

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Smart Watch
Test Model:	Ix307
Sample ID:	HC-C-202409-0136-01-02#
Environmental Conditions	
Temperature:	25℃
Relative Humidity:	55%
Test Voltage:	DC 3.7V
Test Engineer:	Rick Chen
Note: For a more detailed features description, please refer to the report TBR-C-202409-0136-11 The report only show the worst case data.	

Contents

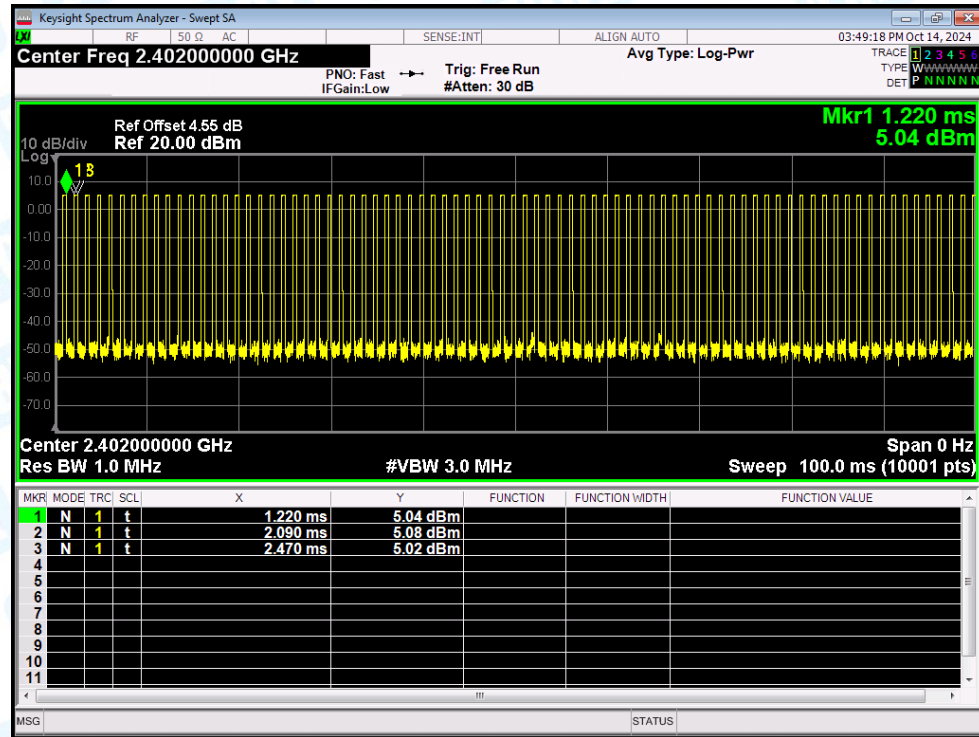
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1.Duty Cycle

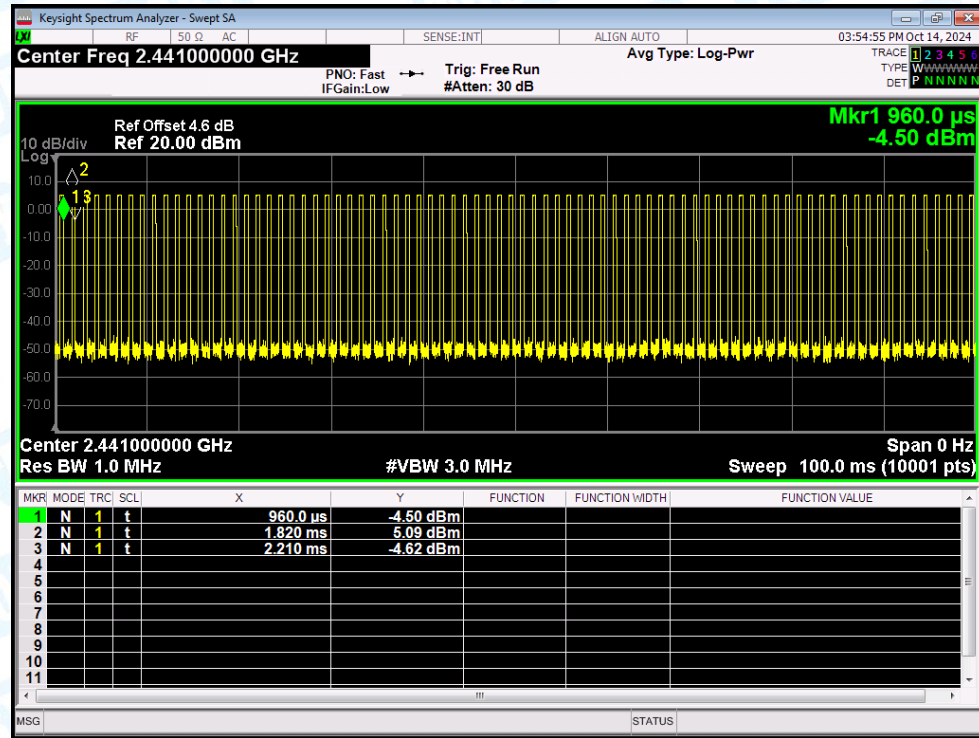
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56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

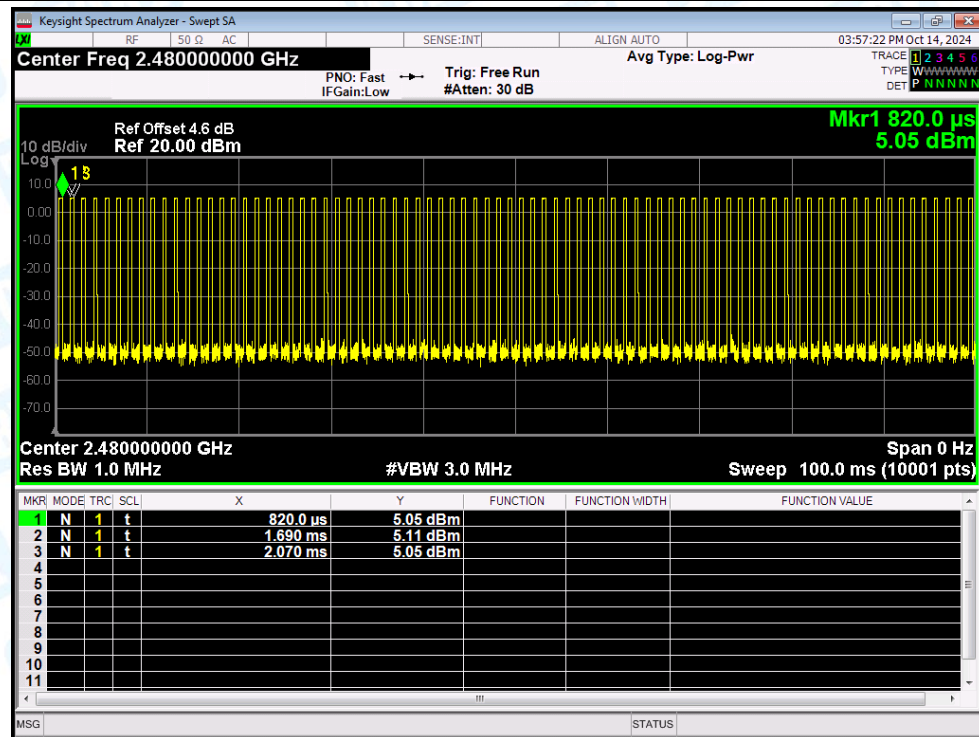
Duty Cycle NVNT 1-DH1 2402MHz Ant1



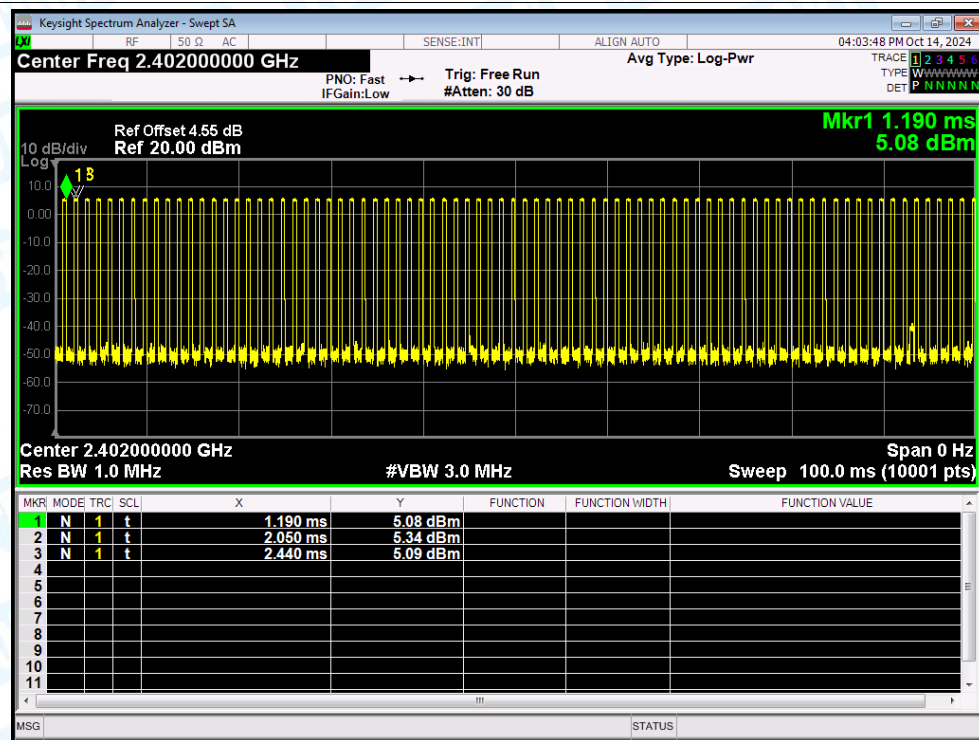
Duty Cycle NVNT 1-DH1 2441MHz Ant1



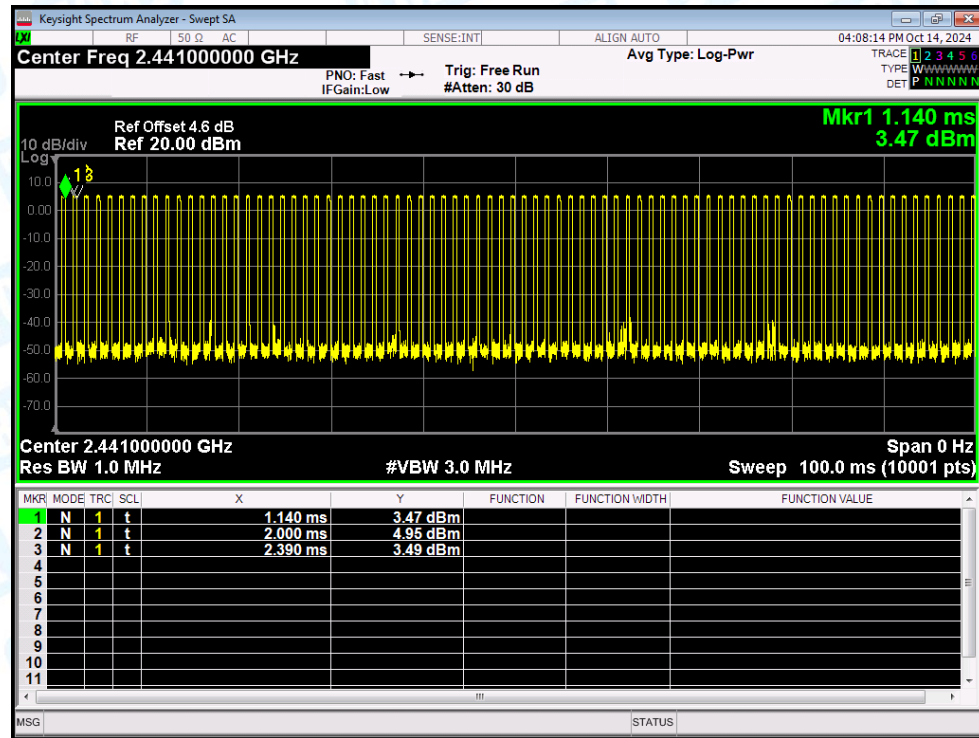
Duty Cycle NVNT 1-DH1 2480MHz Ant1



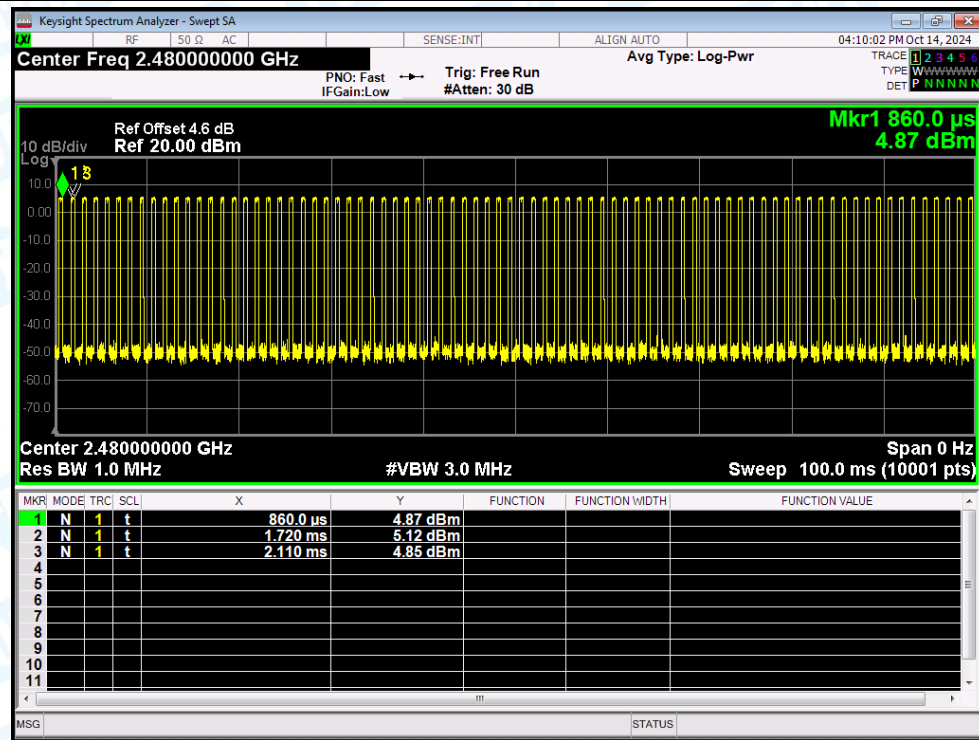
Duty Cycle NVNT 2-DH1 2402MHz Ant1



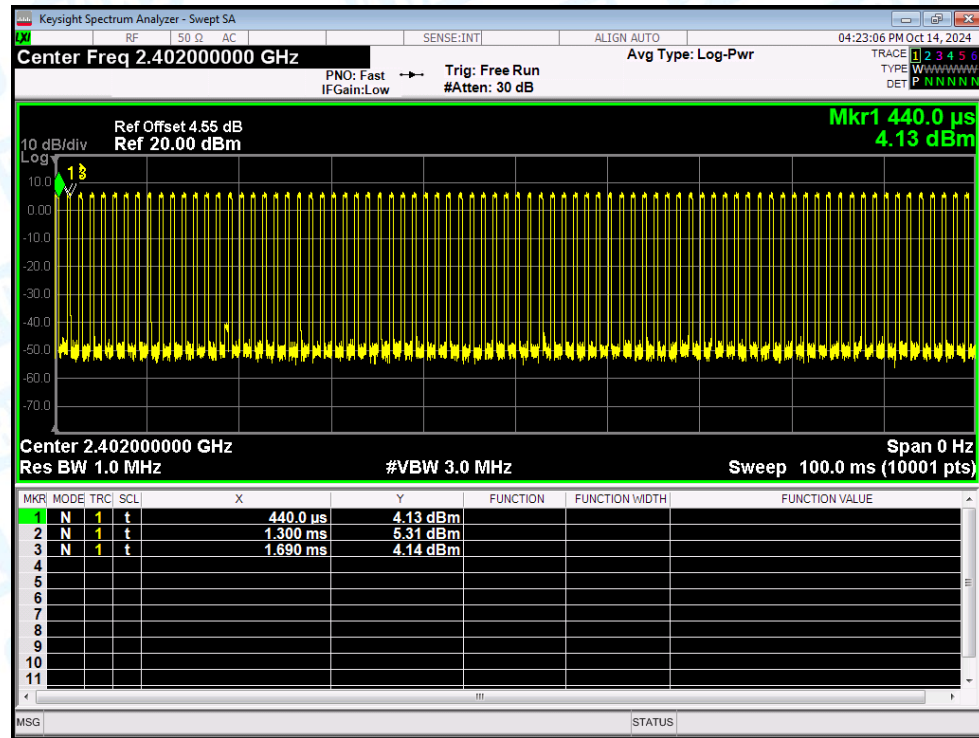
Duty Cycle NVNT 2-DH1 2441MHz Ant1



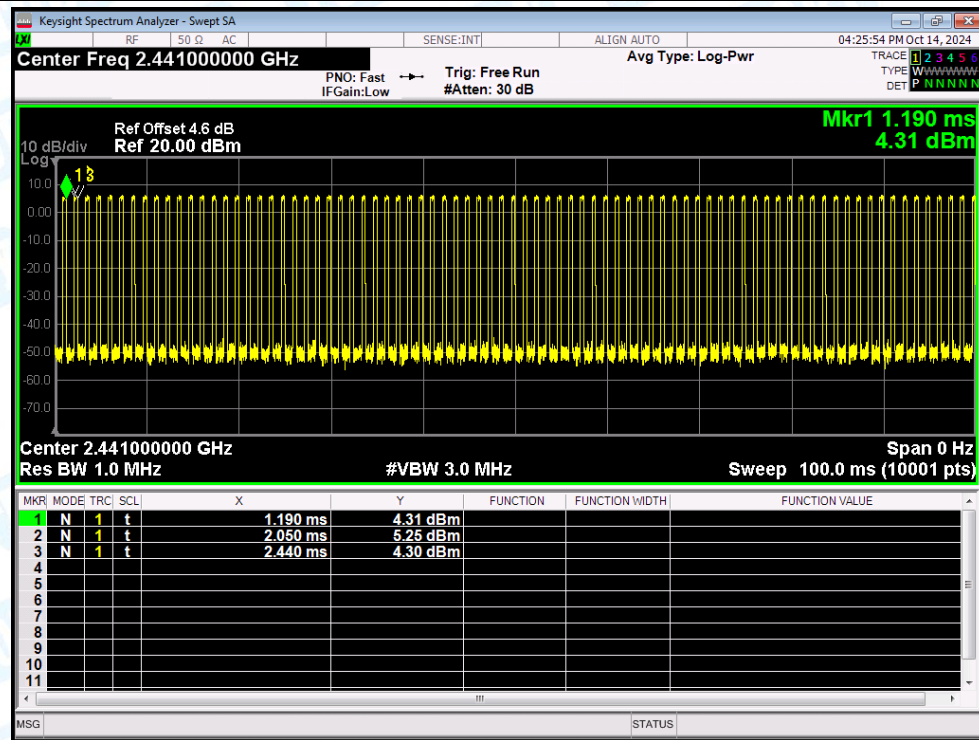
Duty Cycle NVNT 2-DH1 2480MHz Ant1

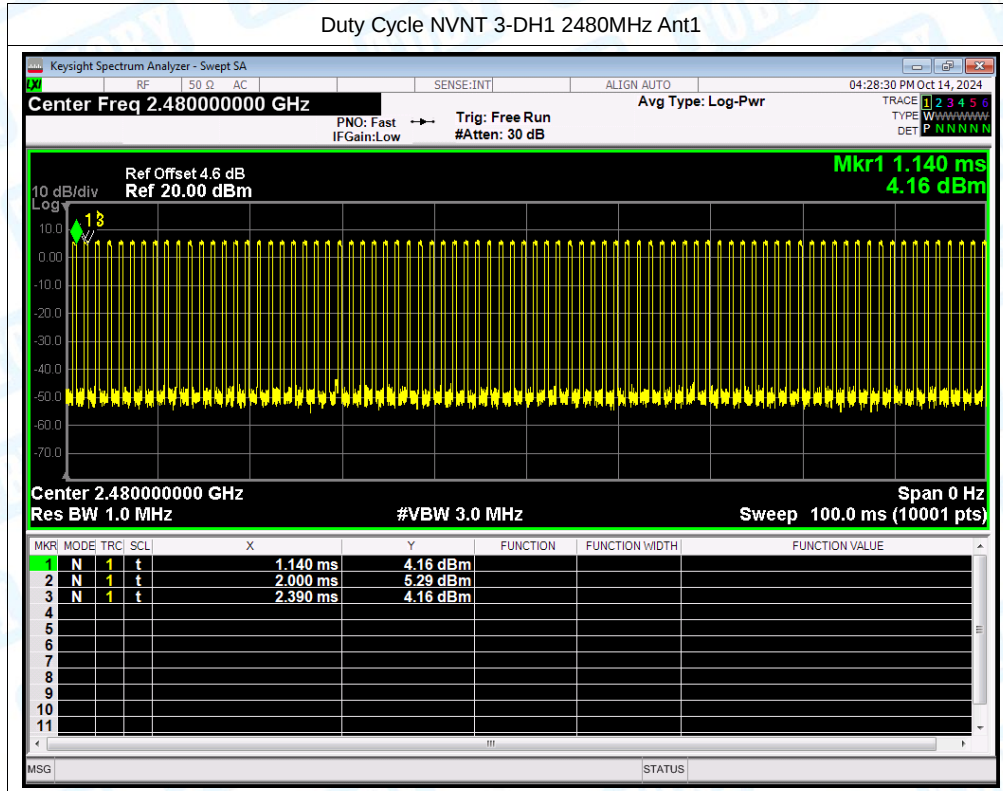


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



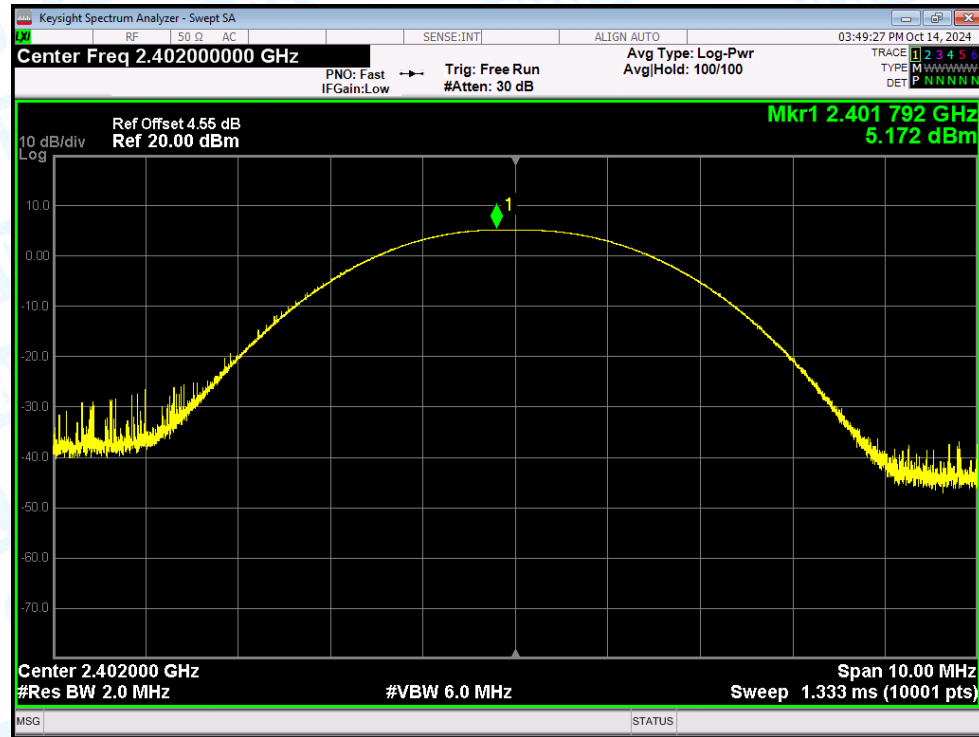


2.Maximum Conducted Output Power

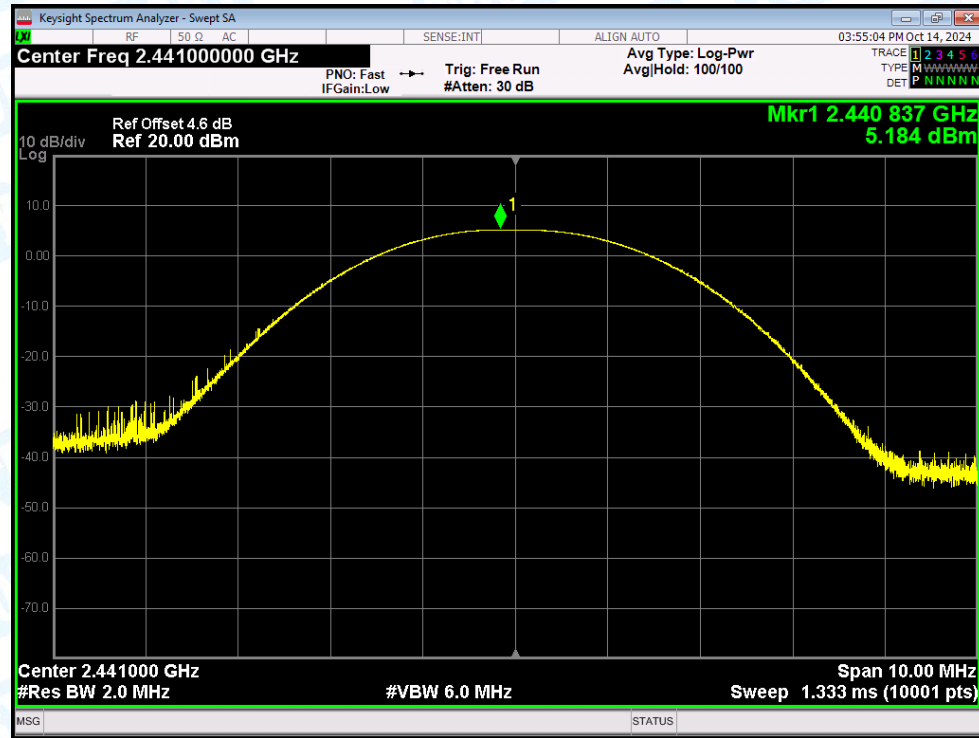
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	5.172	21	Pass
NVNT	1-DH1	2441	Ant1	5.184	21	Pass
NVNT	1-DH1	2480	Ant1	5.184	21	Pass
NVNT	2-DH1	2402	Ant1	6.2	21	Pass
NVNT	2-DH1	2441	Ant1	5.837	21	Pass
NVNT	2-DH1	2480	Ant1	5.961	21	Pass
NVNT	3-DH1	2402	Ant1	6.733	21	Pass
NVNT	3-DH1	2441	Ant1	6.647	21	Pass
NVNT	3-DH1	2480	Ant1	6.596	21	Pass

Test Graphs

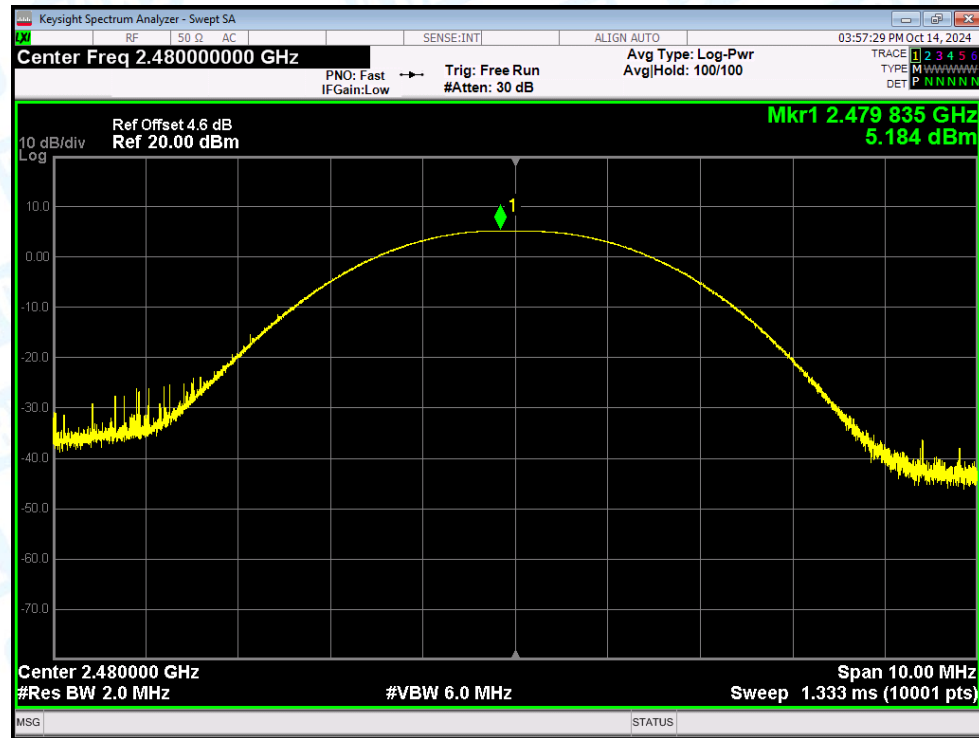
Power NVNT 1-DH1 2402MHz Ant1



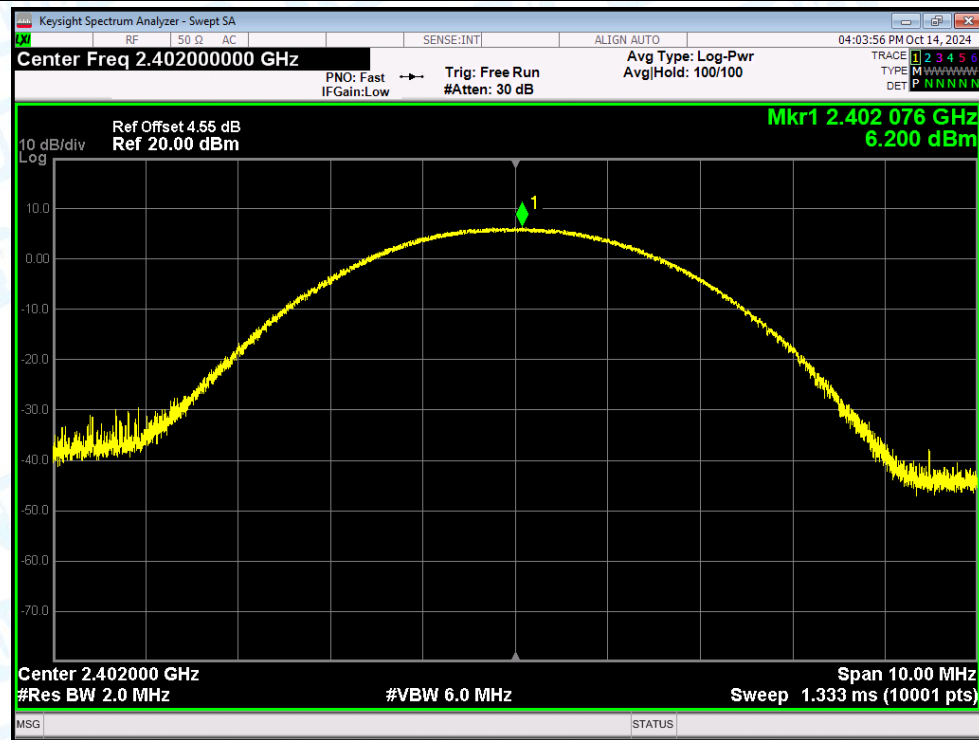
Power NVNT 1-DH1 2441MHz Ant1



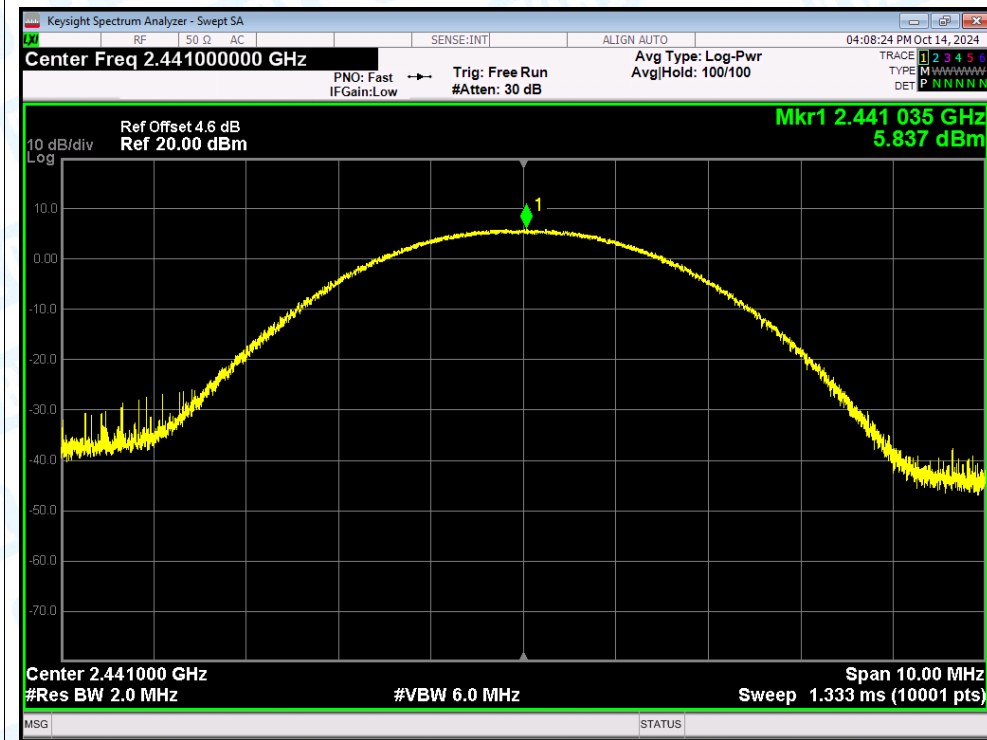
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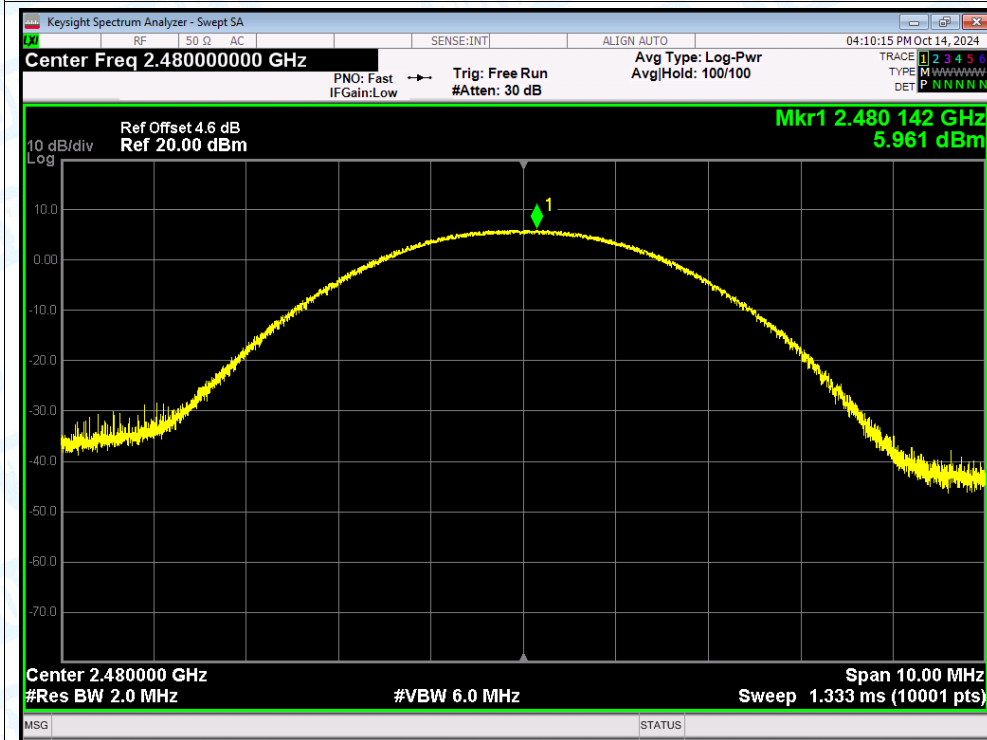
Power NVNT 2-DH1 2402MHz Ant1



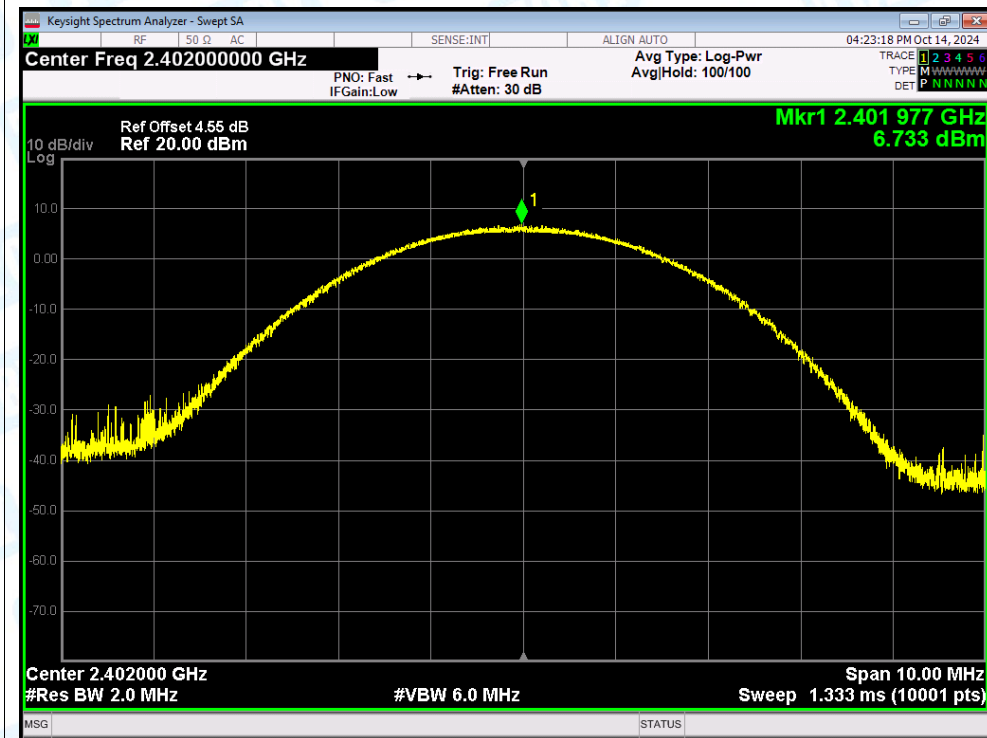
Power NVNT 2-DH1 2441MHz Ant1



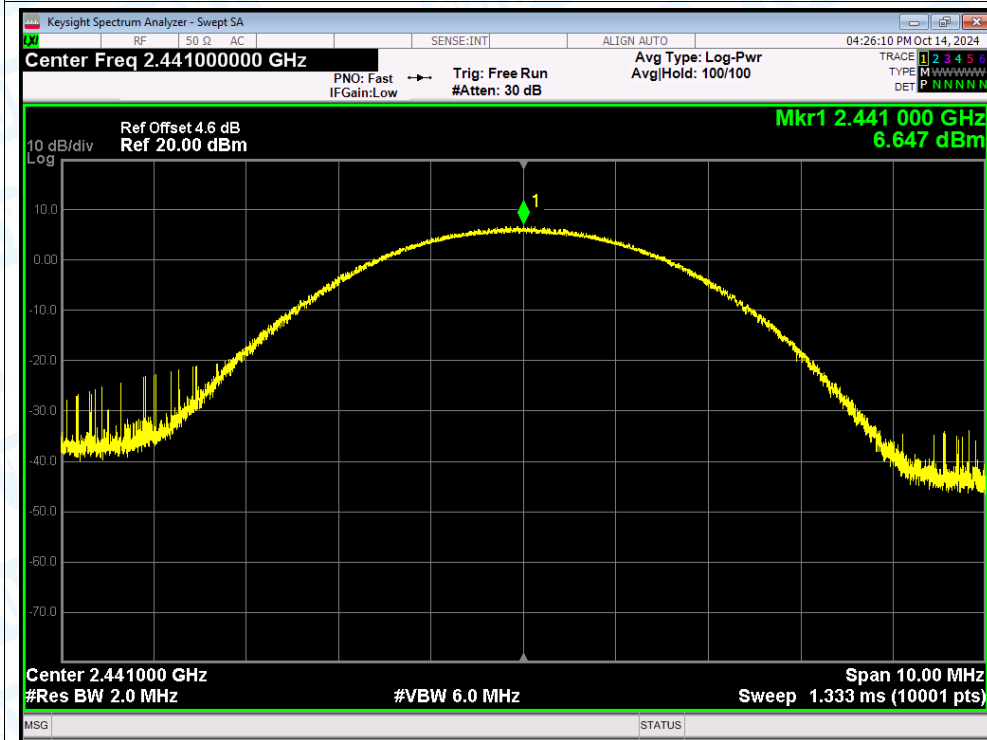
Power NVNT 2-DH1 2480MHz Ant1

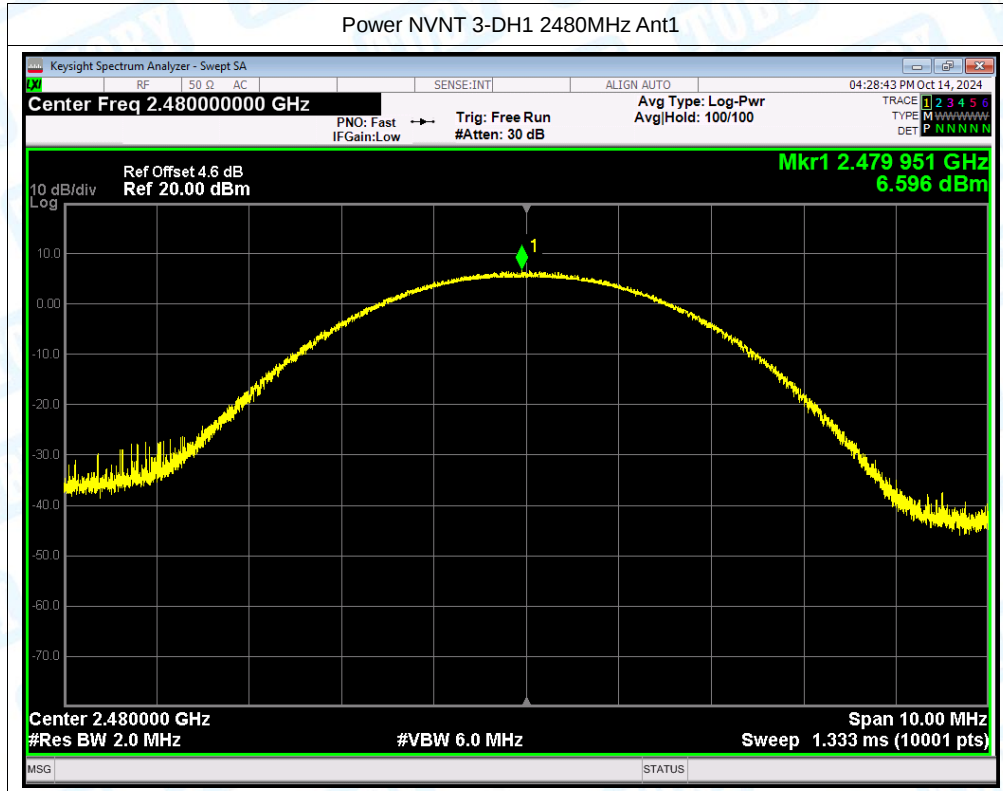


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1





3.-20dB Bandwidth

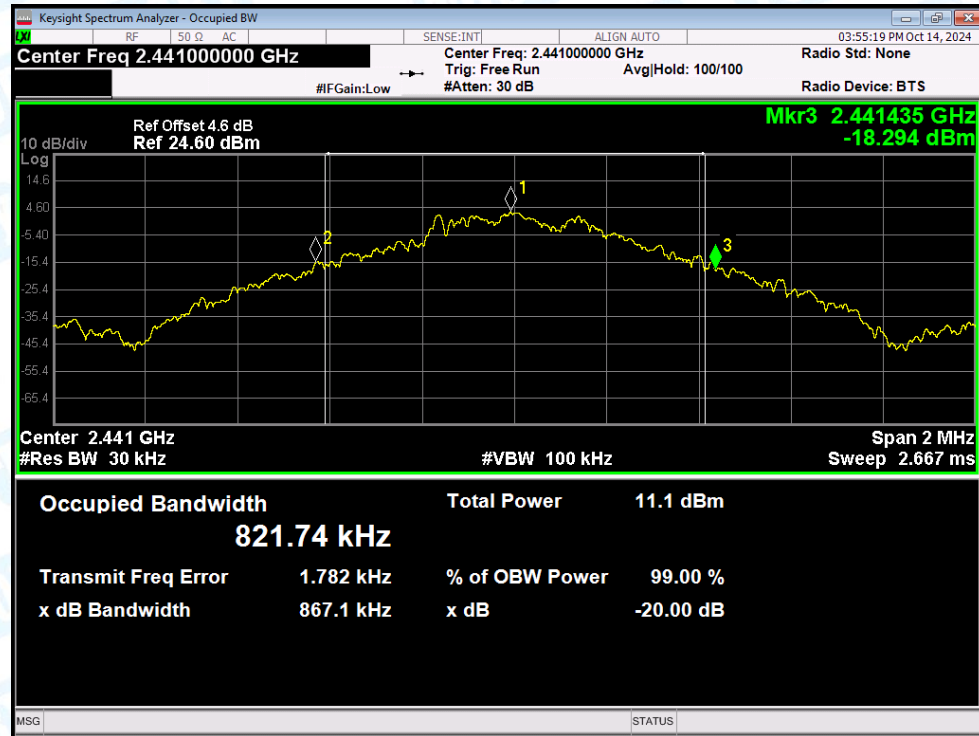
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.88	0	Pass
NVNT	1-DH1	2441	Ant1	0.87	0	Pass
NVNT	1-DH1	2480	Ant1	0.88	0	Pass
NVNT	2-DH1	2402	Ant1	1.22	0	Pass
NVNT	2-DH1	2441	Ant1	1.26	0	Pass
NVNT	2-DH1	2480	Ant1	1.25	0	Pass
NVNT	3-DH1	2402	Ant1	1.22	0	Pass
NVNT	3-DH1	2441	Ant1	1.22	0	Pass
NVNT	3-DH1	2480	Ant1	1.22	0	Pass

Test Graphs

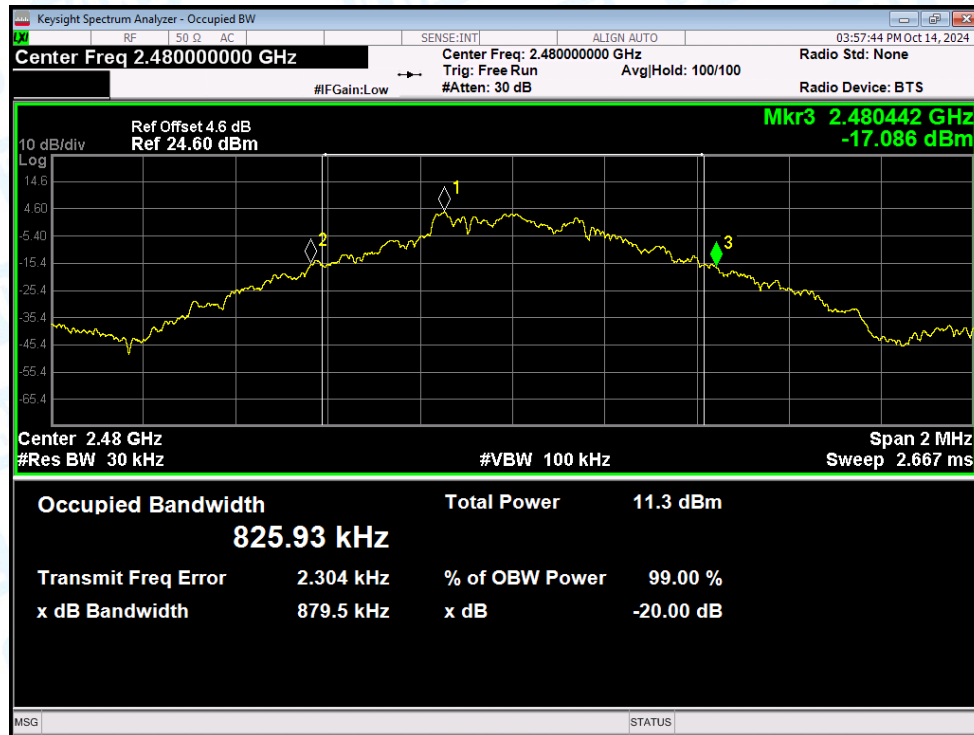
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



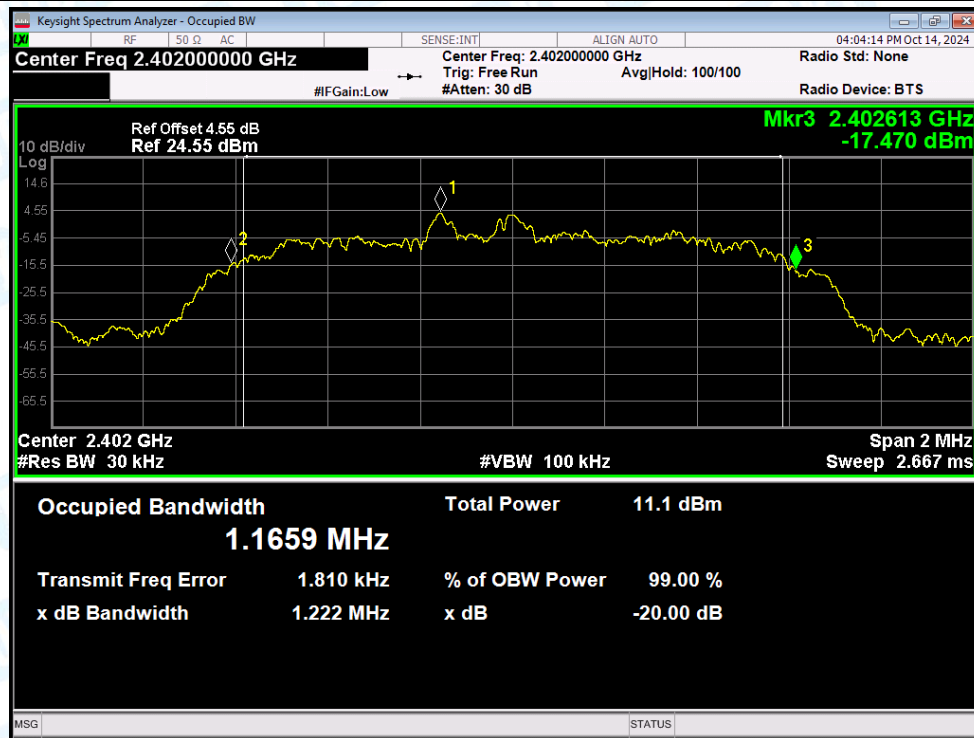
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



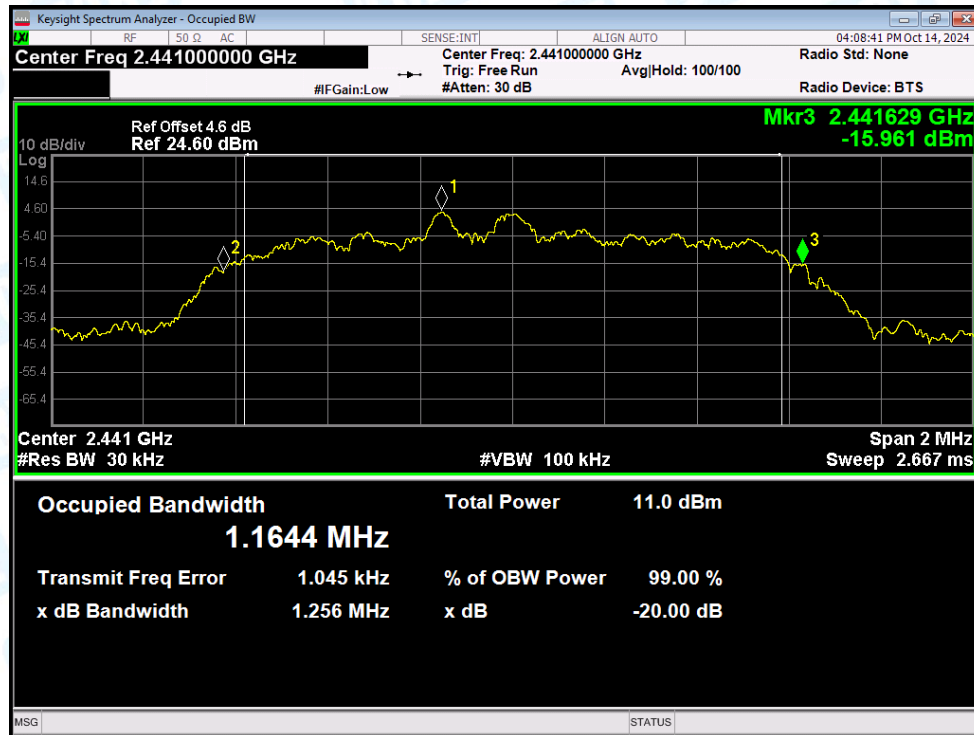
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



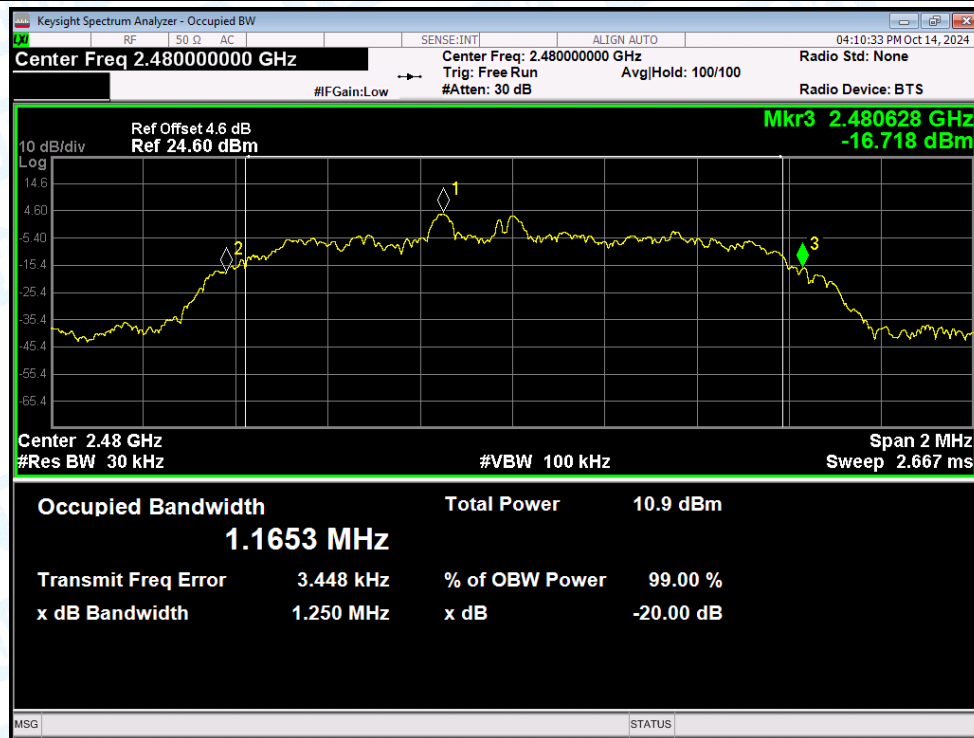
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



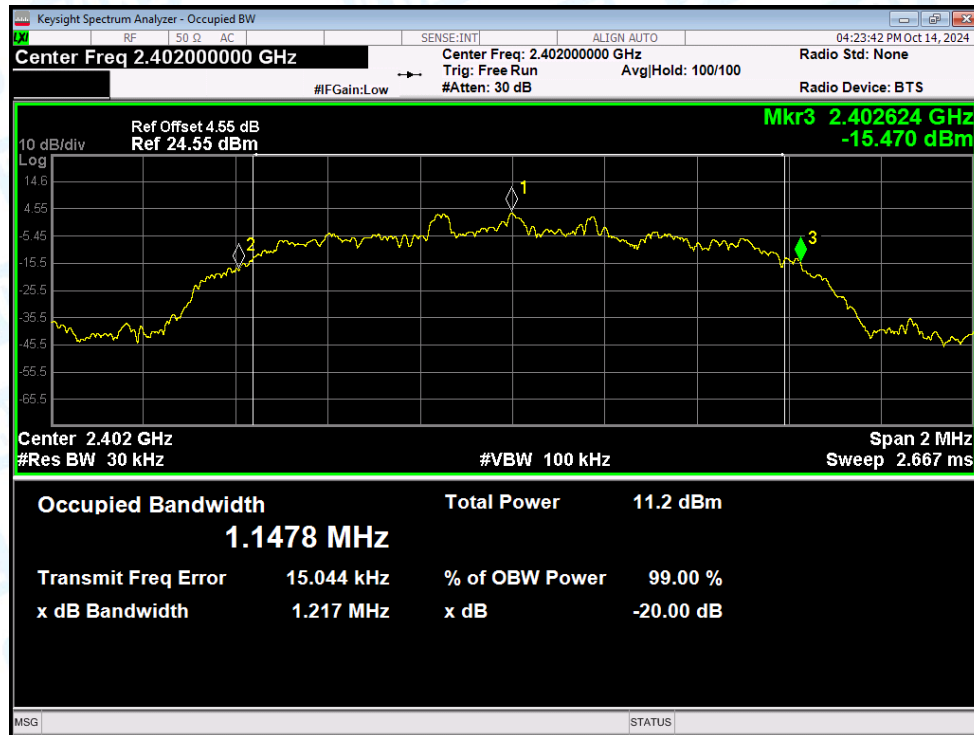
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



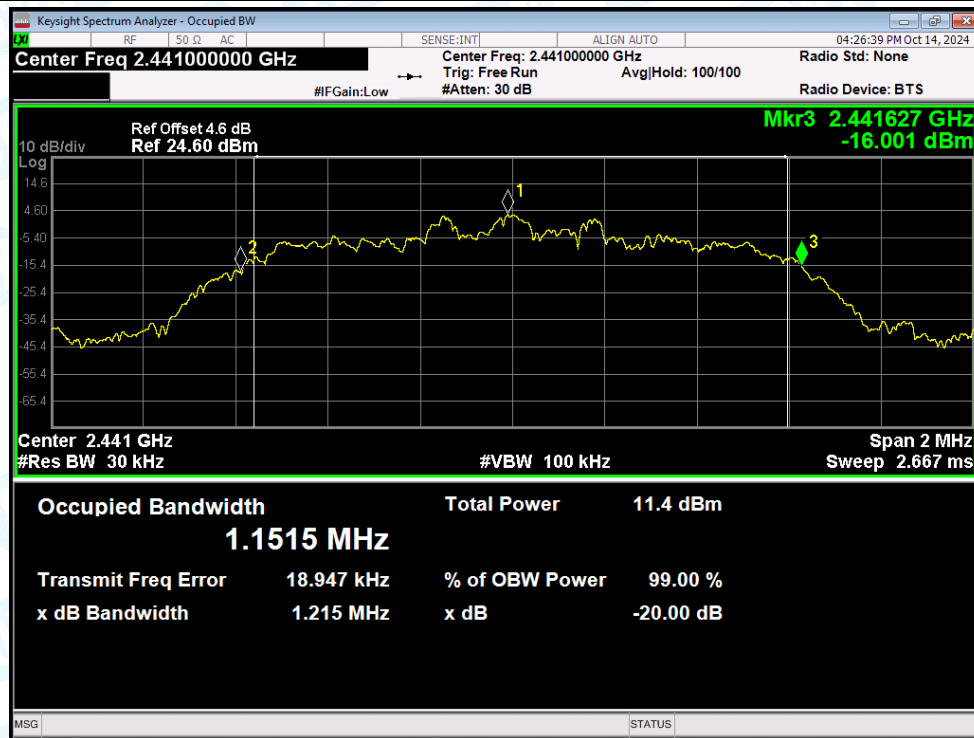
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

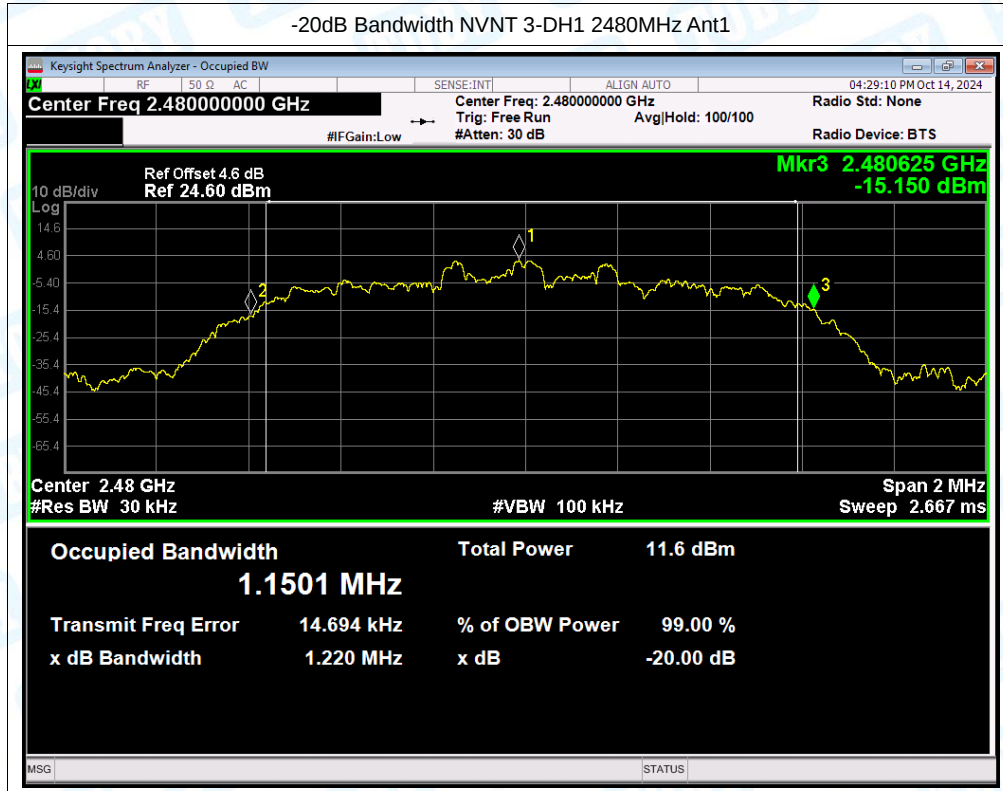


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



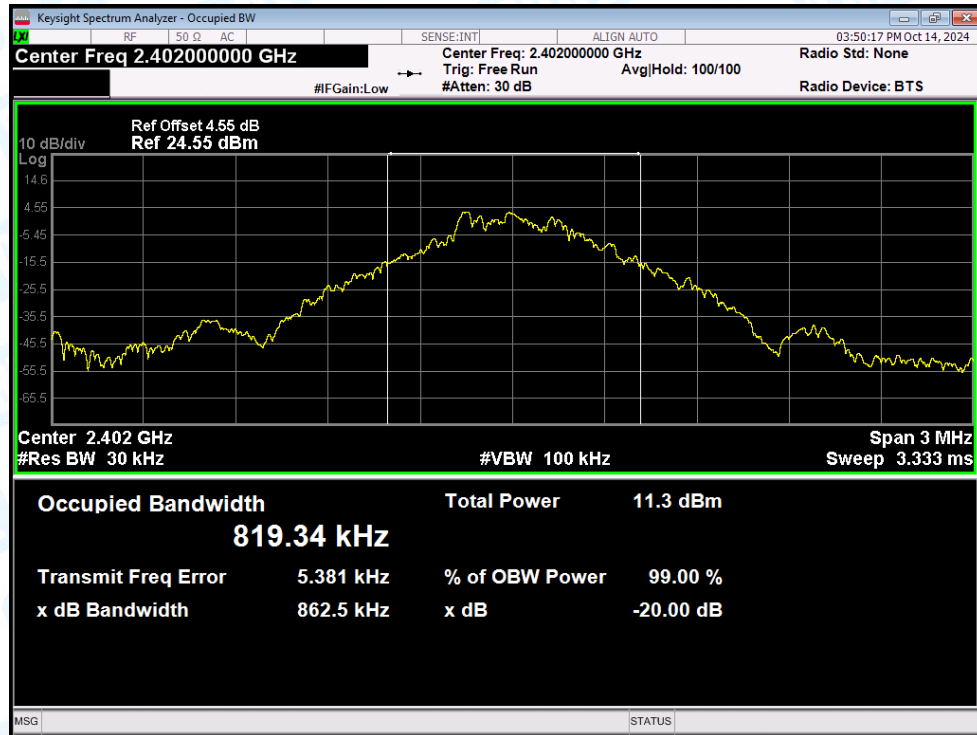


4.Occupied Channel Bandwidth

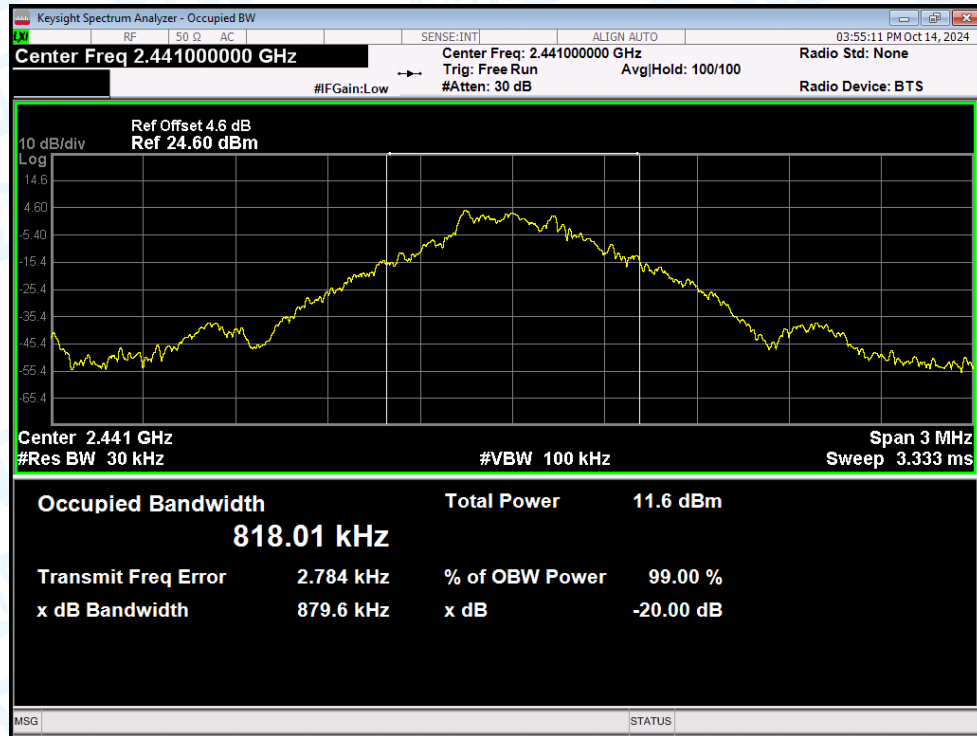
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.819
NVNT	1-DH1	2441	Ant1	0.818
NVNT	1-DH1	2480	Ant1	0.823
NVNT	2-DH1	2402	Ant1	1.166
NVNT	2-DH1	2441	Ant1	1.169
NVNT	2-DH1	2480	Ant1	1.185
NVNT	3-DH1	2402	Ant1	1.152
NVNT	3-DH1	2441	Ant1	1.149
NVNT	3-DH1	2480	Ant1	1.145

Test Graphs

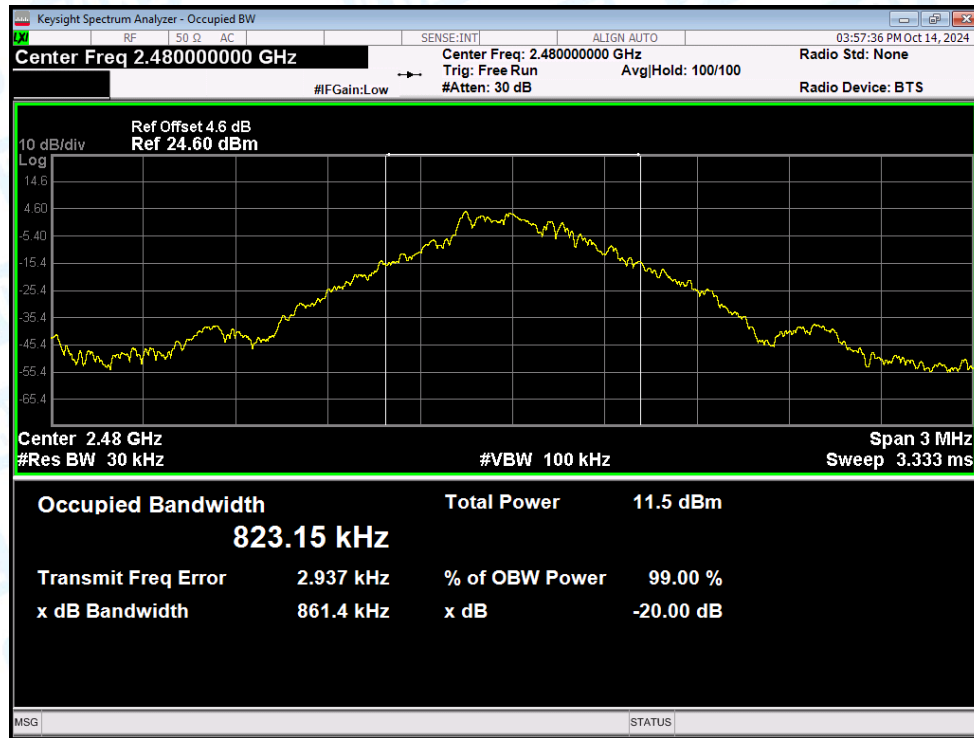
OBW NVNT 1-DH1 2402MHz Ant1



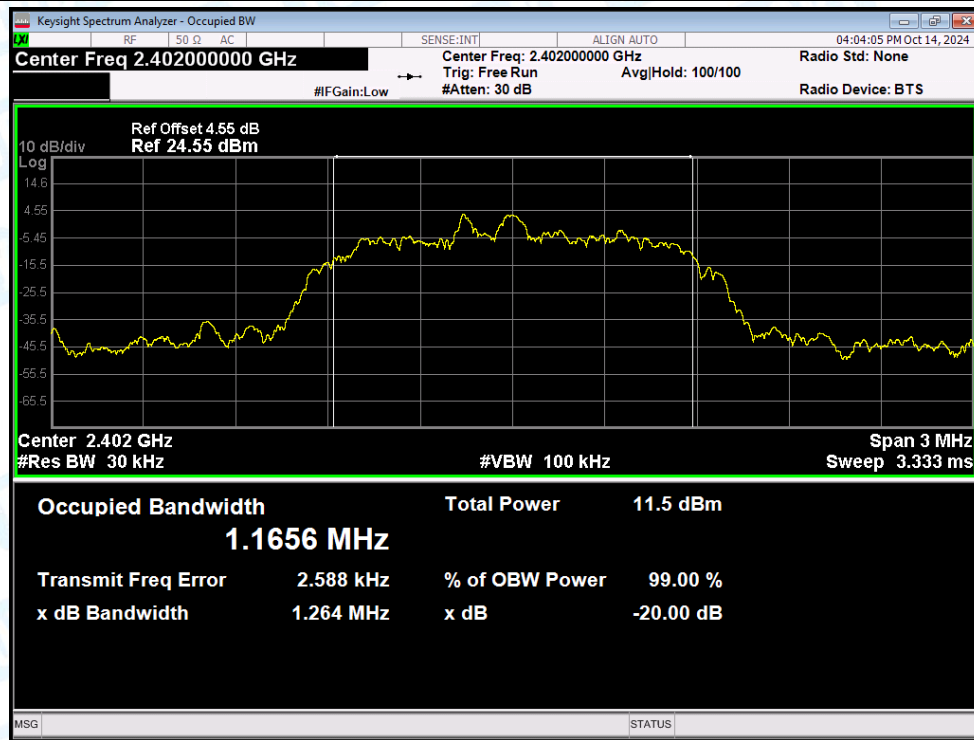
OBW NVNT 1-DH1 2441MHz Ant1



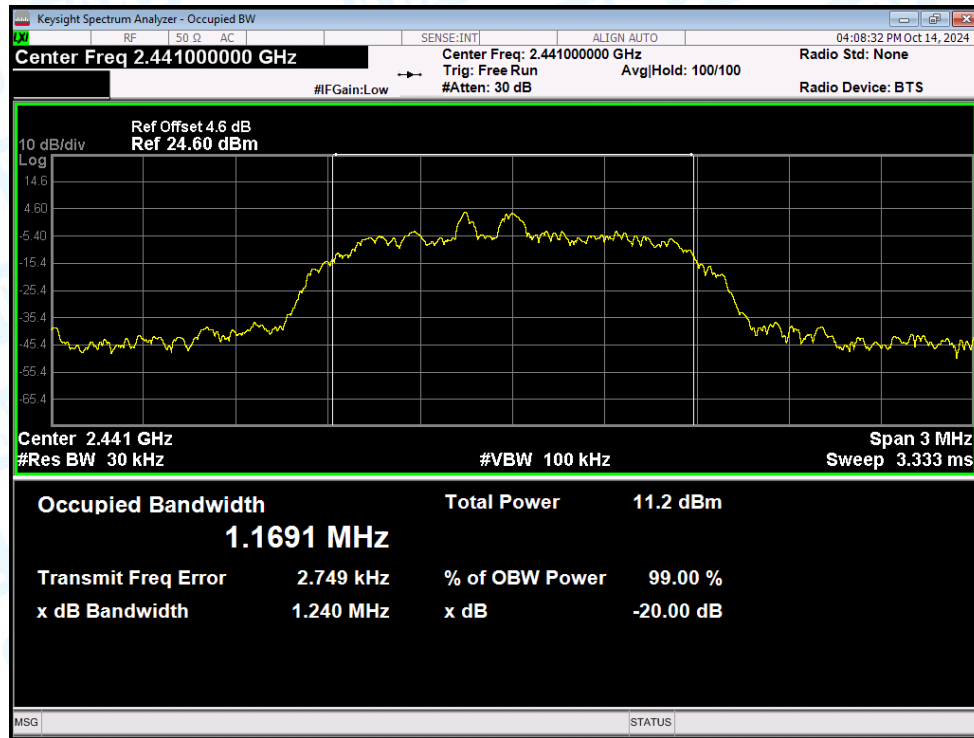
OBW NVNT 1-DH1 2480MHz Ant1



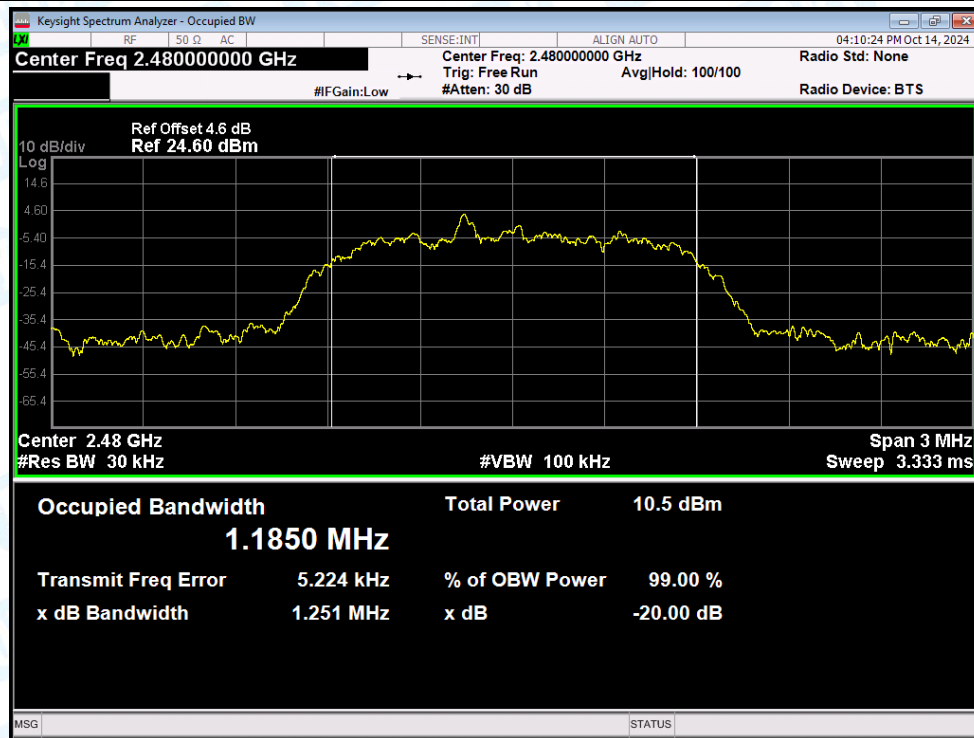
OBW NVNT 2-DH1 2402MHz Ant1



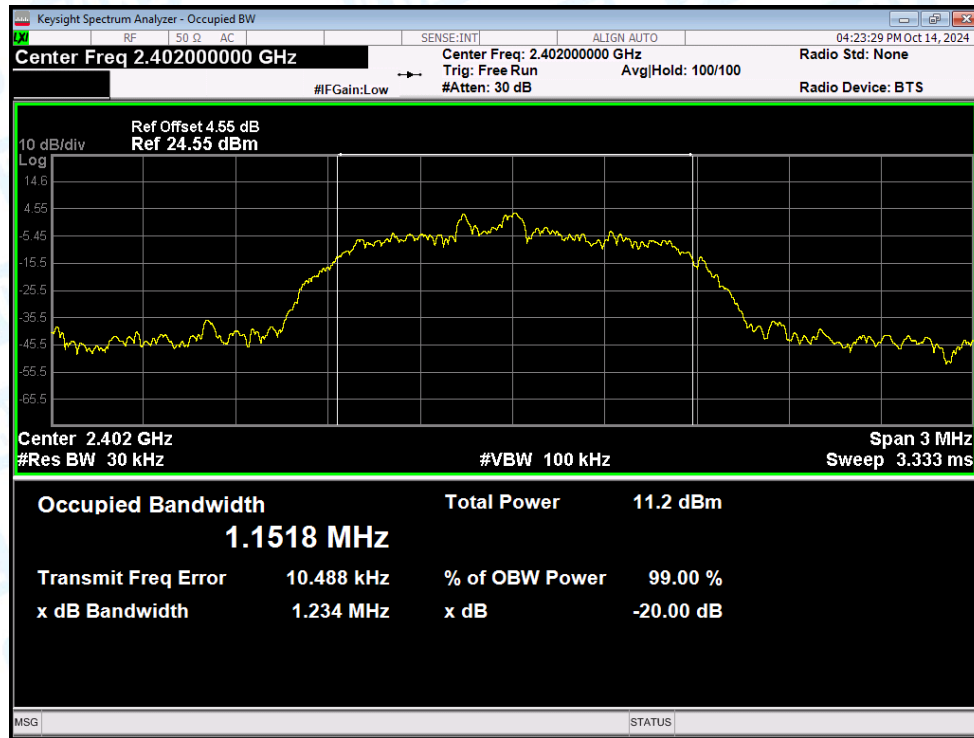
OBW NVNT 2-DH1 2441MHz Ant1



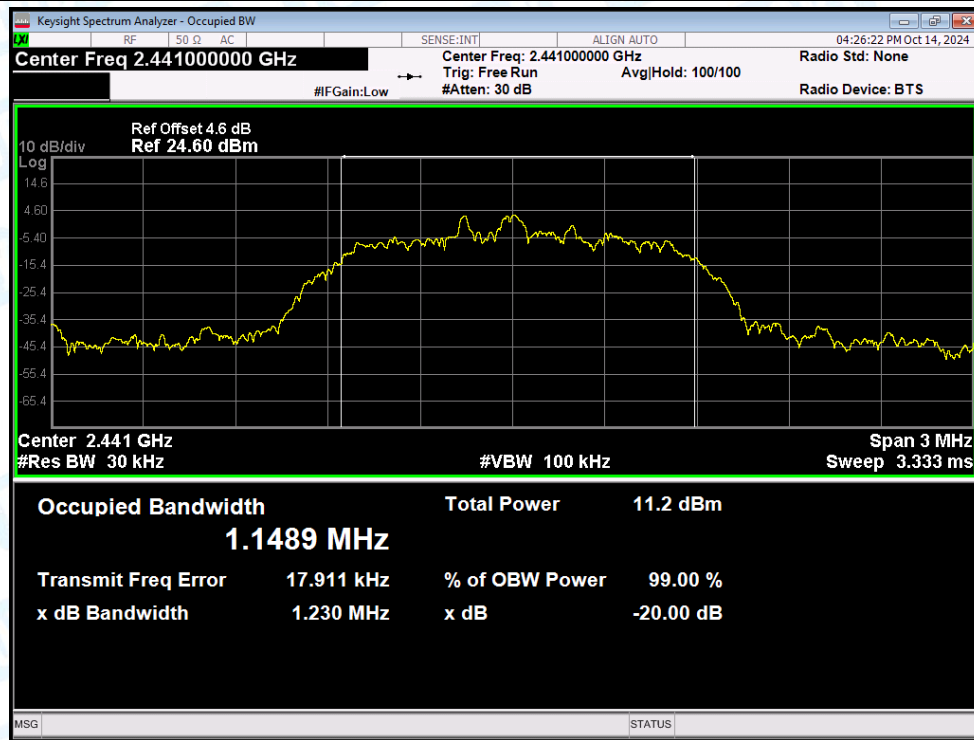
OBW NVNT 2-DH1 2480MHz Ant1

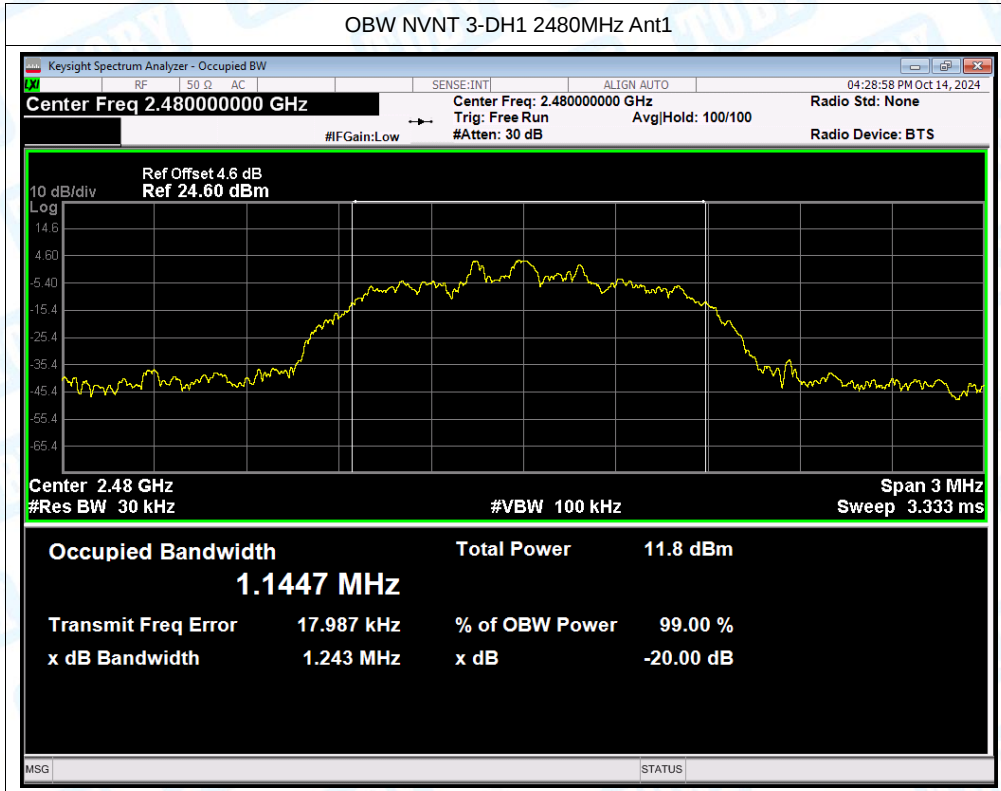


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1





5.Band Edge

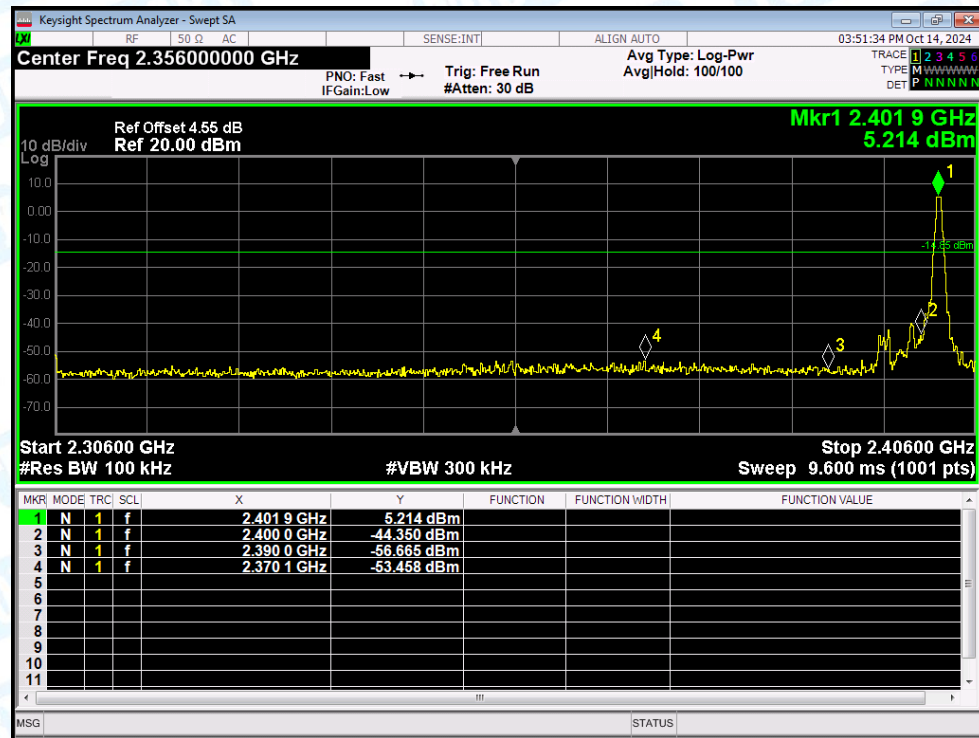
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-58.61	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-51.01	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-57.77	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-55.48	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-57	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-54.2	-20	Pass

Test Graphs

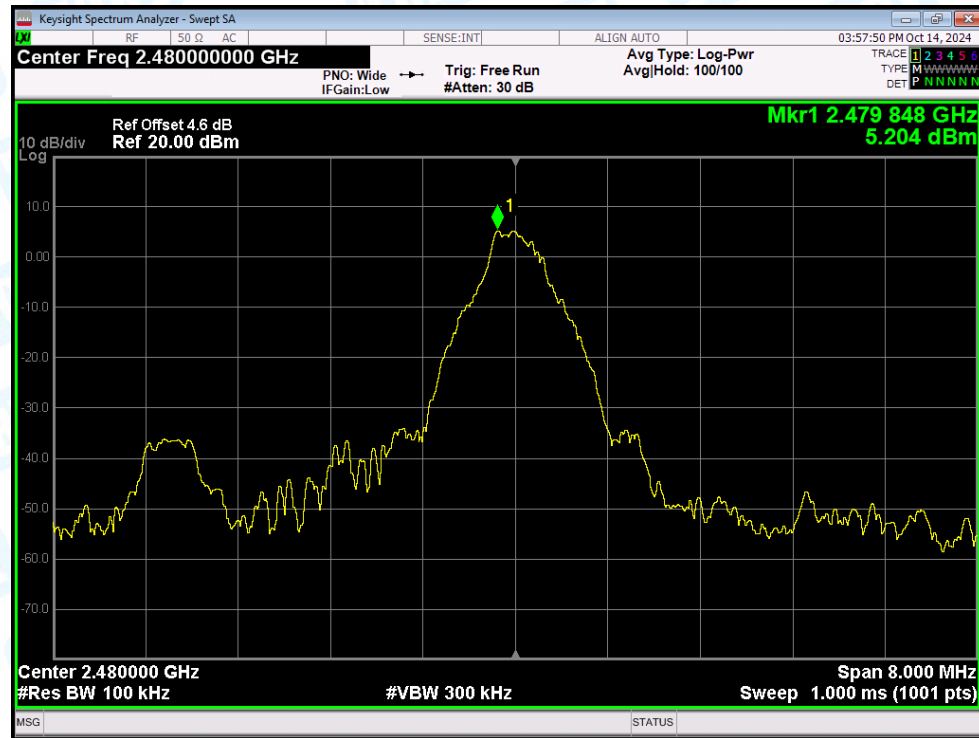
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



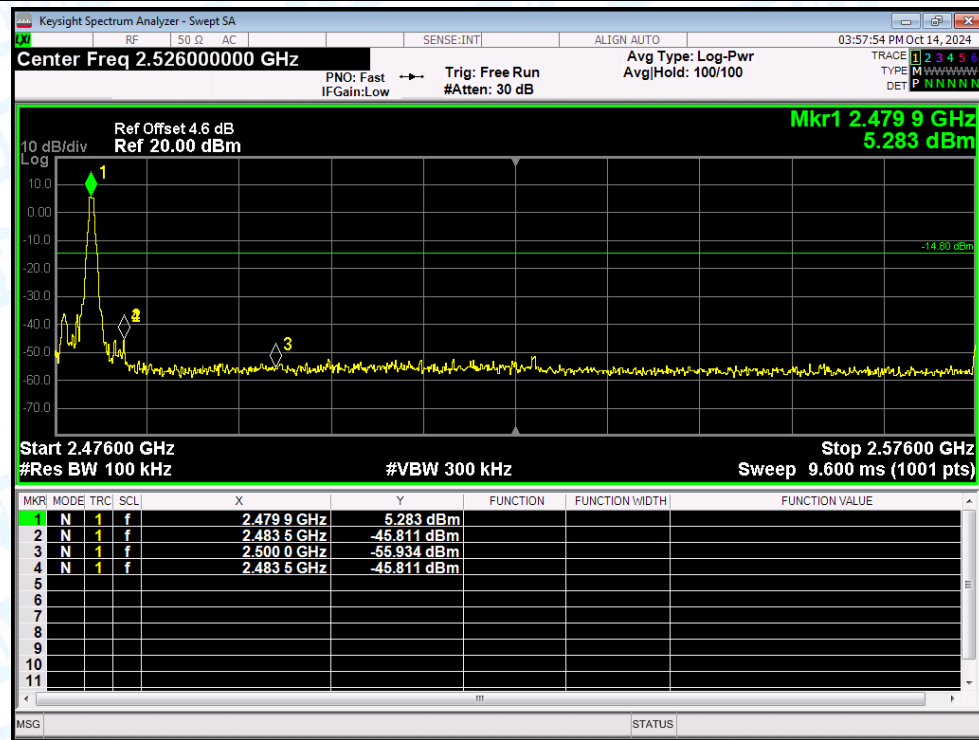
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



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



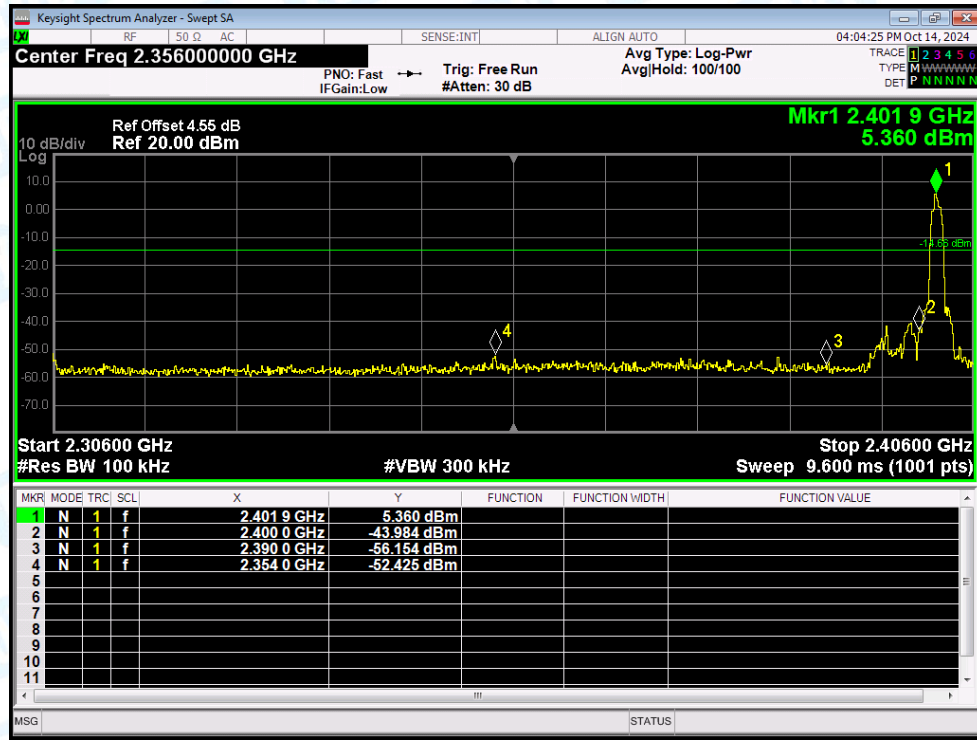
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



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



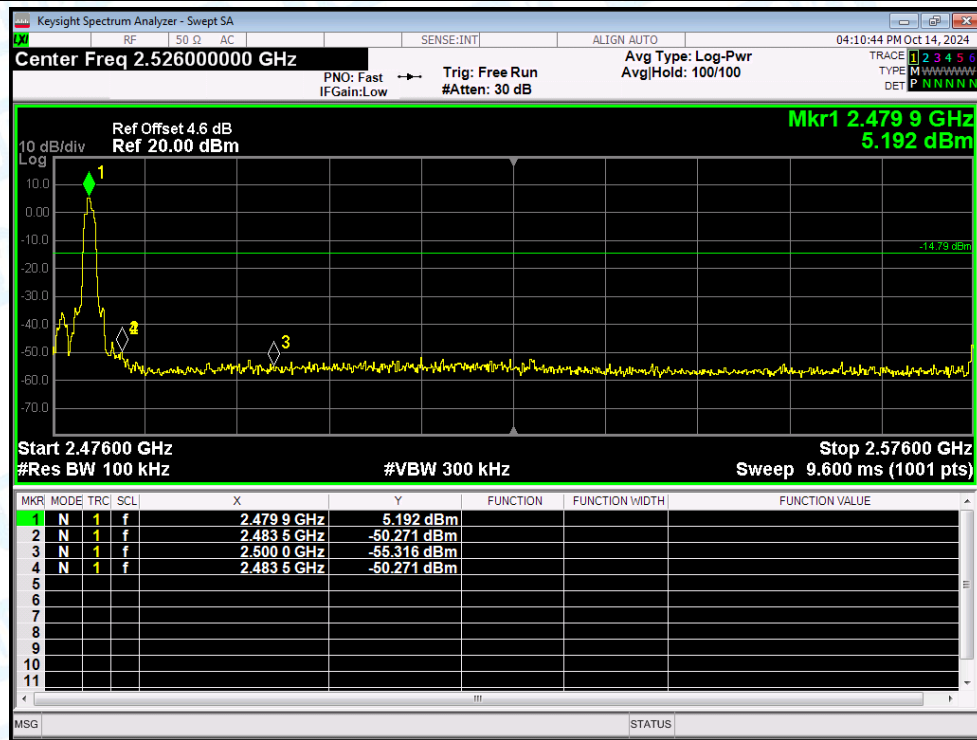
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



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



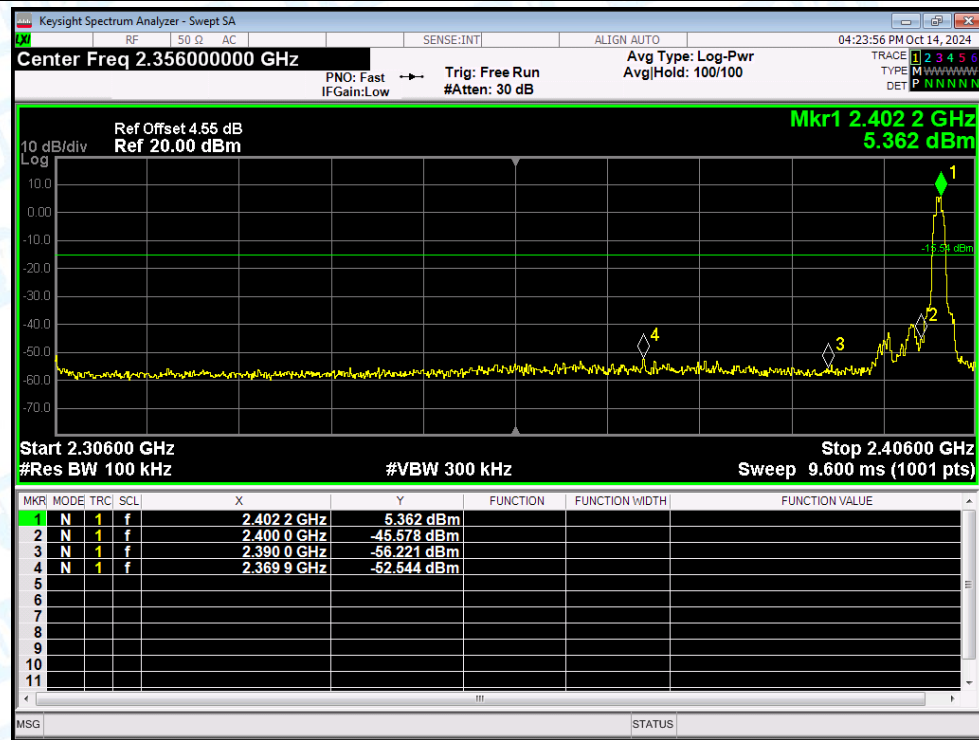
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission

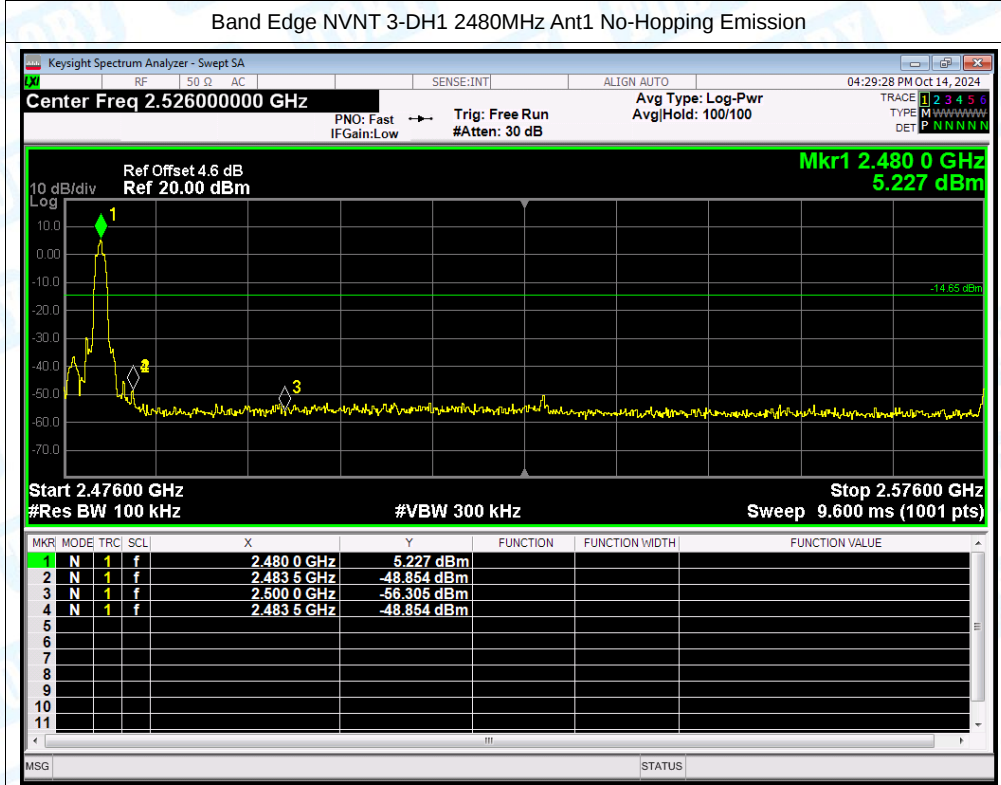


Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



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



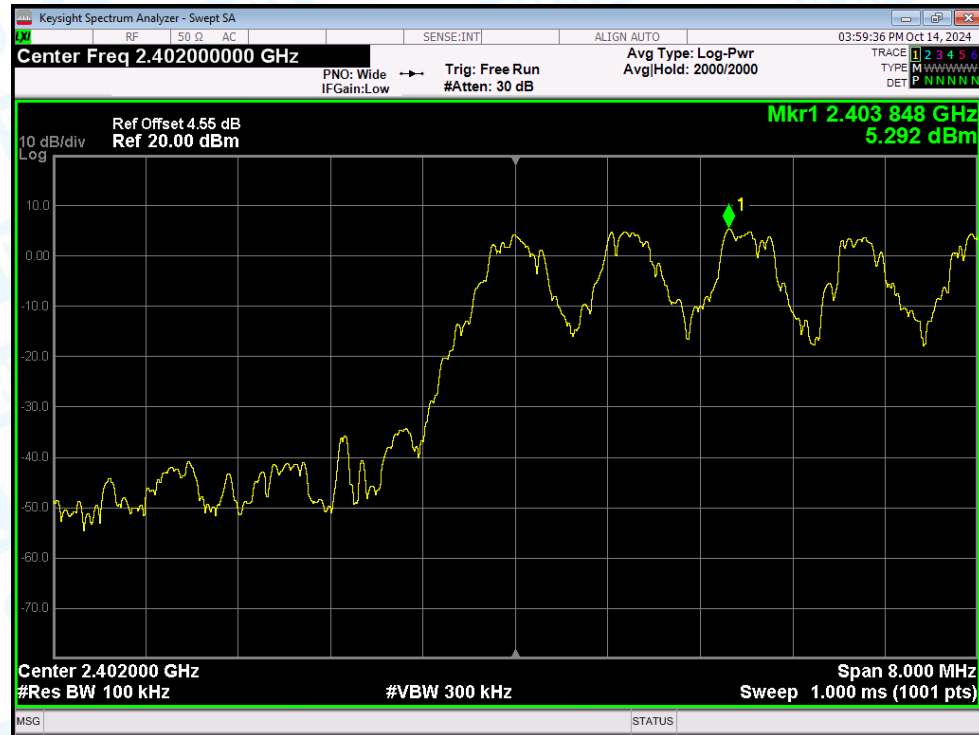


6. Band Edge(Hopping)

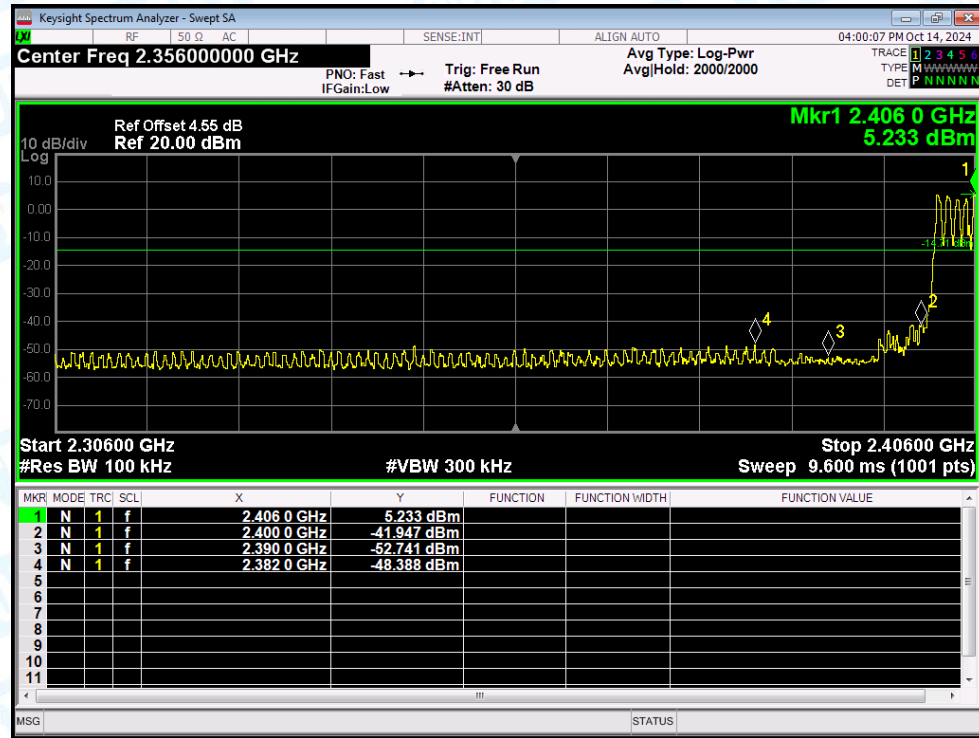
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-53.68	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-53.12	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-54.81	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-53.05	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-54.24	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-53.11	-20	Pass

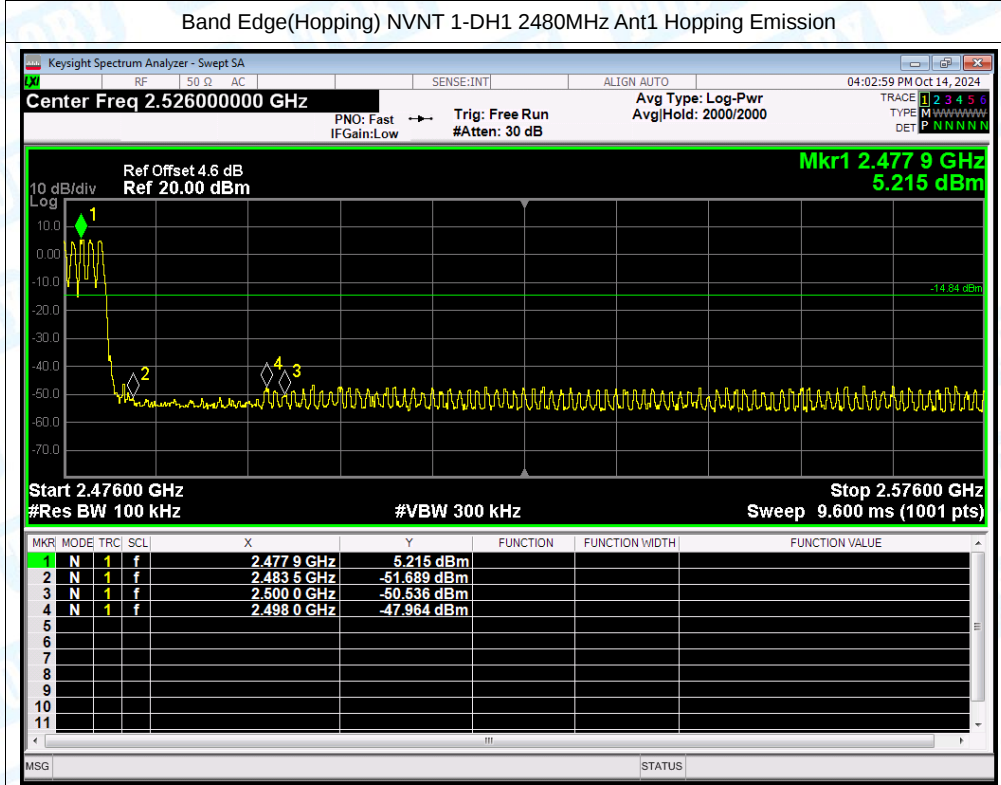
Test Graphs

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

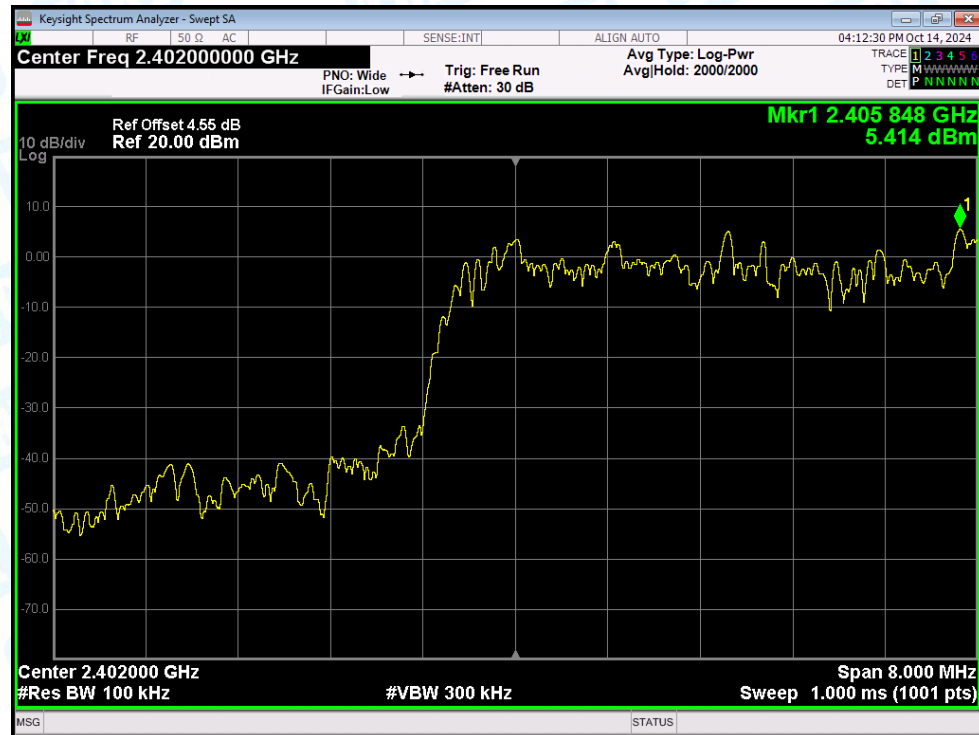


Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

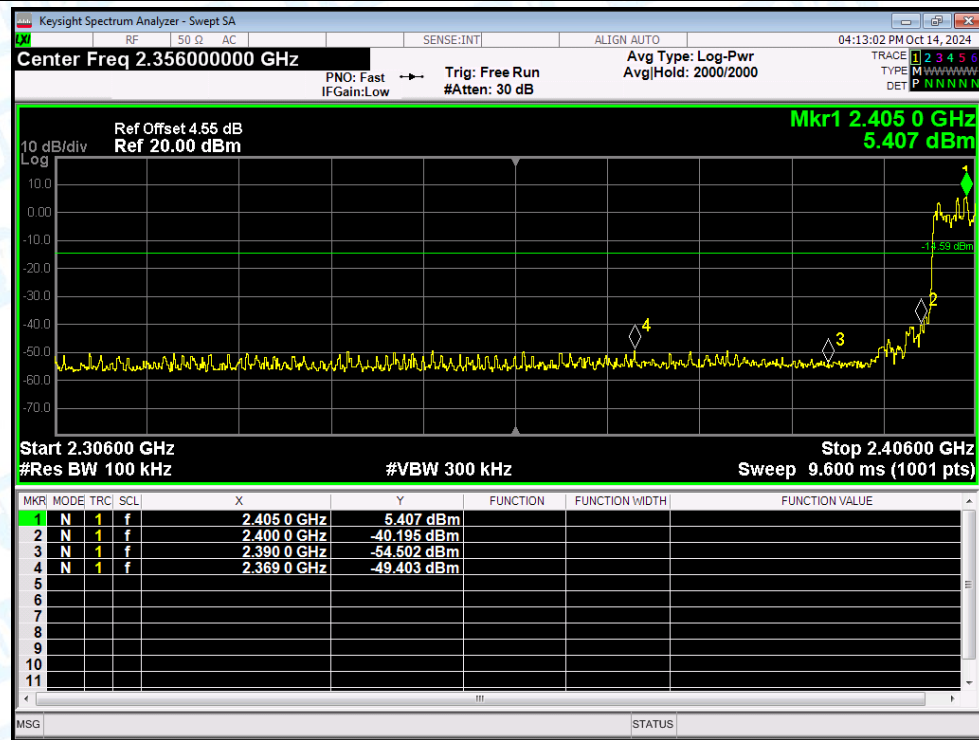


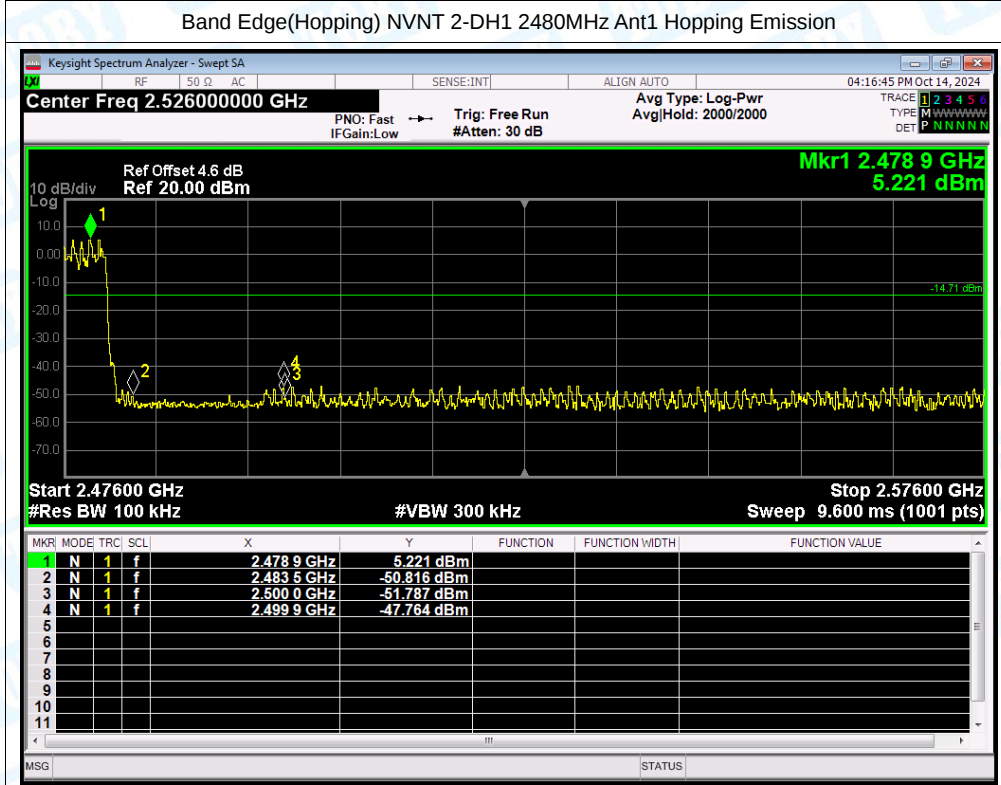


Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



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

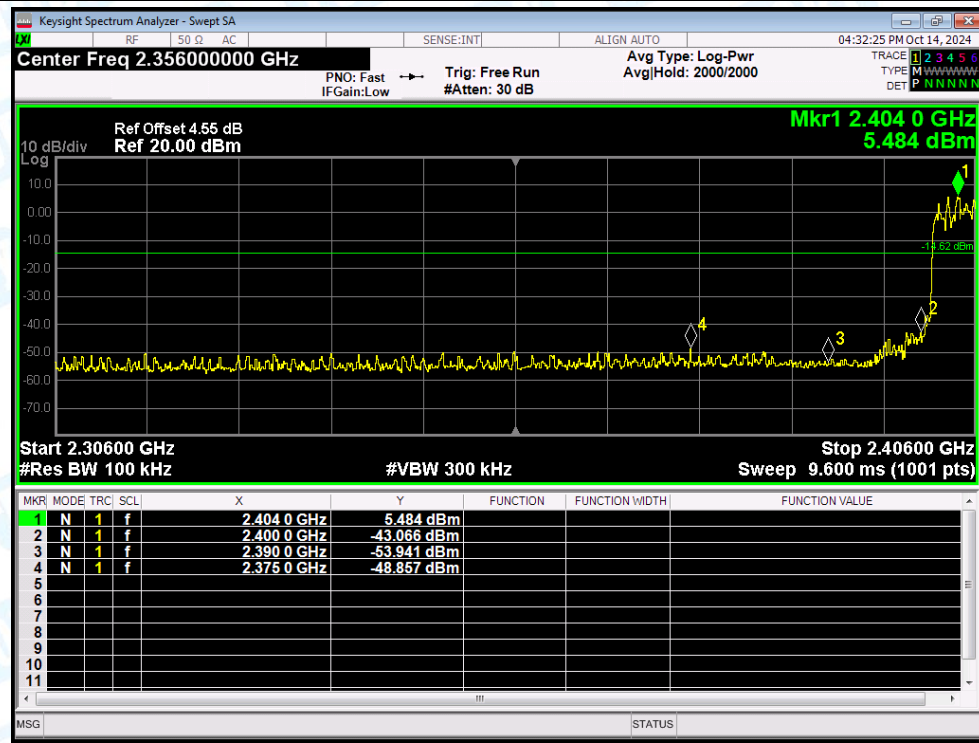


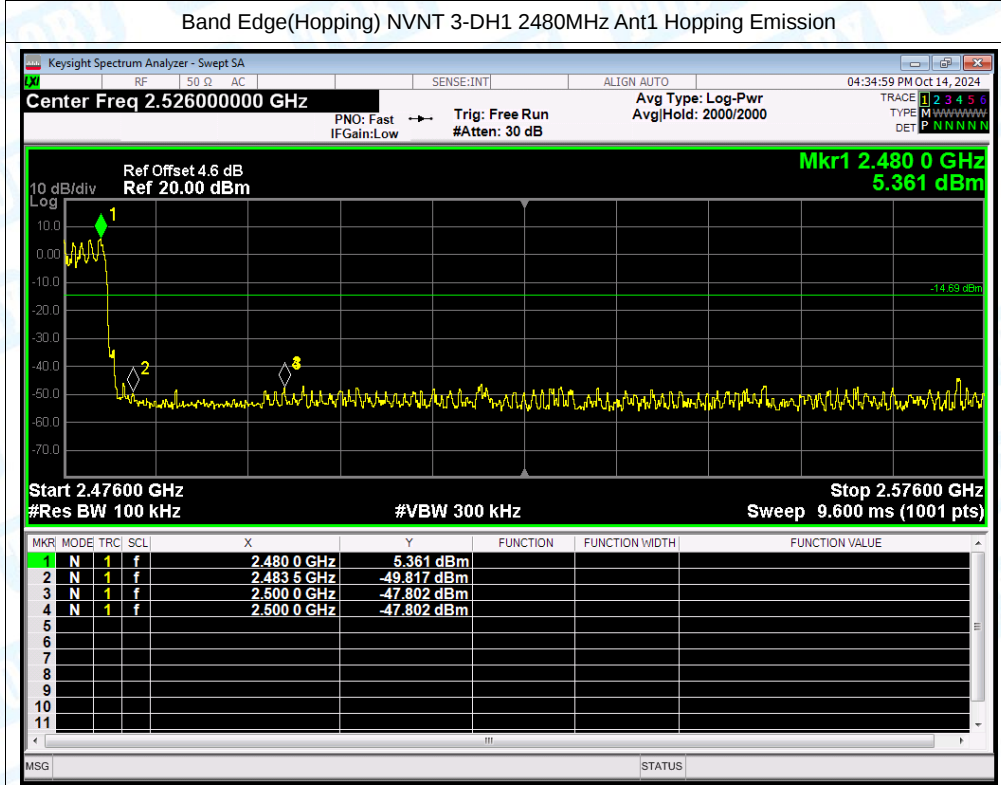


Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



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



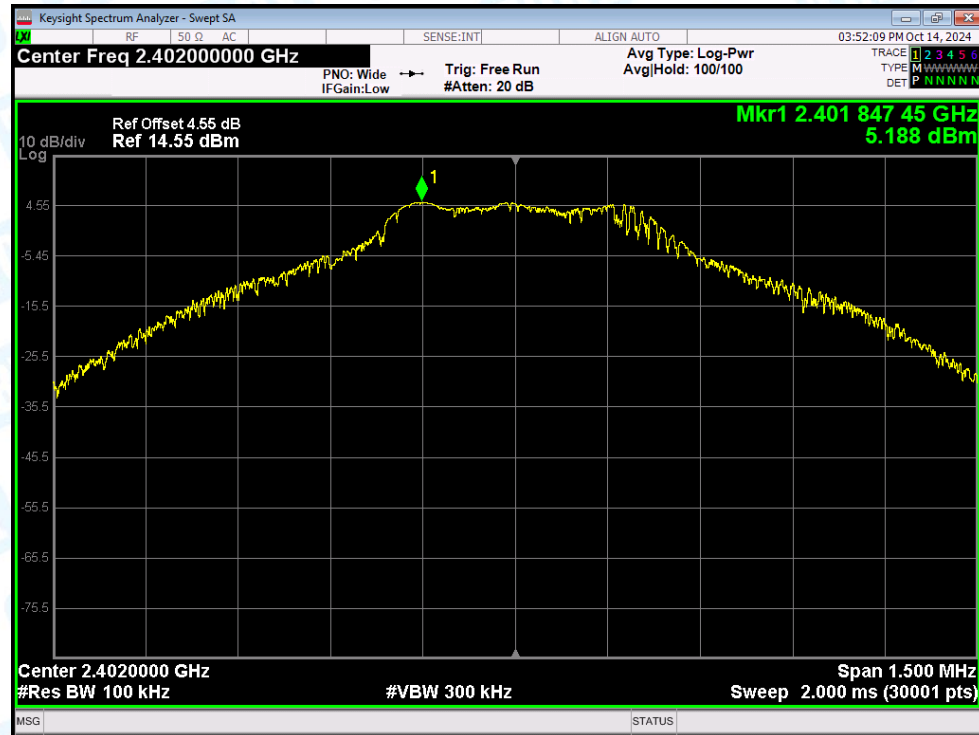


7. Conducted RF Spurious Emission

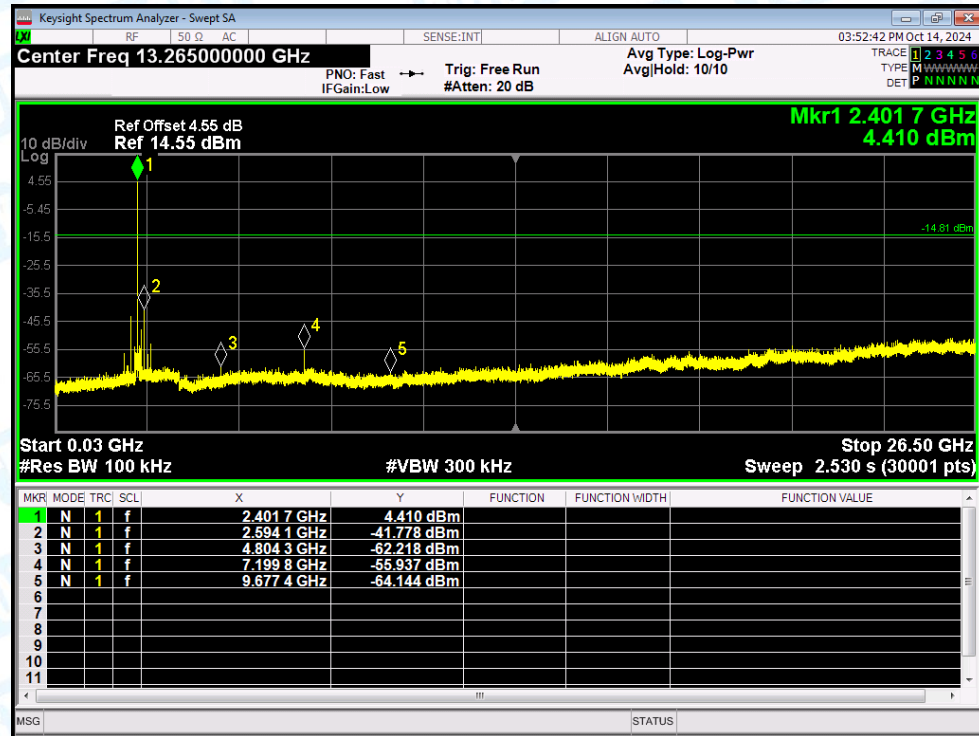
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-46.97	-20	Pass
NVNT	1-DH1	2441	Ant1	-48.09	-20	Pass
NVNT	1-DH1	2480	Ant1	-47.34	-20	Pass
NVNT	2-DH1	2402	Ant1	-46.69	-20	Pass
NVNT	2-DH1	2441	Ant1	-48.56	-20	Pass
NVNT	2-DH1	2480	Ant1	-46.96	-20	Pass
NVNT	3-DH1	2402	Ant1	-46.76	-20	Pass
NVNT	3-DH1	2441	Ant1	-48.86	-20	Pass
NVNT	3-DH1	2480	Ant1	-48.79	-20	Pass

Test Graphs

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



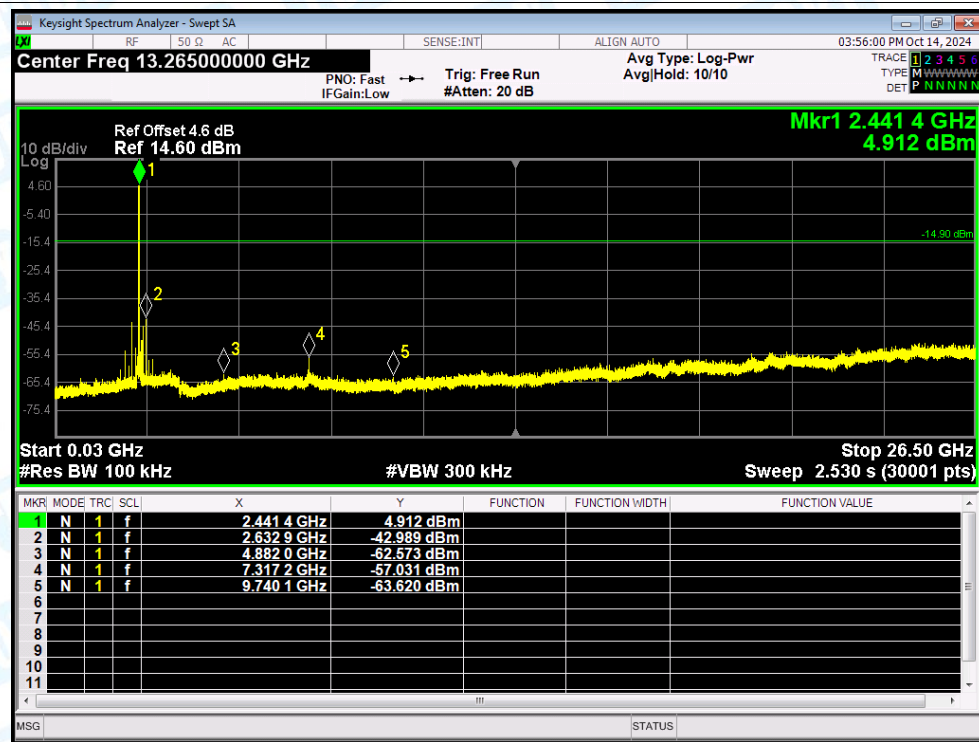
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



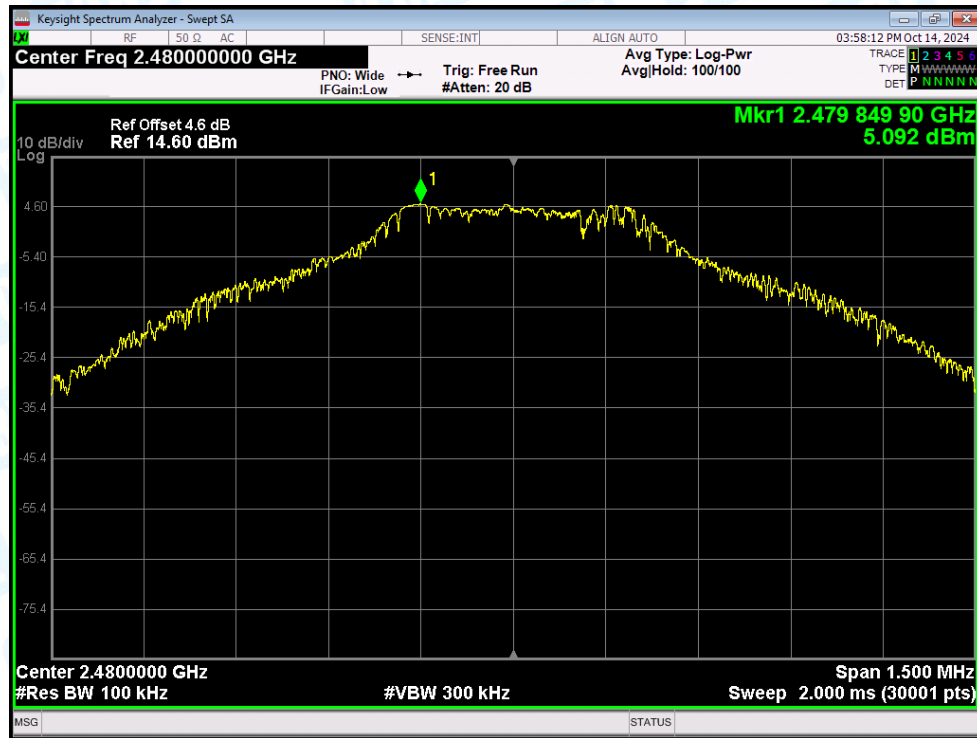
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



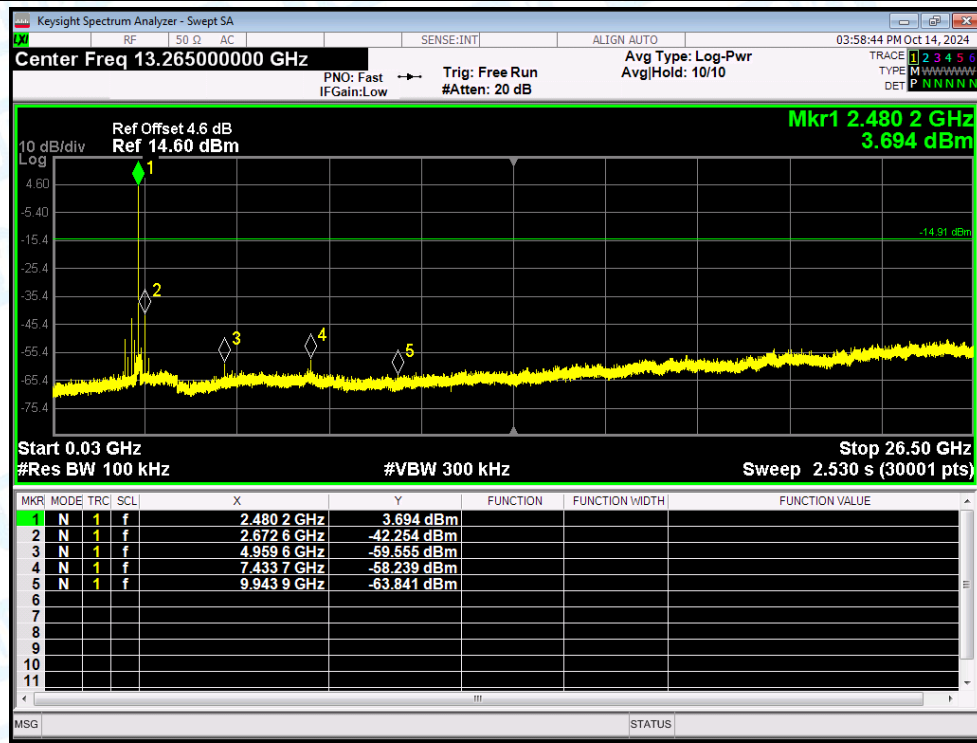
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



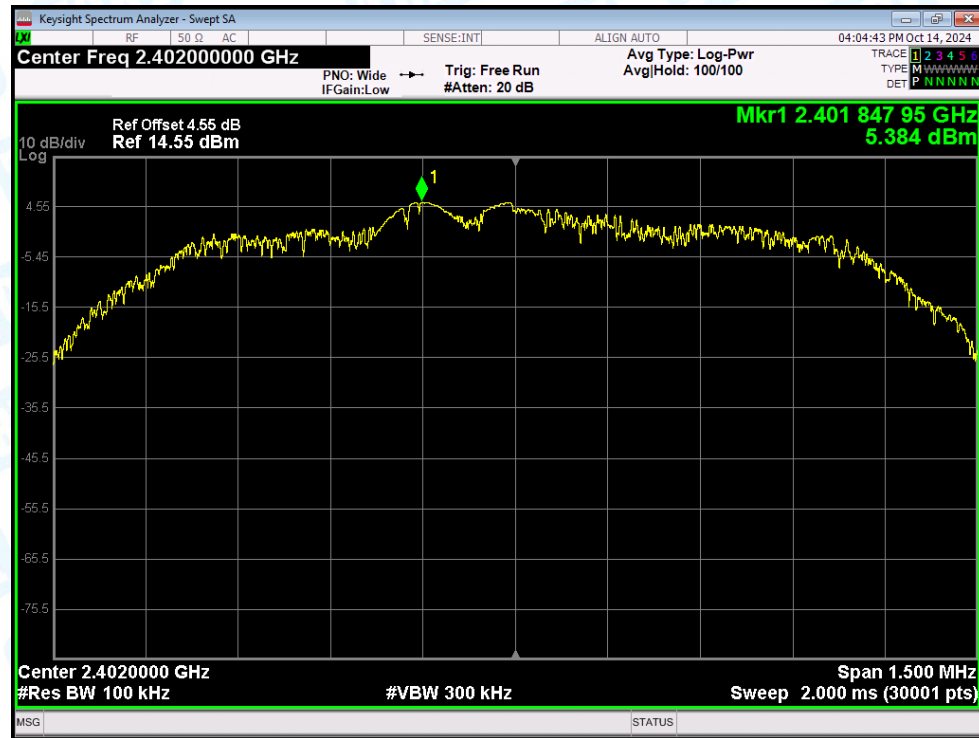
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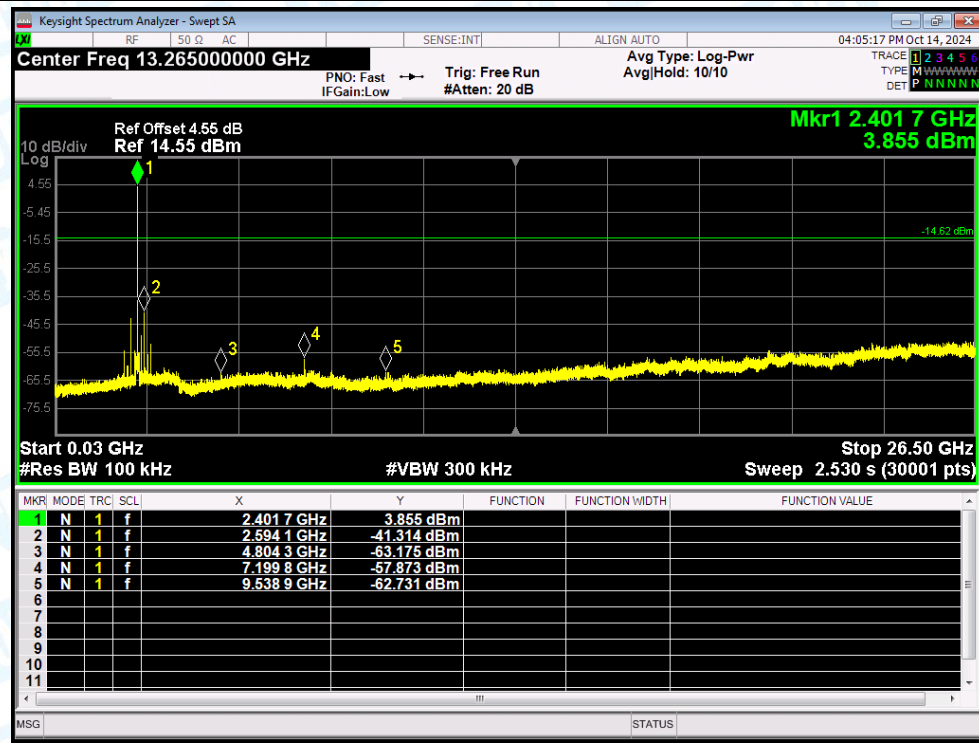
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



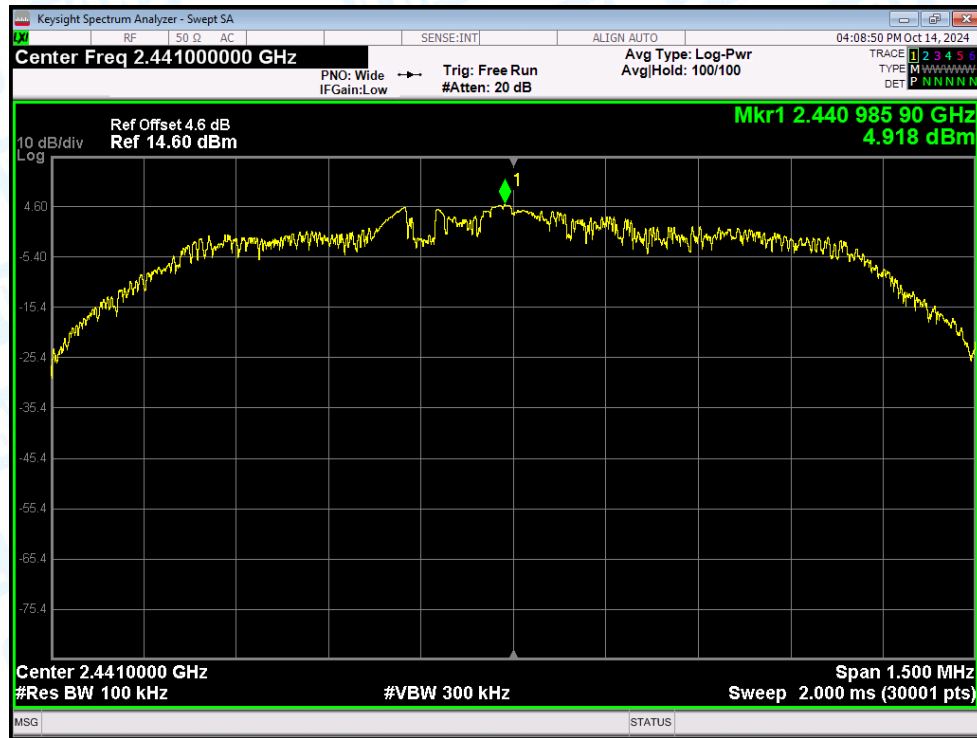
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



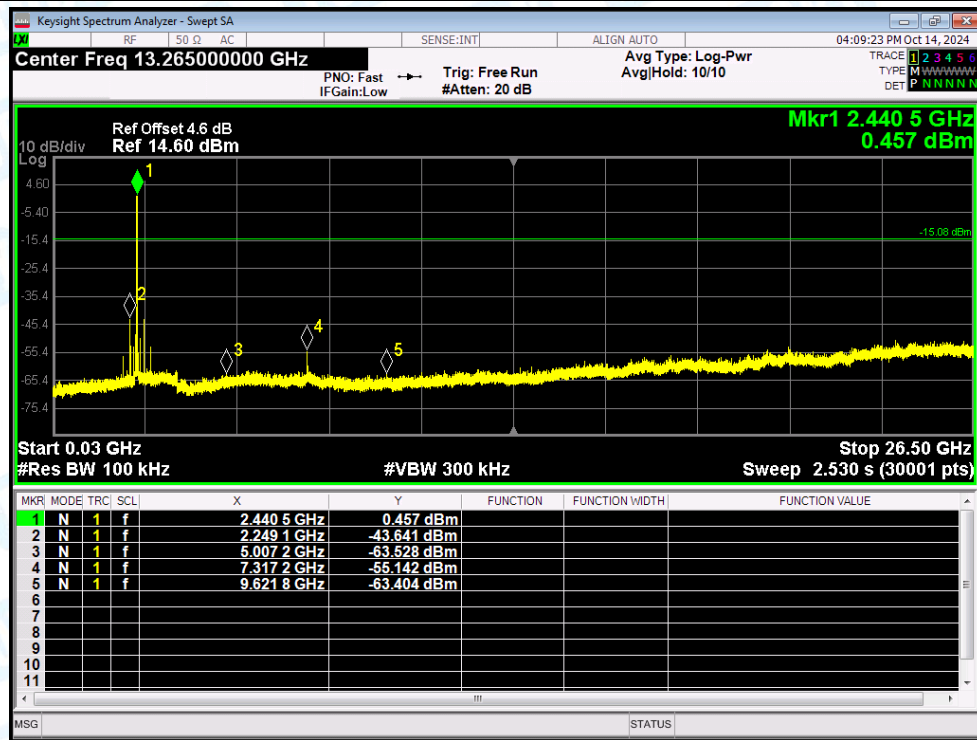
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



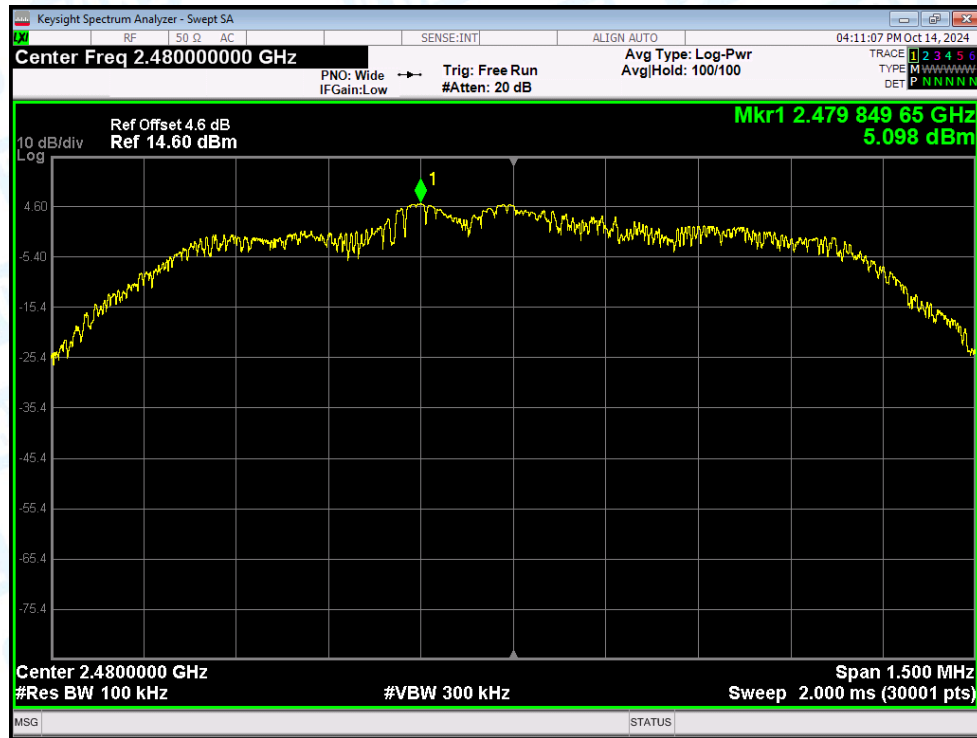
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



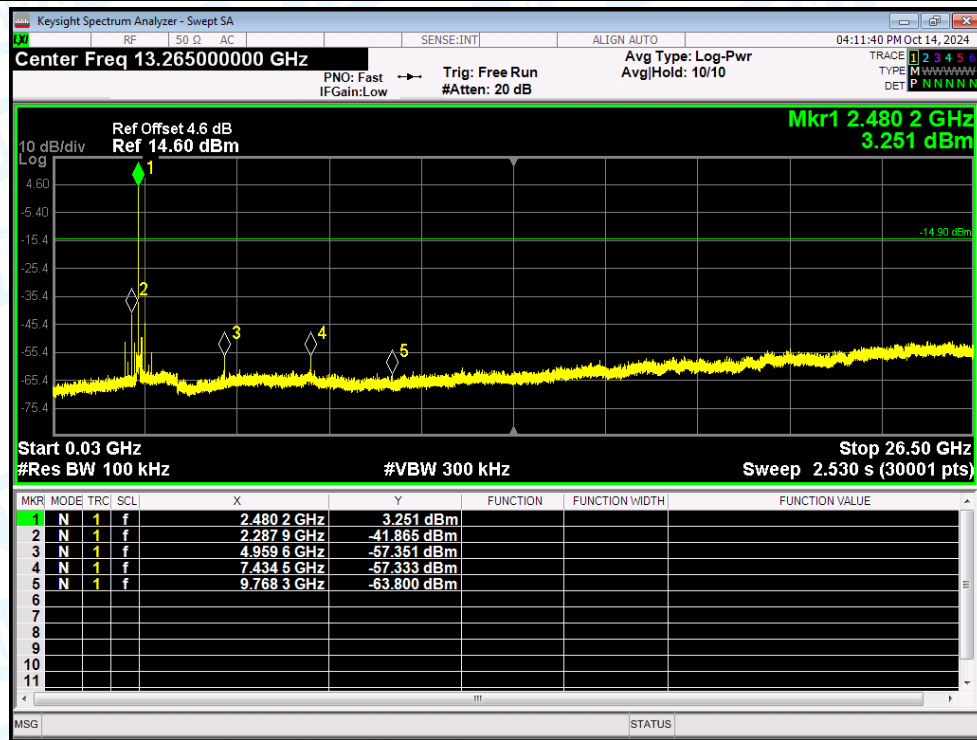
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



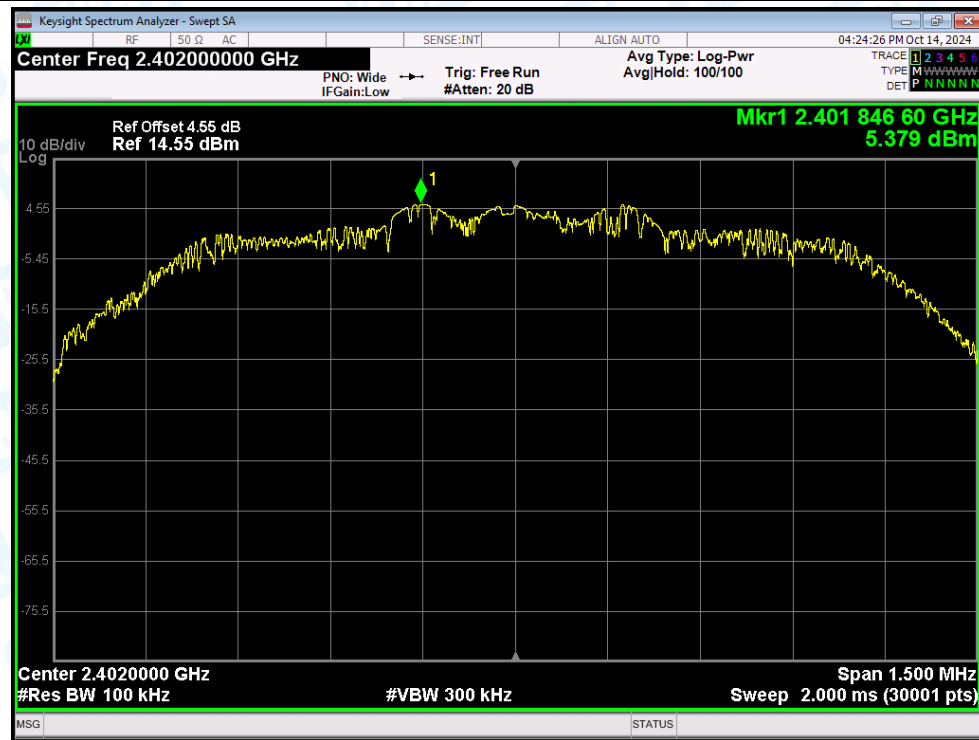
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



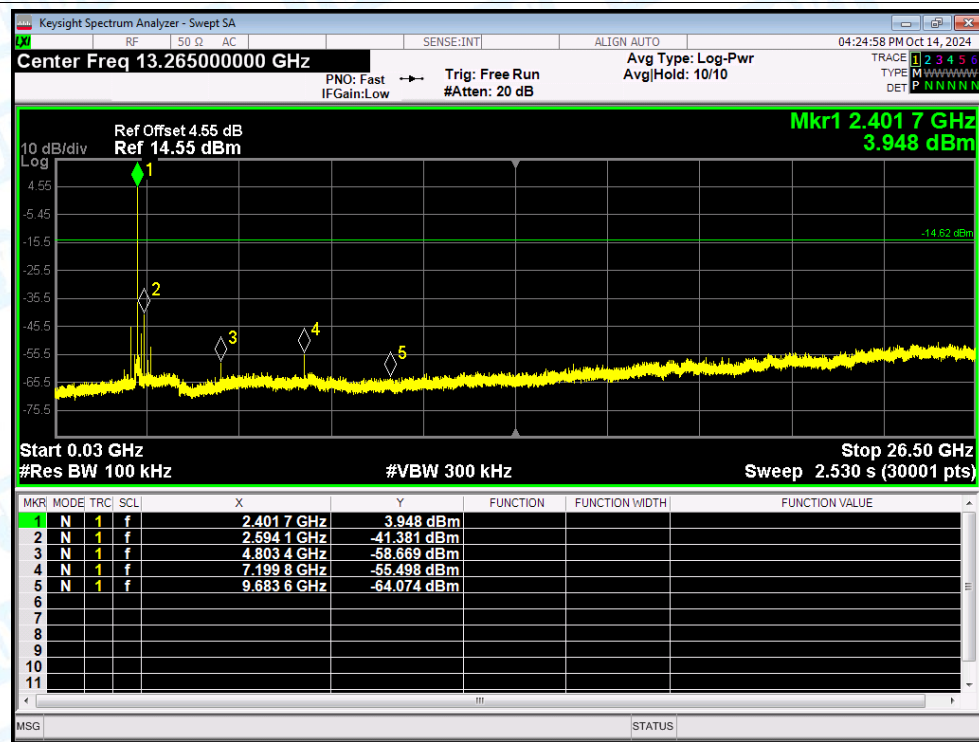
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



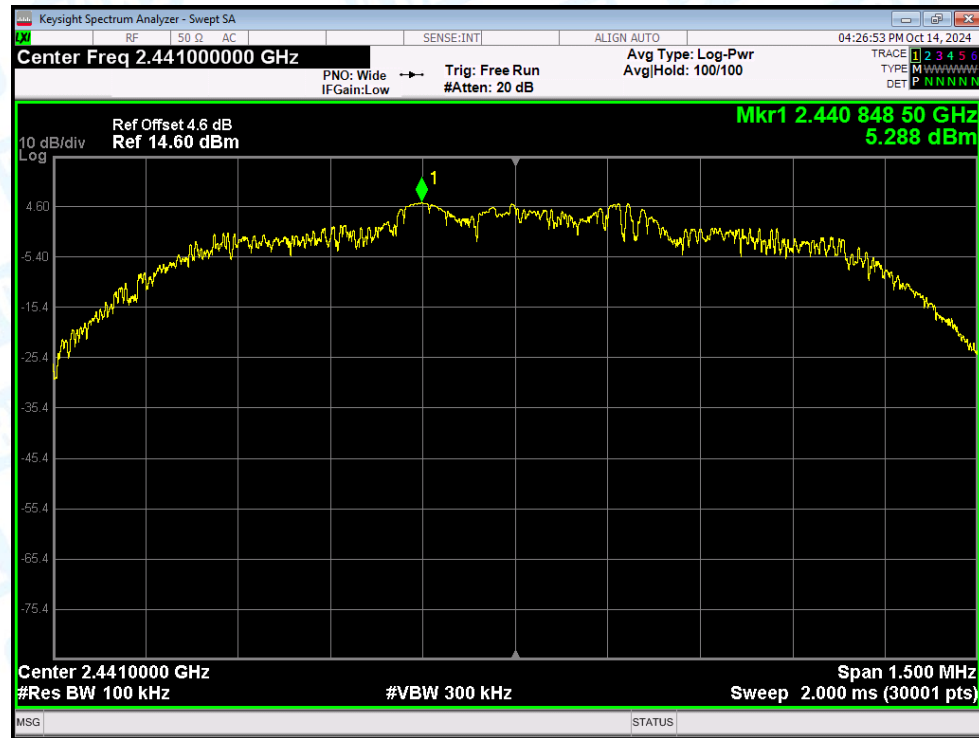
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



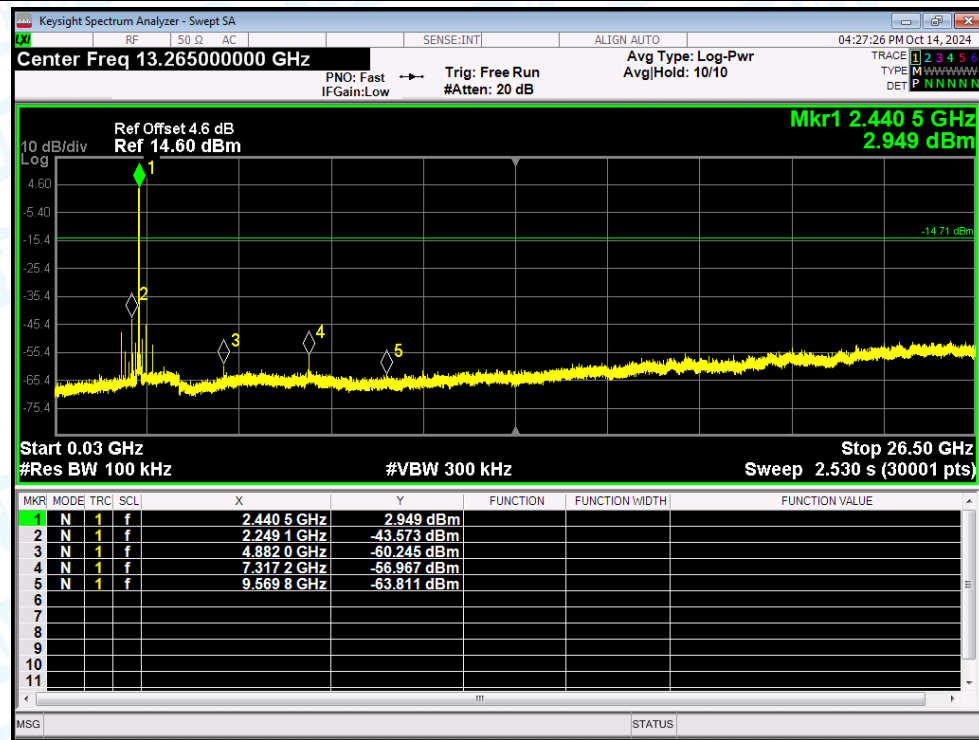
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



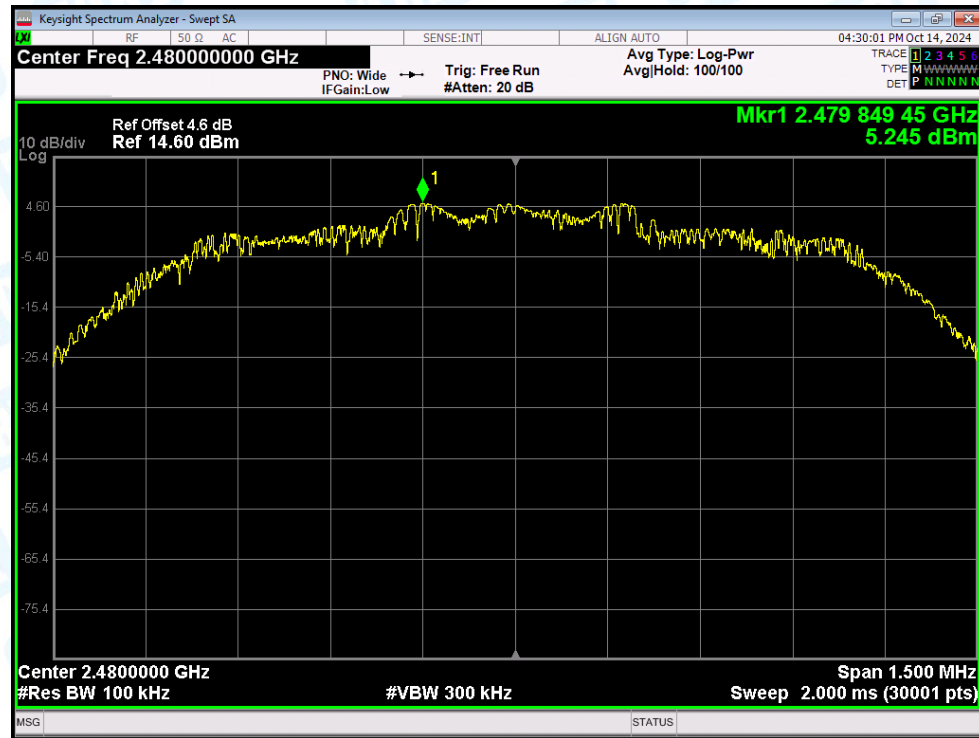
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



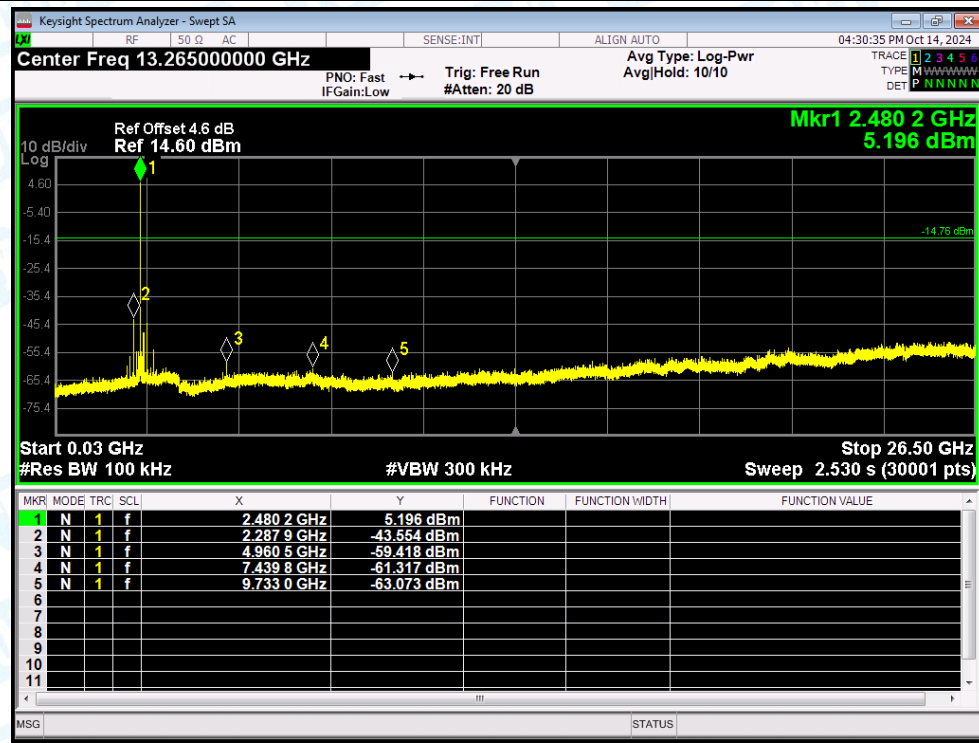
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

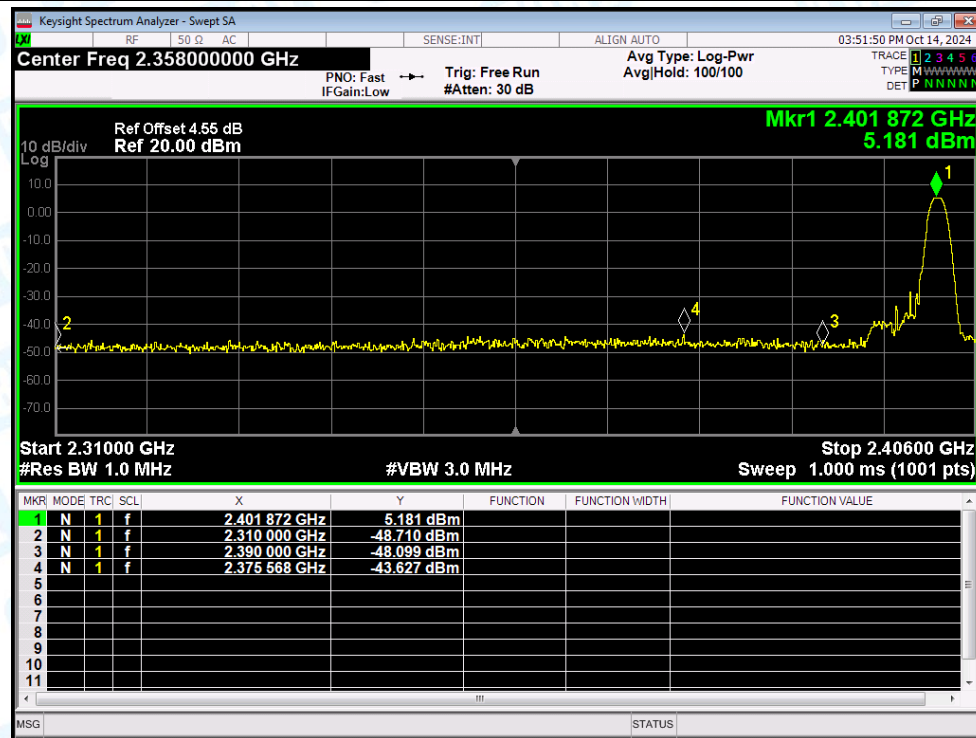


8.Restrict Band

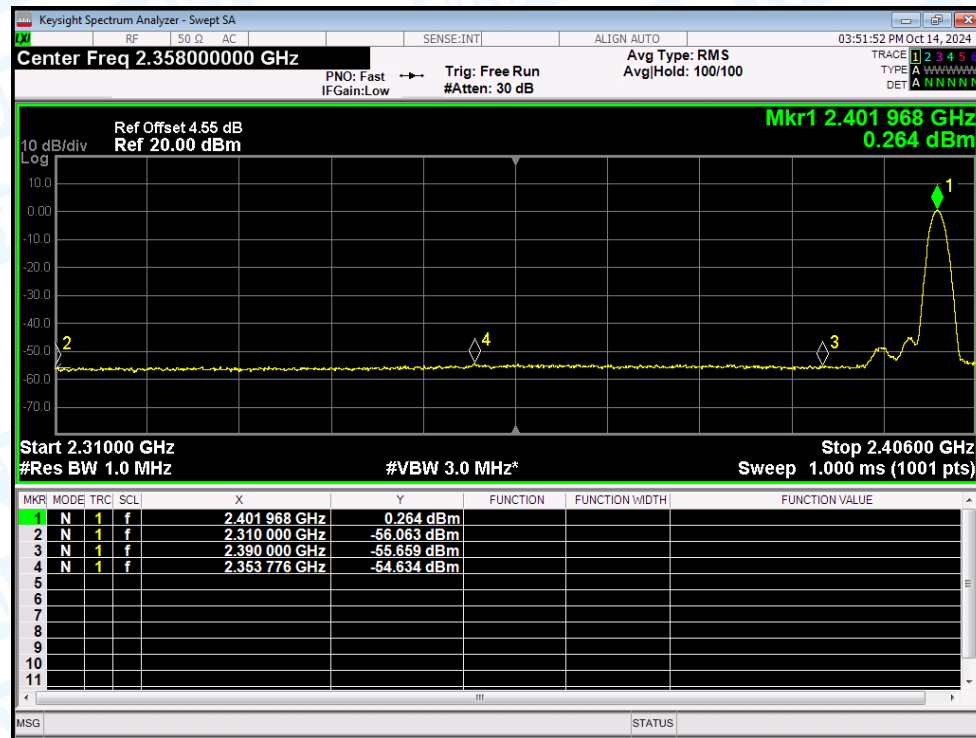
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-48.71	2	-	48.55	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.06	2	5.17	46.37	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2375.568	-43.63	2	-	53.63	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2353.776	-54.63	2	5.17	47.8	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.1	2	-	49.16	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.66	2	5.17	46.77	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-42.04	2	-	55.22	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-53.09	2	5.17	49.34	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2485.168	-41.49	2	-	55.77	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.776	-52.58	2	5.17	49.85	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.37	2	-	49.89	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-54.89	2	5.17	47.54	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-49.26	2	-	48	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.65	2	5.06	45.67	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2361.84	-43.13	2	-	54.13	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2354.16	-54.55	2	5.06	47.77	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-49.05	2	-	48.21	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.51	2	5.06	46.81	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-44.07	2	-	53.19	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-51.82	2	5.06	50.5	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.536	-40.42	2	-	56.84	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.512	-51.82	2	5.06	50.5	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-44.95	2	-	52.31	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-54.39	2	5.06	47.93	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-49.06	2	-	48.2	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.63	2	5.06	45.69	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2364.048	-42.37	2	-	54.89	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2358.384	-54.53	2	5.06	47.79	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-46.93	2	-	50.33	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.51	2	5.06	46.81	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-42	2	-	55.26	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-52.32	2	5.06	50	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.512	-42	2	-	55.26	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.56	-52.17	2	5.06	50.15	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-48.13	2	-	49.13	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-54.72	2	5.06	47.6	Average	54	Pass

Test Graphs

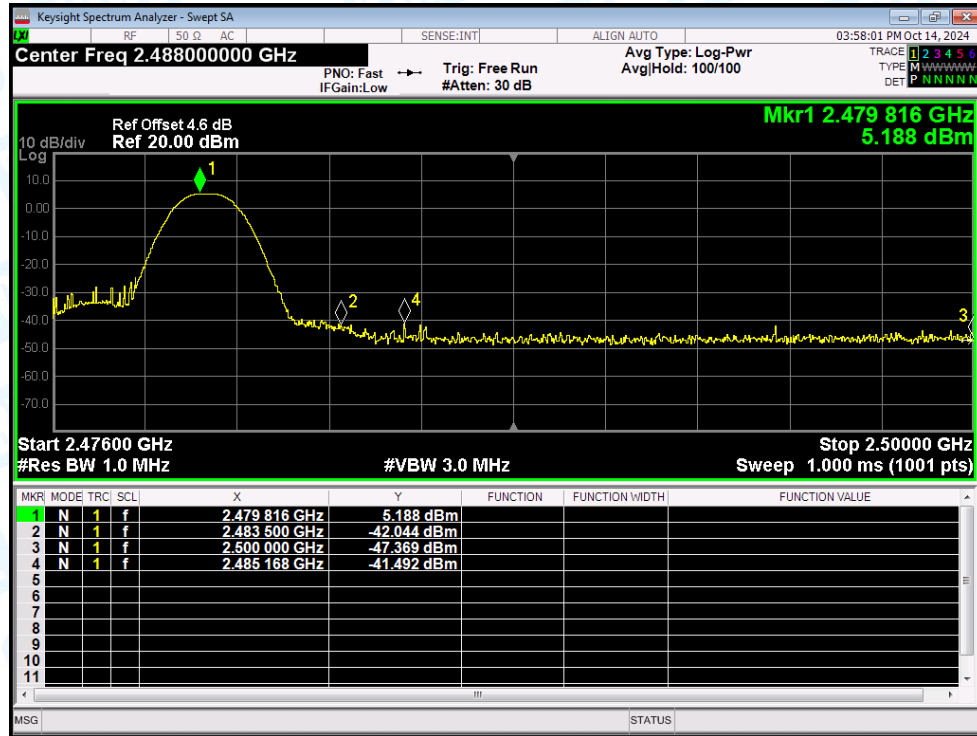
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



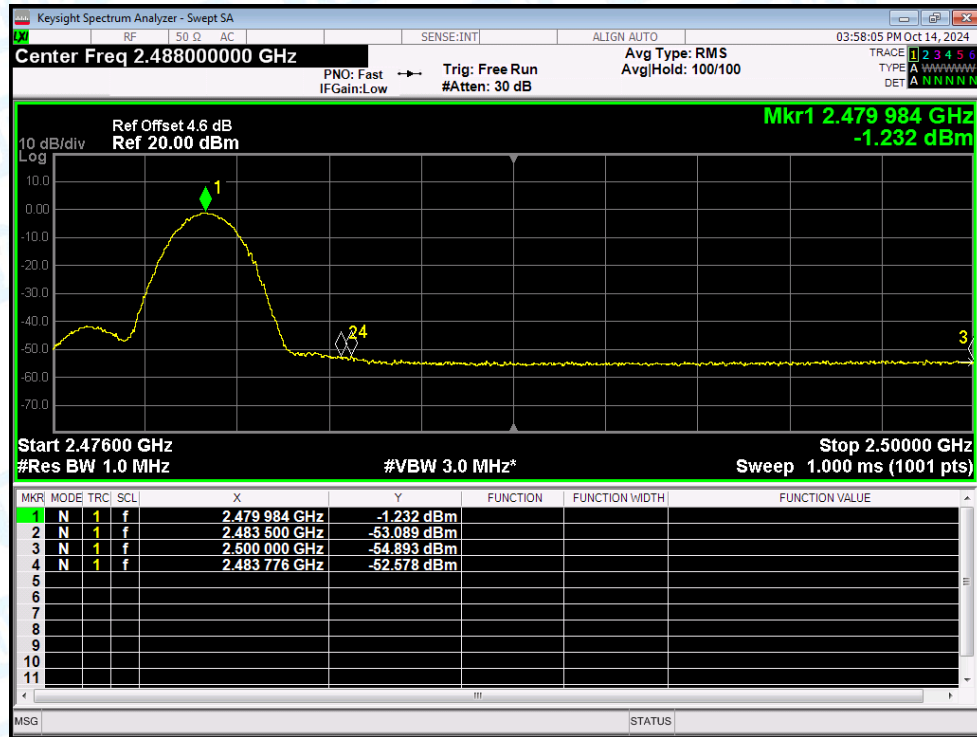
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



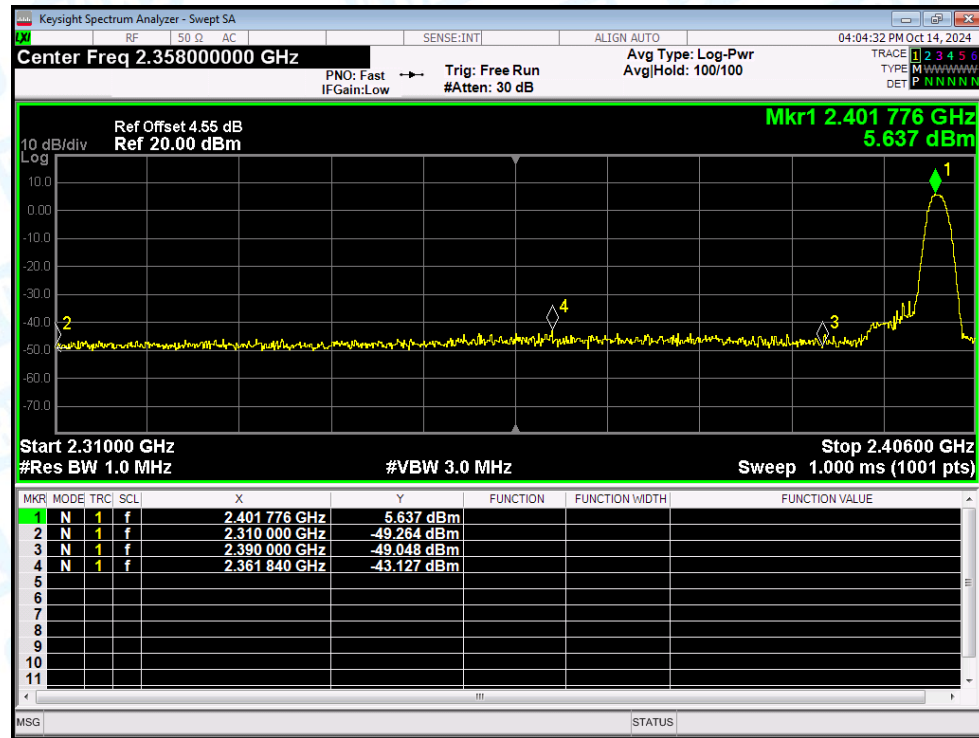
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



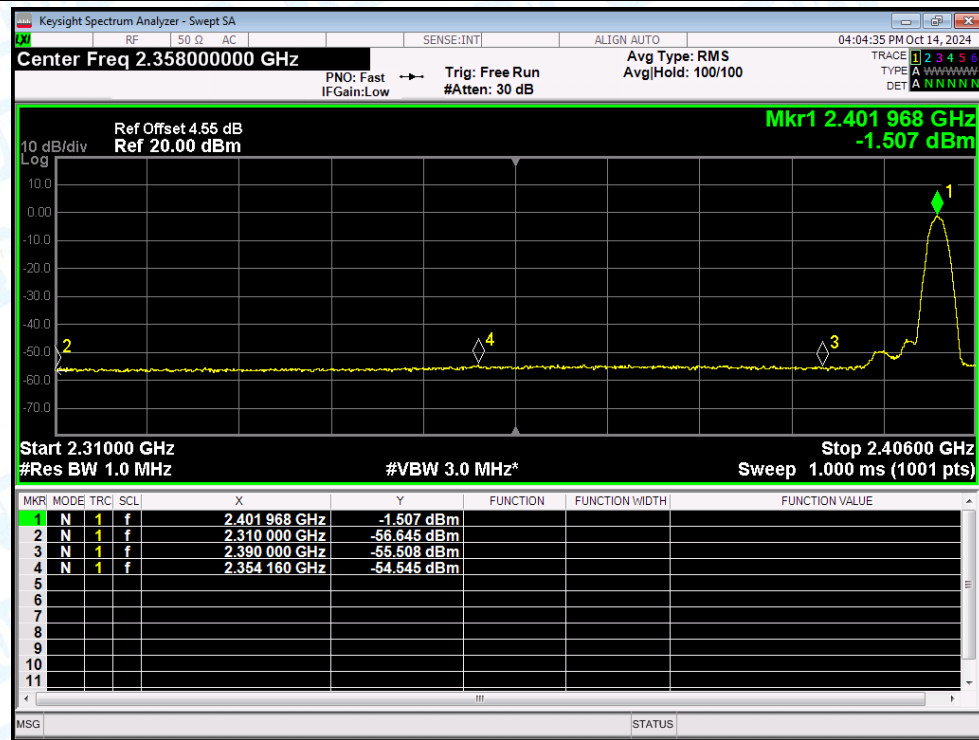
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



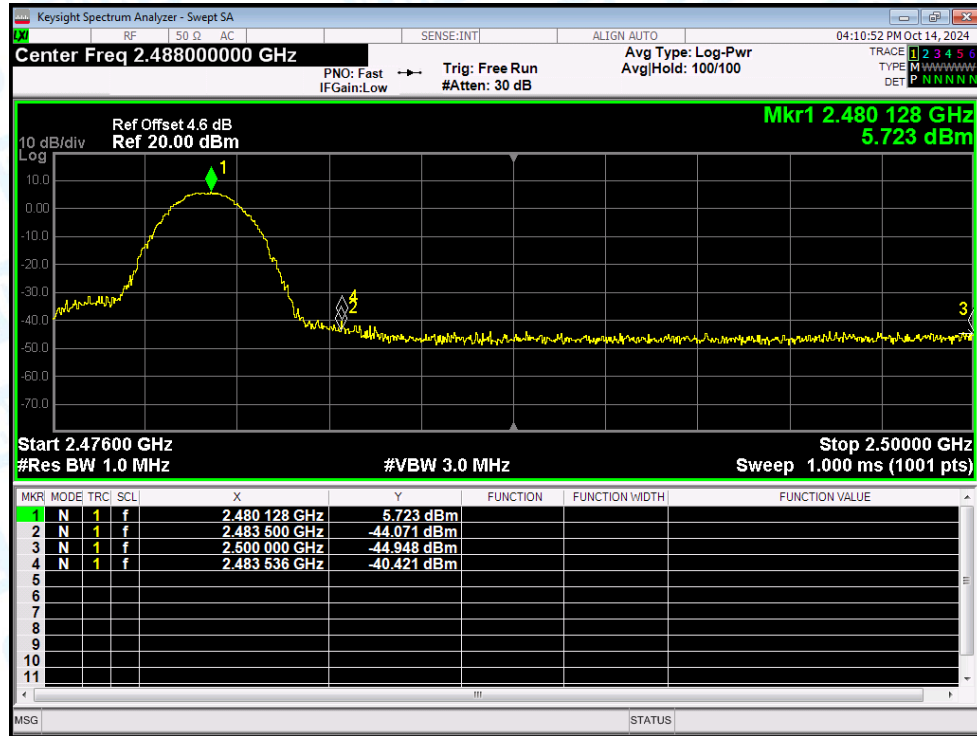
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



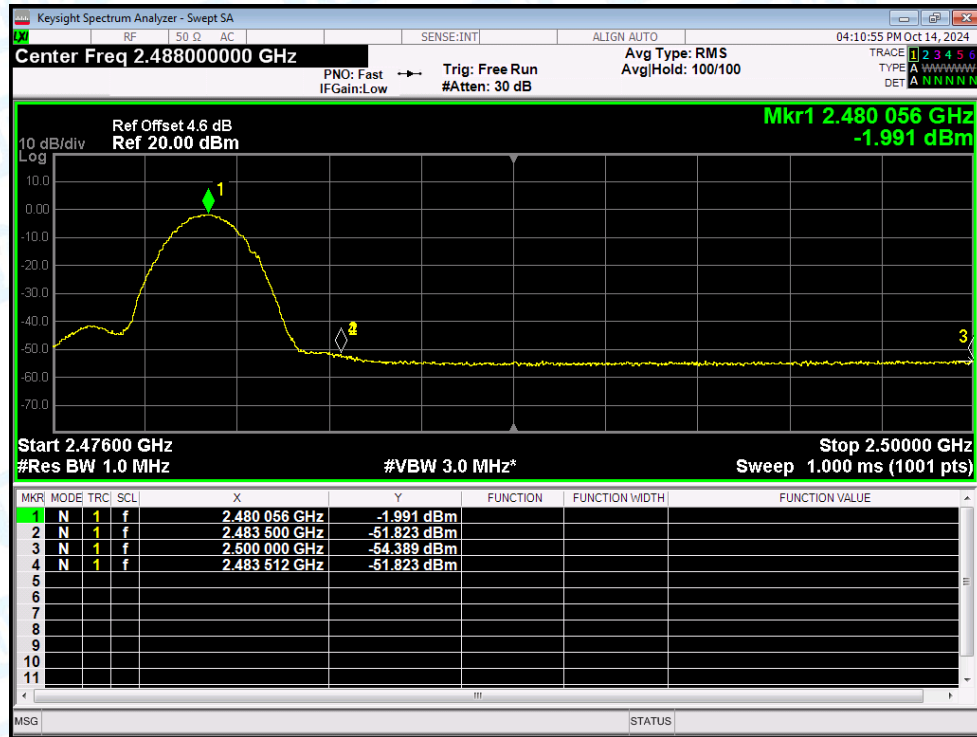
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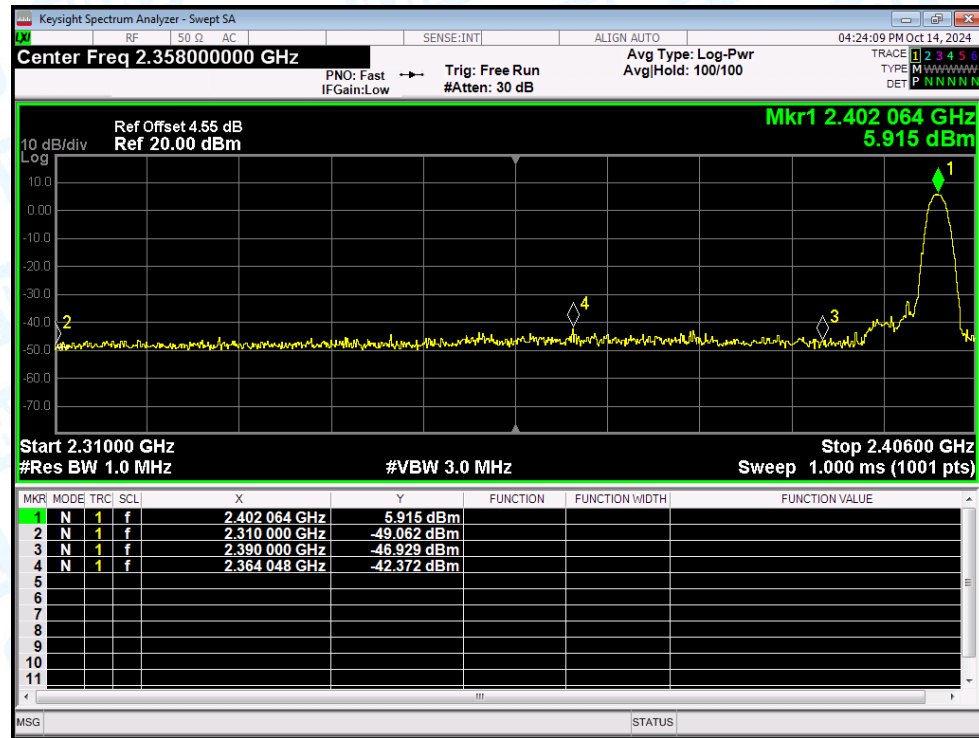
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



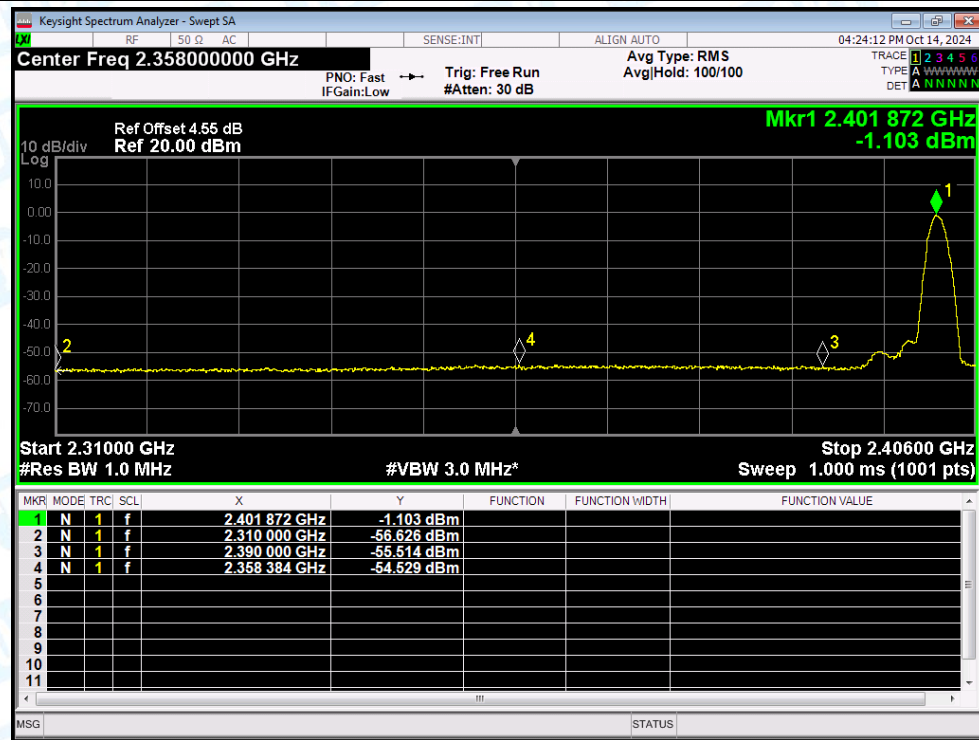
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



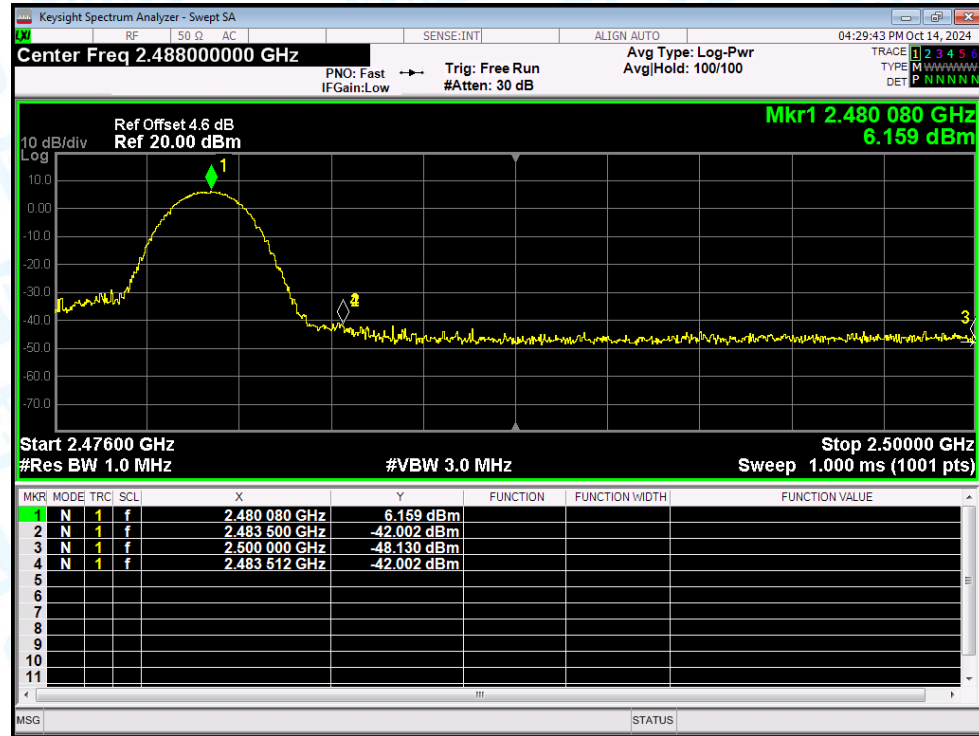
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



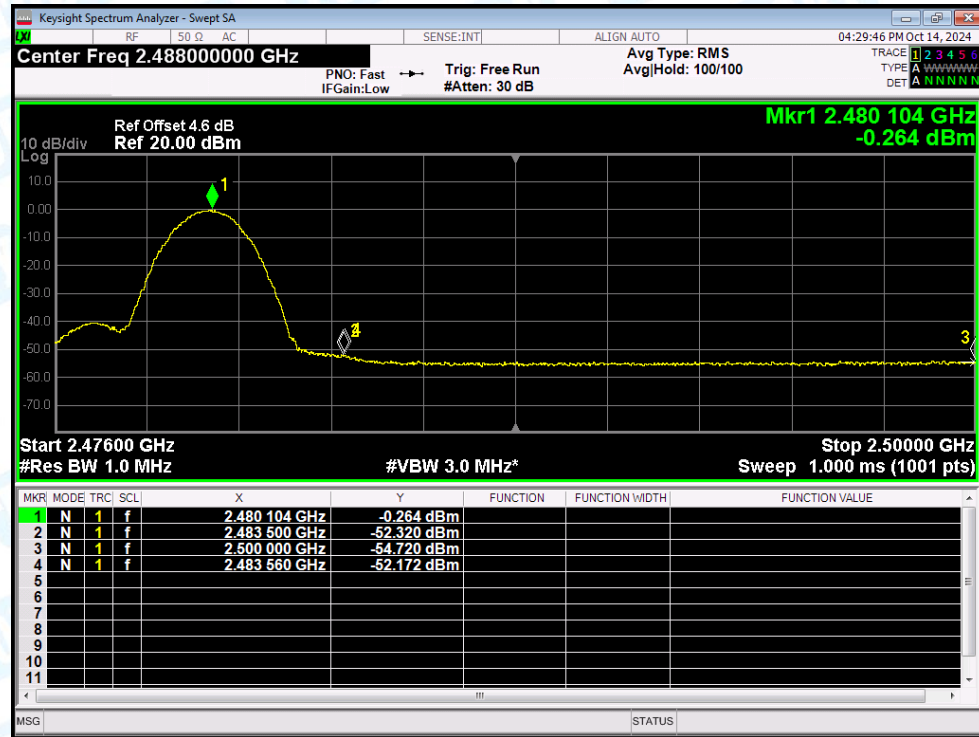
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

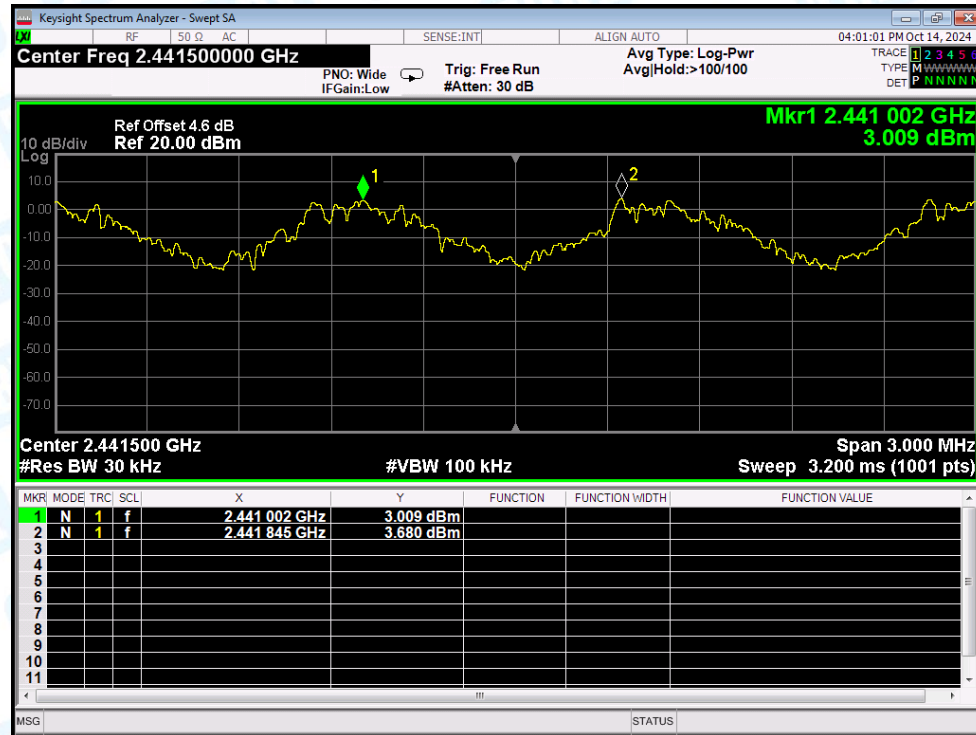


9.Carrier Frequencies Separation

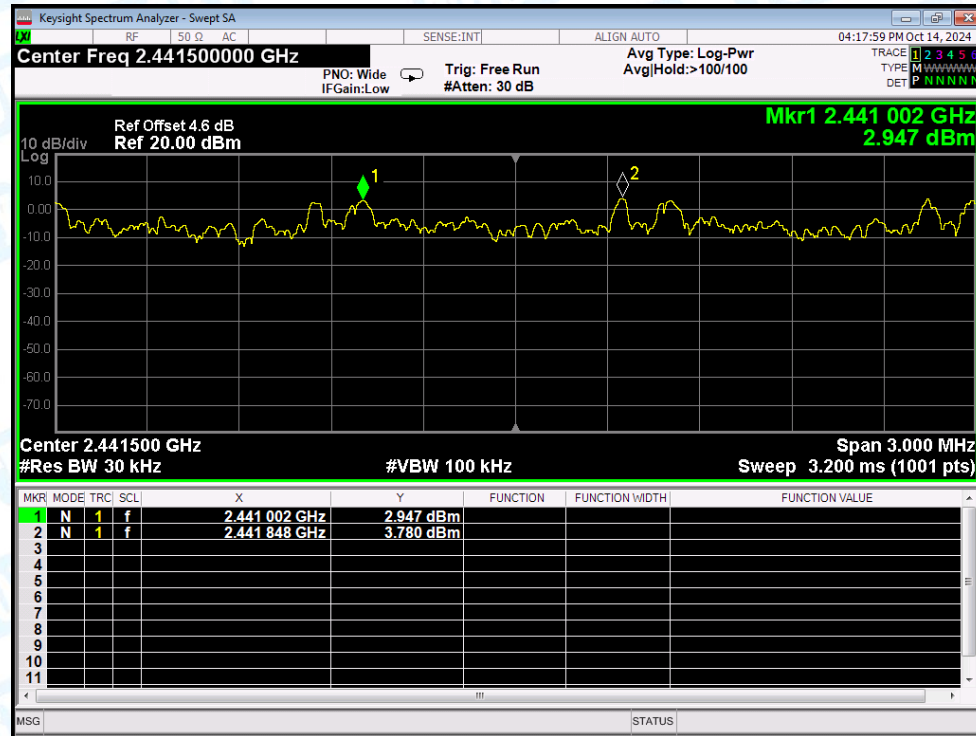
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2441.002	2441.845	0.843	0.58	Pass
NVNT	2-DH1	Ant1	2441.002	2441.848	0.846	0.84	Pass
NVNT	3-DH1	Ant1	2440.996	2442.004	1.008	0.813	Pass

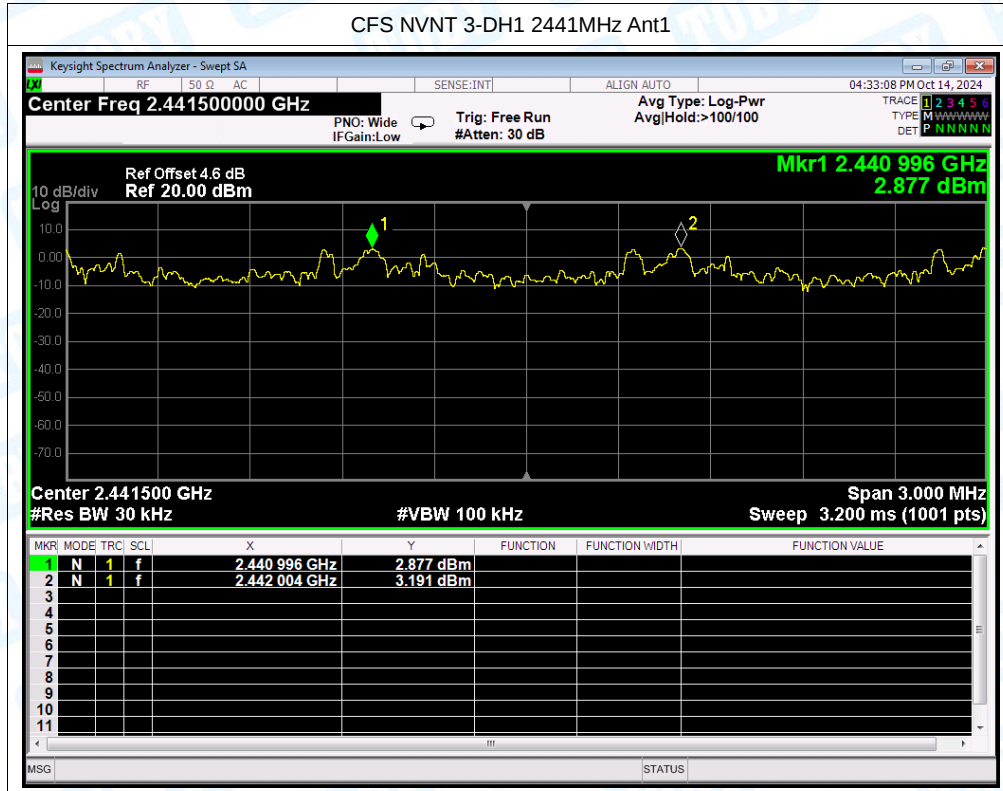
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



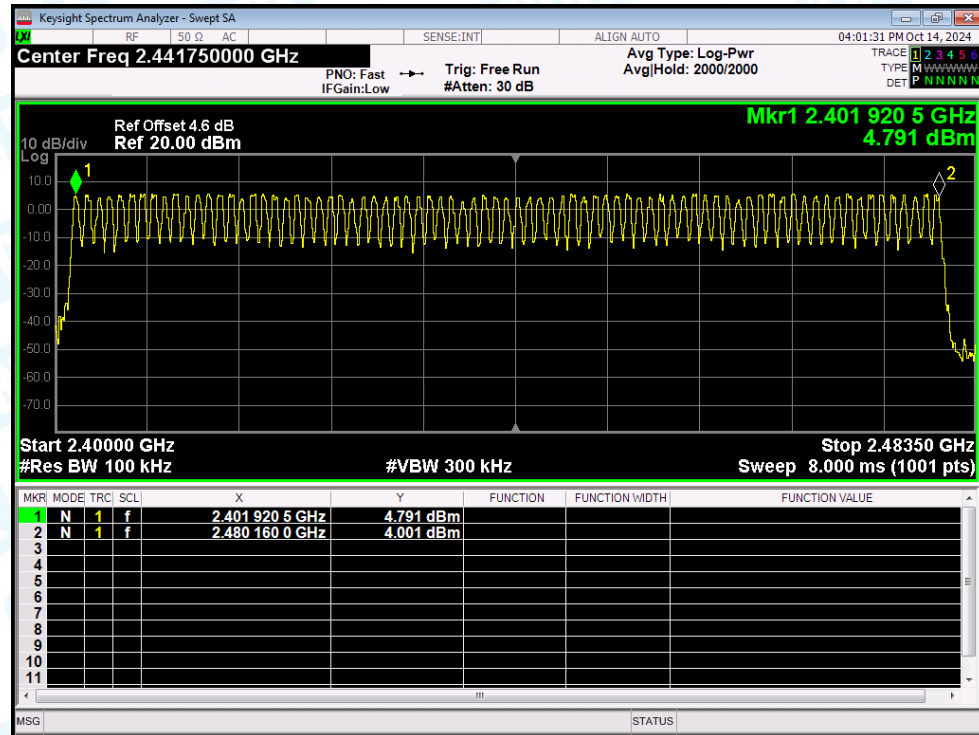


10.Number of Hopping Channel

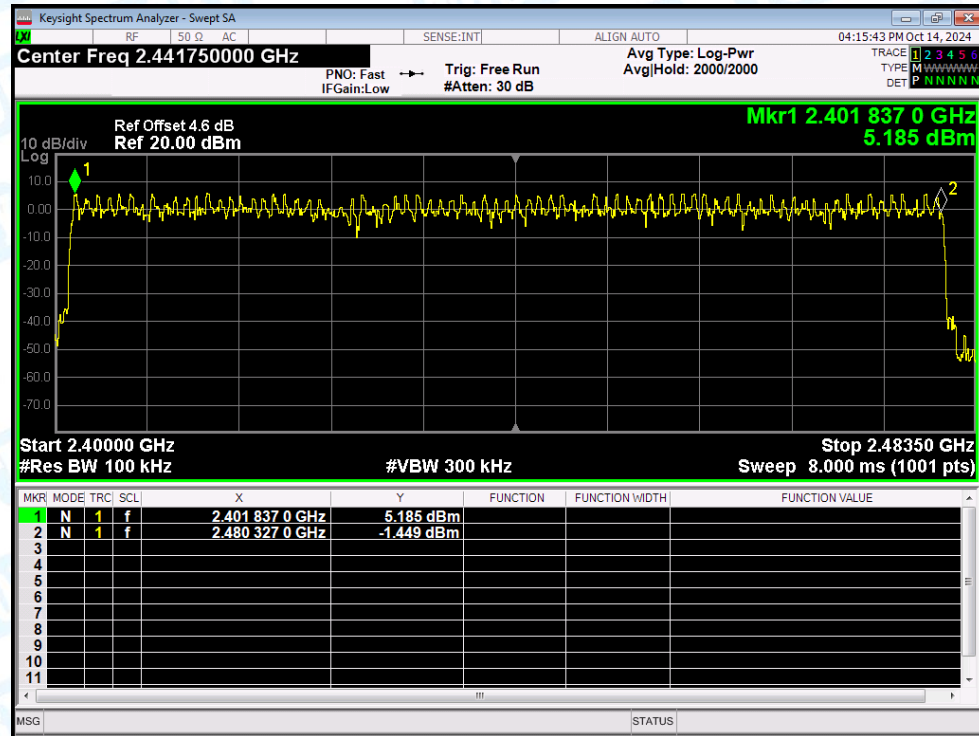
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

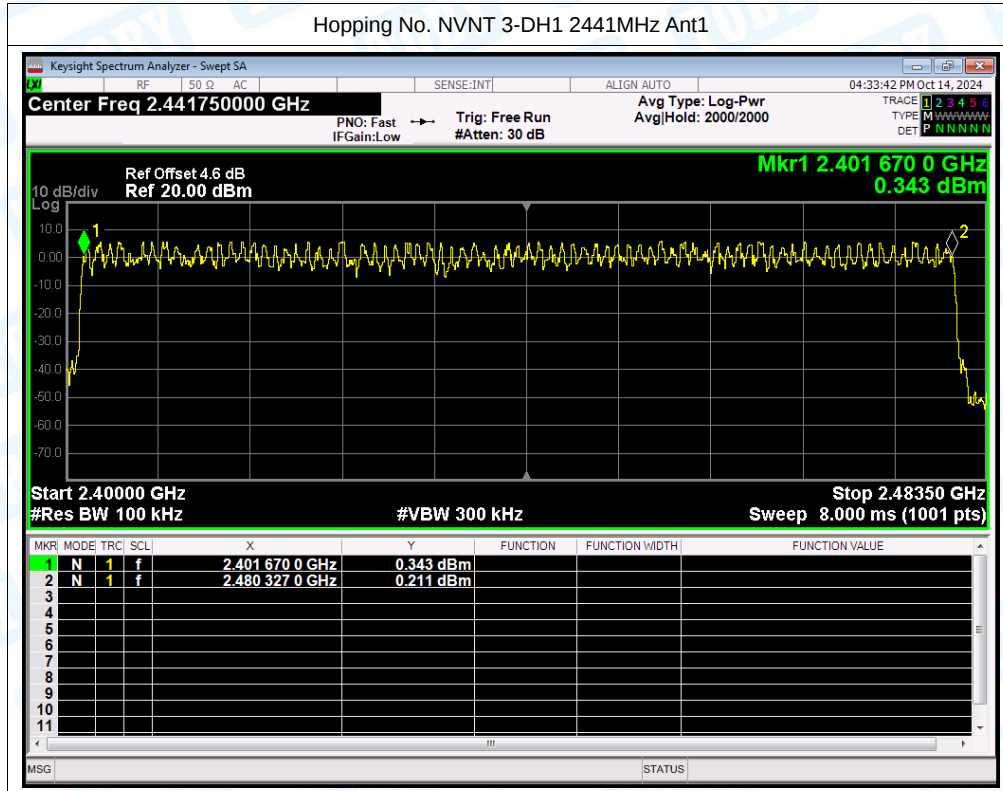
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



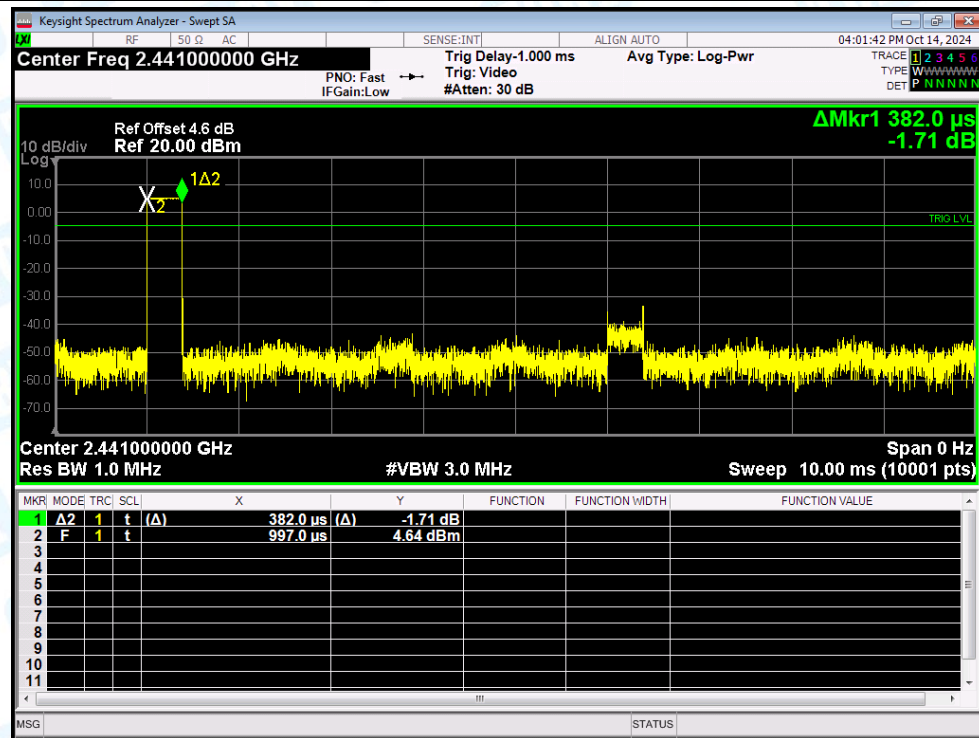


11.Dwell Time

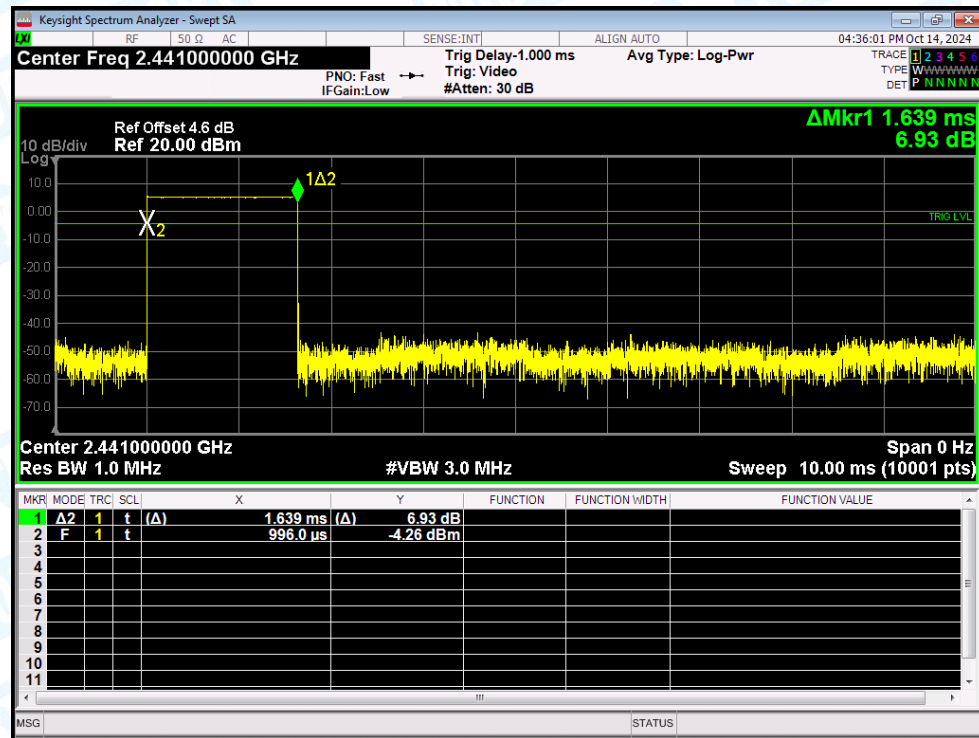
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.382	122.24	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.391	125.12	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.644	263.04	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.891	308.373	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.391	125.12	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.642	262.72	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.894	308.693	31600	400	Pass

Test Graphs

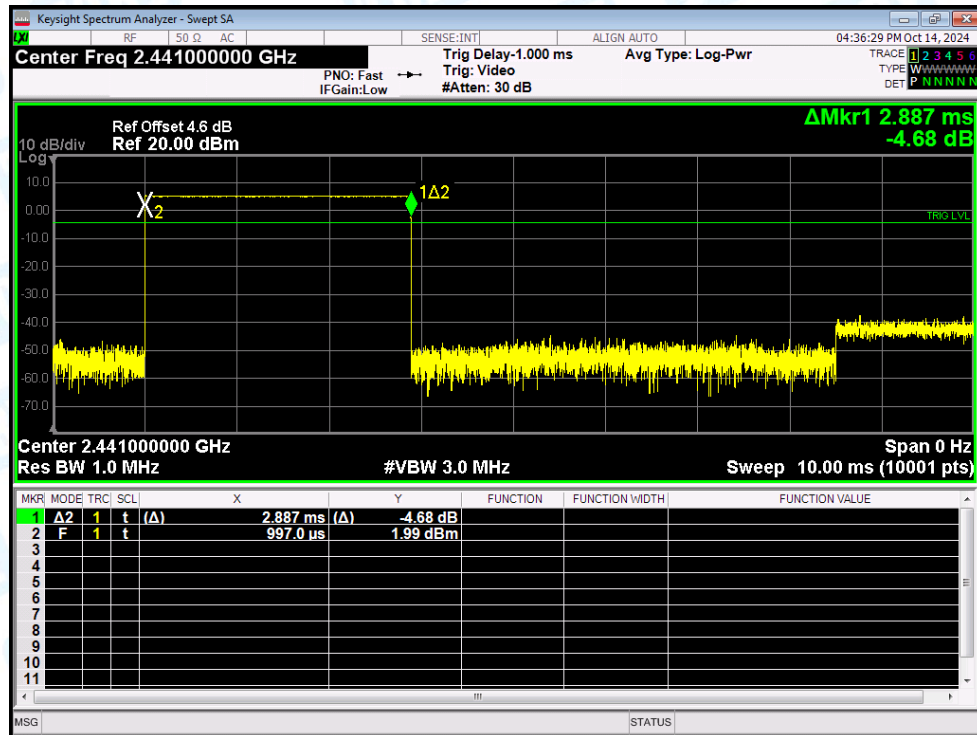
Dwell NVNT 1-DH1 2441MHz Ant1



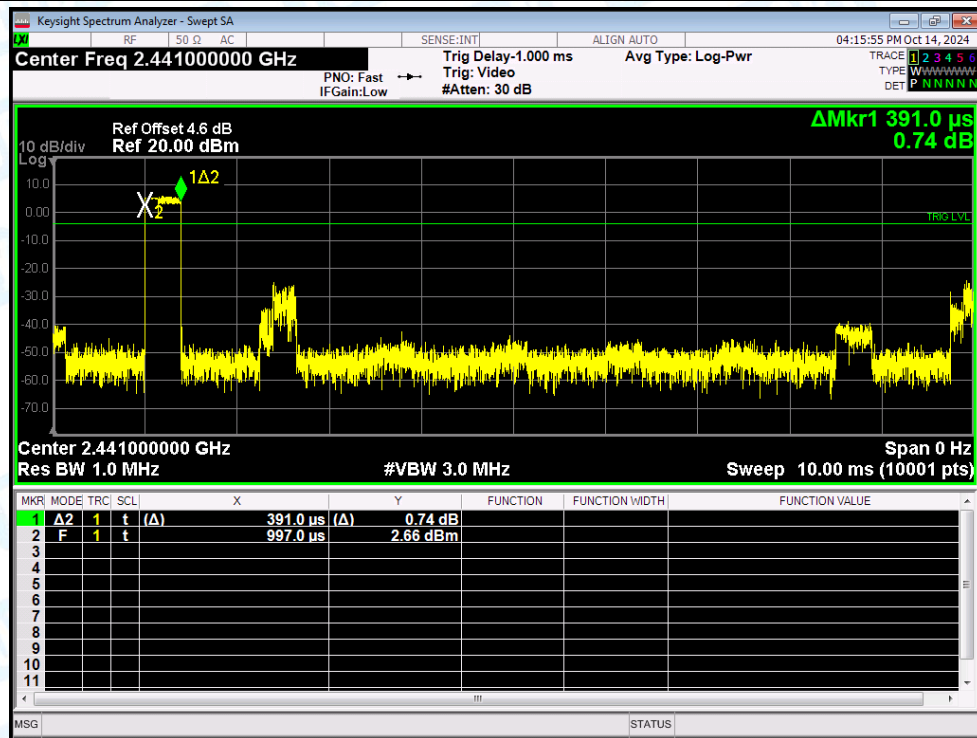
Dwell NVNT 1-DH3 2441MHz Ant1



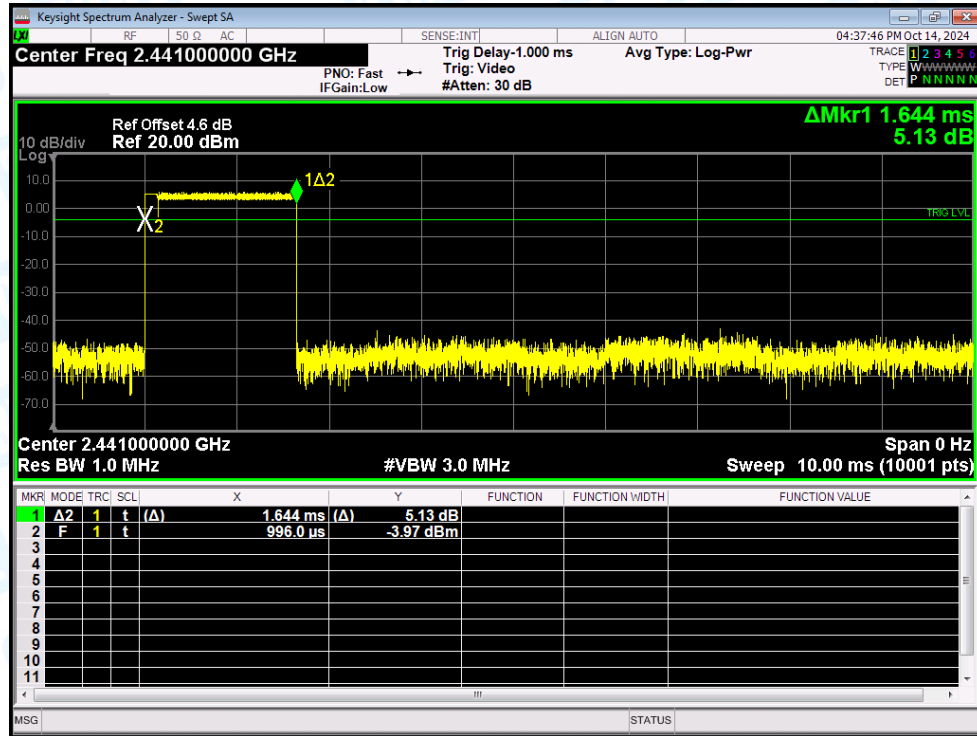
Dwell NVNT 1-DH5 2441MHz Ant1



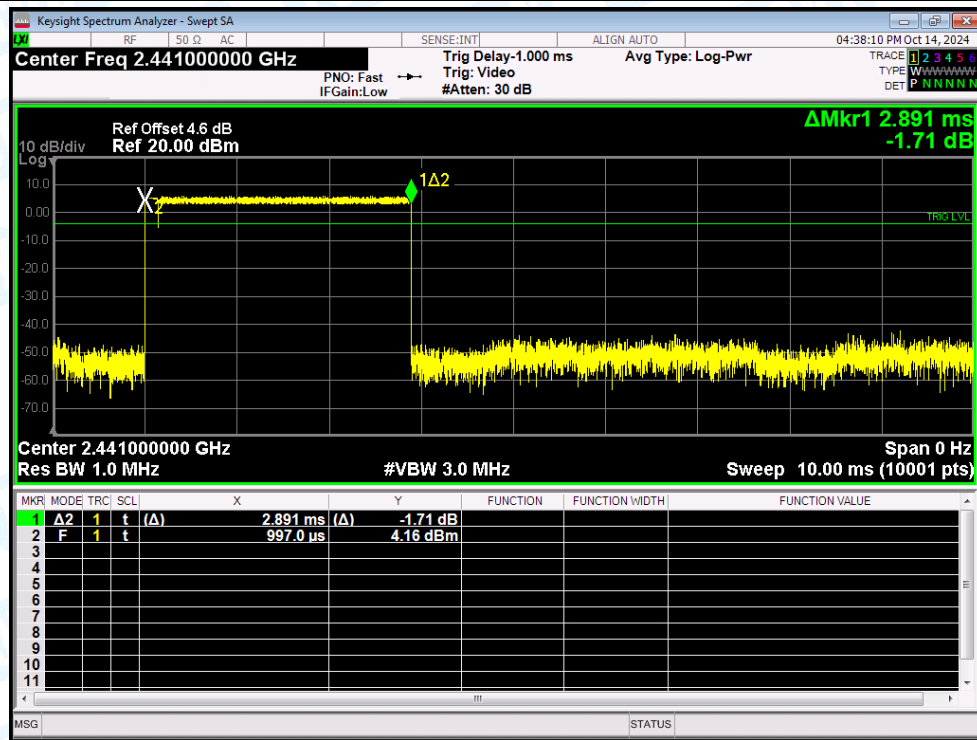
Dwell NVNT 2-DH1 2441MHz Ant1



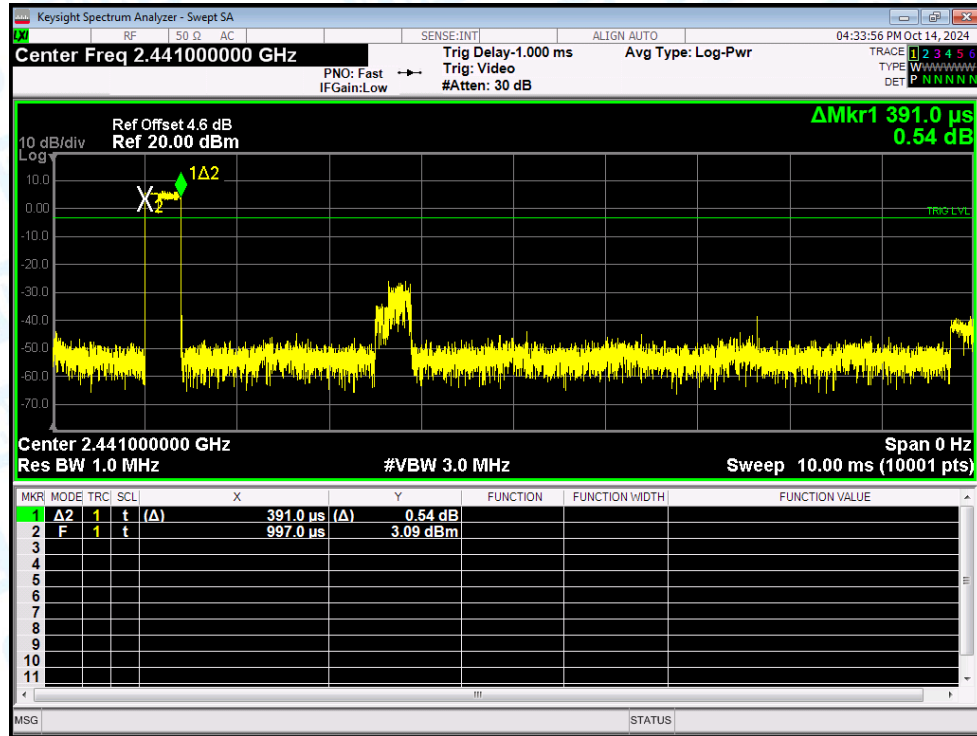
Dwell NVNT 2-DH3 2441MHz Ant1



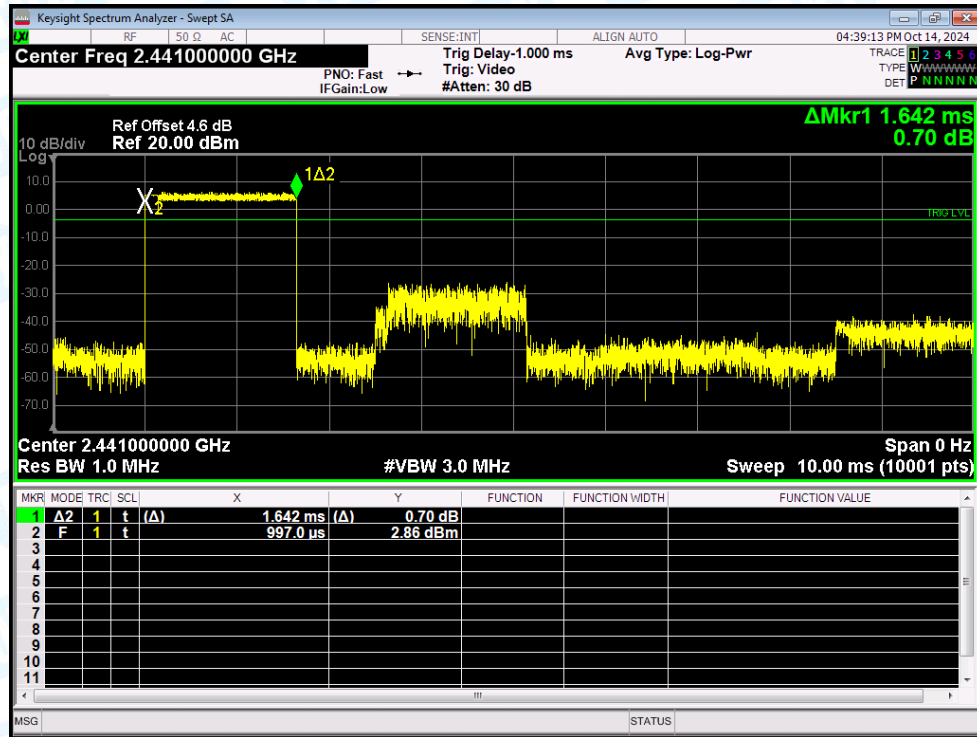
Dwell NVNT 2-DH5 2441MHz Ant1

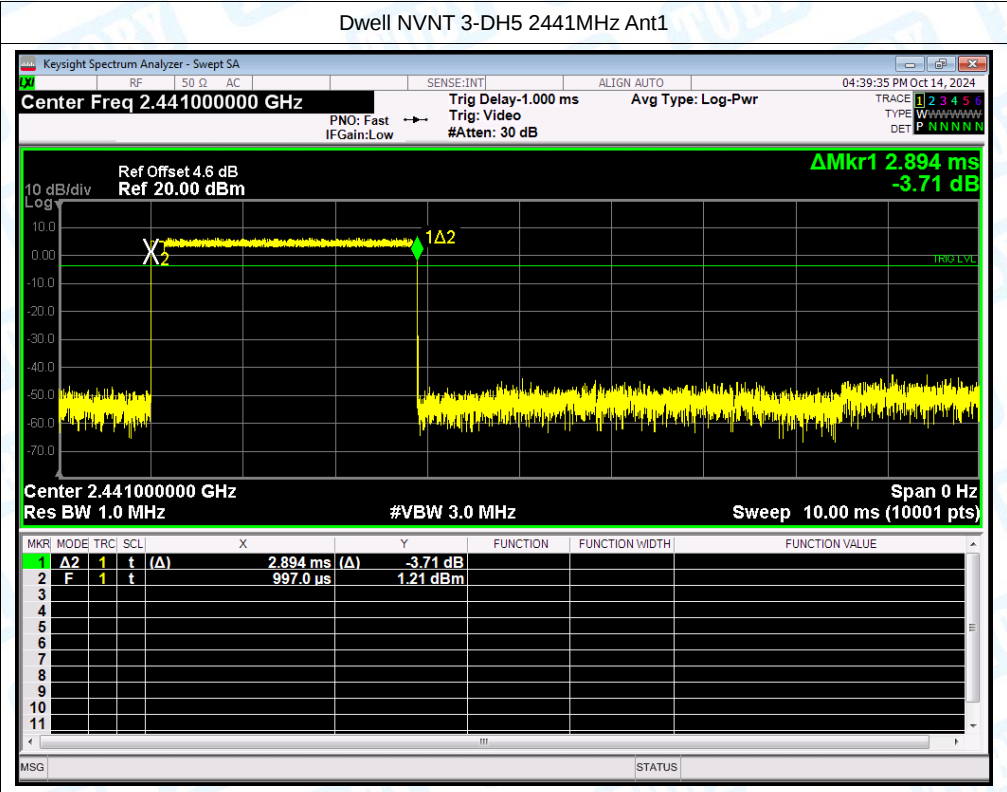


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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