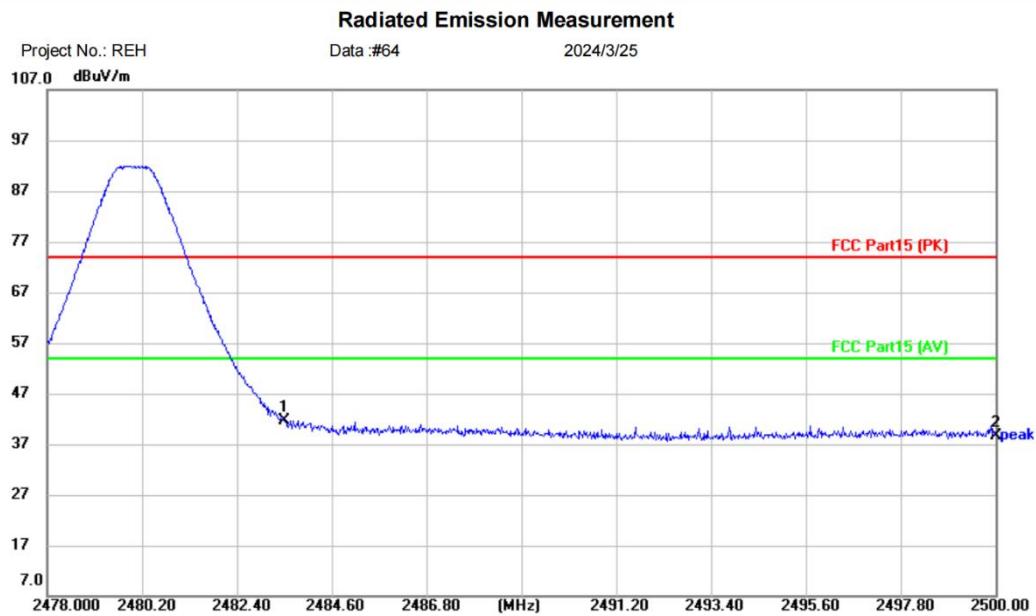


[TestMode: TX high channel]; [Polarity: Vertical]



Site Polarization: **Vertical** Temperature: (C)

Limit: FCC Part15 (PK) Power: Humidity: %RH

EUT: Smart Audio

M/N: H1RU

Mode: BLE-TX-2480

Note:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
1	*	2483.500	44.60	-2.91	41.69	74.00	-32.31	peak	
2		2500.000	41.73	-3.00	38.73	74.00	-35.27	peak	

*:Maximum data x:Over limit !:over margin

⟨Reference Only

Receiver: ESR 1

Spectrum Analyzer: FSP40

Antenna: EZ 9120D 1G-18G

Engineer Signature:

Test Result: Pass

Remark:

1. Final Level = Receiver Read level + Correct factor
2. Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

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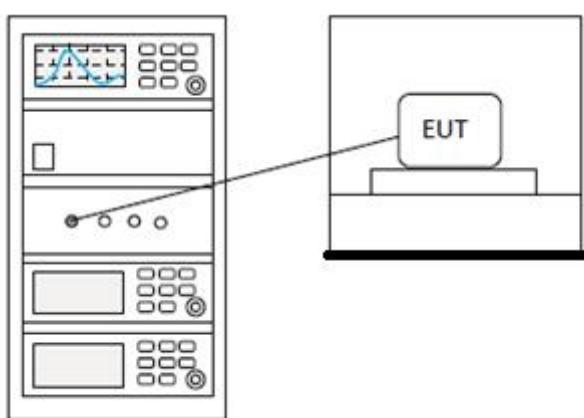
14 CONDUCTED SPURIOUS EMISSIONS

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	Jozu
Temperature	25 °C
Humidity	60%

14.1 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)).
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14.2 BLOCK DIAGRAM OF TEST SETUP



14.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

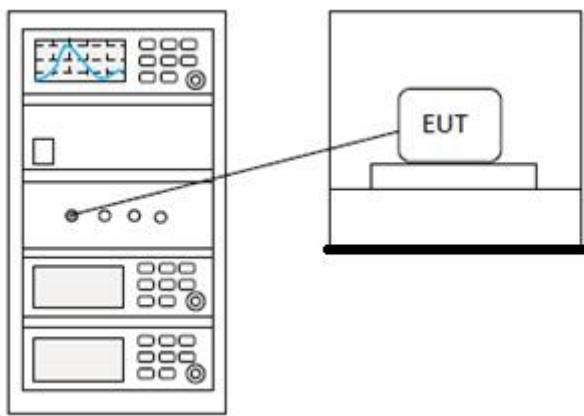
15 POWER SPECTRUM DENSITY

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.10.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25 °C
Humidity	60%

15.1 LIMITS

Limit: $\leq 8\text{dBm}$ in any 3 kHz band during any time interval of continuous transmission

15.2 BLOCK DIAGRAM OF TEST SETUP



15.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

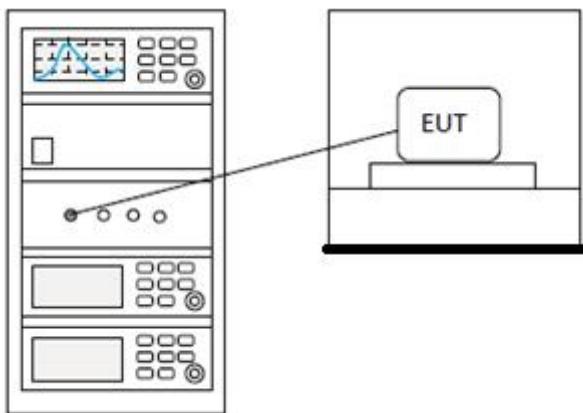
16 CONDUCTED PEAK OUTPUT POWER

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.5
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25 °C
Humidity	60%

16.1 LIMITS

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥ 50 hopping channels
	0.25 for $25 \leq$ hopping channels < 50
	1 for digital modulation
2400-2483.5	1 for ≥ 75 non-overlapping hopping channels
	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

16.2 BLOCK DIAGRAM OF TEST SETUP



16.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

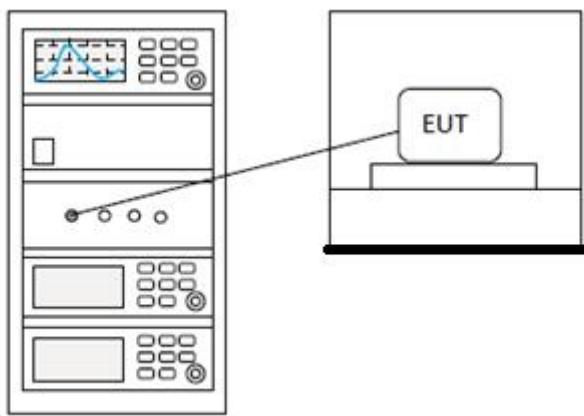
17 MINIMUM 6DB BANDWIDTH

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.8.1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25 °C
Humidity	60%

17.1 LIMITS

Limit: ≥ 500 kHz

17.2 BLOCK DIAGRAM OF TEST SETUP



17.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

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:

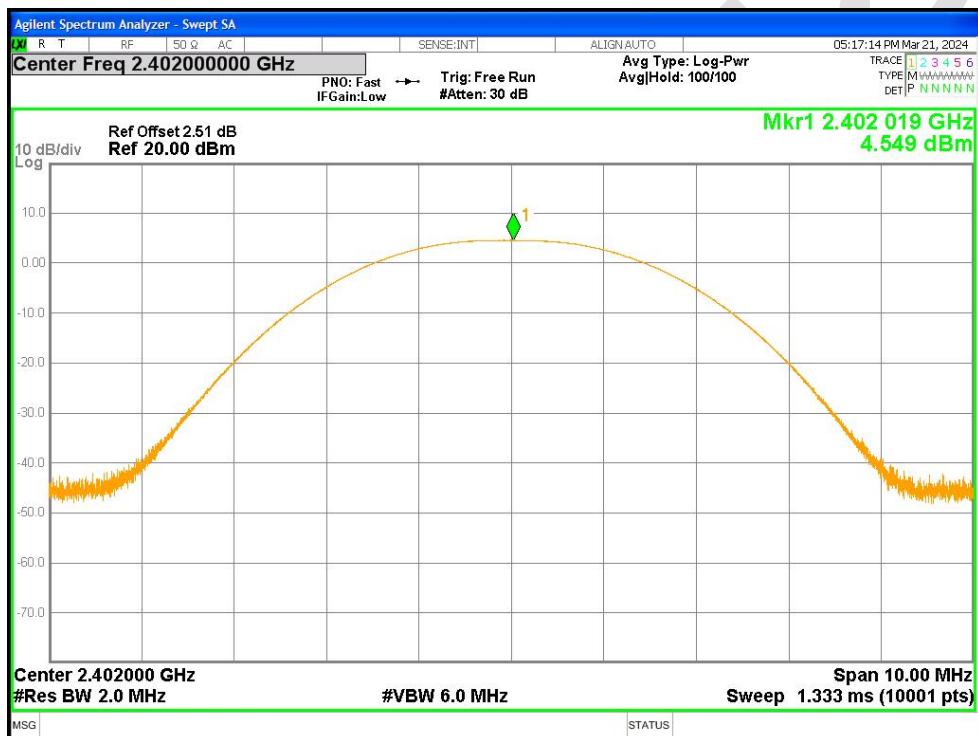
The best case gain of the antenna is 1.9dBi.

19 APPENDIX1

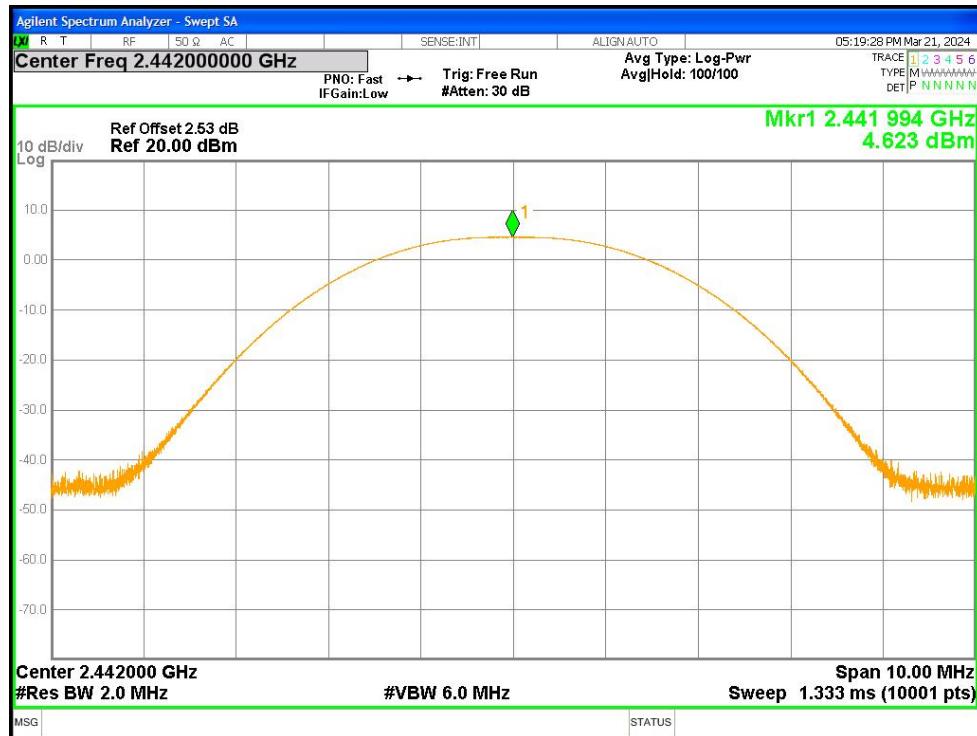
Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant1	4.549	30	Pass
NVNT	BLE	2442	Ant1	4.623	30	Pass
NVNT	BLE	2480	Ant1	5.331	30	Pass

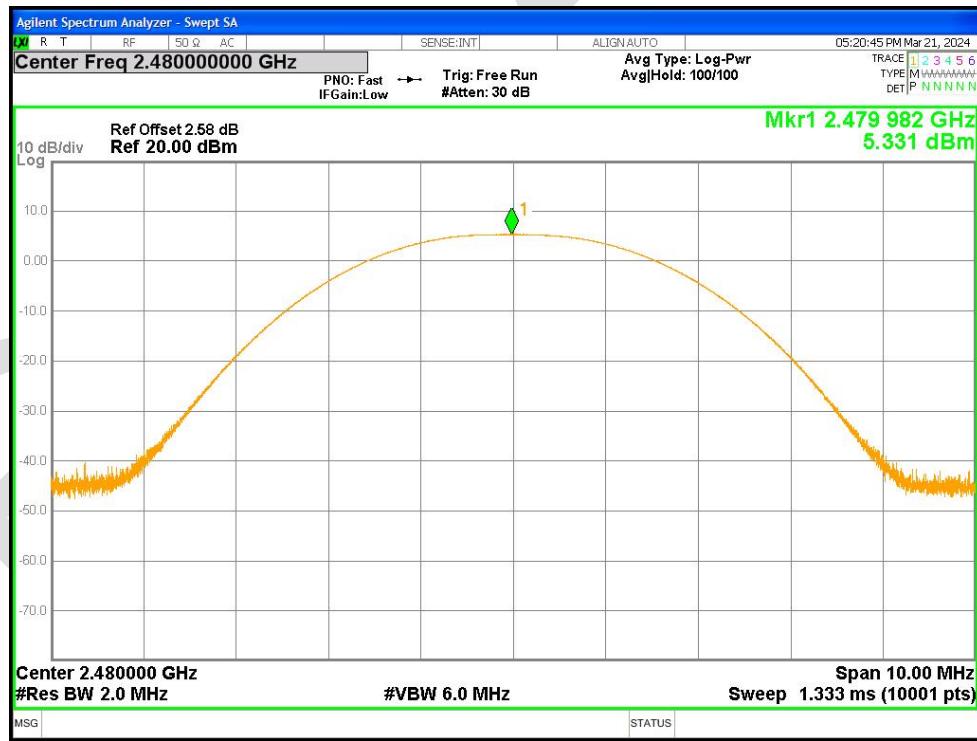
Power NVNT BLE 2402MHz Ant1



Power NVNT BLE 2442MHz Ant1

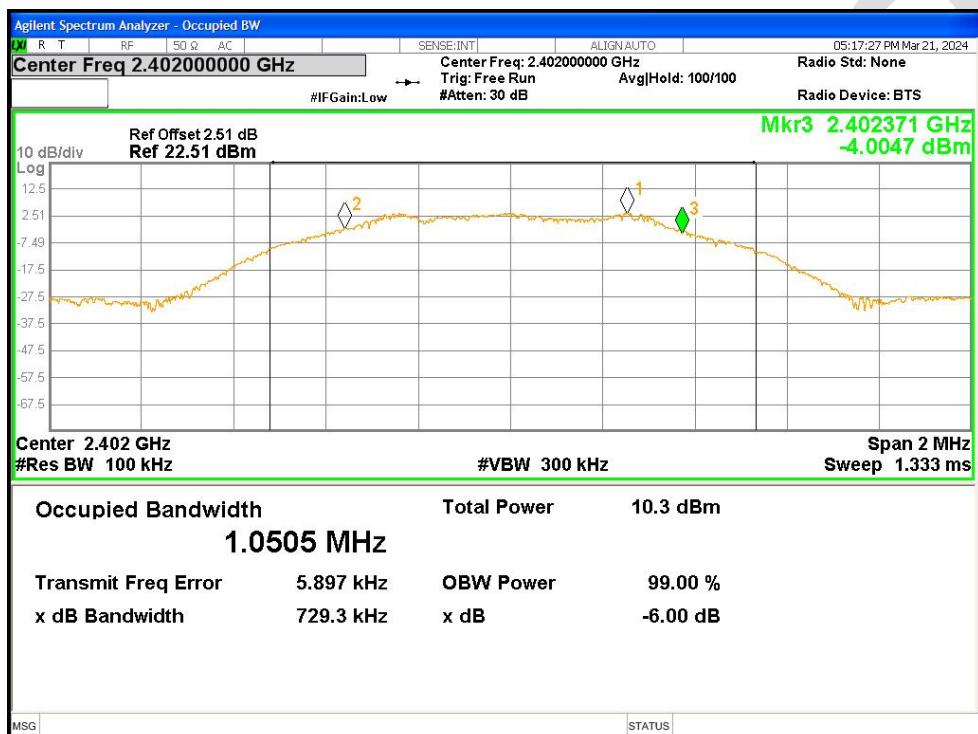


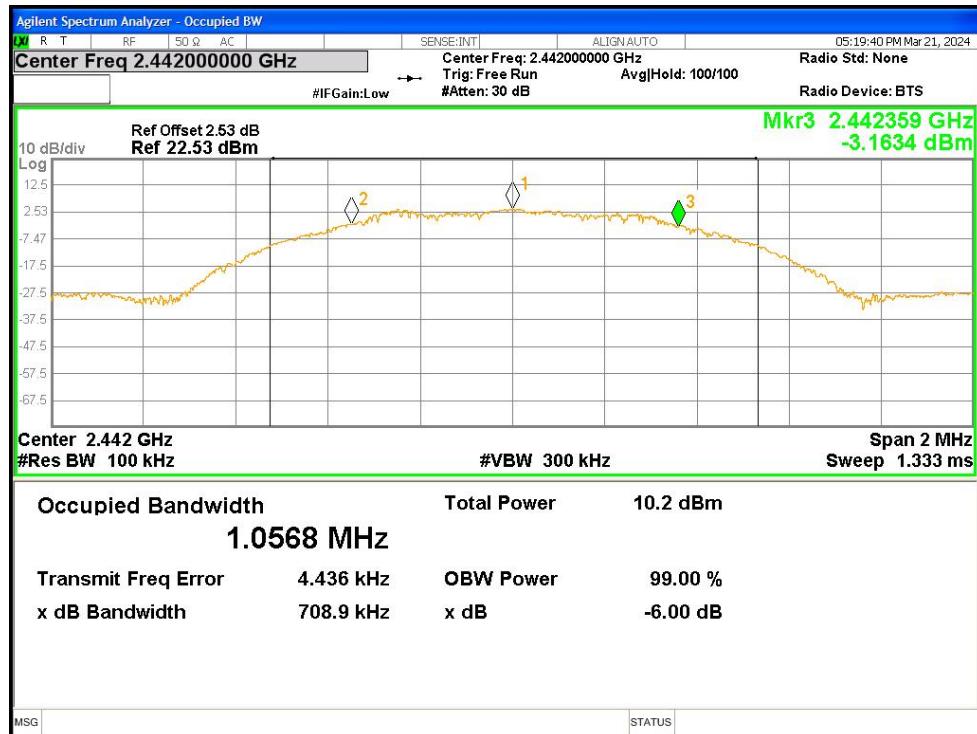
Power NVNT BLE 2480MHz Ant1



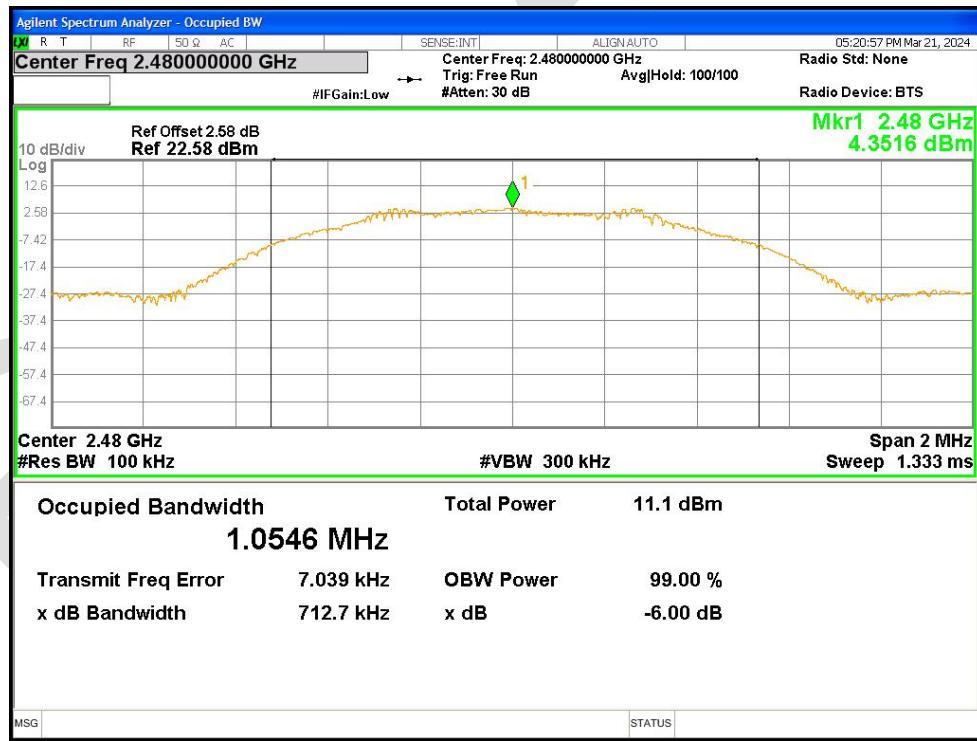
-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE	2402	Ant1	0.729	0.5	Pass
NVNT	BLE	2442	Ant1	0.709	0.5	Pass
NVNT	BLE	2480	Ant1	0.713	0.5	Pass

-6dB Bandwidth NVNT BLE 2402MHz Ant1

-6dB Bandwidth NVNT BLE 2442MHz Ant1

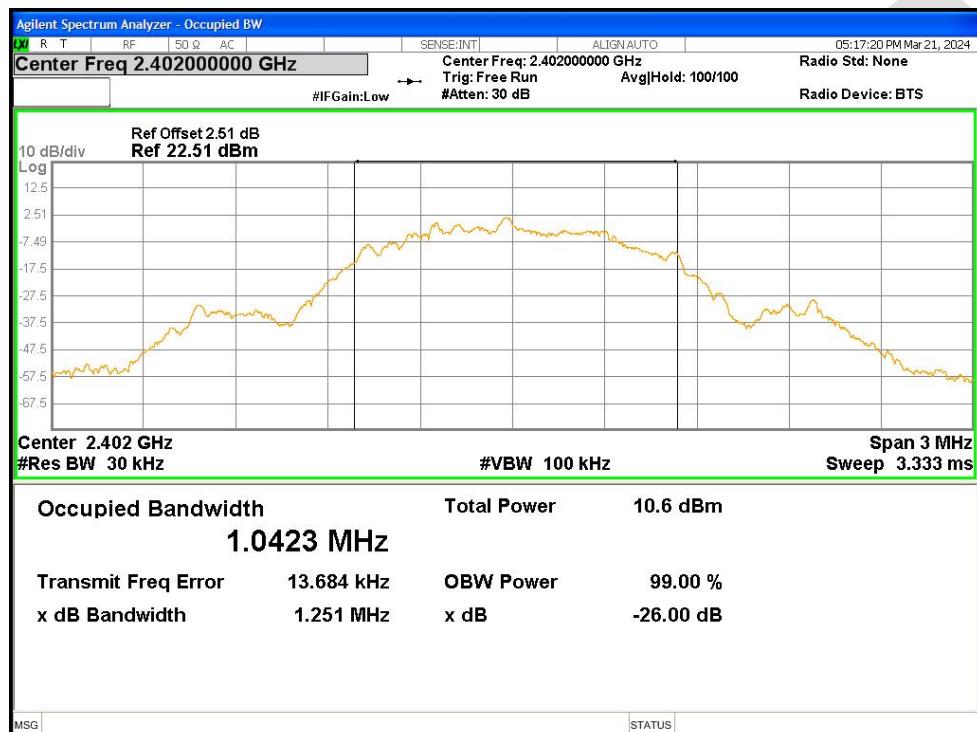


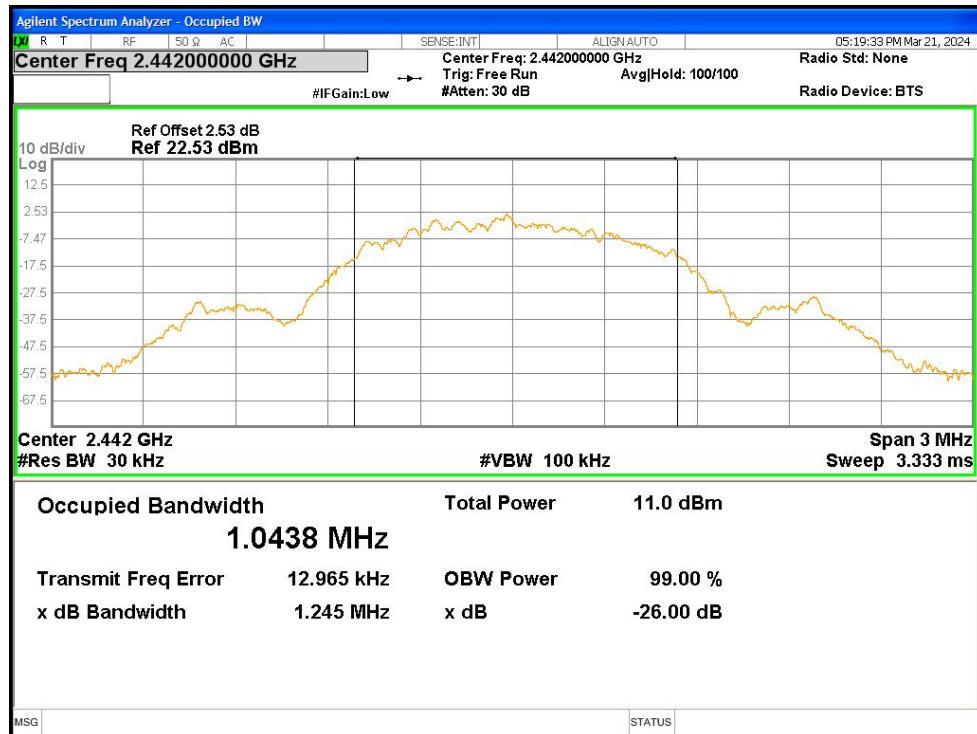
-6dB Bandwidth NVNT BLE 2480MHz Ant1



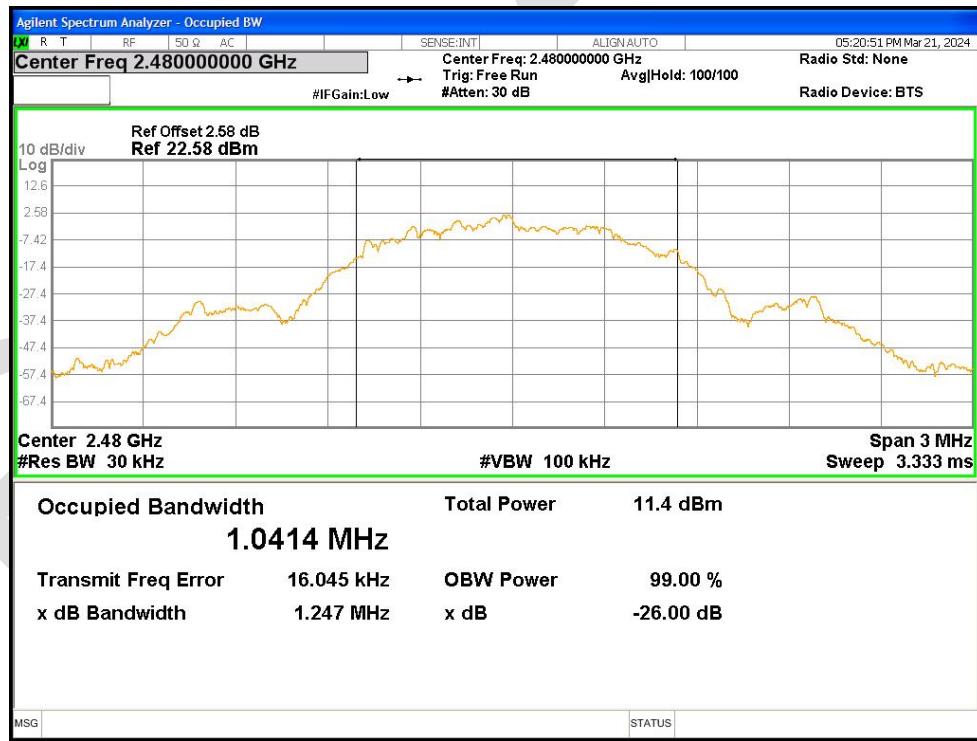
Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE	2402	Ant1	1.0423
NVNT	BLE	2442	Ant1	1.0438
NVNT	BLE	2480	Ant1	1.0414

OBW NVNT BLE 2402MHz Ant1

OBW NVNT BLE 2442MHz Ant1



OBW NVNT BLE 2480MHz Ant1

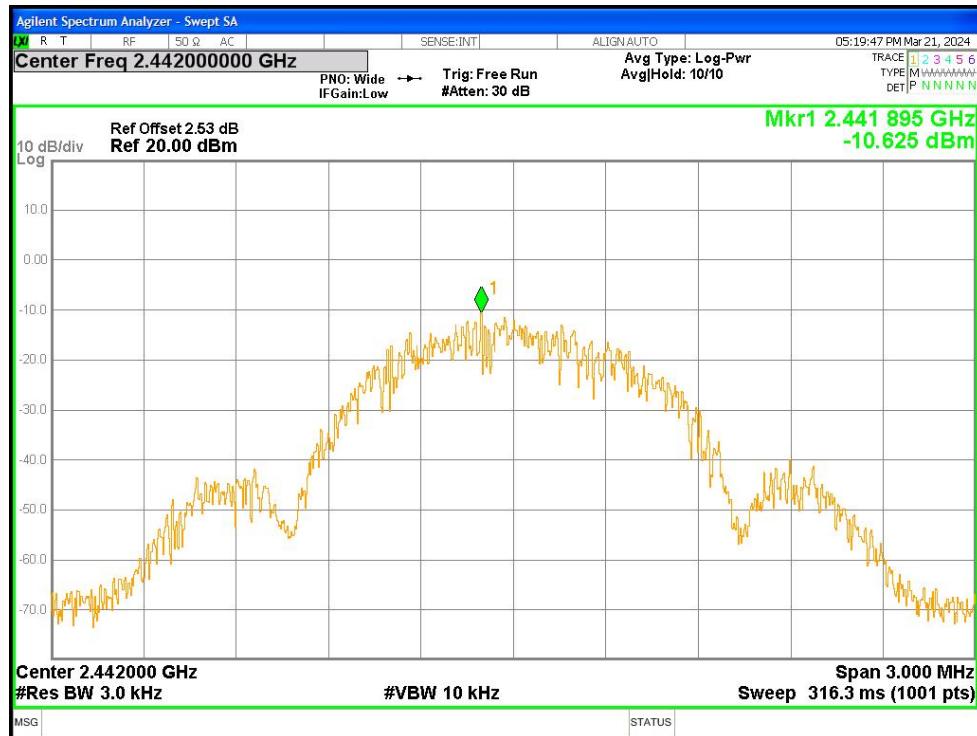


Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant1	-10.647	8	Pass
NVNT	BLE	2442	Ant1	-10.625	8	Pass
NVNT	BLE	2480	Ant1	-10.381	8	Pass

PSD NVNT BLE 2402MHz Ant1

PSD NVNT BLE 2442MHz Ant1



PSD NVNT BLE 2480MHz Ant1

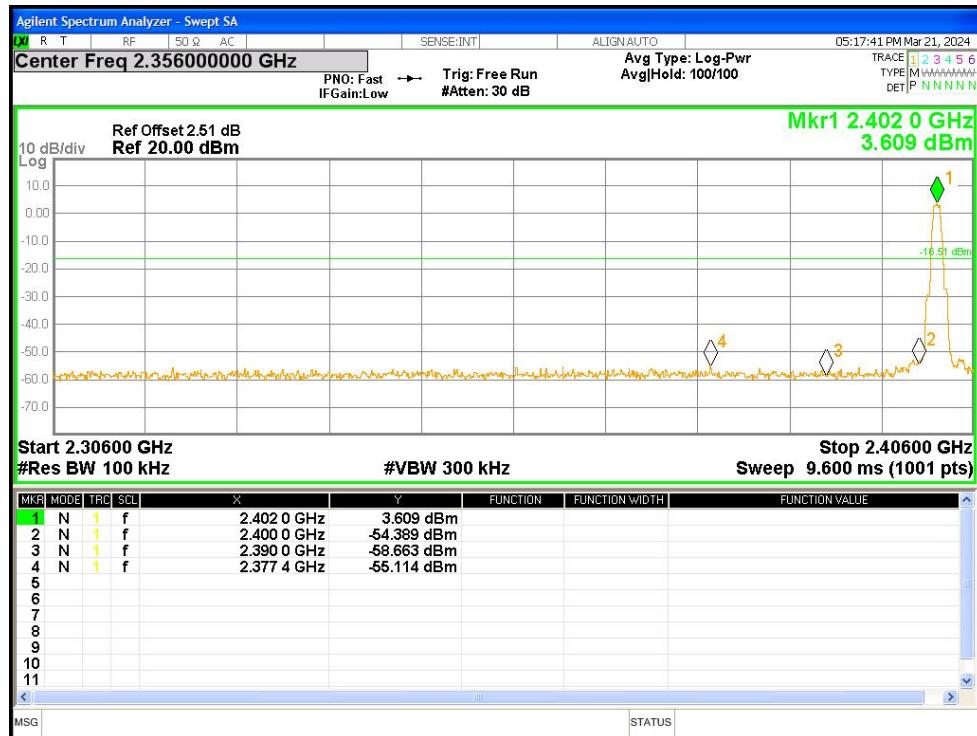


Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant1	-58.6	-20	Pass
NVNT	BLE	2480	Ant1	-59.33	-20	Pass

Band Edge NVNT BLE 2402MHz Ant1 Ref

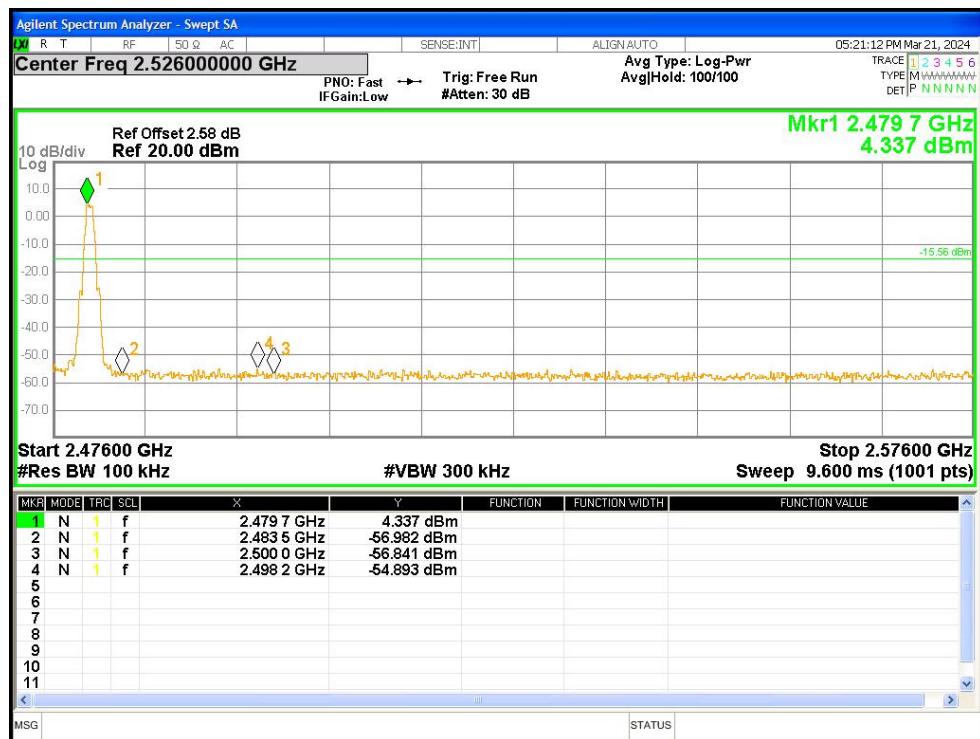
Band Edge NVNT BLE 2402MHz Ant1 Emission



Band Edge NVNT BLE 2480MHz Ant1 Ref



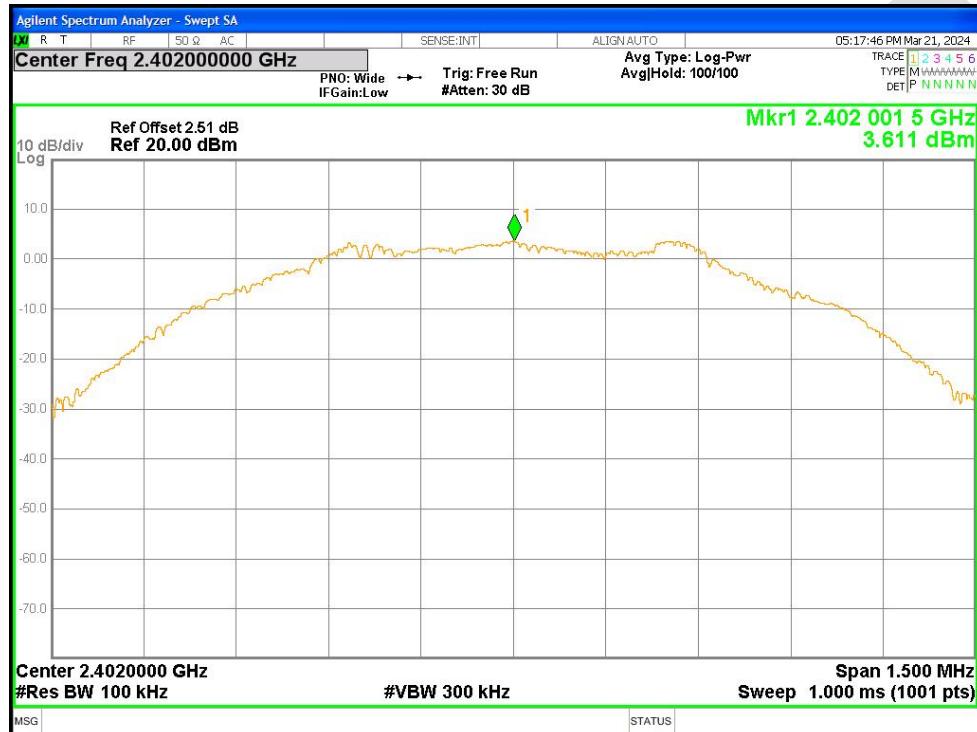
Band Edge NVNT BLE 2480MHz Ant1 Emission



Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant1	-47.69	-20	Pass
NVNT	BLE	2442	Ant1	-48.12	-20	Pass
NVNT	BLE	2480	Ant1	-48.92	-20	Pass

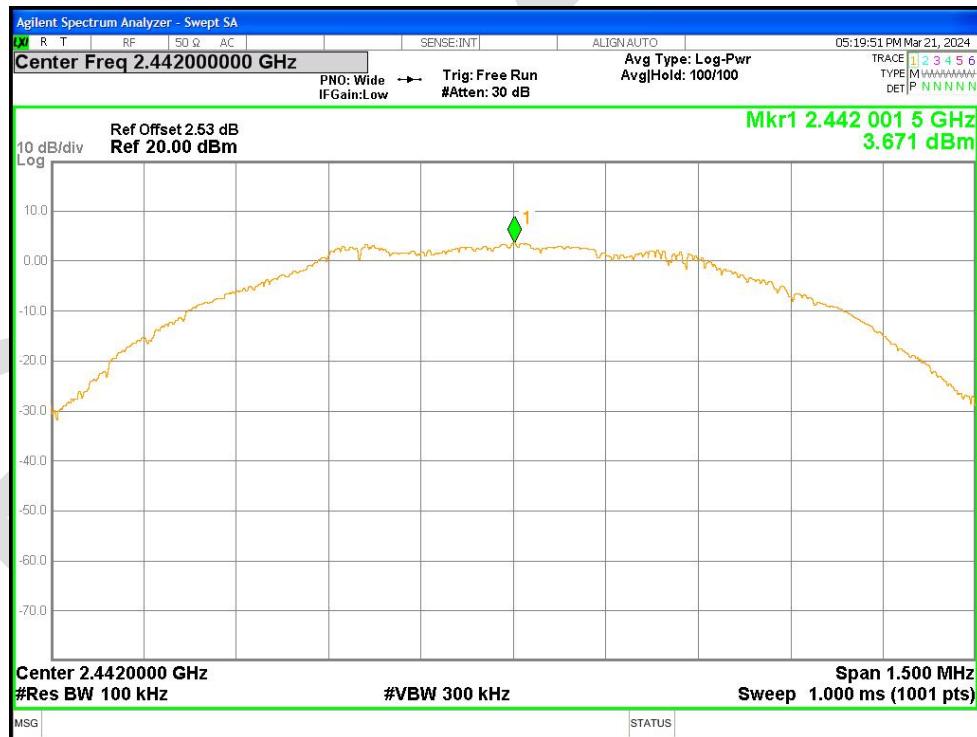
Tx. Spurious NVNT BLE 2402MHz Ant1 Ref



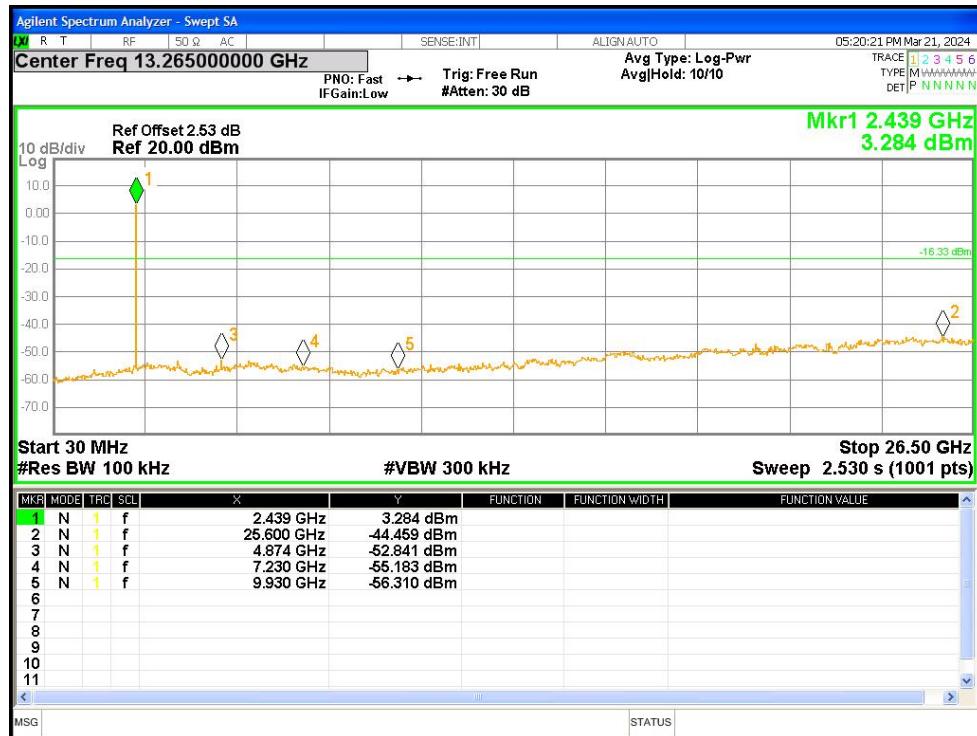
Tx. Spurious NVNT BLE 2402MHz Ant1 Emission



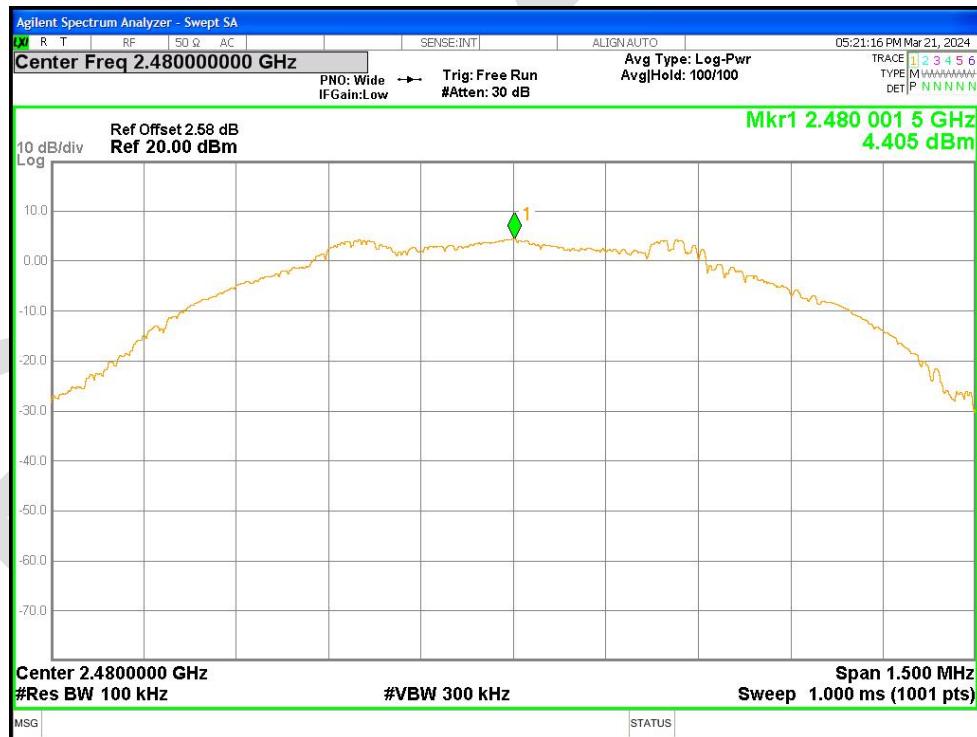
Tx. Spurious NVNT BLE 2442MHz Ant1 Ref



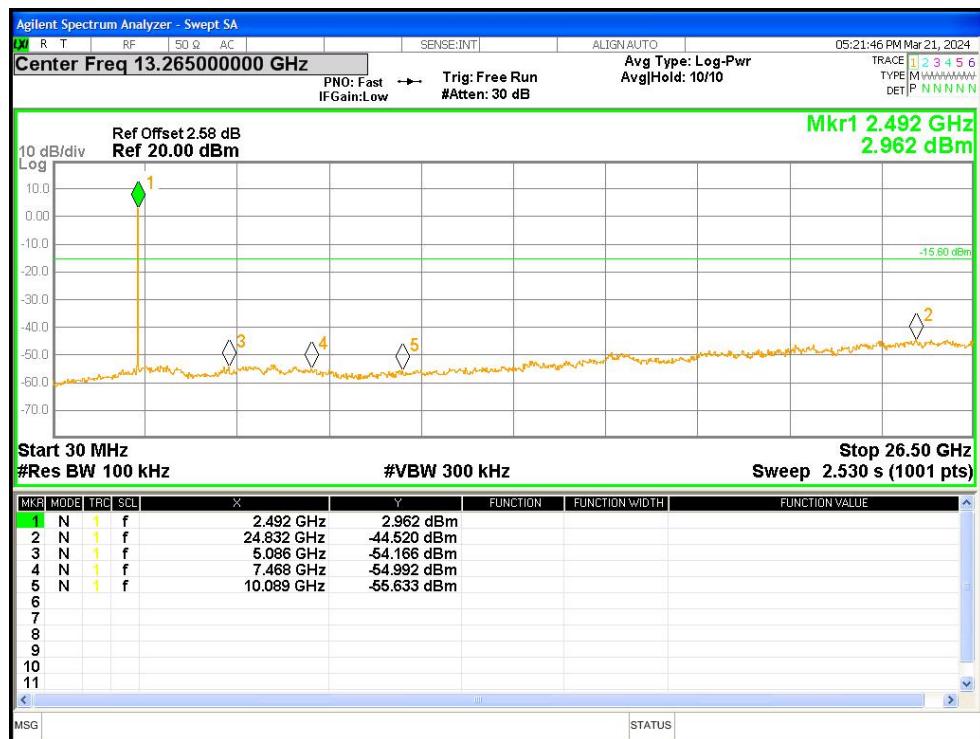
Tx. Spurious NVNT BLE 2442MHz Ant1 Emission



Tx. Spurious NVNT BLE 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2480MHz Ant1 Emission



APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Radiated Spurious Emissions



APPENDIX B: PHOTOGRAPHS OF EUT

Reference to the test report No. BLA-EMC-202403-A0201

----END OF REPORT----

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