



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Karaoke BT Speaker with Lights

Test Model: GPK-1000

Environmental Conditions

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





A.1 -20dB Bandwidth

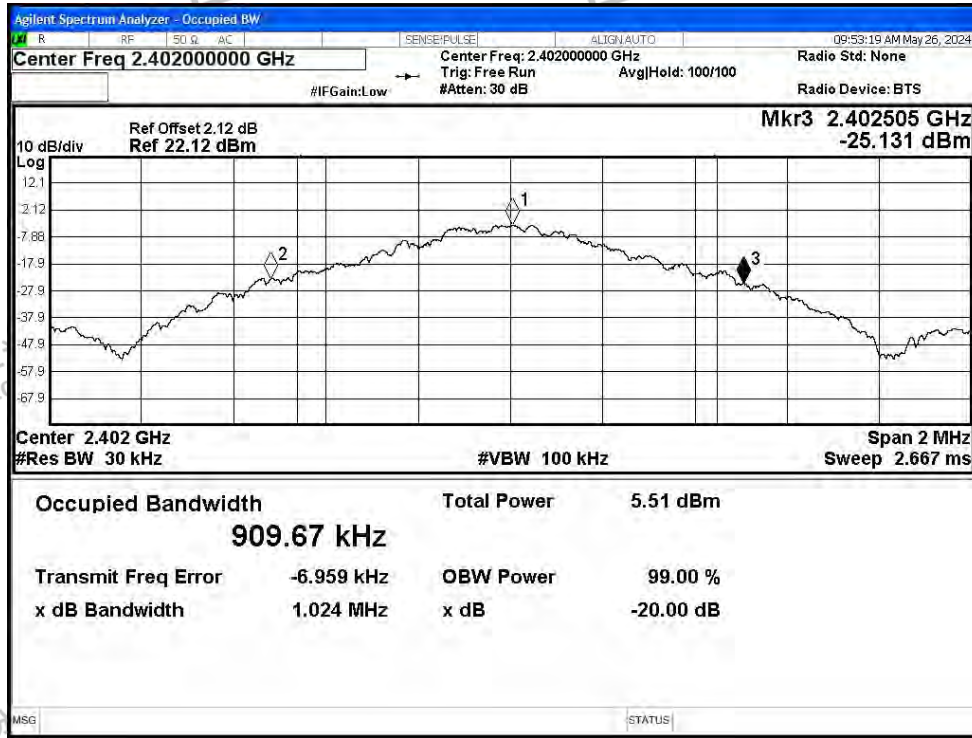
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	1.024	N/A	Pass
NVNT	1-DH5	2441	Ant1	1.013	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.022	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.282	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.314	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.326	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.281	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.293	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.302	N/A	Pass



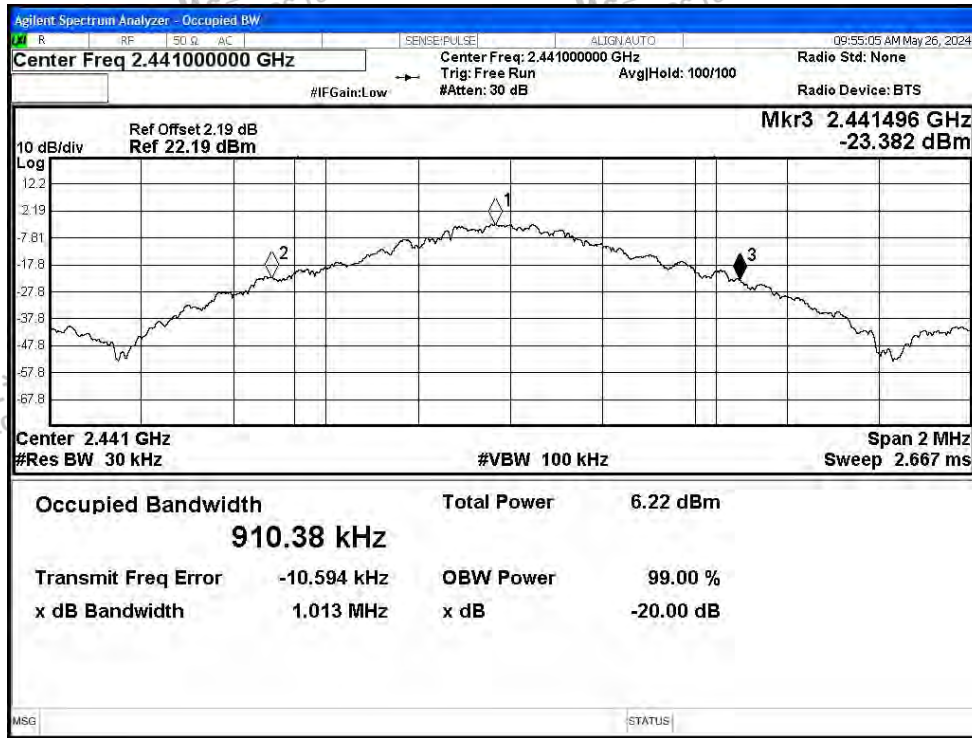


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

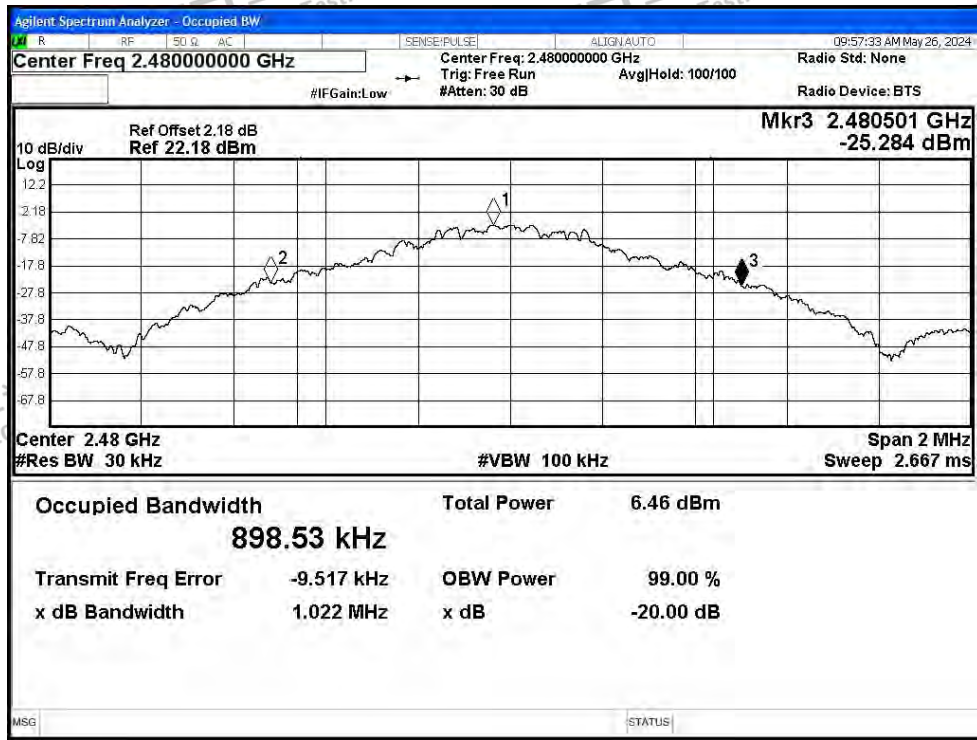


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

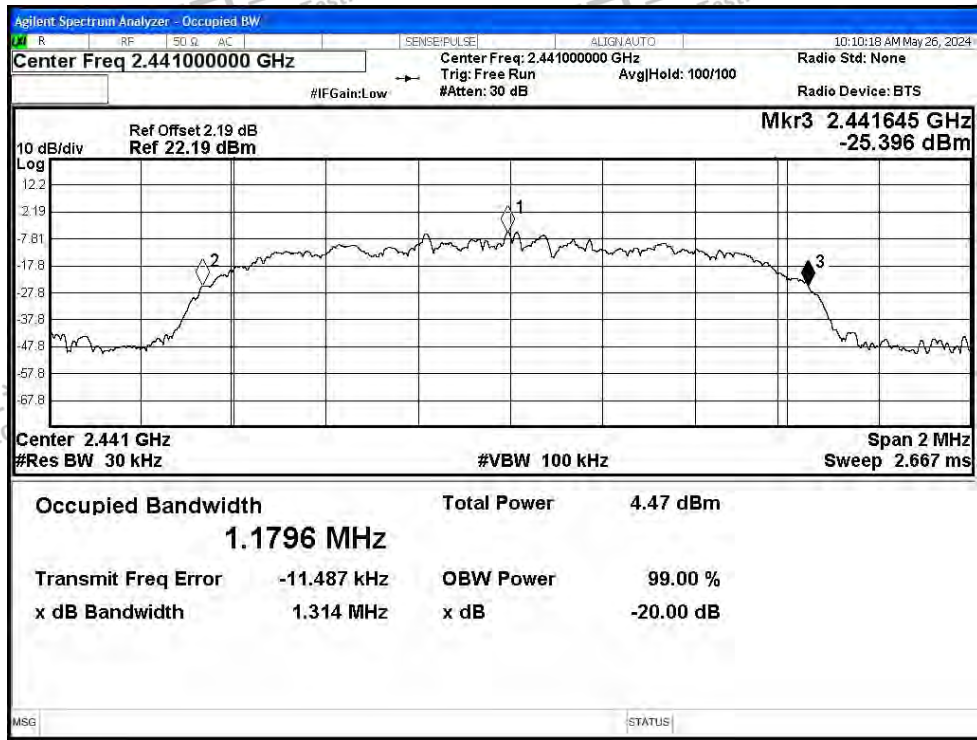


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

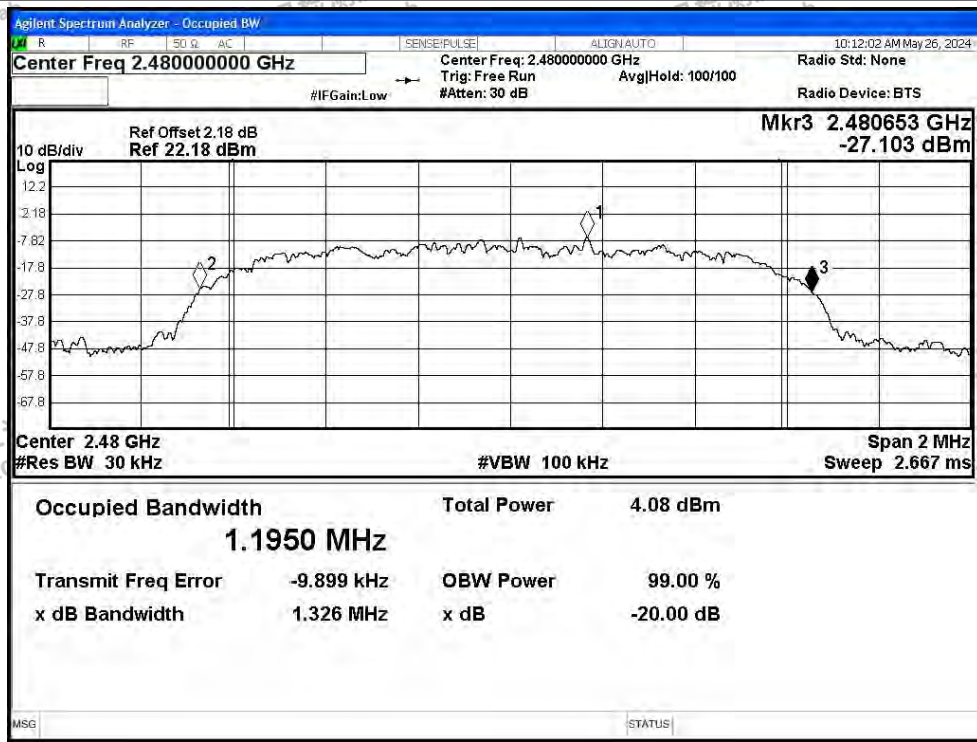




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

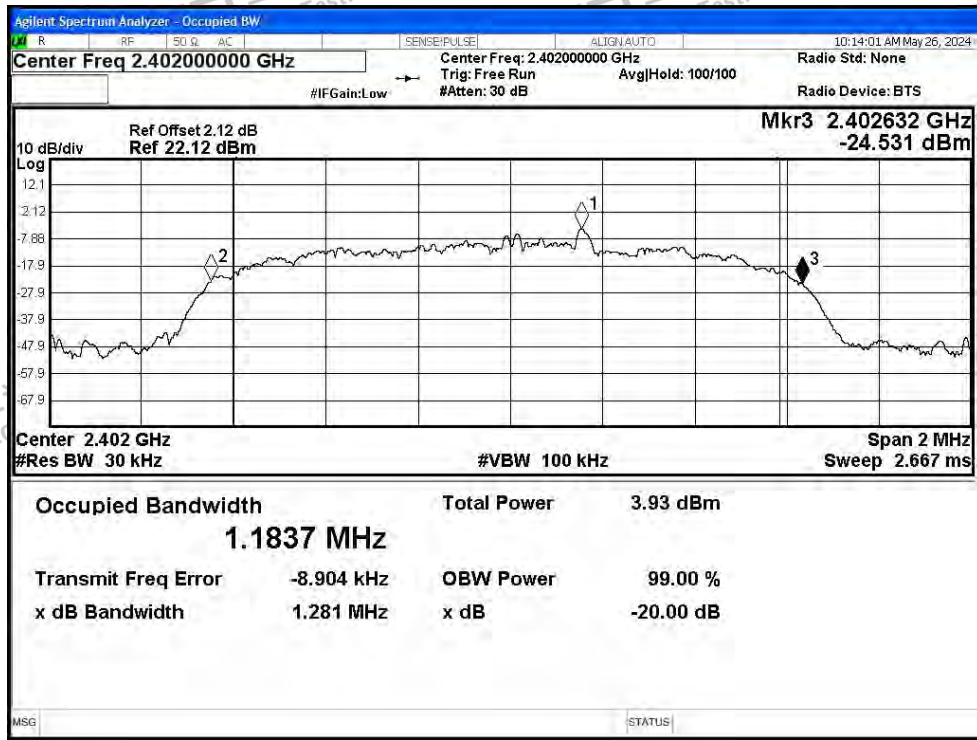


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

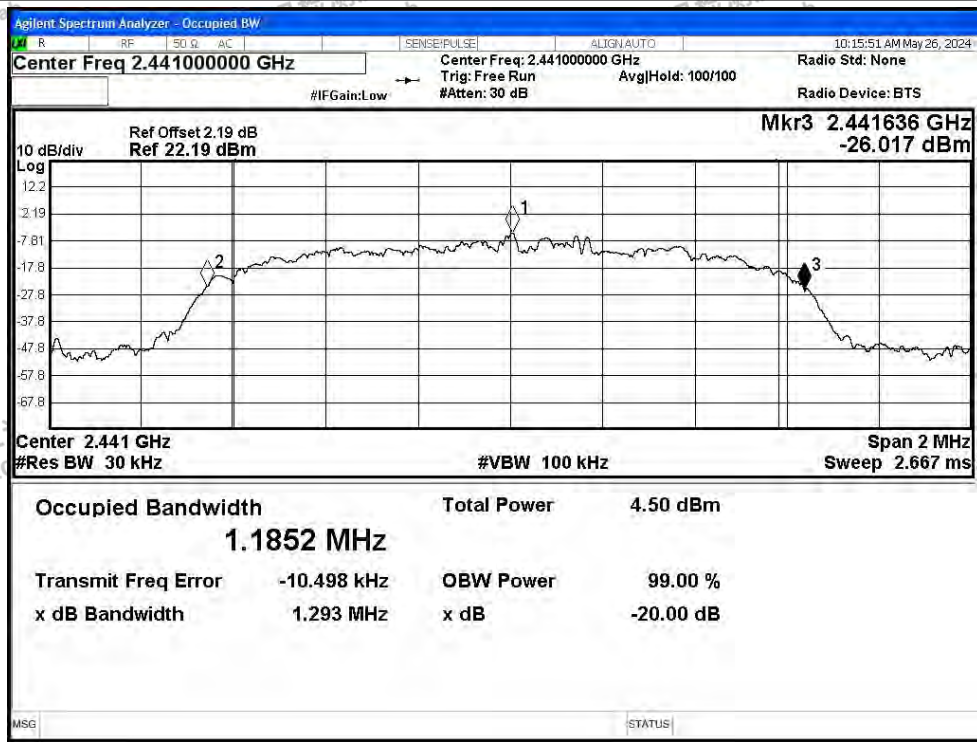




-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1

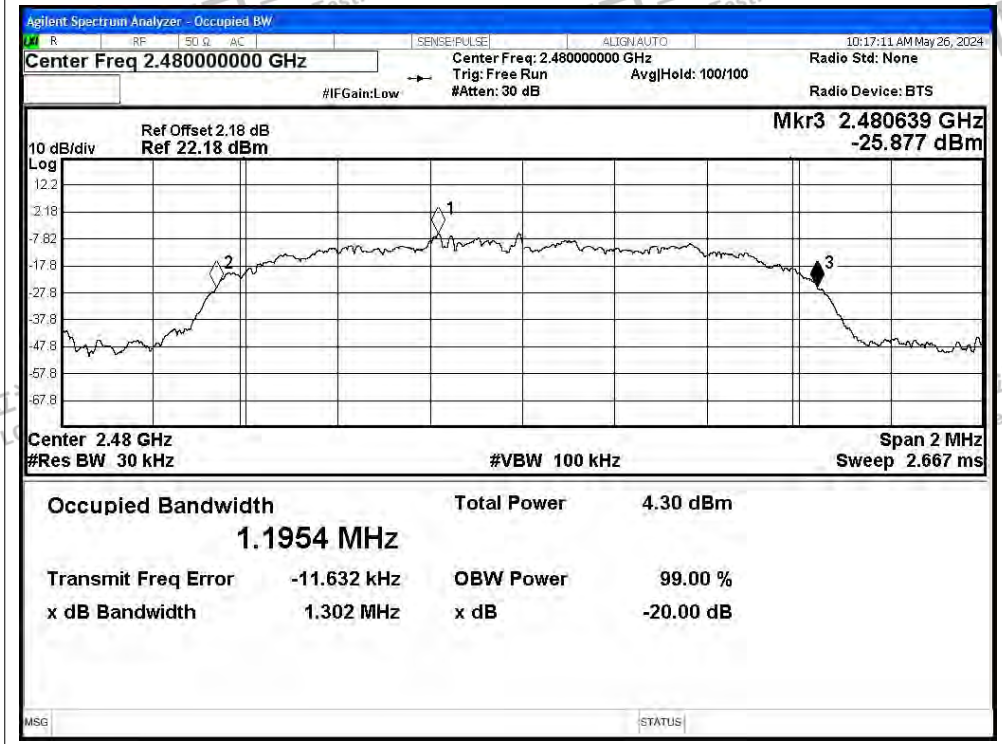


-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1





A.2 Maximum Conducted Output Power

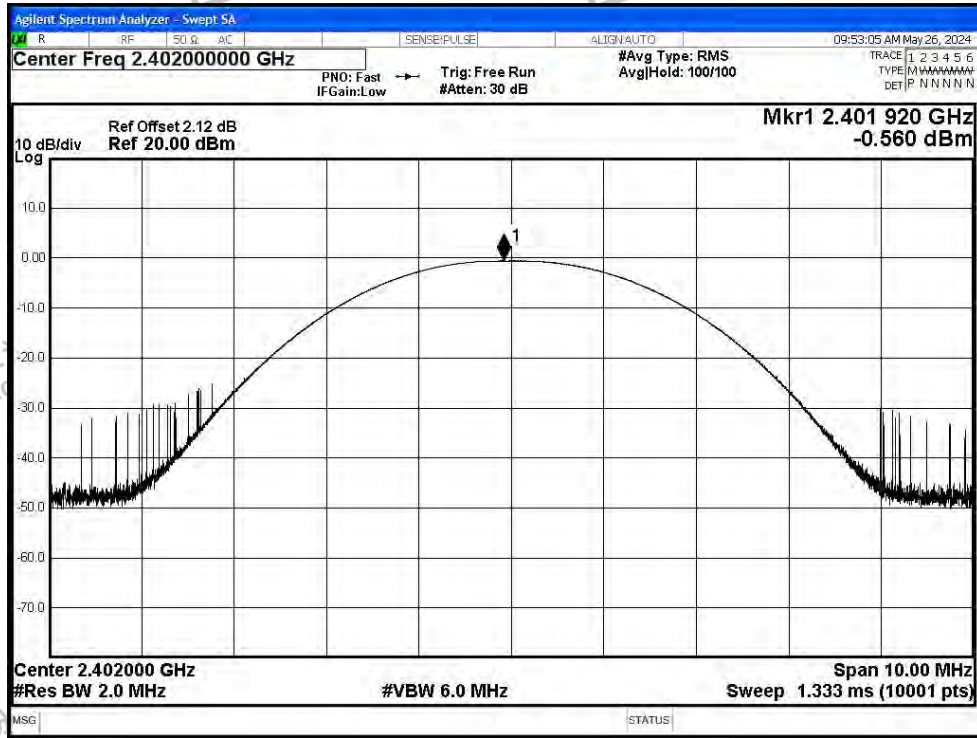
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.56	0	-0.56	21	Pass
NVNT	1-DH5	2441	Ant1	0.2	0	0.2	21	Pass
NVNT	1-DH5	2480	Ant1	0.28	0	0.28	21	Pass
NVNT	2-DH5	2402	Ant1	-0.77	0	-0.77	21	Pass
NVNT	2-DH5	2441	Ant1	-0.01	0	-0.01	21	Pass
NVNT	2-DH5	2480	Ant1	0.1	0	0.1	21	Pass
NVNT	3-DH5	2402	Ant1	-0.68	0	-0.68	21	Pass
NVNT	3-DH5	2441	Ant1	0.08	0	0.08	21	Pass
NVNT	3-DH5	2480	Ant1	0.2	0	0.2	21	Pass



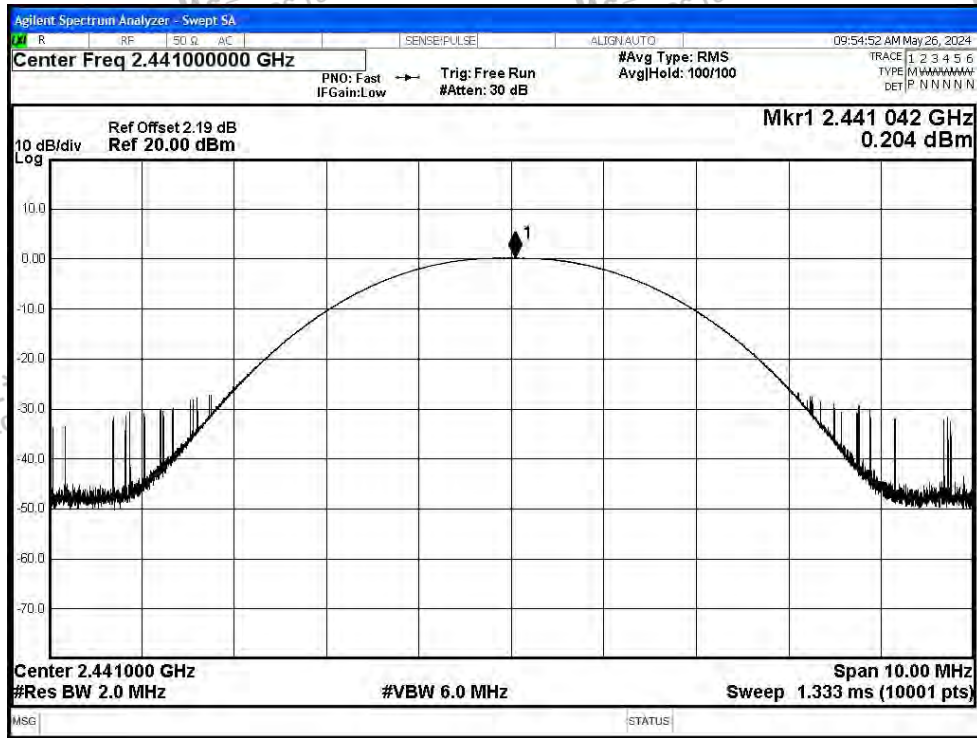


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

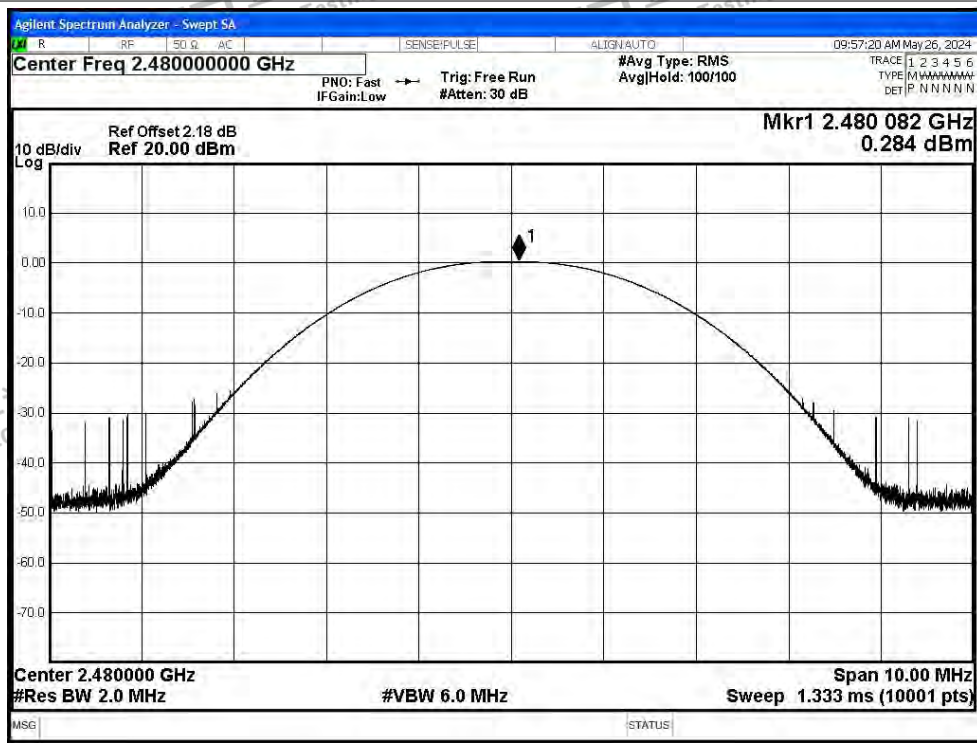


Power NVNT 1-DH5 2441MHz Ant1

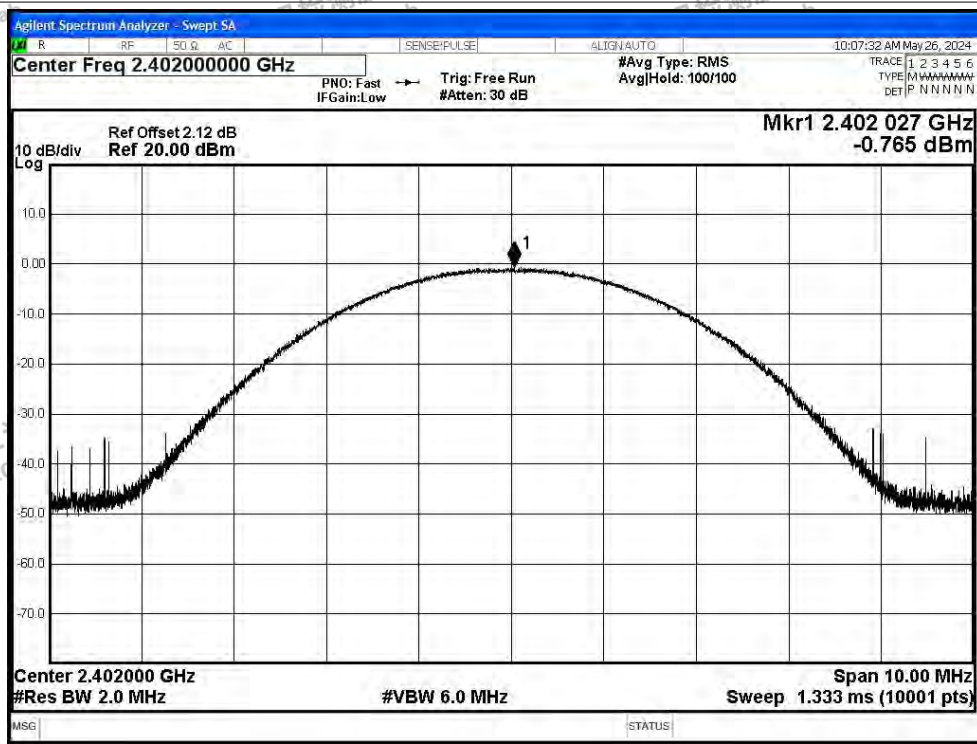




Power NVNT 1-DH5 2480MHz Ant1

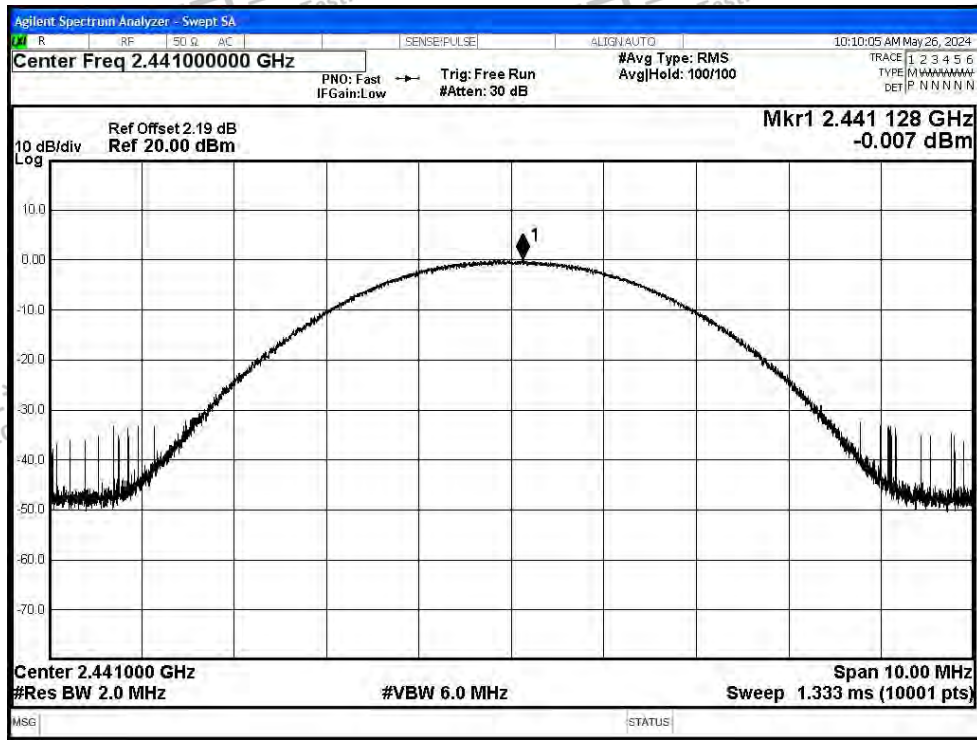


Power NVNT 2-DH5 2402MHz Ant1

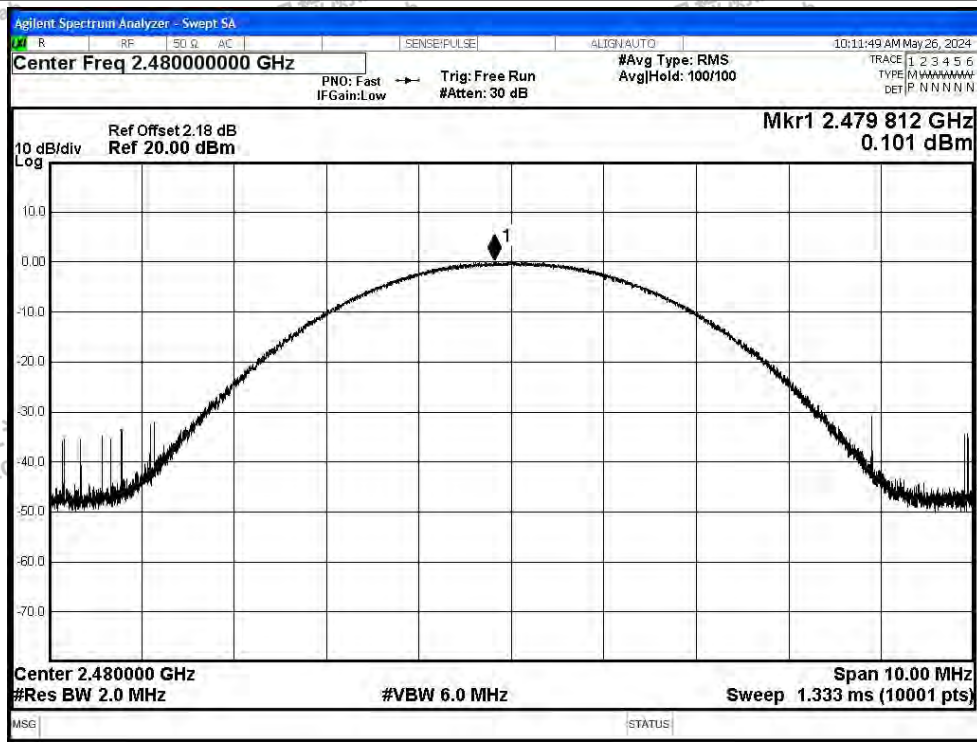




Power NVNT 2-DH5 2441MHz Ant1

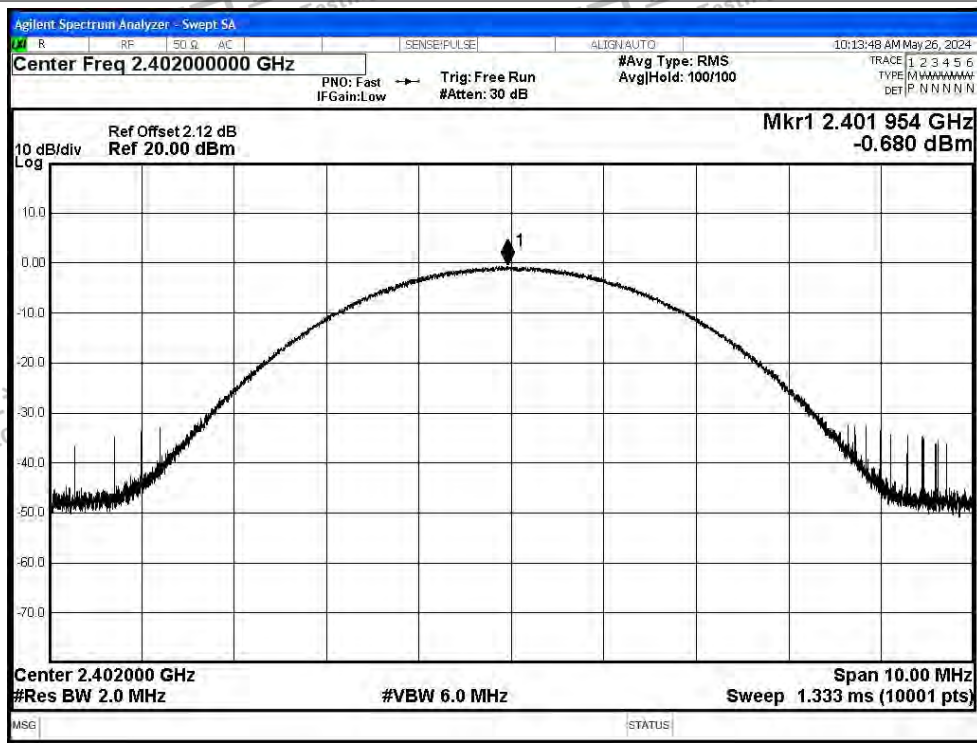


Power NVNT 2-DH5 2480MHz Ant1

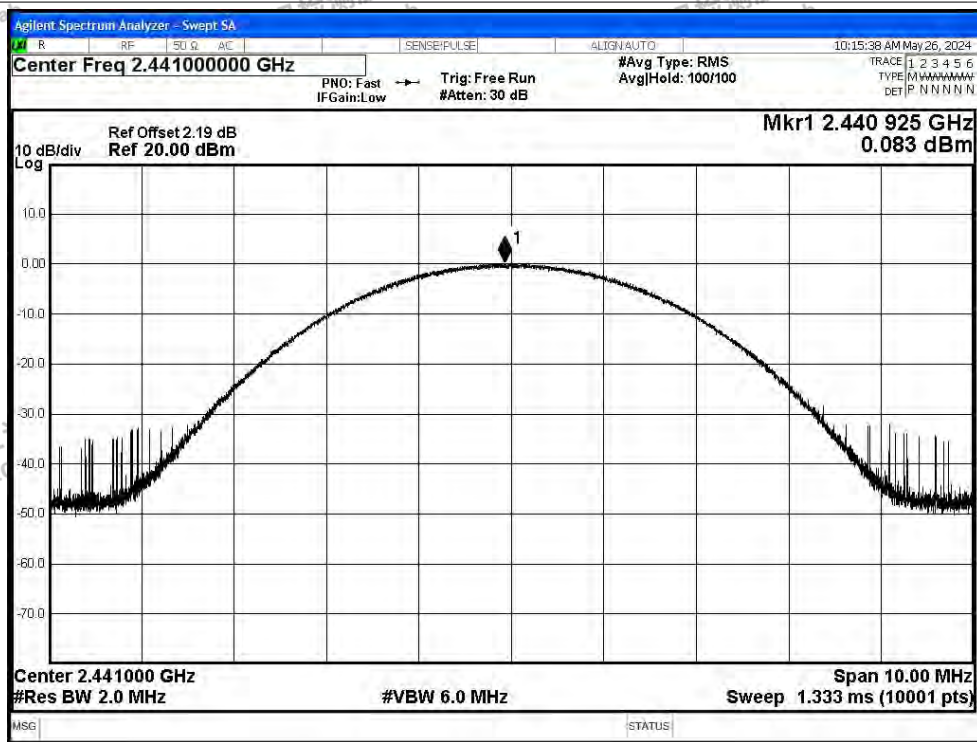




Power NVNT 3-DH5 2402MHz Ant1

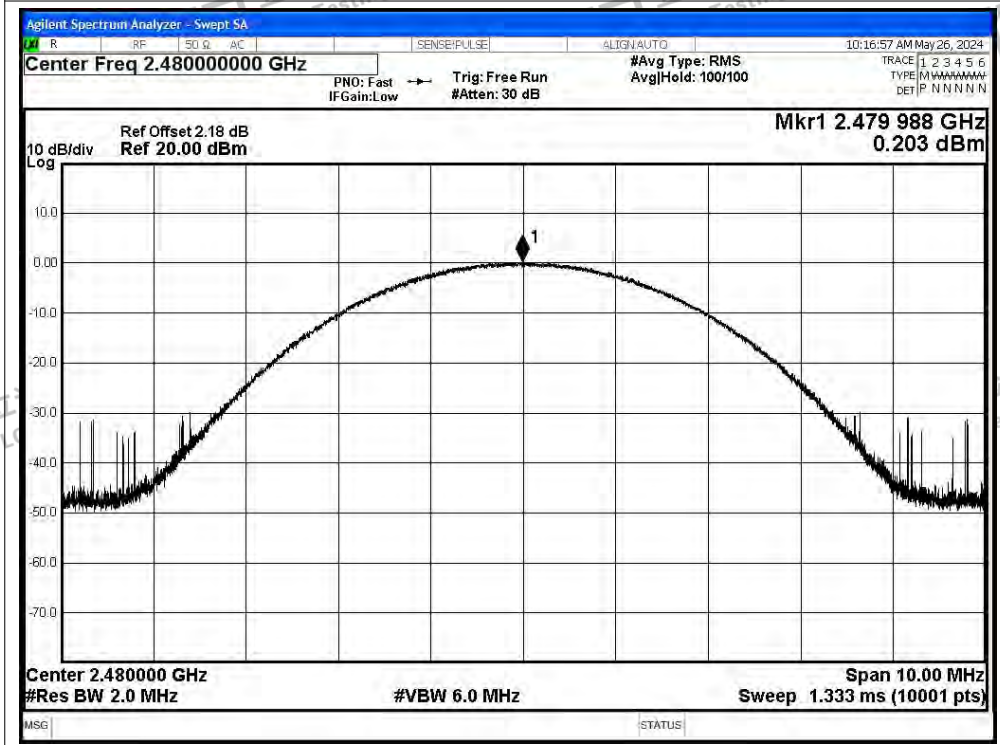


Power NVNT 3-DH5 2441MHz Ant1





Power NVNT 3-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	2402.004	2403.004	1	0.683	Pass
NVNT	2-DH5	Ant1	2402.02	2403.15	1.13	0.855	Pass
NVNT	3-DH5	Ant1	2402.152	2403.146	0.994	0.854	Pass

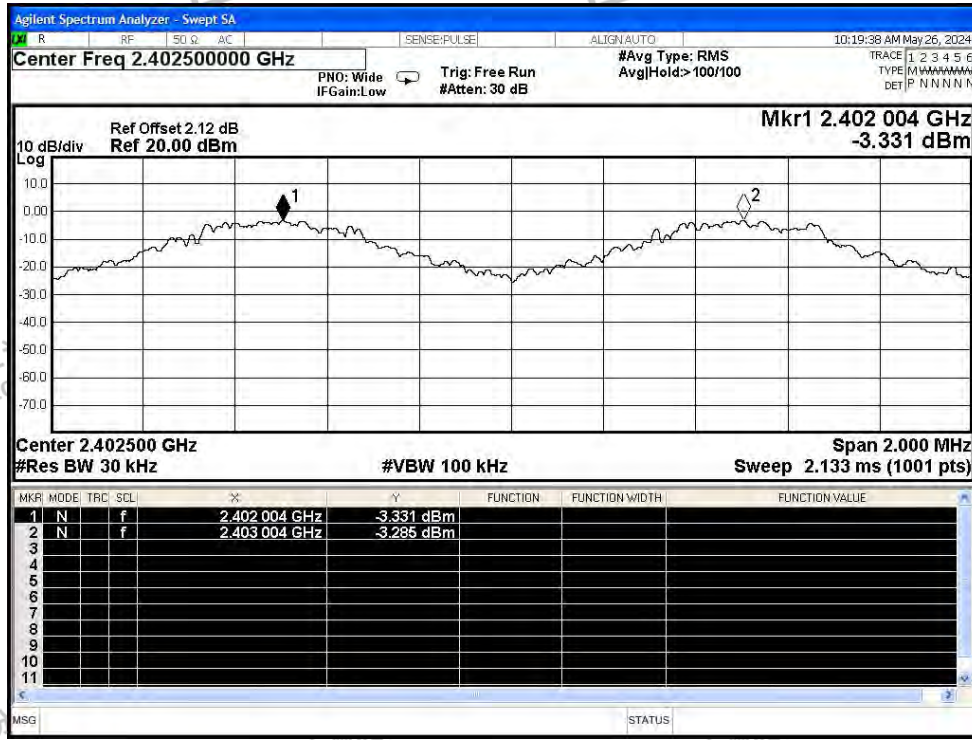


Shenzhen LCS Compliance Testing Laboratory Ltd.
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
Scan code to check authenticity

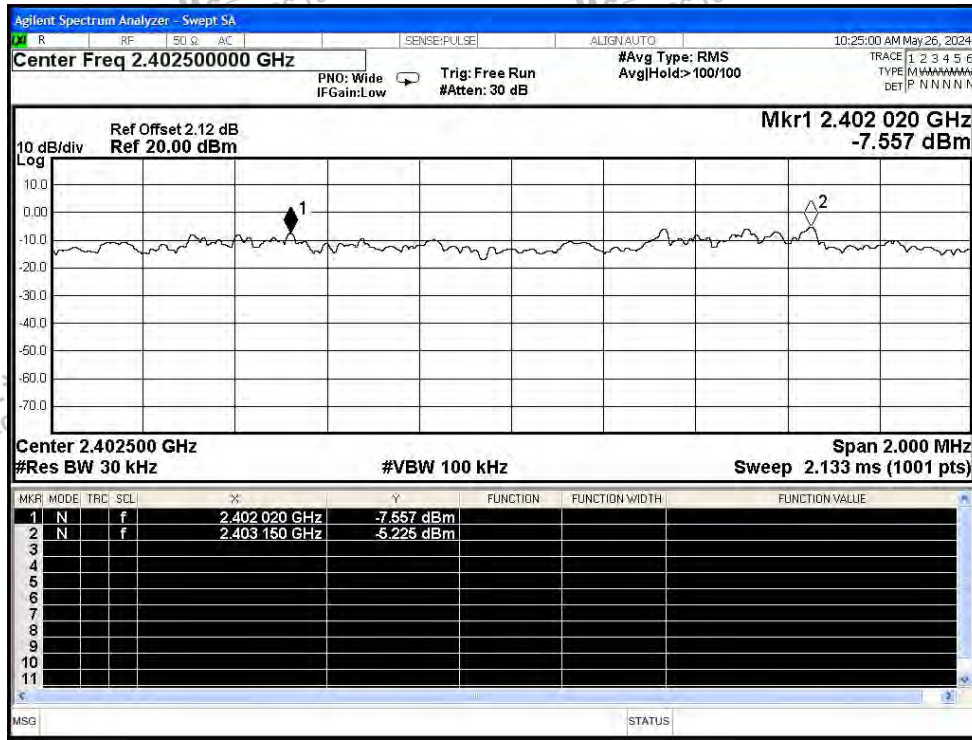


Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1

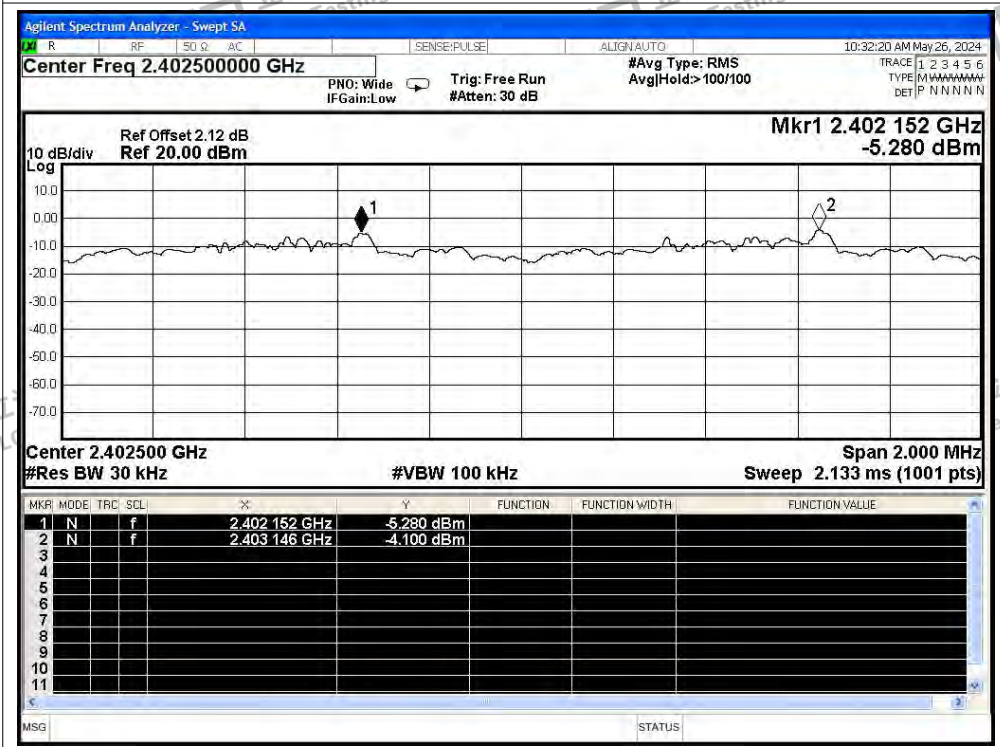


CFS NVNT 2-DH5 2402MHz Ant1





CFS NVNT 3-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	2.882	325.666	113	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.881	290.981	101	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.887	303.135	105	31600	400	Pass

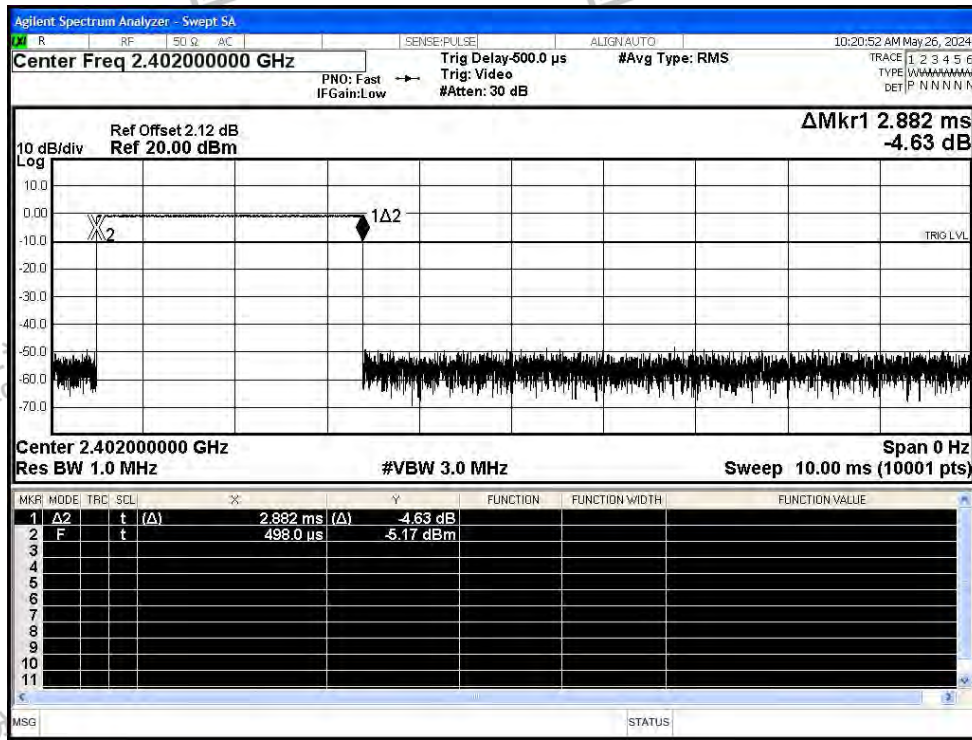


Shenzhen LCS Compliance Testing Laboratory Ltd.
 Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
 Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
 Scan code to check authenticity

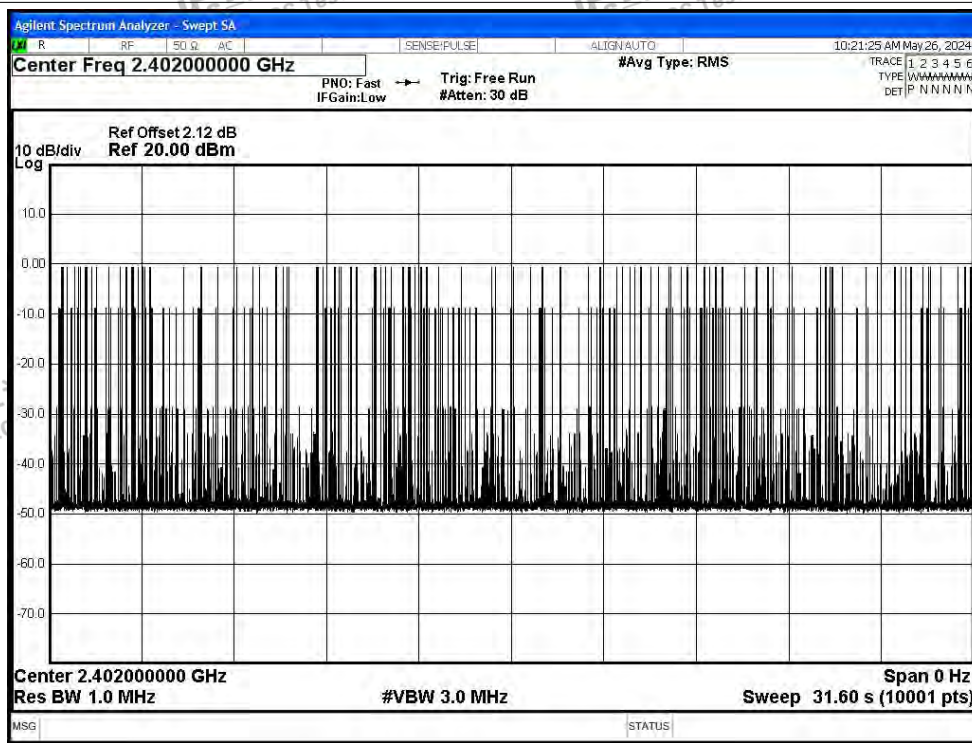


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

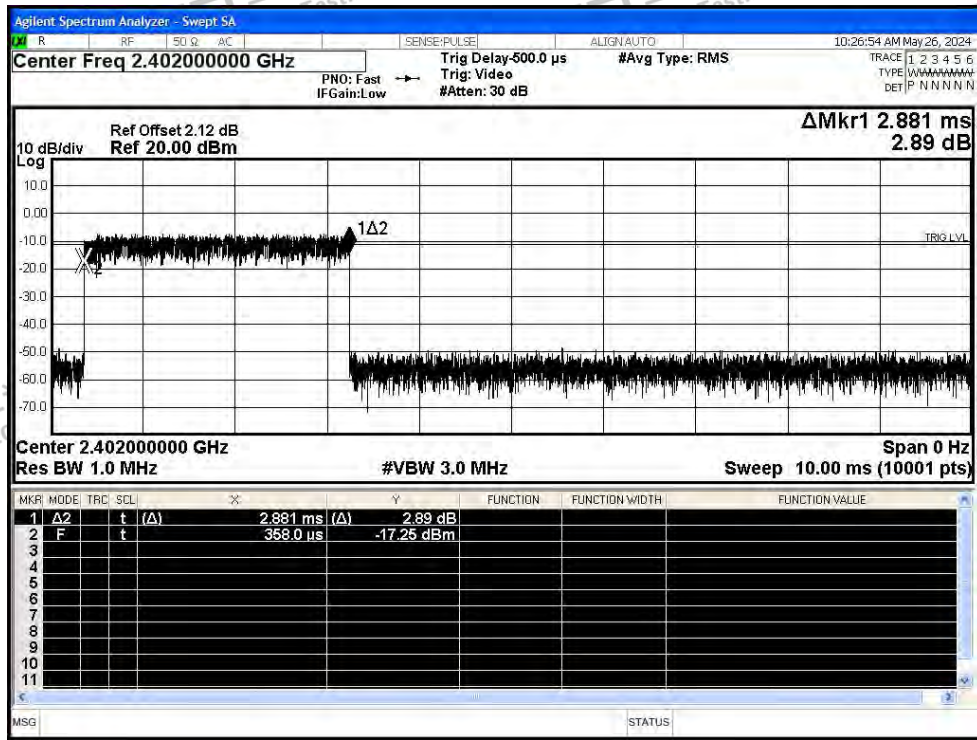


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

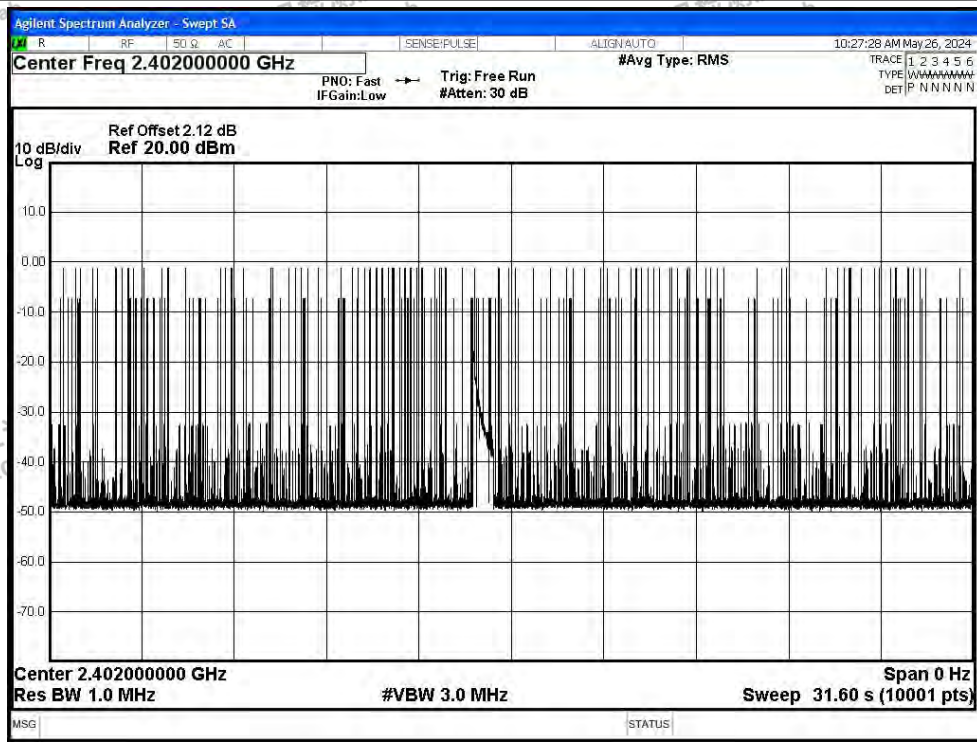




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst

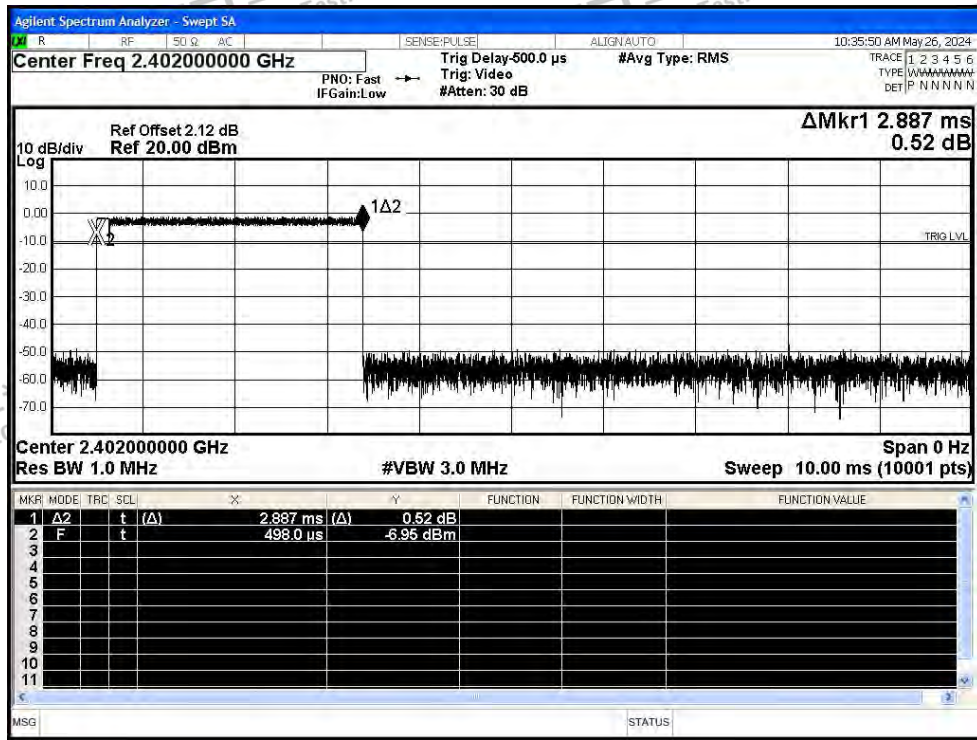


Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

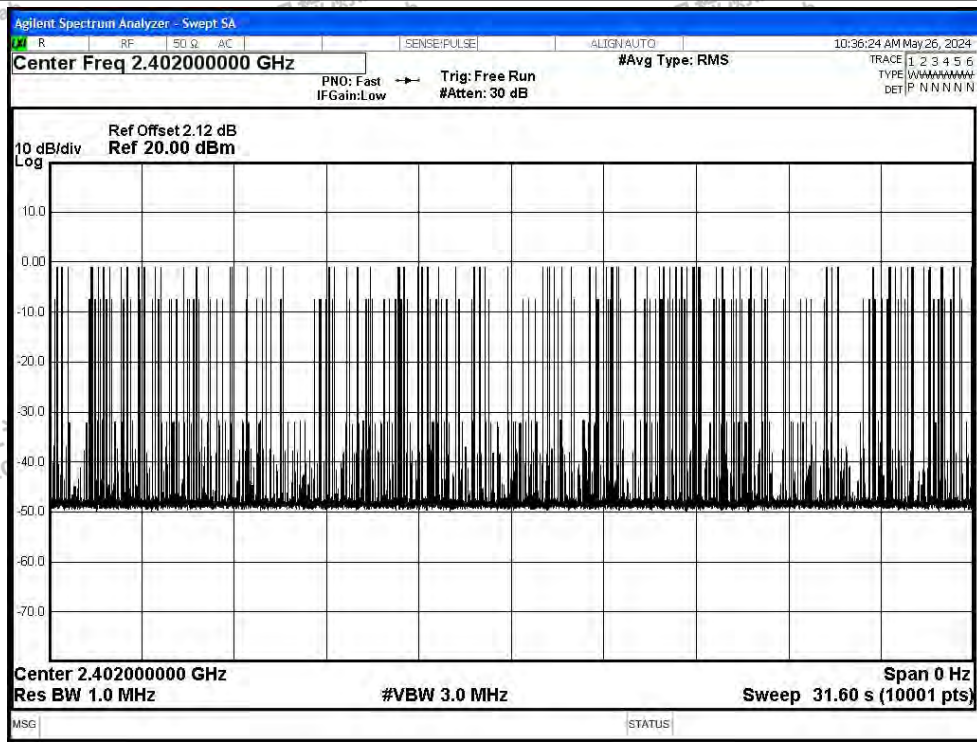




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated







A.5 Number of Hopping Channel

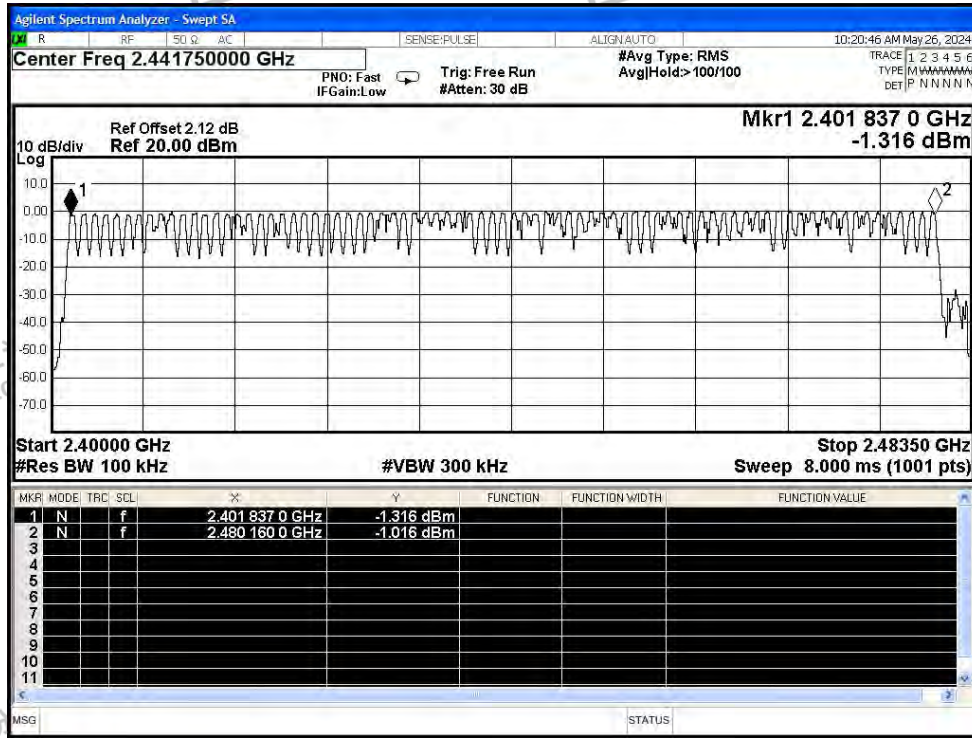
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



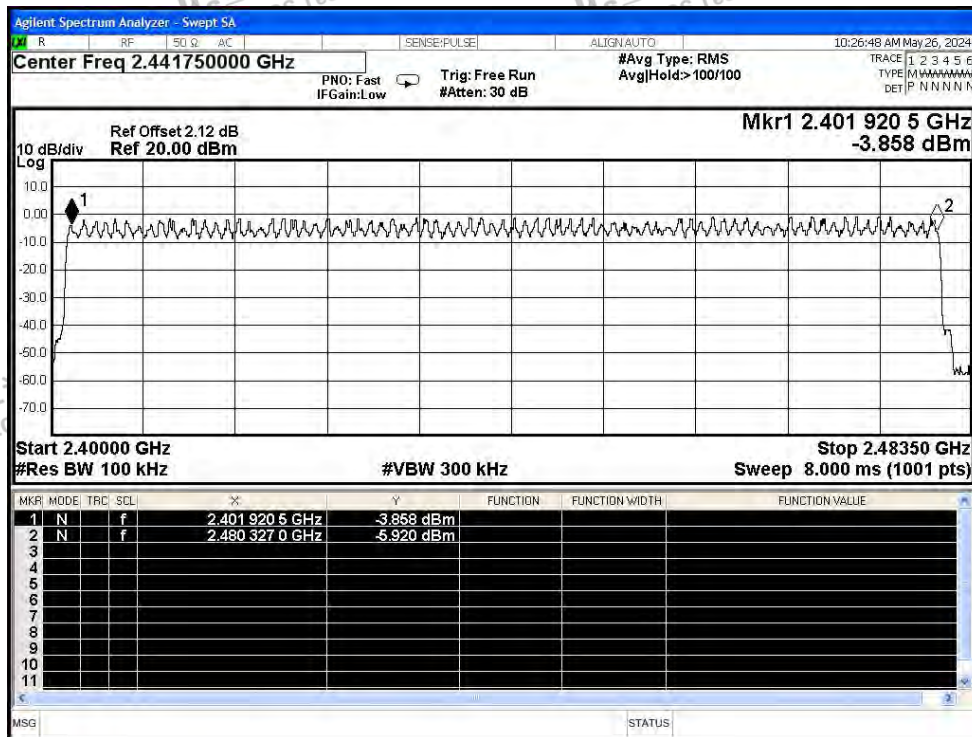


Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1

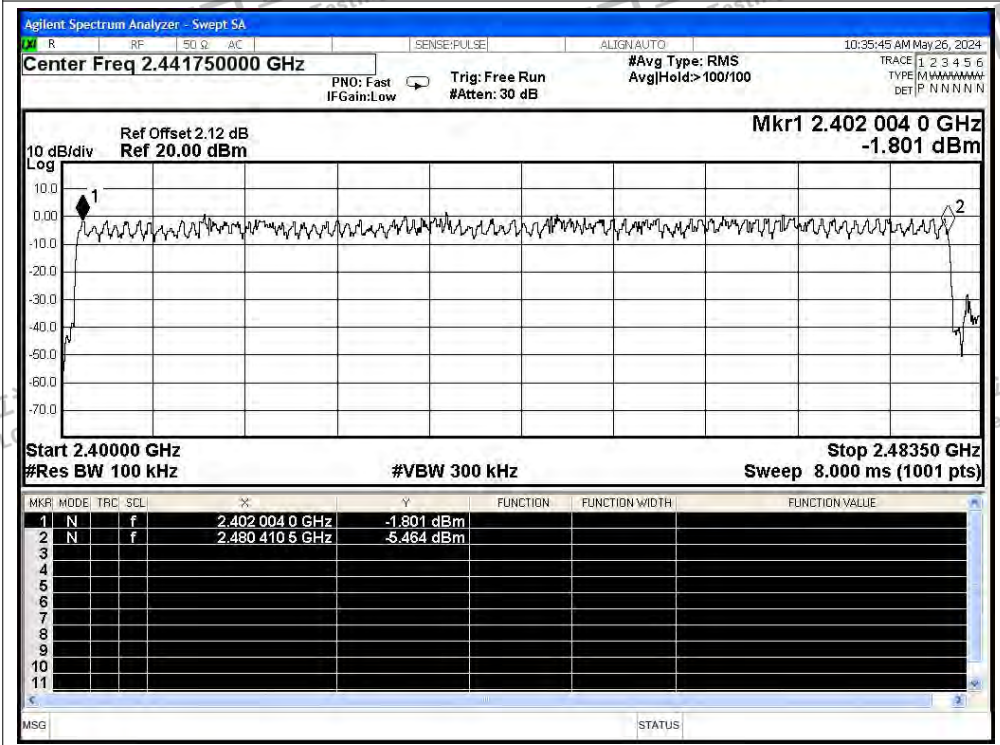


Hopping No. NVNT 2-DH5 2402MHz Ant1





Hopping No: NVNT 3-DH5 2402MHz Ant1





A.6 Band Edge

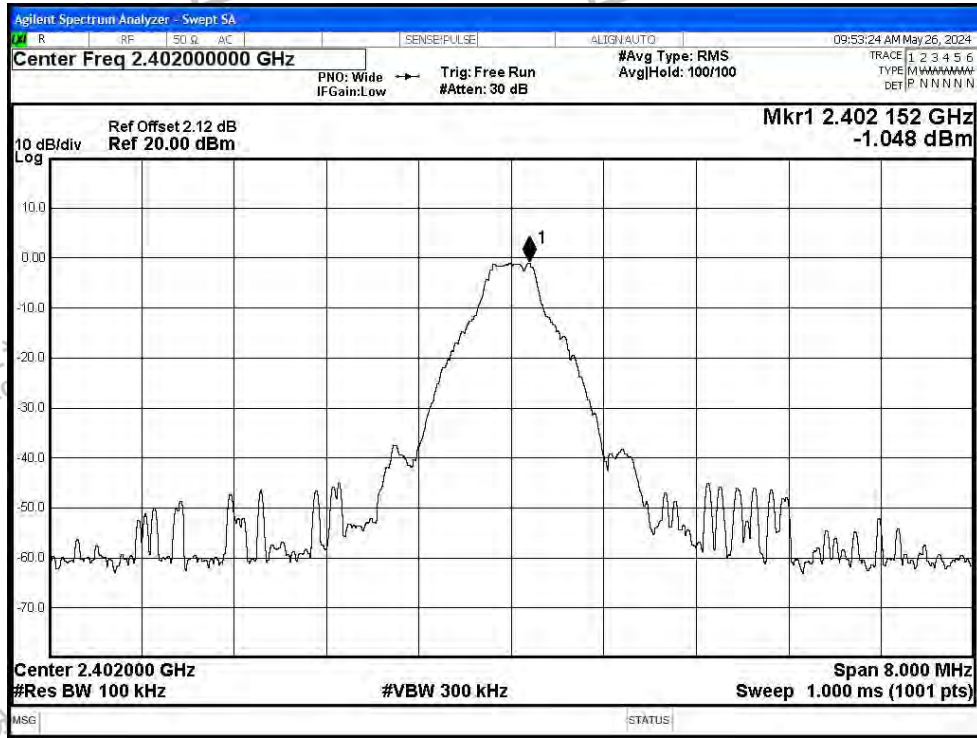
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-44.79	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.82	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-51.19	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-53.24	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-51.3	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-55.08	-20	Pass



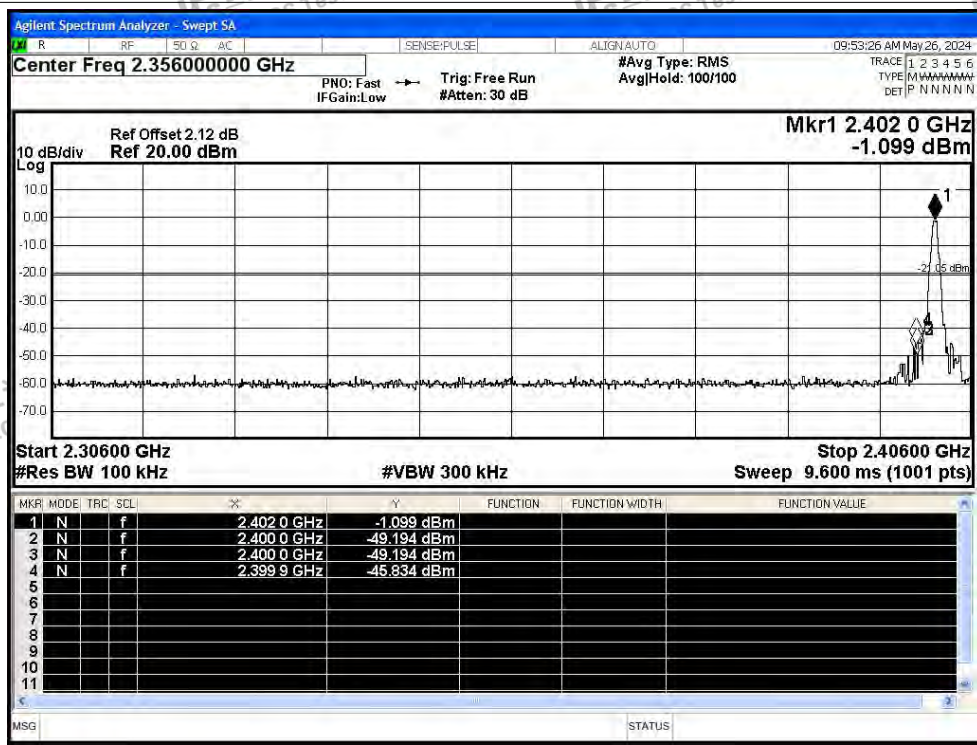


Test Graphs

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

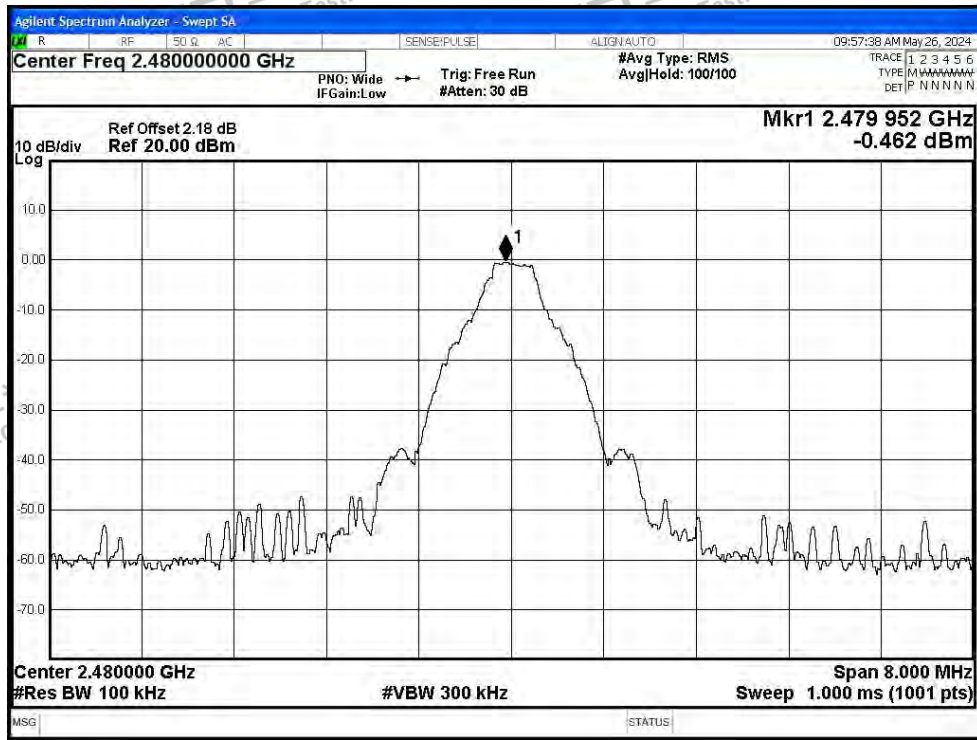


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

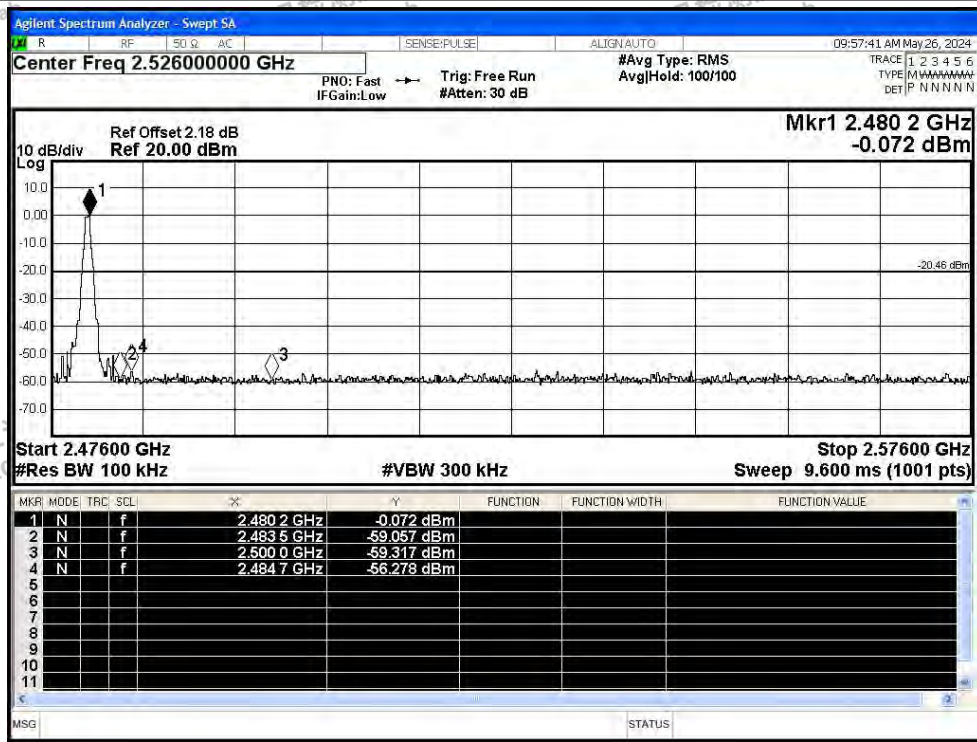




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

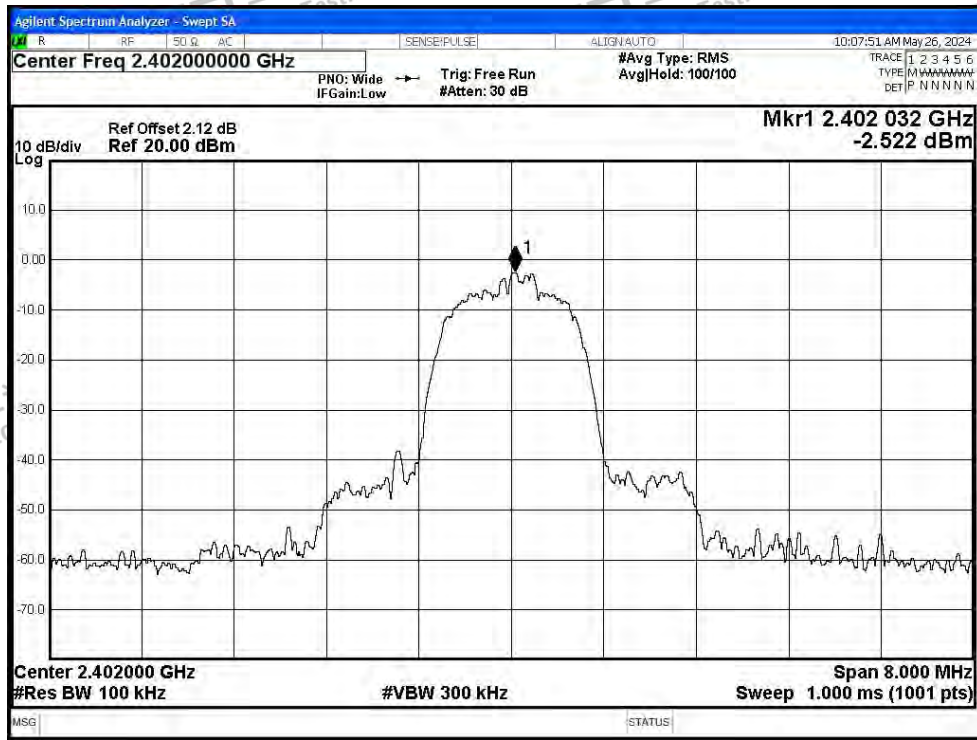


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

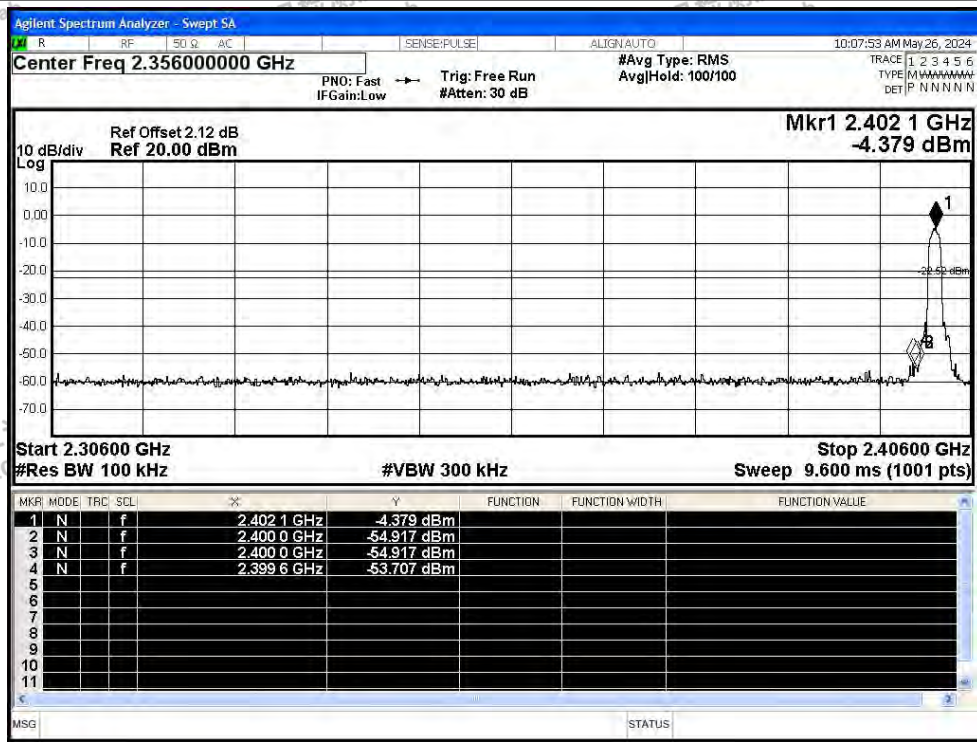




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

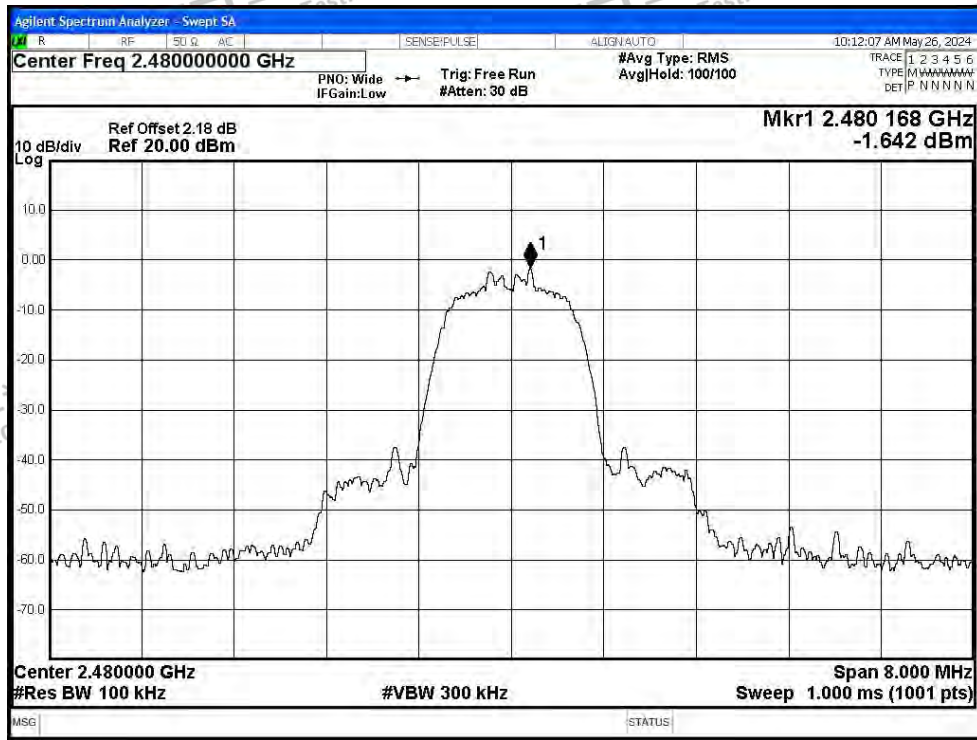


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

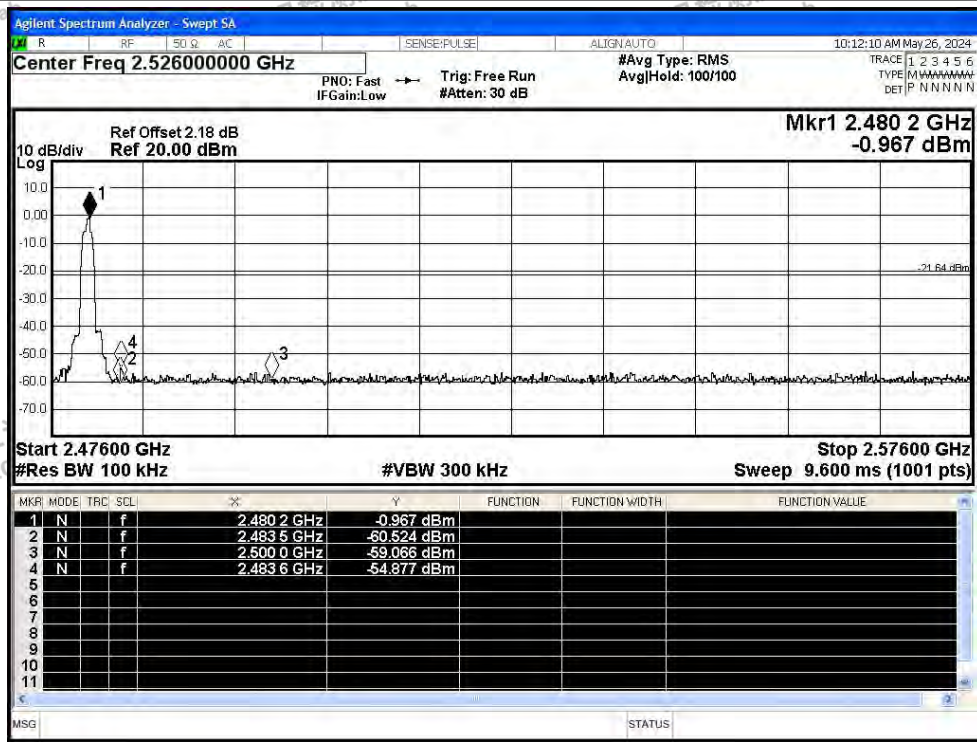




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

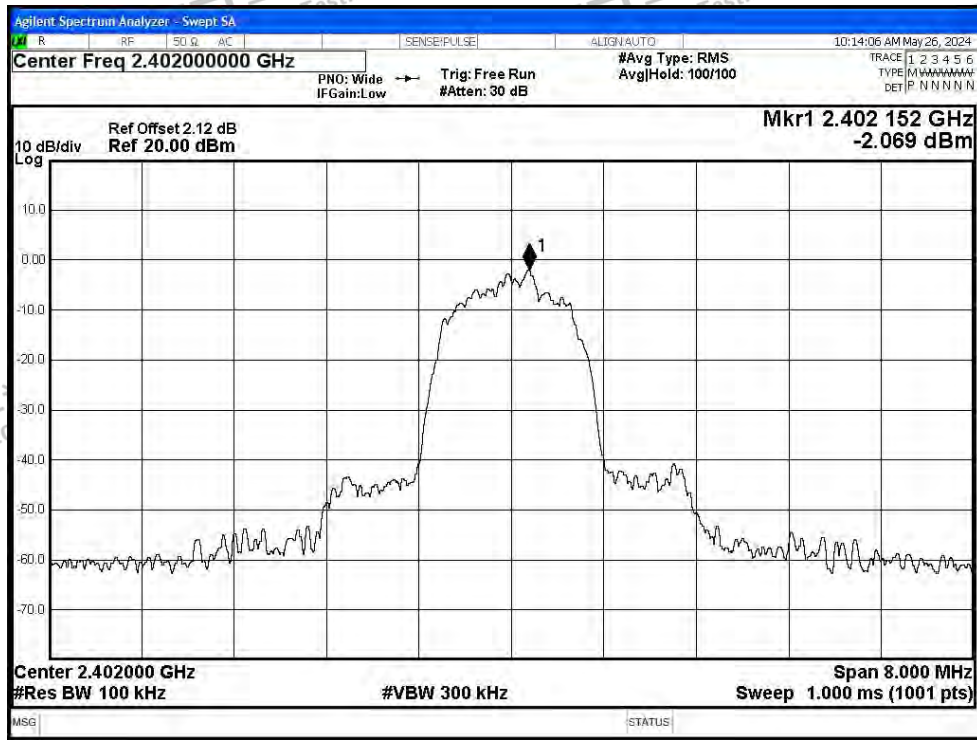


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

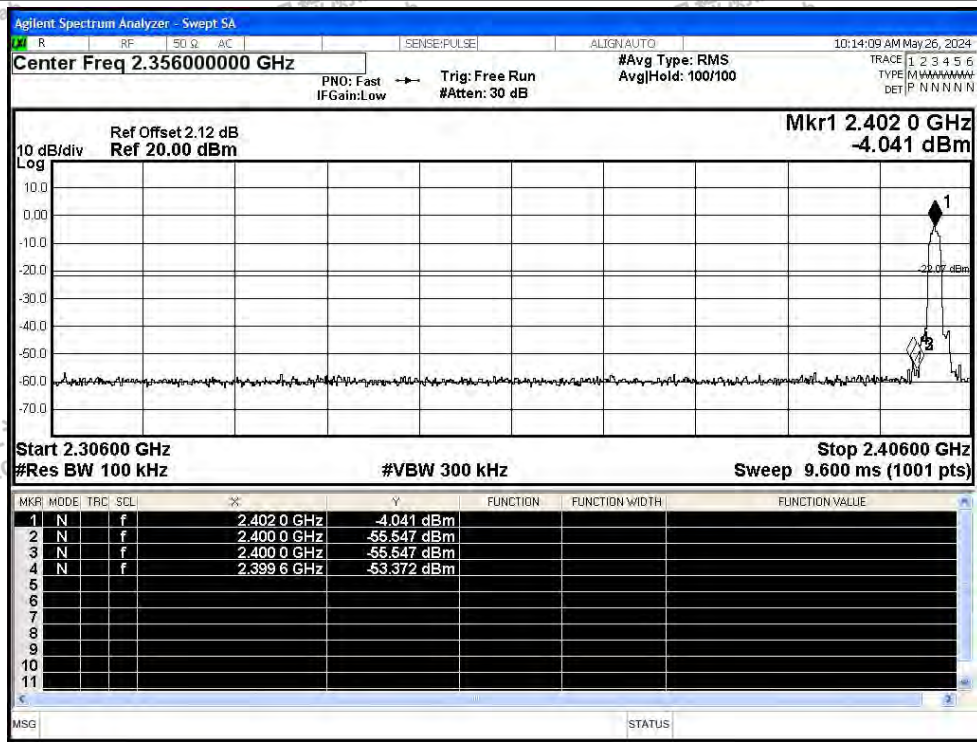




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

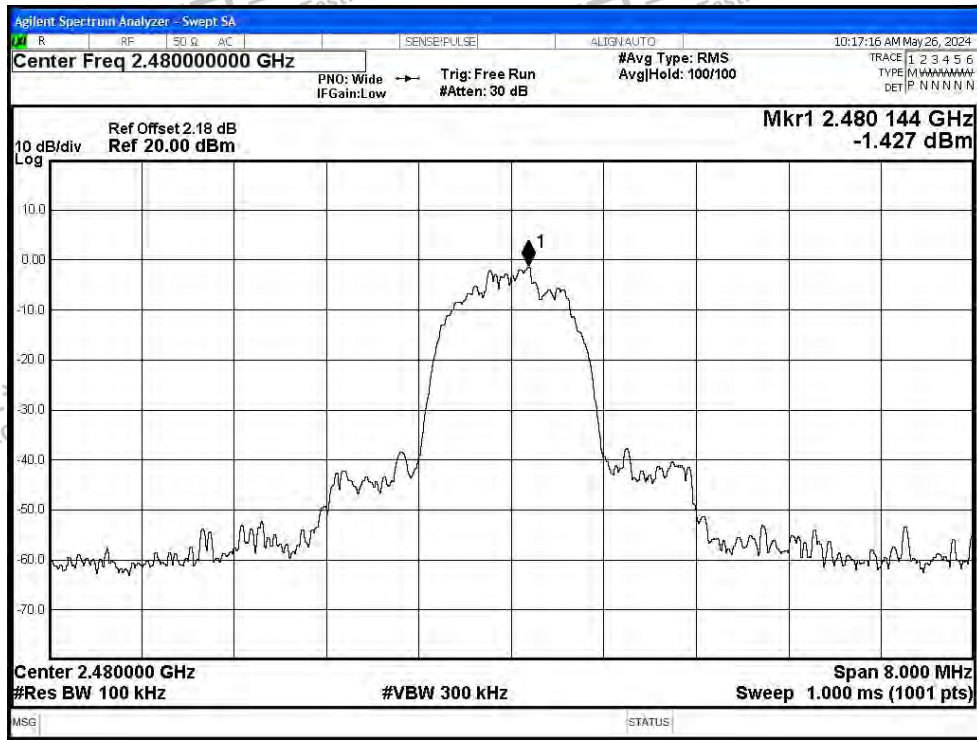


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

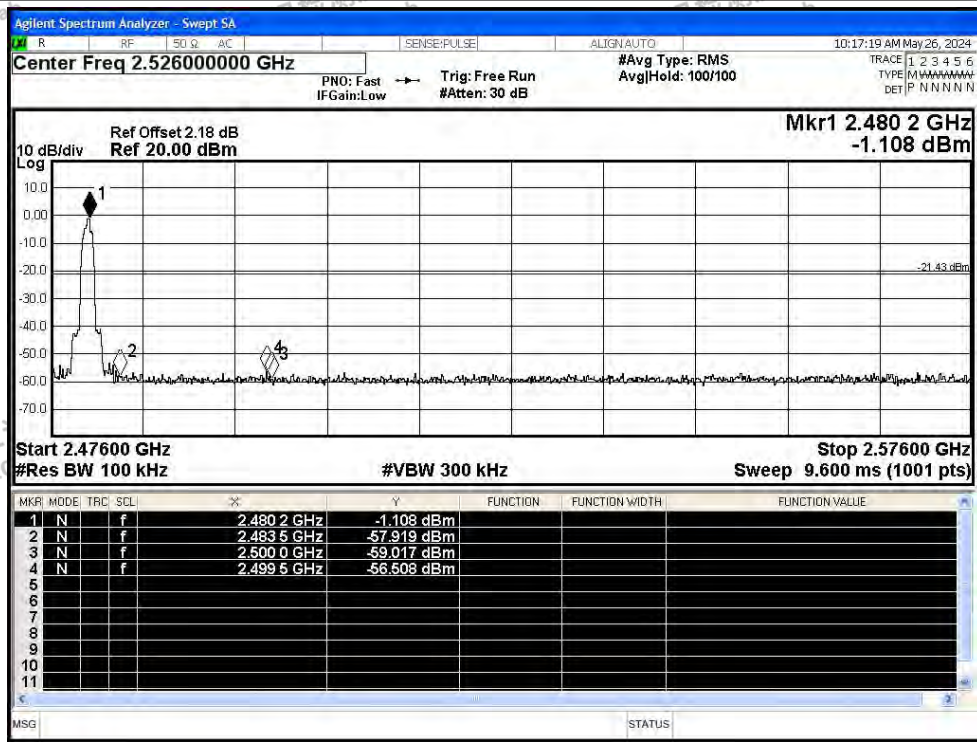




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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	-54.65	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-55.08	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-53.6	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-54.51	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-54	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-54.68	-20	Pass

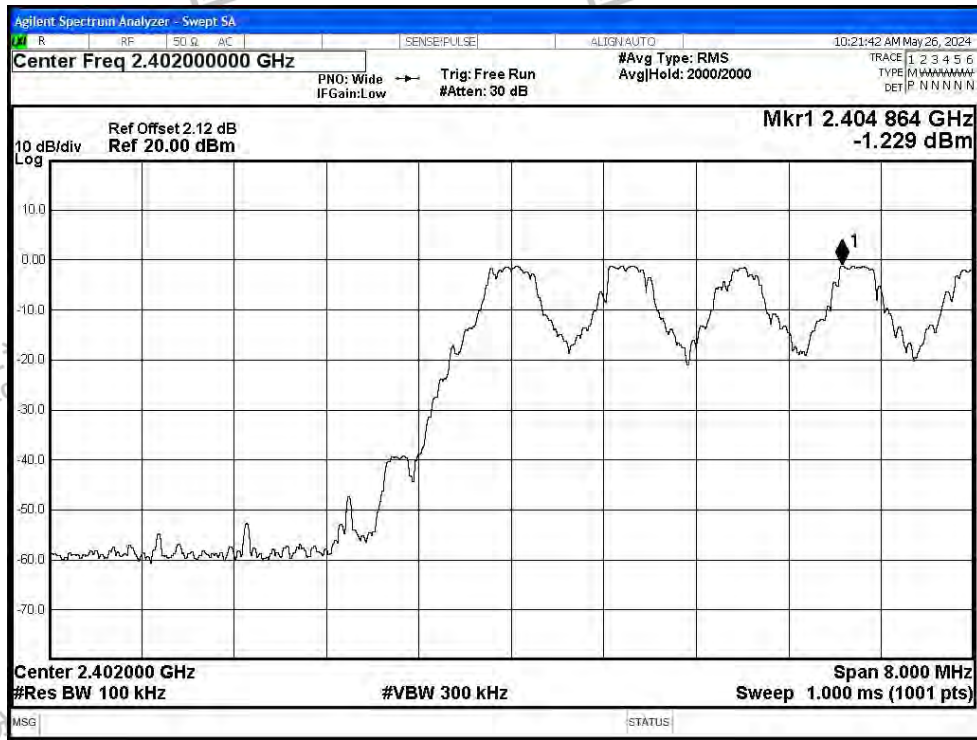


Shenzhen LCS Compliance Testing Laboratory Ltd.
 Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
 Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
 Scan code to check authenticity

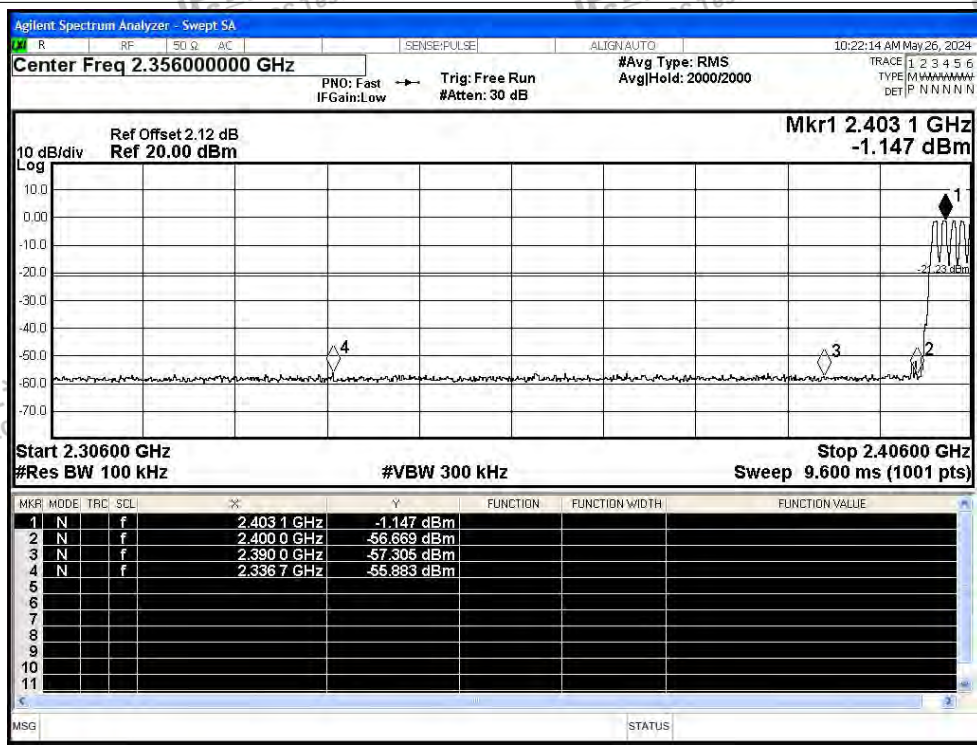


Test Graphs

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

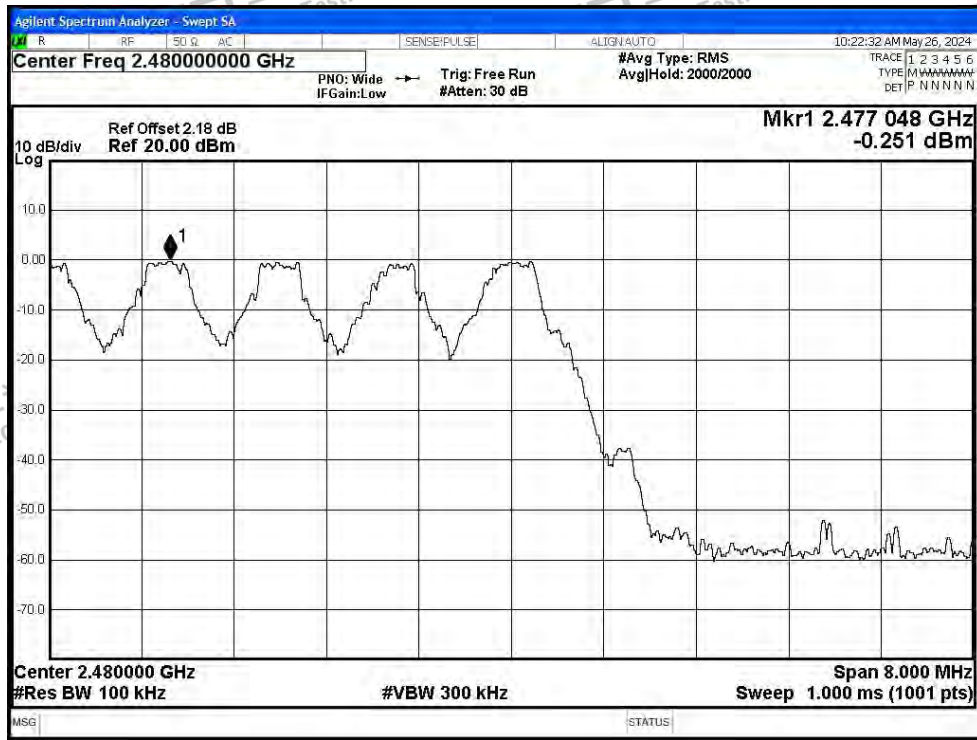


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

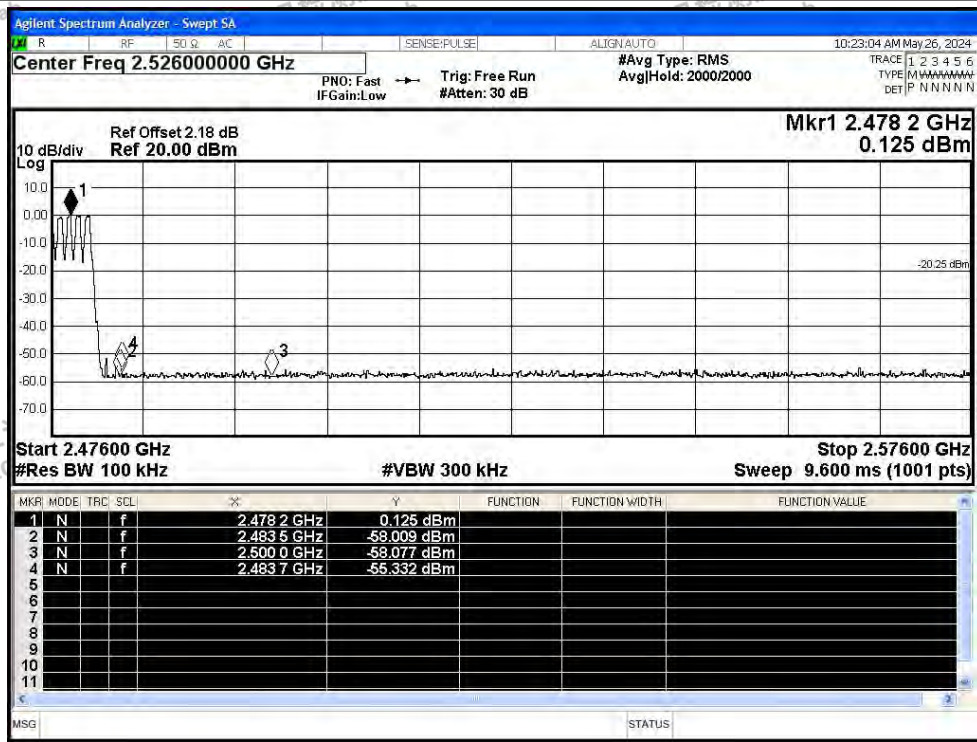




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref

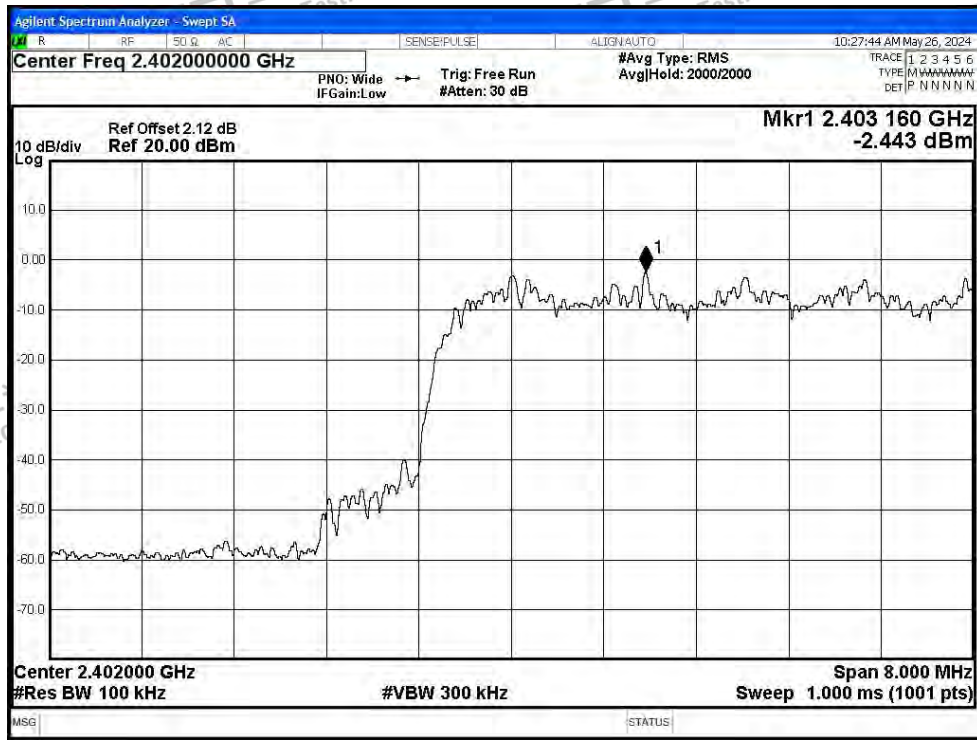


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission

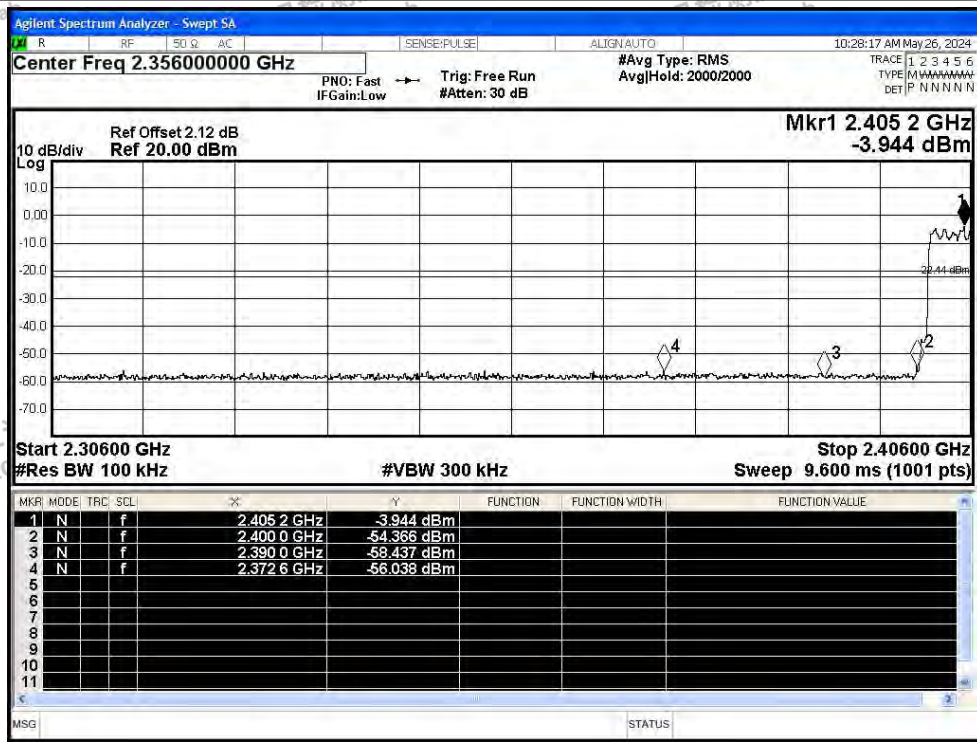




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

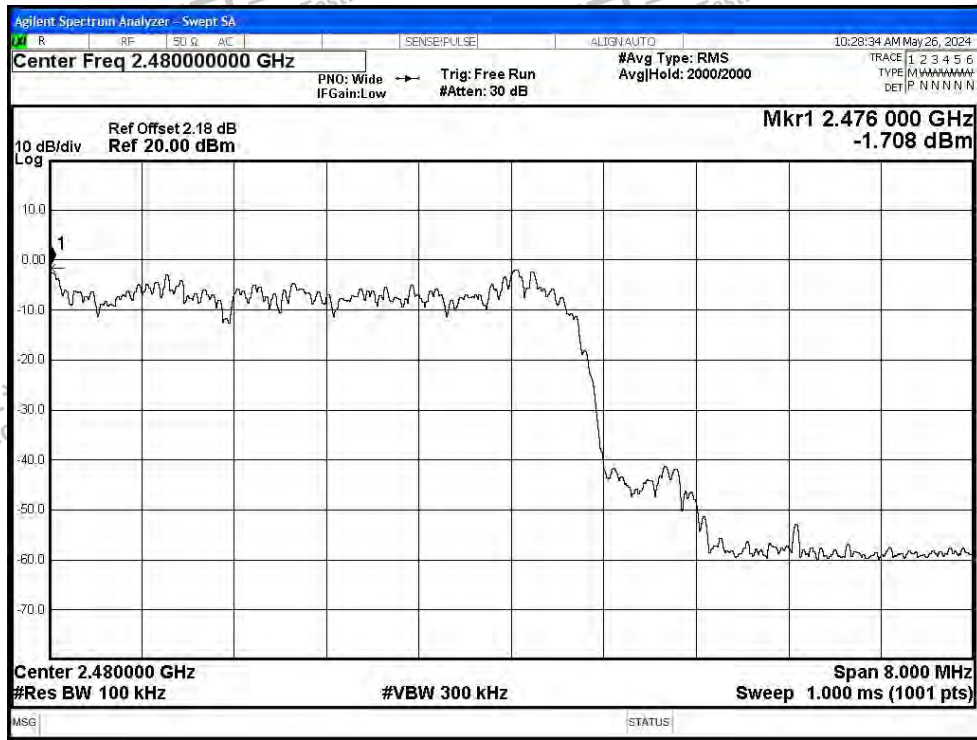


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

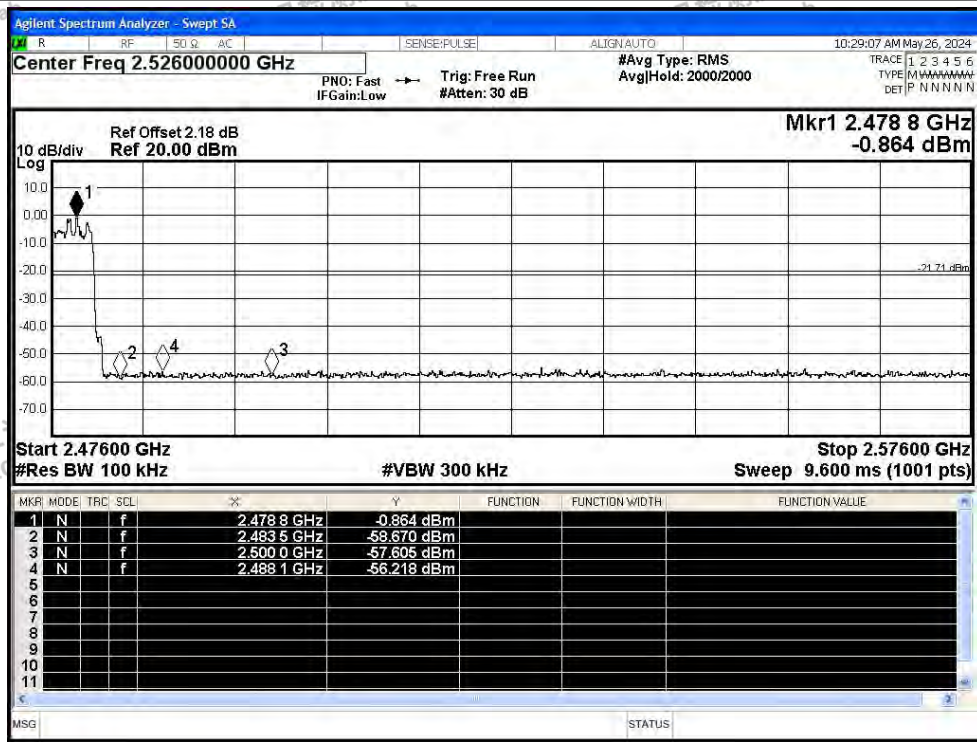




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref

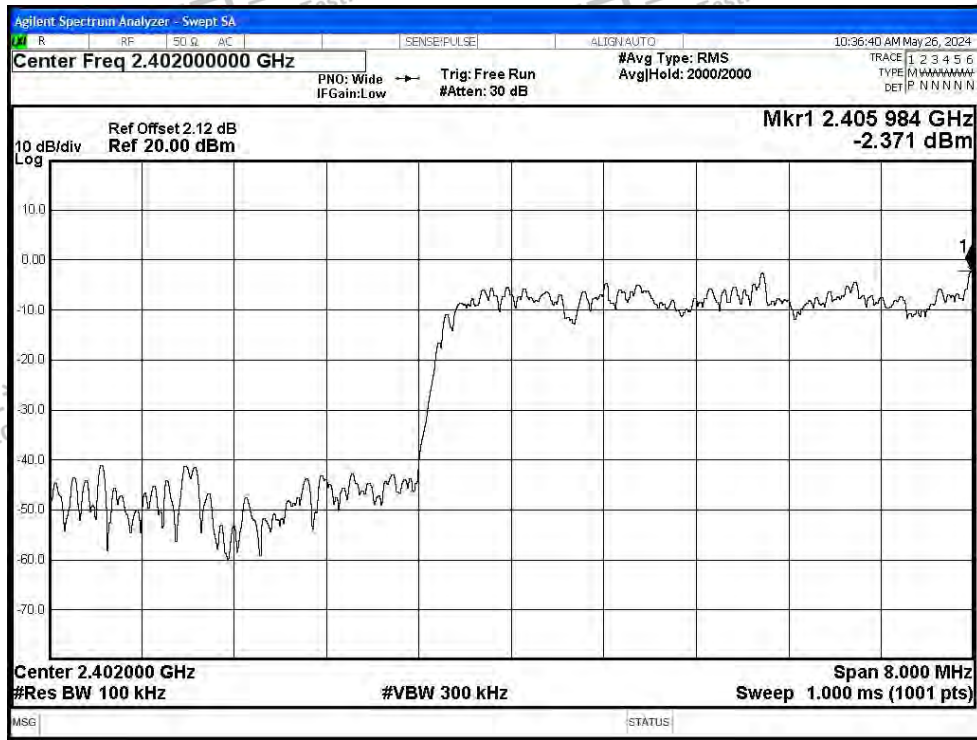


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission

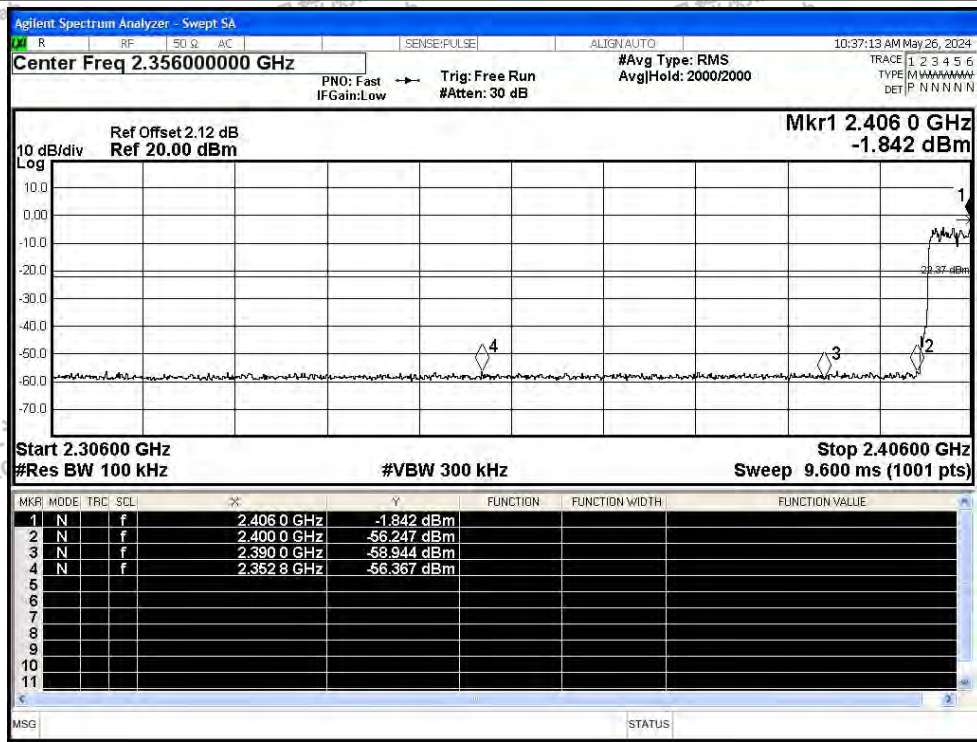




Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref

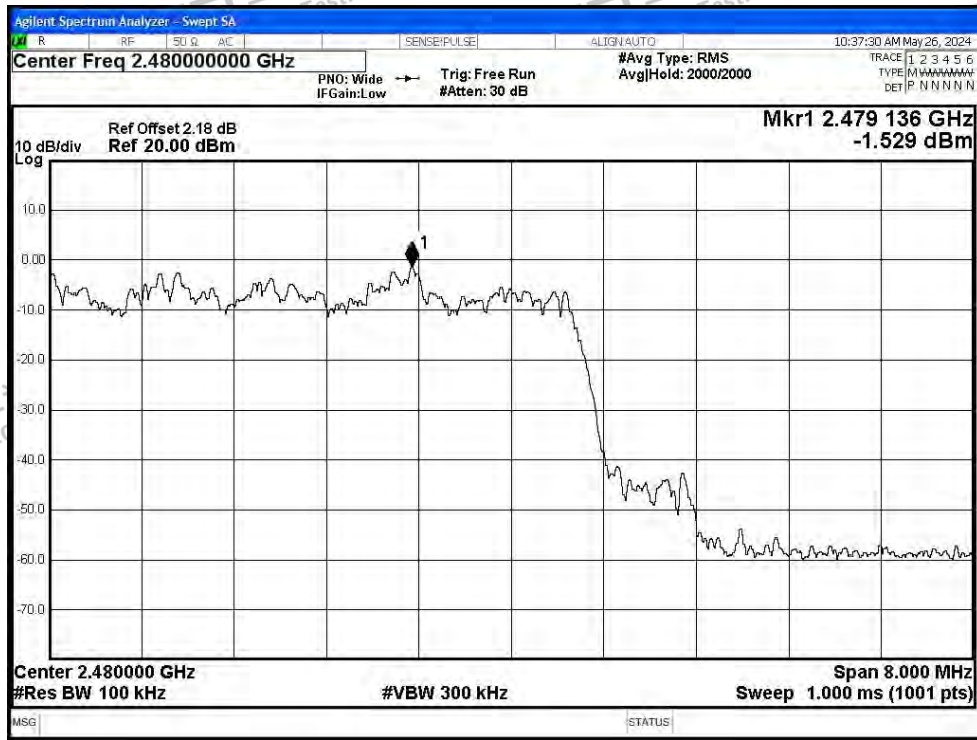


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission

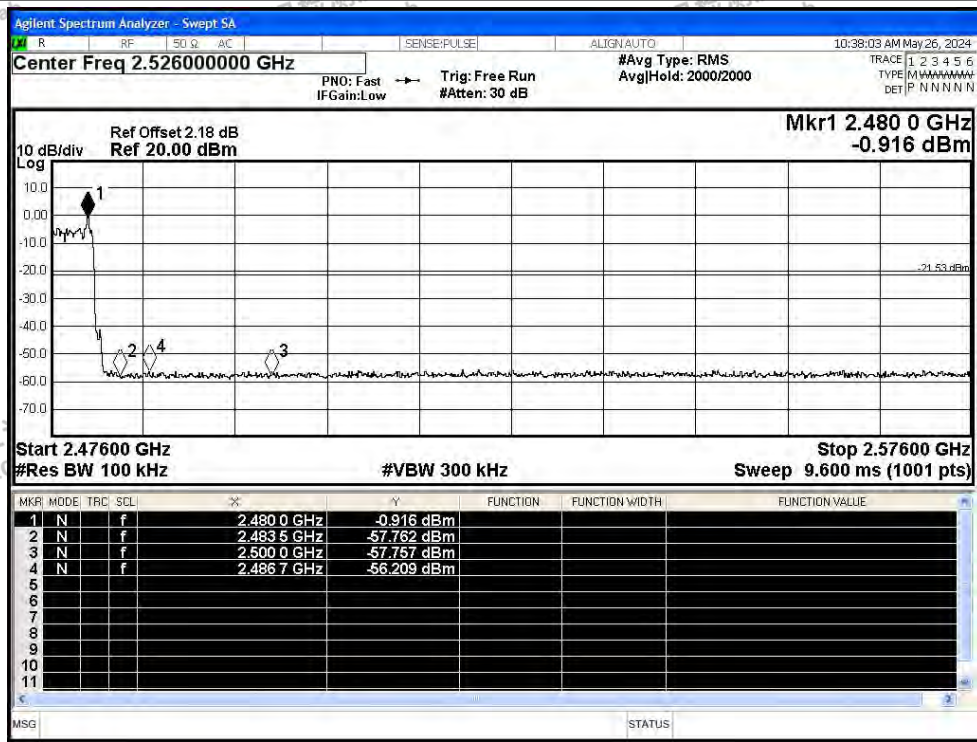




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 3-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	-53.42	-20	Pass
NVNT	1-DH5	2441	Ant1	-55.58	-20	Pass
NVNT	1-DH5	2480	Ant1	-55.09	-20	Pass
NVNT	2-DH5	2402	Ant1	-53.34	-20	Pass
NVNT	2-DH5	2441	Ant1	-52.75	-20	Pass
NVNT	2-DH5	2480	Ant1	-54.04	-20	Pass
NVNT	3-DH5	2402	Ant1	-53.06	-20	Pass
NVNT	3-DH5	2441	Ant1	-53.36	-20	Pass
NVNT	3-DH5	2480	Ant1	-53.8	-20	Pass

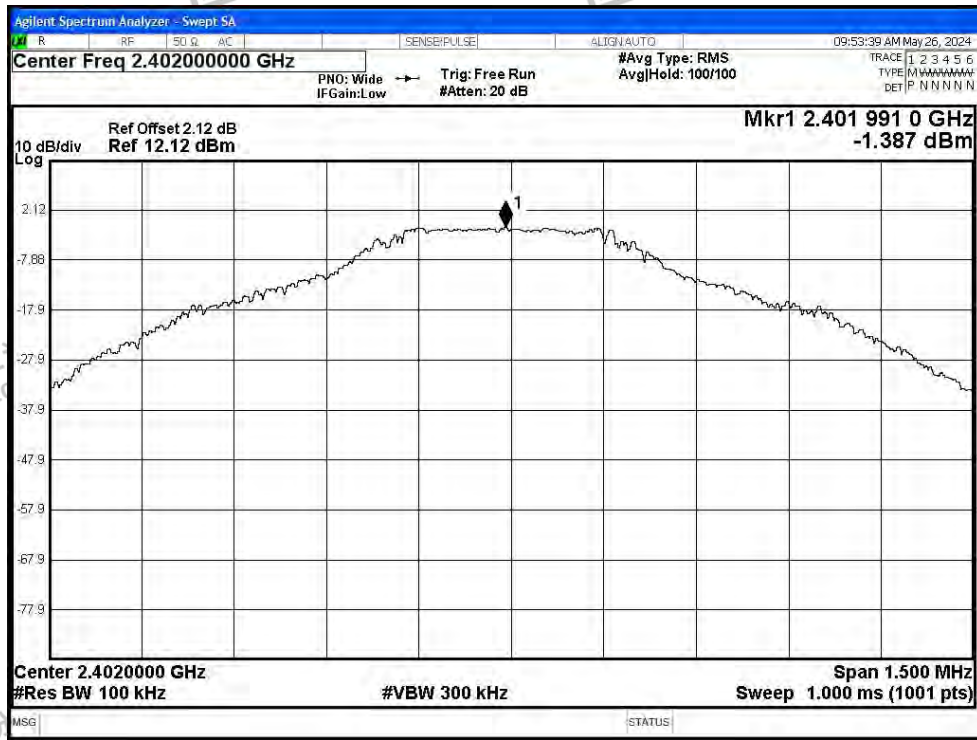


Shenzhen LCS Compliance Testing Laboratory Ltd.
 Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
 Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
 Scan code to check authenticity

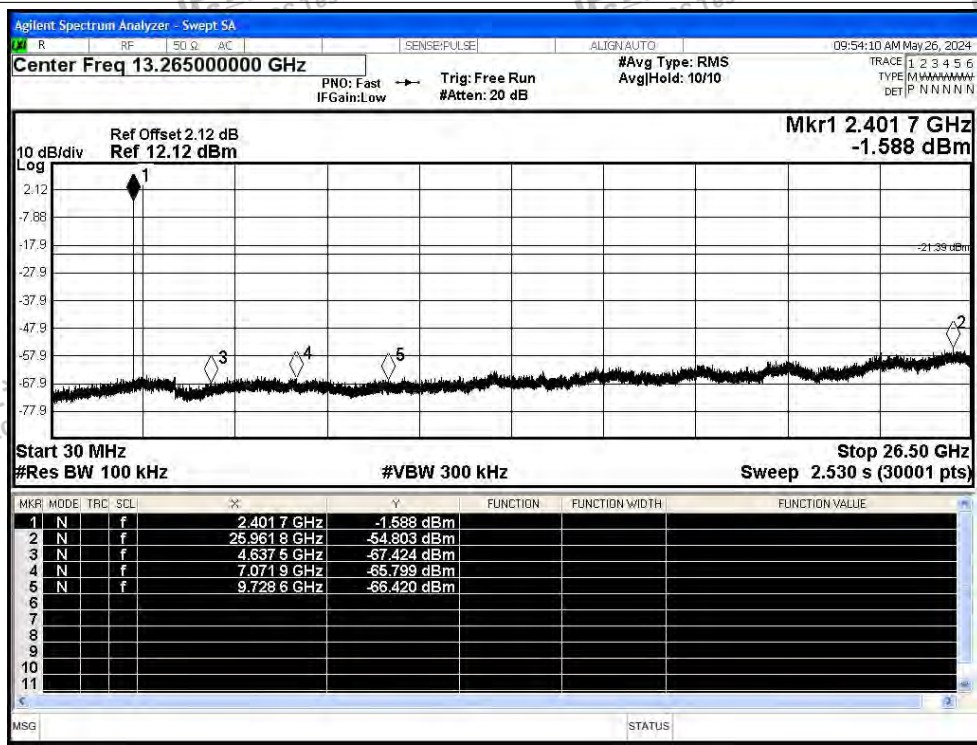


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

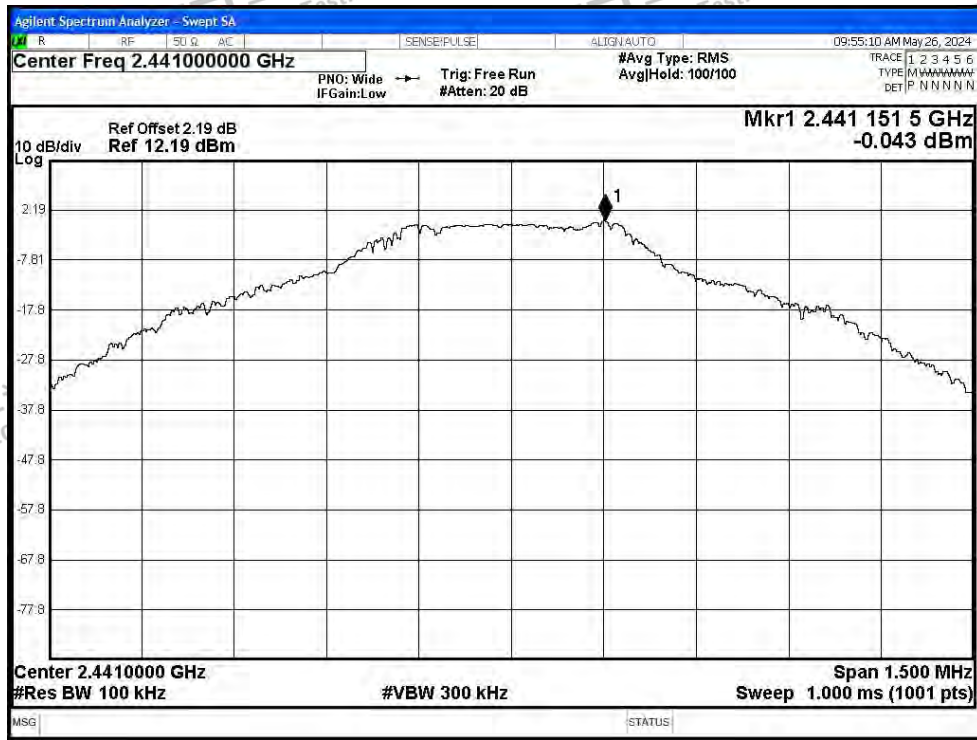


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

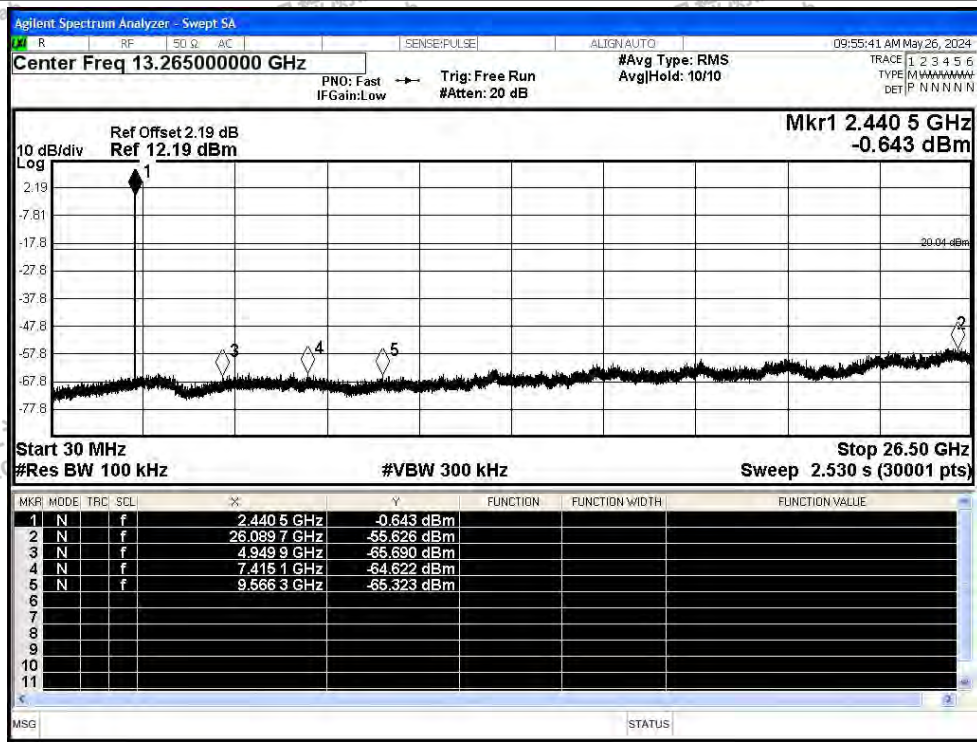




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

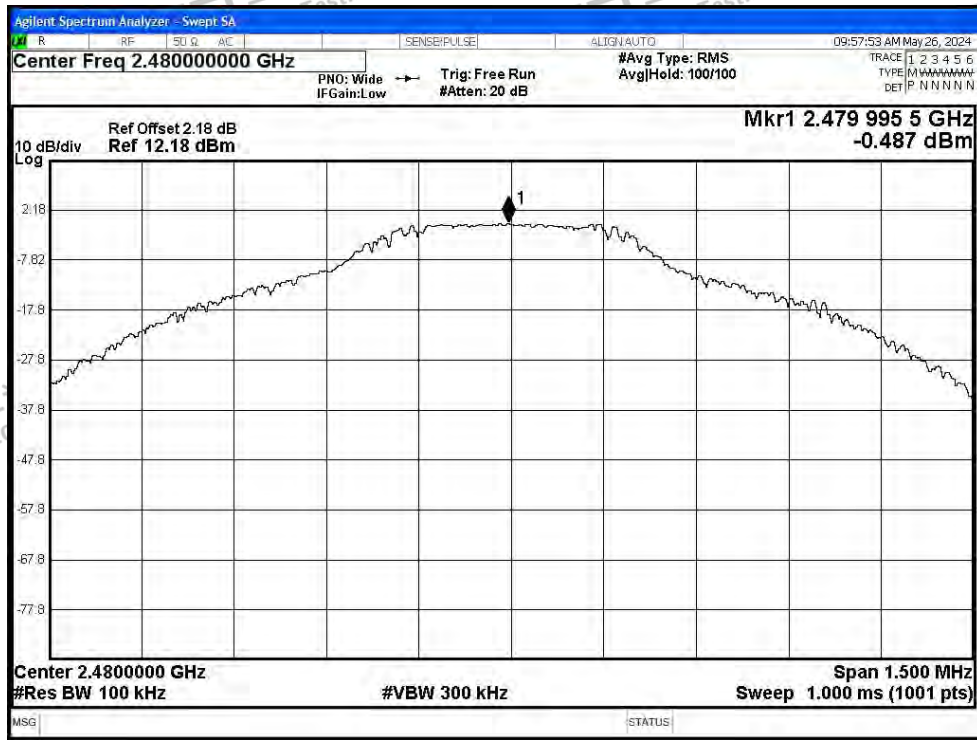


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

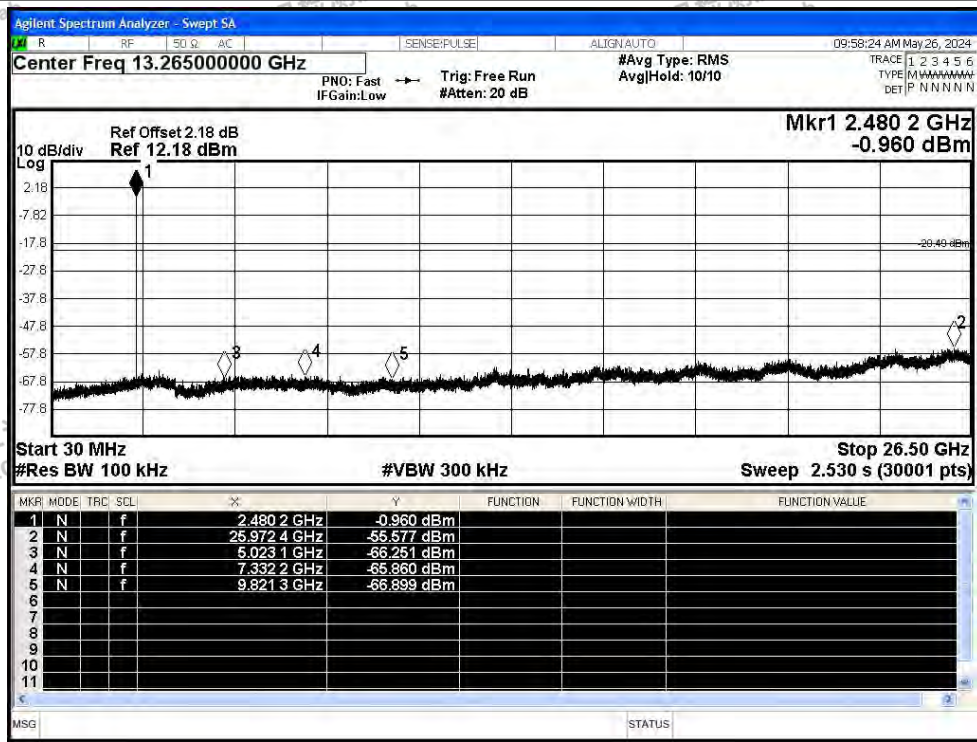




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

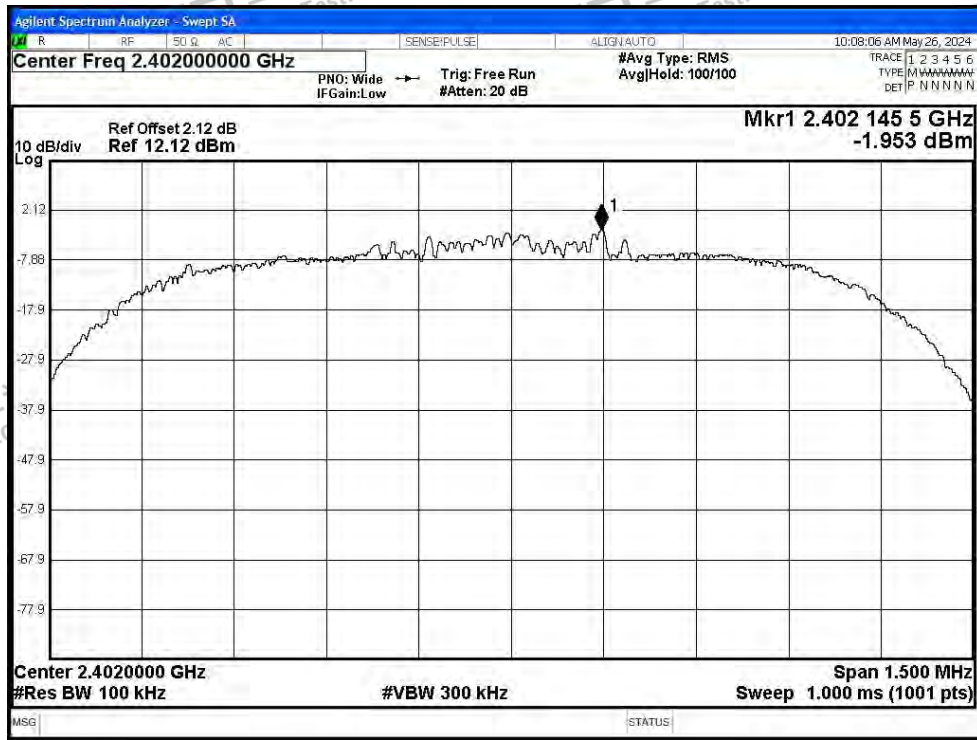


Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

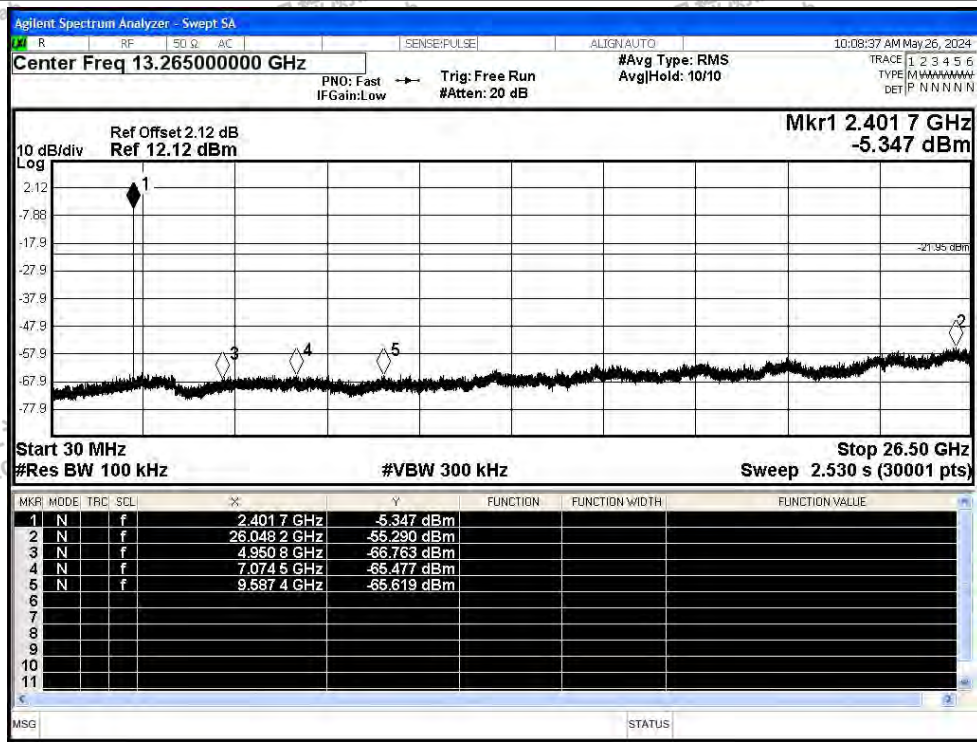




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

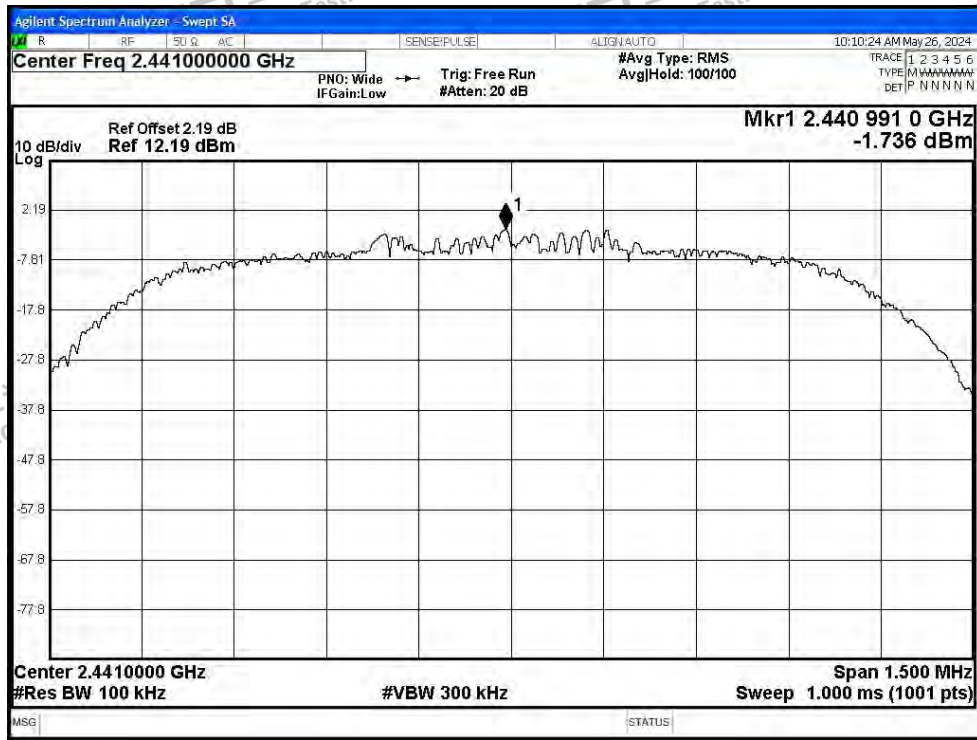


Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

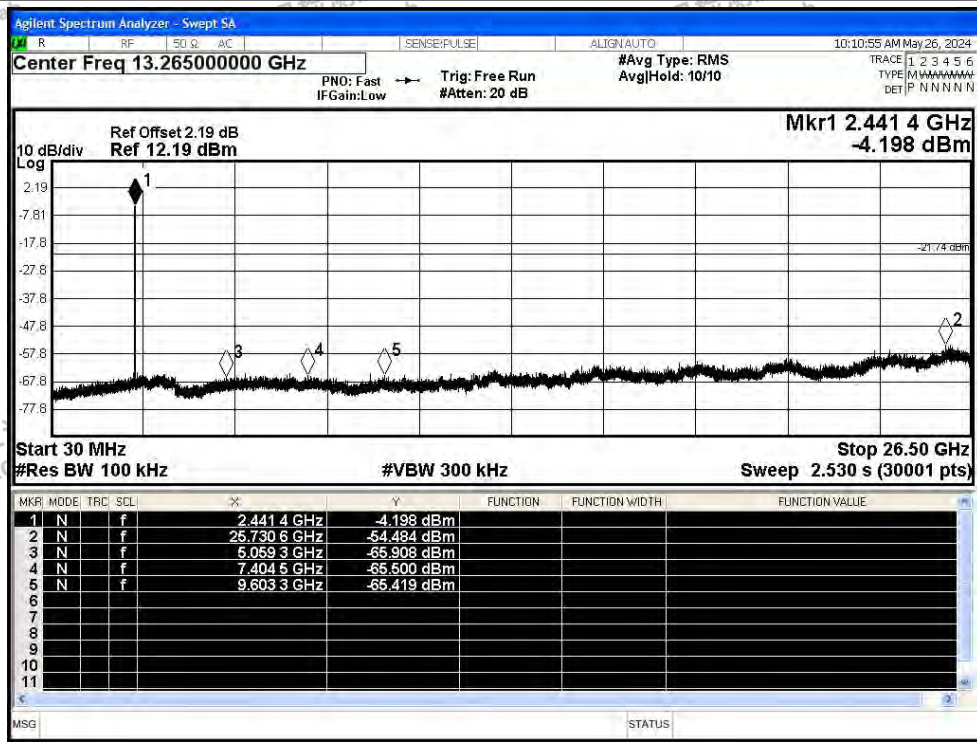




Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

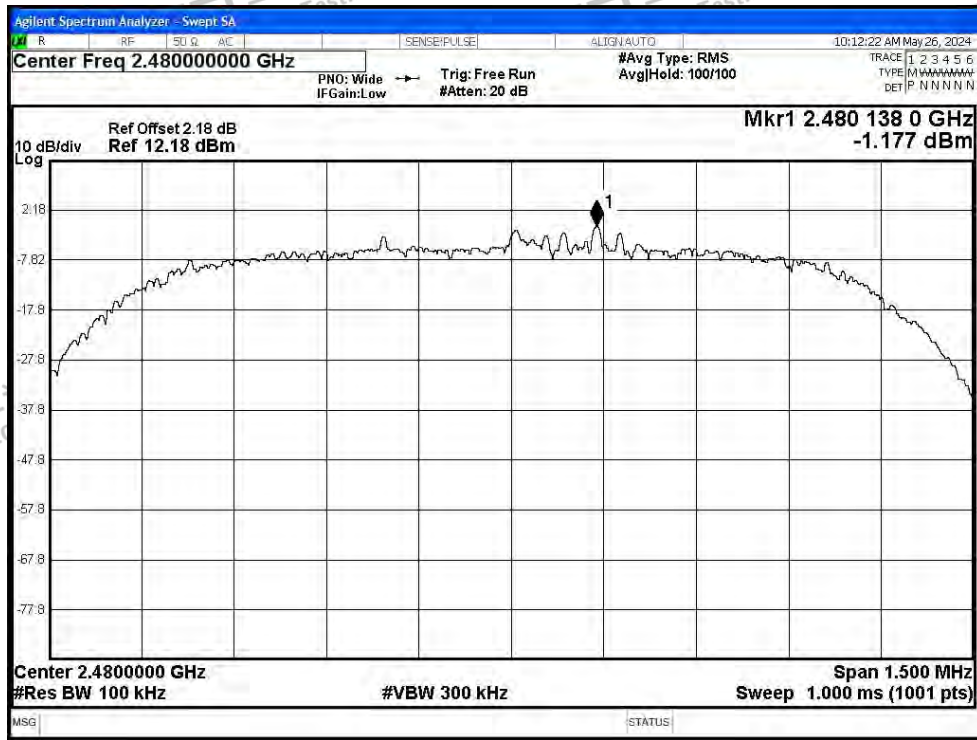


Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

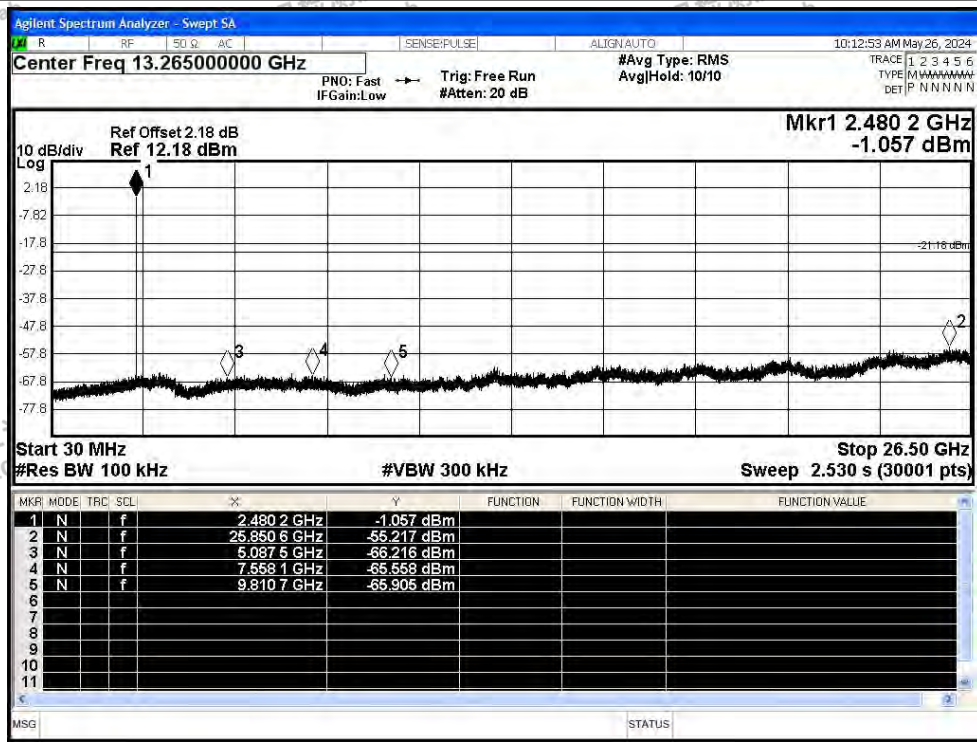




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref

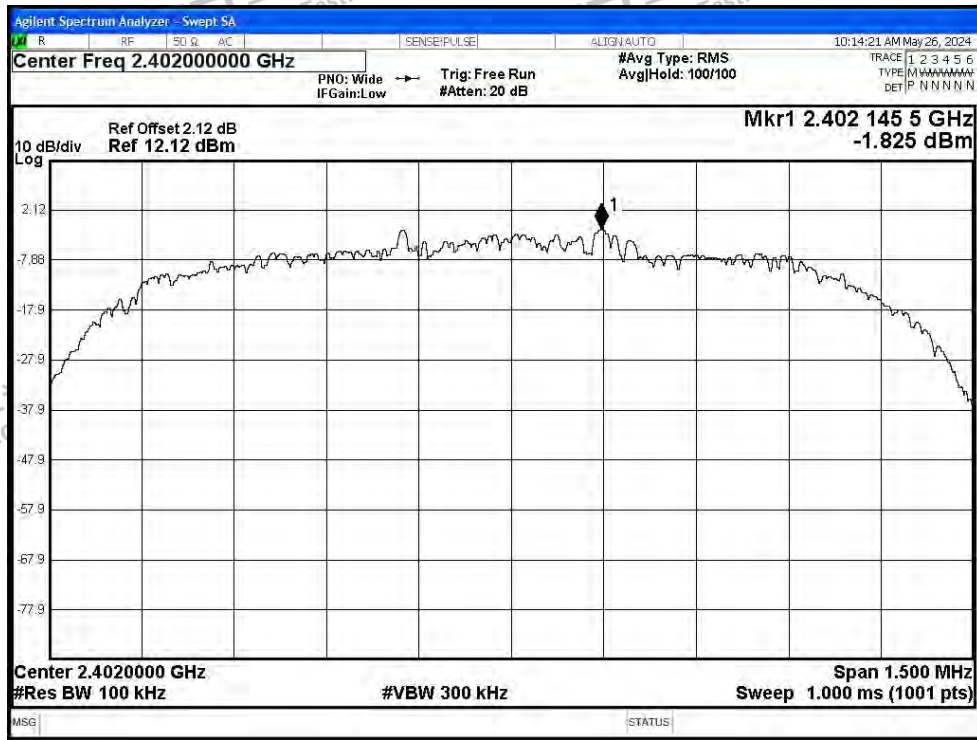


Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

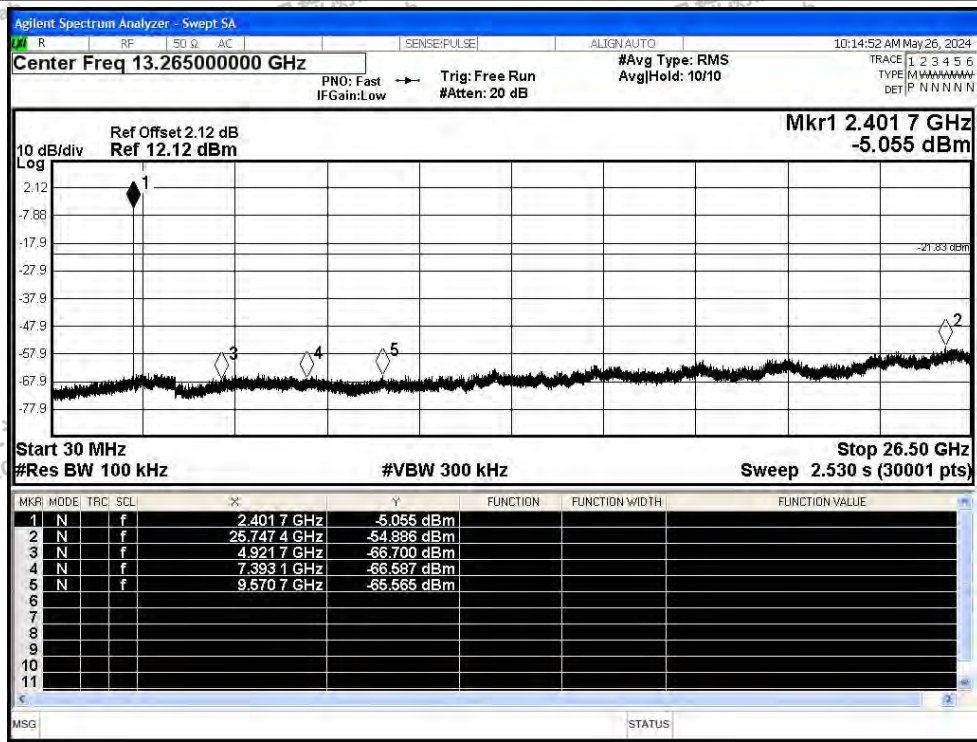




Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref

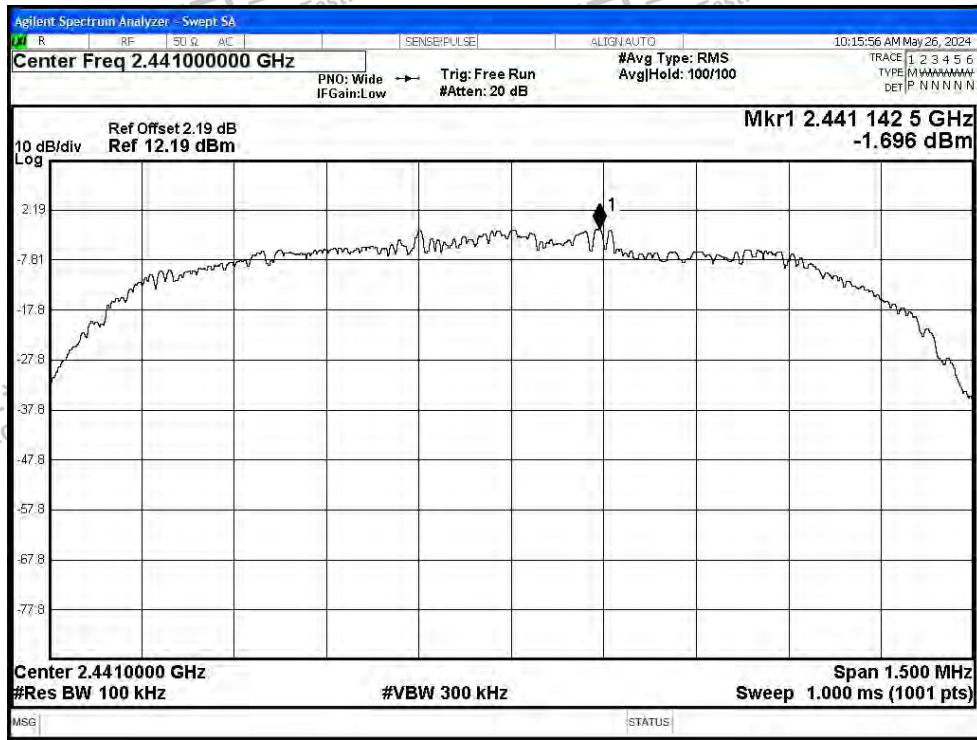


Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission

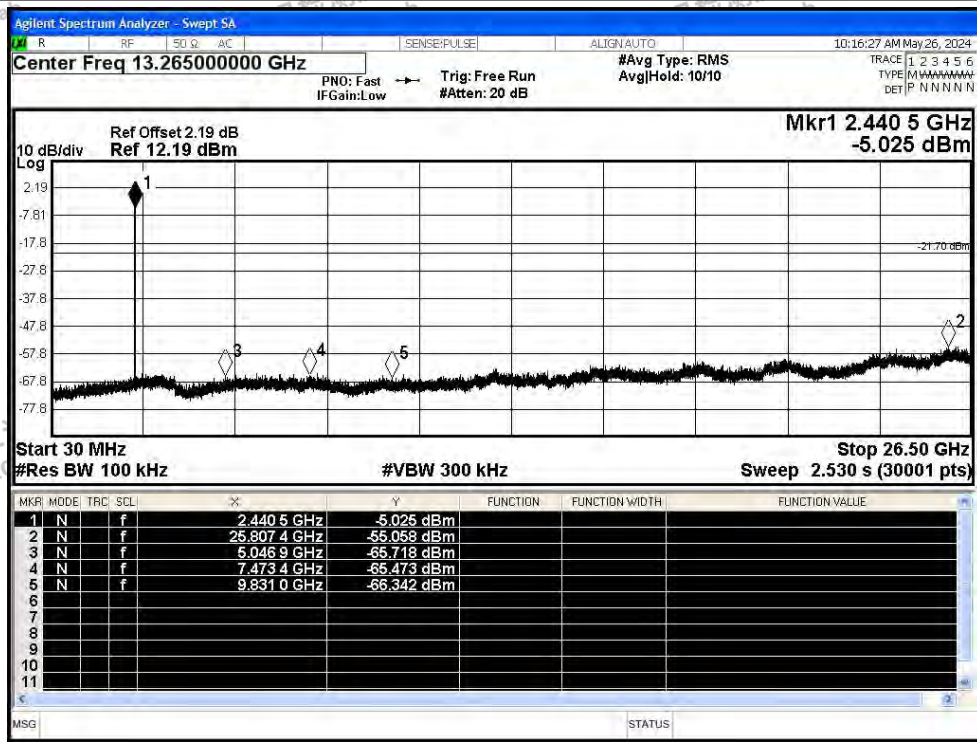




Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

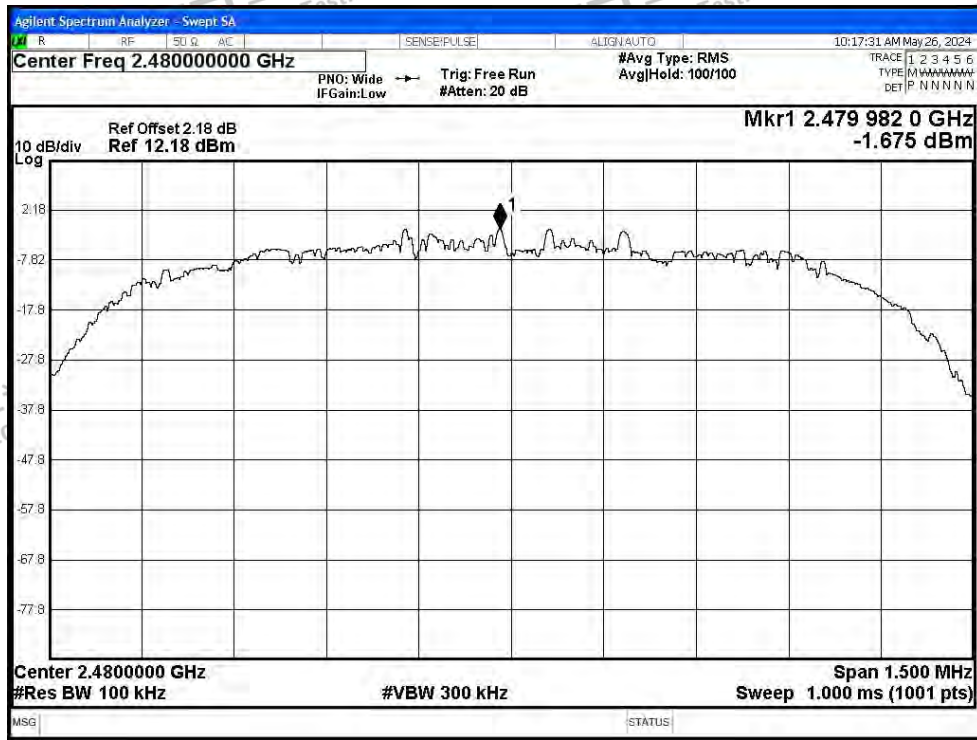


Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission

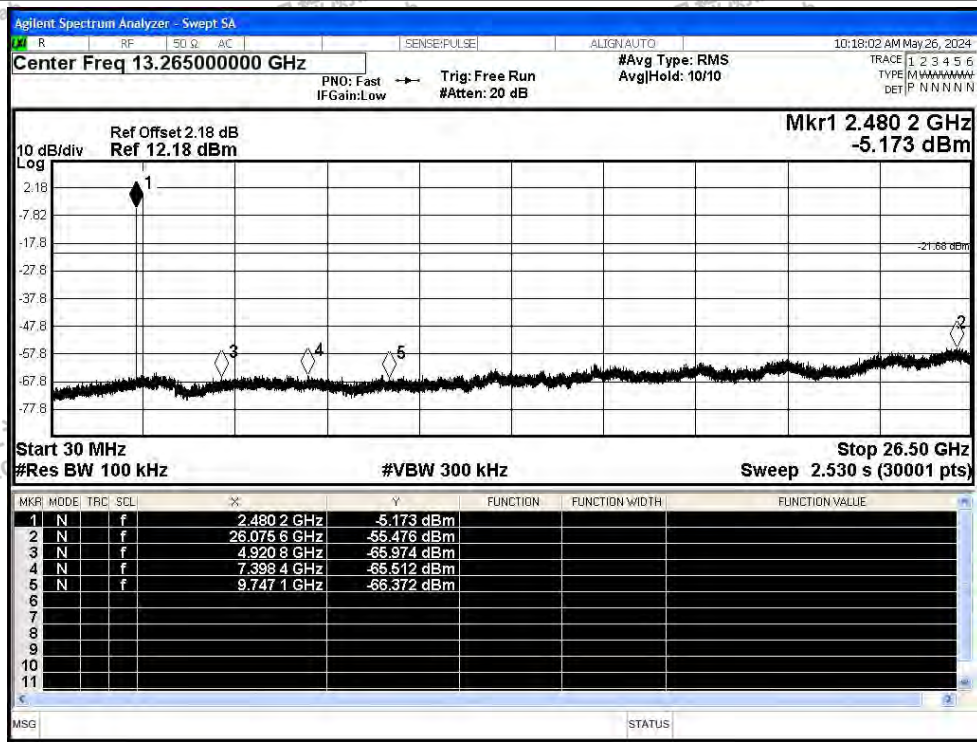




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



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	76.91	1.14	0.35
NVNT	1-DH5	2441	Ant1	76.91	1.14	0.35
NVNT	1-DH5	2480	Ant1	76.88	1.14	0.35
NVNT	2-DH5	2402	Ant1	76.96	1.14	0.35
NVNT	2-DH5	2441	Ant1	76.99	1.14	0.35
NVNT	2-DH5	2480	Ant1	76.99	1.14	0.35
NVNT	3-DH5	2402	Ant1	77.01	1.13	0.35
NVNT	3-DH5	2441	Ant1	77.01	1.13	0.35
NVNT	3-DH5	2480	Ant1	77.01	1.13	0.35

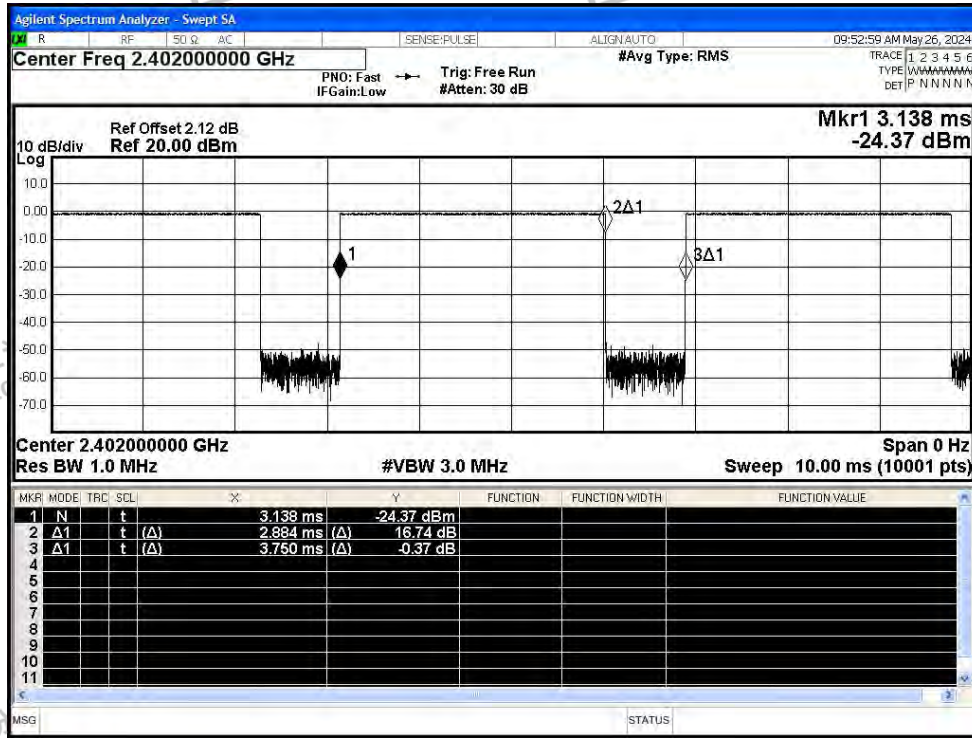


Shenzhen LCS Compliance Testing Laboratory Ltd.
 Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
 Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
 Scan code to check authenticity

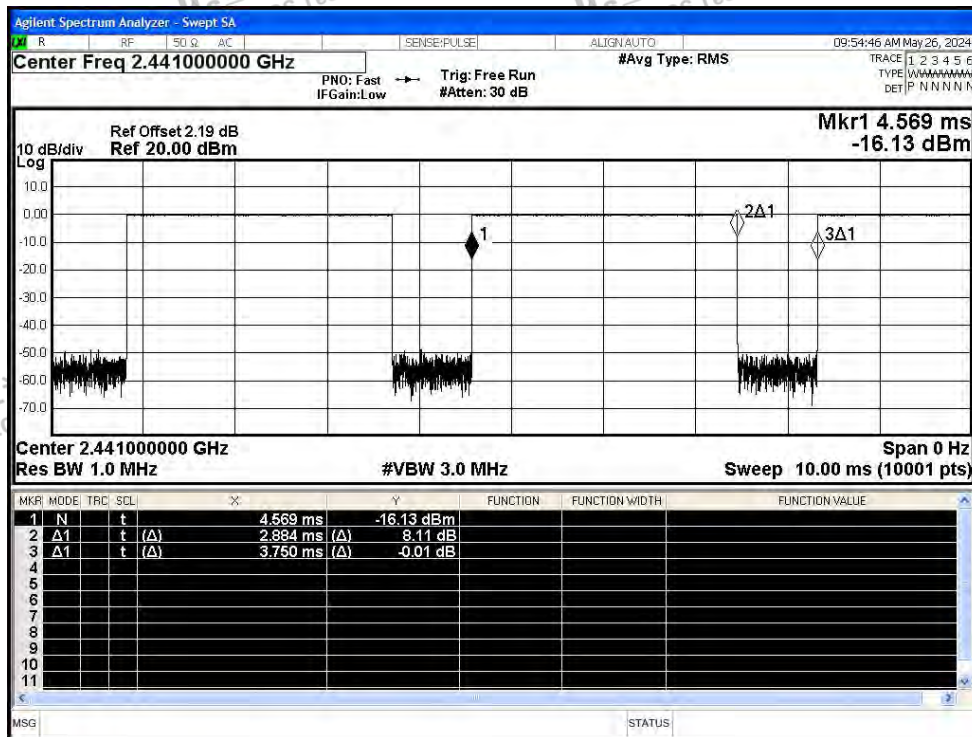


Test Graphs

Duty Cycle NVNT 1-DH5 2402MHz Ant1

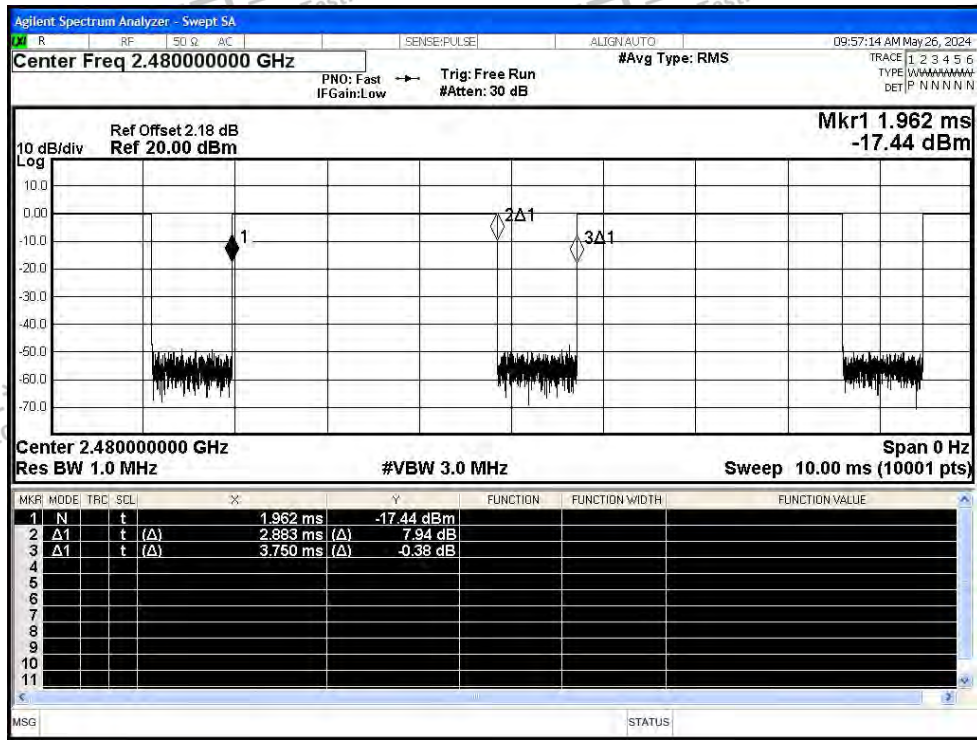


Duty Cycle NVNT 1-DH5 2441MHz Ant1

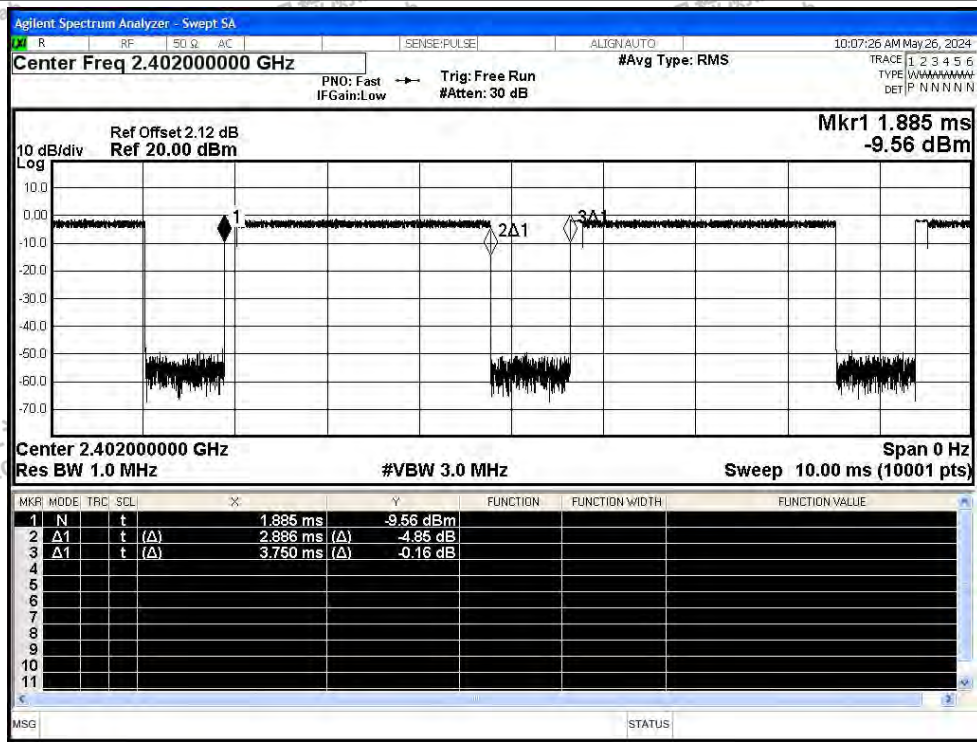




Duty Cycle NVNT 1-DH5 2480MHz Ant1

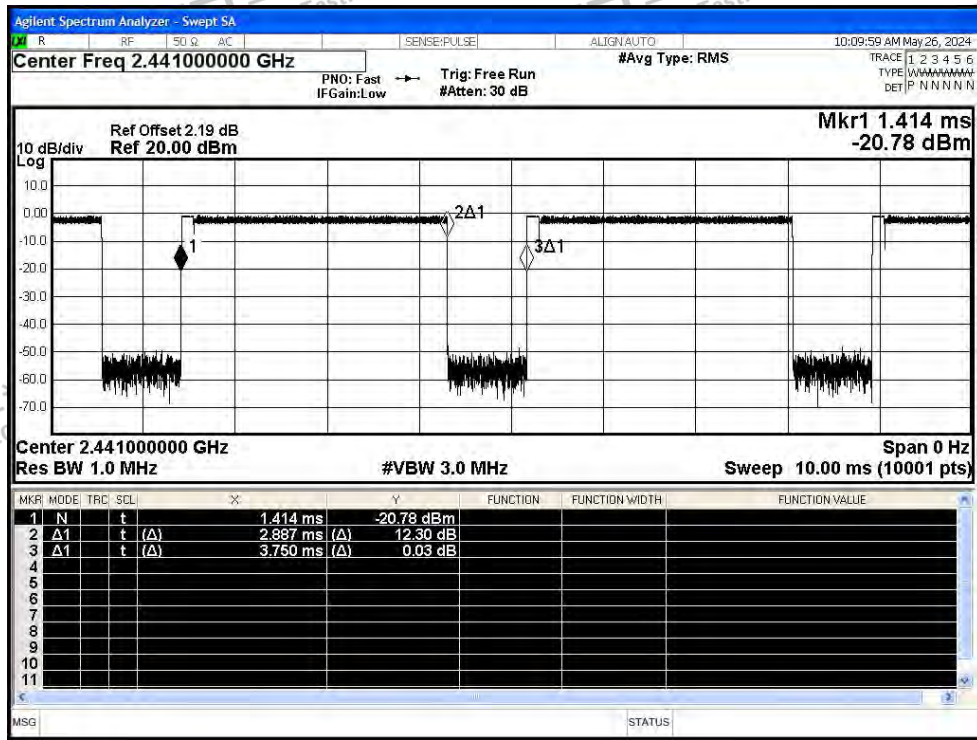


Duty Cycle NVNT 2-DH5 2402MHz Ant1

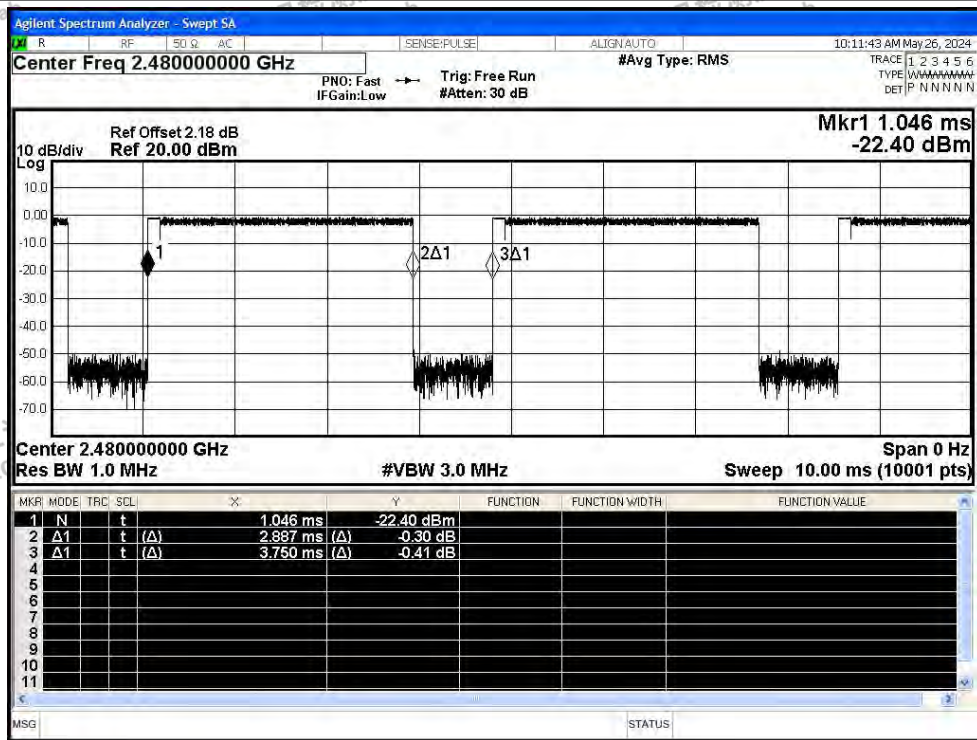




Duty Cycle NVNT 2-DH5 2441MHz Ant1

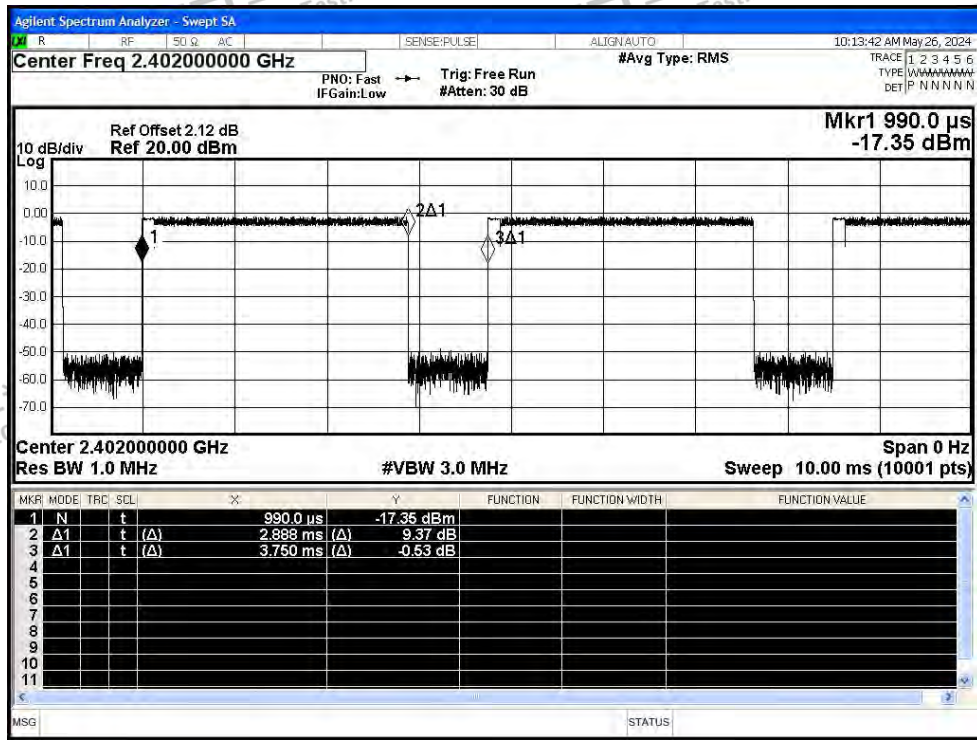


Duty Cycle NVNT 2-DH5 2480MHz Ant1

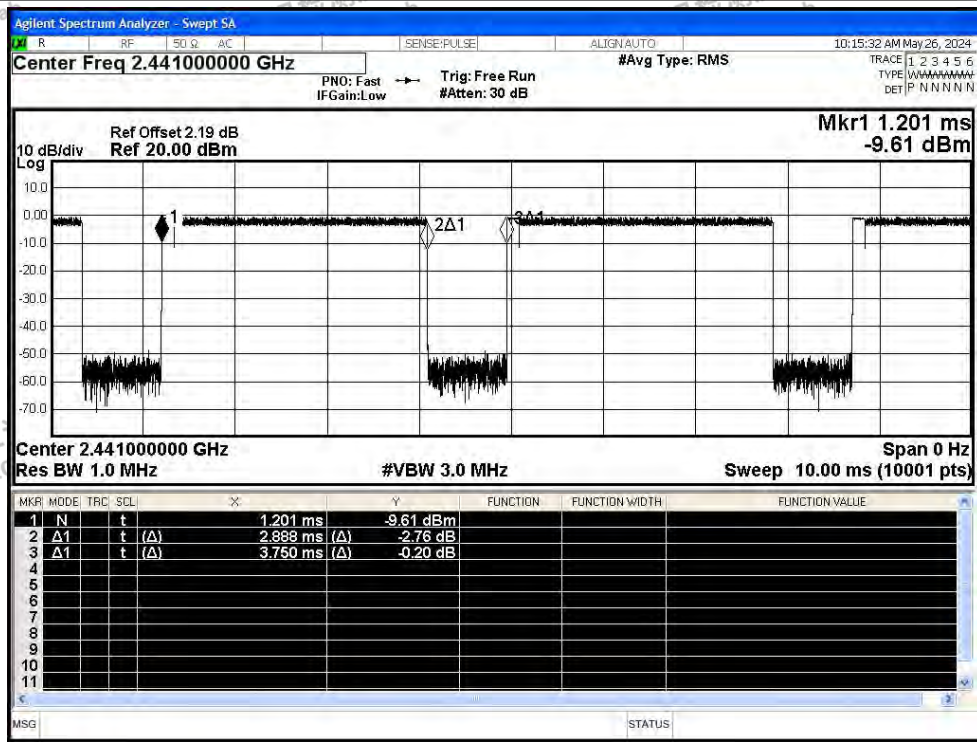




Duty Cycle NVNT 3-DH5 2402MHz Ant1

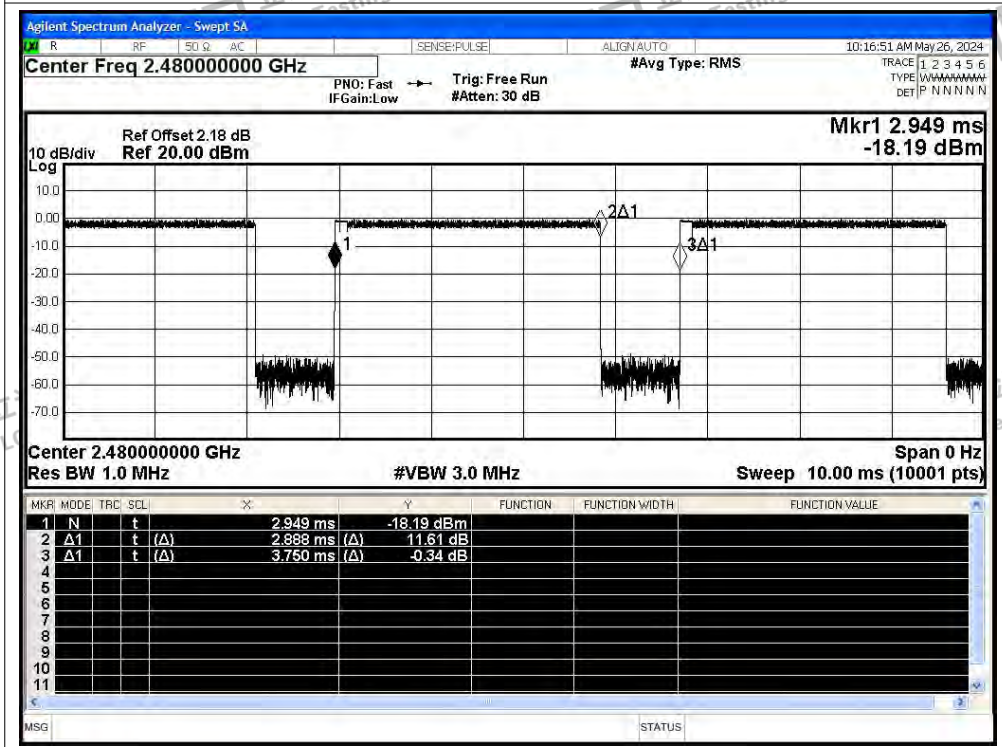


Duty Cycle NVNT 3-DH5 2441MHz Ant1





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	-49.78	2	-	47.48	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.27	2	1.14	40.13	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2362.512	-46.33	2	-	50.93	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2352.144	-57.65	2	1.14	40.75	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.46	2	-	46.8	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.28	2	1.14	40.12	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-48.94	2	-	48.32	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-58.08	2	1.14	40.32	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.784	-39.56	2	-	57.7	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.992	-56.48	2	1.14	41.92	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-47.3	2	-	49.96	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-58.28	2	1.14	40.12	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.89	2	-	46.37	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.07	2	1.14	39.33	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2385.36	-47.89	2	-	49.37	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2386.32	-57.59	2	1.14	40.81	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-51.01	2	-	46.25	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.93	2	1.14	39.47	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-50.58	2	-	46.68	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.51	2	1.14	40.89	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.944	-39.15	2	-	58.11	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.992	-56.92	2	1.14	41.48	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.66	2	-	47.6	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.13	2	1.14	40.27	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-51.13	2	-	46.13	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.37	2	1.13	40.02	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2317.776	-47.58	2	-	49.68	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2386.992	-57.6	2	1.13	40.79	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.29	2	-	46.97	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.72	2	1.13	39.67	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-50.03	2	-	47.23	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.91	2	1.13	40.48	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.776	-36.41	2	-	60.85	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.704	-55.2	2	1.13	43.19	Average	54	Pass





NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-49.65	2	47.61	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.41	2	39.98	Average	54	Pass

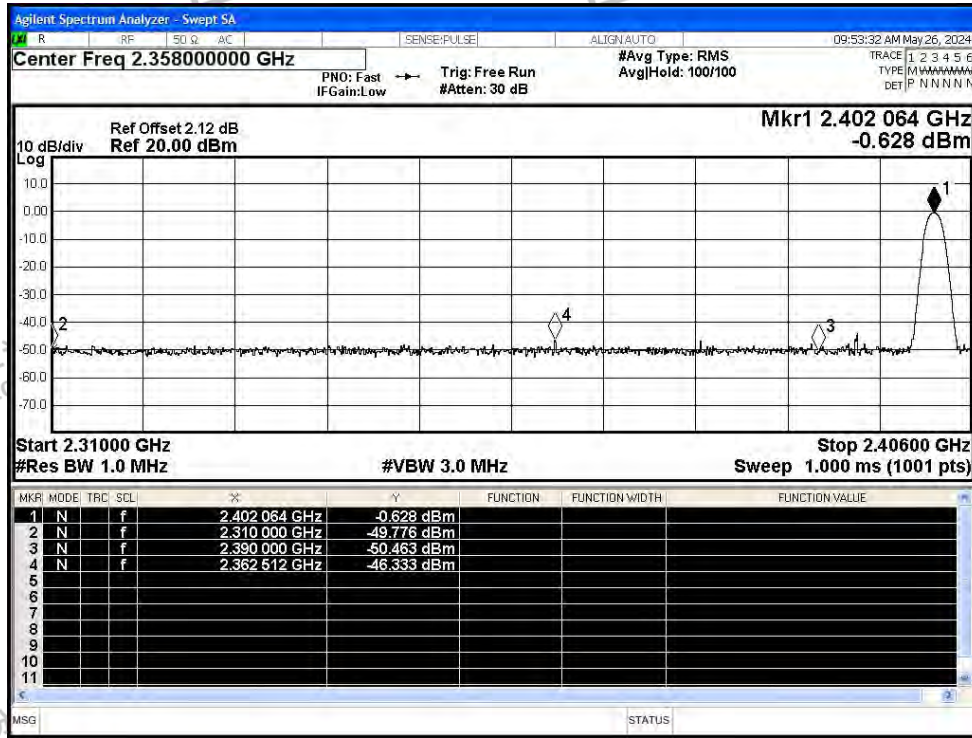


Shenzhen LCS Compliance Testing Laboratory Ltd.
 Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
 Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
 Scan code to check authenticity

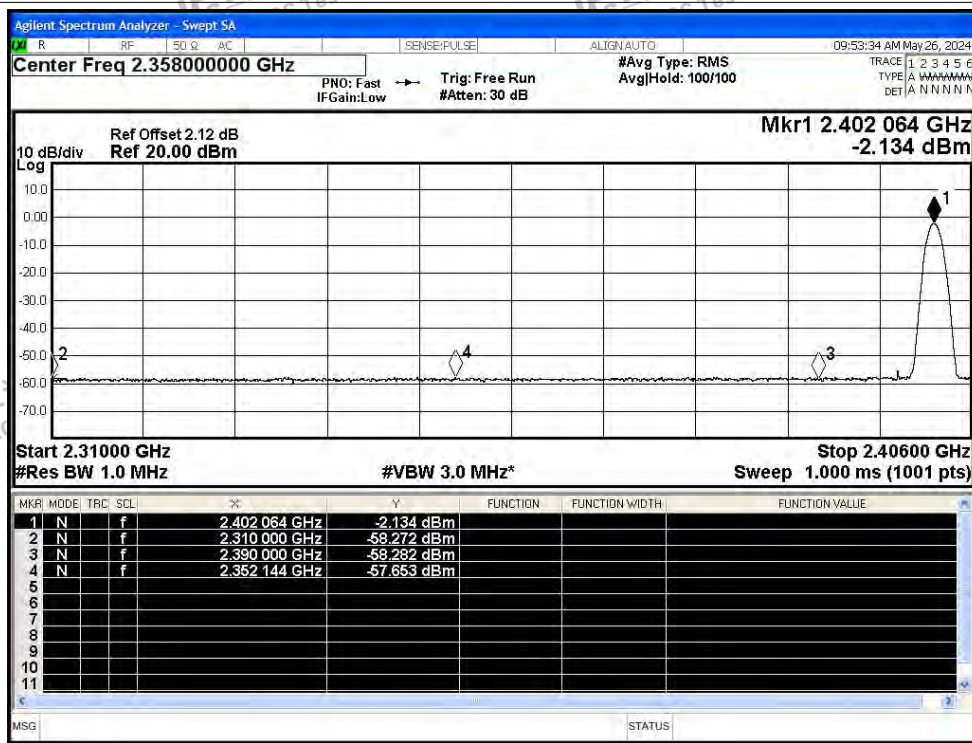


Test Graphs

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

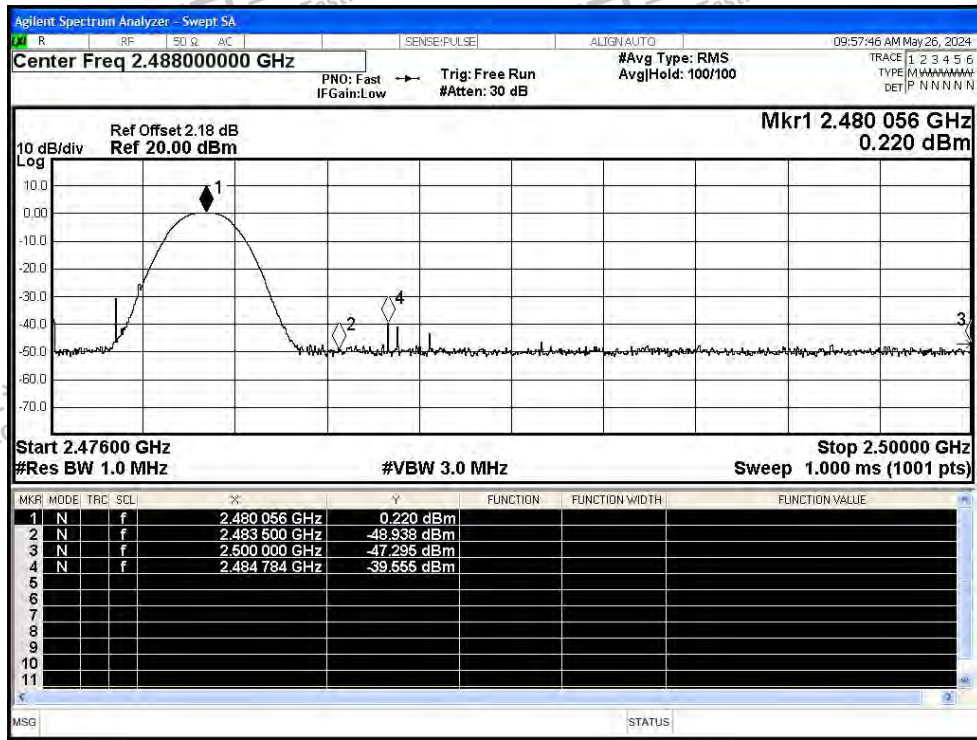


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

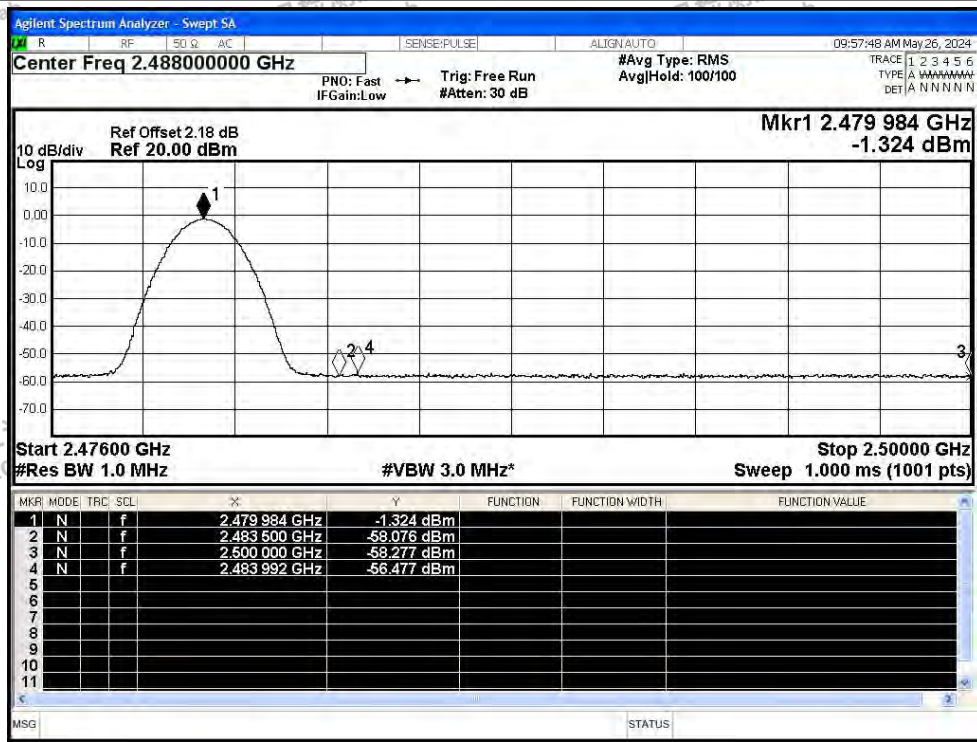




Restrict Band NVNT-1-DH5 2480MHz Ant1 No-Hopping Peak

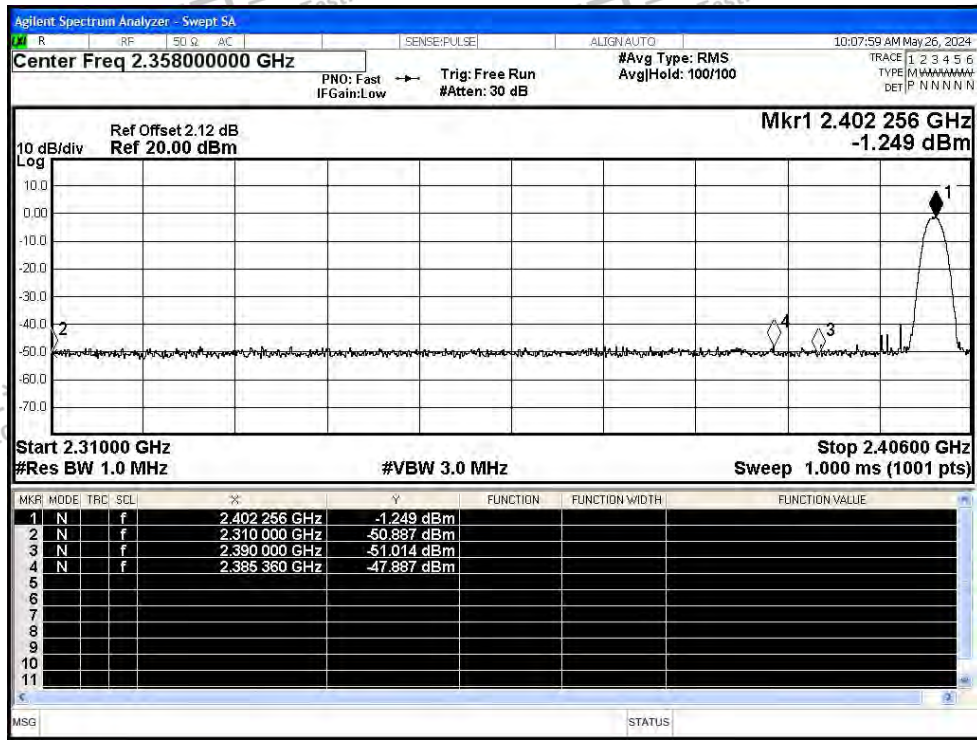


Restrict Band NVNT-1-DH5 2480MHz Ant1 No-Hopping Average

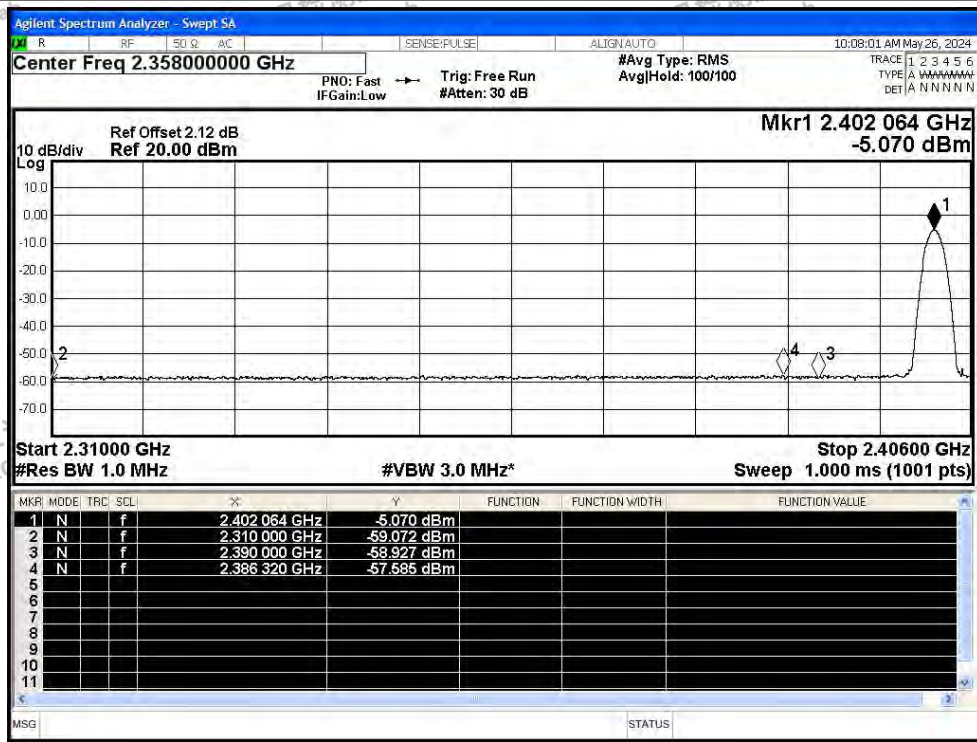




Restrict Band NVNT-2-DH5 2402MHz Ant1 No-Hopping Peak

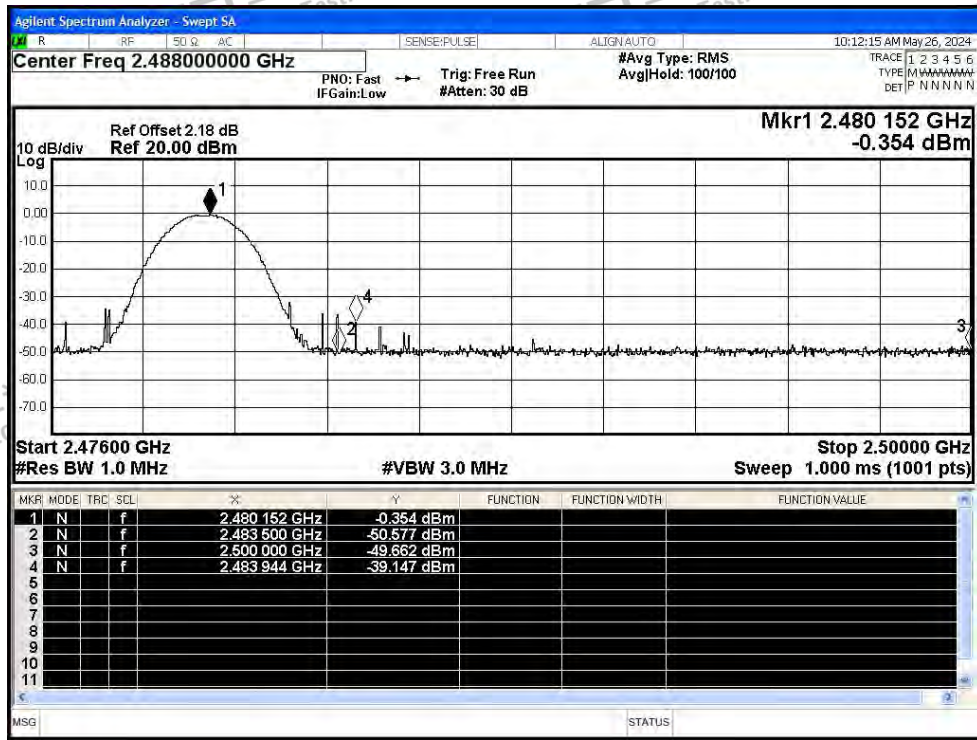


Restrict Band NVNT-2-DH5 2402MHz Ant1 No-Hopping Average

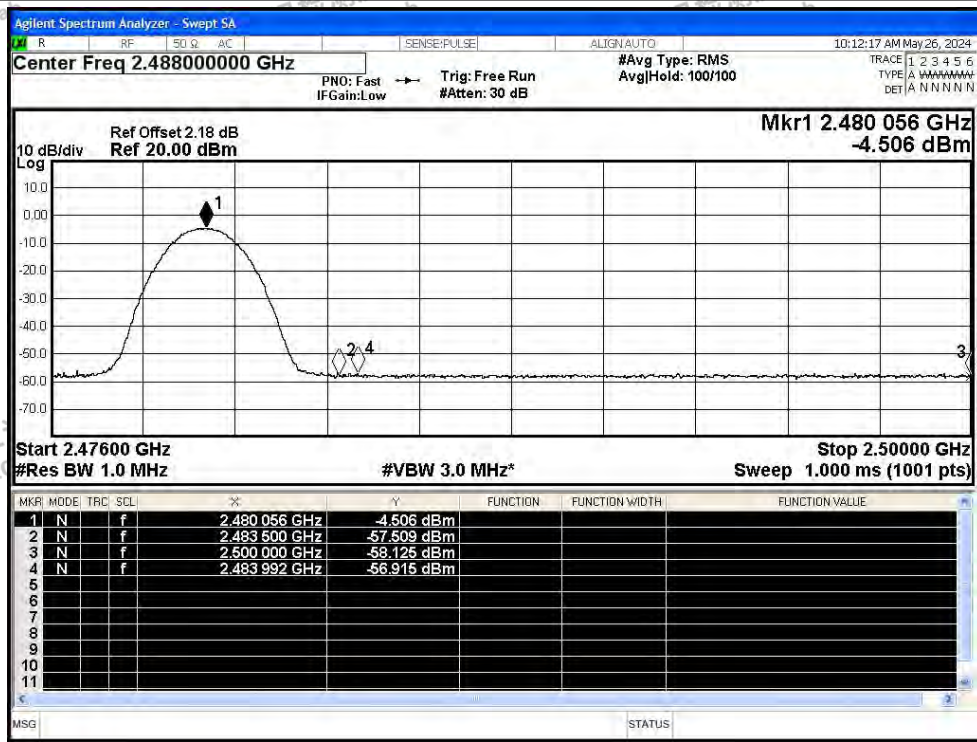




Restrict Band NVNT-2-DH5 2480MHz Ant1 No-Hopping Peak

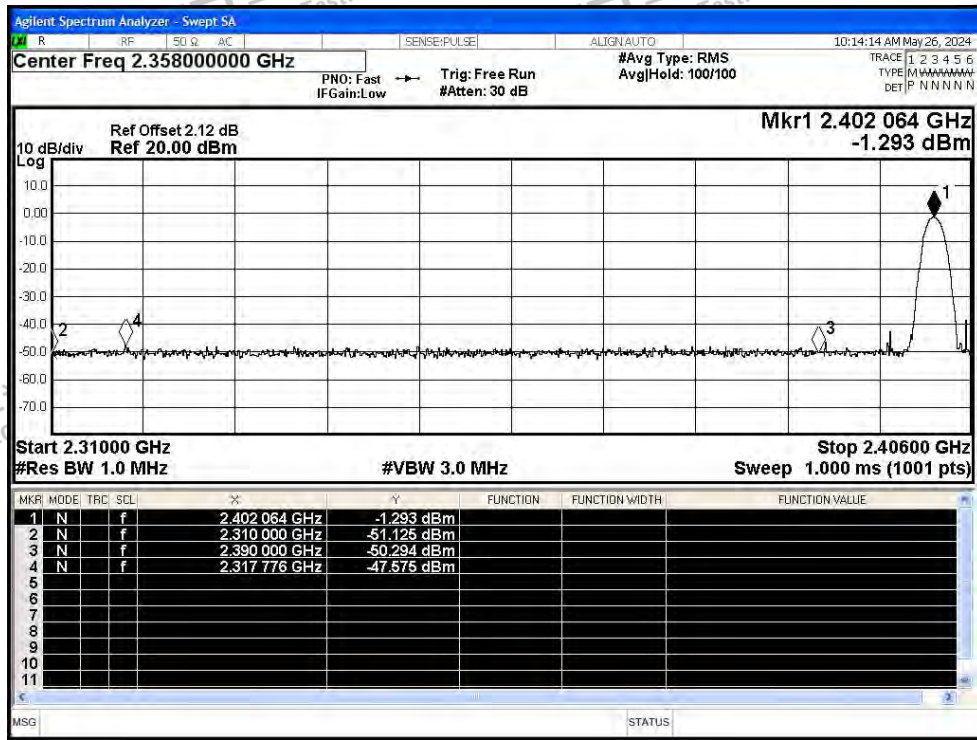


Restrict Band NVNT-2-DH5 2480MHz Ant1 No-Hopping Average

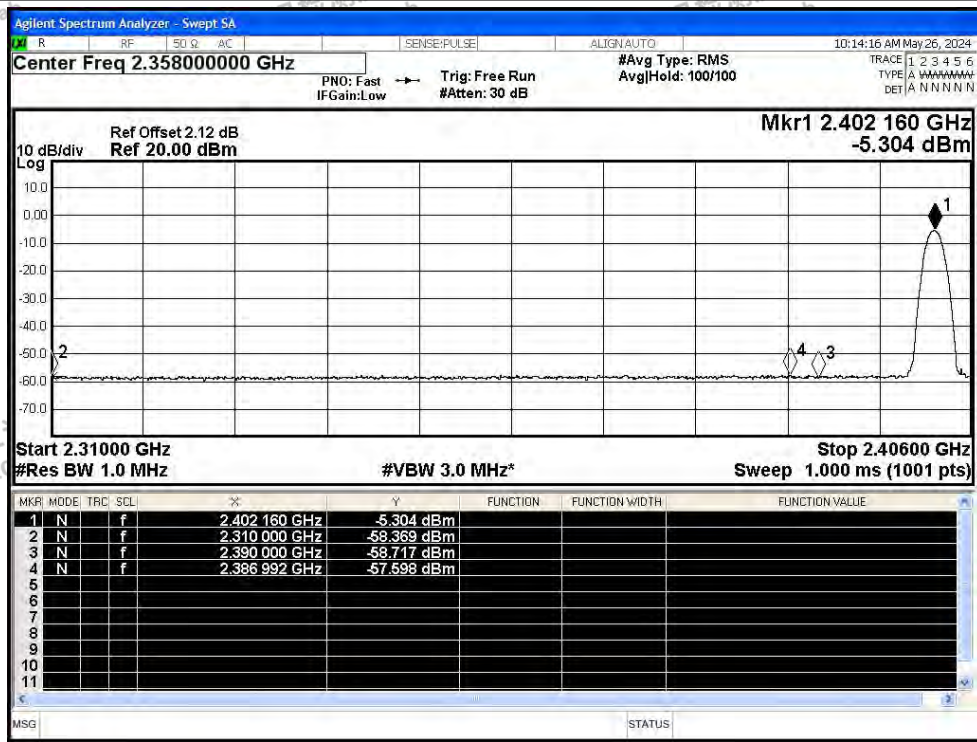




Restrict Band NVNT-3-DH5 2402MHz Ant1 No-Hopping Peak

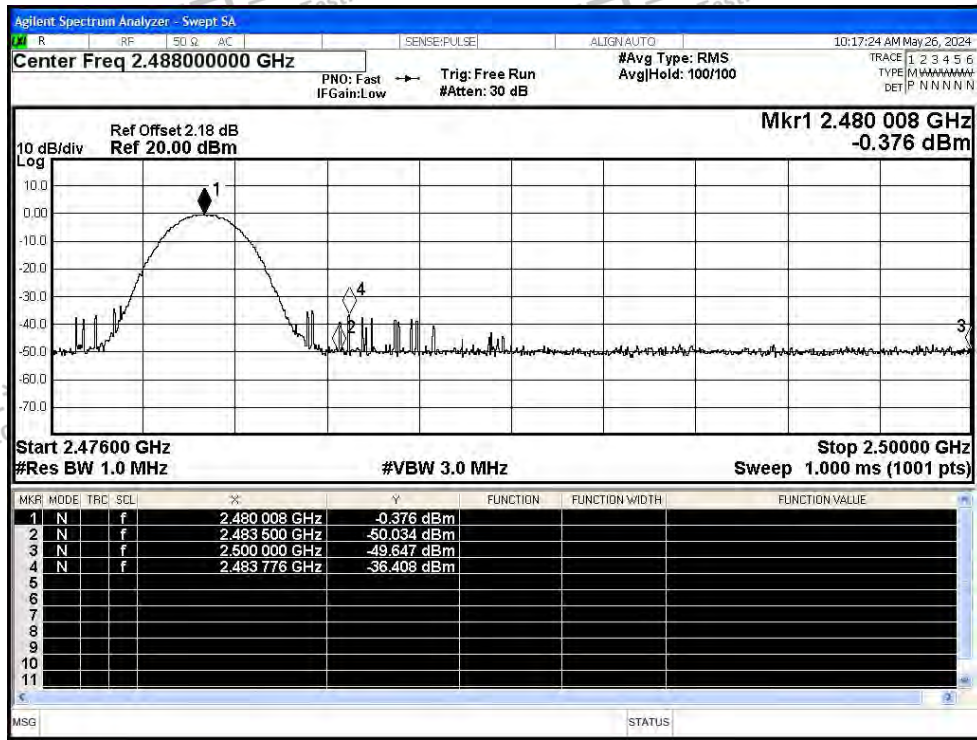


Restrict Band NVNT-3-DH5 2402MHz Ant1 No-Hopping Average





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



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

