

RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	Speaker
Test Model:	PS04
Sample ID:	HC-C-202405-0141-02-01
Environmental Conditions	
Temperature:	24.6℃
Relative Humidity:	52.3%
Test Voltage:	DC 7.4V
Test Engineer:	ZKN Zhou
Note: For a more detailed features description, please refer to the report TBR-C-202405-0141-2 The report only show the worst case data.	

Contents

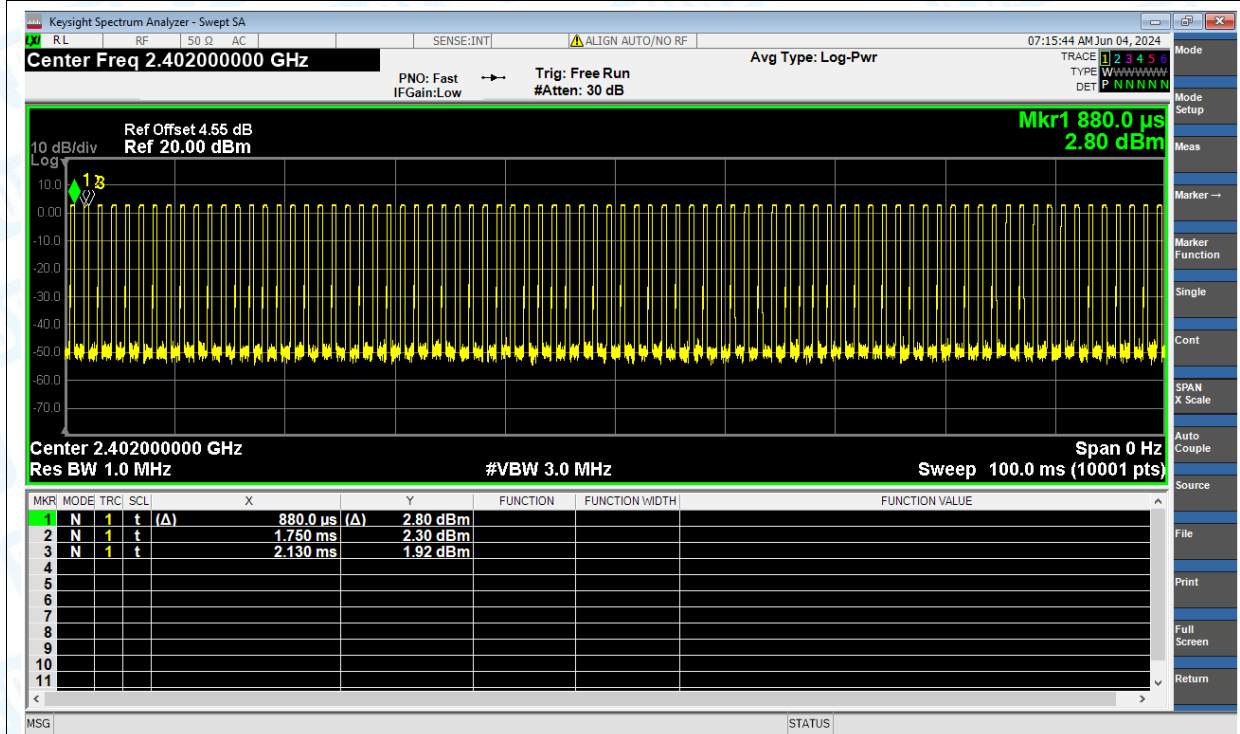
1. Duty Cycle.....	3
2. Maximum Conducted Output Power	9
3 -20dB Bandwidth	18
4. Occupied Channel Bandwidth	24
5. Band Edge	30
6. Band Edge(Hopping).....	37
7. Conducted RF Spurious Emission	44
8. Restrict Band	54
9. Carrier Frequencies Separation.....	61
10. Number of Hopping Channel	64
11. Dwell Time.....	67

1. Duty Cycle

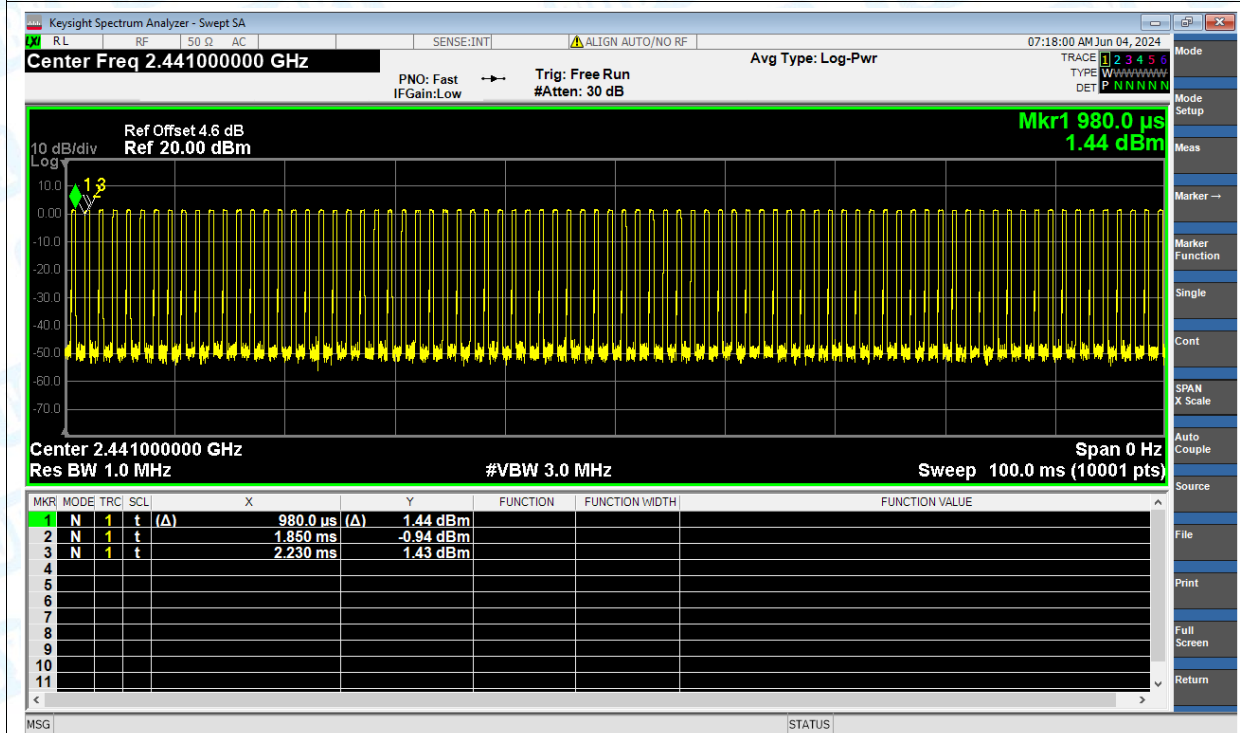
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	3-DH1	2480	Ant1	31.2	5.06	2.56

Test Graphs

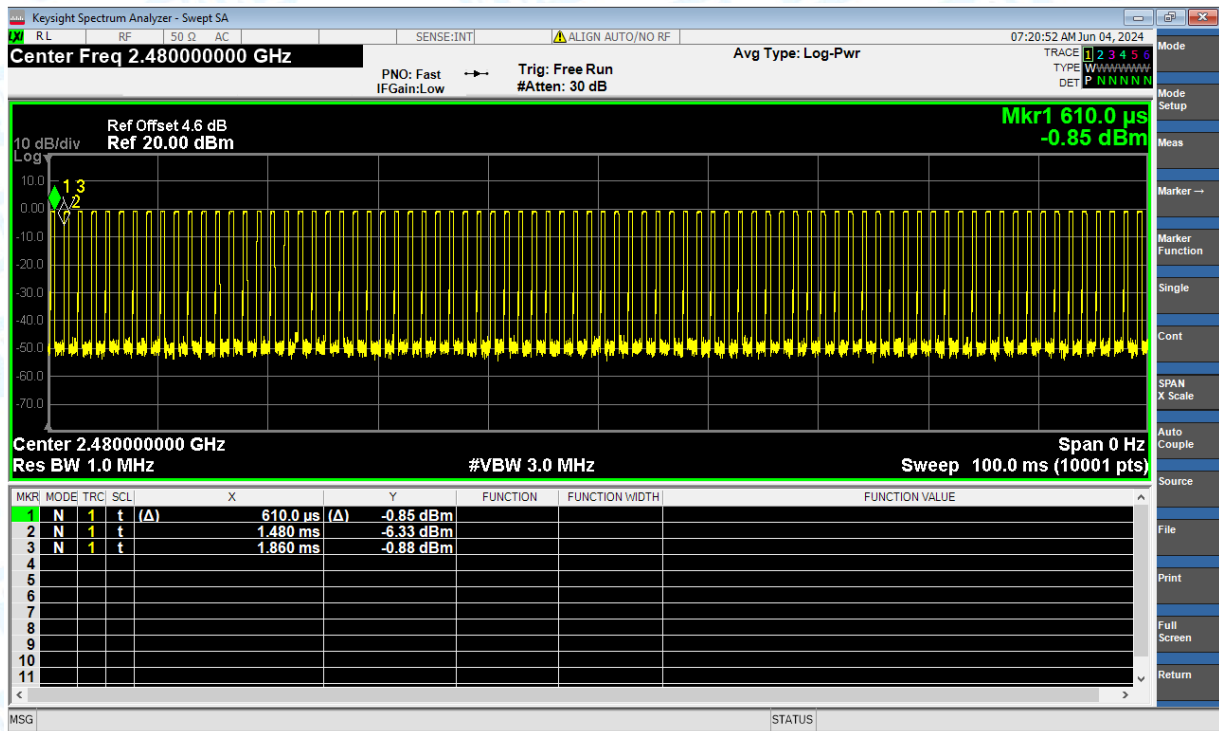
Duty Cycle NVNT 1-DH1 2402MHz Ant1



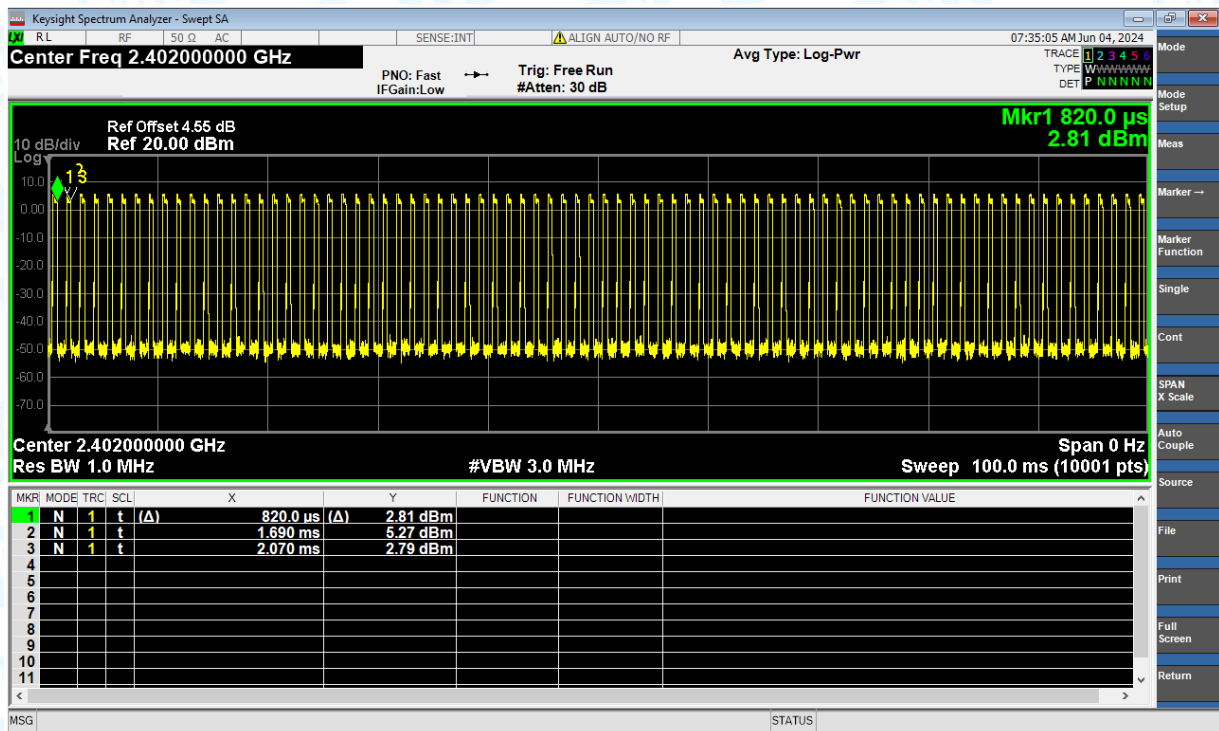
Duty Cycle NVNT 1-DH1 2441MHz Ant1



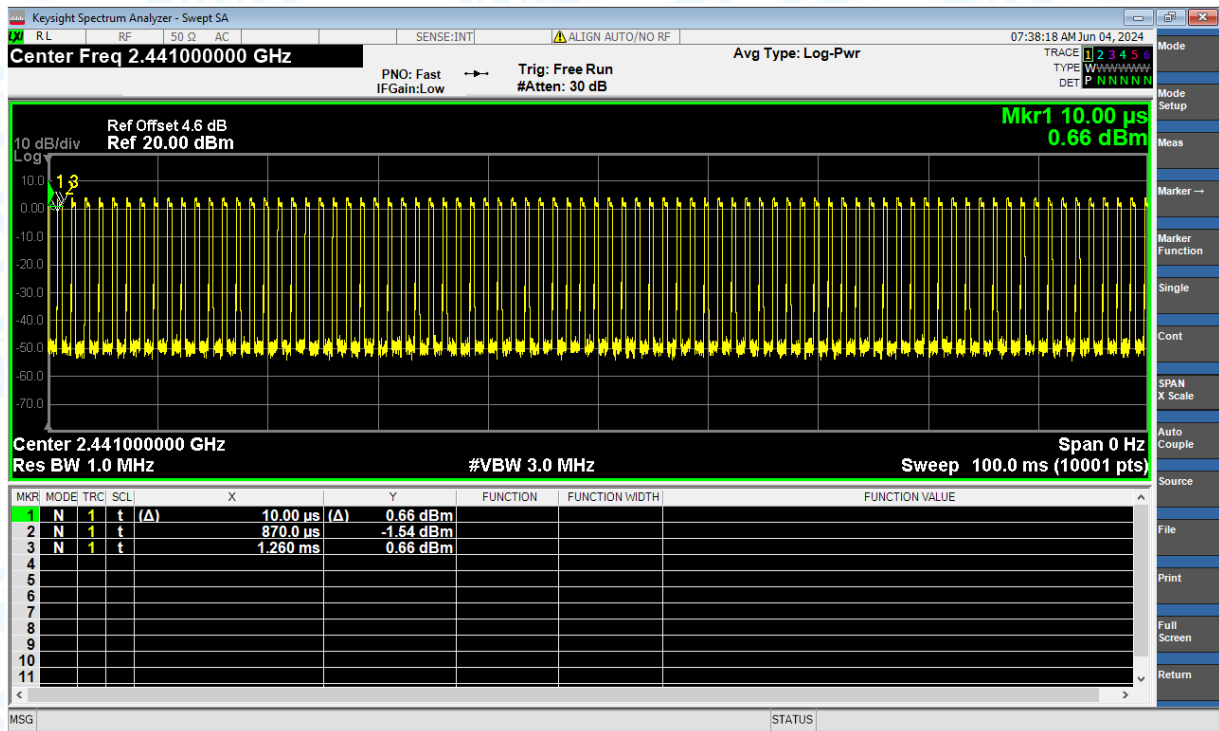
Duty Cycle NVNT 1-DH1 2480MHz Ant1



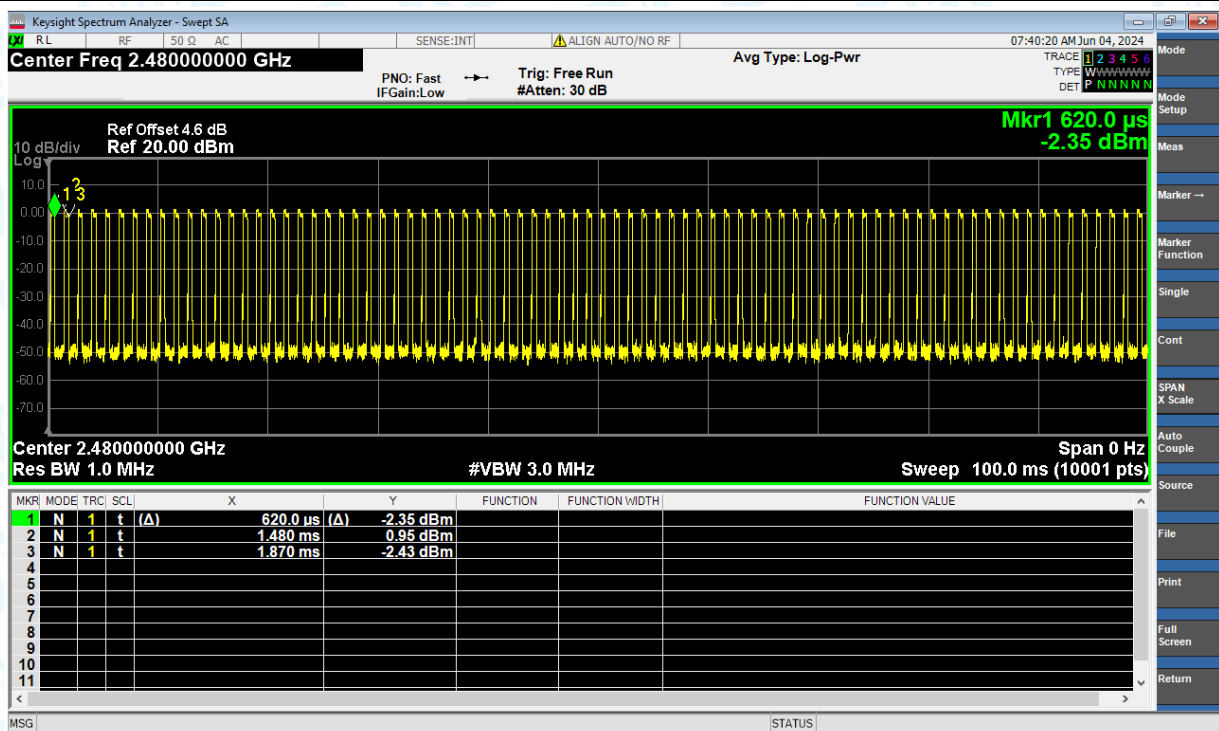
Duty Cycle NVNT 2-DH1 2402MHz Ant1



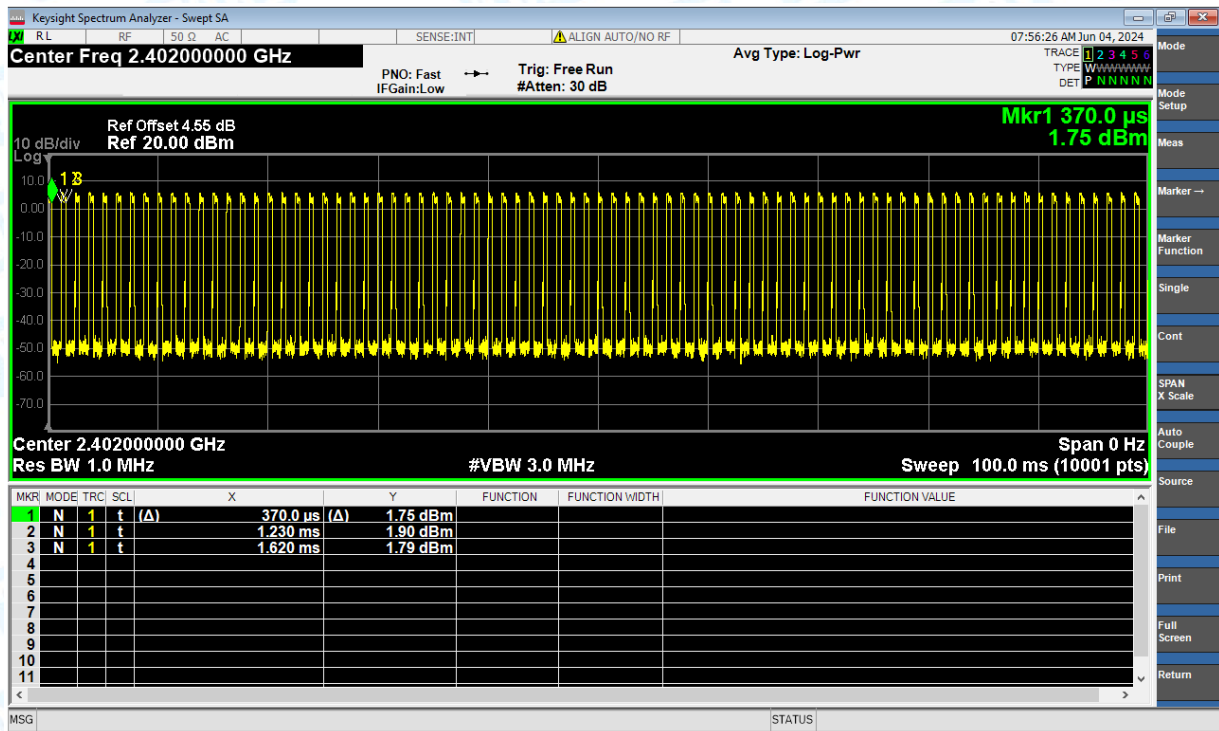
Duty Cycle NVNT 2-DH1 2441MHz Ant1



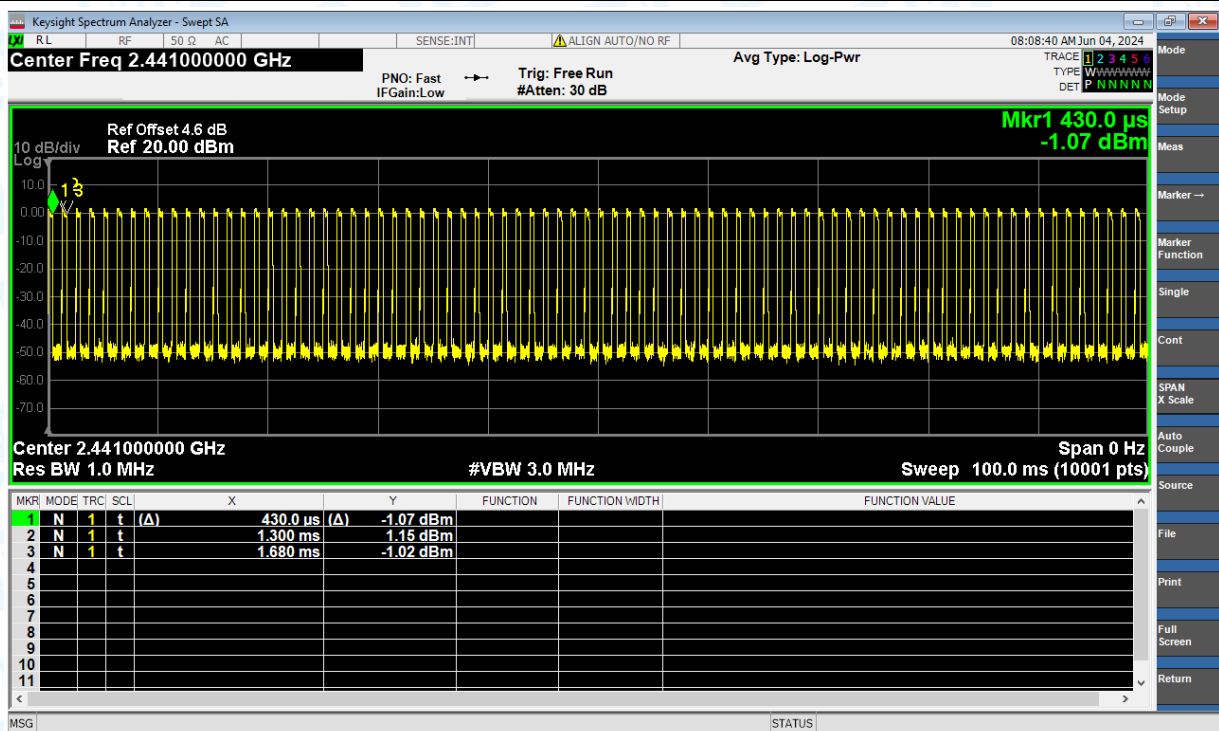
Duty Cycle NVNT 2-DH1 2480MHz Ant1

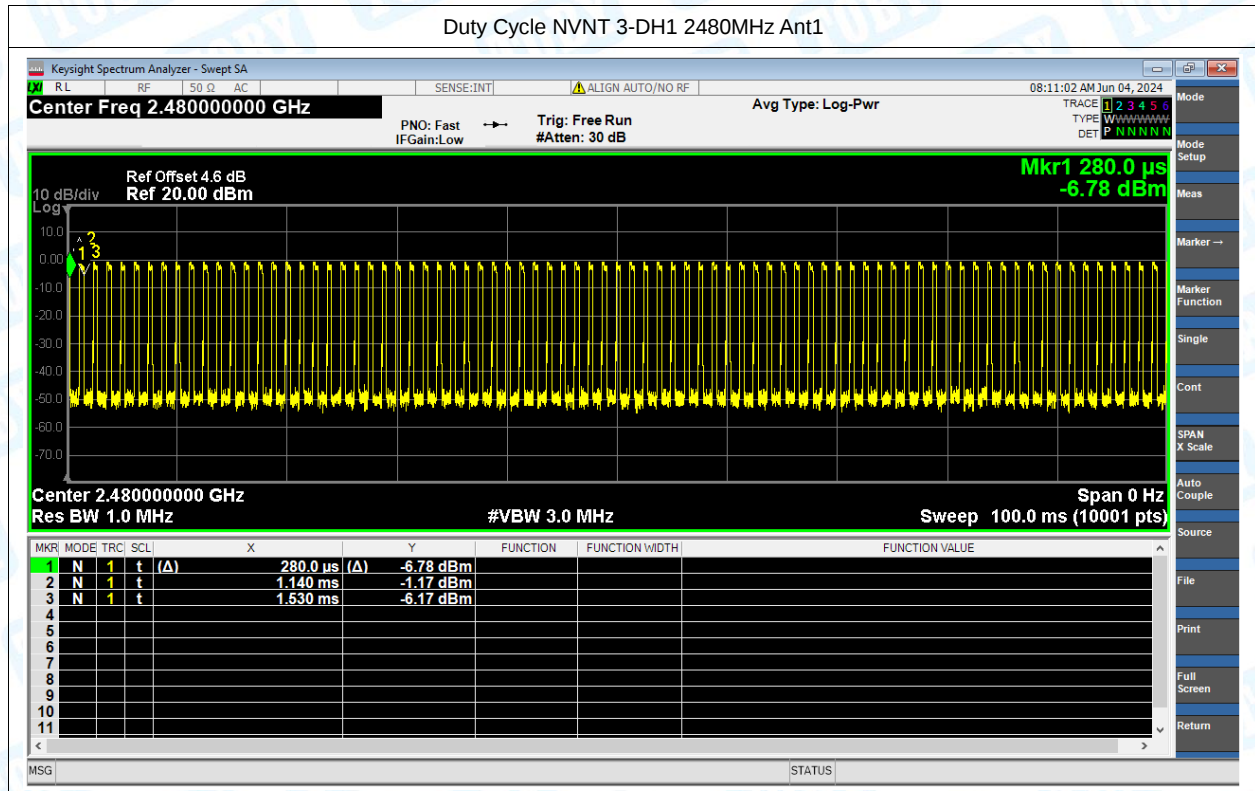


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1





2. Maximum Conducted Output Power

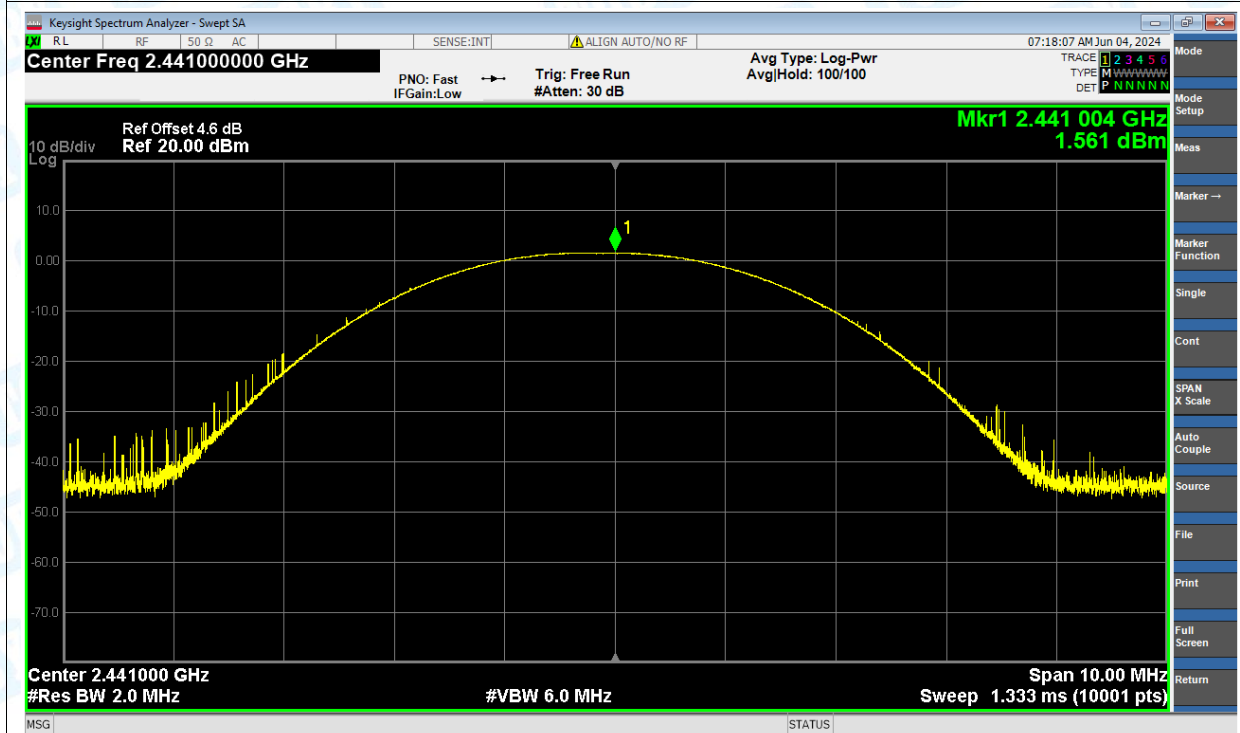
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	2.971	21	Pass
NVNT	1-DH1	2441	Ant1	1.561	21	Pass
NVNT	1-DH1	2480	Ant1	1.568	21	Pass
NVNT	1-DH3	2441	Ant1	1.356	21	Pass
NVNT	1-DH5	2441	Ant1	1.33	21	Pass
NVNT	2-DH1	2402	Ant1	3.133	21	Pass
NVNT	2-DH1	2441	Ant1	1.669	21	Pass
NVNT	2-DH1	2480	Ant1	1.585	21	Pass
NVNT	2-DH3	2441	Ant1	3.769	21	Pass
NVNT	2-DH5	2441	Ant1	3.696	21	Pass
NVNT	3-DH1	2402	Ant1	3.136	21	Pass
NVNT	3-DH1	2441	Ant1	1.681	21	Pass
NVNT	3-DH1	2480	Ant1	1.586	21	Pass
NVNT	3-DH3	2441	Ant1	3.737	21	Pass
NVNT	3-DH5	2441	Ant1	3.714	21	Pass

Test Graphs

Power NVNT 1-DH1 2402MHz Ant1



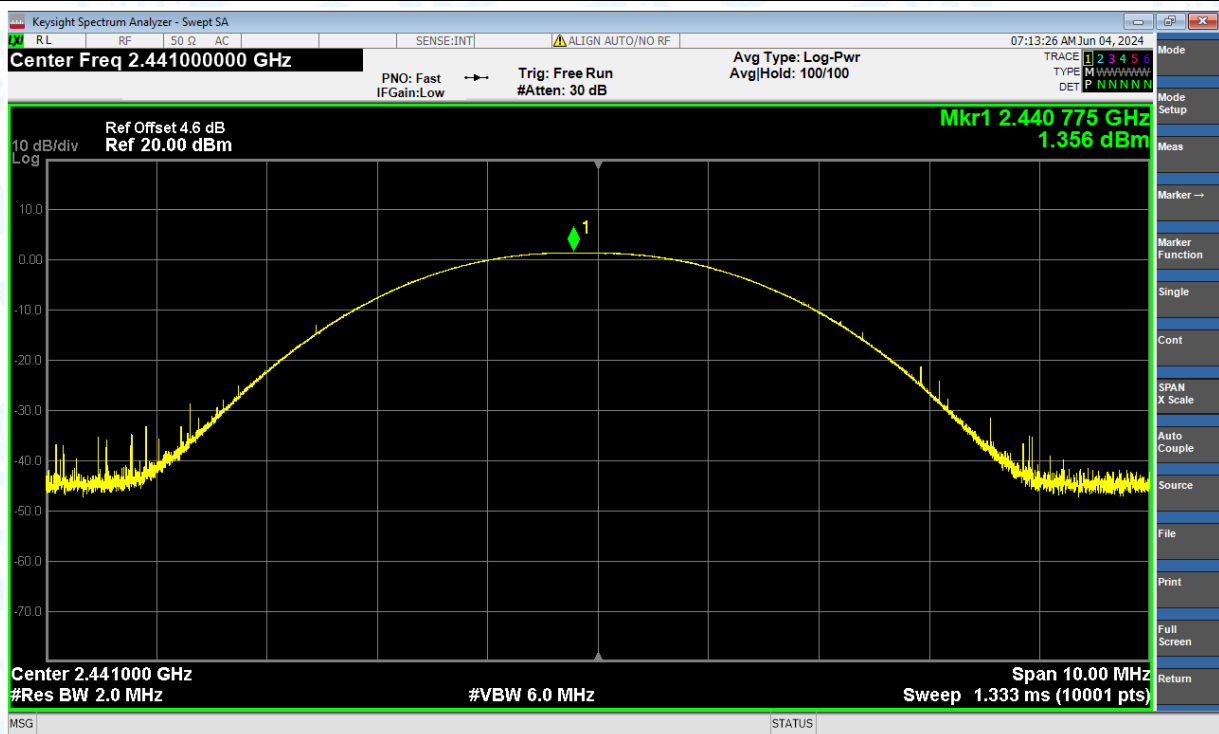
Power NVNT 1-DH1 2441MHz Ant1



Power NVNT 1-DH1 2480MHz Ant1



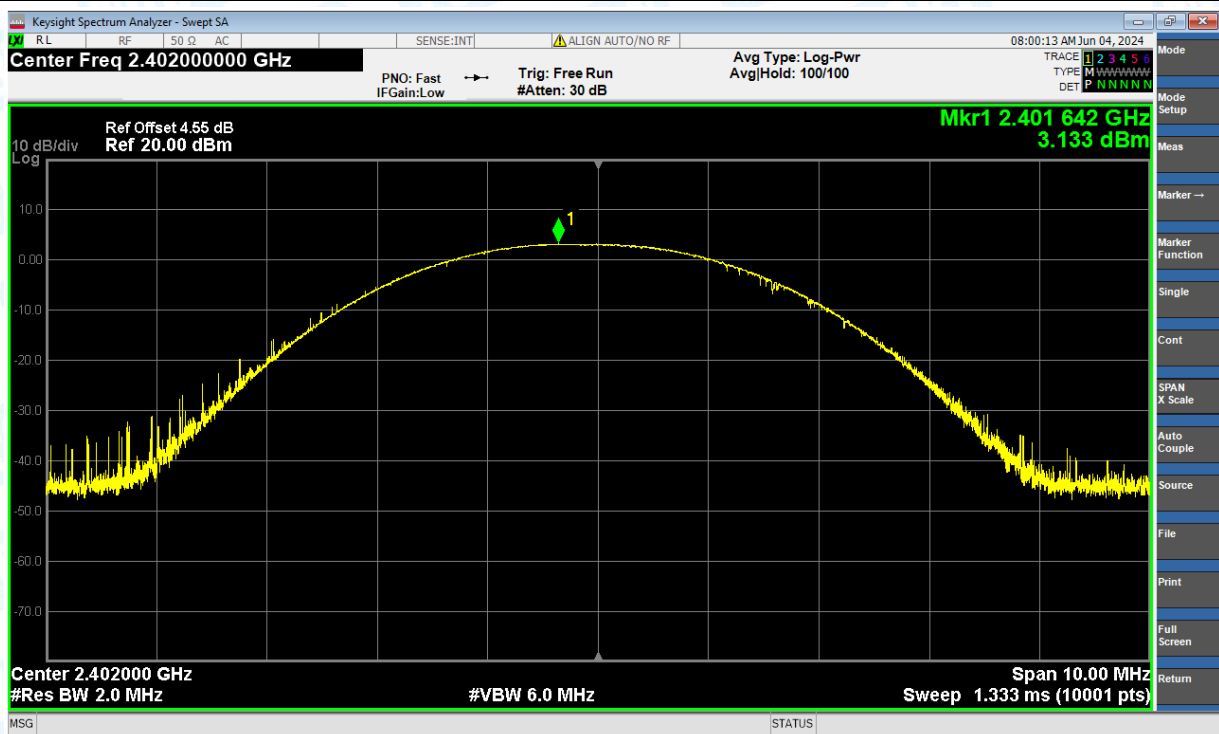
Power NVNT 1-DH3 2441MHz Ant1



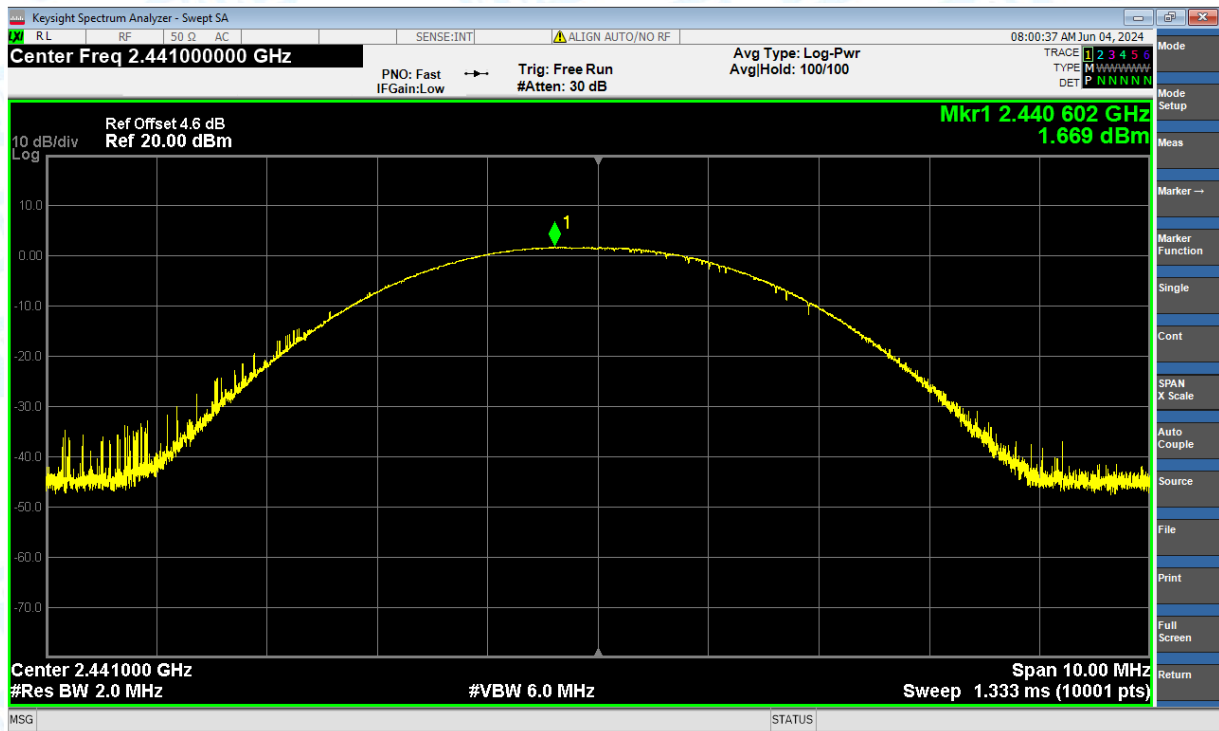
Power NVNT 1-DH5 2441MHz Ant1



Power NVNT 2-DH1 2402MHz Ant1



Power NVNT 2-DH1 2441MHz Ant1



Power NVNT 2-DH1 2480MHz Ant1



Power NVNT 2-DH3 2441MHz Ant1



Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 3-DH1 2402MHz Ant1



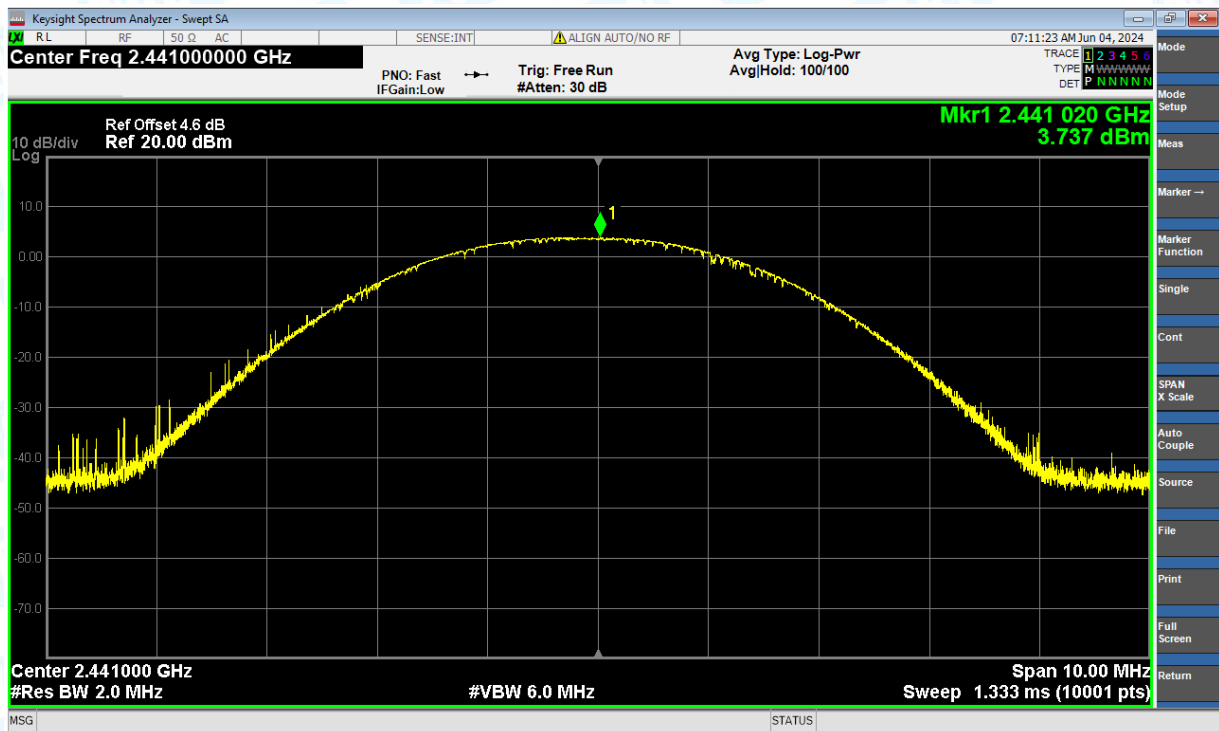
Power NVNT 3-DH1 2441MHz Ant1



Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1



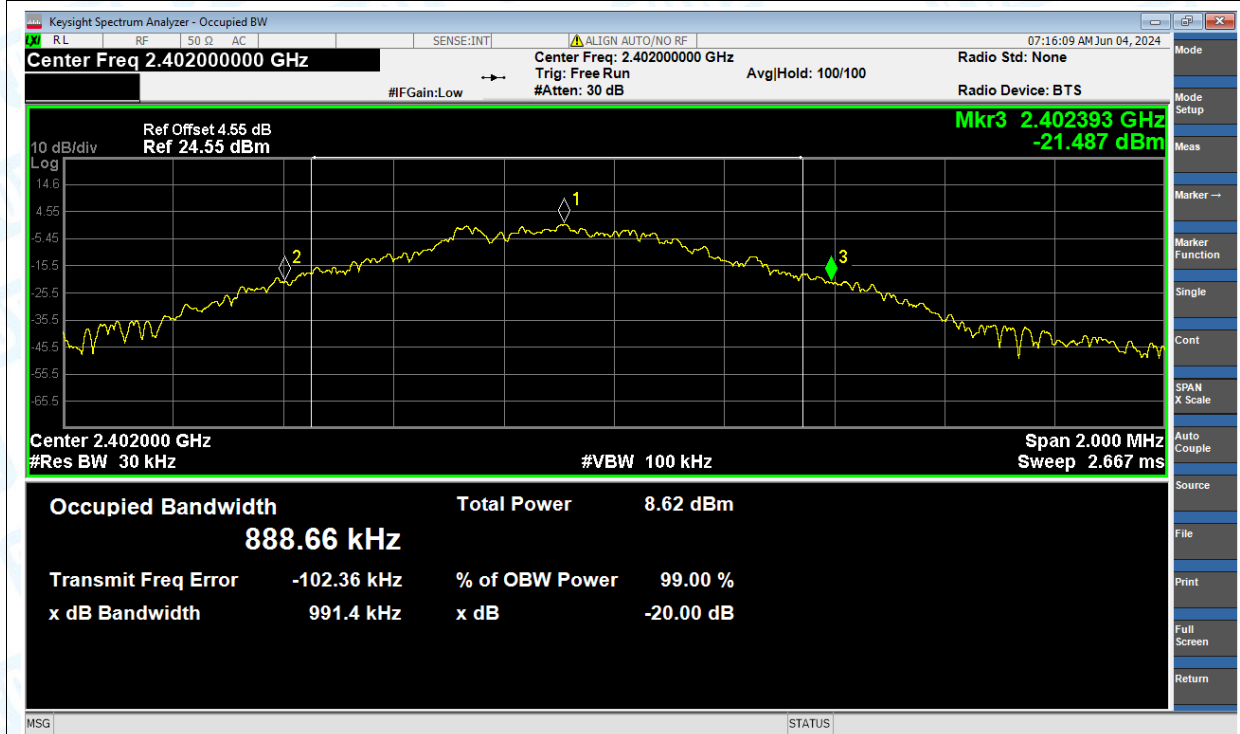


3 -20dB Bandwidth

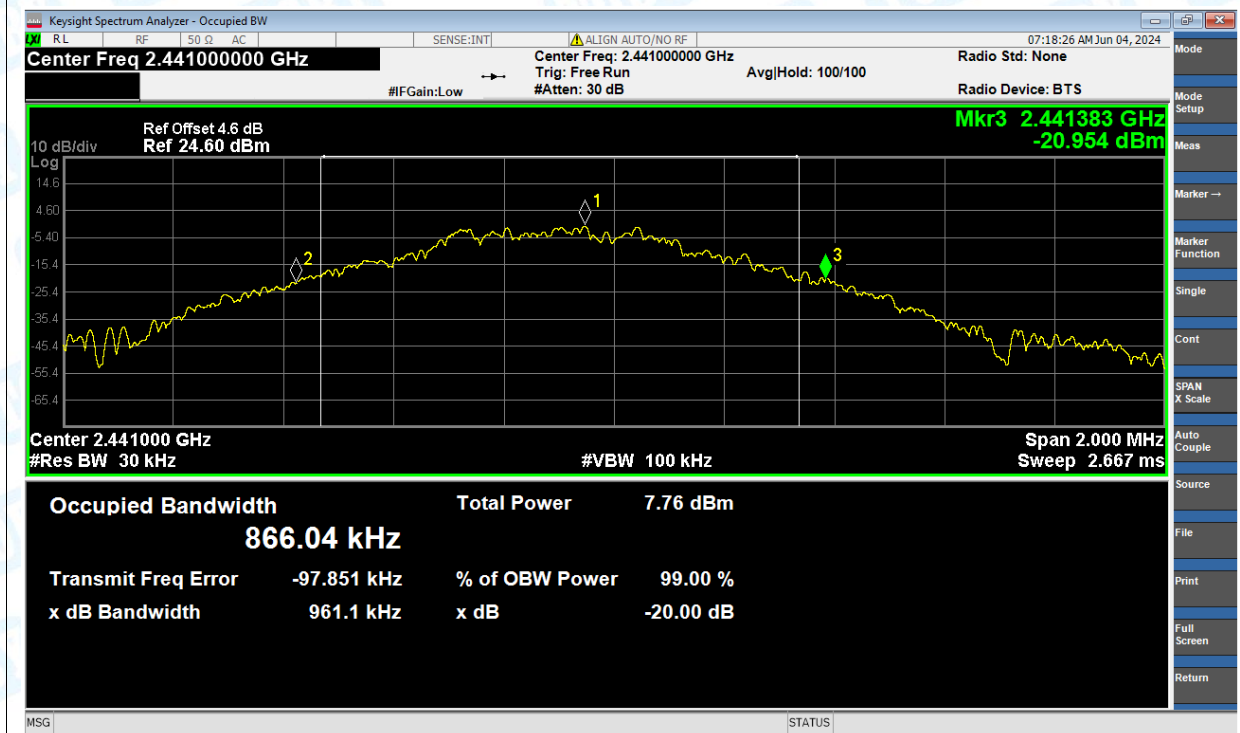
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.99	0	Pass
NVNT	1-DH1	2441	Ant1	0.96	0	Pass
NVNT	1-DH1	2480	Ant1	0.96	0	Pass
NVNT	2-DH1	2402	Ant1	1.25	0	Pass
NVNT	2-DH1	2441	Ant1	1.26	0	Pass
NVNT	2-DH1	2480	Ant1	1.28	0	Pass
NVNT	3-DH1	2402	Ant1	1.25	0	Pass
NVNT	3-DH1	2441	Ant1	1.25	0	Pass
NVNT	3-DH1	2480	Ant1	1.23	0	Pass

Test Graphs

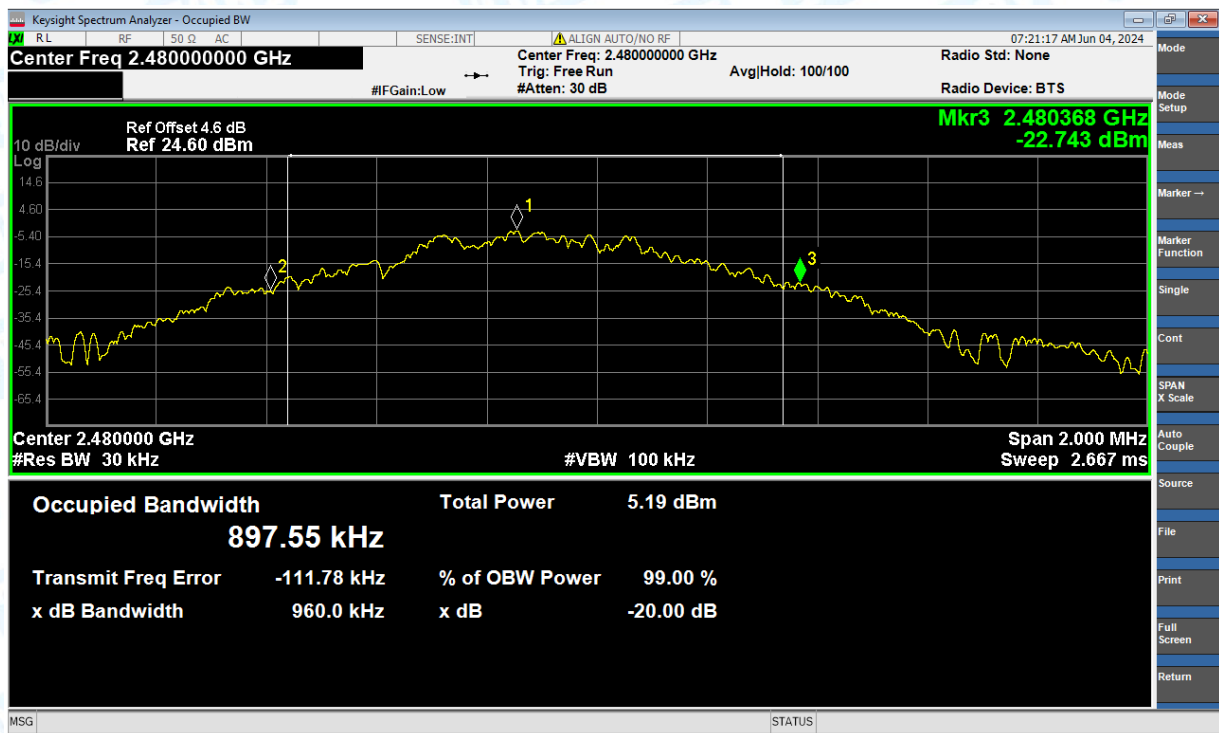
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



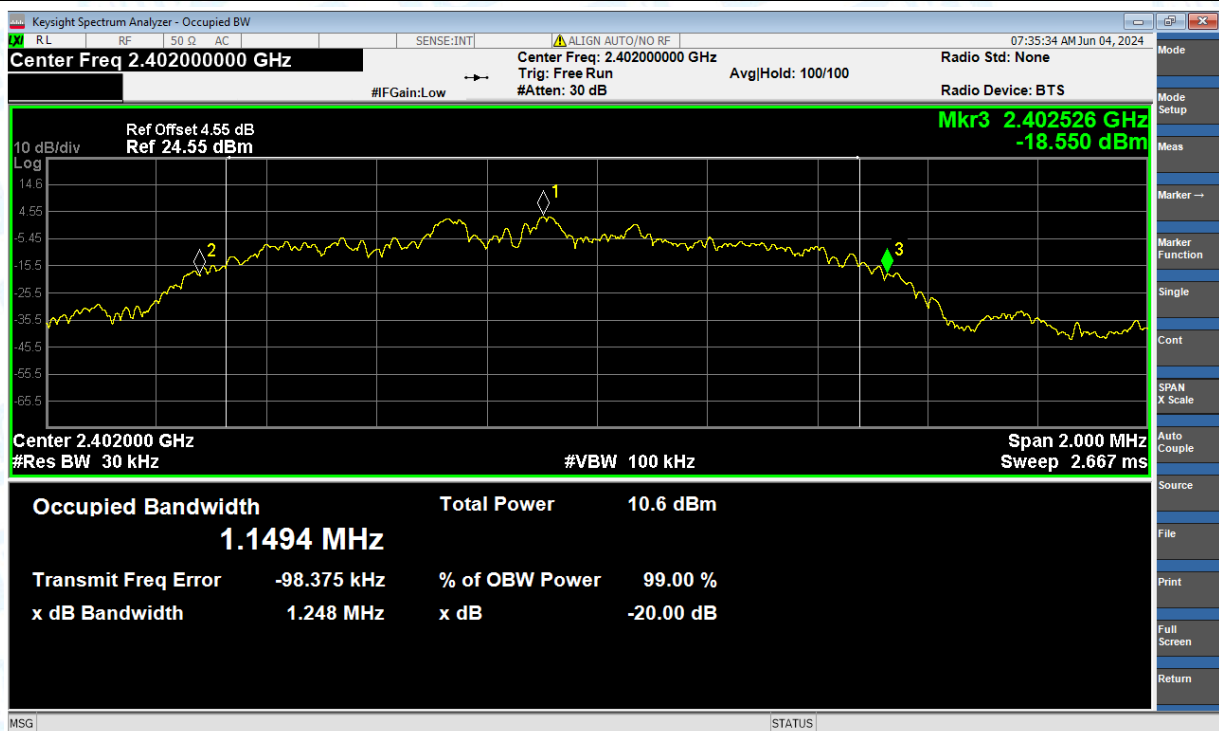
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



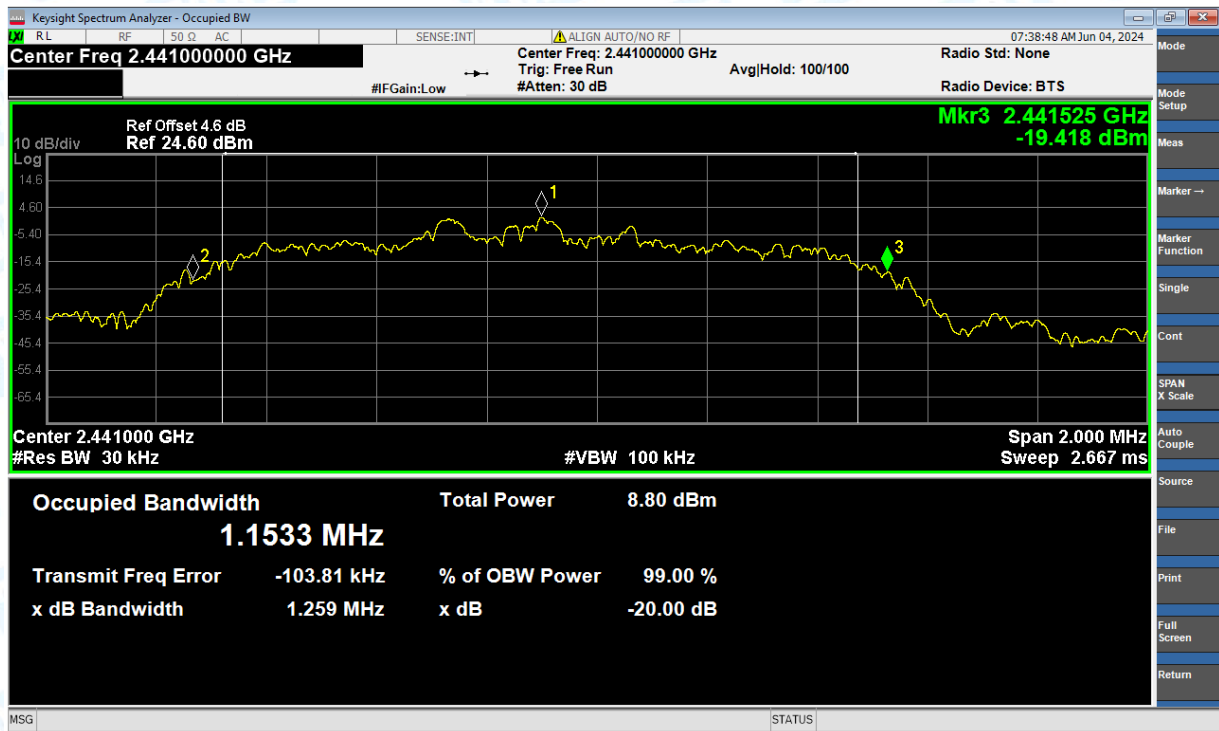
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



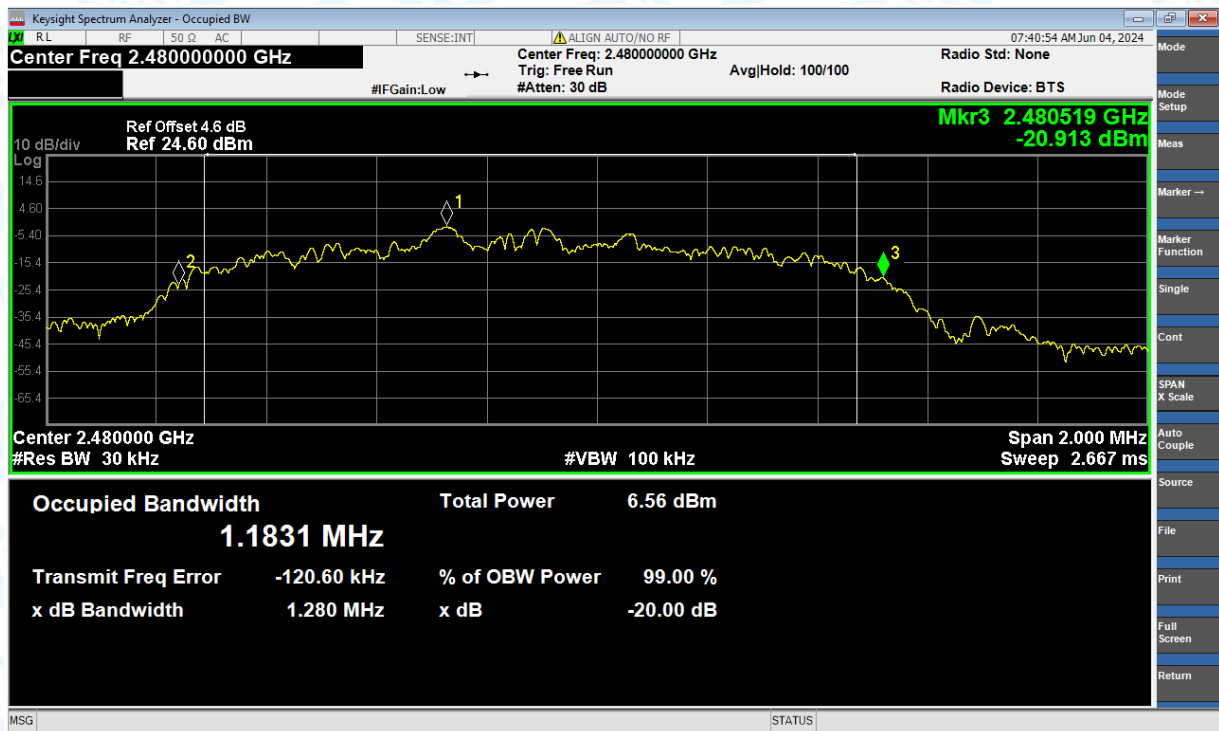
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



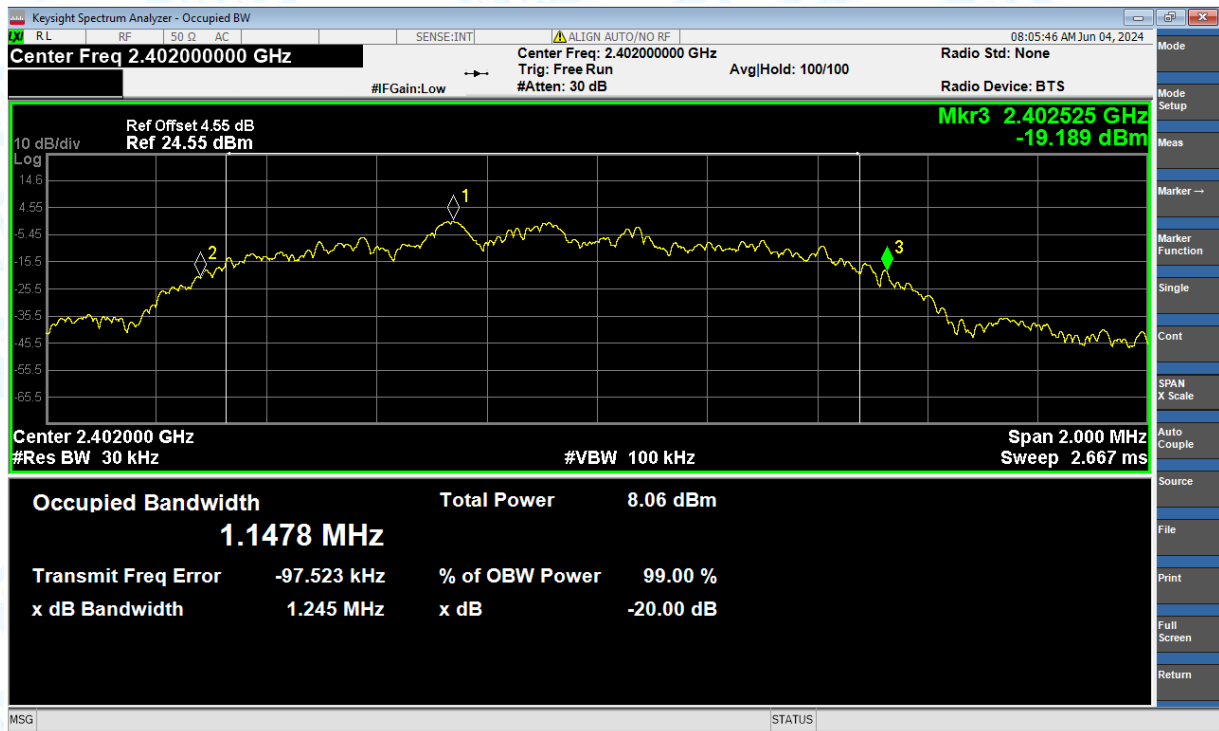
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



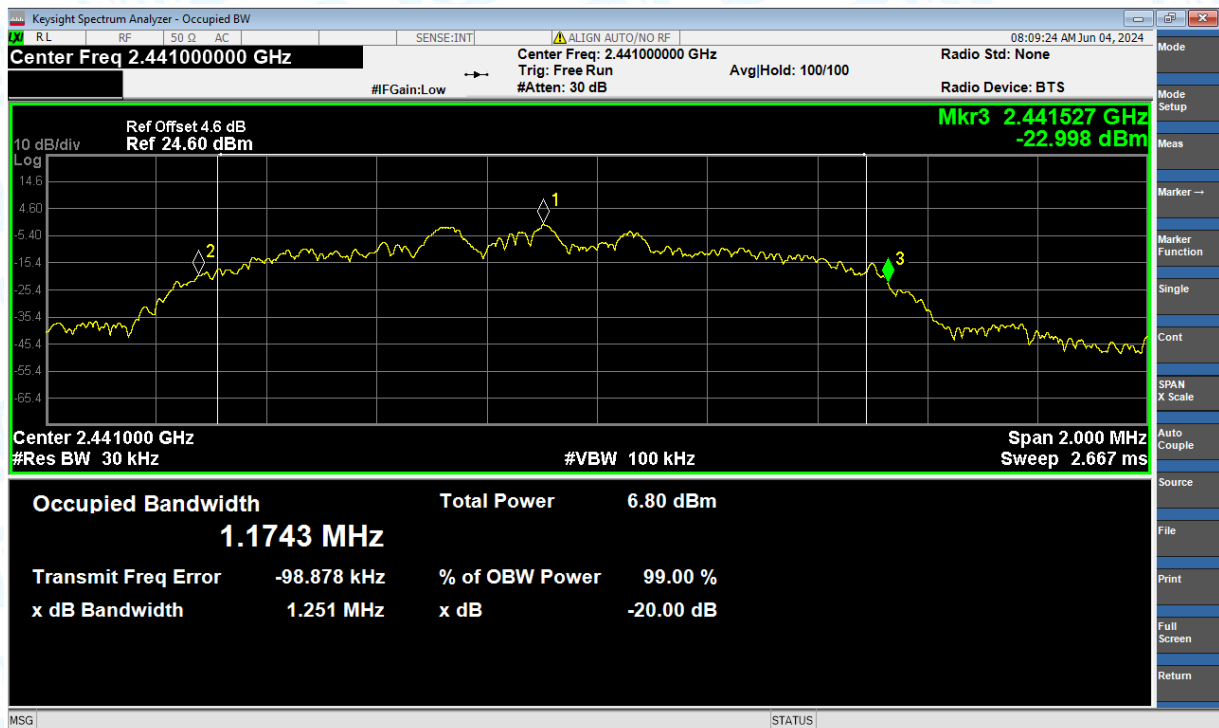
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

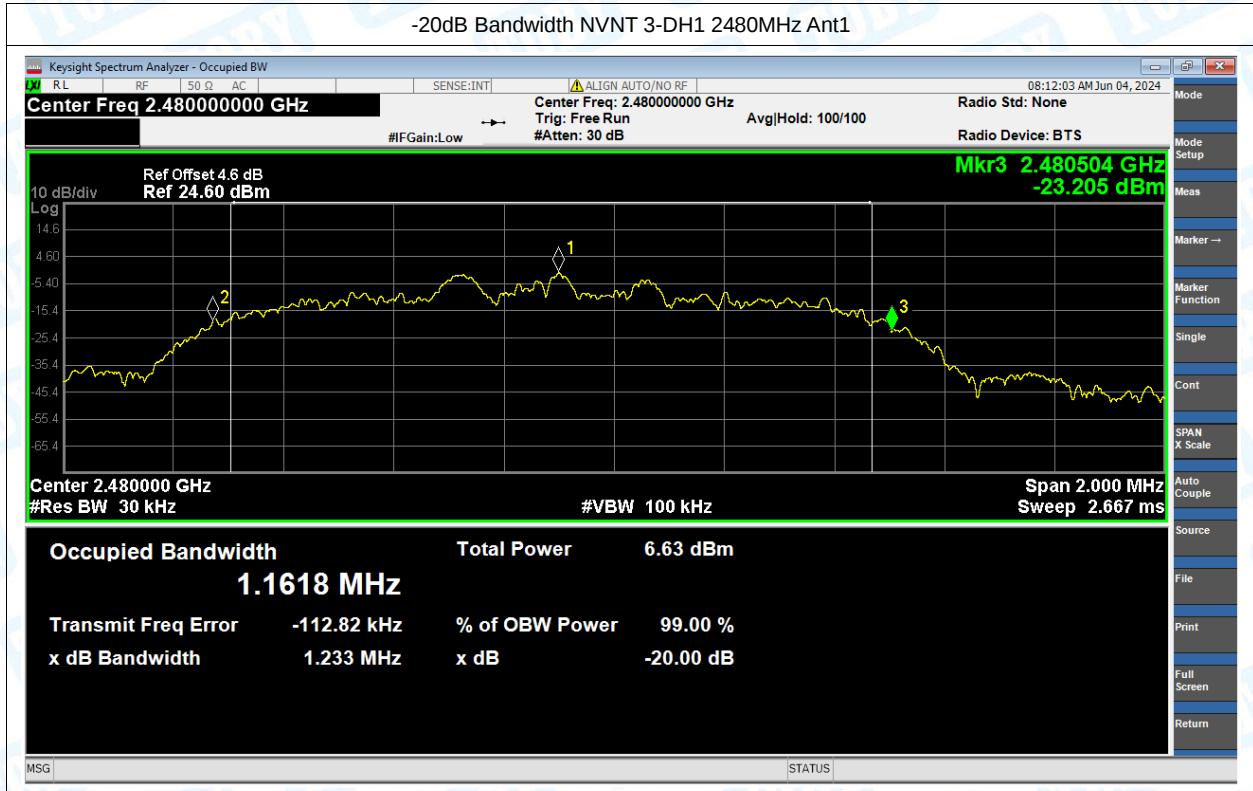


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



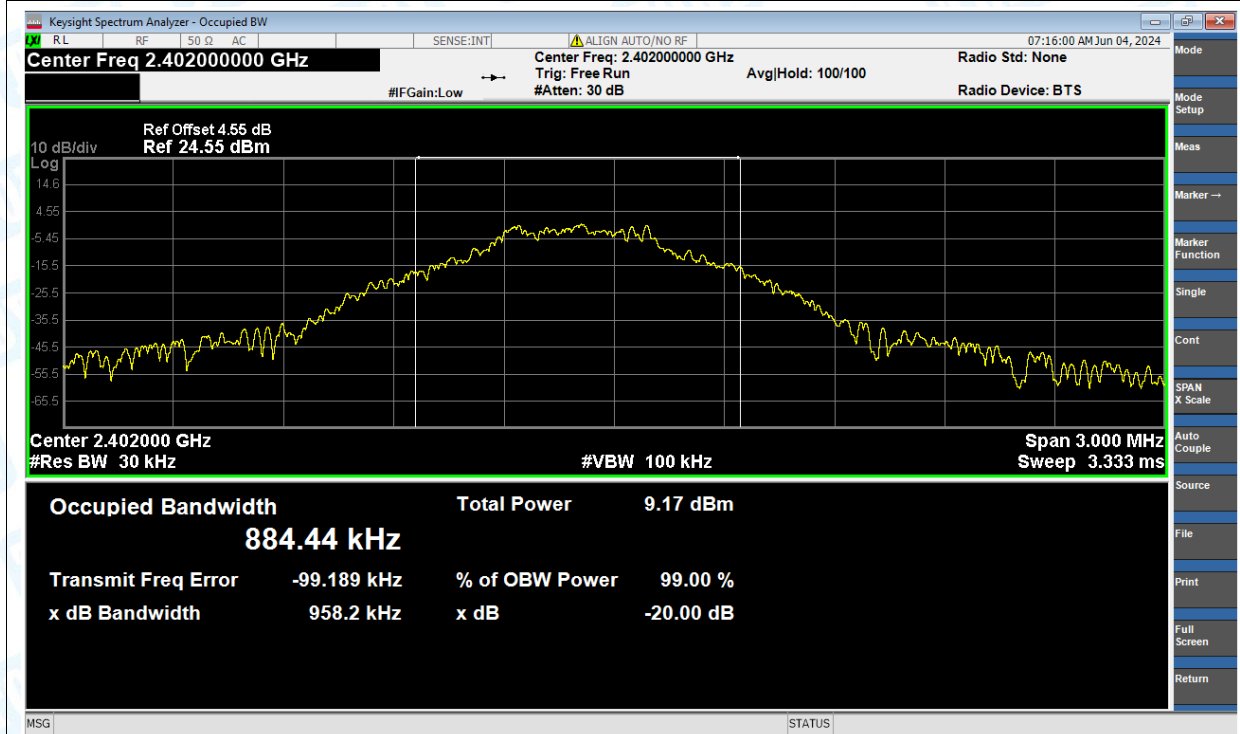


4. Occupied Channel Bandwidth

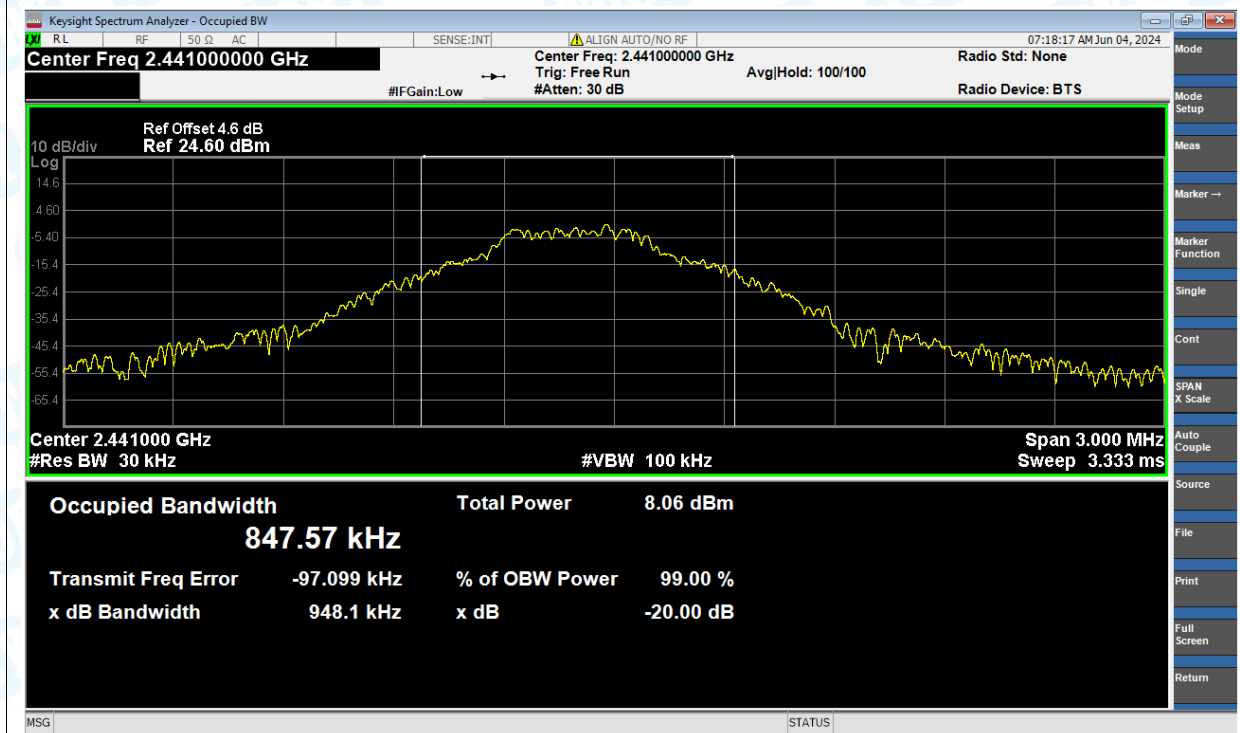
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.884
NVNT	1-DH1	2441	Ant1	0.848
NVNT	1-DH1	2480	Ant1	0.876
NVNT	2-DH1	2402	Ant1	1.141
NVNT	2-DH1	2441	Ant1	1.145
NVNT	2-DH1	2480	Ant1	1.154
NVNT	3-DH1	2402	Ant1	1.147
NVNT	3-DH1	2441	Ant1	1.19
NVNT	3-DH1	2480	Ant1	1.18

Test Graphs

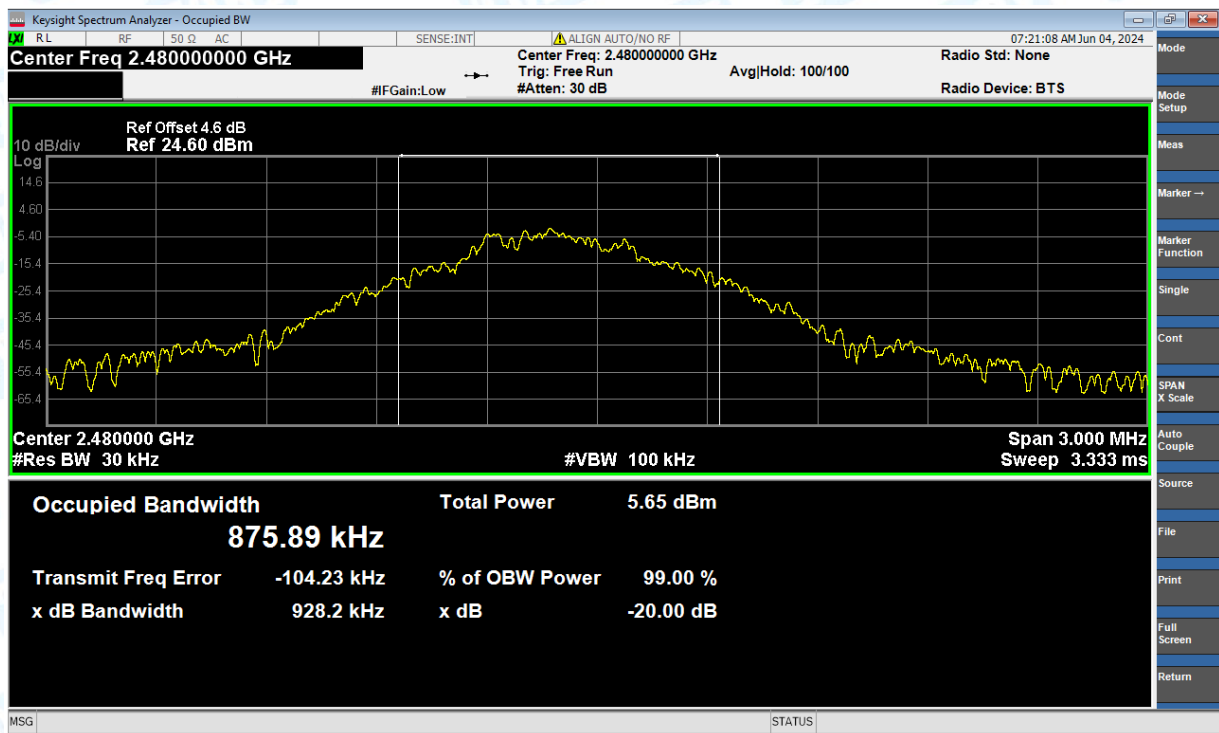
OBW NVNT 1-DH1 2402MHz Ant1



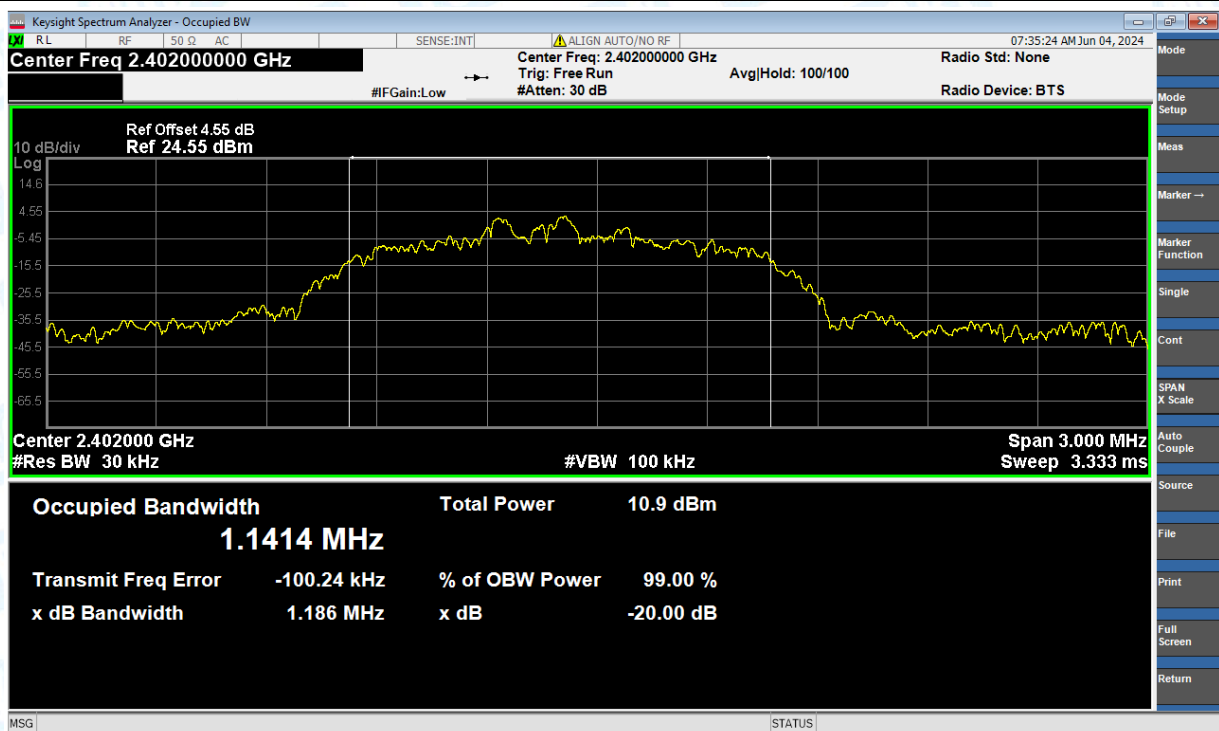
OBW NVNT 1-DH1 2441MHz Ant1



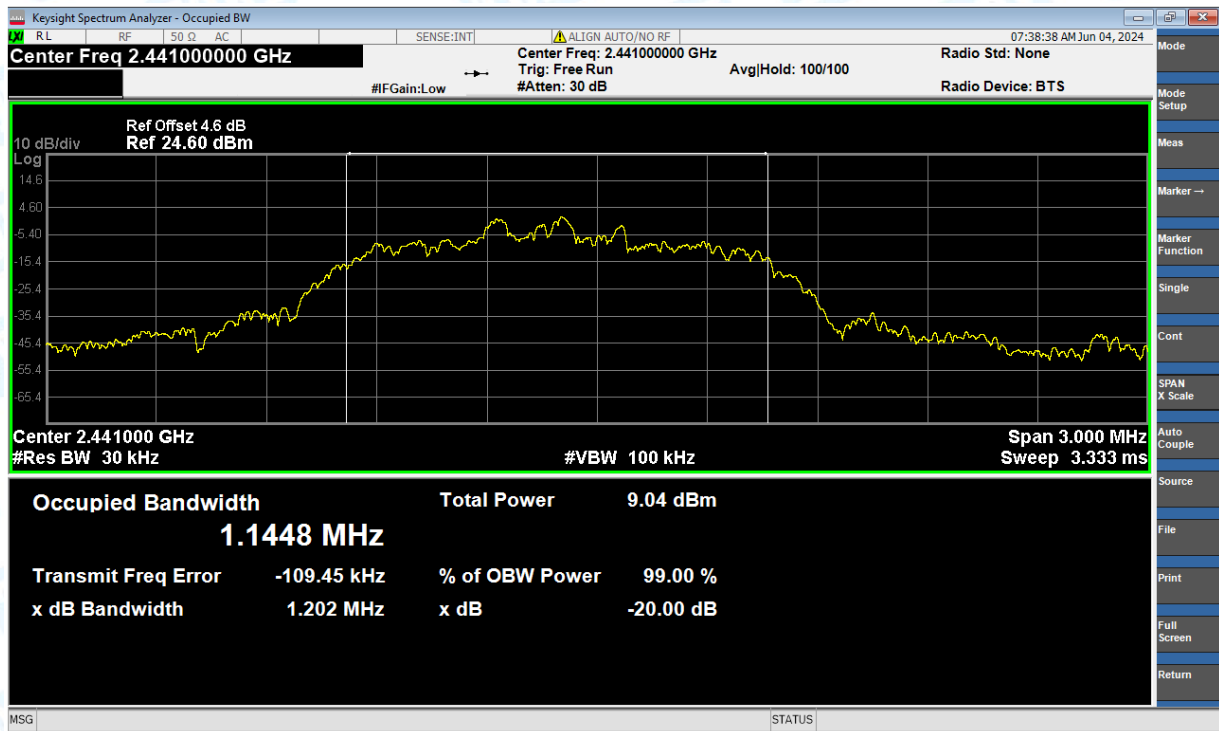
OBW NVNT 1-DH1 2480MHz Ant1



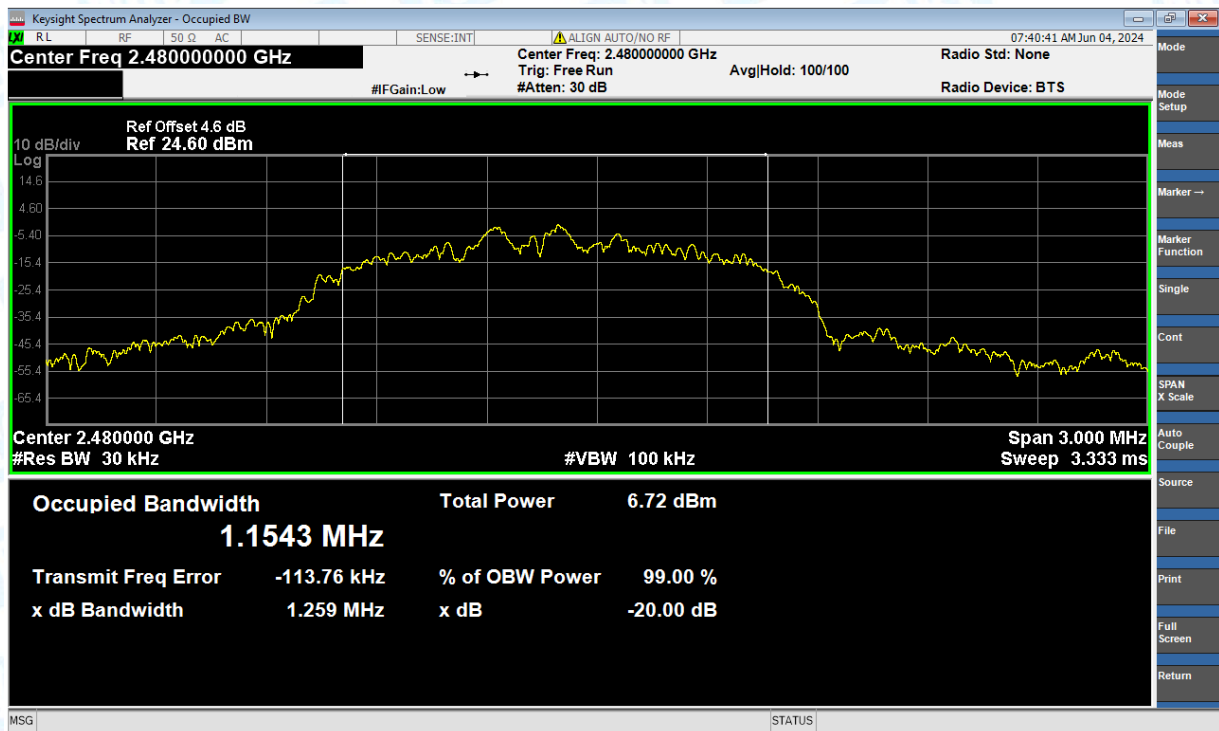
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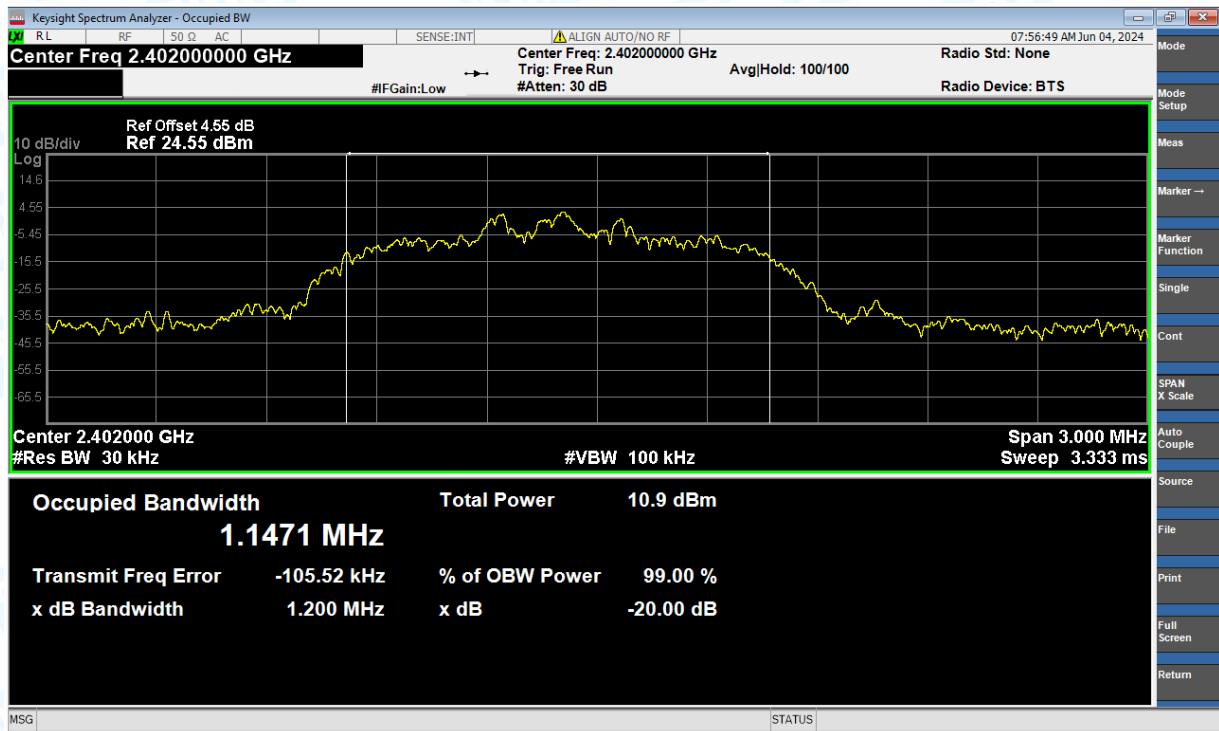
OBW NVNT 2-DH1 2441MHz Ant1



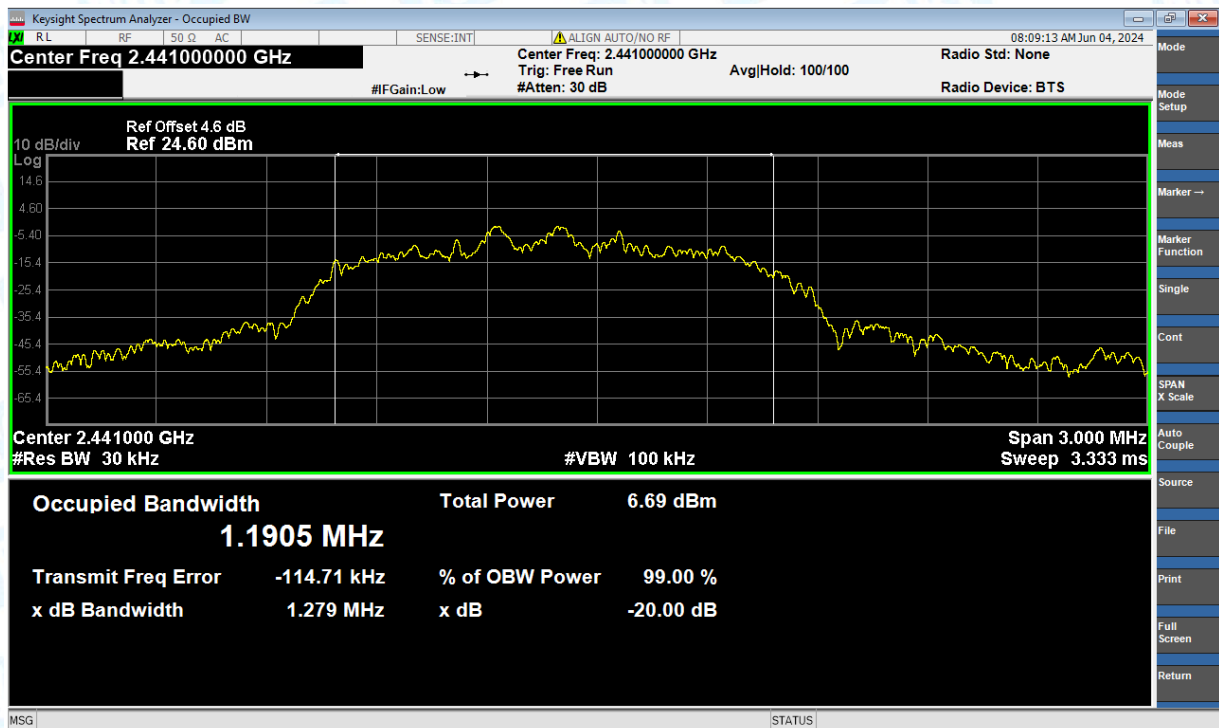
OBW NVNT 2-DH1 2480MHz Ant1

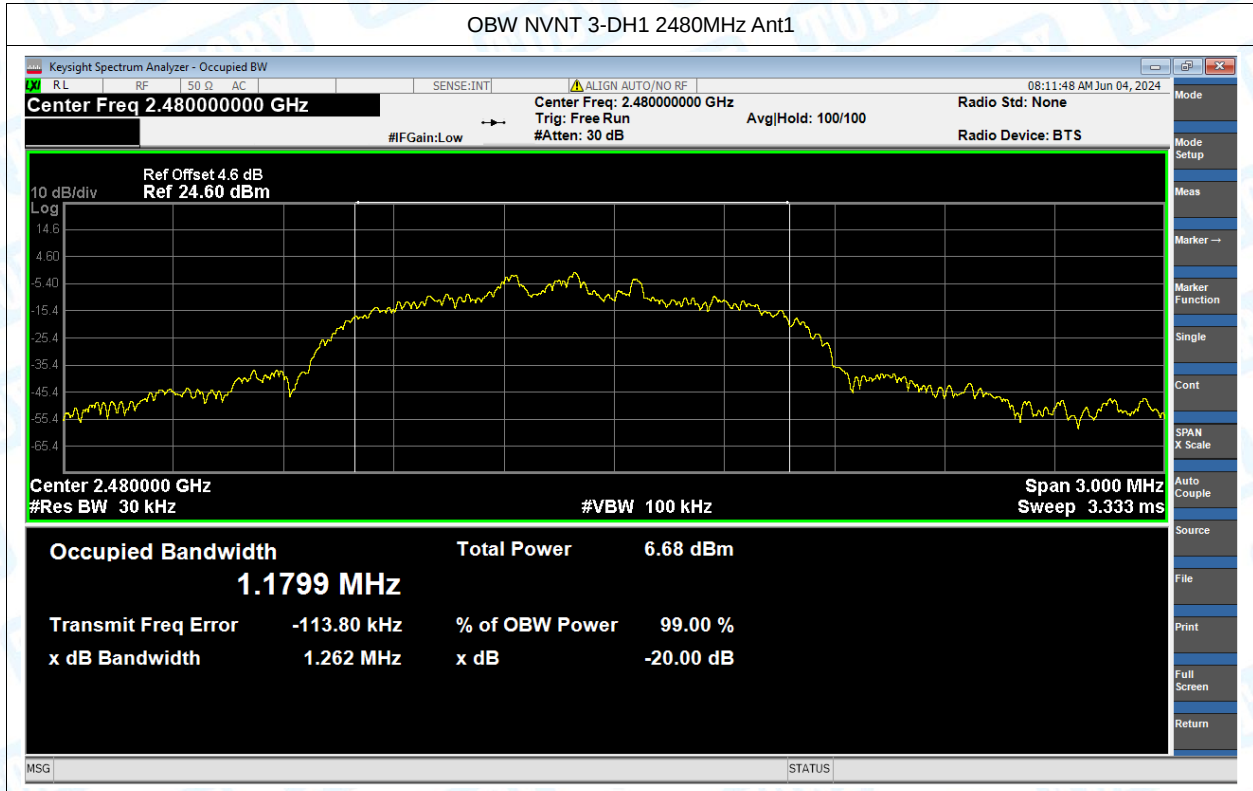


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



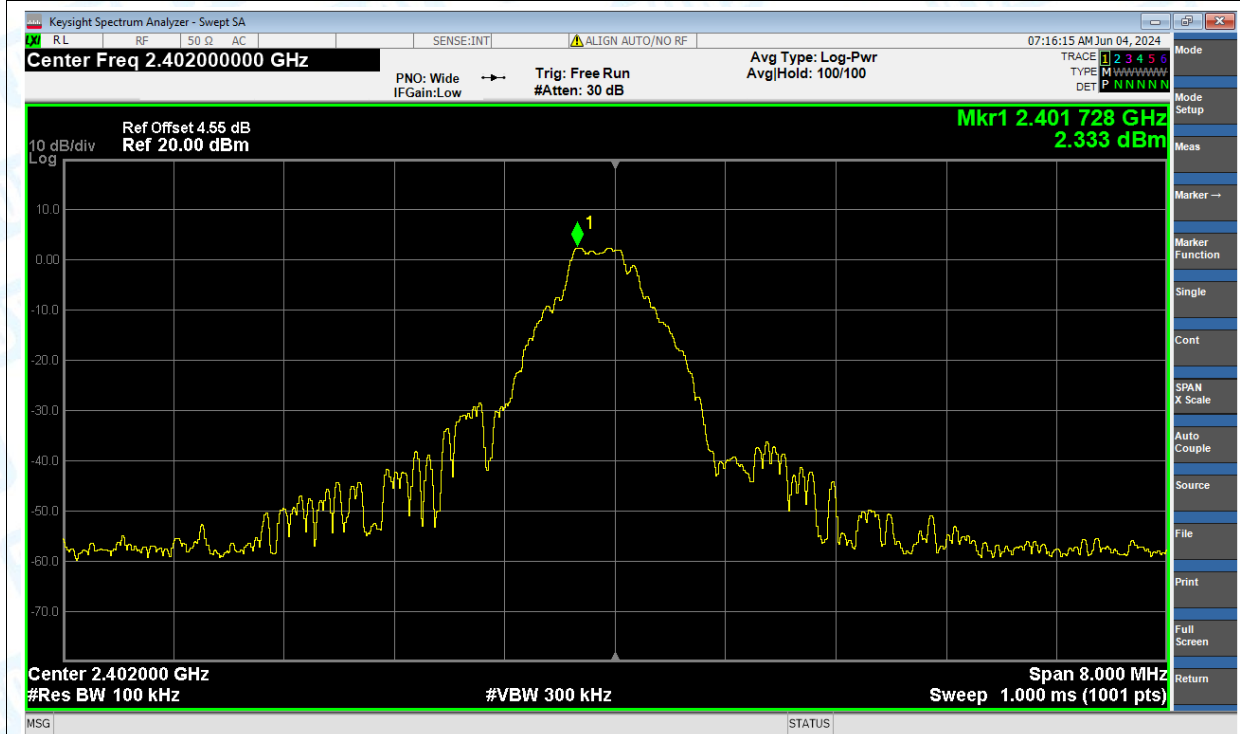


5. Band Edge

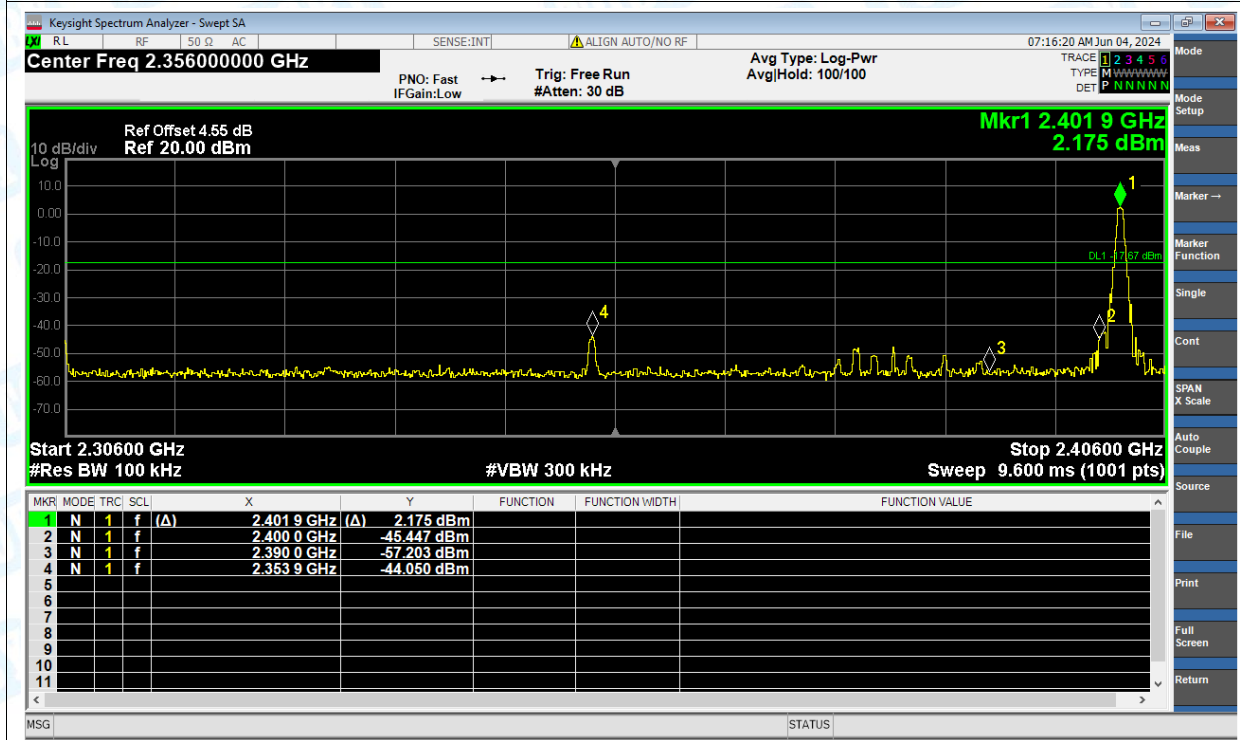
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-46.38	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-53.15	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-46.52	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-54.41	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-46.45	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-54.08	-20	Pass

Test Graphs

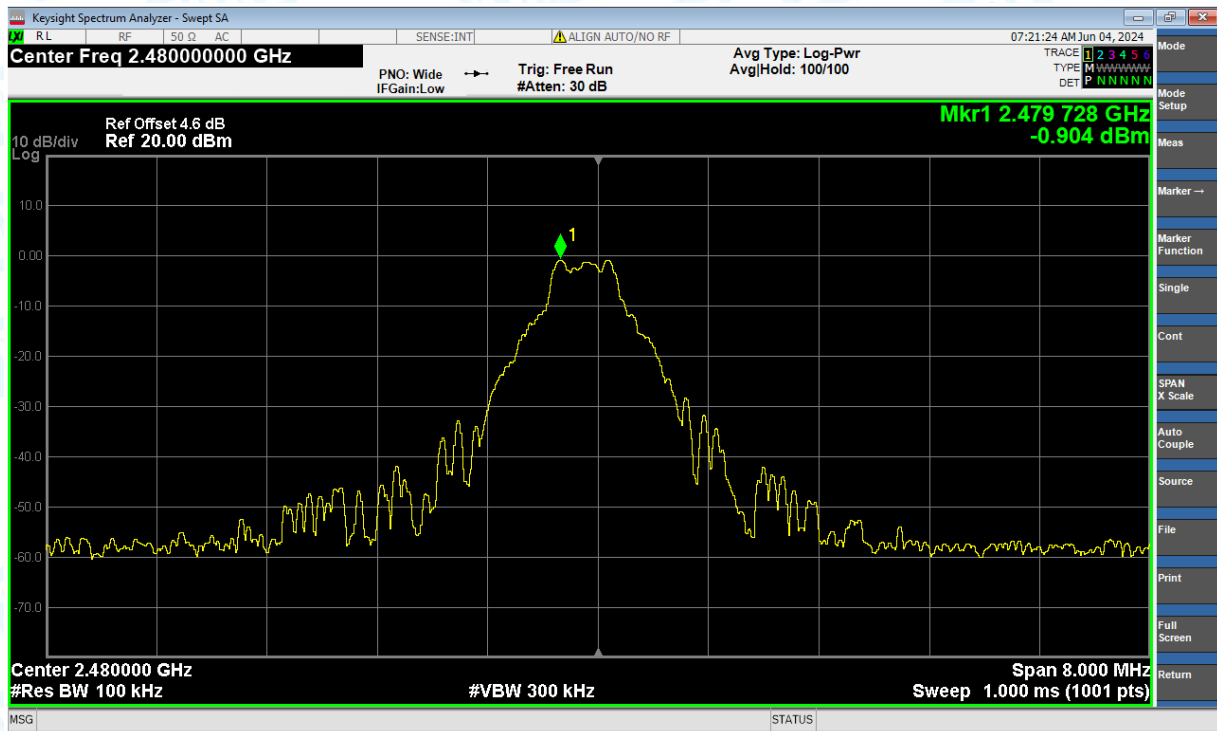
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



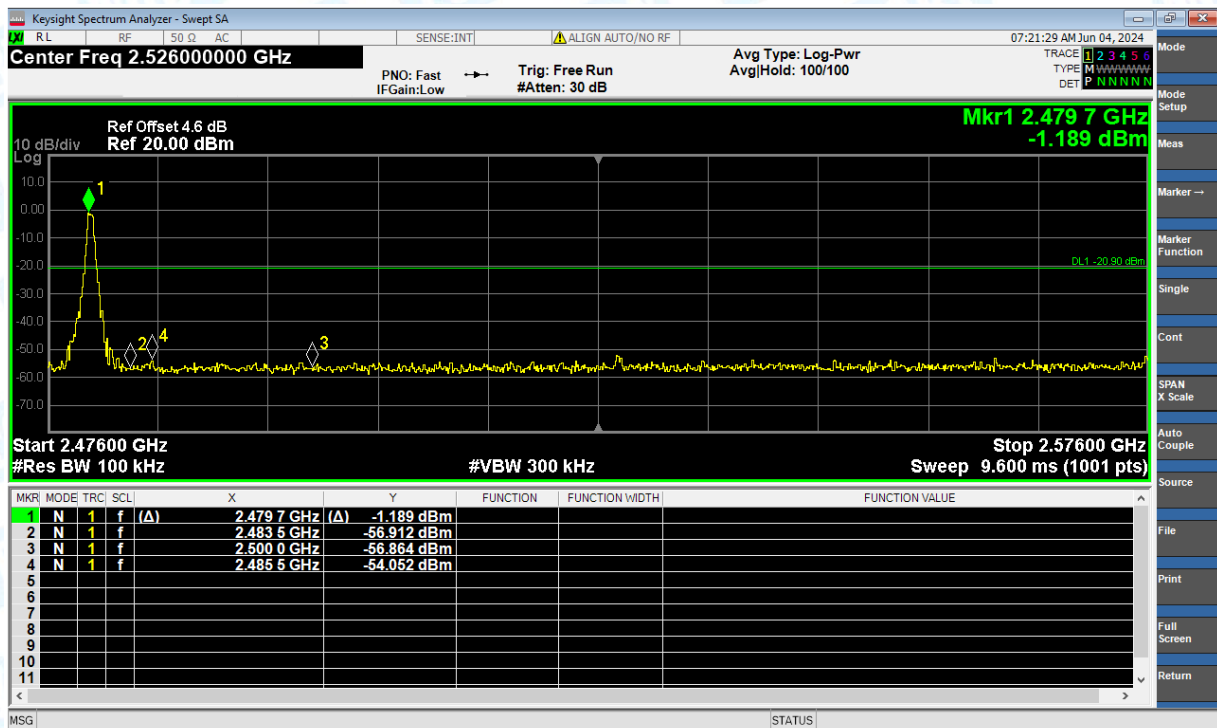
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



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



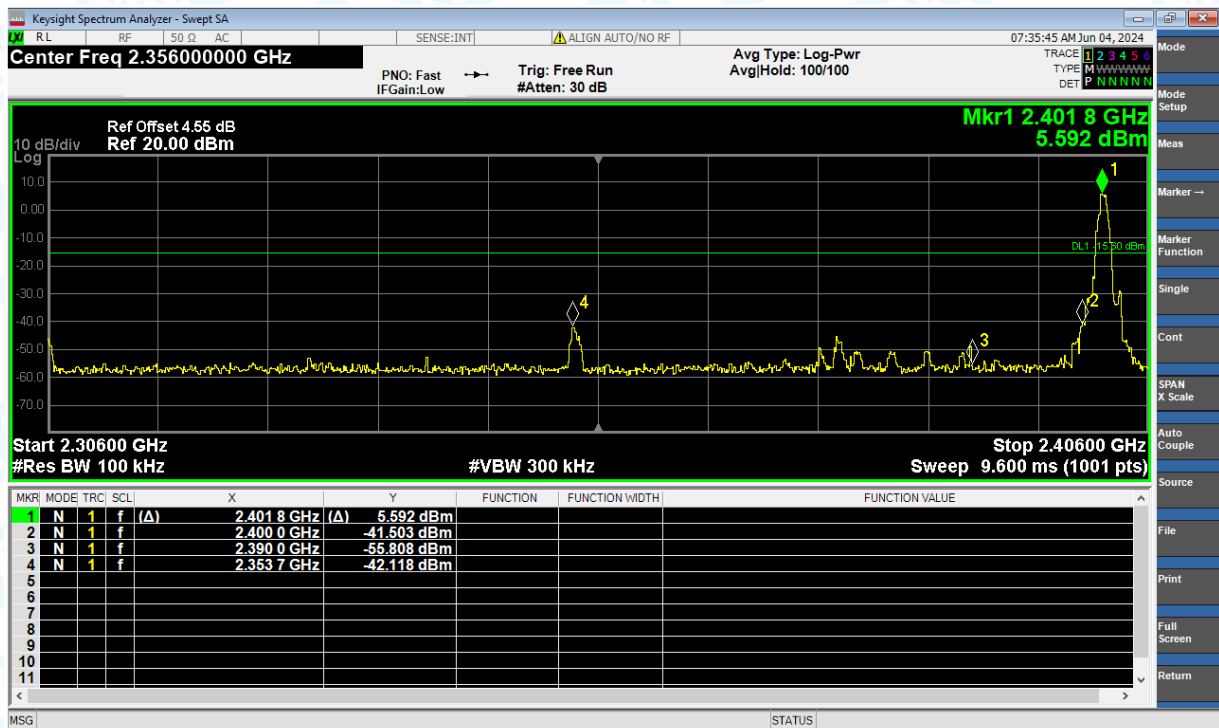
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



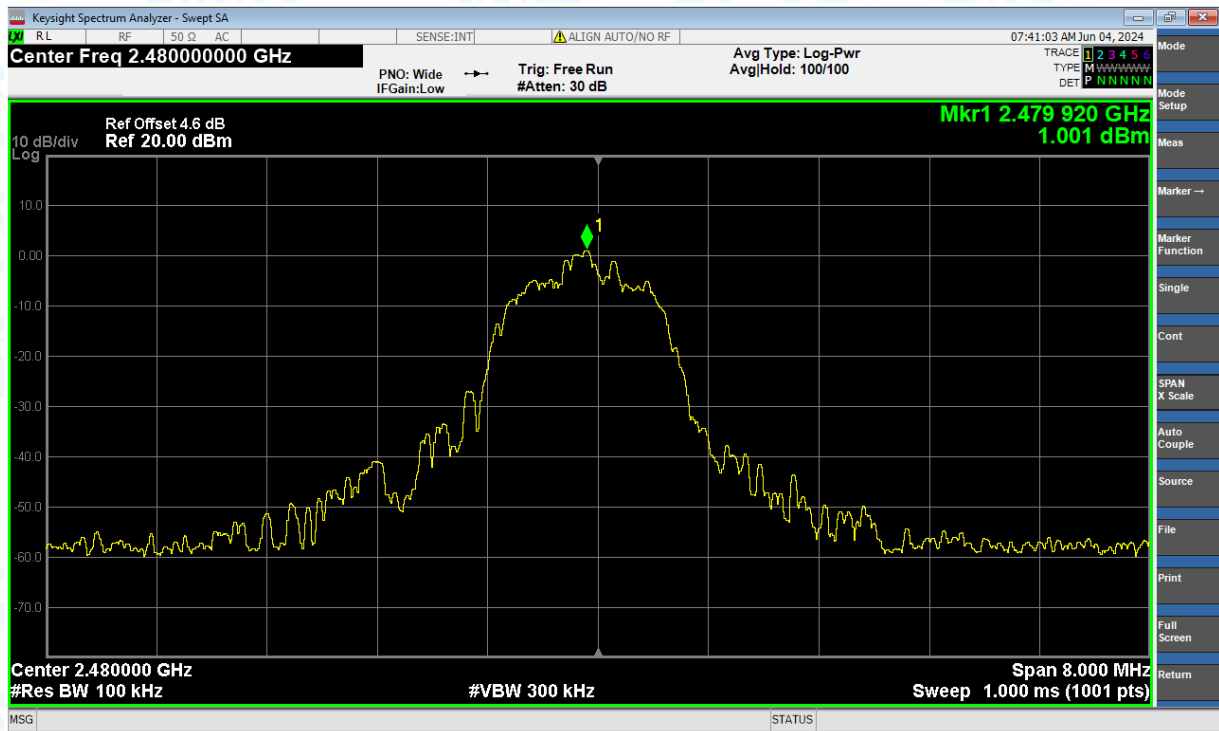
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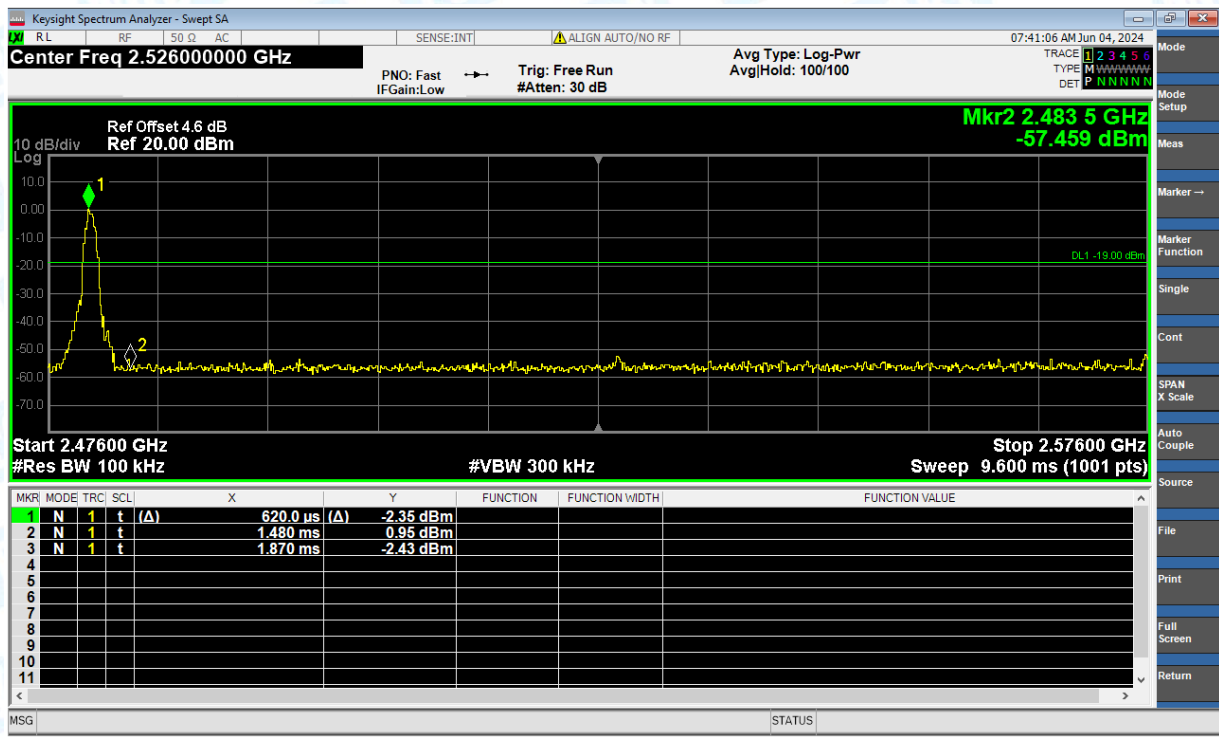
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



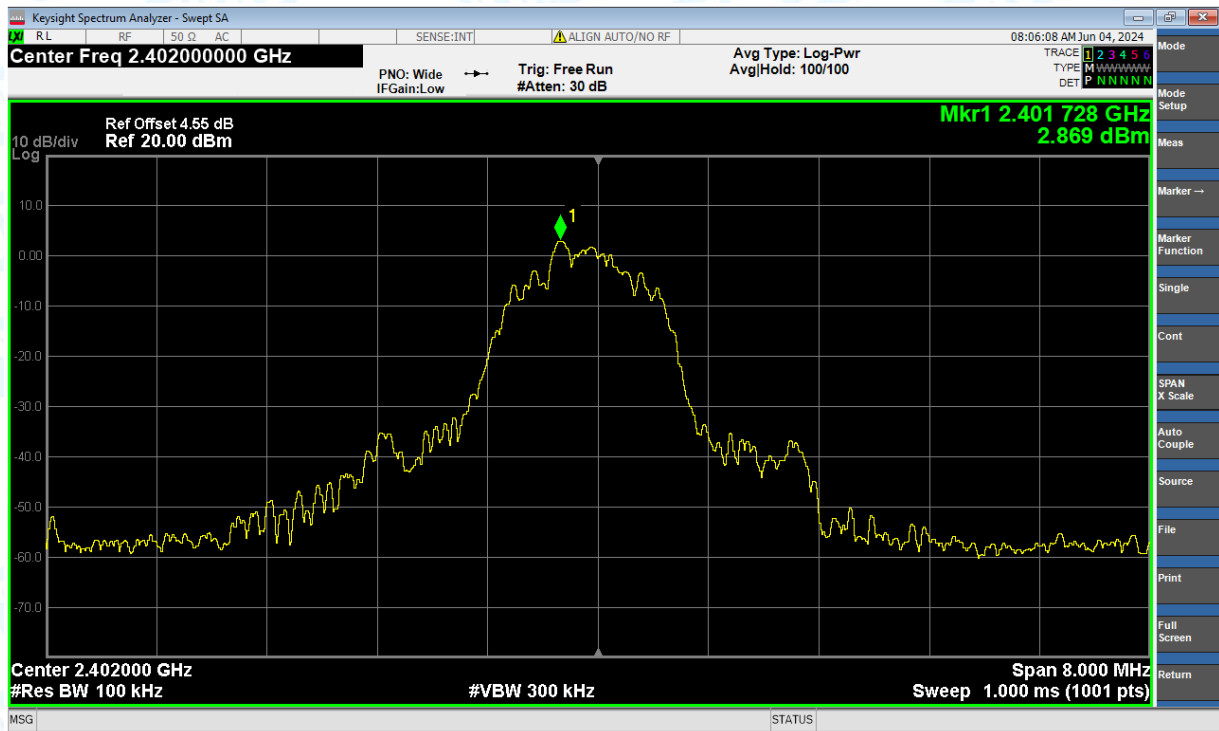
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



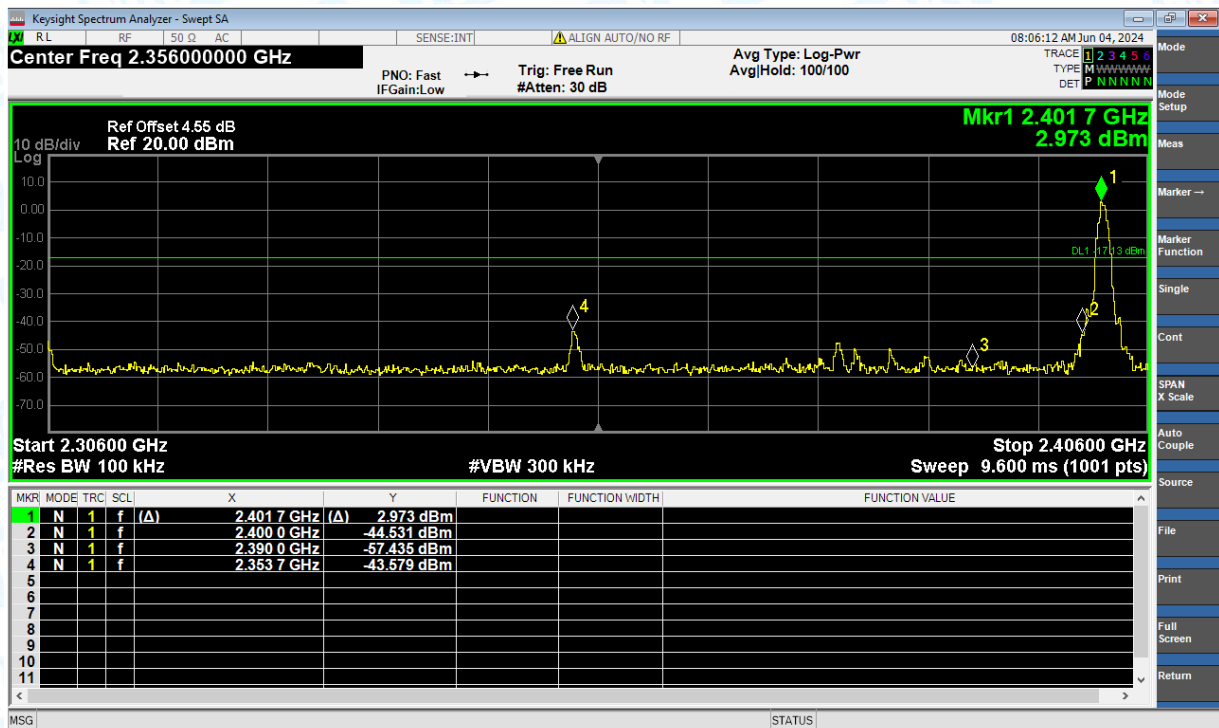
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



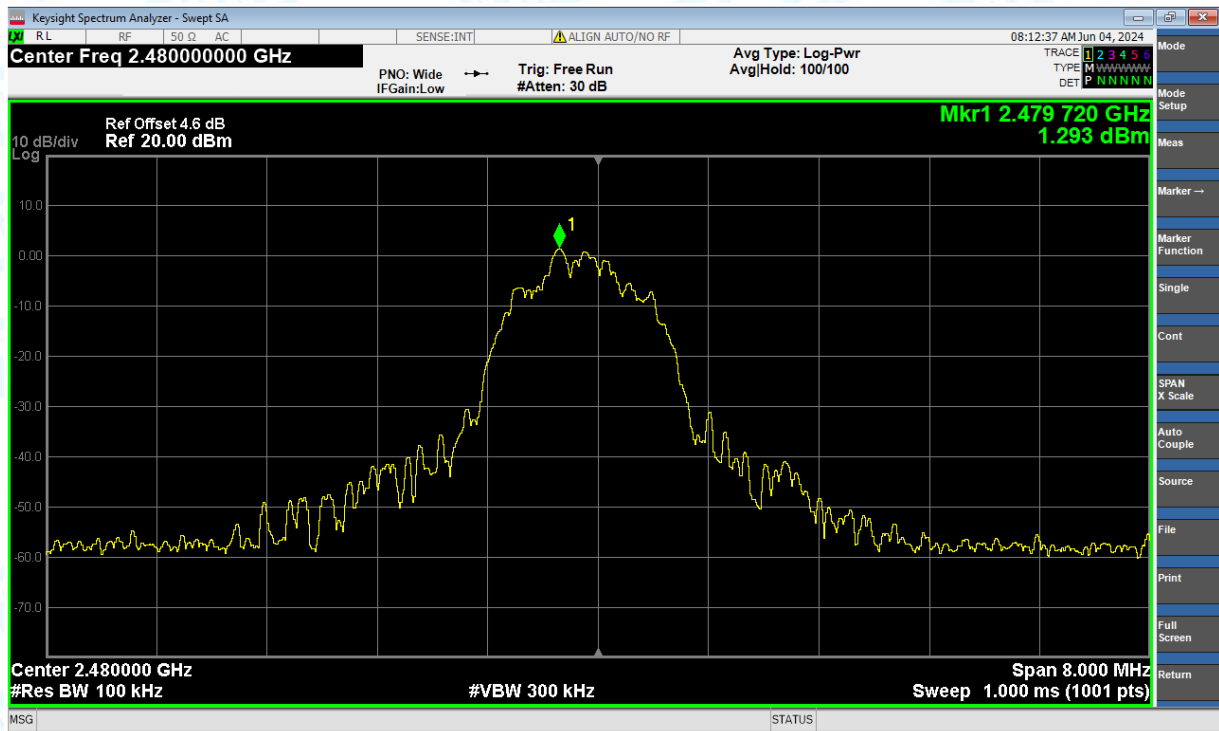
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



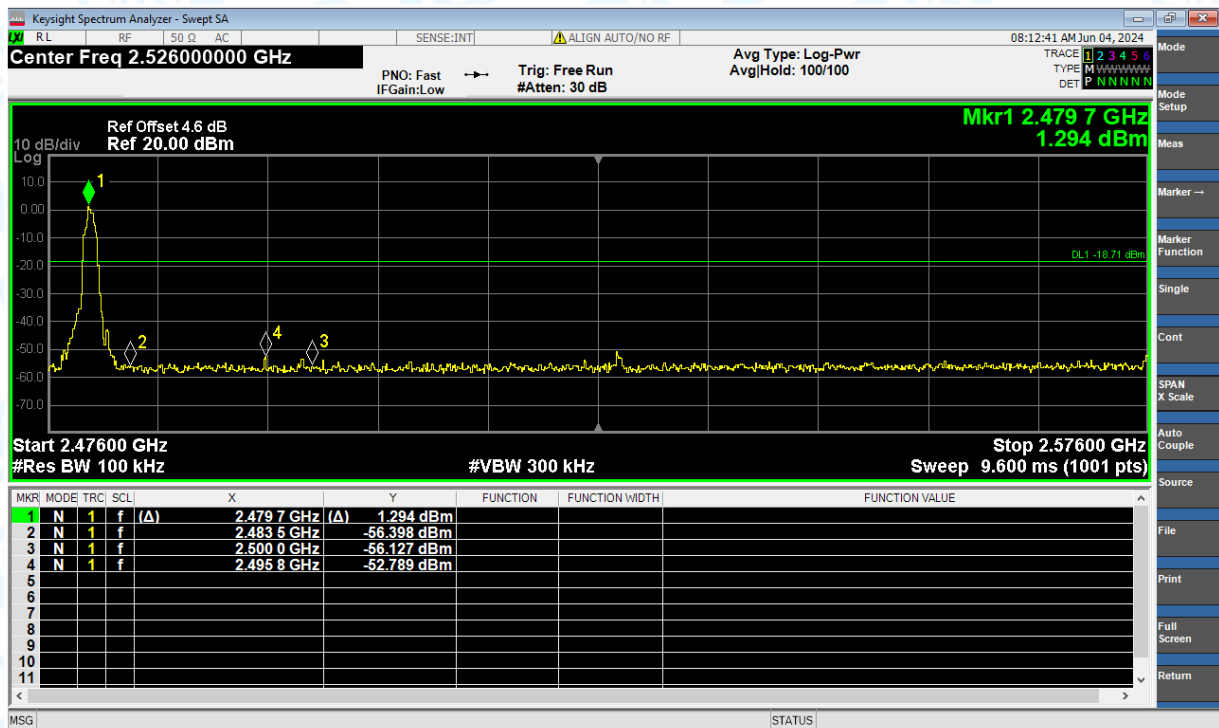
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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



6. Band Edge(Hopping)

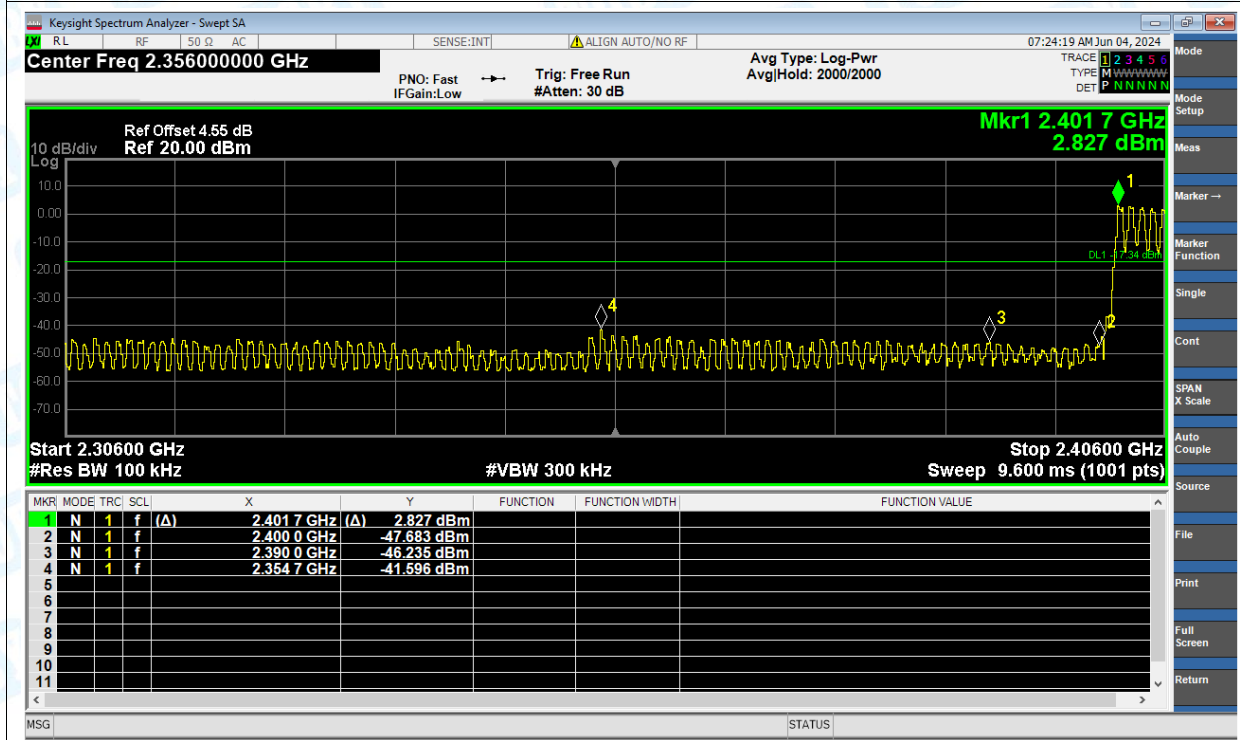
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-44.27	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-45.15	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-47.71	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-45.46	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-47.75	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-44.93	-20	Pass

Test Graphs

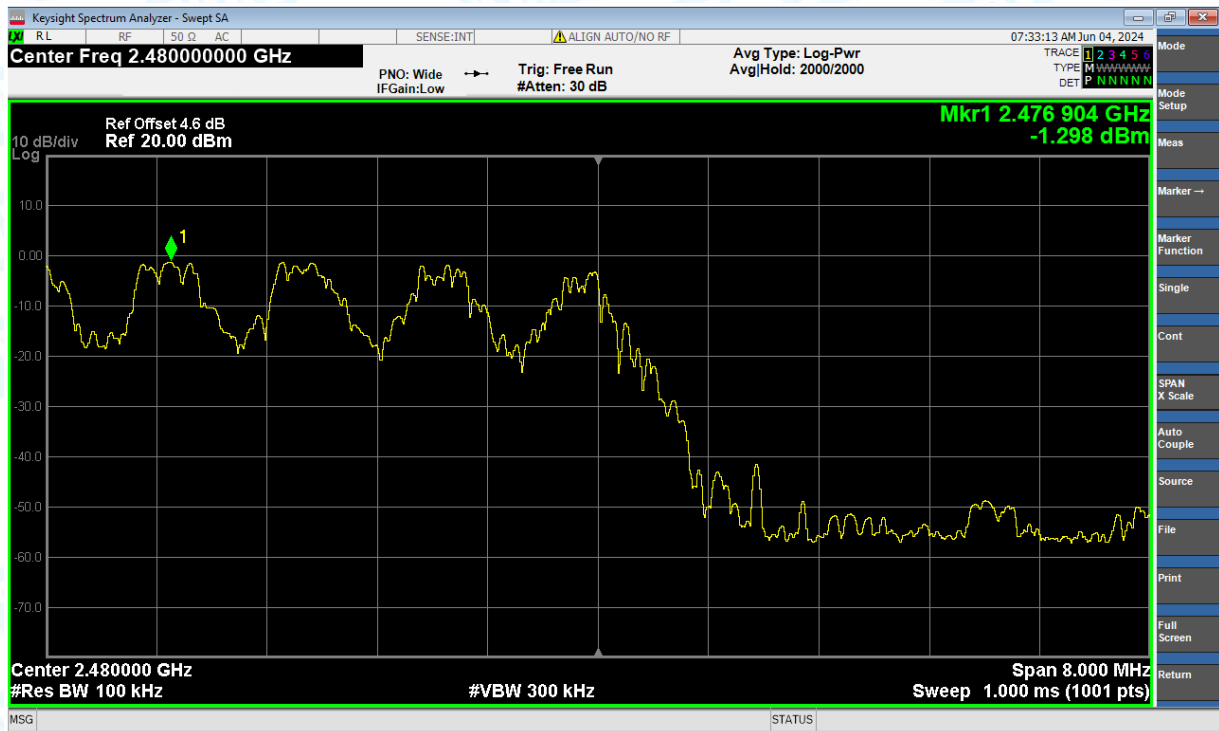
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



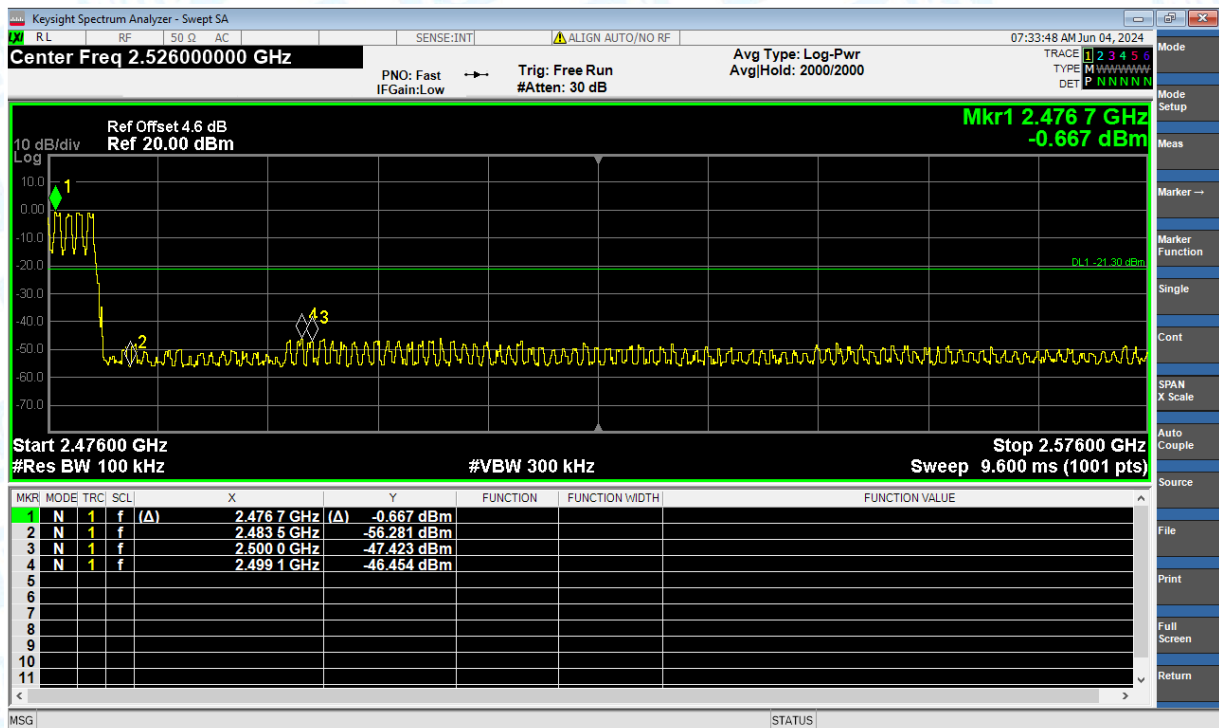
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



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



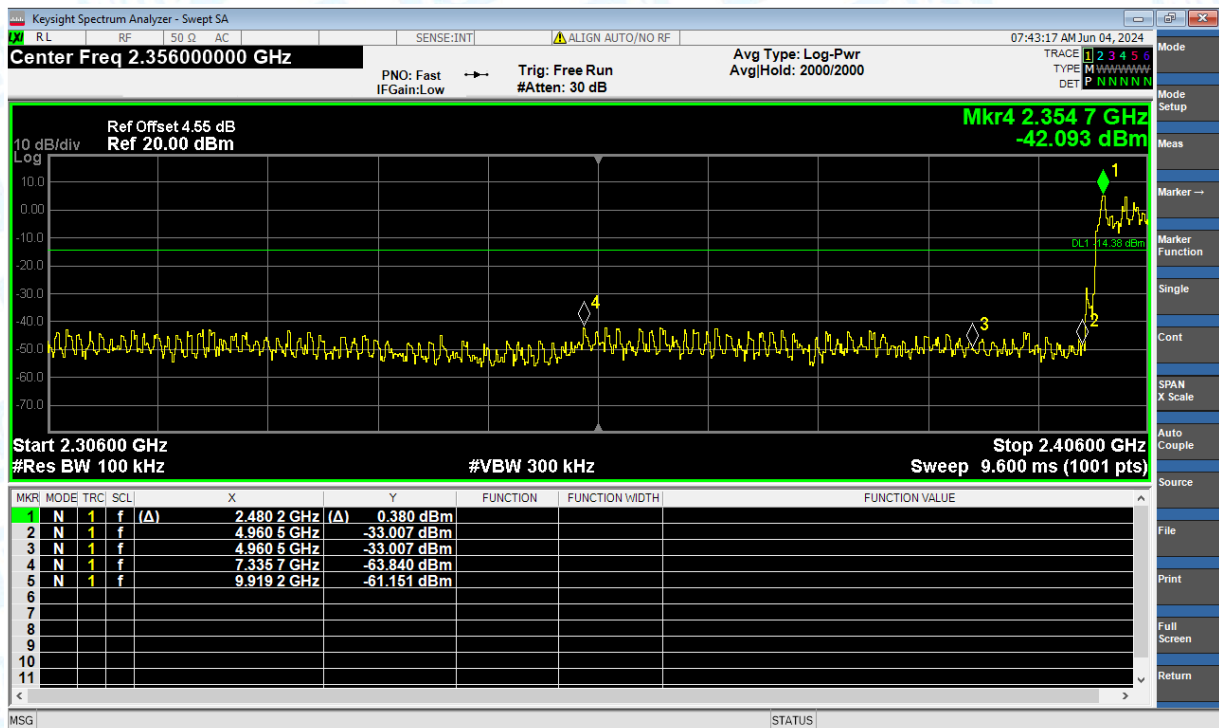
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



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



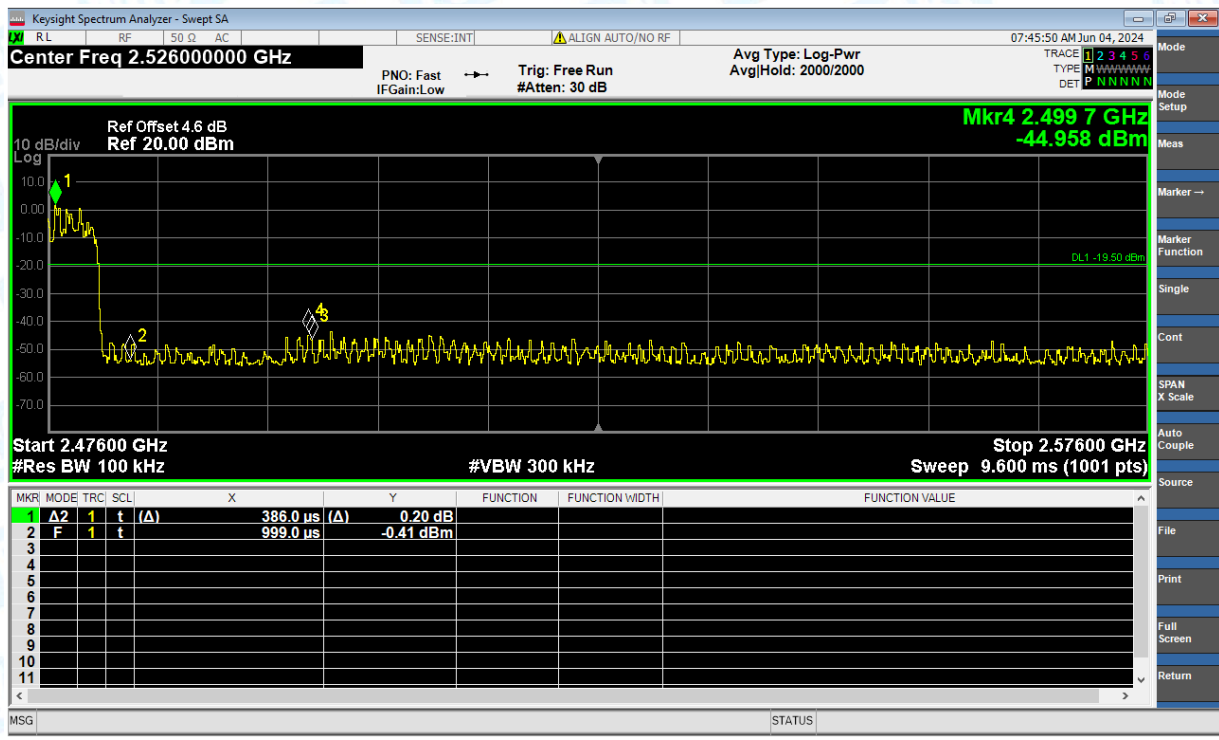
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



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



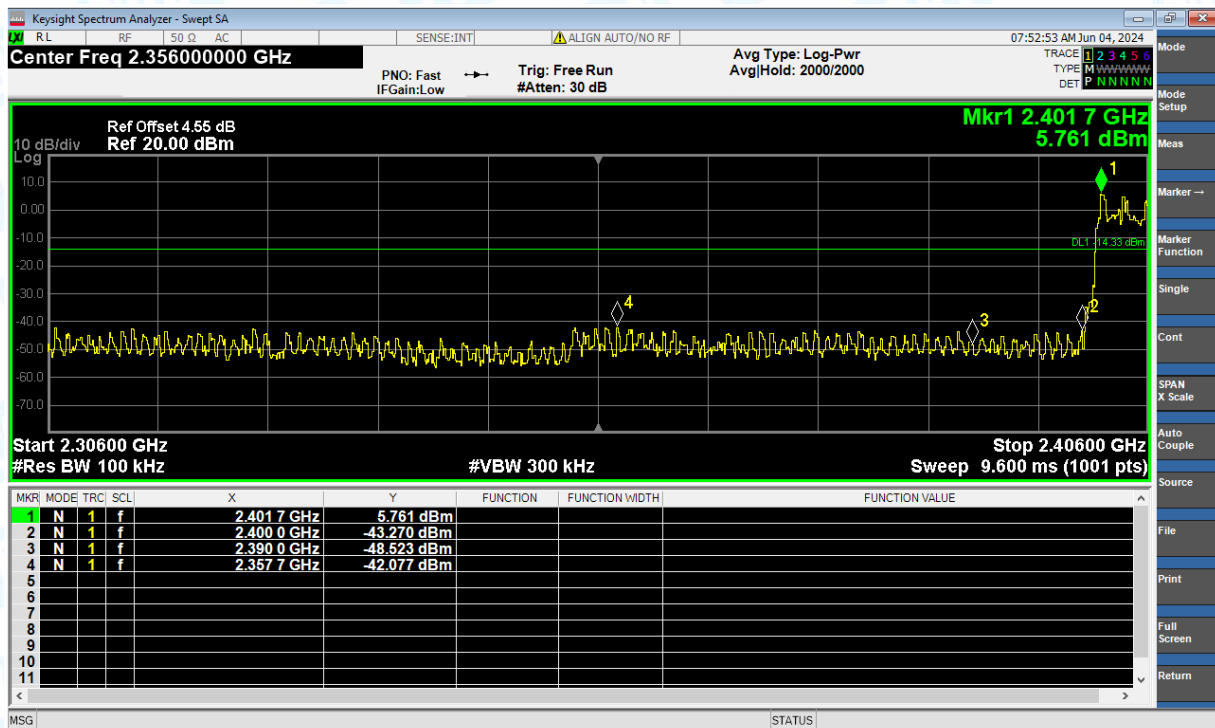
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



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



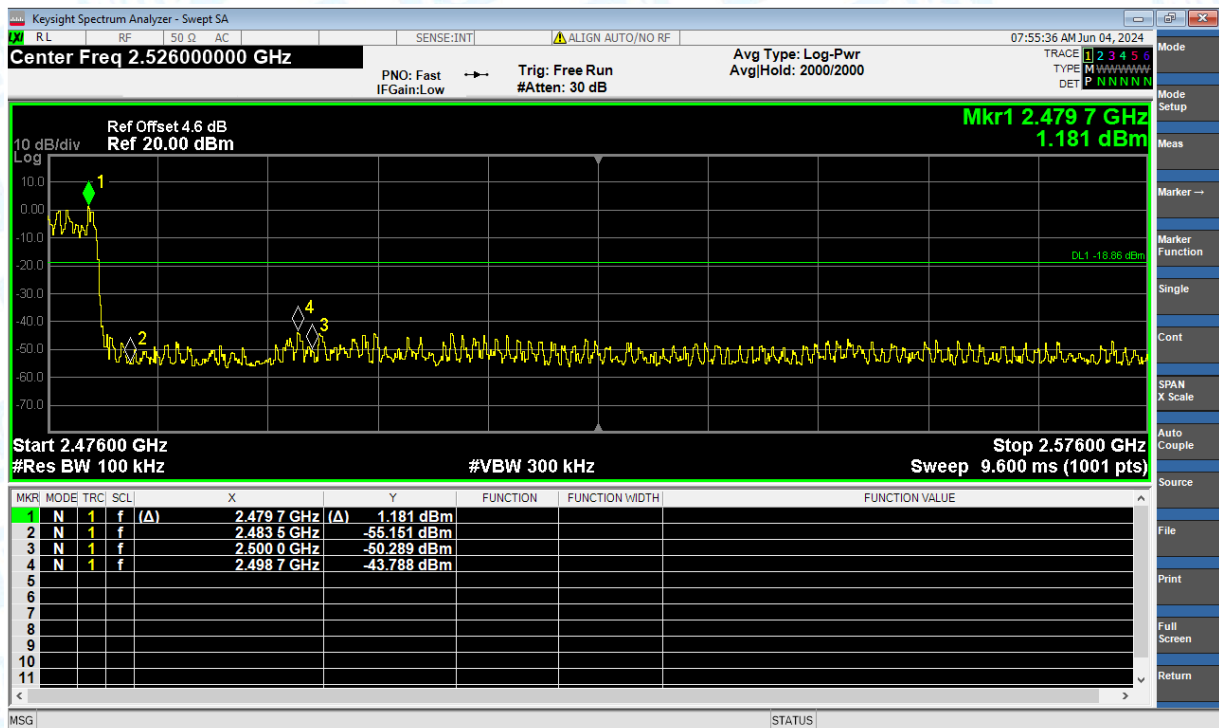
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

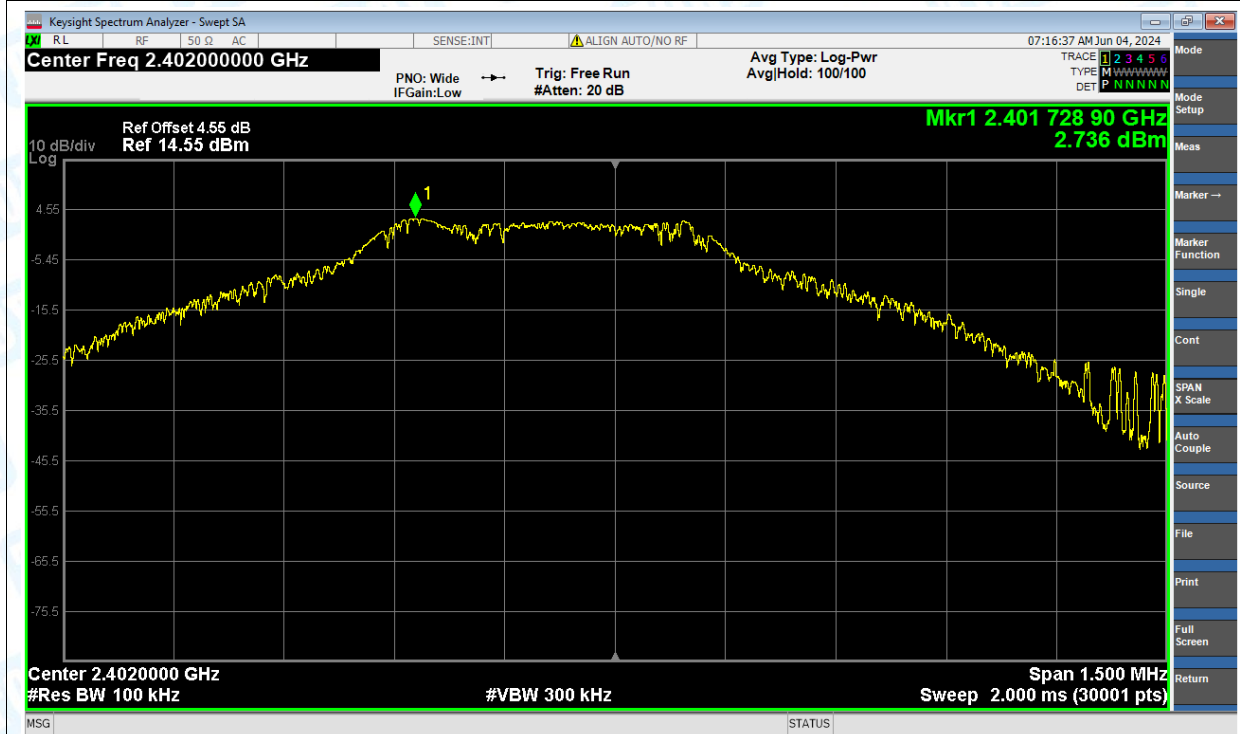


7. Conducted RF Spurious Emission

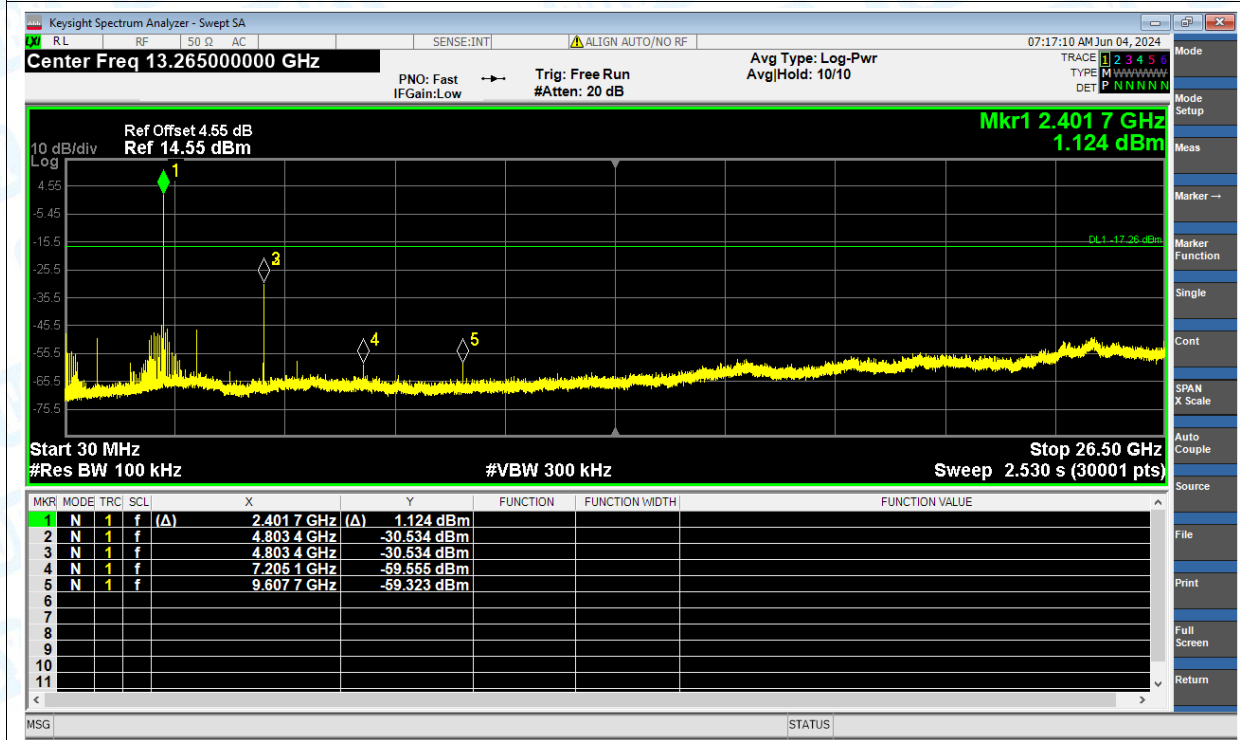
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-33.27	-20	Pass
NVNT	1-DH1	2441	Ant1	-34.03	-20	Pass
NVNT	1-DH1	2480	Ant1	-34.74	-20	Pass
NVNT	2-DH1	2402	Ant1	-32.78	-20	Pass
NVNT	2-DH1	2441	Ant1	-32.65	-20	Pass
NVNT	2-DH1	2480	Ant1	-34.36	-20	Pass
NVNT	3-DH1	2402	Ant1	-31.9	-20	Pass
NVNT	3-DH1	2441	Ant1	-35.88	-20	Pass
NVNT	3-DH1	2480	Ant1	-40.34	-20	Pass

Test Graphs

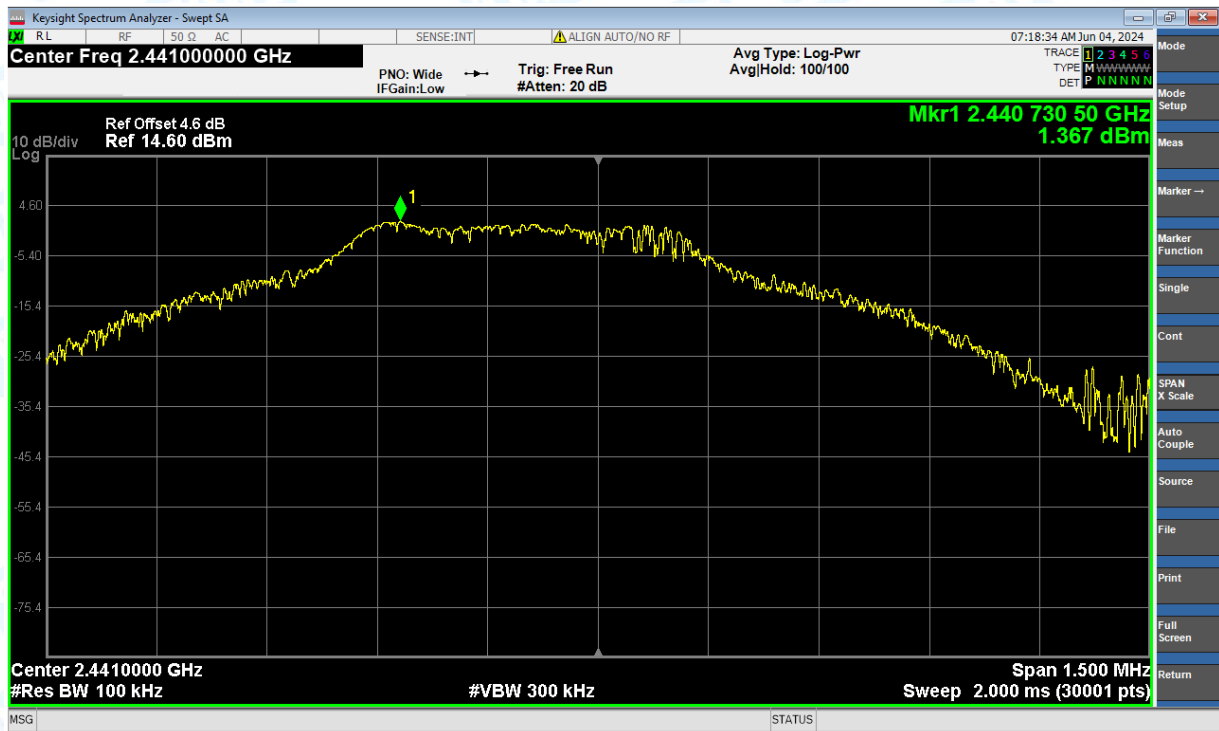
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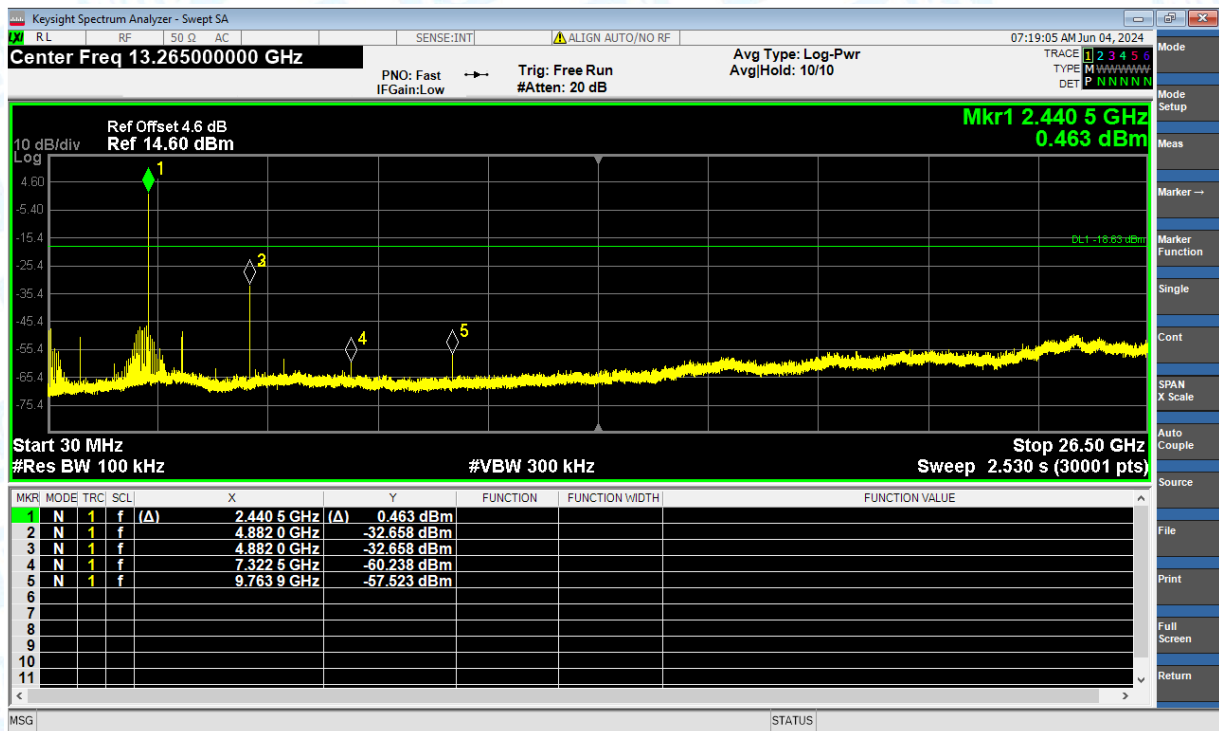
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



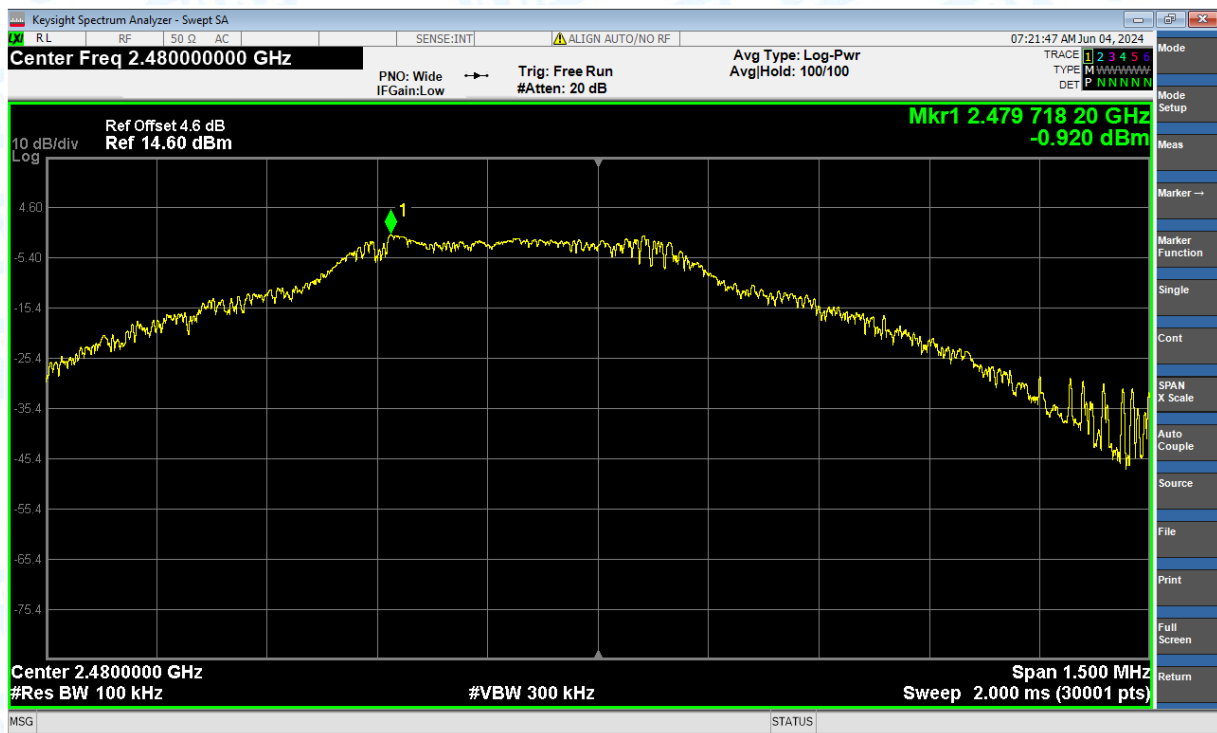
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



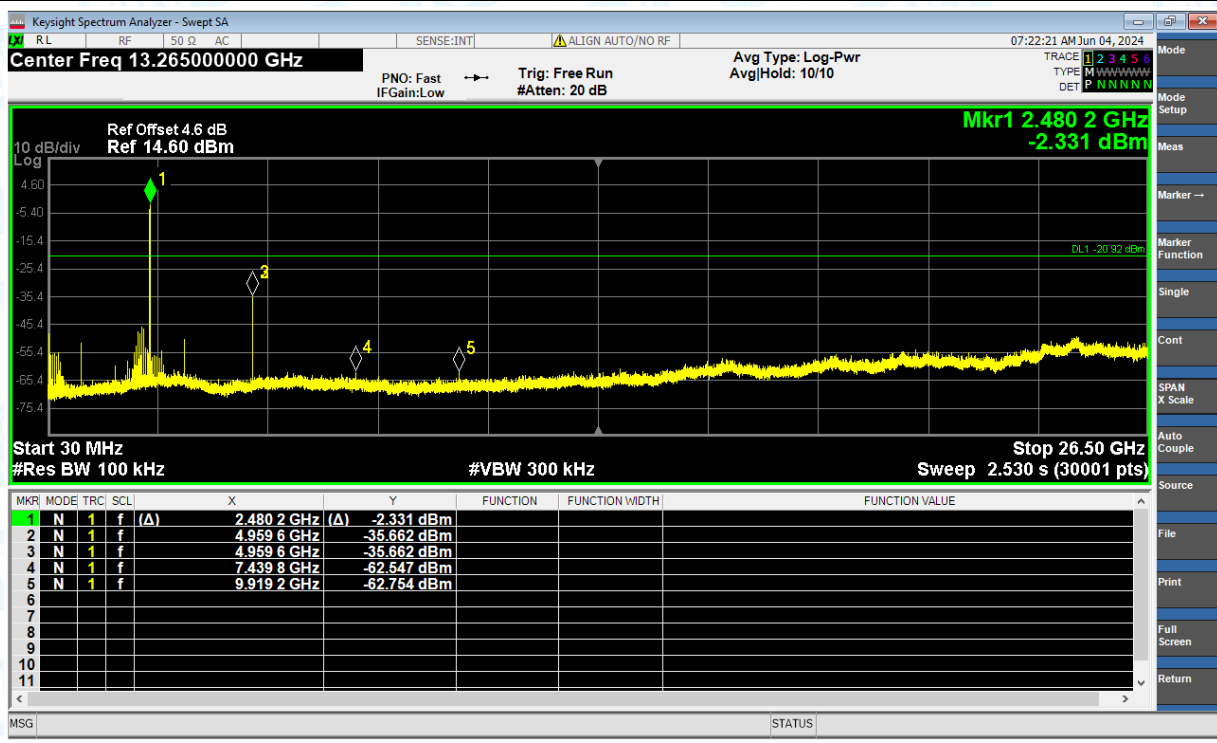
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



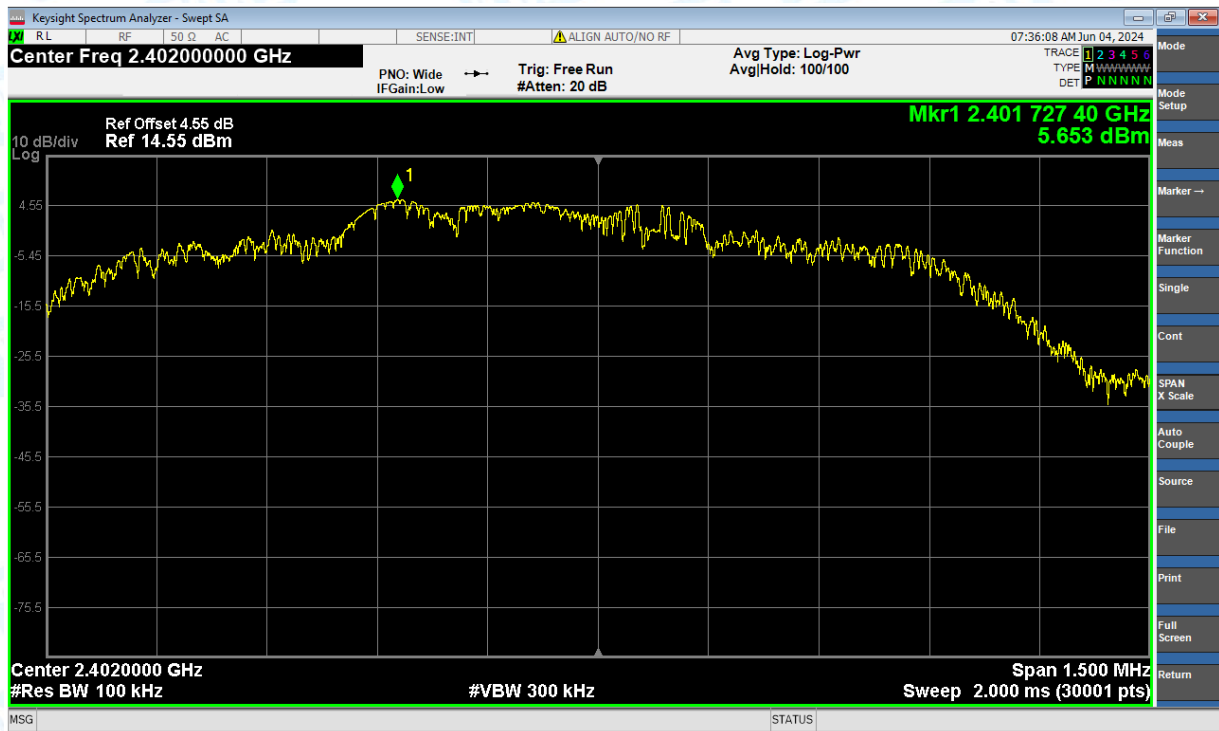
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



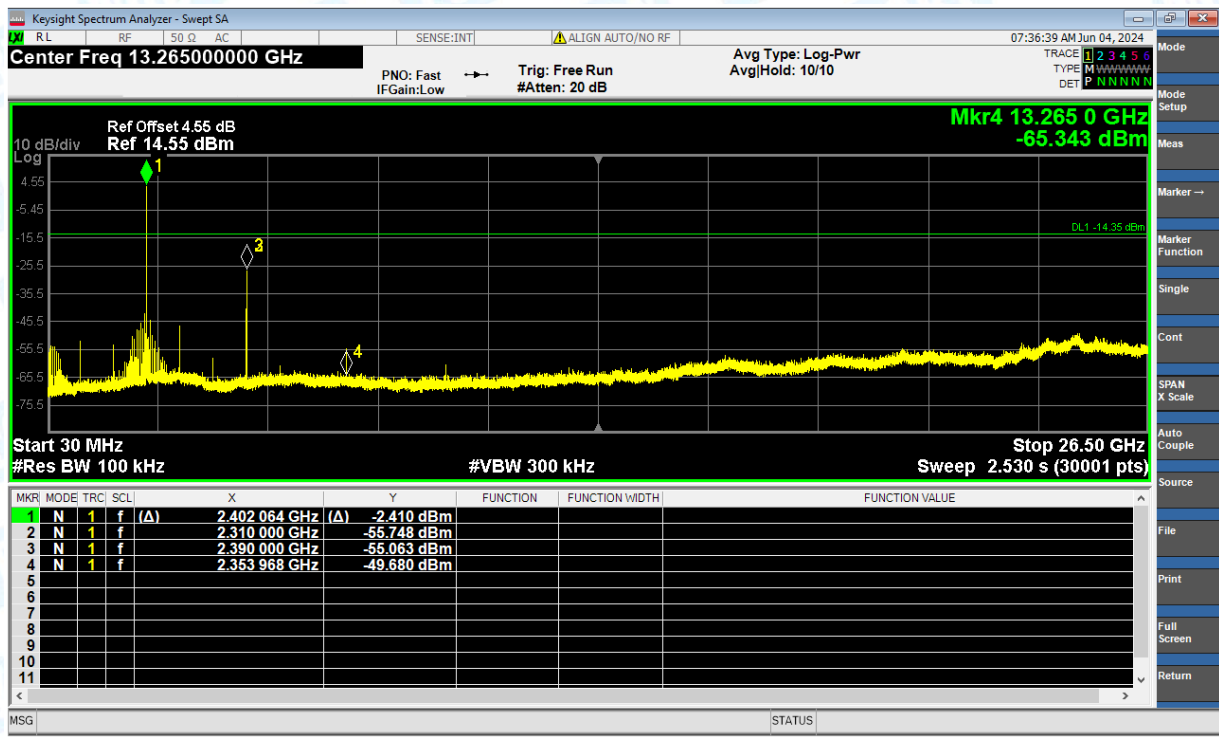
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



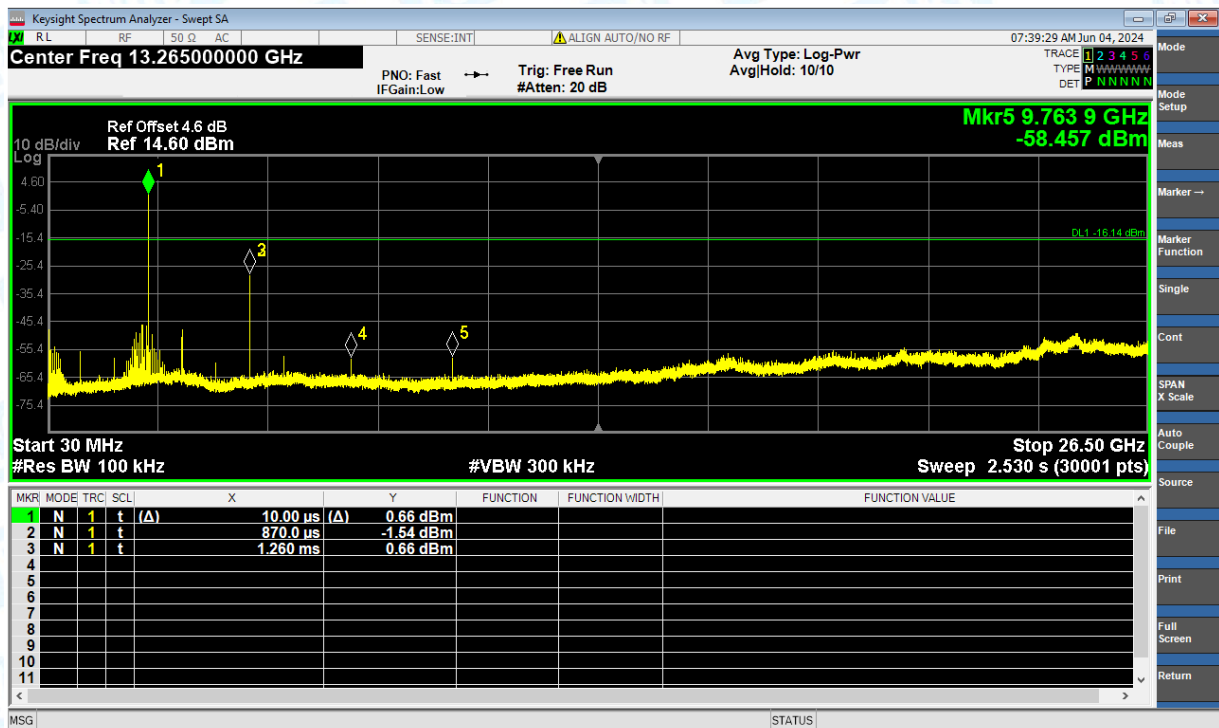
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



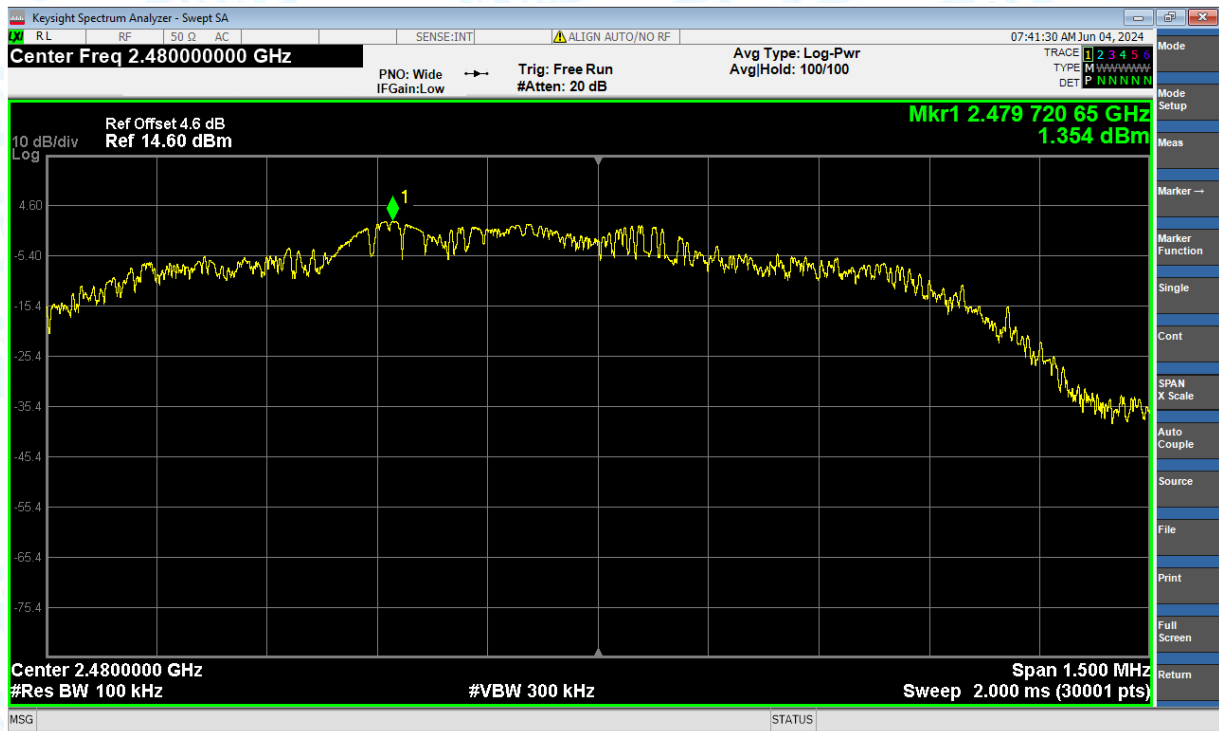
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



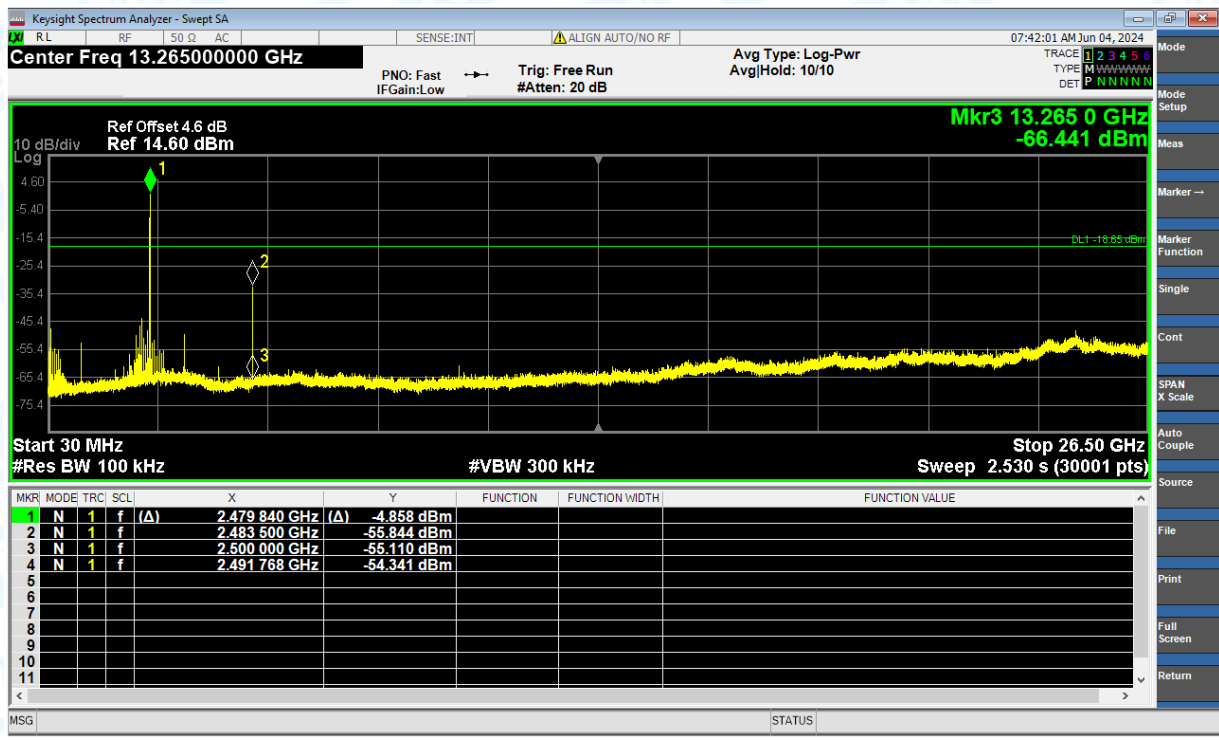
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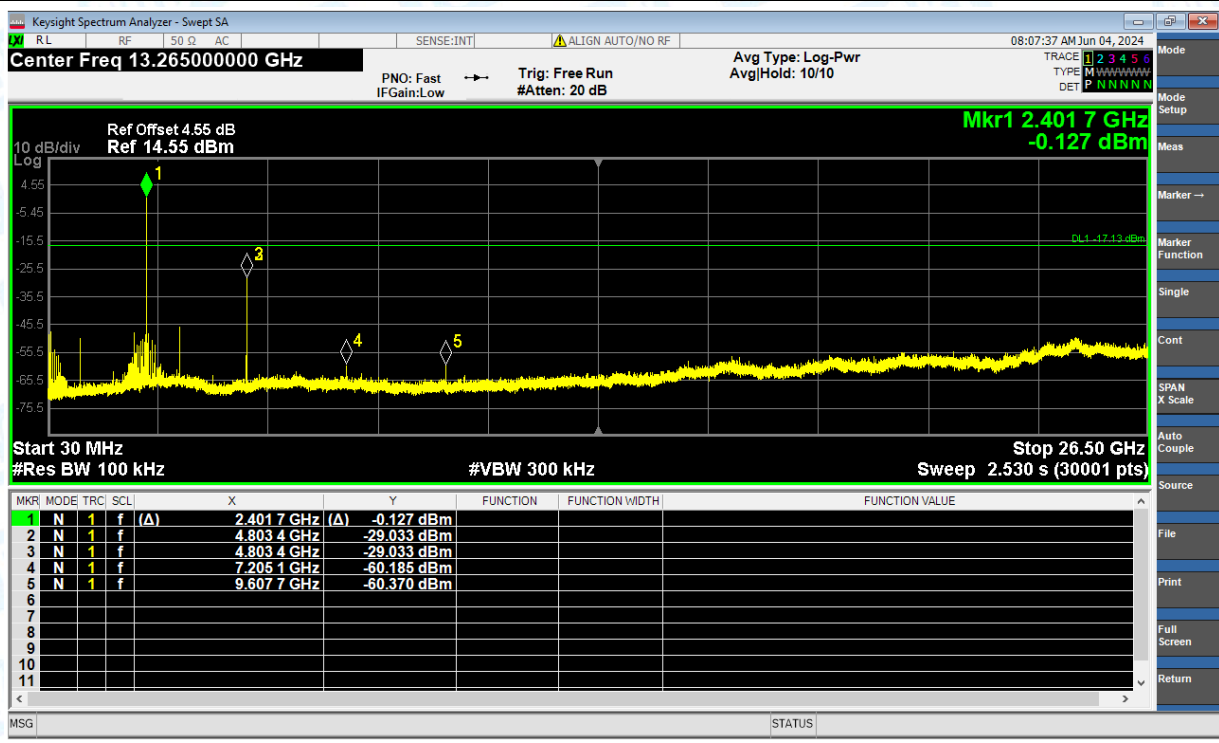
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



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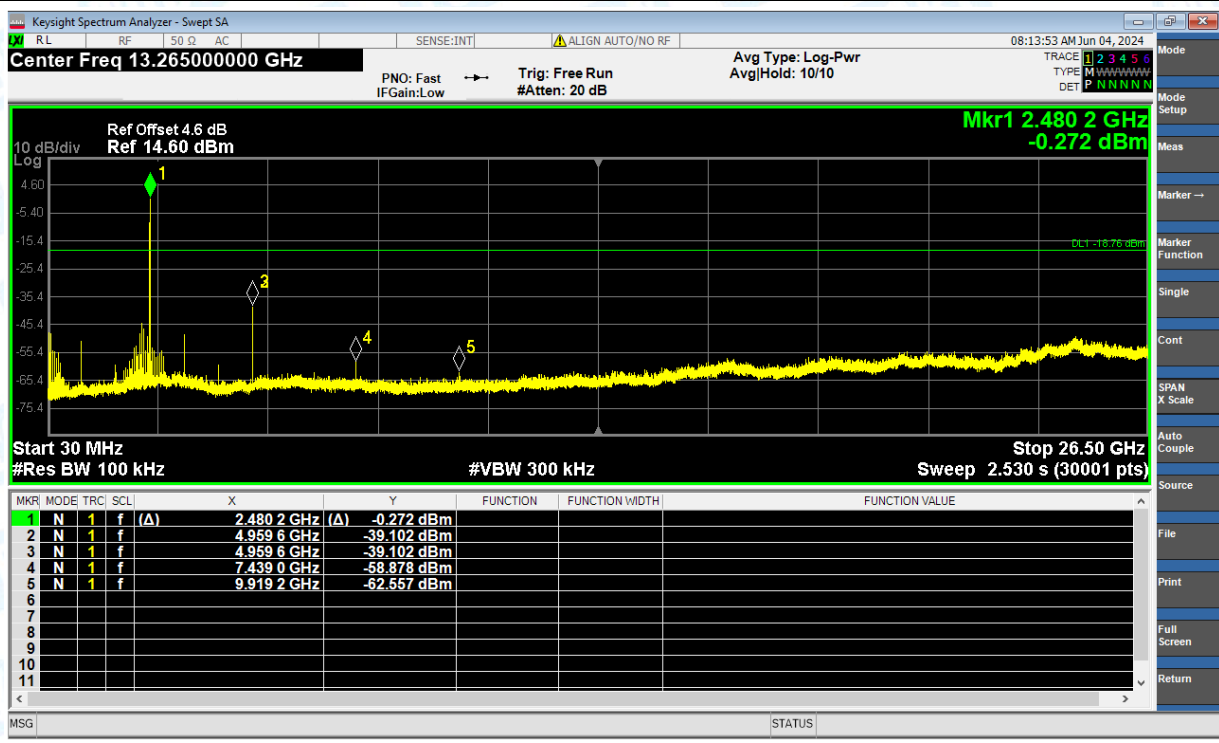
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

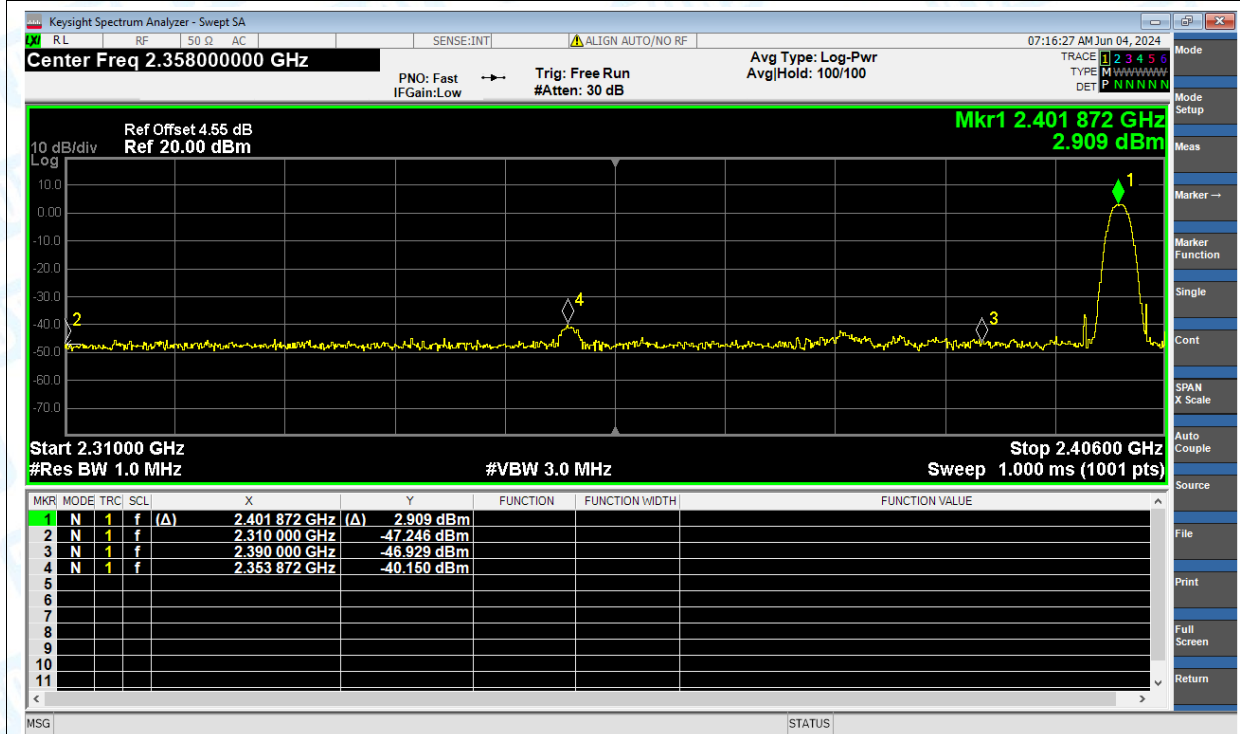


8. Restrict Band

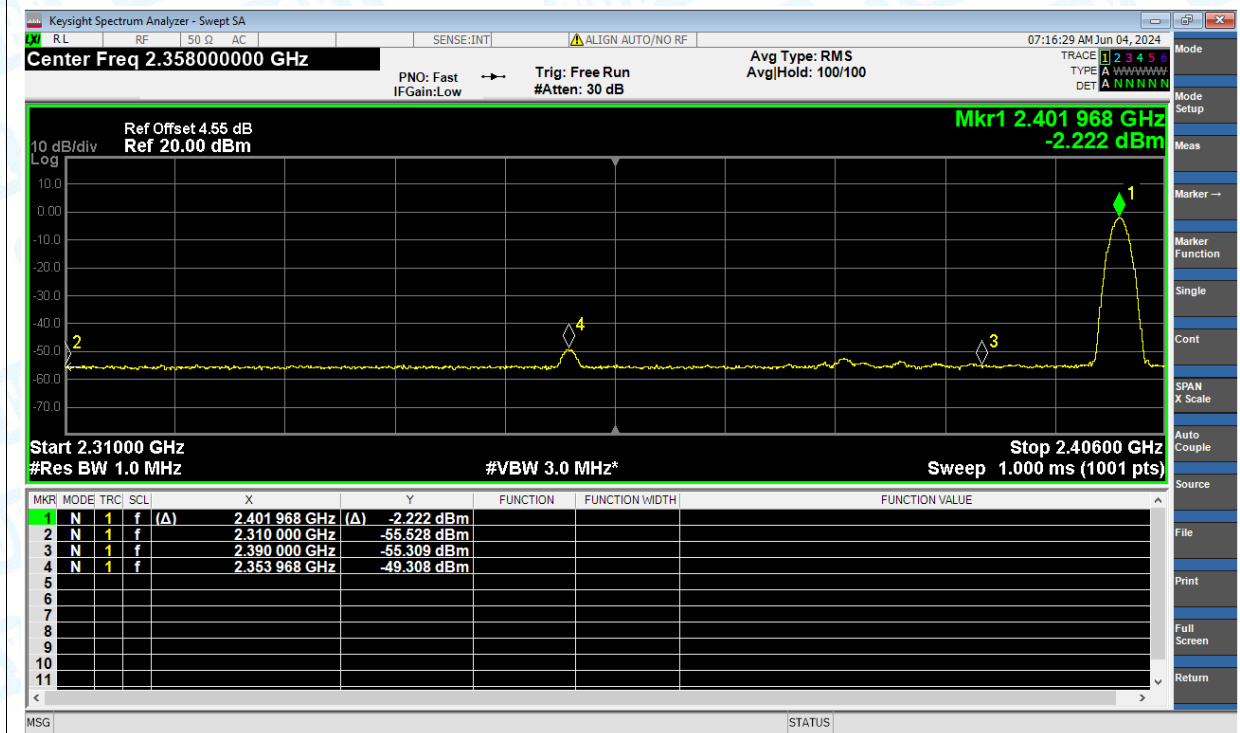
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.25	2	-	50.01	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-55.53	2	5.17	46.9	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2353.872	-40.15	2	-	57.11	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2353.968	-49.31	2	5.17	53.12	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-46.93	2	-	50.33	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.31	2	5.17	47.12	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-44.67	2	-	52.59	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-55.33	2	5.17	47.1	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2490.424	-44.26	2	-	53	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2495.992	-54.34	2	5.17	48.09	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.68	2	-	49.58	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.57	2	5.17	46.86	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.07	2	-	49.19	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-55.75	2	5.17	46.68	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2353.776	-39.74	2	-	57.52	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2353.968	-49.68	2	5.17	52.75	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.36	2	-	49.9	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.06	2	5.17	47.37	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-47.2	2	-	50.06	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.84	2	5.06	46.48	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.584	-43.6	2	-	53.66	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2491.768	-54.34	2	5.06	47.98	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-46.82	2	-	50.44	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.11	2	5.06	47.21	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-58.76	2	-	38.5	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-65.44	2	5.06	36.88	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2353.68	-42.82	2	-	54.44	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2353.68	-49.99	2	5.06	52.33	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-53	2	-	44.26	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-65.17	2	5.06	37.15	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-48.63	2	-	48.63	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-55.04	2	5.06	47.28	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2499.136	-43.74	2	-	53.52	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2485.552	-54.28	2	5.06	48.04	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.66	2	-	49.6	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.45	2	5.06	46.87	Average	54	Pass

Test Graphs

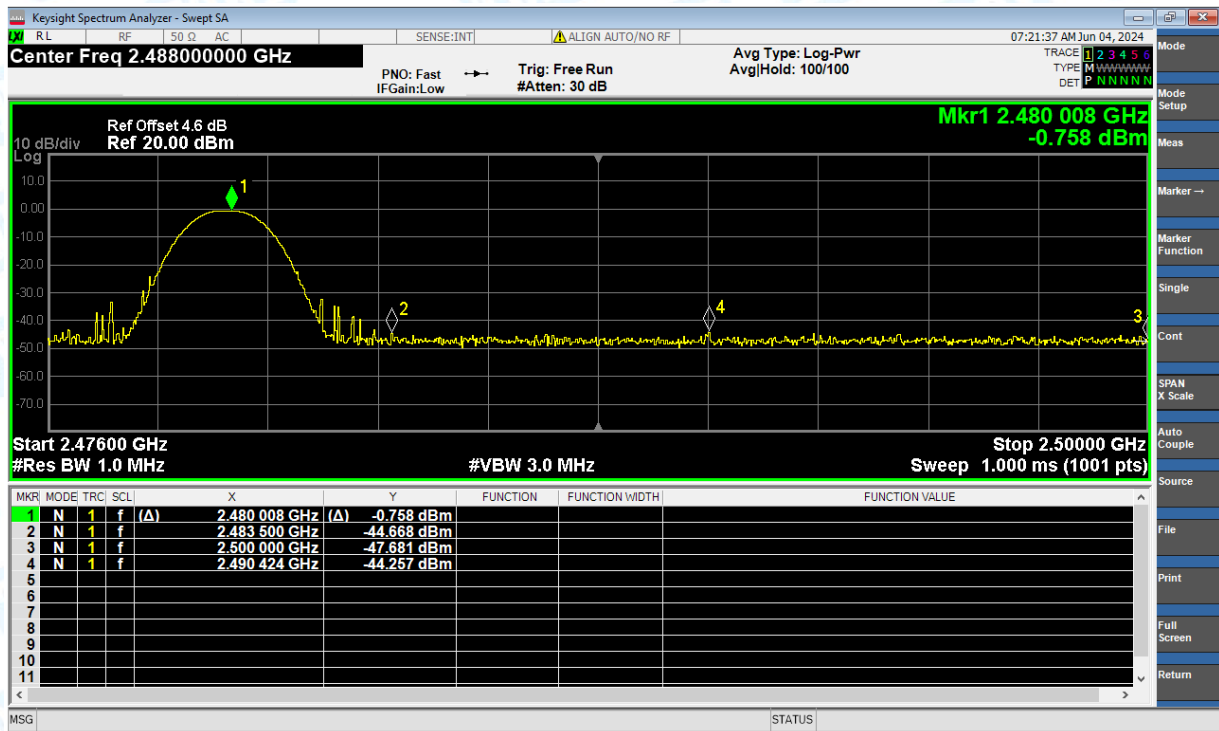
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



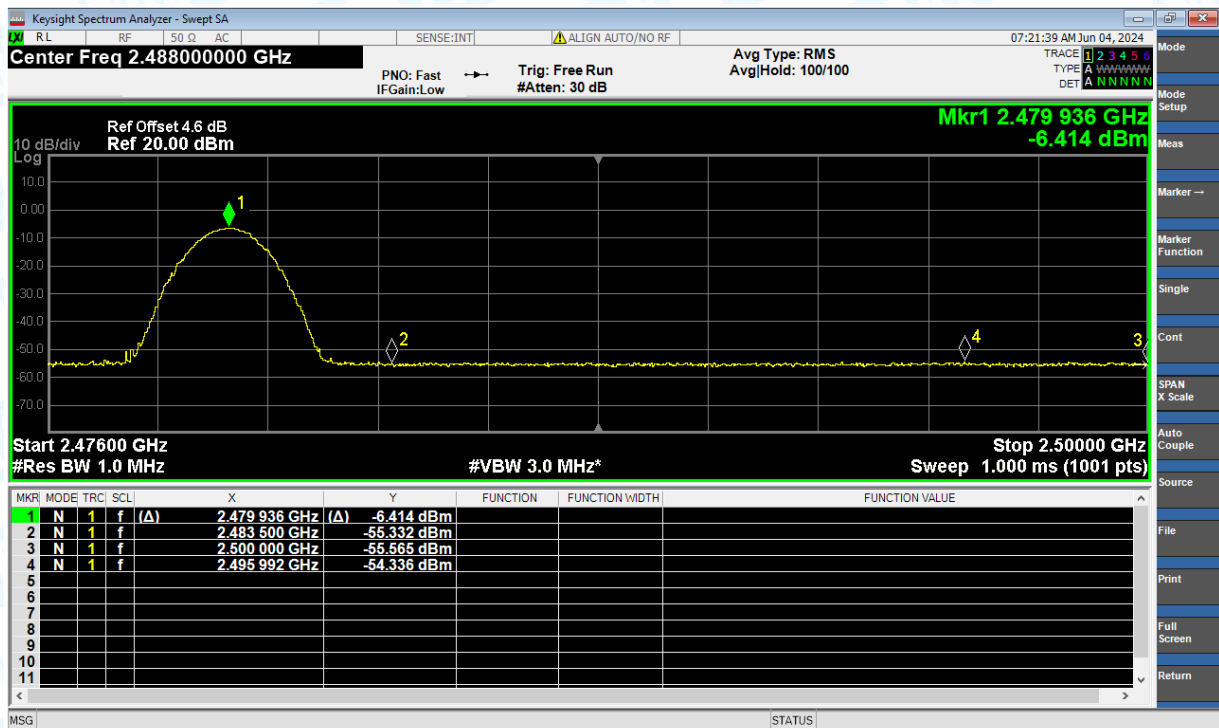
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



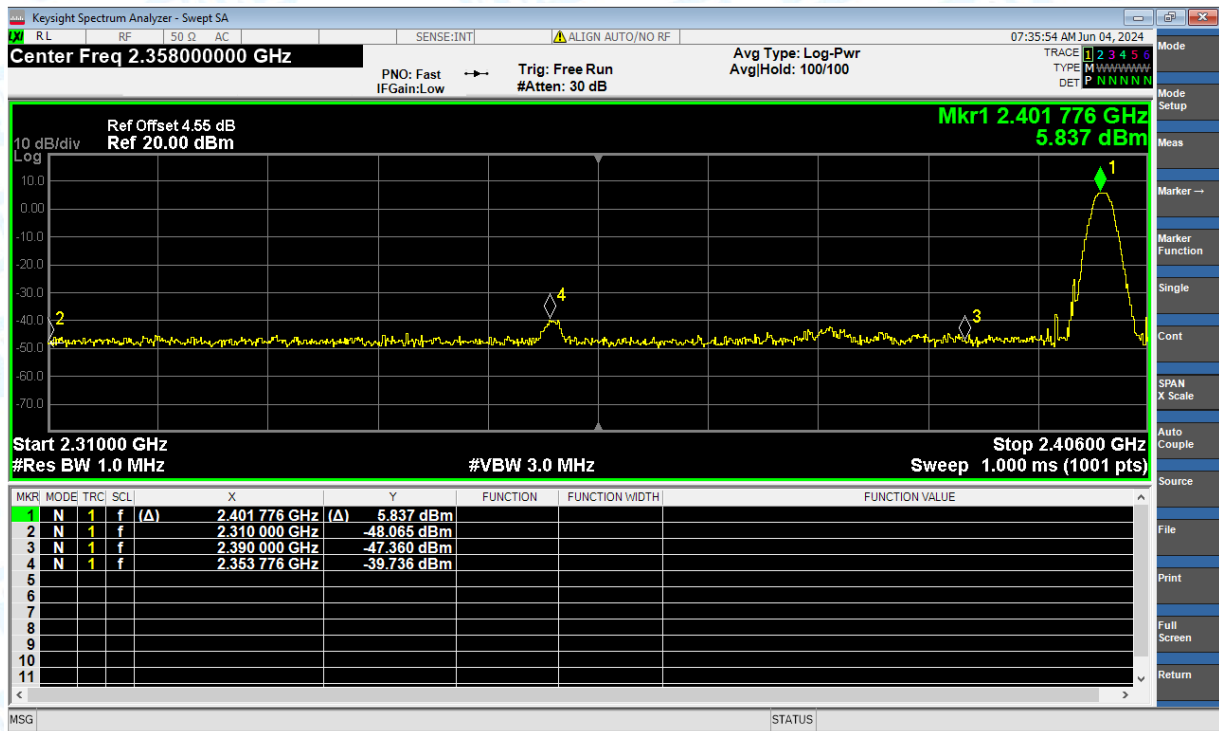
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



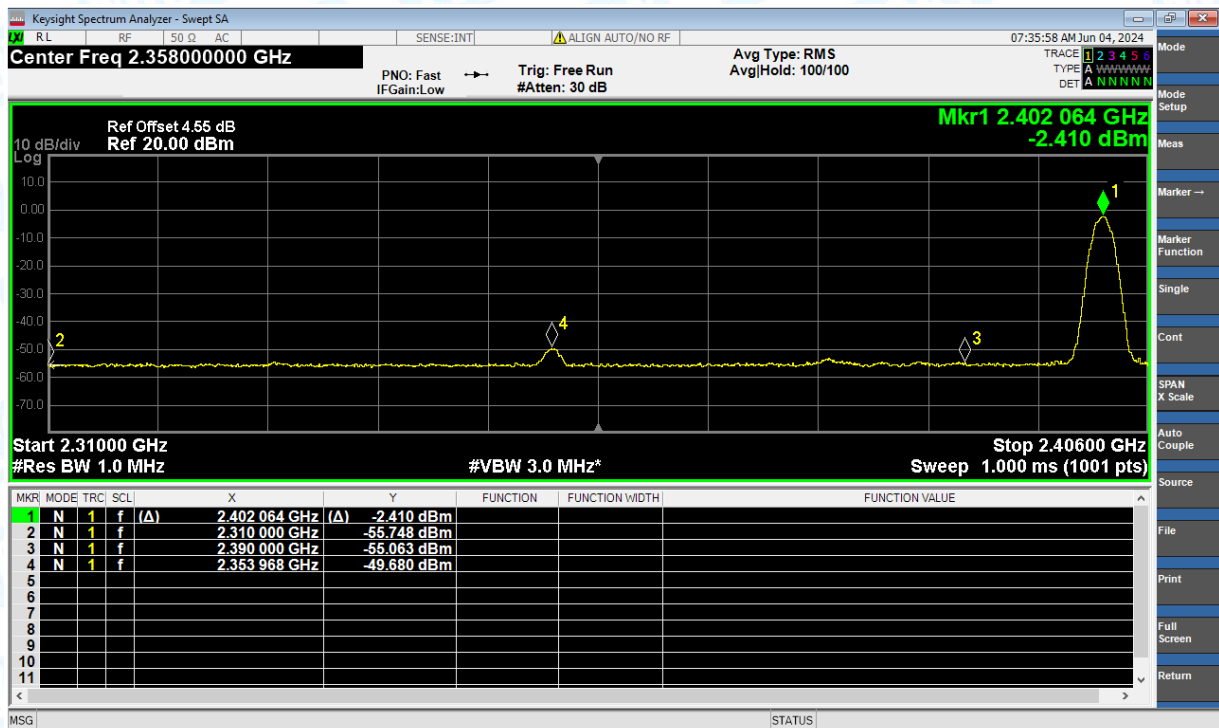
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



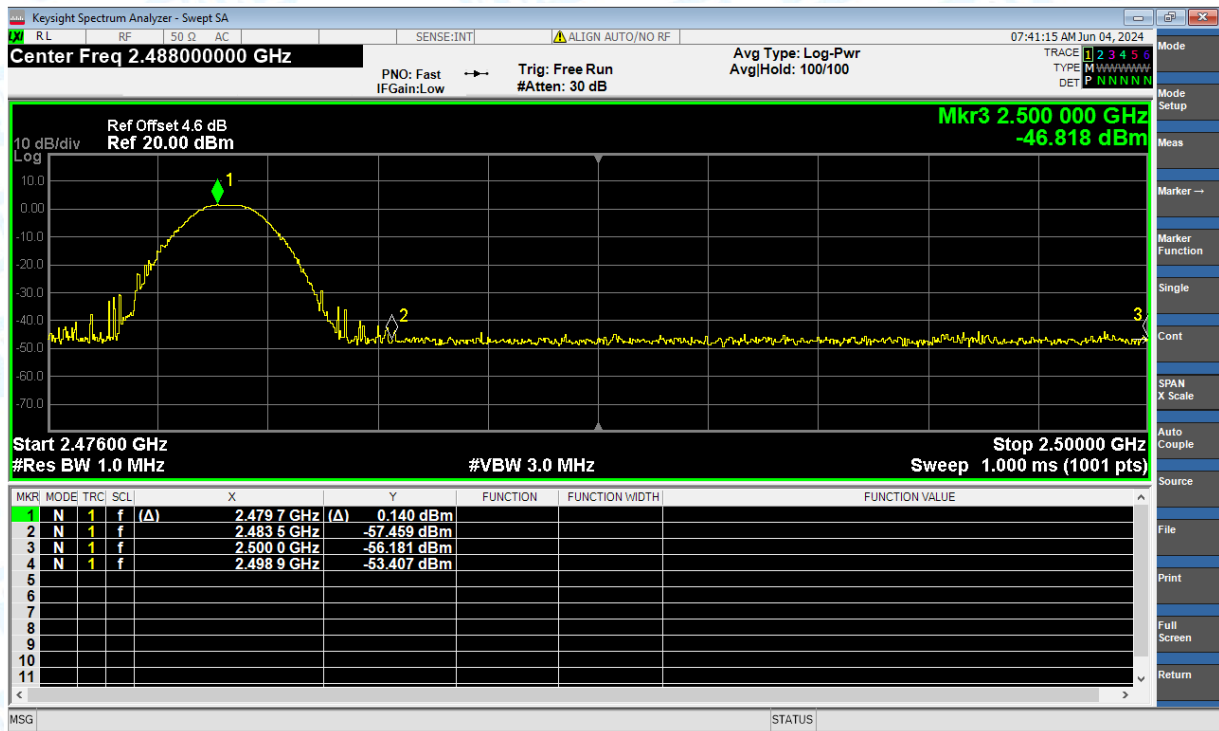
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



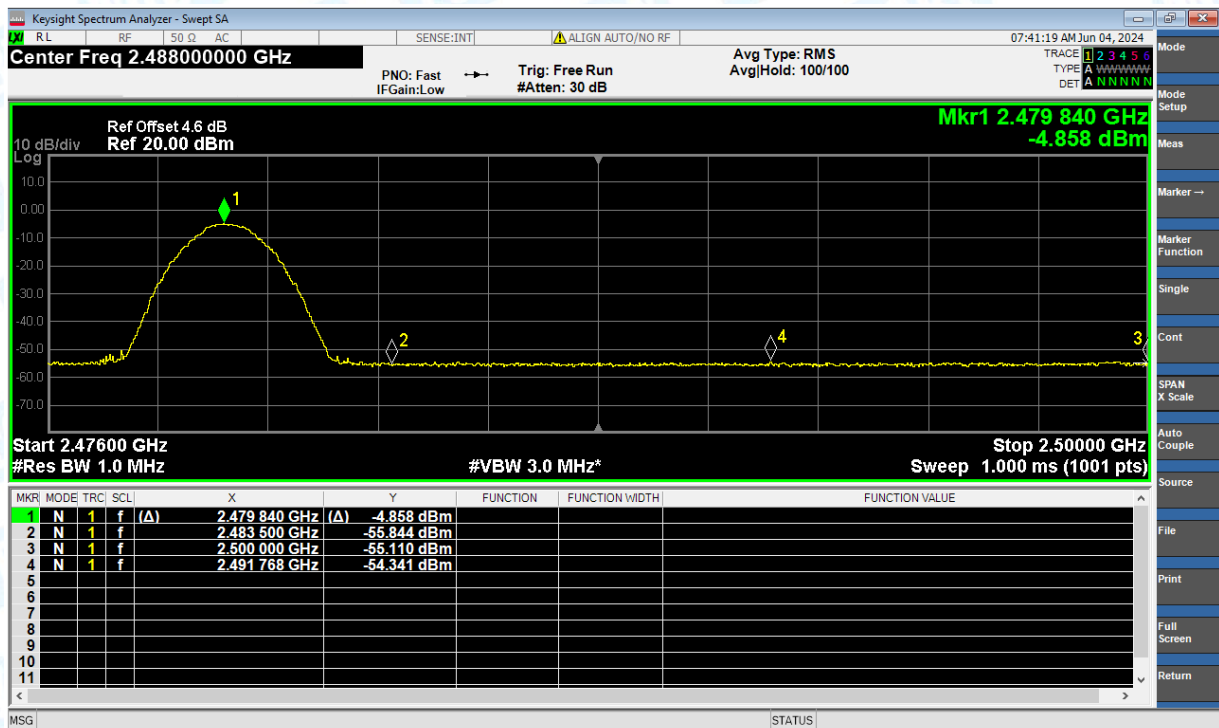
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



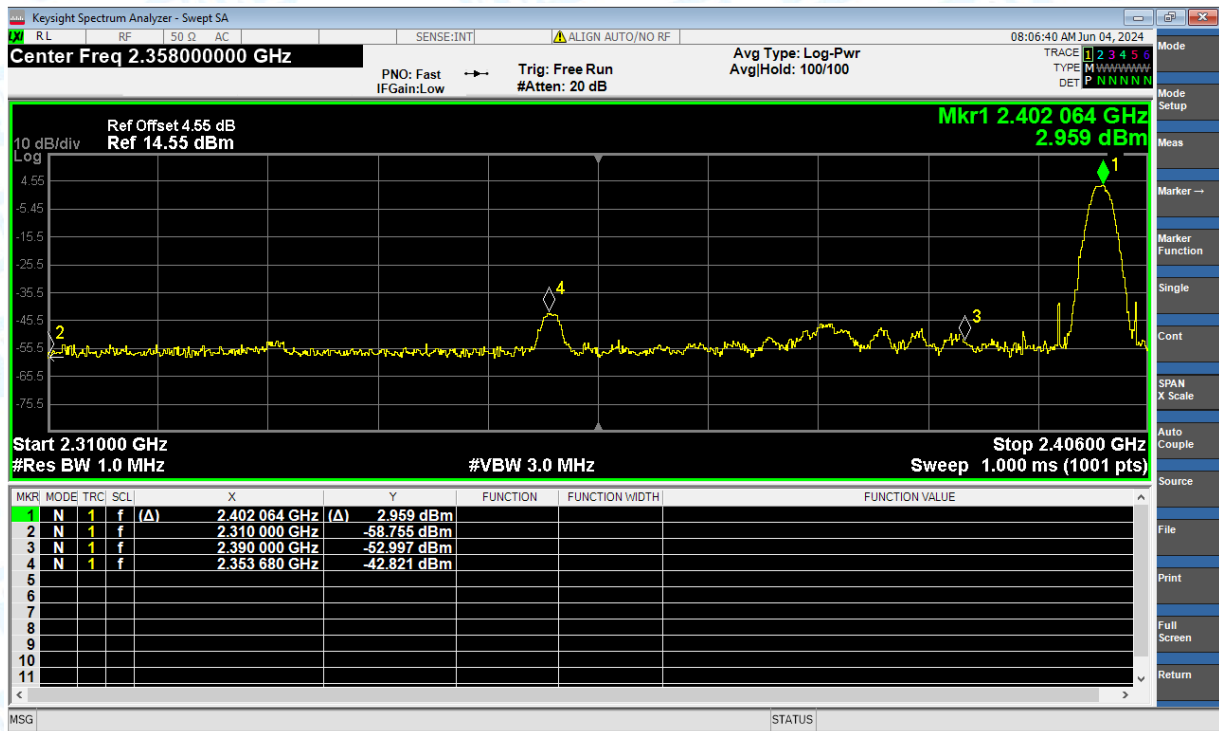
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



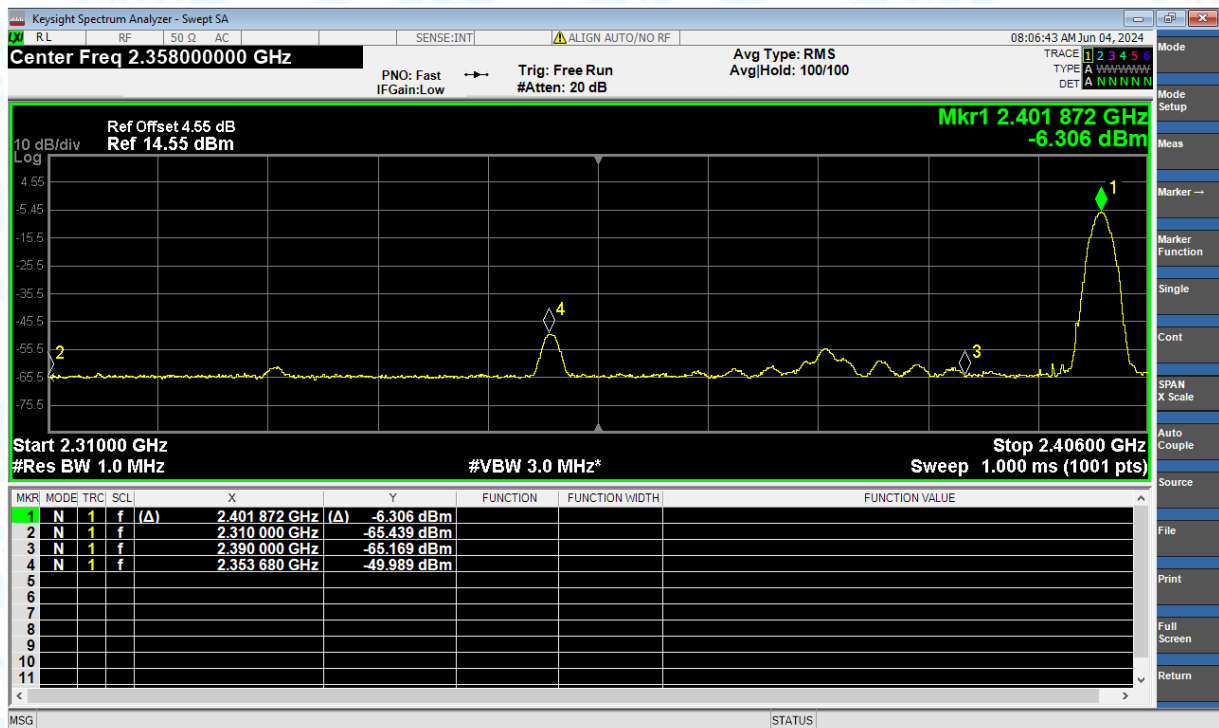
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



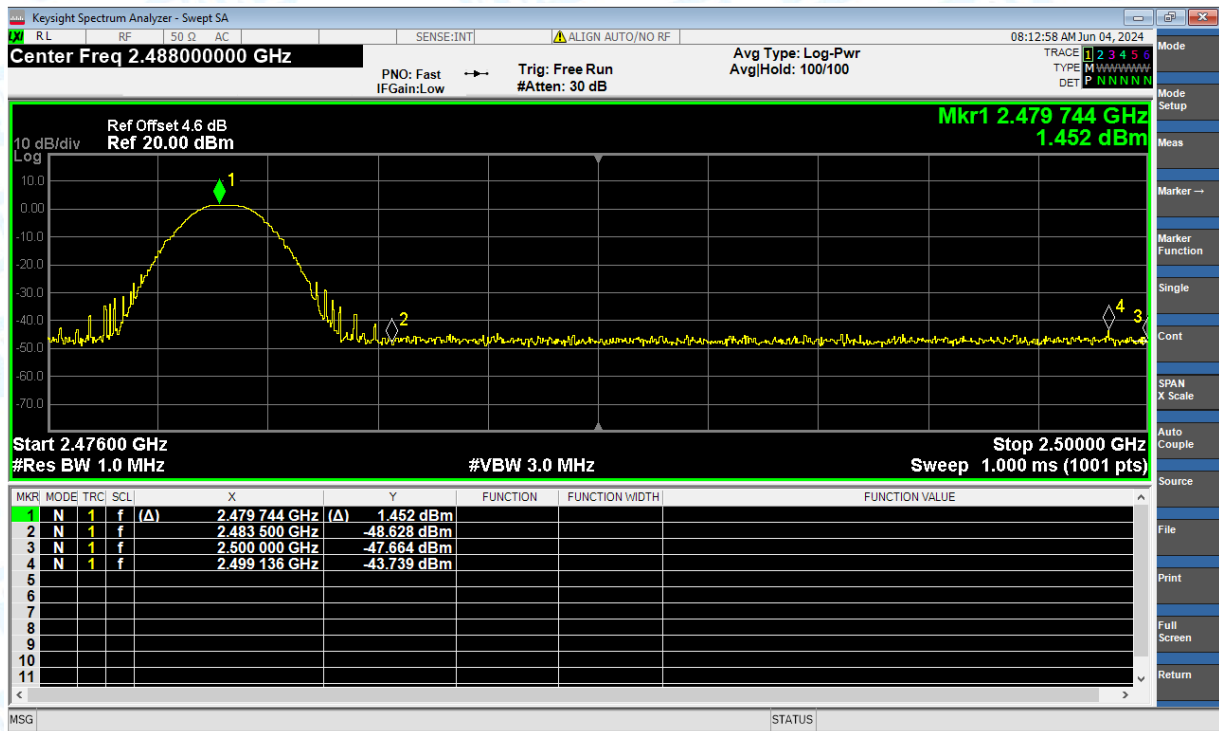
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



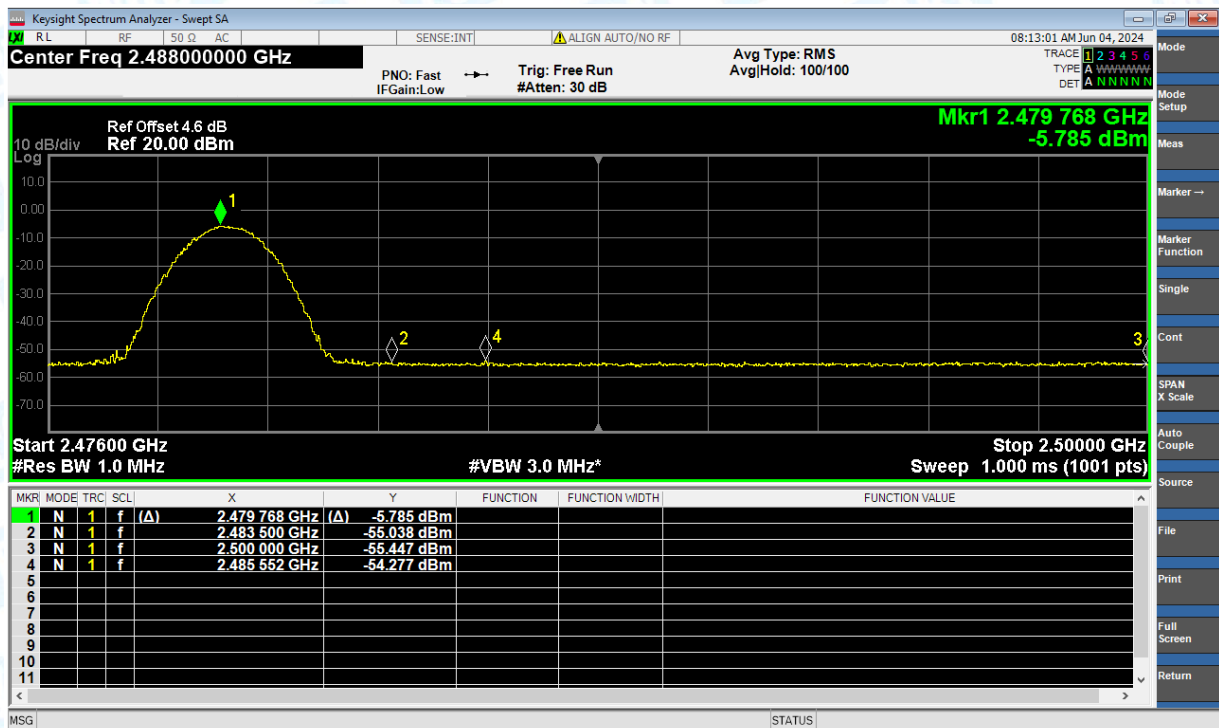
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

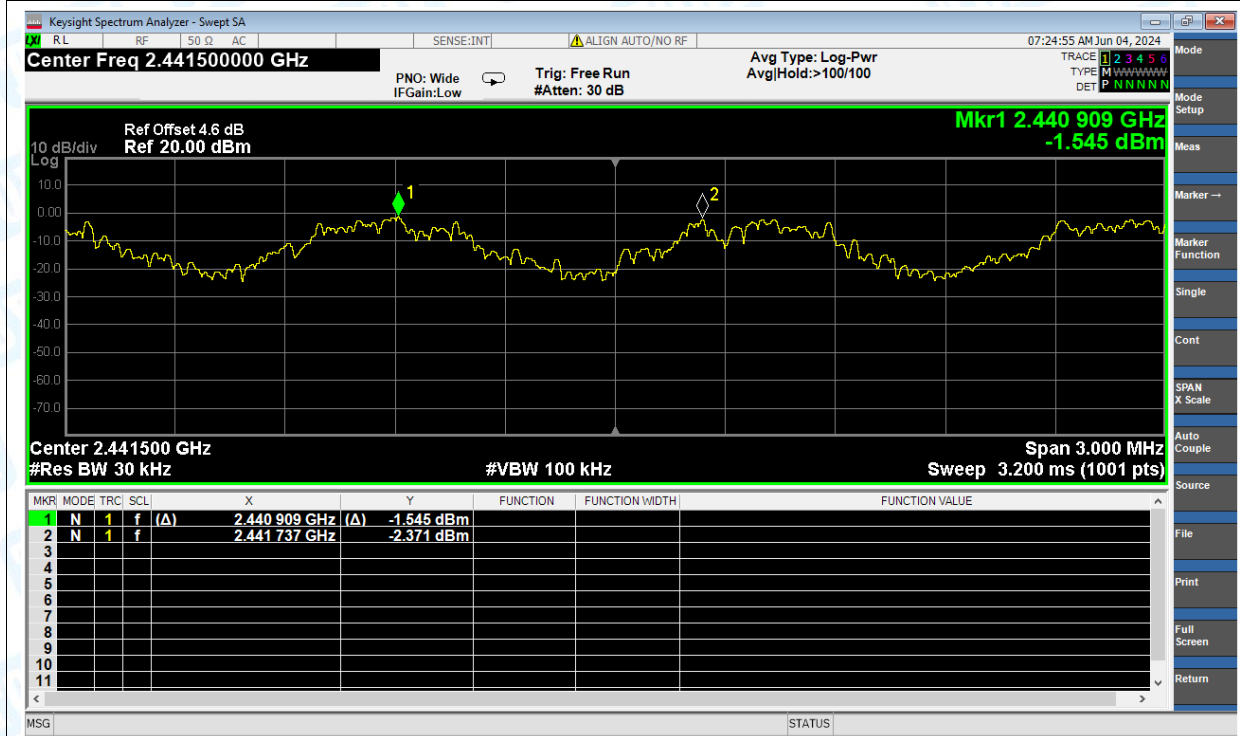


9. Carrier Frequencies Separation

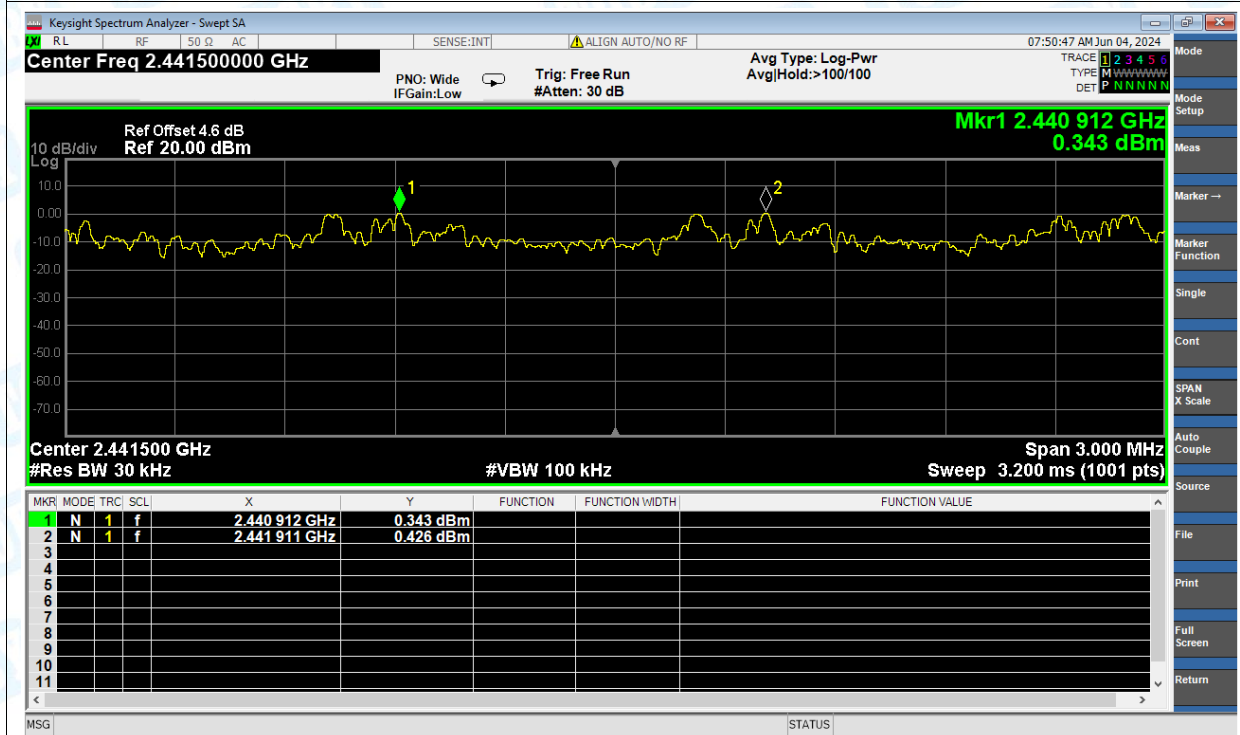
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.909	2441.737	0.828	0.64	Pass
NVNT	2-DH1	Ant1	2440.912	2441.911	0.999	0.84	Pass
NVNT	3-DH1	Ant1	2440.909	2441.719	0.81	0.025	Pass

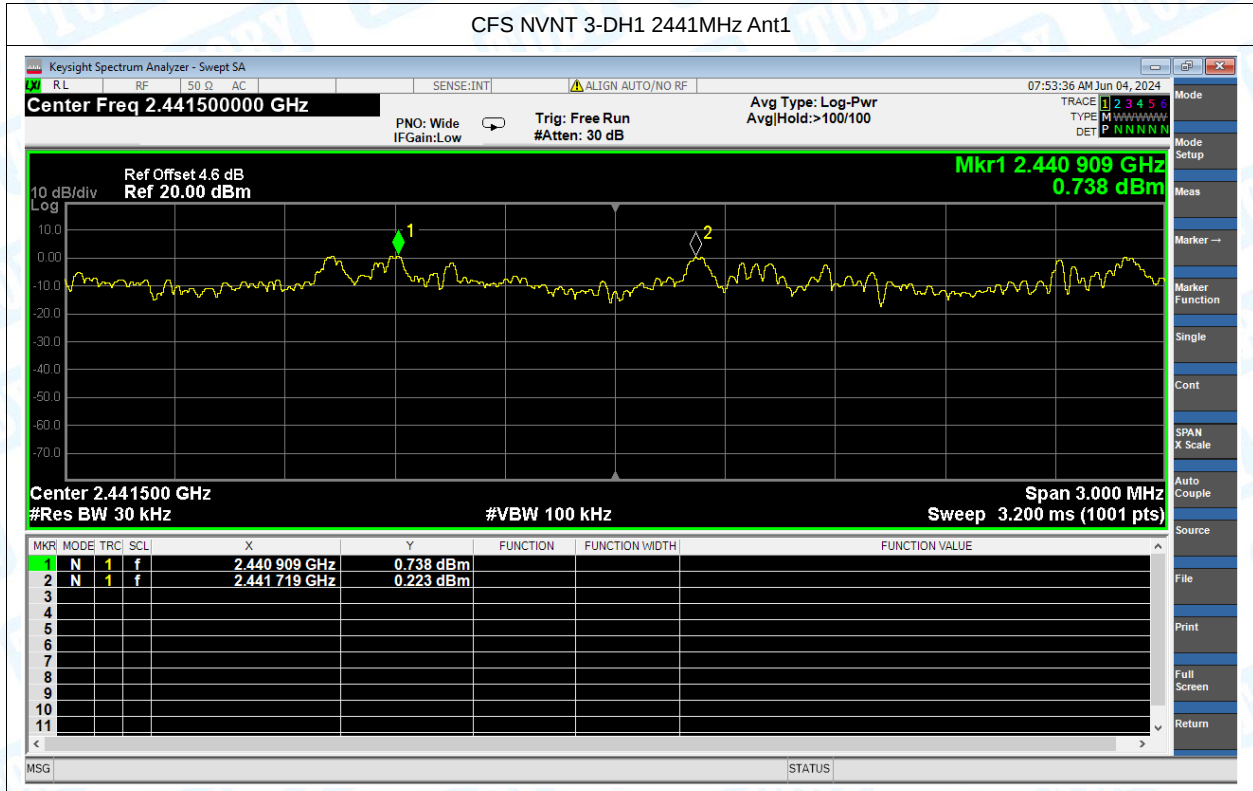
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



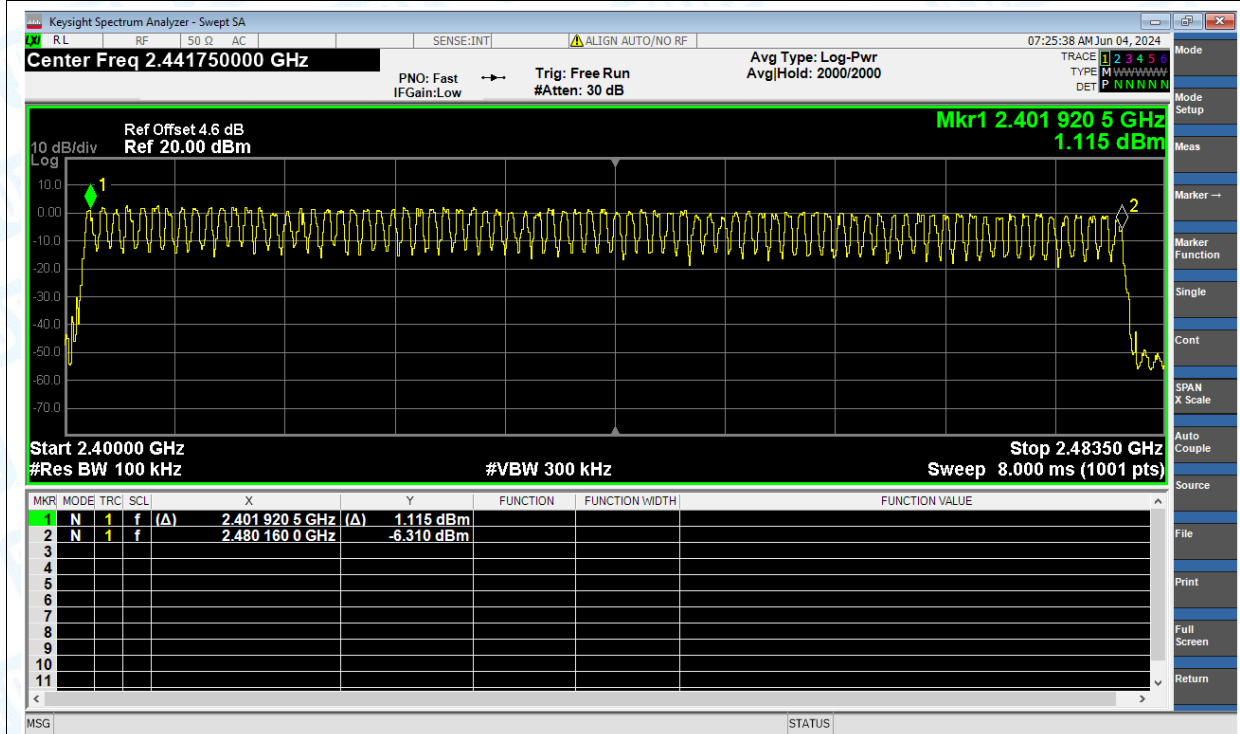


10. Number of Hopping Channel

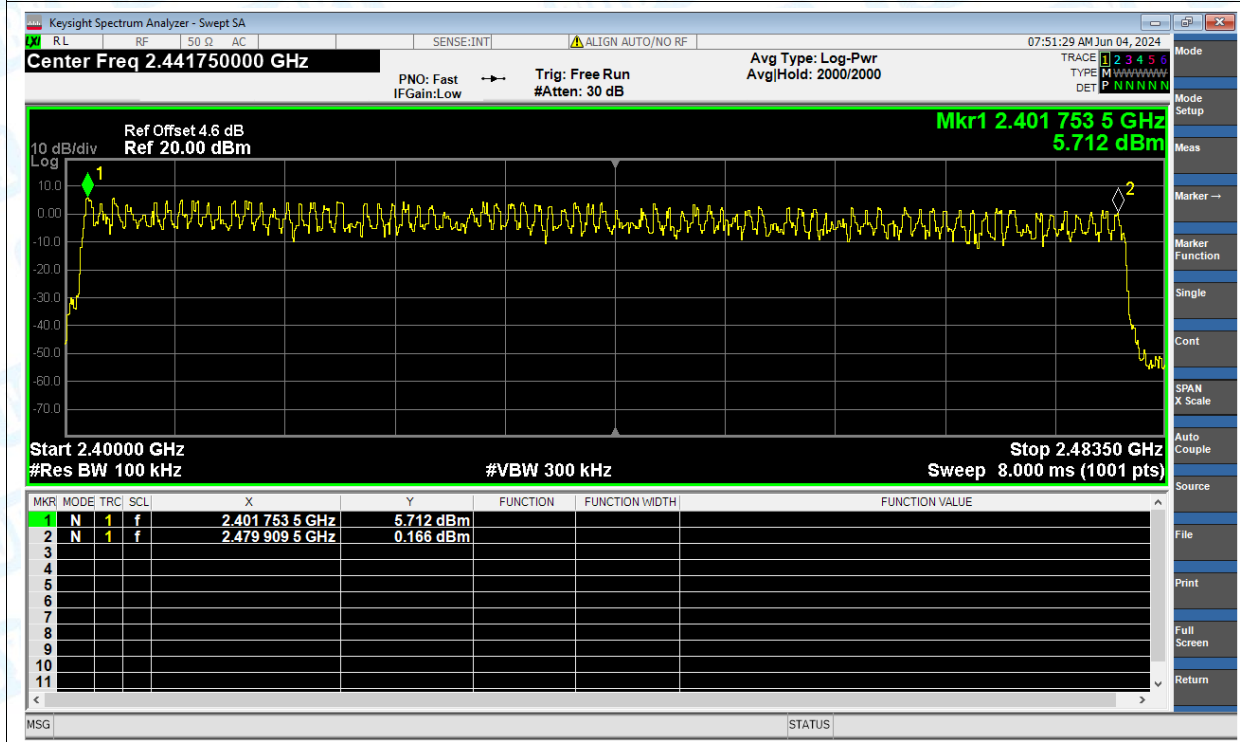
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

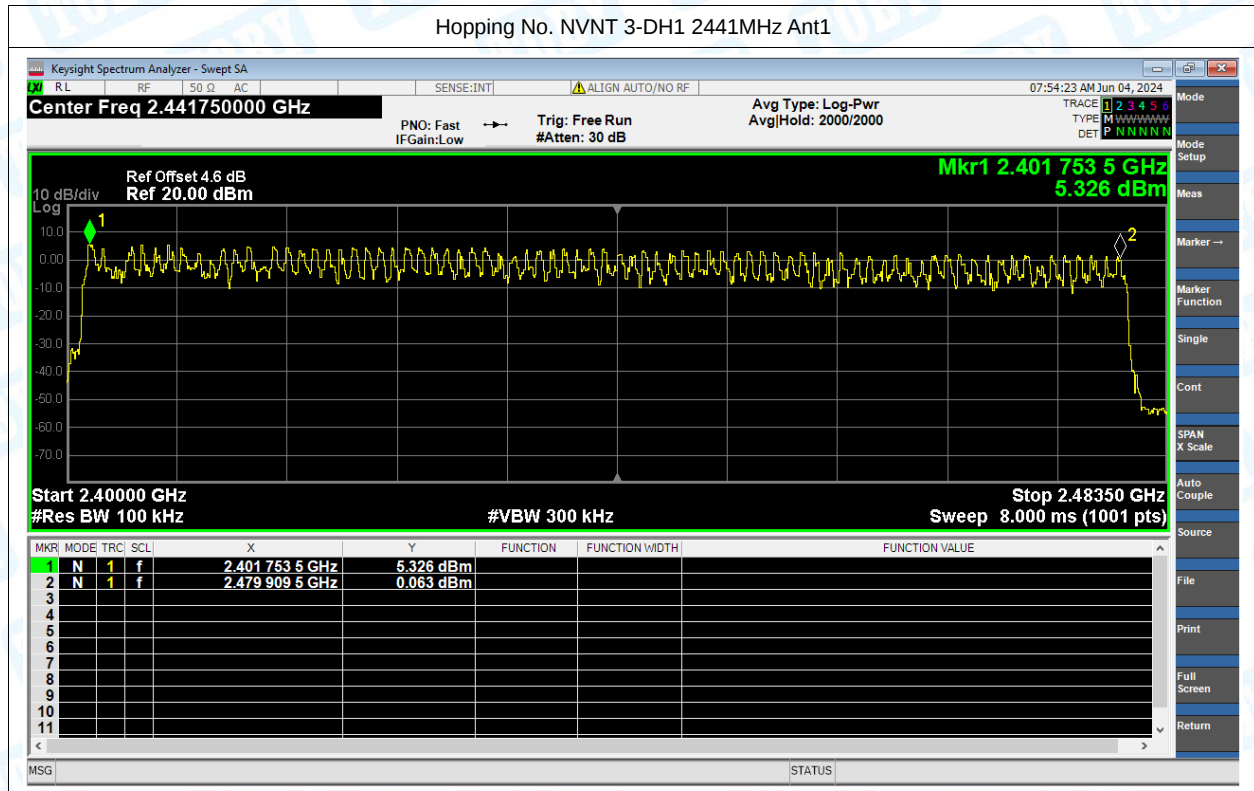
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



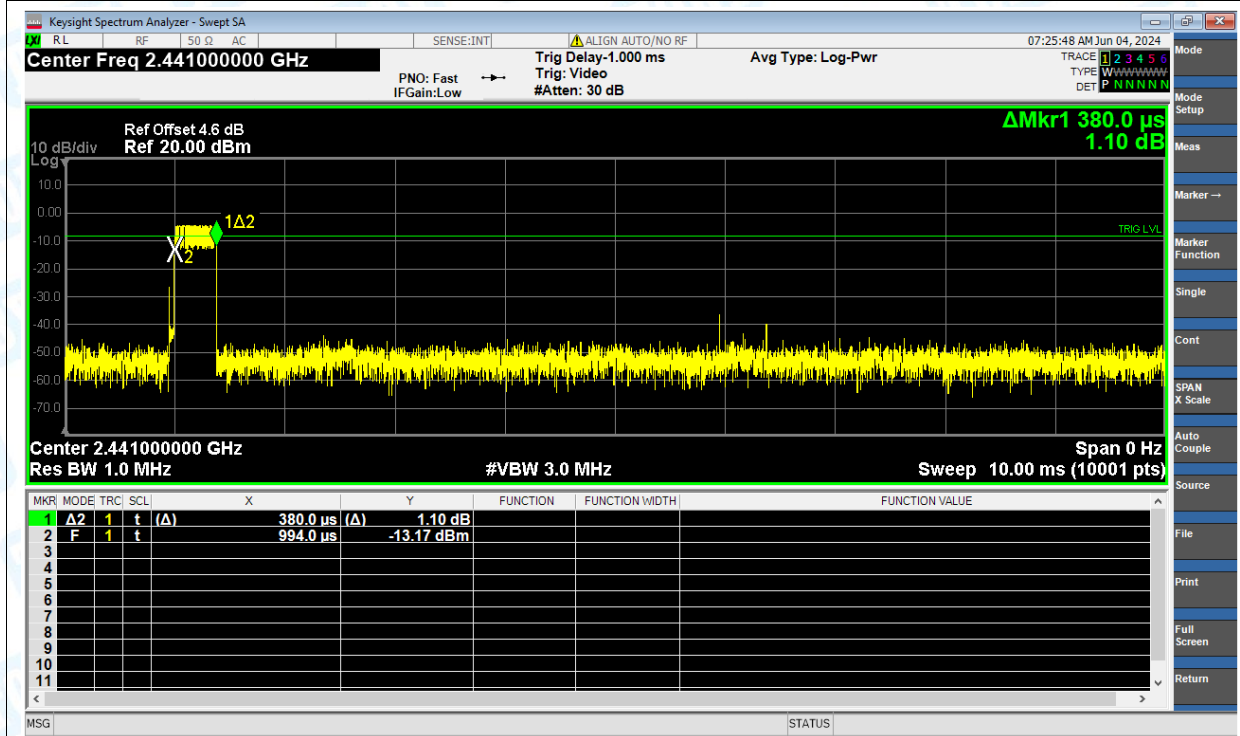


11. Dwell Time

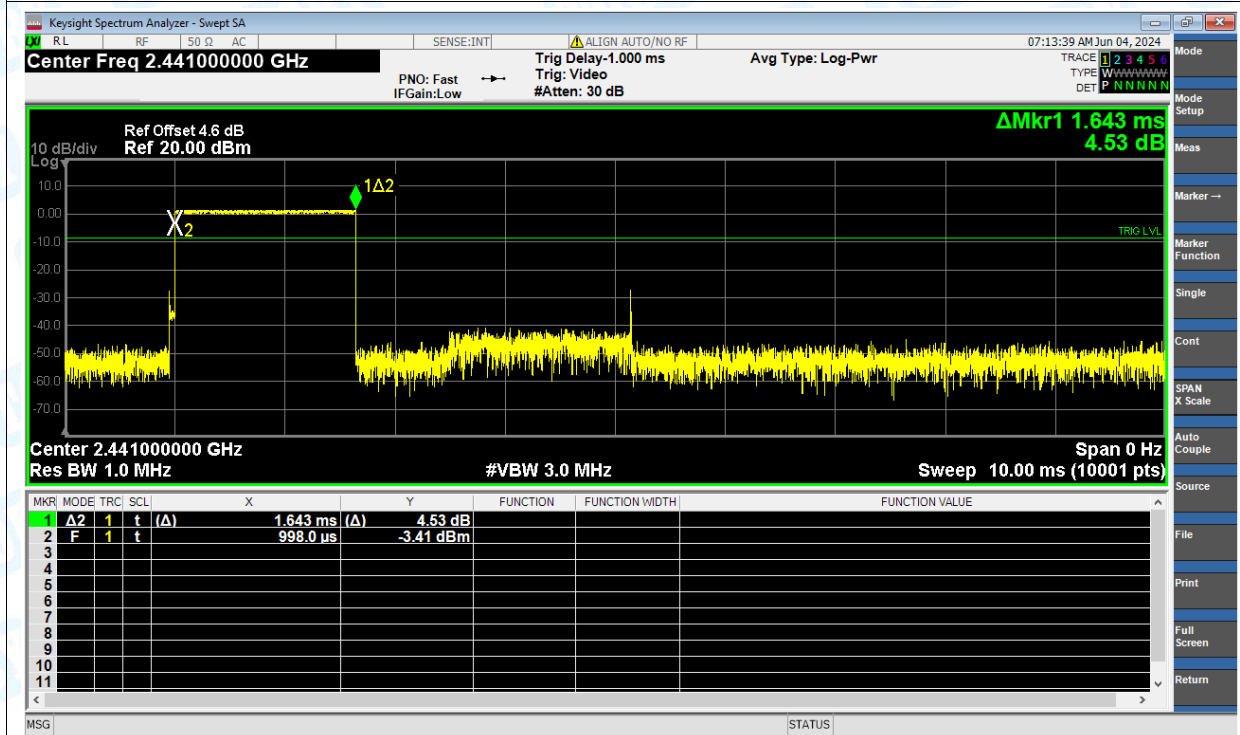
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.38	121.6	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.643	262.88	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.892	308.48	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.386	123.52	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.638	262.08	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.387	123.84	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.637	261.92	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.887	307.947	31600	400	Pass

Test Graphs

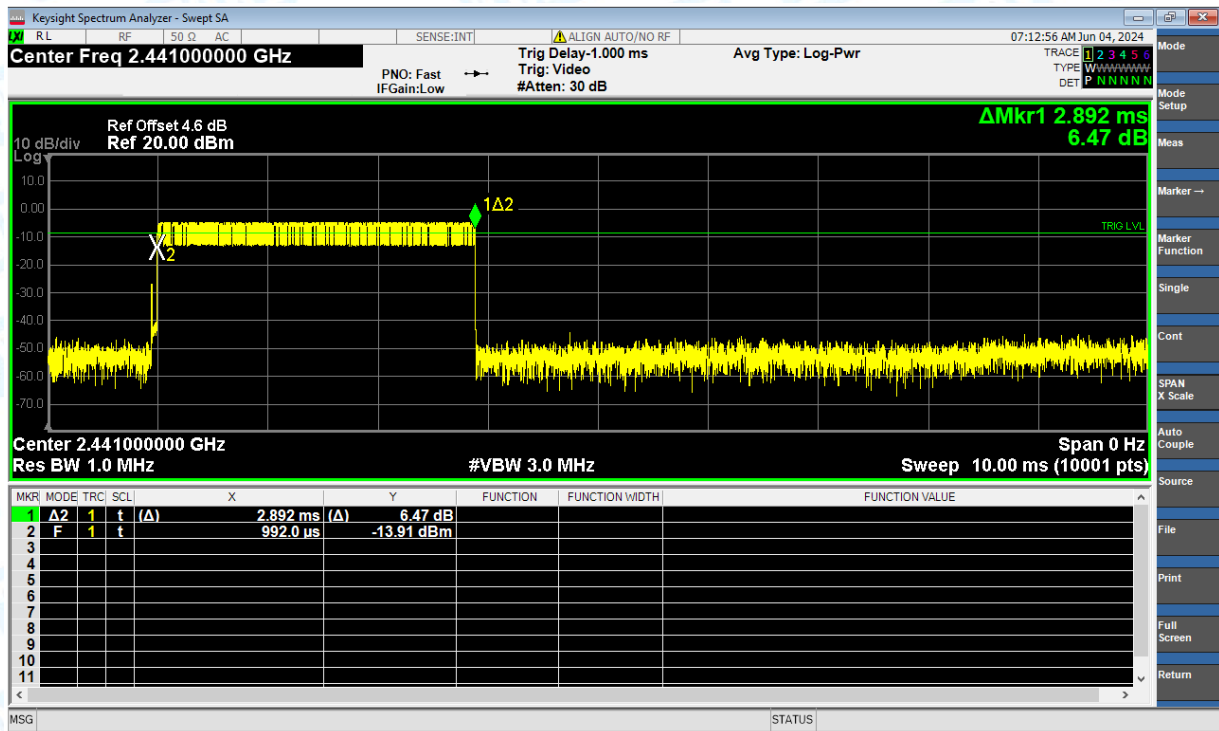
Dwell NVNT 1-DH1 2441MHz Ant1



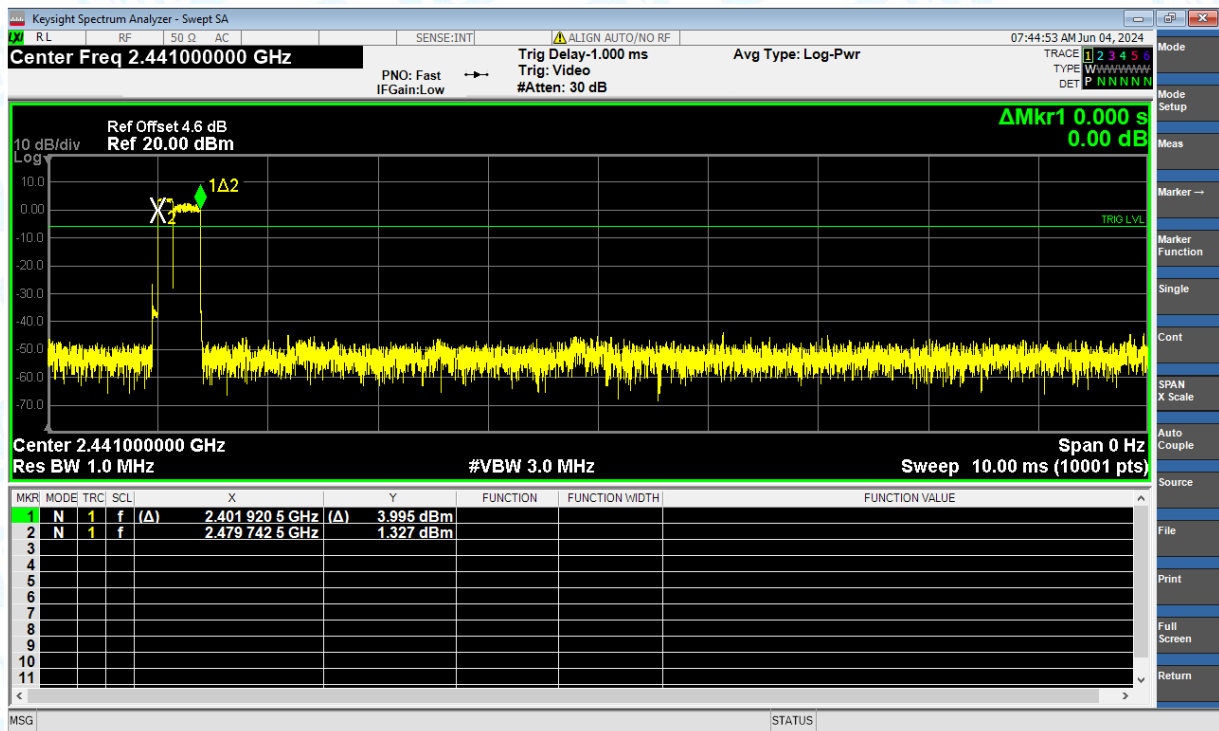
Dwell NVNT 1-DH3 2441MHz Ant1



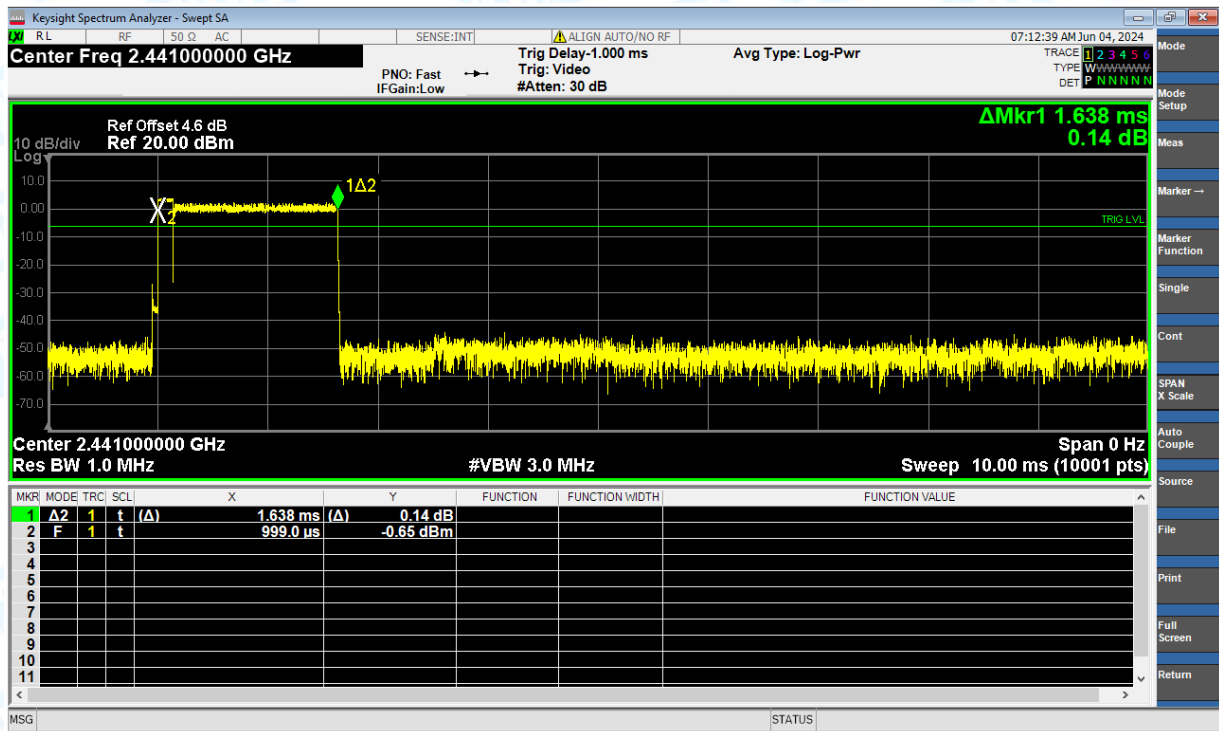
Dwell NVNT 1-DH5 2441MHz Ant1



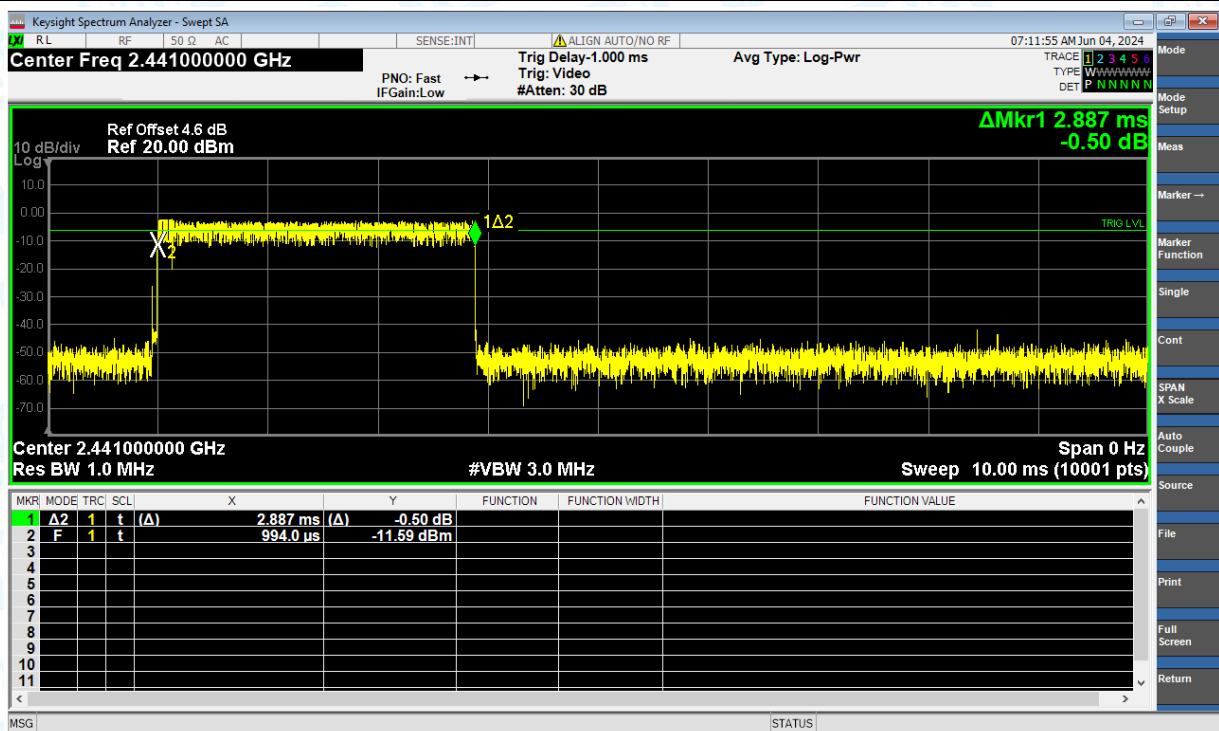
Dwell NVNT 2-DH1 2441MHz Ant1



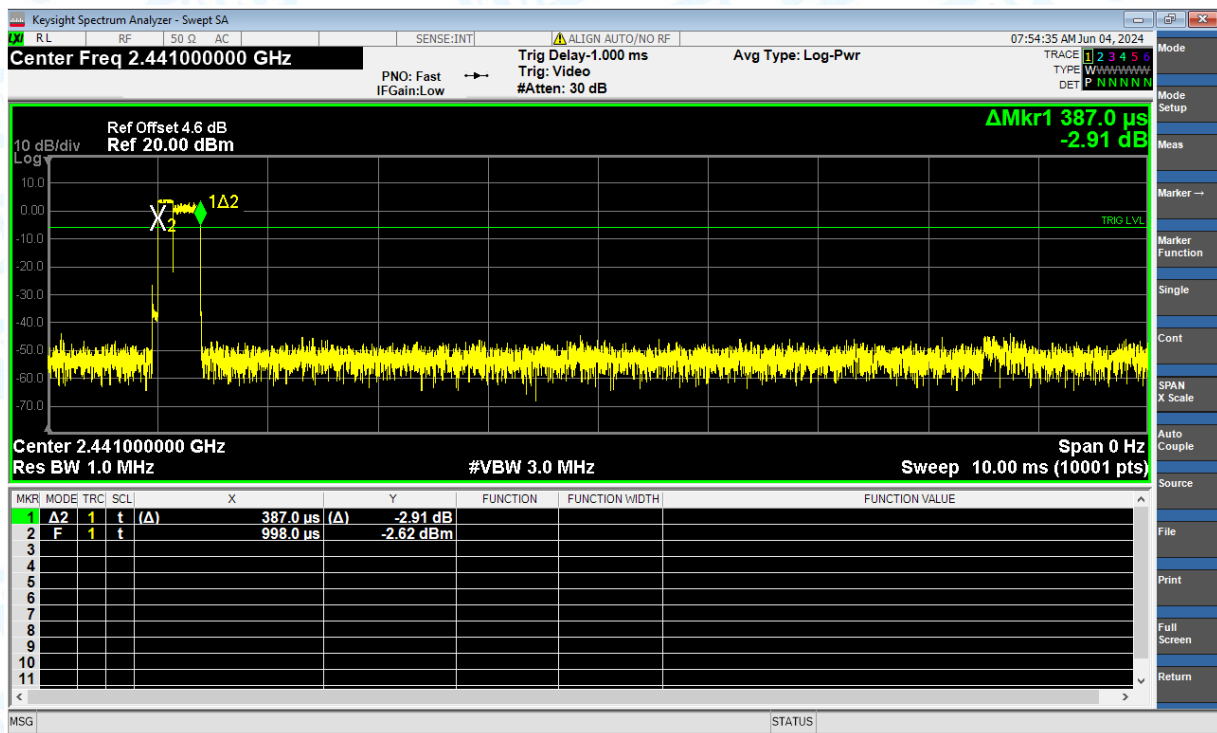
Dwell NVNT 2-DH3 2441MHz Ant1



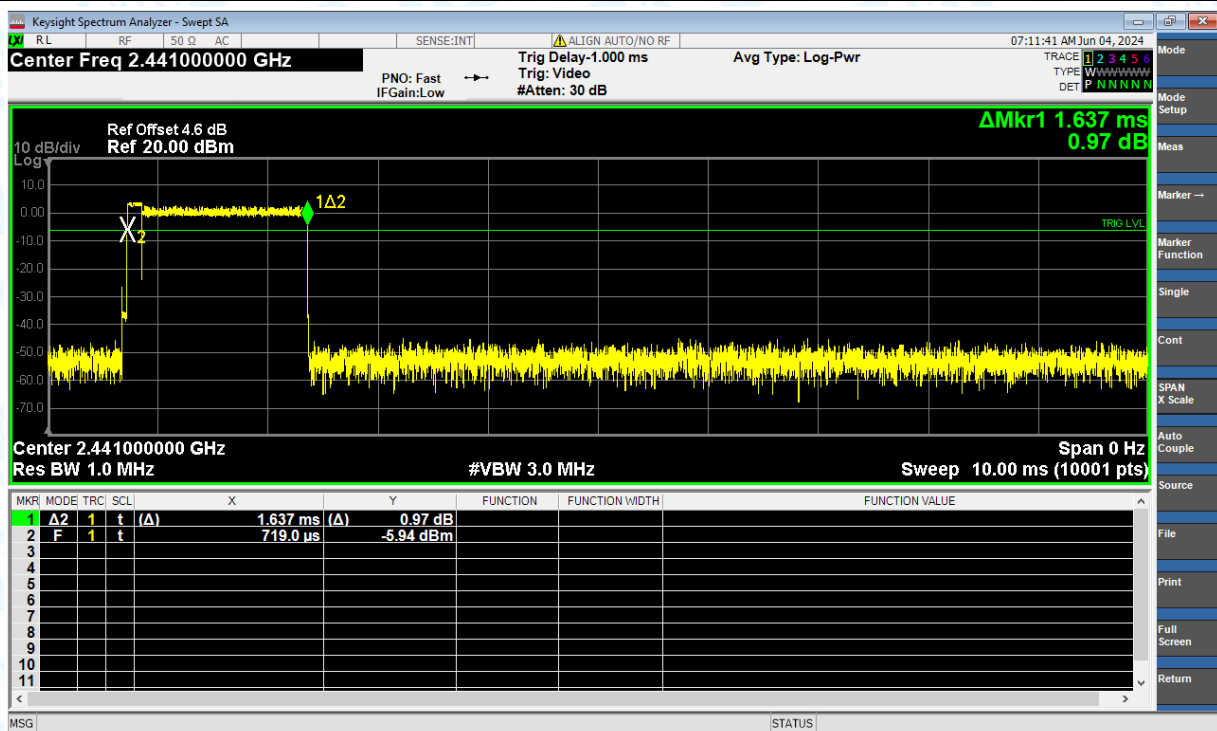
Dwell NVNT 2-DH5 2441MHz Ant1

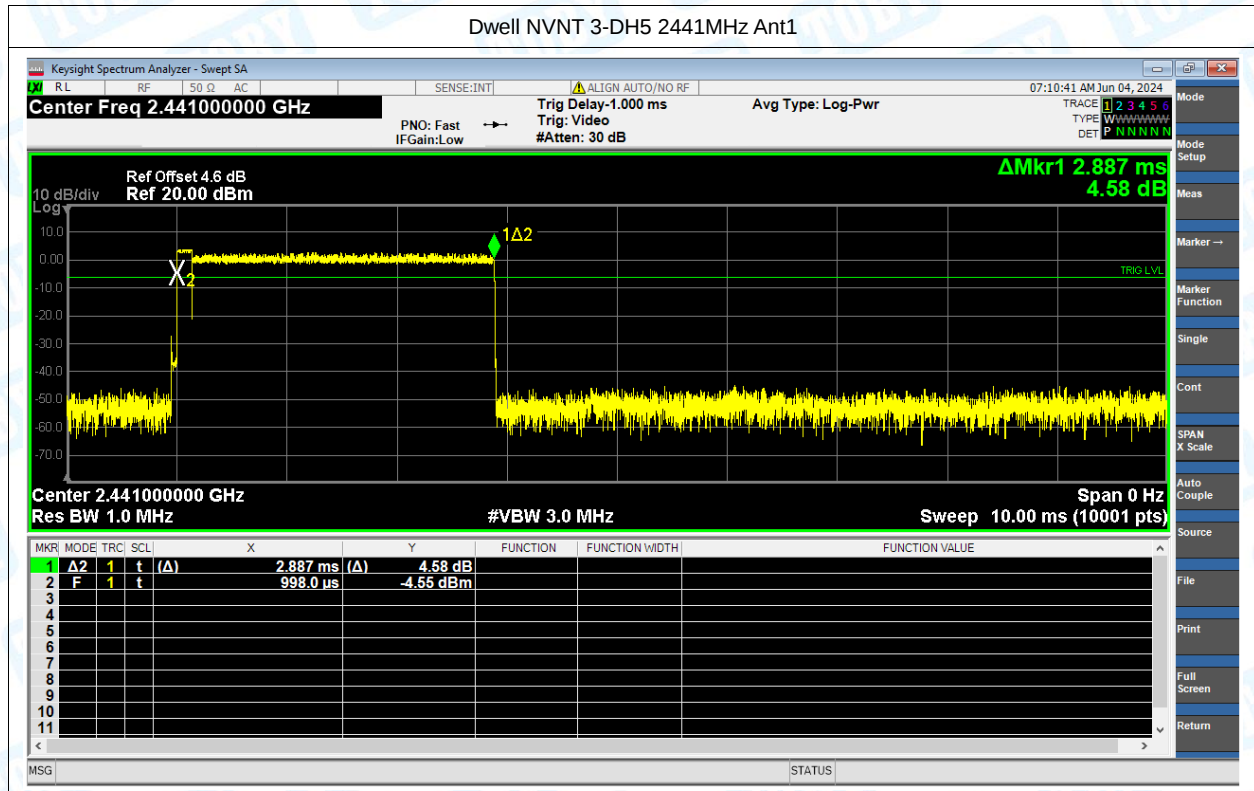


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





----END OF REPORT----