

# RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
<b>Product Name:</b>	RETRO STYLE SPEAKER
<b>Test Model:</b>	4001974
<b>Sample ID:</b>	HC-C-202407-0205-02-01
Environmental Conditions	
<b>Temperature:</b>	25.6°C
<b>Relative Humidity:</b>	52.3%
<b>Test Voltage:</b>	DC 5V
<b>Test Engineer:</b>	Jolin Lee
Note: For a more detailed features description, please refer to the report TBR-C-202407-0205-1 The report only show the worst case data.	

## Contents

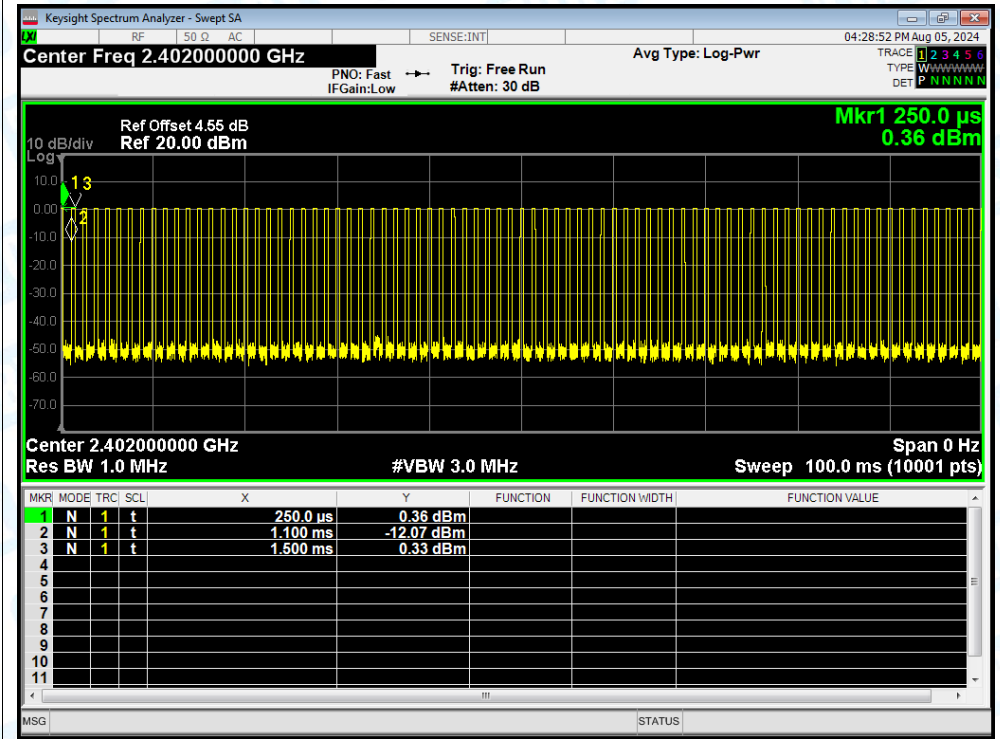
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## 1. Duty Cycle

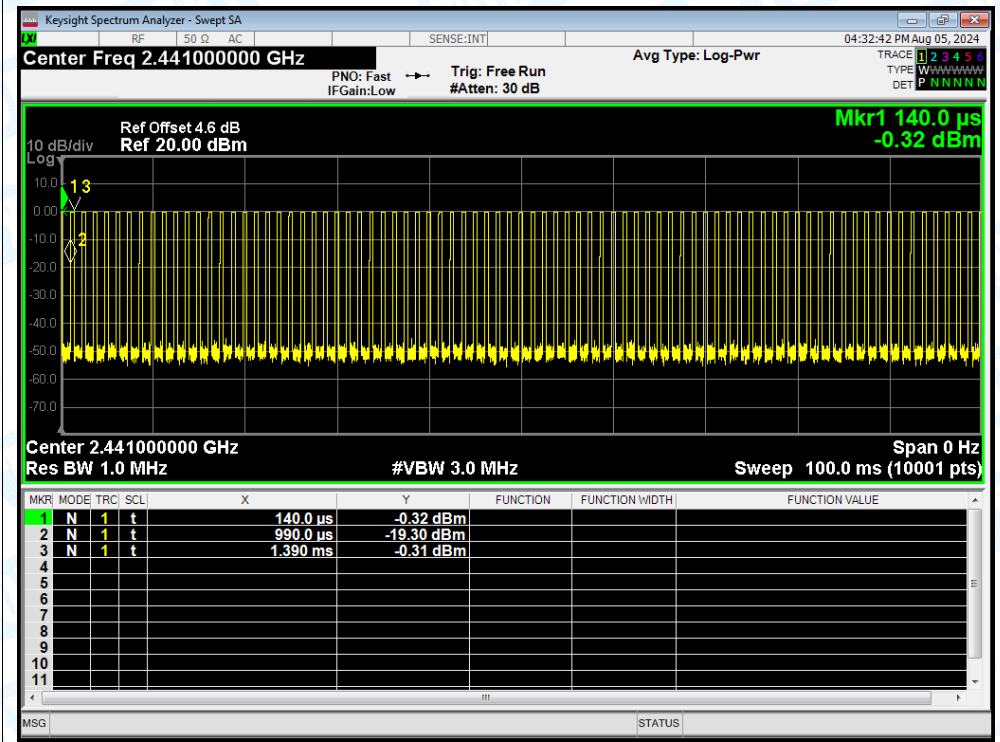
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	32	4.95	2.5
NVNT	1-DH1	2441	Ant1	32	4.95	2.5
NVNT	1-DH1	2480	Ant1	32	4.95	2.5
NVNT	2-DH1	2402	Ant1	32	4.95	2.5
NVNT	2-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	3-DH1	2402	Ant1	32.8	4.84	2.44
NVNT	3-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	3-DH1	2480	Ant1	32.8	4.84	2.44

Test Graphs

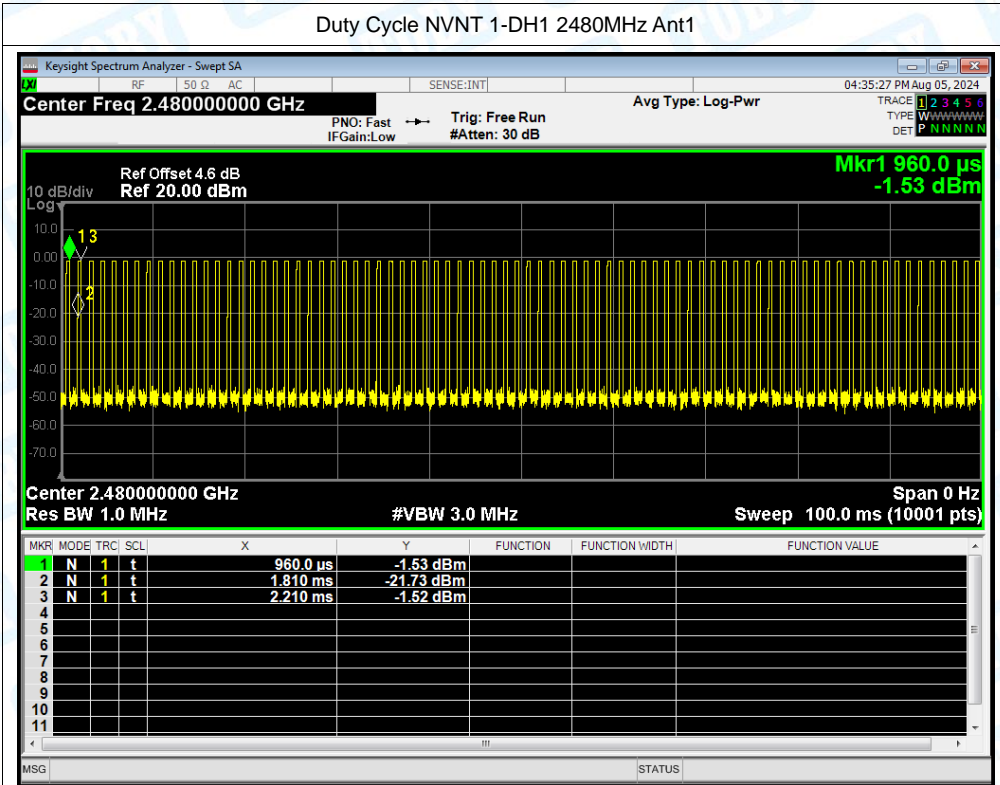
Duty Cycle NVNT 1-DH1 2402MHz Ant1



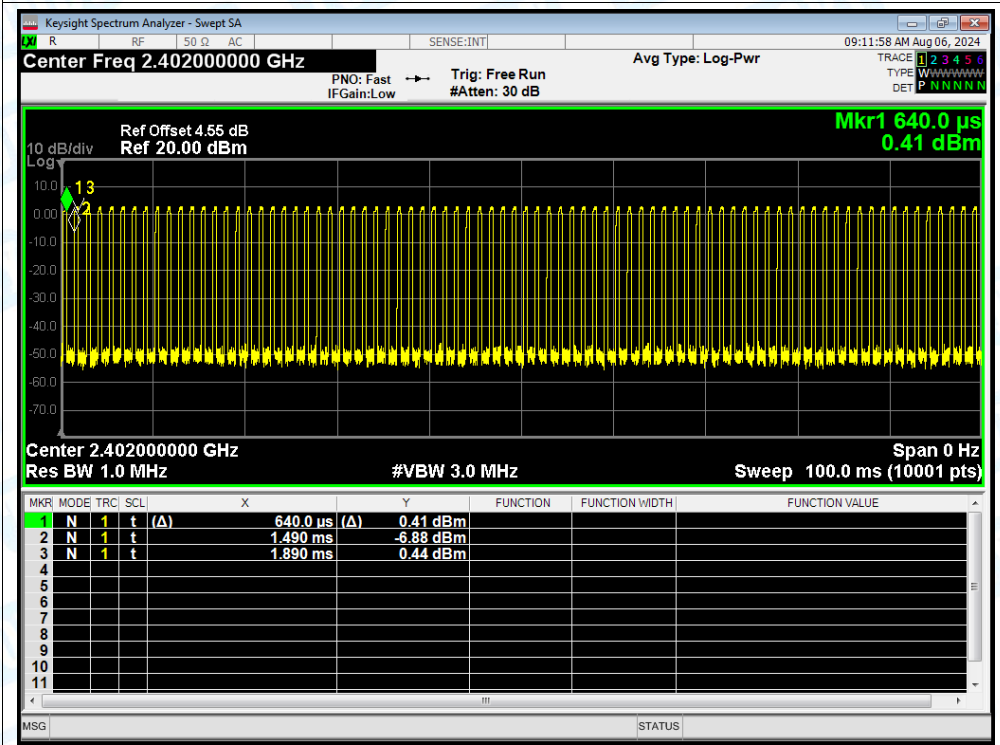
Duty Cycle NVNT 1-DH1 2441MHz Ant1



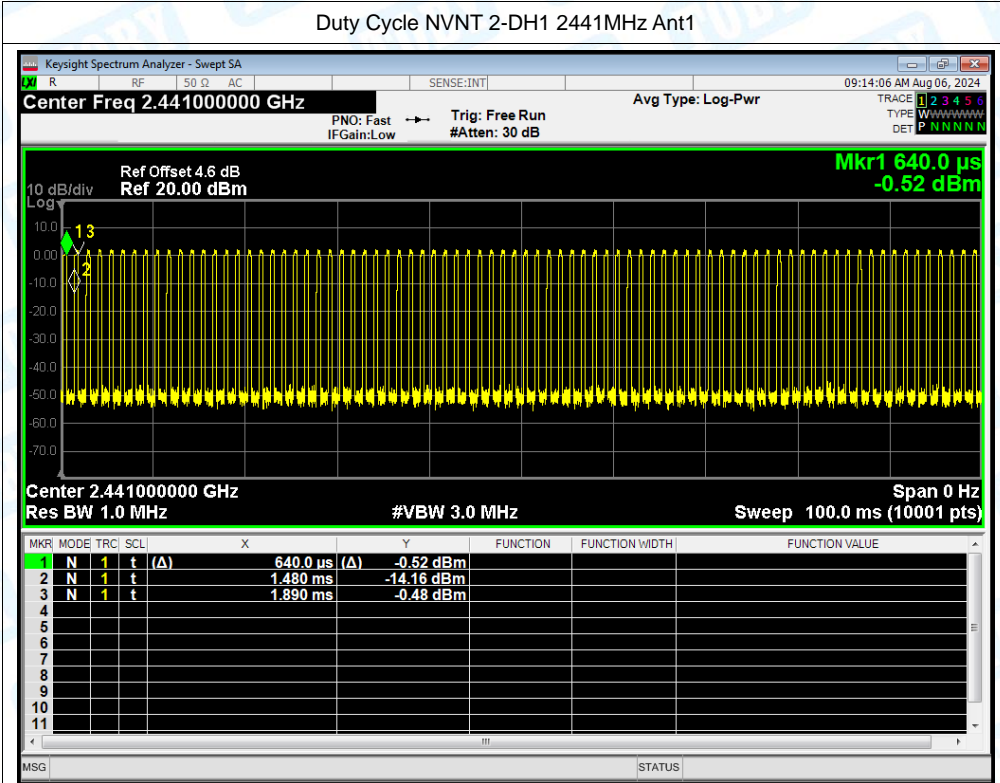
Duty Cycle NVNT 1-DH1 2480MHz Ant1



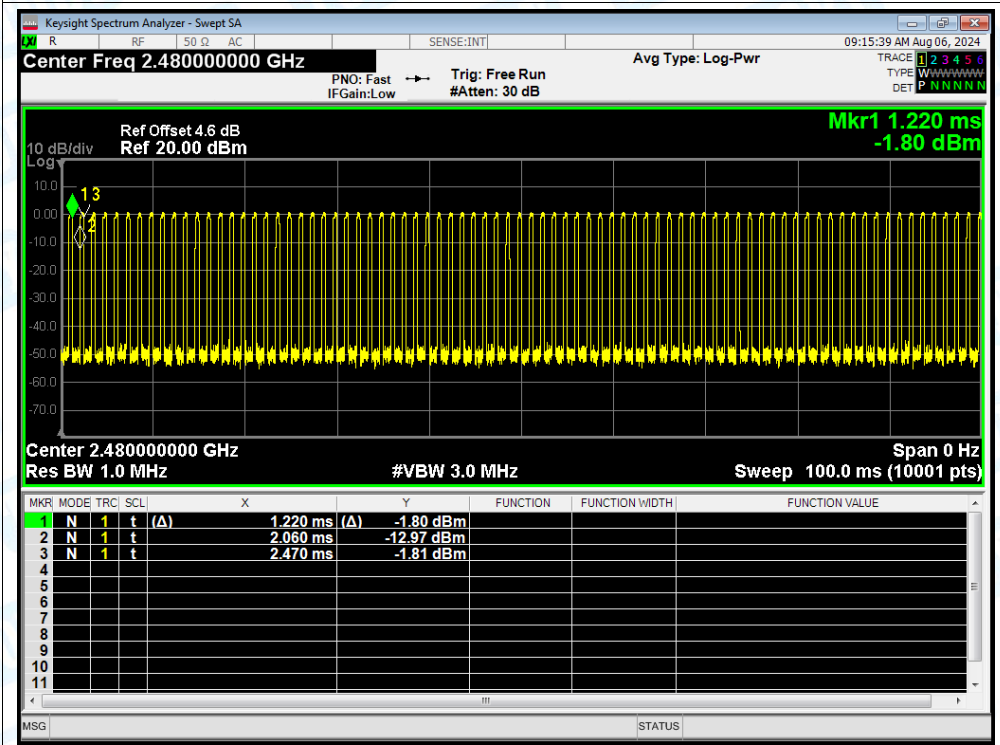
Duty Cycle NVNT 2-DH1 2402MHz Ant1



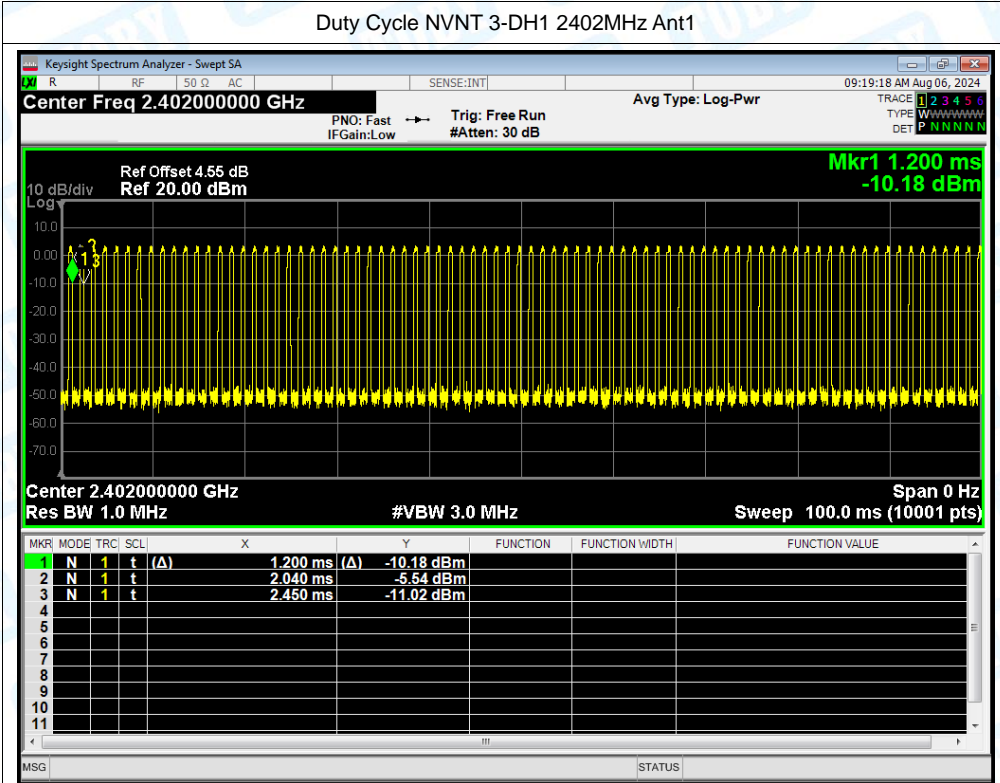
Duty Cycle NVNT 2-DH1 2441MHz Ant1



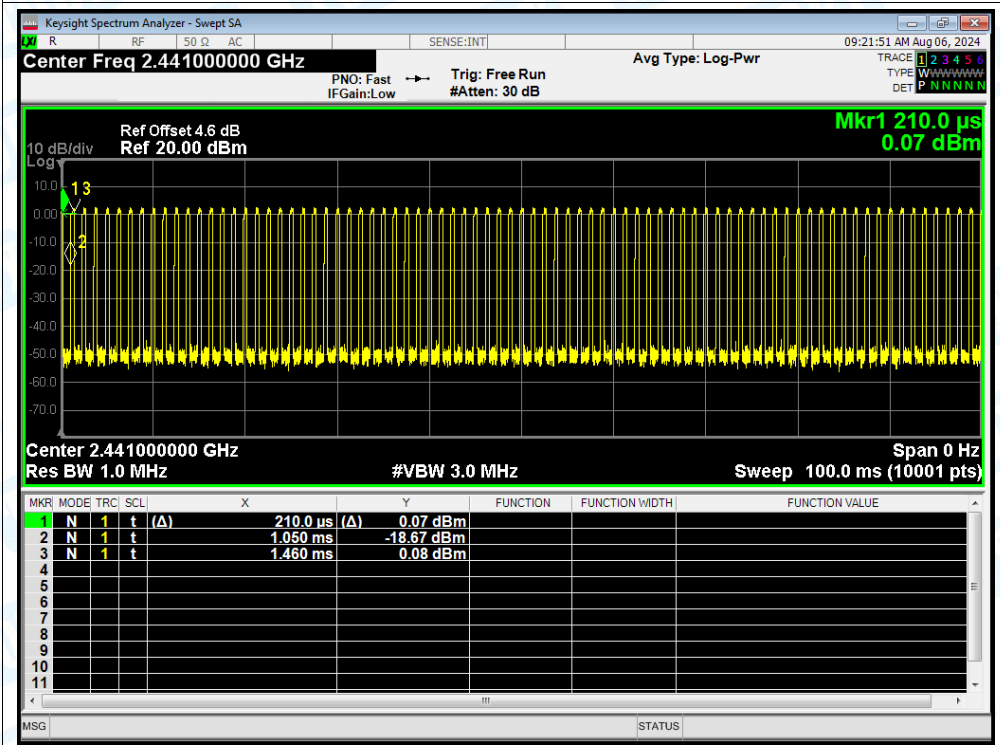
Duty Cycle NVNT 2-DH1 2480MHz Ant1

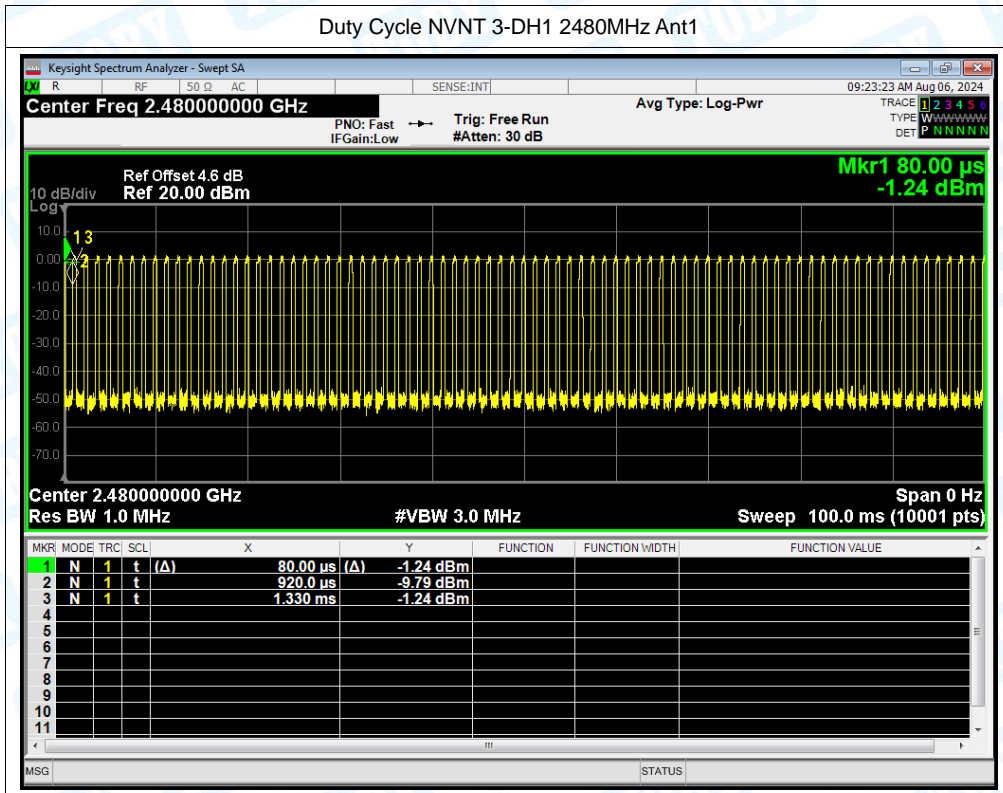


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1





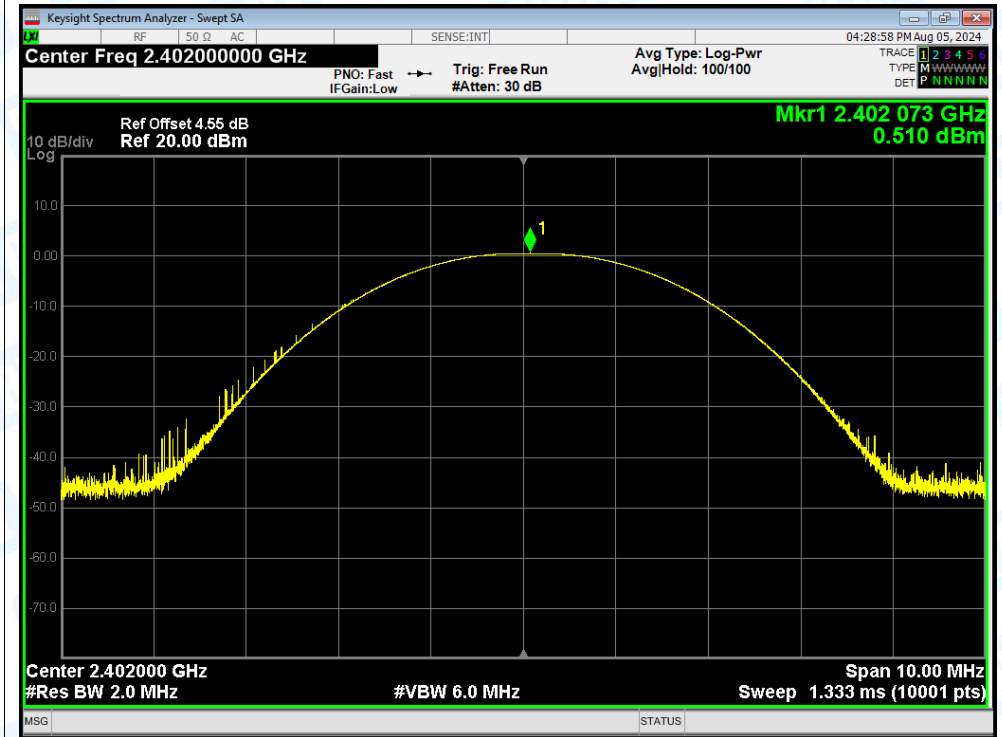


## 2. Maximum Conducted Output Power

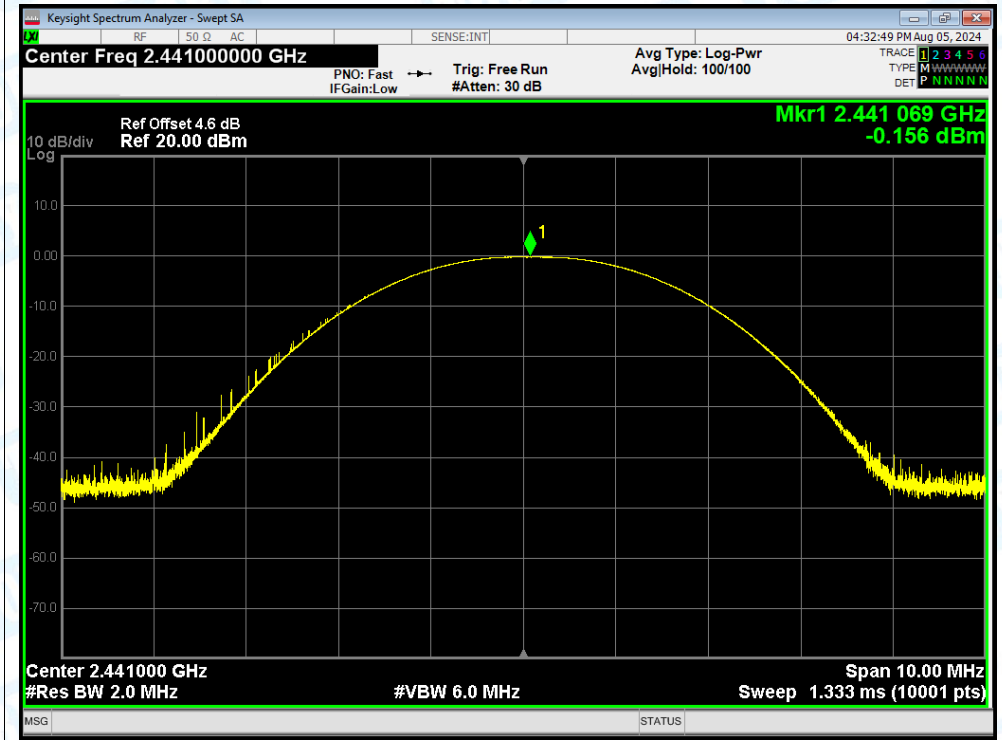
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	0.51	21	Pass
NVNT	1-DH1	2441	Ant1	-0.156	21	Pass
NVNT	1-DH1	2480	Ant1	-1.357	21	Pass
NVNT	1-DH3	2441	Ant1	0.16	21	Pass
NVNT	1-DH5	2441	Ant1	0.14	21	Pass
NVNT	2-DH1	2402	Ant1	3.316	21	Pass
NVNT	2-DH1	2441	Ant1	2.419	21	Pass
NVNT	2-DH1	2480	Ant1	1.162	21	Pass
NVNT	2-DH3	2441	Ant1	2.164	21	Pass
NVNT	2-DH5	2441	Ant1	2.223	21	Pass
NVNT	3-DH1	2402	Ant1	3.923	21	Pass
NVNT	3-DH1	2441	Ant1	3.036	21	Pass
NVNT	3-DH1	2480	Ant1	1.795	21	Pass
NVNT	3-DH3	2441	Ant1	2.904	21	Pass
NVNT	3-DH5	2441	Ant1	2.919	21	Pass

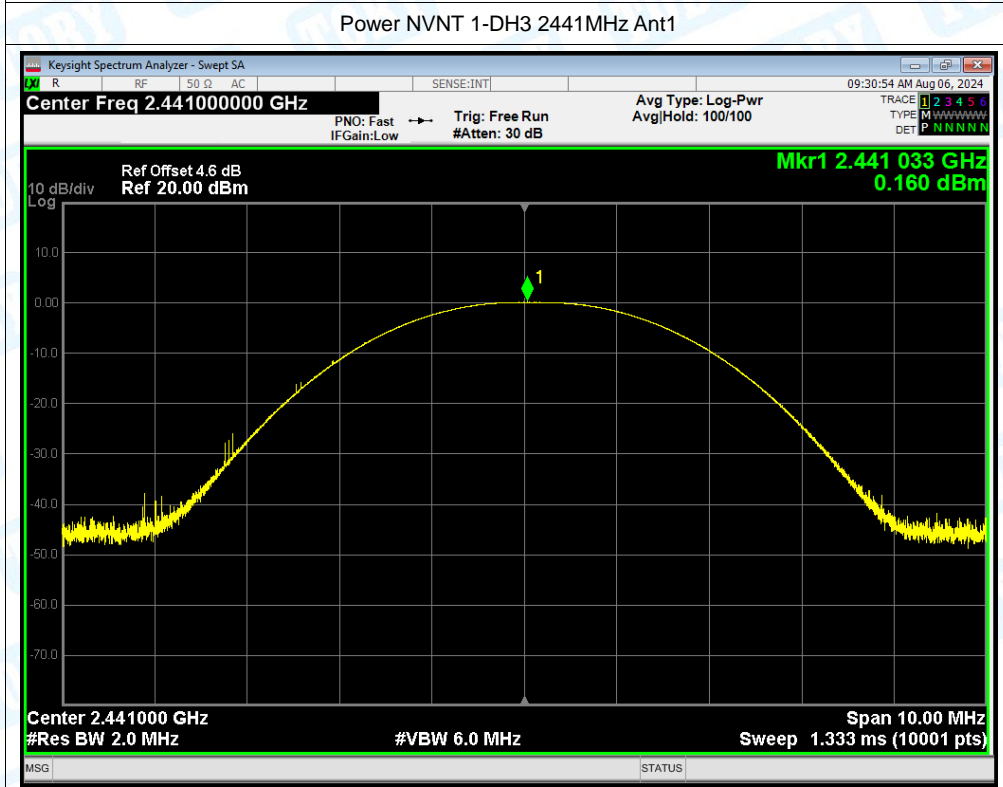
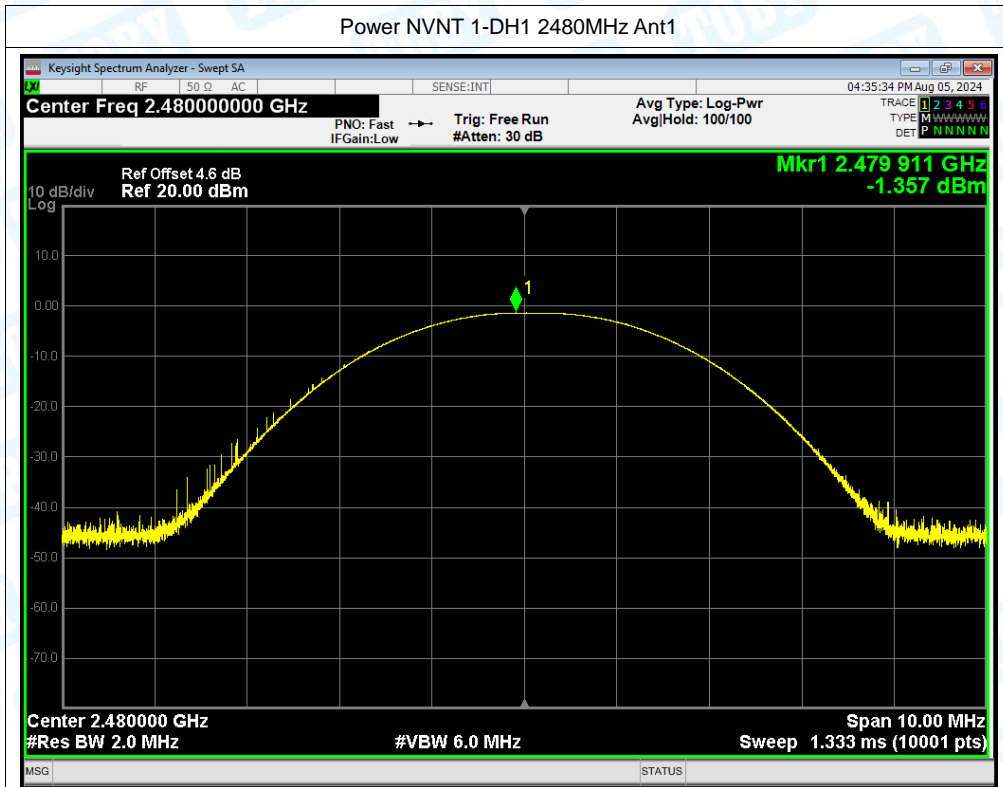
Test Graphs

Power NVNT 1-DH1 2402MHz Ant1

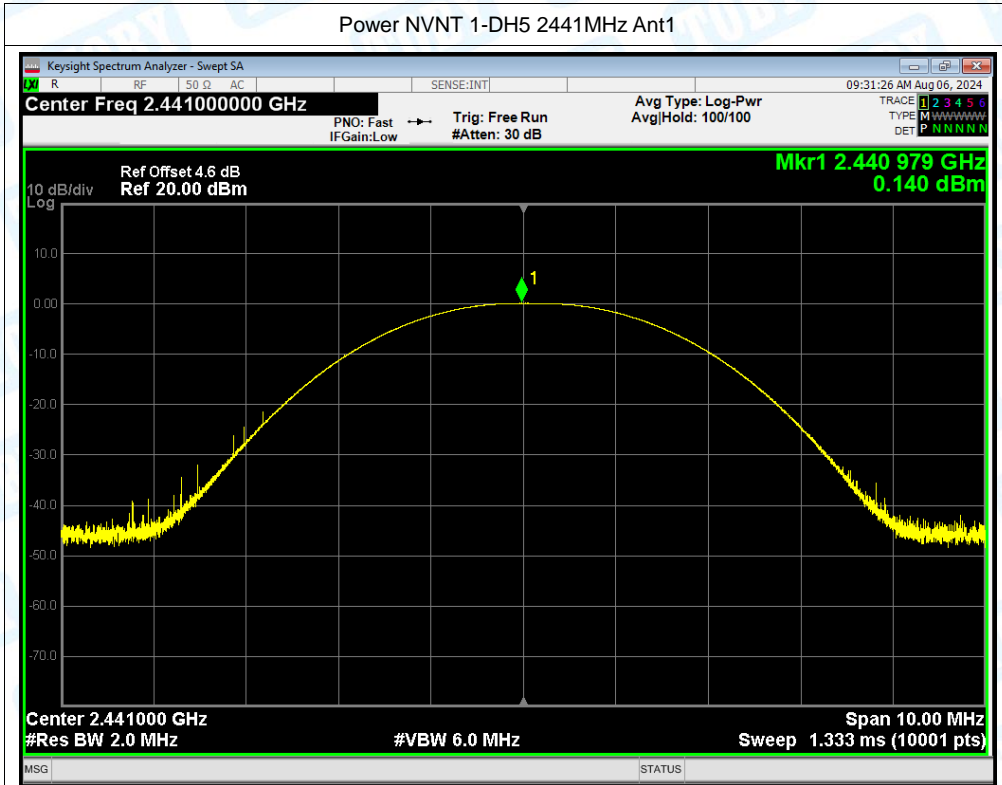


Power NVNT 1-DH1 2441MHz Ant1

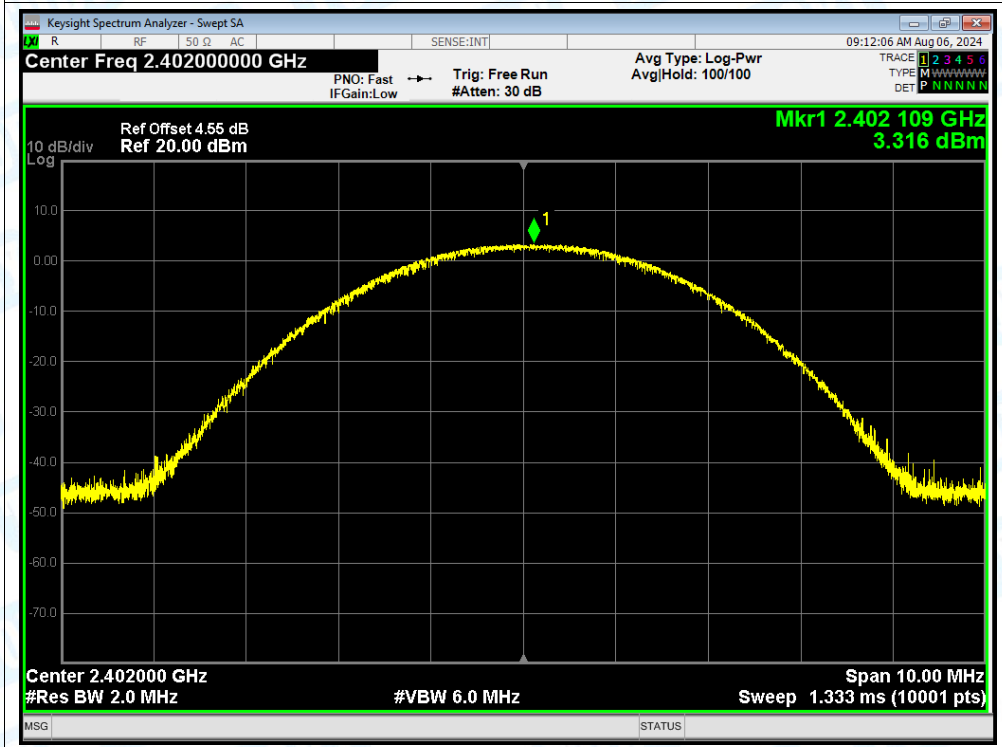




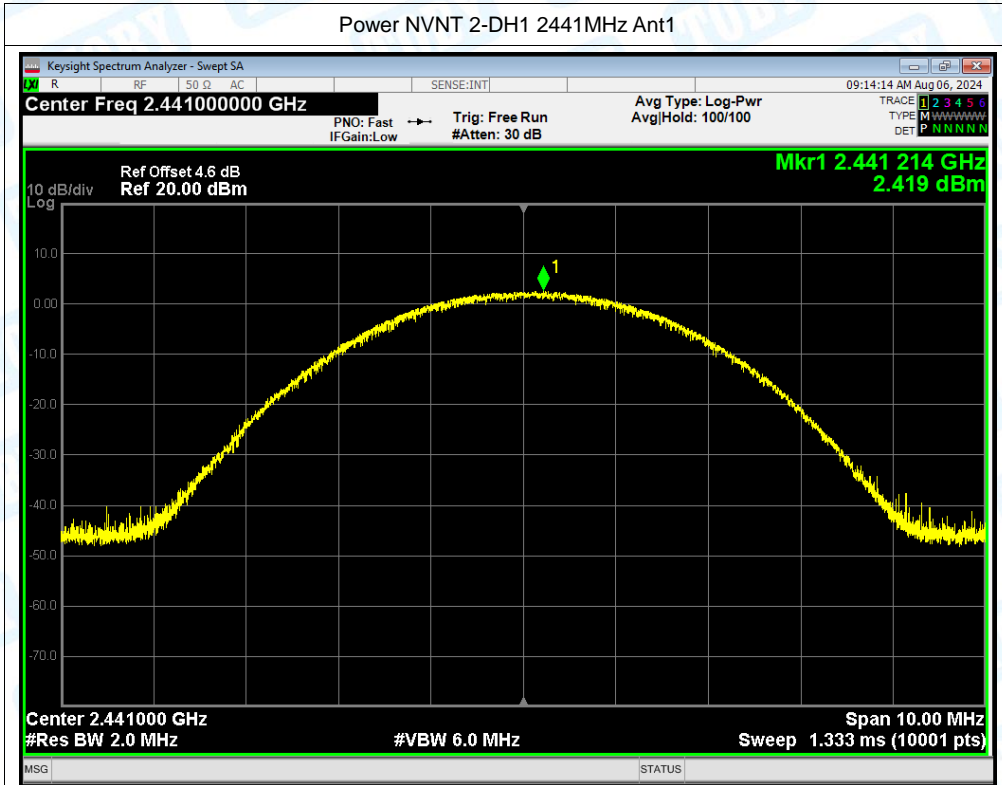
Power NVNT 1-DH5 2441MHz Ant1



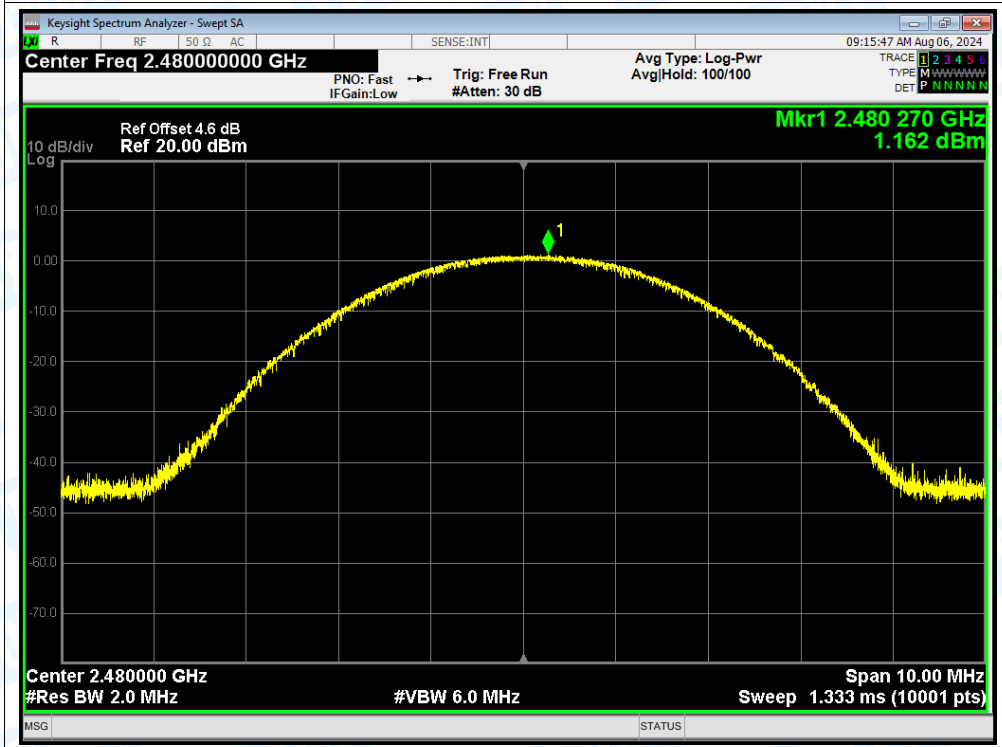
Power NVNT 2-DH1 2402MHz Ant1

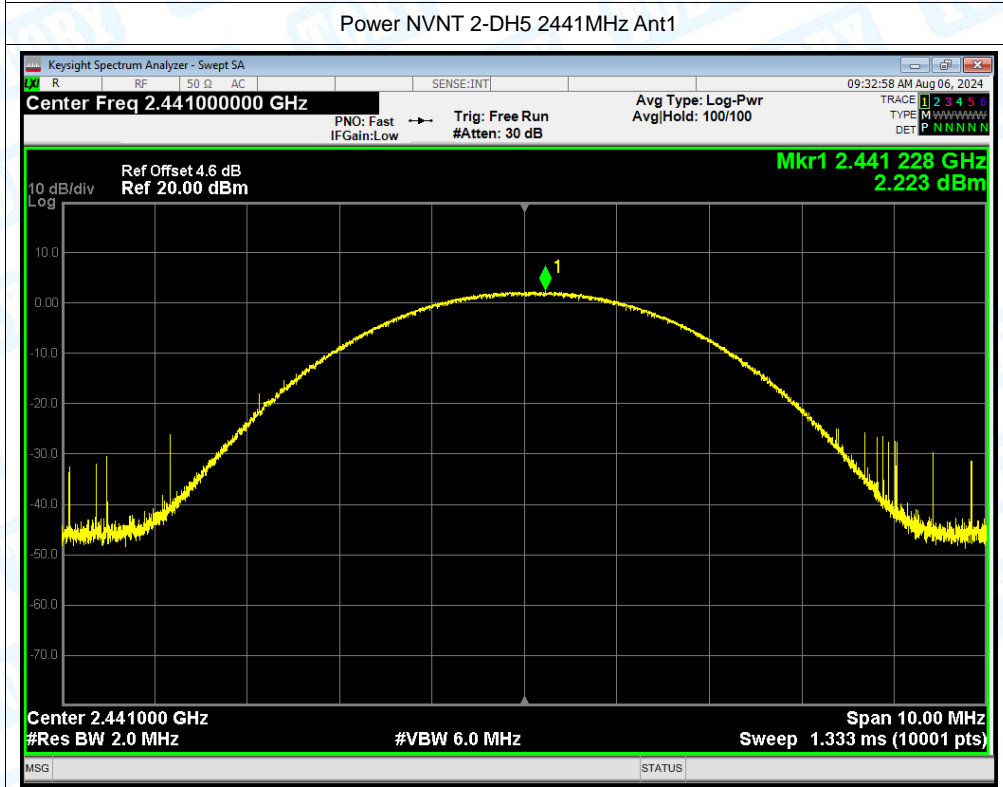
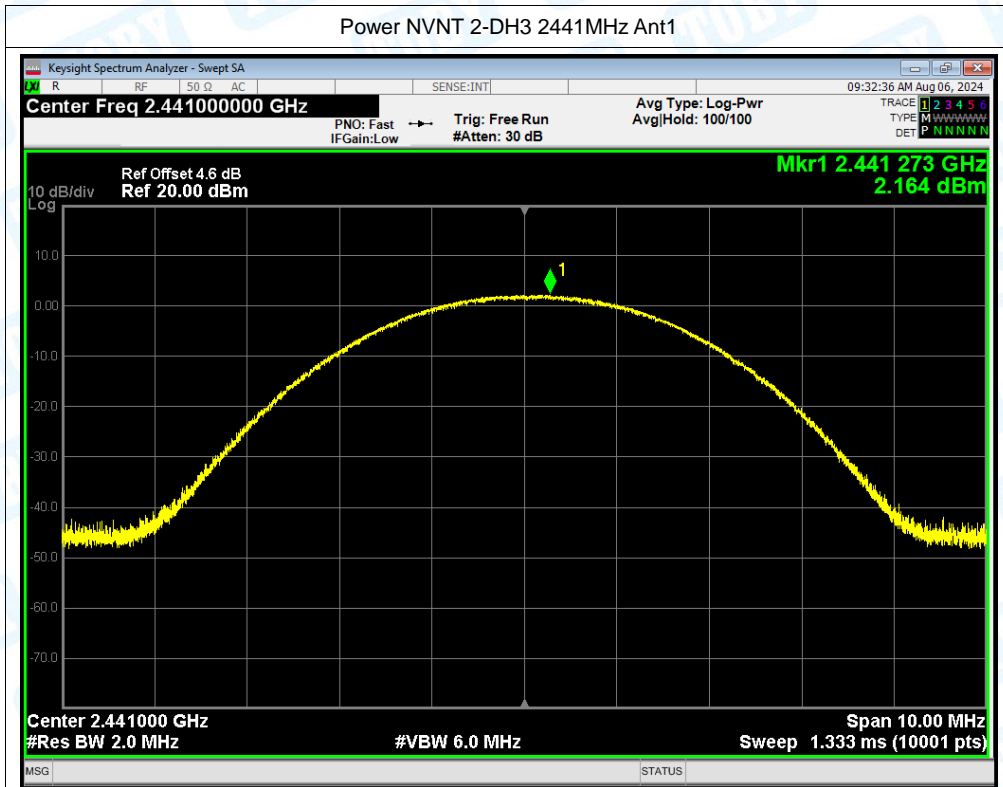


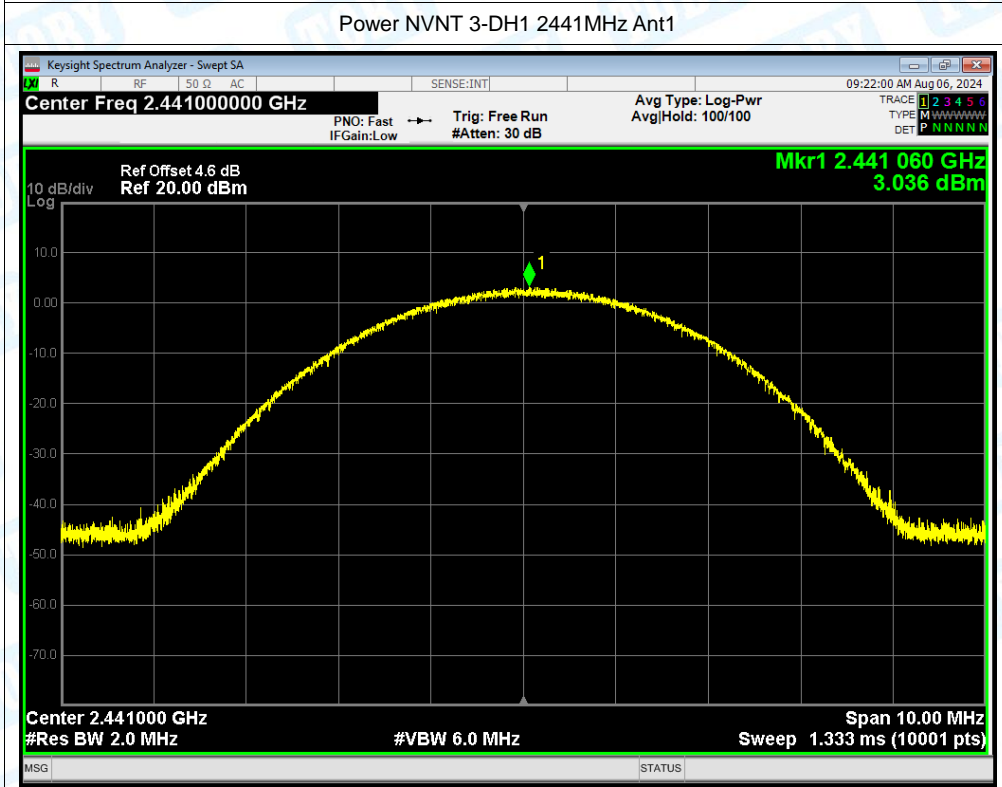
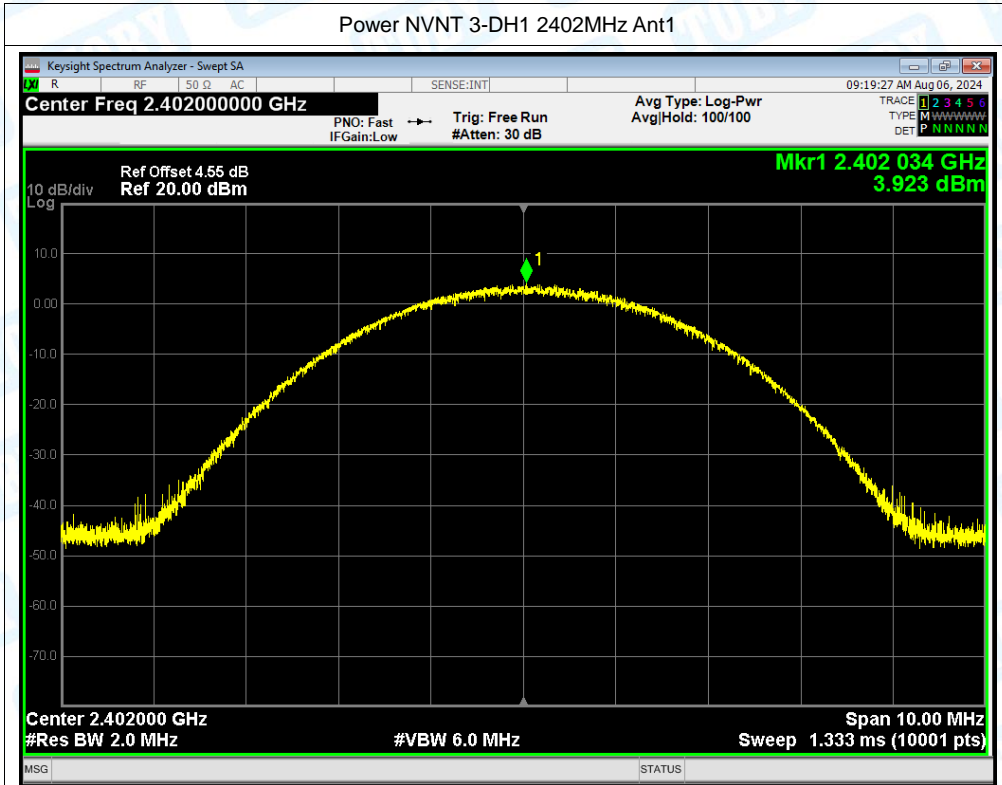
Power NVNT 2-DH1 2441MHz Ant1



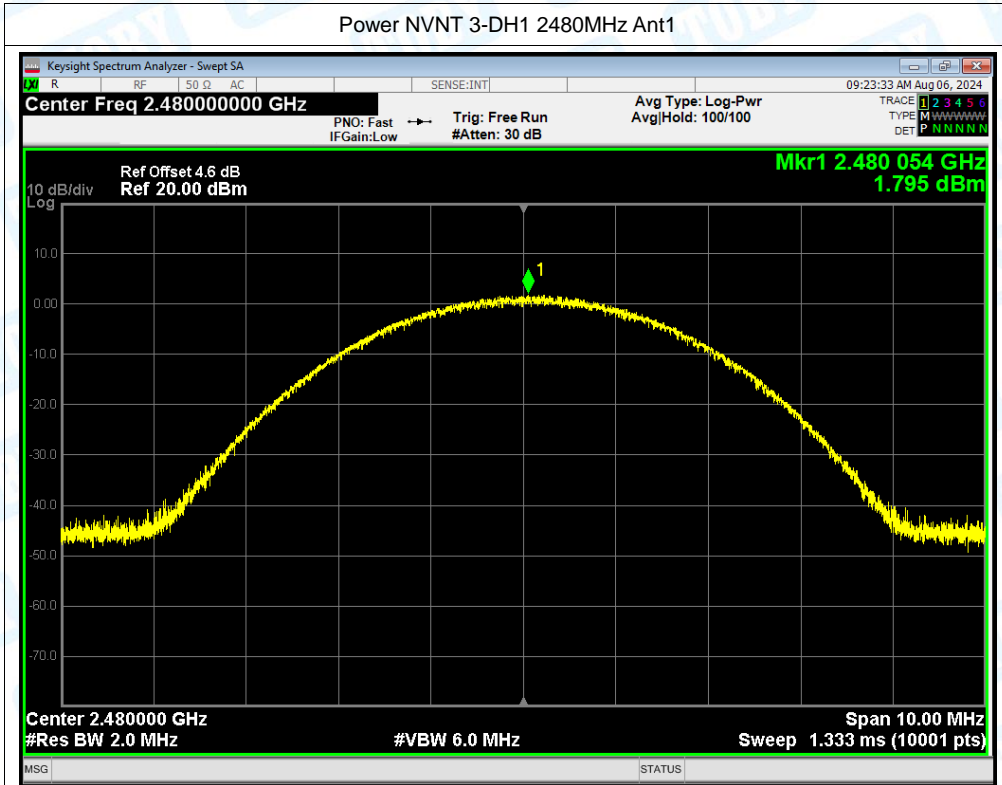
Power NVNT 2-DH1 2480MHz Ant1



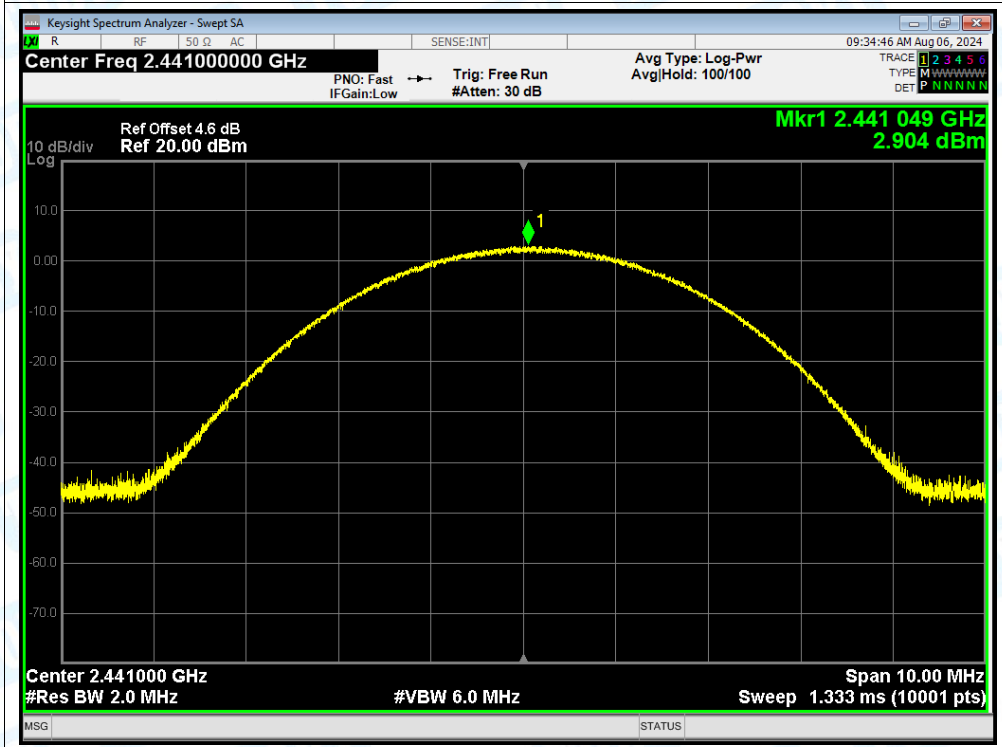




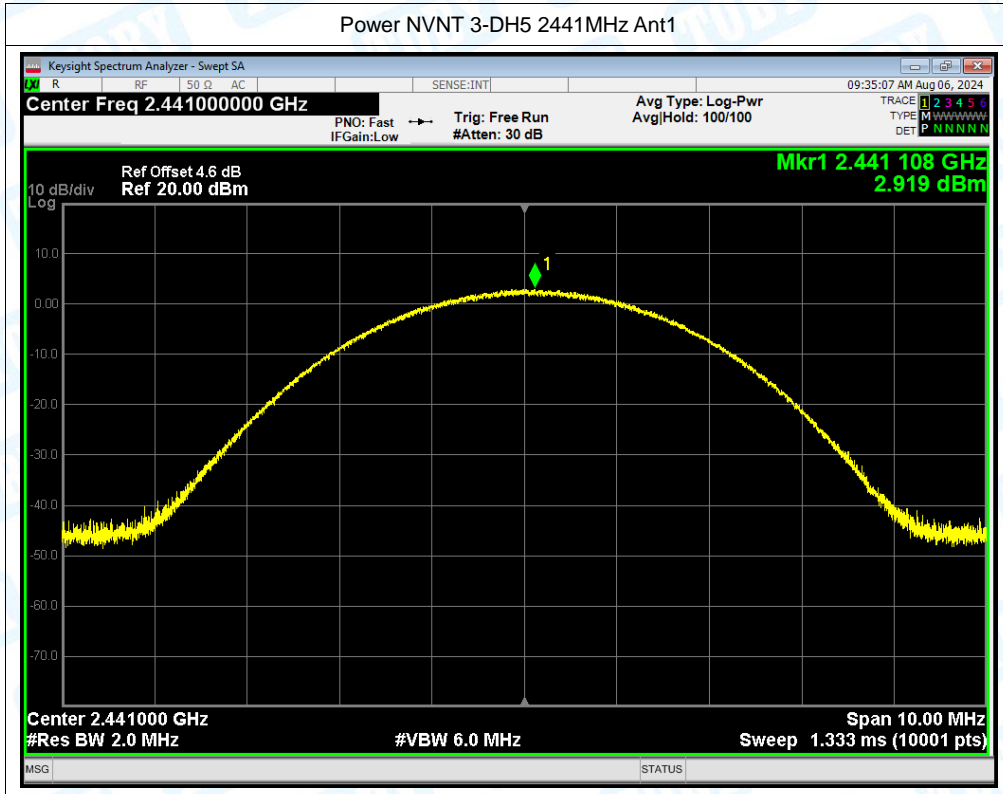
Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1





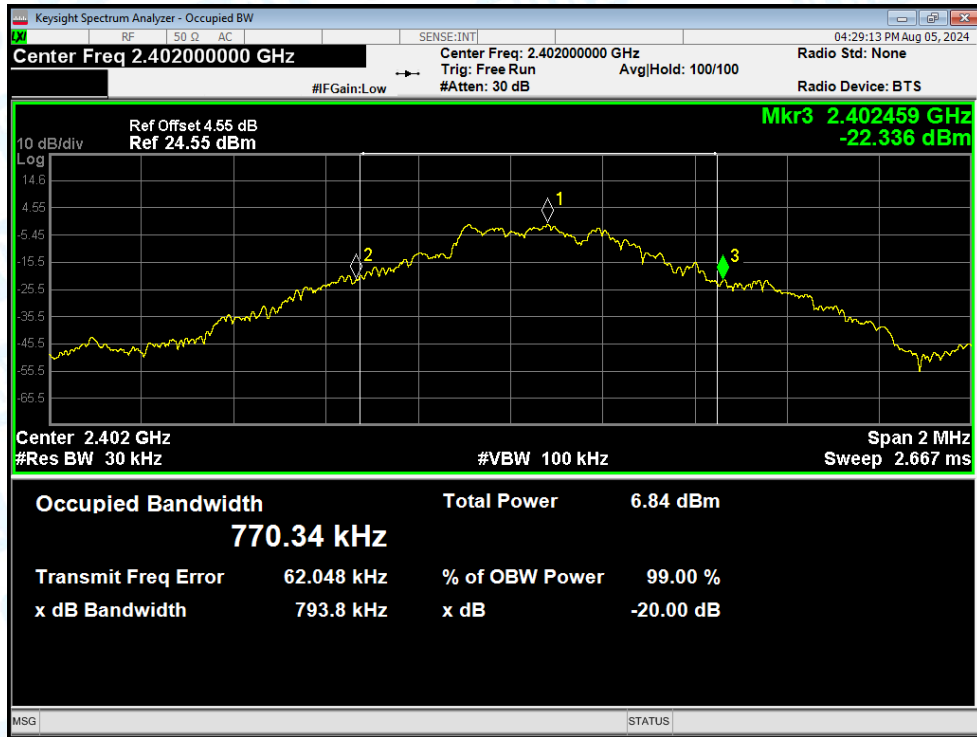


### 3. -20dB Bandwidth

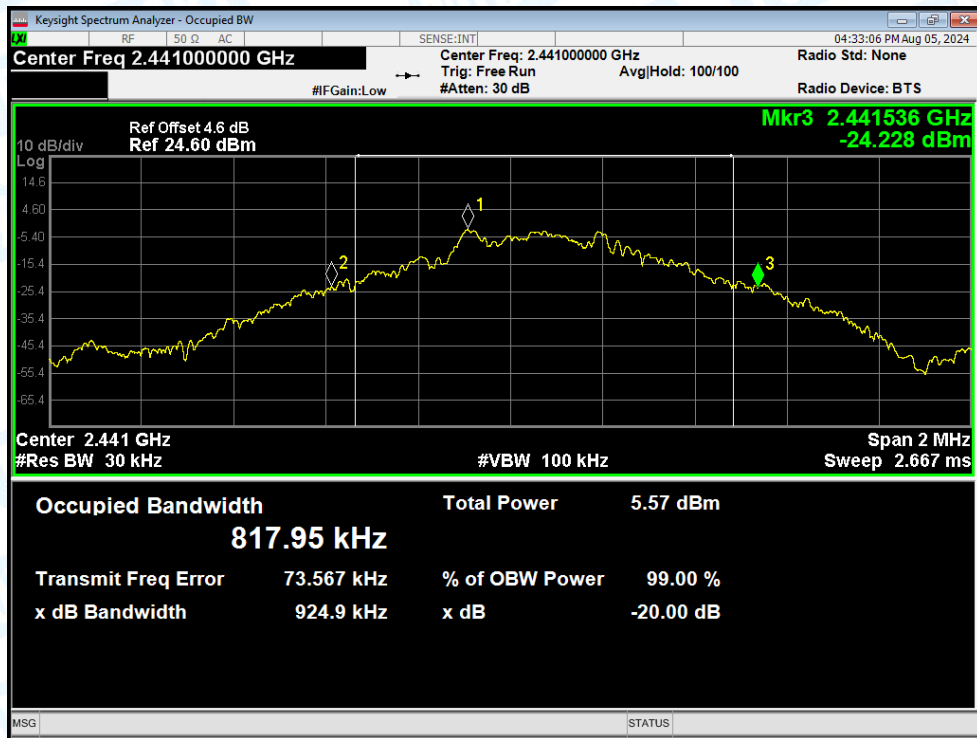
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.79	0	Pass
NVNT	1-DH1	2441	Ant1	0.92	0	Pass
NVNT	1-DH1	2480	Ant1	0.87	0	Pass
NVNT	2-DH1	2402	Ant1	1.25	0	Pass
NVNT	2-DH1	2441	Ant1	1.26	0	Pass
NVNT	2-DH1	2480	Ant1	1.26	0	Pass
NVNT	3-DH1	2402	Ant1	1.22	0	Pass
NVNT	3-DH1	2441	Ant1	1.25	0	Pass
NVNT	3-DH1	2480	Ant1	1.24	0	Pass

Test Graphs

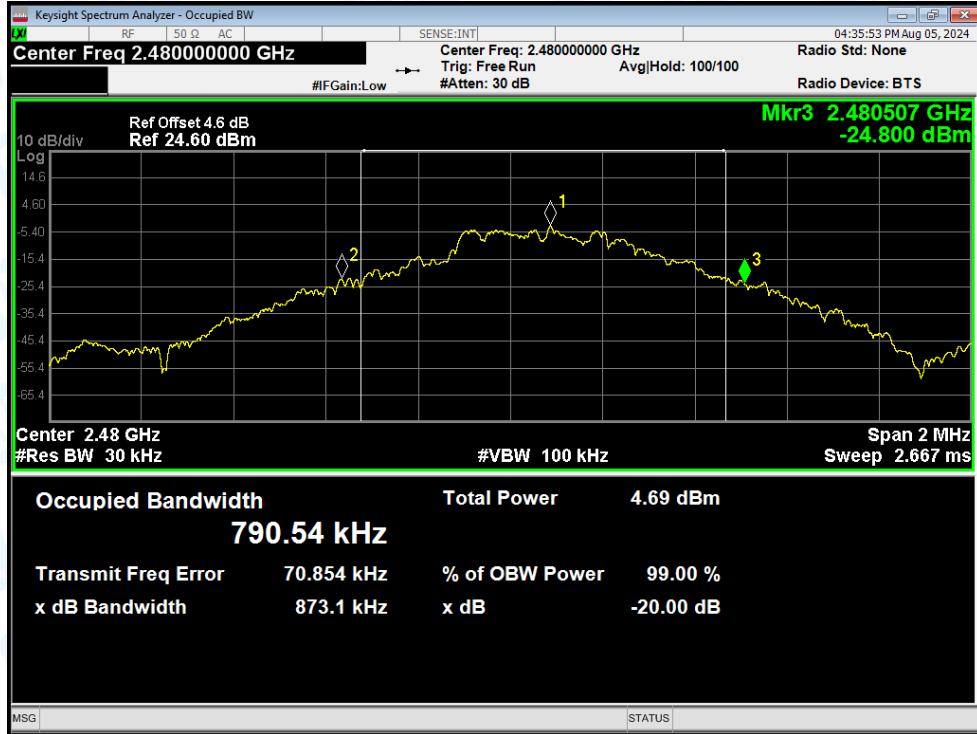
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



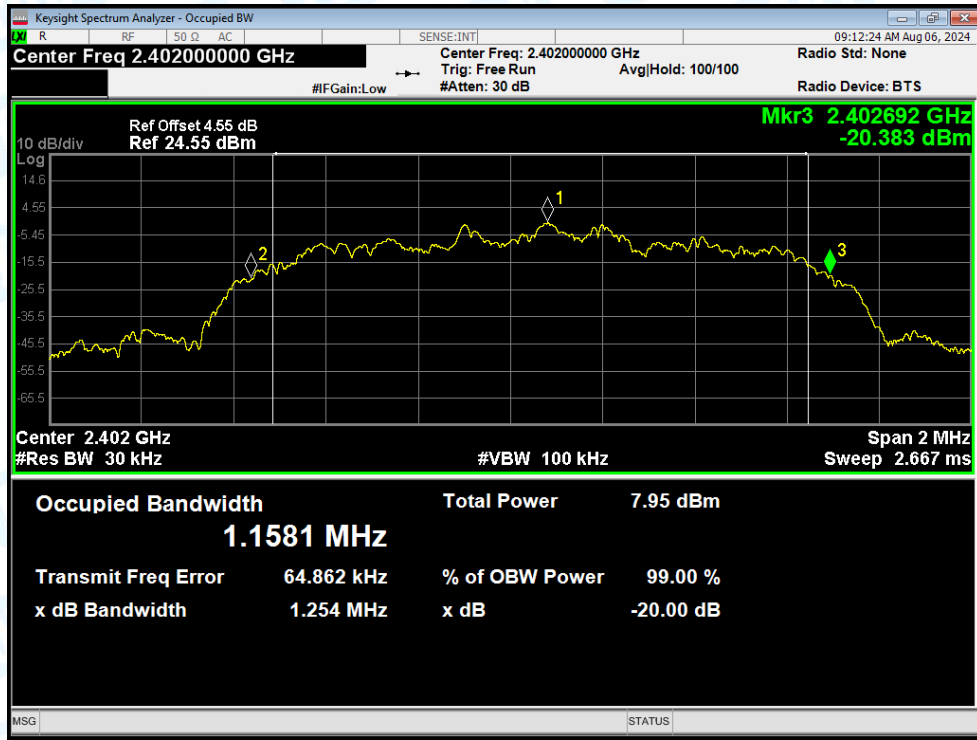
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



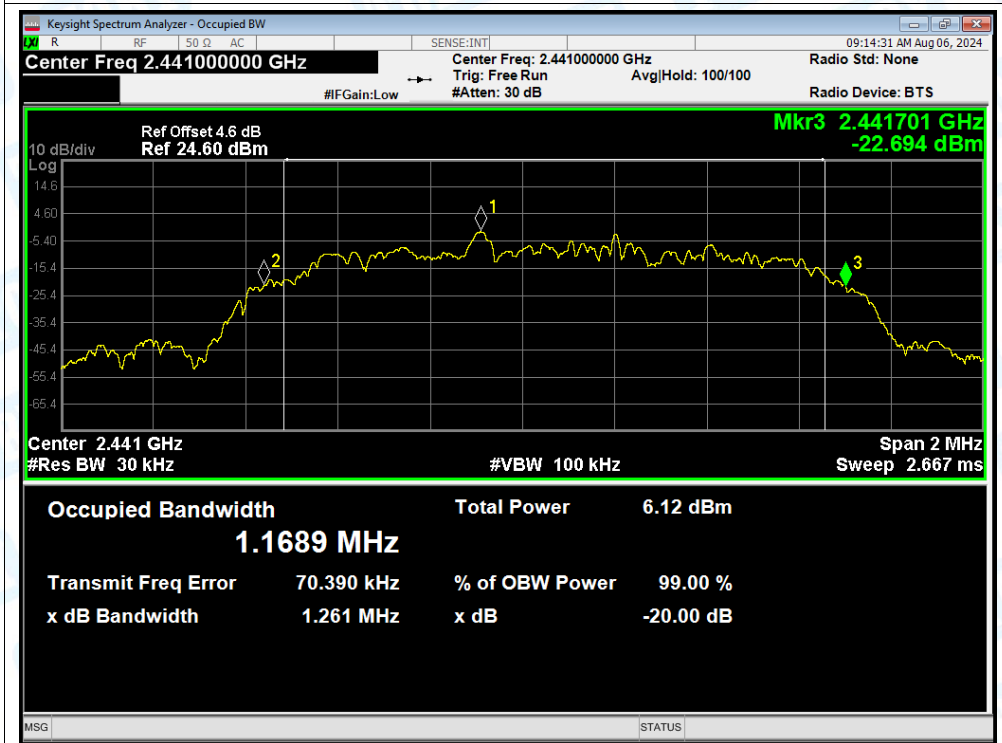
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



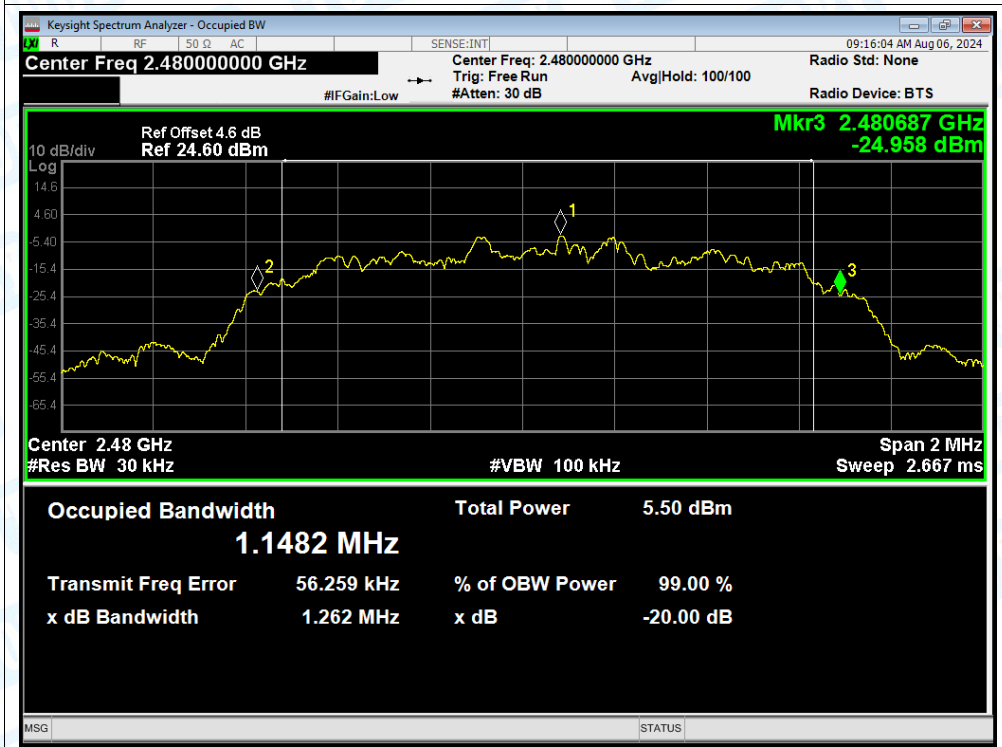
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



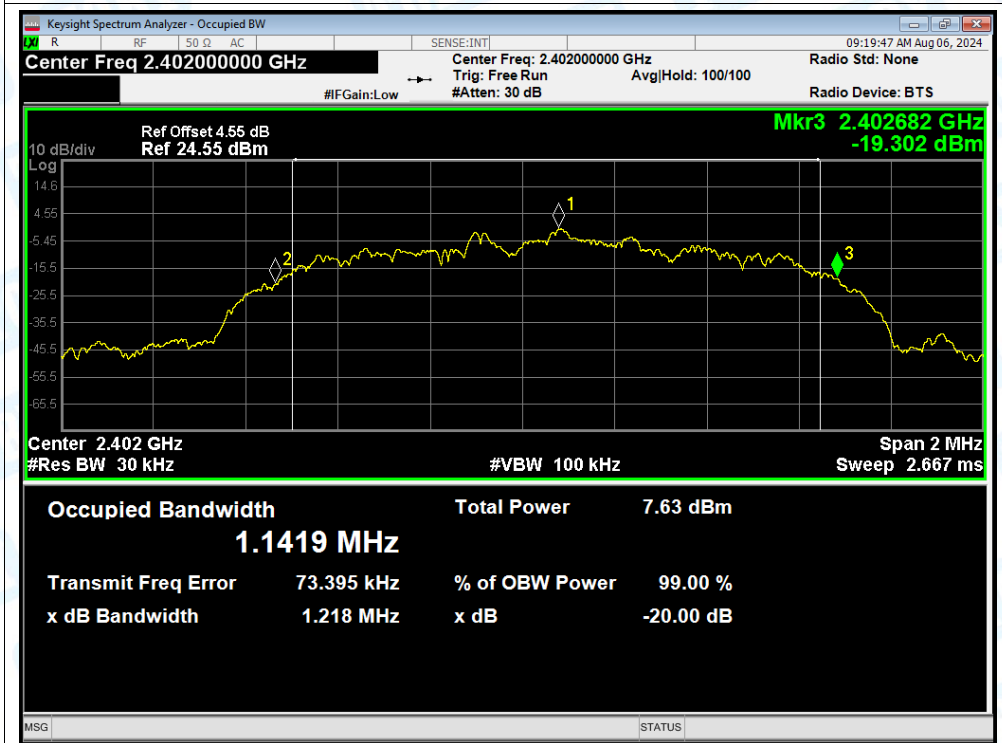
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



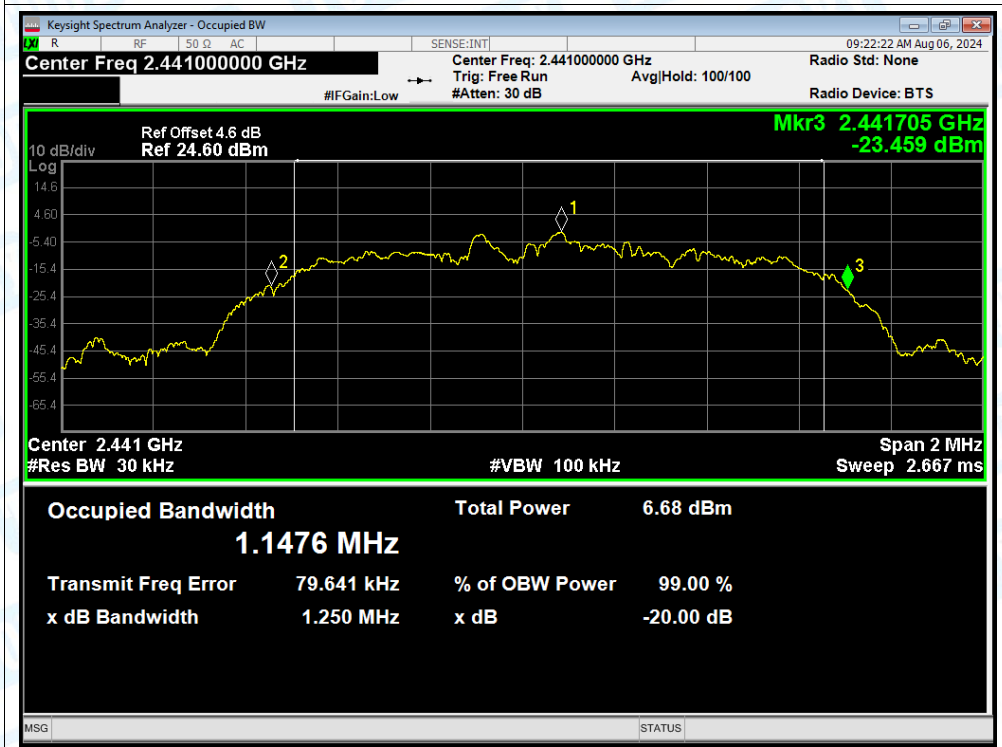
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

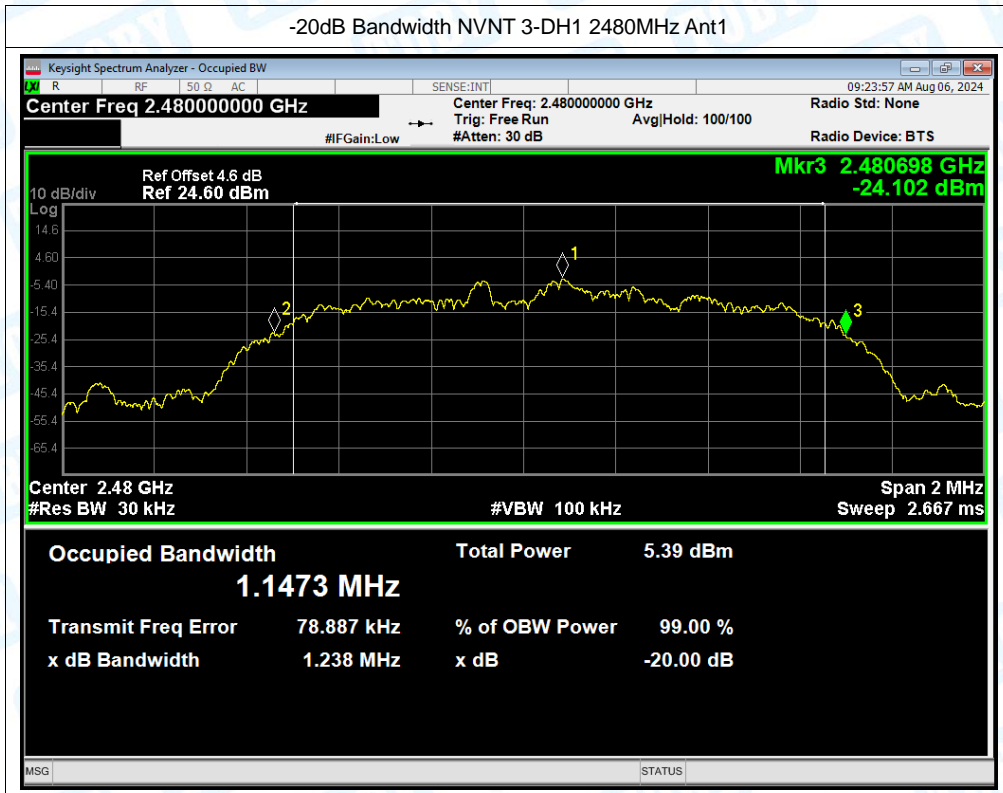


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1





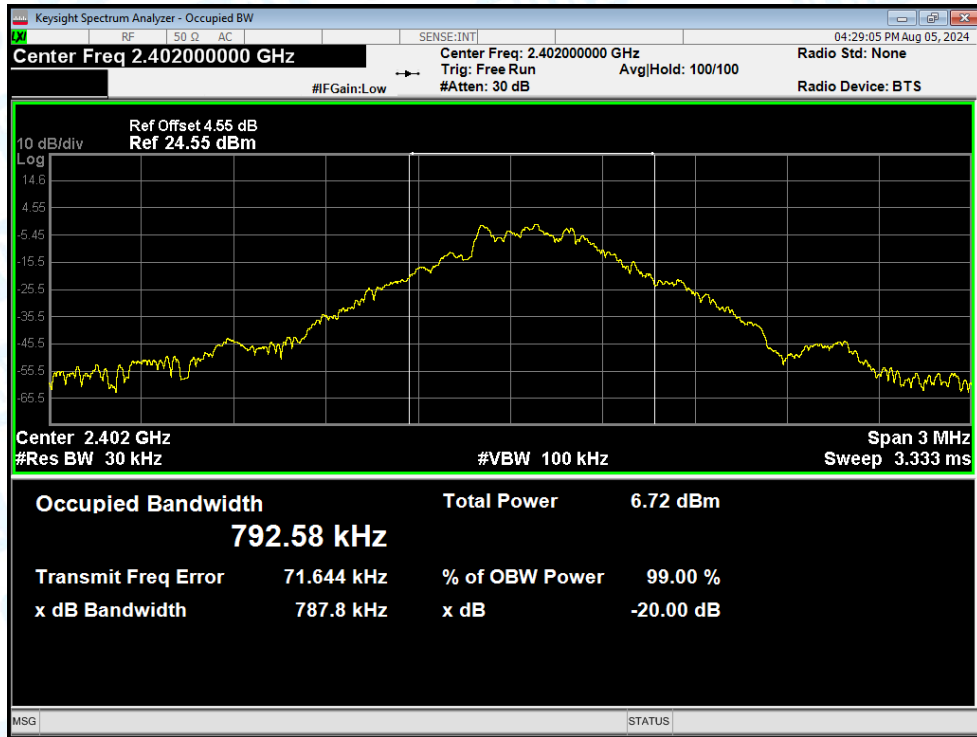
## 4. Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.793
NVNT	1-DH1	2441	Ant1	0.813
NVNT	1-DH1	2480	Ant1	0.787
NVNT	2-DH1	2402	Ant1	1.157
NVNT	2-DH1	2441	Ant1	1.165
NVNT	2-DH1	2480	Ant1	1.155
NVNT	3-DH1	2402	Ant1	1.16
NVNT	3-DH1	2441	Ant1	1.147
NVNT	3-DH1	2480	Ant1	1.15

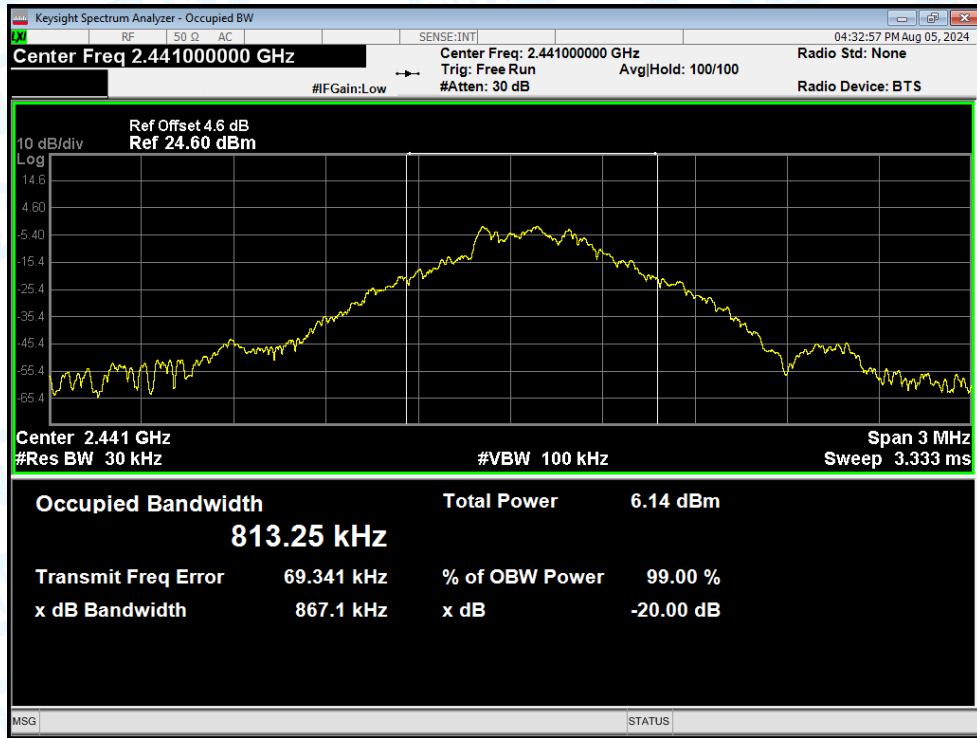


Test Graphs

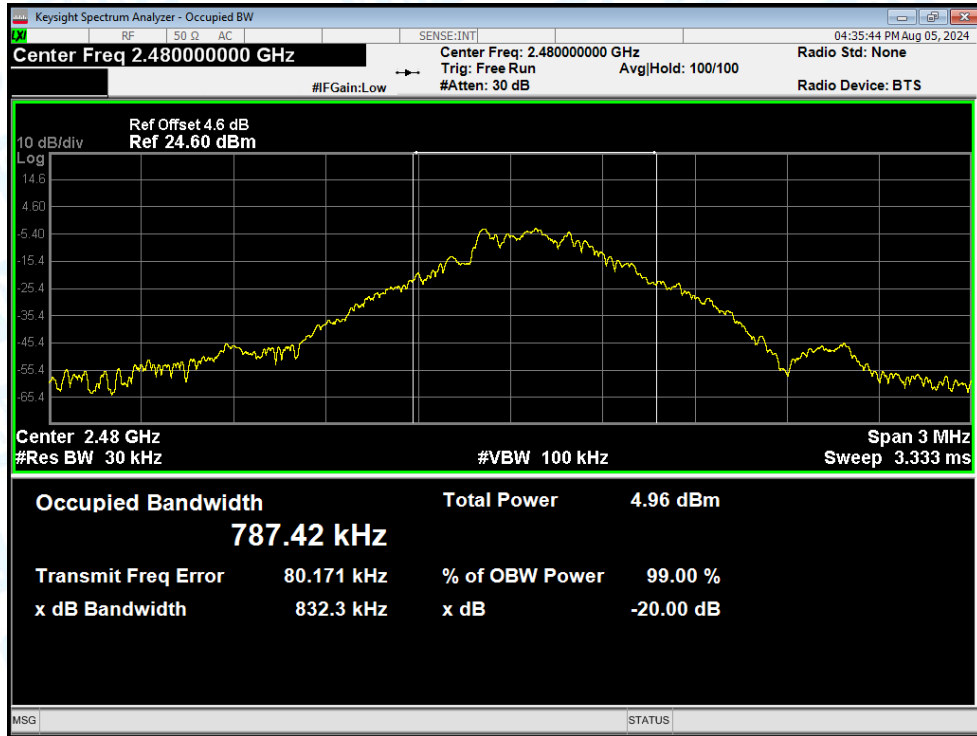
OBW NVNT 1-DH1 2402MHz Ant1



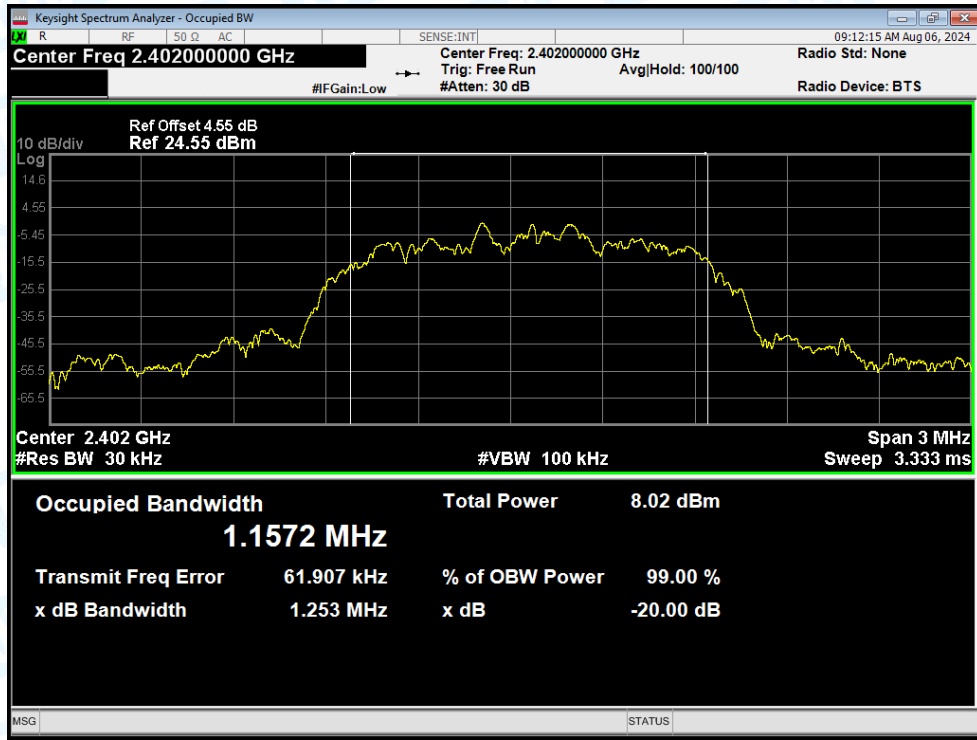
OBW NVNT 1-DH1 2441MHz Ant1



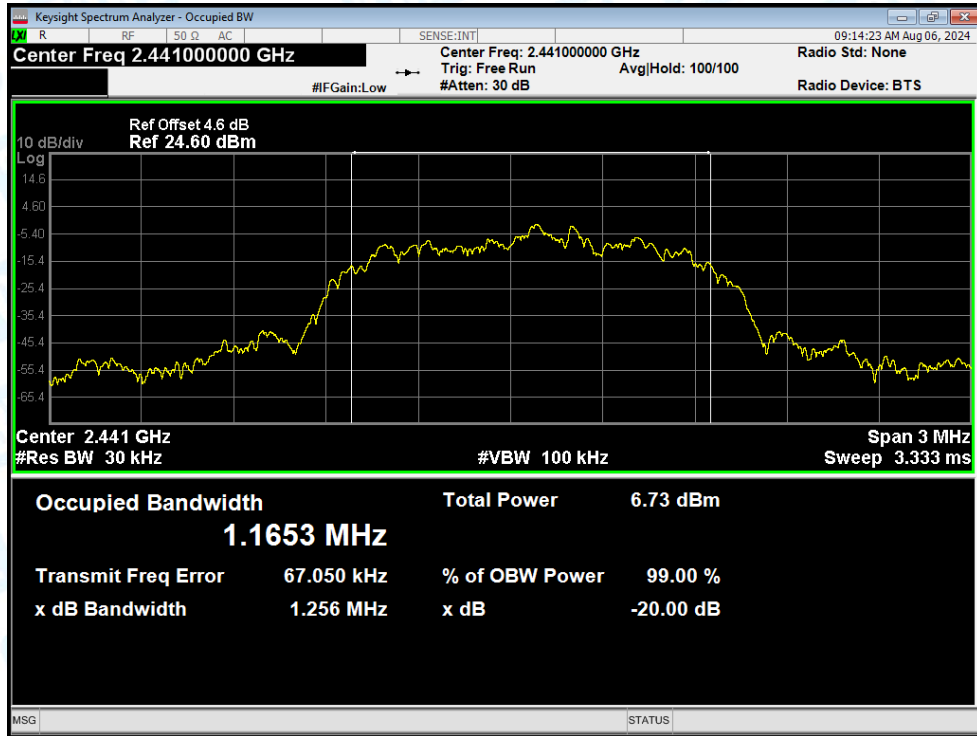
OBW NVNT 1-DH1 2480MHz Ant1



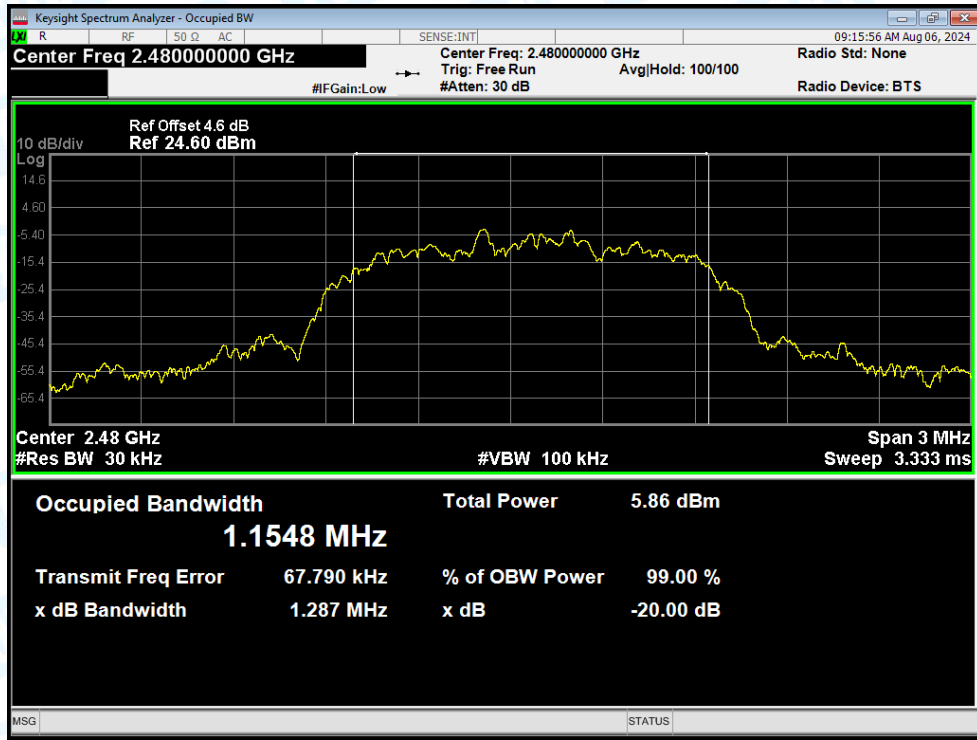
OBW NVNT 2-DH1 2402MHz Ant1



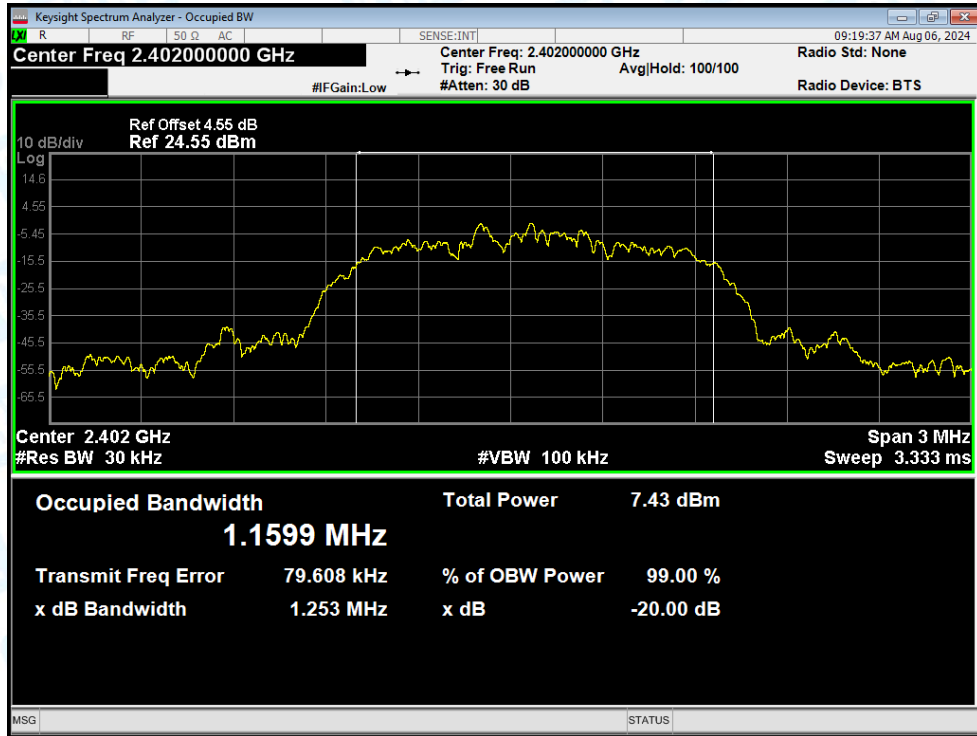
OBW NVNT 2-DH1 2441MHz Ant1



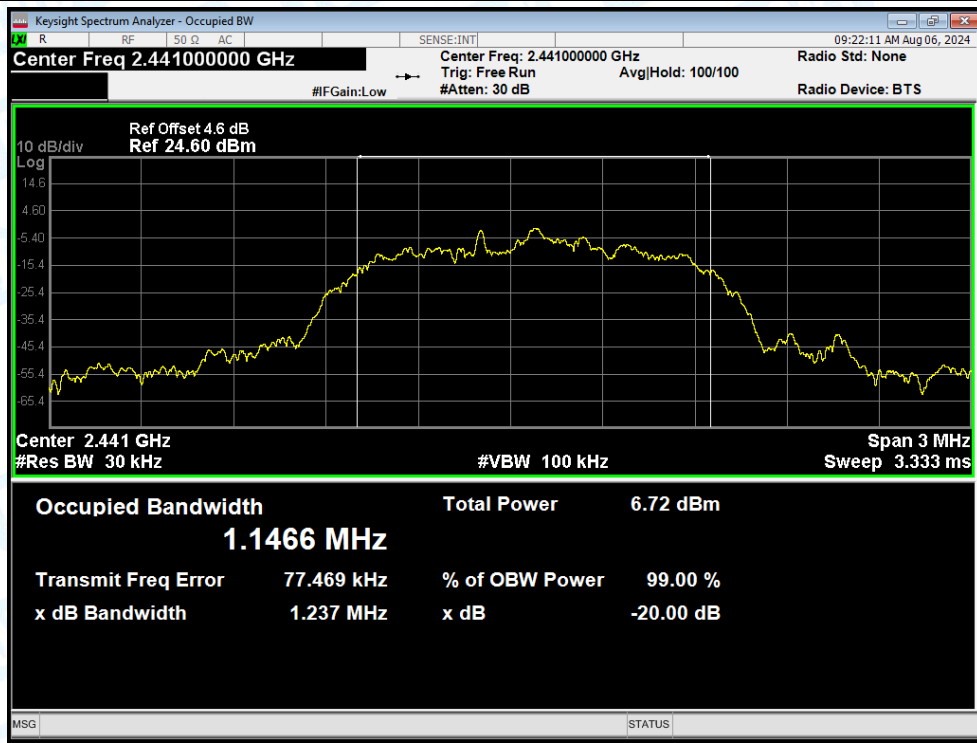
OBW NVNT 2-DH1 2480MHz Ant1

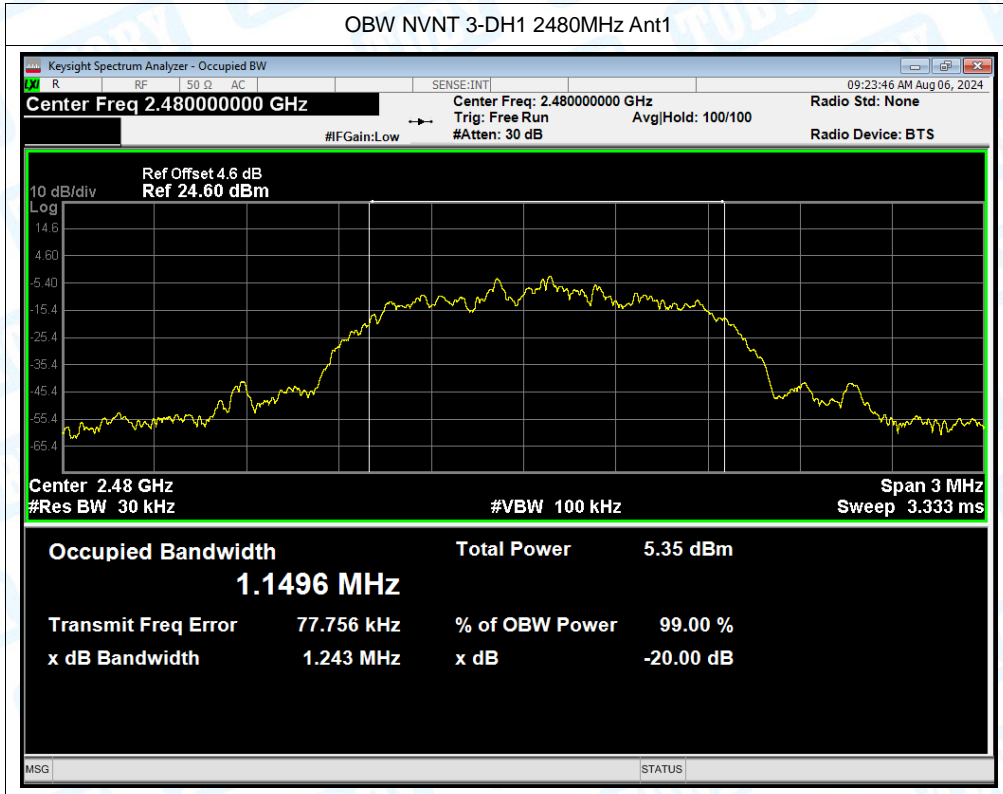


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



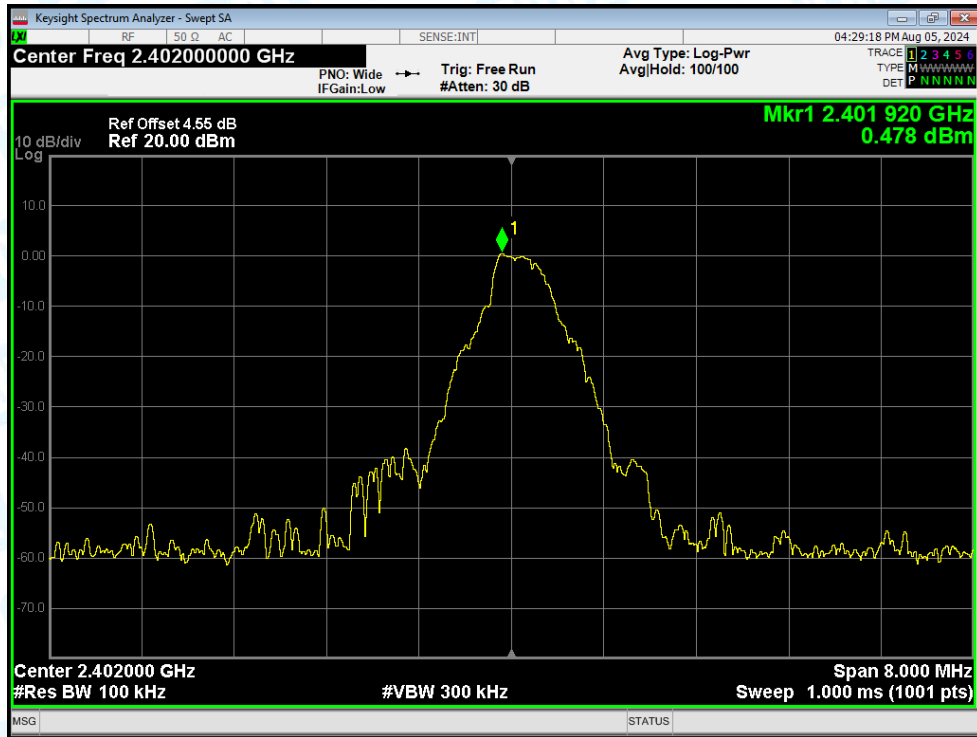


## 5. Band Edge

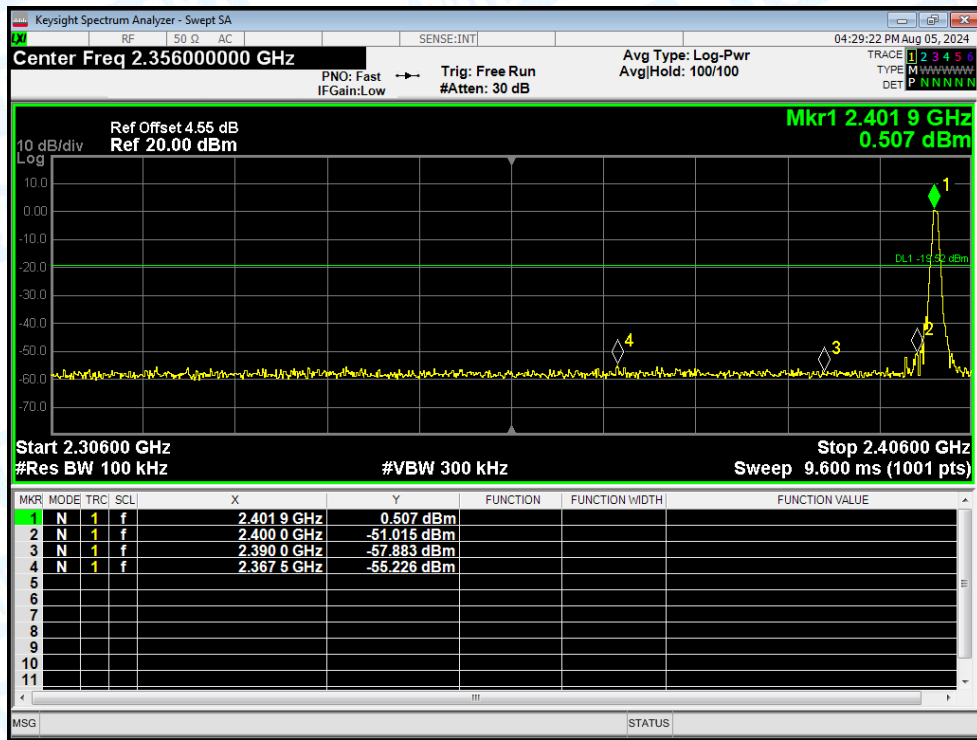
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-55.71	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-53.44	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-55.1	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-54.09	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-55.96	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-53.78	-20	Pass

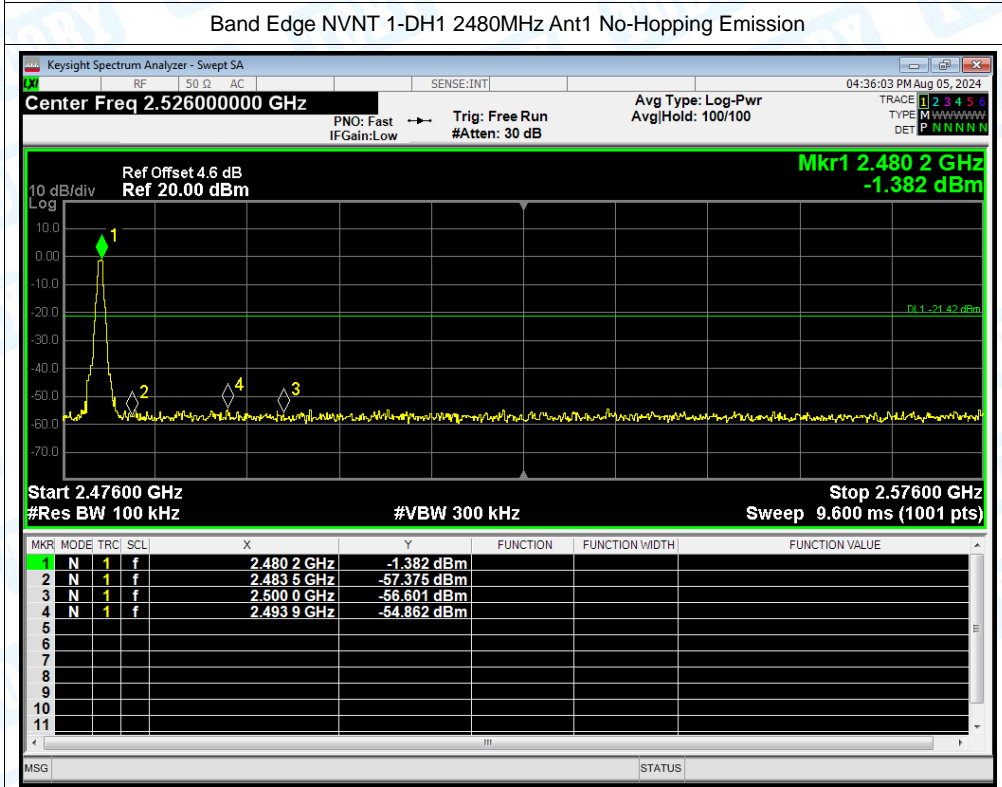
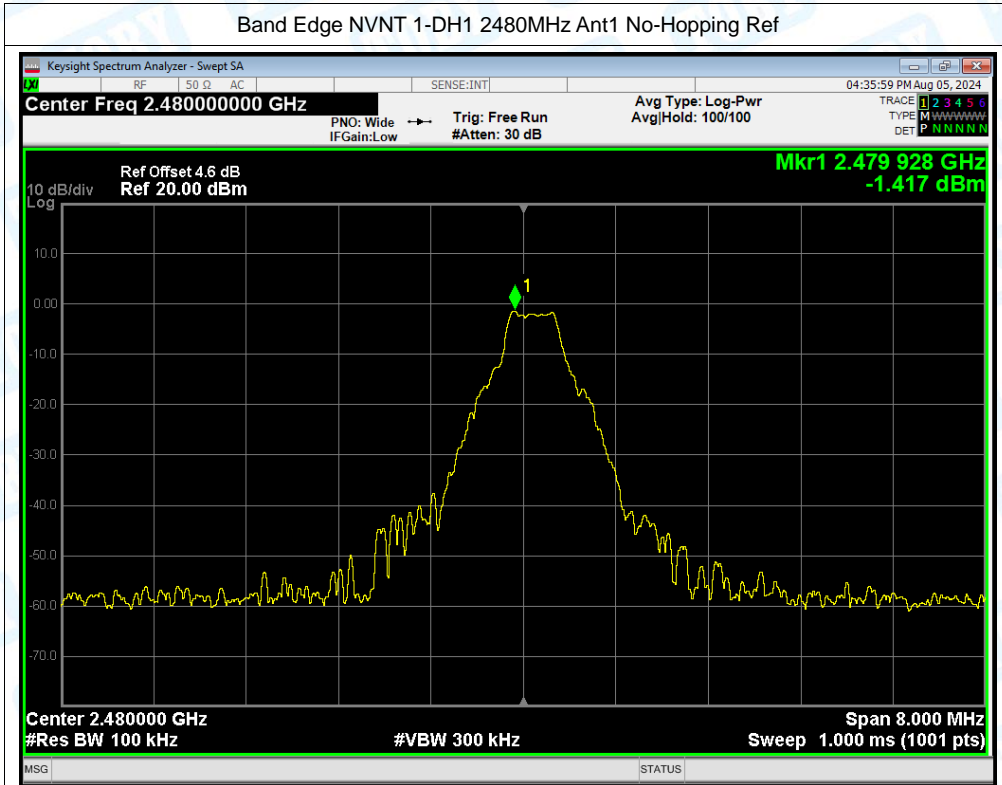
Test Graphs

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

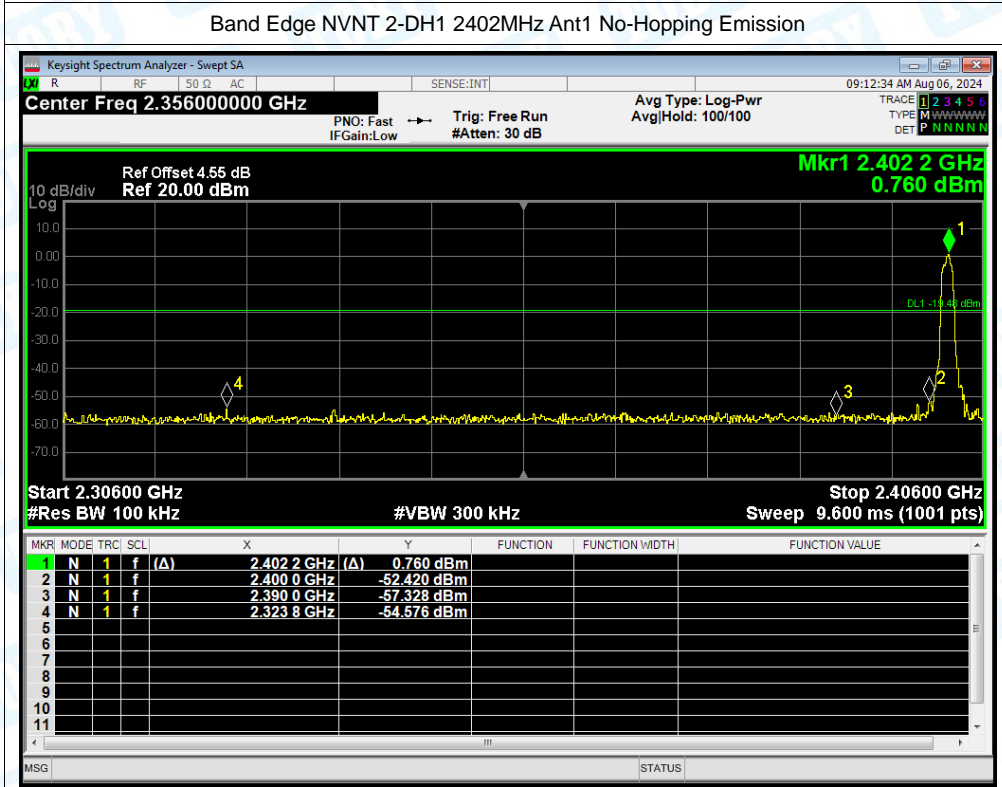
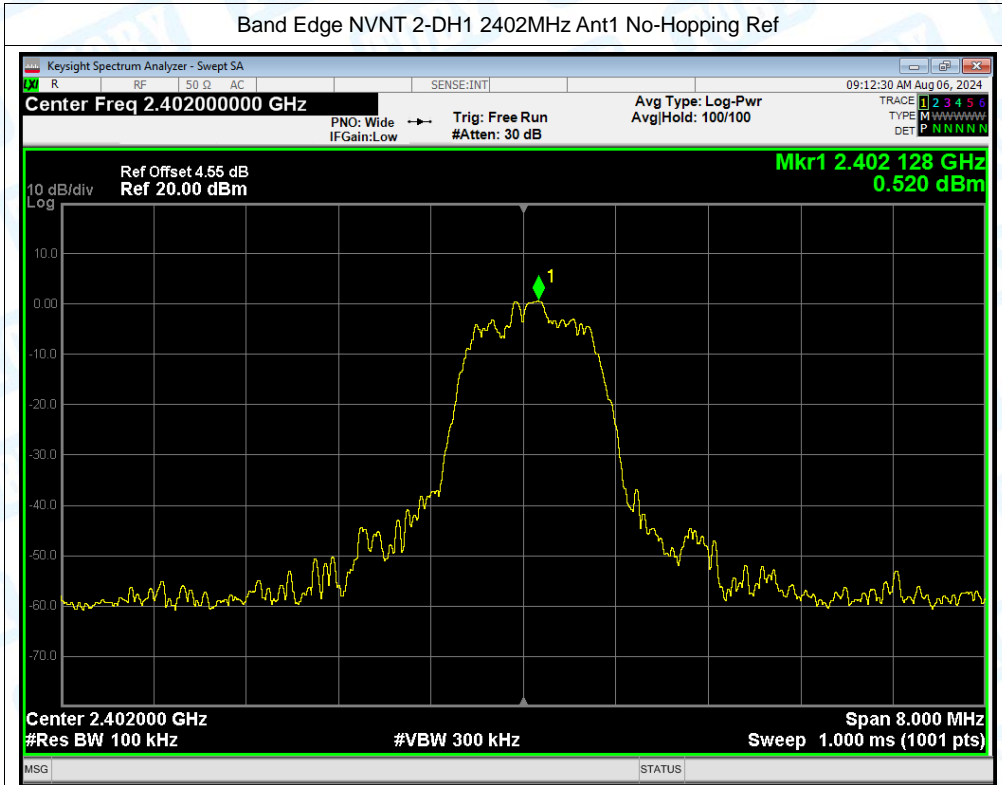


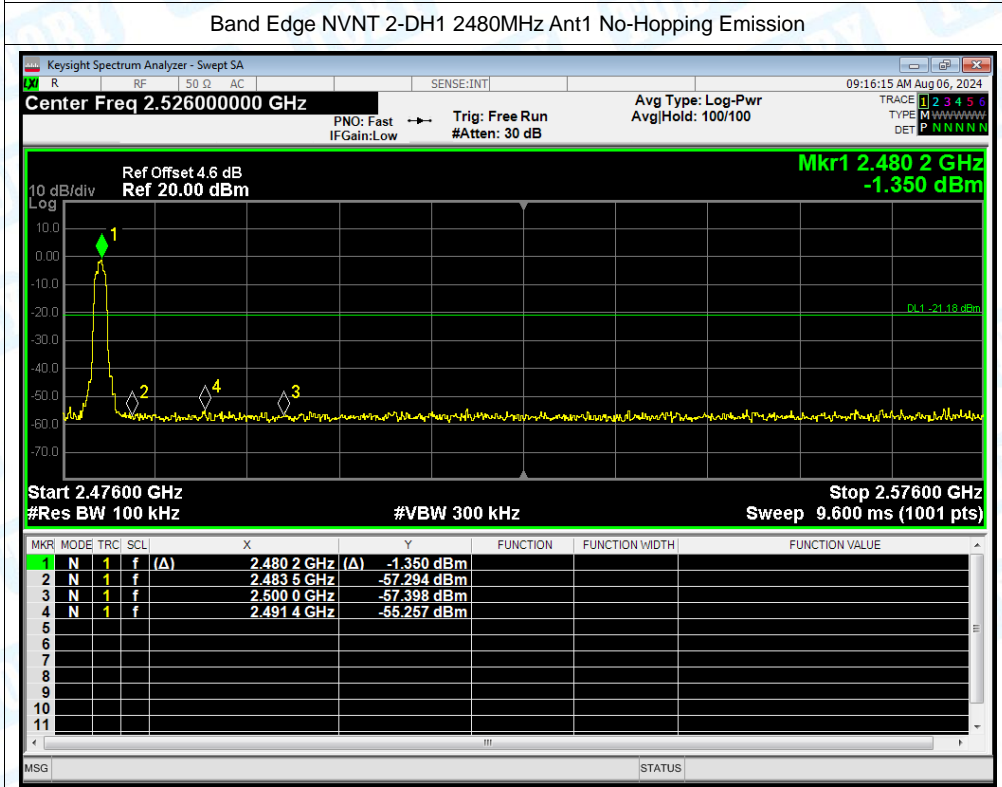
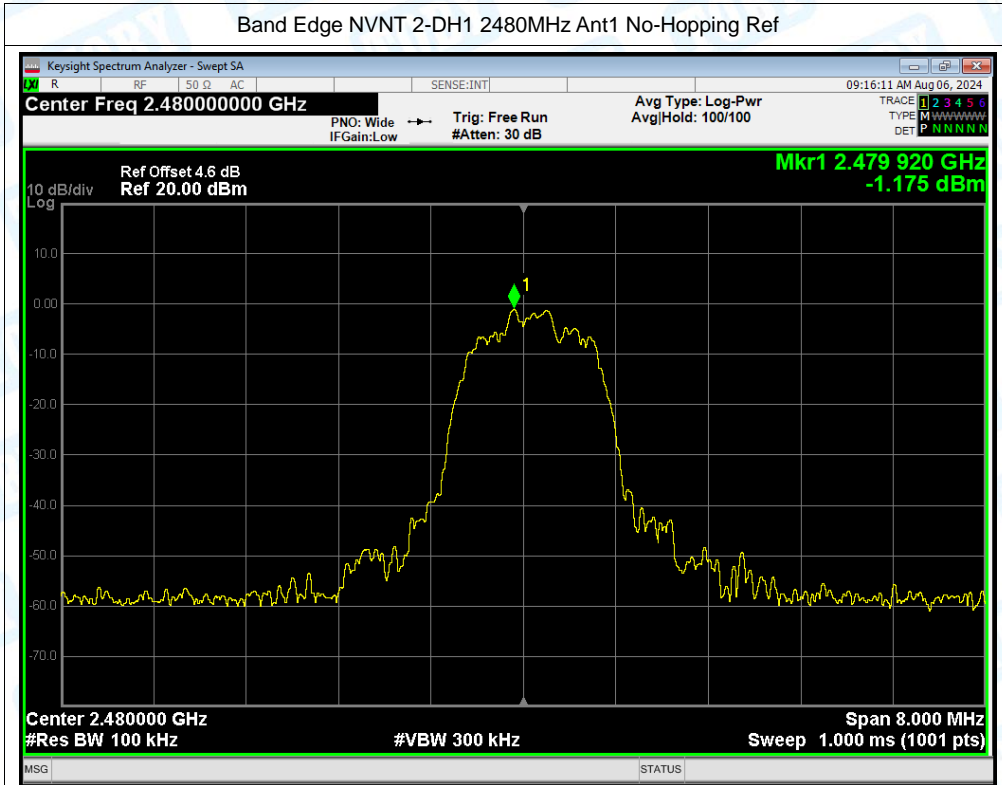
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

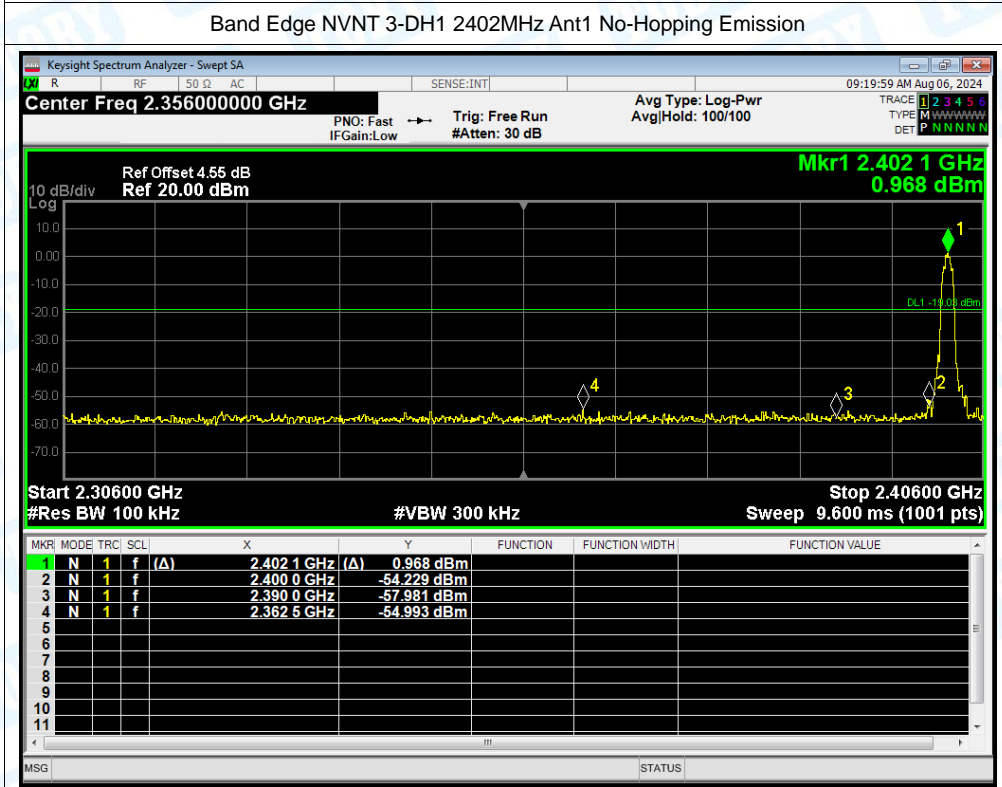
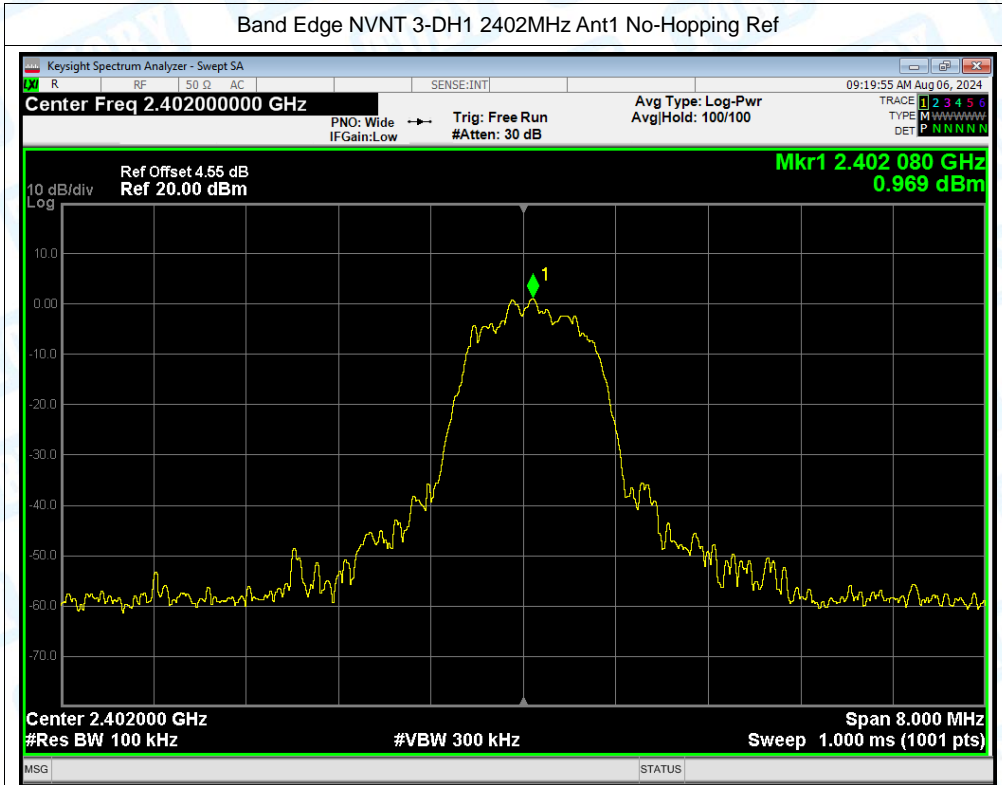


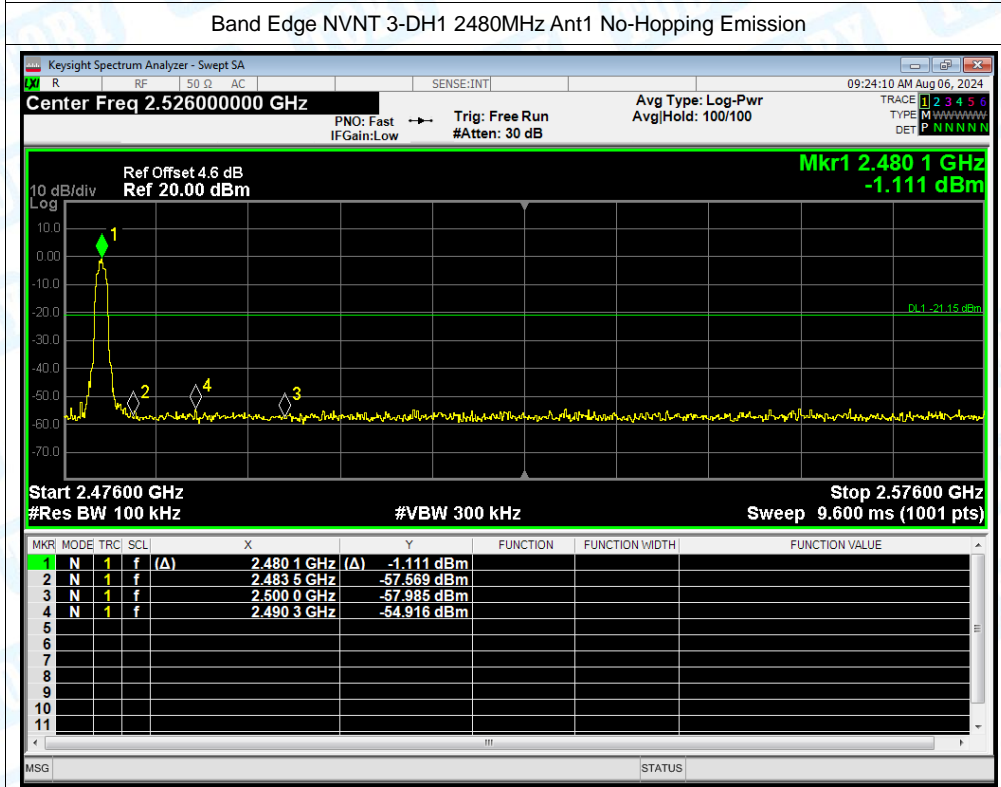
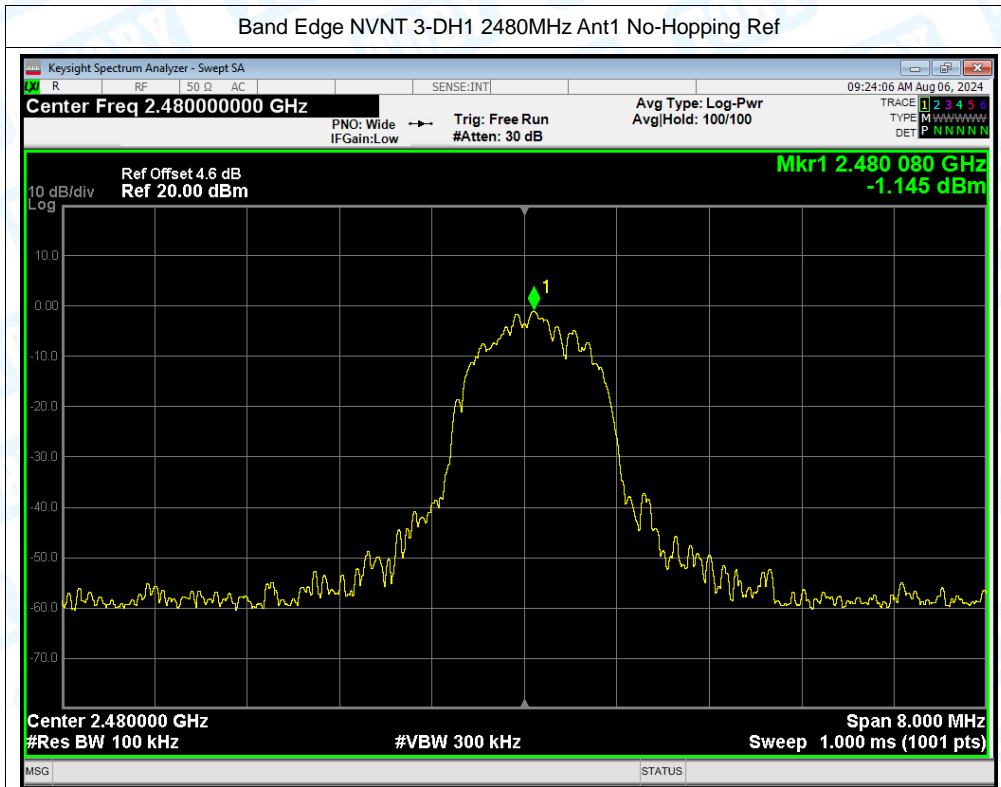










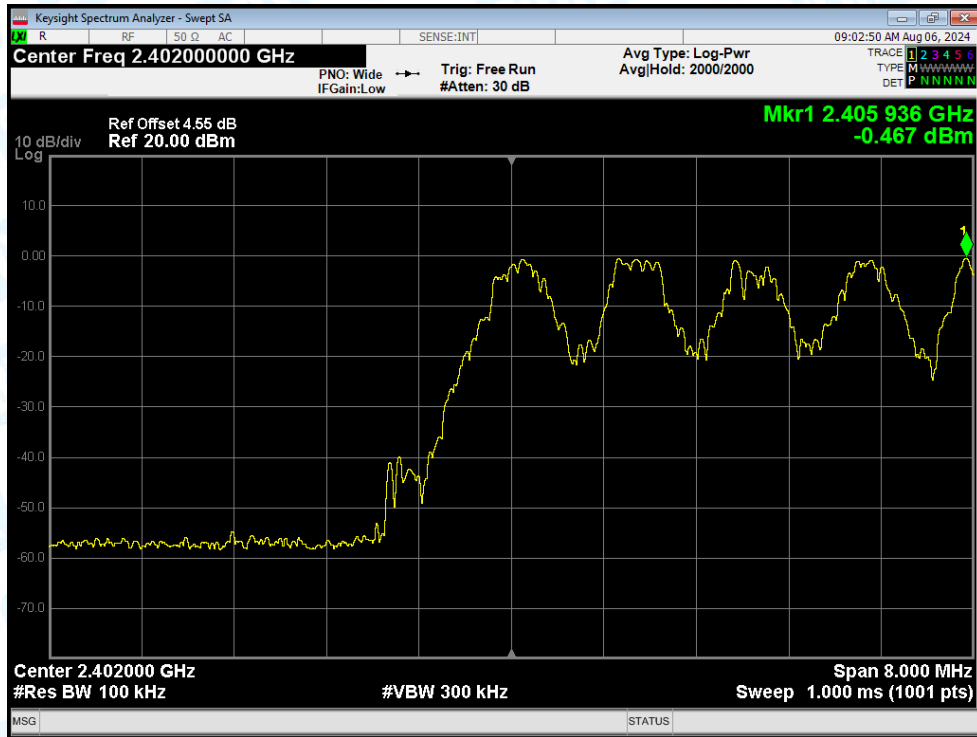


## 6. Band Edge(Hopping)

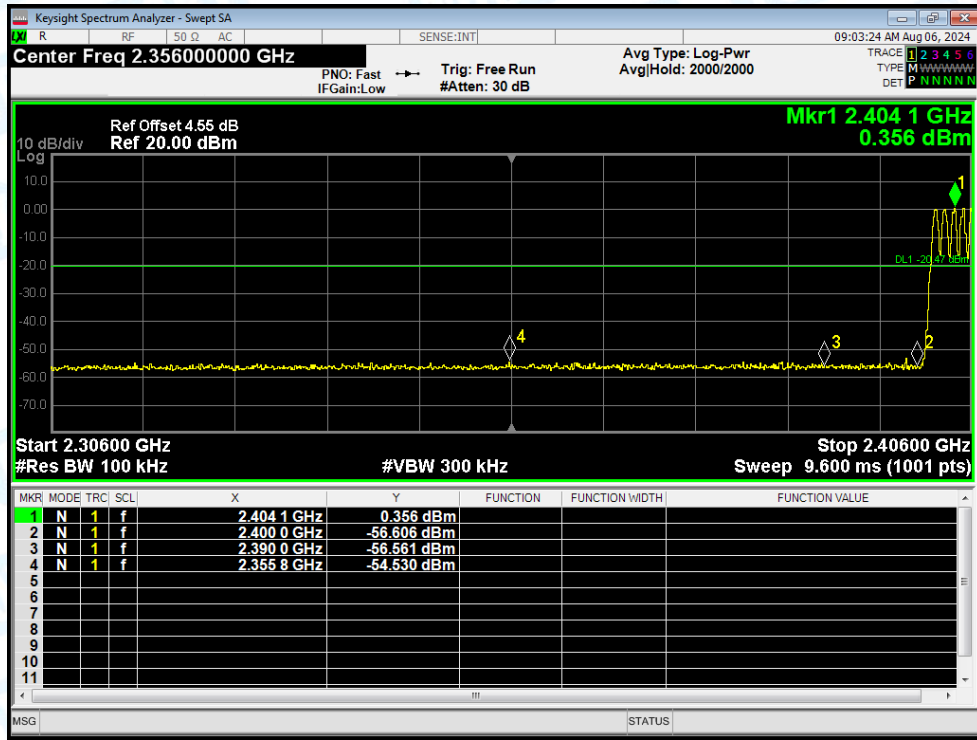
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-54.06	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-52.7	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-54.43	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-52.71	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-54.02	-20	Pass
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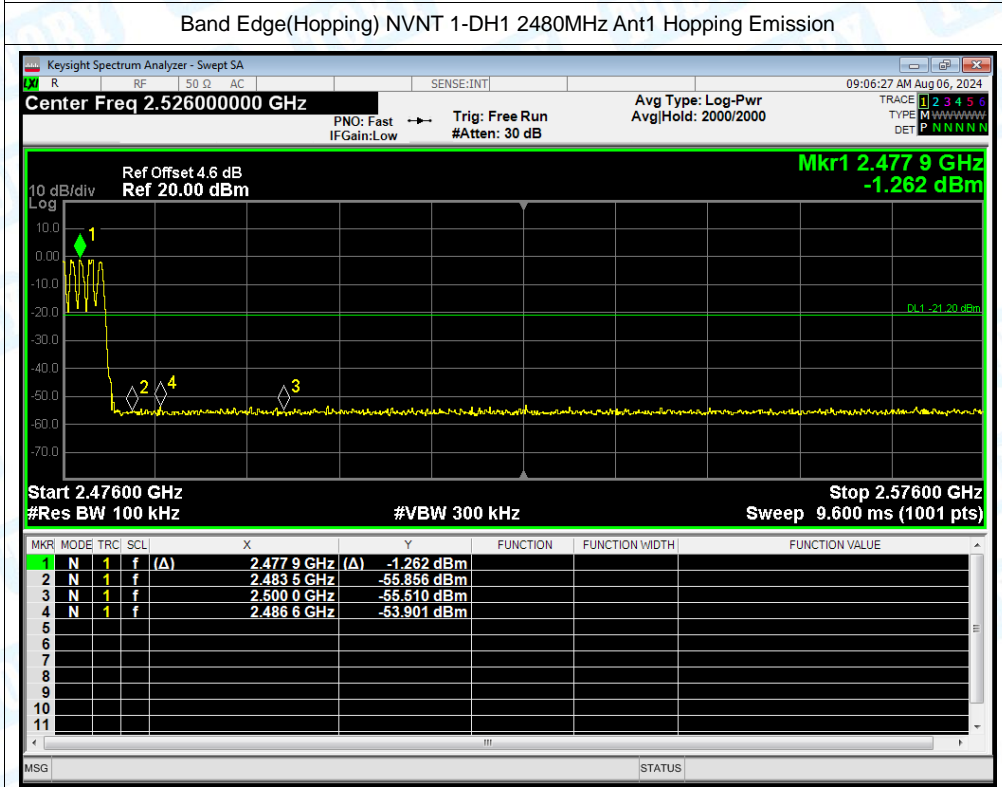
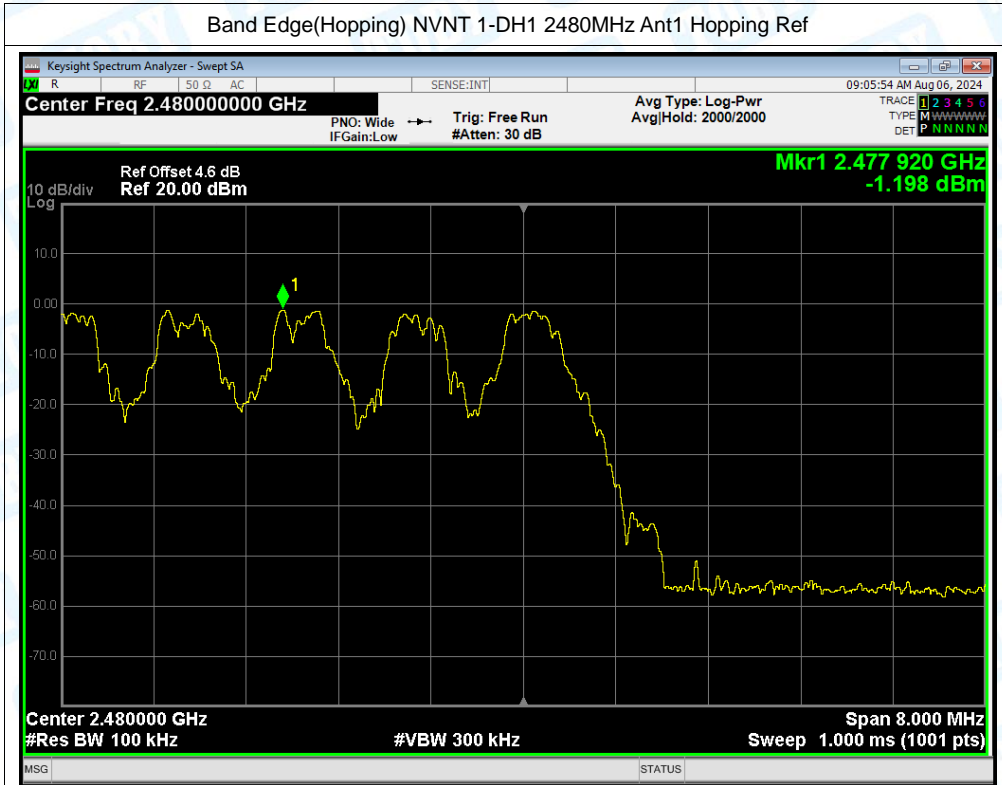
Test Graphs

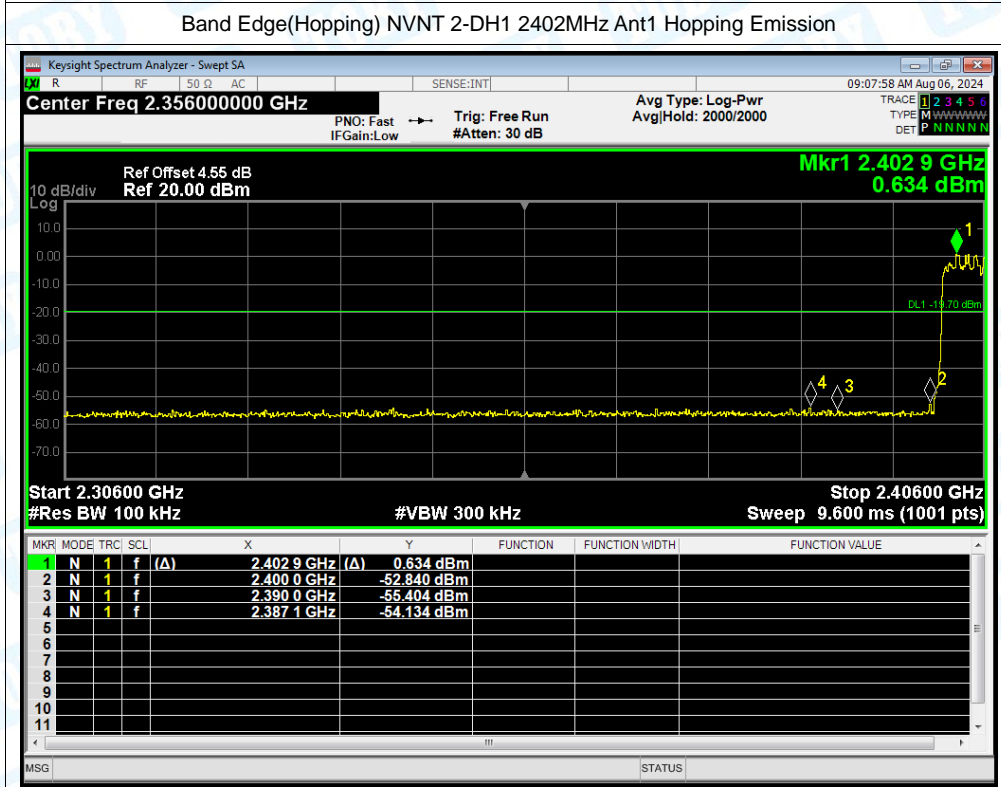
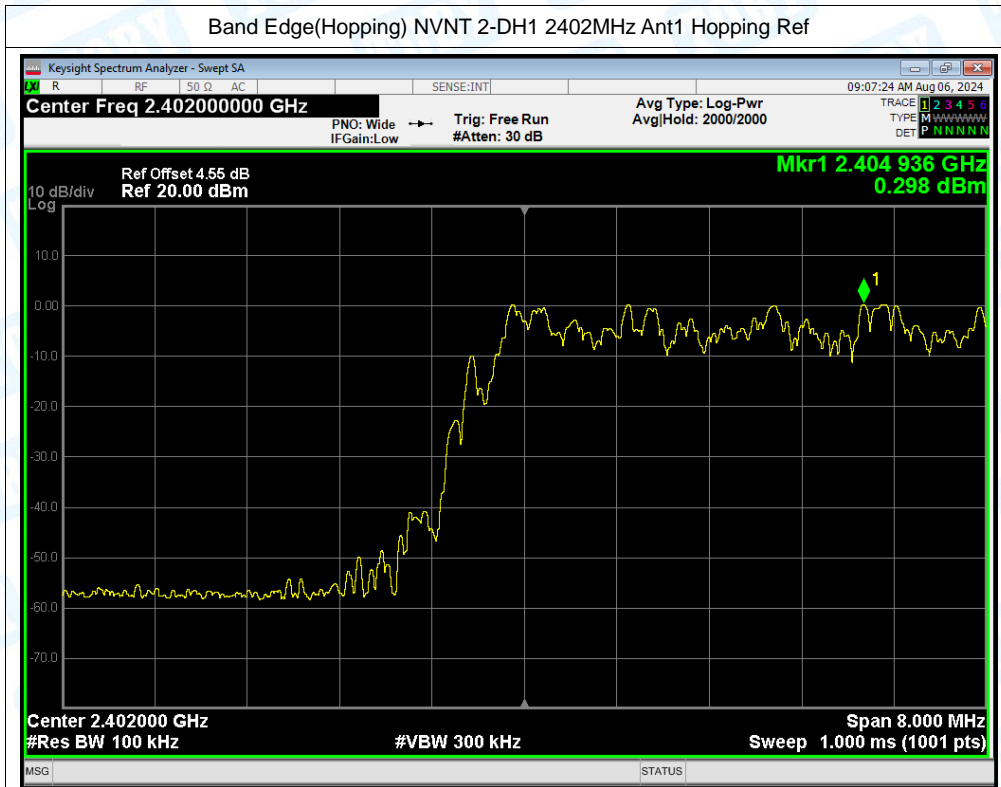
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



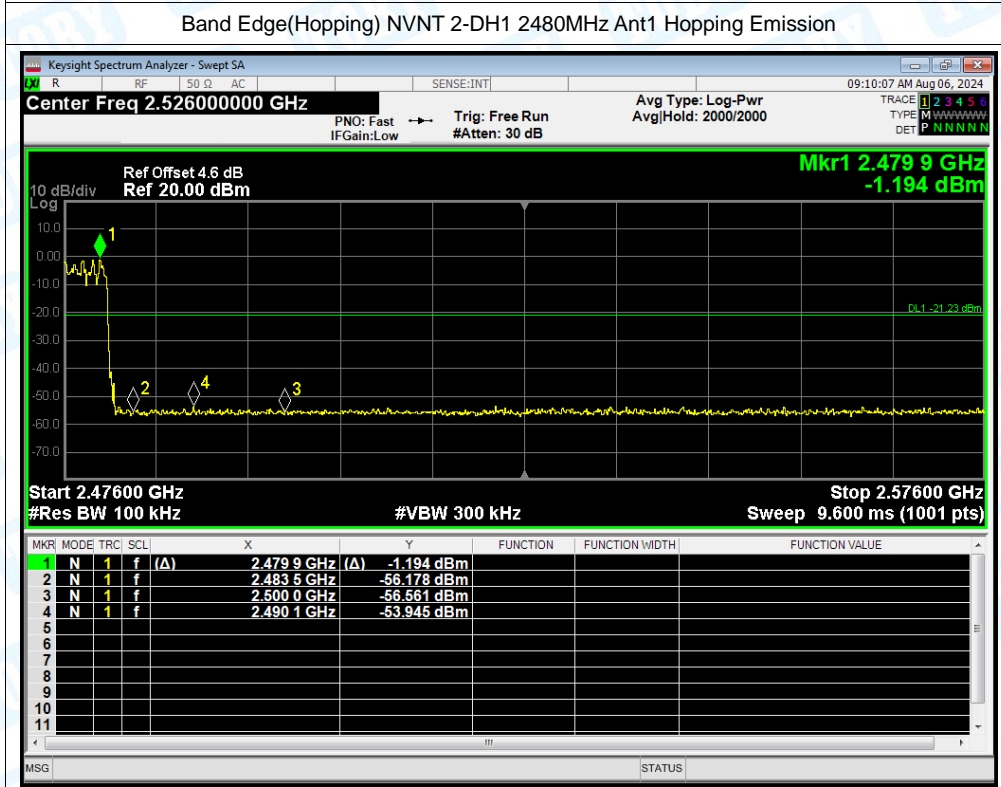
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

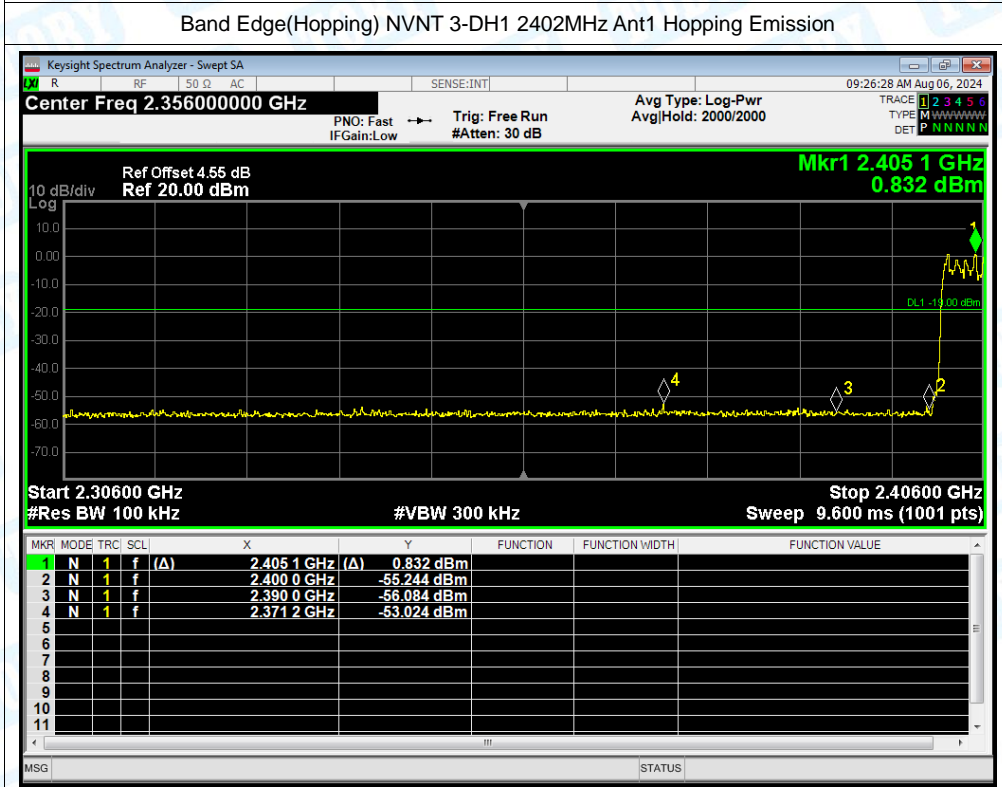
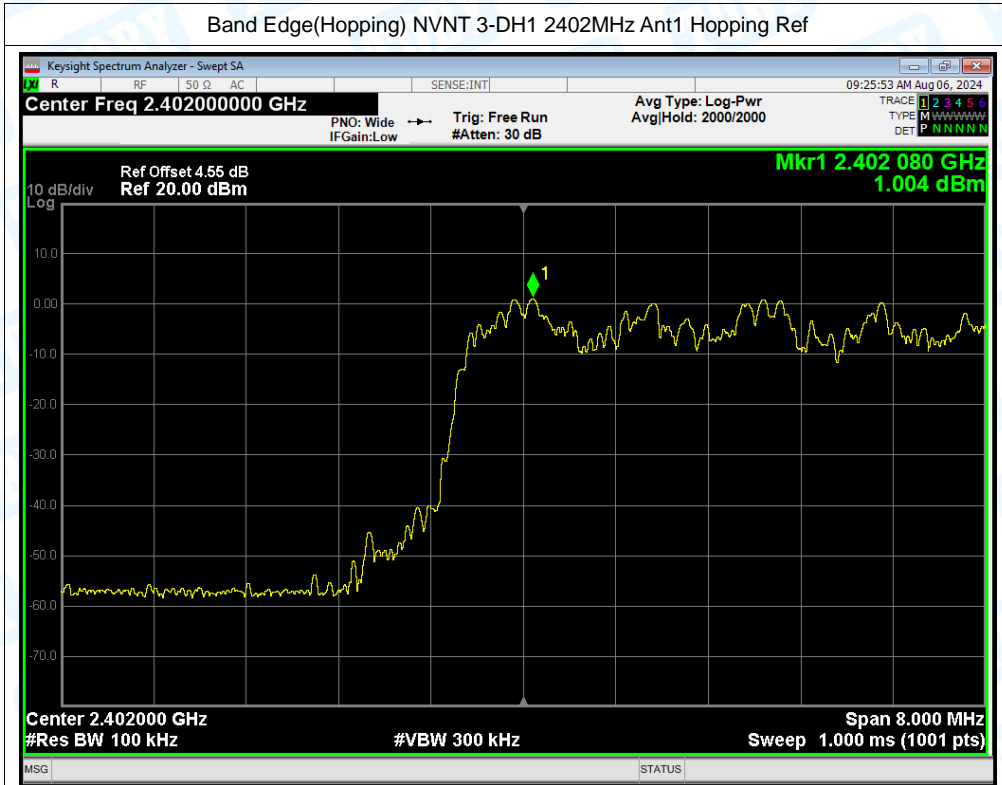


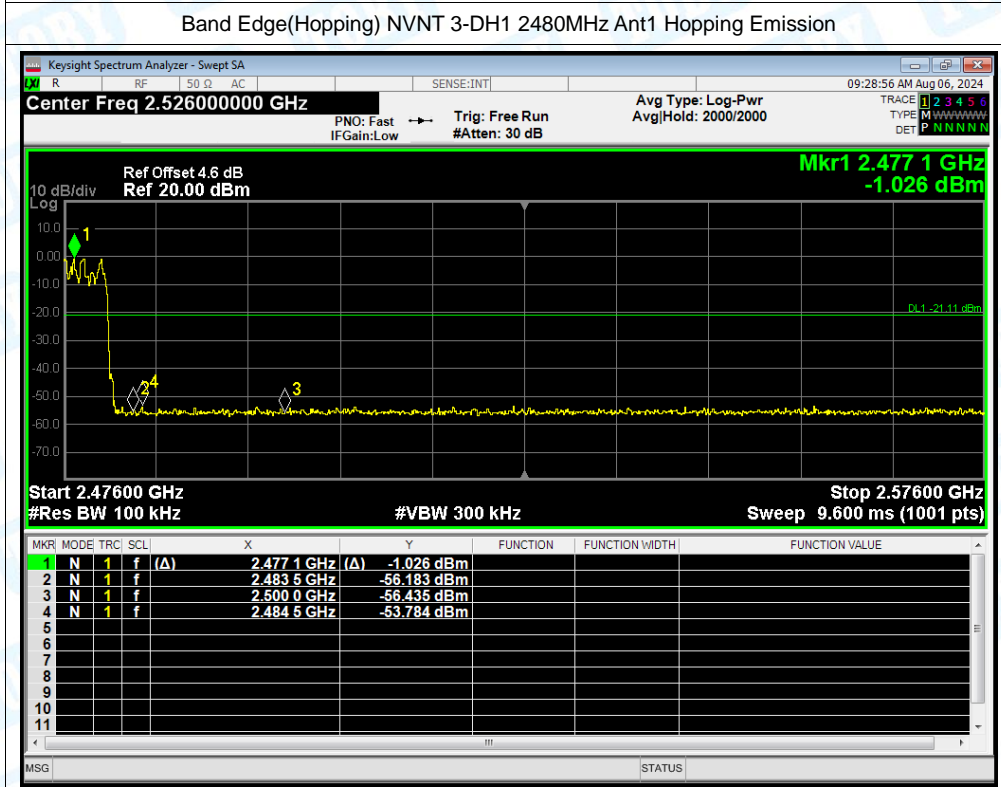
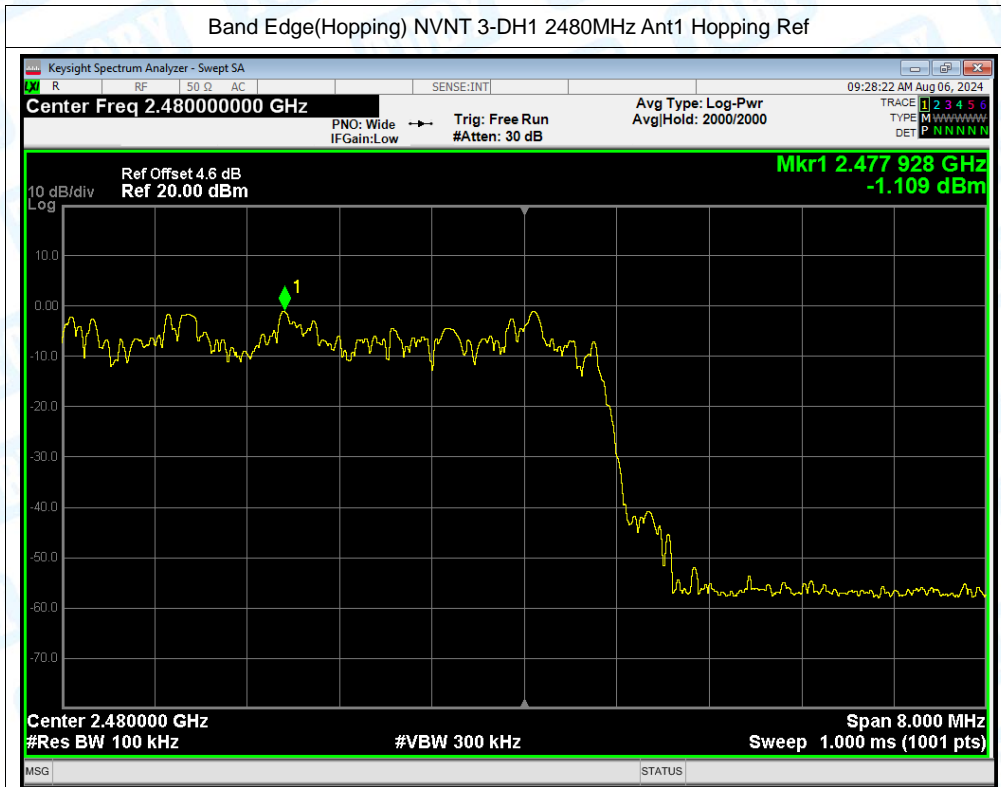










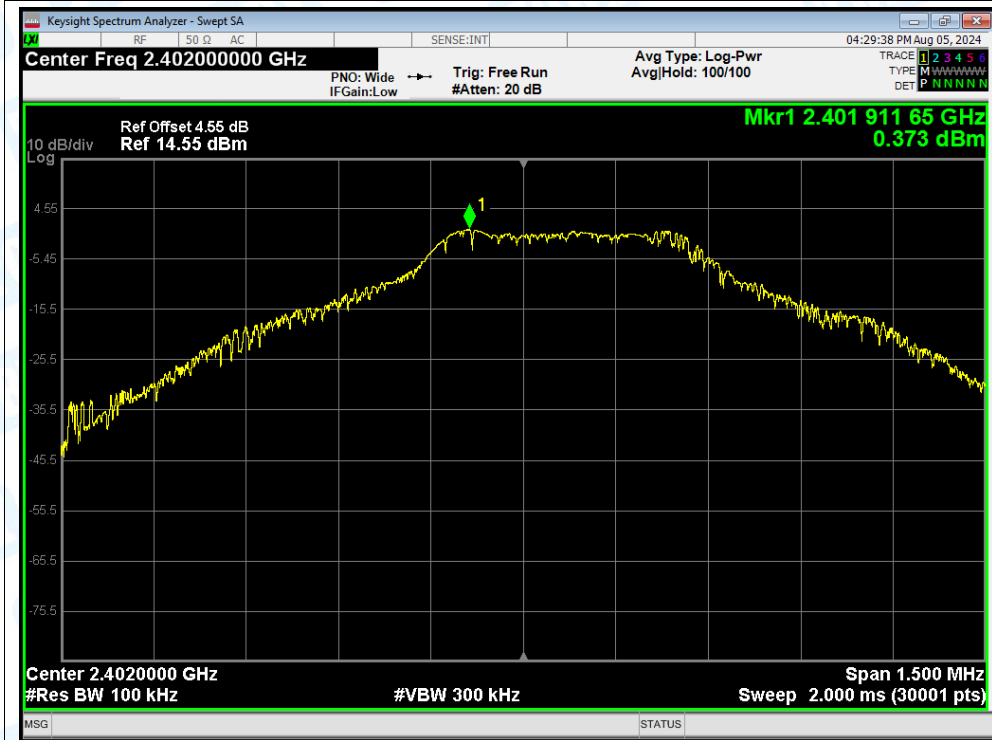


## 7. Conducted RF Spurious Emission

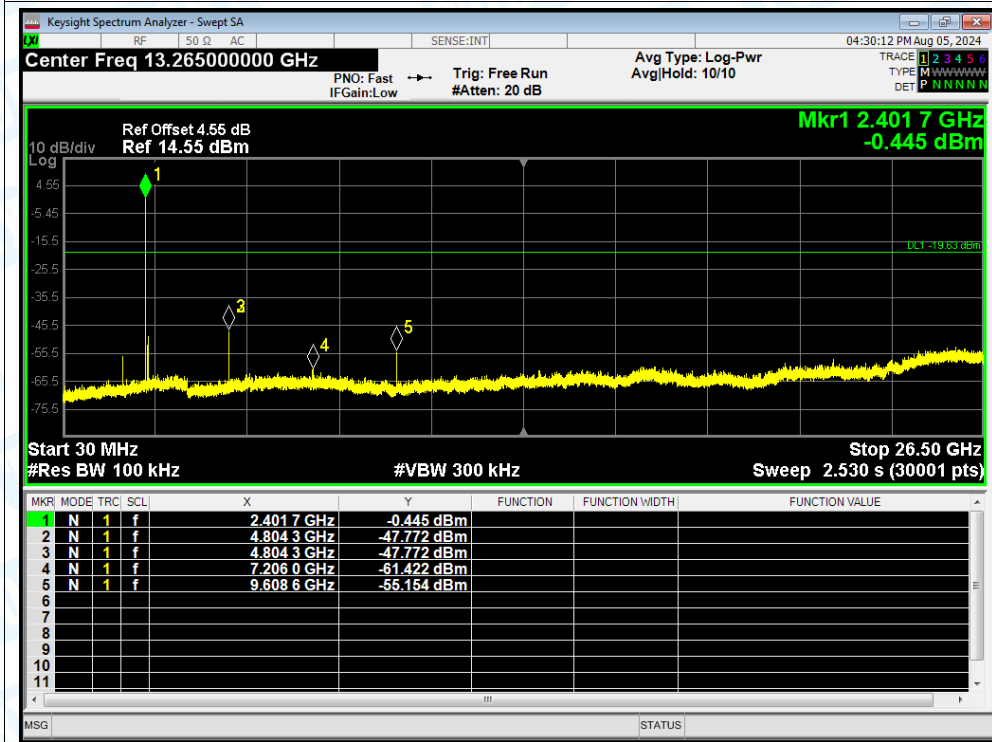
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-48.14	-20	Pass
NVNT	1-DH1	2441	Ant1	-47.41	-20	Pass
NVNT	1-DH1	2480	Ant1	-46.01	-20	Pass
NVNT	2-DH1	2402	Ant1	-48.03	-20	Pass
NVNT	2-DH1	2441	Ant1	-48.05	-20	Pass
NVNT	2-DH1	2480	Ant1	-47.33	-20	Pass
NVNT	3-DH1	2402	Ant1	-45.44	-20	Pass
NVNT	3-DH1	2441	Ant1	-50.76	-20	Pass
NVNT	3-DH1	2480	Ant1	-51.08	-20	Pass

Test Graphs

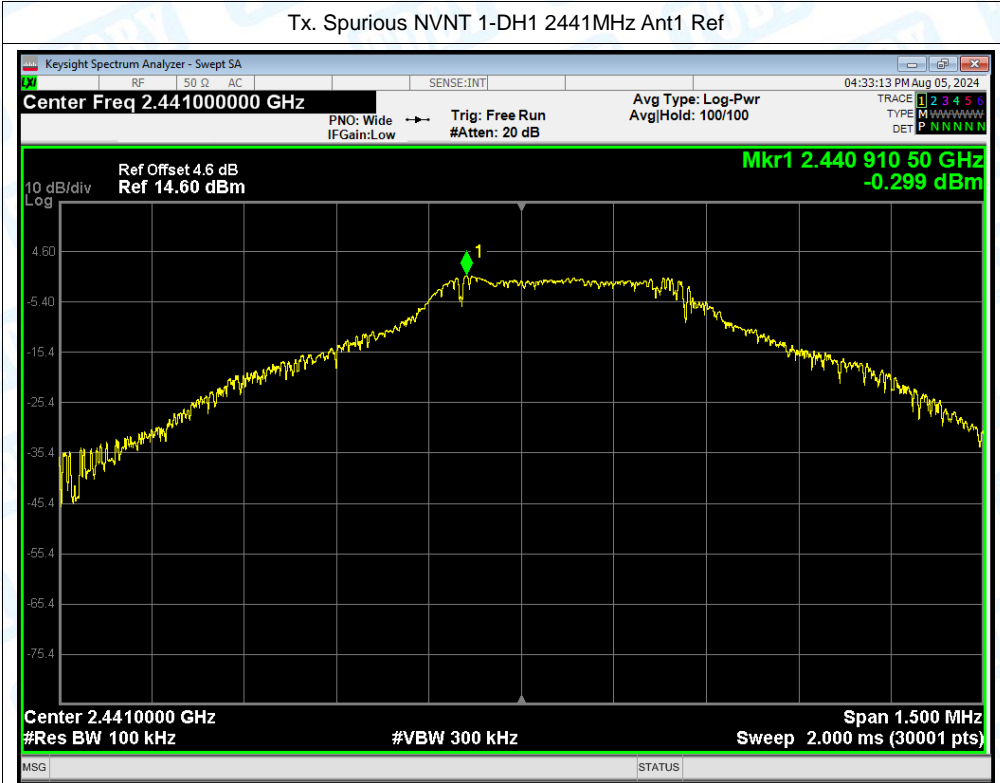
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



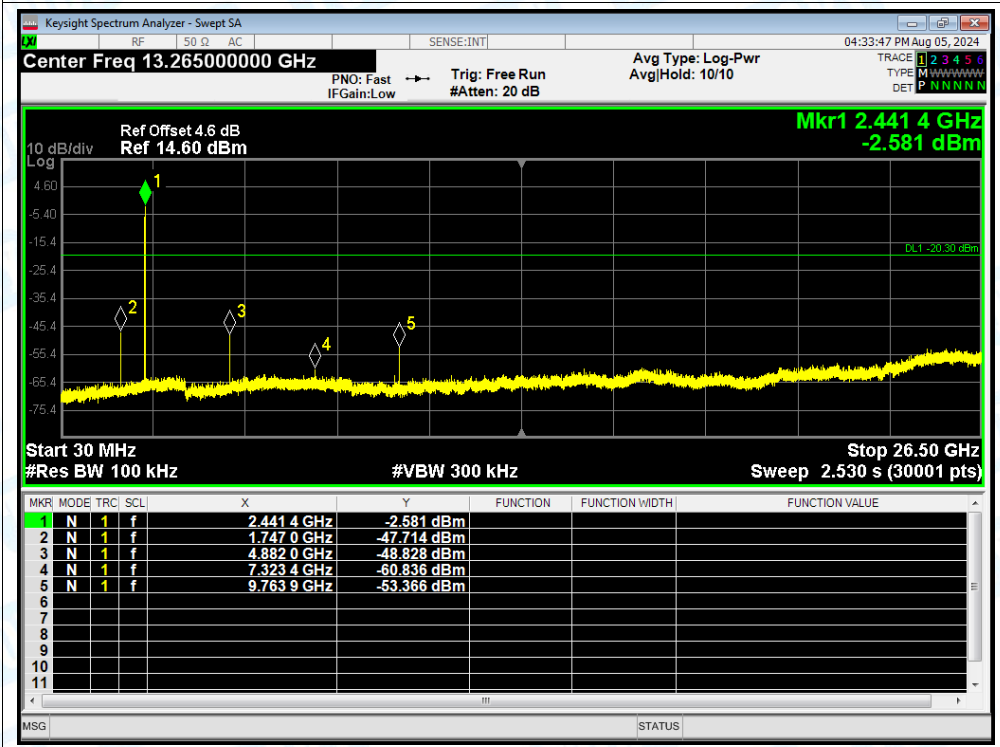
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



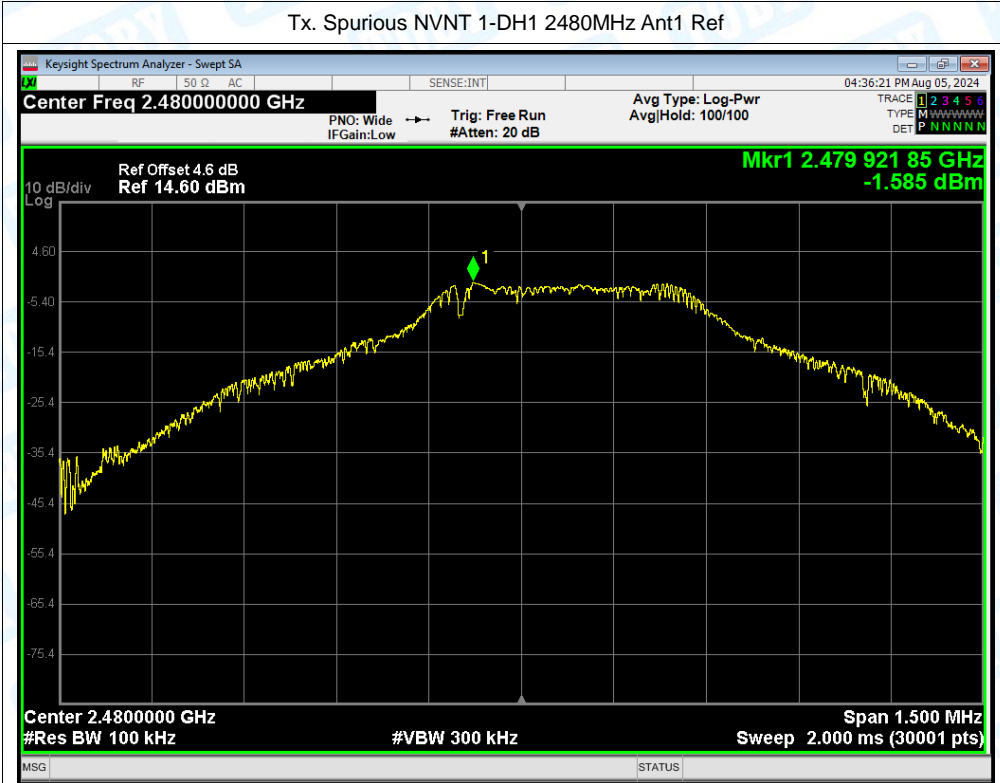
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



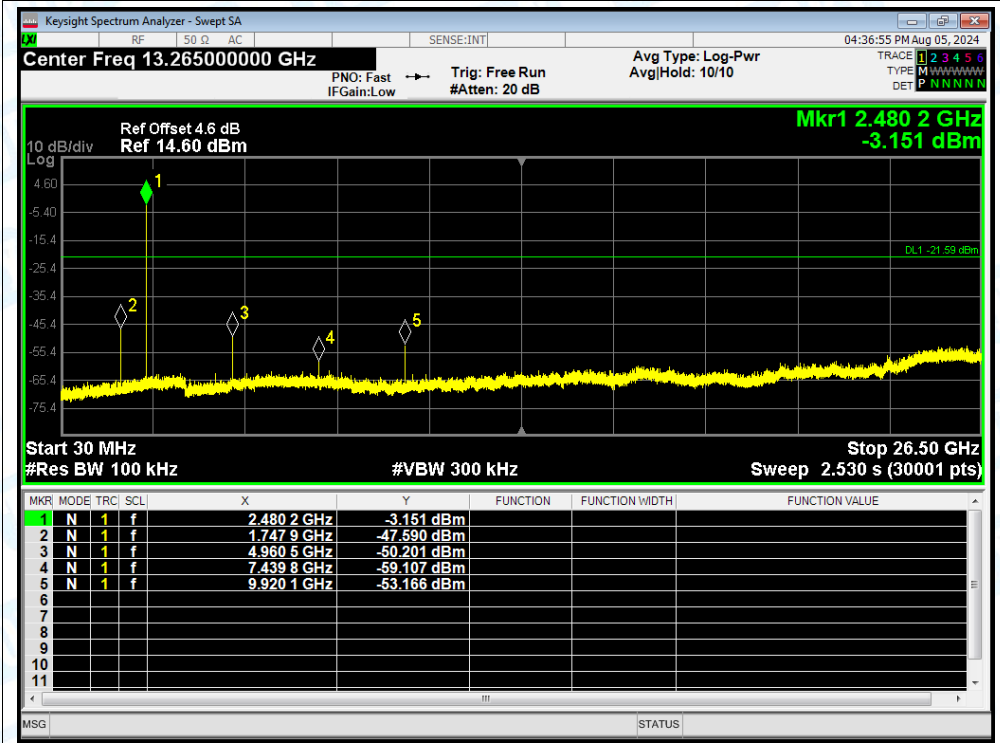
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



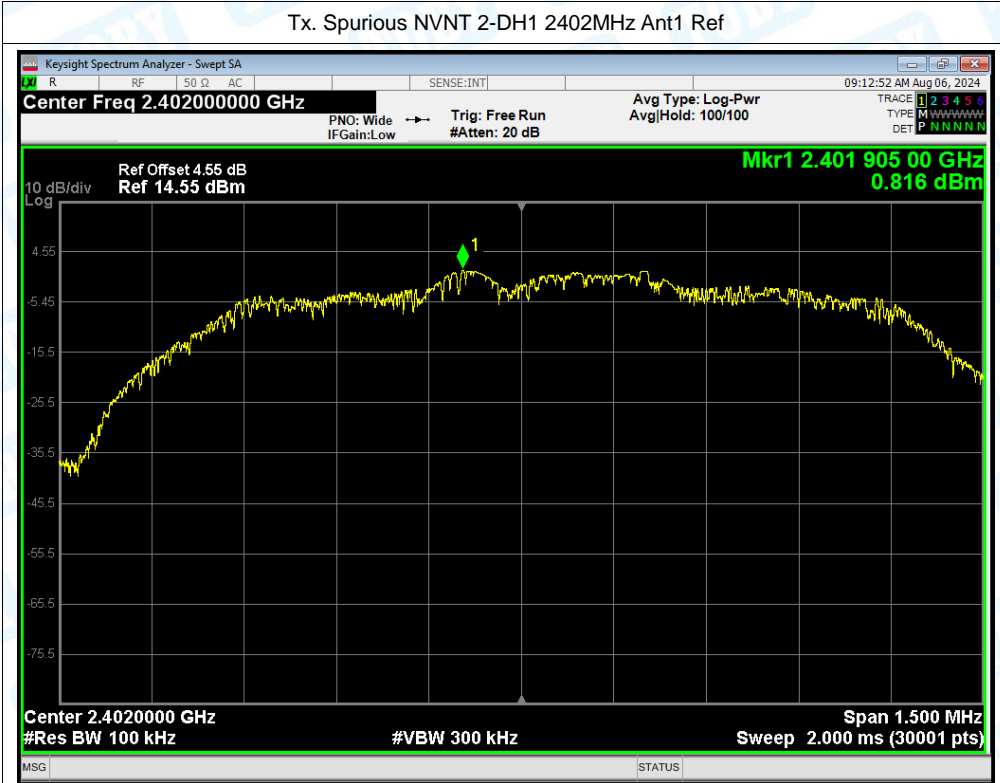
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



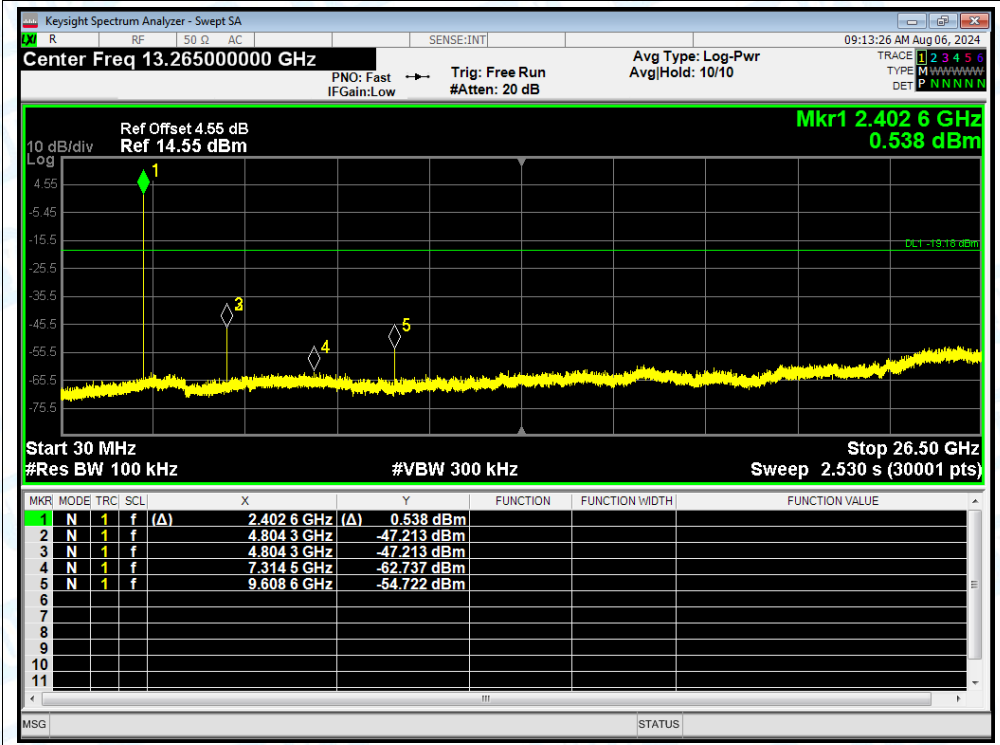
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref

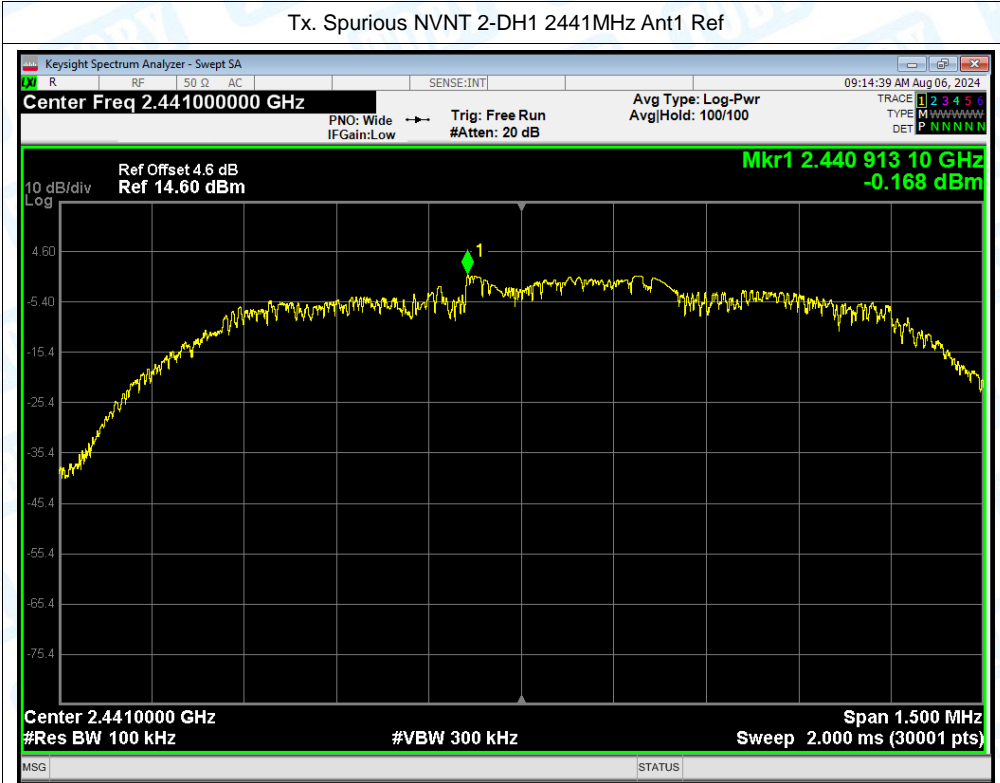


Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission

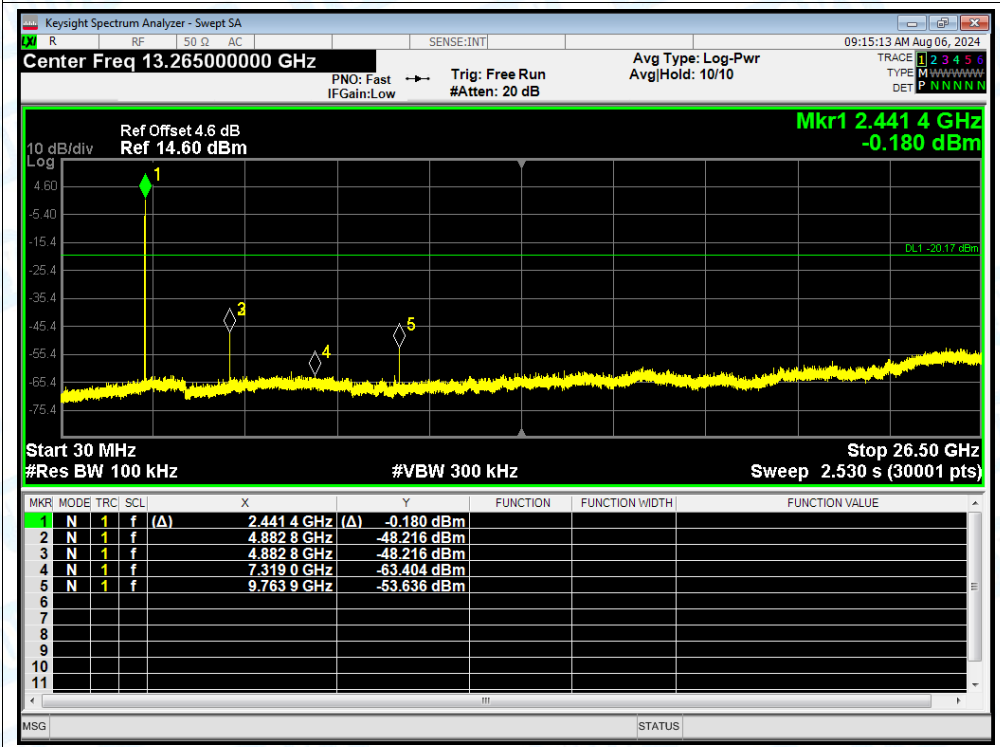




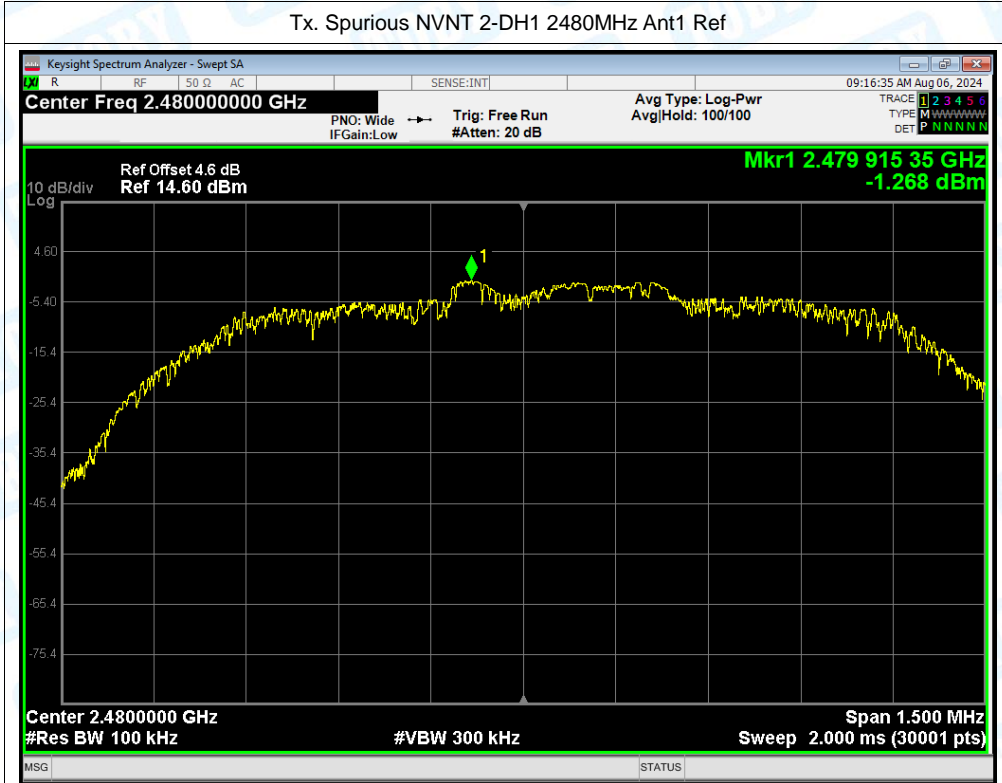
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



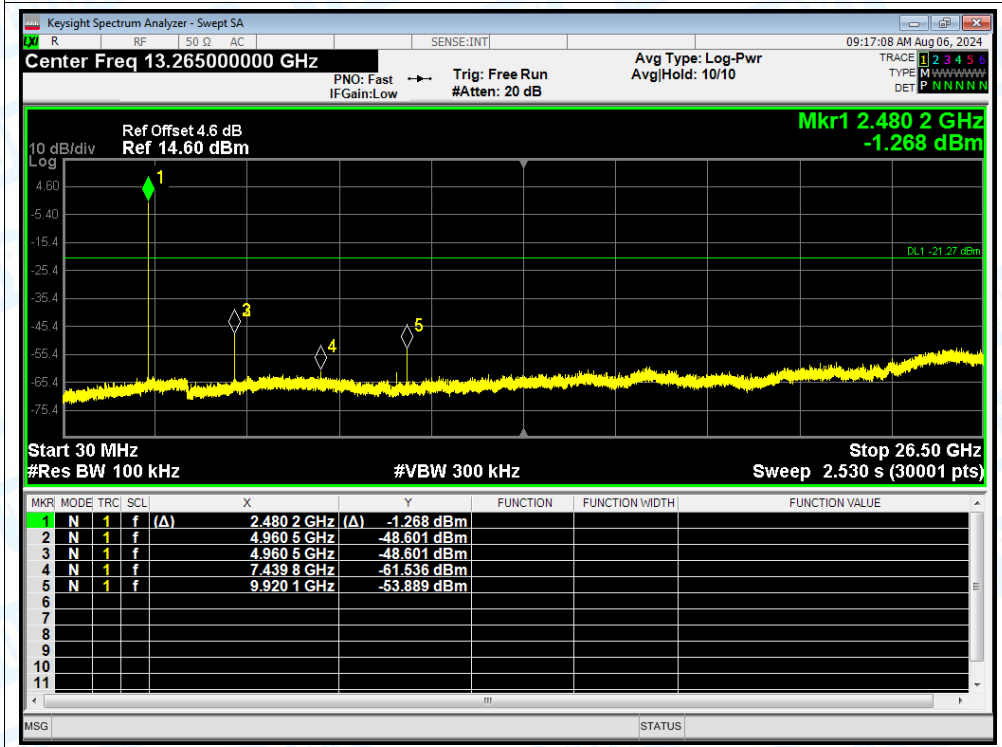
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



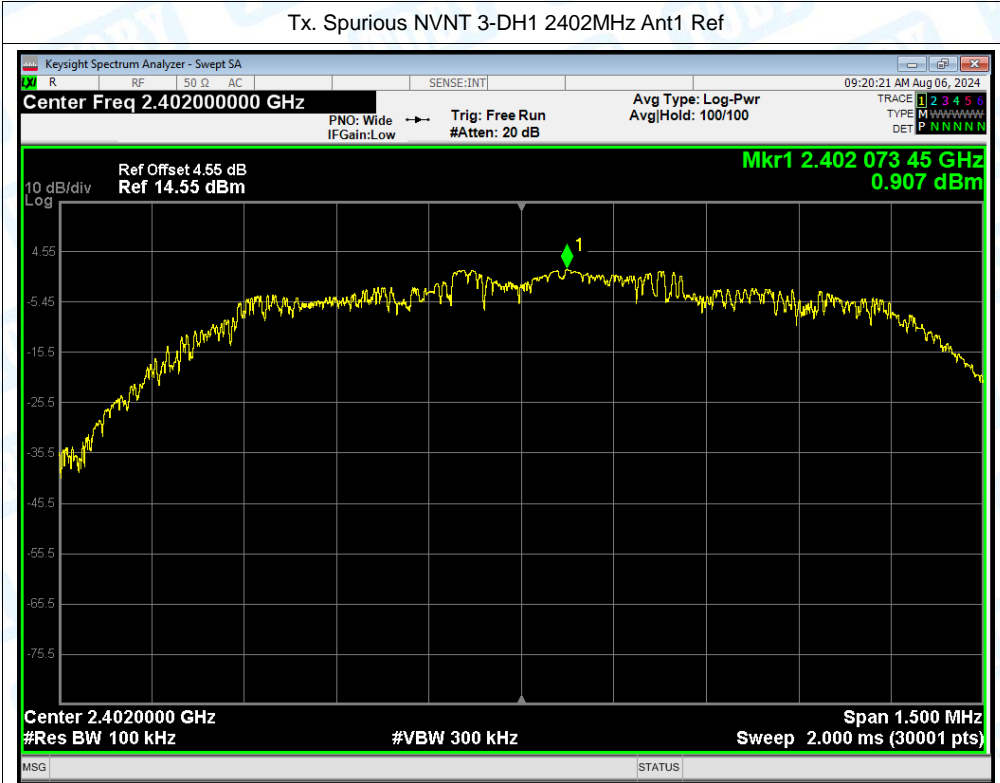
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



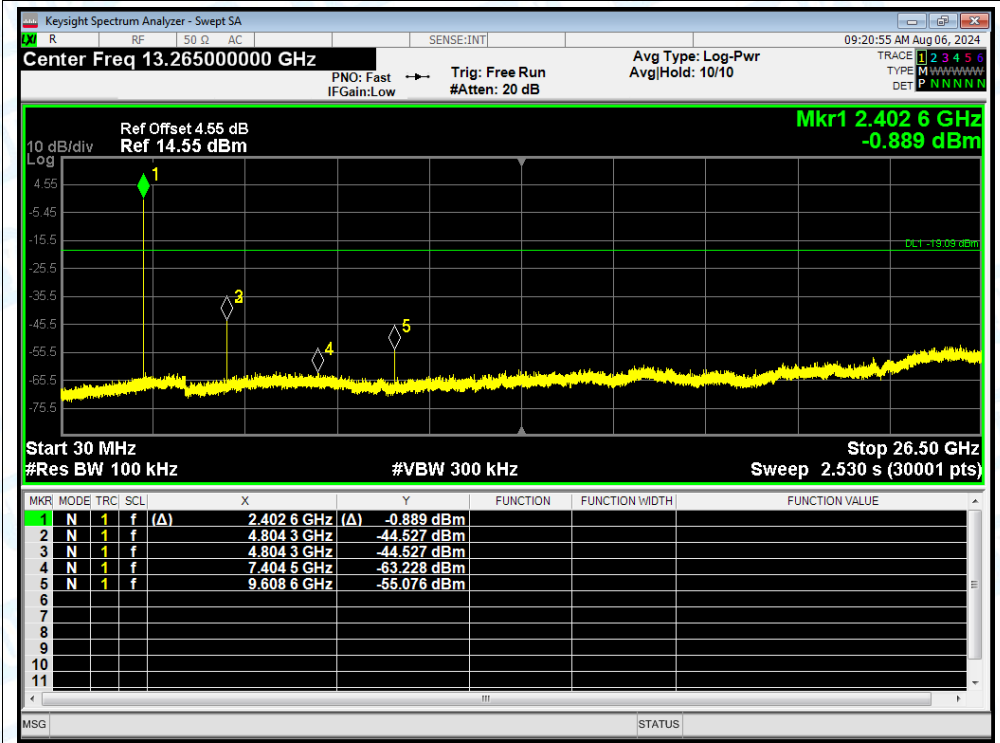
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



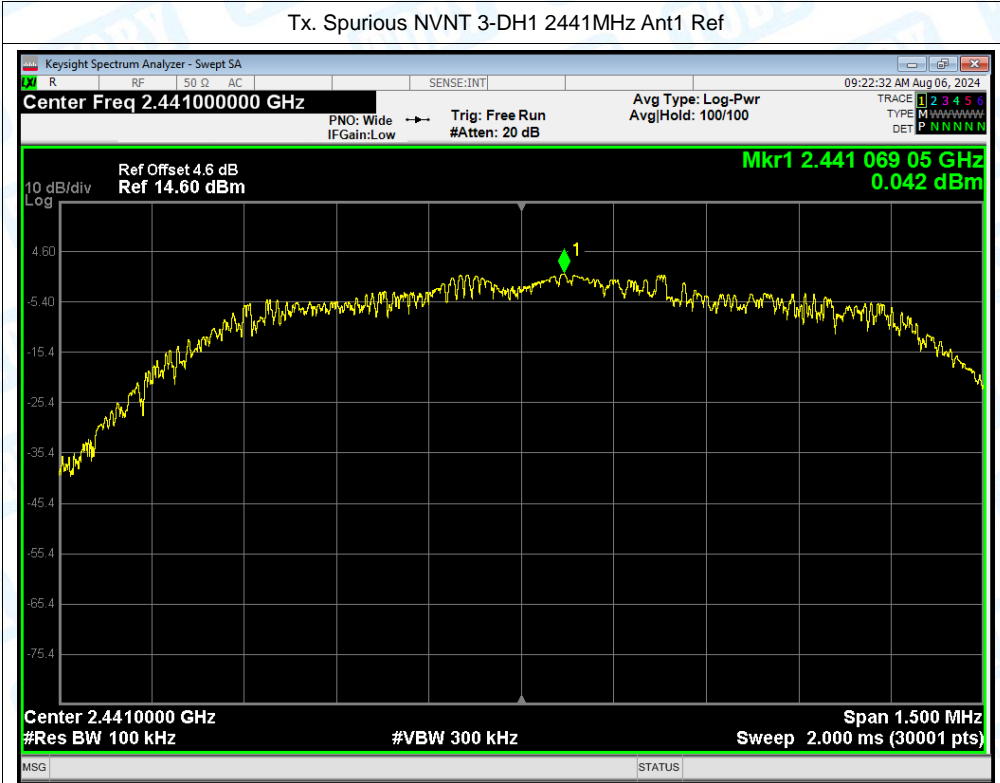
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



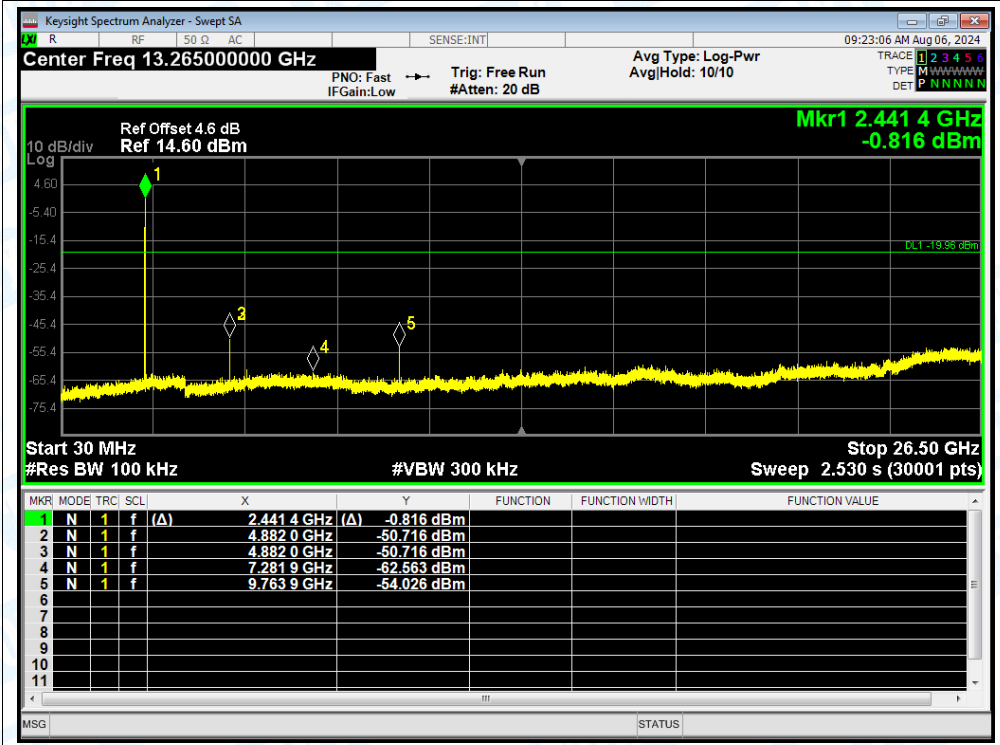
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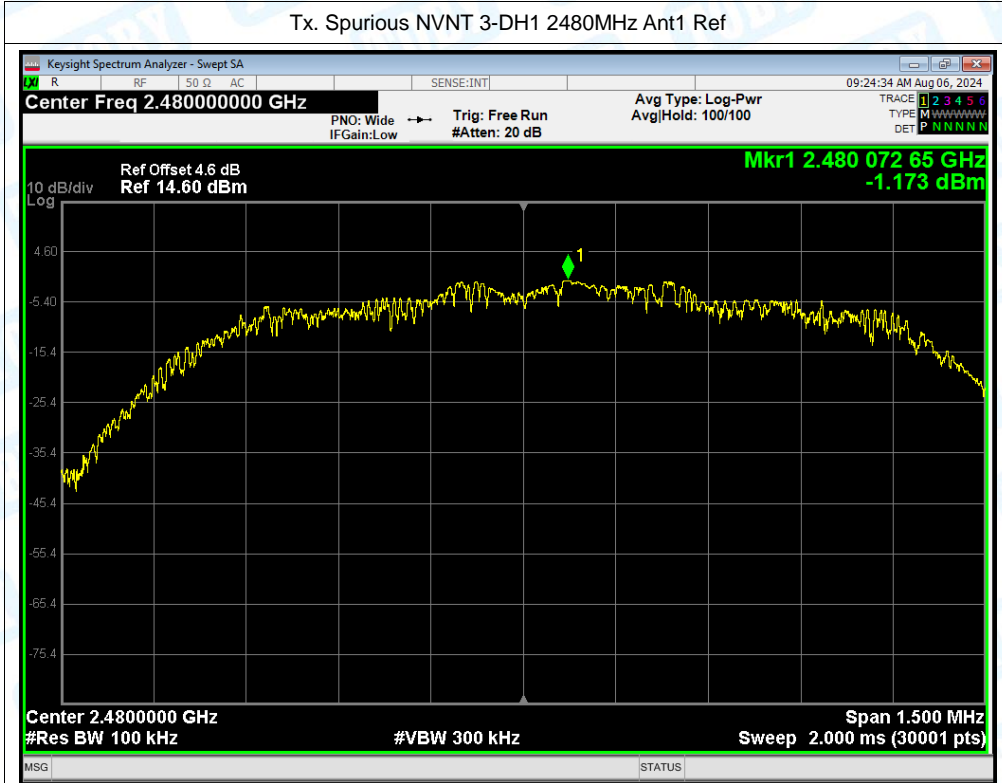
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



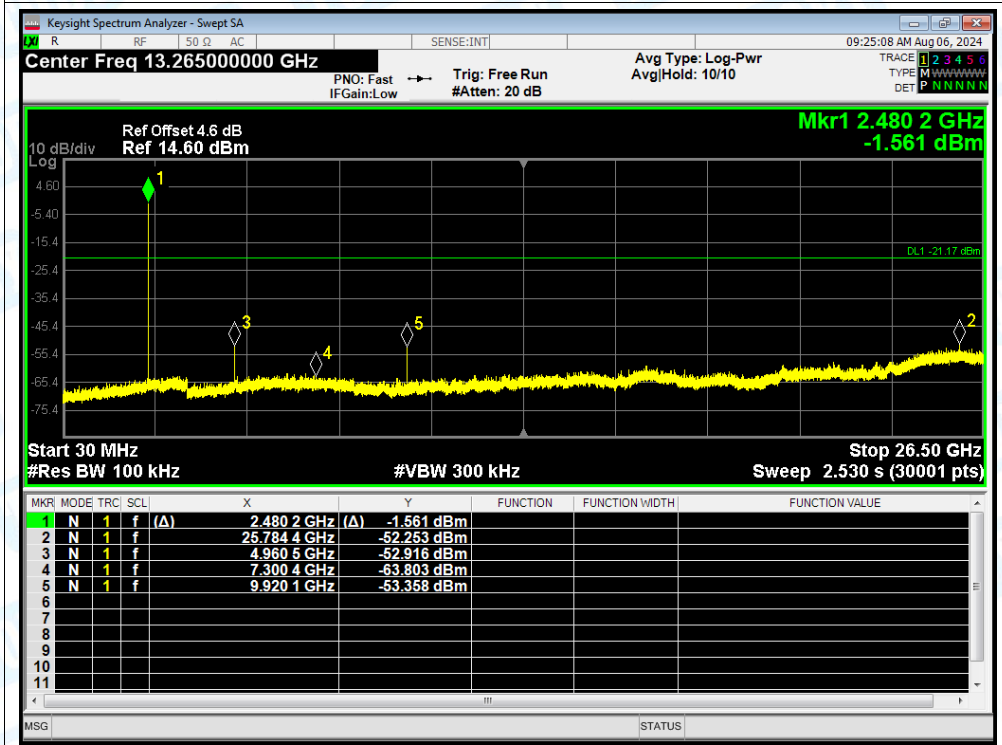
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

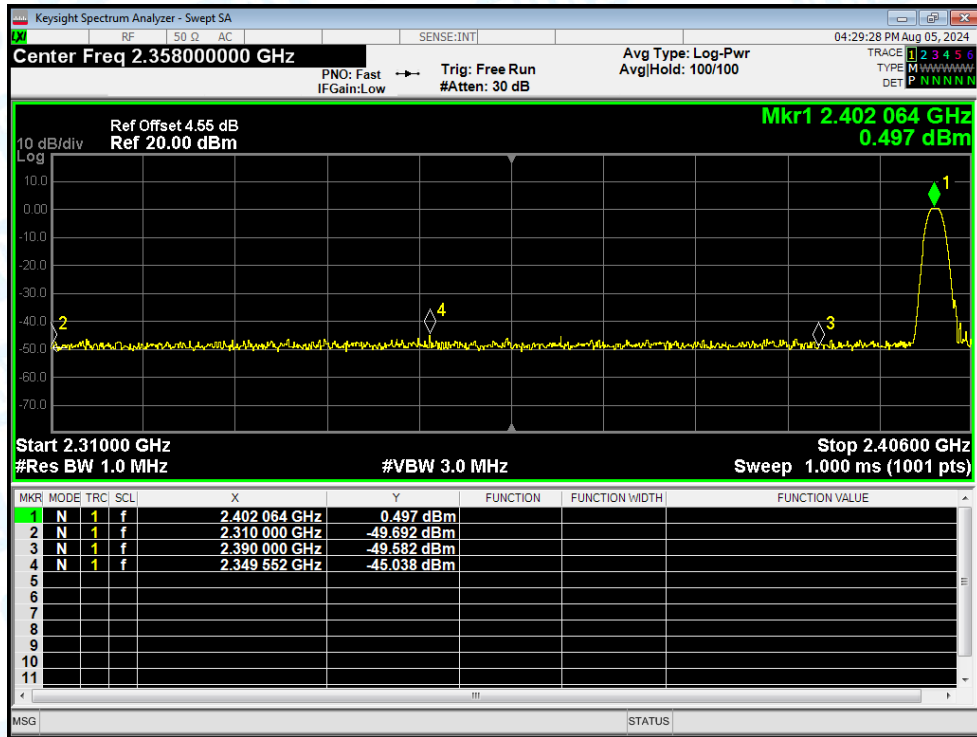


## 8. Restrict Band

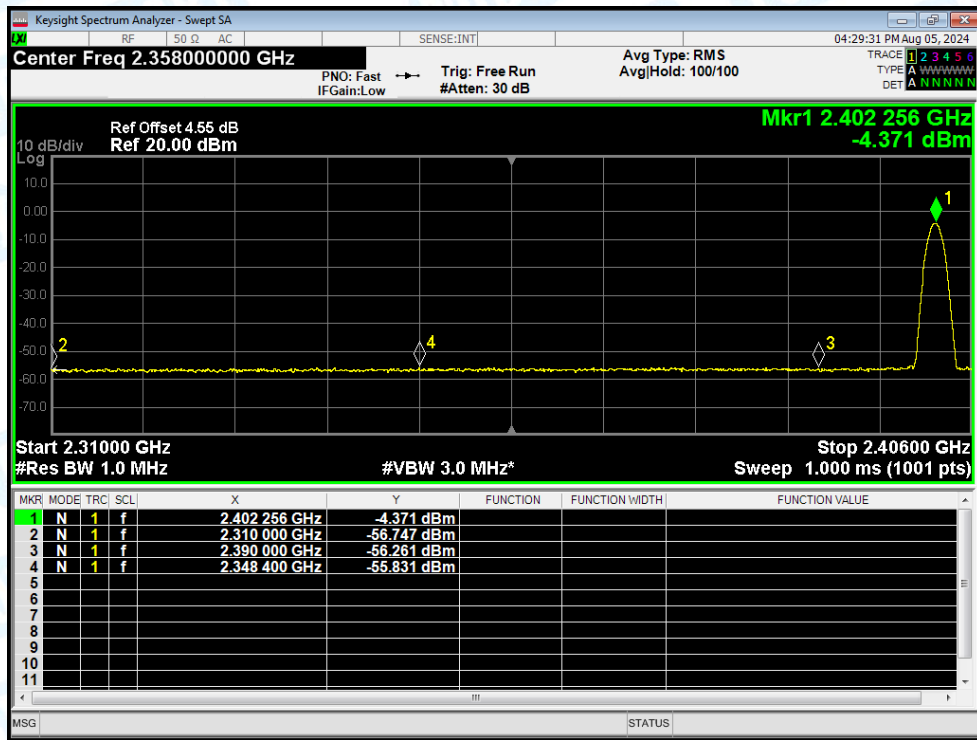
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-49.69	2	-	47.57	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.75	2	4.95	45.46	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2349.552	-45.04	2	-	52.22	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2348.4	-55.83	2	4.95	46.38	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-49.58	2	-	47.68	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.26	2	4.95	45.95	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-47.56	2	-	49.7	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-56.35	2	4.95	45.86	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2492.104	-44	2	-	53.26	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2484.04	-55.22	2	4.95	46.99	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-49.28	2	-	47.98	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-56.72	2	4.95	45.49	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.19	2	-	49.07	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.75	2	4.95	45.46	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2362.896	-46	2	-	51.26	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2368.944	-55.41	2	4.95	46.8	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.35	2	-	49.91	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-57.1	2	4.95	45.11	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-45.92	2	-	51.34	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.79	2	4.84	46.31	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2499.184	-44.45	2	-	52.81	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2498.776	-55.23	2	4.84	46.87	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-48.71	2	-	48.55	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.74	2	4.84	46.36	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-49.67	2	-	47.59	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.98	2	4.84	45.12	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2381.616	-45.97	2	-	51.29	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2375.472	-55.4	2	4.84	46.7	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-47.61	2	-	49.65	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-56.45	2	4.84	45.65	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-46.09	2	-	51.17	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-56.18	2	4.84	45.92	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2491.576	-44.85	2	-	52.41	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2484.424	-55.12	2	4.84	46.98	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-49.01	2	-	48.25	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.76	2	4.84	46.34	Average	54	Pass

Test Graphs

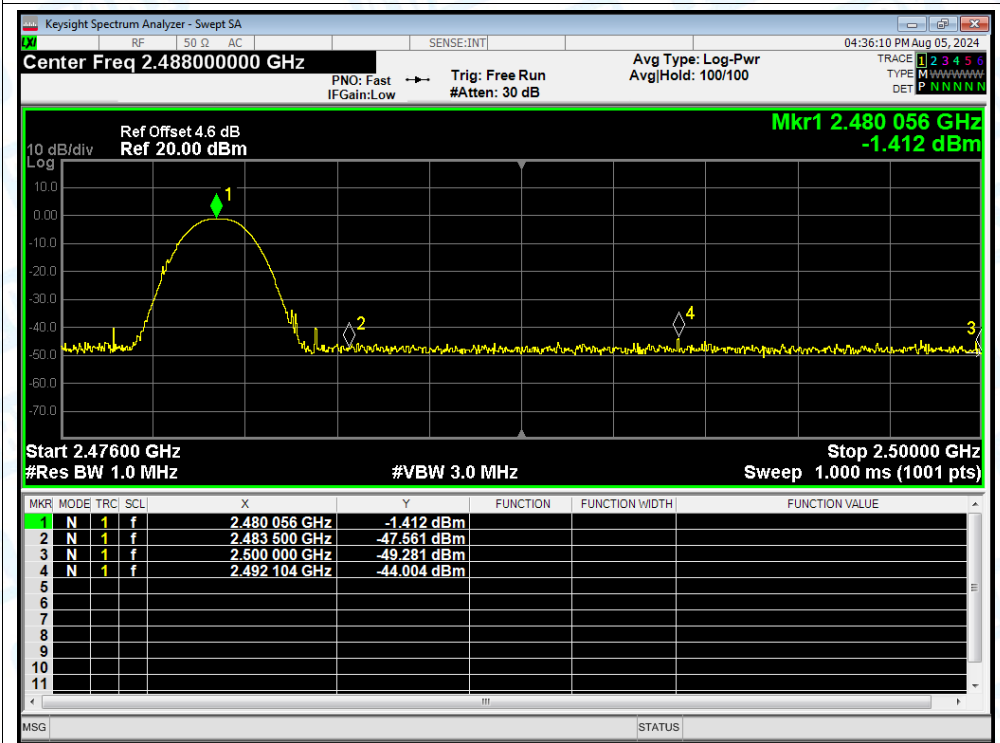
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



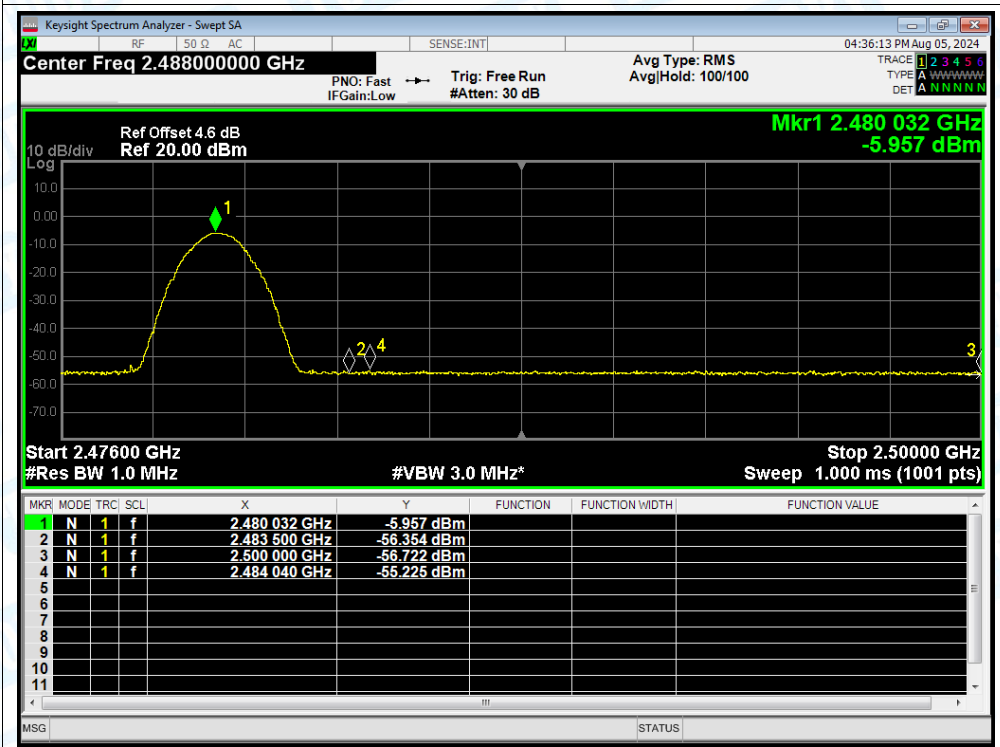
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



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

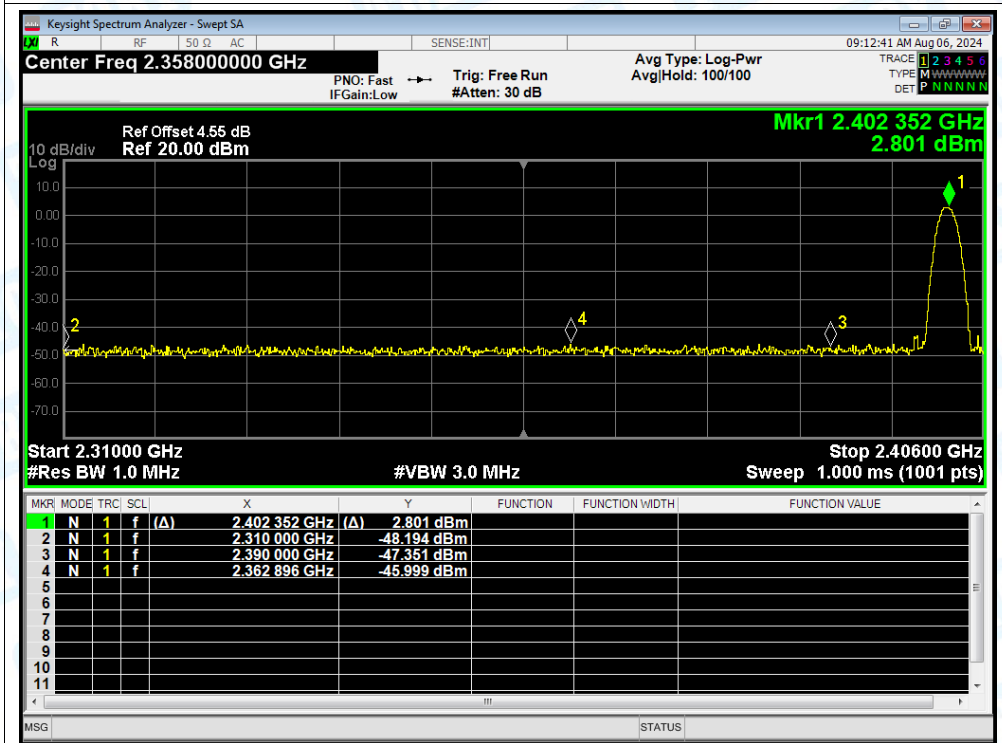


Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average

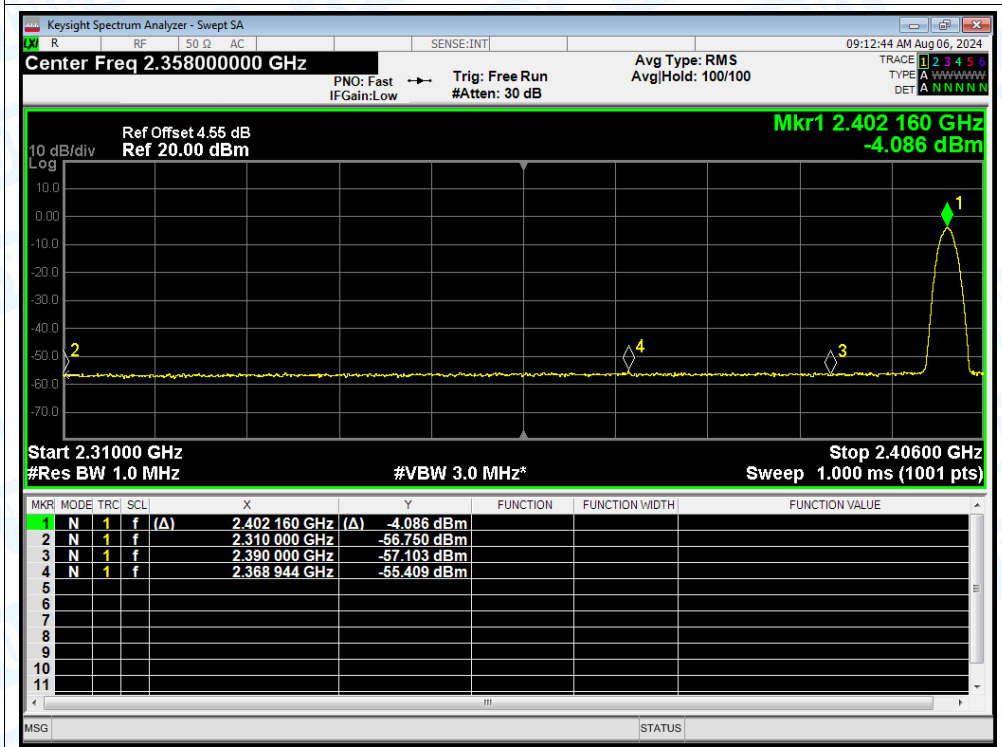




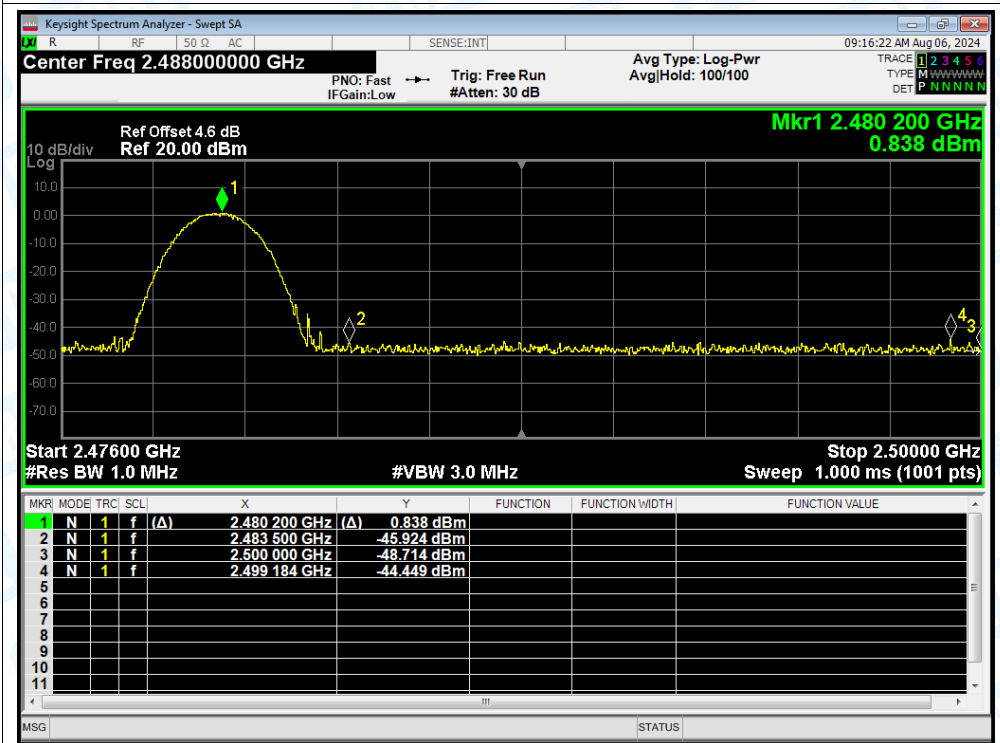
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



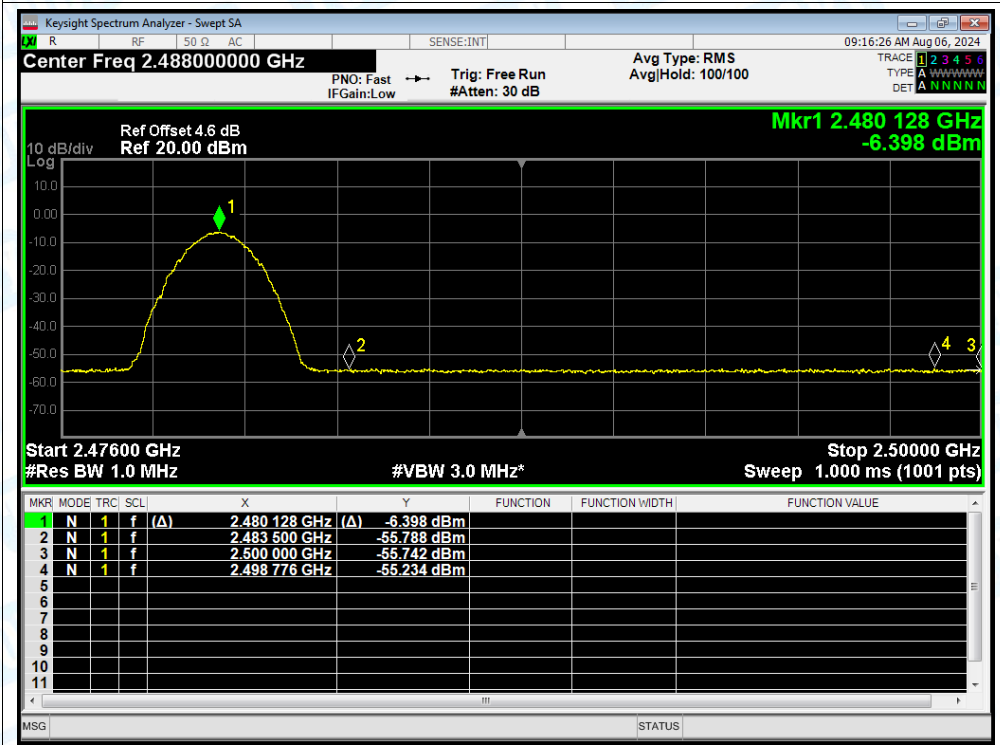
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average

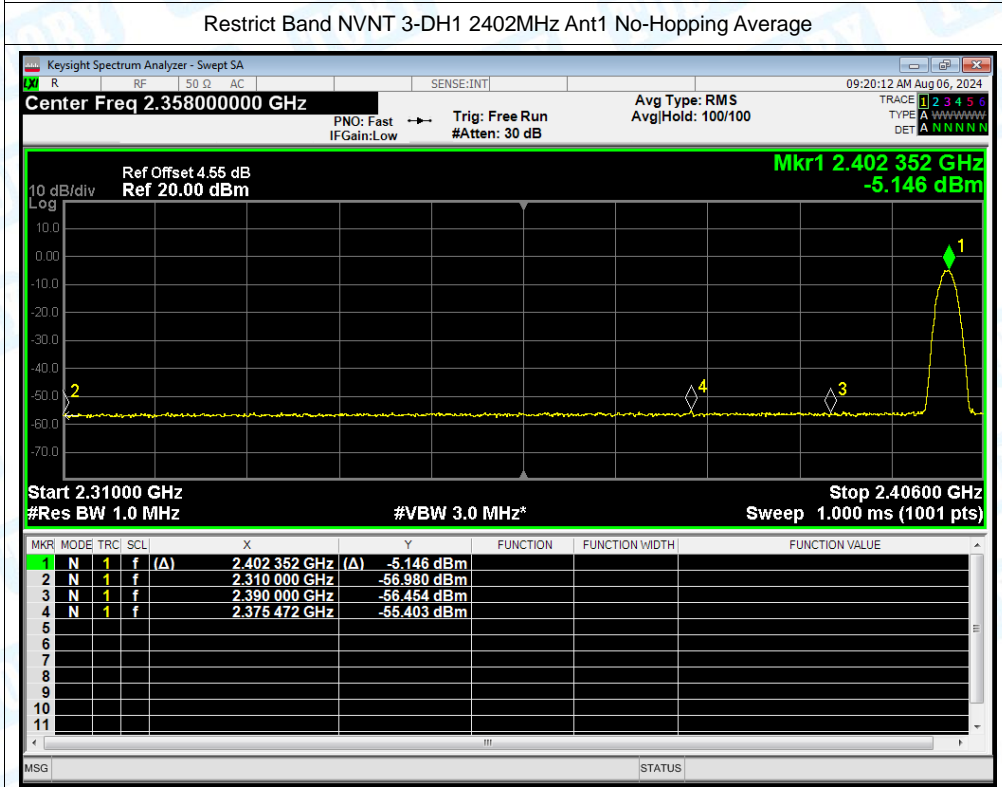
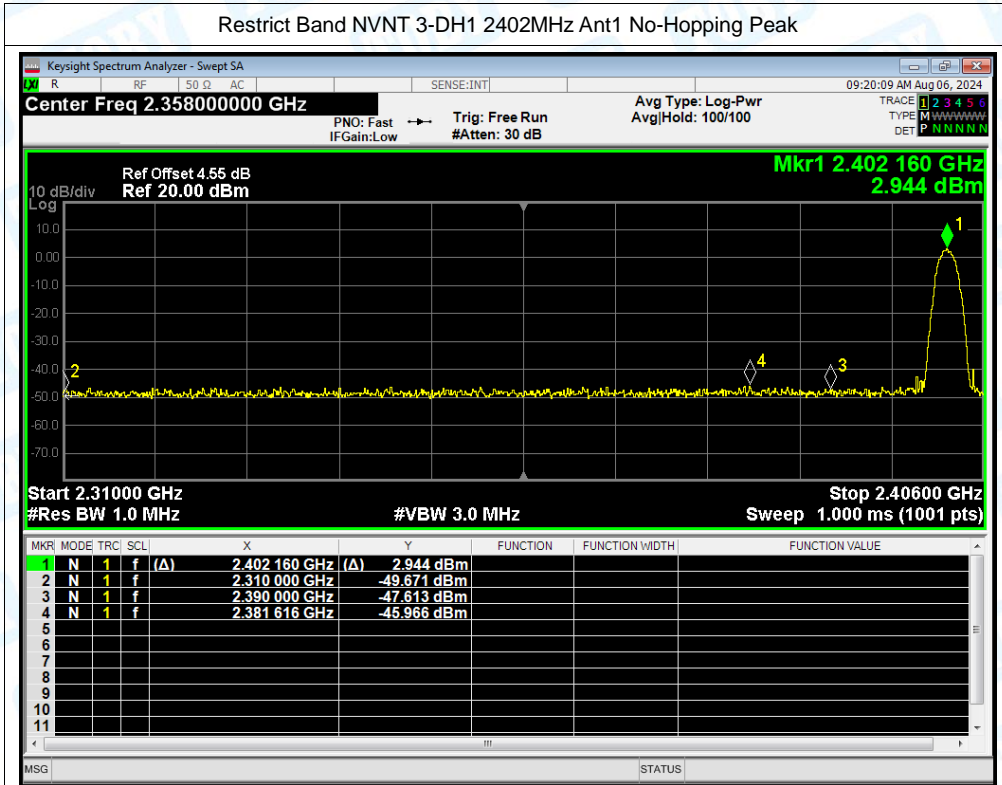


Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak

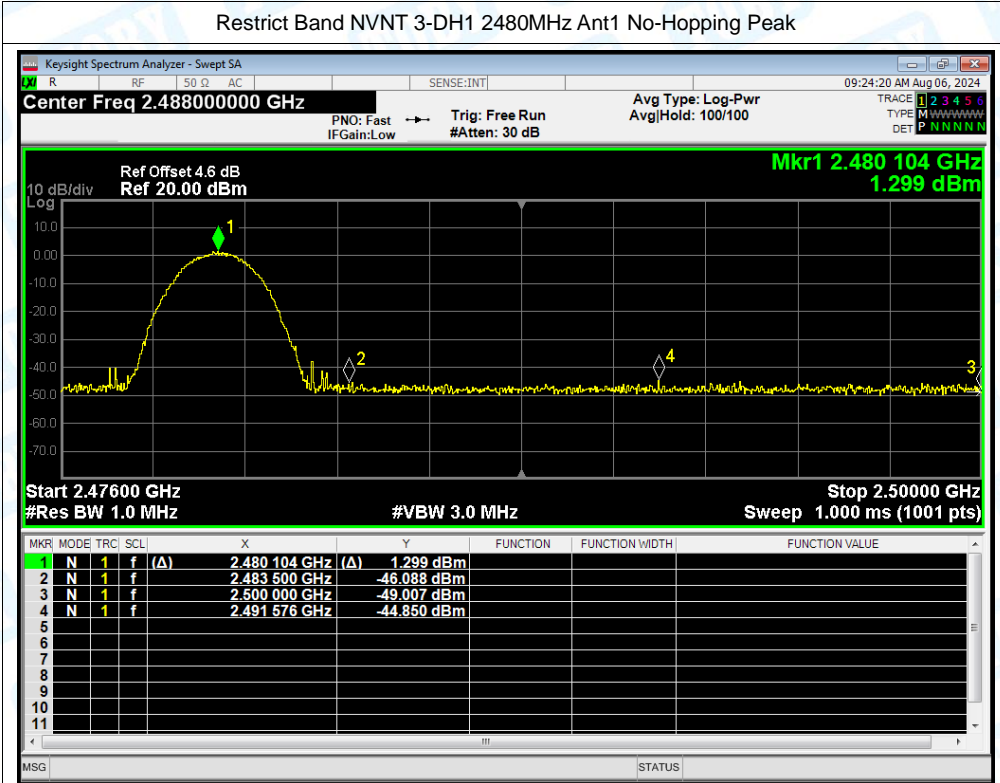


Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average

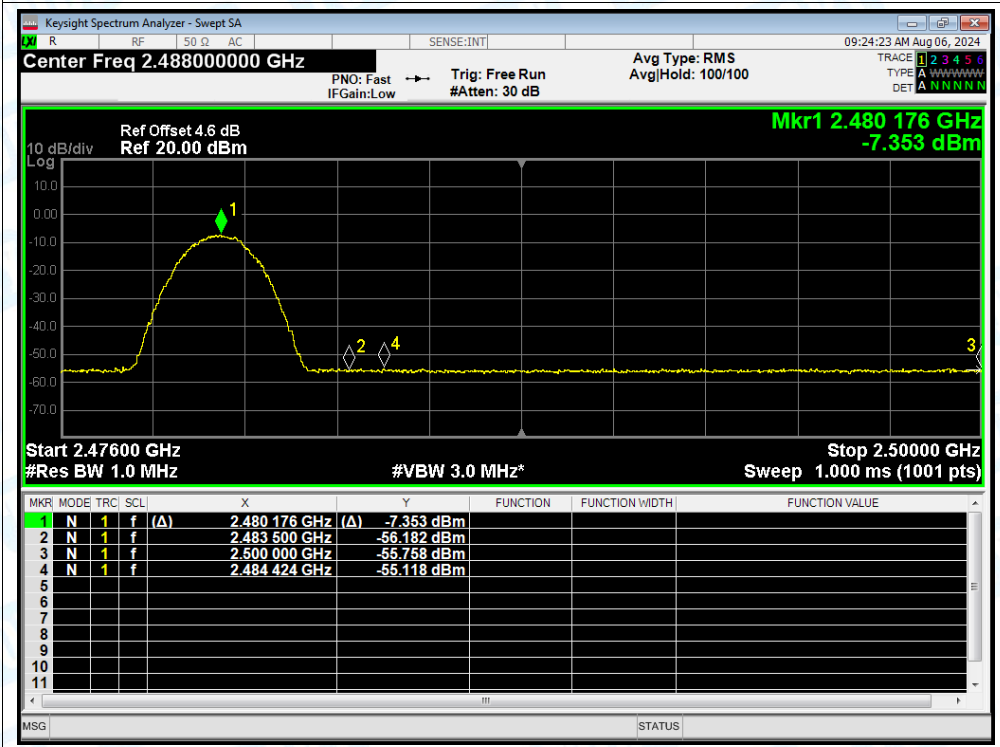




Restrict Band NVNT 3-DH1 2480MHz Ant1 No-Hopping Peak



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

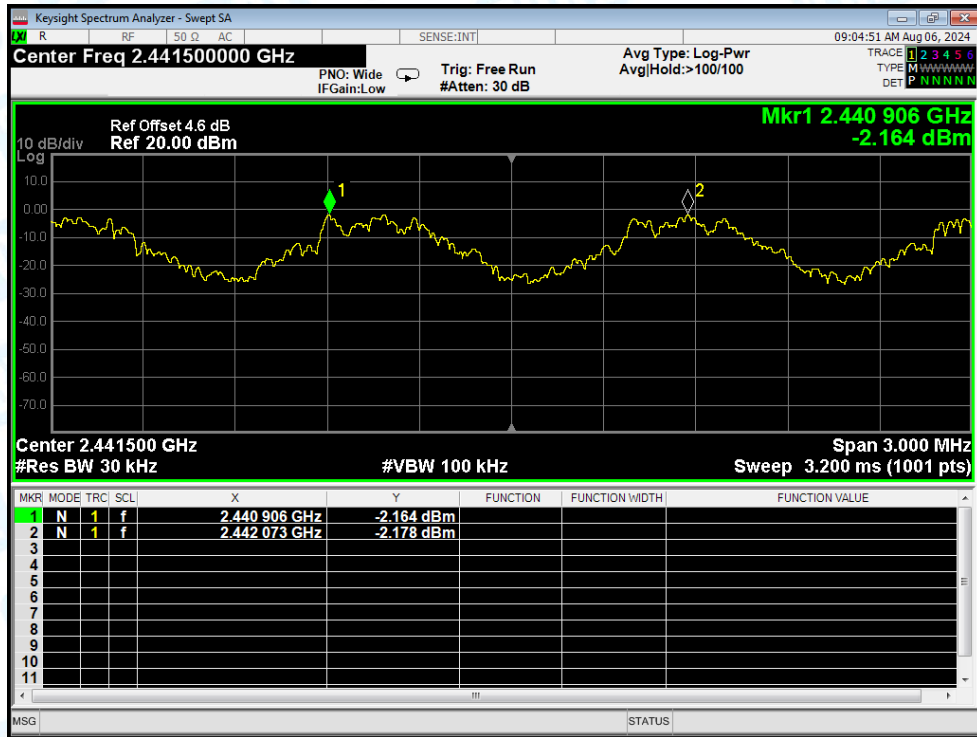


## 9. Carrier Frequencies Separation

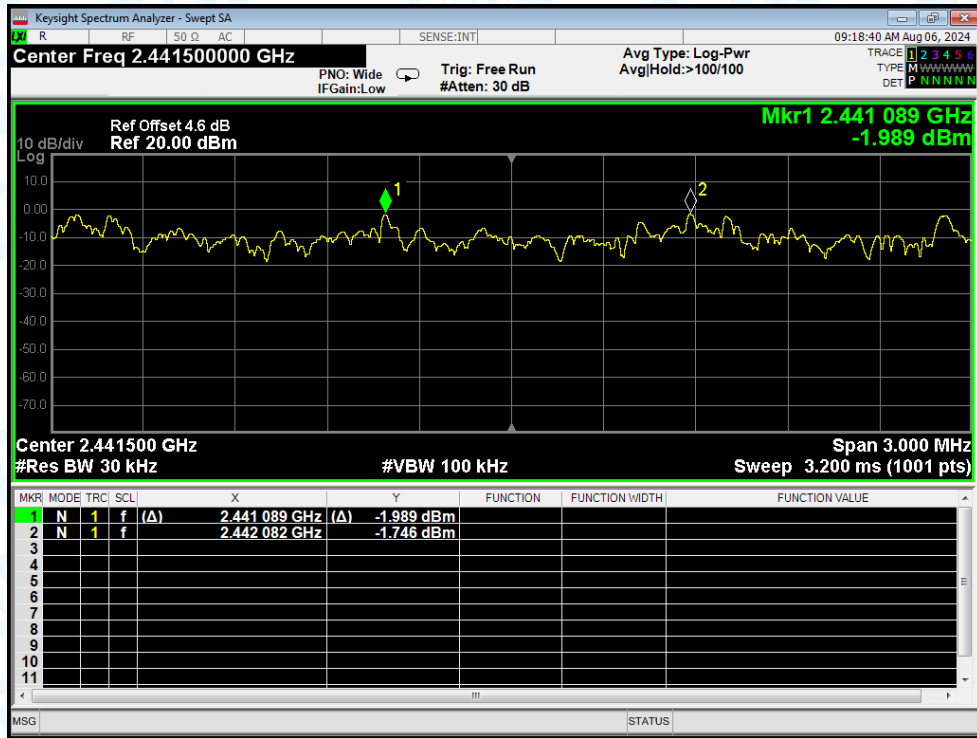
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.906	2442.073	1.167	0.025	Pass
NVNT	2-DH1	Ant1	2441.089	2442.082	0.993	0.84	Pass
NVNT	3-DH1	Ant1	2441.071	2442.067	0.996	0.833	Pass

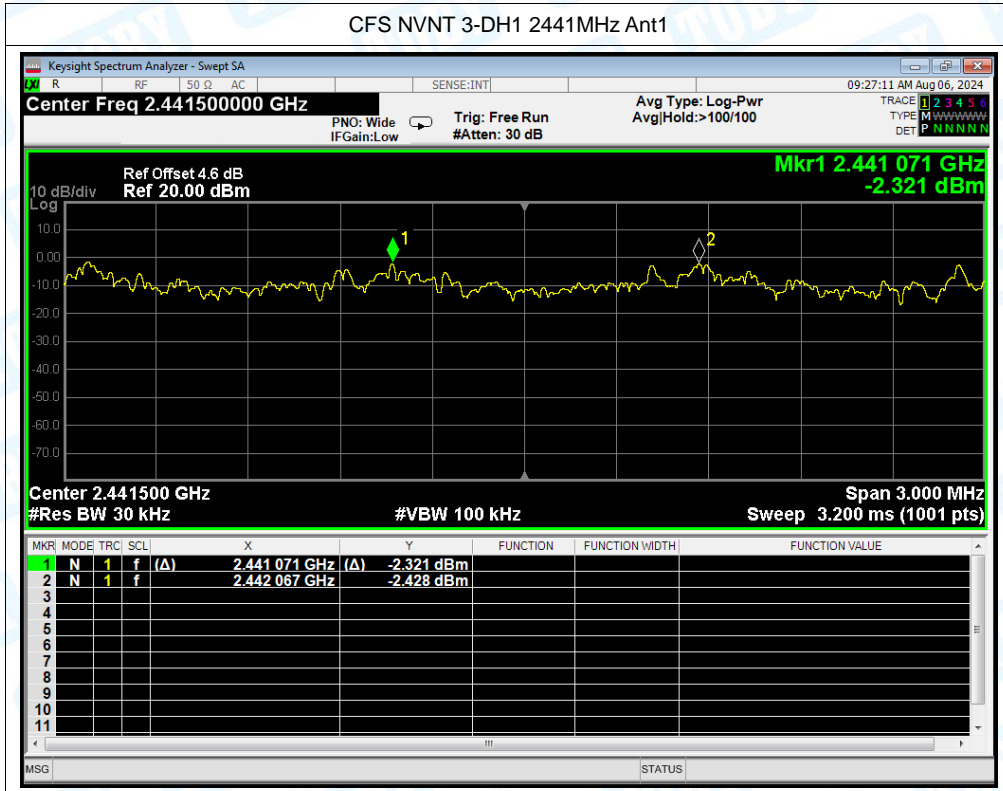
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1





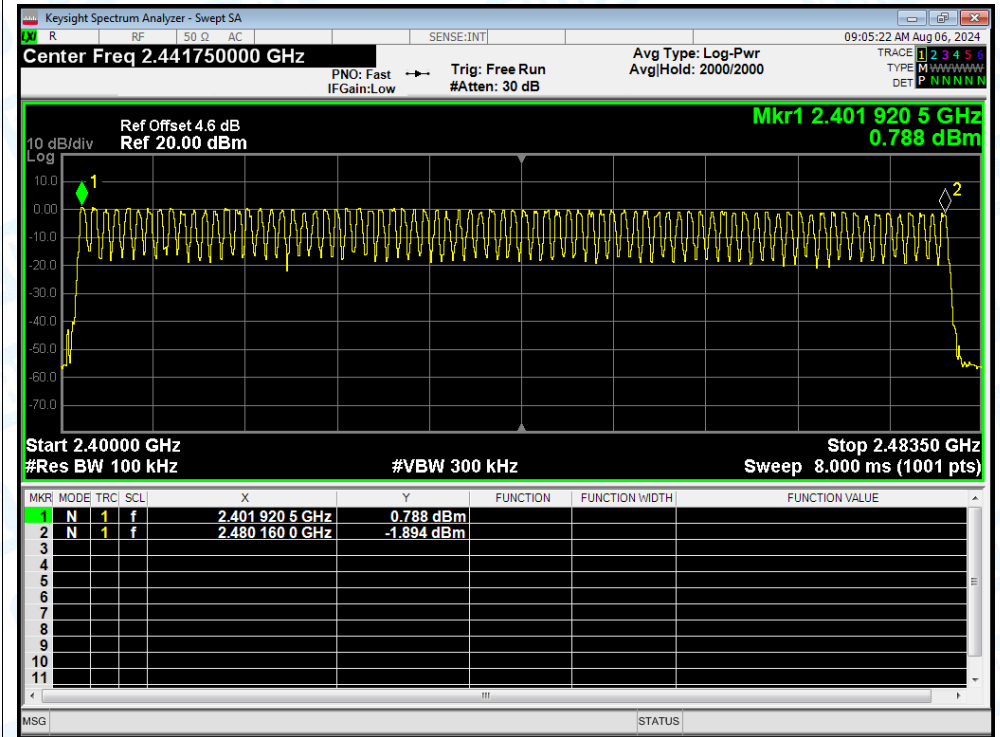
## 10. Number of Hopping Channel

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

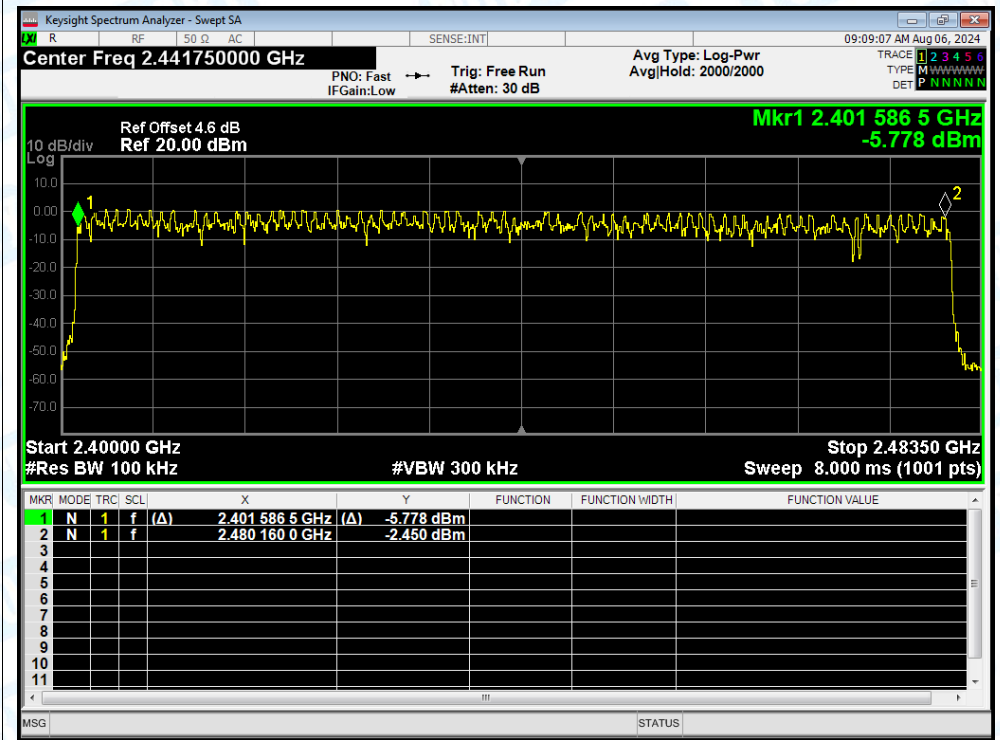


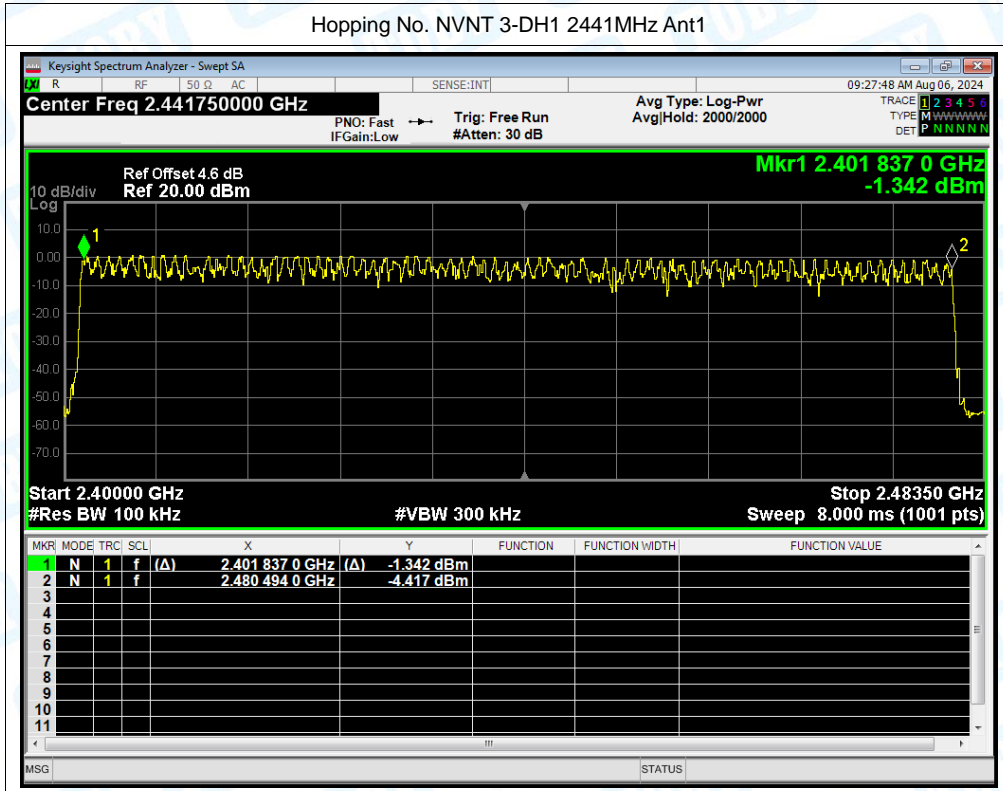
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



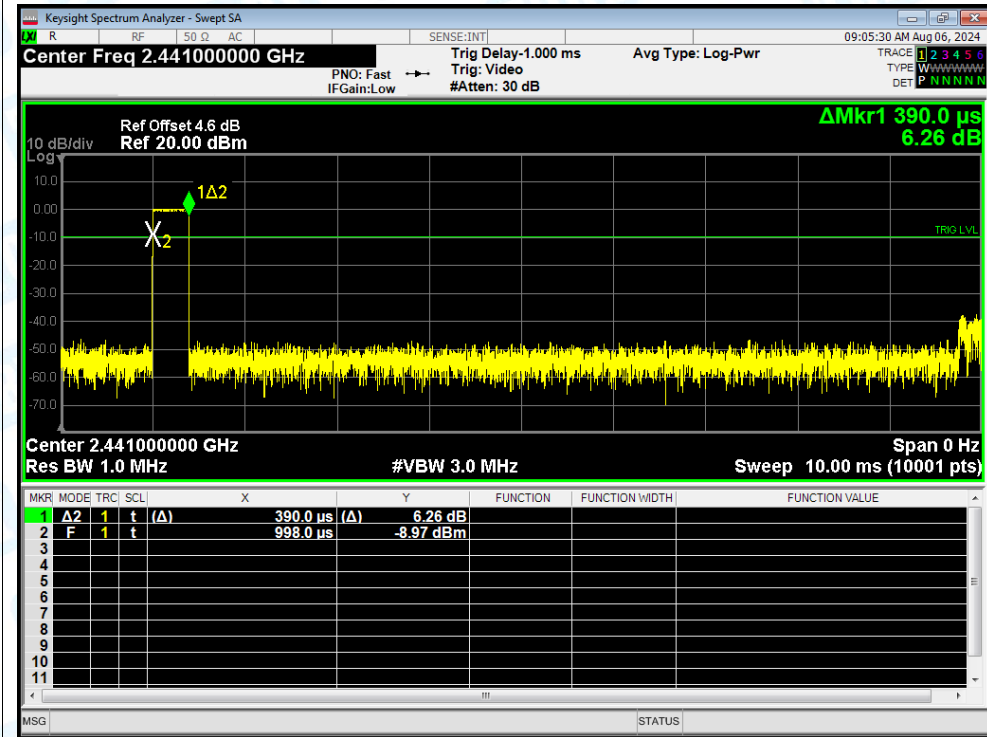


## 11. Dwell Time

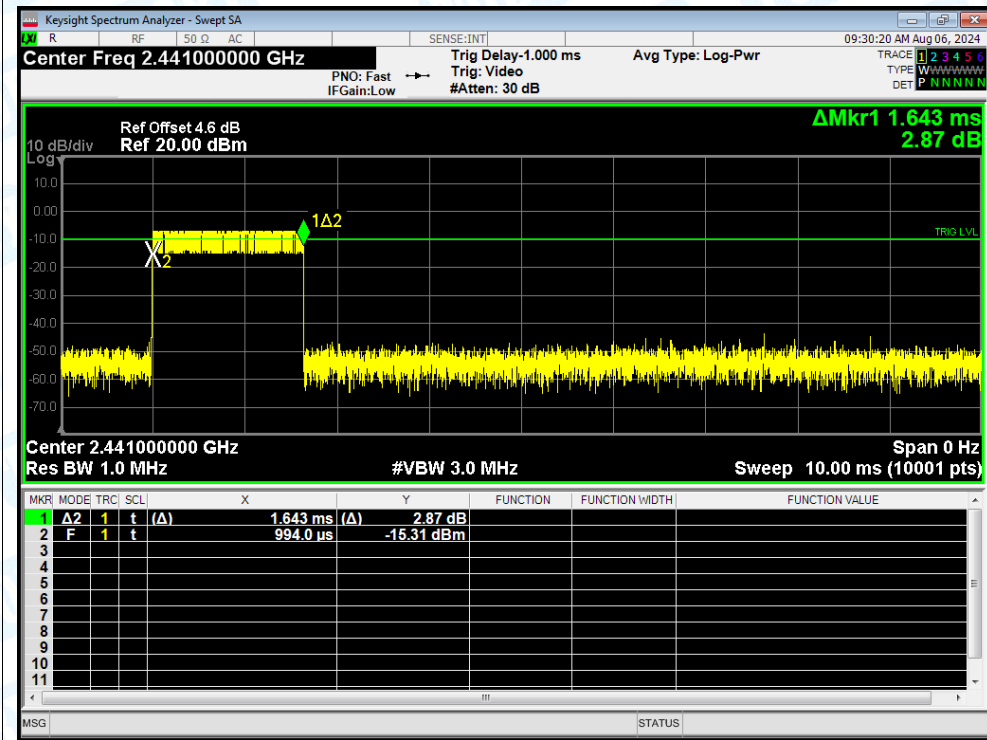
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.39	124.8	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.643	262.88	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.892	308.48	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.399	127.68	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.651	264.16	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.896	308.907	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.397	127.04	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.65	264	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.898	309.12	31600	400	Pass

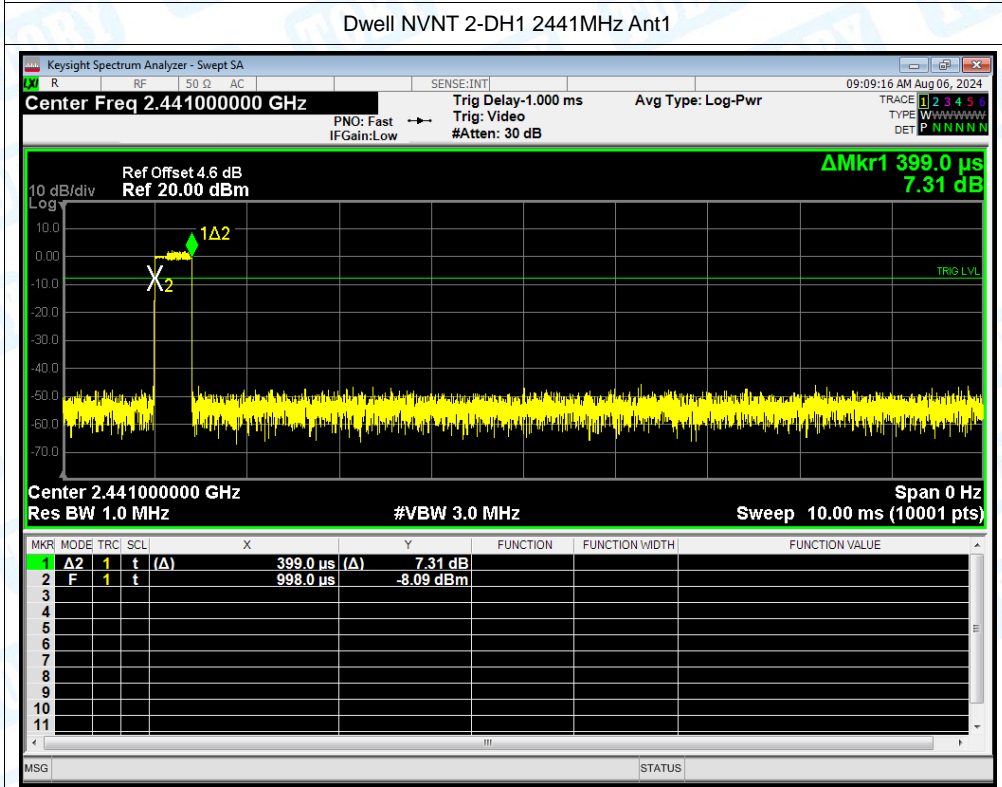
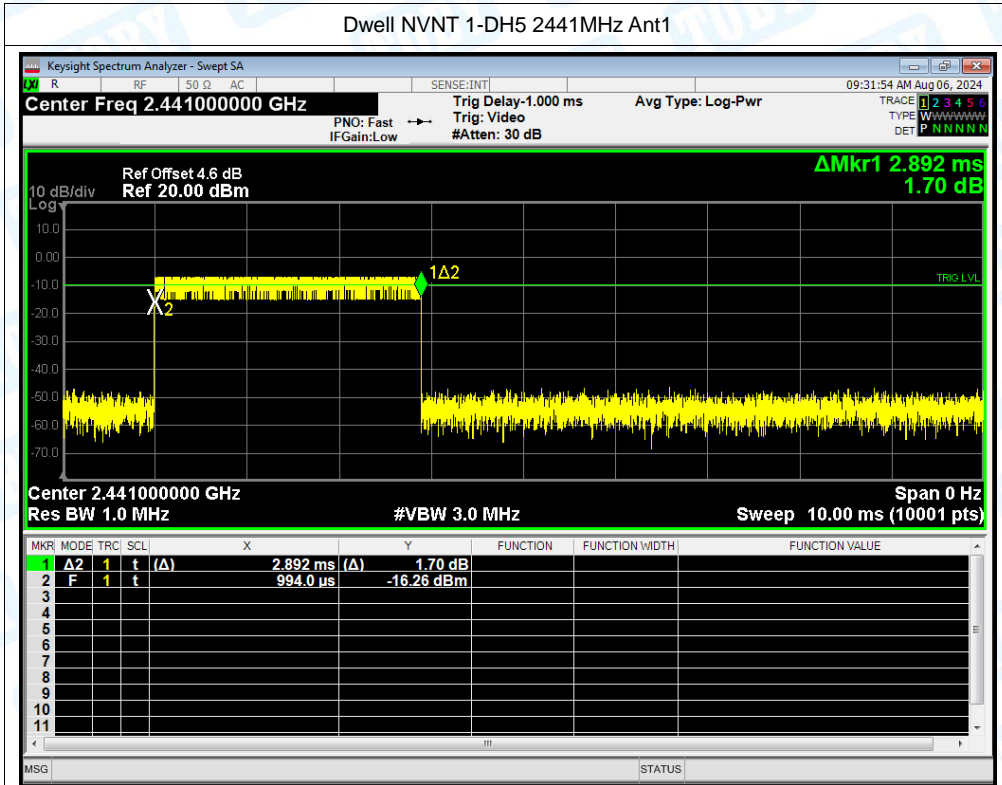
Test Graphs

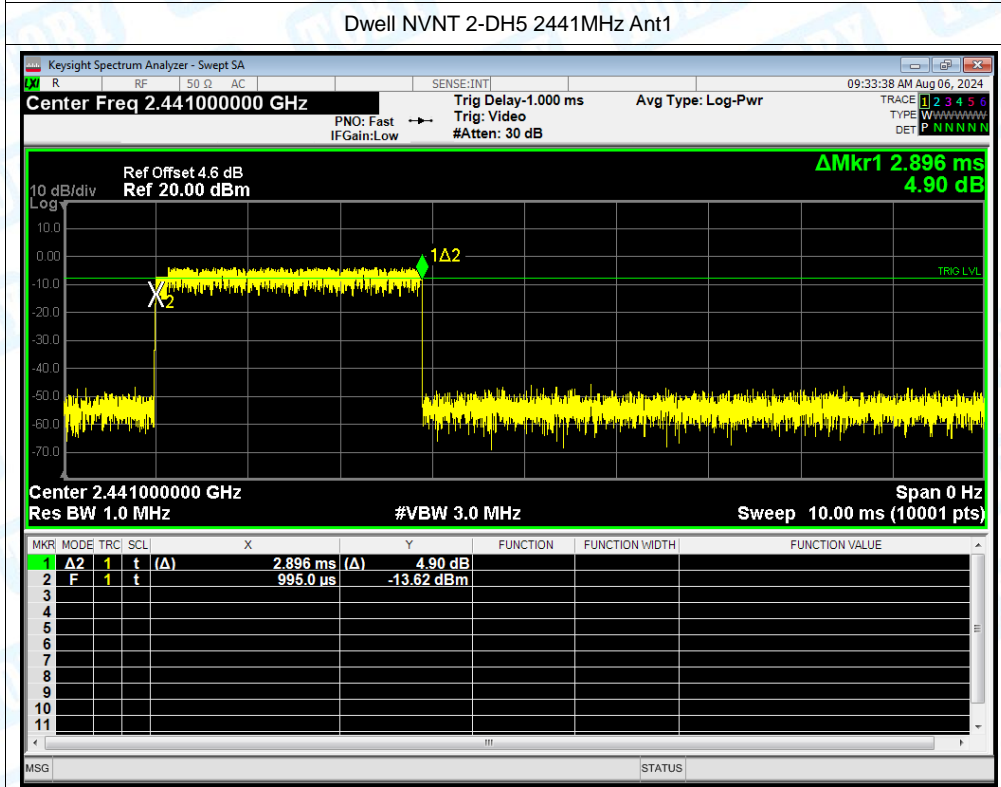
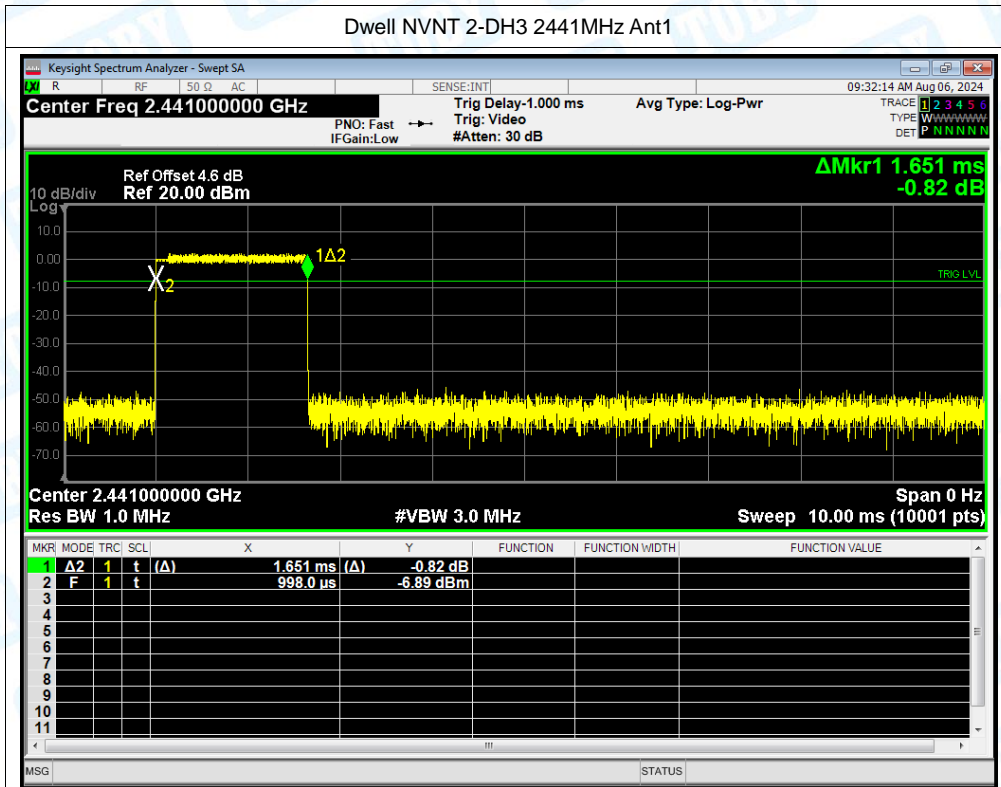
Dwell NVNT 1-DH1 2441MHz Ant1

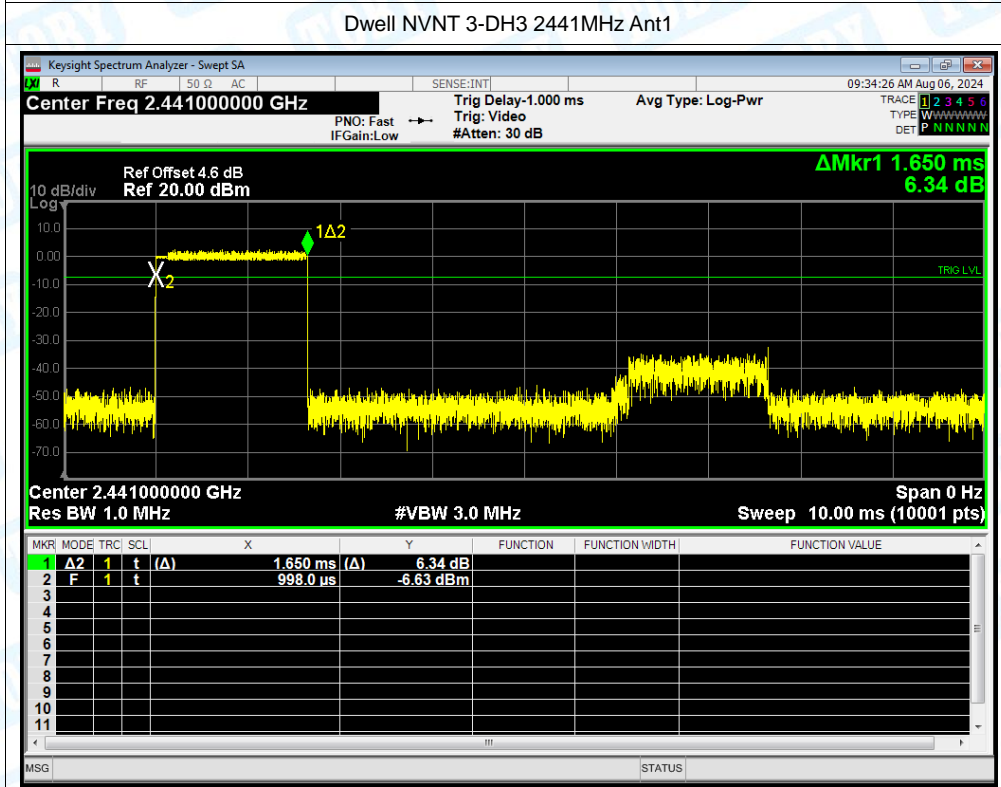
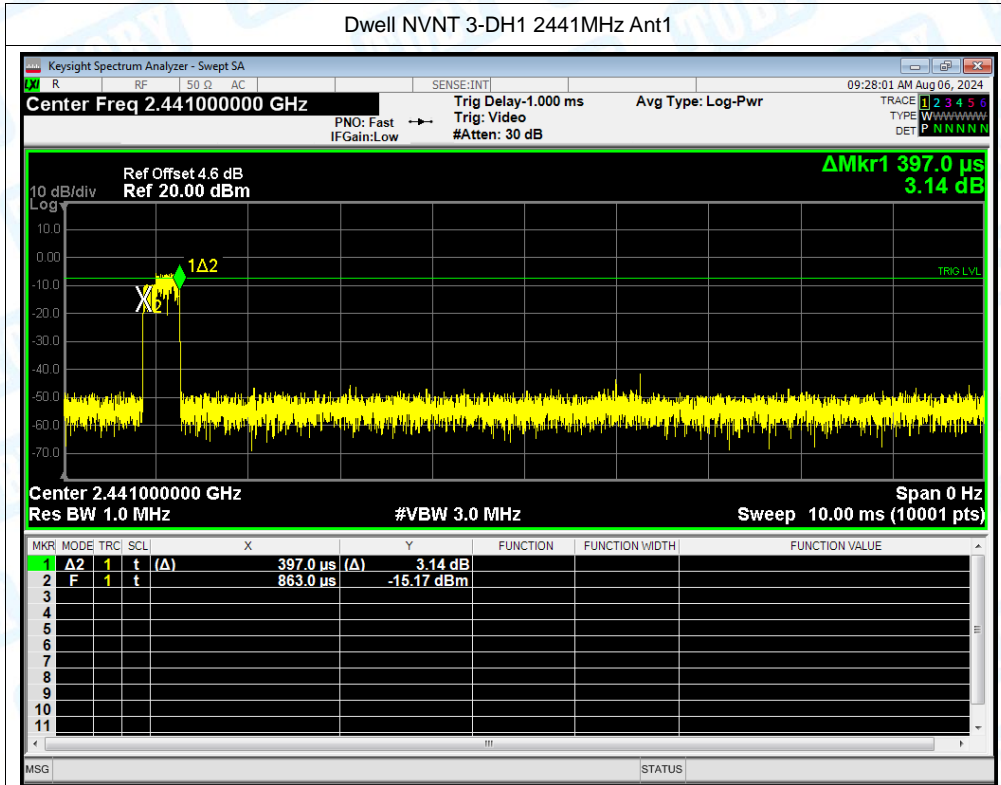


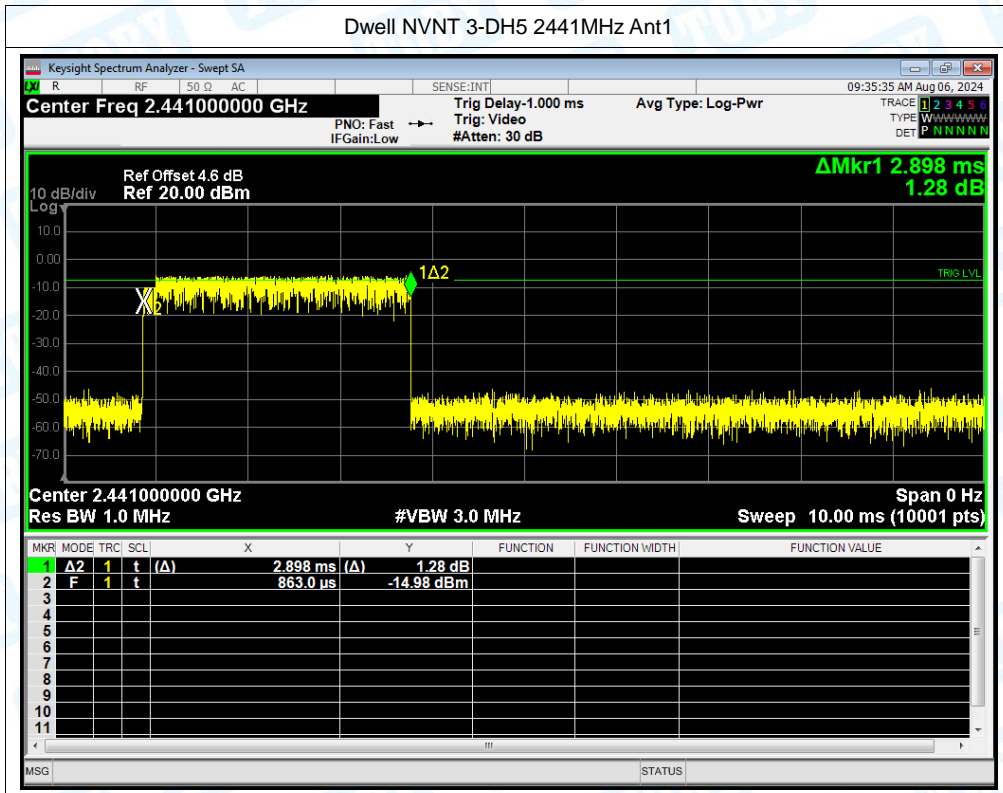
Dwell NVNT 1-DH3 2441MHz Ant1











---- END OF REPORT ----