

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	SMART WATCH
Test Model:	X27
Sample ID:	HC-C-202411-0306-01-01#
Environmental Conditions	
Temperature:	24.2℃
Relative Humidity:	45%
Test Voltage:	DC 3.8V
Test Engineer:	ZKN Zhou
Note: For a more detailed features description, please refer to the report TBR-C-202411-0306-181 The report only show the worst case data.	

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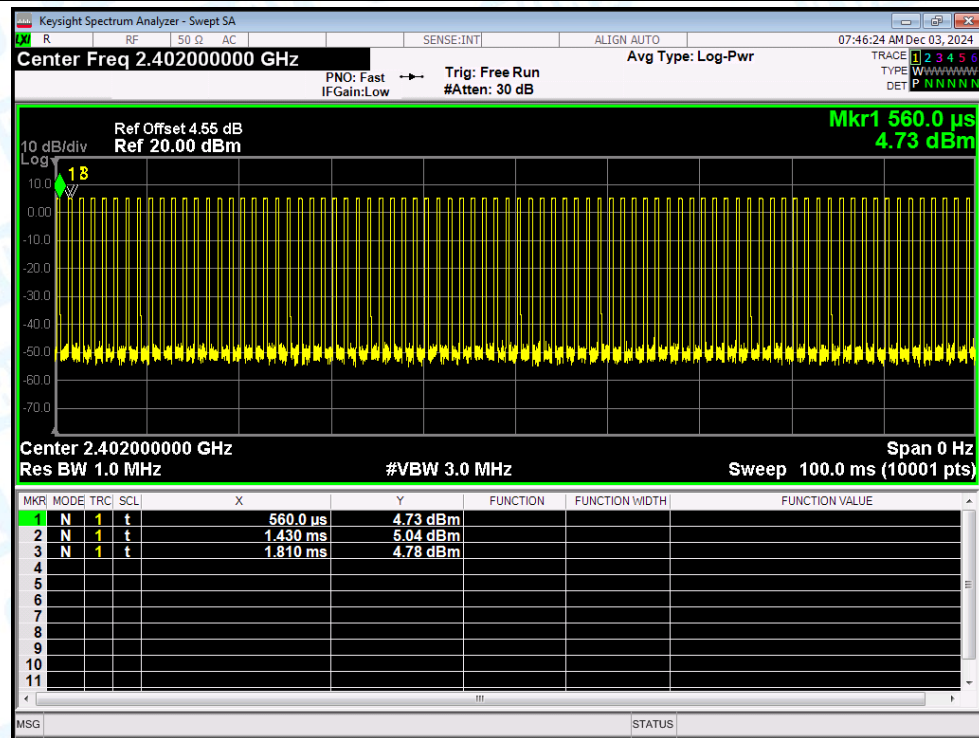
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1.Duty Cycle

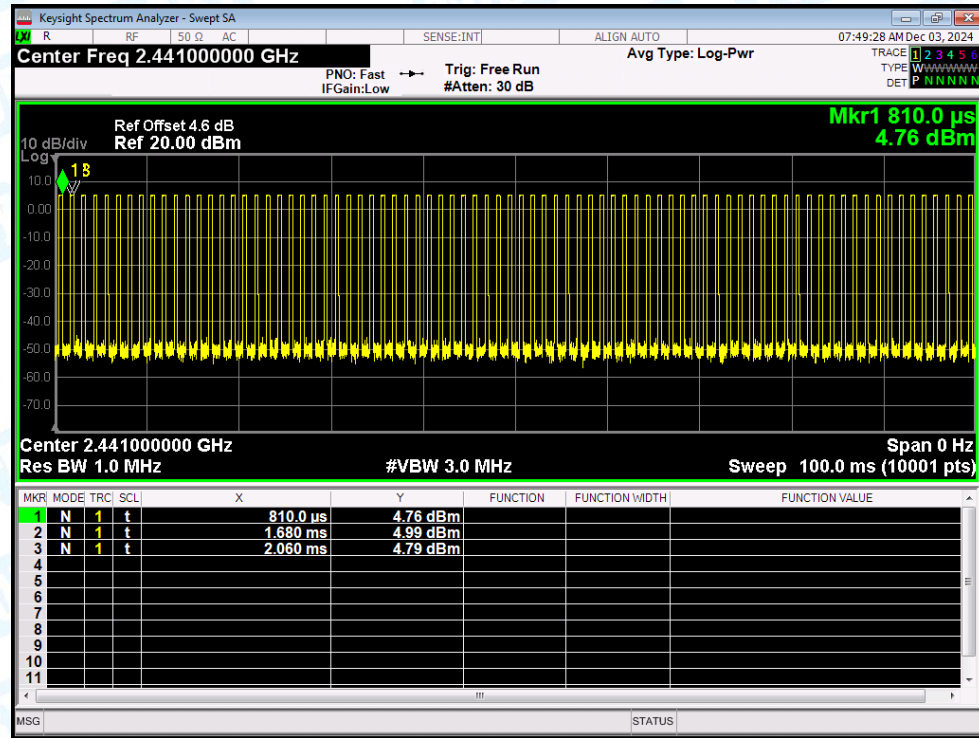
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	32	4.95	2.5
NVNT	2-DH1	2480	Ant1	32	4.95	2.5
NVNT	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	32	4.95	2.5

Test Graphs

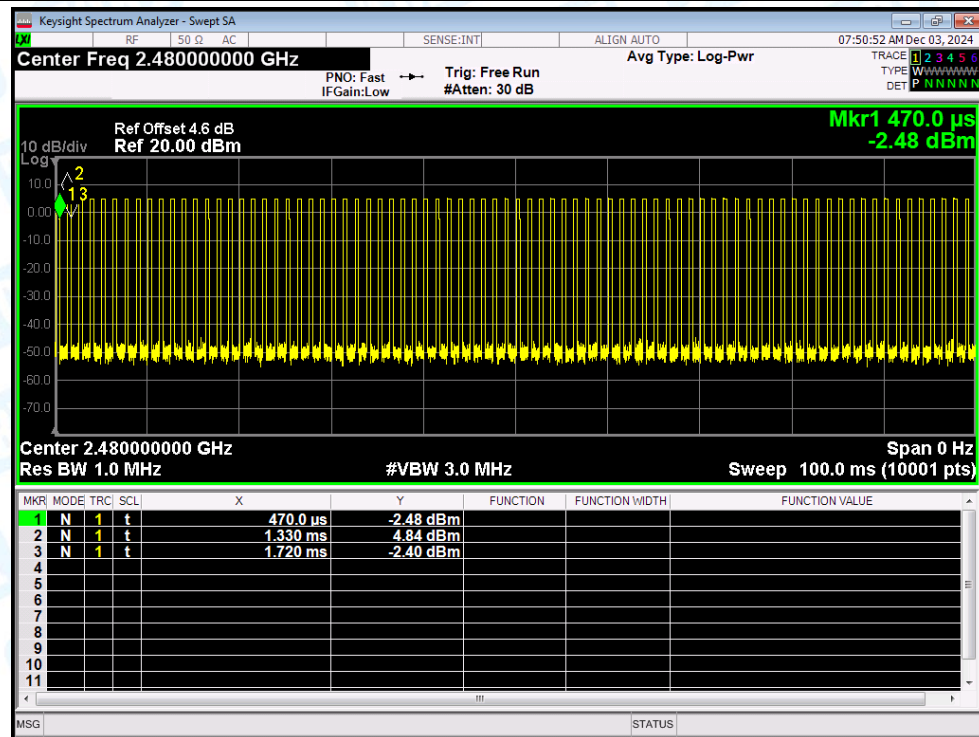
Duty Cycle NVNT 1-DH1 2402MHz Ant1



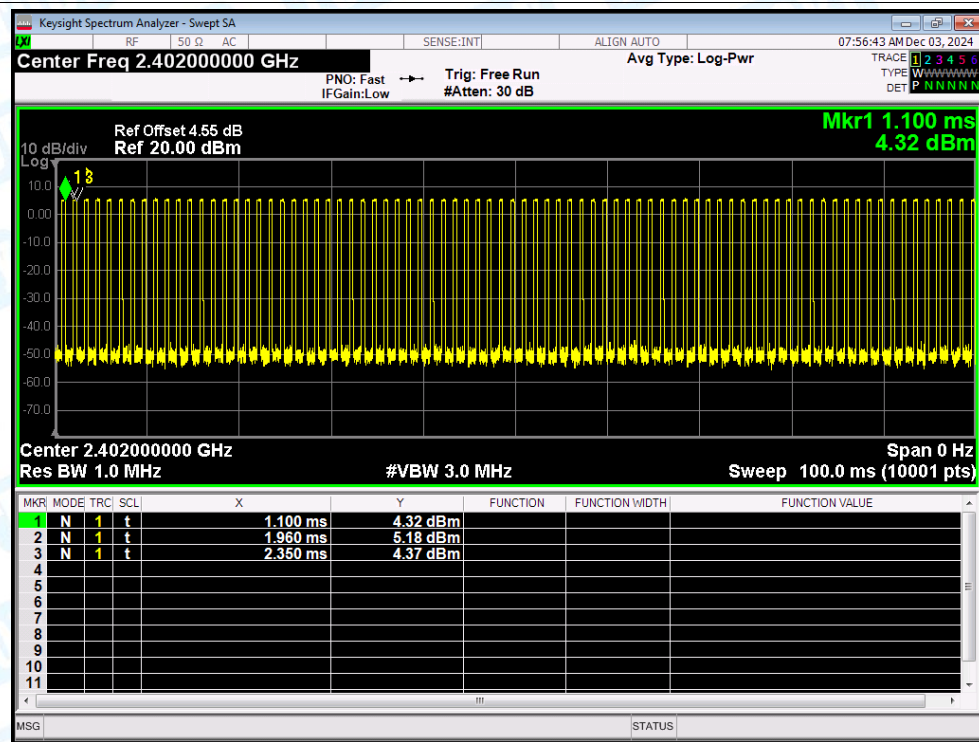
Duty Cycle NVNT 1-DH1 2441MHz Ant1



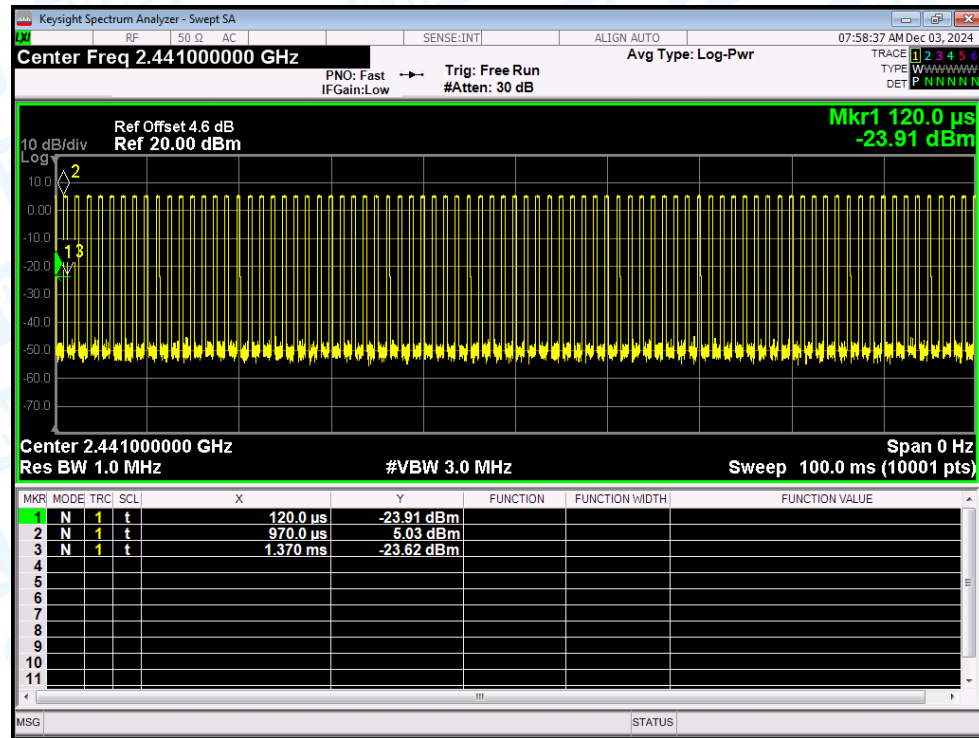
Duty Cycle NVNT 1-DH1 2480MHz Ant1



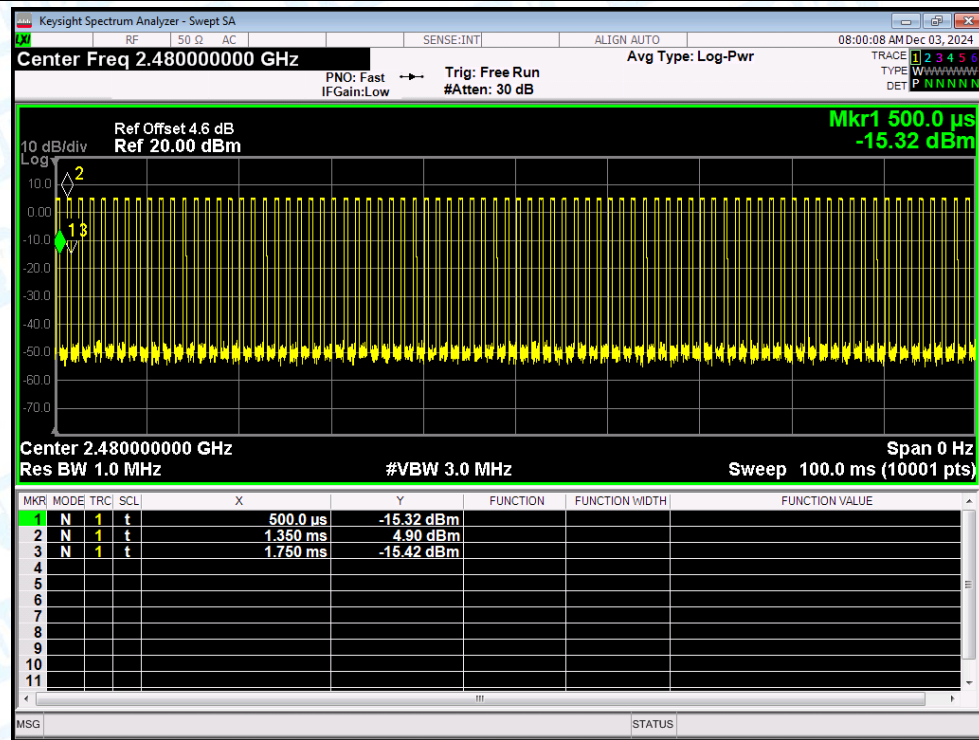
Duty Cycle NVNT 2-DH1 2402MHz Ant1



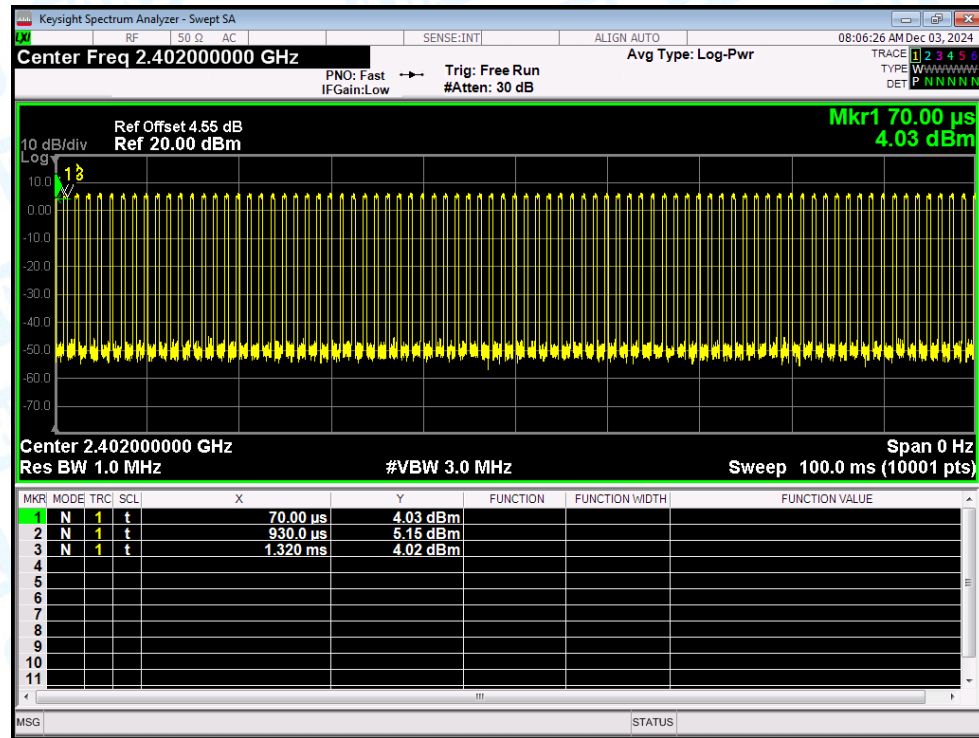
Duty Cycle NVNT 2-DH1 2441MHz Ant1



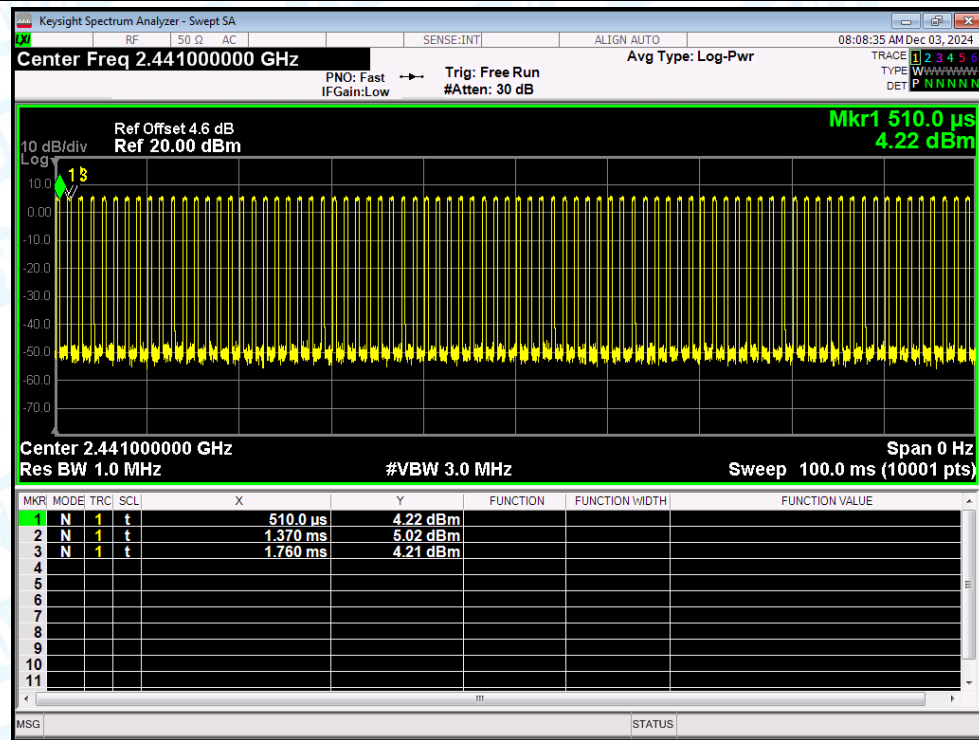
Duty Cycle NVNT 2-DH1 2480MHz Ant1

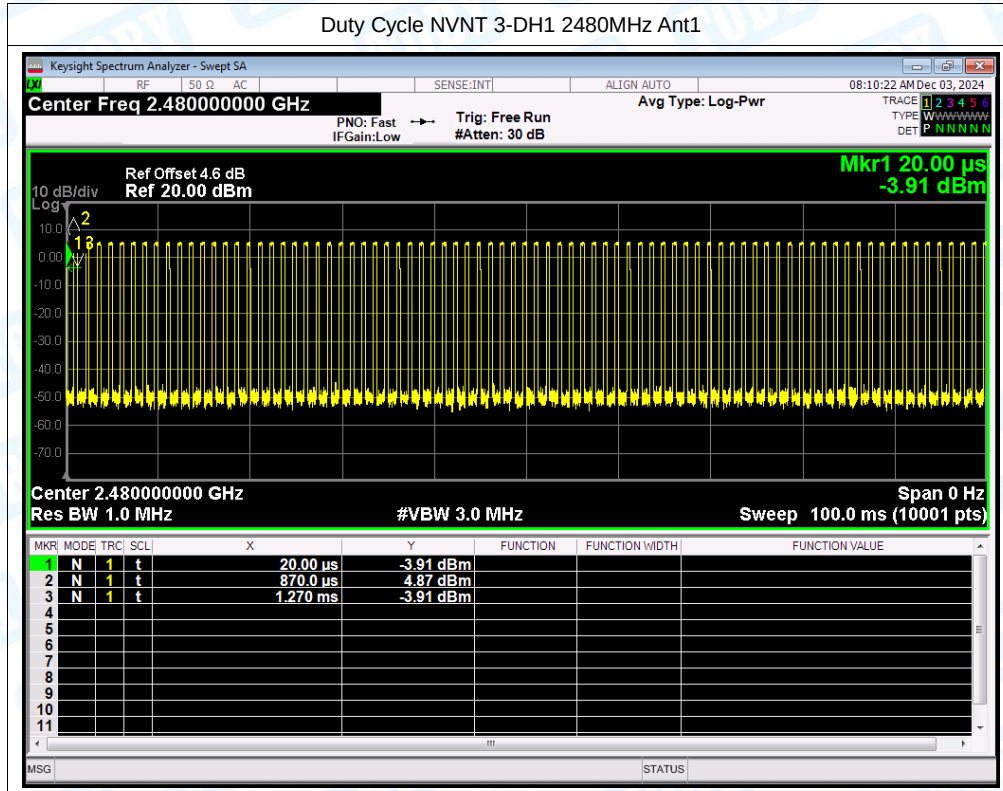


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



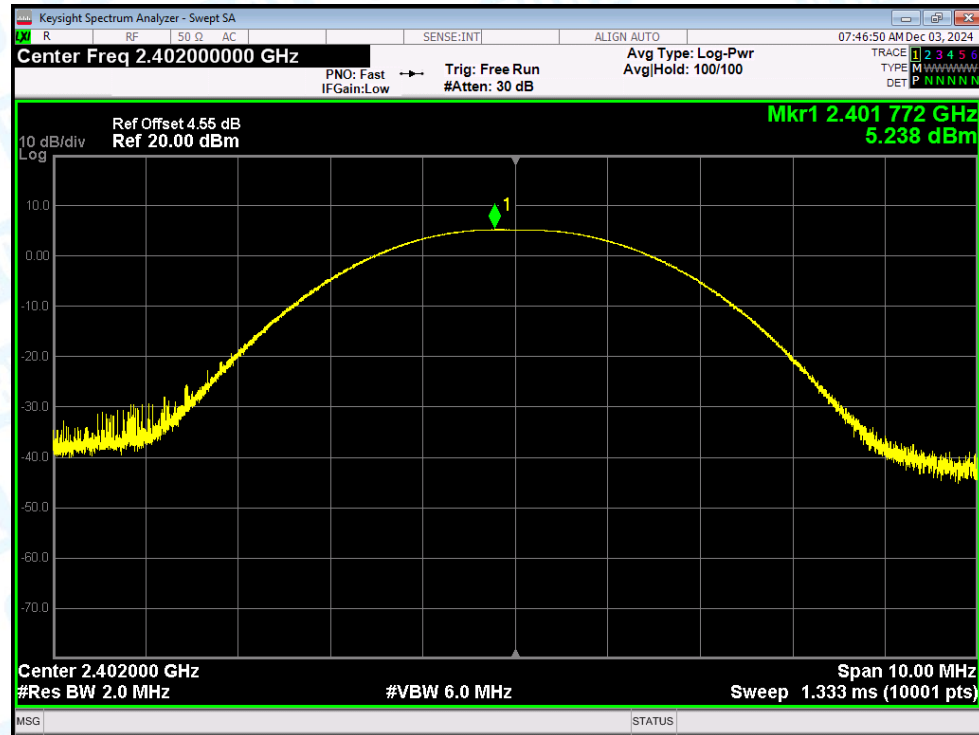


2.Maximum Conducted Output Power

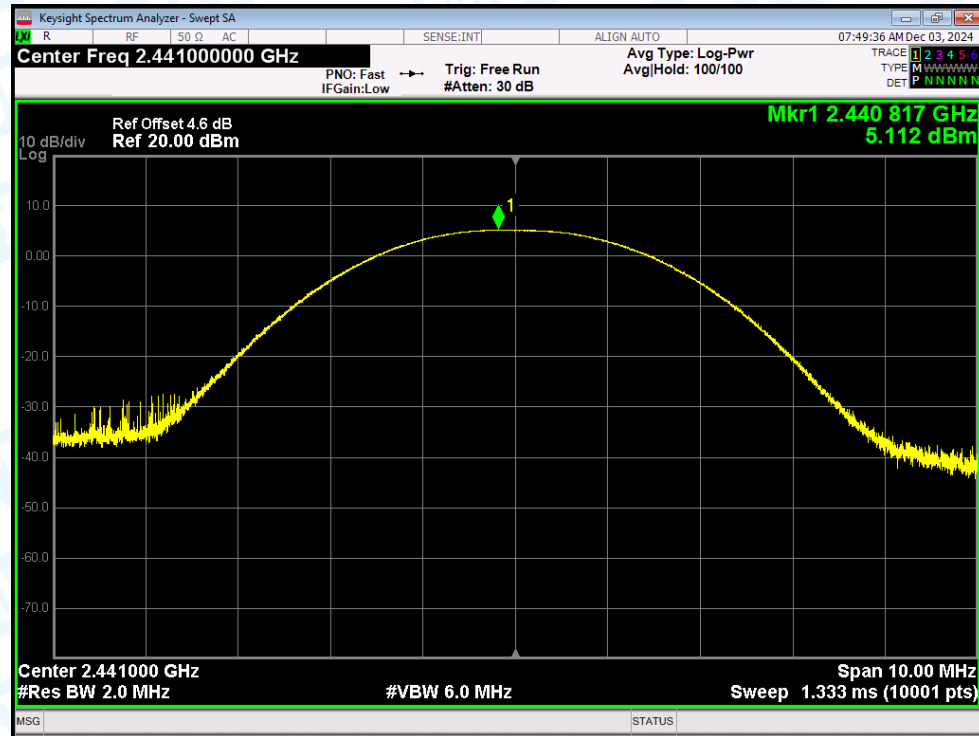
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	5.238	21	Pass
NVNT	1-DH1	2441	Ant1	5.112	21	Pass
NVNT	1-DH1	2480	Ant1	5	21	Pass
NVNT	2-DH1	2402	Ant1	6.001	21	Pass
NVNT	2-DH1	2441	Ant1	5.756	21	Pass
NVNT	2-DH1	2480	Ant1	5.504	21	Pass
NVNT	3-DH1	2402	Ant1	6.365	21	Pass
NVNT	3-DH1	2441	Ant1	6.063	21	Pass
NVNT	3-DH1	2480	Ant1	5.761	21	Pass

Test Graphs

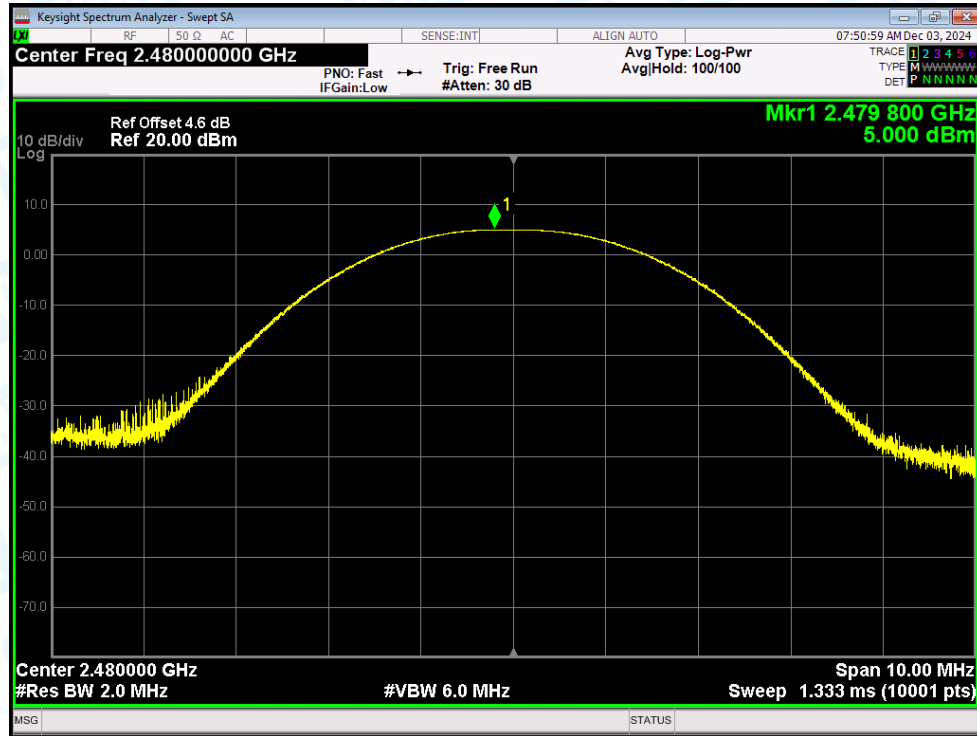
Power NVNT 1-DH1 2402MHz Ant1



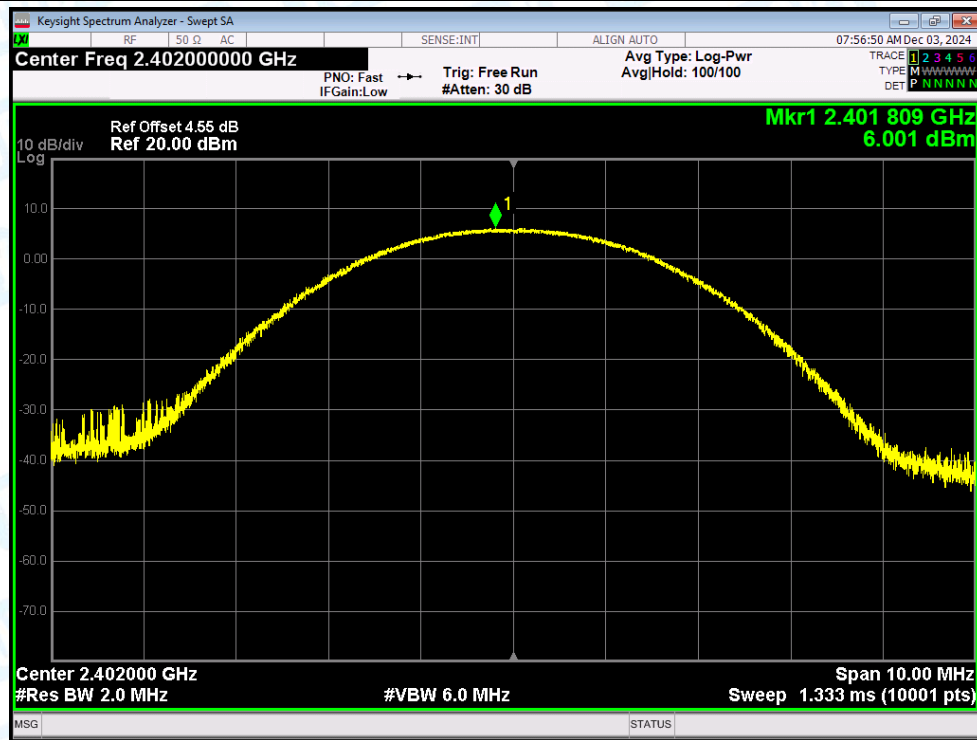
Power NVNT 1-DH1 2441MHz Ant1



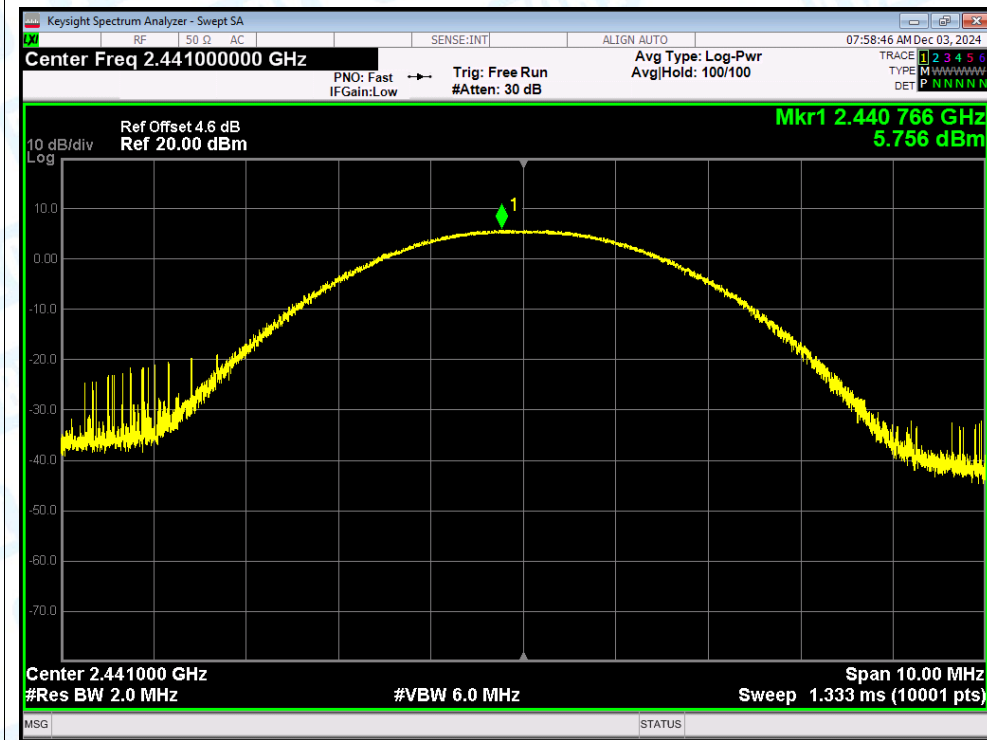
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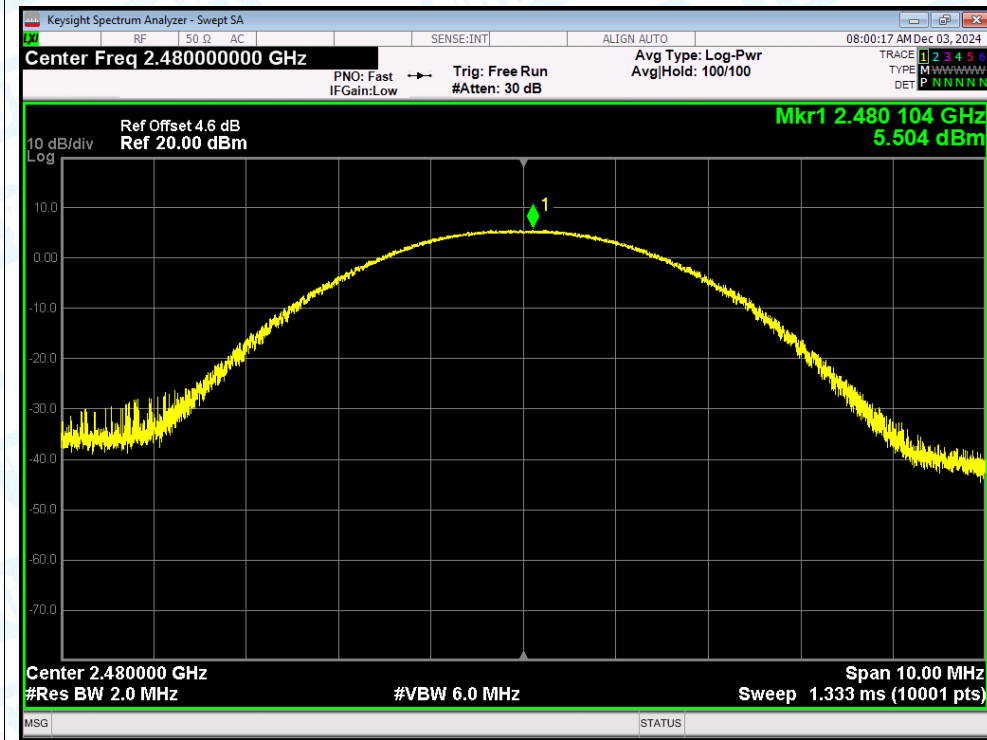
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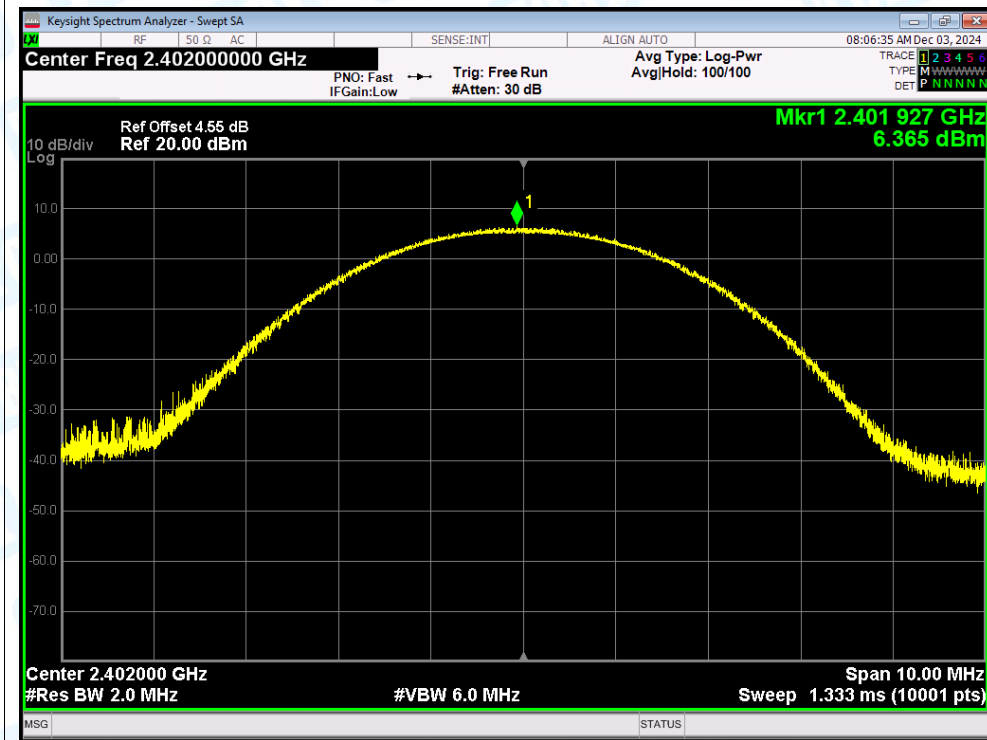
Power NVNT 2-DH1 2441MHz Ant1



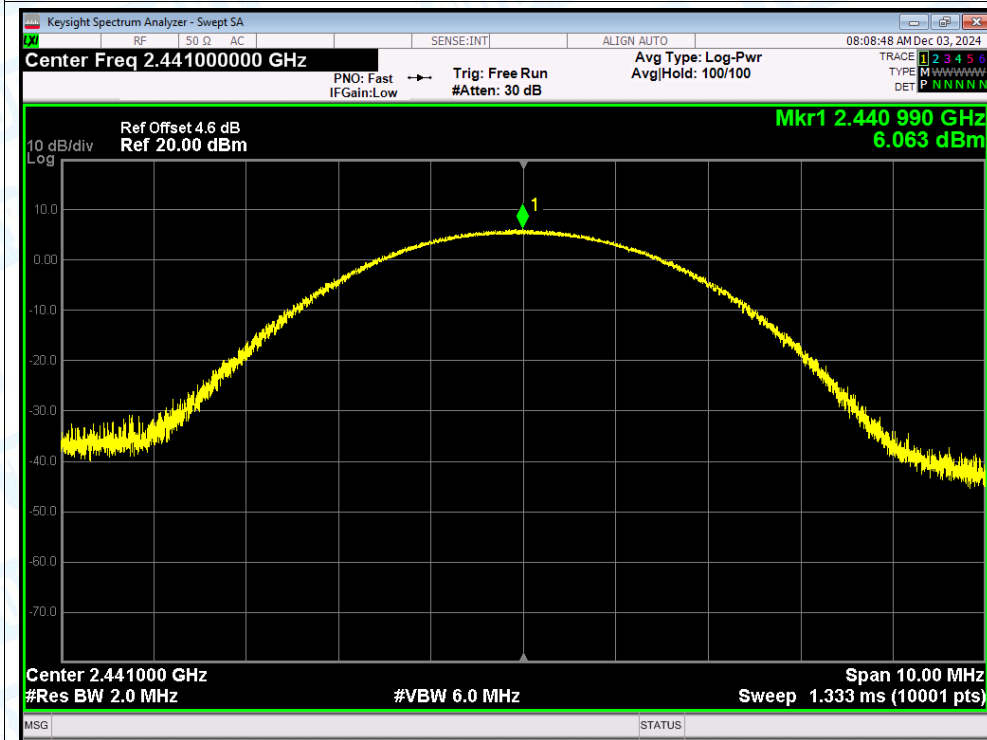
Power NVNT 2-DH1 2480MHz Ant1

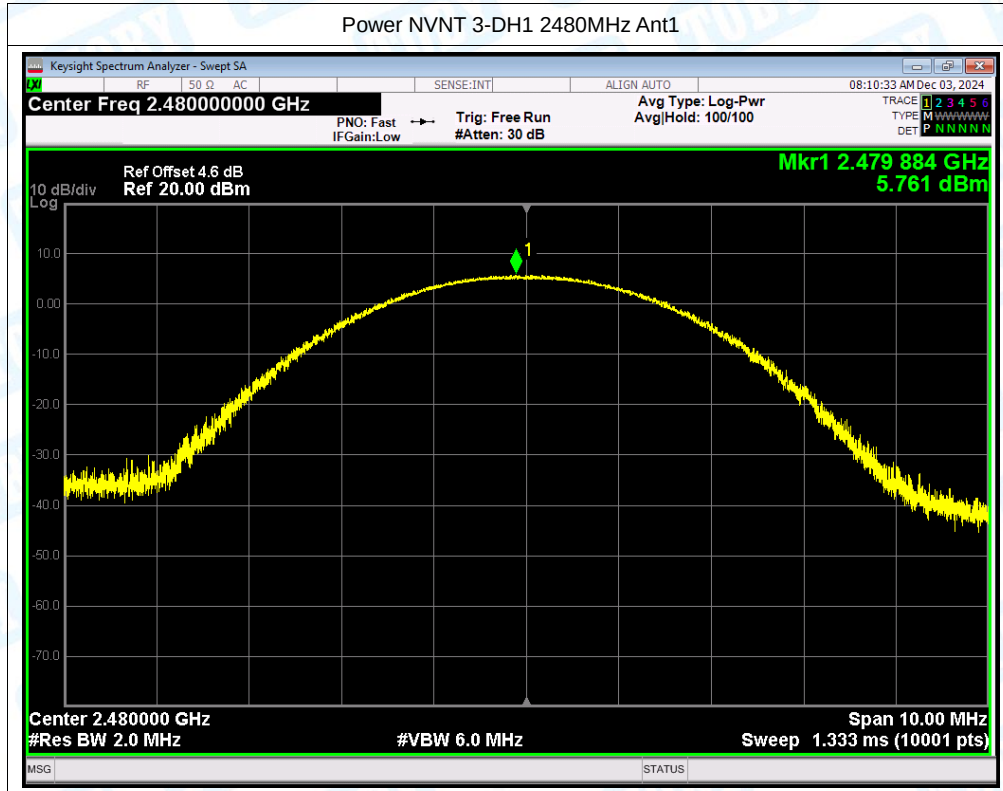


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



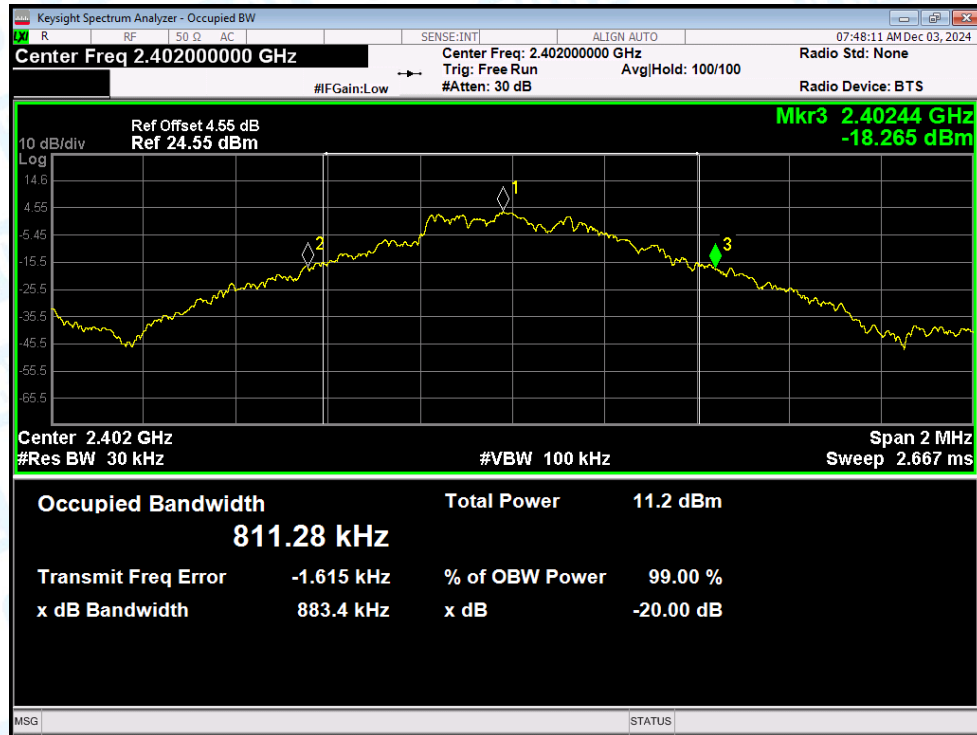


3.-20dB Bandwidth

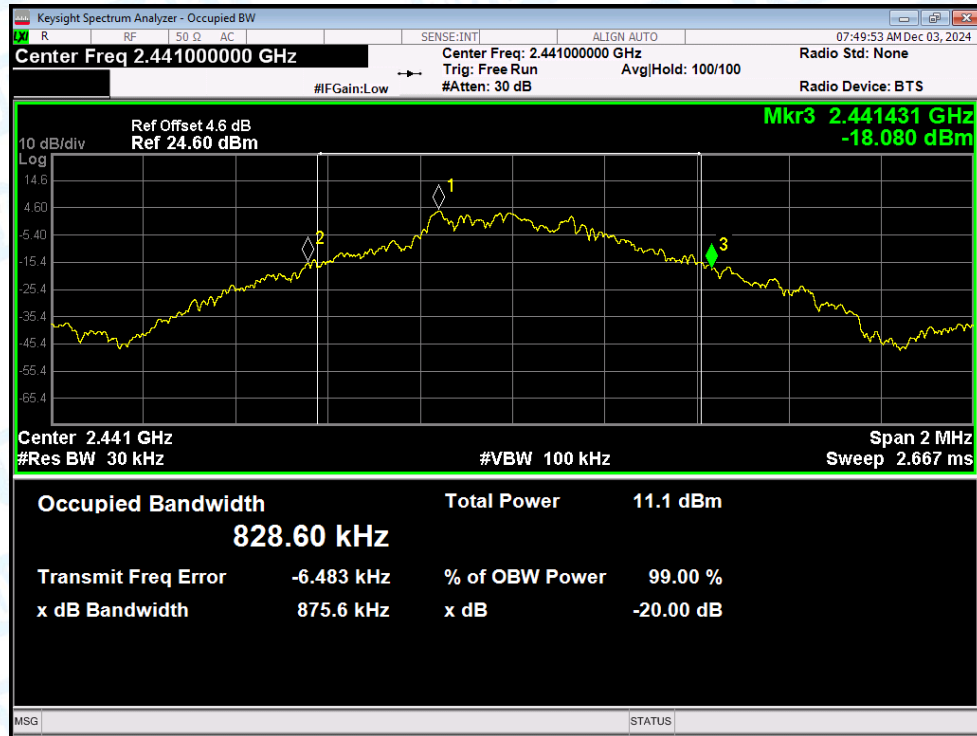
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.88	0	Pass
NVNT	1-DH1	2441	Ant1	0.88	0	Pass
NVNT	1-DH1	2480	Ant1	0.85	0	Pass
NVNT	2-DH1	2402	Ant1	1.22	0	Pass
NVNT	2-DH1	2441	Ant1	1.24	0	Pass
NVNT	2-DH1	2480	Ant1	1.23	0	Pass
NVNT	3-DH1	2402	Ant1	1.26	0	Pass
NVNT	3-DH1	2441	Ant1	1.25	0	Pass
NVNT	3-DH1	2480	Ant1	1.24	0	Pass

Test Graphs

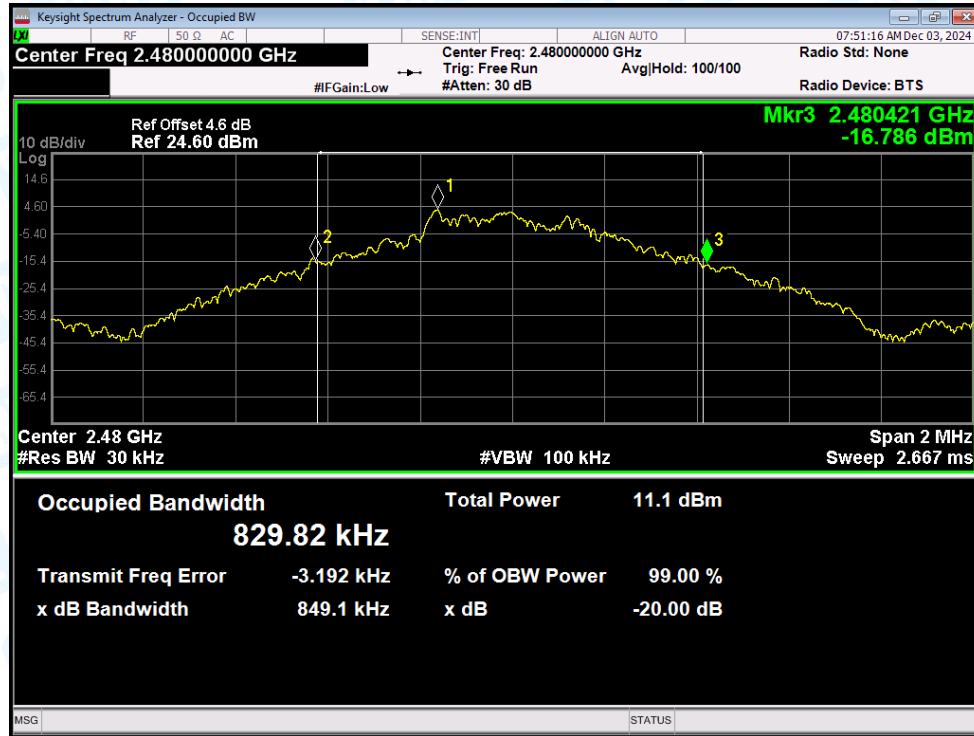
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



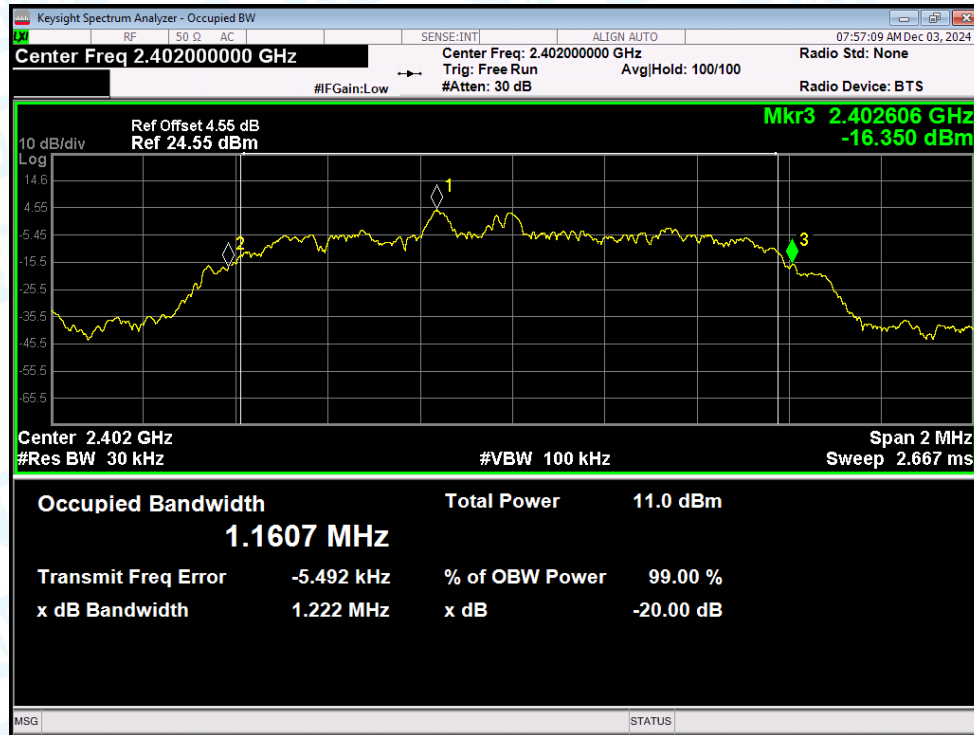
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



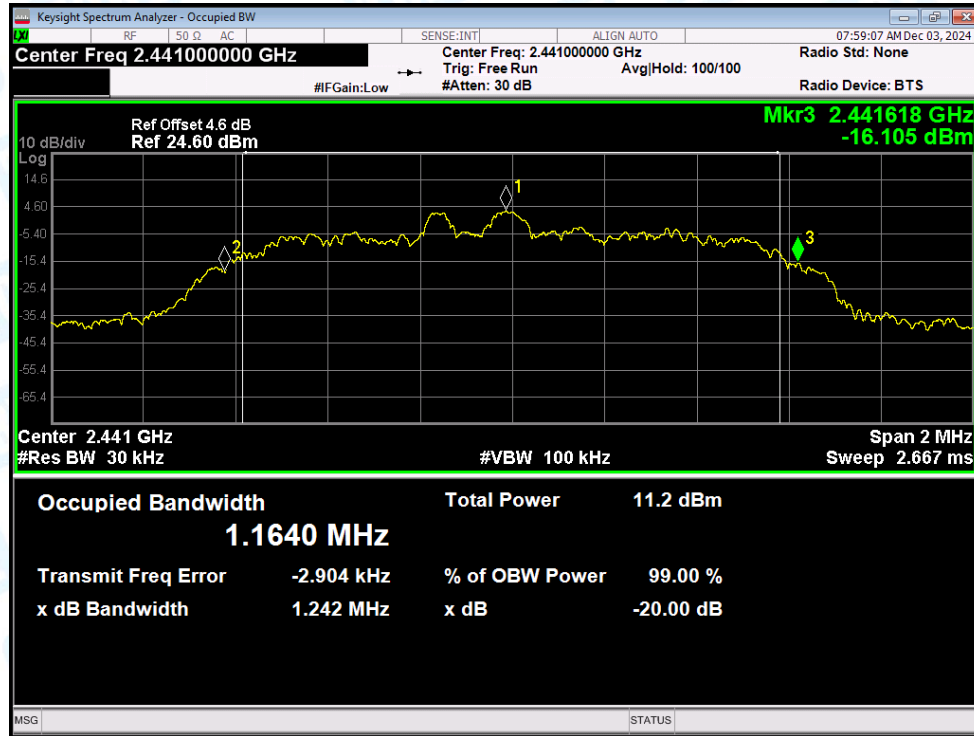
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



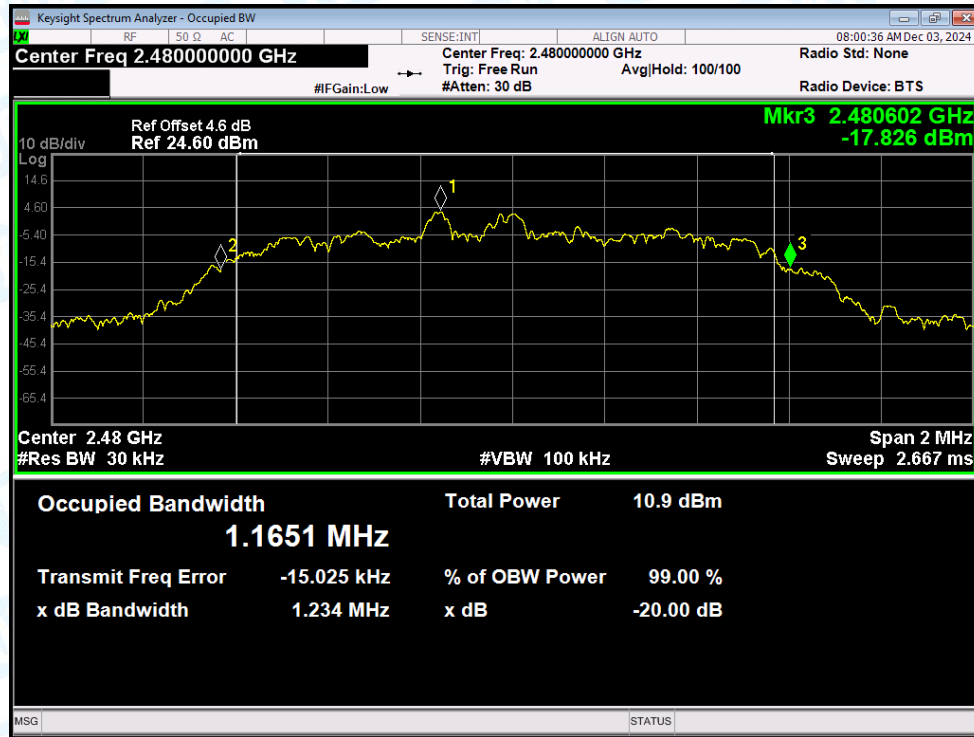
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



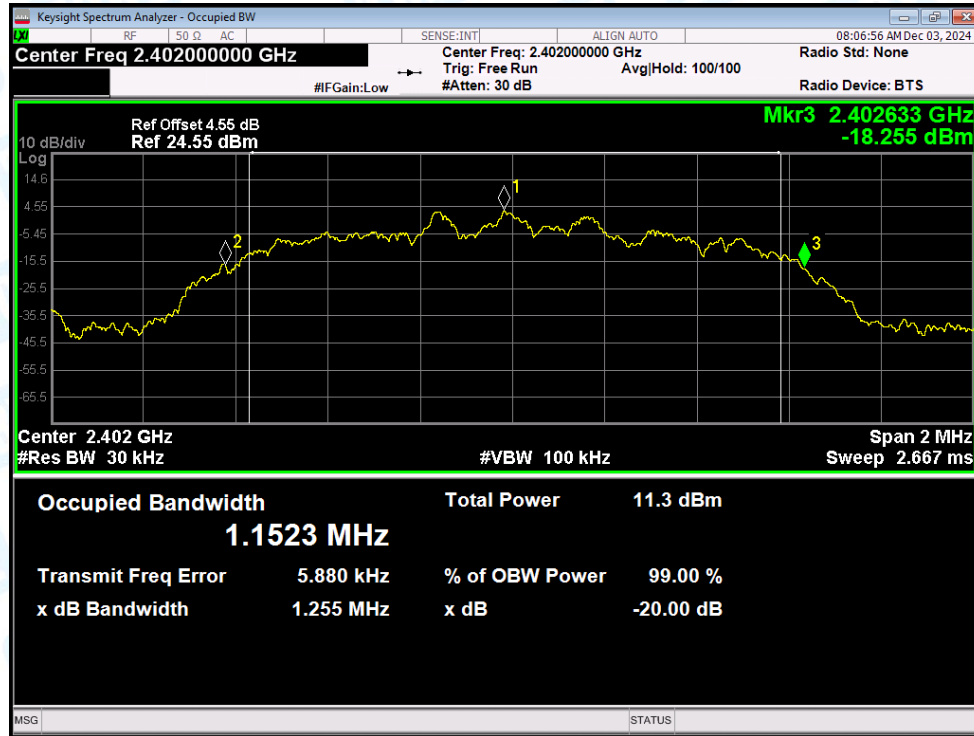
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



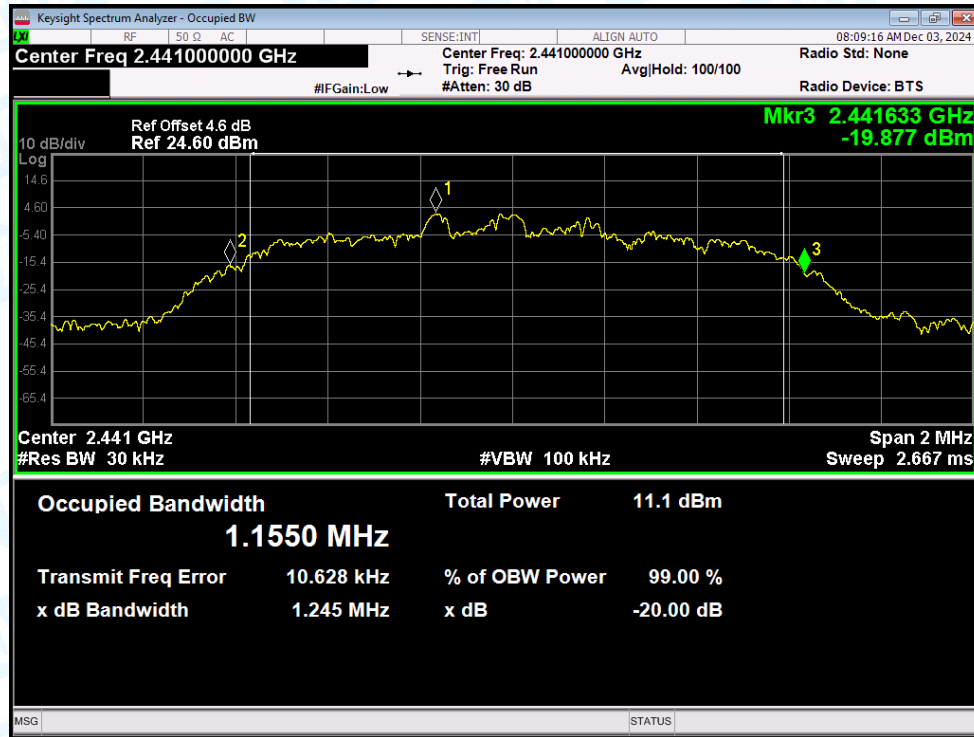
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

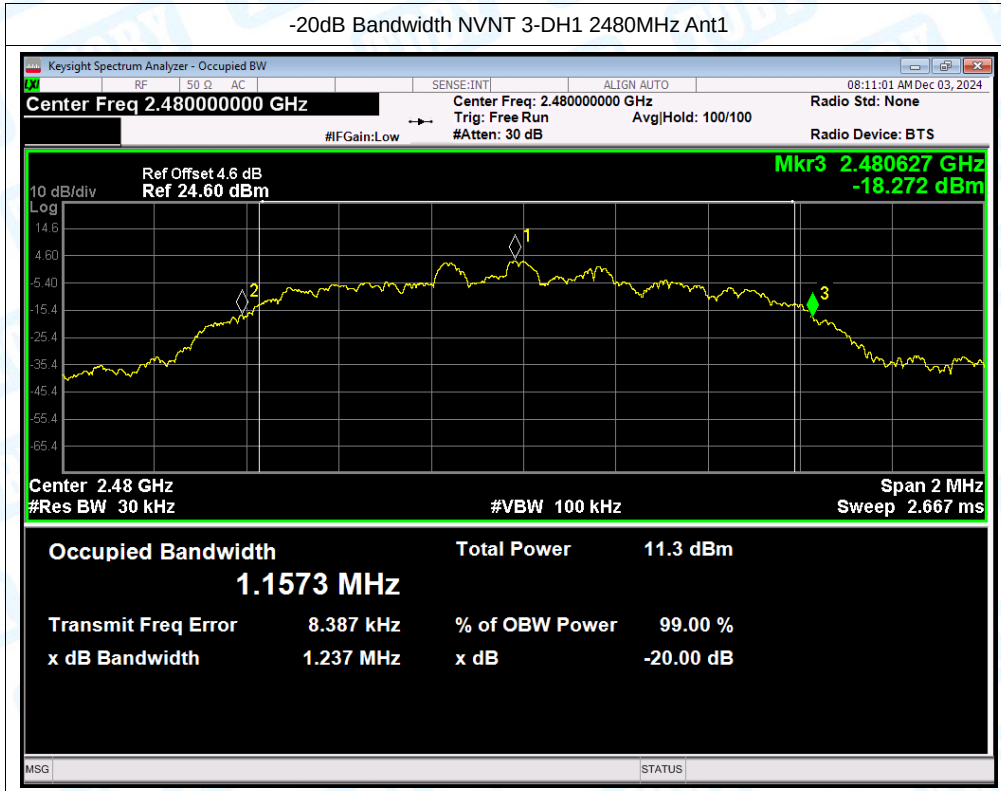


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



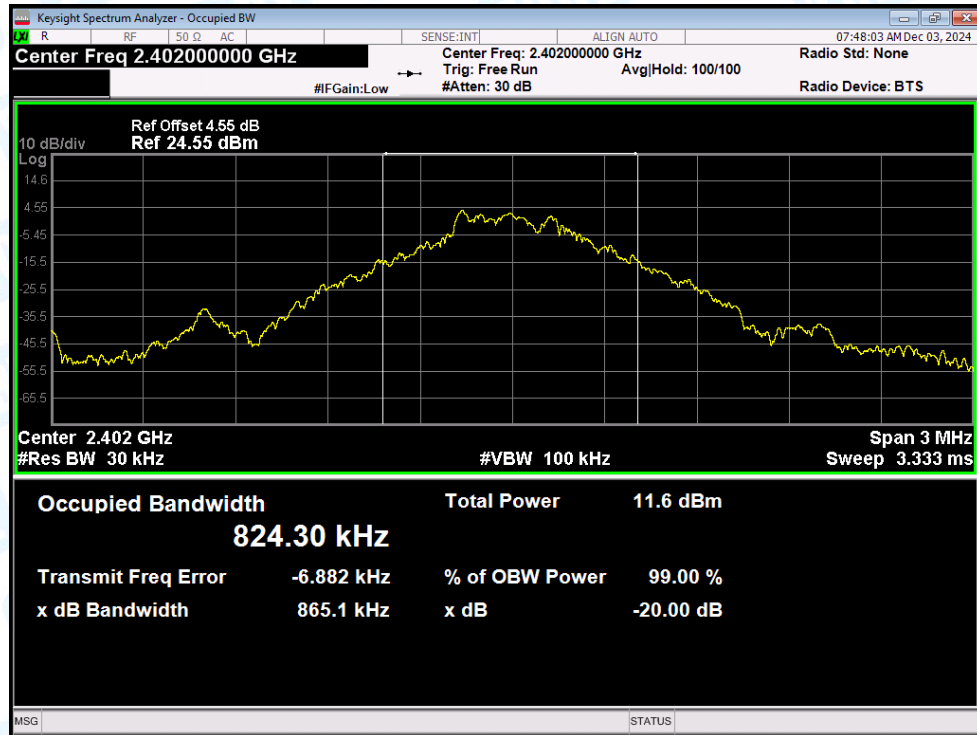


4.Occupied Channel Bandwidth

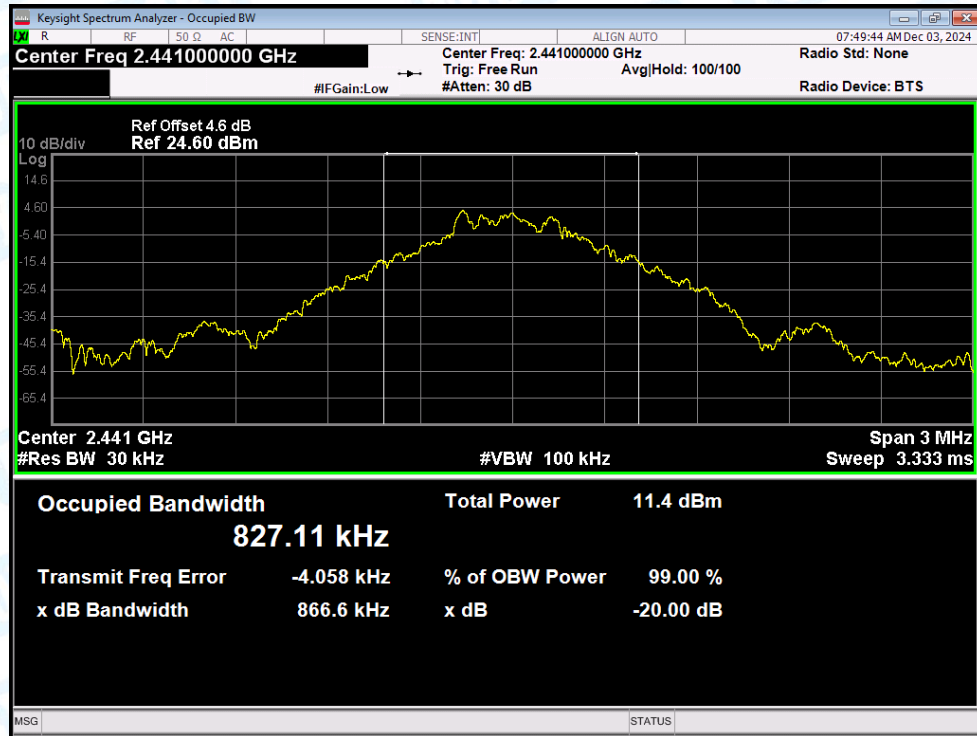
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.824
NVNT	1-DH1	2441	Ant1	0.827
NVNT	1-DH1	2480	Ant1	0.825
NVNT	2-DH1	2402	Ant1	1.173
NVNT	2-DH1	2441	Ant1	1.149
NVNT	2-DH1	2480	Ant1	1.176
NVNT	3-DH1	2402	Ant1	1.15
NVNT	3-DH1	2441	Ant1	1.163
NVNT	3-DH1	2480	Ant1	1.166

Test Graphs

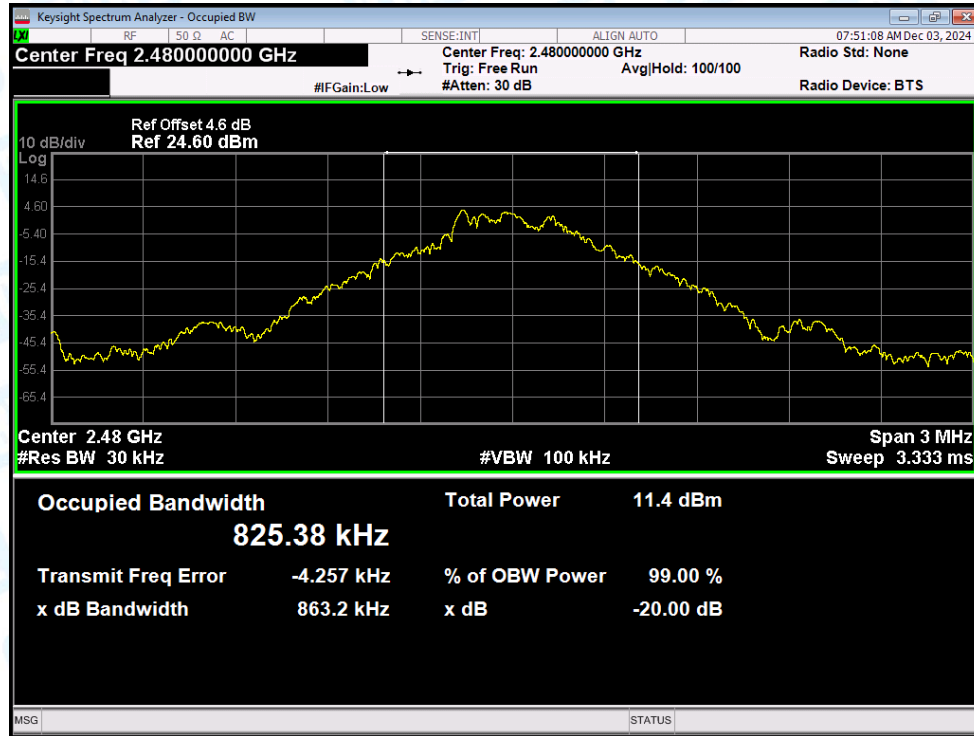
OBW NVNT 1-DH1 2402MHz Ant1



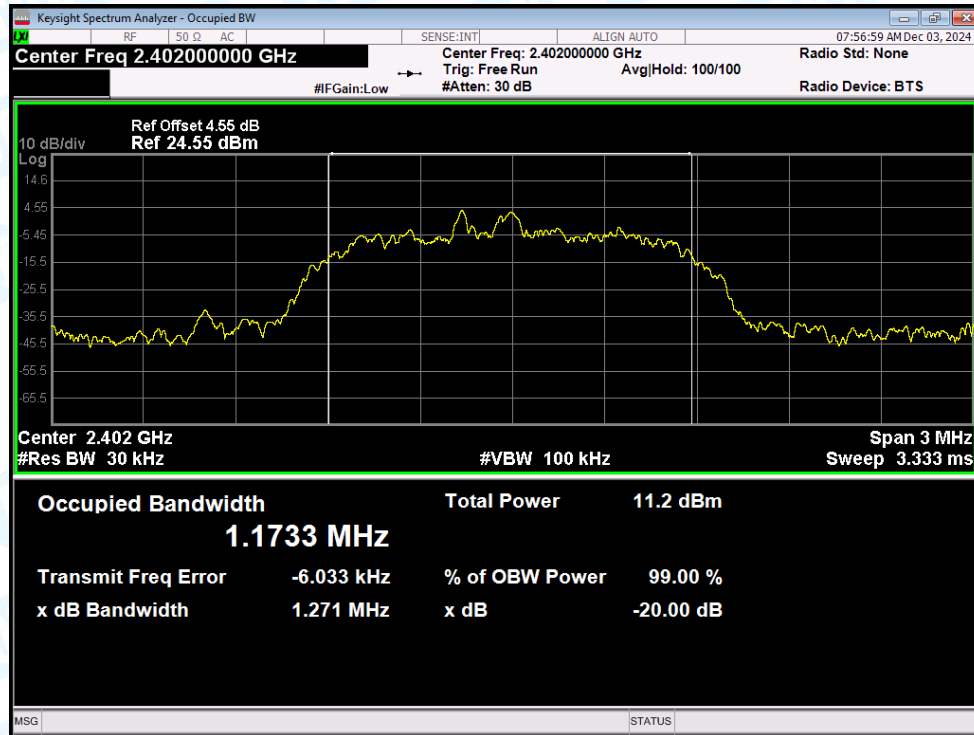
OBW NVNT 1-DH1 2441MHz Ant1



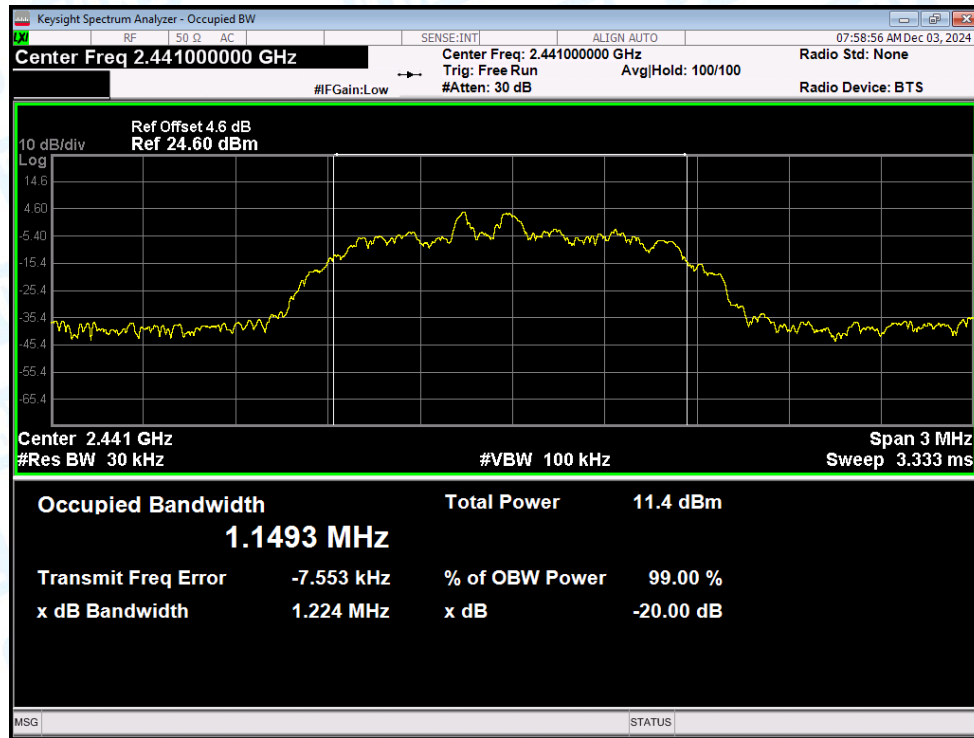
OBW NVNT 1-DH1 2480MHz Ant1



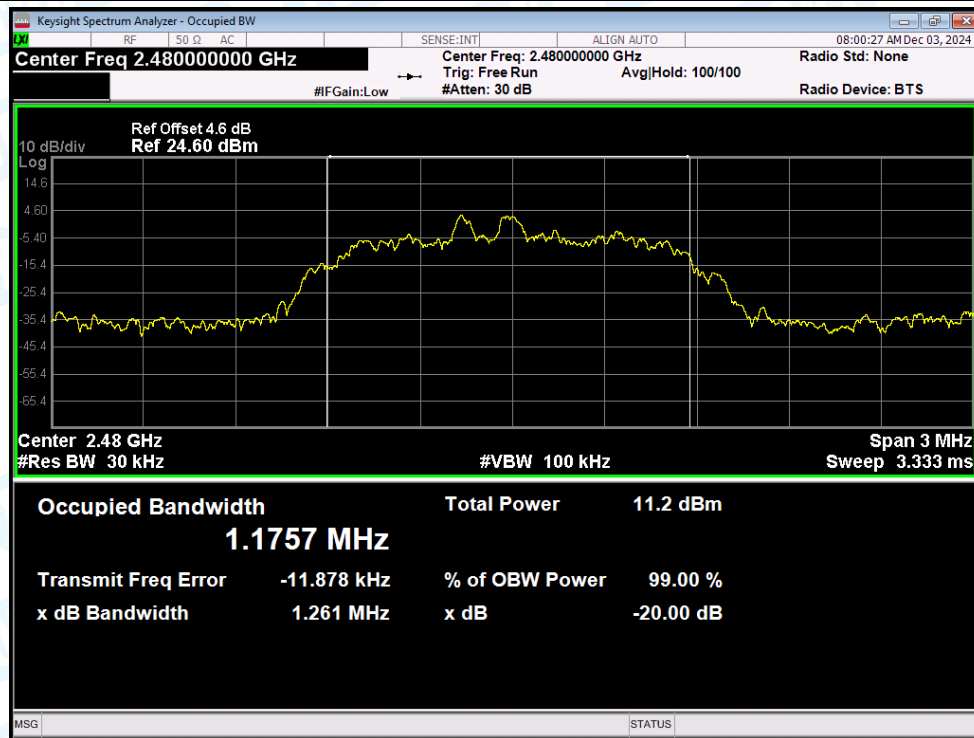
OBW NVNT 2-DH1 2402MHz Ant1



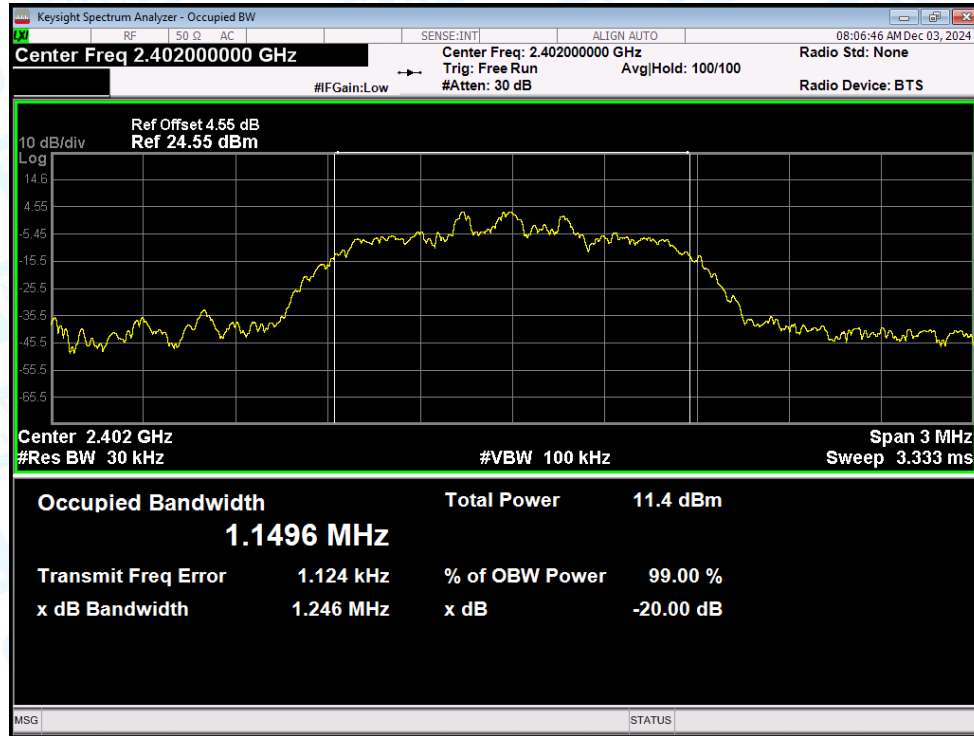
OBW NVNT 2-DH1 2441MHz Ant1



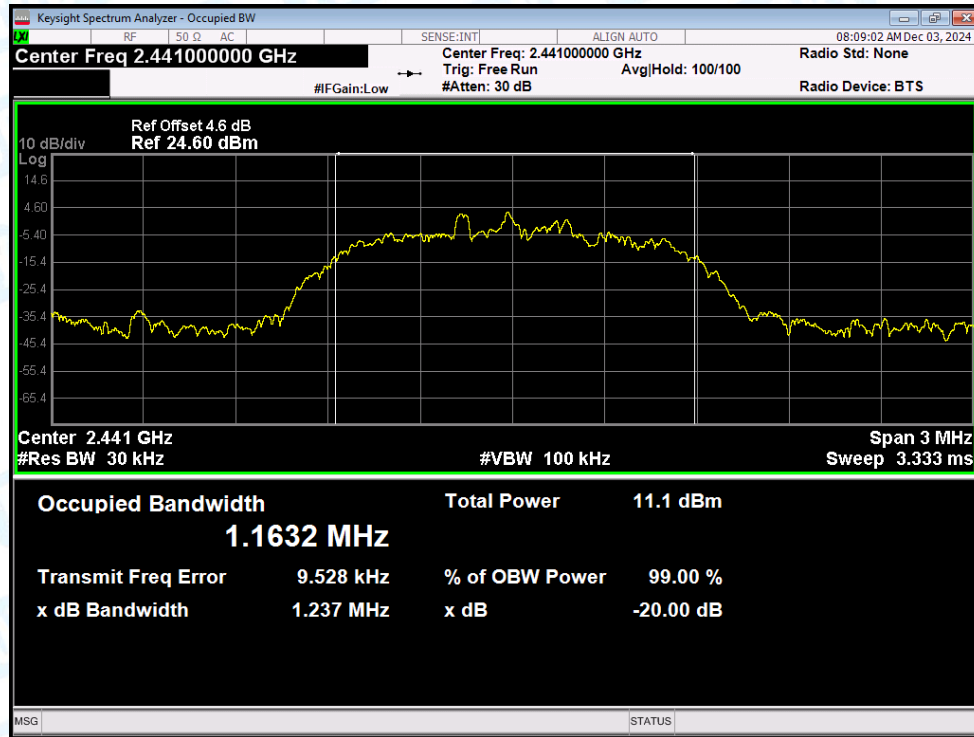
OBW NVNT 2-DH1 2480MHz Ant1

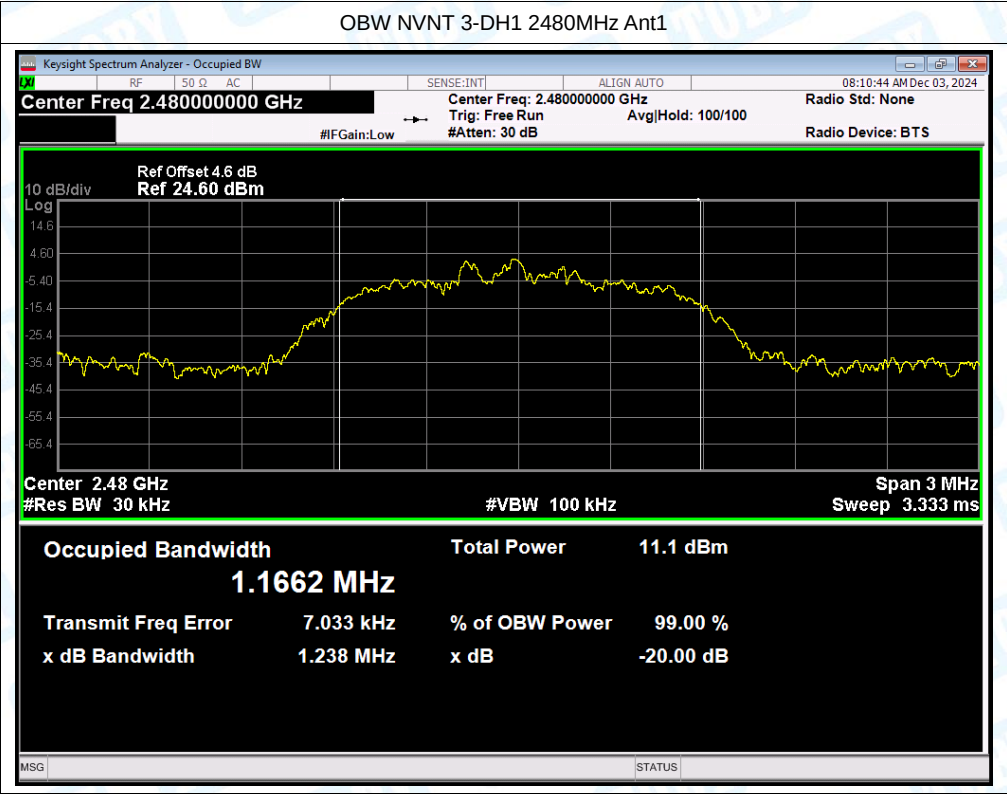


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



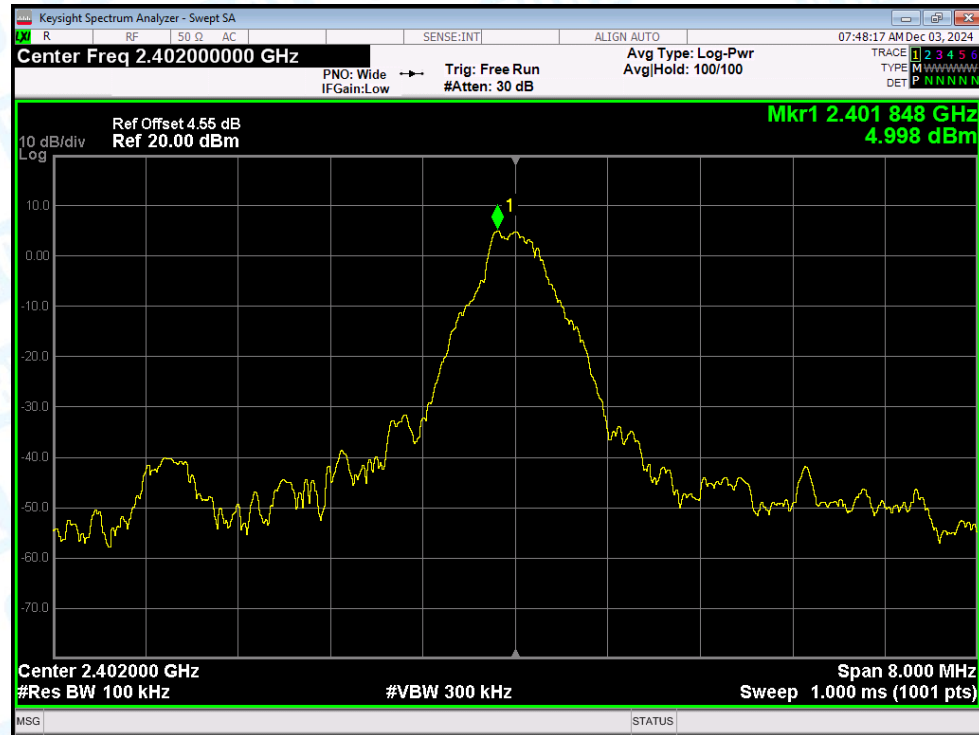


5.Band Edge

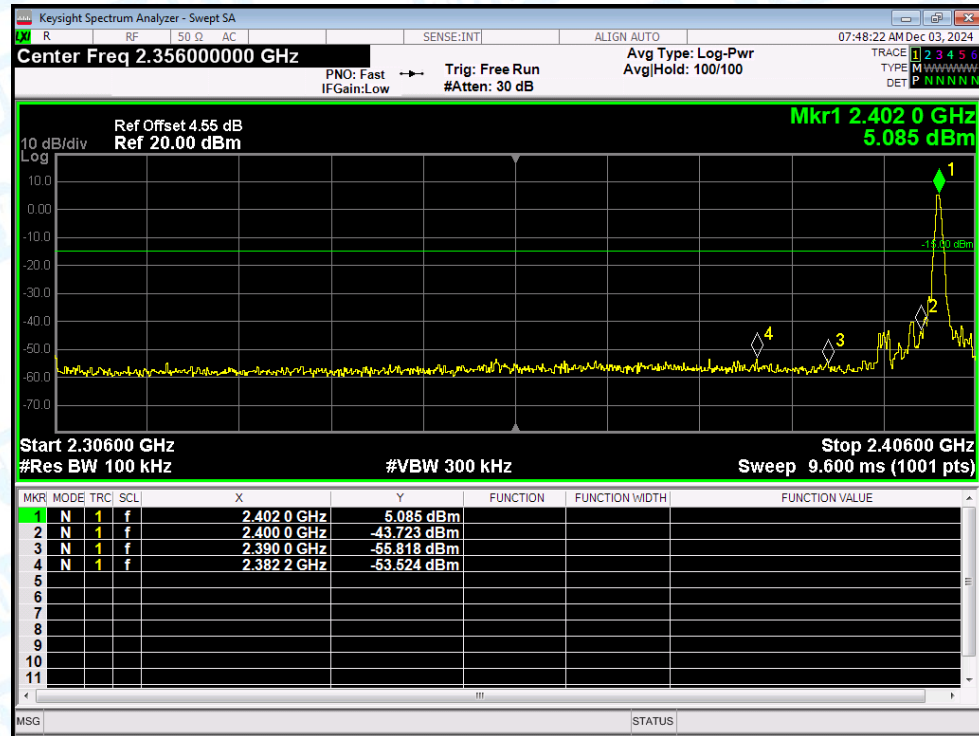
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-58.52	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-49.82	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-58.56	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-53.72	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-57.73	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-51.84	-20	Pass

Test Graphs

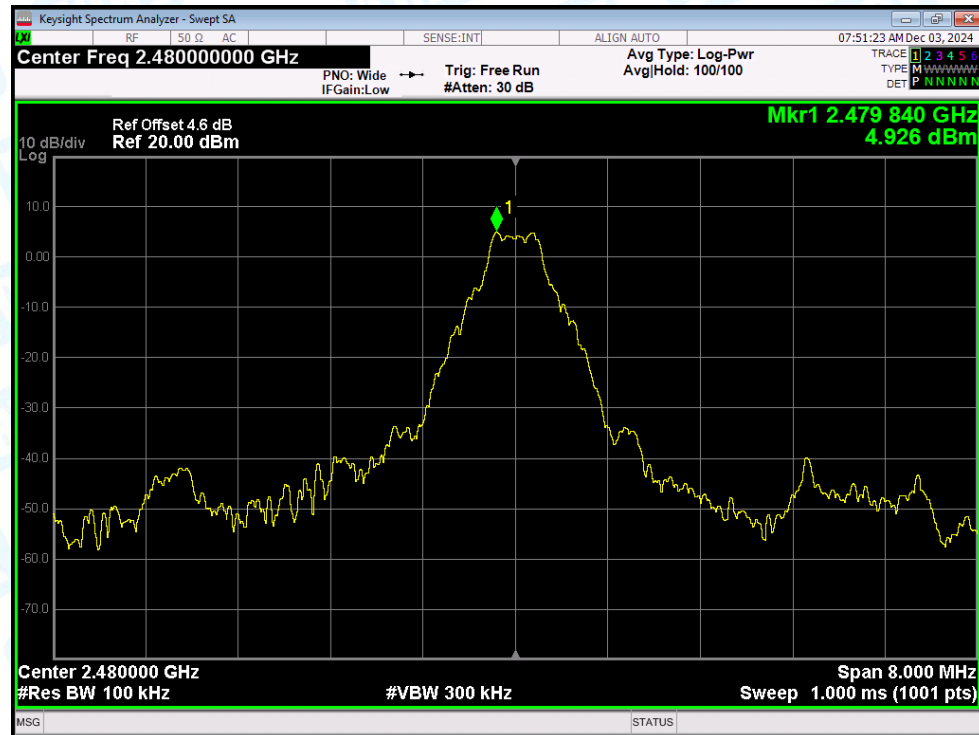
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



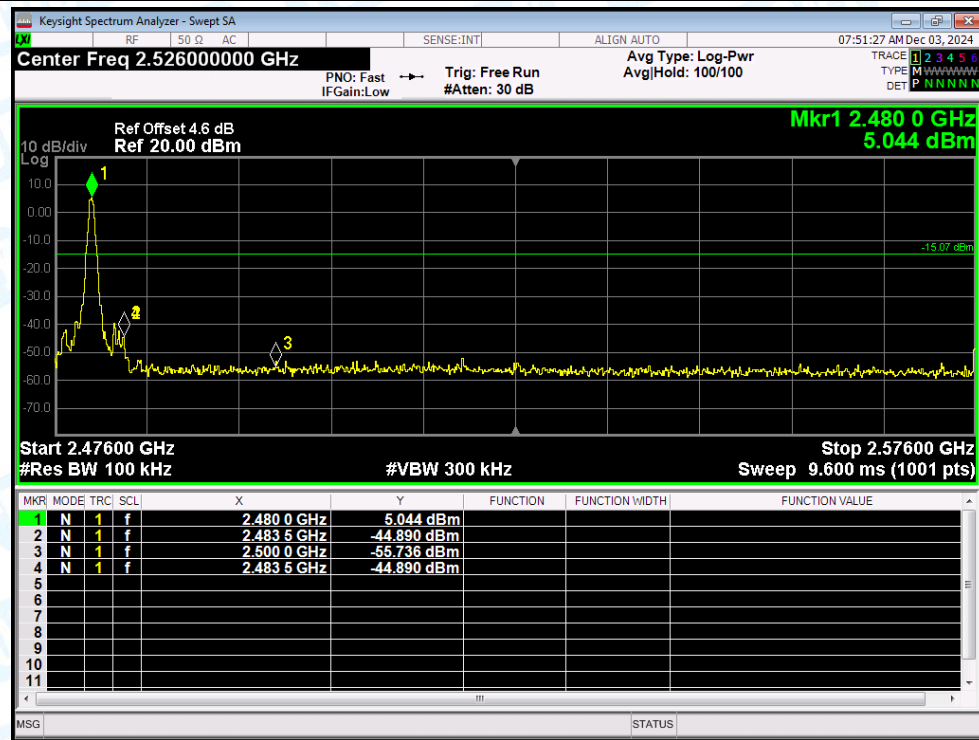
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



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



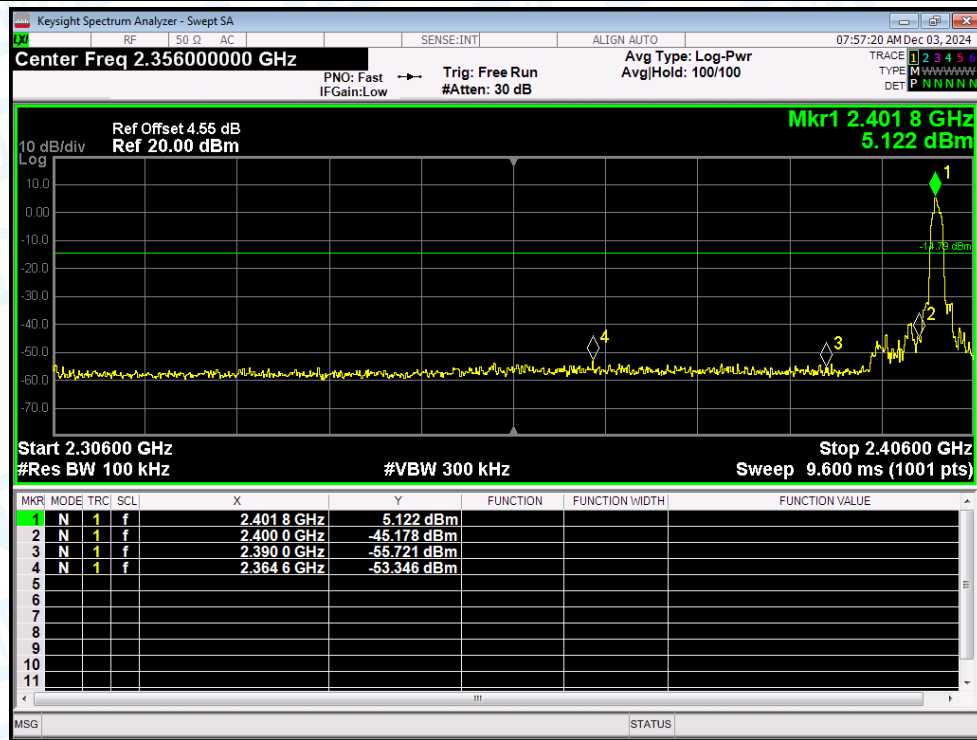
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



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



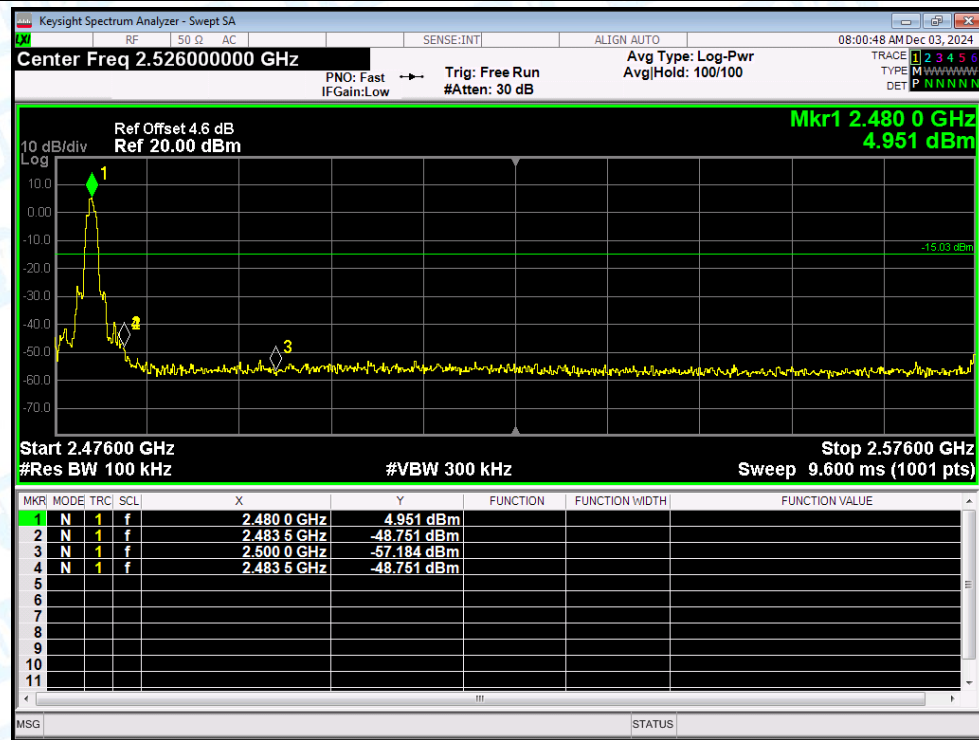
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



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



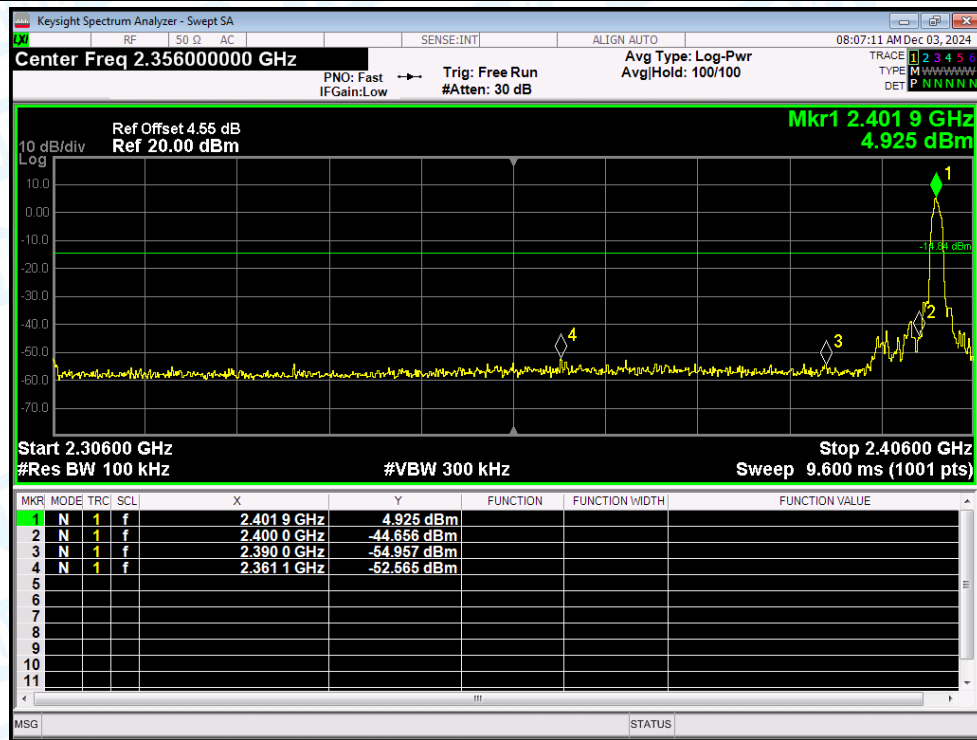
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



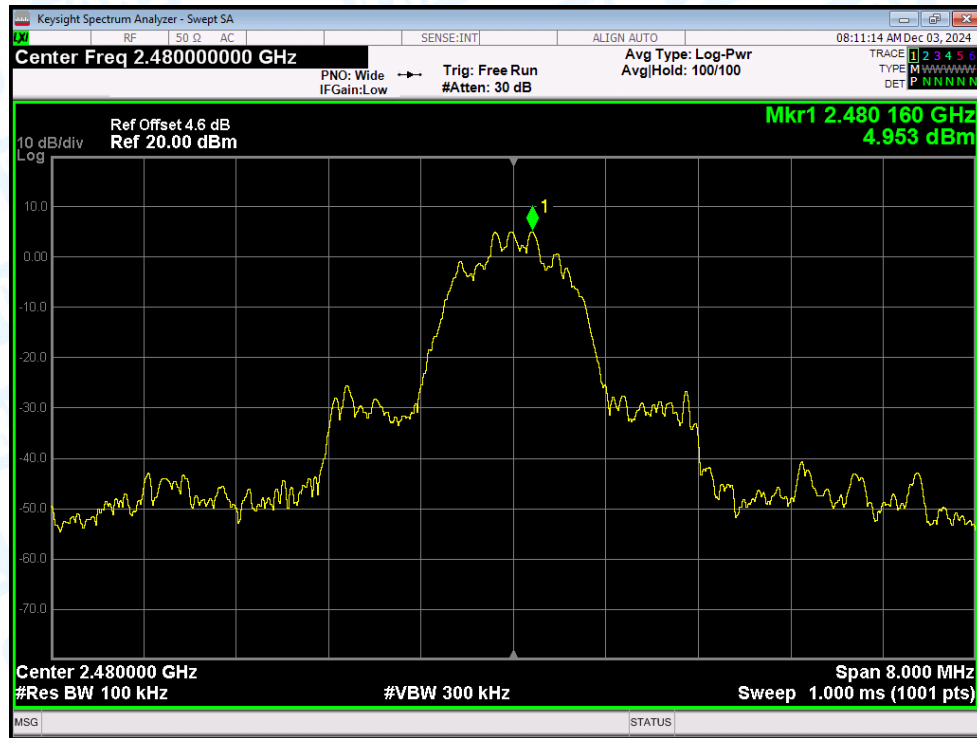
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



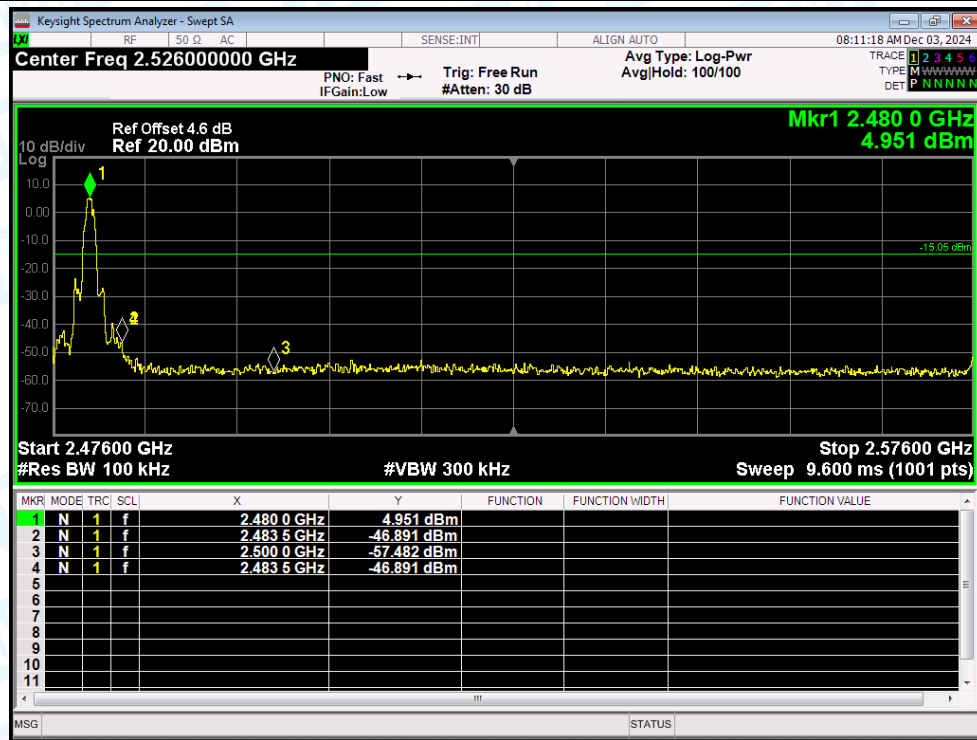
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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



6.Band Edge(Hopping)

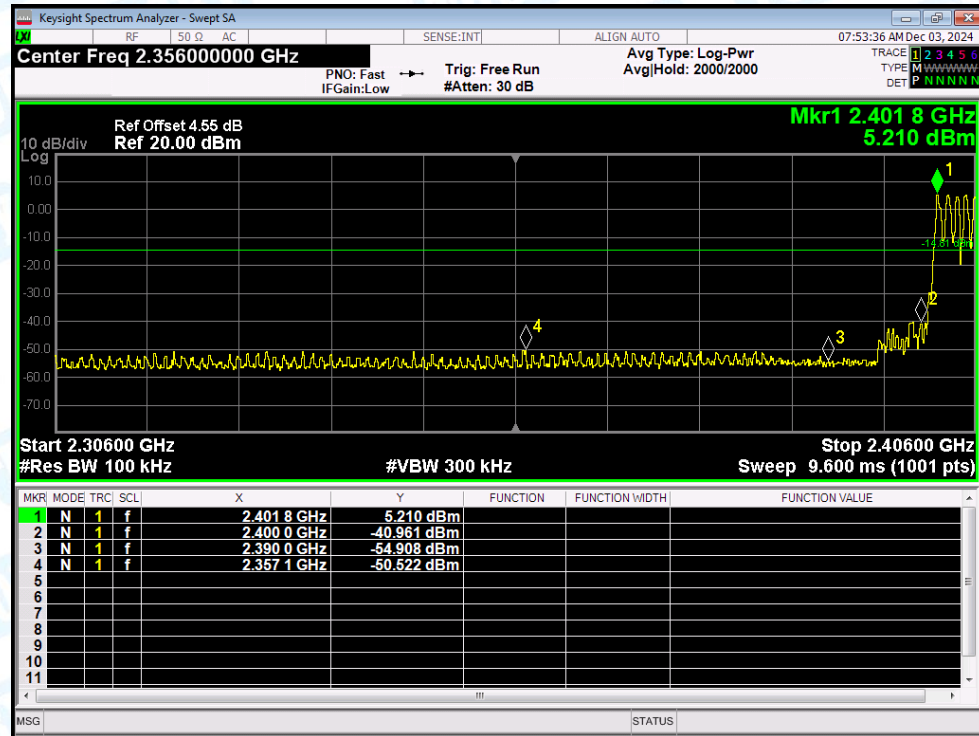
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-55.71	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-50.26	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-54.99	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-53.28	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-54.94	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-52.65	-20	Pass

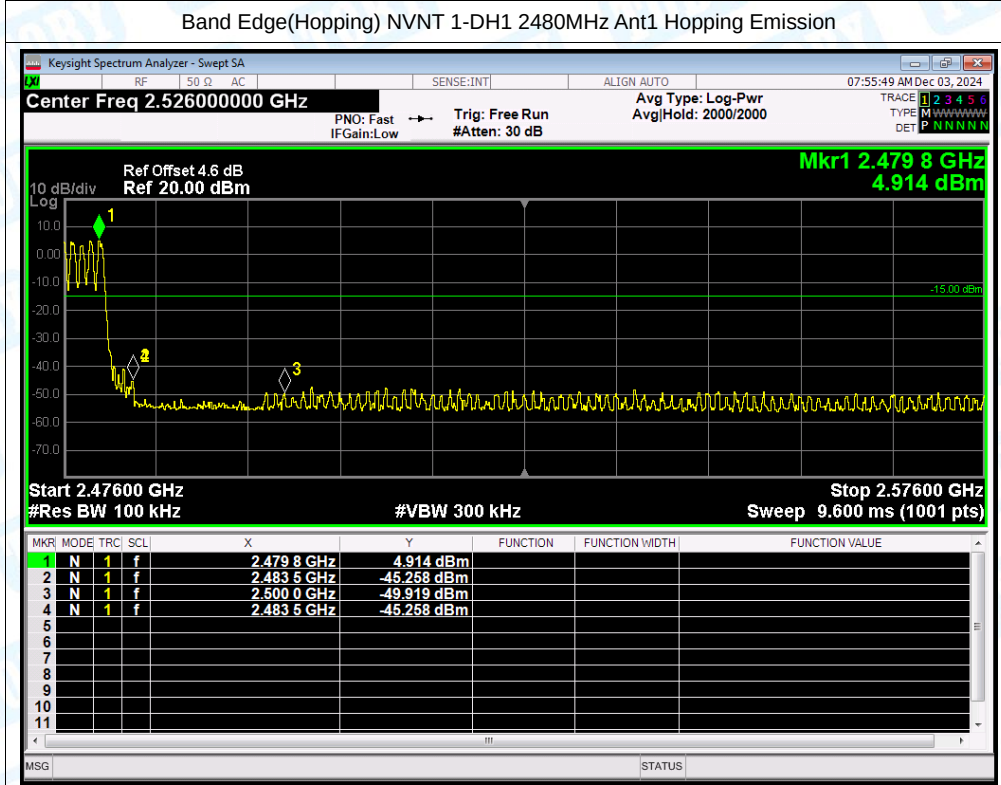
Test Graphs

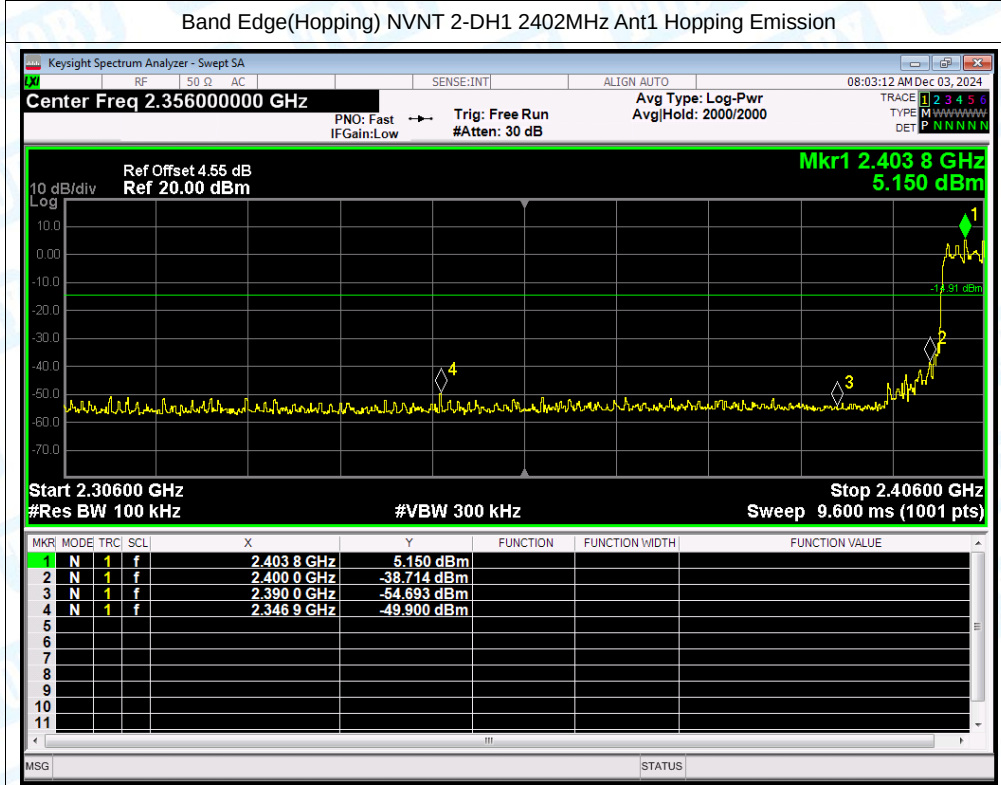
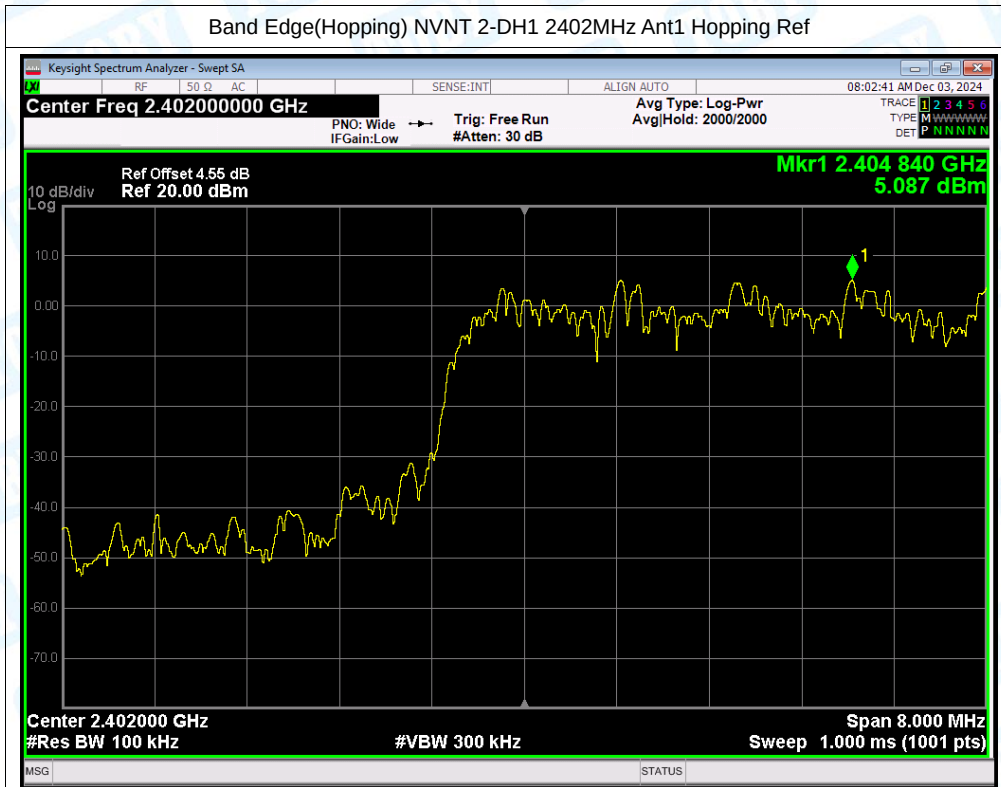
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



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



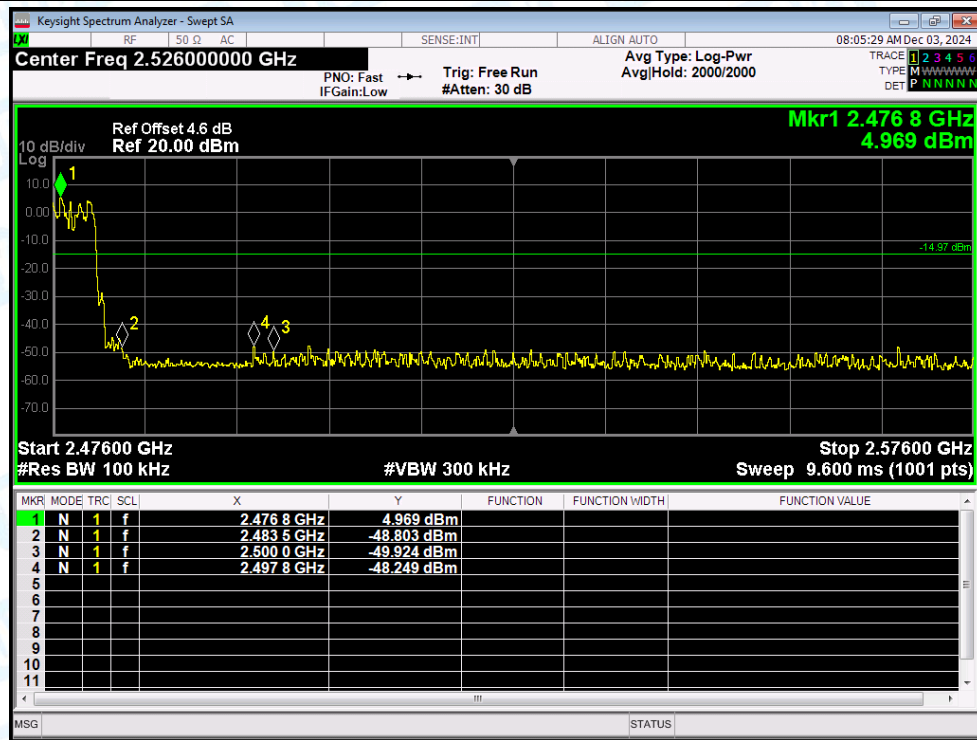




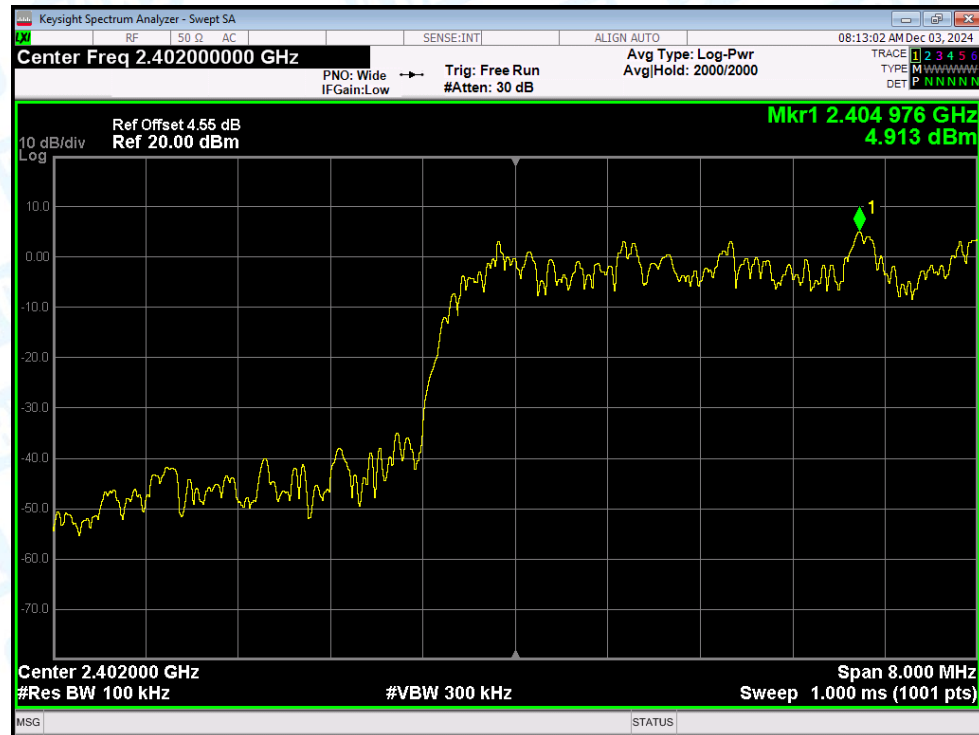
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



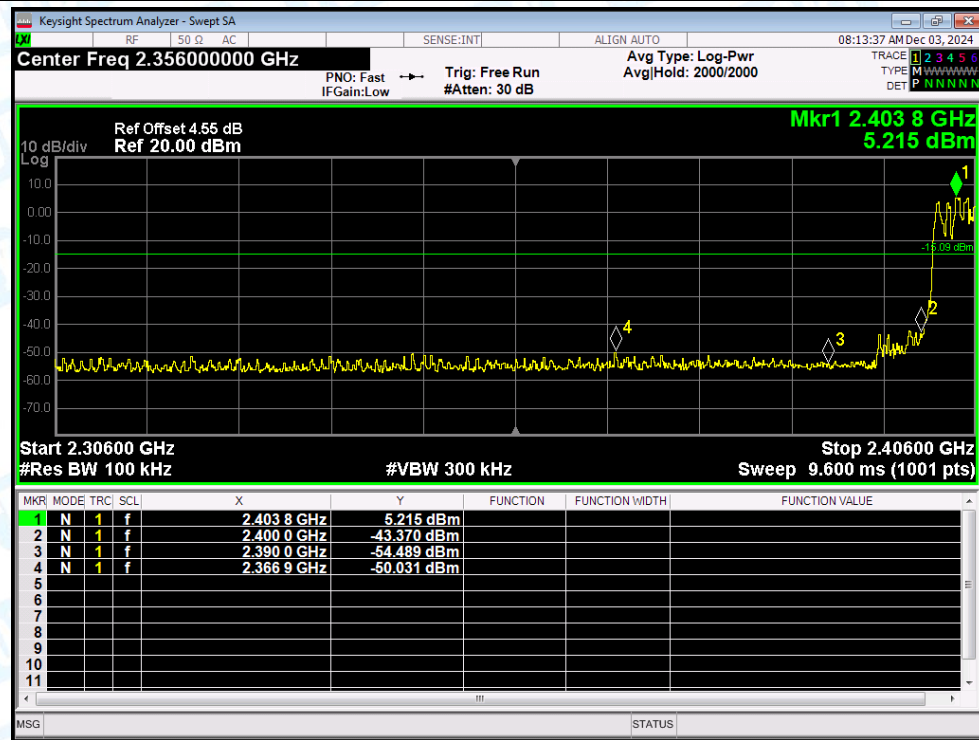
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission

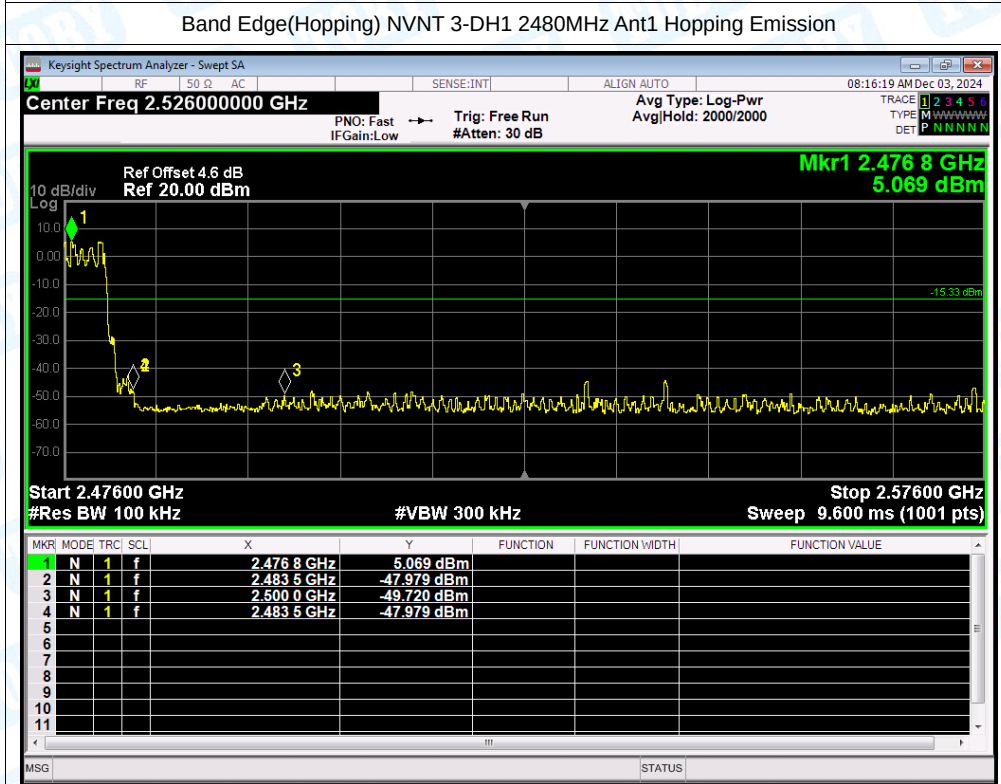


Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



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



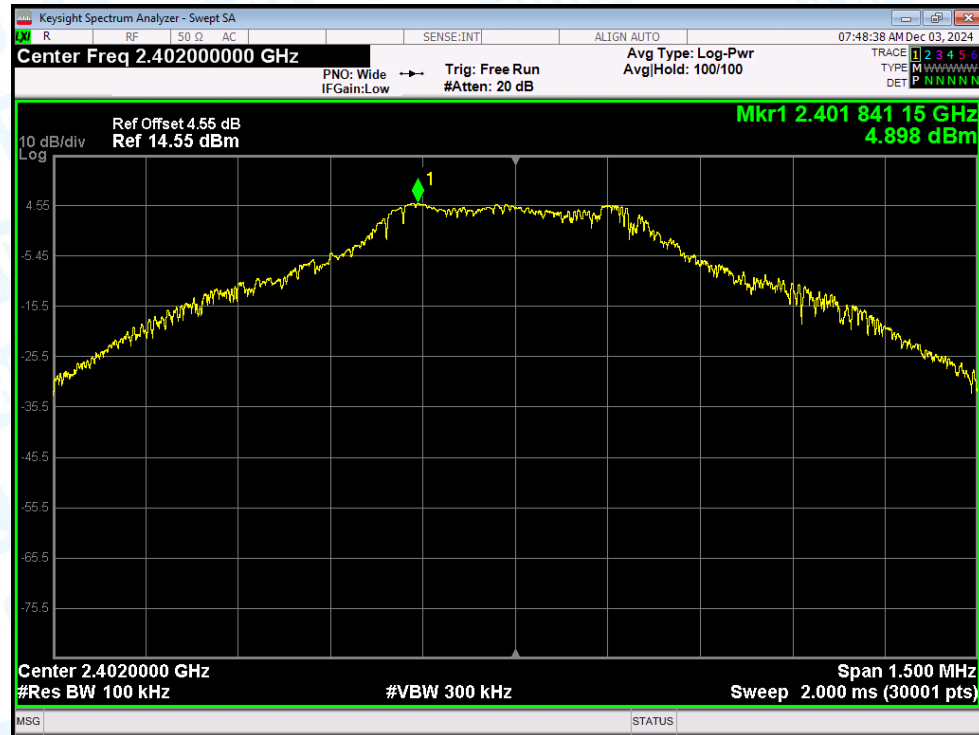


7. Conducted RF Spurious Emission

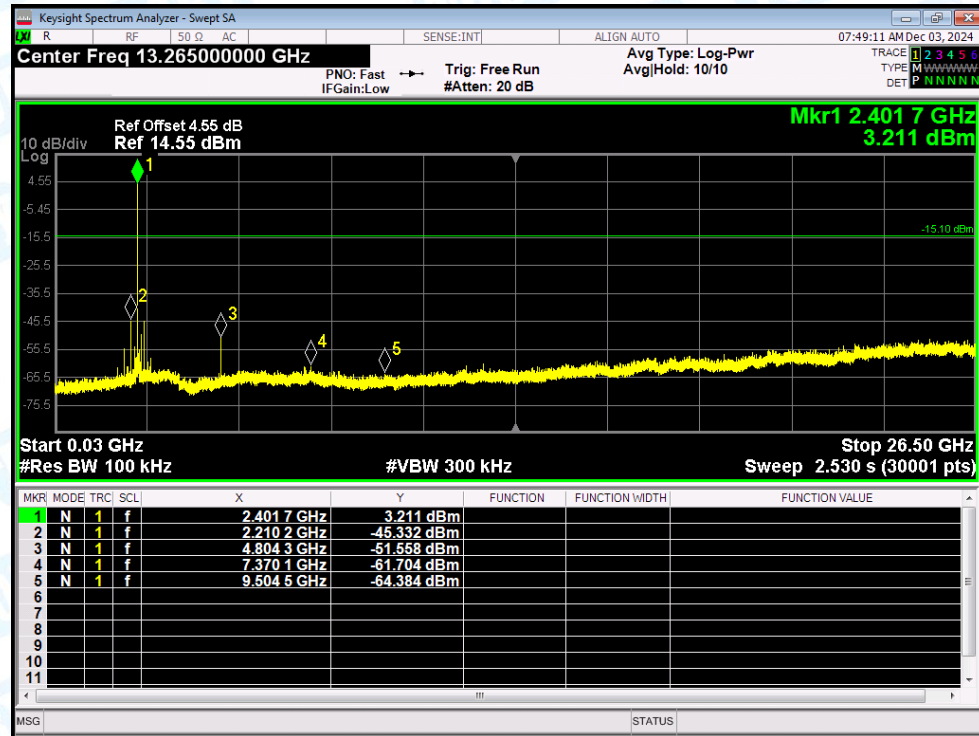
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-50.23	-20	Pass
NVNT	1-DH1	2441	Ant1	-49.21	-20	Pass
NVNT	1-DH1	2480	Ant1	-50.04	-20	Pass
NVNT	2-DH1	2402	Ant1	-50.55	-20	Pass
NVNT	2-DH1	2441	Ant1	-49.13	-20	Pass
NVNT	2-DH1	2480	Ant1	-47.56	-20	Pass
NVNT	3-DH1	2402	Ant1	-49.97	-20	Pass
NVNT	3-DH1	2441	Ant1	-50.53	-20	Pass
NVNT	3-DH1	2480	Ant1	-51.88	-20	Pass

Test Graphs

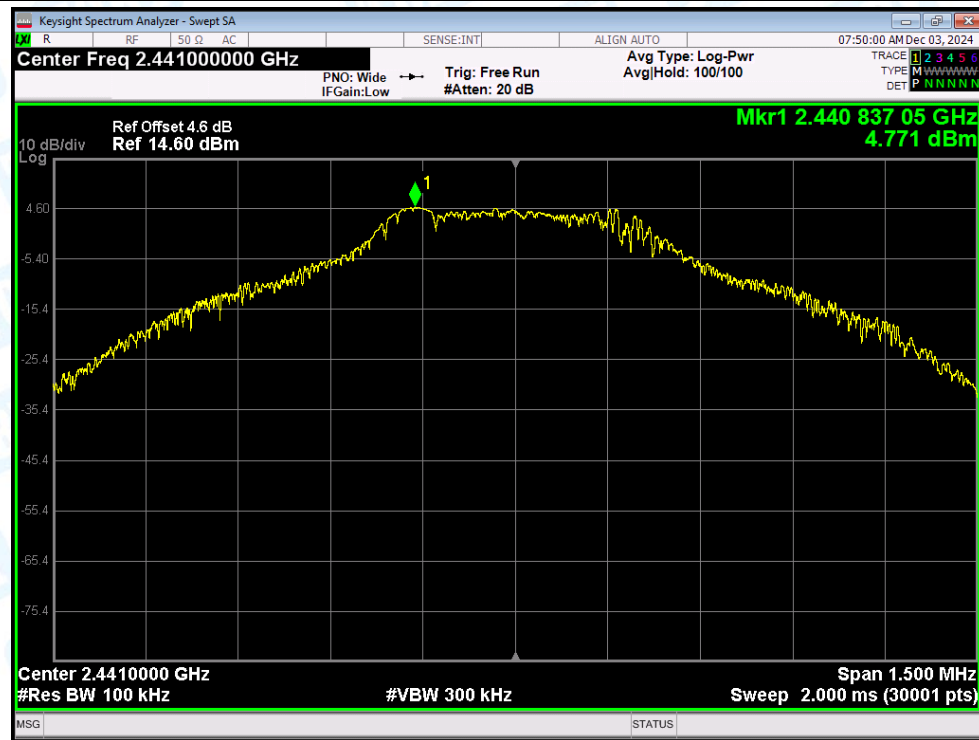
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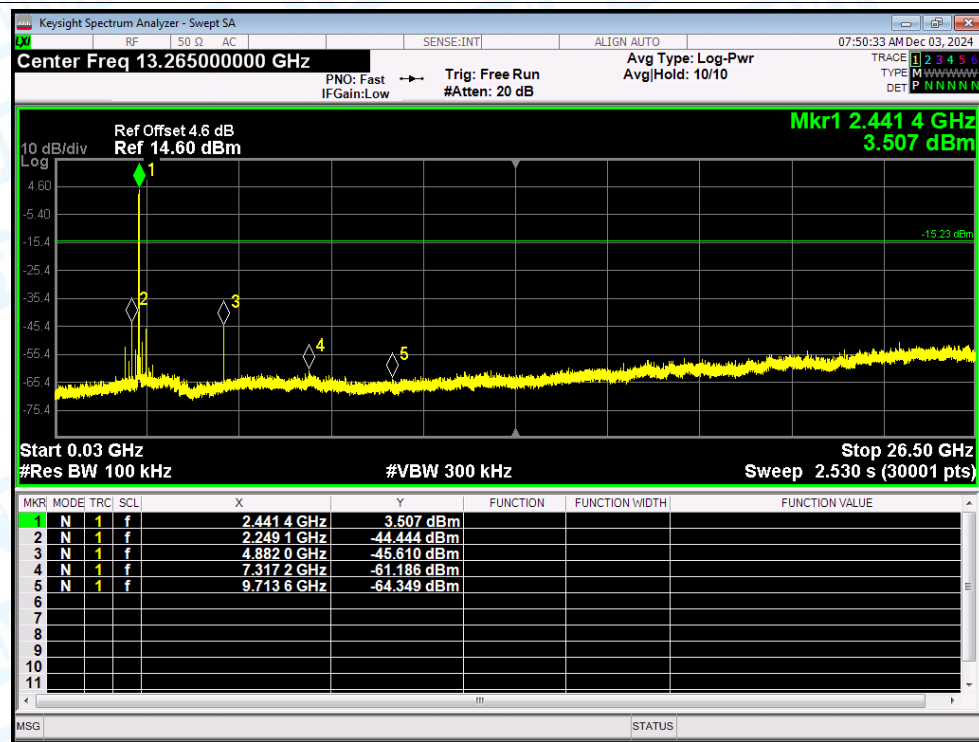
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



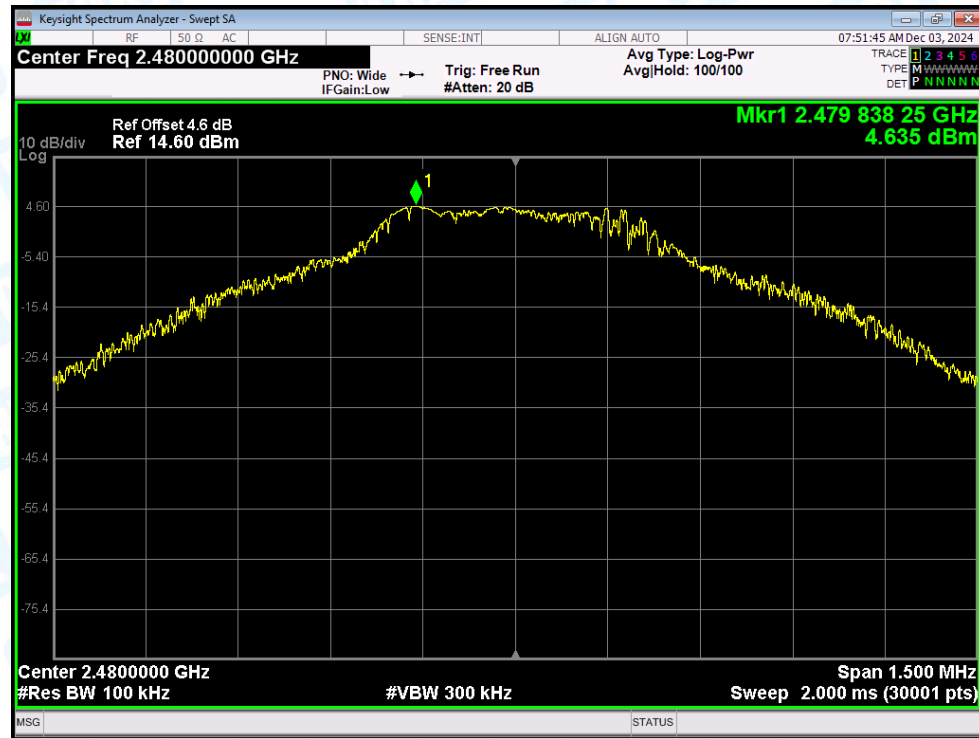
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



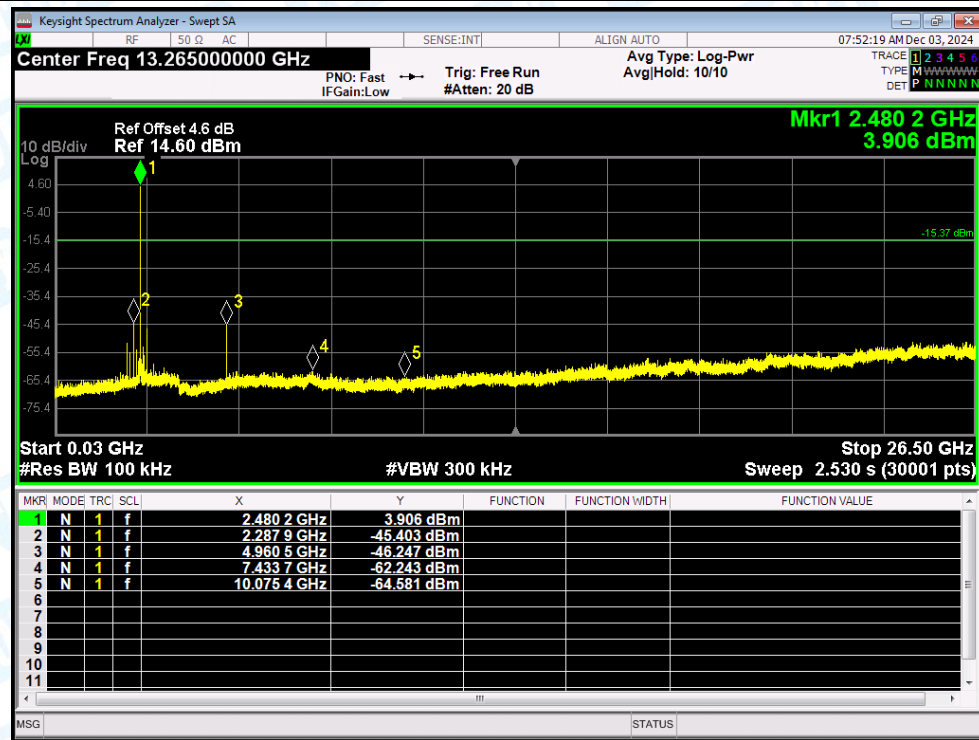
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



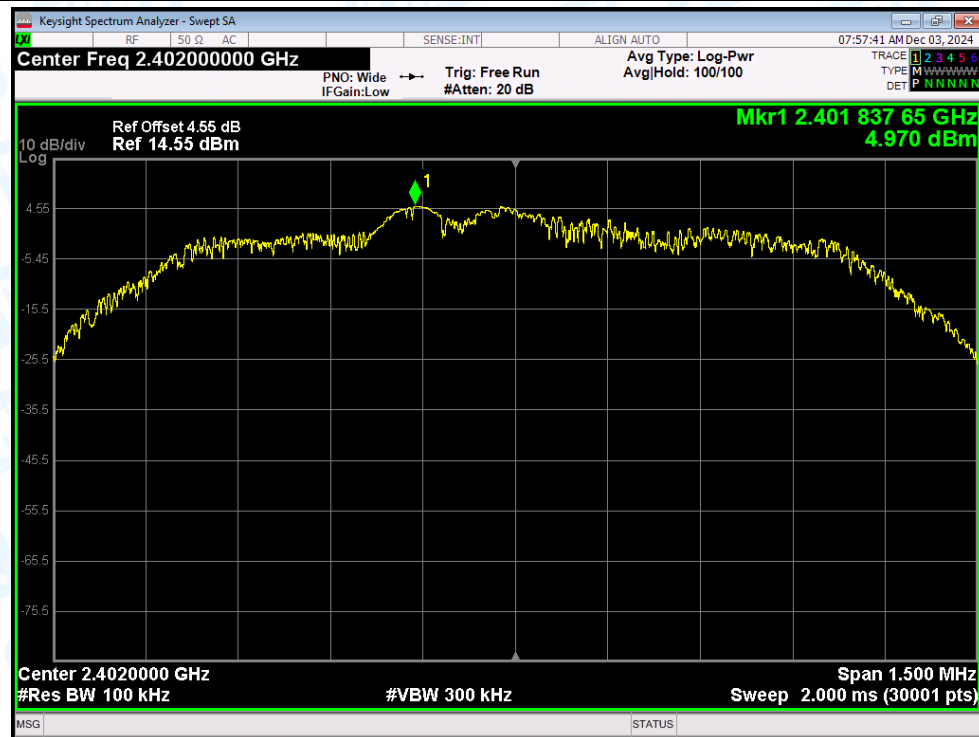
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



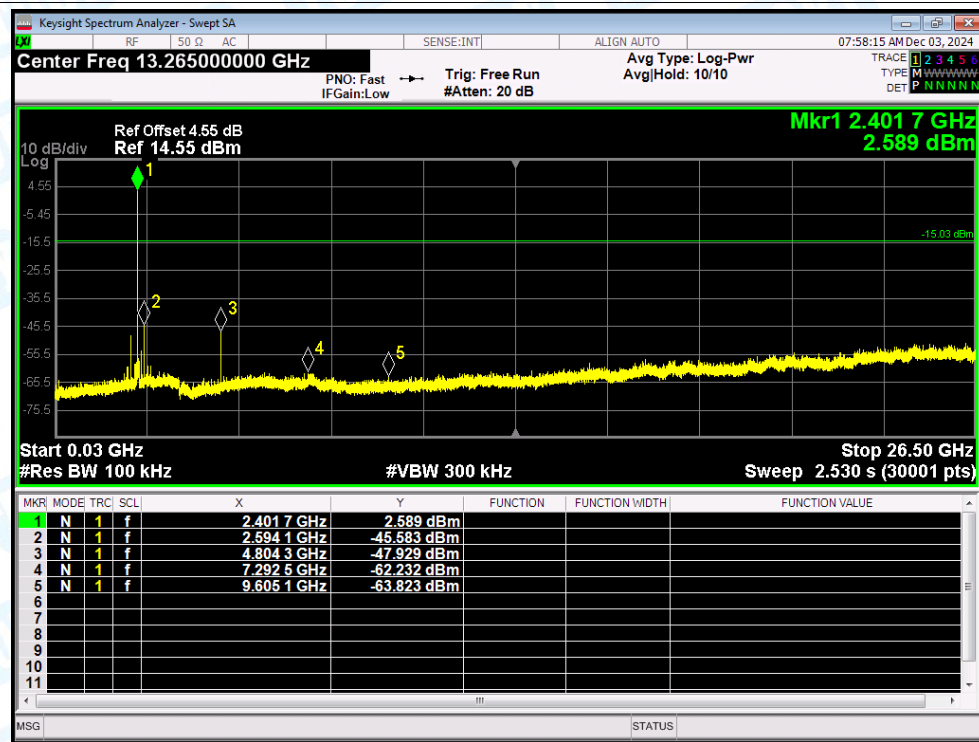
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



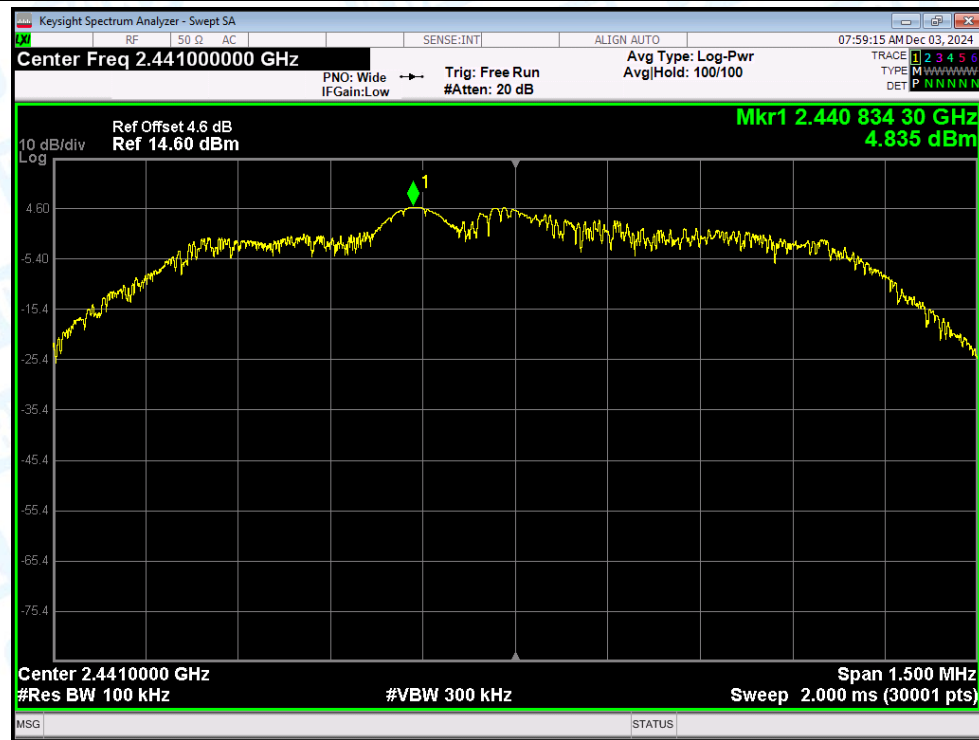
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



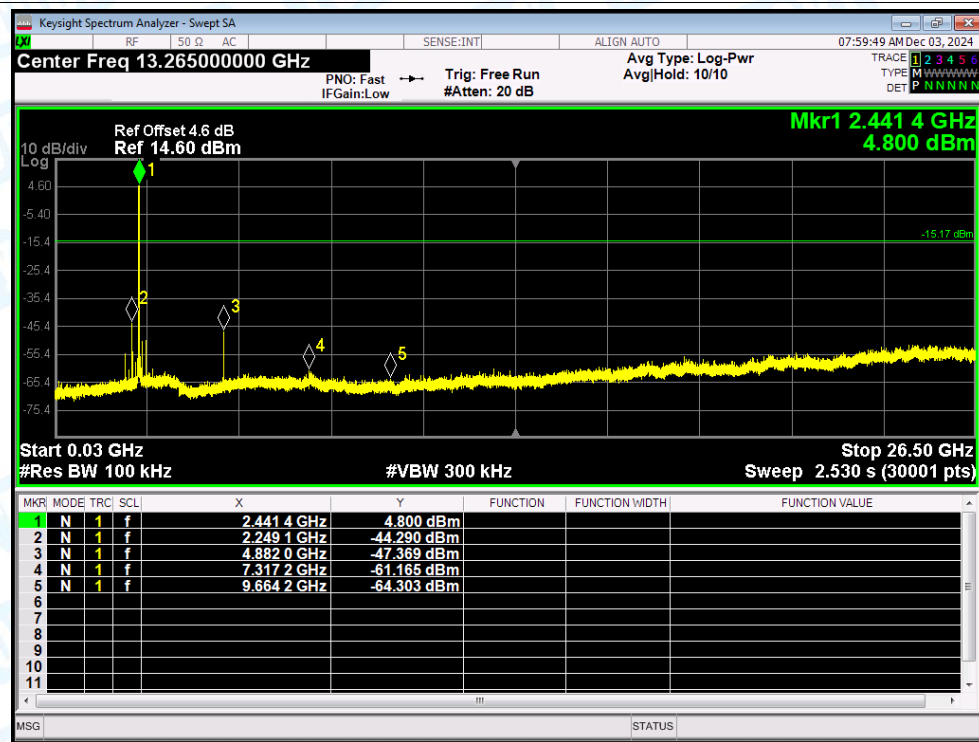
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



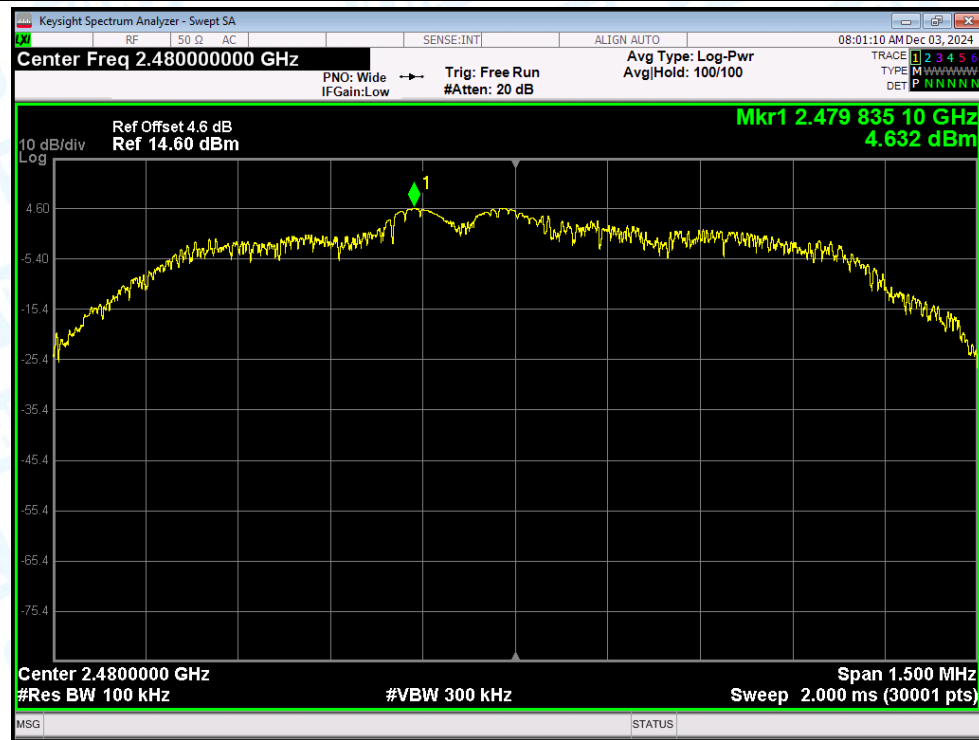
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



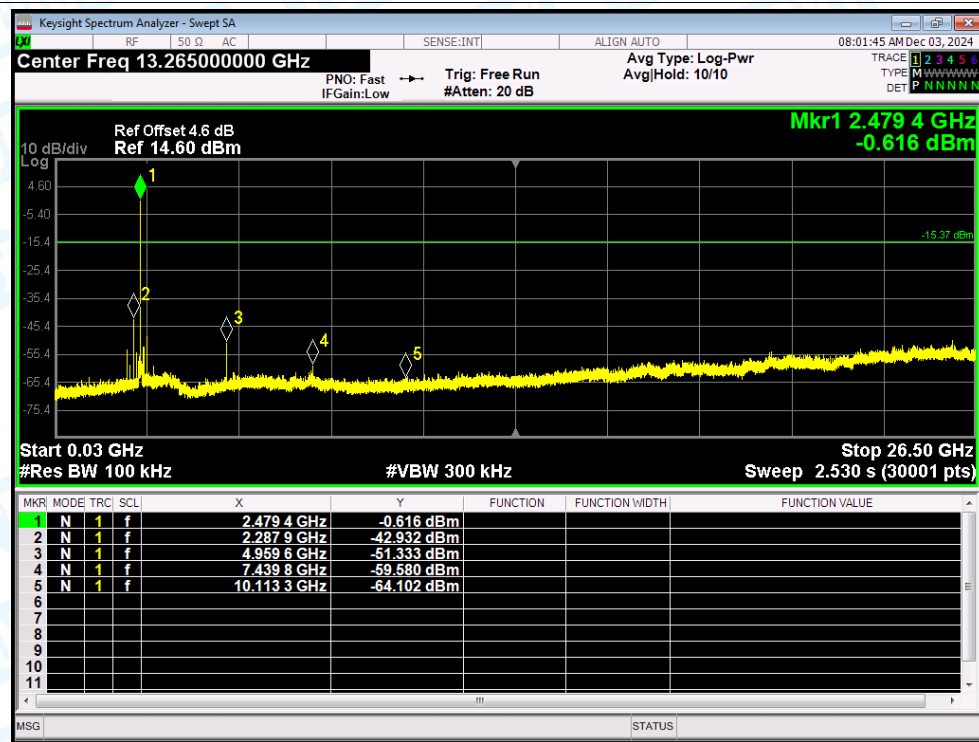
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



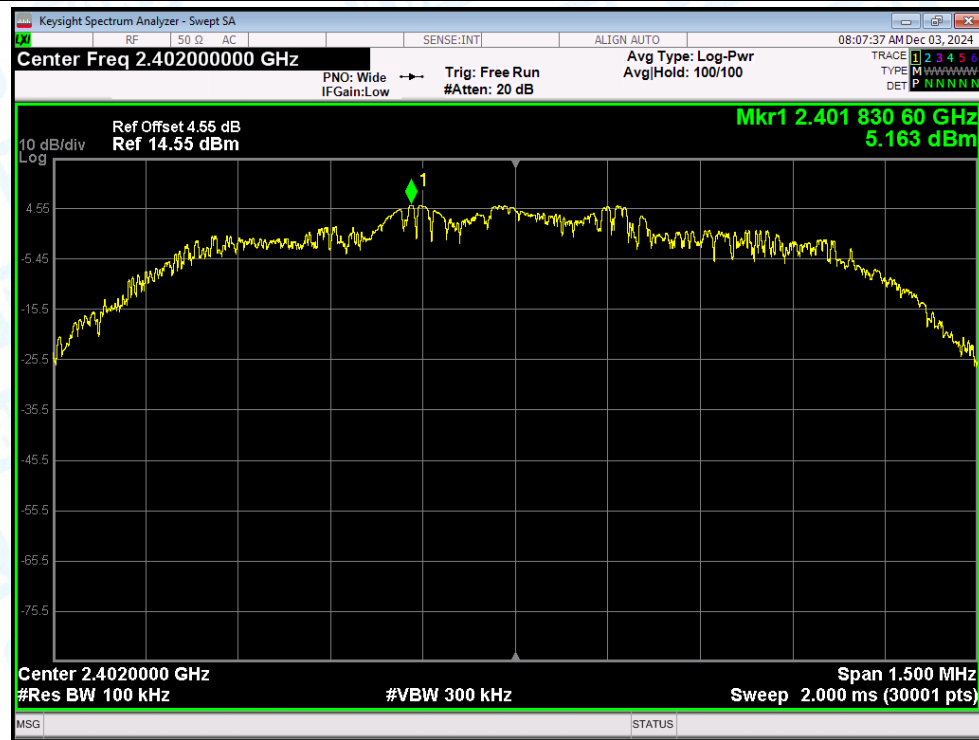
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



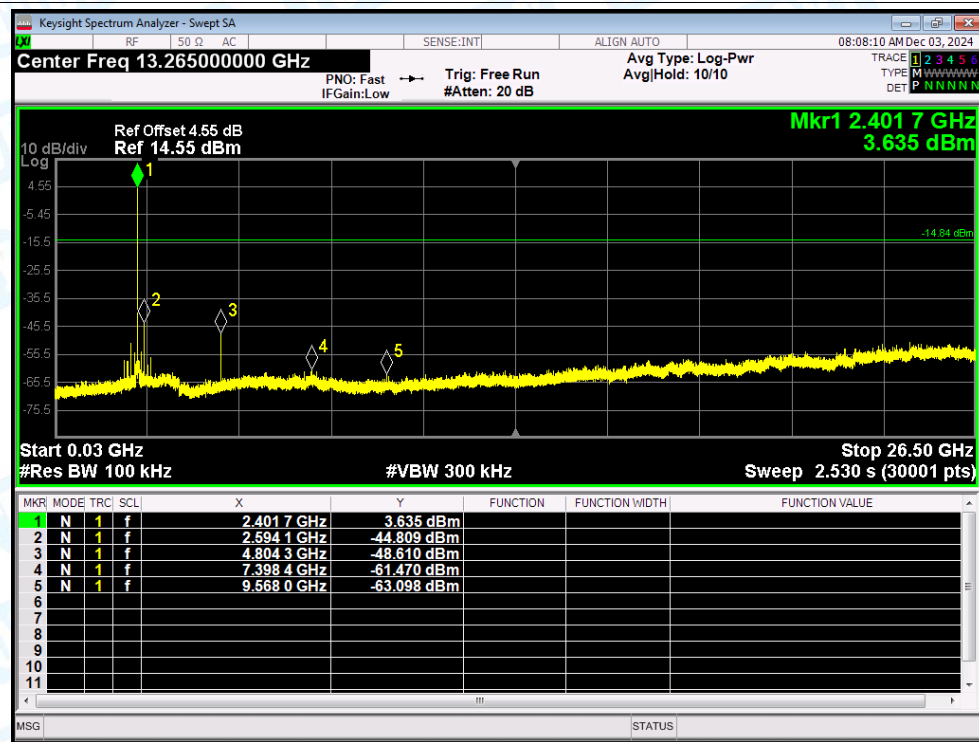
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



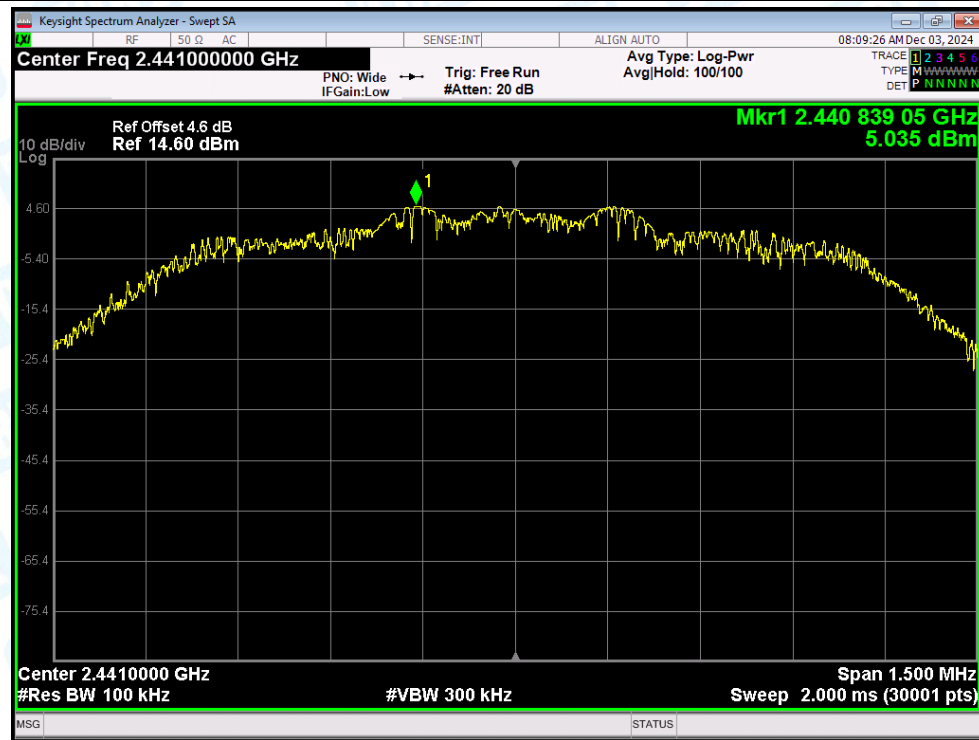
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



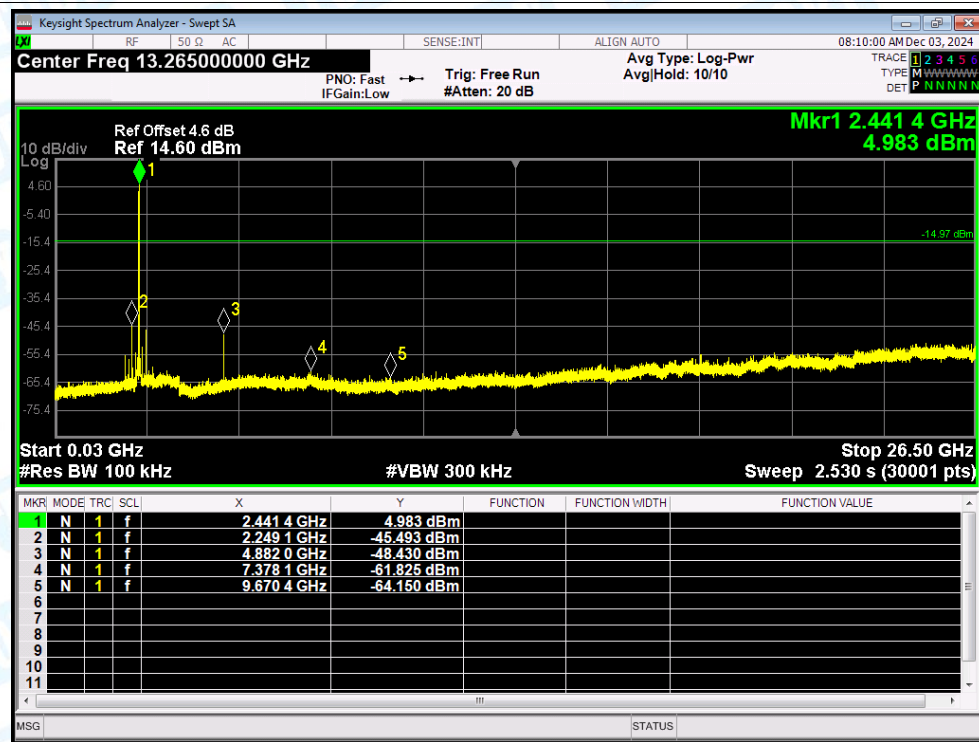
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



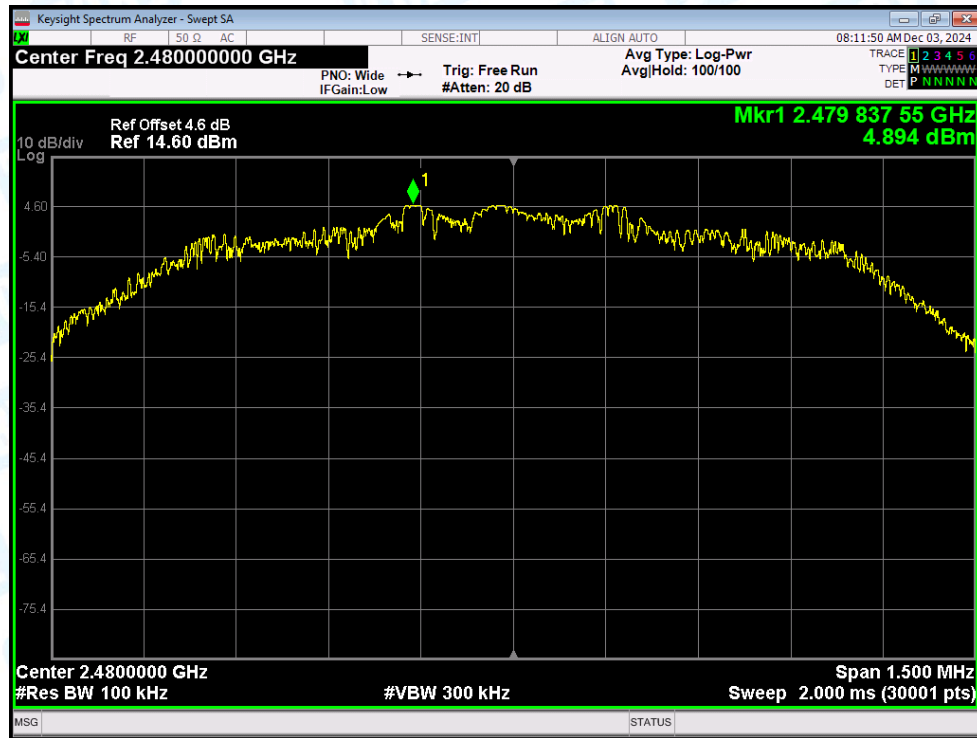
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



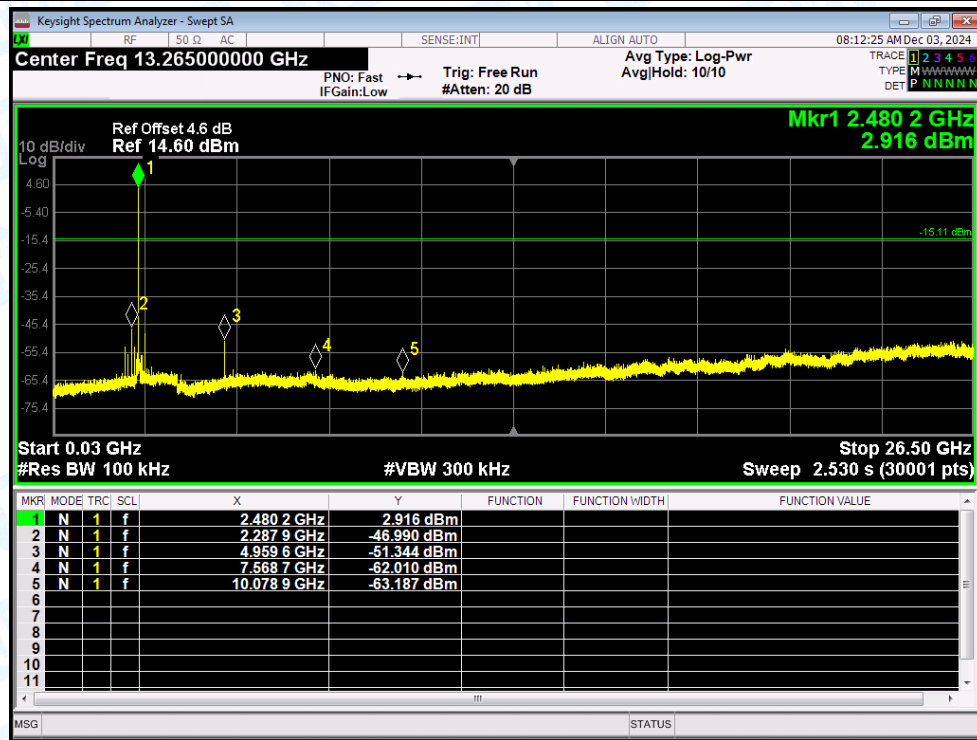
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

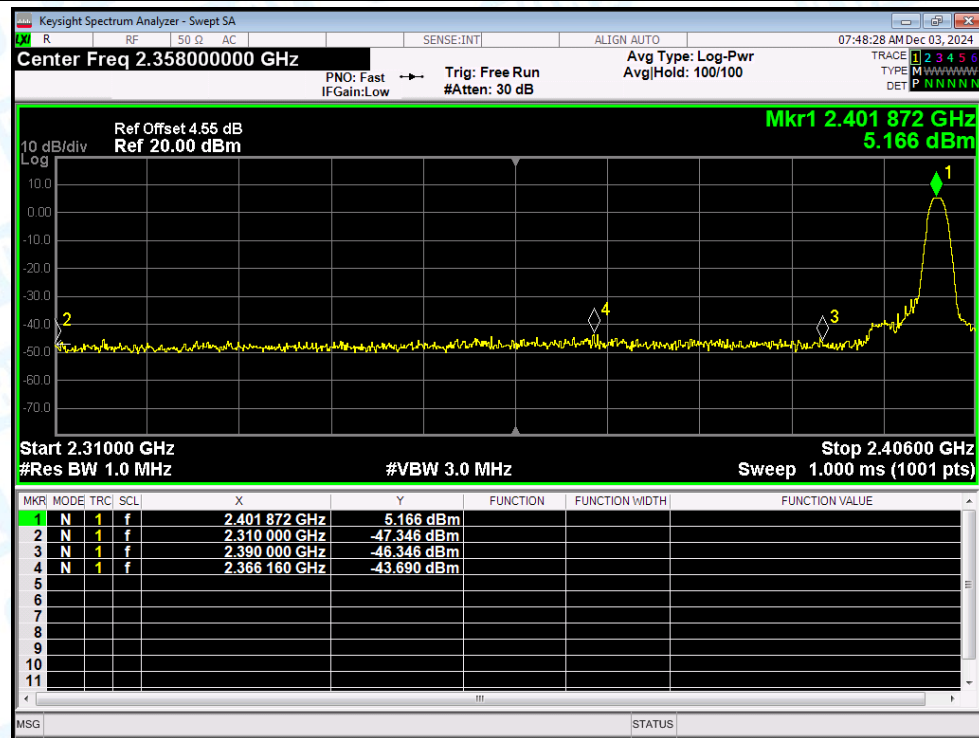


8.Restrict Band

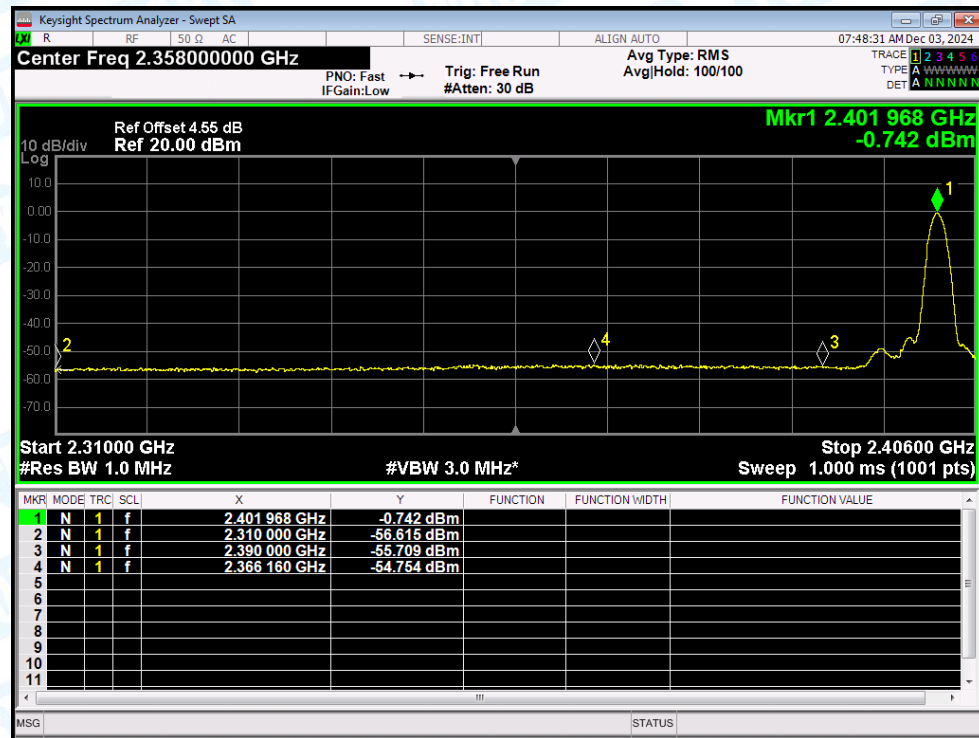
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.35	2	-	49.91	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.62	2	5.17	45.81	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2366.16	-43.69	2	-	53.57	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2366.16	-54.75	2	5.17	47.68	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-46.35	2	-	50.91	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.71	2	5.17	46.72	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-38.49	2	-	58.77	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-50	2	5.06	52.32	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.512	-38.49	2	-	58.77	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.56	-49.79	2	5.06	52.53	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.29	2	-	49.97	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.15	2	5.06	47.17	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-49.65	2	-	47.61	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.63	2	5.06	45.69	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2354.832	-43.93	2	-	53.33	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2361.456	-54.69	2	5.06	47.63	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.19	2	-	50.07	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.38	2	5.06	46.94	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-39.68	2	-	57.58	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-49.66	2	4.95	52.55	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.608	-39.27	2	-	57.99	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.608	-49.38	2	4.95	52.83	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.29	2	-	49.97	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.01	2	4.95	47.2	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.53	2	-	48.73	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.88	2	5.06	45.44	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2357.616	-43.48	2	-	53.78	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2370.768	-54.74	2	5.06	47.58	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-48.22	2	-	49.04	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.99	2	5.06	46.33	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-41.62	2	-	55.64	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-49.84	2	4.95	52.37	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.56	-38.92	2	-	58.34	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.56	-49.71	2	4.95	52.5	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-46.03	2	-	51.23	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.03	2	4.95	47.18	Average	54	Pass

Test Graphs

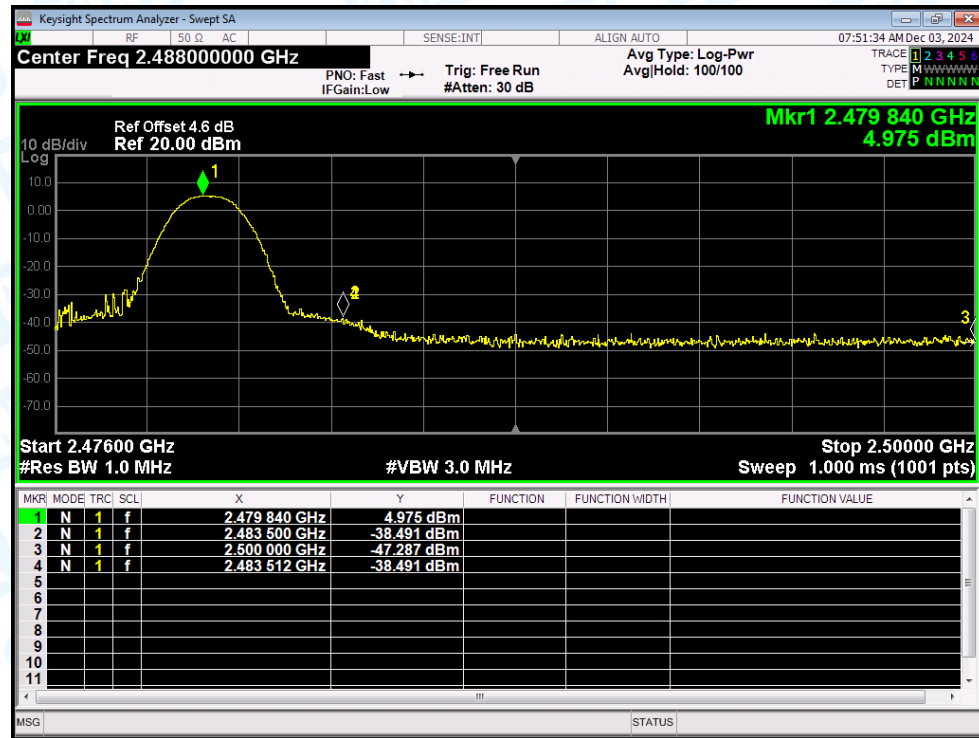
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



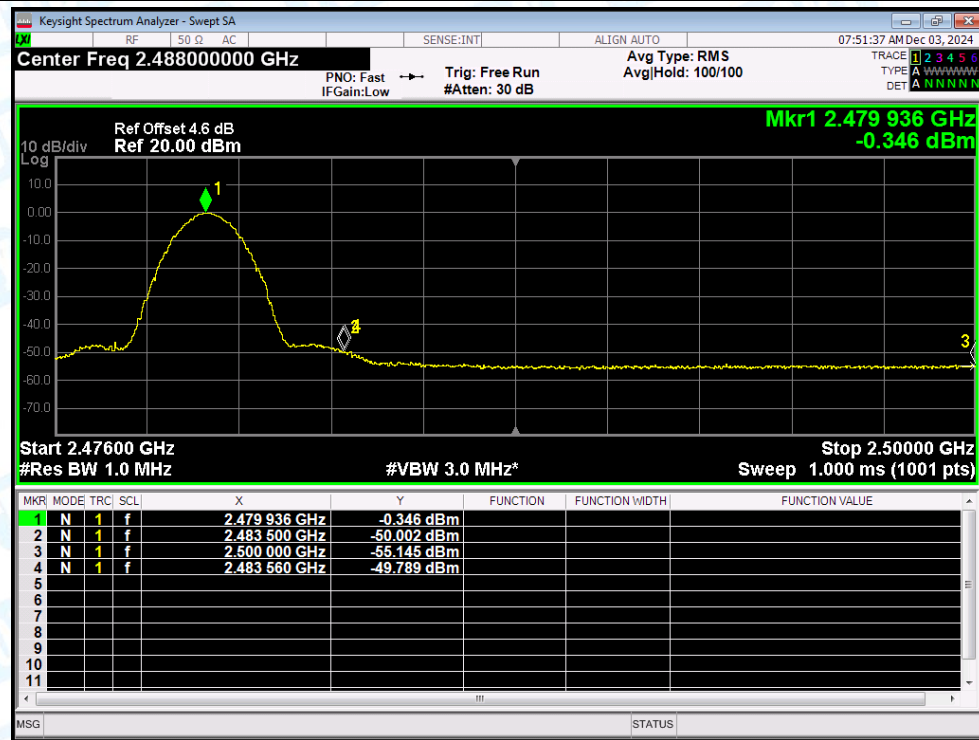
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



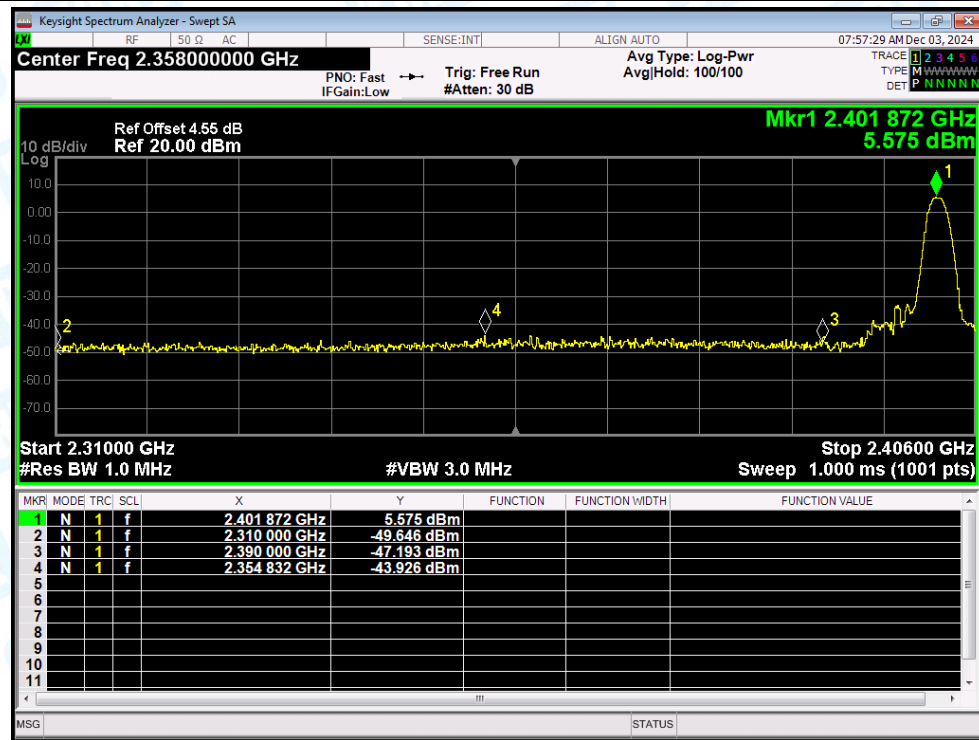
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



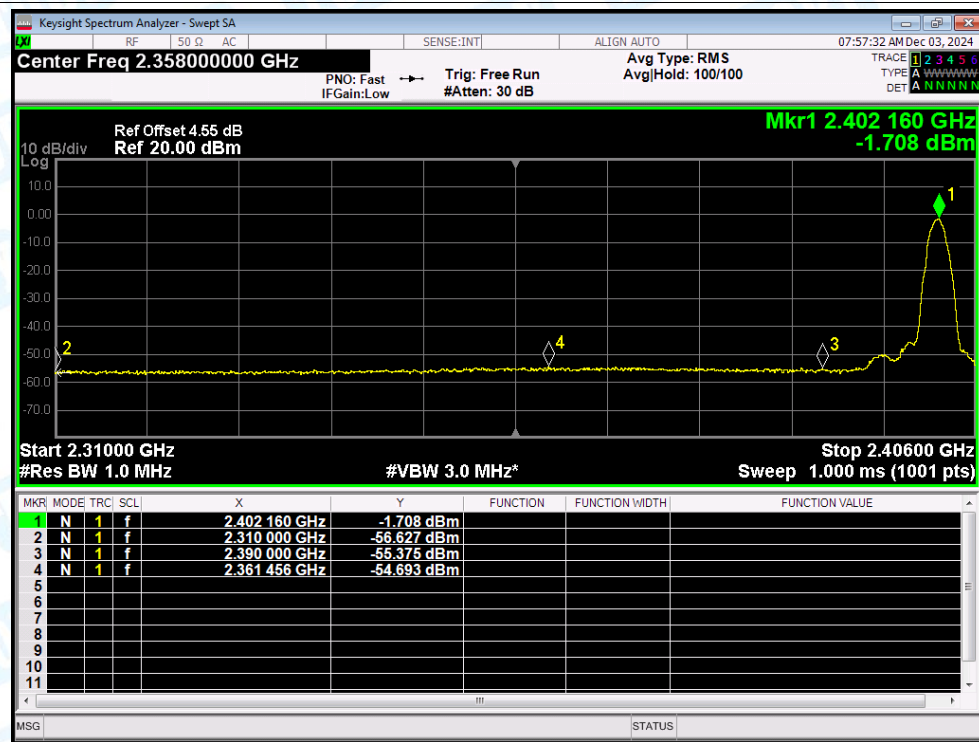
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



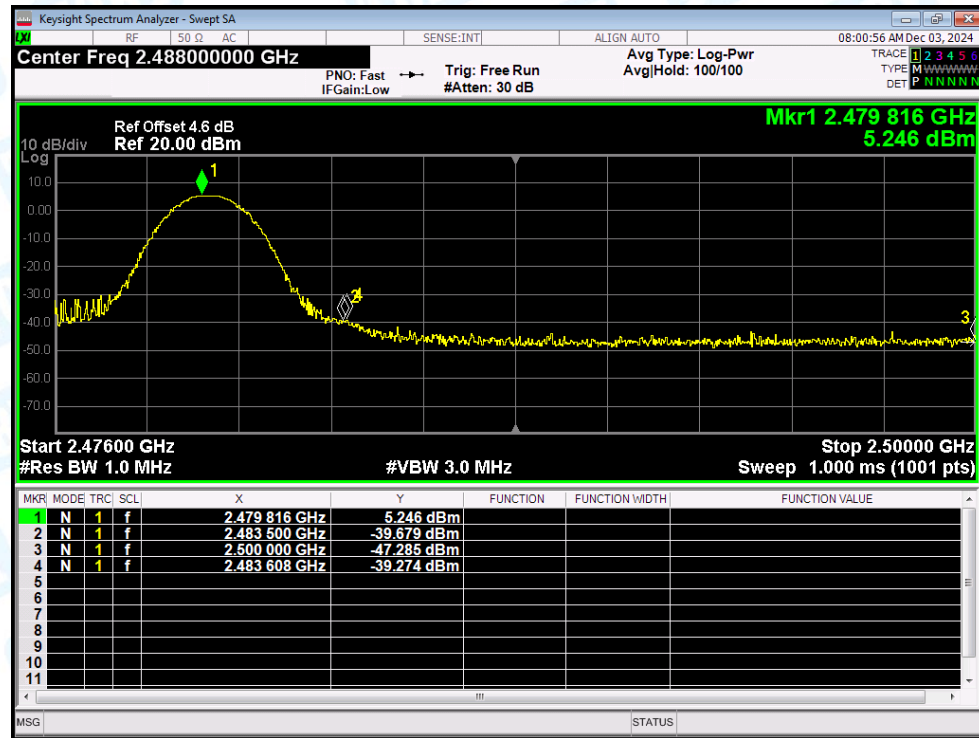
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



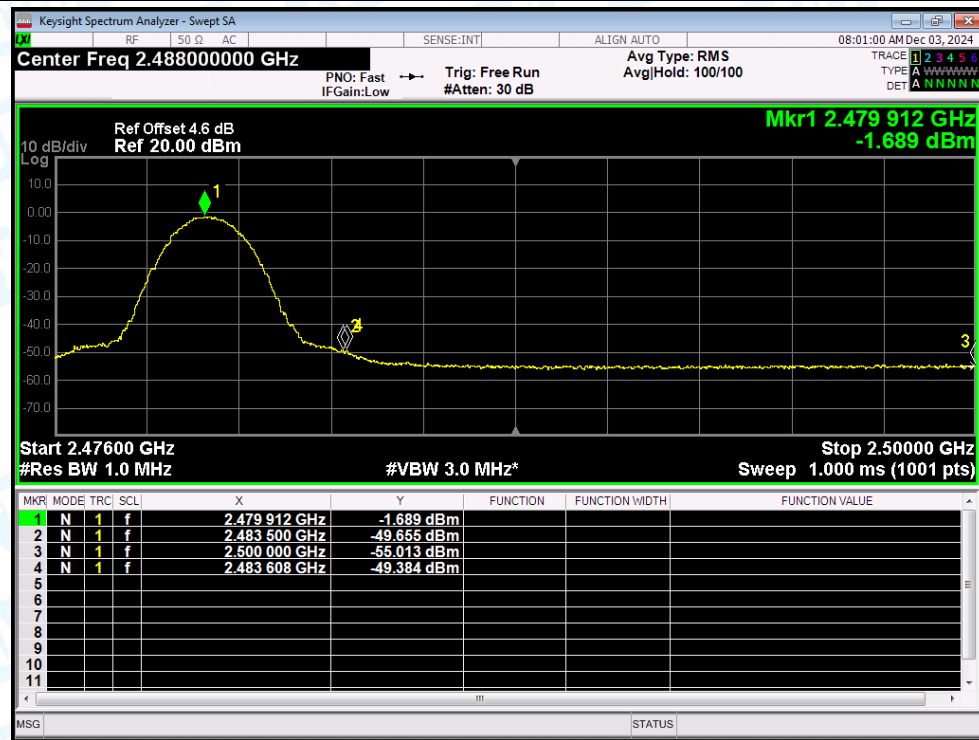
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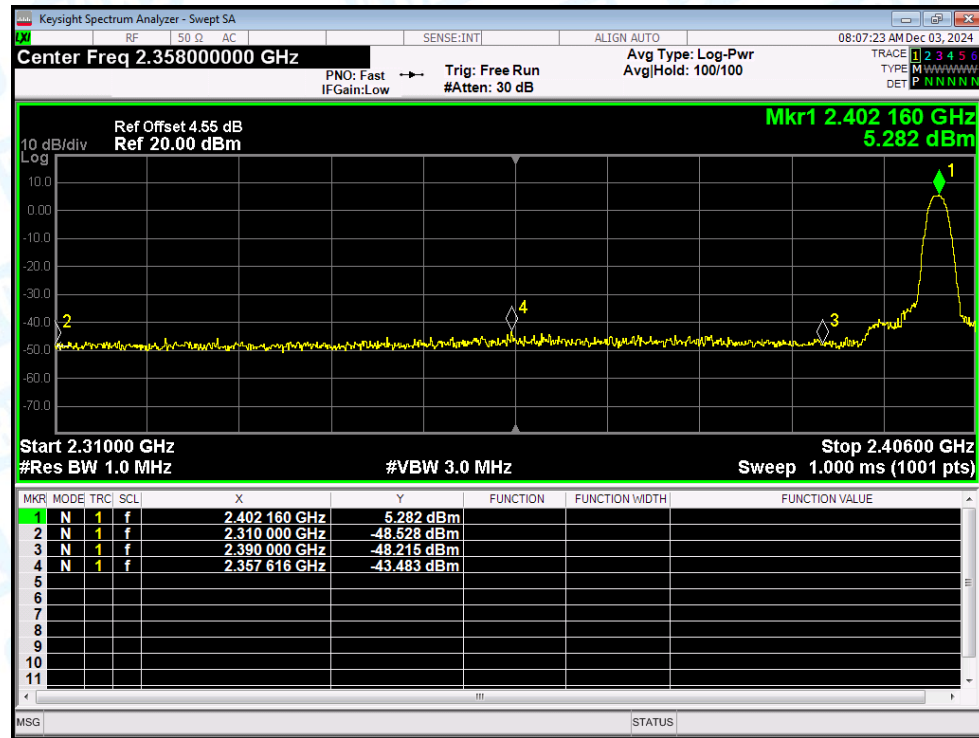
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



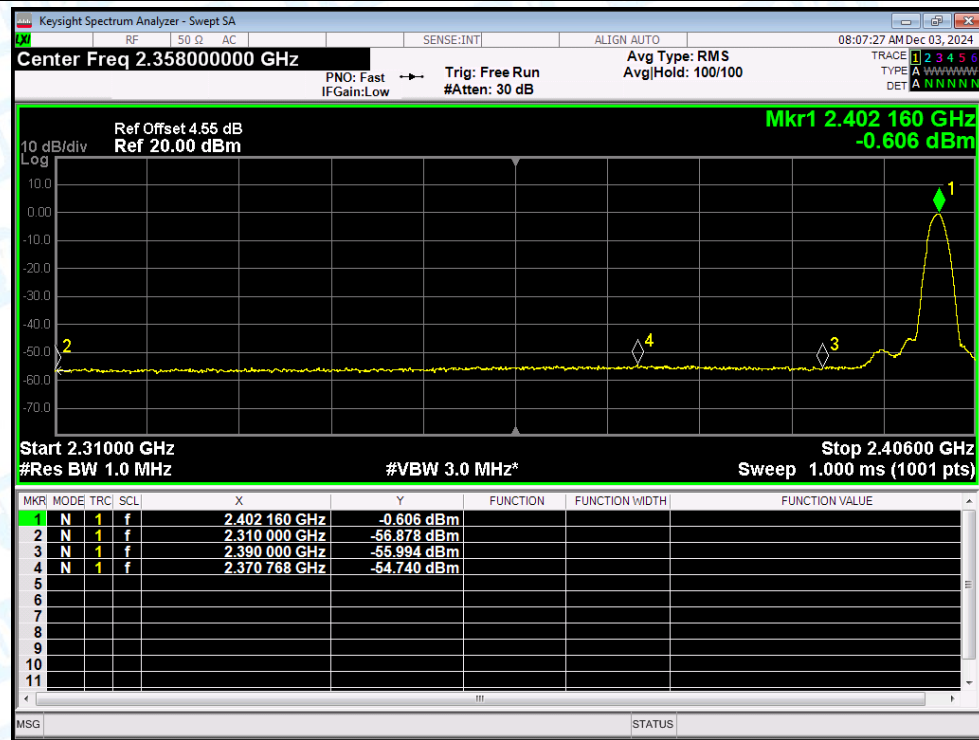
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



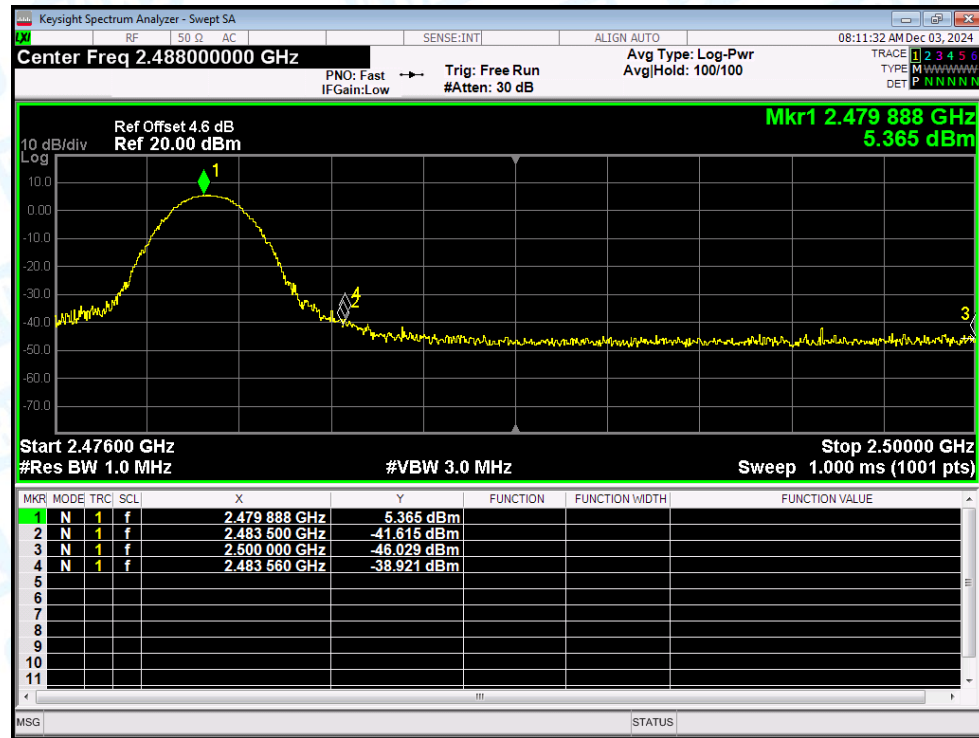
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



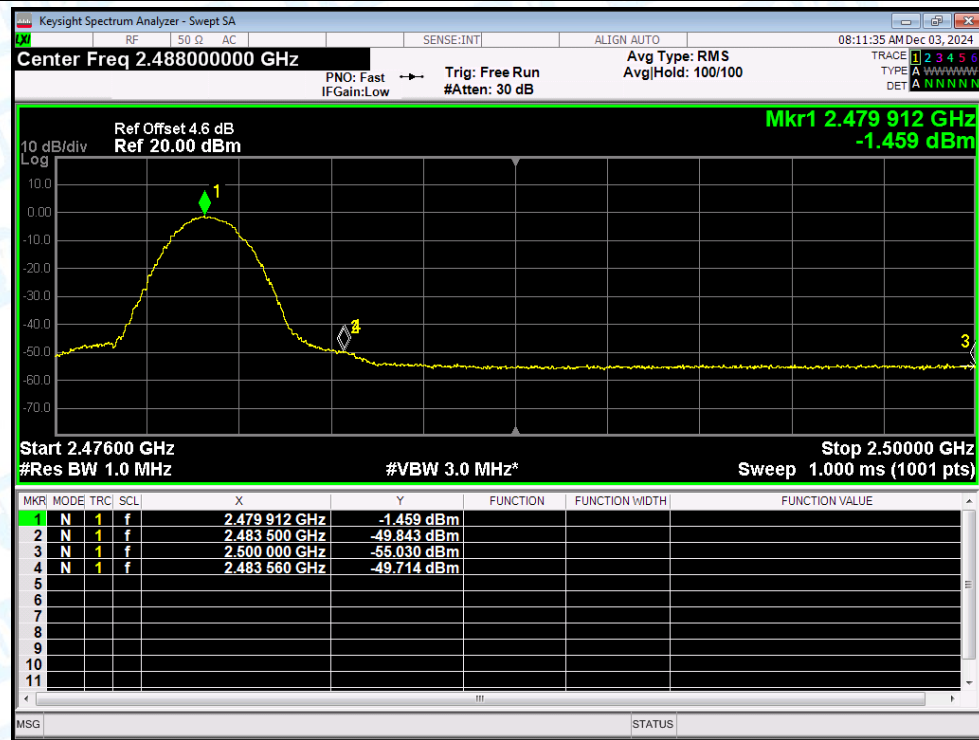
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

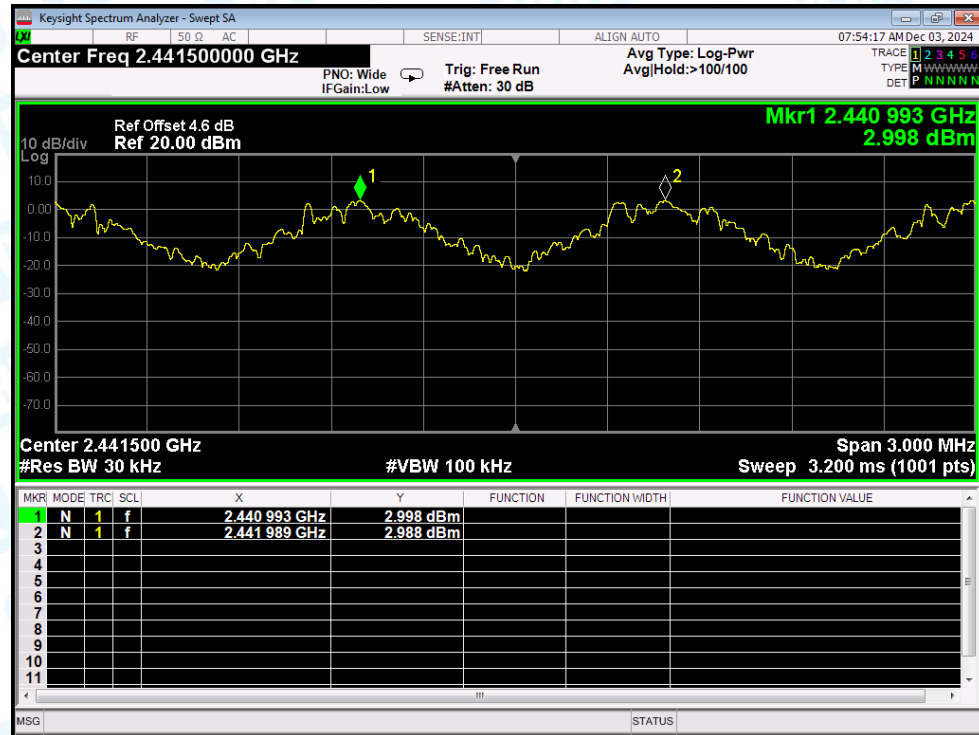


9.Carrier Frequencies Separation

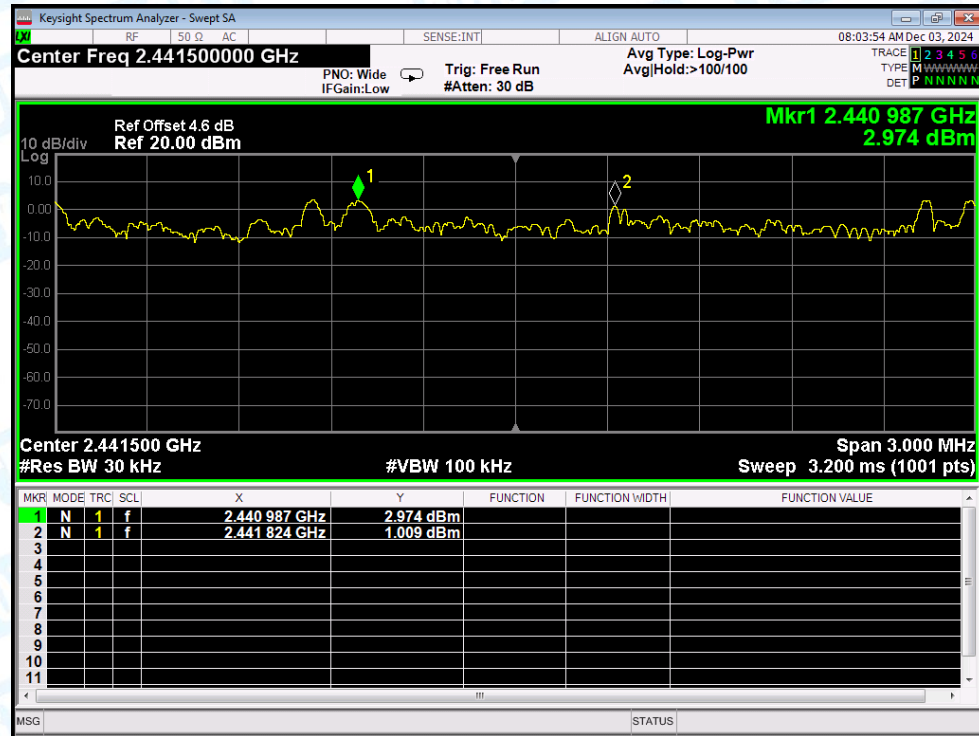
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.993	2441.989	0.996	0.587	Pass
NVNT	2-DH1	Ant1	2440.987	2441.824	0.837	0.827	Pass
NVNT	3-DH1	Ant1	2440.975	2441.98	1.005	0.833	Pass

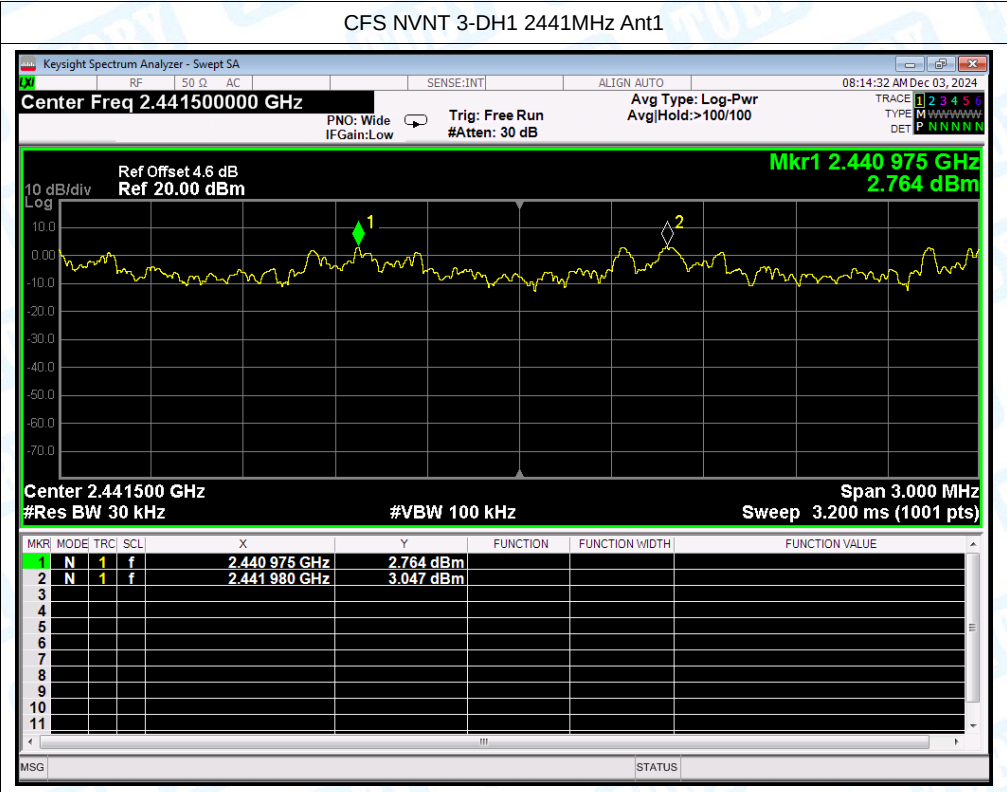
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



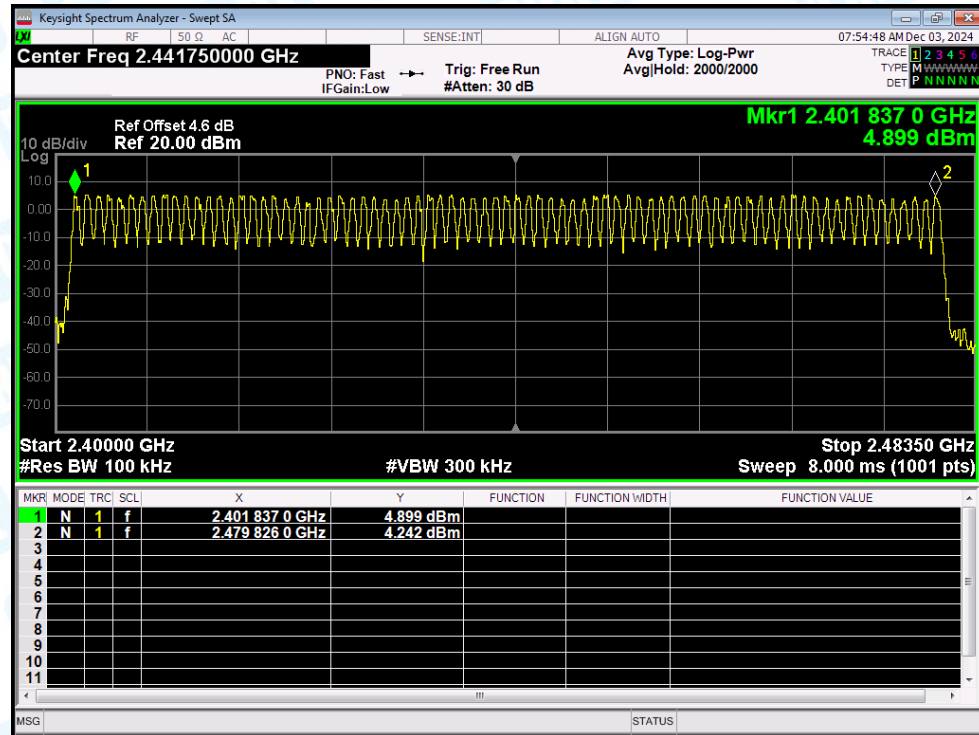


10.Number of Hopping Channel

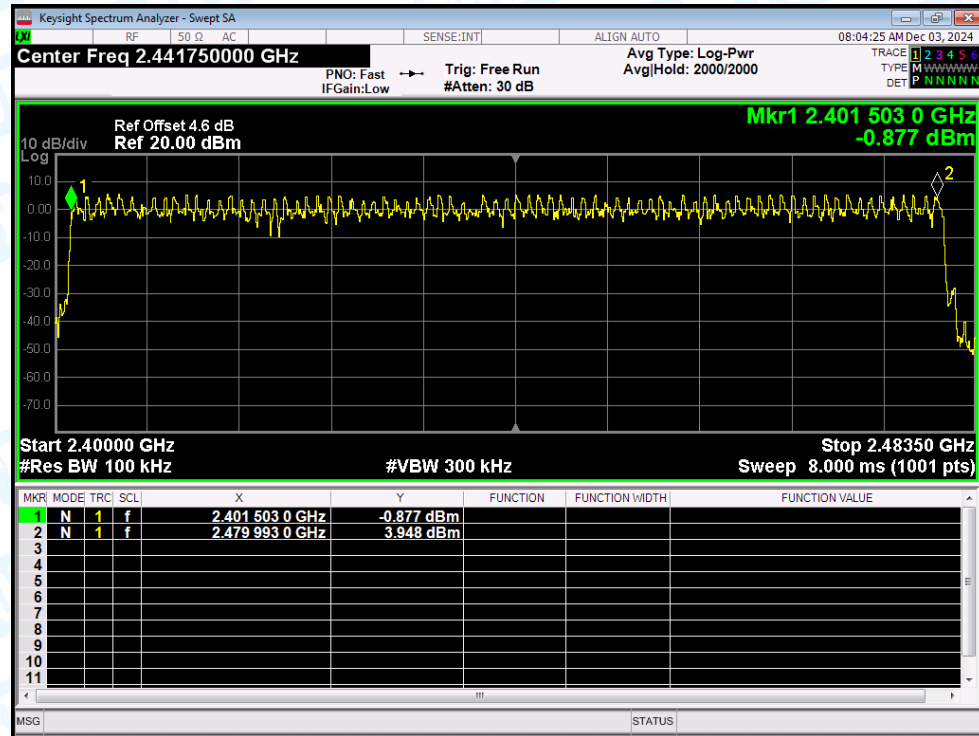
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

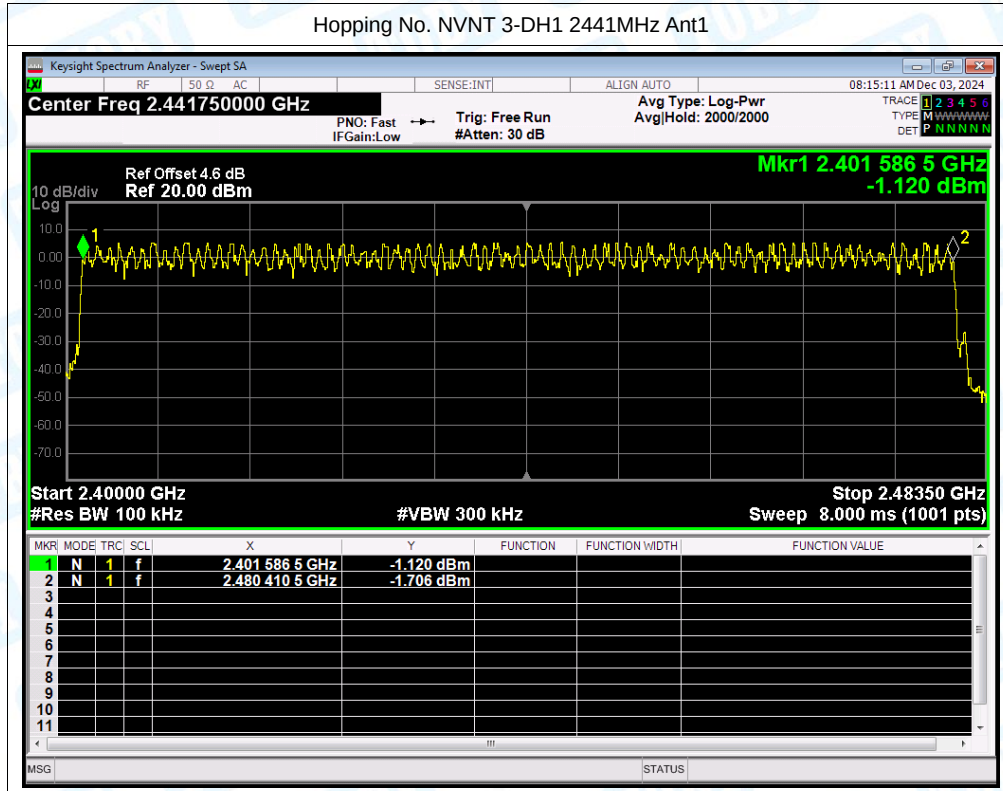
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



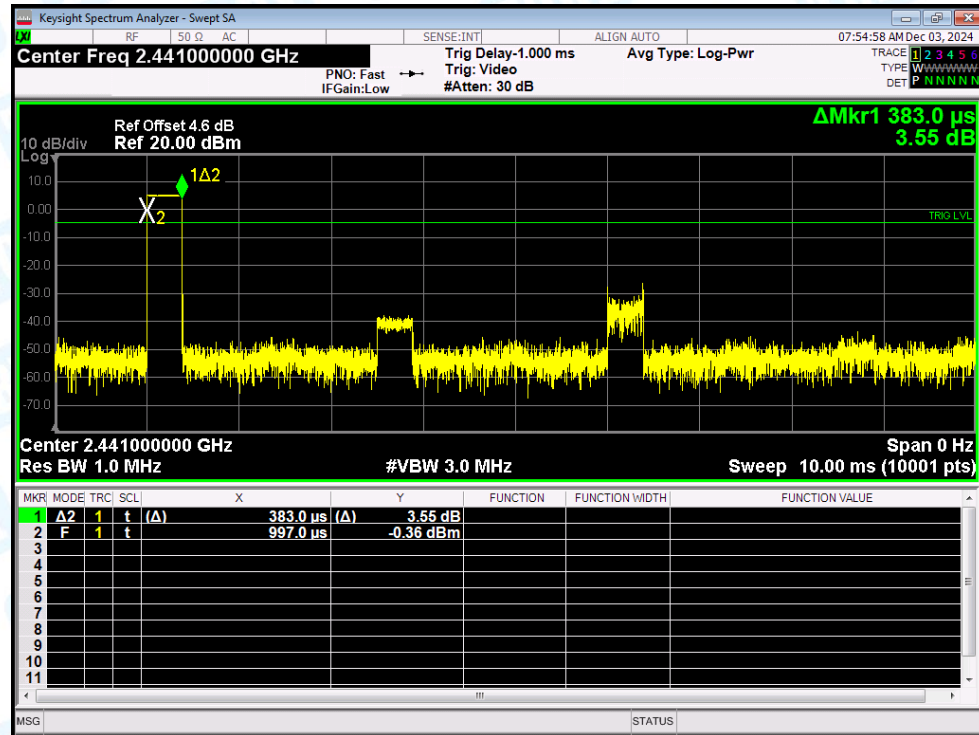


11.Dwell Time

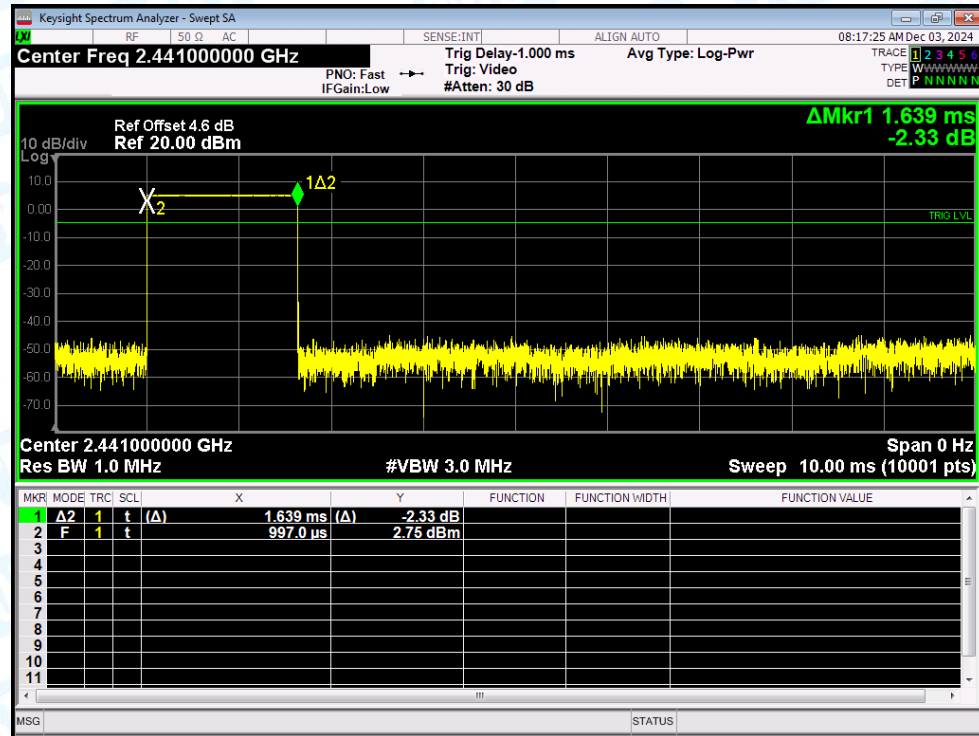
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.383	122.56	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.391	125.12	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.644	263.04	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.892	308.48	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.392	125.44	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.643	262.88	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.894	308.693	31600	400	Pass

Test Graphs

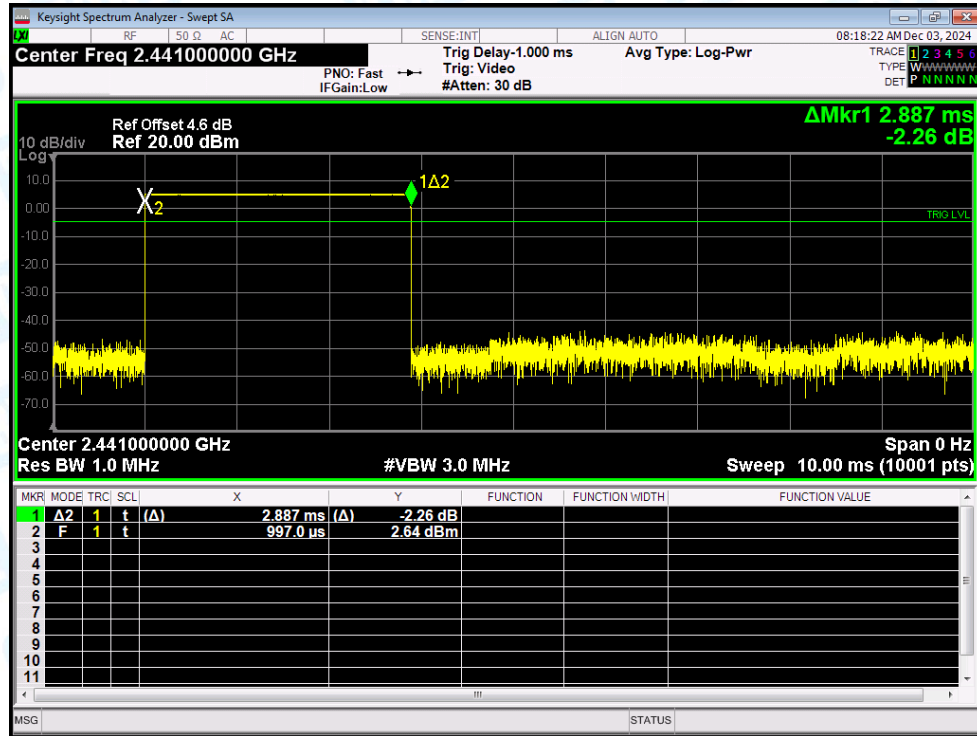
Dwell NVNT 1-DH1 2441MHz Ant1



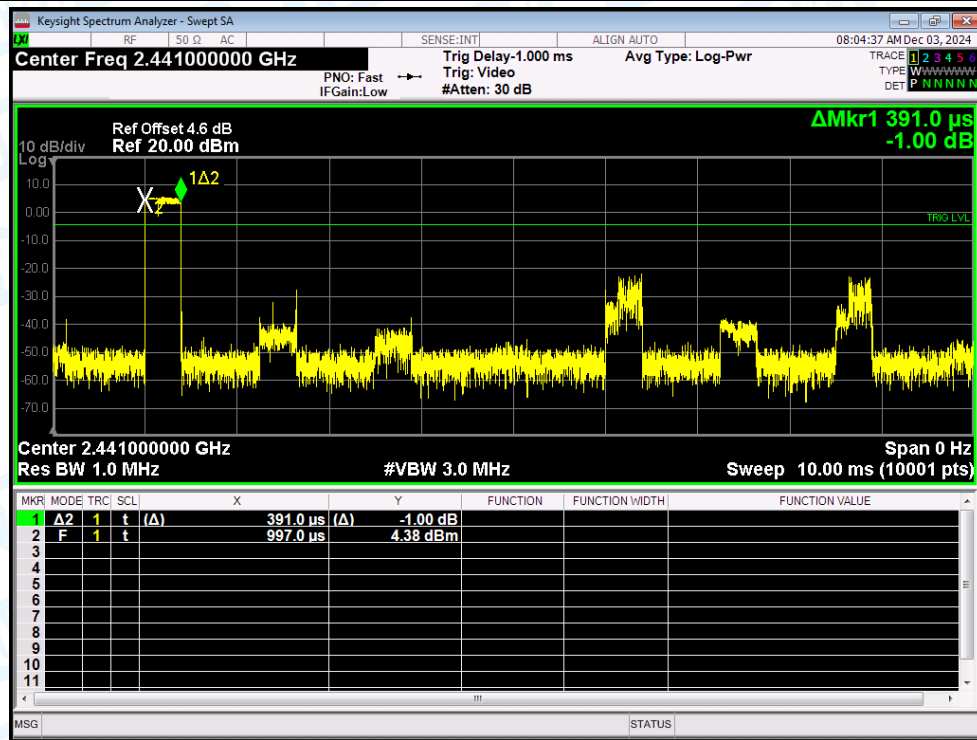
Dwell NVNT 1-DH3 2441MHz Ant1



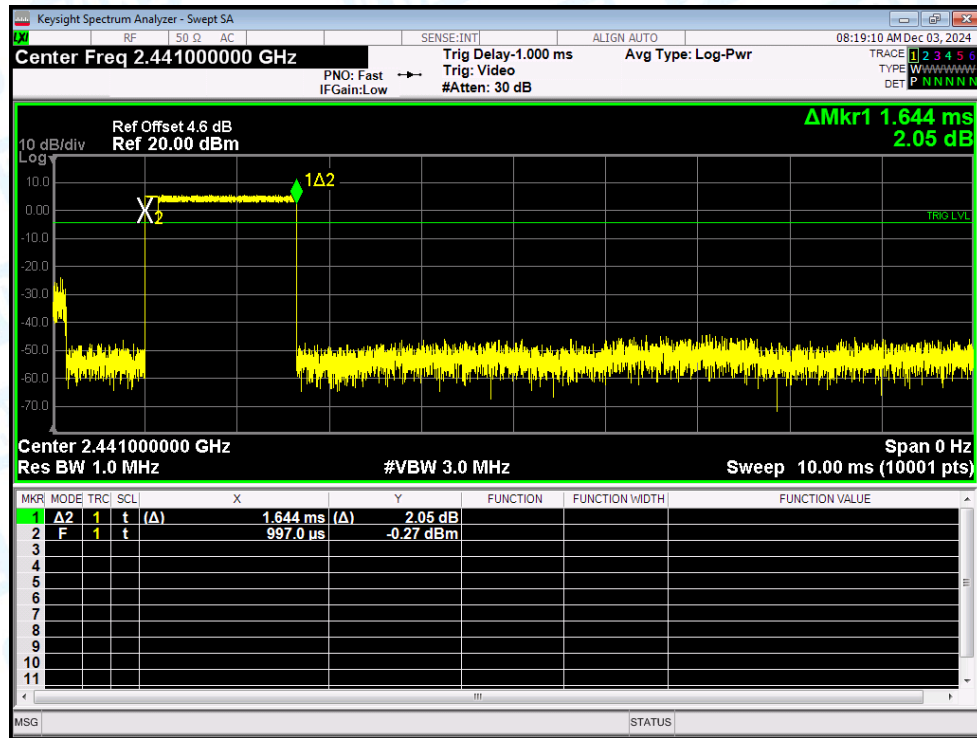
Dwell NVNT 1-DH5 2441MHz Ant1



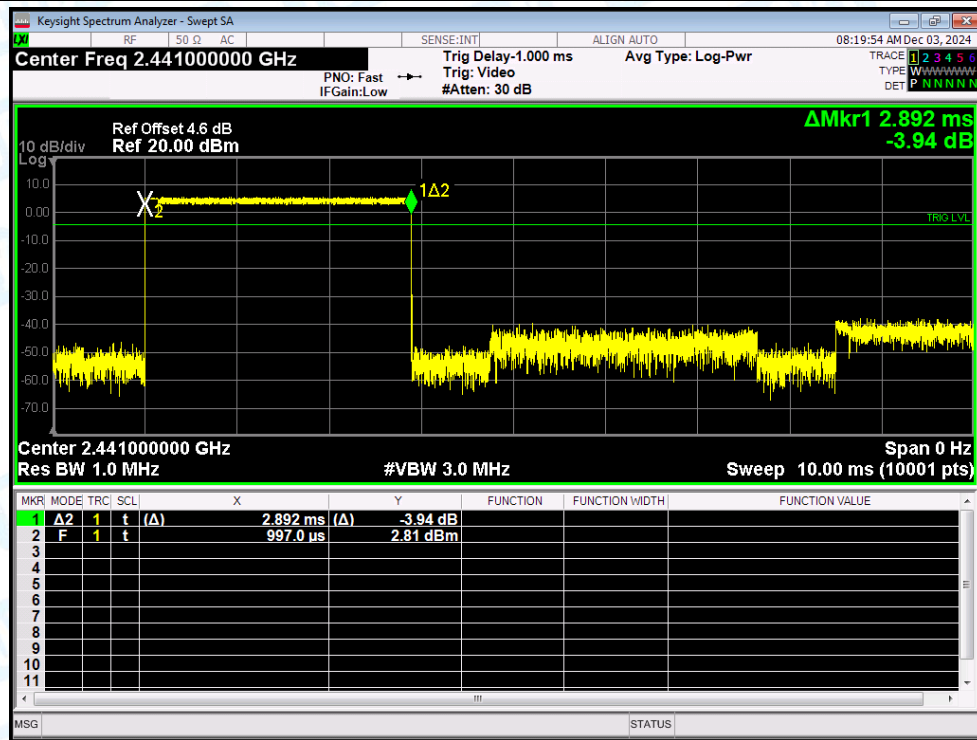
Dwell NVNT 2-DH1 2441MHz Ant1



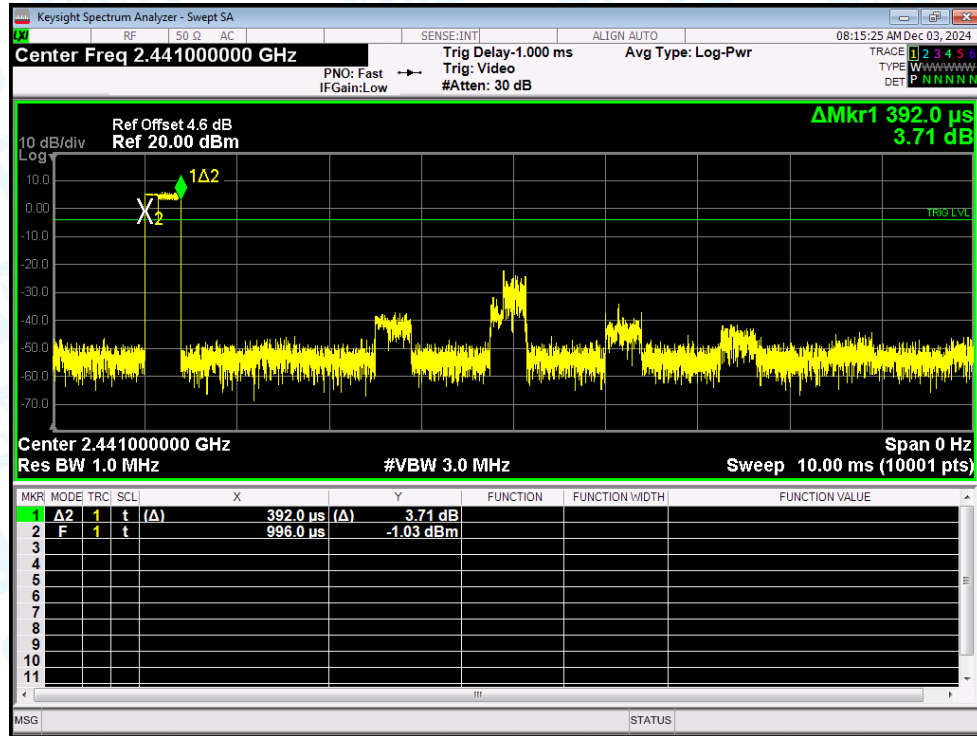
Dwell NVNT 2-DH3 2441MHz Ant1



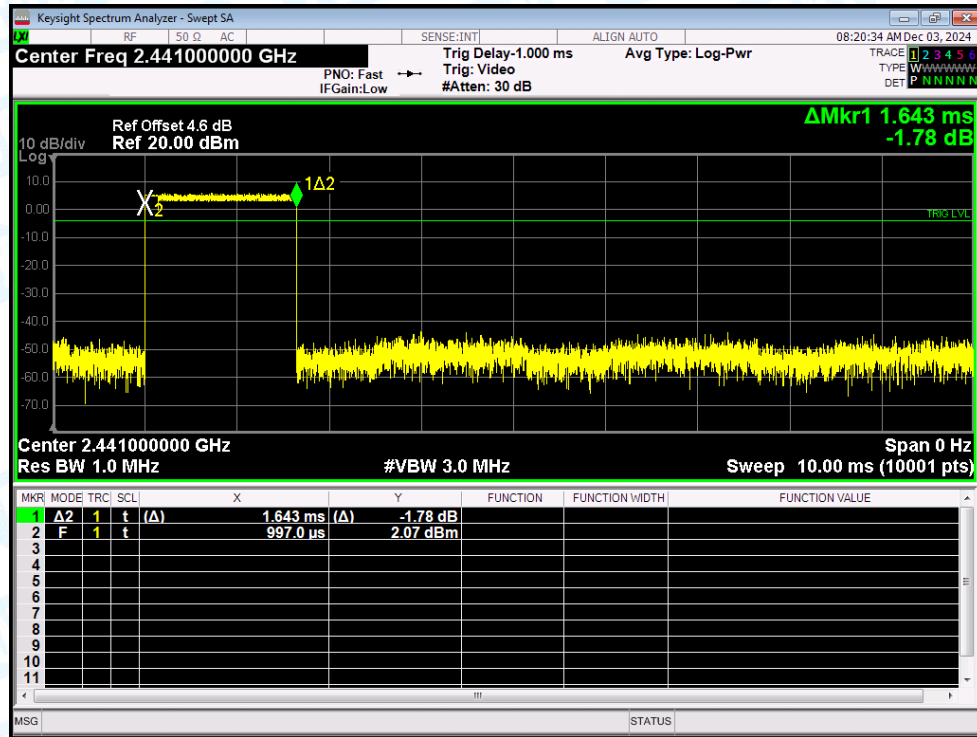
Dwell NVNT 2-DH5 2441MHz Ant1

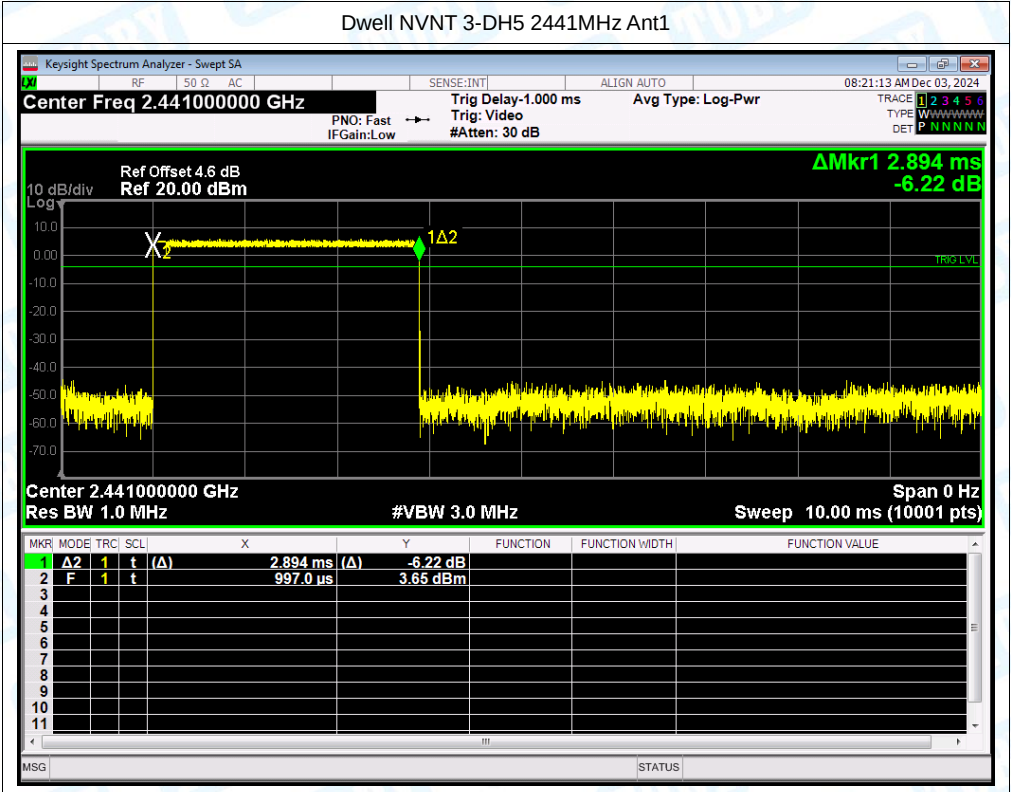


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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