



## Appendix A

### RF Test Data for BT (Conducted Measurement)

Product Name: True Wireless Earbuds

Test Model: 3304450

#### Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Luo
Supervised by:	Nick Peng





### A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.953	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.952	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.944	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.29	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.33	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.319	N/A	Pass



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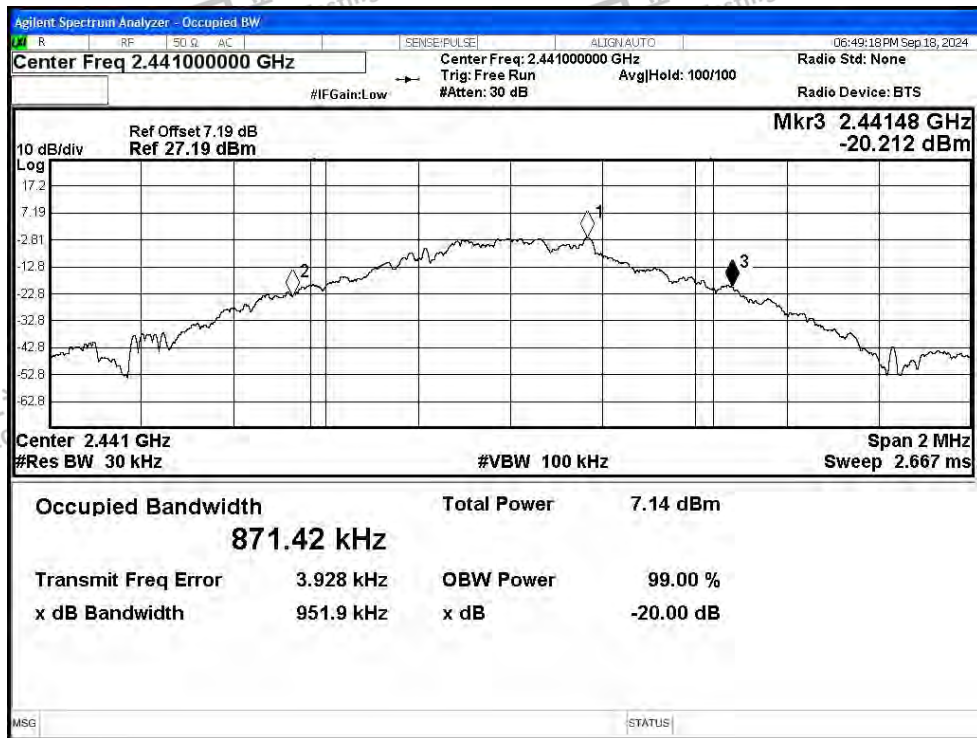


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

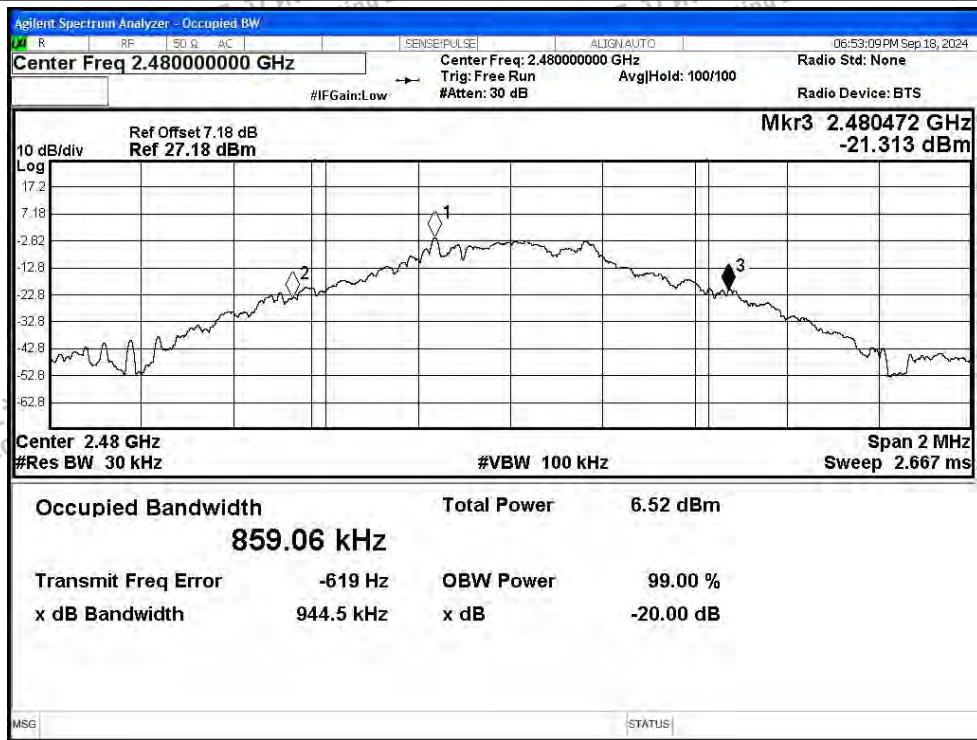


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

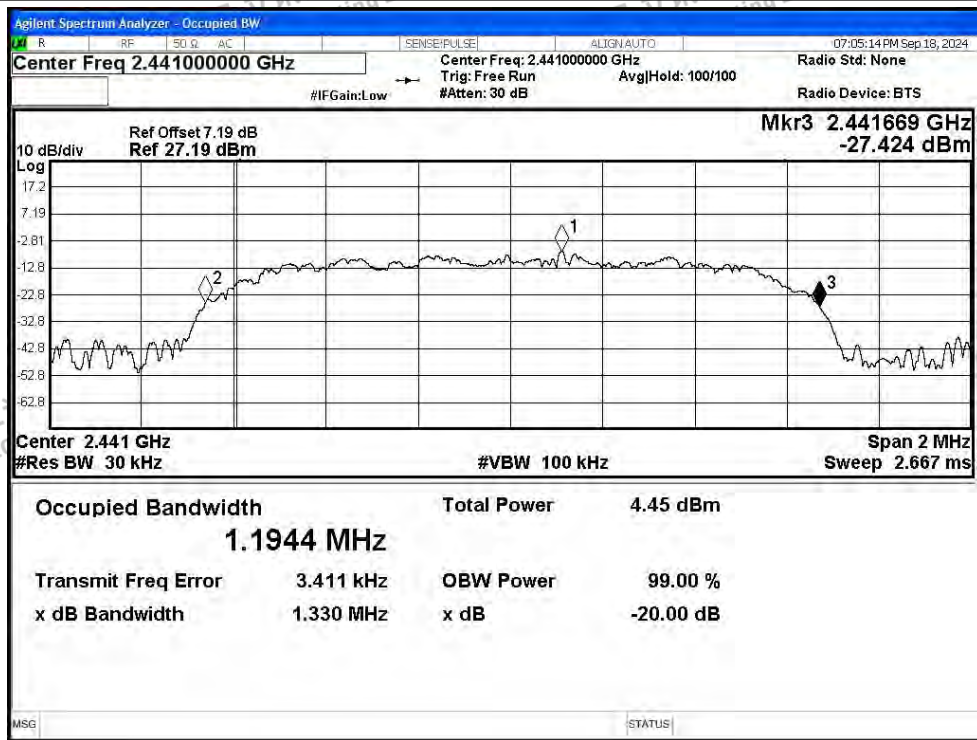


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

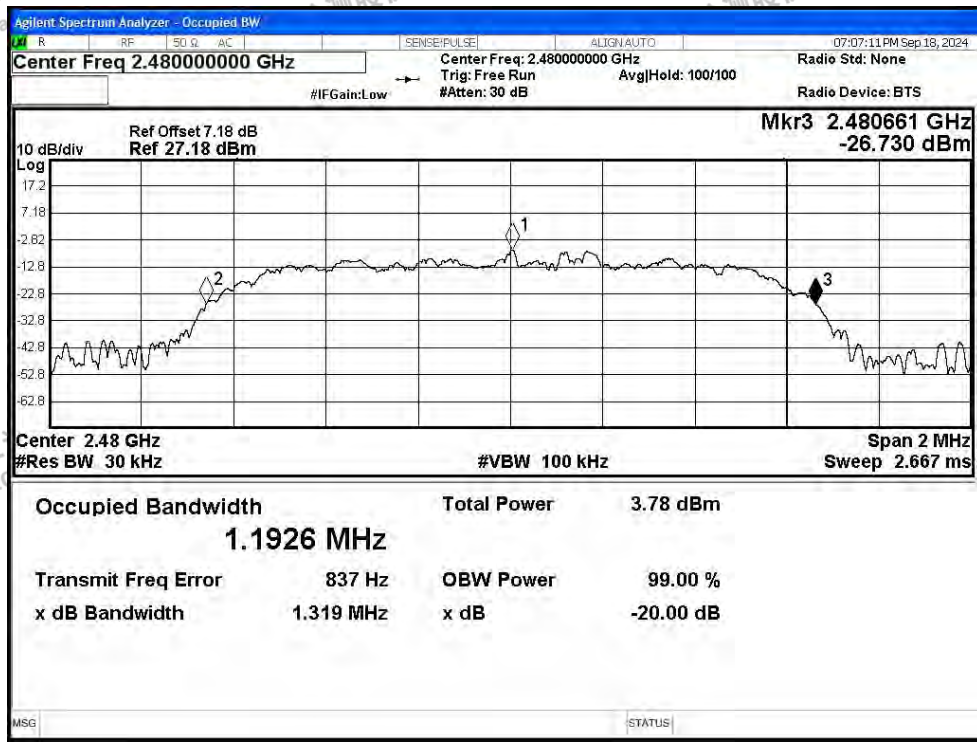




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1





## A.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.1	21	Pass
NVNT	1-DH5	2441	Ant1	0.92	21	Pass
NVNT	1-DH5	2480	Ant1	-0.15	21	Pass
NVNT	2-DH5	2402	Ant1	-0.13	21	Pass
NVNT	2-DH5	2441	Ant1	0.63	21	Pass
NVNT	2-DH5	2480	Ant1	-0.21	21	Pass

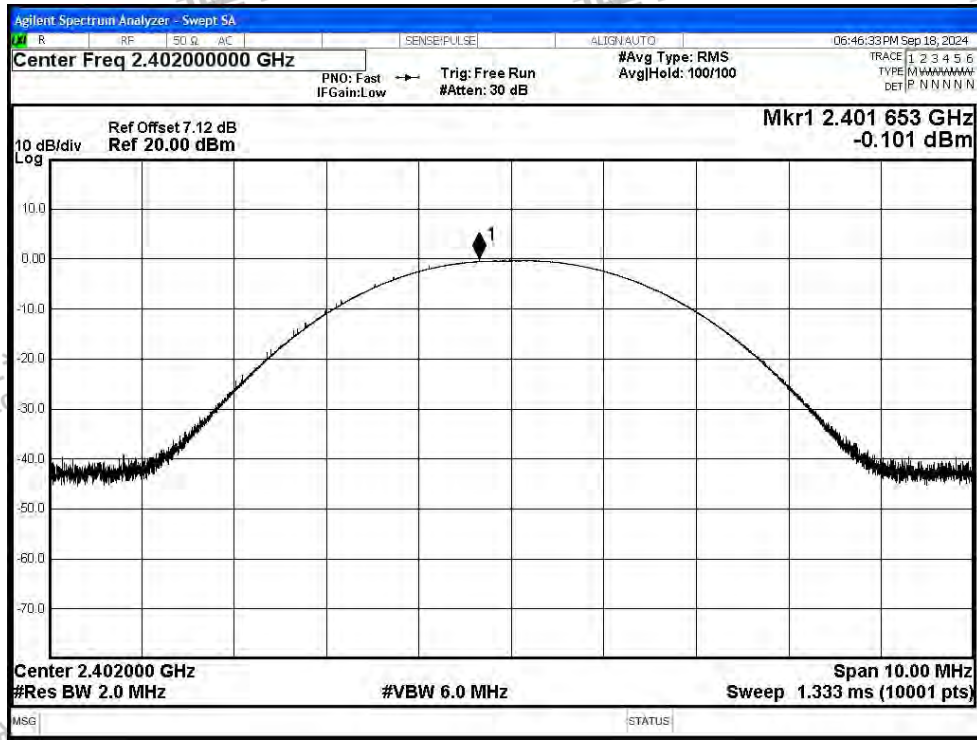


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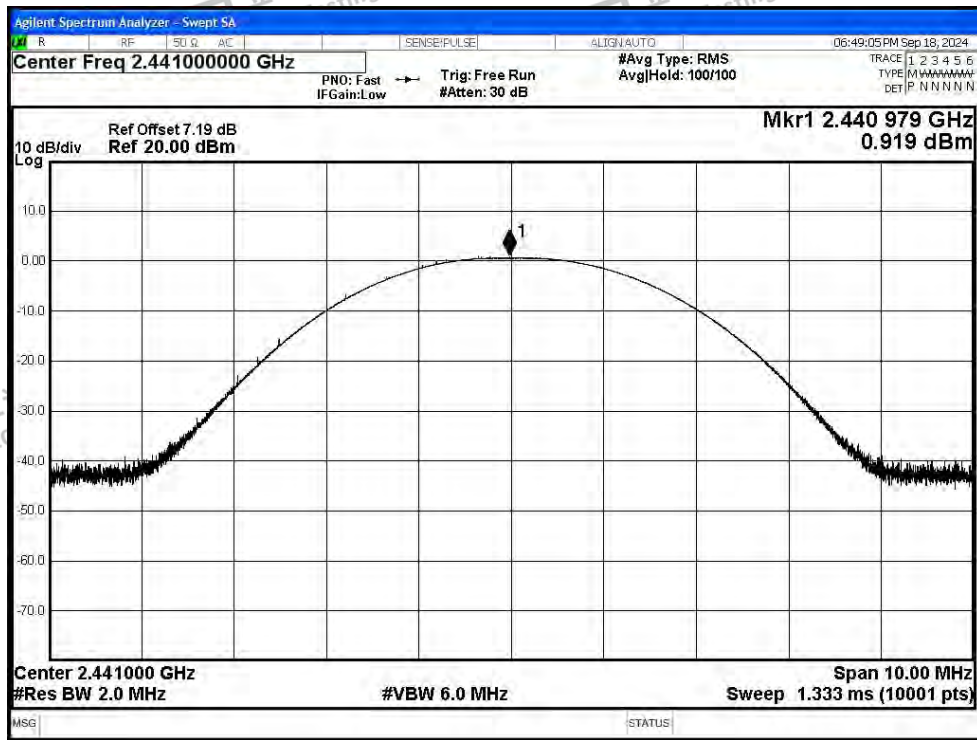


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

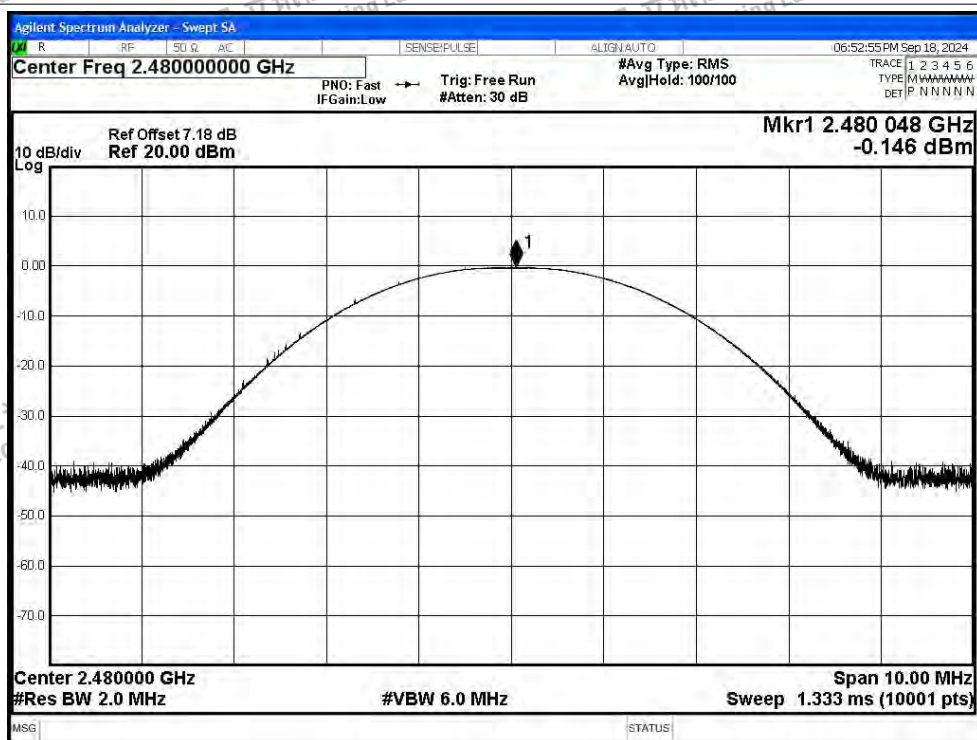


Power NVNT 1-DH5 2441MHz Ant1

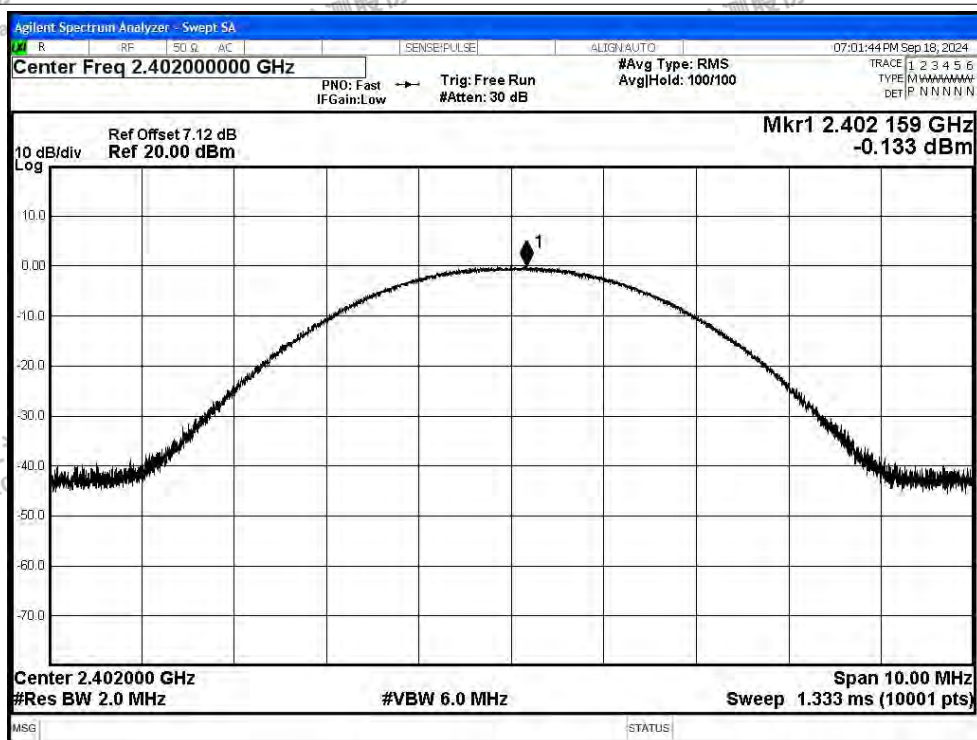




Power NVNT 1-DH5 2480MHz Ant1



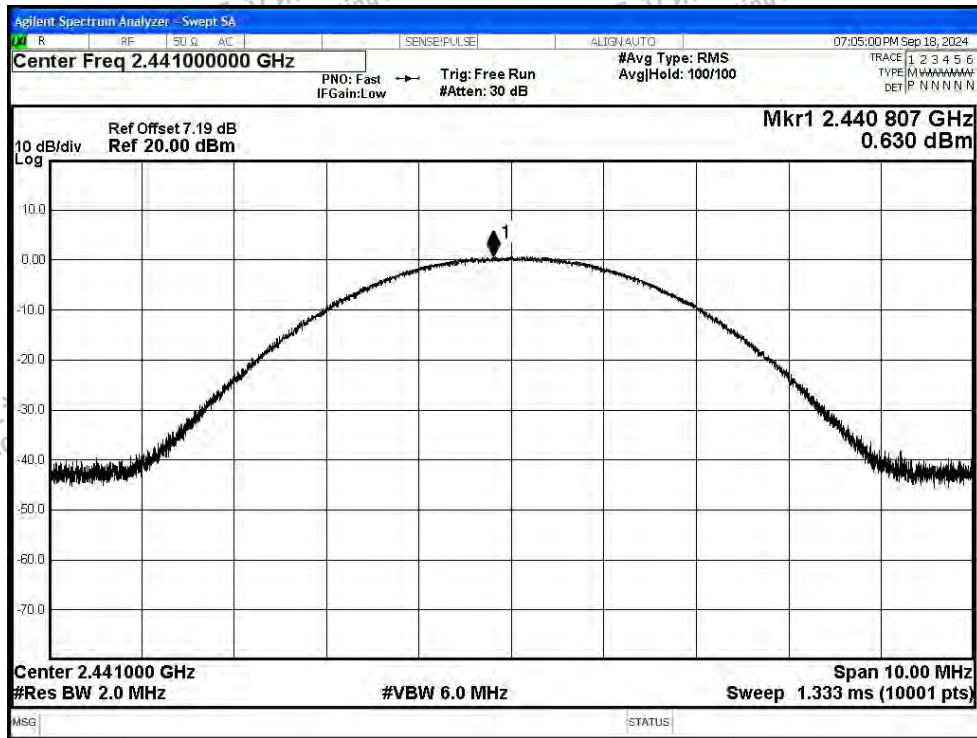
Power NVNT 2-DH5 2402MHz Ant1



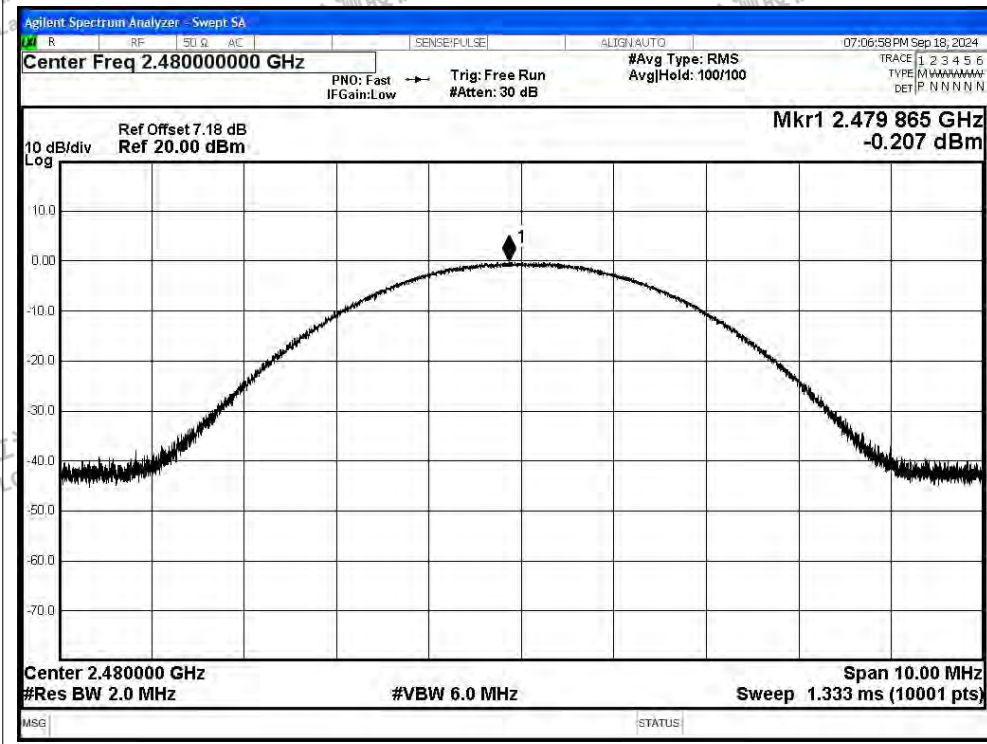




Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 2-DH5 2480MHz Ant1





### A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.846	2402.846	1	0.635	Pass
NVNT	2-DH5	Ant1	2402.02	2403.03	1.01	0.86	Pass

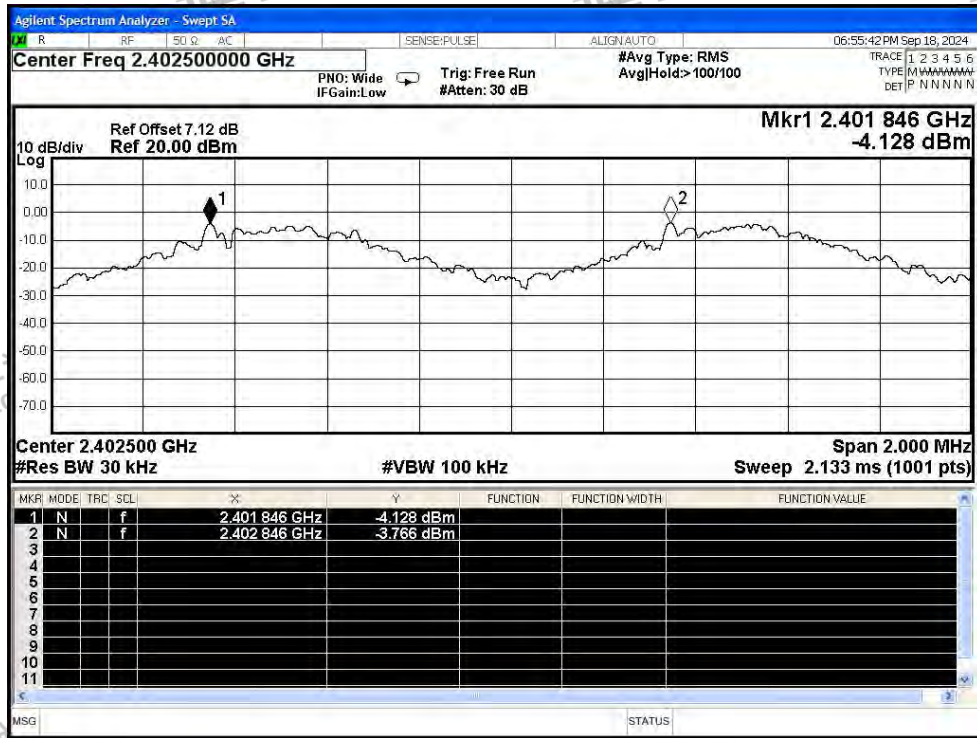


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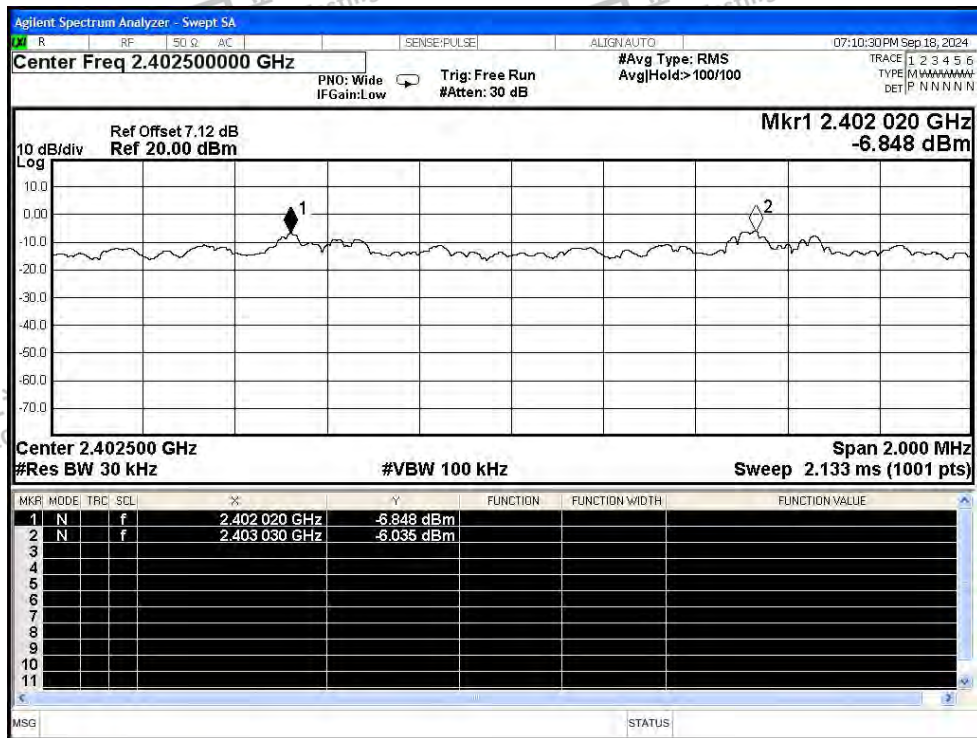


Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1





### A.4 Dwell Time

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.91	302.64	104	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	333.27	115	31600	400	Pass

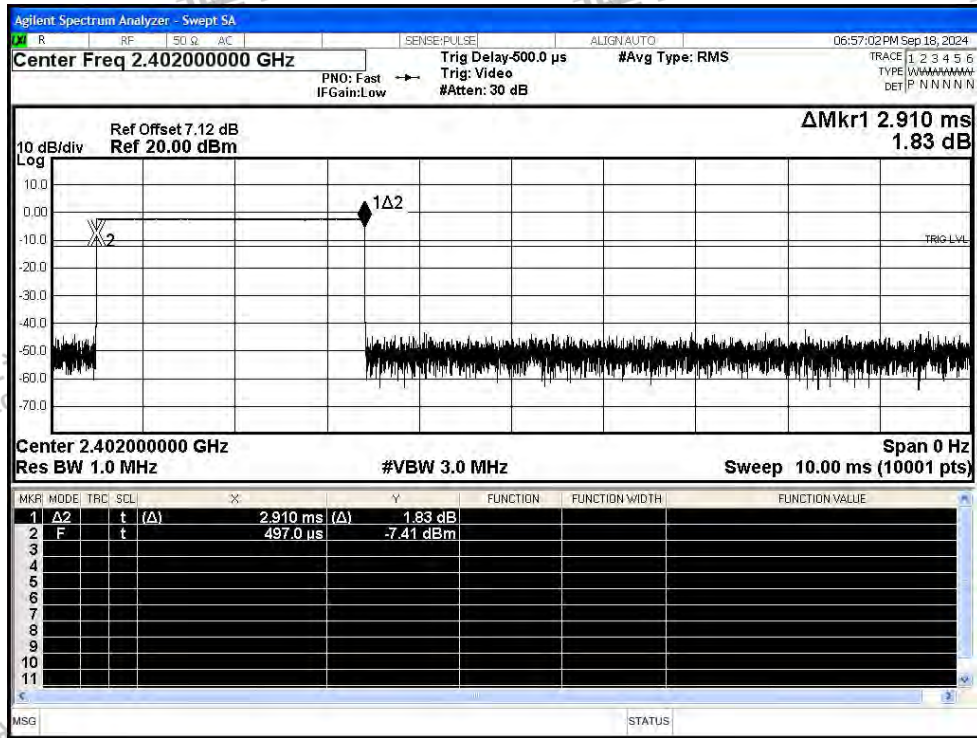


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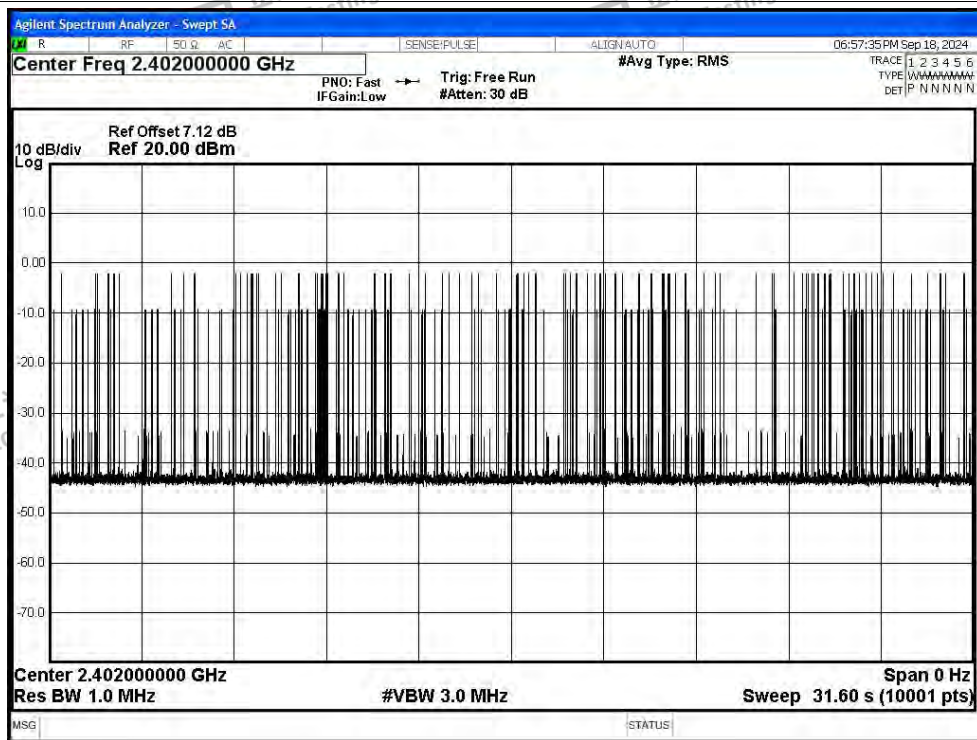


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

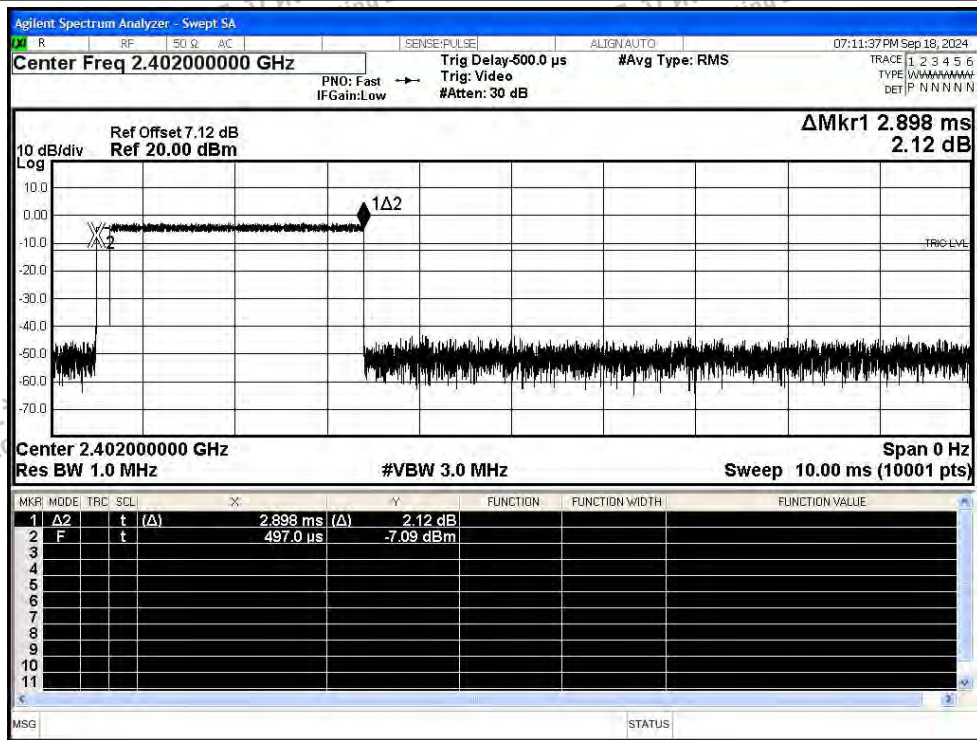


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

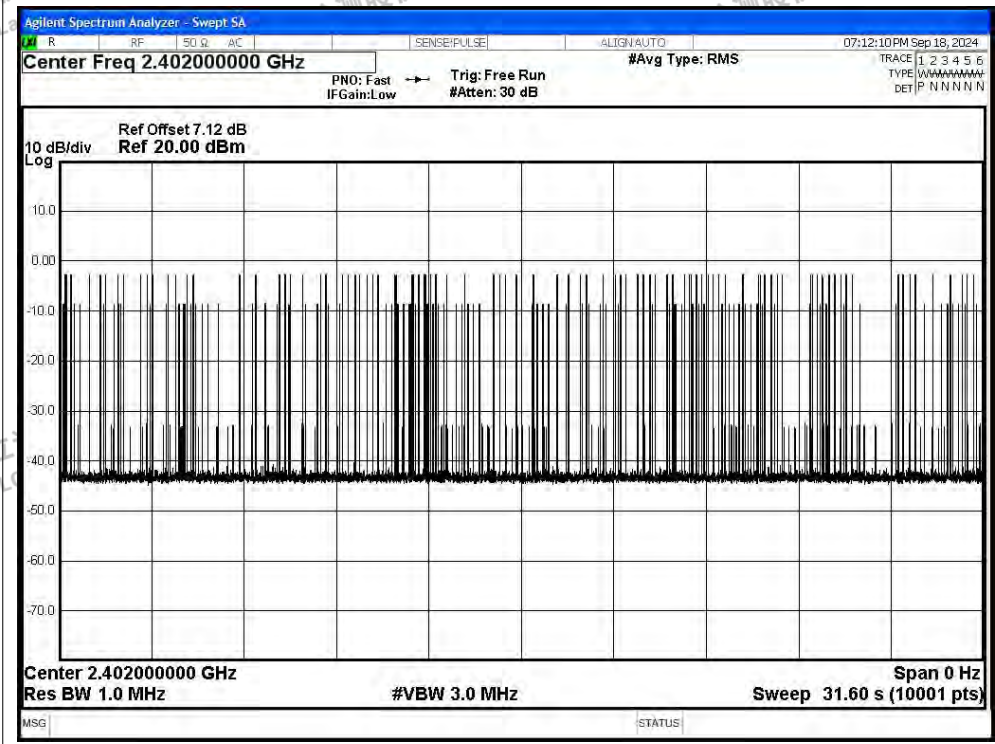




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated





## A.5 Number of Hopping Channel

Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass

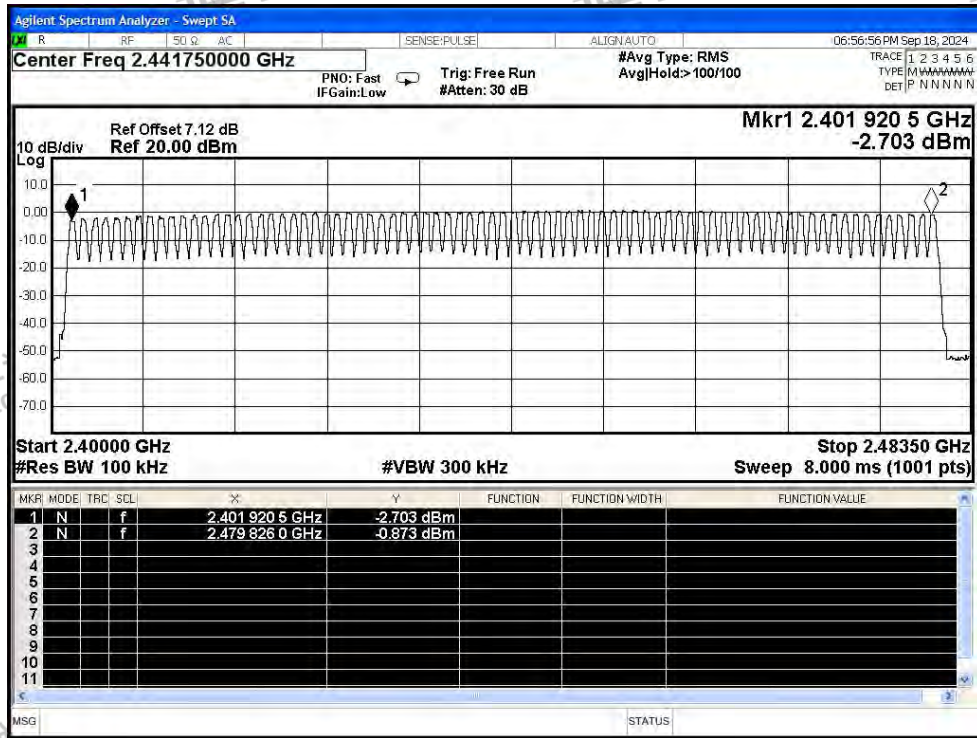


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Scan code to check authenticity

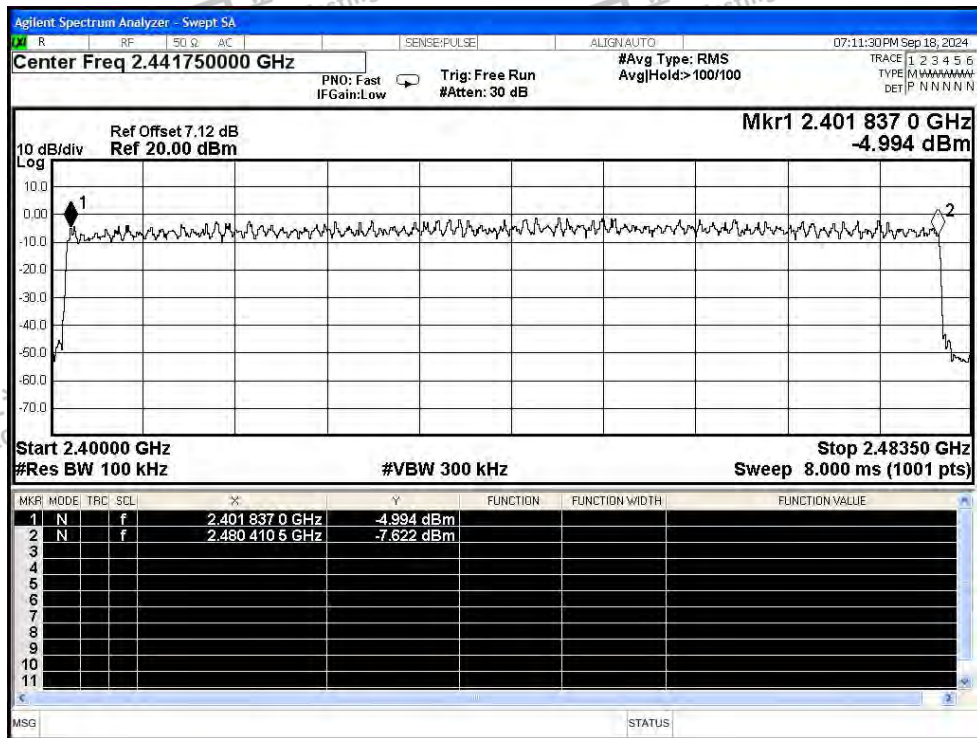


Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1







### A.6 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-51.07	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-50.45	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-49.86	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-49.37	-20	Pass

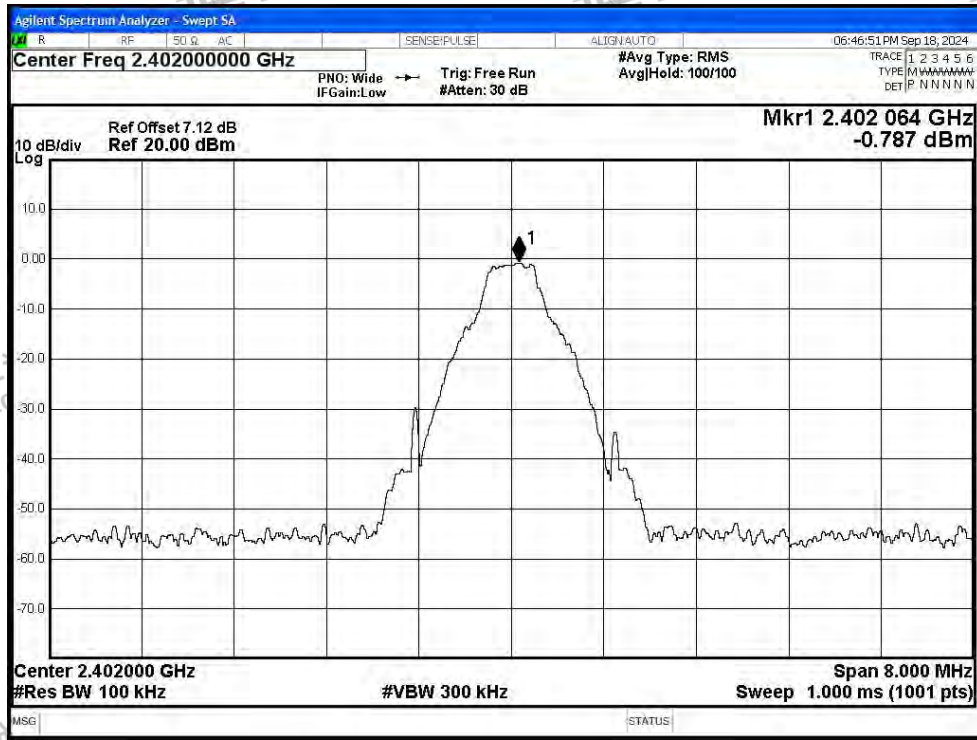


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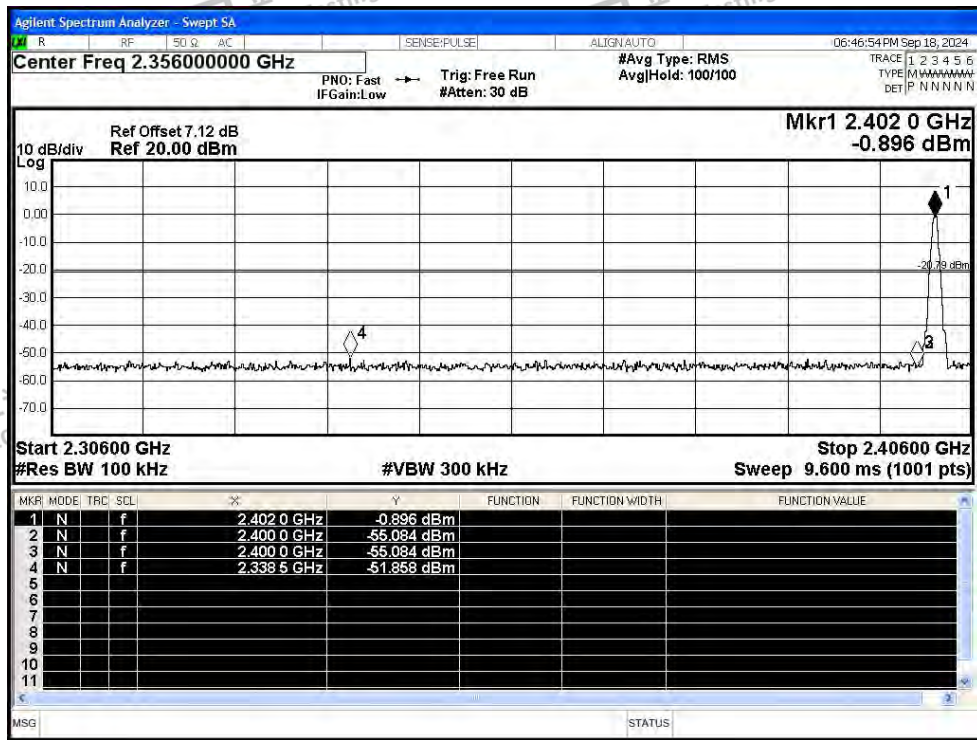


Test Graphs

Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref

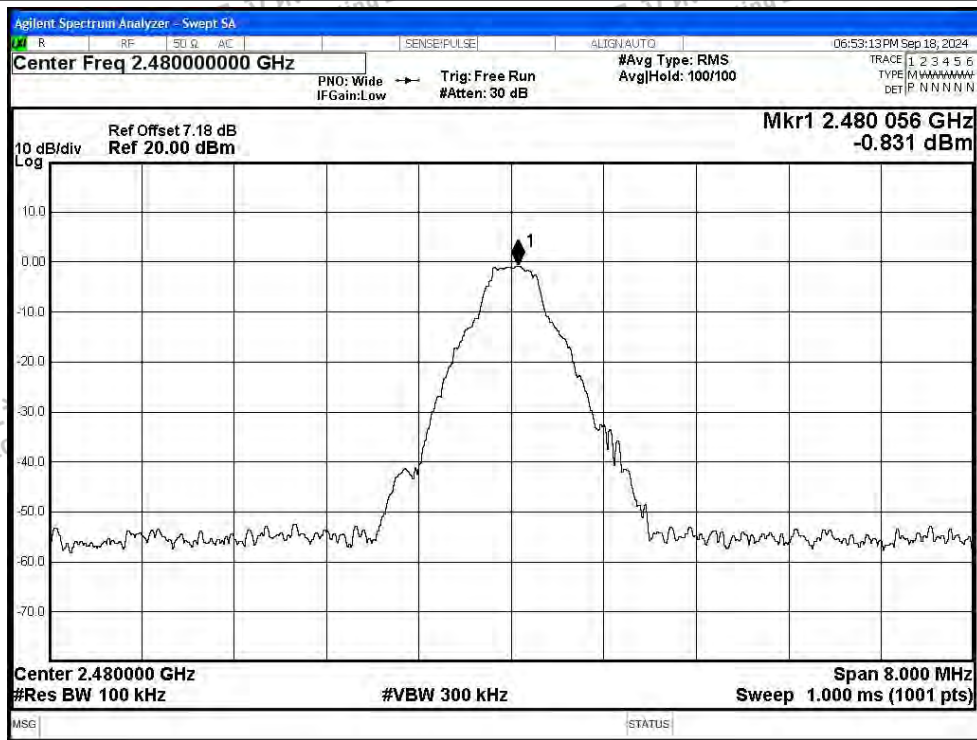


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

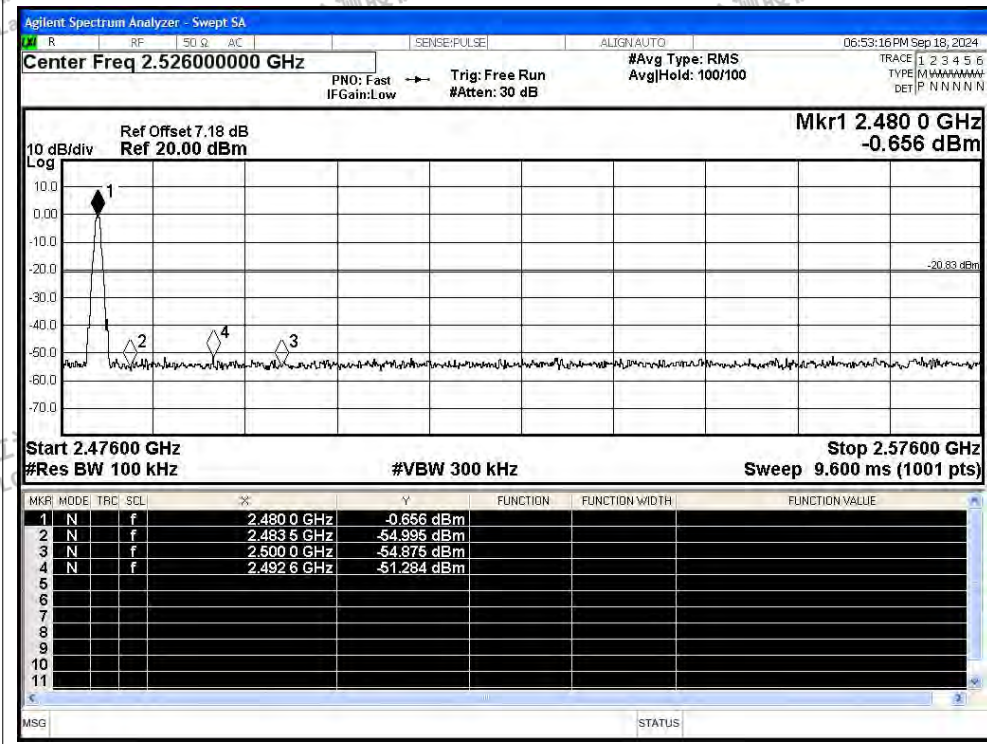




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

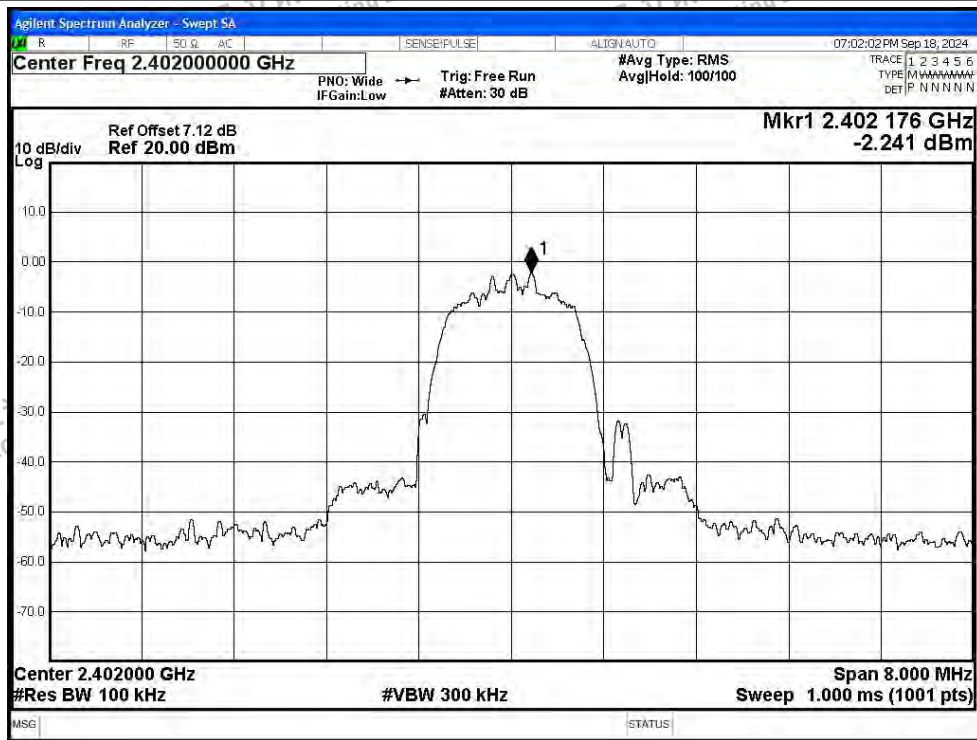


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

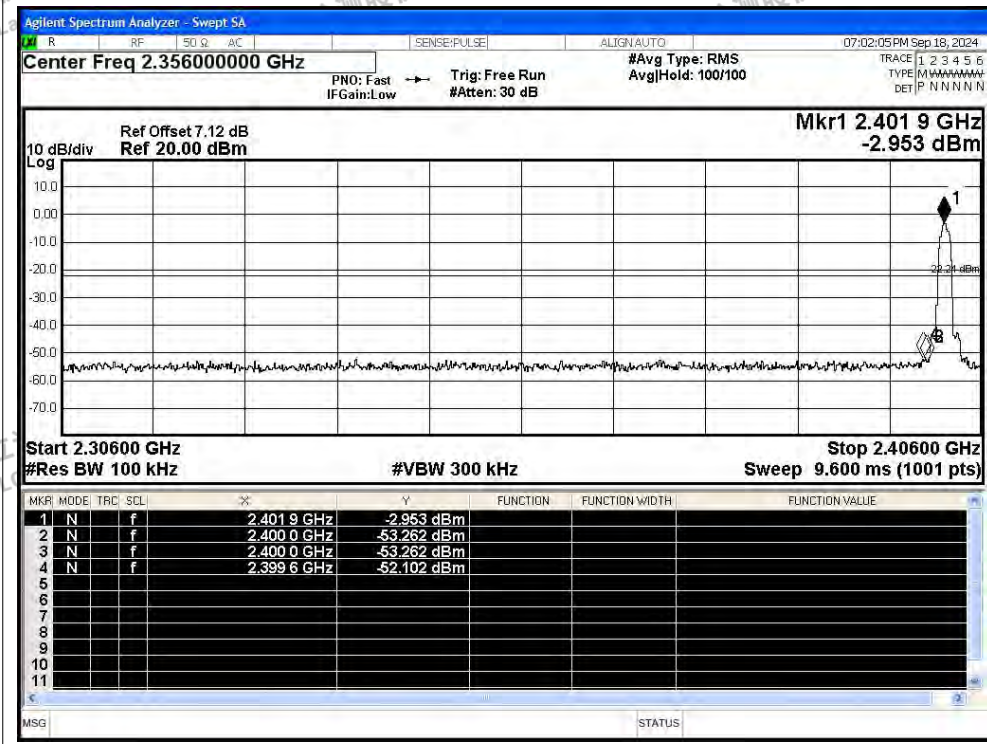




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

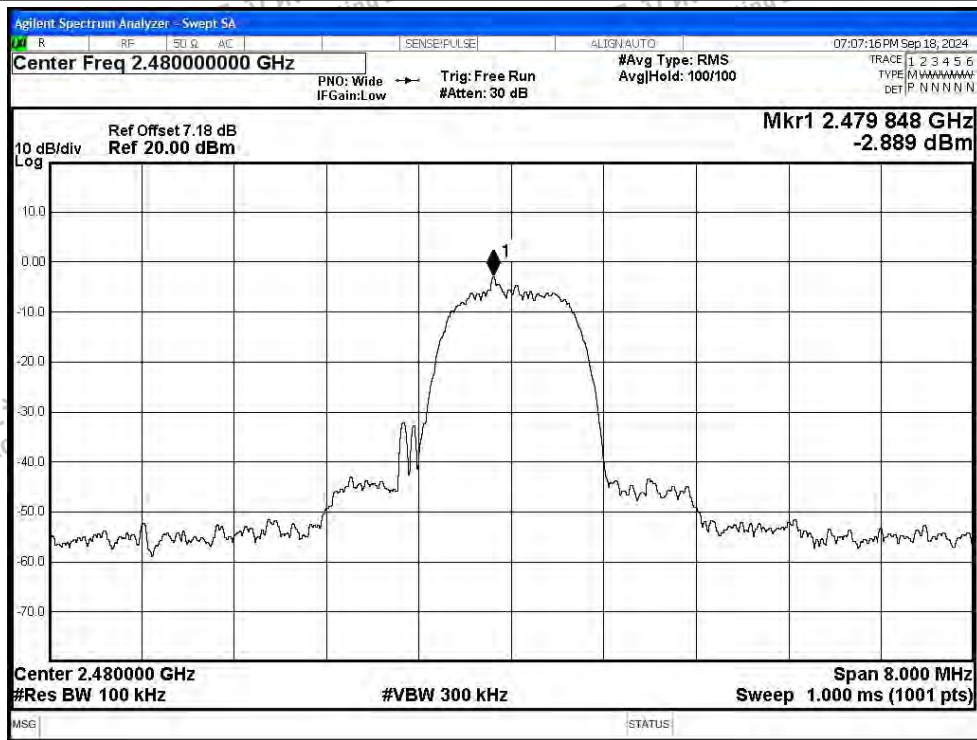


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

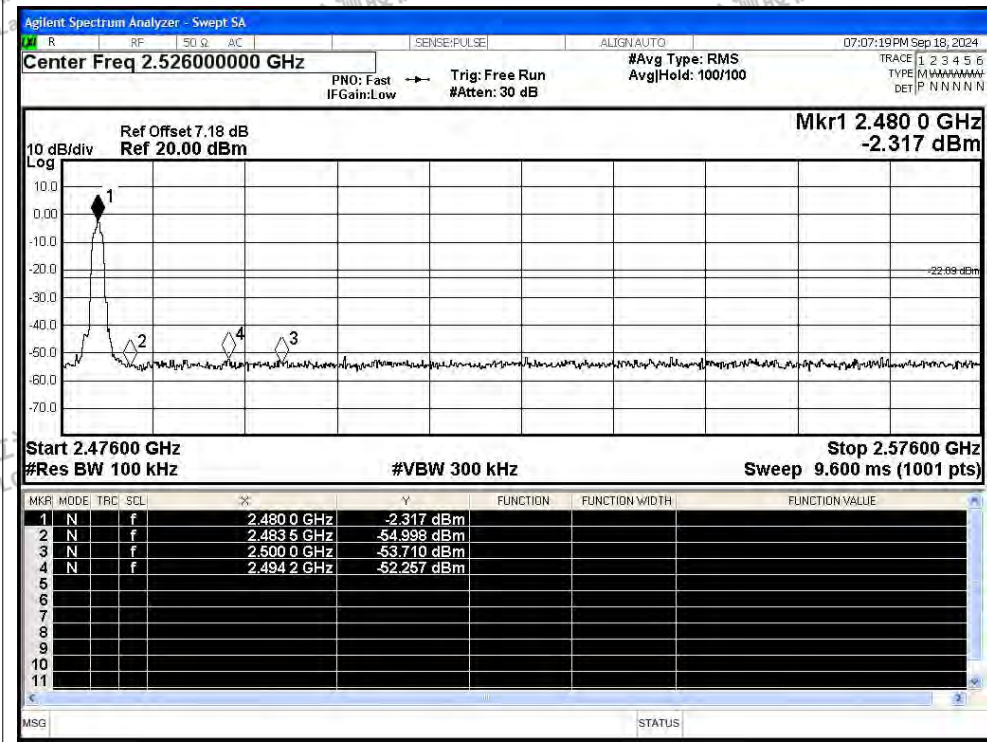




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission





### (Hopping)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-49.57	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-50.25	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-46.45	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-48.07	-20	Pass



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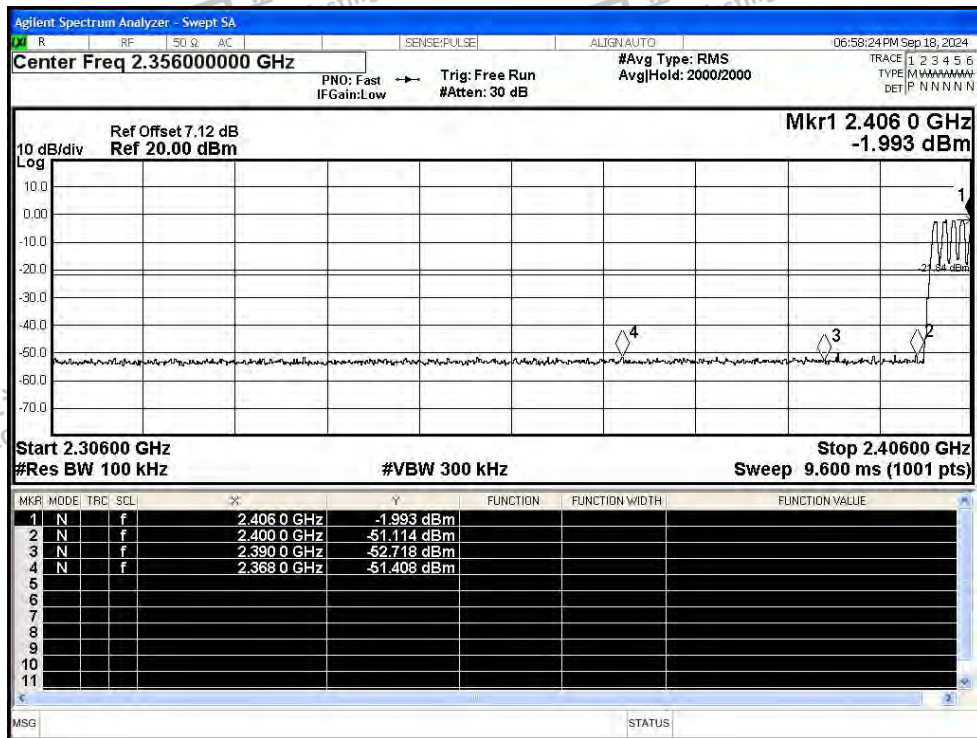


Test Graphs

Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

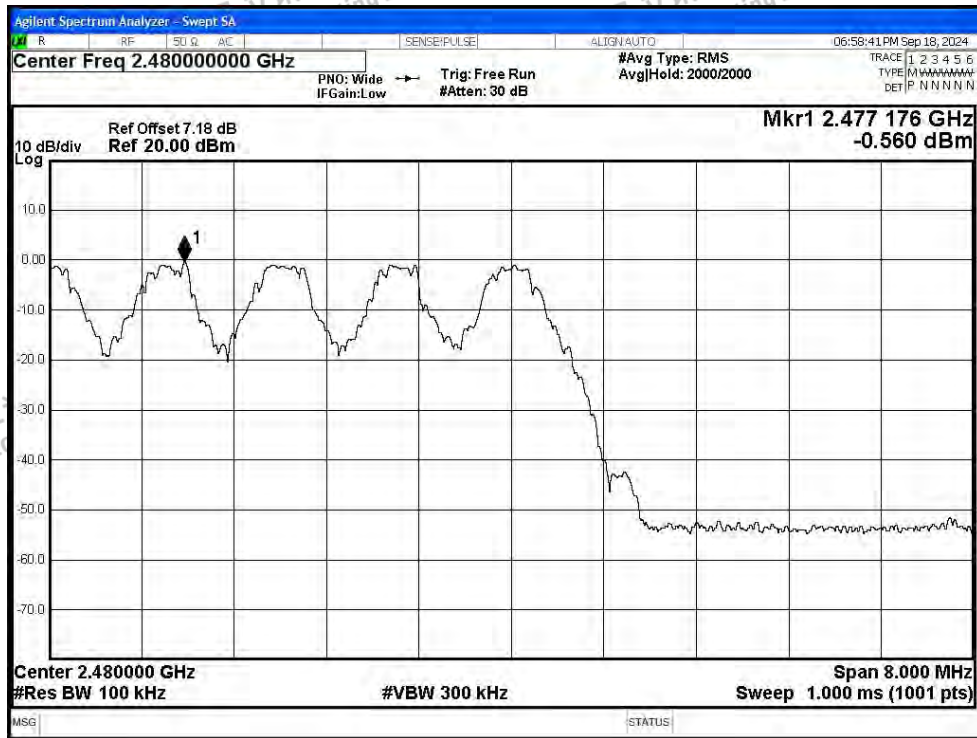


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

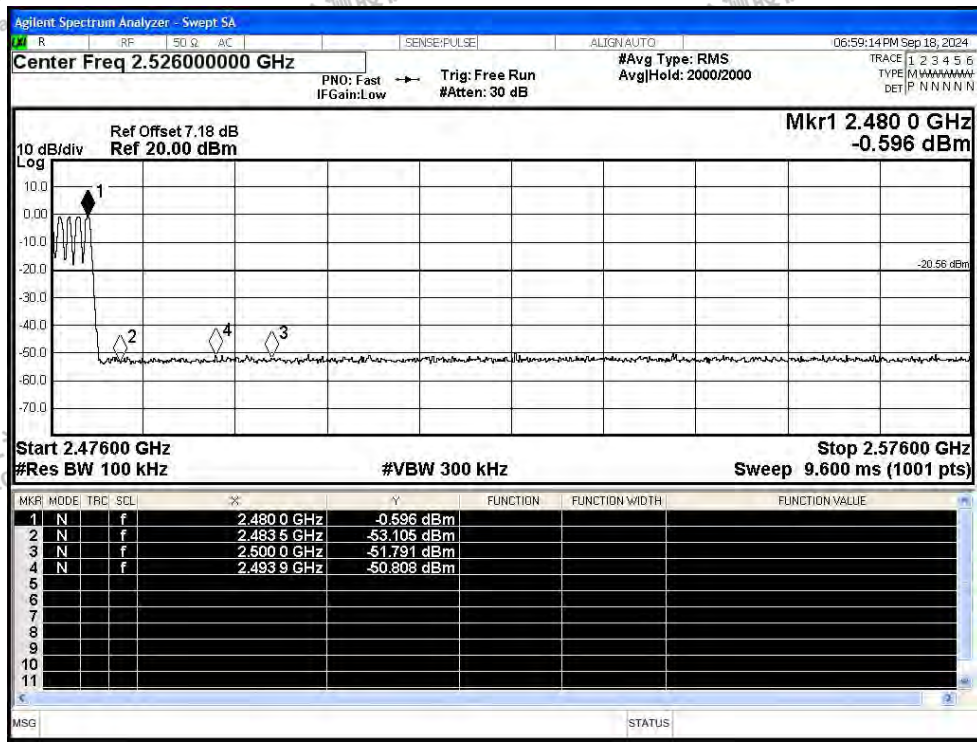




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



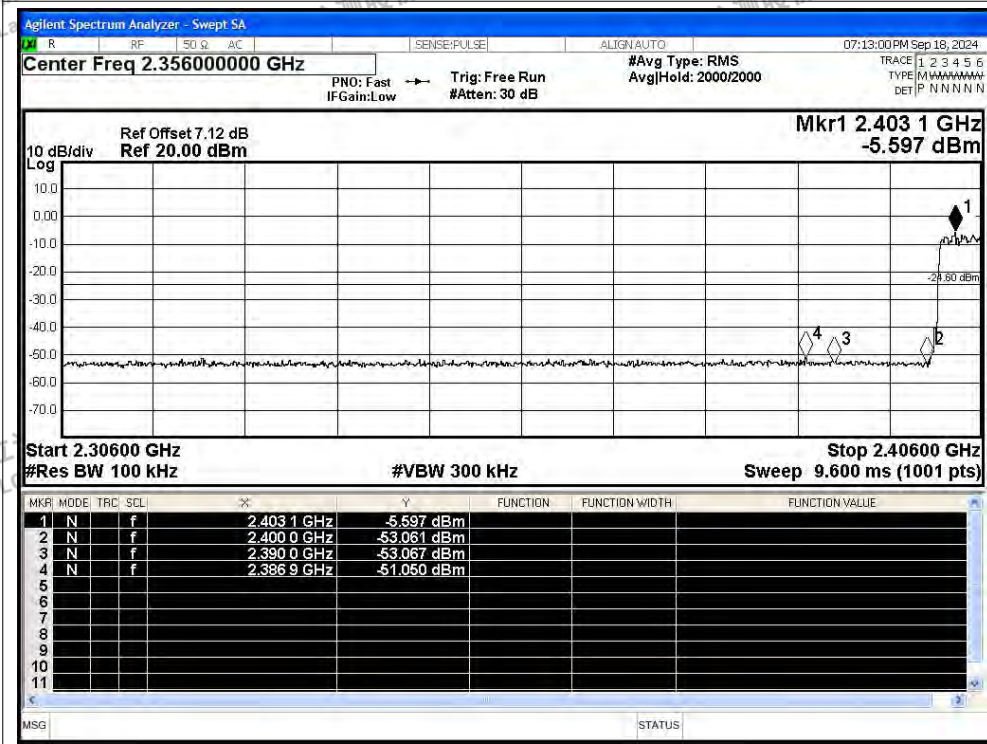




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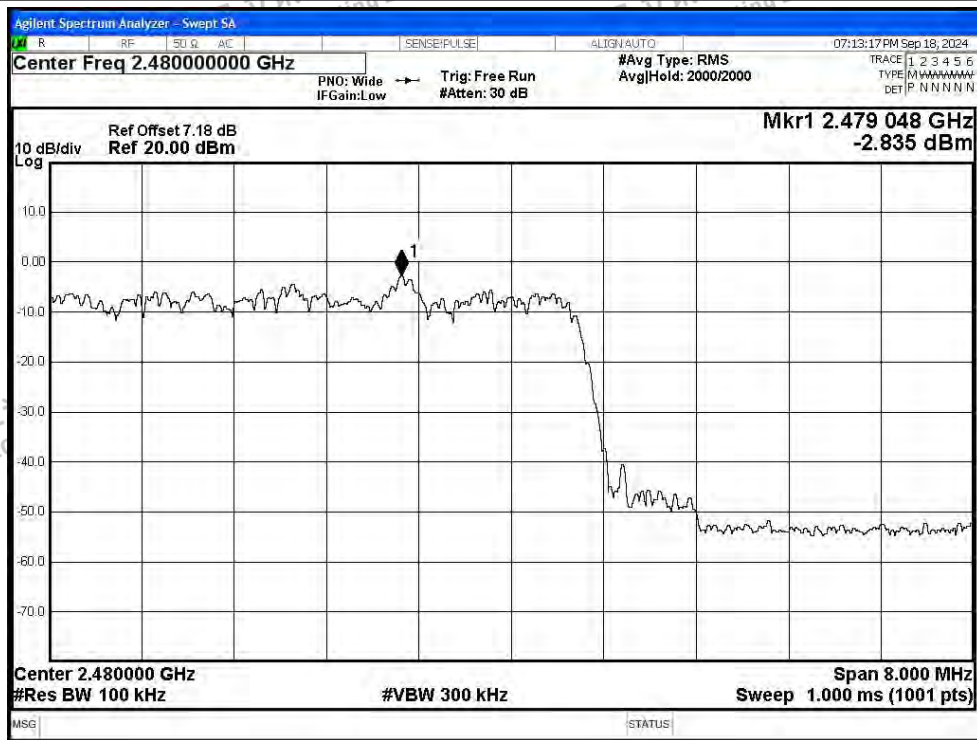


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

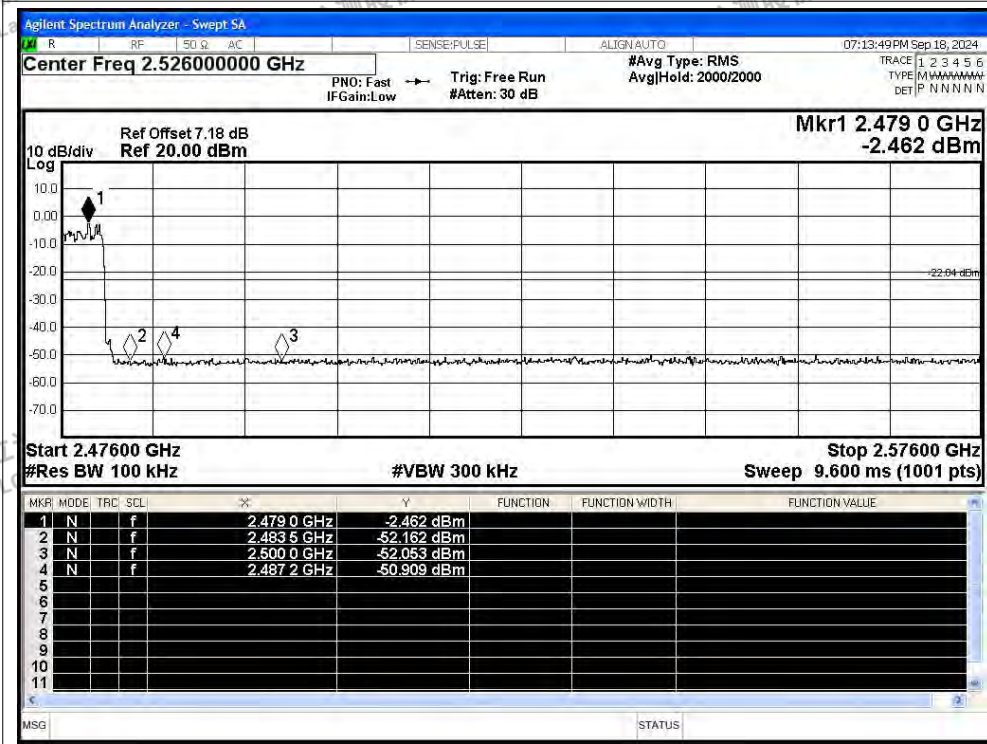




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission





### A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-48.42	-20	Pass
NVNT	1-DH5	2441	Ant1	-50.25	-20	Pass
NVNT	1-DH5	2480	Ant1	-50.26	-20	Pass
NVNT	2-DH5	2402	Ant1	-48.53	-20	Pass
NVNT	2-DH5	2441	Ant1	-49.03	-20	Pass
NVNT	2-DH5	2480	Ant1	-47	-20	Pass



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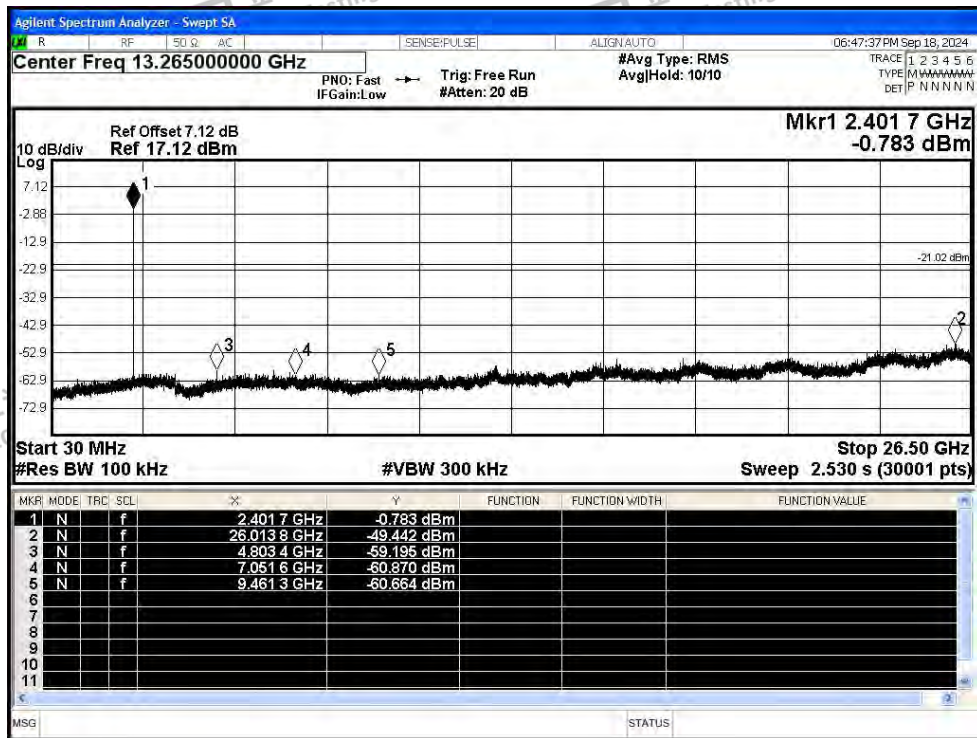


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

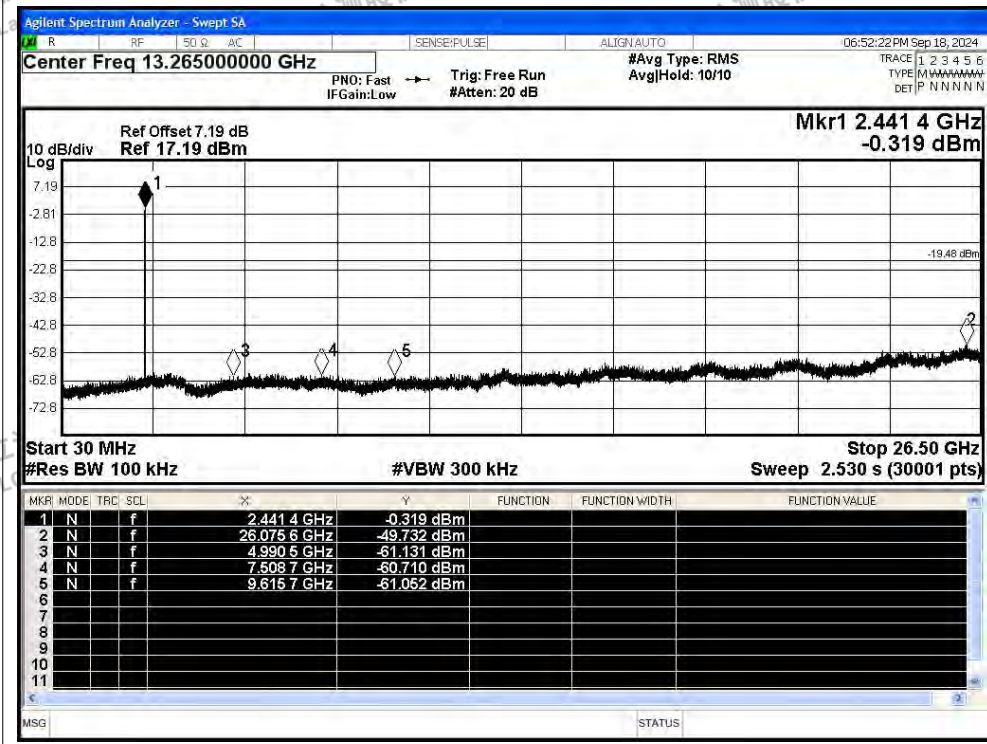




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

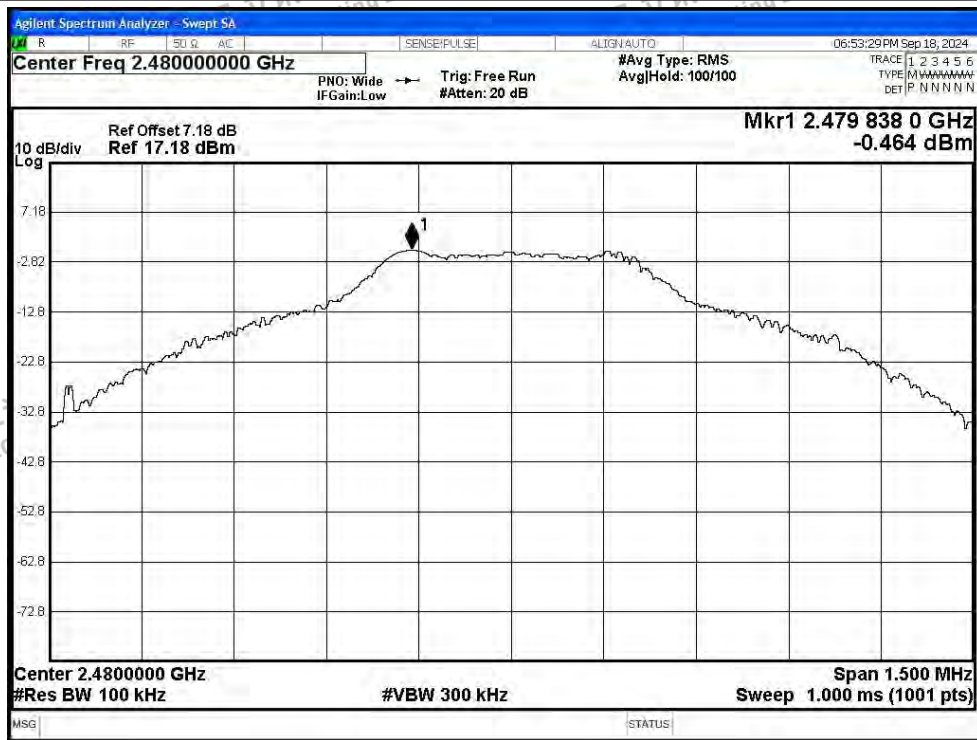


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

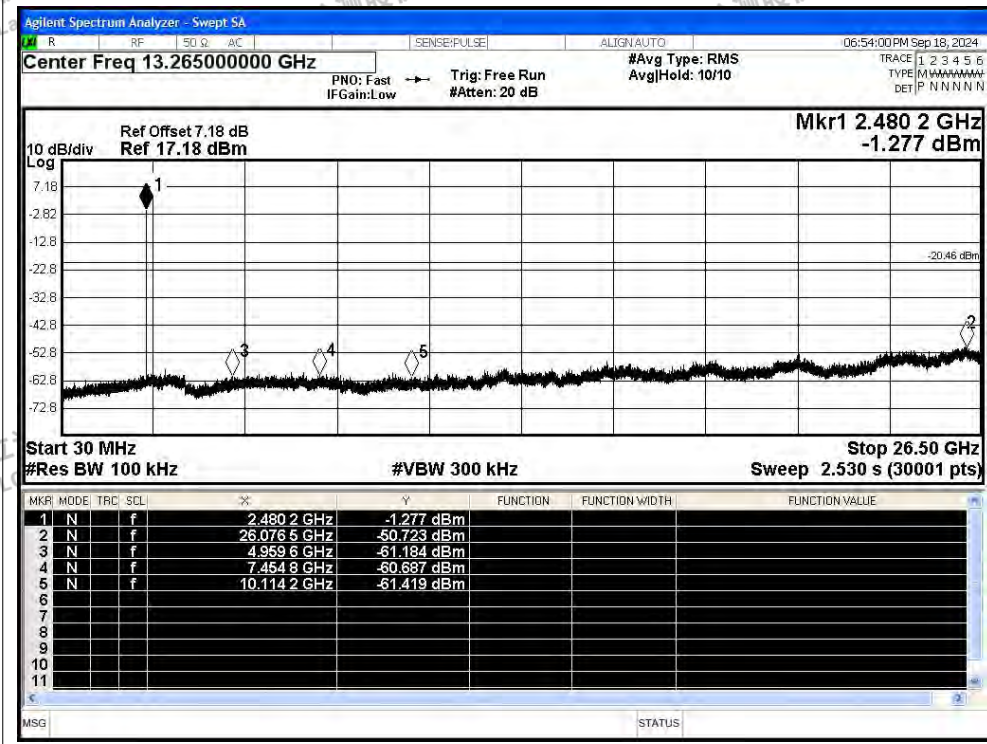




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

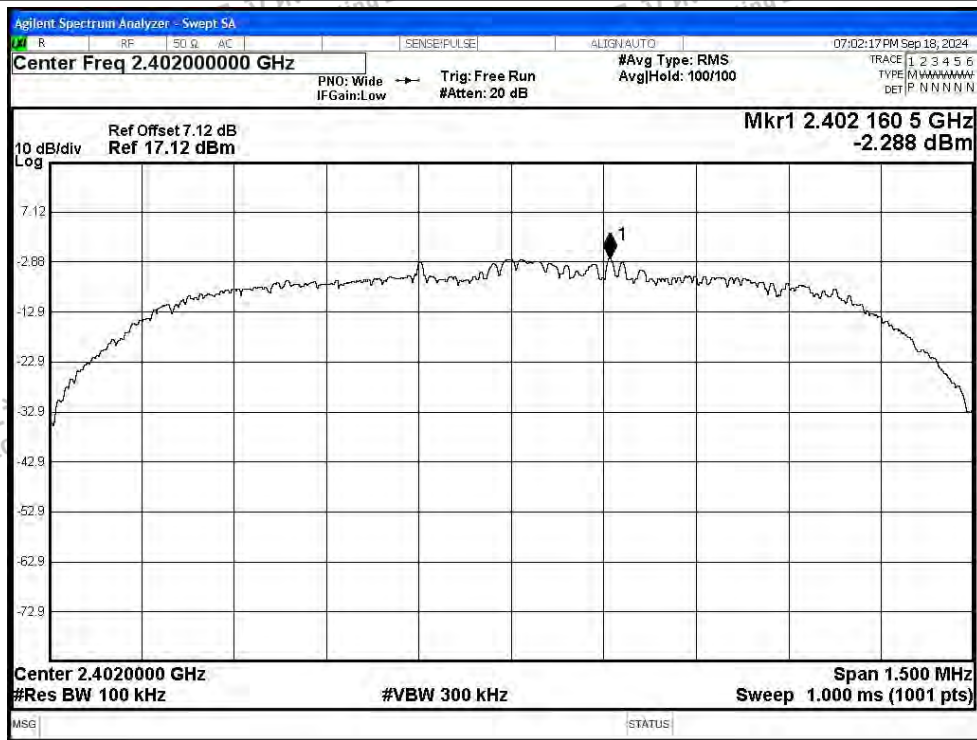


Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

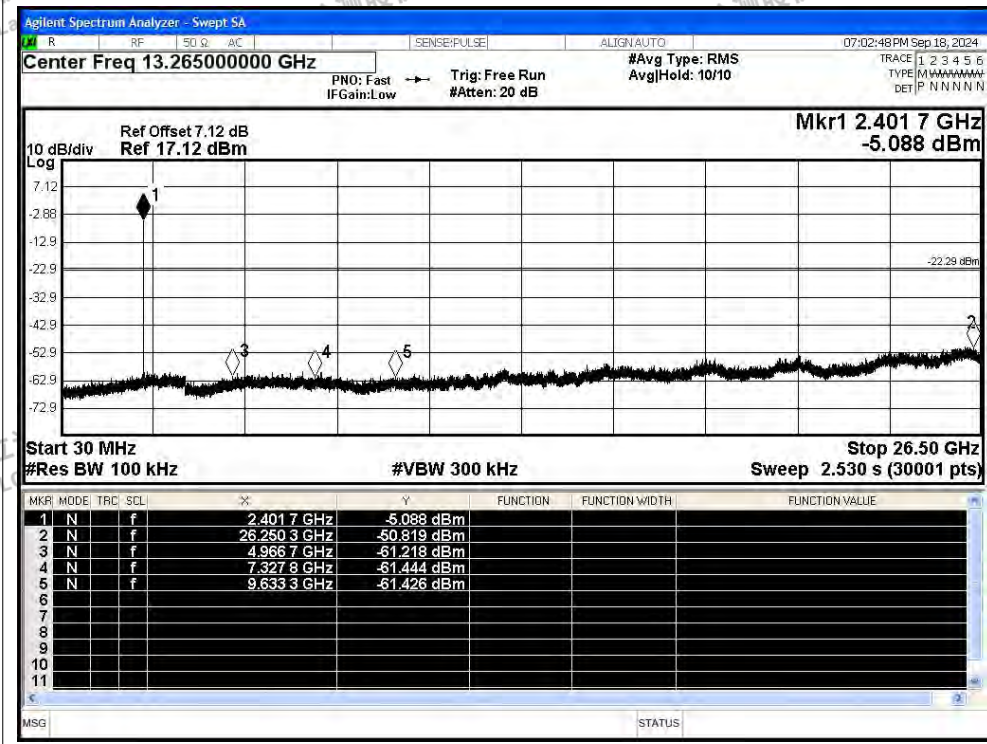




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

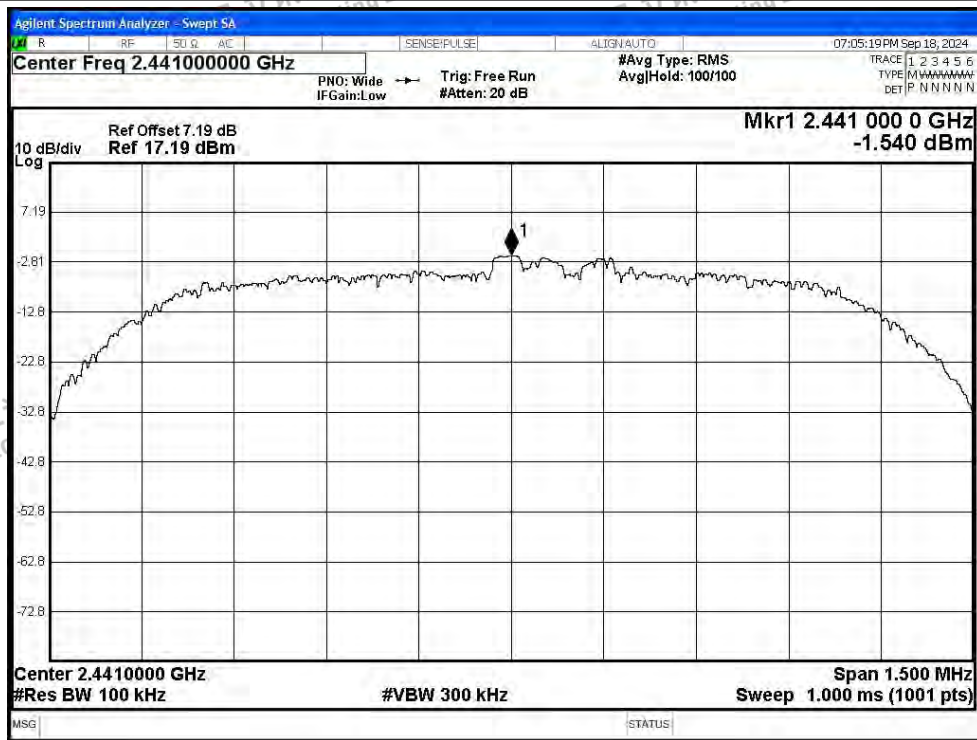


Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

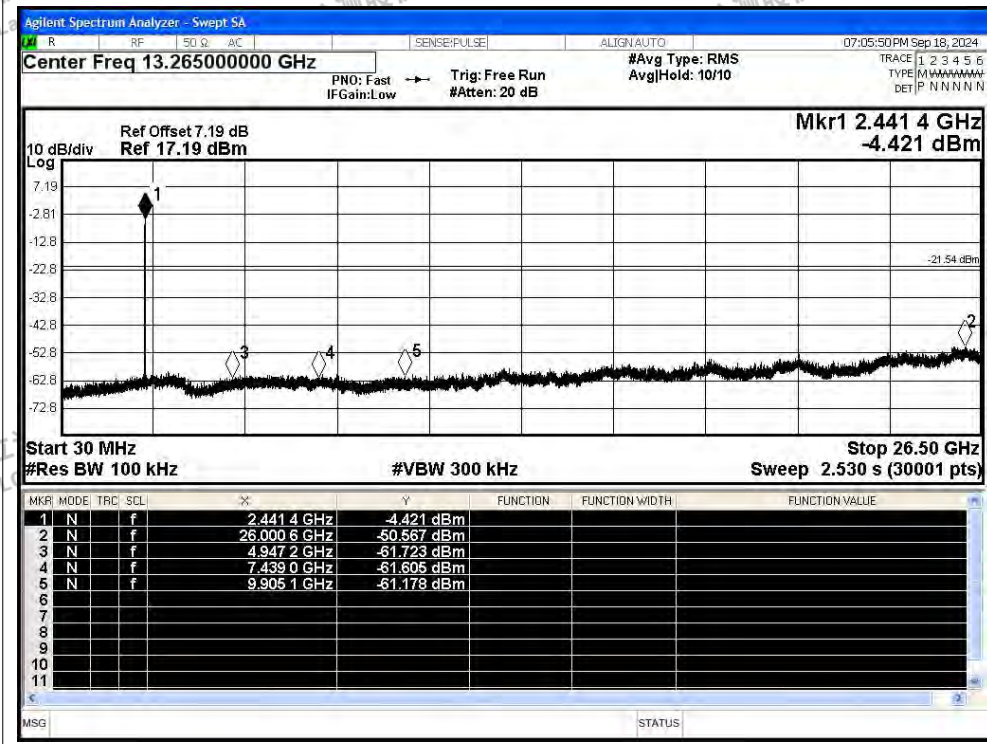




Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



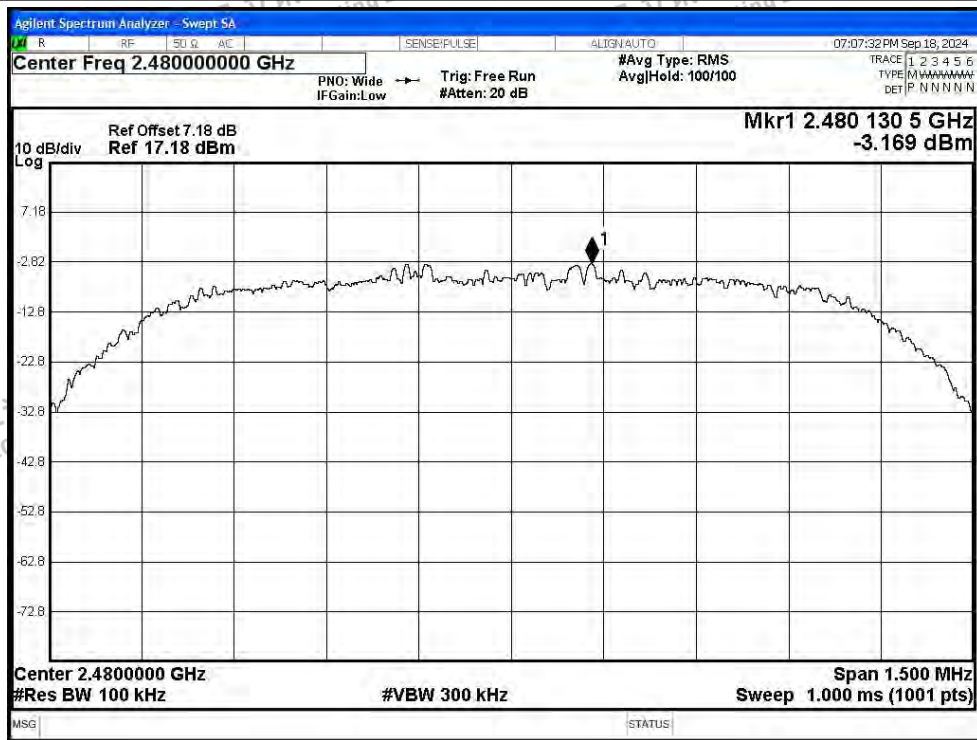
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



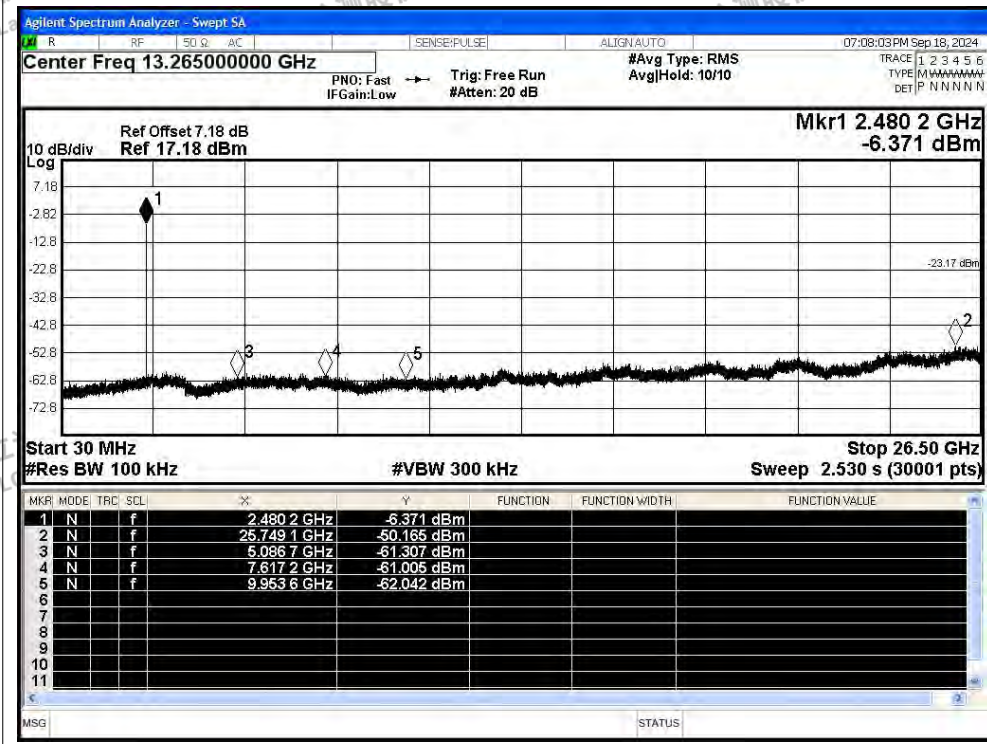




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission





### A.8 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.63	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.63	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant1	77.33	1.12	0.34
NVNT	2-DH5	2480	Ant1	77.28	1.12	0.35

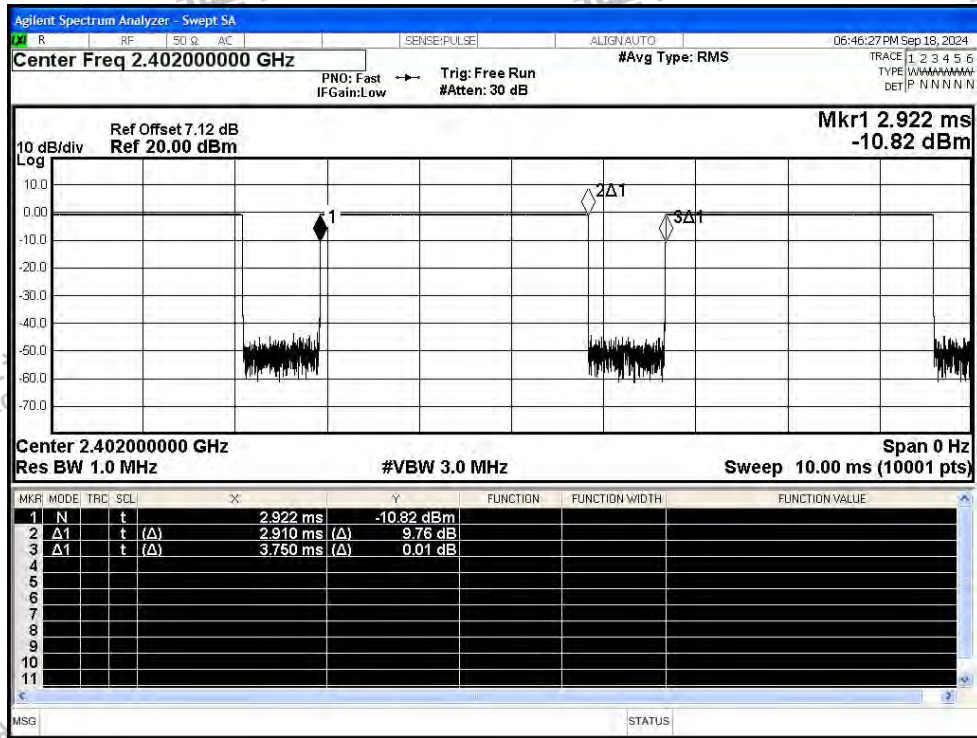


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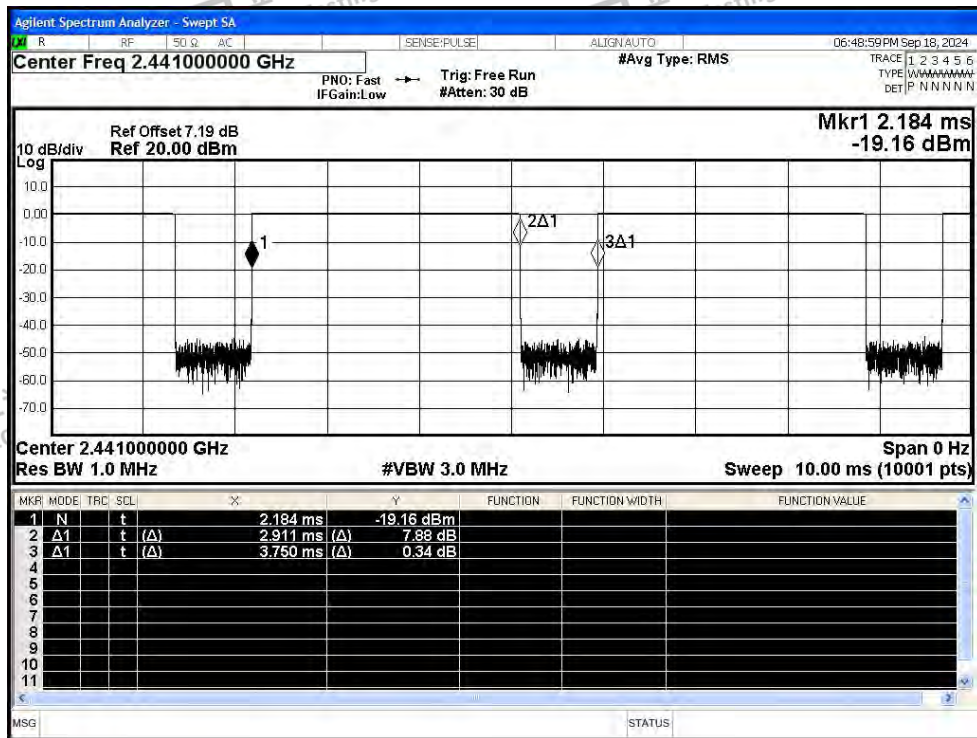


Test Graphs

Duty Cycle NVNT 1-DH5 2402MHz Ant1

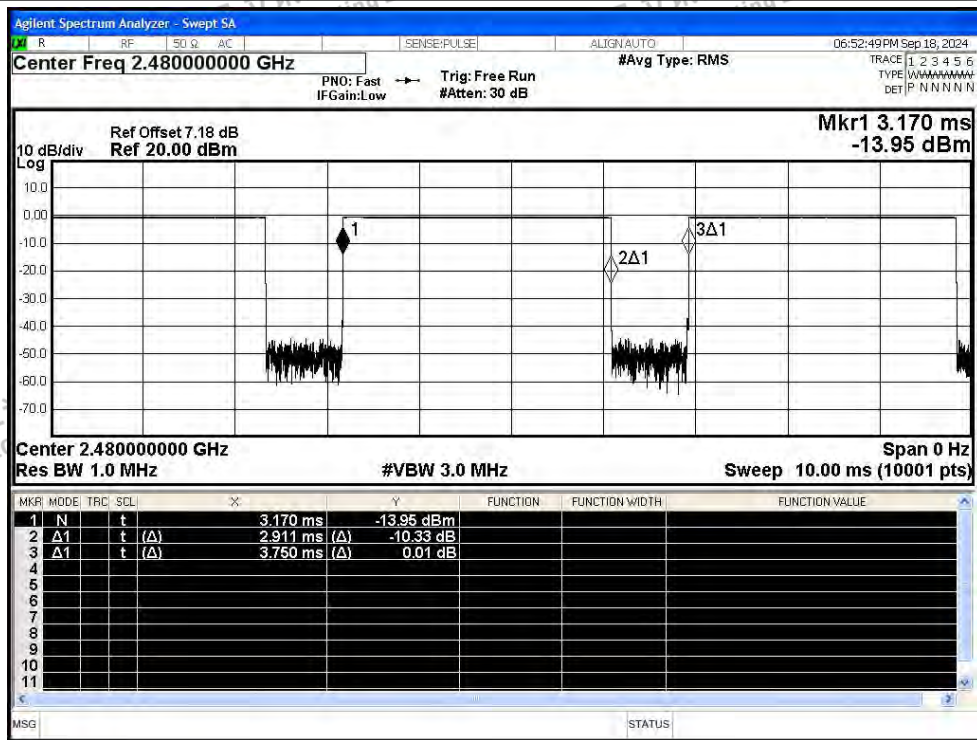


Duty Cycle NVNT 1-DH5 2441MHz Ant1

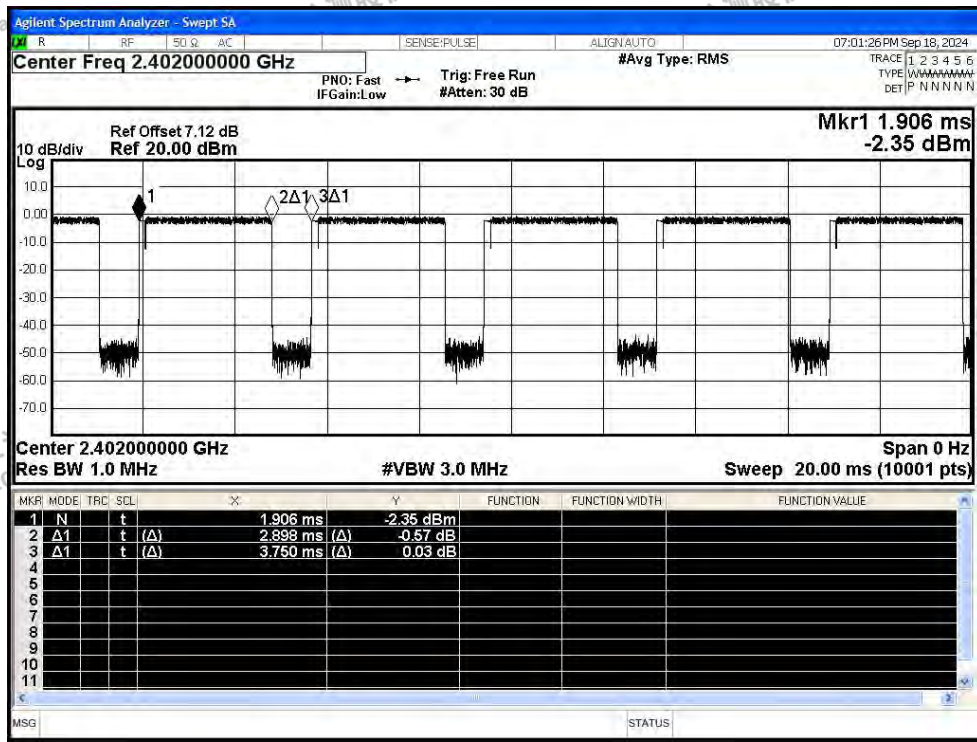




Duty Cycle NVNT 1-DH5 2480MHz Ant1

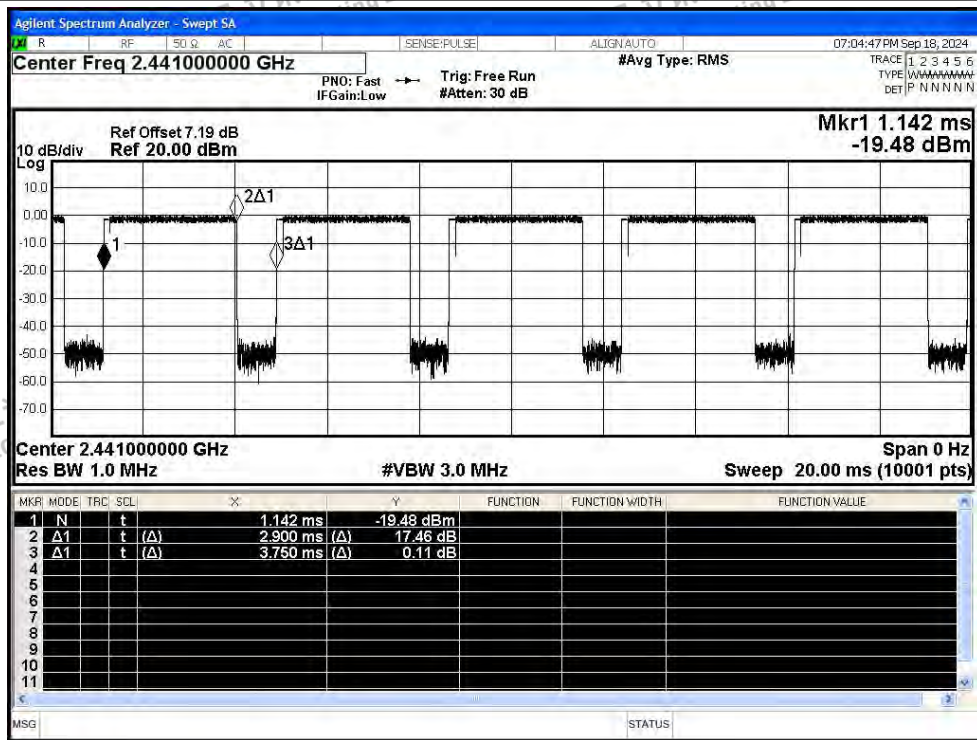


Duty Cycle NVNT 2-DH5 2402MHz Ant1

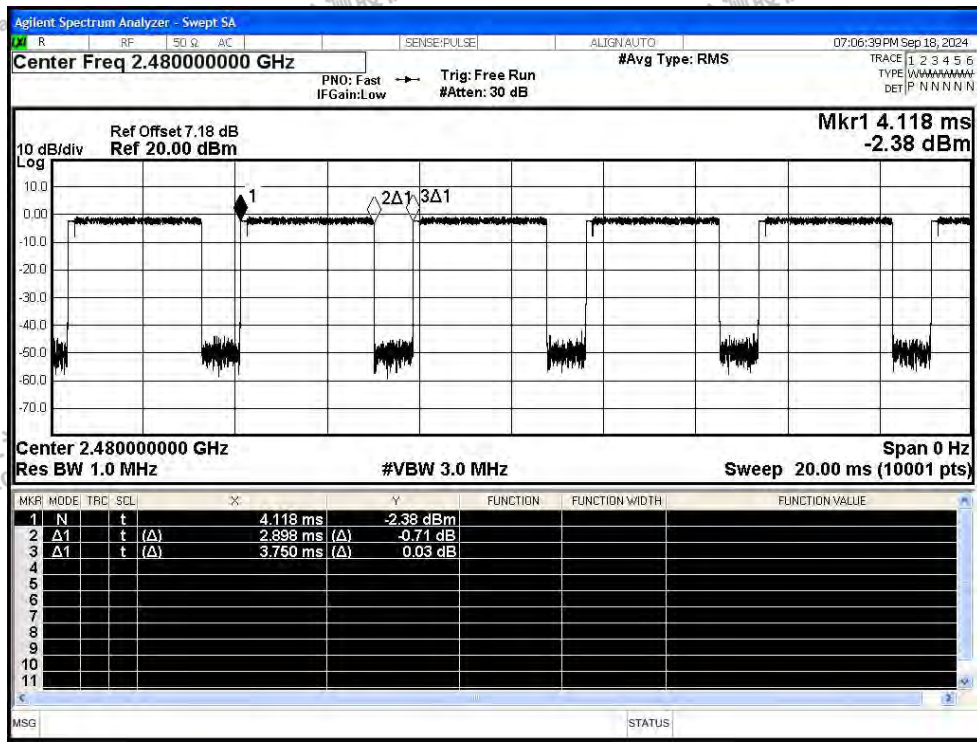




Duty Cycle NVNT 2-DH5 2441MHz Ant1



Duty Cycle NVNT 2-DH5 2480MHz Ant1





### A.9 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-DH5	2402	Ant1	No-Hopping	2310	-45.4	2.11	-	51.97	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-53.19	2.11	1.1	45.28	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2386.704	-42.43	2.11	-	54.94	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2358.96	-52.51	2.11	1.1	45.96	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-46.36	2.11	-	51.01	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-53.37	2.11	1.1	45.10	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-46.39	2.11	-	50.98	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-53.2	2.11	1.1	45.27	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.4	-42.04	2.11	-	55.33	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2490.76	-52.23	2.11	1.1	46.24	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-45.71	2.11	-	51.66	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-52.92	2.11	1.1	45.55	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-44.54	2.11	-	52.83	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-53.96	2.11	1.12	44.53	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2388.048	-42.13	2.11	-	55.24	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2374.992	-52.61	2.11	1.12	45.88	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-45.07	2.11	-	52.30	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-53.53	2.11	1.12	44.96	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-44.37	2.11	-	53.00	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-53.37	2.11	1.12	45.12	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2489.56	-41.44	2.11	-	55.93	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2489.08	-52.12	2.11	1.12	46.37	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-45.63	2.11	-	51.74	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-52.91	2.11	1.12	45.58	Average	54	Pass

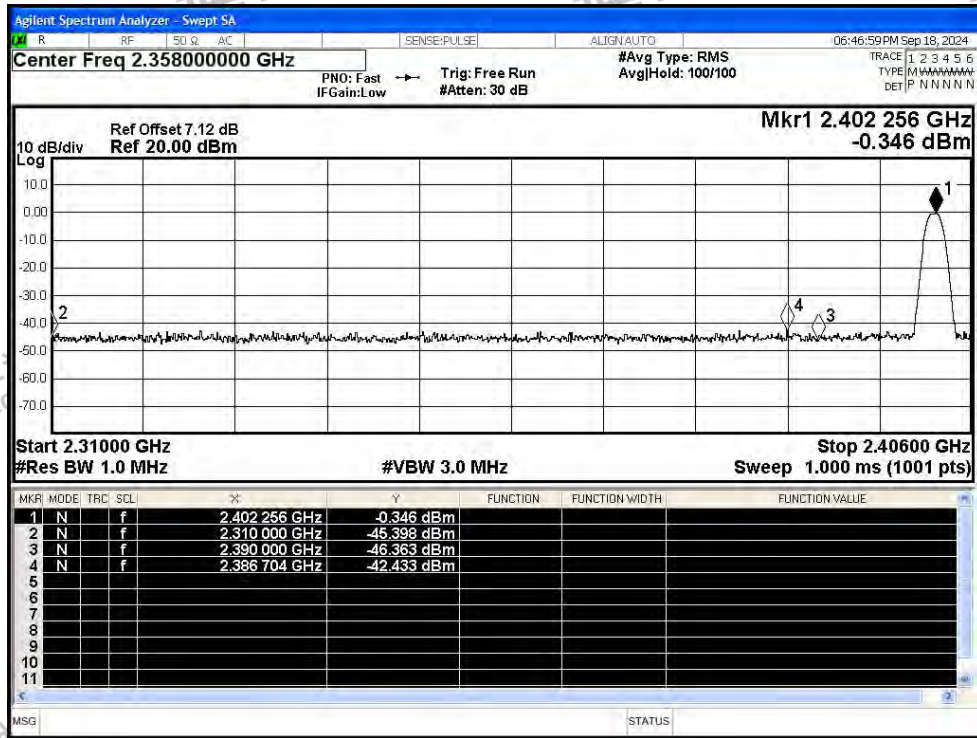


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 Scan code to check authenticity

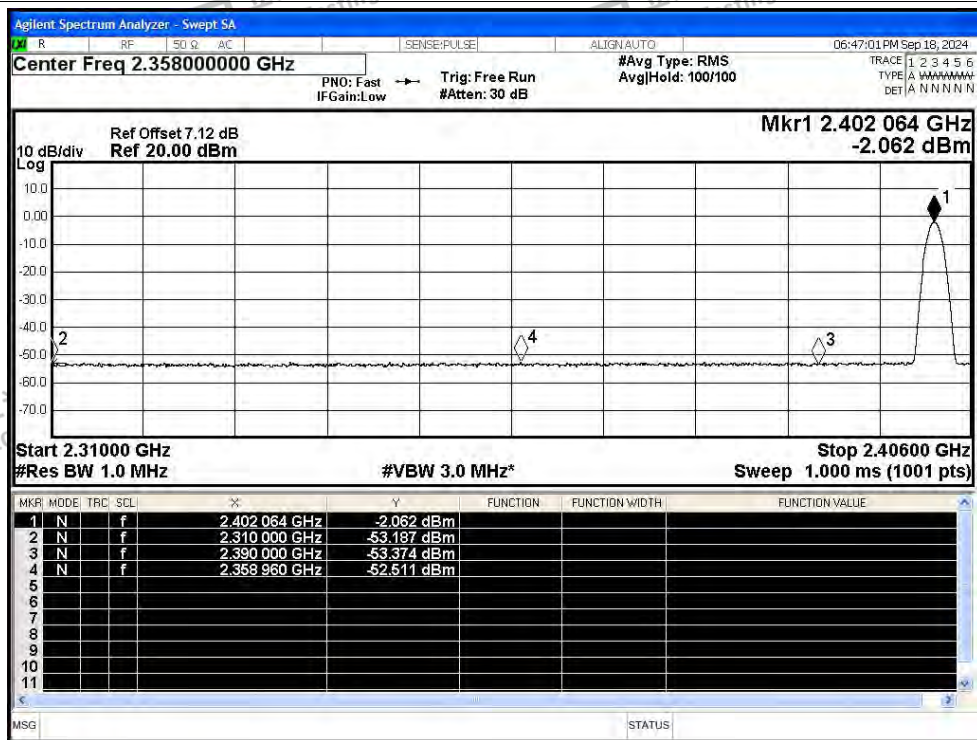


Test Graphs

Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak

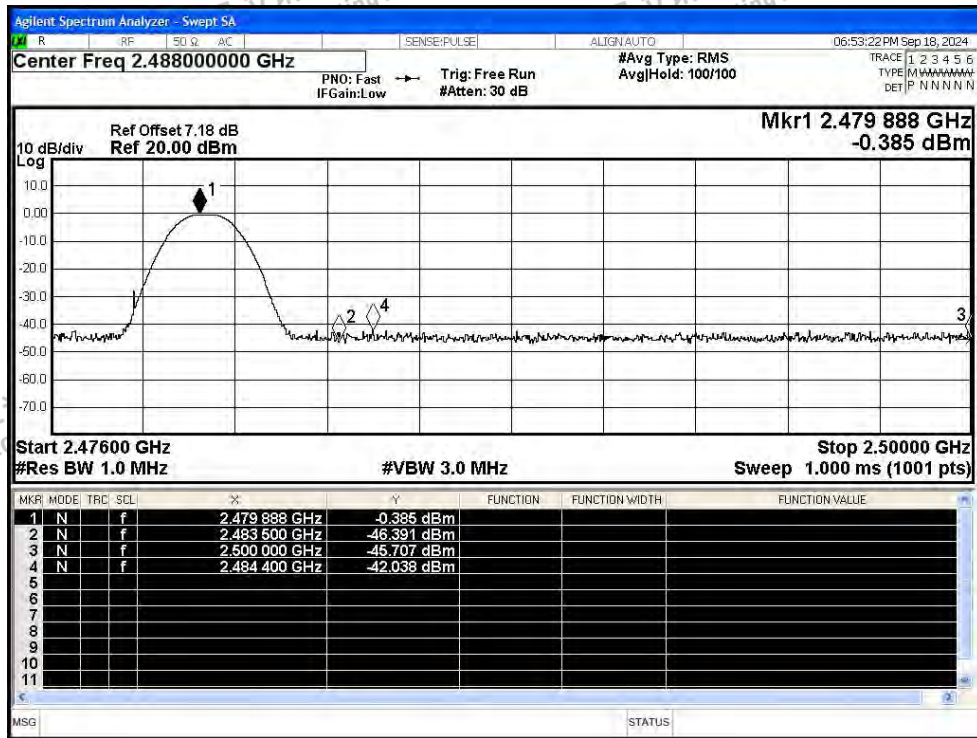


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

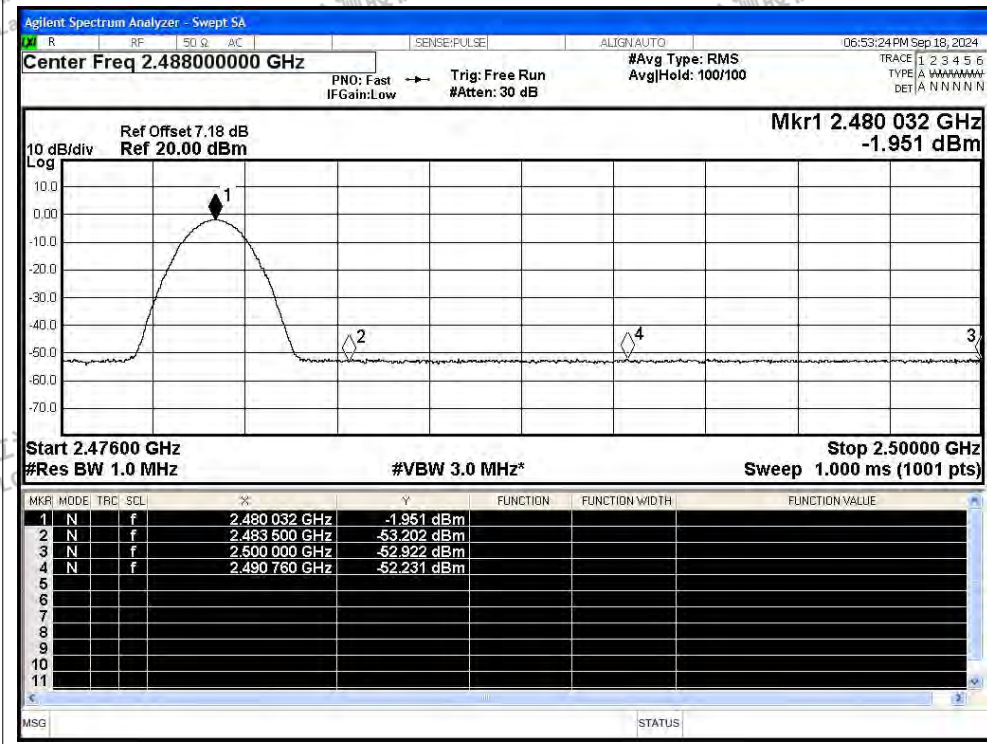




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



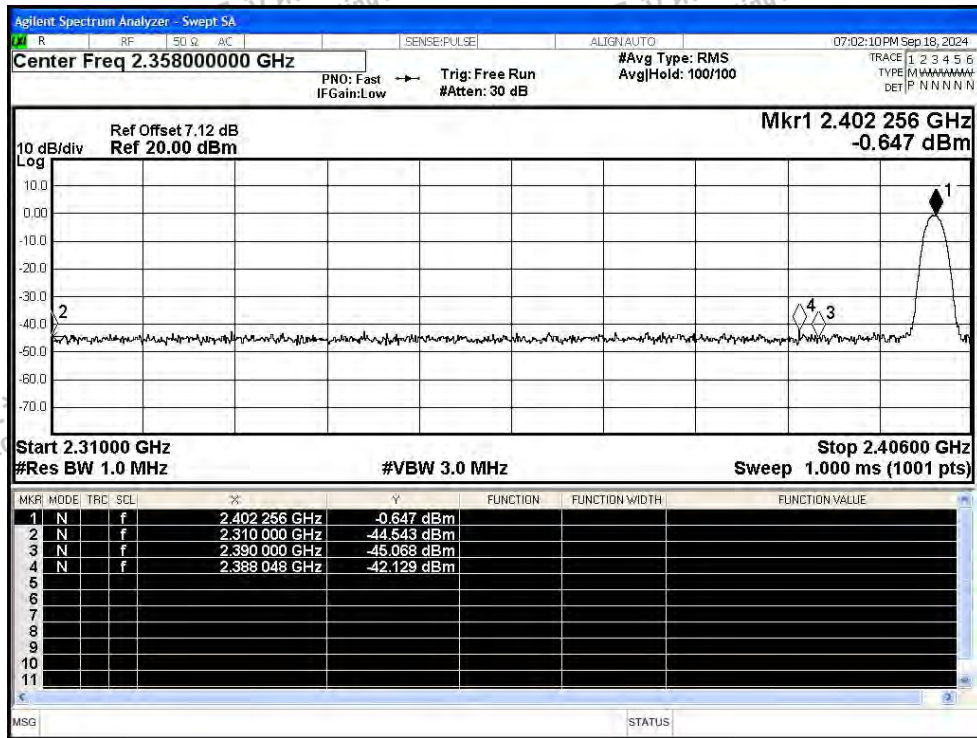
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



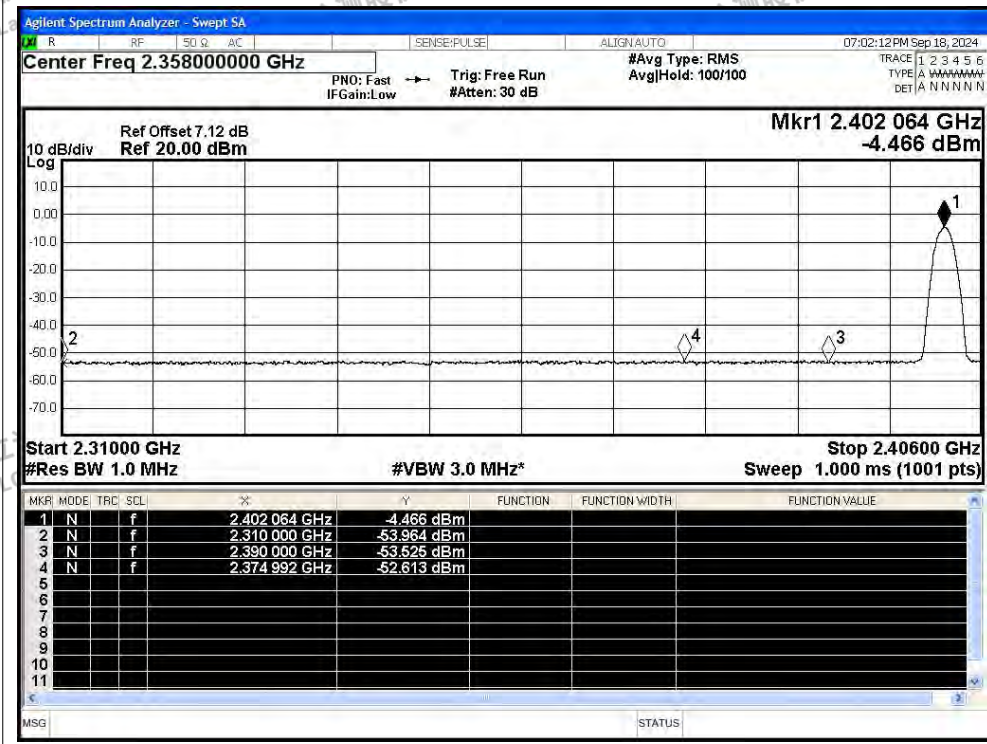




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

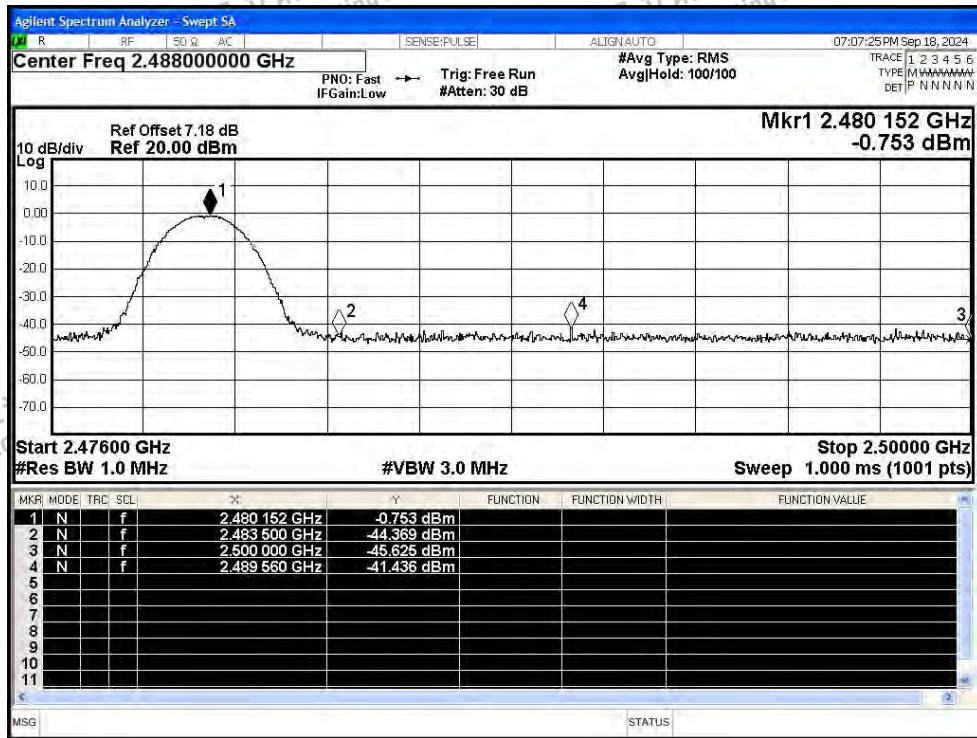


Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average





Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average

