

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Acerone Liquid S272E4
Test Model:	Acerone Liquid S272E4
Sample ID:	HC-C-202410-0214-01-01#
Environmental Conditions	
Temperature:	25℃
Relative Humidity:	55%
Test Voltage:	DC 3.87V
Test Engineer:	Zkn Zhou
Note: For a more detailed features description, please refer to the report TBR-C-202410-0214-21 The report only show the worst case data.	

Contents

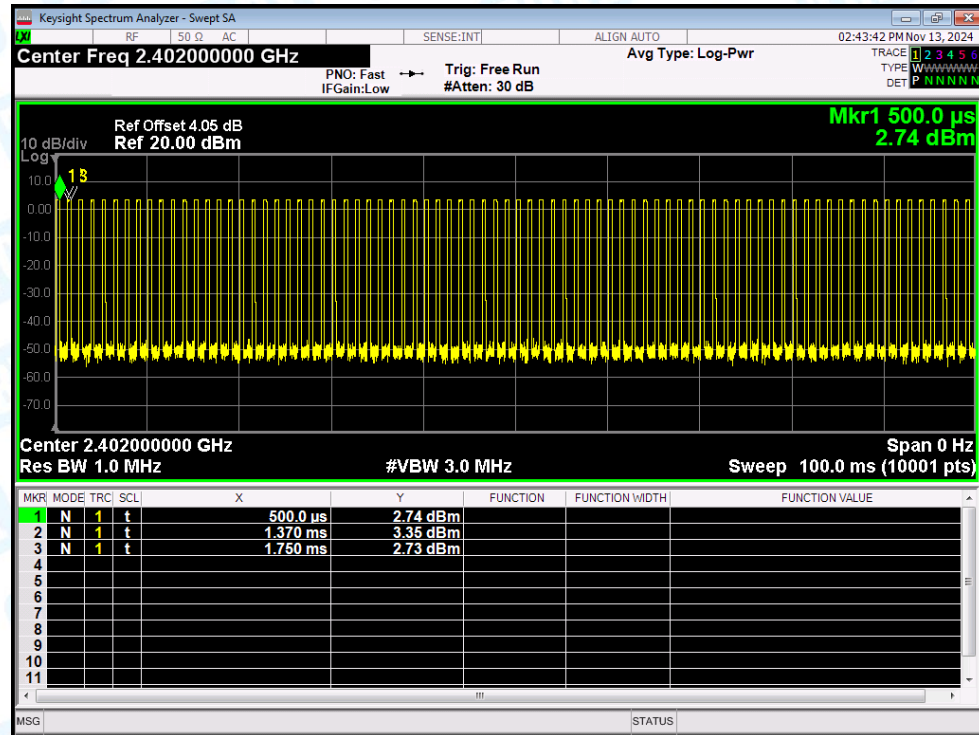
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1. Duty Cycle

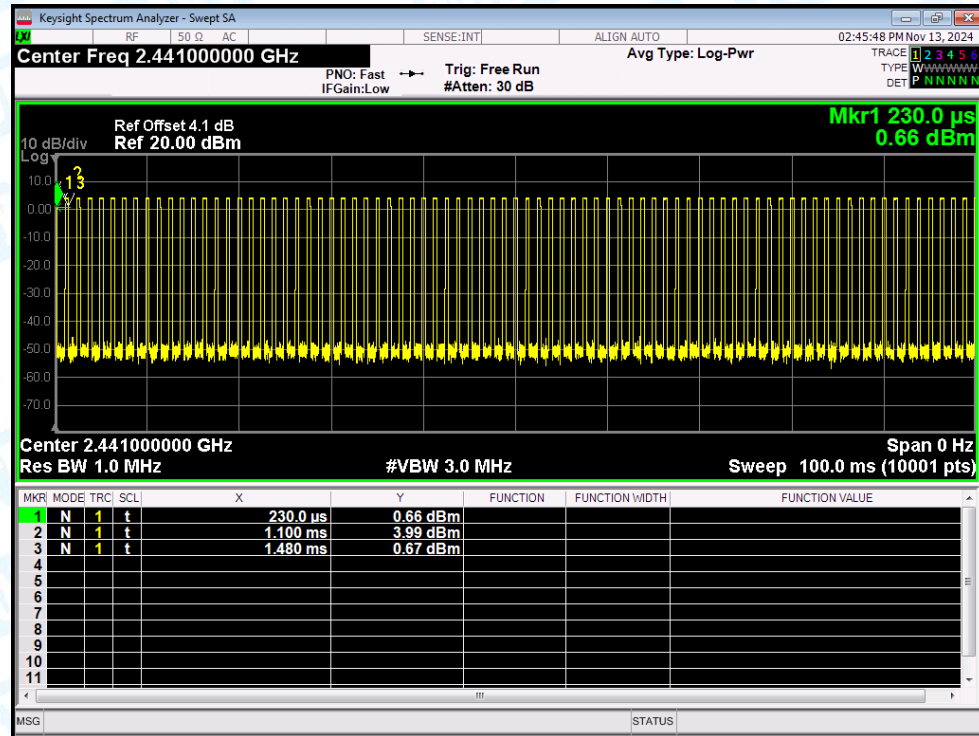
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2480	Ant1	30.4	5.17	2.63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

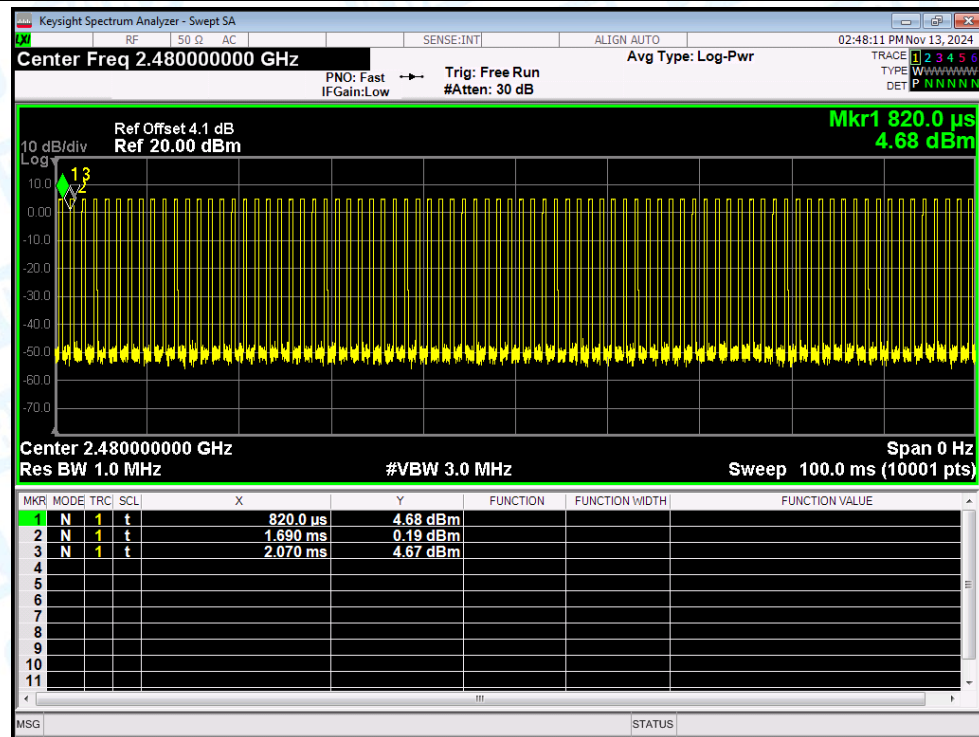
Duty Cycle NVNT 1-DH1 2402MHz Ant1



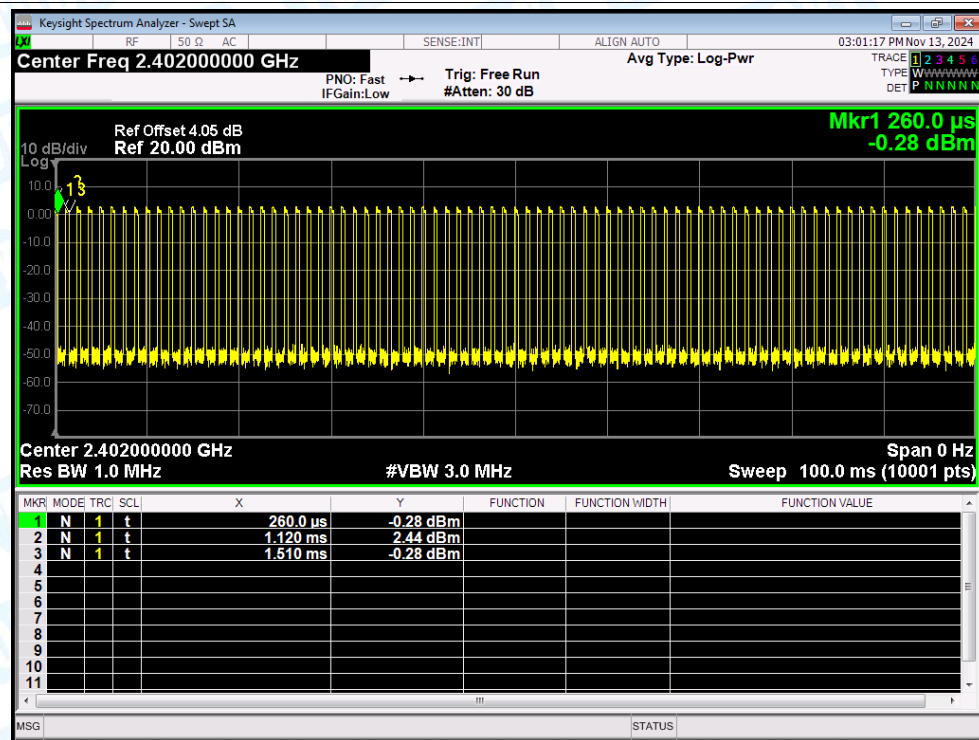
Duty Cycle NVNT 1-DH1 2441MHz Ant1



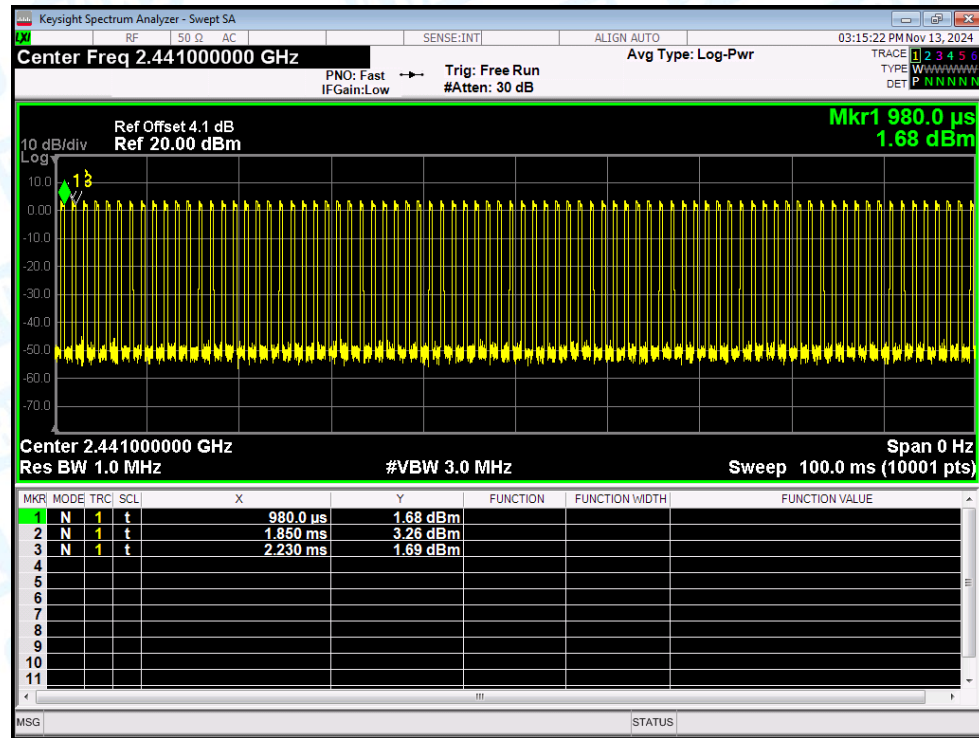
Duty Cycle NVNT 1-DH1 2480MHz Ant1



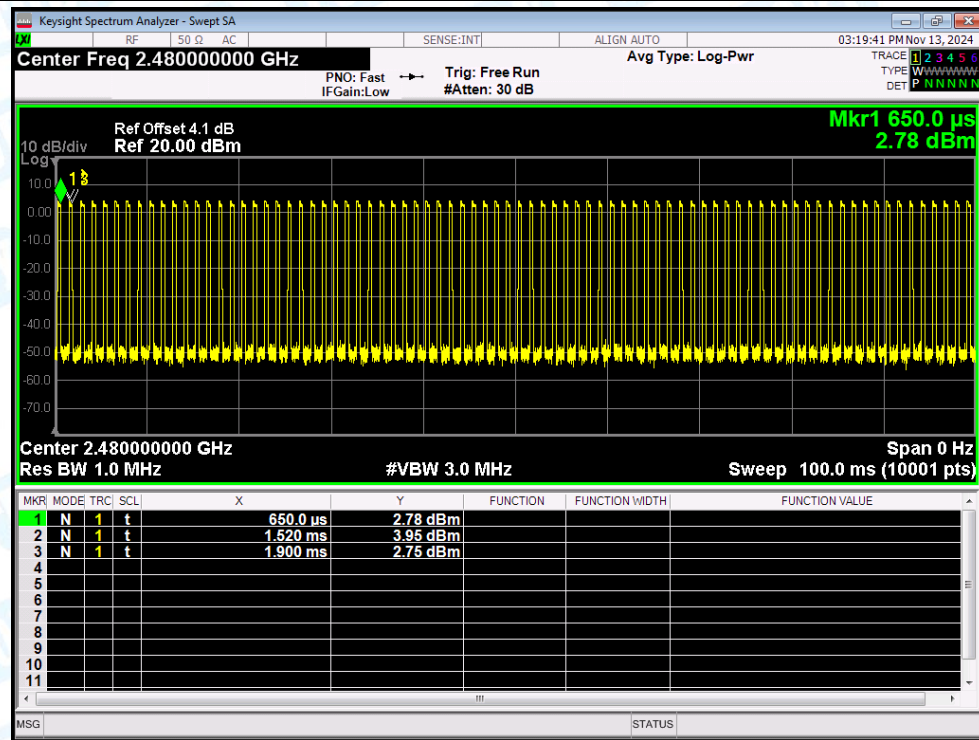
Duty Cycle NVNT 2-DH1 2402MHz Ant1



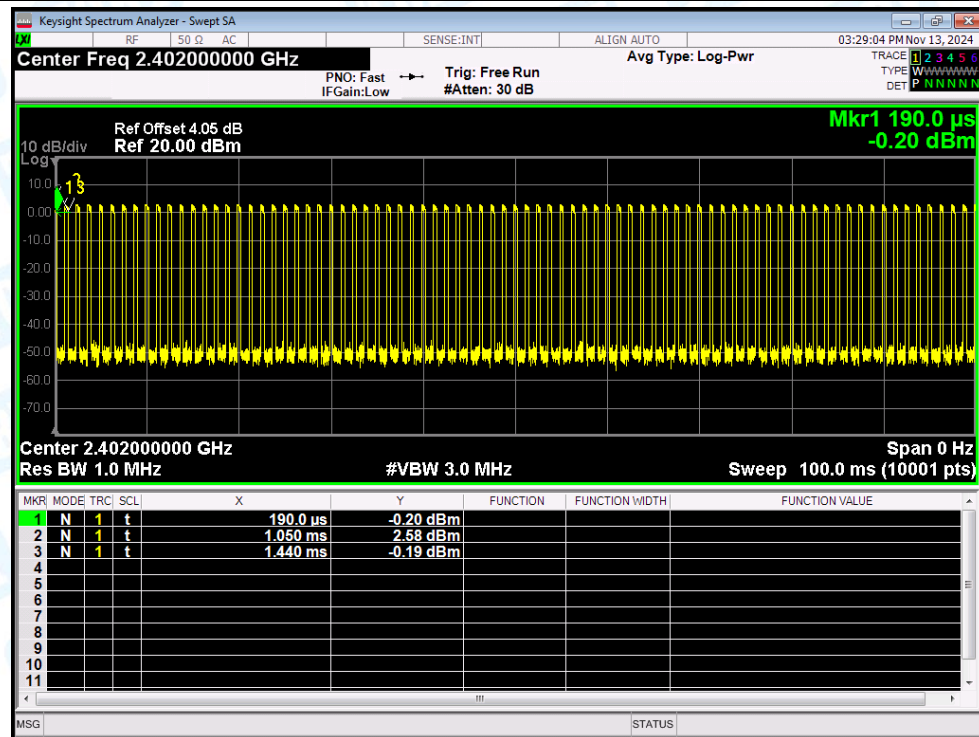
Duty Cycle NVNT 2-DH1 2441MHz Ant1



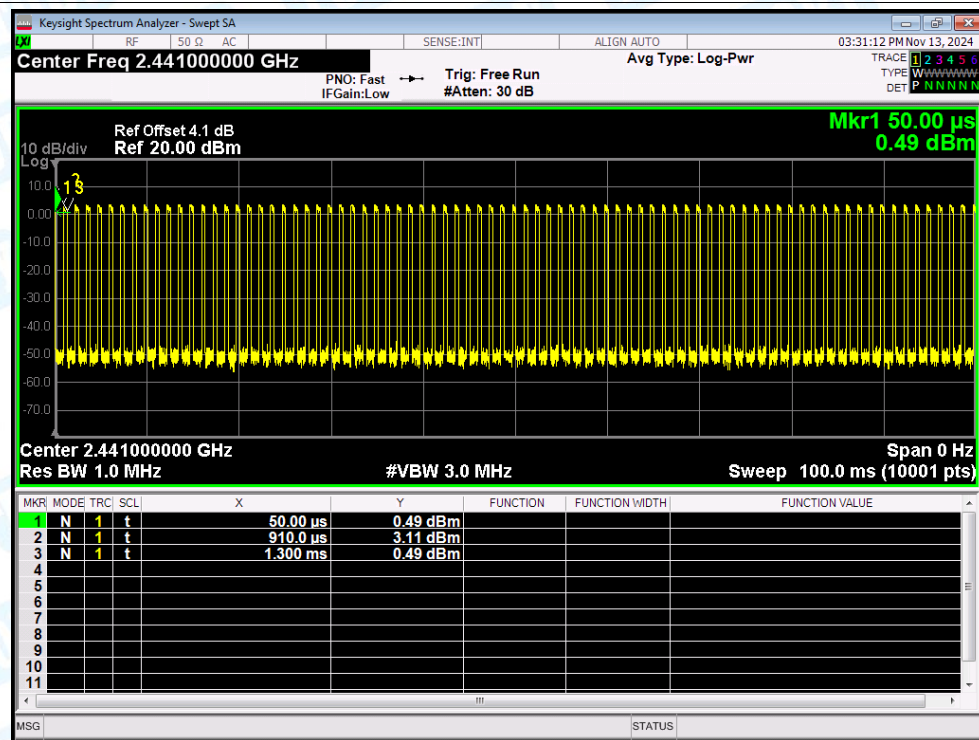
Duty Cycle NVNT 2-DH1 2480MHz Ant1

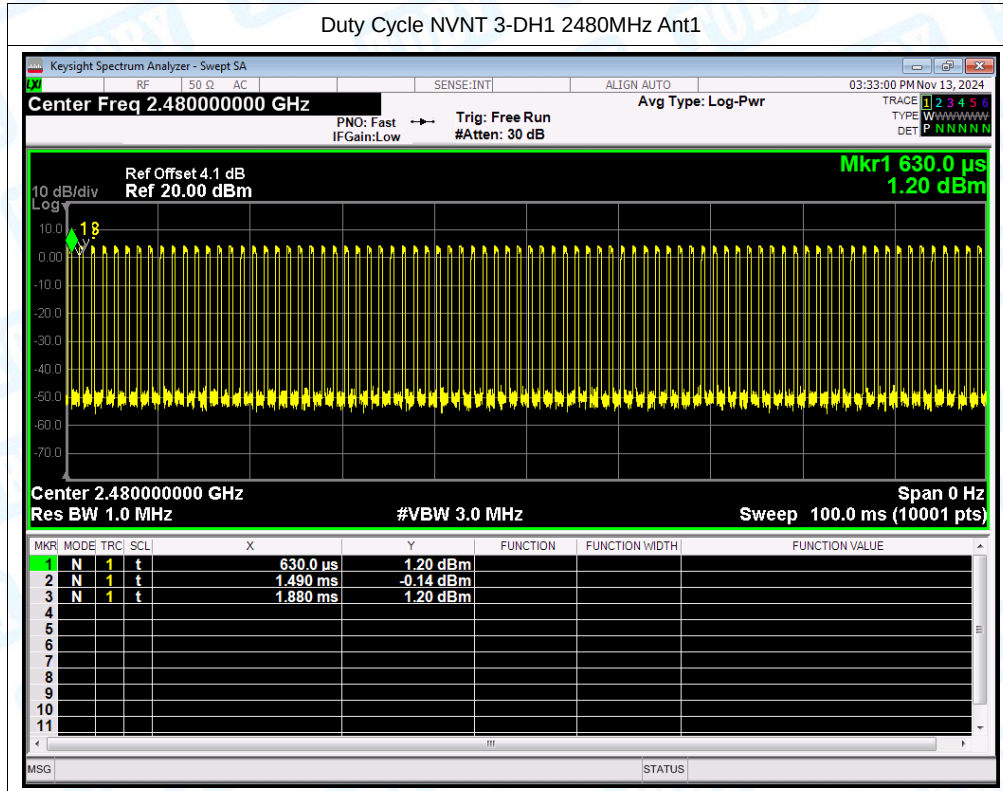


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



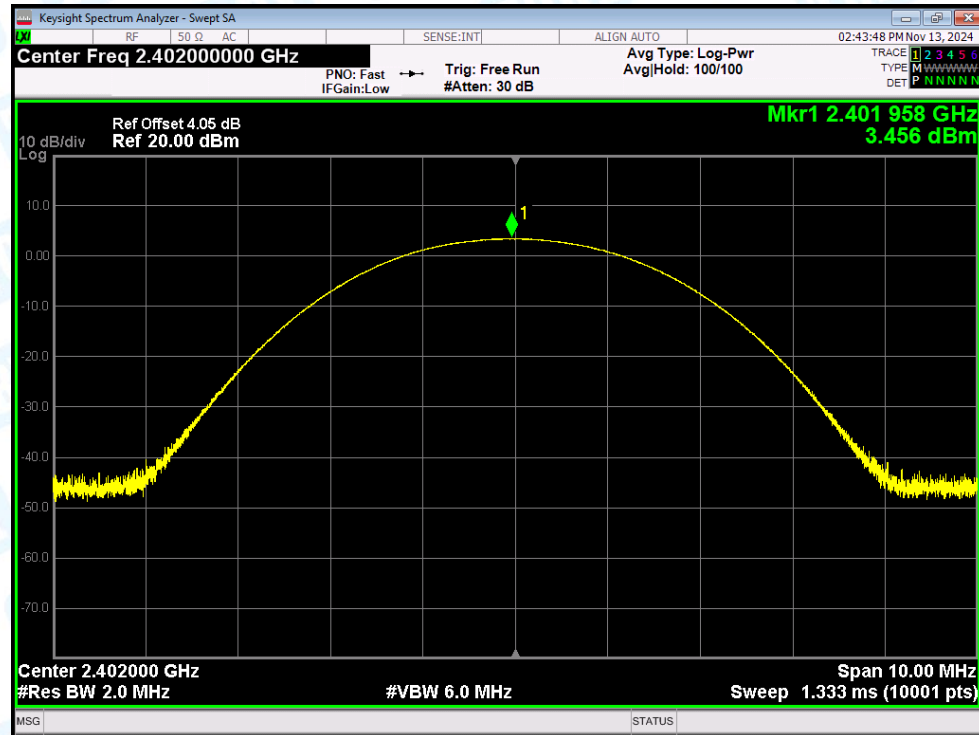


2.Maximum Conducted Output Power

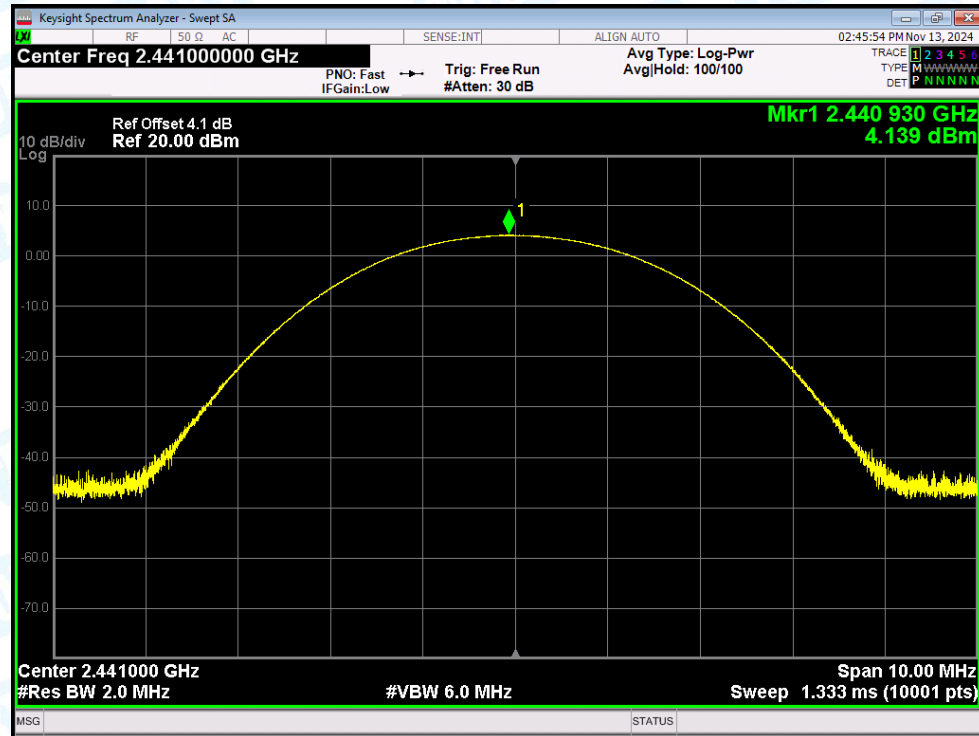
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	3.456	0	3.456	21	Pass
NVNT	1-DH1	2441	Ant1	4.139	0	4.139	21	Pass
NVNT	1-DH1	2480	Ant1	4.851	0	4.851	21	Pass
NVNT	1-DH3	2441	Ant1	4.257	0	4.257	21	Pass
NVNT	1-DH5	2441	Ant1	4.24	0	4.24	21	Pass
NVNT	2-DH1	2402	Ant1	2.656	0	2.656	21	Pass
NVNT	2-DH1	2441	Ant1	3.36	0	3.36	21	Pass
NVNT	2-DH1	2480	Ant1	4.057	0	4.057	21	Pass
NVNT	2-DH3	2441	Ant1	3.103	0	3.103	21	Pass
NVNT	2-DH5	2441	Ant1	3.02	0	3.02	21	Pass
NVNT	3-DH1	2402	Ant1	2.736	0	2.736	21	Pass
NVNT	3-DH1	2441	Ant1	3.407	0	3.407	21	Pass
NVNT	3-DH1	2480	Ant1	4.138	0	4.138	21	Pass
NVNT	3-DH3	2441	Ant1	2.946	0	2.946	21	Pass
NVNT	3-DH5	2441	Ant1	2.949	0	2.949	21	Pass

Test Graphs

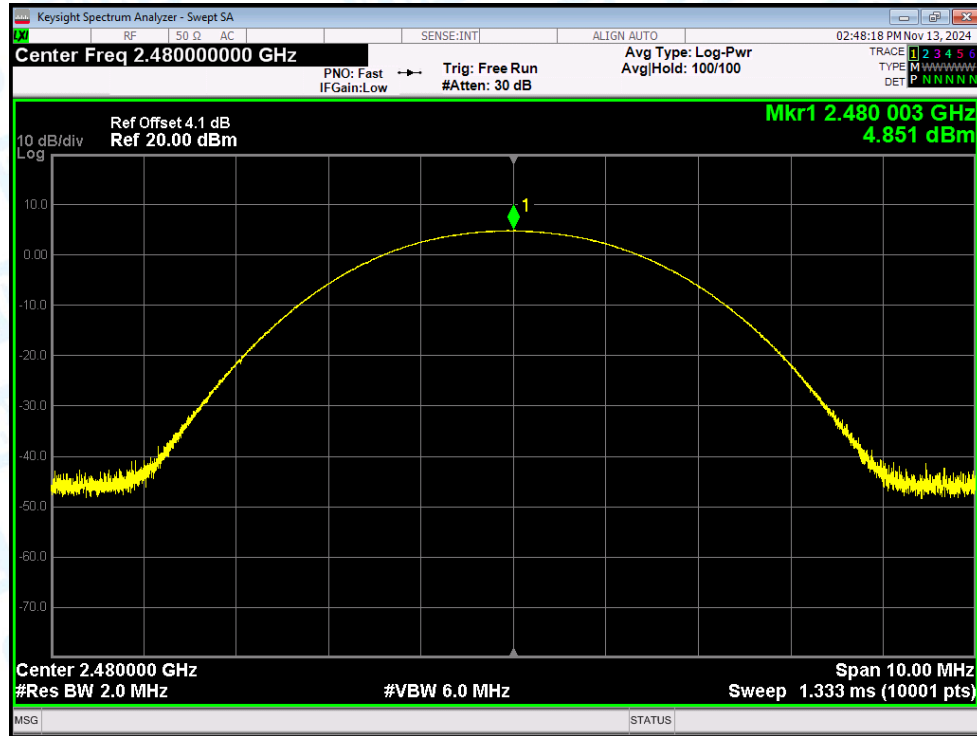
Power NVNT 1-DH1 2402MHz Ant1



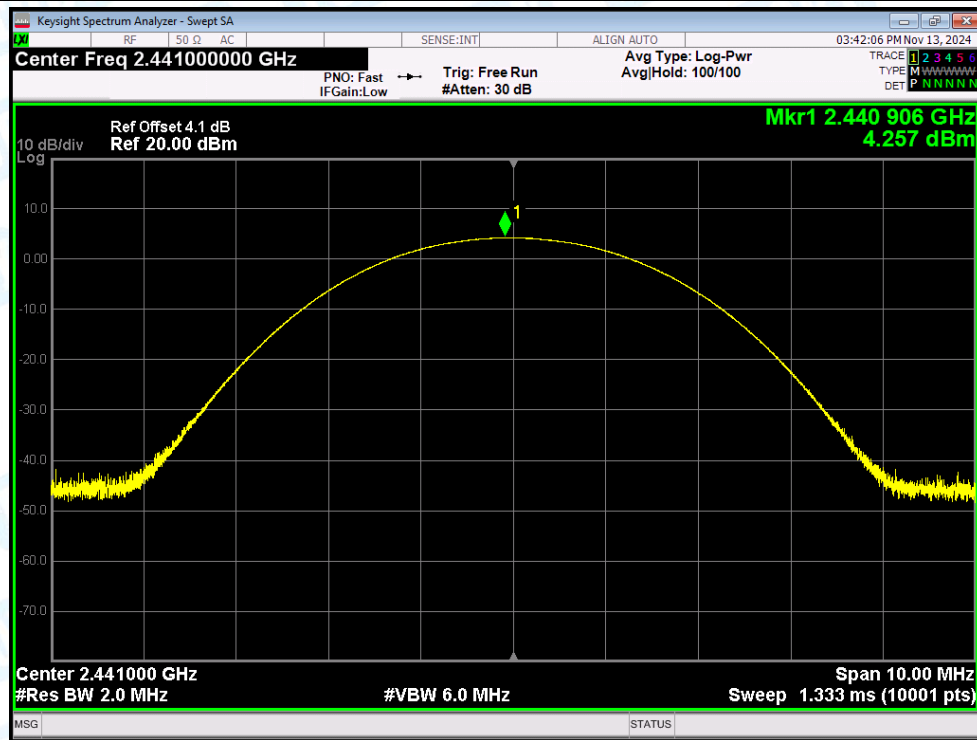
Power NVNT 1-DH1 2441MHz Ant1



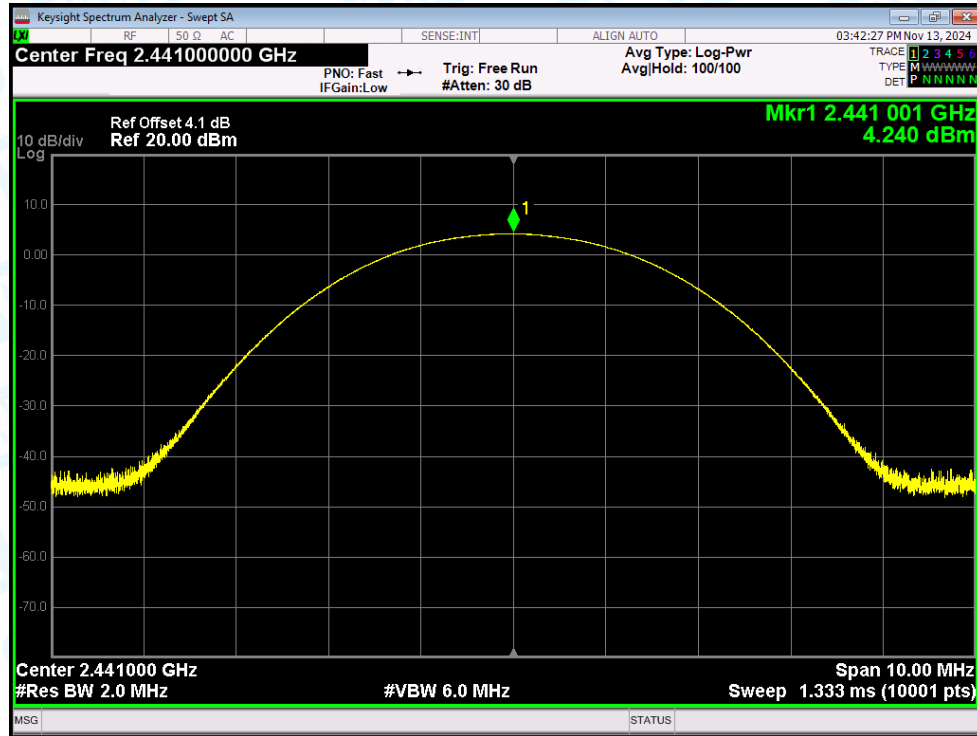
Power NVNT 1-DH1 2480MHz Ant1



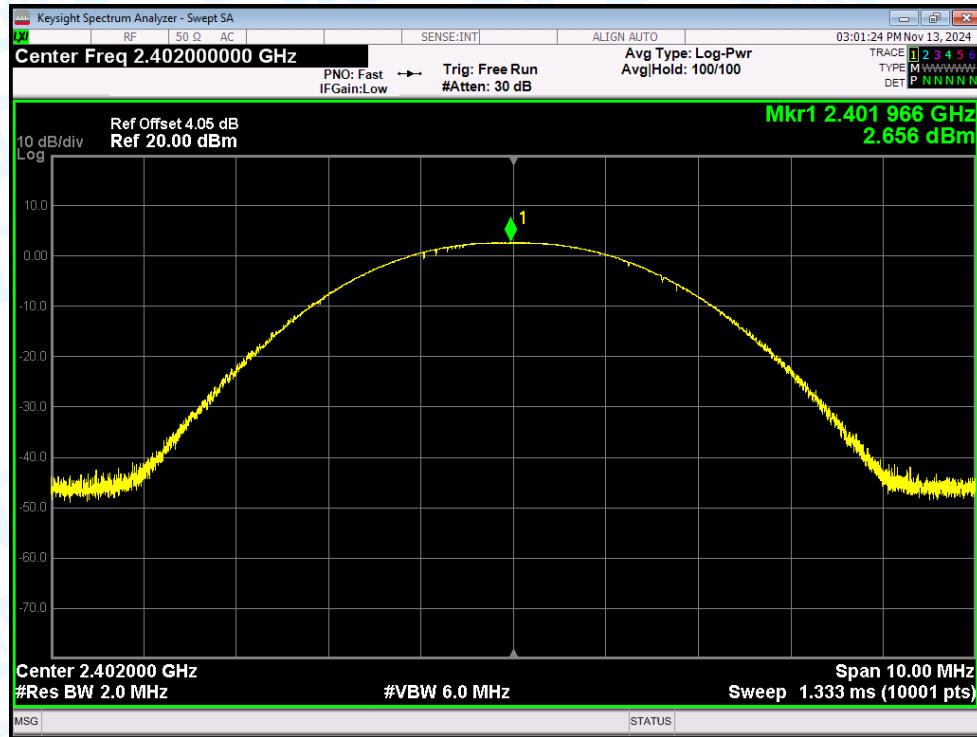
Power NVNT 1-DH3 2441MHz Ant1



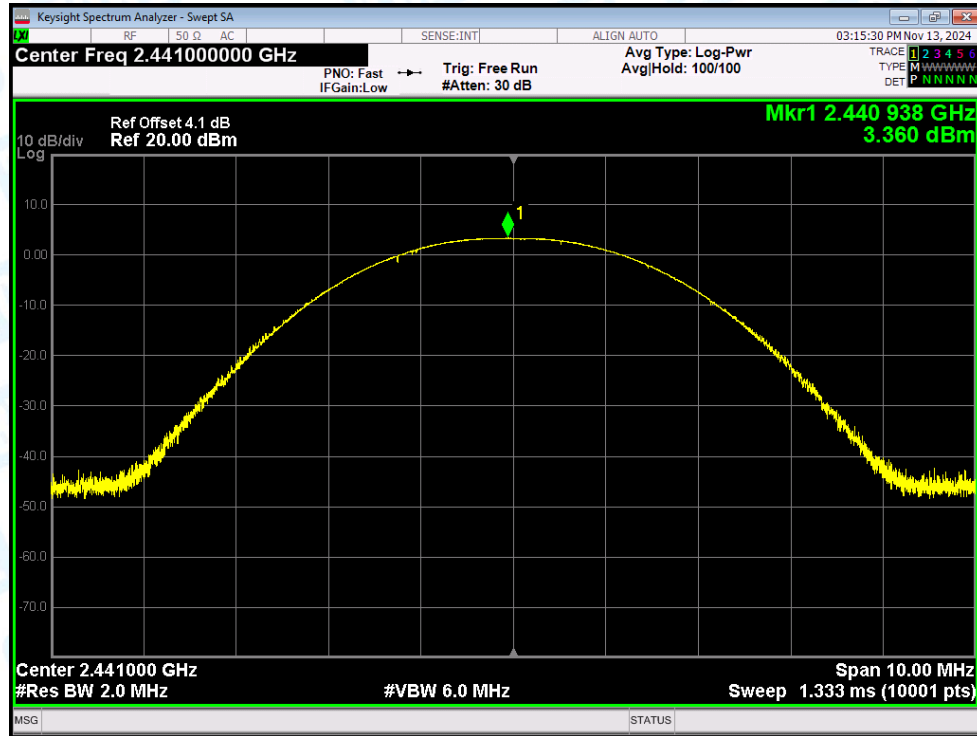
Power NVNT 1-DH5 2441MHz Ant1



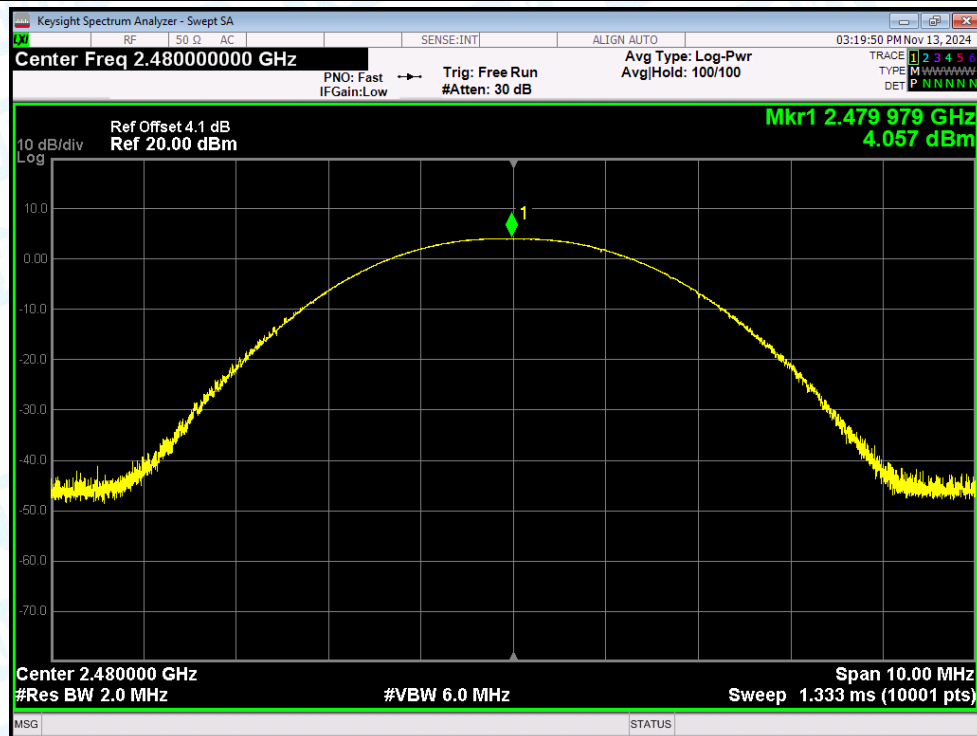
Power NVNT 2-DH1 2402MHz Ant1



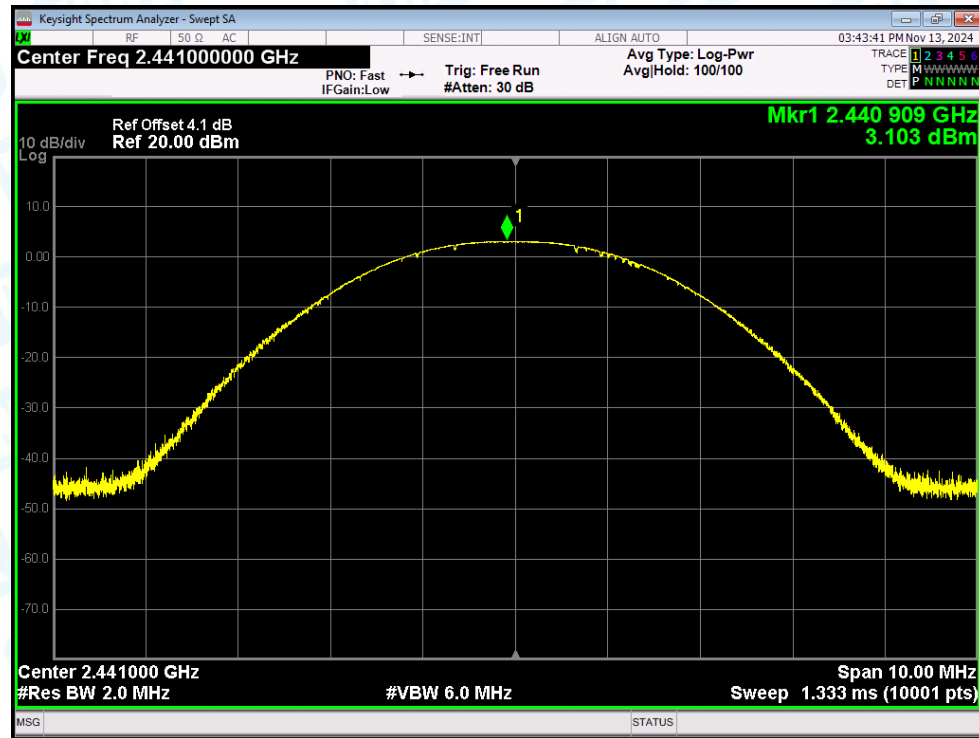
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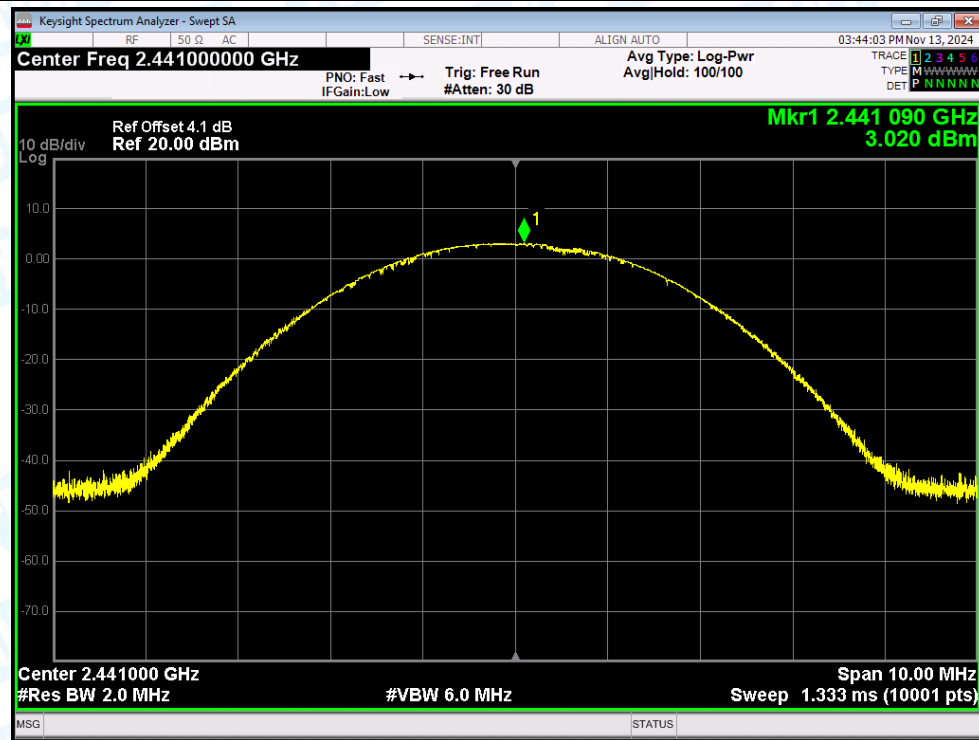
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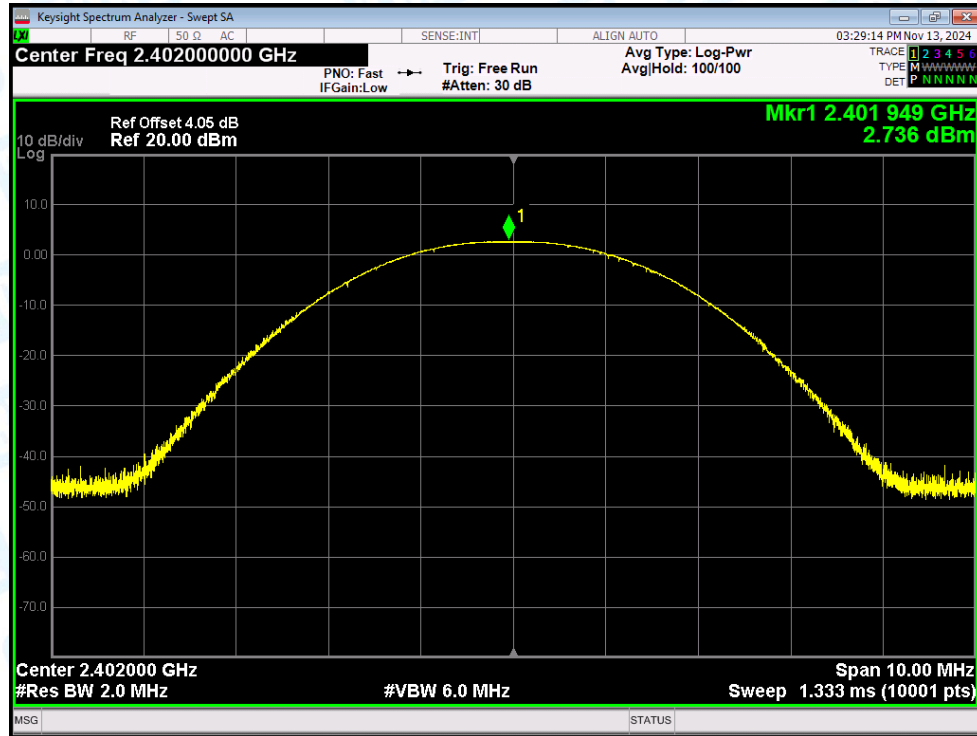
Power NVNT 2-DH3 2441MHz Ant1



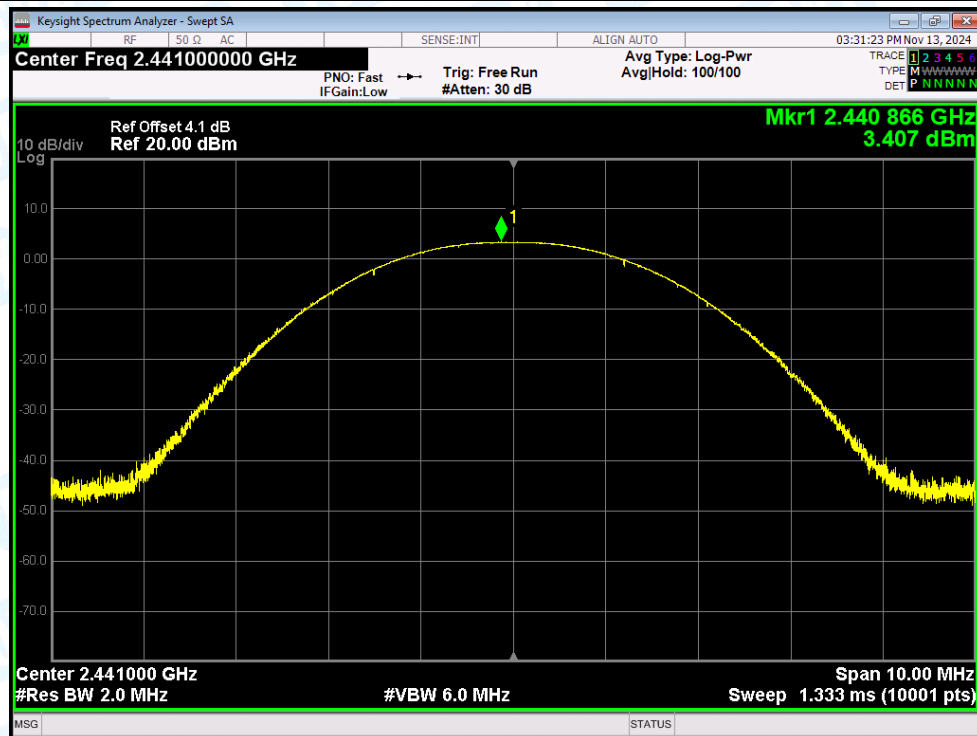
Power NVNT 2-DH5 2441MHz Ant1



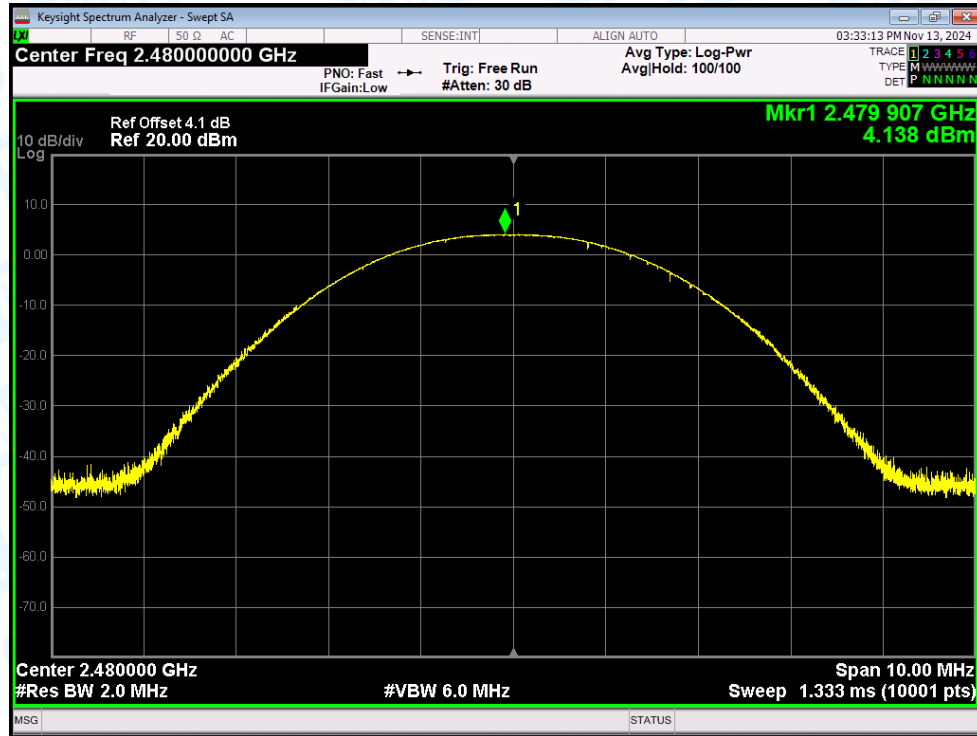
Power NVNT 3-DH1 2402MHz Ant1



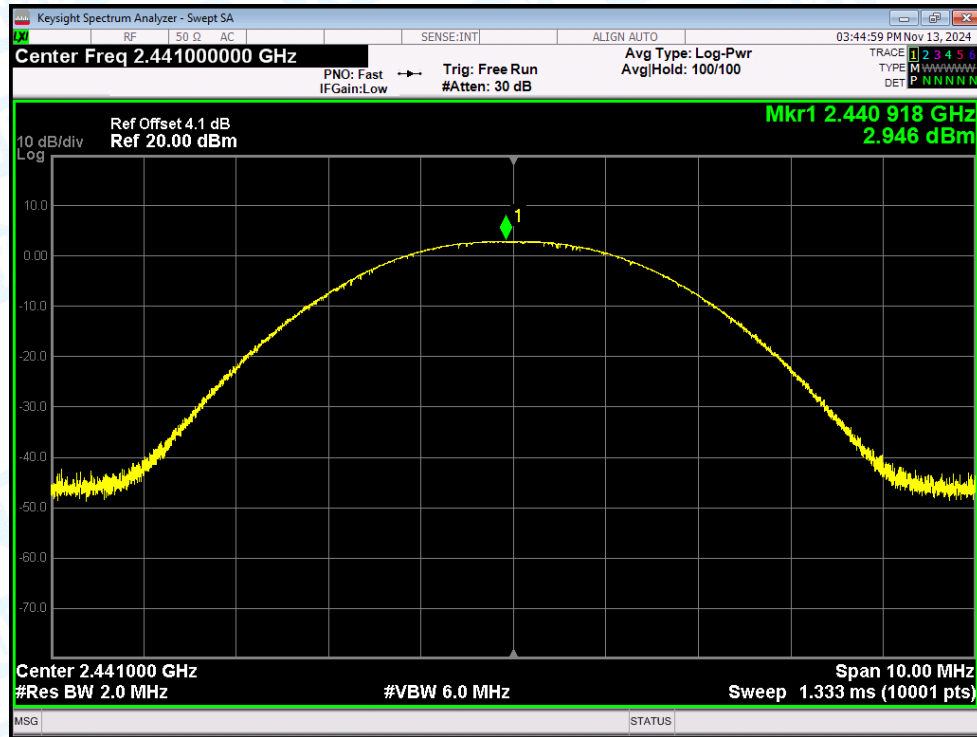
Power NVNT 3-DH1 2441MHz Ant1

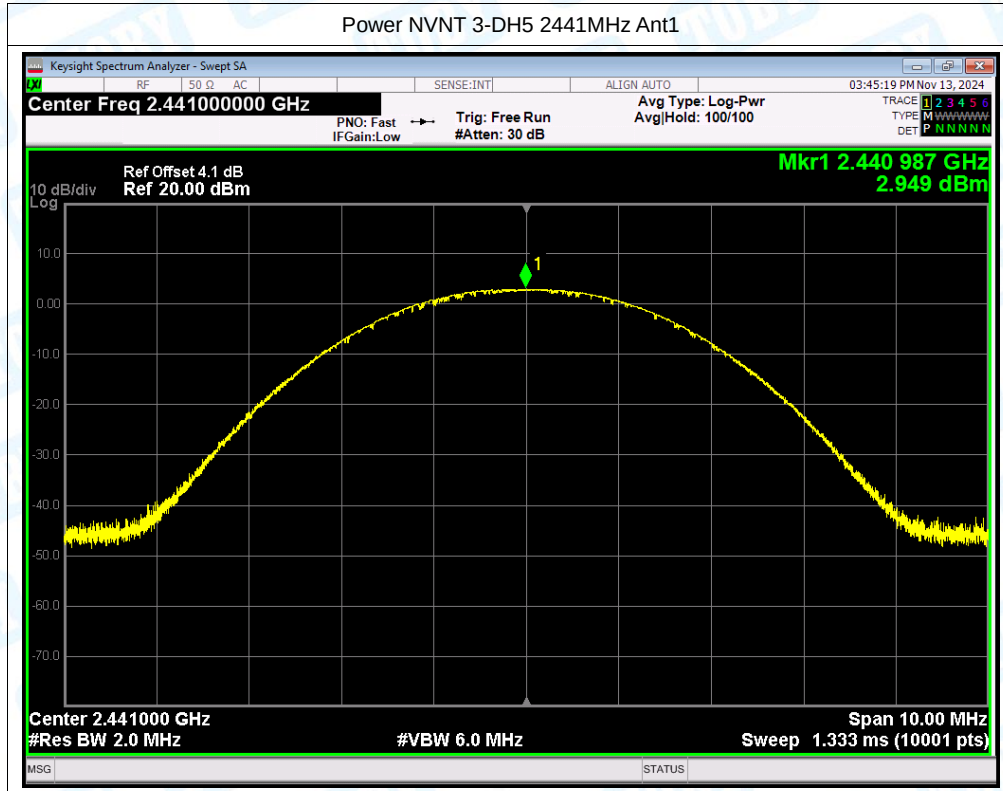


Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1



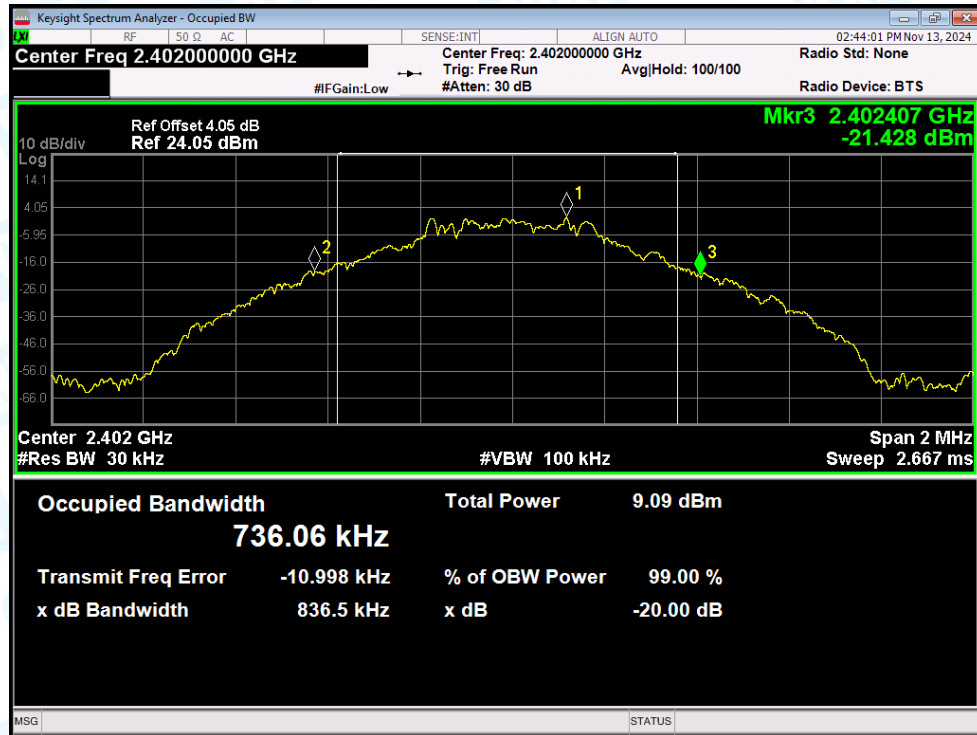


3.-20dB Bandwidth

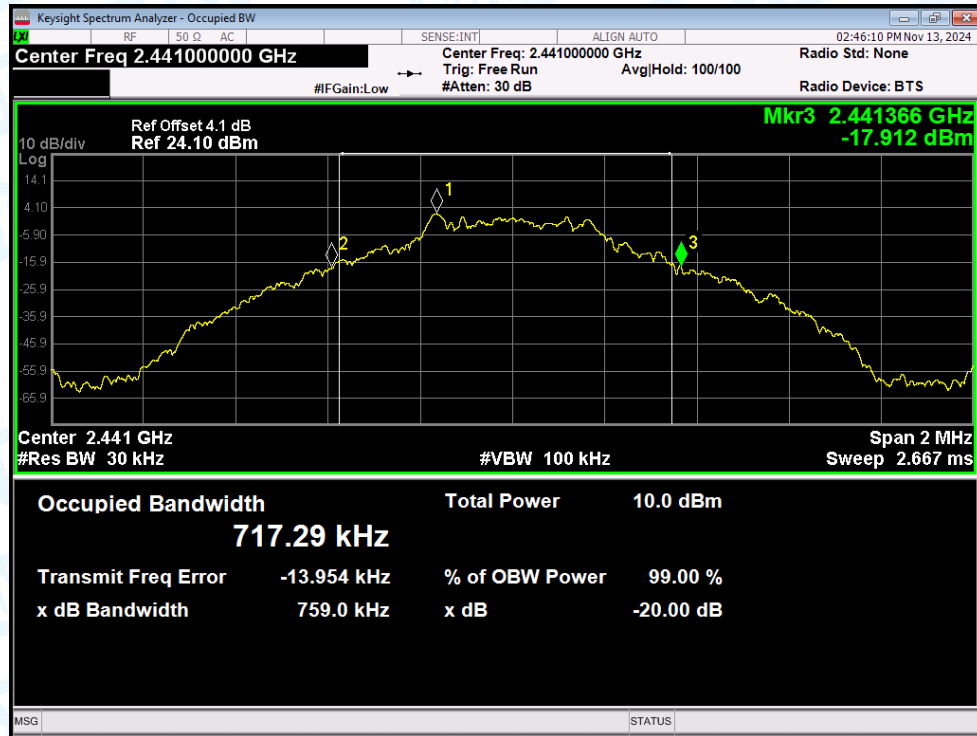
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.84	0	Pass
NVNT	1-DH1	2441	Ant1	0.76	0	Pass
NVNT	1-DH1	2480	Ant1	0.78	0	Pass
NVNT	2-DH1	2402	Ant1	1.25	0	Pass
NVNT	2-DH1	2441	Ant1	1.21	0	Pass
NVNT	2-DH1	2480	Ant1	1.23	0	Pass
NVNT	3-DH1	2402	Ant1	1.21	0	Pass
NVNT	3-DH1	2441	Ant1	1.21	0	Pass
NVNT	3-DH1	2480	Ant1	1.22	0	Pass

Test Graphs

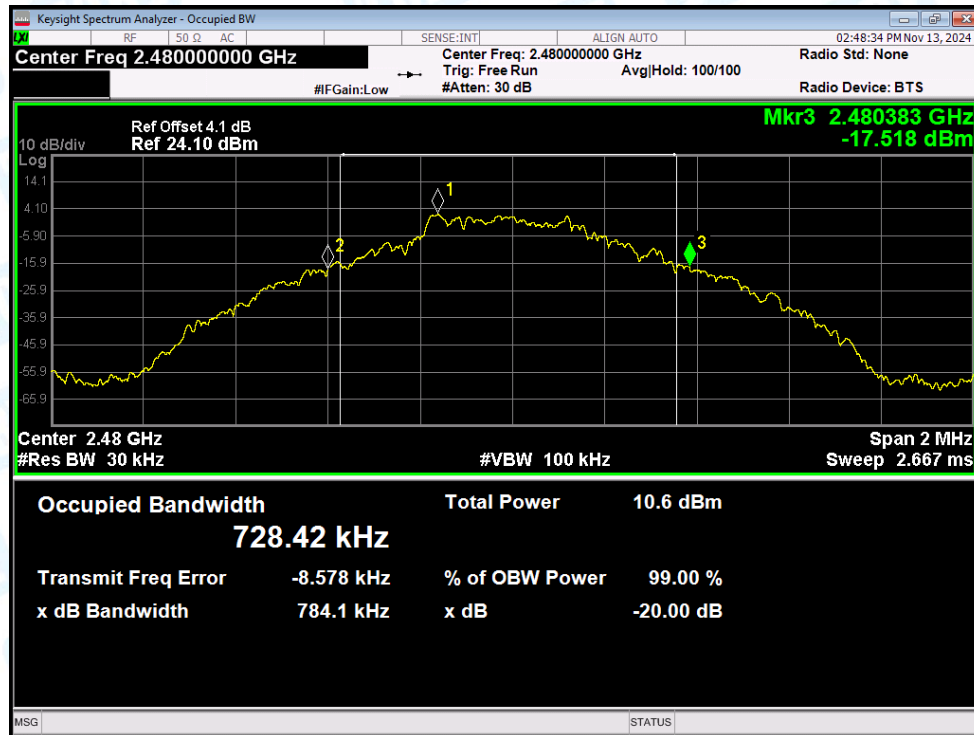
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



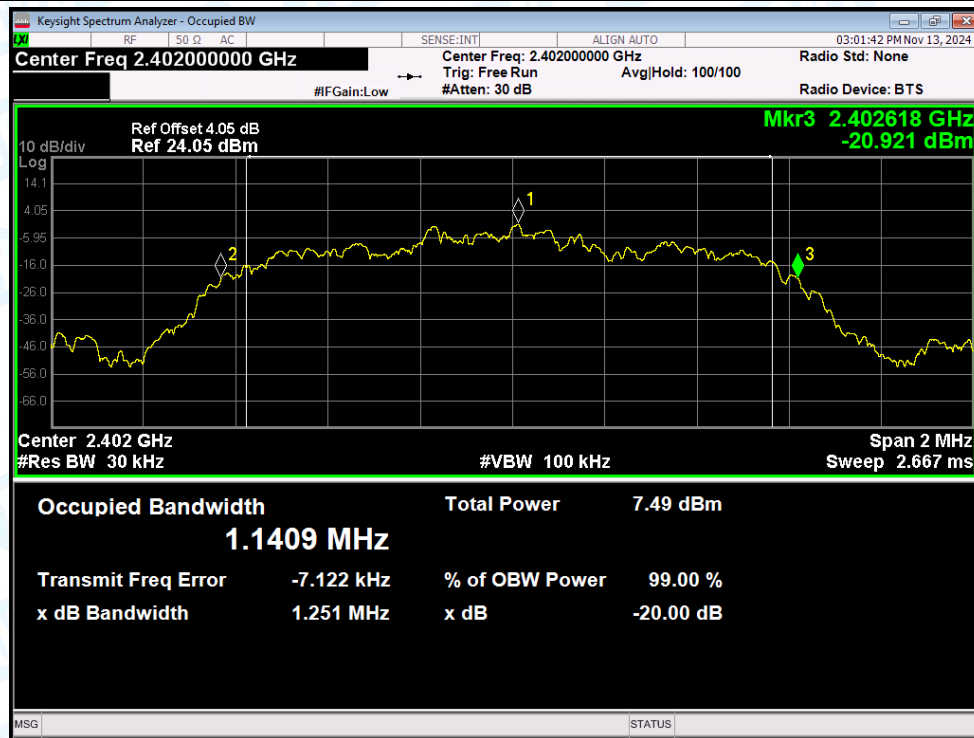
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



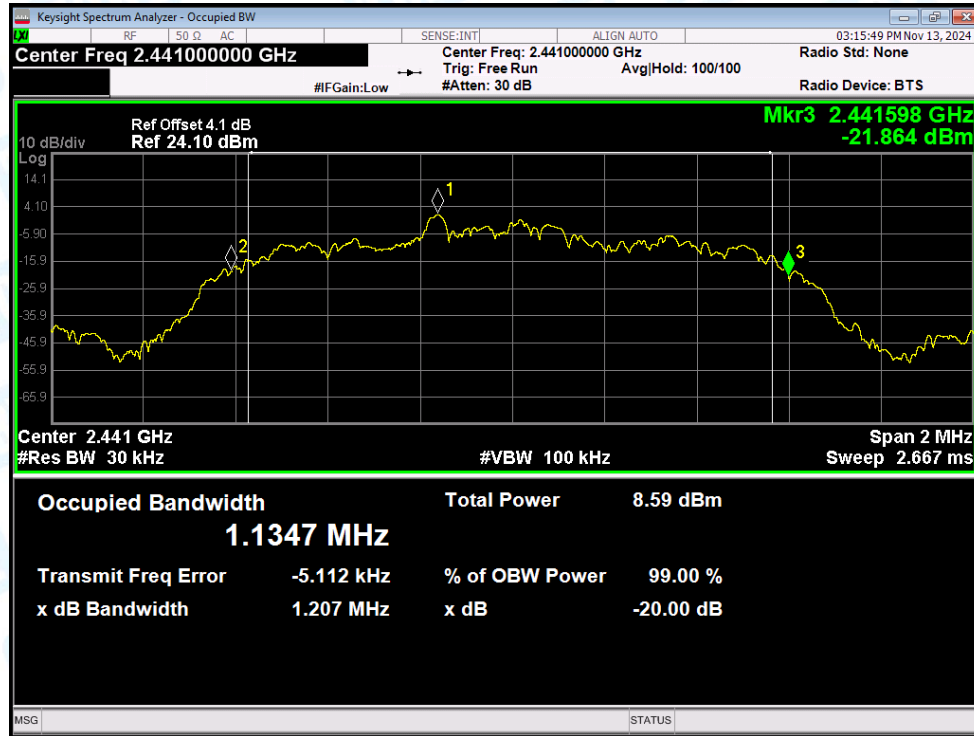
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



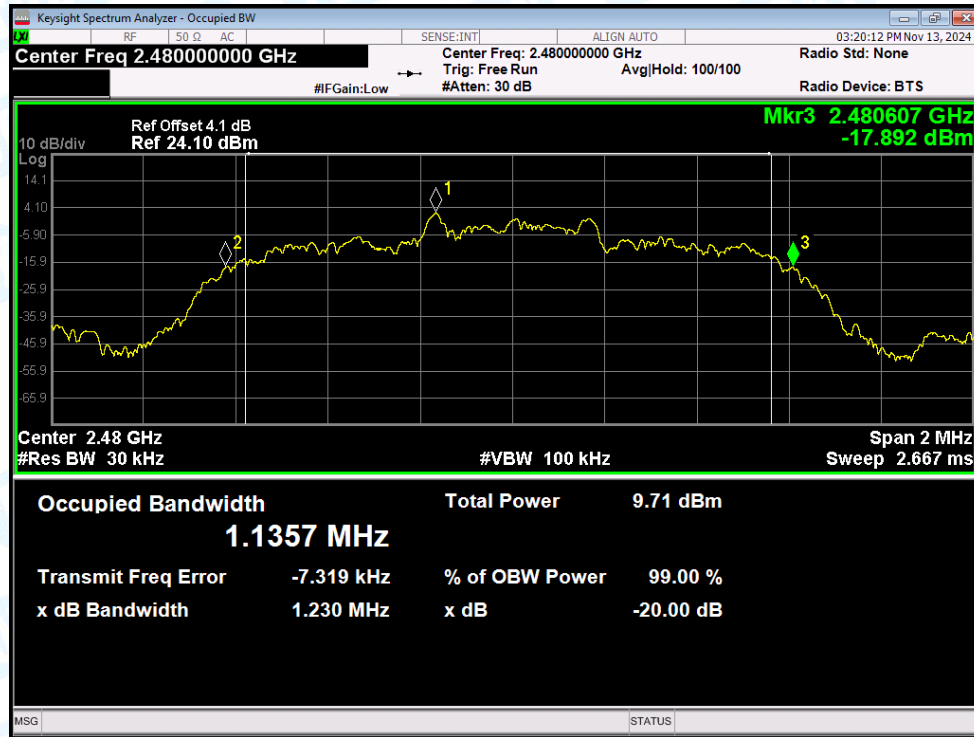
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



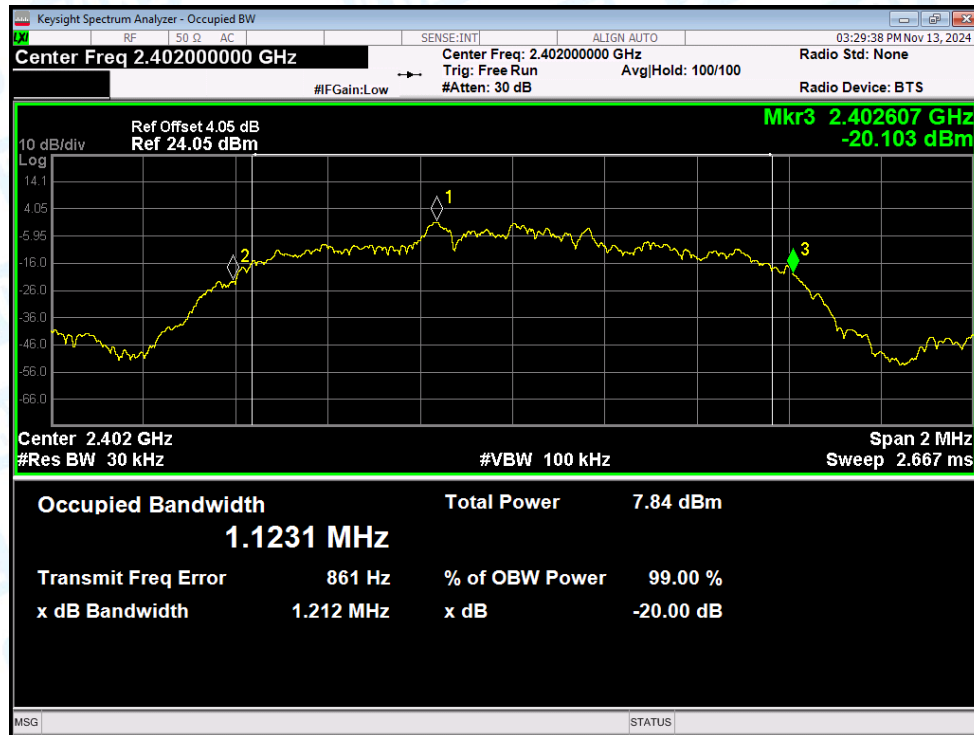
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



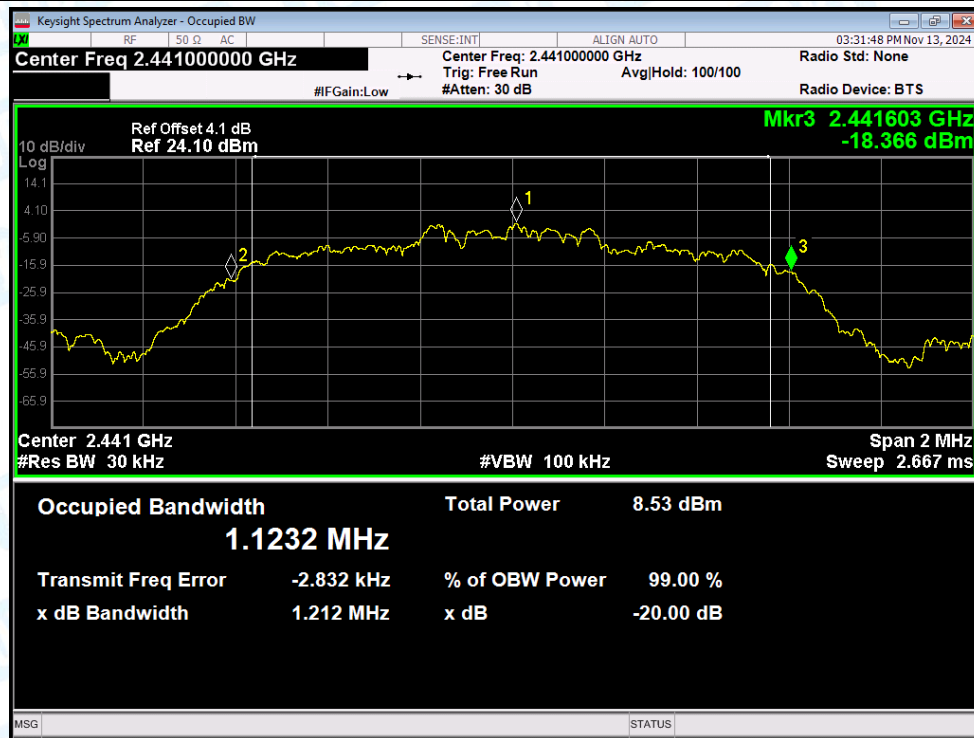
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

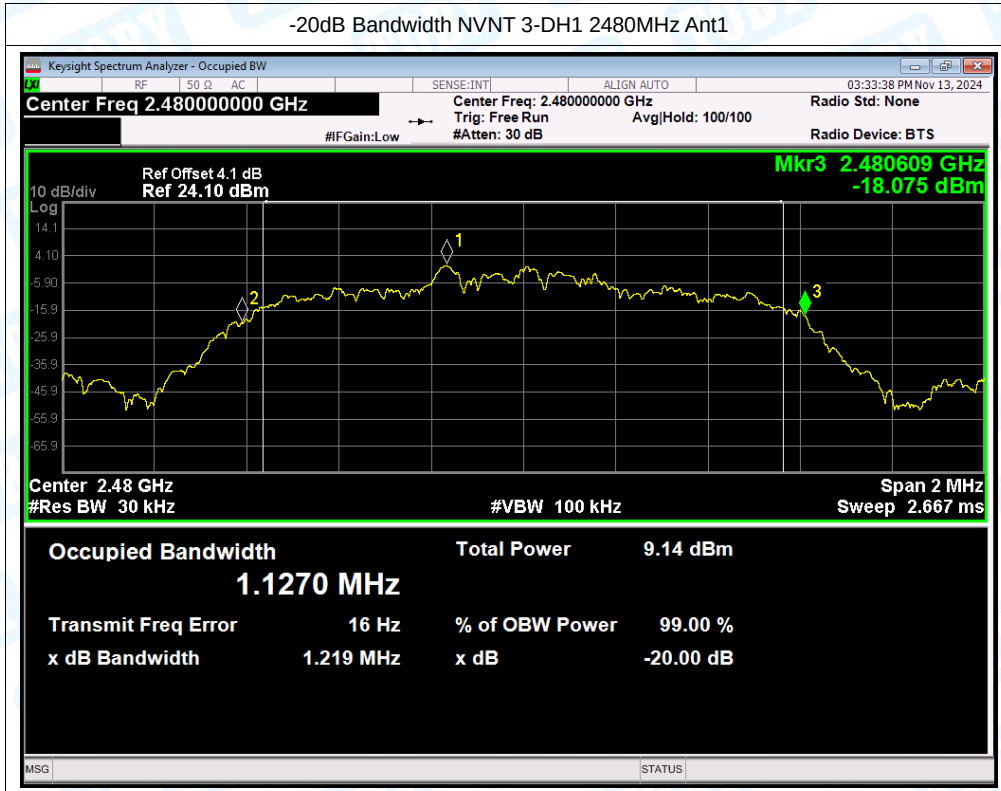


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



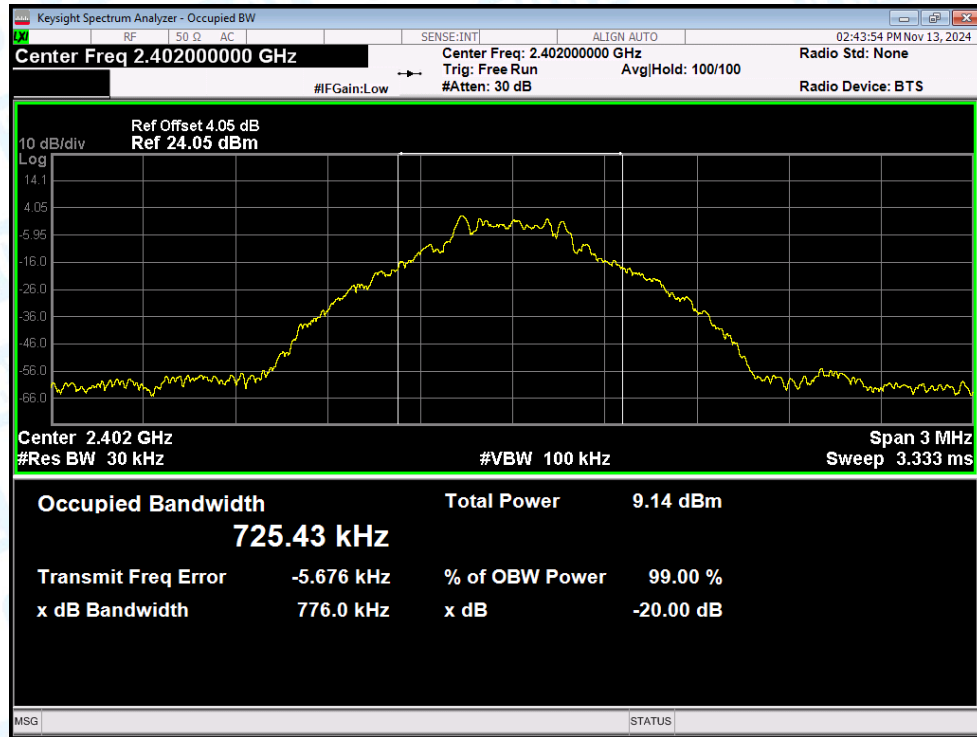


4.Occupied Channel Bandwidth

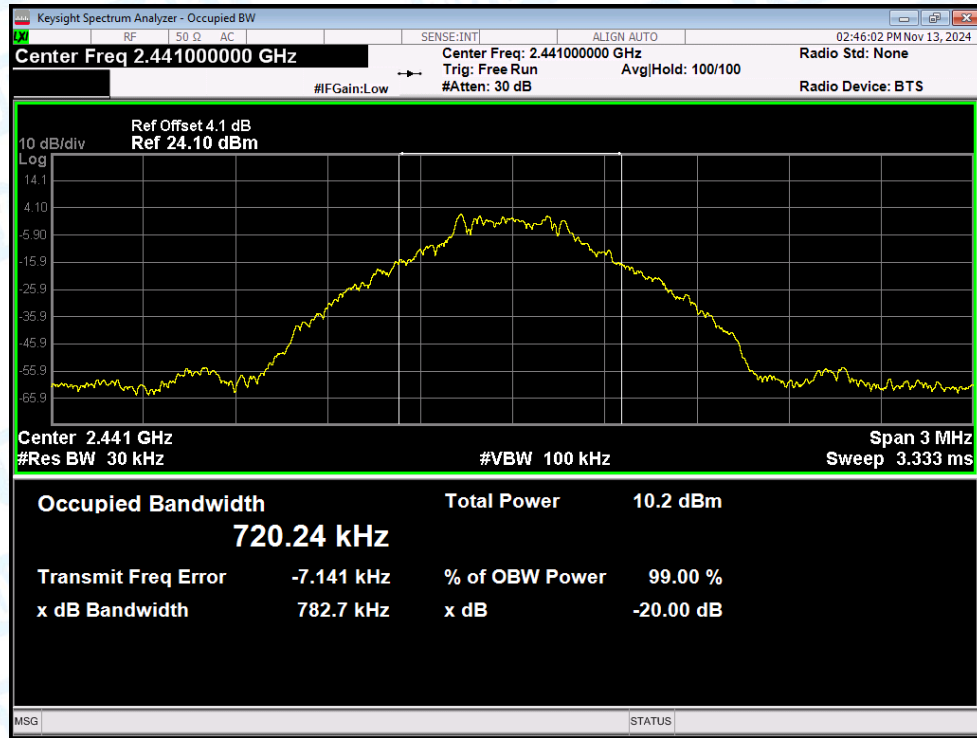
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.725
NVNT	1-DH1	2441	Ant1	0.72
NVNT	1-DH1	2480	Ant1	0.713
NVNT	2-DH1	2402	Ant1	1.128
NVNT	2-DH1	2441	Ant1	1.126
NVNT	2-DH1	2480	Ant1	1.103
NVNT	3-DH1	2402	Ant1	1.124
NVNT	3-DH1	2441	Ant1	1.136
NVNT	3-DH1	2480	Ant1	1.126

Test Graphs

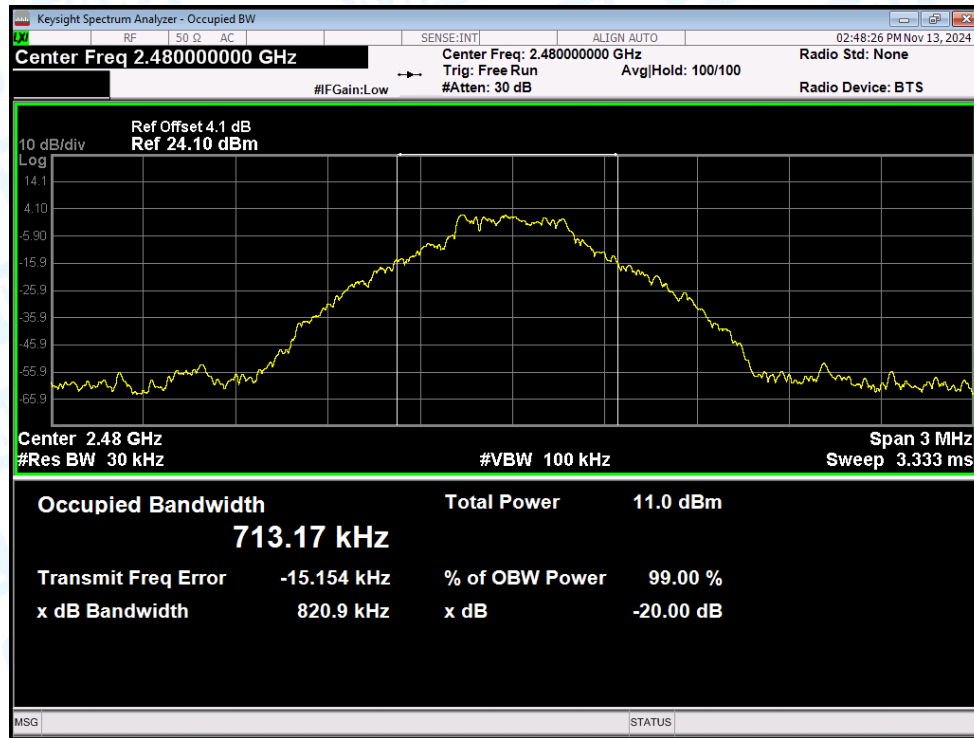
OBW NVNT 1-DH1 2402MHz Ant1



OBW NVNT 1-DH1 2441MHz Ant1



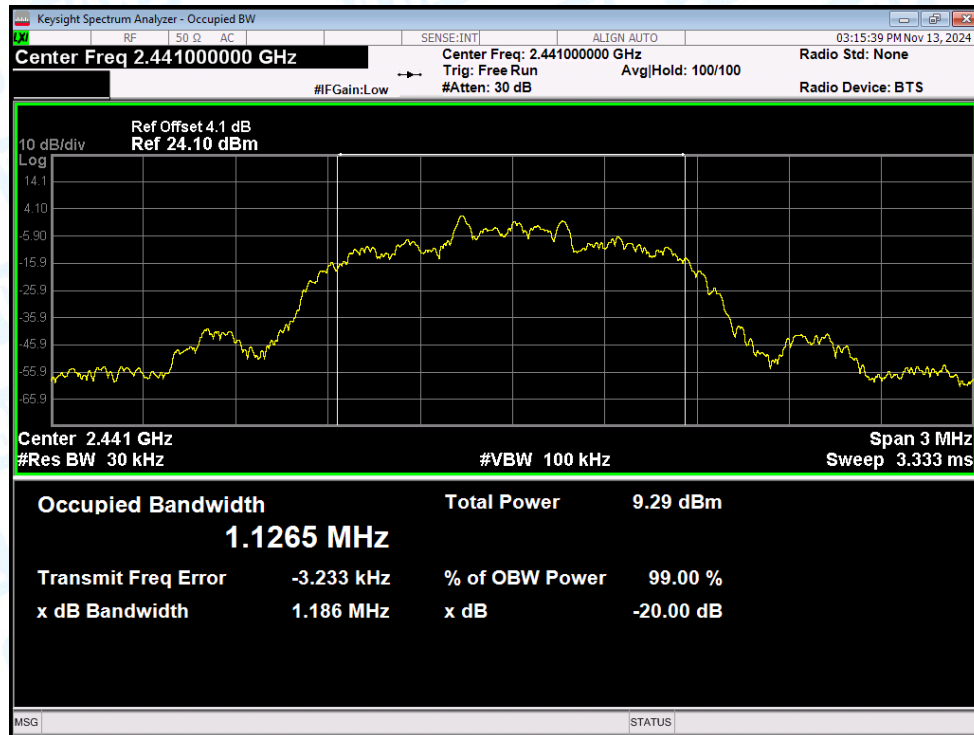
OBW NVNT 1-DH1 2480MHz Ant1



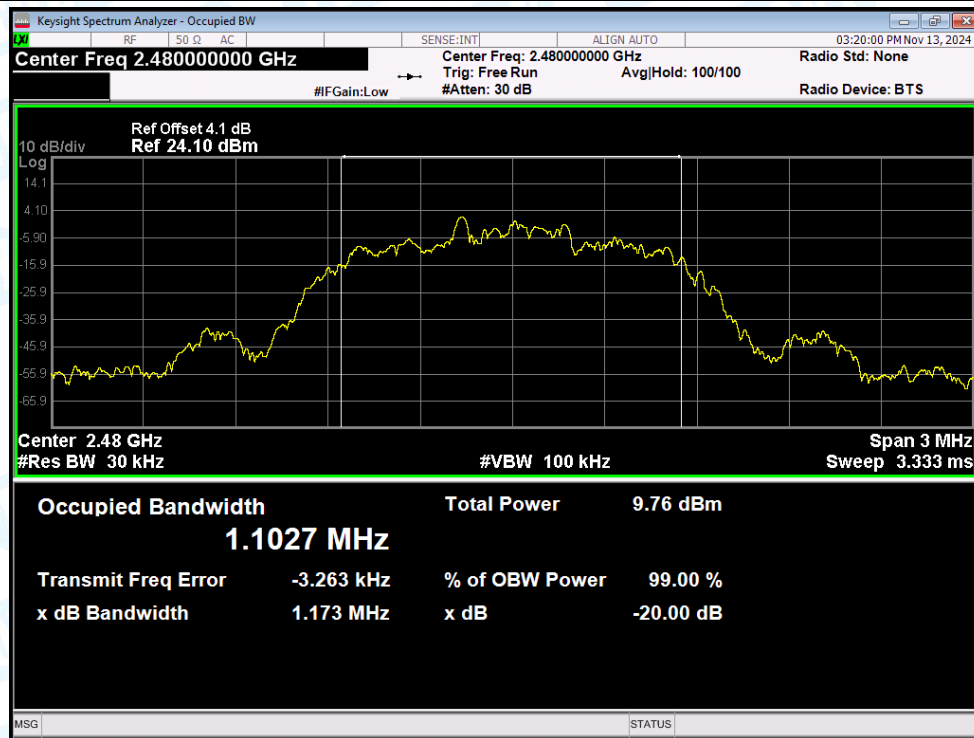
OBW NVNT 2-DH1 2402MHz Ant1



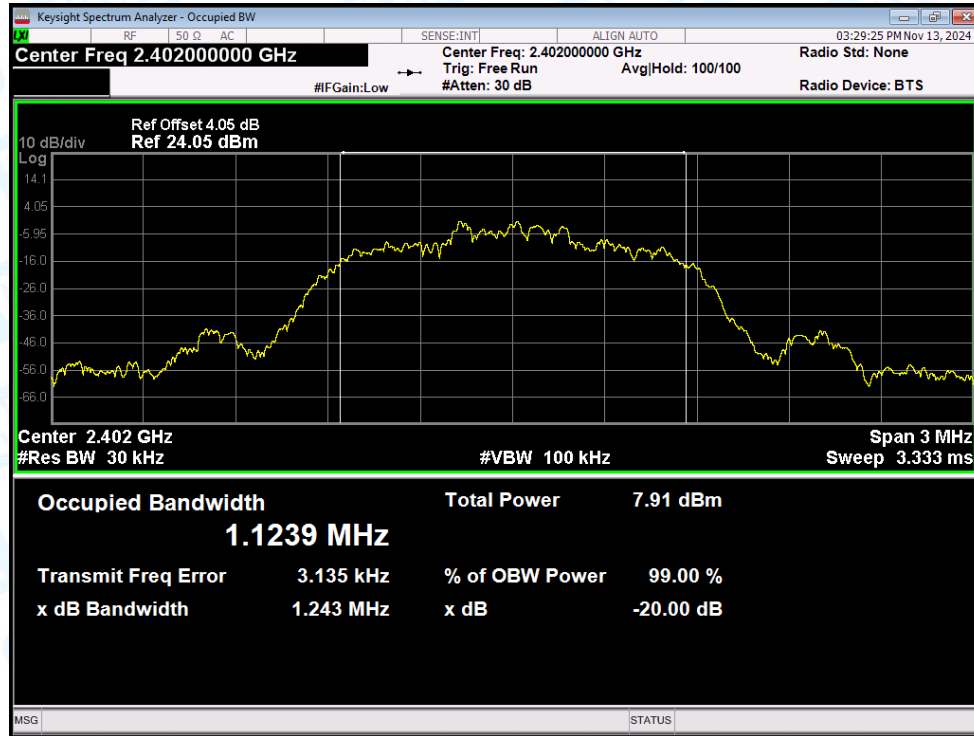
OBW NVNT 2-DH1 2441MHz Ant1



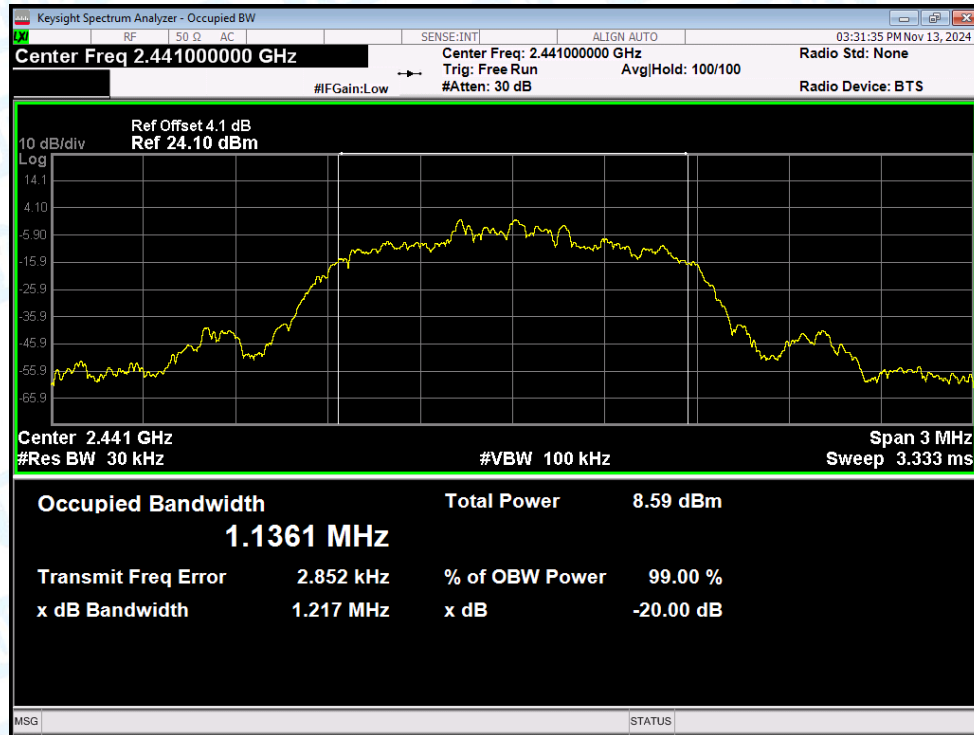
OBW NVNT 2-DH1 2480MHz Ant1

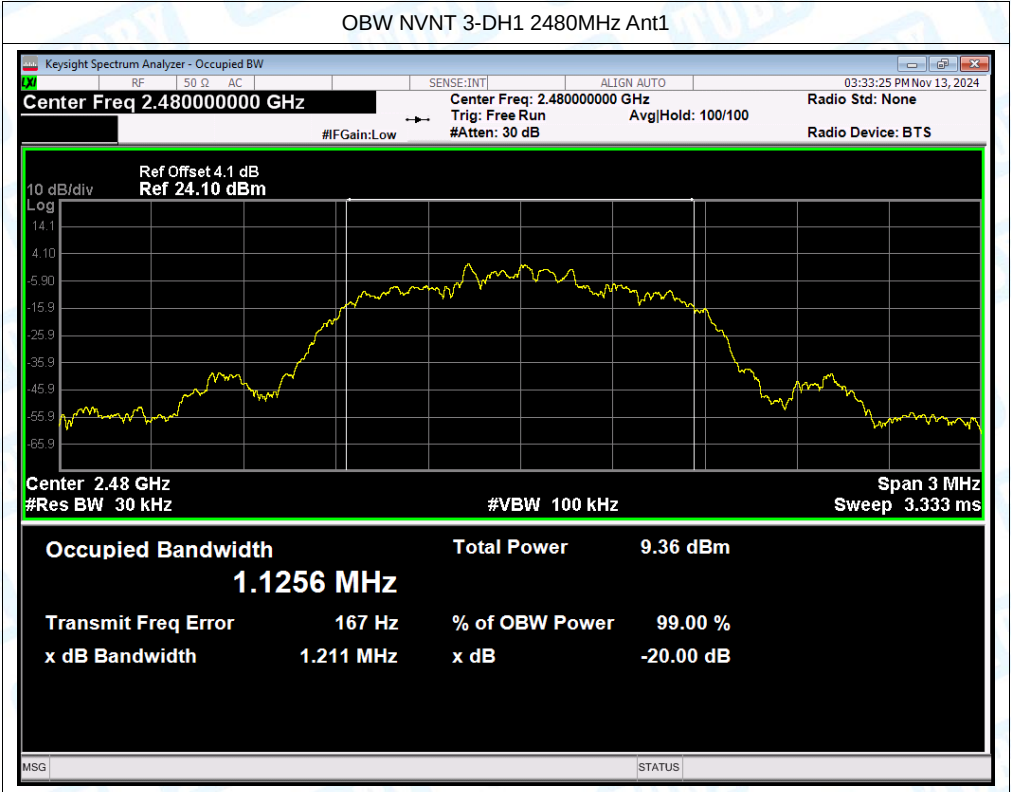


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



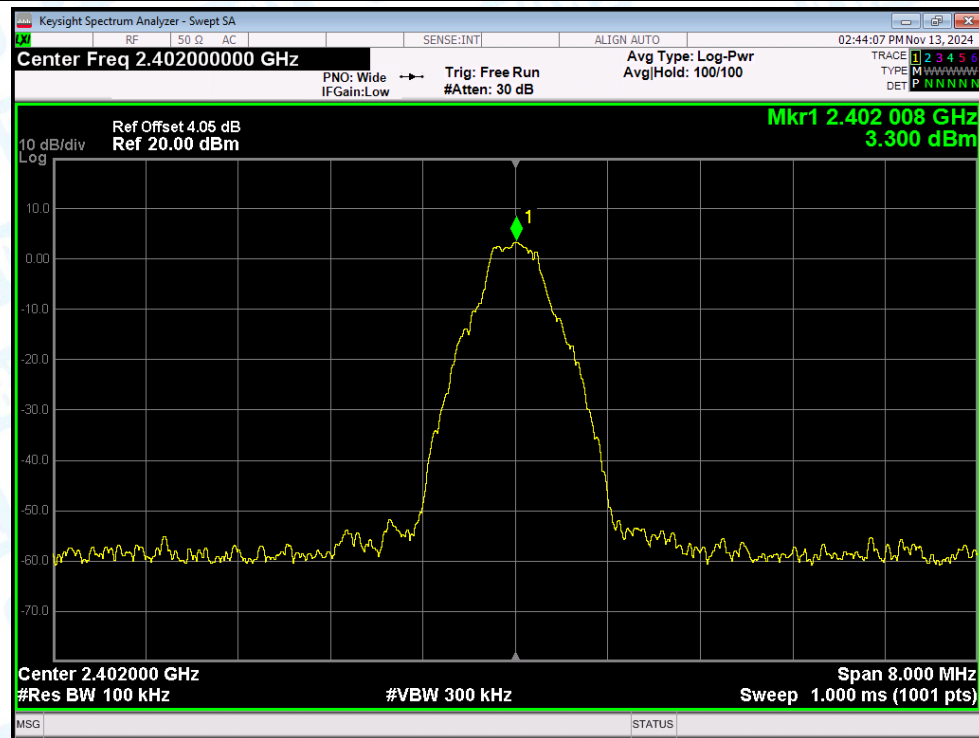


5.Band Edge

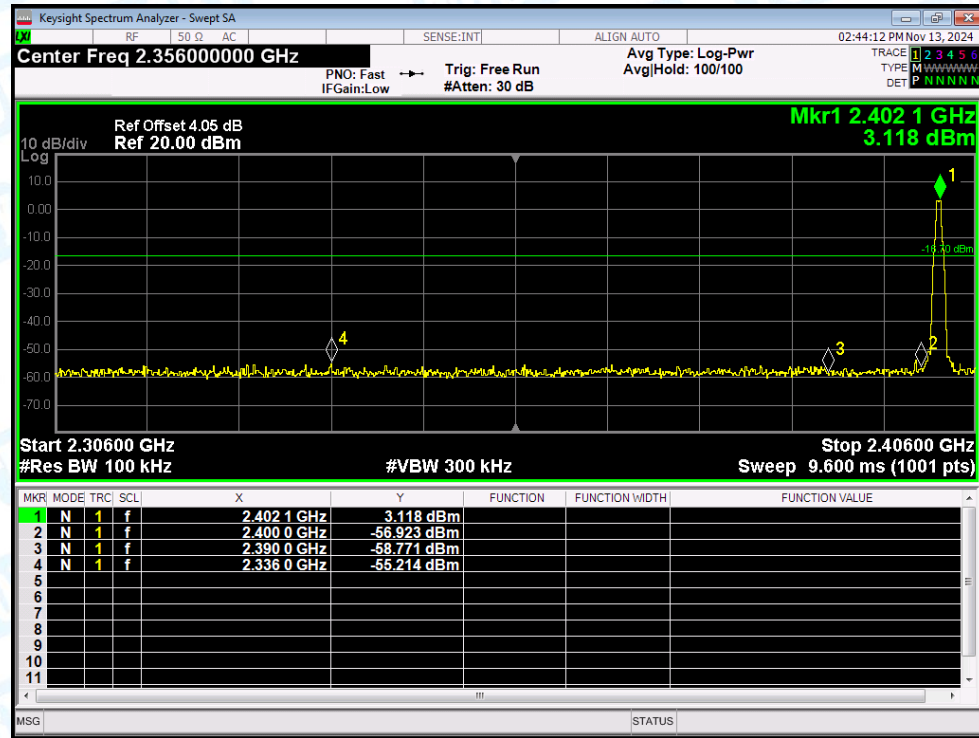
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-58.51	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-59.53	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-58.04	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-58.4	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-58.07	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-59.42	-20	Pass

Test Graphs

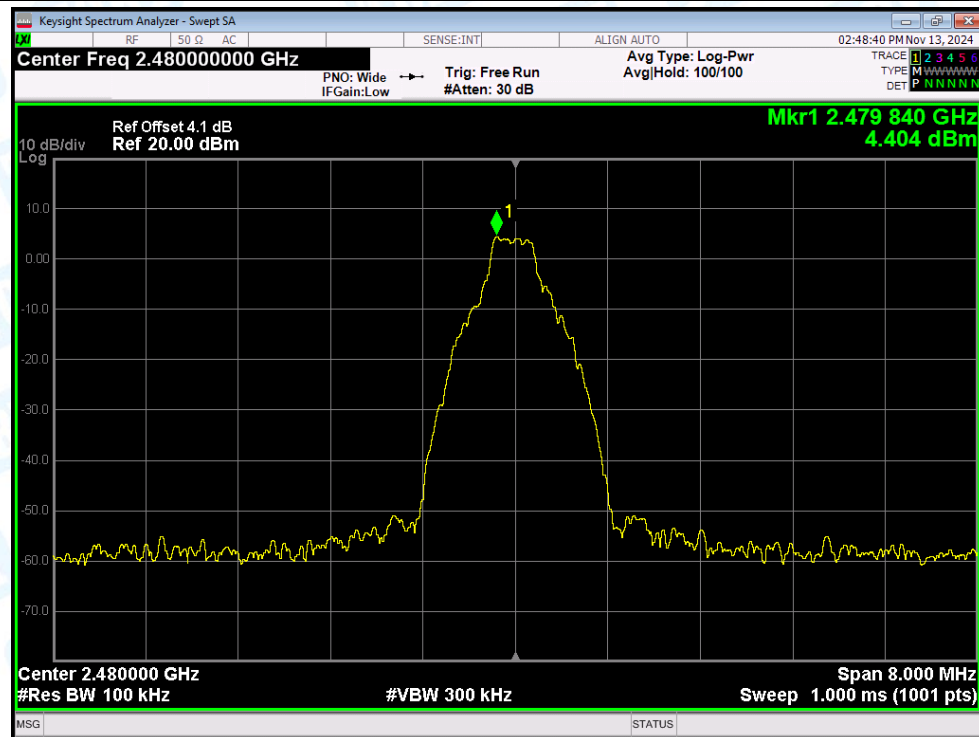
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



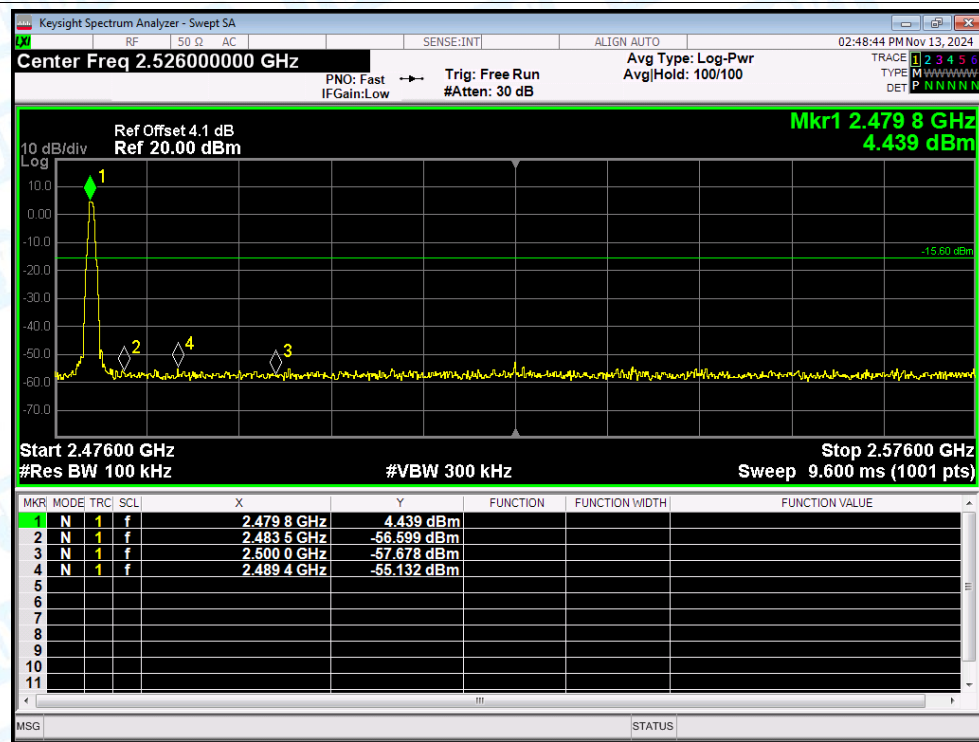
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



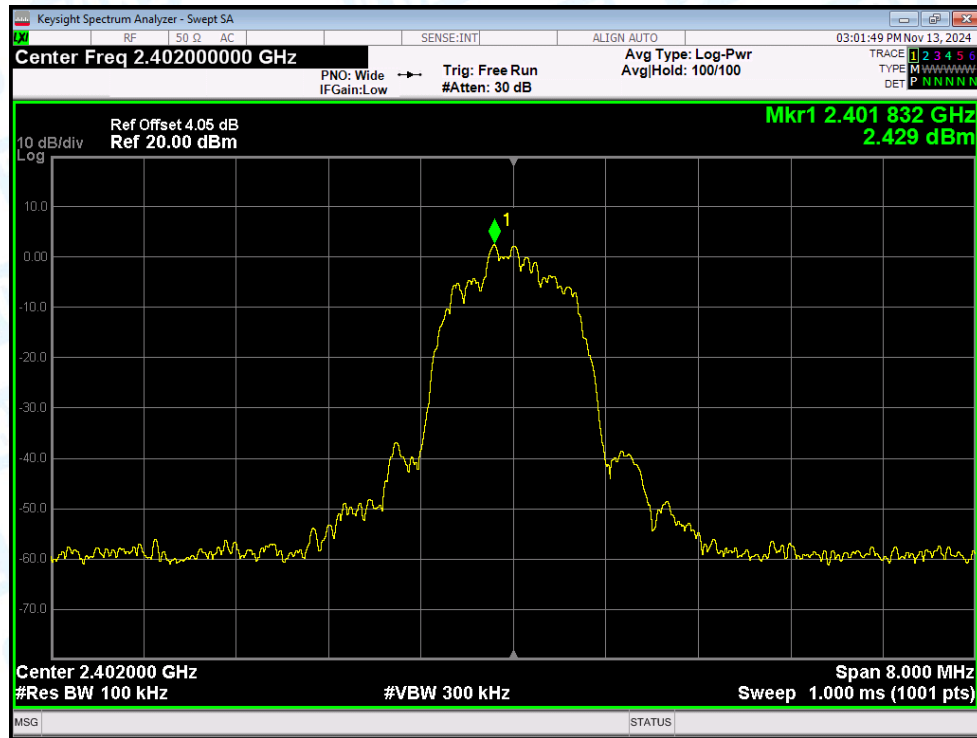
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



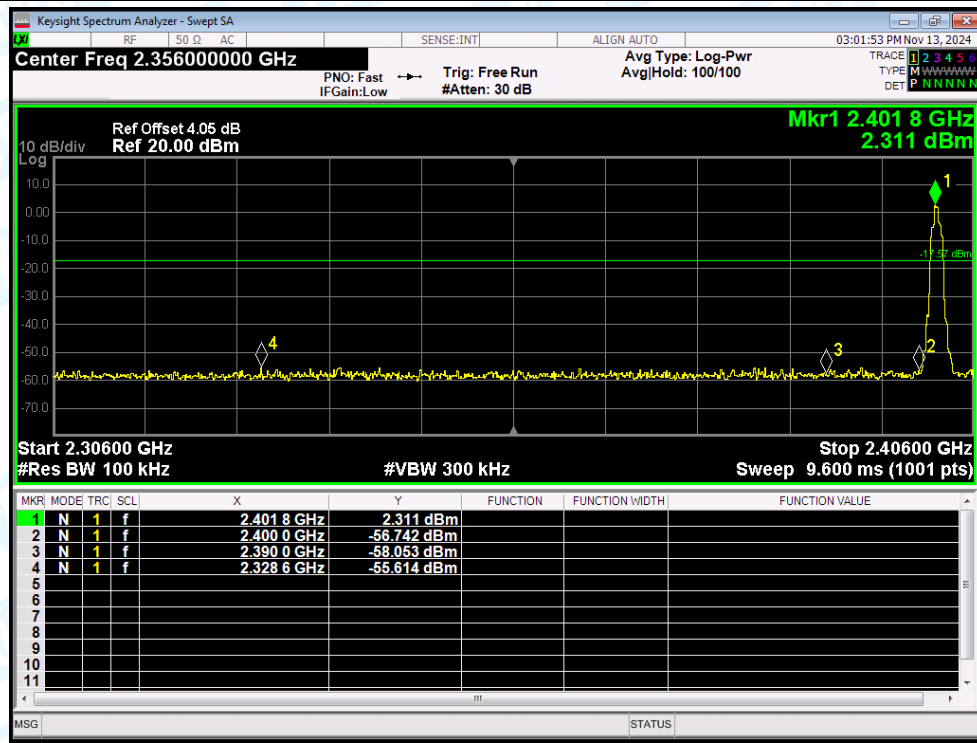
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



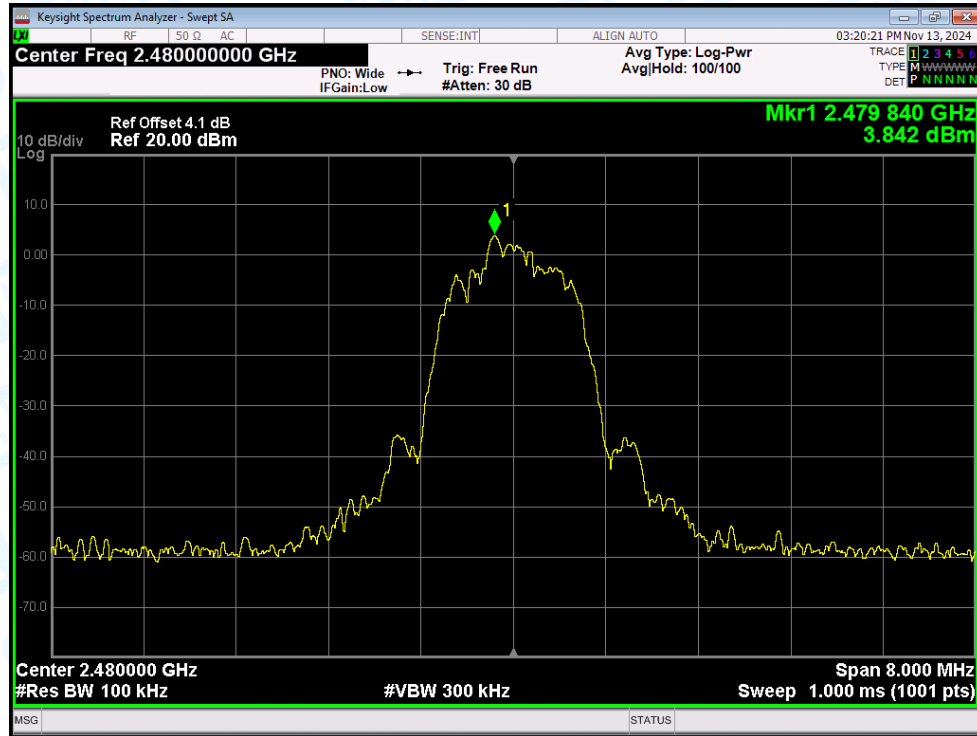
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



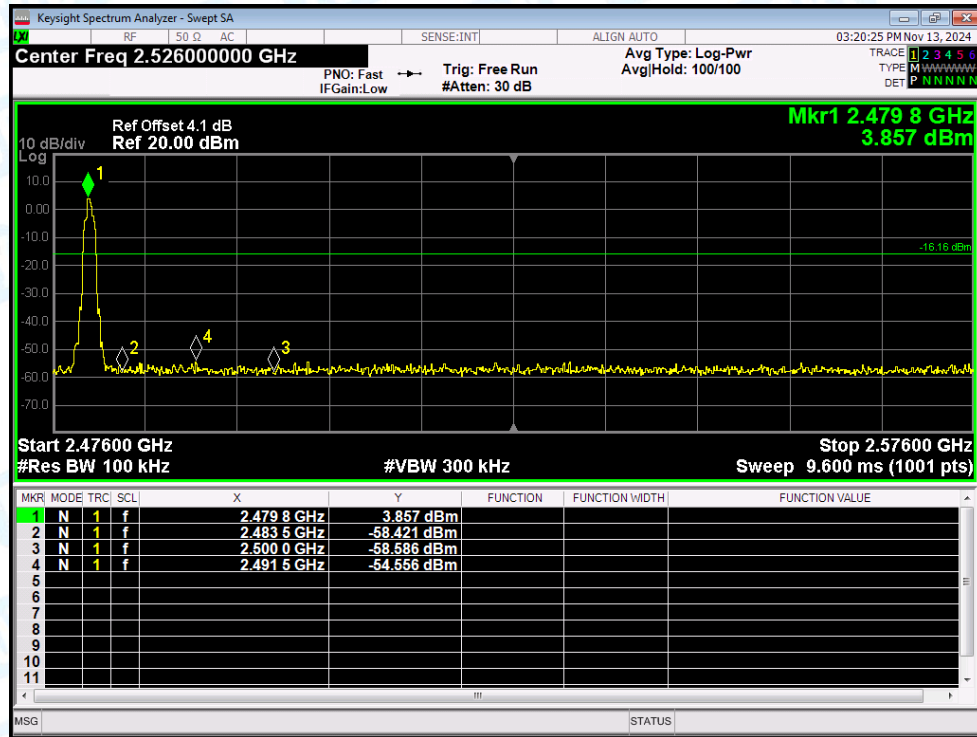
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



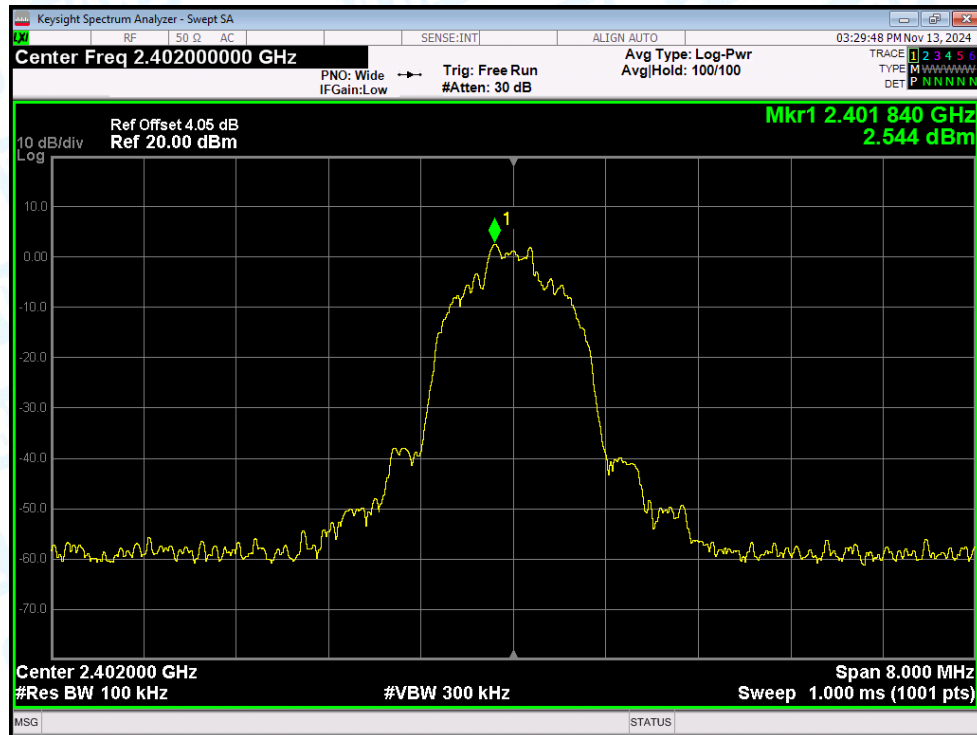
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



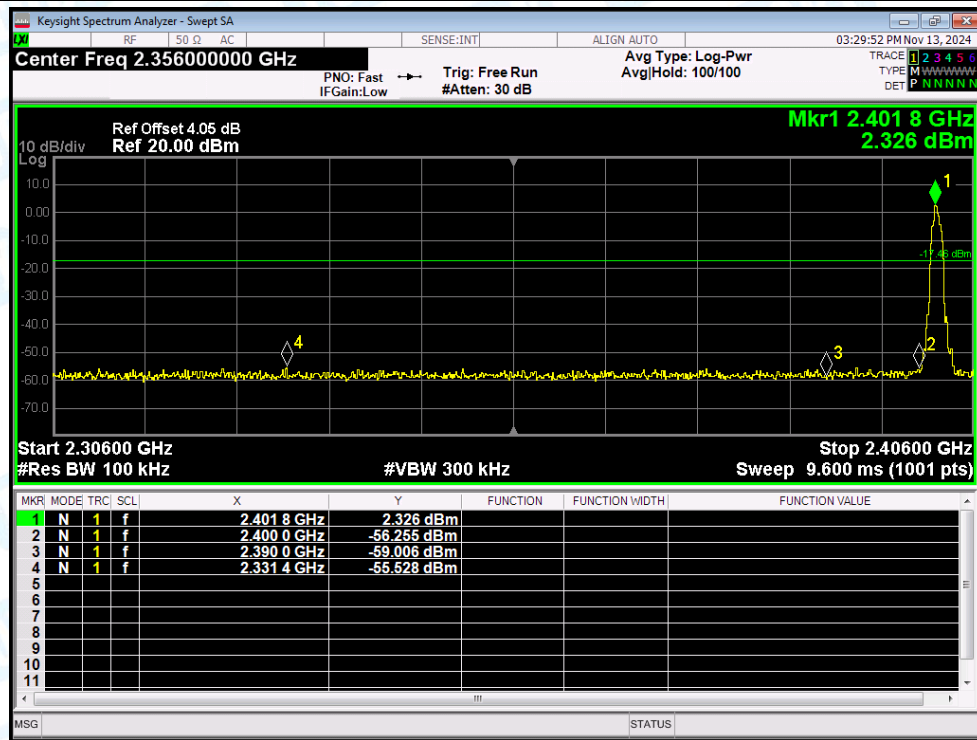
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



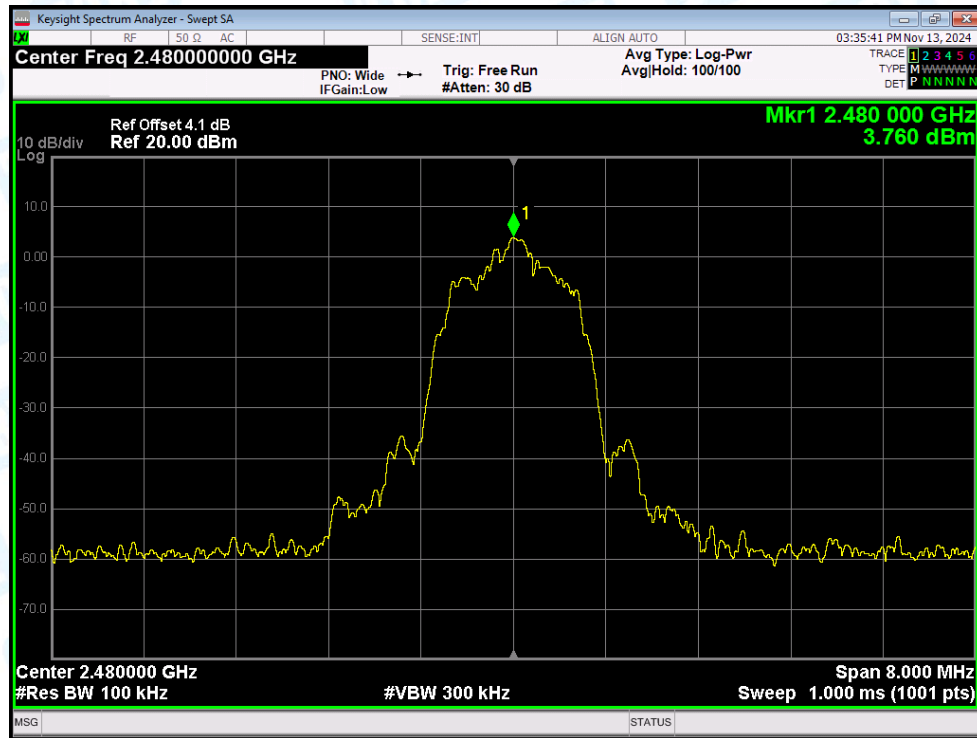
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



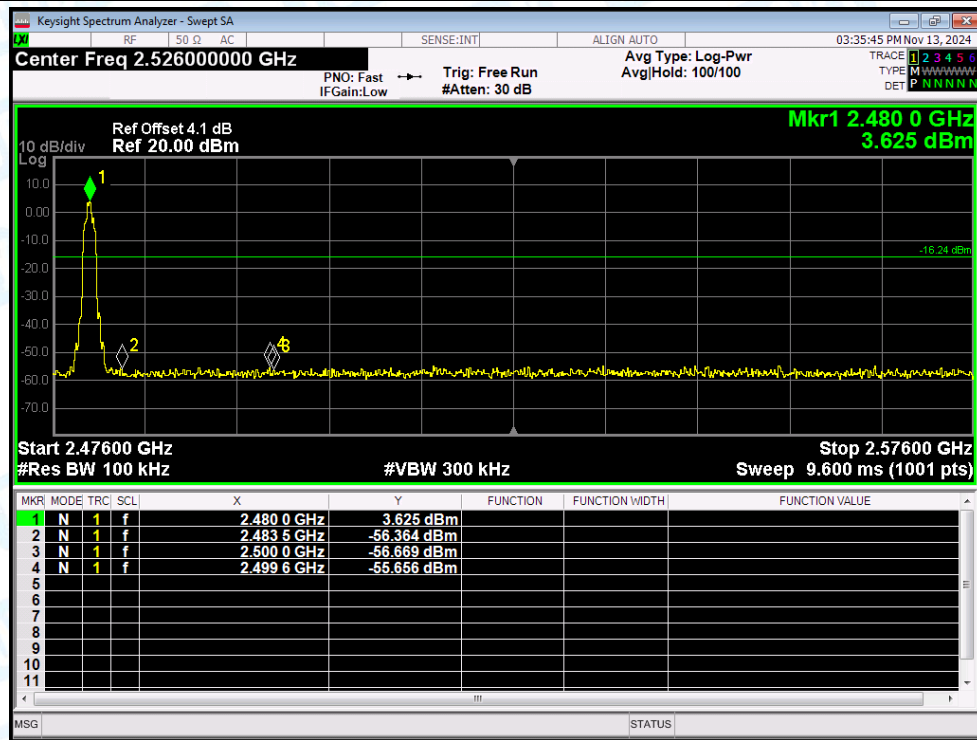
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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

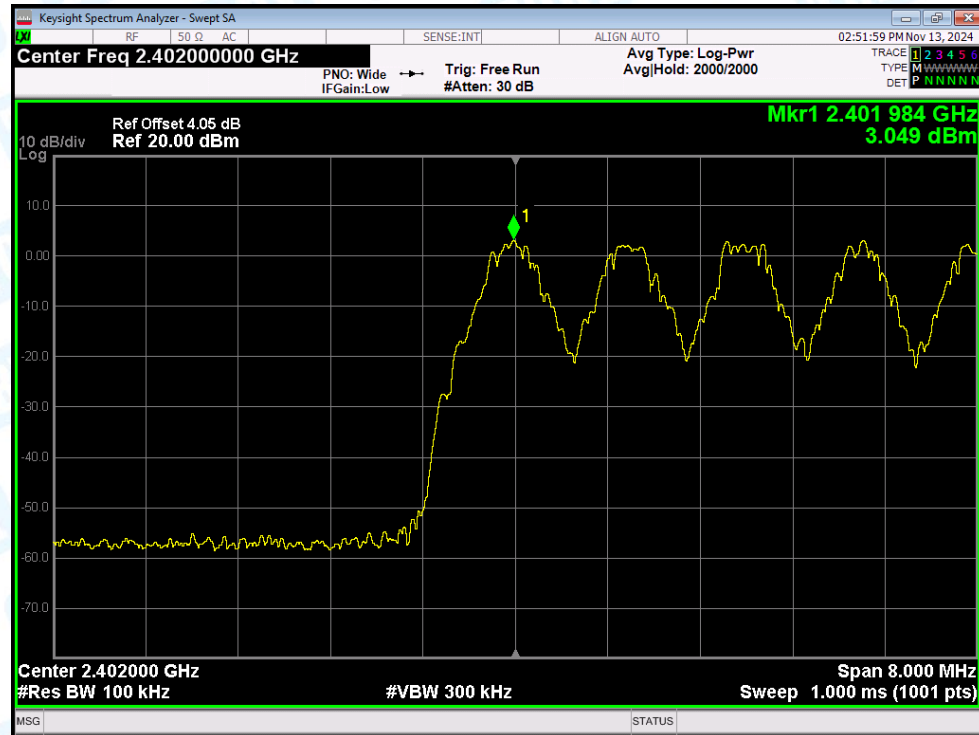


6.Band Edge(Hopping)

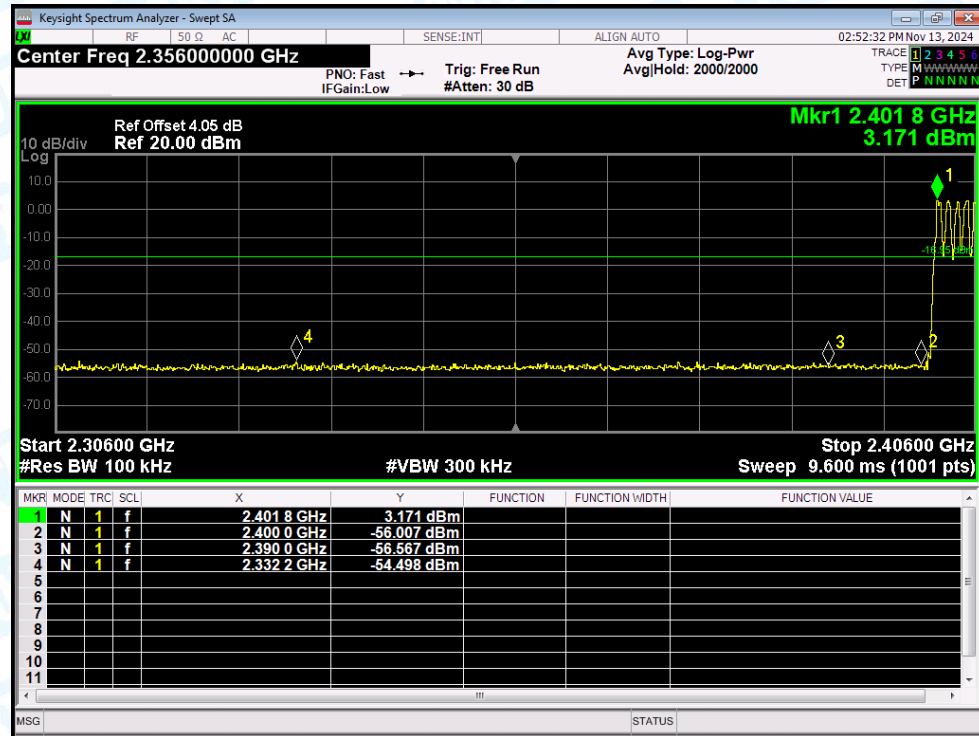
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-57.55	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-58.91	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-56.49	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-44.92	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-56.41	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-57.61	-20	Pass

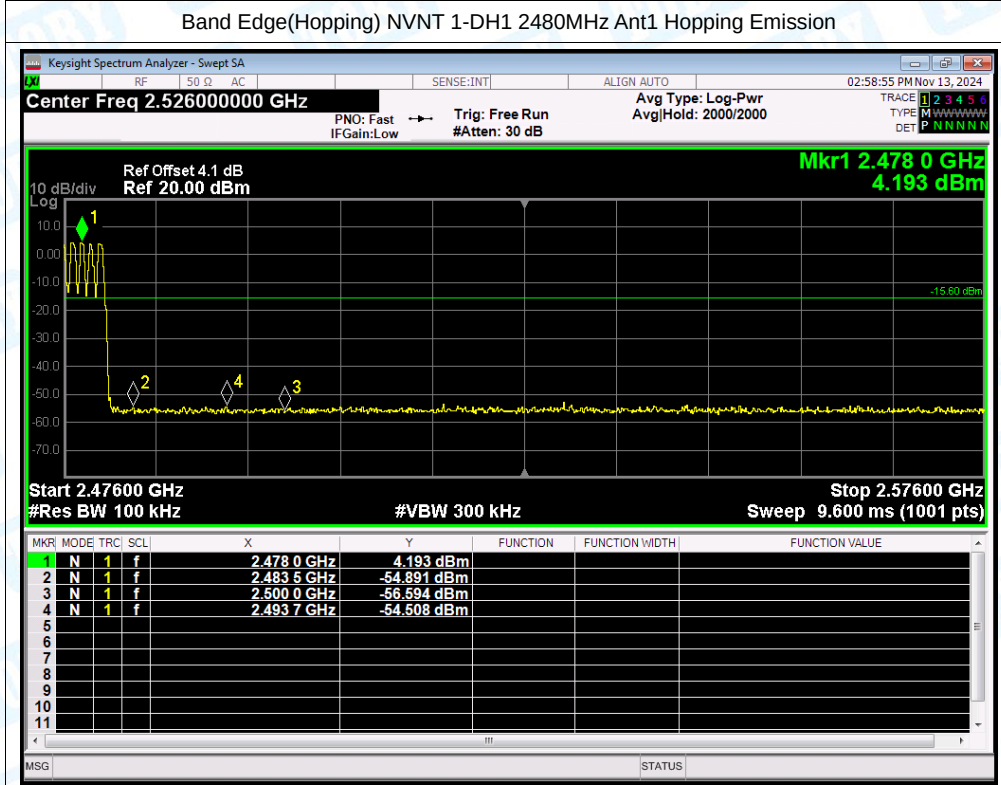
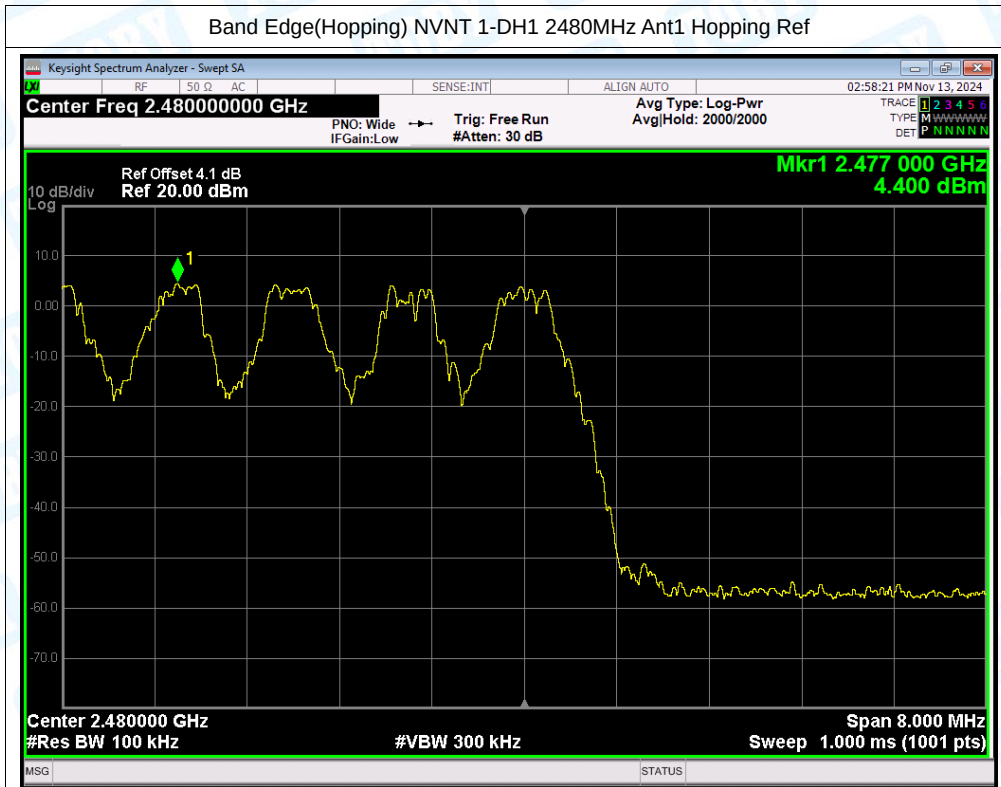
Test Graphs

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



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

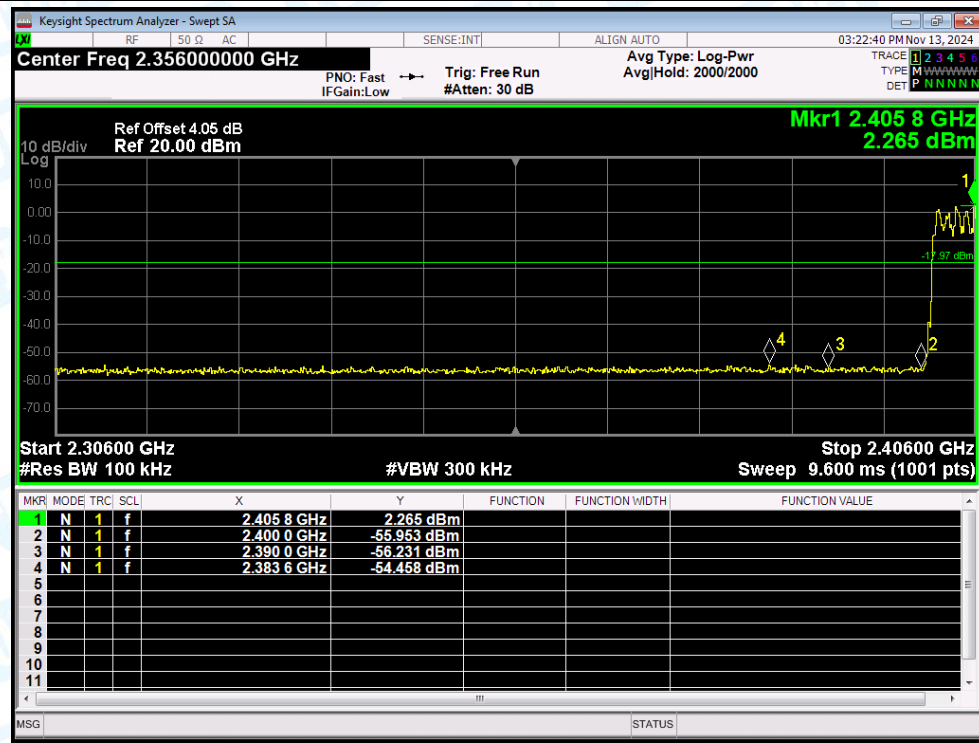


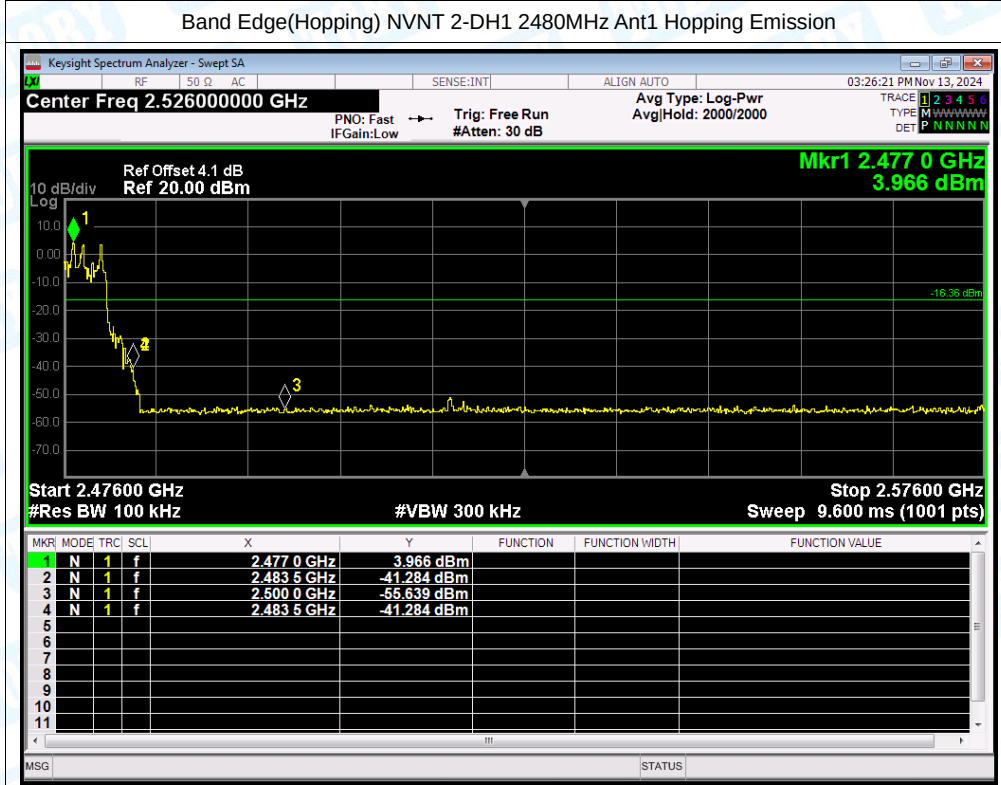


Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



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

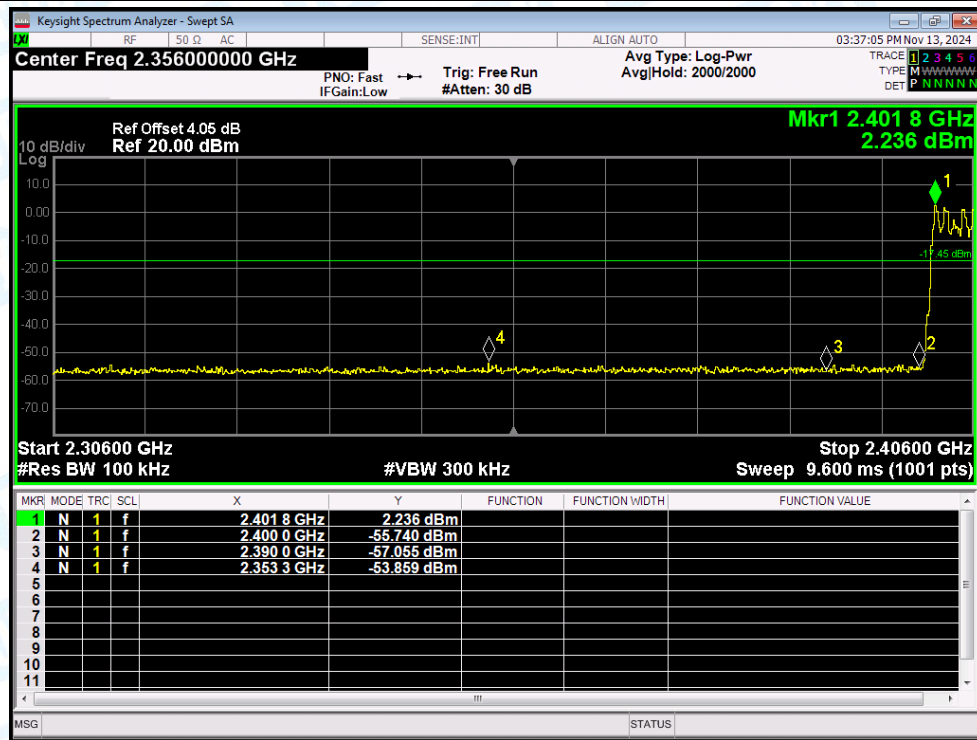


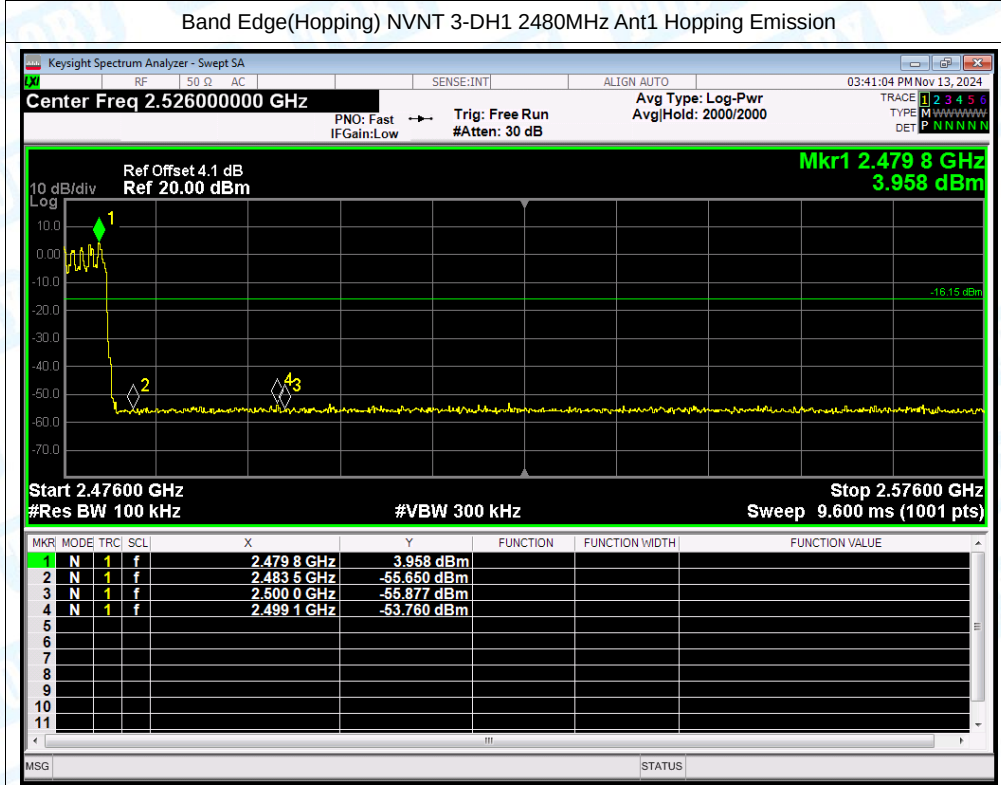


Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



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



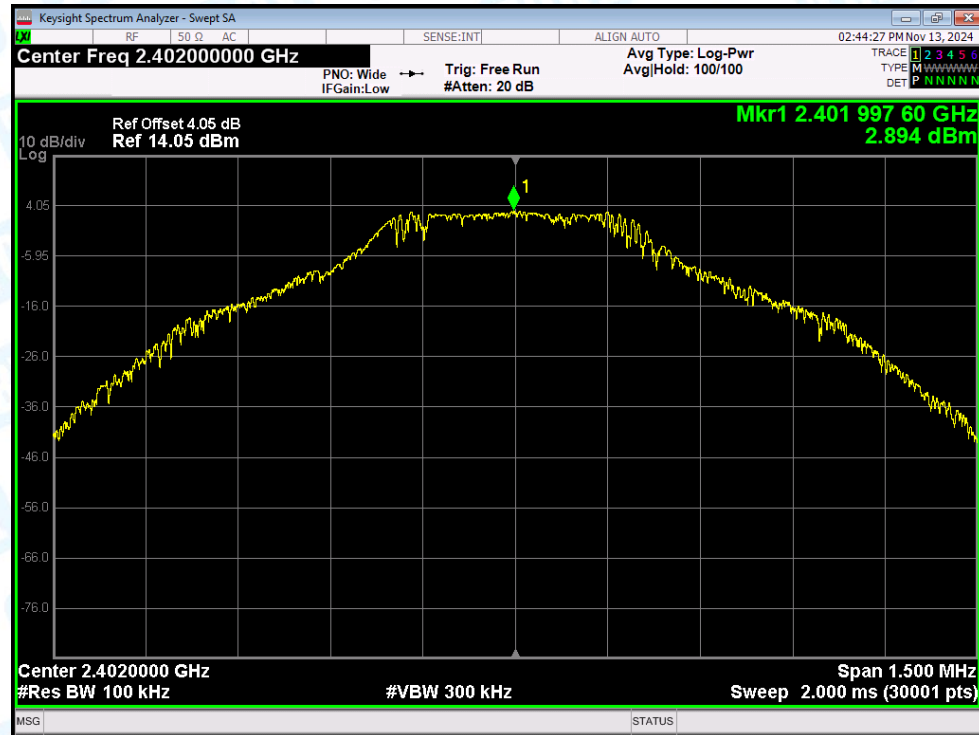


7. Conducted RF Spurious Emission

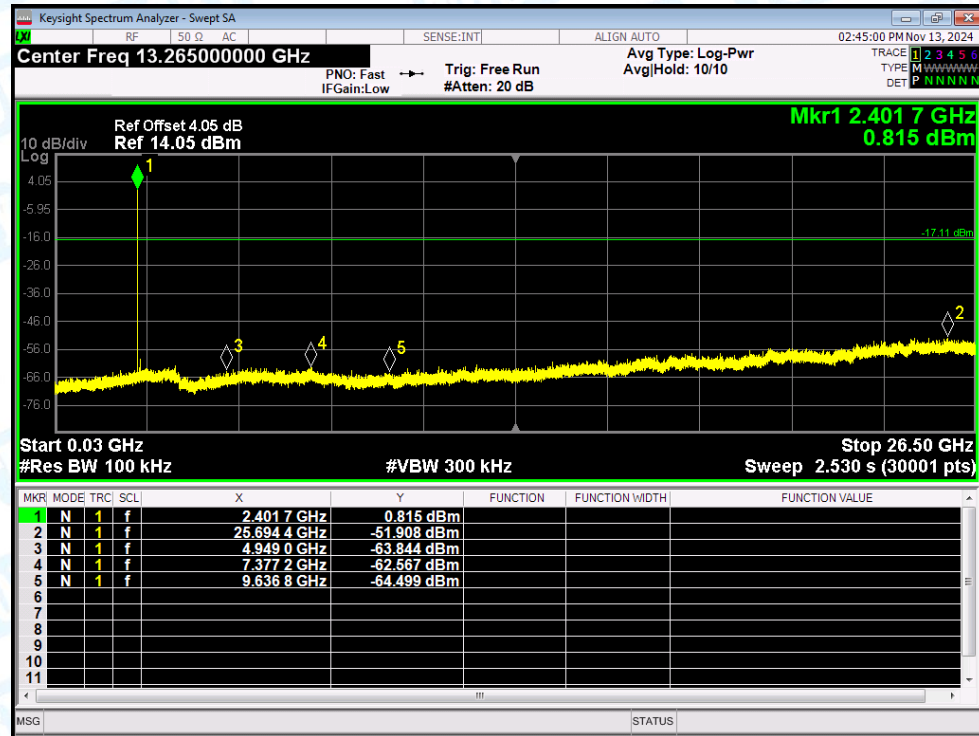
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-54.8	-20	Pass
NVNT	1-DH1	2441	Ant1	-55.21	-20	Pass
NVNT	1-DH1	2480	Ant1	-56.56	-20	Pass
NVNT	2-DH1	2402	Ant1	-54.01	-20	Pass
NVNT	2-DH1	2441	Ant1	-55.14	-20	Pass
NVNT	2-DH1	2480	Ant1	-55.82	-20	Pass
NVNT	3-DH1	2402	Ant1	-54.25	-20	Pass
NVNT	3-DH1	2441	Ant1	-55.07	-20	Pass
NVNT	3-DH1	2480	Ant1	-55.76	-20	Pass

Test Graphs

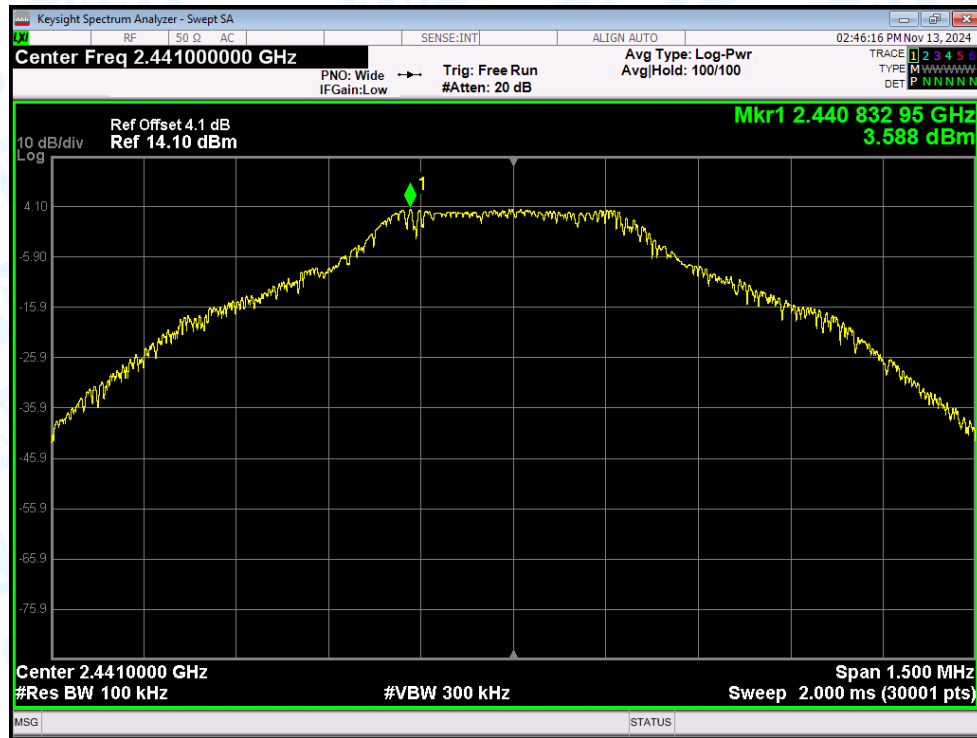
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



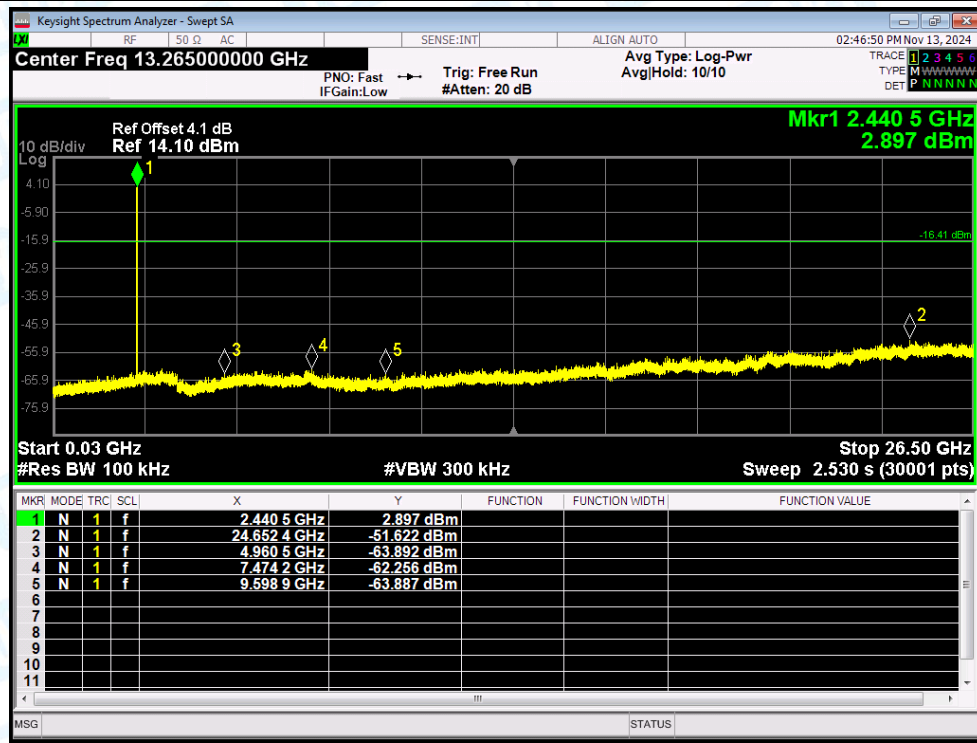
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



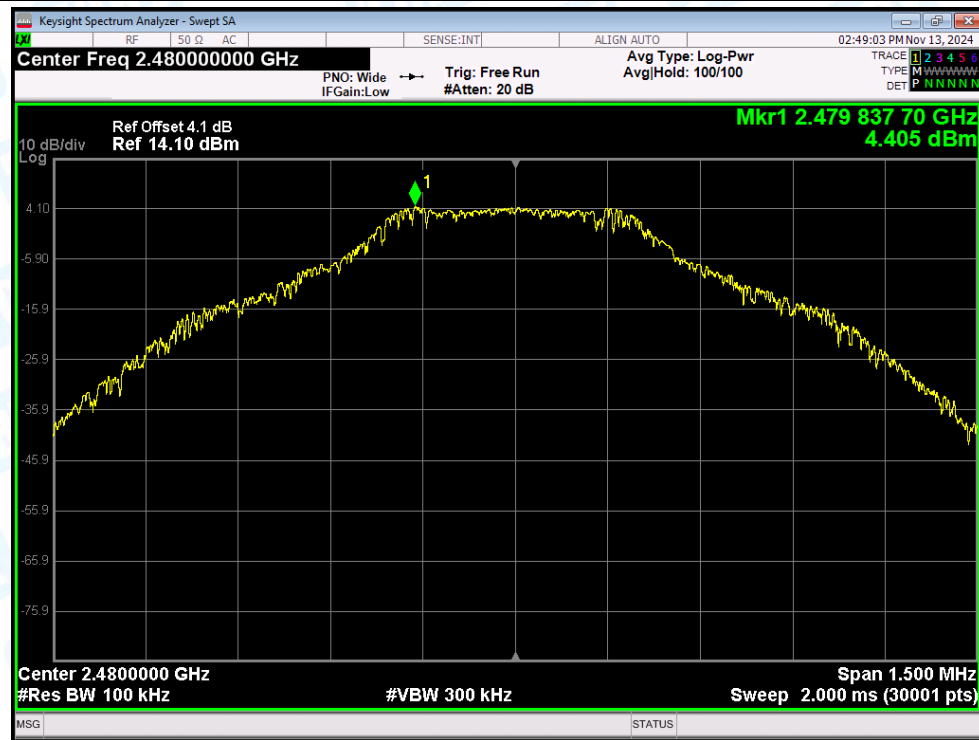
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



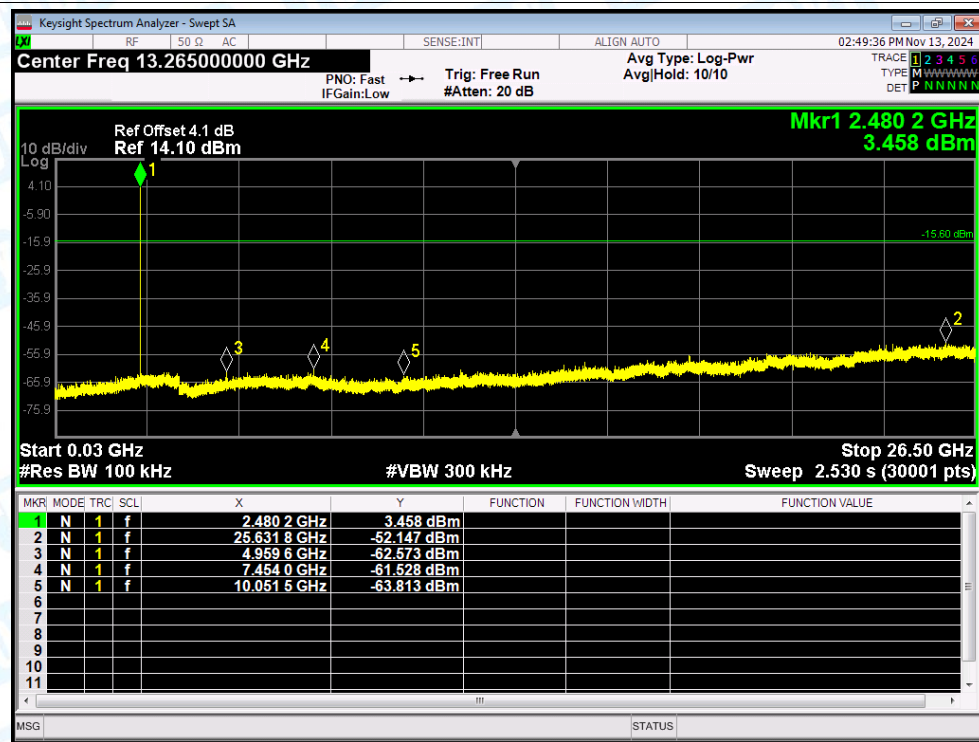
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



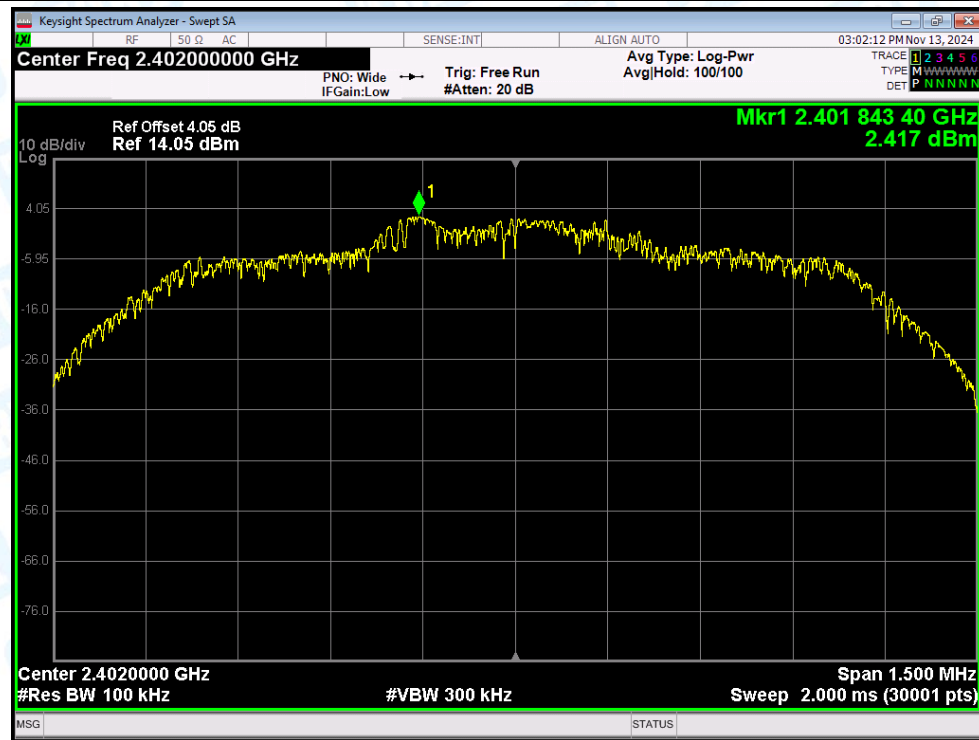
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



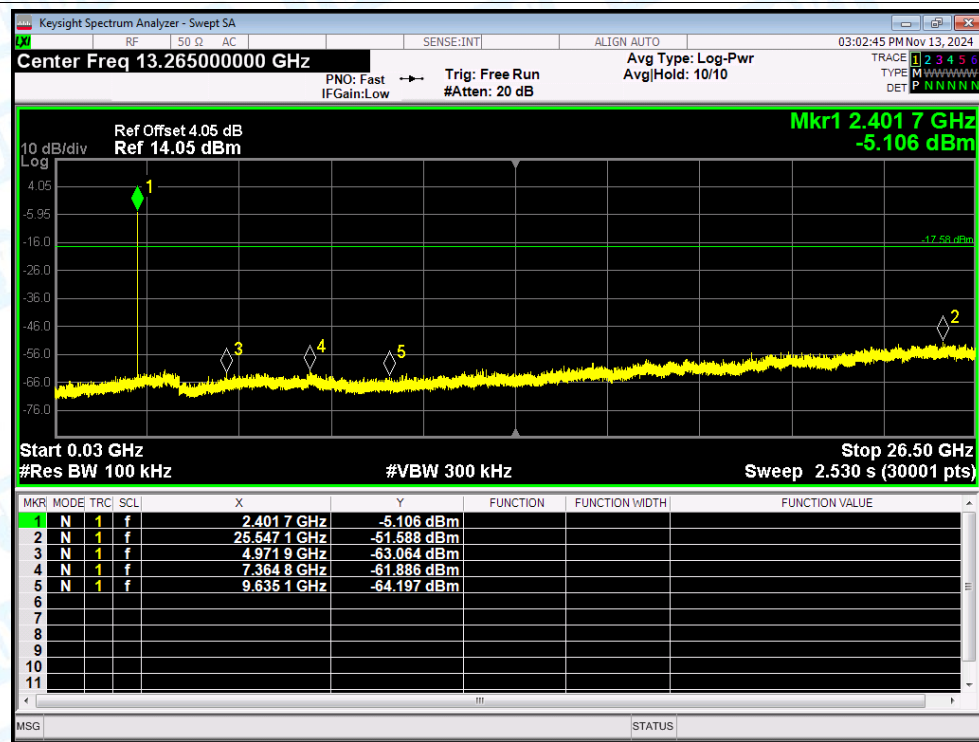
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



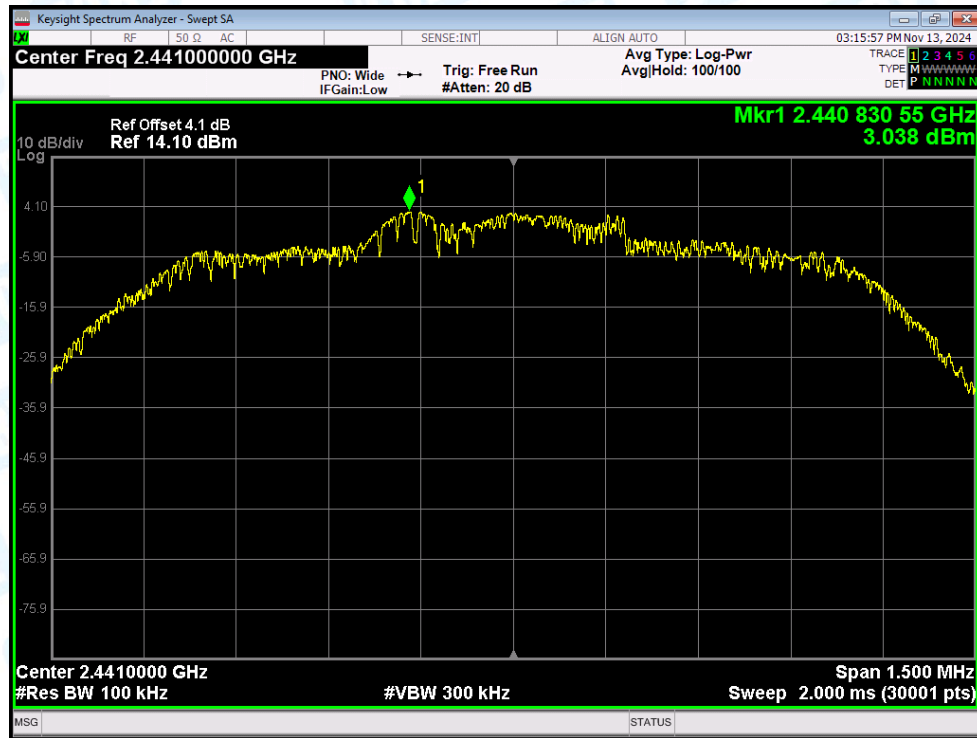
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



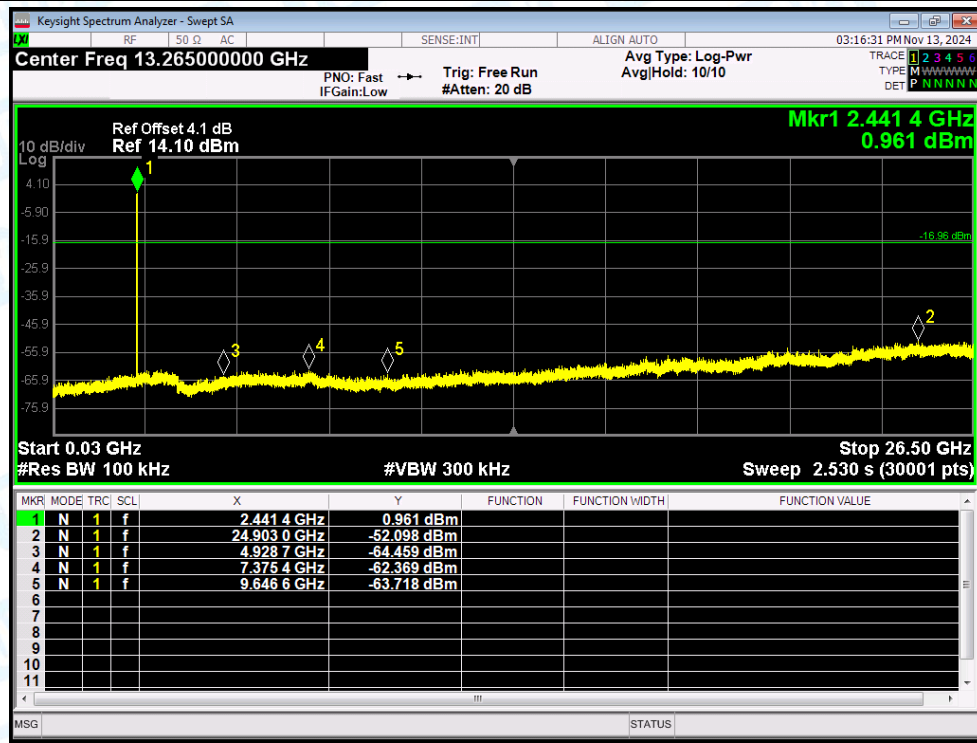
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



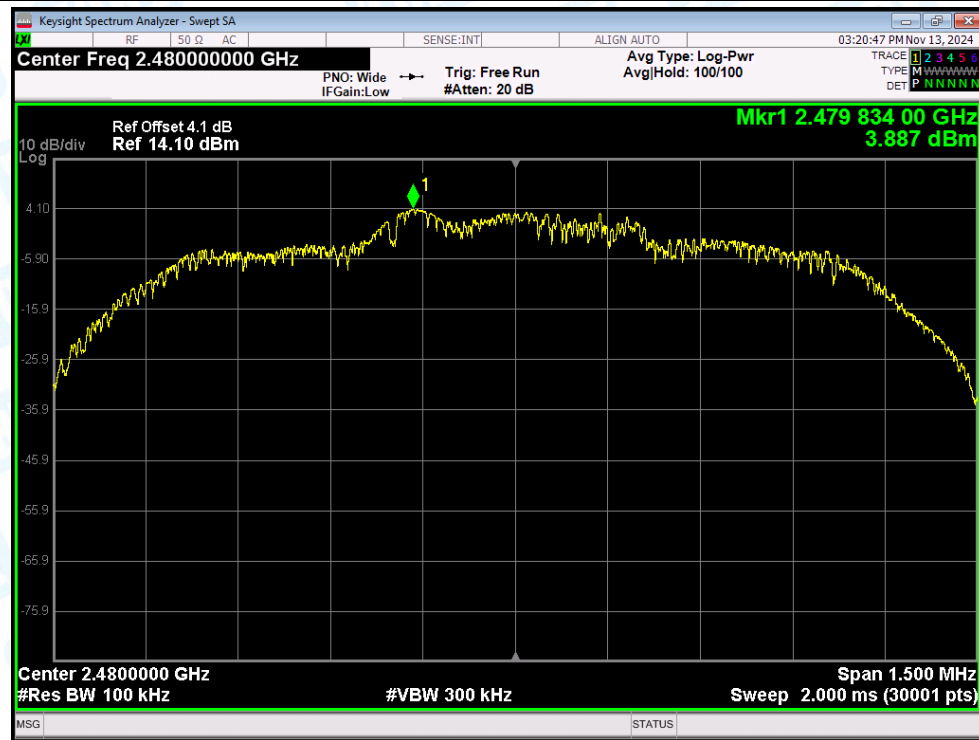
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



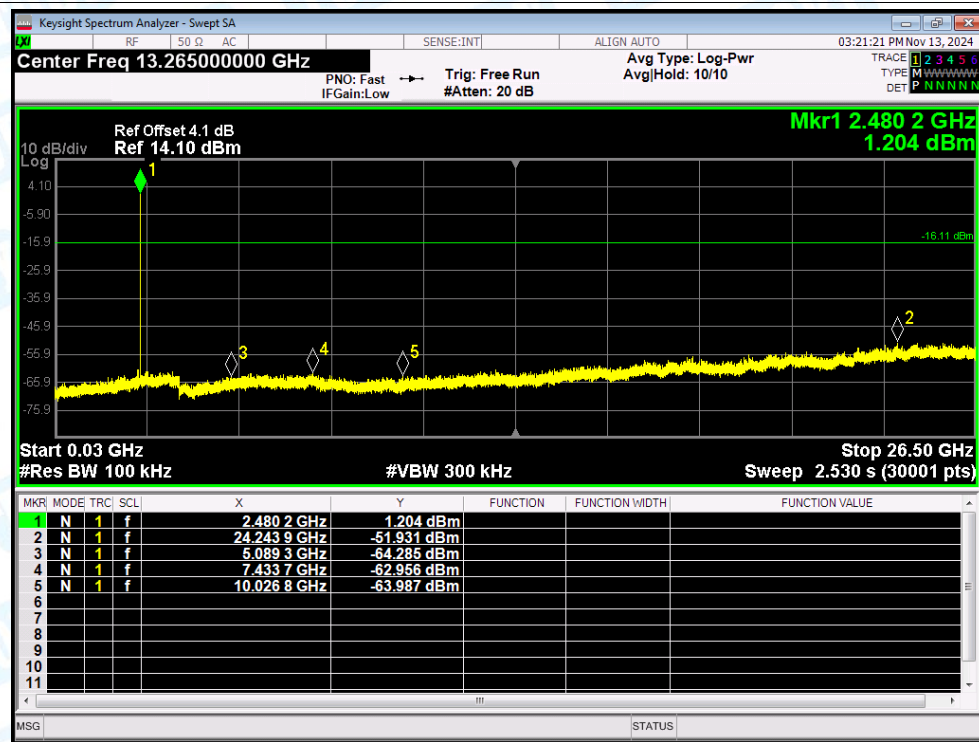
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



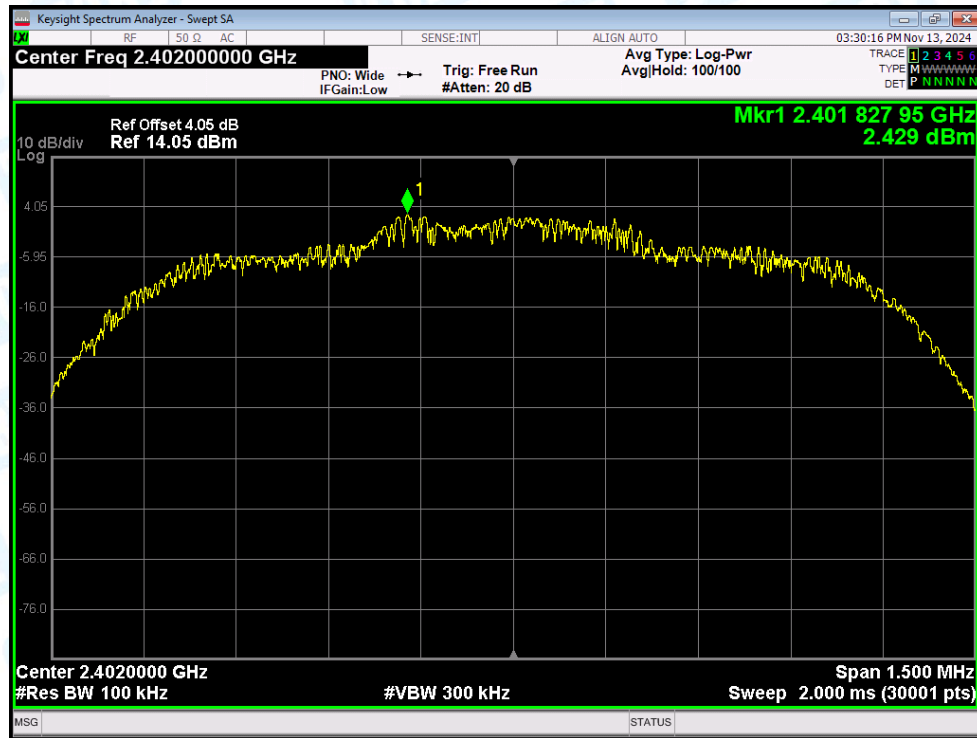
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



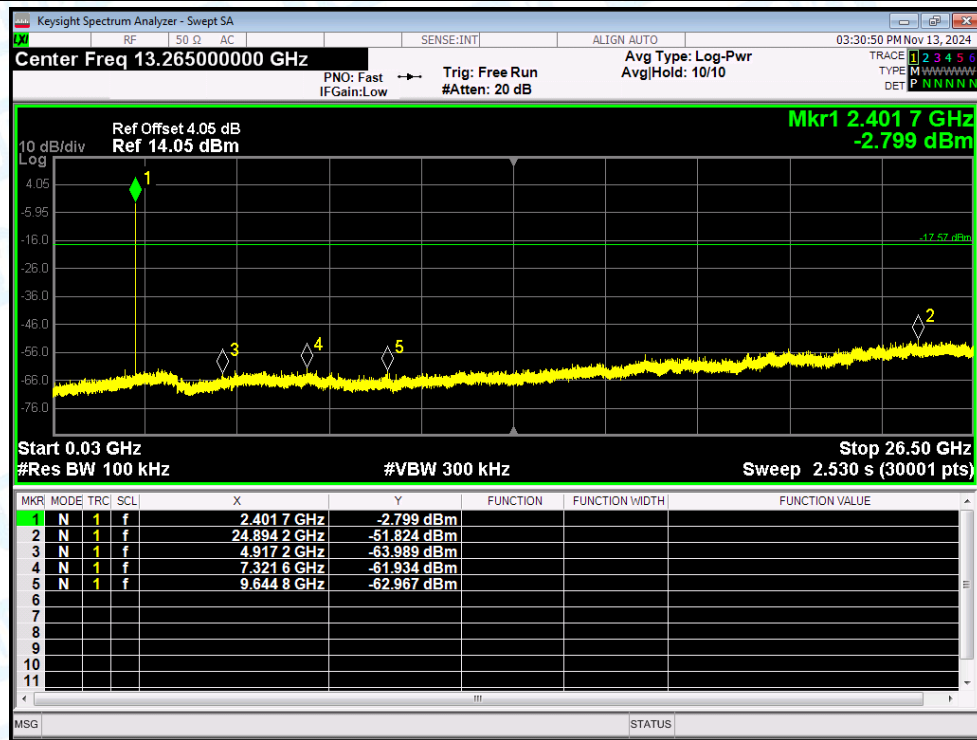
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



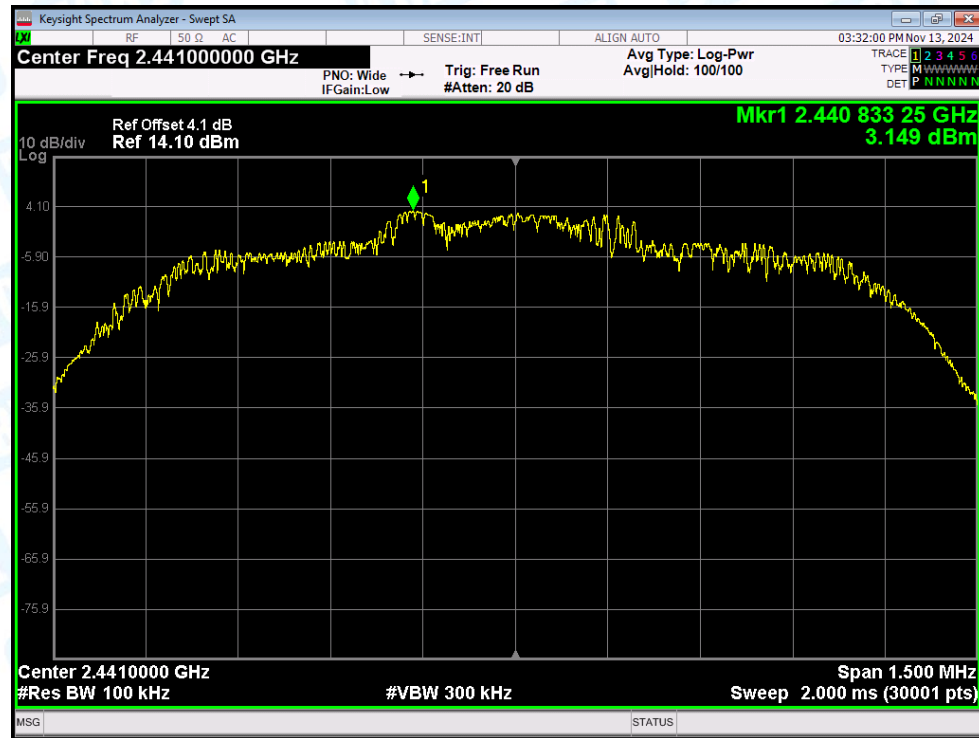
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



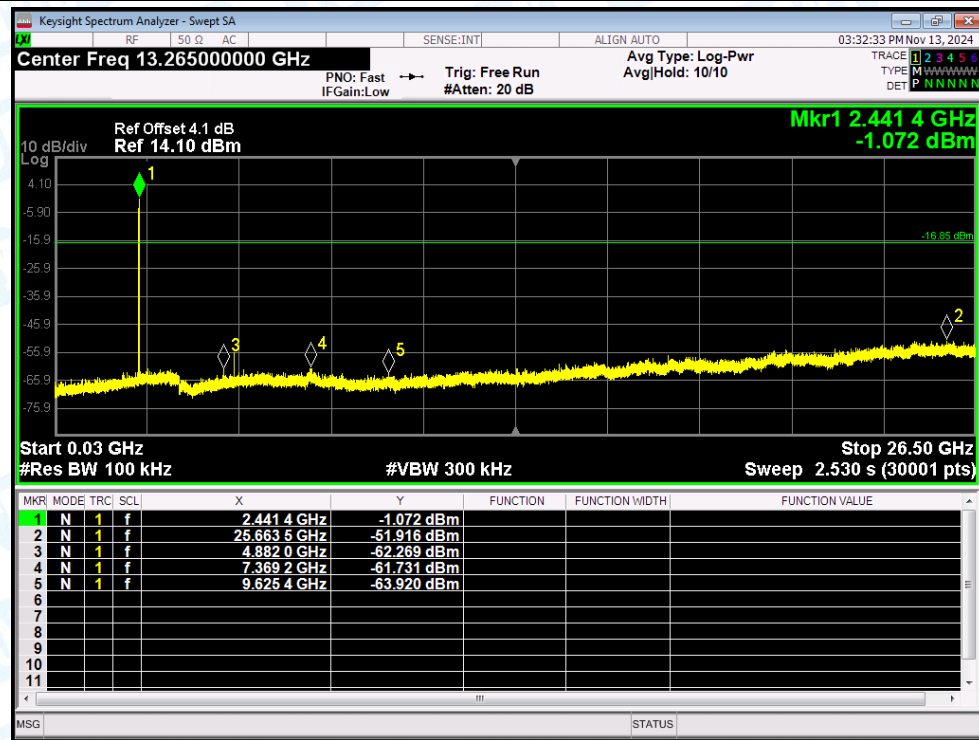
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



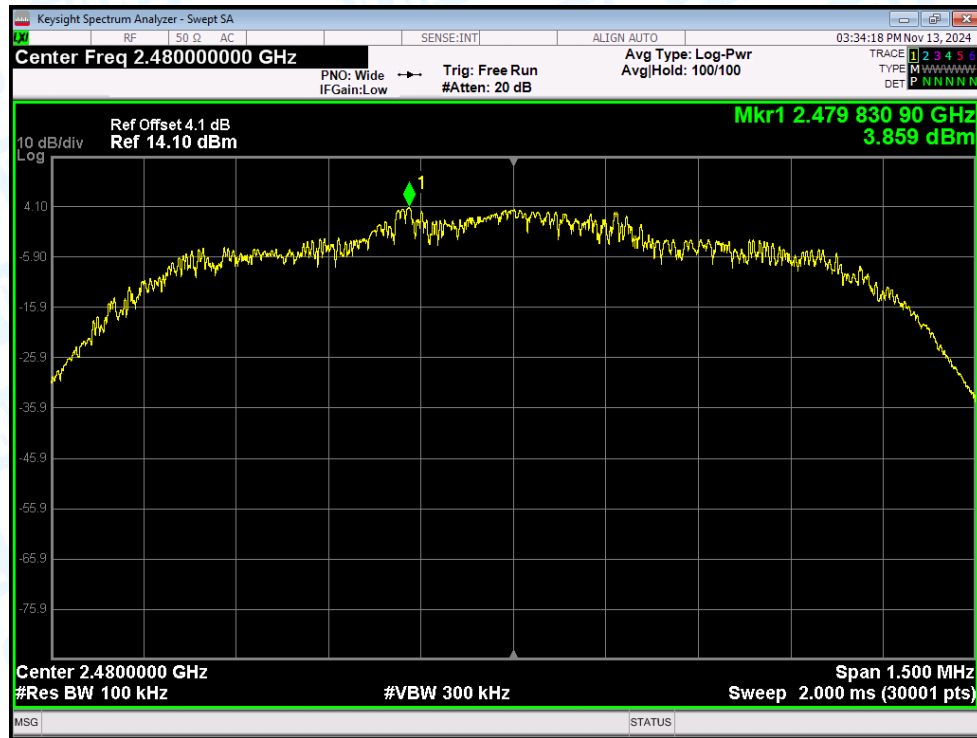
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



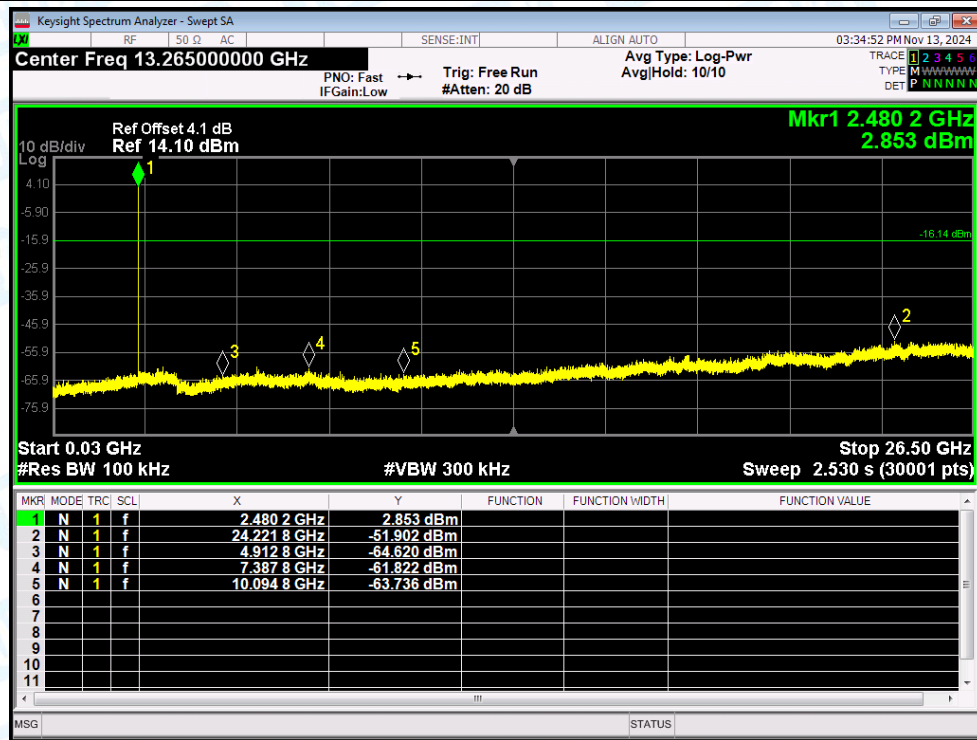
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

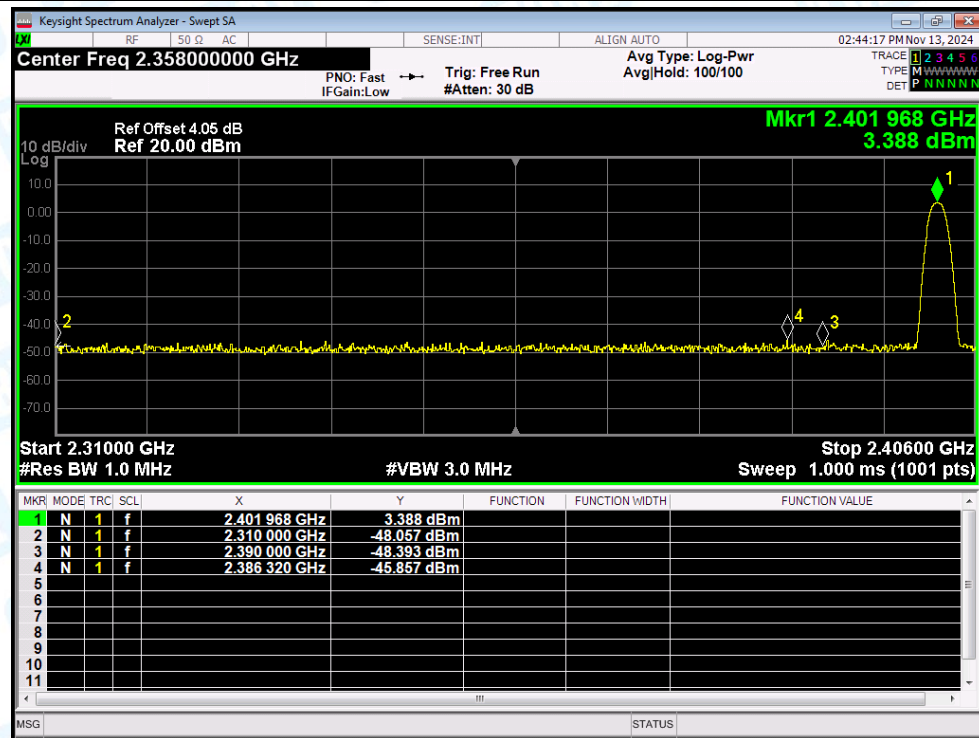


8.Restrict Band

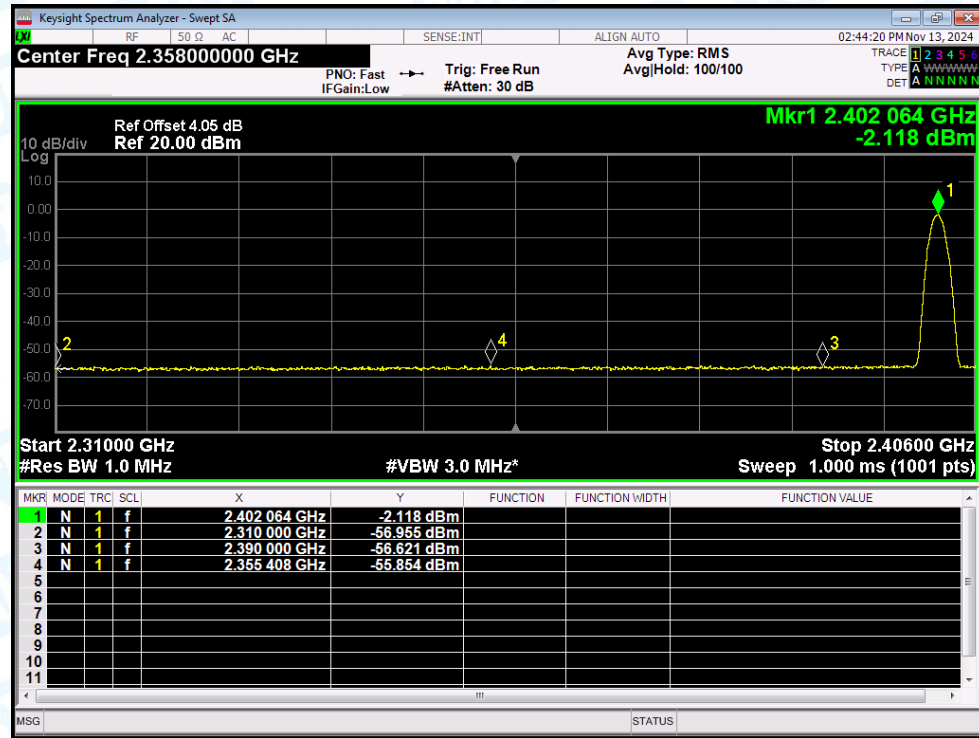
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-48.06	2	-	49.2	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.96	2	5.17	45.47	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2386.32	-45.86	2	-	51.4	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2355.408	-55.85	2	5.17	46.58	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.39	2	-	48.87	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.62	2	5.17	45.81	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-49.25	2	-	48.01	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-56.21	2	5.17	46.22	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2494.72	-45.06	2	-	52.2	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2494.672	-55.28	2	5.17	47.15	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.89	2	-	49.37	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-56.44	2	5.17	45.99	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.73	2	-	48.53	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-57.04	2	5.06	45.28	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2353.488	-45.57	2	-	51.69	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2389.488	-55.67	2	5.06	46.65	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-48.65	2	-	48.61	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-56.69	2	5.06	45.63	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-47.99	2	-	49.27	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.31	2	5.17	47.12	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2491.84	-45.12	2	-	52.14	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2494.048	-55.25	2	5.17	47.18	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.97	2	-	49.29	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-56.29	2	5.17	46.14	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-50.12	2	-	47.14	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.9	2	5.06	45.42	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2378.64	-45.9	2	-	51.36	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2386.608	-55.75	2	5.06	46.57	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-48.81	2	-	48.45	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-56.75	2	5.06	45.57	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-47.32	2	-	49.94	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-56.35	2	5.06	45.97	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2492.056	-43.8	2	-	53.46	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2485.696	-55.05	2	5.06	47.27	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.38	2	-	49.88	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-56	2	5.06	46.32	Average	54	Pass

Test Graphs

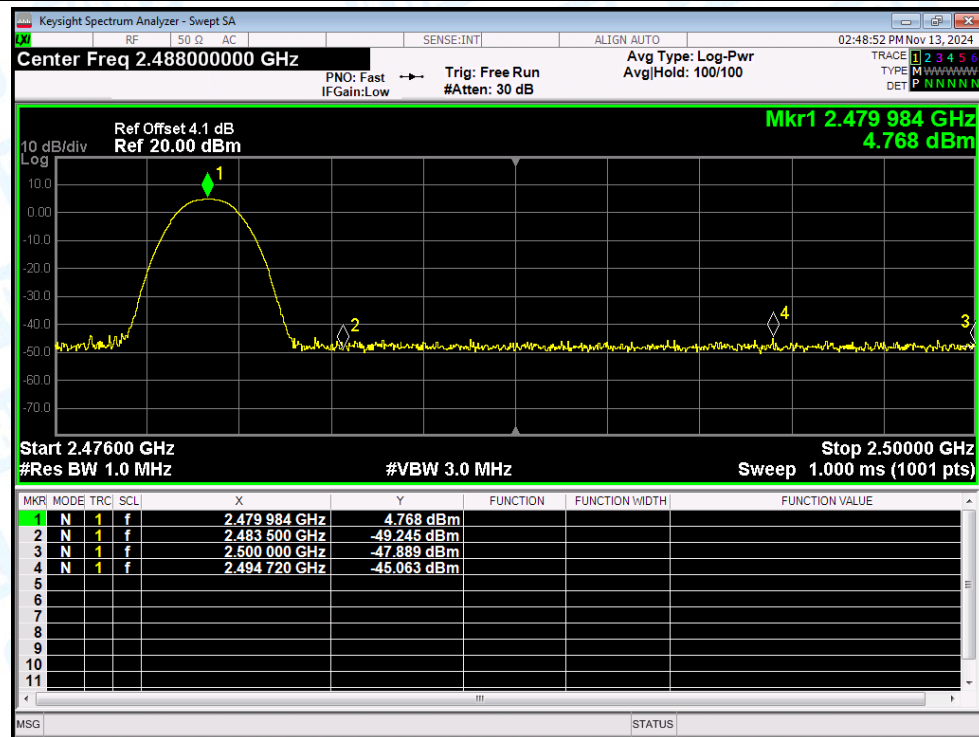
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



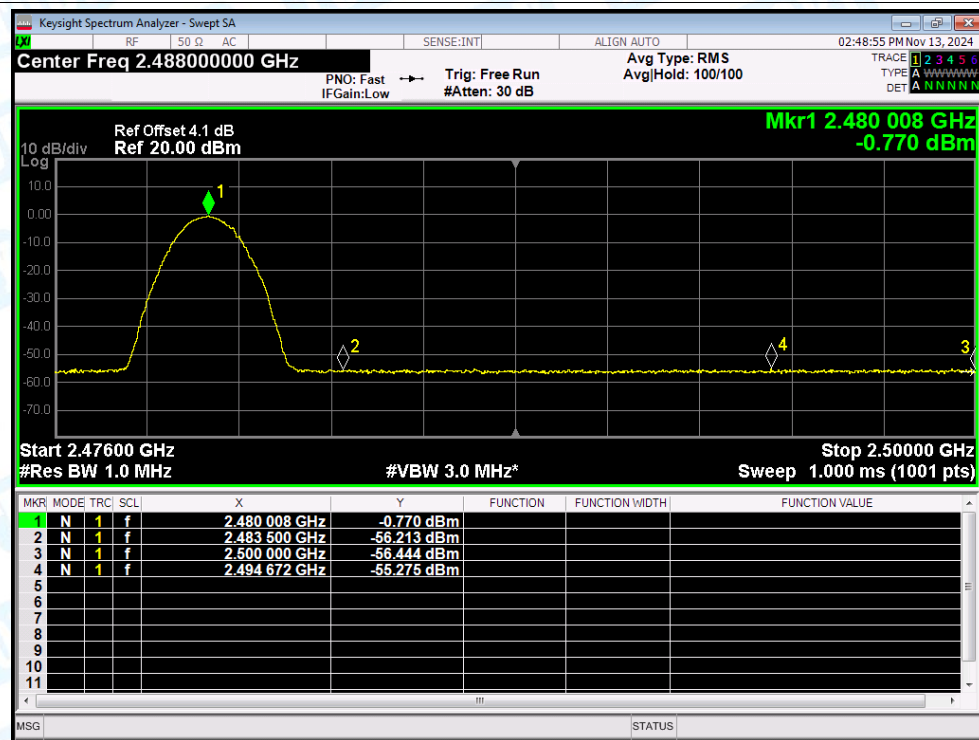
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



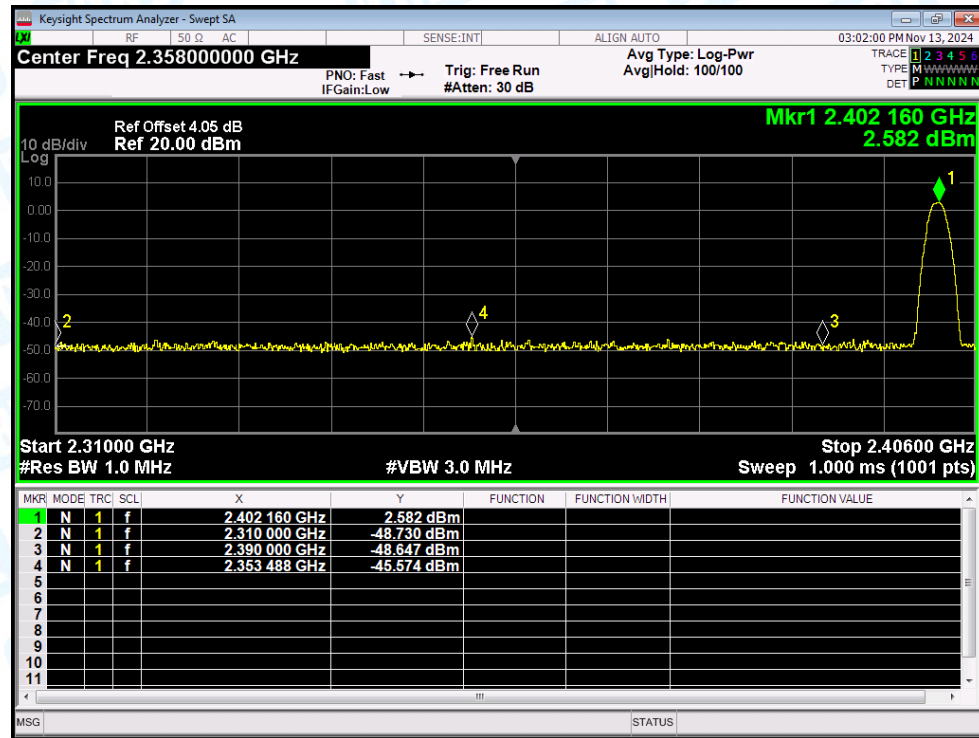
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



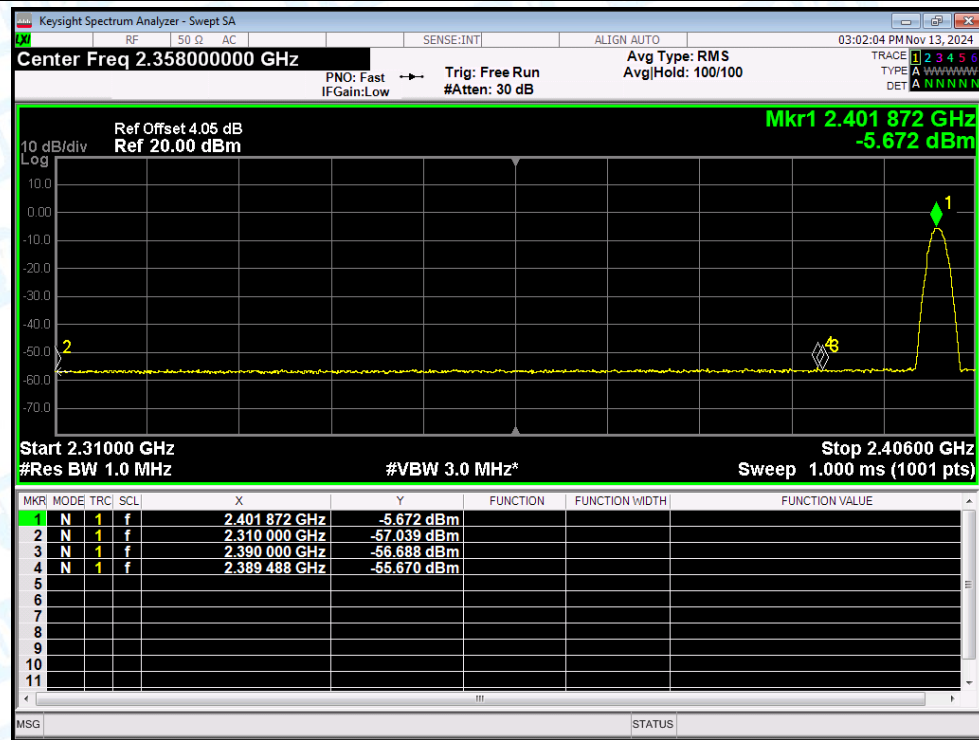
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



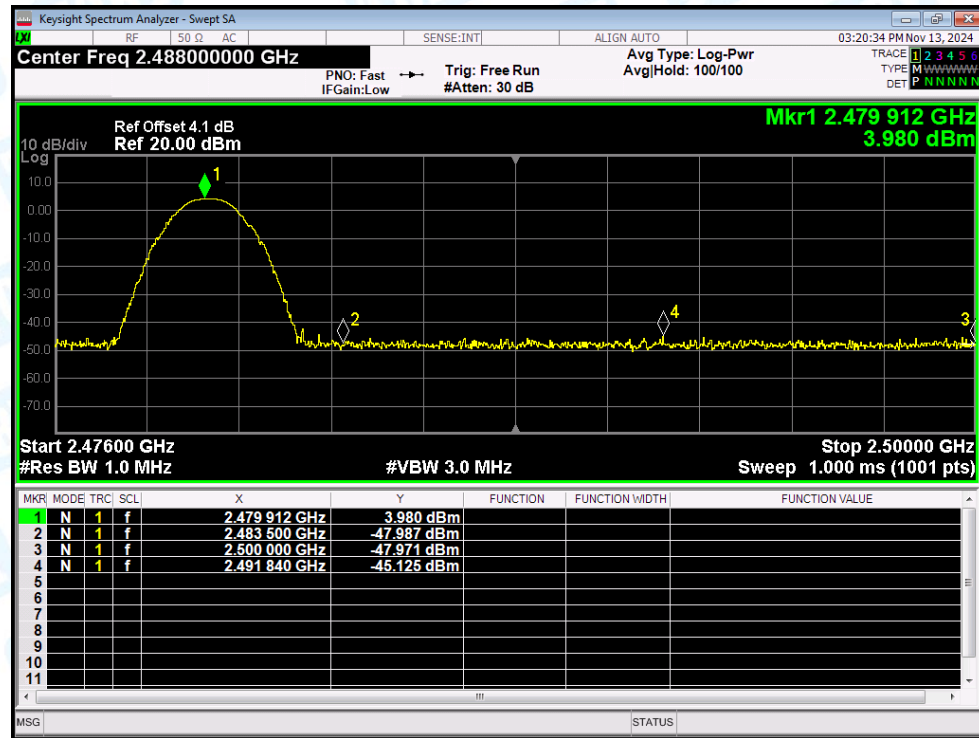
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



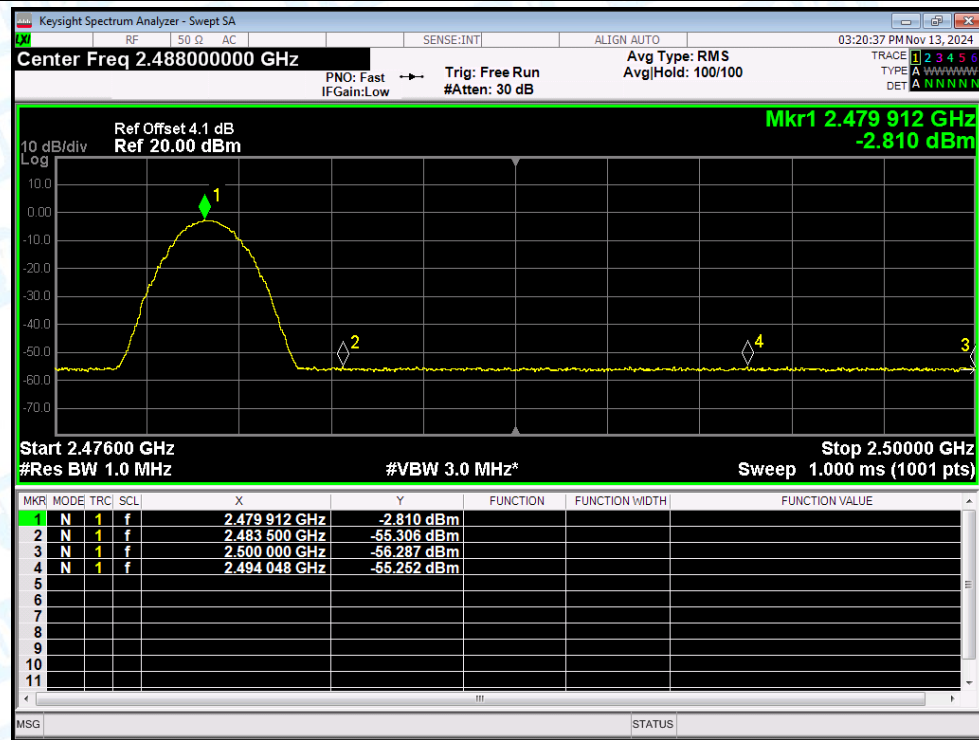
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



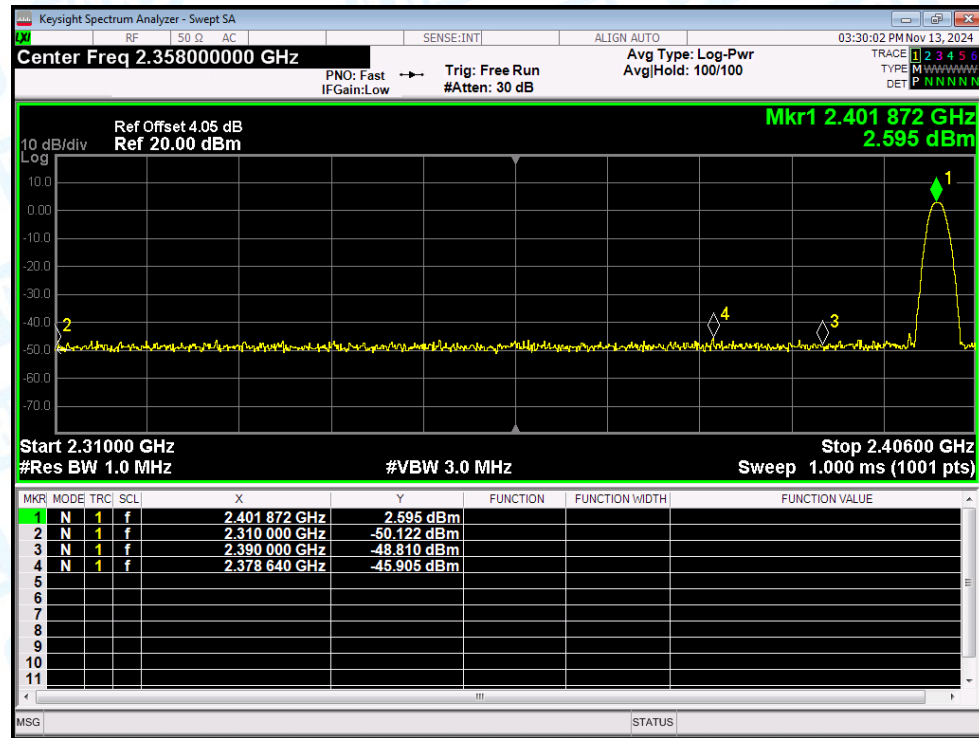
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



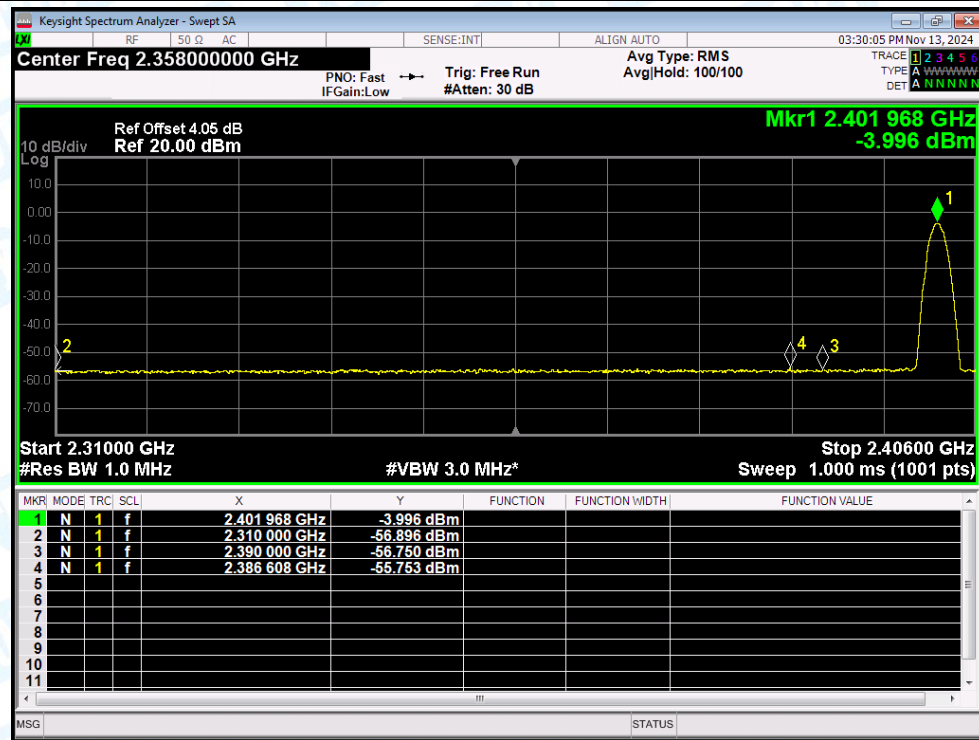
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



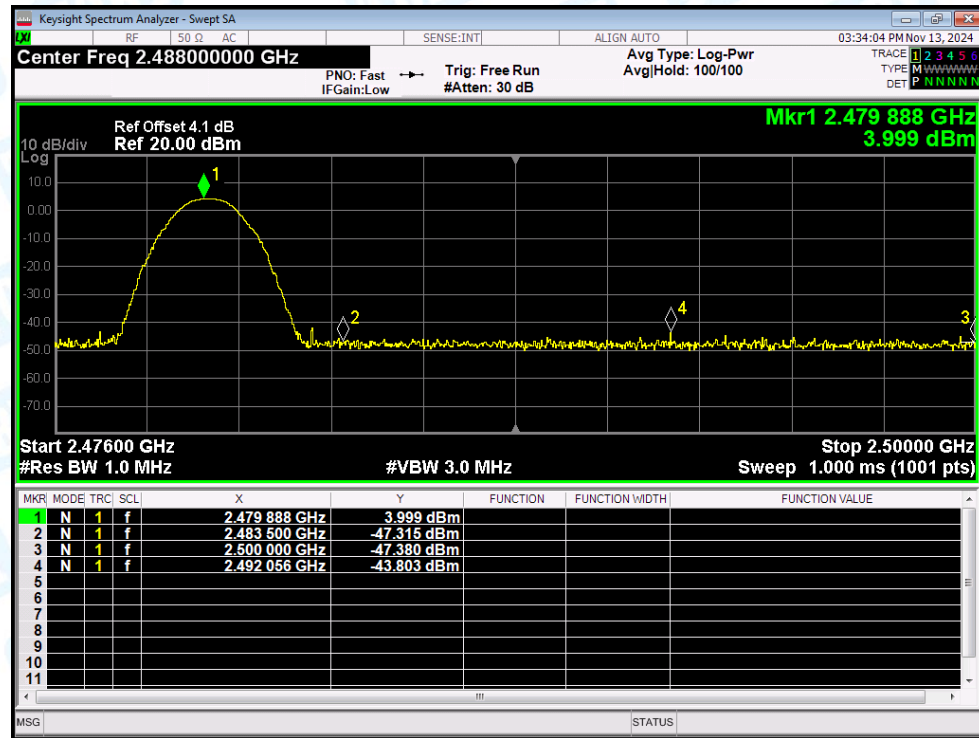
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



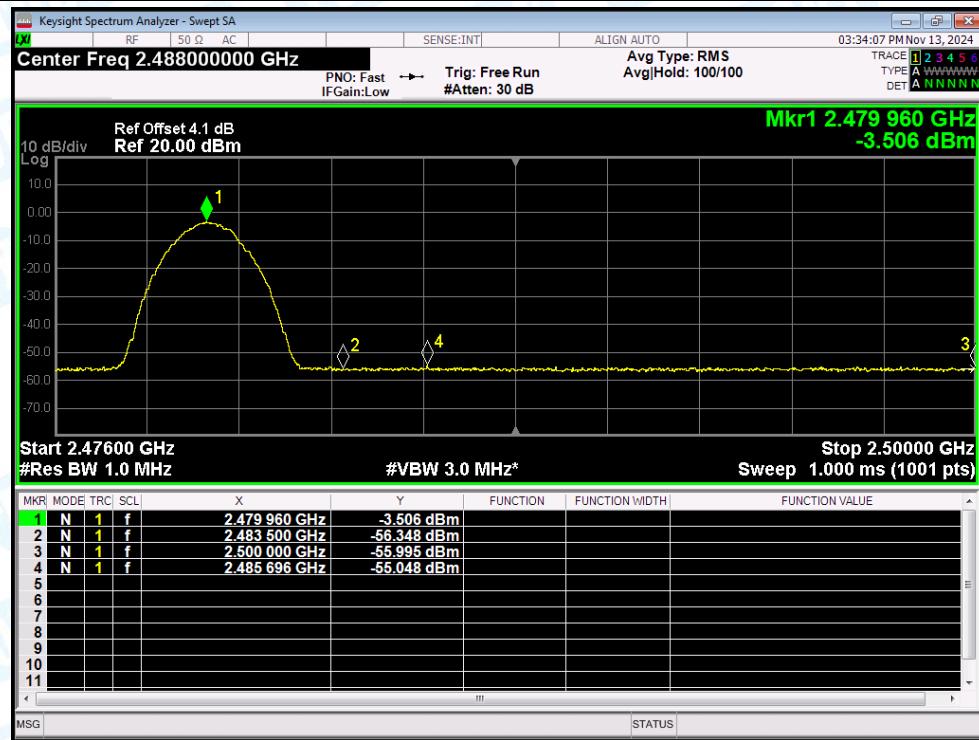
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

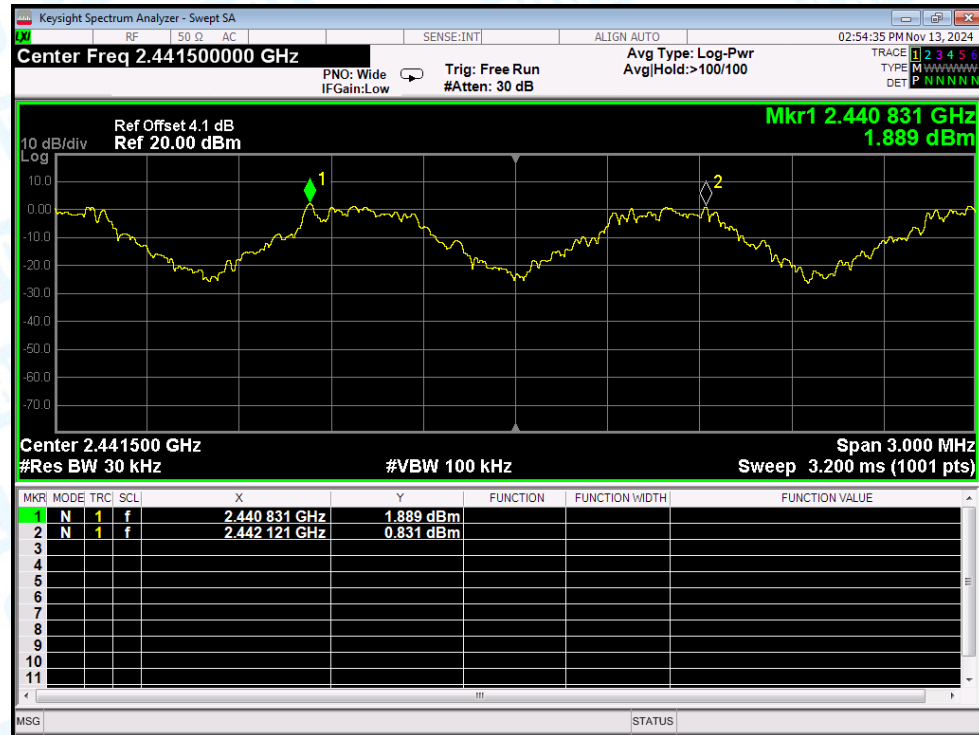


9.Carrier Frequencies Separation

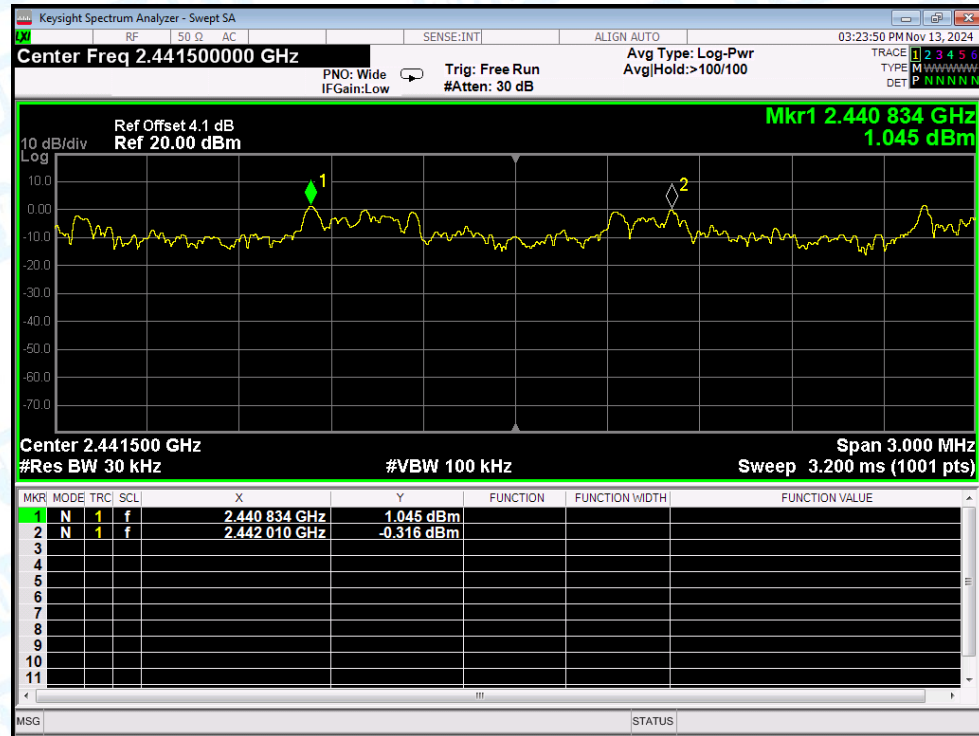
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.831	2442.121	1.29	0.025	Pass
NVNT	2-DH1	Ant1	2440.834	2442.01	1.176	0.807	Pass
NVNT	3-DH1	Ant1	2440.831	2441.83	0.999	0.807	Pass

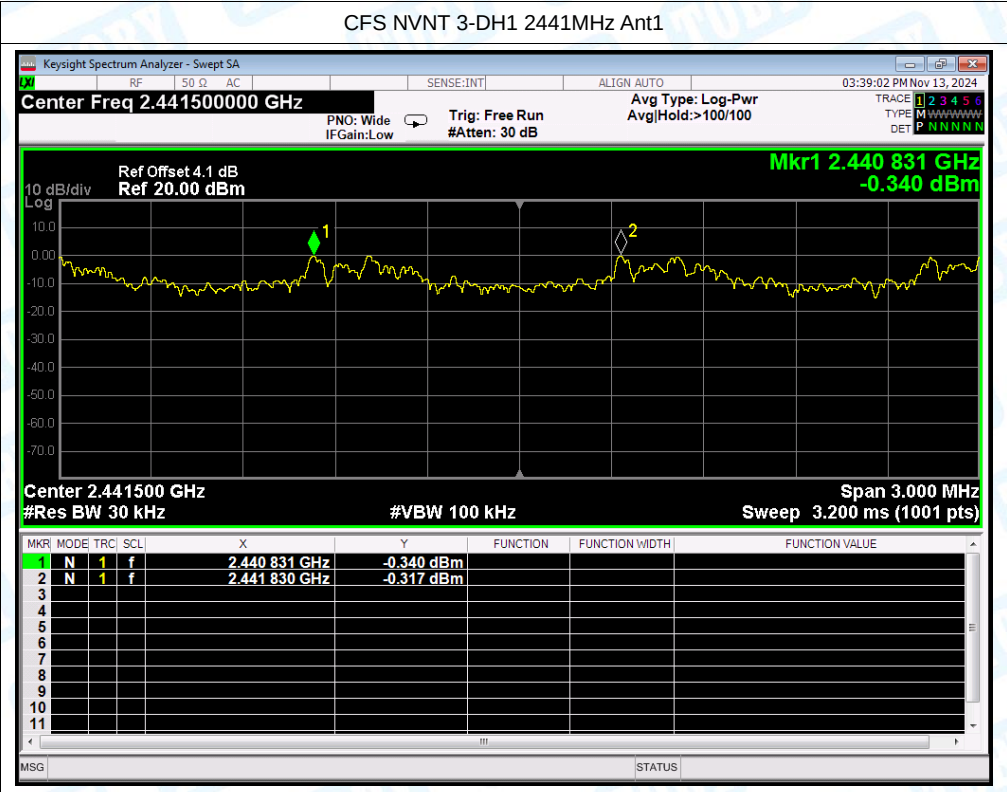
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



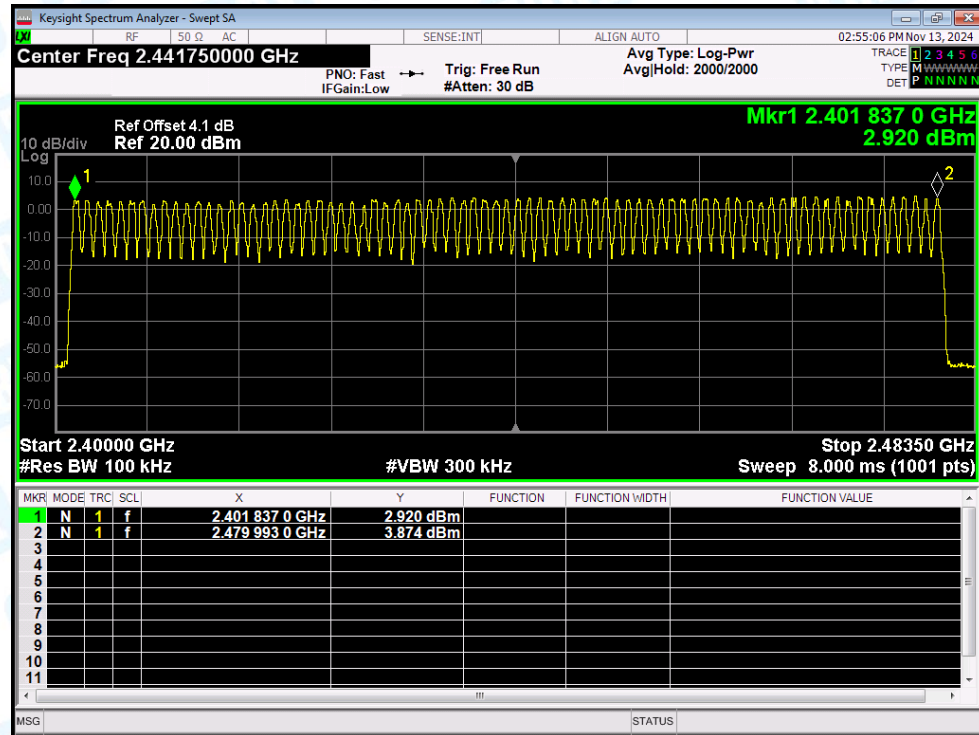


10.Number of Hopping Channel

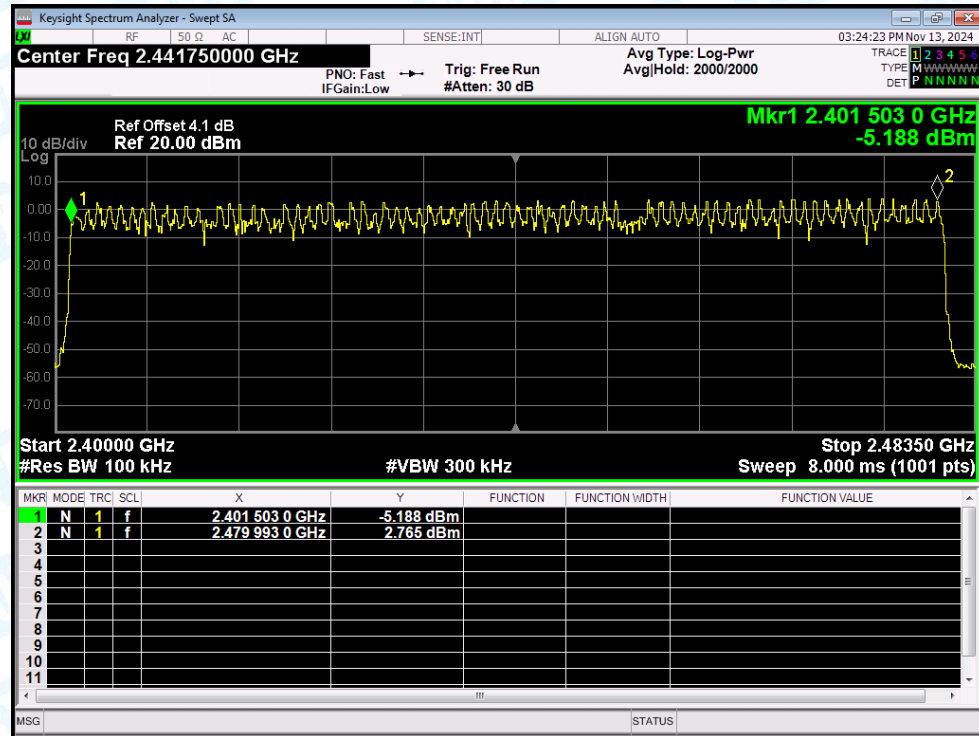
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

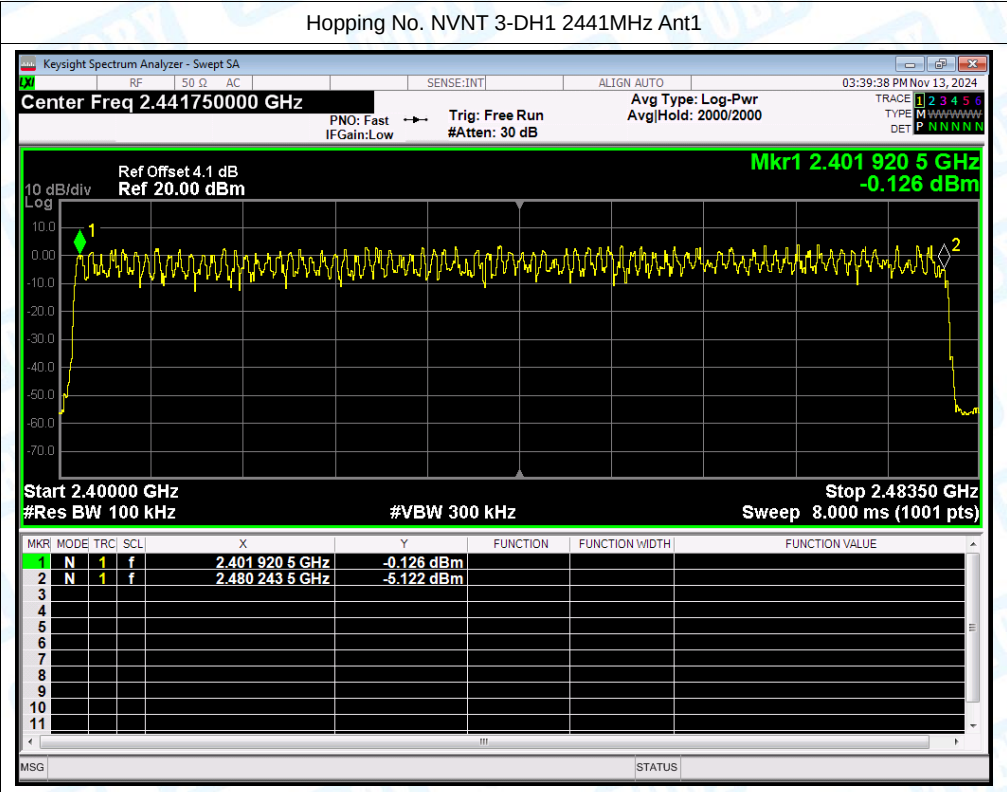
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



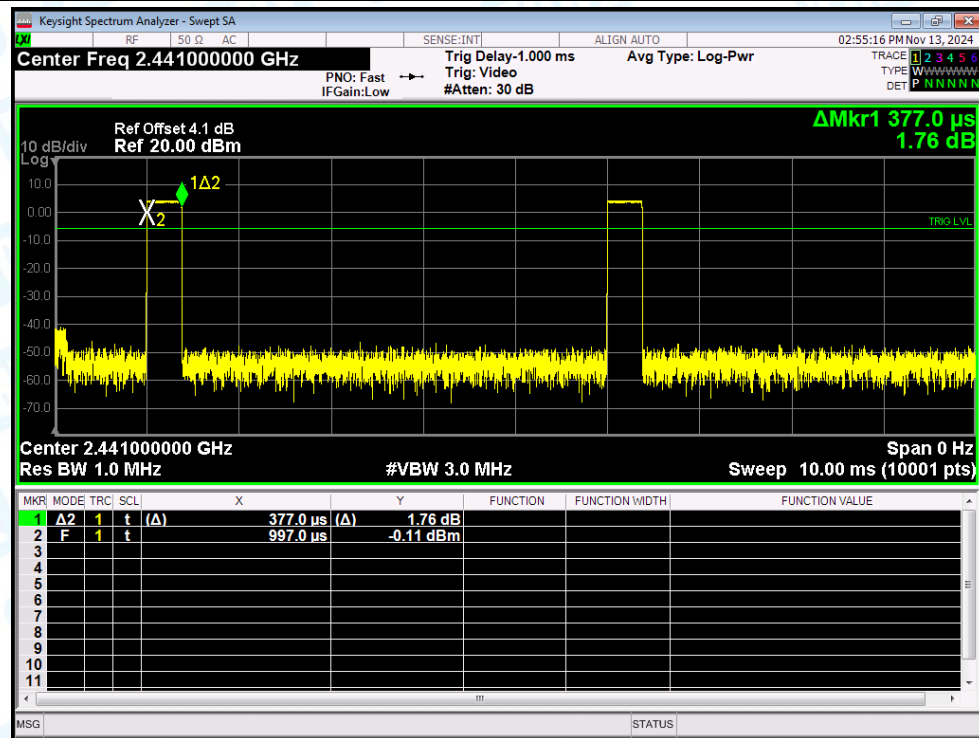


11.Dwell Time

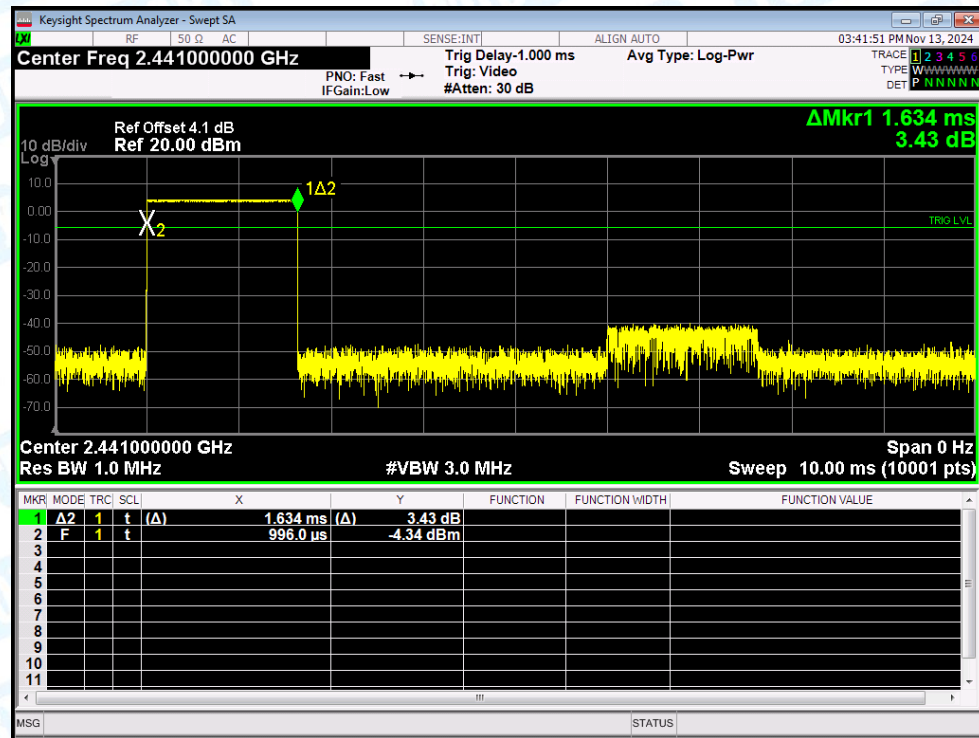
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.377	120.64	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.634	261.44	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.882	307.413	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.385	123.2	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.637	261.92	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.885	307.733	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.386	123.52	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.636	261.76	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.887	307.947	31600	400	Pass

Test Graphs

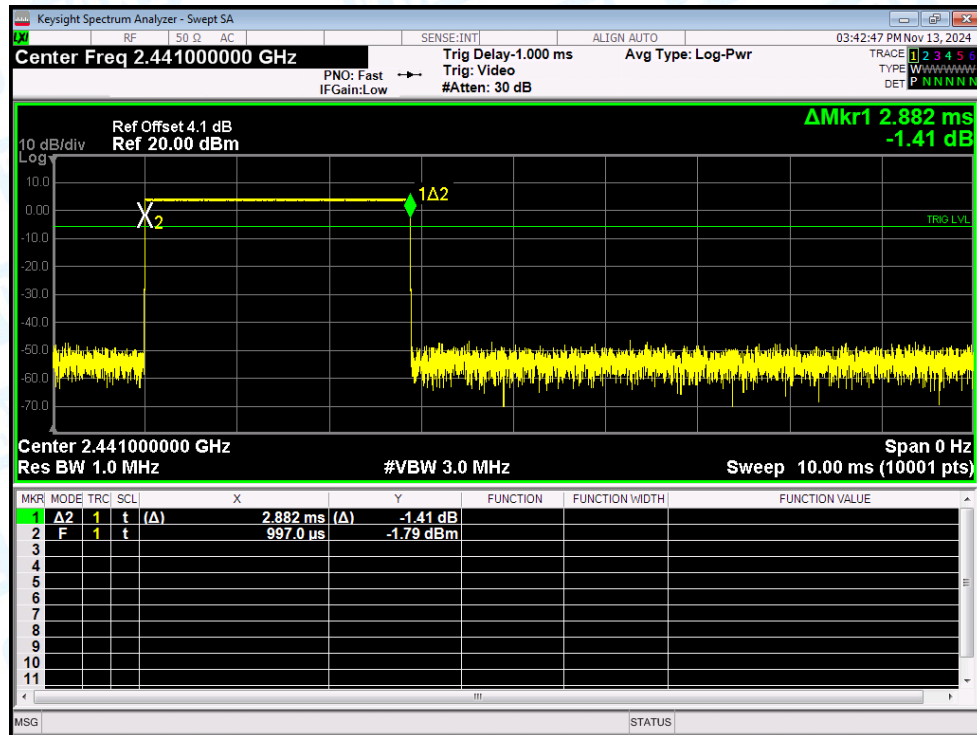
Dwell NVNT 1-DH1 2441MHz Ant1



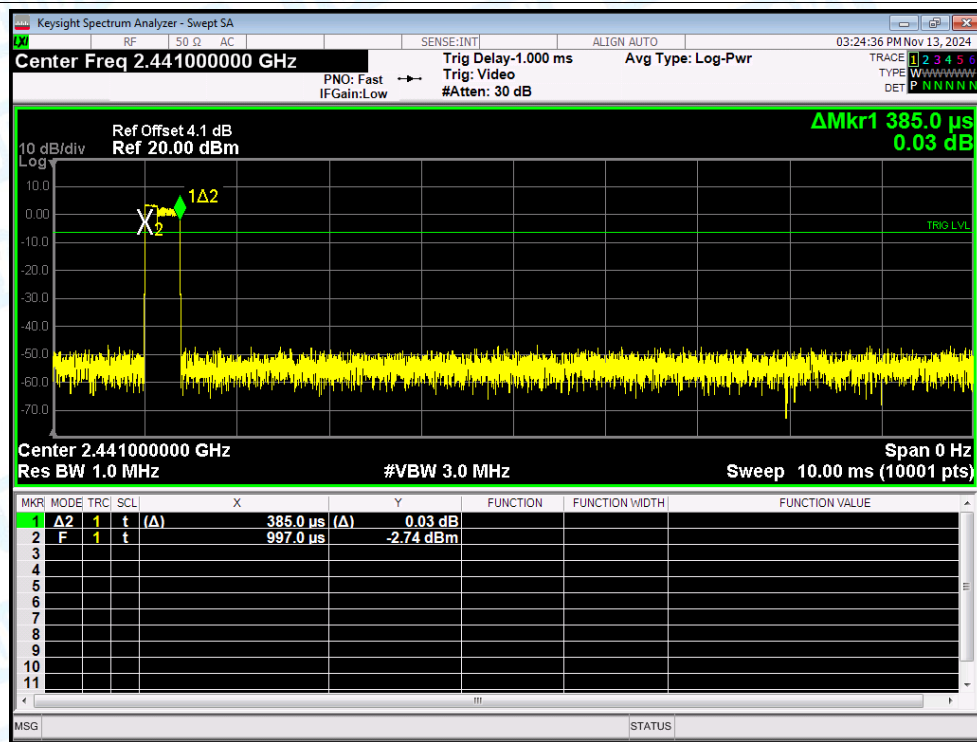
Dwell NVNT 1-DH3 2441MHz Ant1



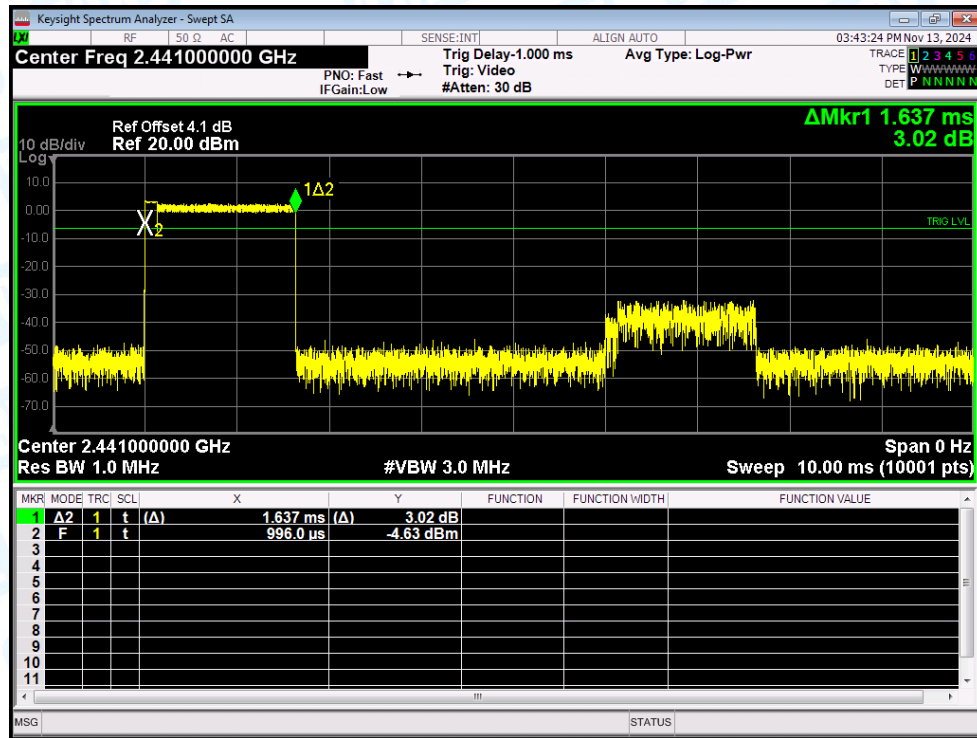
Dwell NVNT 1-DH5 2441MHz Ant1



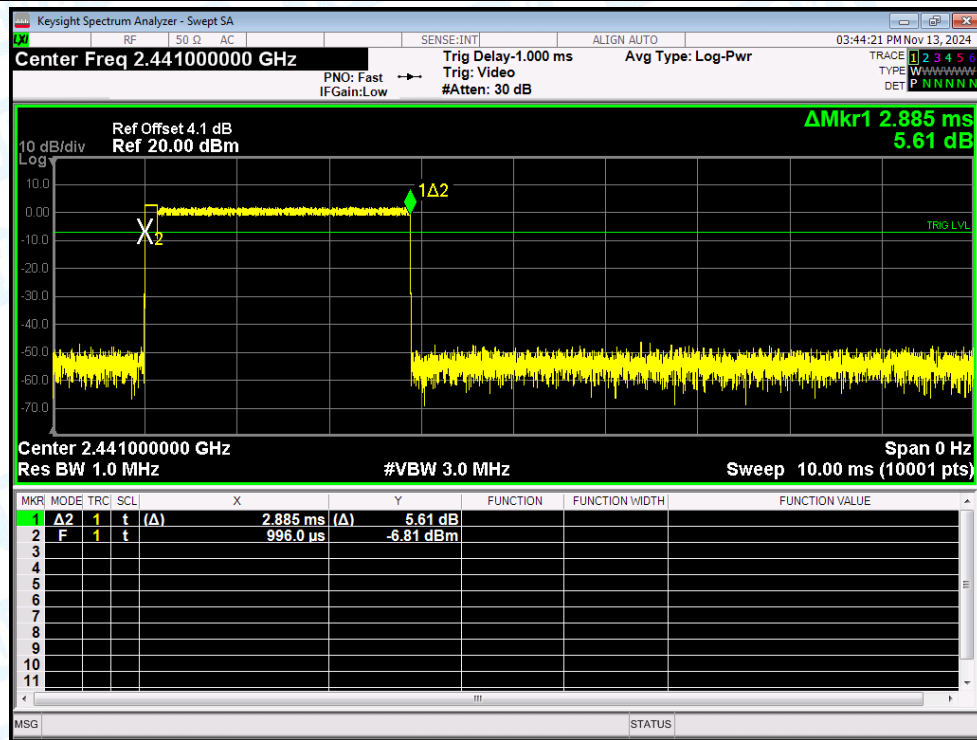
Dwell NVNT 2-DH1 2441MHz Ant1



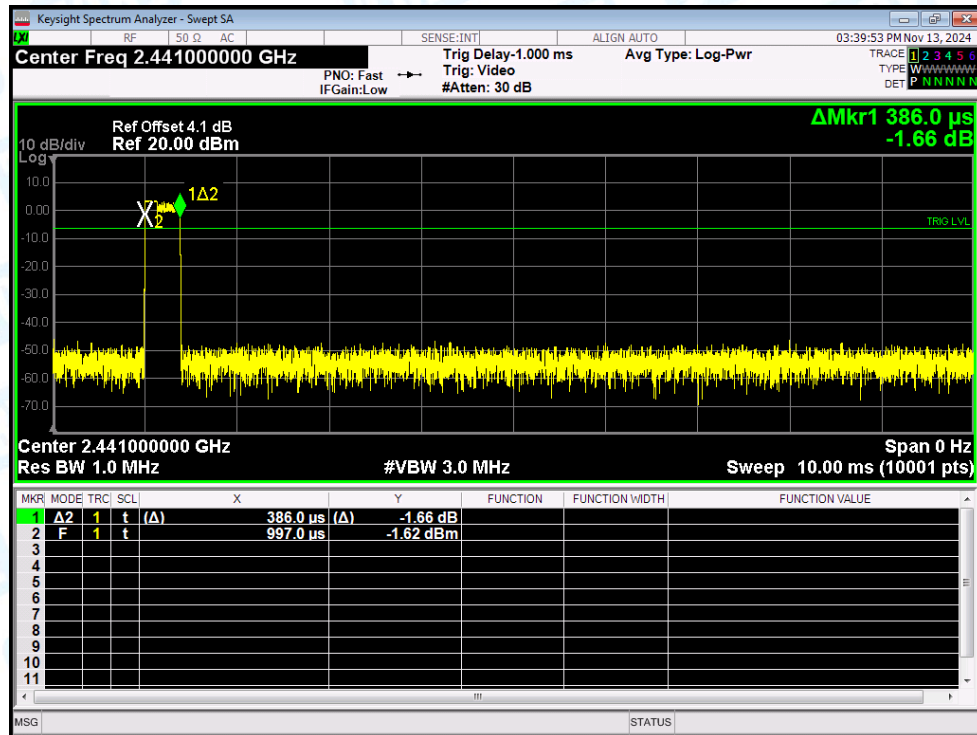
Dwell NVNT 2-DH3 2441MHz Ant1



Dwell NVNT 2-DH5 2441MHz Ant1



Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1

