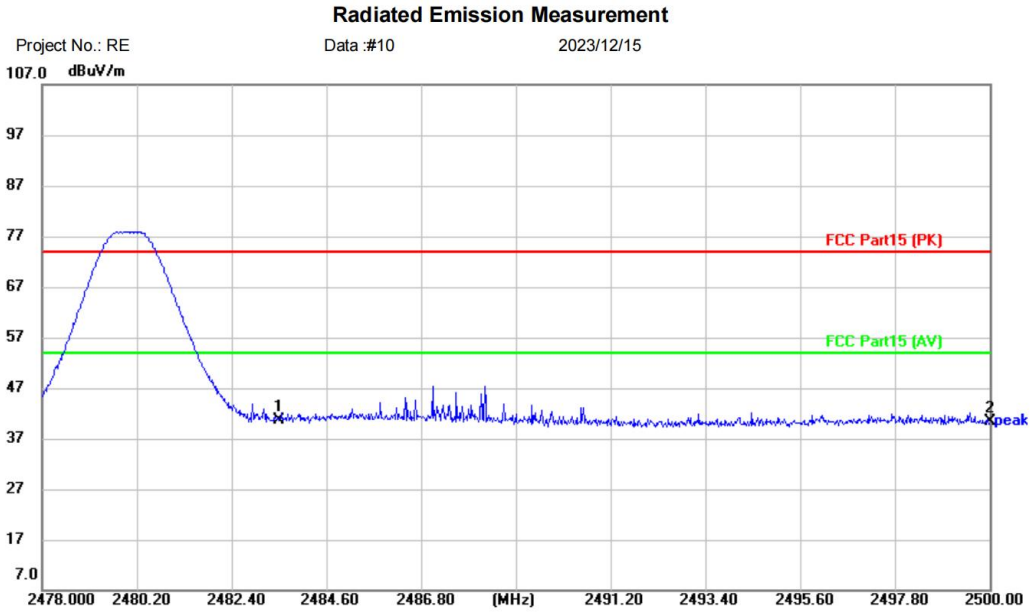
[TestMode: TX highest channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: WIRELESS SPEAKER
M/N: G06
Mode: TX-2480
Note:

Polarization: *Vertical*
Power:

Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	43.47	-2.91	40.56	74.00	-33.44	peak	
2		2500.000	43.26	-3.00	40.26	74.00	-33.74	peak	

Test Result: Pass

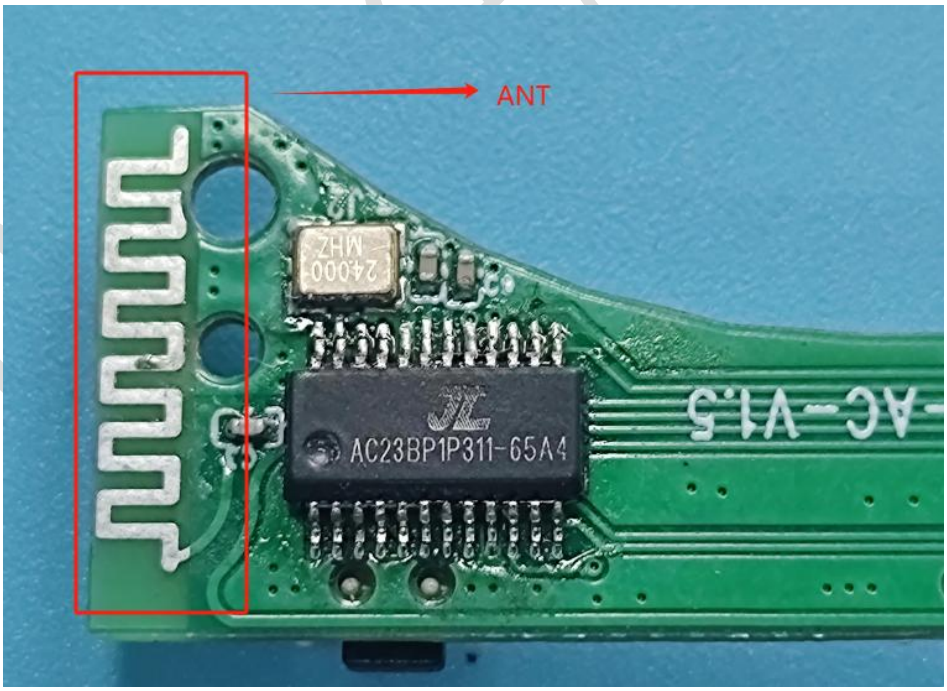
18 ANTENNA REQUIREMENT

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	N/A

18.1 CONCLUSION

Standard Requirement:
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:
The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is -0.58 dBi.



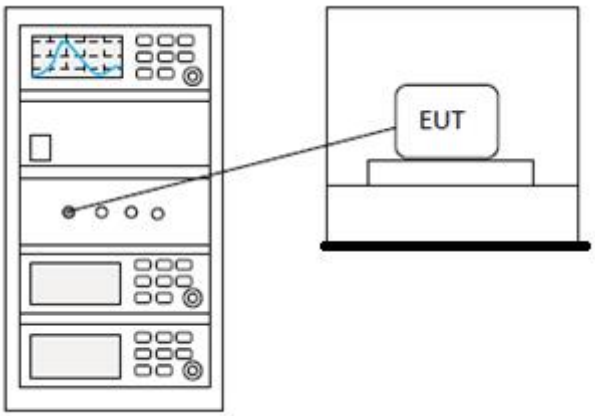
19 CONDUCTED SPURIOUS EMISSIONS

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.6 & Section 11.11
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Niki
Temperature	24℃
Humidity	53%

19.1 LIMITS

Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

19.2 BLOCK DIAGRAM OF TEST SETUP



19.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

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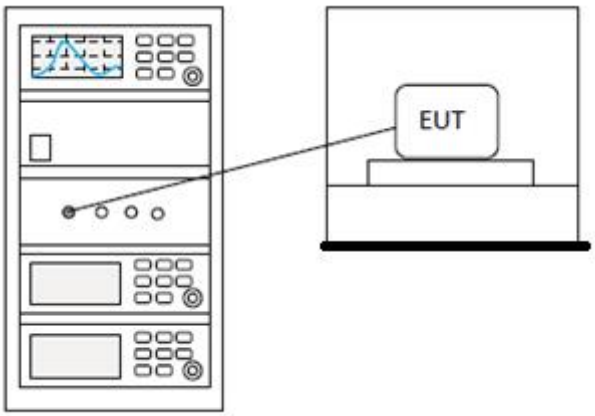
20 CONDUCTED BAND EDGES MEASUREMENT

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Niki
Temperature	24℃
Humidity	53%

20.1 LIMITS

Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

20.2 BLOCK DIAGRAM OF TEST SETUP



20.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

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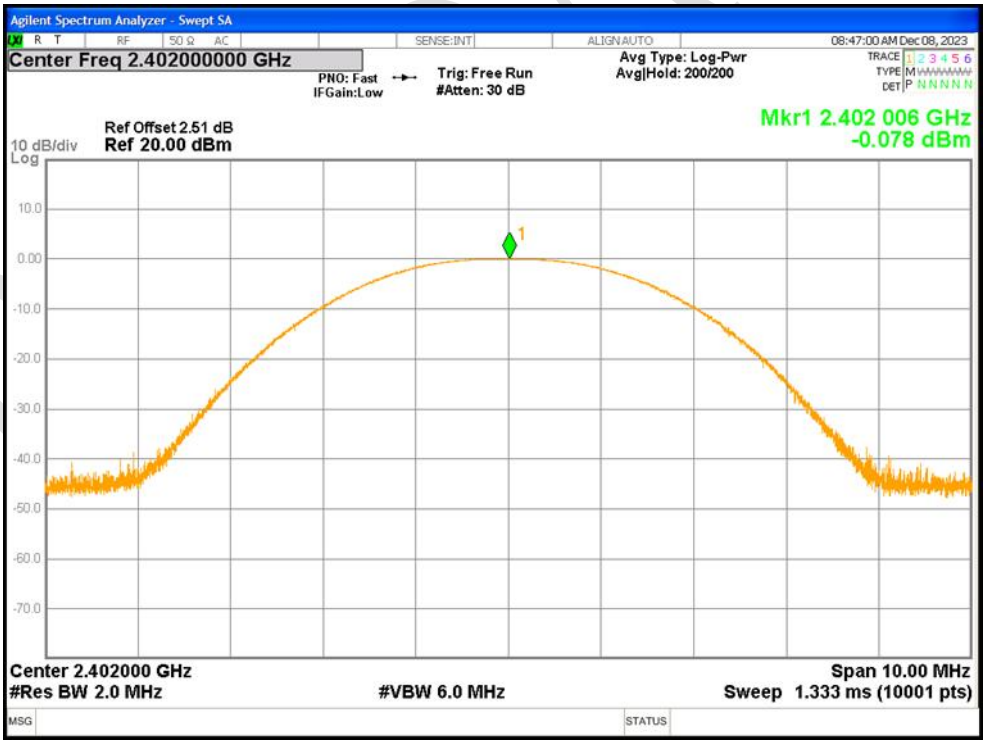
21 APPENDIX

Appendix1

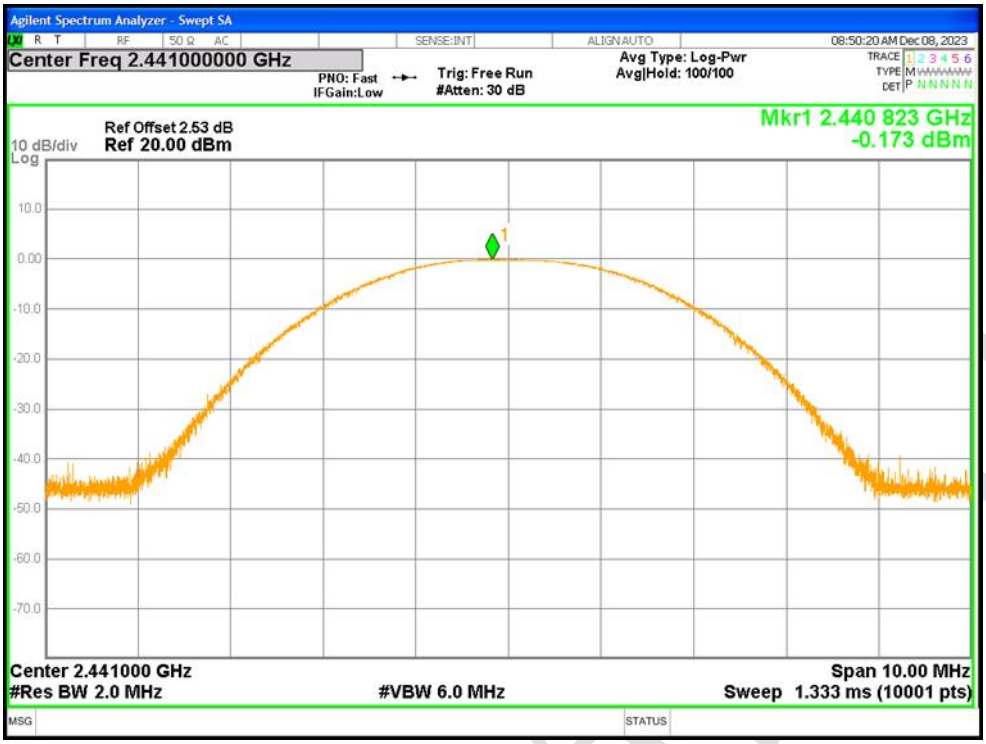
21.1 MAXIMUM CONDUCTED OUTPUT POWER

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	-0.078	21	Pass
NVNT	1-DH1	2441	Ant1	-0.173	21	Pass
NVNT	1-DH1	2480	Ant1	-0.104	21	Pass
NVNT	2-DH1	2402	Ant1	0.659	21	Pass
NVNT	2-DH1	2441	Ant1	0.57	21	Pass
NVNT	2-DH1	2480	Ant1	0.621	21	Pass
NVNT	3-DH1	2402	Ant1	1.258	21	Pass
NVNT	3-DH1	2441	Ant1	1.159	21	Pass
NVNT	3-DH1	2480	Ant1	1.172	21	Pass

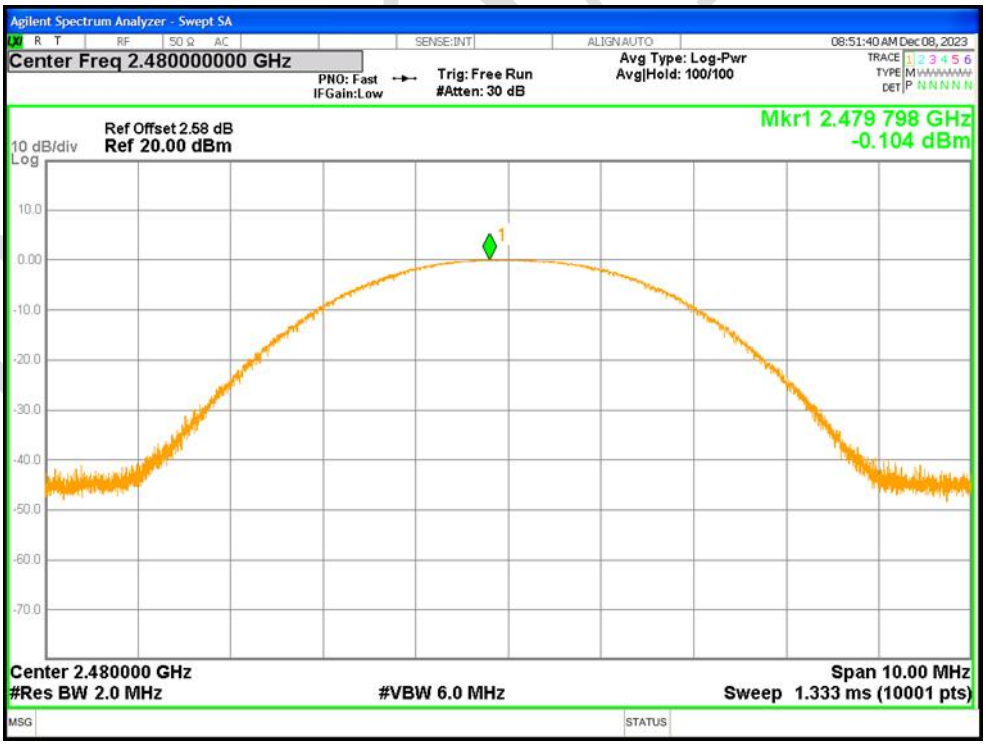
Power NVNT 1-DH1 2402MHz Ant1



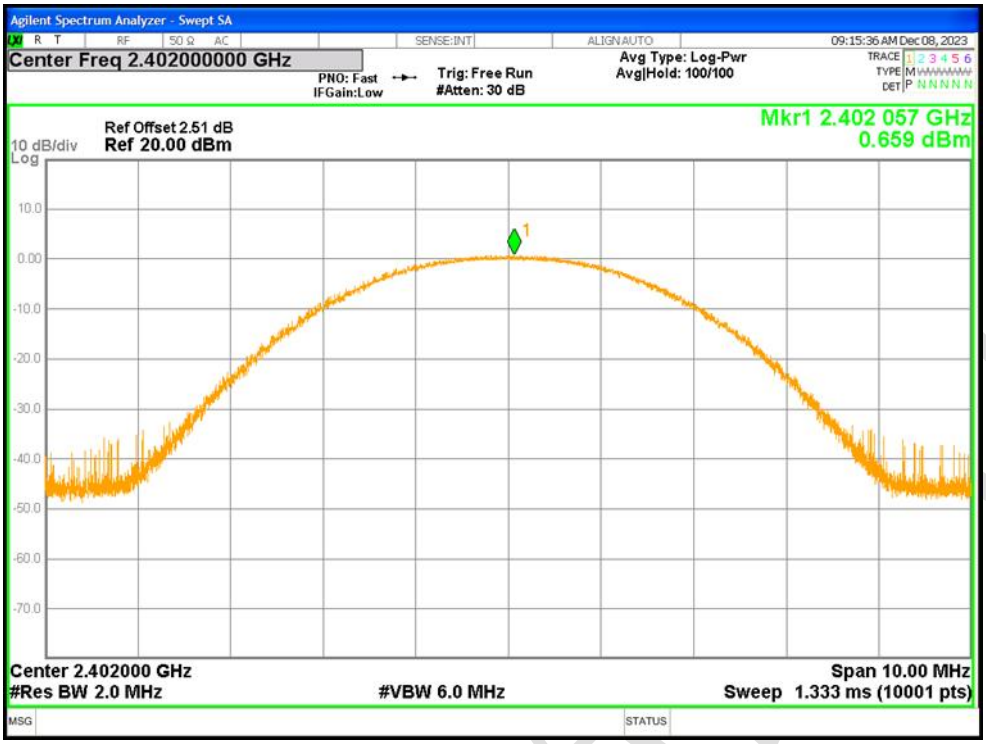
Power NVNT 1-DH1 2441MHz Ant1



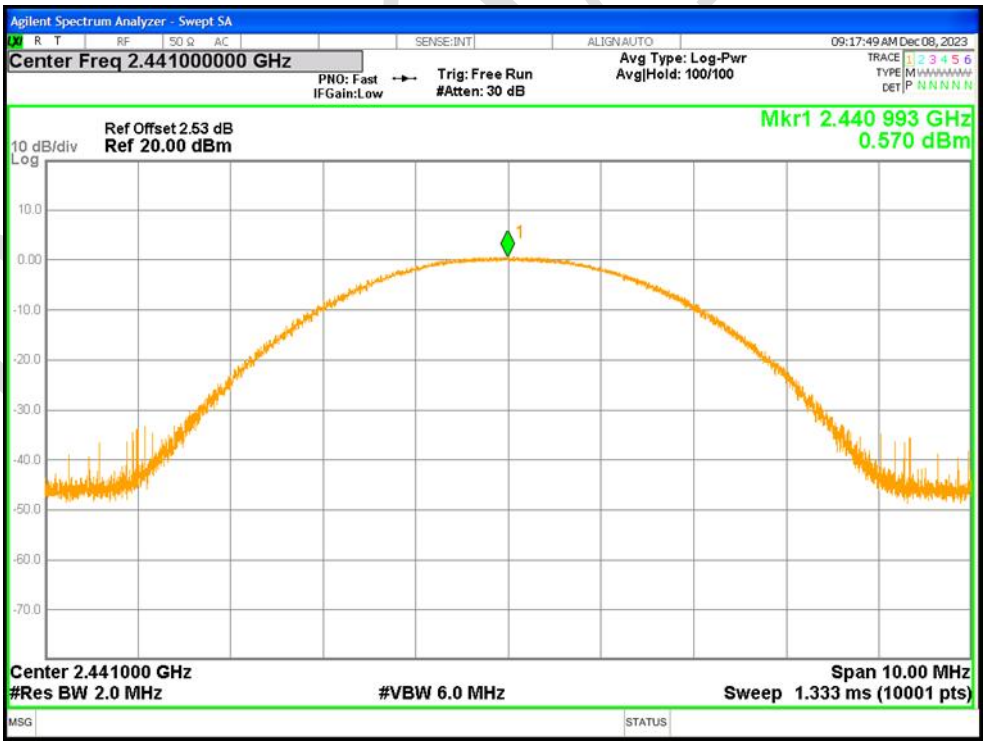
Power NVNT 1-DH1 2480MHz Ant1



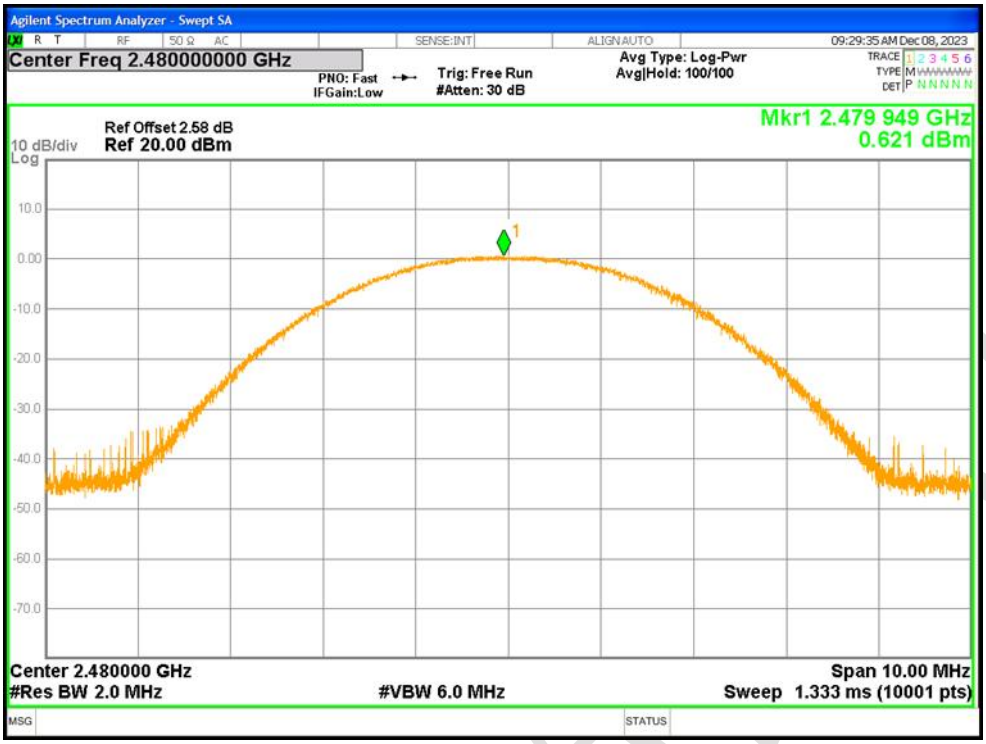
Power NVNT 2-DH1 2402MHz Ant1



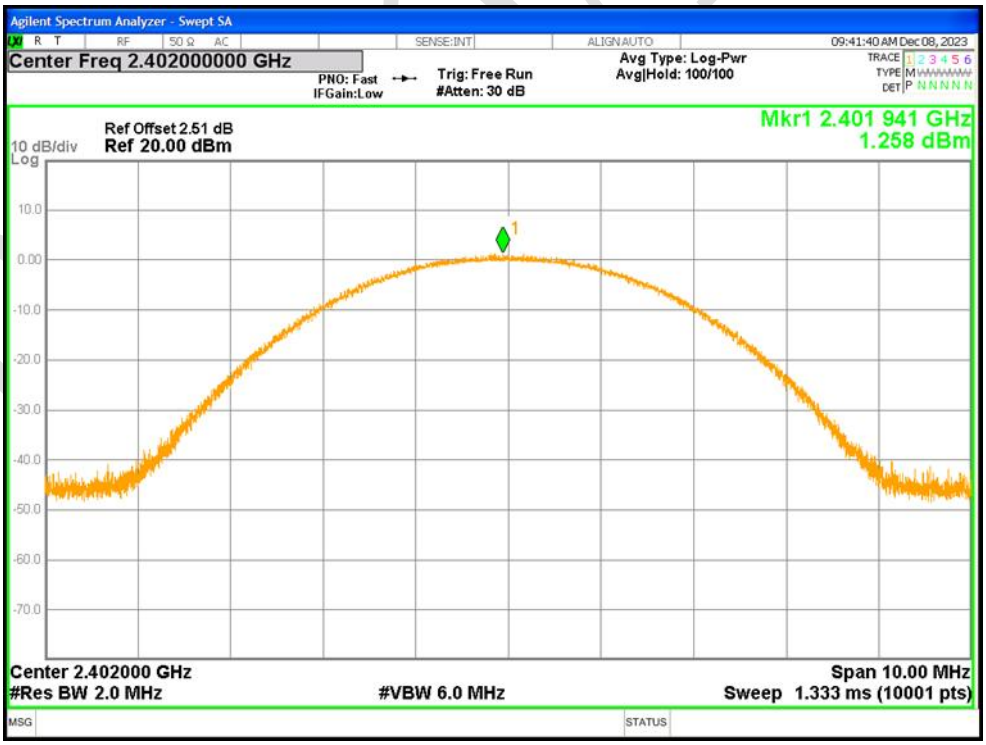
Power NVNT 2-DH1 2441MHz Ant1



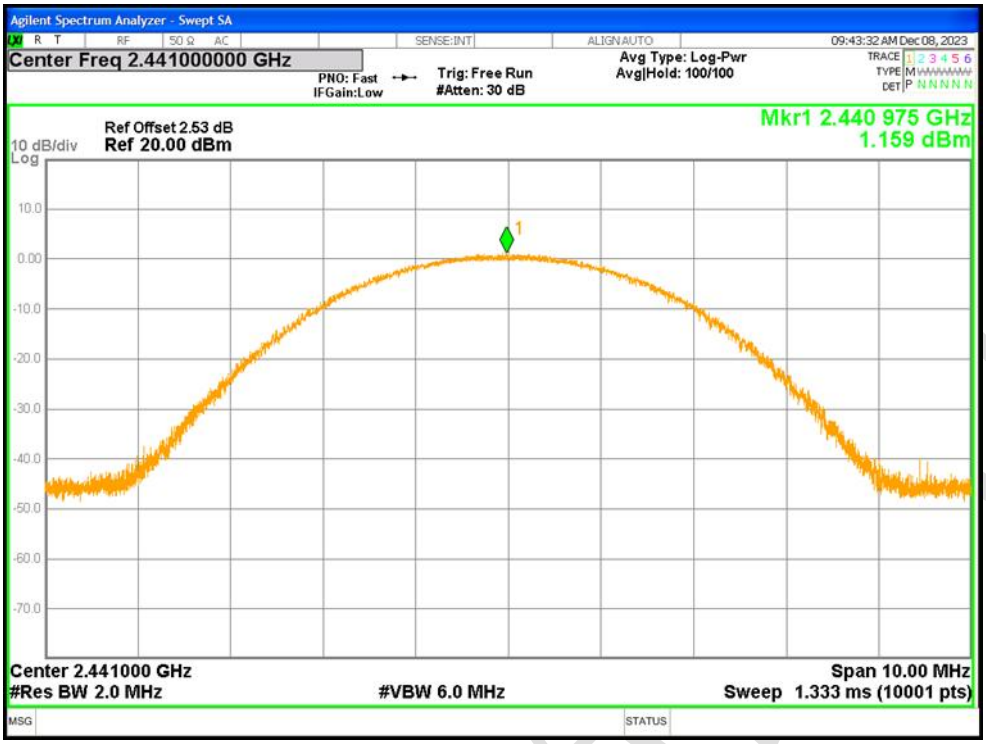
Power NVNT 2-DH1 2480MHz Ant1



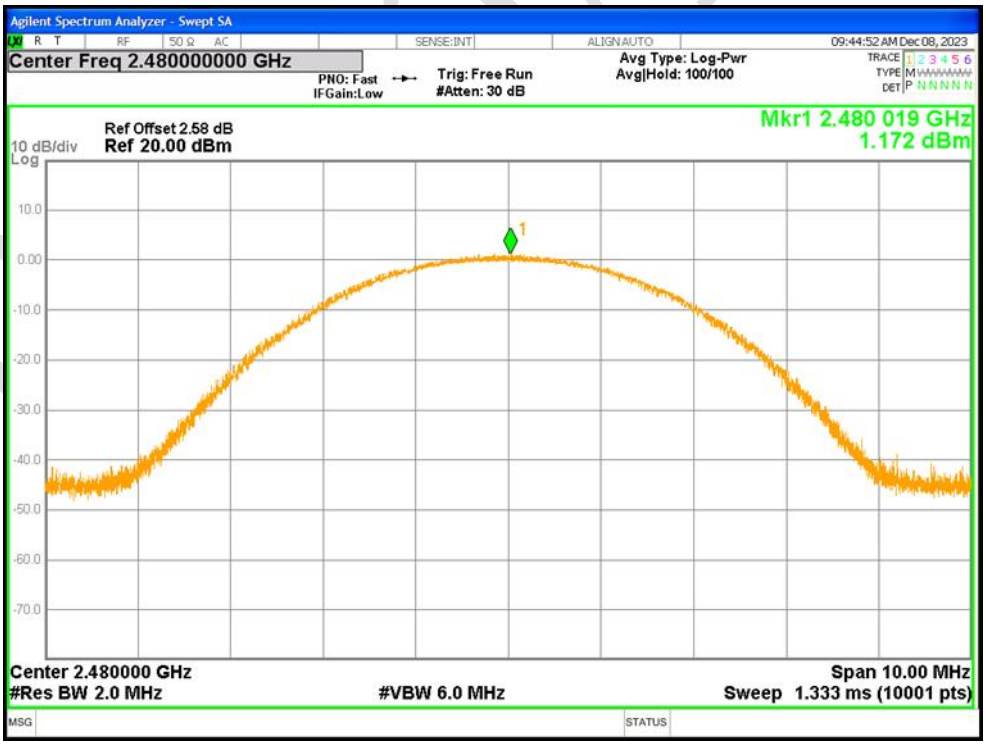
Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



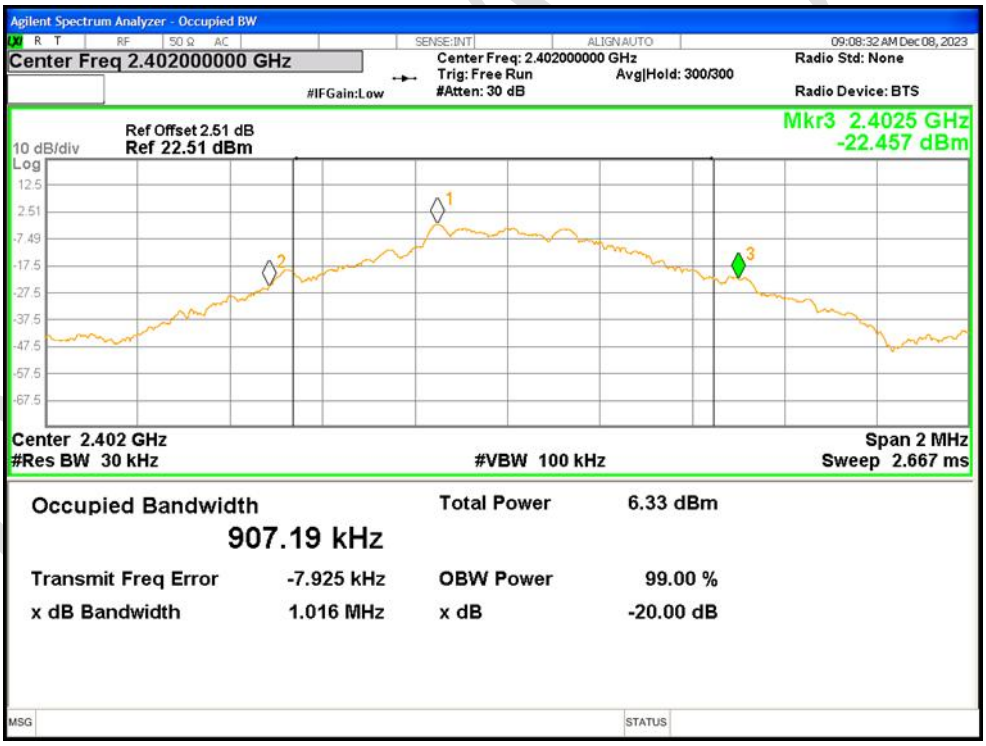
Power NVNT 3-DH1 2480MHz Ant1



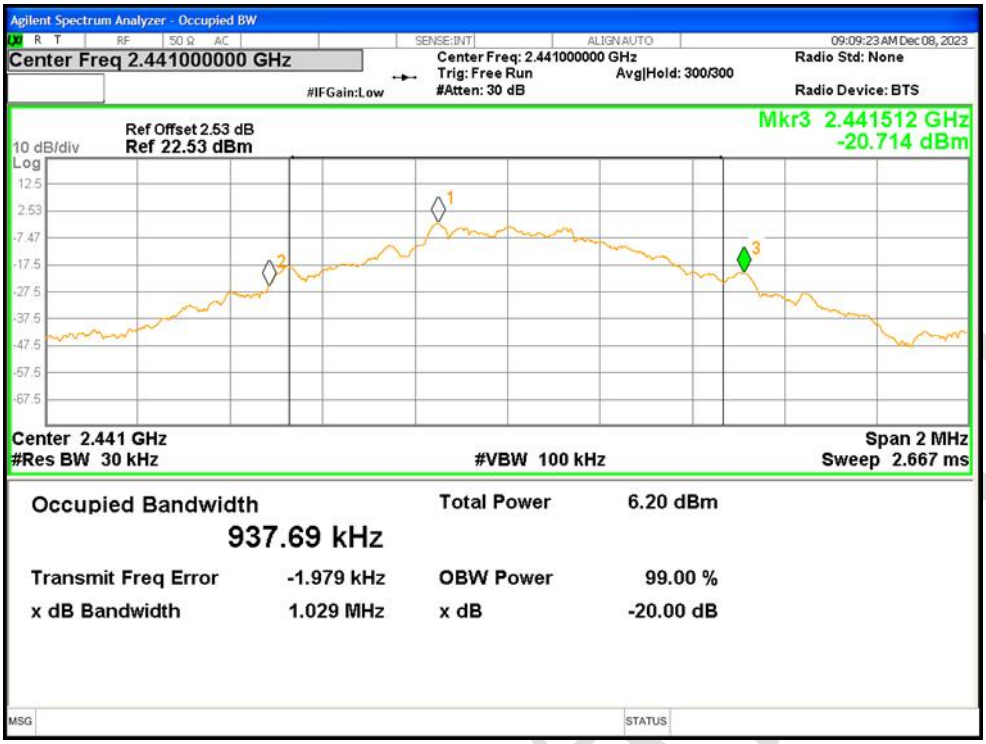
21.2 -20DB BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	1.016	N/A	Pass
NVNT	1-DH1	2441	Ant1	1.029	N/A	Pass
NVNT	1-DH1	2480	Ant1	1.028	N/A	Pass
NVNT	2-DH1	2402	Ant1	1.29	N/A	Pass
NVNT	2-DH1	2441	Ant1	1.284	N/A	Pass
NVNT	2-DH1	2480	Ant1	1.28	N/A	Pass
NVNT	3-DH1	2402	Ant1	1.252	N/A	Pass
NVNT	3-DH1	2441	Ant1	1.24	N/A	Pass
NVNT	3-DH1	2480	Ant1	1.24	N/A	Pass

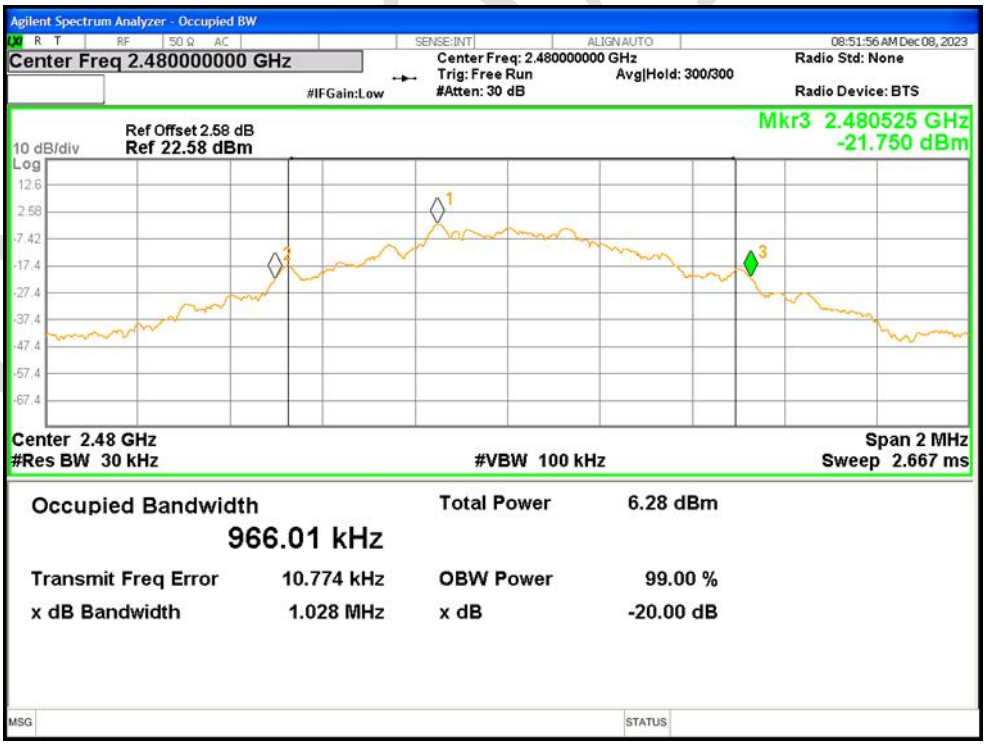
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



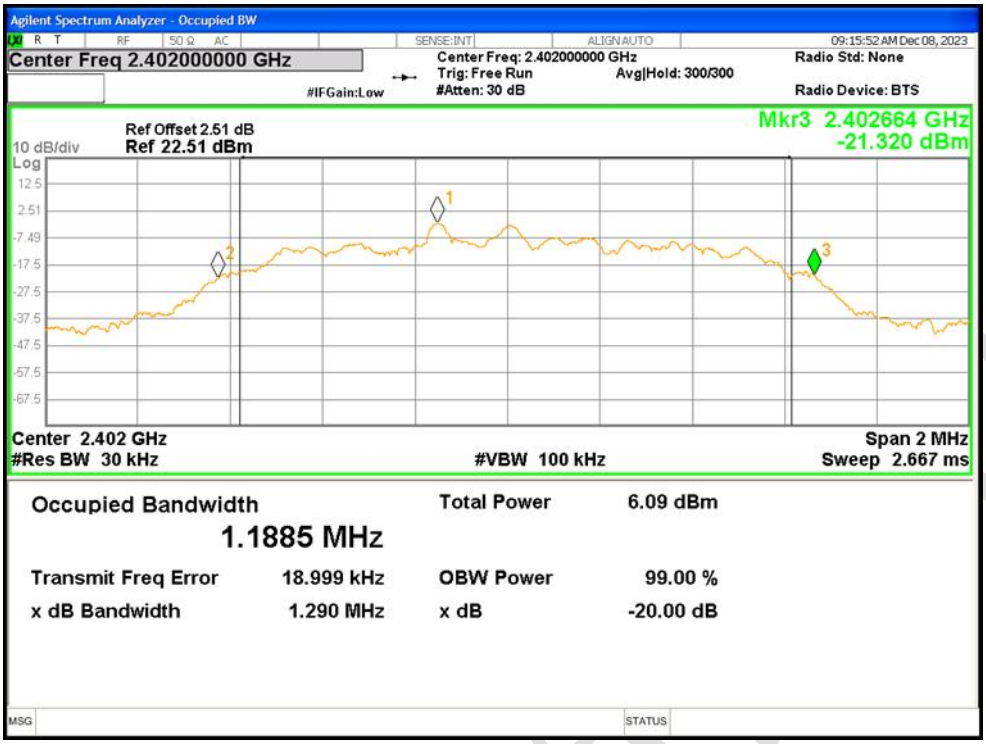
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



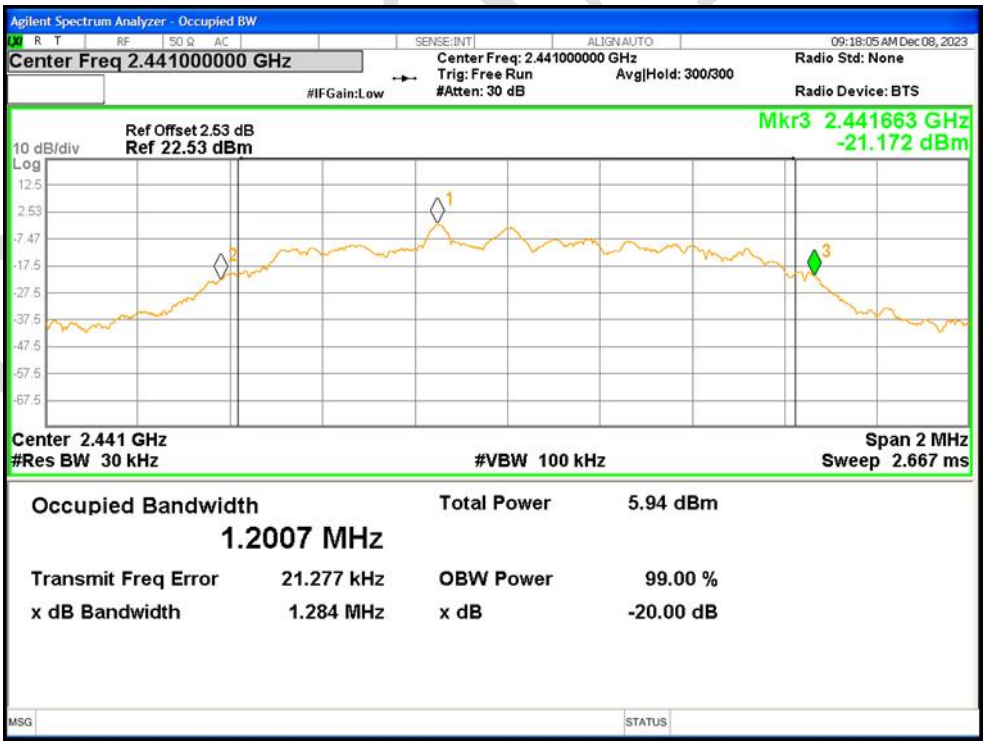
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



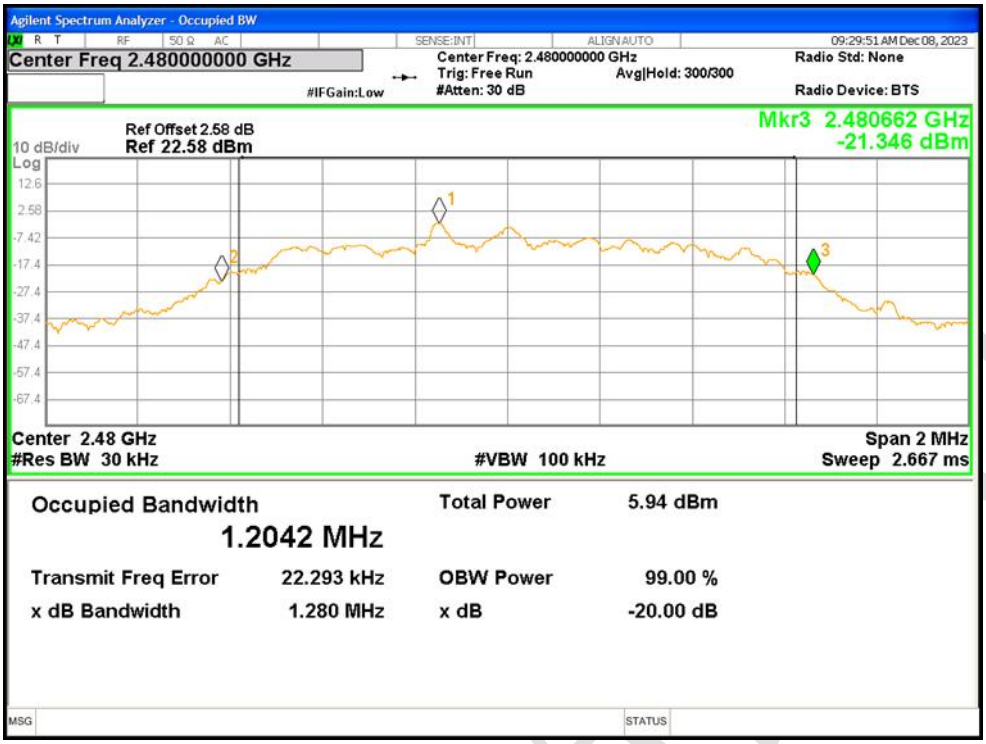
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



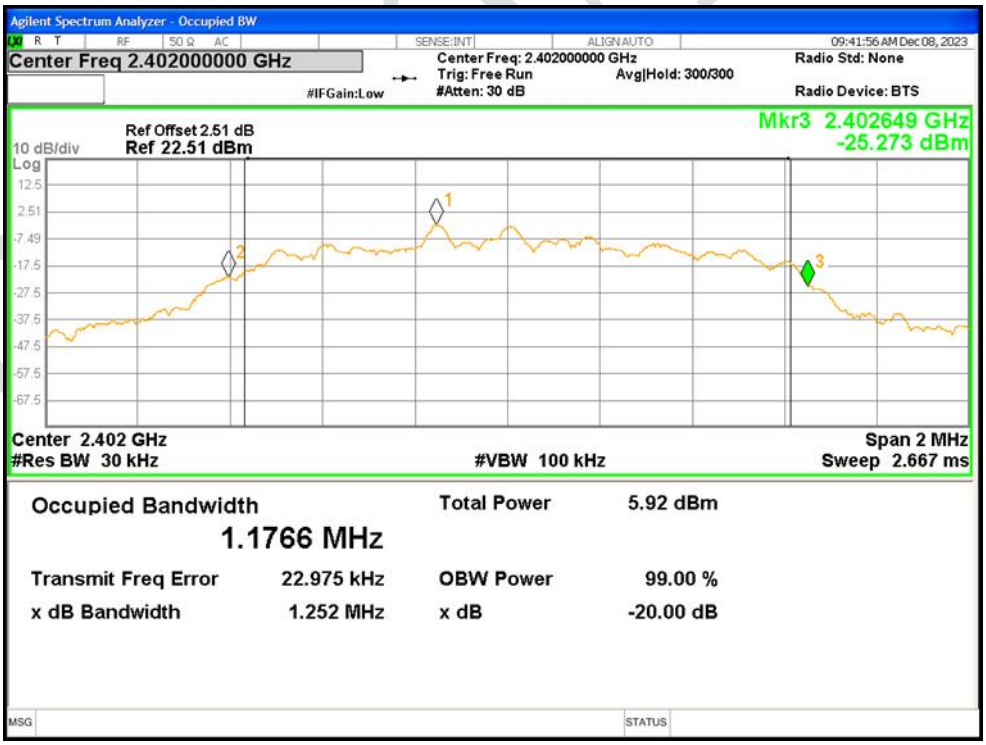
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



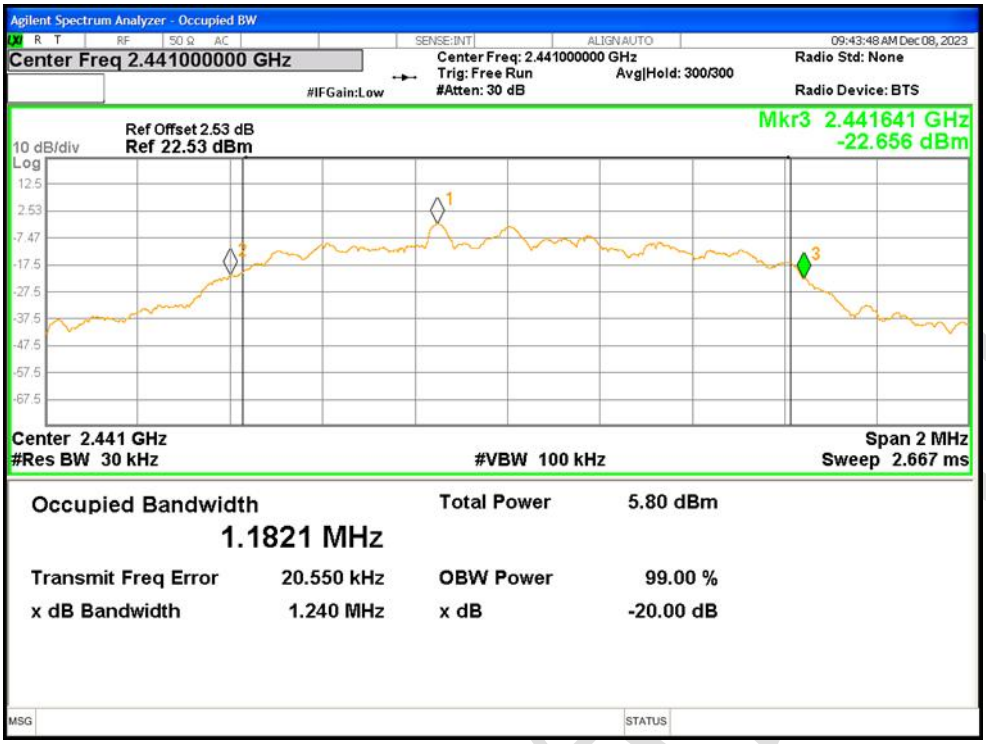
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1



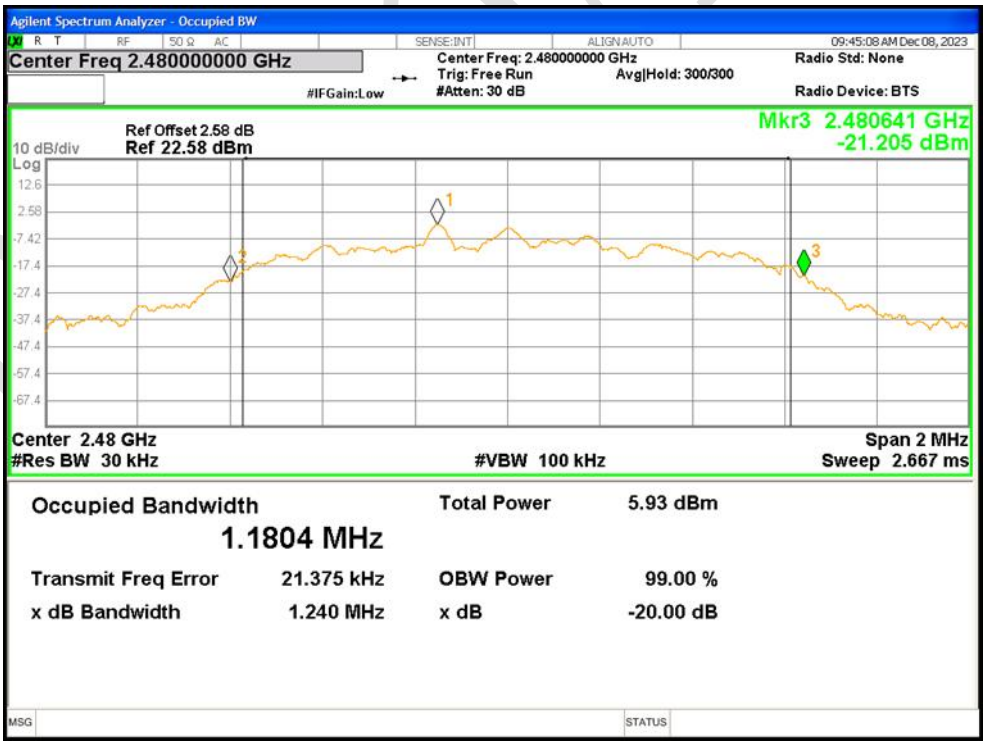
-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



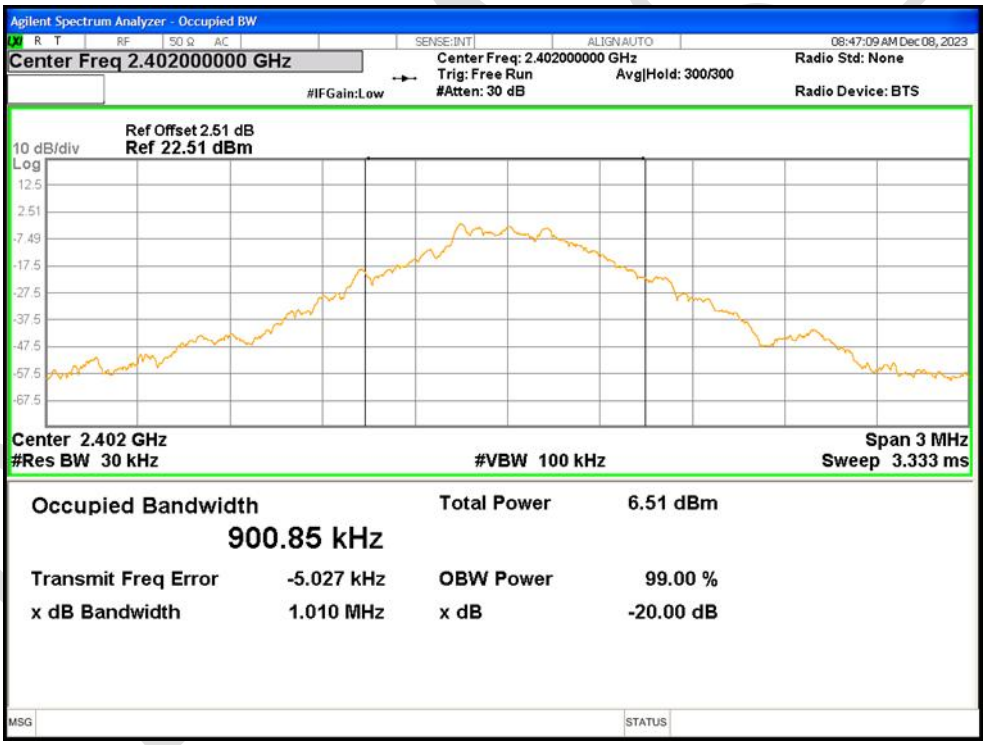
-20dB Bandwidth NVNT 3-DH1 2480MHz Ant1



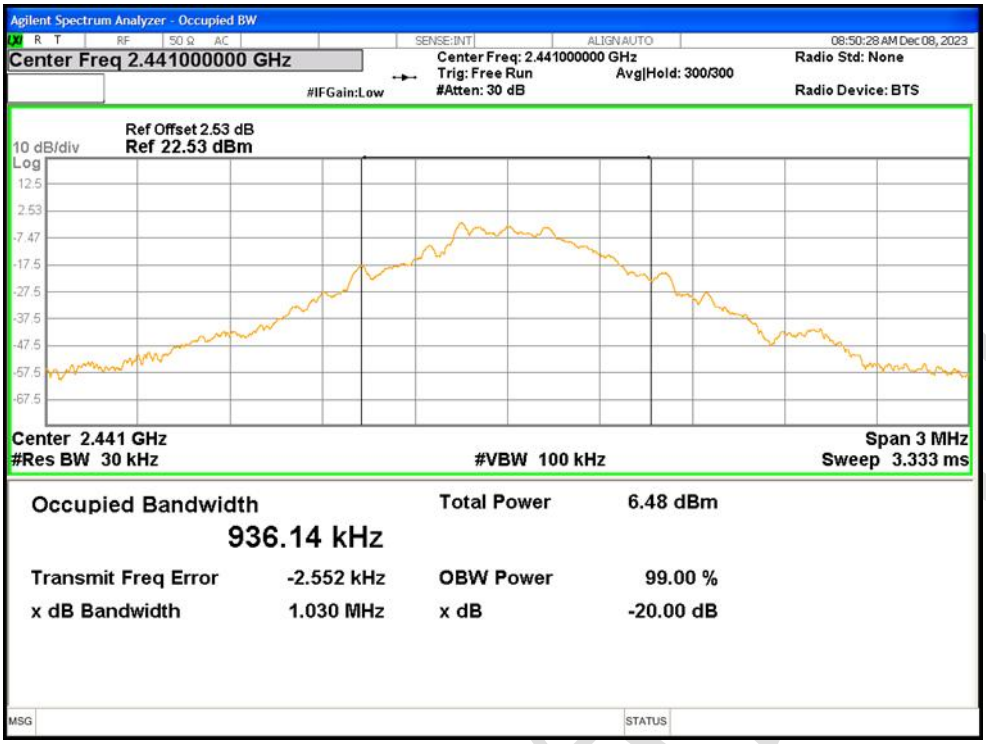
21.3 OCCUPIED CHANNEL BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.90085
NVNT	1-DH1	2441	Ant1	0.93614
NVNT	1-DH1	2480	Ant1	0.96245
NVNT	2-DH1	2402	Ant1	1.1965
NVNT	2-DH1	2441	Ant1	1.2045
NVNT	2-DH1	2480	Ant1	1.2075
NVNT	3-DH1	2402	Ant1	1.1783
NVNT	3-DH1	2441	Ant1	1.1834
NVNT	3-DH1	2480	Ant1	1.1877

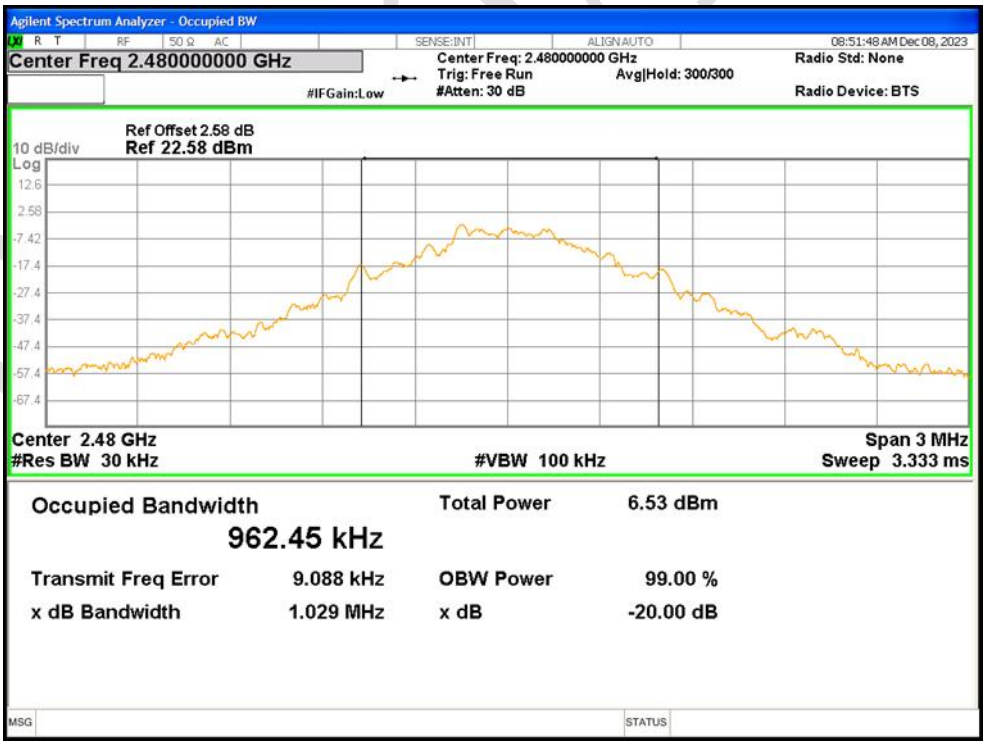
OBW NVNT 1-DH1 2402MHz Ant1



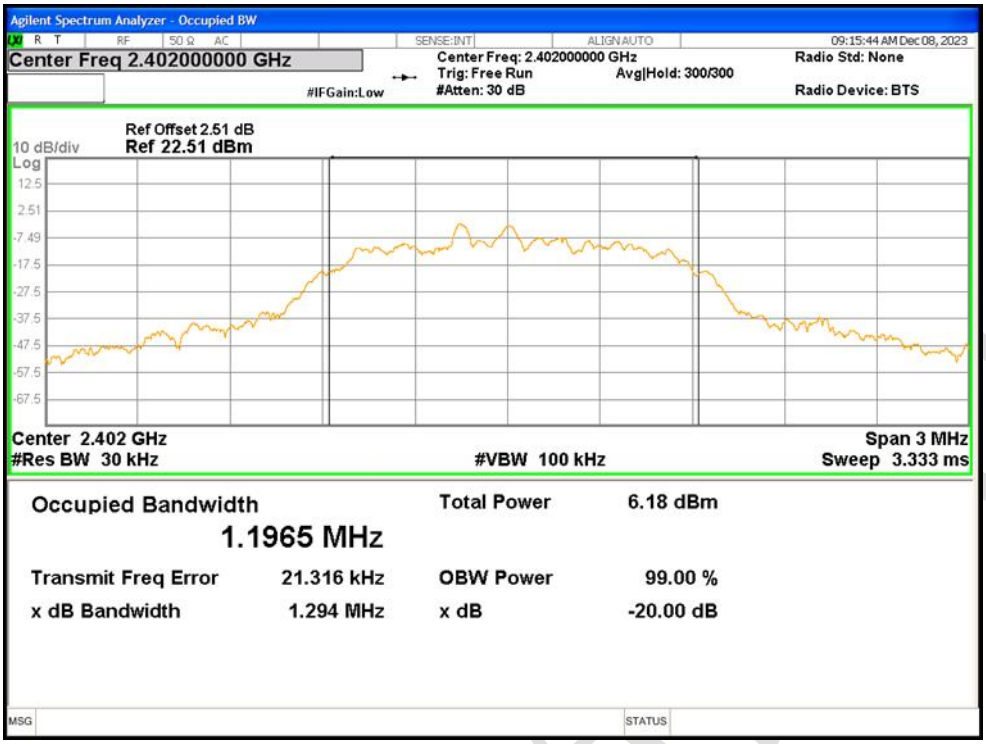
OBW NVNT 1-DH1 2441MHz Ant1



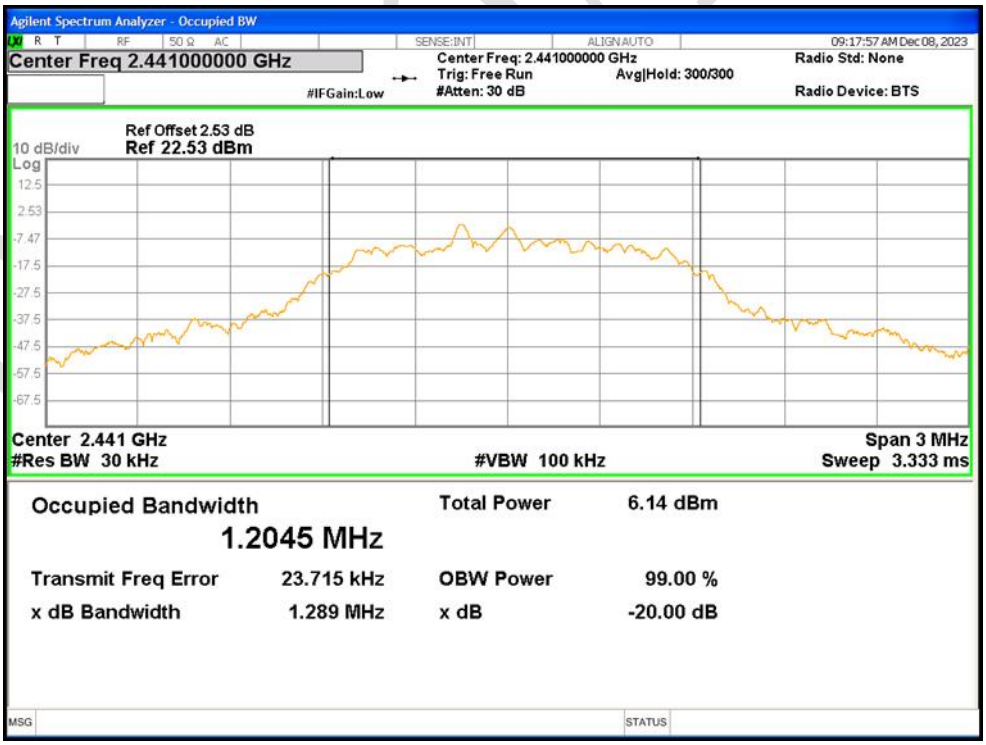
OBW NVNT 1-DH1 2480MHz Ant1



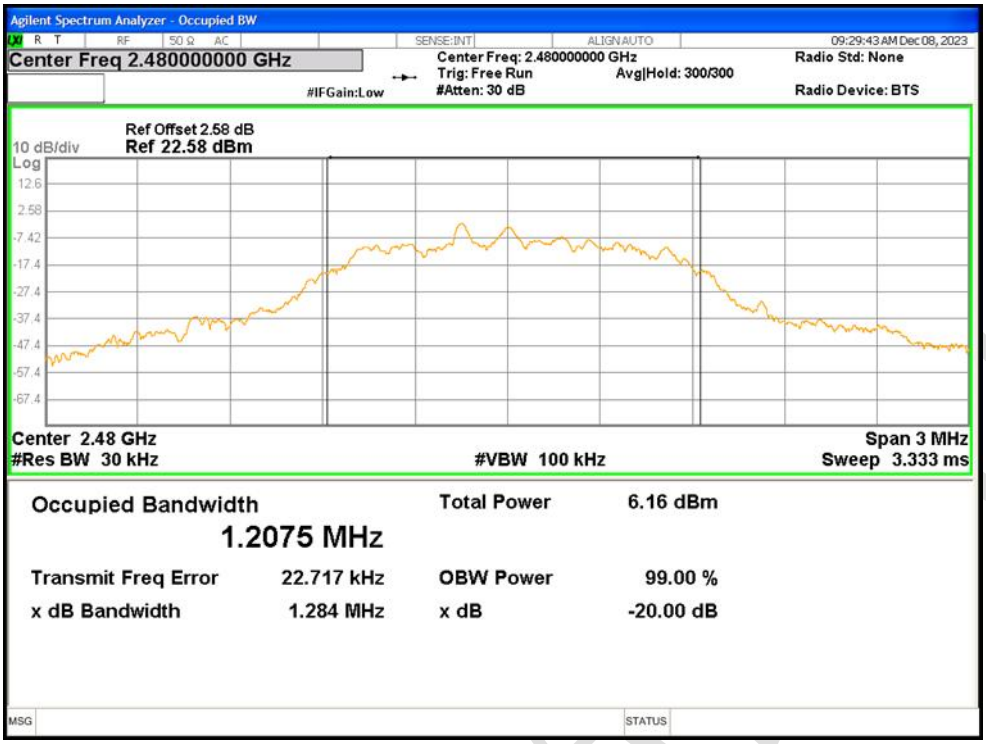
OBW NVNT 2-DH1 2402MHz Ant1



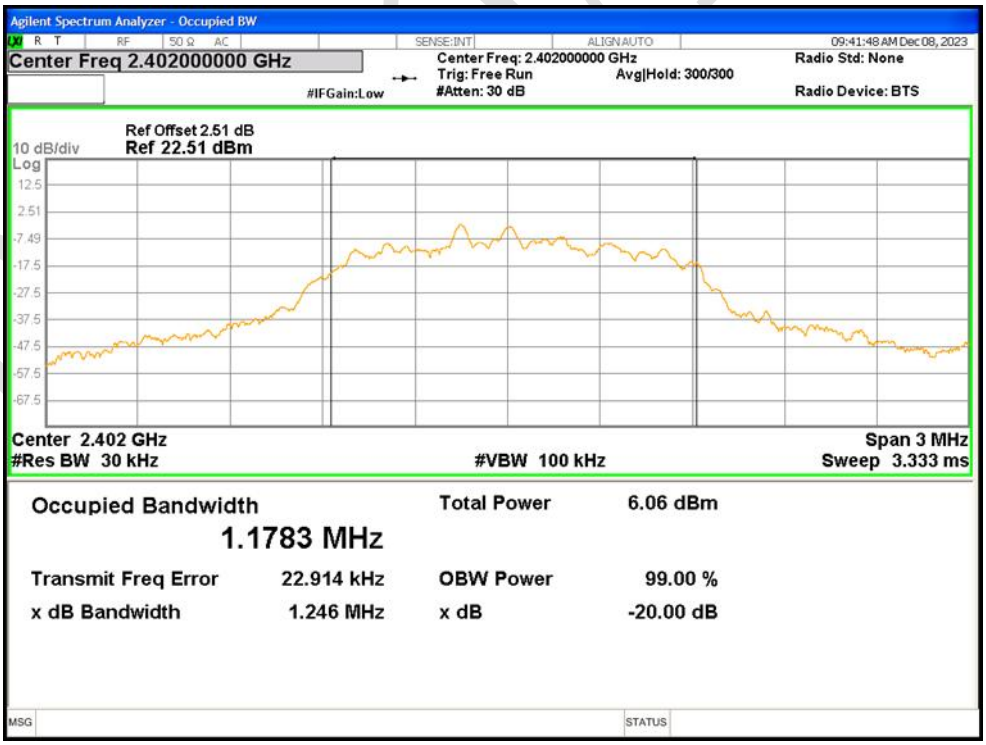
OBW NVNT 2-DH1 2441MHz Ant1



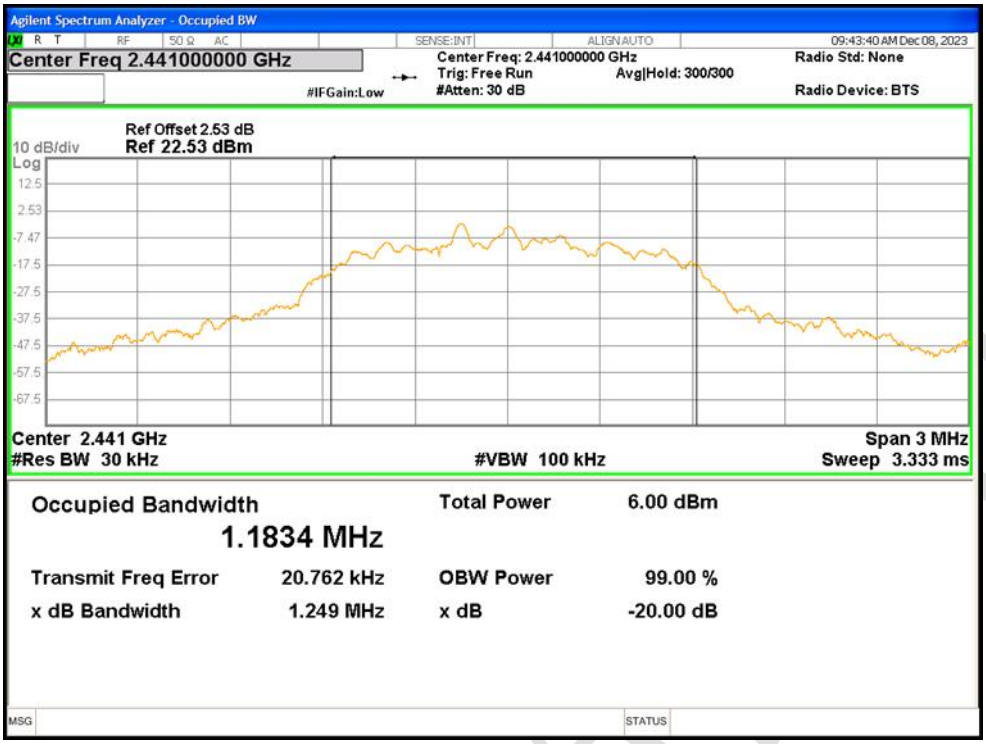
OBW NVNT 2-DH1 2480MHz Ant1



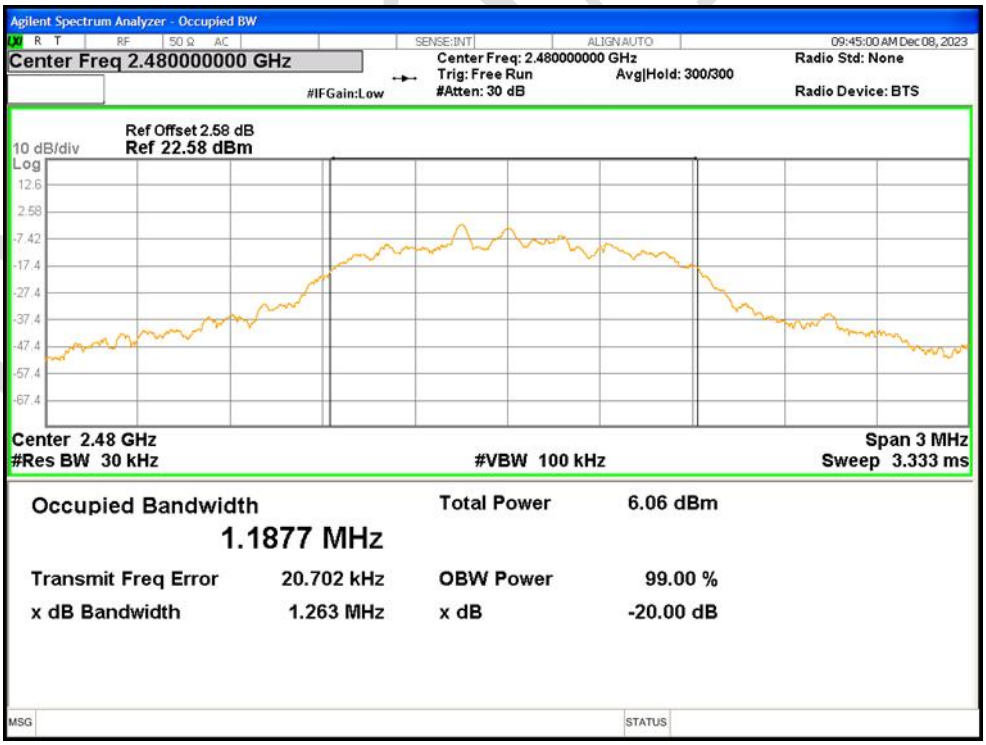
OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



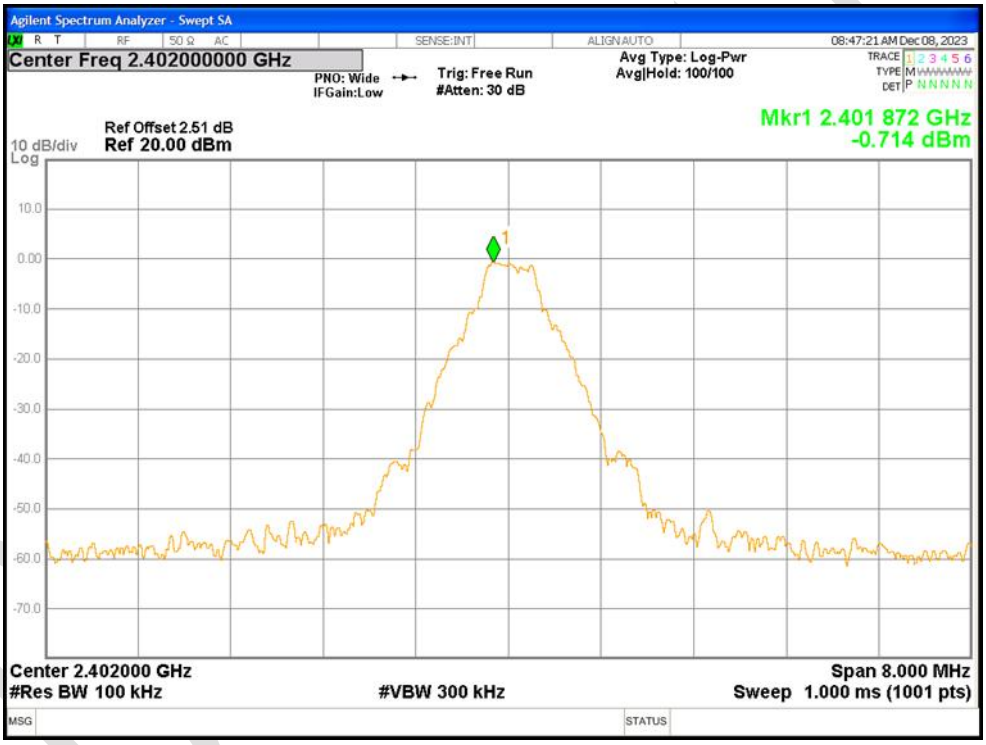
OBW NVNT 3-DH1 2480MHz Ant1



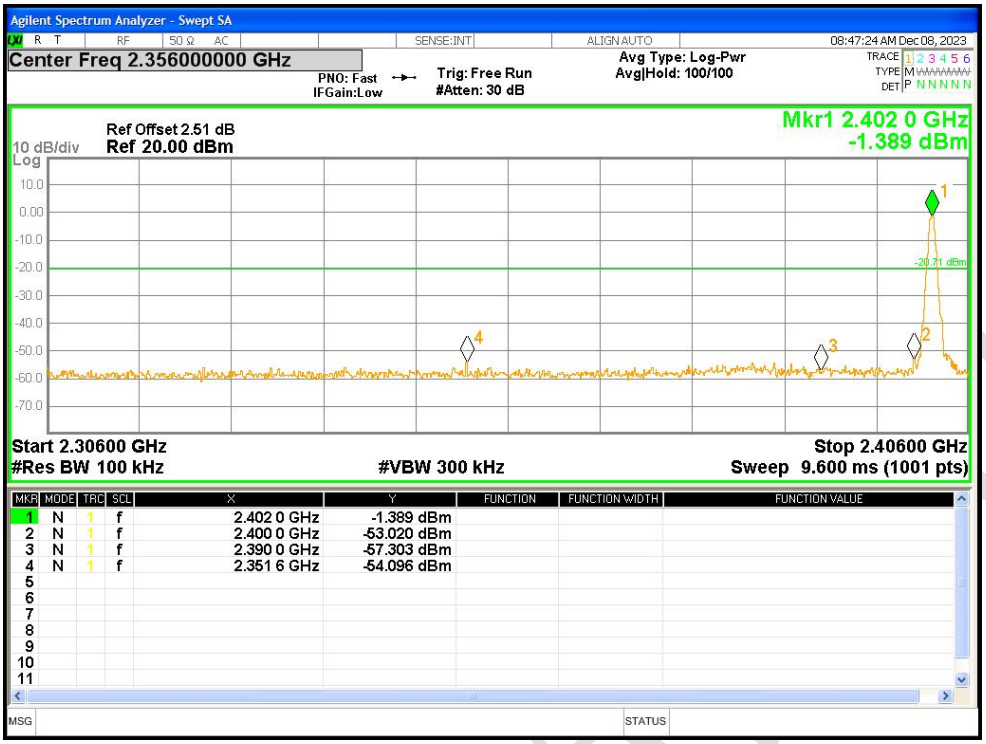
21.4 BAND EDGE

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-52.31	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-52.14	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-51.37	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-52.71	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-52.78	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-53.46	-20	Pass

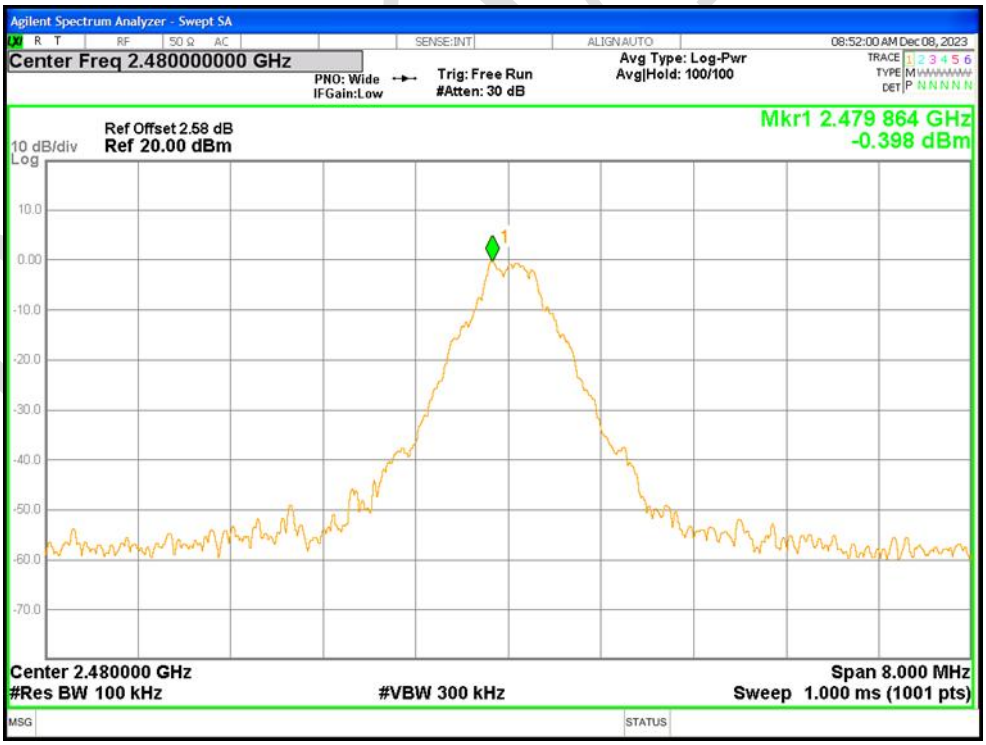
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



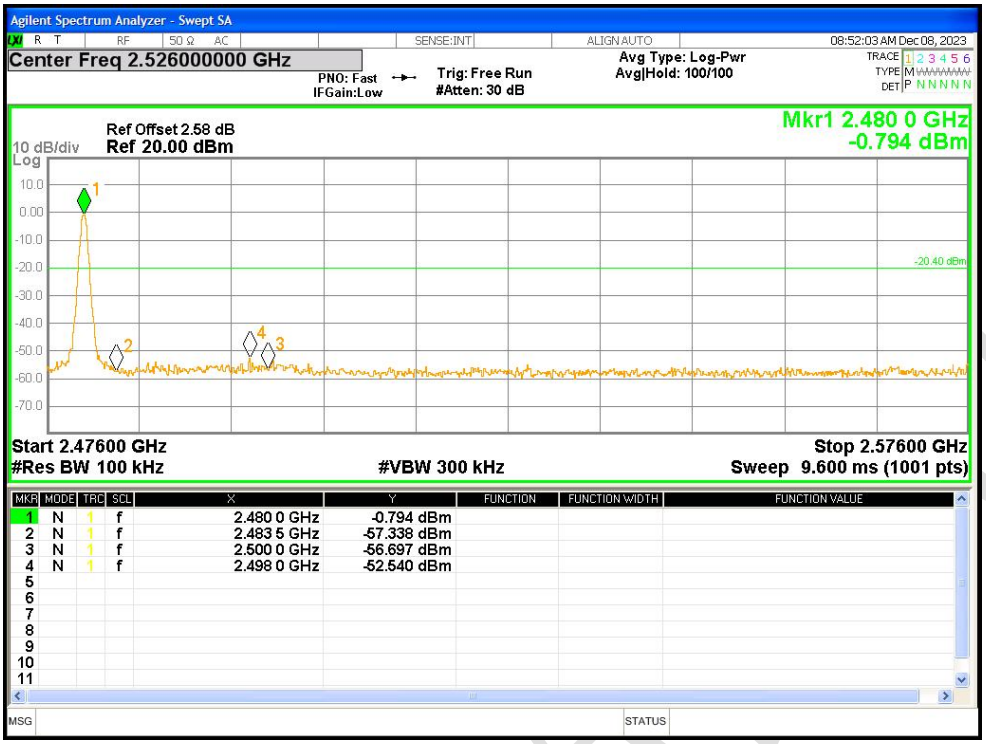
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



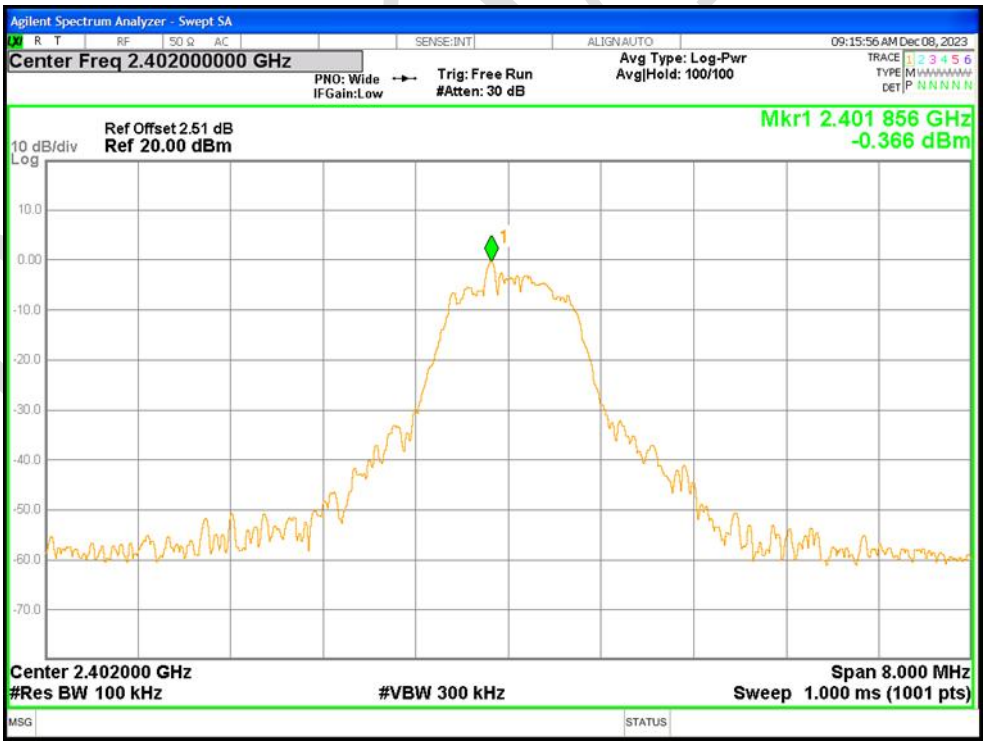
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



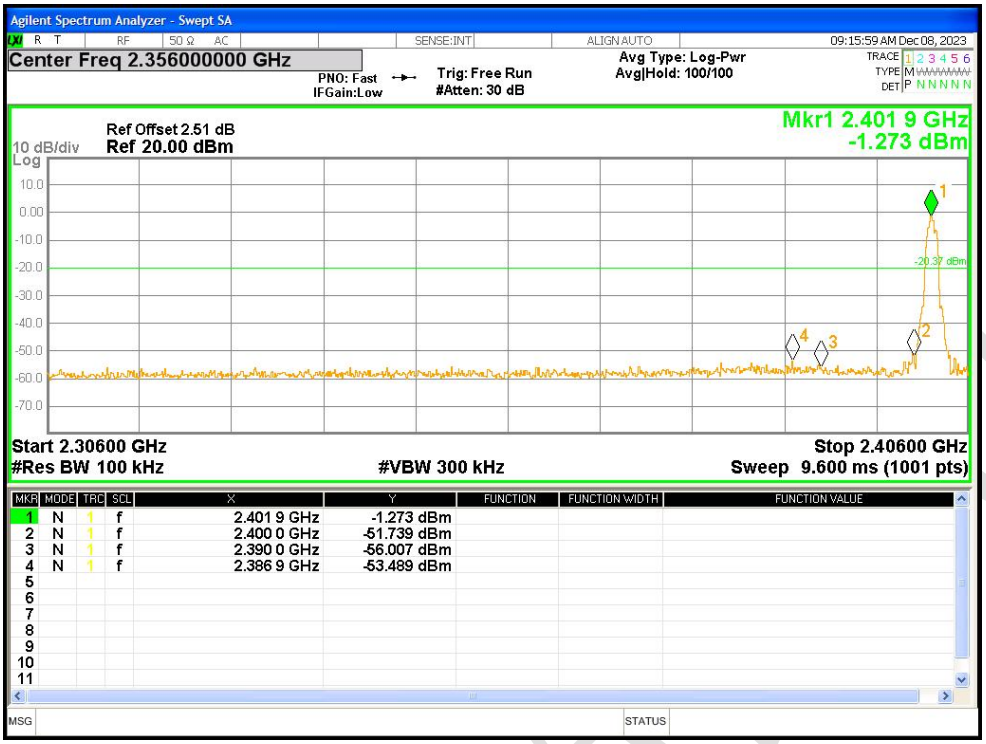
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



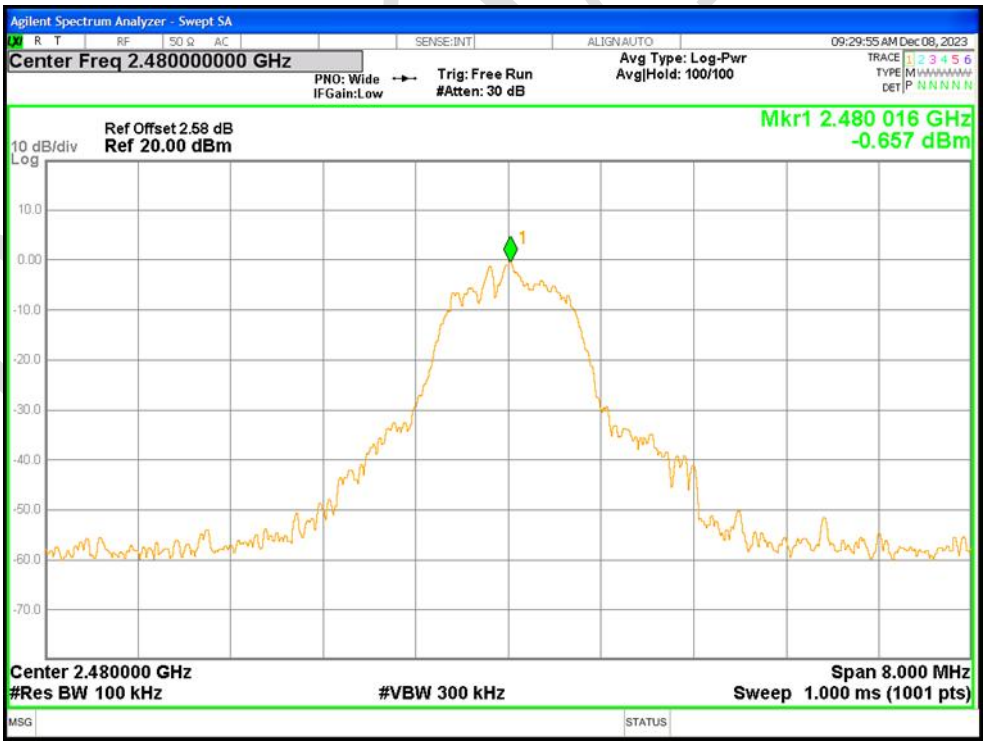
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



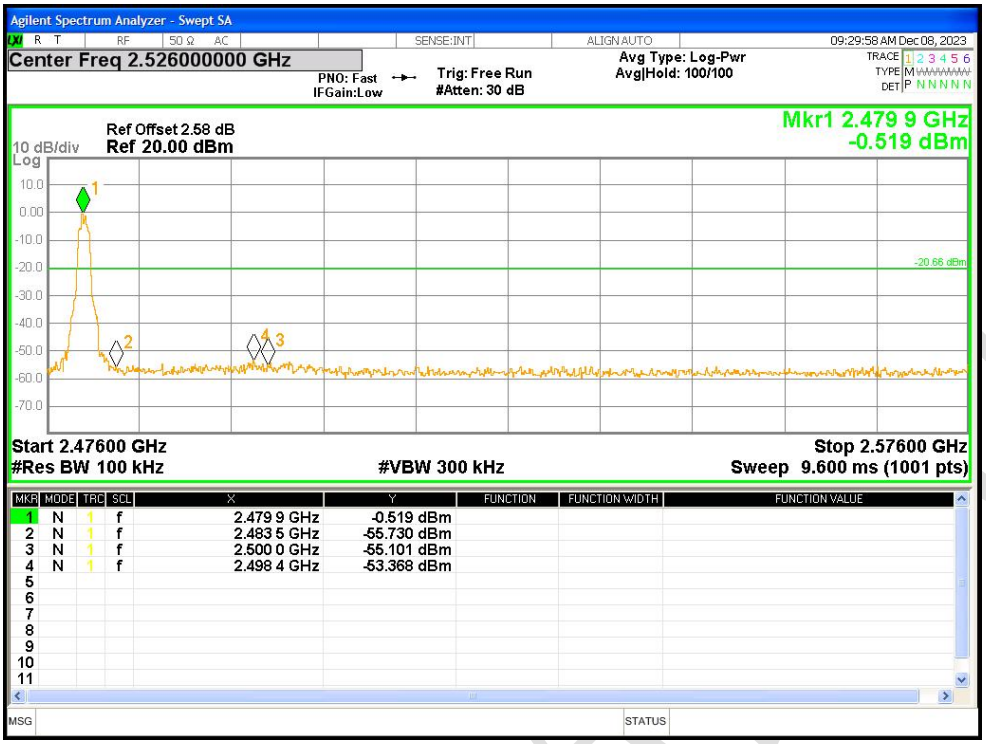
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



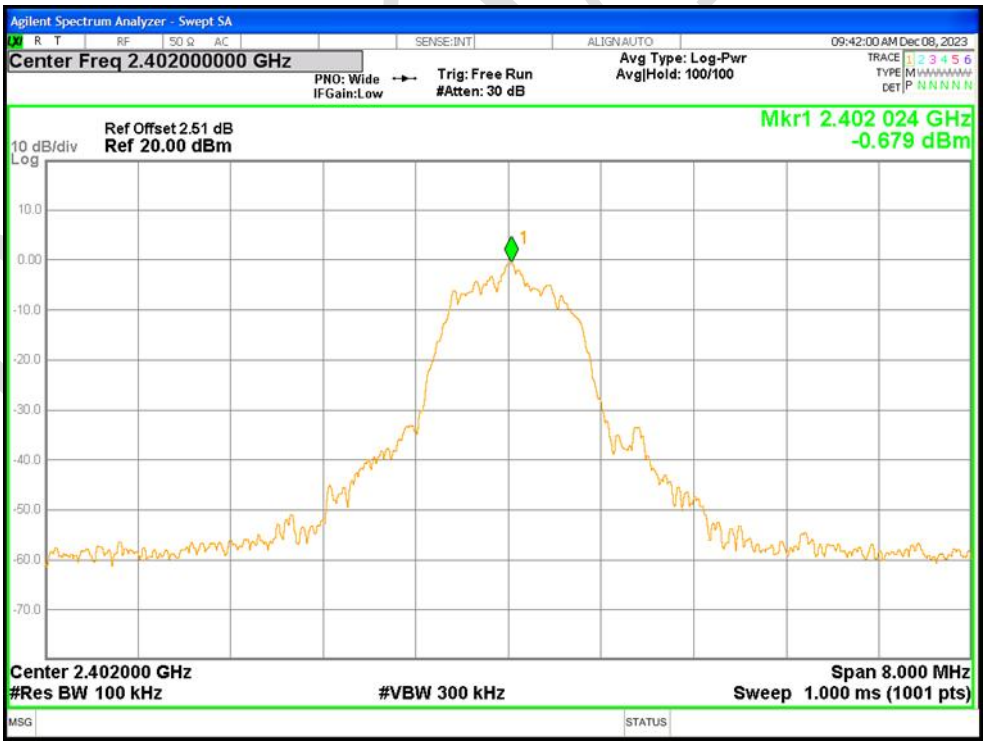
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



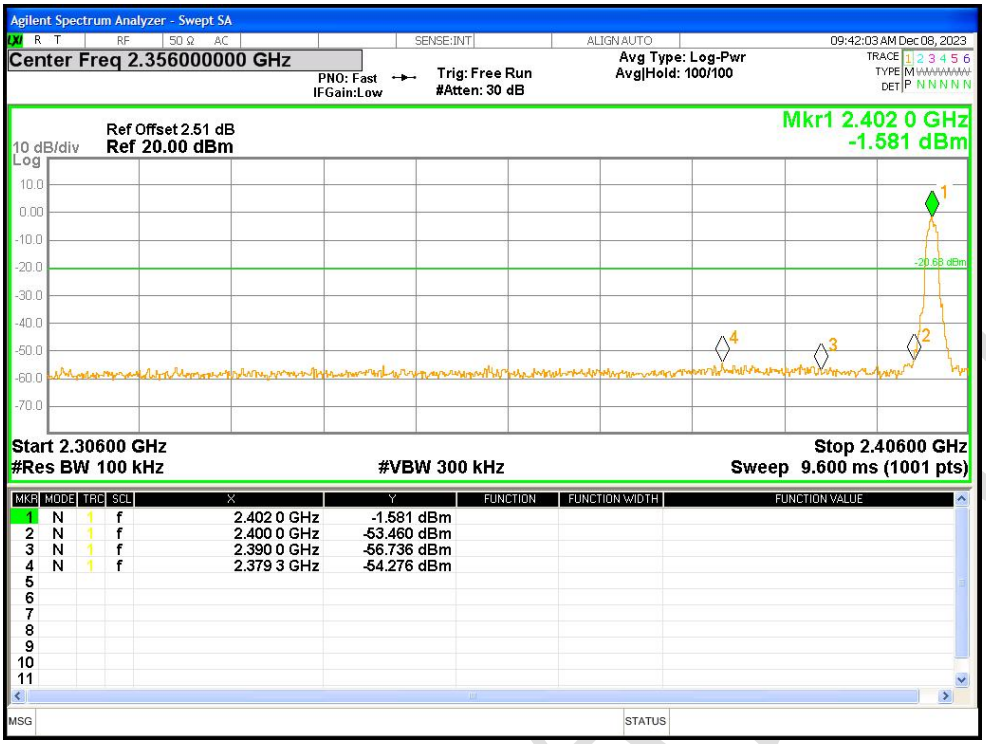
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



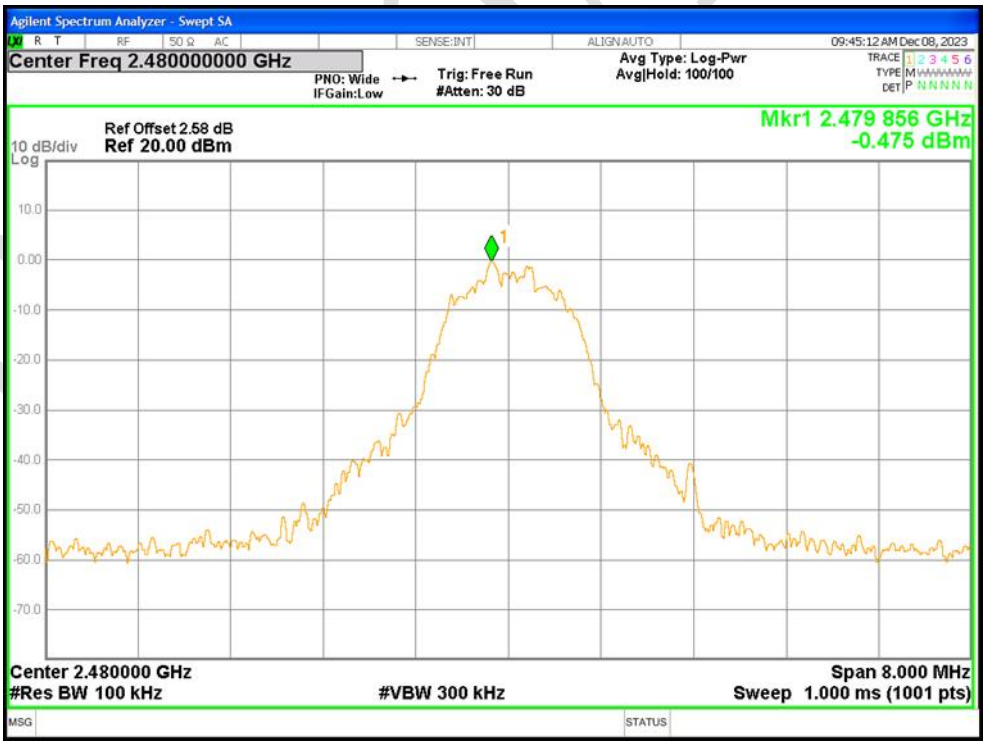
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



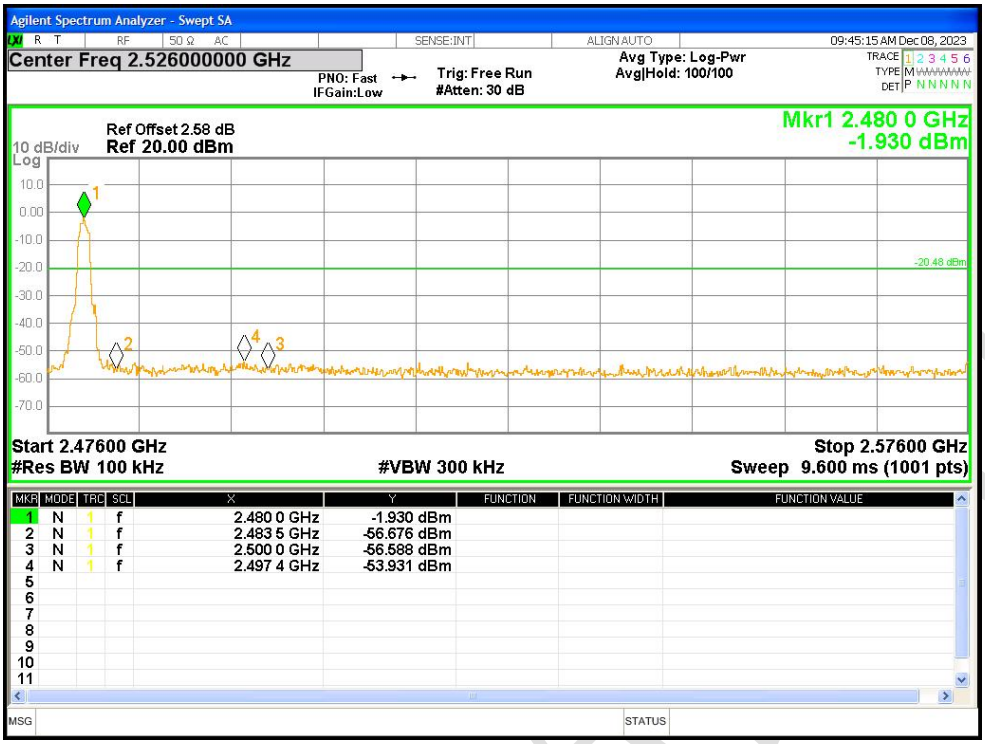
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Emission

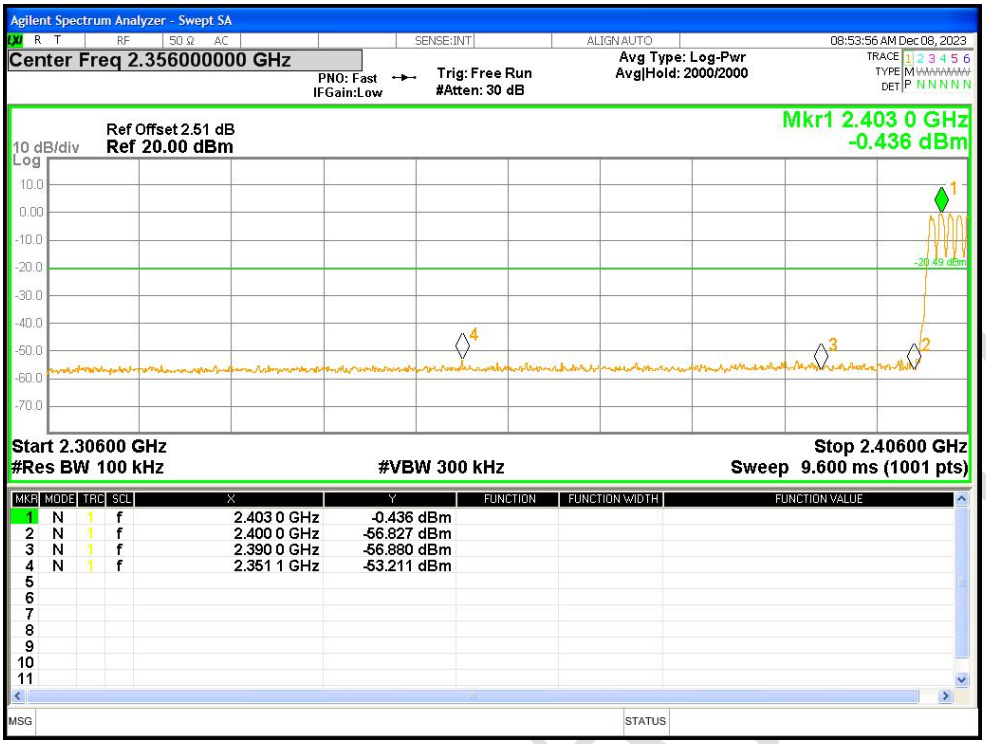


21.5 BAND EDGE(HOPPING)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-52.72	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-52.87	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-53.35	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-52.88	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-52.56	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-52.76	-20	Pass

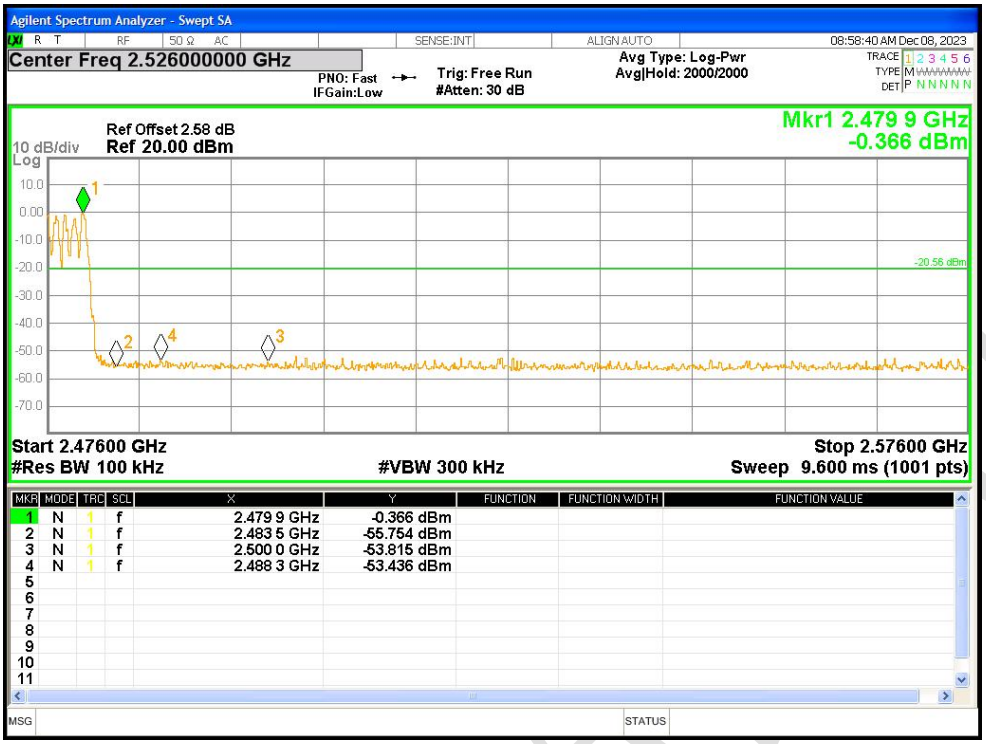
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



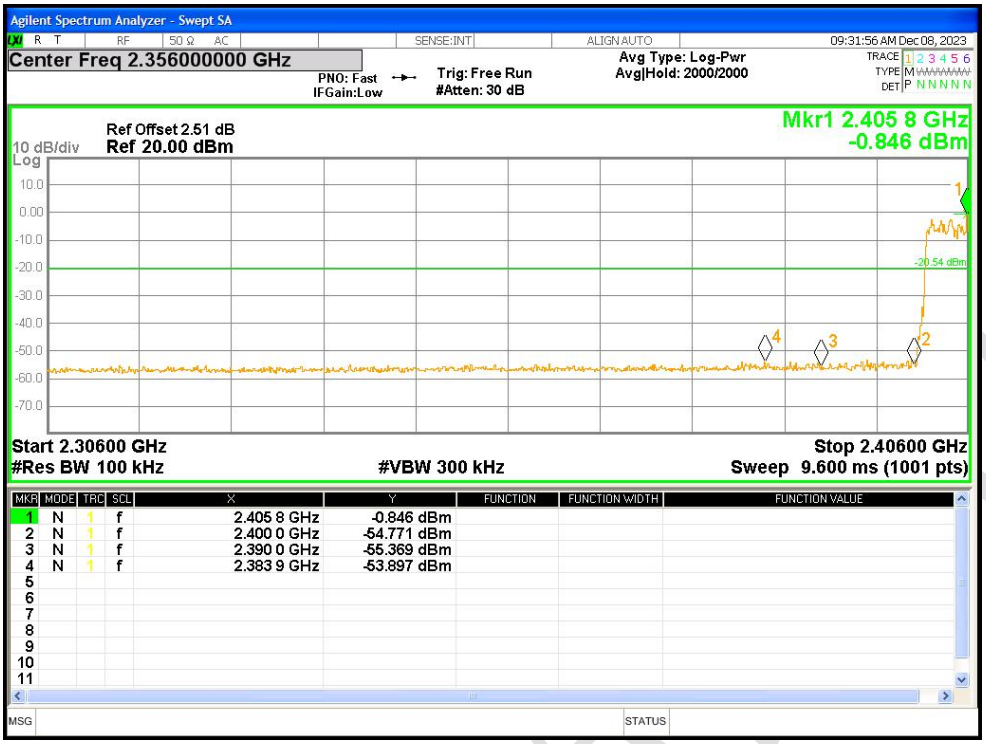
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



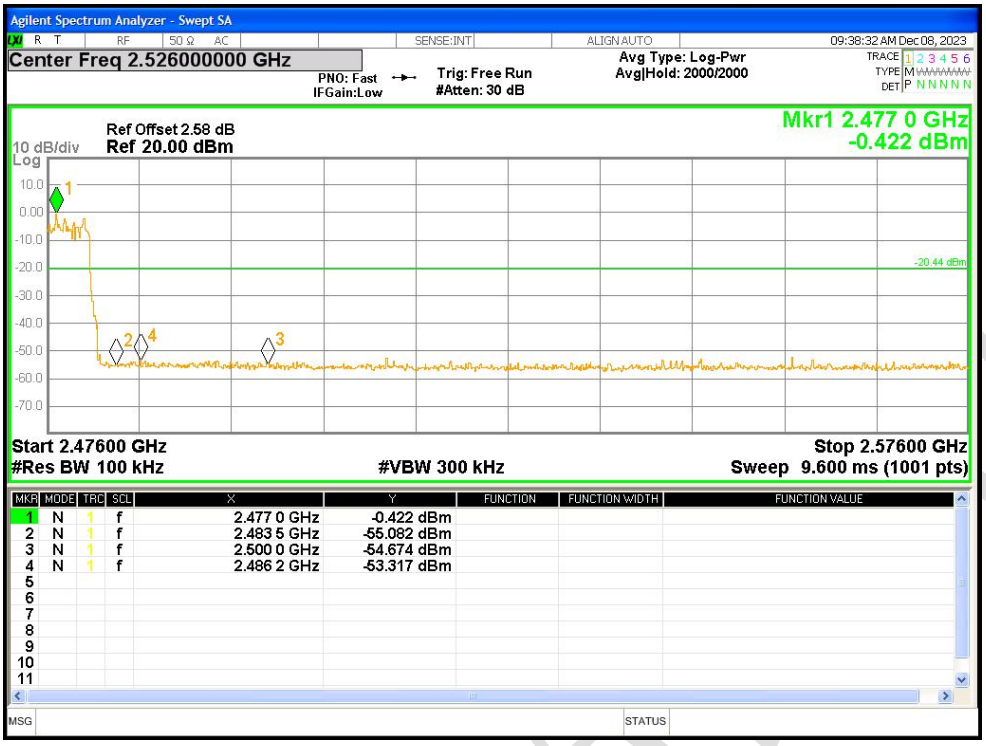
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



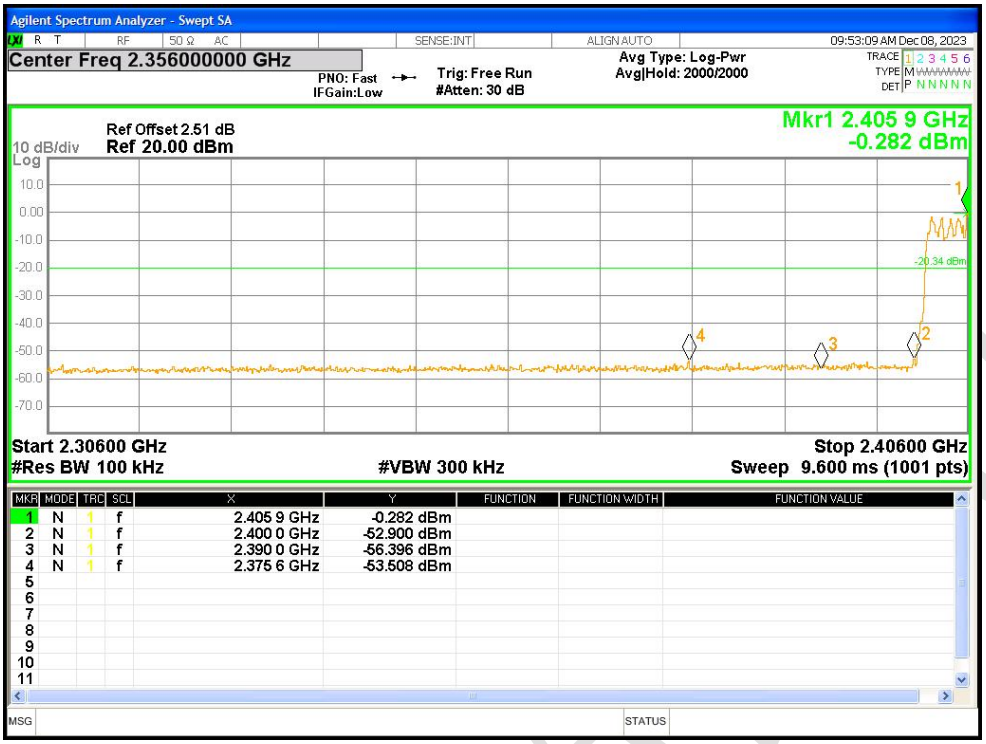
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref

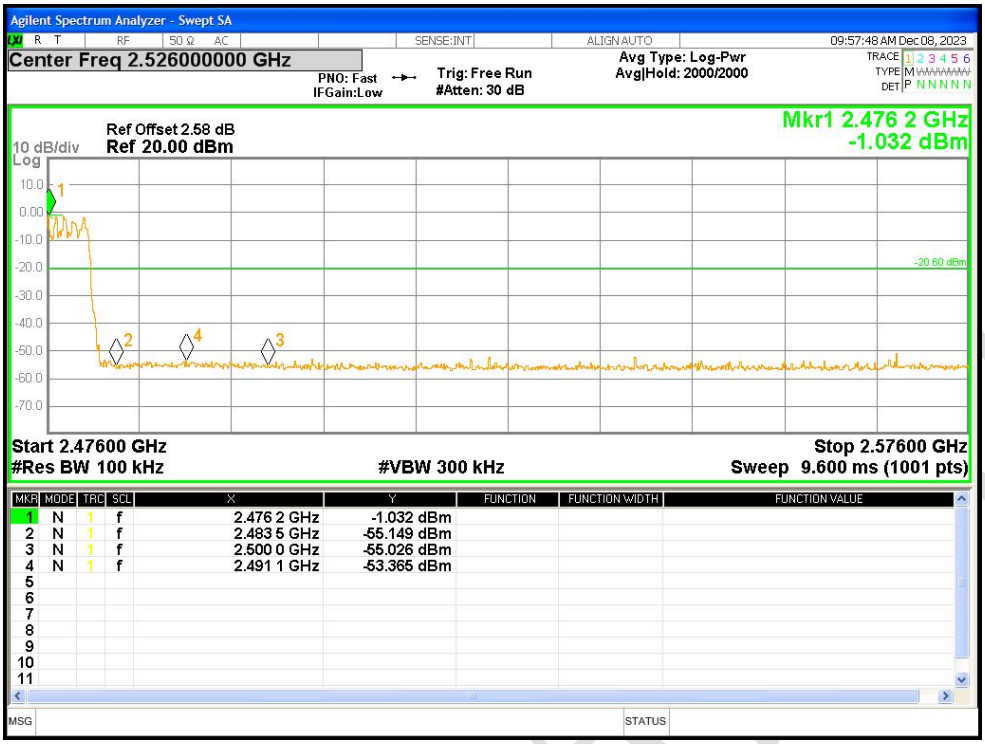
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Emission