

## Appendix A

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

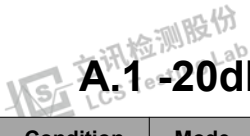
Product Name: BLUETOOTH SPEAKER WITH TWS EARBUDS 2-IN-1

Test Model: OS-1008



#### Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng
Supervised by:	Ling Zhu



#### A.1 -20dB Bandwidth

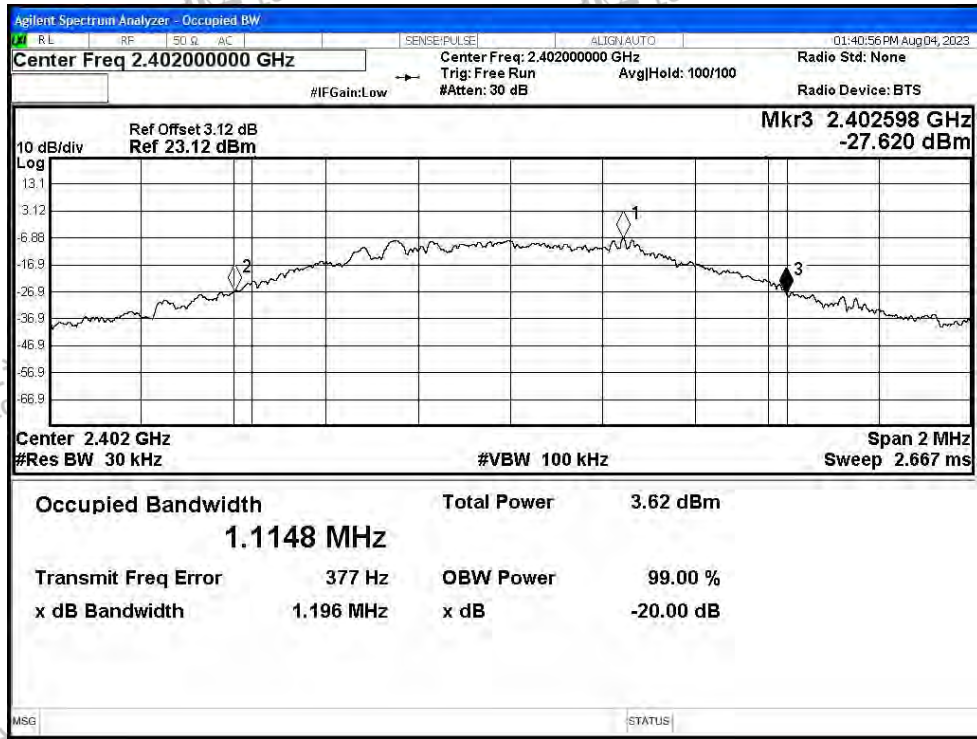
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	1.196	N/A	Pass
NVNT	1-DH5	2441	Ant1	1.043	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.071	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.337	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.334	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.349	N/A	Pass



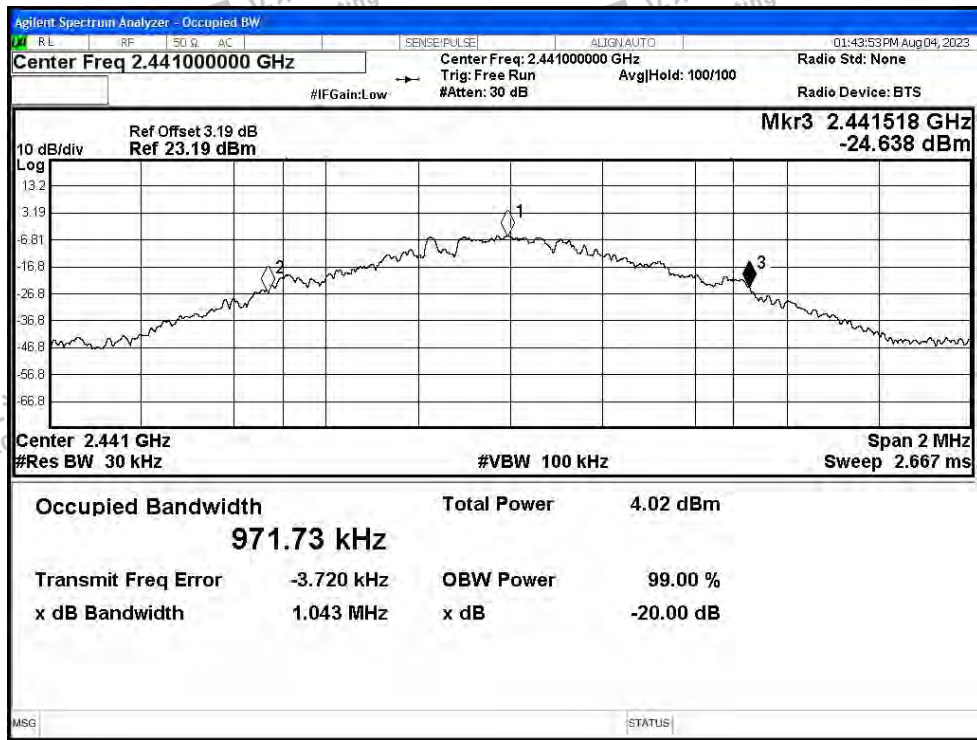


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

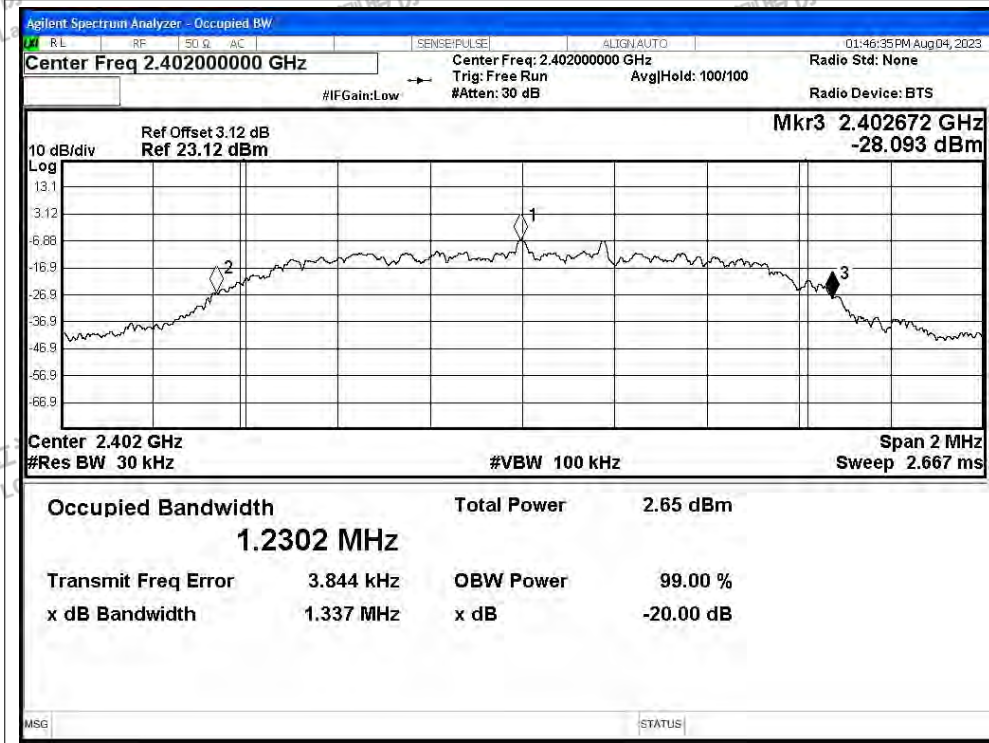




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



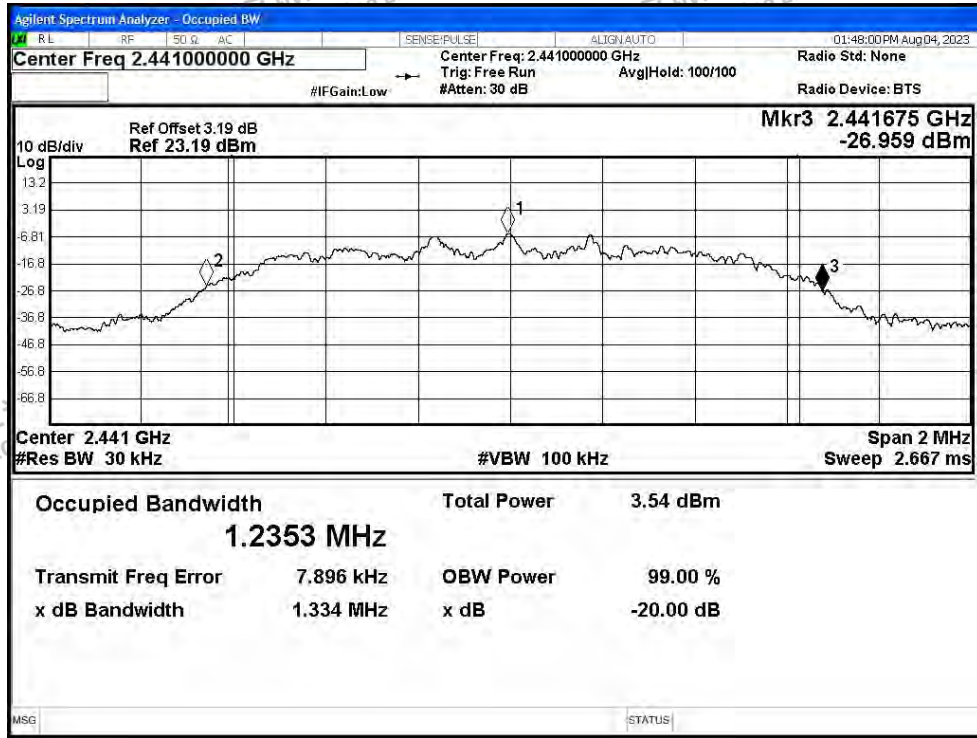
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



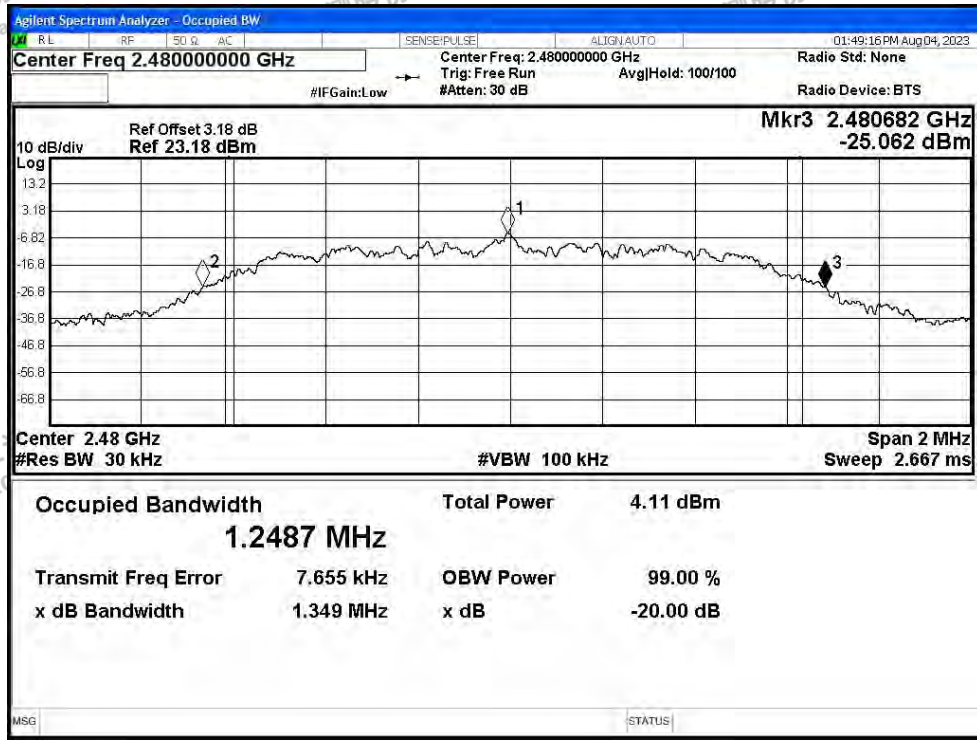




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1





## A.2 Maximum Conducted Output Power

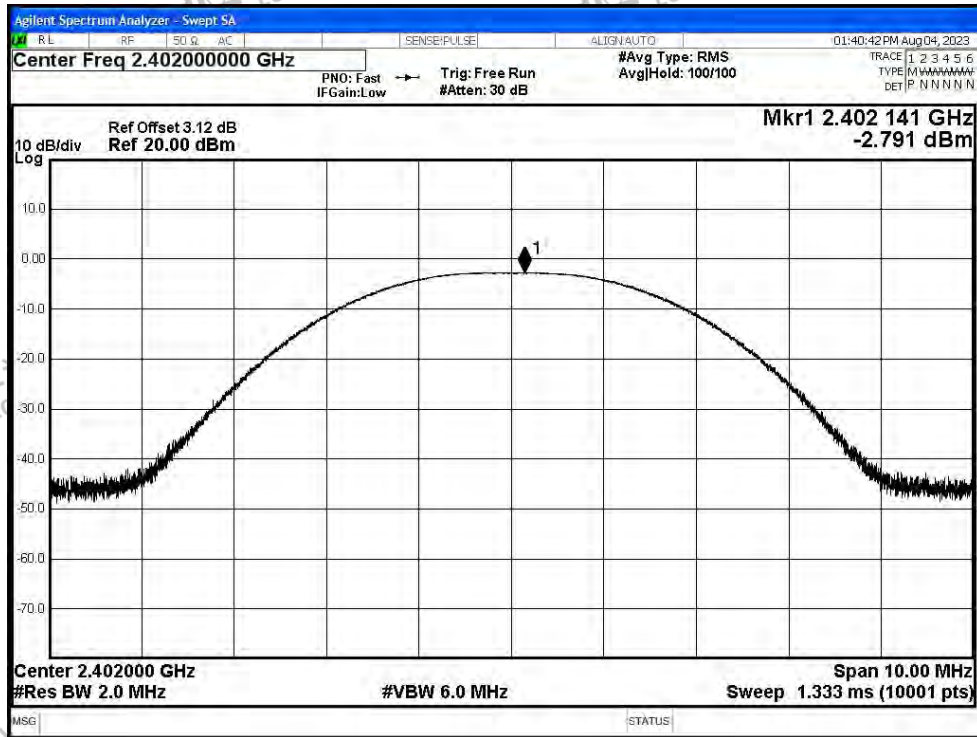
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-2.79	21	Pass
NVNT	1-DH5	2441	Ant1	-2.31	21	Pass
NVNT	1-DH5	2480	Ant1	-1.49	21	Pass
NVNT	2-DH5	2402	Ant1	-1.93	21	Pass
NVNT	2-DH5	2441	Ant1	-1.49	21	Pass
NVNT	2-DH5	2480	Ant1	-0.62	21	Pass



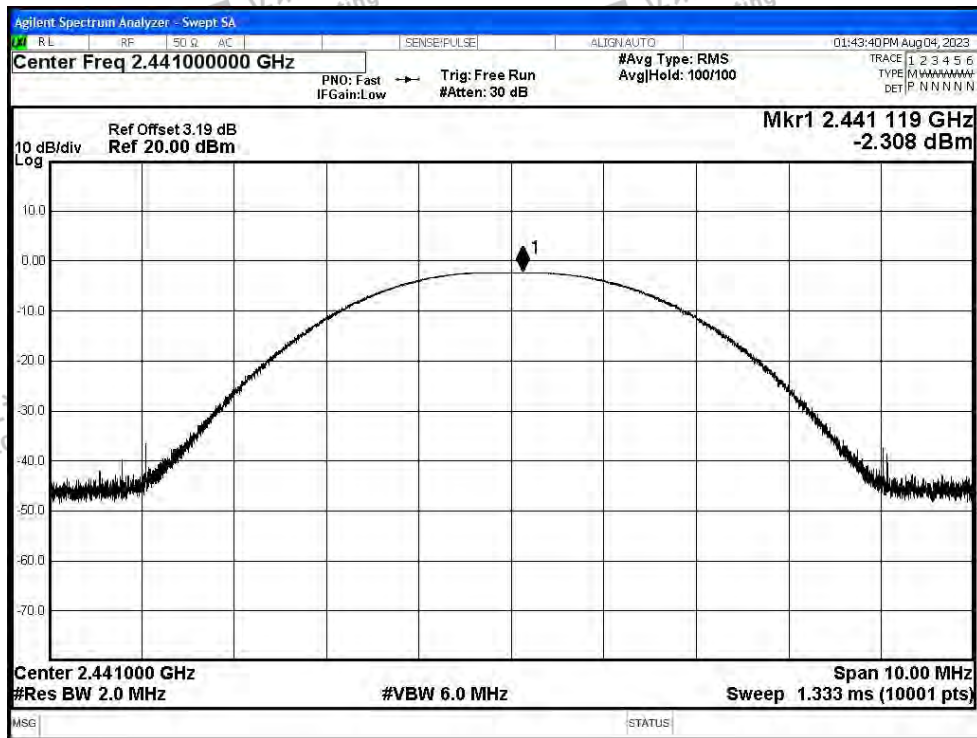


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

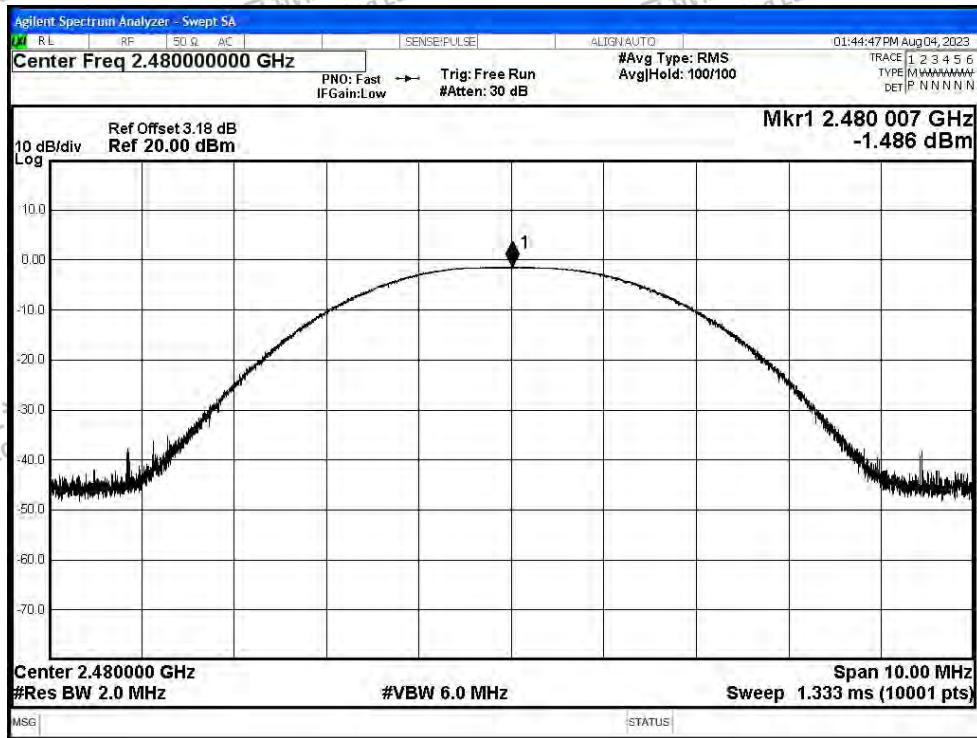


Power NVNT 1-DH5 2441MHz Ant1

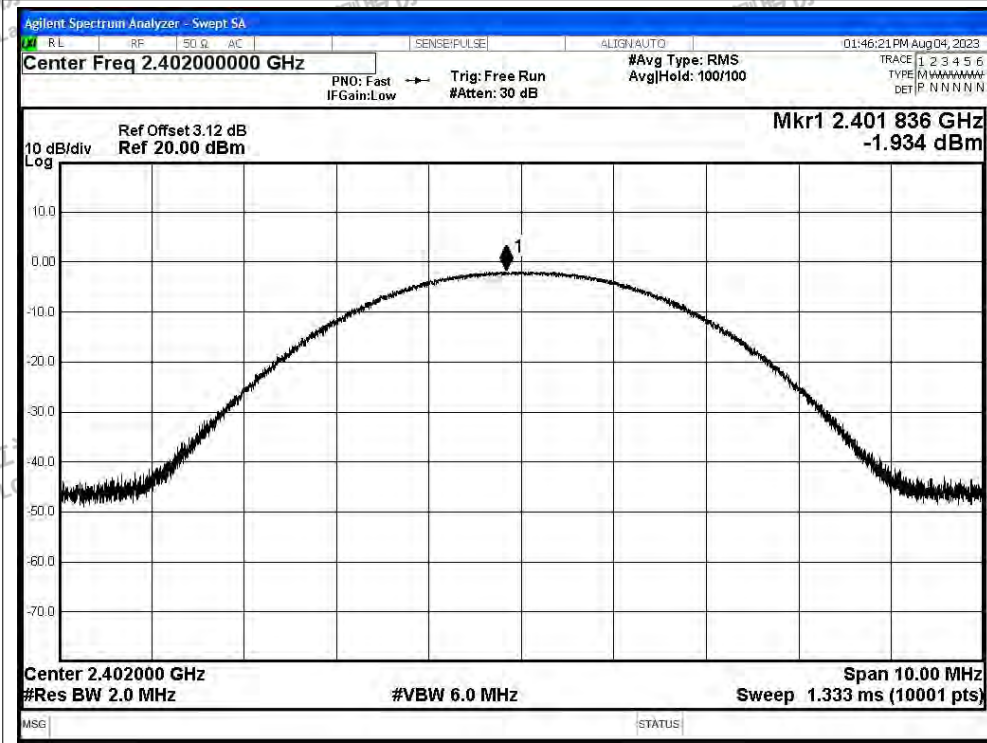




Power NVNT 1-DH5 2480MHz Ant1



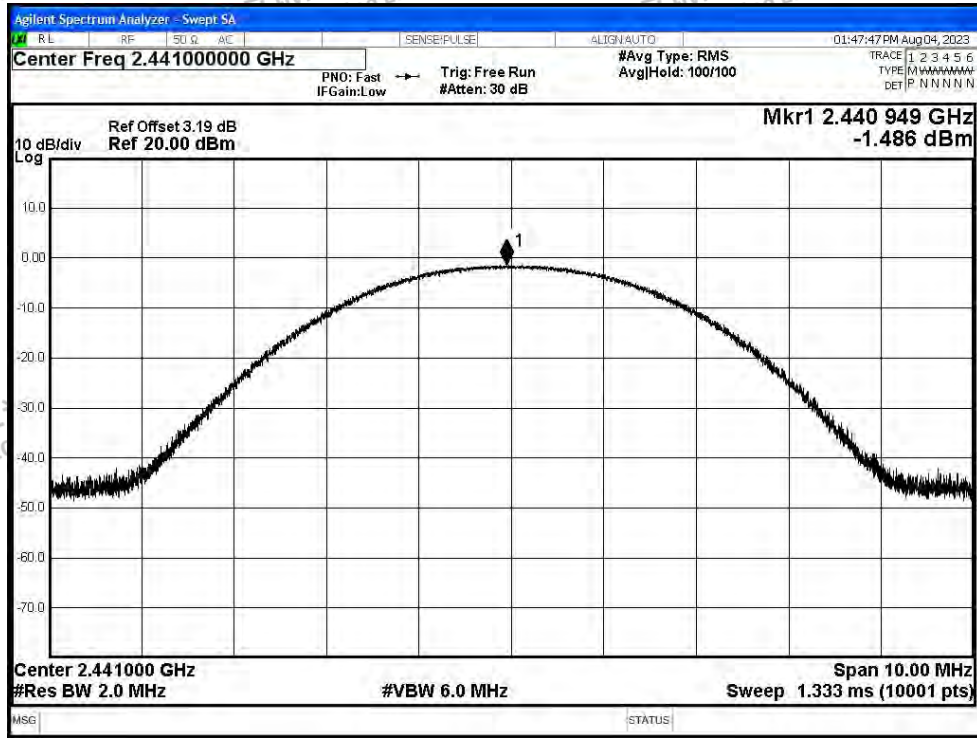
Power NVNT 2-DH5 2402MHz Ant1



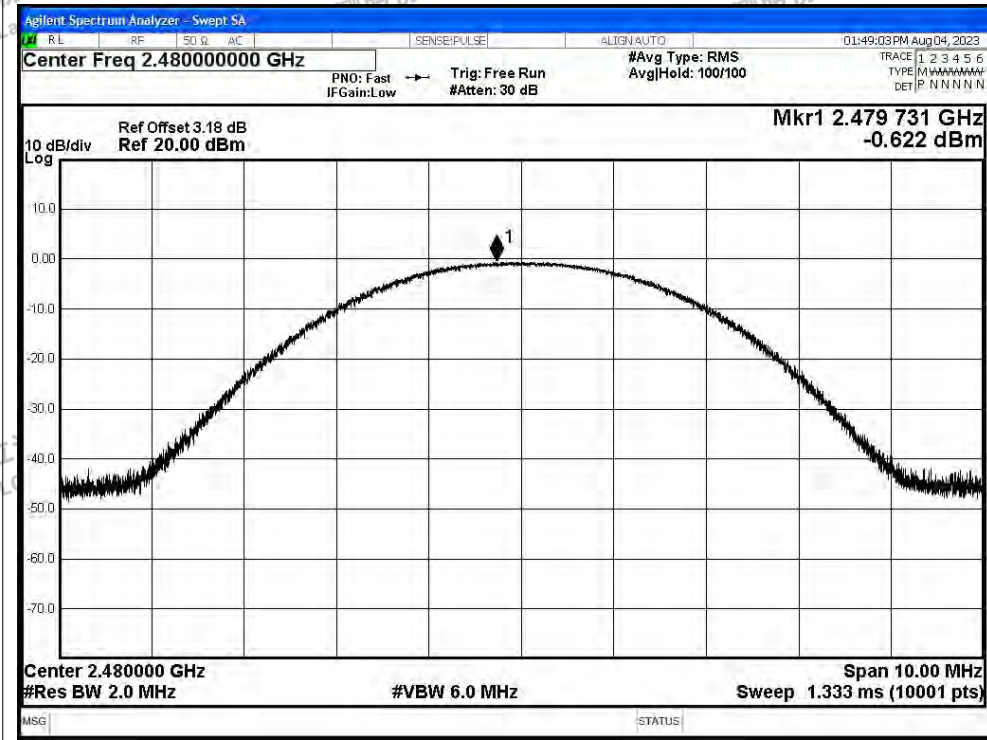




Power NVNT 2-DH5 2441MHz Ant1



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	2401.978	2403.012	1.034	0.797	Pass
NVNT	2-DH5	Ant1	2401.992	2403.16	1.168	0.891	Pass

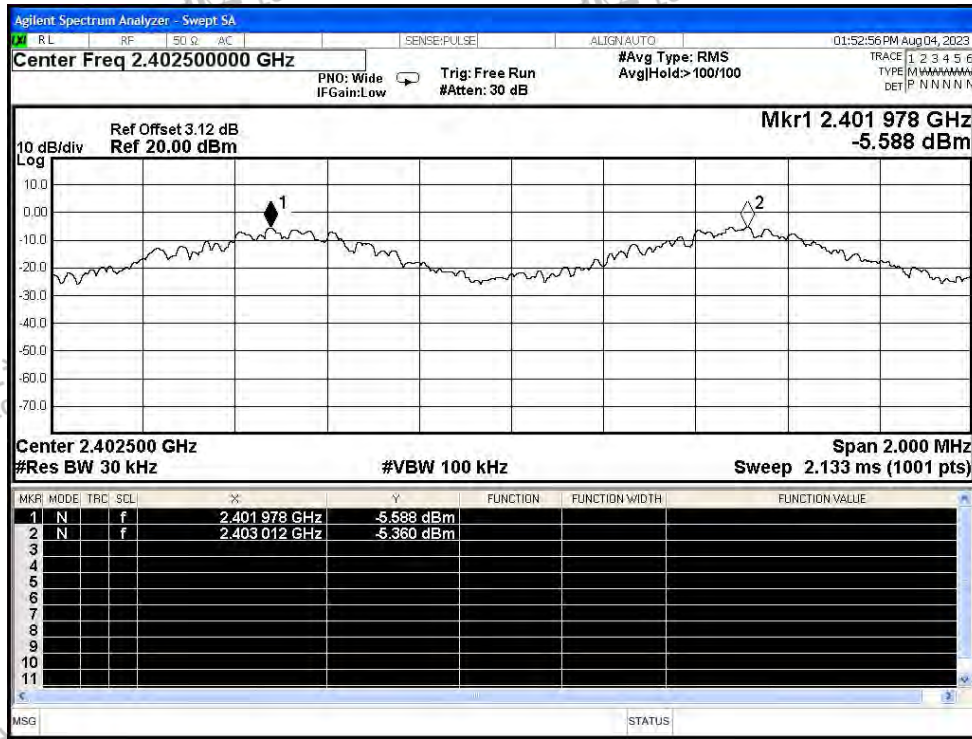


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Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com  
Scan code to check authenticity

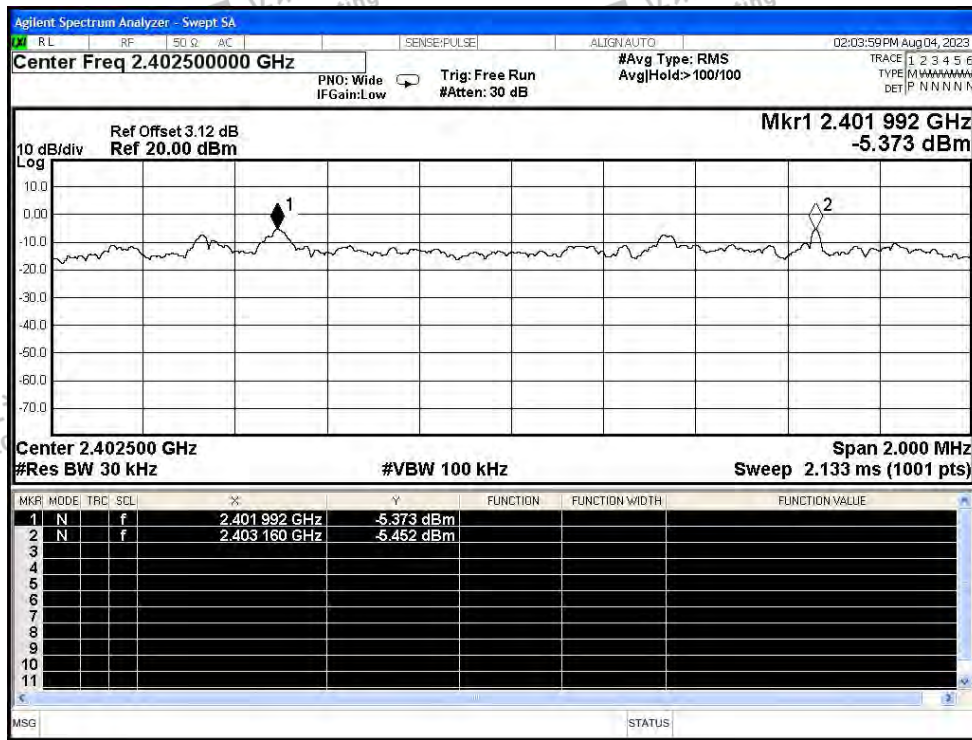


Test Graphs

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	2.88	296.64	103	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.886	331.89	115	31600	400	Pass

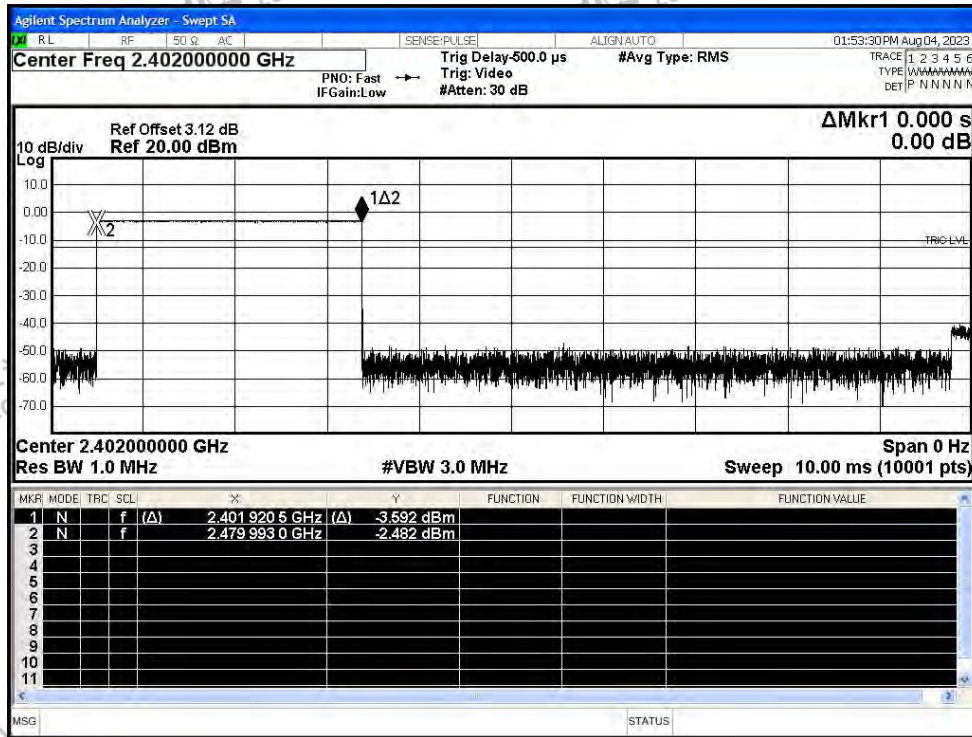


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 Scan code to check authenticity

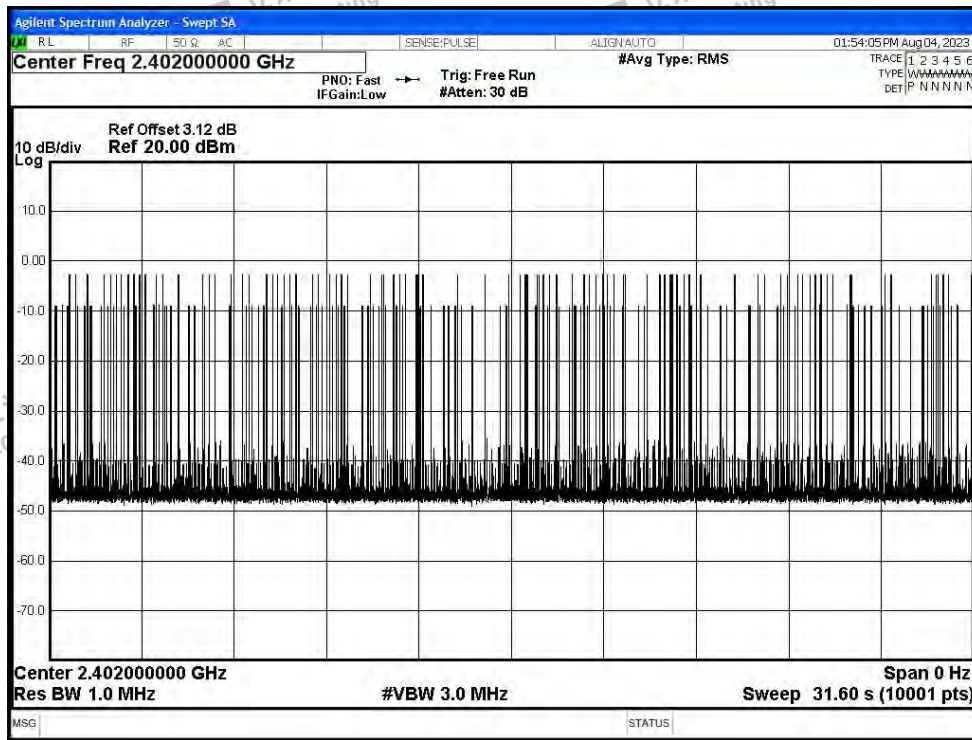


Test Graphs

Dwell-NVNT 1-DH5 2402MHz Ant1 One Burst



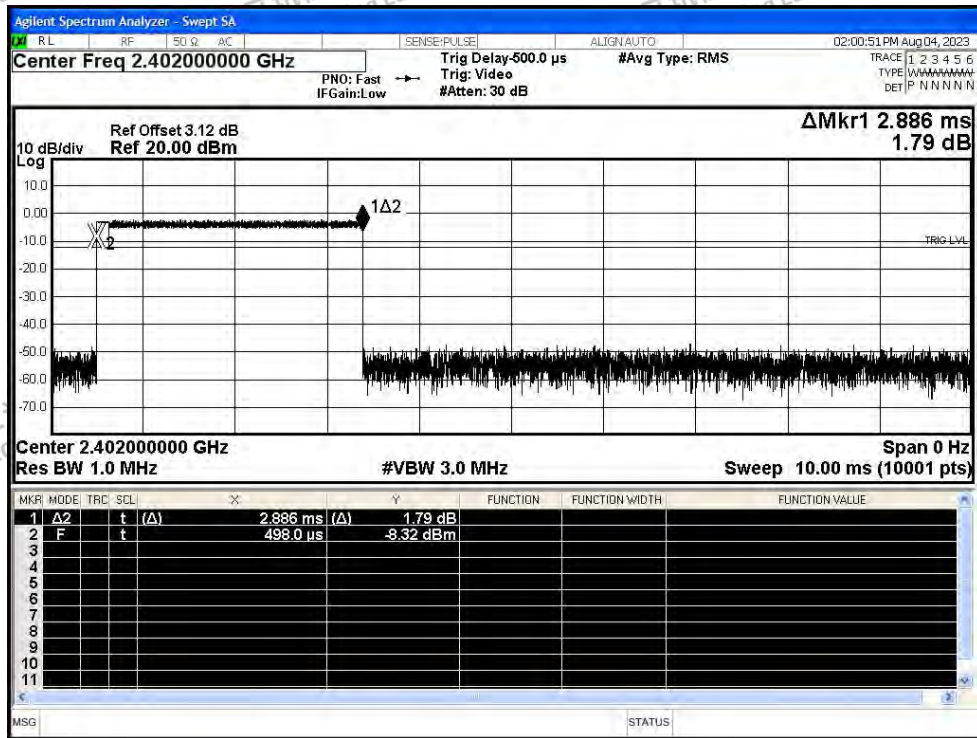
Dwell-NVNT 1-DH5 2402MHz Ant1 Accumulated



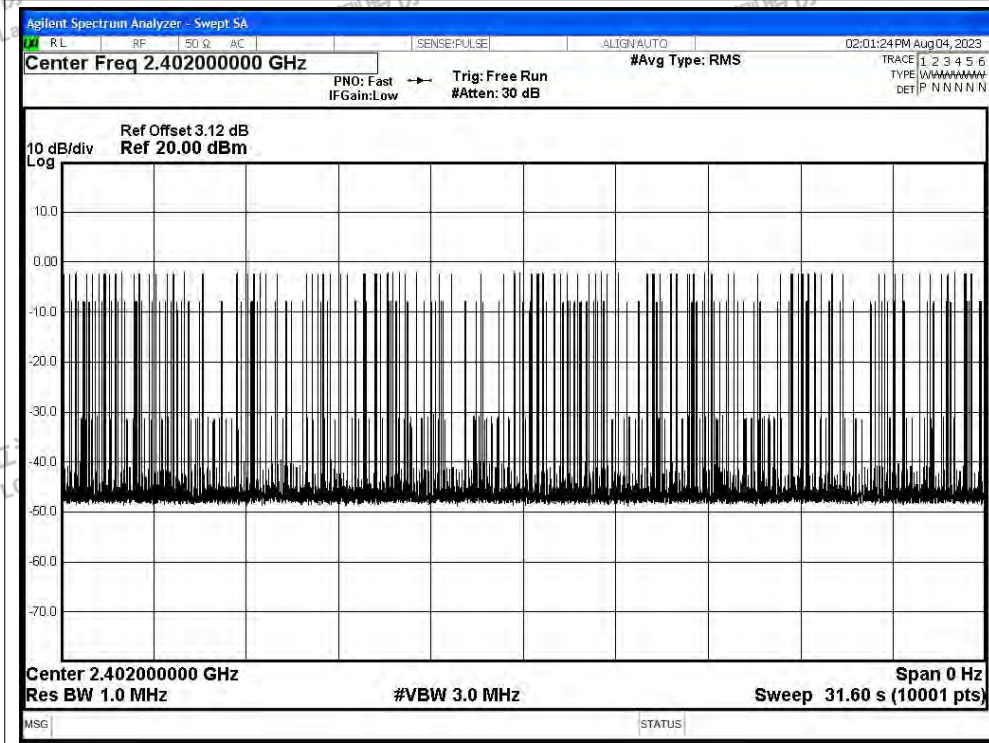




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



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

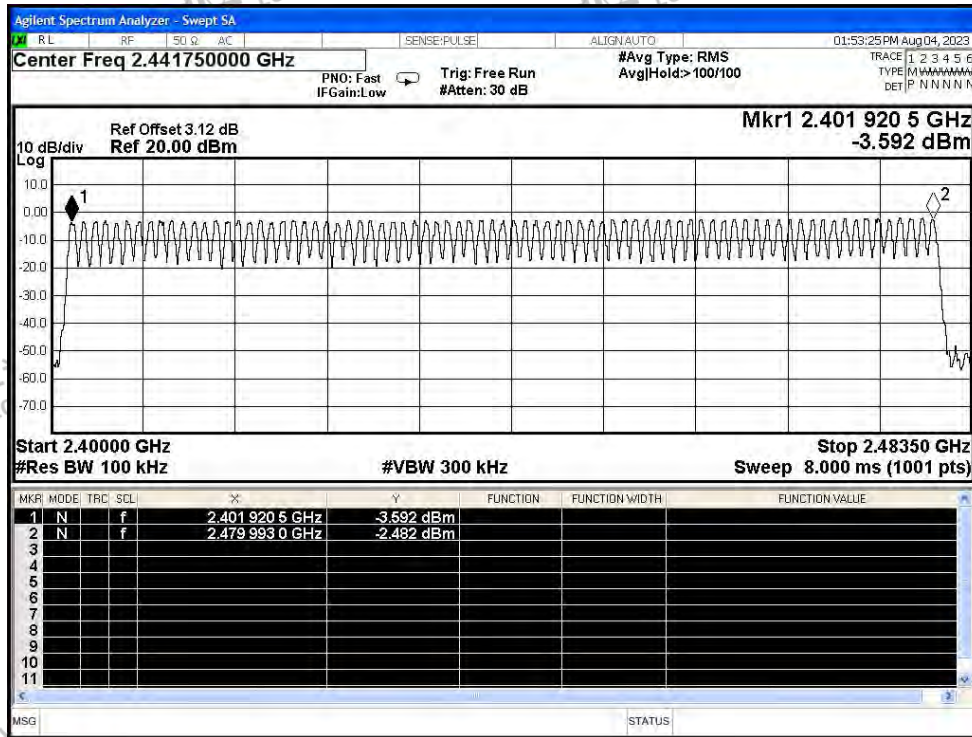


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Scan code to check authenticity

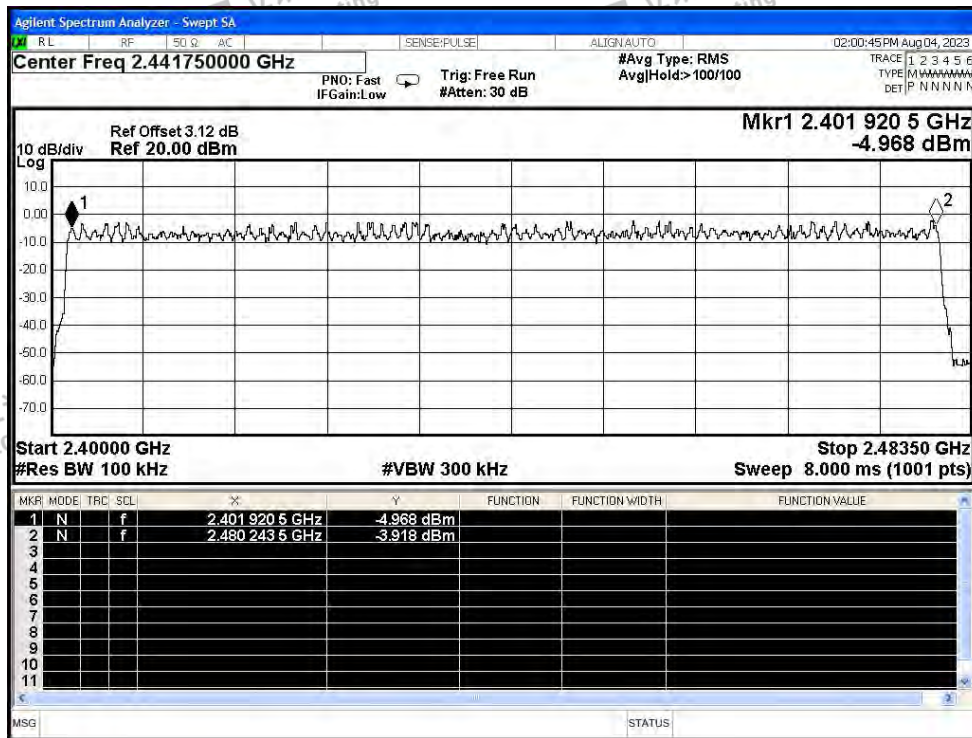


Test Graphs

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	-47.08	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-51.64	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-44.53	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-50.44	-20	Pass

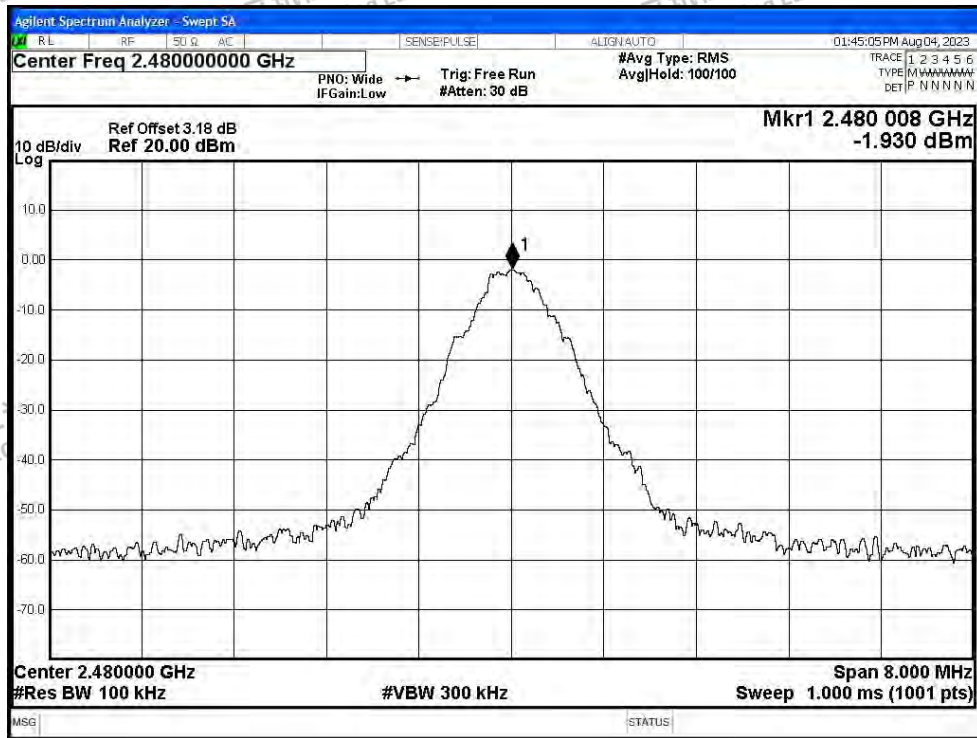




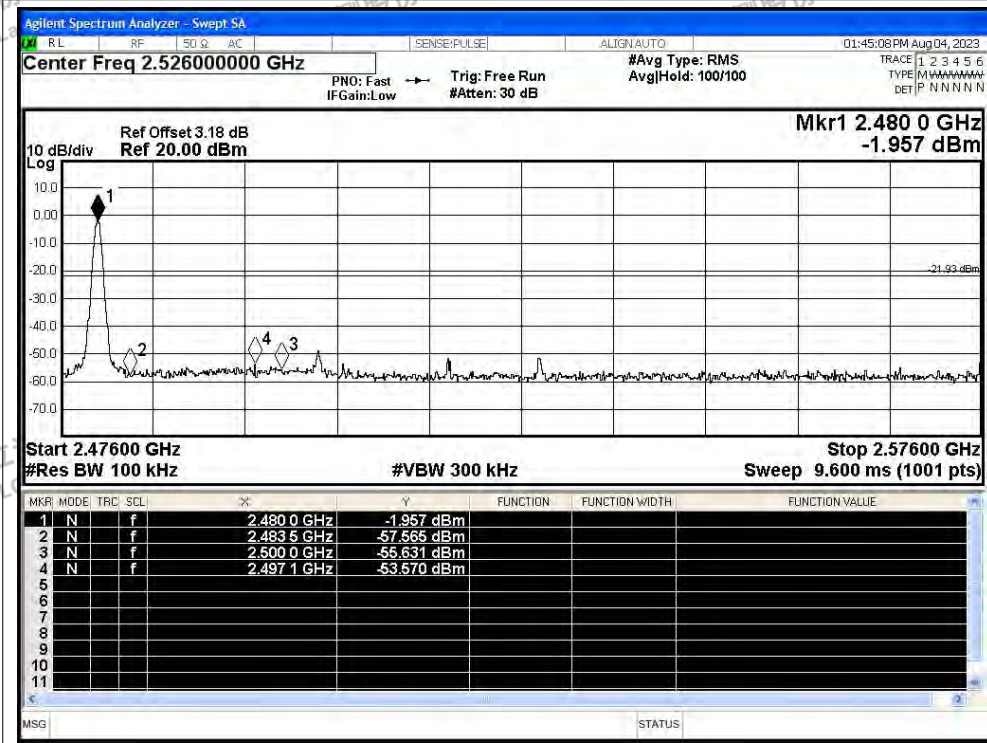




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

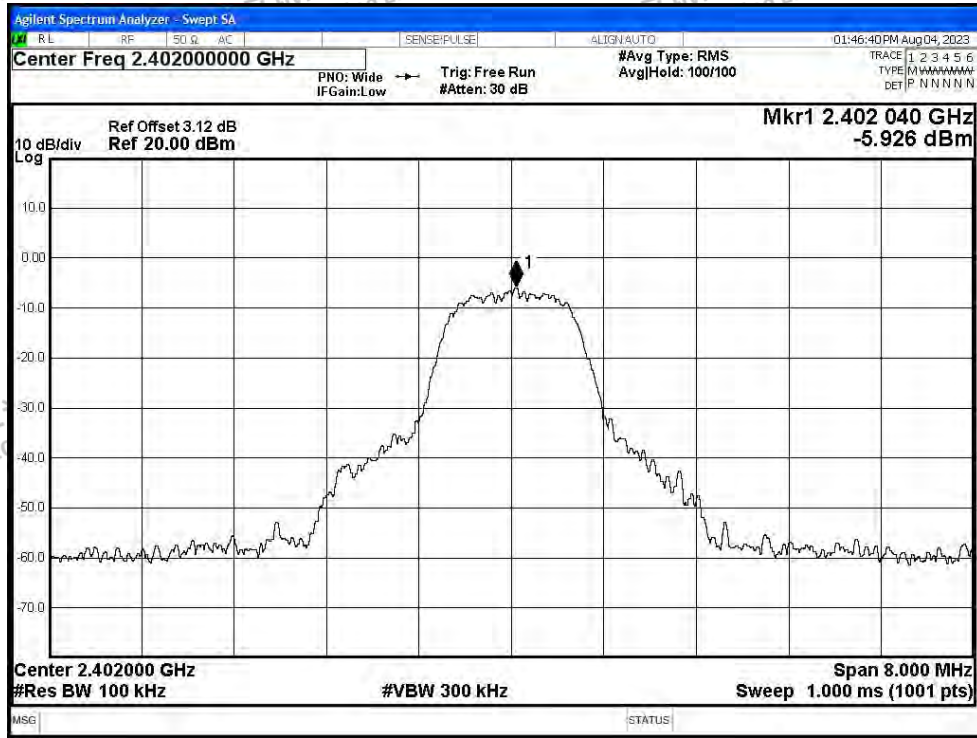


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

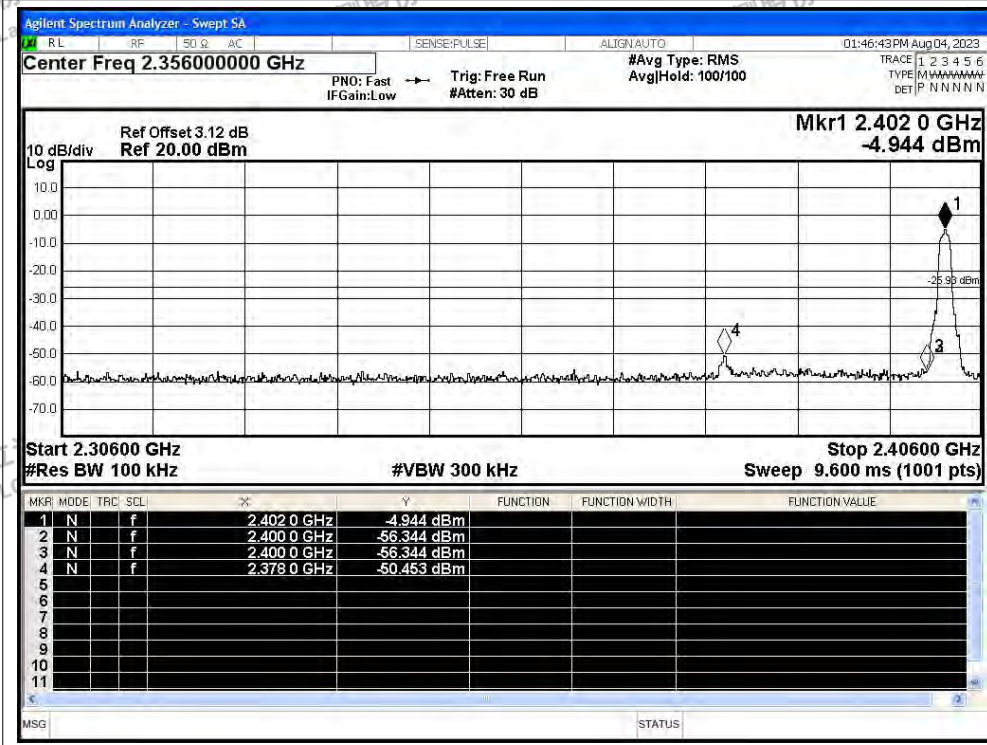




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



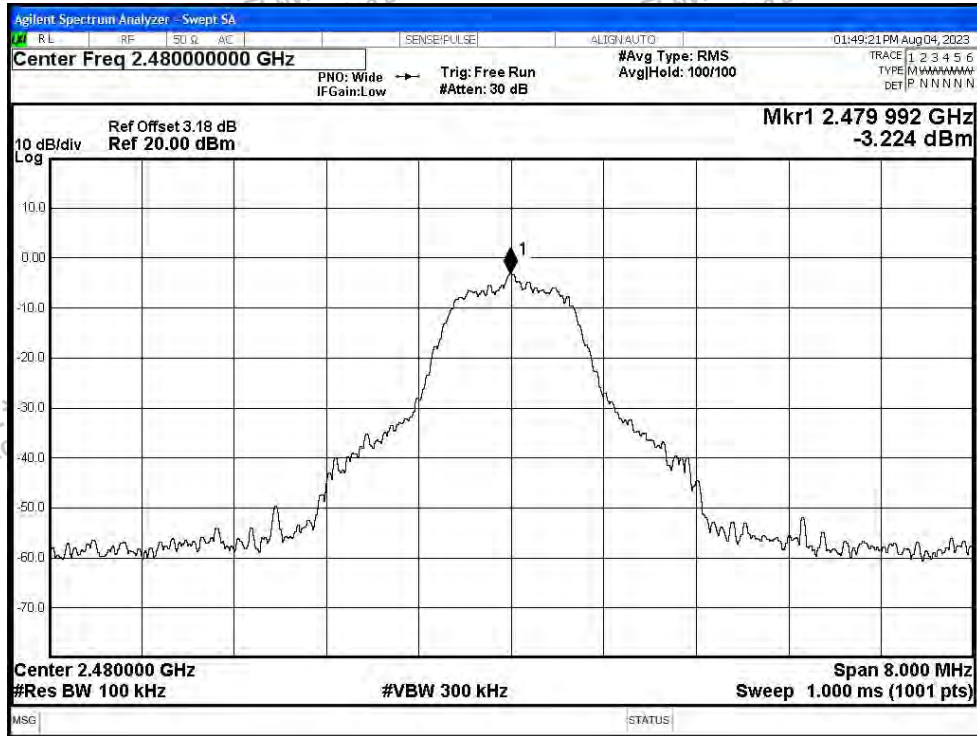
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



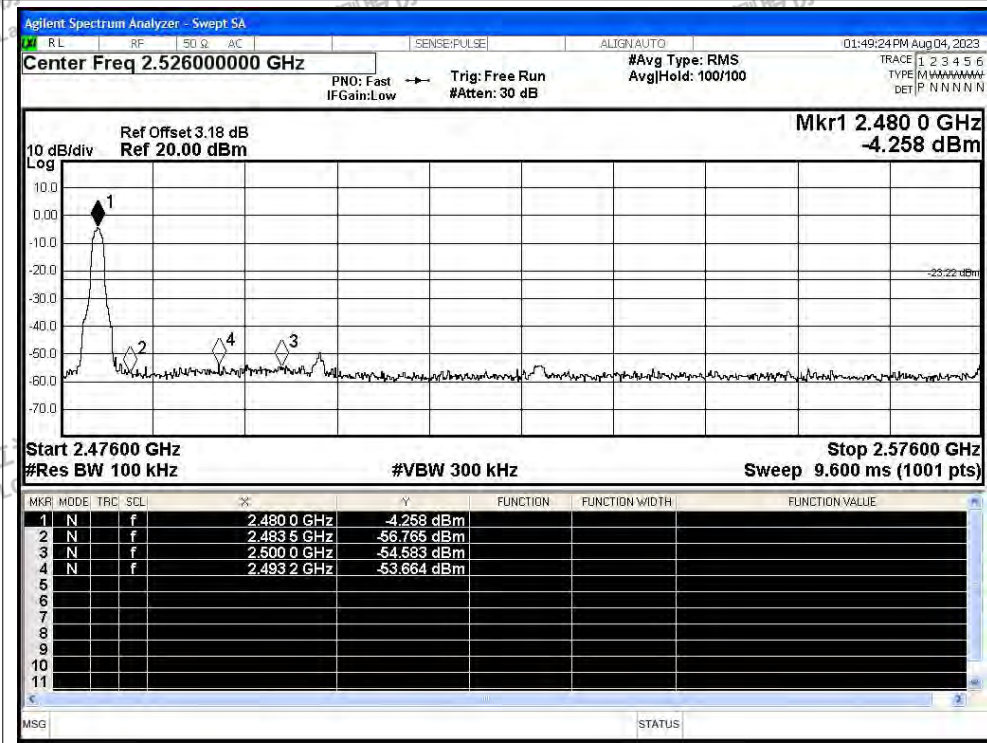




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



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	-47.02	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-46.64	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-47.75	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-48.54	-20	Pass

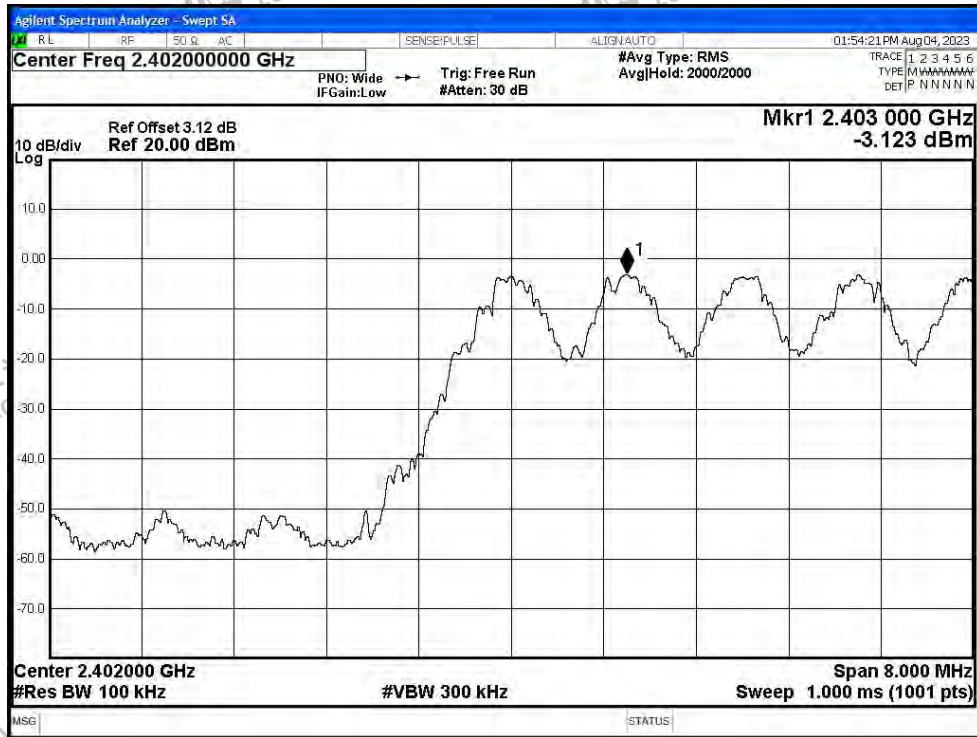


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 Scan code to check authenticity

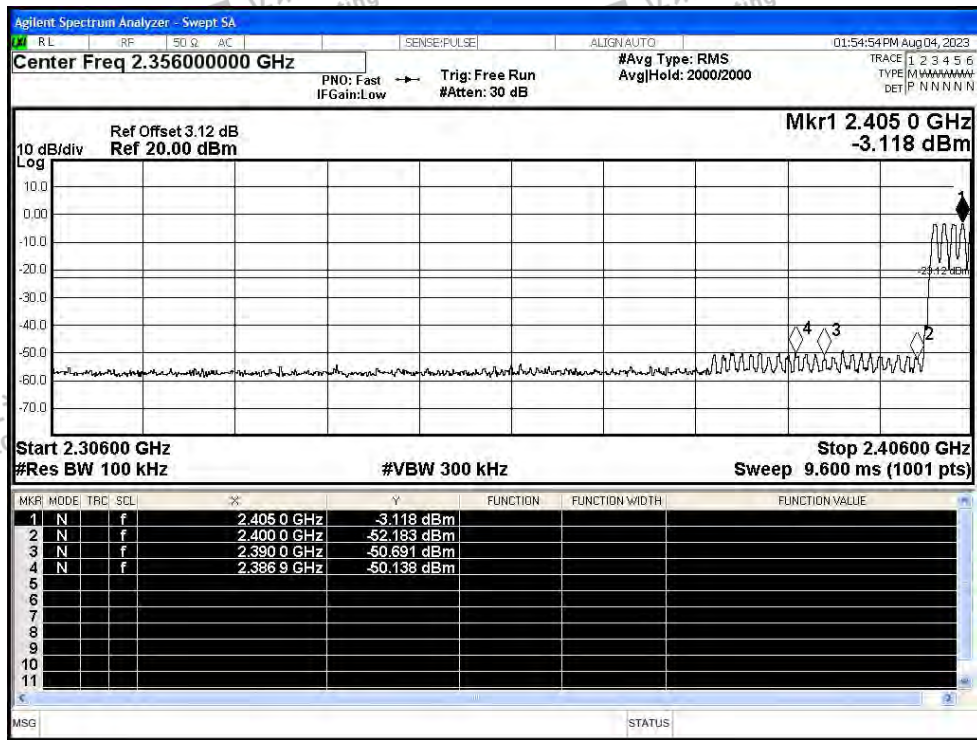


Test Graphs

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

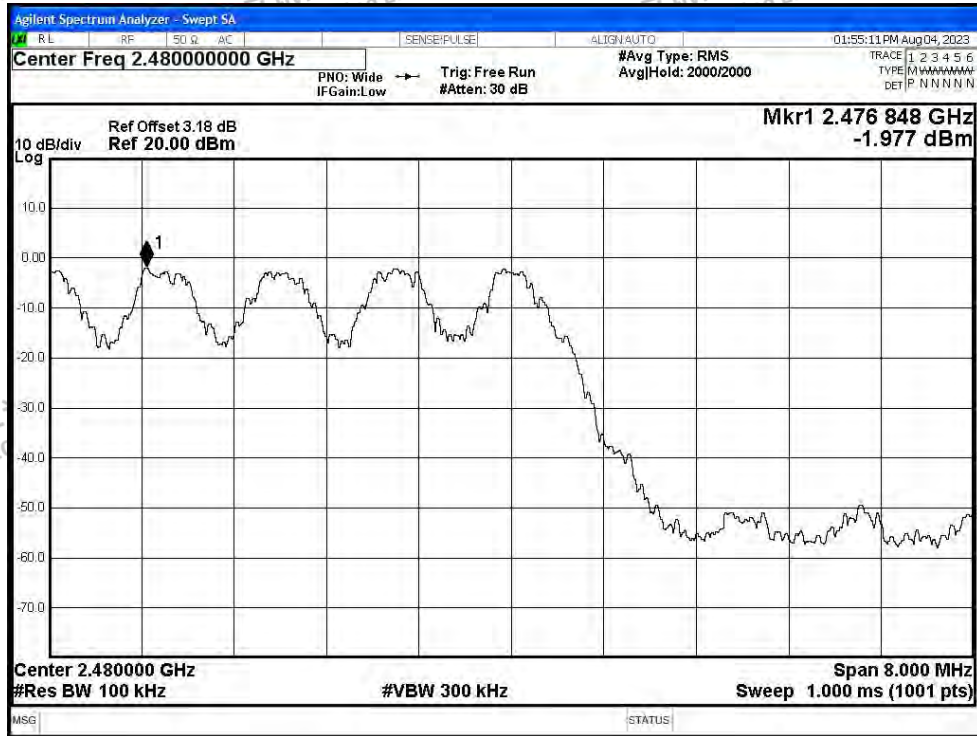


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

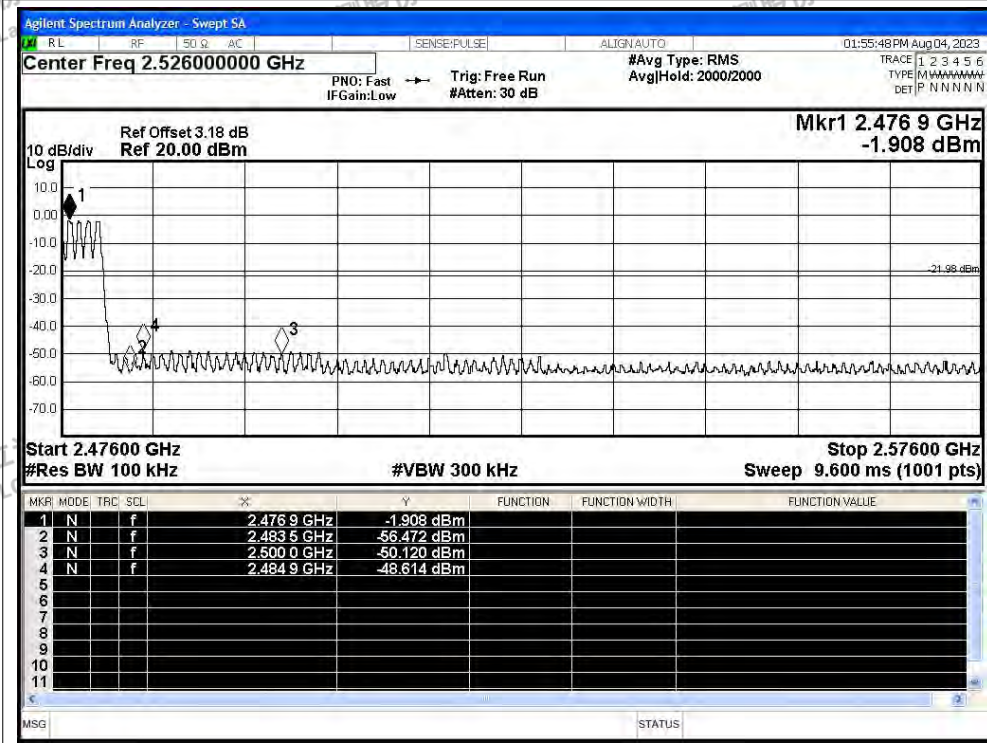




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



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



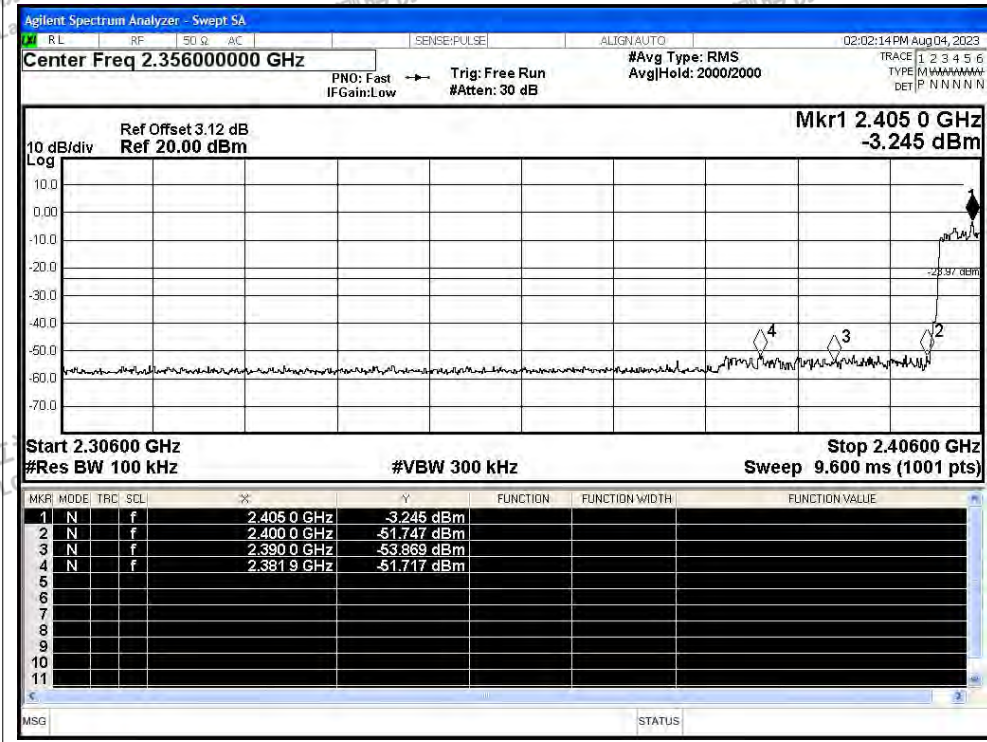




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



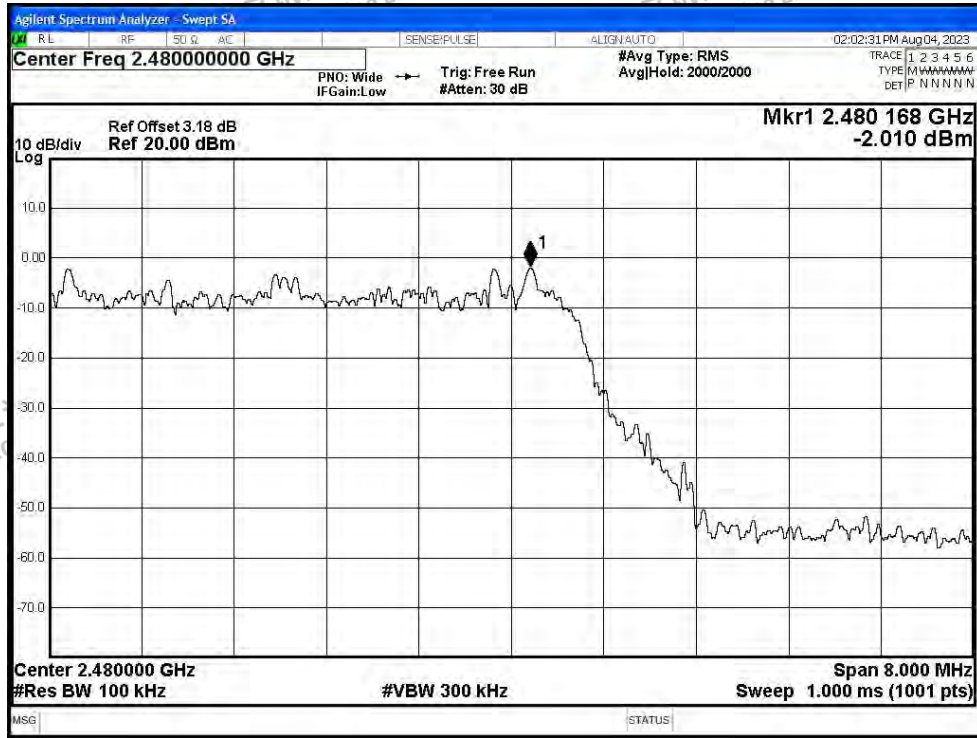
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



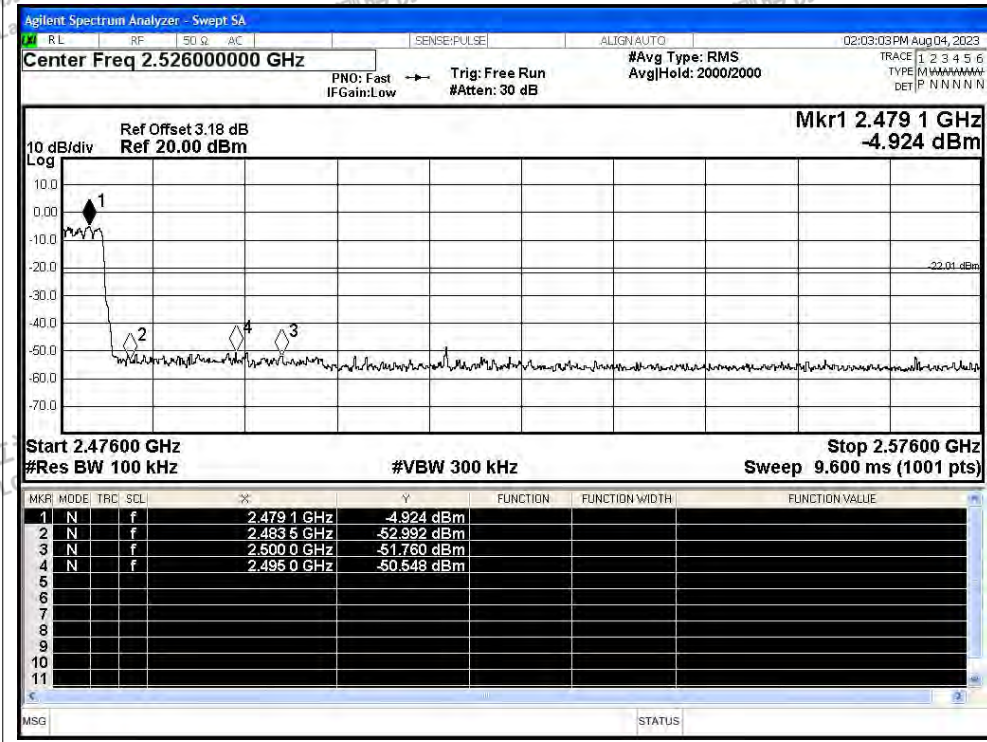




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



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	-42.72	-20	Pass
NVNT	1-DH5	2441	Ant1	-38.57	-20	Pass
NVNT	1-DH5	2480	Ant1	-41.54	-20	Pass
NVNT	2-DH5	2402	Ant1	-42.68	-20	Pass
NVNT	2-DH5	2441	Ant1	-43.07	-20	Pass
NVNT	2-DH5	2480	Ant1	-41.63	-20	Pass

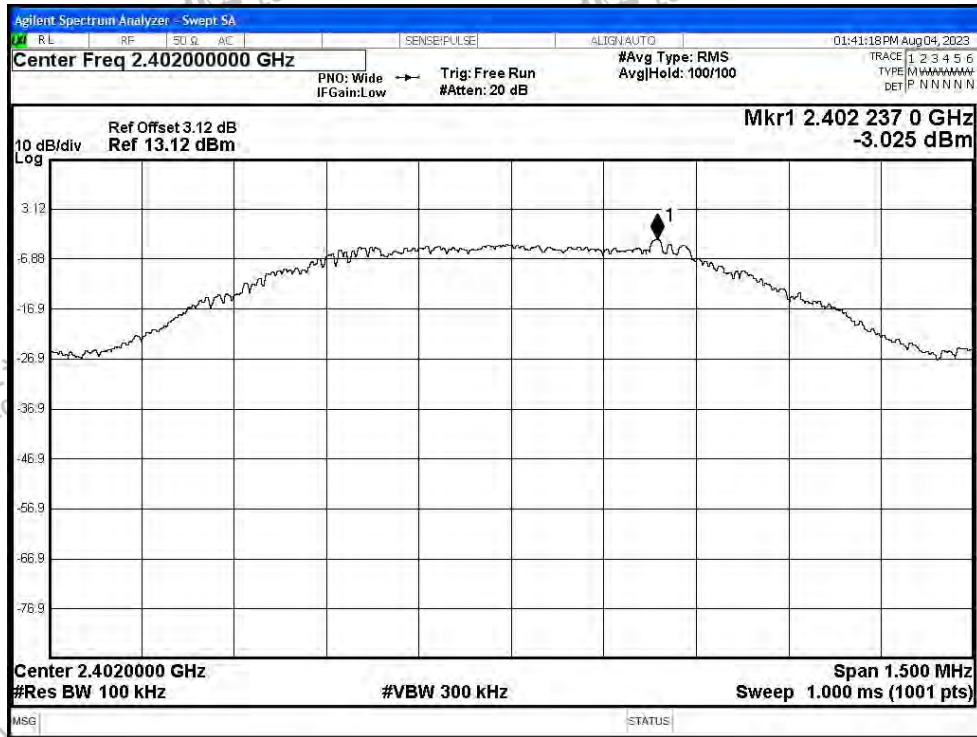


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 Scan code to check authenticity

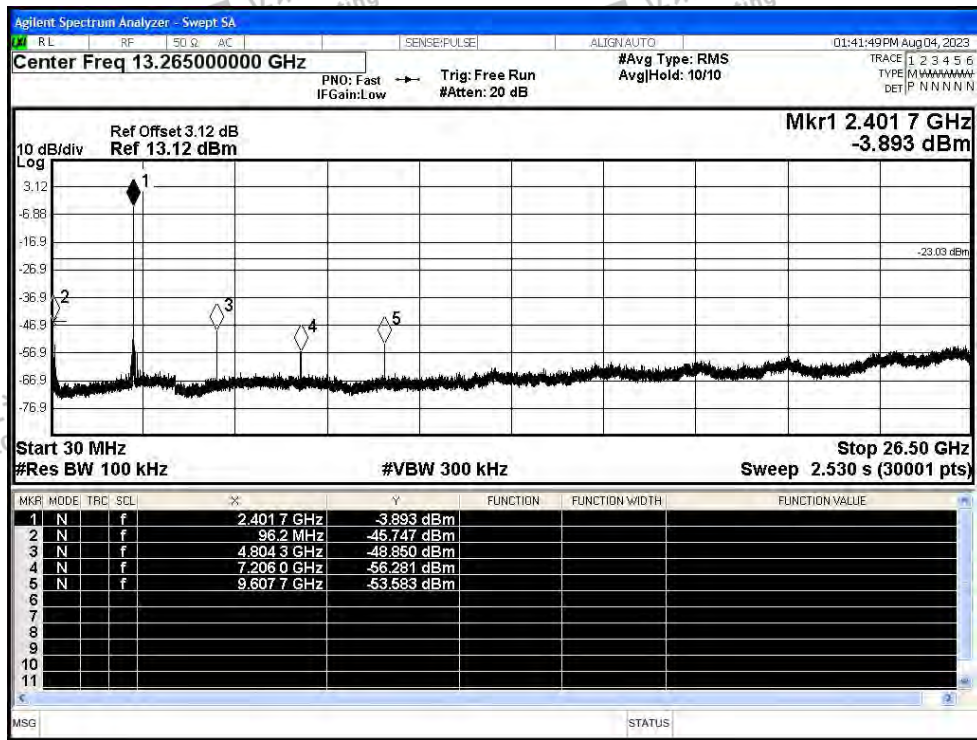


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



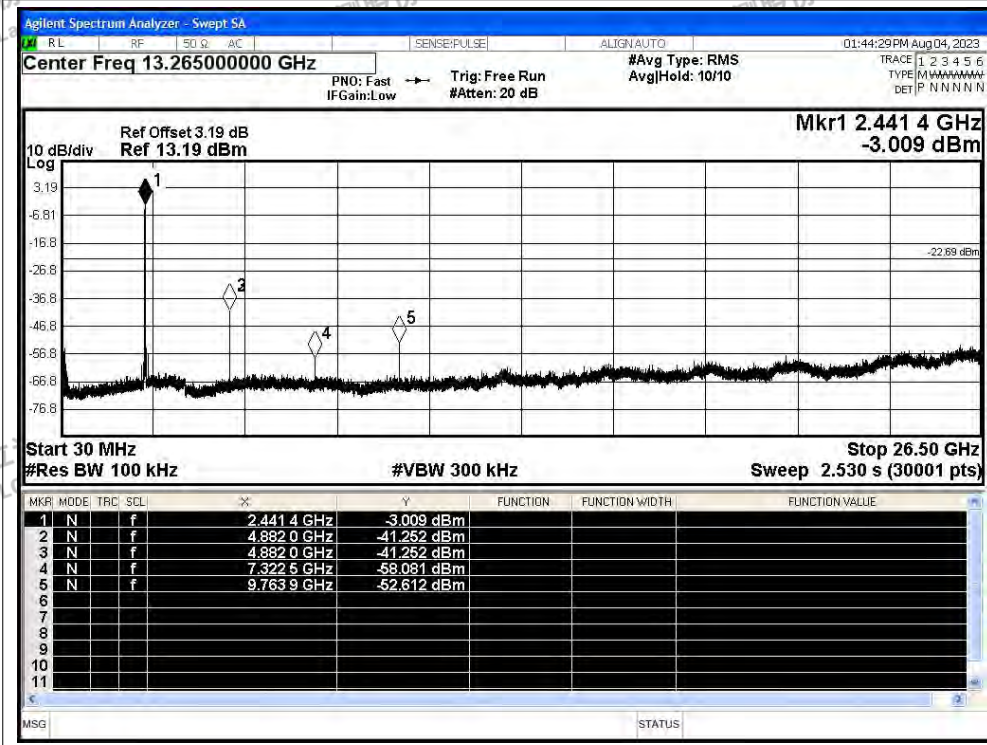




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



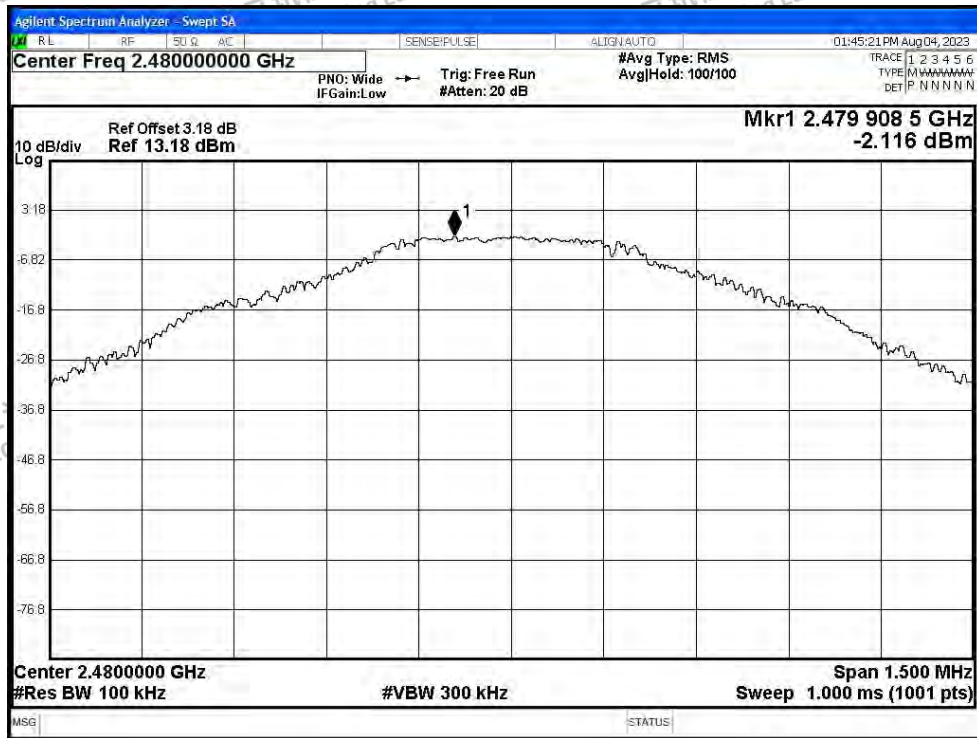
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



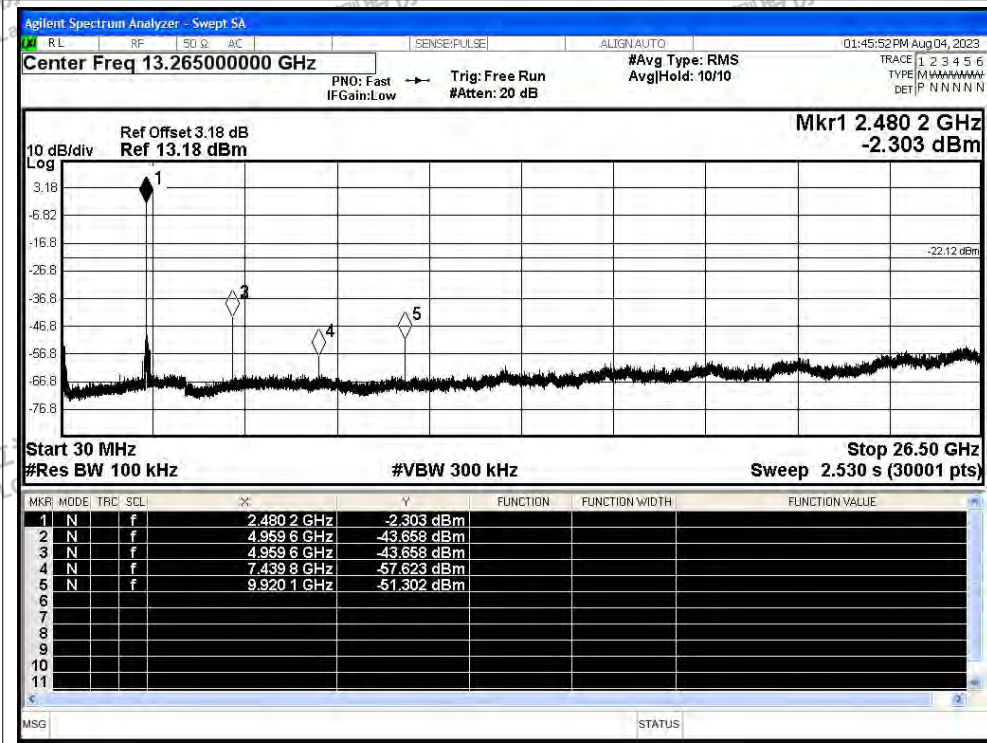




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

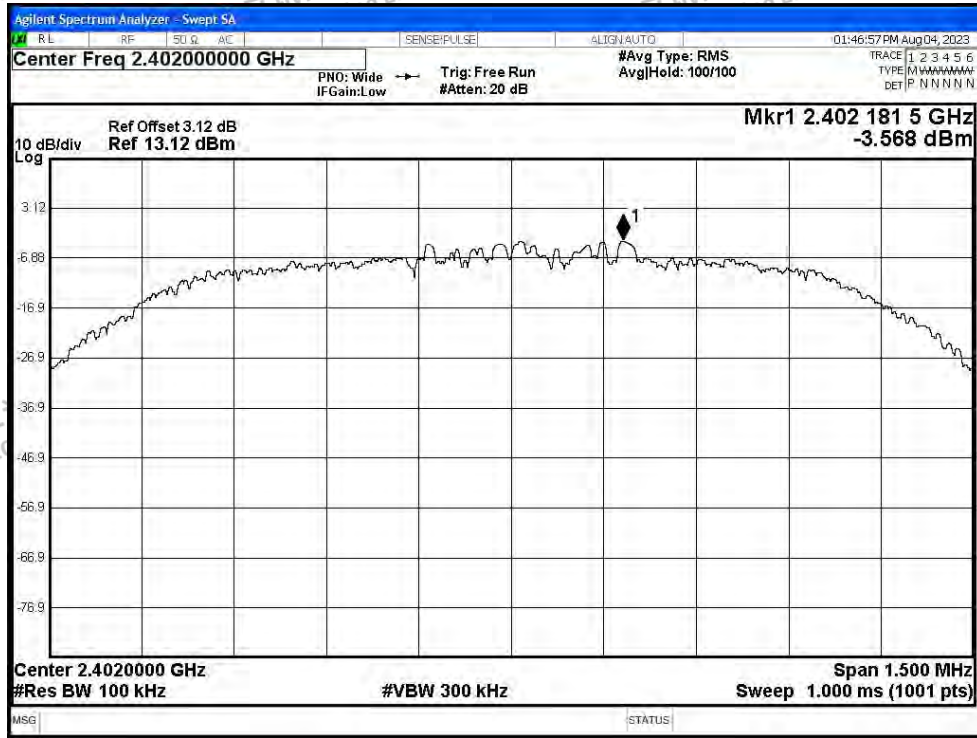


Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

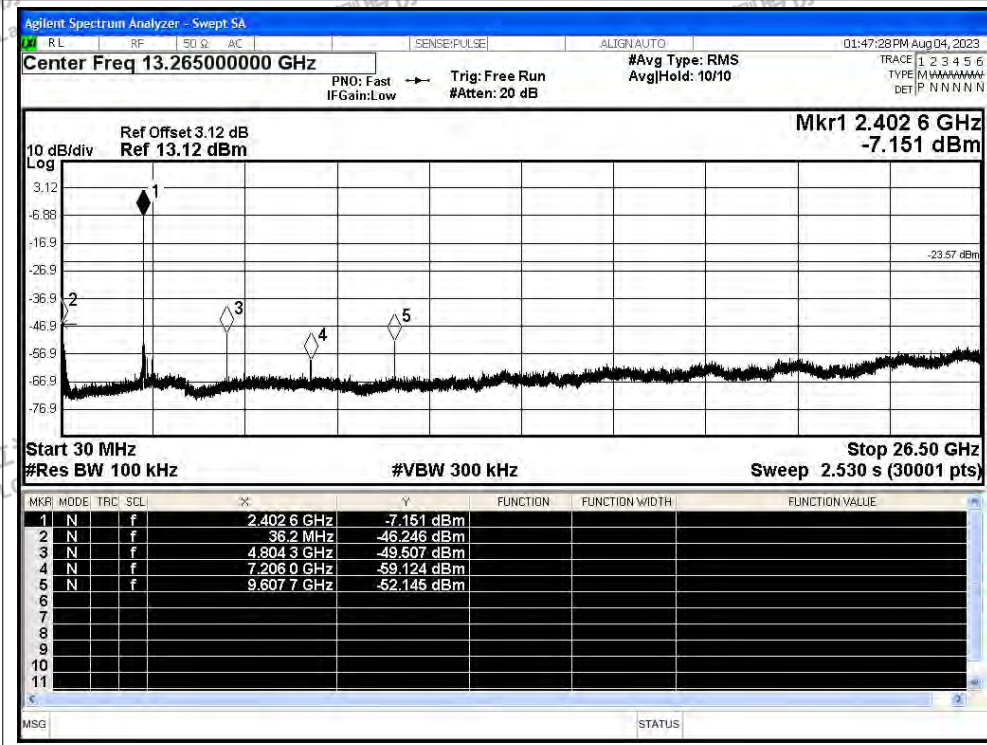




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

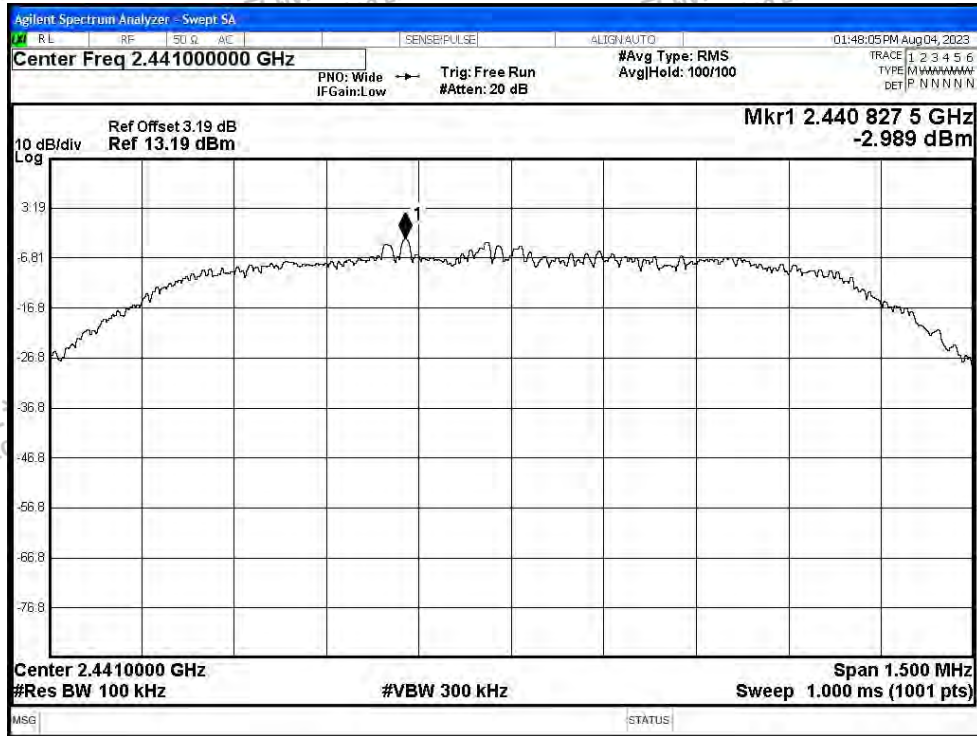


Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

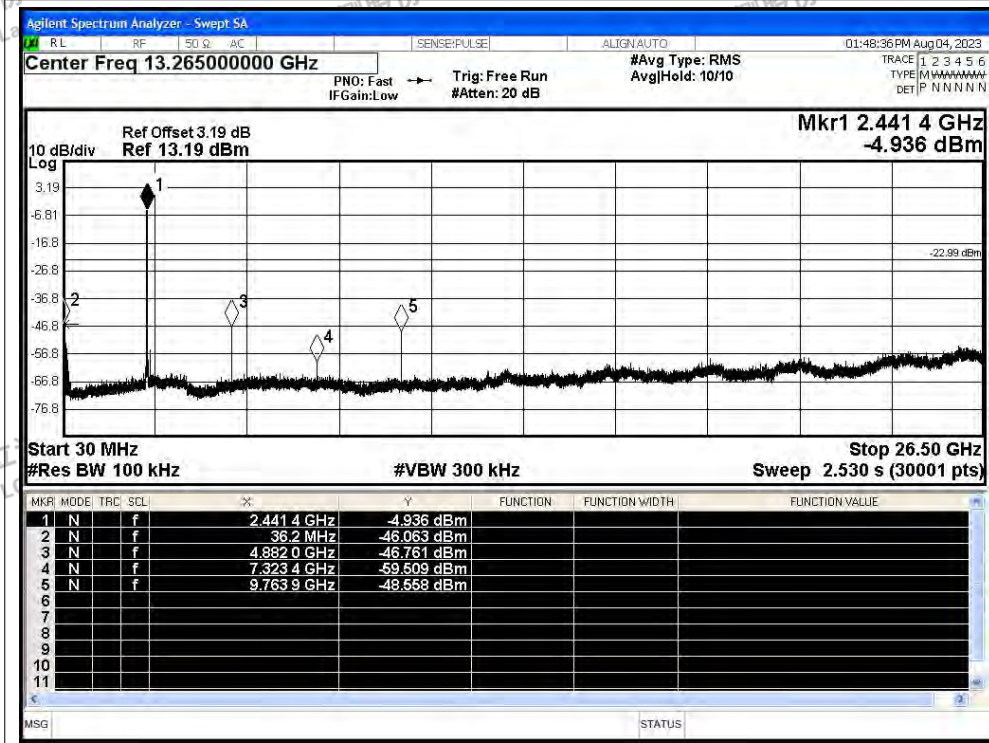




Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



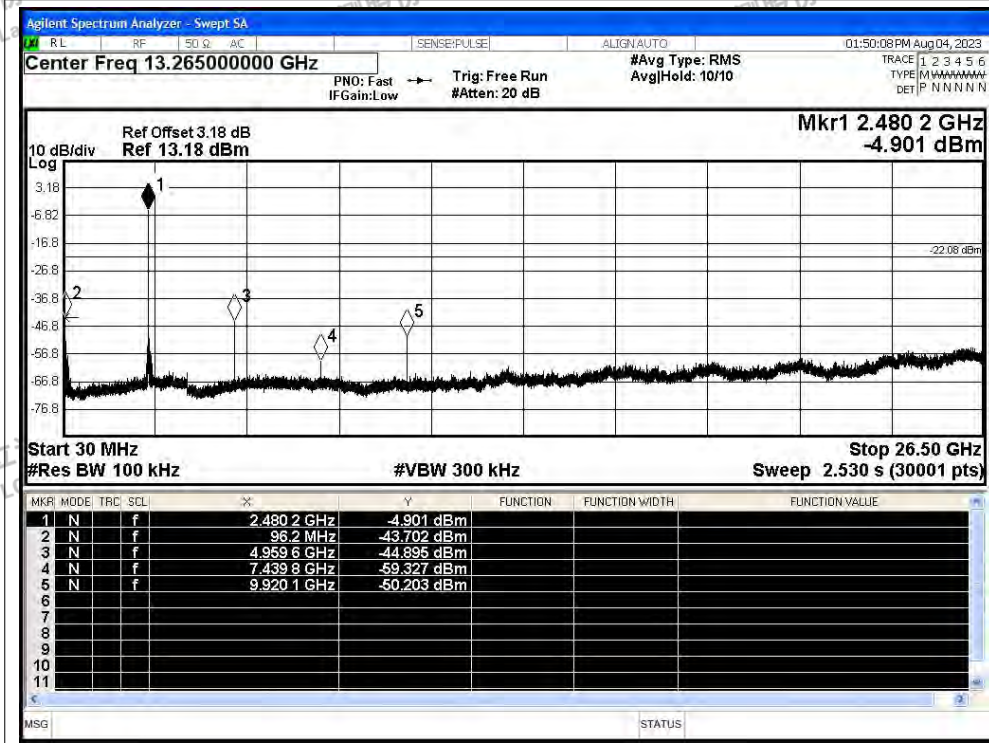




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission







### A.8 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-DH5	2402	Ant1	No-Hopping	2310	-48.8	2	48.46	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-56.8	2	40.46	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2377.968	-43.16	2	54.1	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2377.968	-50.67	2	46.59	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-48.78	2	48.48	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-54.91	2	42.35	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-41.99	2	55.27	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-54.04	2	43.22	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-41.99	2	55.27	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2497.84	-53.62	2	43.64	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-45.55	2	51.71	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-55.15	2	42.11	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-48.17	2	49.09	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-56.71	2	40.55	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2377.488	-44.25	2	53.01	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2377.872	-51.34	2	45.92	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-47.82	2	49.44	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-54.92	2	42.34	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-48.09	2	49.17	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-53.98	2	43.28	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2495.32	-43.83	2	53.43	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2499.76	-53.35	2	43.91	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-47.24	2	50.02	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-53.58	2	43.68	Average	54	Pass

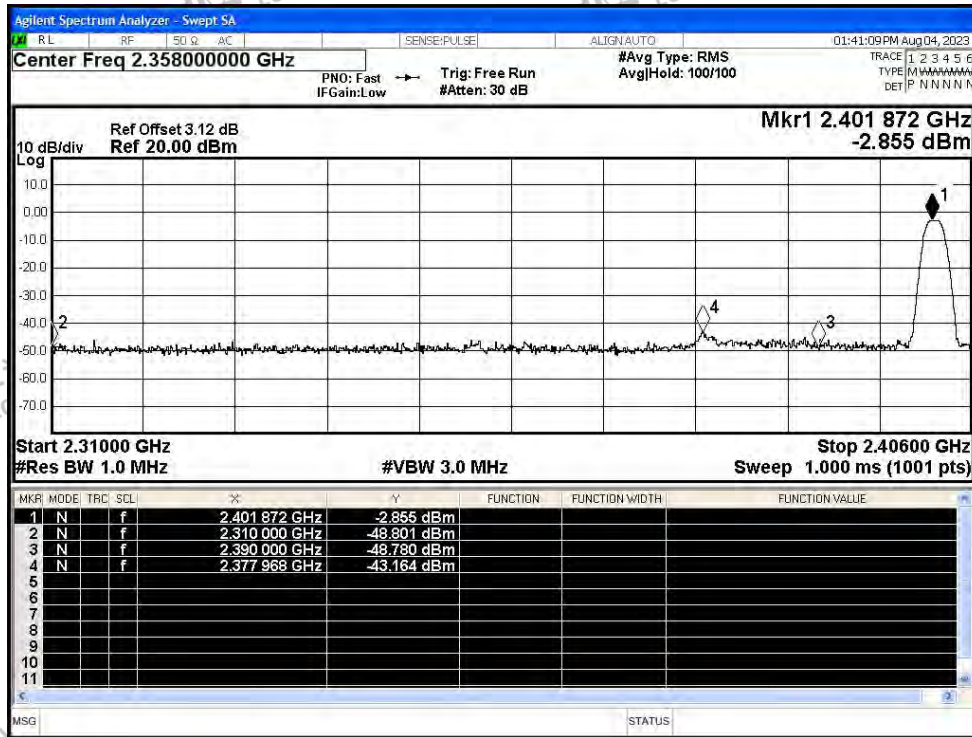


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 Scan code to check authenticity

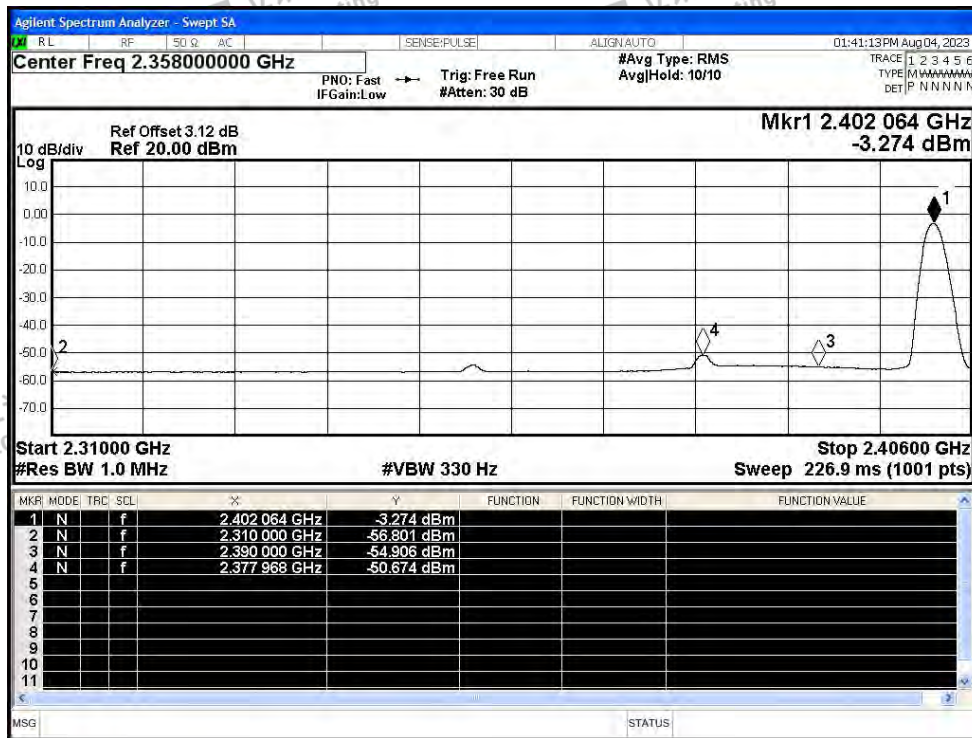


Test Graphs

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

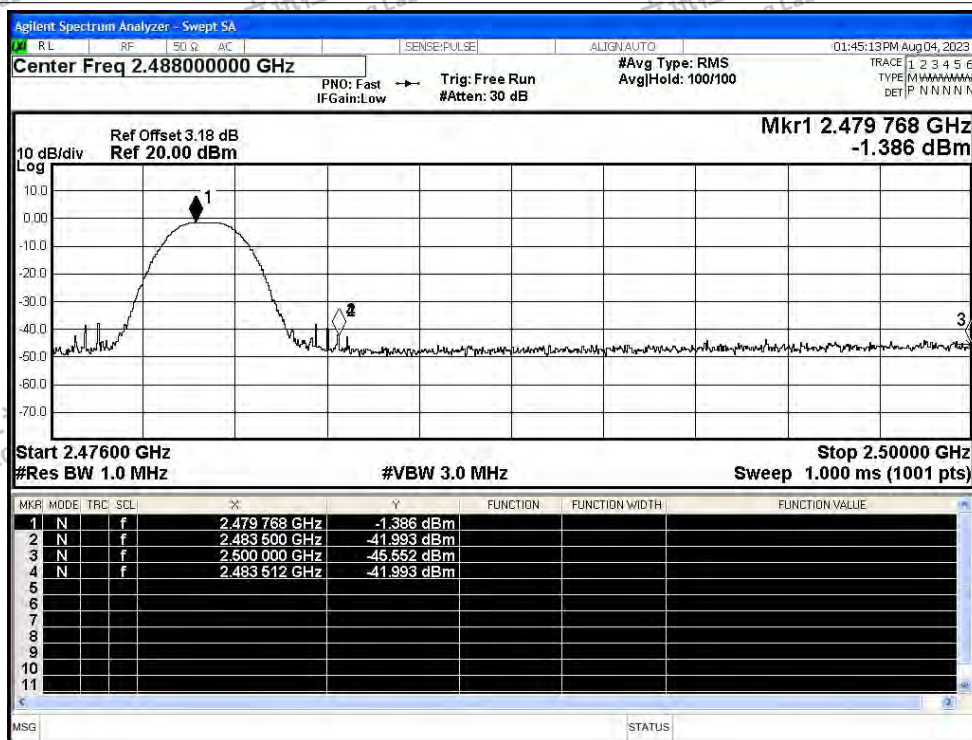


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

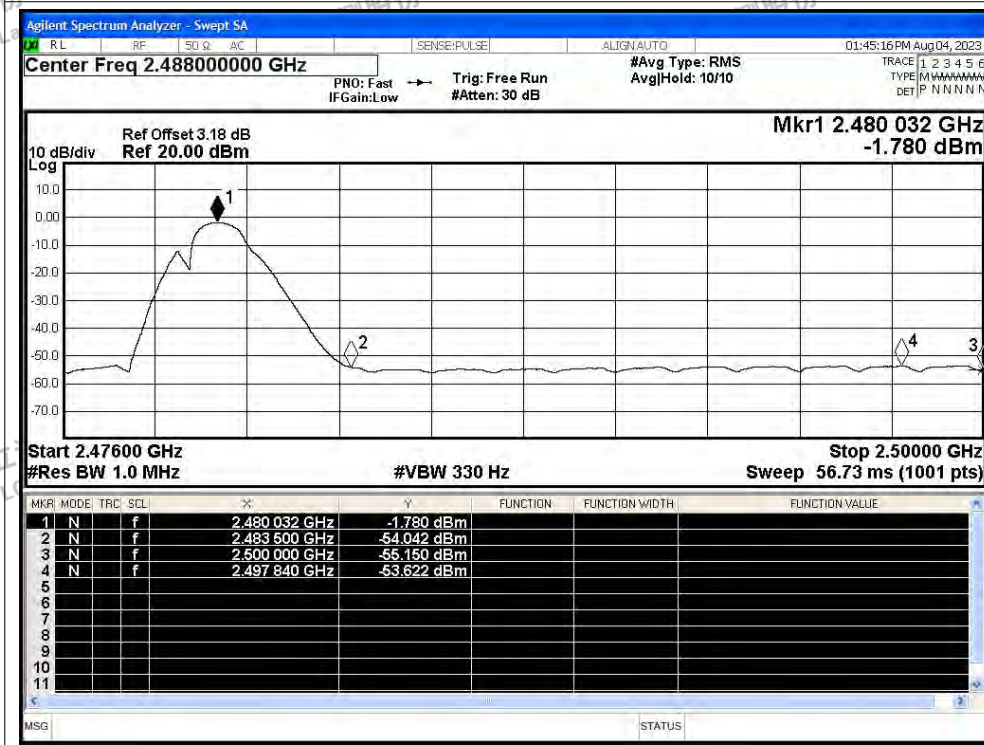




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



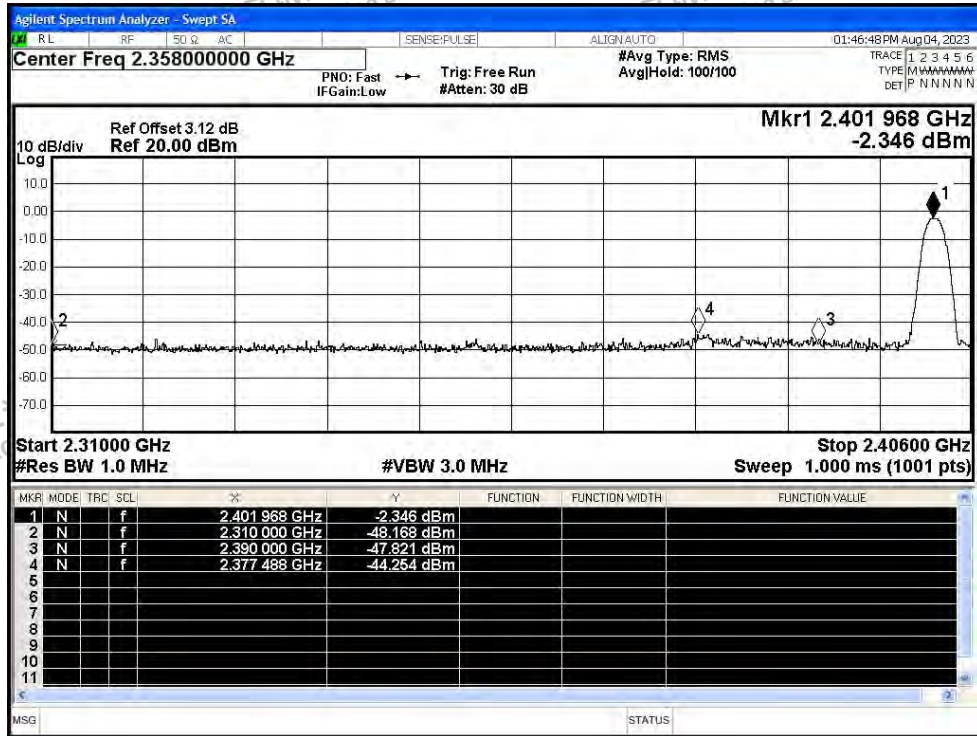
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



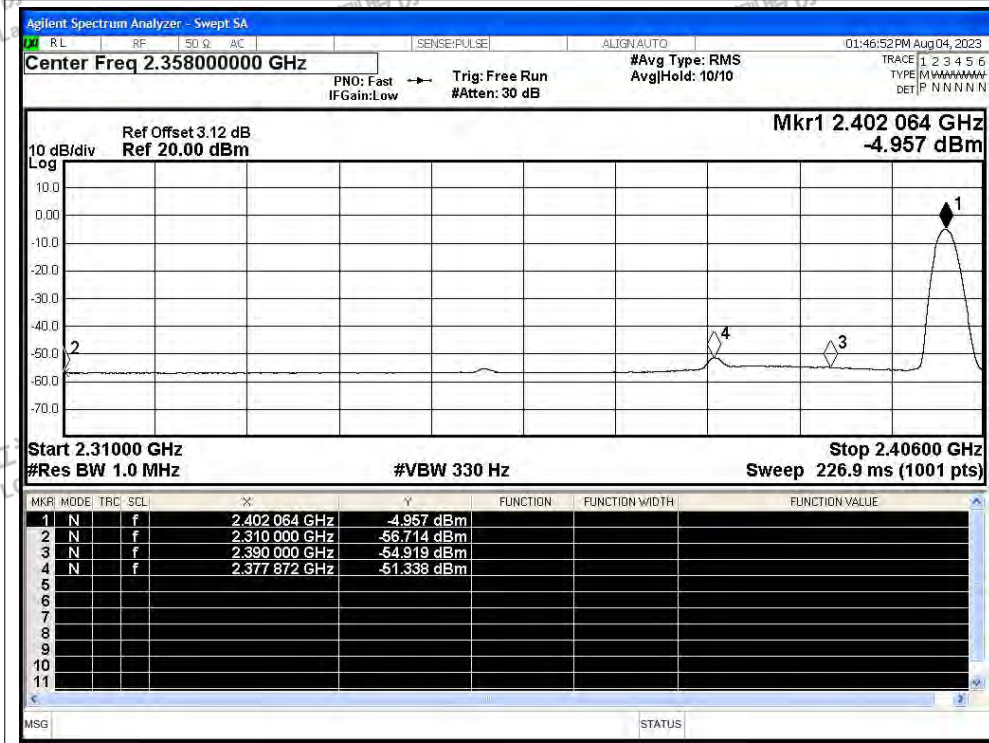




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



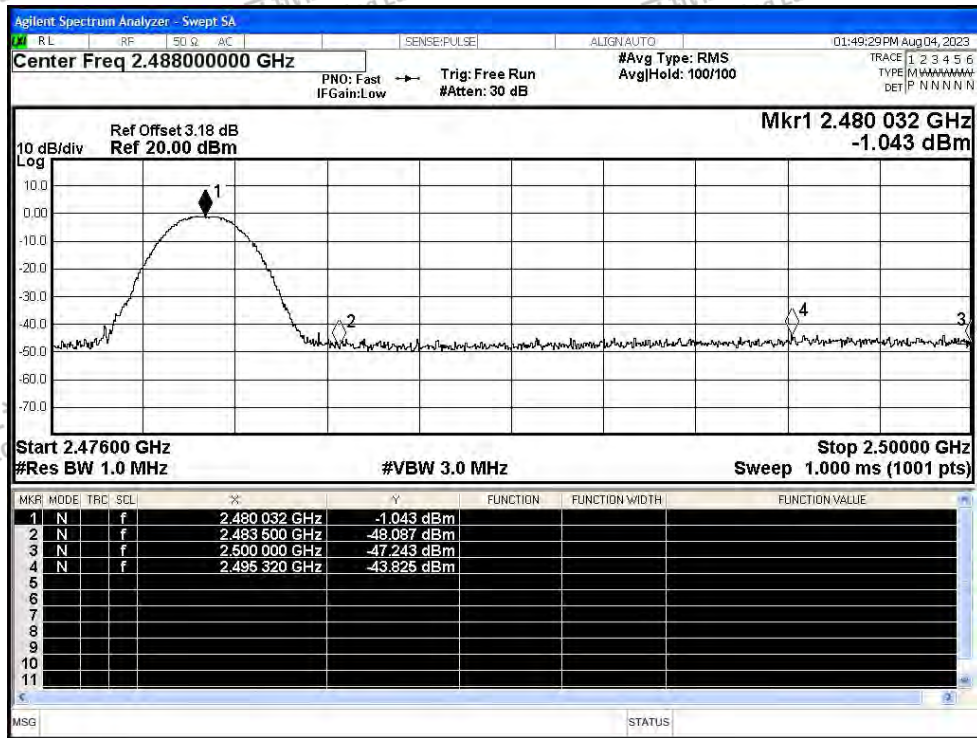
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average







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



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

