

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Smartphone
Test Model:	HiBreak
Sample ID:	HC-C-202406-0078-01-01-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 3.8V
Test Engineer:	ZKN ZHOU
Note: For a more detailed features description, please refer to the report TBR-C-202406-0078-3 The report only show the worst case data.	

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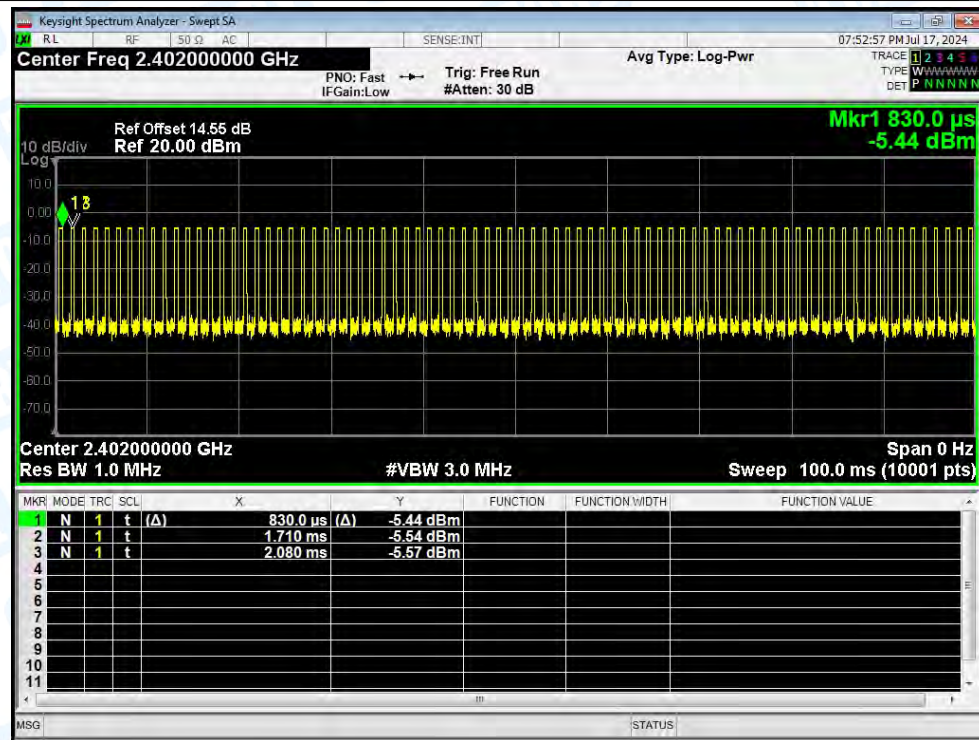
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1. Duty Cycle

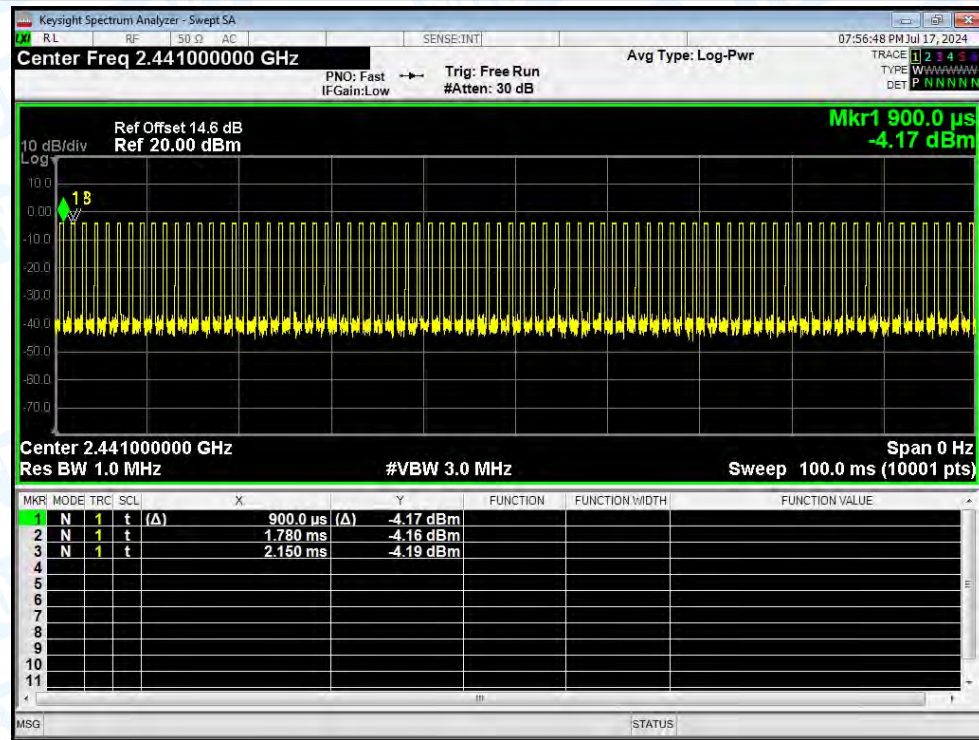
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	29.6	5.29	2.7
NVNT	1-DH1	2441	Ant1	29.6	5.29	2.7
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	3-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2480	Ant1	31.2	5.06	2.56

Test Graphs

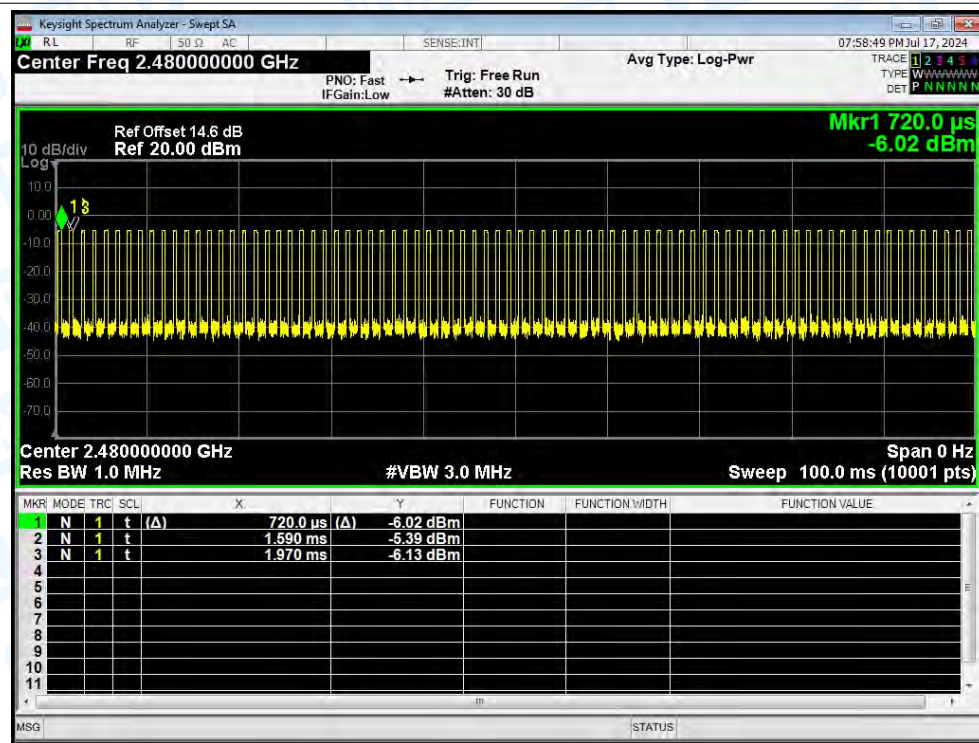
Duty Cycle NVNT 1-DH1 2402MHz Ant1



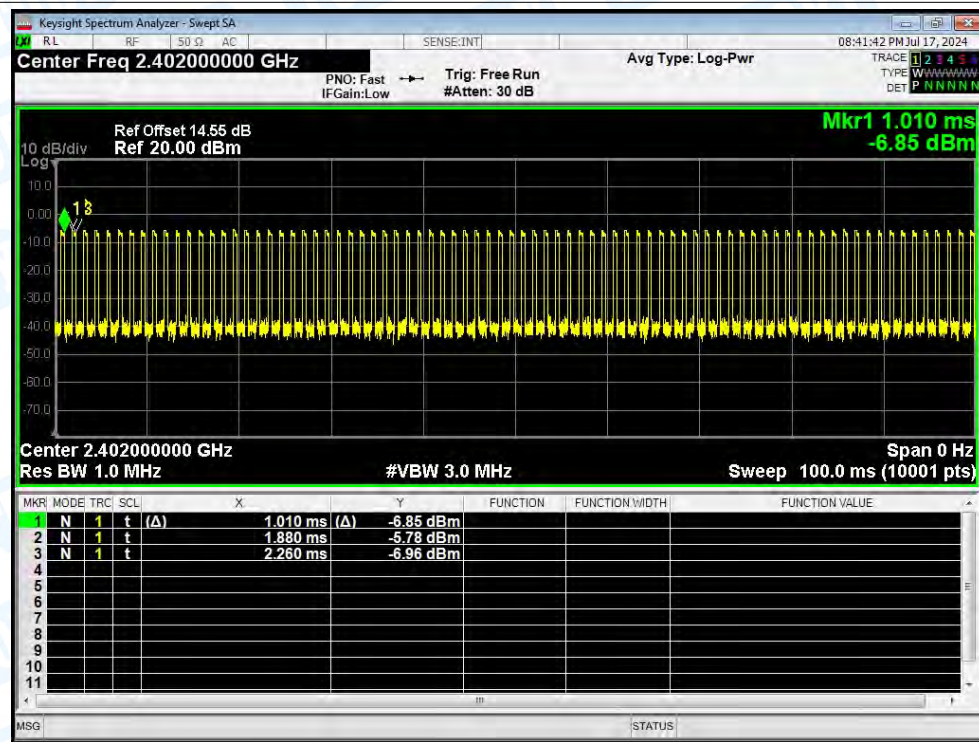
Duty Cycle NVNT 1-DH1 2441MHz Ant1



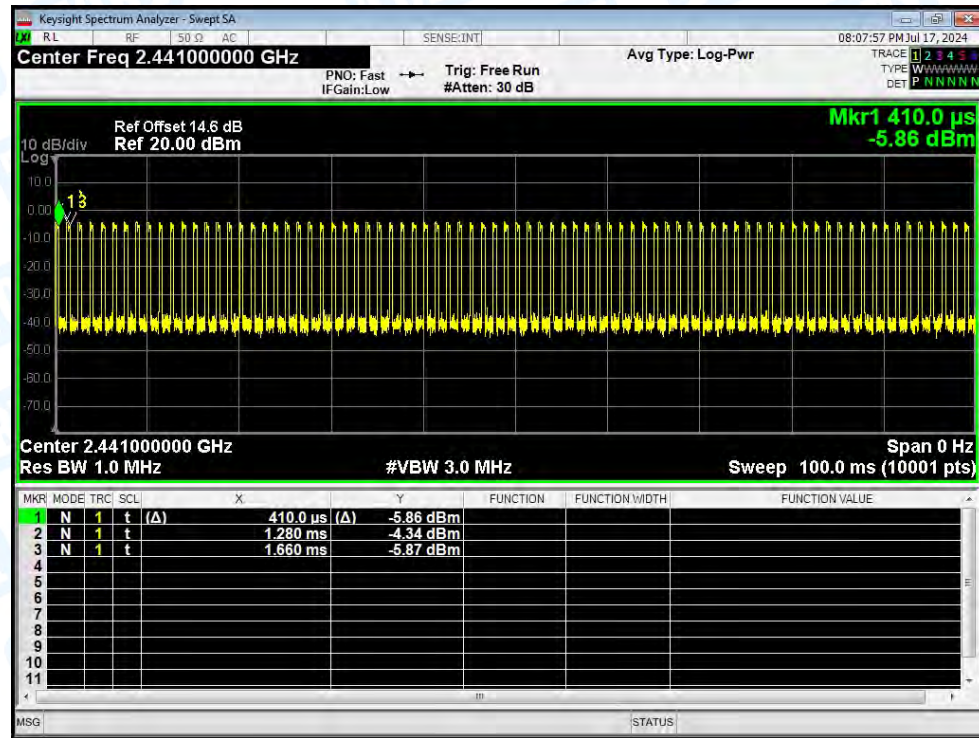
Duty Cycle NVNT 1-DH1 2480MHz Ant1



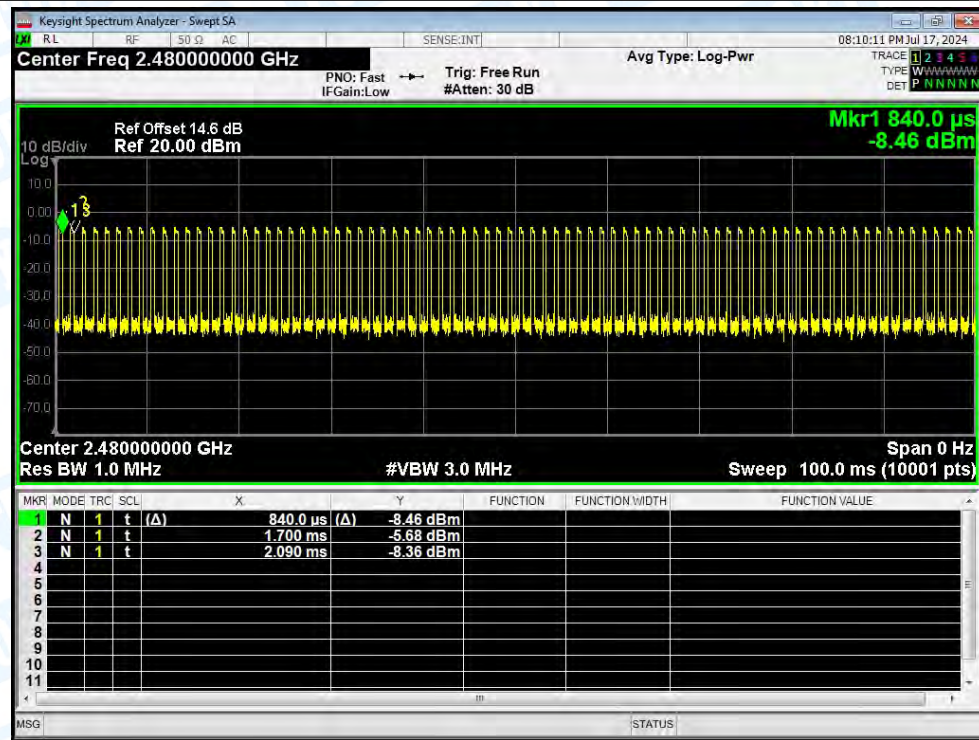
Duty Cycle NVNT 2-DH1 2402MHz Ant1



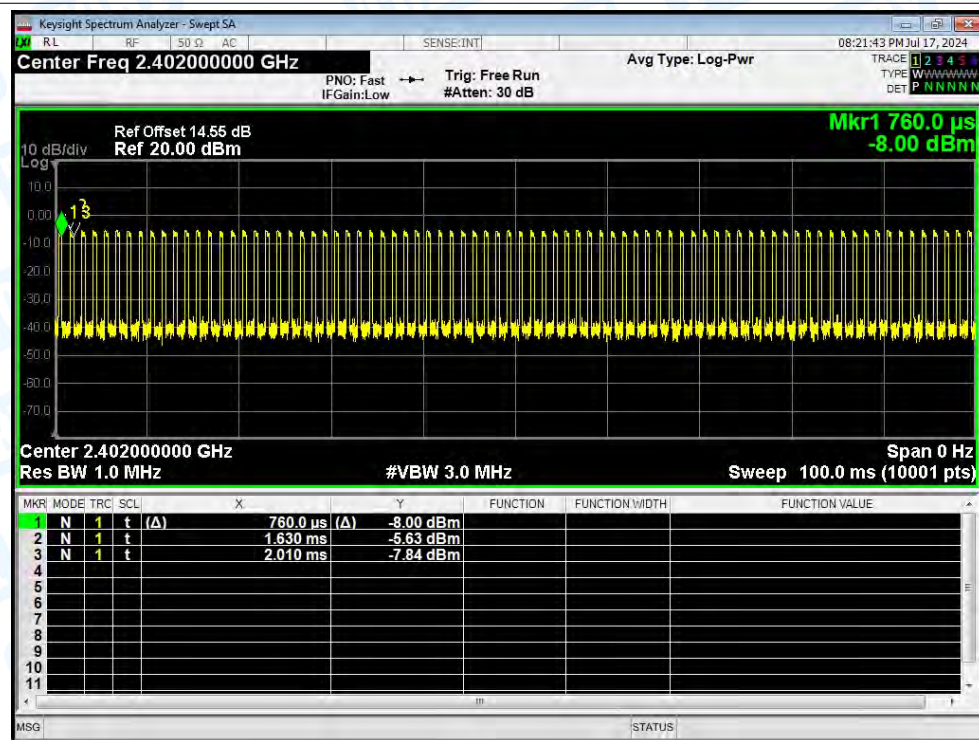
Duty Cycle NVNT 2-DH1 2441MHz Ant1



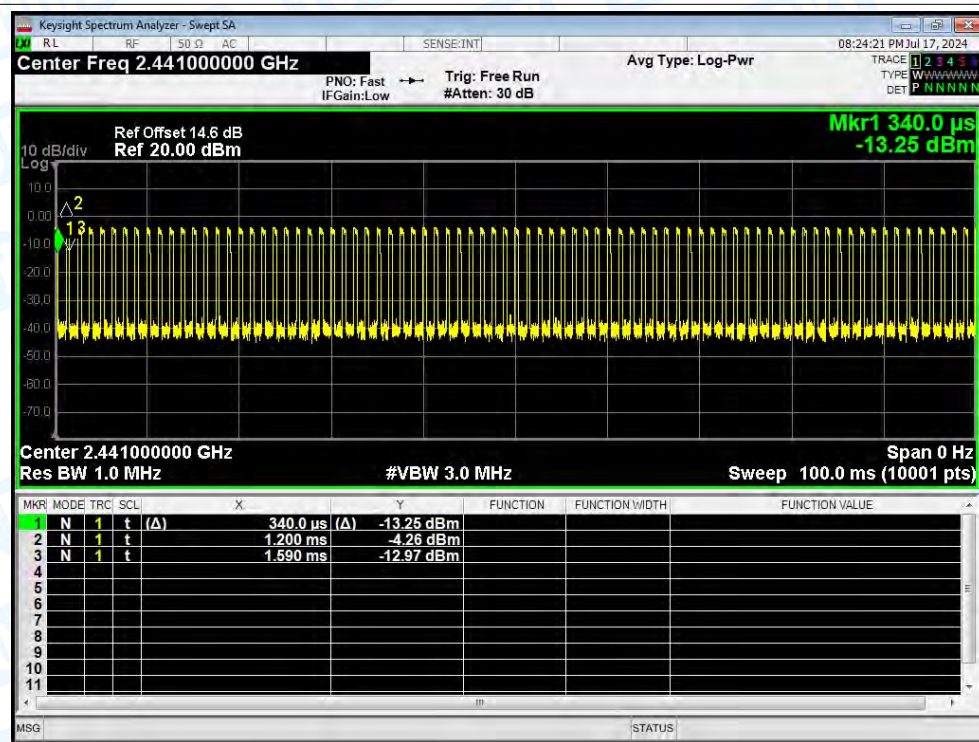
Duty Cycle NVNT 2-DH1 2480MHz Ant1

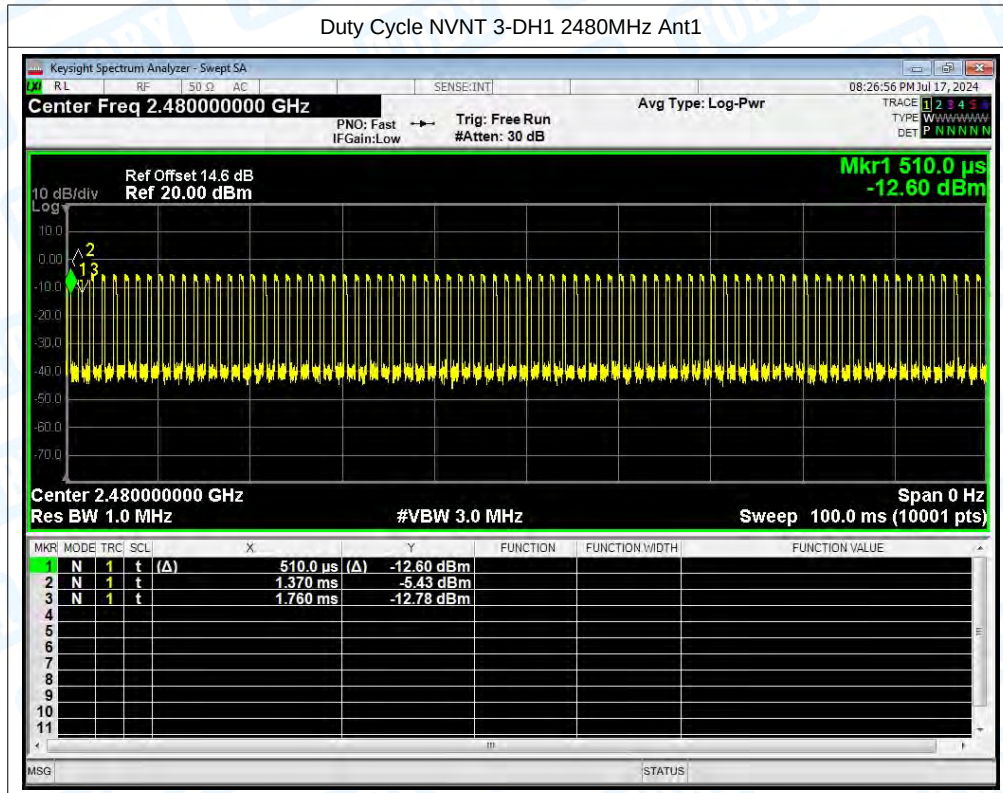


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



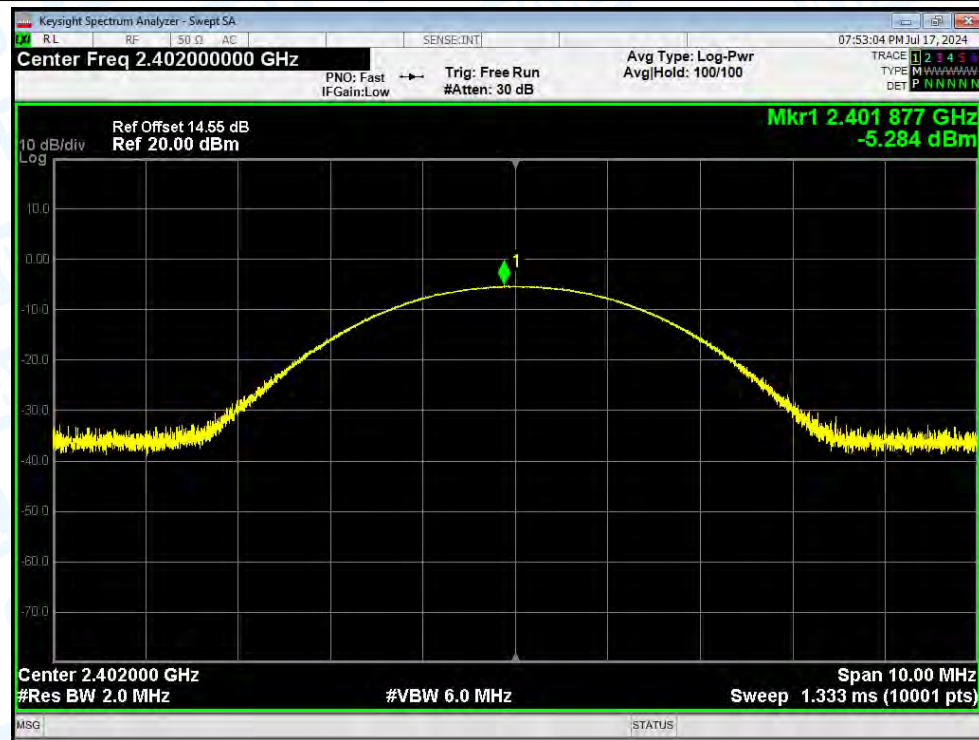


2. Maximum Conducted Output Power

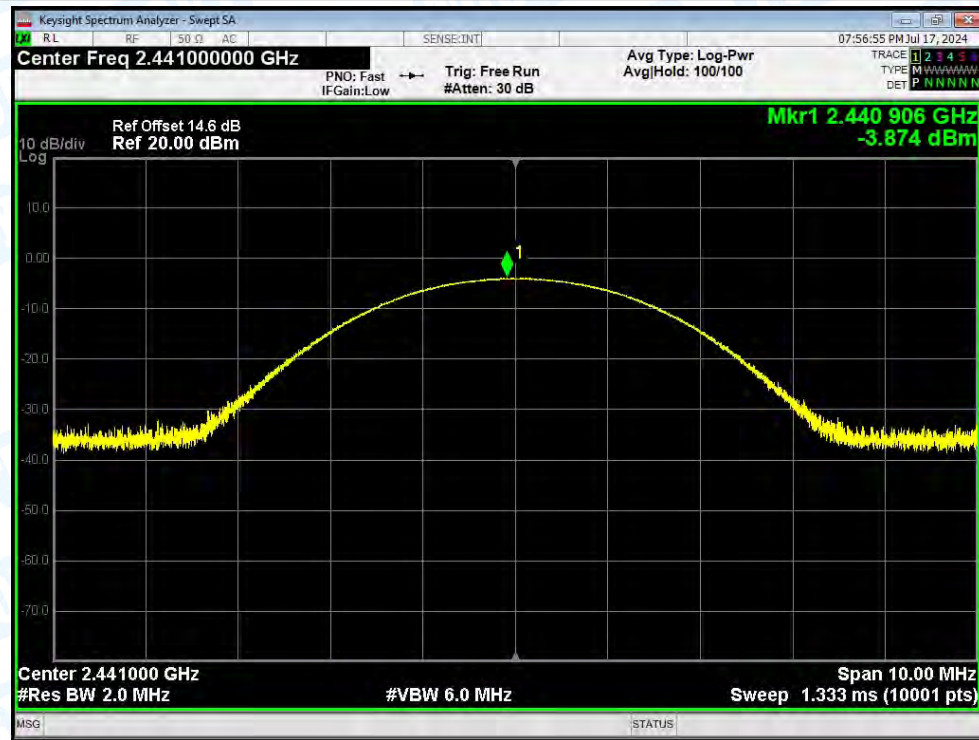
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH 1	2402	Ant1	-5.284	21	Pass
NVNT	1-DH 1	2441	Ant1	-3.874	21	Pass
NVNT	1-DH 1	2480	Ant1	-5.051	21	Pass
NVNT	2-DH 1	2402	Ant1	-5.438	21	Pass
NVNT	2-DH 1	2441	Ant1	-4.06	21	Pass
NVNT	2-DH 1	2480	Ant1	-5.188	21	Pass
NVNT	3-DH 1	2402	Ant1	-5.406	21	Pass
NVNT	3-DH 1	2441	Ant1	-3.969	21	Pass
NVNT	3-DH 1	2480	Ant1	-5.205	21	Pass

Test Graphs

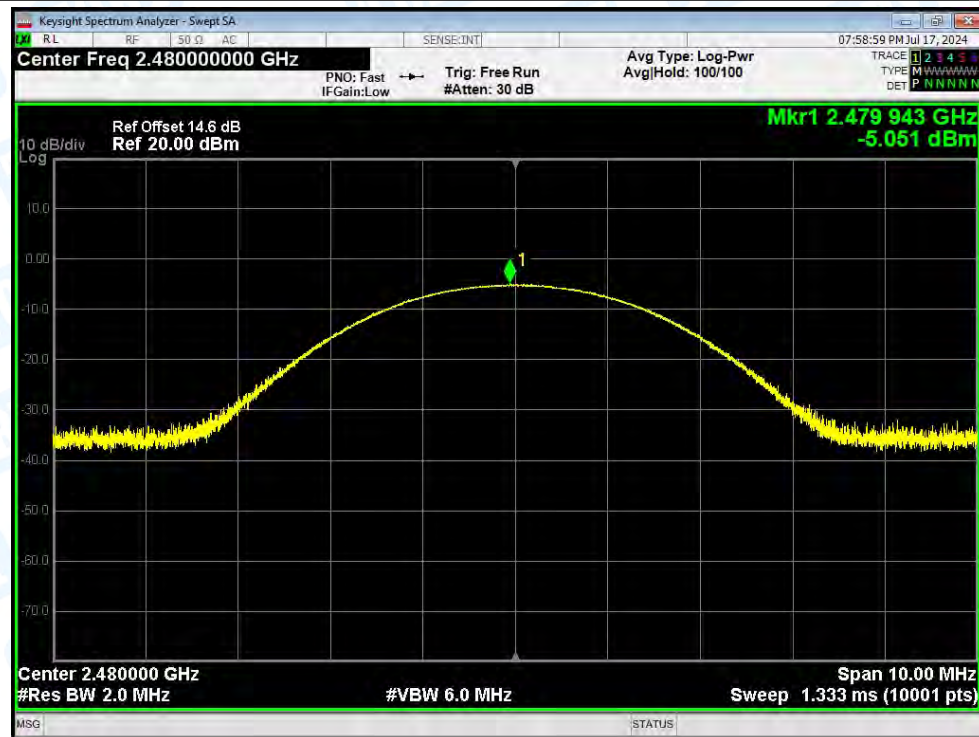
Power NVNT 1-DH1 2402MHz Ant1



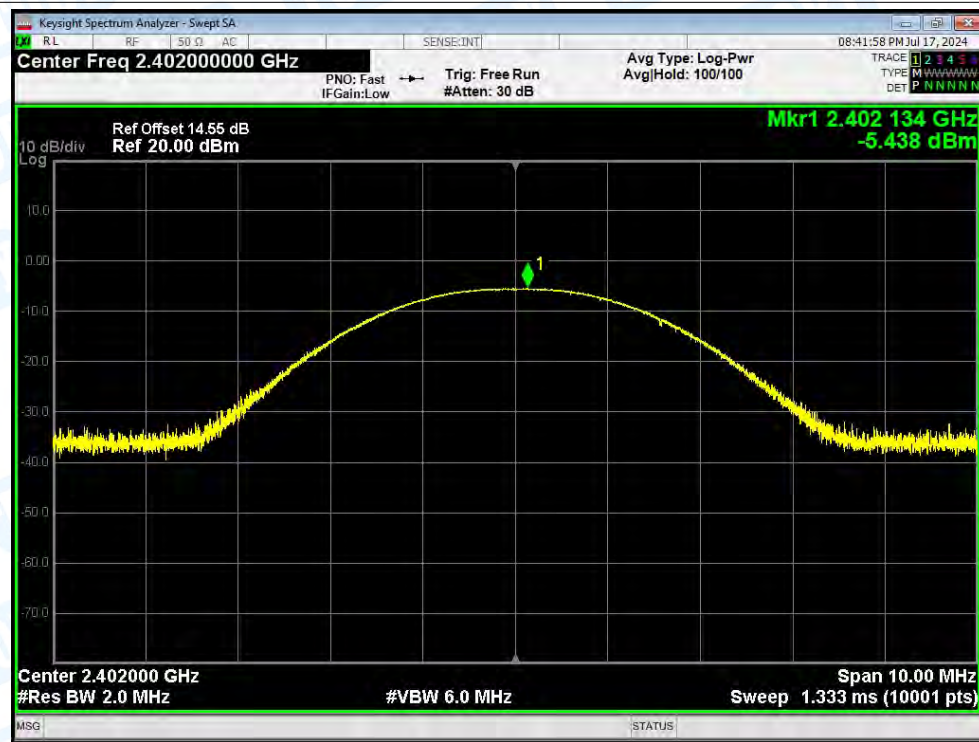
Power NVNT 1-DH1 2441MHz Ant1



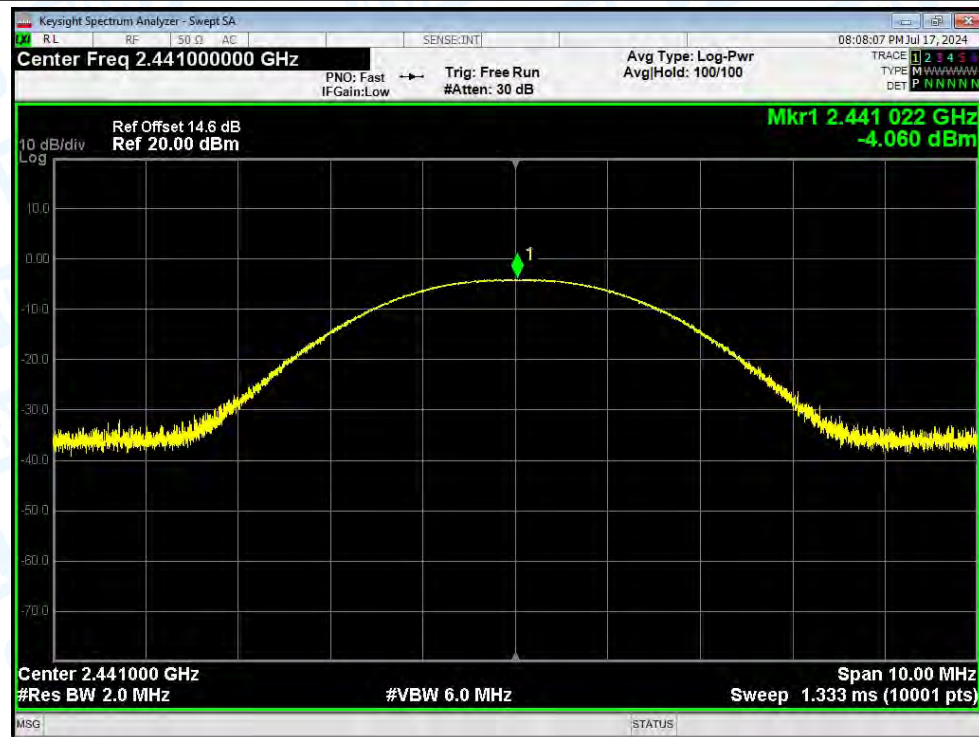
Power NVNT 1-DH1 2480MHz Ant1



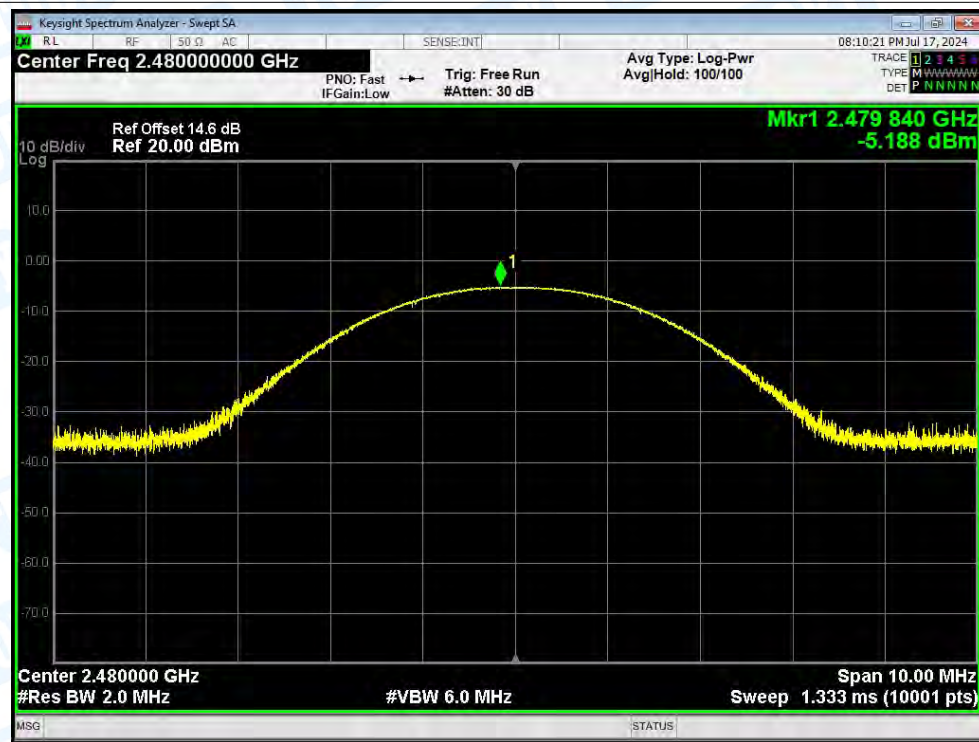
Power NVNT 2-DH1 2402MHz Ant1



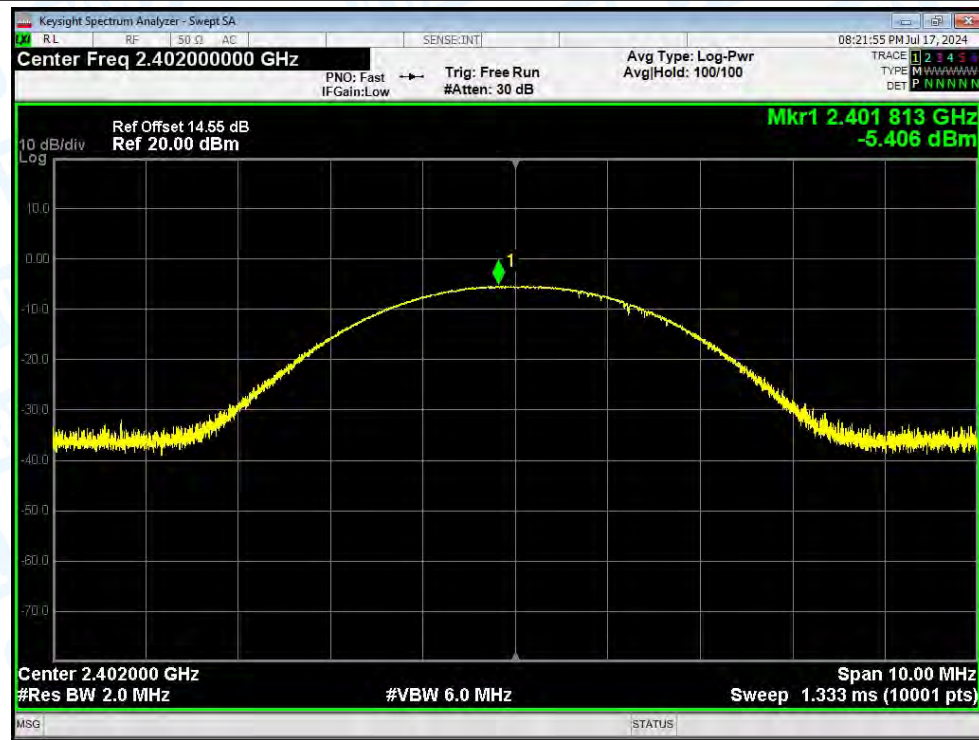
Power NVNT 2-DH1 2441MHz Ant1



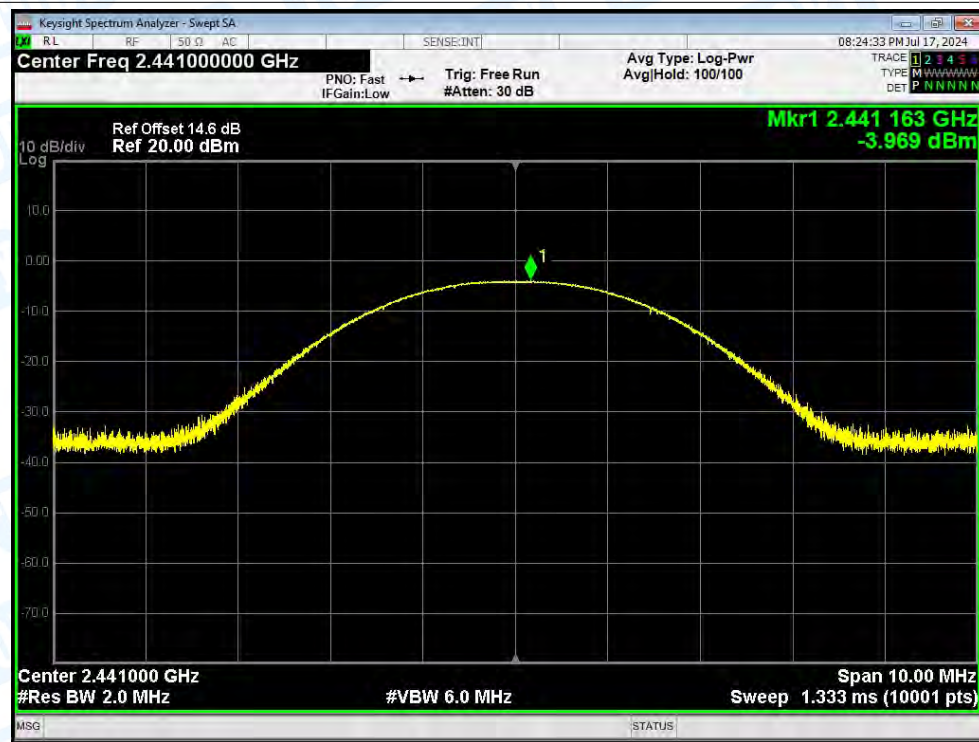
Power NVNT 2-DH1 2480MHz Ant1



Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1





3. -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.77	0	Pass
NVNT	1-DH1	2441	Ant1	0.83	0	Pass
NVNT	1-DH1	2480	Ant1	0.83	0	Pass
NVNT	2-DH1	2402	Ant1	1.24	0	Pass
NVNT	2-DH1	2441	Ant1	1.24	0	Pass
NVNT	2-DH1	2480	Ant1	1.24	0	Pass
NVNT	3-DH1	2402	Ant1	1.21	0	Pass
NVNT	3-DH1	2441	Ant1	1.21	0	Pass
NVNT	3-DH1	2480	Ant1	1.20	0	Pass

Test Graphs

-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



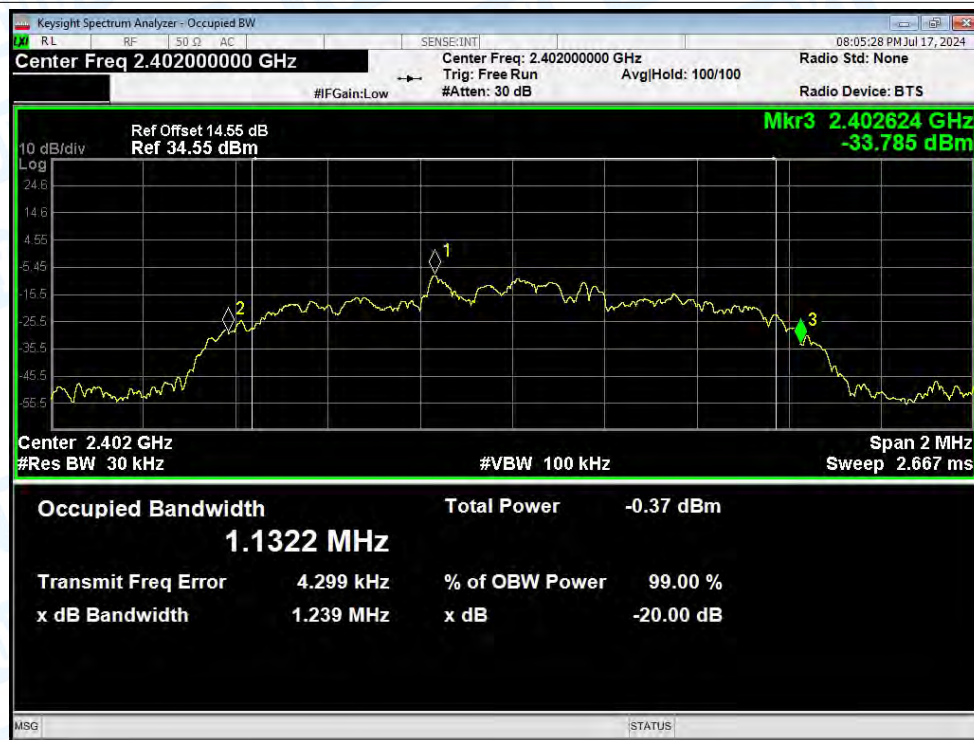
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



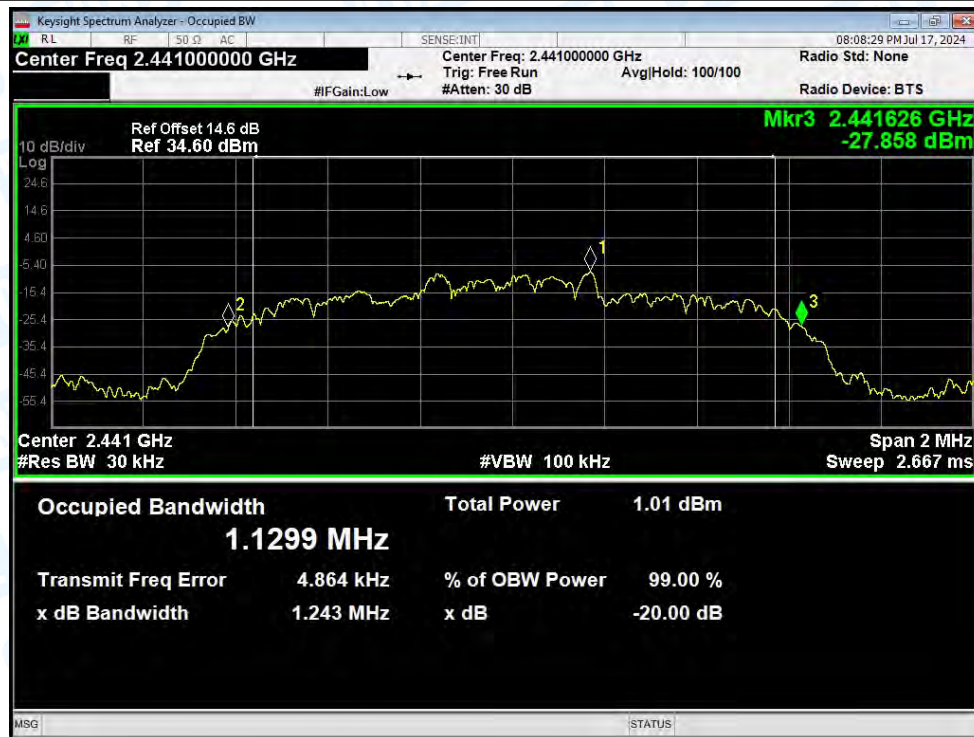
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



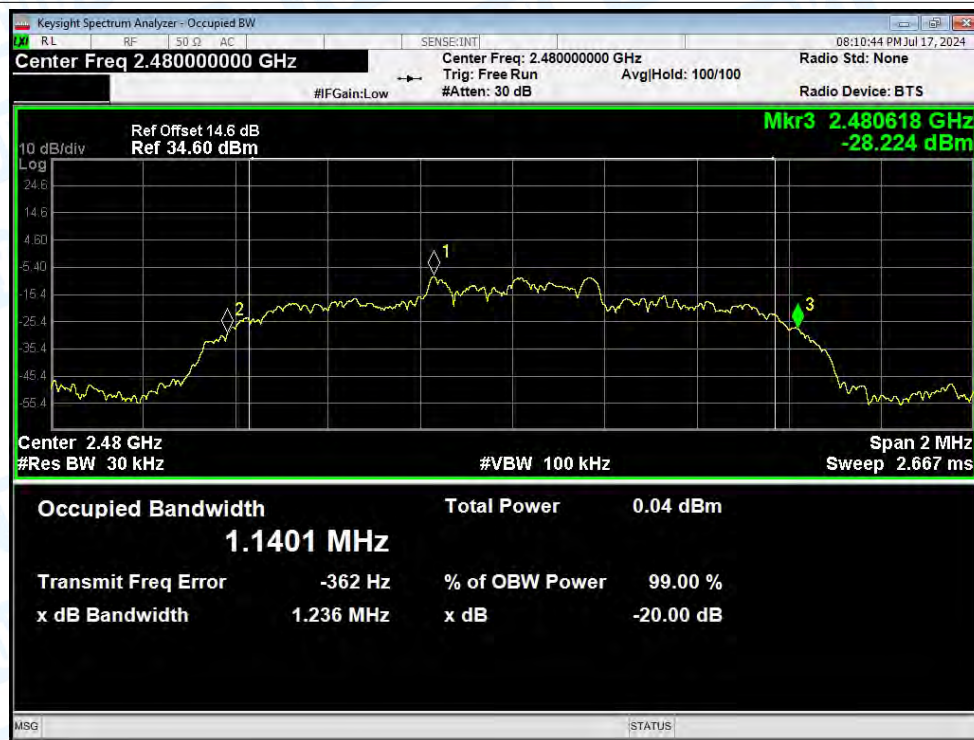
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



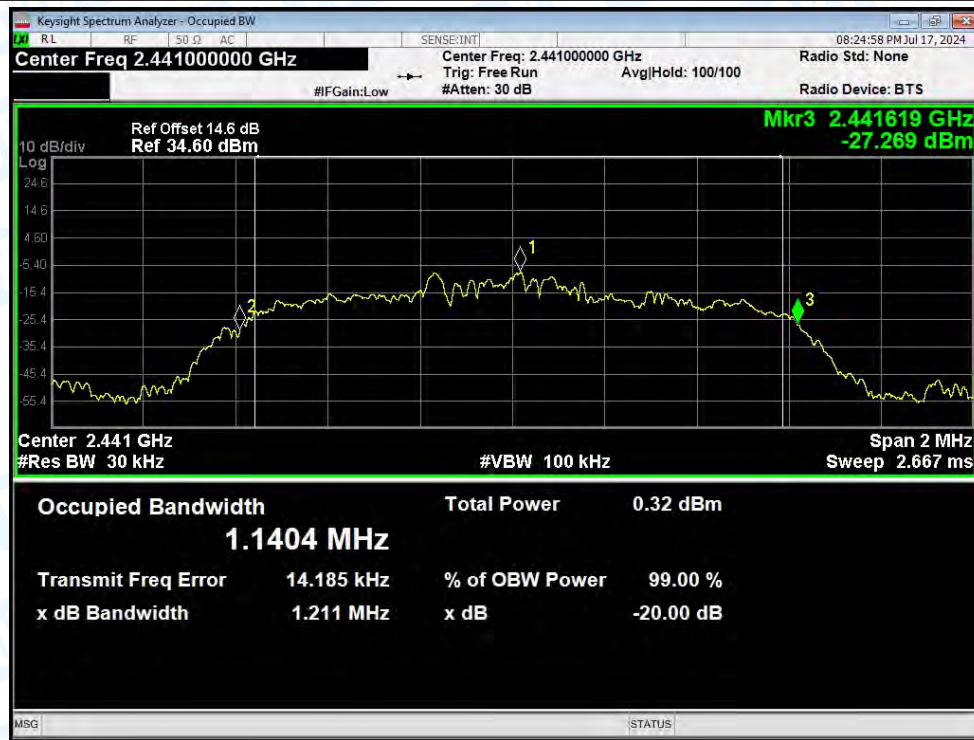
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



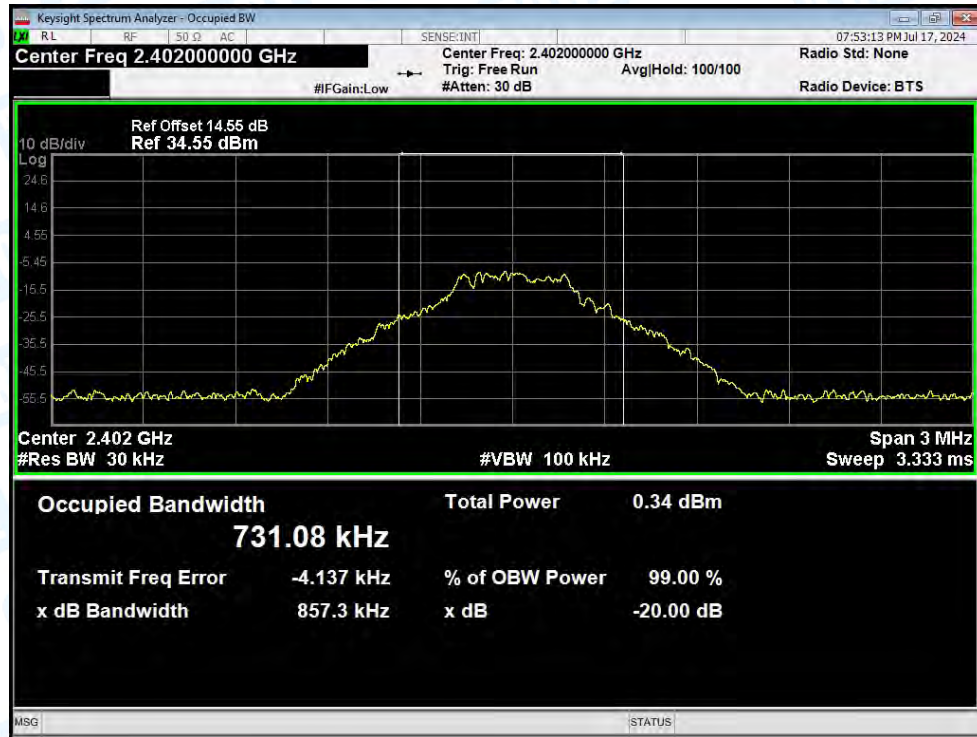


4. Occupied Channel Bandwidth

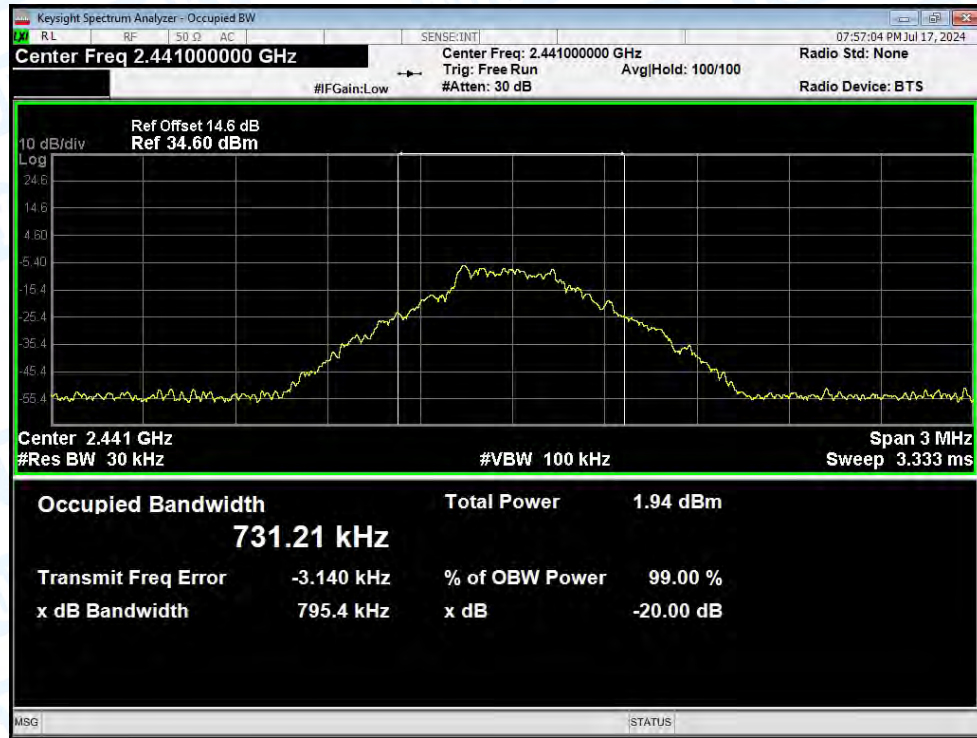
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.731
NVNT	1-DH1	2441	Ant1	0.731
NVNT	1-DH1	2480	Ant1	0.731
NVNT	2-DH1	2402	Ant1	1.135
NVNT	2-DH1	2441	Ant1	1.118
NVNT	2-DH1	2480	Ant1	1.134
NVNT	3-DH1	2402	Ant1	1.127
NVNT	3-DH1	2441	Ant1	1.123
NVNT	3-DH1	2480	Ant1	1.136

Test Graphs

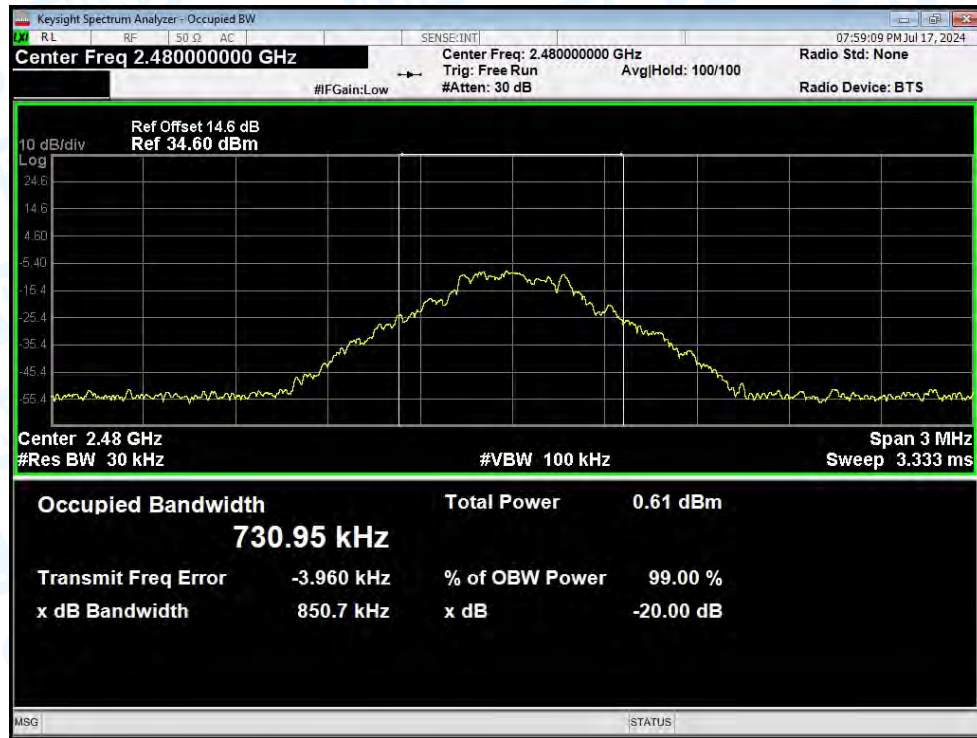
OBW NVNT 1-DH1 2402MHz Ant1



OBW NVNT 1-DH1 2441MHz Ant1



OBW NVNT 1-DH1 2480MHz Ant1



OBW NVNT 2-DH1 2402MHz Ant1



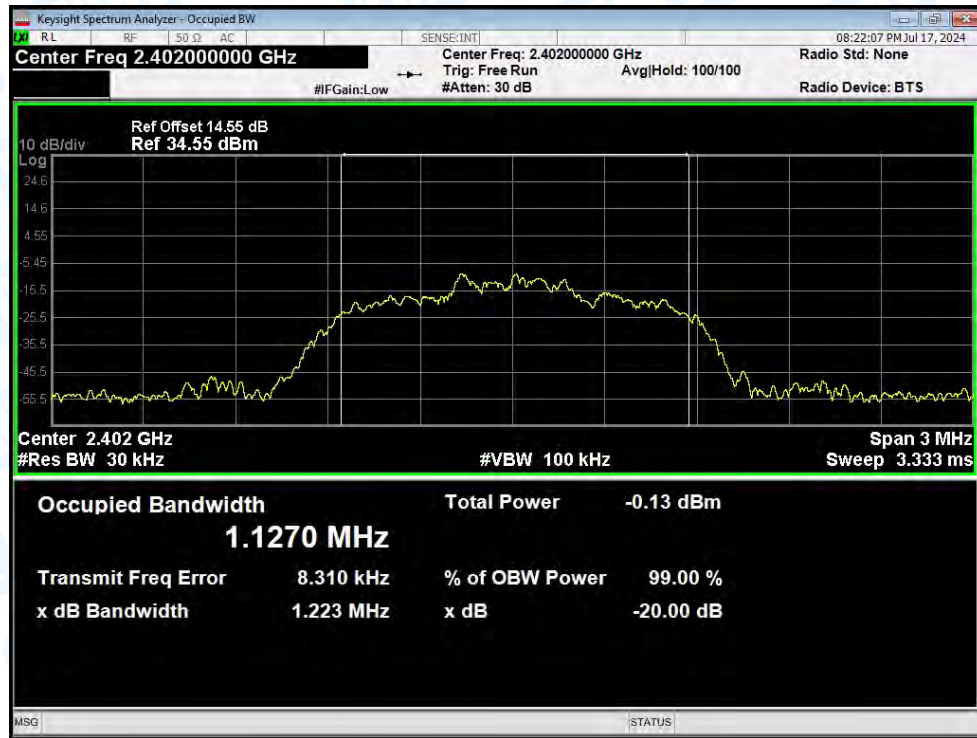
OBW NVNT 2-DH1 2441MHz Ant1



OBW NVNT 2-DH1 2480MHz Ant1

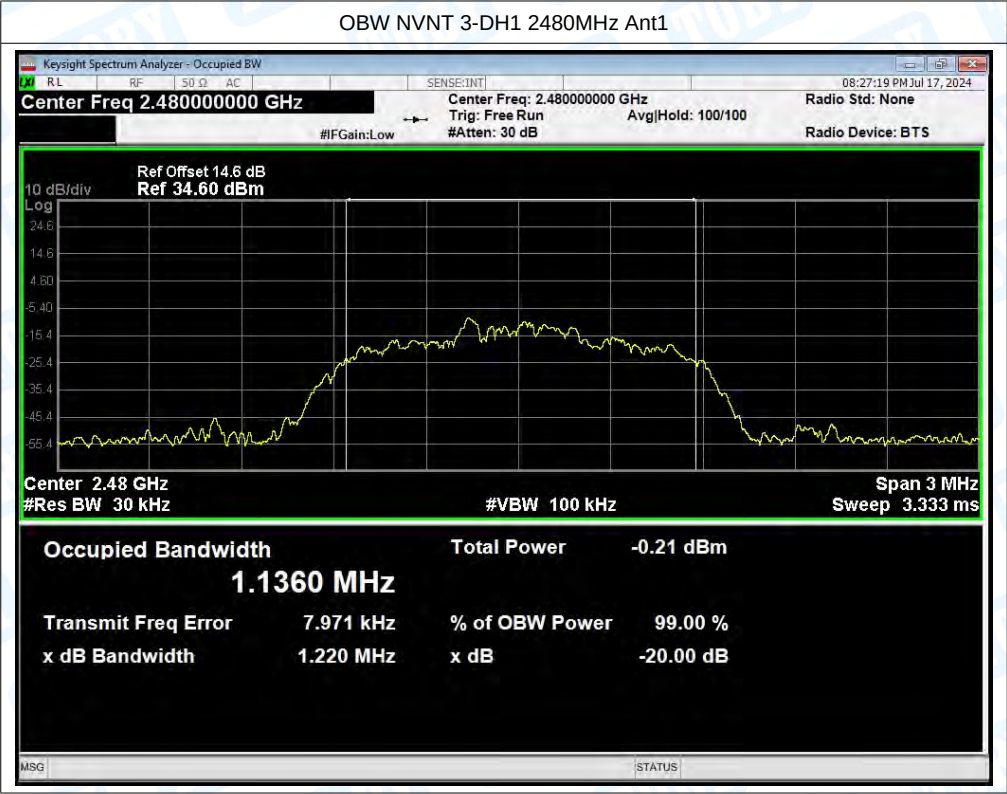


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



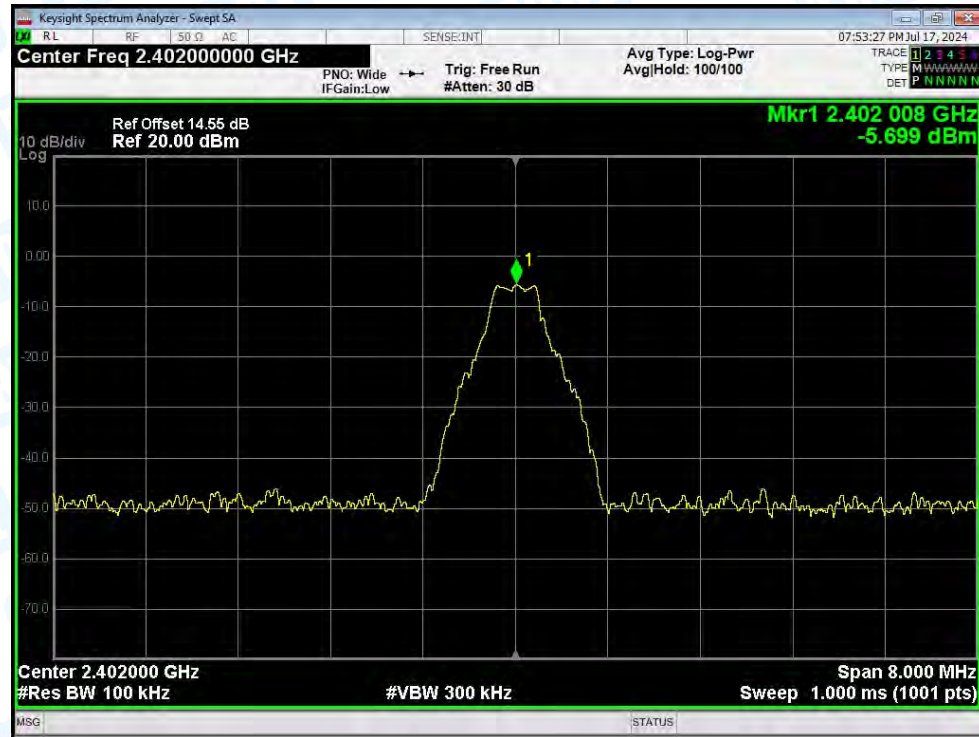


5. Band Edge

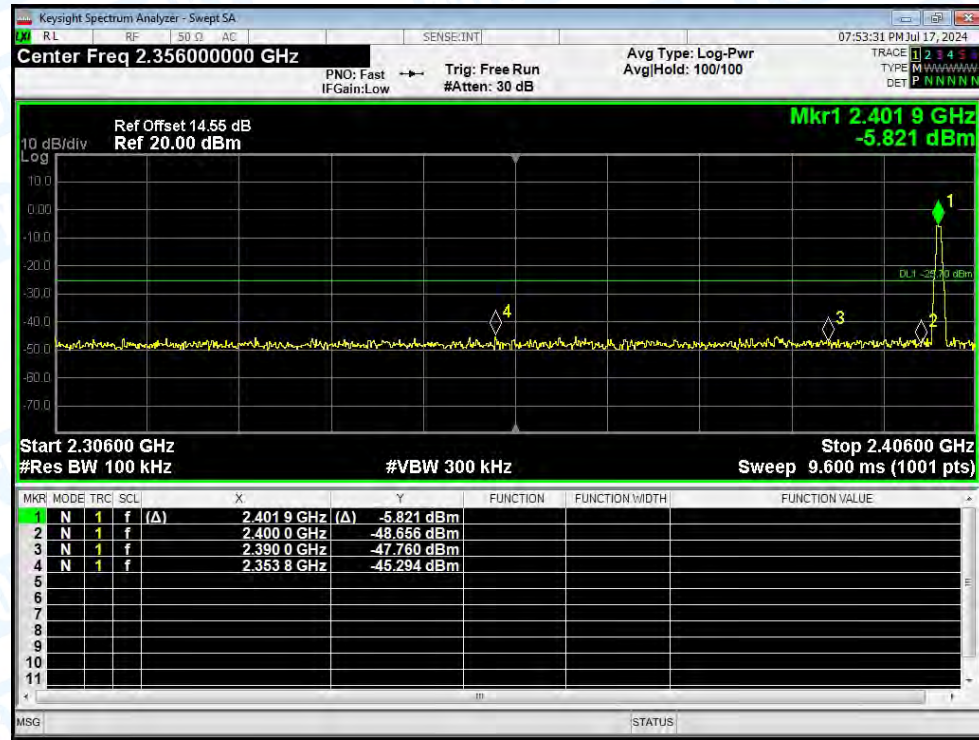
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-39.59	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-39.3	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-39.09	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-39.51	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-39.15	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-38.11	-20	Pass

Test Graphs

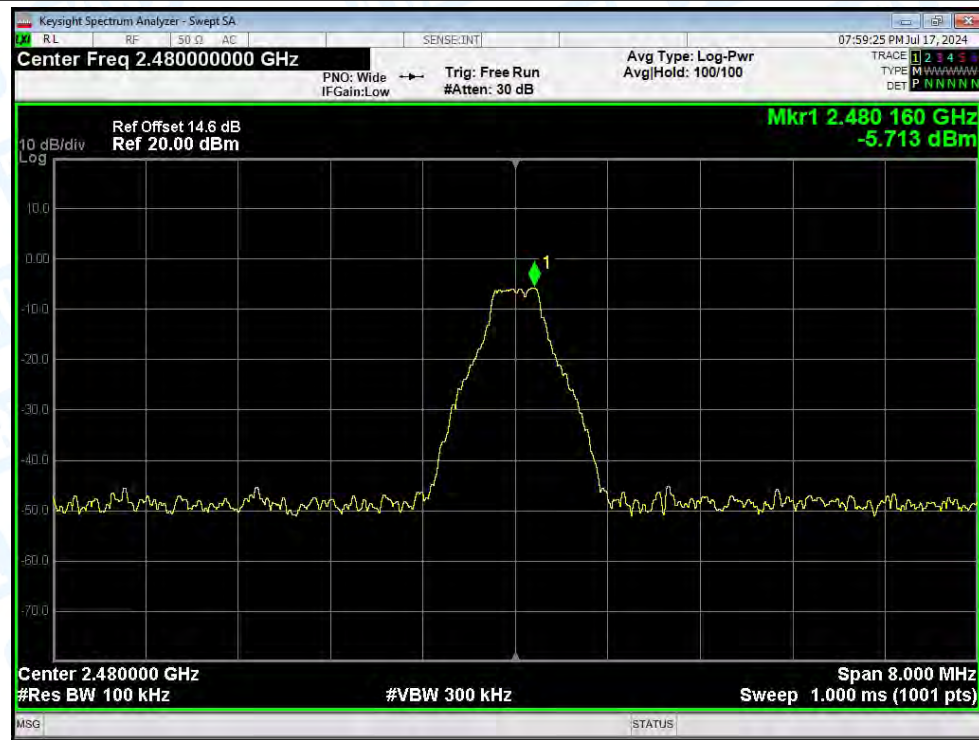
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



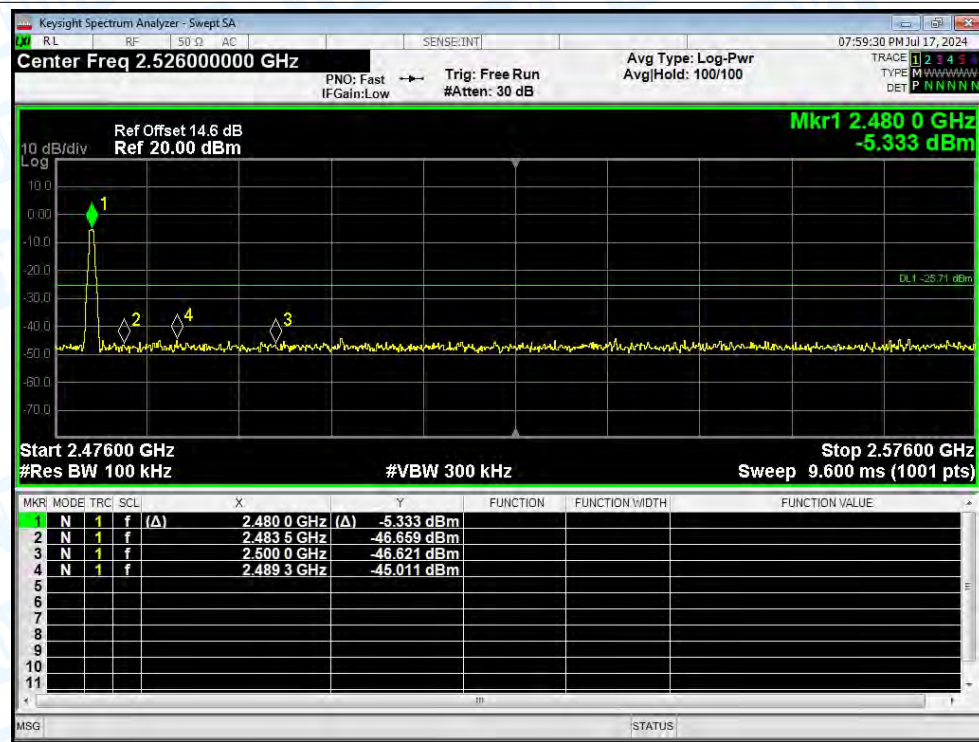
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



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



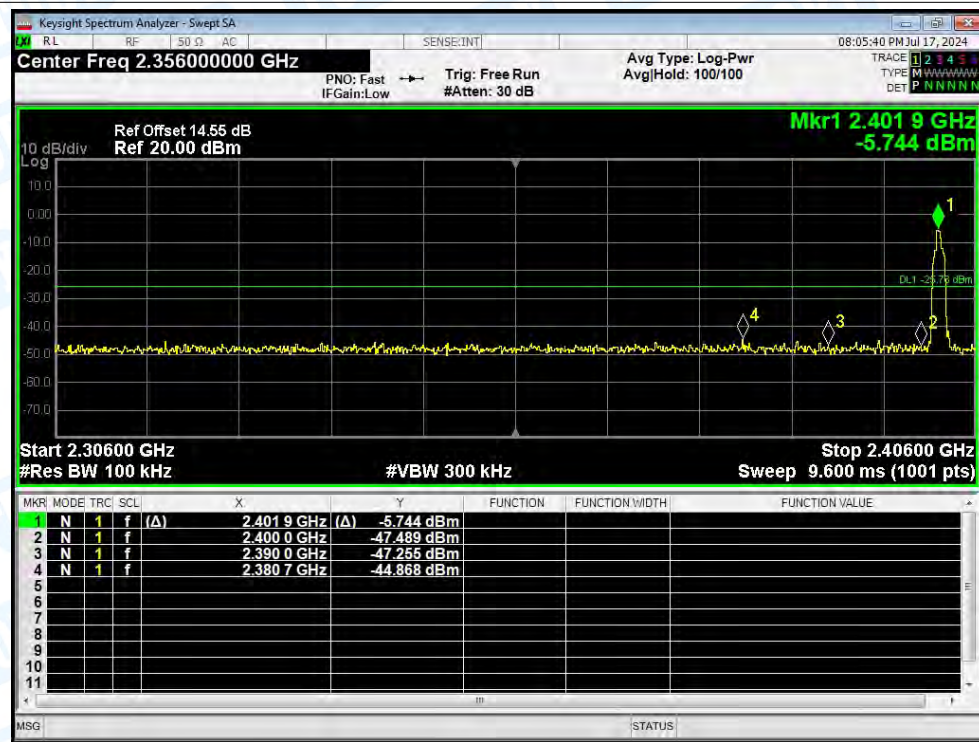
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



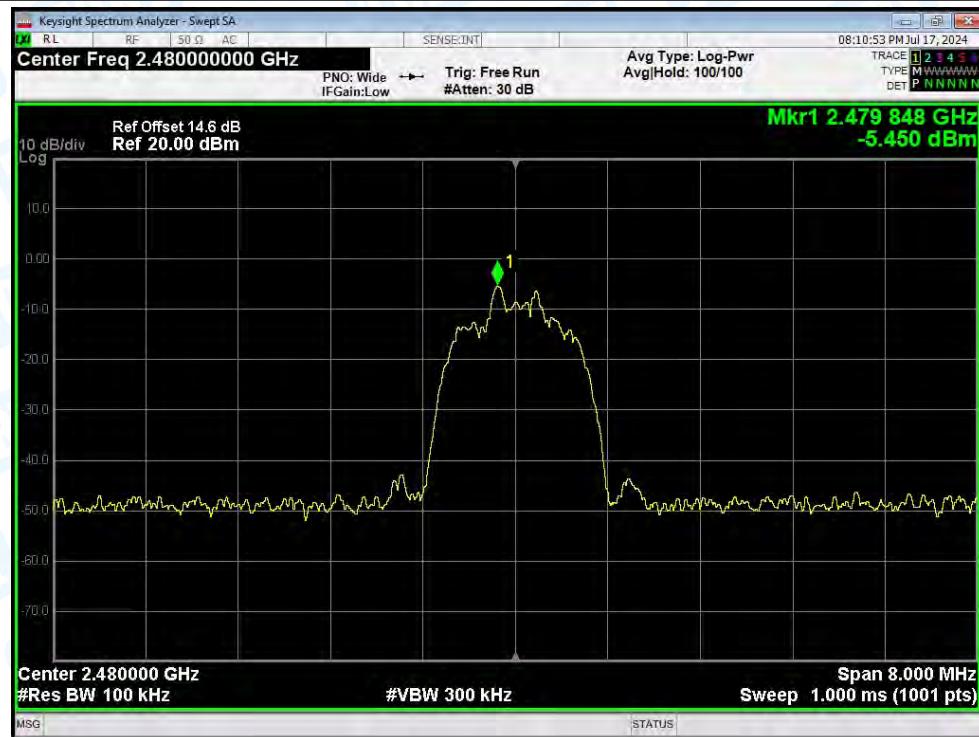
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



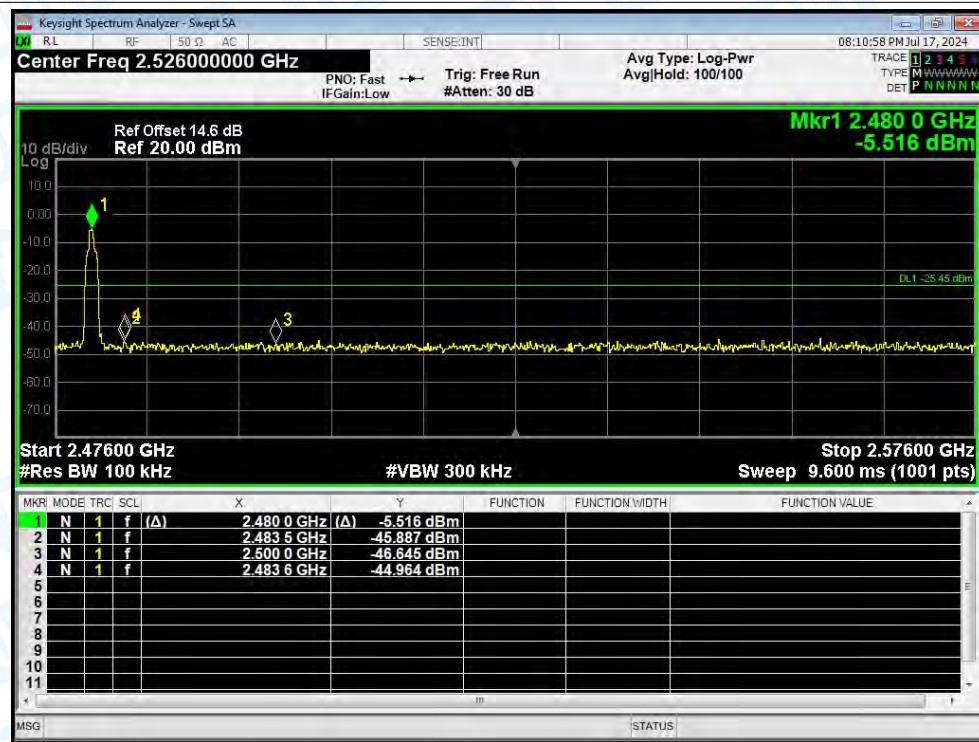
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



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



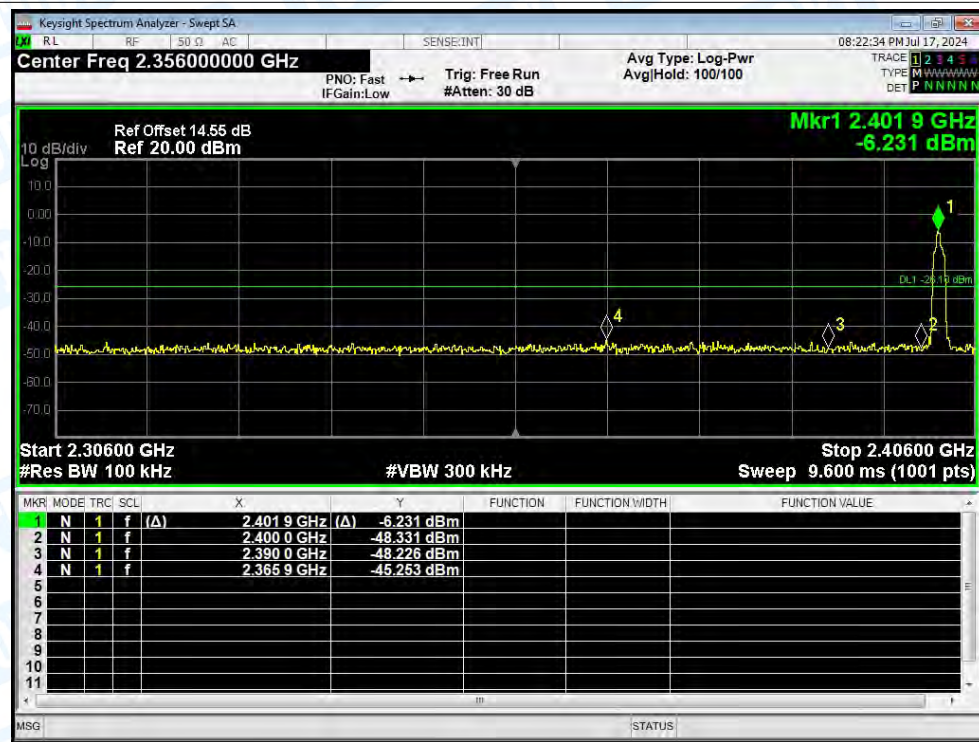
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



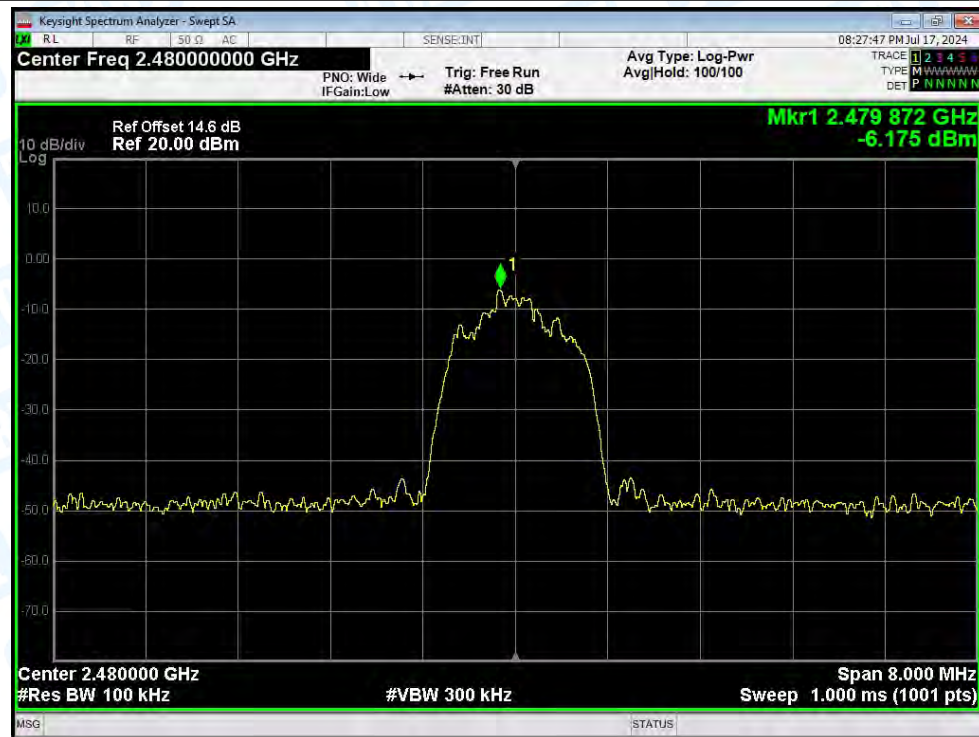
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



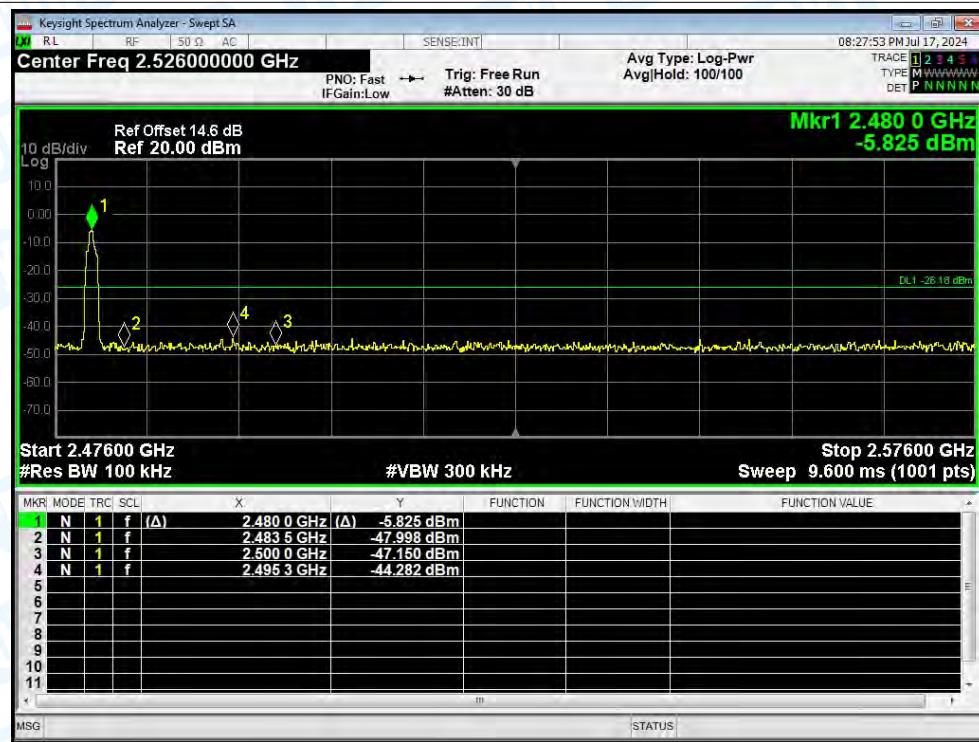
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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

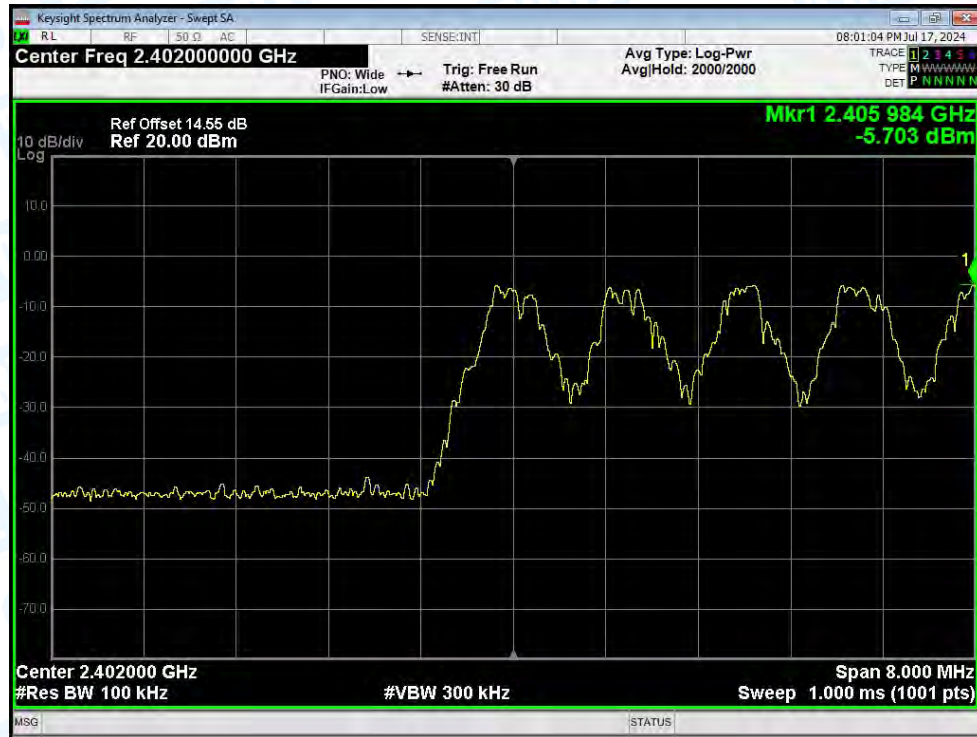


6. Band Edge(Hopping)

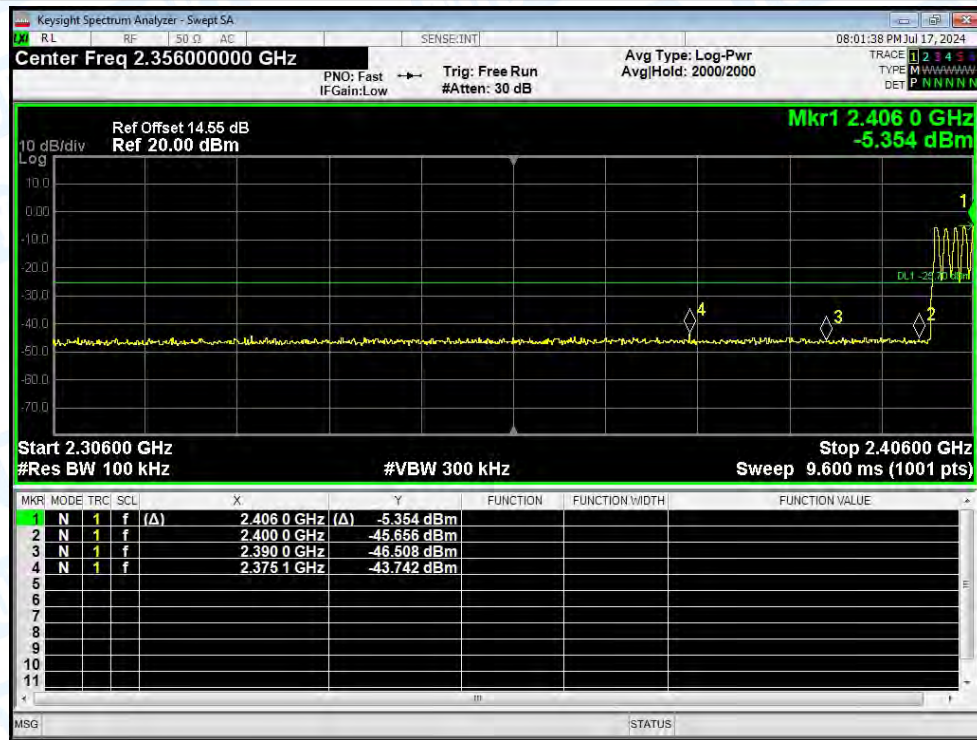
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-38.04	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-39.01	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-37.87	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-39.06	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-38.83	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-48.46	-20	Pass

Test Graphs

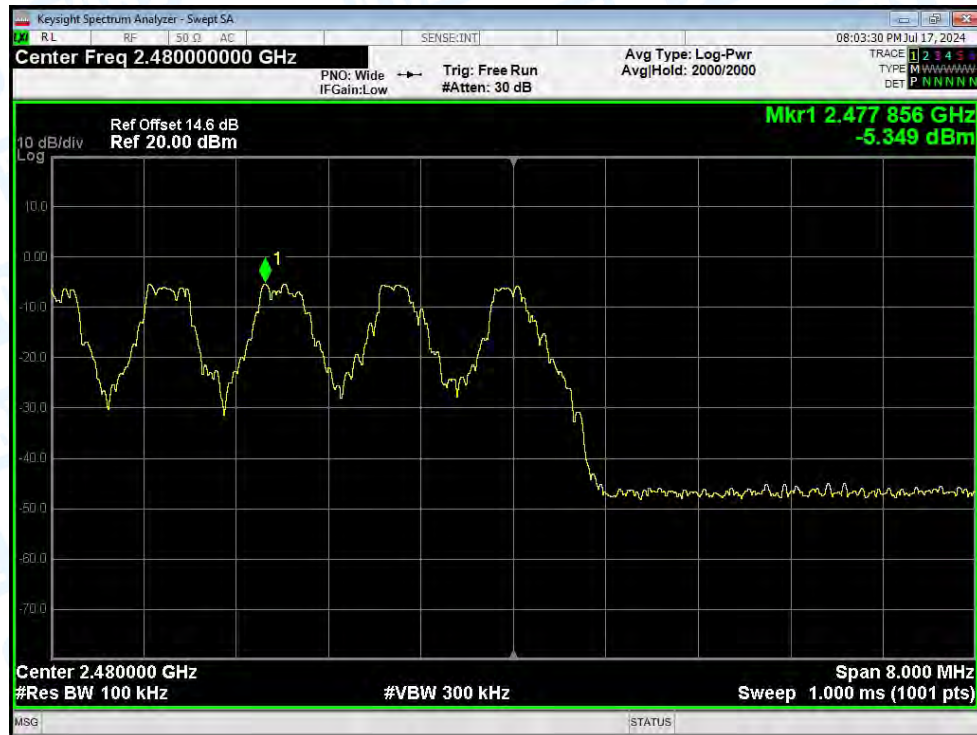
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



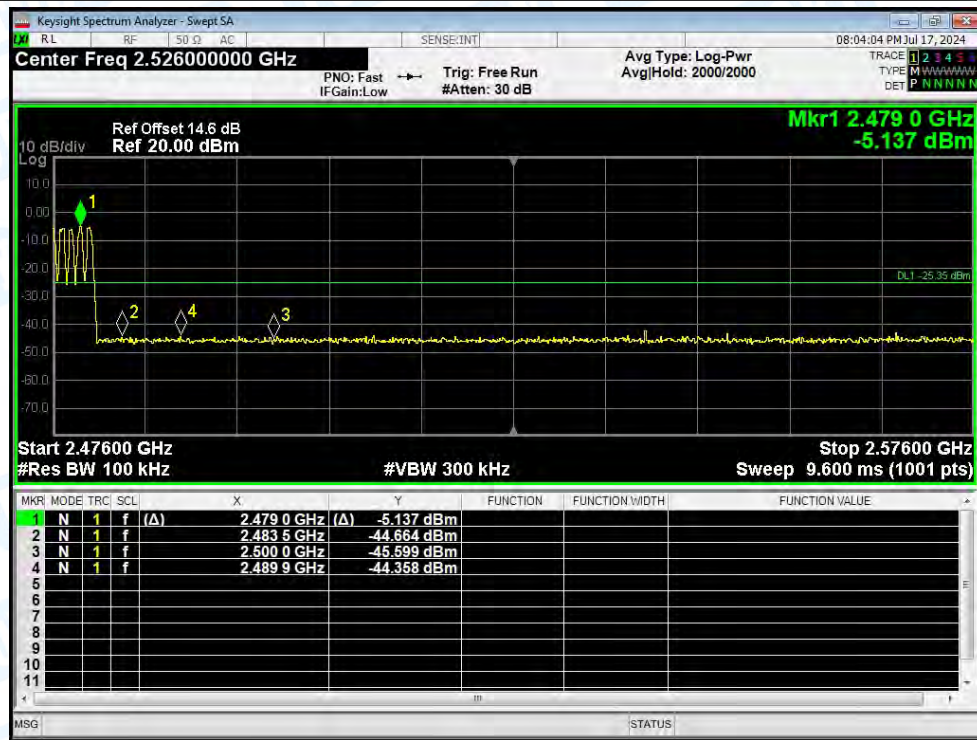
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



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



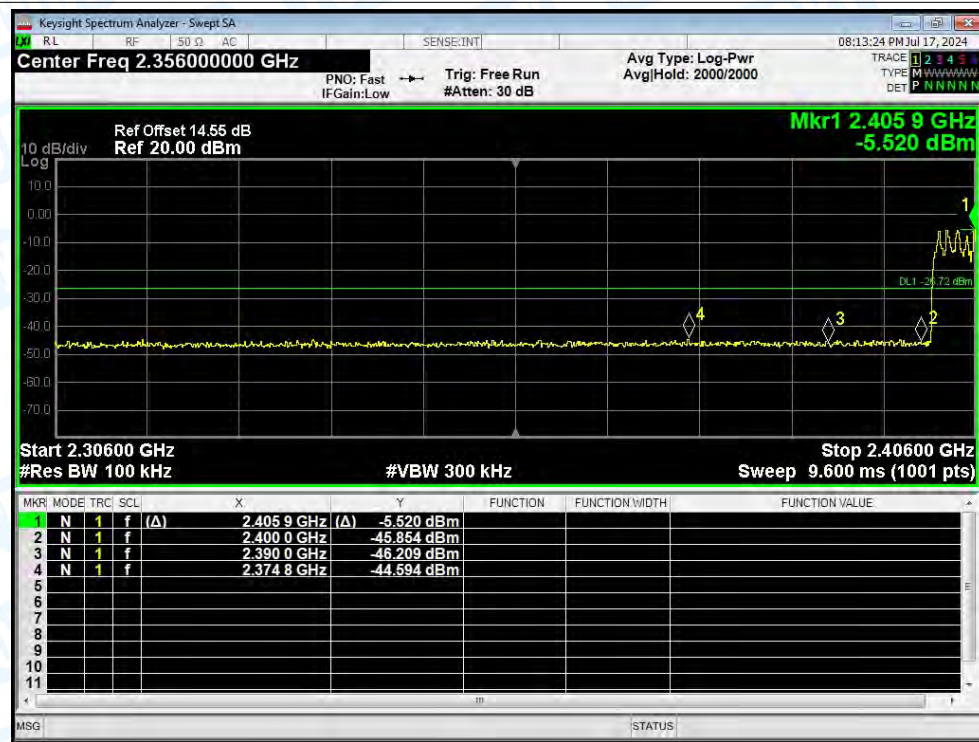
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



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



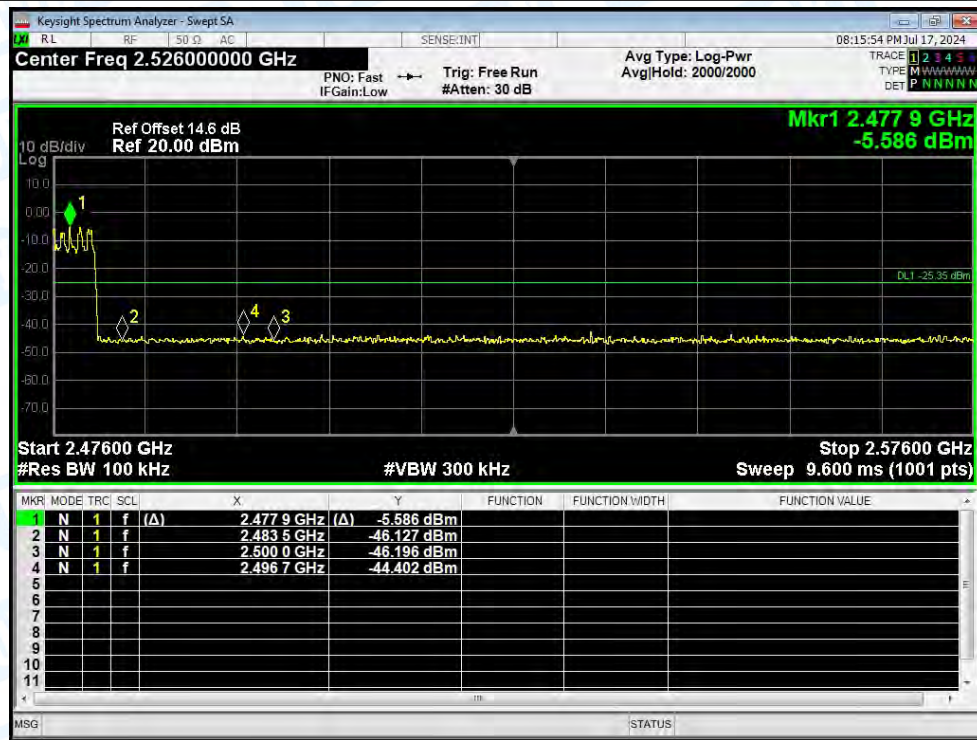
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



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



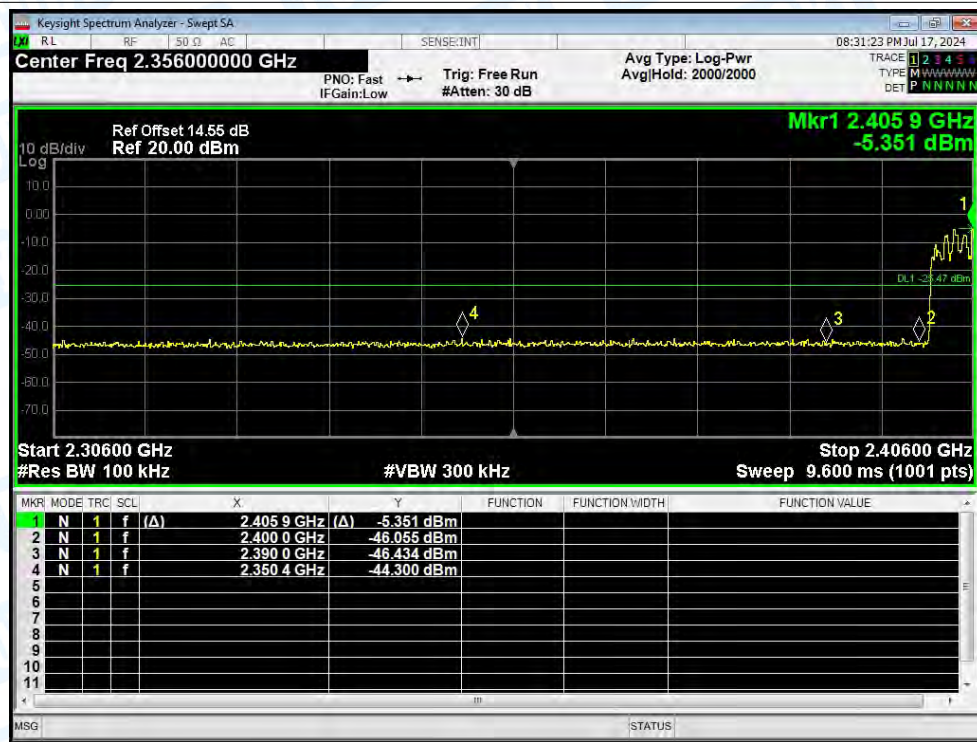
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



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



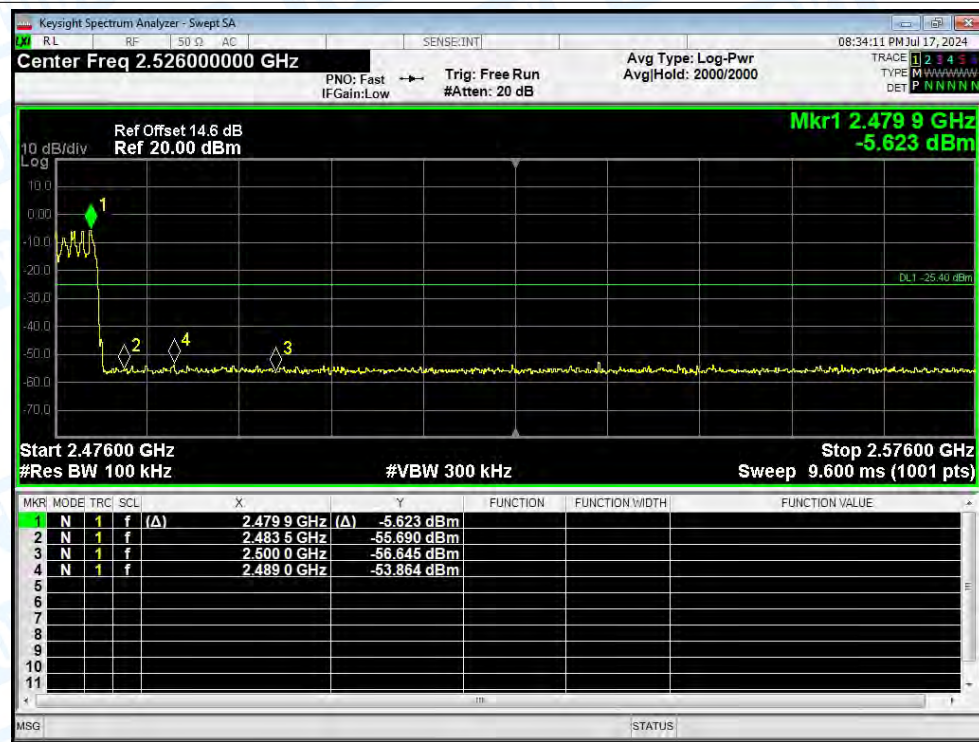
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

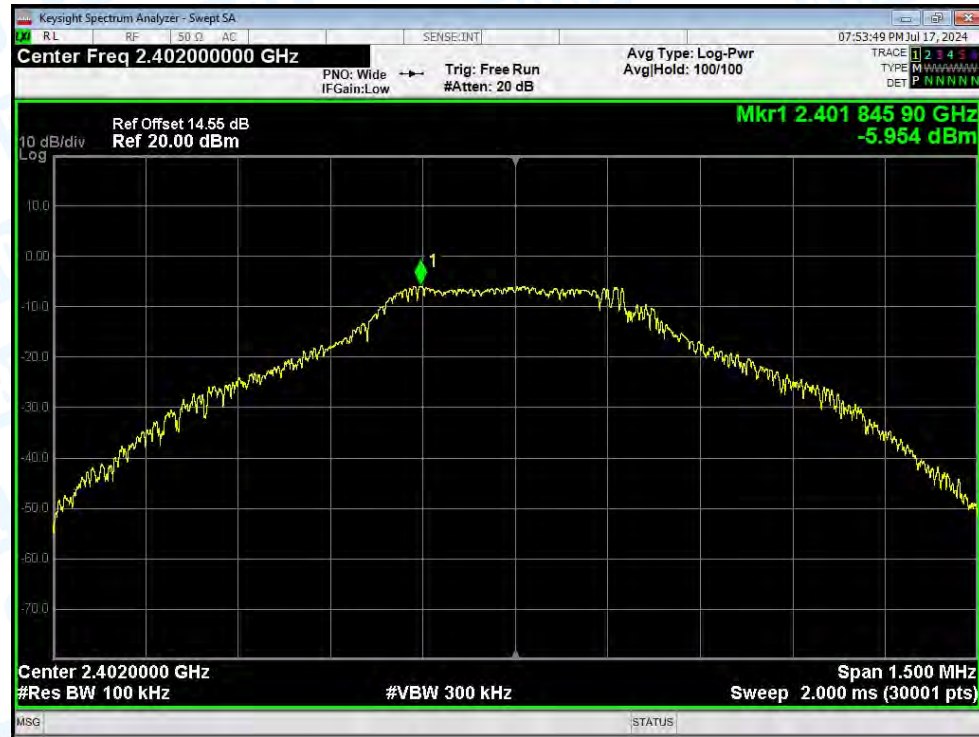


7. Conducted RF Spurious Emission

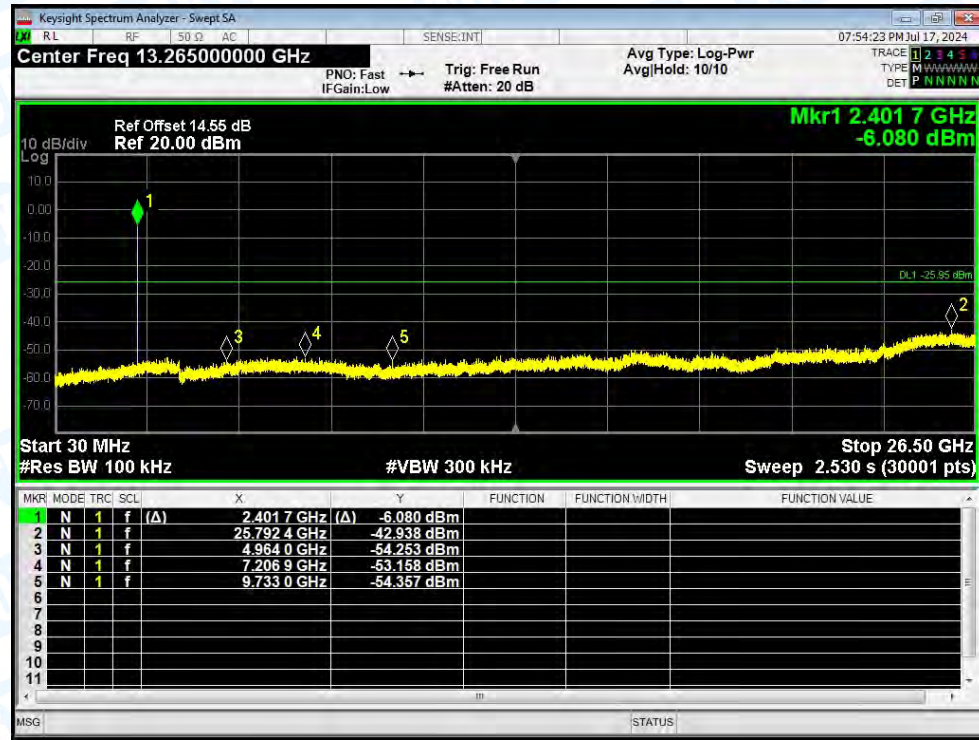
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-36.99	-20	Pass
NVNT	1-DH1	2441	Ant1	-38.89	-20	Pass
NVNT	1-DH1	2480	Ant1	-37.41	-20	Pass
NVNT	2-DH1	2402	Ant1	-37.8	-20	Pass
NVNT	2-DH1	2441	Ant1	-39.39	-20	Pass
NVNT	2-DH1	2480	Ant1	-37.94	-20	Pass
NVNT	3-DH1	2402	Ant1	-37.69	-20	Pass
NVNT	3-DH1	2441	Ant1	-38.49	-20	Pass
NVNT	3-DH1	2480	Ant1	-36.25	-20	Pass

Test Graphs

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



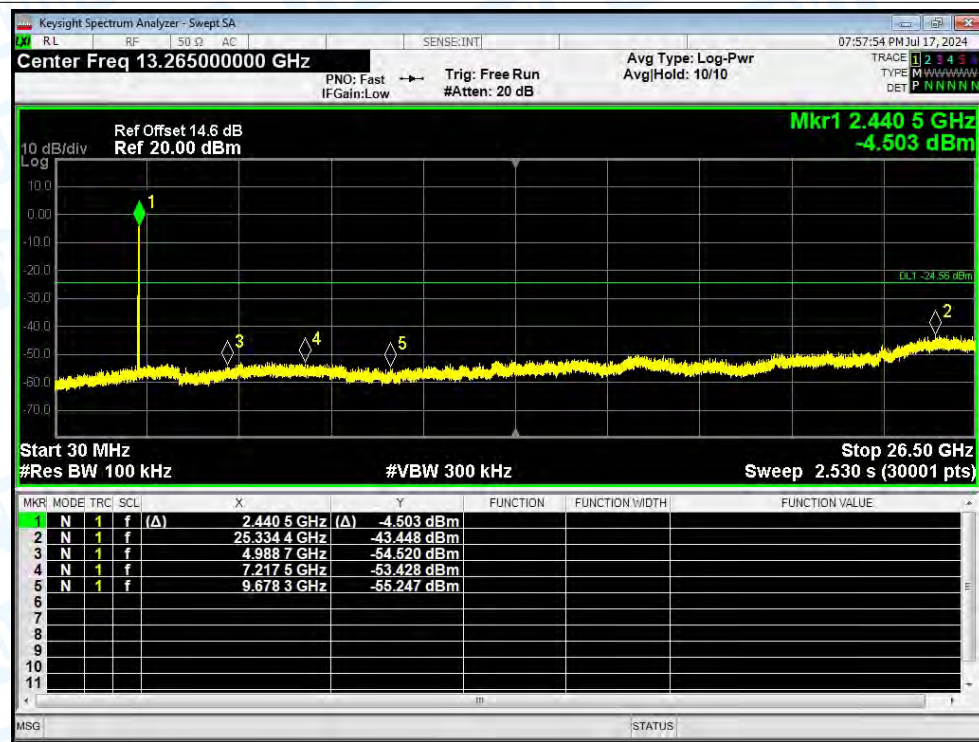
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



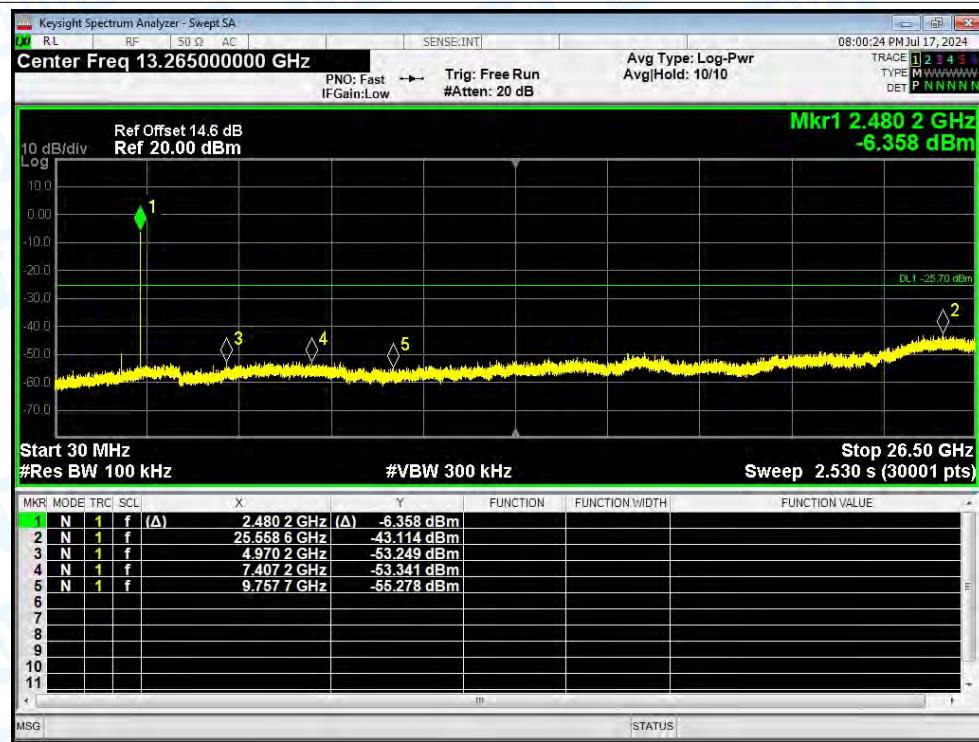
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



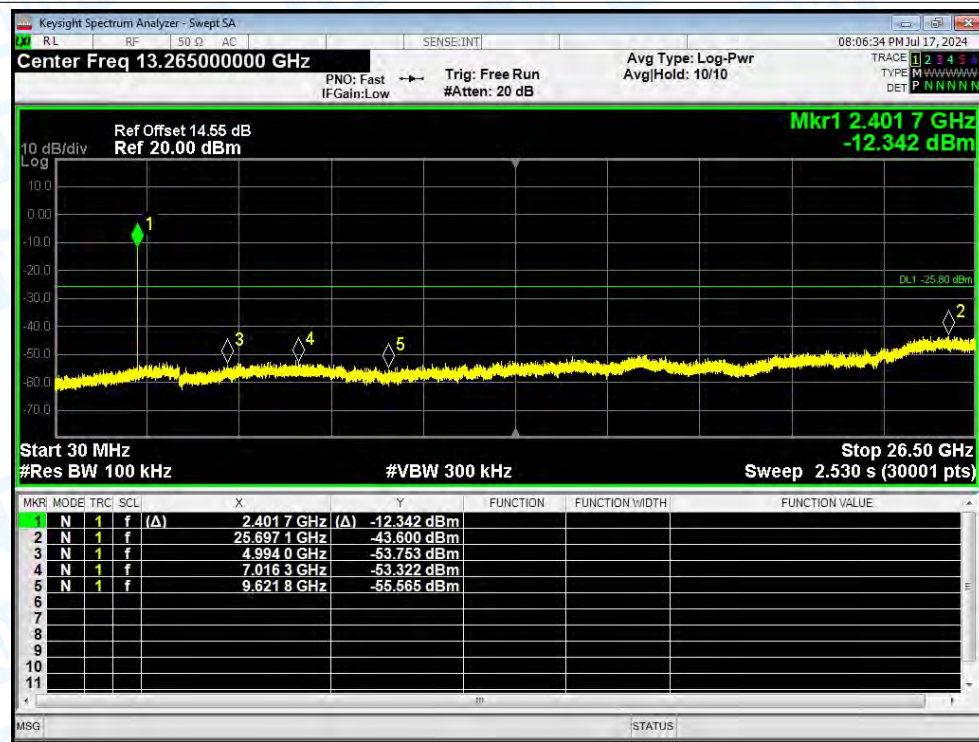
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



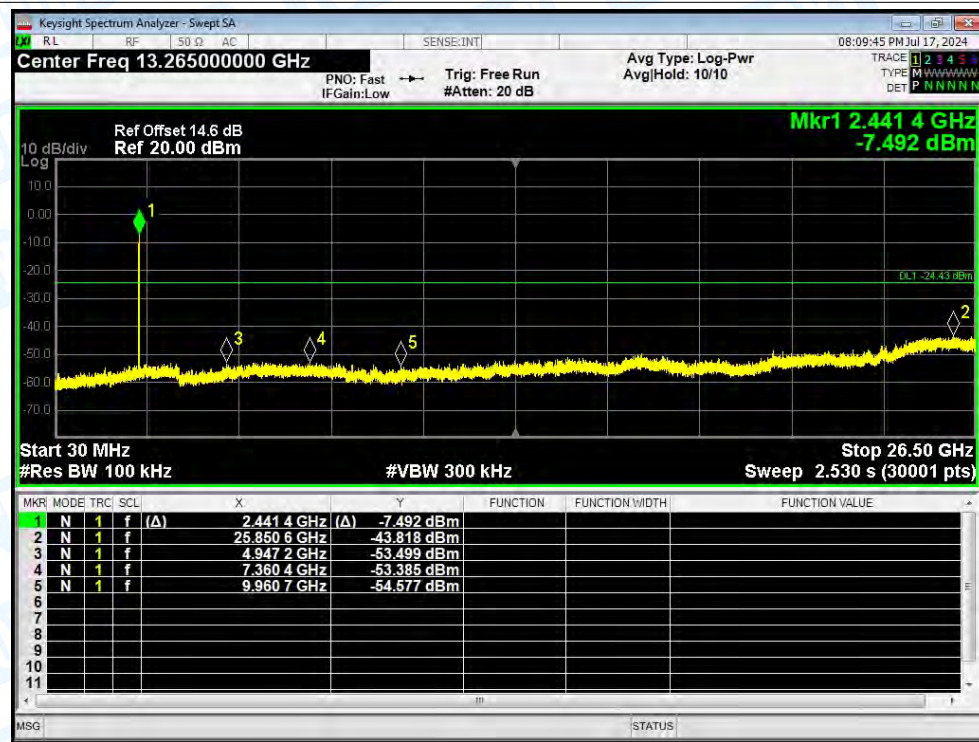
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



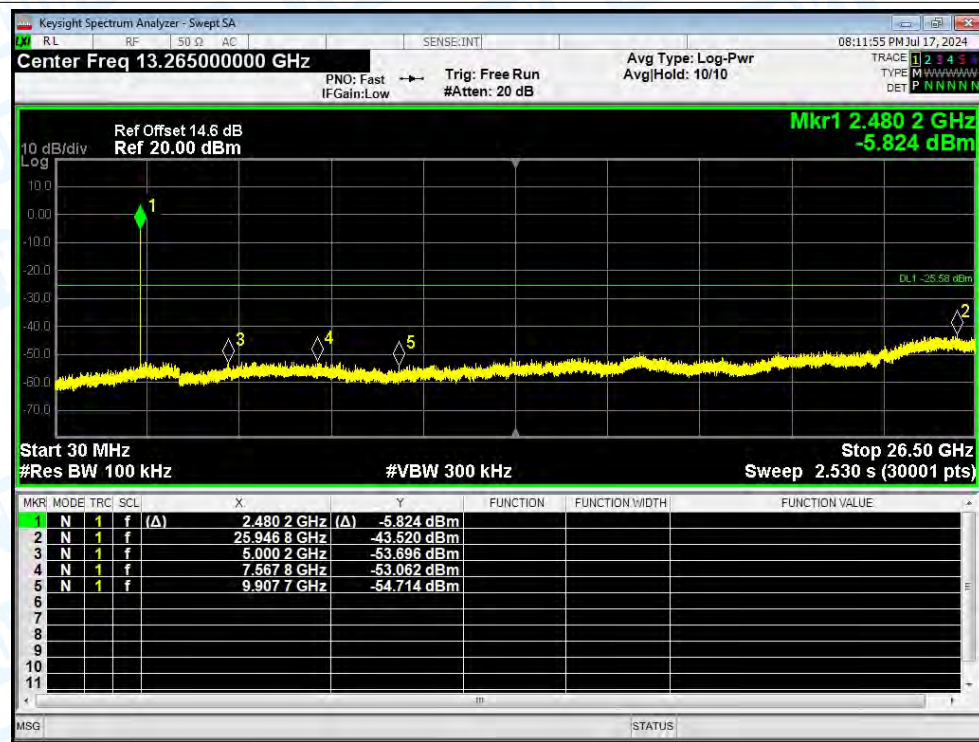
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



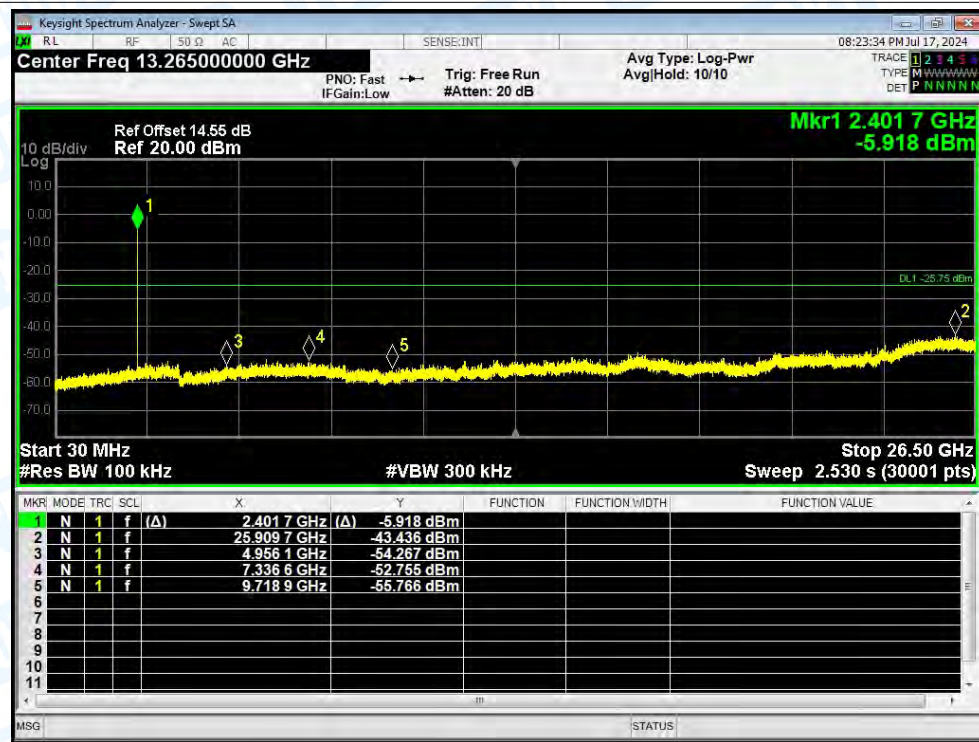
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



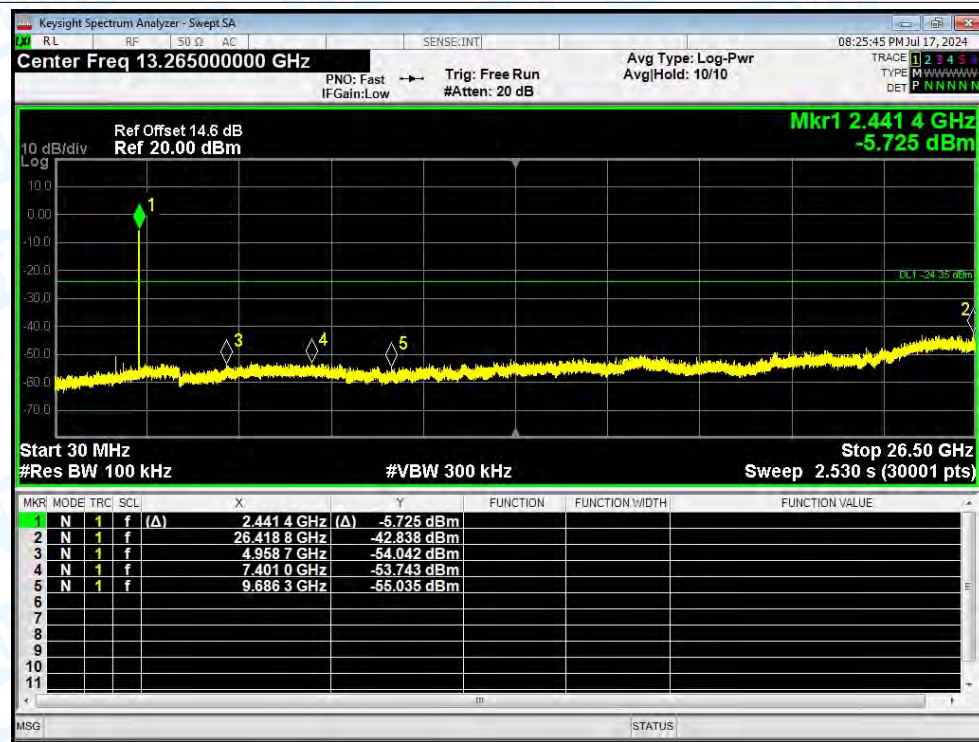
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



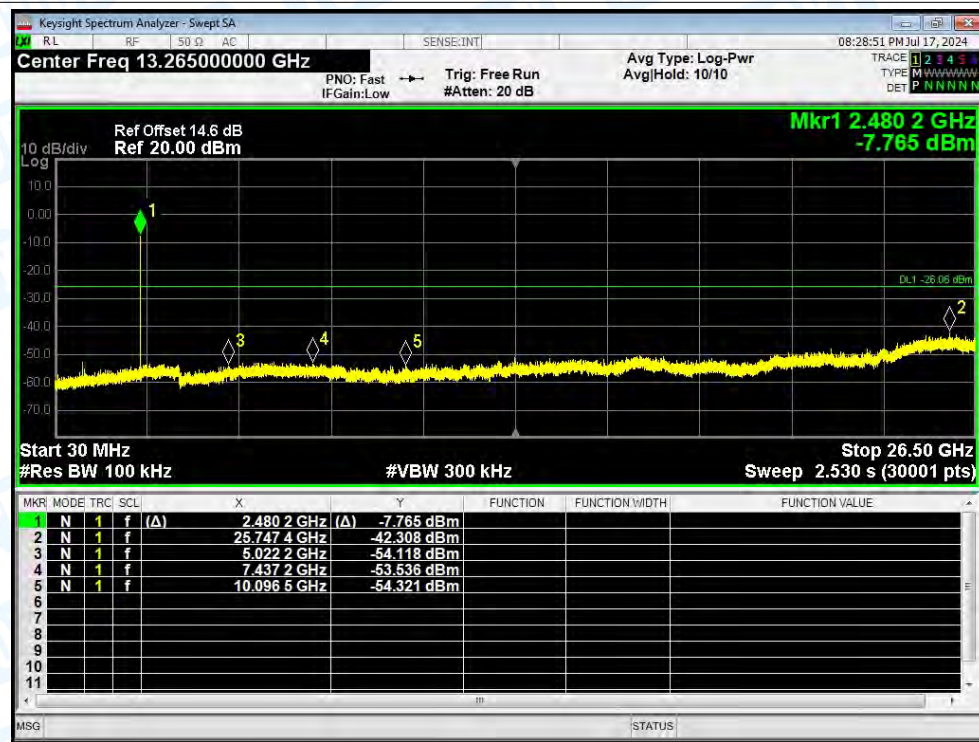
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission



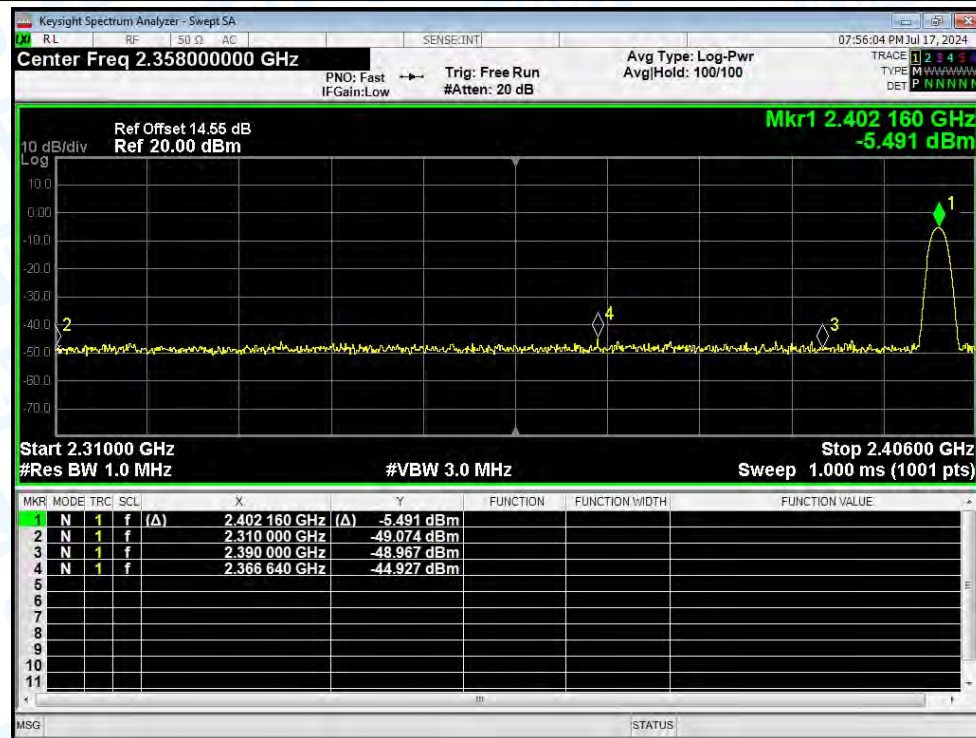
8. Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH 1	2402	Ant1	No-Hopping	2310	-49.07	2.08	-	48.27	Peak	74	Pass
NVNT	1-DH 1	2402	Ant1	No-Hopping	2310	-57.3	2.08	5.29	45.33	Average	54	Pass
NVNT	1-DH 1	2402	Ant1	No-Hopping	2366.64	-44.93	2.08	-	52.41	Peak	74	Pass
NVNT	1-DH 1	2402	Ant1	No-Hopping	2350.512	-55.91	2.08	5.29	46.72	Average	54	Pass
NVNT	1-DH 1	2402	Ant1	No-Hopping	2390	-48.97	2.08	-	48.37	Peak	74	Pass
NVNT	1-DH 1	2402	Ant1	No-Hopping	2390	-56.71	2.08	5.29	45.92	Average	54	Pass
NVNT	1-DH 1	2480	Ant1	No-Hopping	2483.5	-47.69	2.08	-	49.65	Peak	74	Pass
NVNT	1-DH 1	2480	Ant1	No-Hopping	2483.5	-56.43	2.08	5.17	46.08	Average	54	Pass
NVNT	1-DH 1	2480	Ant1	No-Hopping	2484.064	-44.62	2.08	-	52.72	Peak	74	Pass
NVNT	1-DH 1	2480	Ant1	No-Hopping	2492.488	-55.24	2.08	5.17	47.27	Average	54	Pass
NVNT	1-DH 1	2480	Ant1	No-Hopping	2500	-48.67	2.08	-	48.67	Peak	74	Pass
NVNT	1-DH 1	2480	Ant1	No-Hopping	2500	-56.15	2.08	5.17	46.36	Average	54	Pass
NVNT	2-DH 1	2402	Ant1	No-Hopping	2310	-48.15	2.08	-	49.19	Peak	74	Pass
NVNT	2-DH 1	2402	Ant1	No-Hopping	2310	-56.74	2.08	5.17	45.77	Average	54	Pass
NVNT	2-DH 1	2402	Ant1	No-Hopping	2366.64	-45.99	2.08	-	51.35	Peak	74	Pass
NVNT	2-DH 1	2402	Ant1	No-Hopping	2362.032	-55.75	2.08	5.17	46.76	Average	54	Pass
NVNT	2-DH 1	2402	Ant1	No-Hopping	2390	-47.84	2.08	-	49.5	Peak	74	Pass
NVNT	2-DH 1	2402	Ant1	No-Hopping	2390	-56.69	2.08	5.17	45.82	Average	54	Pass
NVNT	2-DH 1	2480	Ant1	No-Hopping	2483.5	-46.74	2.08	-	50.6	Peak	74	Pass
NVNT	2-DH 1	2480	Ant1	No-Hopping	2483.5	-56.73	2.08	5.06	45.67	Average	54	Pass
NVNT	2-DH	2480	Ant1	No-Hopping	2493.136	-45.07	2.08	-	52.27	Peak	74	Pass

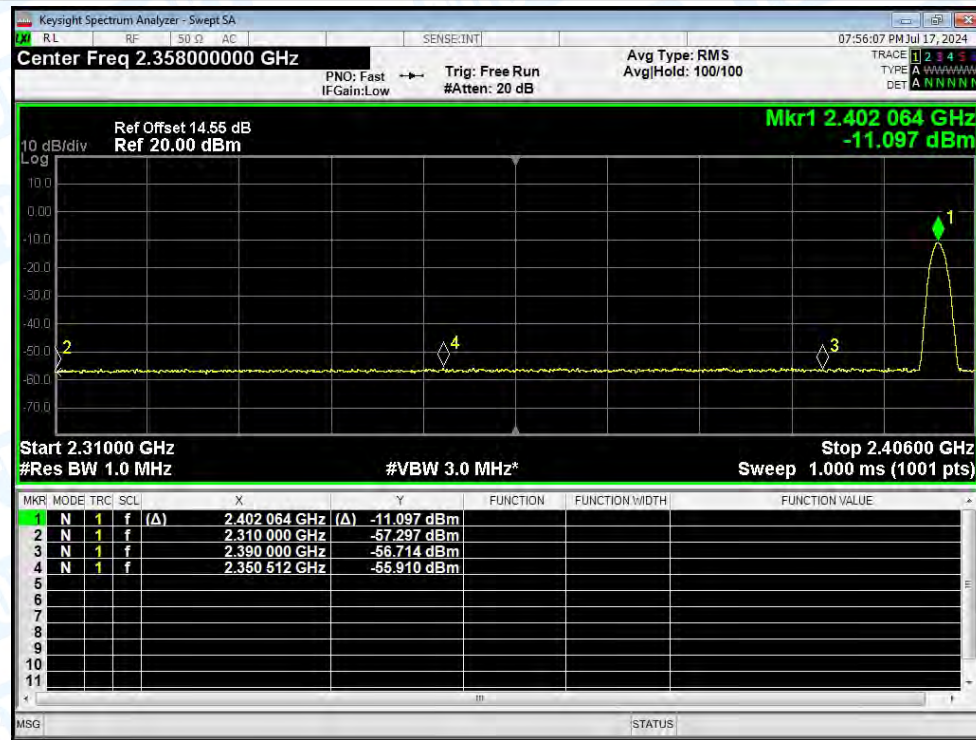
	1			ing								
NVNT	2-DH 1	2480	Ant1	No-Hopp ing	2497.144	-54.97	2.08	5.06	47.43	Average	54	Pass
NVNT	2-DH 1	2480	Ant1	No-Hopp ing	2500	-47.91	2.08	-	49.43	Peak	74	Pass
NVNT	2-DH 1	2480	Ant1	No-Hopp ing	2500	-56.19	2.08	5.06	46.21	Average	54	Pass
NVNT	3-DH 1	2402	Ant1	No-Hopp ing	2310	-49.82	2.08	-	47.52	Peak	74	Pass
NVNT	3-DH 1	2402	Ant1	No-Hopp ing	2310	-57.03	2.08	5.17	45.48	Average	54	Pass
NVNT	3-DH 1	2402	Ant1	No-Hopp ing	2352.144	-45.53	2.08	-	51.81	Peak	74	Pass
NVNT	3-DH 1	2402	Ant1	No-Hopp ing	2380.08	-55.85	2.08	5.17	46.66	Average	54	Pass
NVNT	3-DH 1	2402	Ant1	No-Hopp ing	2390	-49.07	2.08	-	48.27	Peak	74	Pass
NVNT	3-DH 1	2402	Ant1	No-Hopp ing	2390	-56.63	2.08	5.17	45.88	Average	54	Pass
NVNT	3-DH 1	2480	Ant1	No-Hopp ing	2483.5	-48.06	2.08	-	49.28	Peak	74	Pass
NVNT	3-DH 1	2480	Ant1	No-Hopp ing	2483.5	-56.34	2.08	5.06	46.06	Average	54	Pass
NVNT	3-DH 1	2480	Ant1	No-Hopp ing	2490.52	-44.46	2.08	-	52.88	Peak	74	Pass
NVNT	3-DH 1	2480	Ant1	No-Hopp ing	2492.704	-55.31	2.08	5.06	47.09	Average	54	Pass
NVNT	3-DH 1	2480	Ant1	No-Hopp ing	2500	-47.62	2.08	-	49.72	Peak	74	Pass
NVNT	3-DH 1	2480	Ant1	No-Hopp ing	2500	-56.56	2.08	5.06	45.84	Average	54	Pass

Test Graphs

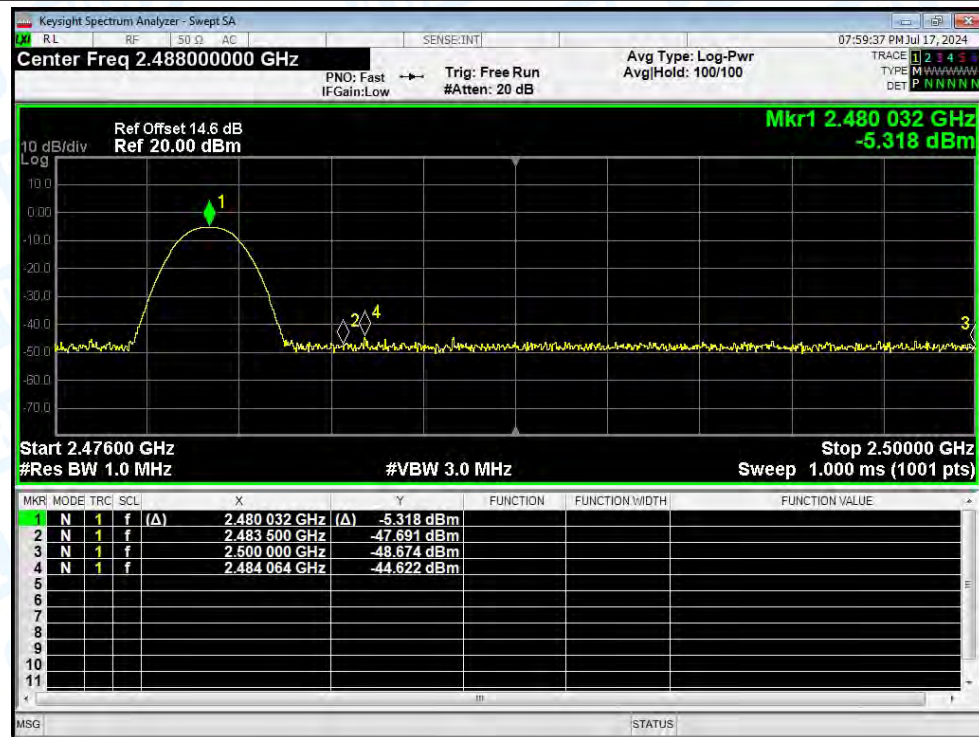
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



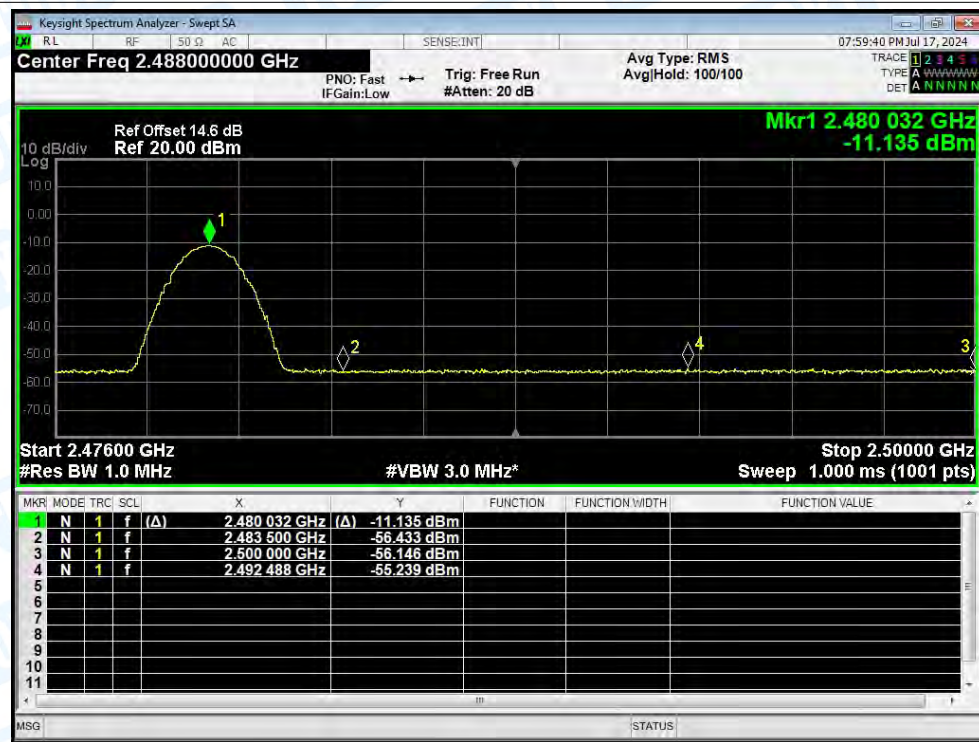
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



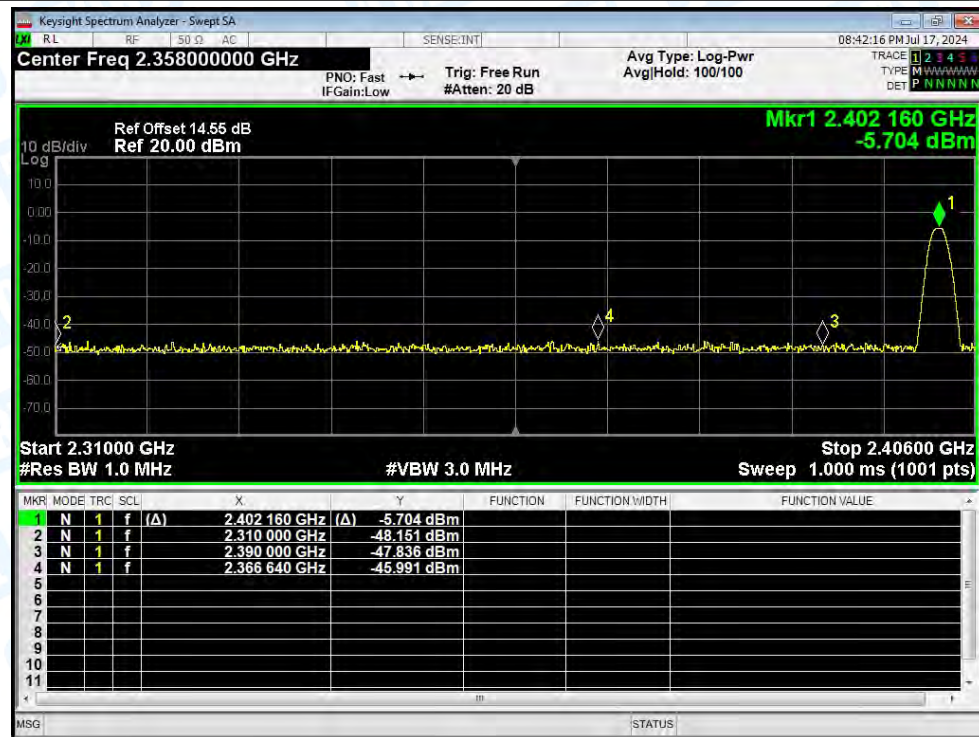
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



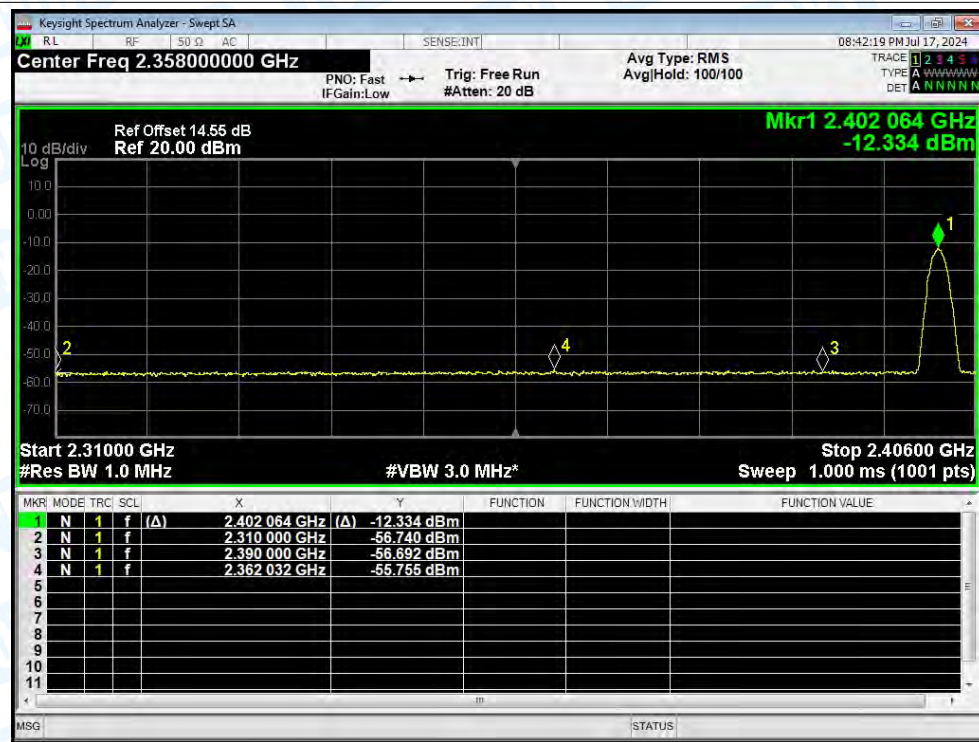
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



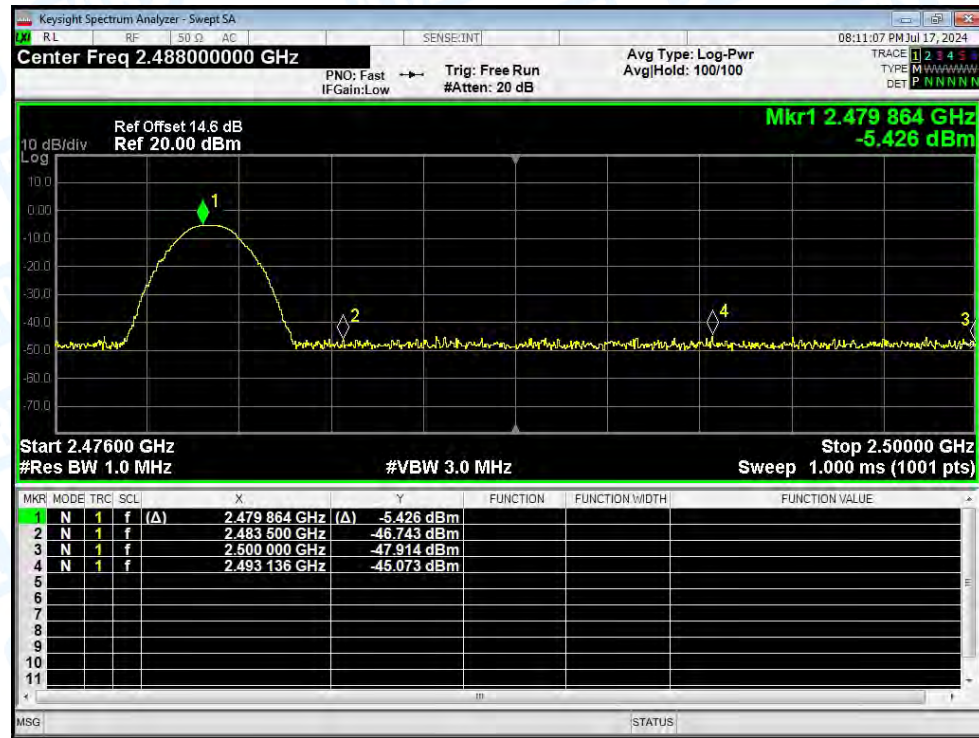
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



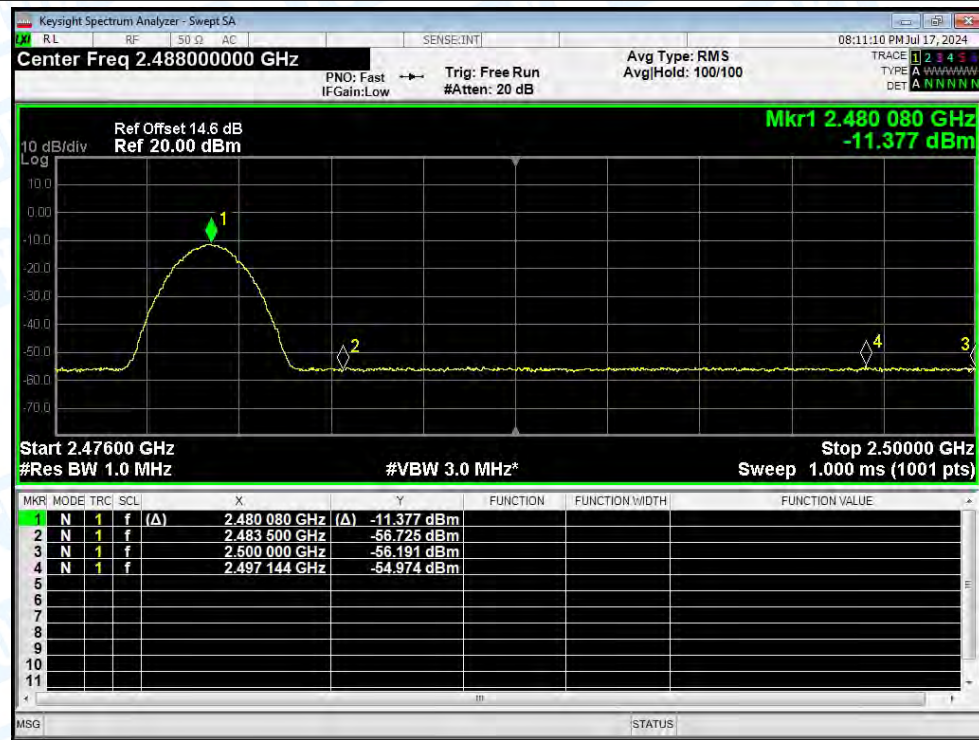
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



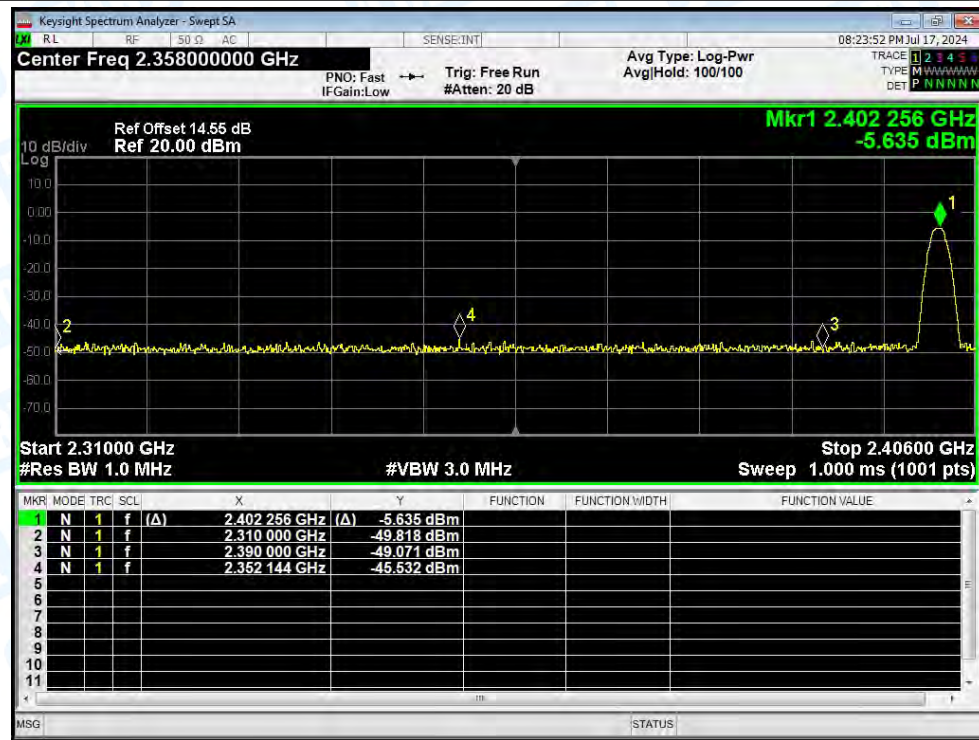
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



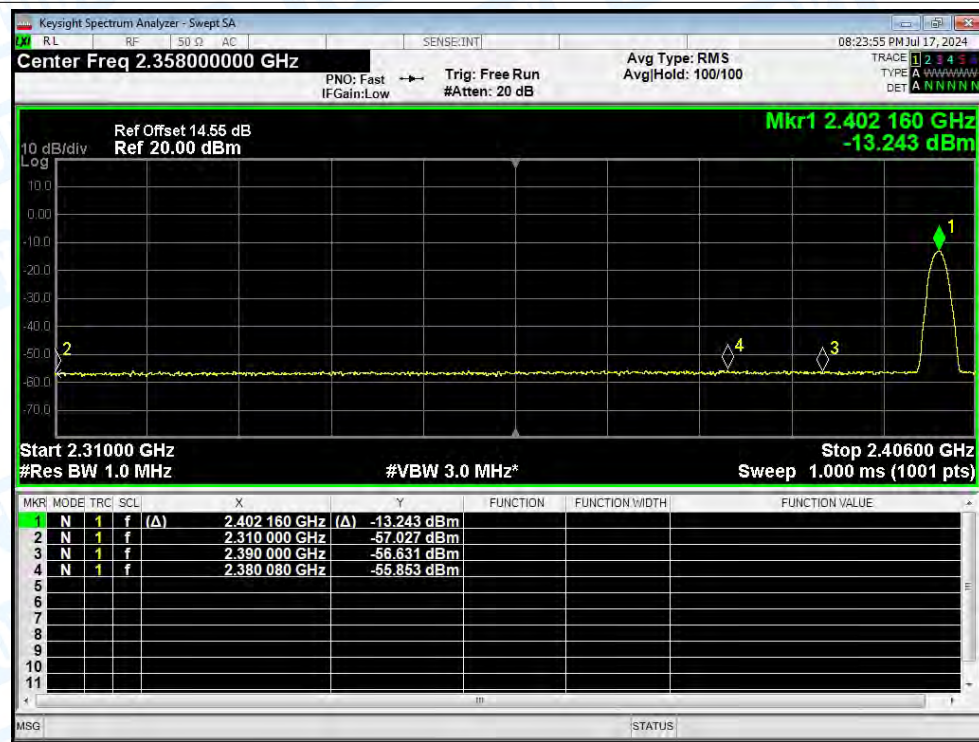
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



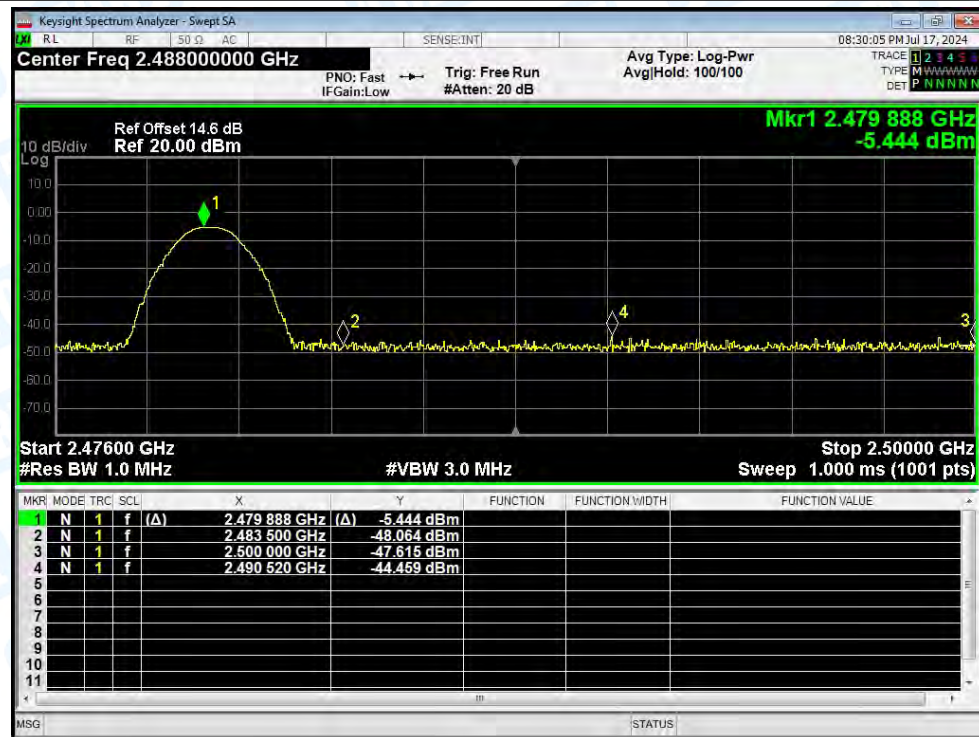
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



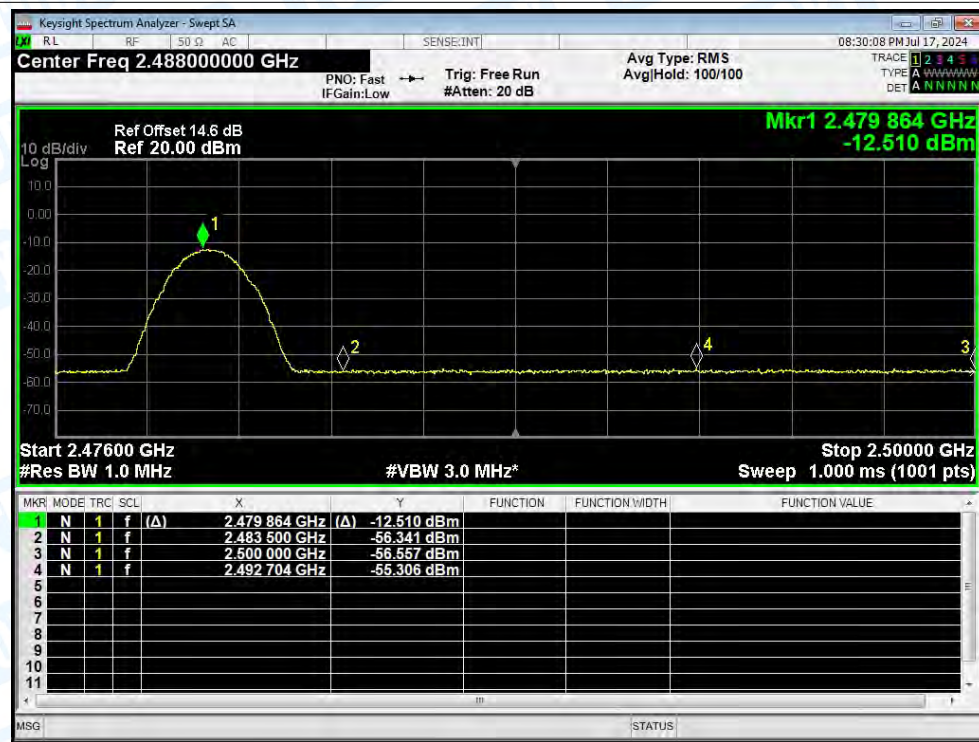
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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



9. Carrier Frequencies Separation

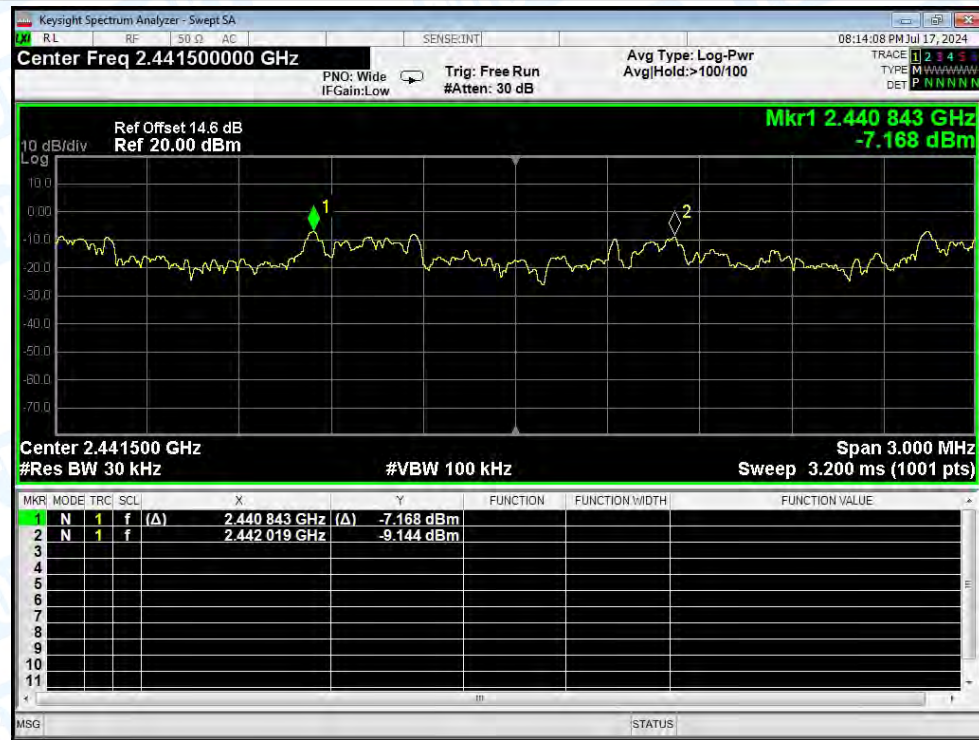
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.84	2441.833	0.993	0.553	Pass
NVNT	2-DH1	Ant1	2440.843	2442.019	1.176	0.827	Pass
NVNT	3-DH1	Ant1	2440.84	2441.833	0.993	0.807	Pass

Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



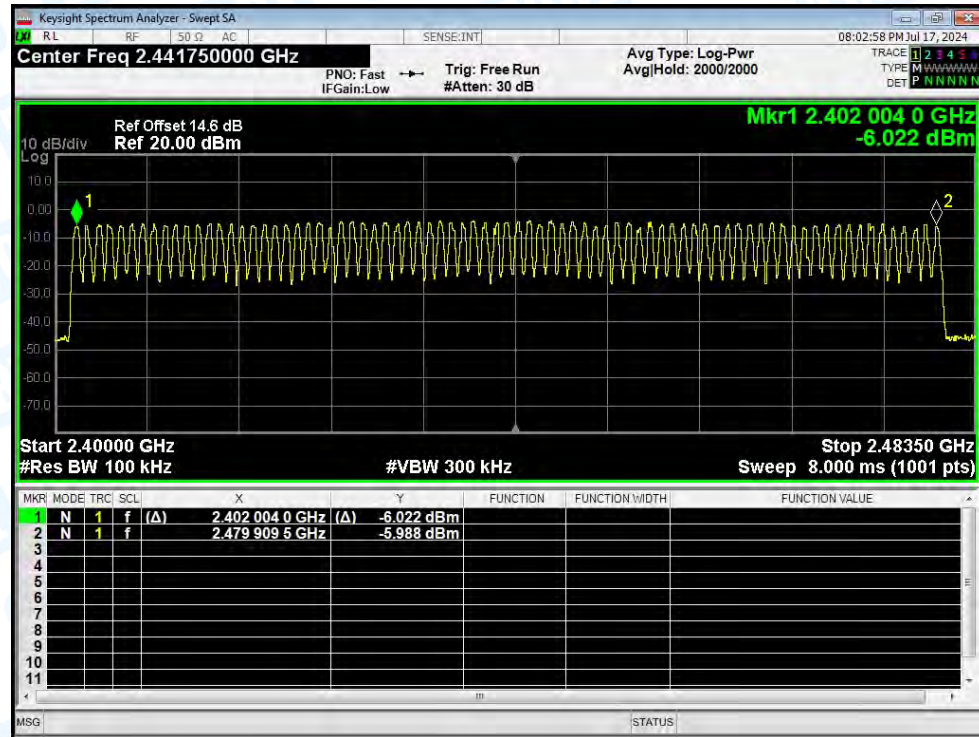


10. Number of Hopping Channel

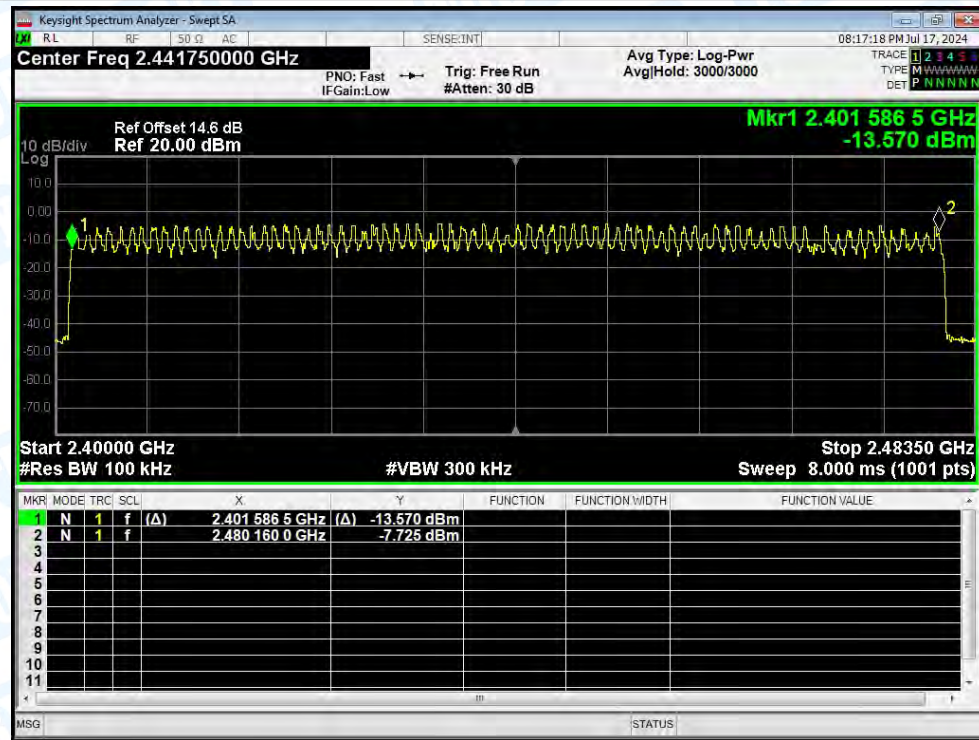
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

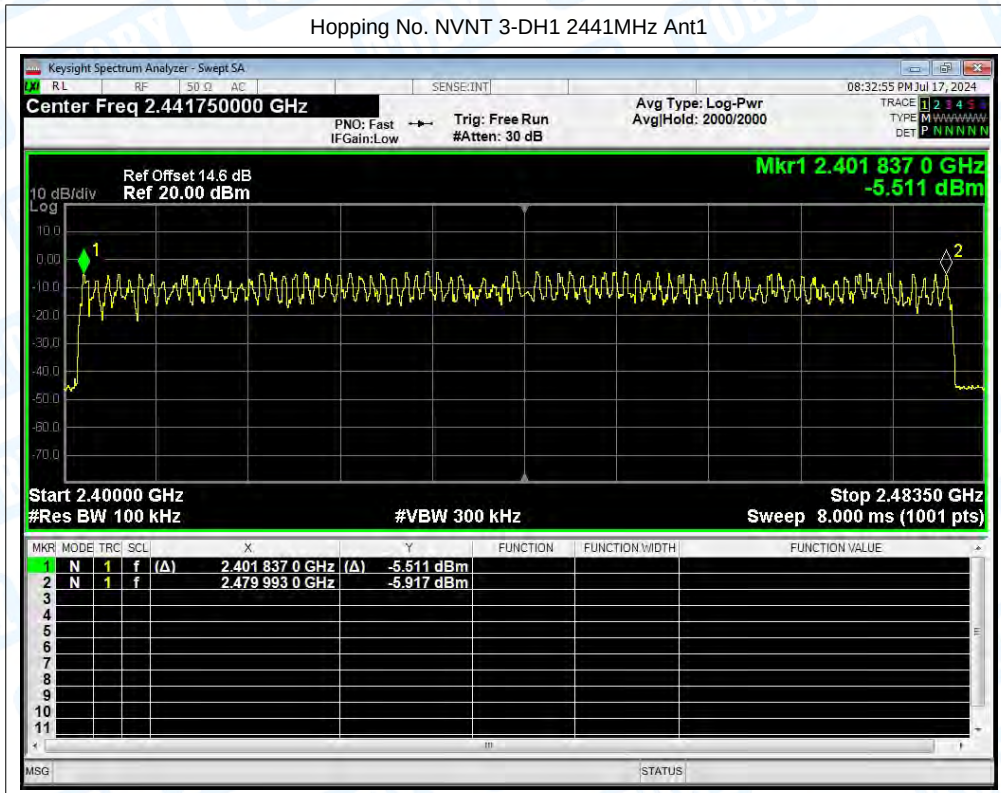
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1

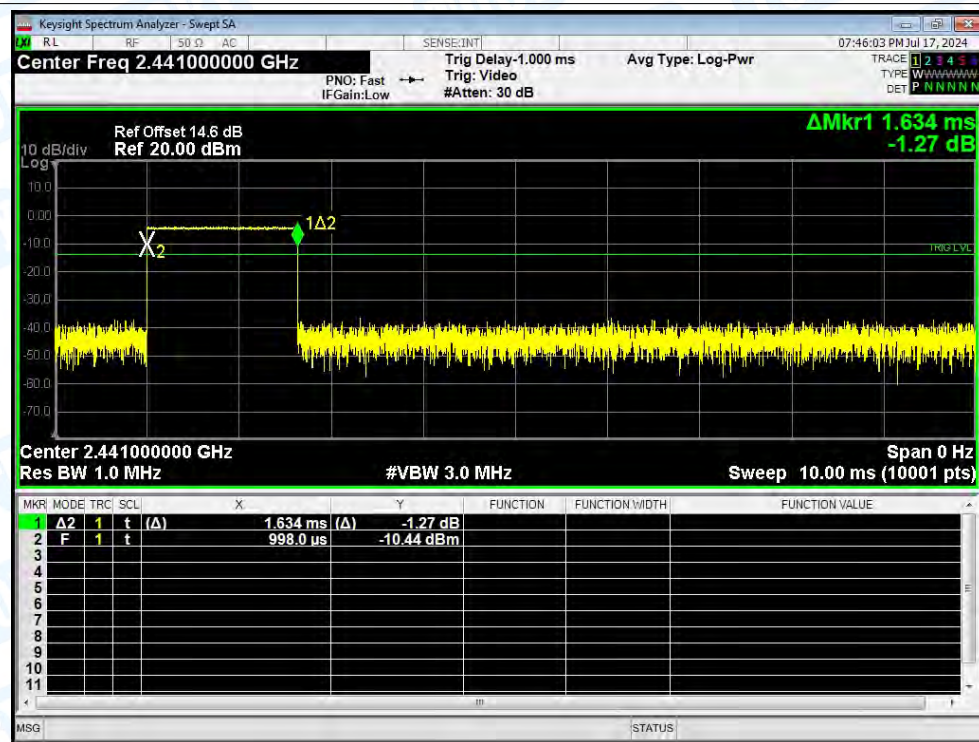




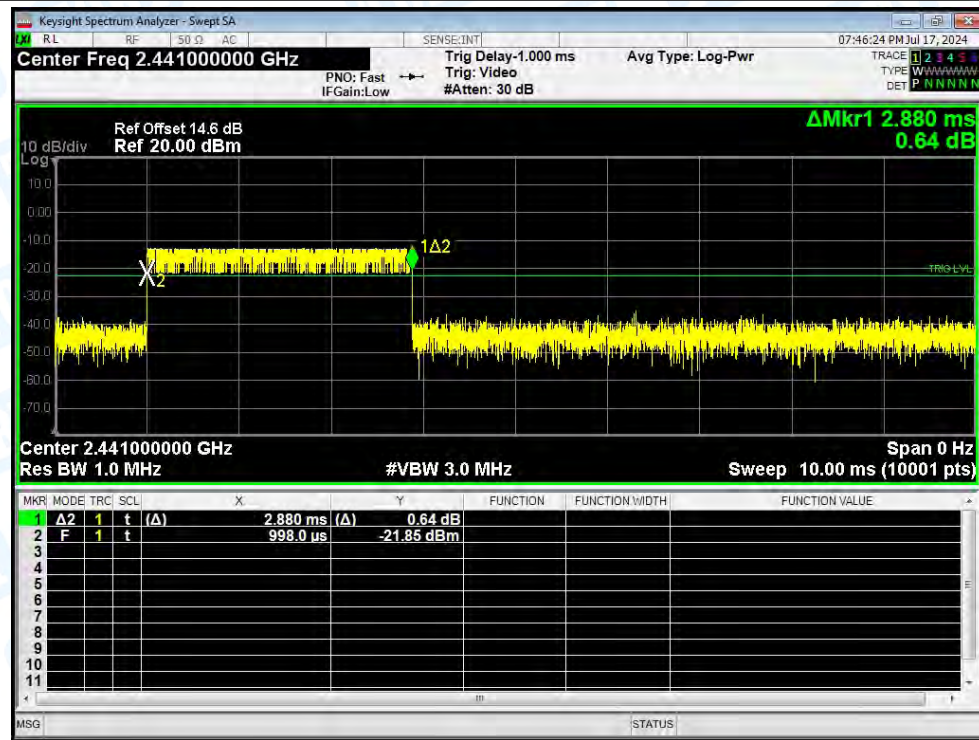
11. Dwell Time

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.378	120.96	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.634	261.44	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.88	307.2	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.385	123.2	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.636	261.76	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.881	307.307	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.386	123.52	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.634	261.44	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.887	307.947	31600	400	Pass

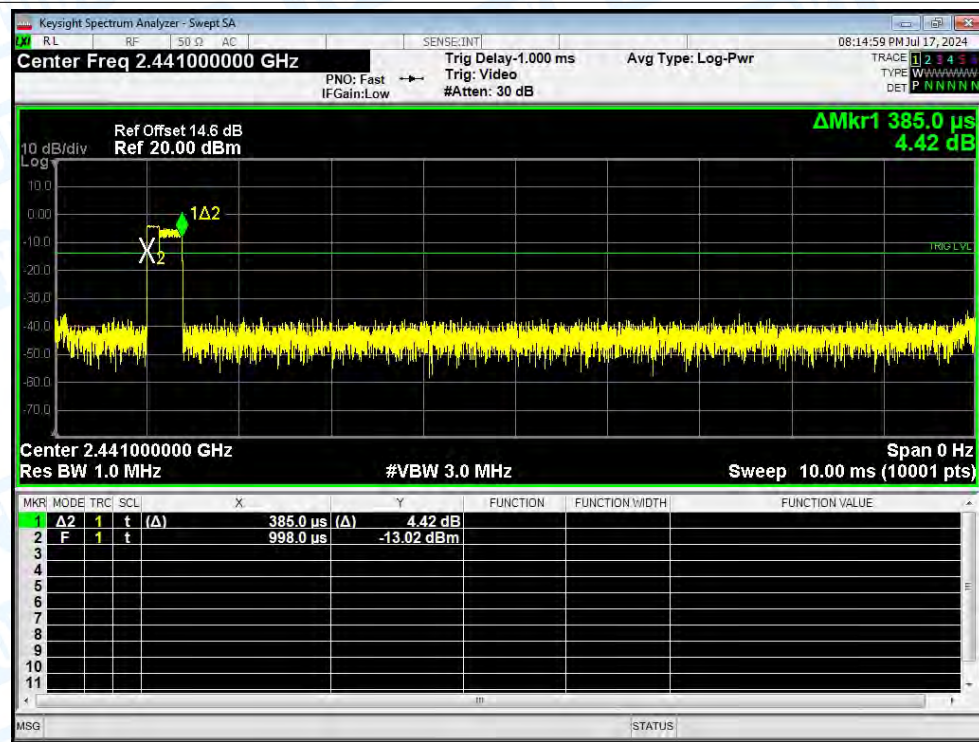
Dwell NVNT 1-DH1 2441MHz Ant1



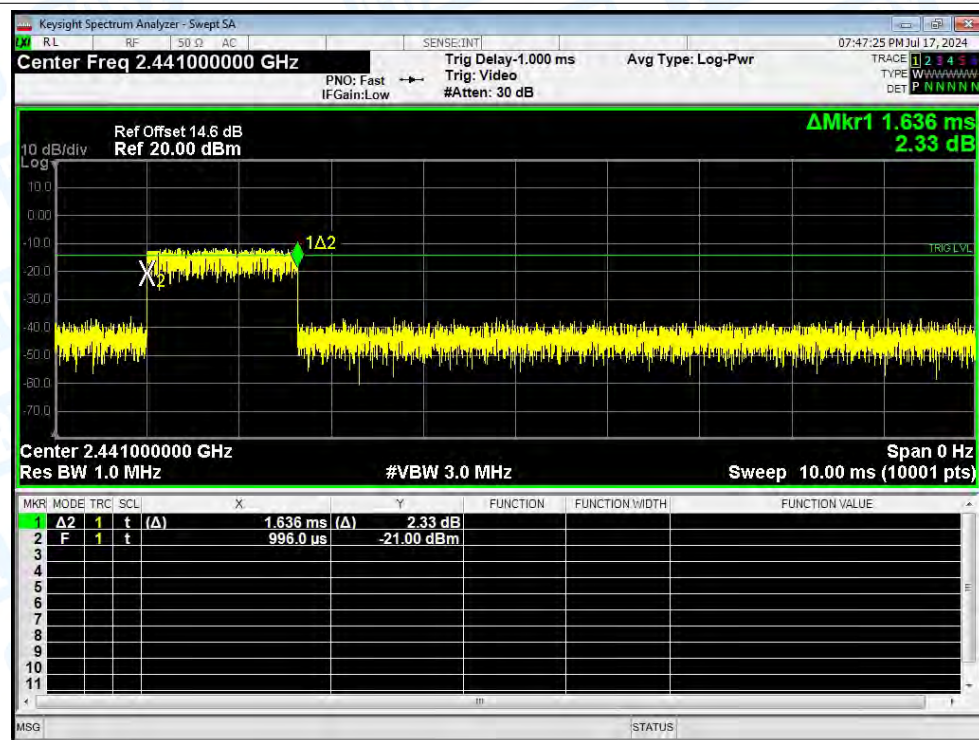
Dwell NVNT 1-DH5 2441MHz Ant1



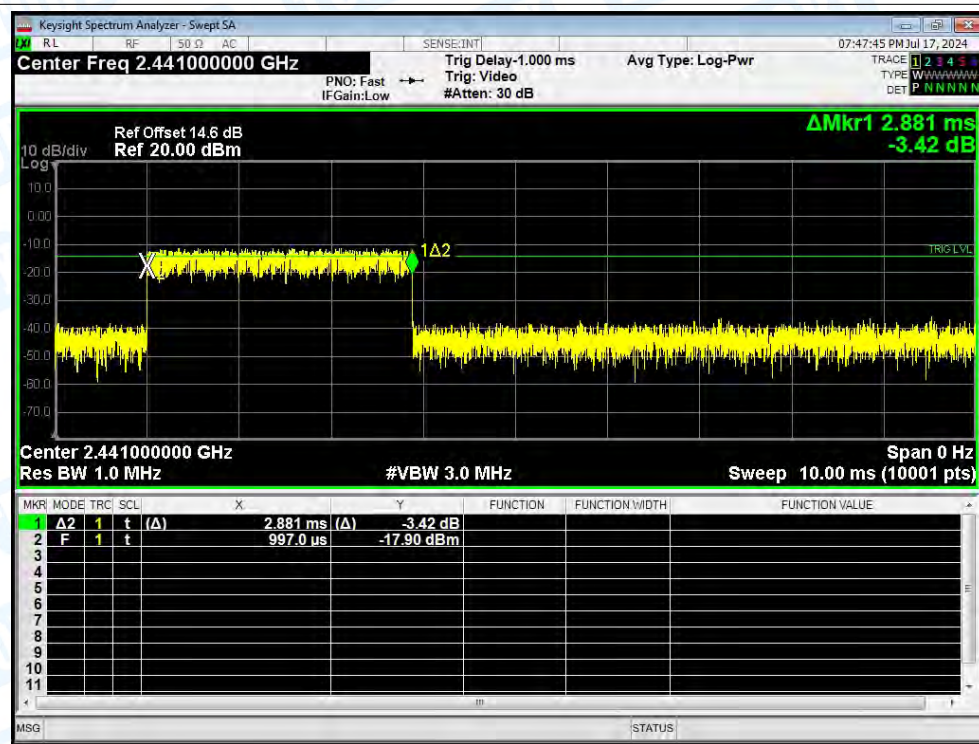
Dwell NVNT 2-DH1 2441MHz Ant1



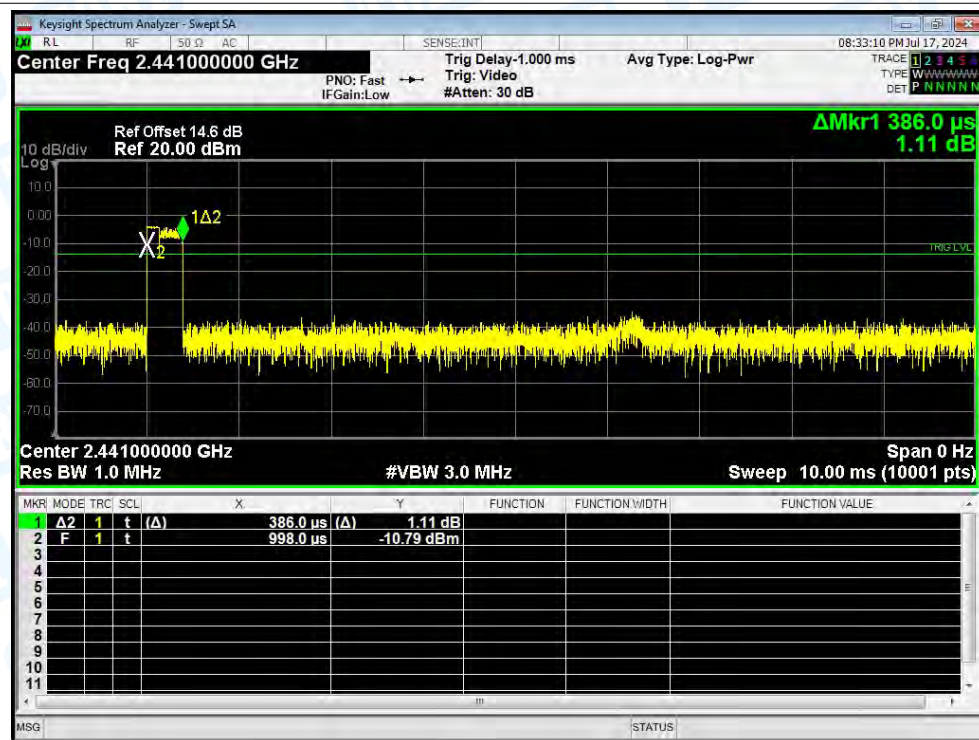
Dwell NVNT 2-DH3 2441MHz Ant1



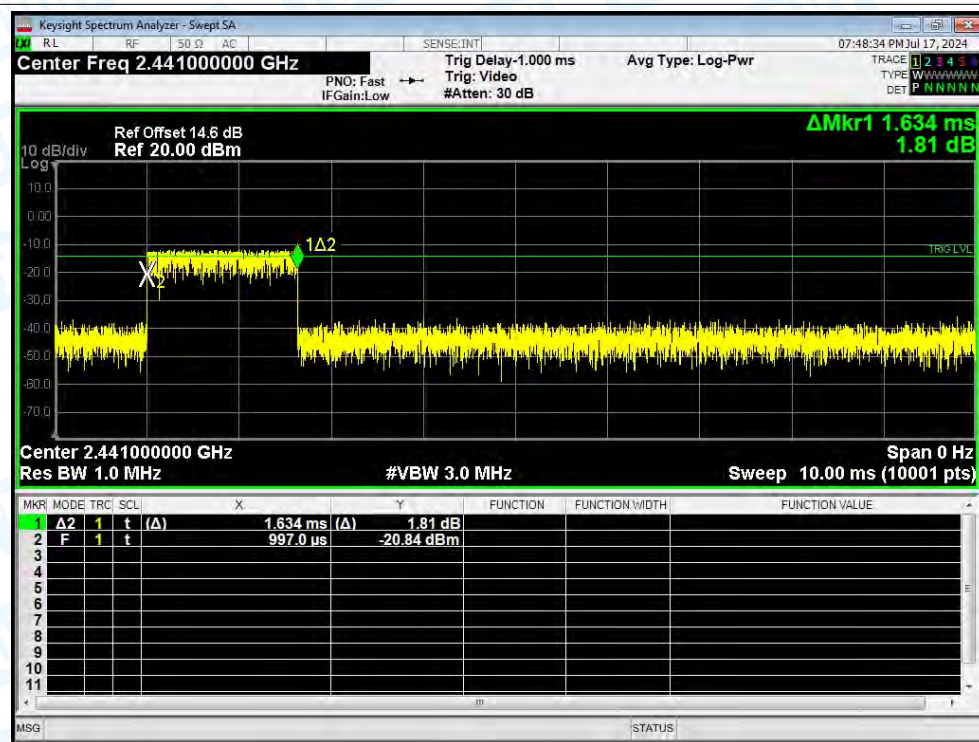
Dwell NVNT 2-DH5 2441MHz Ant1

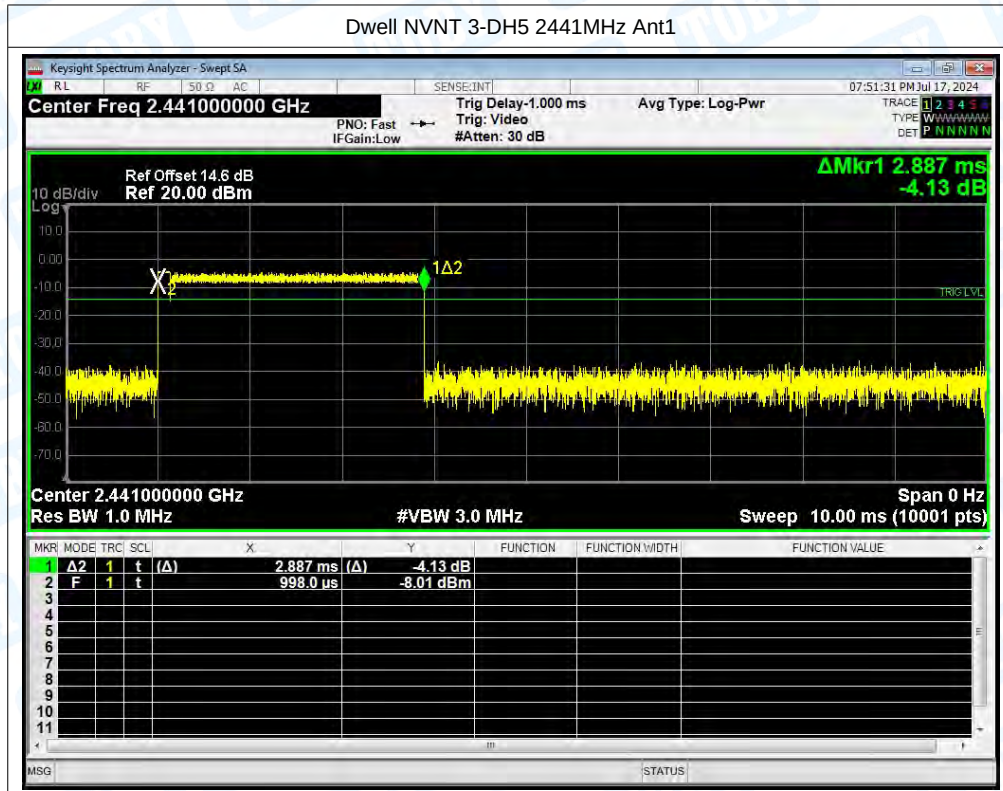


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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