

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

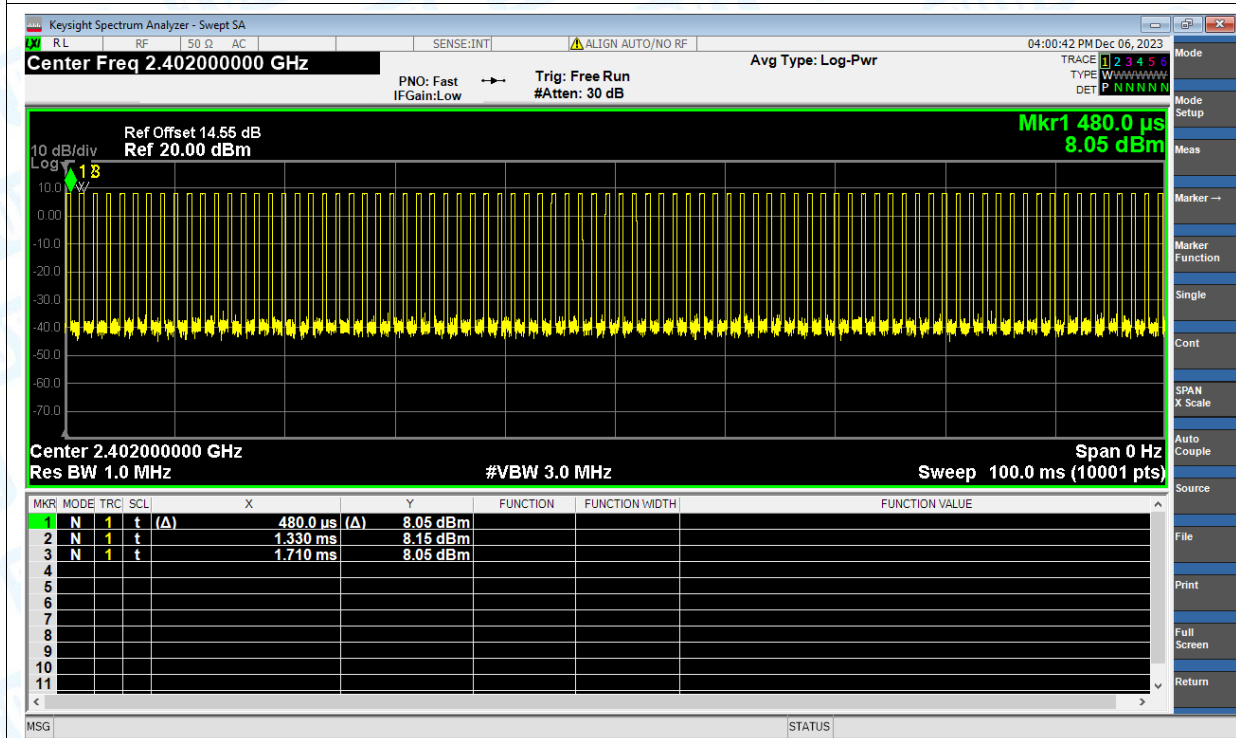
General Description of EUT	
Product Name:	Smart Watch
Test Model:	W027
Sample ID:	HC-C-202311-0147-01-01-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 3.7V
Test Engineer:	Yan Zhen Ming
Note: For a more detailed features description, please refer to the report TBR-C-202311-0147-4 The report only show the worst case data.	

1. Duty Cycle

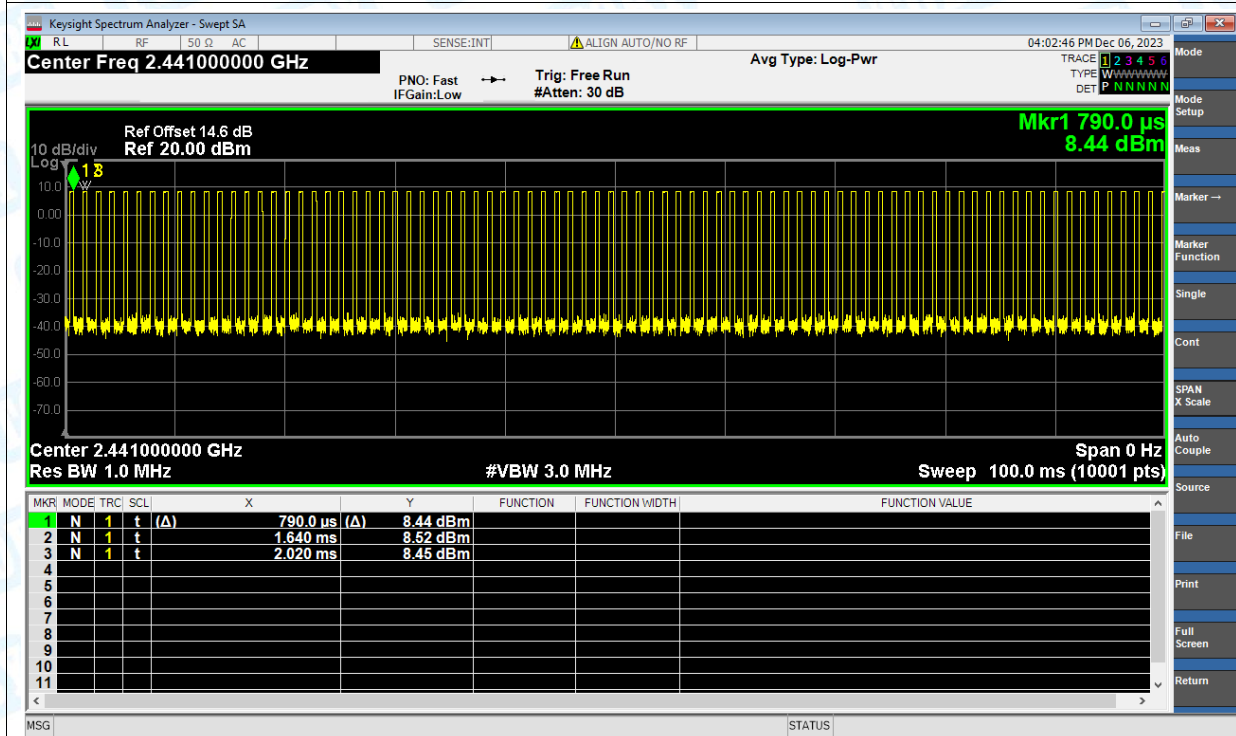
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.89	5.1	2.63
NVNT	1-DH1	2441	Ant1	30.89	5.1	2.63
NVNT	1-DH1	2480	Ant1	30.89	5.1	2.63
NVNT	2-DH1	2402	Ant1	31.71	4.99	2.56
NVNT	2-DH1	2441	Ant1	31.71	4.99	2.56
NVNT	2-DH1	2480	Ant1	31.45	5.02	2.56
NVNT	3-DH1	2402	Ant1	31.71	4.99	2.56
NVNT	3-DH1	2441	Ant1	31.45	5.02	2.56
NVNT	3-DH1	2480	Ant1	31.71	4.99	2.56

Test Graphs

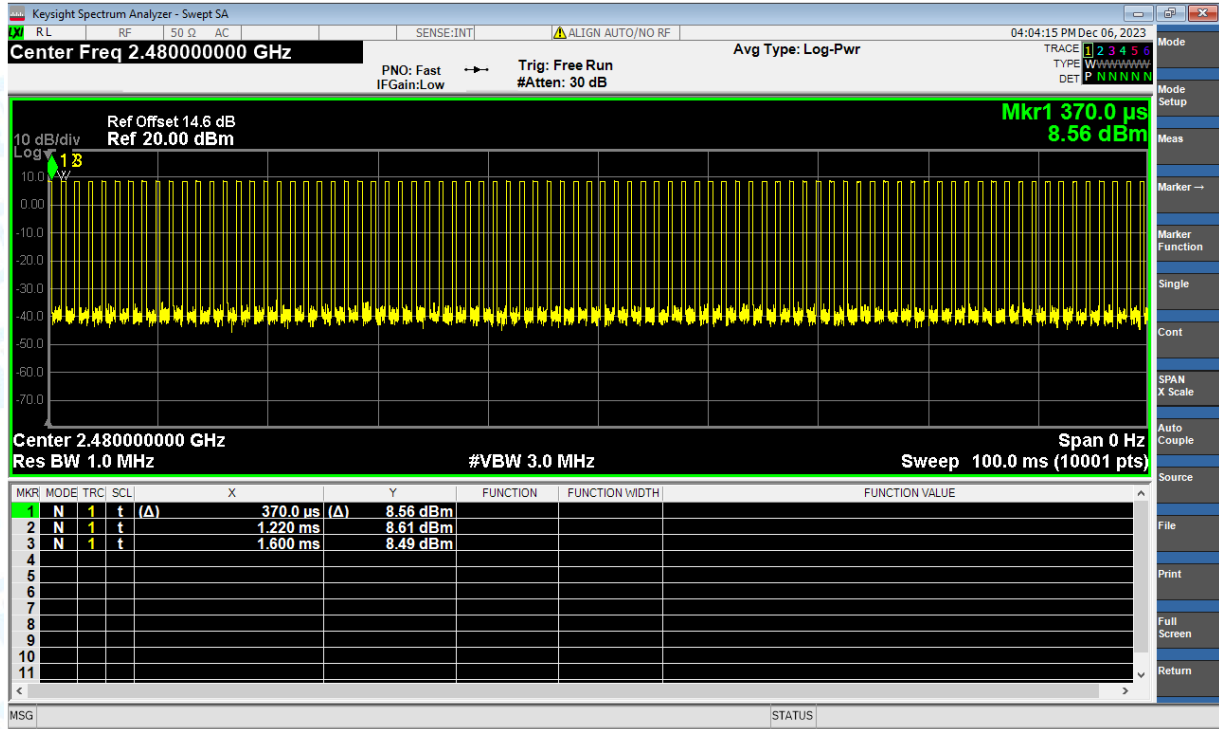
Duty Cycle NVNT 1-DH1 2402MHz Ant1



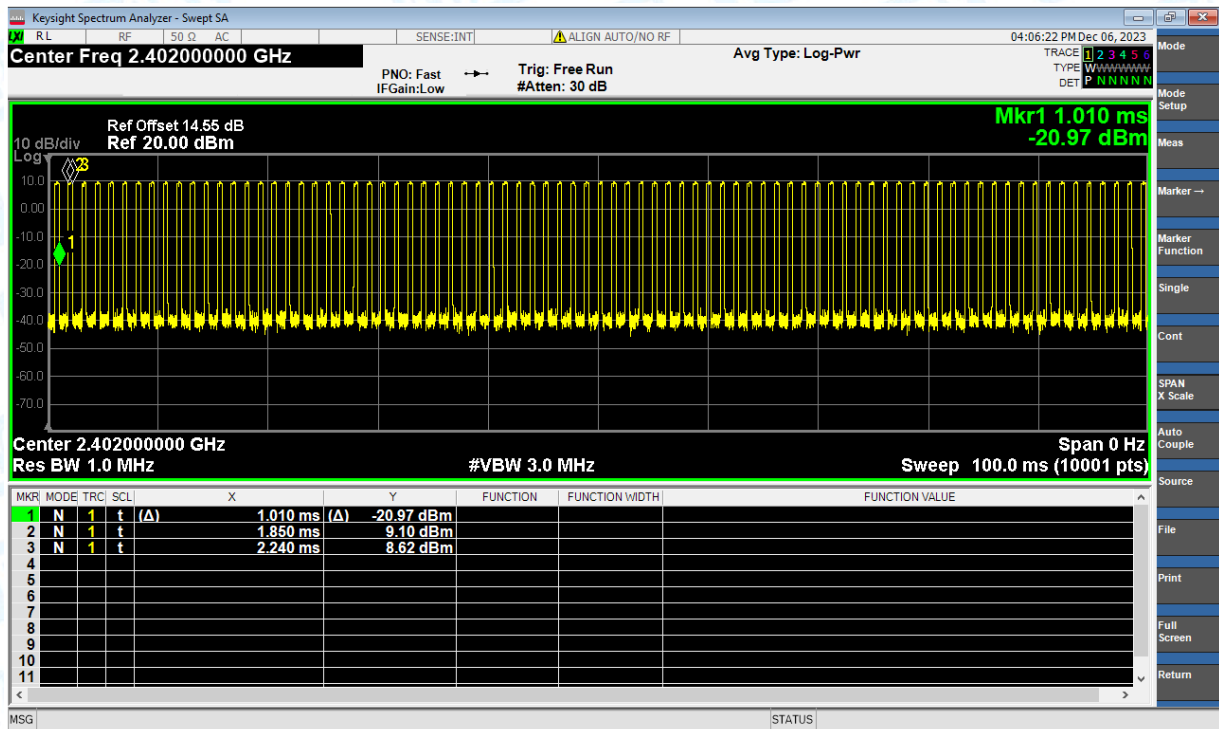
Duty Cycle NVNT 1-DH1 2441MHz Ant1



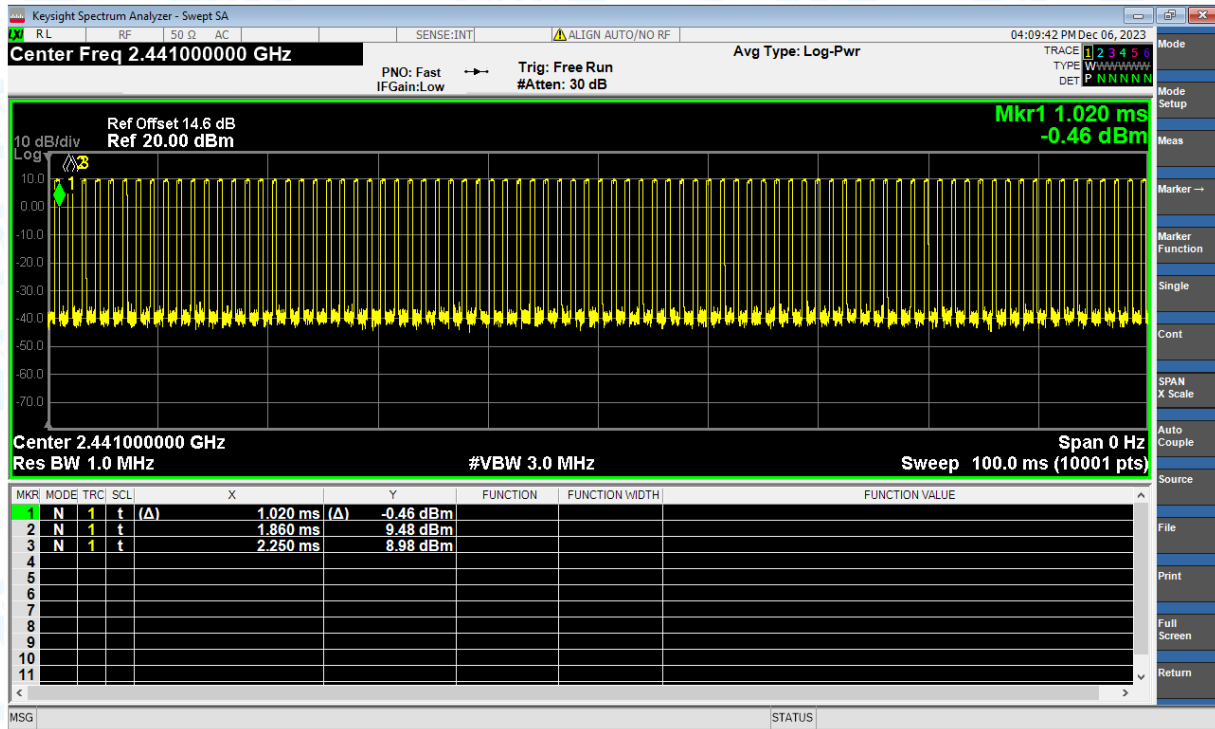
Duty Cycle NVNT 1-DH1 2480MHz Ant1



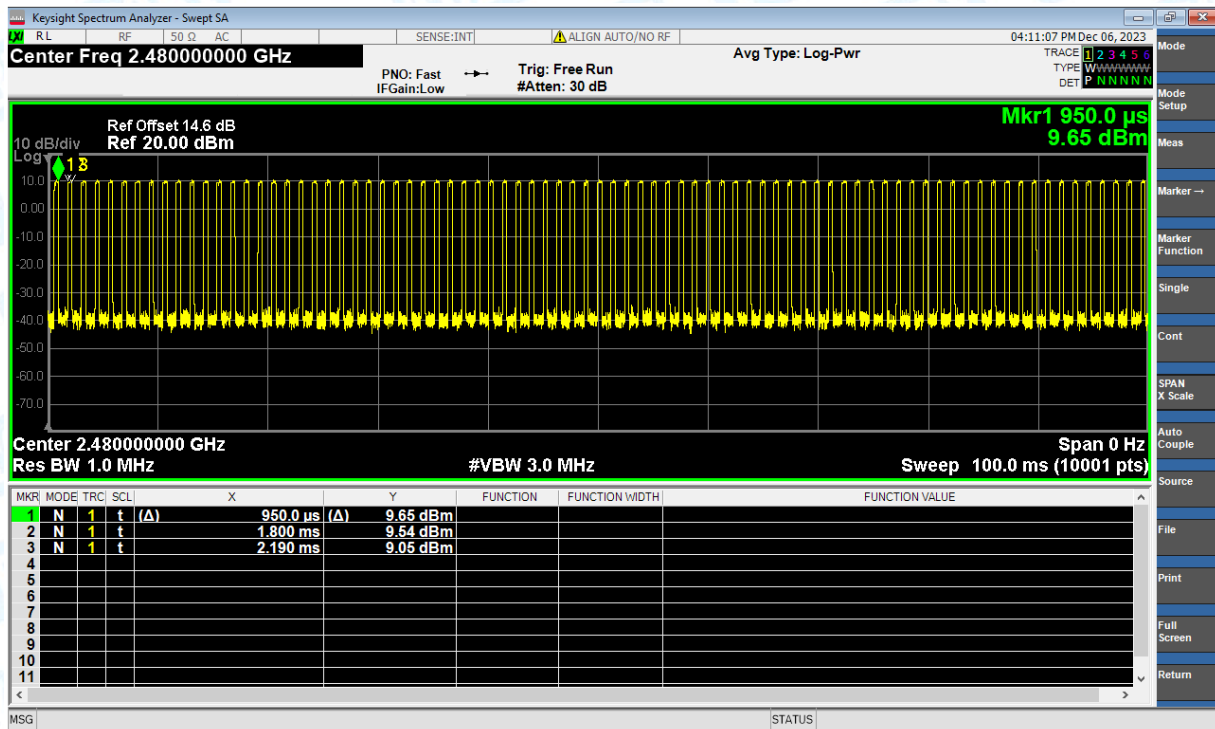
Duty Cycle NVNT 2-DH1 2402MHz Ant1



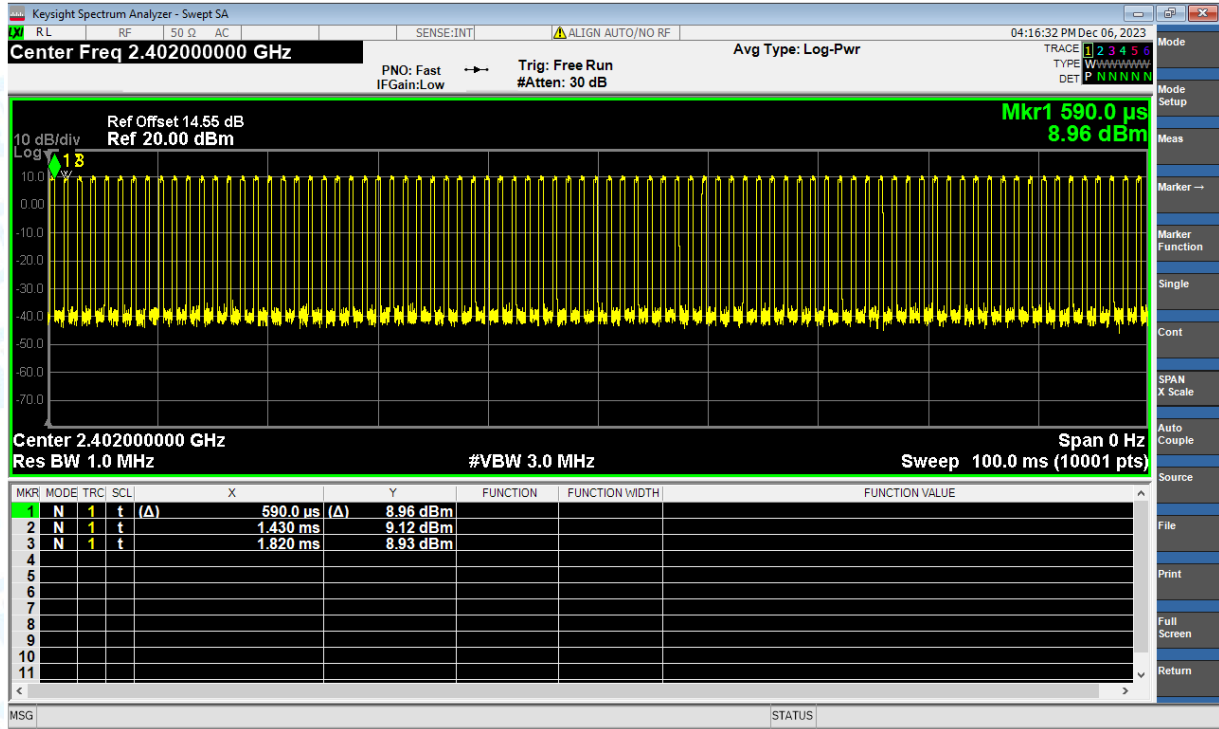
Duty Cycle NVNT 2-DH1 2441MHz Ant1



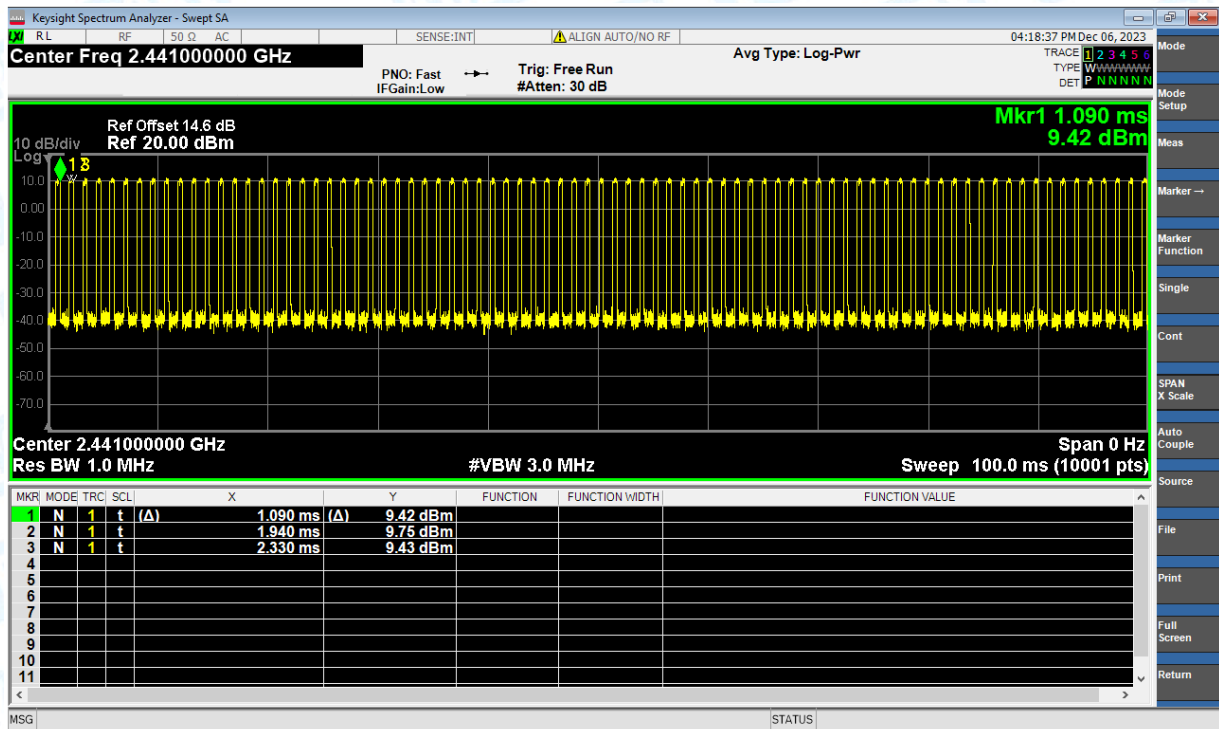
Duty Cycle NVNT 2-DH1 2480MHz Ant1

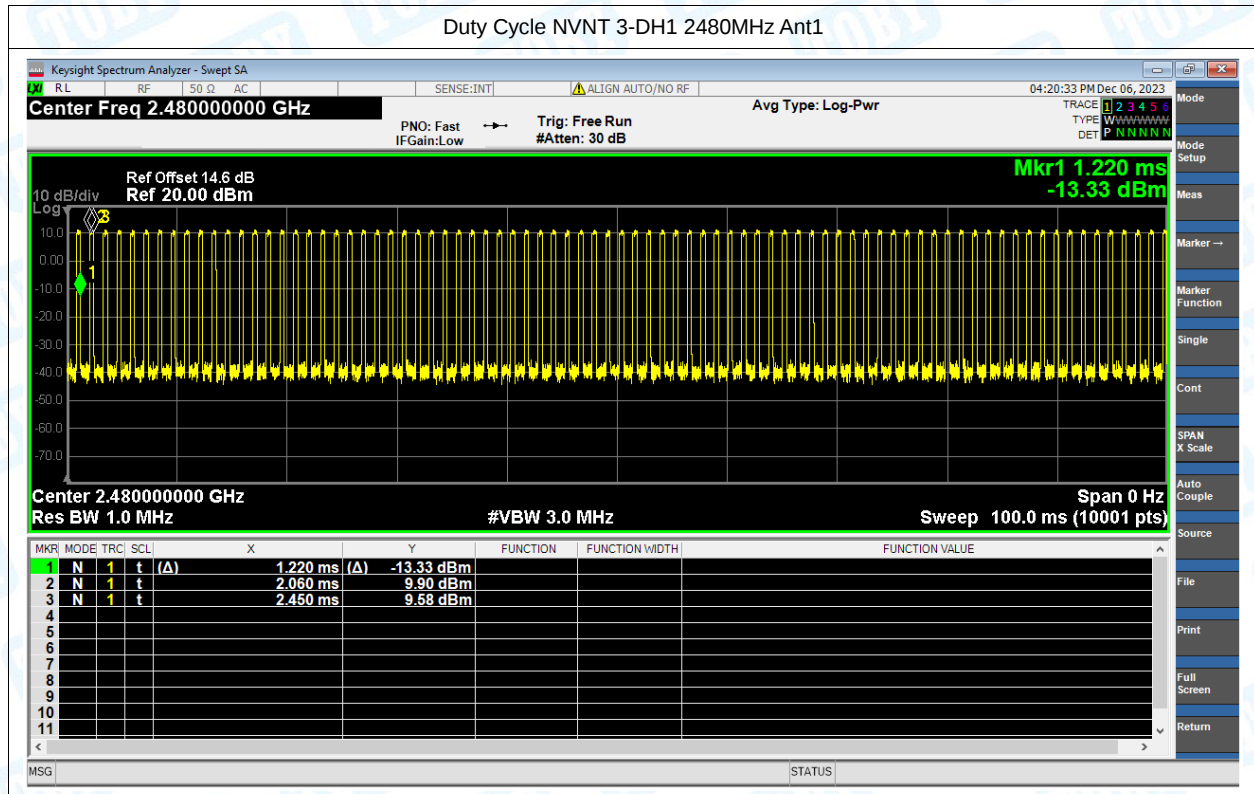


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



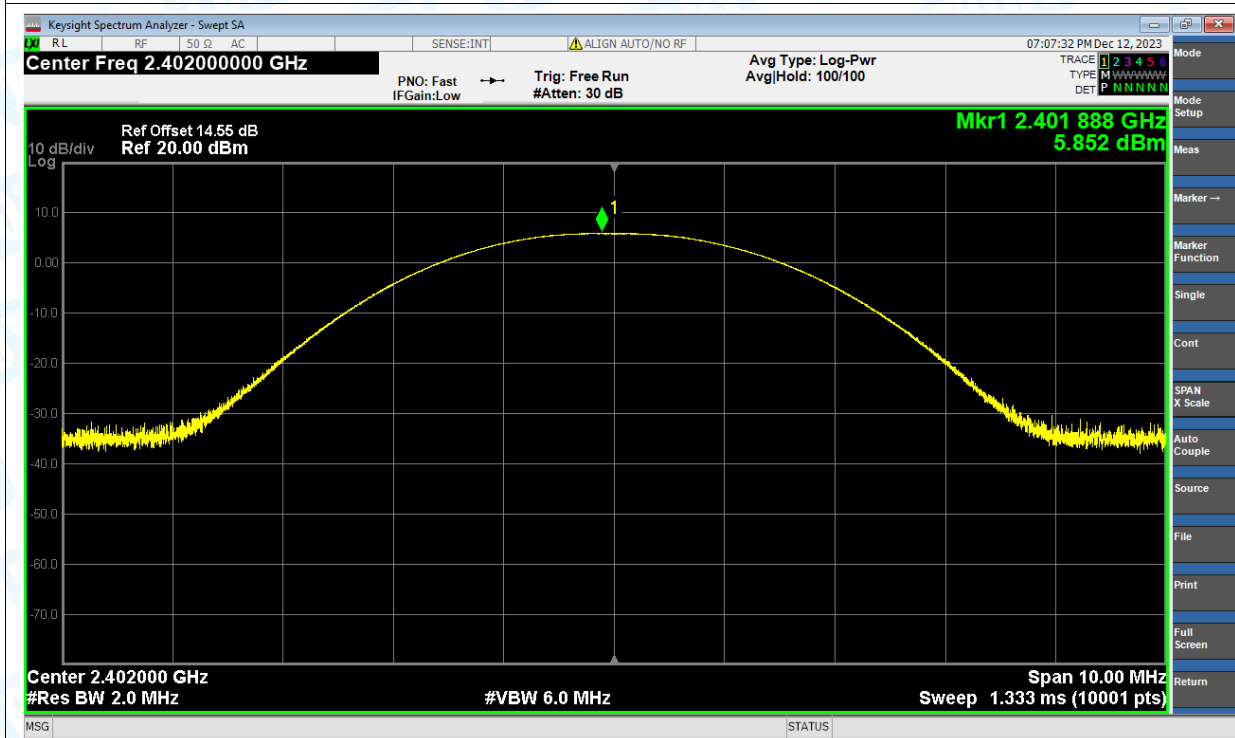


2. Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	5.852	21	Pass
NVNT	1-DH1	2441	Ant1	6.274	21	Pass
NVNT	1-DH1	2480	Ant1	6.415	21	Pass
NVNT	2-DH1	2402	Ant1	6.310	21	Pass
NVNT	2-DH1	2441	Ant1	6.661	21	Pass
NVNT	2-DH1	2480	Ant1	6.828	21	Pass
NVNT	3-DH1	2402	Ant1	6.847	21	Pass
NVNT	3-DH1	2441	Ant1	7.255	21	Pass
NVNT	3-DH1	2480	Ant1	7.303	21	Pass

Test Graphs

Power NVNT 1-DH1 2402MHz Ant1



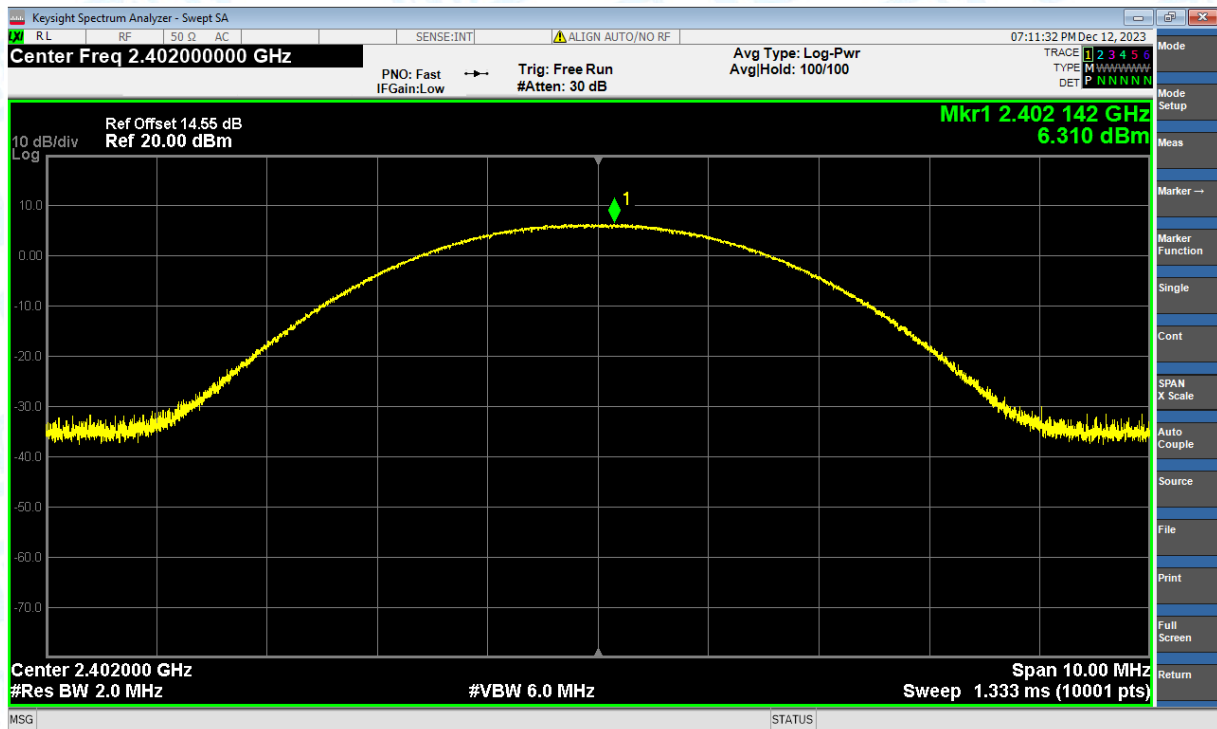
Power NVNT 1-DH1 2441MHz Ant1



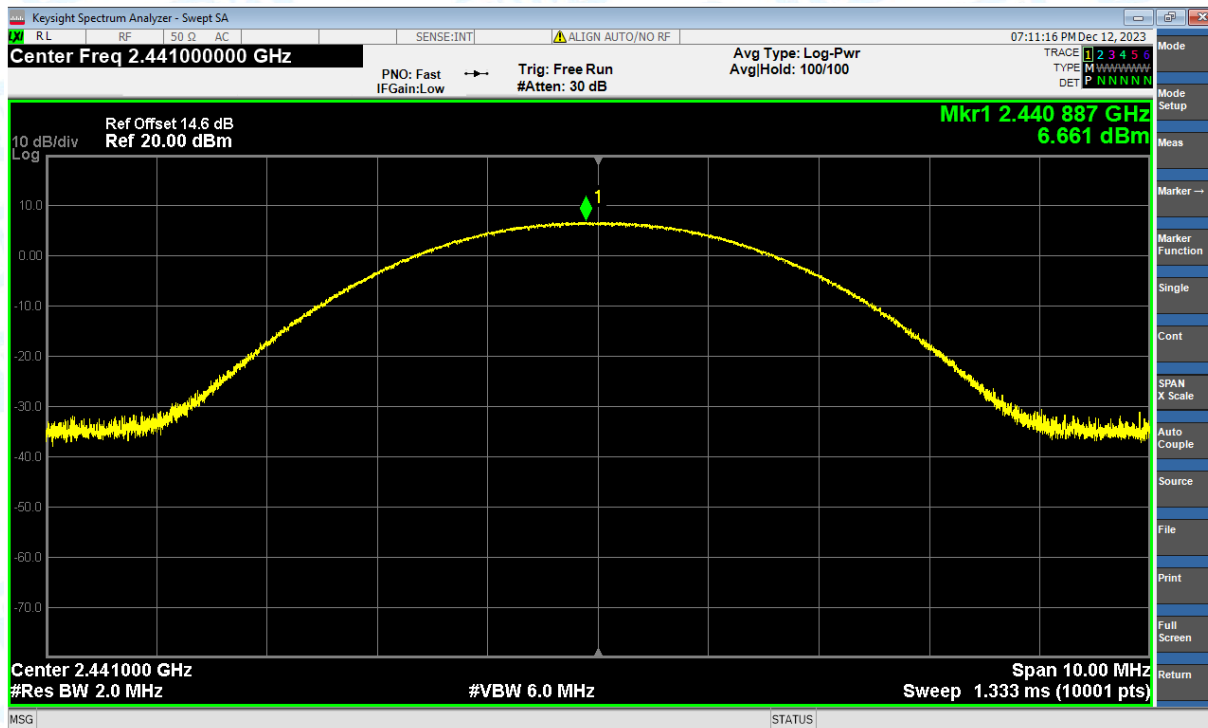
Power NVNT 1-DH1 2480MHz Ant1



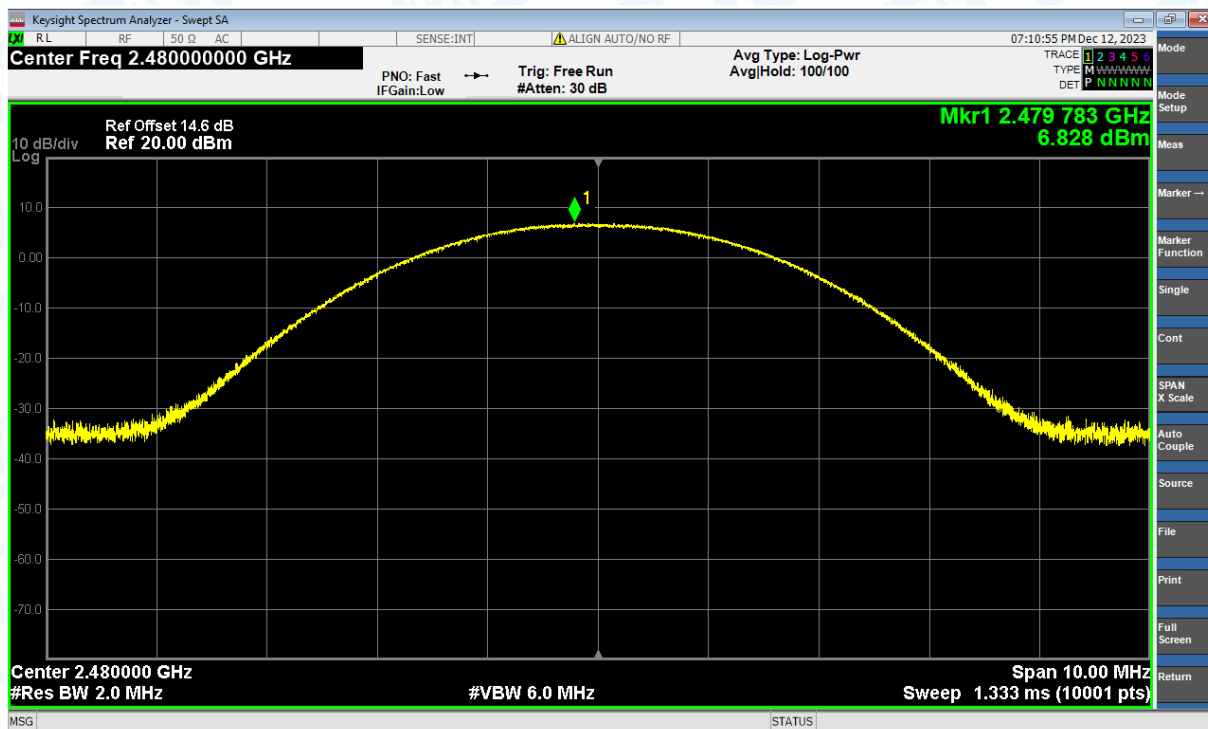
Power NVNT 2-DH1 2402MHz Ant1



Power NVNT 2-DH1 2441MHz Ant1



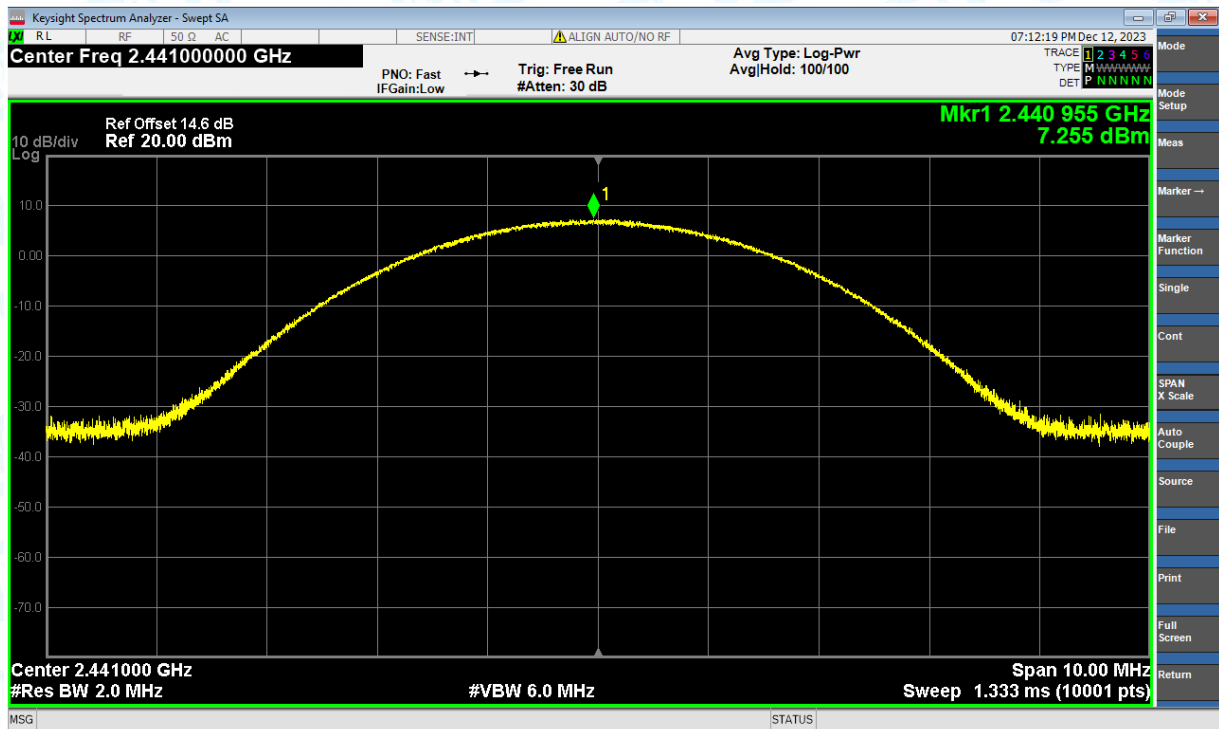
Power NVNT 2-DH1 2480MHz Ant1



Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



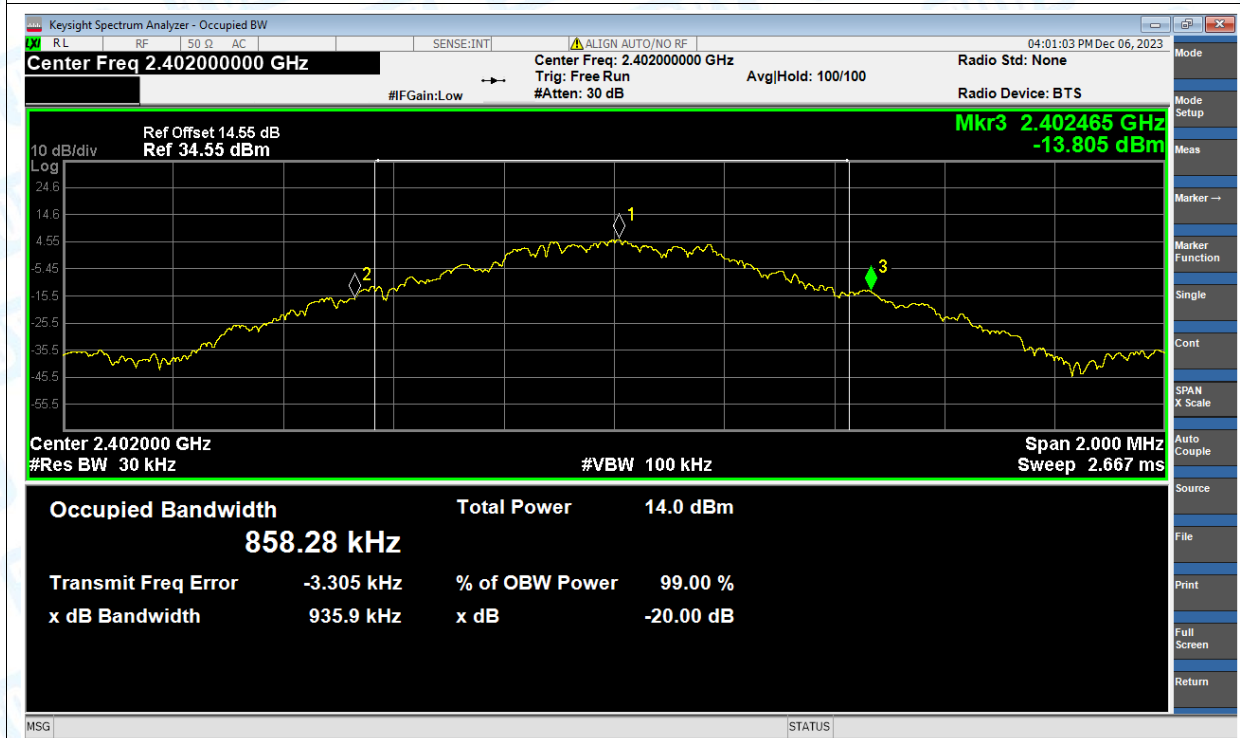


3. -20dB Bandwidth

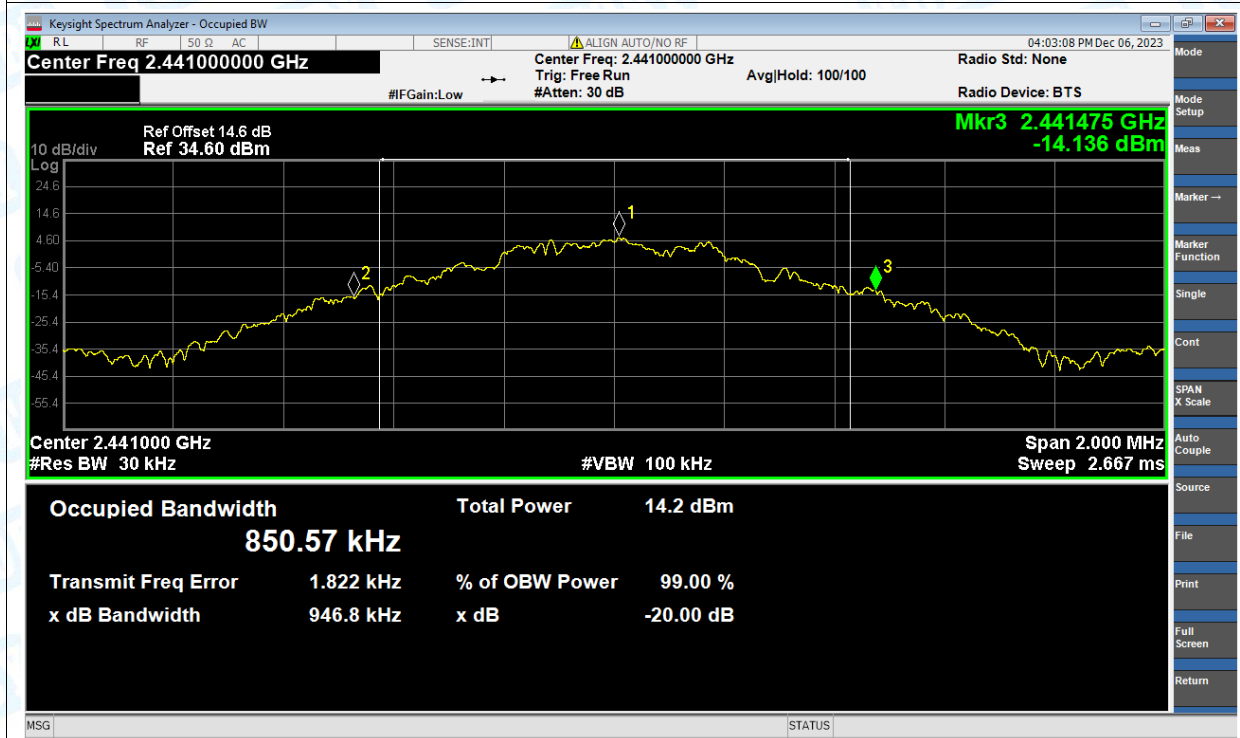
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.94	----	Pass
NVNT	1-DH1	2441	Ant1	0.95	----	Pass
NVNT	1-DH1	2480	Ant1	0.94	----	Pass
NVNT	2-DH1	2402	Ant1	1.28	----	Pass
NVNT	2-DH1	2441	Ant1	1.26	----	Pass
NVNT	2-DH1	2480	Ant1	1.28	----	Pass
NVNT	3-DH1	2402	Ant1	1.21	----	Pass
NVNT	3-DH1	2441	Ant1	1.22	----	Pass
NVNT	3-DH1	2480	Ant1	1.22	----	Pass

Test Graphs

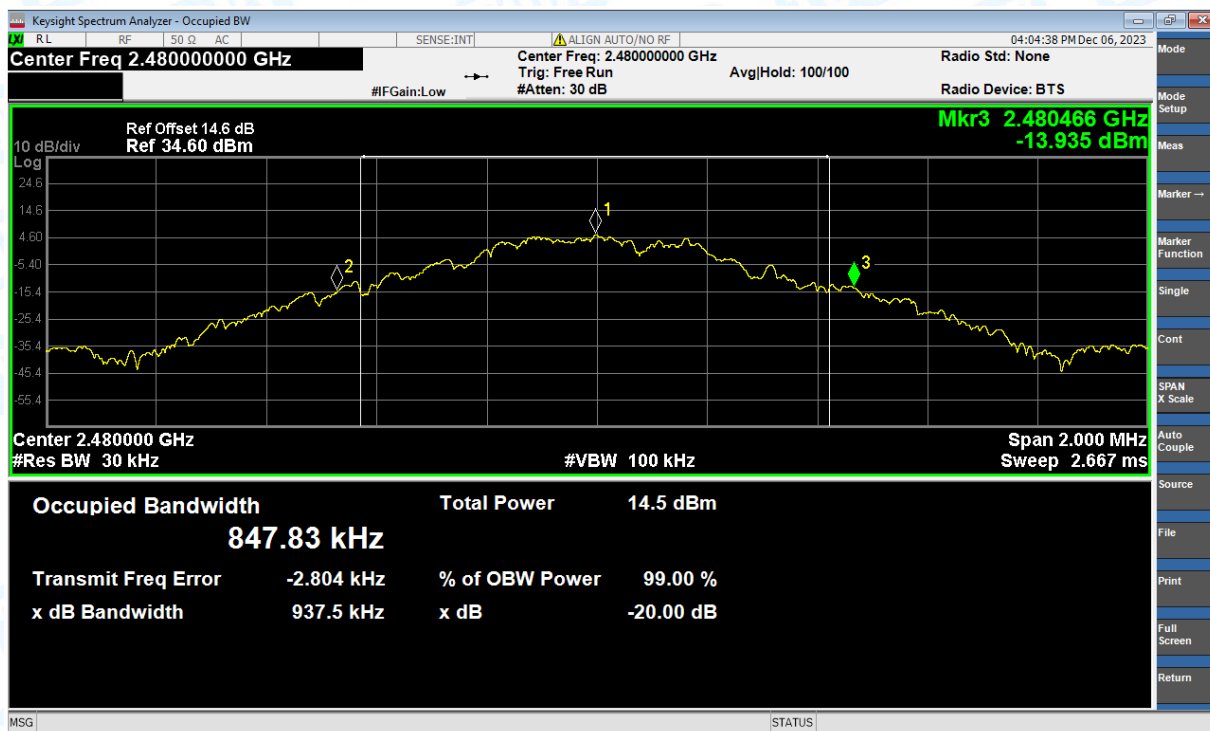
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



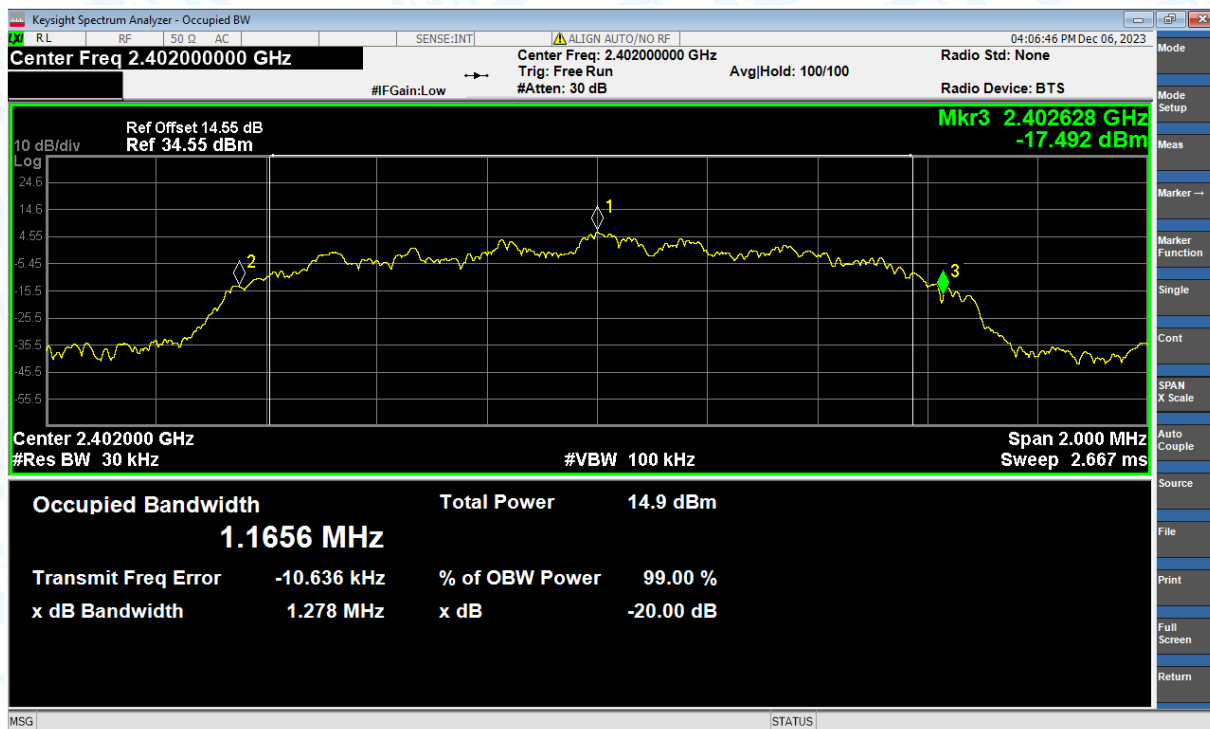
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



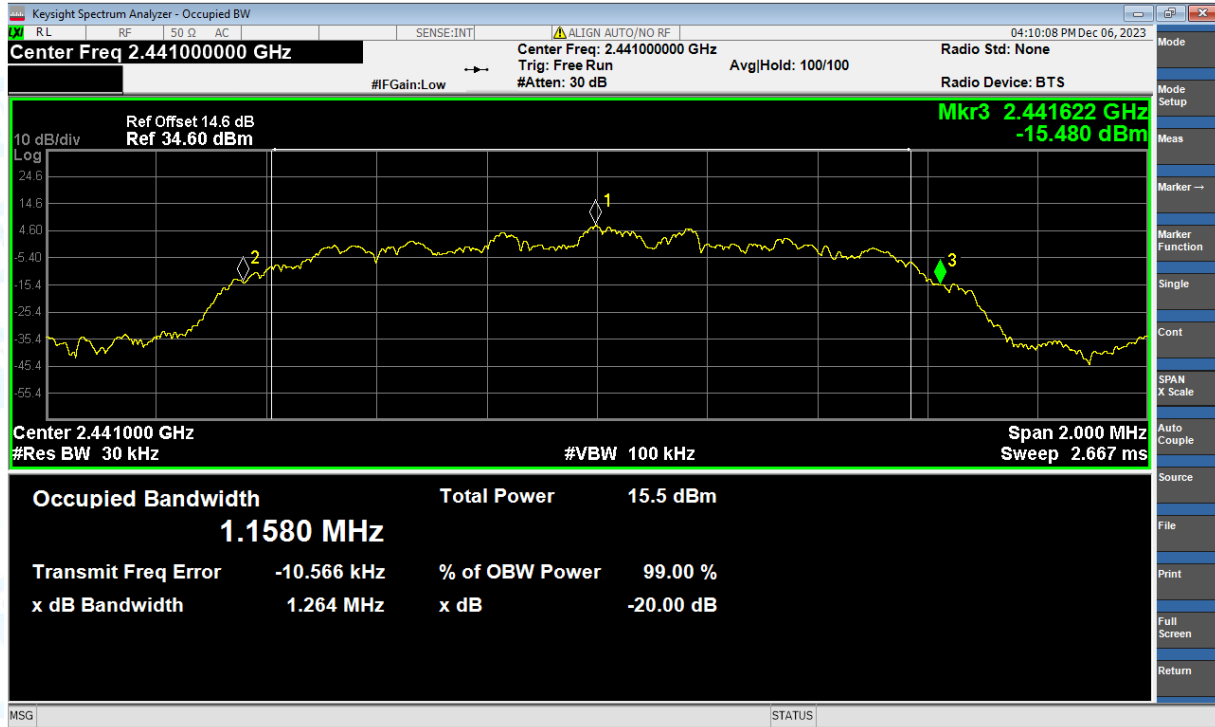
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



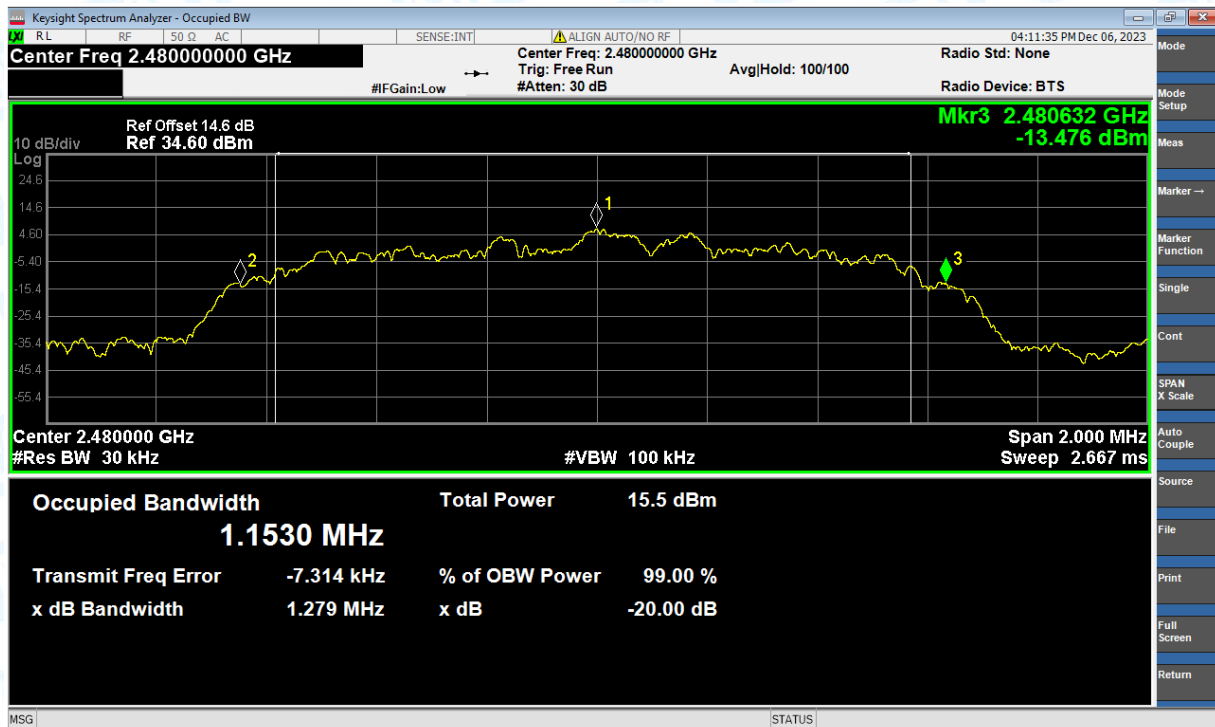
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



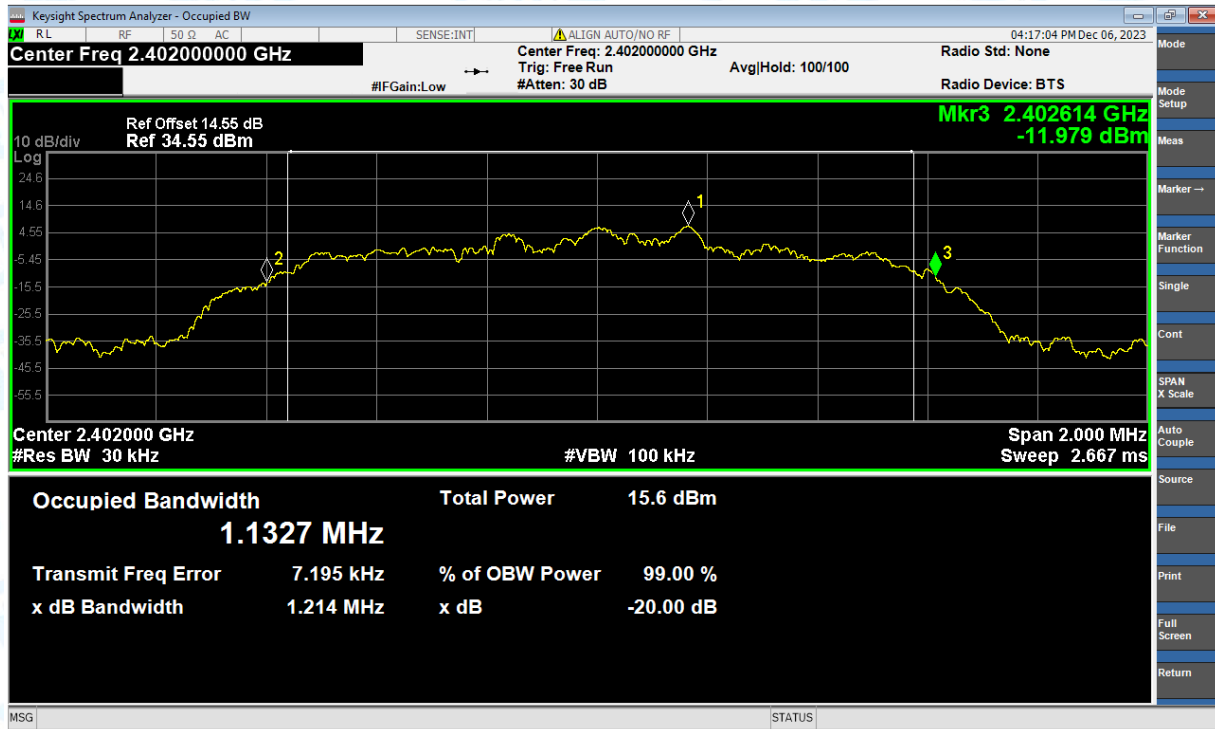
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



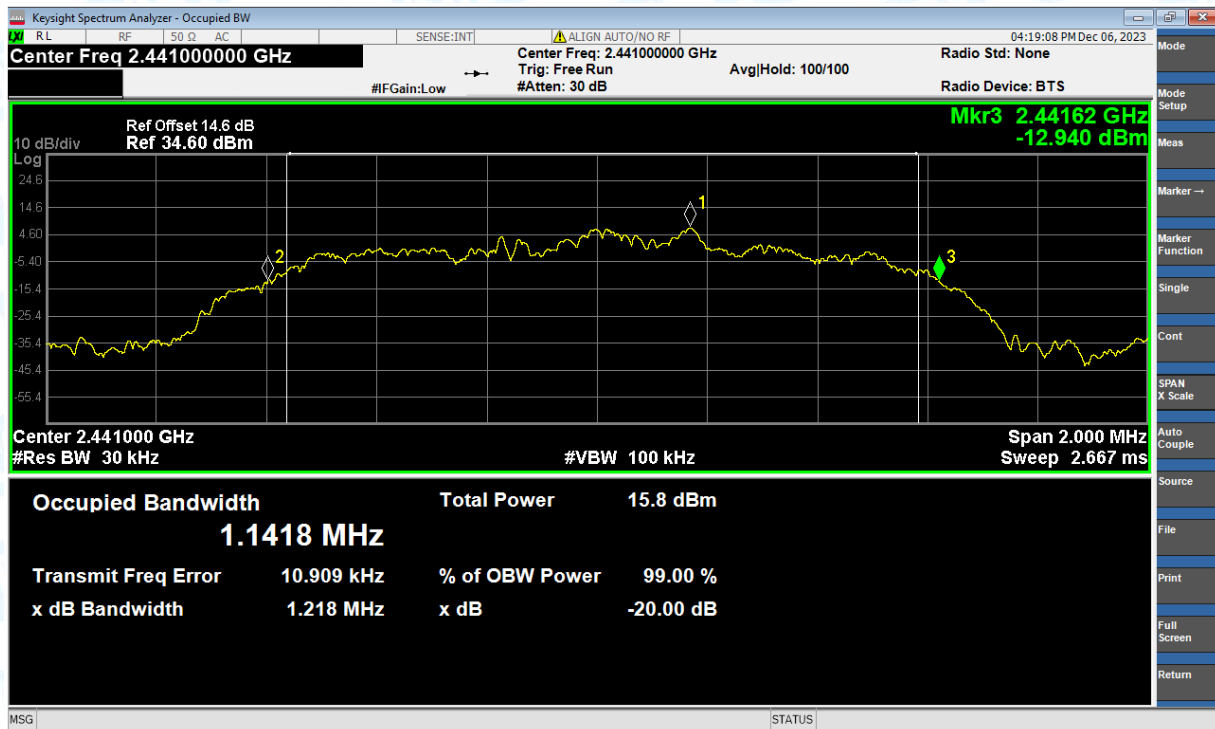
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

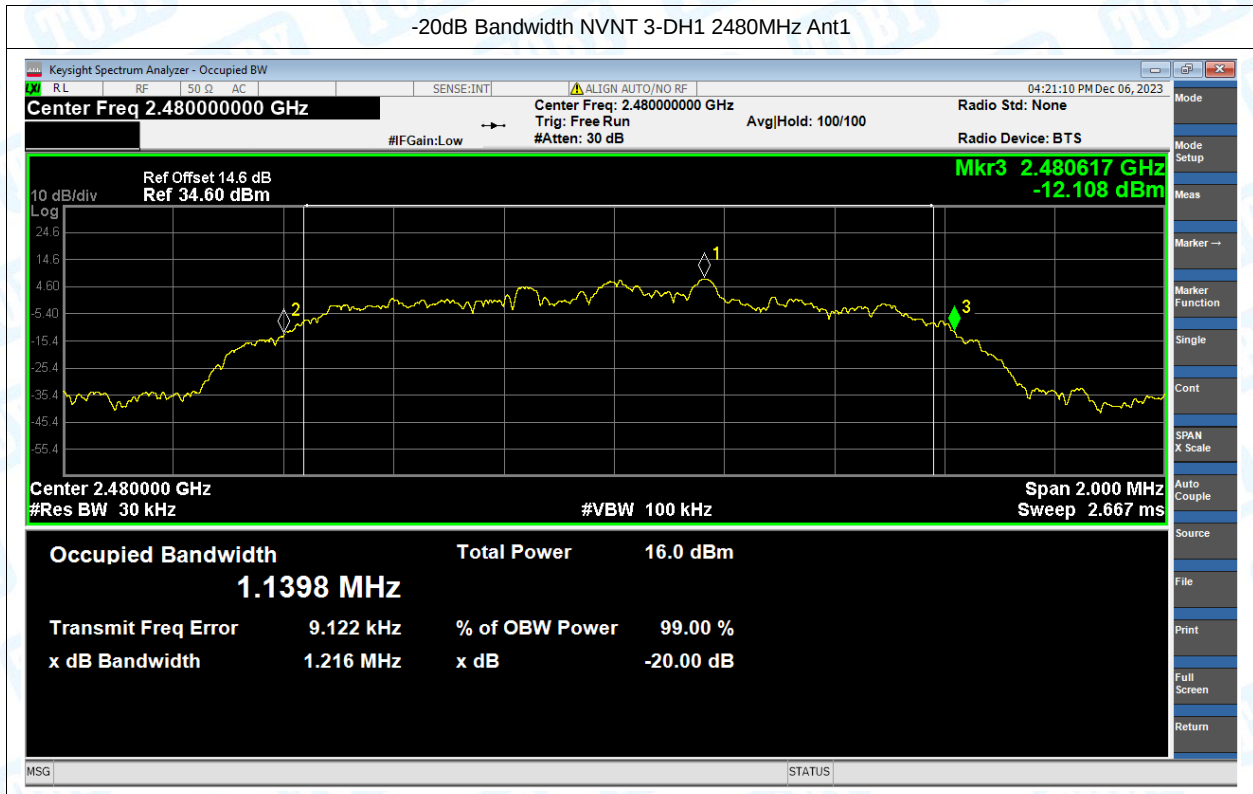


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



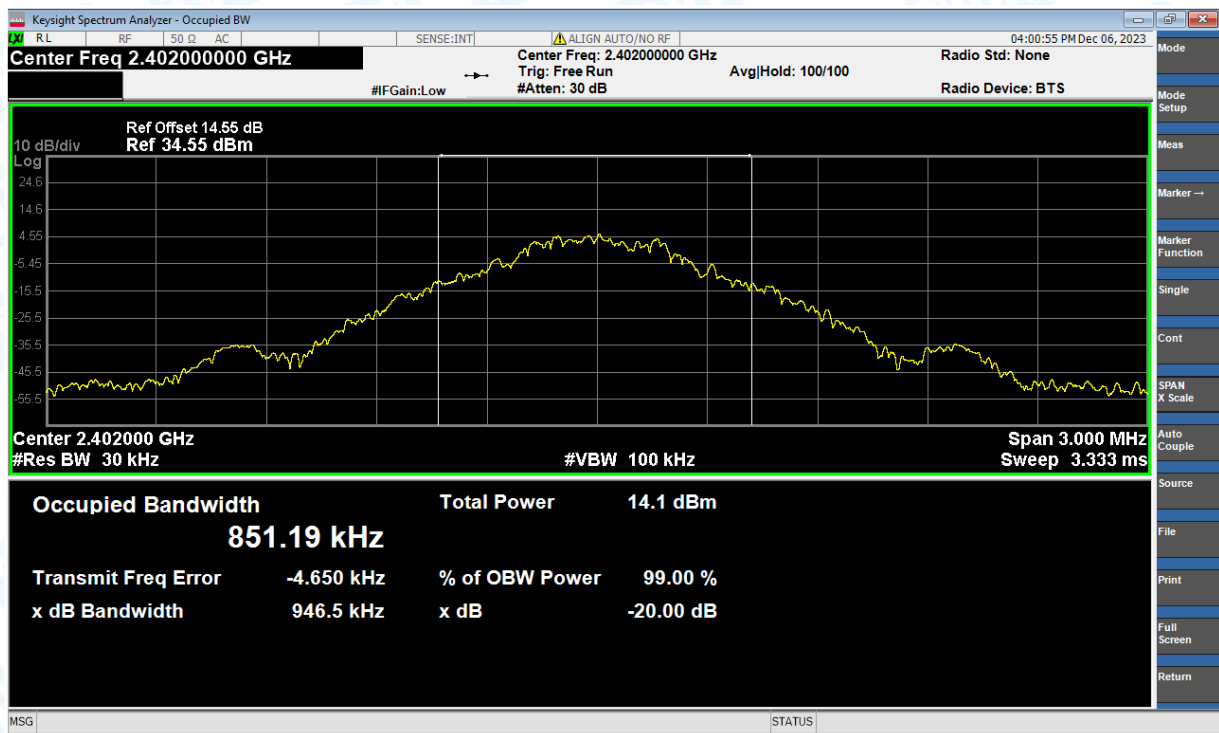


4. Occupied Channel Bandwidth

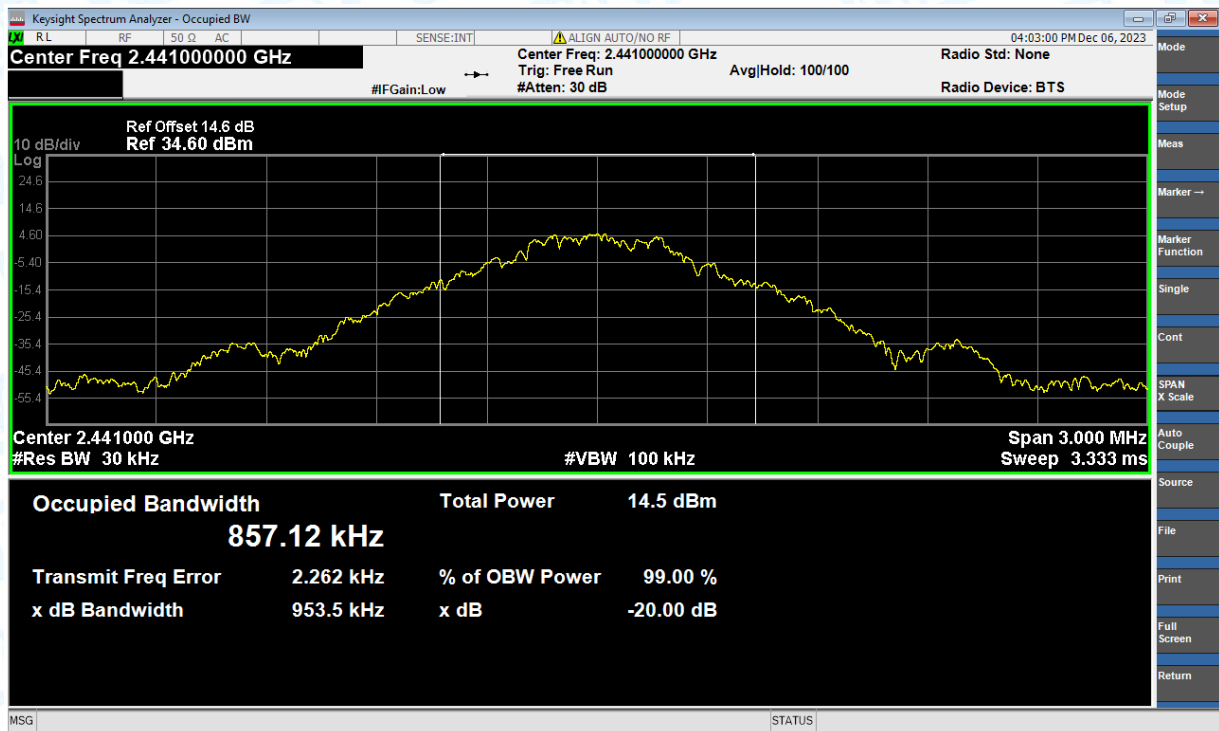
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.851
NVNT	1-DH1	2441	Ant1	0.857
NVNT	1-DH1	2480	Ant1	0.849
NVNT	2-DH1	2402	Ant1	1.125
NVNT	2-DH1	2441	Ant1	1.163
NVNT	2-DH1	2480	Ant1	1.149
NVNT	3-DH1	2402	Ant1	1.146
NVNT	3-DH1	2441	Ant1	1.134
NVNT	3-DH1	2480	Ant1	1.139

Test Graphs

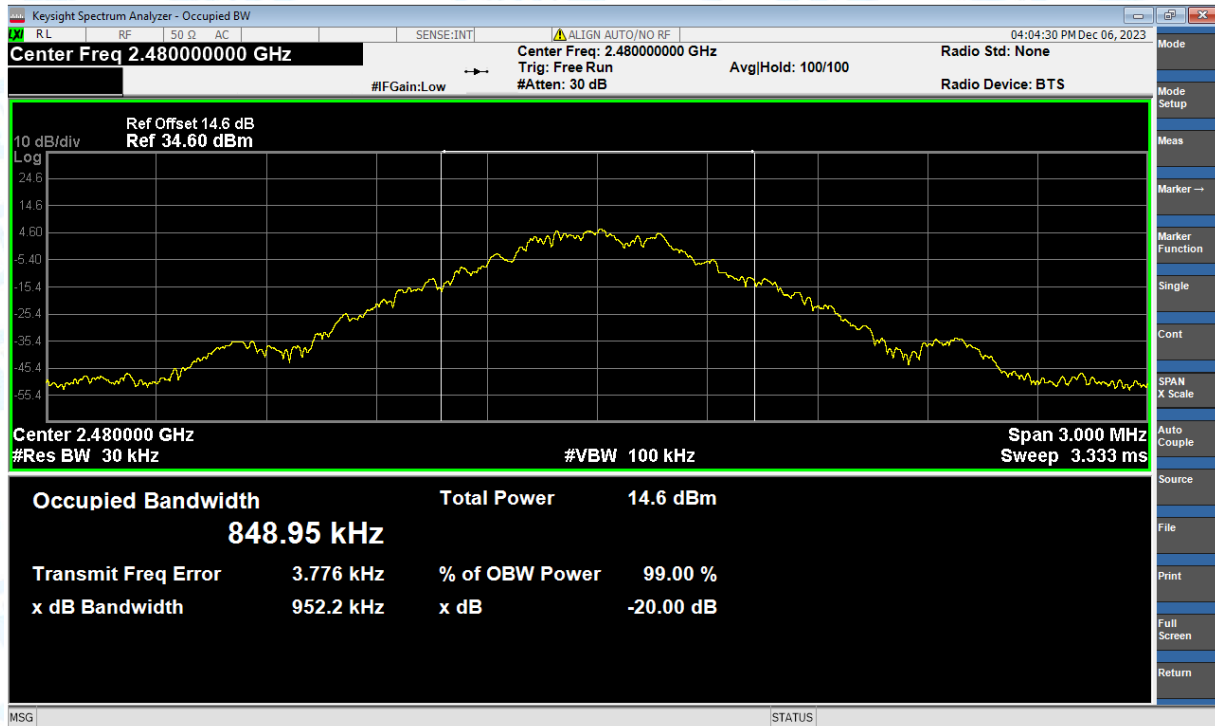
OBW NVNT 1-DH1 2402MHz Ant1



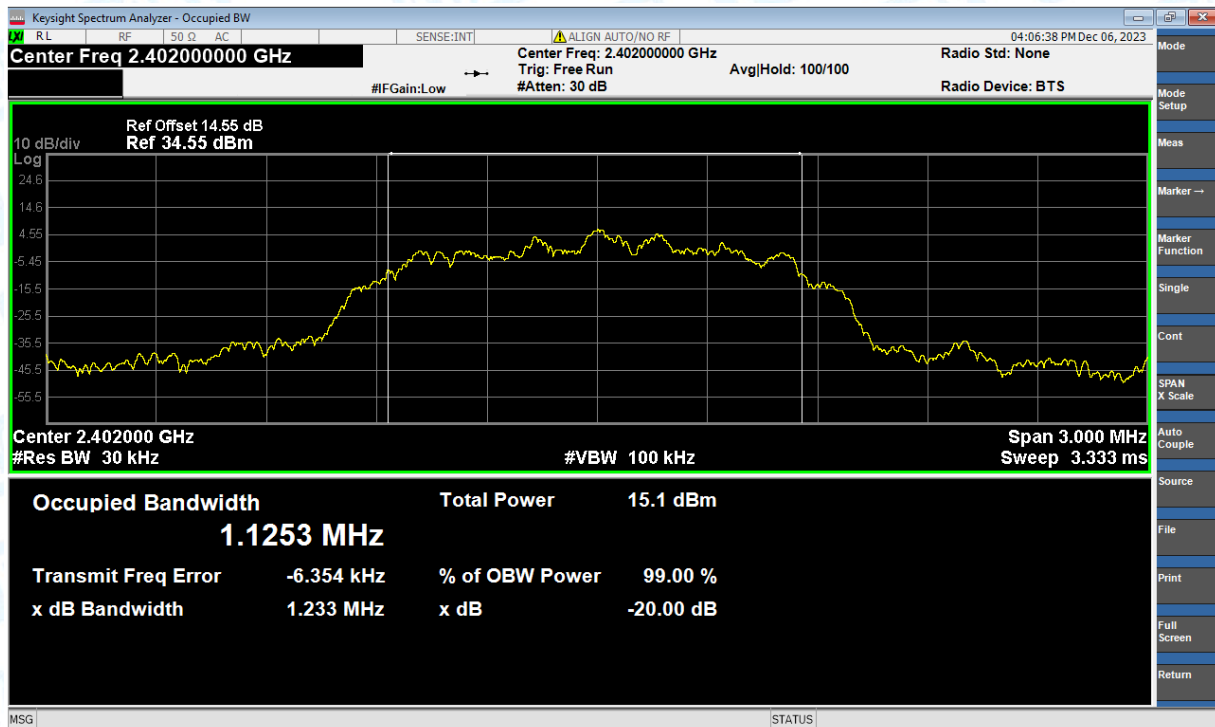
OBW NVNT 1-DH1 2441MHz Ant1



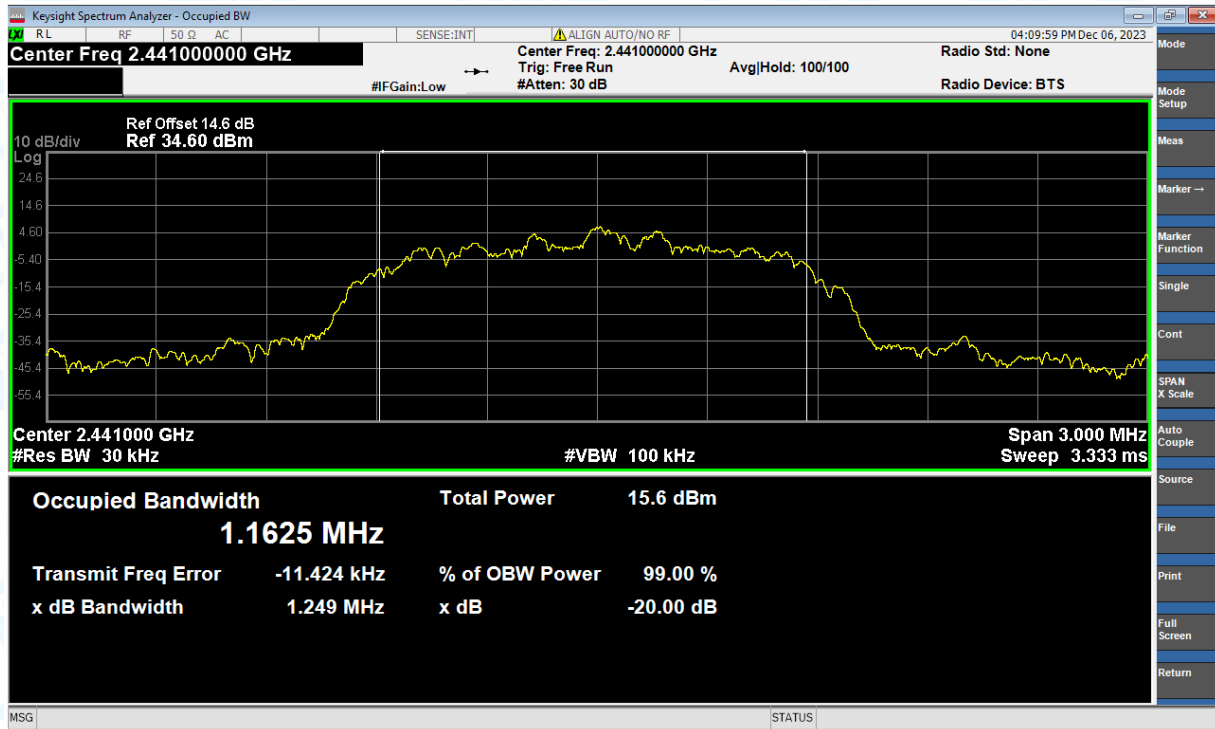
OBW NVNT 1-DH1 2480MHz Ant1



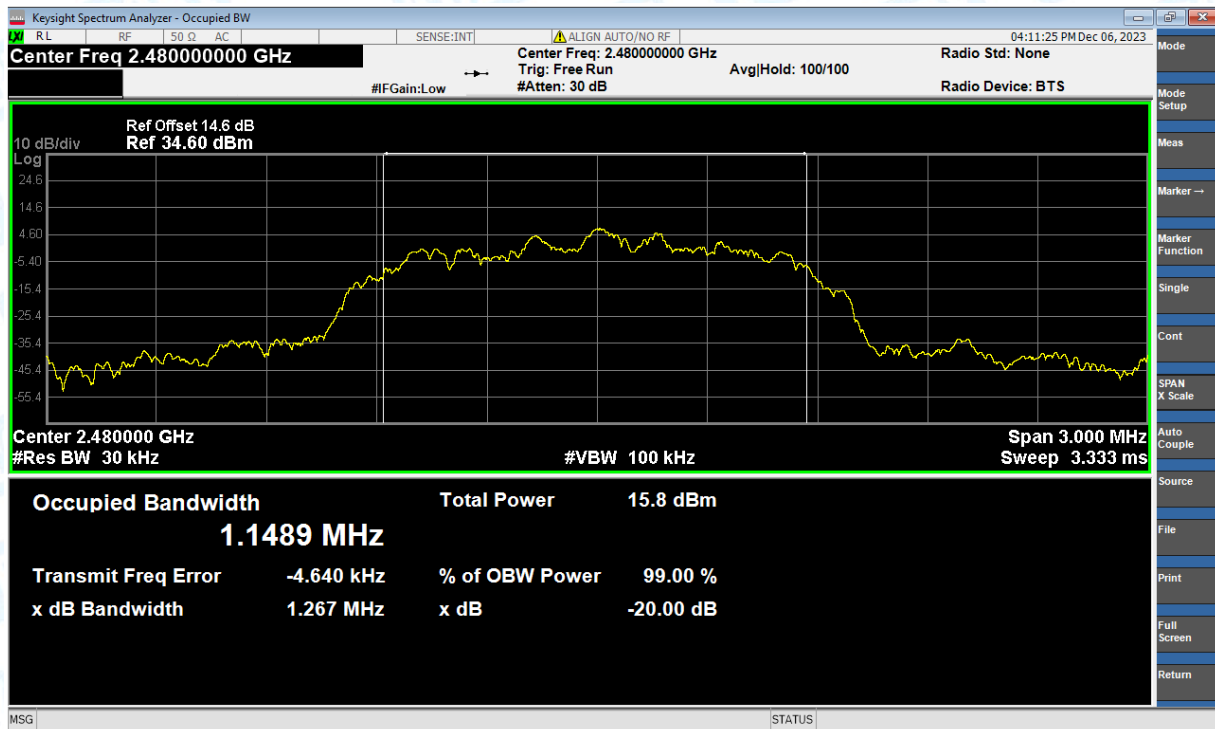
OBW NVNT 2-DH1 2402MHz Ant1



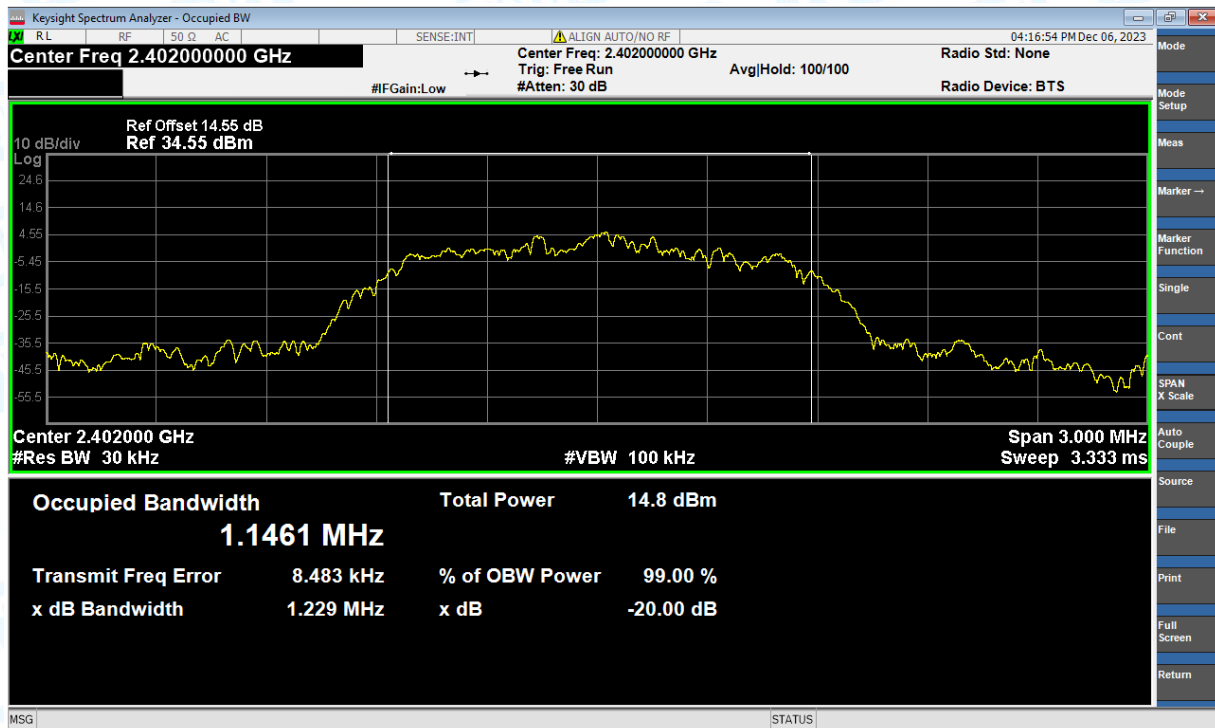
OBW NVNT 2-DH1 2441MHz Ant1



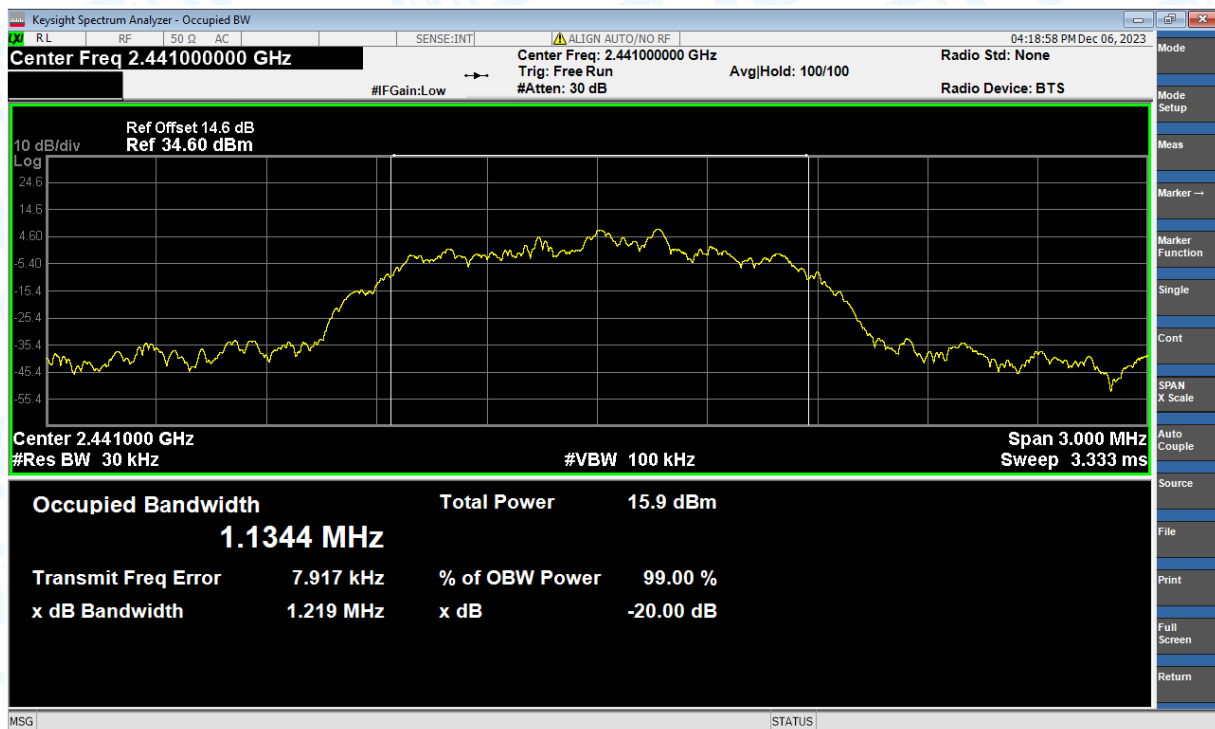
OBW NVNT 2-DH1 2480MHz Ant1

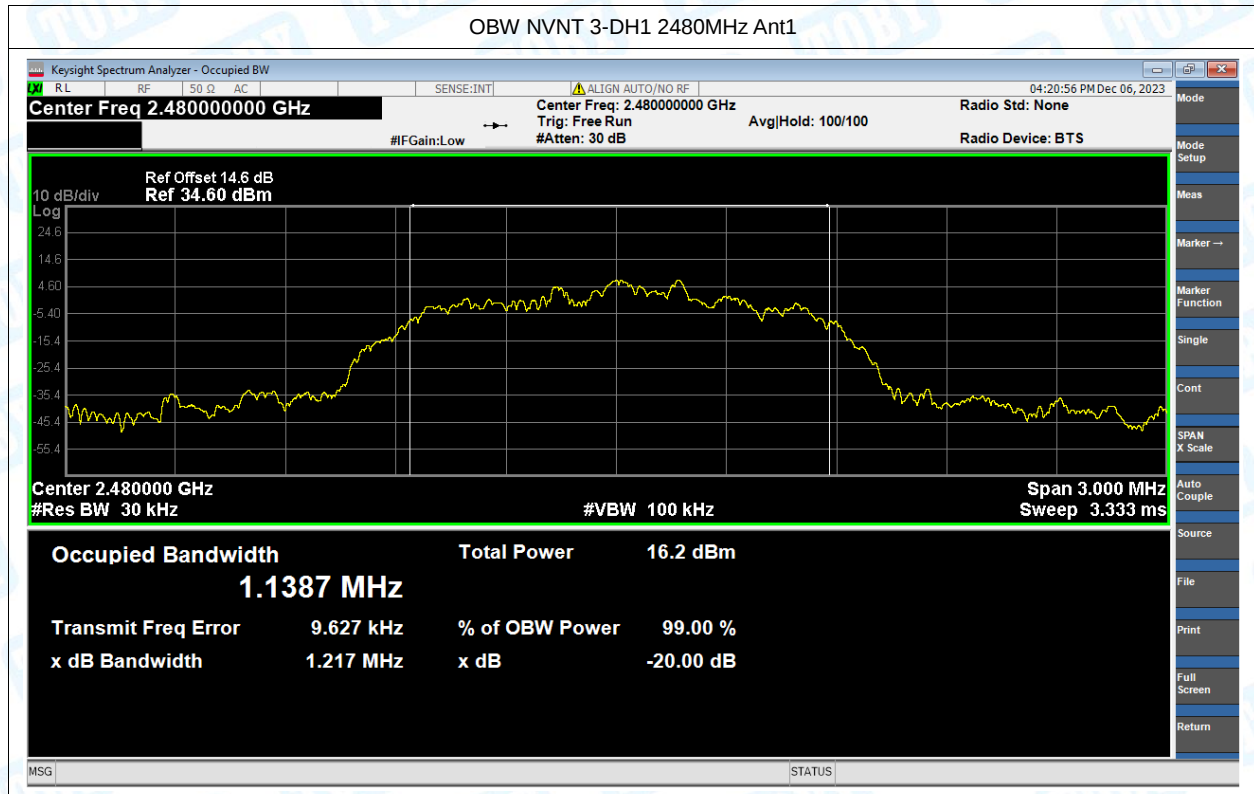


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



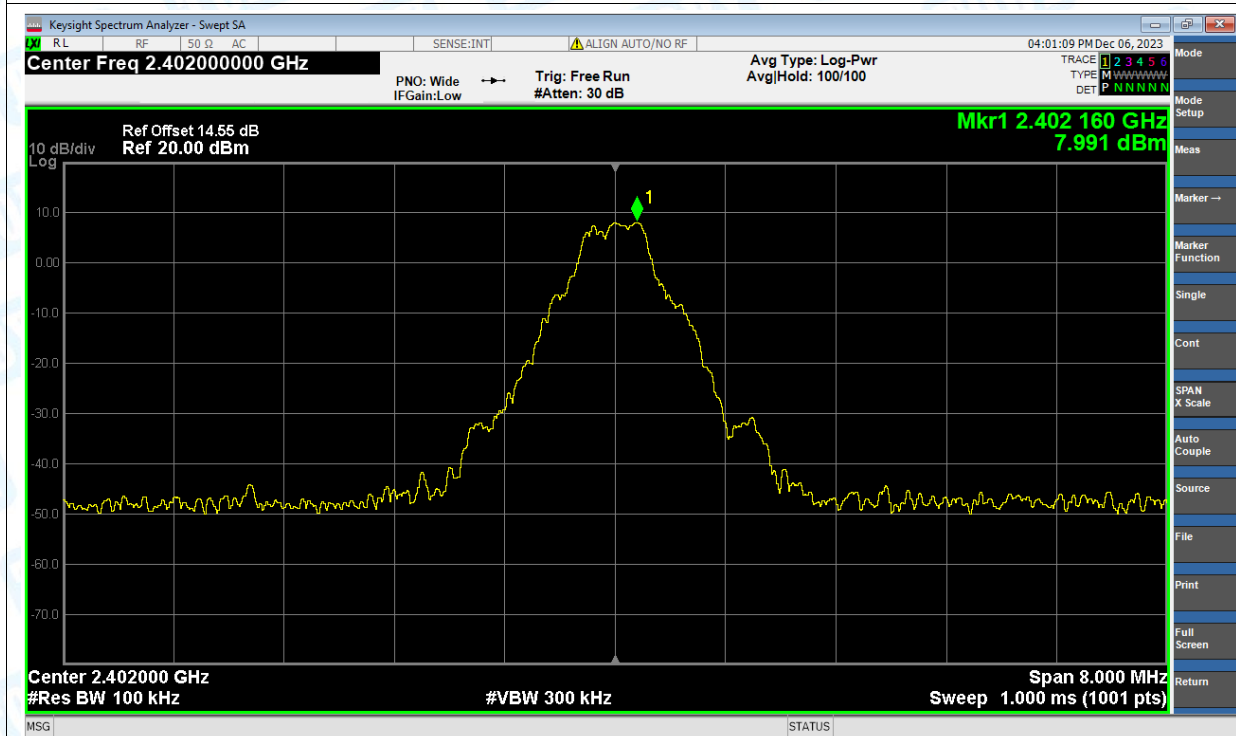


5. Band Edge

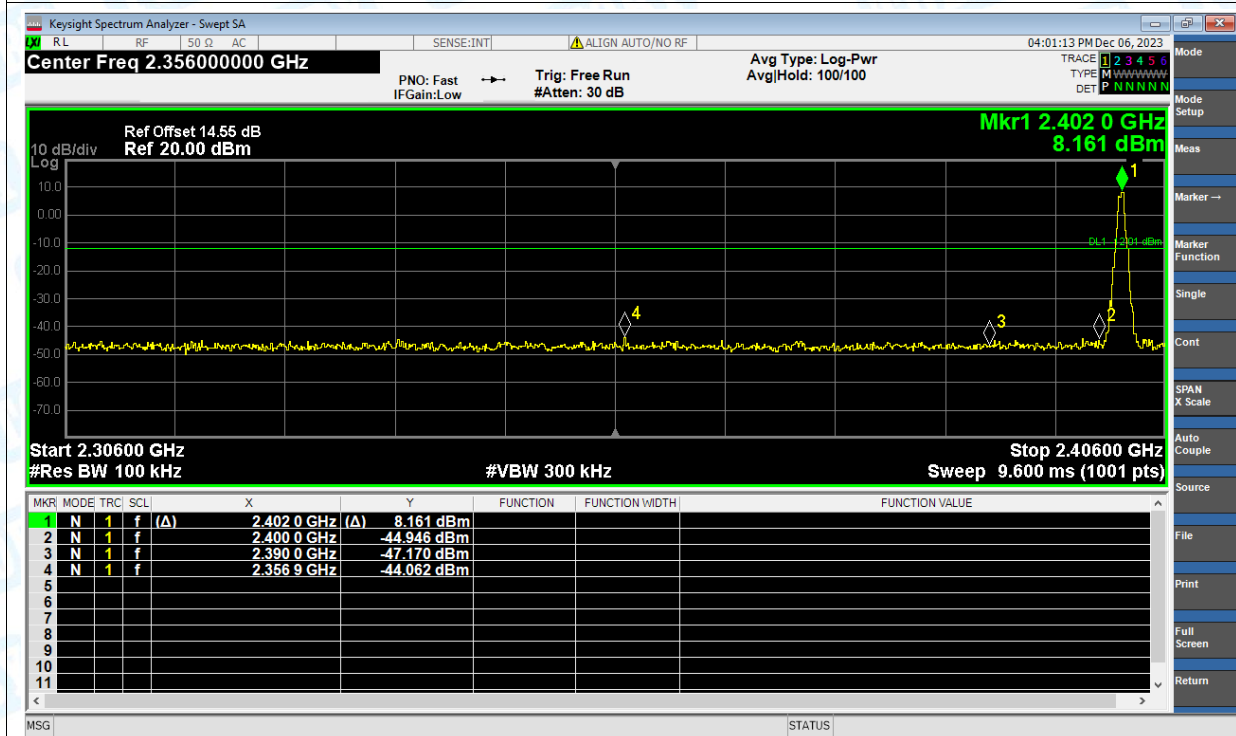
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-52.05	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-51.28	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-52.67	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-54.33	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-52.69	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-54.01	-20	Pass

Test Graphs

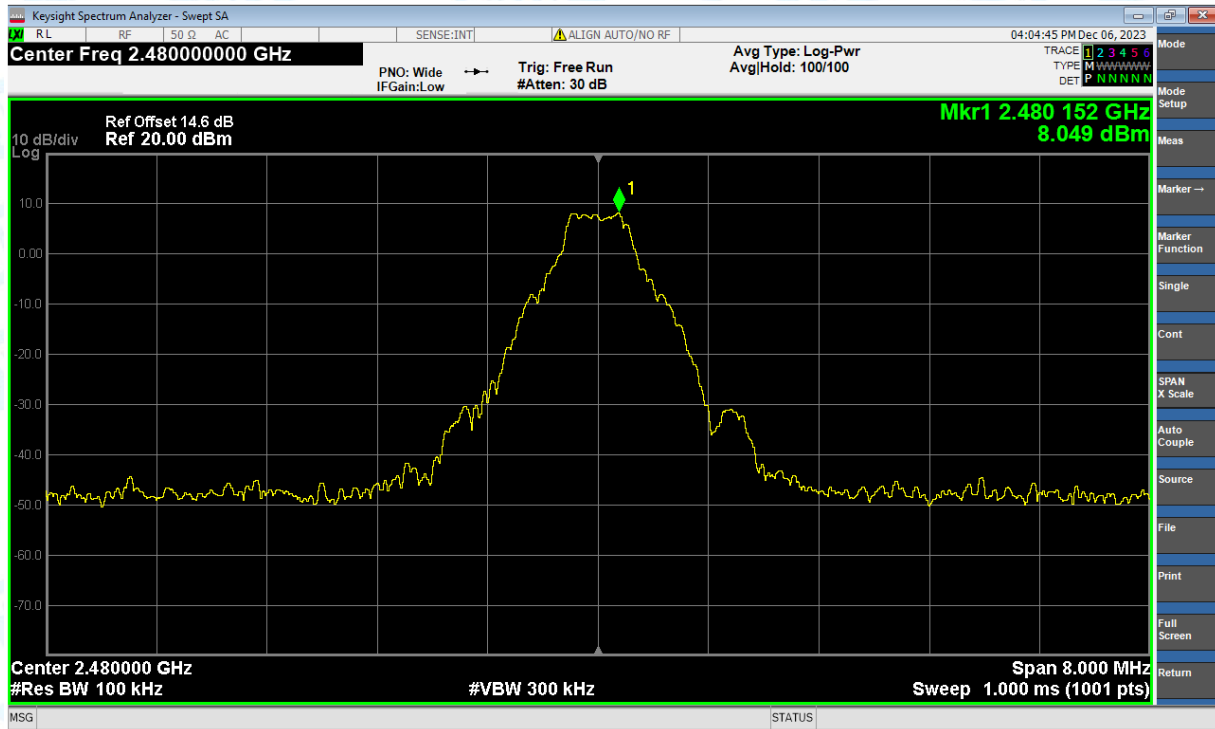
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



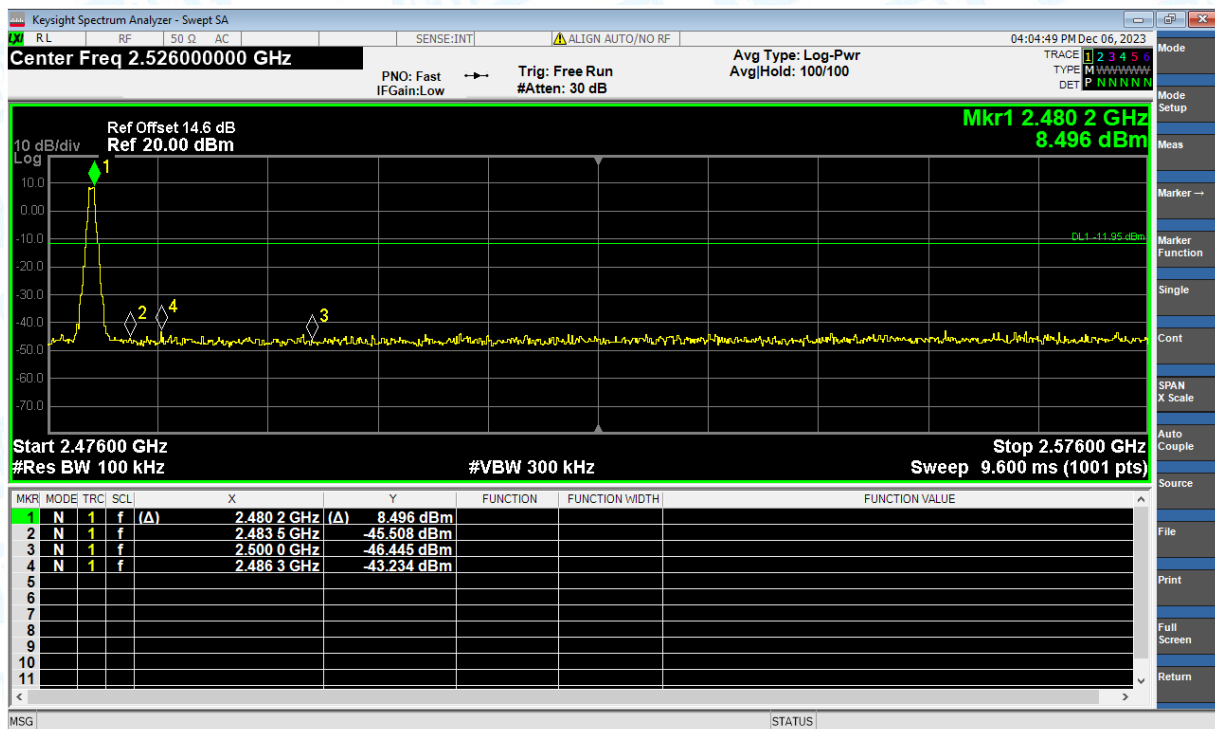
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



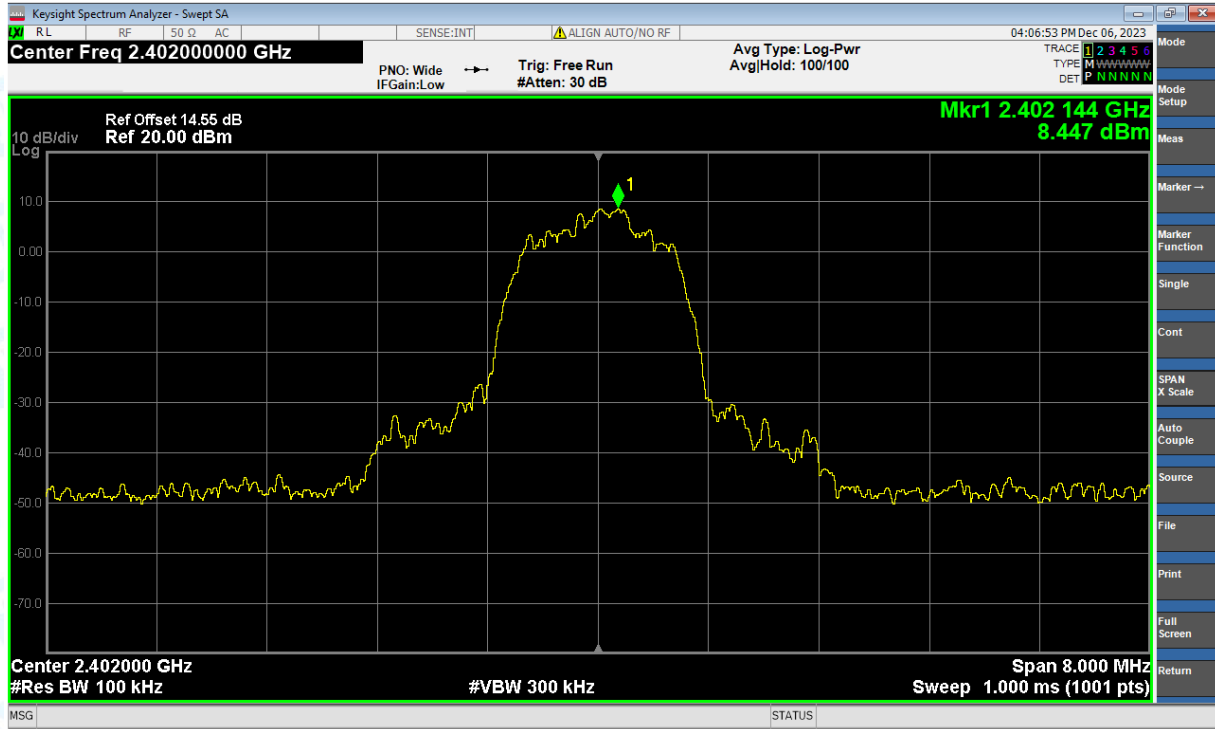
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



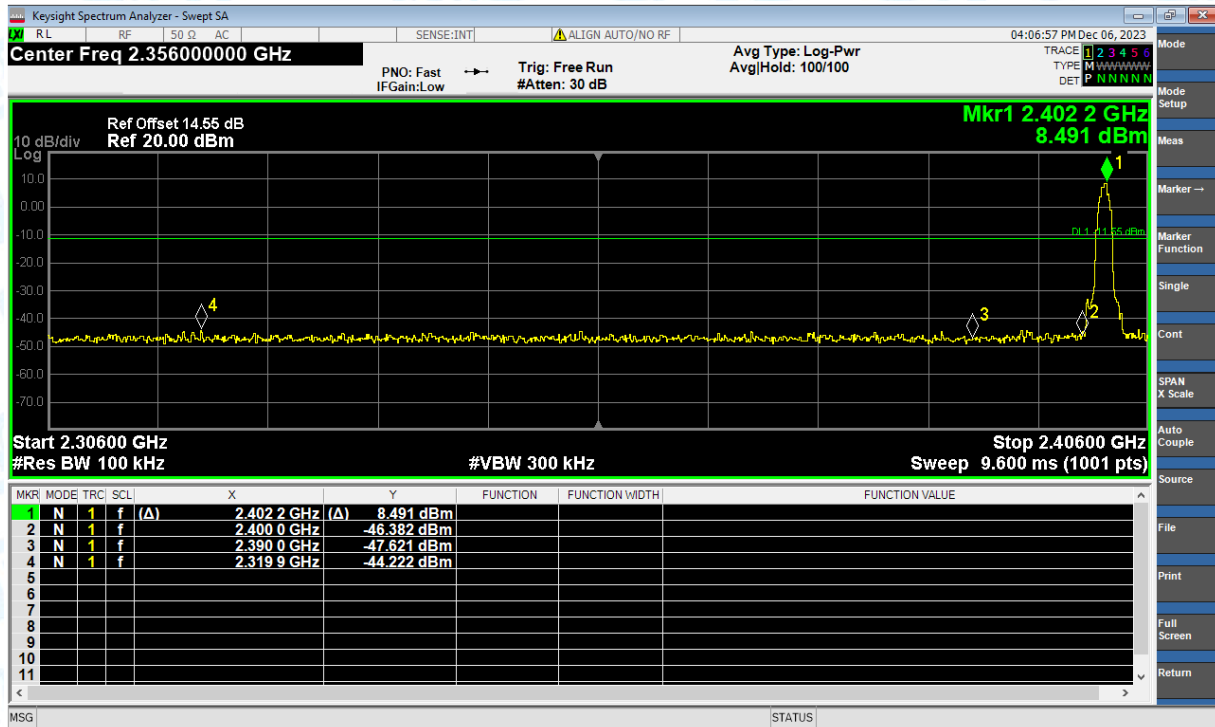
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



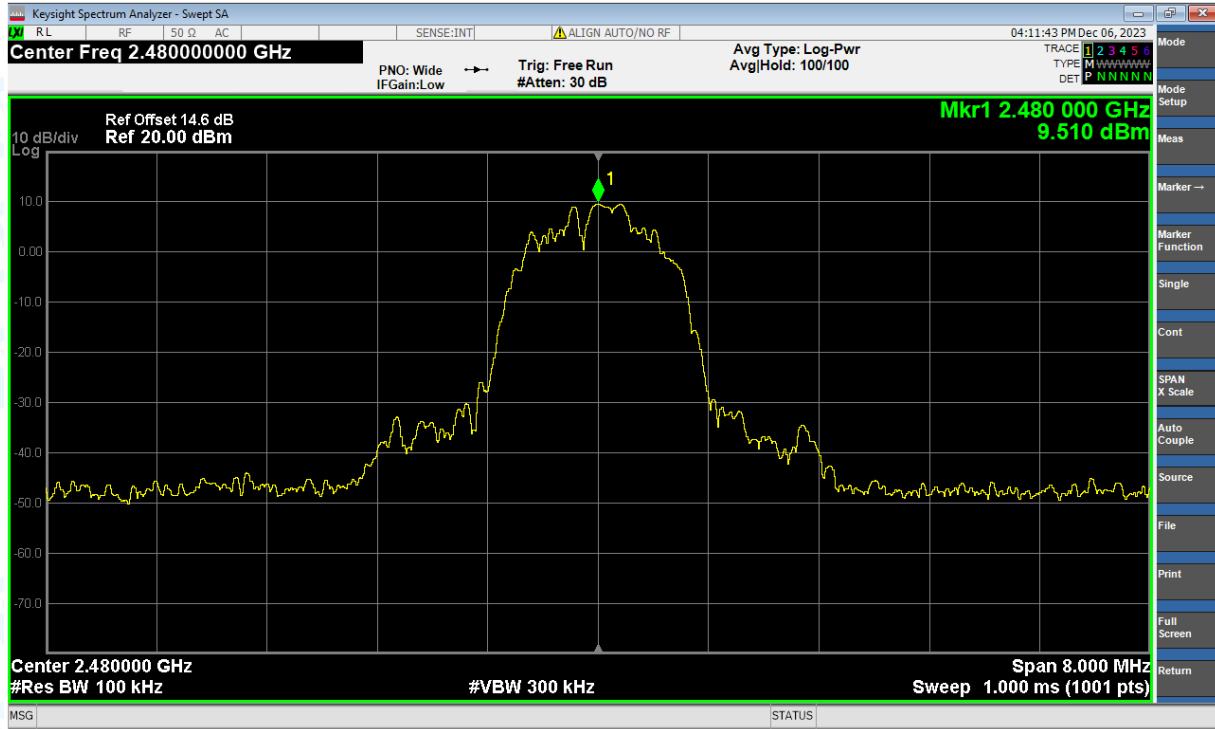
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



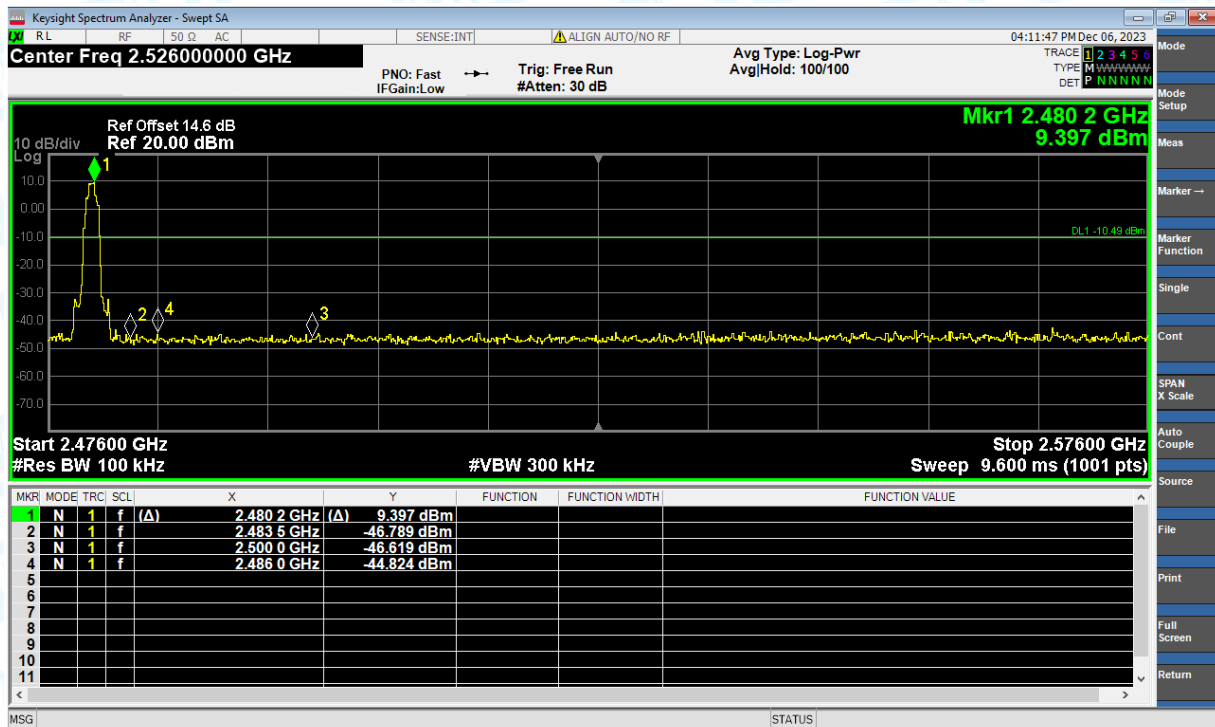
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



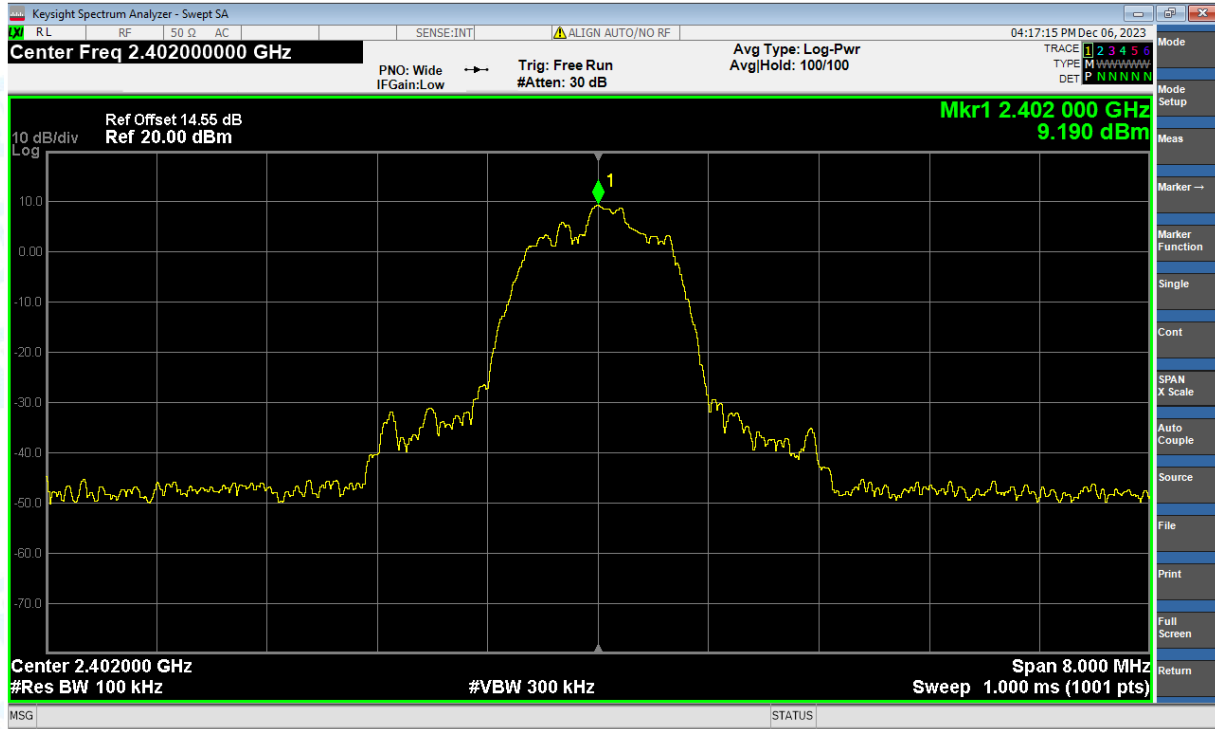
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



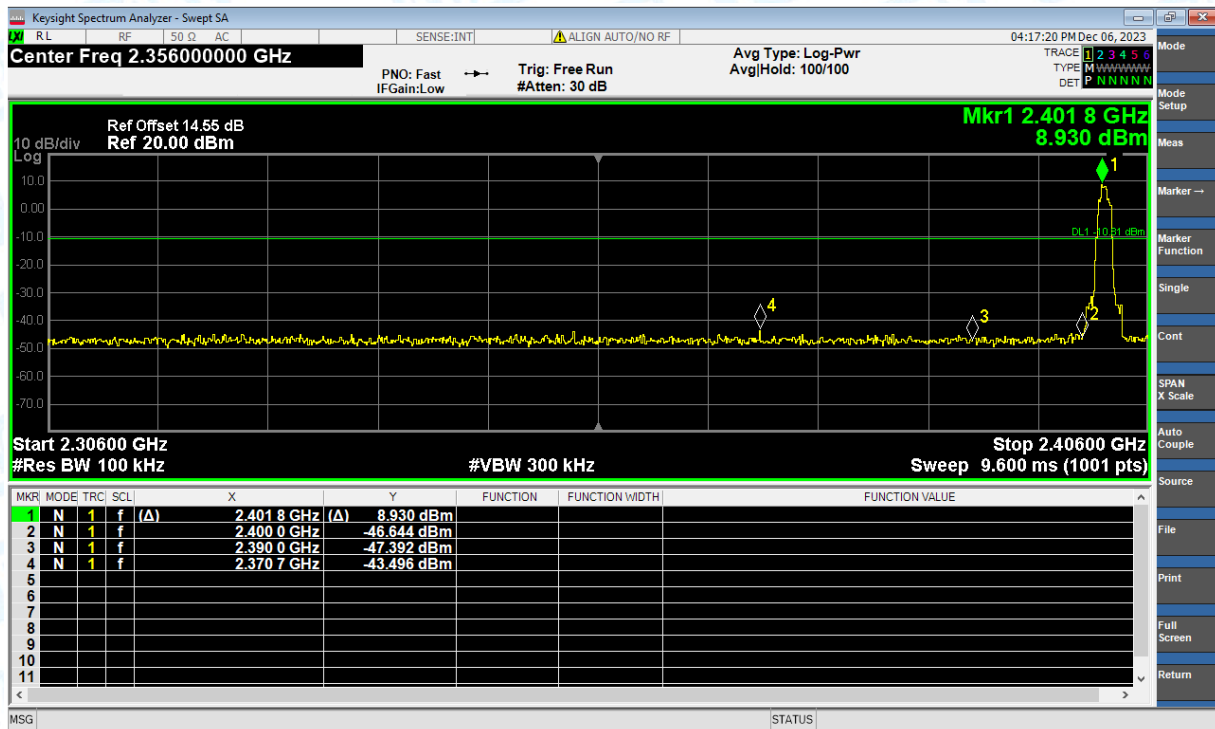
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



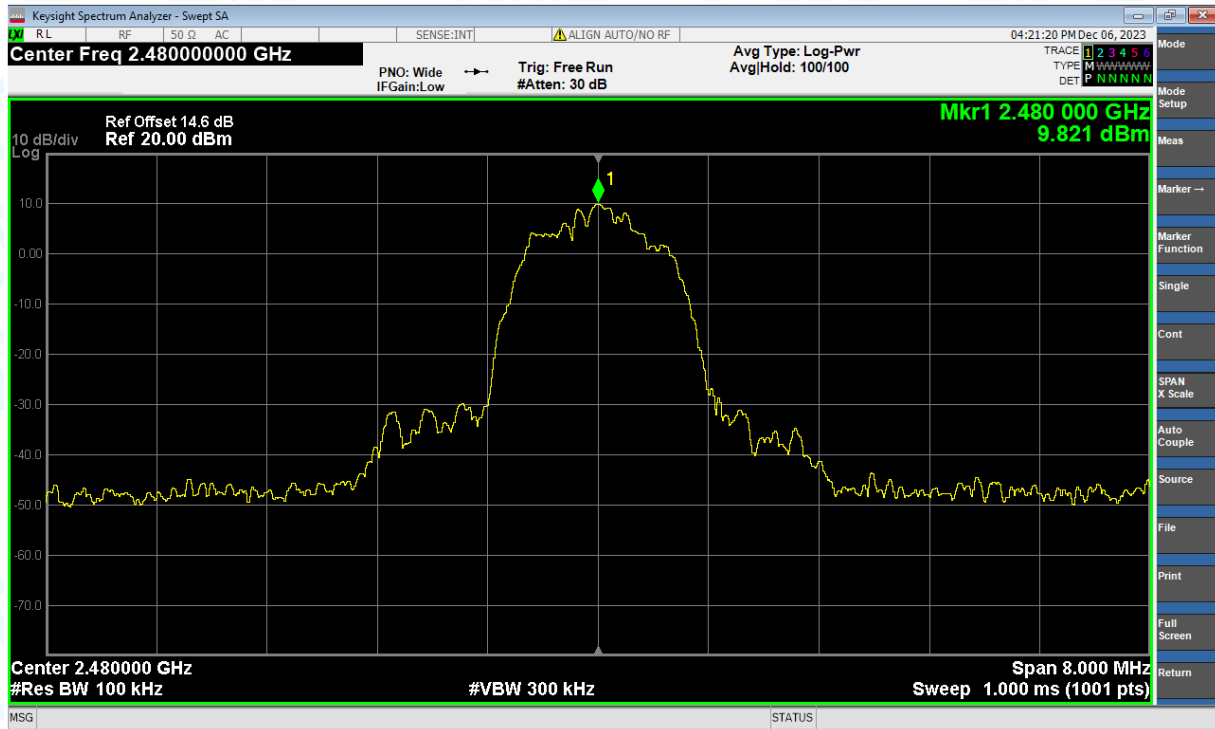
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



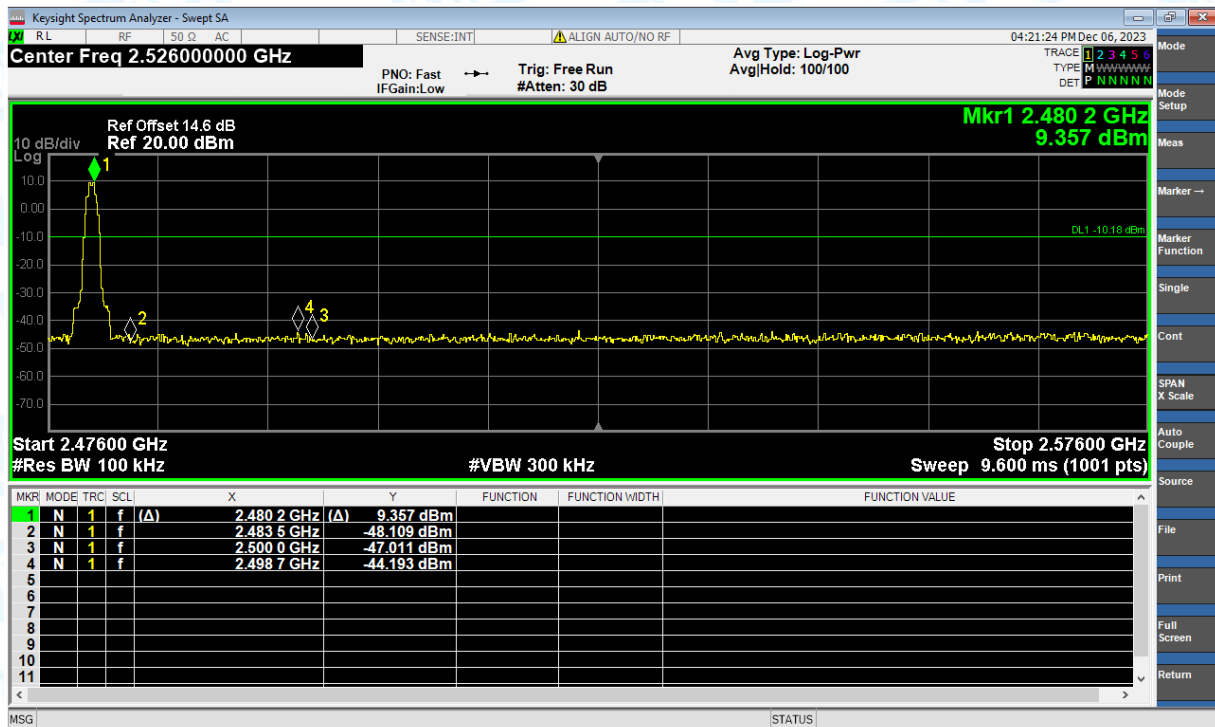
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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



6. Band Edge(Hopping)

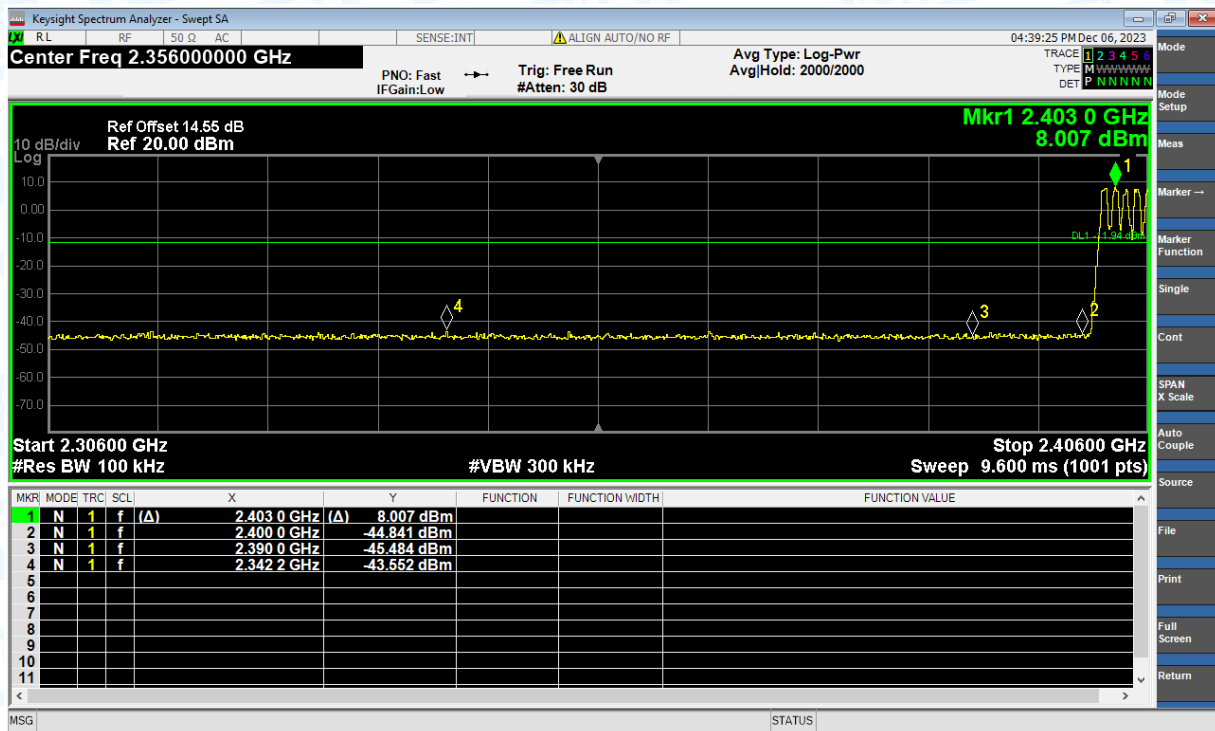
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-51.61	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-51.80	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-52.44	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-53.20	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-52.34	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-52.14	-20	Pass

Test Graphs

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



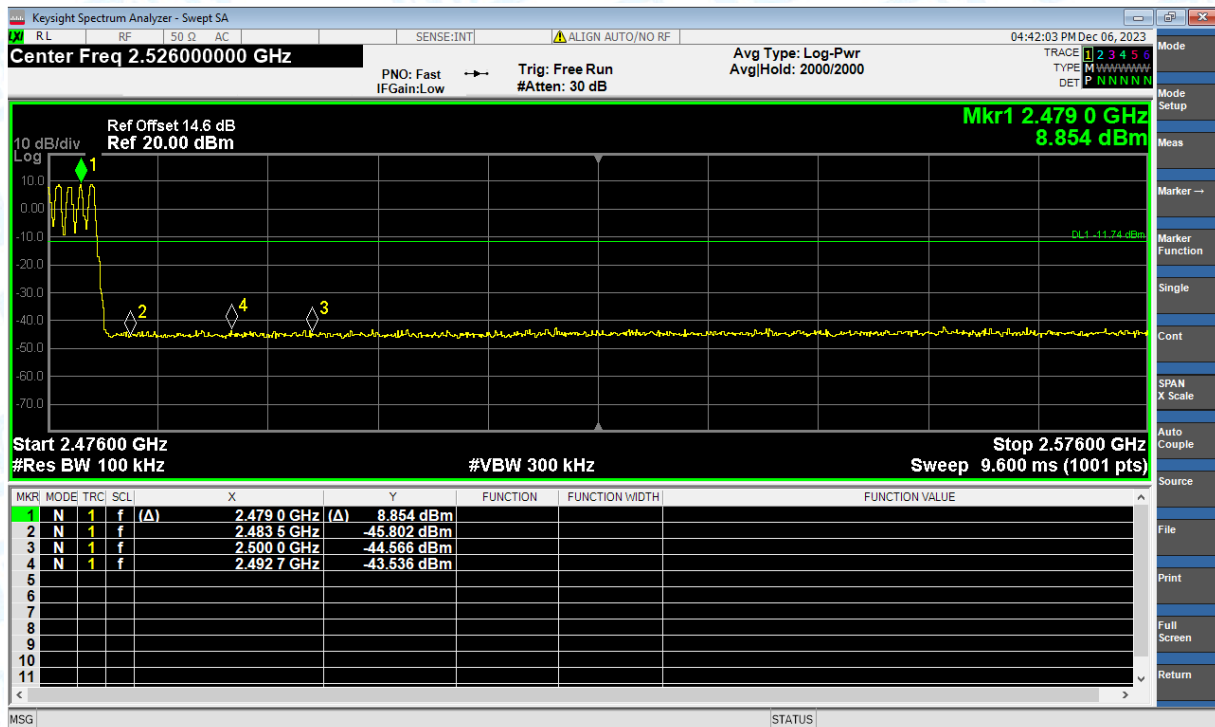
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



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



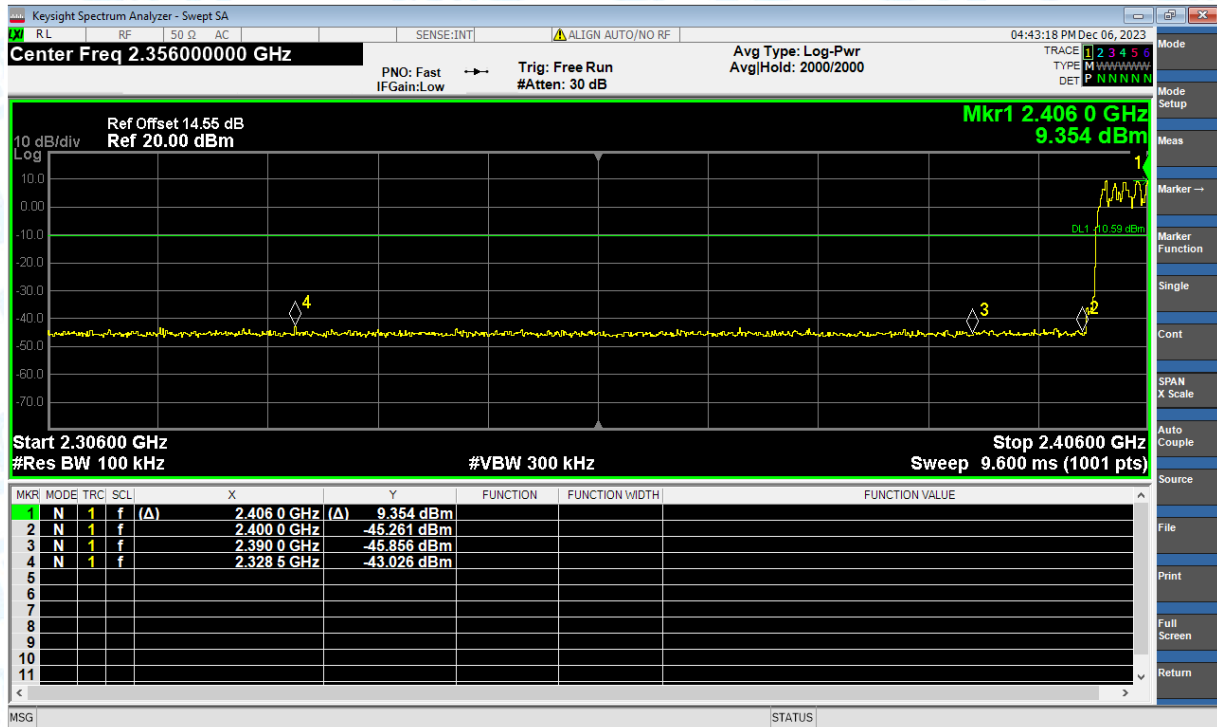
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



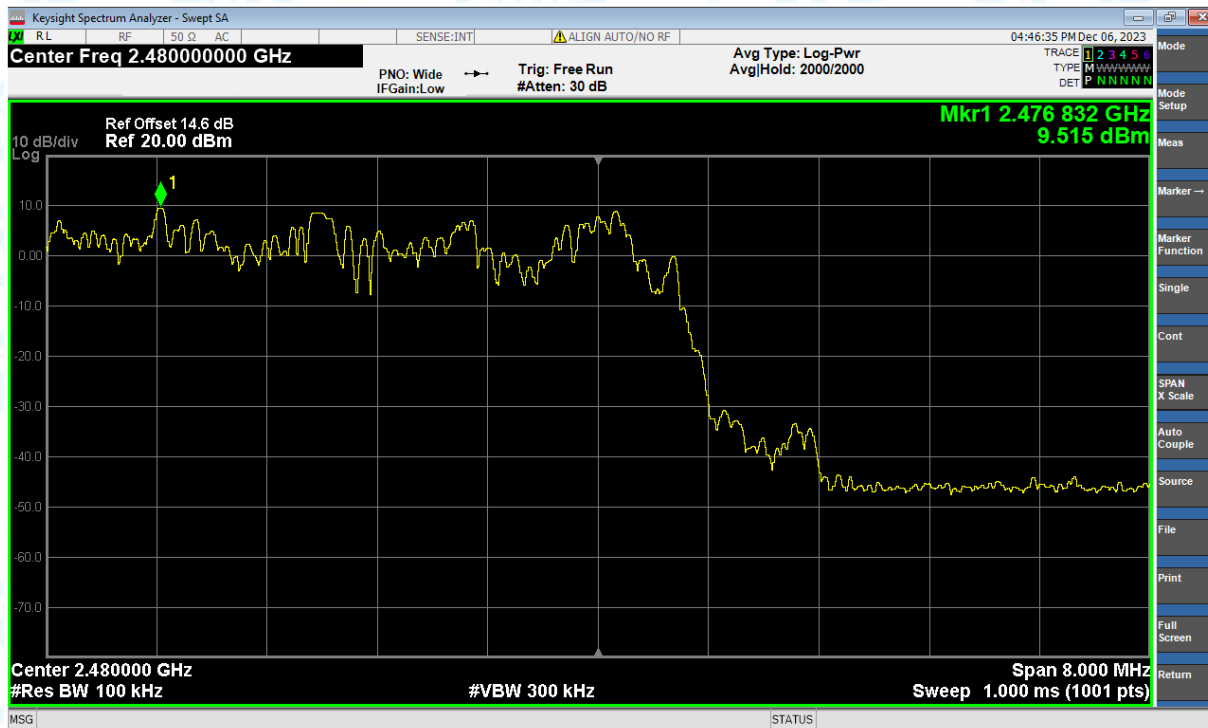
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



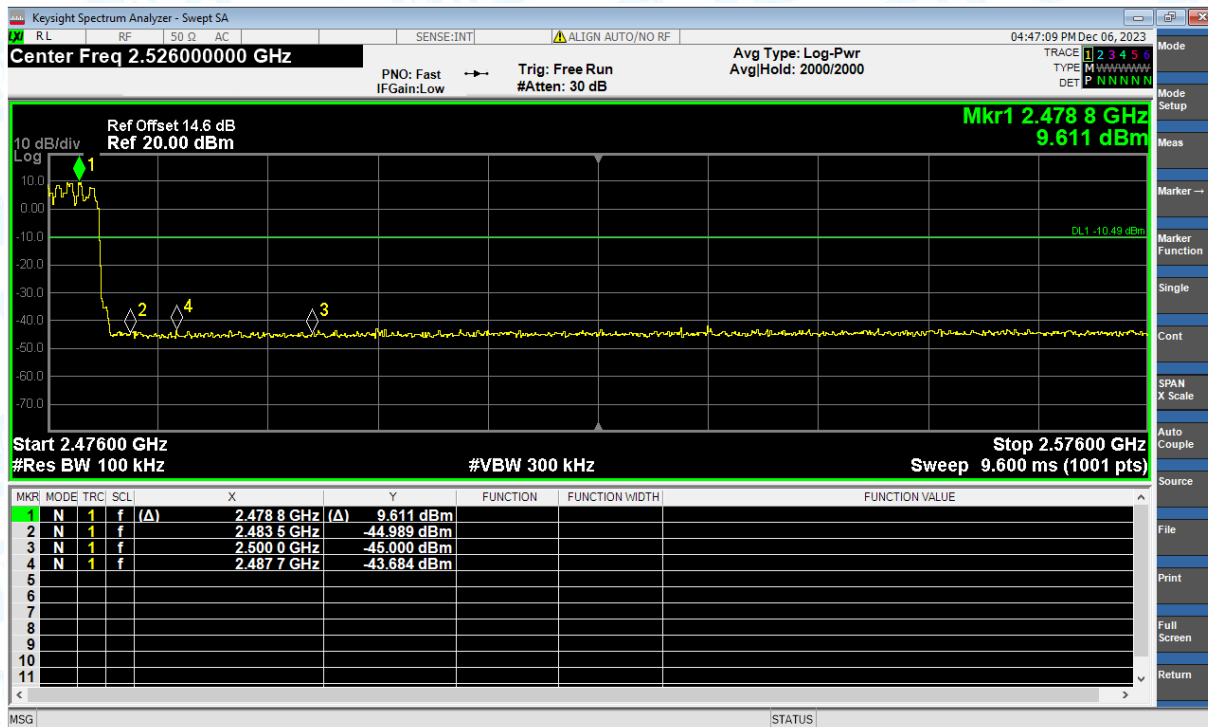
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



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



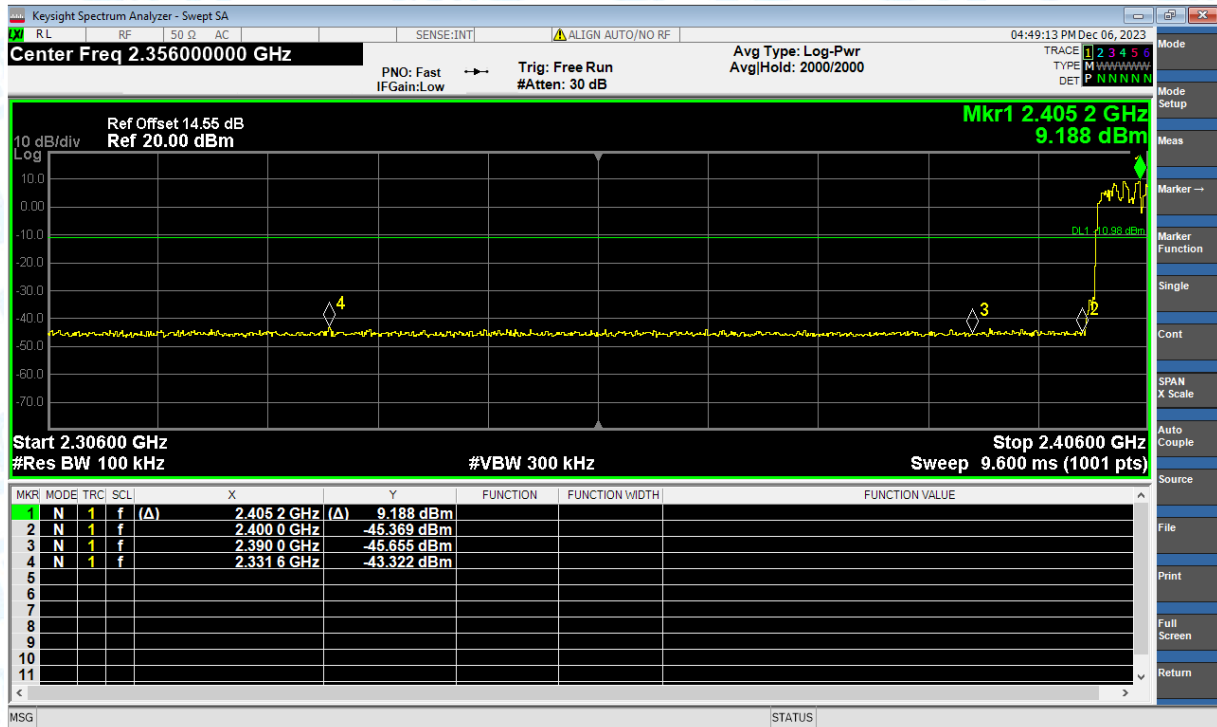
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



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



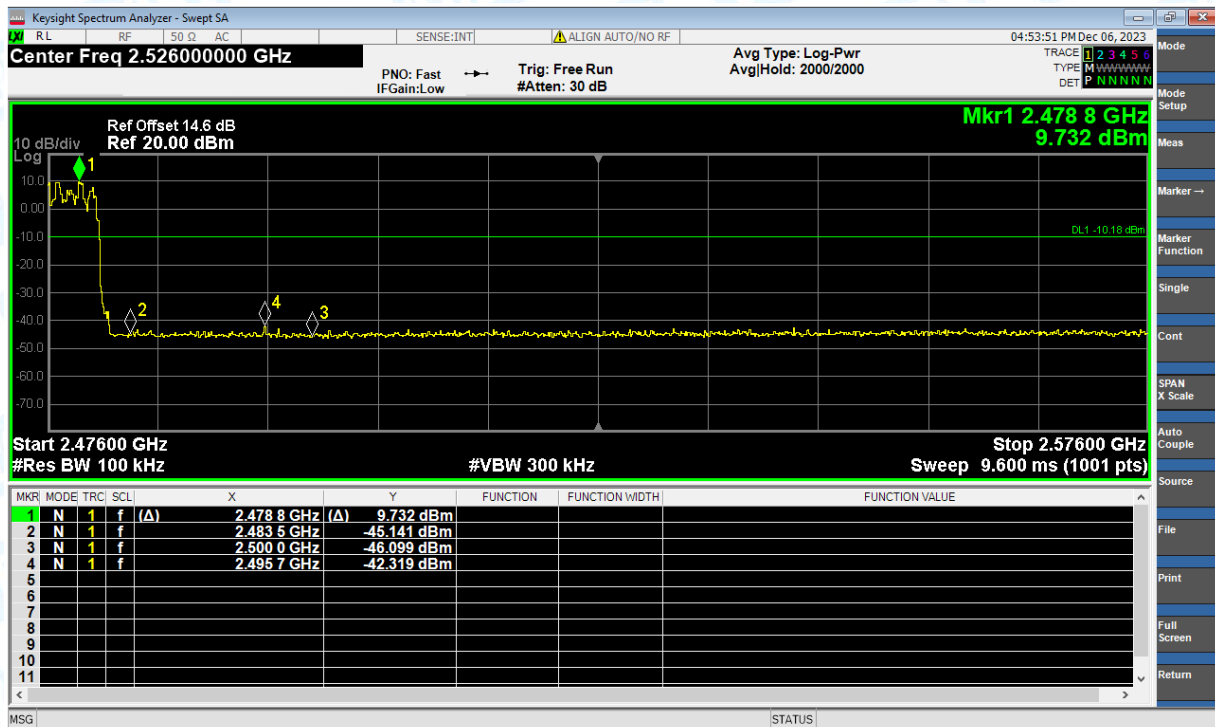
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

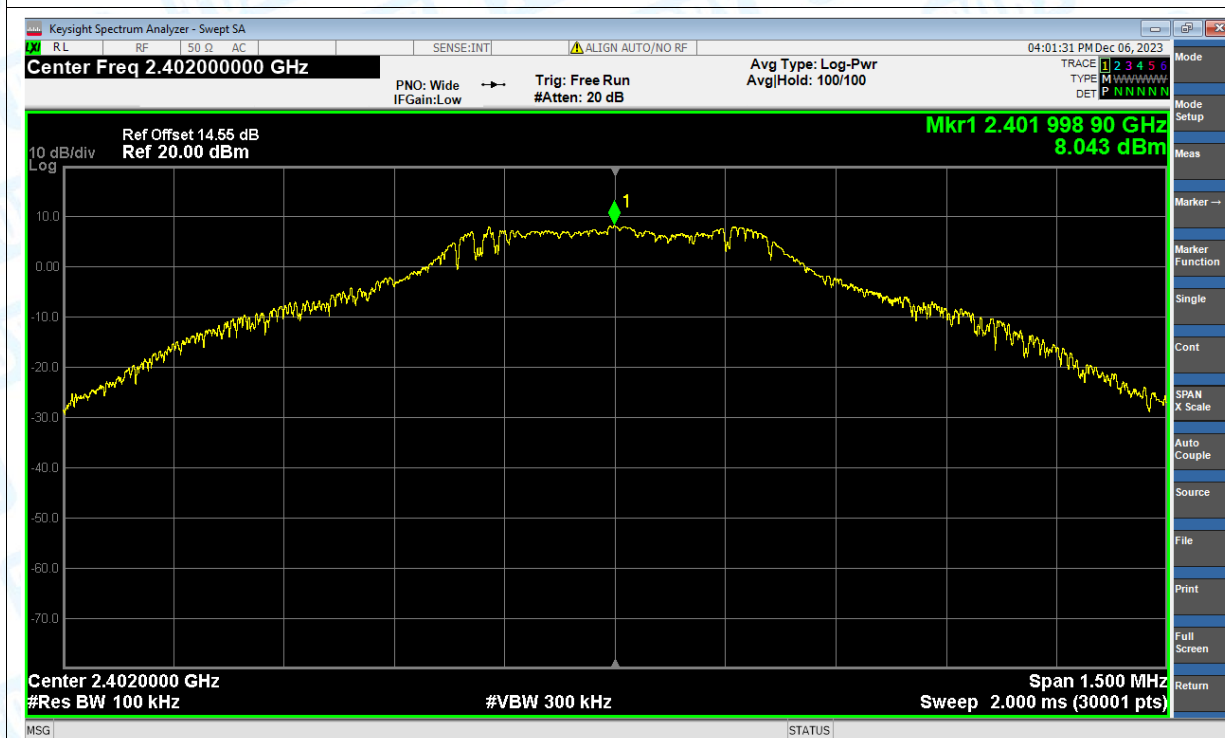


7. Conducted RF Spurious Emission

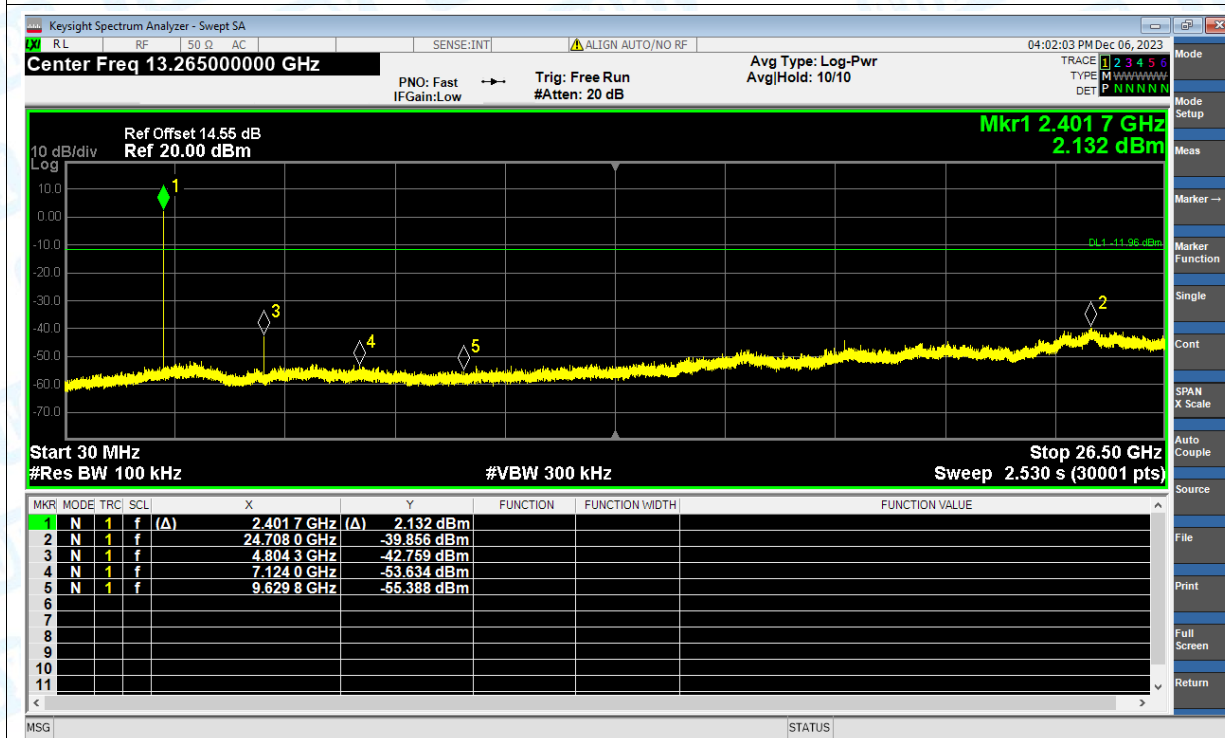
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-47.90	-20	Pass
NVNT	1-DH1	2441	Ant1	-48.06	-20	Pass
NVNT	1-DH1	2480	Ant1	-47.64	-20	Pass
NVNT	2-DH1	2402	Ant1	-48.09	-20	Pass
NVNT	2-DH1	2441	Ant1	-49.02	-20	Pass
NVNT	2-DH1	2480	Ant1	-46.50	-20	Pass
NVNT	3-DH1	2402	Ant1	-48.50	-20	Pass
NVNT	3-DH1	2441	Ant1	-49.41	-20	Pass
NVNT	3-DH1	2480	Ant1	-49.60	-20	Pass

Test Graphs

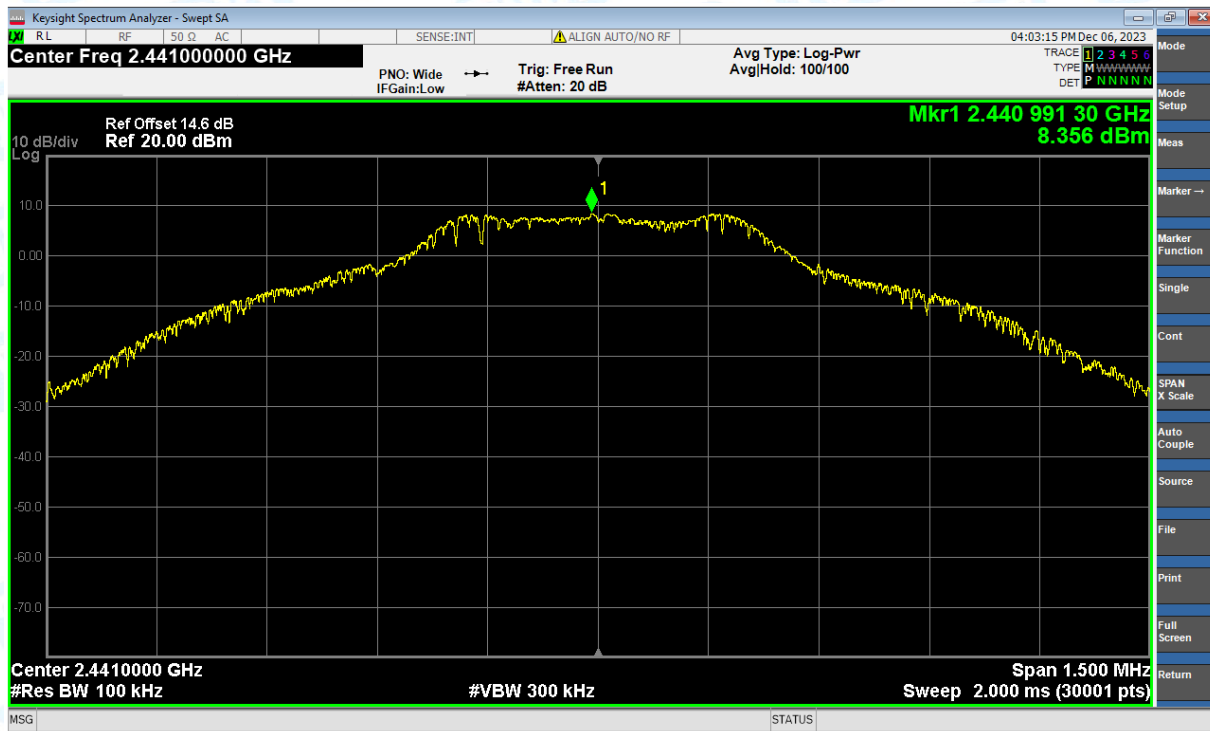
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



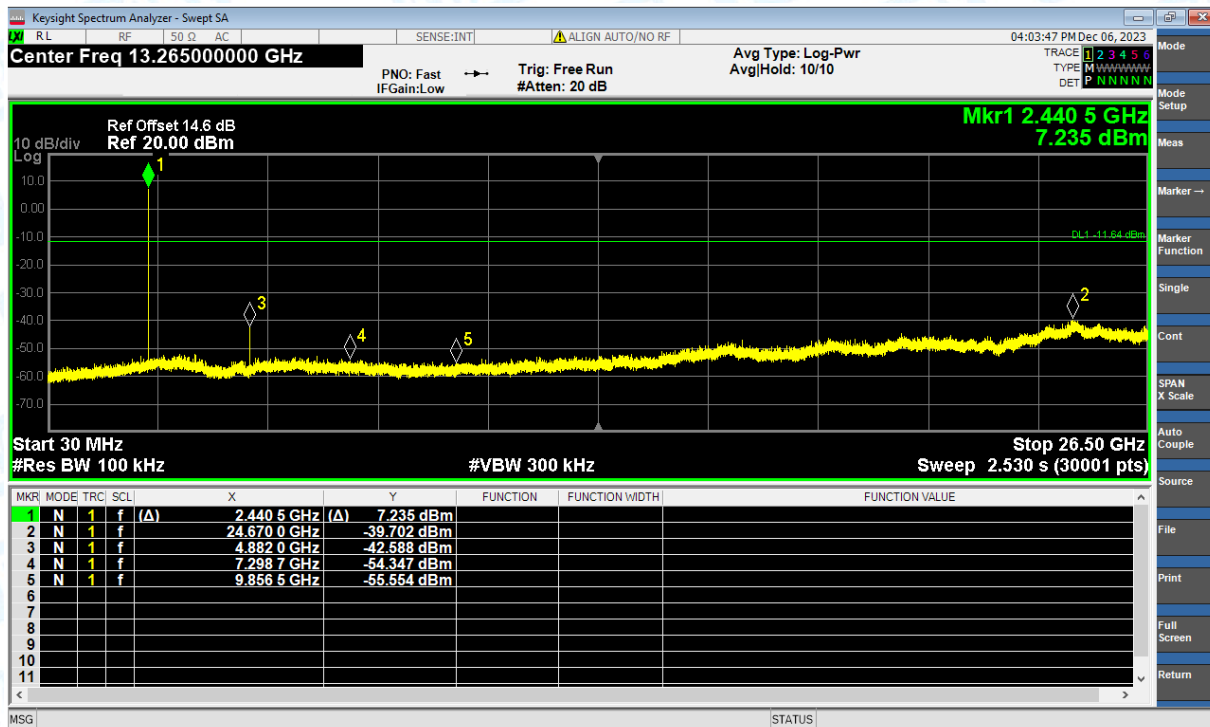
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



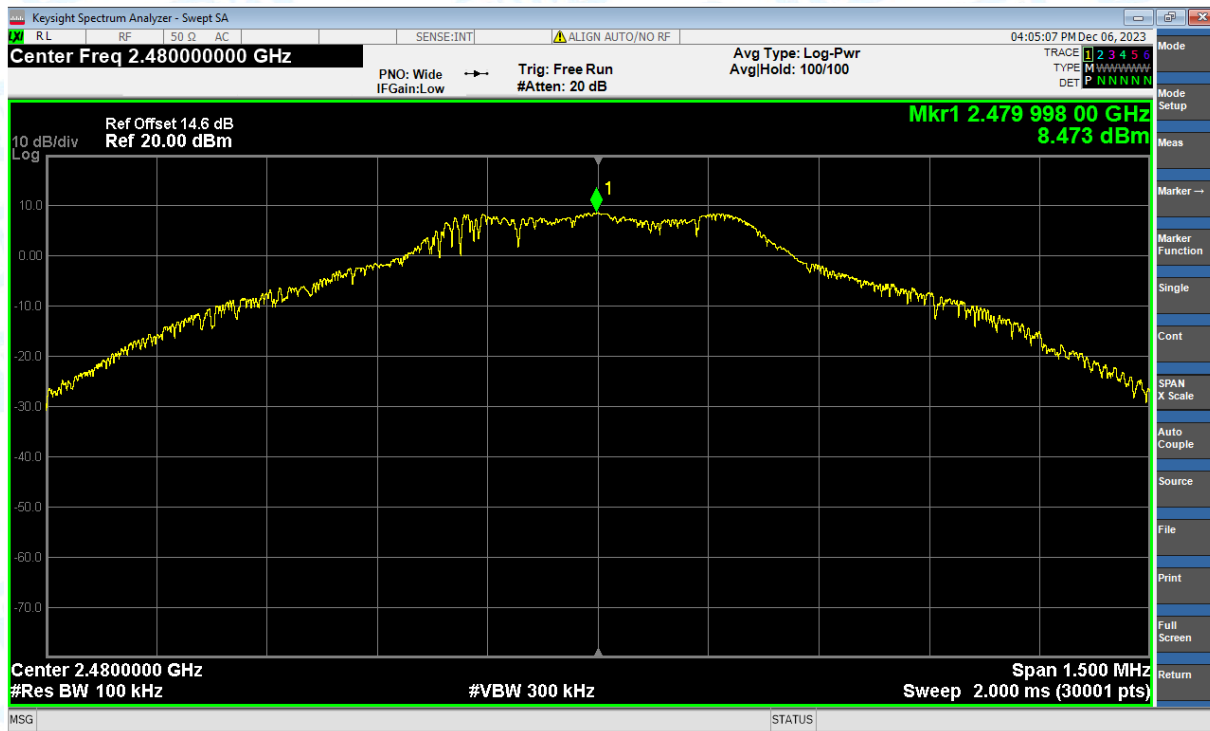
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



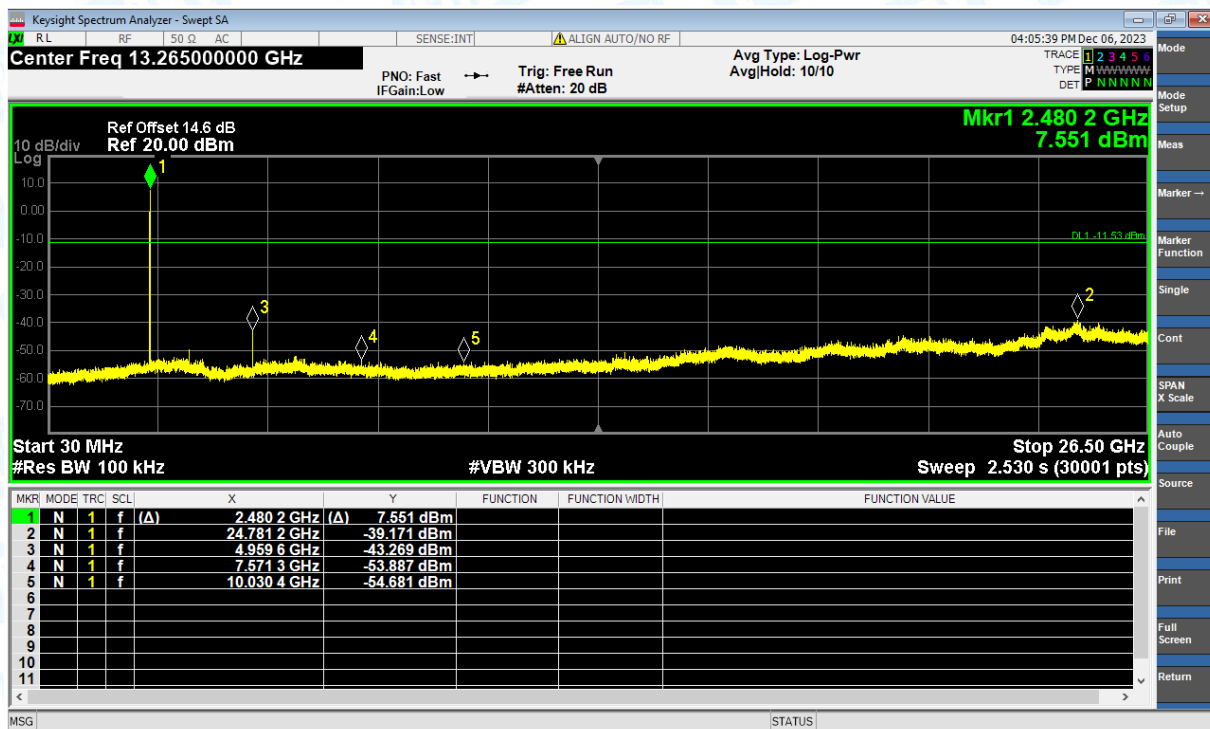
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



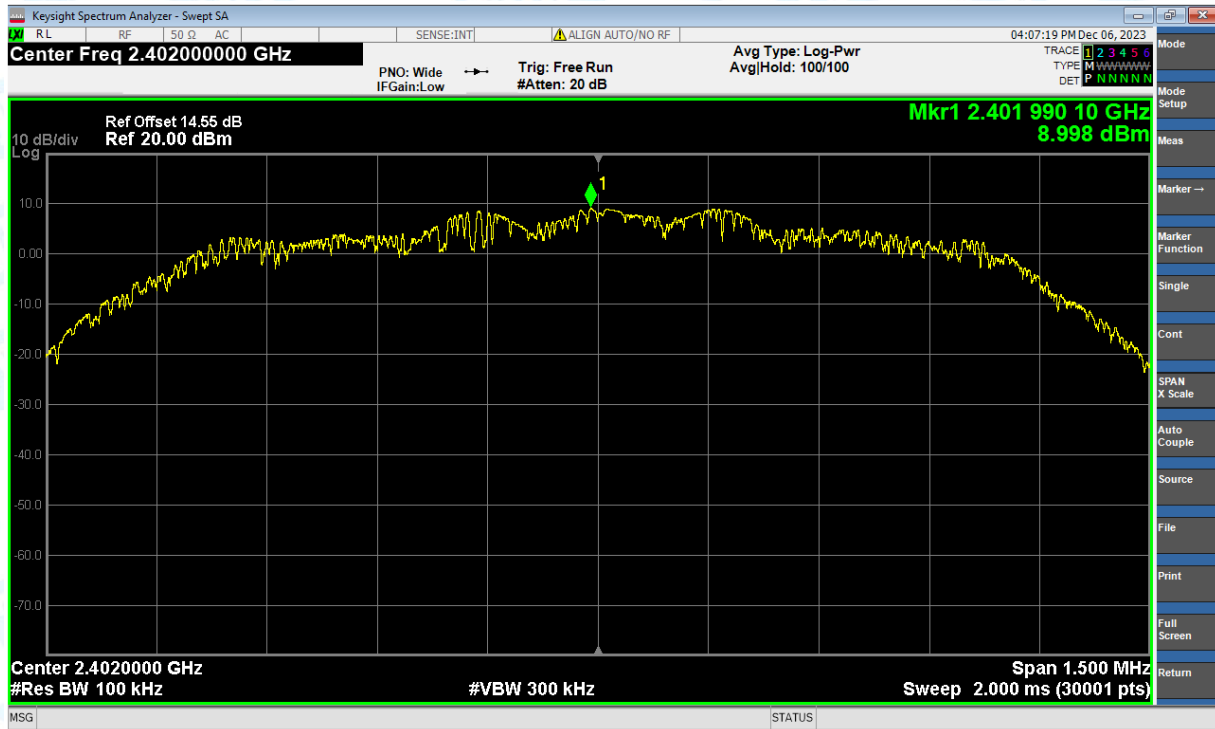
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



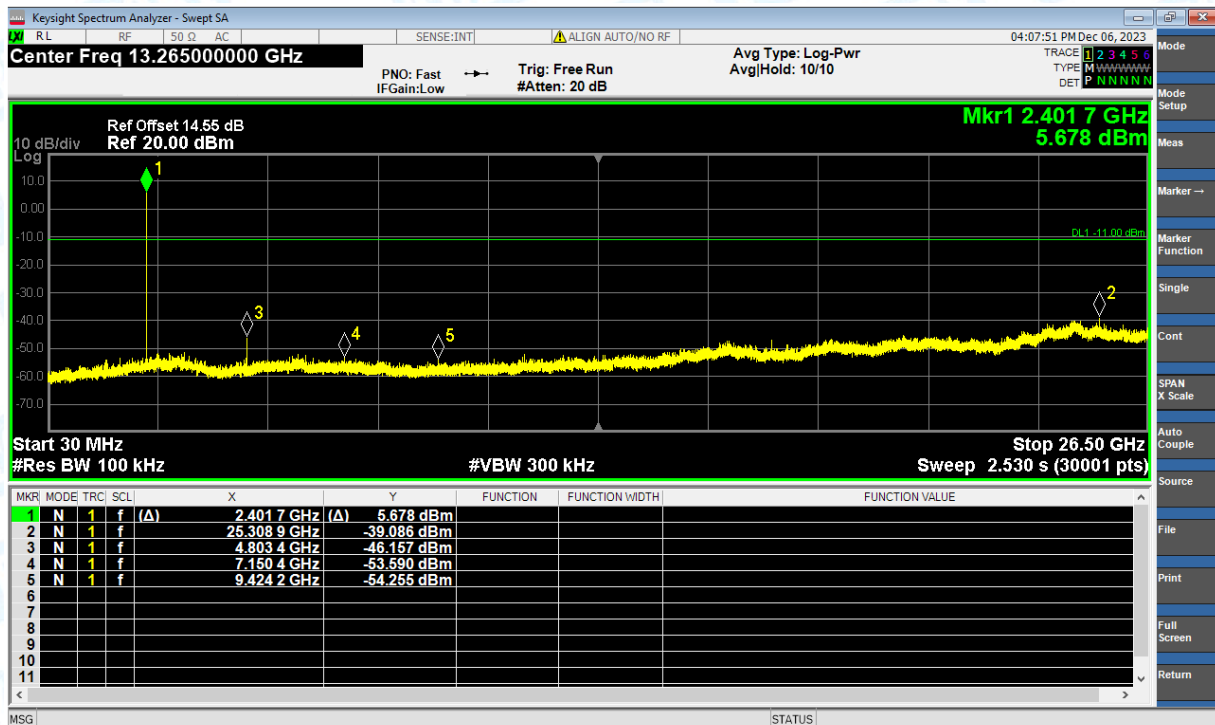
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



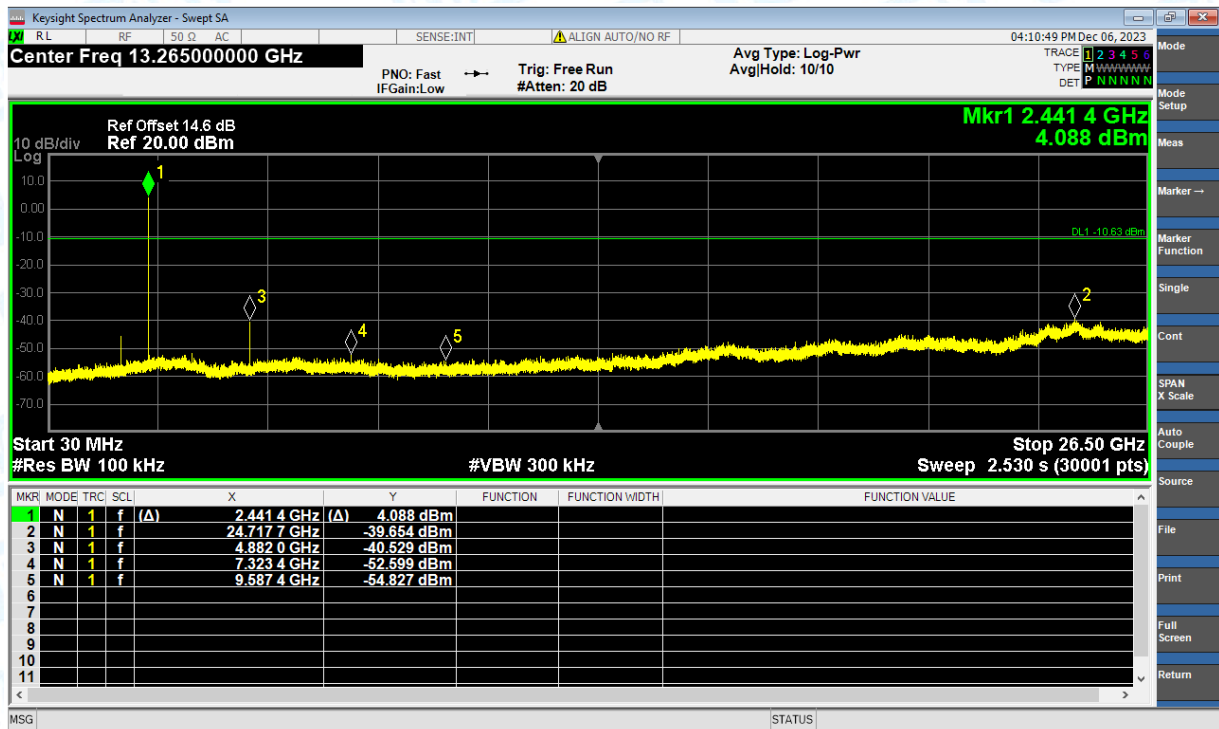
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



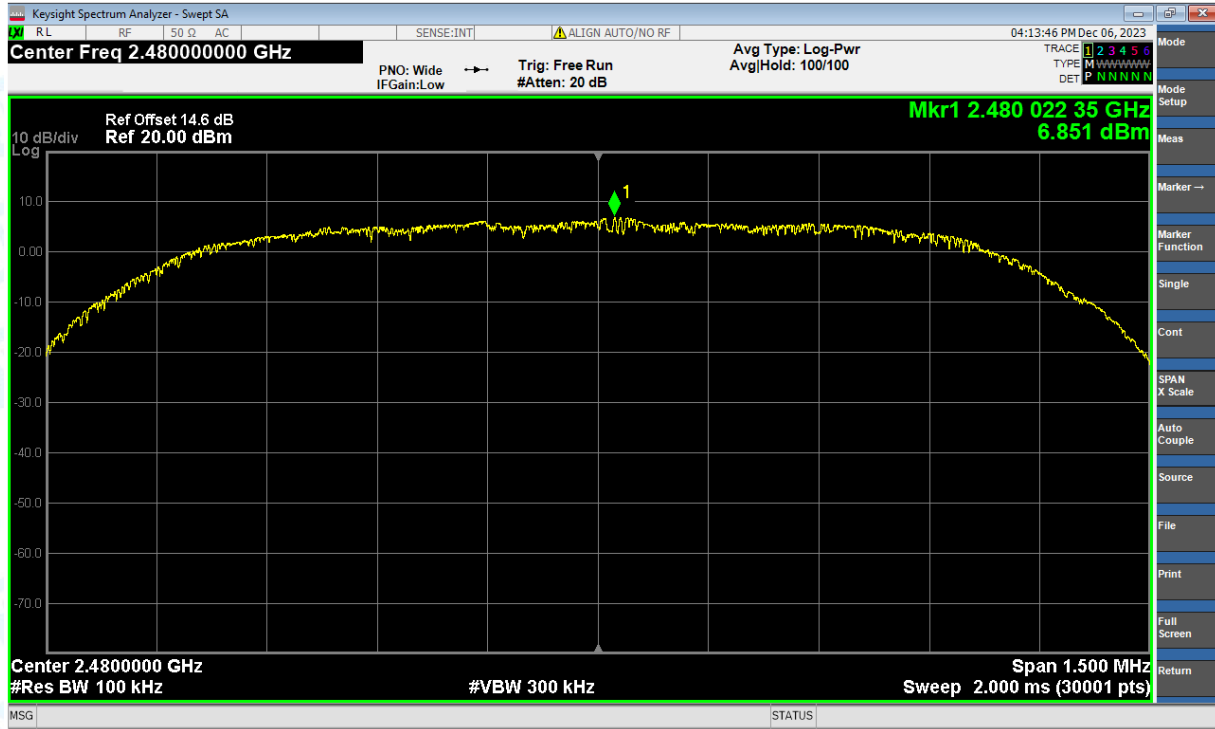
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



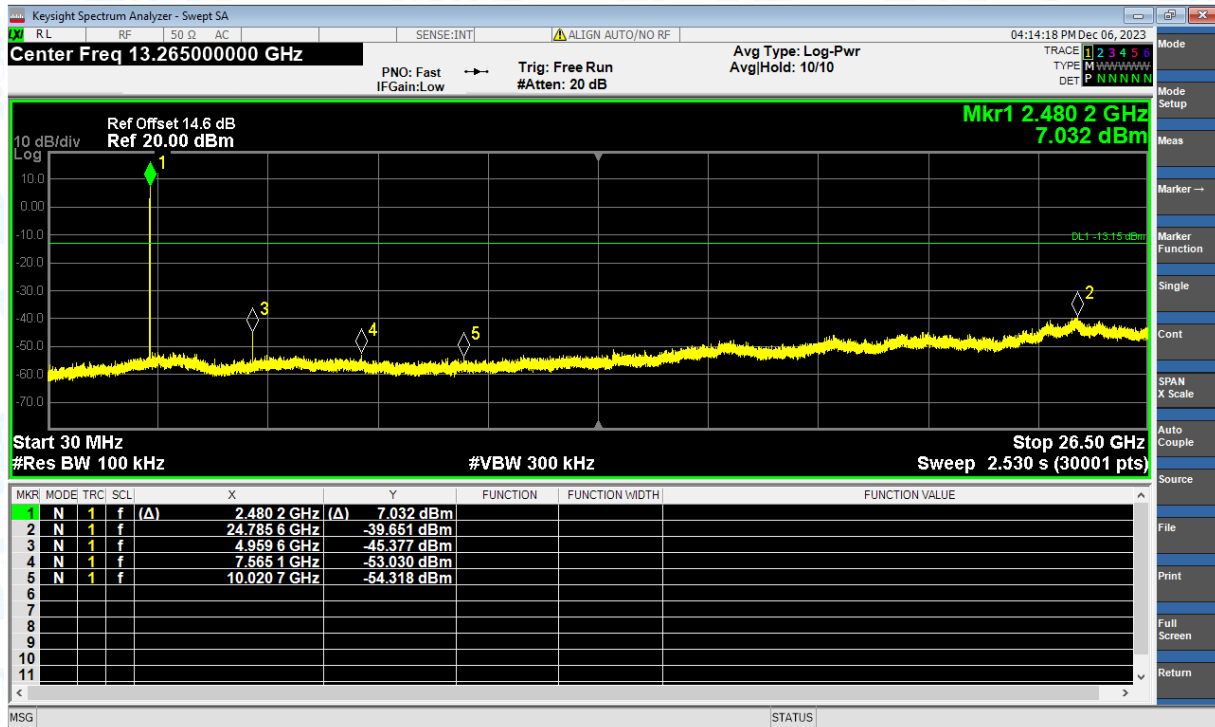
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



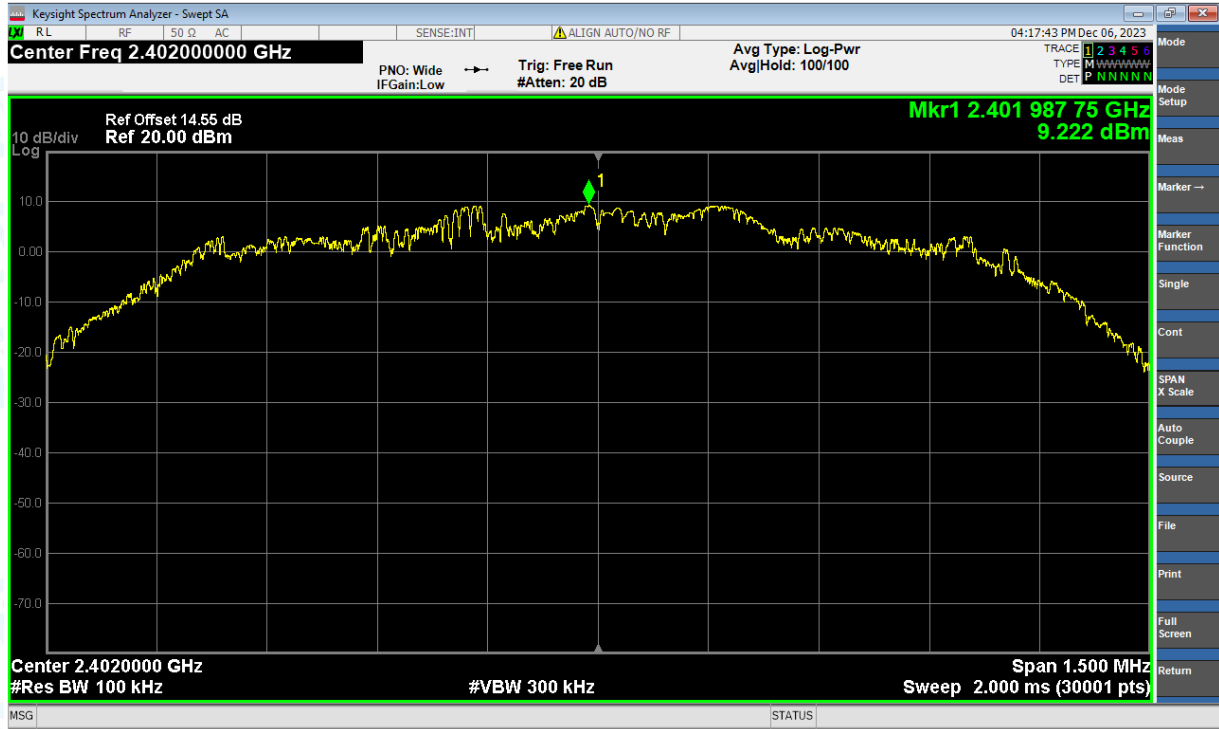
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



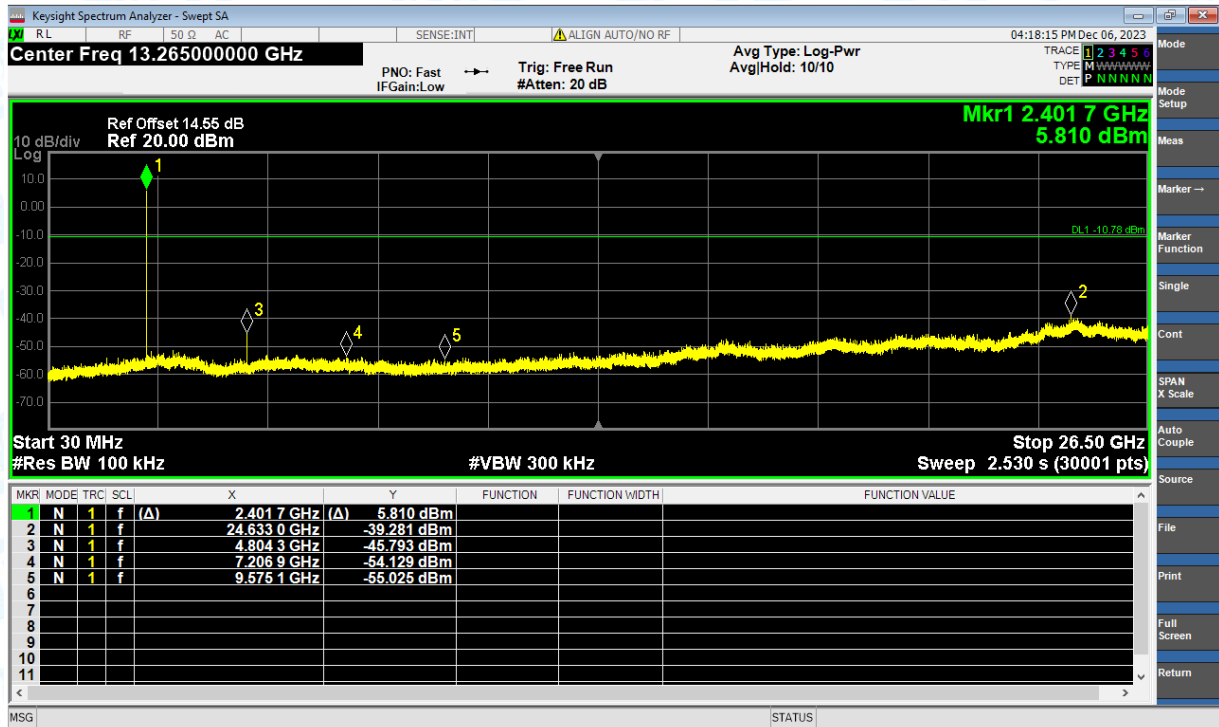
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



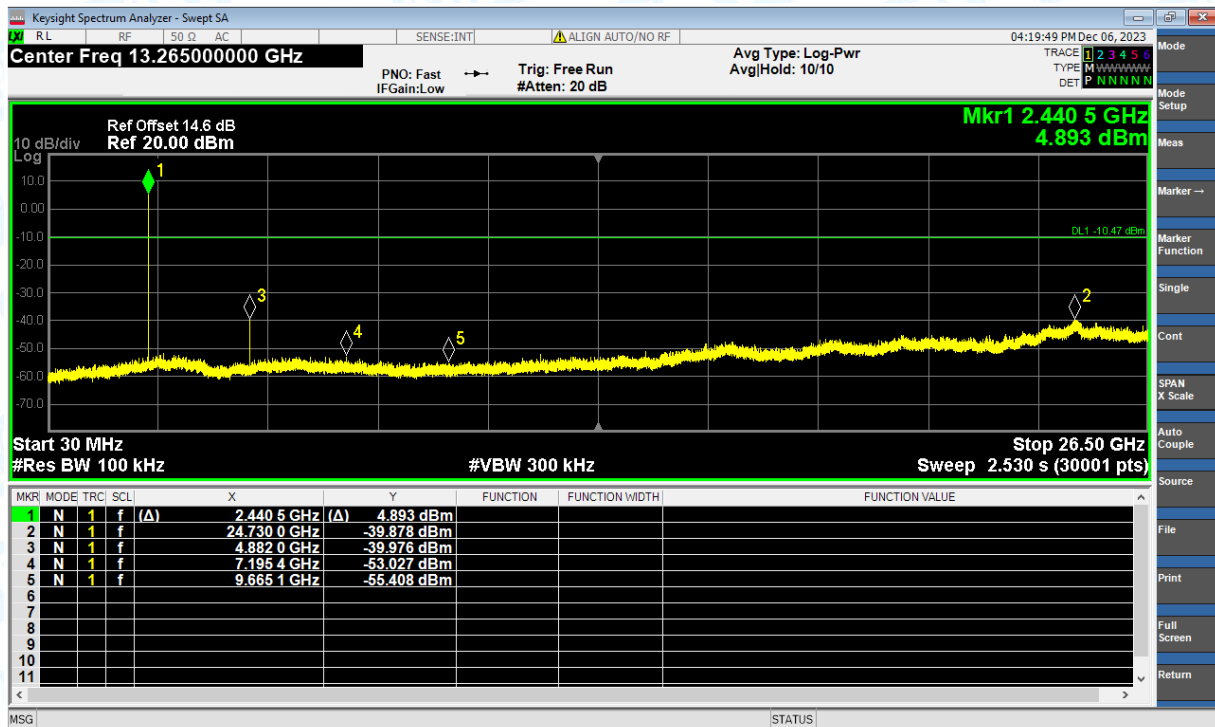
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



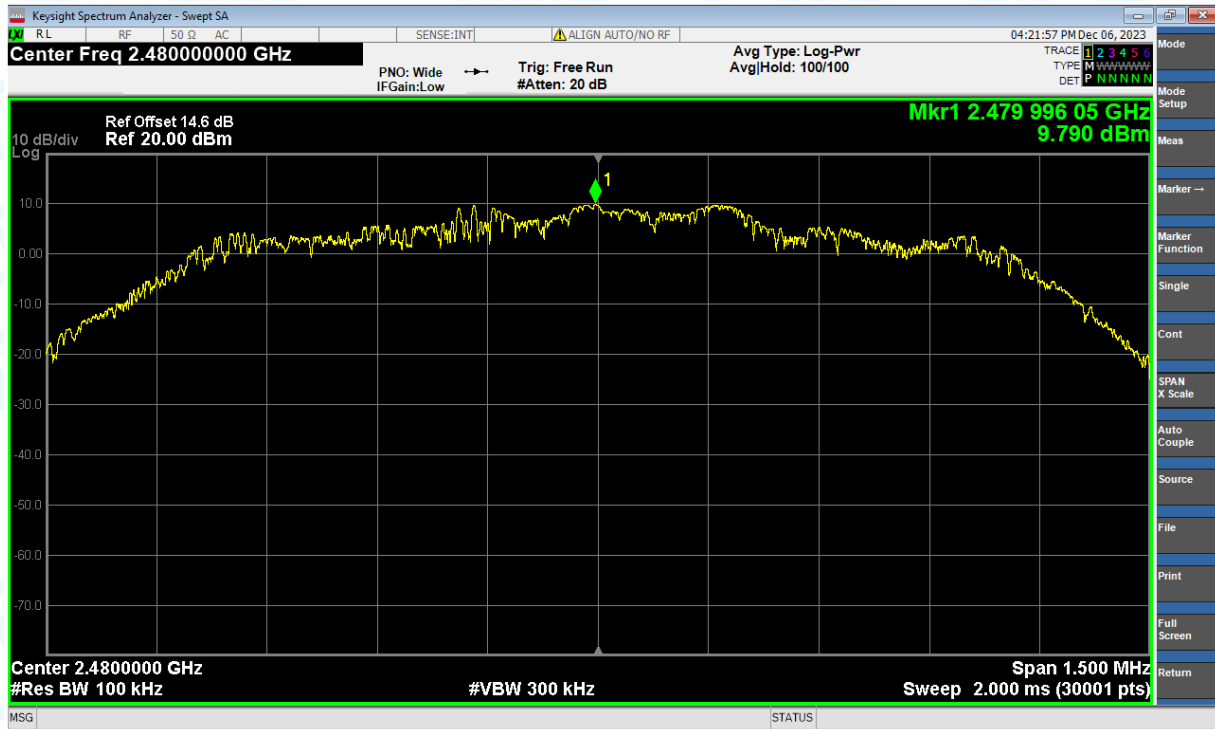
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



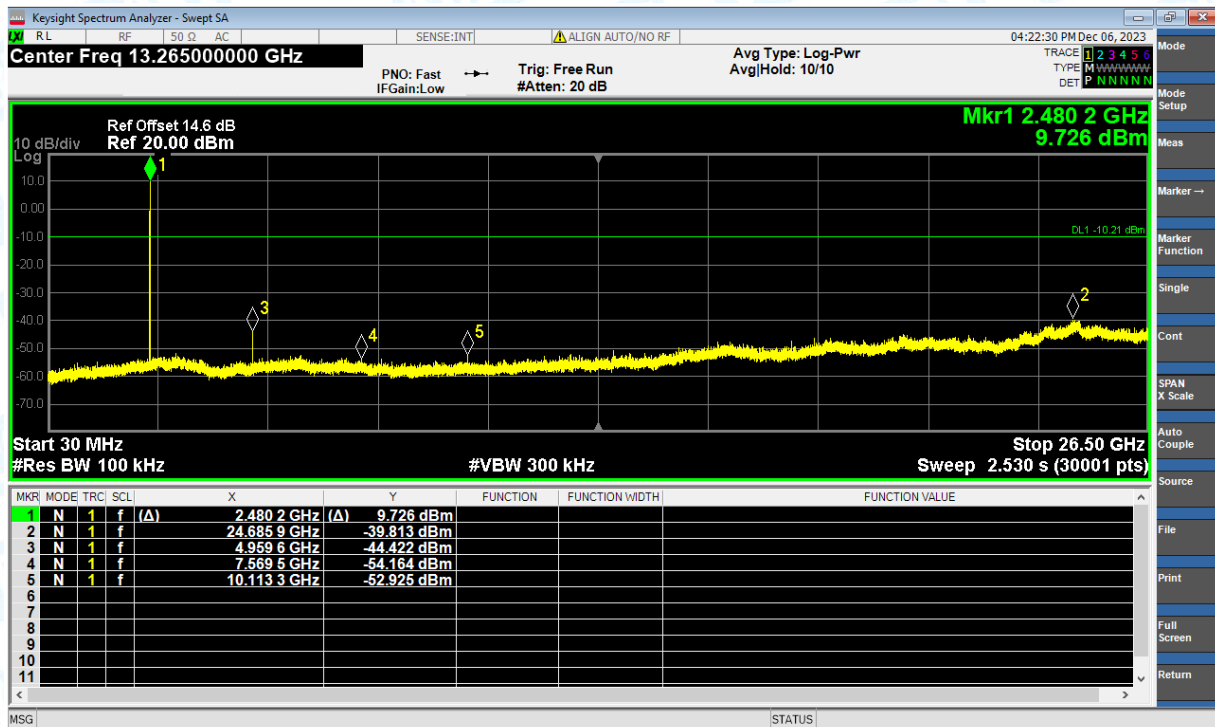
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

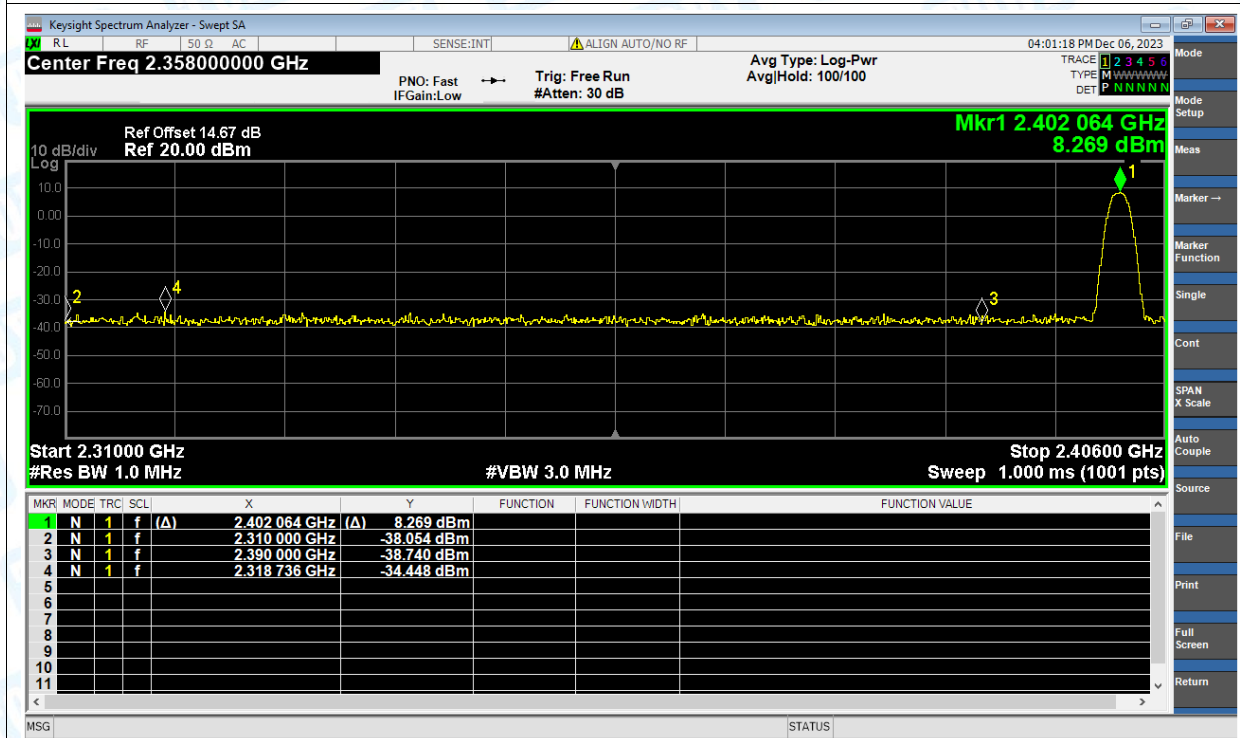


8. Restrict Band

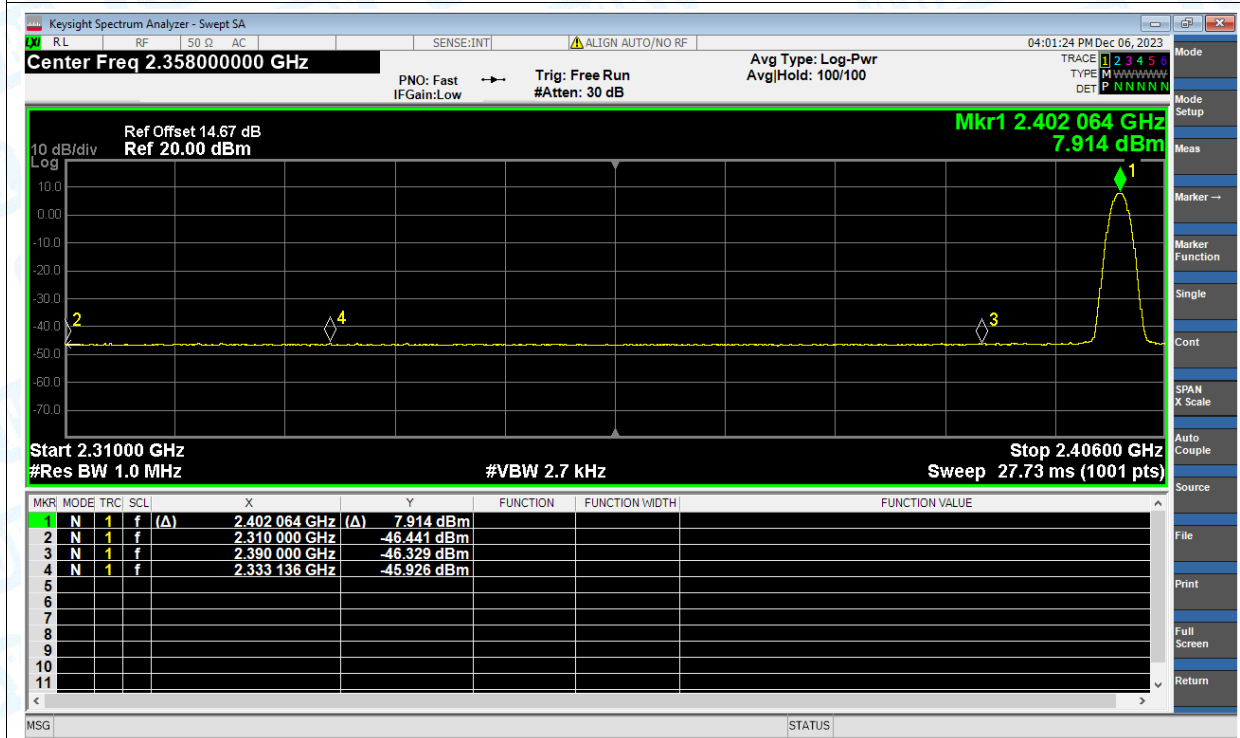
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-38.05	2	59.21	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-46.44	2	50.82	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2318.736	-34.45	2	62.81	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2333.136	-45.93	2	51.33	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-35.77	2	61.49	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-46.39	2	50.87	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-36.21	2	61.05	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-46.17	2	51.09	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2496.832	-34.49	2	62.77	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2484.544	-45.62	2	51.64	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-36.7	2	60.56	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-46.47	2	50.79	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-37.15	2	60.11	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-46.53	2	50.73	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2343.504	-34.64	2	62.62	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2345.328	-45.88	2	51.38	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-38.58	2	58.68	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-46.33	2	50.93	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-36.14	2	61.12	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-45.66	2	51.6	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2498.56	-34.07	2	63.19	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.68	-45.43	2	51.83	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-36.58	2	60.68	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-46.29	2	50.97	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-37.09	2	60.17	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-46.56	2	50.7	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2320.848	-34.62	2	62.64	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2384.016	-45.99	2	51.27	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-38.87	2	58.39	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-46.32	2	50.94	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-37.18	2	60.08	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-46.15	2	51.11	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2494.624	-33.55	2	63.71	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2499.52	-45.65	2	51.61	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-36.51	2	60.75	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-46.48	2	50.78	Average	54	Pass

Test Graphs

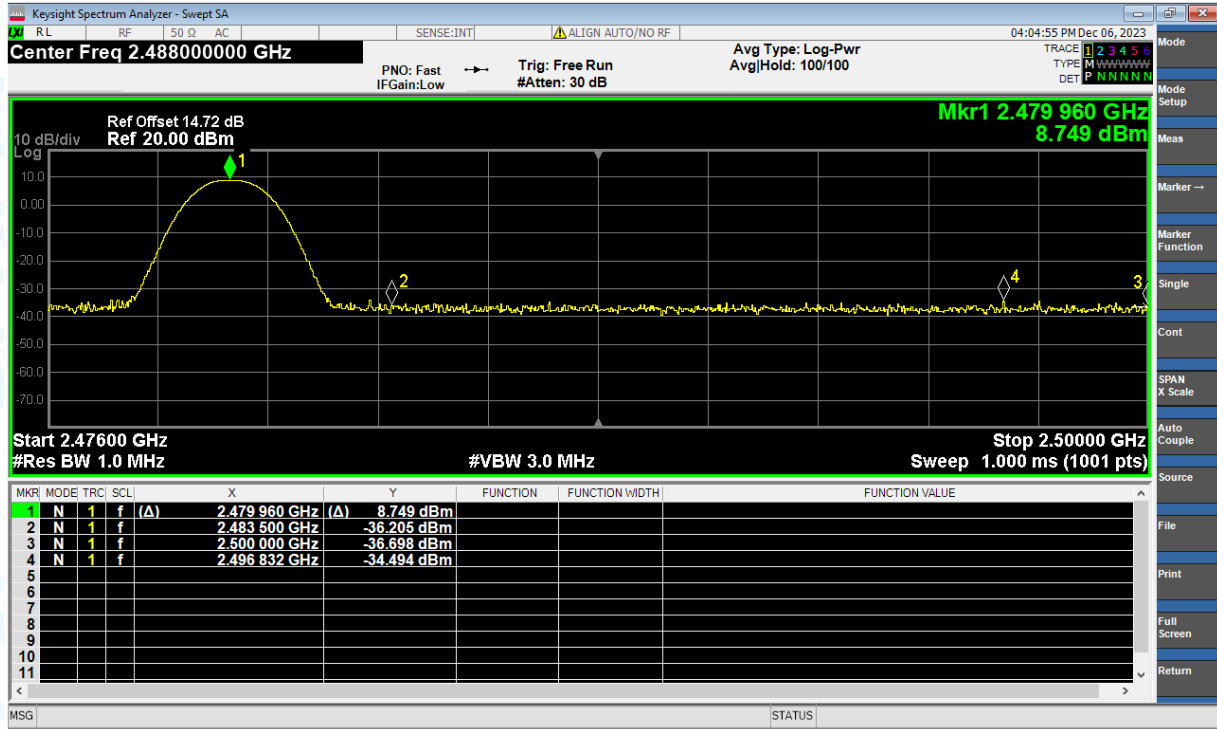
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



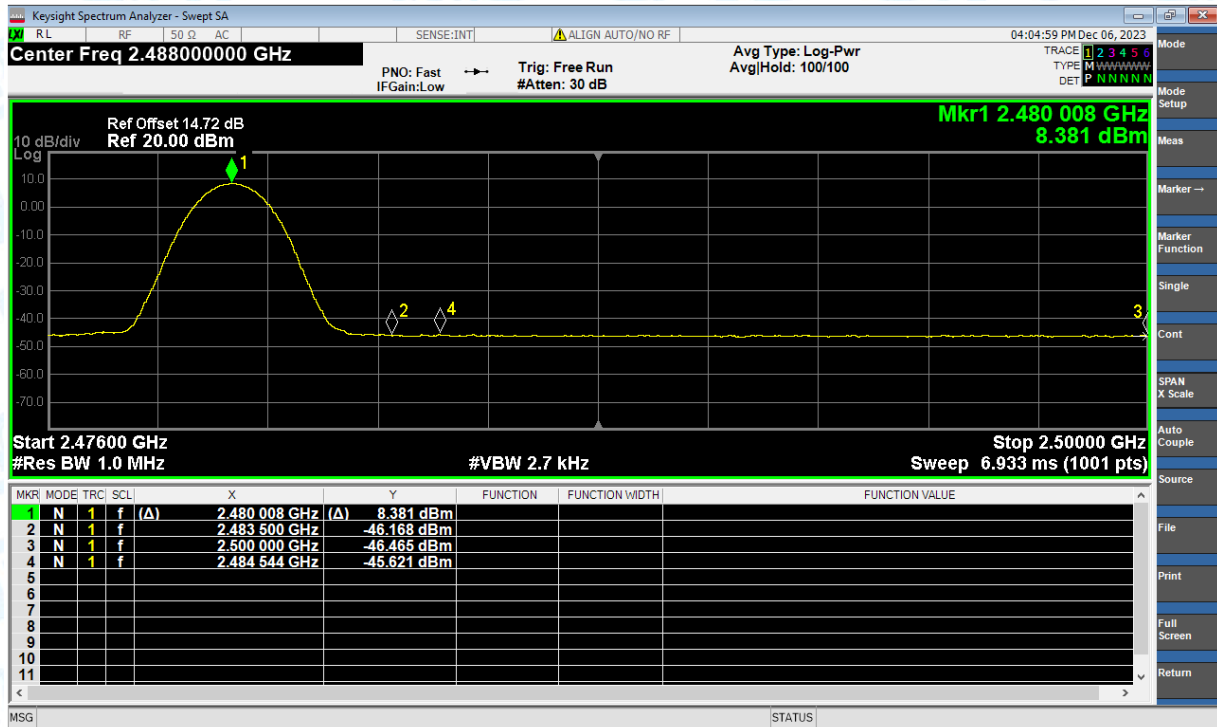
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



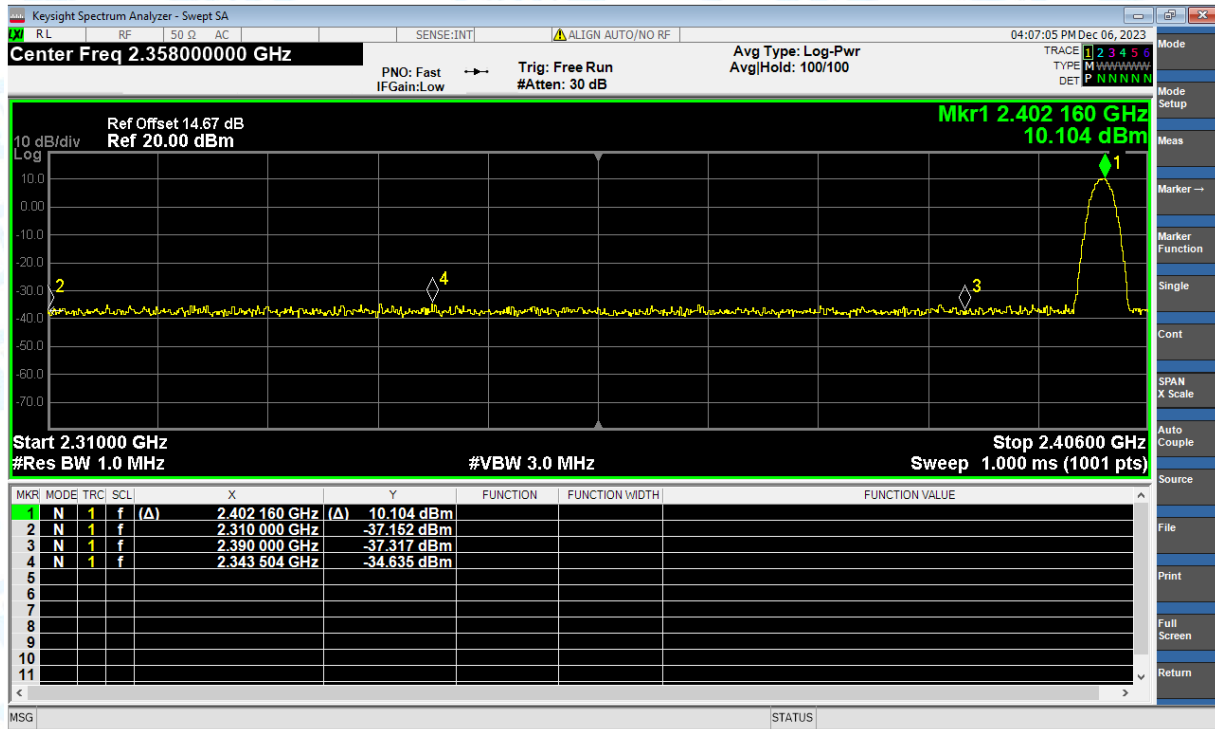
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



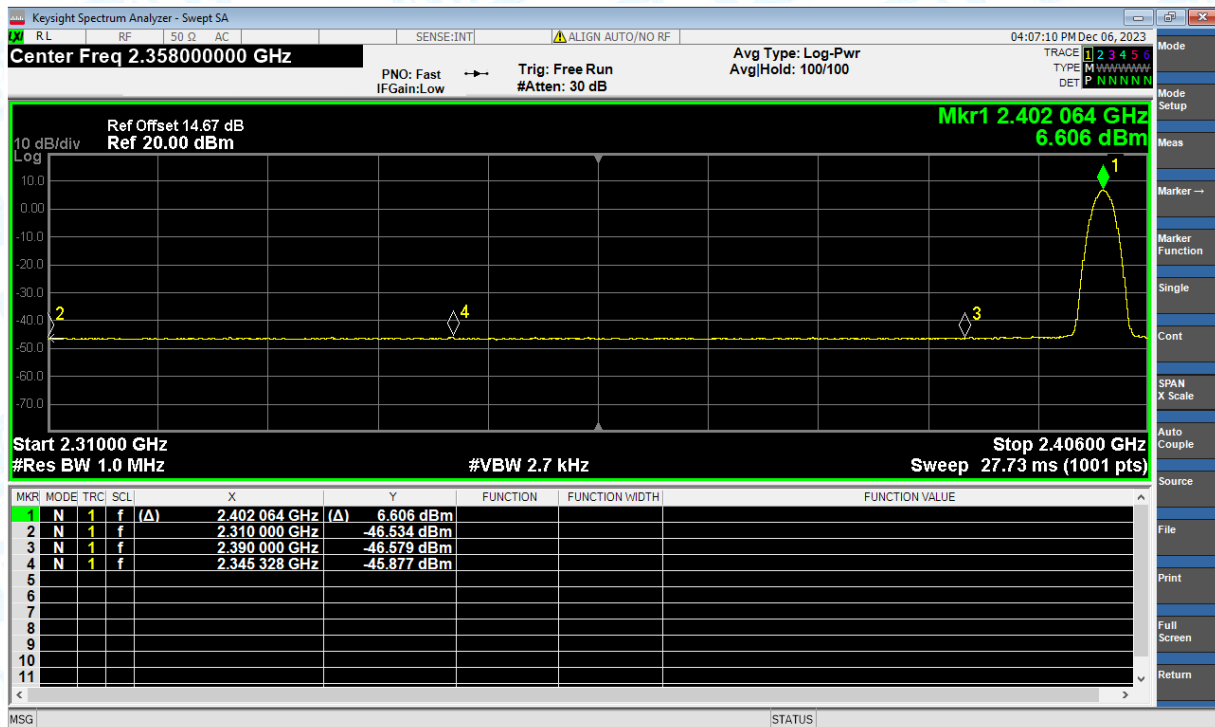
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



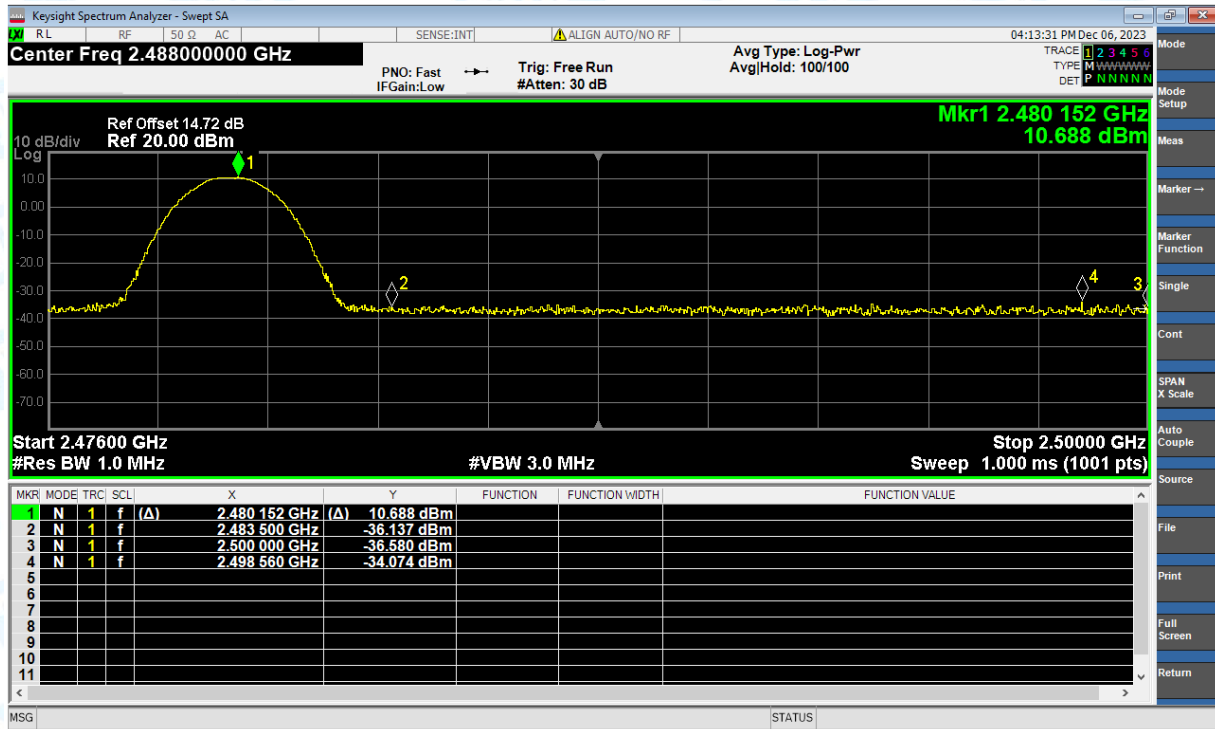
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



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



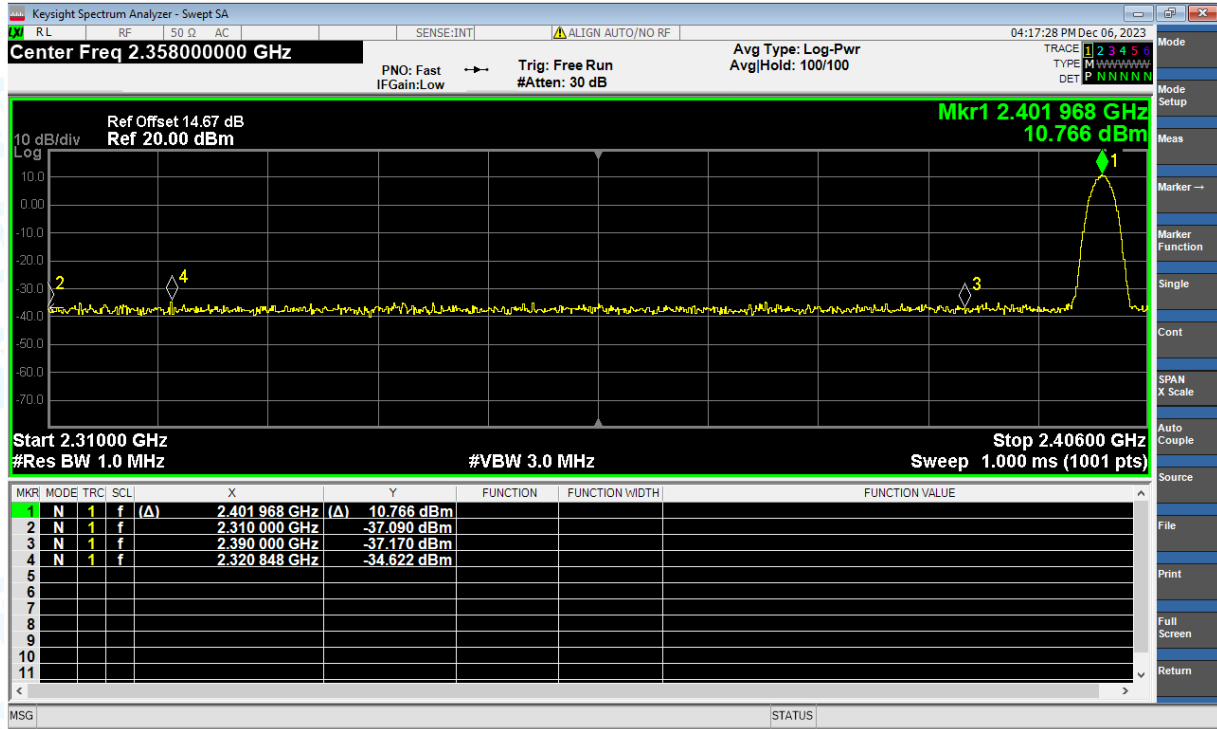
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



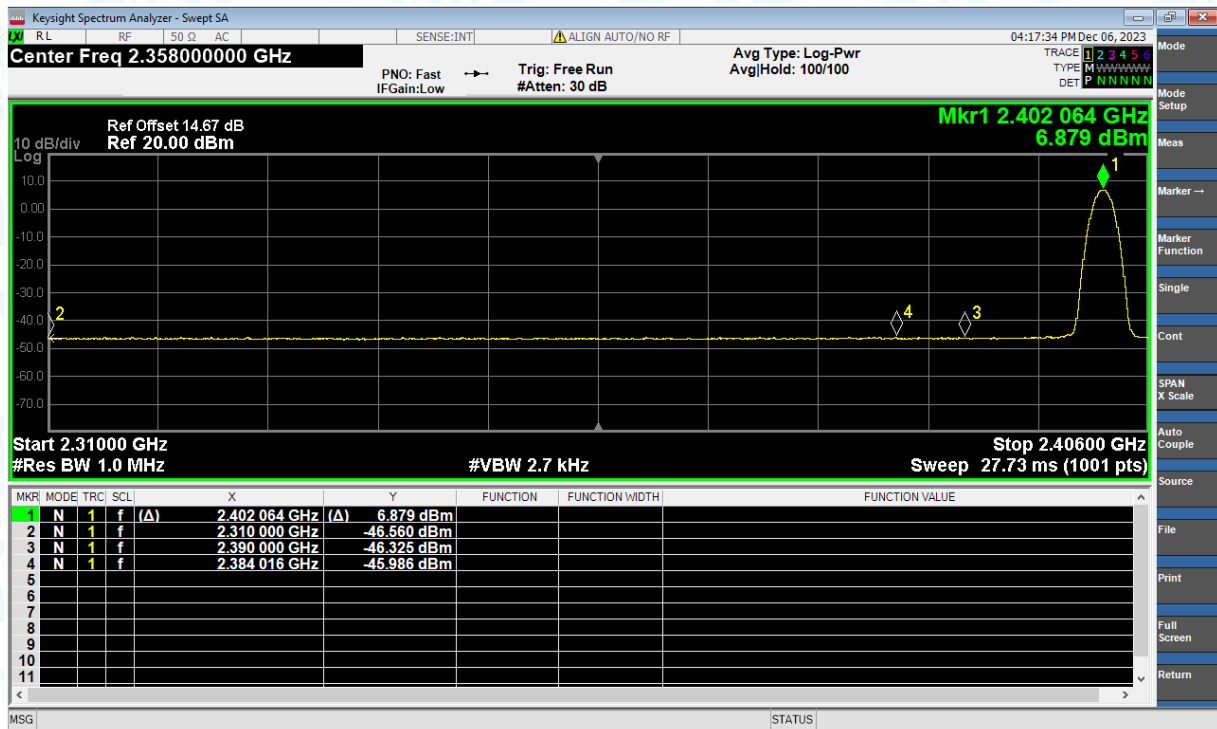
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



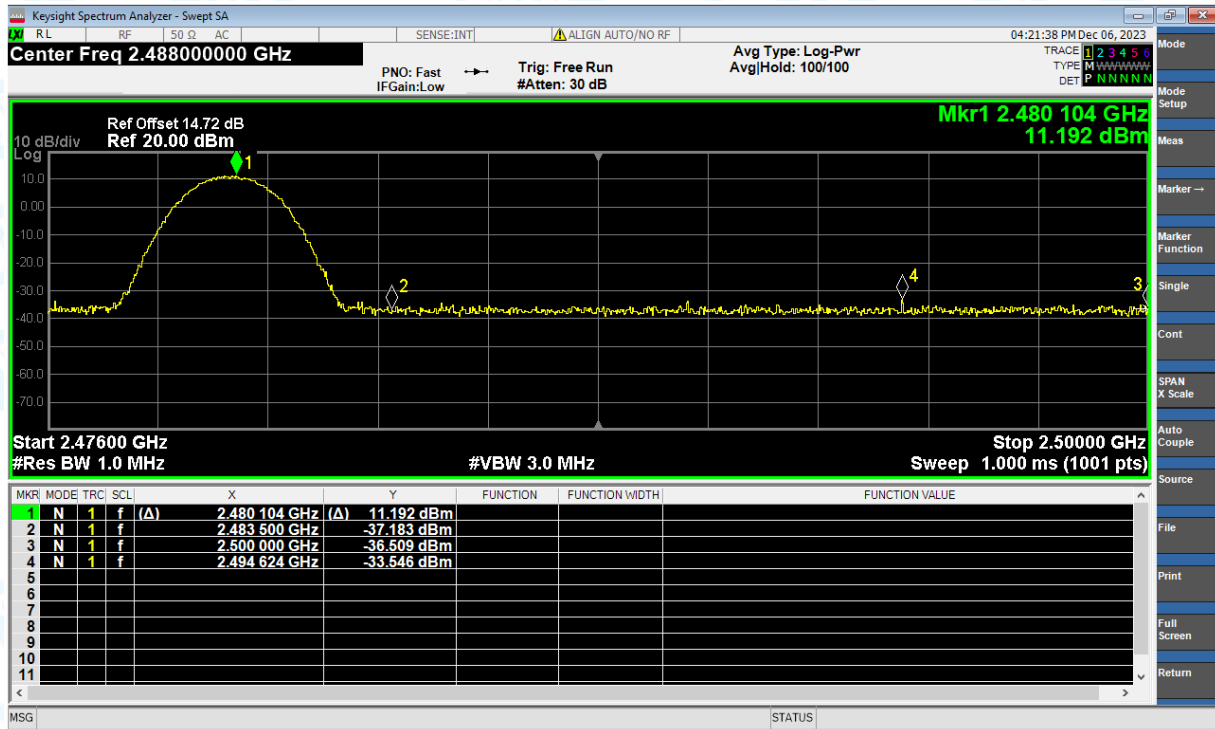
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



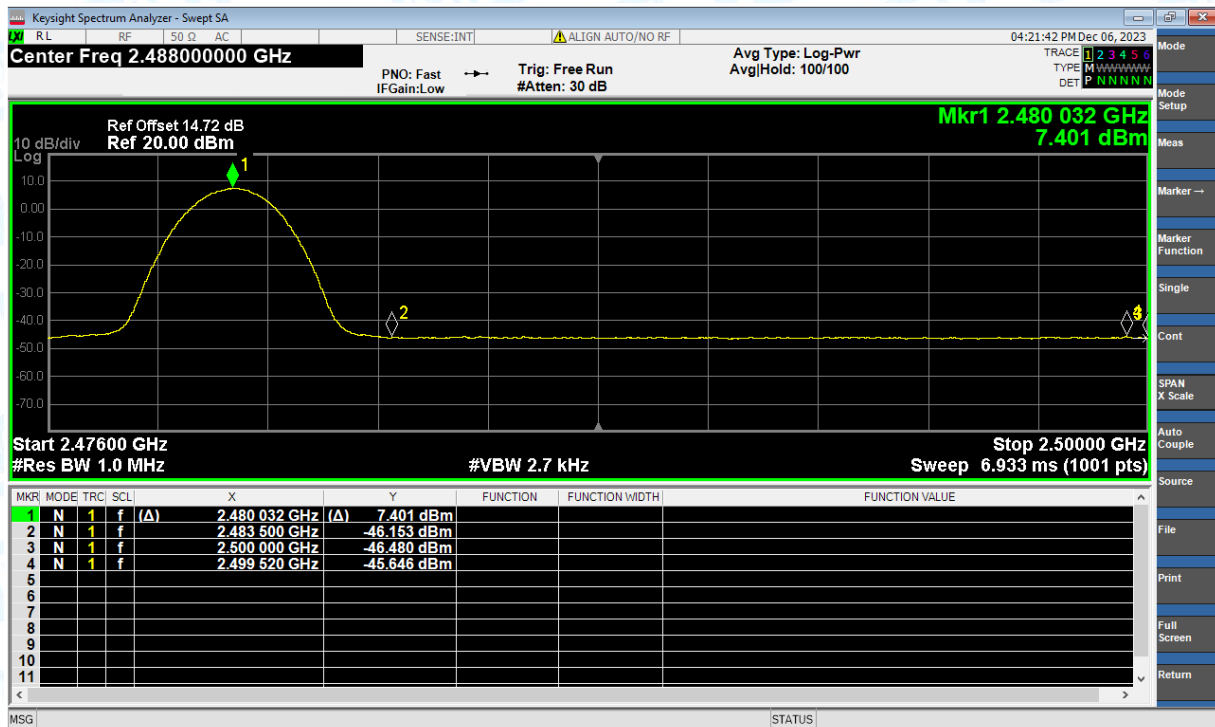
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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



9. Carrier Frequencies Separation

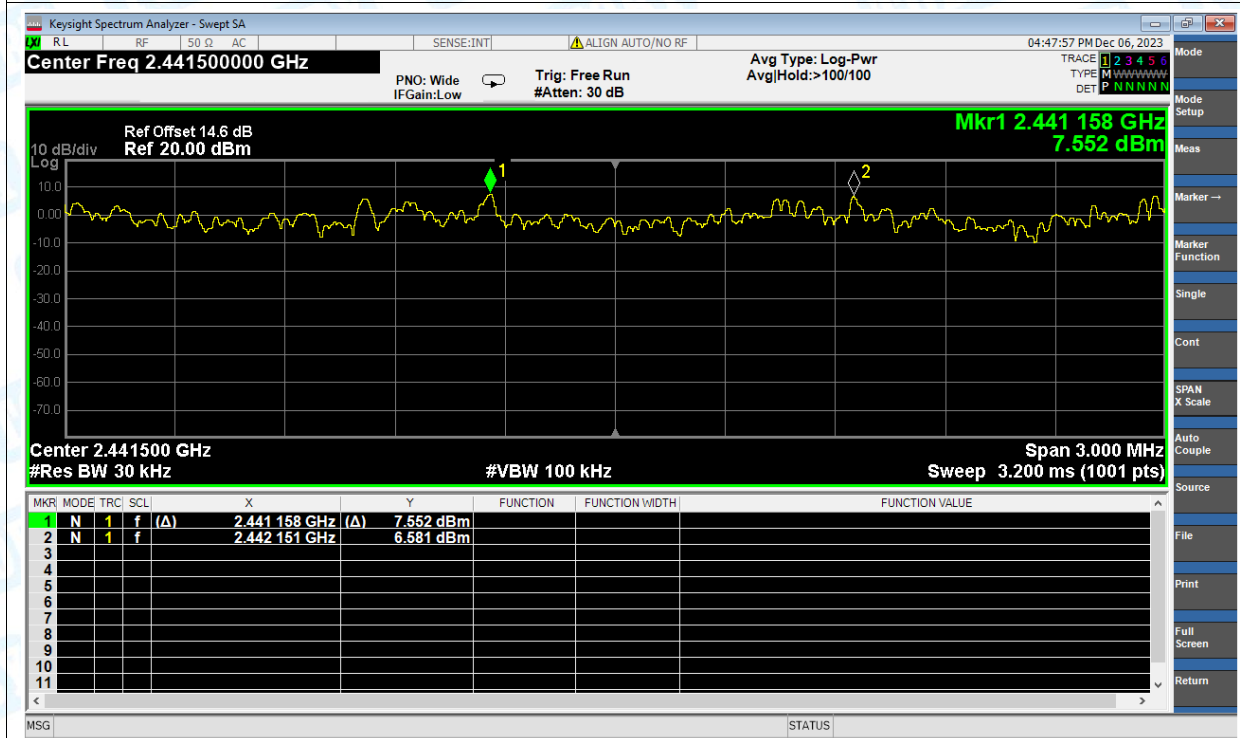
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2441.017	2442.157	1.14	0.633	Pass
NVNT	2-DH1	Ant1	2441.158	2442.151	0.993	0.853	Pass
NVNT	3-DH1	Ant1	2440.825	2441.956	1.131	0.813	Pass

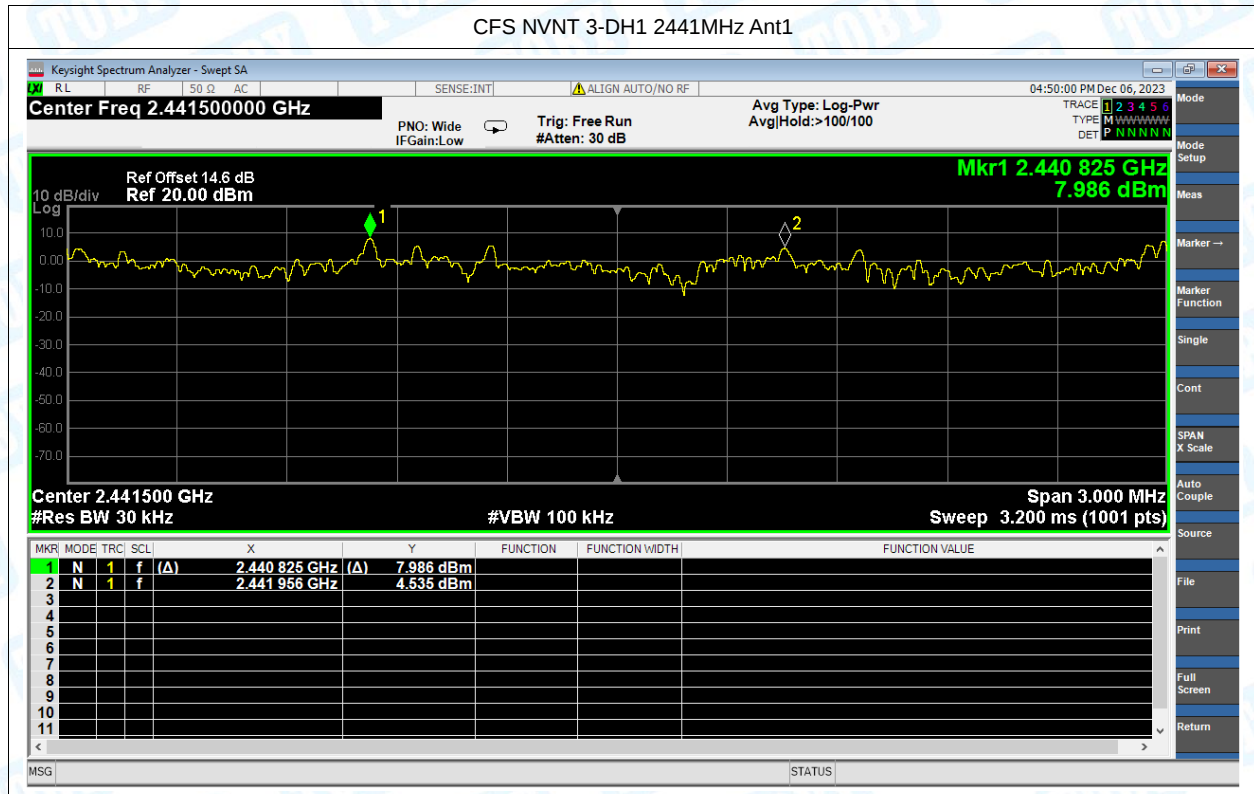
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



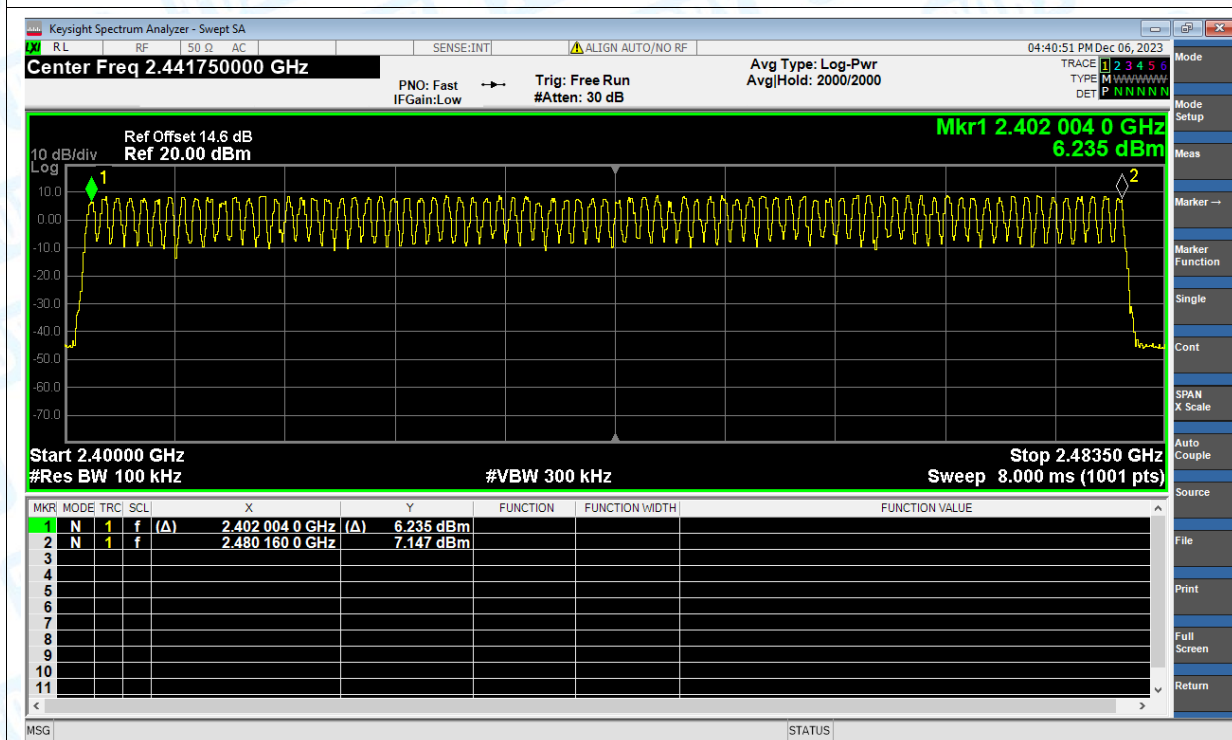


10. Number of Hopping Channel

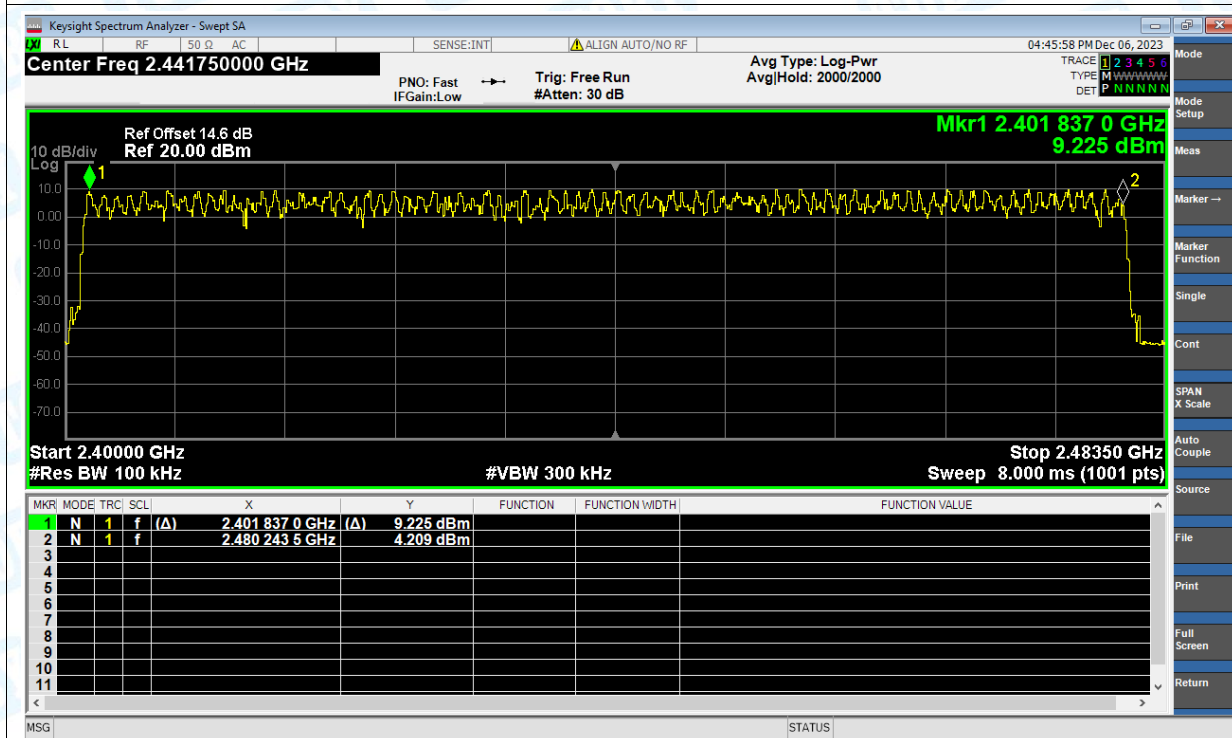
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

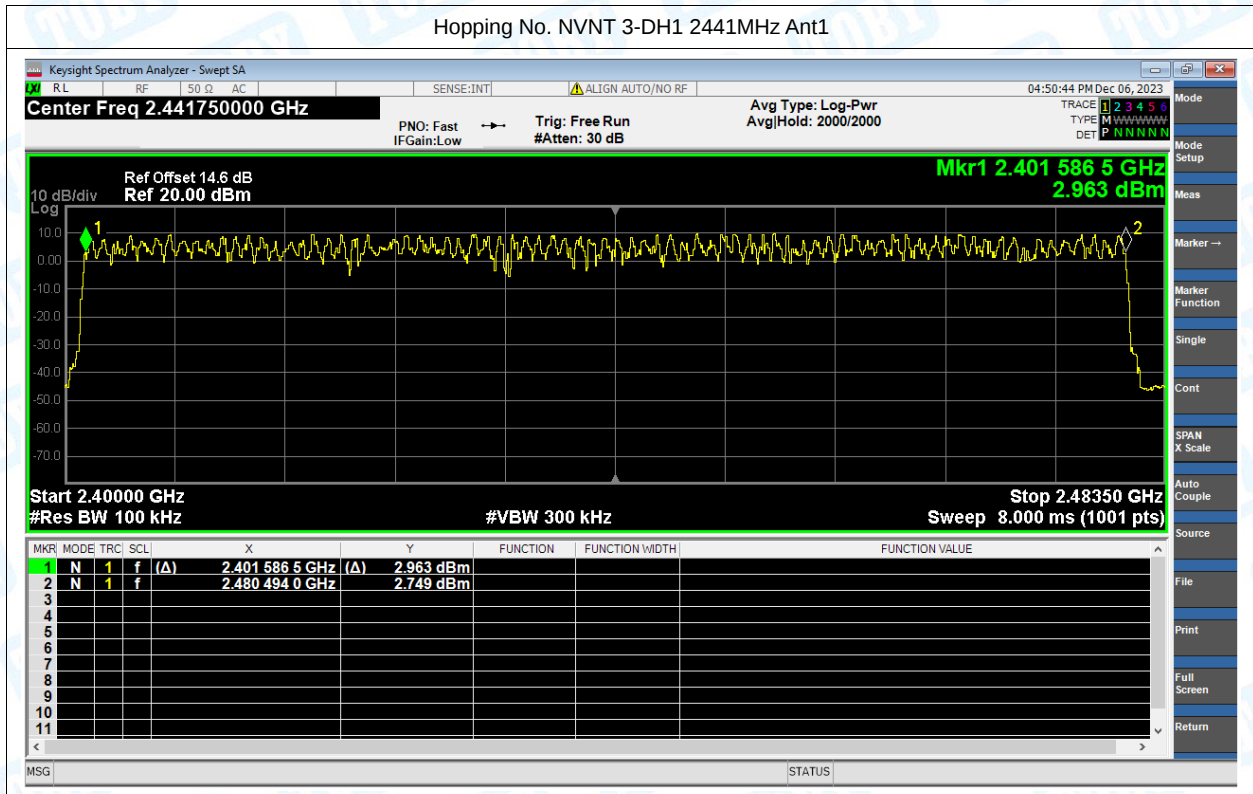
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



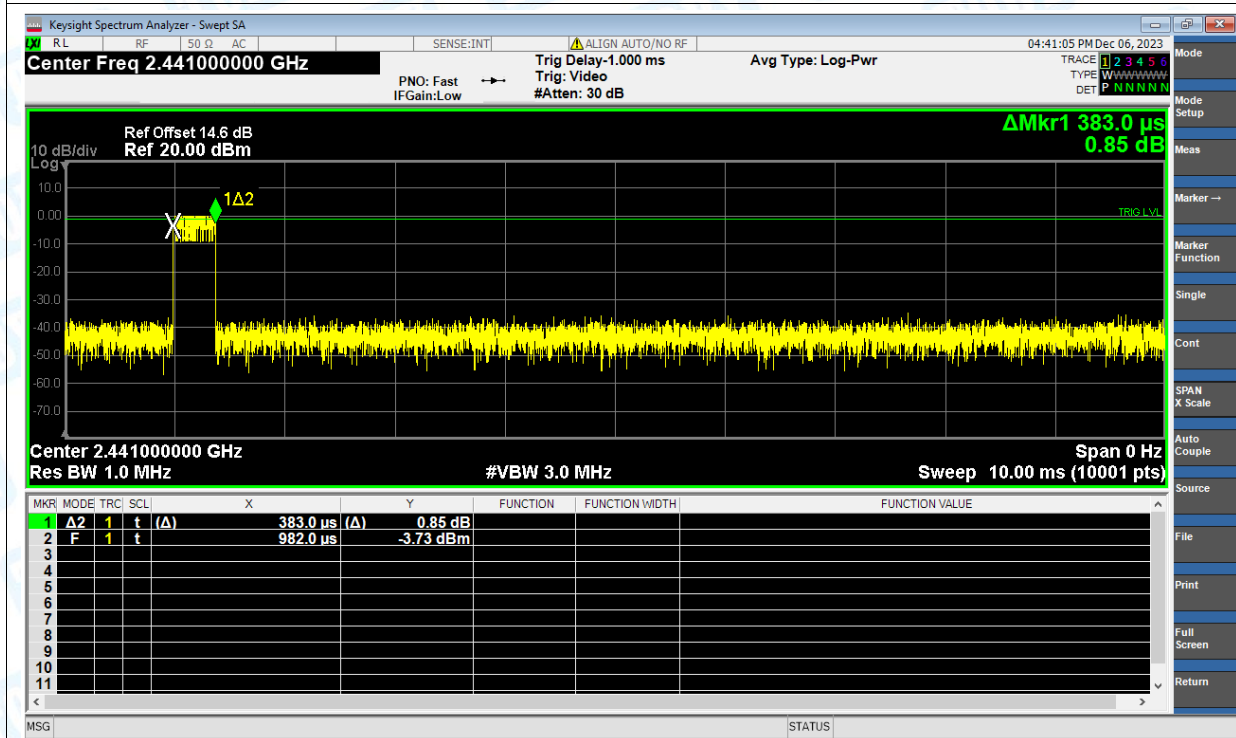


11. Dwell Time

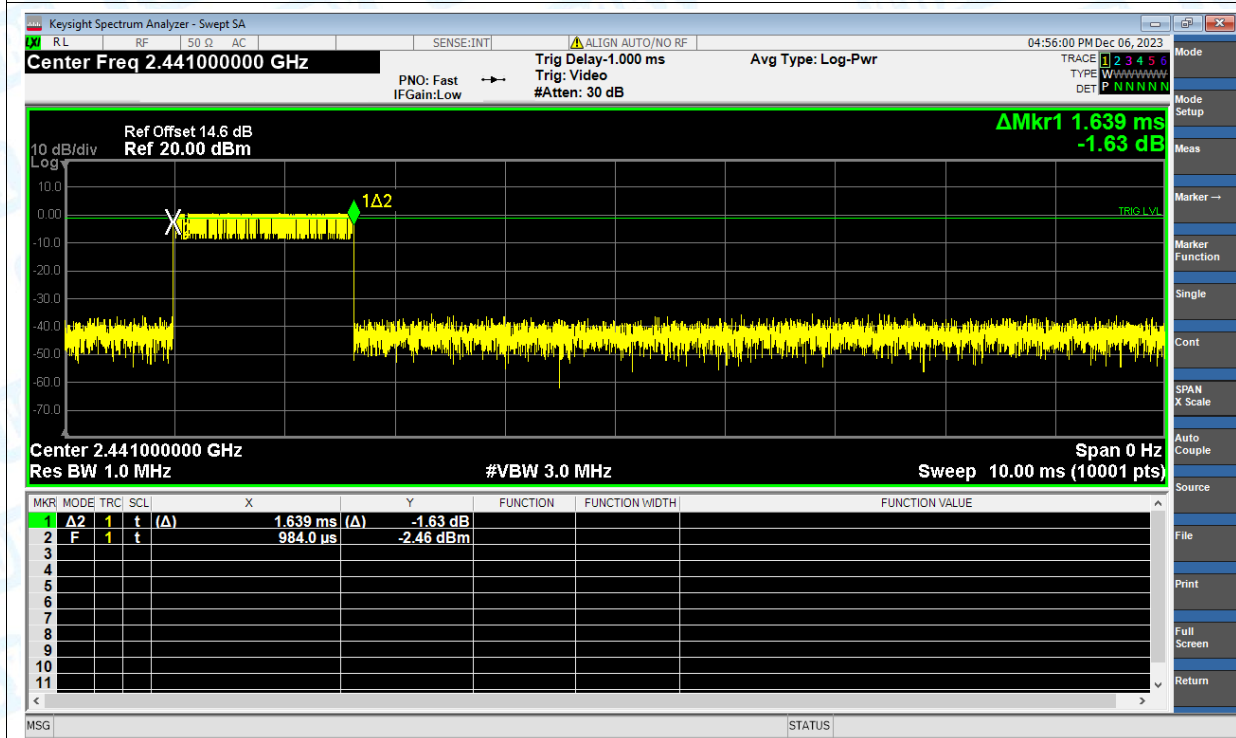
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.383	122.56	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.391	125.12	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.643	262.88	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	1.642	262.72	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.893	308.587	31600	400	Pass

Test Graphs

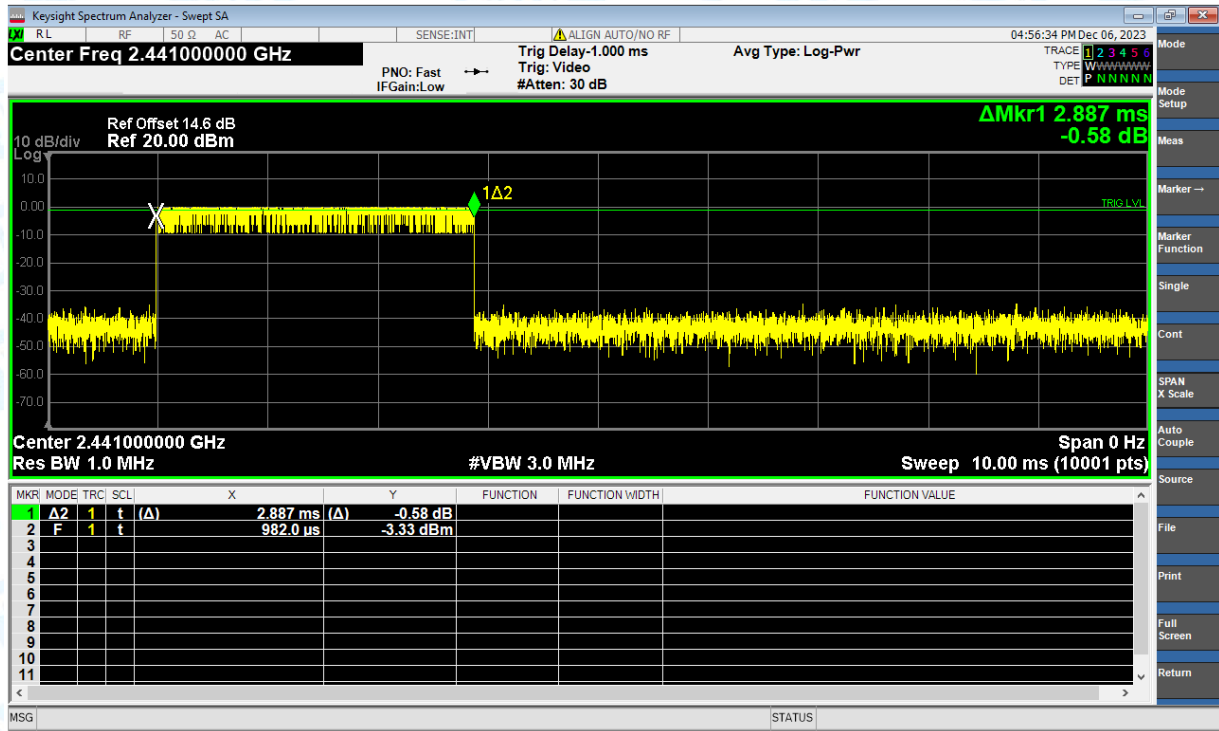
Dwell NVNT 1-DH1 2441MHz Ant1



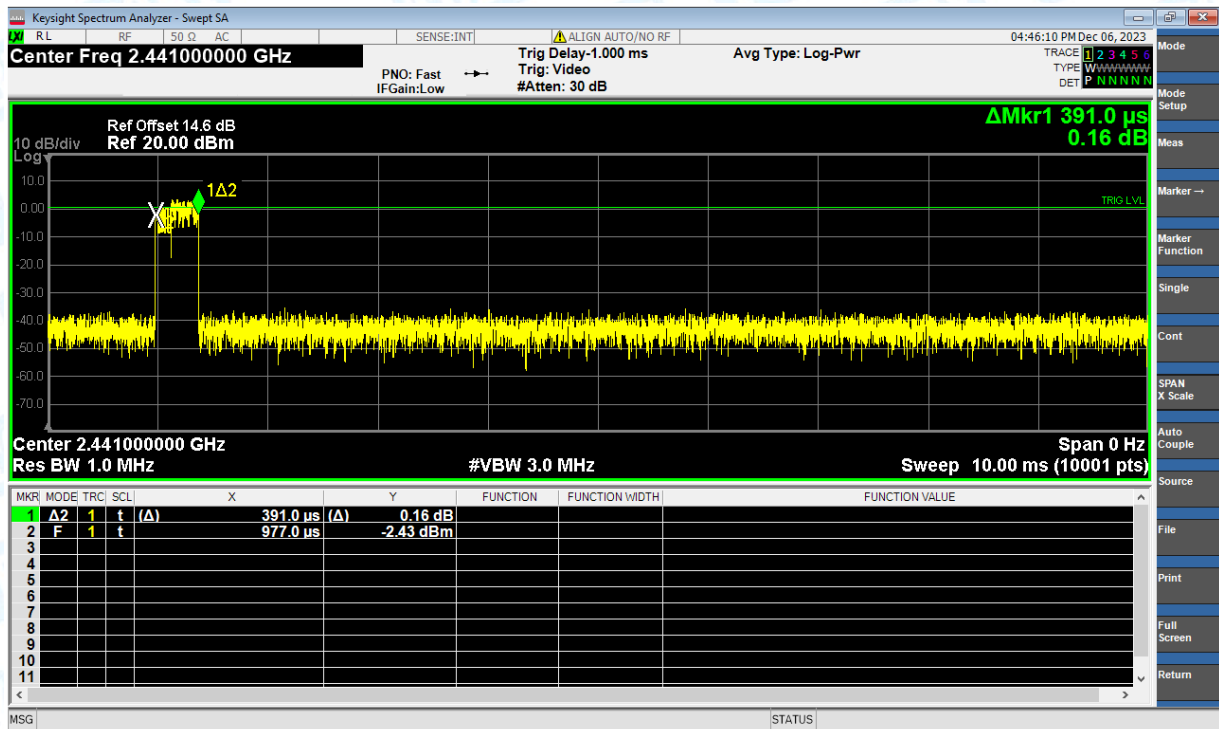
Dwell NVNT 1-DH3 2441MHz Ant1



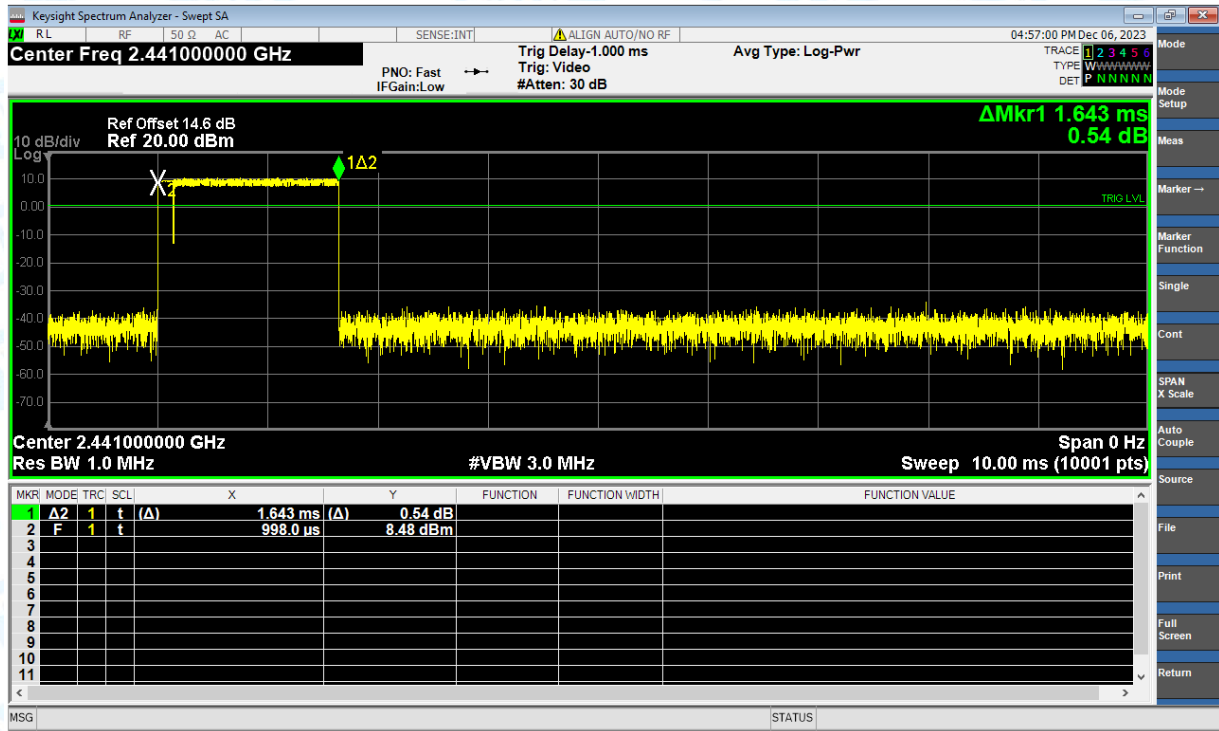
Dwell NVNT 1-DH5 2441MHz Ant1



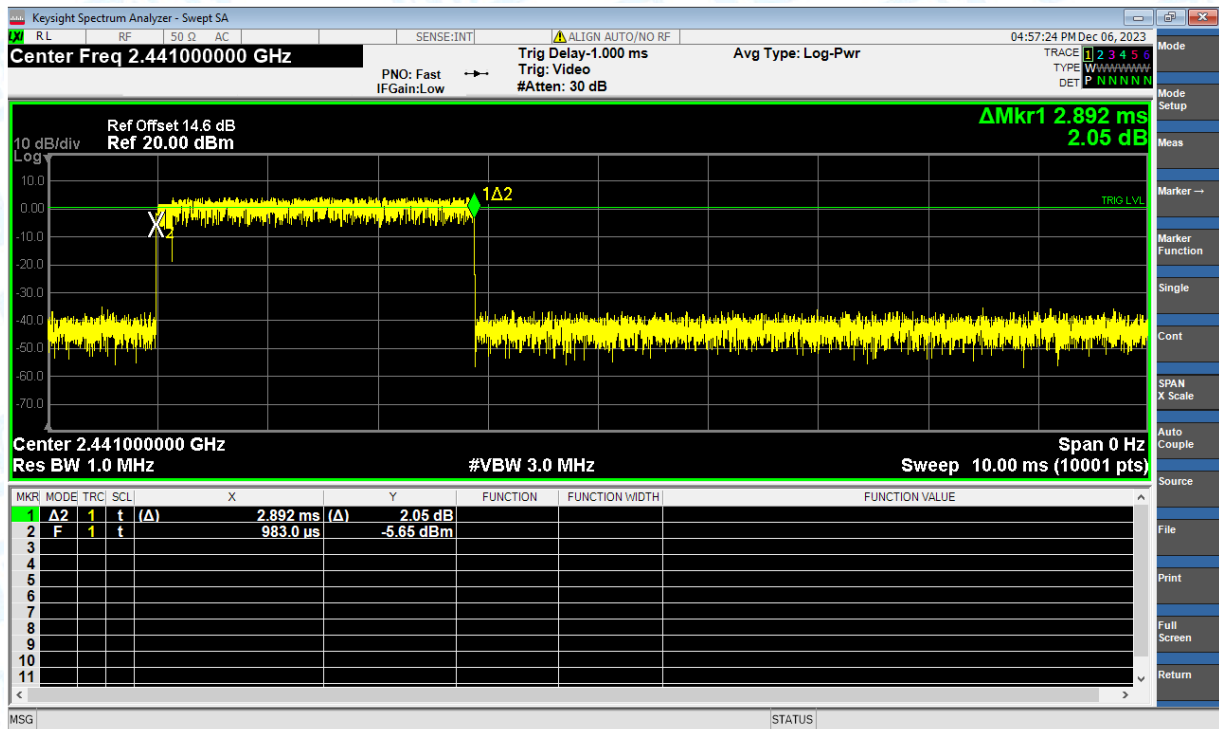
Dwell NVNT 2-DH1 2441MHz Ant1



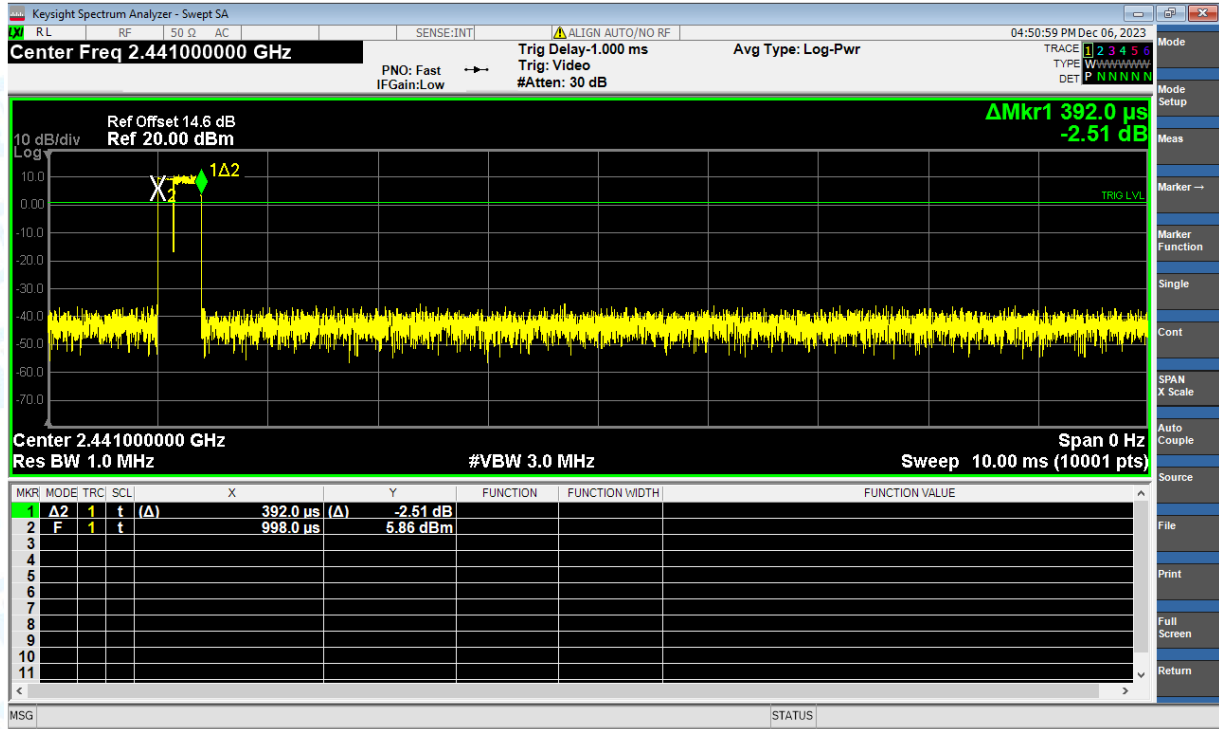
Dwell NVNT 2-DH3 2441MHz Ant1



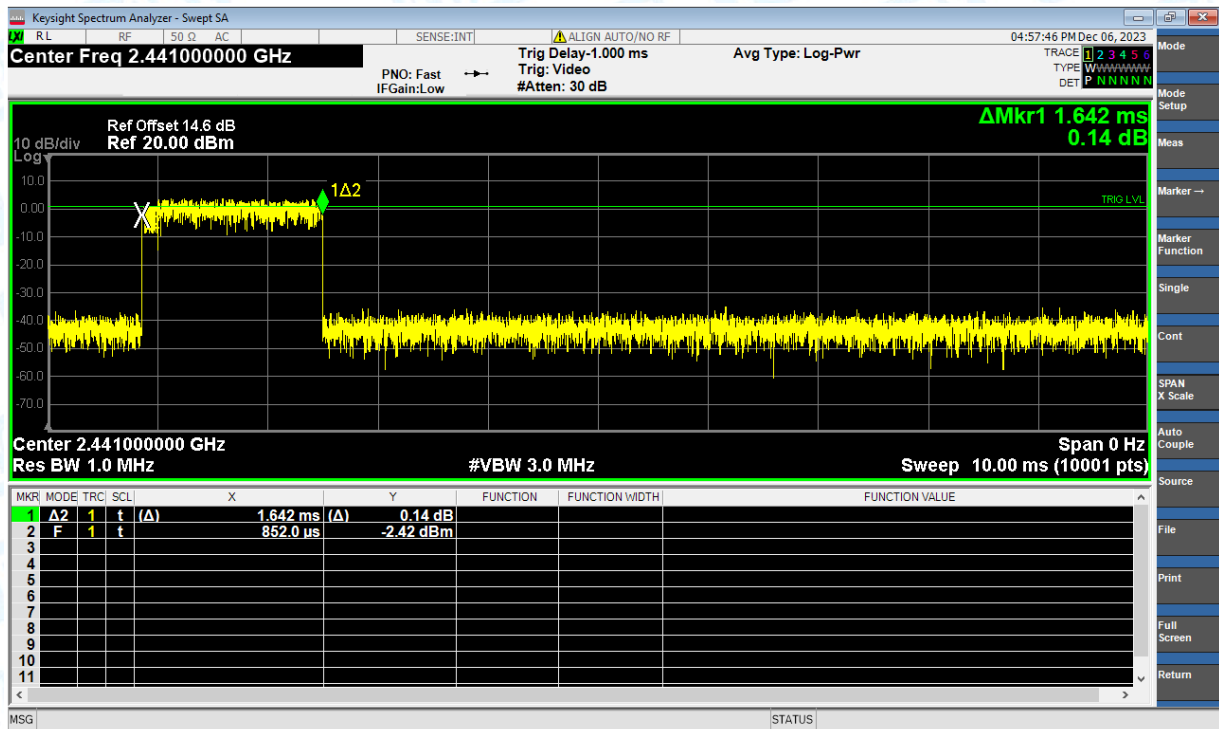
Dwell NVNT 2-DH5 2441MHz Ant1

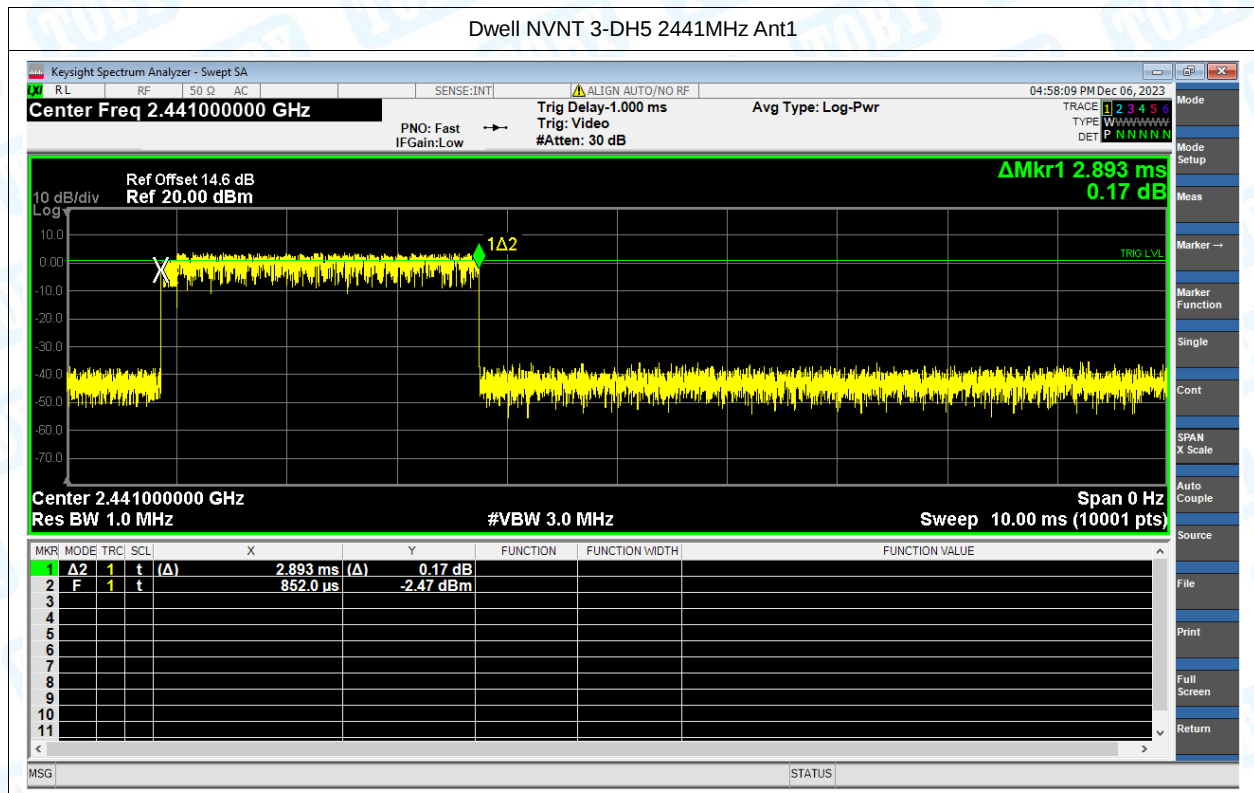


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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