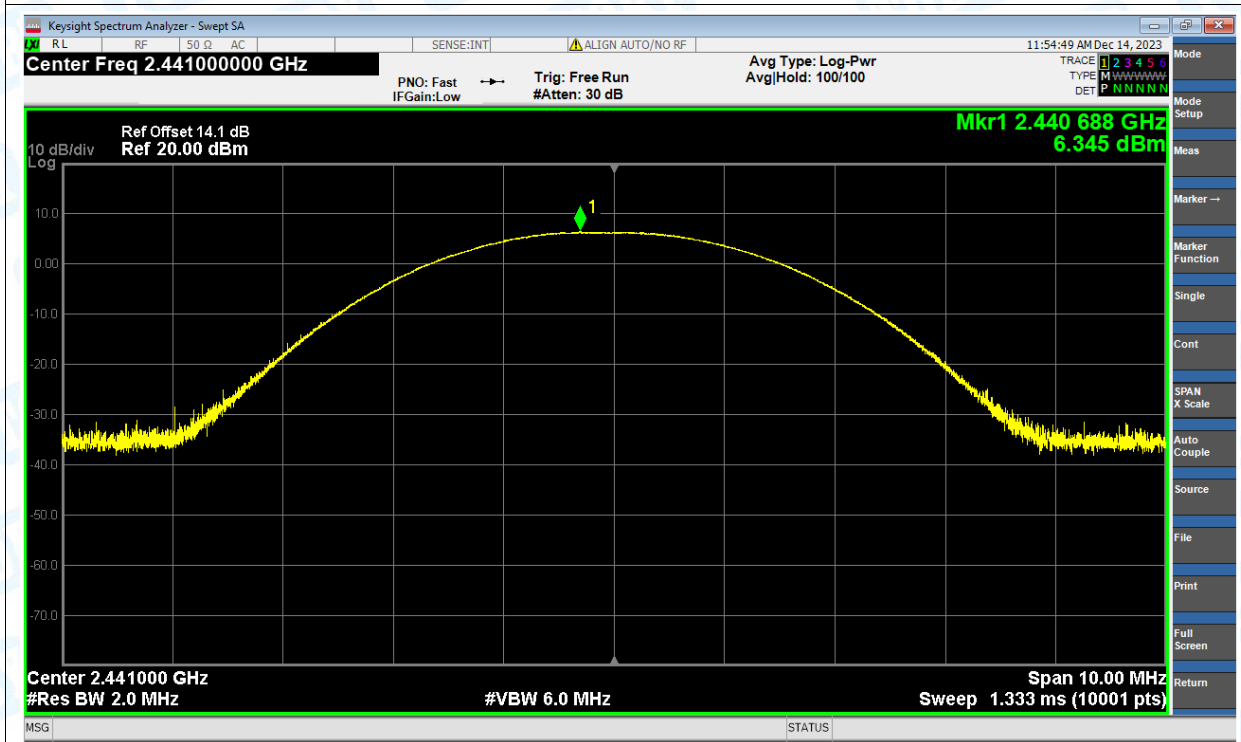
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	8.387	21	Pass
NVNT	1-DH1	2441	Ant1	6.345	21	Pass
NVNT	1-DH1	2480	Ant1	4.540	21	Pass
NVNT	2-DH1	2402	Ant1	8.536	21	Pass
NVNT	2-DH1	2441	Ant1	6.559	21	Pass
NVNT	2-DH1	2480	Ant1	4.723	21	Pass
NVNT	3-DH1	2402	Ant1	8.419	21	Pass
NVNT	3-DH1	2441	Ant1	6.433	21	Pass
NVNT	3-DH1	2480	Ant1	4.600	21	Pass

Test Graphs

Power NVNT 1-DH1 2402MHz Ant1



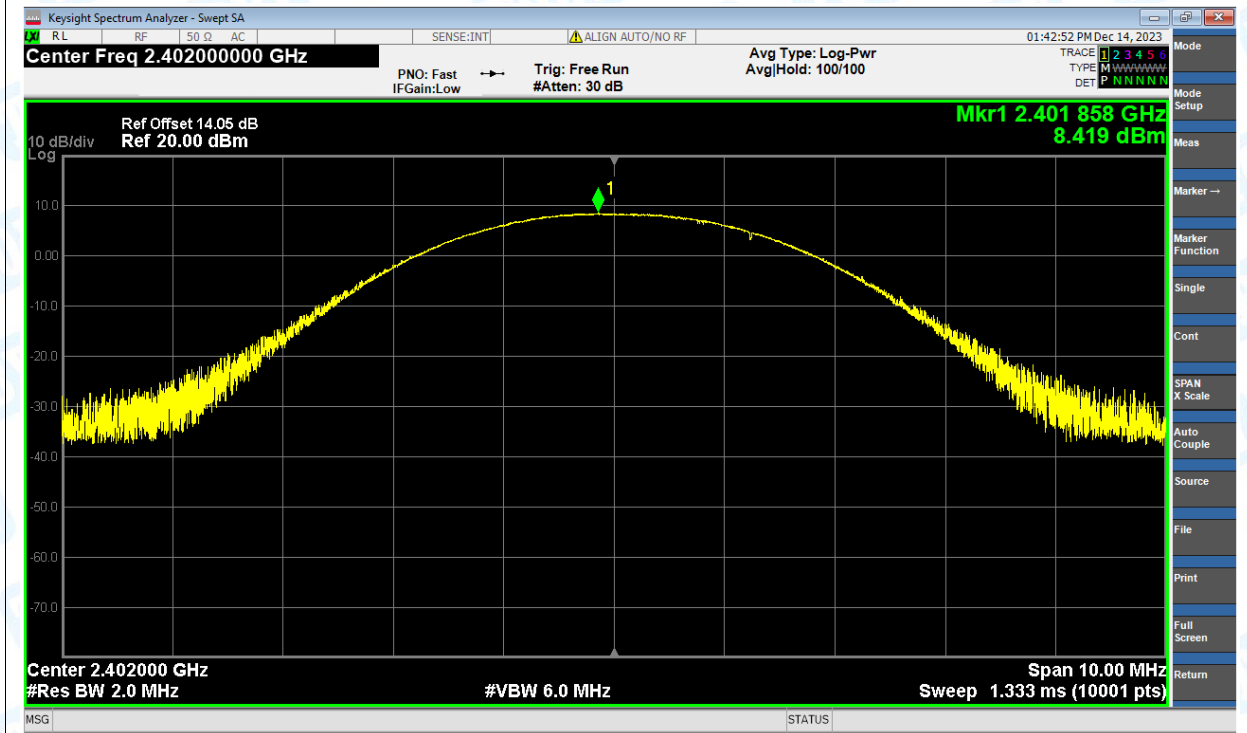
Power NVNT 1-DH1 2441MHz Ant1



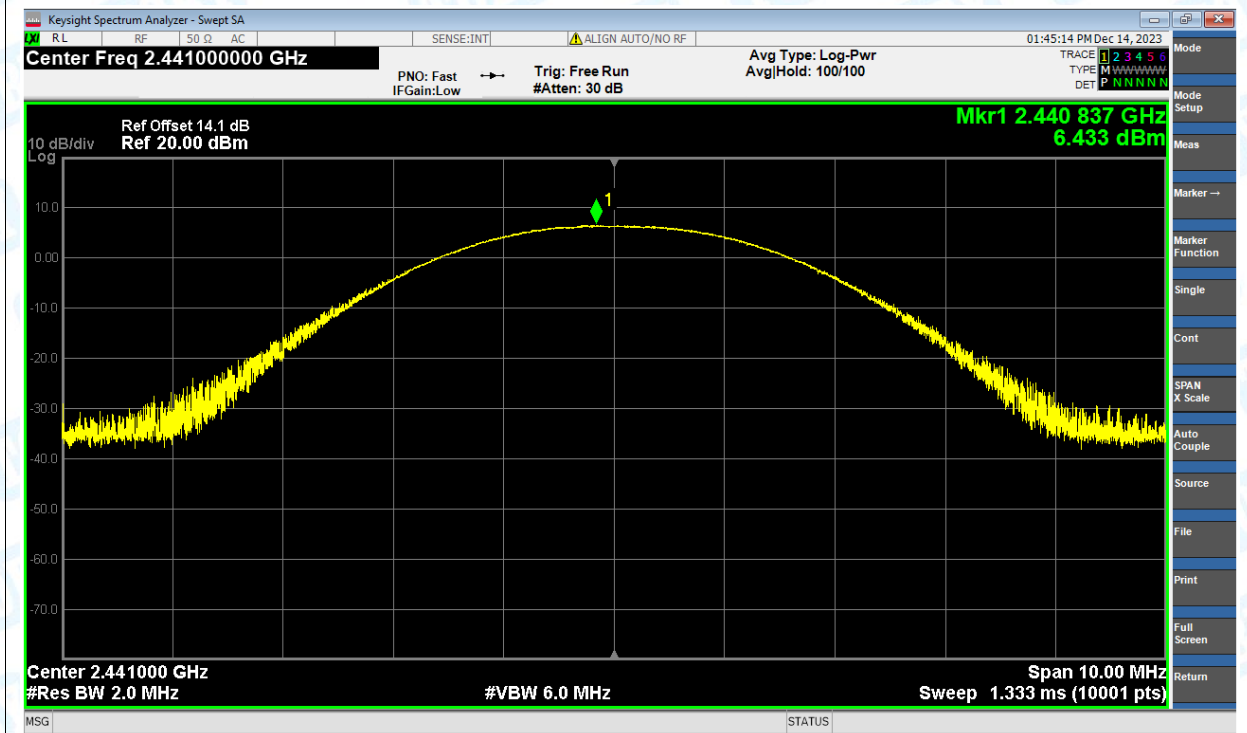


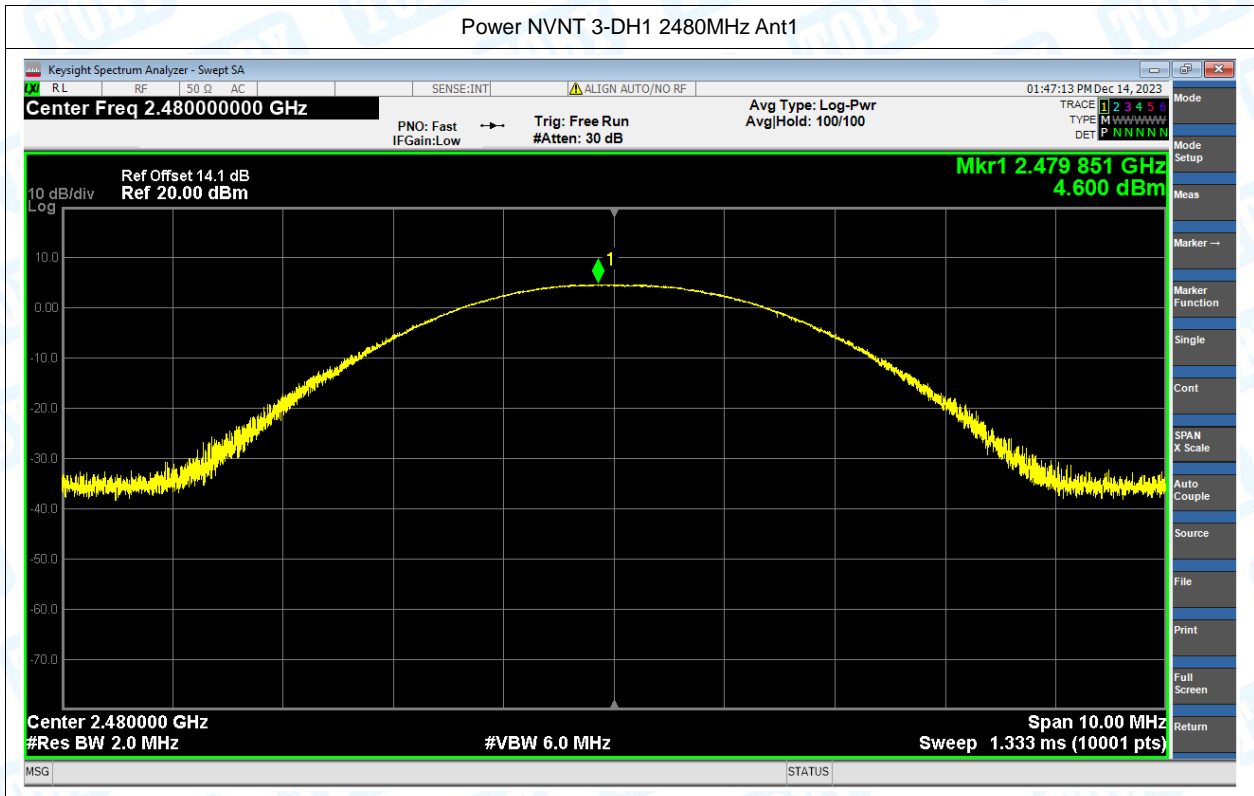


Power NVNT 3-DH1 2402MHz Ant1



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	0.92	----	Pass
NVNT	1-DH1	2441	Ant1	0.93	----	Pass
NVNT	1-DH1	2480	Ant1	0.95	----	Pass
NVNT	2-DH1	2402	Ant1	1.26	----	Pass
NVNT	2-DH1	2441	Ant1	1.21	----	Pass
NVNT	2-DH1	2480	Ant1	1.20	----	Pass
NVNT	3-DH1	2402	Ant1	1.20	----	Pass
NVNT	3-DH1	2441	Ant1	1.19	----	Pass
NVNT	3-DH1	2480	Ant1	1.20	----	Pass

Test Graphs

-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



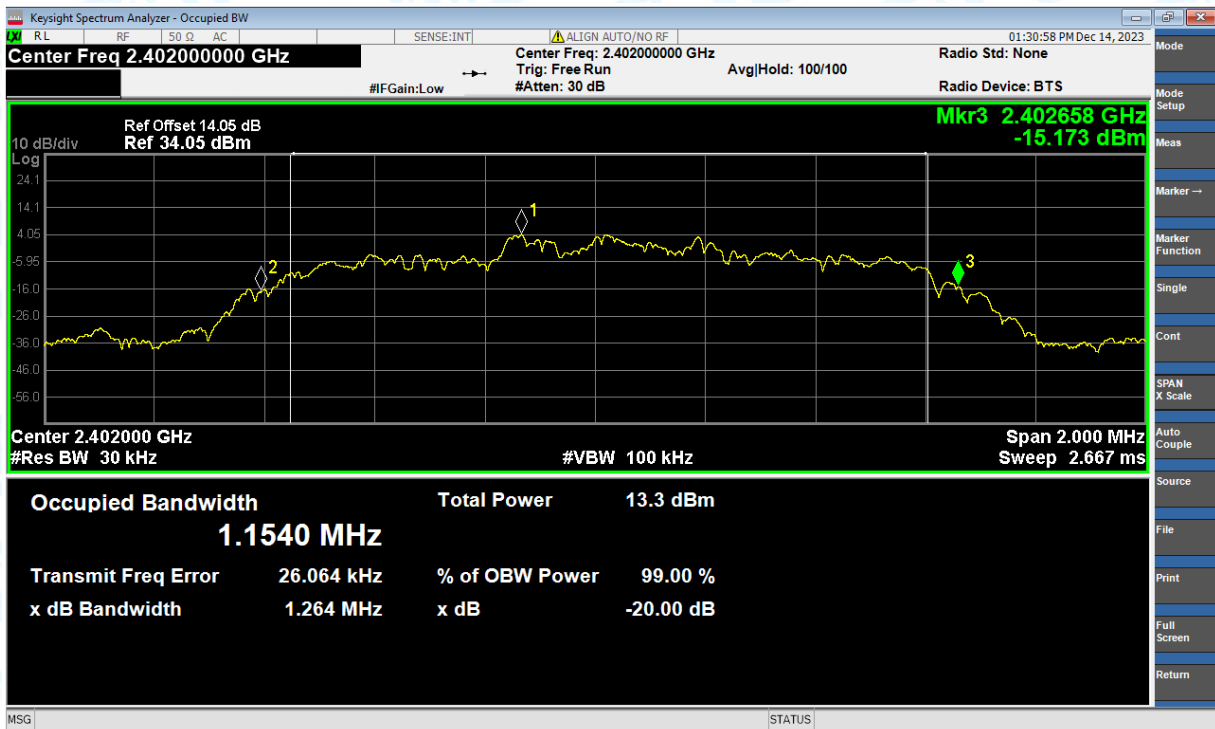
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



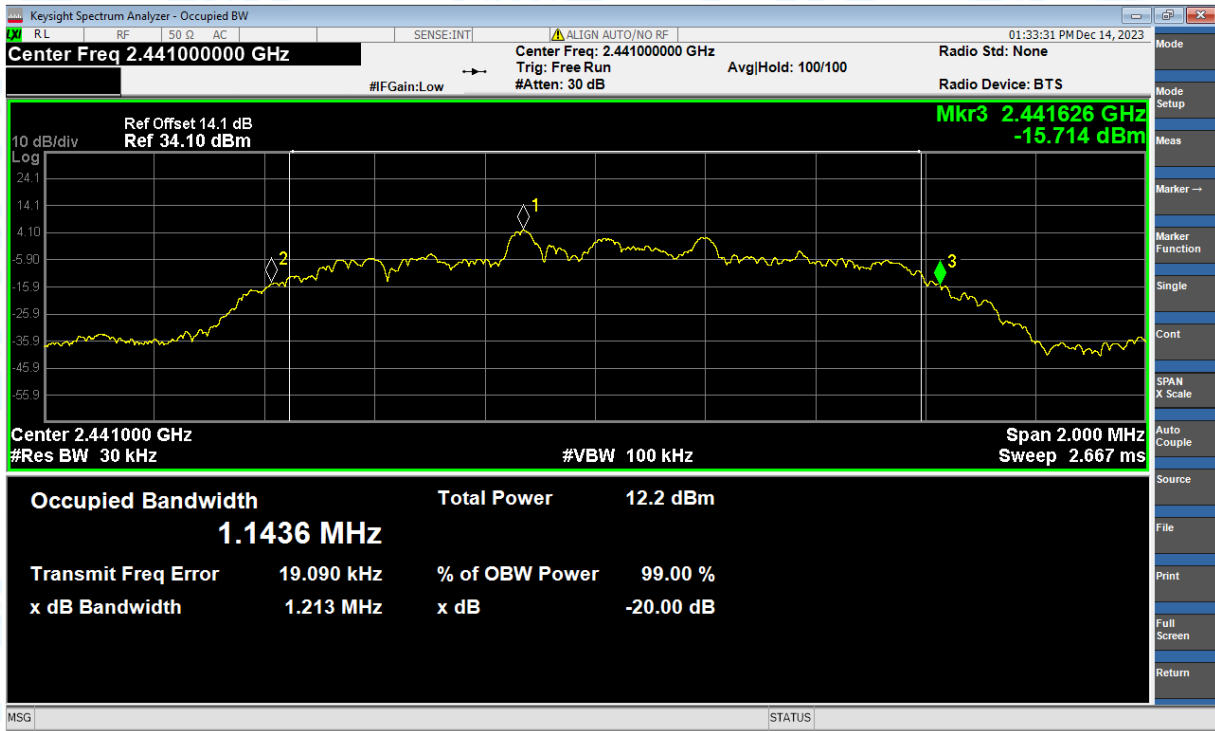
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



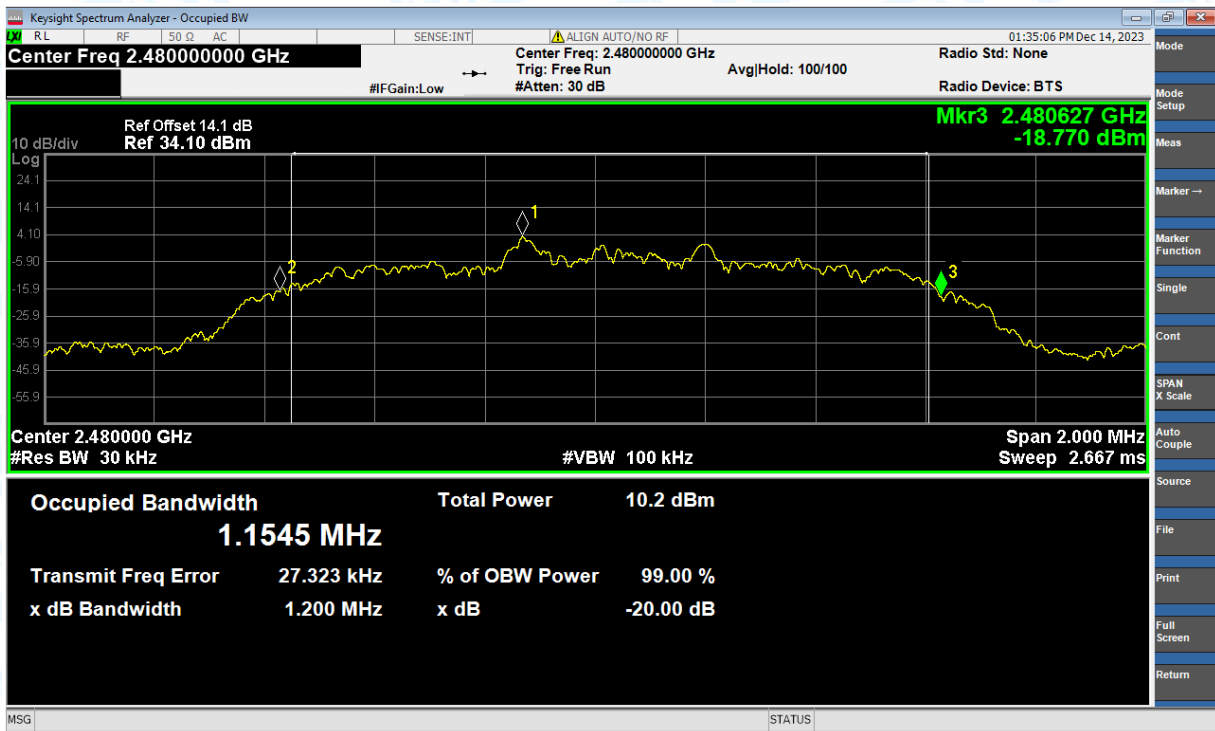
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



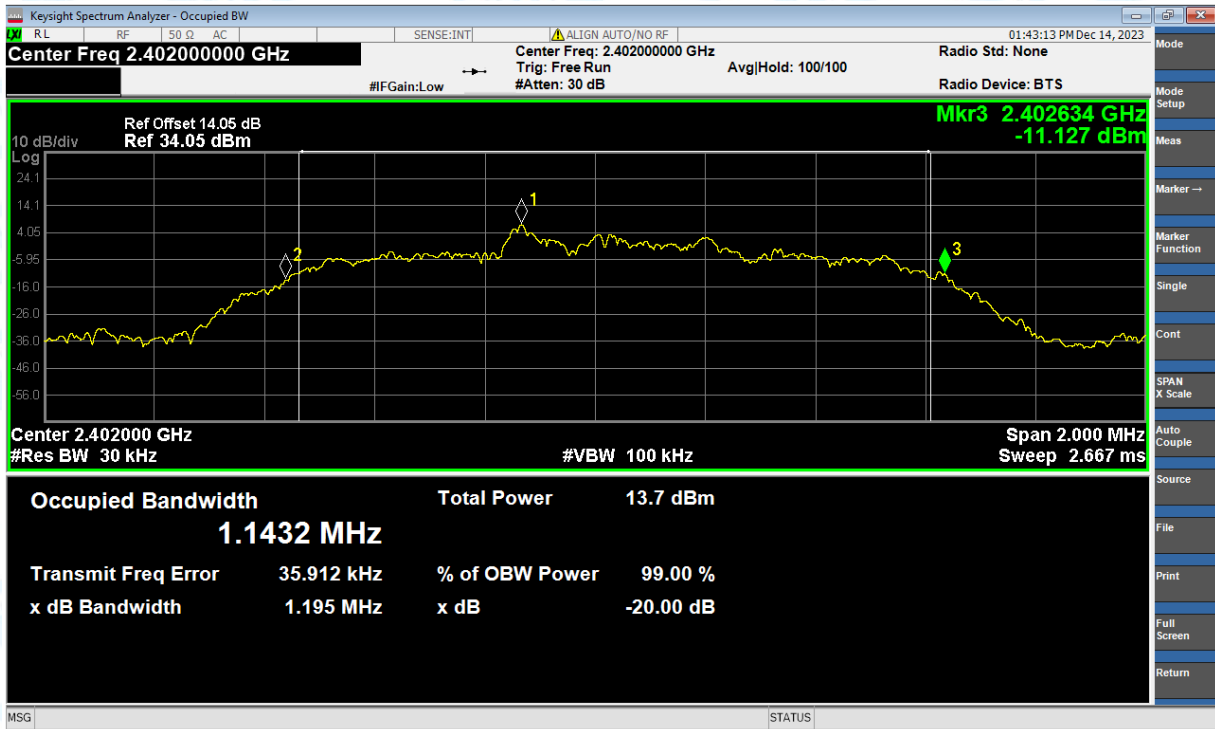
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



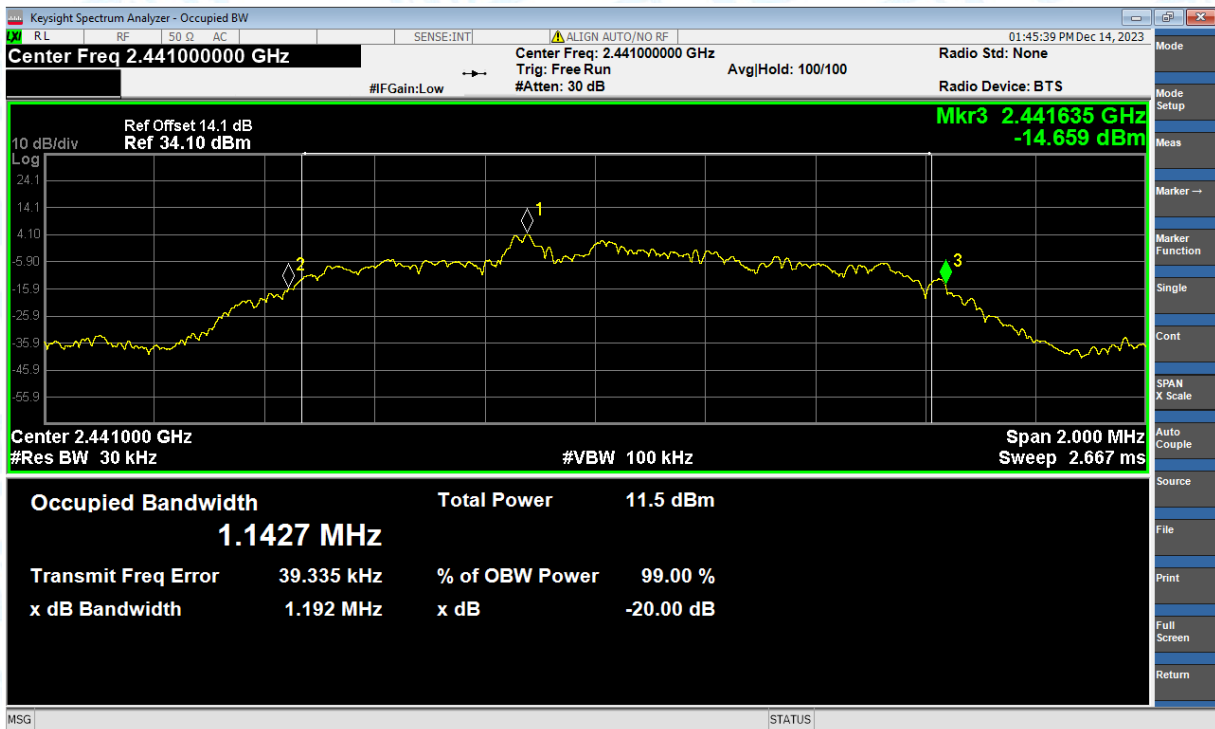
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

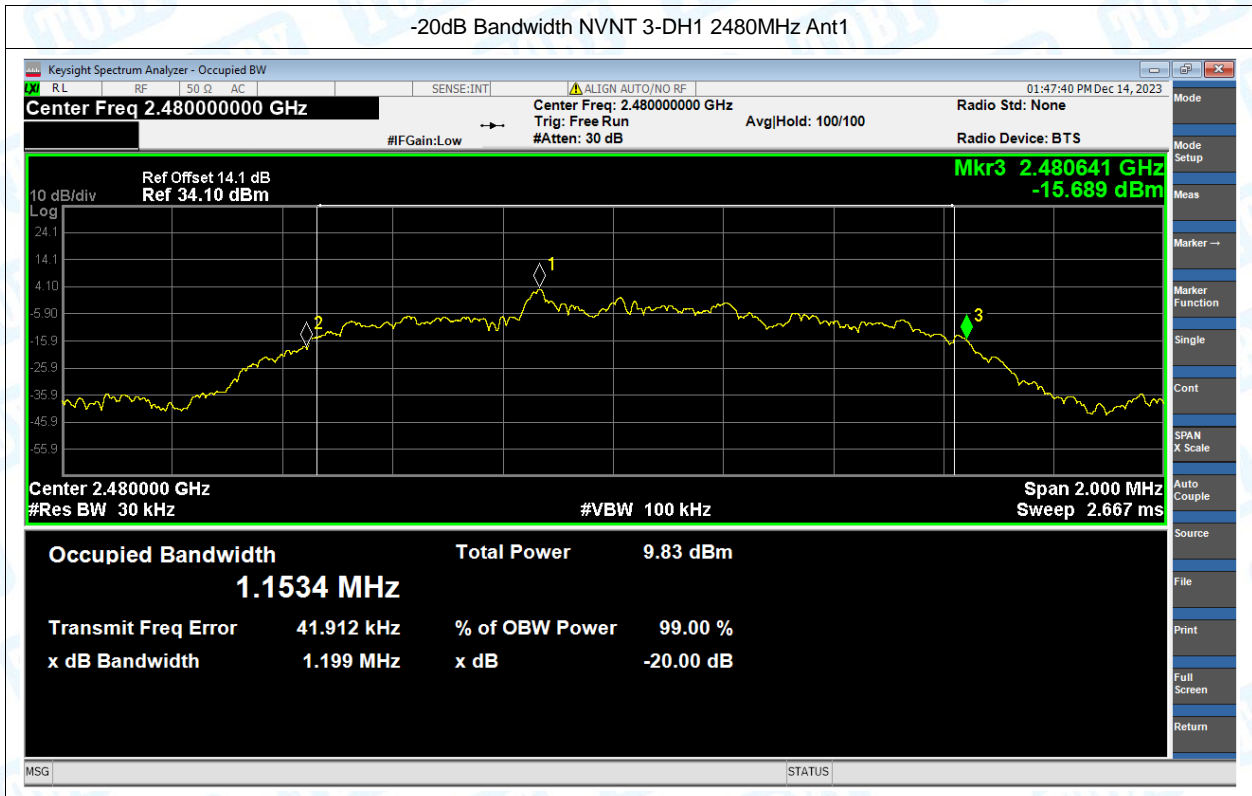


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1





4. Occupied Channel Bandwidth

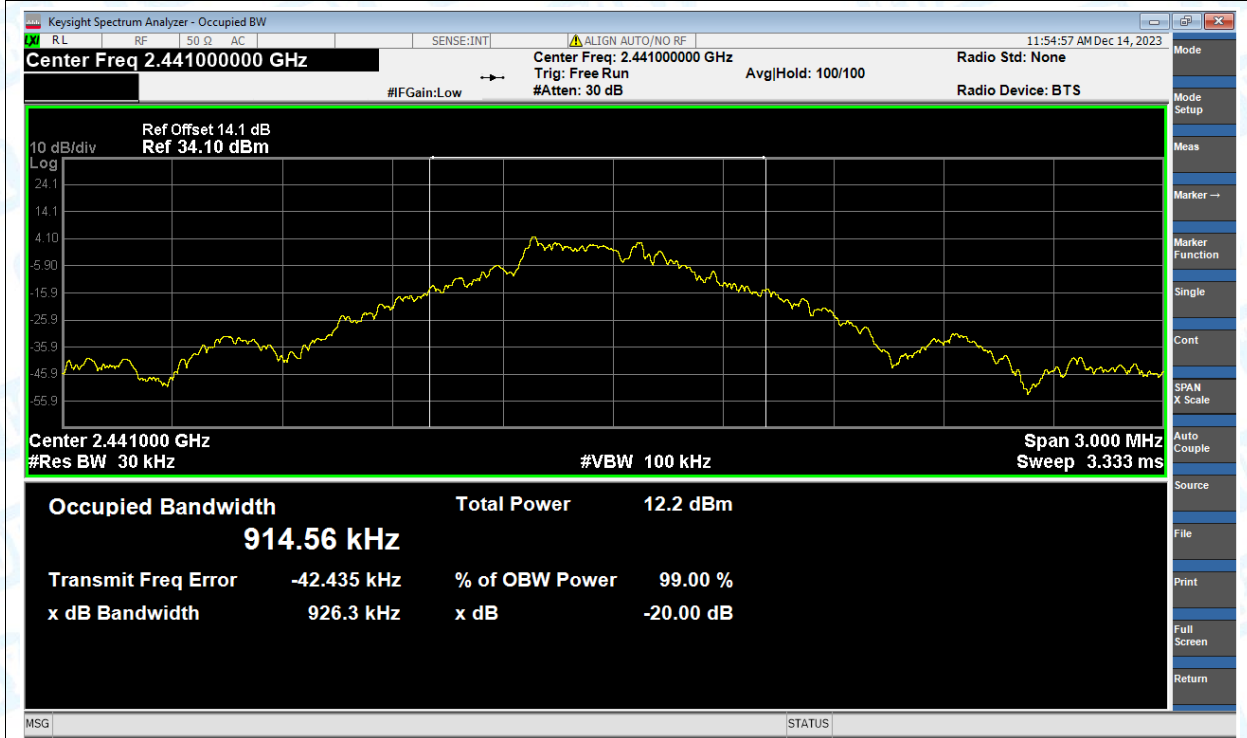
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.908
NVNT	1-DH1	2441	Ant1	0.915
NVNT	1-DH1	2480	Ant1	0.912
NVNT	2-DH1	2402	Ant1	1.157
NVNT	2-DH1	2441	Ant1	1.147
NVNT	2-DH1	2480	Ant1	1.158
NVNT	3-DH1	2402	Ant1	1.157
NVNT	3-DH1	2441	Ant1	1.157
NVNT	3-DH1	2480	Ant1	1.147

Test Graphs

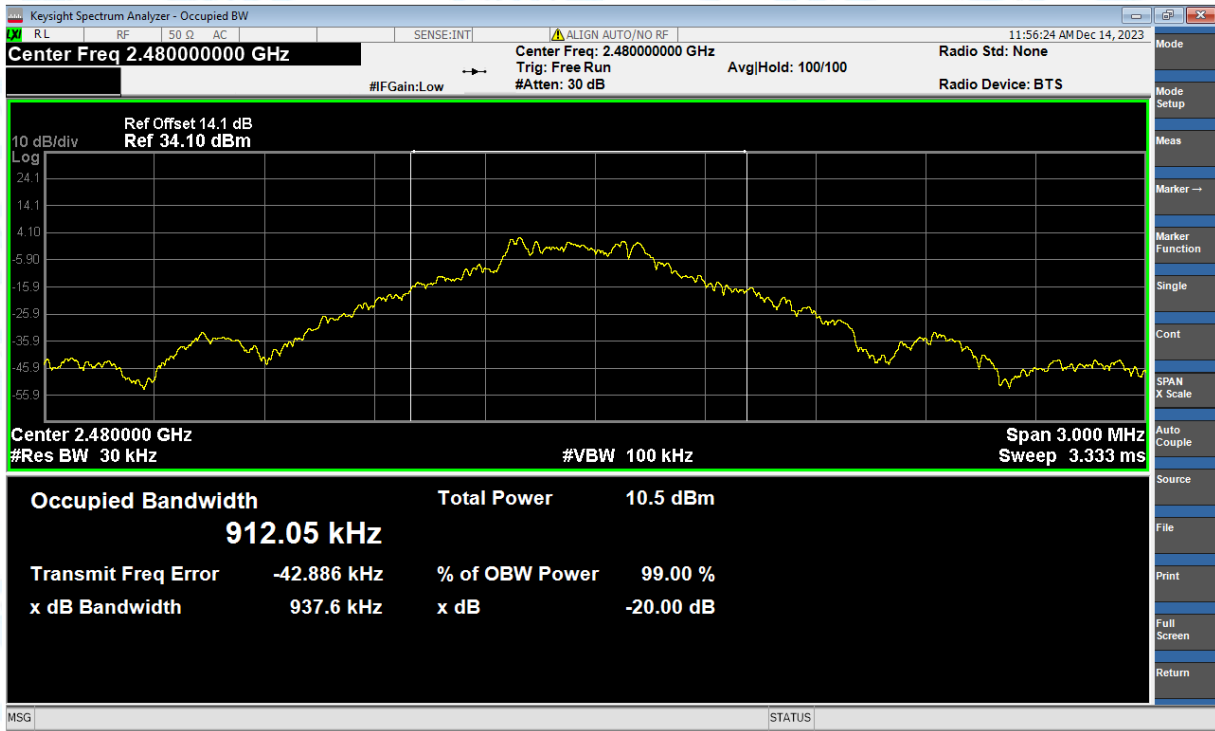
OBW NVNT 1-DH1 2402MHz Ant1



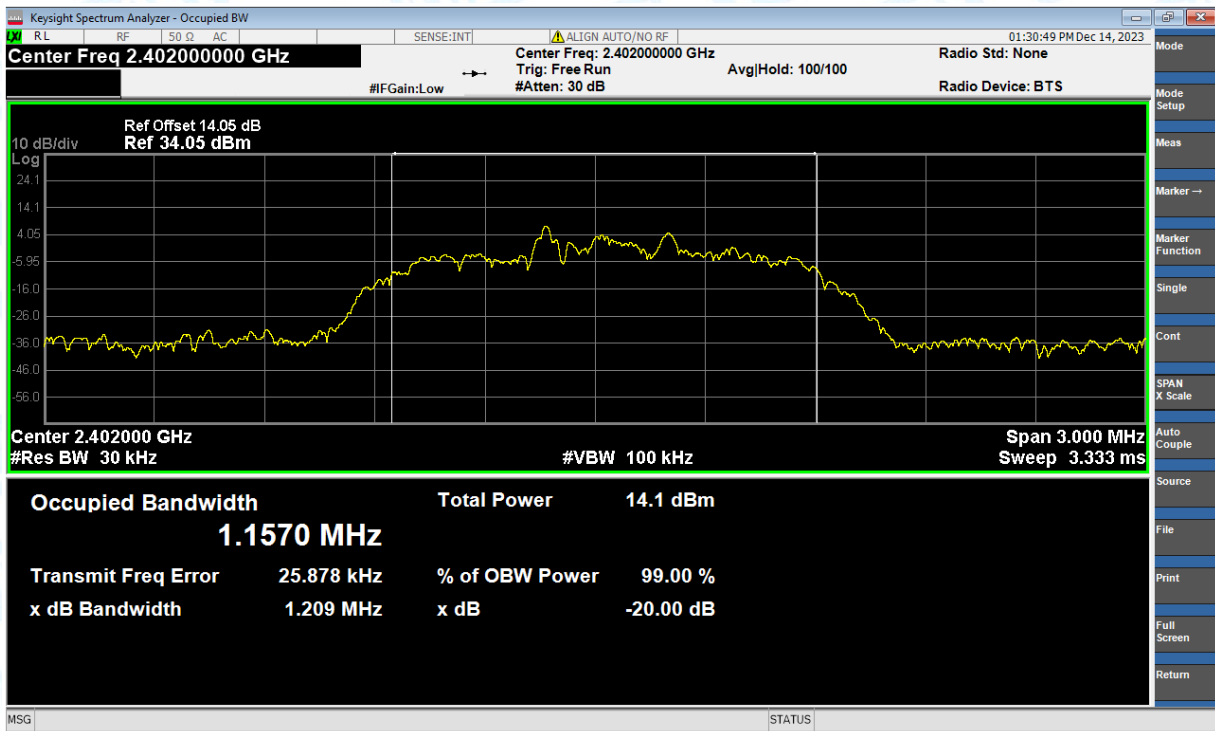
OBW NVNT 1-DH1 2441MHz Ant1



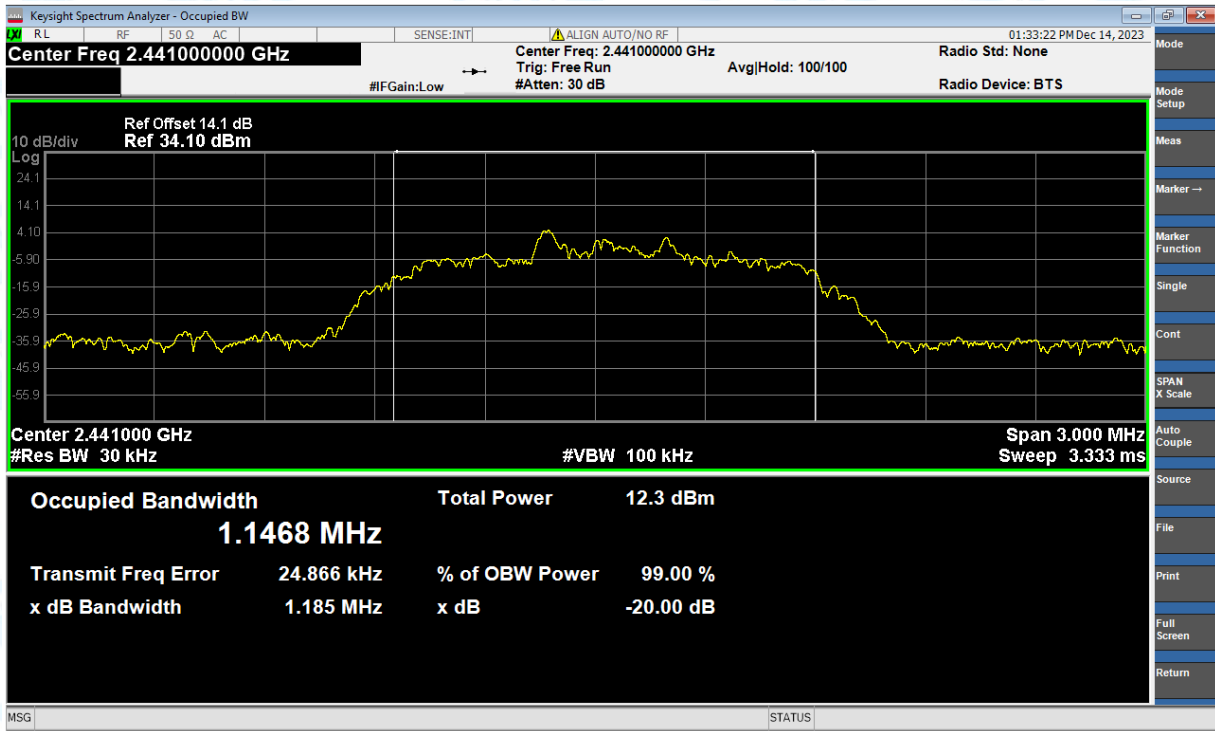
OBW NVNT 1-DH1 2480MHz Ant1



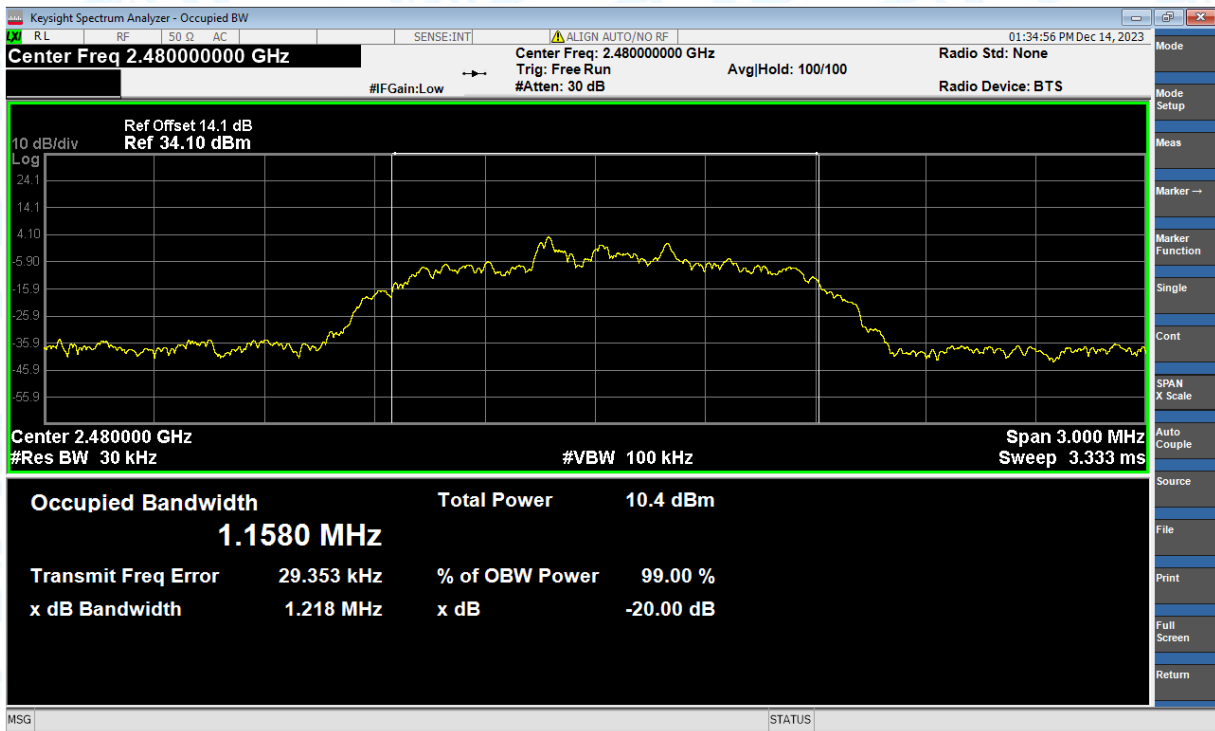
OBW NVNT 2-DH1 2402MHz Ant1



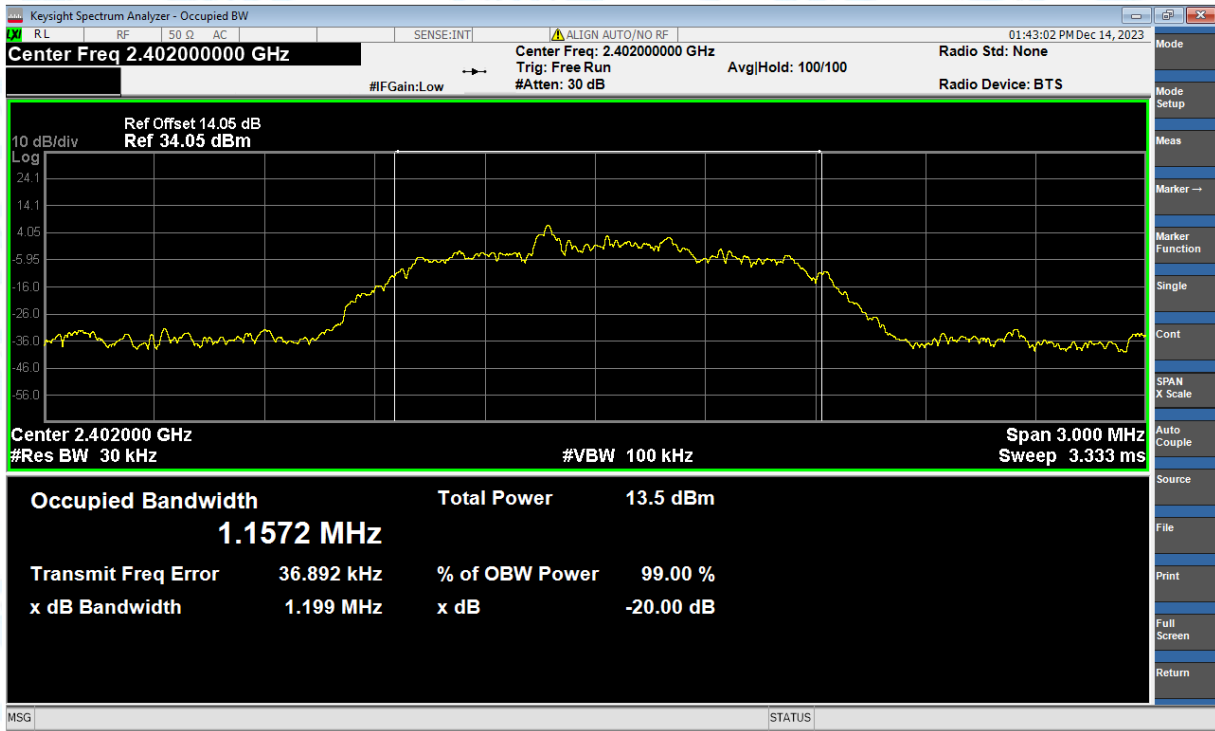
OBW NVNT 2-DH1 2441MHz Ant1



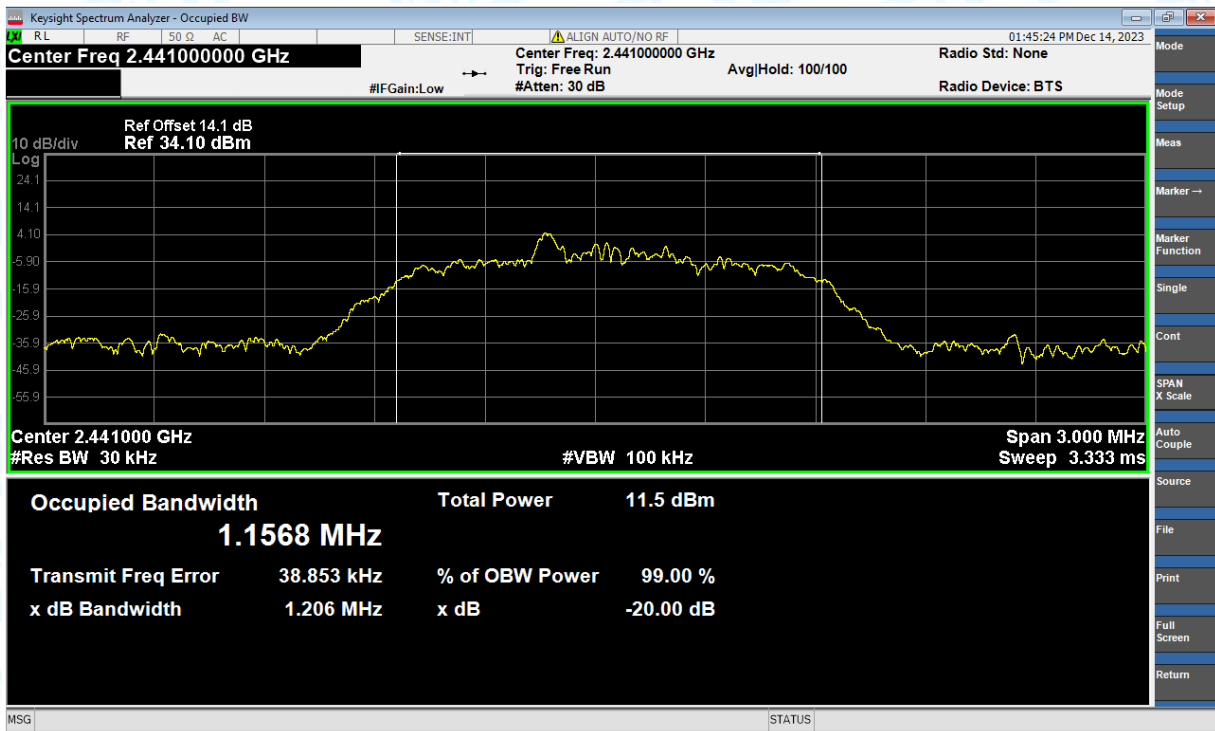
OBW NVNT 2-DH1 2480MHz Ant1

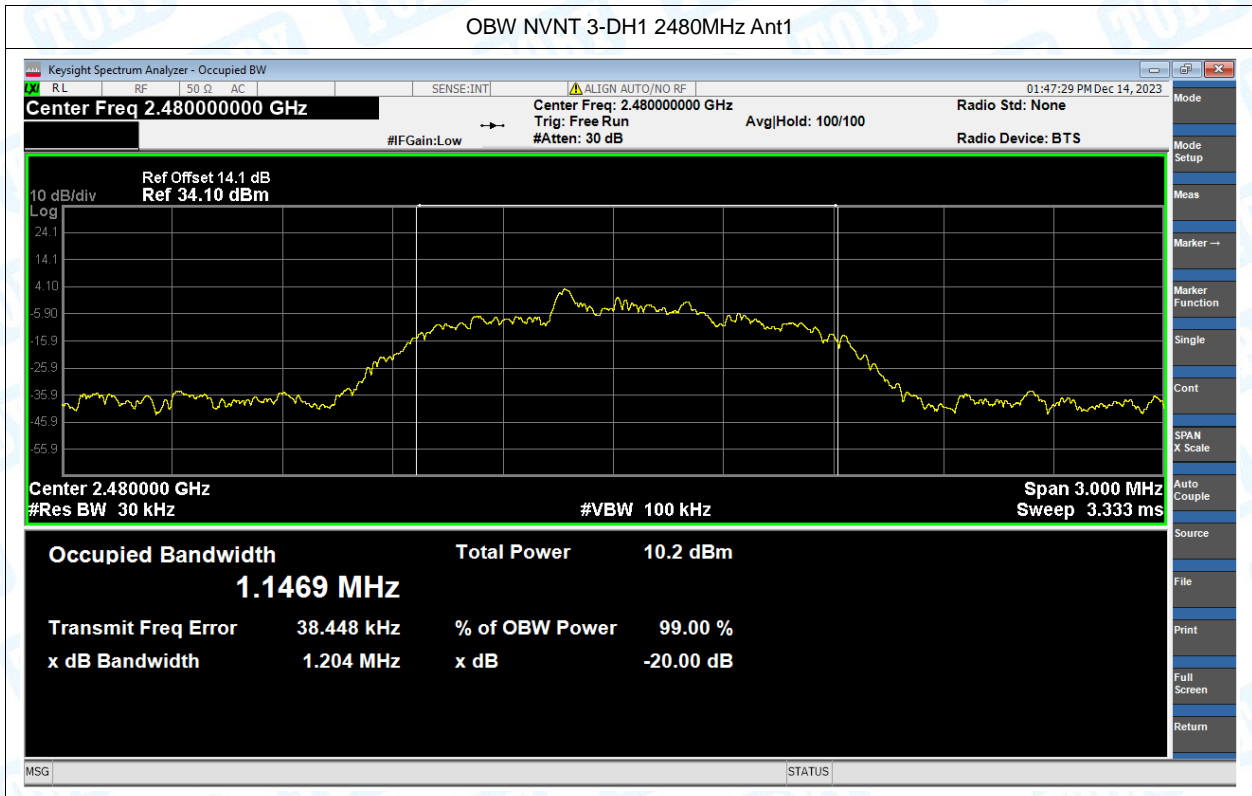


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



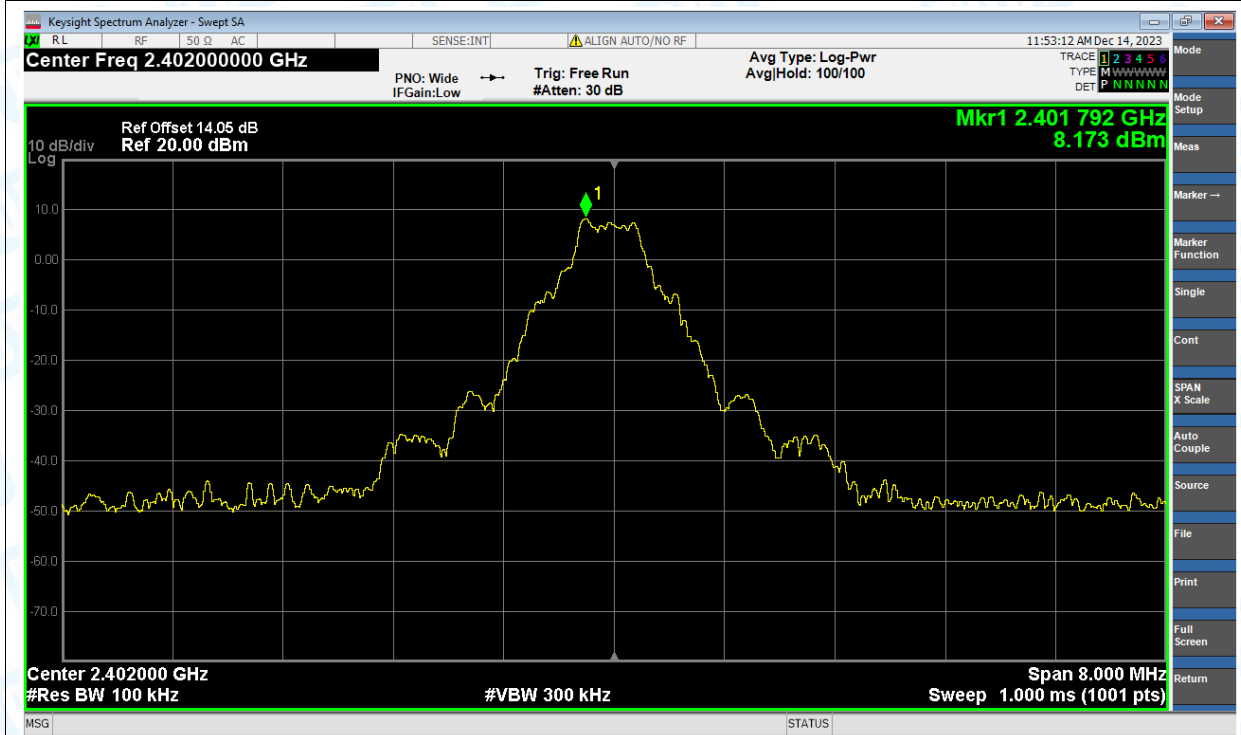


5. Band Edge

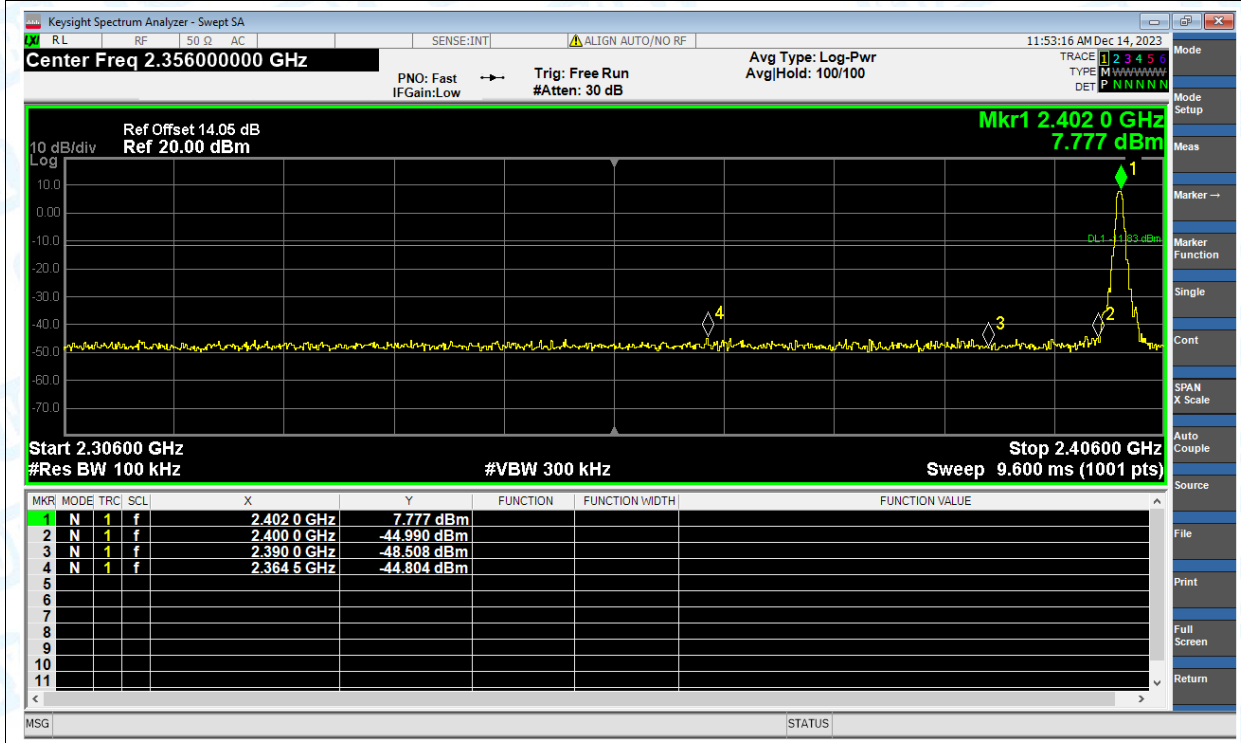
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-52.97	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-49.74	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-53.43	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-49.40	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-52.86	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-49.44	-20	Pass

Test Graphs

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



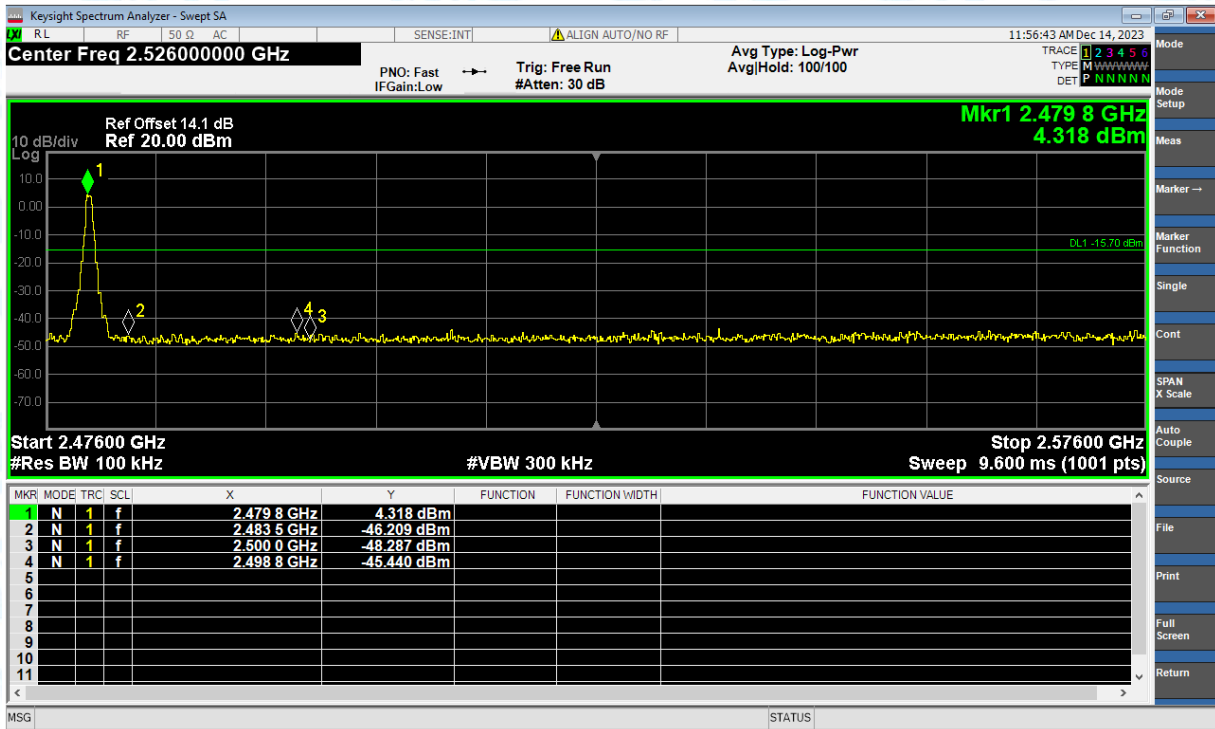
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



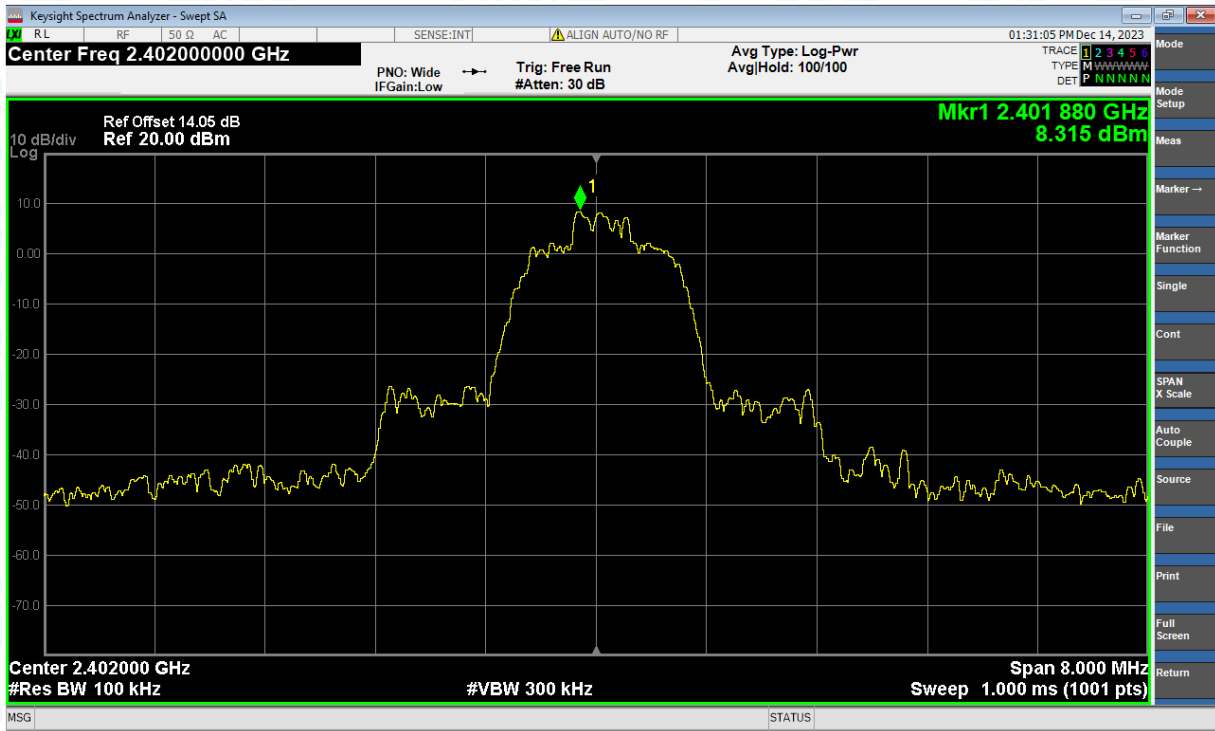
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



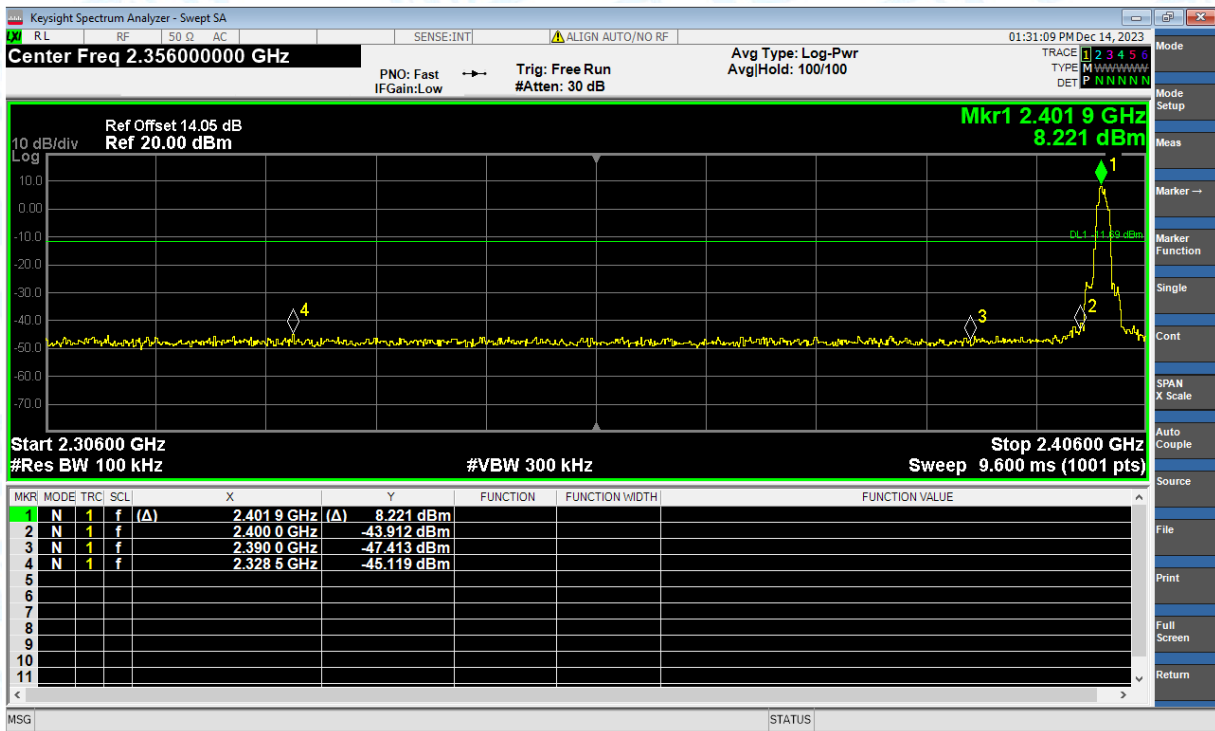
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



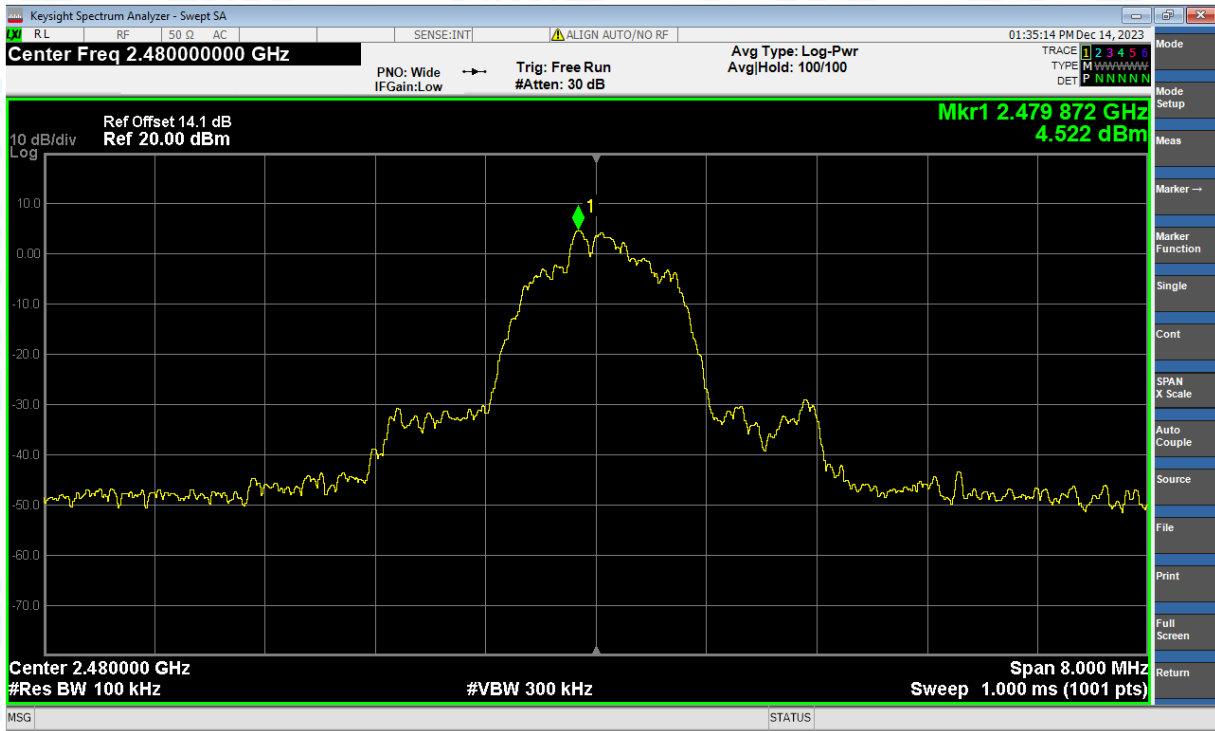
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



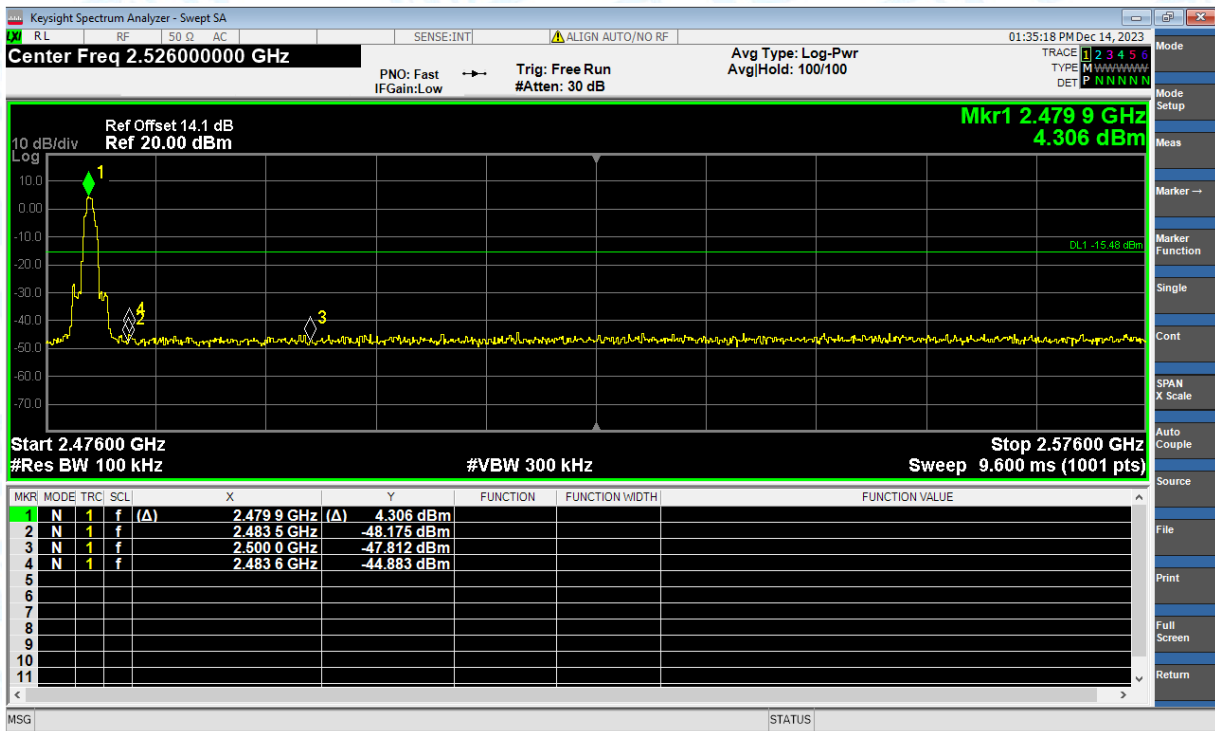
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission

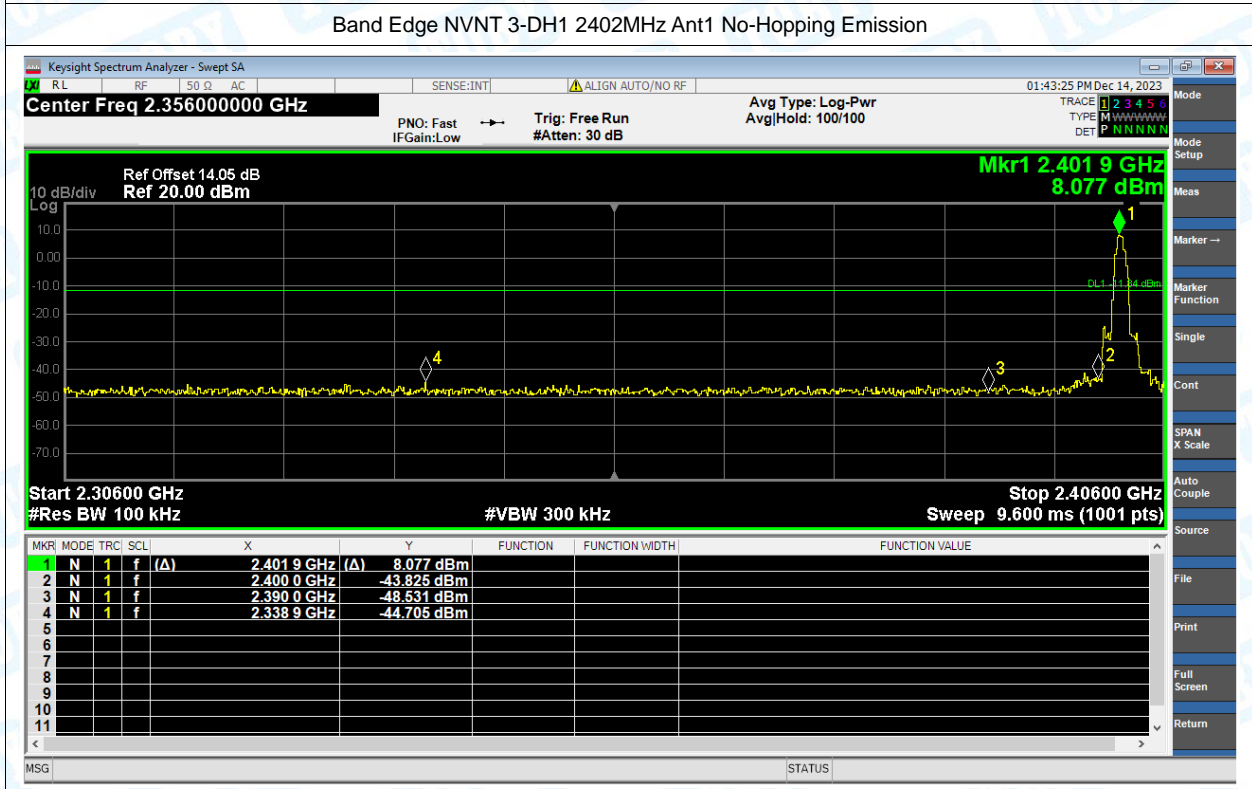


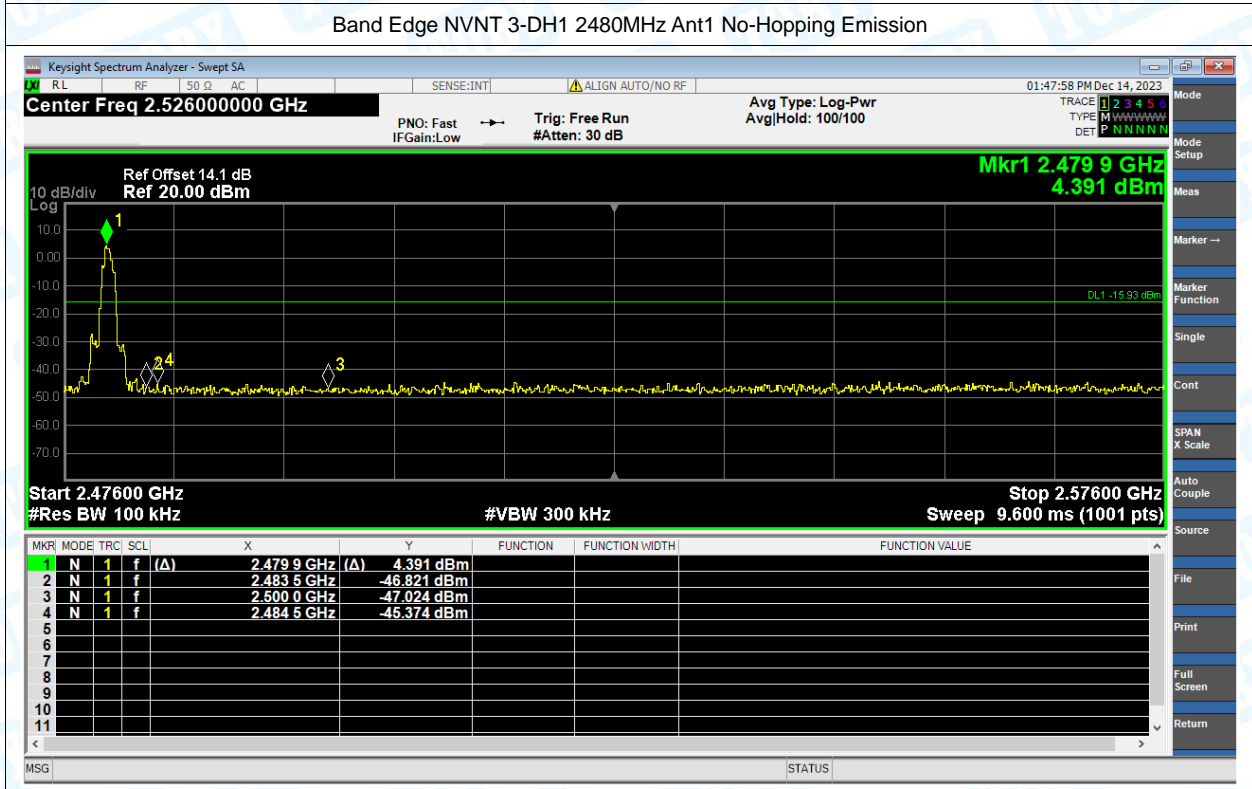
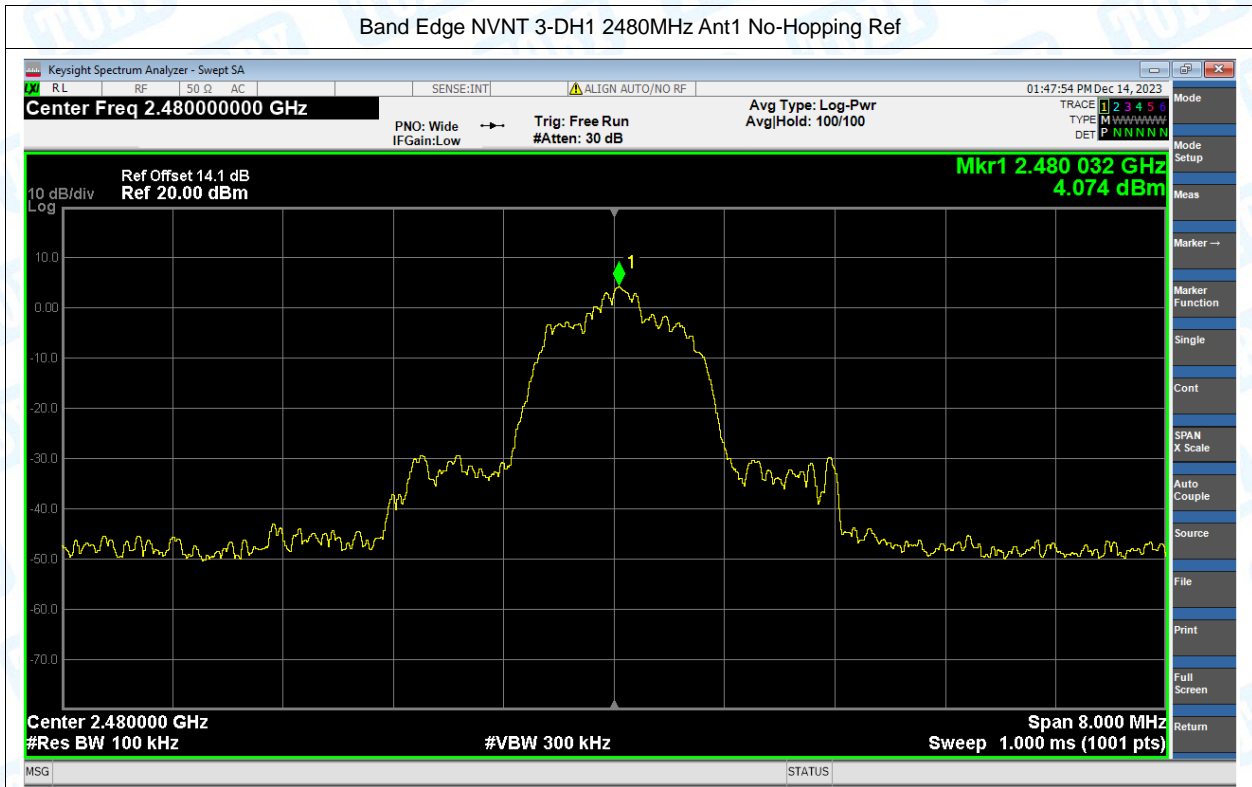
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



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







6. Band Edge(Hopping)

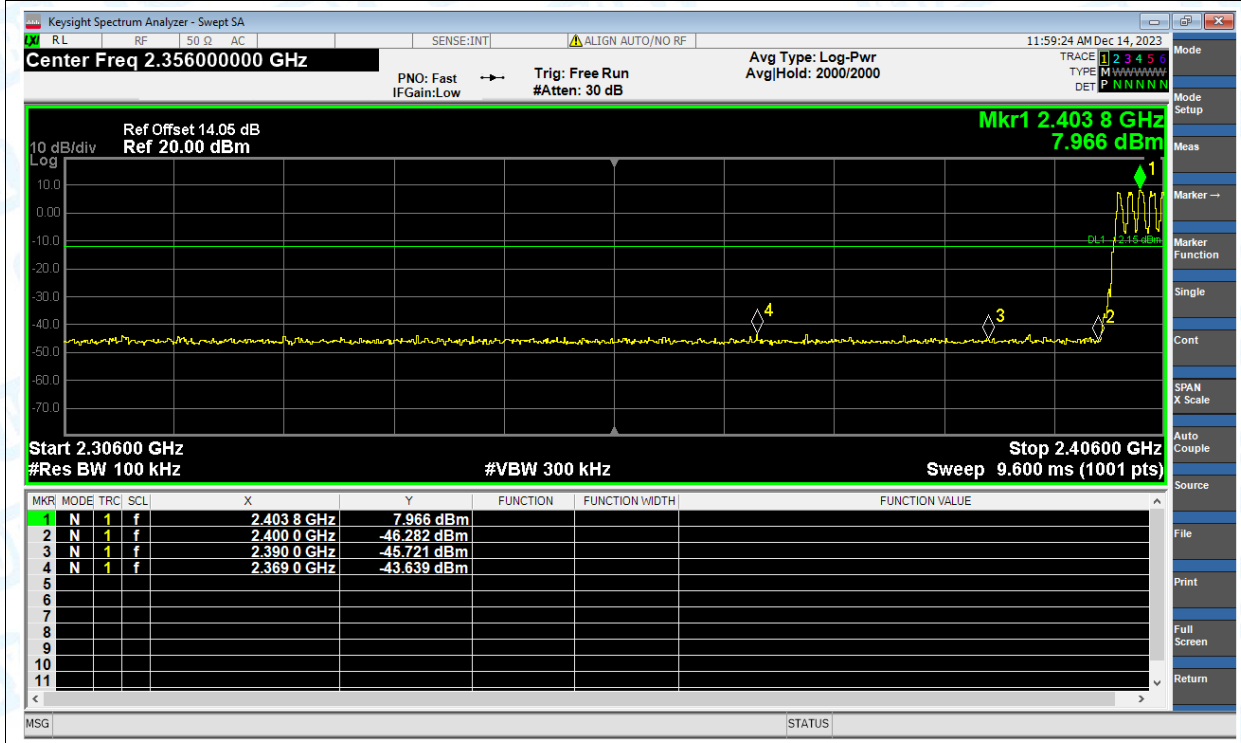
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-51.49	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-48.32	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-51.64	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-48.61	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-51.30	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-47.58	-20	Pass

Test Graphs

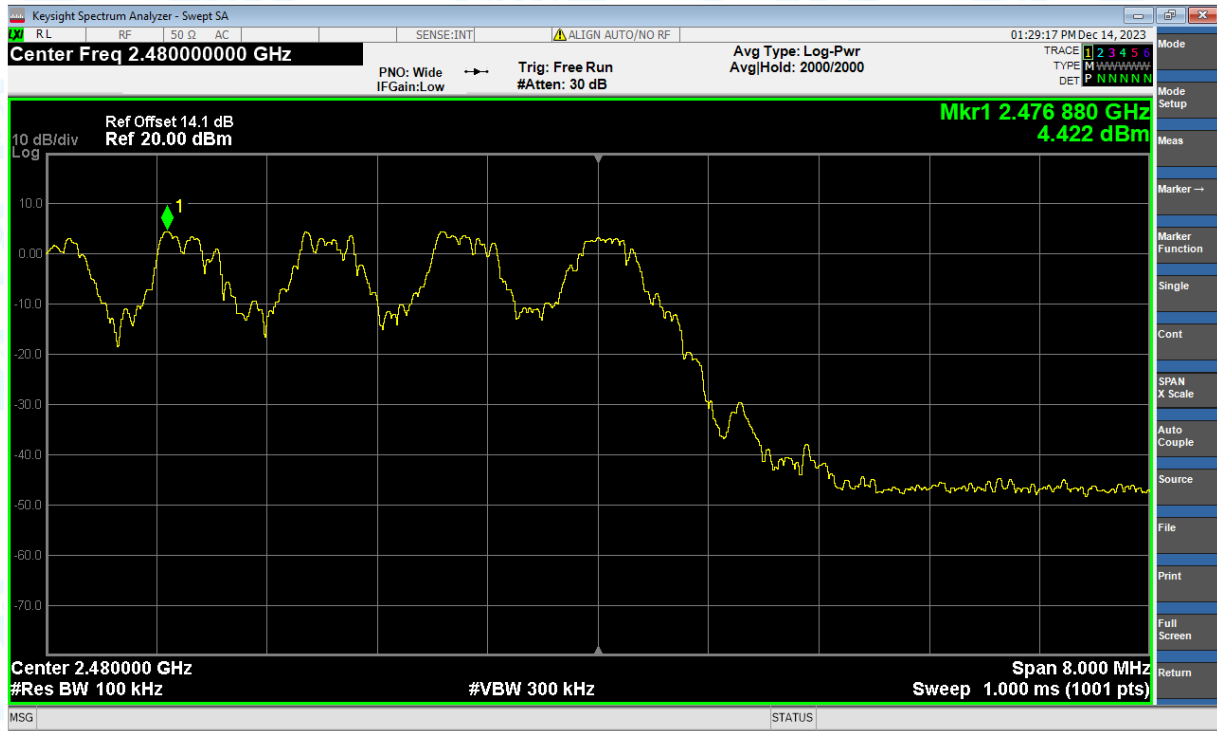
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



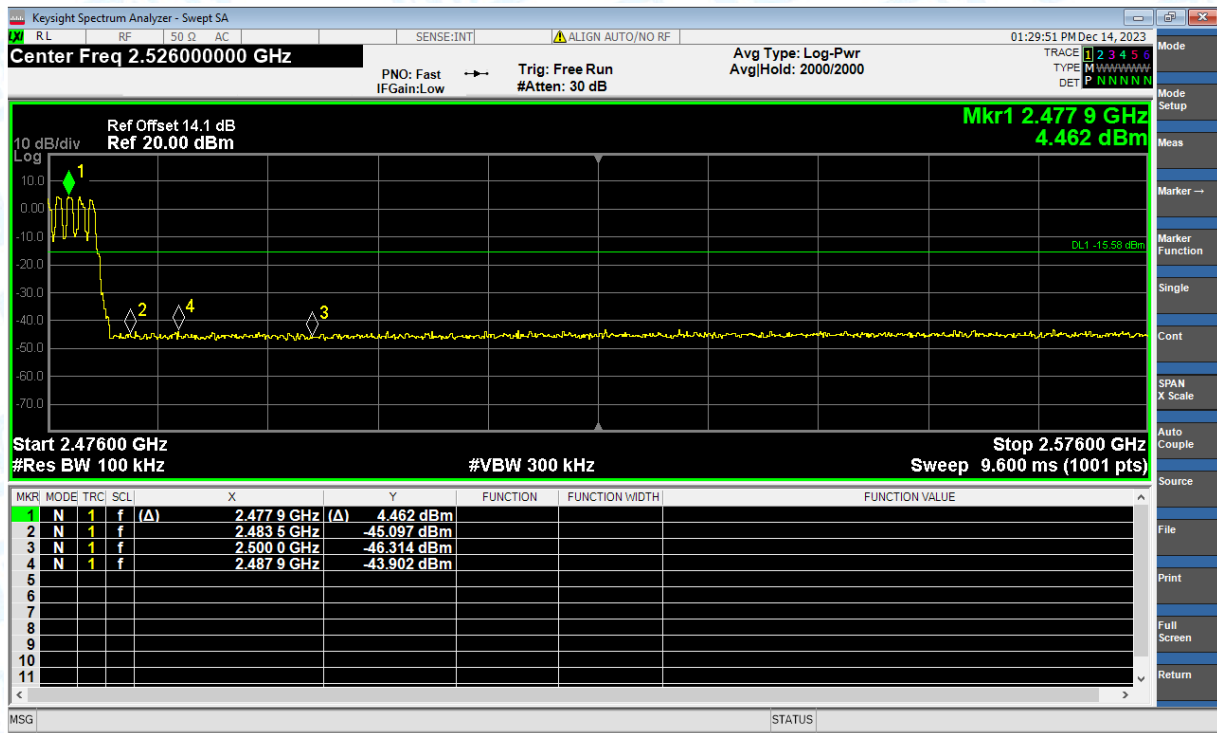
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



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



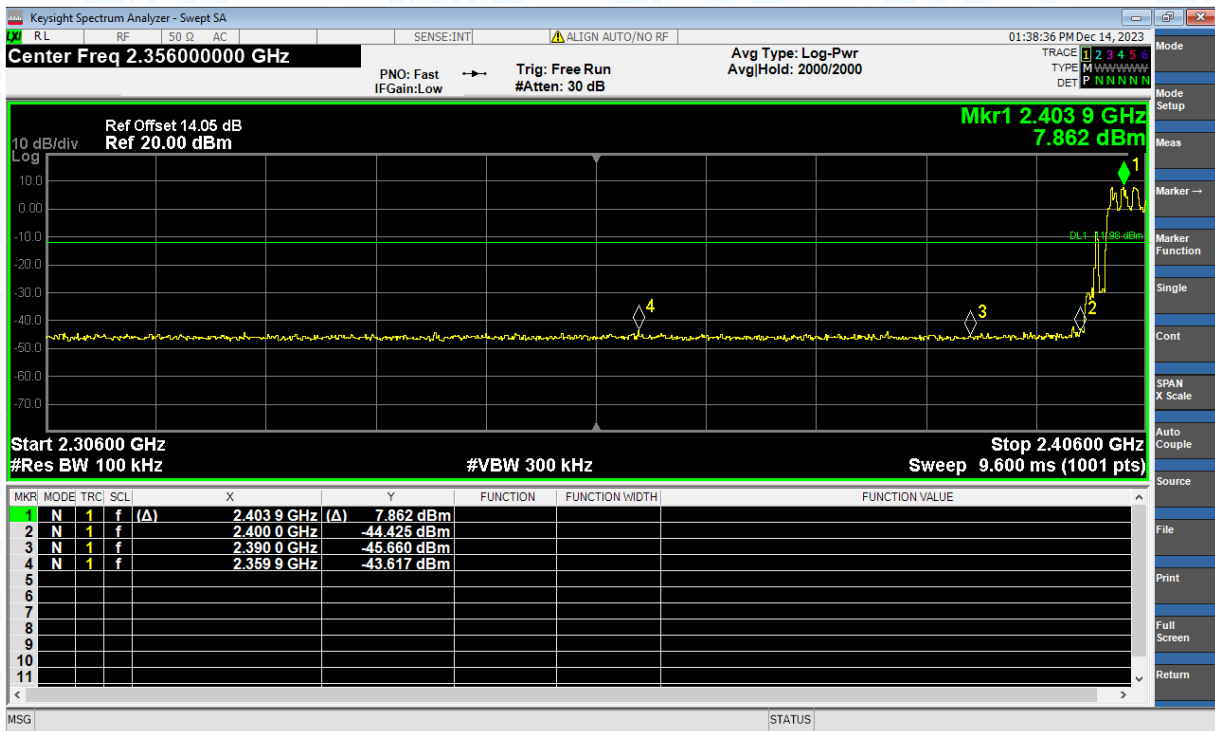
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



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



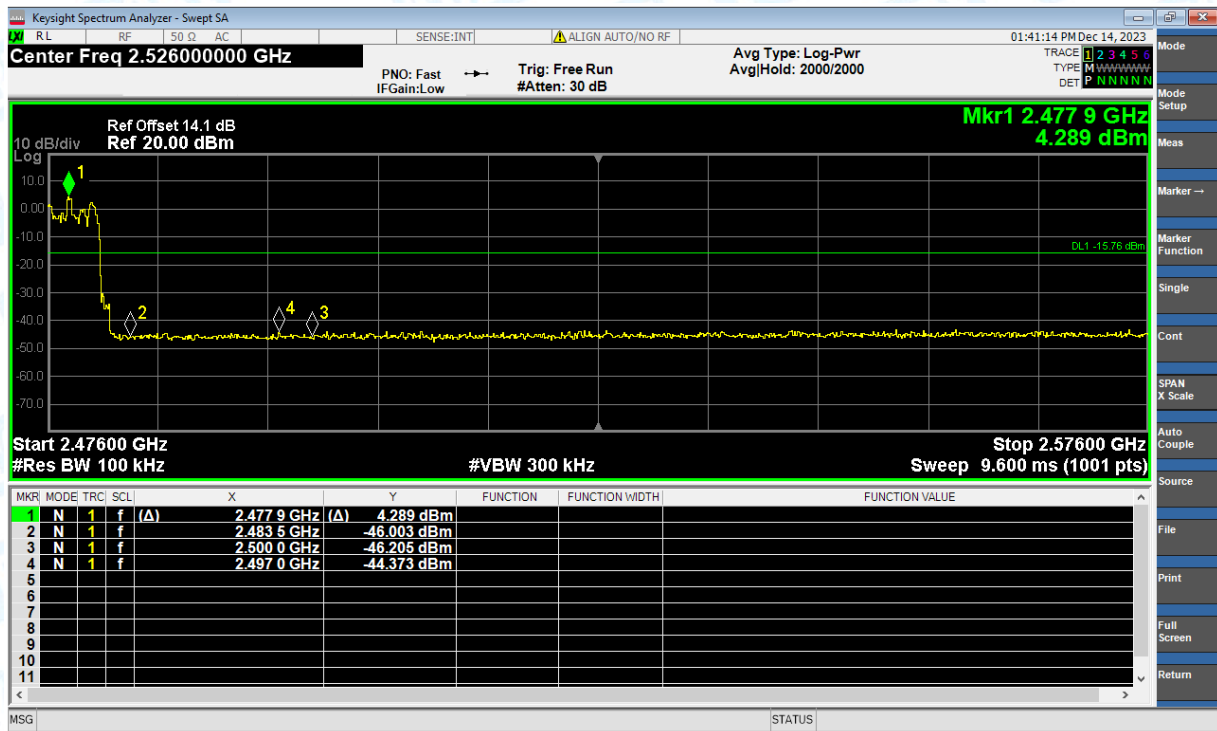
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



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



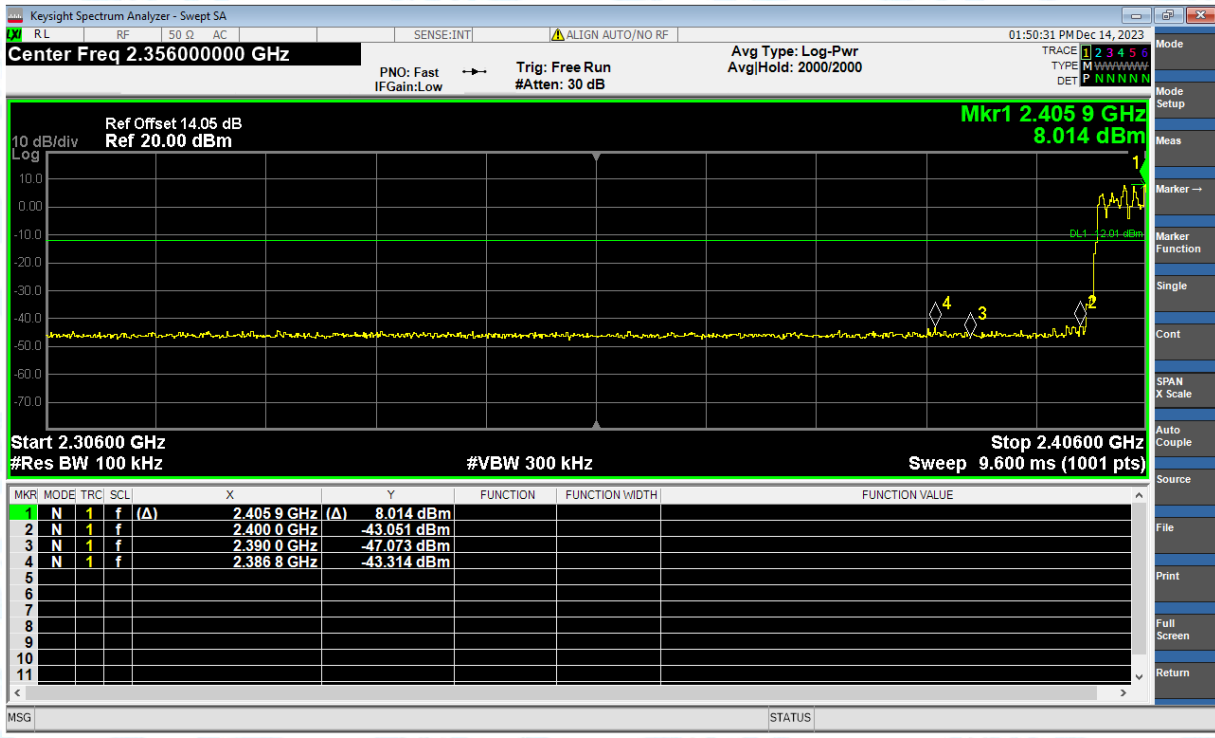
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



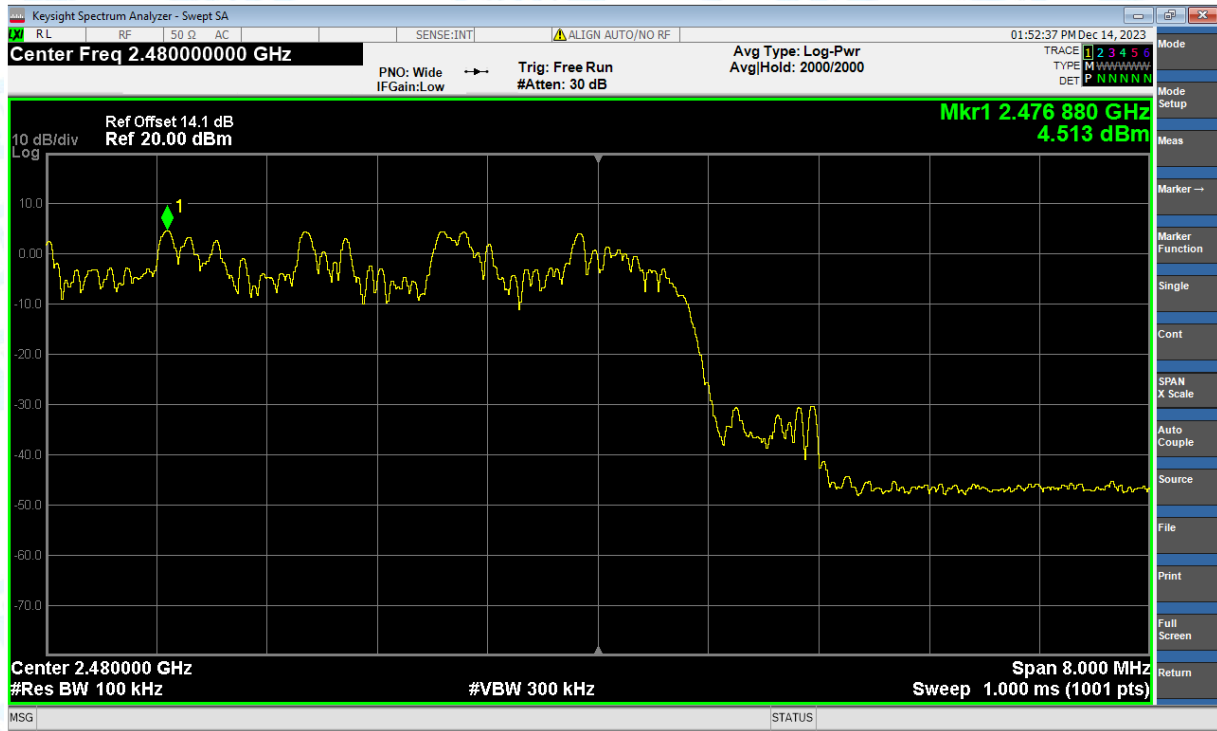
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



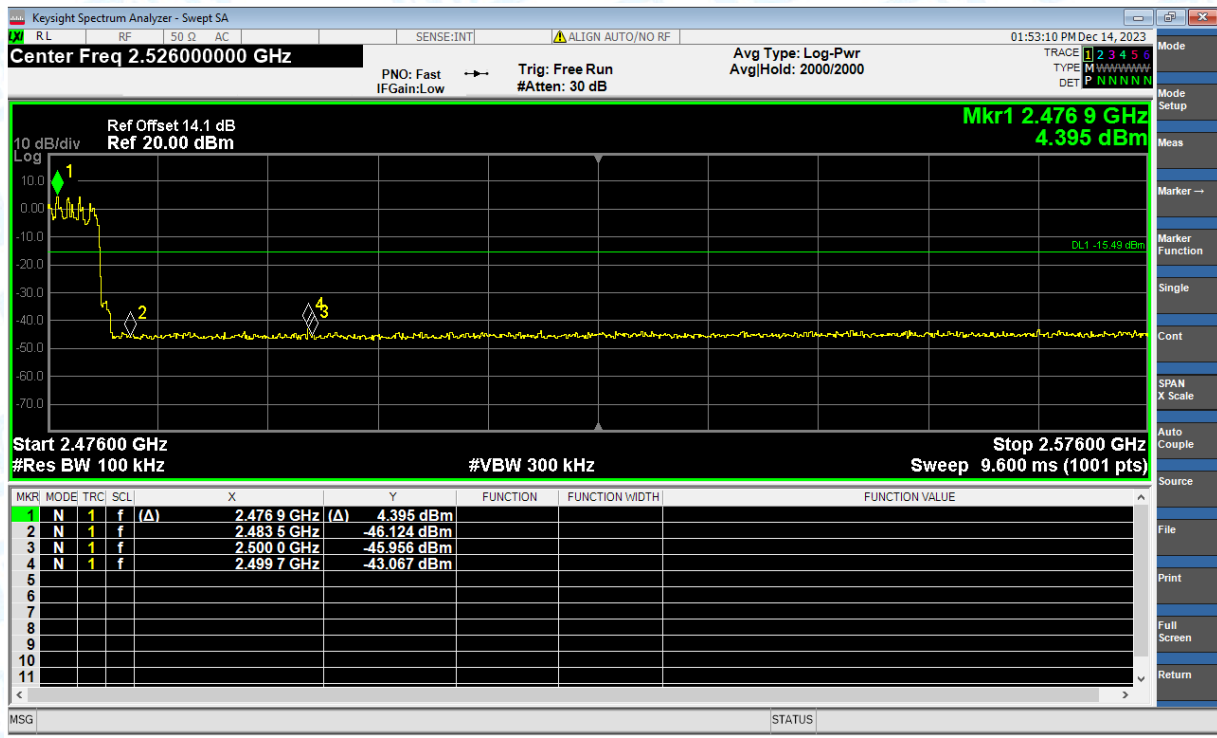
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

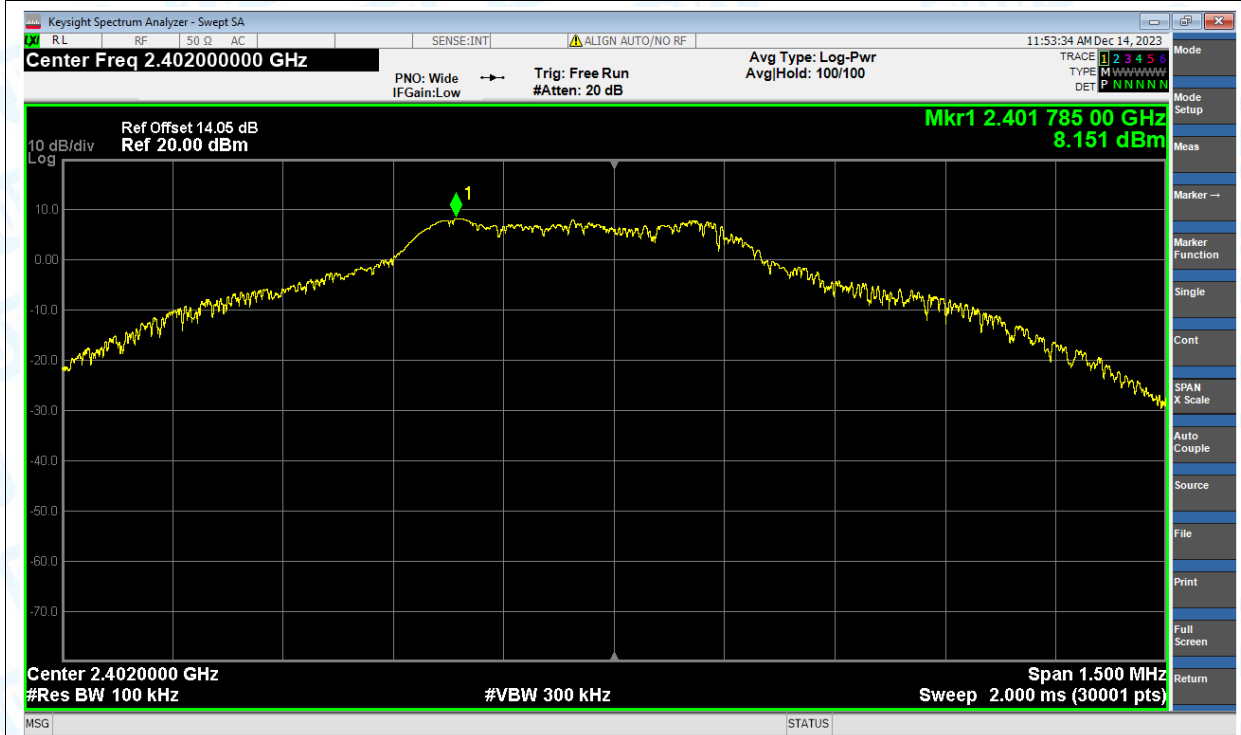


7. Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-48.06	-20	Pass
NVNT	1-DH1	2441	Ant1	-46.38	-20	Pass
NVNT	1-DH1	2480	Ant1	-44.93	-20	Pass
NVNT	2-DH1	2402	Ant1	-48.74	-20	Pass
NVNT	2-DH1	2441	Ant1	-46.54	-20	Pass
NVNT	2-DH1	2480	Ant1	-44.70	-20	Pass
NVNT	3-DH1	2402	Ant1	-48.10	-20	Pass
NVNT	3-DH1	2441	Ant1	-46.54	-20	Pass
NVNT	3-DH1	2480	Ant1	-44.51	-20	Pass

Test Graphs

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



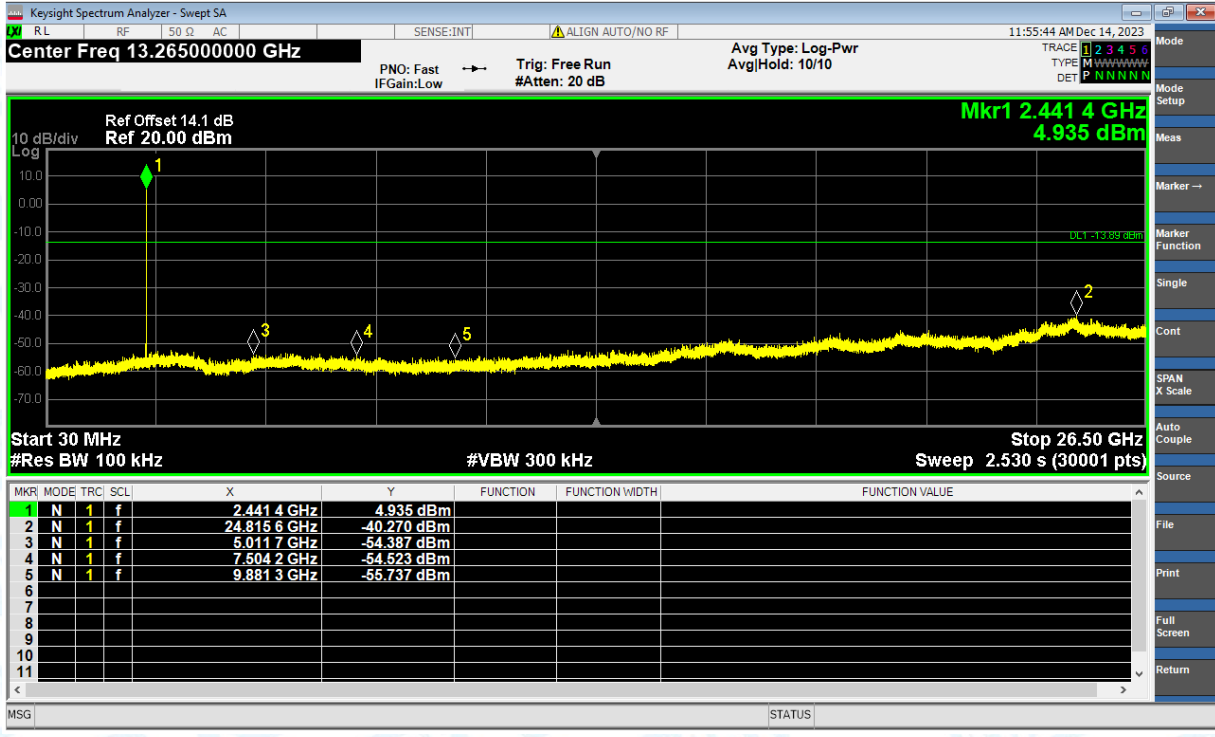
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



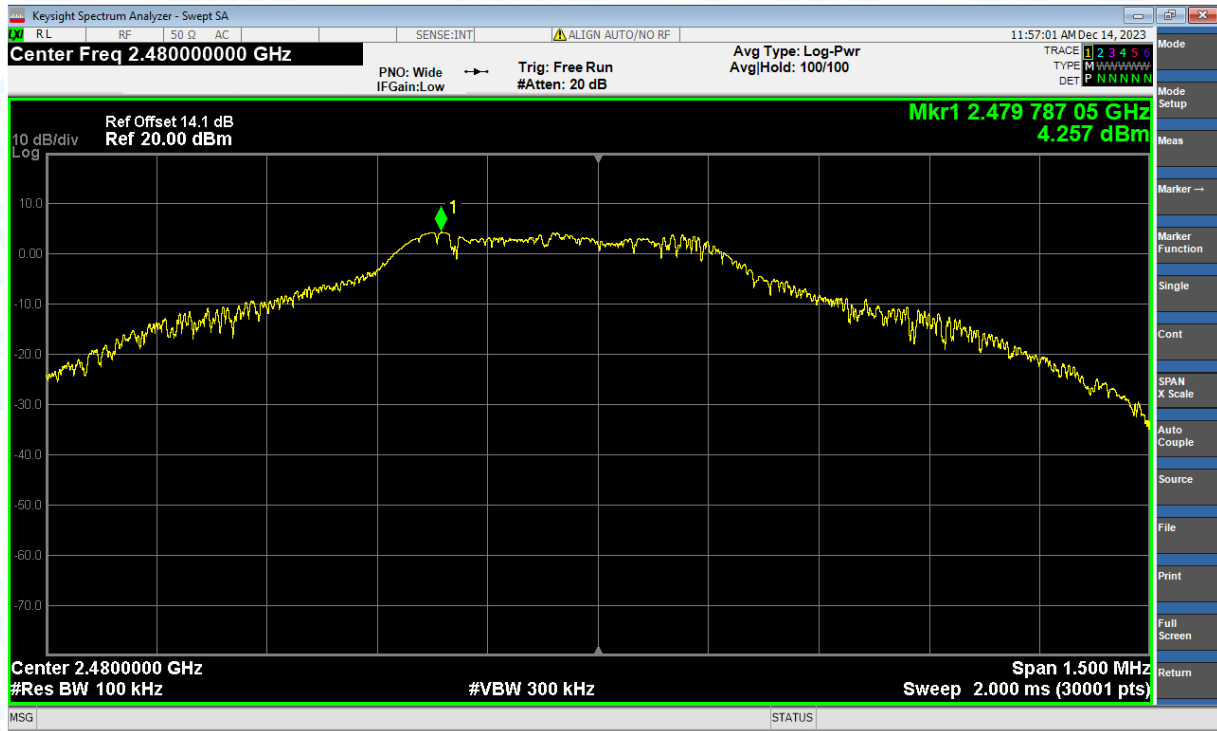
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



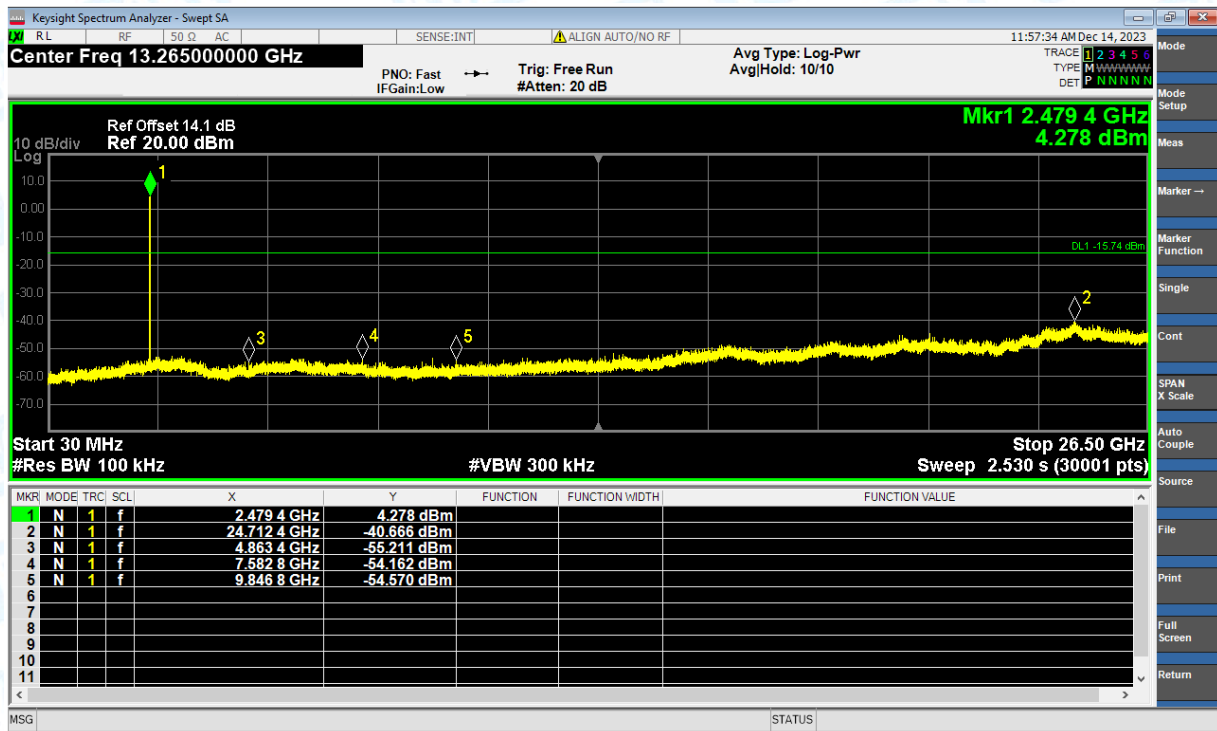
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



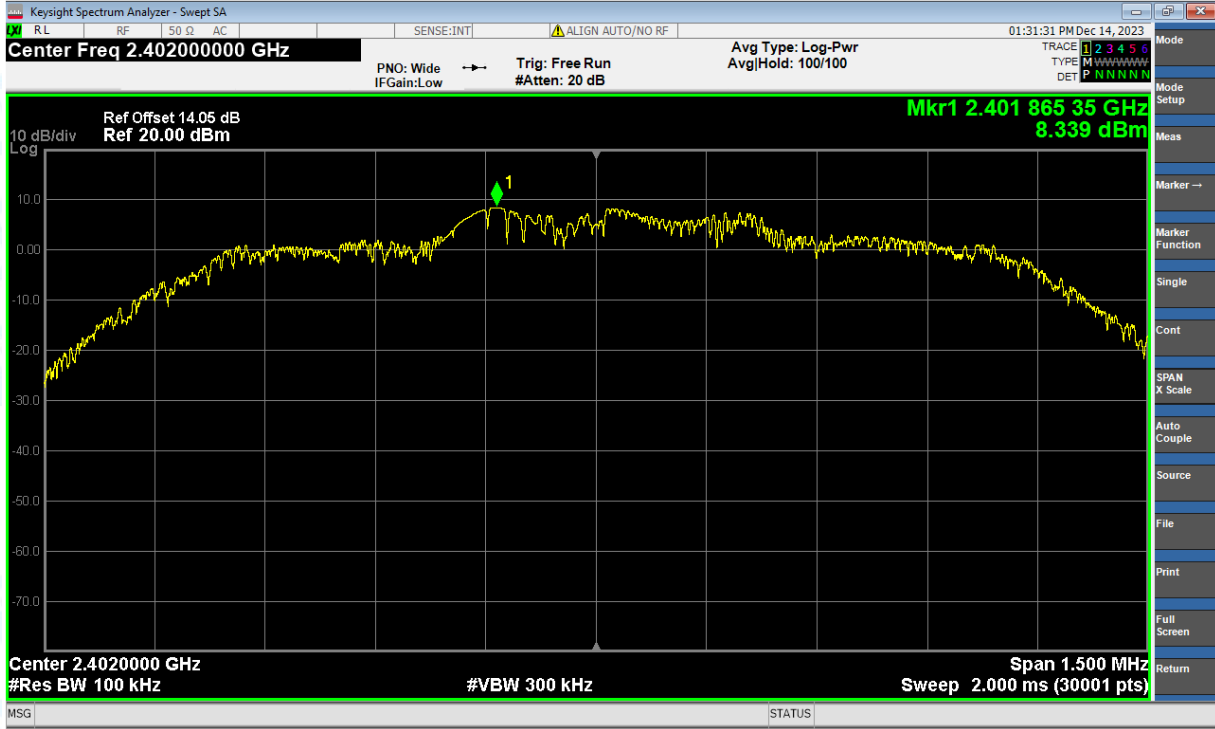
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



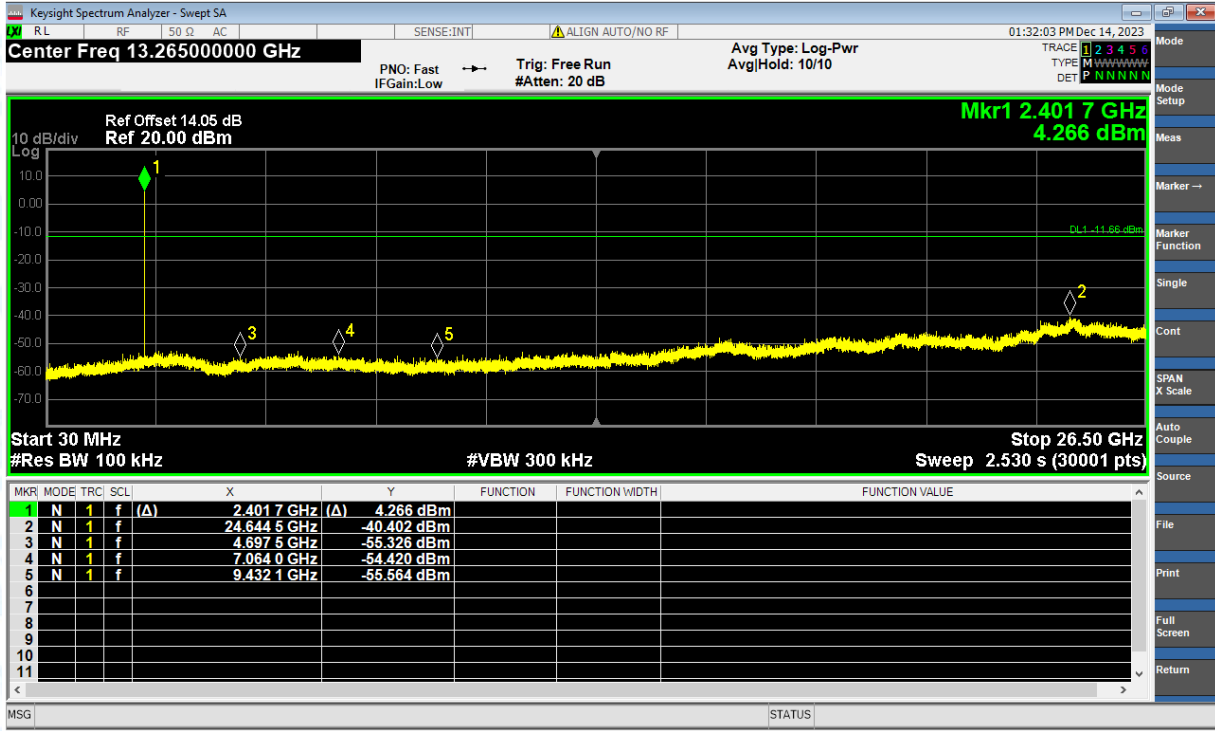
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



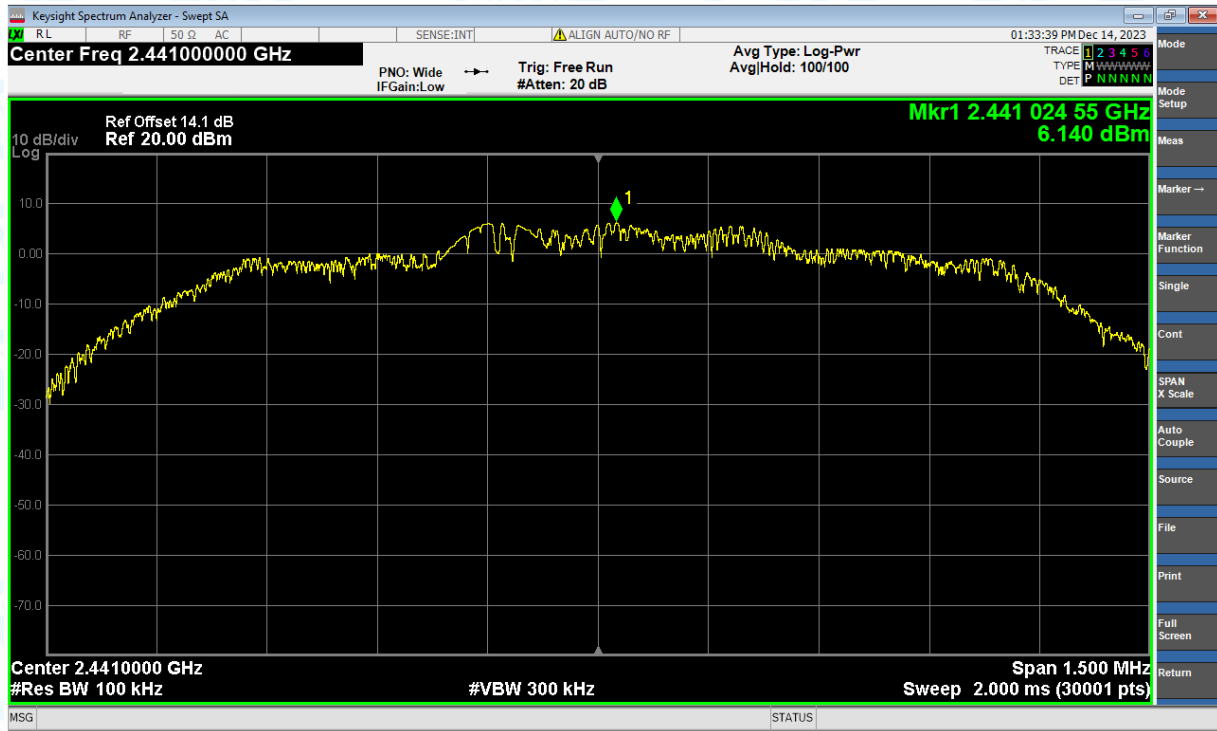
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



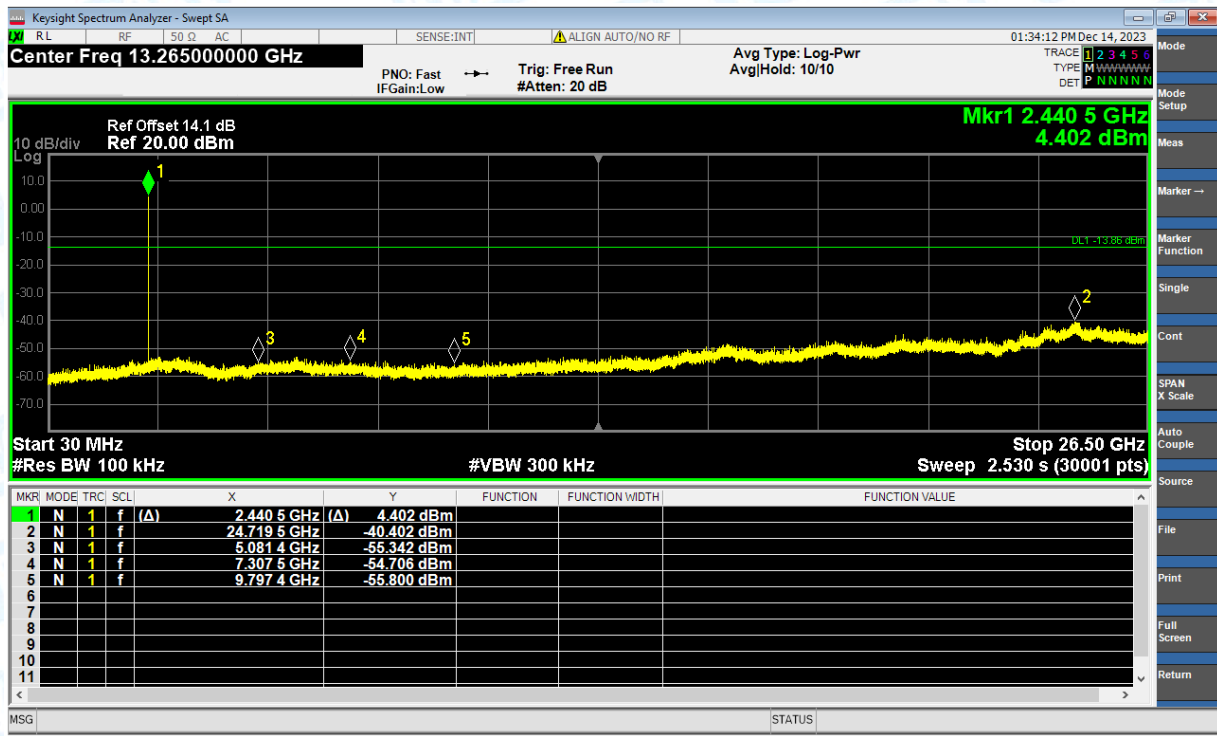
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



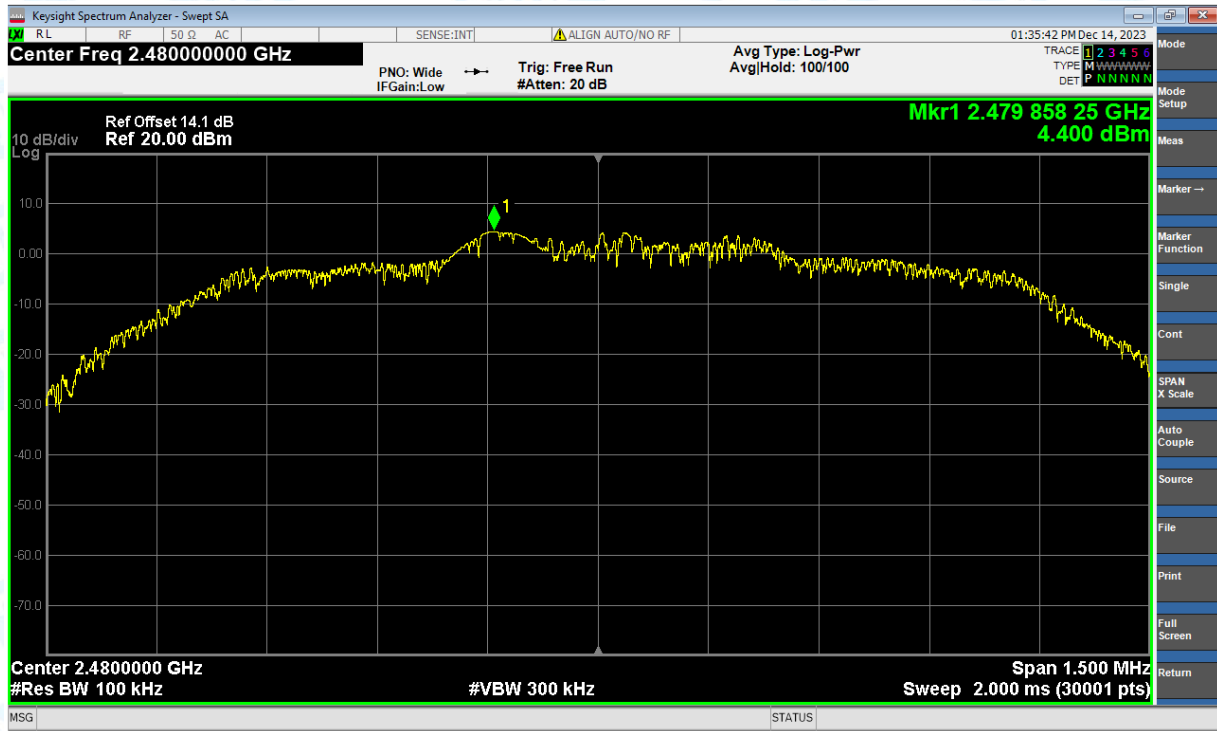
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



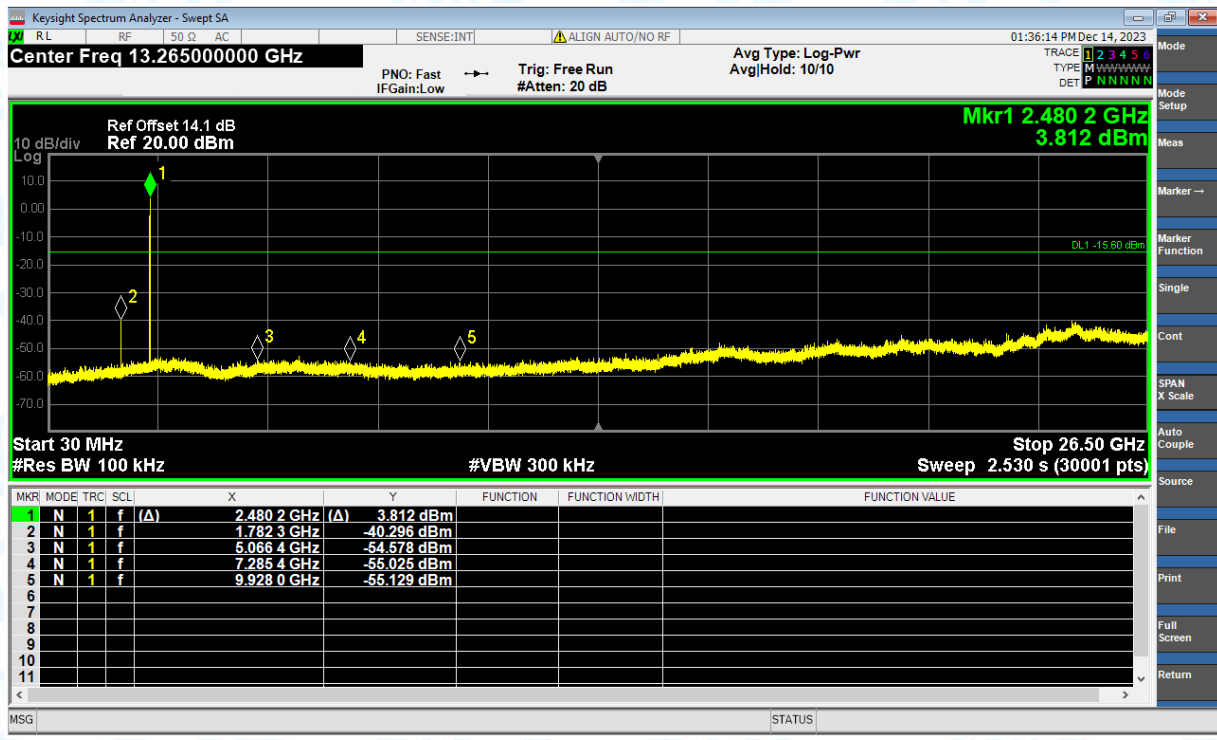
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



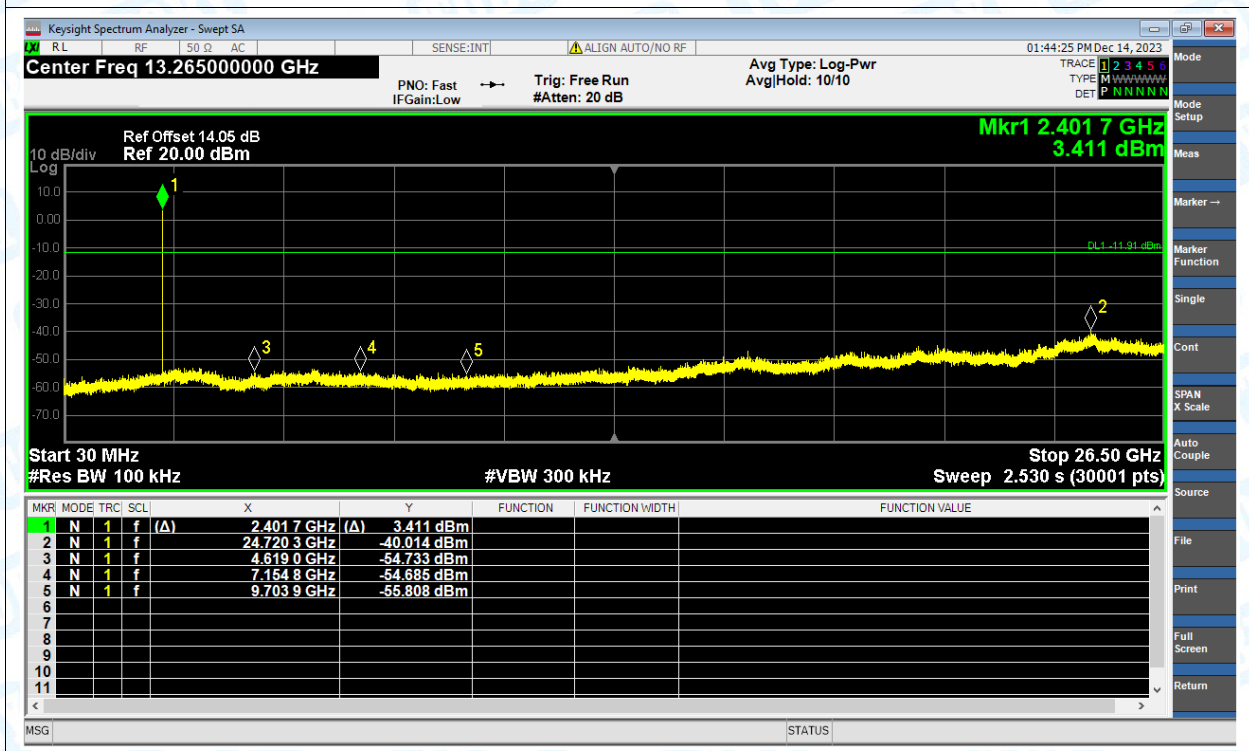
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



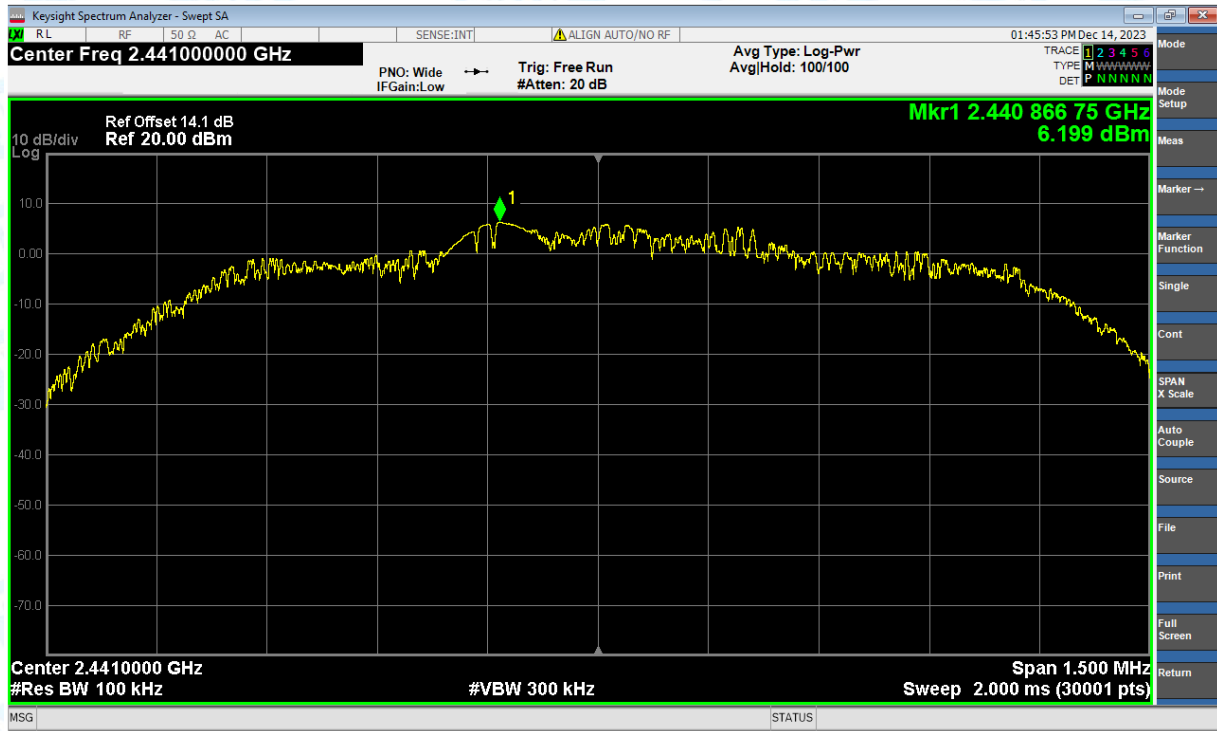
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



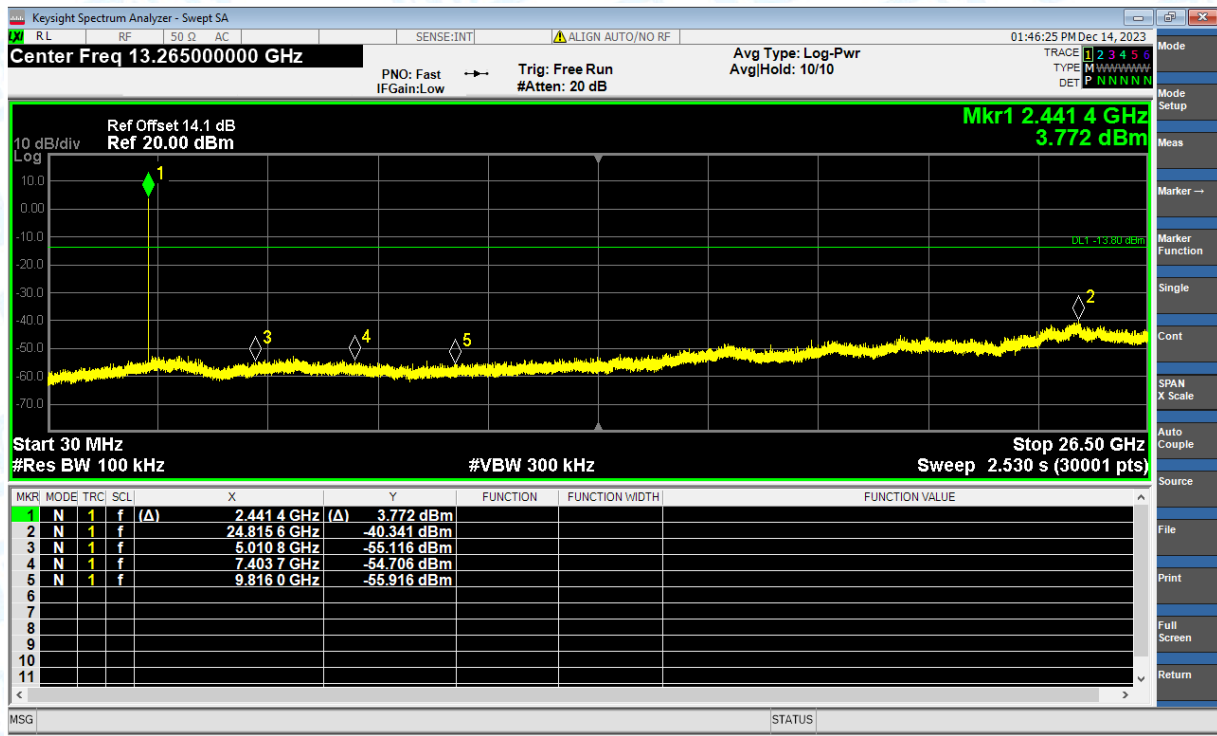
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



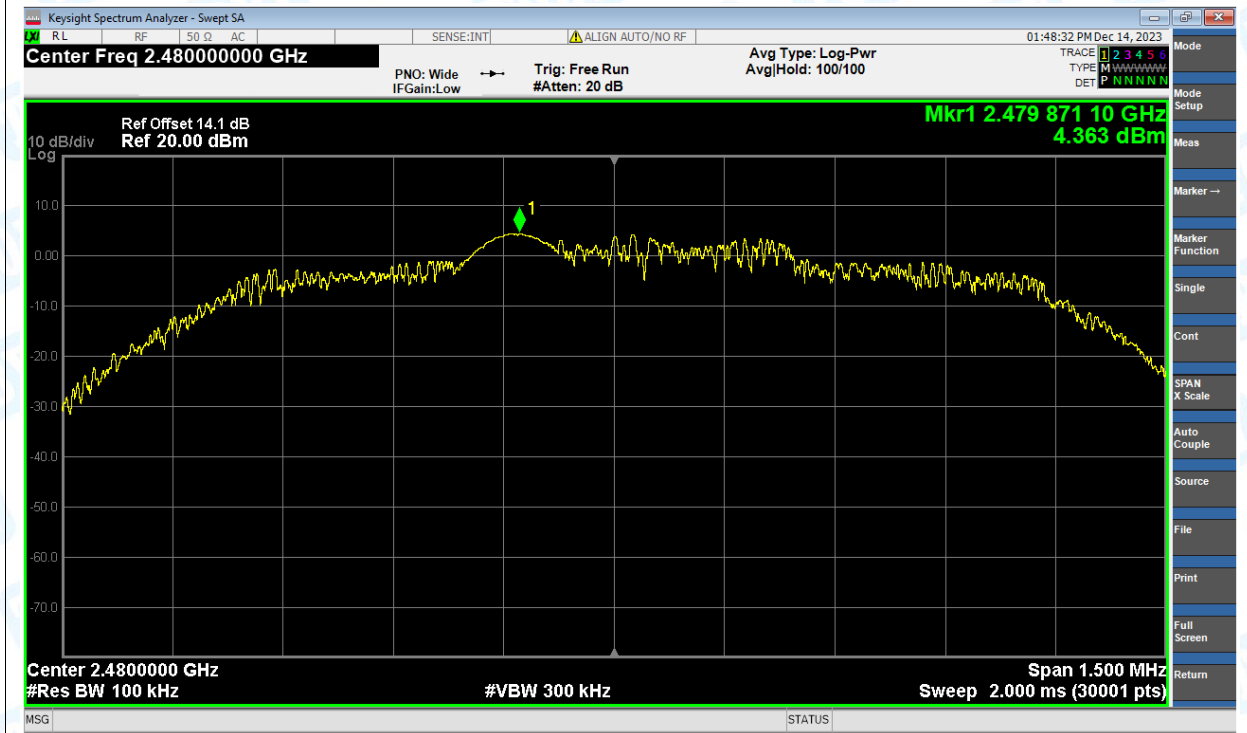
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



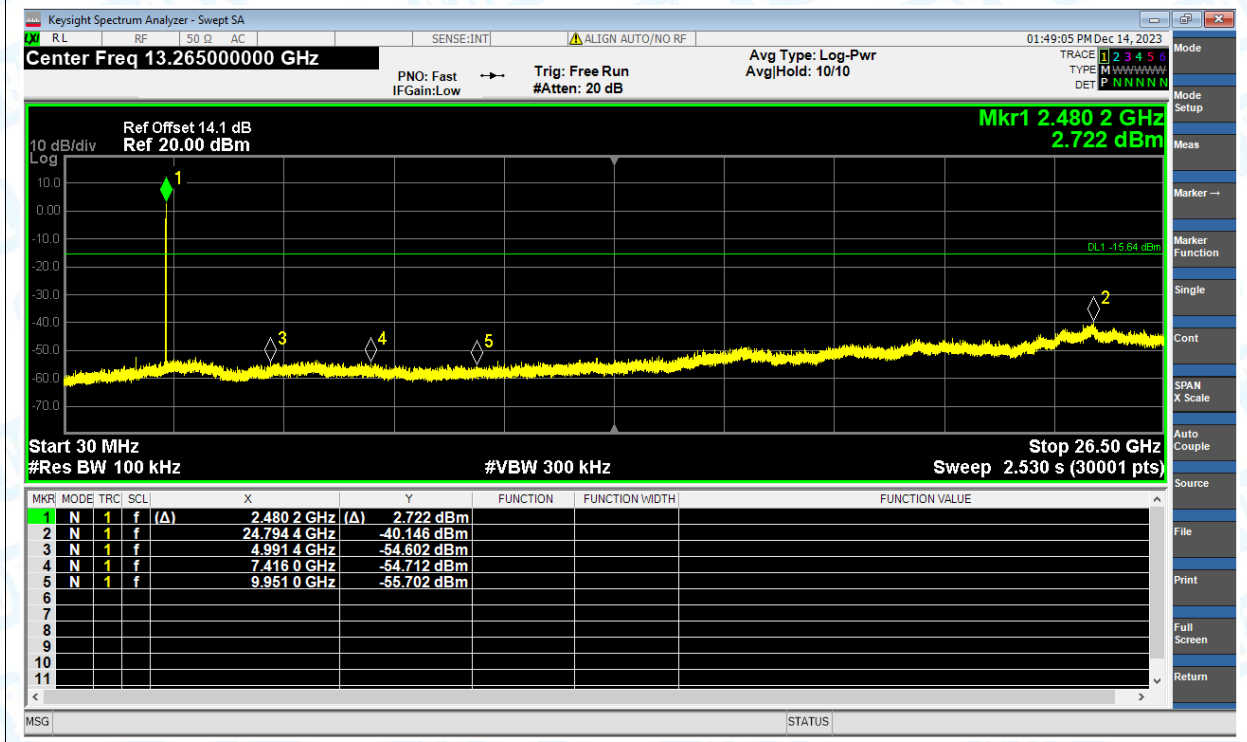
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

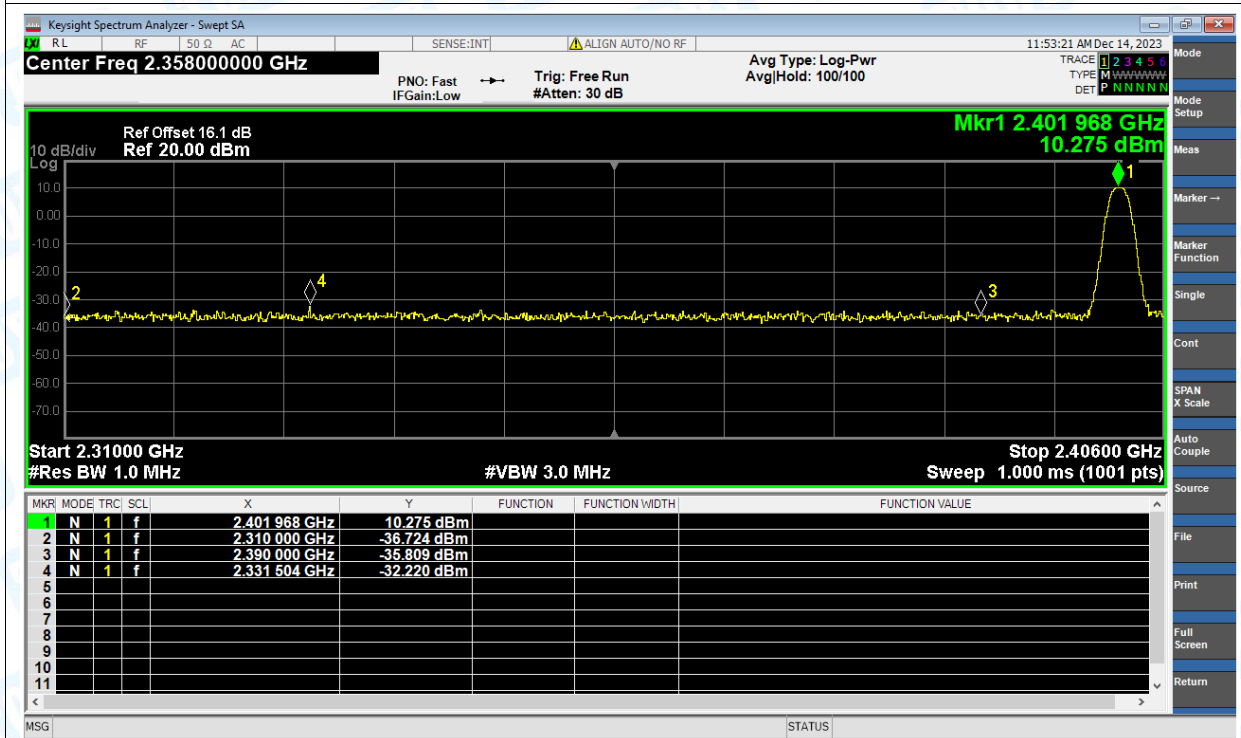


8. Restrict Band

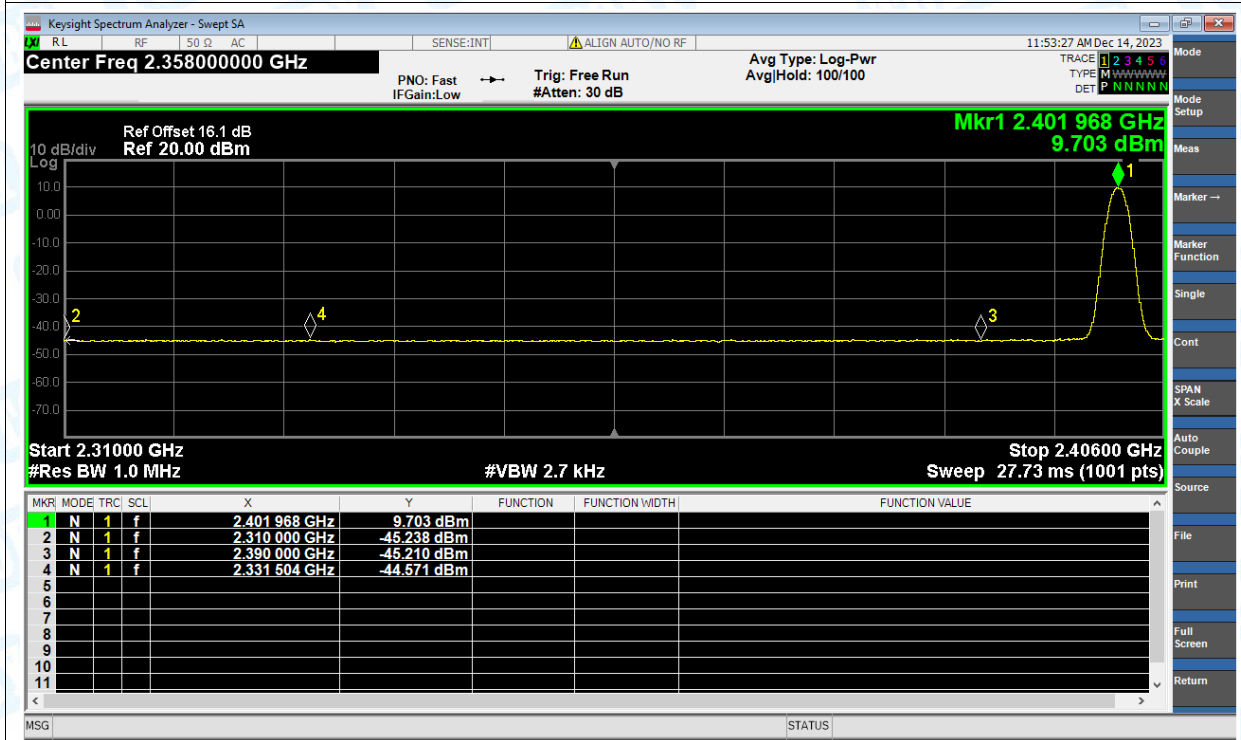
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-36.72	2.05	60.59	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-45.24	2.05	52.07	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2331.504	-32.22	2.05	65.09	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2331.504	-44.57	2.05	52.74	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-35.46	2.05	61.85	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-45.18	2.05	52.13	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-36.26	2.05	61.05	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-44.63	2.05	52.68	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2496.304	-32.89	2.05	64.42	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2497.024	-44.33	2.05	52.98	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-35.44	2.05	61.87	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-44.95	2.05	52.36	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-37.33	2.05	59.98	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-45.3	2.05	52.01	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2342.736	-33.48	2.05	63.83	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2362.224	-44.62	2.05	52.69	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-34.88	2.05	62.43	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-45.16	2.05	52.15	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-34.95	2.05	62.36	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-44.28	2.05	53.03	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.256	-32.78	2.05	64.53	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.512	-44.28	2.05	53.03	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-36.14	2.05	61.17	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-44.9	2.05	52.41	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-36.21	2.05	61.1	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-45.01	2.05	52.3	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2389.584	-33.17	2.05	64.14	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2385.552	-44.73	2.05	52.58	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-34.5	2.05	62.81	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-45.03	2.05	52.28	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-34.79	2.05	62.52	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-44.75	2.05	52.56	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2486.968	-32.86	2.05	64.45	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2492.416	-44.28	2.05	53.03	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-35.93	2.05	61.38	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-44.93	2.05	52.38	Average	54	Pass

Test Graphs

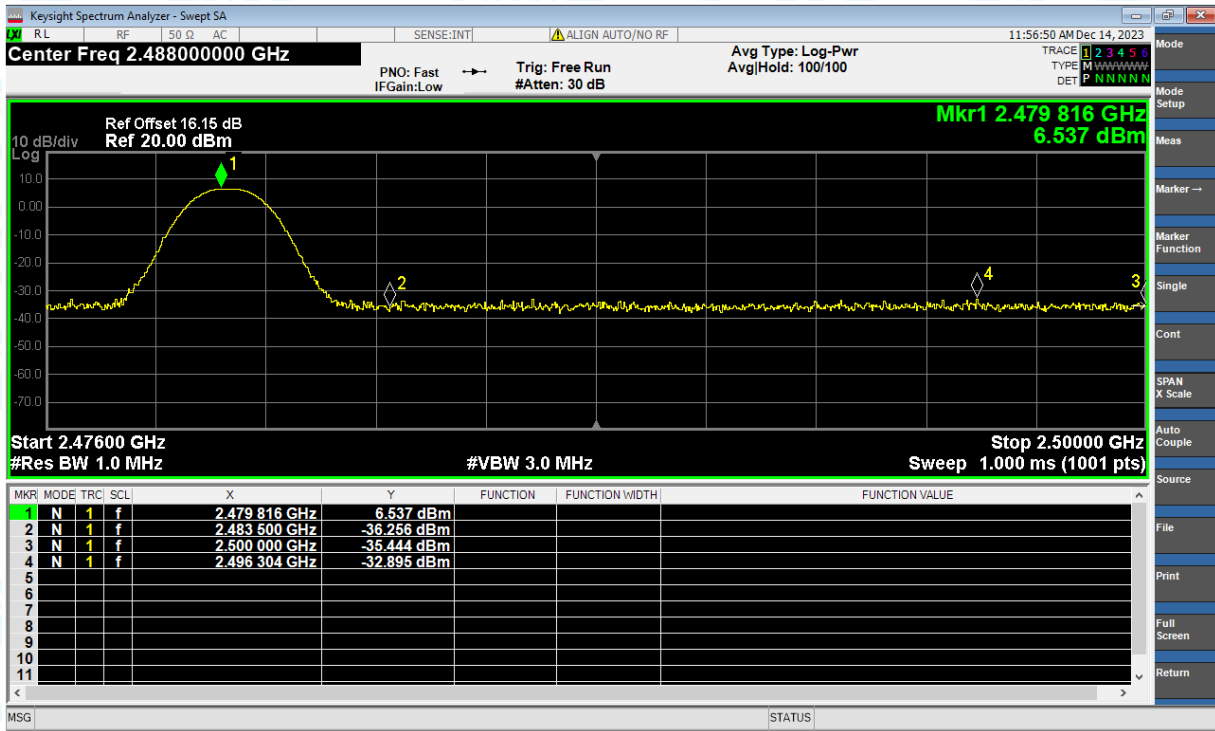
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



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



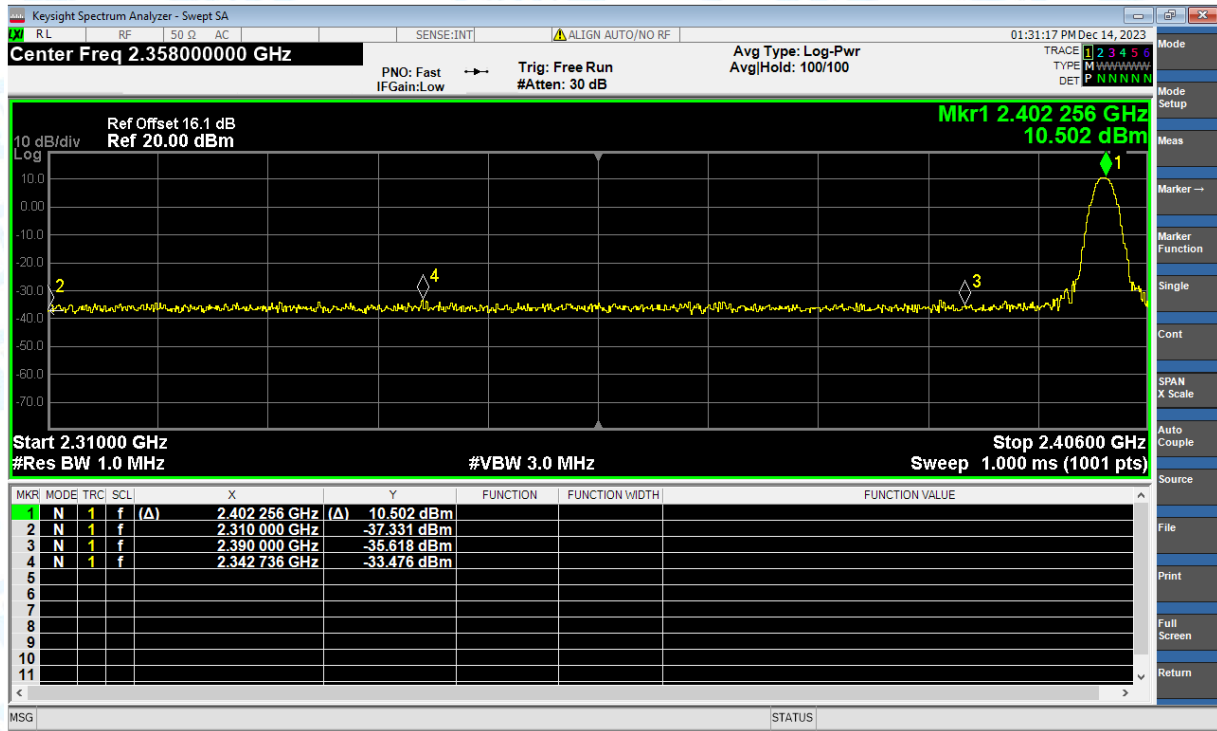
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



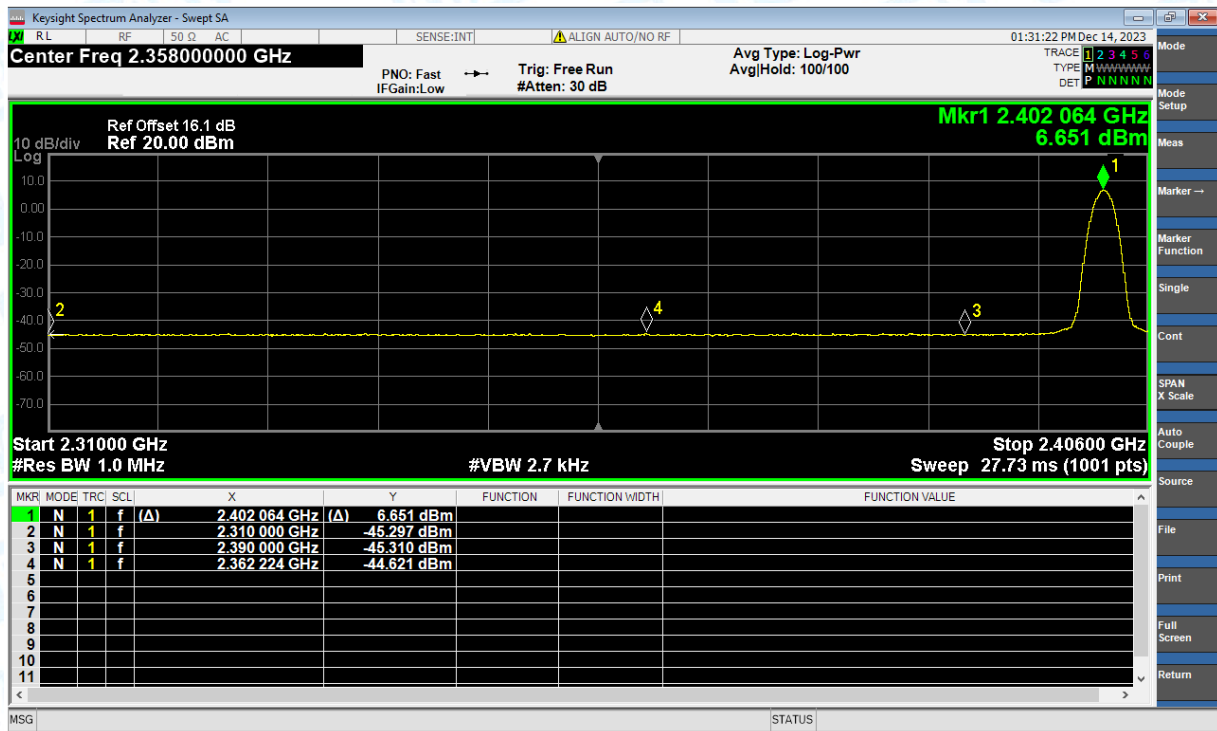
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



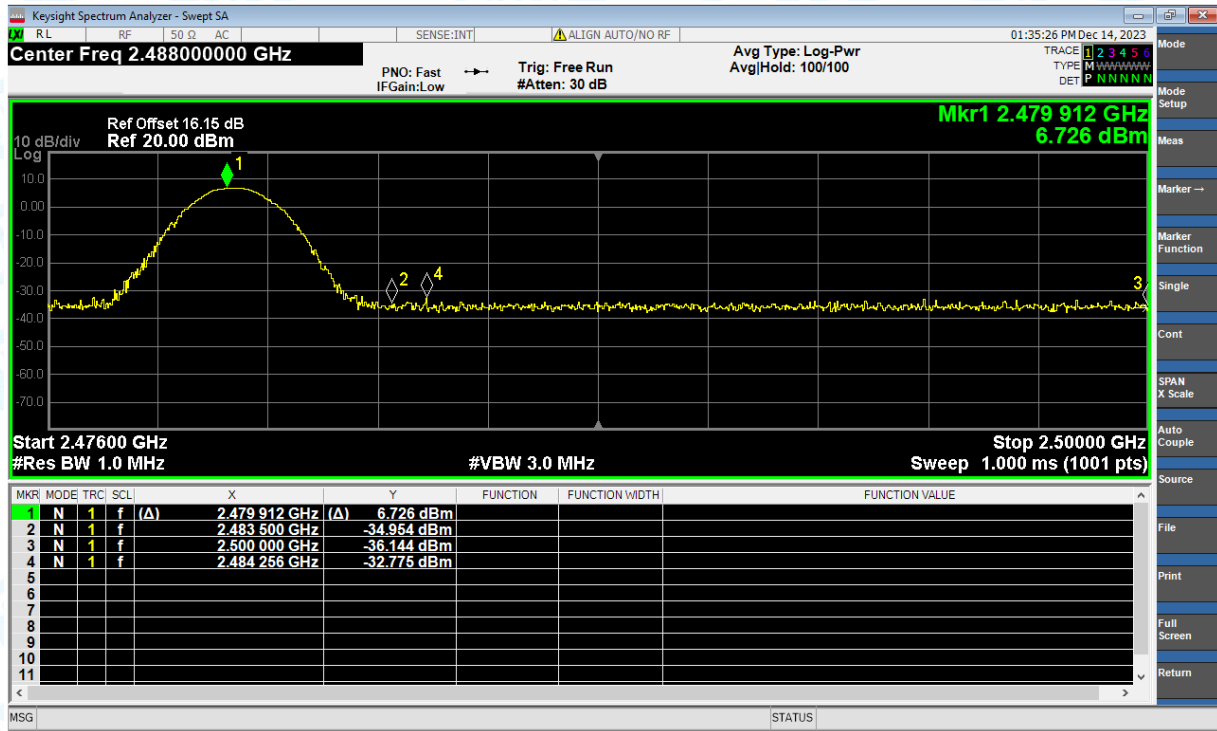
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



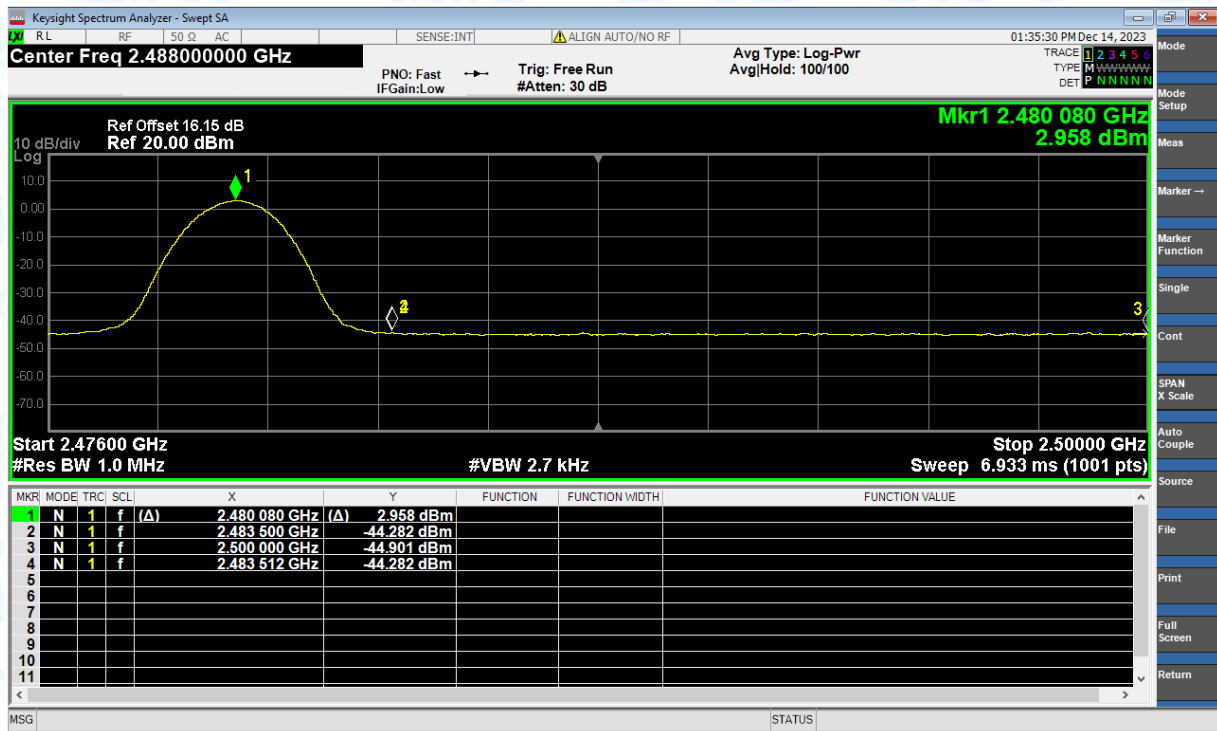
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



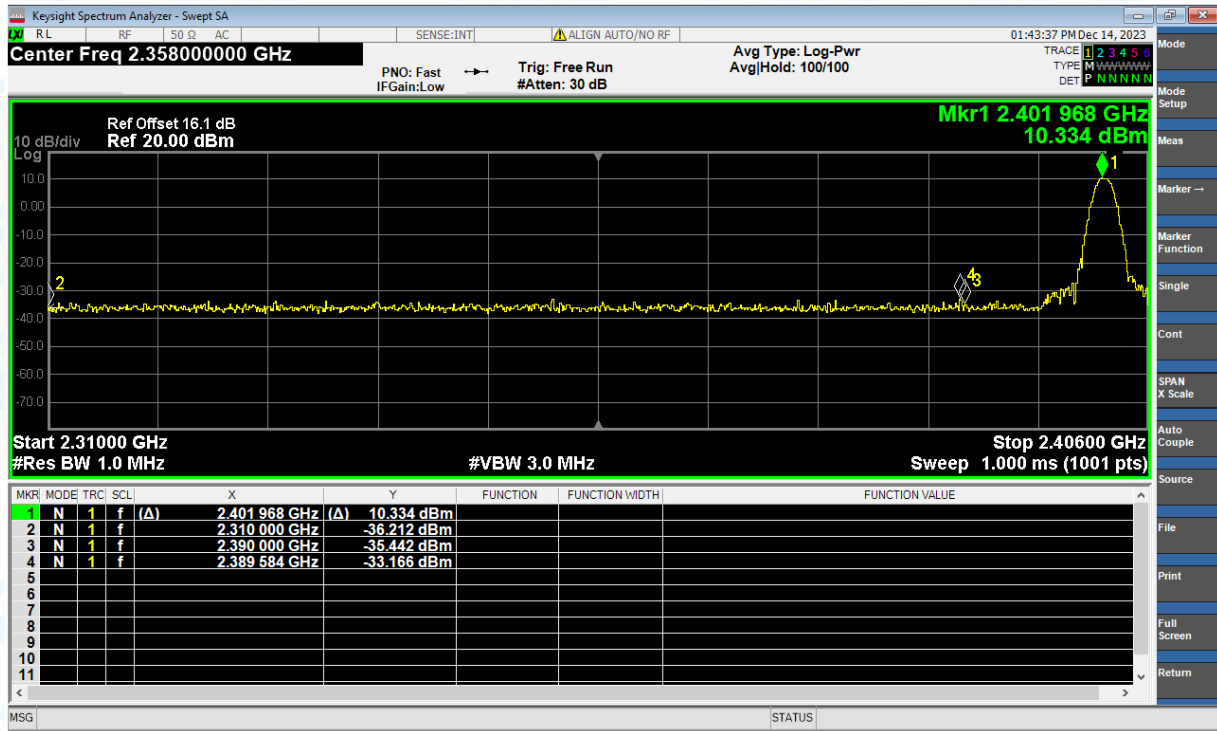
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



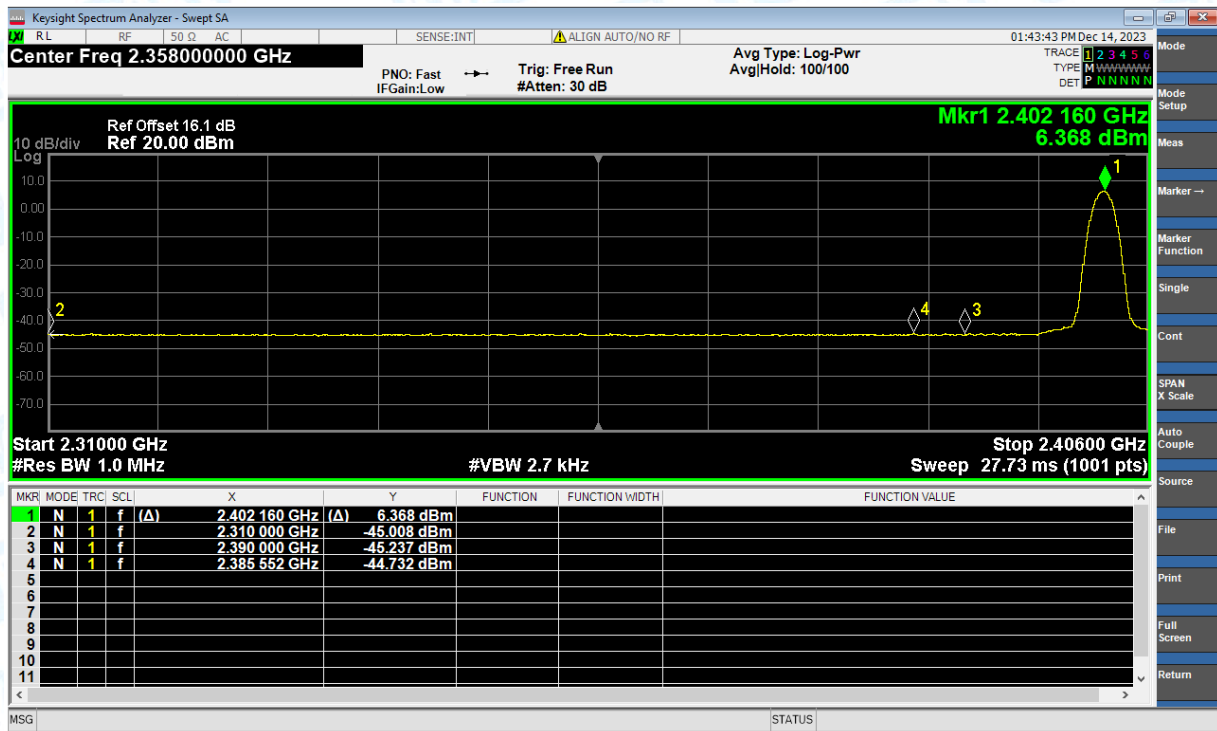
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



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



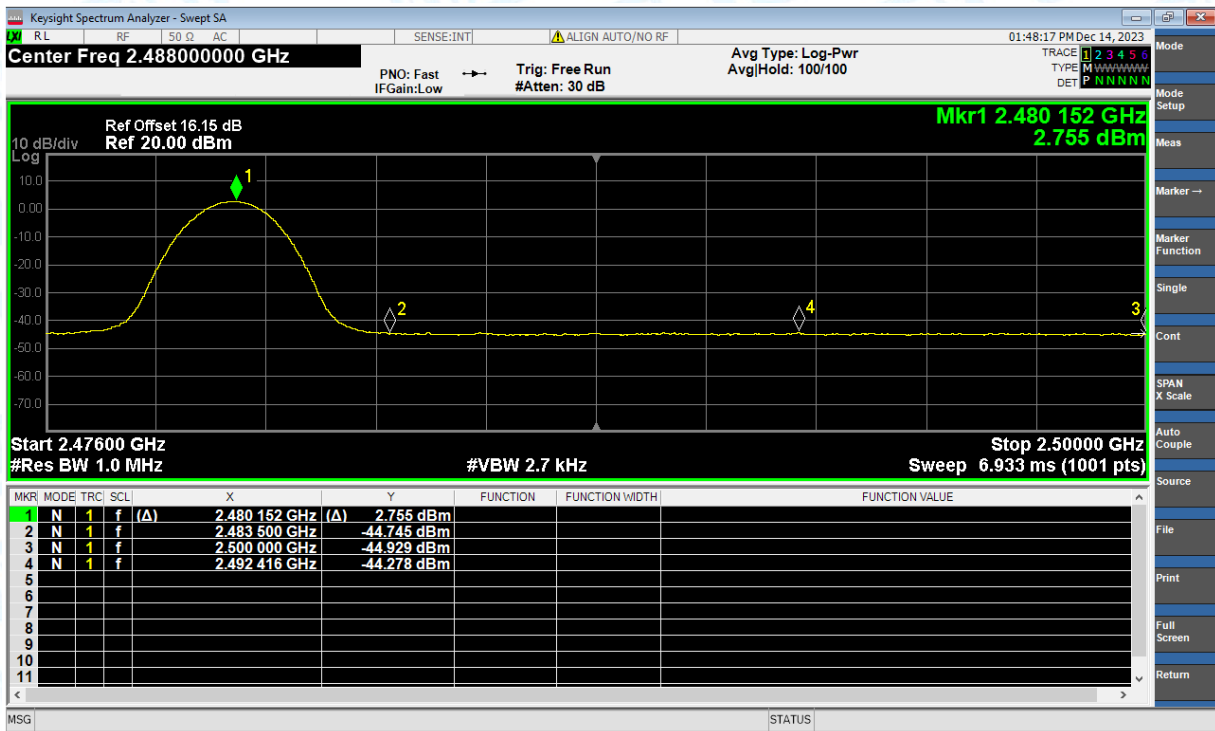
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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



9. Carrier Frequencies Separation

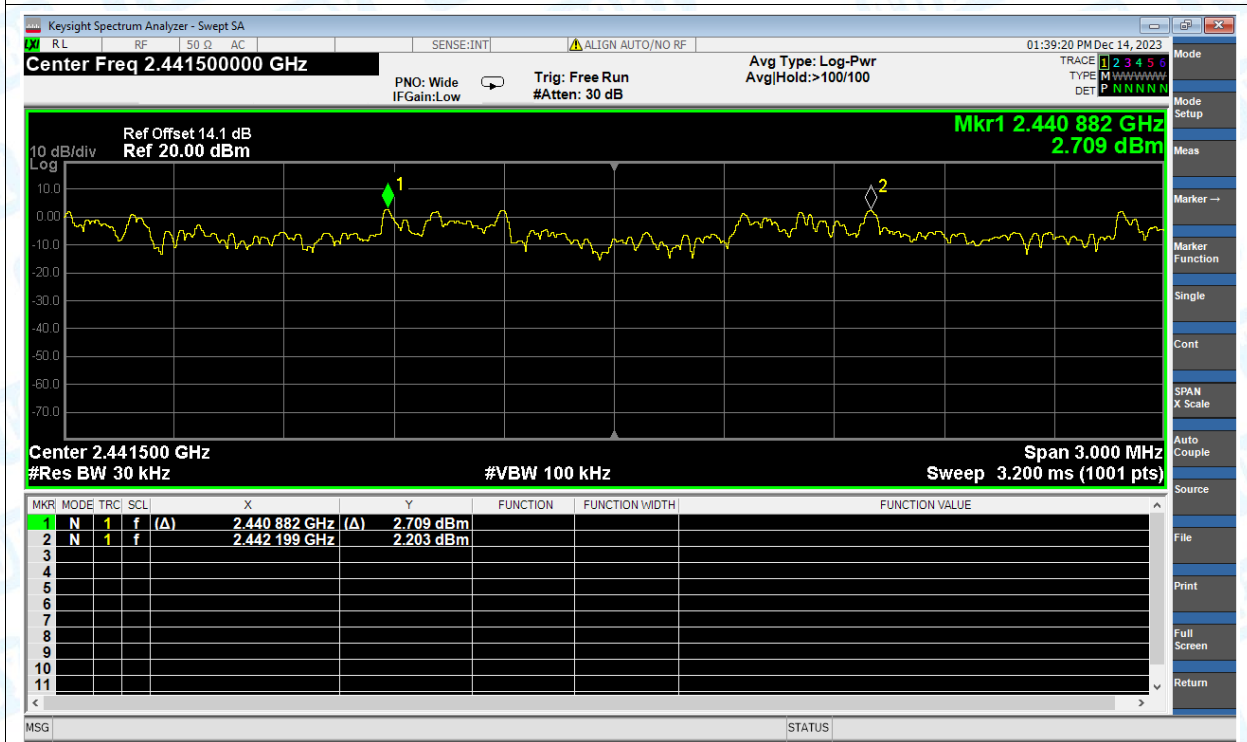
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2441.086	2442.067	0.981	0.633	Pass
NVNT	2-DH1	Ant1	2440.882	2442.199	1.317	0.840	Pass
NVNT	3-DH1	Ant1	2440.861	2441.866	1.005	0.800	Pass

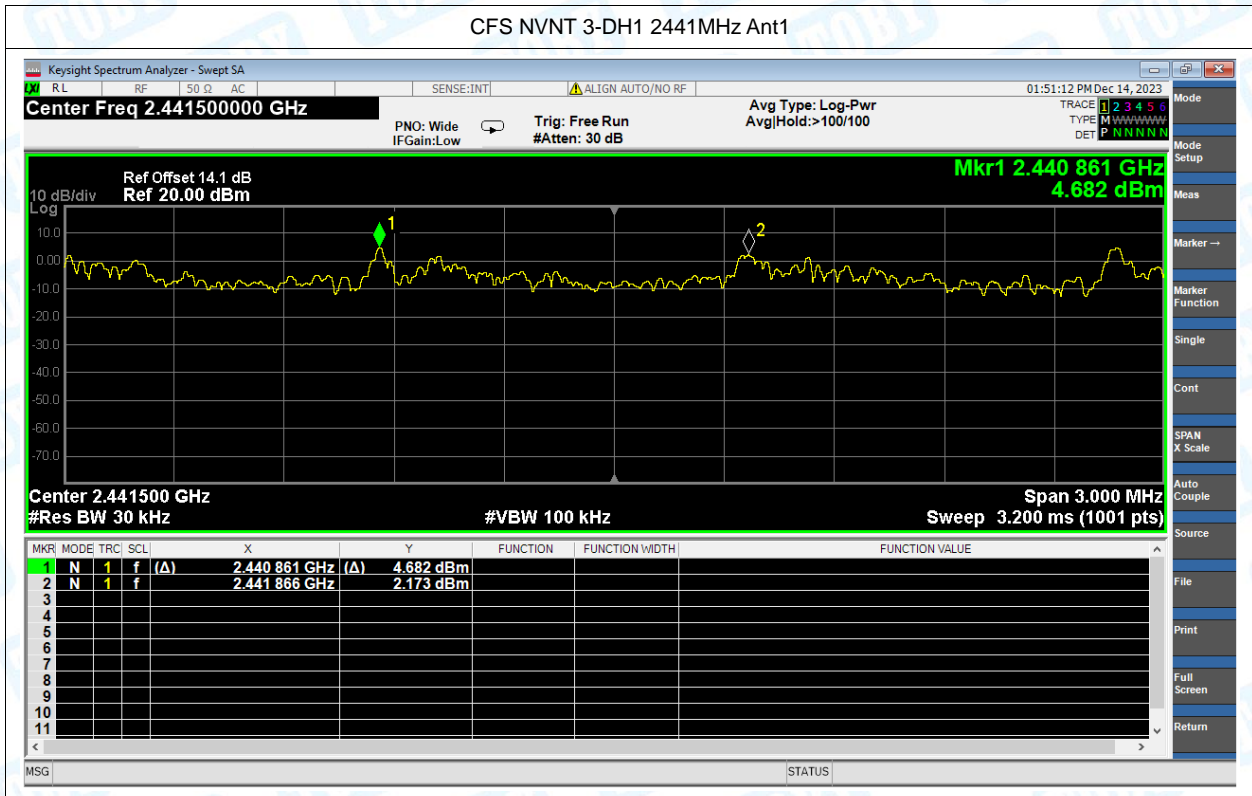
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



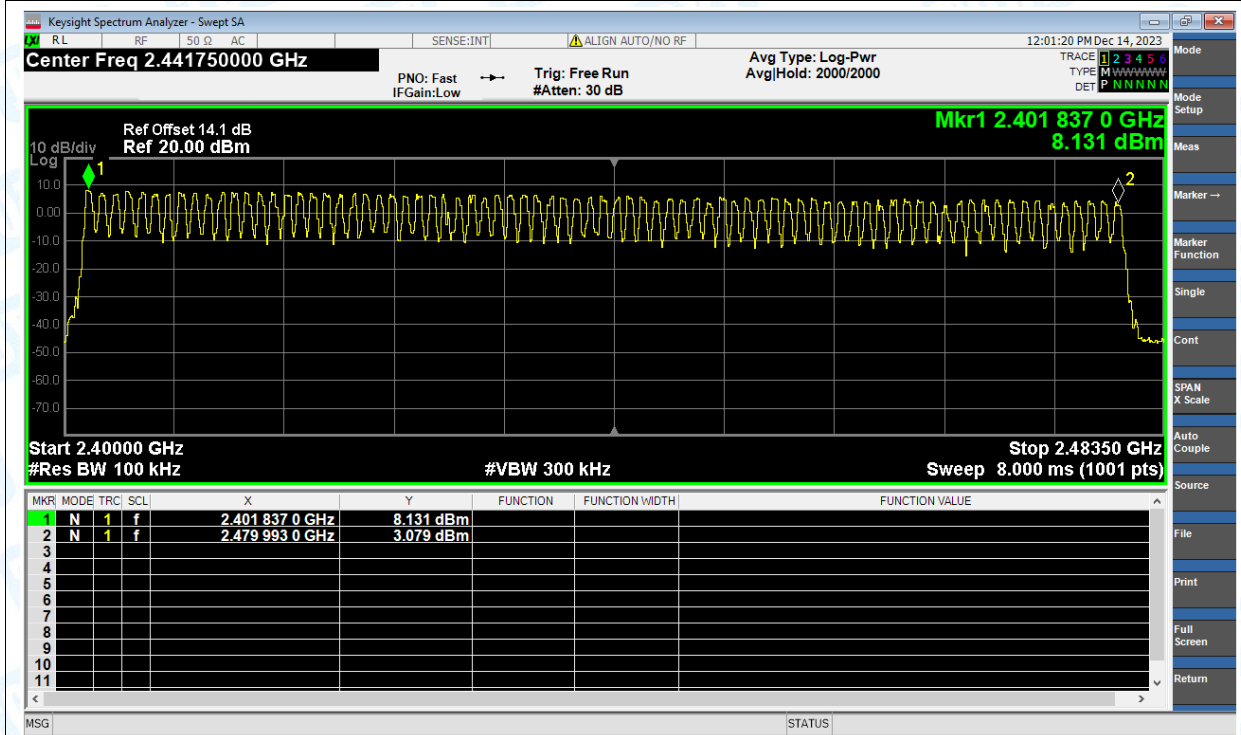


10. Number of Hopping Channel

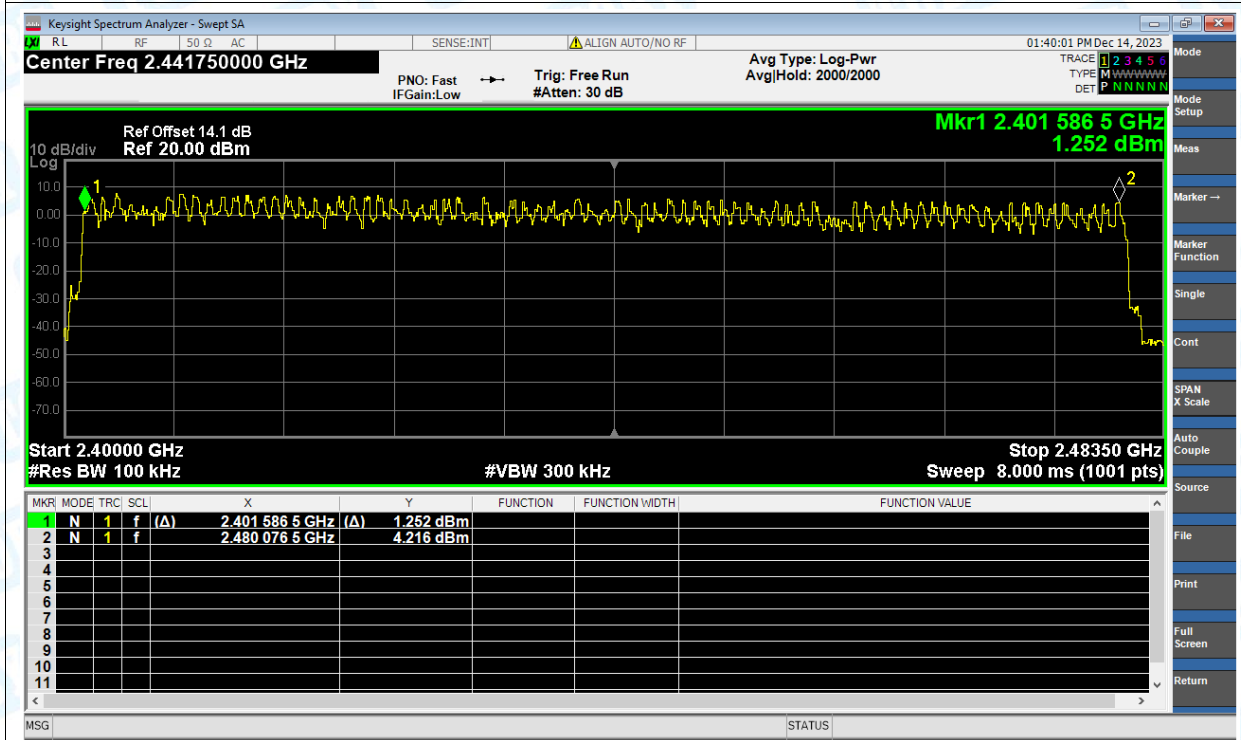
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

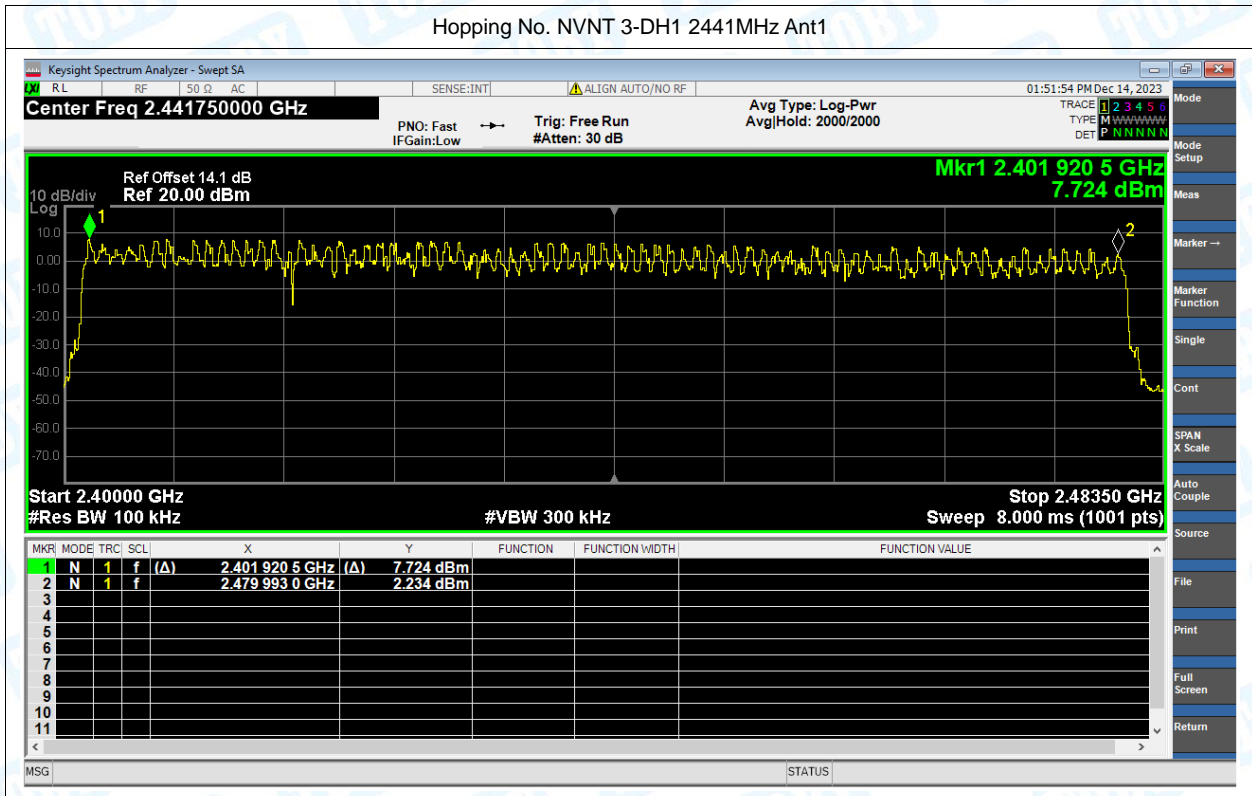
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



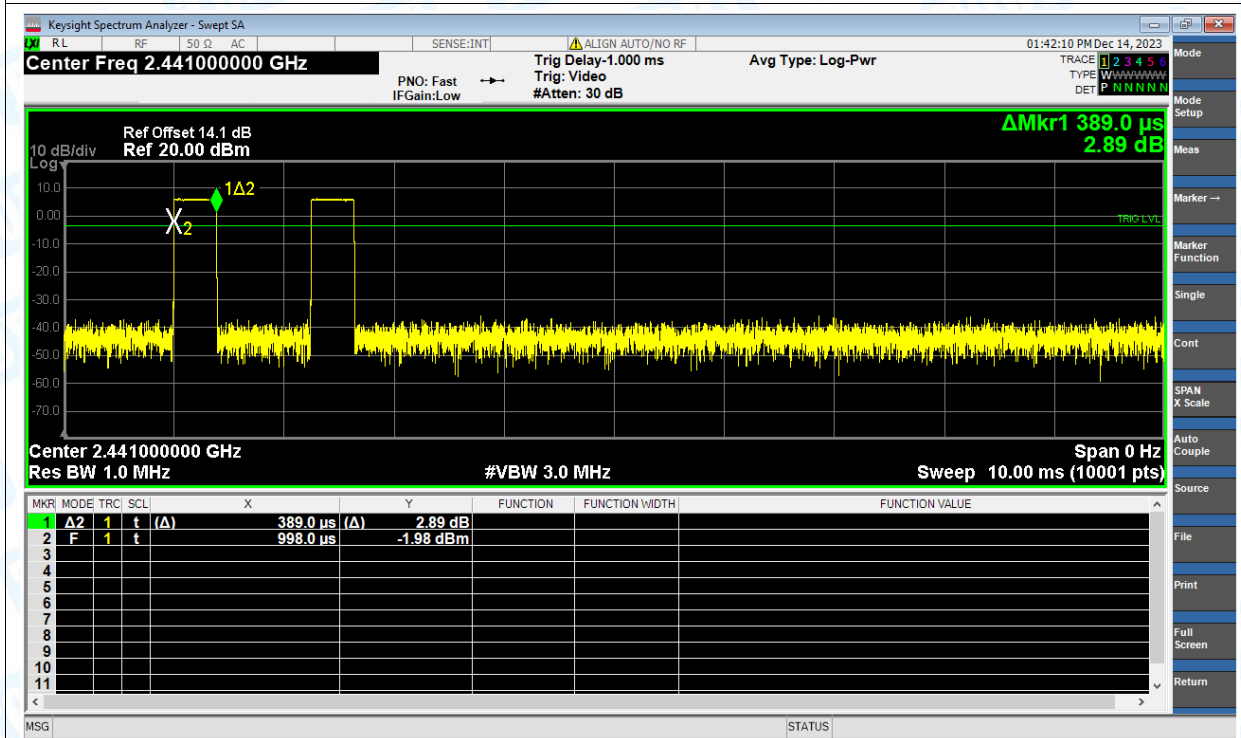


11. Dwell Time

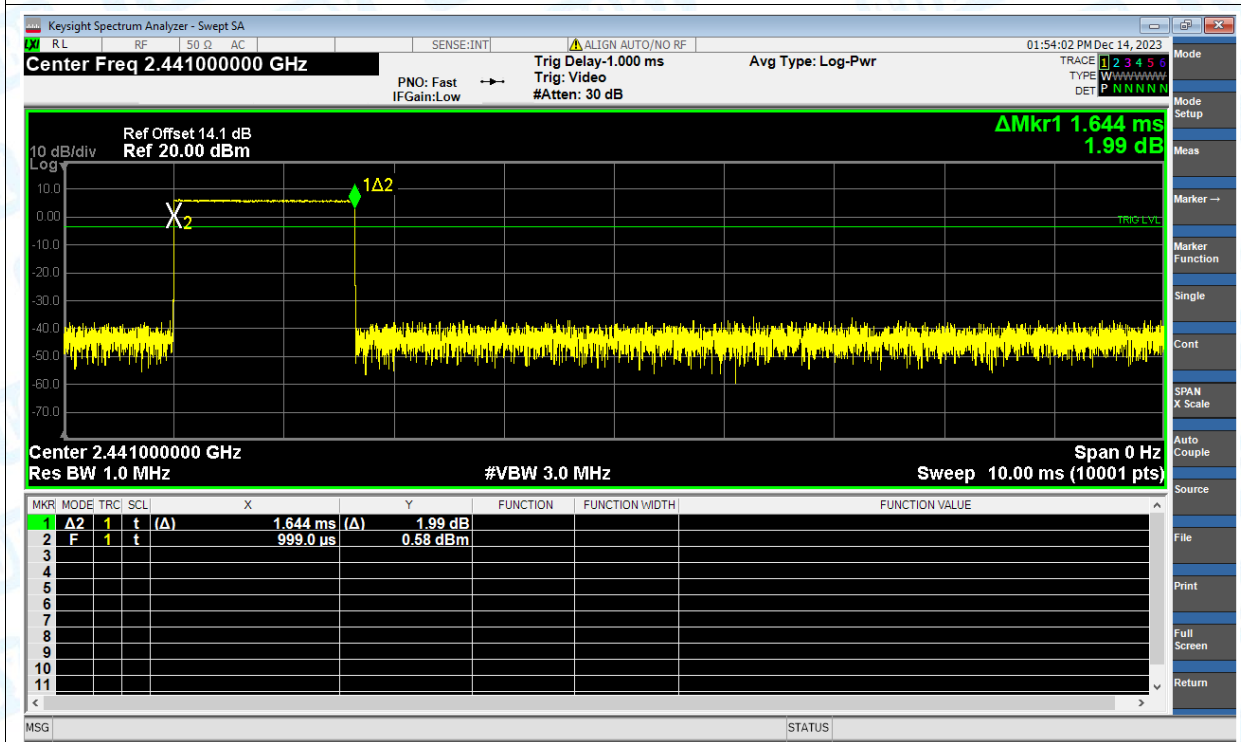
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.389	124.48	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.644	263.04	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.892	308.48	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.387	123.84	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.634	261.44	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.885	307.733	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.386	123.52	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.635	261.6	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.887	307.947	31600	400	Pass

Test Graphs

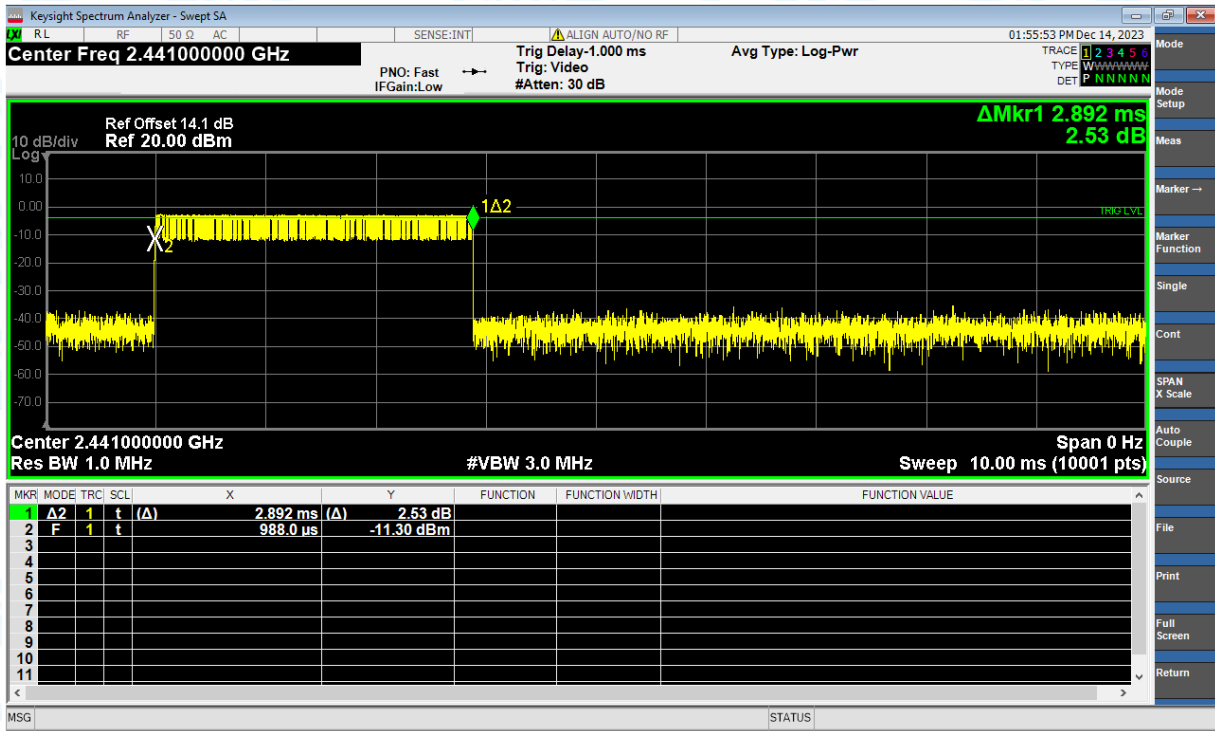
Dwell NVNT 1-DH1 2441MHz Ant1



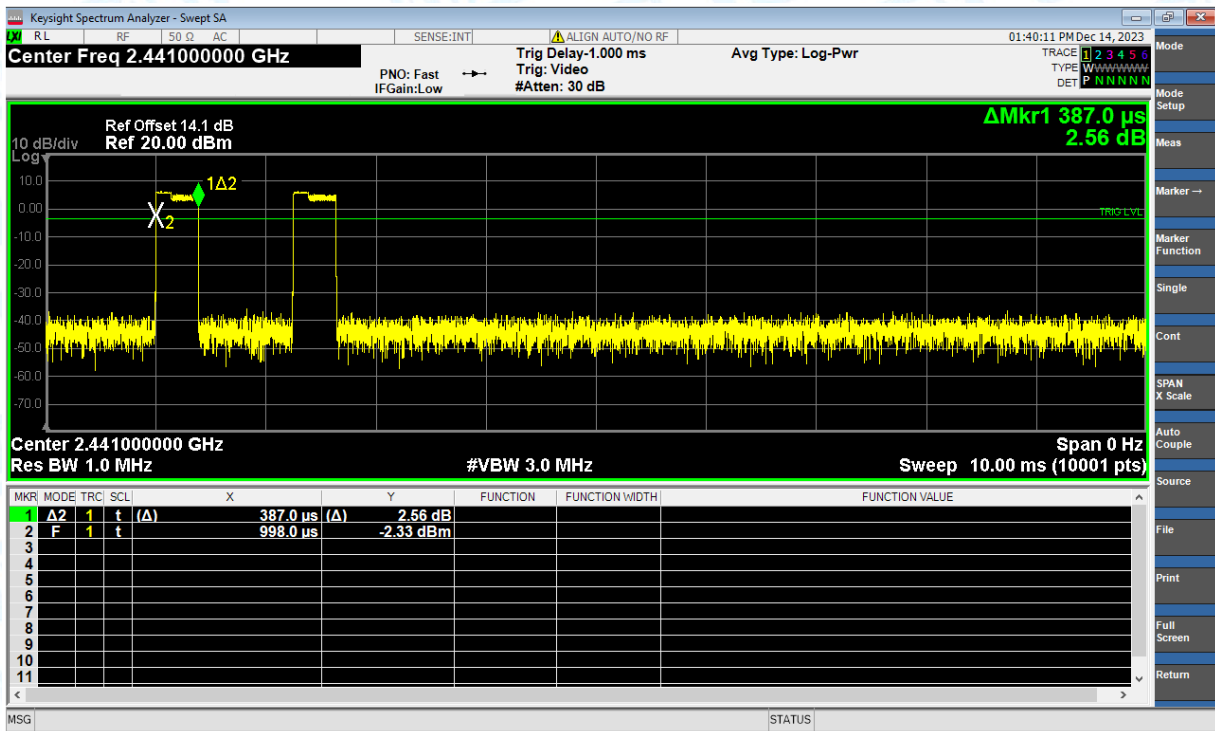
Dwell NVNT 1-DH3 2441MHz Ant1



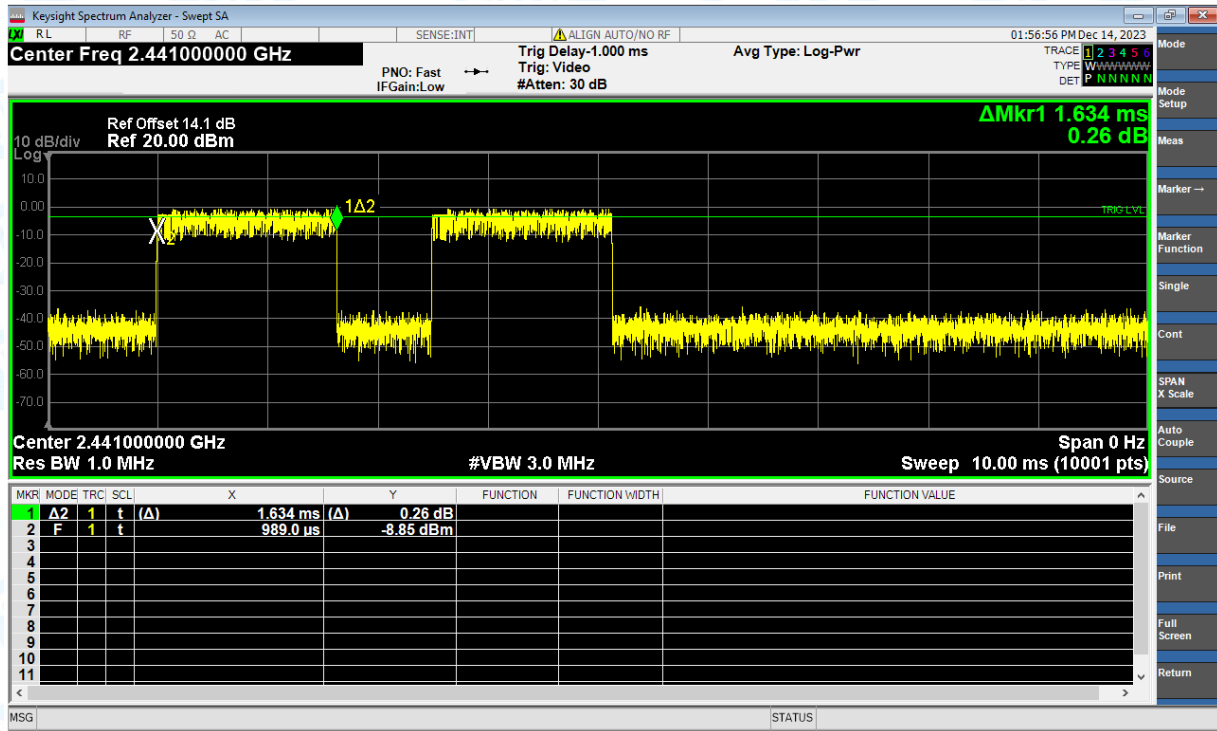
Dwell NVNT 1-DH5 2441MHz Ant1



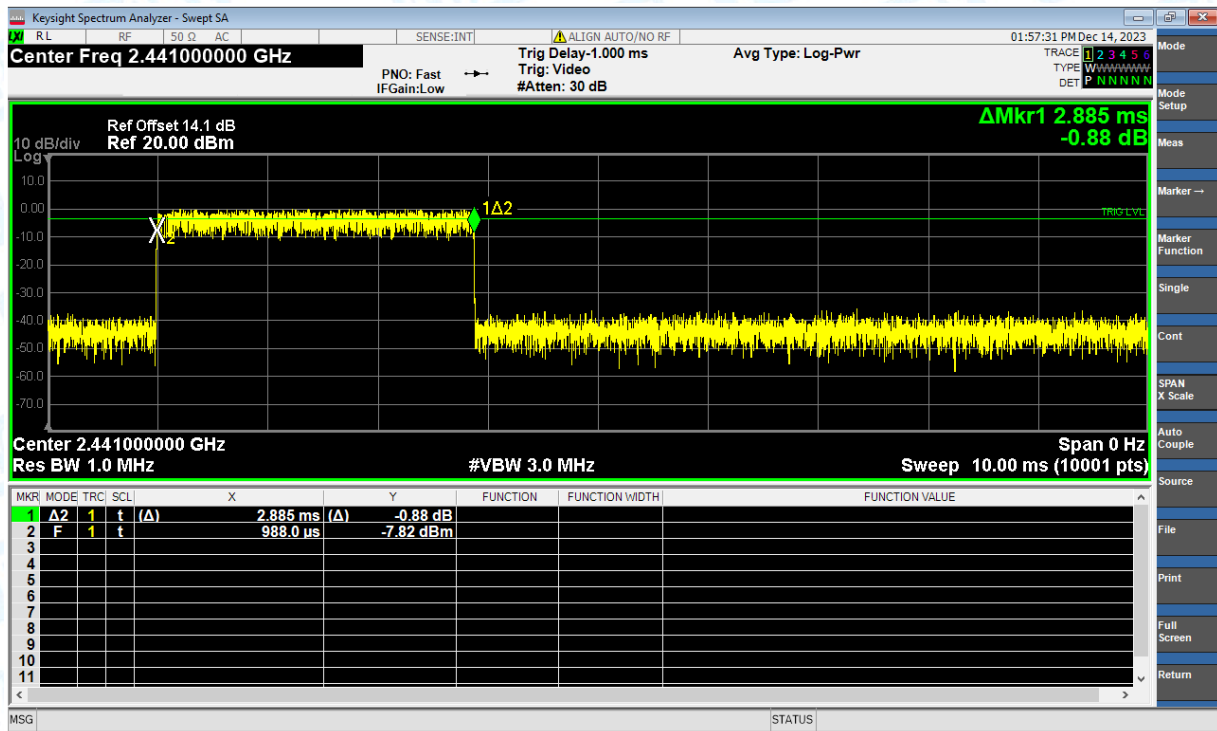
Dwell NVNT 2-DH1 2441MHz Ant1



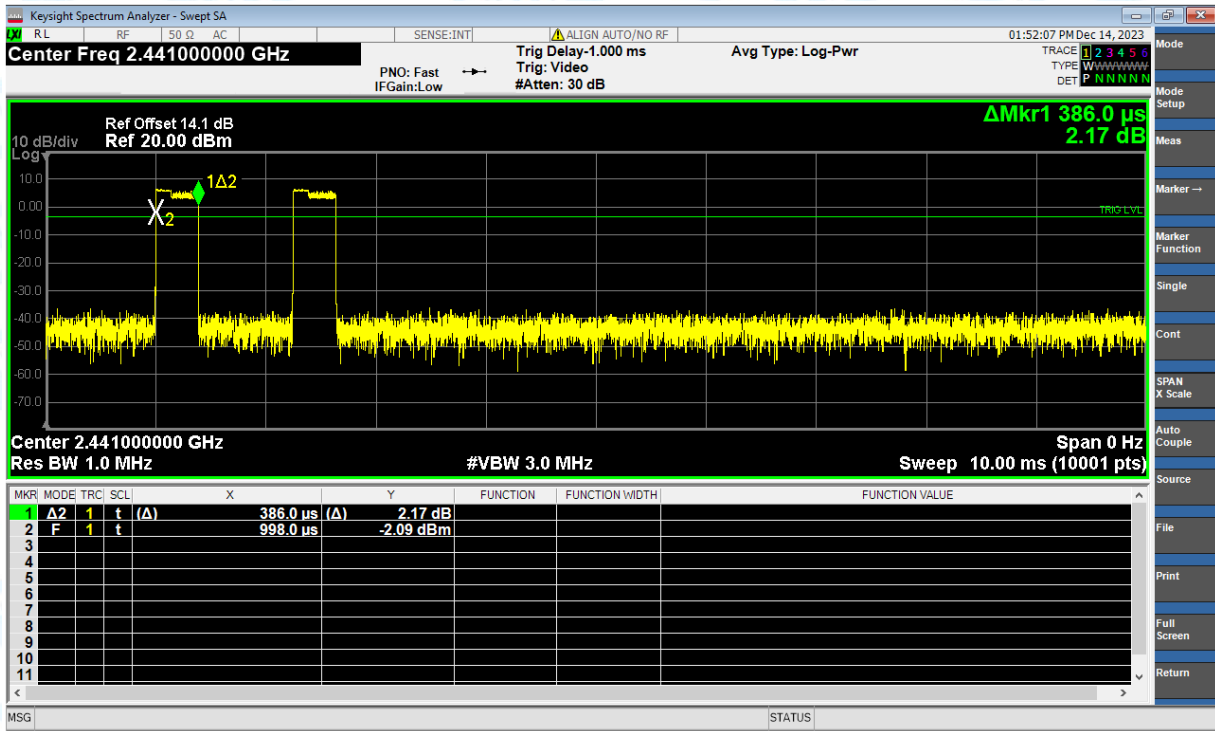
Dwell NVNT 2-DH3 2441MHz Ant1



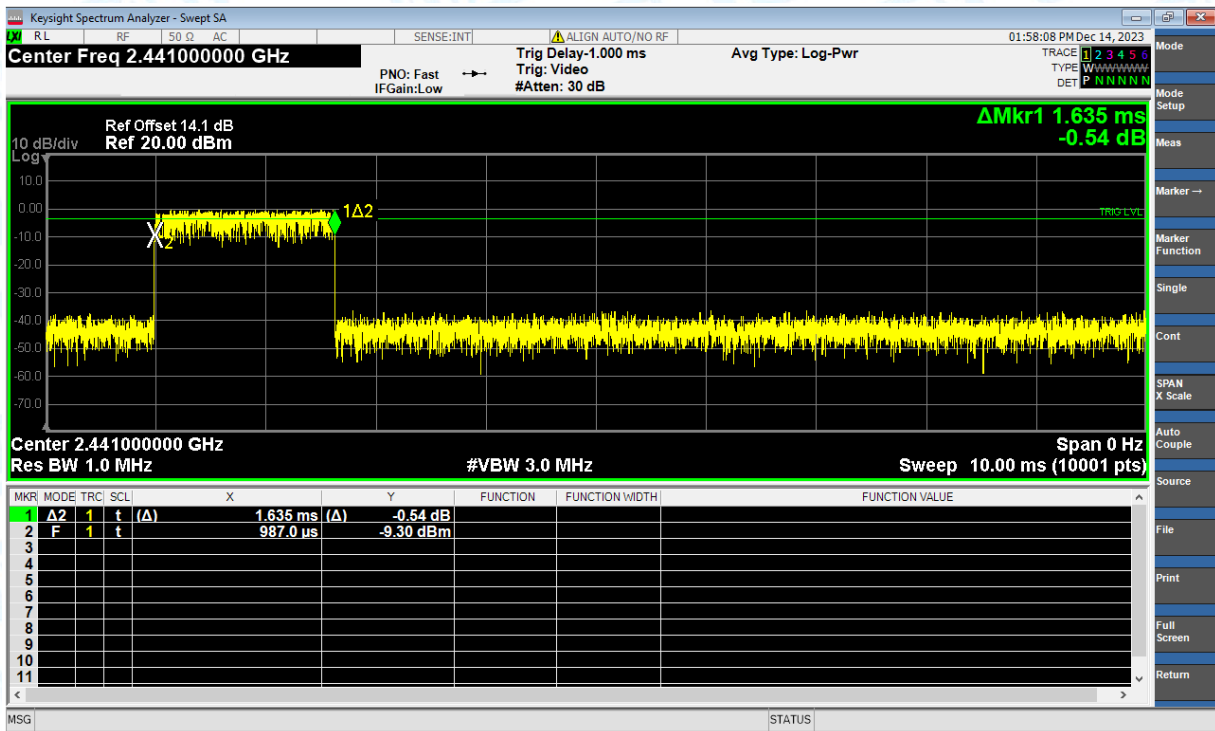
Dwell NVNT 2-DH5 2441MHz Ant1

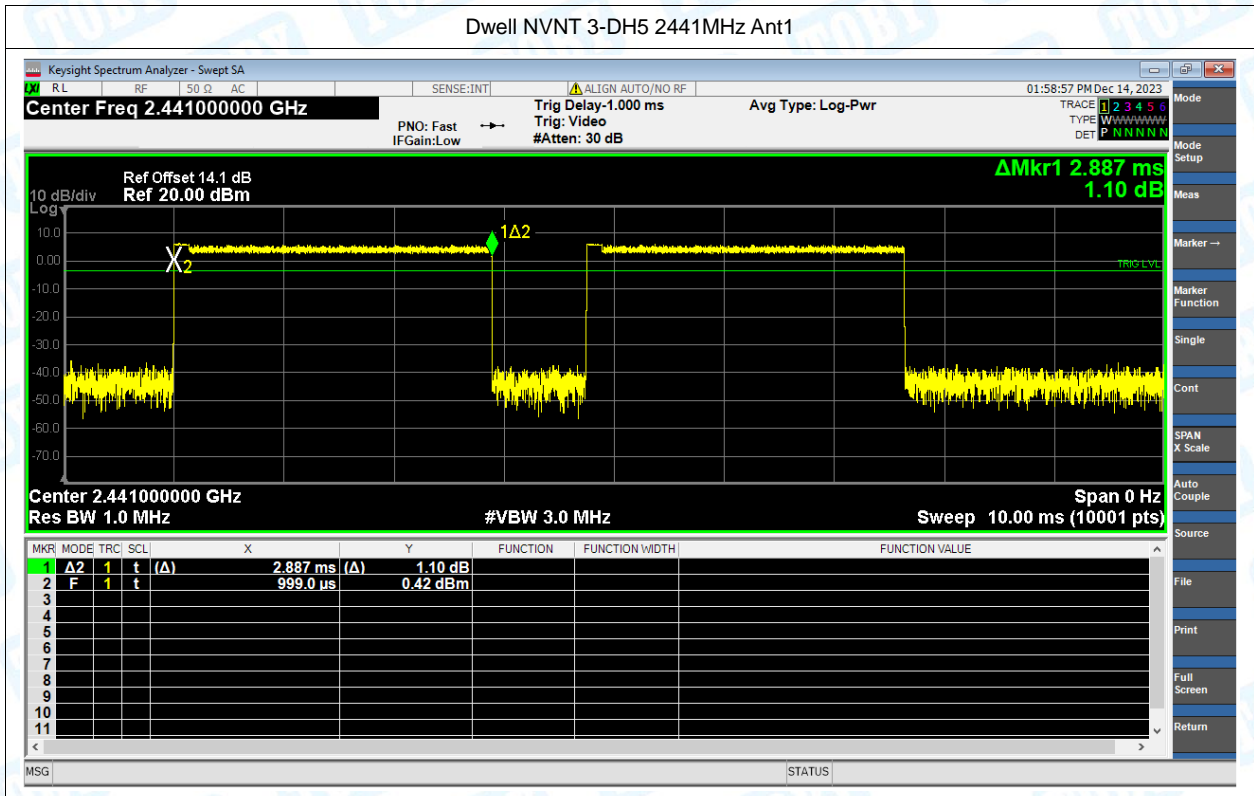


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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