

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Karaoke System

Test Model: K9



立讯检测股份
LCS Testing Lab



立讯检测股份
LCS Testing Lab



立讯检测股份
LCS Testing Lab

Environmental Conditions

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



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A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.97	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.962	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.955	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.271	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.285	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.278	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.301	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.287	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.294	N/A	Pass

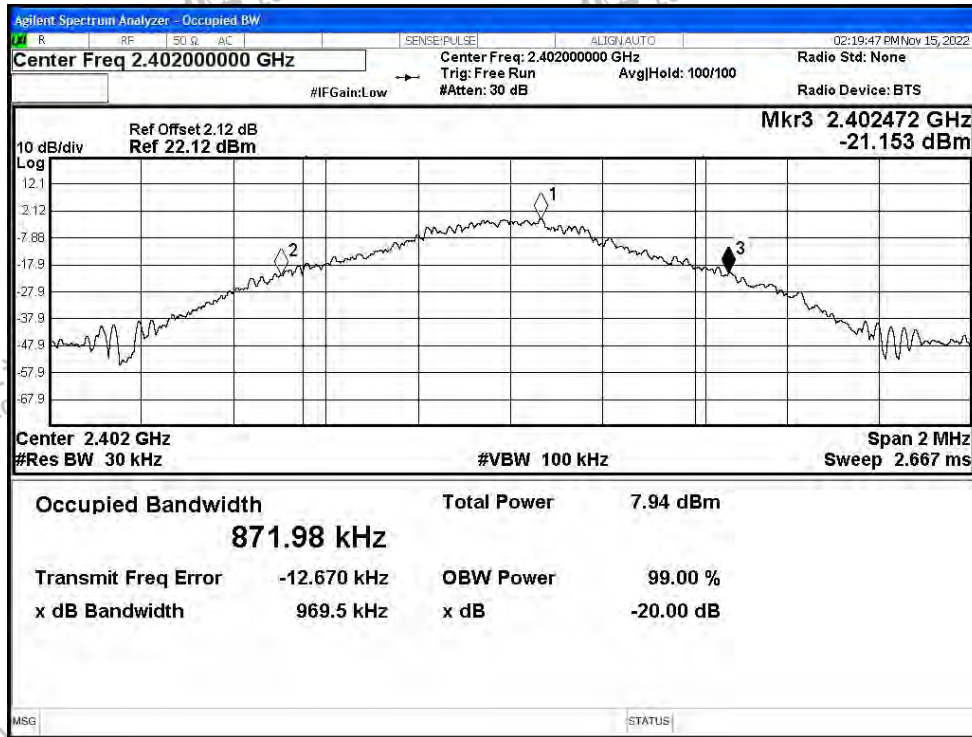


Shenzhen LCS Compliance Testing Laboratory Ltd.
 Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
 Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
 Scan code to check authenticity

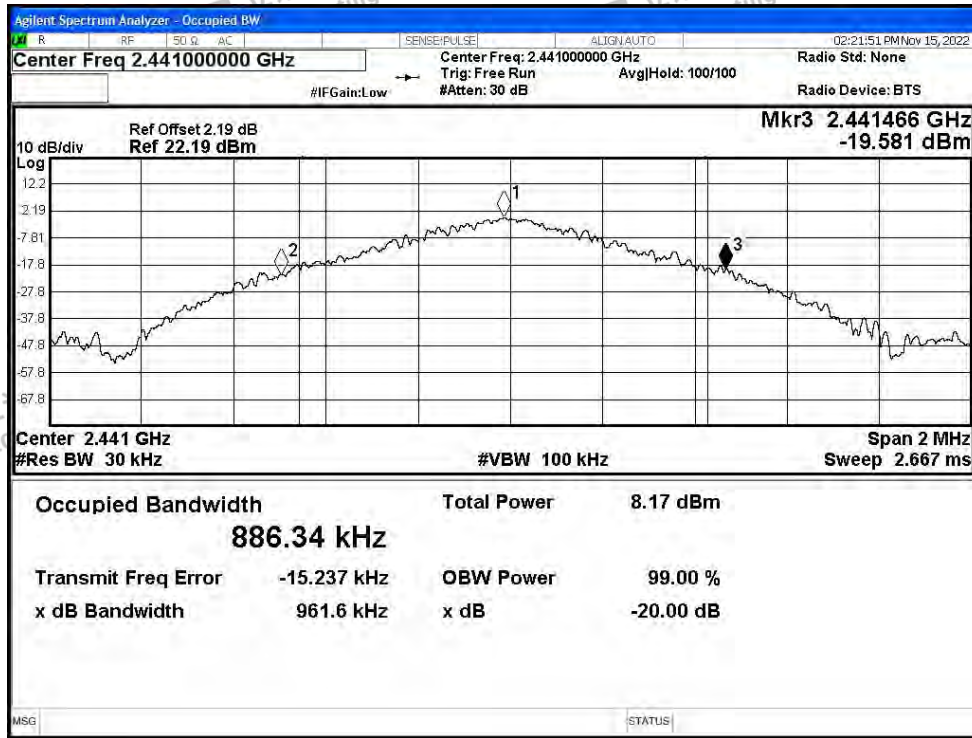


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

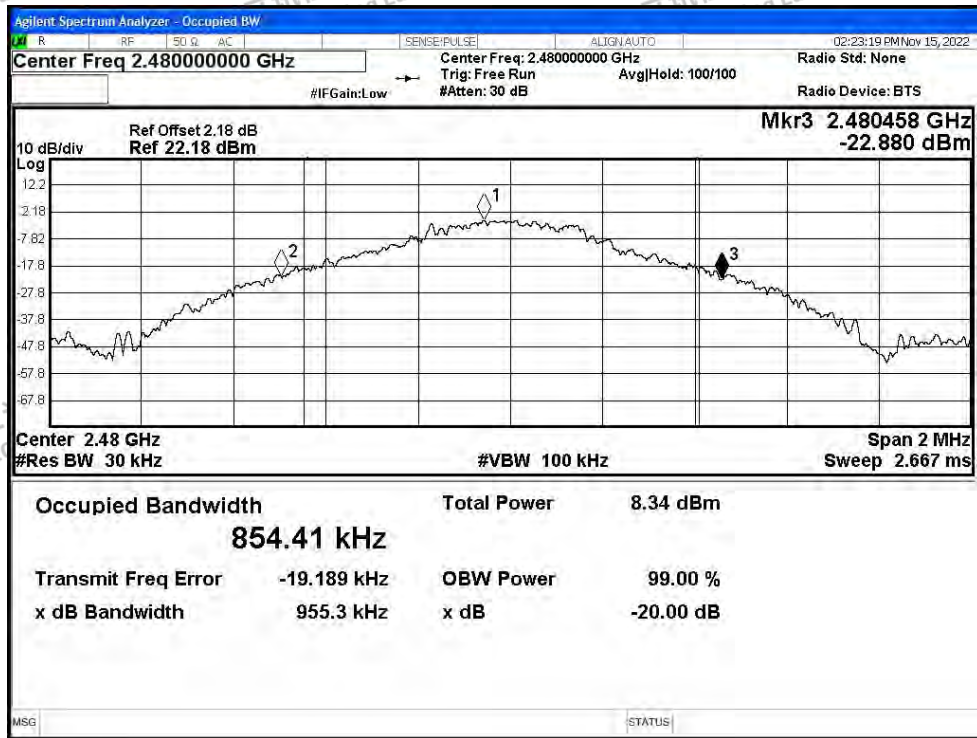


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

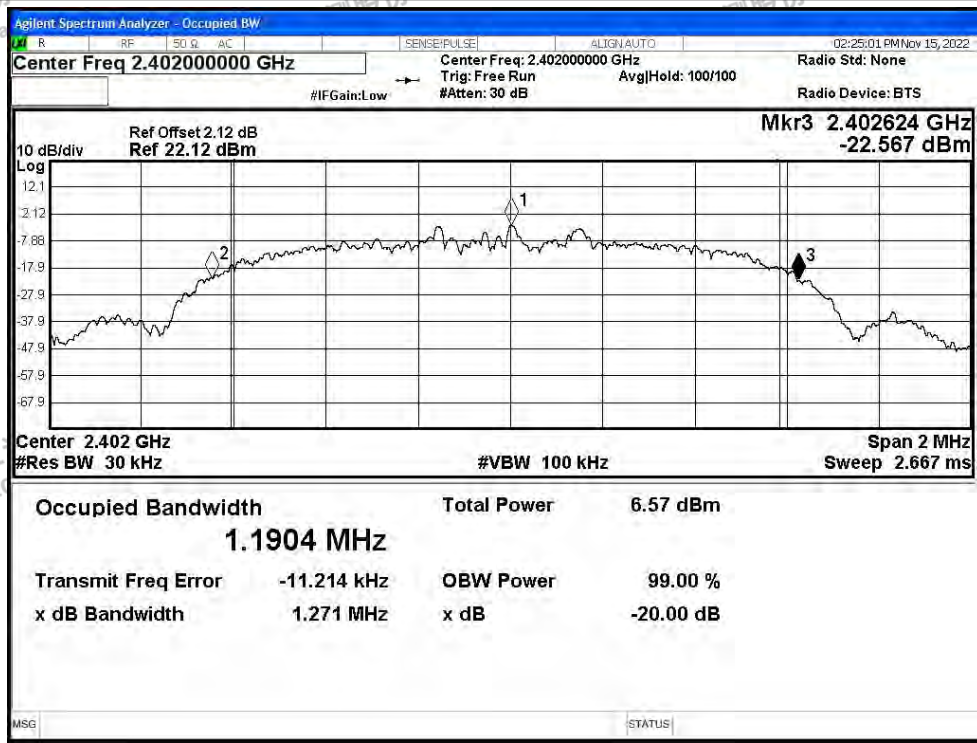




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

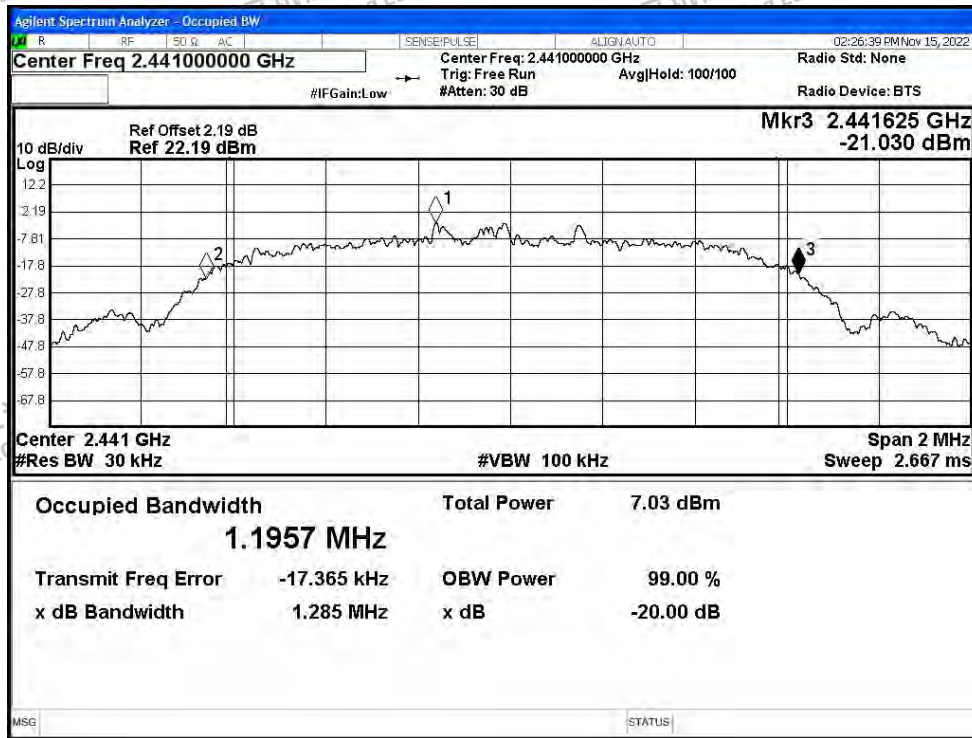


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

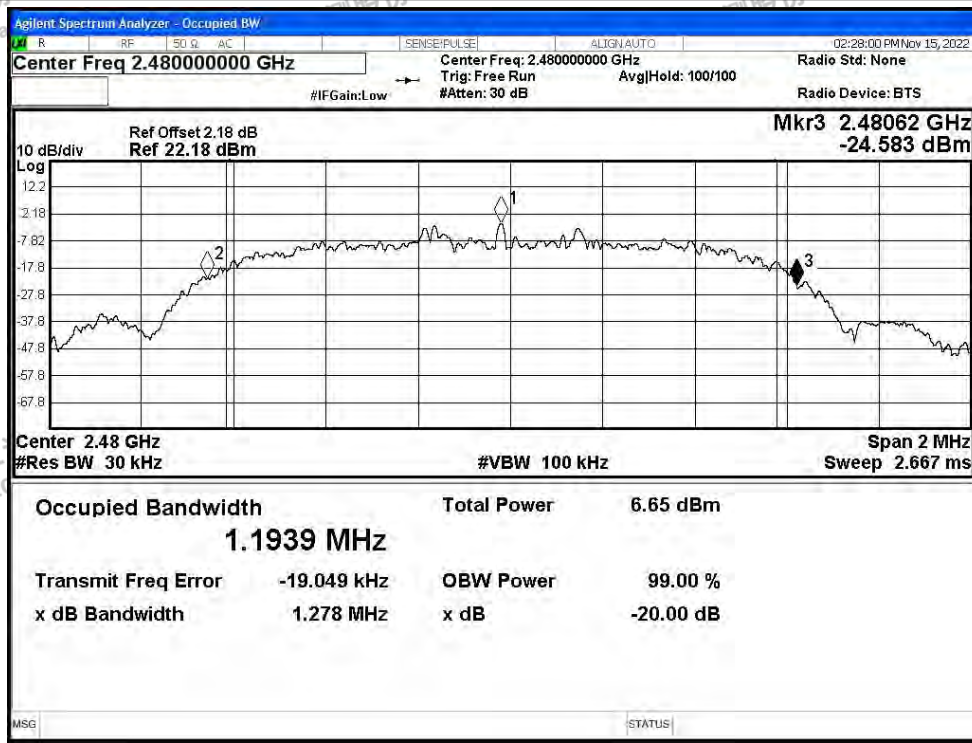




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

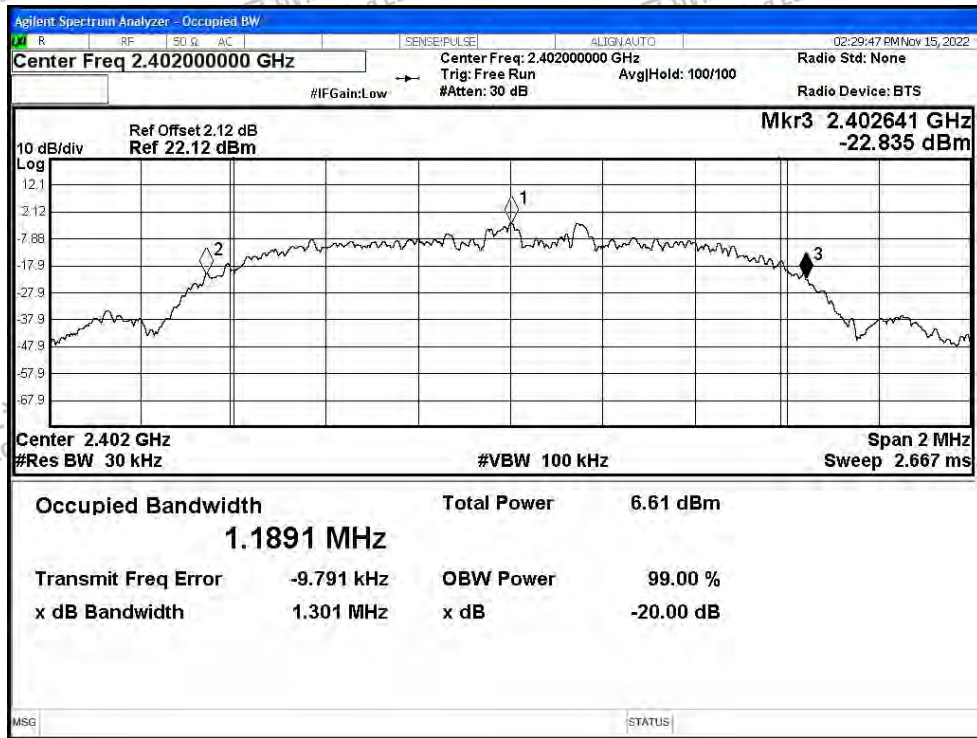


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

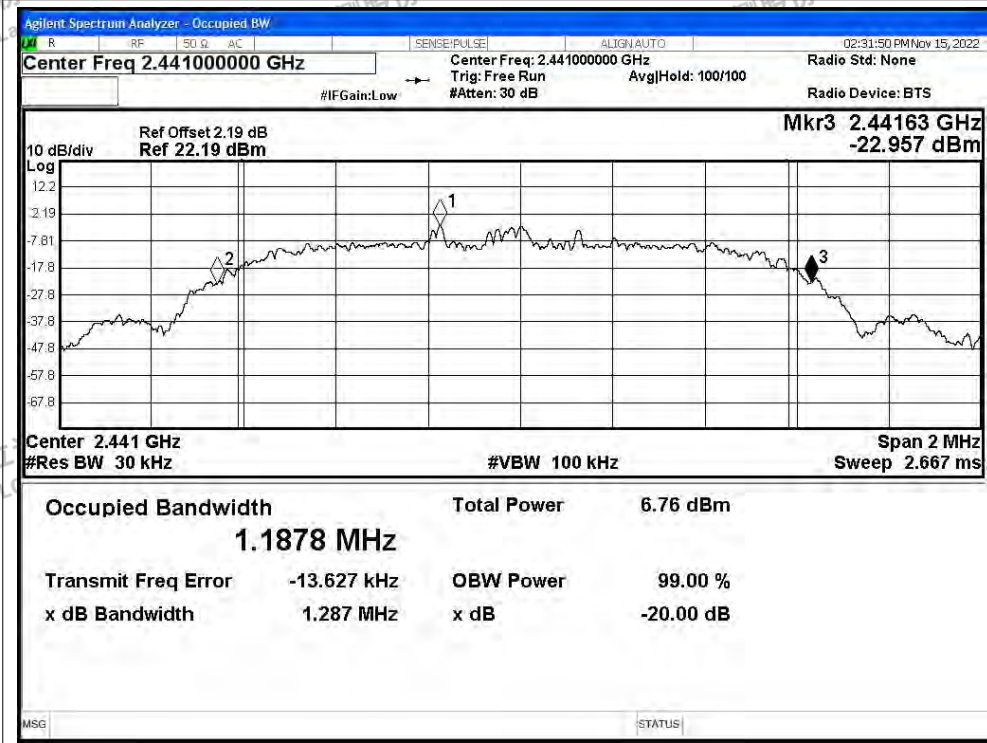




-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1

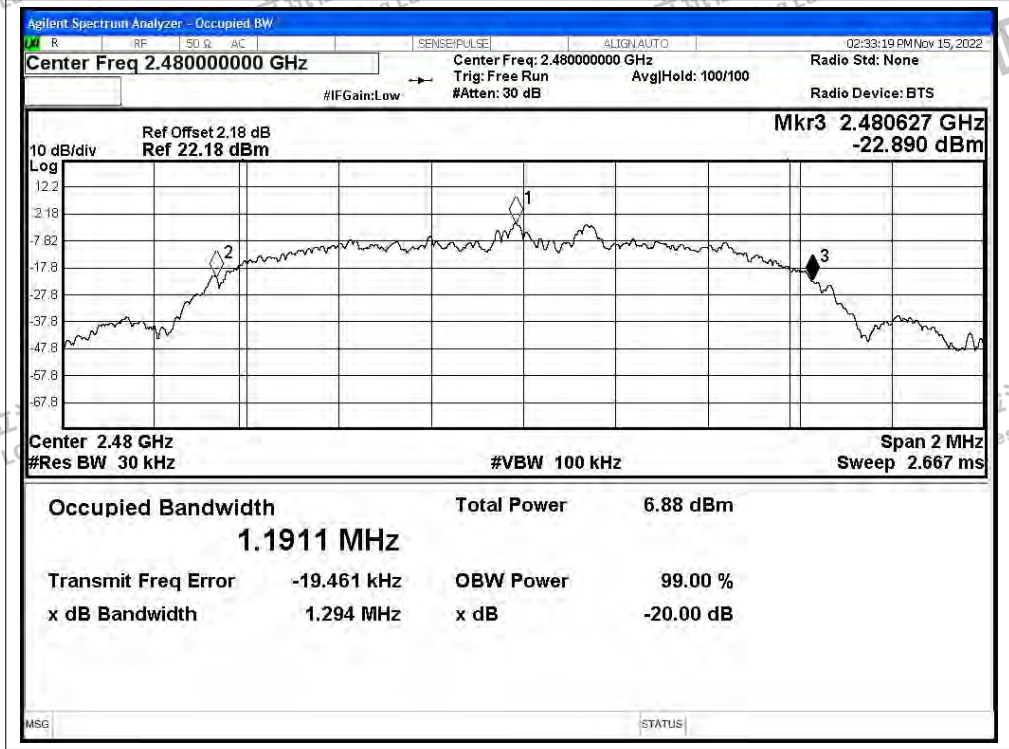


-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1





A.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	1.14	21	Pass
NVNT	1-DH5	2441	Ant1	1.72	21	Pass
NVNT	1-DH5	2480	Ant1	1.39	21	Pass
NVNT	2-DH5	2402	Ant1	1.08	21	Pass
NVNT	2-DH5	2441	Ant1	1.70	21	Pass
NVNT	2-DH5	2480	Ant1	1.40	21	Pass
NVNT	3-DH5	2402	Ant1	1.41	21	Pass
NVNT	3-DH5	2441	Ant1	2.07	21	Pass
NVNT	3-DH5	2480	Ant1	1.78	21	Pass

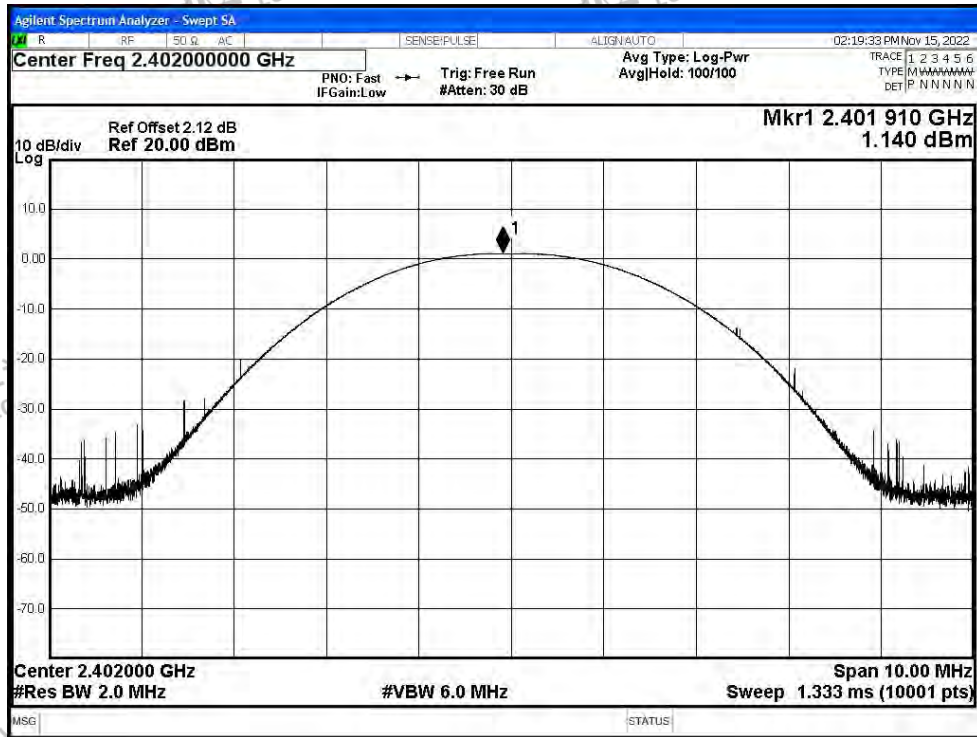


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Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
Scan code to check authenticity

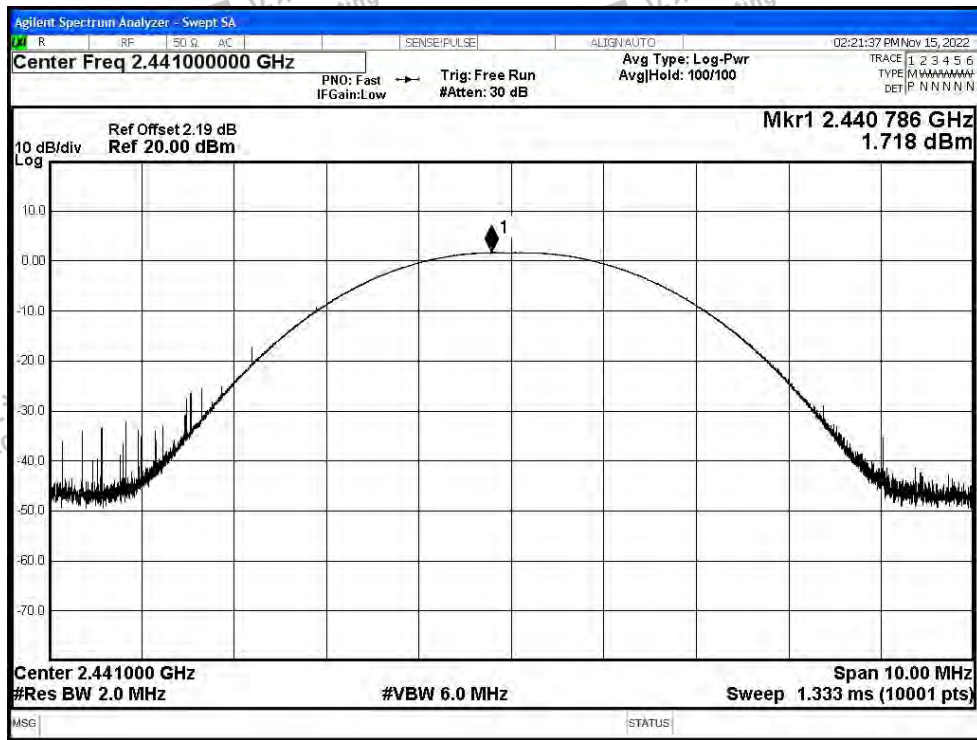


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

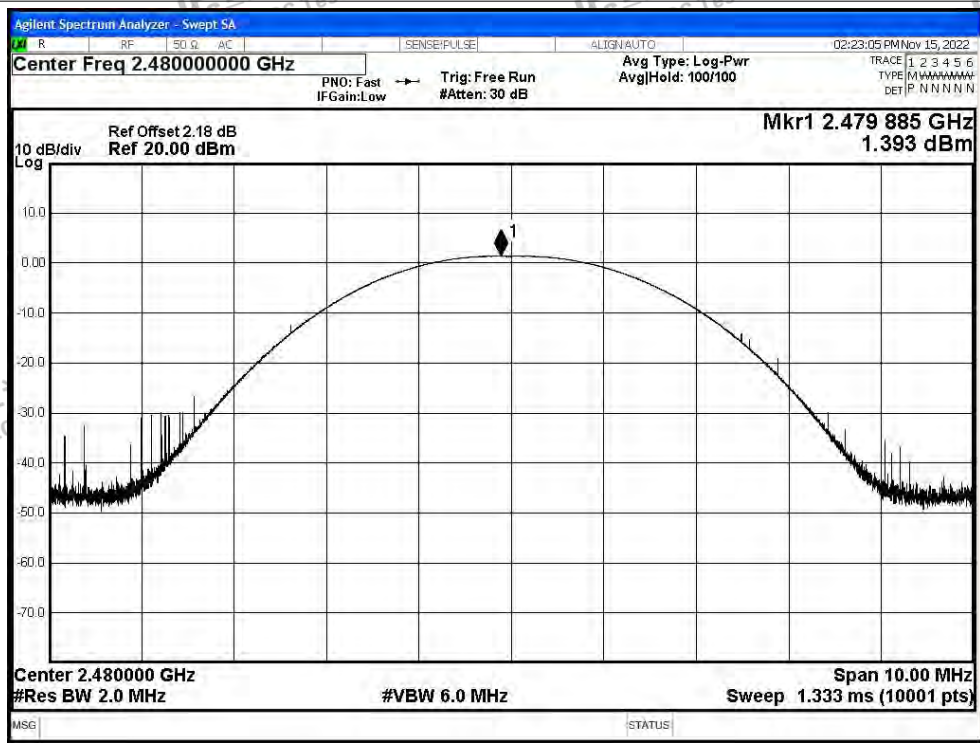


Power NVNT 1-DH5 2441MHz Ant1

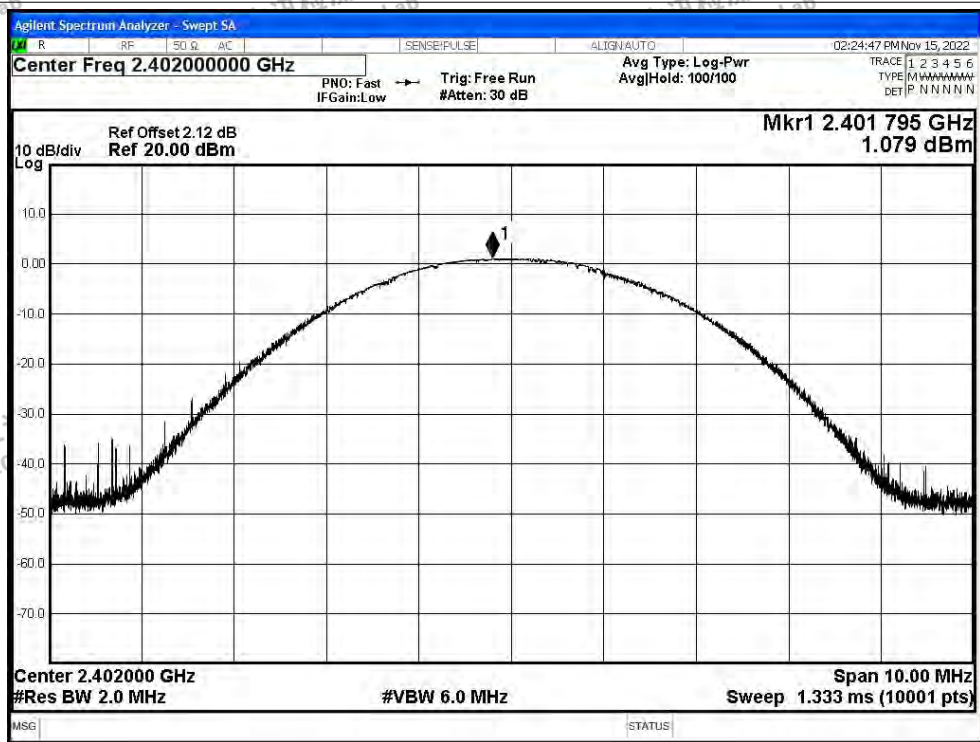




Power NVNT 1-DH5 2480MHz Ant1

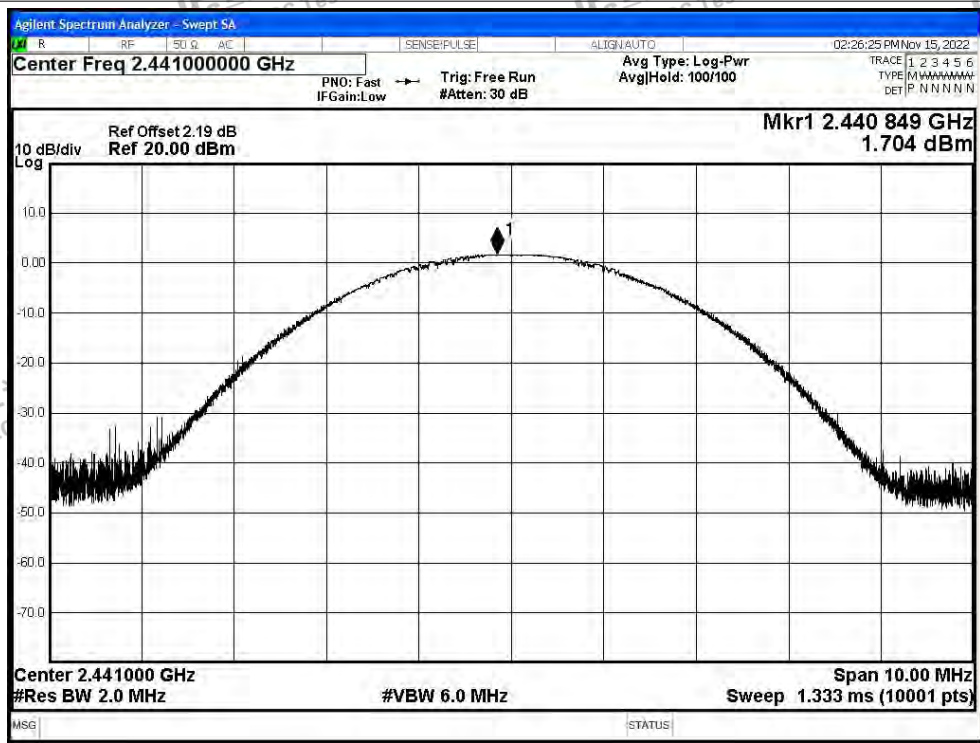


Power NVNT 2-DH5 2402MHz Ant1

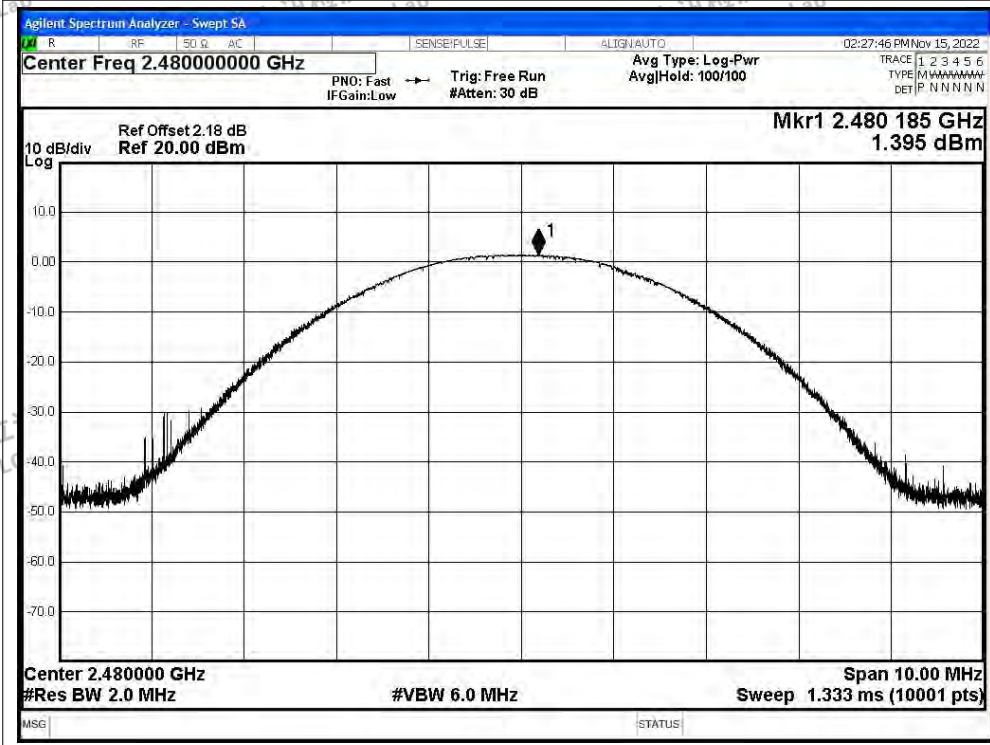




Power NVNT 2-DH5 2441MHz Ant1

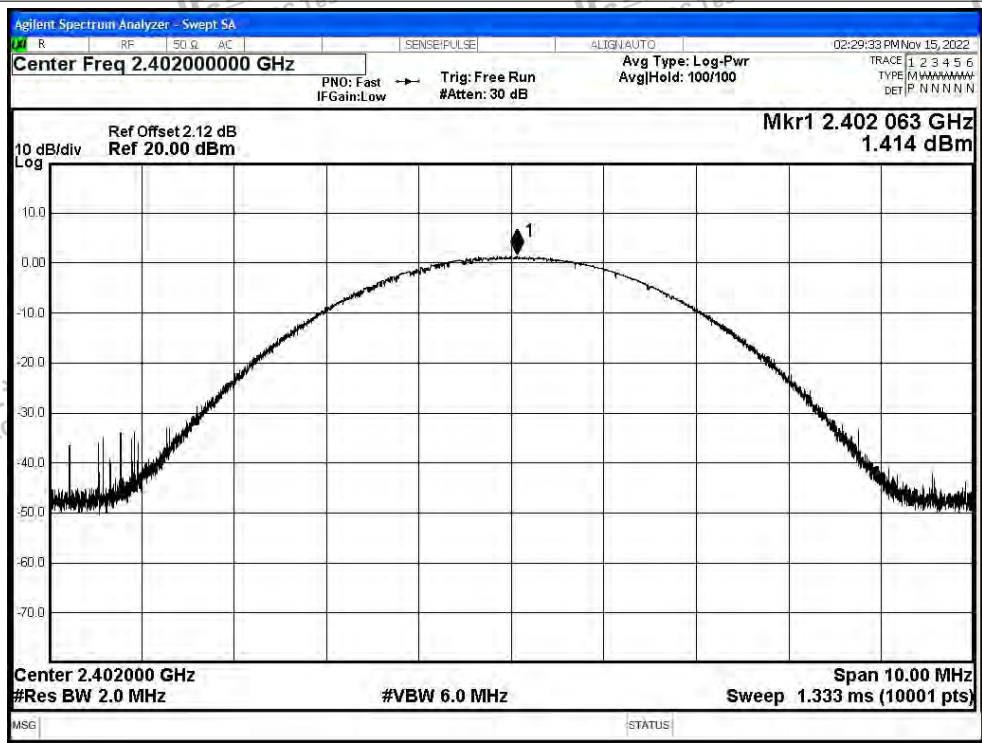


Power NVNT 2-DH5 2480MHz Ant1

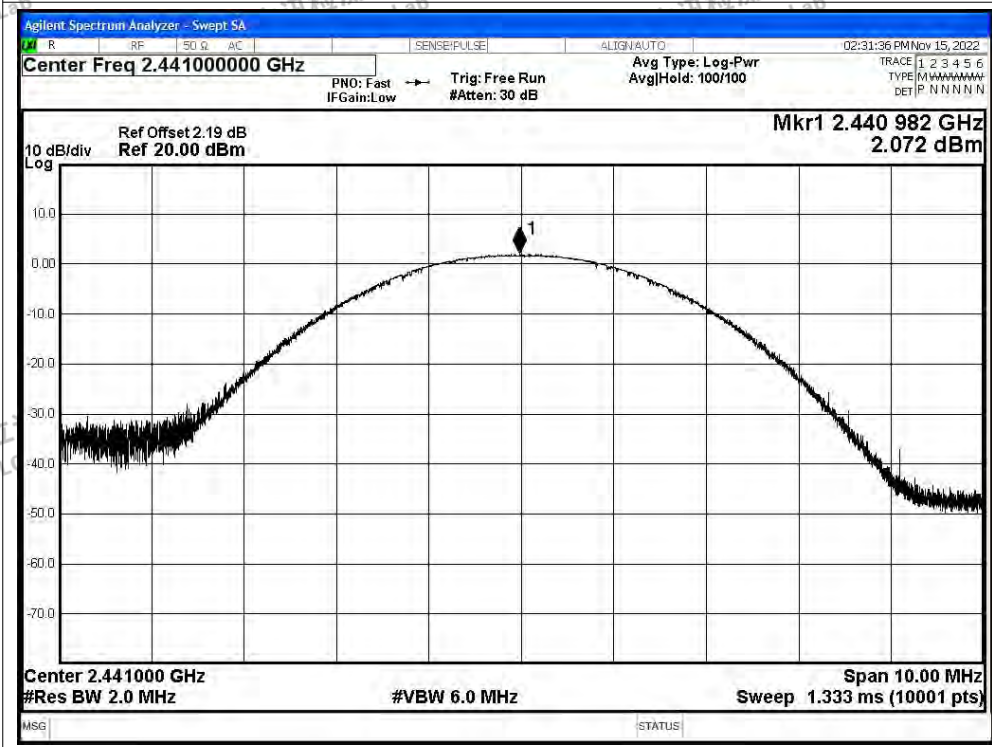




Power NVNT 3-DH5 2402MHz Ant1

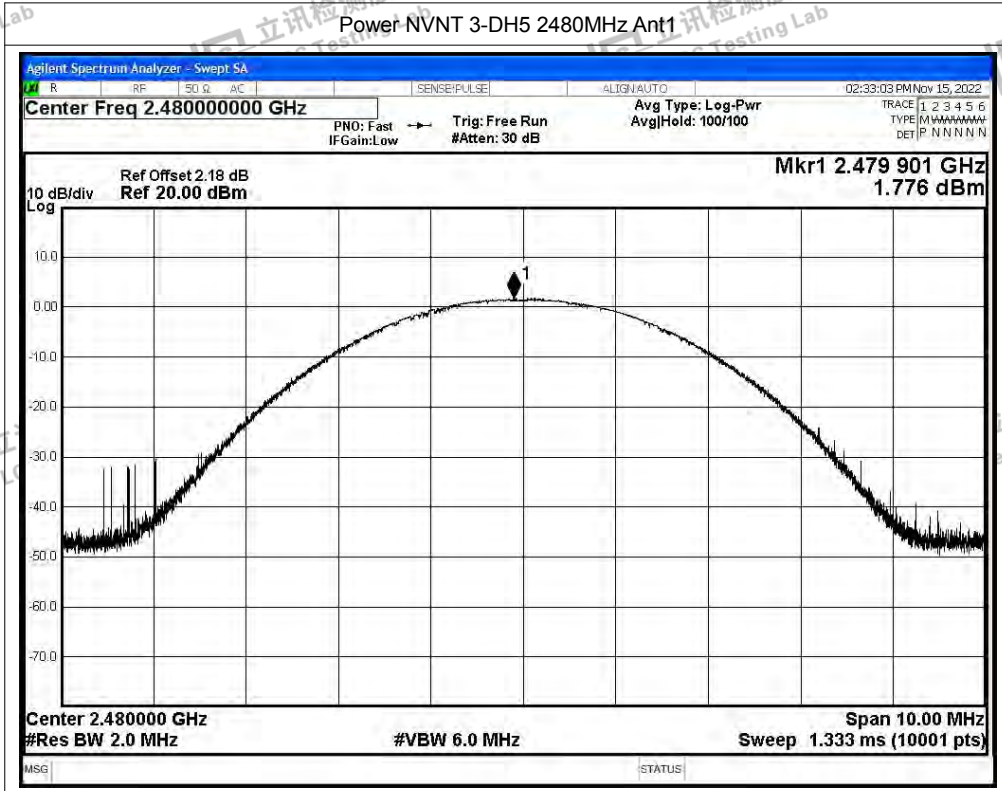


Power NVNT 3-DH5 2441MHz Ant1





Power NVNT 3-DH5 2480MHz Ant1





A.3 Carrier Frequencies Separation

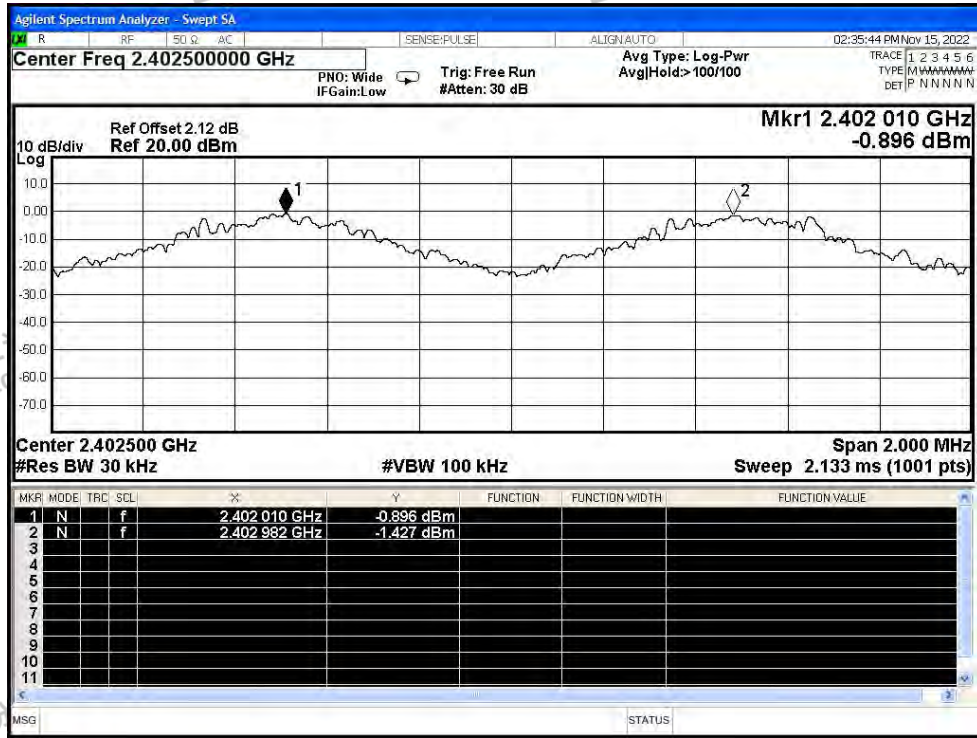
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.01	2402.982	0.972	0.647	Pass
NVNT	2-DH5	Ant1	2401.992	2402.986	0.994	0.857	Pass
NVNT	3-DH5	Ant1	2401.824	2403.002	1.178	0.868	Pass



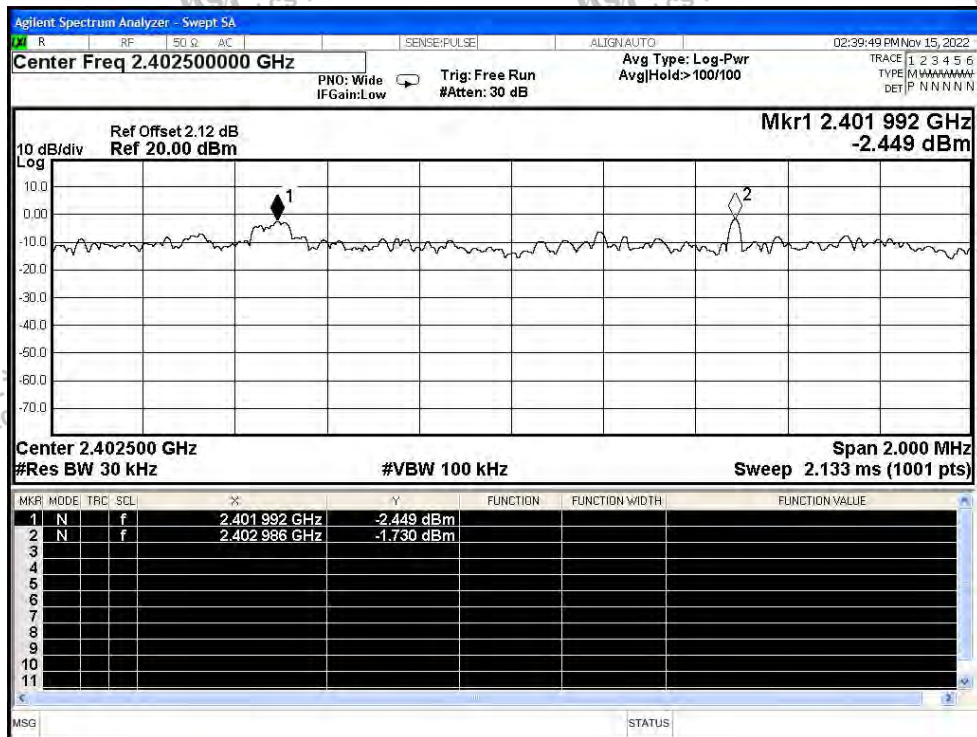


Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1

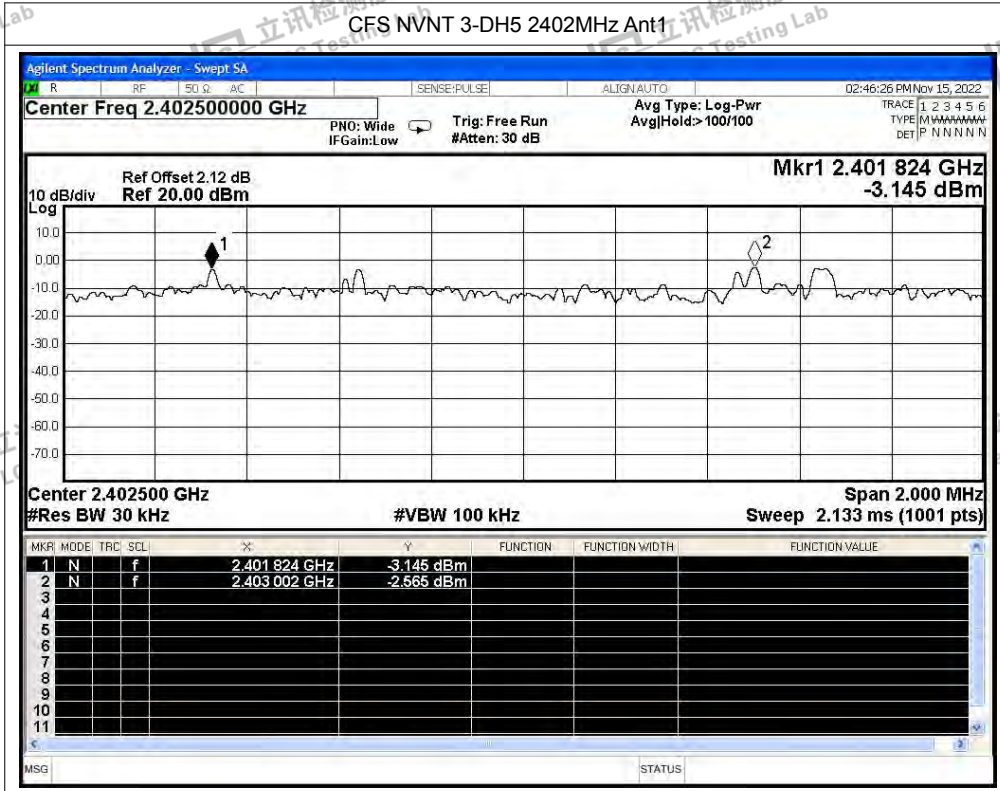


CFS NVNT 2-DH5 2402MHz Ant1





CFS NVNT 3-DH5 2402MHz Ant1





A.4 Dwell Time

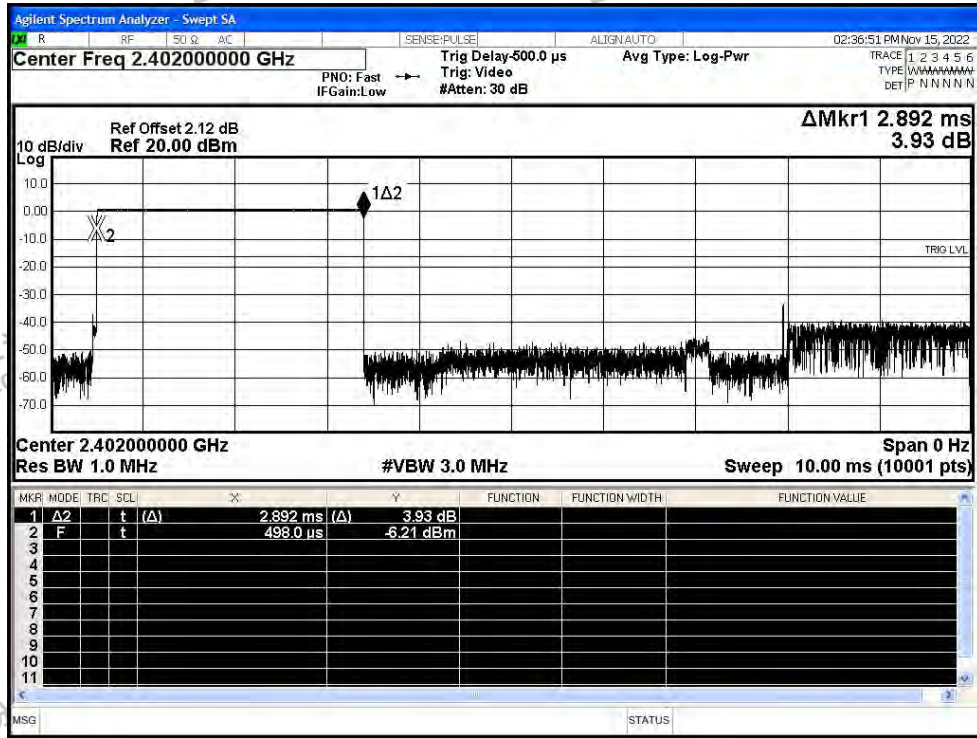
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.892	326.796	113	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.886	305.916	106	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.887	294.474	102	31600	400	Pass



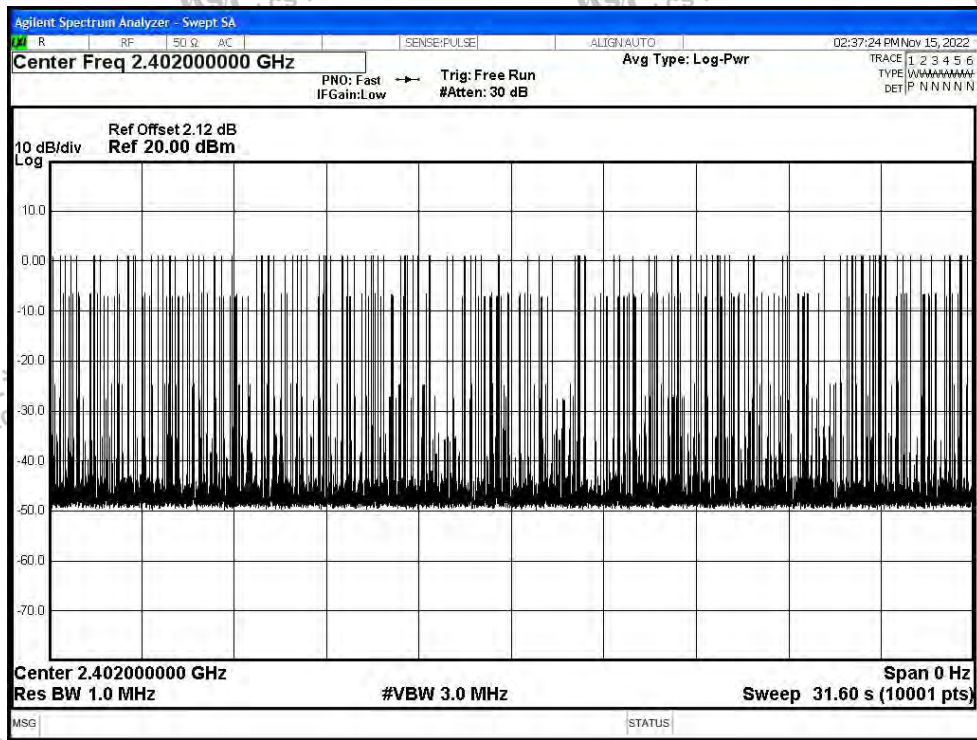


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

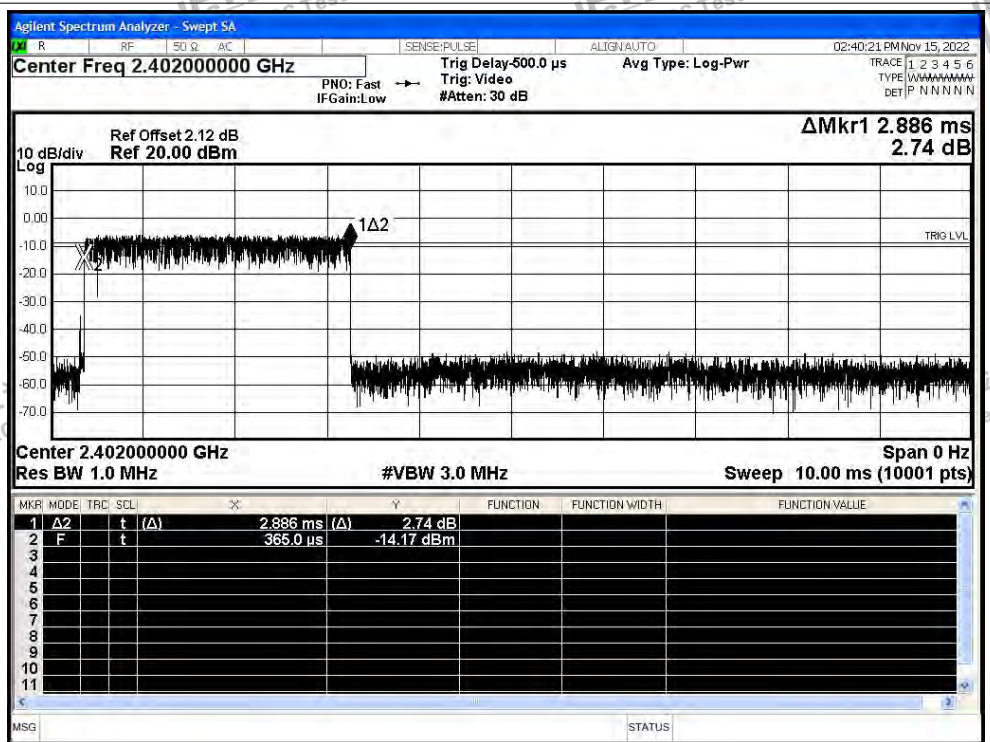


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

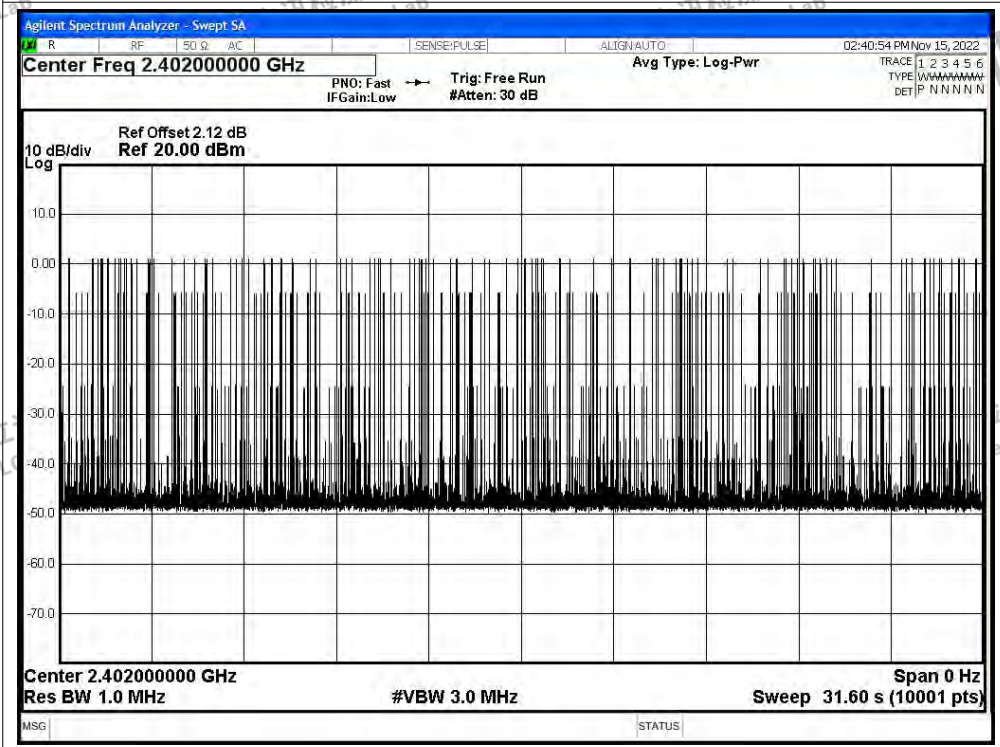




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst

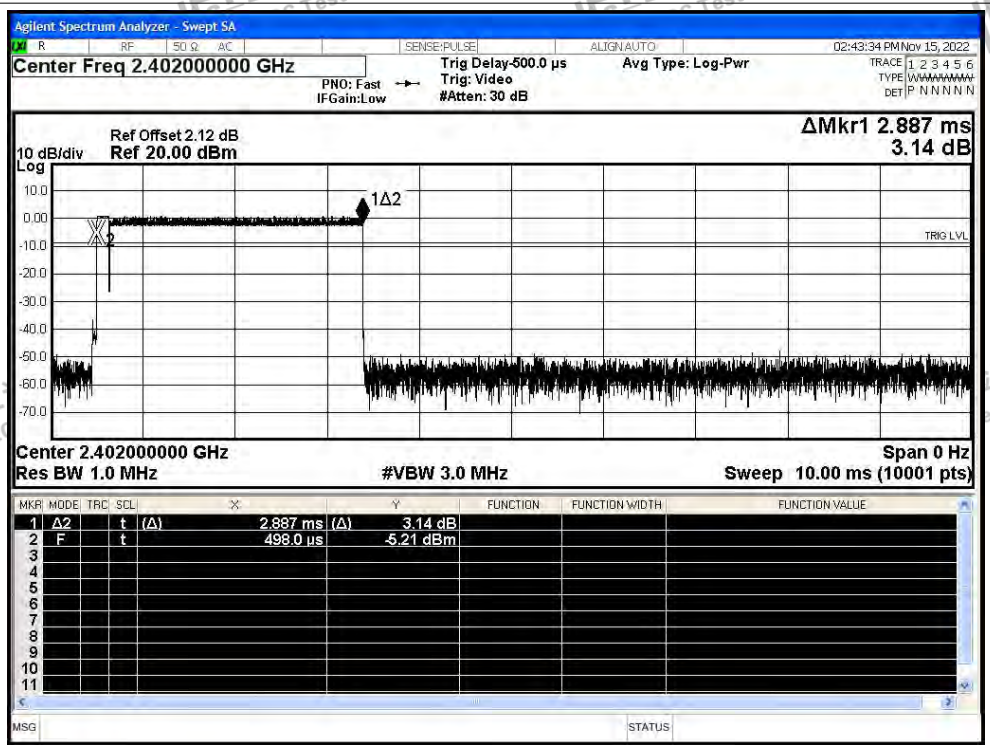


Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

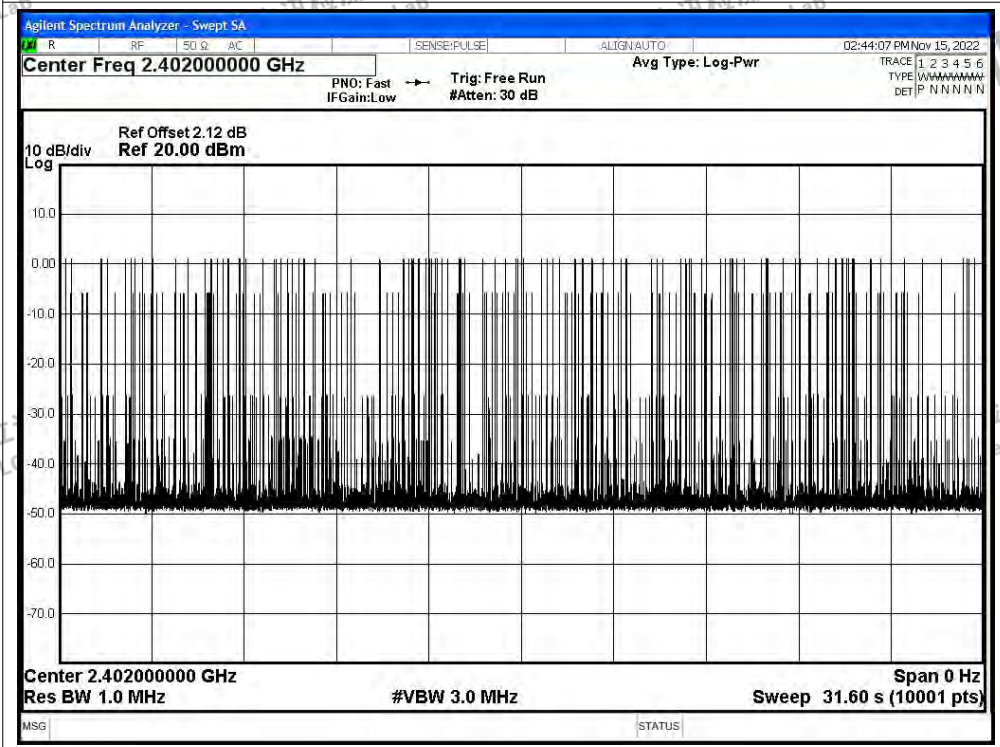




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated





A.5 Number of Hopping Channel

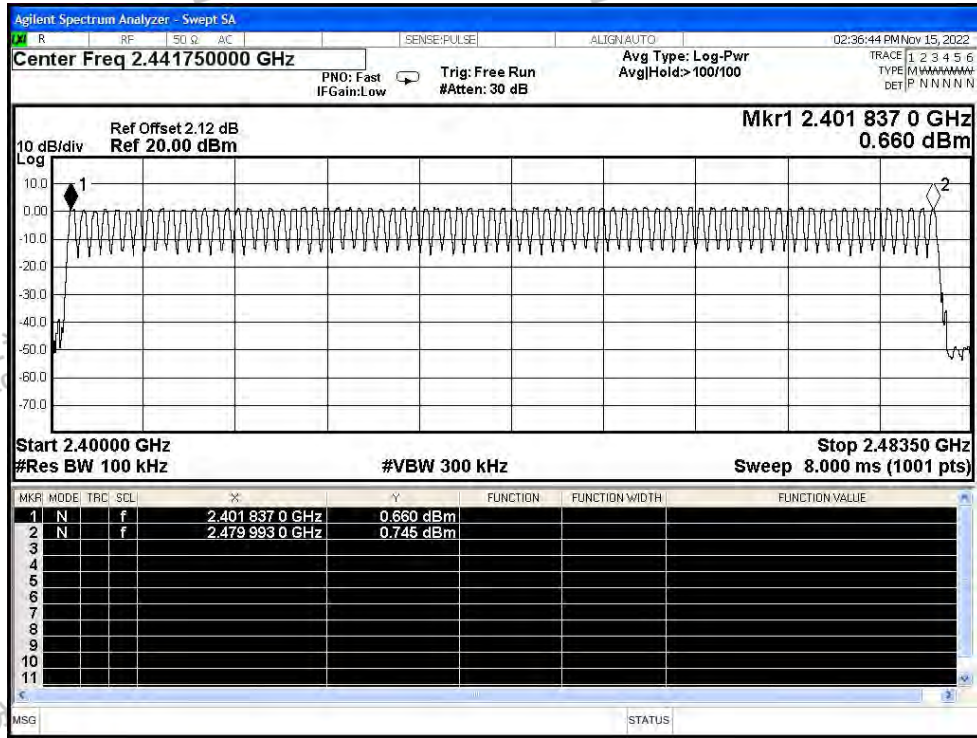
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



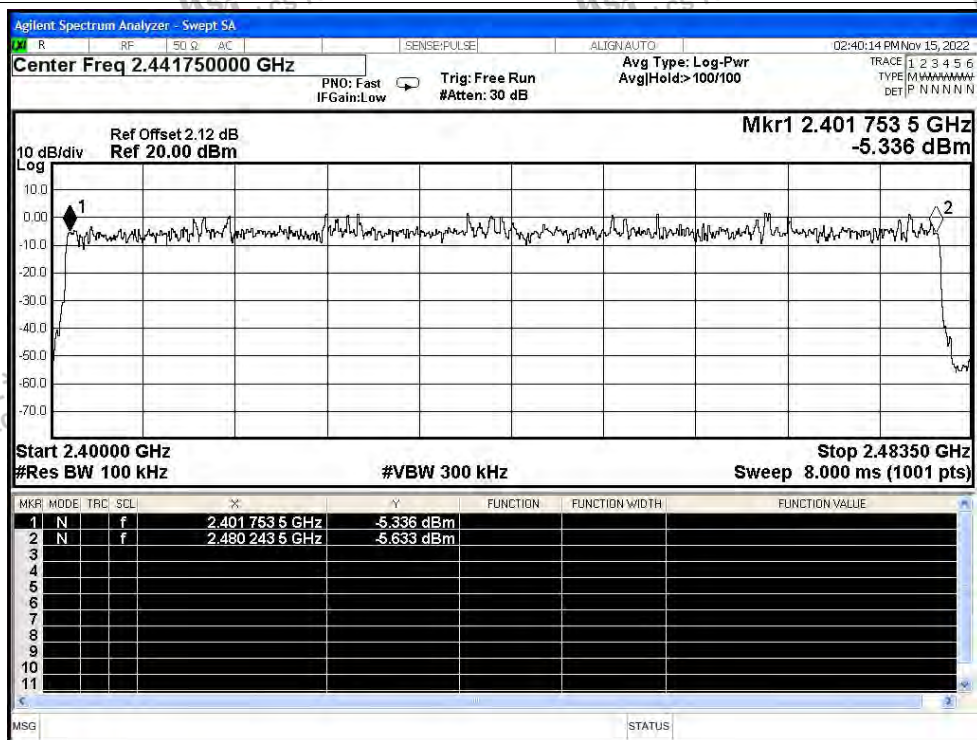


Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1

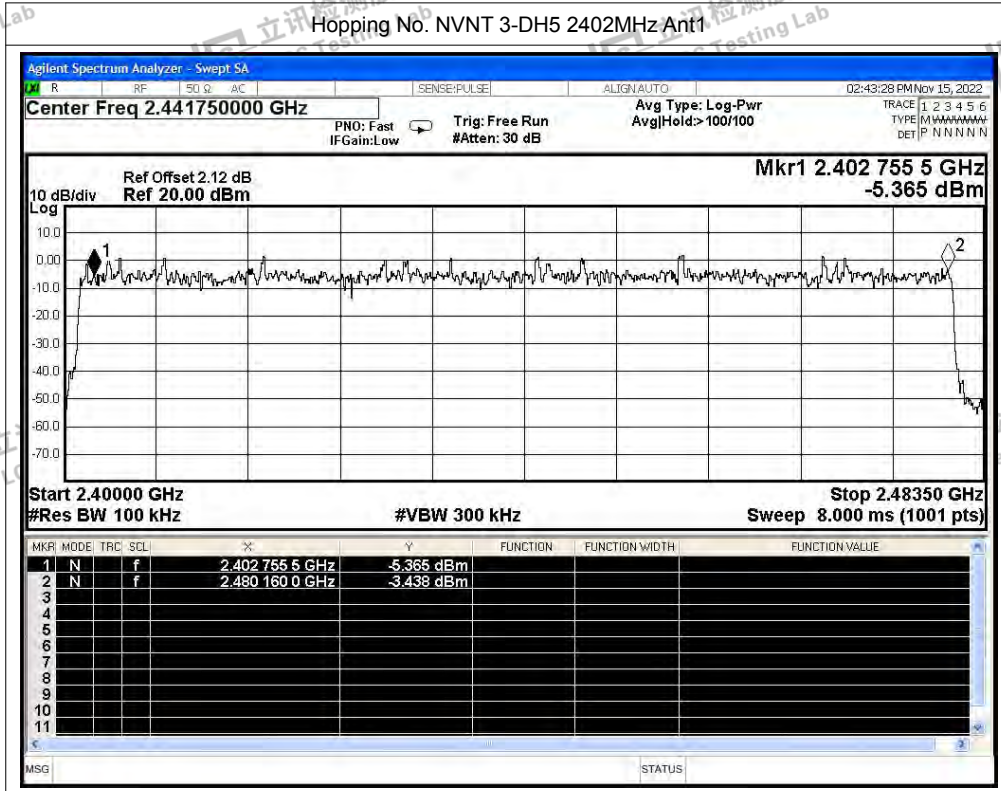


Hopping No. NVNT 2-DH5 2402MHz Ant1





Hopping No. NVNT 3-DH5 2402MHz Ant1





A.6 Band Edge

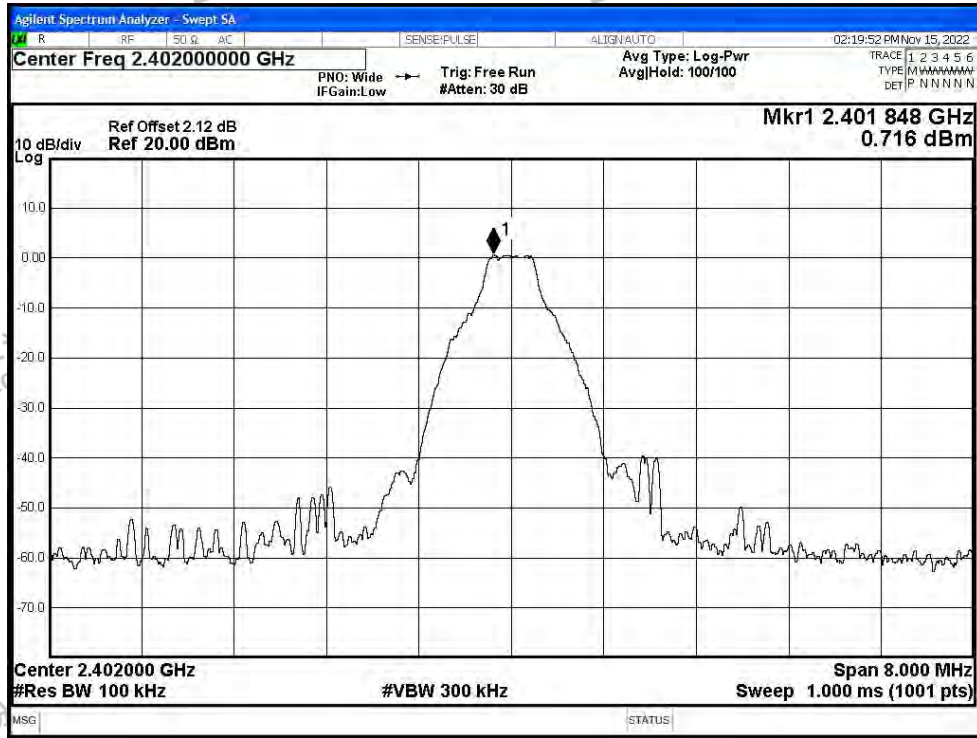
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-48.49	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-50.37	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-48.83	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-50.02	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-49.85	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-52.6	-20	Pass



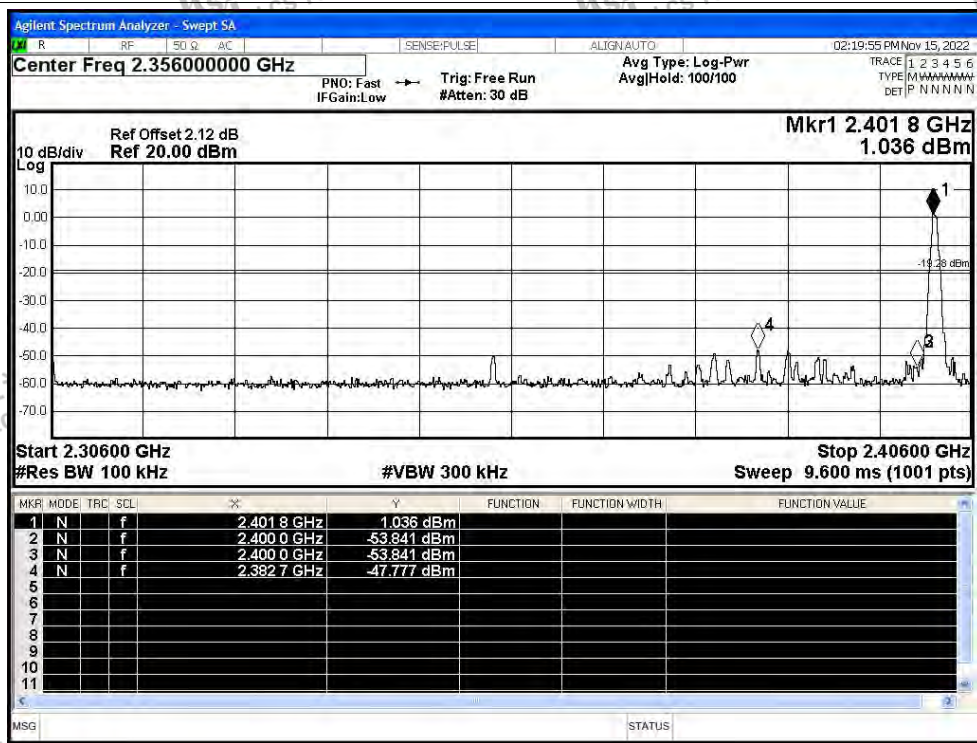


Test Graphs

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

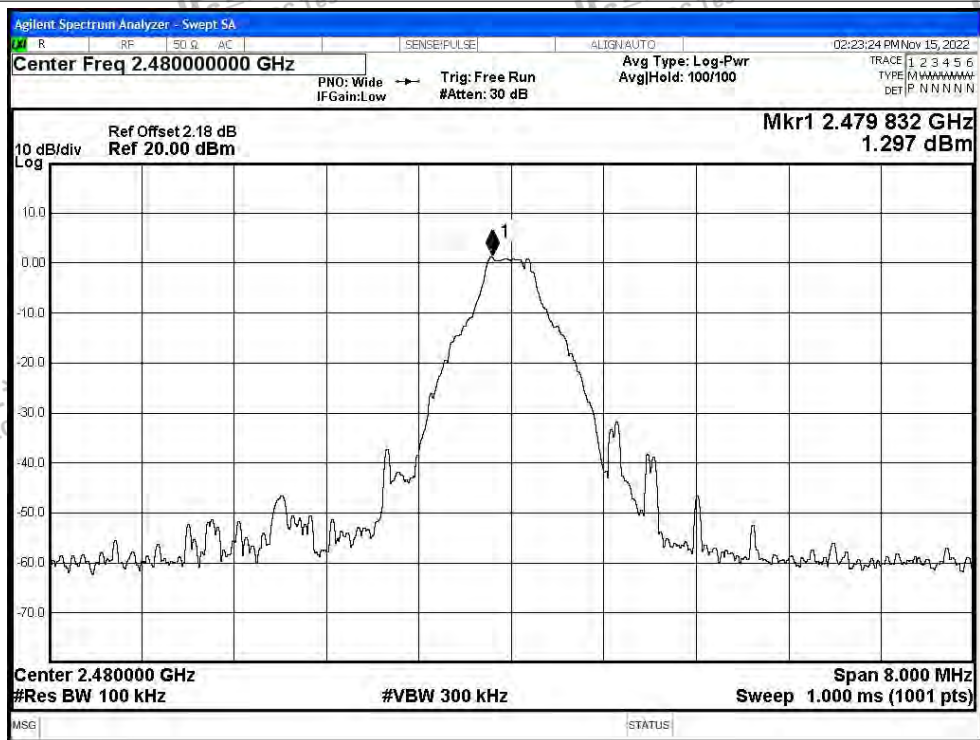


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

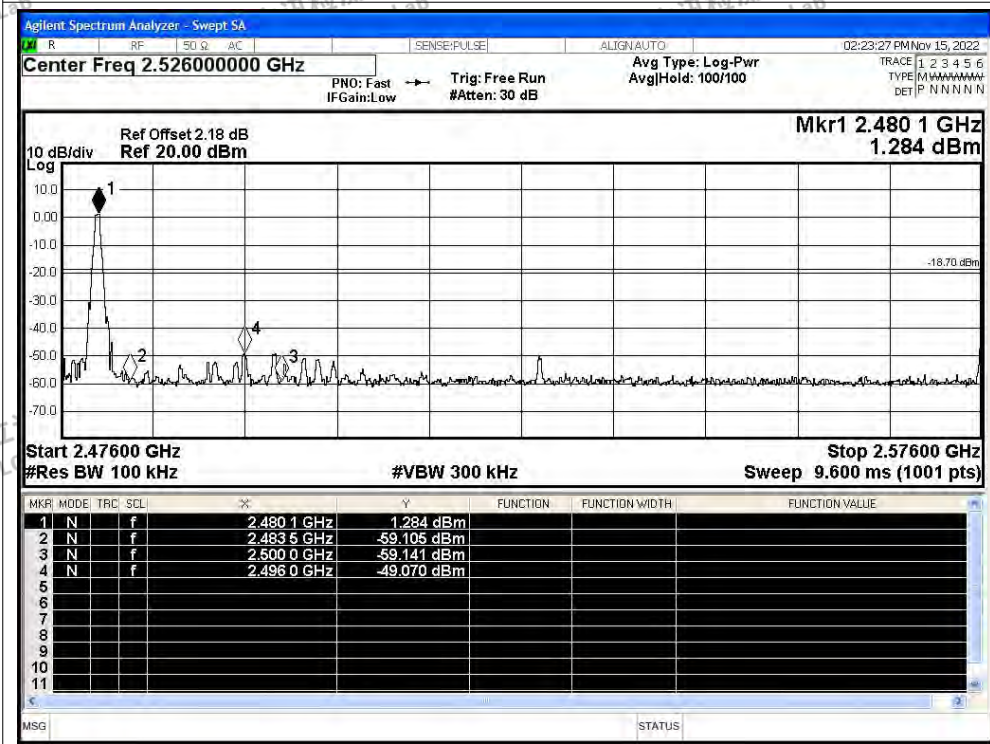




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

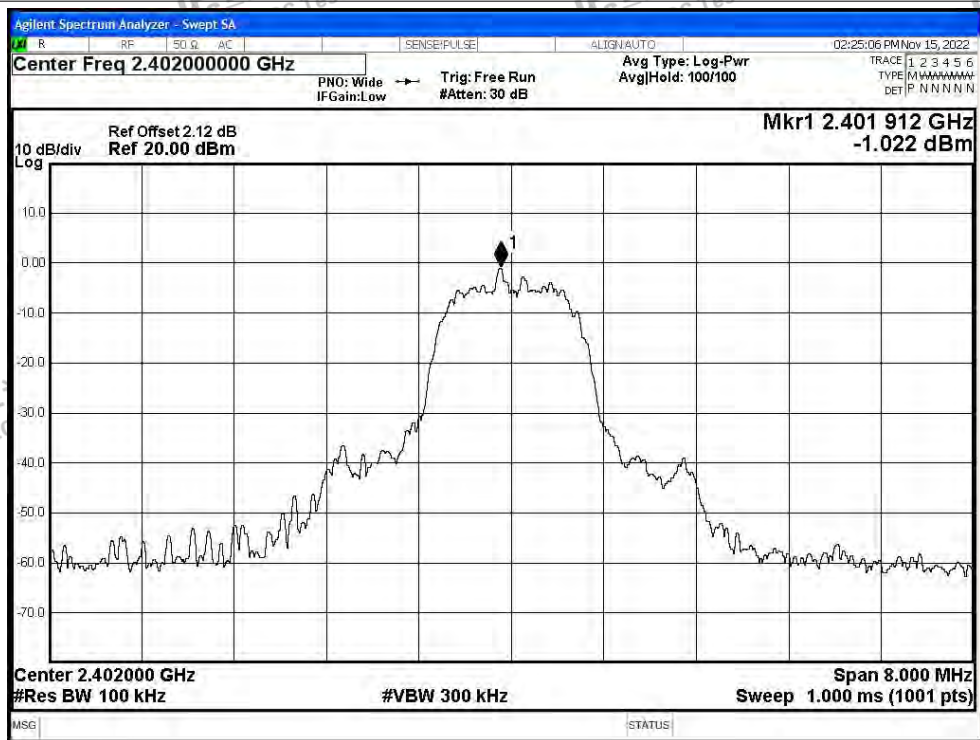


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

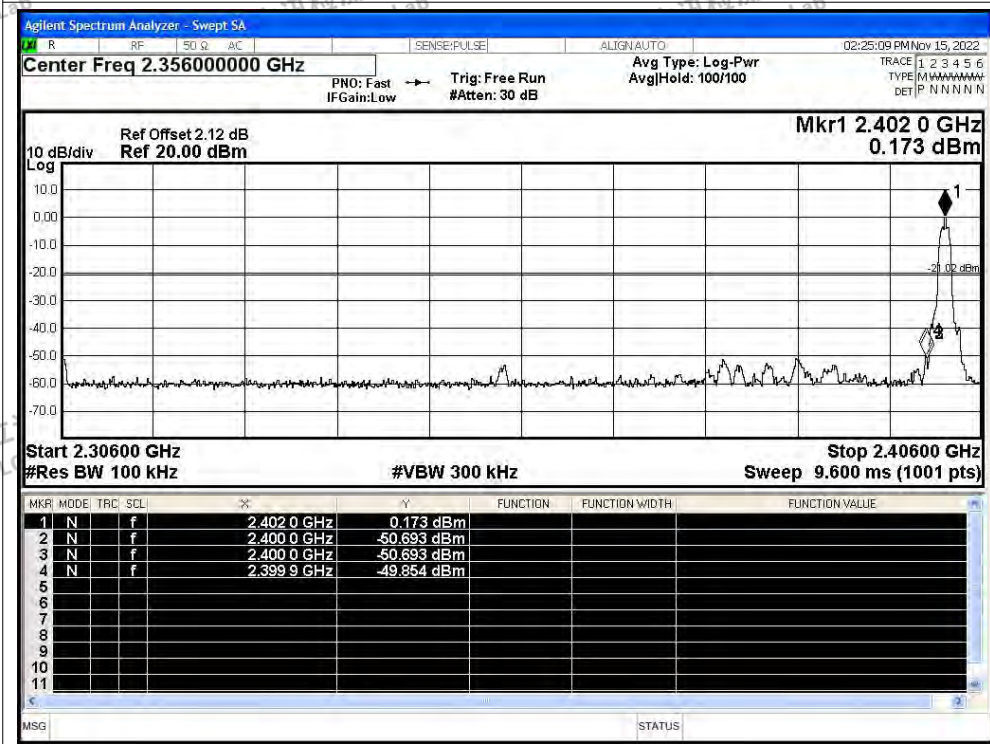




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

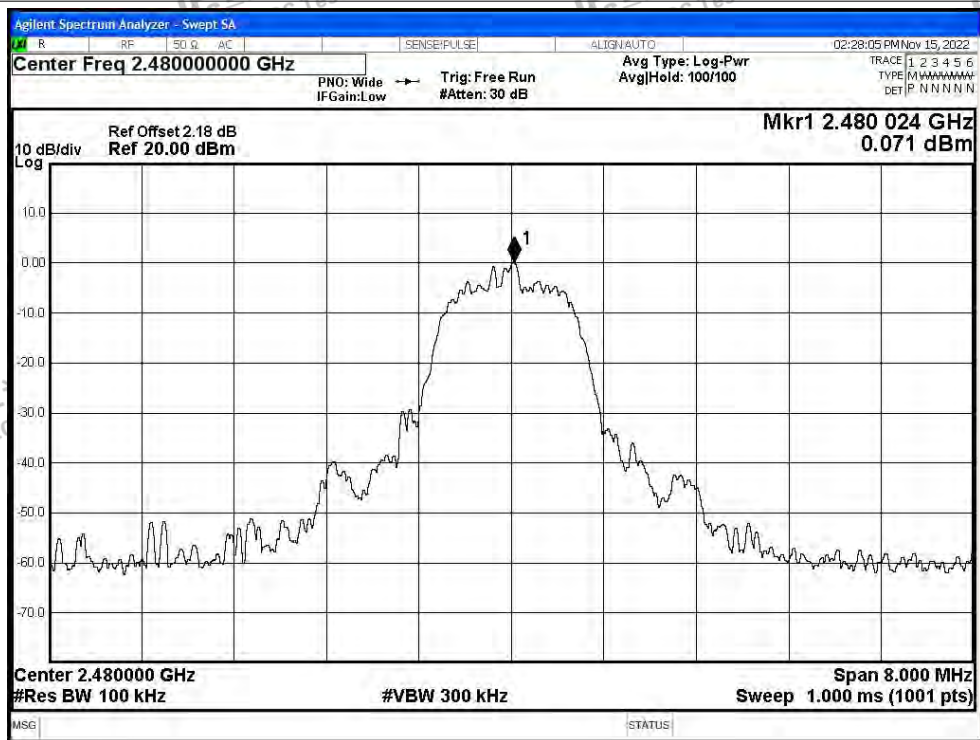


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

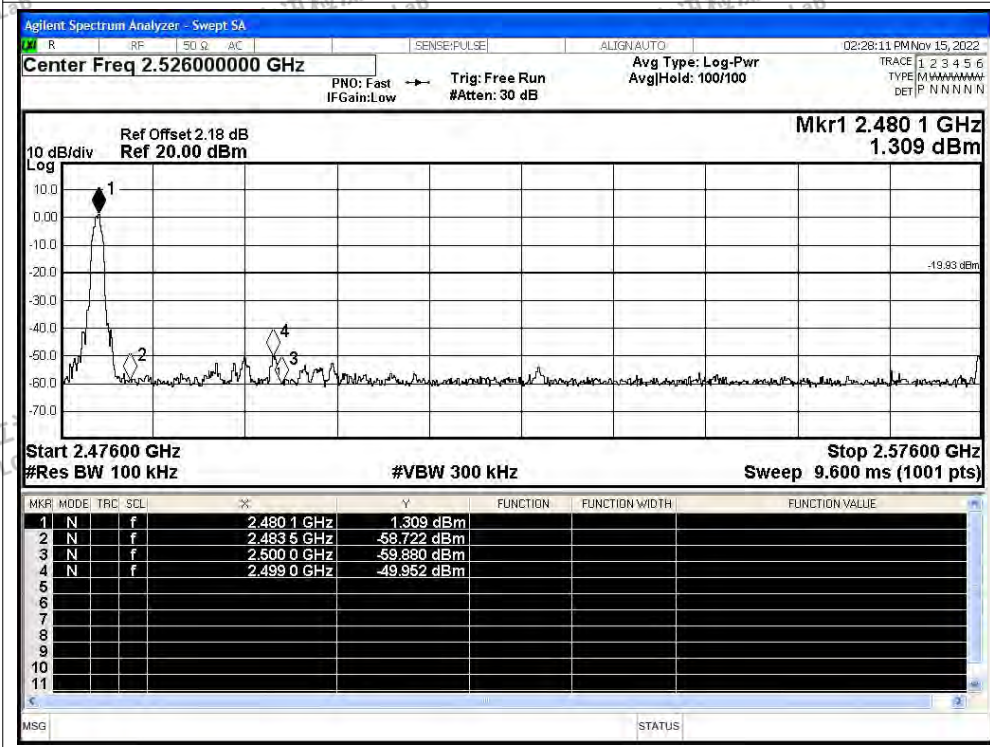




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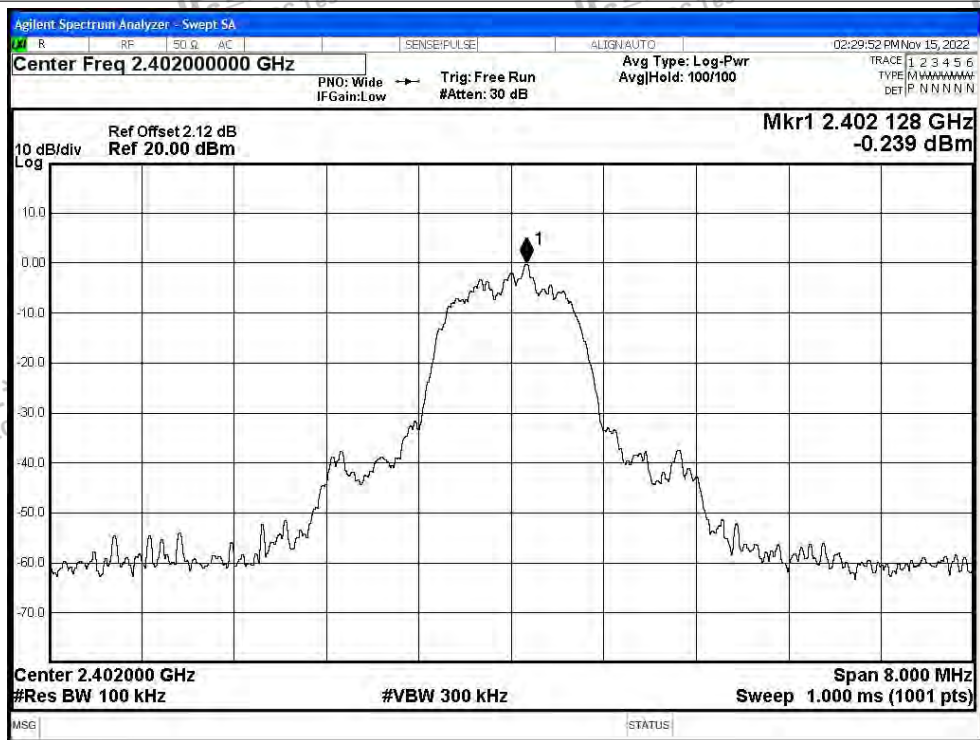


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

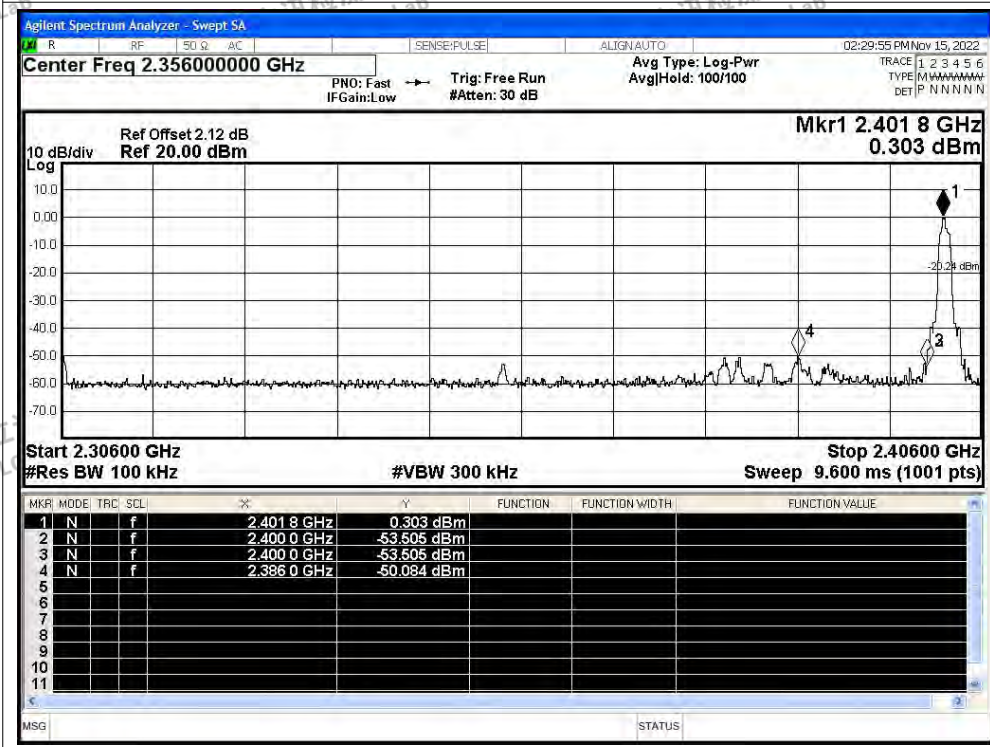




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

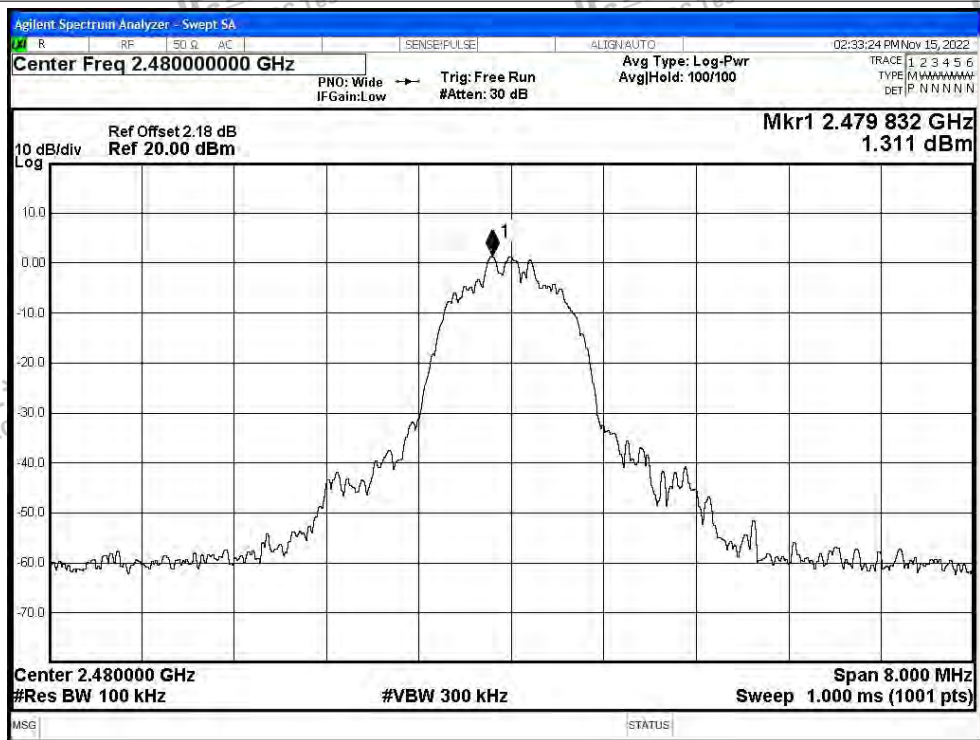


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

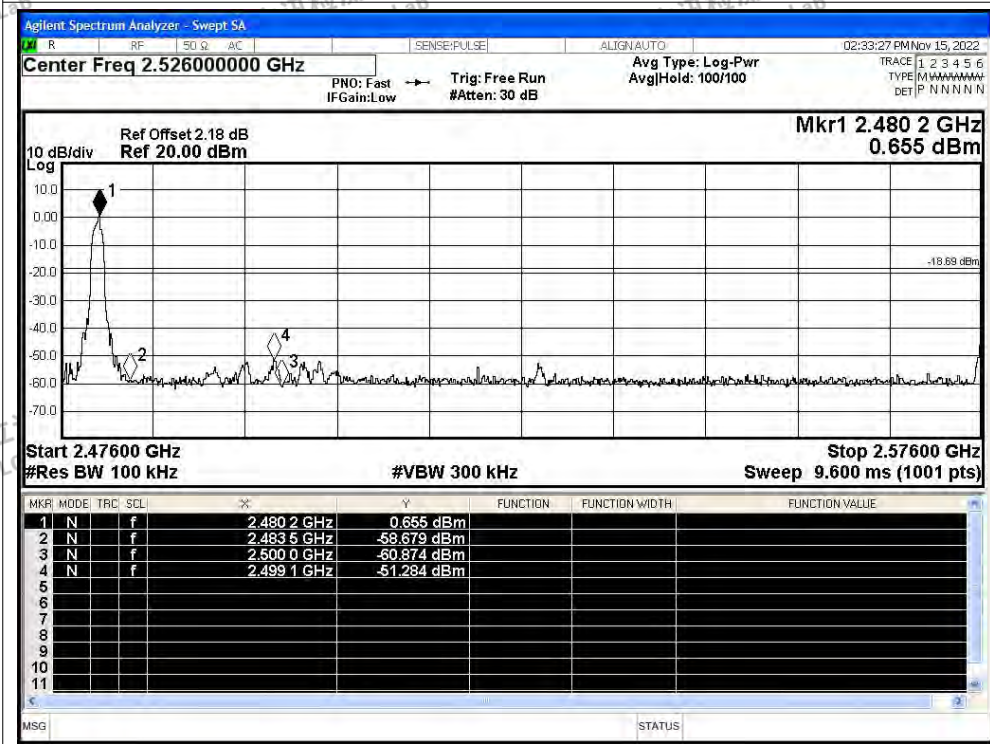




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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





(Hopping)

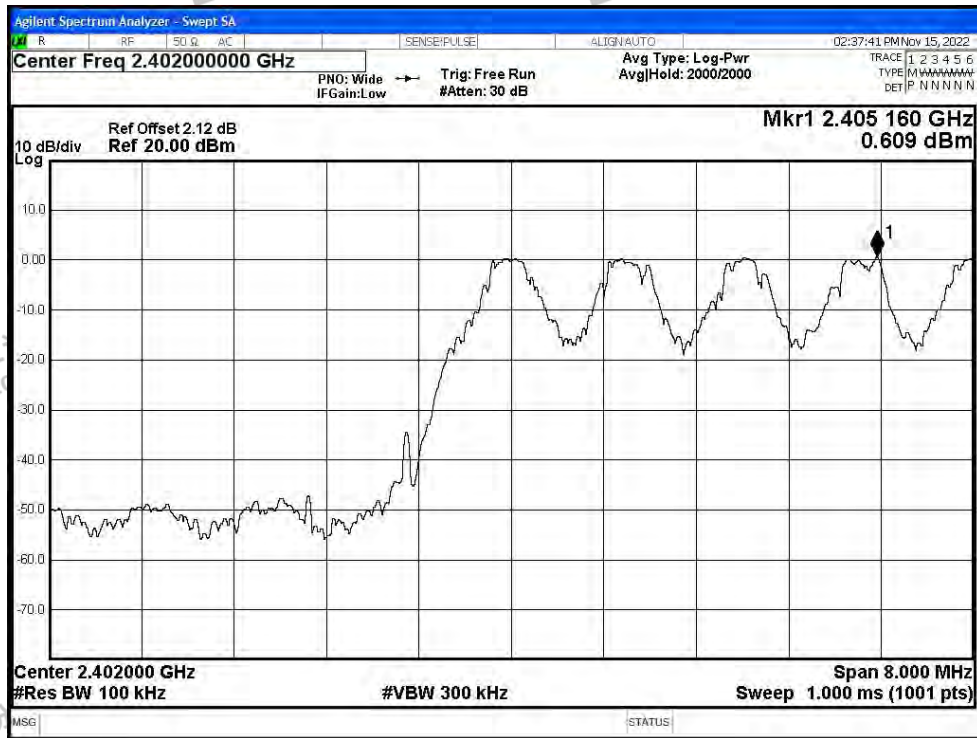
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-47.19	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-45.75	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-45.17	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-46.65	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-46.42	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-48.87	-20	Pass



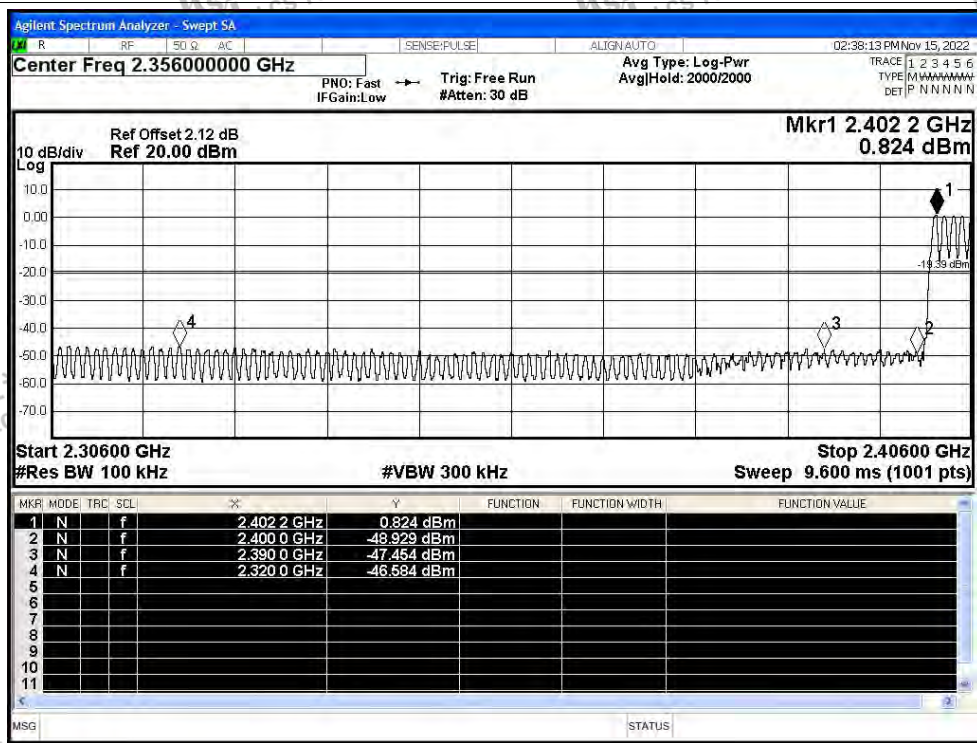


Test Graphs

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

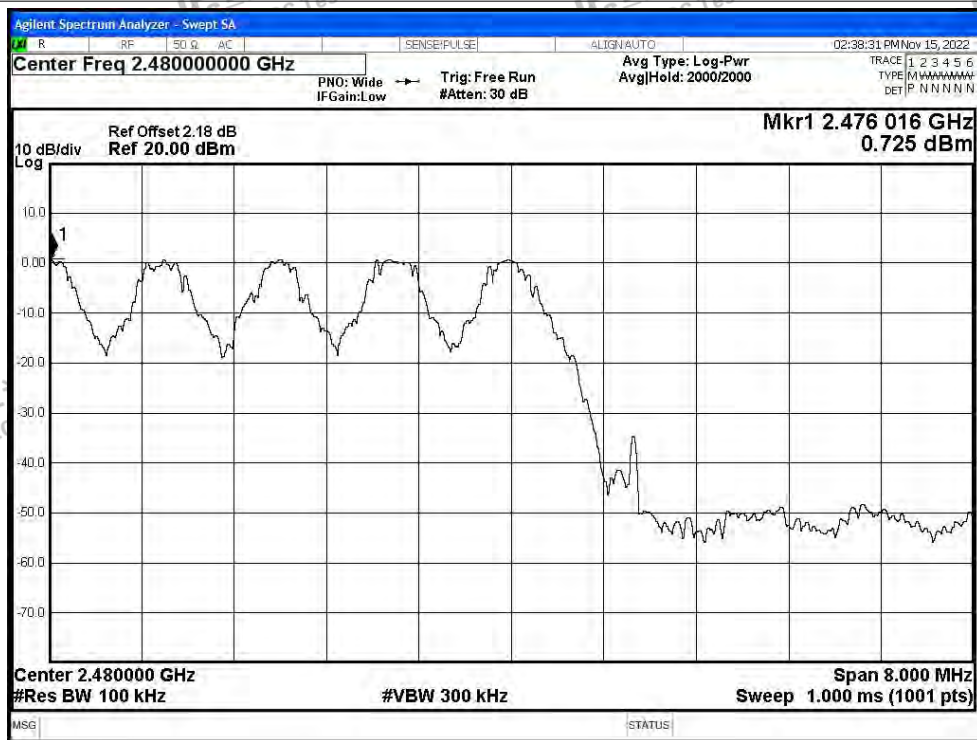


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

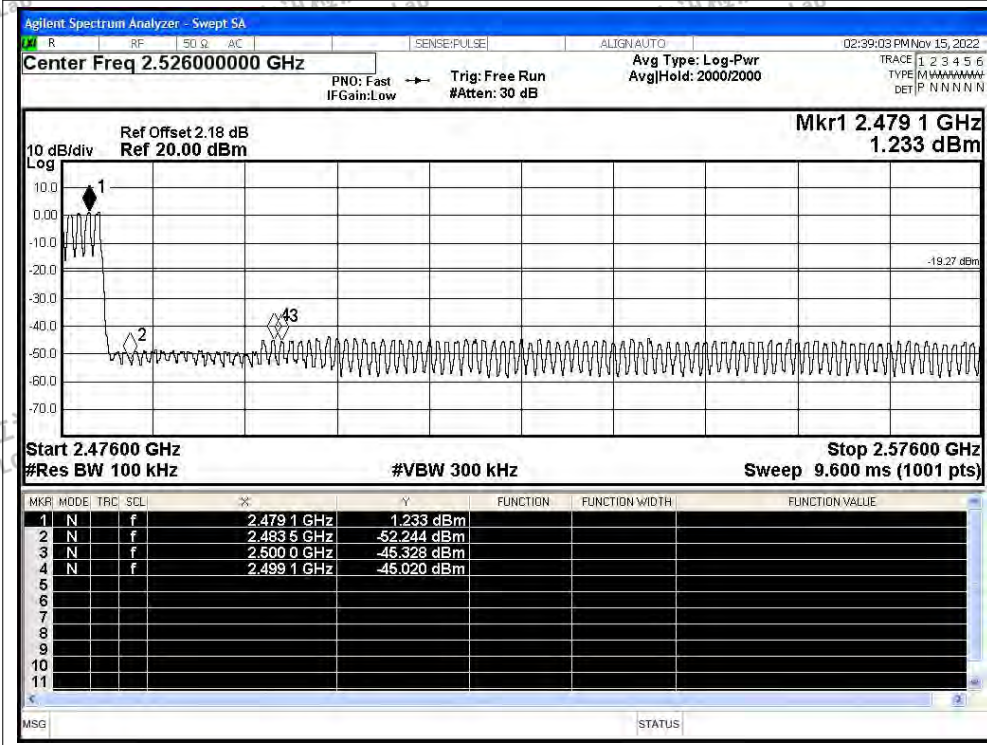




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref

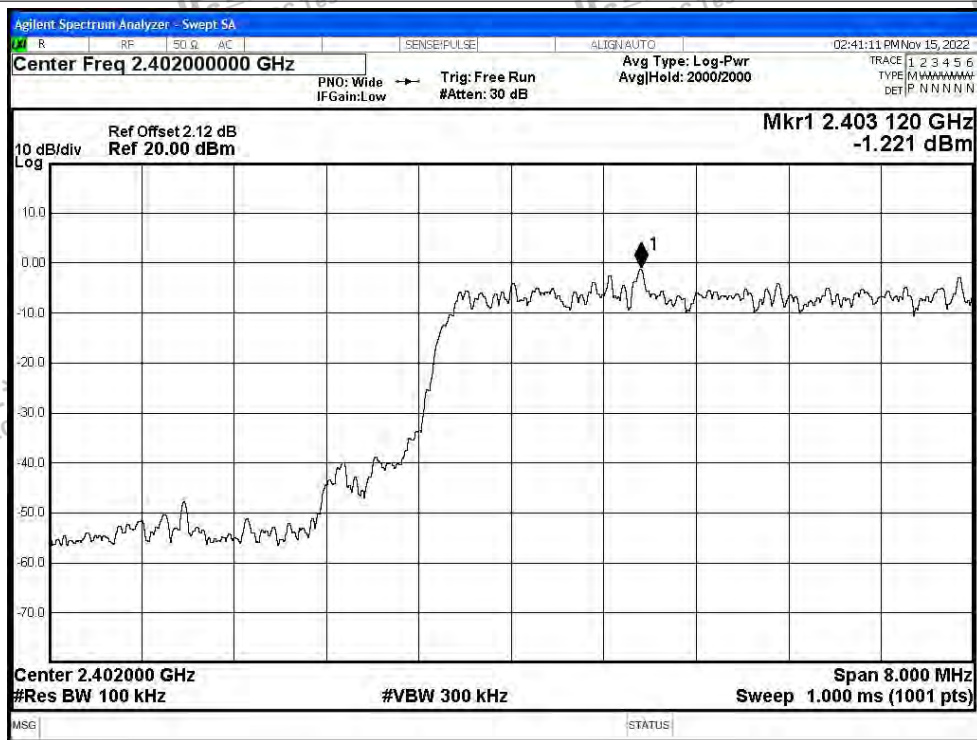


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission

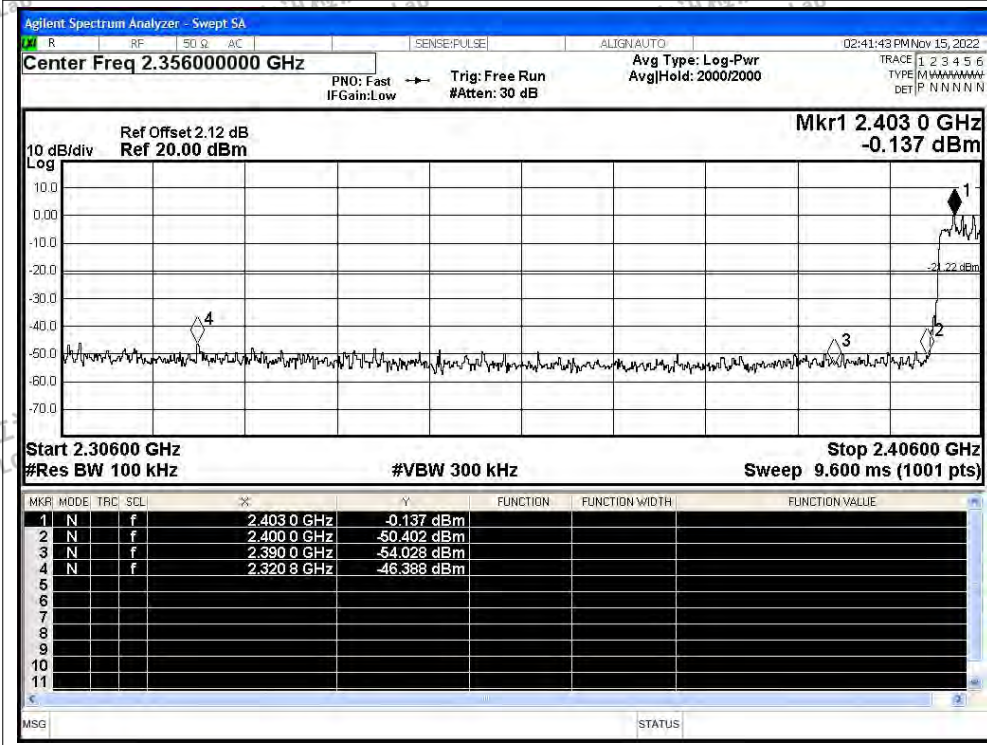




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



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

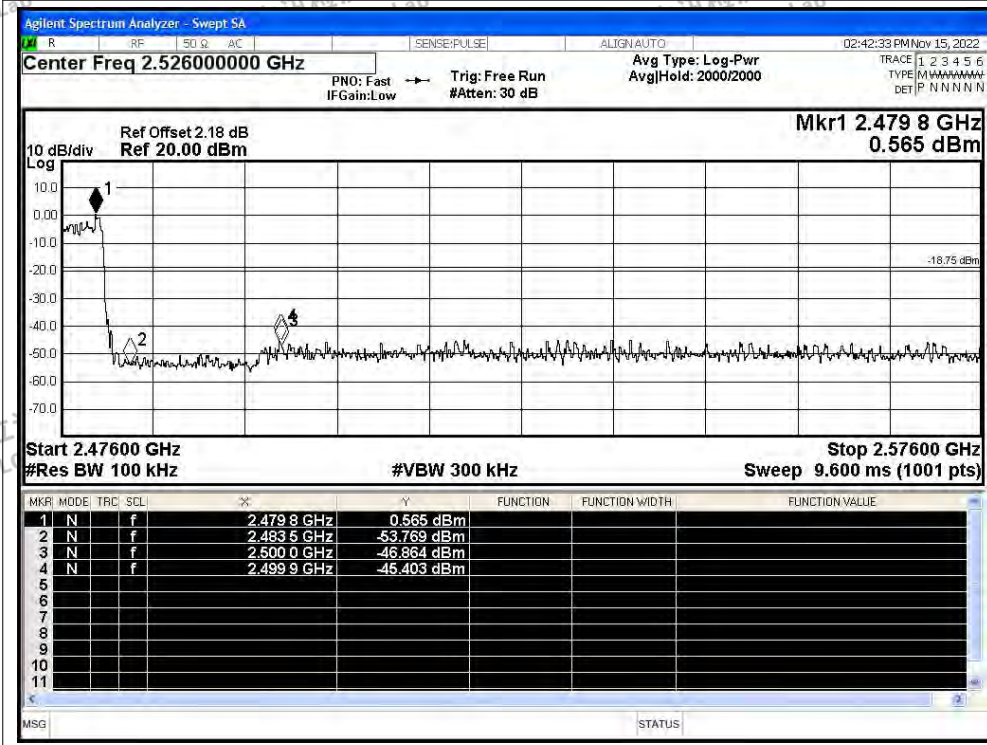




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref

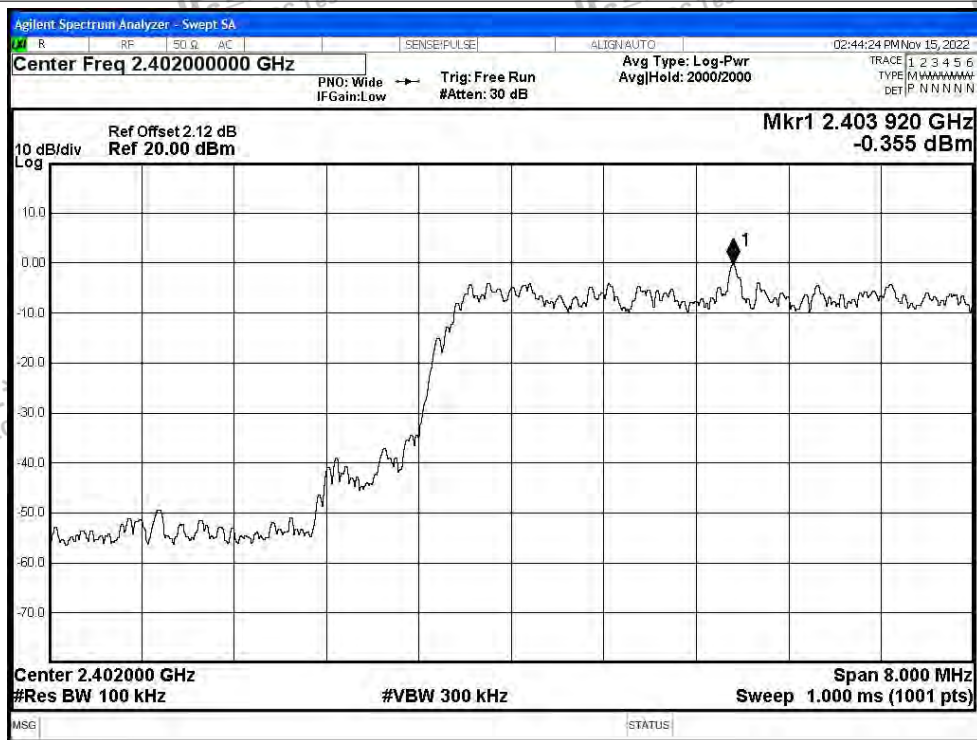


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission

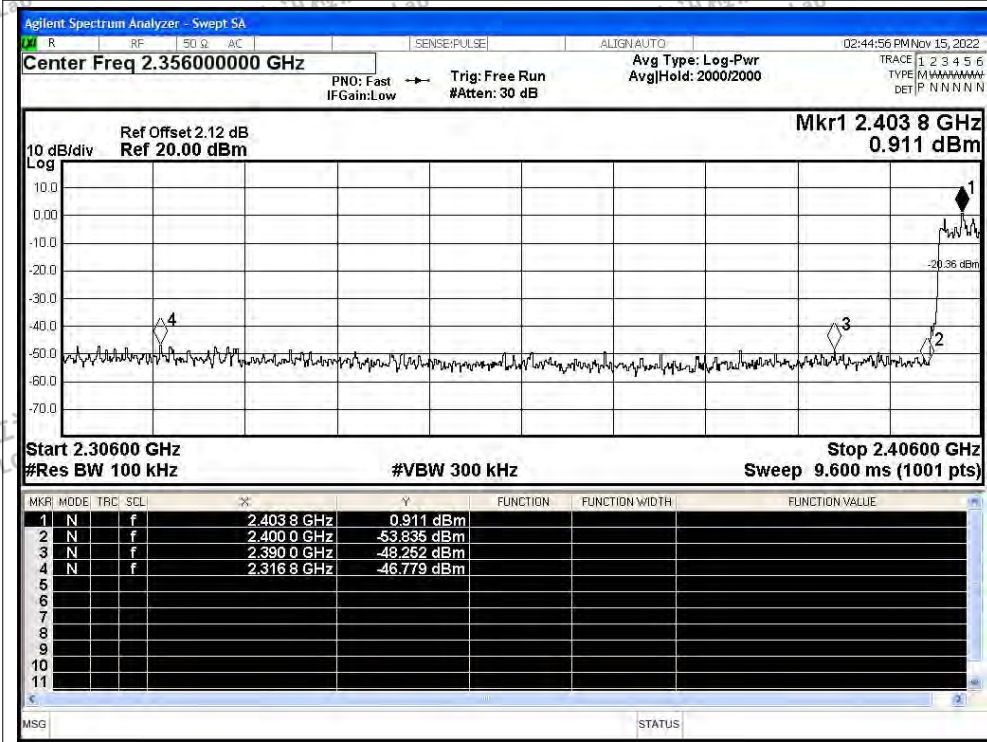




Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



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

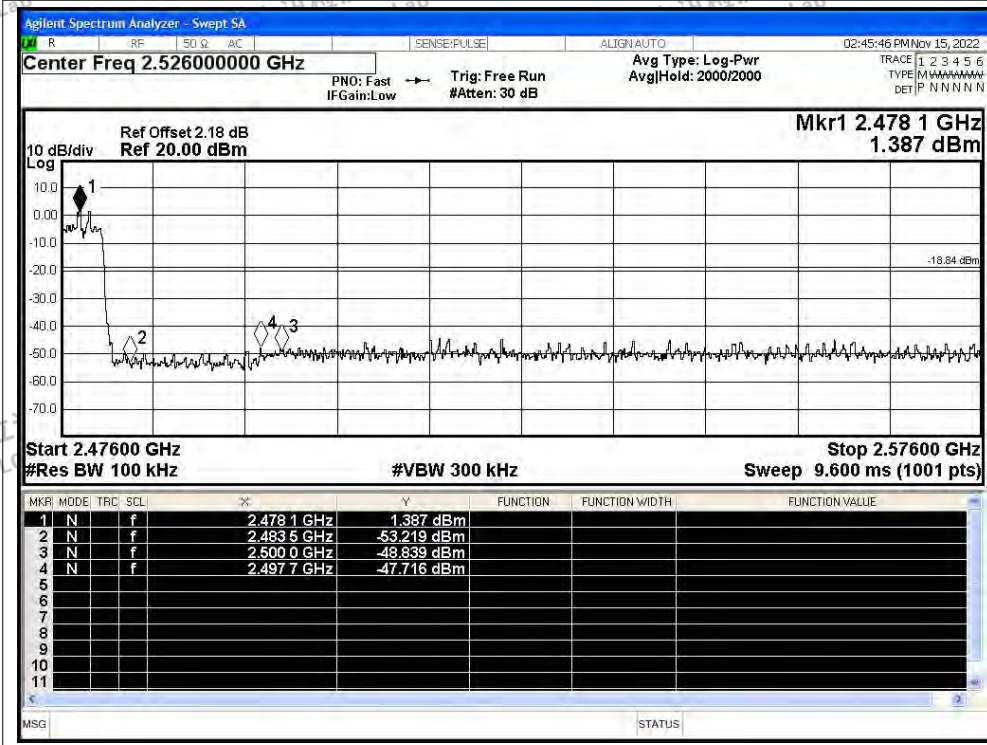




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



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





A.7 Conducted RF Spurious Emission

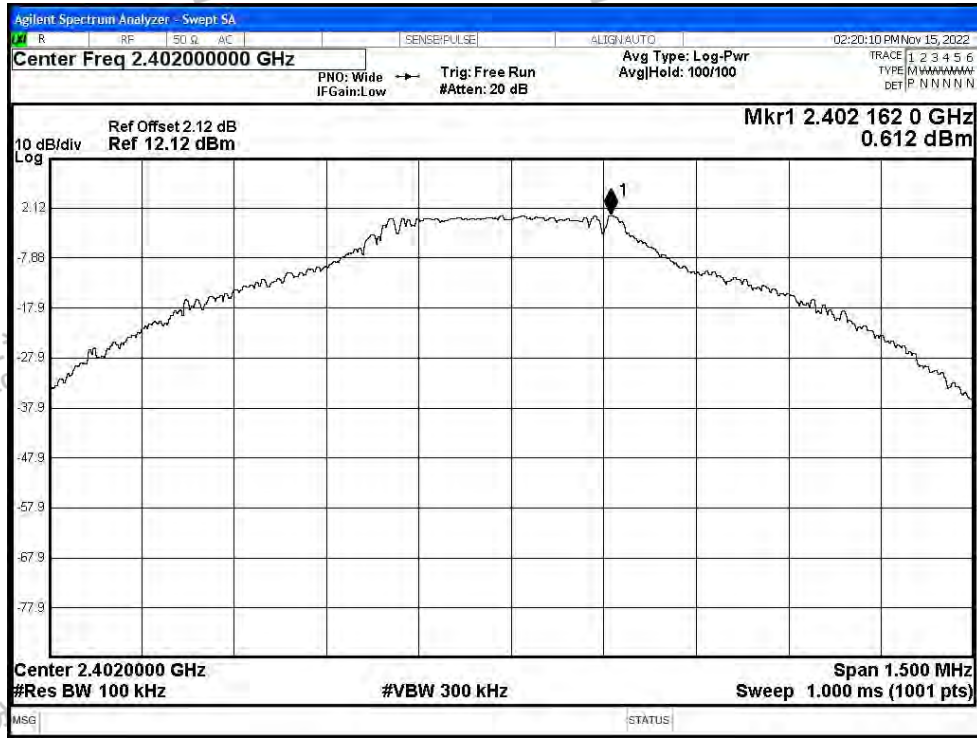
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-44.5	-20	Pass
NVNT	1-DH5	2441	Ant1	-45.78	-20	Pass
NVNT	1-DH5	2480	Ant1	-48.05	-20	Pass
NVNT	2-DH5	2402	Ant1	-44.7	-20	Pass
NVNT	2-DH5	2441	Ant1	-48.13	-20	Pass
NVNT	2-DH5	2480	Ant1	-46.71	-20	Pass
NVNT	3-DH5	2402	Ant1	-38	-20	Pass
NVNT	3-DH5	2441	Ant1	-33.5	-20	Pass
NVNT	3-DH5	2480	Ant1	-51.4	-20	Pass



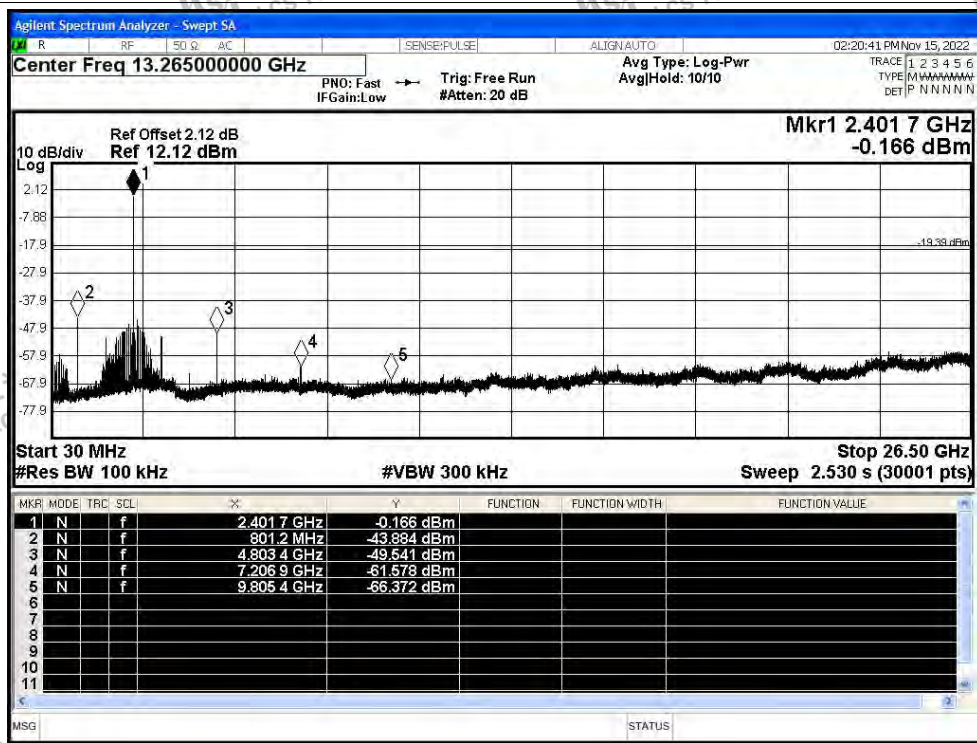


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

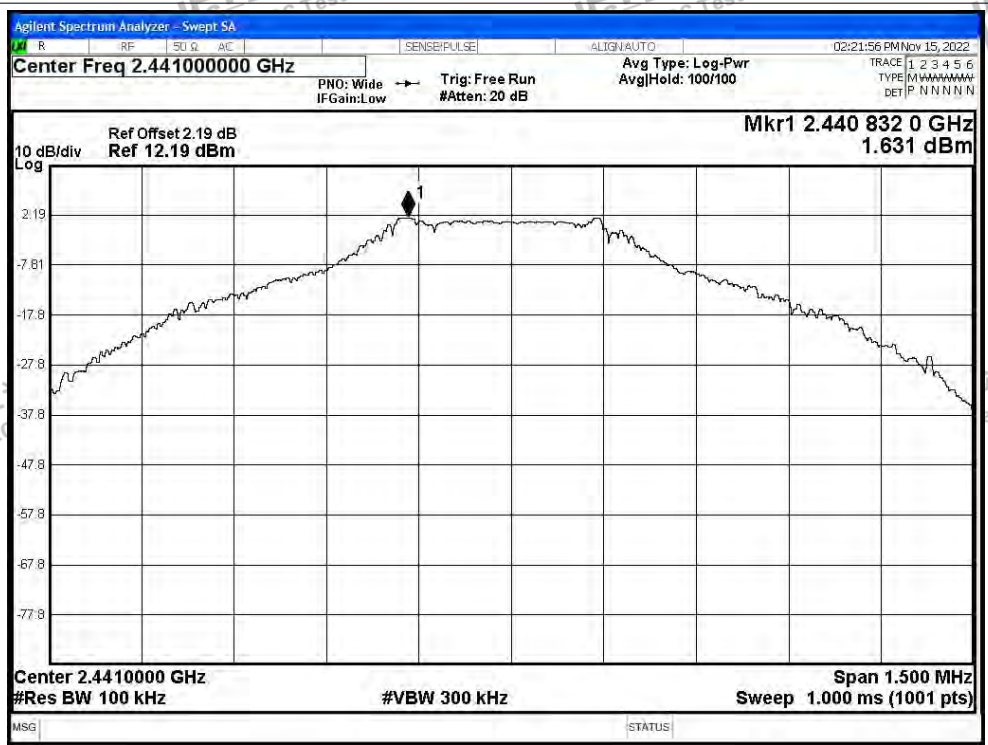


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

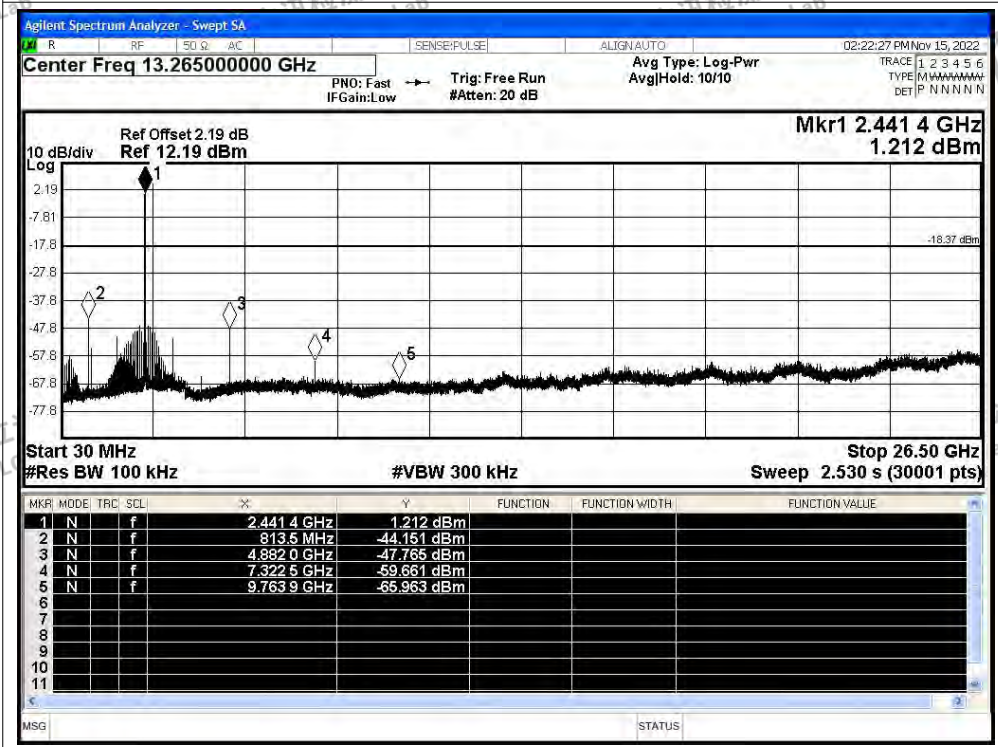




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

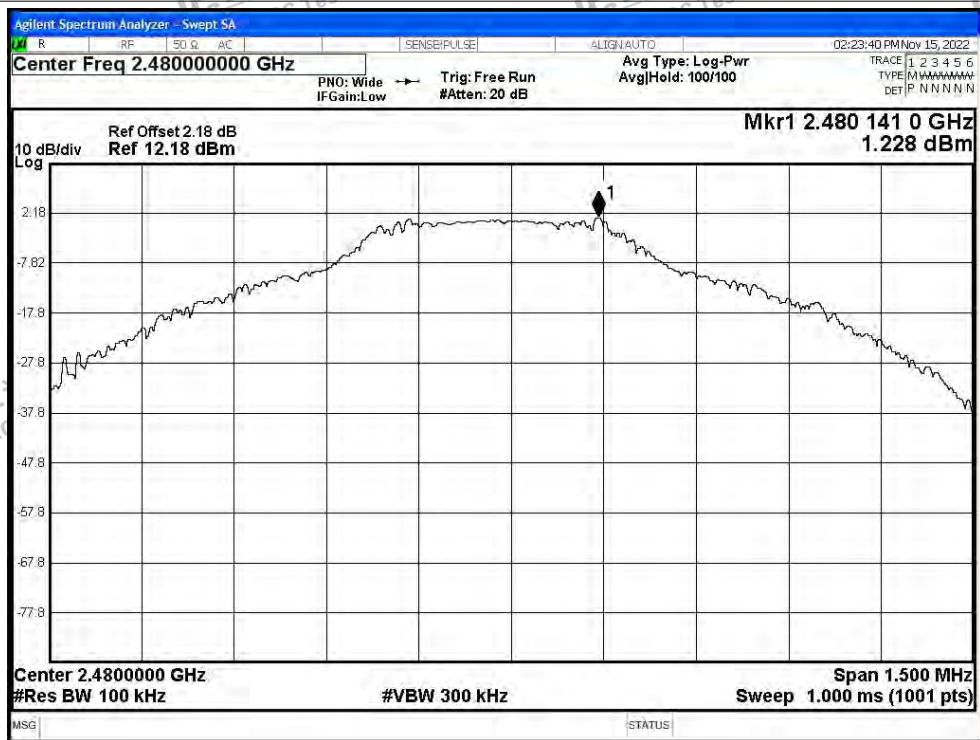


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

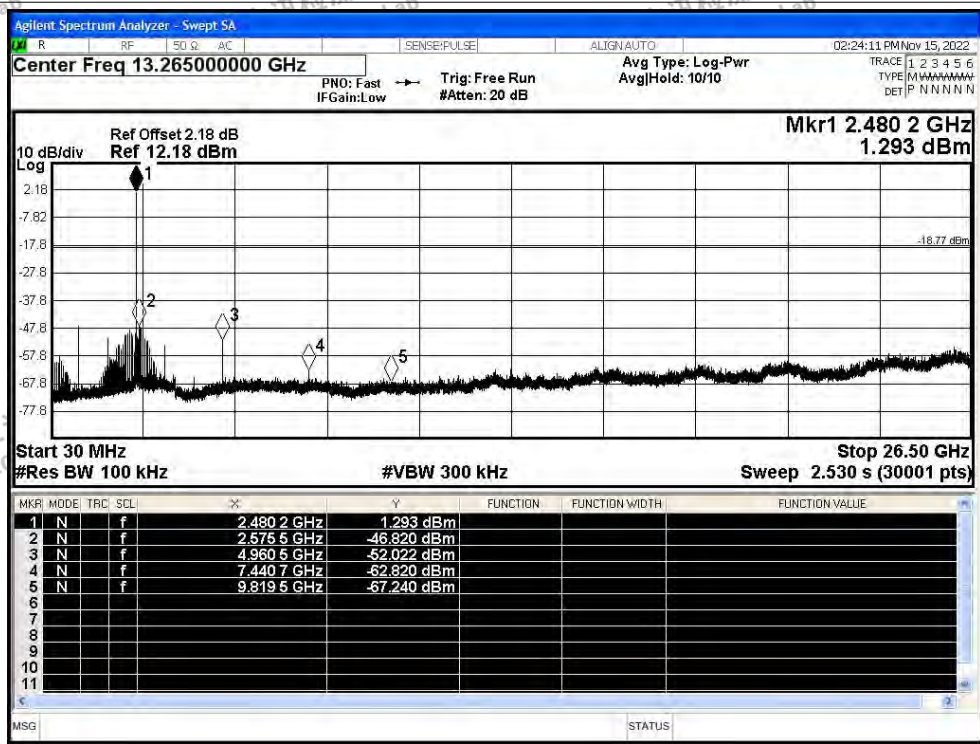




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

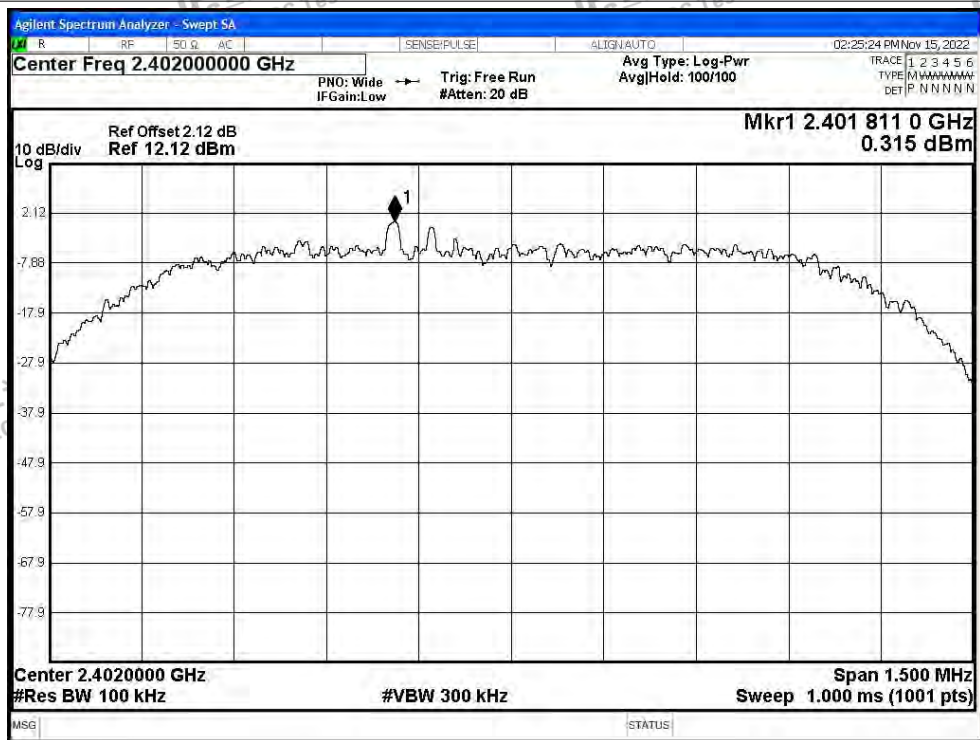


Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

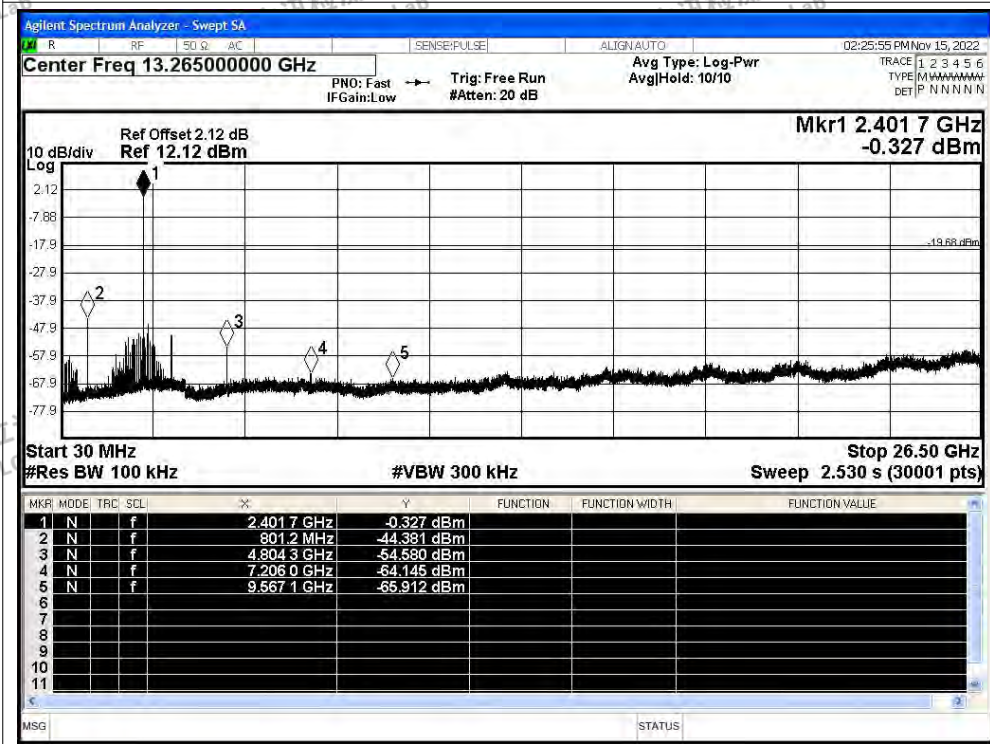




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

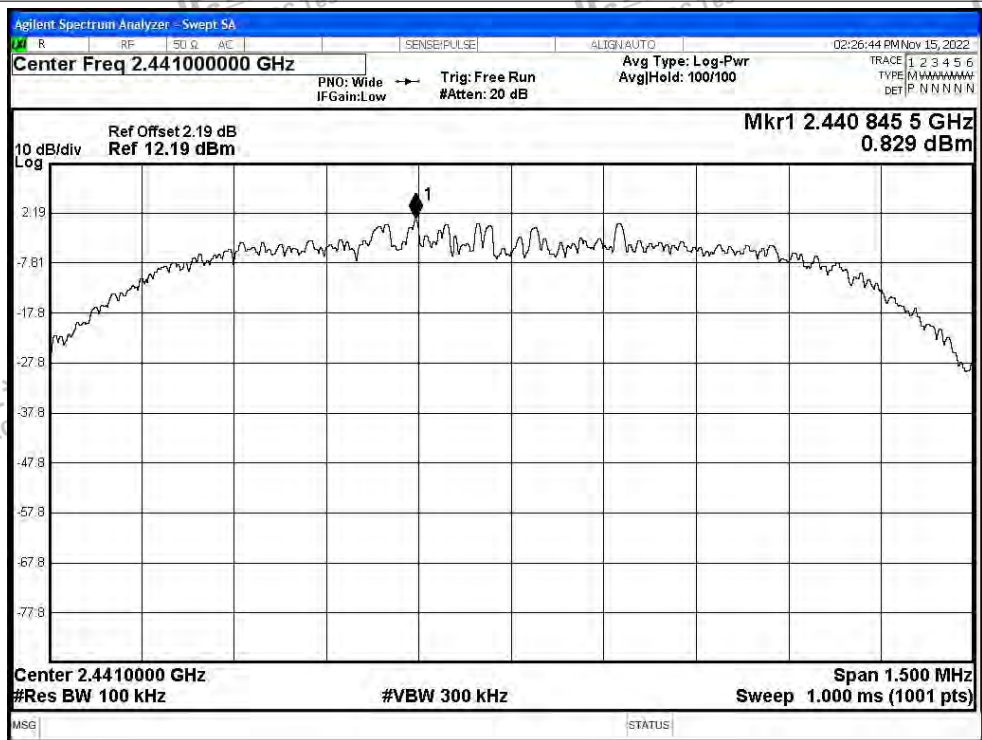


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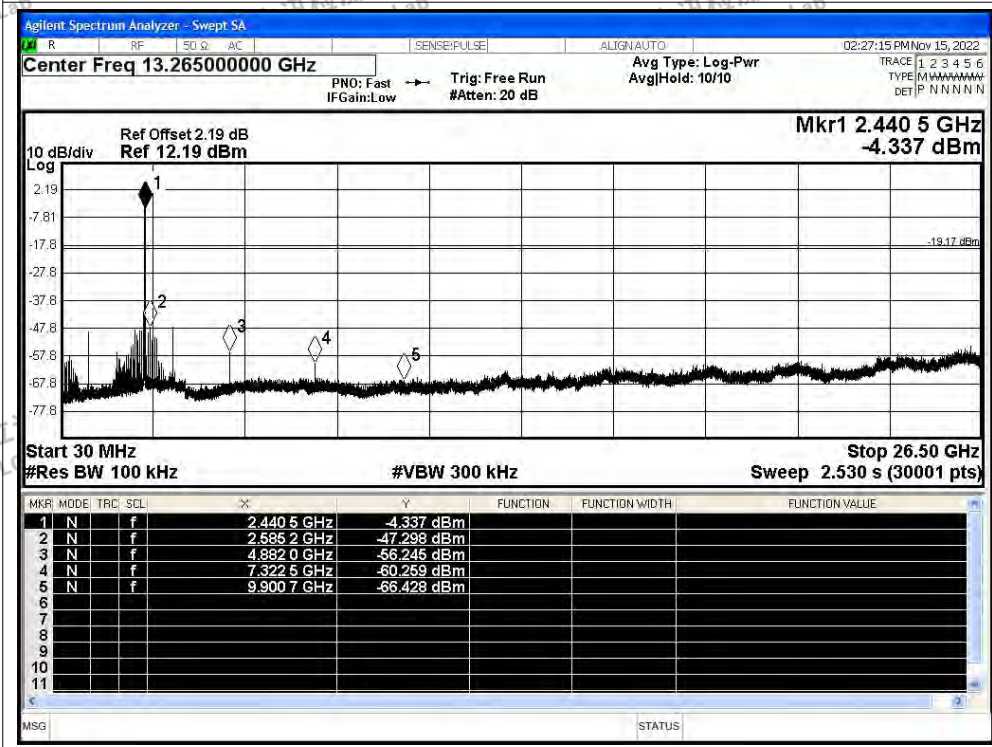




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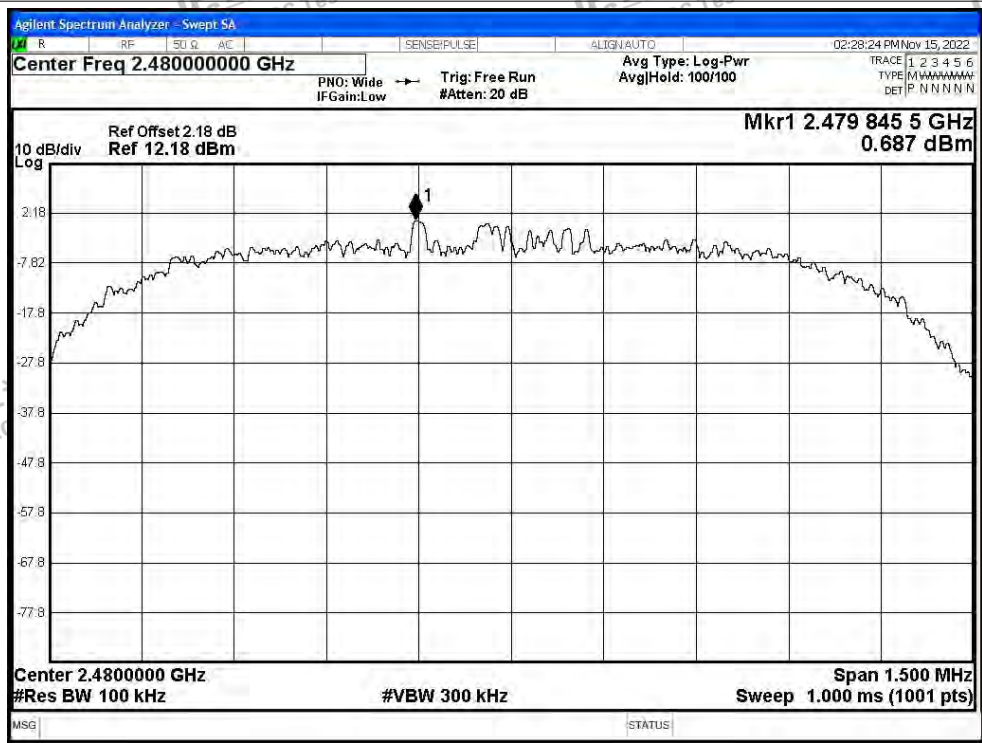


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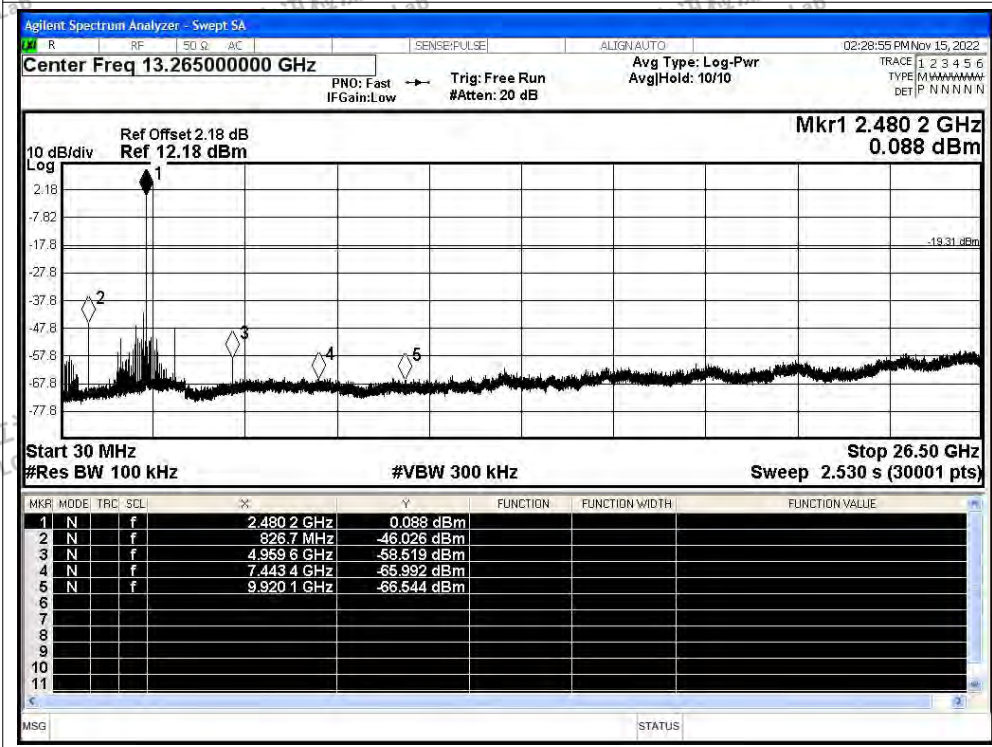




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

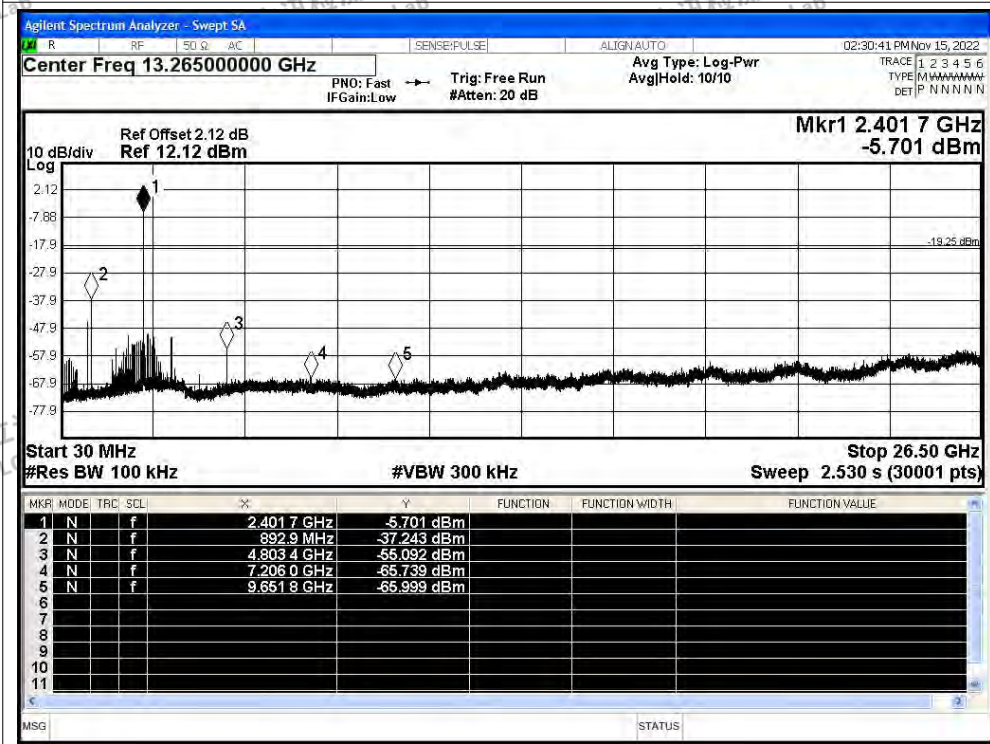




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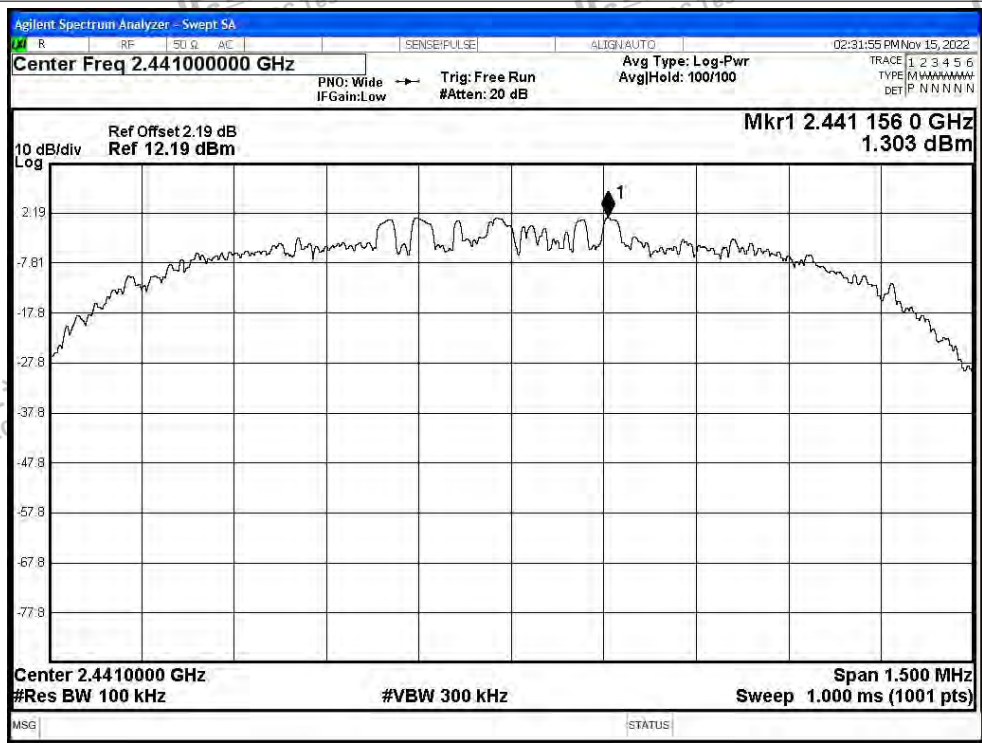


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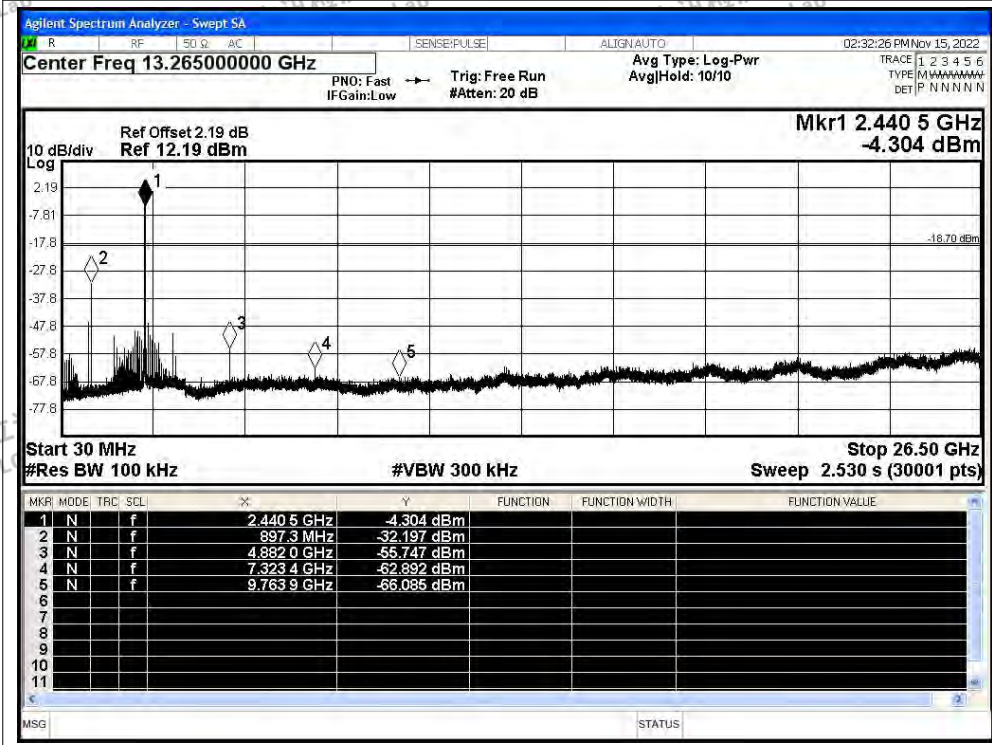




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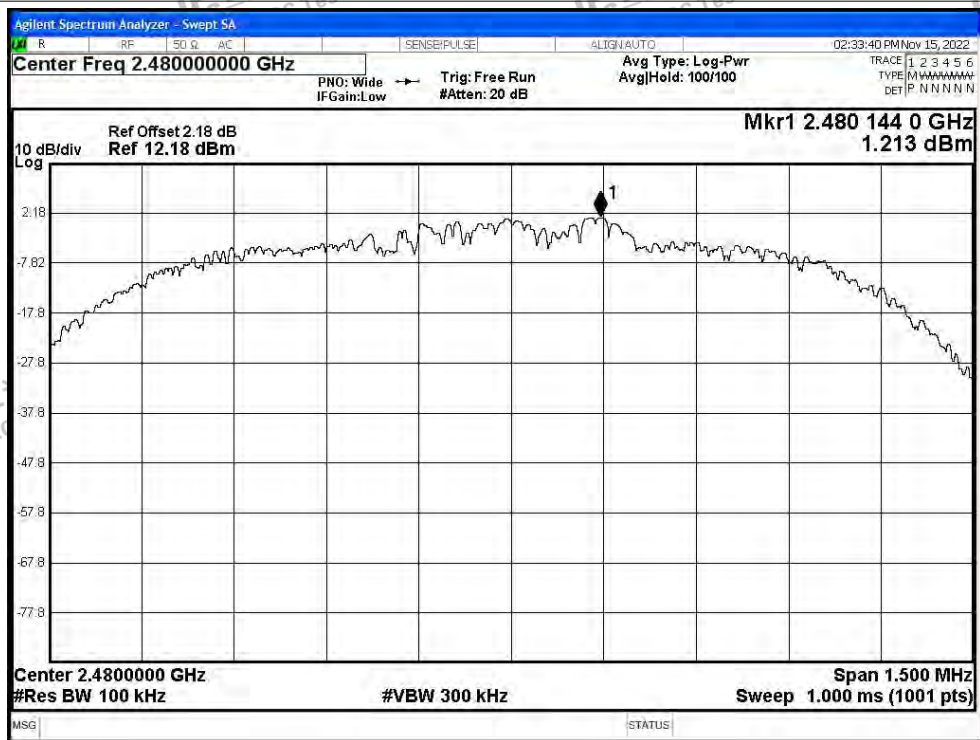


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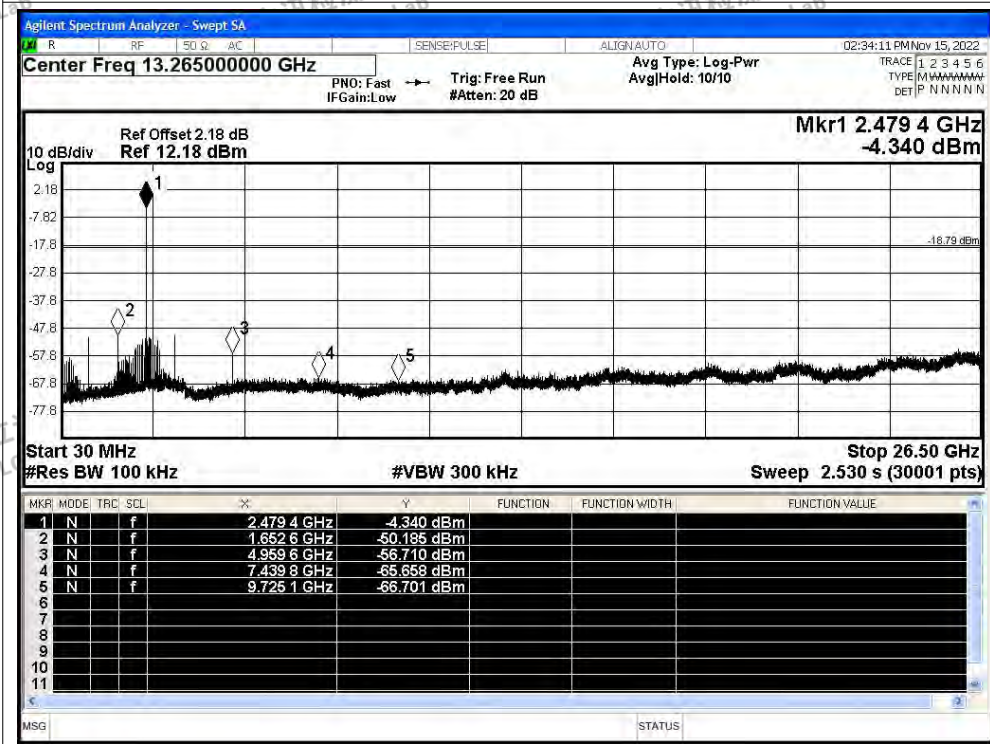




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





A.8 Restrict Band

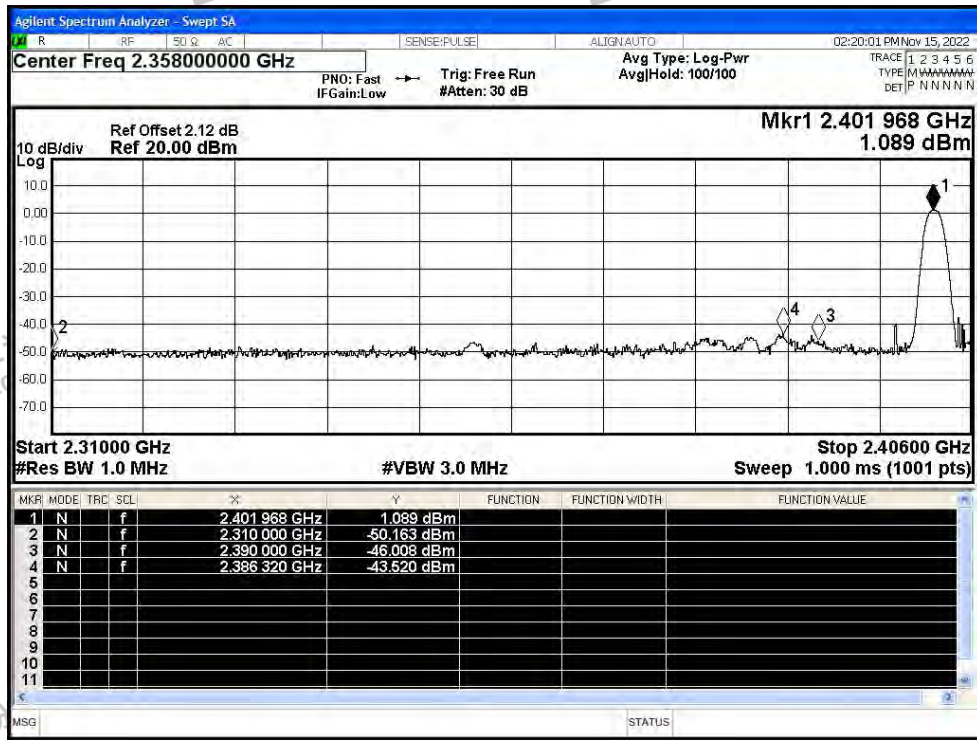
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBUV/m)	Detector	Limit (dBUV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.16	2	47.1	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-60.46	2	36.8	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2386.32	-43.52	2	53.74	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2385.84	-49.99	2	47.27	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-46.01	2	51.25	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-53.32	2	43.94	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.62	2	47.64	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-58.72	2	38.54	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2495.752	-43.5	2	53.76	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2499.16	-50.57	2	46.69	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-48.01	2	49.25	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-56.13	2	41.13	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-51.2	2	46.06	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-60.48	2	36.78	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2383.152	-44.61	2	52.65	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2386.032	-52.85	2	44.41	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-47.65	2	49.61	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-56.17	2	41.09	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.19	2	48.07	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-59.26	2	38	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2499.04	-43.86	2	53.4	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2499.208	-53.54	2	43.72	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-46.5	2	50.76	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-56.93	2	40.33	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-49.63	2	47.63	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-60.36	2	36.9	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2381.808	-43.86	2	53.4	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2377.776	-52.85	2	44.41	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-47.61	2	49.65	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-54.75	2	42.51	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-49.4	2	47.86	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-59.27	2	37.99	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2499.28	-44.29	2	52.97	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2499.16	-53.65	2	43.61	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-47.9	2	49.36	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-56.9	2	40.36	Average	54	Pass



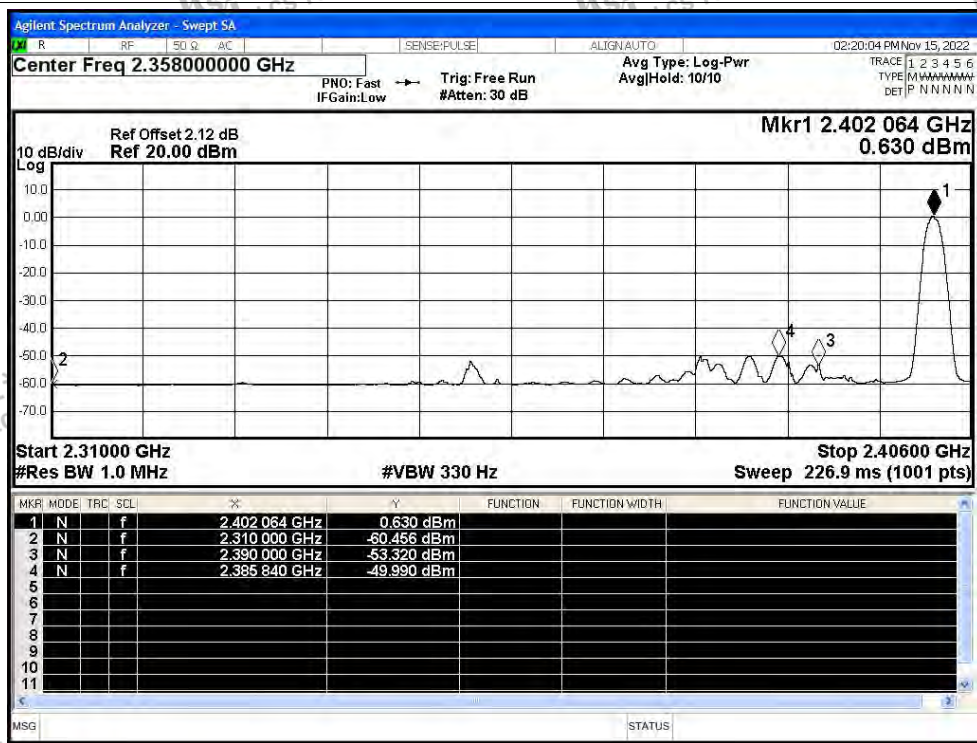


Test Graphs

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

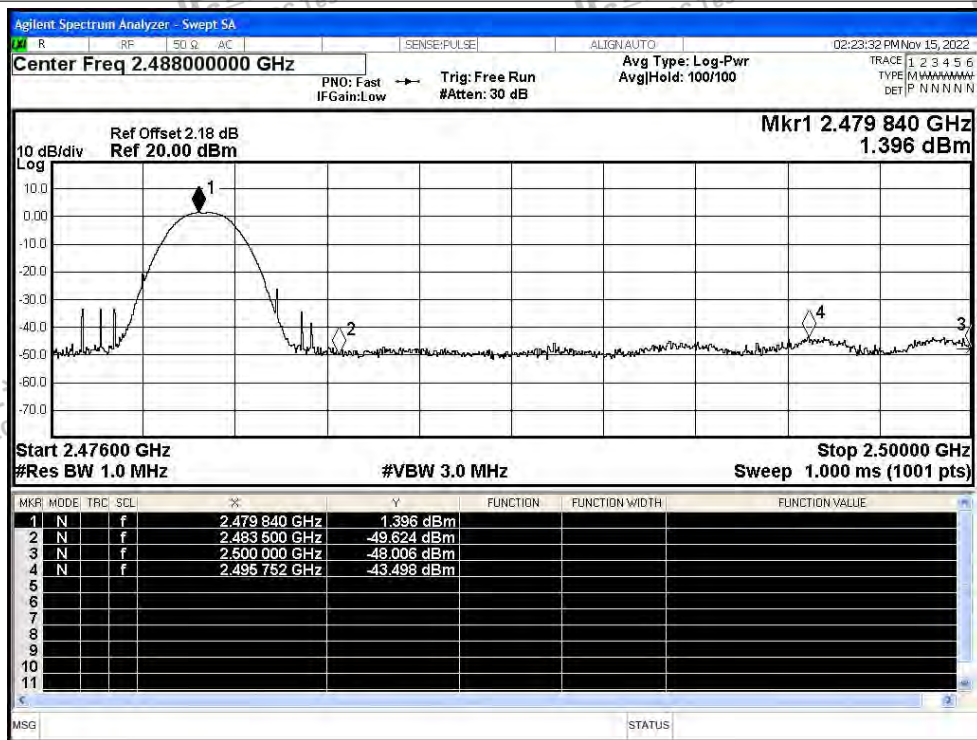


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

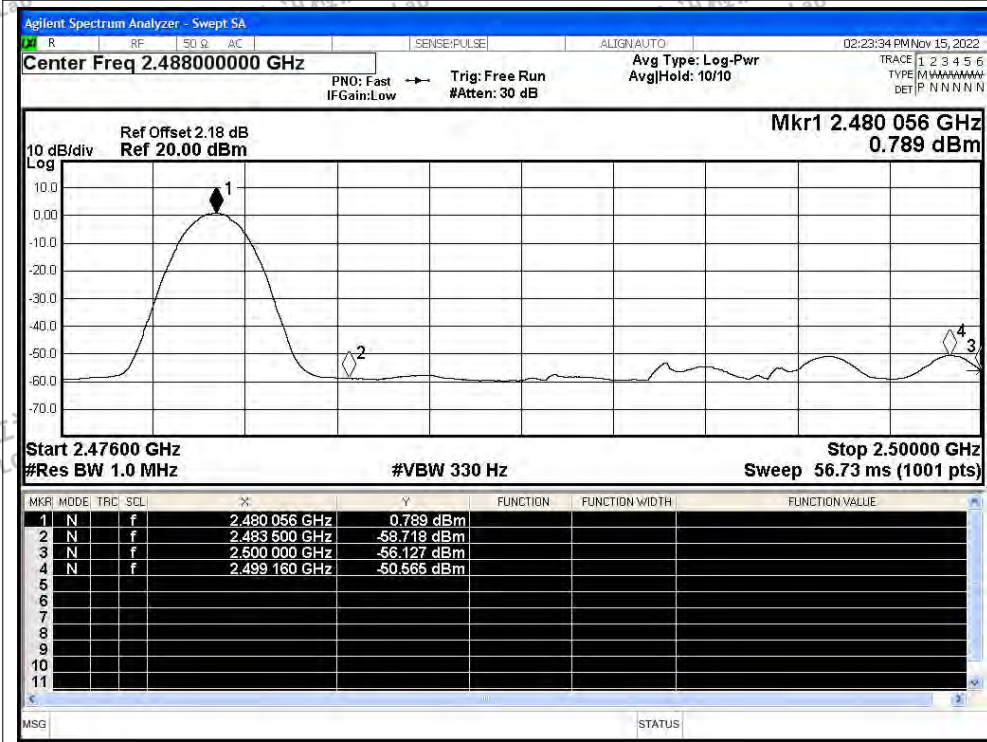




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

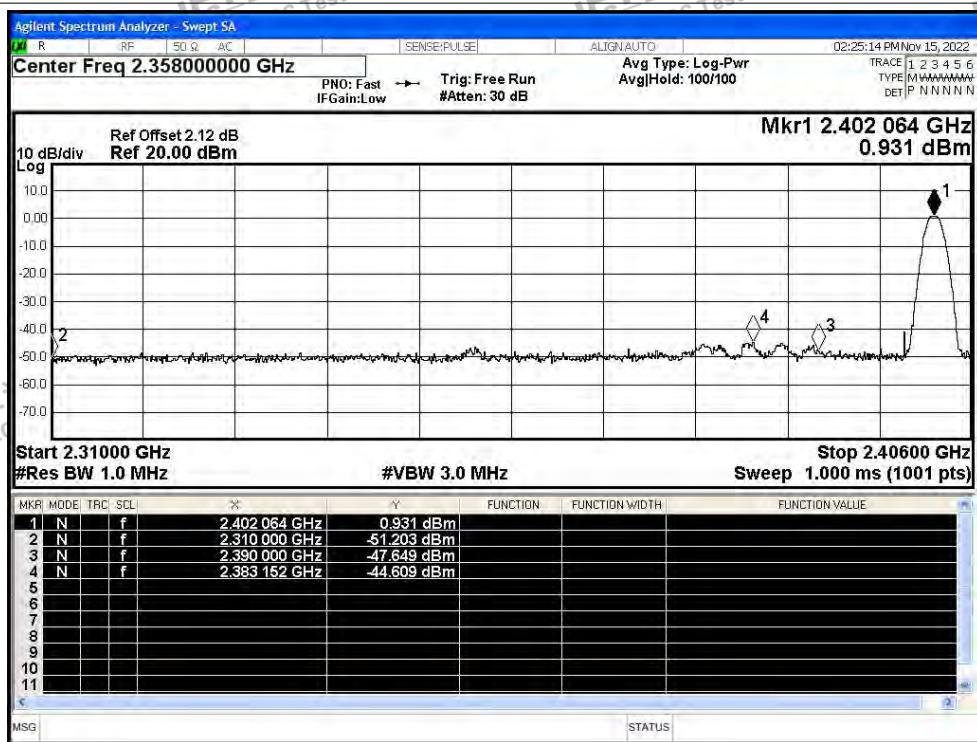


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

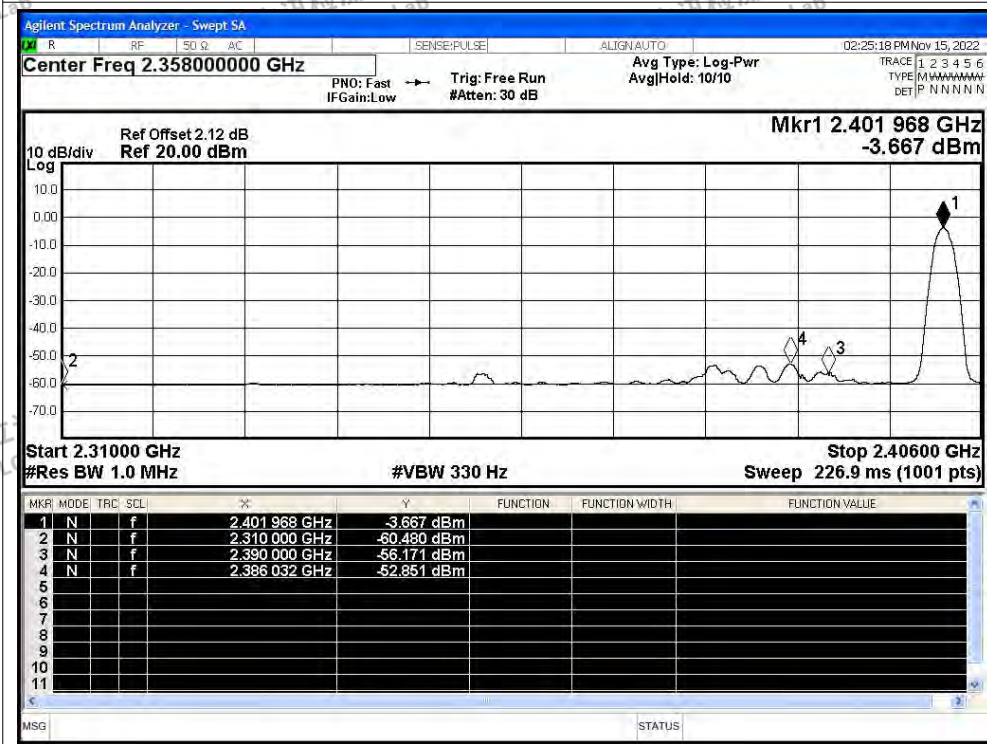




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

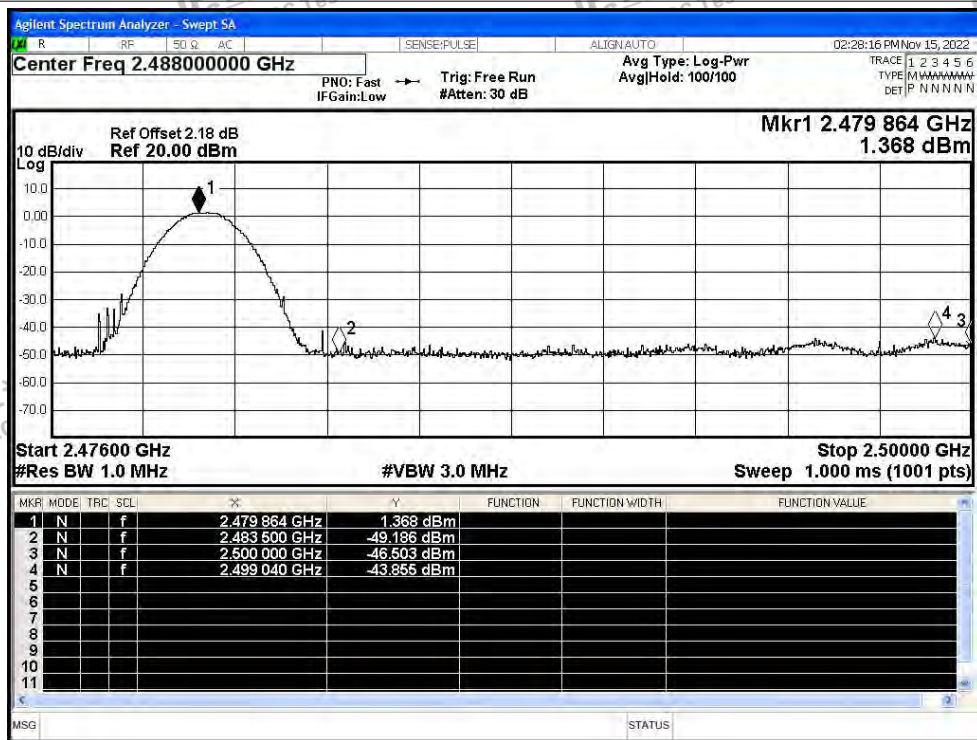


Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average

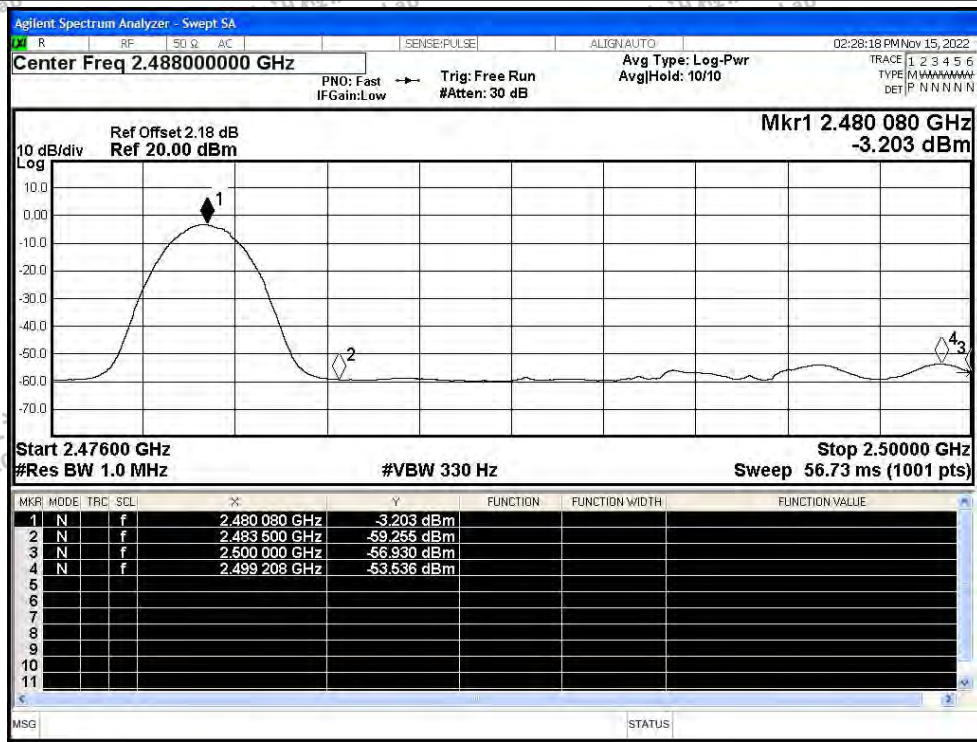




Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak

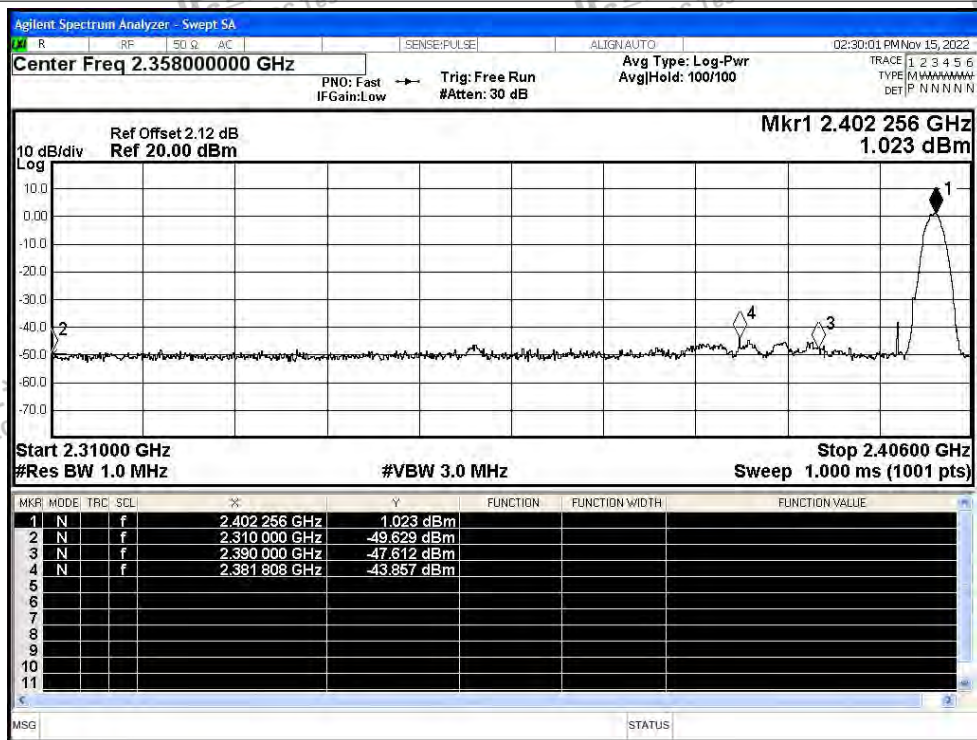


Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average

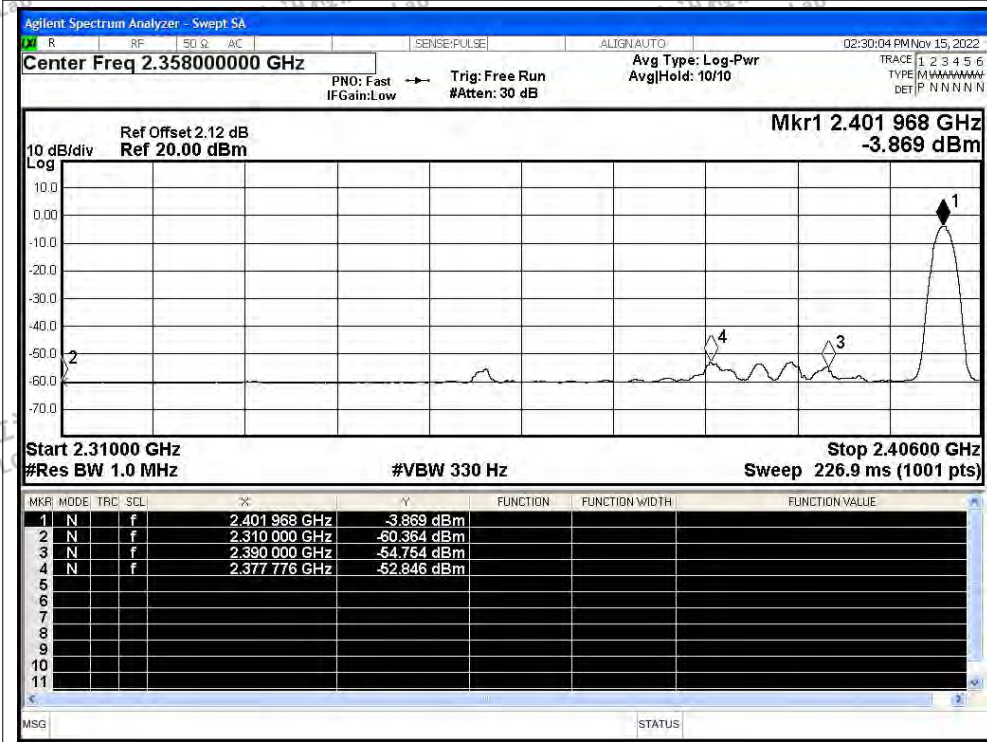




Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak

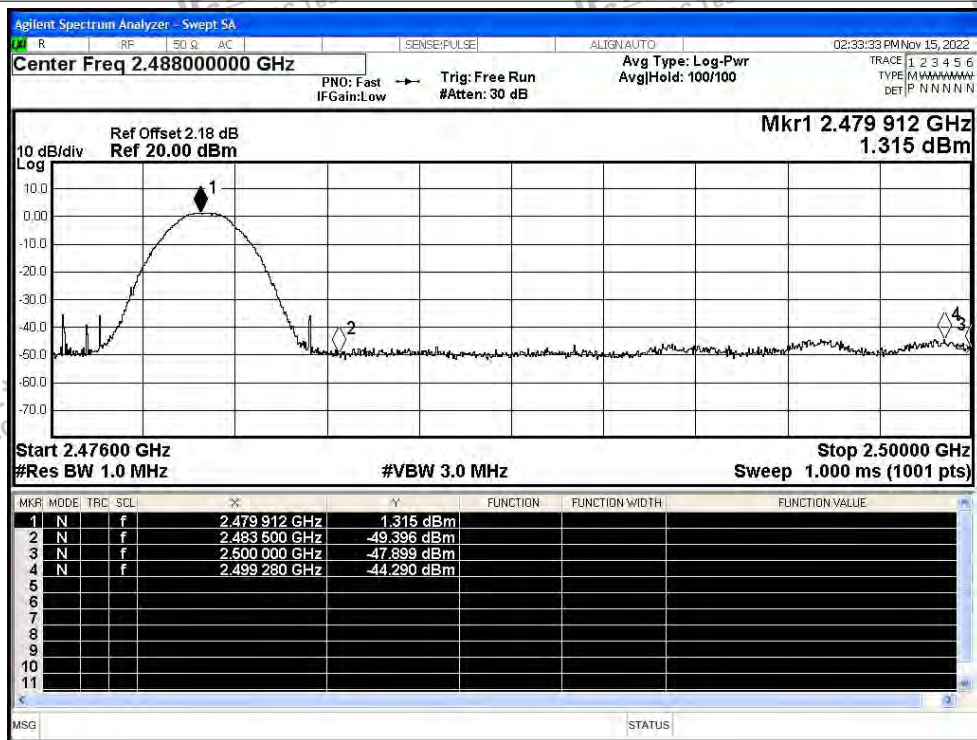


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average





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



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

