

RF Test Data for Bluetooth(BDR+EDR) (Conducted Measurements)

General Description of EUT	
Product Name:	Smart Watch
Test Model:	MAX11
Sample ID:	202307-0129-2-2#
Environmental Conditions	
Temperature:	25°C
Relative Humidity:	55%
Test Voltage:	DC 3.7V
Test Engineer:	Huang jian ping
Note: For a more detailed features description, please refer to the report TBR-C-202307-0129-3 The report only show the worst case data.	

Contents

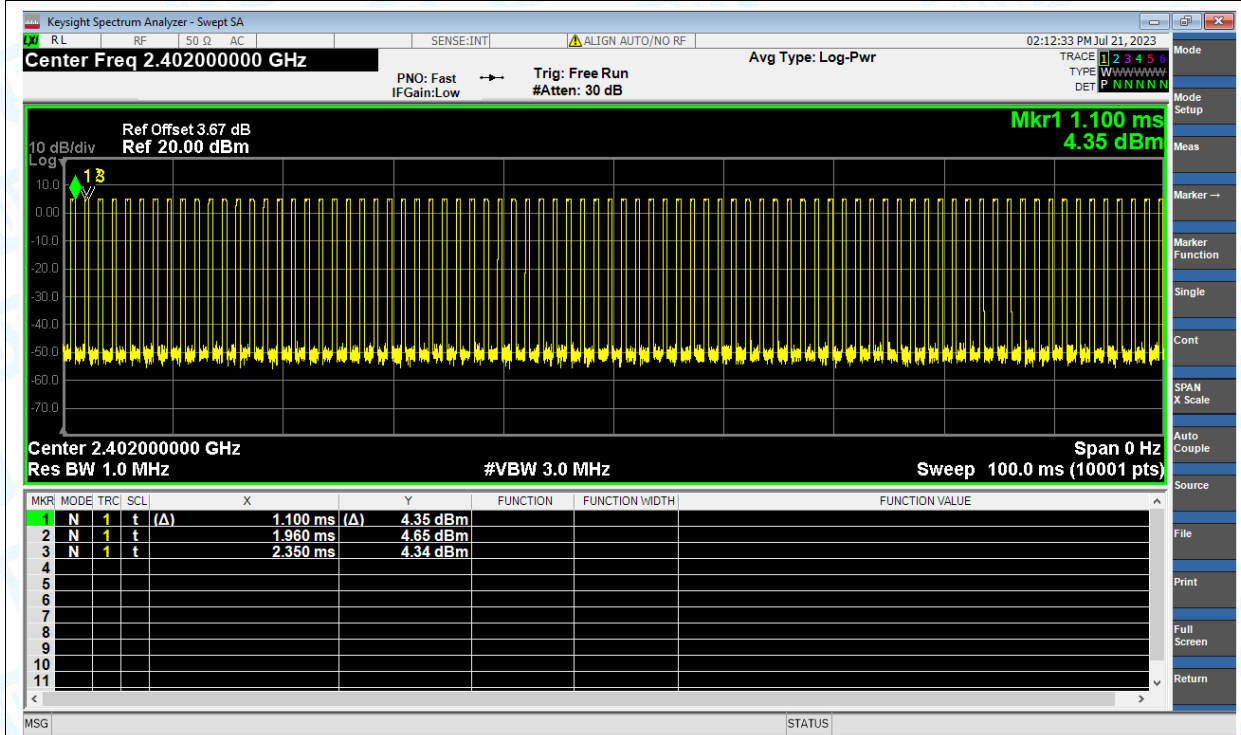
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1. Duty Cycle

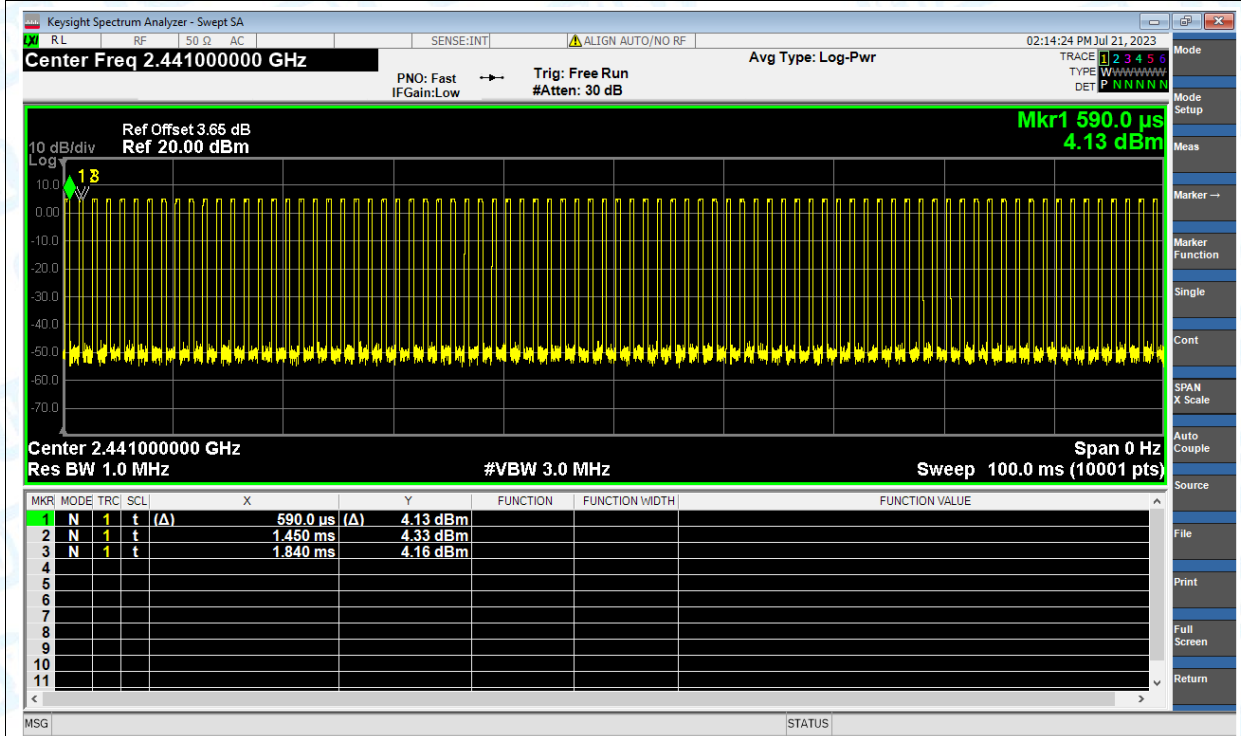
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	1-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56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

Test Graphs

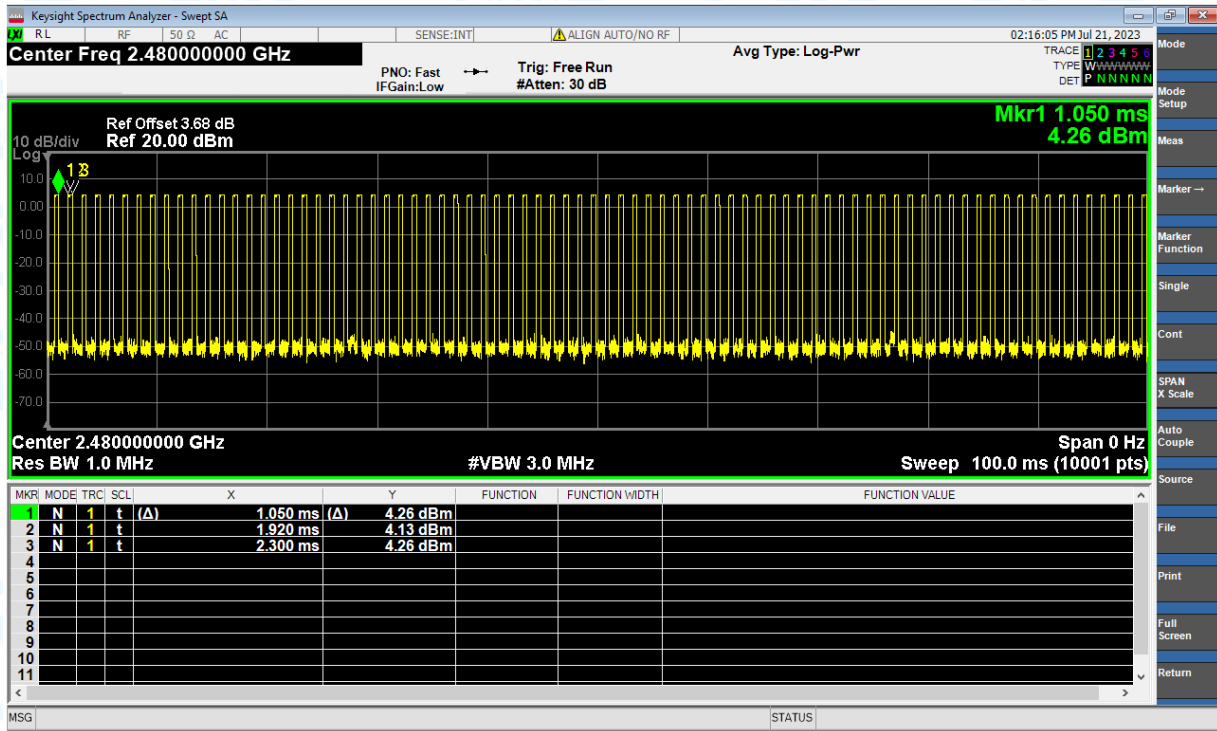
Duty Cycle NVNT 1-DH1 2402MHz Ant1



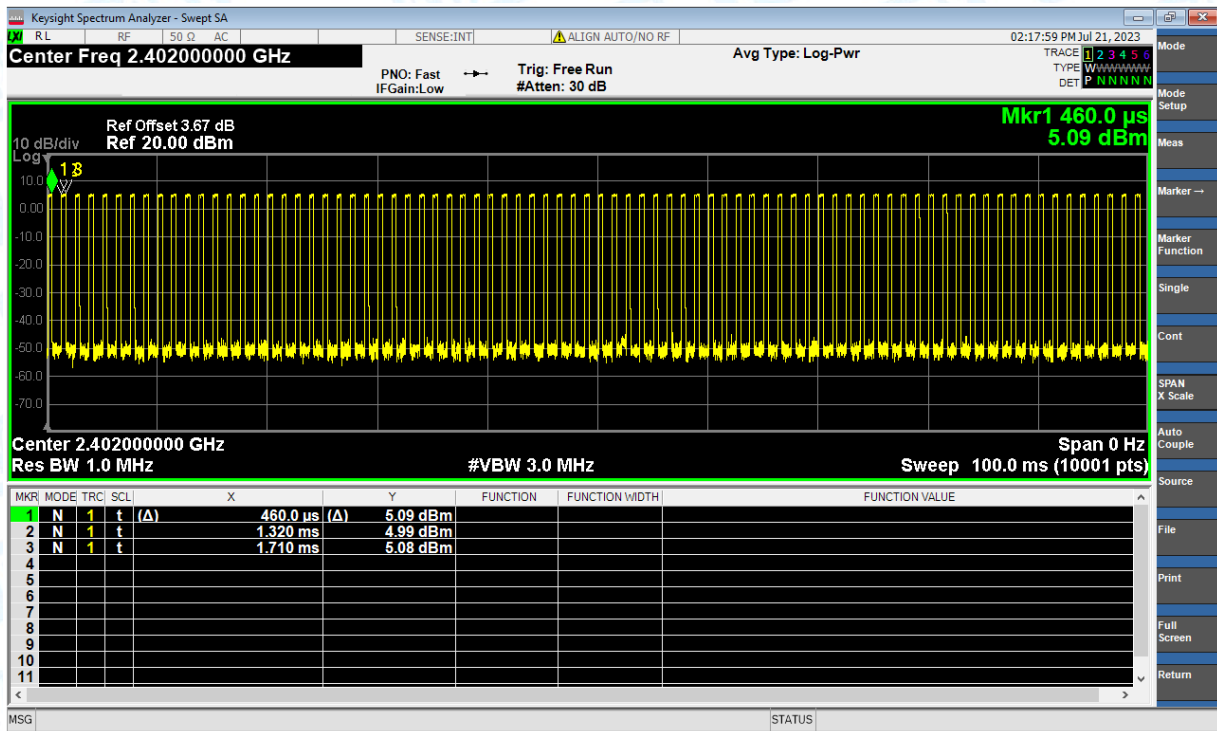
Duty Cycle NVNT 1-DH1 2441MHz Ant1



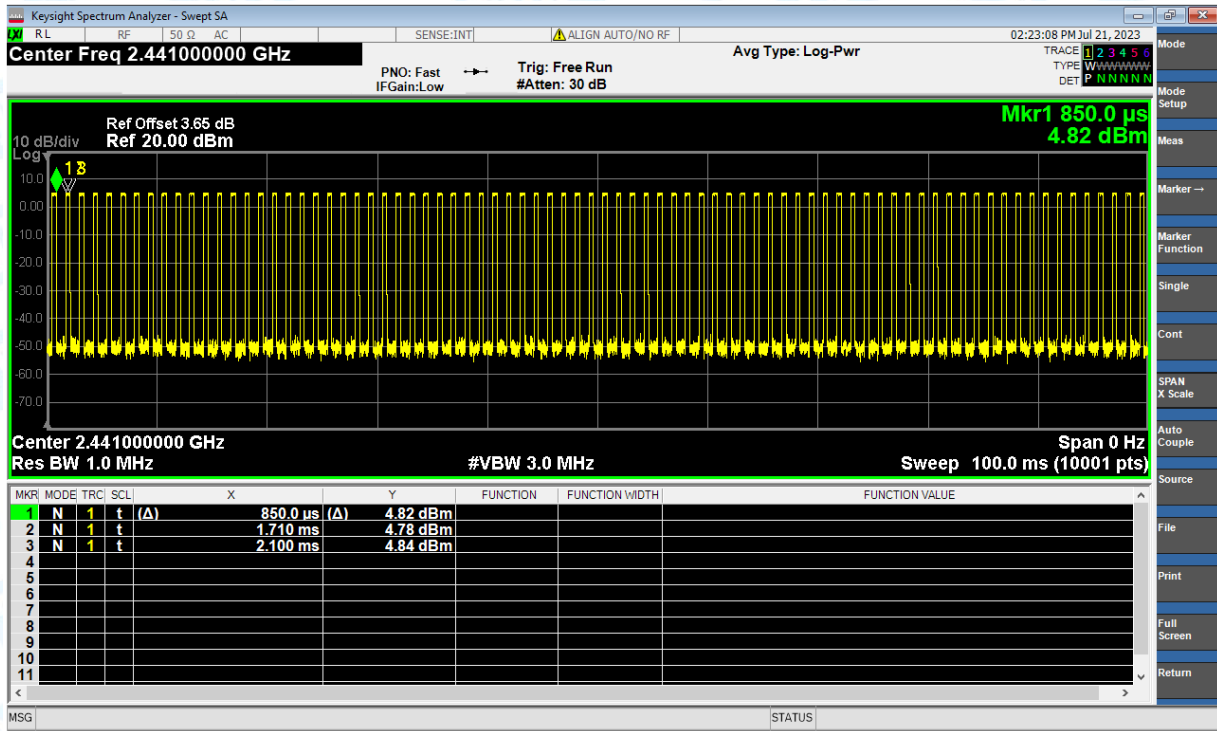
Duty Cycle NVNT 1-DH1 2480MHz Ant1



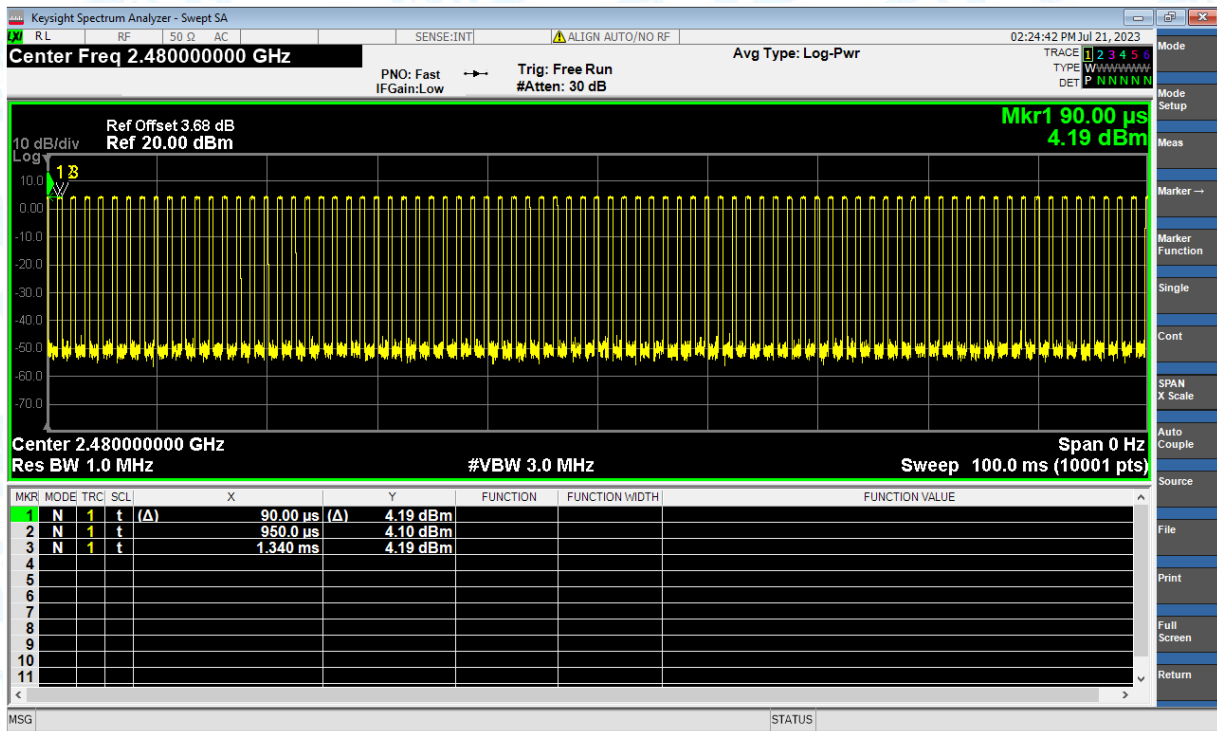
Duty Cycle NVNT 2-DH1 2402MHz Ant1



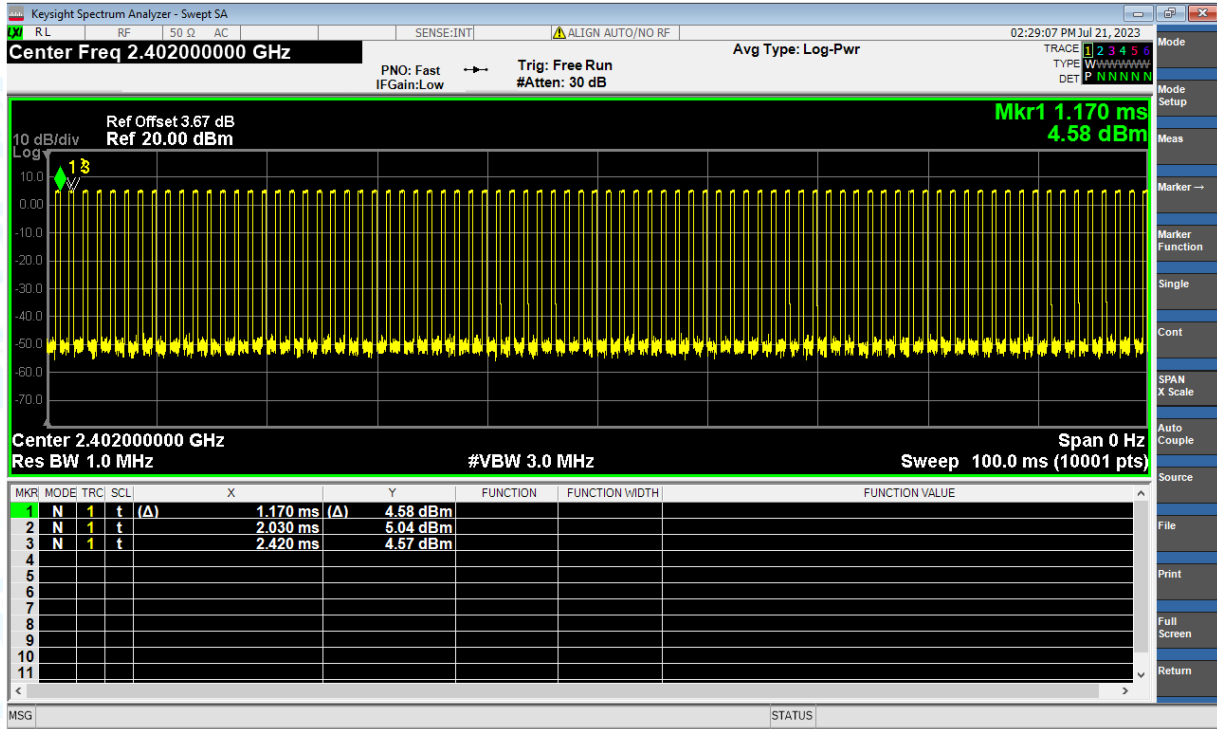
Duty Cycle NVNT 2-DH1 2441MHz Ant1



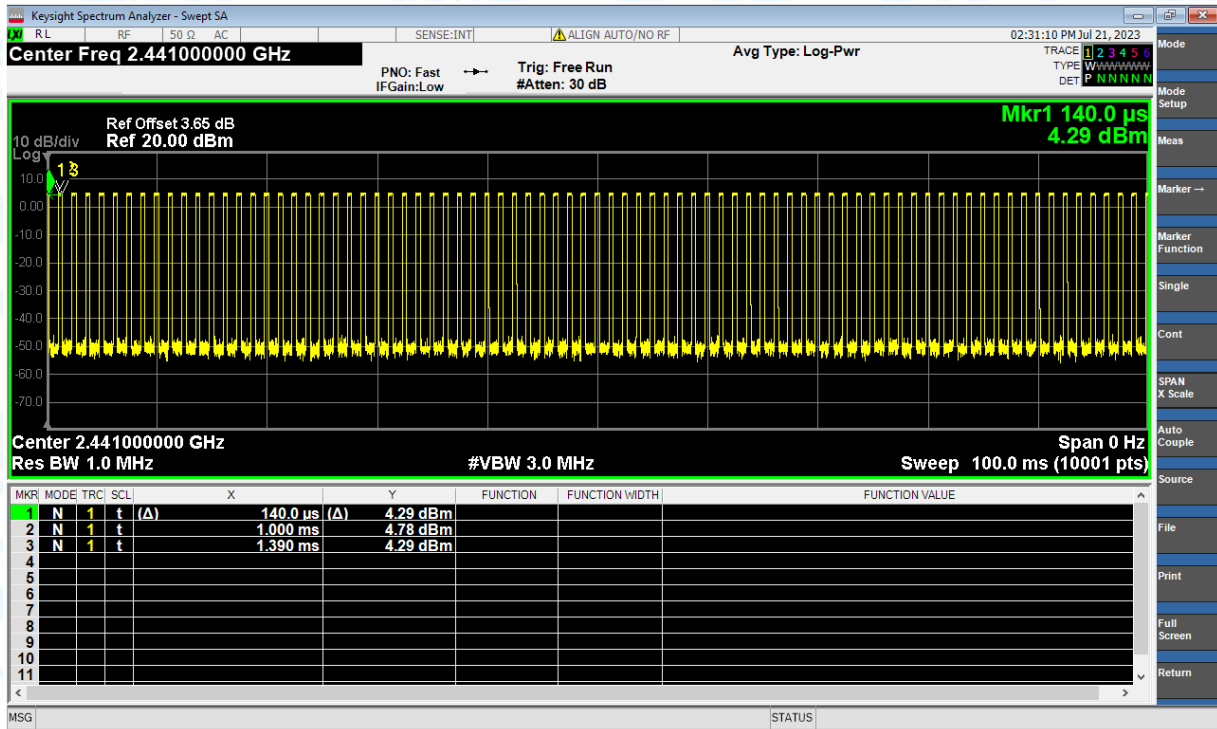
Duty Cycle NVNT 2-DH1 2480MHz Ant1

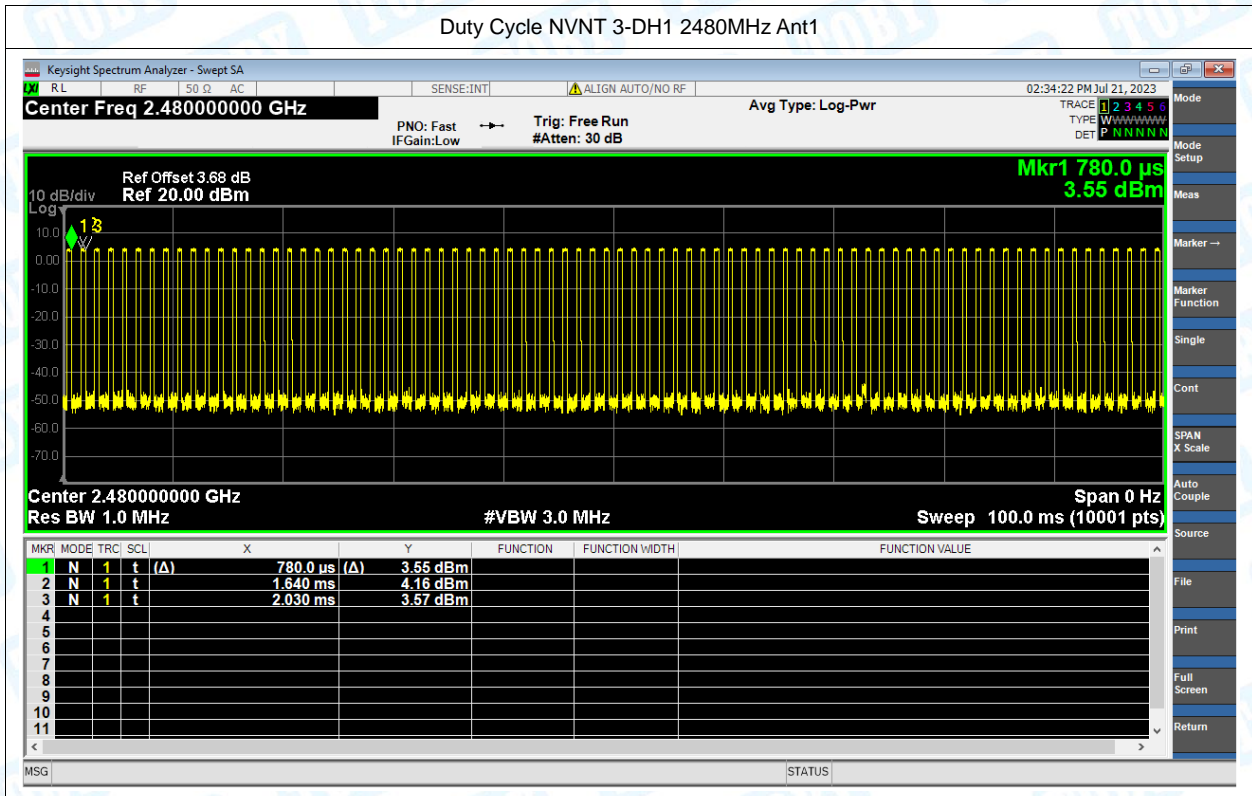


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1





2. Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	5.245	21	Pass
NVNT	1-DH1	2441	Ant1	5.012	21	Pass
NVNT	1-DH1	2480	Ant1	4.406	21	Pass
NVNT	2-DH1	2402	Ant1	5.481	21	Pass
NVNT	2-DH1	2441	Ant1	5.302	21	Pass
NVNT	2-DH1	2480	Ant1	4.721	21	Pass
NVNT	3-DH1	2402	Ant1	5.646	21	Pass
NVNT	3-DH1	2441	Ant1	5.467	21	Pass
NVNT	3-DH1	2480	Ant1	4.976	21	Pass

Test Graphs

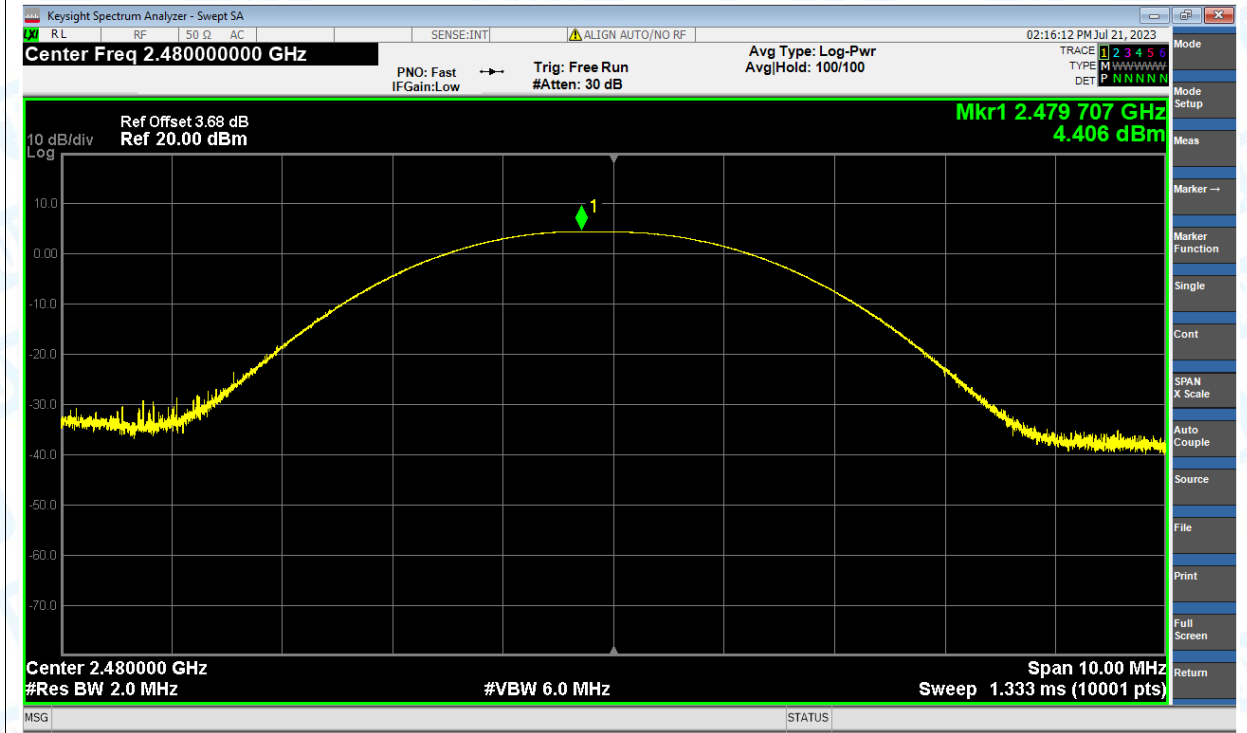
Power NVNT 1-DH1 2402MHz Ant1



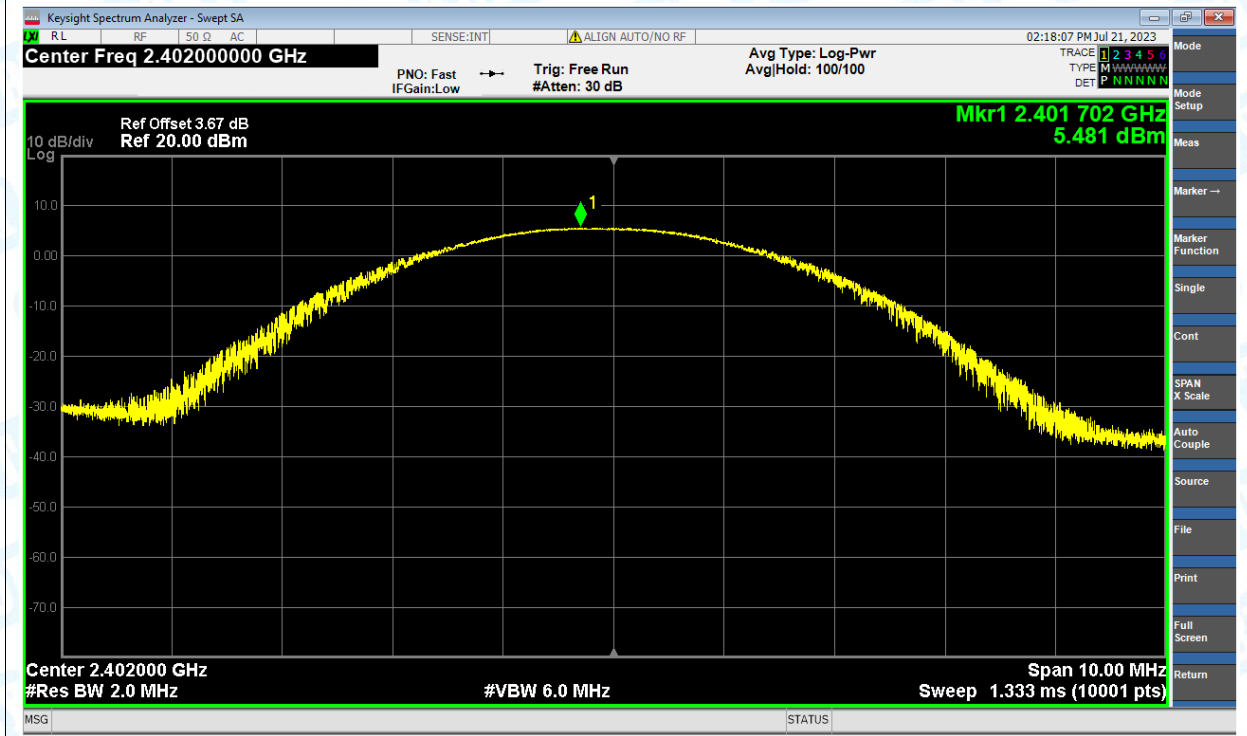
Power NVNT 1-DH1 2441MHz Ant1



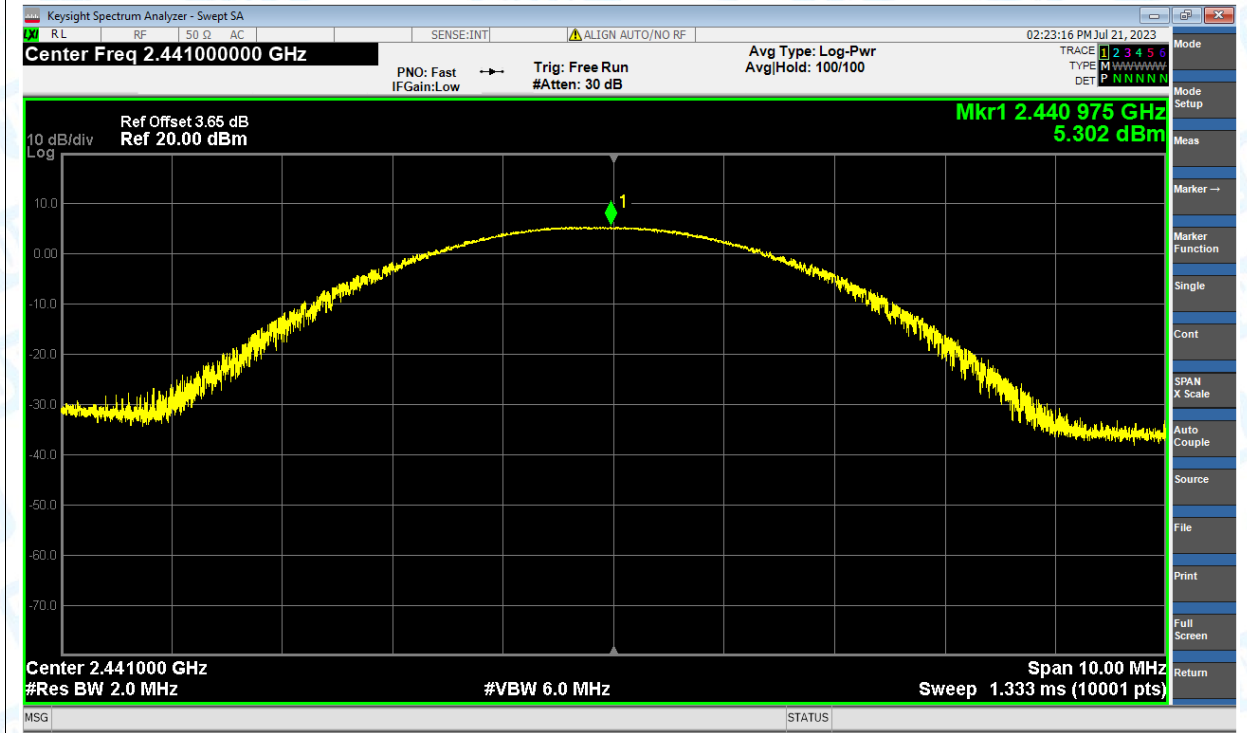
Power NVNT 1-DH1 2480MHz Ant1



Power NVNT 2-DH1 2402MHz Ant1



Power NVNT 2-DH1 2441MHz Ant1



Power NVNT 2-DH1 2480MHz Ant1

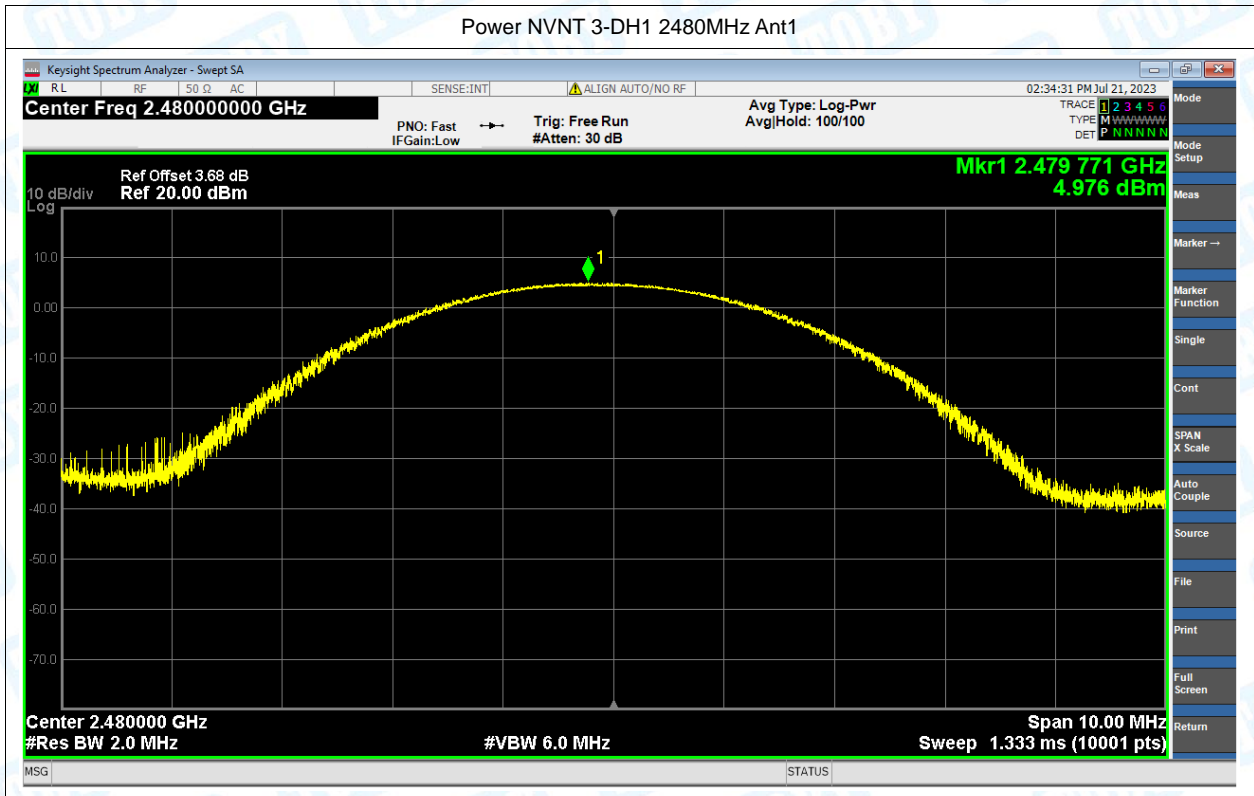


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



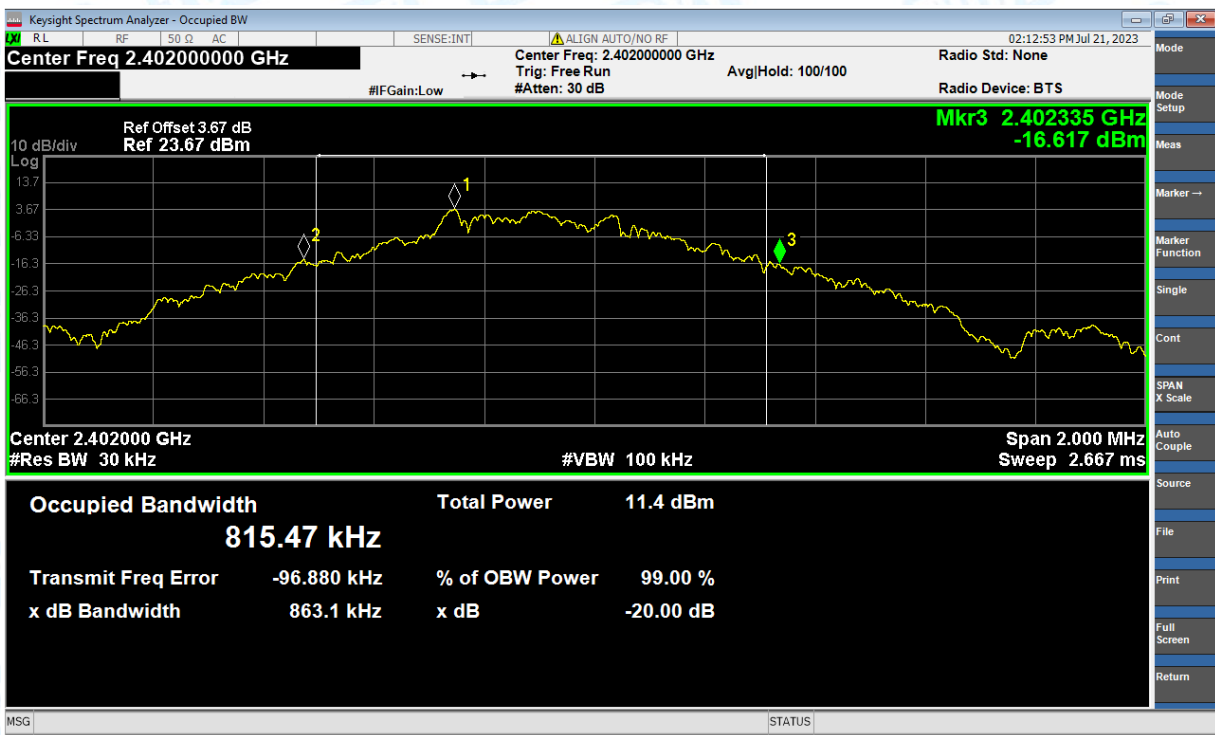


3. -20dB Bandwidth

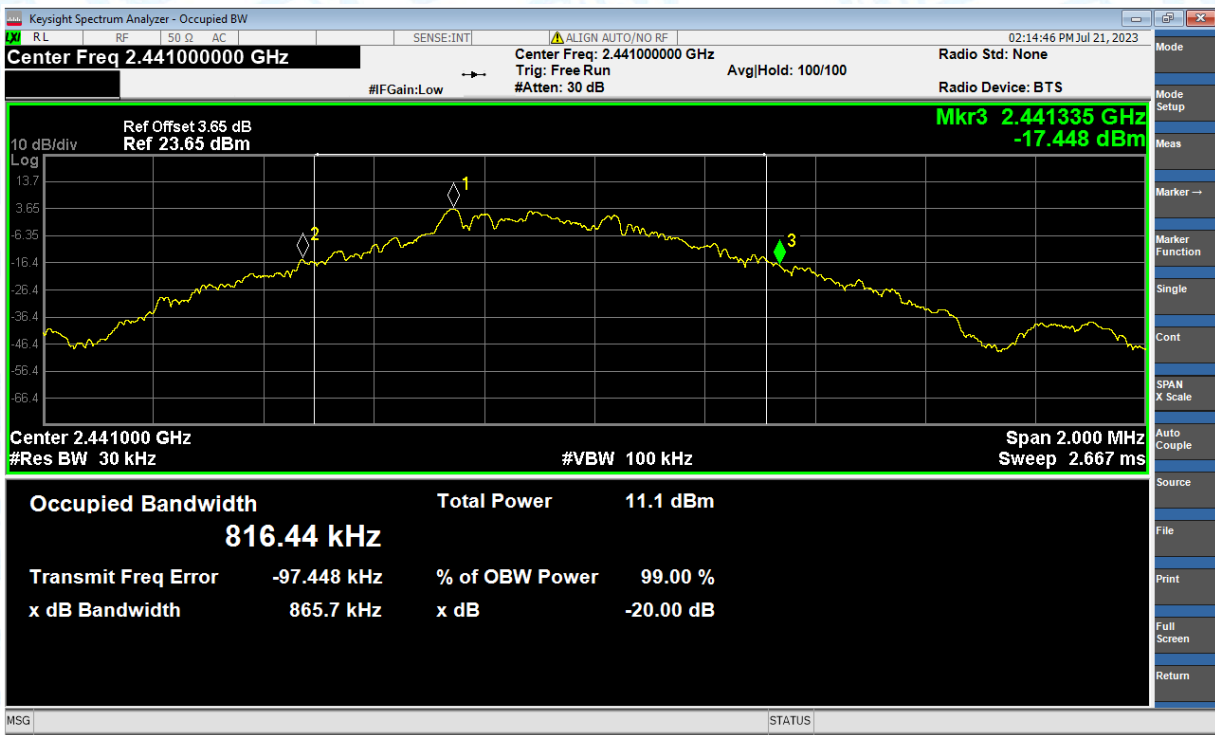
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.86	Pass
NVNT	1-DH1	2441	Ant1	0.87	Pass
NVNT	1-DH1	2480	Ant1	0.86	Pass
NVNT	2-DH1	2402	Ant1	1.28	Pass
NVNT	2-DH1	2441	Ant1	1.28	Pass
NVNT	2-DH1	2480	Ant1	1.24	Pass
NVNT	3-DH1	2402	Ant1	1.21	Pass
NVNT	3-DH1	2441	Ant1	1.24	Pass
NVNT	3-DH1	2480	Ant1	1.22	Pass

Test Graphs

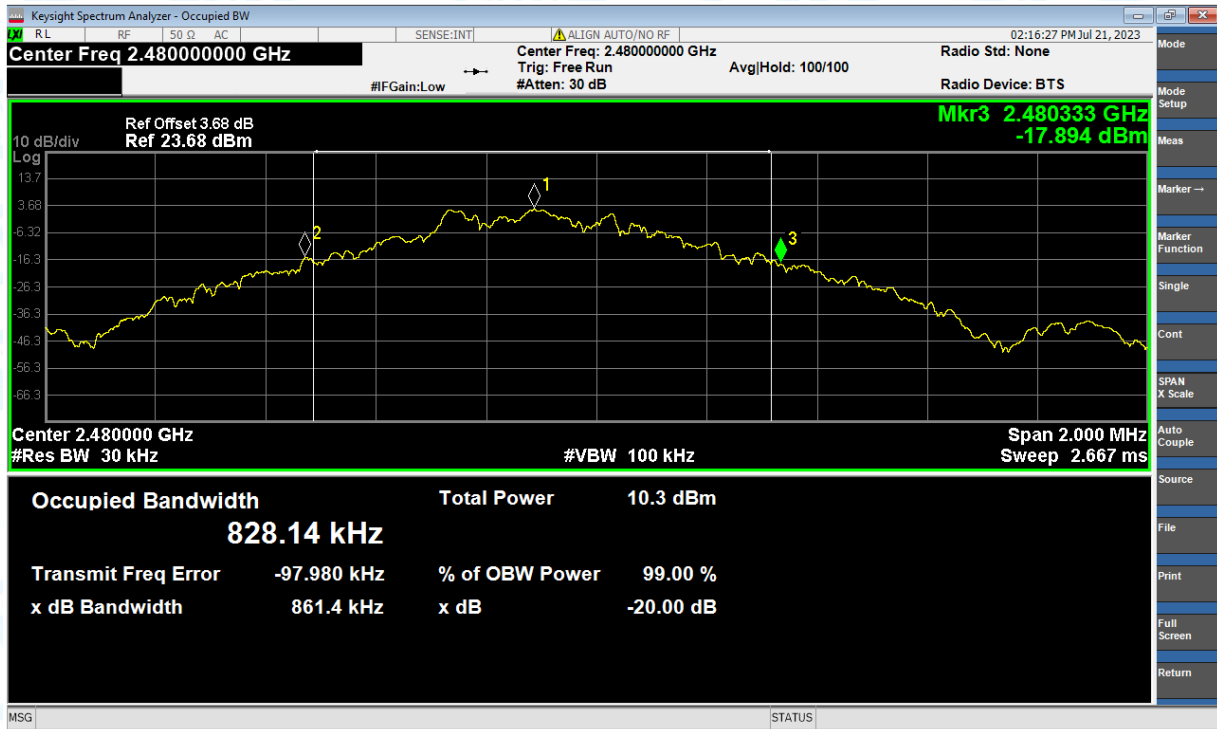
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



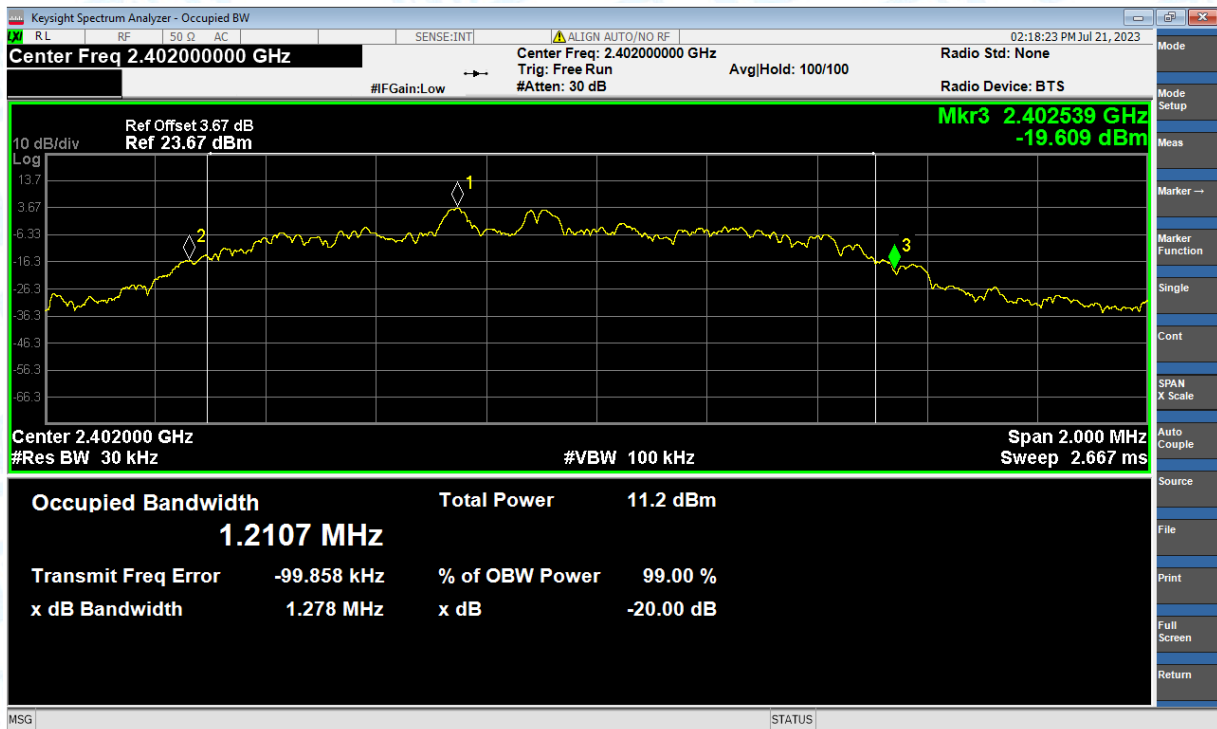
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



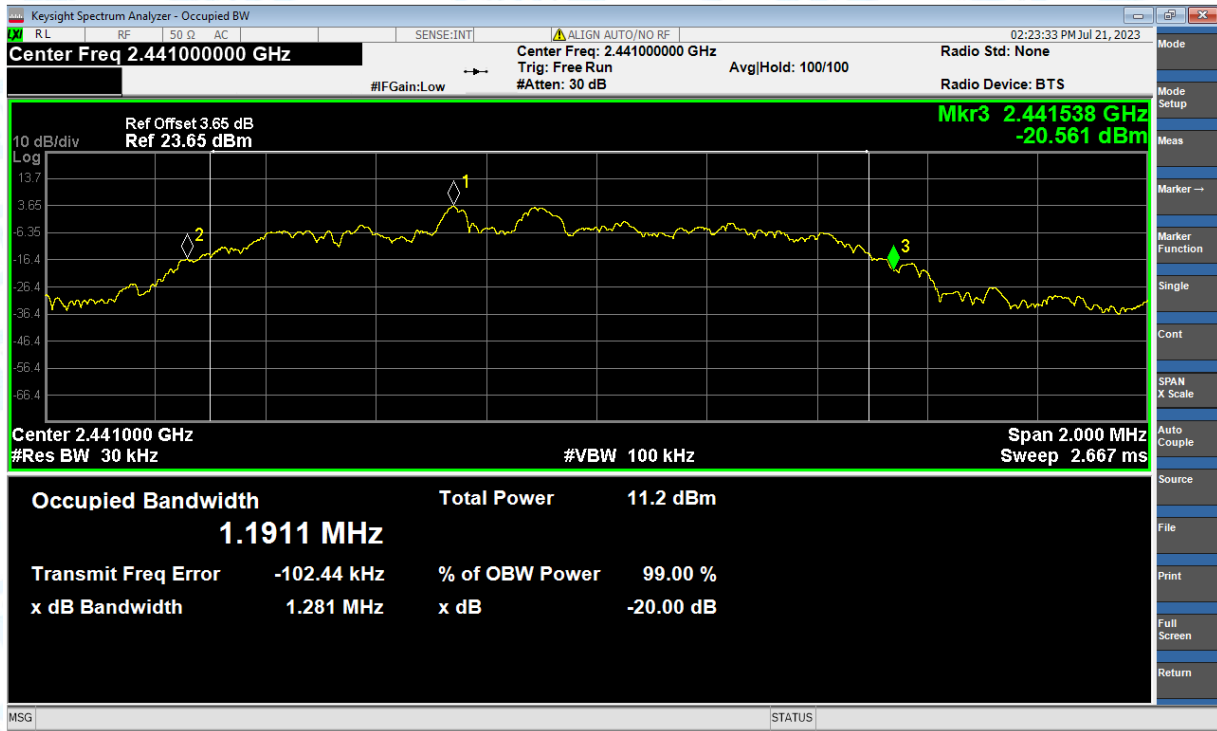
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



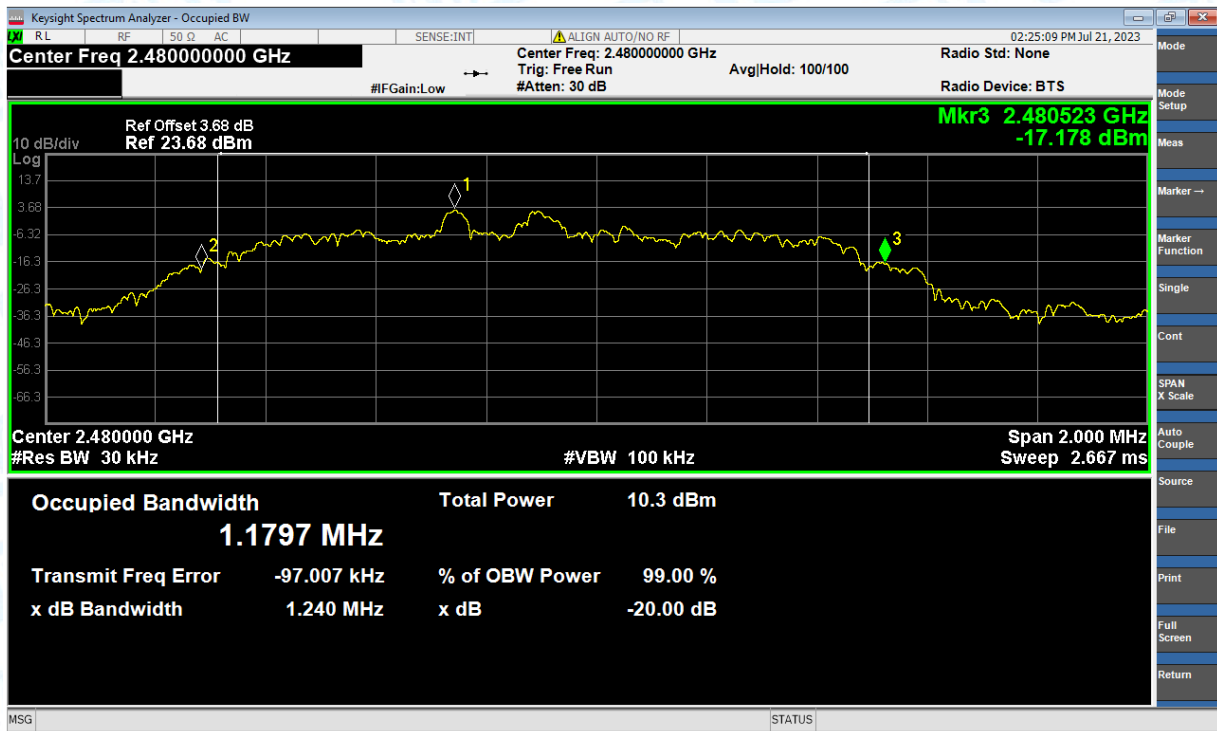
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



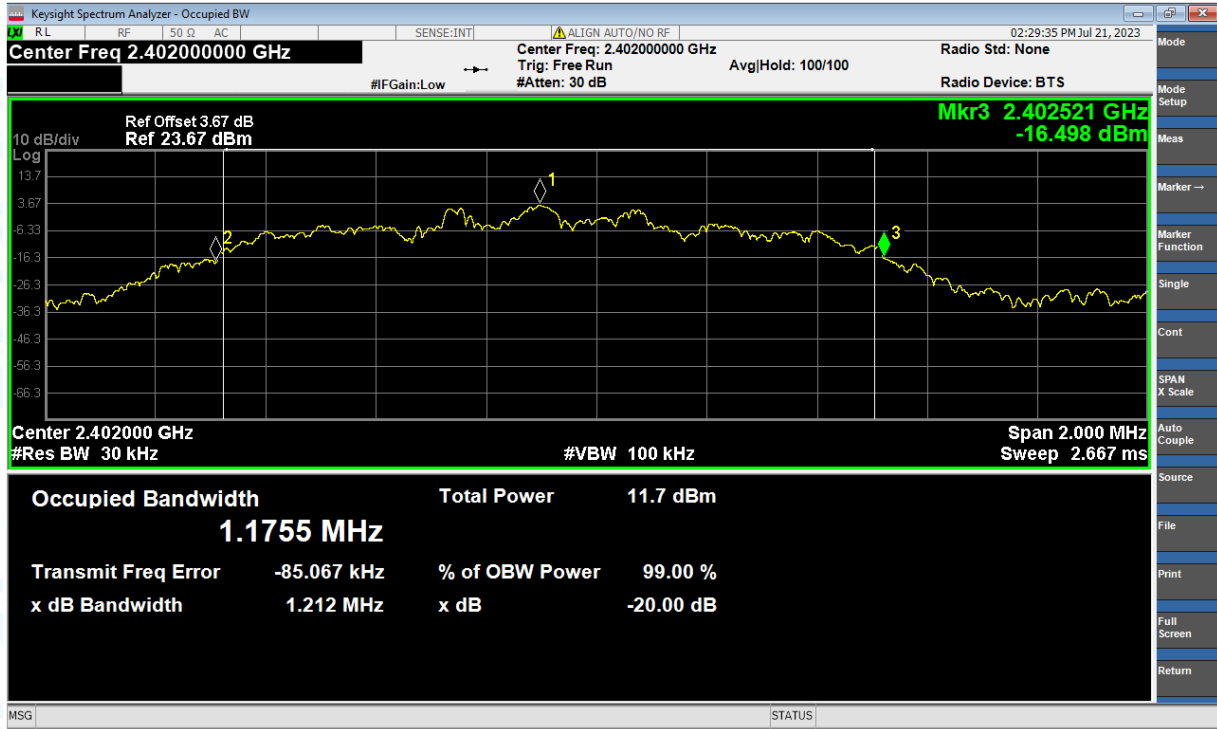
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



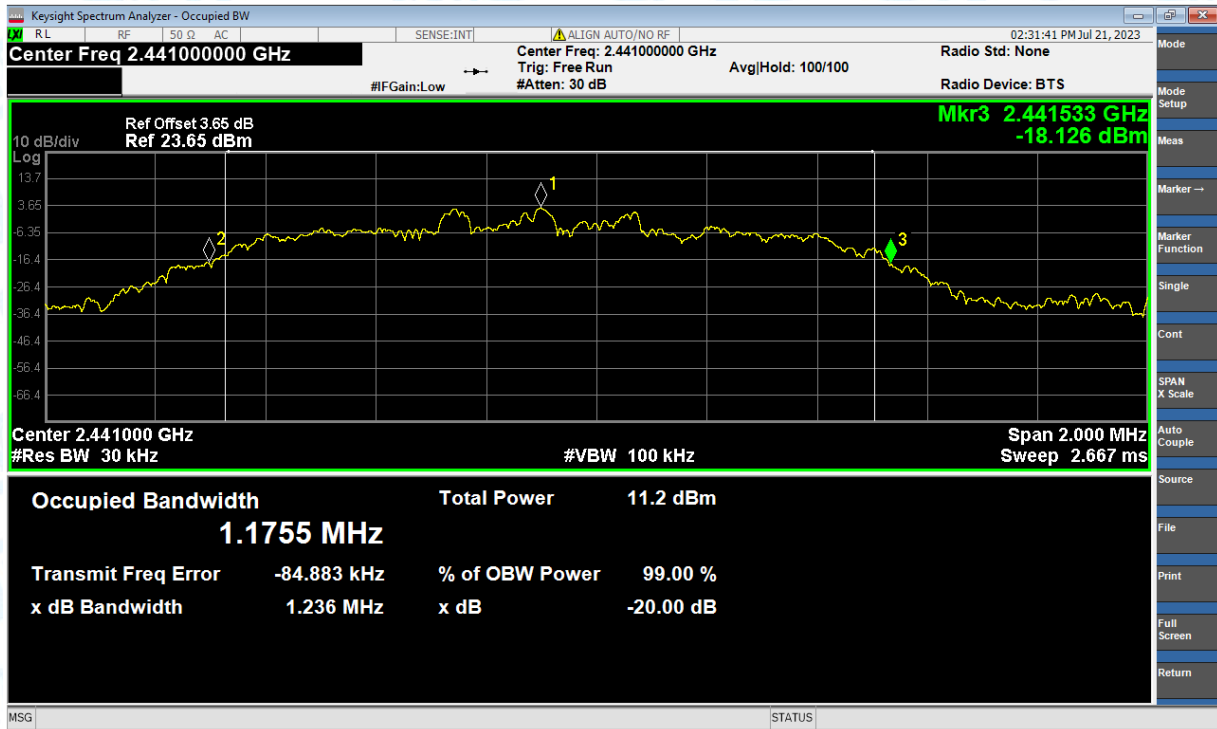
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

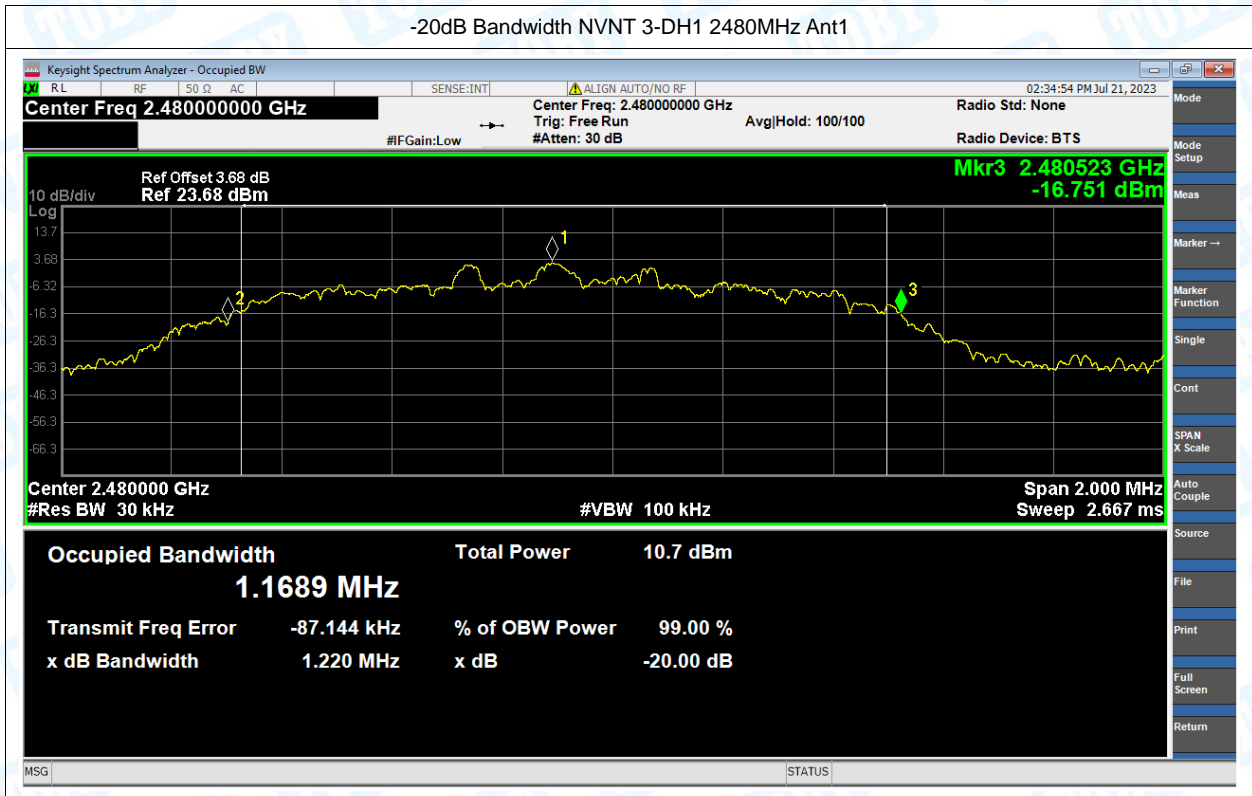


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



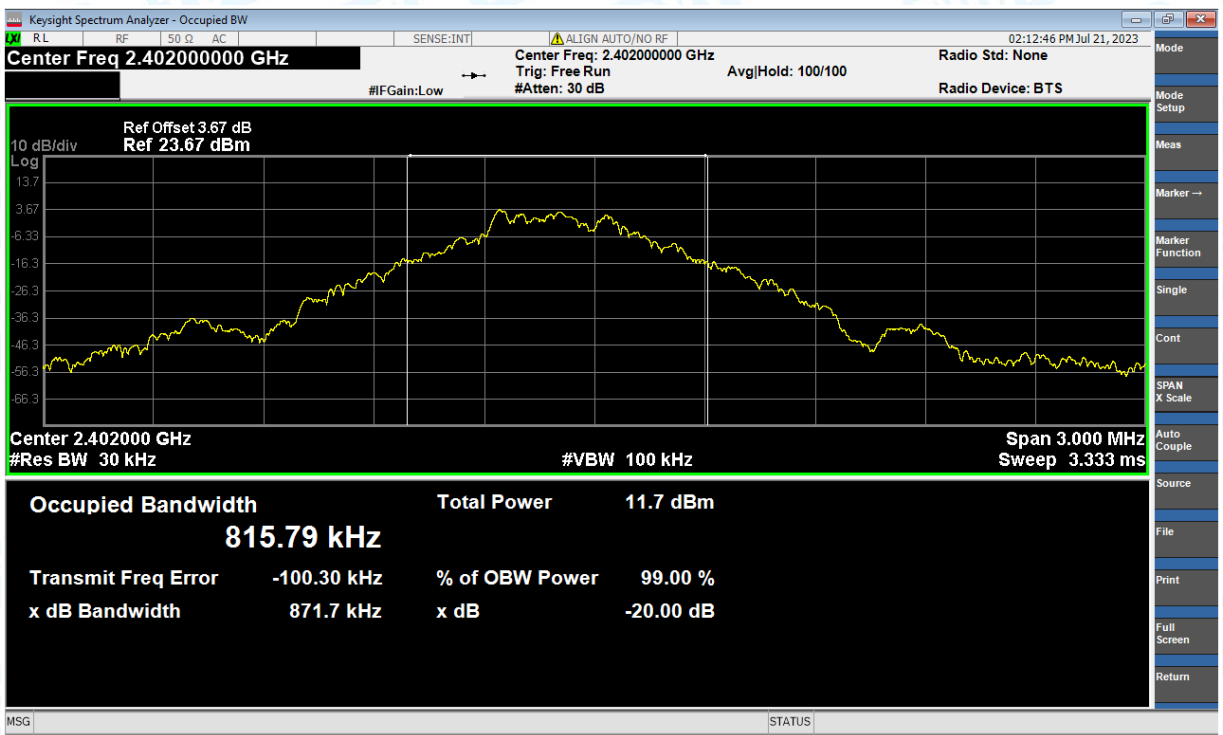


4. Occupied Channel Bandwidth

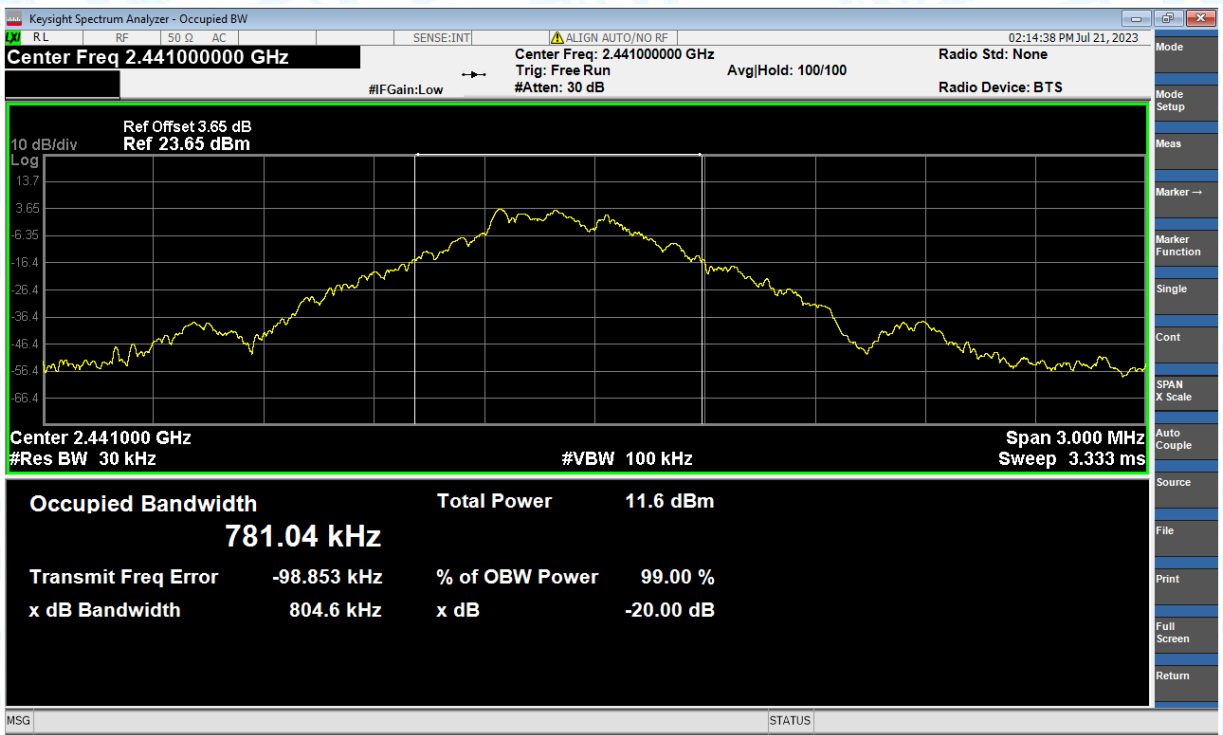
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.816
NVNT	1-DH1	2441	Ant1	0.781
NVNT	1-DH1	2480	Ant1	0.84
NVNT	2-DH1	2402	Ant1	1.29
NVNT	2-DH1	2441	Ant1	1.217
NVNT	2-DH1	2480	Ant1	1.202
NVNT	3-DH1	2402	Ant1	1.209
NVNT	3-DH1	2441	Ant1	1.195
NVNT	3-DH1	2480	Ant1	1.173

Test Graphs

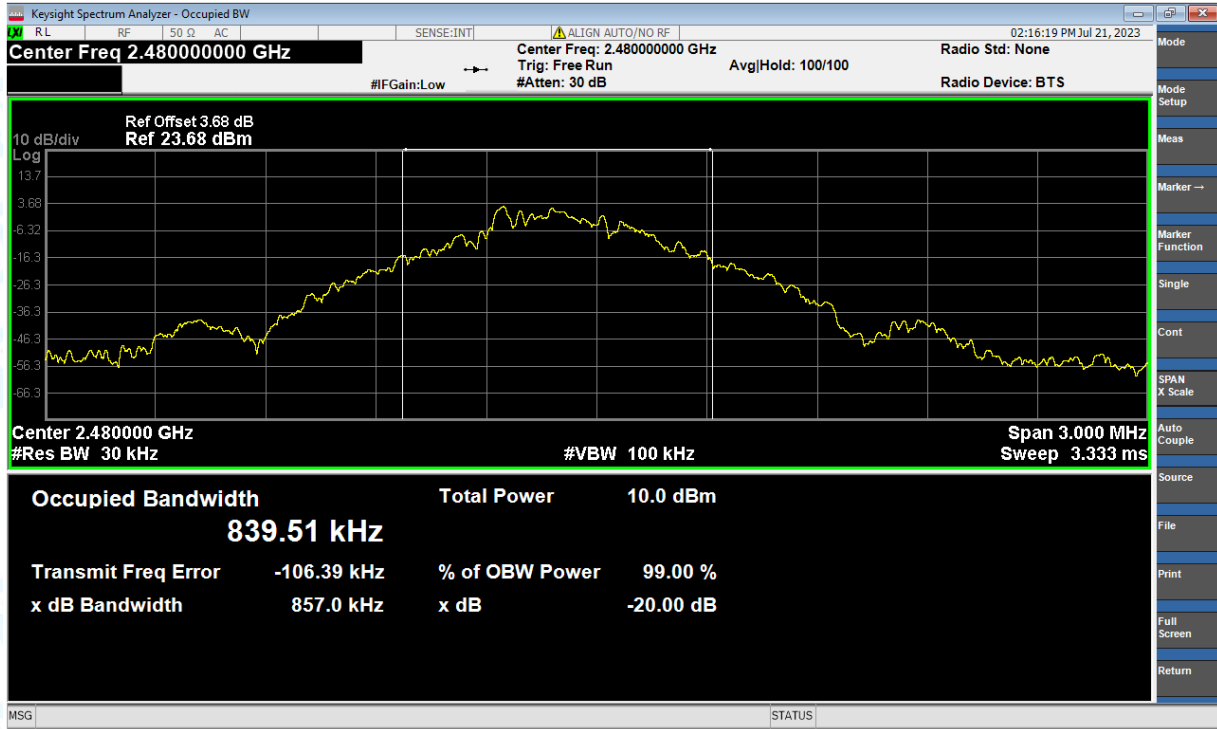
OBW NVNT 1-DH1 2402MHz Ant1



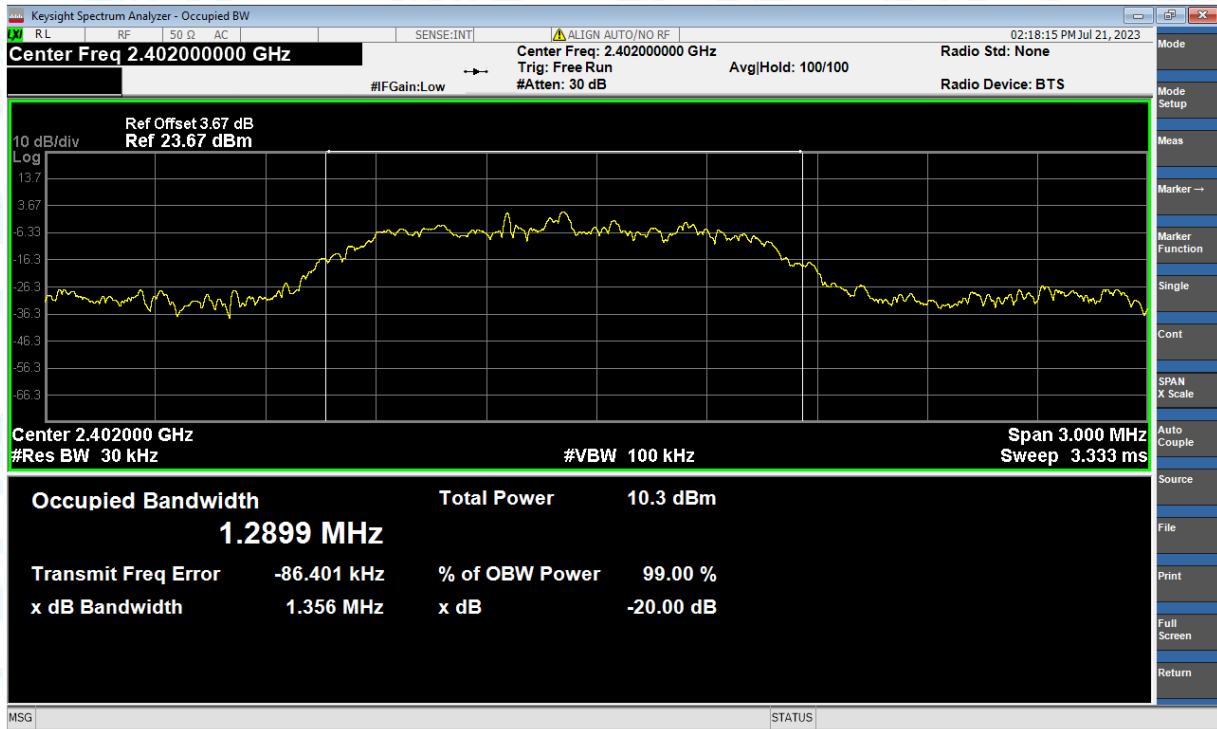
OBW NVNT 1-DH1 2441MHz Ant1



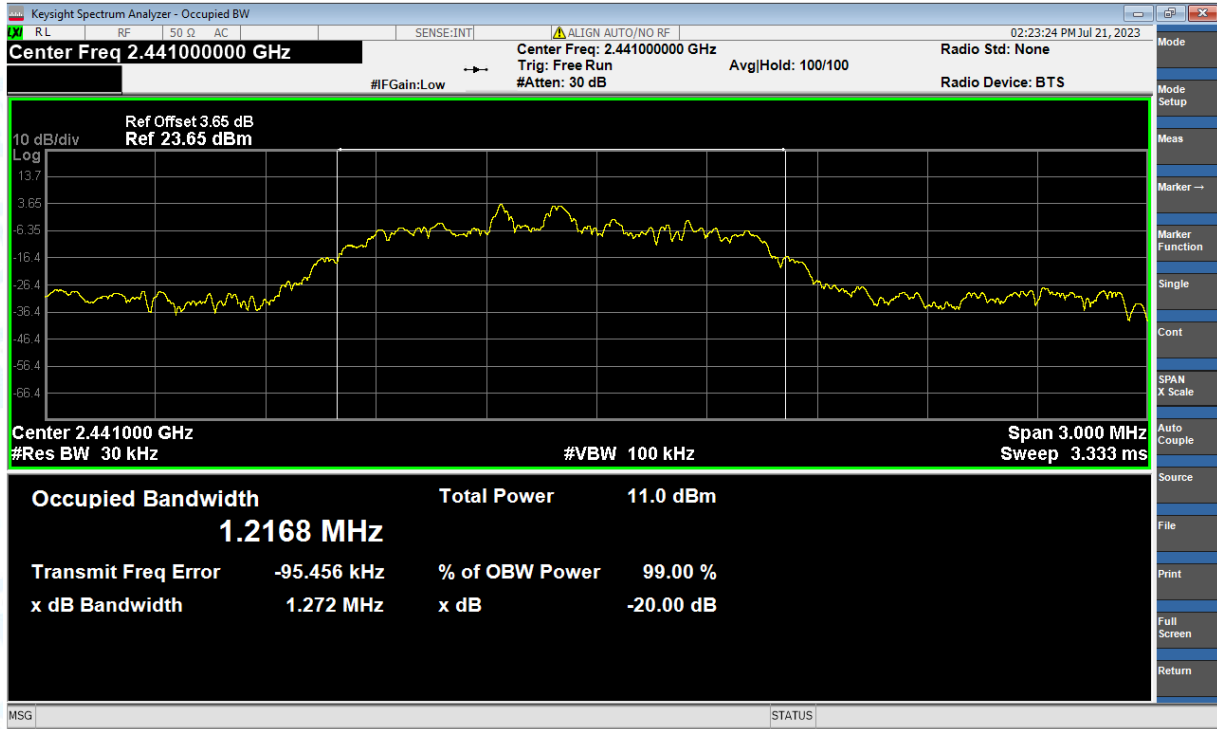
OBW NVNT 1-DH1 2480MHz Ant1



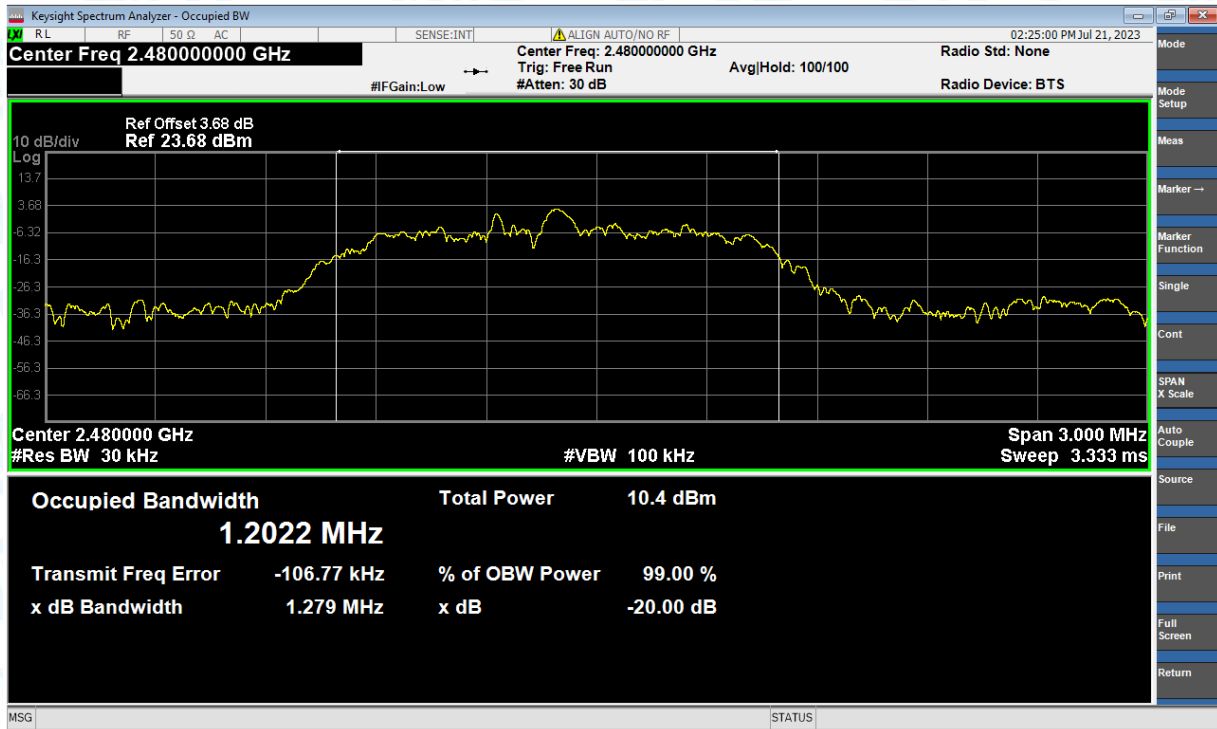
OBW NVNT 2-DH1 2402MHz Ant1



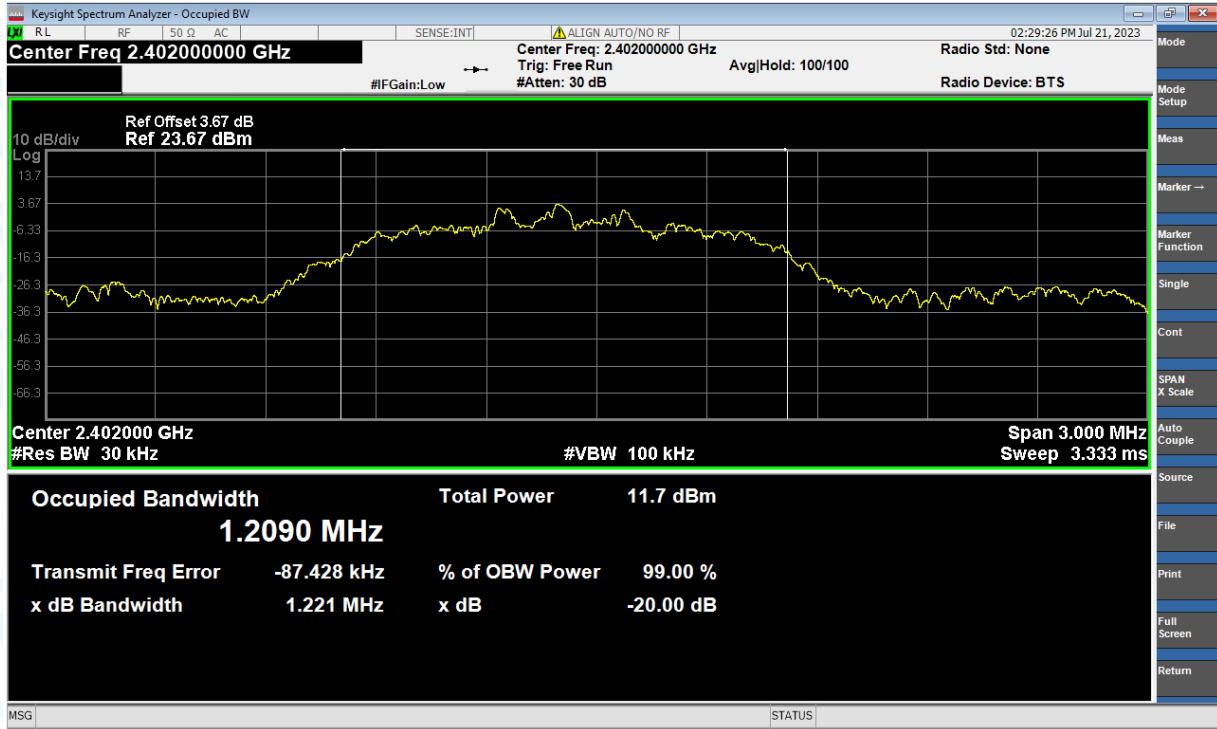
OBW NVNT 2-DH1 2441MHz Ant1



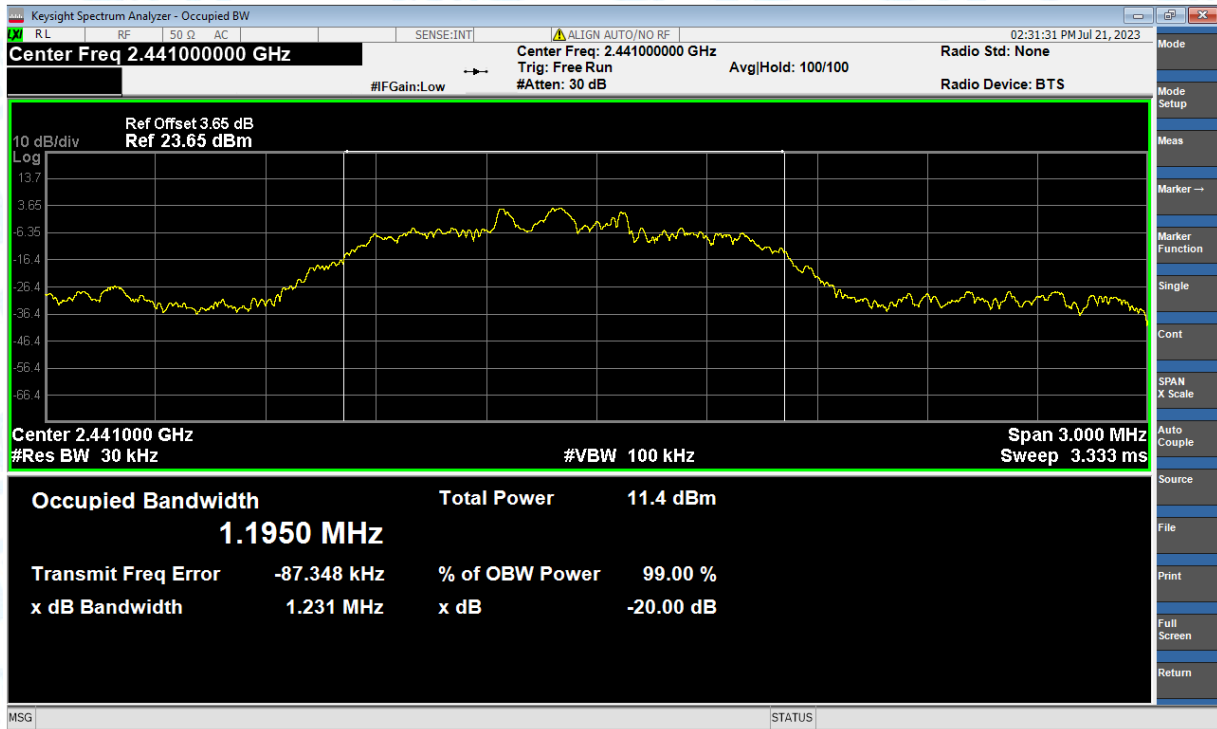
OBW NVNT 2-DH1 2480MHz Ant1

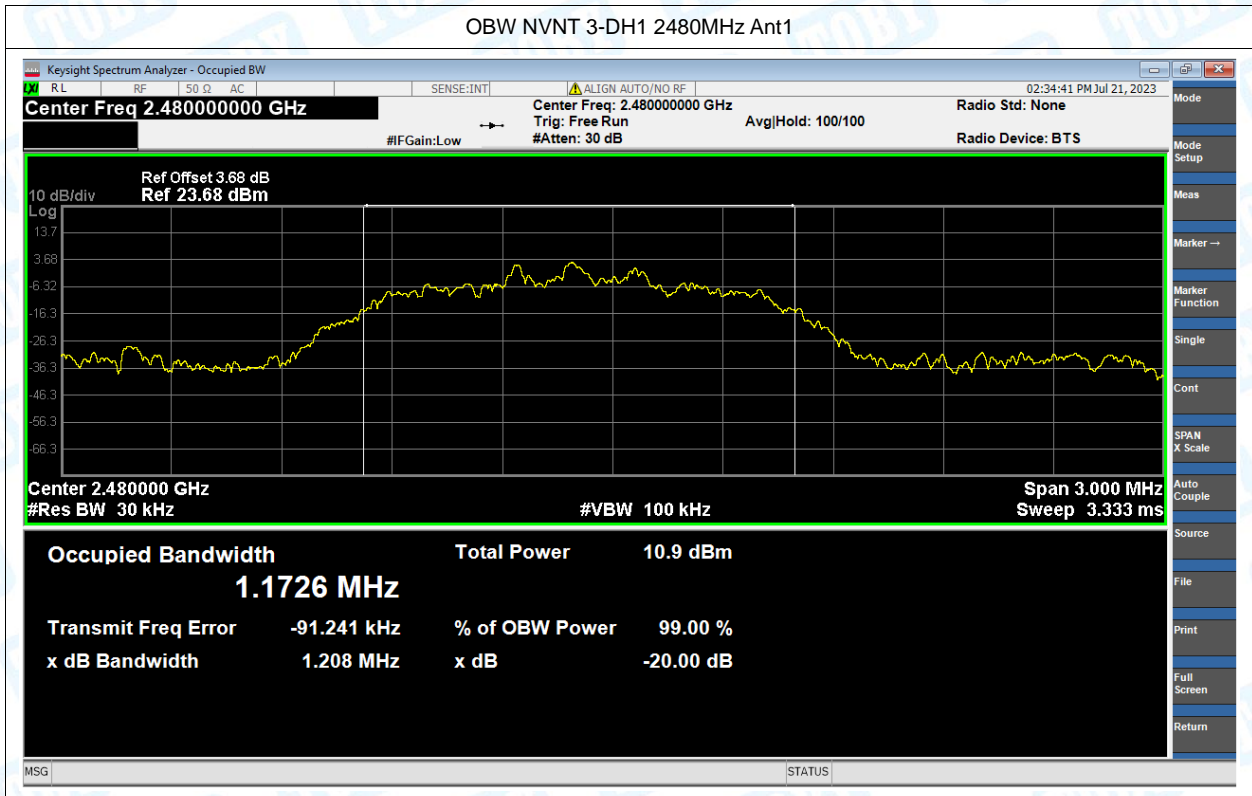


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



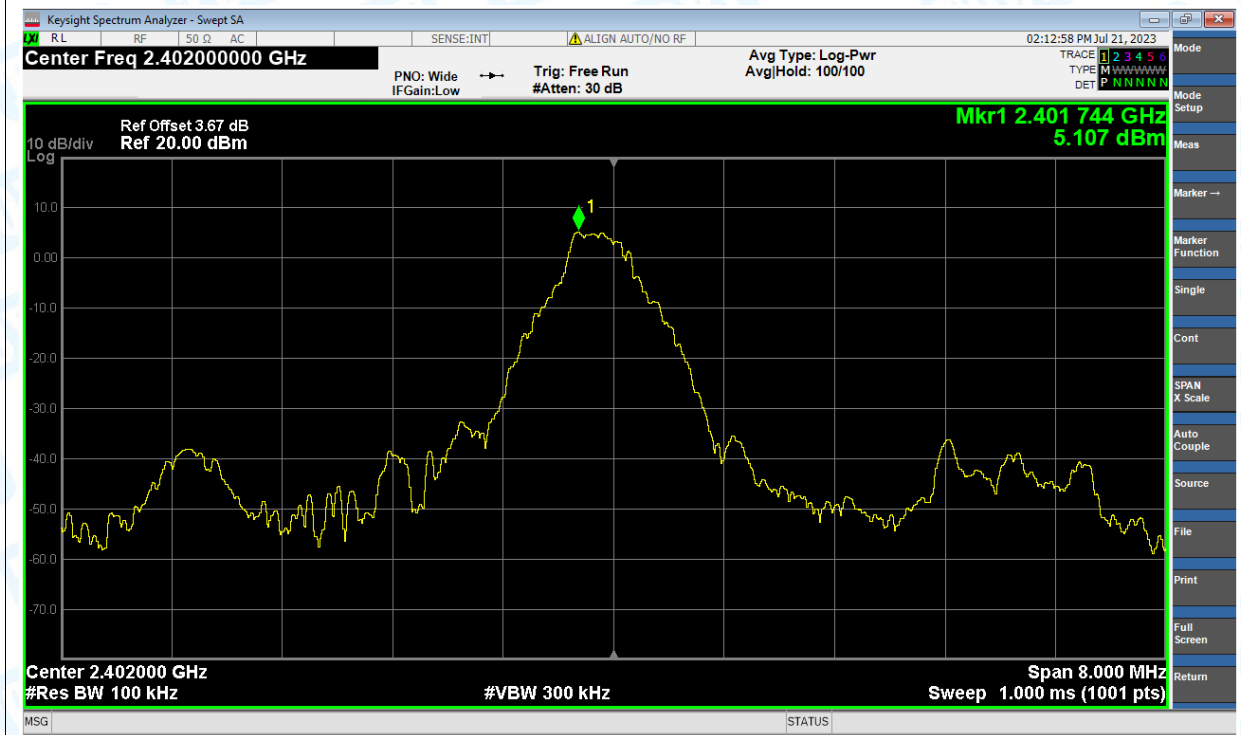


5. Band Edge

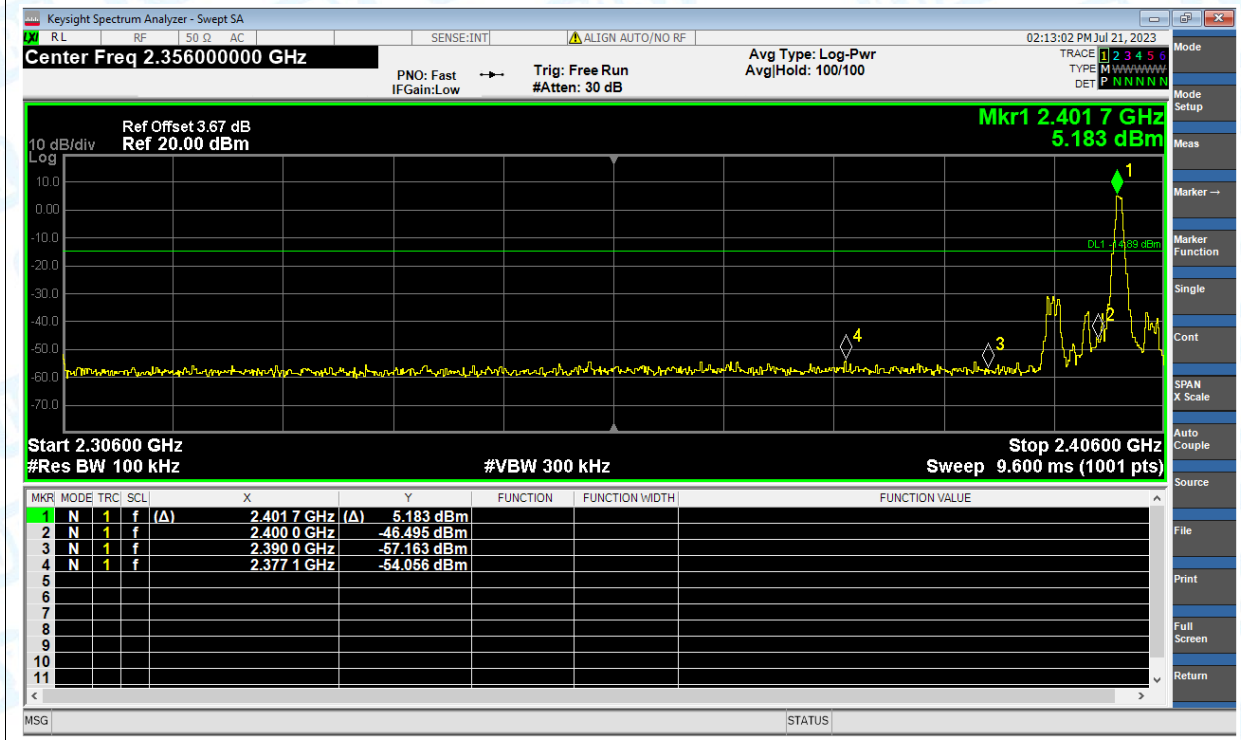
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-59.17	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-45.04	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-59.9	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-45.51	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-58.11	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-44.25	-20	Pass

Test Graphs

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



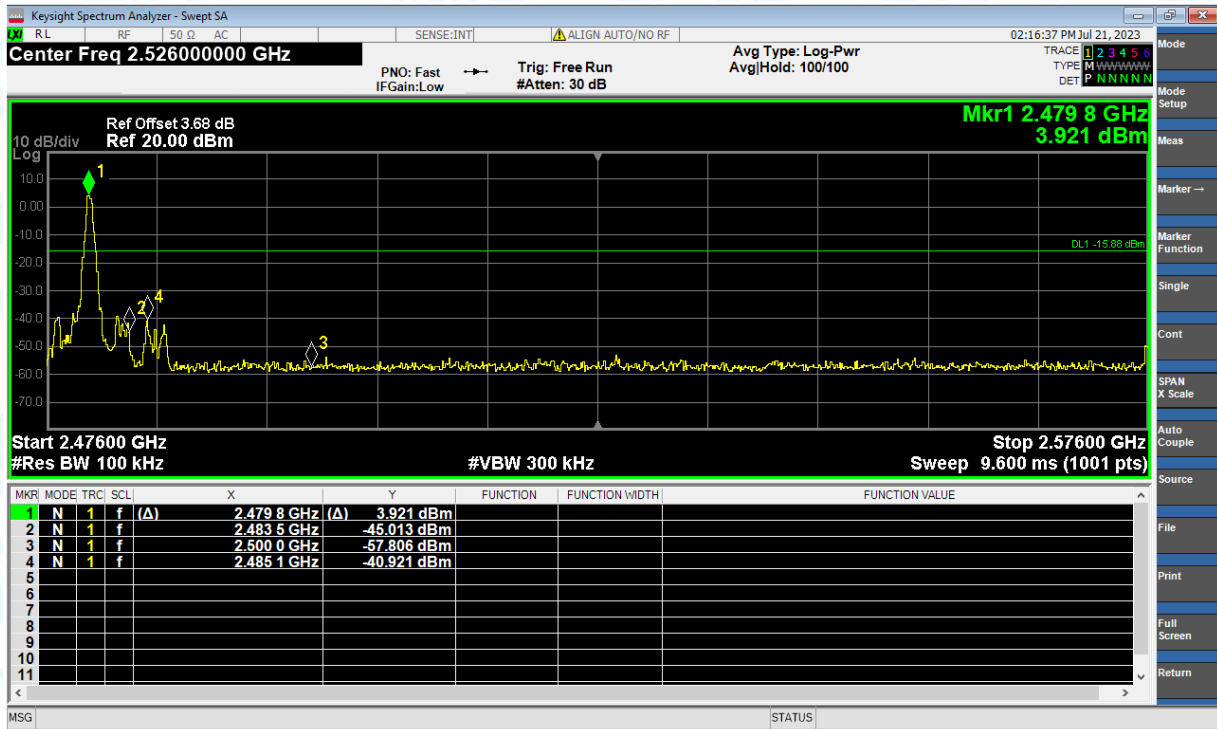
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



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



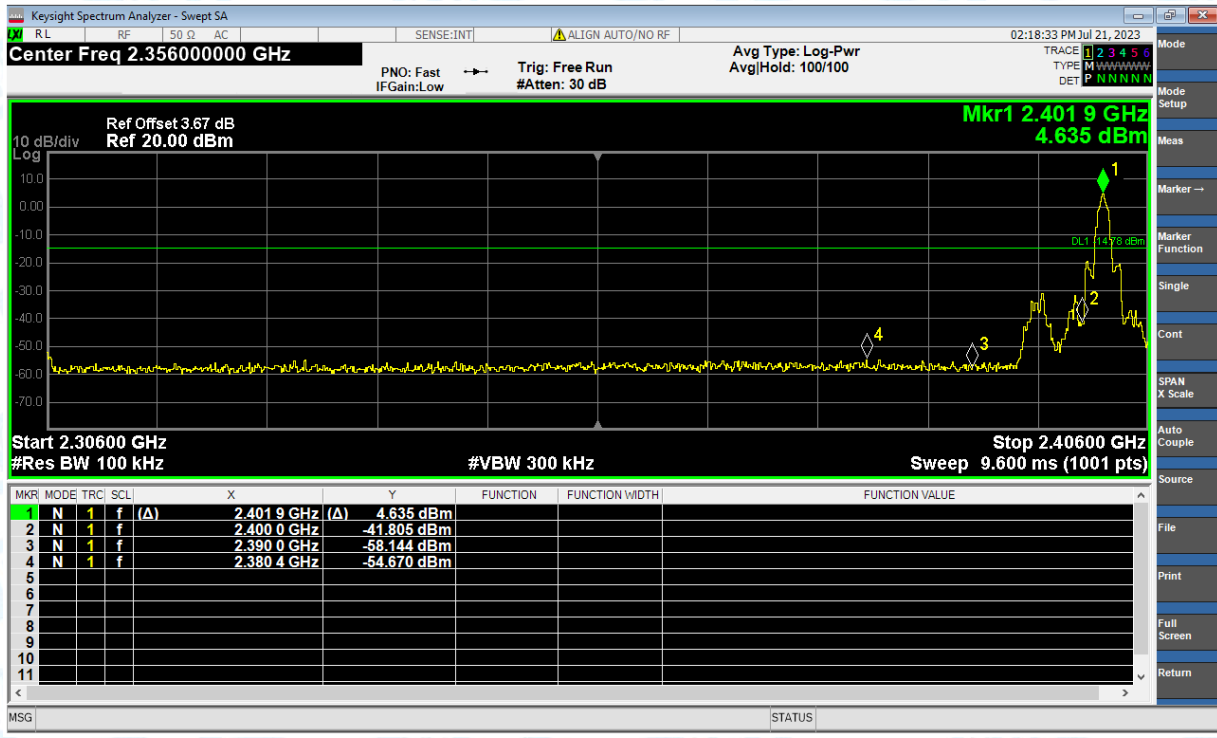
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



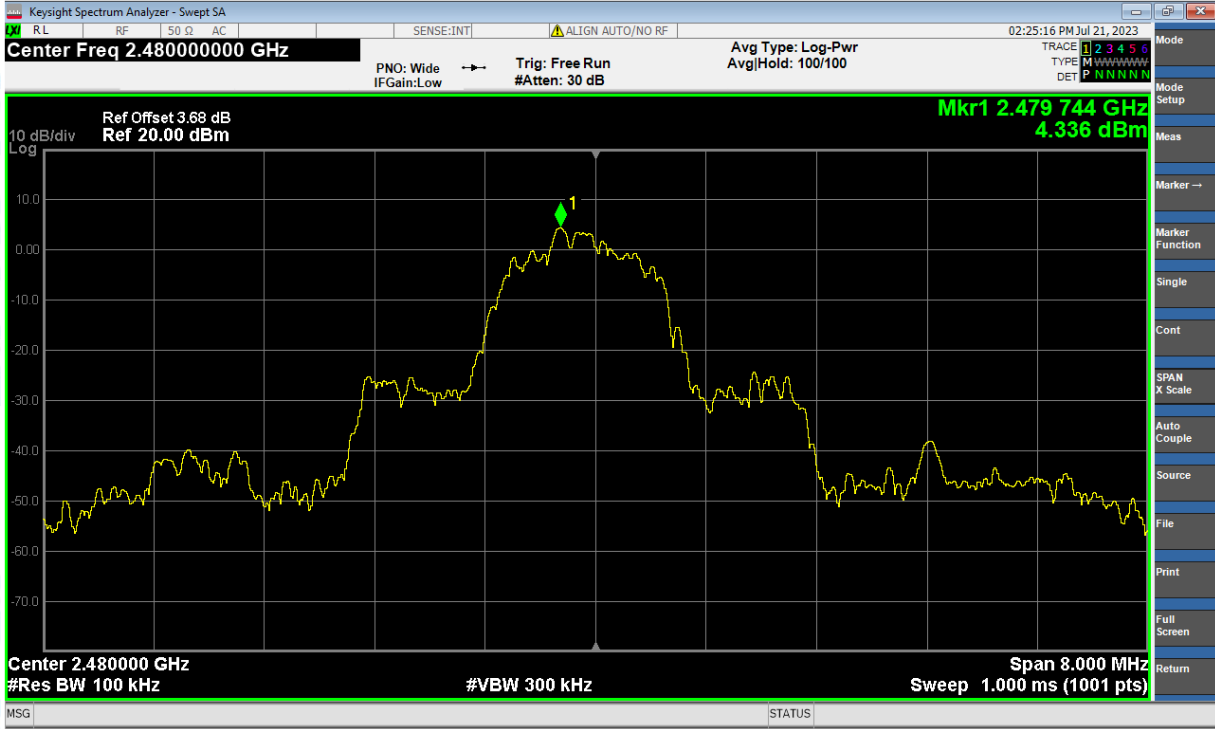
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



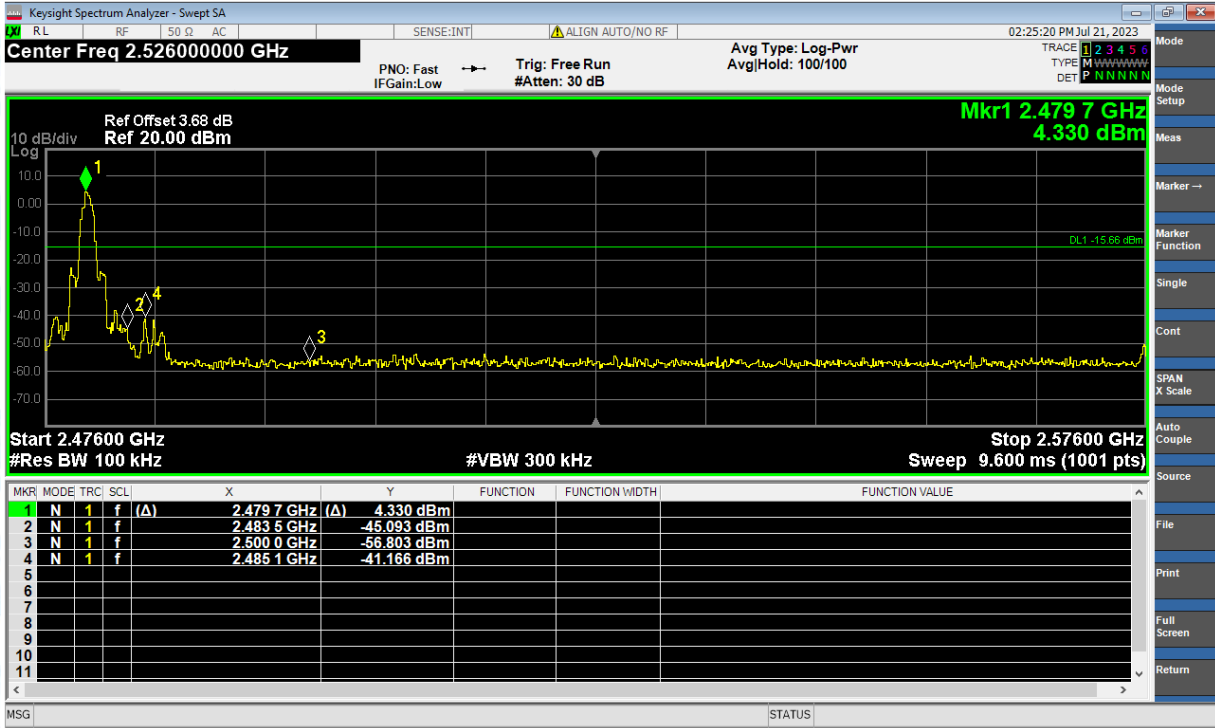
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



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



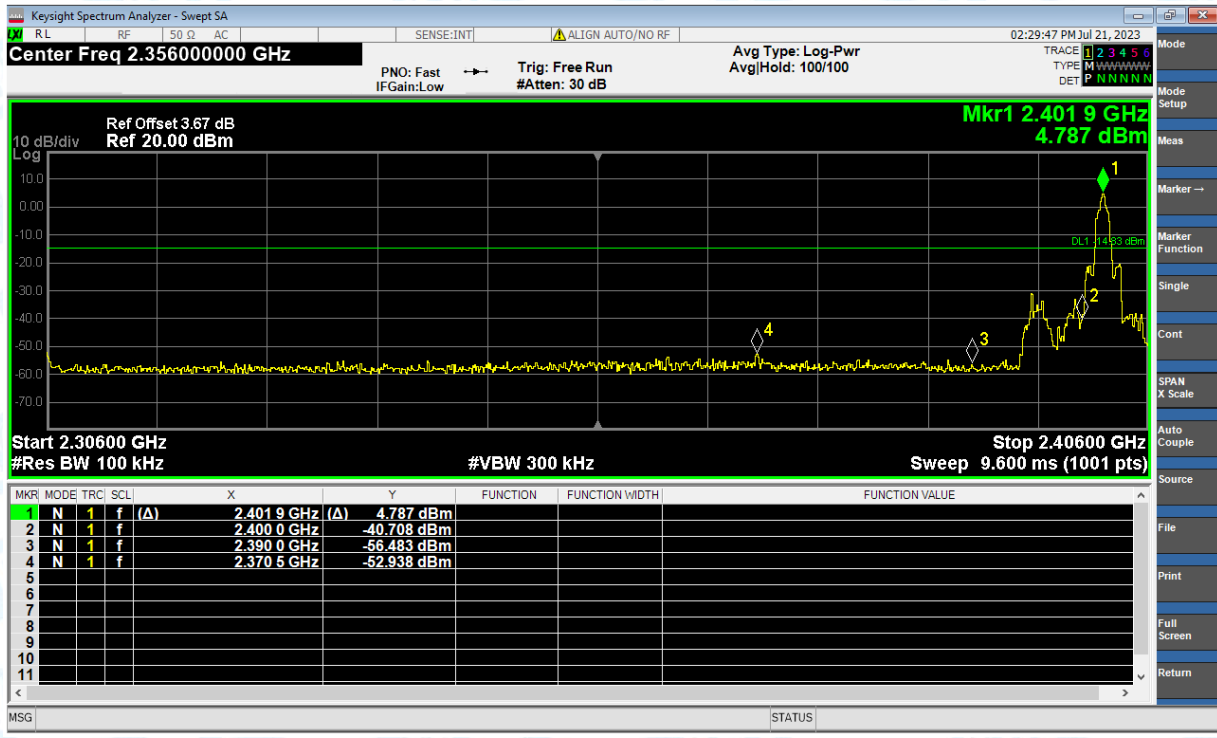
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



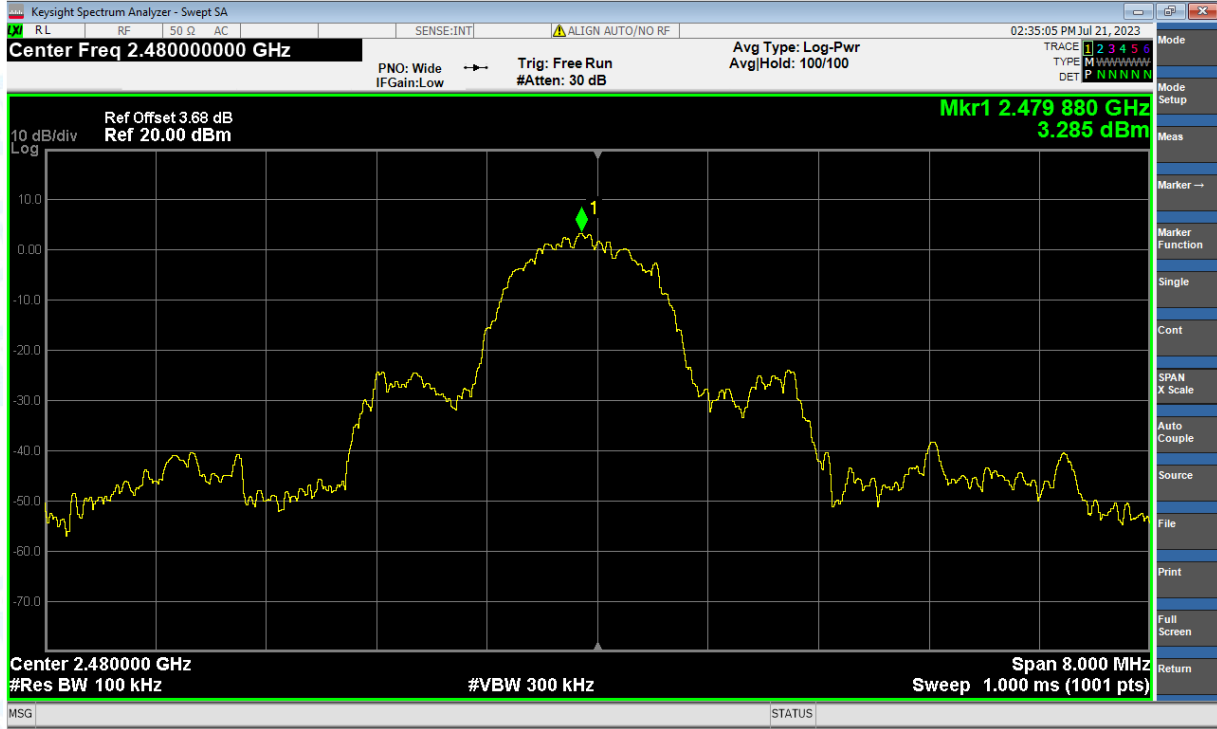
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



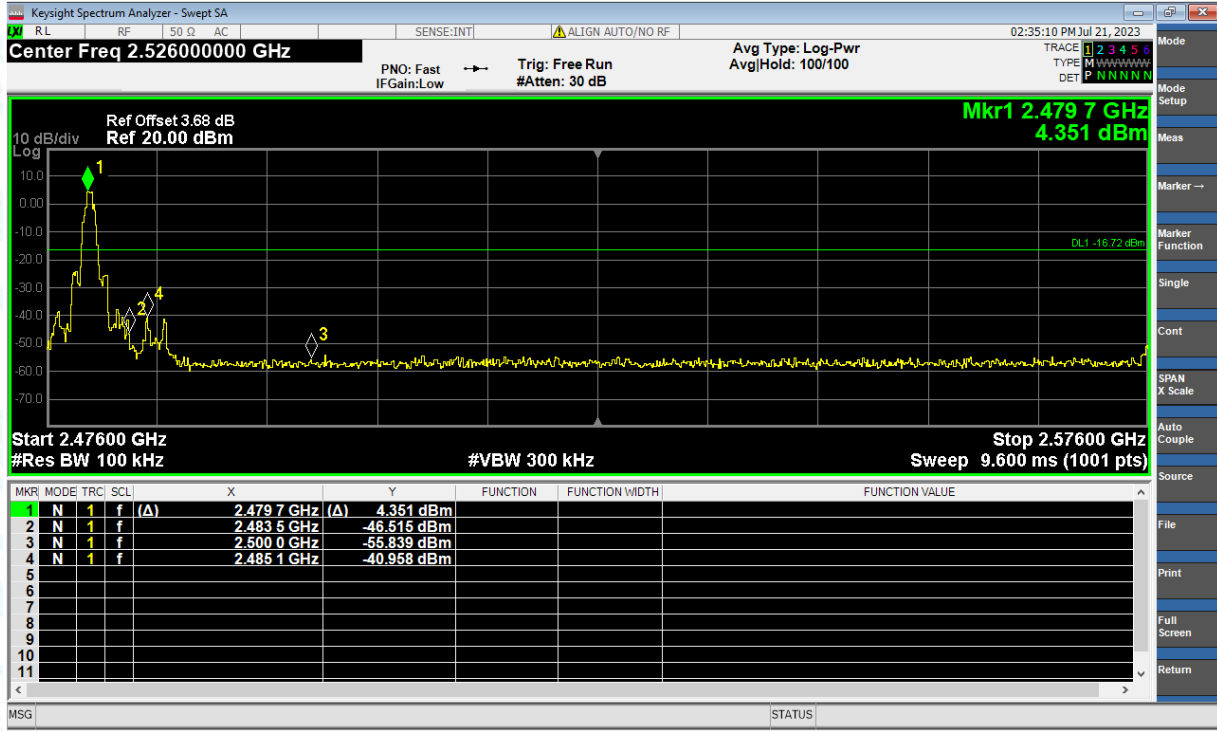
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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

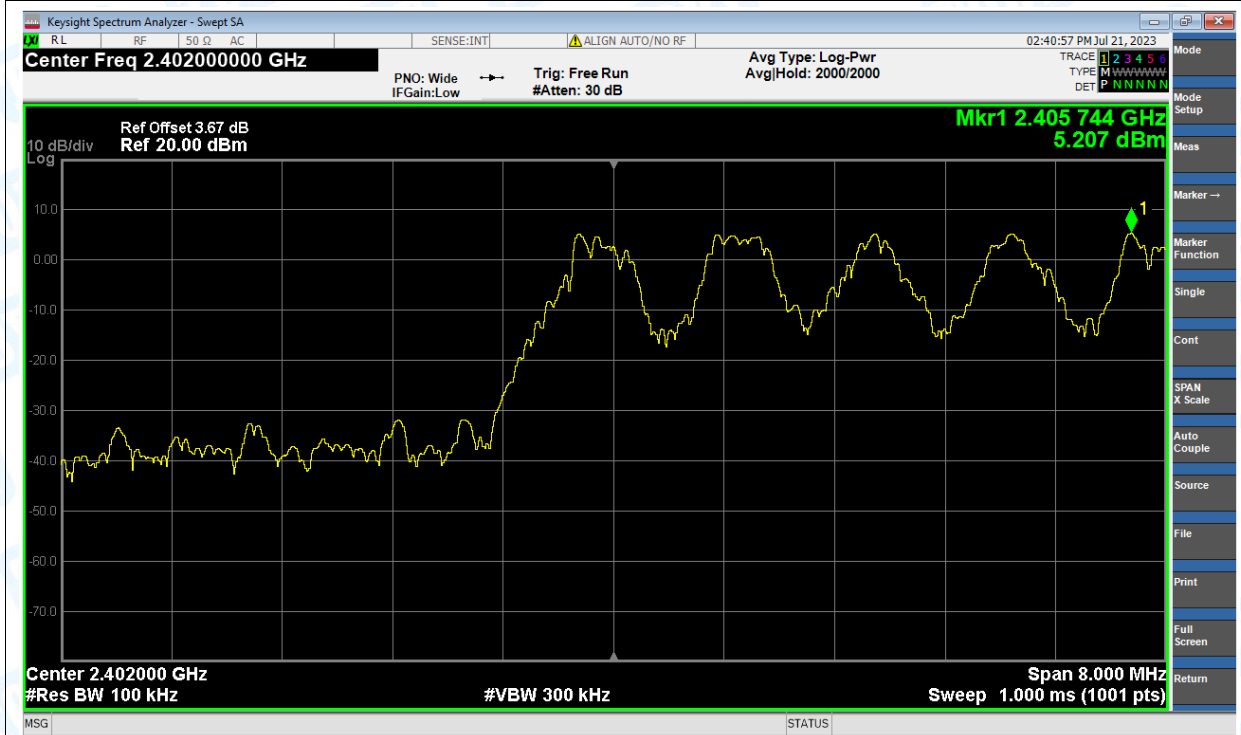


6. Band Edge(Hopping)

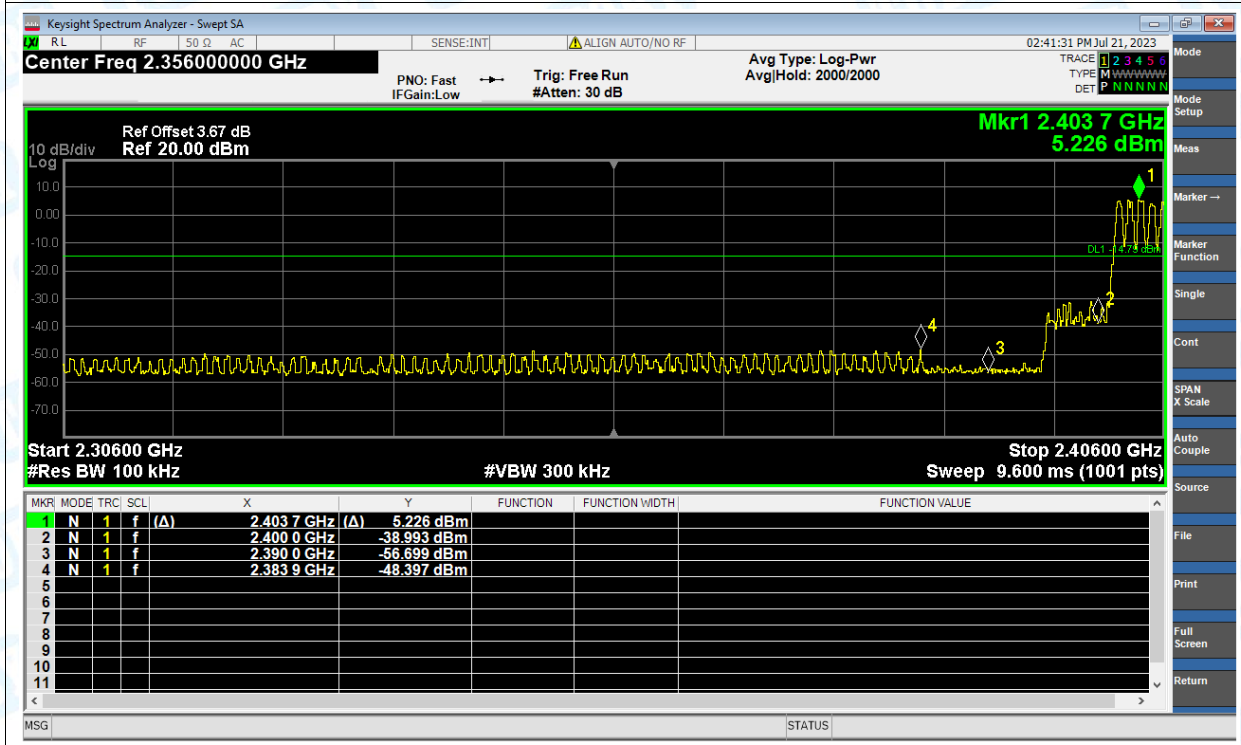
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-53.61	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-45.33	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-53.58	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-48.32	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-54	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-45.2	-20	Pass

Test Graphs

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



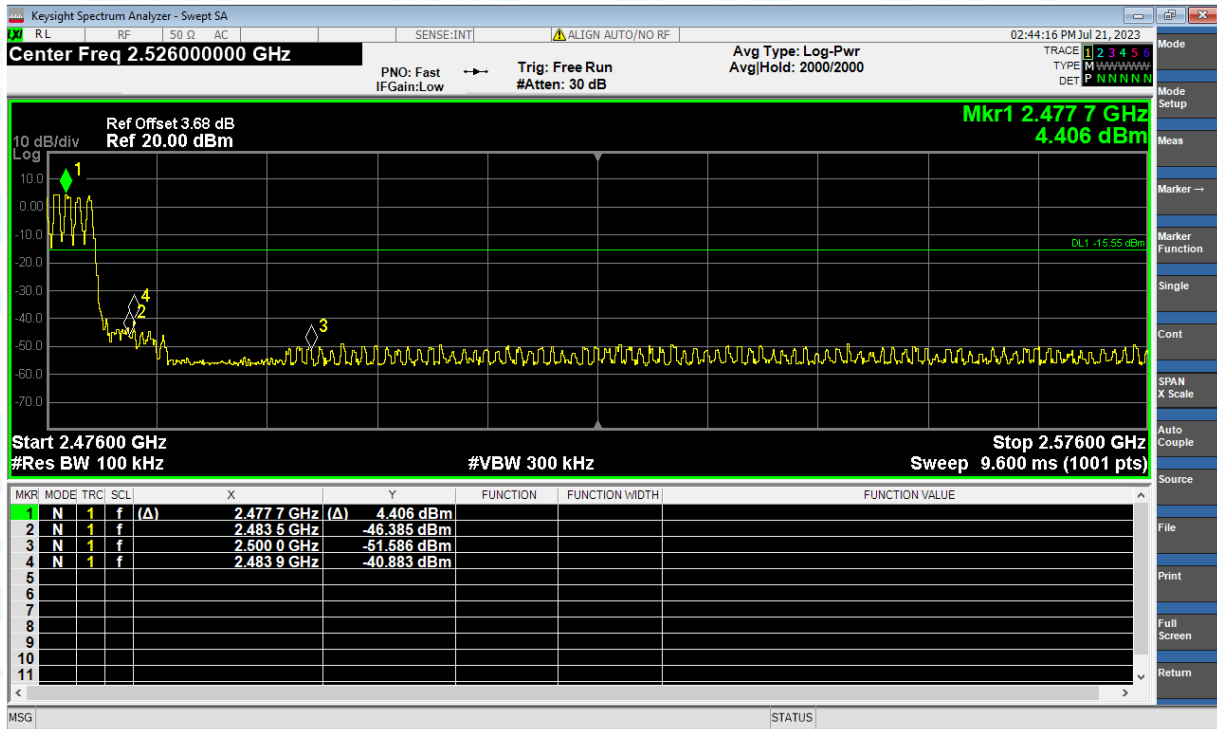
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Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



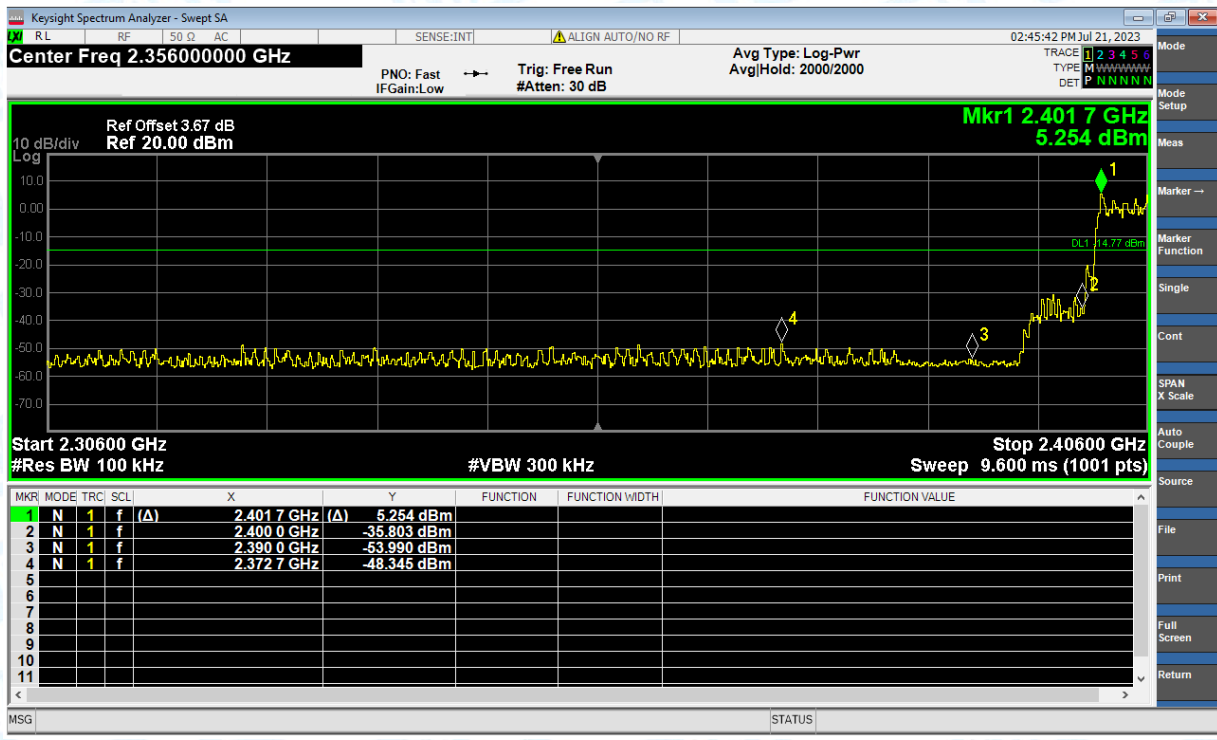
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



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



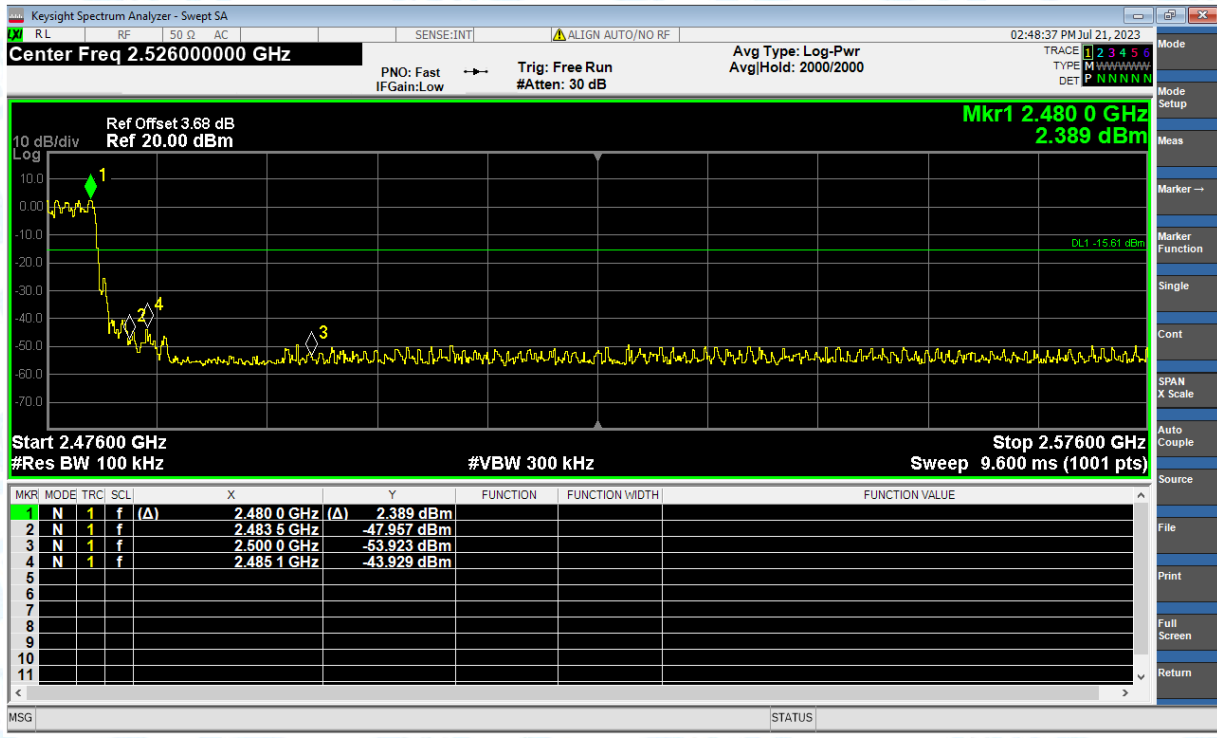
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



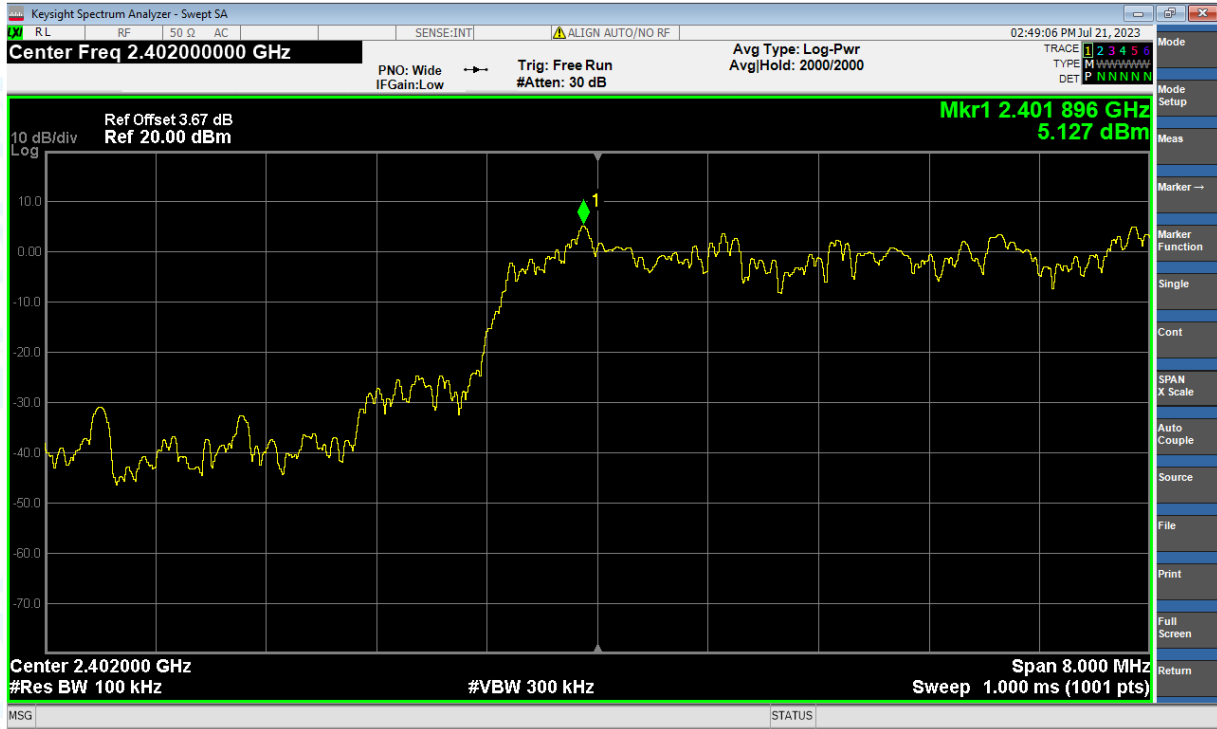
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



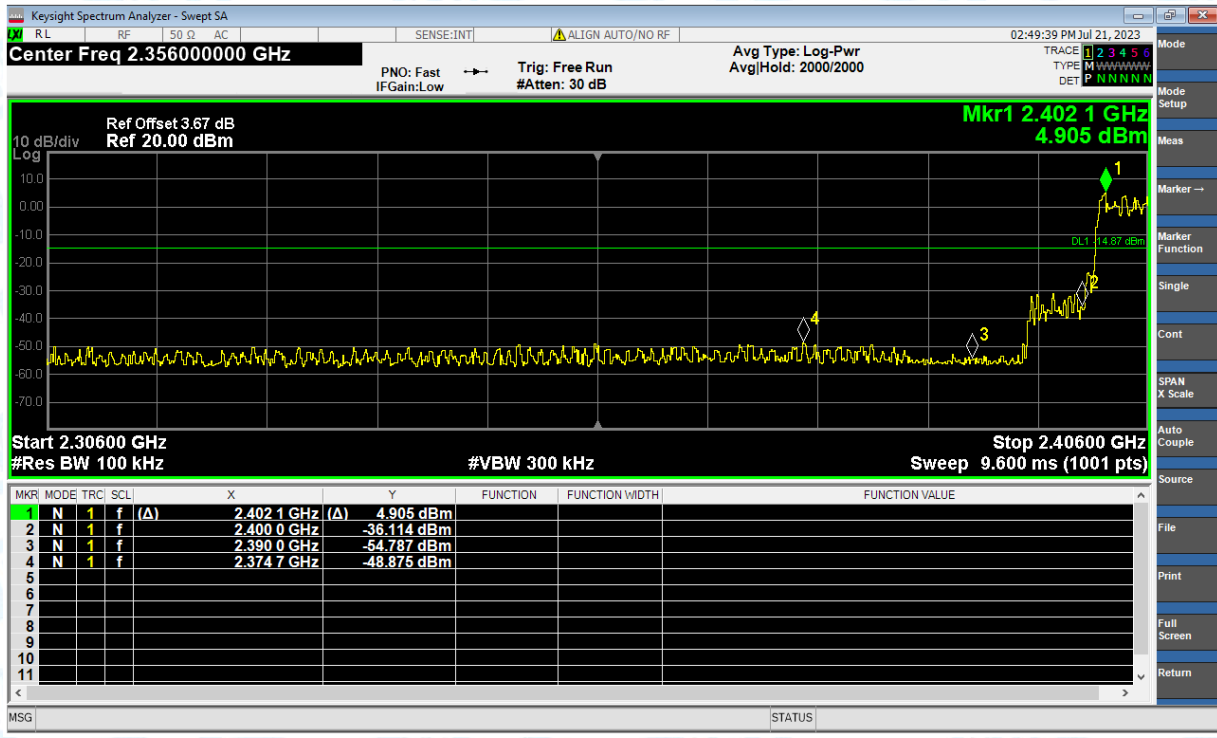
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



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



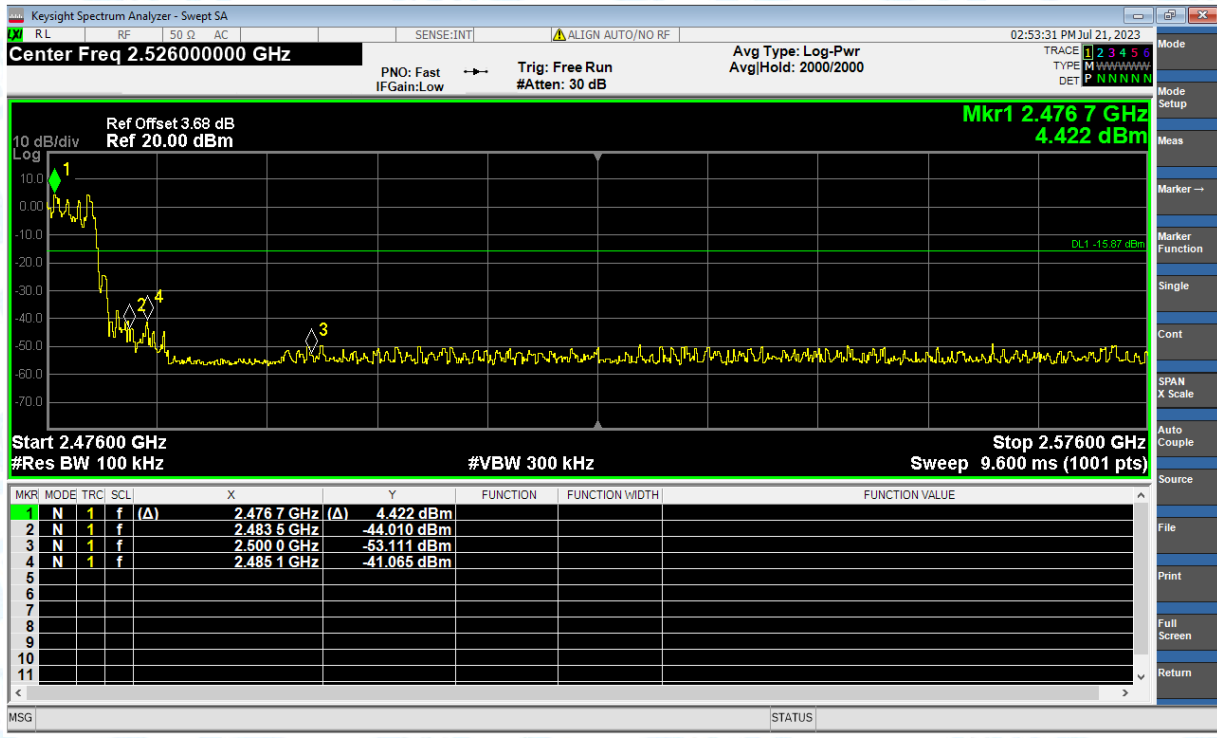
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

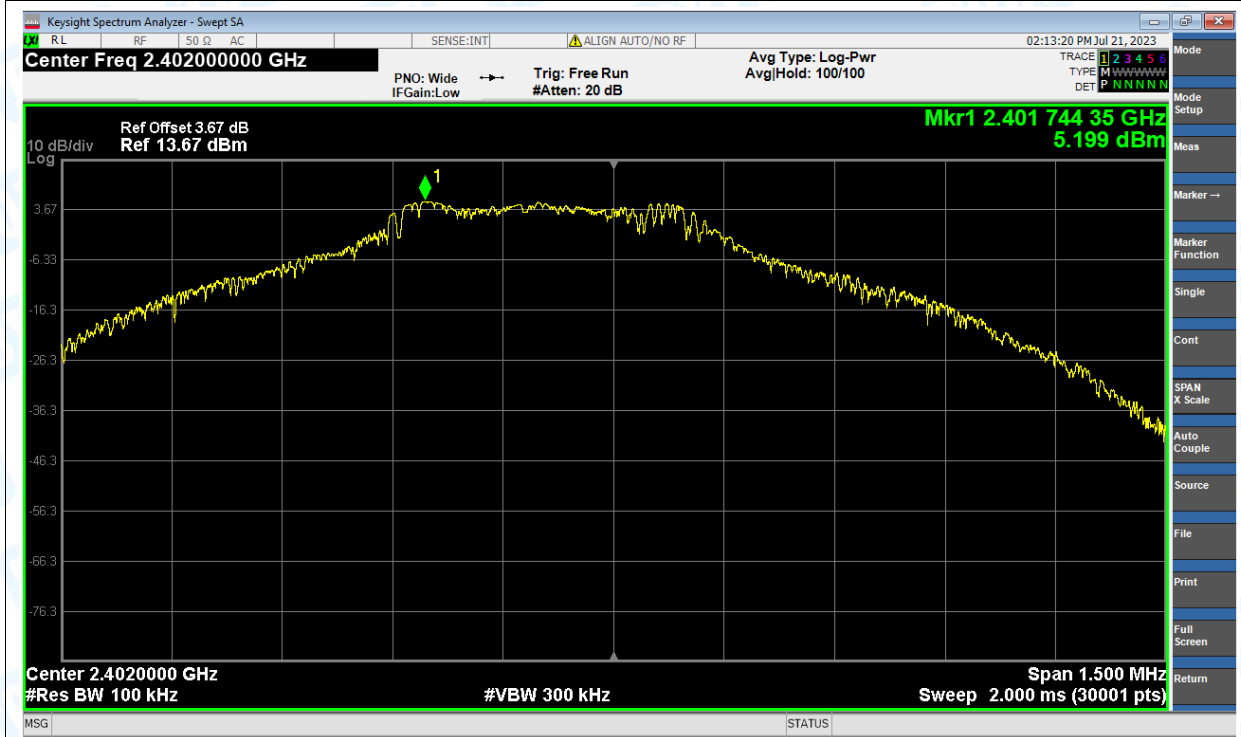


7. Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-44.6	-20	Pass
NVNT	1-DH1	2441	Ant1	-47.96	-20	Pass
NVNT	1-DH1	2480	Ant1	-43.81	-20	Pass
NVNT	2-DH1	2402	Ant1	-47.49	-20	Pass
NVNT	2-DH1	2441	Ant1	-48.01	-20	Pass
NVNT	2-DH1	2480	Ant1	-47.07	-20	Pass
NVNT	3-DH1	2402	Ant1	-44.23	-20	Pass
NVNT	3-DH1	2441	Ant1	-46.36	-20	Pass
NVNT	3-DH1	2480	Ant1	-44.24	-20	Pass

Test Graphs

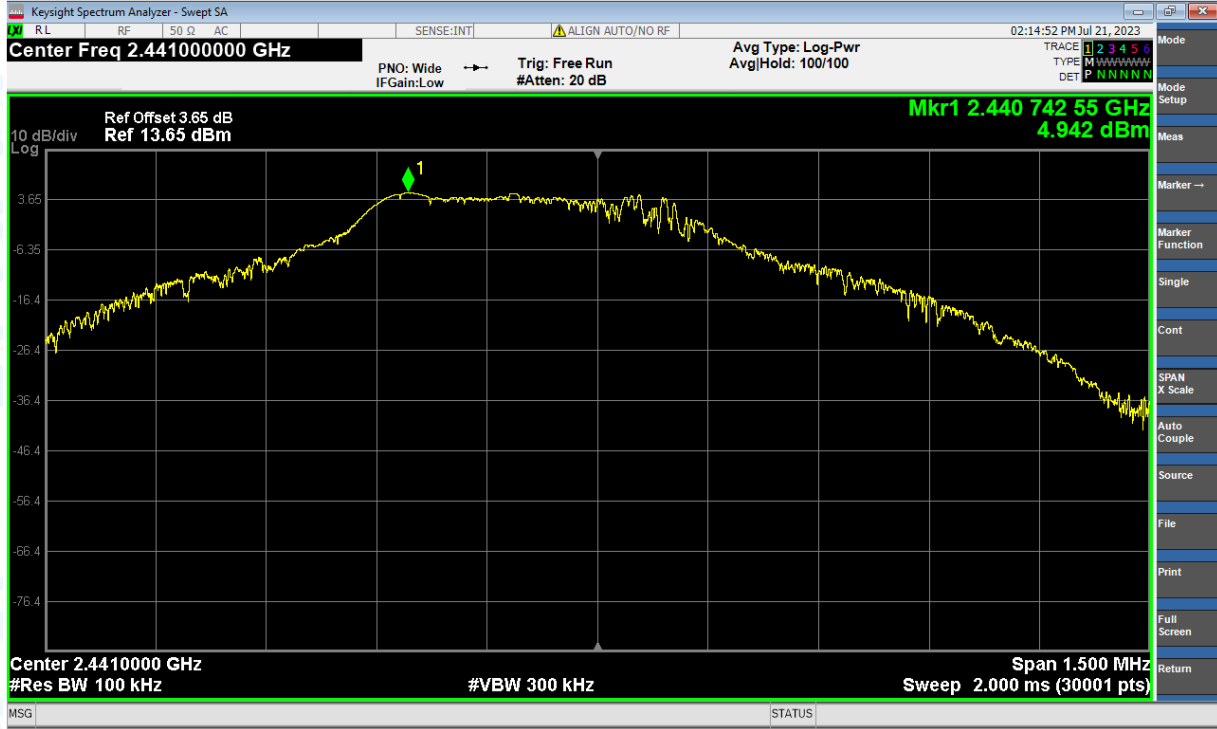
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



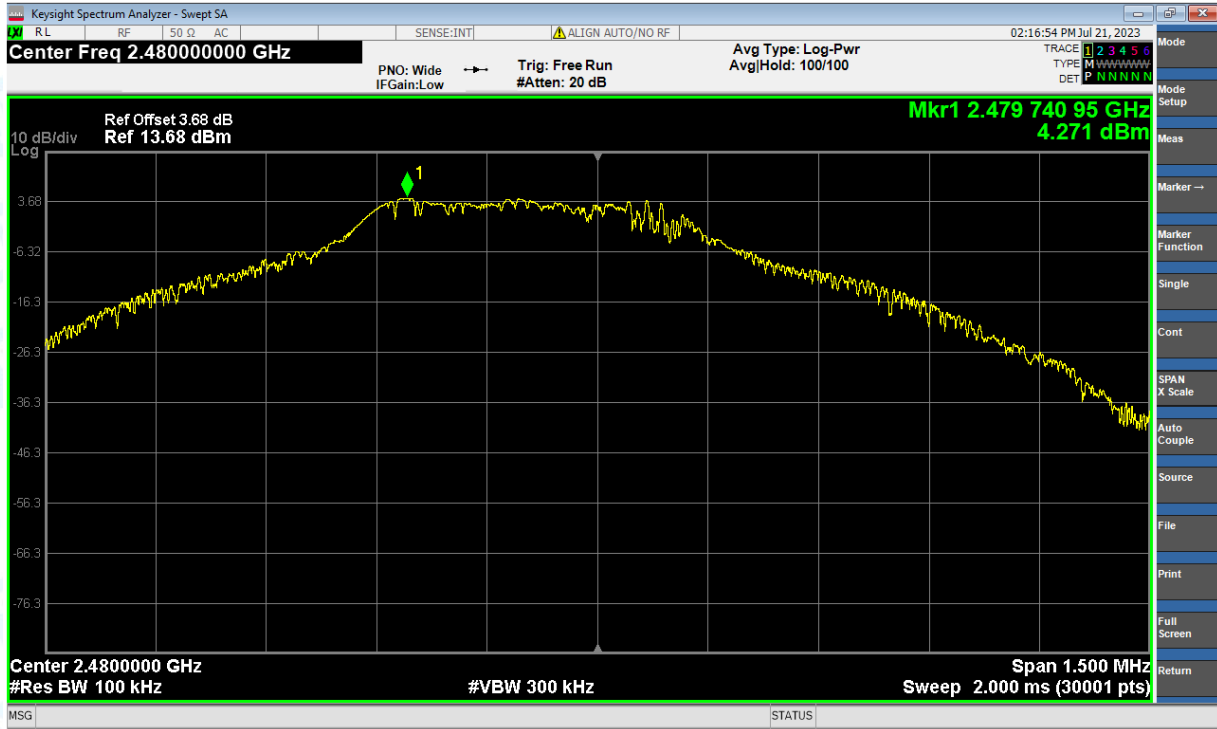
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



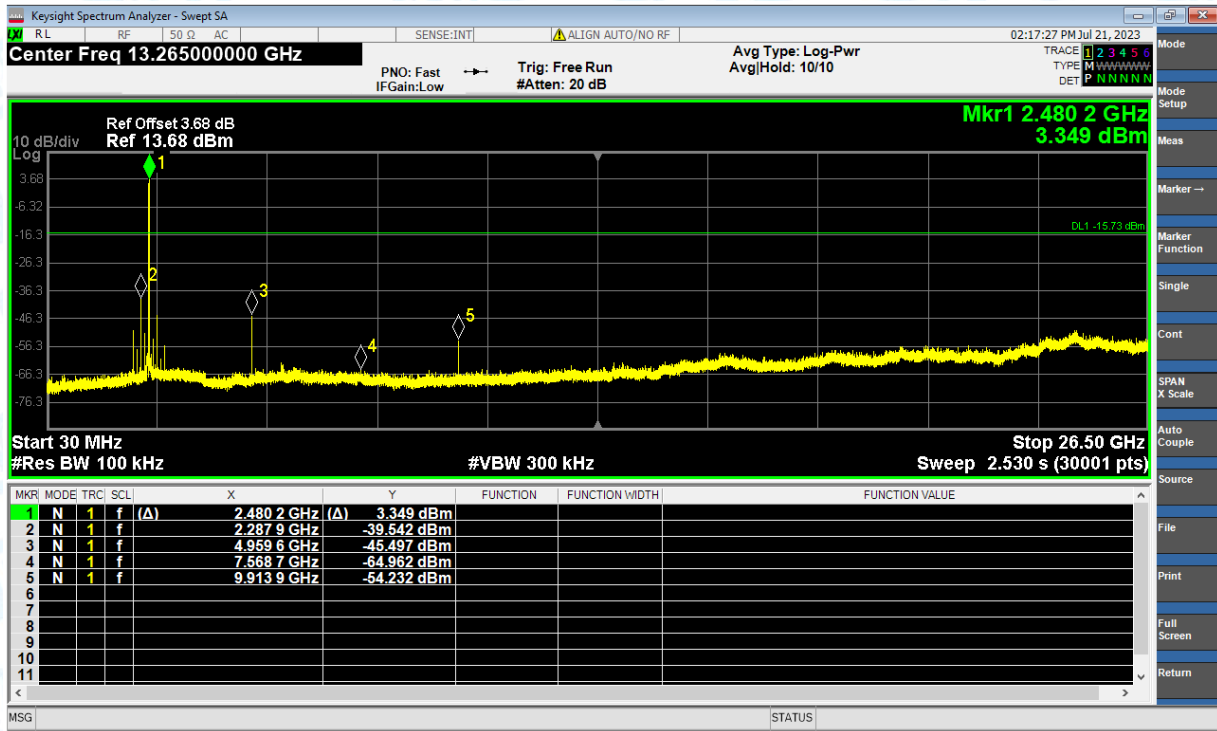
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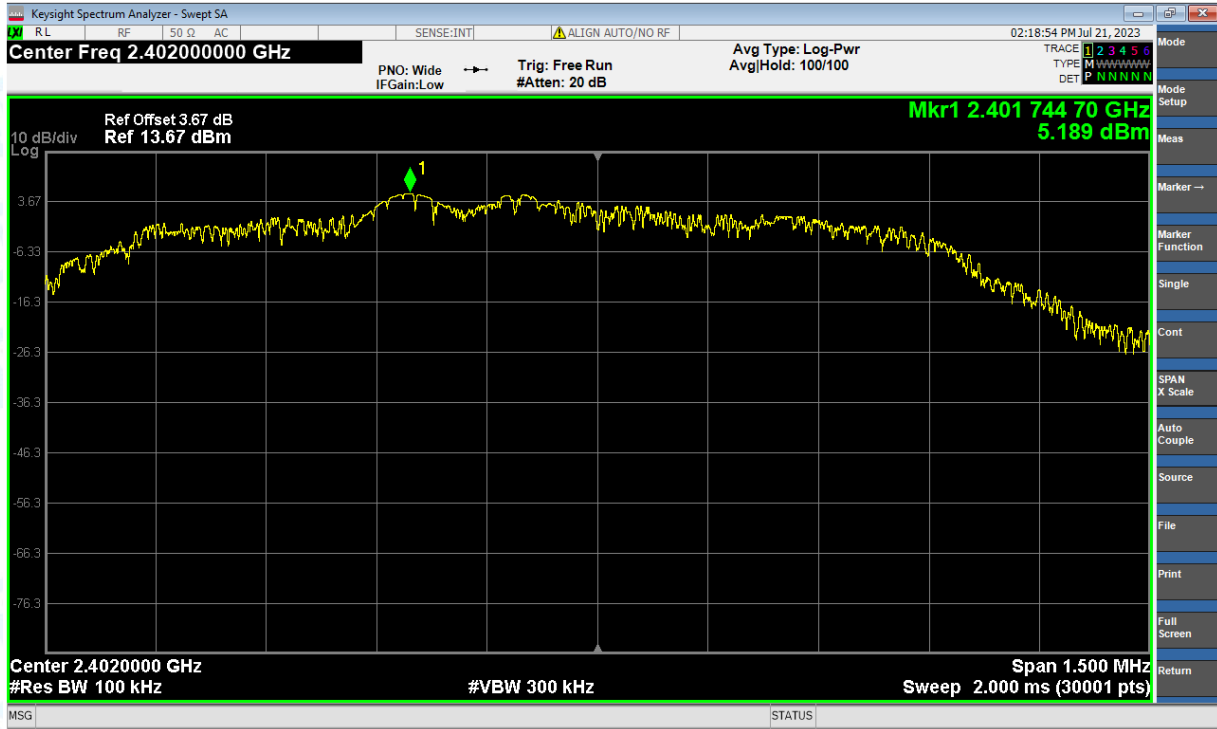
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



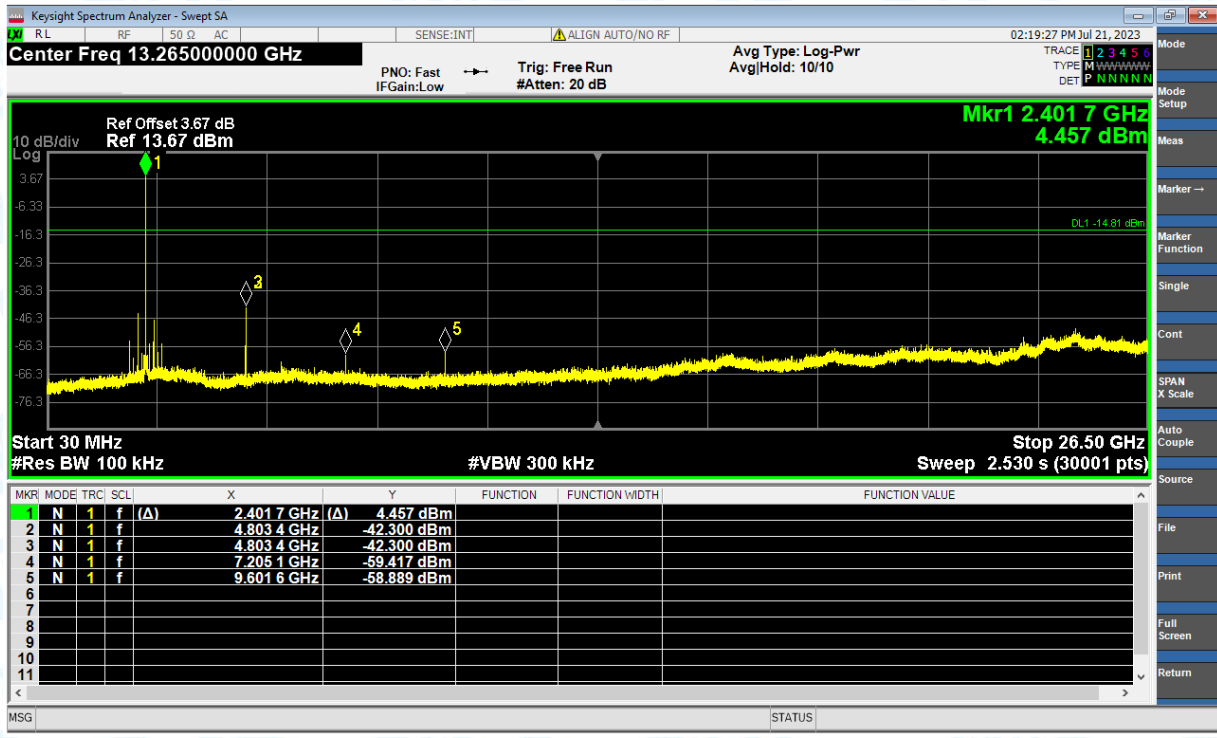
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



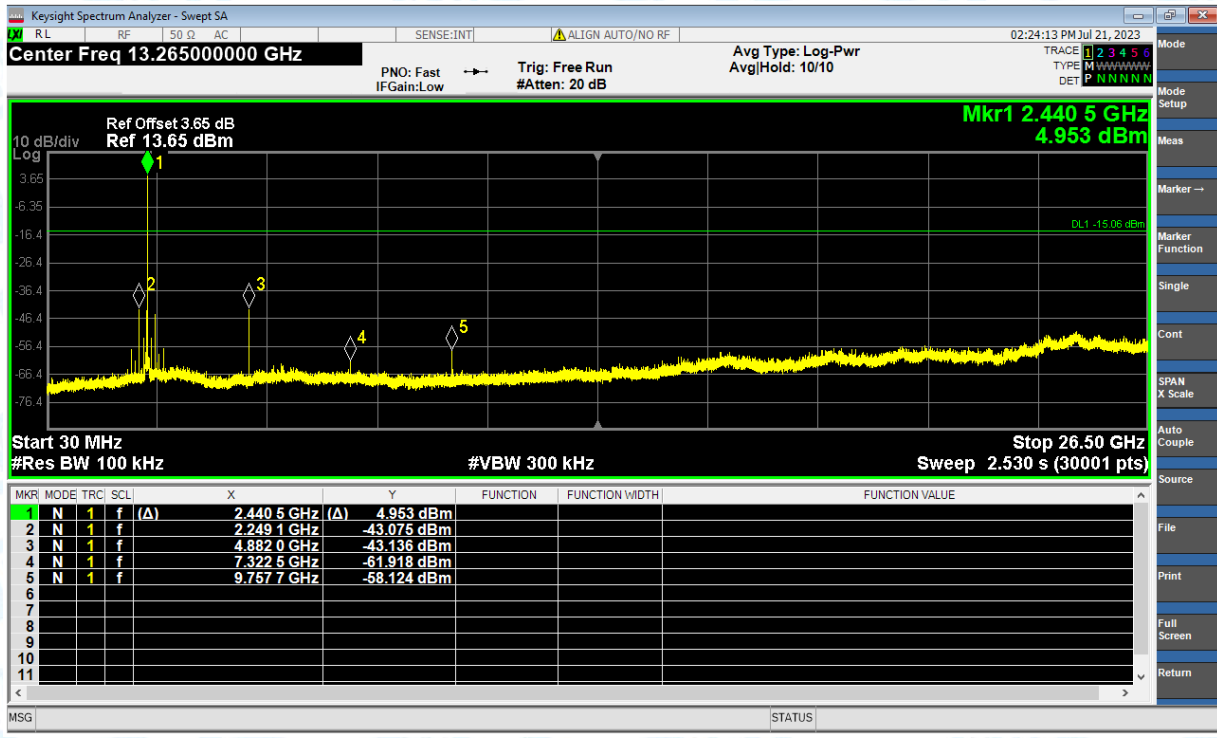
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



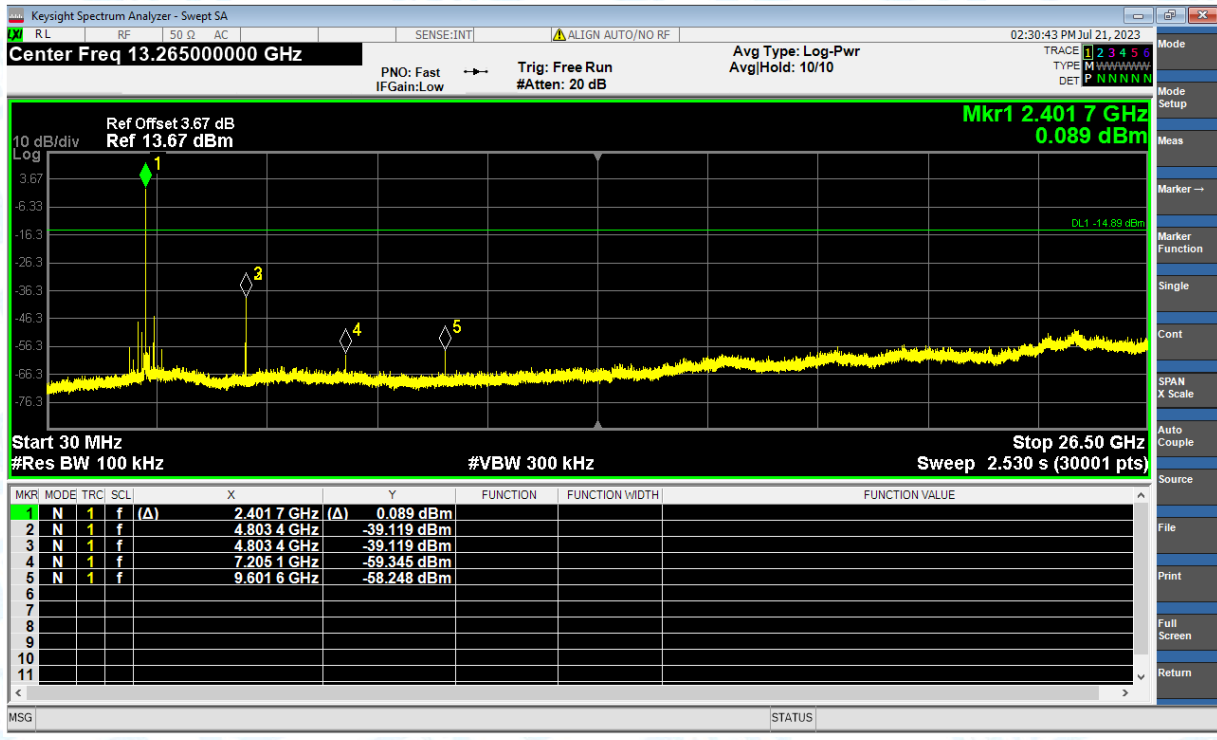
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



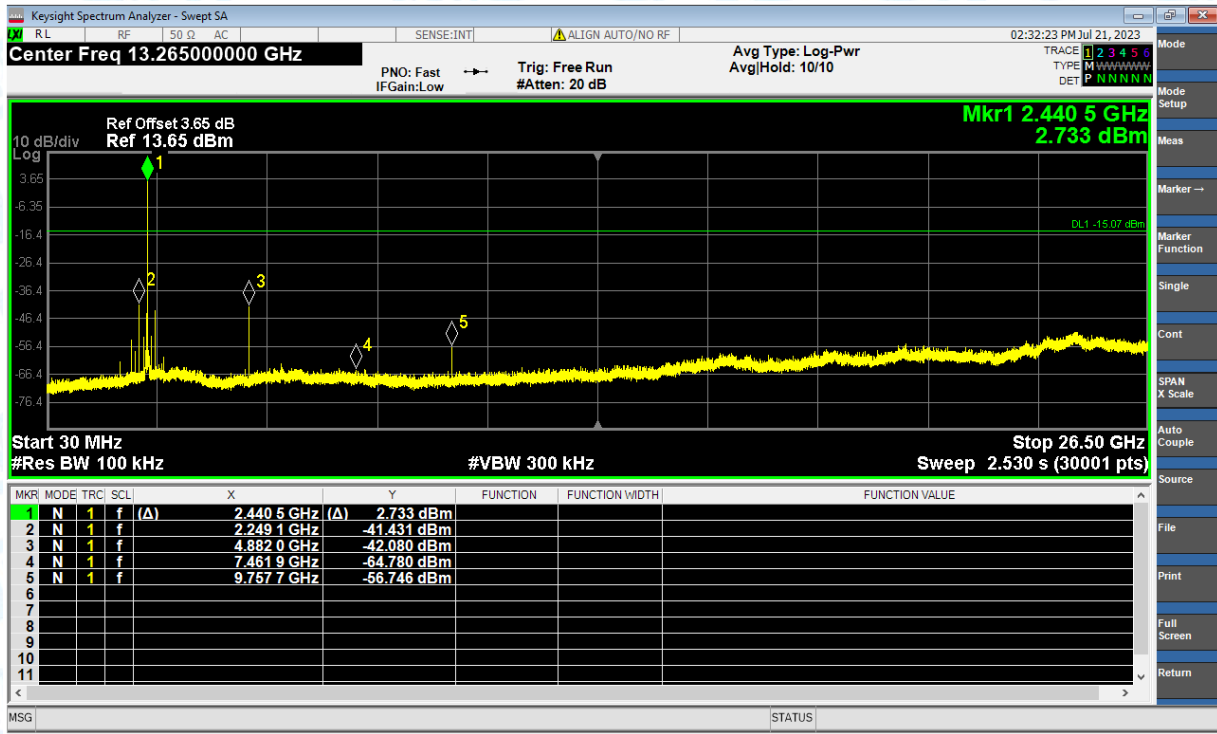
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



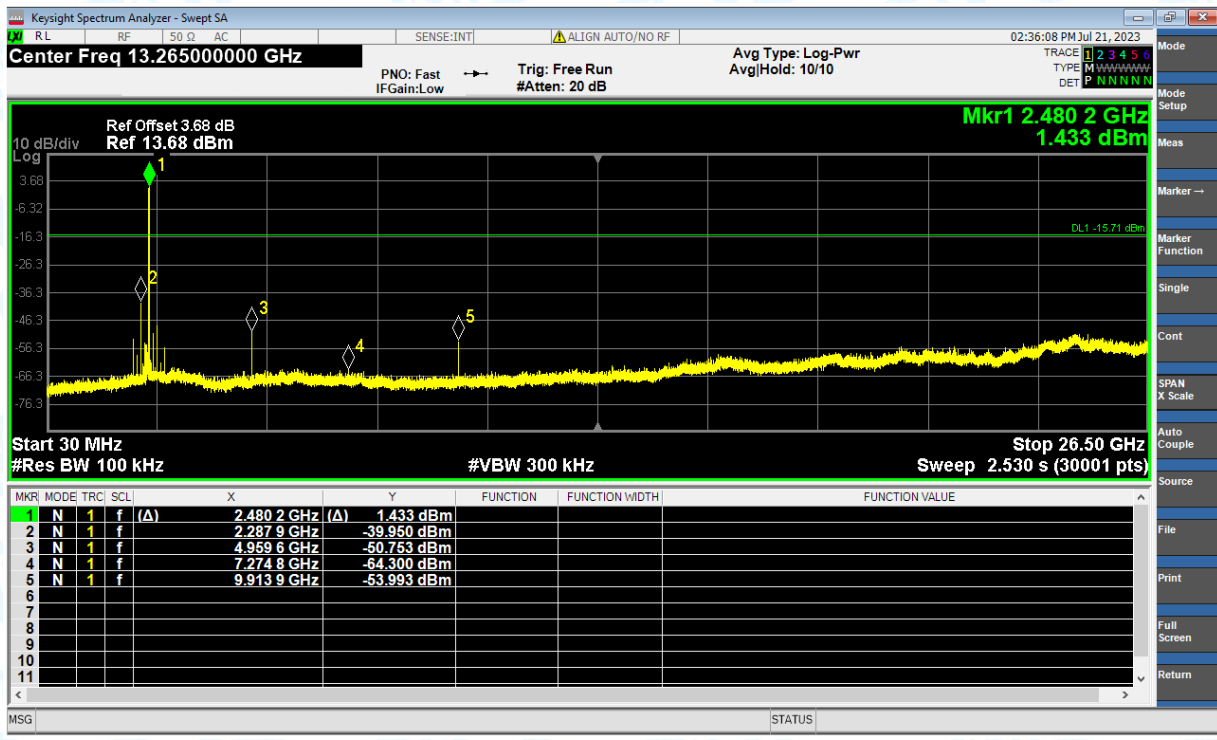
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

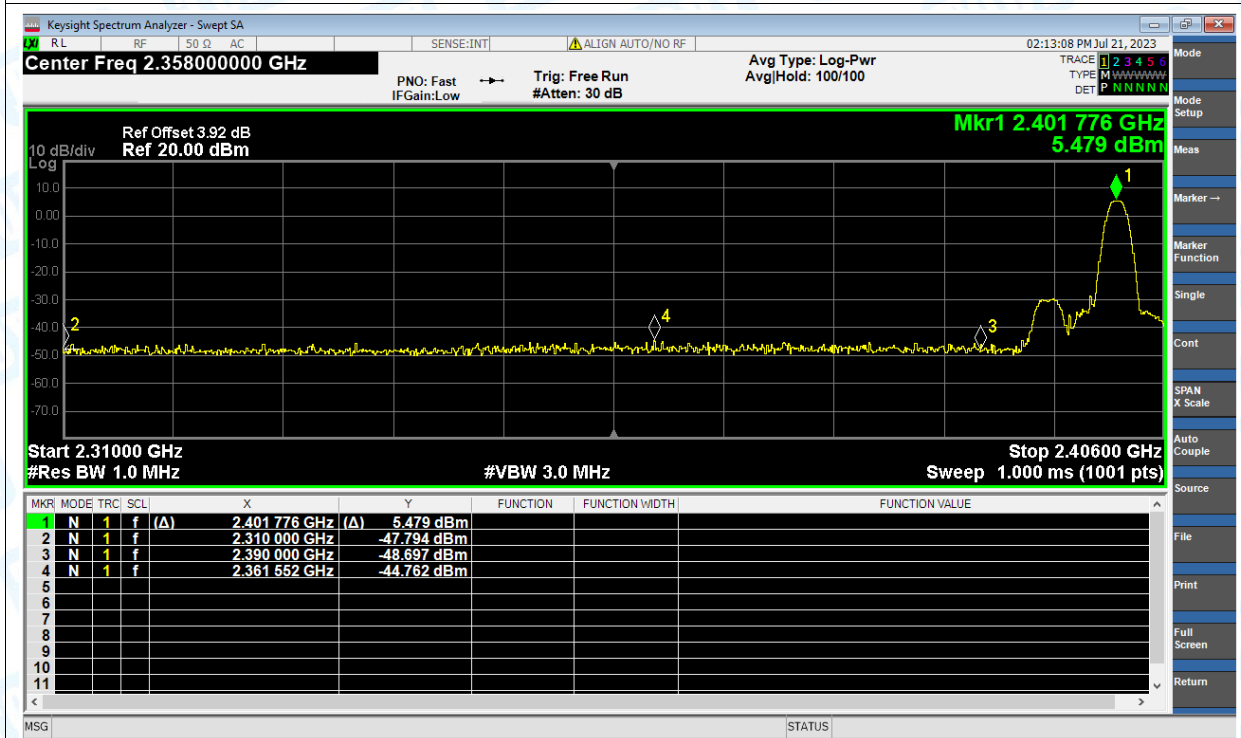


8. Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.79	2	49.47	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-57.19	2	40.07	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2361.552	-44.76	2	52.5	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2353.968	-55.06	2	42.2	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-46.03	2	51.23	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.44	2	40.82	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-37.98	2	59.28	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-44.47	2	52.79	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2485.264	-37.66	2	59.6	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.512	-44.47	2	52.79	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-46.78	2	50.48	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-56.14	2	41.12	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.93	2	48.33	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-57.27	2	39.99	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2379.216	-43.81	2	53.45	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2366.16	-54.86	2	42.4	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-48.55	2	48.71	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-56.02	2	41.24	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-38.36	2	58.9	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-46.1	2	51.16	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.512	-38.36	2	58.9	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.512	-46.1	2	51.16	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-46.83	2	50.43	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-56.06	2	41.2	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.06	2	49.2	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-57.54	2	39.72	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2357.904	-43.74	2	53.52	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2364.912	-54.92	2	42.34	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-47.95	2	49.31	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-56.61	2	40.65	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-39.31	2	57.95	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-45.98	2	51.28	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2485.912	-37.69	2	59.57	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.512	-45.98	2	51.28	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.21	2	50.05	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-56.07	2	41.19	Average	54	Pass

Test Graphs

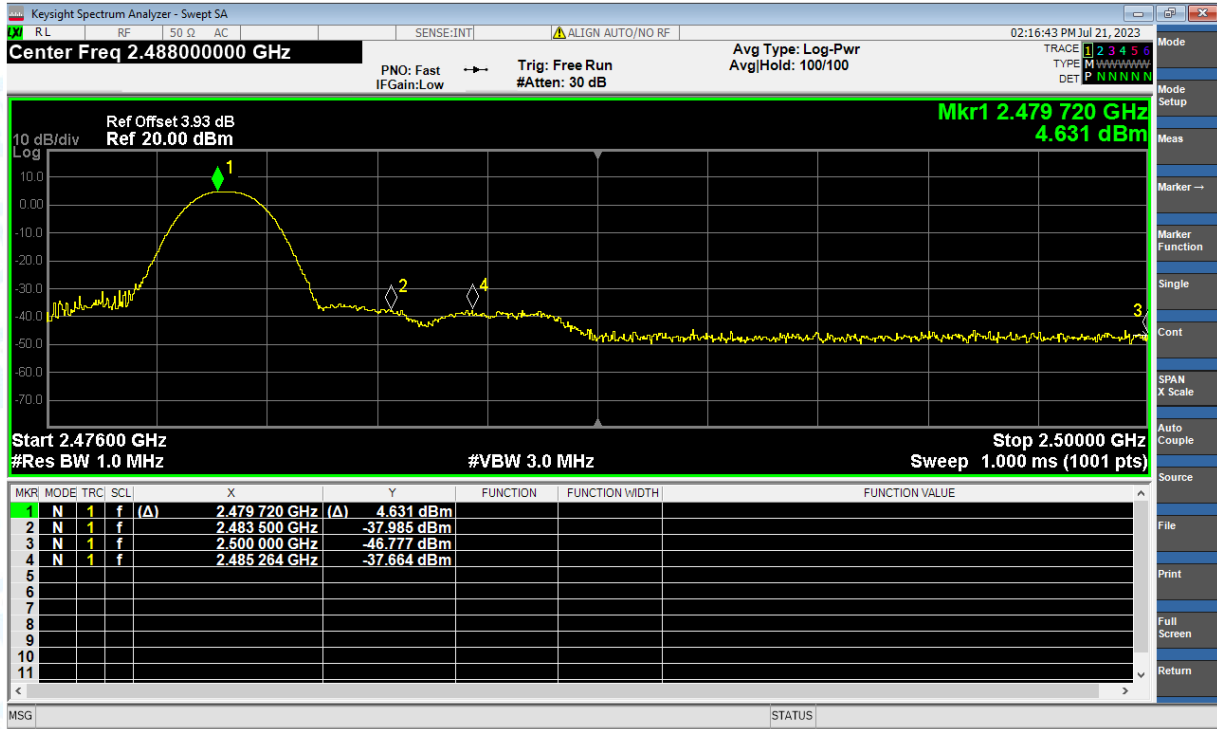
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



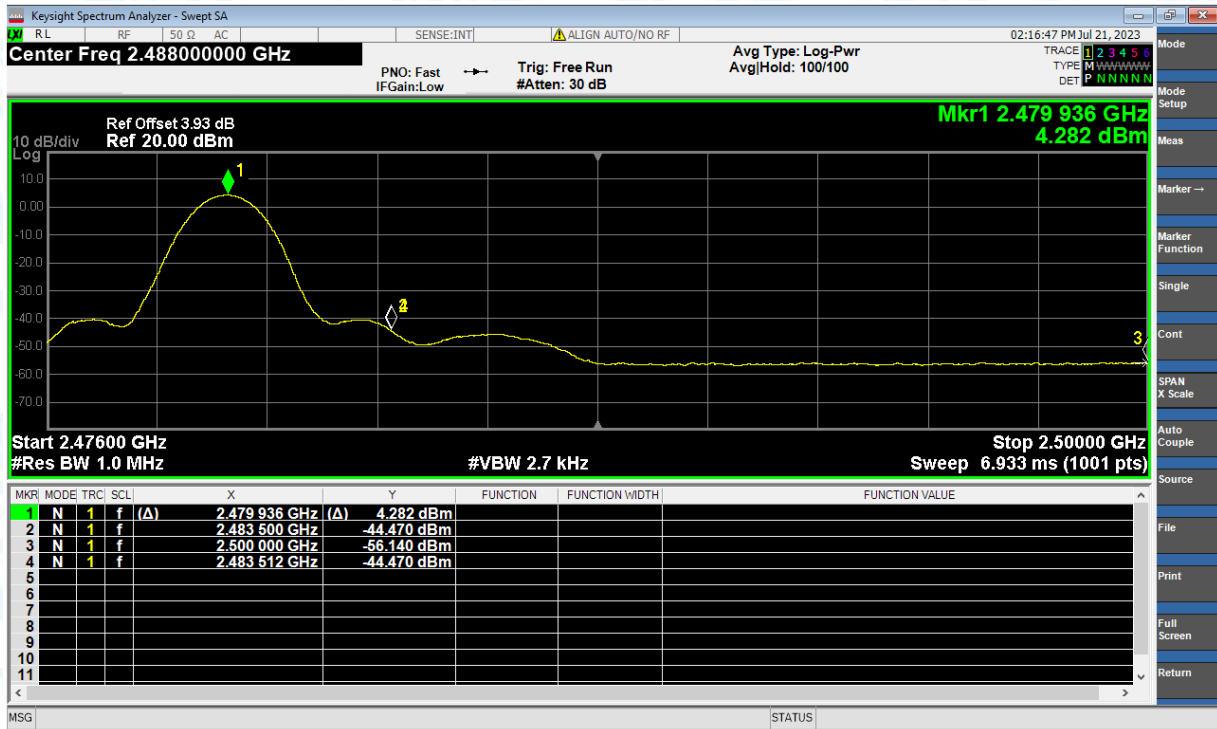
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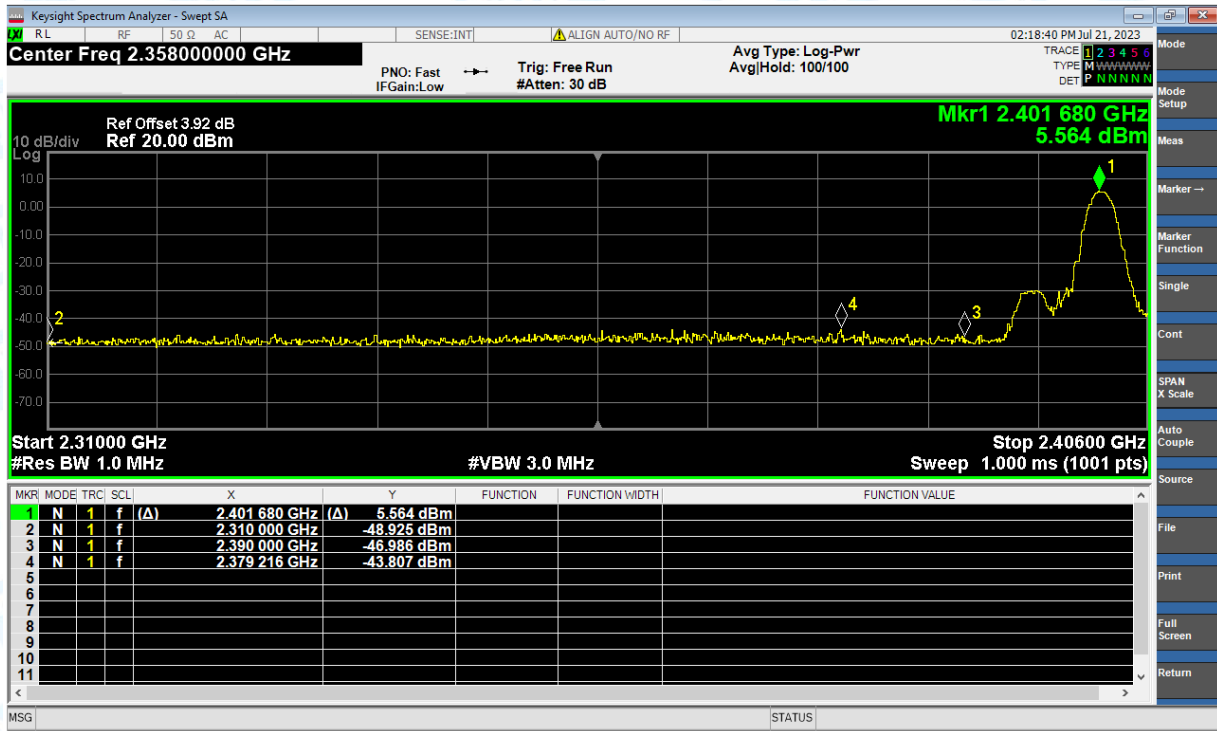
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



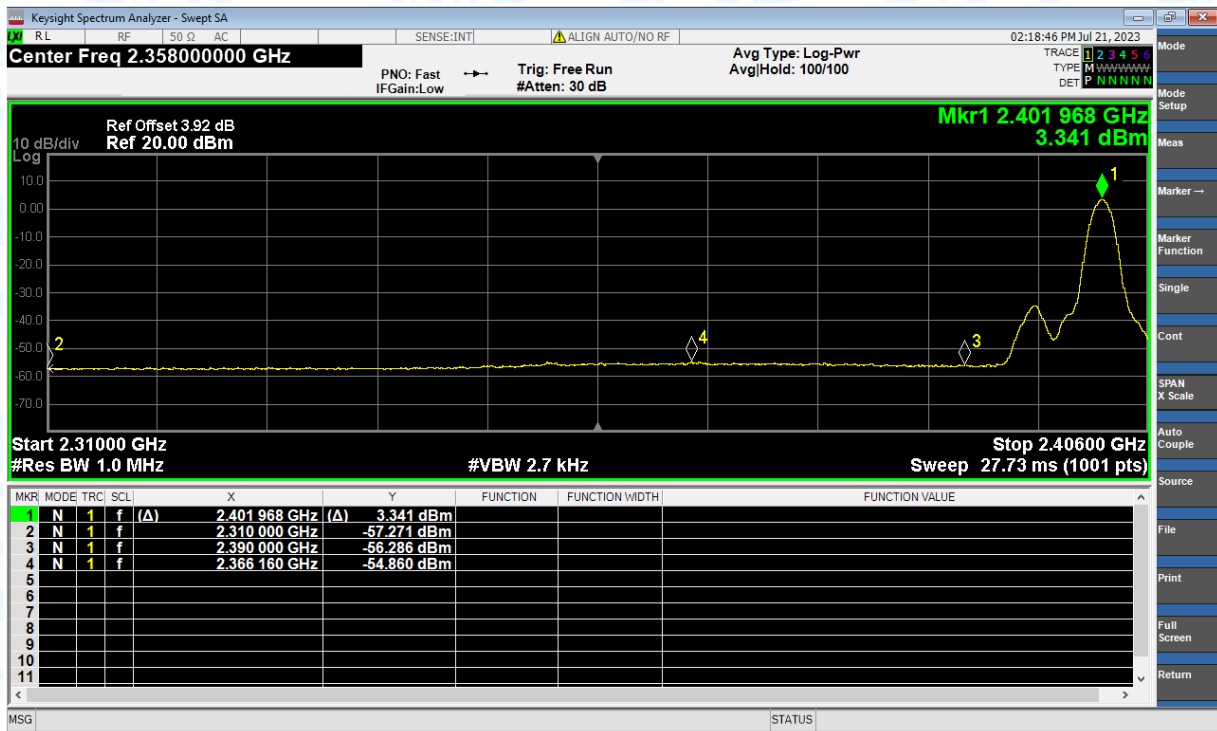
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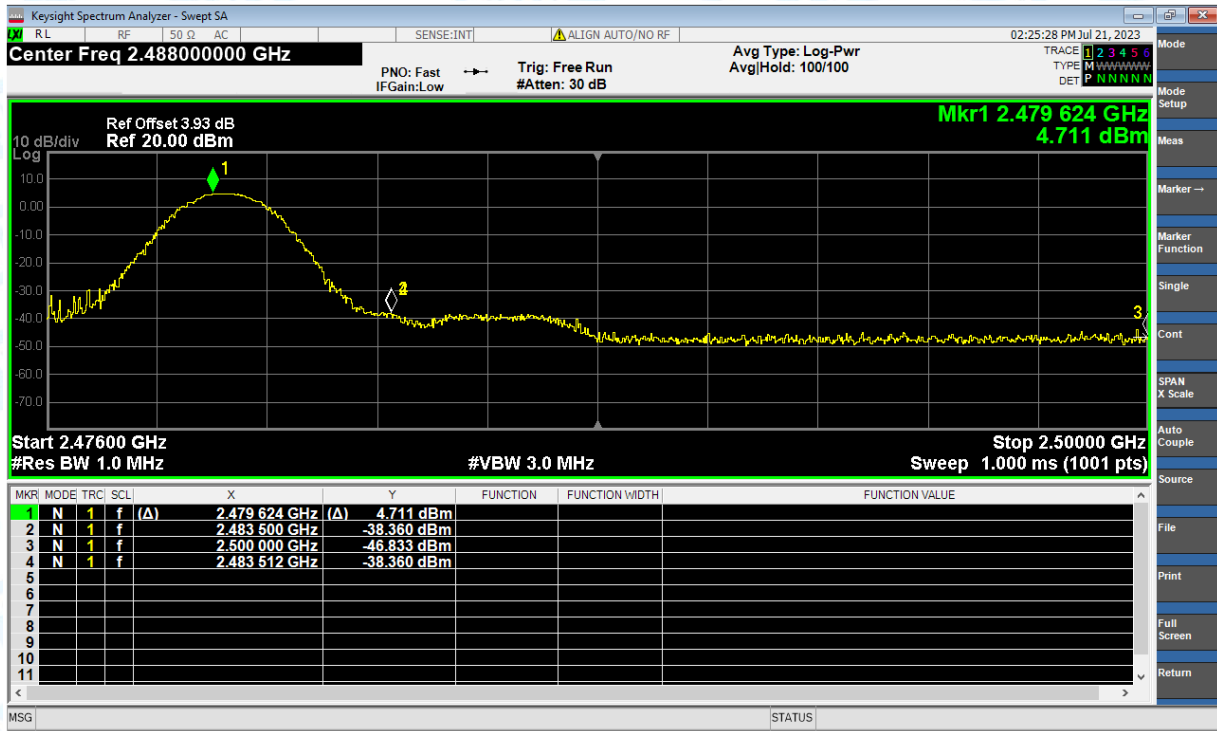
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



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



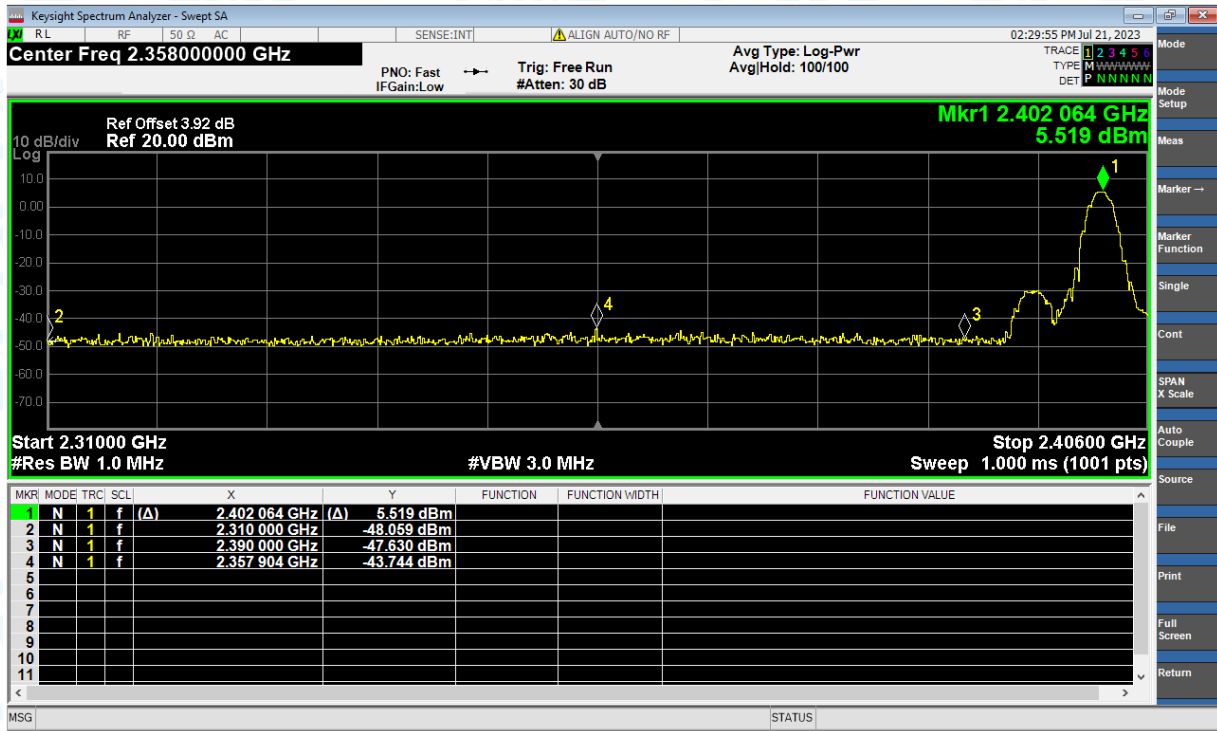
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



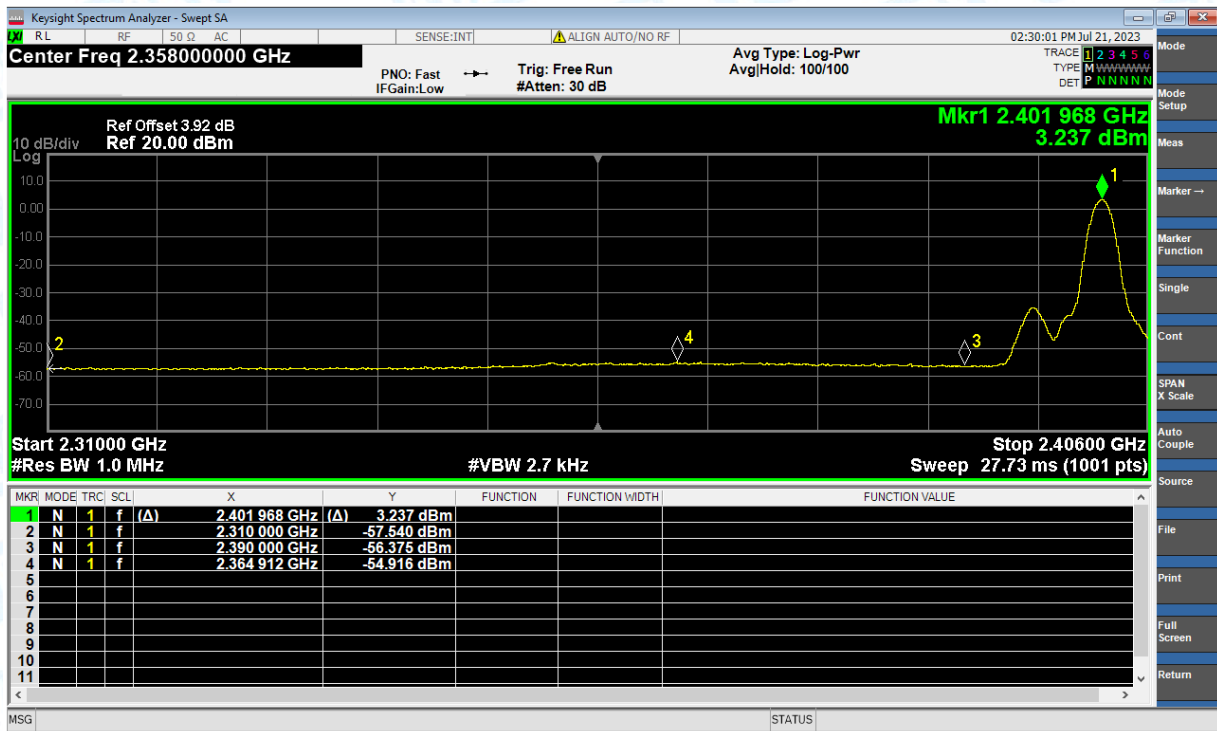
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



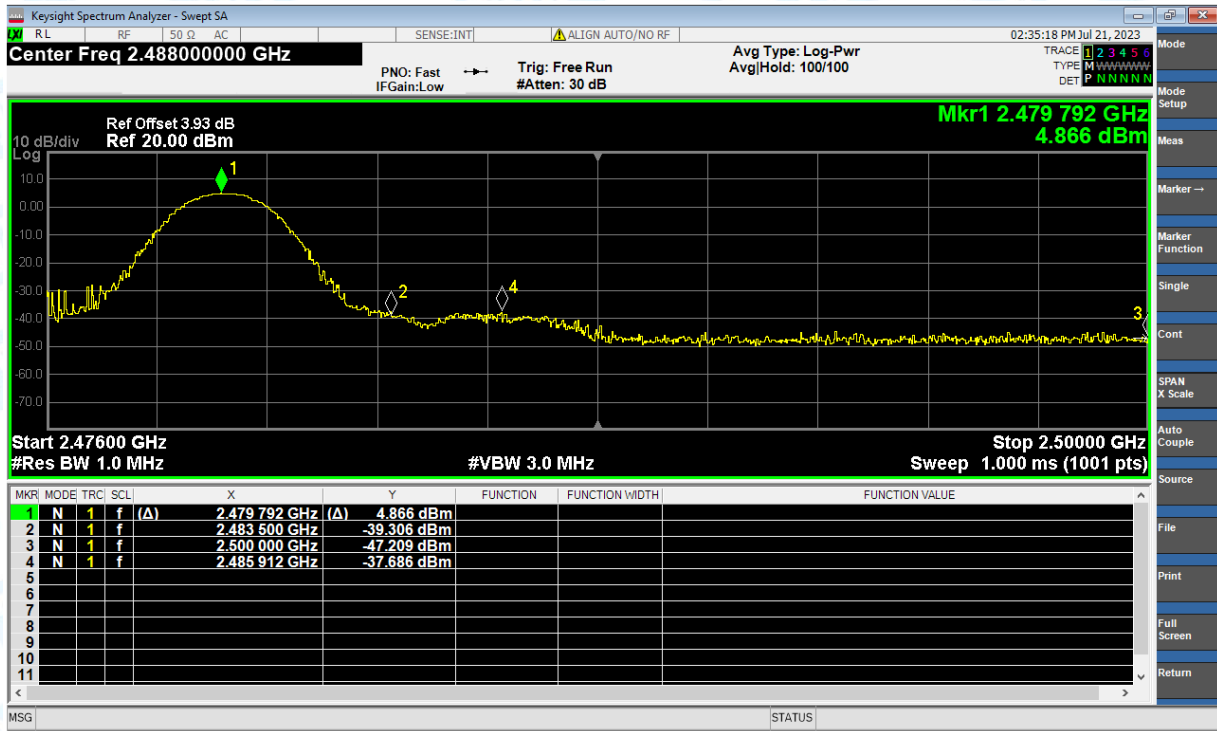
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



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

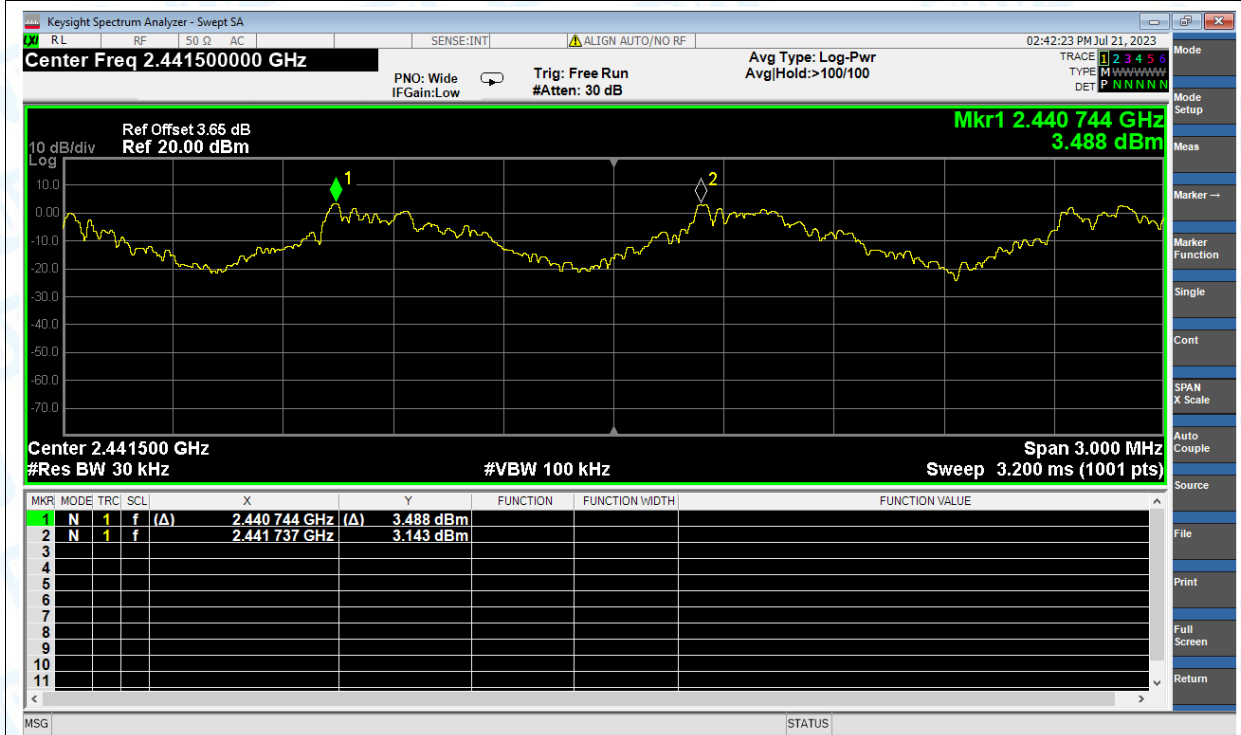


9. Carrier Frequencies Separation

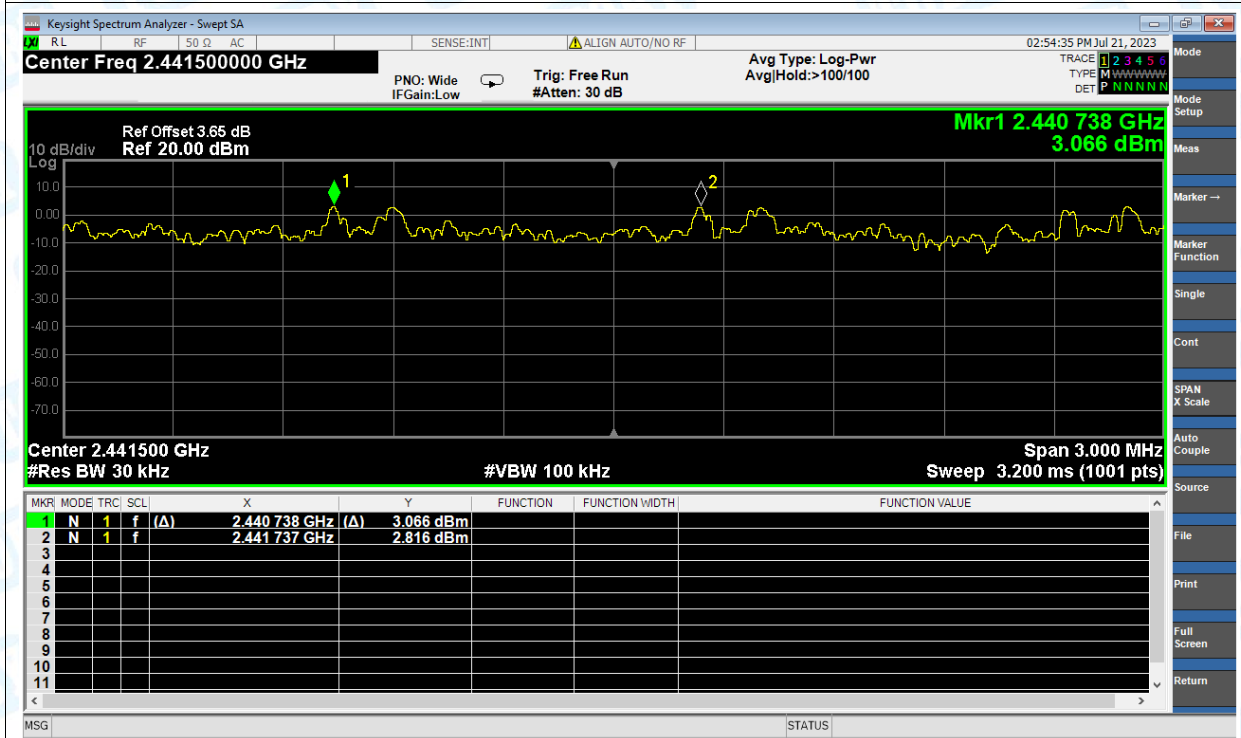
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.744	2441.737	0.993	0.58	Pass
NVNT	2-DH1	Ant1	2440.738	2441.737	0.999	0.853	Pass
NVNT	3-DH1	Ant1	2440.885	2442.082	1.197	0.827	Pass

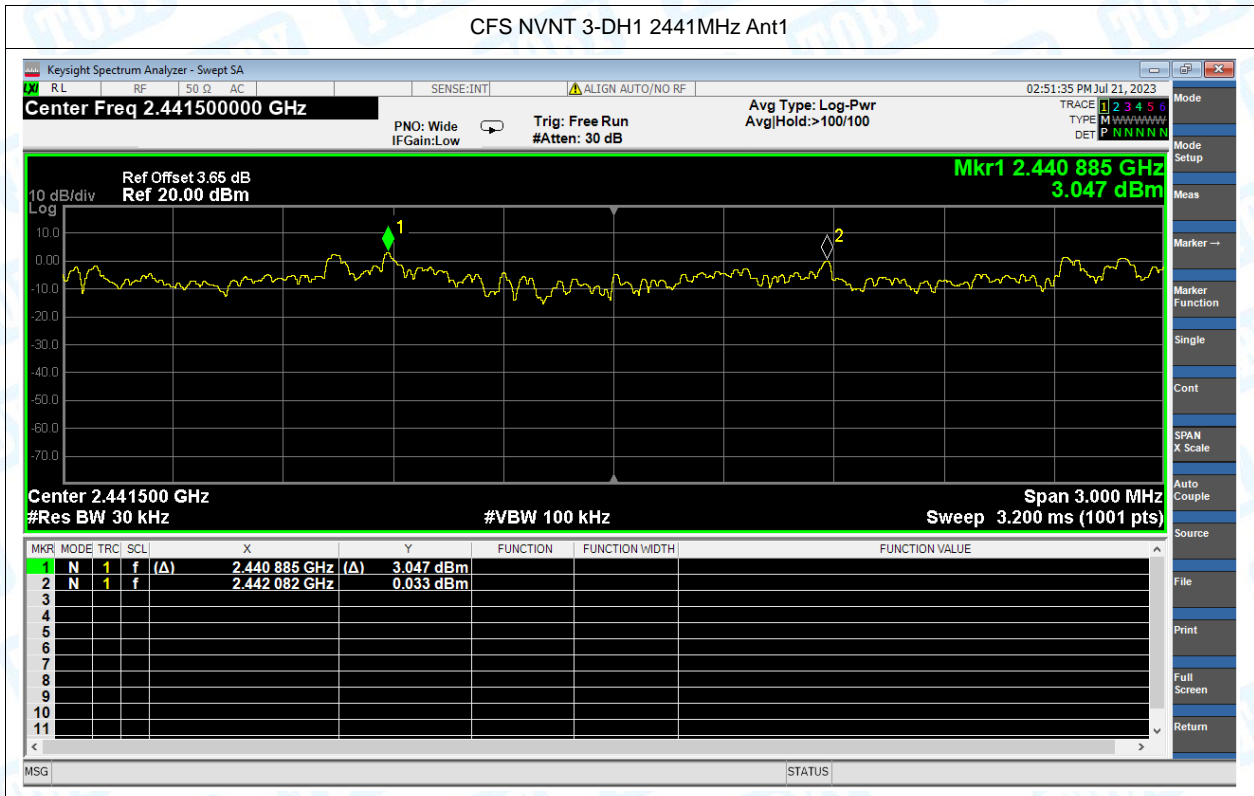
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



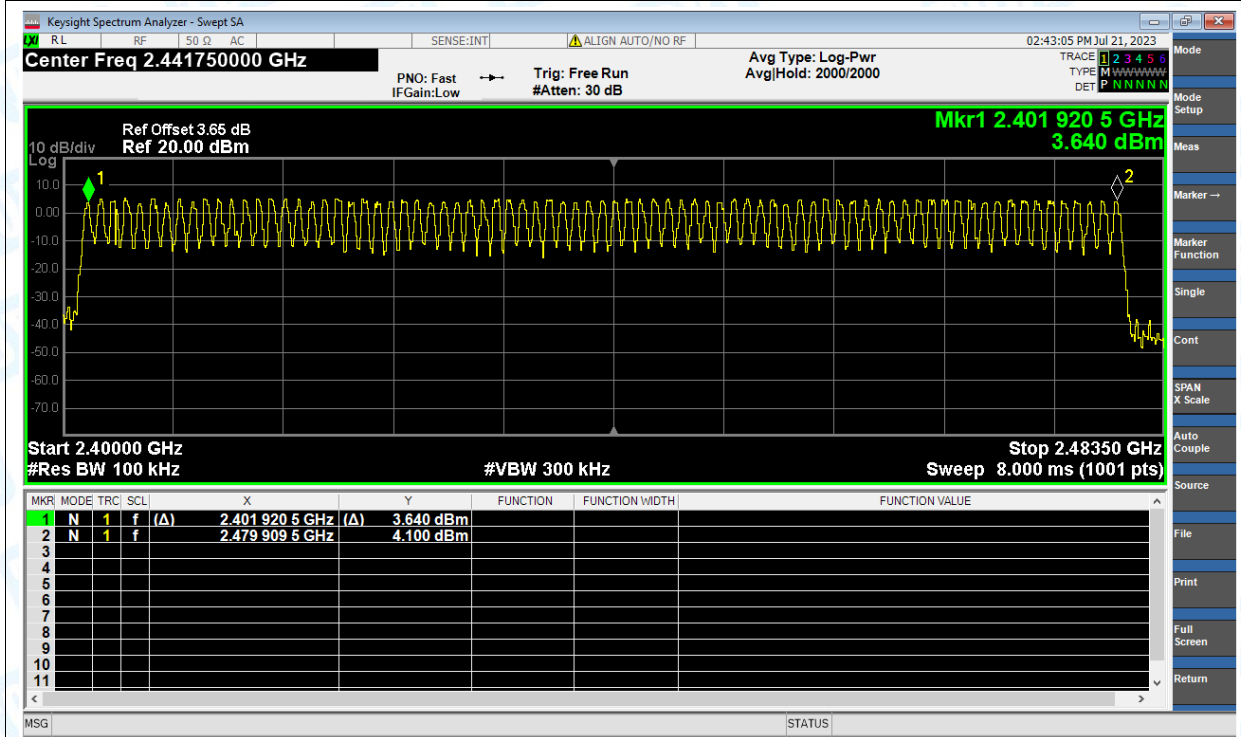


10. Number of Hopping Channel

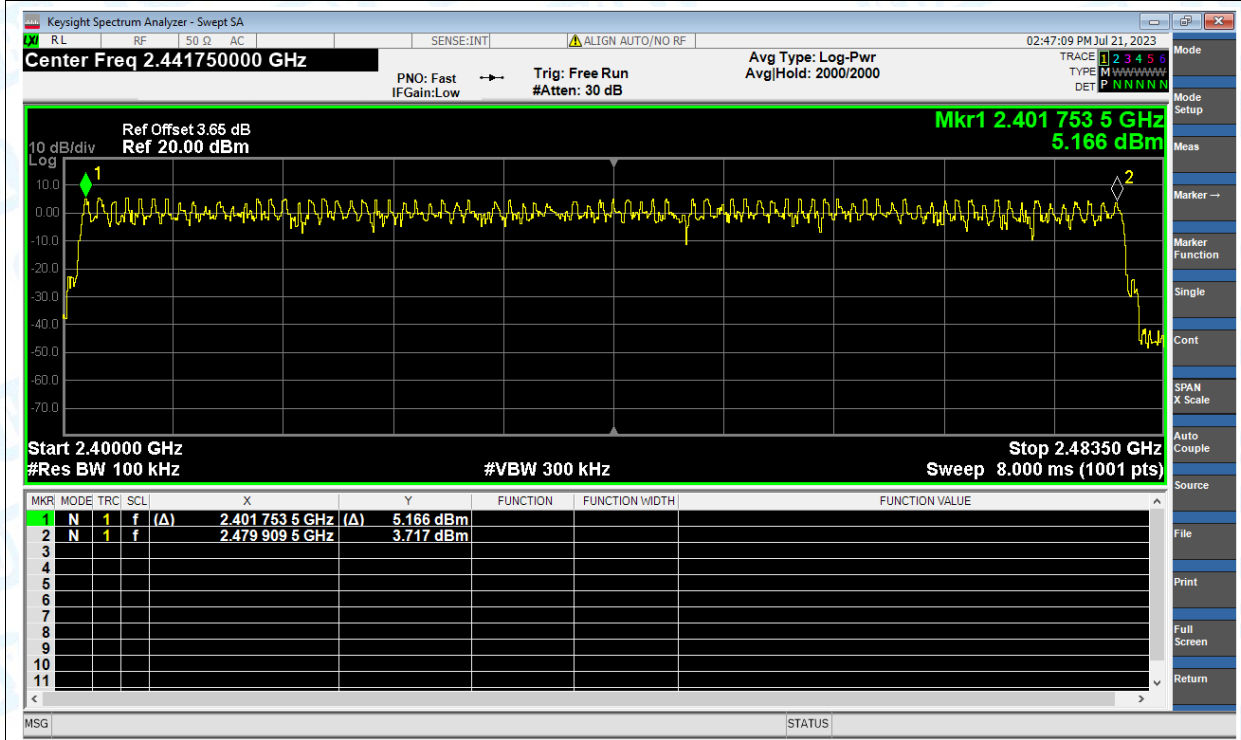
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

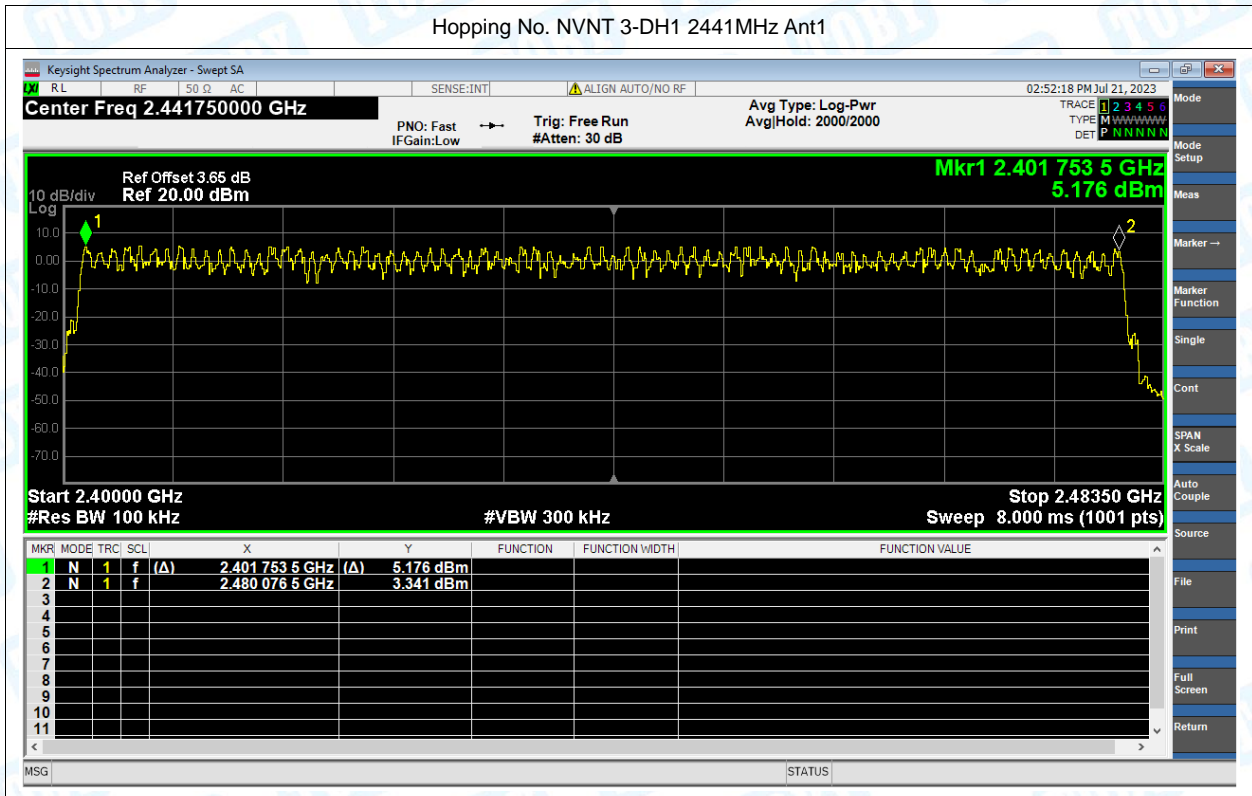
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



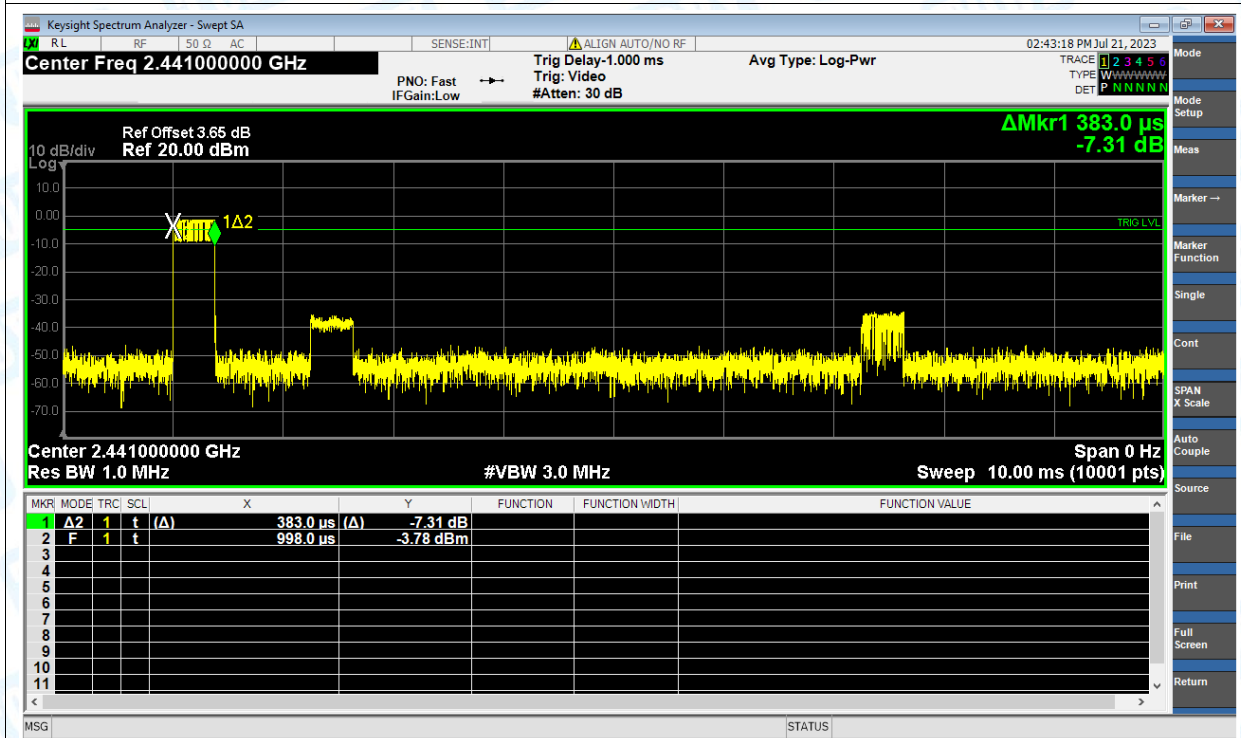


11. Dwell Time

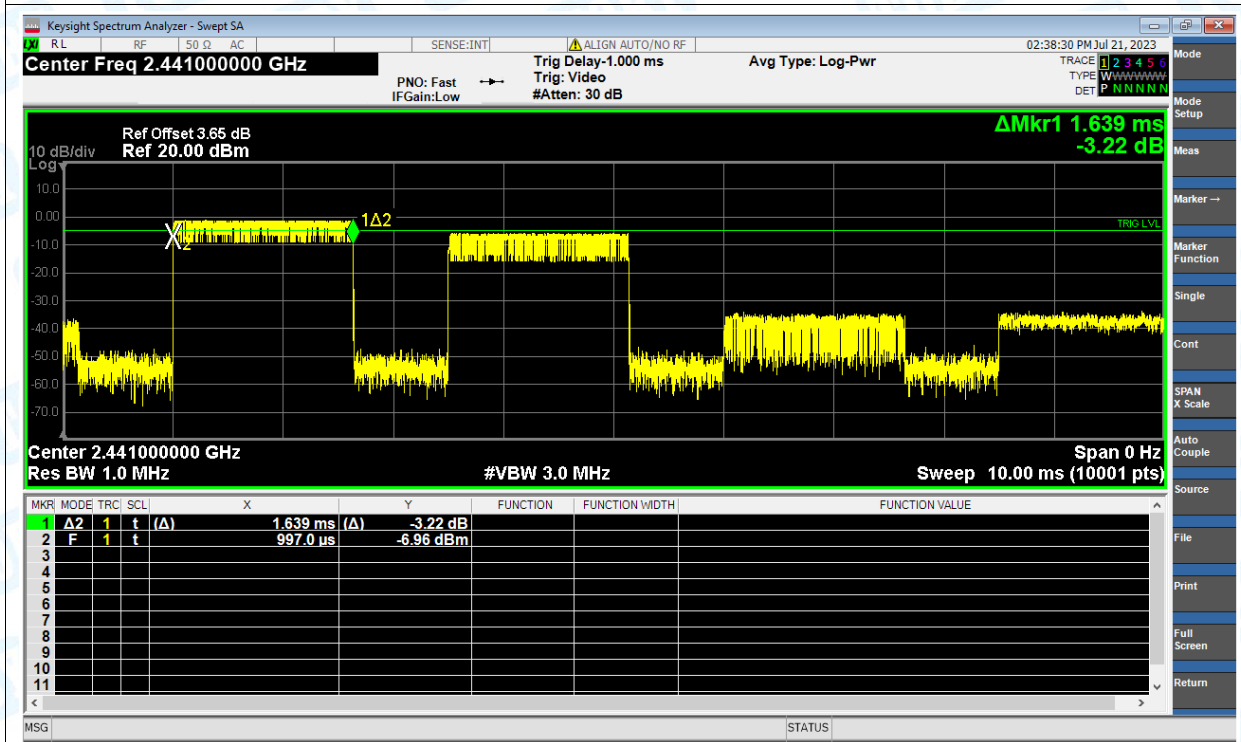
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.383	122.56	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.392	125.44	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.644	263.04	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.885	307.733	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.393	125.76	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.643	262.88	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.887	307.947	31600	400	Pass

Test Graphs

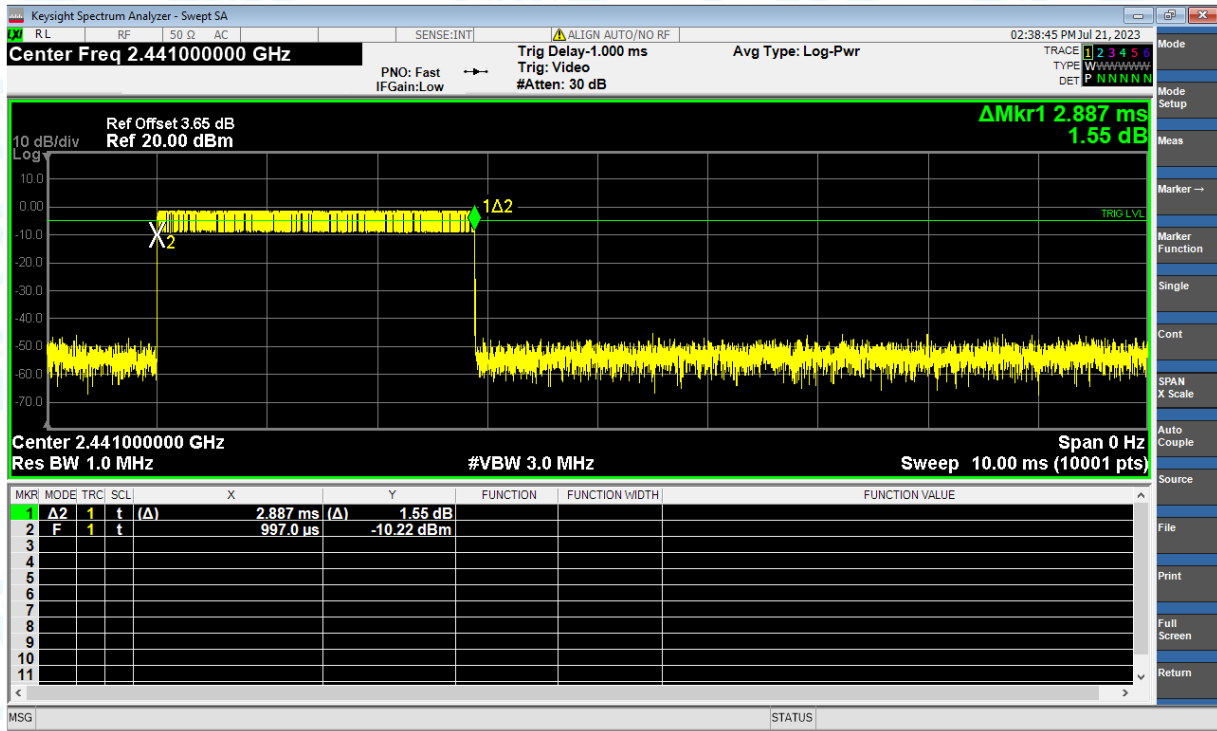
Dwell NVNT 1-DH1 2441MHz Ant1



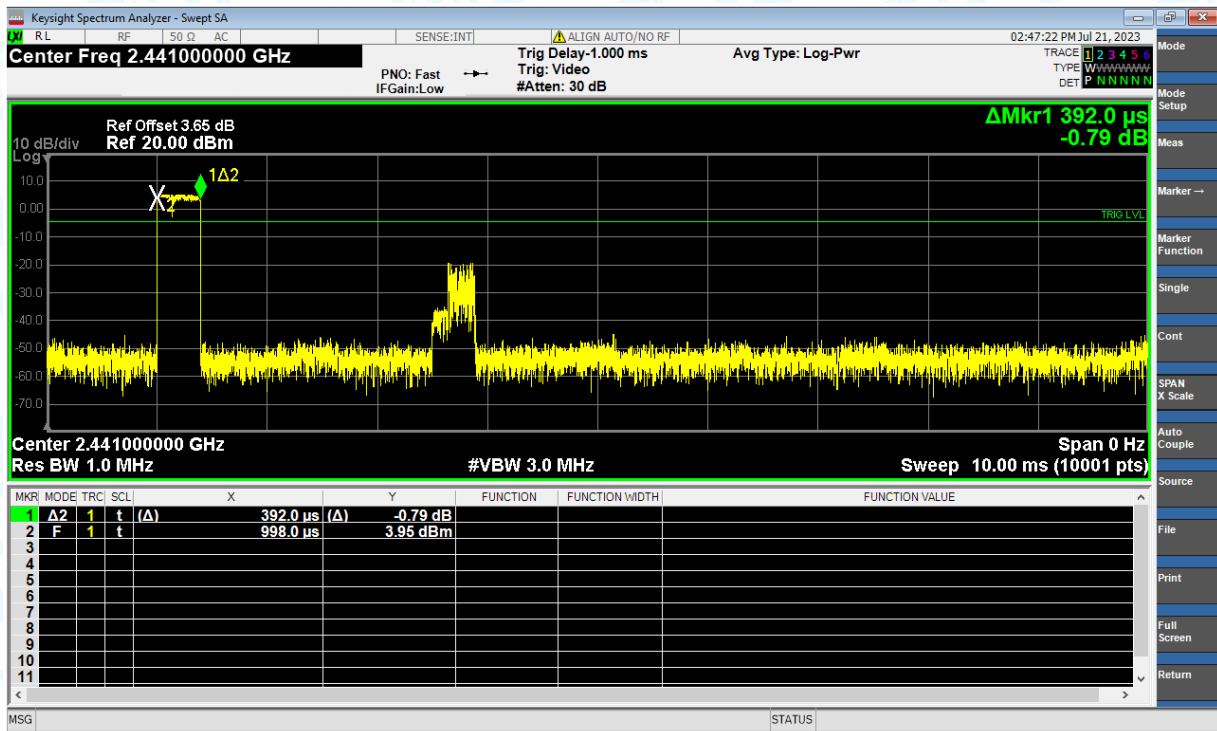
Dwell NVNT 1-DH3 2441MHz Ant1



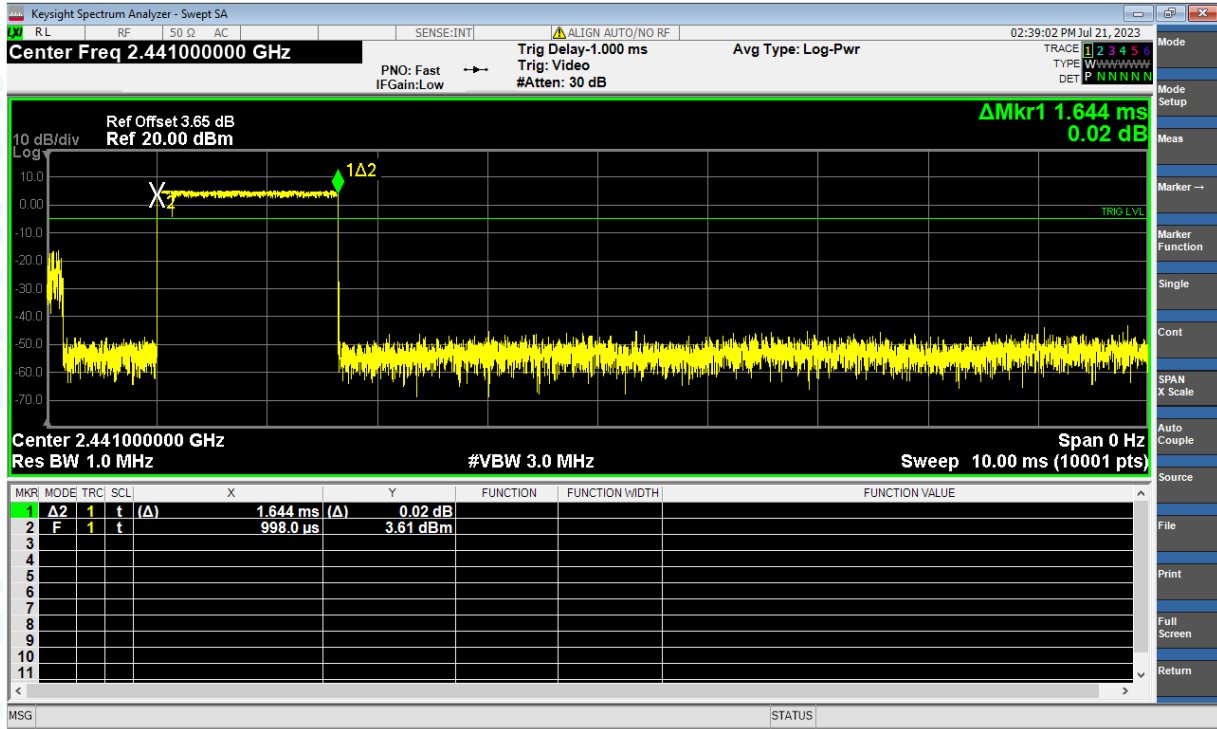
Dwell NVNT 1-DH5 2441MHz Ant1



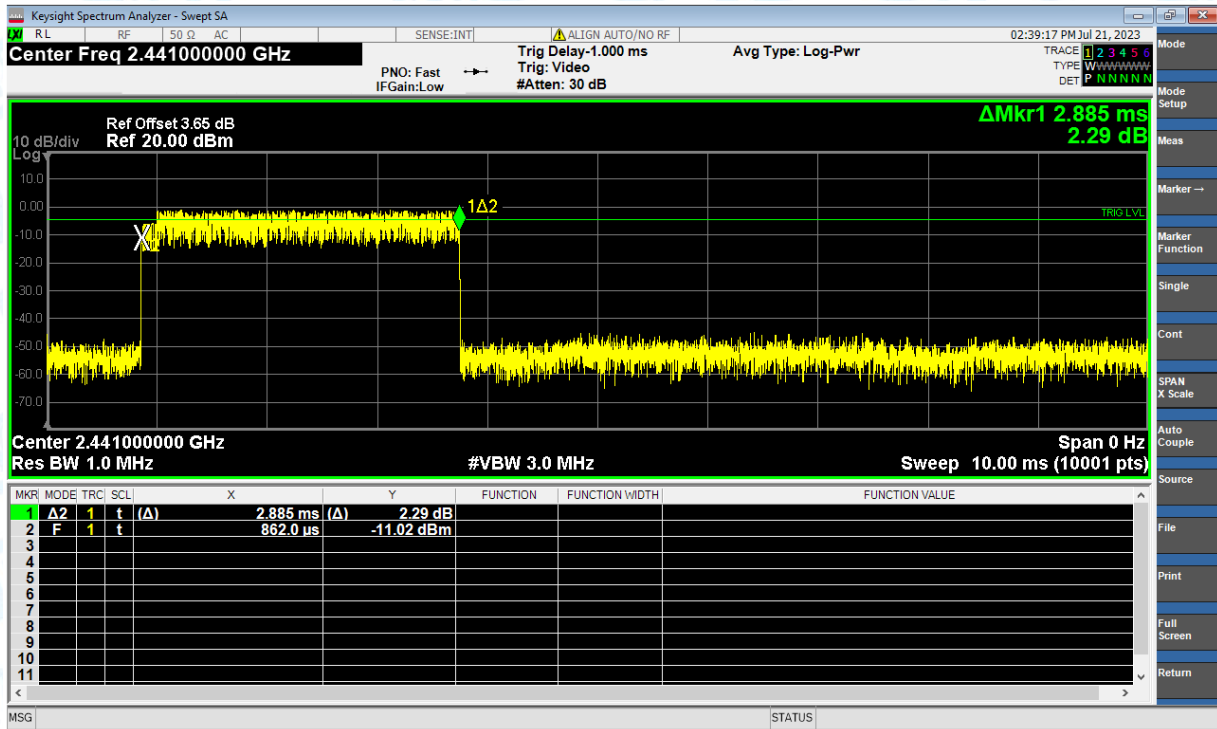
Dwell NVNT 2-DH1 2441MHz Ant1



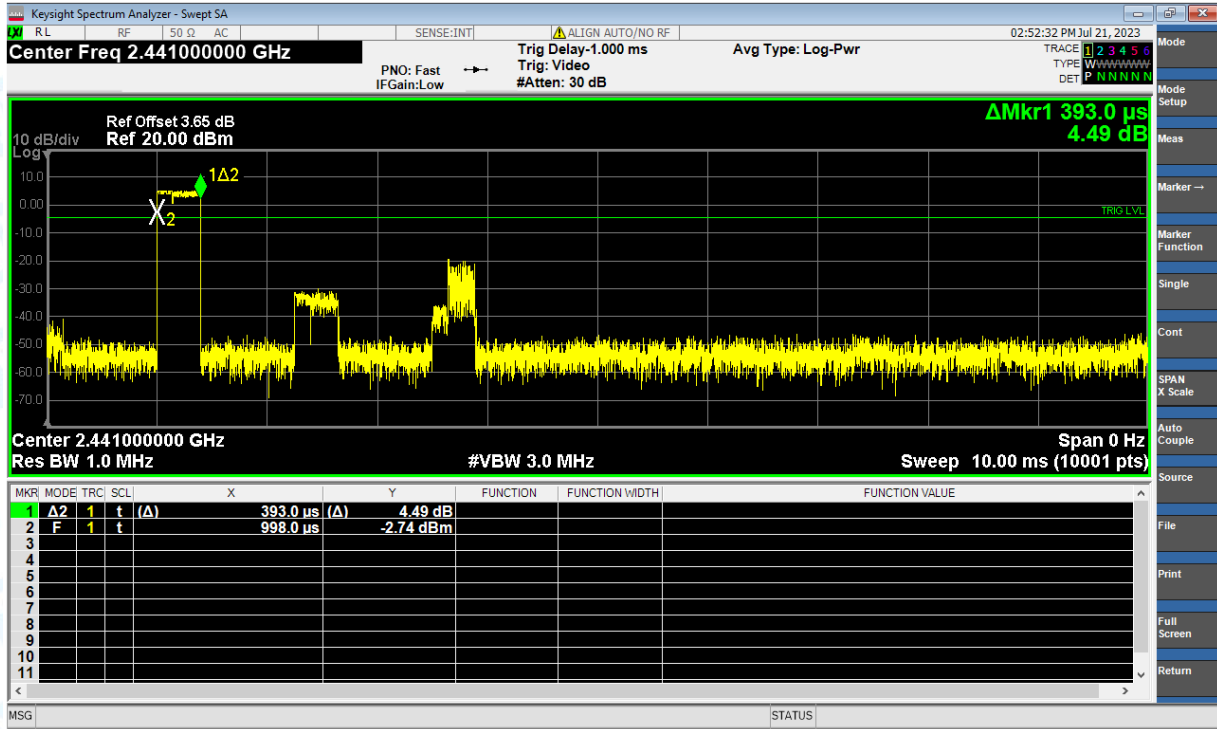
Dwell NVNT 2-DH3 2441MHz Ant1



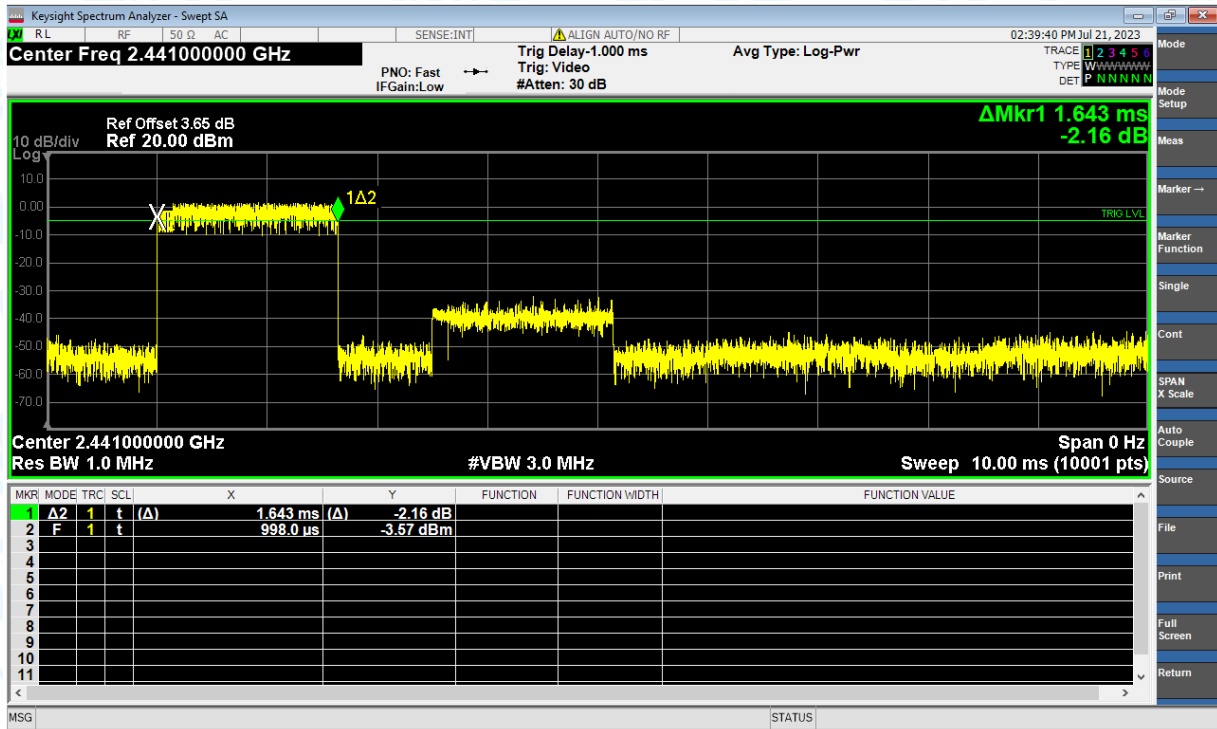
Dwell NVNT 2-DH5 2441MHz Ant1

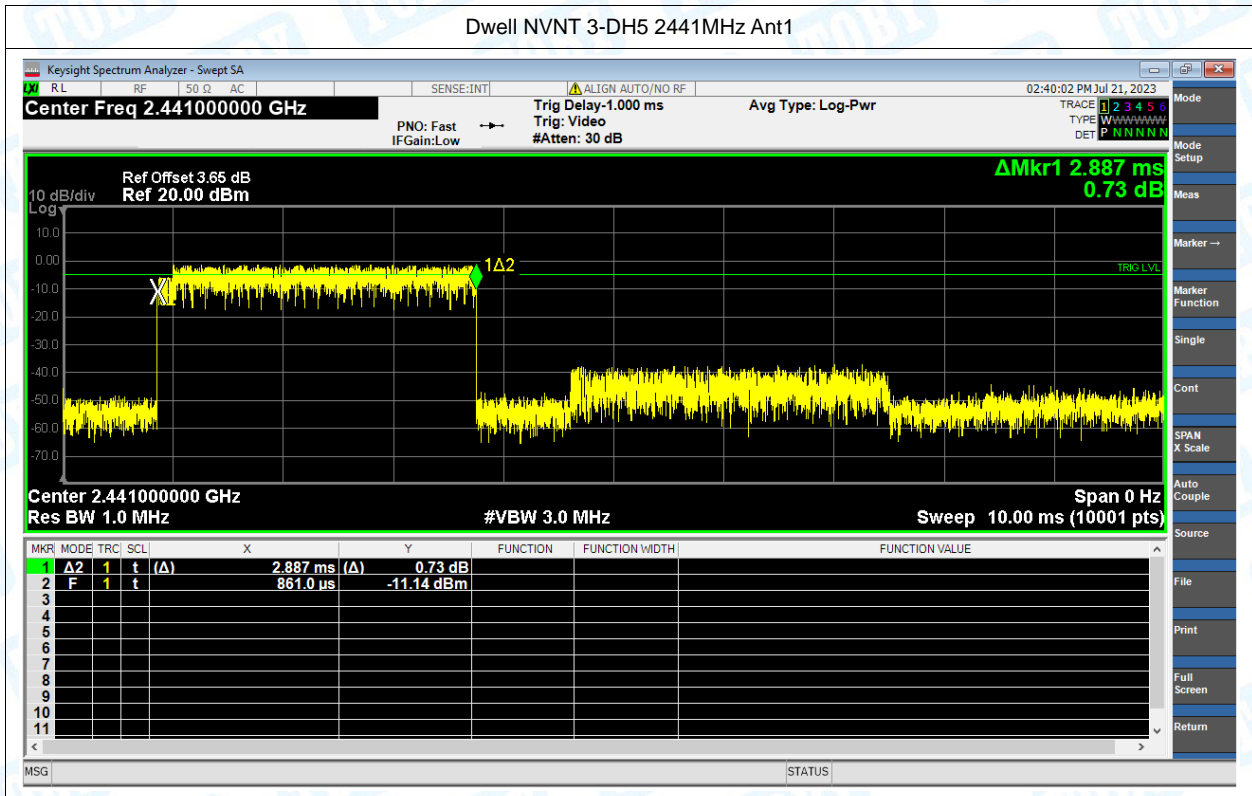


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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