

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	AP5811SA
Test Model:	AP5811SA
Sample ID:	HC-C-202503-0077-01-01
Environmental Conditions	
Temperature:	25.6℃
Relative Humidity:	52.6%
Test Voltage:	DC 3.3V
Test Engineer:	Gold zhang
Note: For a more detailed features description, please refer to the report TBR-C-202503-0077-40 The report only show the worst case data.	

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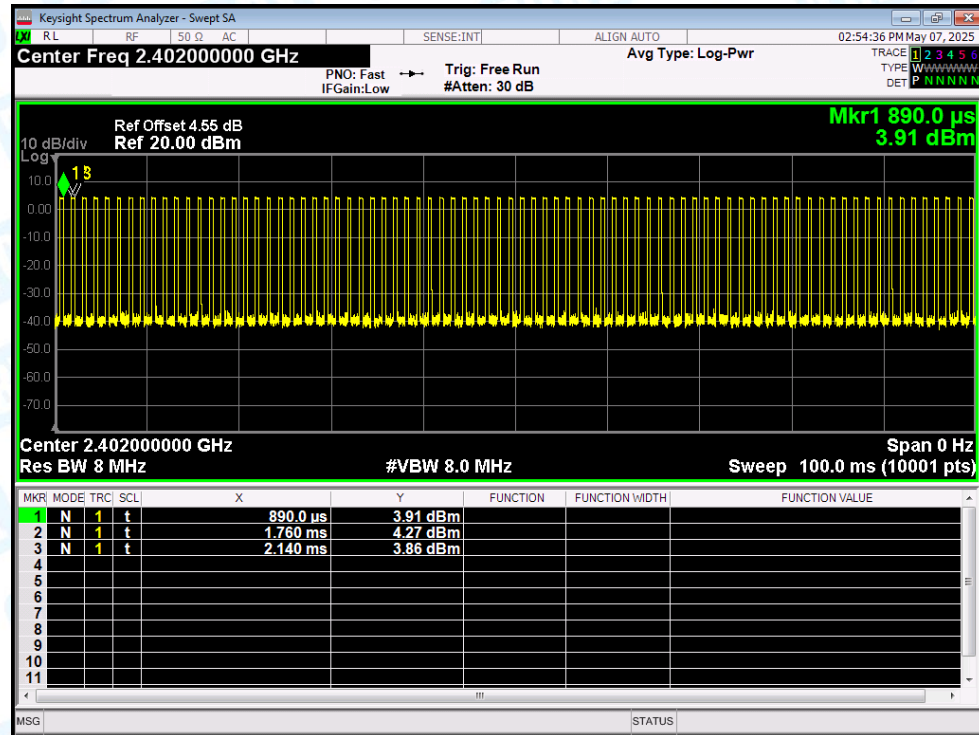
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1. Duty Cycle

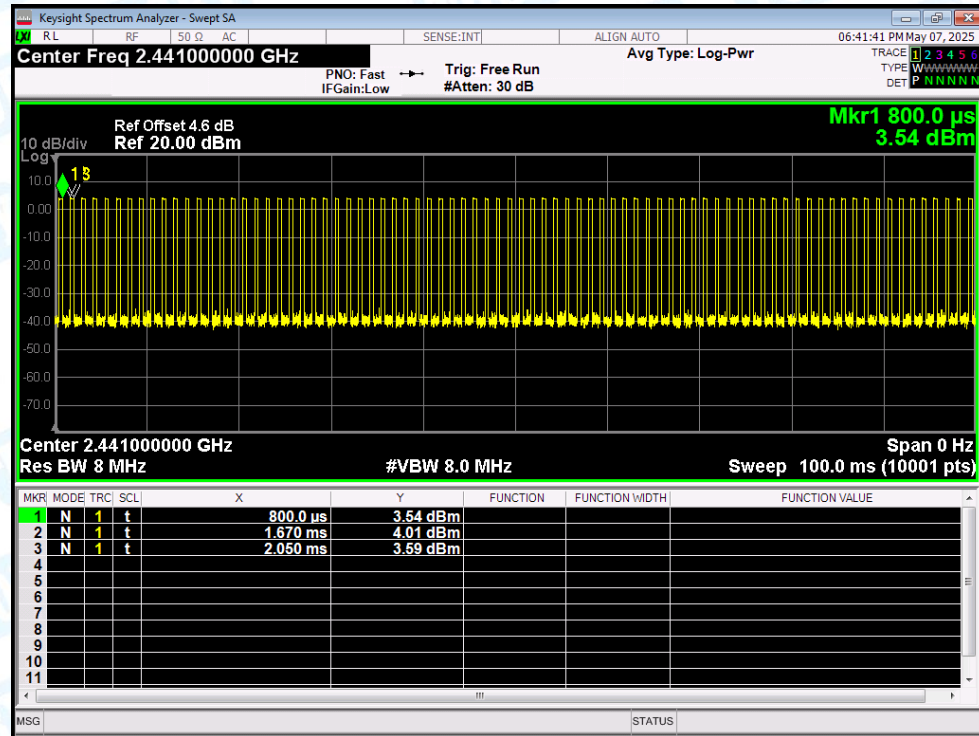
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2402	Ant1	31.45	5.02	2.56
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56
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

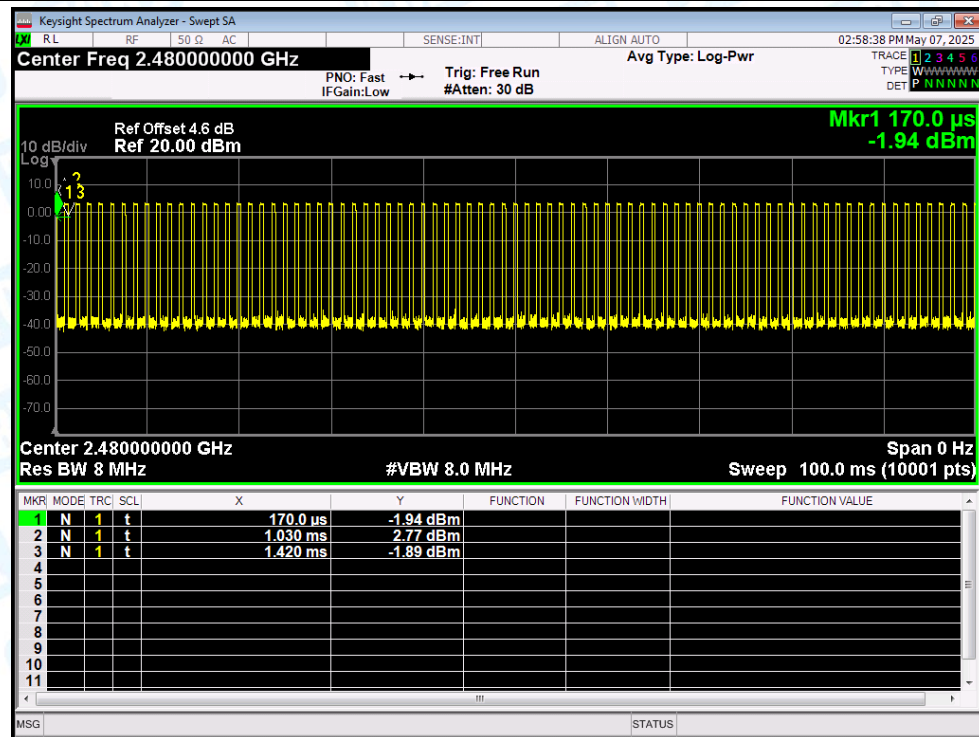
Duty Cycle NVNT 1-DH1 2402MHz Ant1



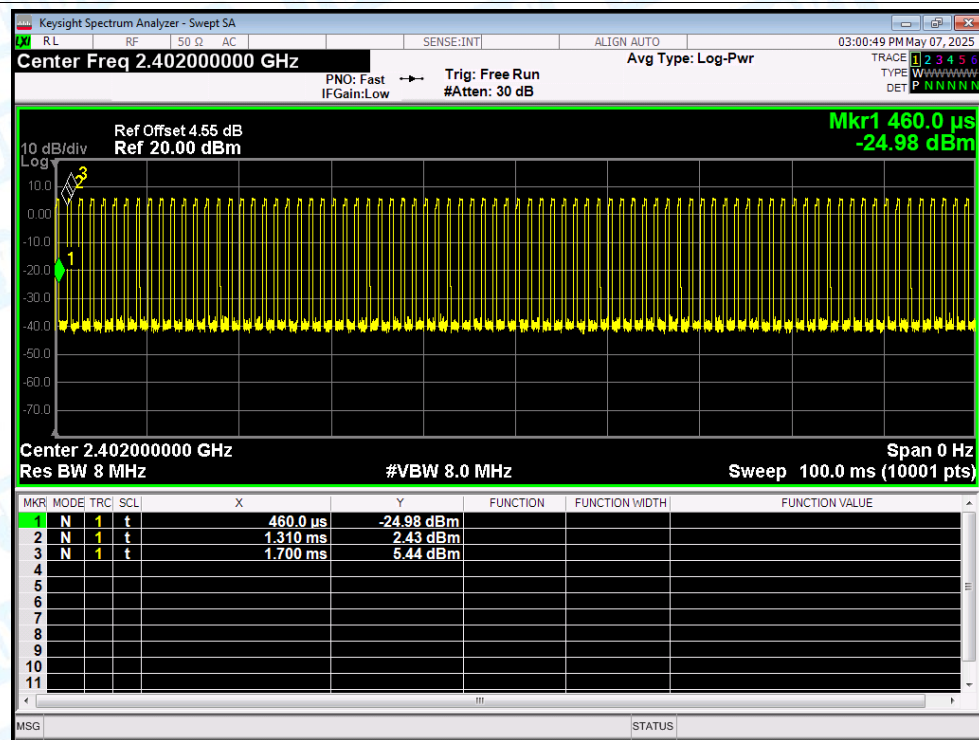
Duty Cycle NVNT 1-DH1 2441MHz Ant1



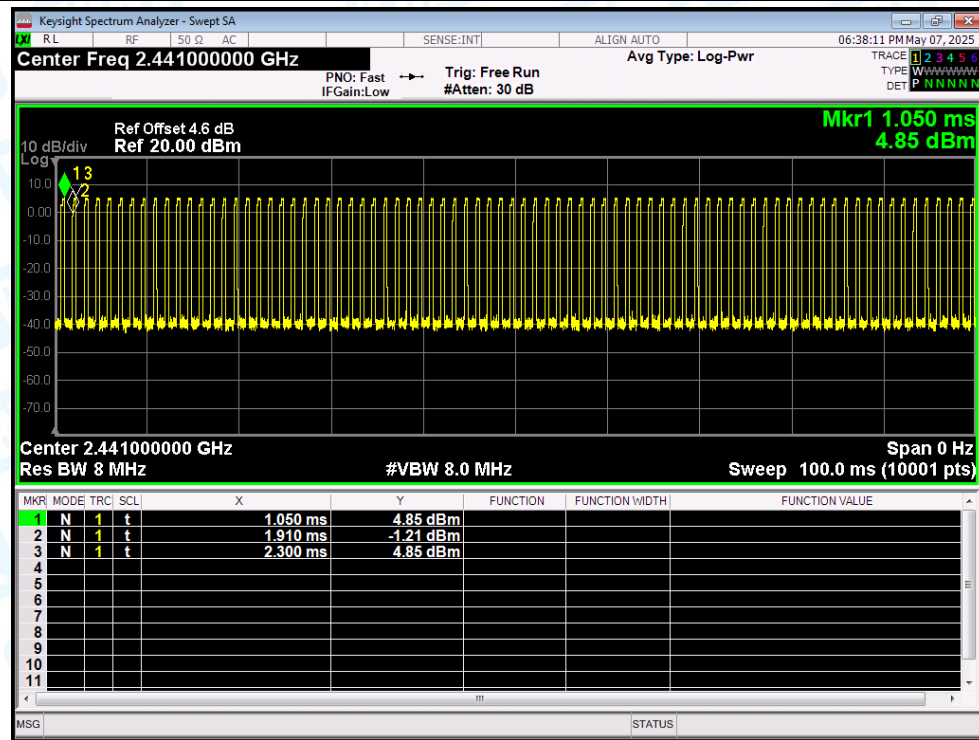
Duty Cycle NVNT 1-DH1 2480MHz Ant1



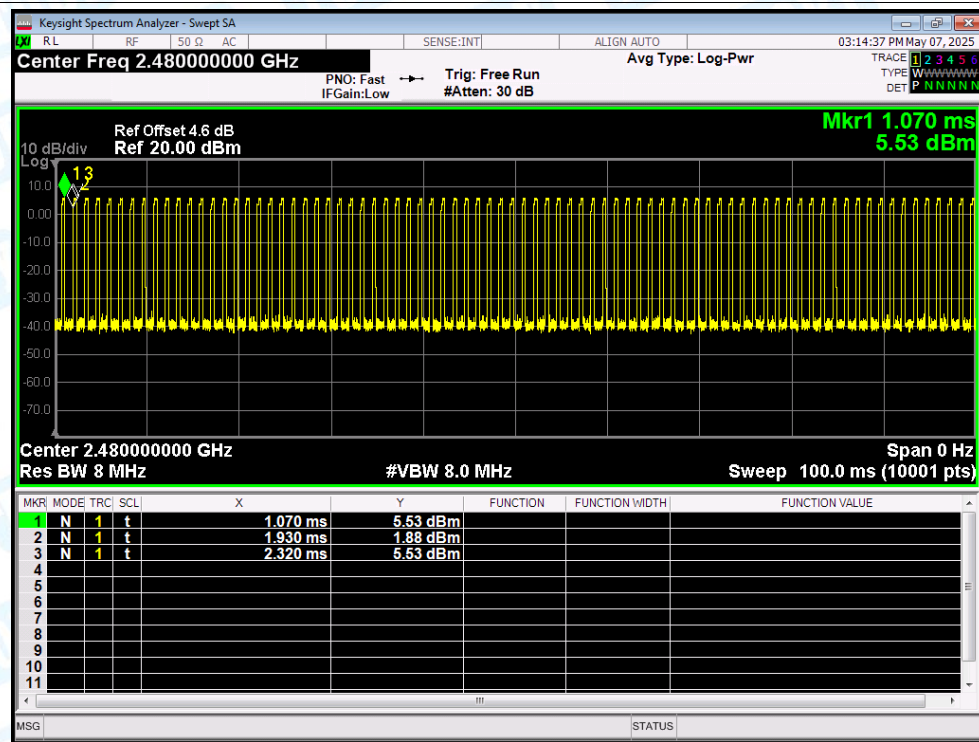
Duty Cycle NVNT 2-DH1 2402MHz Ant1



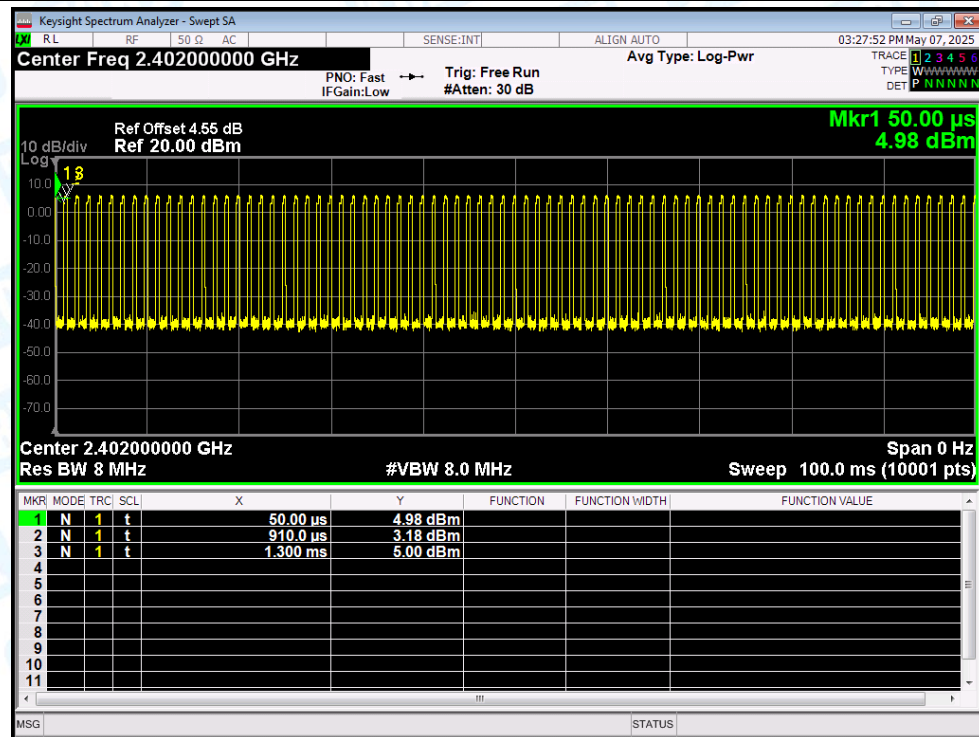
Duty Cycle NVNT 2-DH1 2441MHz Ant1



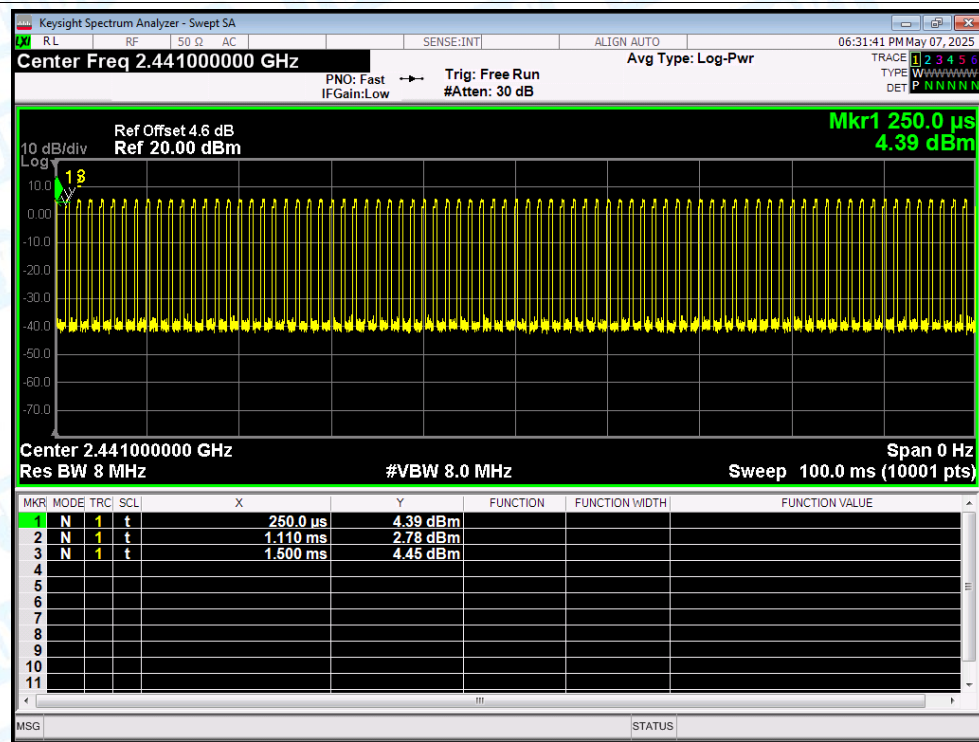
Duty Cycle NVNT 2-DH1 2480MHz Ant1

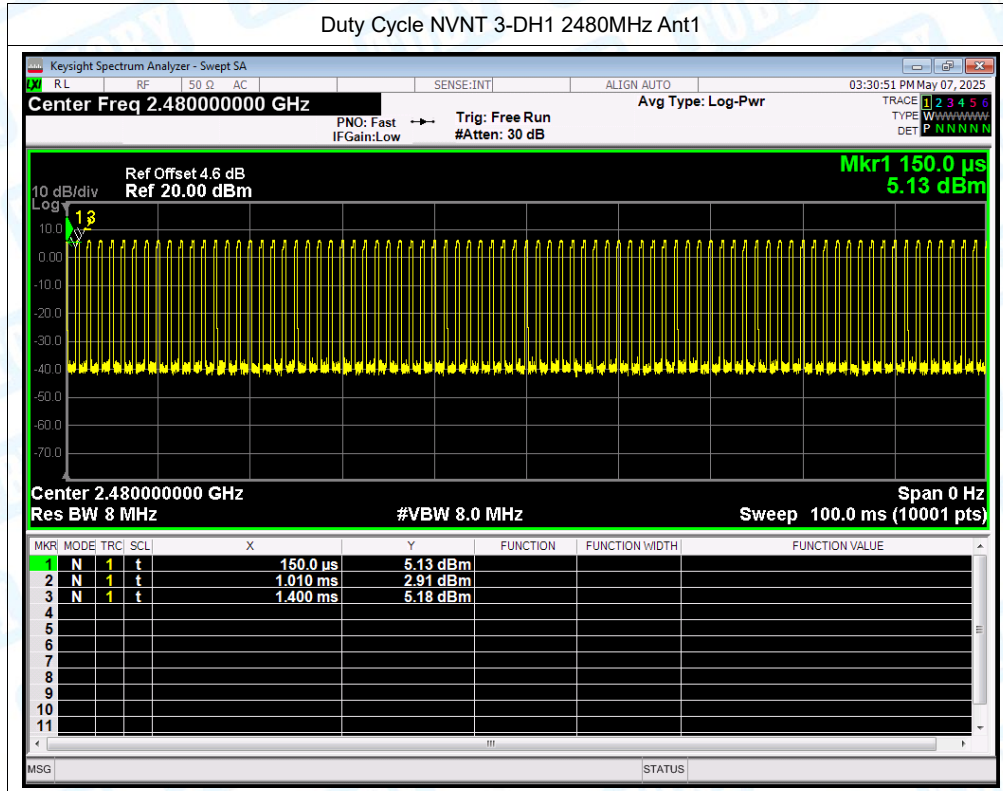


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



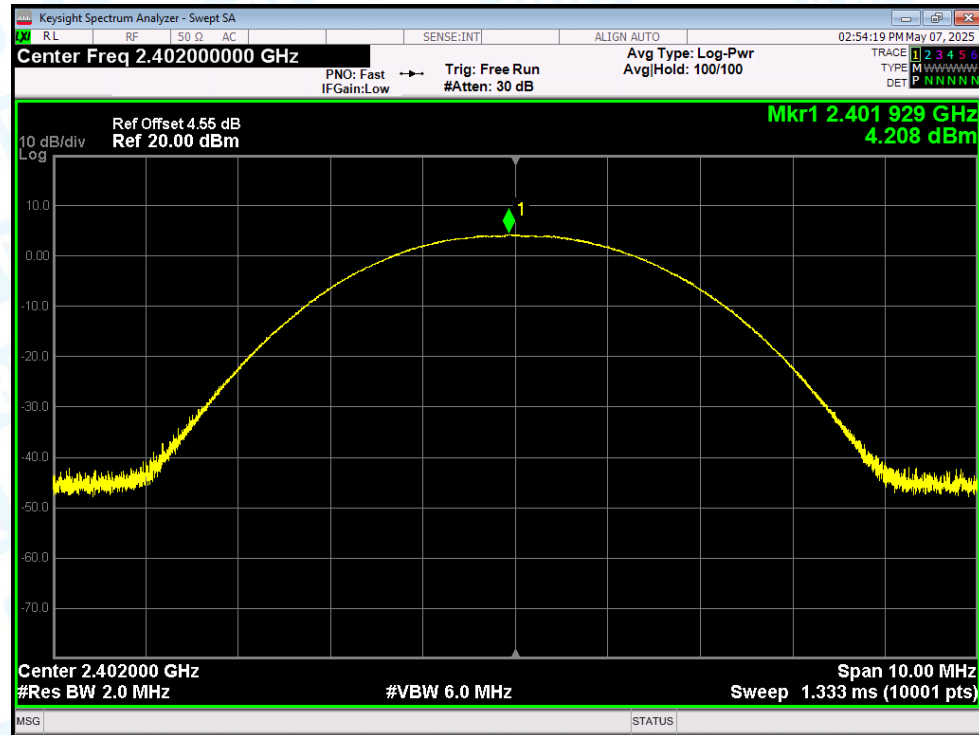


2. Maximum Conducted Output Power

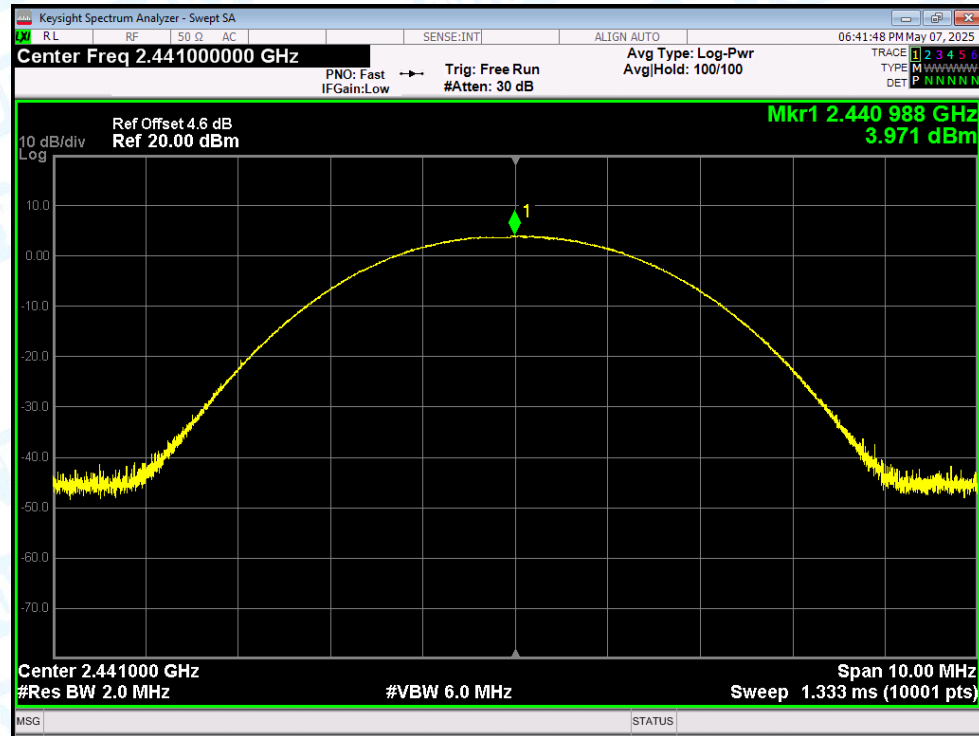
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	4.208	21	Pass
NVNT	1-DH1	2441	Ant1	3.971	21	Pass
NVNT	1-DH1	2480	Ant1	3.26	21	Pass
NVNT	2-DH1	2402	Ant1	5.492	21	Pass
NVNT	2-DH1	2441	Ant1	4.942	21	Pass
NVNT	2-DH1	2480	Ant1	5.717	21	Pass
NVNT	3-DH1	2402	Ant1	5.899	21	Pass
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NVNT	3-DH1	2480	Ant1	6.083	21	Pass

Test Graphs

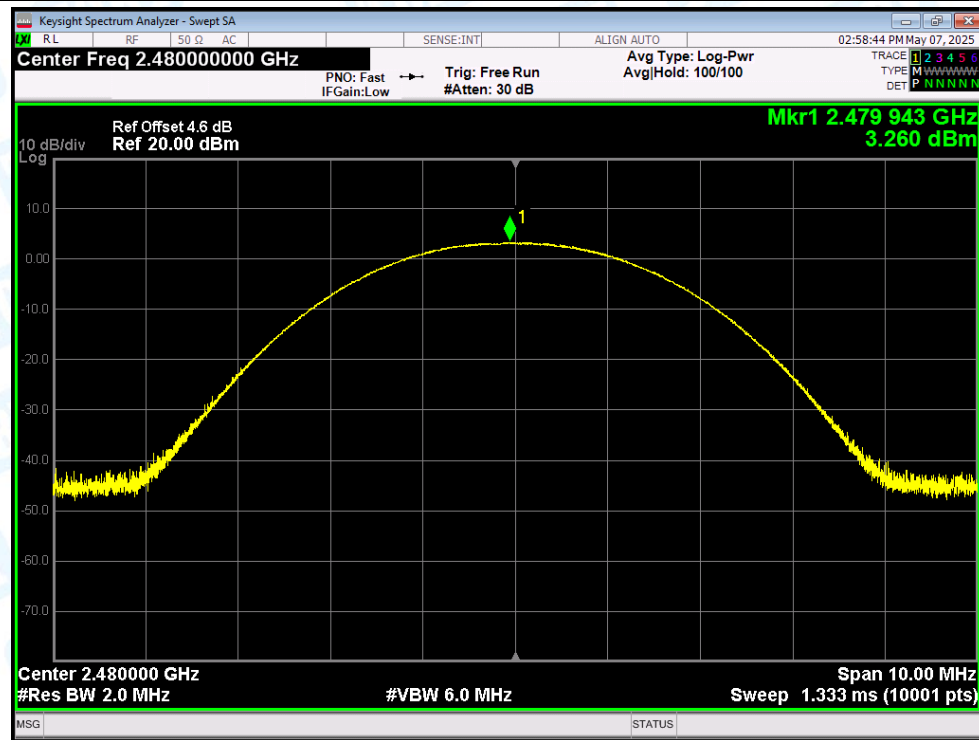
Power NVNT 1-DH1 2402MHz Ant1



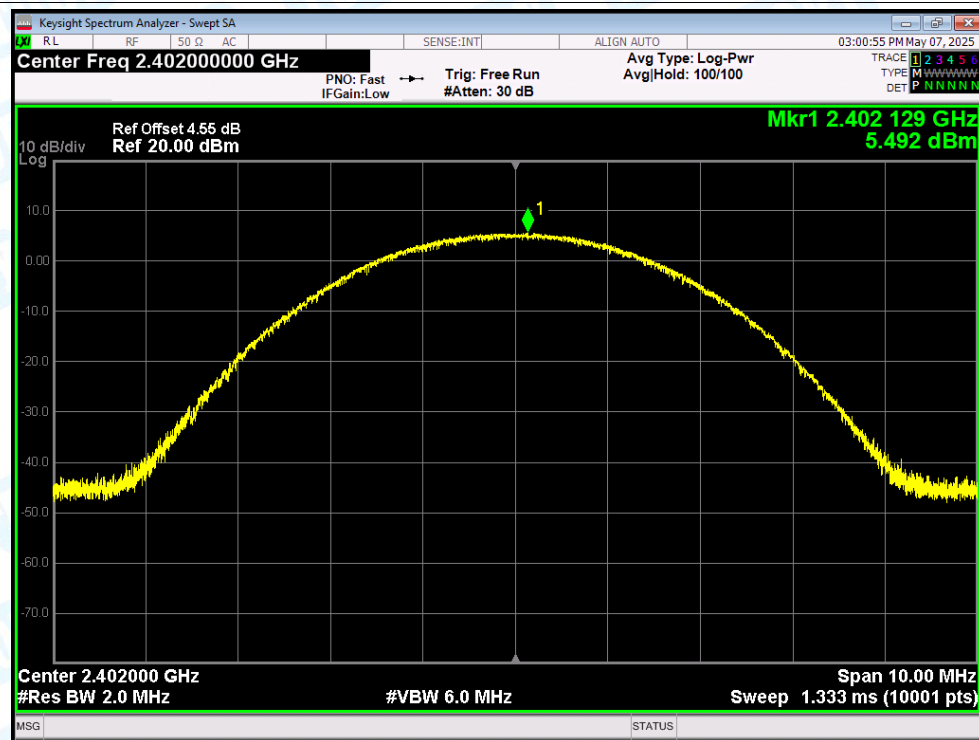
Power NVNT 1-DH1 2441MHz Ant1



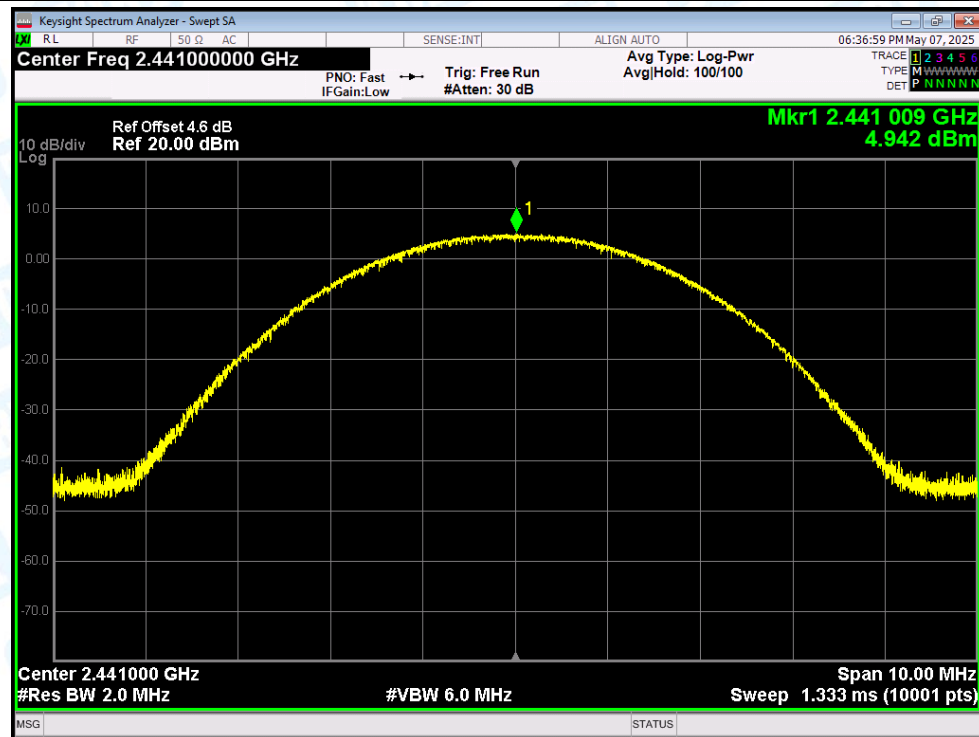
Power NVNT 1-DH1 2480MHz Ant1



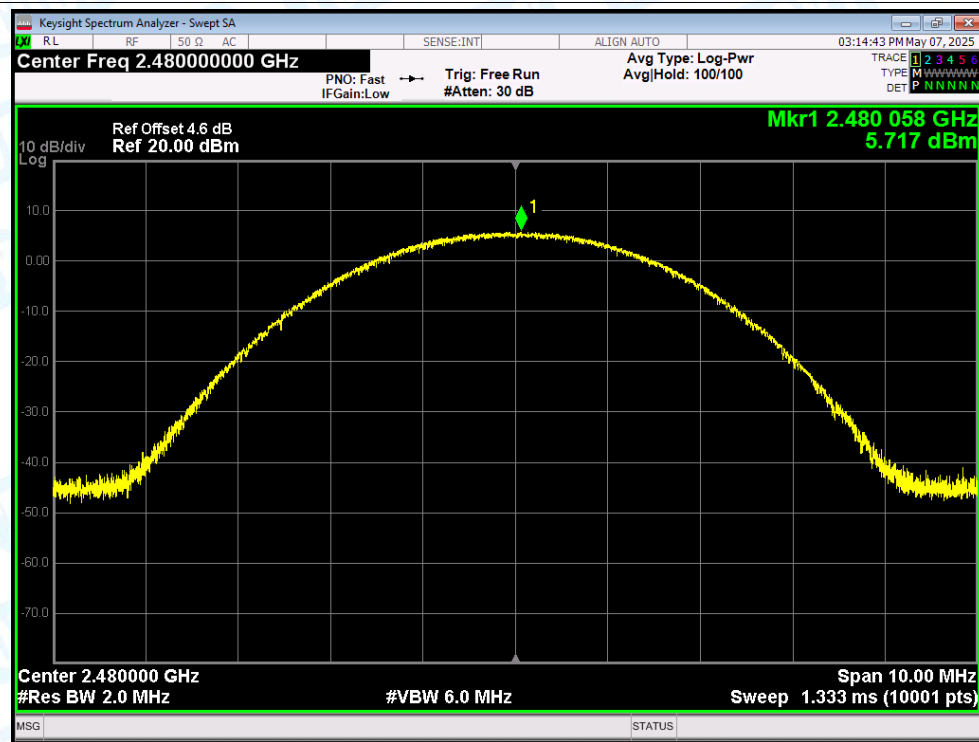
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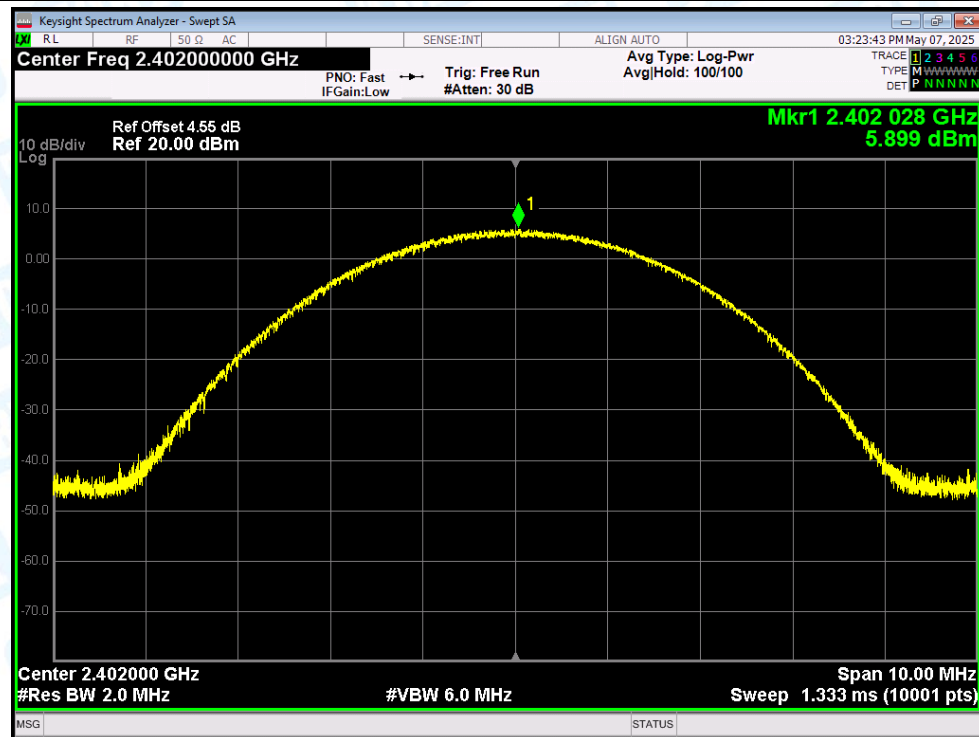
Power NVNT 2-DH1 2441MHz Ant1



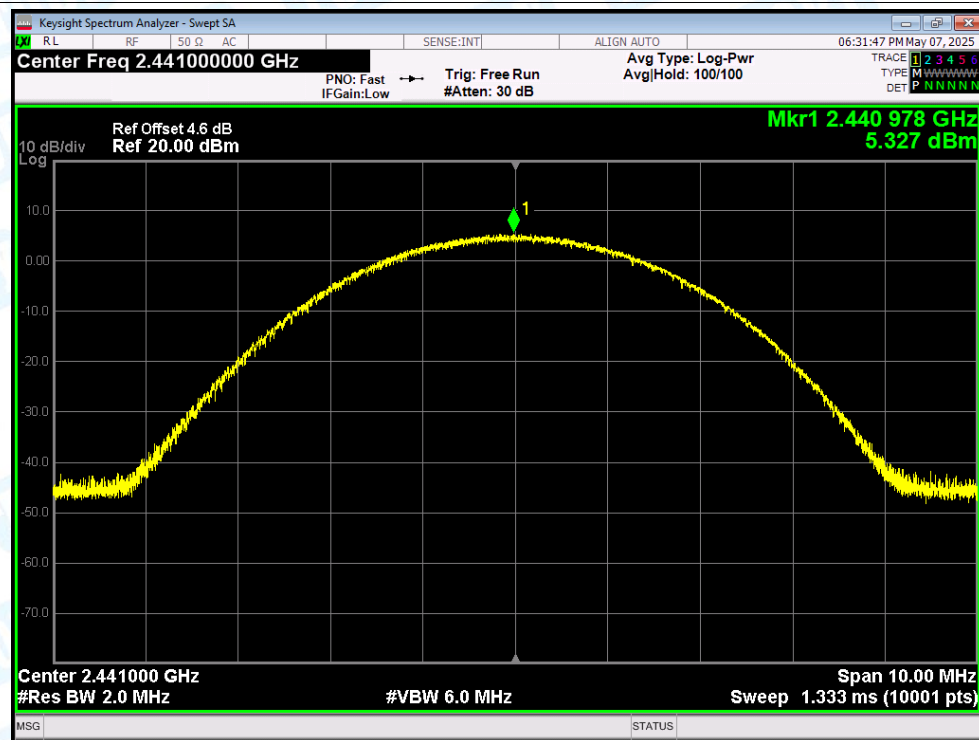
Power NVNT 2-DH1 2480MHz Ant1

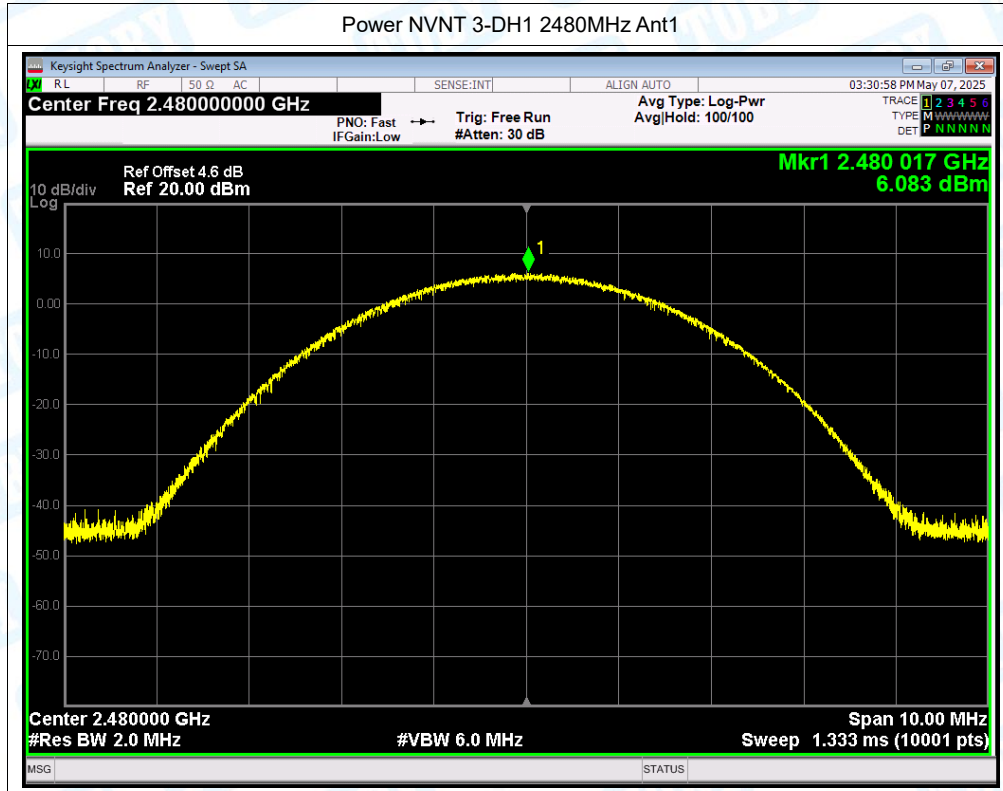


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



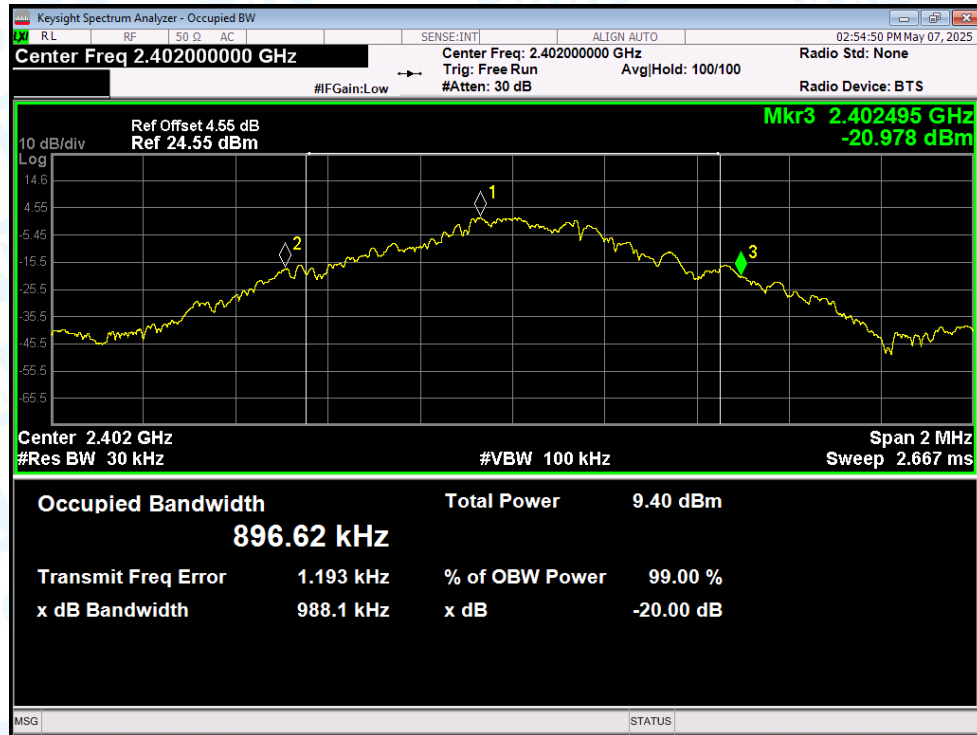


3. -20dB Bandwidth

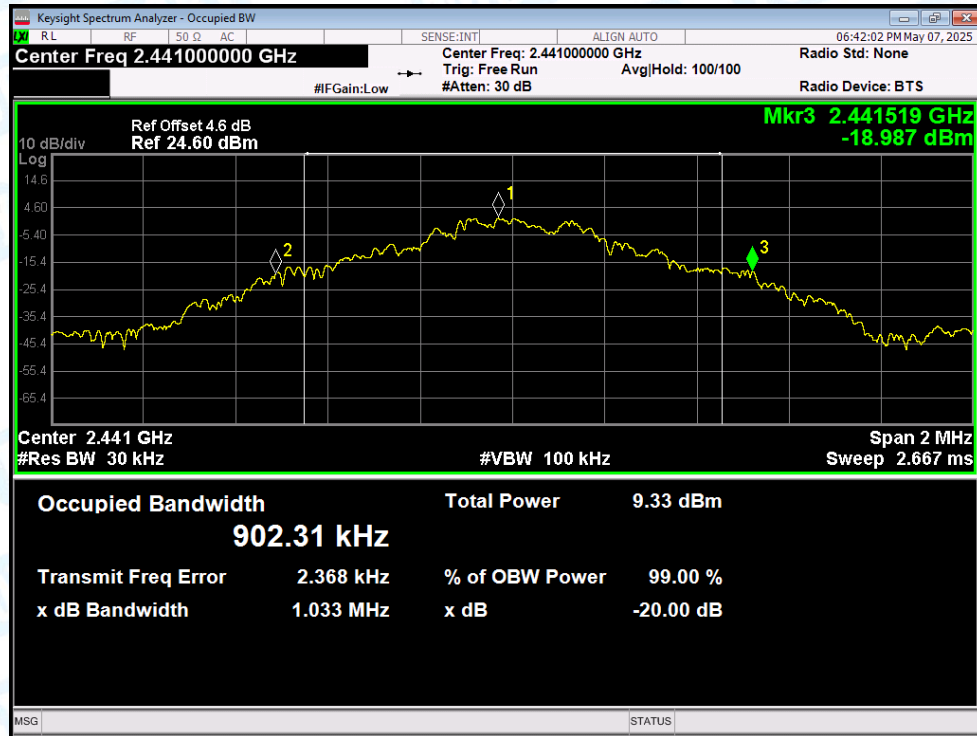
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.99	/	Pass
NVNT	1-DH1	2441	Ant1	1.03	/	Pass
NVNT	1-DH1	2480	Ant1	1.04	/	Pass
NVNT	2-DH1	2402	Ant1	1.34	/	Pass
NVNT	2-DH1	2441	Ant1	1.33	/	Pass
NVNT	2-DH1	2480	Ant1	1.33	/	Pass
NVNT	3-DH1	2402	Ant1	1.3	/	Pass
NVNT	3-DH1	2441	Ant1	1.33	/	Pass
NVNT	3-DH1	2480	Ant1	1.27	/	Pass

Test Graphs

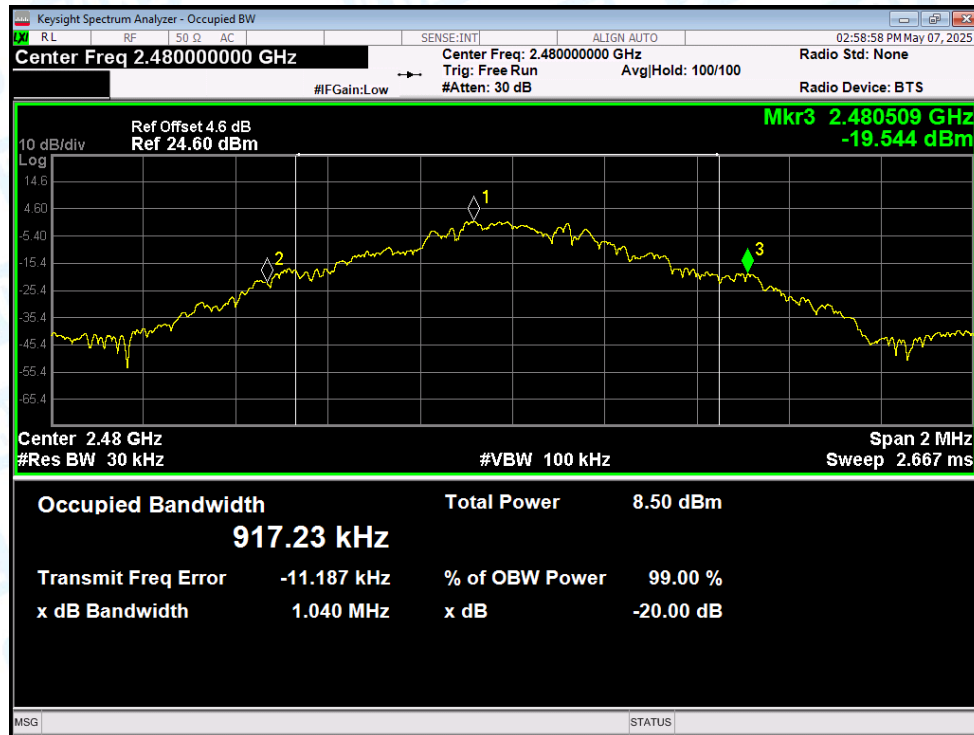
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



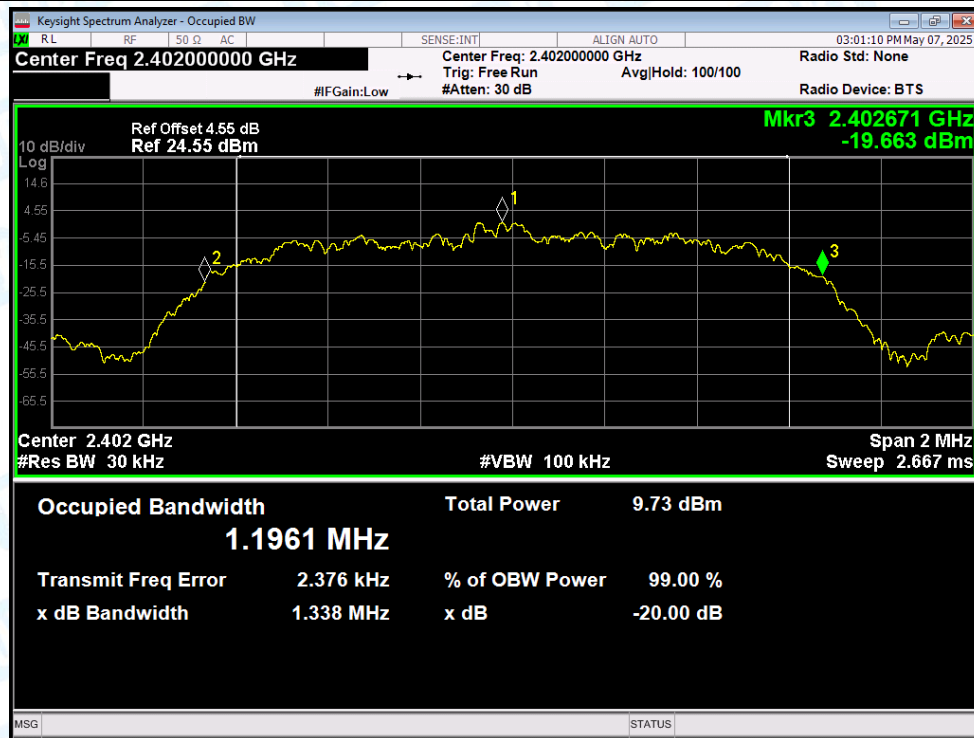
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1

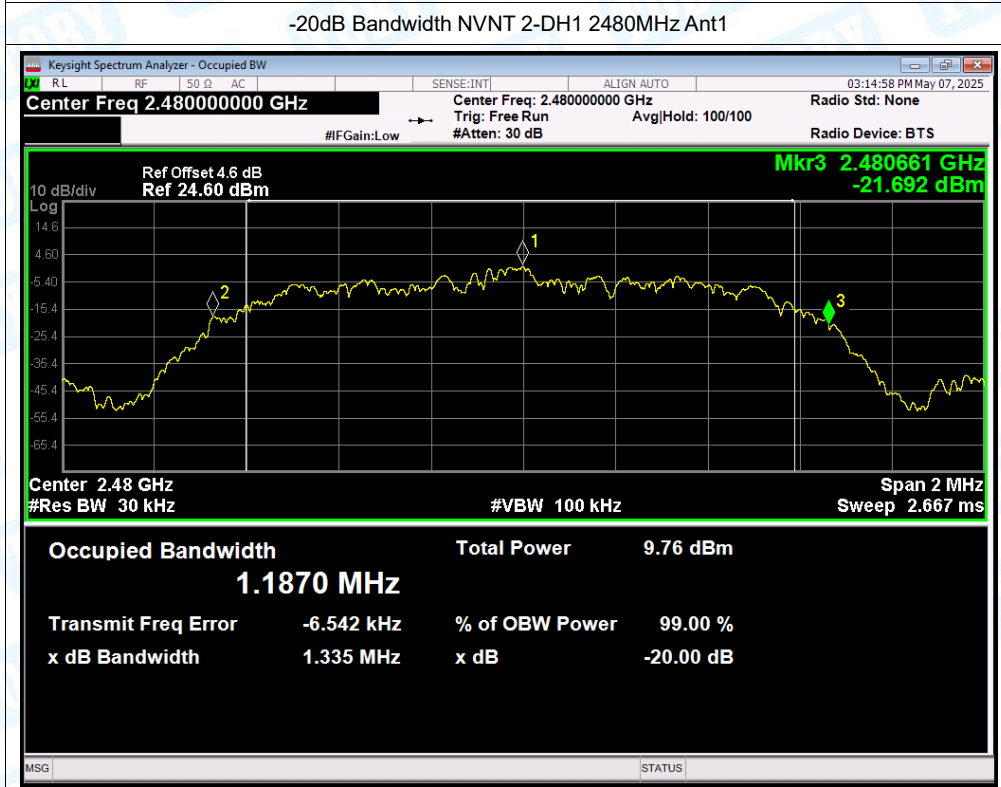
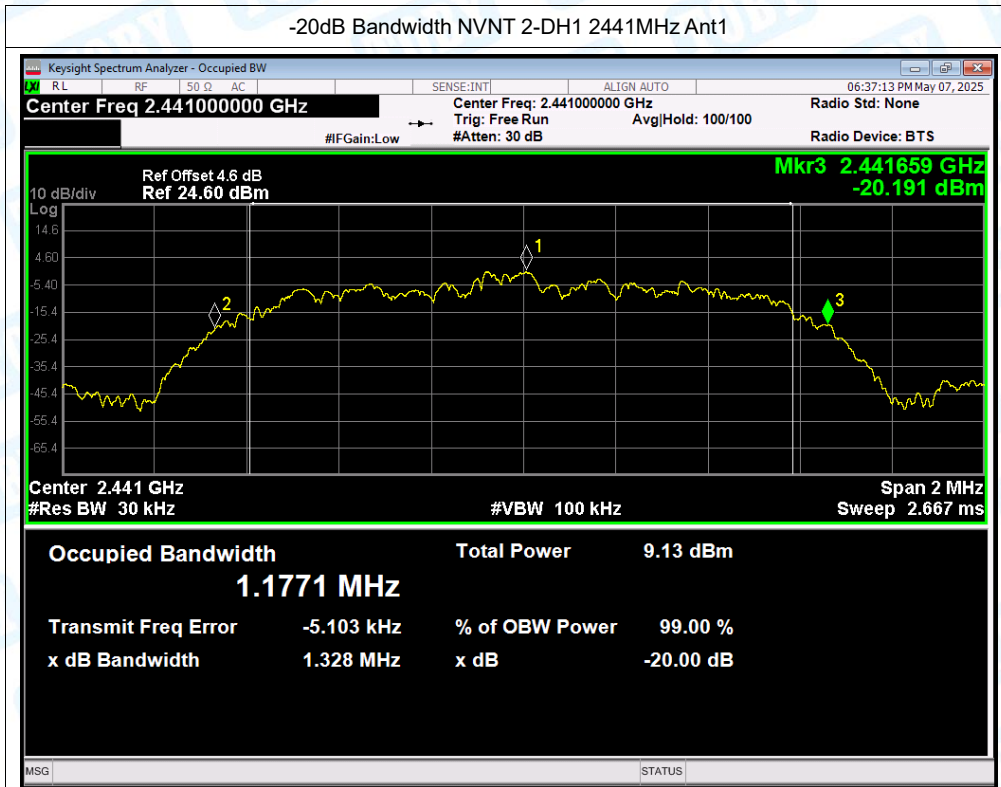


-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1

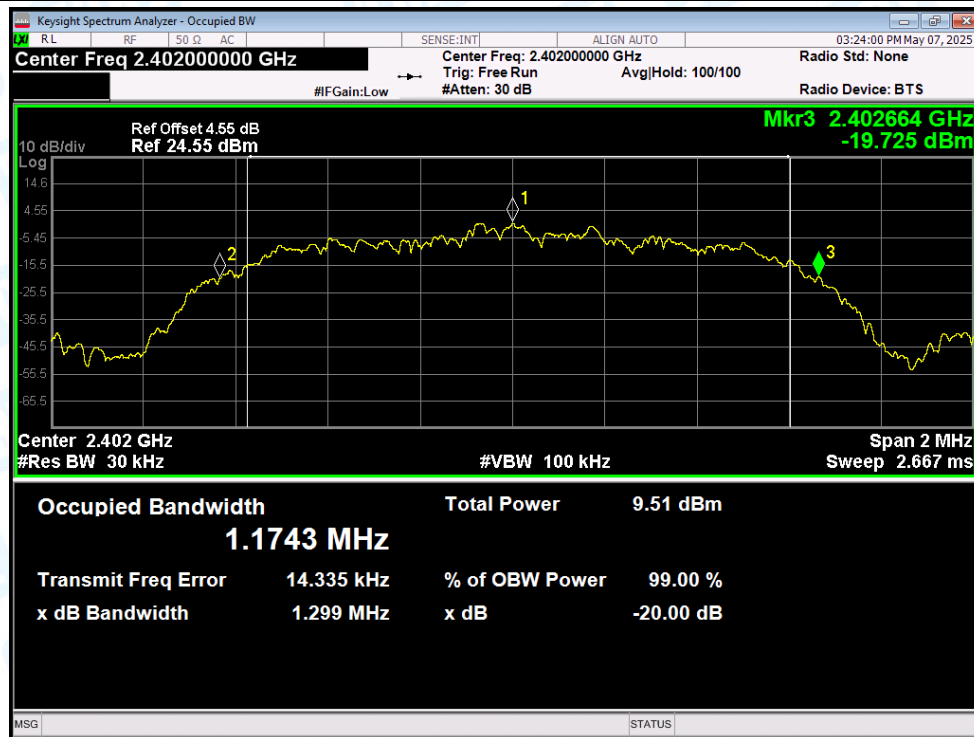


-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1

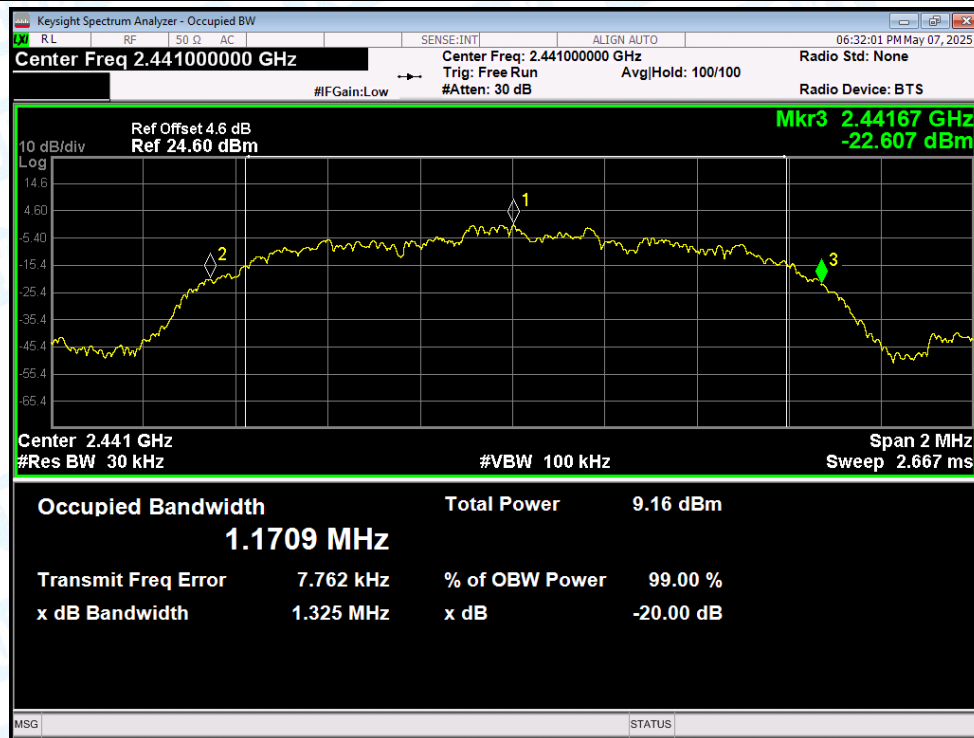


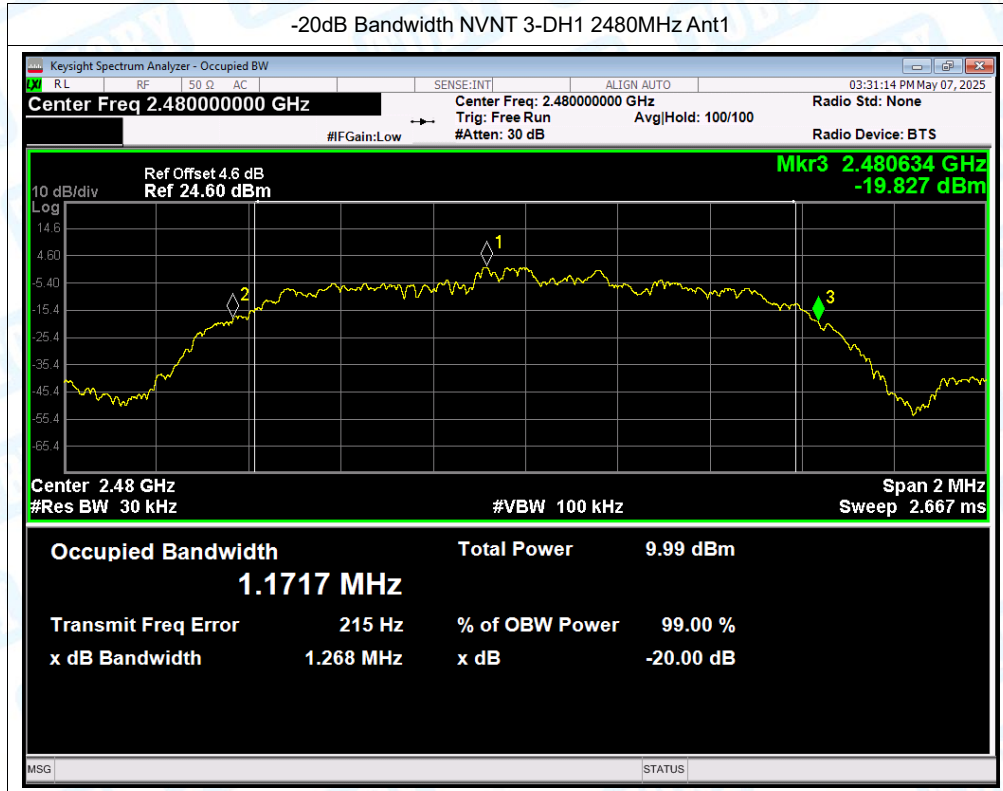


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



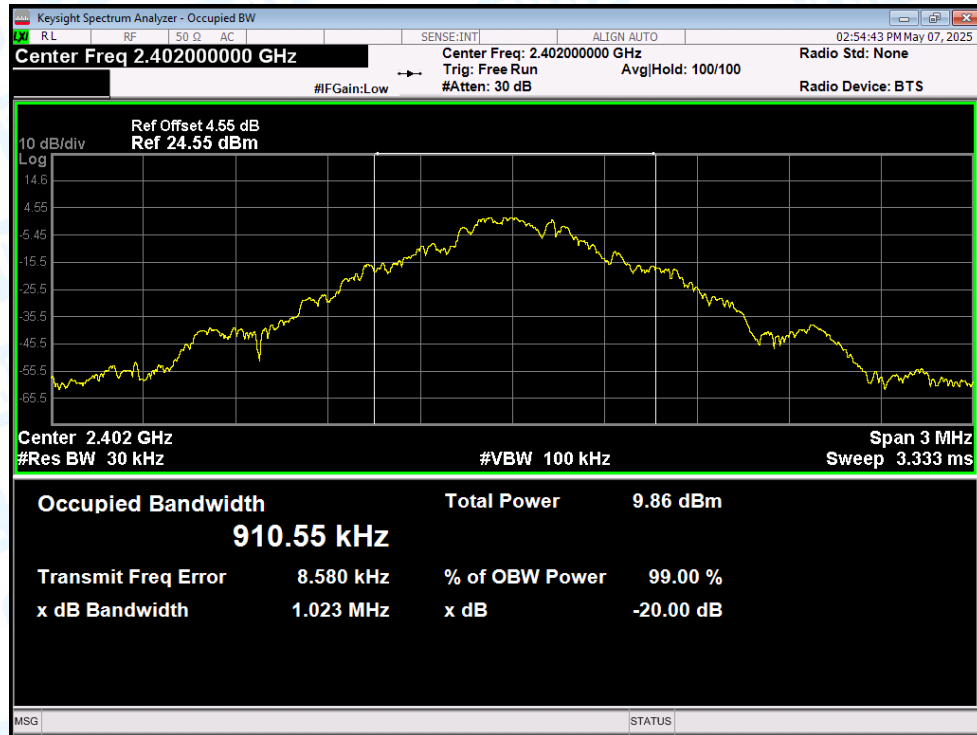


4. Occupied Channel Bandwidth

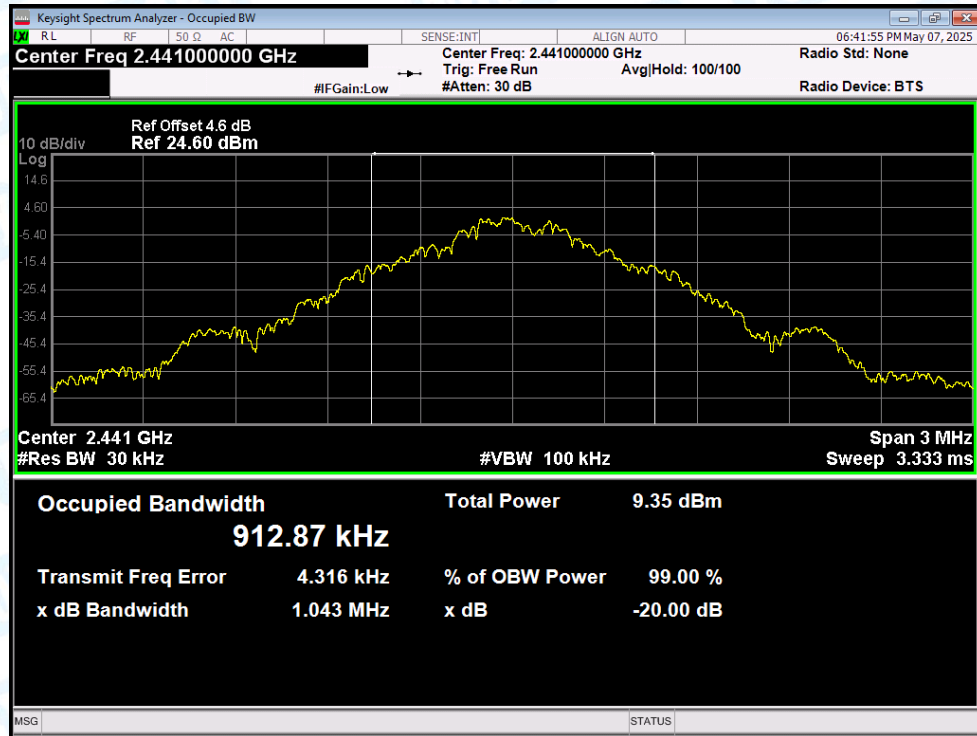
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.911
NVNT	1-DH1	2441	Ant1	0.913
NVNT	1-DH1	2480	Ant1	0.894
NVNT	2-DH1	2402	Ant1	1.196
NVNT	2-DH1	2441	Ant1	1.18
NVNT	2-DH1	2480	Ant1	1.203
NVNT	3-DH1	2402	Ant1	1.168
NVNT	3-DH1	2441	Ant1	1.174
NVNT	3-DH1	2480	Ant1	1.165

Test Graphs

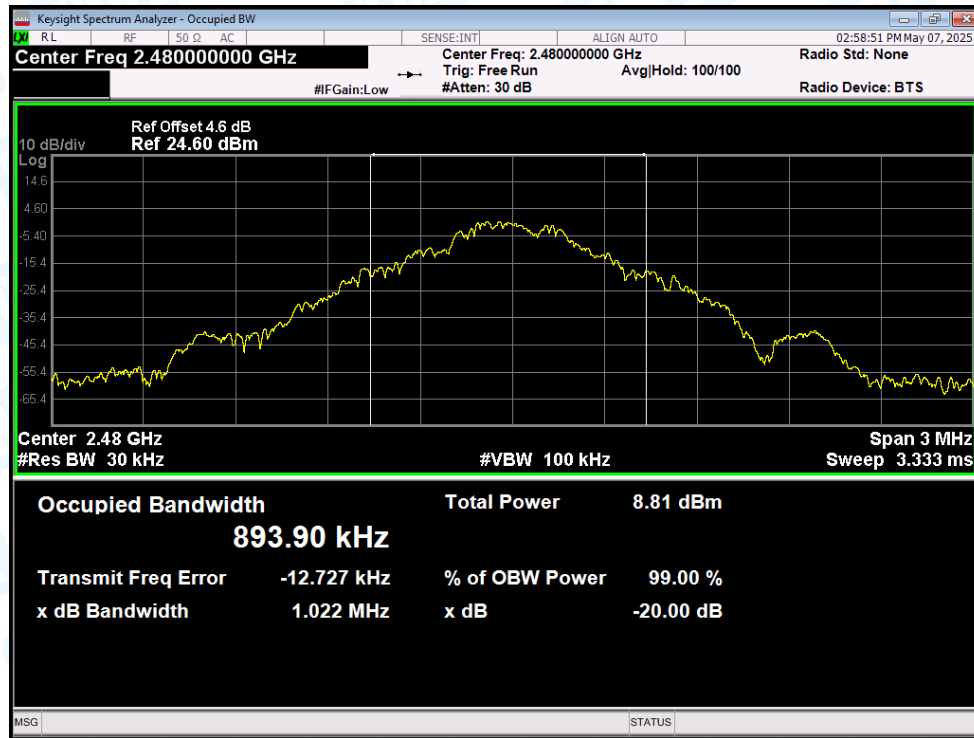
OBW NVNT 1-DH1 2402MHz Ant1



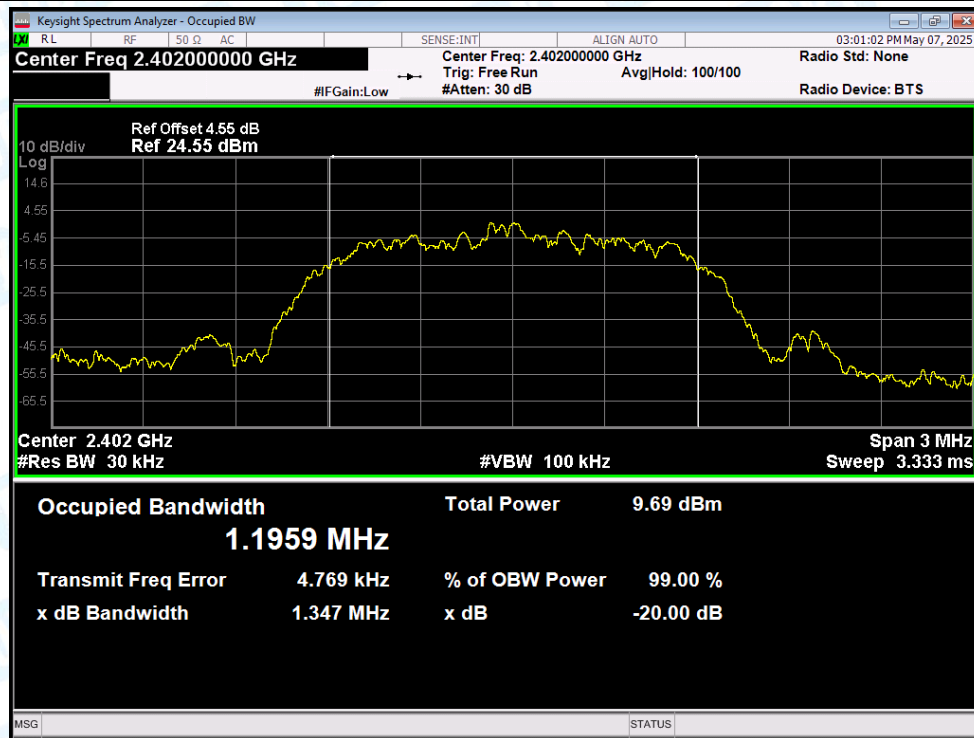
OBW NVNT 1-DH1 2441MHz Ant1



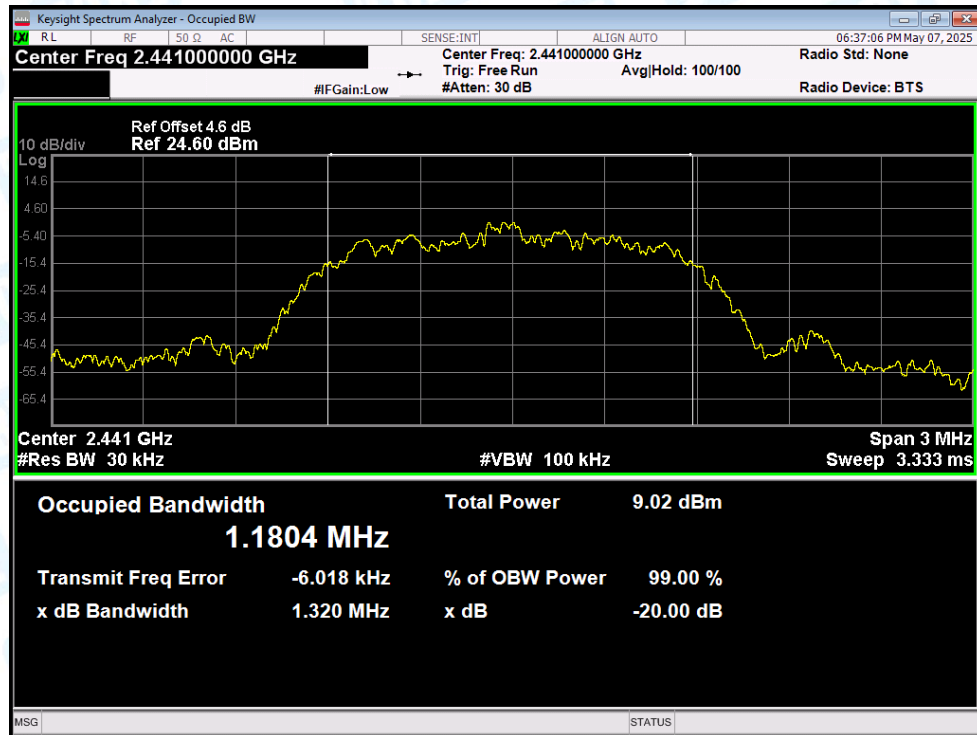
OBW NVNT 1-DH1 2480MHz Ant1



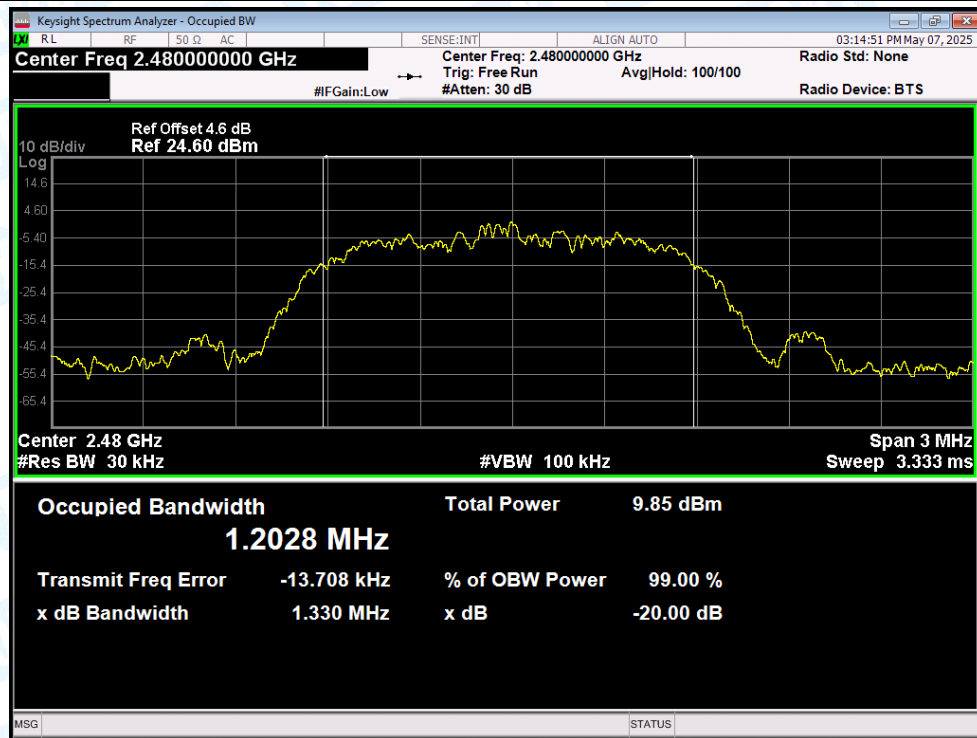
OBW NVNT 2-DH1 2402MHz Ant1



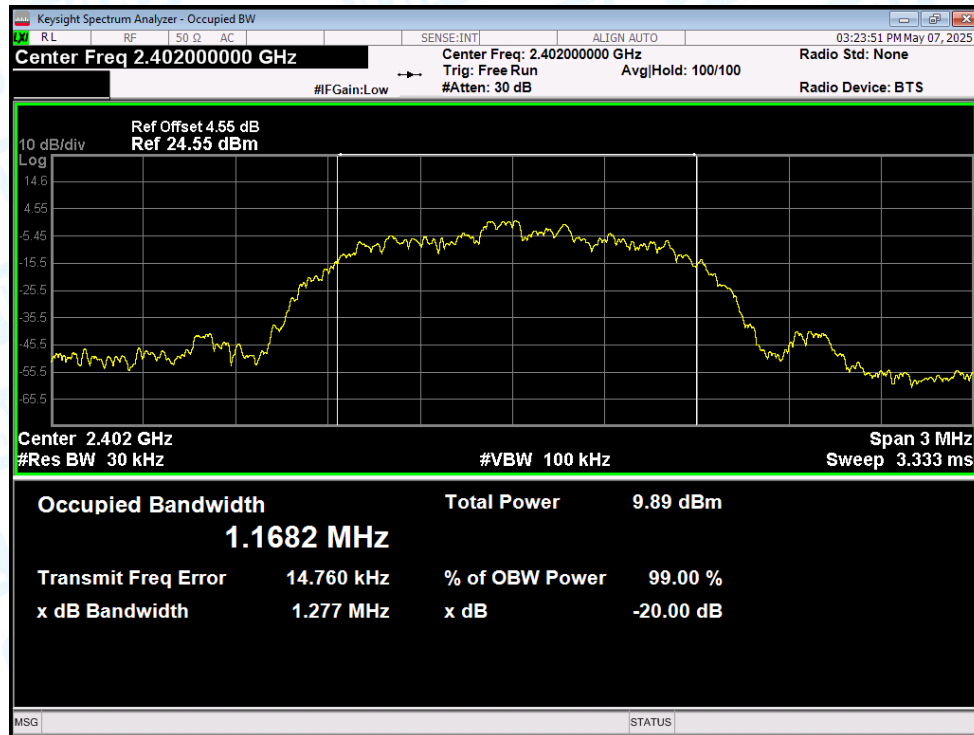
OBW NVNT 2-DH1 2441MHz Ant1



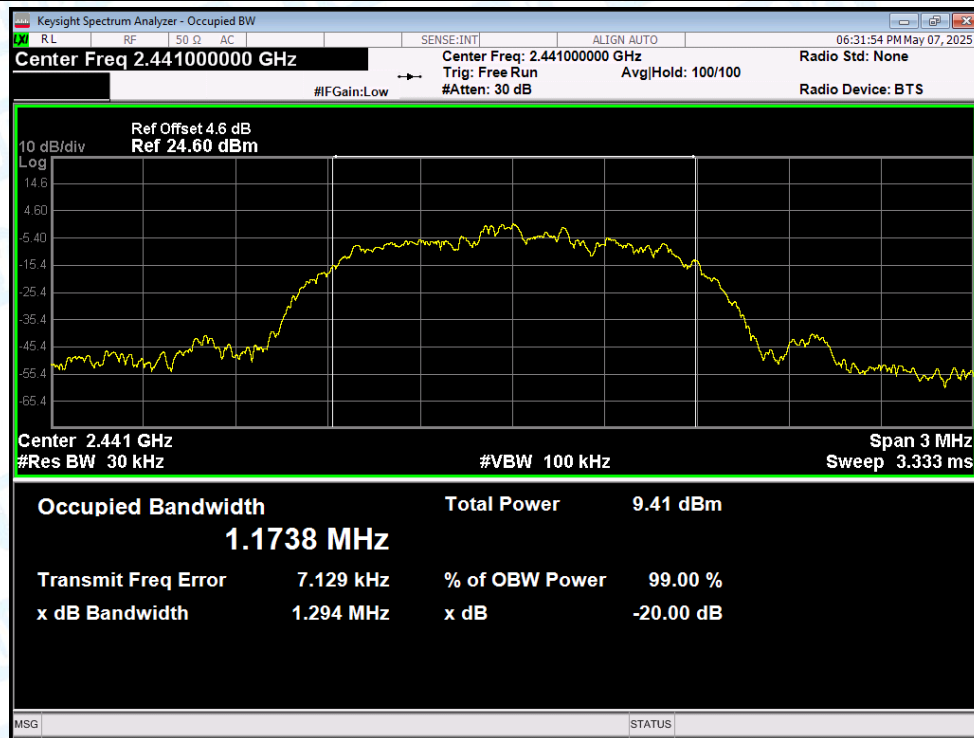
OBW NVNT 2-DH1 2480MHz Ant1

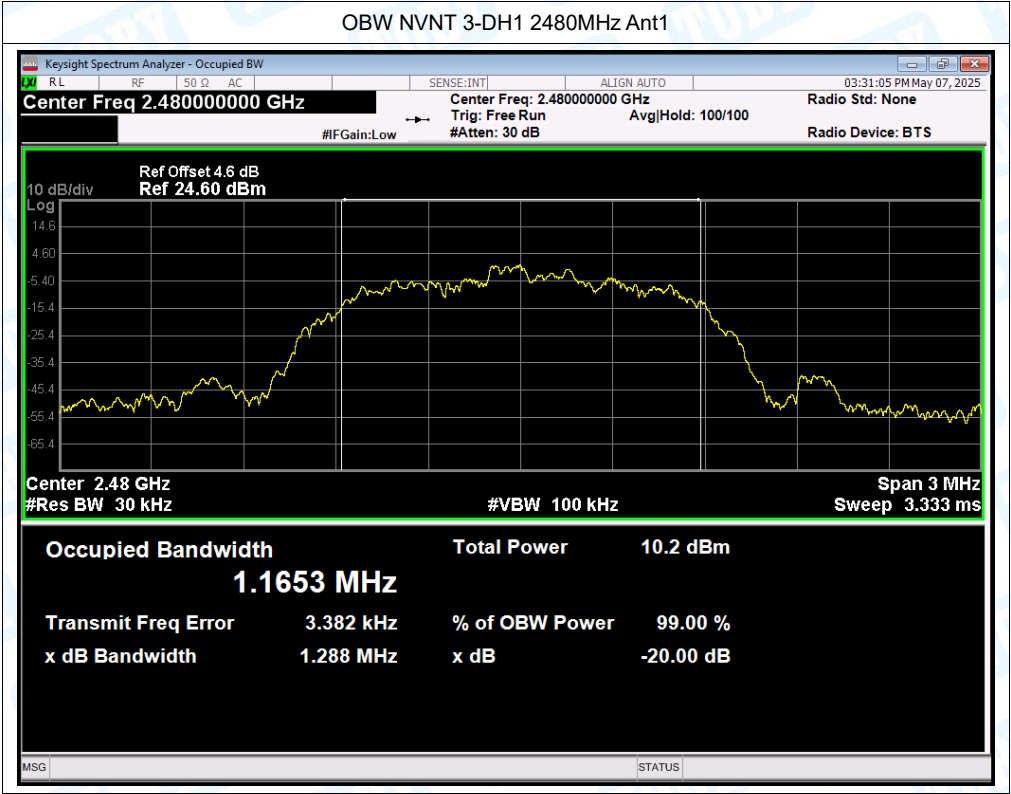


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



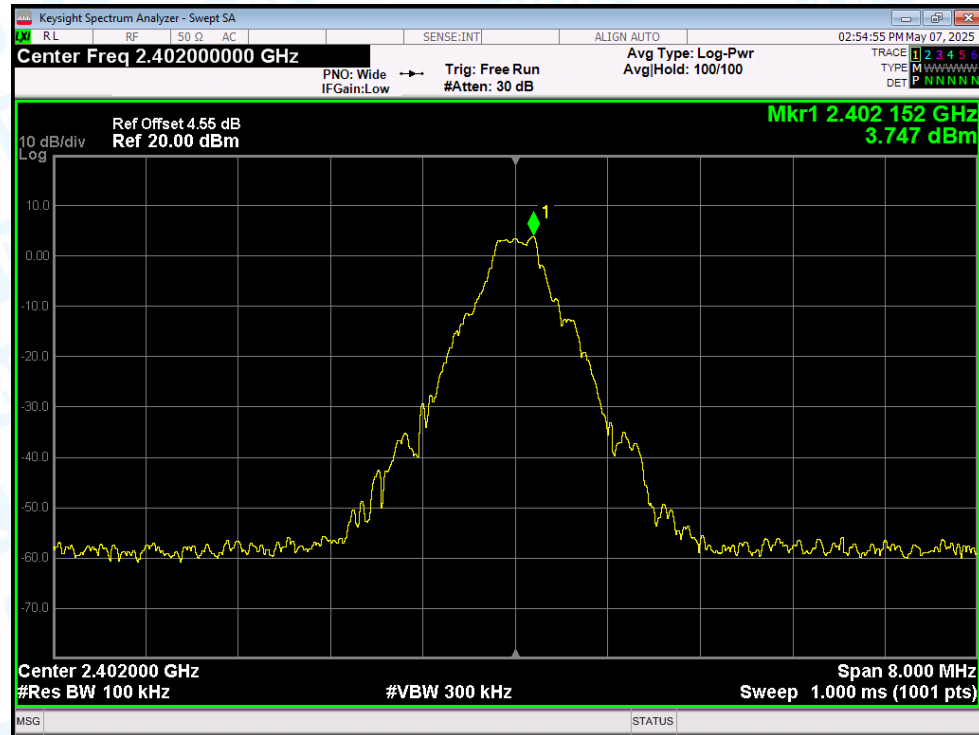


5. Band Edge

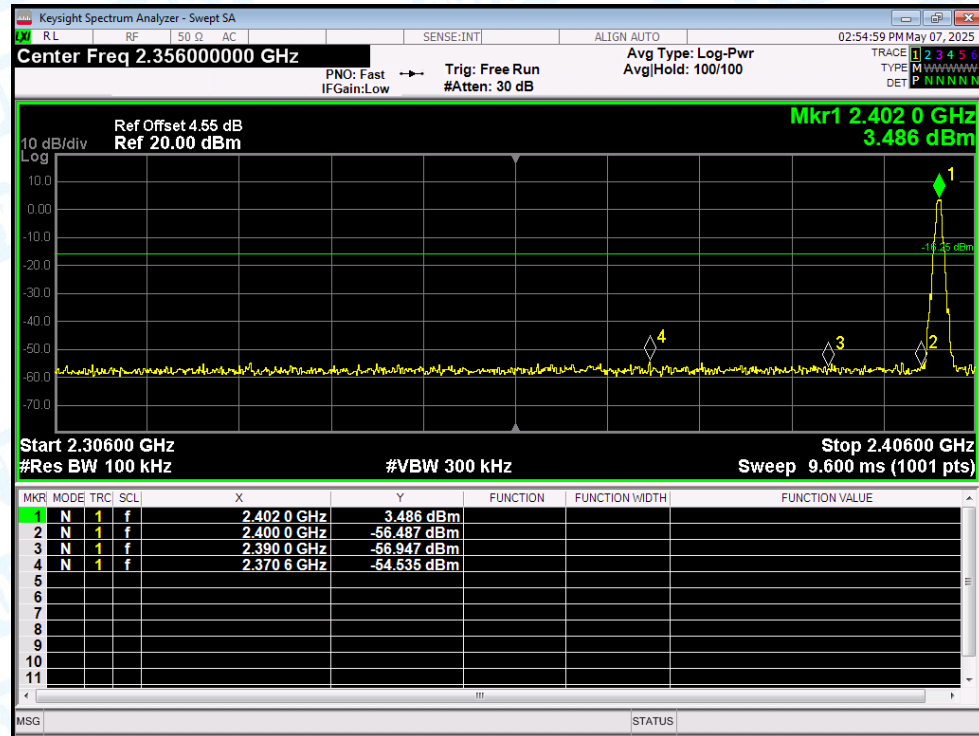
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-58.29	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-57.04	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-57.43	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-56.5	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-57.74	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-57.72	-20	Pass

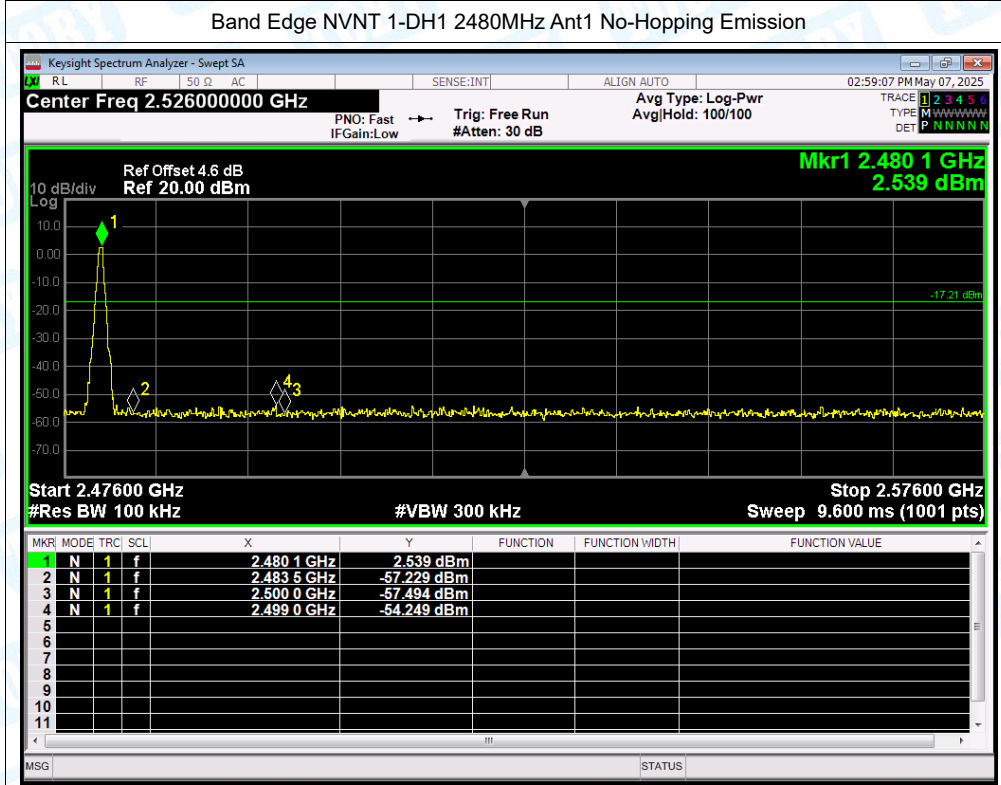
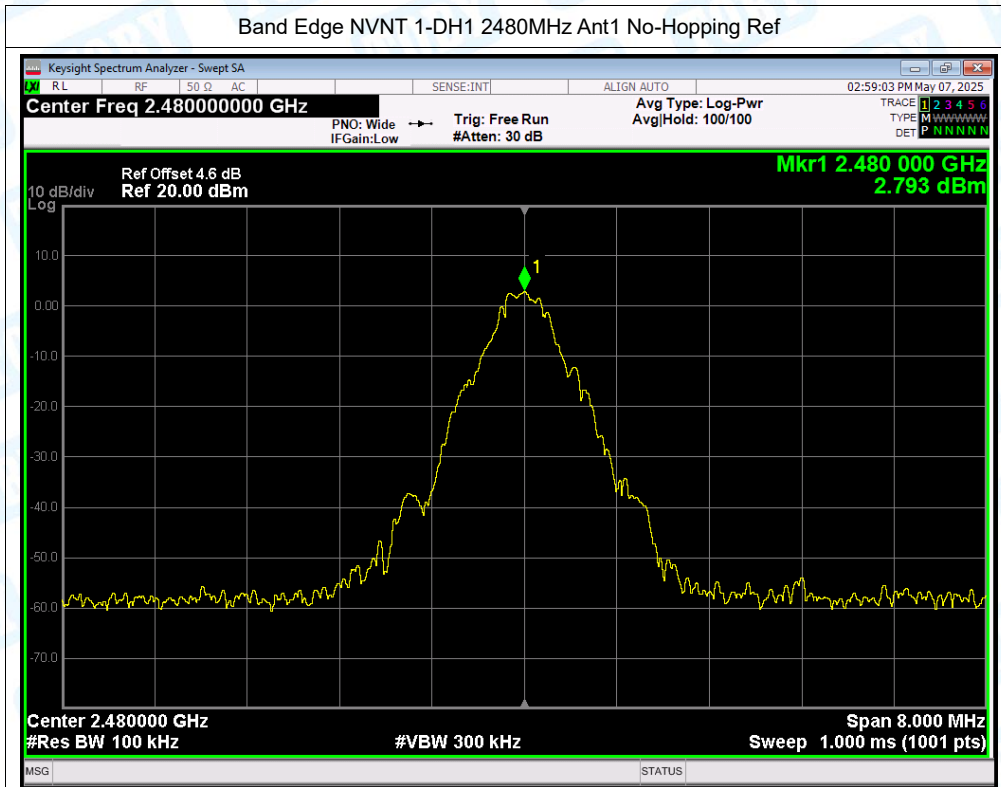
Test Graphs

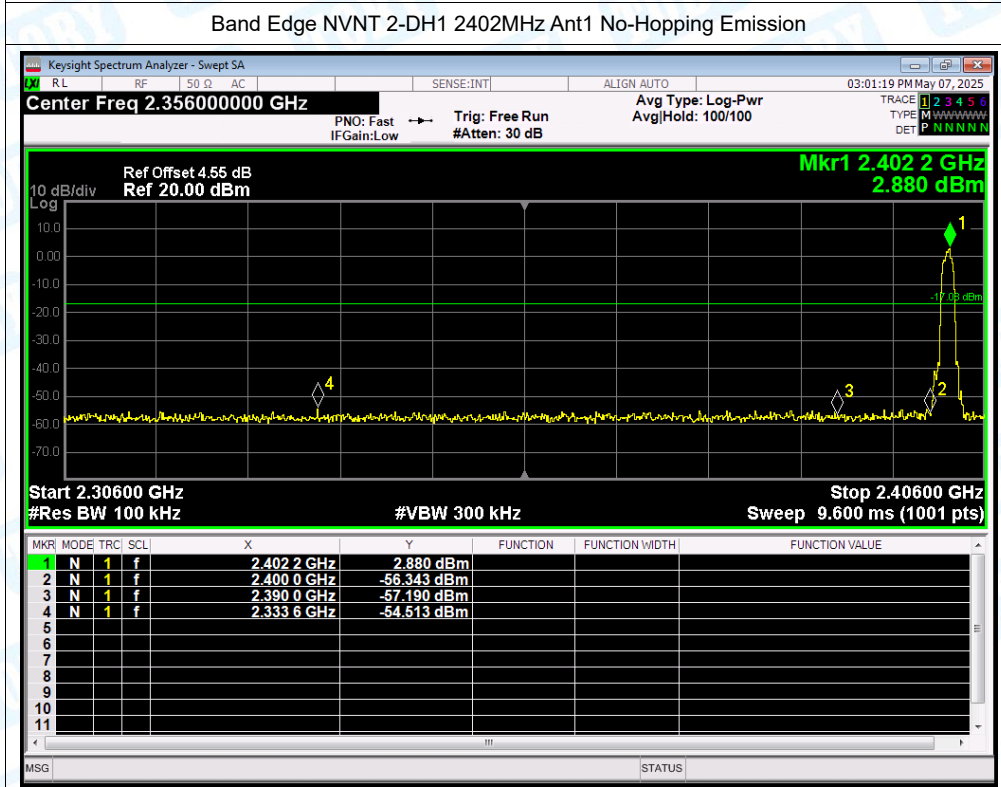
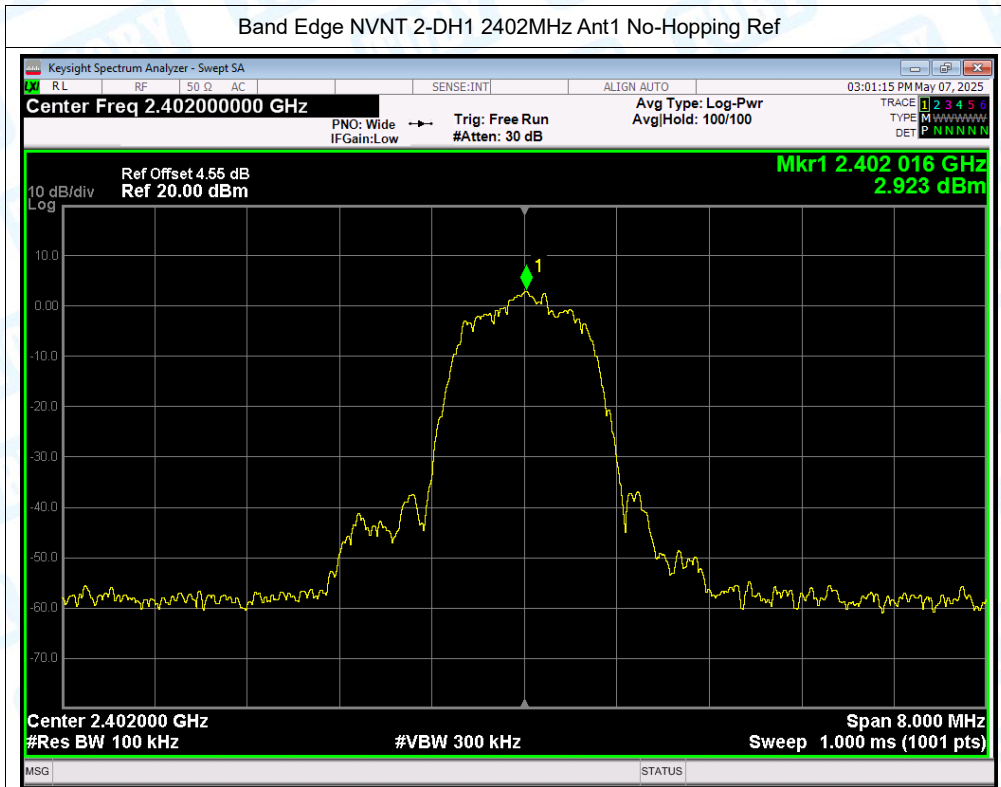
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref

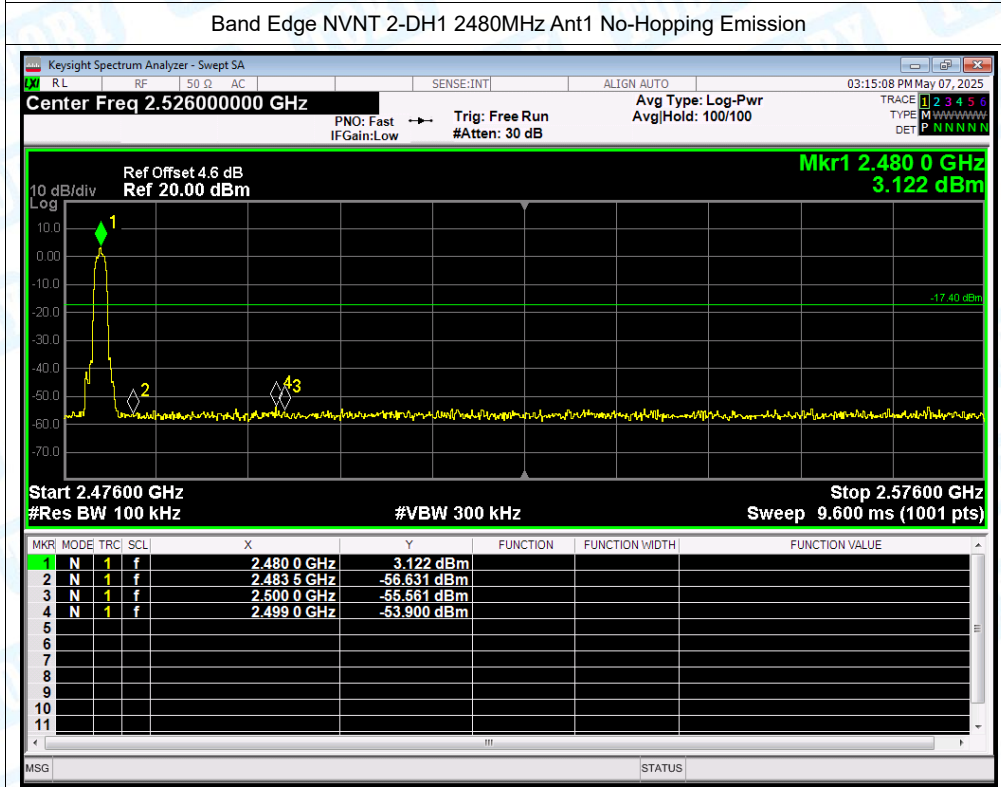
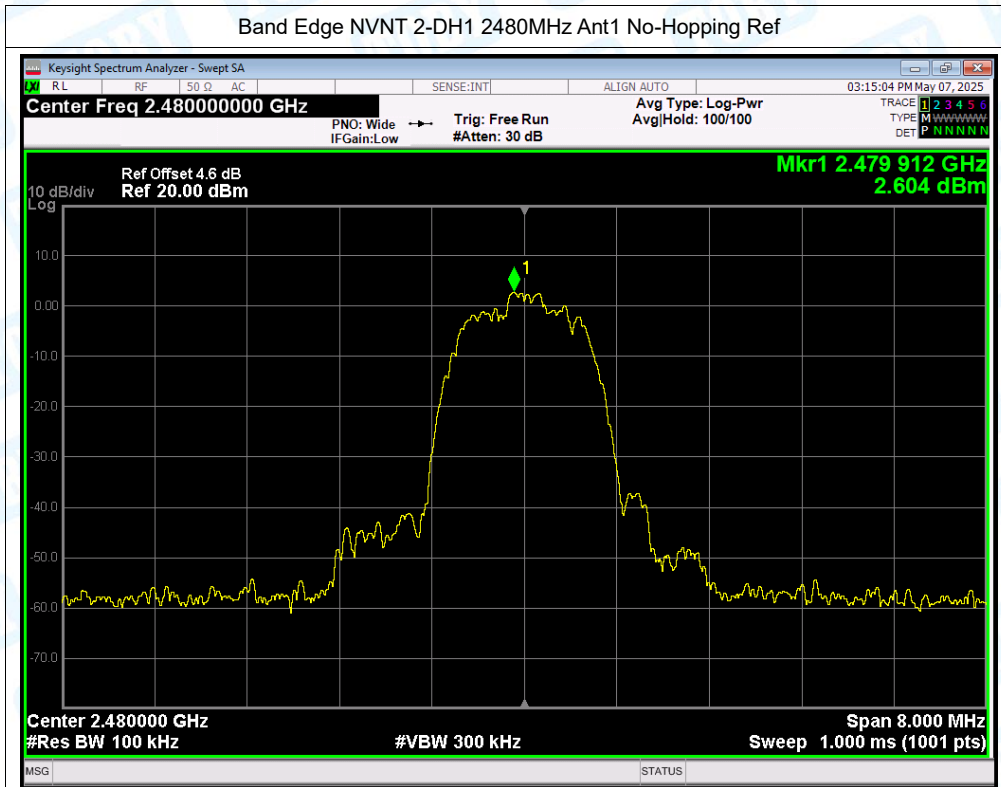


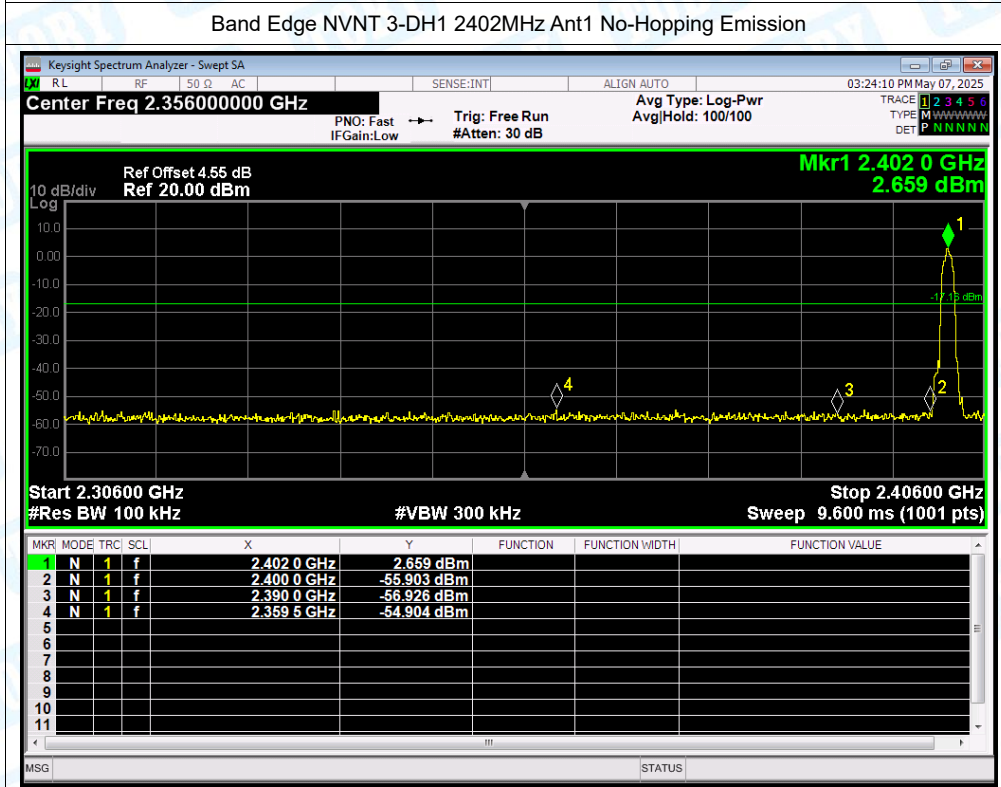
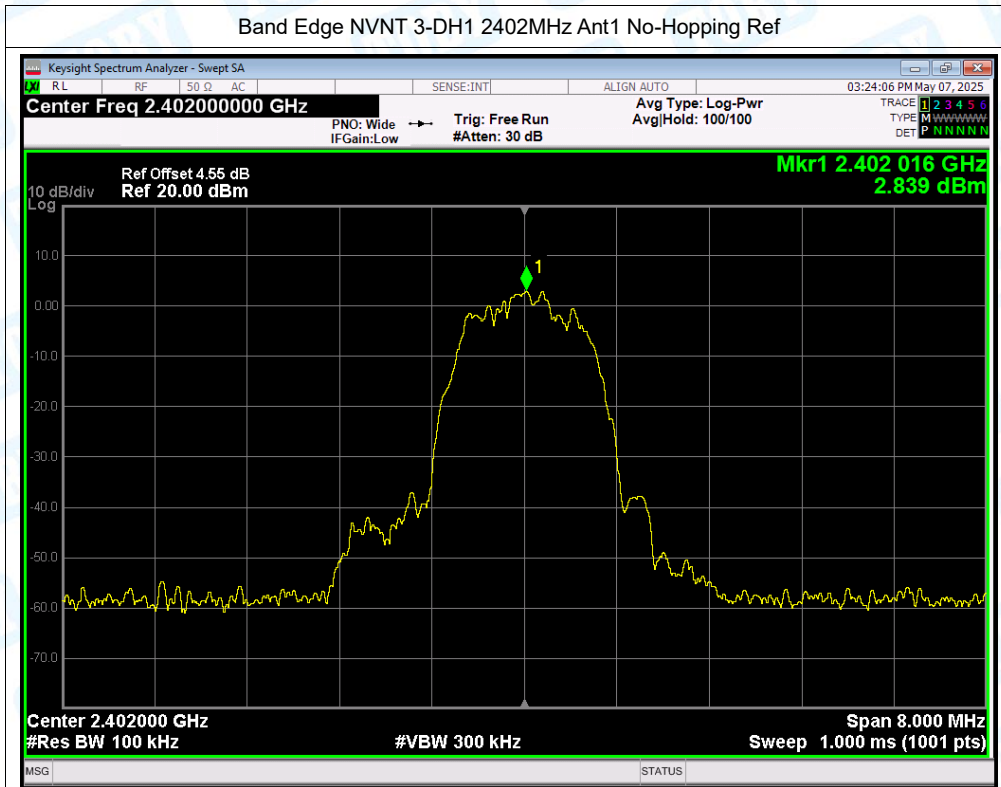
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

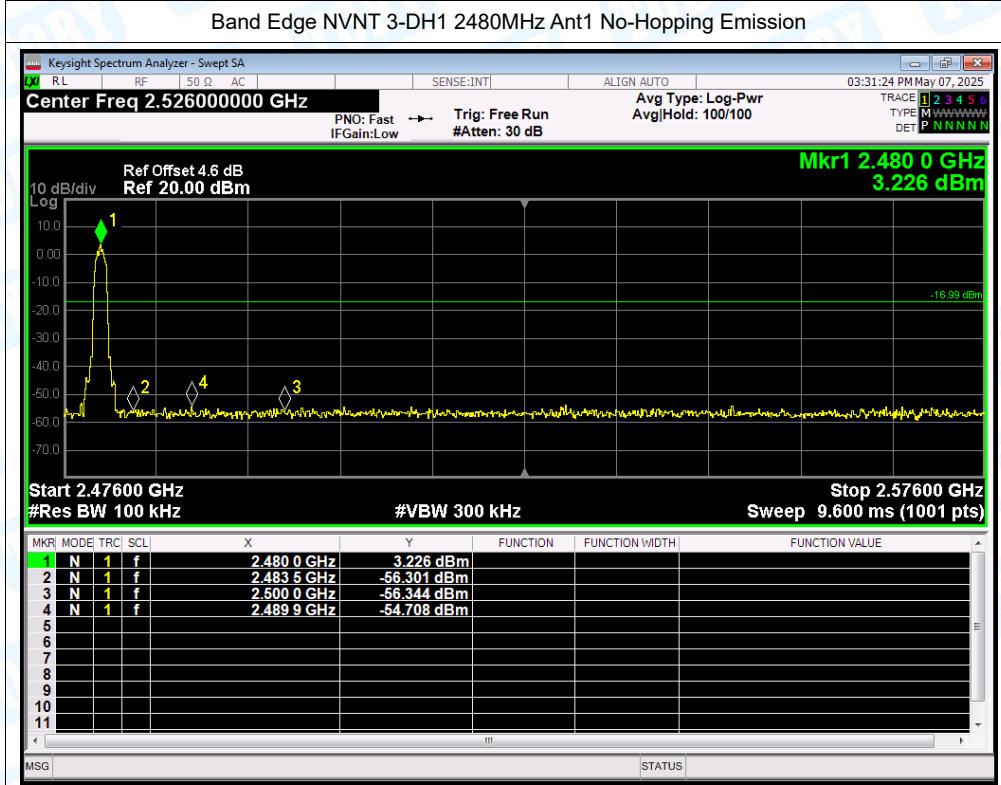
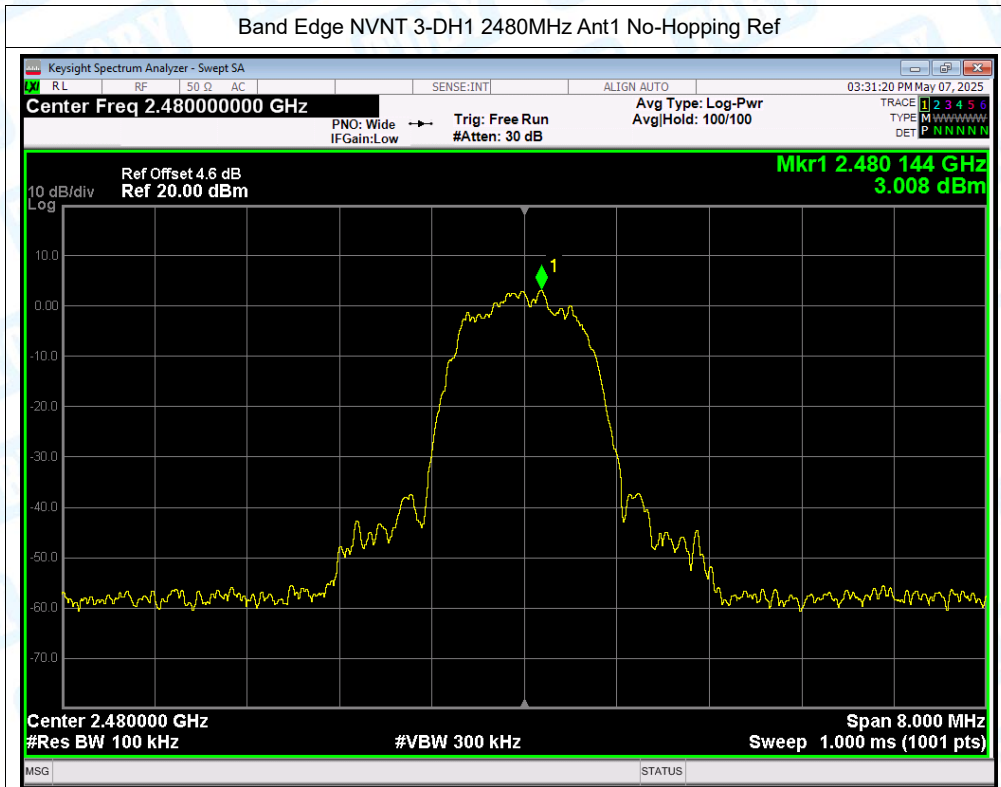












6. Band Edge(Hopping)

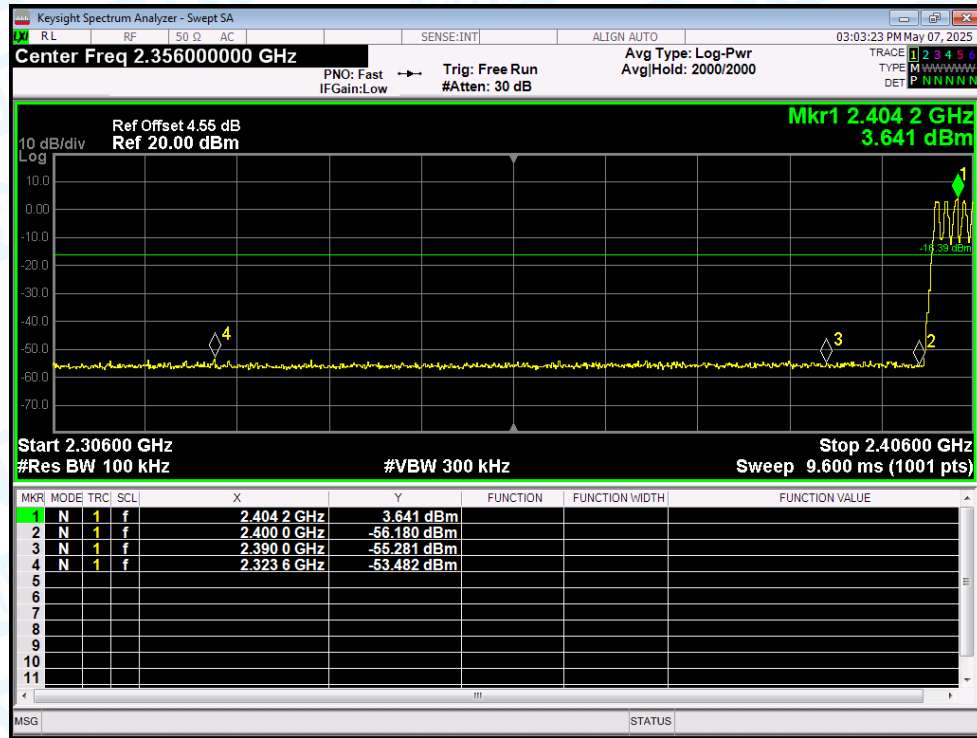
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-57.09	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-55.31	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-56.67	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-56.48	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-56.19	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-56.82	-20	Pass

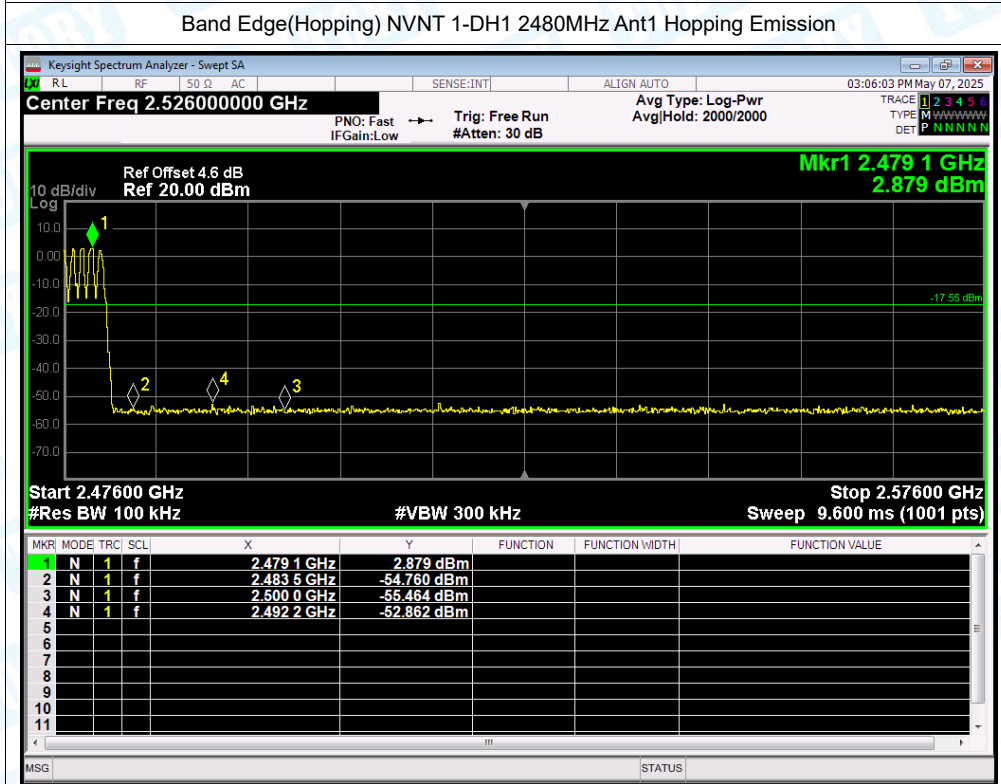
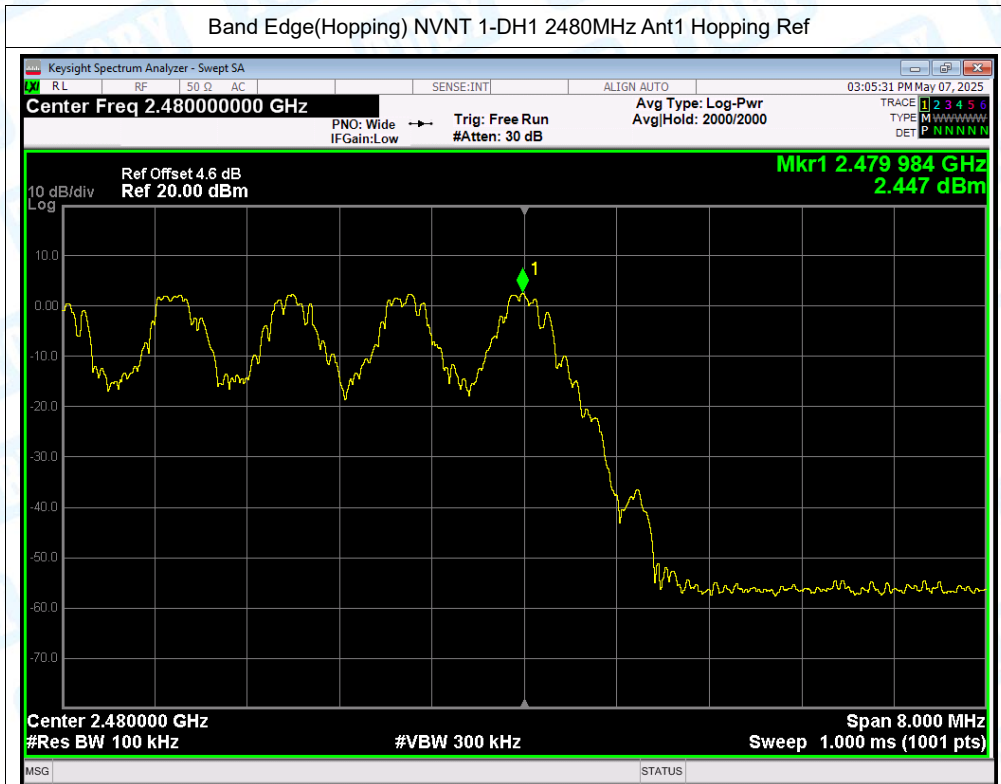
Test Graphs

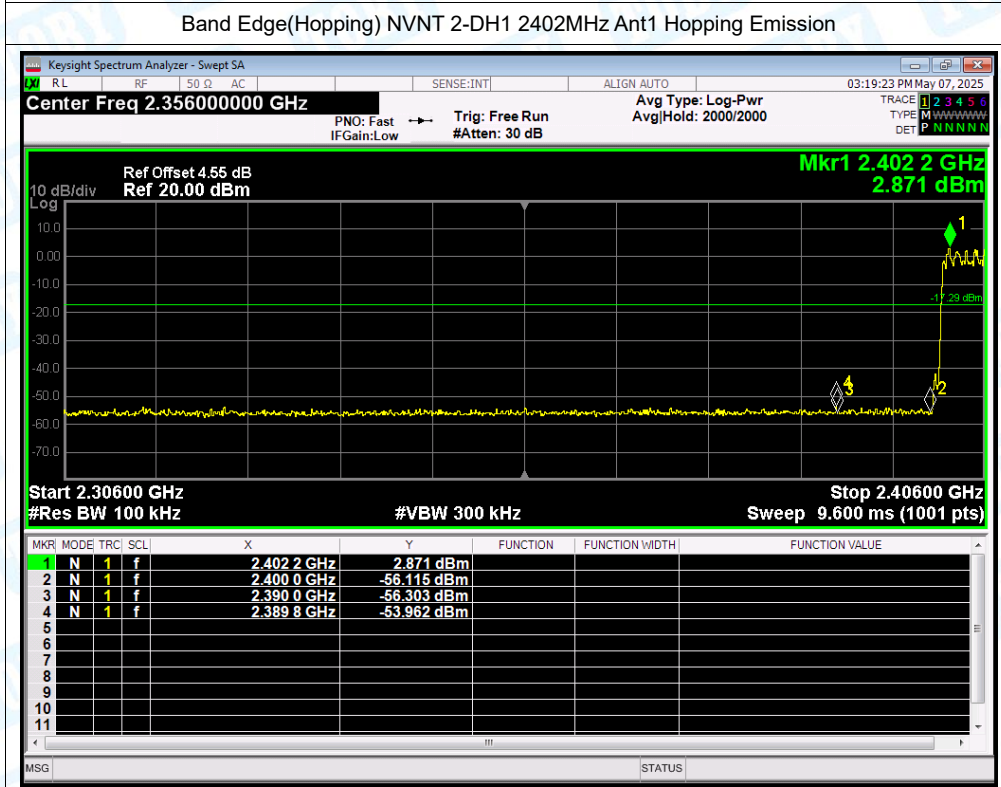
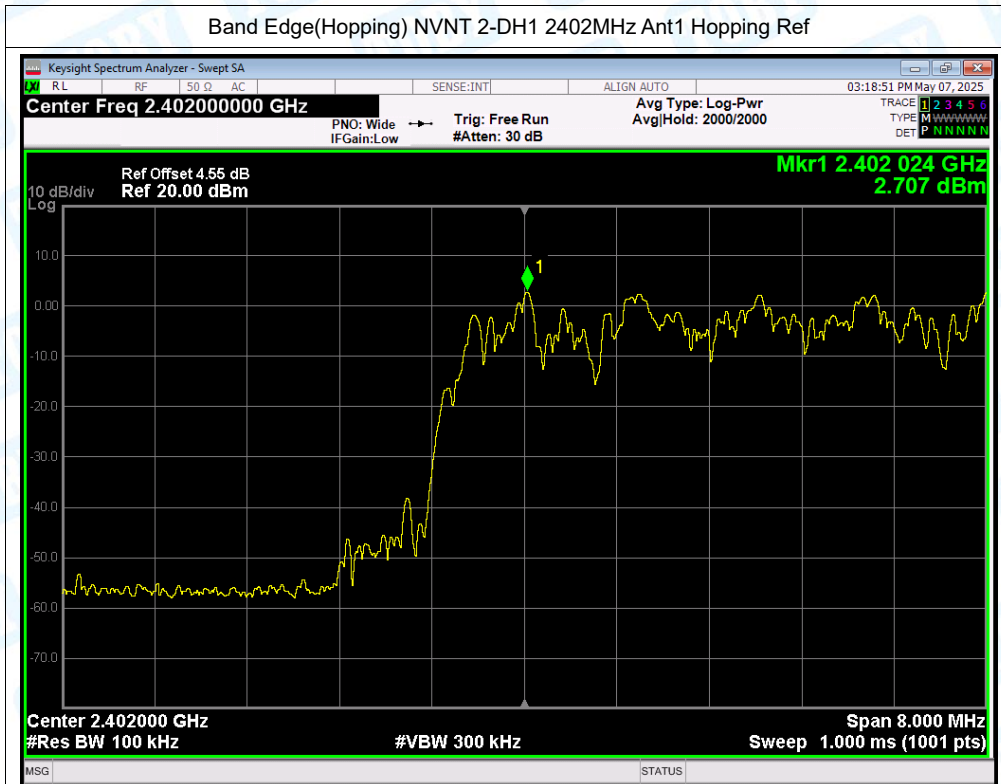
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

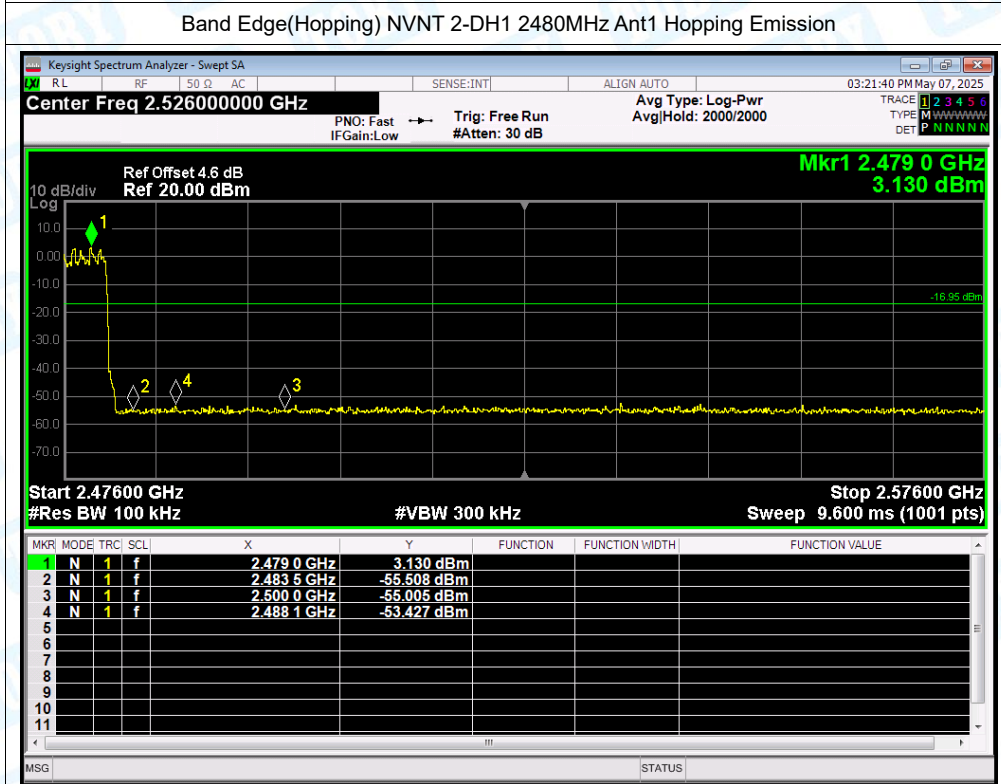
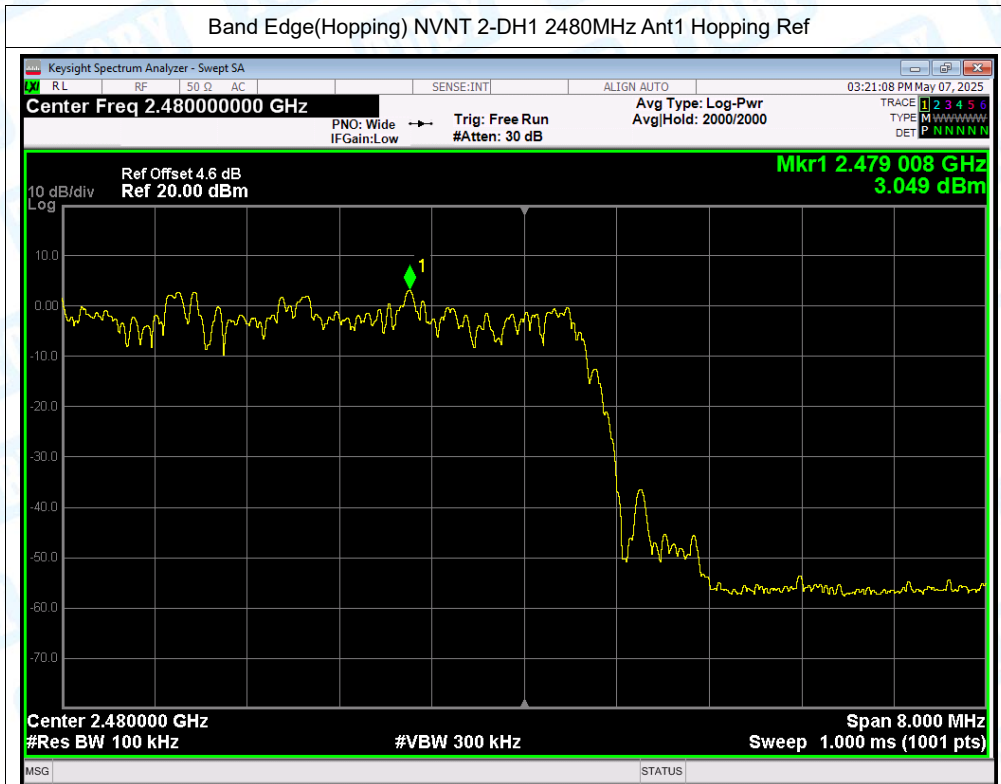


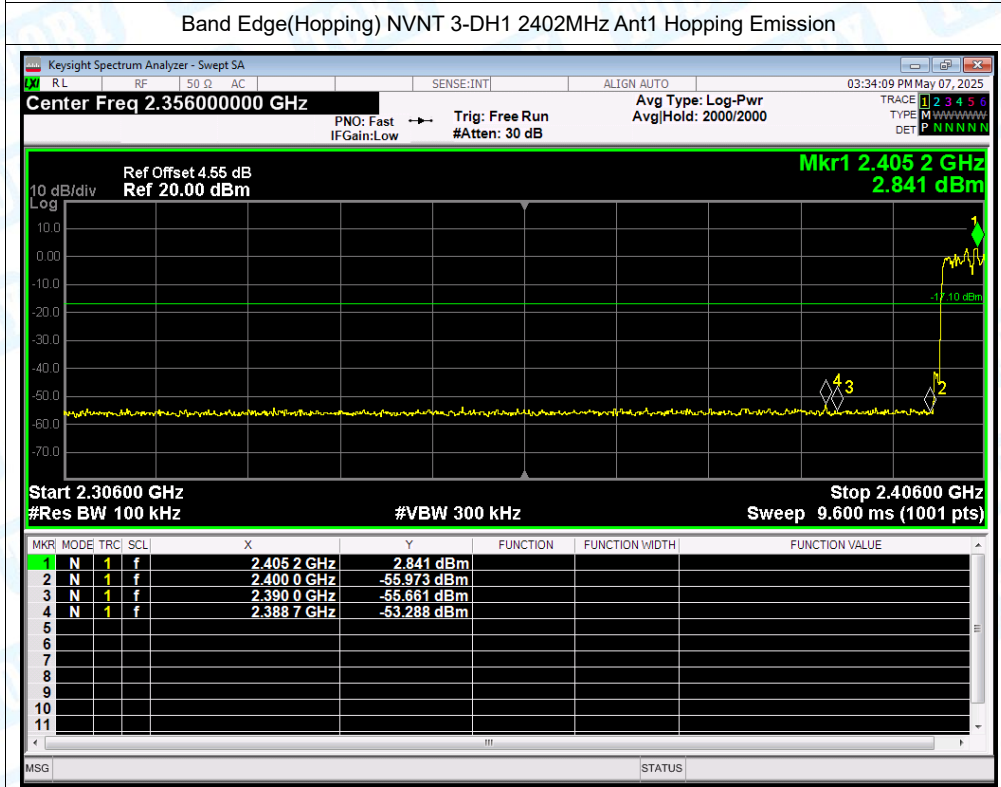
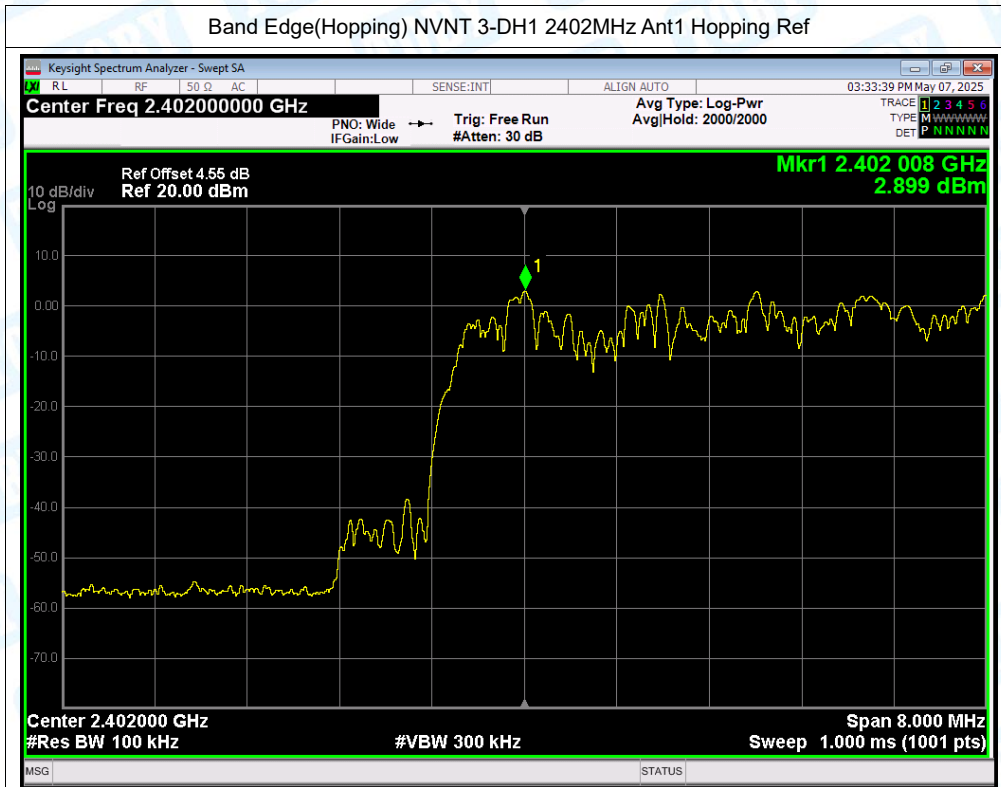
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

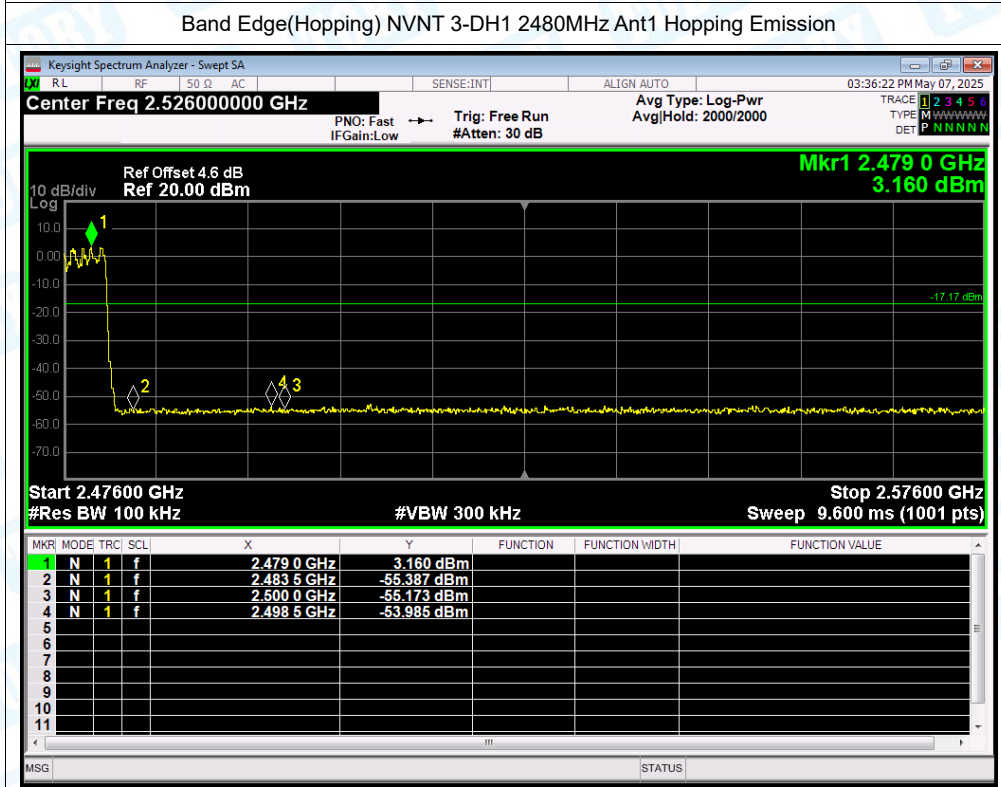
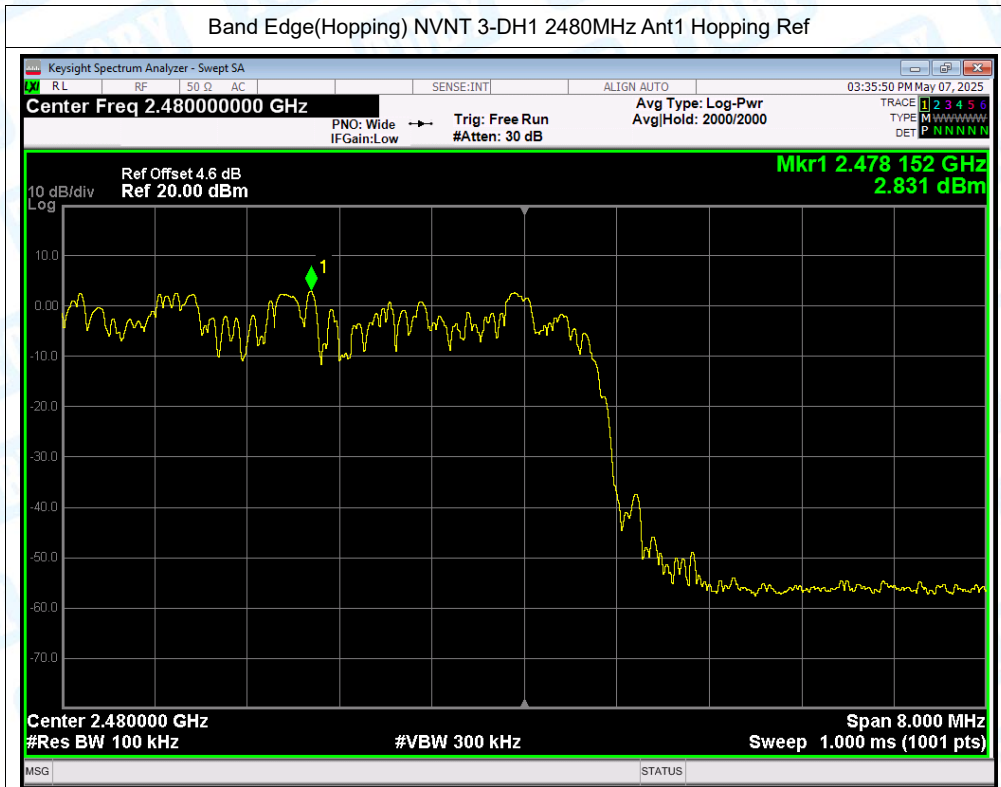










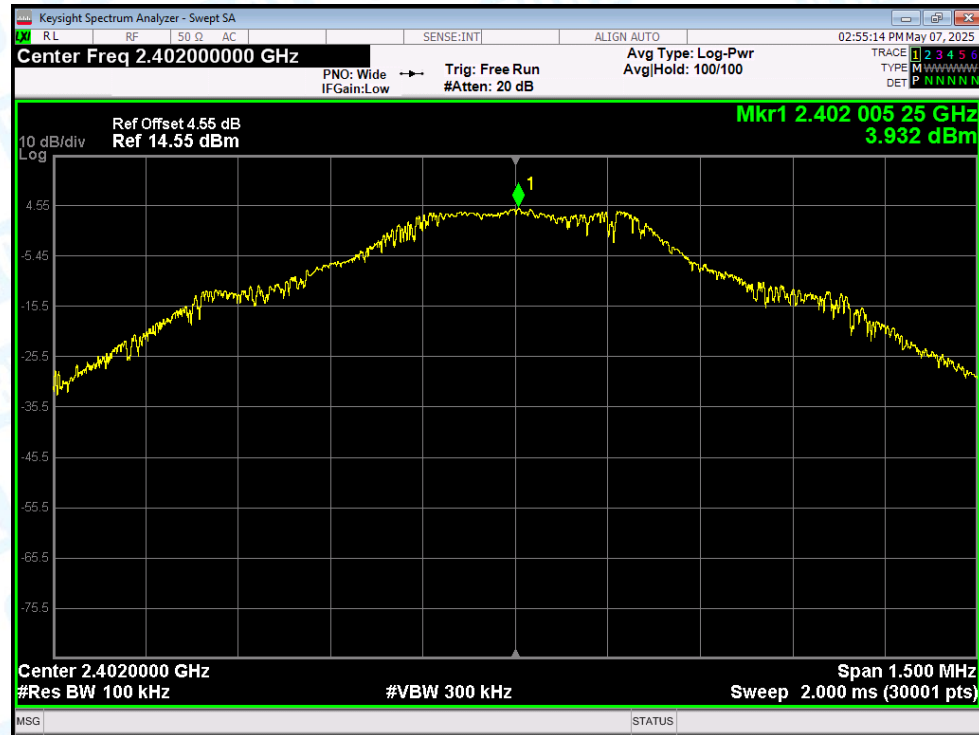


7. Conducted RF Spurious Emission

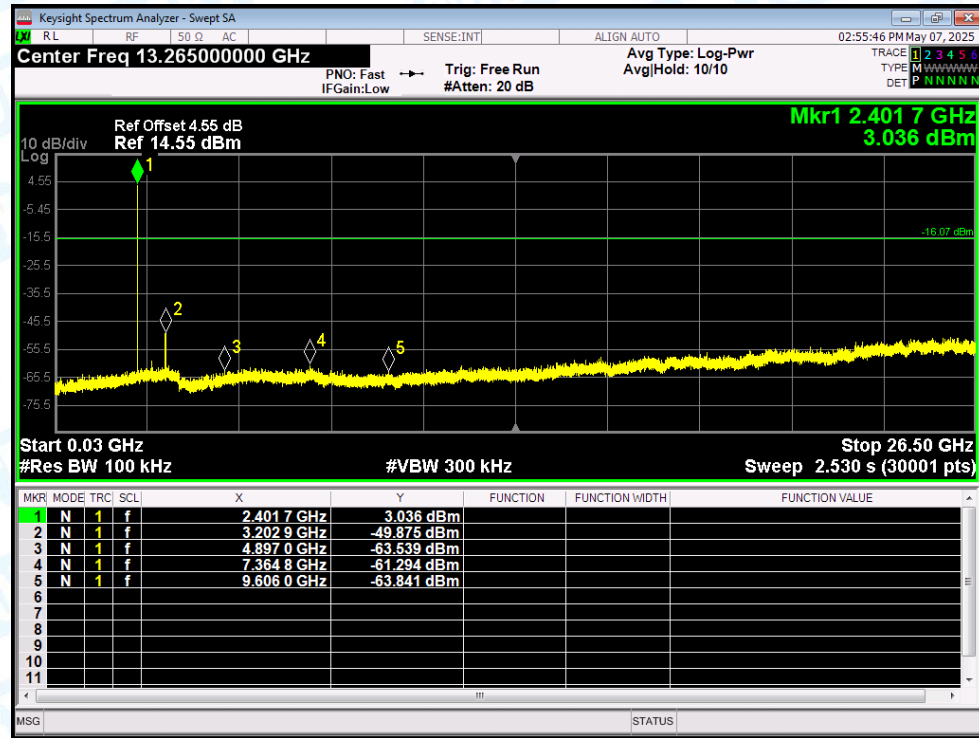
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-53.81	-20	Pass
NVNT	1-DH1	2441	Ant1	-54.07	-20	Pass
NVNT	1-DH1	2480	Ant1	-54.16	-20	Pass
NVNT	2-DH1	2402	Ant1	-50.6	-20	Pass
NVNT	2-DH1	2441	Ant1	-53.61	-20	Pass
NVNT	2-DH1	2480	Ant1	-54.23	-20	Pass
NVNT	3-DH1	2402	Ant1	-51.16	-20	Pass
NVNT	3-DH1	2441	Ant1	-53.54	-20	Pass
NVNT	3-DH1	2480	Ant1	-54.22	-20	Pass

Test Graphs

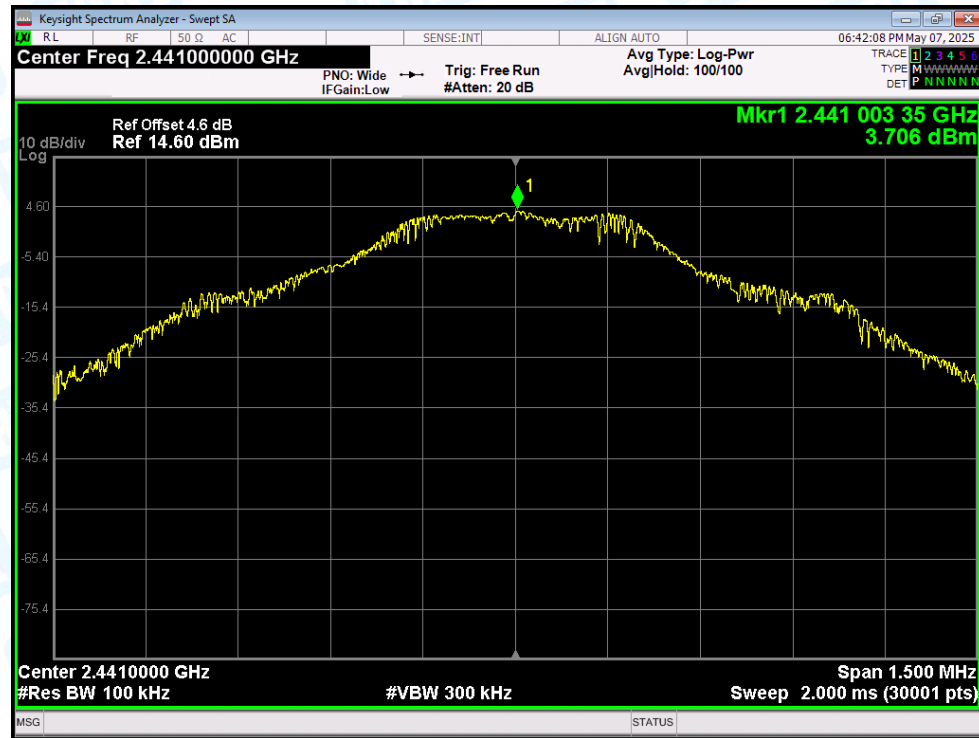
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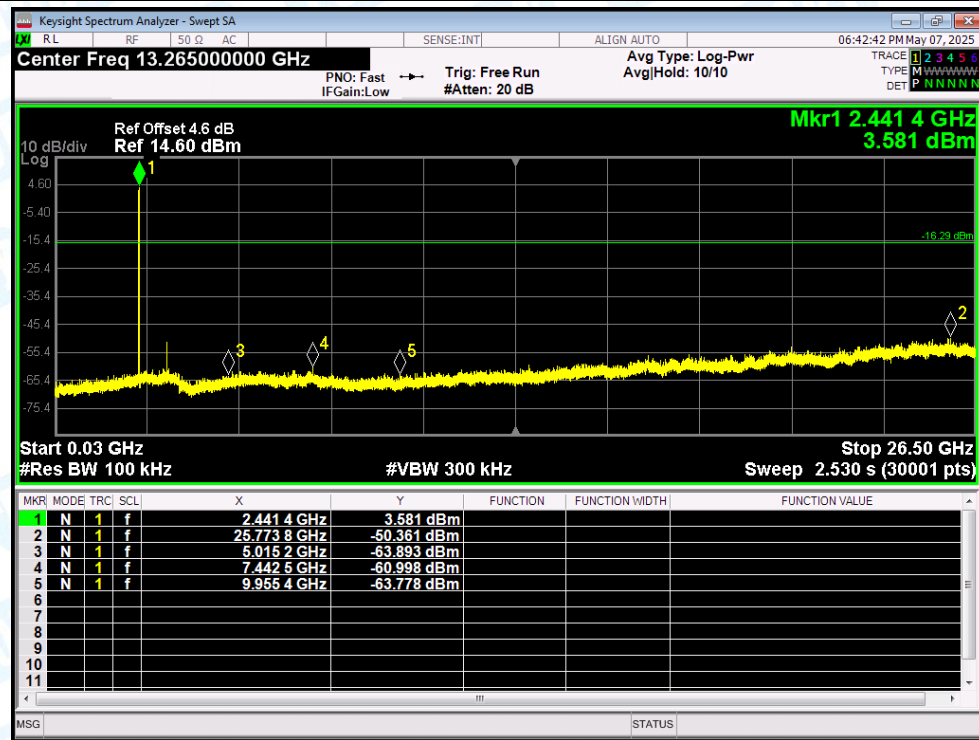
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



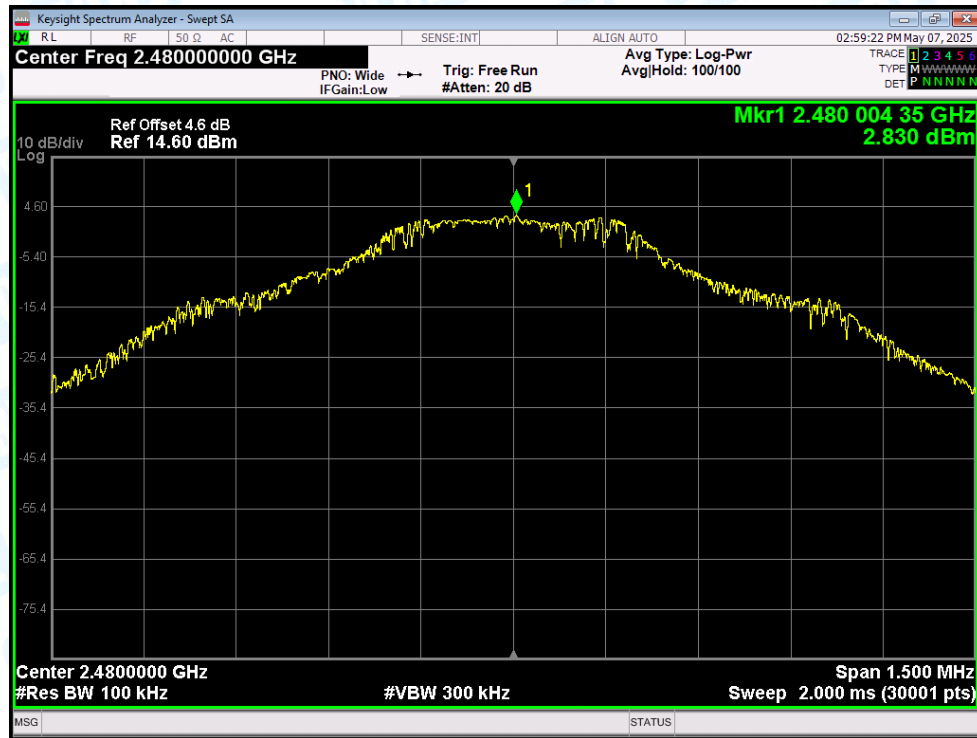
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



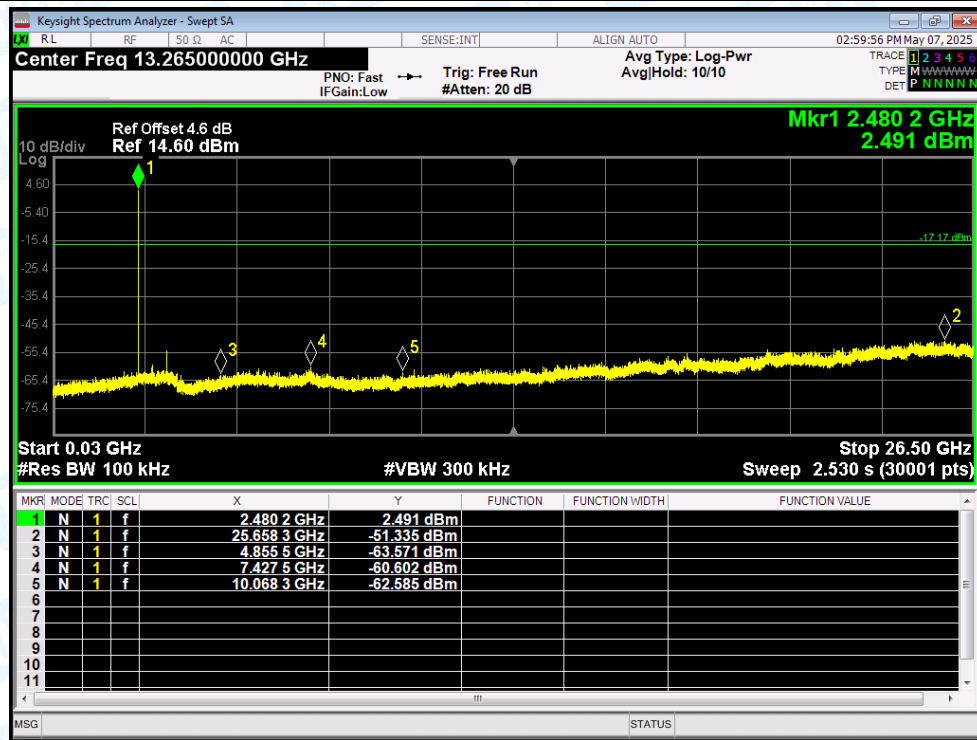
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



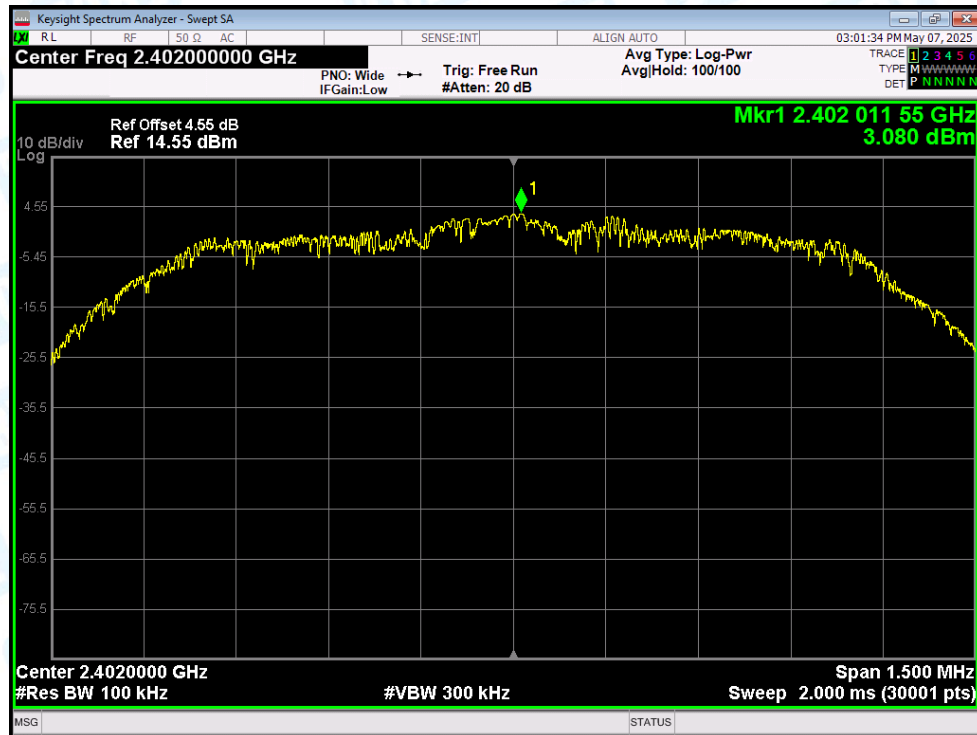
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



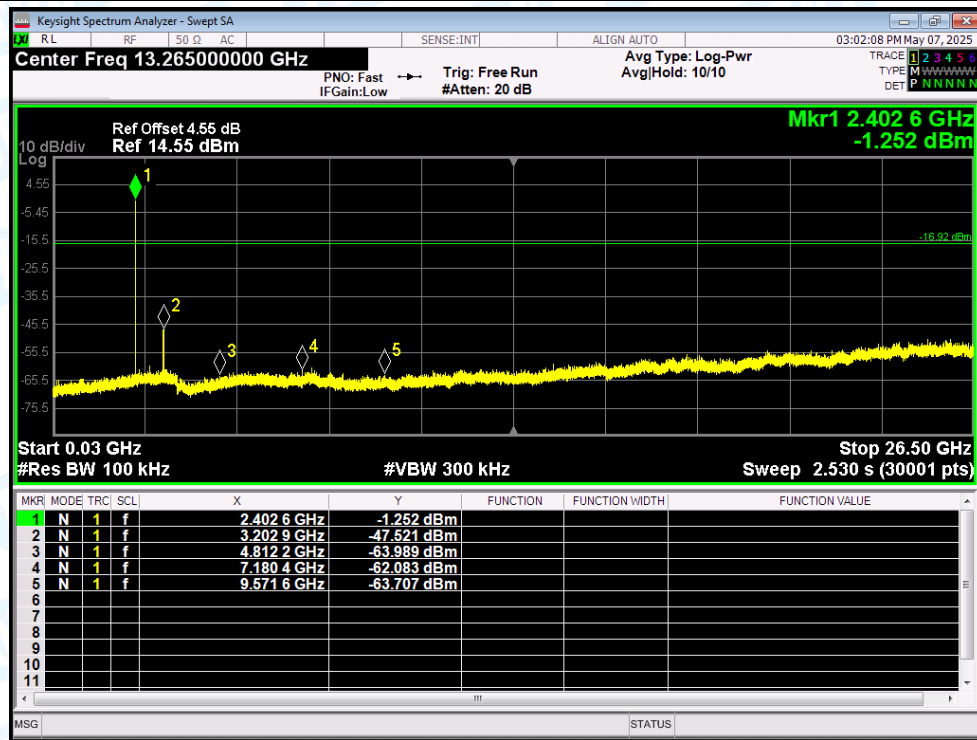
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



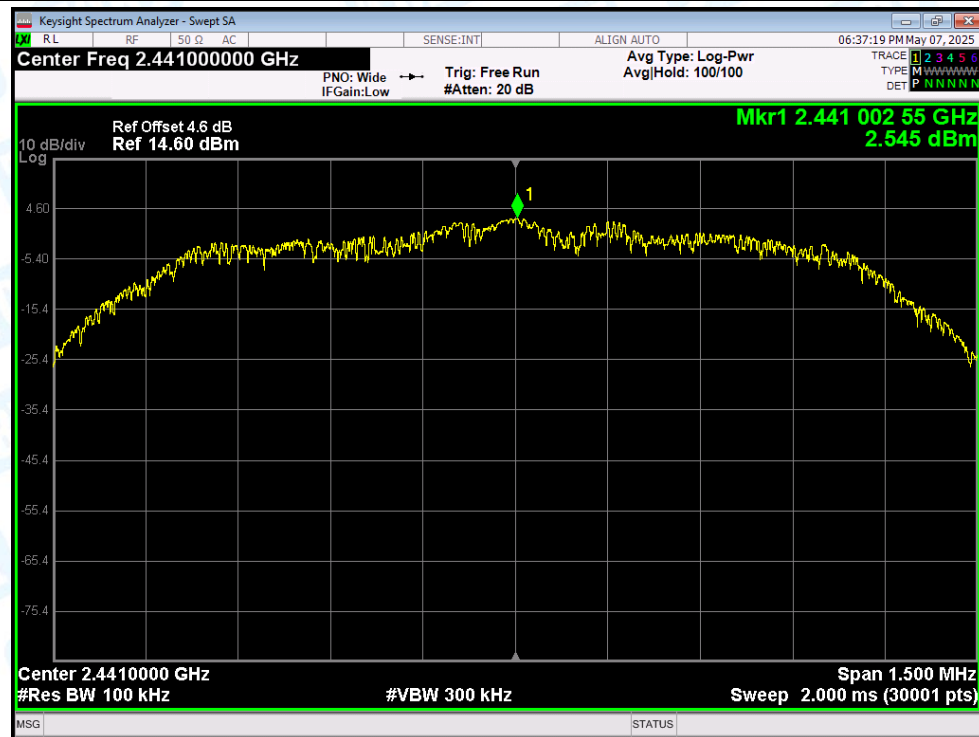
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



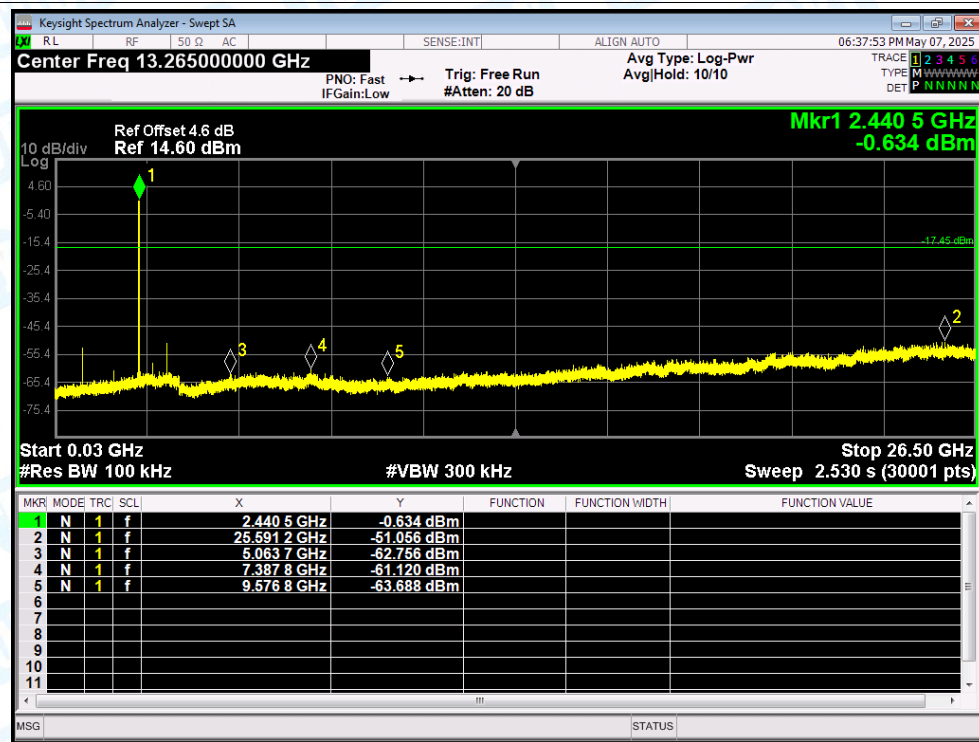
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



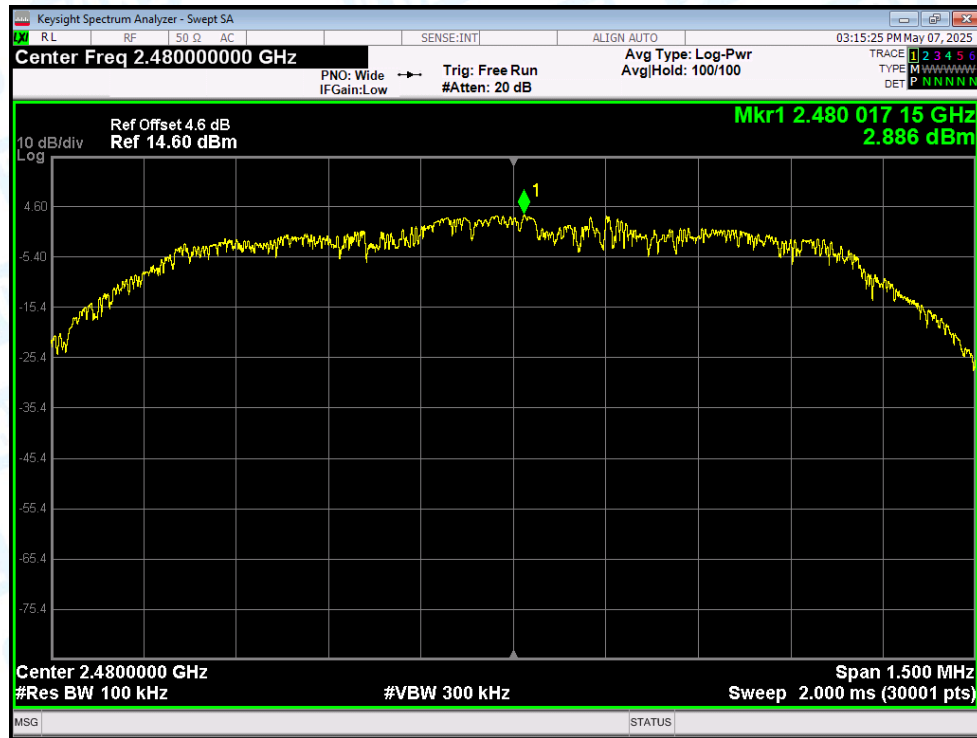
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



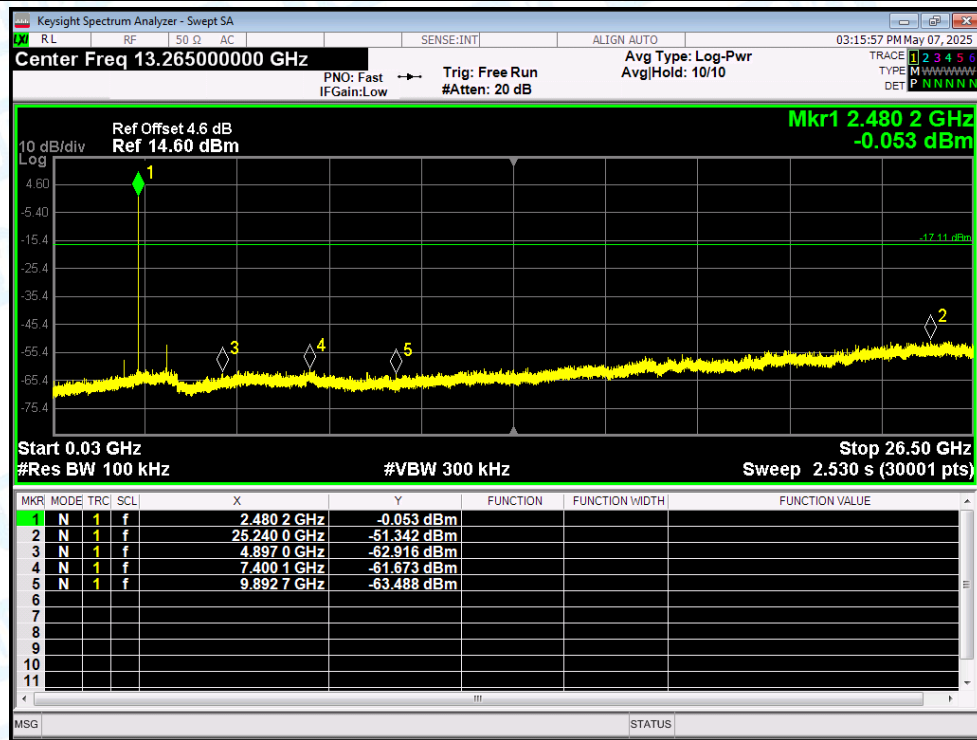
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



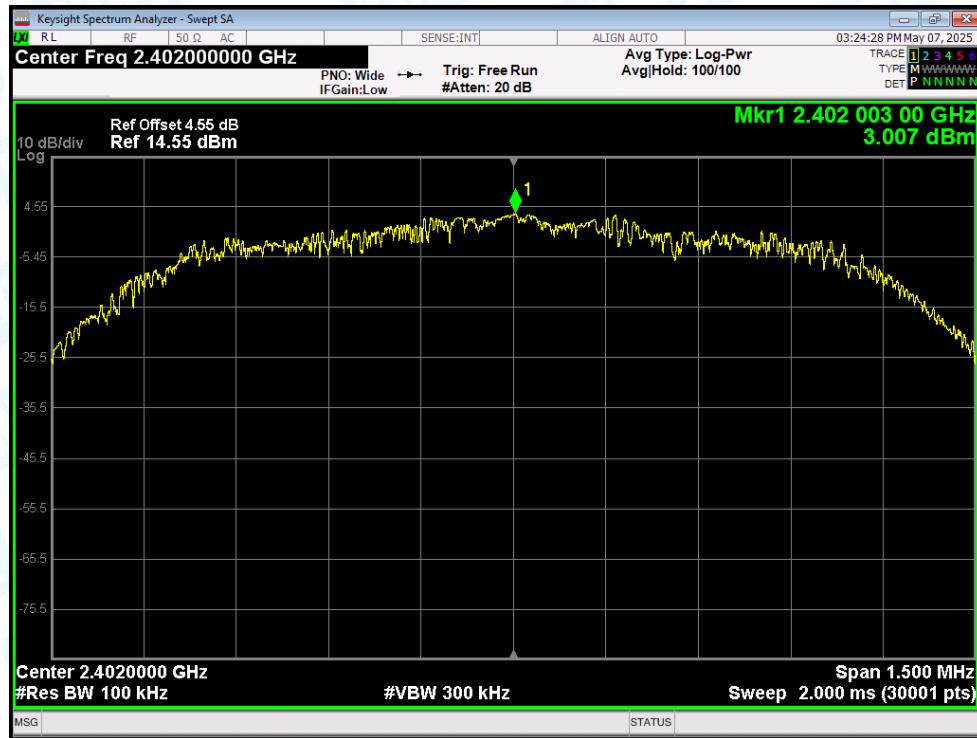
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



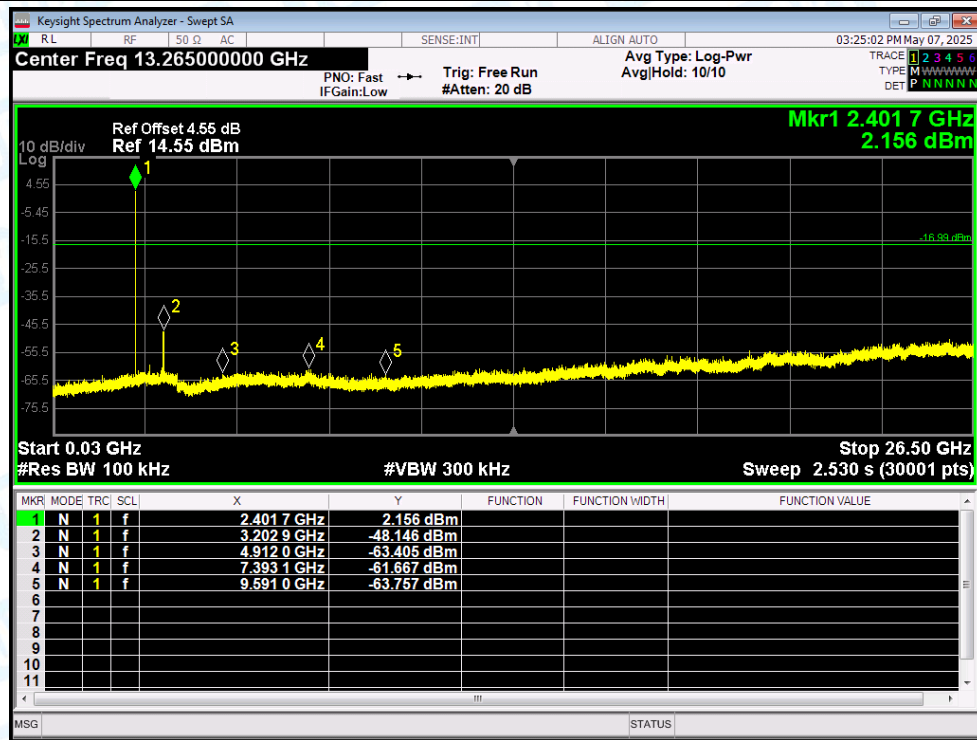
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



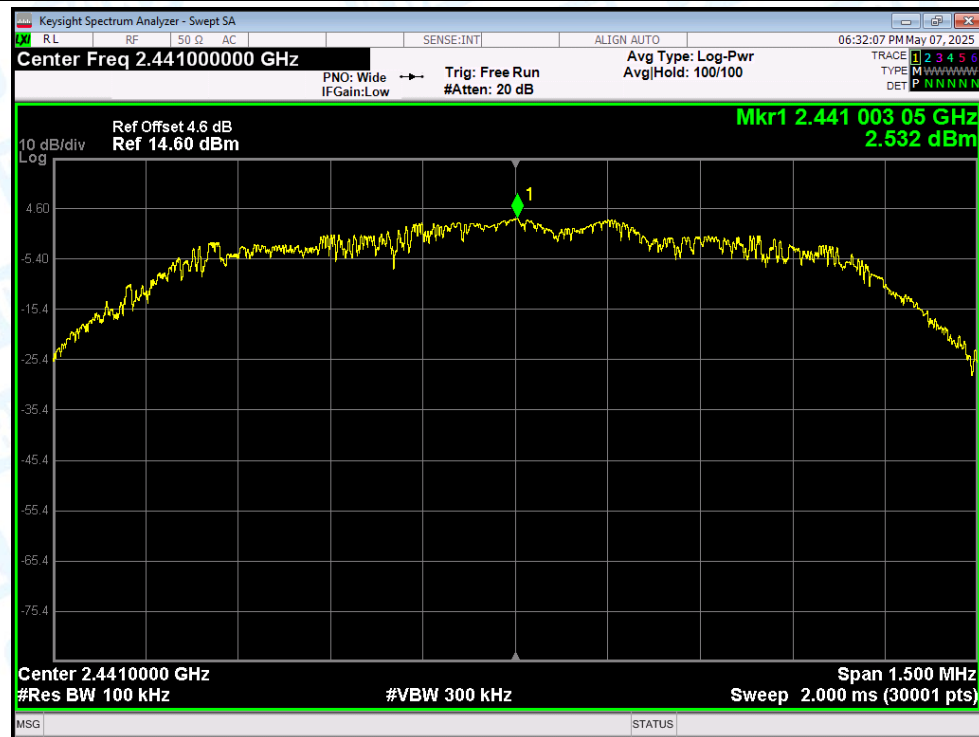
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



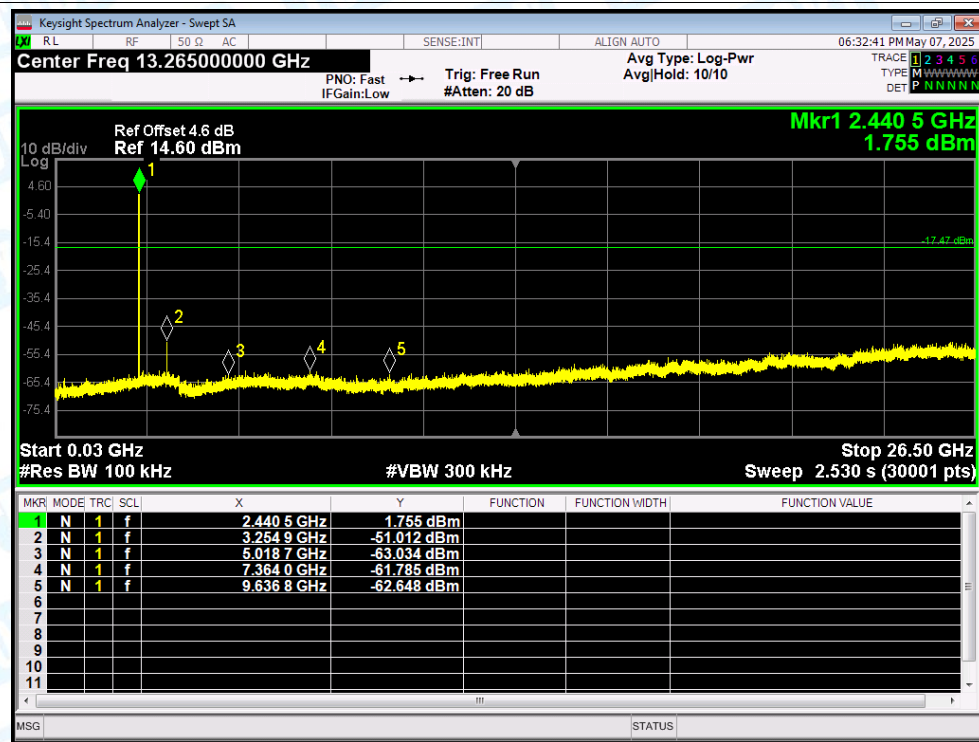
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



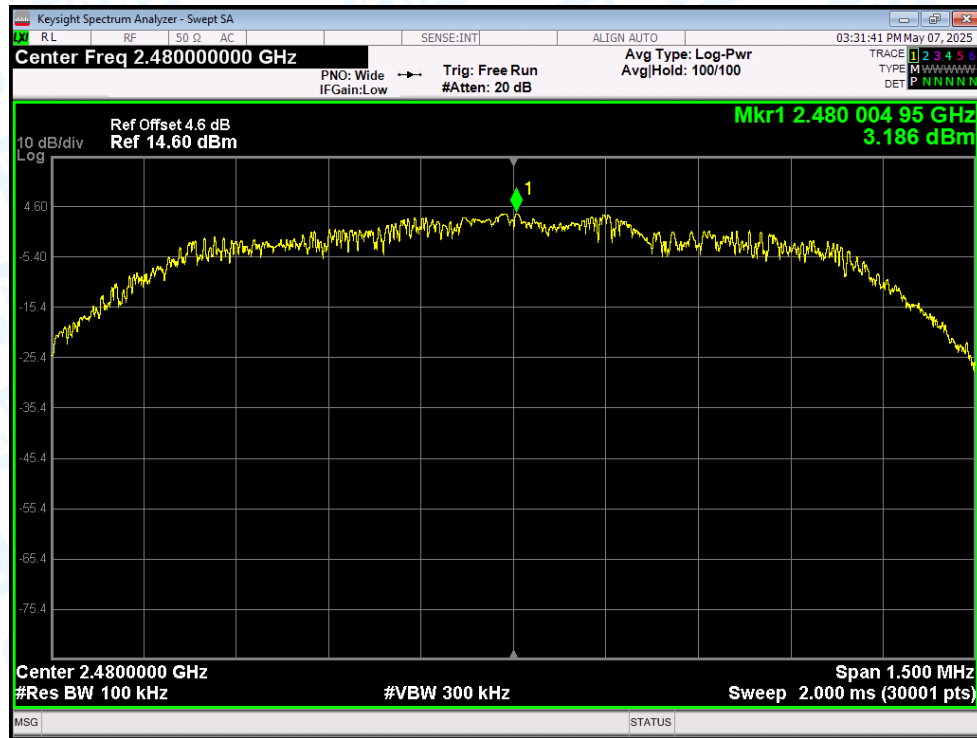
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



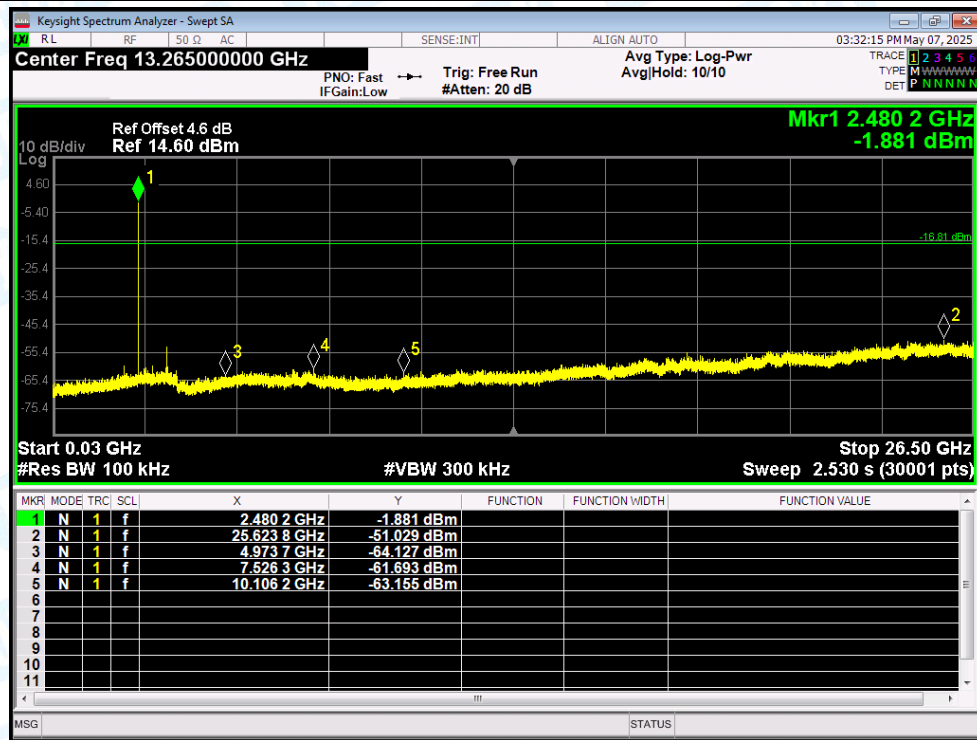
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

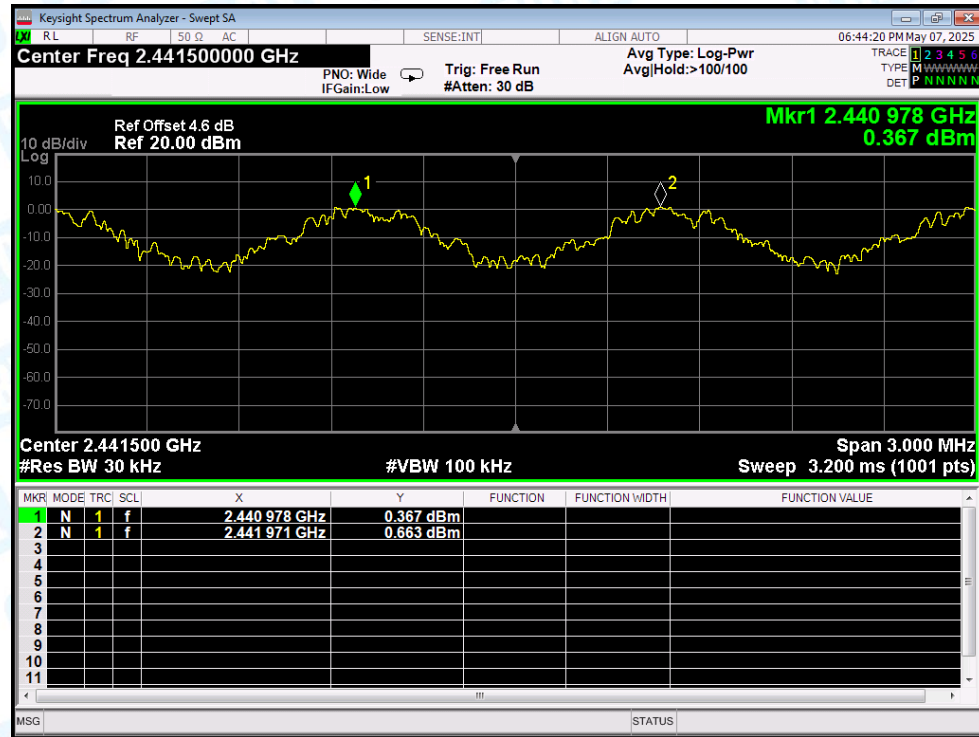


8. Carrier Frequencies Separation

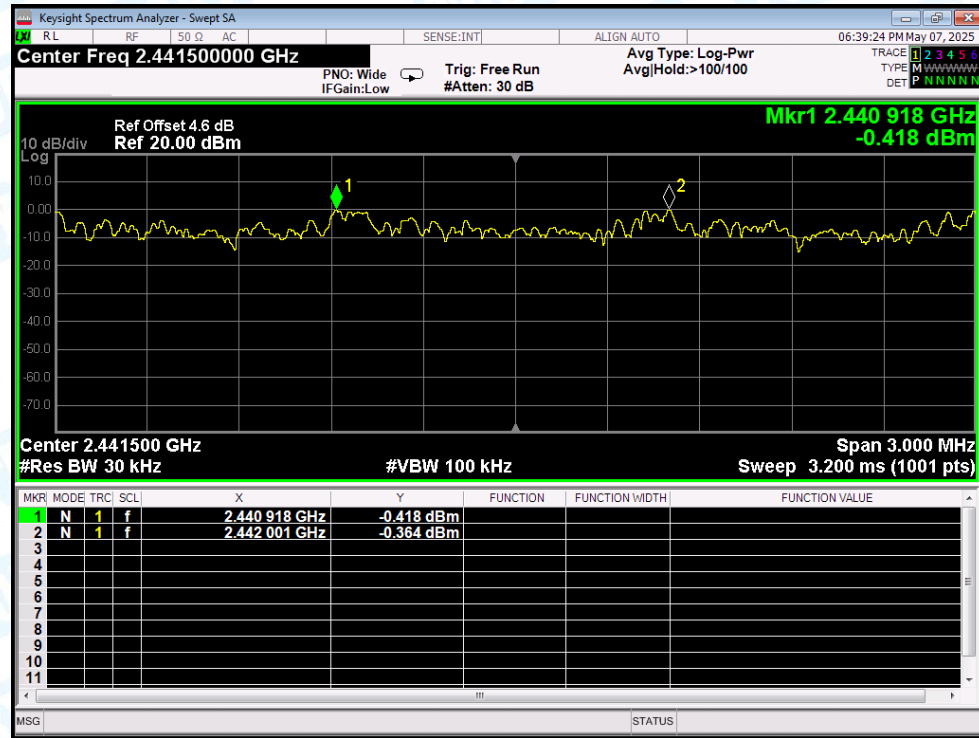
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.978	2441.971	0.993	0.687	Pass
NVNT	2-DH1	Ant1	2440.918	2442.001	1.083	0.887	Pass
NVNT	3-DH1	Ant1	2440.975	2441.92	0.945	0.887	Pass

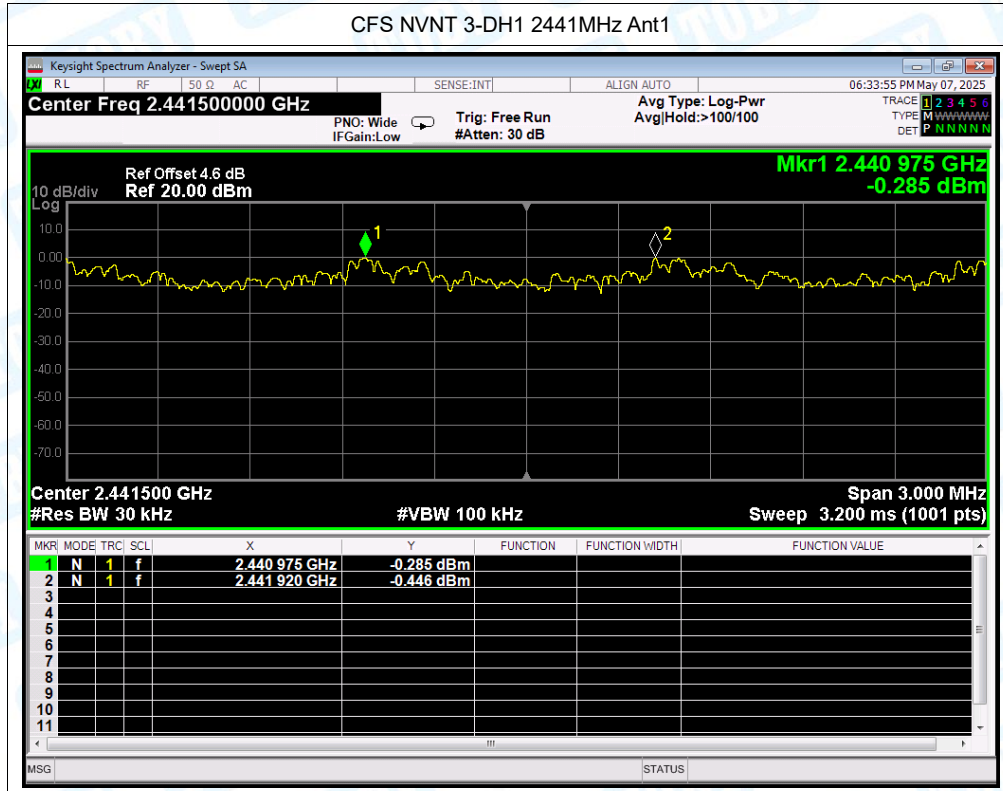
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



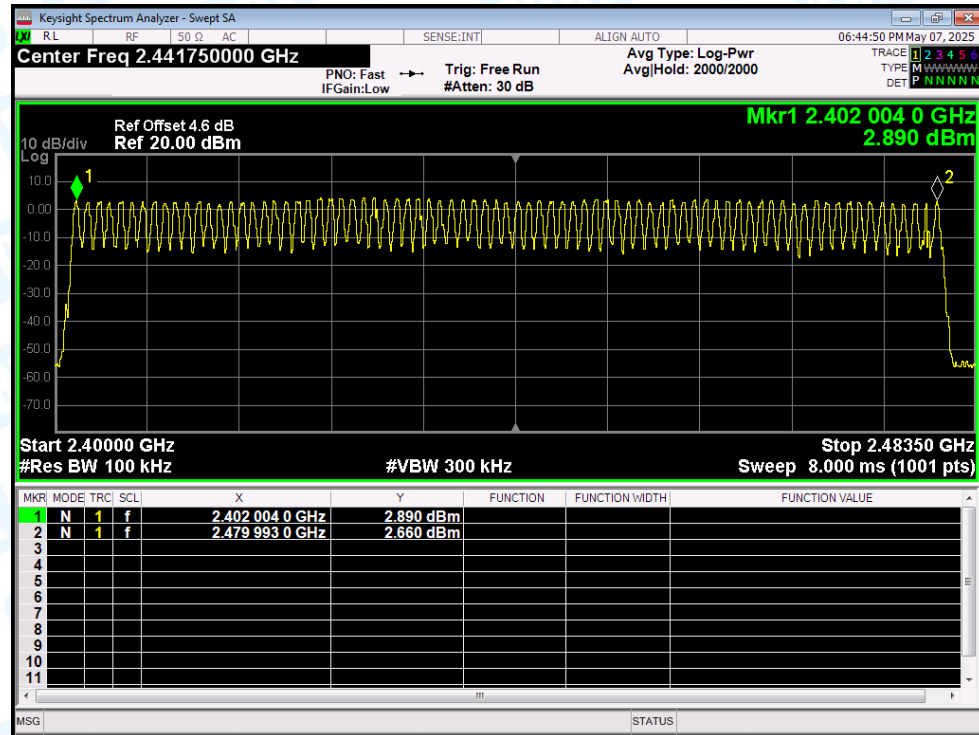


9. Number of Hopping Channel

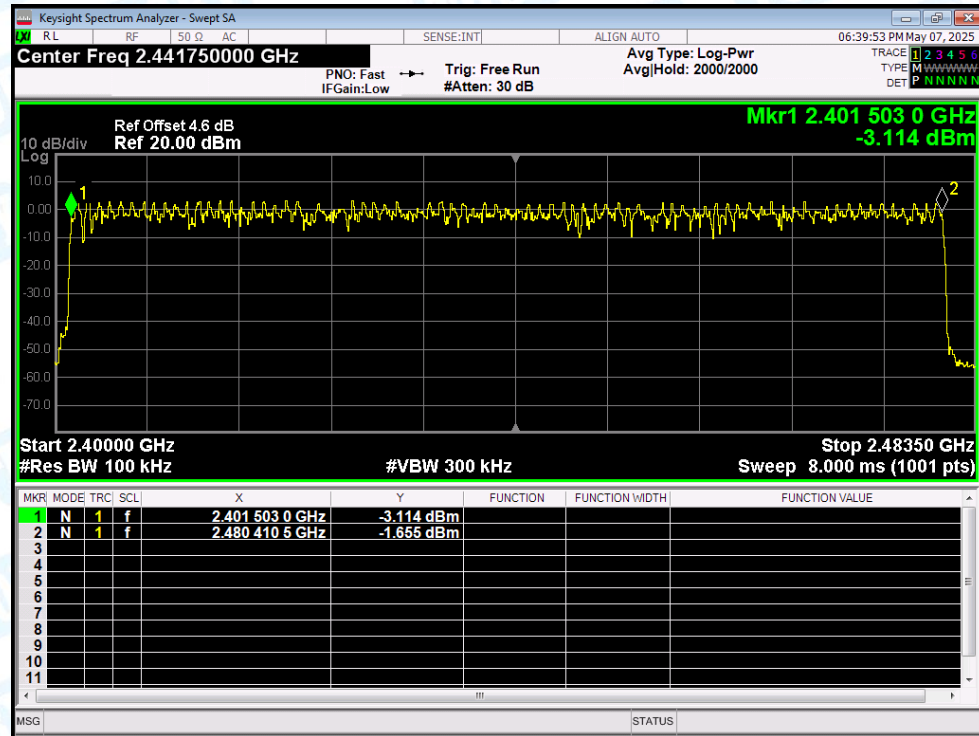
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

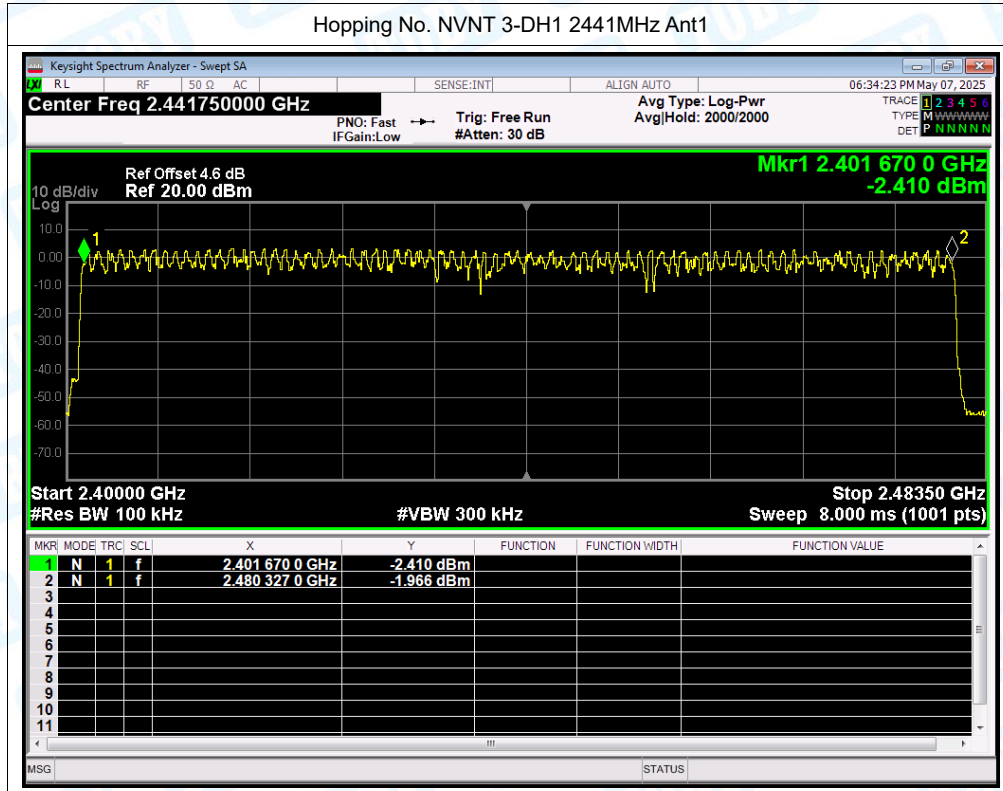
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



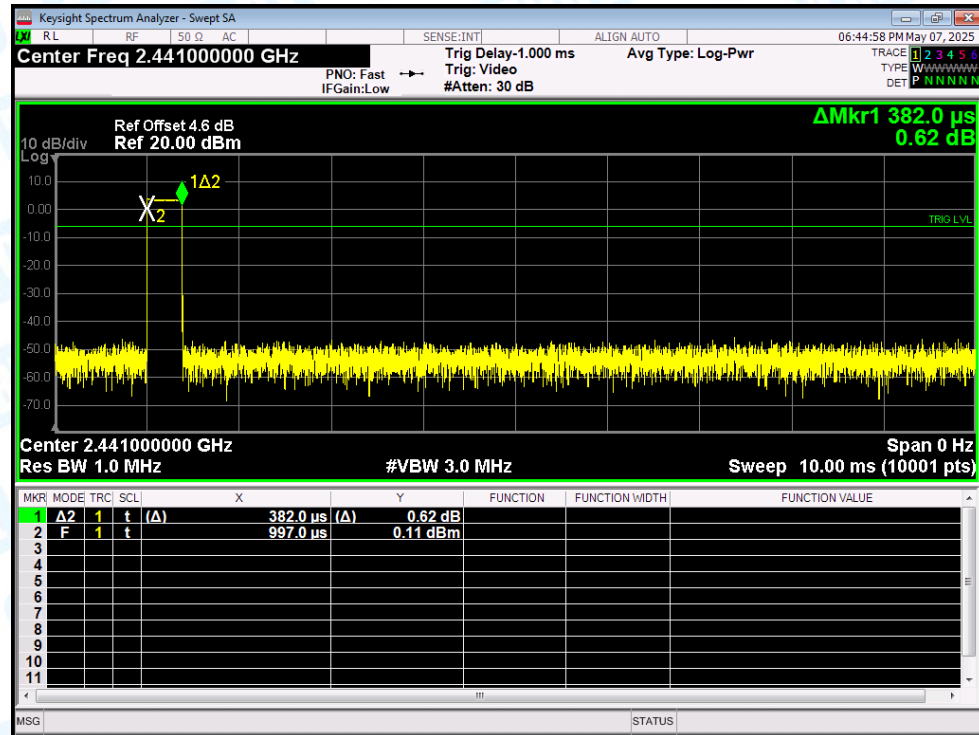


10. Dwell Time

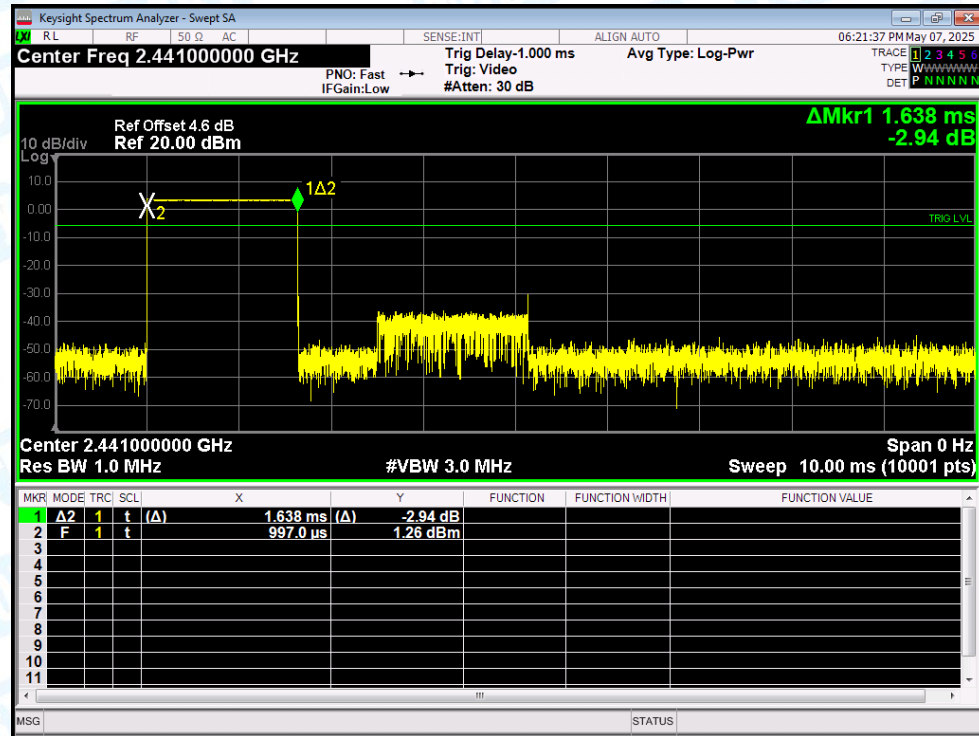
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.382	122.24	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.638	262.08	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.886	307.84	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.388	124.16	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.64	262.4	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.888	308.053	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.388	124.16	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.89	308.267	31600	400	Pass

Test Graphs

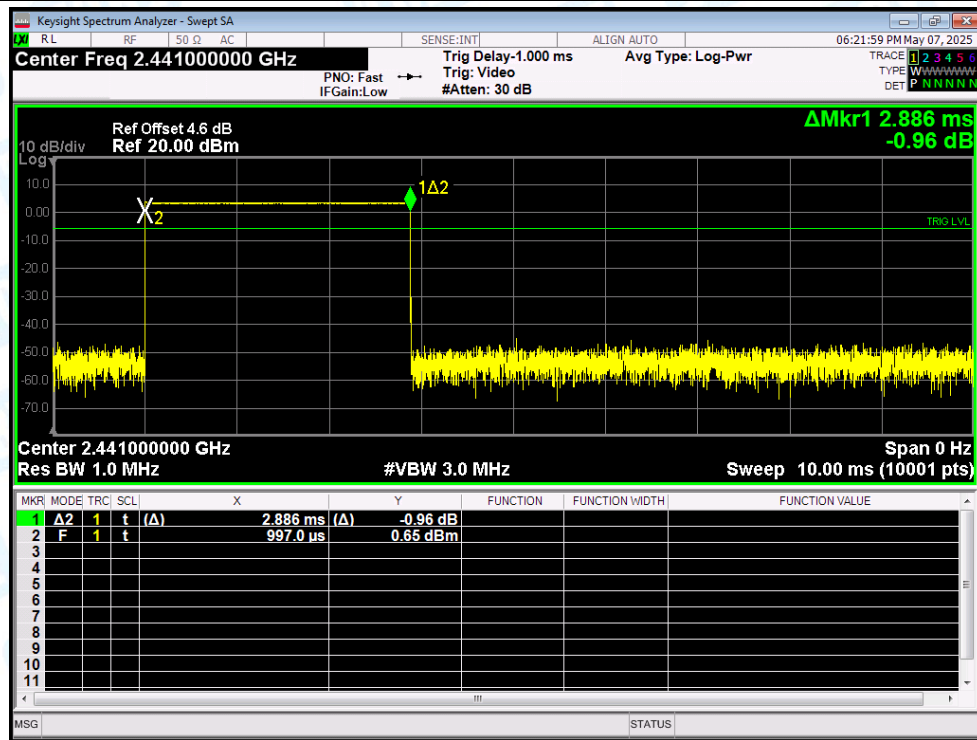
Dwell NVNT 1-DH1 2441MHz Ant1



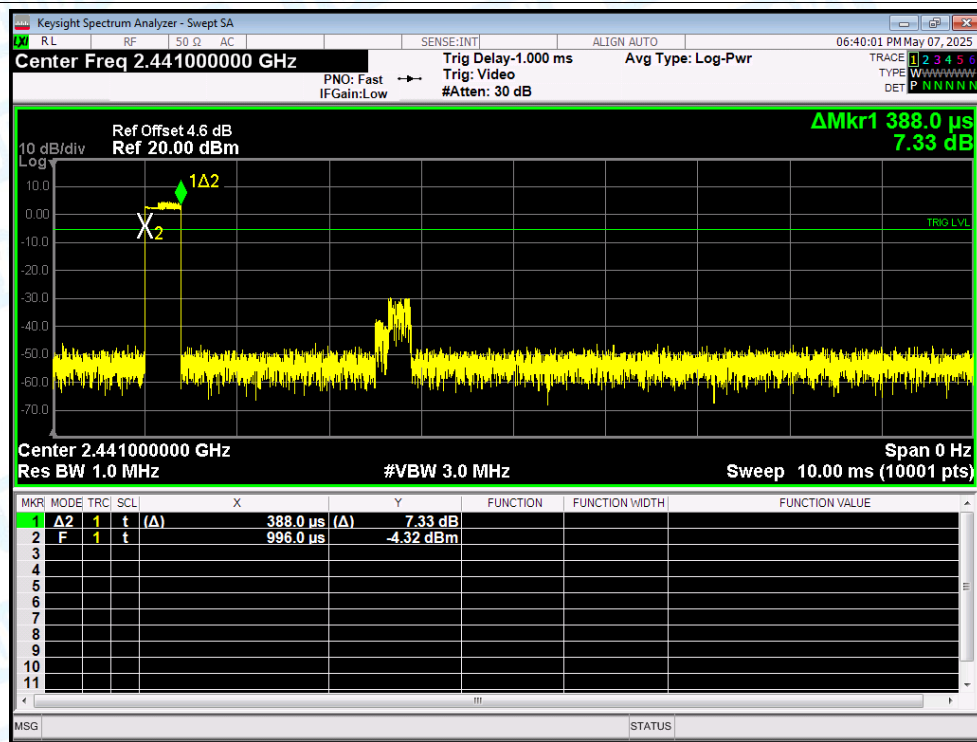
Dwell NVNT 1-DH3 2441MHz Ant1



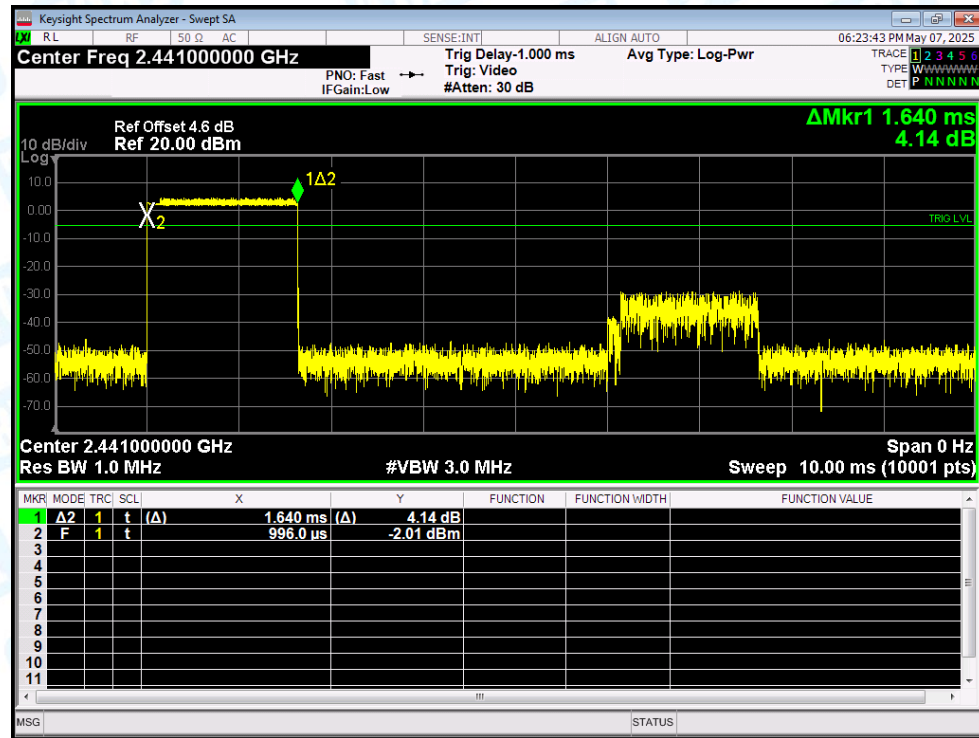
Dwell NVNT 1-DH5 2441MHz Ant1



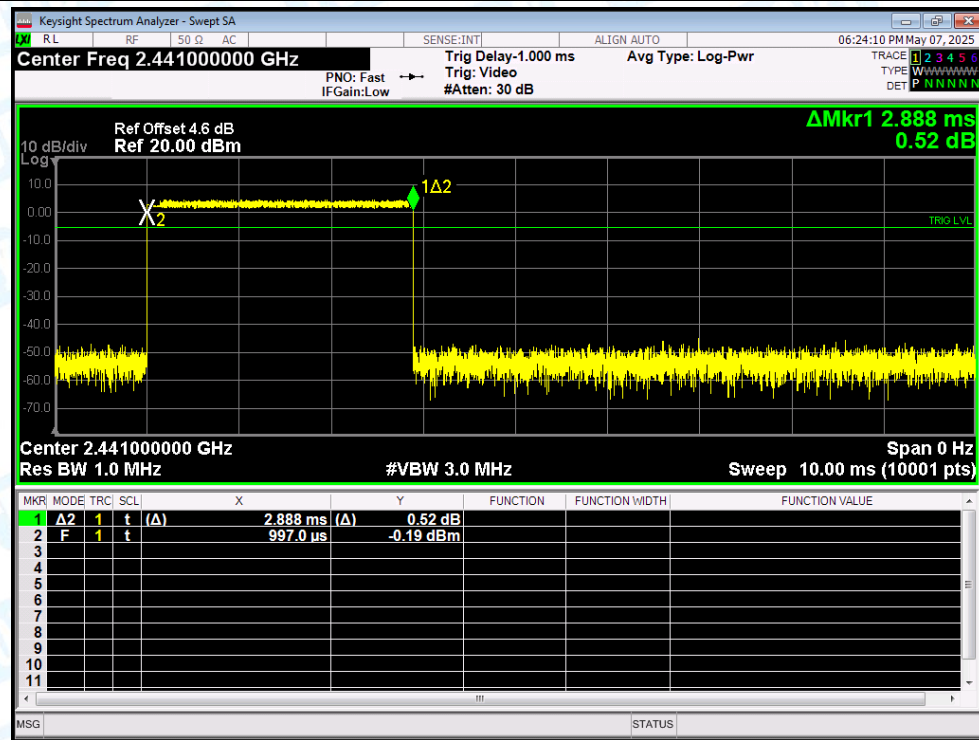
Dwell NVNT 2-DH1 2441MHz Ant1



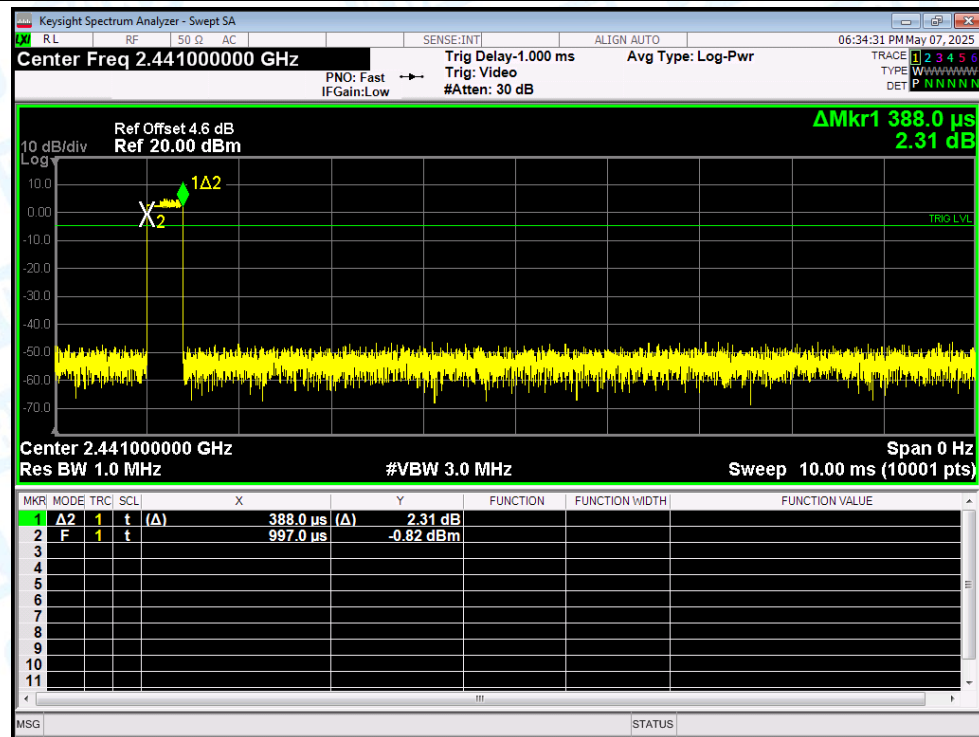
Dwell NVNT 2-DH3 2441MHz Ant1



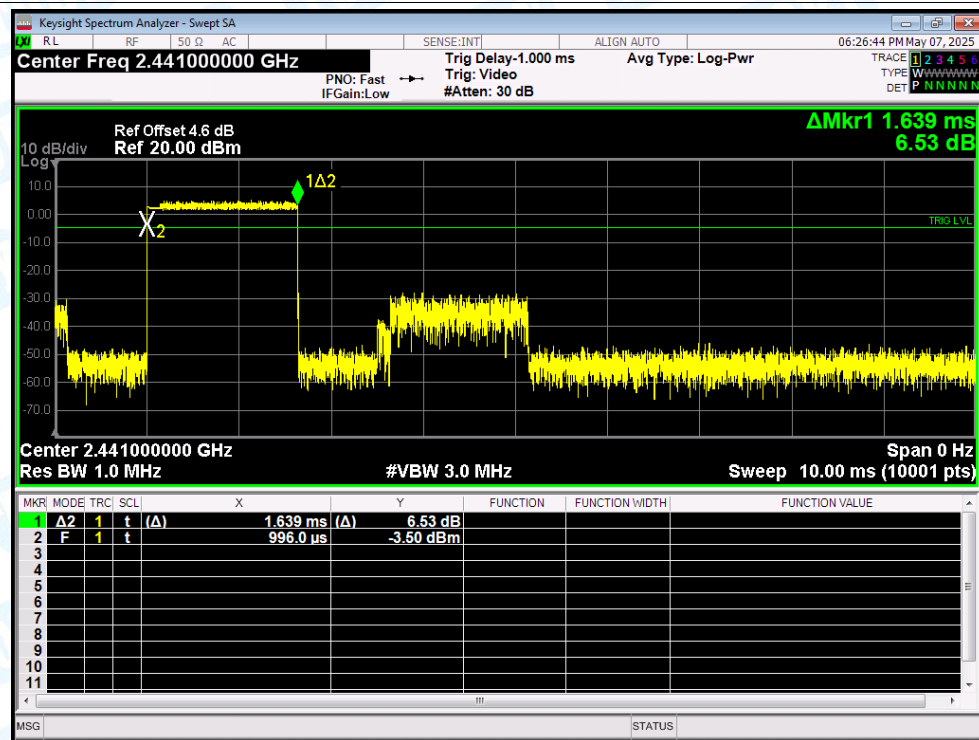
Dwell NVNT 2-DH5 2441MHz Ant1

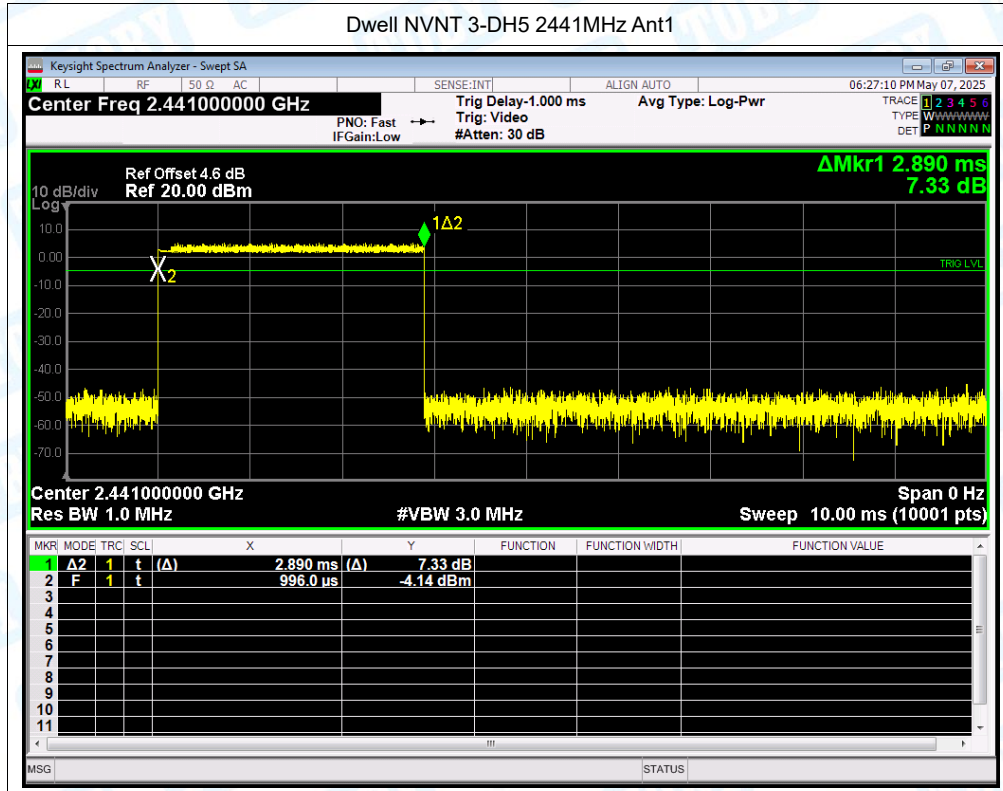


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





--- END OF REPORT ---