



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Intelligent sound

Test Model: SY-M01

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Can Kun
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	0.952	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.95	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.95	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.345	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.287	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.281	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.288	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.308	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.297	N/A	Pass





Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

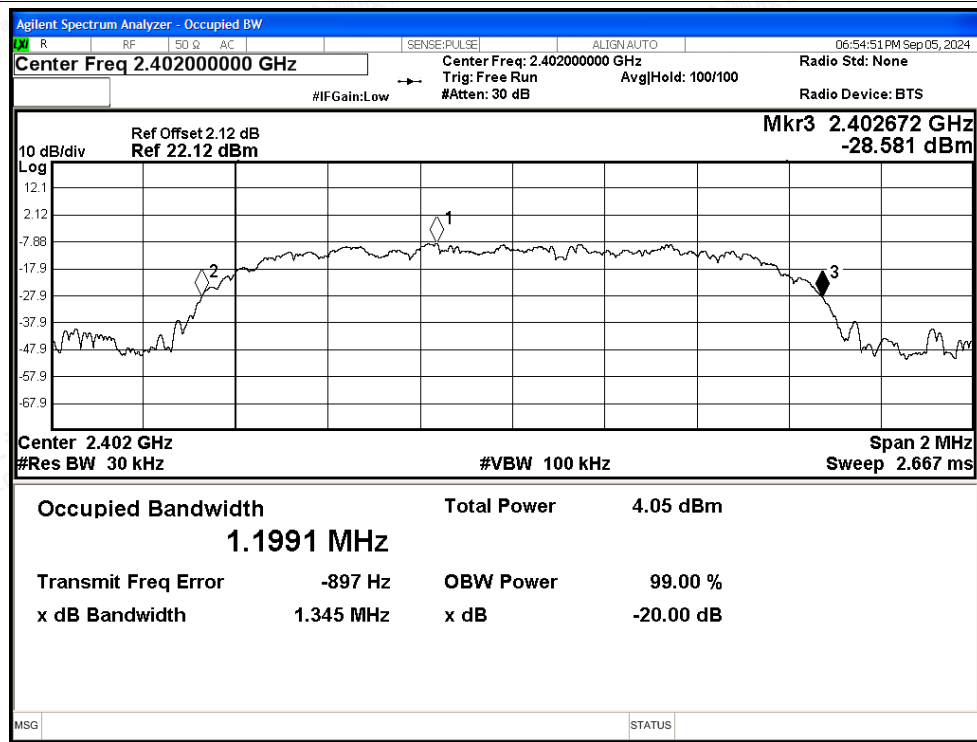




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

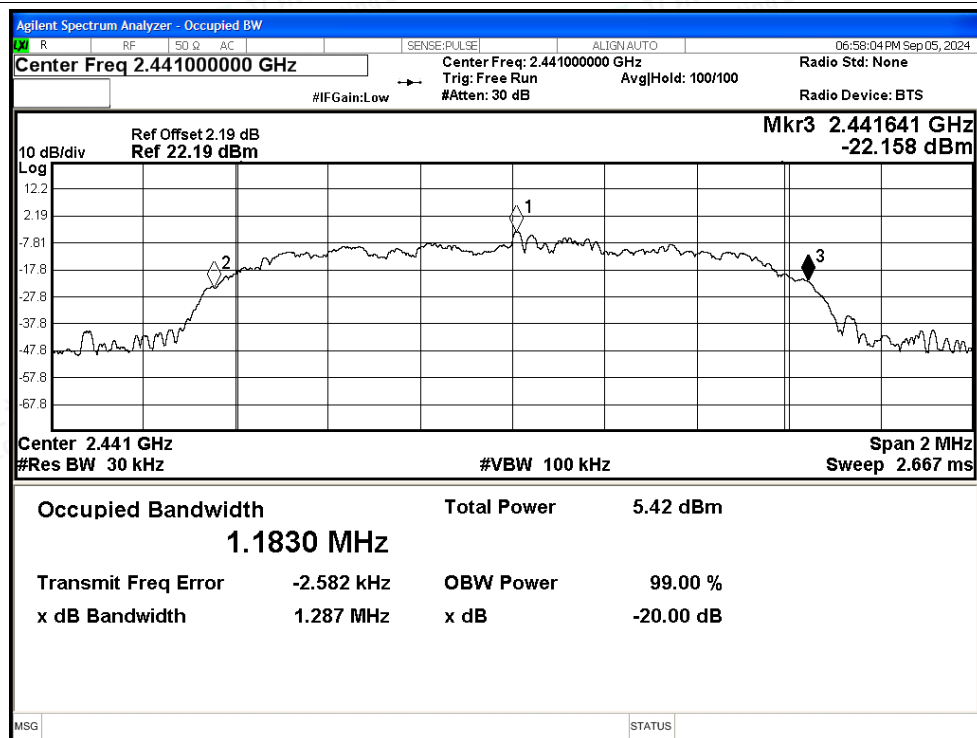


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

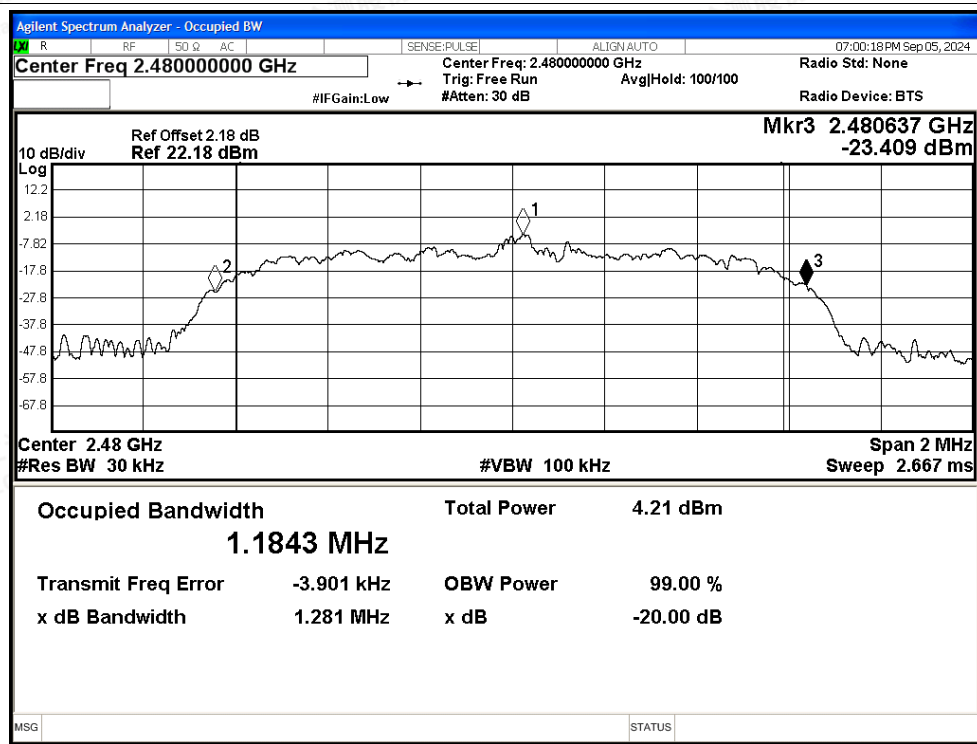




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

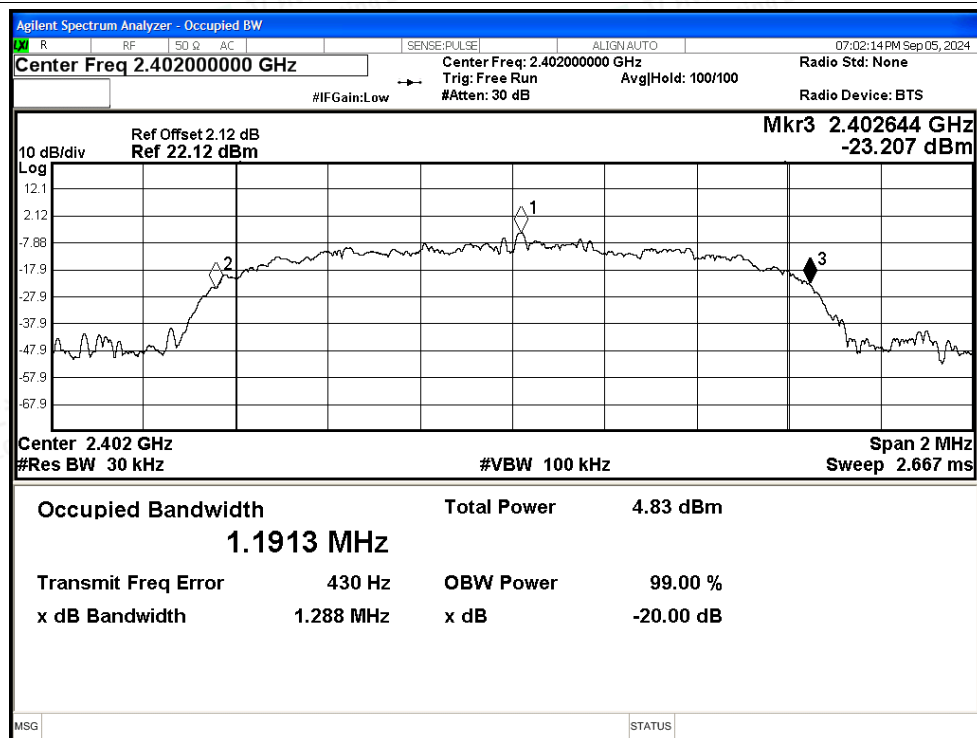


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

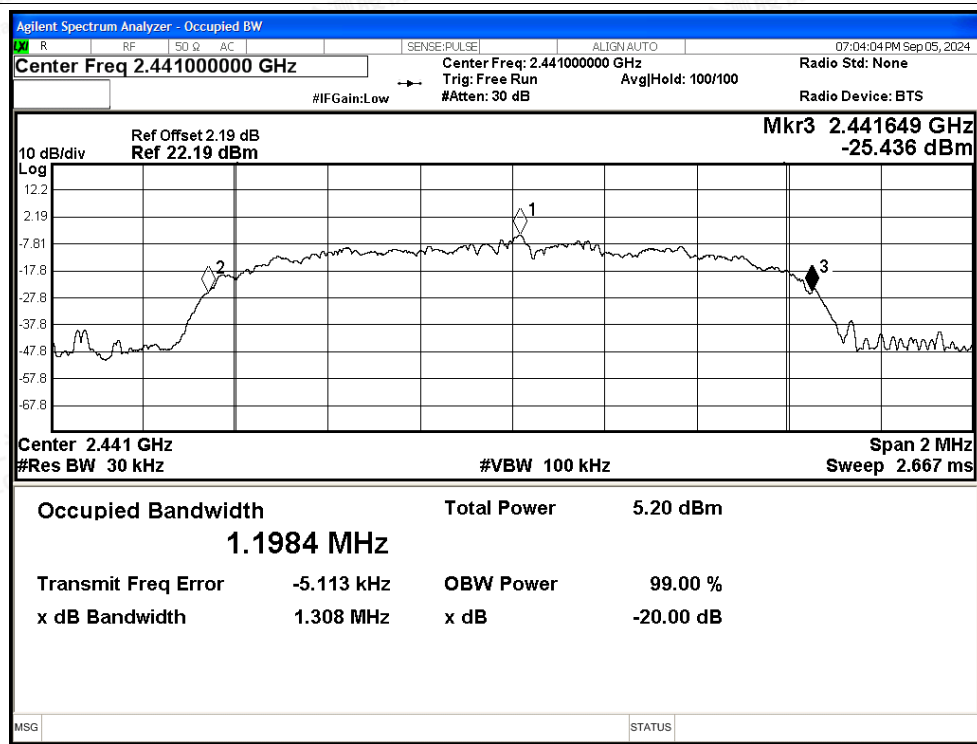


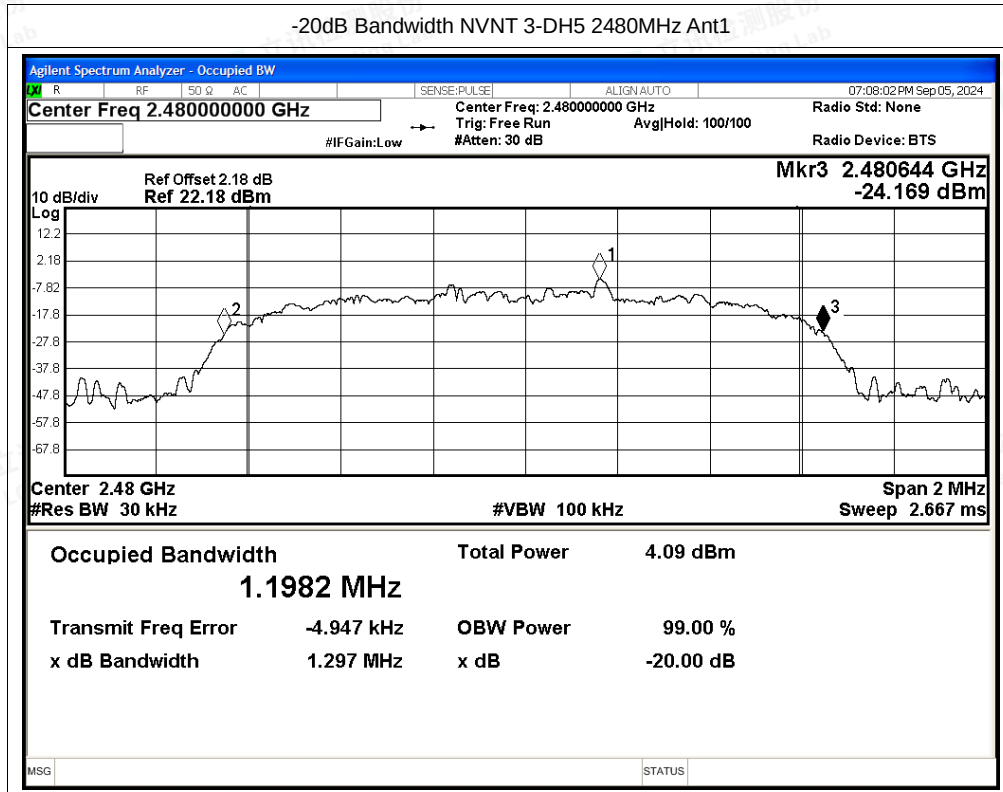


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1







A.2 Maximum Peak Conducted Output Power

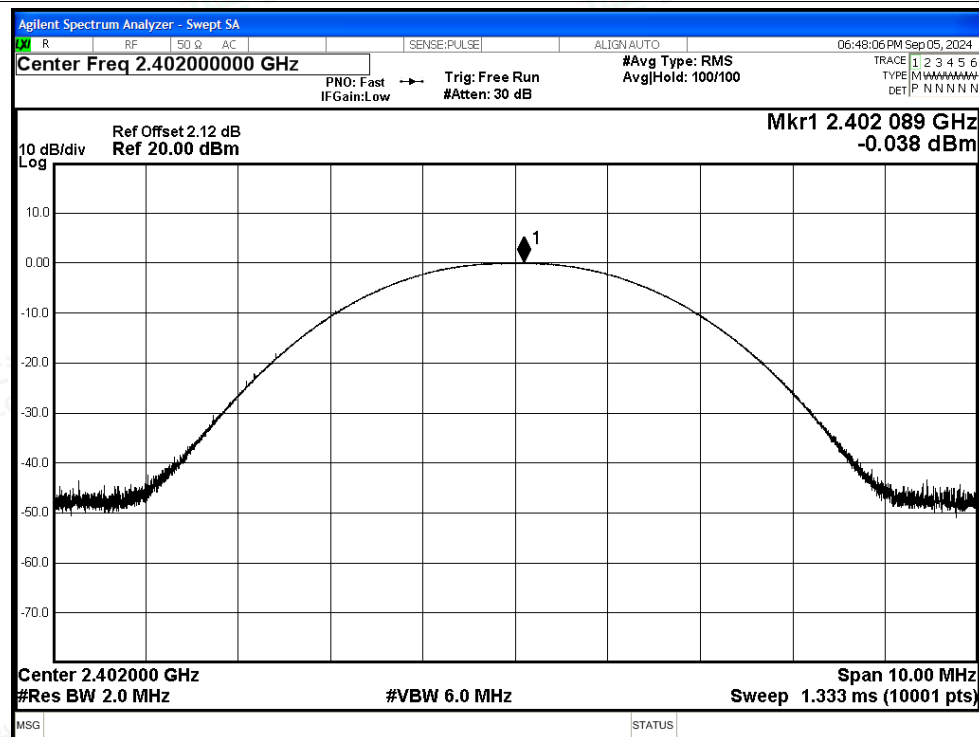
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.04	21	Pass
NVNT	1-DH5	2441	Ant1	-0.17	21	Pass
NVNT	1-DH5	2480	Ant1	-0.96	21	Pass
NVNT	2-DH5	2402	Ant1	0.41	21	Pass
NVNT	2-DH5	2441	Ant1	1	21	Pass
NVNT	2-DH5	2480	Ant1	-0.24	21	Pass
NVNT	3-DH5	2402	Ant1	0.58	21	Pass
NVNT	3-DH5	2441	Ant1	1.03	21	Pass
NVNT	3-DH5	2480	Ant1	-0.18	21	Pass



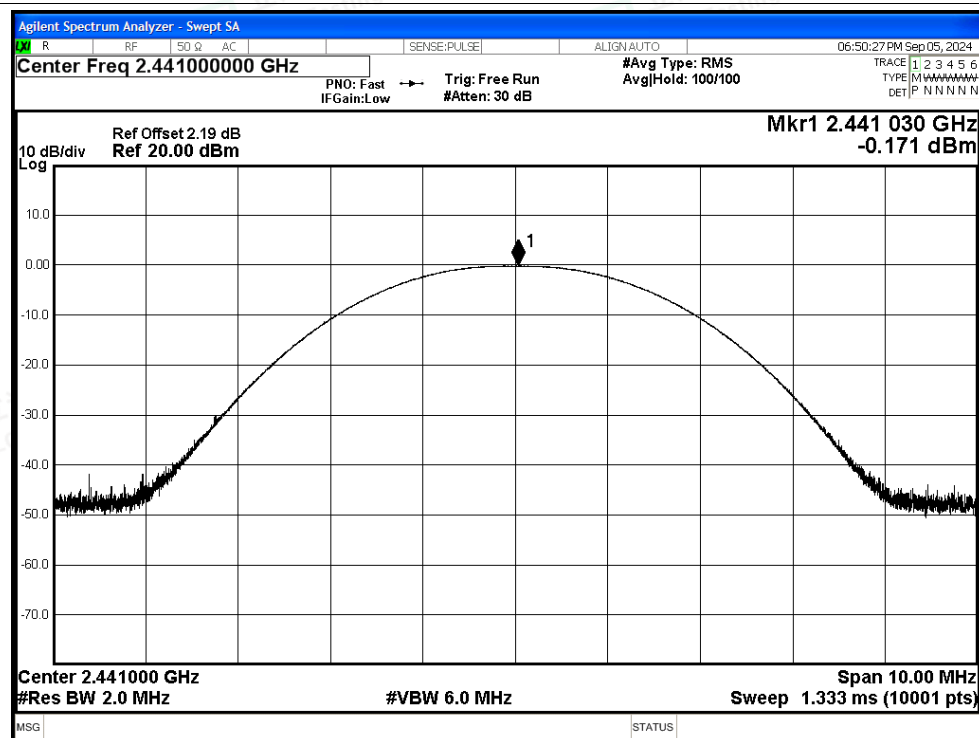


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

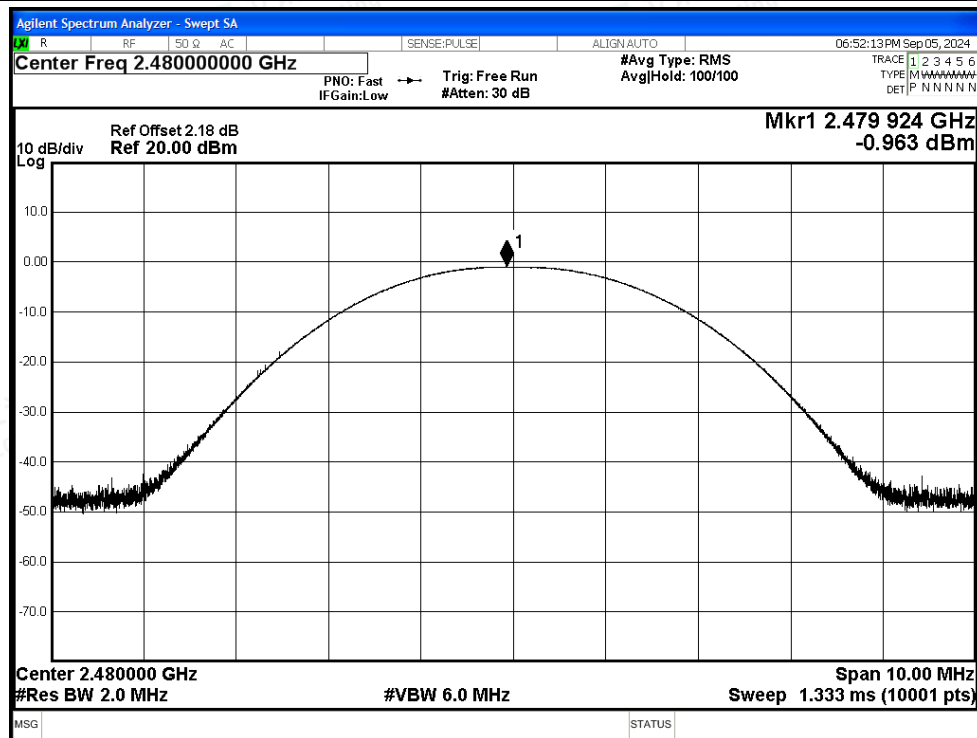


Power NVNT 1-DH5 2441MHz Ant1

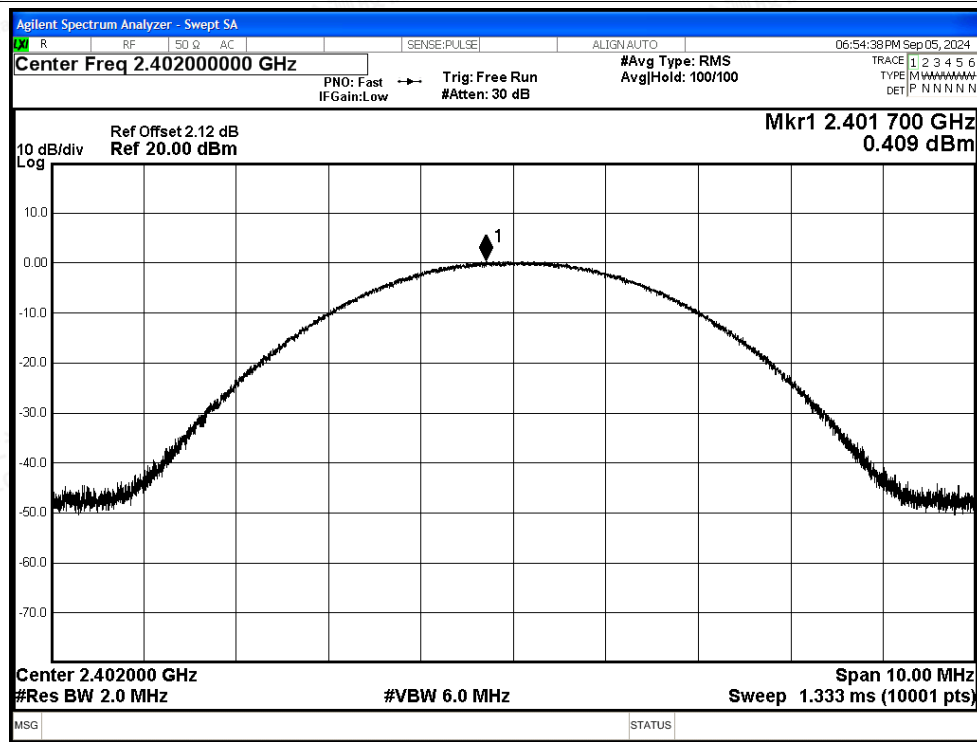




Power NVNT 1-DH5 2480MHz Ant1

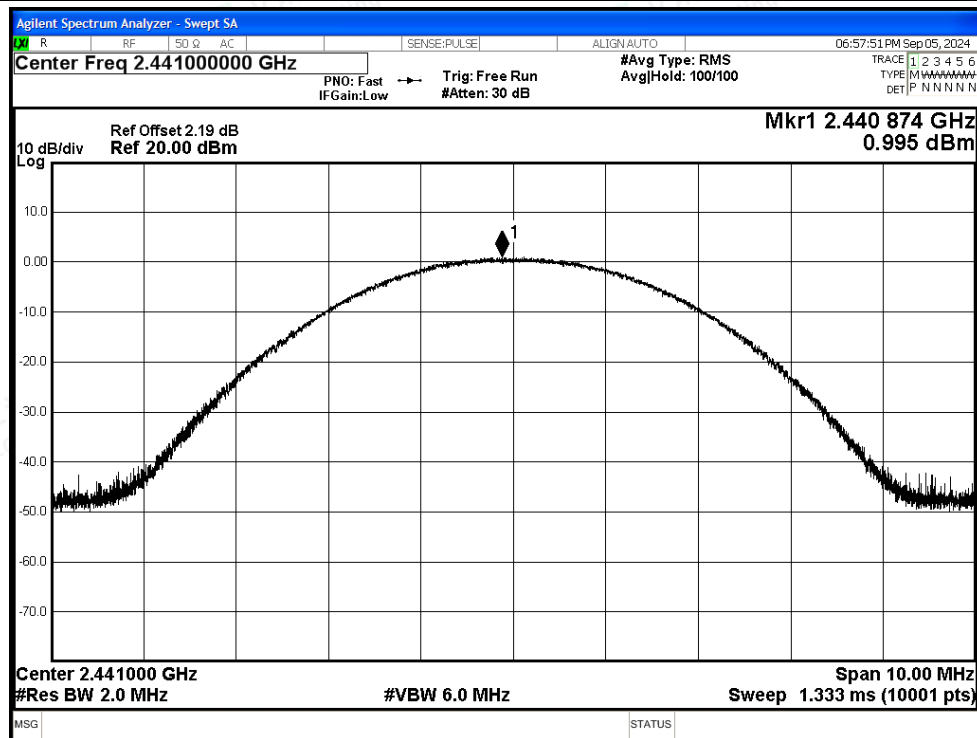


Power NVNT 2-DH5 2402MHz Ant1

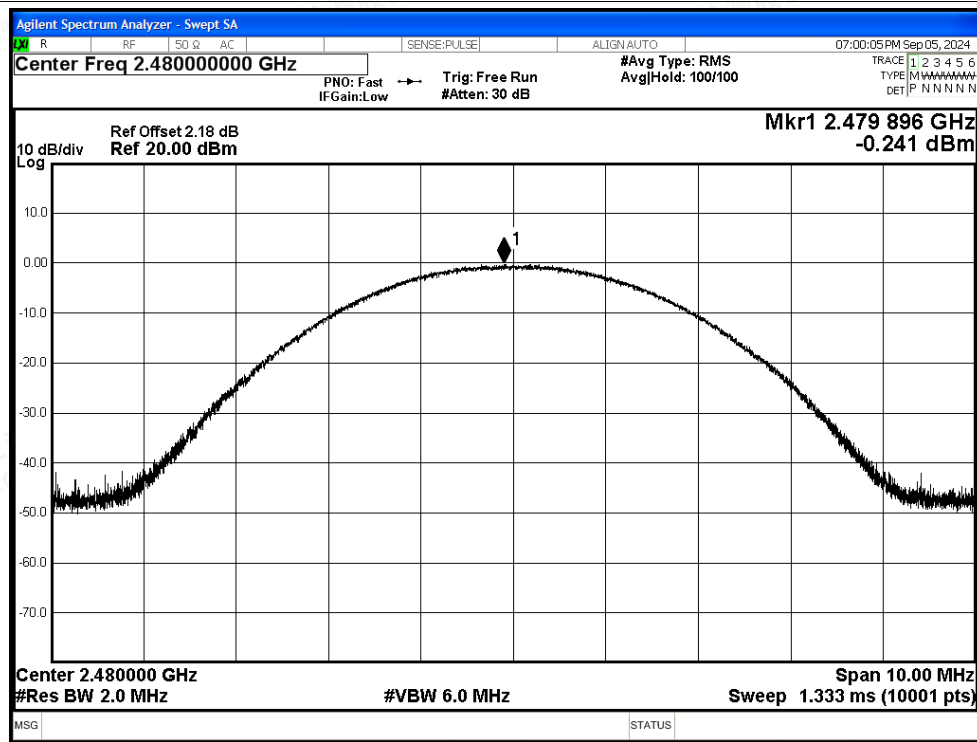




Power NVNT 2-DH5 2441MHz Ant1

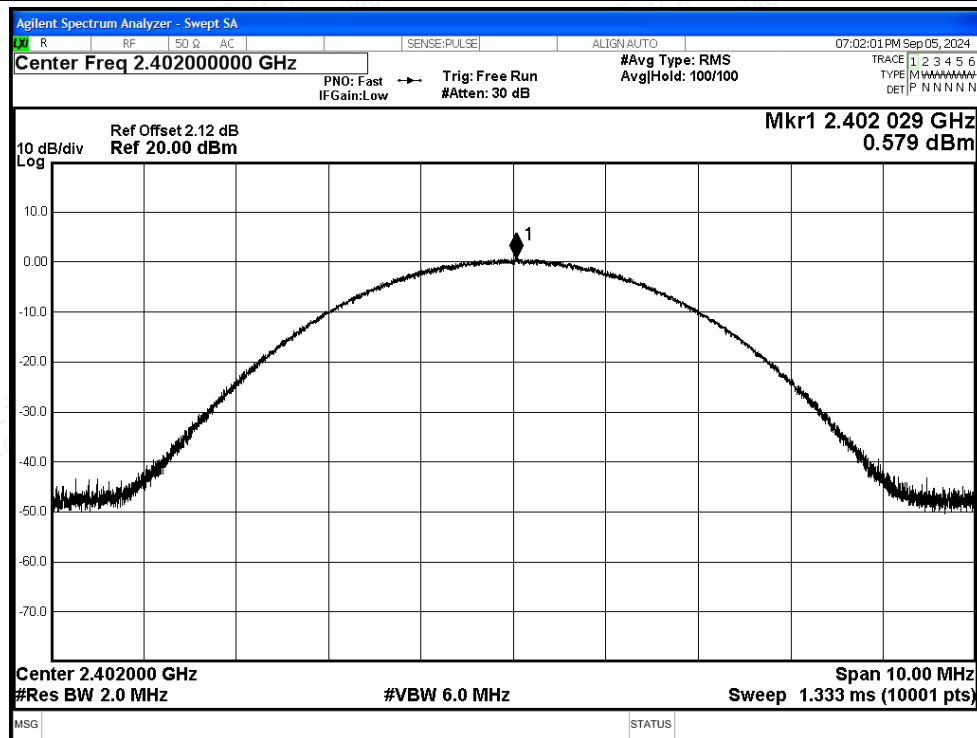


Power NVNT 2-DH5 2480MHz Ant1

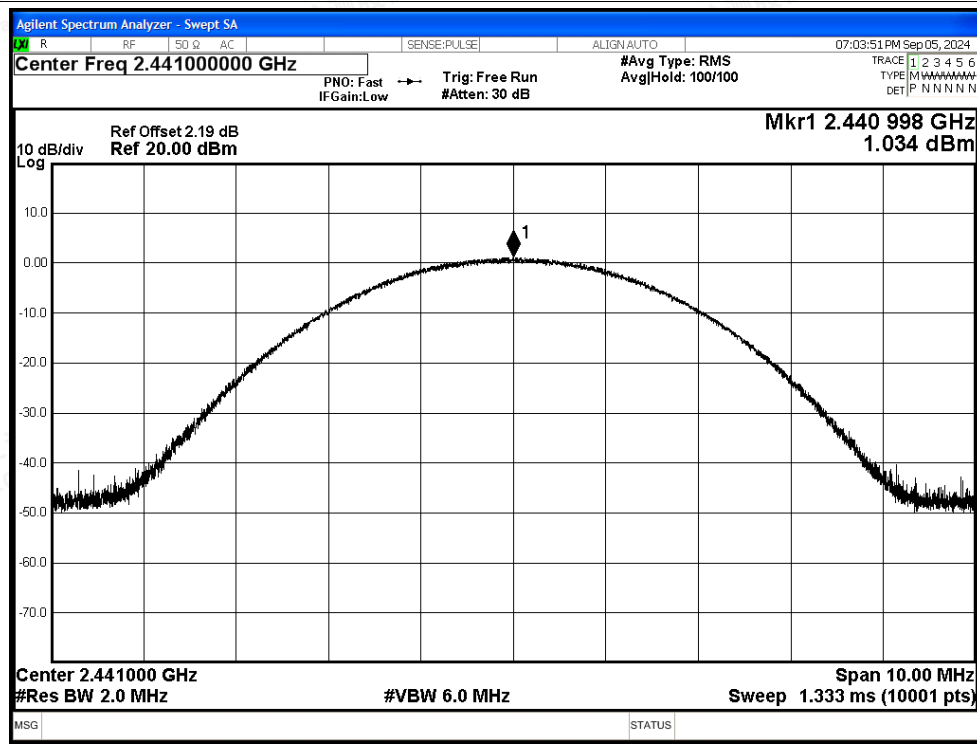


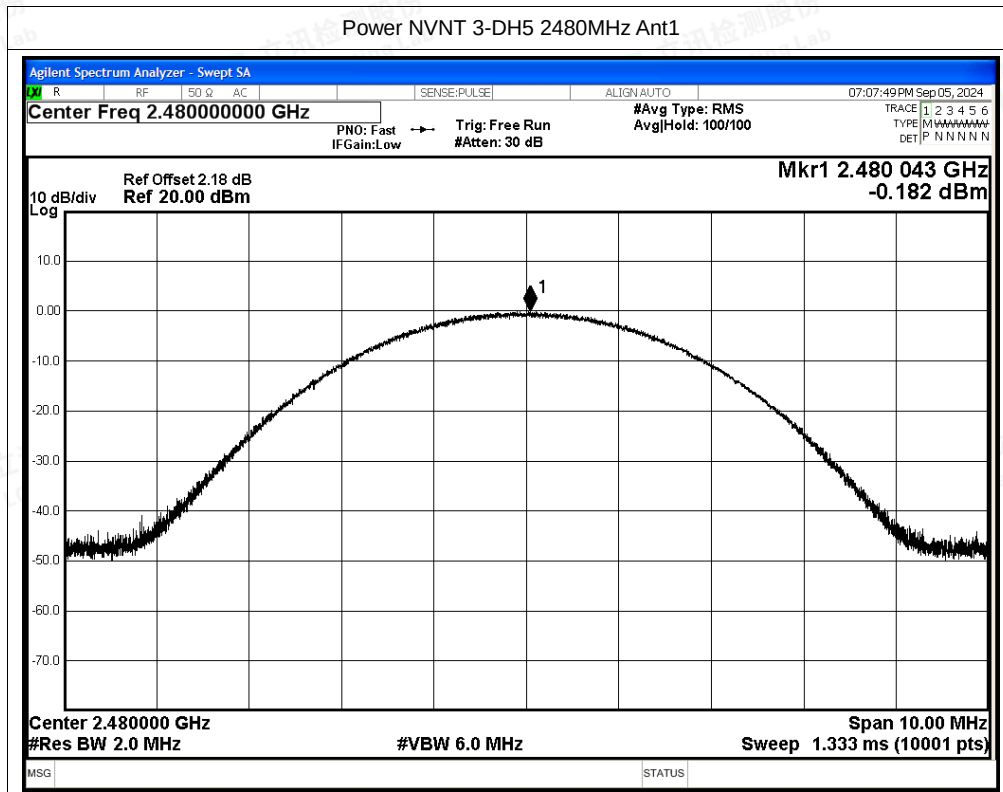


Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1







A.3 Carrier Frequencies Separation

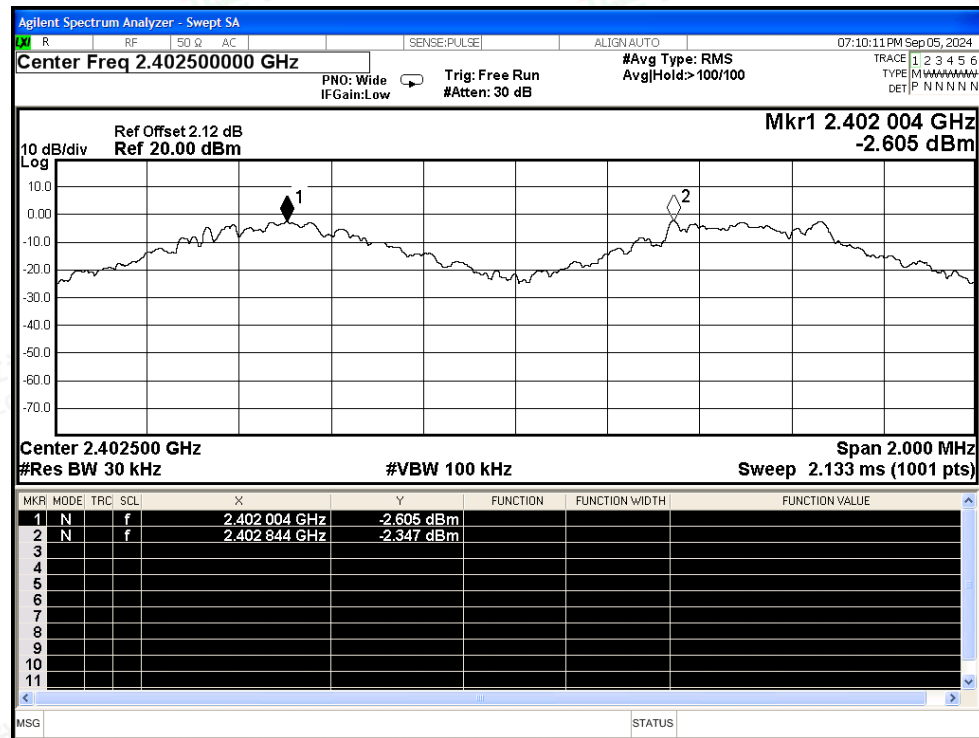
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.004	2402.844	0.84	0.635	Pass
NVNT	2-DH5	Ant1	2402.02	2403.164	1.144	0.897	Pass
NVNT	3-DH5	Ant1	2402.03	2403.032	1.002	0.872	Pass



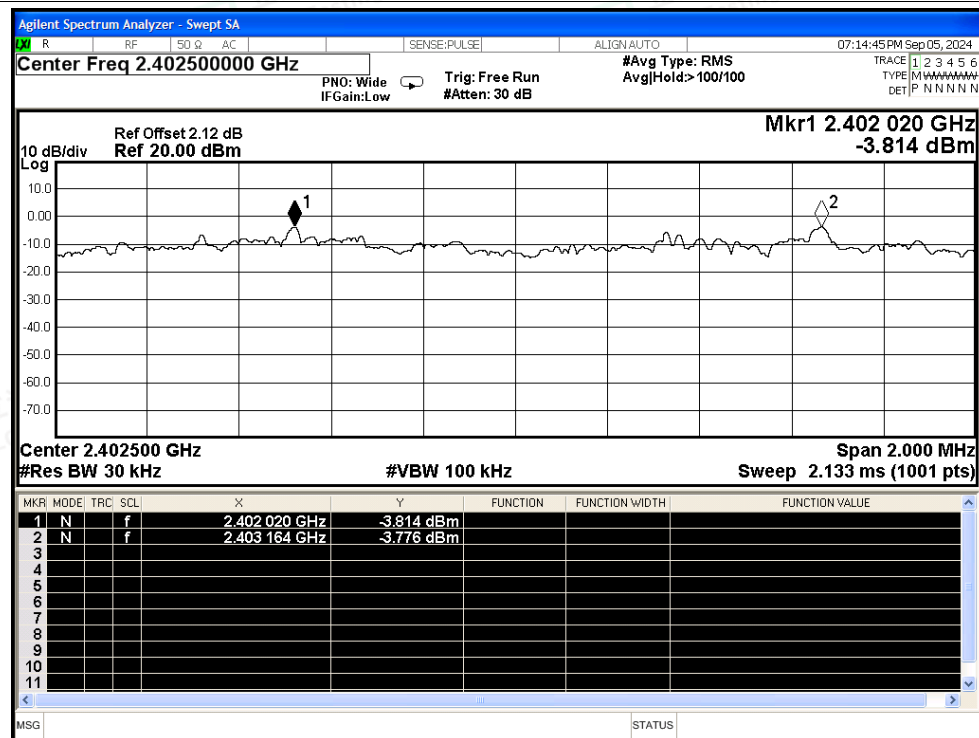


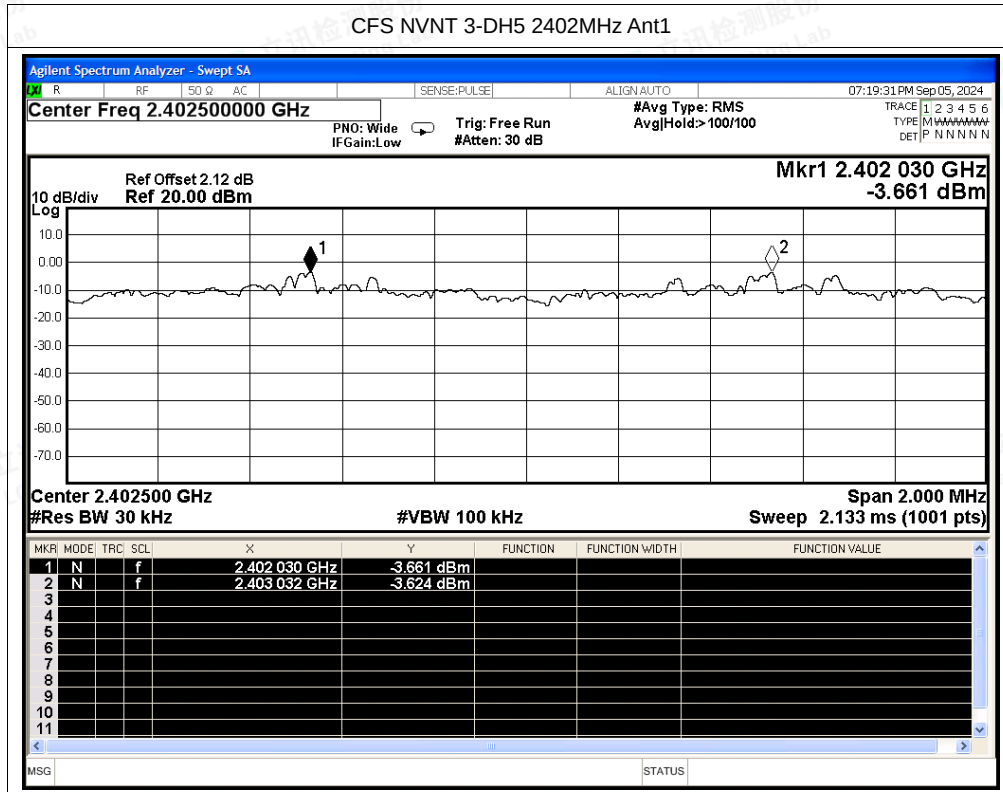
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1







A.4 Dwell Time

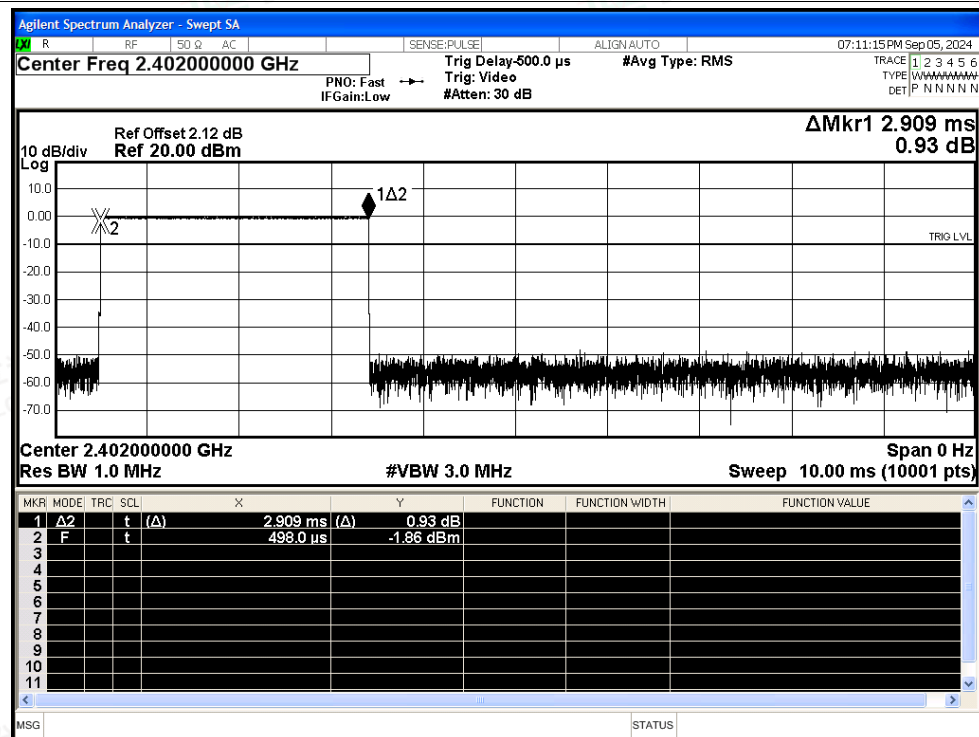
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.909	273.446	94	31600	400	Pass
NVNT	2-DH5	2402	Ant1	1.986	222.432	112	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	281.009	97	31600	400	Pass



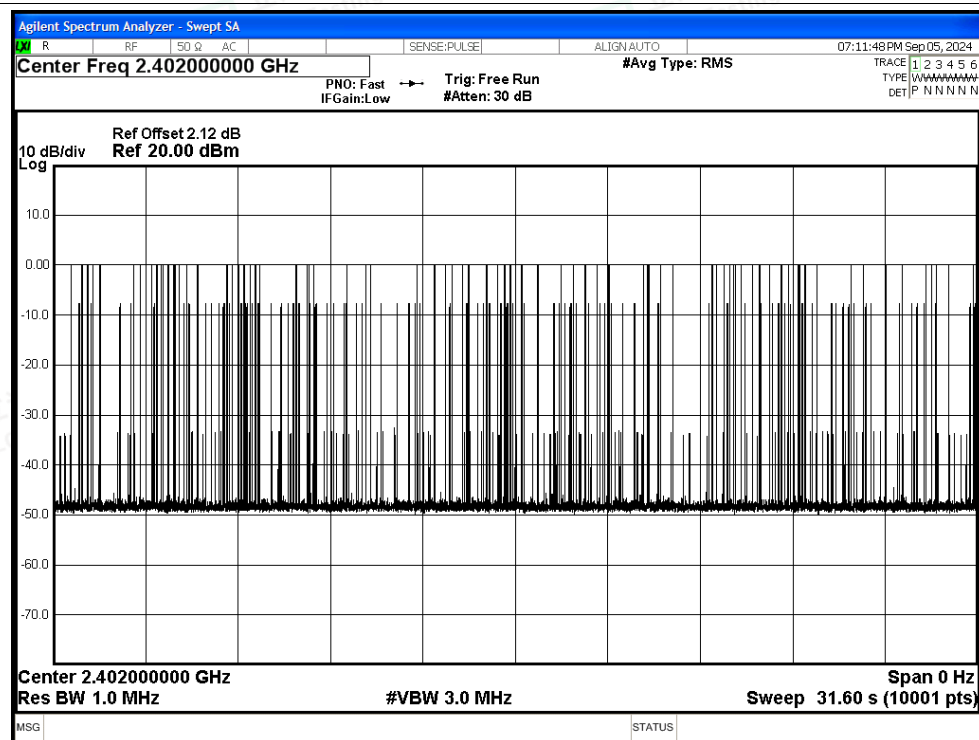


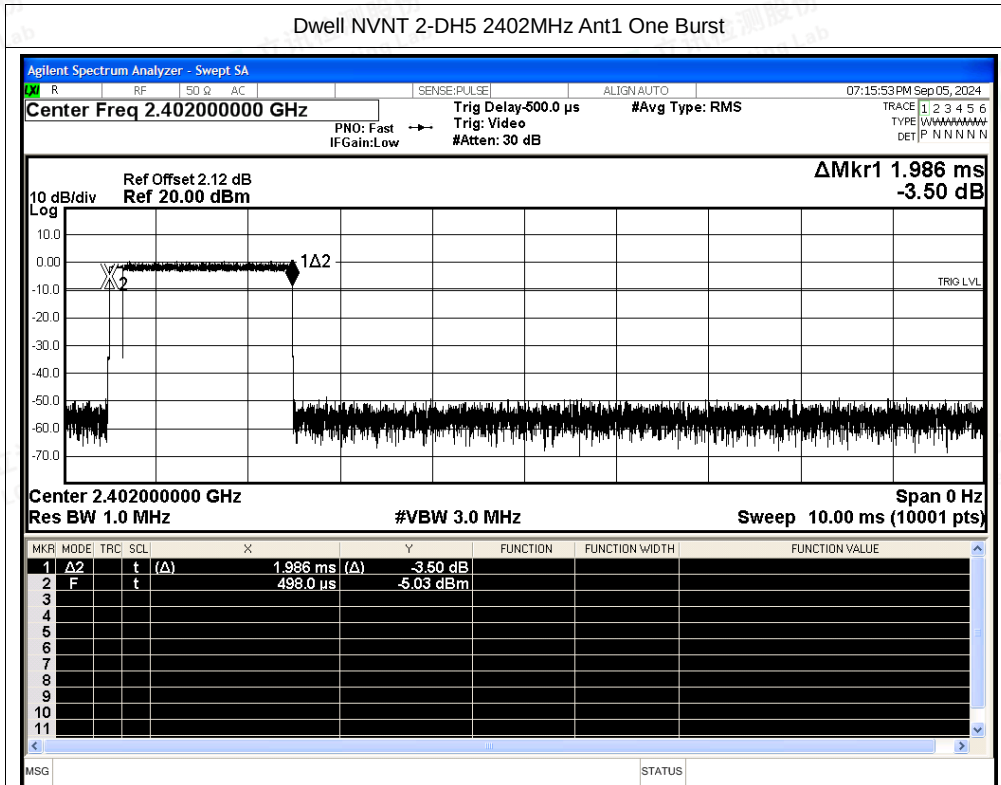
Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

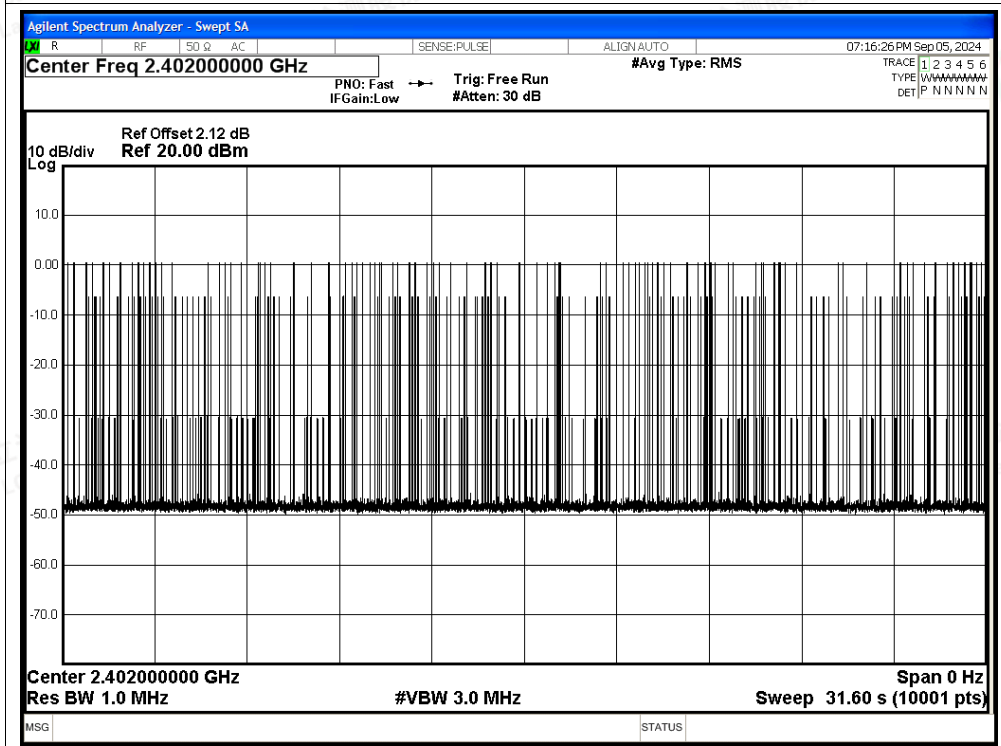


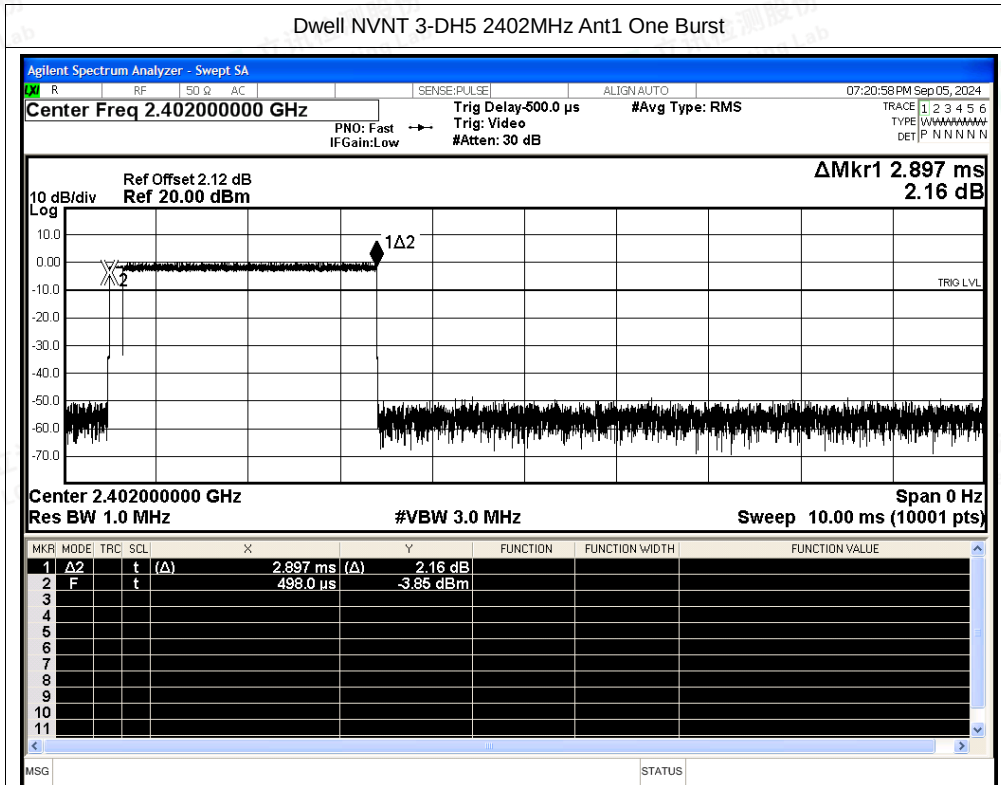
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



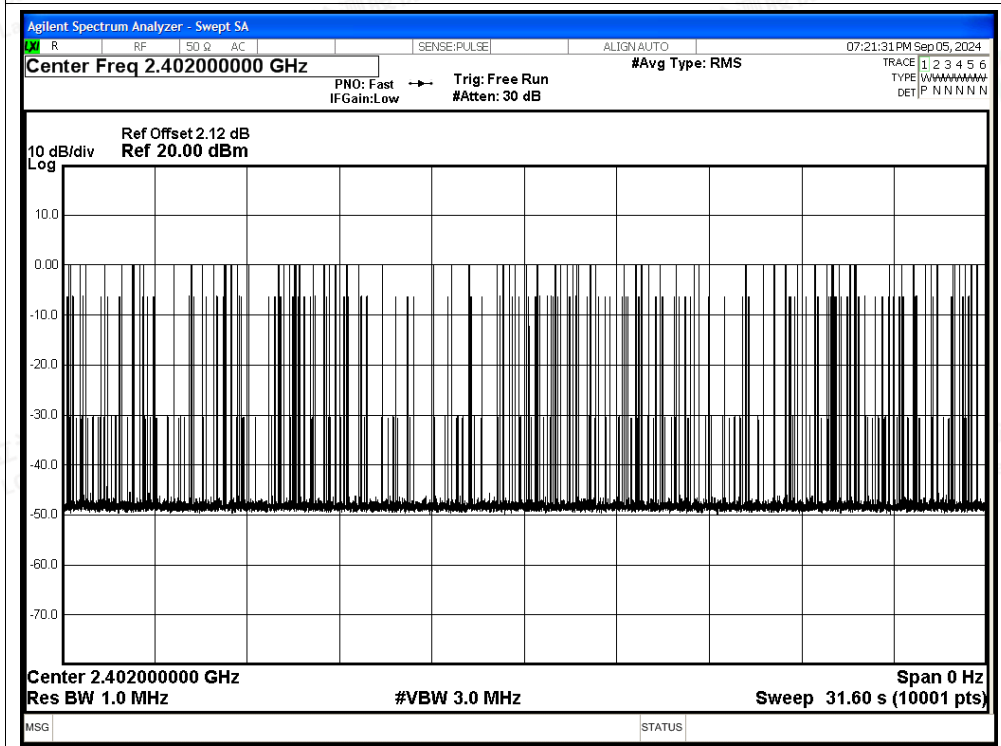


Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated





Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated





A.5 Number of Hopping Channel

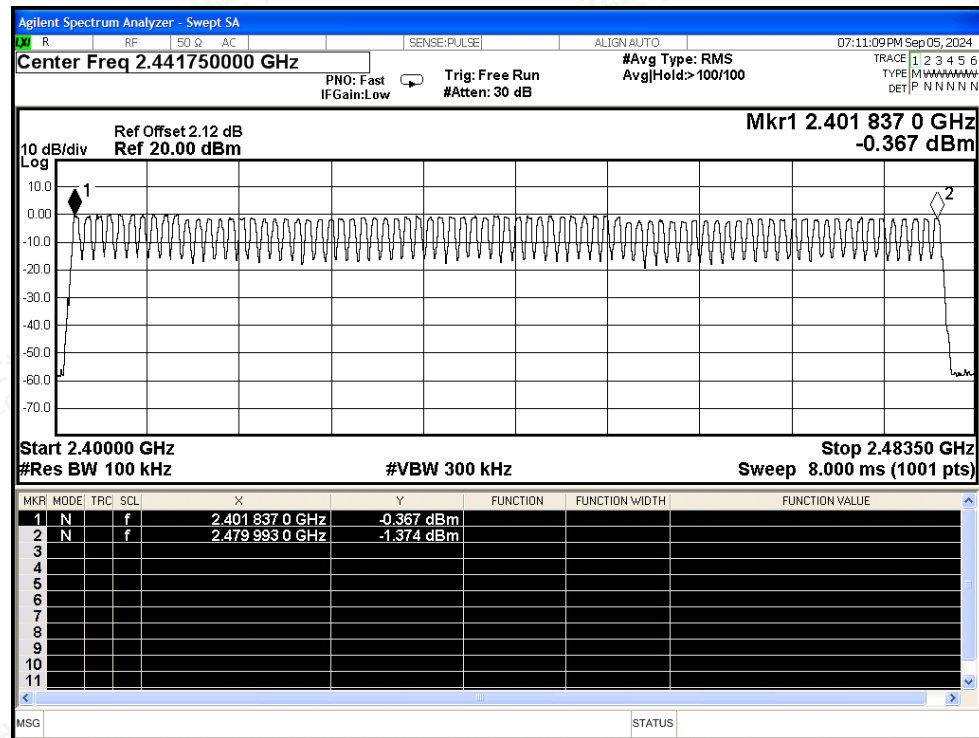
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



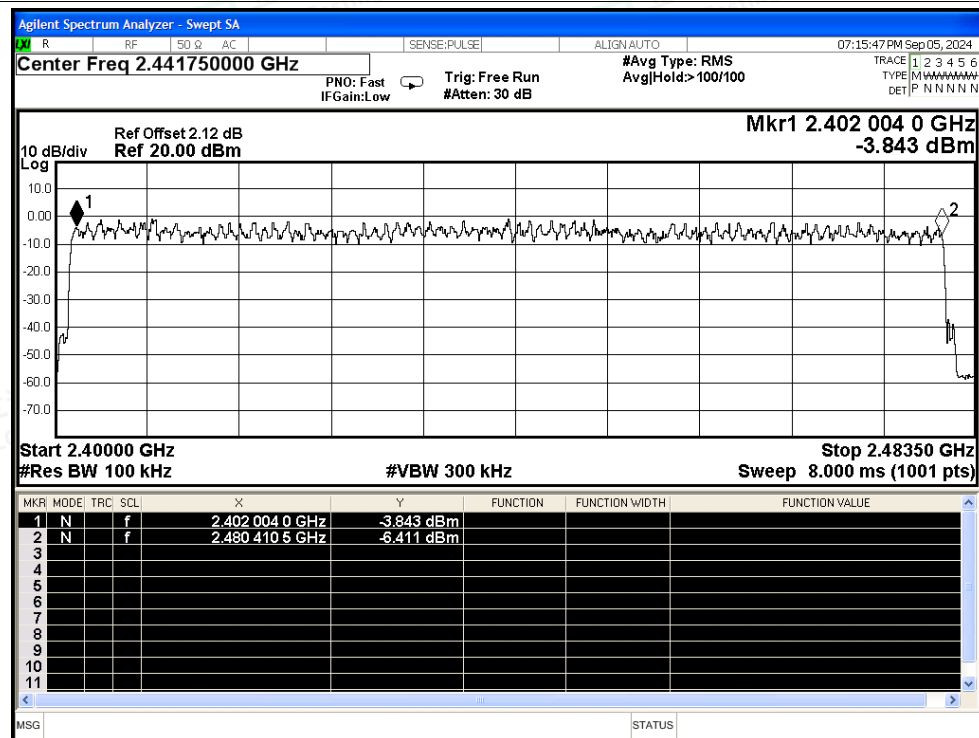


Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1

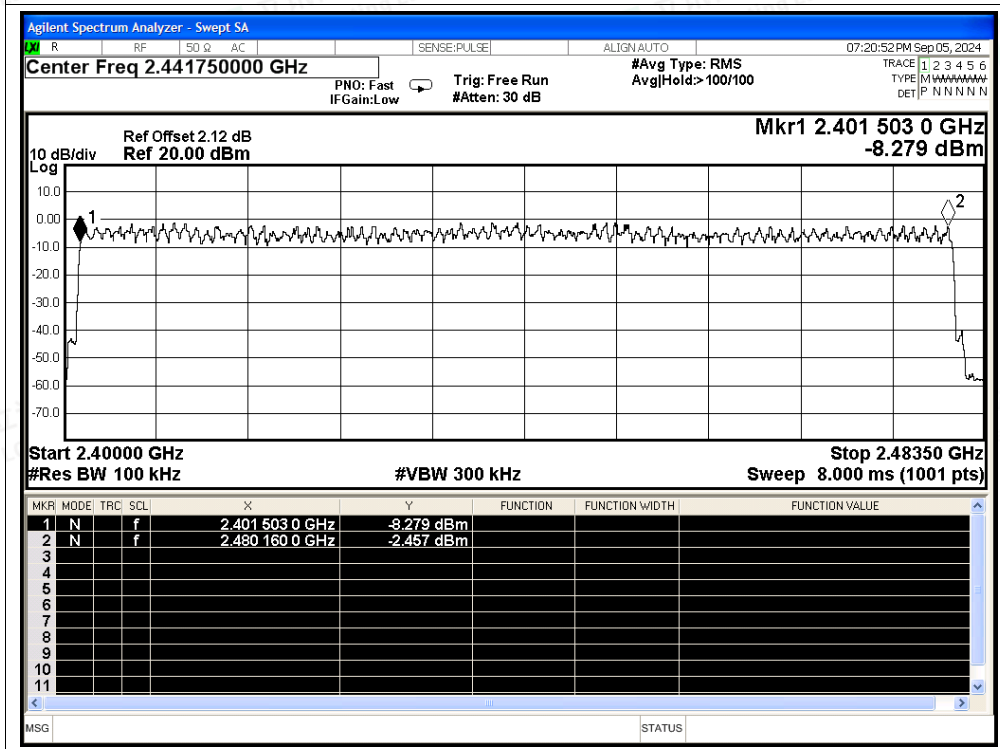


Hopping No. NVNT 2-DH5 2402MHz Ant1





Hopping No. NVNT 3-DH5 2402MHz Ant1





A.6 Band Edge

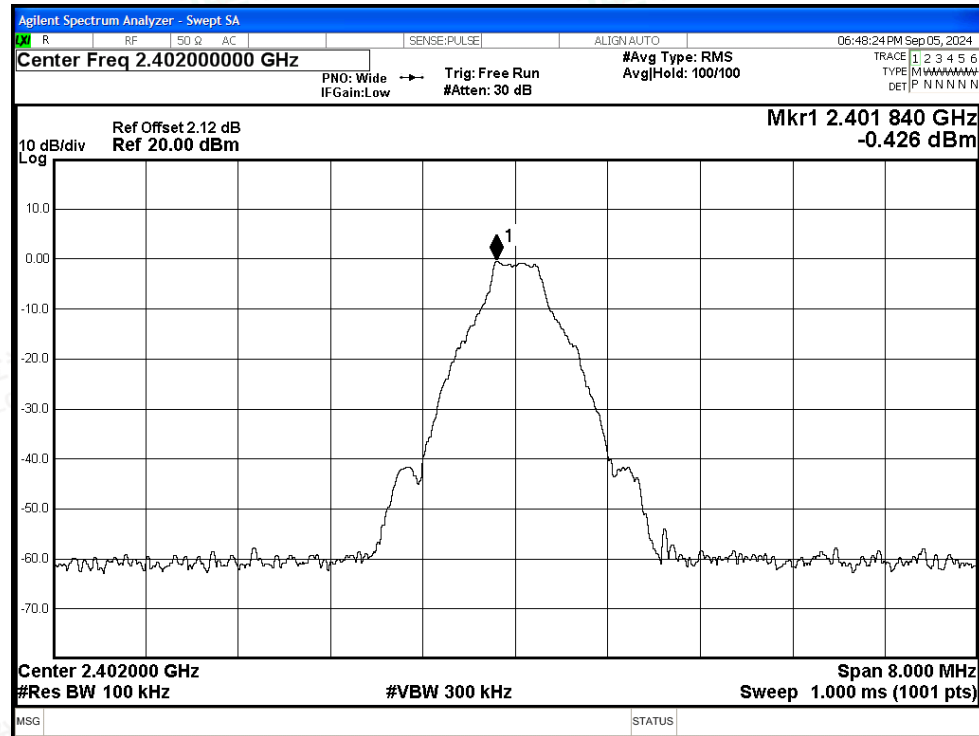
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-55.29	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-54.95	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-53.72	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-52.93	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-53.23	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-53.66	-20	Pass



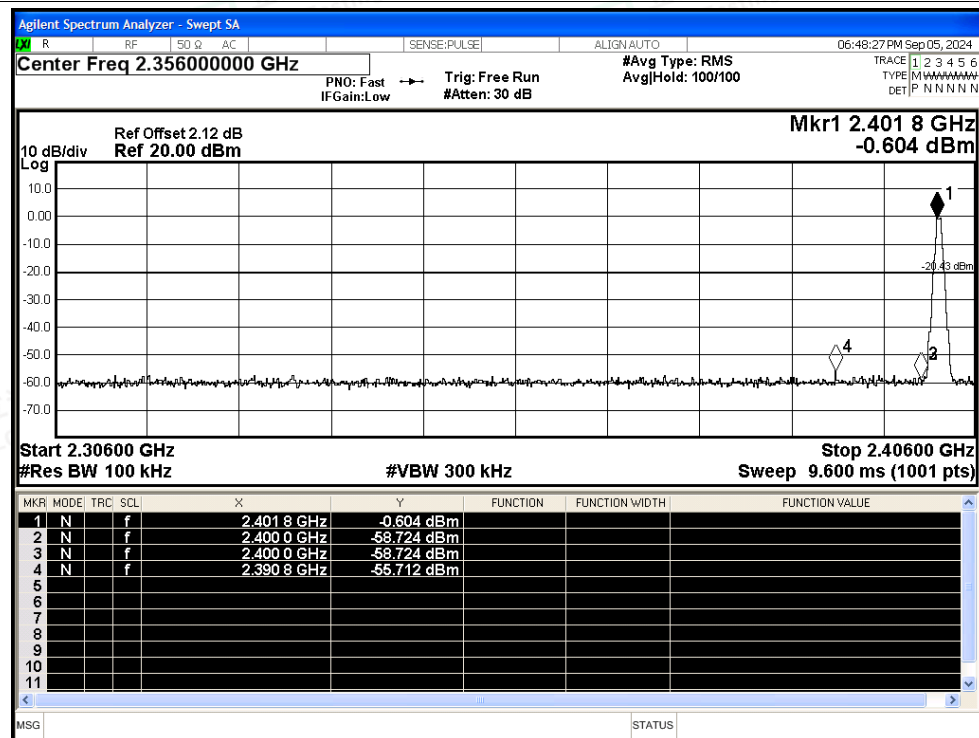


Test Graphs

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



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



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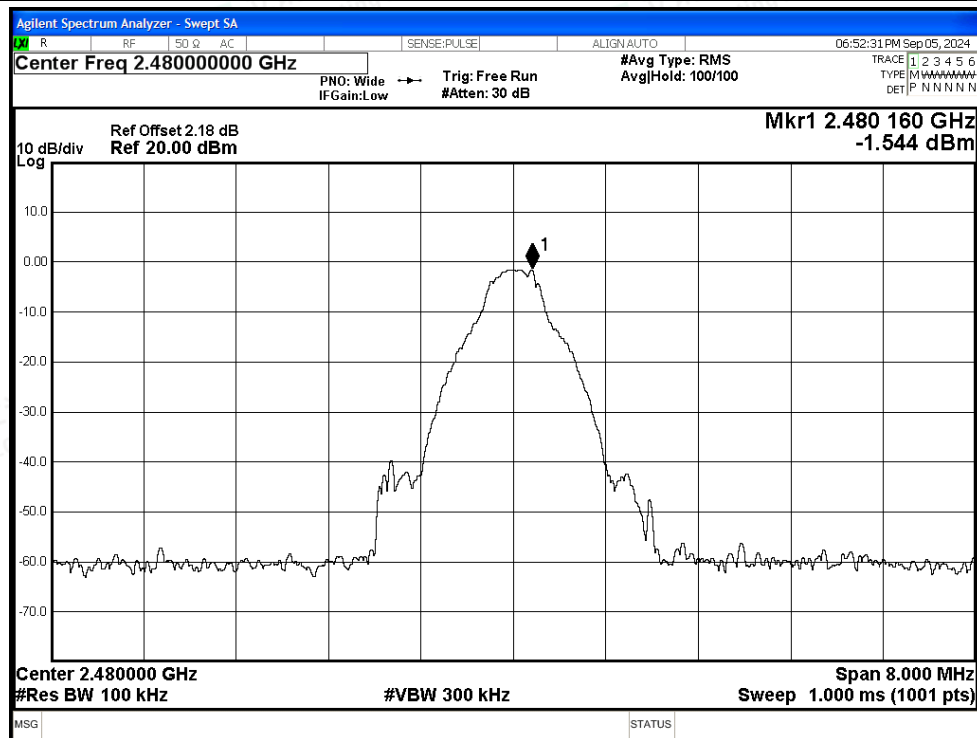
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

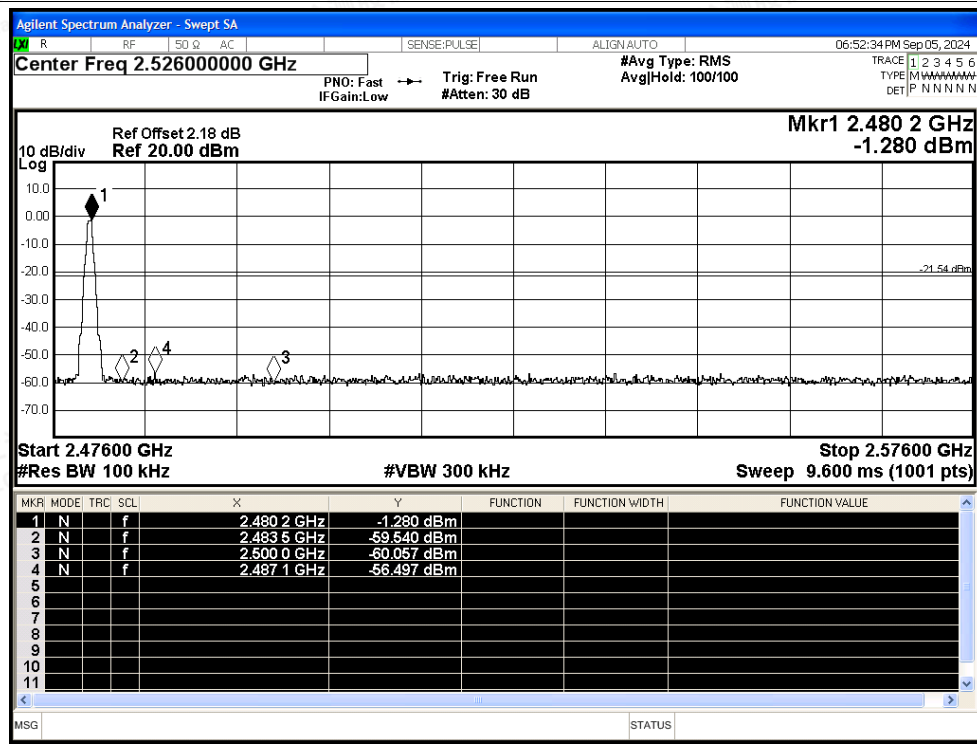
Scan code to check authenticity



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

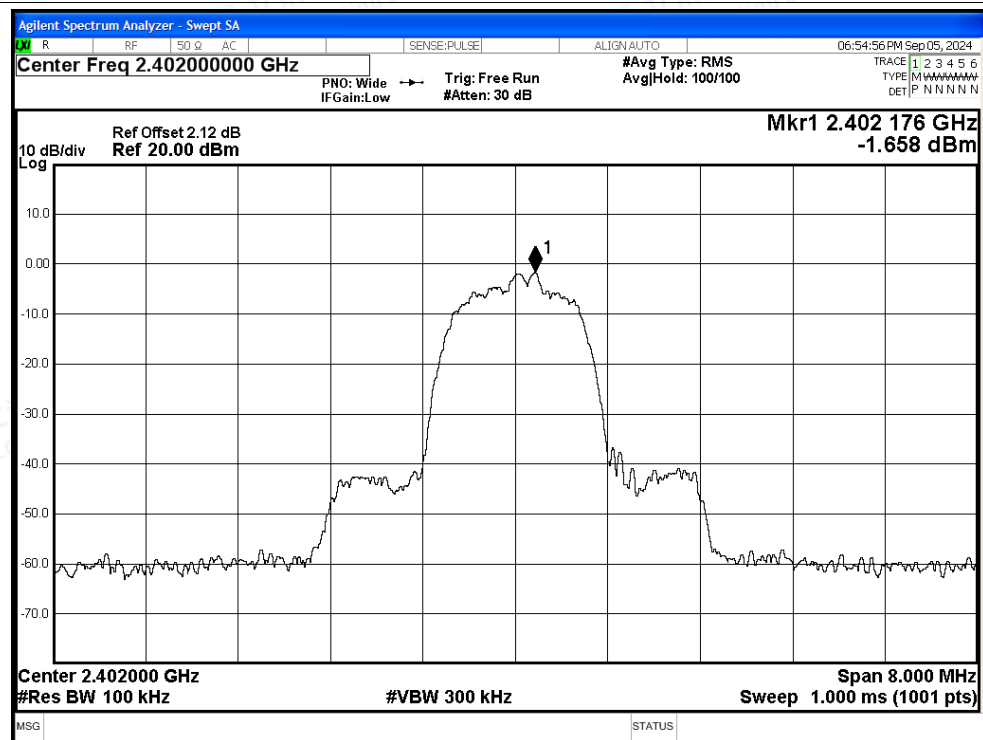


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

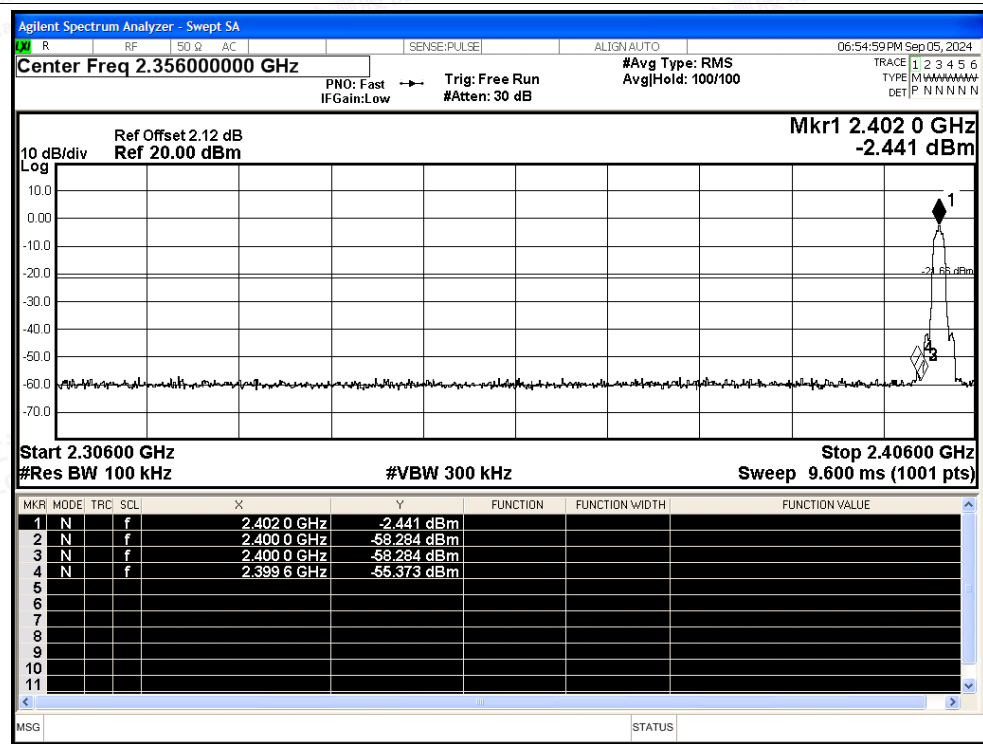




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

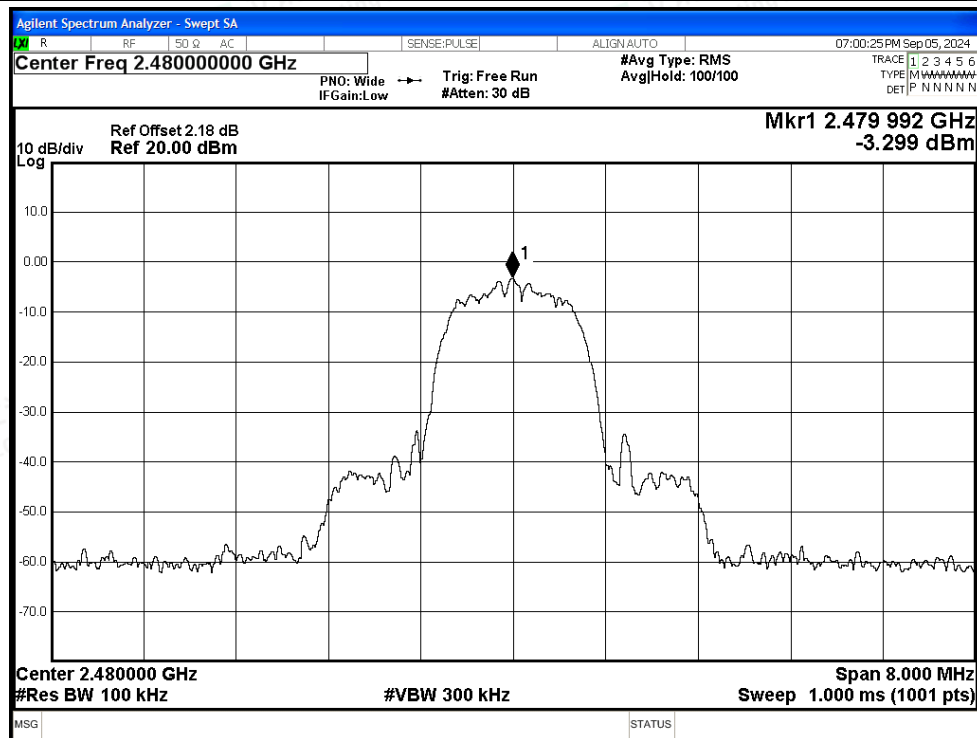


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

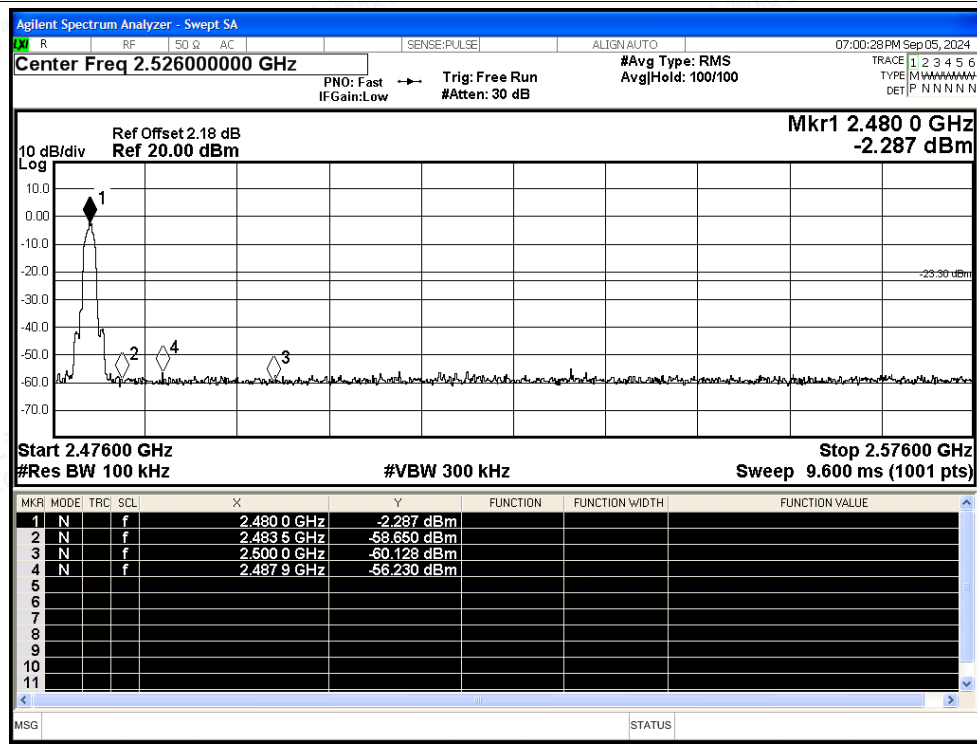




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

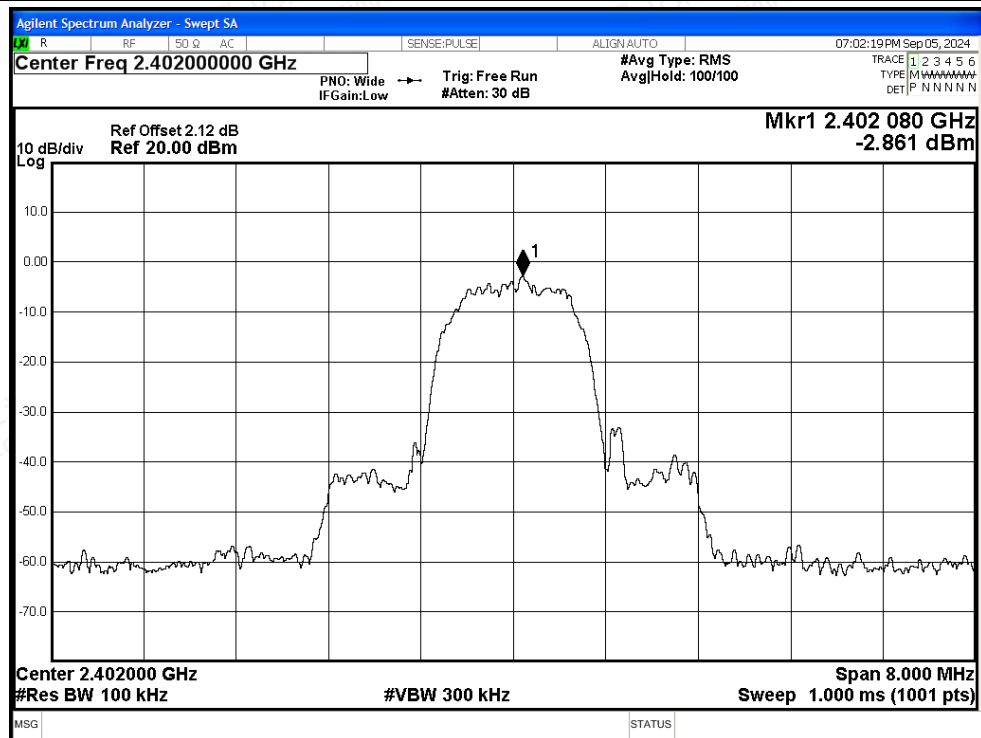


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

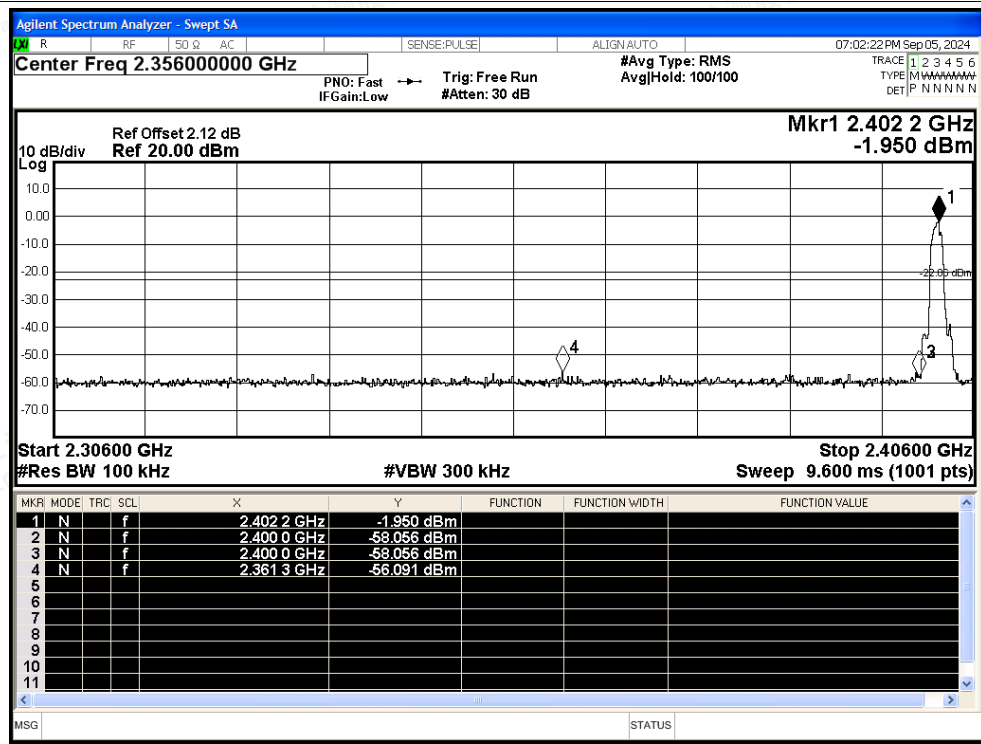




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

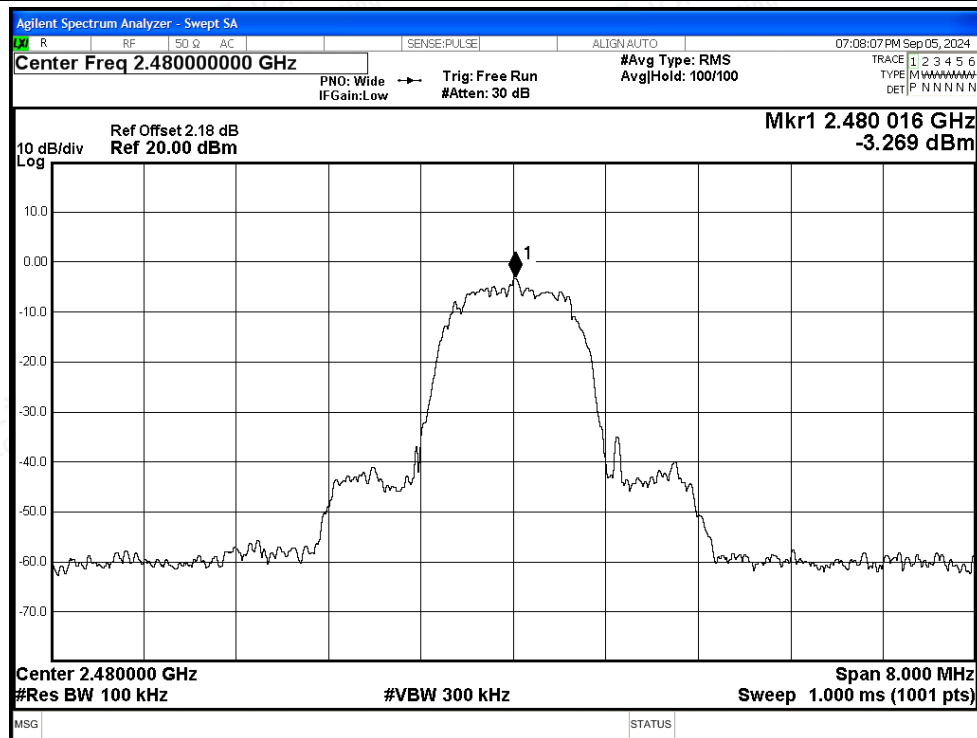


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

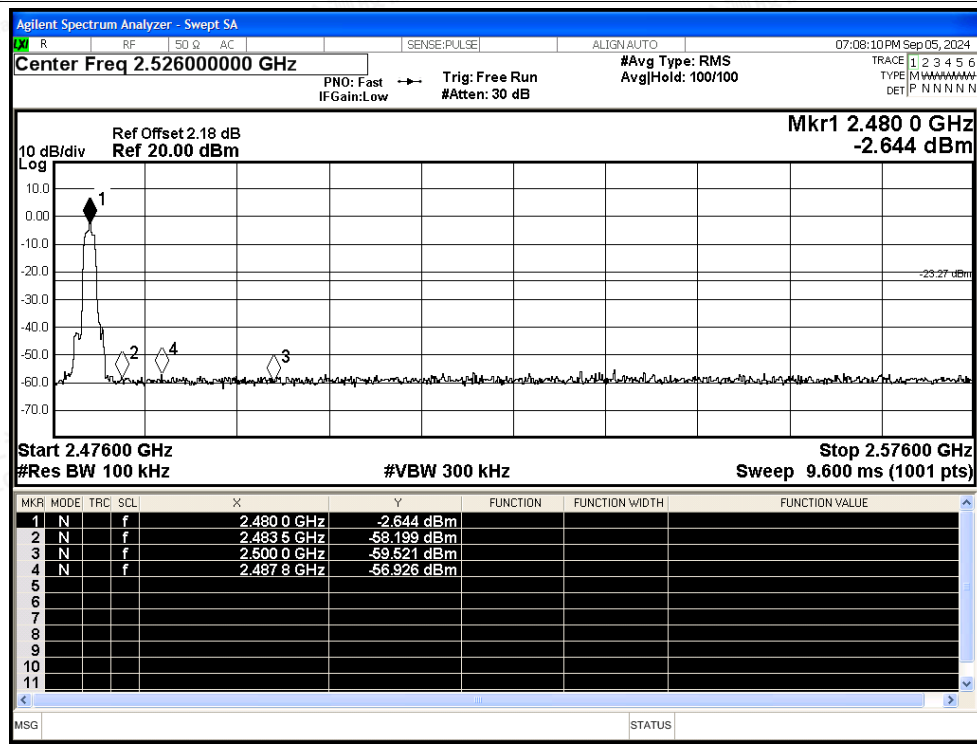




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Emission





(Hopping)

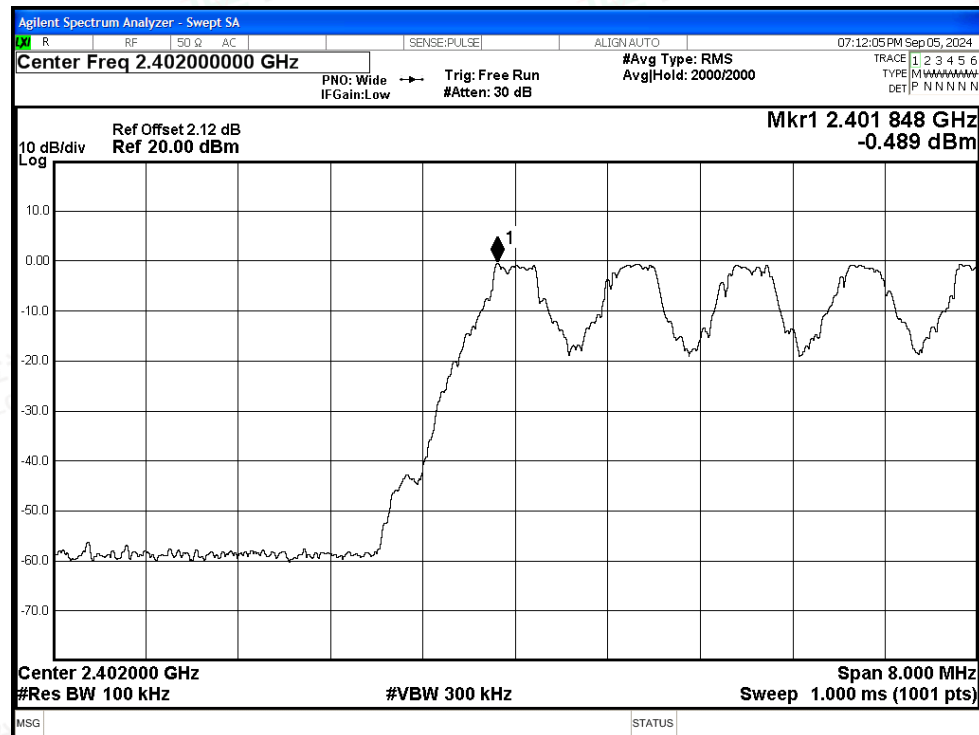
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-55.85	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-54.18	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-53.67	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-52.78	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-54.35	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-51.32	-20	Pass



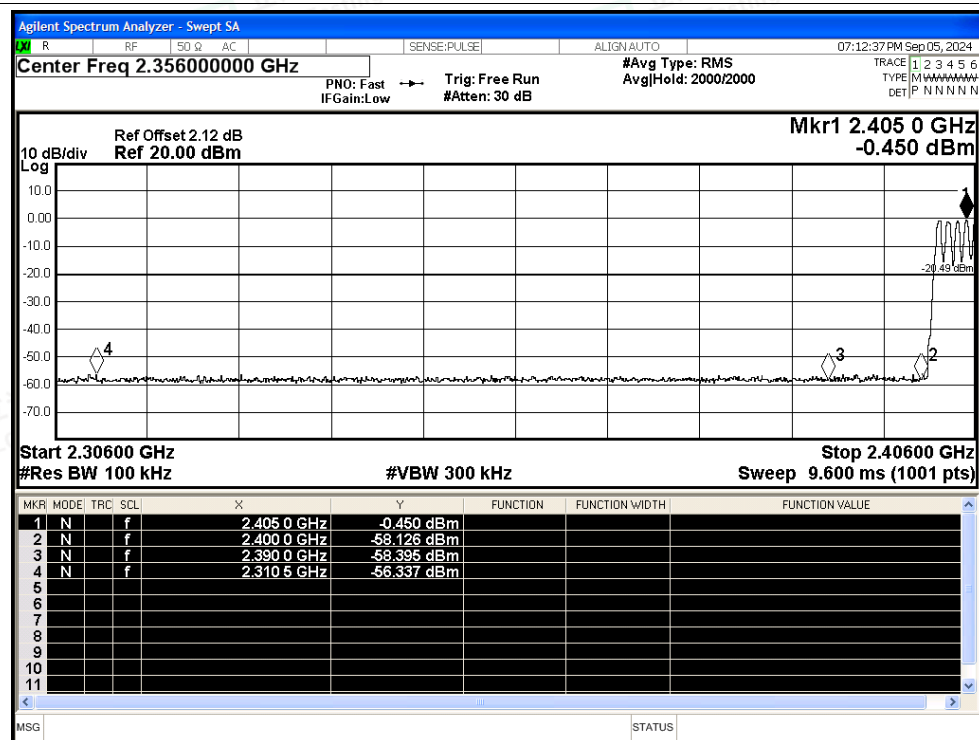


Test Graphs

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

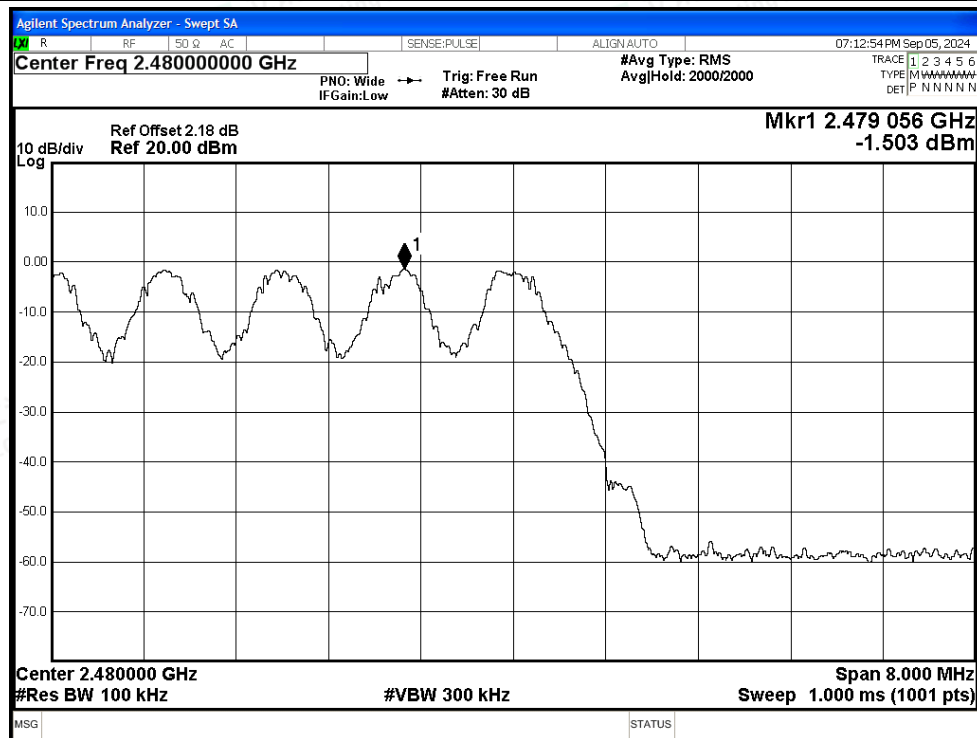


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

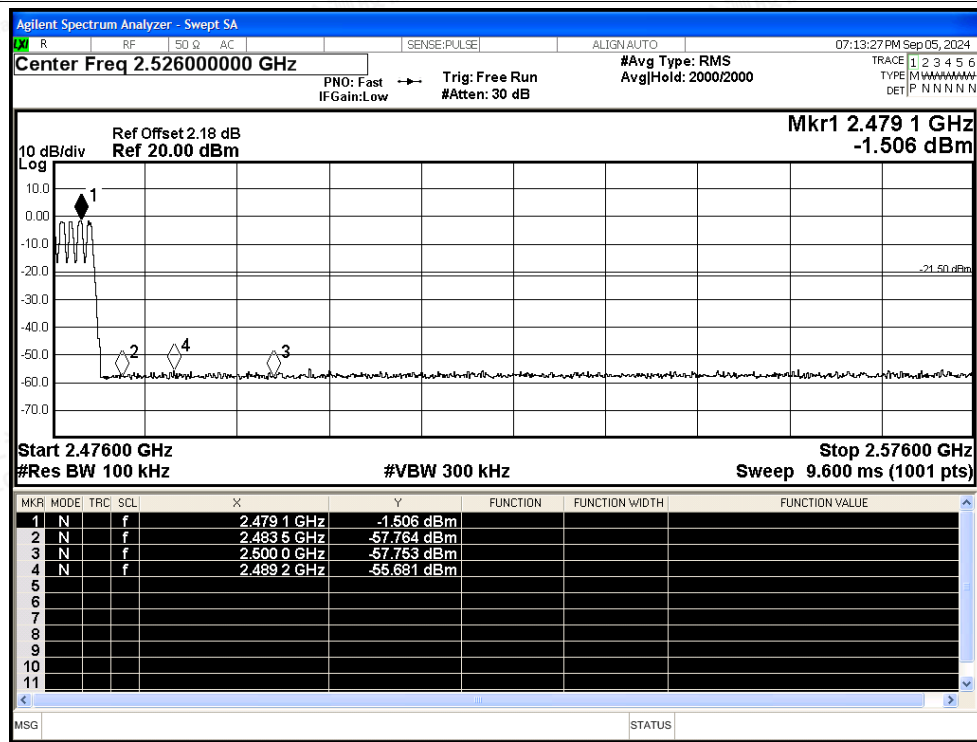




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref

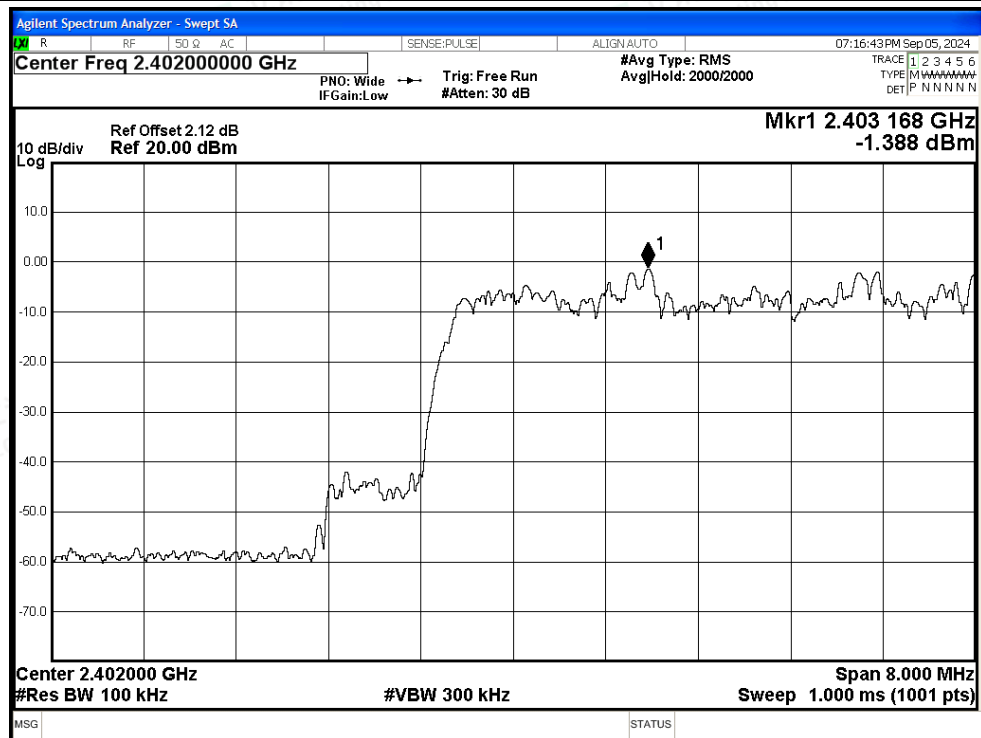


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission

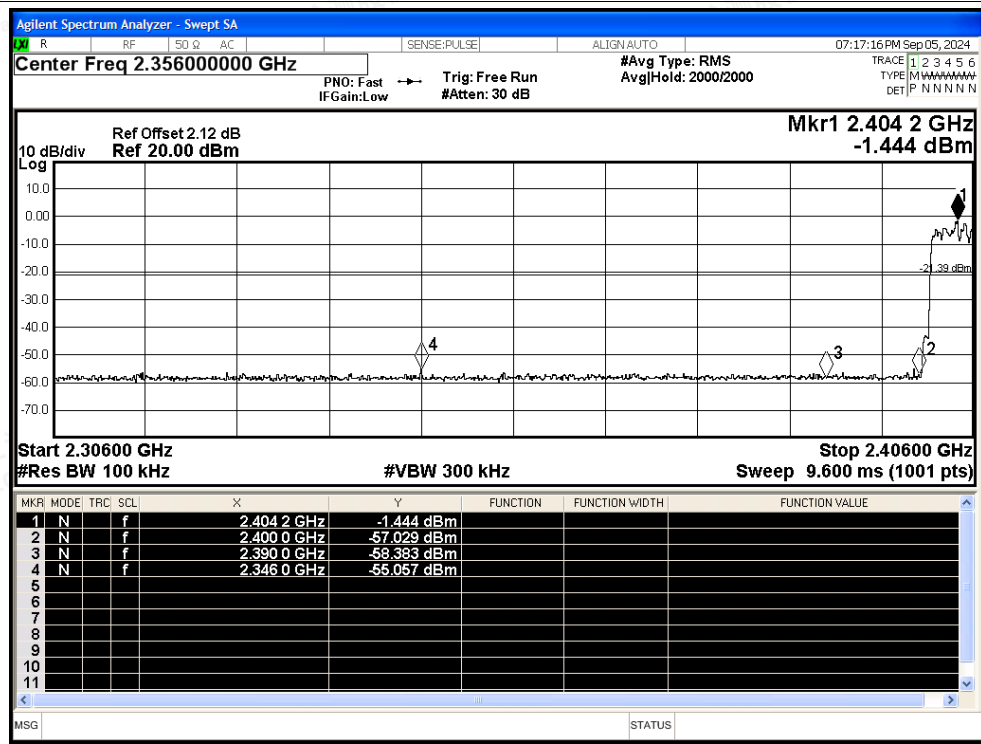




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

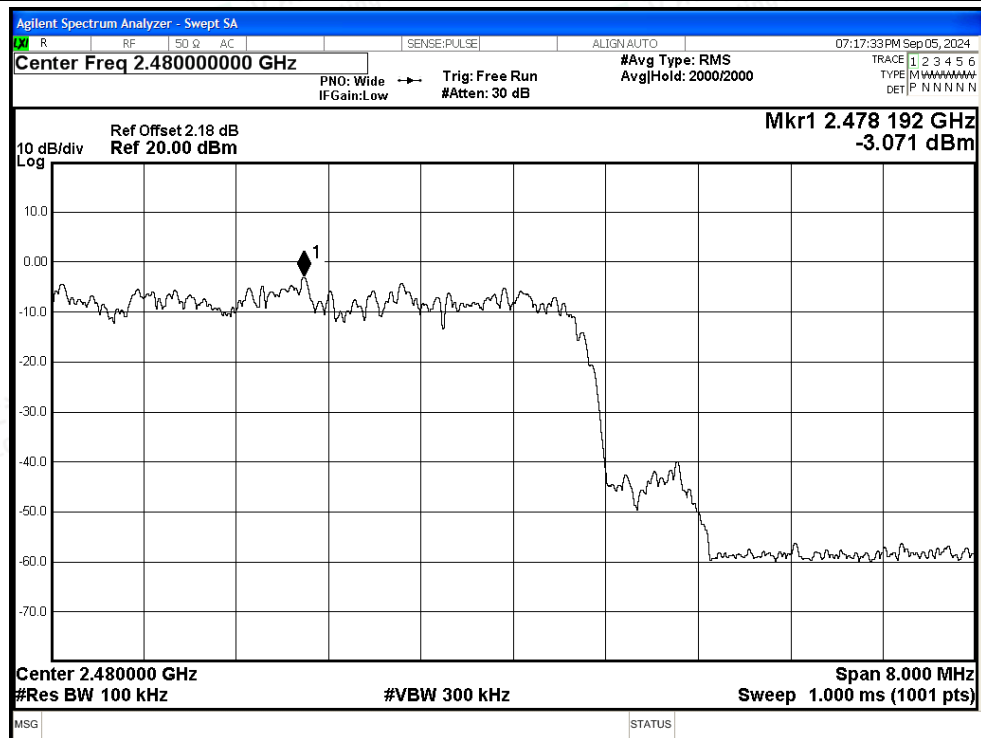


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

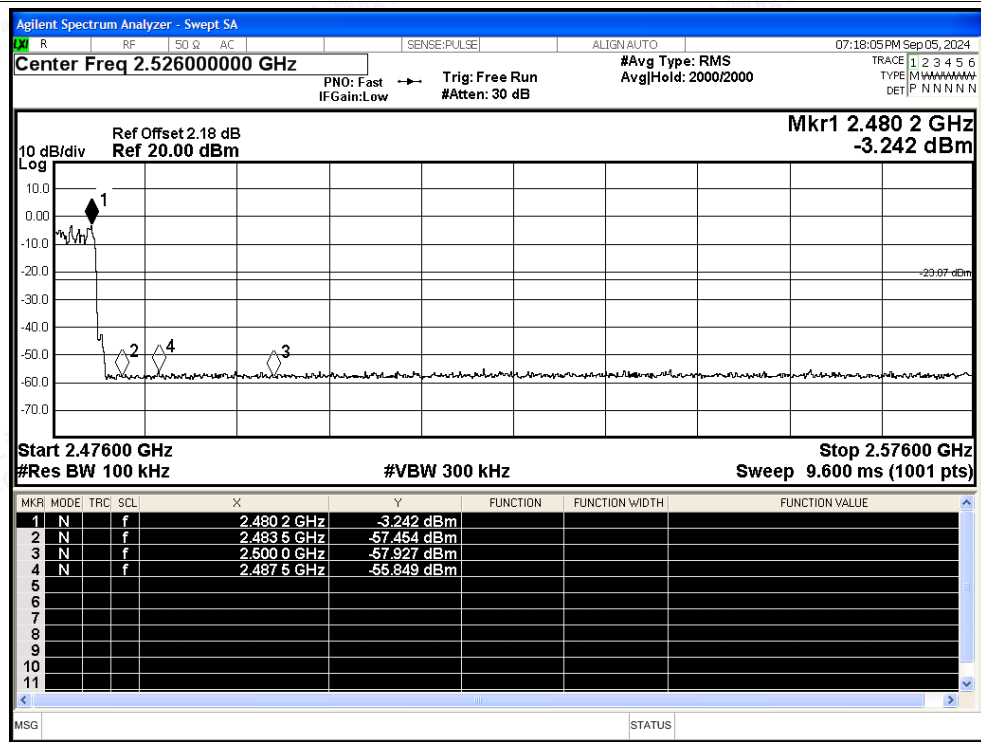




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref

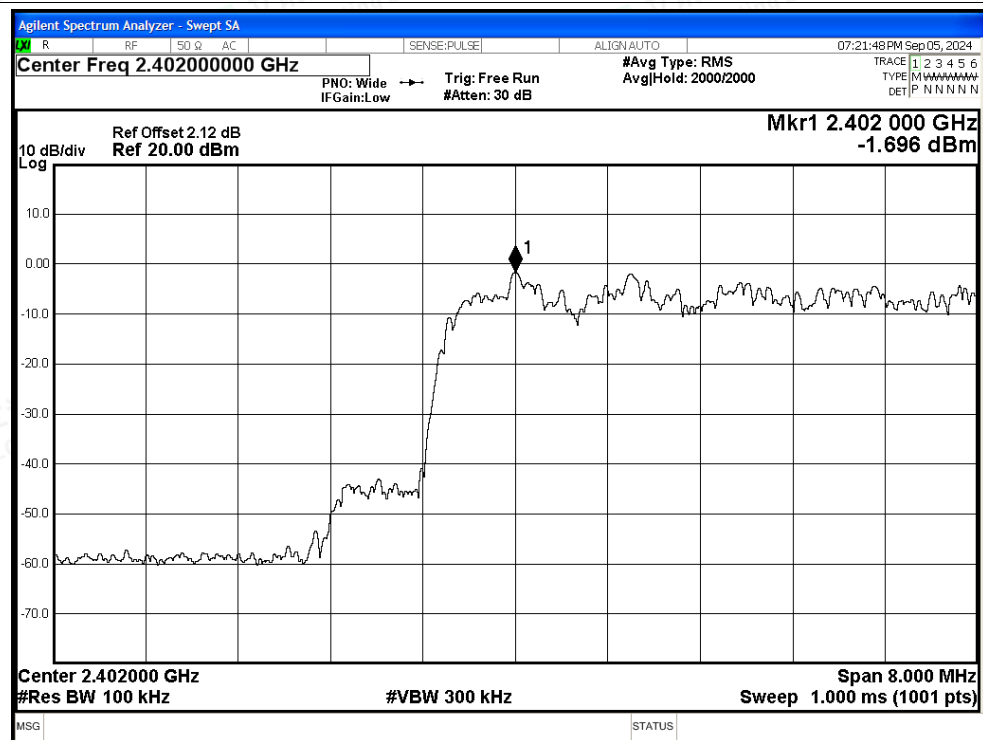


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission

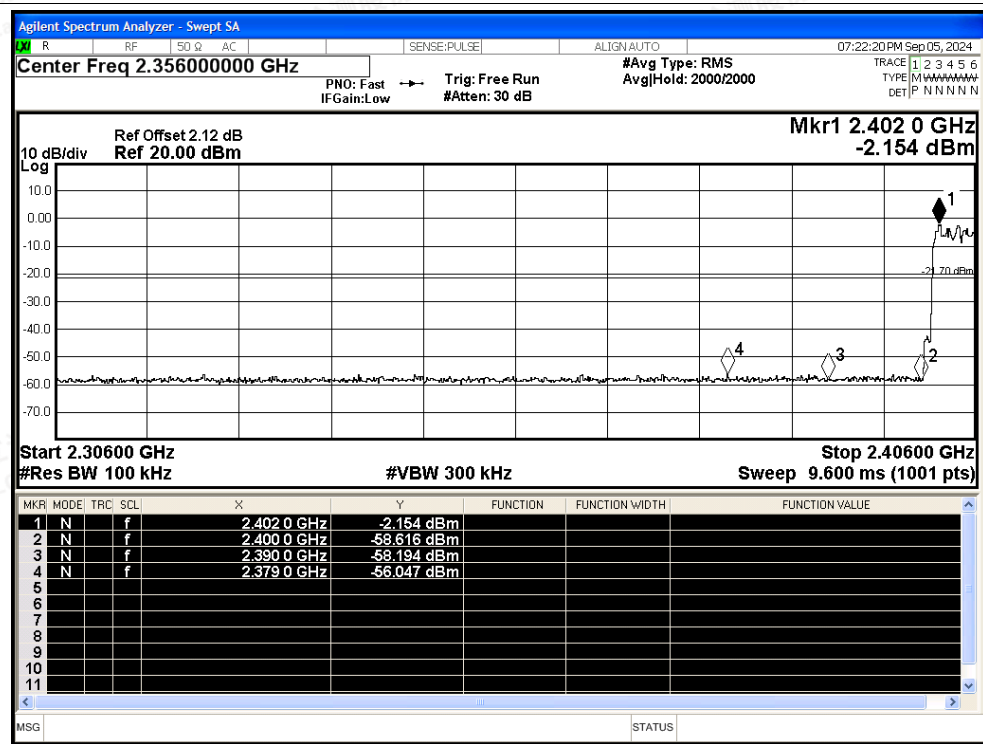


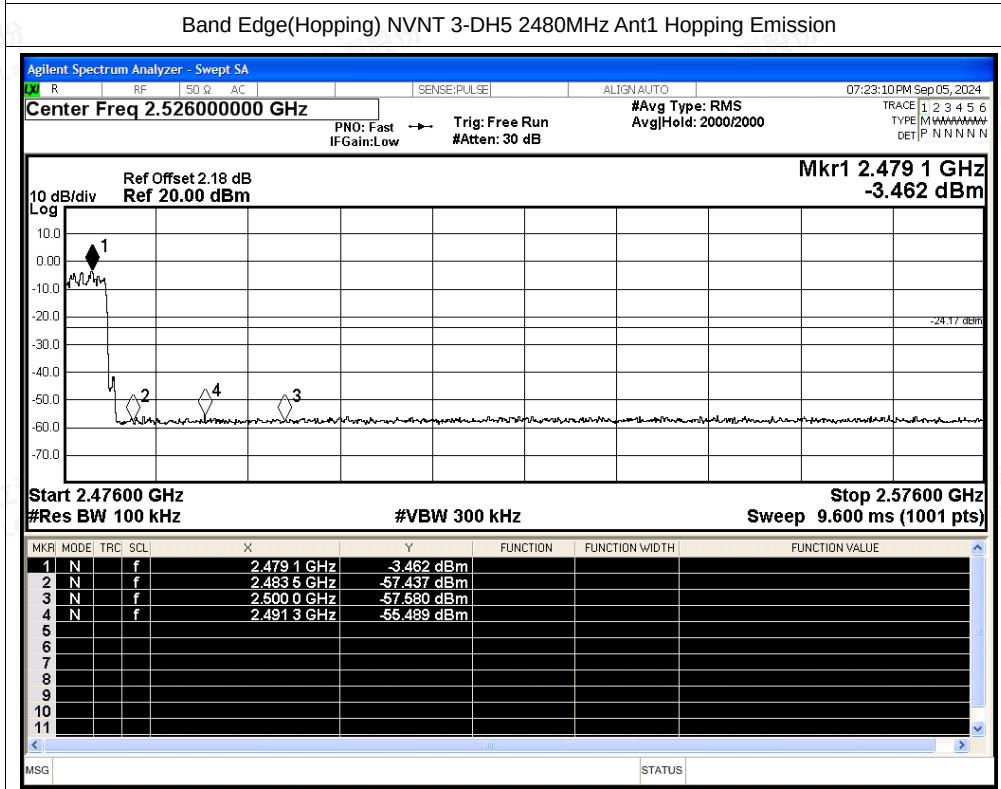
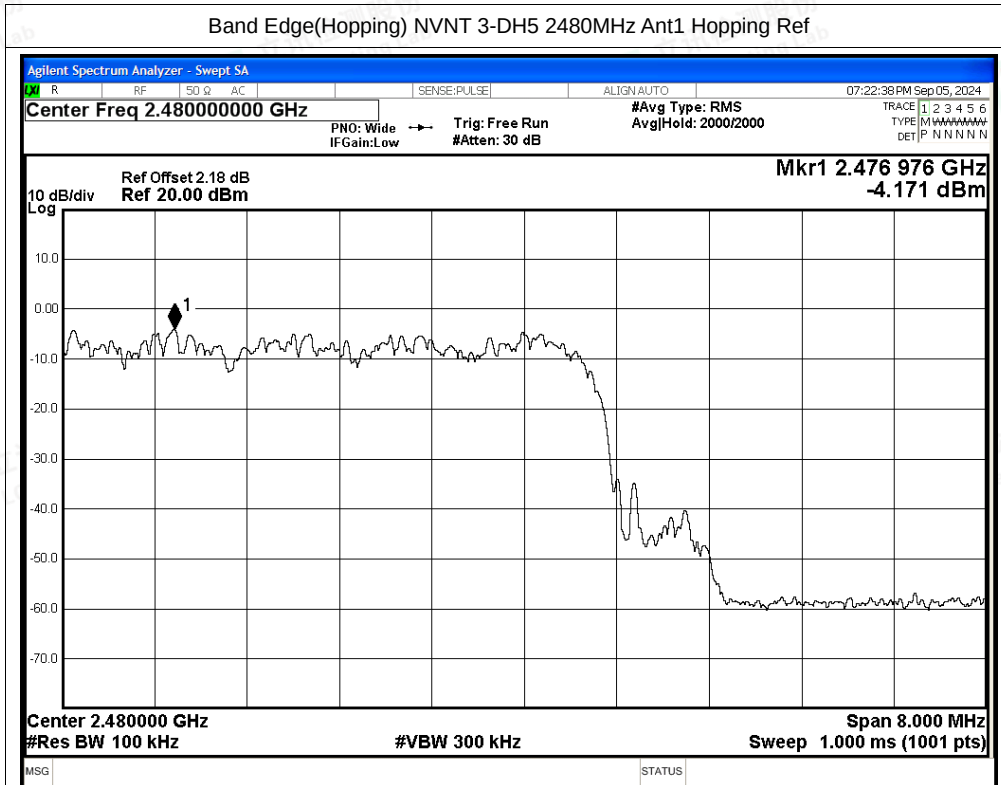


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission







A.7 Conducted RF Spurious Emission

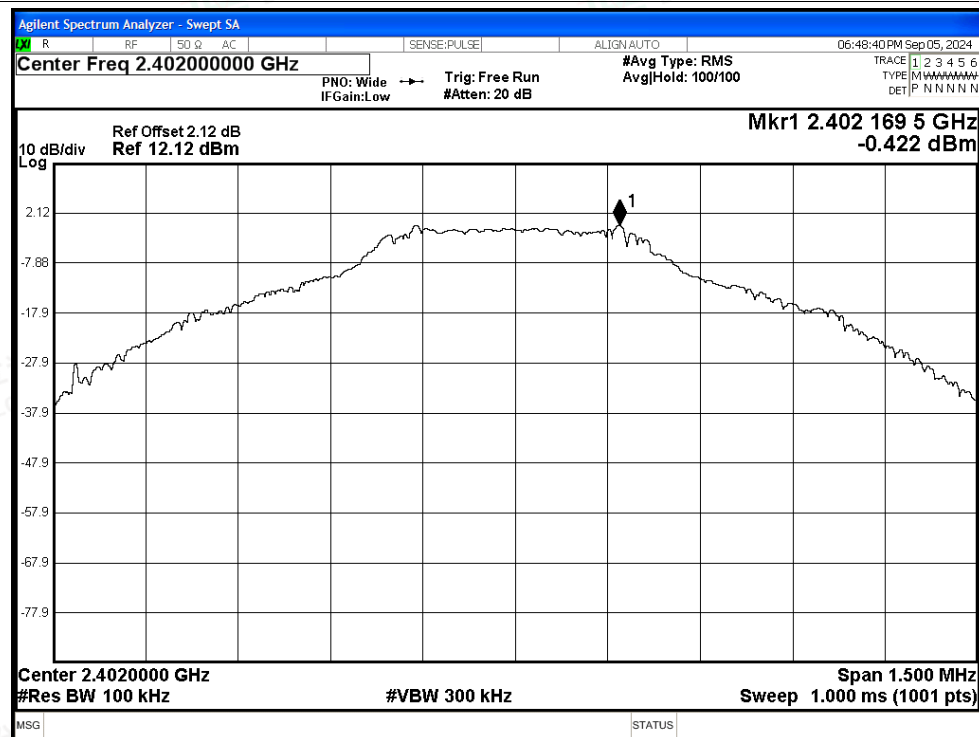
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-54.13	-20	Pass
NVNT	1-DH5	2441	Ant1	-55	-20	Pass
NVNT	1-DH5	2480	Ant1	-53.34	-20	Pass
NVNT	2-DH5	2402	Ant1	-52.54	-20	Pass
NVNT	2-DH5	2441	Ant1	-53.79	-20	Pass
NVNT	2-DH5	2480	Ant1	-52.23	-20	Pass
NVNT	3-DH5	2402	Ant1	-53.46	-20	Pass
NVNT	3-DH5	2441	Ant1	-54.46	-20	Pass
NVNT	3-DH5	2480	Ant1	-51.36	-20	Pass



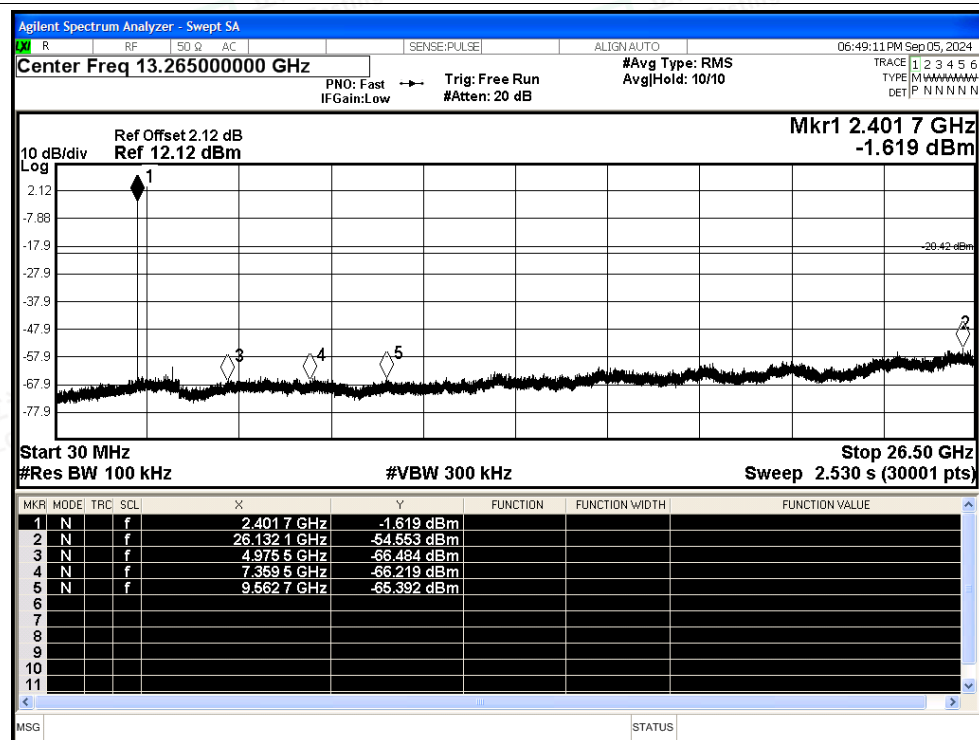


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



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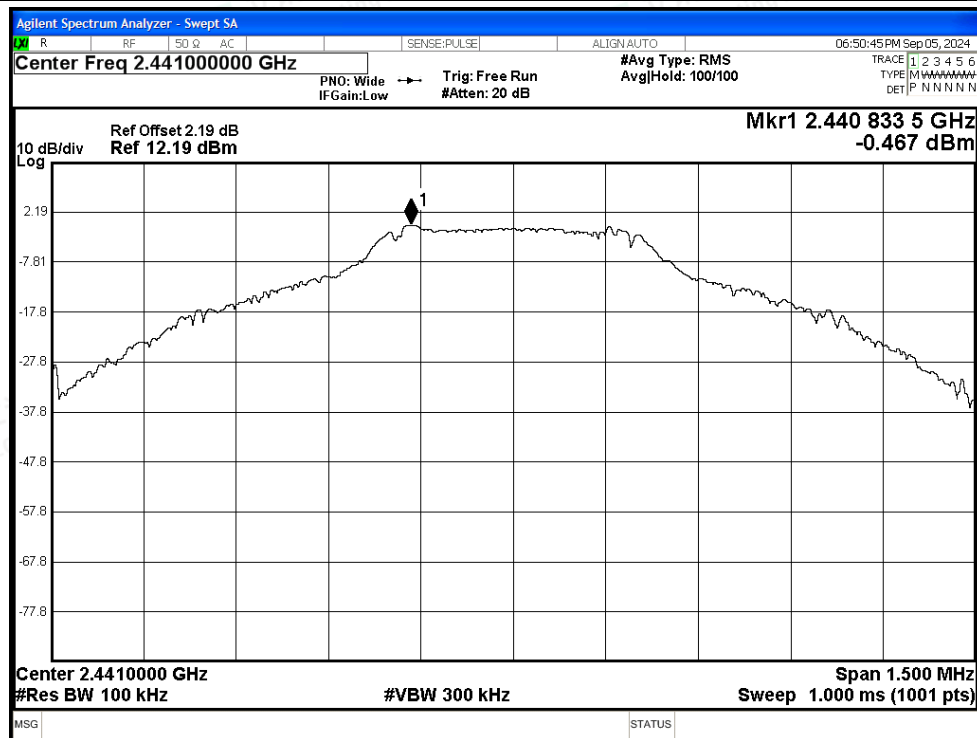
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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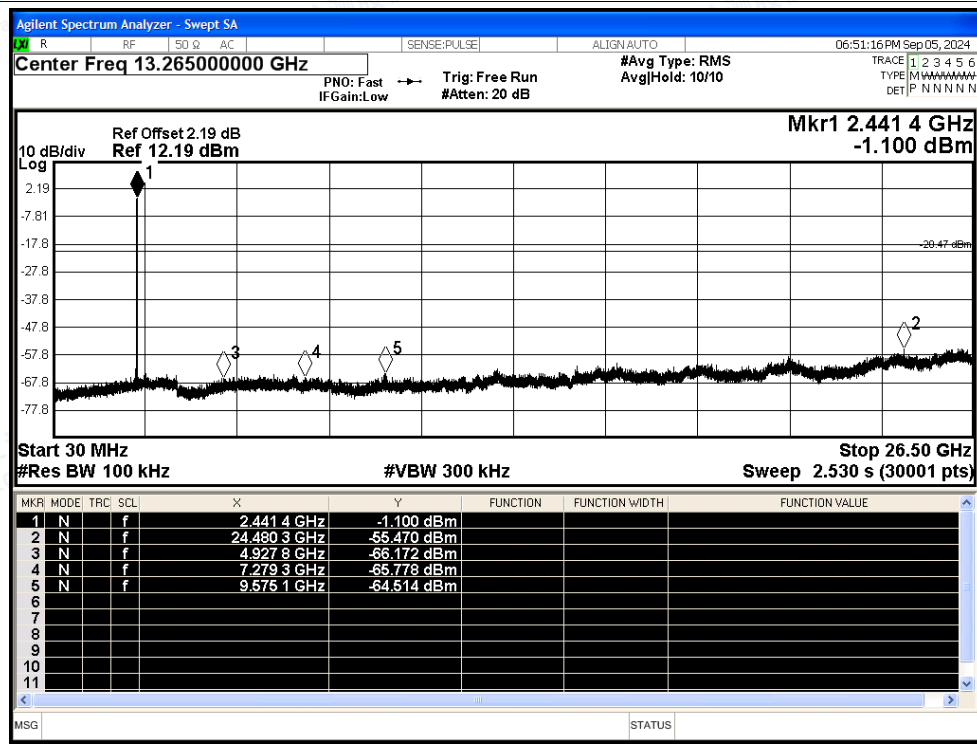
Scan code to check authenticity



Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

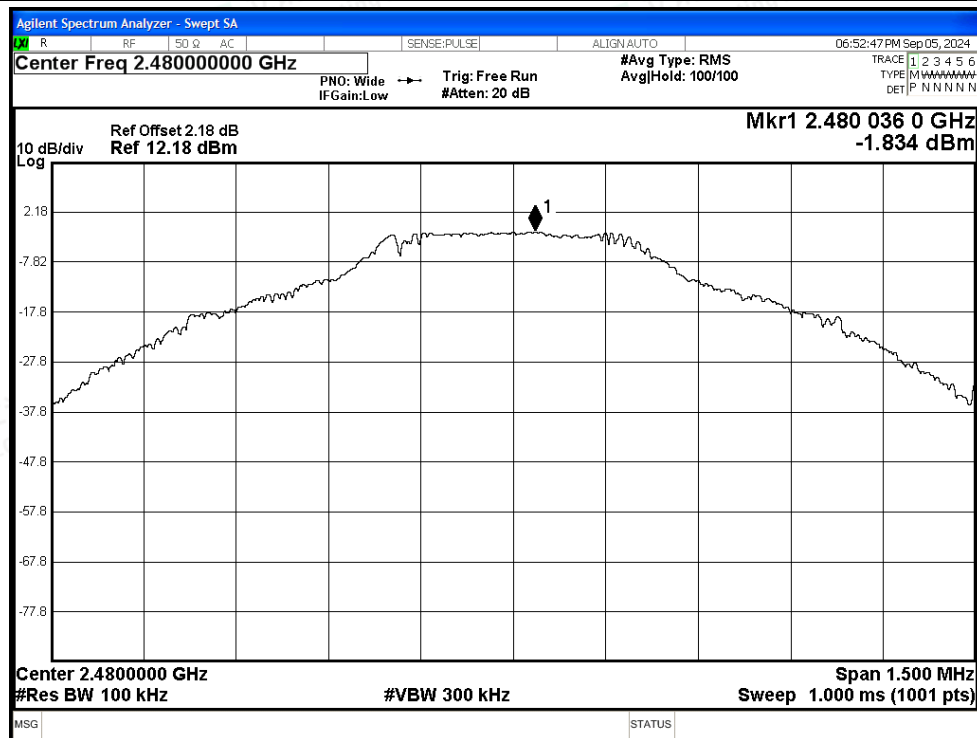


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

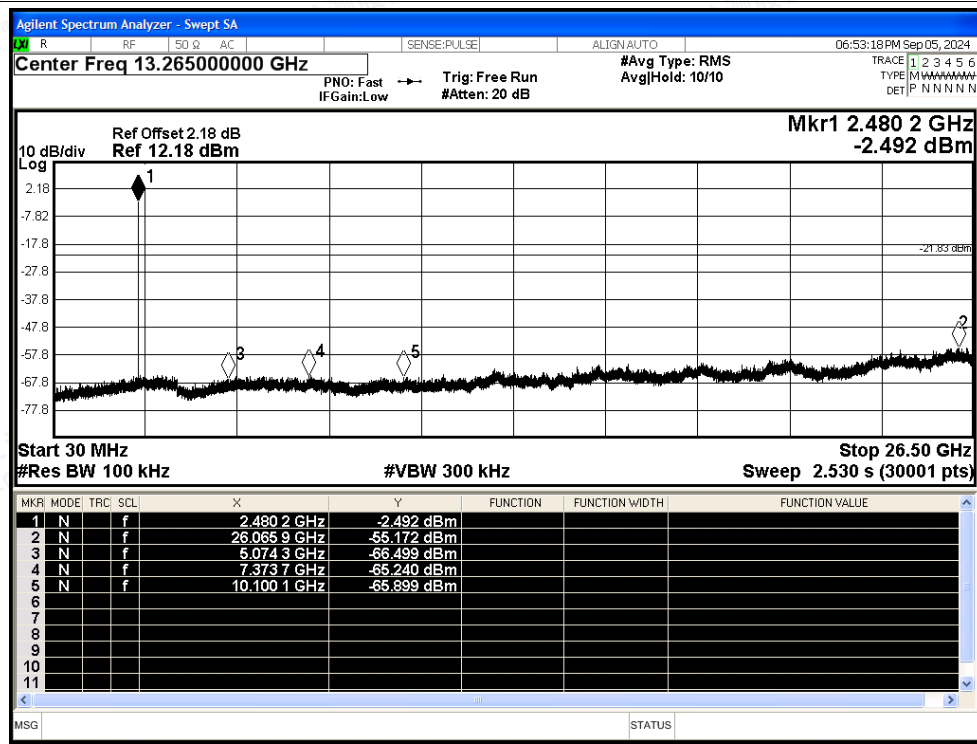




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

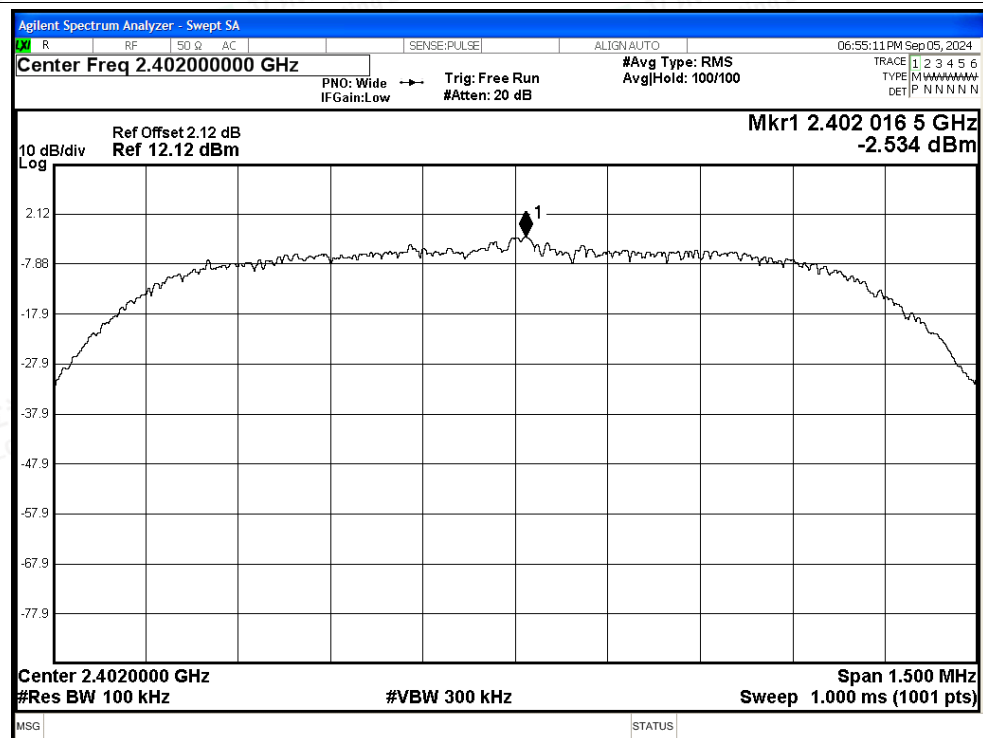


Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

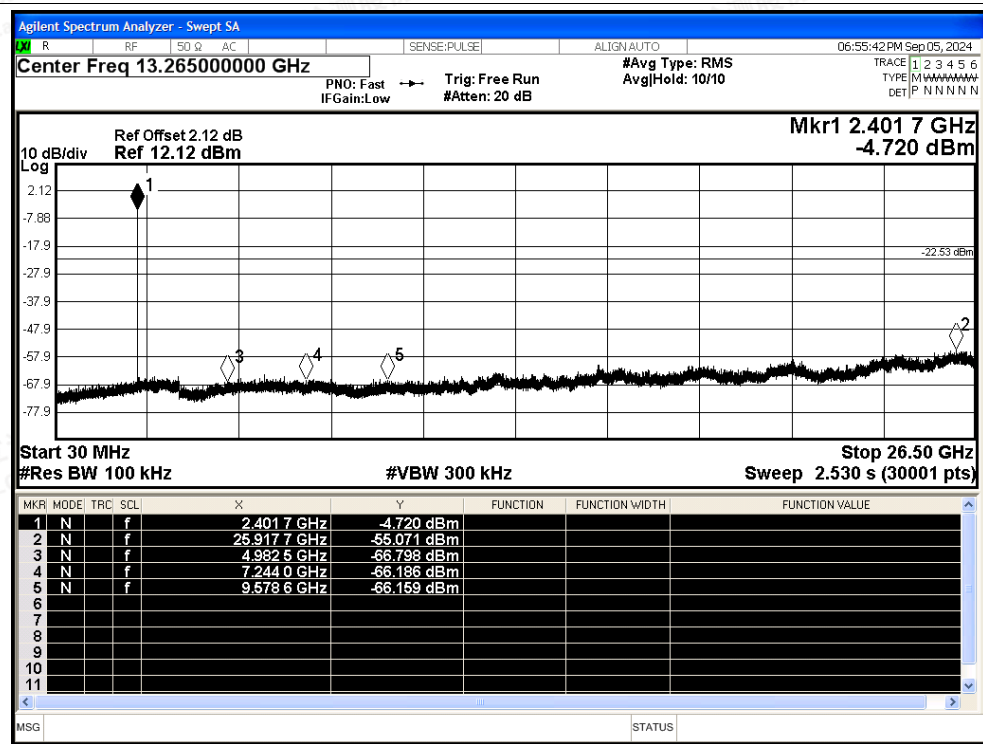




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

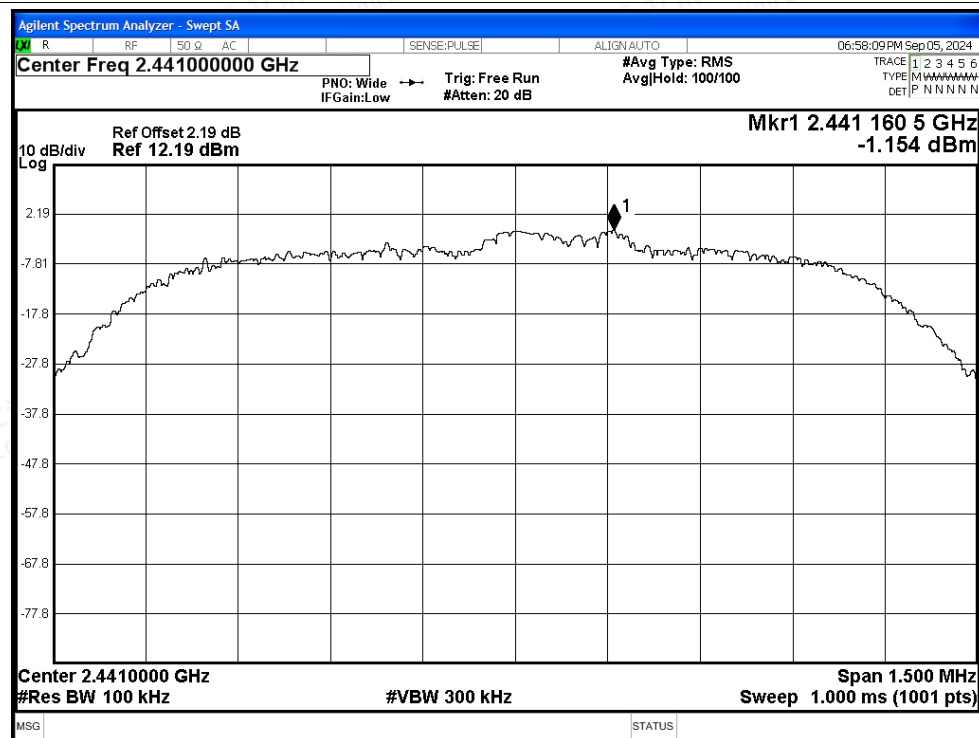
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

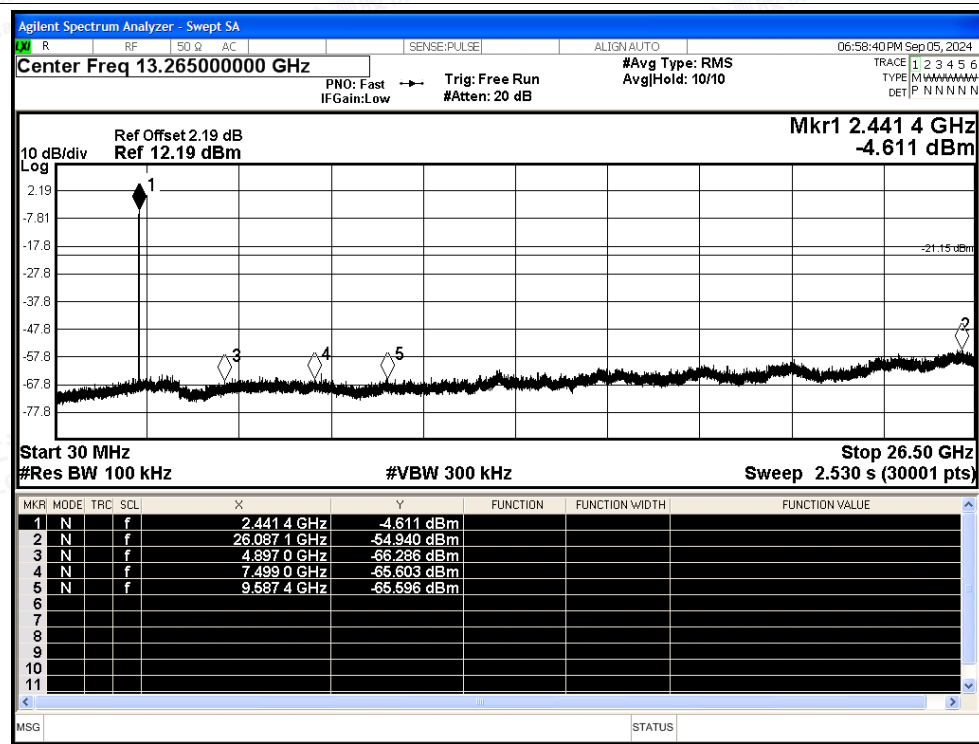
Scan code to check authenticity



Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

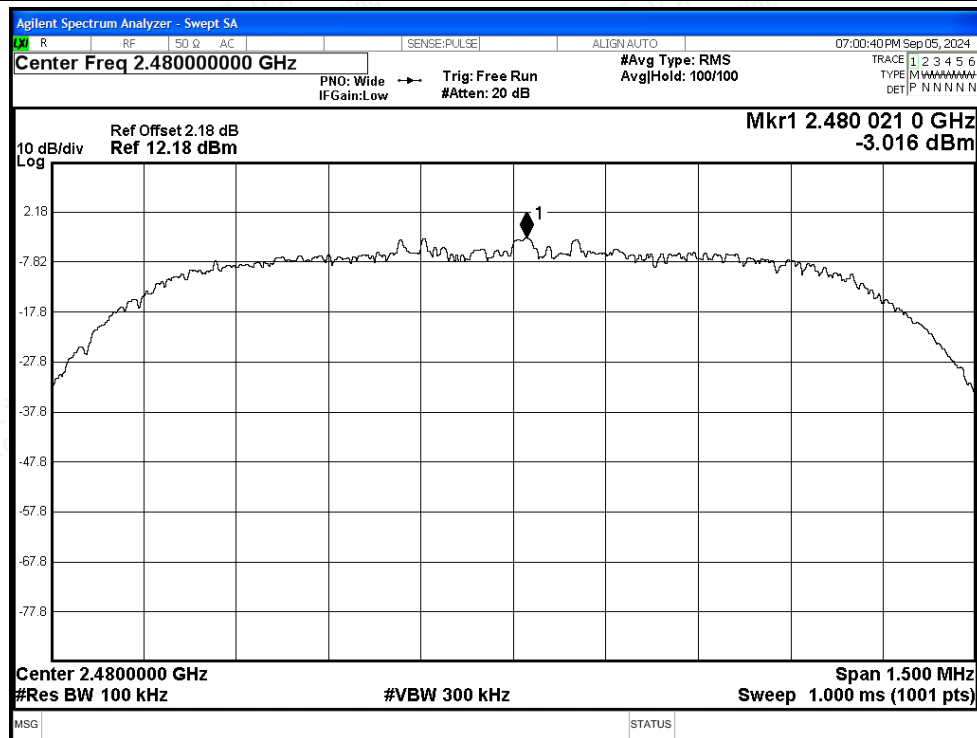


Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

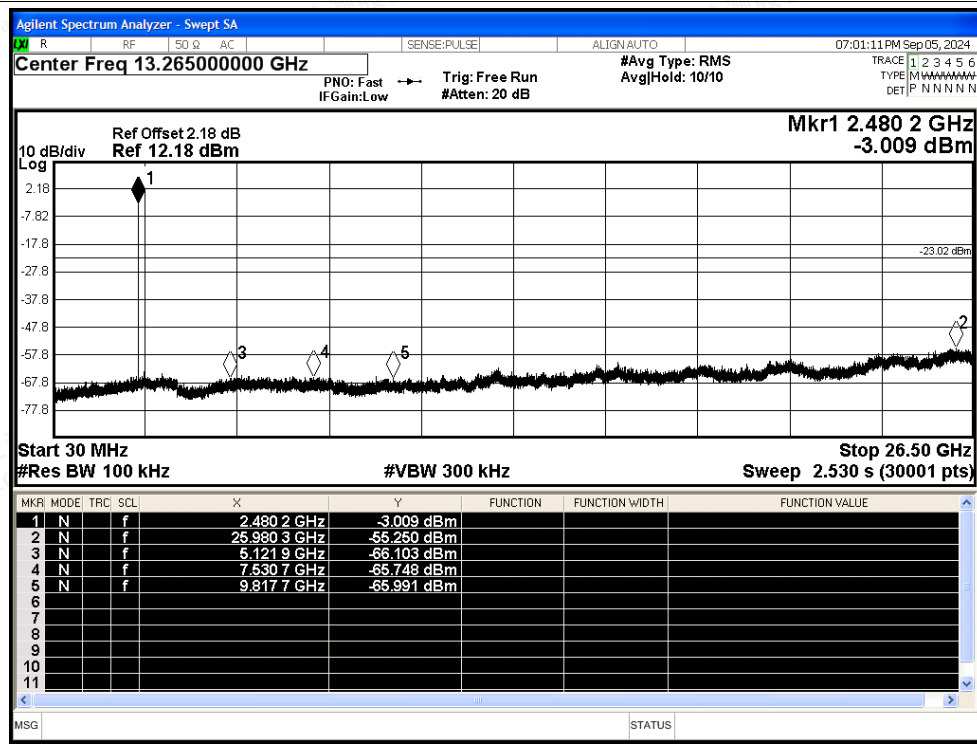




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref

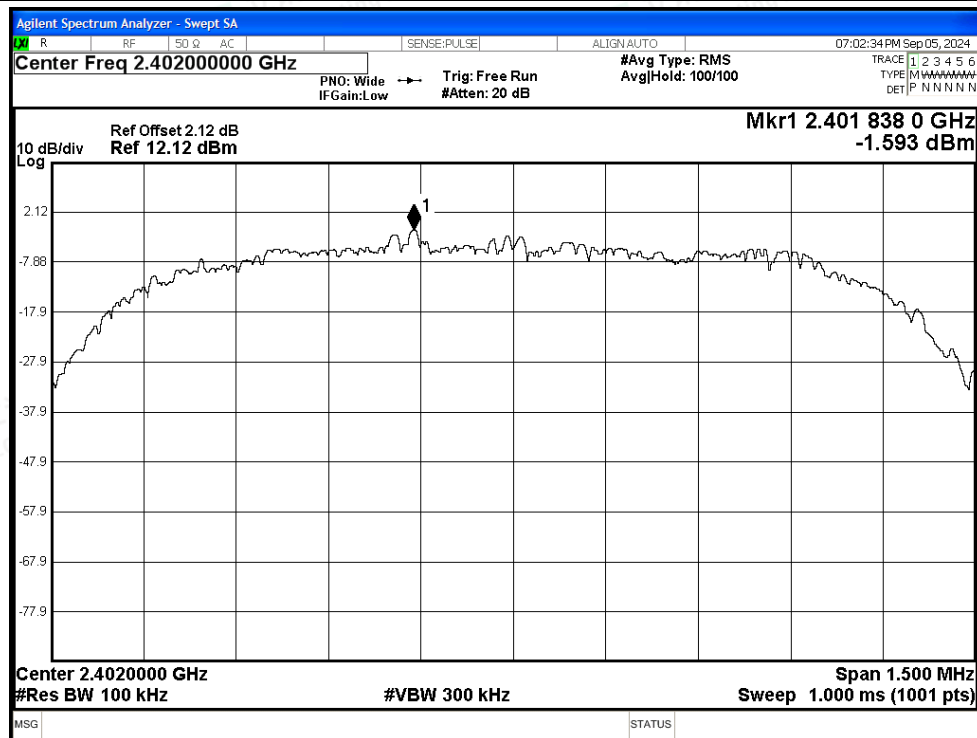


Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

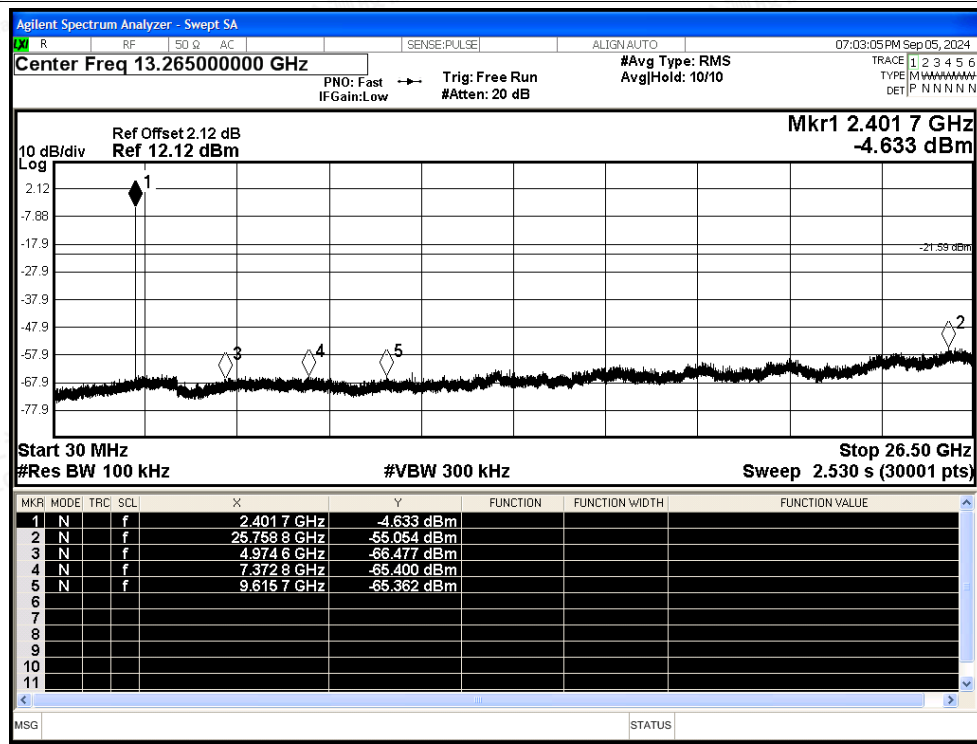




Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref

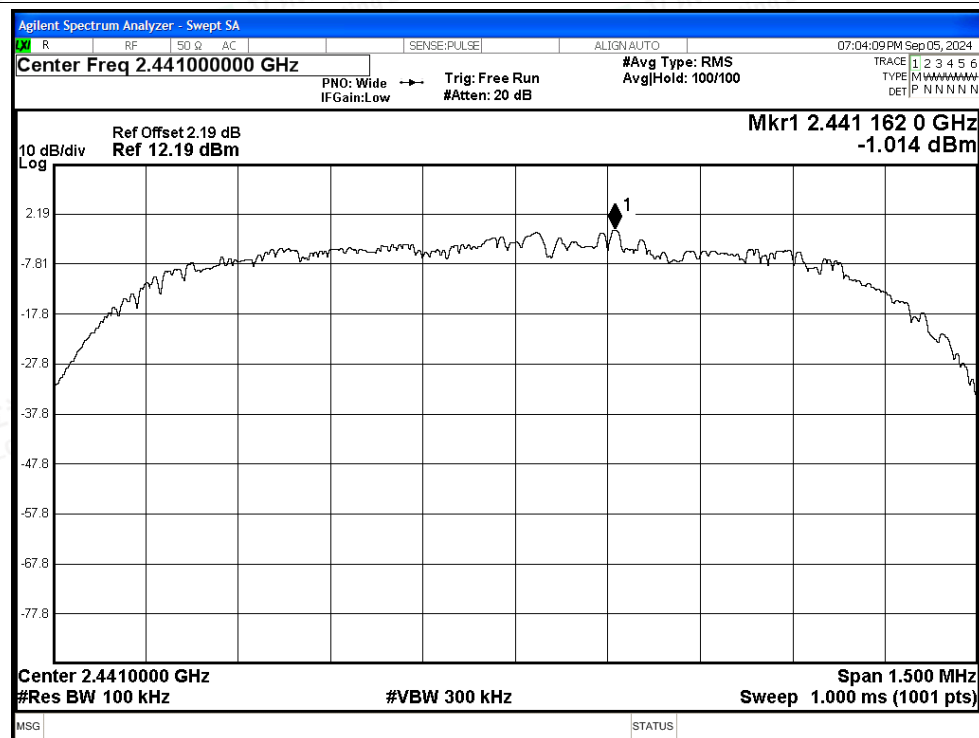


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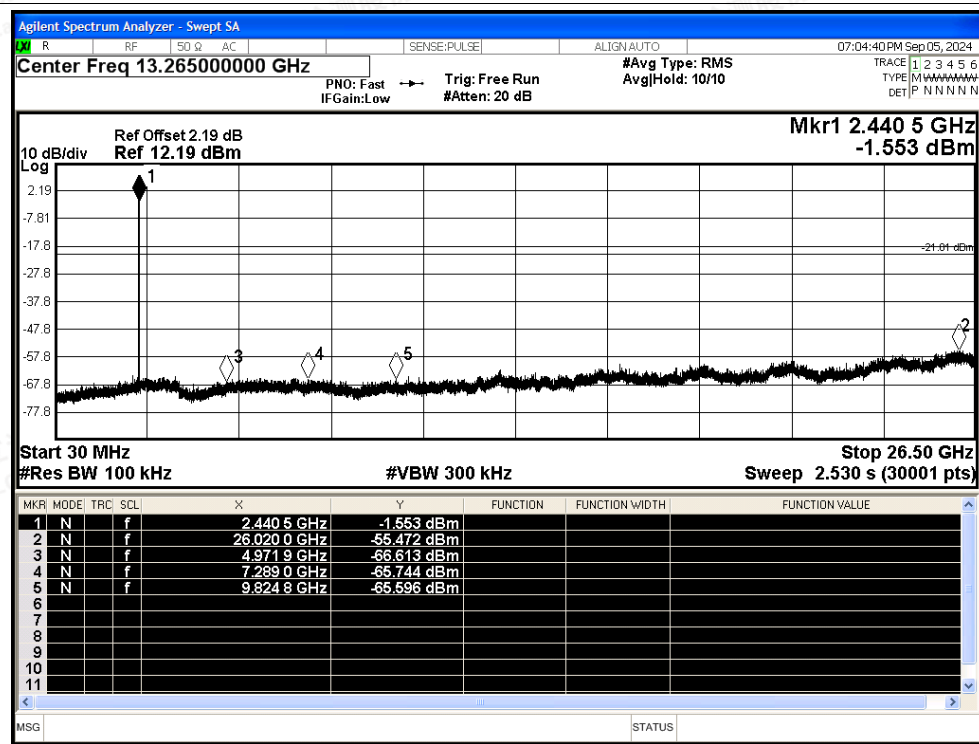




Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

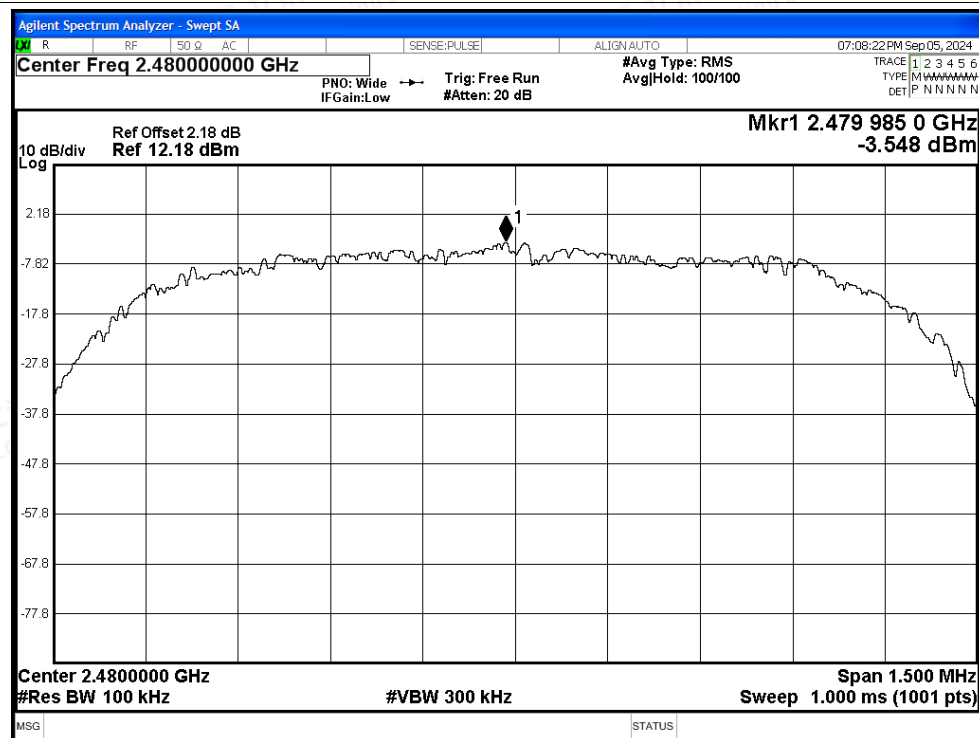


Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission

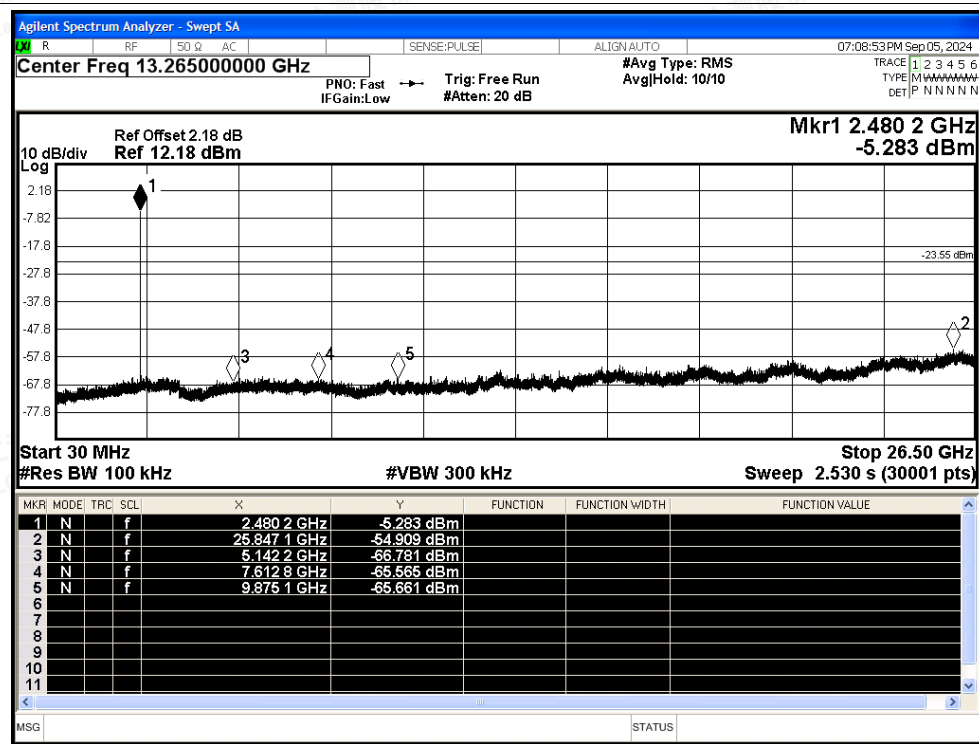




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





A.8 Duty Cycle

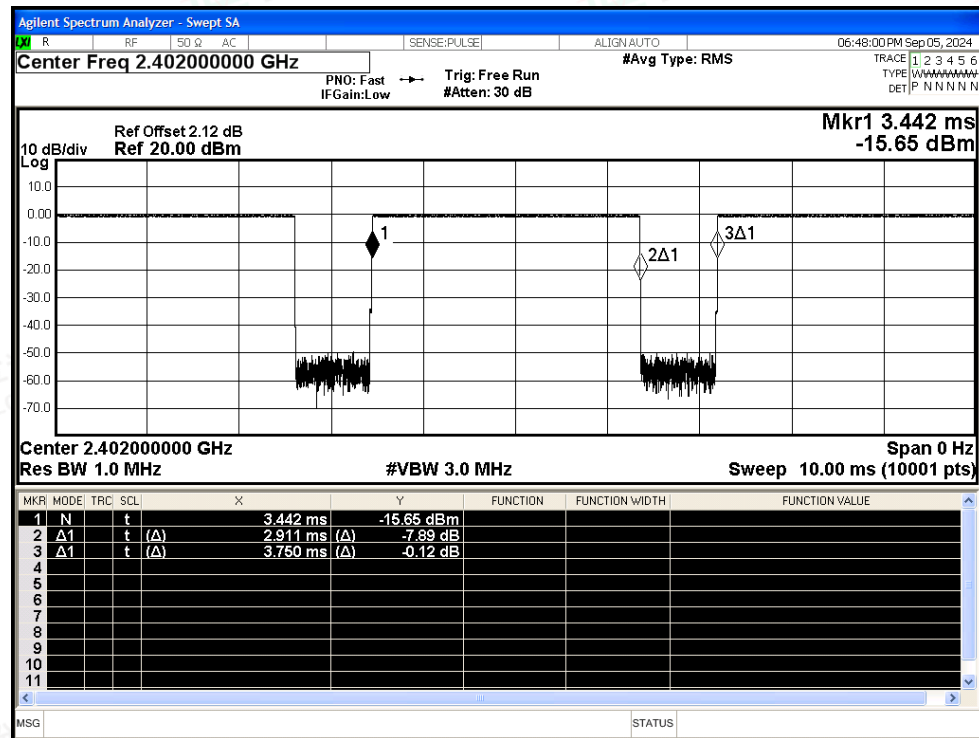
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.63	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant1	77.33	1.12	0.34
NVNT	3-DH5	2402	Ant1	77.33	1.12	0.34
NVNT	3-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	3-DH5	2480	Ant1	77.28	1.12	0.35



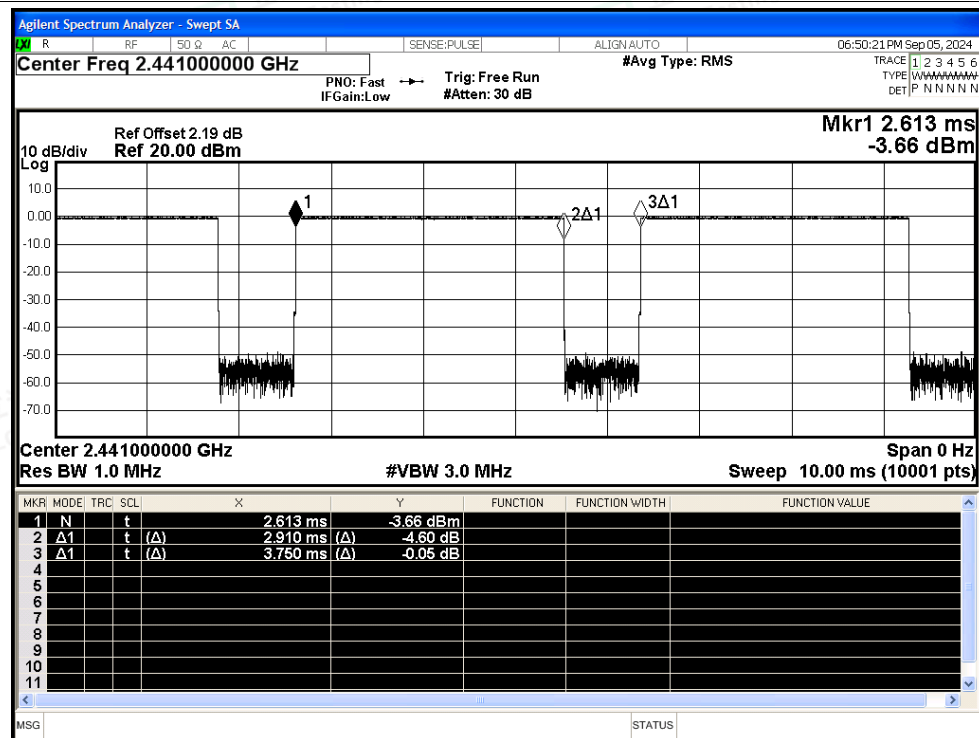


Test Graphs

Duty Cycle NVNT 1-DH5 2402MHz Ant1

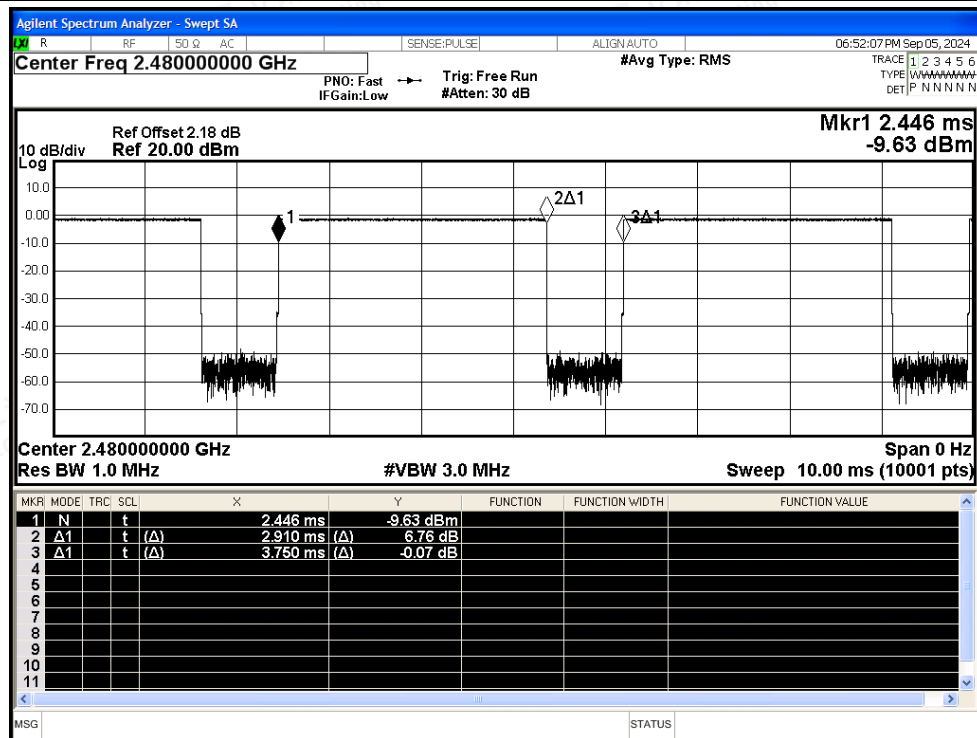


Duty Cycle NVNT 1-DH5 2441MHz Ant1

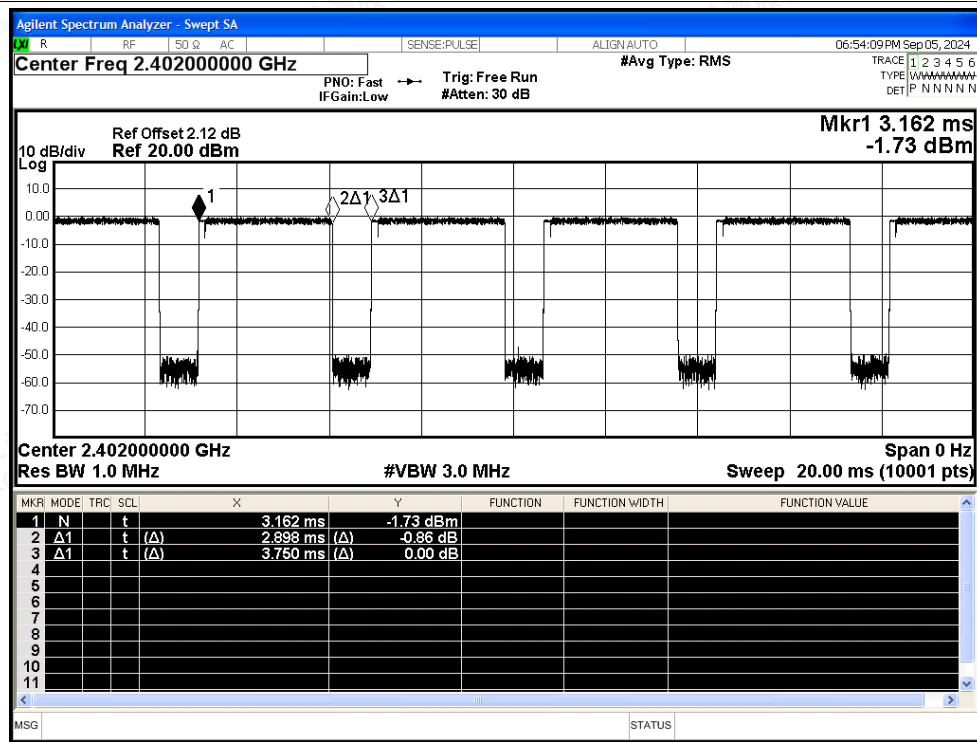




Duty Cycle NVNT 1-DH5 2480MHz Ant1

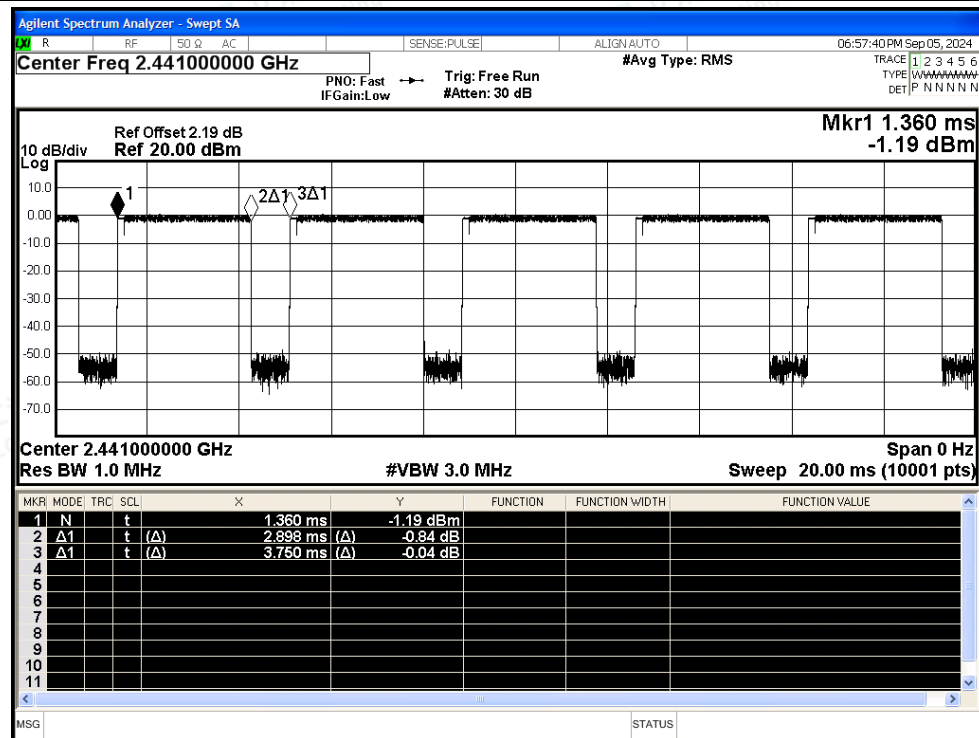


Duty Cycle NVNT 2-DH5 2402MHz Ant1

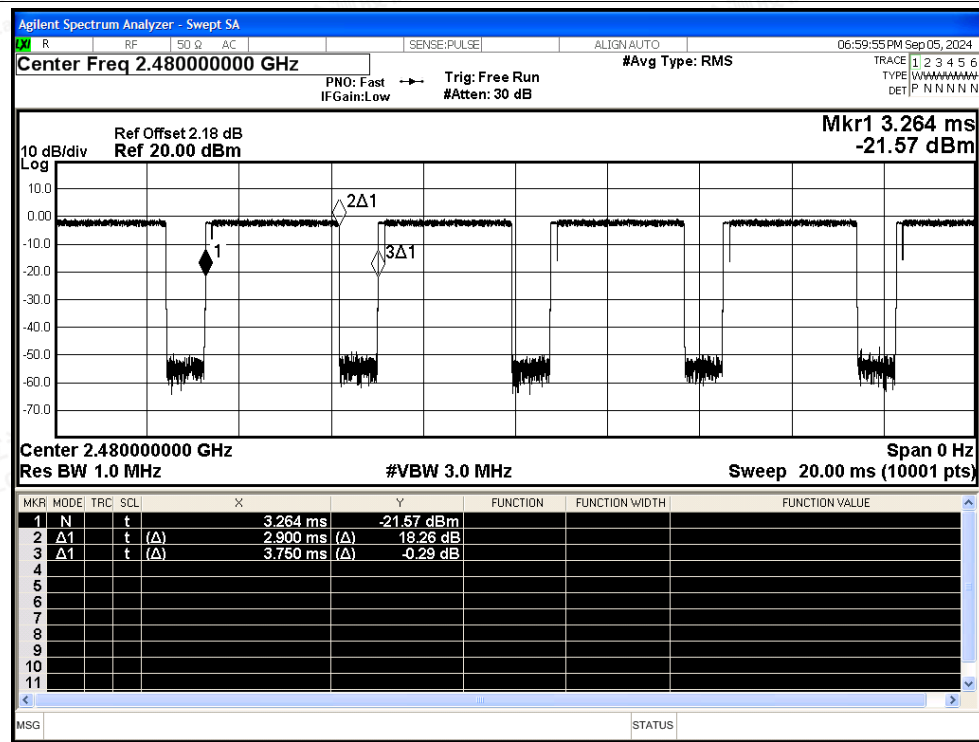




Duty Cycle NVNT 2-DH5 2441MHz Ant1

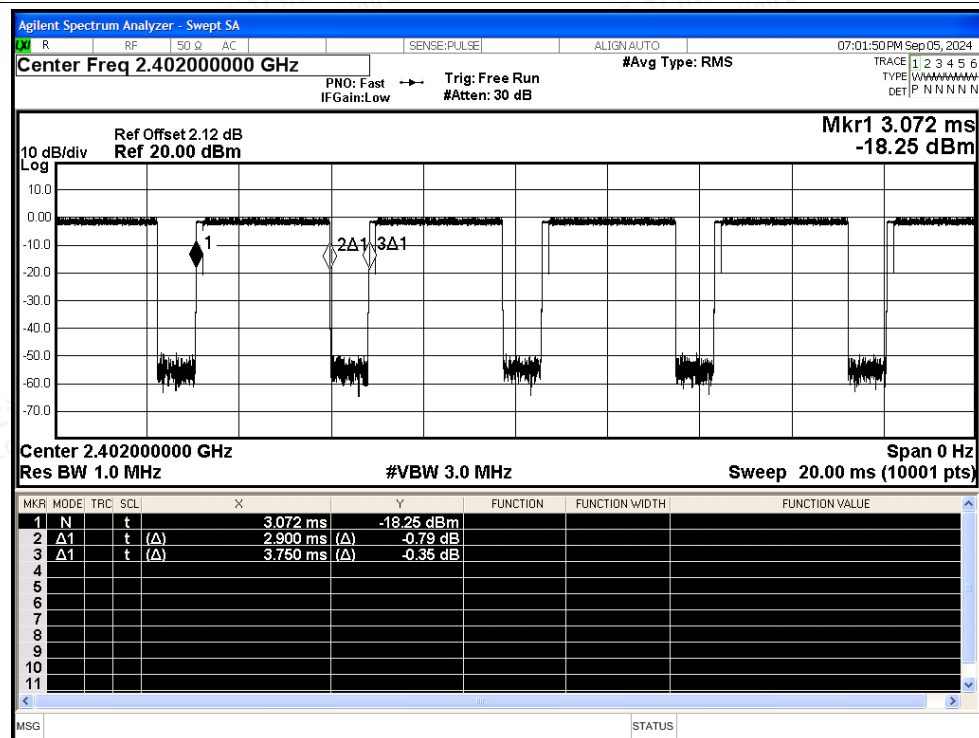


Duty Cycle NVNT 2-DH5 2480MHz Ant1

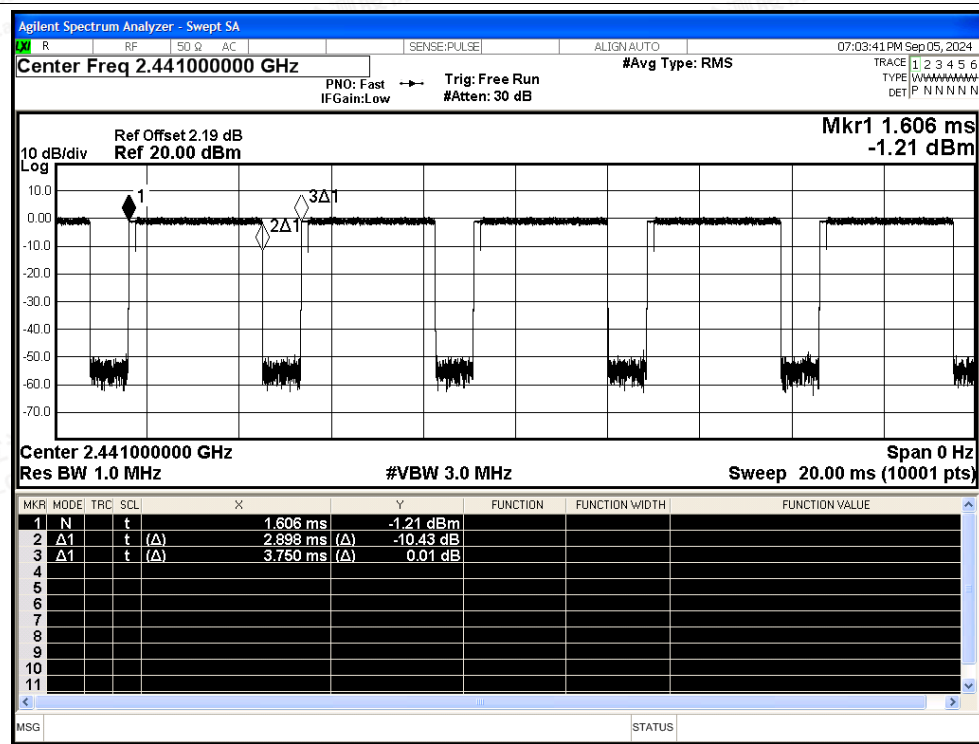




Duty Cycle NVNT 3-DH5 2402MHz Ant1

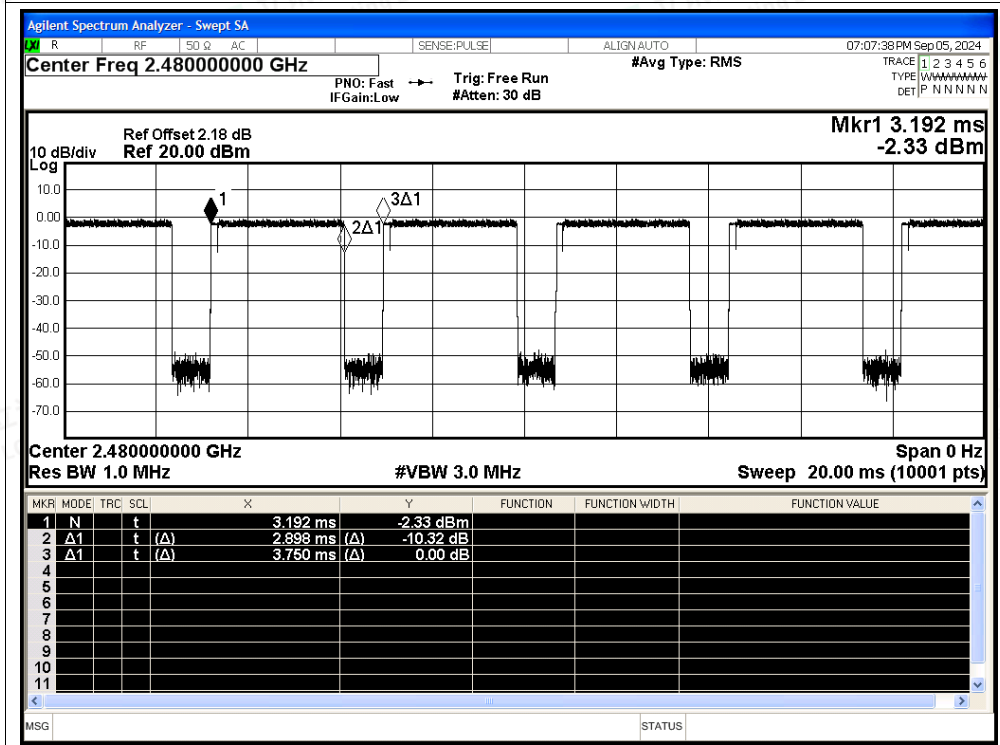


Duty Cycle NVNT 3-DH5 2441MHz Ant1





Duty Cycle NVNT 3-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	-49.64	2	-	47.62	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.97	2	1.1	39.39	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2358.288	-45.83	2	-	51.43	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2385.36	-57.61	2	1.1	40.75	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-49.87	2	-	47.39	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.2	2	1.1	40.16	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.3	2	-	47.96	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-58.34	2	1.1	40.02	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2490.856	-46.83	2	-	50.43	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2492.272	-56.96	2	1.1	41.4	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-48.29	2	-	48.97	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-58.28	2	1.1	40.08	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.87	2	-	47.39	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.24	2	1.12	39.14	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2388.816	-47.82	2	-	49.44	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2359.152	-57.44	2	1.12	40.94	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-49.93	2	-	47.33	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.32	2	1.12	40.06	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.46	2	-	47.8	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-58.02	2	1.12	40.36	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.824	-45.3	2	-	51.96	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2488.072	-56.97	2	1.12	41.41	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.26	2	-	47	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.18	2	1.12	40.2	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.72	2	-	46.54	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.69	2	1.12	39.69	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2355.792	-46.66	2	-	50.6	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2378.736	-57.63	2	1.12	40.75	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.7	2	-	46.56	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.47	2	1.12	39.91	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-50.83	2	-	46.43	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.69	2	1.12	40.69	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2484.064	-45.57	2	-	51.69	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2493.544	-57	2	1.12	41.38	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-48.74	2	-	48.52	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.22	2	1.12	40.16	Average	54	Pass

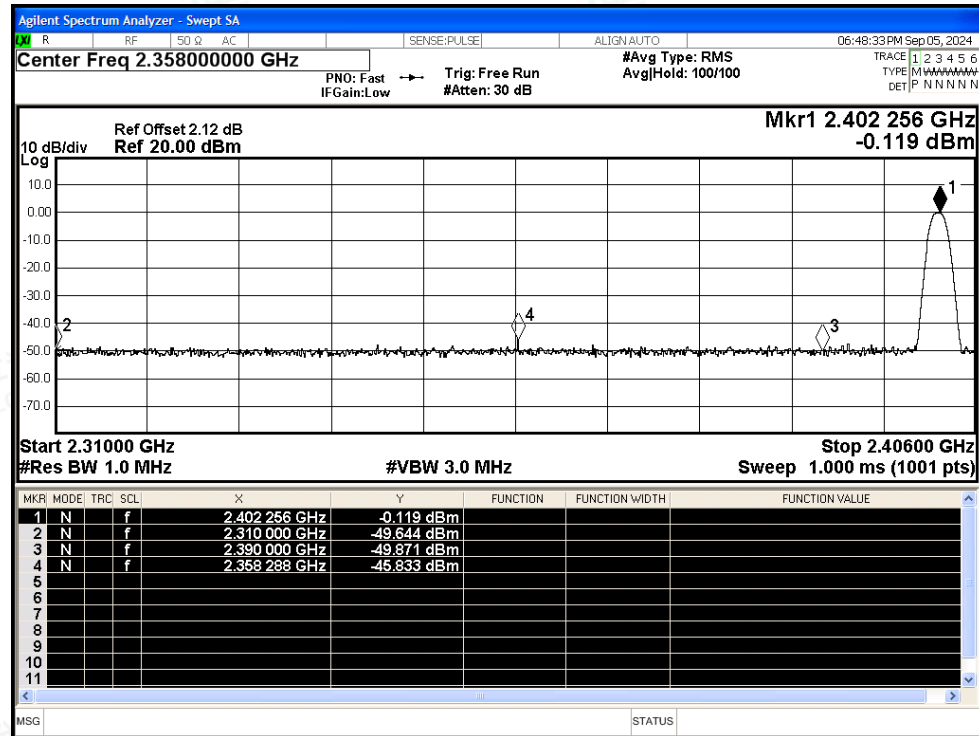




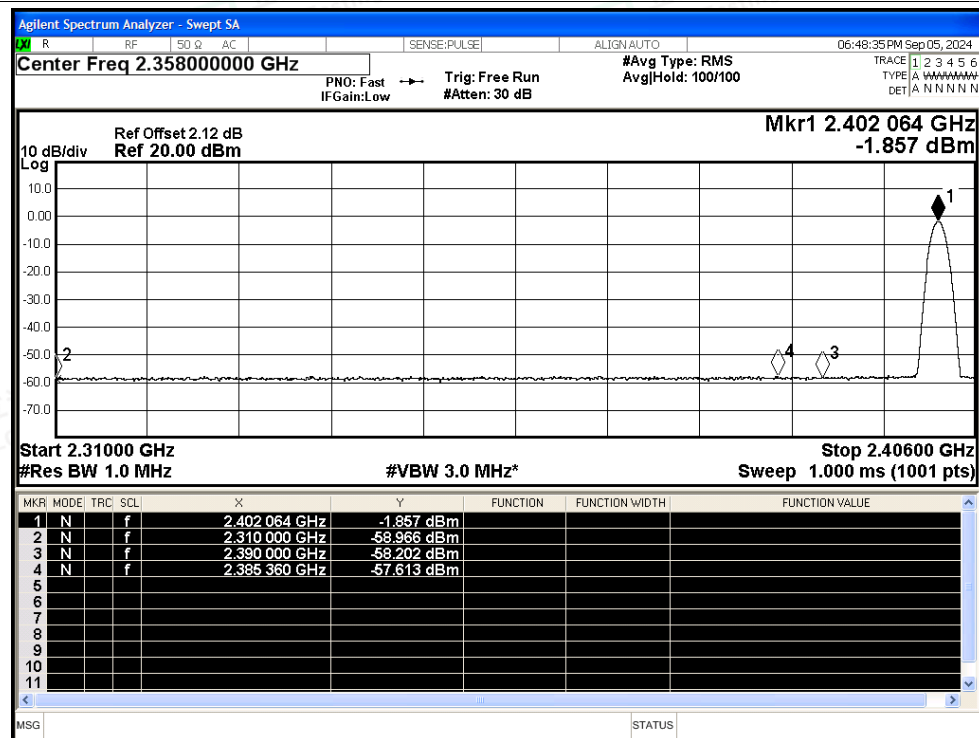


Test Graphs

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

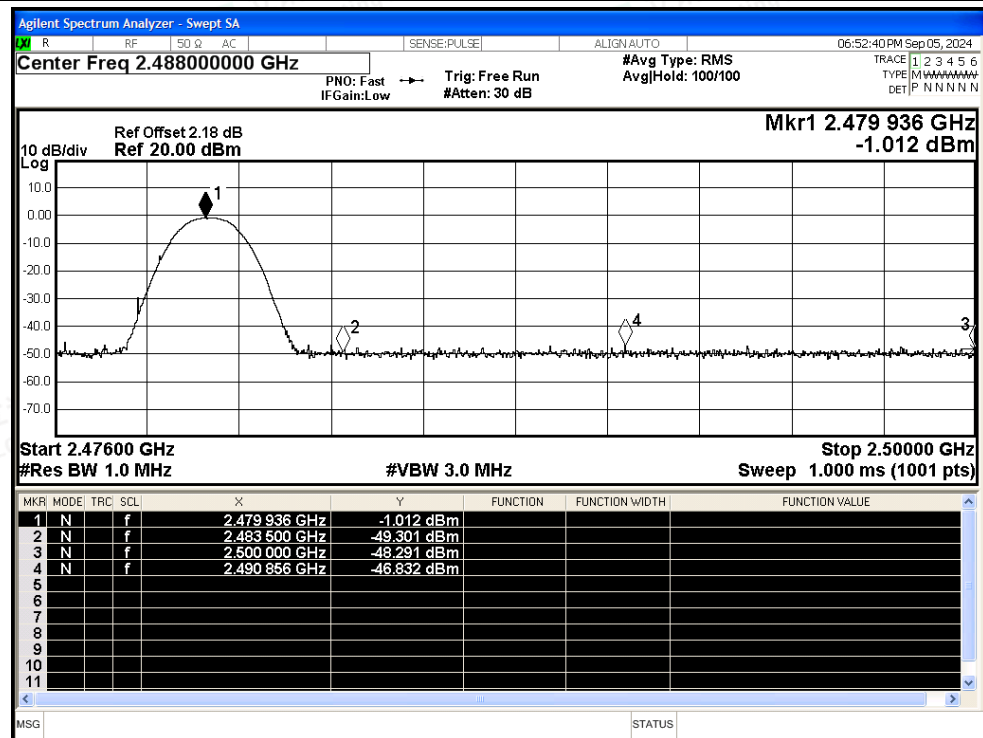


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

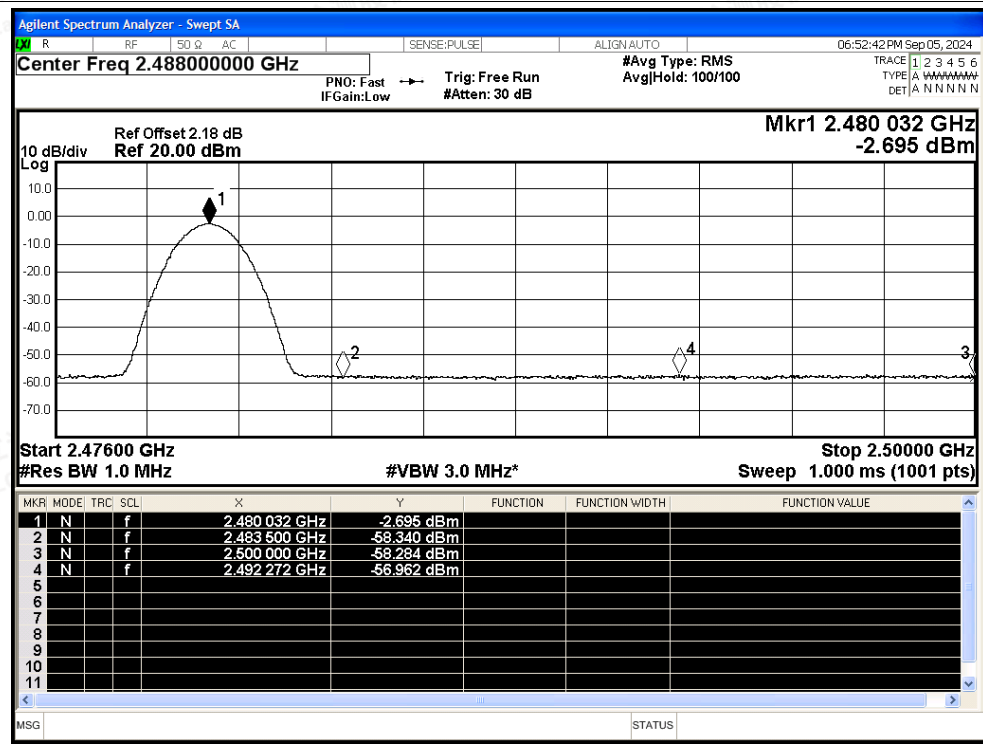




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

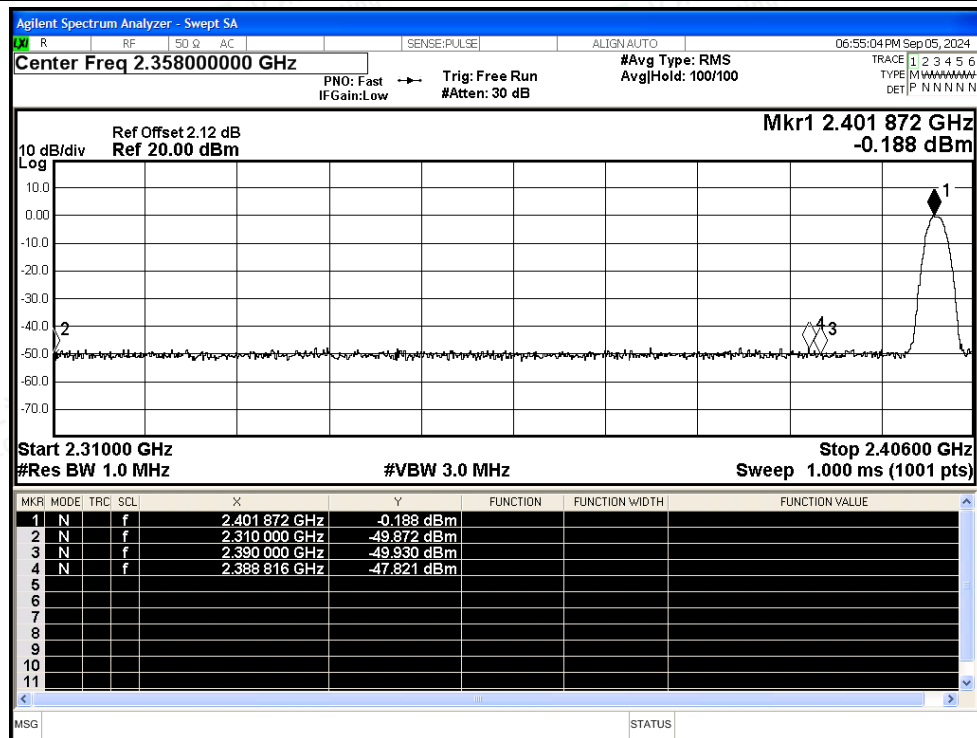


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

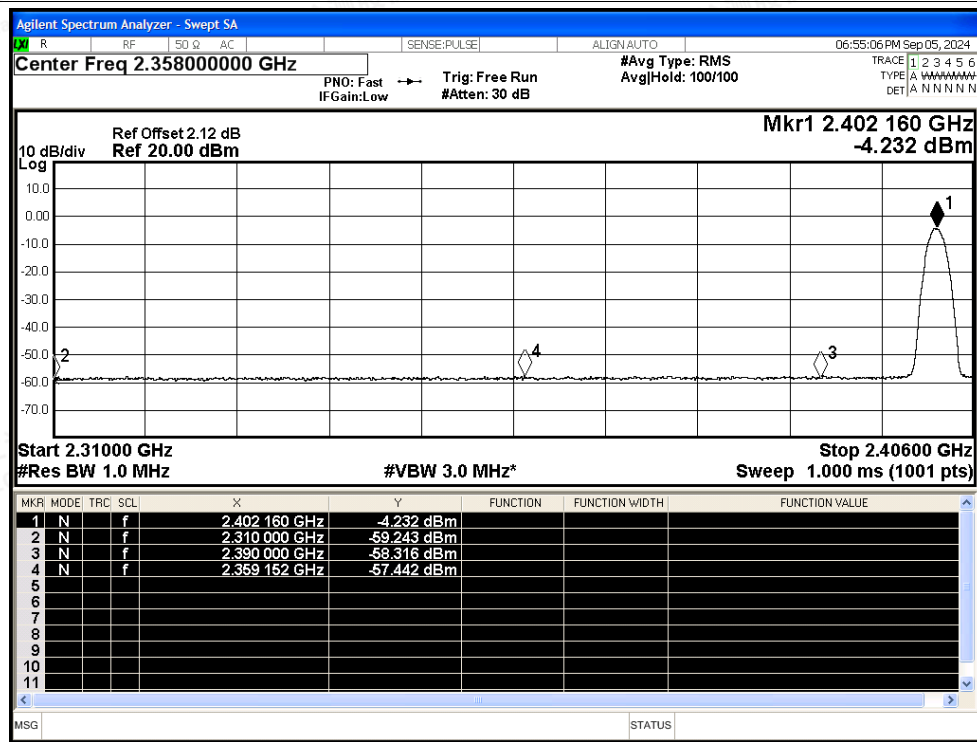




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

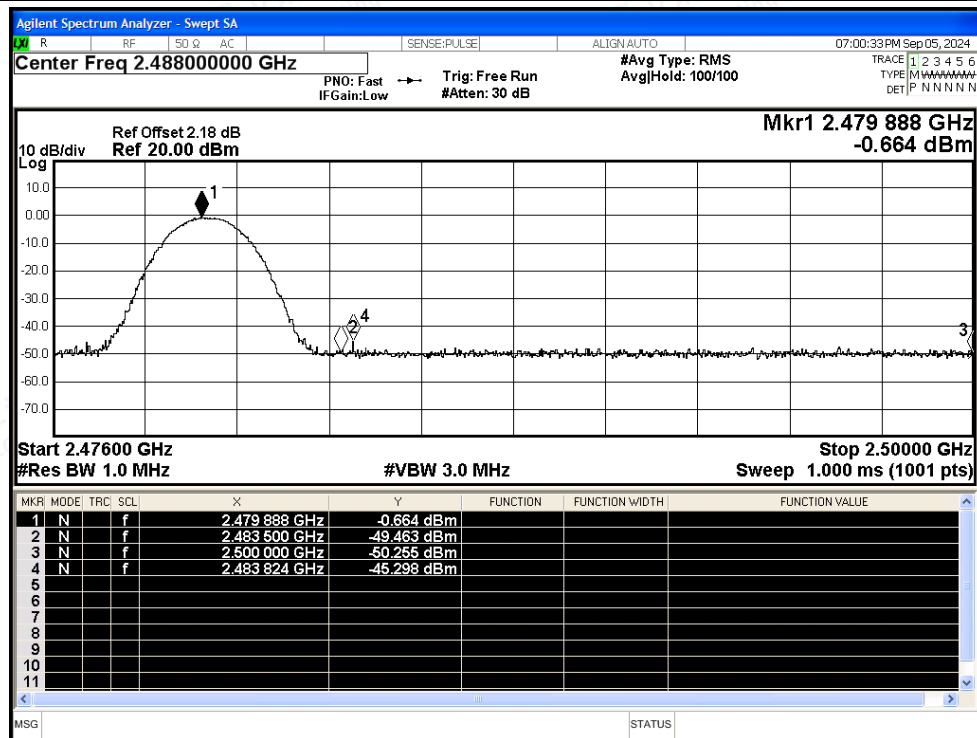


Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average

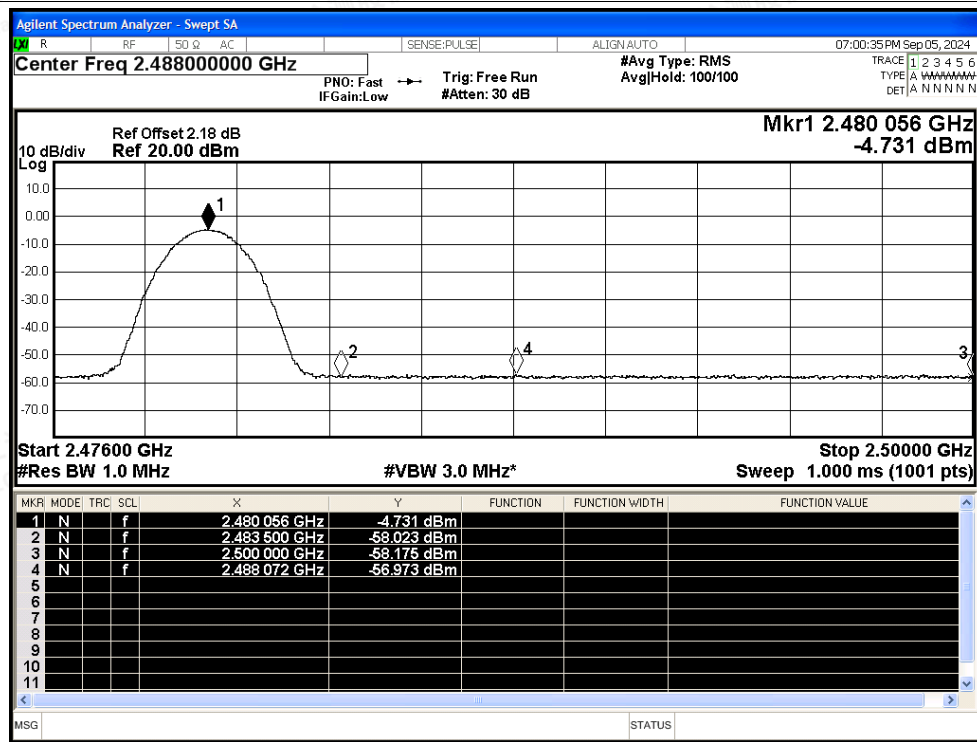




Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak

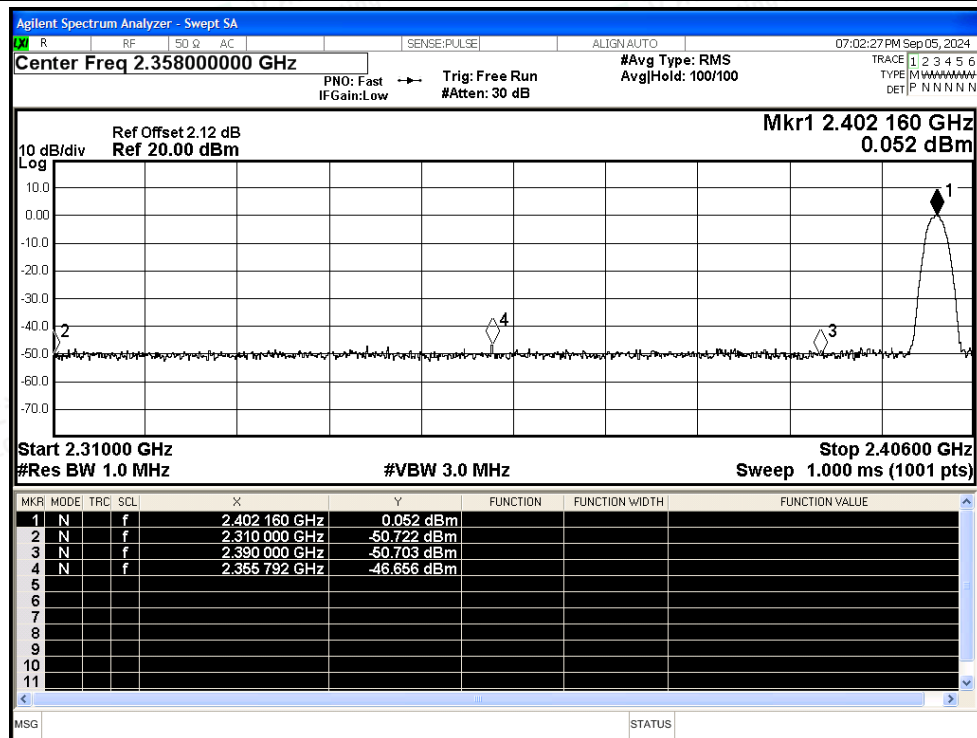


Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average

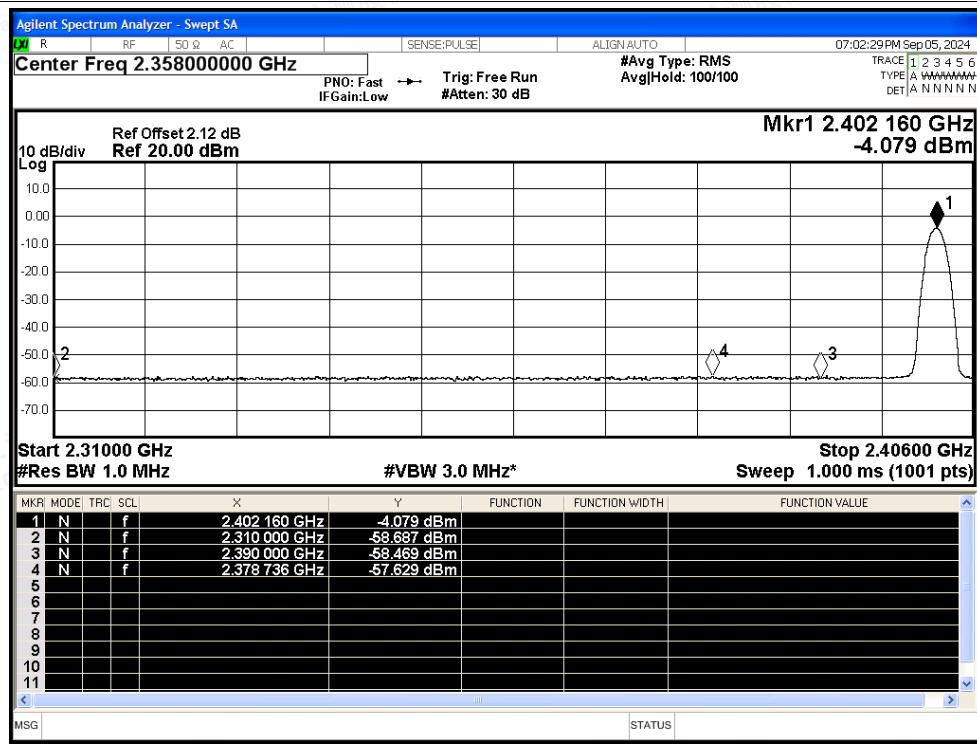




Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak

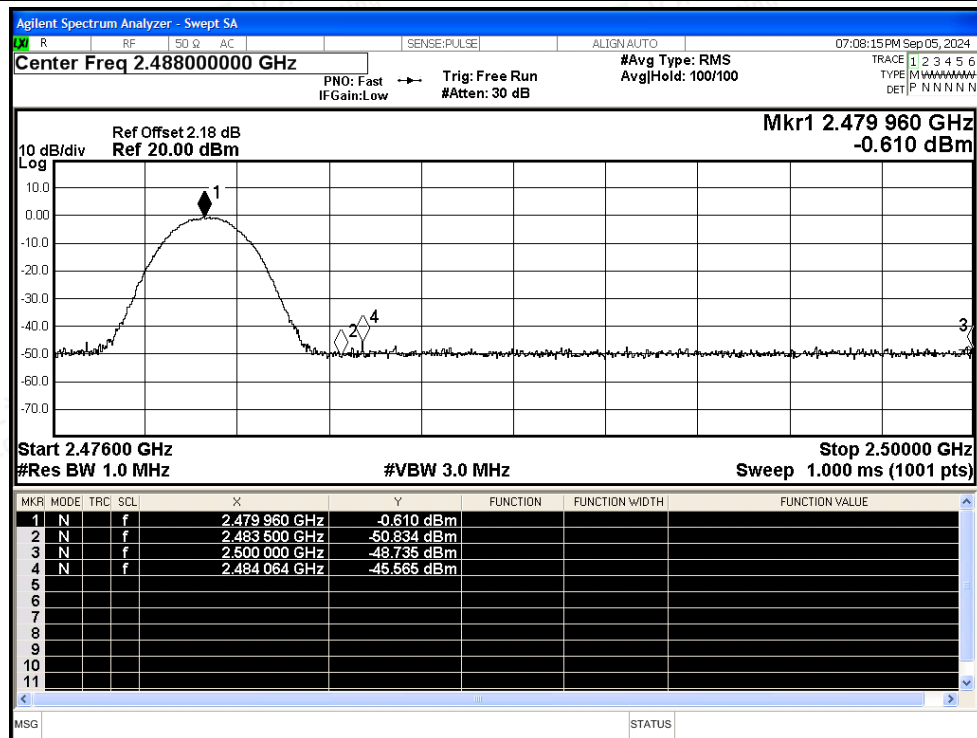


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average





Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Average

