

MEASUREMENT REPORT

FCC PART 15.407 / ISCED RSS-248 Narrowband (NB) UNII 6GHz

Applicant Name: Apple Inc. One Apple Park Way Cupertino, CA 95014 United States	Date of Testing: 12/11/2025 - 02/19/2026 Test Report Issue Date: 2/20/2026 Test Site/Location: Element Materials Technology, Morgan Hill, CA, USA Test Report Serial No.: 1C2512110102-07-R1.BCG
--	---

FCC ID:	BCG-A3454
IC:	579C-A3454
APPLICANT:	Apple Inc.

Application Type:	Certification
Model/HVIN:	A3454
EUT Type:	Wireless Headphones
Frequency Range	6108 – 6420 MHz
Modulation Type:	GFSK, $\pi/4$ DQPSK, OQPSK, 8PSK, 16QAM
FCC Classification:	15E 6 GHZ Very Low Power Device (6VL)
FCC Rule Part(s)	Part 15 Subpart E (15.407)
ISCED Specification:	RSS-248 Issue 3
Test Procedure(s):	ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024, KDB 789033 D02 v02r01, KDB 987594 D02 v03 KDB 987594 D03 v03r04, KDB 987594 D04 v03 KDB 987594 D01 v03r01

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024 and KDB 789033 D02 v02r01. Test results reported herein relate only to the item(s) tested.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.



RJ Ortanez
Executive Vice President



FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 1 of 78

V 11.0 06/2025

Revision Summary

Revision	Description	Issued Date	Revised By
-	Initial Release	2/11/2026	WKR007077
R1	Addressed TCB Comments in Section 2.2, 2.3, 2.4, 7.1, 7.2, 7.4, 7.5, 7.6, 7.7	2/19/2026	WKR016696

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 2 of 78

V 11.0 06/2025

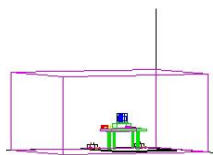
TABLE OF CONTENTS

1.0	INTRODUCTION	5
1.1	Scope.....	5
1.2	Element Materials Technology Test Location	5
1.3	Test Facility / Accreditations.....	5
2.0	PRODUCT INFORMATION	6
2.1	Equipment Description	6
2.2	Device Capabilities.....	6
2.3	Antenna Description	8
2.4	Test Support Equipment.....	8
2.5	Test Configuration	9
2.6	Software and Firmware	9
2.7	EMI Suppression Device(s)/Modifications.....	9
3.0	DESCRIPTION OF TESTS	10
3.1	Evaluation Procedure	10
3.2	AC Line Conducted Emissions	10
3.3	Radiated Emissions.....	11
3.4	Environmental Conditions.....	11
4.0	ANTENNA REQUIREMENTS	12
5.0	MEASUREMENT UNCERTAINTY	13
6.0	TEST EQUIPMENT CALIBRATION DATA.....	14
7.0	TEST RESULTS	15
7.1	Summary.....	15
7.2	26dB & 99% Bandwidth Measurement	16
7.3	Conducted Output Power and Max EIRP Measurement	22
7.4	Maximum Power Spectral Density	25
7.5	In-Band Emissions	31
7.6	Contention Based Protocol.....	38
7.7	Transmit Power Control (TPC)	44
7.8	Radiated Spurious Emission – Above 1GHz.....	48
7.9	Radiated Spurious Emissions – Below 1GHz	64
7.10	AC Line Conducted Emissions Measurement.....	70
8.0	CONCLUSION.....	78

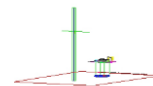
FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 3 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



MEASUREMENT REPORT



UNII Band	Tx Frequency [MHz]	Mode	Max. e.i.r.p (mW)	Max. e.i.r.p (dBm)
5	6108 - 6420	NB UNII BDR	0.244	-6.13
		NB UNII LE	0.244	-6.12
		NB UNII HDR	0.785	-1.05

EUT Overview

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 4 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

1.0 INTRODUCTION

1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

1.2 Element Materials Technology Test Location

These measurement tests were conducted at the Element Materials Technology facility located at 18855 Adams Court, Morgan Hill, CA 95037. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014 and KDB 414788 D01 v01r01.

1.3 Test Facility / Accreditations

Measurements were performed at Element Materials Technology located in Morgan Hill, CA 95037, U.S.A.

- Element Materials Technology is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.02 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.
- Element Washington DC LLC TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISSED Standards (RSS).
- Element Materials Technology facility is a registered (22831) test laboratory with the site description on file with ISSED.
- Element Washington DC LLC is a Recognized U.S. Certification Assessment Body (CAB# US0110) for ISSED Canada as designed by NIST under the U.S. and Canada Mutual Recognition Agreements (MRAs)

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 5 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Apple Wireless Headphones FCC ID: BCG-A3454** and **IC: 579C-A3454**. The test data contained in this report pertains only to the emissions due to the EUT's Narrowband UNII transmitter.

- This Narrowband UNII module has been tested by manufacturer and the following were confirmed:
 - A) The hopping sequence is pseudorandom
 - B) The receiver input bandwidth equals the transmit bandwidth
 - C) The receiver hops in sequence with the transmit signal
 - D) Narrowband UNII can only hop within the same UNII band and cannot hop between bands

Test Device Serial No.: J72HNC000CN000109R, JMLHC5Y0WT, F5932FW6X9, JQ6WVLXL9Q

2.2 Device Capabilities

This device contains the following capabilities:

Narrowband (NB) UNII (5GHz and 6GHz), Bluetooth (1x, LE, EDR, HDR).

Channels below 6108MHz are disabled in the United States, Canada, and US territories.

Band 5
Frequency (MHz)
6108
:
6264
:
6420

Table 2-1. NB UNII Frequency / Channel Operations

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 6 of 78

V 11.0 06/2025

Notes: This device is capable of operating in hopping and non-hopping mode. The EUT can hop between different channels in the U-NII Band 5. The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz, and detector = peak per the guidance of Section B)2)b) of KDB 789033 D02 v02r01 and ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

Measured Duty Cycles			
Mode	Frequency (MHz)	Duty Cycle [%]	DCCF [dB]
NB UNII BDR	6108-6420	76.68	1.15
NB UNII LE1M		86.24	0.64
NB UNII LE2M		80.04	0.97
NB UNII HDR4		77.95	1.08
NB UNII HDR8		78.23	1.07
NB UNII HDRp4		87.24	0.59
NB UNII HDRp8		87.48	0.58

Table 2-2. Measured Duty Cycles

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 7 of 78

V 11.0 06/2025

2.3 Antenna Description

The following antenna gains provided by the manufacturer were used for testing.

Frequency [GHz]	Antenna Gain (dBi)
6108 - 6175	0.46
6176 - 6300	2.75
6301 - 6420	3.47

Table 2-3. Highest Antenna Gain

2.4 Test Support Equipment

1	Apple MacBook Pro	Model:	A2141	S/N:	C02H604EQ05D
	w/AC/DC Adapter	Model:	A2166	S/N:	C4H042705ZNPM0WA6
2	Headphones Left Cushion	Model:	N/A	S/N:	J72HNC0001M000165SJ
	Headphones Right Cushion	Model:	N/A	S/N:	J72HNC0000500016SP
	Headphones Case	Model:	N/A	S/N:	JQ6WVLXL9Q
3	USB-C Cable	Model:	A246C	S/N:	N/A
	w/ AC Adapter	Model:	A2305	S/N:	N/A
4	iPhone Air	Model:	A3260	S/N:	LXB7F0J90V
	iPhone Air	Model:	A3260	S/N:	MX4M32R7XC

Table 2-4. Test Support Equipment List

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 8 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

2.5 Test Configuration

The EUT was tested per the guidance of ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024, KDB 789033 D02 v02r01 and KDB 987594 D02v02r01. ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing. See Sections 3.2 for AC line conducted emissions test setups, 3.3 for radiated emissions test setups, and 7.2, 7.3, 7.4, and 7.5 for antenna port conducted emissions test setups.

For emissions from 1GHz – 18GHz, low, mid, and high channels were tested with highest power and worst case configuration. The emissions below 1GHz and above 18GHz were tested with the highest transmitting power and the worst case channel.

The EUT was manipulated through three orthogonal planes of X-orientation (flatbed), Y-orientation (landscape), and Z-orientation (portrait) during the testing. Only the worst case emissions were reported in this test report.

For AC line conducted and radiated test below 1GHz, following configurations were investigated and EUT powered by AC/DC adaptor was the worst case.

- EUT powered by AC/DC adaptor to USB-C cable with wire charger
- EUT powered by host PC via USB-C cable with wire charger

For radiated spurious emissions, the following worst case NB UNII data rates were used for testing:

1. BDR
2. LE1M
3. HDR4

2.6 Software and Firmware

The test was conducted with firmware version 8E228 installed on the EUT.

2.7 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 9 of 78

V 11.0 06/2025

3.0 DESCRIPTION OF TESTS

3.1 Evaluation Procedure

The measurement procedures described in the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices (ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024) and the guidance provided in KDB 789033 D02 v02r01 were used in the measurement of the EUT.

Deviation from measurement procedure.....None

3.2 AC Line Conducted Emissions

The line-conducted facility is located inside a 7m x 3.66m x 2.7m shielded enclosure. The shielded enclosure is manufactured by AP Americas. The shielding effectiveness of the shielded room is in accordance with MIL-Std-285 or NSA 65-6. A 1m x 1.5m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50μH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. The external power line filter is EPCOS 2X60A Power Line Filter (100dB Attenuation, 14kHz-18GHz) and the two EPCOs 2X48A filters (100dB Minimum Insertion Loss, 14kHz - 10GHz). These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply line(s) will be connected to the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the spectrum analyzer and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The spectrum was scanned from 150kHz to 30MHz with a spectrum analyzer. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 10kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions is used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

Line conducted emissions test results are shown in Section 7.10. Automated test software was used to perform the AC line conducted emissions testing. Automated measurement software utilized is Rohde & Schwarz EMC32, Version 10.50.40.

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 10 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

3.3 Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. An 80cm tall test table made of Styrodur is placed on top of the turn table. For measurements above 1GHz, an additional Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m.

Per KDB 414788 D01 v01r01, radiated emission test sites other than open-field test sites (e.g., shielded anechoic chambers), may be employed for emission measurements below 30MHz if characterized so that the measurements correspond to those obtained at an open-field test site. To determine test site equivalency, a reference sample transmitting at 149kHz was measured on an open field test site (asphalt with no ground plane) and then measured in the 3m semi-anechoic chamber. A calibrated 60cm loop antenna was used while the reference device was rotated through the X, Y and Z axis in order to capture the worst case level. A maximum deviation of 2.77dB at 149kHz was measured when comparing the 3 meter semi-anechoic chamber to the open field site.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33 depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, mode of operation, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions.

3.4 Environmental Conditions

The temperature is controlled within range of 15°C to 35°C. The relative humidity is controlled within range of 10% to 75%. The atmospheric pressure is monitored within the range 86-106kPa (860-1060mbar).

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 11 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

4.0 ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The antennas of the EUT are **permanently attached**.
- There are no provisions for connection to an external antenna.

Conclusion:

The EUT complies with the requirement of §15.203.

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 12 of 78

V 11.0 06/2025

5.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.23-2012. All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty ($\pm$ dB)
Conducted Bench Top Measurements	2.07
AC Line Conducted Disturbance	1.91
Radiated Disturbance (<30MHz)	4.12
Radiated Disturbance (30MHz - 1GHz)	4.85
Radiated Disturbance (1 - 18GHz)	5.08
Radiated Disturbance (>18GHz)	5.22

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 13 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

6.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance with the requirements of ANSI C63.5-2017.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	N9020A	MXA Signal Analyzer	7/7/2025	Biennial	7/7/2027	MY56470202
Anritsu	ML2496A	Power Meter	2/10/2025	Annual	2/10/2026	1306009
Anritsu	MA2411B	Pulse Power Sensor	2/10/2025	Annual	2/10/2026	1315051
Anritsu	MA2411B	Pulse Power Sensor	2/10/2025	Annual	2/10/2026	1339027
ATM	180-442-KF	20dB Nominal Gain Horn Antenna	3/24/2025	Annual	3/24/2026	T058601-02
ETS-Lindgren	3117	Double Ridged Guide Horn (1-18 GHz)	4/16/2025	Annual	4/16/2026	218555
Fairview Microwave/MCL	FMCA1975-36/BW-K10-2W44+	30MHz-40GHz RF Cable/Attenuator *	6/10/2025	Annual	6/10/2026	-
Keysight Technology	N9040B	UXA Signal Analyzer	6/9/2025	Annual	6/9/2026	MY57212015
Rohde & Schwarz	TS-PR18	Pre-Amplifier (1GHz - 18GHz)	8/6/2025	Annual	8/6/2026	101639
Rohde & Schwarz	FSW43	Spectrum Analyzer 2Hz to 43GHz	8/5/2025	Annual	8/5/2026	104093
Rohde & Schwarz	ESW44	EMI Test Receiver 2Hz to 44 GHz	5/13/2025	Annual	5/13/2026	101867
Rohde & Schwarz	TS-PR8	Pre-Amplifier (30MHz - 8GHz)	10/14/2025	Annual	10/14/2026	102328
Rohde & Schwarz	TS-PR1840	Pre-Amplifier (18GHz - 40GHz)	6/3/2025	Annual	6/3/2026	100052
Rohde & Schwarz	HFH2-Z2	Loop Antenna	5/12/2025	Annual	5/12/2026	100546
Rohde & Schwarz	ENV216	Two-Line V-Network	4/24/2025	Annual	4/24/2026	101364
Schwarzbeck	VULB 9162	Bilog Antenna (30MHz - 6GHz)	7/17/2025	Annual	7/17/2026	00302

Table 6-1. Test Equipment List

Note:

- For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.
- * Denotes passive equipment that have been internally verified/calibrated.

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 14 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

7.0 TEST RESULTS

7.1 Summary

Company Name: Apple Inc.
 FCC ID: BCG-A3454
 IC: 579C-A3454
 FCC Classification: 15E 6 GHZ Very Low Power Device (6VL)

FCC Part Section(s) / KDB Reference	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
2.1049, 15.407(a)(11)	RSS-Gen [6.7], RSS-248 [4.4]	Occupied Bandwidth/ 26dB Bandwidth	99% of the occupied bandwidth of any channel must be contained within each of its respective U-NII sub bands < 320MHz (5.925 - 7.125GHz)	CONDUCTED	PASS	Section 7.2
15.407(a)(9)	RSS-248 [4.5.6]	Maximum Power Spectral Density	< -5dBm/MHz e.i.r.p for Very Low Power		PASS	Section 7.4
15.407(a)(9)	RSS-248 [4.5.6]	Maximum EIRP	< 14dBm over the frequency band of operation for Very Low Power		PASS	Section 7.3
15.407(b)(7)	RSS-248 [4.6.2]	In-Band Emissions	EUT must meet the limits detailed in 15.407(b)(7) and RSS-248 [4.6.2] b)		PASS	Section 7.5
15.407(d)(6)	RSS-248 [4.7]	Contention Based Protocol	EUT must detect AWGN signal with 90% (or better) certainty		PASS	Section 7.6
15.407(d)(10)	RSS-248[4.6]	Transmit Power Control	EUT must employ a TPC mechanism to operate 6dB below the maximum EIRP PSD value of -5 dBm/MHz		PASS	Section 7.7
15.407(b)(6)	RSS-248 [4.6.2]	Undesirable Emissions	< -27dBm/MHz e.i.r.p. outside of the 5.925 – 7.125GHz band	RADIATED	PASS	Section 7.8
15.205, 15.209	RSS-248 [4.6.2] RSS-Gen [8.9]	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209 (RSS-Gen [8.9])		PASS	Section 7.8, 7.9
15.207	RSS-Gen [8.8]	AC Conducted Emissions 150kHz – 30MHz	< FCC 15.207 (RSS-Gen [8.8]) limits	AC LINE CONDUCTED	PASS	Section 7.10

Table 7-1. Summary of Test Results

Notes:

- All channels, modes, and modulations/data rates were investigated among all UNII bands. The test results shown in the following sections represent the worst case emissions.
- The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
- All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and attenuators.
- For conducted spurious emissions, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Element "Conducted Automation Software," Version 1.5.0.
- For radiated testing, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Element "Chamber Automation," Version 3.6.1.

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 15 of 78

V 11.0 06/2025

7.2 26dB & 99% Bandwidth Measurement

§2.1049, §15.407(a)(11); RSS-Gen [6.7], RSS-248 [4.4]

Test Overview and Limit

The bandwidth at 26dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024 and KDB 789033 D02 v02r01, and at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26dB bandwidth.

Test Procedure Used

ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024 – Section 12.5
KDB 789033 D02 v02r01 – Section C

Test Settings

1. The signal analyzers' automatic bandwidth measurement capability was used to perform the 26dB bandwidth measurement. The "X" dB bandwidth parameter was set to $X = 26$. The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = in the range of 1% to 5% of the emission bandwidth
3. $VBW \geq 3 \times RBW$
4. Detector = Peak
5. Trace mode = max hold

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-1. Test Instrument & Measurement Setup

Test Notes

1. Low, mid and high channels were tested, and tabular data has been reported. Only mid channel plots have been reported.

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 16 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

7.2.1 26dB & 99% Bandwidth Measurements (U-NII-5)

Frequency [MHz]	Data Rate [Mbps]	Mode	Measured 99% Occupied Bandwidth [MHz]	Measured 26dB Bandwidth [MHz]	Maximum Bandwidth Limit [MHz]	Pass / Fail
6108	1.0	NB UNII BDR	0.994	1.262	320	Pass
6264	1.0	NB UNII BDR	0.983	1.259	320	Pass
6420	1.0	NB UNII BDR	0.988	1.263	320	Pass
6108	1.0	NB UNII LE1M	1.068	0.133	320	Pass
6264	1.0	NB UNII LE1M	1.066	0.133	320	Pass
6420	1.0	NB UNII LE1M	1.067	0.134	320	Pass
6108	2.0	NB UNII LE2M	2.079	0.254	320	Pass
6264	2.0	NB UNII LE2M	2.076	0.254	320	Pass
6420	2.0	NB UNII LE2M	2.081	0.254	320	Pass
6108	4.0	NB UNII HDR4	2.262	2.629	320	Pass
6264	4.0	NB UNII HDR4	2.264	2.632	320	Pass
6420	4.0	NB UNII HDR4	2.267	2.633	320	Pass
6108	8.0	NB UNII HDR8	4.498	5.098	320	Pass
6264	8.0	NB UNII HDR8	4.589	5.151	320	Pass
6420	8.0	NB UNII HDR8	4.585	5.157	320	Pass
6108	4.0	NB UNII HDRp4	2.434	2.779	320	Pass
6264	4.0	NB UNII HDRp4	2.433	2.783	320	Pass
6420	4.0	NB UNII HDRp4	2.438	2.812	320	Pass
6108	8.0	NB UNII HDRp8	4.849	5.480	320	Pass
6264	8.0	NB UNII HDRp8	4.887	5.536	320	Pass
6420	8.0	NB UNII HDRp8	4.862	5.494	320	Pass

Table 7-2. Conducted BW Measurements

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 17 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



Plot 7-1. 26dB BW & 99% OBW (NB UNII BDR-6264MHz)



Plot 7-2. 26dB BW & 99% OBW (NB UNII LE1M-6264MHz)

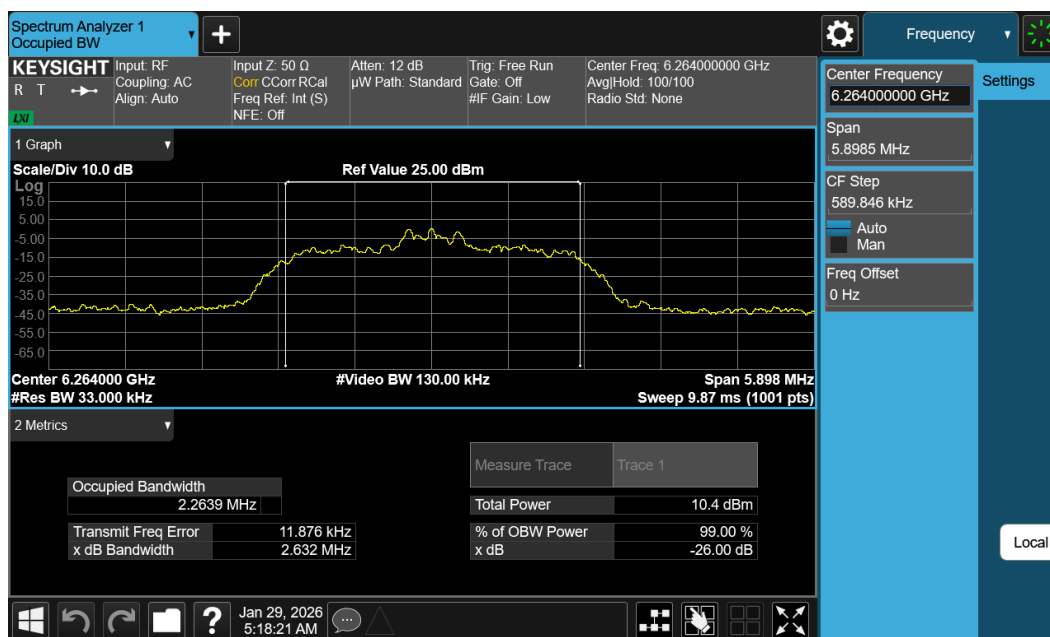
FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 18 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



Plot 7-3. 26dB BW & 99% OBW (NB UNII LE2M– 6264MHz)

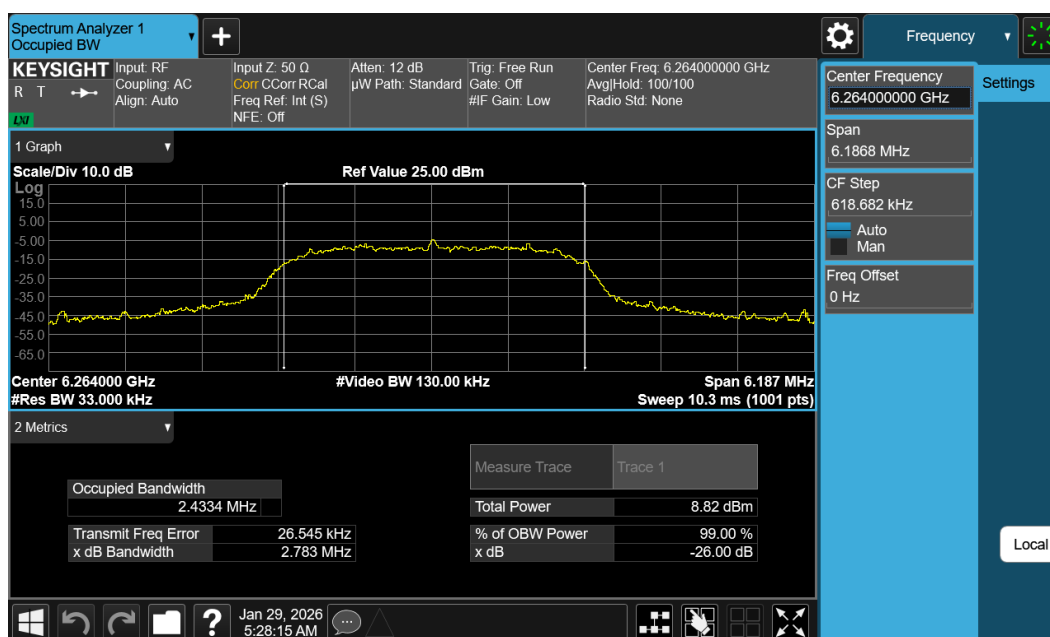


Plot 7-4. 26dB BW & 99% OBW (NB UNII HDR4– 6264MHz)

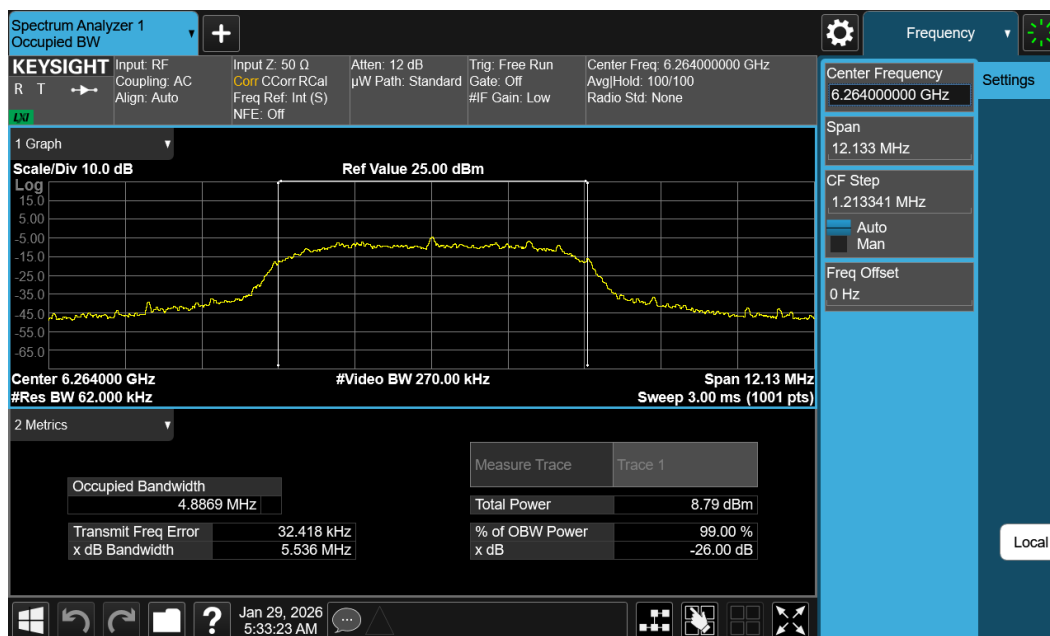
FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 19 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



Plot 7-7. 26dB BW & 99% OBW (NB UNII HDRp8– 6264MHz)

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 21 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

7.3 Conducted Output Power and Max EIRP Measurement

§15.407(a)(9), RSS-248[4.5.6]

Test Overview and Limits

A transmitter antenna terminal of the EUT is connected to the input of an RF pulse power sensor. Measurement is made using a broadband average power meter while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024 and KDB 789033 D02 v02r01, and at the appropriate frequencies.

In the 5.925 – 7.125GHz band, the maximum e.i.r.p. over the frequency band of operation must not exceed 14dBm for Very Low Power (VLP) devices.

Test Procedure Used

ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024 – Subclause 12.4.3.2 Method PM-G
KDB 789033 D02 v02r01 – Section E)3)b) Method PM-G

Test Settings

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-2. Test Instrument & Measurement Setup

Test Notes

None

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 22 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

7.3.1 Conducted Output Power and Max EIRP Measurements

Frequency [MHz]	Data Rate	Mode	Conducted Powers [dBm]	Antenna Gain [dBi]	Max e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]	e.i.r.p Margin [dBm]
6108	1.0	NB UNII BDR	-6.99	0.46	-6.53	14.00	-20.53
6264	1.0	NB UNII BDR	-8.88	2.75	-6.13	14.00	-20.13
6420	1.0	NB UNII BDR	-9.87	3.47	-6.40	14.00	-20.40
6108	1.0	NB UNII LE1M	-6.93	0.46	-6.47	14.00	-20.47
6264	1.0	NB UNII LE1M	-9.26	2.75	-6.51	14.00	-20.51
6420	1.0	NB UNII LE1M	-9.81	3.47	-6.34	14.00	-20.34
6108	2.0	NB UNII LE2M	-6.69	0.46	-6.23	14.00	-20.23
6264	2.0	NB UNII LE2M	-8.87	2.75	-6.12	14.00	-20.12
6420	2.0	NB UNII LE2M	-9.94	3.47	-6.47	14.00	-20.47
6108	4.0	NB UNII HDR4	-4.40	0.46	-3.94	14.00	-17.94
6264	4.0	NB UNII HDR4	-6.49	2.75	-3.74	14.00	-17.74
6420	4.0	NB UNII HDR4	-7.43	3.47	-3.96	14.00	-17.96
6108	8.0	NB UNII HDR8	-1.87	0.46	-1.41	14.00	-15.41
6264	8.0	NB UNII HDR8	-3.96	2.75	-1.21	14.00	-15.21
6420	8.0	NB UNII HDR8	-4.62	3.47	-1.15	14.00	-15.15
6108	4.0	NB UNII HDRp4	-4.38	0.46	-3.92	14.00	-17.92
6264	4.0	NB UNII HDRp4	-6.66	2.75	-3.91	14.00	-17.91
6420	4.0	NB UNII HDRp4	-7.36	3.47	-3.89	14.00	-17.89
6108	8.0	NB UNII HDRp8	-1.82	0.46	-1.36	14.00	-15.36
6264	8.0	NB UNII HDRp8	-3.80	2.75	-1.05	14.00	-15.05
6420	8.0	NB UNII HDRp8	-4.88	3.47	-1.41	14.00	-15.41

Table 7-3. Maximum Conducted Output Power and Max EIRP

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 23 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

Sample e.i.r.p. Calculation:

At 6108MHz for NB UNII BDR, the average conducted power was calculated to be -6.99 dBm with directional gain of 0.46 dBi.

$$\text{e.i.r.p. (dBm)} = \text{Conducted Power (dBm)} + \text{Ant gain (dBi)}$$

$$-6.99 \text{ dBm} + 0.46 \text{ dBi} = -6.53 \text{ dBm}$$

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 24 of 78

V 11.0 06/2025

7.4 Maximum Power Spectral Density

§15.407(a)(9), RSS-248 [4.5.6]

Test Overview and Limit

The spectrum analyzer was connected to the antenna terminal while the EUT was operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024 and KDB 789033 D02 v02r01, and at the appropriate frequencies. Method SA-1, as defined in ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024 and KDB 789033 D02 v02r01, was used to measure the power spectral density.

In the 5.925 – 7.125GHz band, the maximum permissible power spectral density must not exceed -5dBm e.i.r.p. in any 1-megahertz band for Very Low Power operating modes.

Test Procedure Used

ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024 – Subclause 12.4.2.2
KDB 789033 D02 v02r01 – Section F

Test Settings

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Set span to encompass the entire 99% OBW of the signal
3. RBW = 1MHz
4. VBW = 3MHz
5. Number of sweep points $\geq 2 \times (\text{span/RBW})$
6. Sweep time = auto
7. Detector = power averaging (RMS)
8. Trigger was set to free run for all modes
9. Trace was averaged over 100 sweeps
10. The peak search function of the spectrum analyzer was used to find the peak of the spectrum.

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-3. Test Instrument & Measurement Setup

Test Notes

1. Low, mid and high channels were tested, and tabular data has been reported. Only mid channel plots have been reported.
2. The duty cycle correction factor (DCCF) has been applied as an amplitude offset in the spectrum analyzer to ensure the required correction is accurately reflected in the measured Power Spectral Density (PSD). The offset value is indicated on each PSD plot.

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 25 of 78

7.4.1 Power Spectral Density Measurements (U-NII-5)

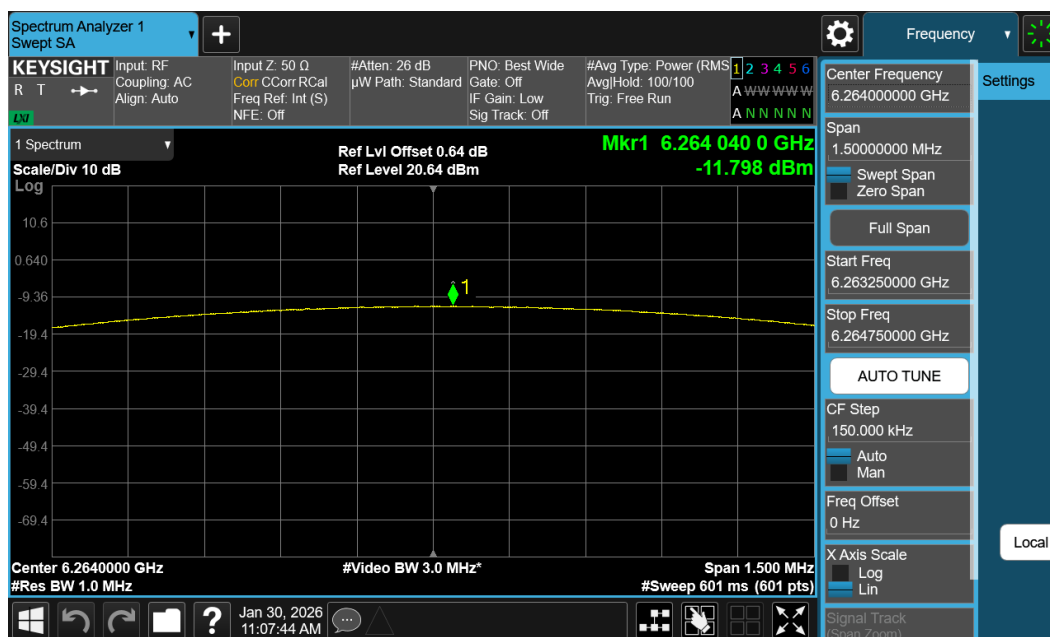
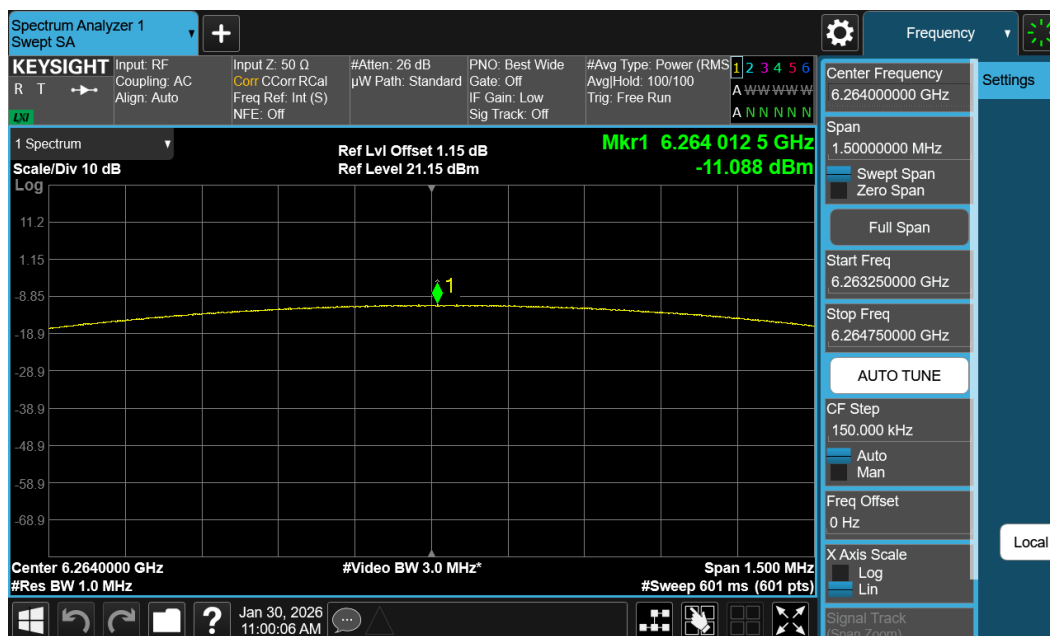
Frequency [MHz]	Data Rate [Mbps]	Mode	Measured Power Density [dBm/MHz]	Antenna Gain [dBi]	e.i.r.p. Density [dBm/MHz]	Max Permissible Power Density [dBm/MHz]	Margin [dB]
6108	1.0	NB UNII BDR	-9.23	0.46	-8.77	-5.00	-3.77
6264	1.0	NB UNII BDR	-11.09	2.75	-8.34	-5.00	-3.34
6420	1.0	NB UNII BDR	-11.99	3.47	-8.52	-5.00	-3.52
6108	1.0	NB UNII LE1M	-9.52	0.46	-9.06	-5.00	-4.06
6264	1.0	NB UNII LE1M	-11.80	2.75	-9.05	-5.00	-4.05
6420	1.0	NB UNII LE1M	-11.91	3.47	-8.44	-5.00	-3.44
6108	2.0	NB UNII LE2M	-9.98	0.46	-9.52	-5.00	-4.52
6264	2.0	NB UNII LE2M	-12.30	2.75	-9.55	-5.00	-4.55
6420	2.0	NB UNII LE2M	-13.17	3.47	-9.70	-5.00	-4.70
6108	4.0	NB UNII HDR4	-8.80	0.46	-8.34	-5.00	-3.34
6264	4.0	NB UNII HDR4	-11.05	2.75	-8.30	-5.00	-3.30
6420	4.0	NB UNII HDR4	-11.17	3.47	-7.70	-5.00	-2.70
6108	4.0	NB UNII HDRp4	-8.95	0.46	-8.49	-5.00	-3.49
6264	4.0	NB UNII HDRp4	-11.27	2.75	-8.52	-5.00	-3.52
6420	4.0	NB UNII HDRp4	-11.51	3.47	-8.04	-5.00	-3.04
6108	8.0	NB UNII HDR8	-8.39	0.46	-7.93	-5.00	-2.93
6264	8.0	NB UNII HDR8	-10.42	2.75	-7.67	-5.00	-2.67
6420	8.0	NB UNII HDR8	-11.11	3.47	-7.64	-5.00	-2.64
6108	8.0	NB UNII HDRp8	-9.47	0.46	-9.01	-5.00	-4.01
6264	8.0	NB UNII HDRp8	-11.33	2.75	-8.58	-5.00	-3.58
6420	8.0	NB UNII HDRp8	-12.55	3.47	-9.08	-5.00	-4.08

Table 7-4. Power Spectral Density Measurements

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 26 of 78

V 11.0 06/2025

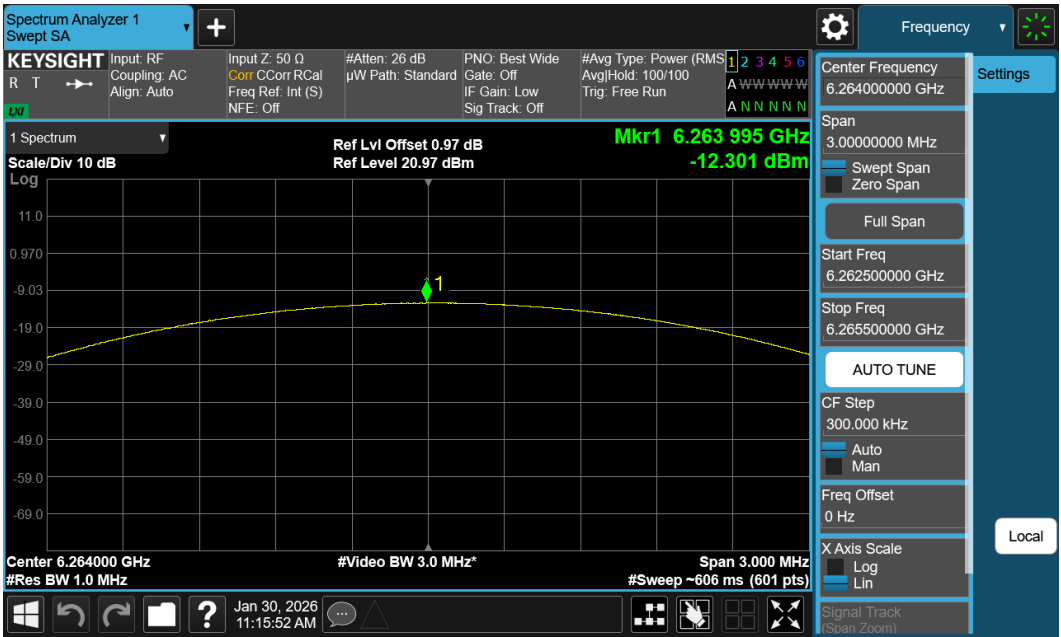
Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



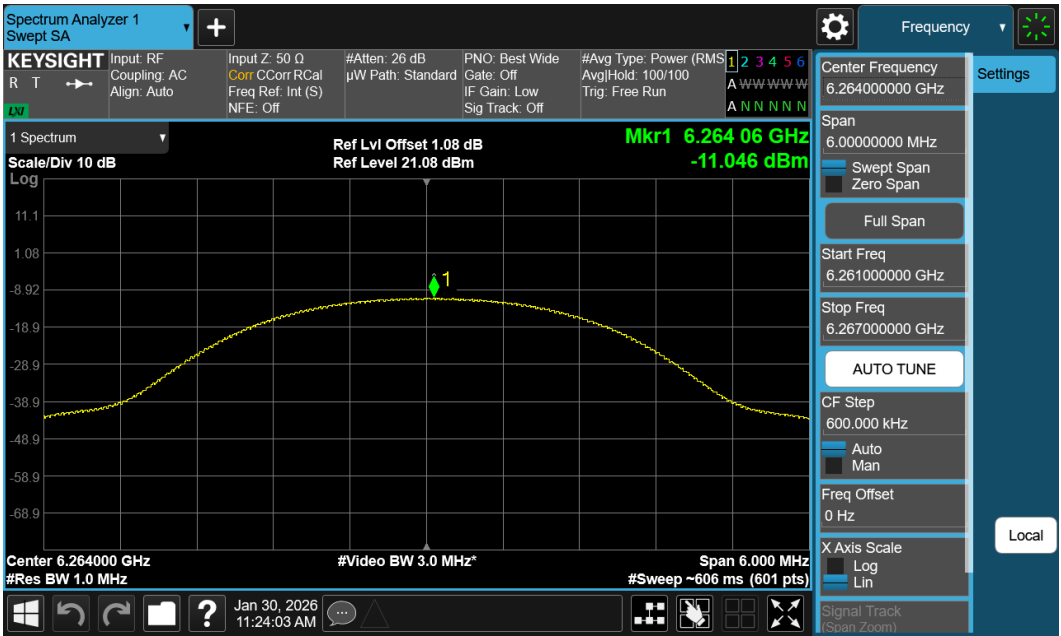
FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 27 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

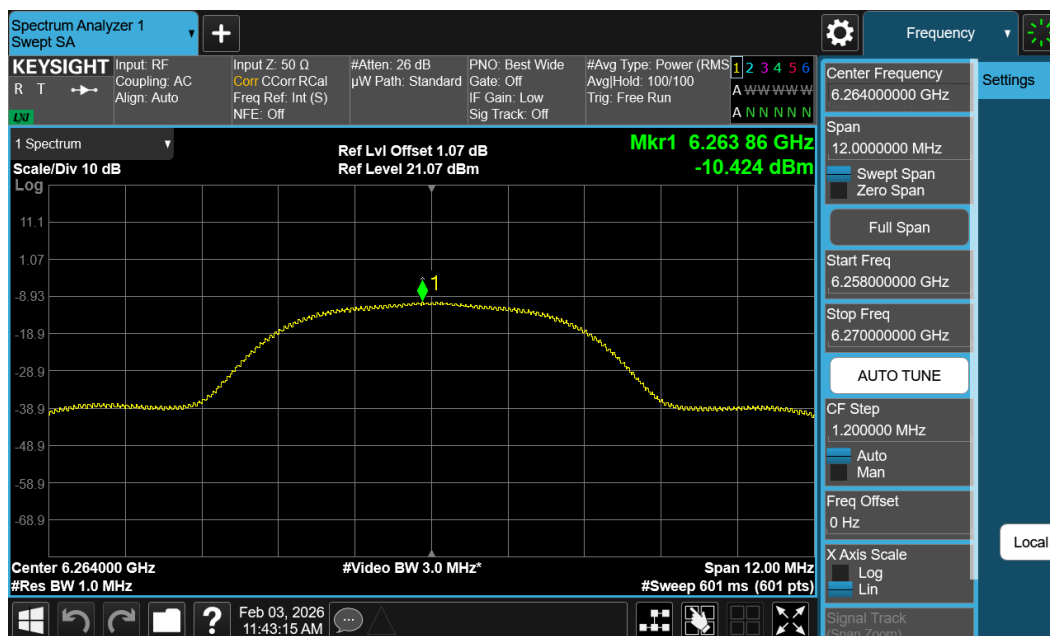


Plot 7-10. PSD (NB UNII LE2M – 6264MHz)

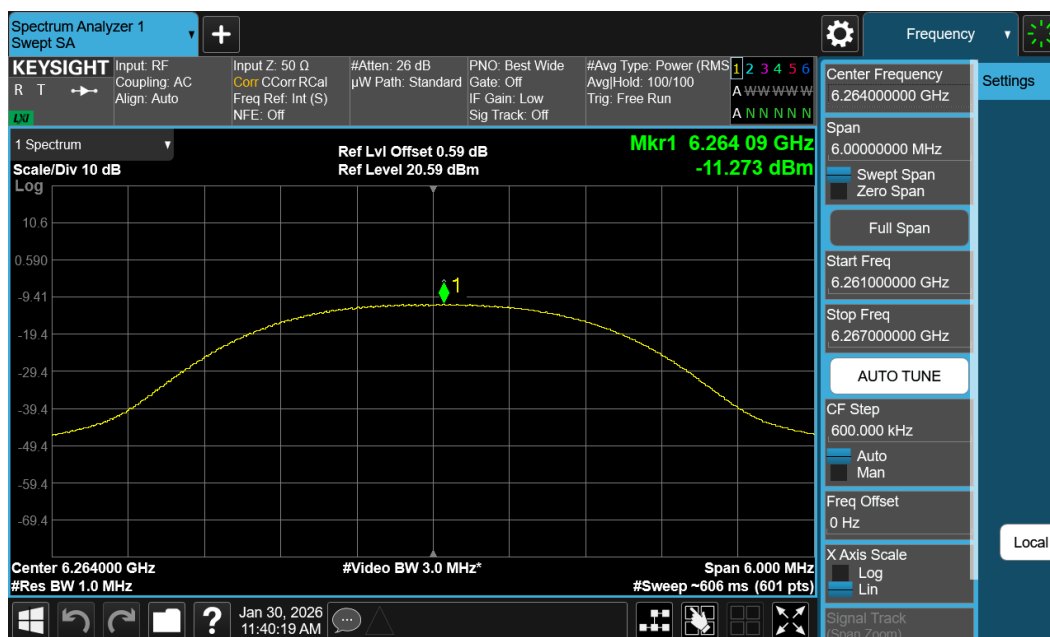


Plot 7-11. PSD (NB UNII HDR4 – 6264MHz)

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 28 of 78



Plot 7-12. PSD (NB UNII HDR8 – 6264MHz)

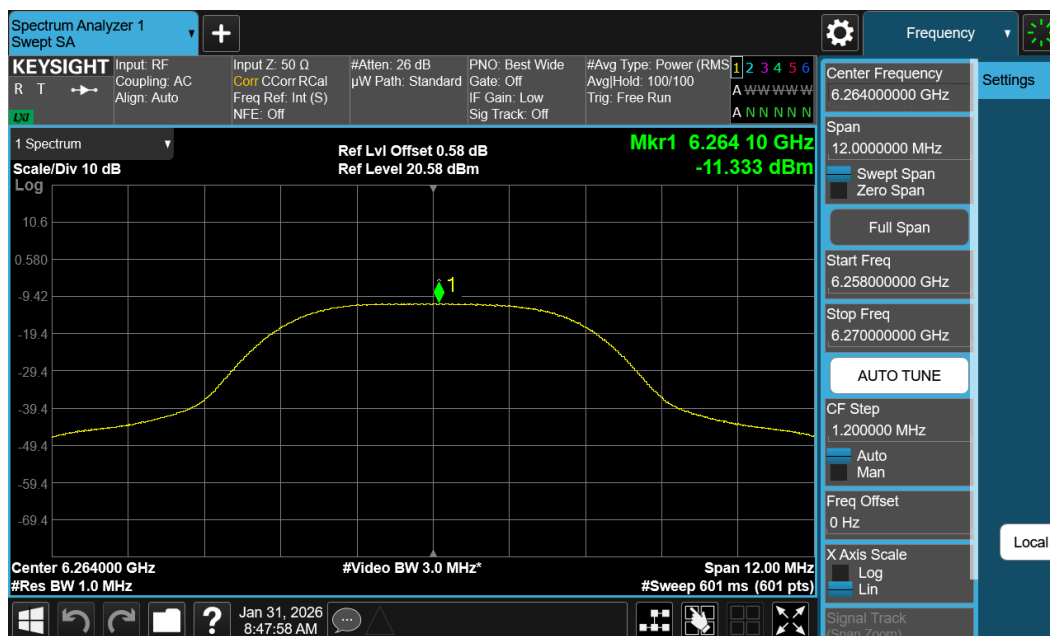


Plot 7-13. PSD (NB UNII HDRp4 – 6264MHz)

FCC ID: BCG-A3454 IC: 579C-A3454	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 29 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



Plot 7-14. PSD (NB UNII HDRp8 – 6264MHz)

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 30 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

7.5 In-Band Emissions

§15.407(b)(7); RSS-248[4.6.2]

Test Overview and Limit

The spectrum analyzer was connected to the antenna terminal while the EUT was operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024 and KDB 789033 D02 v02r01, and at the appropriate frequencies.

For transmitters operating within the 5.925-7.125 GHz bands: In-Band Emission must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB.

Test Procedure Used

ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024 – Section 12.4.2.2
KDB 987594 D02 v03 – Section J

Test Settings

1. Connect output of the antenna port to a spectrum analyzer or EMI receiver, with appropriate attenuation, as to not damage the instrumentation.
2. Set the reference level of the measuring equipment in accordance with procedure 4.1.6.2 of ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024.
3. Measure the 26 dB EBW using the test procedure 12.4.1 of ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024. (This will be used to determine the channel edge.)
4. Measure the In-Band Emission (which will be used for emissions mask reference) using the following procedure:
 - a) Set the span to encompass the entire 26 dB EBW of the signal.
 - b) Set RBW = same RBW used for 26 dB EBW measurement.
 - c) Set VBW $\geq 3 \times$ RBW
 - d) Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$.
 - e) Sweep time = auto.
 - f) Detector = RMS (i.e., power averaging)
 - g) Trace average at least 100 traces in power averaging (rms) mode.
 - h) Use the peak search function on the instrument to find the peak of the spectrum.
5. For the purposes of developing the emission mask, the channel bandwidth is defined as the 26 dB EBW.
6. Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions In-Band Emission must be reduced below the peak In-Band Emission (in dB) as follows:
 - i) Suppressed by 20 dB at 1 MHz outside of the channel edge. (The channel edge is defined as the 26-dB point on either side of the carrier center frequency.)
 - j) Suppressed by 28 dB at one channel bandwidth from the channel center.
 - k) Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.
7. Adjust the span to encompass the entire mask as necessary.
8. Clear trace.
9. Trace average at least 100 traces in power averaging (rms) mode.
10. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask.

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 31 of 78

V 11.0 06/2025

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-4. Test Instrument & Measurement Setup

Test Notes

1. Low, mid, and high channels were tested, and only mid channel plots have been reported.

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 32 of 78

V 11.0 06/2025

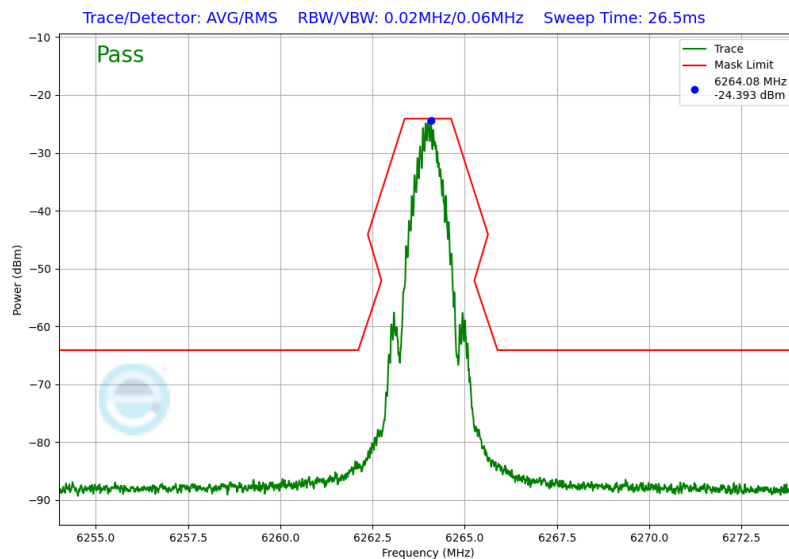
7.5.1 In-Band Emission Measurements (U-NII-5)

Frequency [MHz]	Data Rate [Mbps]	Mode	Antenna WF5B In-Band Emission
6108	1.0	NB UNII BDR	Pass
6264	1.0	NB UNII BDR	Pass
6420	1.0	NB UNII BDR	Pass
6108	1.0	NB UNII LE1M	Pass
6264	1.0	NB UNII LE1M	Pass
6420	1.0	NB UNII LE1M	Pass
6108	2.0	NB UNII LE2M	Pass
6264	2.0	NB UNII LE2M	Pass
6420	2.0	NB UNII LE2M	Pass
6108	4.0	NB UNII HDR4	Pass
6264	4.0	NB UNII HDR4	Pass
6420	4.0	NB UNII HDR4	Pass
6108	4.0	NB UNII HDRp4	Pass
6264	4.0	NB UNII HDRp4	Pass
6420	4.0	NB UNII HDRp4	Pass
6108	8.0	NB UNII HDR8	Pass
6264	8.0	NB UNII HDR8	Pass
6420	8.0	NB UNII HDR8	Pass
6108	8.0	NB UNII HDRp8	Pass
6264	8.0	NB UNII HDRp8	Pass
6420	8.0	NB UNII HDRp8	Pass

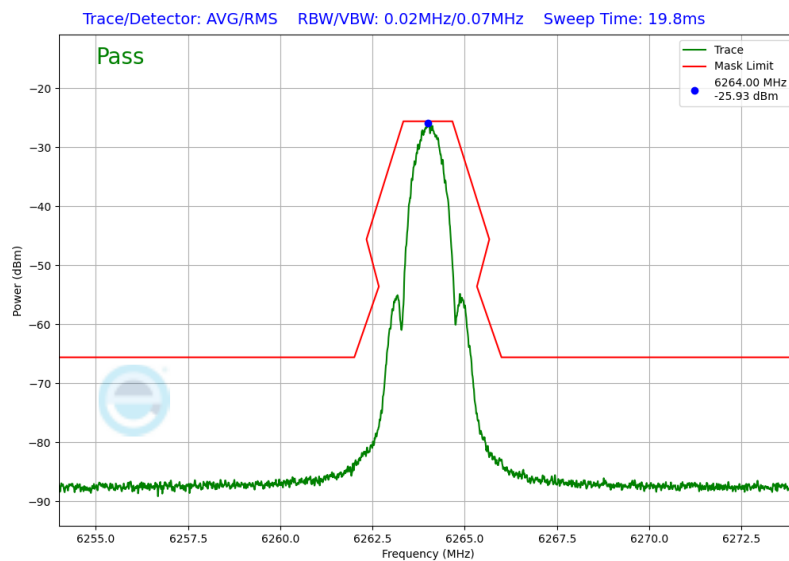
Table 7-5. In-Band Emission Measurements

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 33 of 78

V 11.0 06/2025



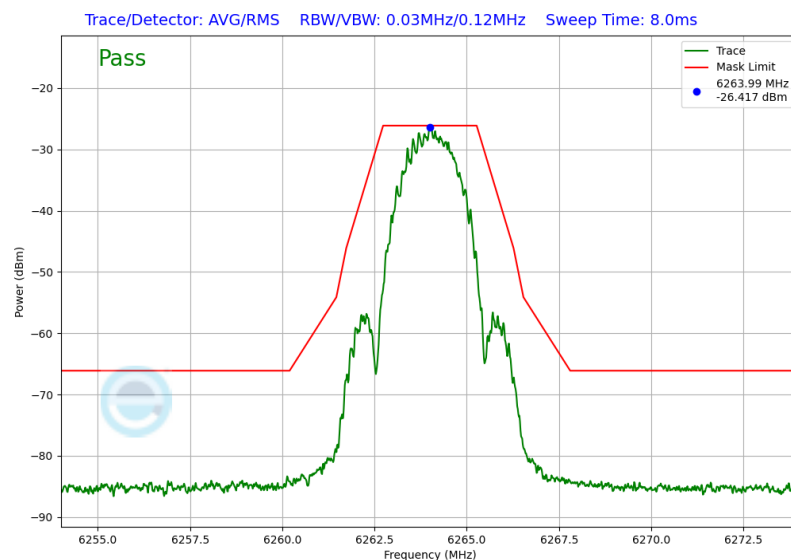
Plot 7-15. In-Band Emission (NB UNII BDR – 6264MHz)



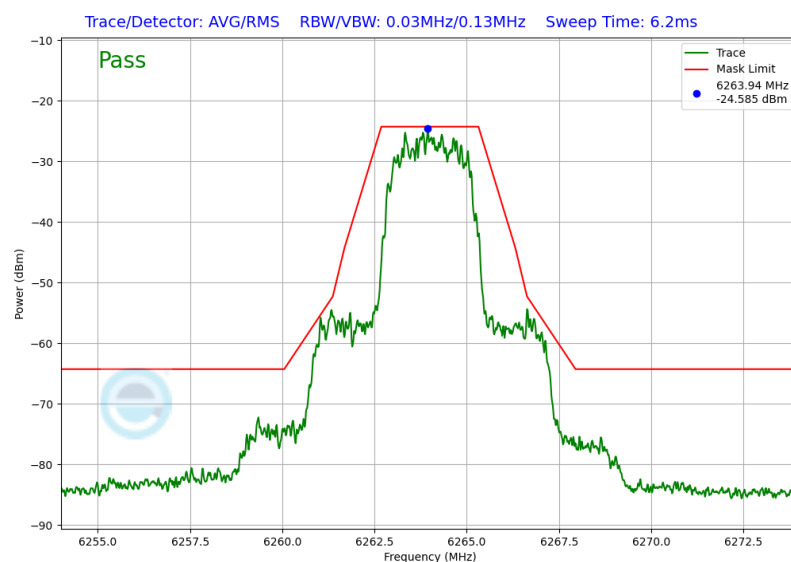
Plot 7-16. In-Band Emission (NB UNII LE1M – 6264MHz)

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 34 of 78

V 11.0 06/2025



Plot 7-17. In-Band Emission (NB UNII LE2M – 6264MHz)

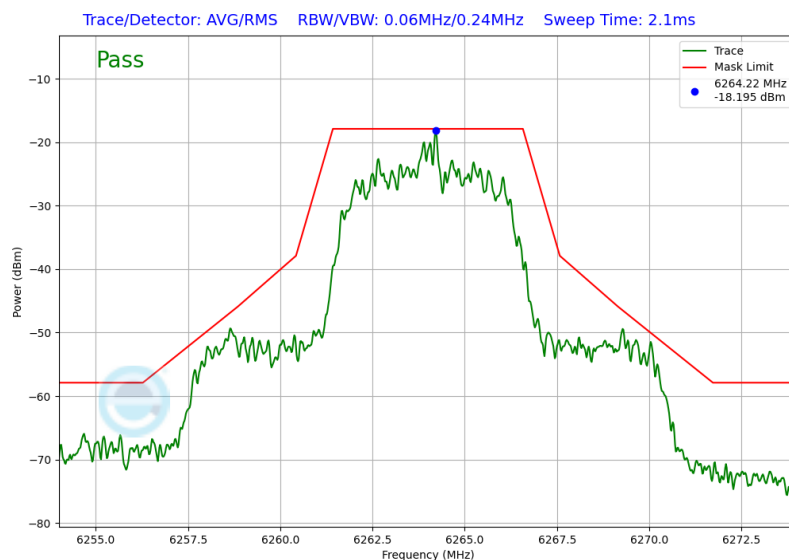


Plot 7-18. In-Band Emission (NB UNII HDR4 – 6264MHz)

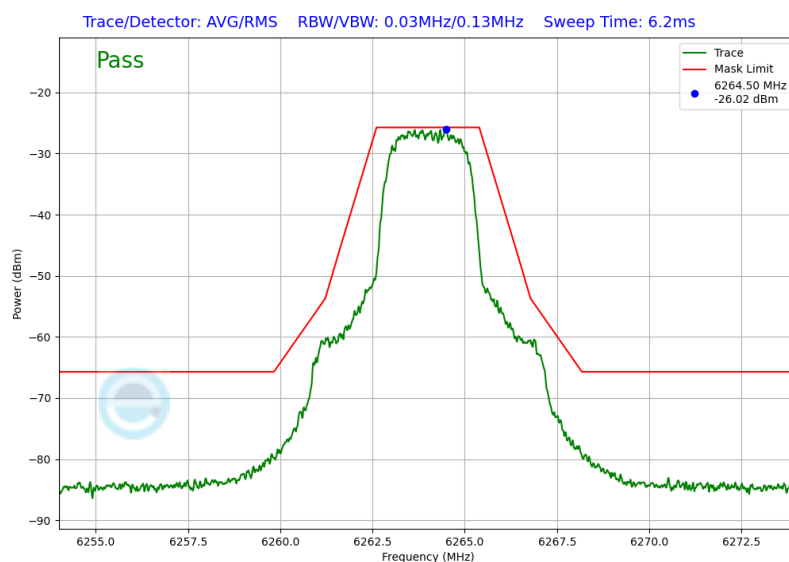
FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 35 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



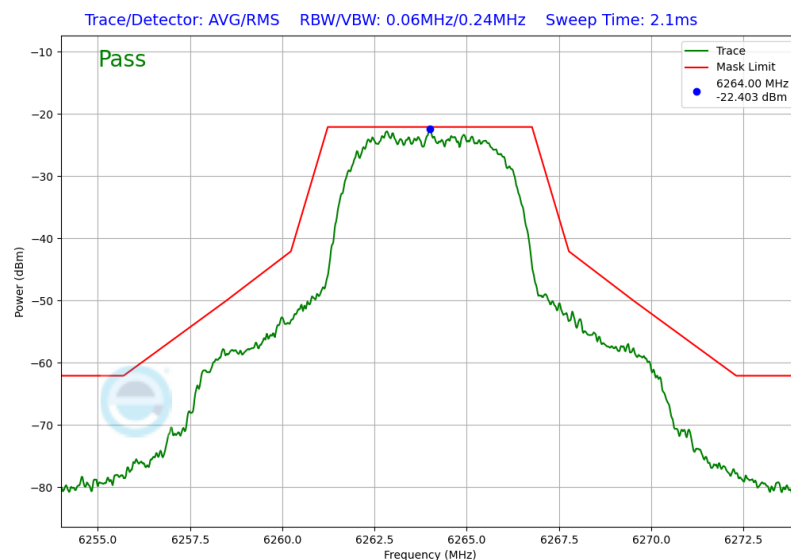
Plot 7-19. In-Band Emission (NB UNII HDR8 – 6264MHz)



Plot 7-20. In-Band Emission (NB UNII HDRp4 – 6264MHz)

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 36 of 78

V 11.0 06/2025



Plot 7-21. In-Band Emission (NB UNII HDRp8 – 6264MHz)

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 37 of 78

V 11.0 06/2025

7.6 Contention Based Protocol

§15.407(d)(6); RSS-248[4.7]

Test Overview and Limit

Indoor access points, subordinate devices and client devices operating in the 5.925-7.125 GHz band (herein referred to as unlicensed devices) are required to use technologies that include a contention-based protocol to avoid co-channel interference with incumbent devices sharing the band. To ensure incumbent co-channel operations are detected in a technology-agnostic manner, unlicensed devices are required to detect co-channel radio frequency energy (energy detect) and avoid simultaneous transmission.

Unlicensed indoor low-power and very low power devices must detect co-channel radio frequency power that is at least -62 dBm or lower. Upon detection of energy in the band, unlicensed low power indoor and very low power devices must vacate the channel and stay off the channel as long as detected radio frequency power is equal to or greater than the threshold (-62 dBm). The -62 dBm (or lower) threshold is referenced to a 0 dBi antenna gain.

To ensure incumbent operations are reliably detected in the band, low power indoor devices must detect RF energy throughout their intended operating channel.

Test Procedure Used

KDB 987594 D02 v03 – Section I

Test Settings

1. Configure the EUT to transmit with a constant duty cycle.
2. Set the operating parameters of the EUT including power level, operating frequency, modulation and bandwidth
3. Set the signal analyzer center frequency to the nominal EUT channel center frequency. The span range of the signal analyzer shall be between two times and five times the OBW of the EUT.
4. Connect the output port of the EUT to the signal analyzer 2, as shown in Figure 2. Ensure that the attenuator 2 provides enough attenuation to not overload the signal analyzer 2 receiver.
5. Monitoring the signal analyzer 2, verify the EUT is operating and transmitting with the parameters set at step two.
6. Using an AWGN signal source, generate (but do not transmit, i.e., RF OFF) a 10 MHz-wide AWGN signal. Use Table 1 to determine the center frequency of the 10 MHz AWGN signal relative to the EUT's channel bandwidth and center frequency.
7. Set the AWGN signal power to an extremely low level (more than 20 dB below the -62 dBm threshold). Connect the AWGN signal source, via a 3-dB splitter, to the signal analyzer 1 and the EUT as shown in Figure 2.
8. Transmit the AWGN signal (RF ON) and verify its characteristics on the signal analyzer 1.
9. Monitor the signal analyzer 2 to verify if the AWGN signal has been detected and the EUT has ceased transmission. If the EUT continues to transmit, then incrementally increase the AWGN signal power level until the EUT stops transmitting.
10. Including all losses in the RF paths) Determine and record the AWGN signal power level (at the EUT's antenna port) at which the EUT ceased transmission. Repeat the procedure at least 10 times to verify the EUT can detect an AWGN signal with 90% (or better) level of certainty.
11. Refer to Table 1 to determine number of times the detection threshold testing needs to be repeated. If testing is required more than once, then go back to step 5, choose a different center frequency for the AWGN signal and repeat the process.

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 38 of 78

V 11.0 06/2025

Test Setup

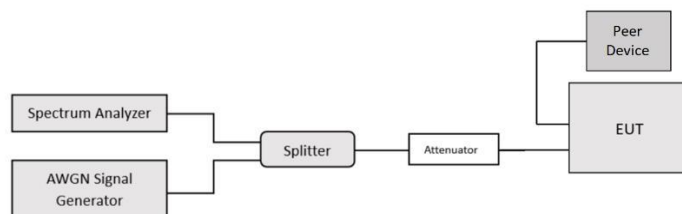


Figure 7-5. Contention-based protocol test setup, conducted method

Test Notes

1. Peer device used was Model: A3260, SN: MX4M32R7XC. (refer to Table 2-4).
2. Per guidance from KDB 987594 D02 v03, contention-based protocol was tested using an AWGN signal with a bandwidth of 10MHz. The amplitude of the signal was increased until detected by the EUT, signaled by the ceasing of transmission, marker indicates the point at which the AWGN signal is introduced.
3. Per KDB 987594 D04 v03, contention-based protocol was tested with receiver with the lowest antenna gain.
4. 15 trials were ran in order to assure that at least 90% of certainty was met.

$$\text{Detection Level} = \text{Injected AWGN Power (dBm)} - \text{Antenna Gain (dBi)} + \text{Path Loss (dB)}$$

Equation 7-1. Incumbent Detection Level Calculation

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 39 of 78

V 11.0 06/2025

Band	Incumbent Frequency [MHz]	Injected (AWGN) [dBm]	Antenna Gain [dBi]	Adjusted Power Level [dBm]	Detection Limit [dBm]	Margin [dB]
UNII Band 5	6113	-74.99	0.46	-75.45	-62.0	-13.45

Table 7-6. Contention Based Protocol – Incumbent Detection Results

Band	EUT Transmission Status		
	Adjusted AWGN Power (dBm)		
	Normal	Minimal	Ceased
UNII Band 5	-87.88	-76.70	-75.45

Table 7-7. Contention Based Protocol – Detection Results – All Tx Cases

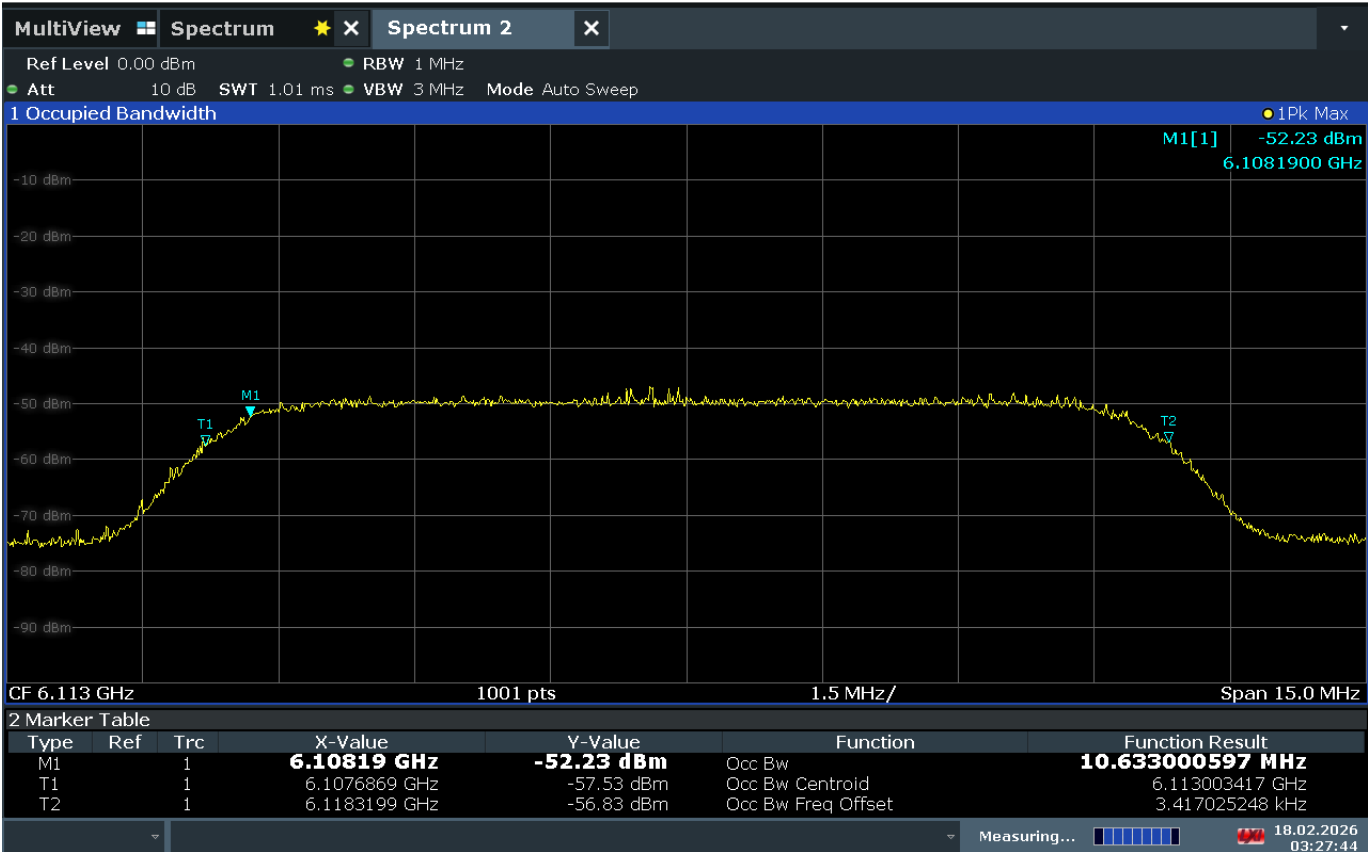
CBP Detection (1 = Detection, Blank = No detection)																		
Band	Trials															Detection Rate [%]	Limit %	Pass / Fail
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
UNII Band 5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	90	Pass

Table 7-8. Contention Based Protocol – Incumbent Detection Trial Results

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 40 of 78

V 11.0 06/2025

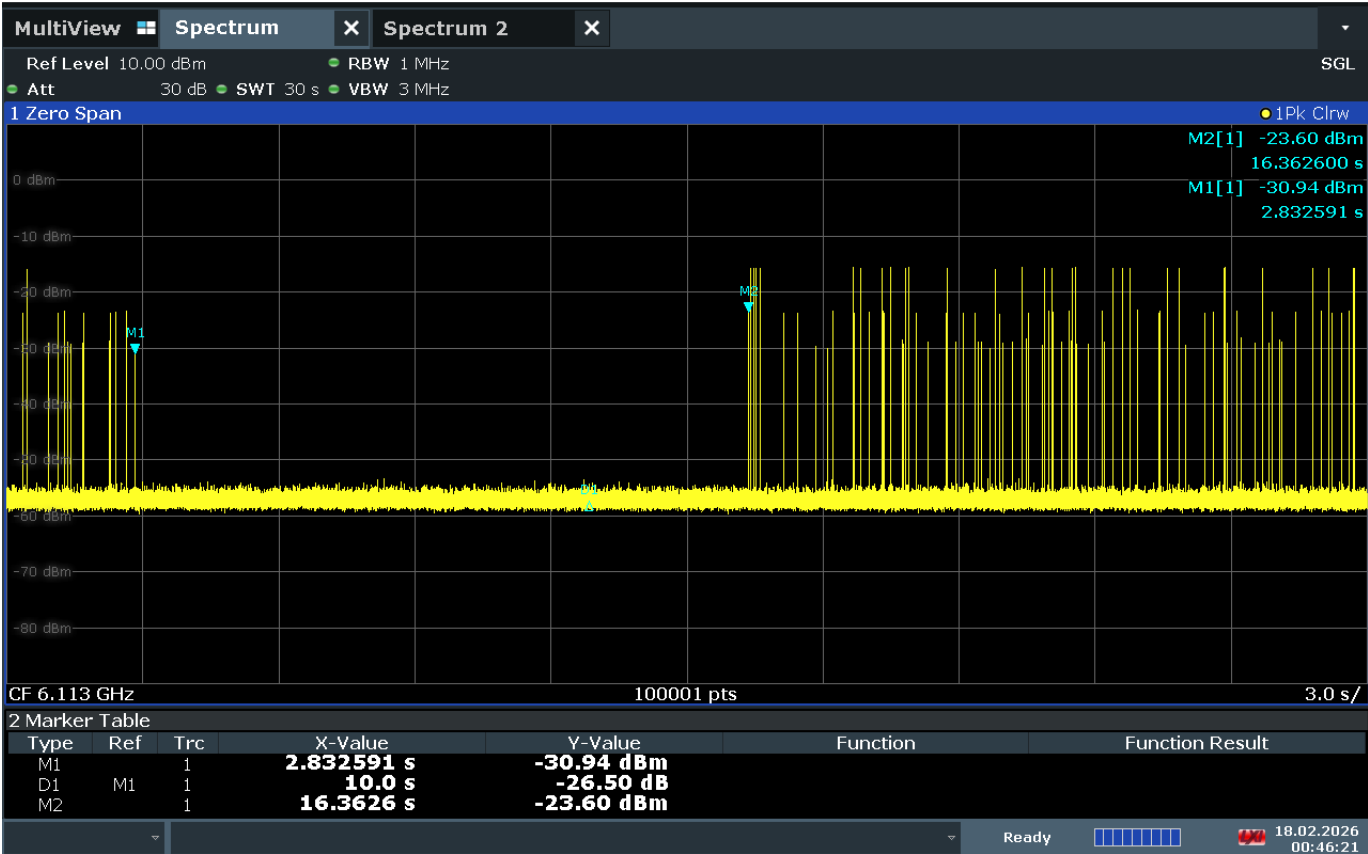
AWGN Plots



Plot 7-22. AWGN Signal

FCC ID: BCG-A3454 IC: 579C-A3454	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 41 of 78

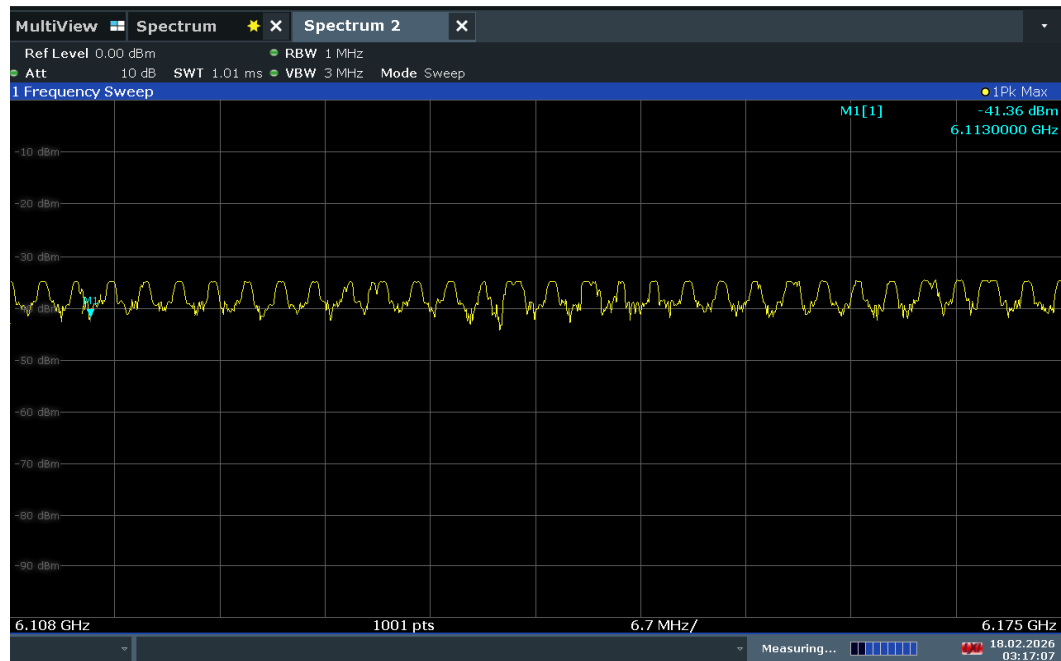
Contention-Based Protocol Timing Plots



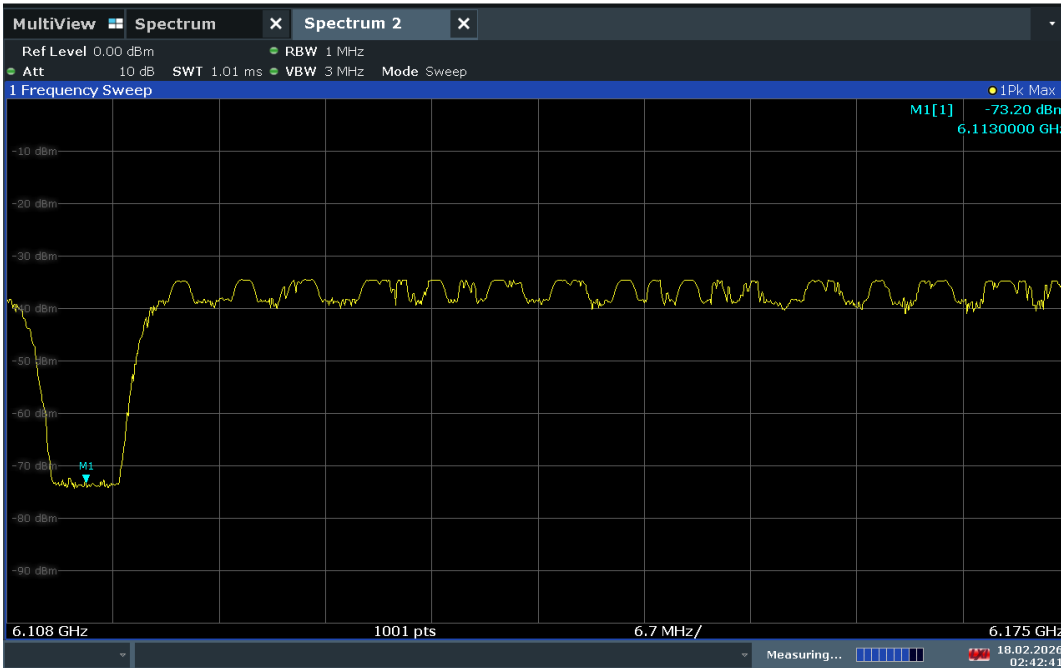
Plot 7-23. Contention Based Protocol Timing Plot

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 42 of 78

Bandwidth Reduction Plots



Plot 7-24. Before AWGN Signal Injected



Plot 7-25. After AWGN Signal Injected

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 43 of 78

7.7 Transmit Power Control (TPC)

§15.407(d)(10); RSS-248[4.6]

Test Overview and Limit

Very low power devices operating in 5.925-7.125 GHz bands shall employ a transmit power control (TPC) mechanism. A very low power device is required to have the capability to operate at least 6 dB below the maximum EIRP power spectral density (PSD) value of -5 dBm/MHz.

Test Procedure Used

ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024 – Section 12.4.2.6
KDB 789033 D02 v02r01 – Section F

Test Settings

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Set span to encompass the entire 99% OBW of the signal.
3. Set sweep trigger to “free run.”
4. Set RBW = 1 MHz
5. Set VBW $\geq$ 3 MHz
6. Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$.
7. Sweep time $\leq (\text{number of points in sweep}) \times T$, where T is defined
8. Detector = power averaging (rms).
9. Trace mode = max hold.
10. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

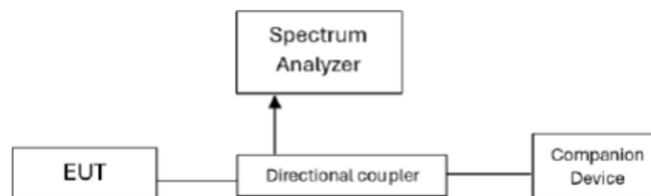


Figure 7-6. Test Instrument & Measurement Setup (No Attenuation)

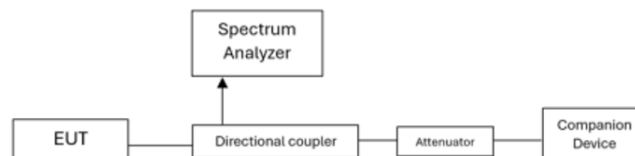


Figure 7-7. Test Instrument & Measurement Setup (With Attenuation)

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 44 of 78

V 11.0 06/2025

This test demonstrates the ability of the device to increase and decrease power by the required 6dB as the RSSI is decreased and increased.

1. Configure EUT and companion device for peer-to-peer communication as shown in Figure 7-6.
2. Set variable attenuator to 0dB (noise free spectral environment, high RSSI simulation)
3. Establish a link and start communication between EUT and companion device
4. Capture PSD on spectrum analyzer
5. Set attenuator to 30dB (noisy spectral environment, low RSSI simulation) as shown in Figure 7-7.
6. Capture PSD on spectrum analyzer
7. Compare the highest PSD captured in step 4 to the highest PSD on step 6 and determine the delta.

Test Notes

1. The companion device used was model: A3260. (refer to **Table 2-4**)
2. Per manufacturer's declaration, after establishing communication between the EUT and the companion device, 6GHz UNII signal was used to maintain communication and traffic.
3. TPC is triggered when a high RSSI is detected. As RSSI detected signal decreases, the transmitters output power will increase back to maximum allowed power.

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 45 of 78

V 11.0 06/2025

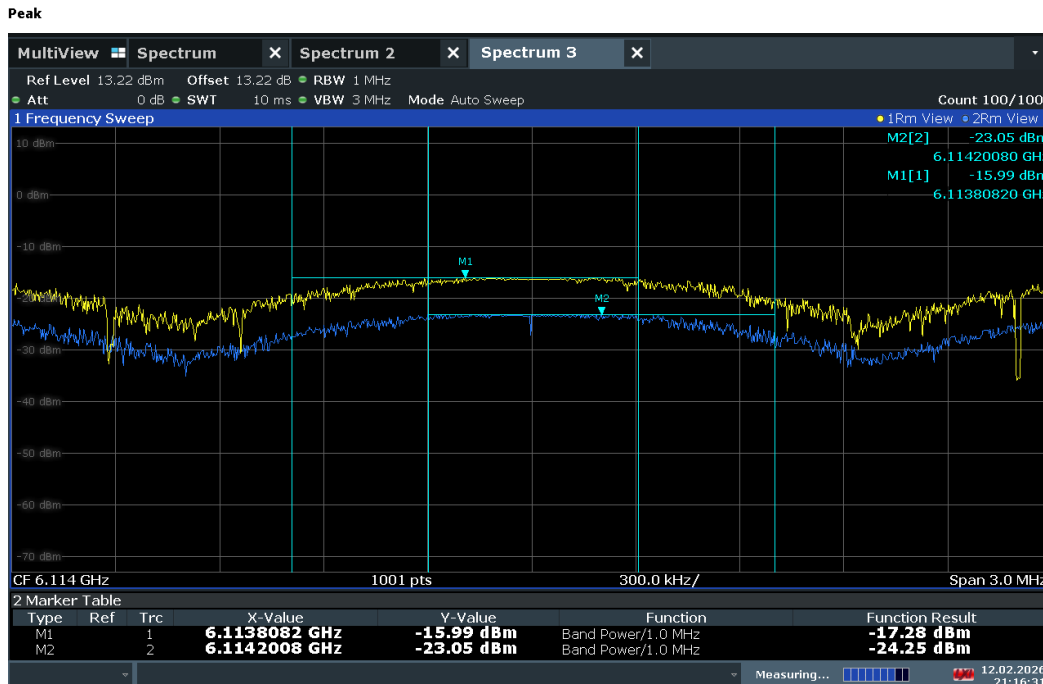
Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

No TPC (30db attenuation)				
Frequency [MHz]	Measured Power Density [dBm/MHz]	Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	e.i.r.p. Power Density Limit [dBm/MHz]
	Antenna 0			
6114	-17.28	0.46	-16.82	-5.00
6252	-11.43	2.75	-8.68	-5.00
6337	-15.93	3.47	-12.46	-5.00

Table 7-9. PSD Measurements (No TPC)

With TPC				
Frequency [MHz]	Measured Power Density [dBm/MHz]	Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	e.i.r.p. Power Density Limit [dBm/MHz]
	Antenna 0			
6114	-24.25	0.46	-23.79	-11.00
6252	-23.78	2.75	-21.03	-11.00
6337	-24.09	3.47	-20.62	-11.00

Table 7-10. PSD Measurements (with TPC)



21:16:31 12.02.2026

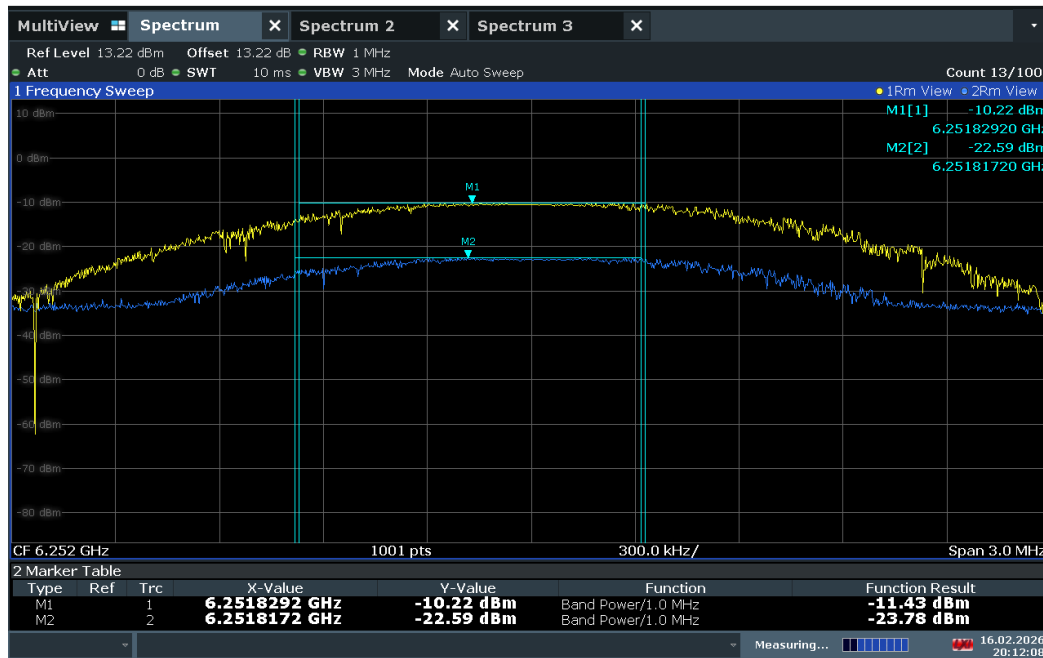
Plot 7-26. Power Density Plot 6114MHz

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 46 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

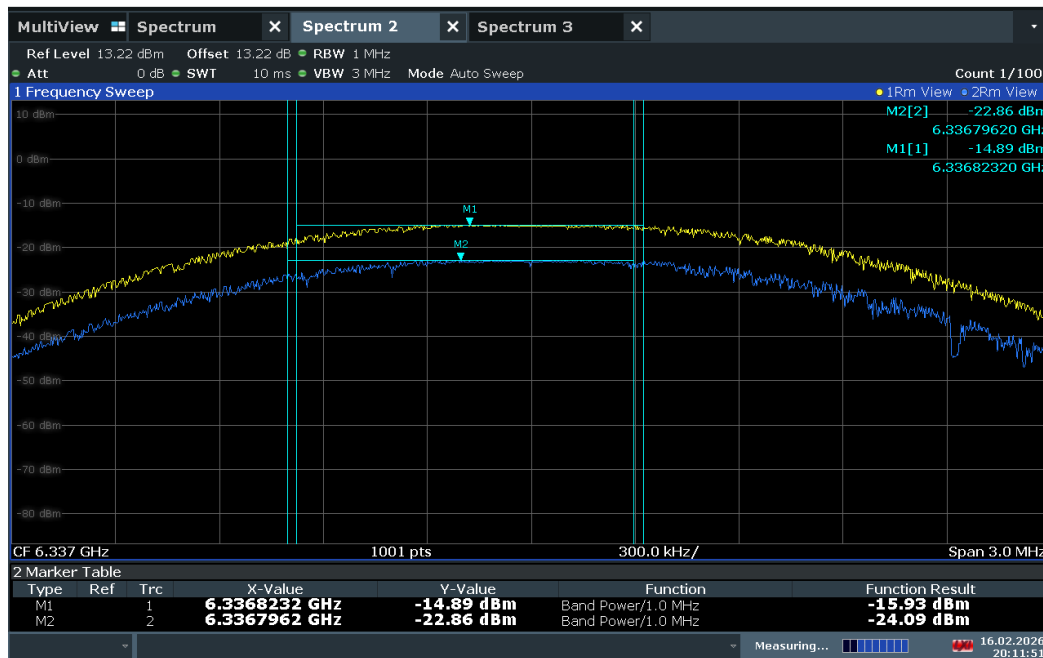
Peak



20:12:09 16.02.2026

Plot 7-27. Power Density Plot – 6252MHz

Peak



20:11:52 16.02.2026

Plot 7-28. Power Density Plot – 6377MHz

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 47 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

7.8 Radiated Spurious Emission – Above 1GHz

§15.407(b) §15.205 §15.209; RSS-Gen [8.9]

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024 and KDB 789033 D02 v02r01, and at the appropriate frequencies. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

For transmitters operating in the 5.925-7.125 GHz band: All emissions outside of the 5.925-7.125 GHz band shall not exceed an EIRP of -27 dBm/MHz. Emissions found in a restricted band are subject to the limits of 15.209 and RSS-Gen (8.9) as shown in the table below.

Frequency	Field Strength [$\mu\text{V/m}$]	Measured Distance [Meters]
Above 960.0 MHz	500	3

Table 7-11. Radiated Limits

Test Procedures Used

ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024 – Subclauses 12.7.7, 12.7.6
KDB 789033 D02 v02r01 – Section G

Test Settings

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be $\geq 2 \times \text{span/RBW}$)
6. Averaging type = power (RMS)
7. Sweep time = auto couple
8. Trace was averaged over 100 sweeps

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 48 of 78

V 11.0 06/2025

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

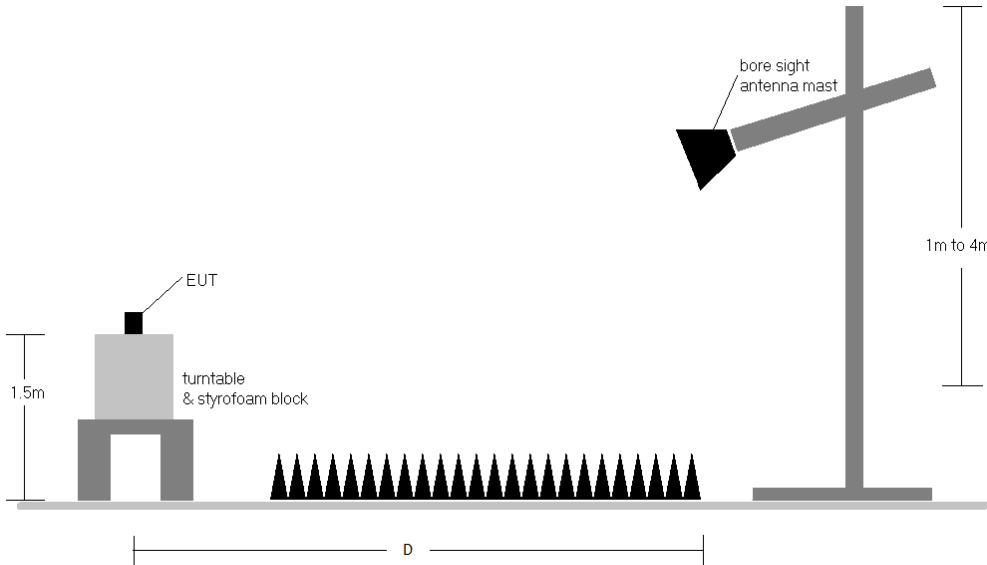


Figure 7-8. Test Instrument & Measurement Setup

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 49 of 78

Test Notes

1. All emissions that lie in the restricted bands (denoted by a * next to the frequency) specified in §15.205 and section 8.10 of RSS-Gen are below the limit shown in Table 7-11.
2. All spurious emissions lying in restricted bands specified in §15.205 and section 8.10 of RSS-Gen are below the limit shown in Table 7-11. All spurious emissions that do not lie in a restricted band are subject to a limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dB μ V/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dB μ V/m.
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. This unit was tested with its standard battery.
5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas.
6. D is the measurement test distance and emissions 1-18GHz were measured at a 3 meters test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
7. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
8. All data rates were investigated and only the worse case were reported
9. The “-” shown in the following RSE tables are used to denote a noise floor measurement.
10. All supported modulation have been tested on the unit and only worst case configuration is reported.

Sample Calculations

Determining Spurious Emissions Levels

- Field Strength Level [dB μ V/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable Loss [dB] – Preamplifier Gain [dB]
- Margin [dB] = Field Strength Level [dB μ V/m] – Limit [dB μ V/m]

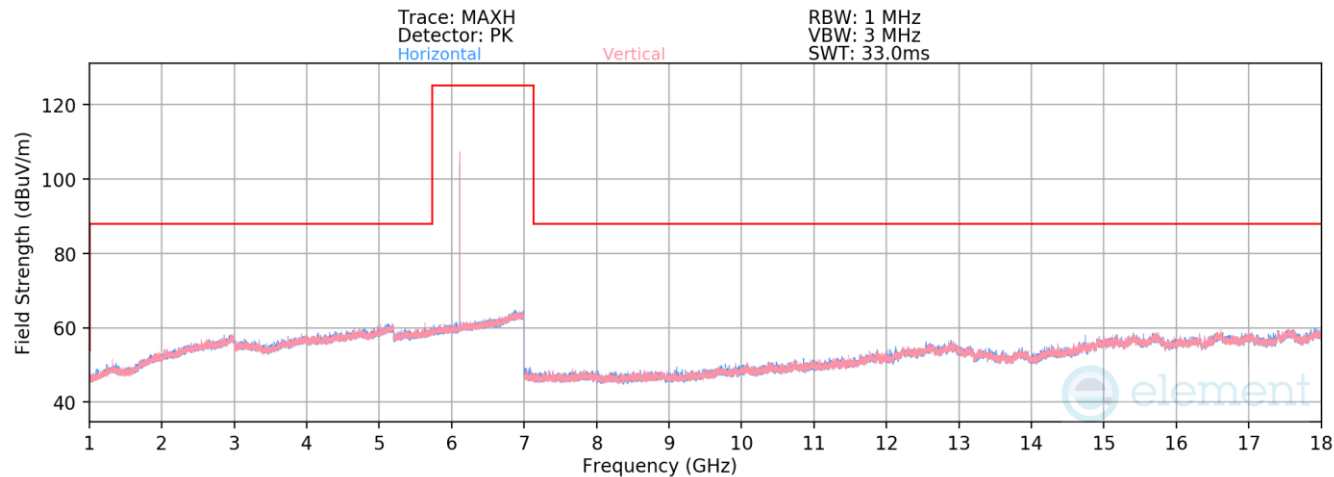
Radiated Band Edge Measurement Offset

- The amplitude offset shown in the radiated restricted band edge plots in Section 7.8.2 was calculated using the formula:
Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 50 of 78

V 11.0 06/2025

7.8.1 Radiated Spurious Emission (Above 1GHz)



Plot 7-29. Radiated Spurious Emissions 1-18GHz (BDR – 6108MHz)

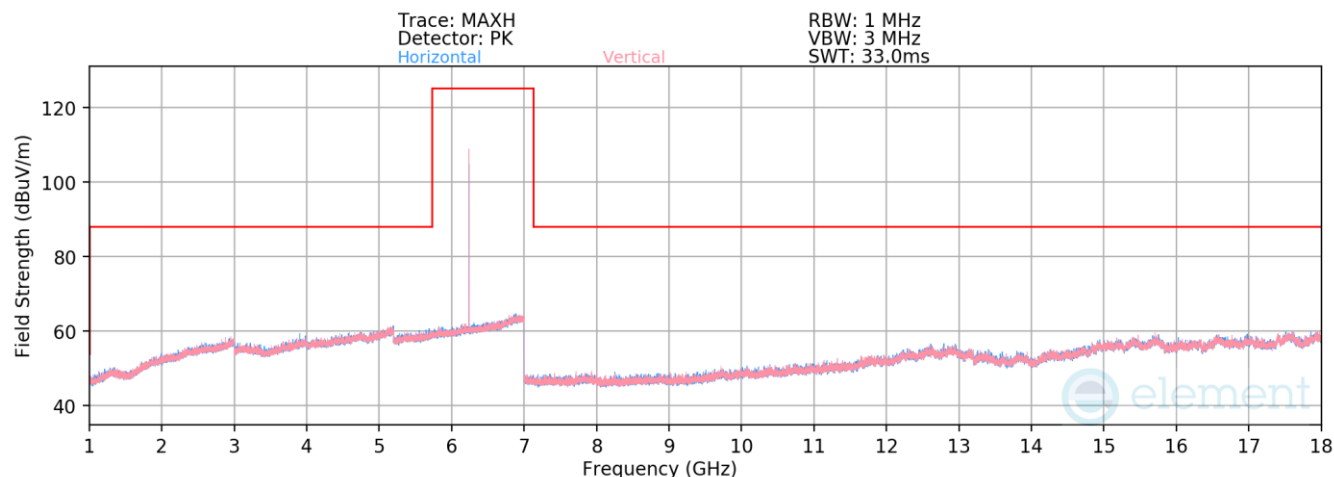
Mode:	BDR
Data Rate:	1Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	6108MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
* 12216.00	Avg	-	-	-	-83.82	19.30	42.48	53.98	-11.50
* 12216.00	Peak	-	-	-	-72.36	19.30	53.94	73.98	-20.04

Table 7-12. Radiated Spurious Emissions Measurements

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 51 of 78

V 11.0 06/2025



Plot 7-30. Radiated Spurious Emissions 1-18GHz (BDR - 6264MHz)

Mode: BDR

Data Rate: 1Mbps

Distance of Measurements: 3 Meters

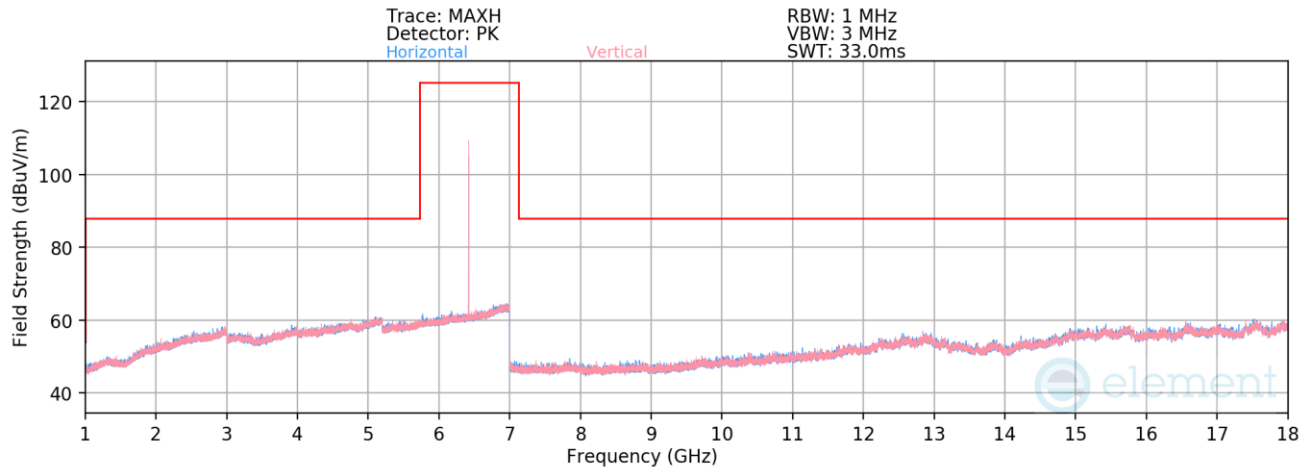
Operating Frequency: 6264MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
* 12528.00	Avg	-	-	-	-83.18	18.77	42.59	53.98	-11.39
* 12528.00	Peak	-	-	-	-71.60	18.77	54.17	73.98	-19.81

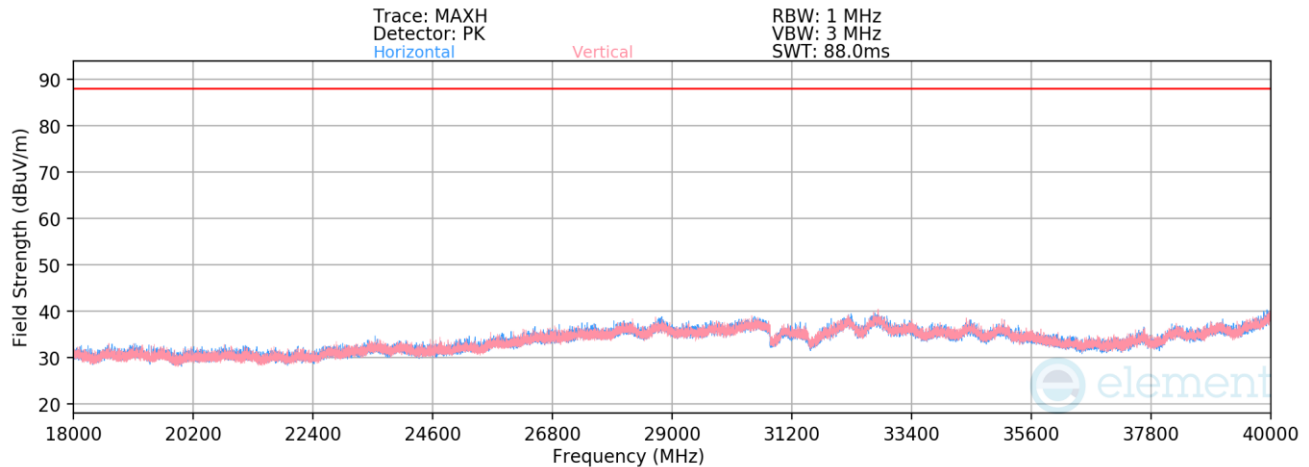
Table 7-13. Radiated Spurious Emissions Measurements

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 52 of 78

V 11.0 06/2025



Plot 7-31. Radiated Spurious Emissions 1-18GHz (BDR – 6420MHz)



Plot 7-32. Radiated Spurious Emissions Above 18GHz (BDR – 6420MHz)

Mode: BDR

Data Rate: 1Mbps

Distance of Measurements: 3 Meters

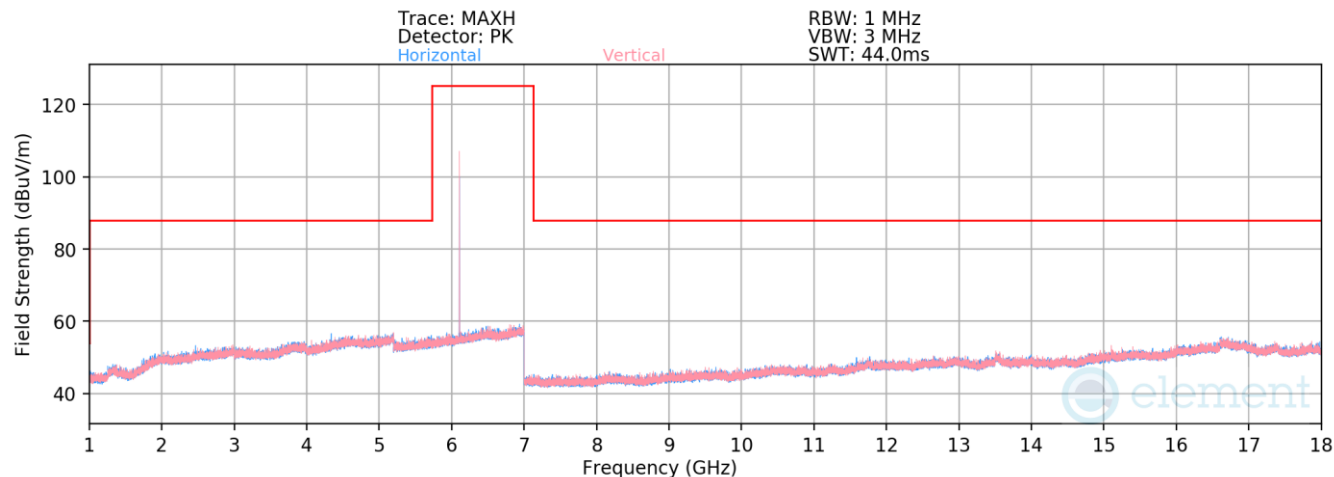
Operating Frequency: 6420MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Duty Cycle Correction [dB]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
12840.00	Avg	V	319	209	-82.88	19.30	0.00	1.15	44.57	68.23	-23.66
12840.00	Peak	V	319	209	-71.78	19.30	0.00	0.00	54.52	88.23	-33.71
* 19260.00	Avg	V	150	189	-60.41	-7.42	-9.54	1.15	30.78	53.98	-23.20
* 19260.00	Peak	V	150	189	-53.75	-7.42	-9.54	0.00	36.29	73.98	-37.69
25680.00	Avg	H	150	187	-68.22	-5.98	-9.54	1.15	24.40	68.23	-43.83
25680.00	Peak	H	150	187	-58.24	-5.98	-9.54	0.00	33.24	88.23	-54.99
32100.00	Avg	V	150	202	-68.01	-2.84	-9.54	1.15	27.75	68.23	-40.48
32100.00	Peak	V	150	202	-58.22	-2.84	-9.54	0.00	36.39	88.23	-51.84
38520.00	Avg	-	-	-	-69.48	-5.08	-9.54	0.00	22.90	68.23	-45.33
38520.00	Peak	-	-	-	-58.23	-5.08	-9.54	0.00	34.16	88.23	-54.07

Table 7-14. Radiated Spurious Emissions Measurements

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 53 of 78

V 11.0 06/2025



Plot 7-33. Radiated Spurious Emissions 1-18GHz (HDR4 – 6108MHz)

Mode: HDR4

Data Rate: 4Mbps

Distance of Measurements: 3 Meters

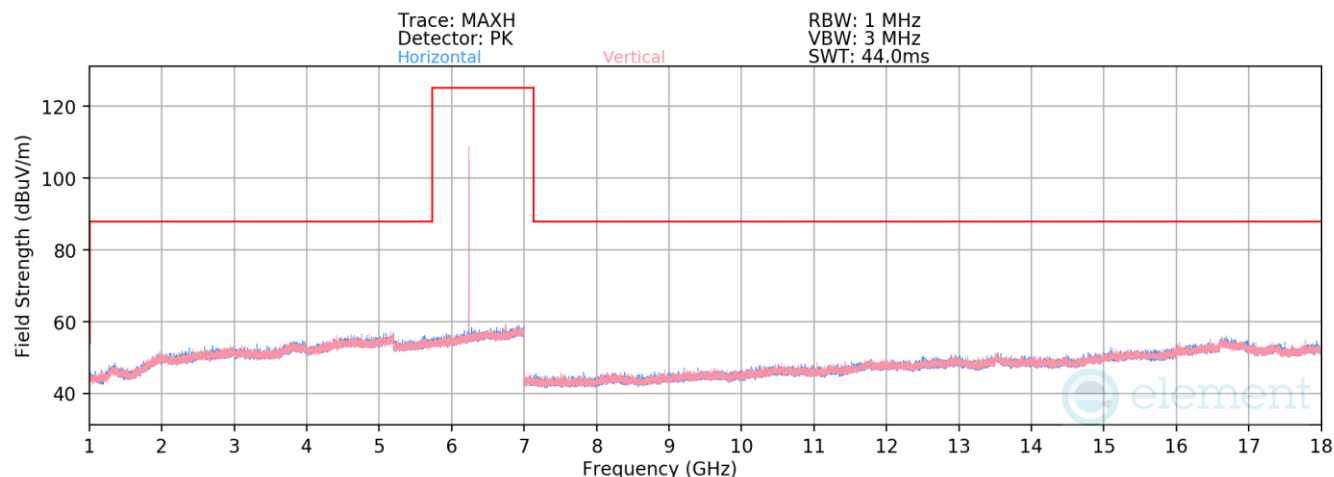
Operating Frequency: 6108MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 12216.00	Avg	-	-	-	-80.66	11.82	38.16	53.98	-15.82
* 12216.00	Peak	-	-	-	-69.18	11.82	49.64	73.98	-24.34

Table 7-15. Radiated Spurious Emissions Measurements

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 54 of 78

V 11.0 06/2025



Plot 7-34. Radiated Spurious Emissions 1-18GHz (HDR4 – 6264MHz)

Mode: HDR4

Data Rate: 4Mbps

Distance of Measurements: 3 Meters

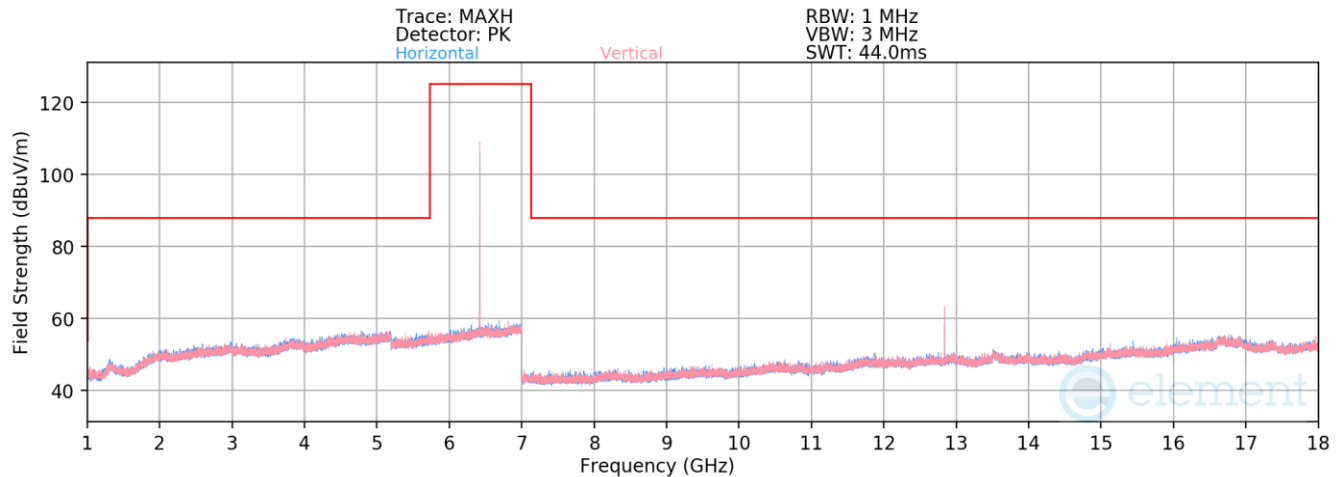
Operating Frequency: 6264MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
* 12528.00	Avg	-	-	-	-80.98	12.11	38.13	53.98	-15.85
* 12528.00	Peak	-	-	-	-69.70	12.11	49.41	73.98	-24.57

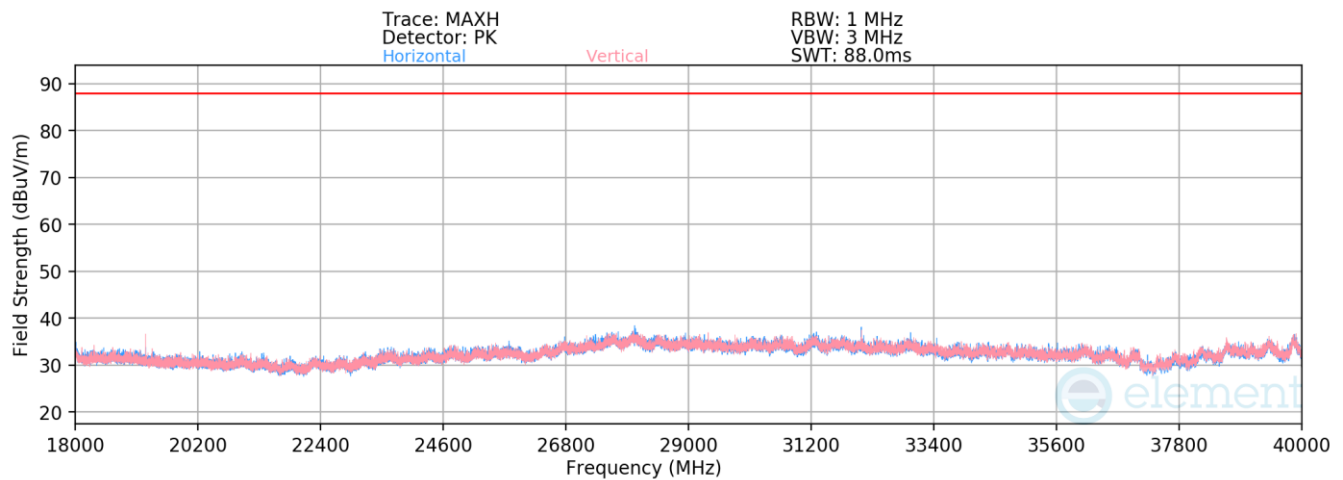
Table 7-16. Radiated Spurious Emissions Measurements

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 55 of 78

V 11.0 06/2025



Plot 7-35. Radiated Spurious Emissions 1-18GHz (HDR4 – 6420MHz)



Plot 7-36. Radiated Spurious Emissions Above 18GHz (HDR4 – 6420MHz)

Mode: HDR4

Data Rate: 4Mbps

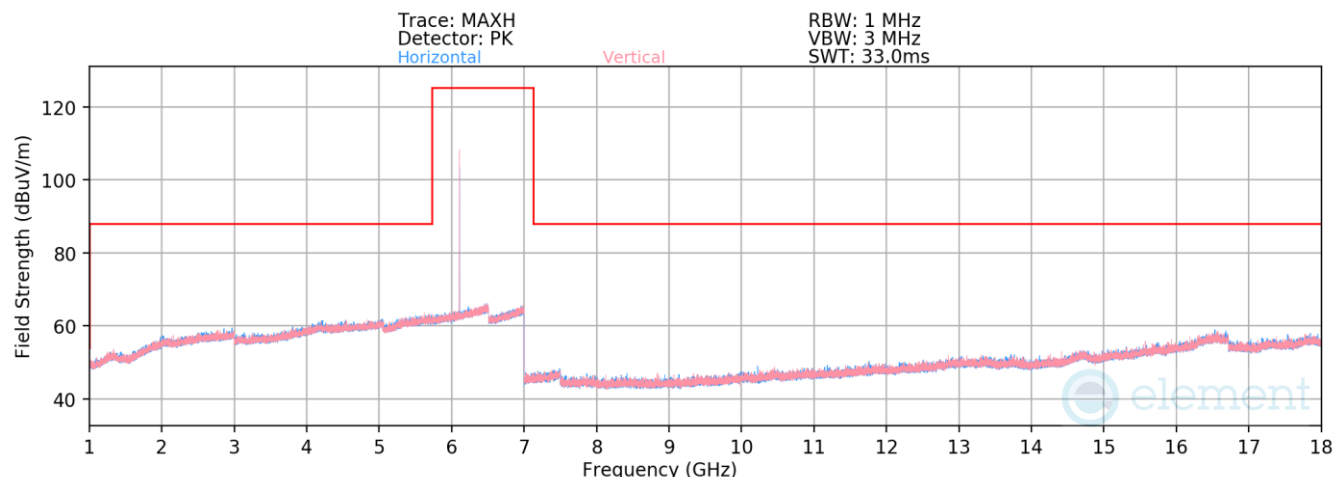
Distance of Measurements: 3 Meters

Operating Frequency: 6420MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Duty Cycle Correction [dB]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
12840.00	Avg	V	108	224	-69.94	12.48	0.00	1.08	50.62	68.23	-17.61
12840.00	Peak	V	108	224	-58.84	12.48	0.00	0.00	60.64	88.23	-27.59
19260.00	Avg	H	150	216	-55.86	-6.18	-9.54	1.08	36.50	53.98	-17.48
19260.00	Peak	H	150	216	-45.21	-6.18	-9.54	0.00	46.07	73.98	-27.91
25680.00	Avg	-	-	-	-72.94	-5.26	-9.54	0.00	19.26	68.23	-48.97
25680.00	Peak	-	-	-	-60.87	-5.26	-9.54	0.00	31.33	88.23	-56.90
32100.00	Avg	H	150	224	-69.66	-3.51	-9.54	1.08	25.37	68.23	-42.86
32100.00	Peak	H	150	224	-58.33	-3.51	-9.54	0.00	35.62	88.23	-52.61
38520.00	Avg	-	-	-	-76.95	-3.53	-9.54	0.00	16.98	68.23	-51.25
38520.00	Peak	-	-	-	-65.12	-3.53	-9.54	0.00	28.81	88.23	-59.42

Table 7-17. Radiated Spurious Emissions Measurements

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 56 of 78



Plot 7-37. Radiated Spurious Emissions 1-18GHz (LE1M – 6108MHz)

Mode: LE1M

Data Rate: 1Mbps

Distance of Measurements: 3 Meters

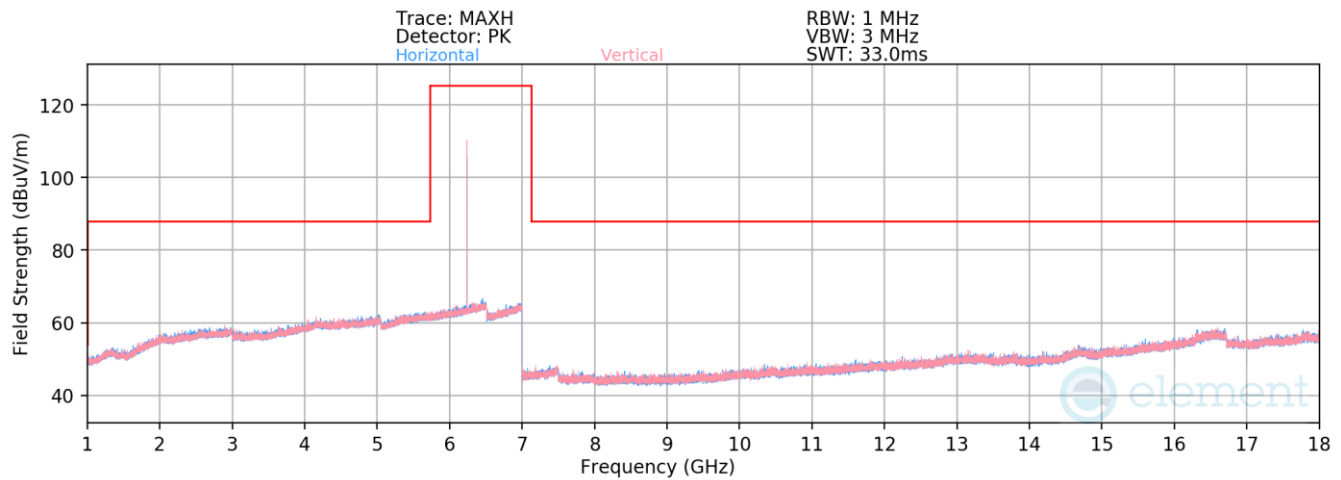
Operating Frequency: 6108MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 12216.00	Avg	-	-	-	-79.79	11.25	38.46	53.98	-15.52
* 12216.00	Peak	-	-	-	-68.42	11.25	49.83	73.98	-24.15

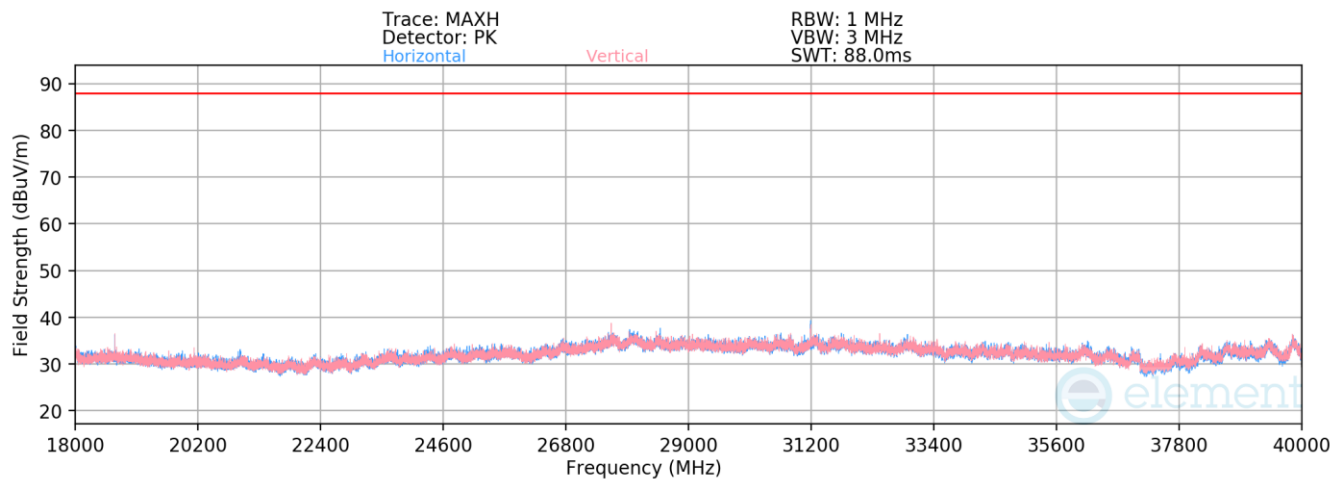
Table 7-18. Radiated Spurious Emissions Measurements

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 57 of 78

V 11.0 06/2025



Plot 7-38. Radiated Spurious Emissions 1-18GHz (LE1M – 6264MHz)



Plot 7-39. Radiated Spurious Emissions Above 18GHz (LE1M – 6264MHz)

Mode: LE1M

Data Rate: 1Mbps

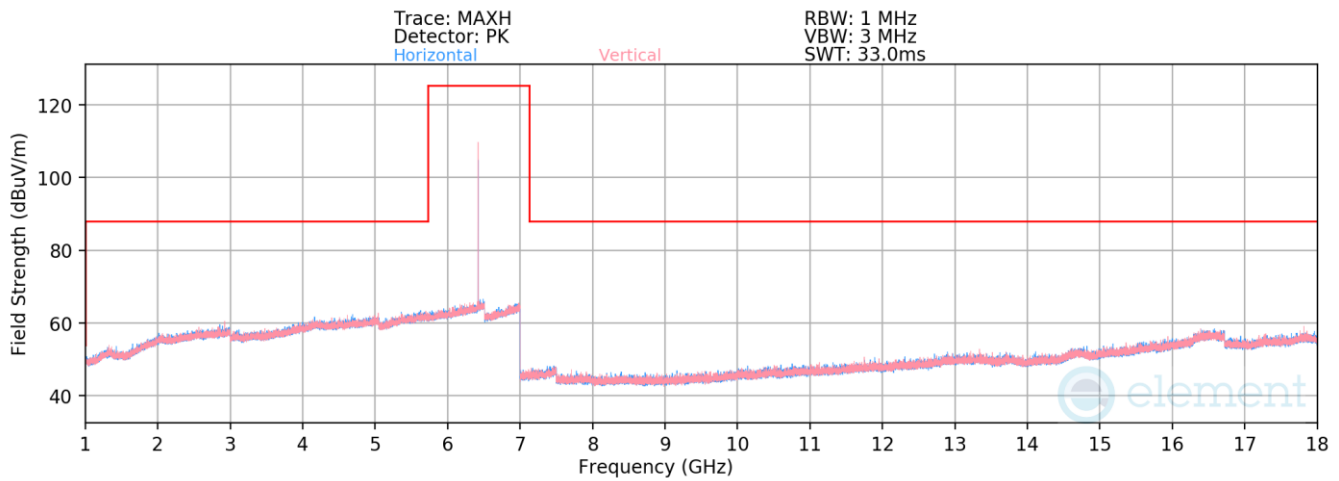
Distance of Measurements: 3 Meters

Operating Frequency: 6264MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
* 12528.00	Avg	-	-	-	-80.06	11.82	0.00	38.76	53.98	-15.22
* 12528.00	Peak	-	-	-	-68.68	11.82	0.00	50.14	73.98	-23.84
* 18792.00	Avg	H	150	189	-54.68	-5.79	-9.54	36.98	53.98	-17.00
* 18792.00	Peak	H	150	189	-47.31	-5.79	-9.54	44.36	73.98	-29.62
25056.00	Avg	H	150	189	-64.62	-5.39	-9.54	27.44	68.23	-40.79
25056.00	Peak	H	150	189	-57.25	-5.39	-9.54	34.82	88.23	-53.41
* 31320.00	Avg	H	150	212	-66.83	-3.26	-9.54	27.37	53.98	-26.61
* 31320.00	Peak	H	150	212	-58.39	-3.26	-9.54	35.81	73.98	-38.17
37584.00	Avg	V	150	145	-75.63	-4.73	-9.54	17.11	68.23	-51.12
37584.00	Peak	V	150	145	-64.66	-4.73	-9.54	28.07	88.23	-60.16

Table 7-19. Radiated Spurious Emissions Measurements

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 58 of 78



Plot 7-40. Radiated Spurious Emissions 1-18GHz (LE1M – 6420MHz)

Mode: LE1M
Data Rate: 1Mbps
Distance of Measurements: 3 Meters
Operating Frequency: 6420MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
12840.00	Avg	-	-	-	-80.10	12.99	39.89	68.23	-28.34
12840.00	Peak	-	-	-	-69.12	12.99	50.87	88.23	-37.36

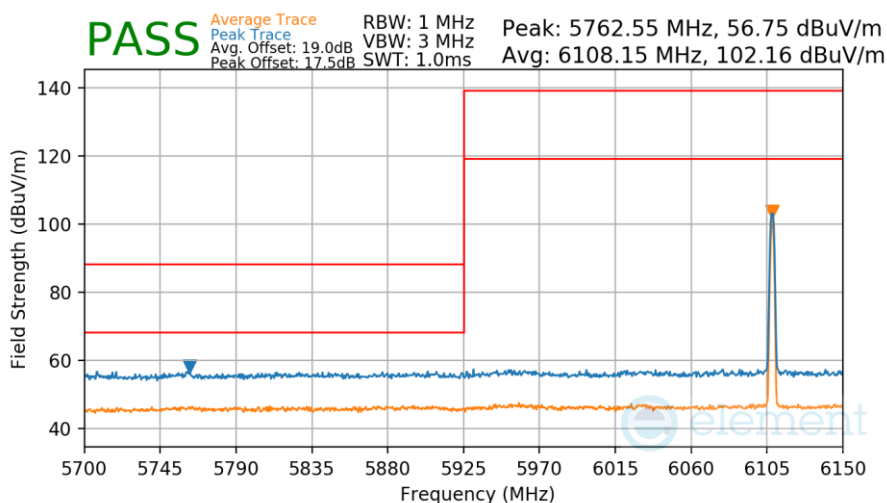
Table 7-20. Radiated Spurious Emissions Measurements

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 59 of 78

V 11.0 06/2025

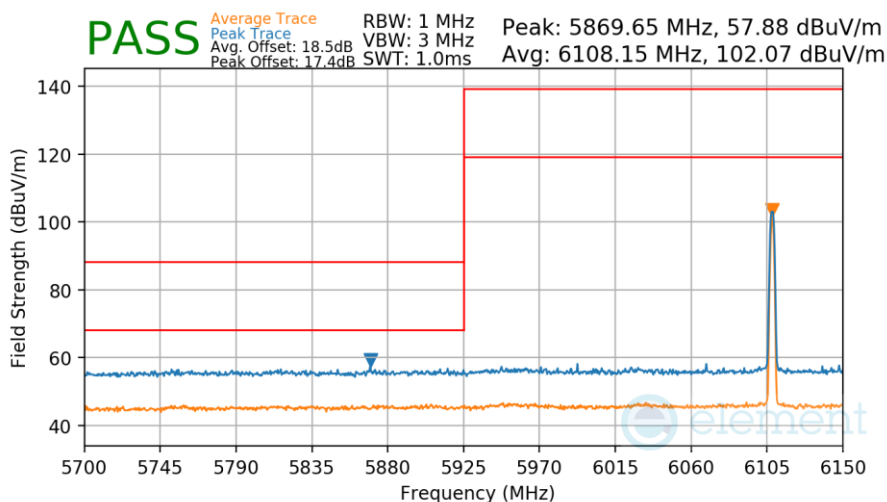
7.8.2 Radiated Band Edge Measurements

Mode	BDR
Distance of Measurement	3 Meters
Operating Frequency	6108MHz



Plot 7-41 Radiated Lower Band Edge Measurement

Mode	LE1M
Distance of Measurement	3 Meters
Operating Frequency	6108MHz

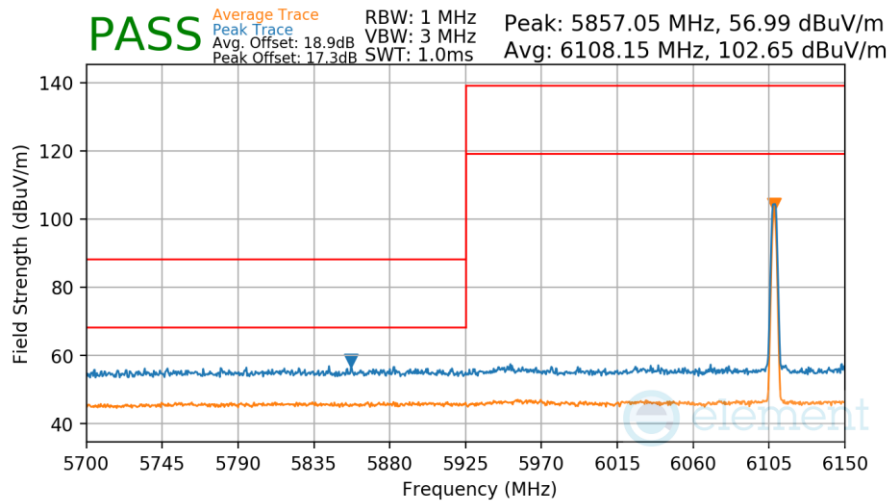


Plot 7-42 Radiated Lower Band Edge Measurement

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 60 of 78

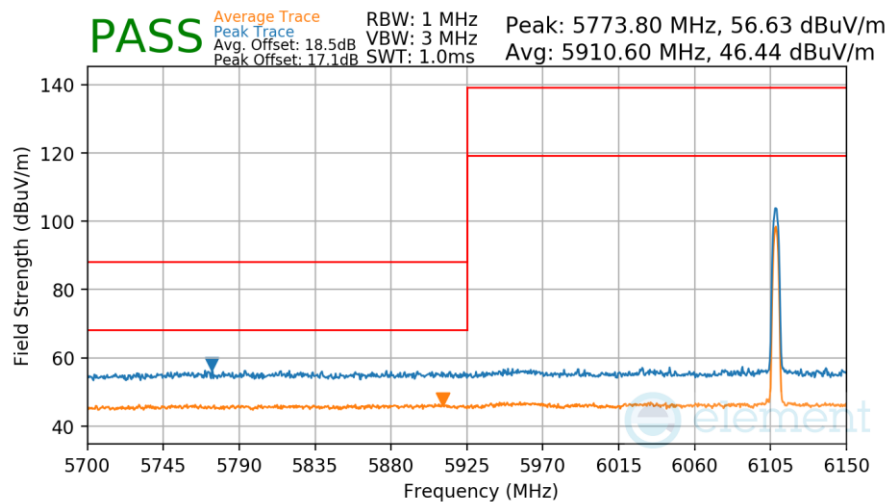
V 11.0 06/2025

Mode LE2M
Distance of Measurement 3 Meters
Operating Frequency 6108MHz



Plot 7-43 Radiated Lower Band Edge Measurement

Mode HDR4
Distance of Measurement 3 Meters
Operating Frequency 6108MHz

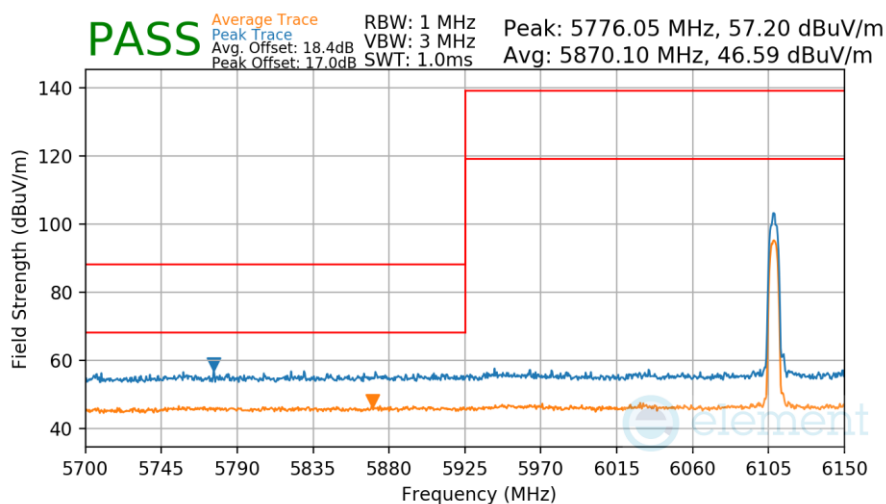


Plot 7-44 Radiated Lower Band Edge Measurement

FCC ID: BCG-A3454 IC: 579C-A3454			MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 61 of 78	

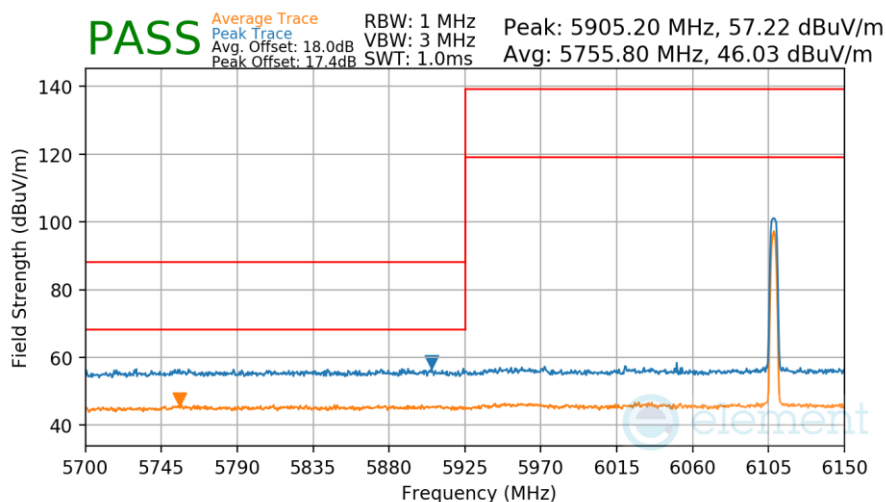
V 11.0 06/2025

Mode HDR8
Distance of Measurement 3 Meters
Operating Frequency 6107MHz



Plot 7-45 Radiated Lower Band Edge Measurement

Mode HDRp4
Distance of Measurement 3 Meters
Operating Frequency 6108MHz



Plot 7-46 Radiated Lower Band Edge Measurement

FCC ID: BCG-A3454 IC: 579C-A3454			MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 62 of 78	

V 11.0 06/2025

7.9 Radiated Spurious Emissions – Below 1GHz

§15.209; RSS-Gen [8.9]

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 7 must not exceed the limits shown in Table 7-21 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [μV/m]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

Table 7-21. Radiated Limits

Test Procedures Used

ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. VBW = 300kHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 64 of 78

V 11.0 06/2025

Test Setup

The EUT and measurement equipment were set up as shown in the diagrams below.

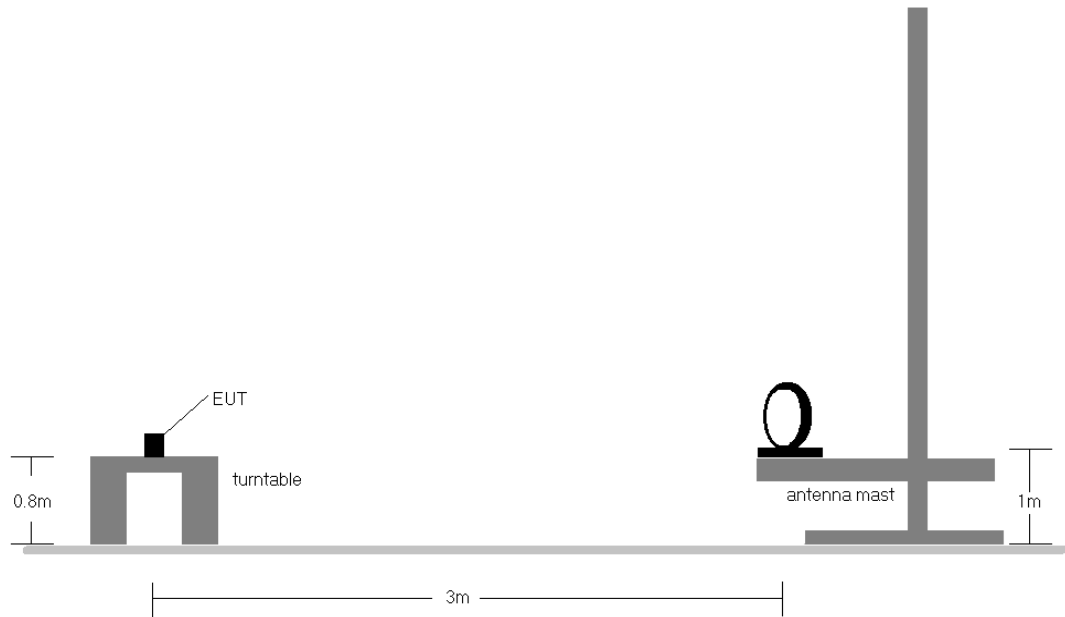


Figure 7-9. Radiated Test Setup < 30MHz

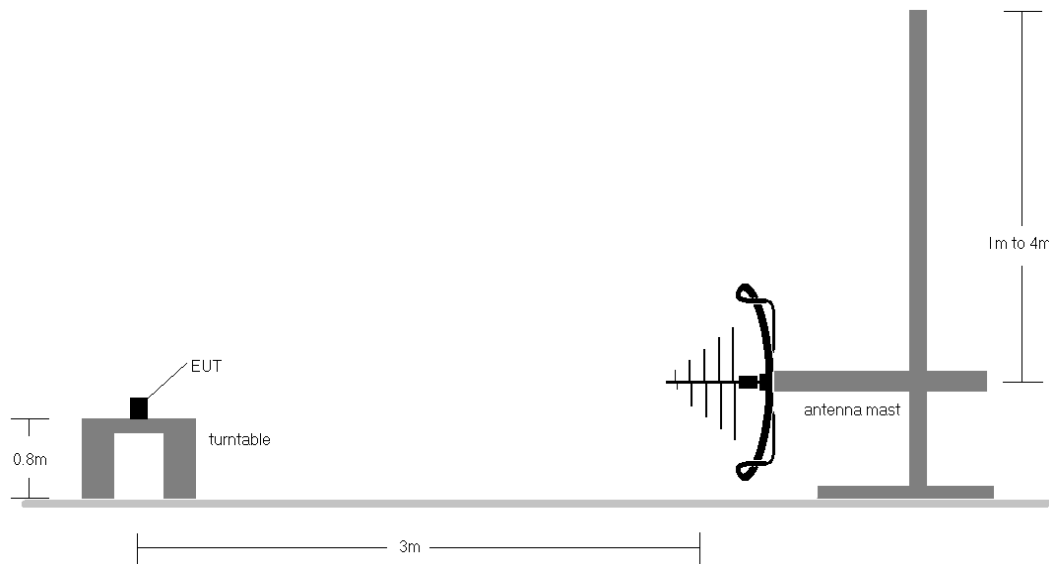


Figure 7-10. Radiated Test Setup < 1GHz

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 65 of 78

V 11.0 06/2025

Test Notes

1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen (8.10) are below the limit shown in Table 7-21.
2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes. For below 30MHz the loop antenna was positioned in 3 orthogonal planes (X front, Y side, Z top) to determine the orientation resulting in the worst case emissions.
3. This unit was tested with its standard battery.
4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector for emissions within 6dB of the limit.
5. Emissions were measured at a 3 meter test distance.
6. Emissions are investigated while operating on the center channel of the mode, band, and modulation that produced the worst case results during the transmitter spurious emissions testing.
7. No spurious emissions were detected within 20dB of the limit below 30MHz.
8. The results recorded using the broadband antenna are known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.
9. All supported modulation have been tested on the unit and only worst case configuration is reported.
10. Both configurations below were investigated, and the worst case has been reported.
 - a. EUT powered by AC/DC adaptor
 - b. EUT powered by host PC via USB-C cable with wire charger
11. The unit was tested with all possible modes and only the highest emission is reported.

Sample Calculations

Determining Spurious Emissions Levels

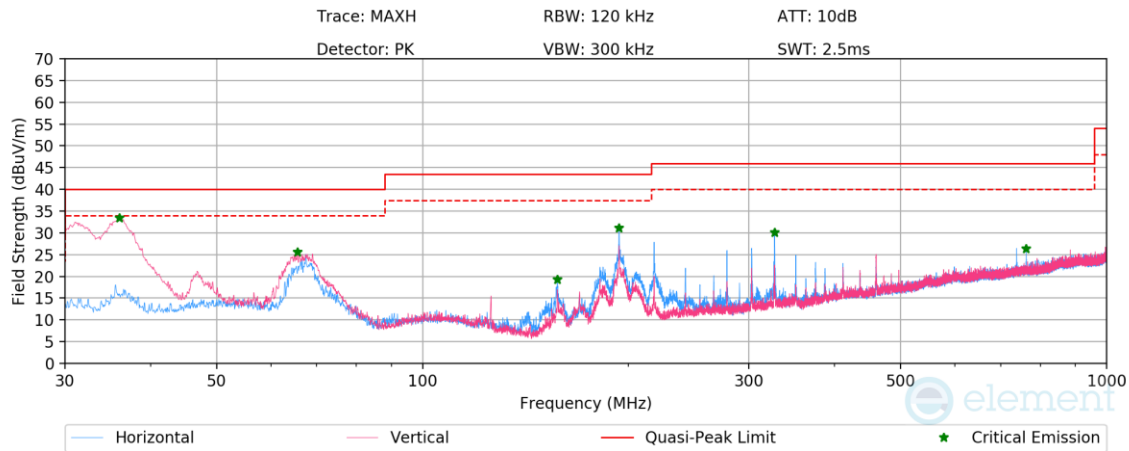
- Field Strength Level $_{[dB\mu V/m]} = \text{Analyzer Level }_{[dBm]} + 107 + \text{AFCL }_{[dB/m]}$
- $\text{AFCL }_{[dB/m]} = \text{Antenna Factor }_{[dB/m]} + \text{Cable Loss }_{[dB]} - \text{Preamplifier Gain }_{[dB]}$
- $\text{Margin }_{[dB]} = \text{Field Strength Level }_{[dB\mu V/m]} - \text{Limit }_{[dB\mu V/m]}$

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 66 of 78

V 11.0 06/2025

7.9.1 Radiated Spurious Emissions (Below 1GHz)

\$15.209



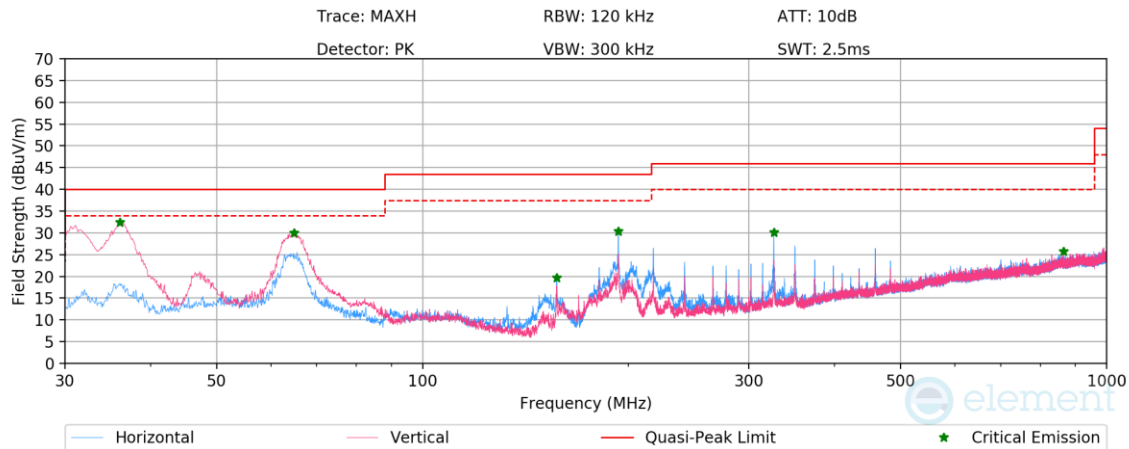
Plot 7-48. Radiated Spurious Emissions Below 1GHz (NB UNII BDR – 6420MHz), with AC/DC adaptor

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
36.00	Max-Peak	V	100	247	-53.05	-20.45	33.50	40.00	-6.50
65.64	Max-Peak	V	200	260	-60.94	-20.48	25.58	40.00	-14.42
157.45	Max-Peak	H	200	158	-66.12	-21.53	19.35	43.50	-24.15
193.75	Max-Peak	H	100	141	-57.12	-18.73	31.15	43.50	-12.35
326.89	Max-Peak	H	100	173	-61.94	-14.99	30.08	46.00	-15.92
762.87	Max-Peak	H	100	190	-74.11	-6.47	26.41	46.00	-19.59

Table 7-22. Radiated Spurious Emissions Below 1GHz (NB UNII BDR – 6420MHz), with AC/DC adaptor

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 67 of 78

V 11.0 06/2025



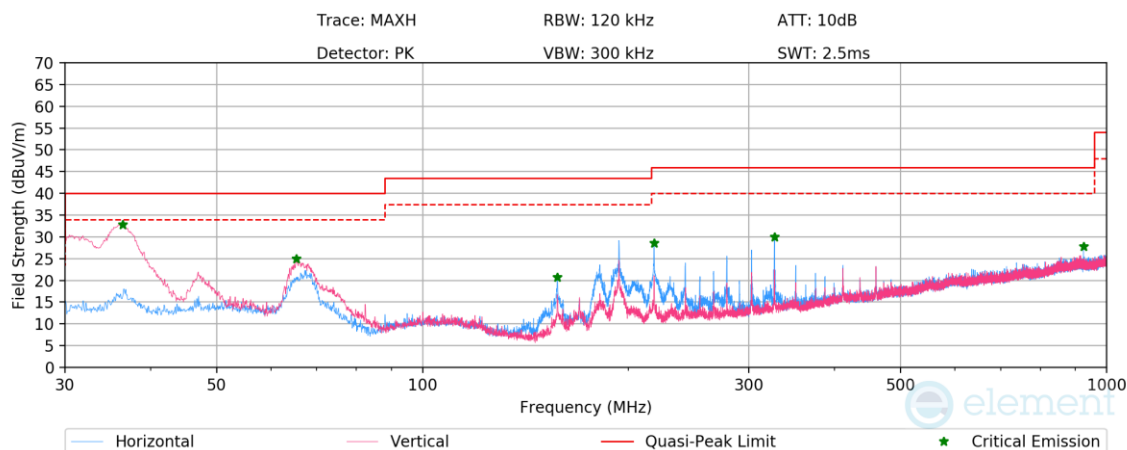
Plot 7-49. Radiated Spurious Emissions Below 1GHz (NB UNII HDR4 – 6420MHz), with AC/DC adaptor

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
36.06	Max-Peak	V	100	319	-54.15	-20.43	32.42	40.00	-7.58
64.80	Max-Peak	V	200	153	-56.80	-20.19	30.00	40.00	-10.00
157.09	Max-Peak	H	200	177	-65.82	-21.55	19.63	43.50	-23.87
193.27	Max-Peak	H	200	332	-57.82	-18.81	30.37	43.50	-13.13
326.17	Max-Peak	H	100	0	-61.83	-15.00	30.17	46.00	-15.83
864.69	Max-Peak	V	300	360	-76.59	-4.68	25.73	46.00	-20.27

Table 7-23. Radiated Spurious Emissions Below 1GHz (NB UNII HDR4 – 6420MHz), with AC/DC adaptor

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 68 of 78

V 11.0 06/2025



Plot 7-50. Radiated Spurious Emissions Below 1GHz (NB UNII LE1M – 6264MHz), with AC/DC adaptor

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
36.42	Max-Peak	V	100	100	-54.20	-19.93	32.87	40.00	-7.13
65.34	Max-Peak	V	100	18	-61.56	-20.47	24.97	40.00	-15.03
157.45	Max-Peak	H	200	190	-64.80	-21.49	20.72	43.50	-22.78
217.87	Max-Peak	H	100	199	-60.13	-18.32	28.55	46.00	-17.45
327.07	Max-Peak	H	100	97	-62.01	-15.06	29.93	46.00	-16.07
924.88	Max-Peak	H	200	50	-75.02	-4.19	27.80	46.00	-18.20

Table 7-24. Radiated Spurious Emissions Below 1GHz (NB UNII LE1M – 6264MHz), with AC/DC adaptor

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 69 of 78

V 11.0 06/2025

7.10 AC Line Conducted Emissions Measurement

§15.207; RSS-Gen[8.8]

Test Overview and Limit

All AC line conducted emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for AC Line conducted emissions. All data rates and modes were investigated for AC Line conducted emissions.

All conducted emissions must not exceed the limits shown in the table below, per Section 15.207 and RSS-Gen (8.8).

Frequency of emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

Table 7-25. Conducted Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

ANSI C63.10:2020 + Cor. 1:2023 + C63.10a:2024 + Errata to C63.10a:2024, Subclause 6.2

Test Settings

Quasi-Peak Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Average Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = RMS
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 70 of 78

V 11.0 06/2025

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

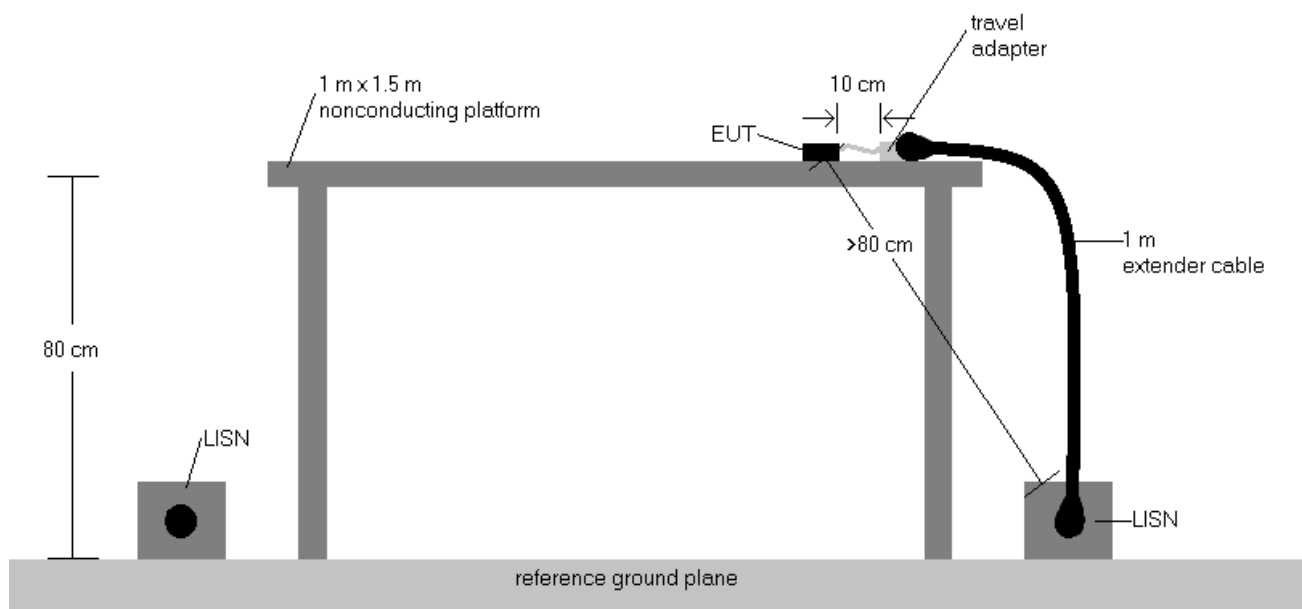


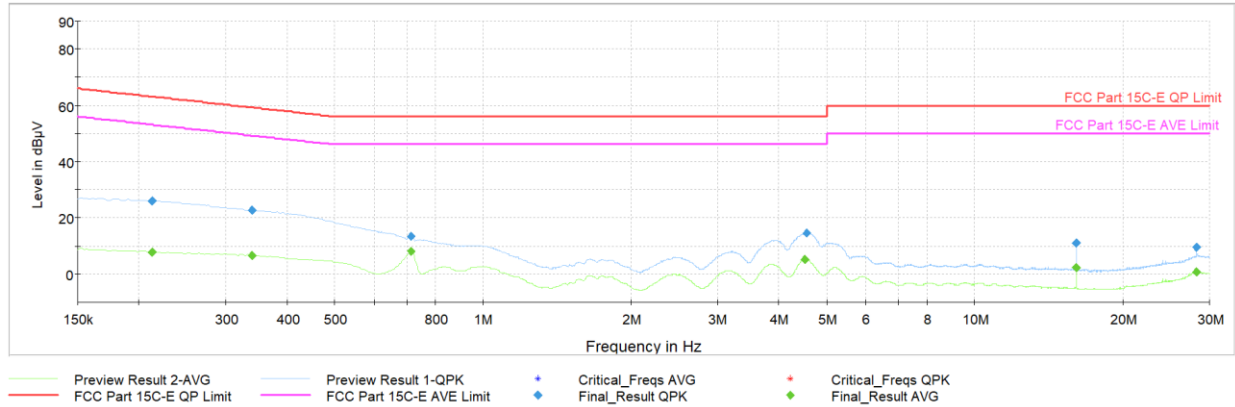
Figure 7-11. Test Instrument & Measurement Setup

Test Notes

1. All modes of operation were investigated, and the worst-case emissions are reported. The emissions found were not affected by the choice of channel used during testing.
2. Both configurations below were investigated, and the worst case has been reported.
 - a. EUT powered by AC/DC adaptor
 - b. EUT powered by host PC via USB-C cable with wire charger
3. The limit for an intentional radiator from 150kHz to 30MHz is specified in 15.207 and RSS-Gen (8.8).
4. $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
5. $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Correction Factor (dB)}$
6. $\text{Margin (dB)} = \text{QP/AV Level (dB}\mu\text{V)} - \text{QP/AV Limit (dB}\mu\text{V)}$
7. Traces shown in plots are made using quasi-peak and average detectors.
8. Deviations to the Specifications: None.
9. The unit was tested with all possible modes and only the highest emission is reported.

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 71 of 78

V 11.0 06/2025



Plot 7-51. AC Line Conducted Plot (NB UNII BDR – 6420MHz) (L1) with AC/DC adaptor

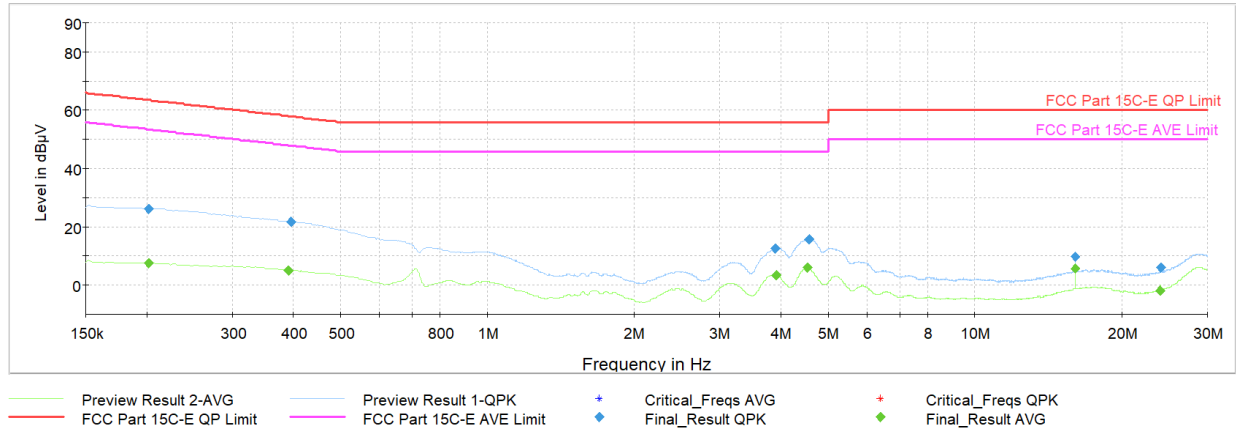
Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.213	FINAL	—	7.80	53.09	-45.29	L1	GND
0.213	FINAL	26.0	—	63.09	-37.09	L1	GND
0.339	FINAL	—	6.63	49.23	-42.60	L1	GND
0.339	FINAL	22.6	—	59.23	-36.60	L1	GND
0.715	FINAL	—	8.04	46.00	-37.96	L1	GND
0.715	FINAL	13.5	—	56.00	-42.49	L1	GND
4.506	FINAL	—	5.17	46.00	-40.83	L1	GND
4.544	FINAL	14.4	—	56.00	-41.57	L1	GND
16.078	FINAL	11.2	—	60.00	-48.83	L1	GND
16.078	FINAL	—	2.29	50.00	-47.71	L1	GND
28.223	FINAL	9.5	—	60.00	-50.55	L1	GND
28.228	FINAL	—	0.82	50.00	-49.18	L1	GND

Table 7-26. AC Line Conducted Data (NB UNII BDR – 6420MHz) (L1) with AC/DC adaptor

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 72 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



Plot 7-52. AC Line Conducted Plot (NB UNII BDR – 6420MHz) (N) with AC/DC adaptor

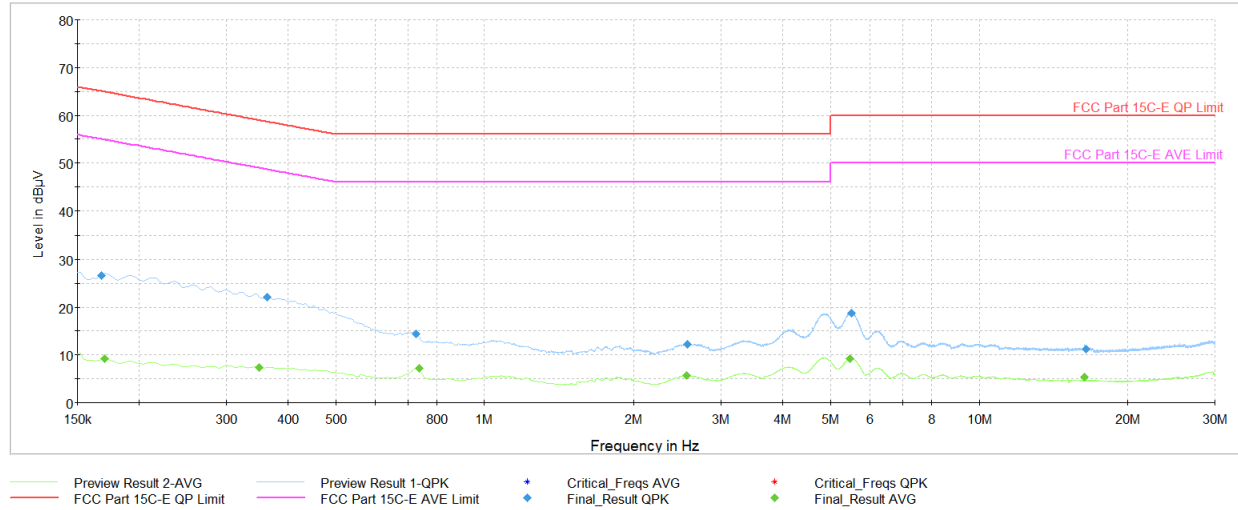
Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.202	FINAL	—	7.50	53.54	-46.04	N	GND
0.202	FINAL	26.3	—	63.54	-37.24	N	GND
0.391	FINAL	—	5.22	48.05	-42.83	N	GND
0.395	FINAL	21.9	—	57.95	-36.04	N	GND
3.890	FINAL	12.5	—	56.00	-43.47	N	GND
3.908	FINAL	—	3.45	46.00	-42.55	N	GND
4.524	FINAL	—	5.89	46.00	-40.11	N	GND
4.565	FINAL	15.7	—	56.00	-40.32	N	GND
16.071	FINAL	9.7	—	60.00	-50.30	N	GND
16.071	FINAL	—	5.59	50.00	-44.41	N	GND
23.951	FINAL	—	-1.69	50.00	-51.69	N	GND
24.106	FINAL	6.1	—	60.00	-53.86	N	GND

Table 7-27. AC Line Conducted (NB UNII BDR – 6420MHz) (N) with AC/DC adaptor

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 73 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



Plot 7-53. AC Line Conducted Plot (NB UNII HDR4 – 6264MHz) (L1) with AC/DC adaptor

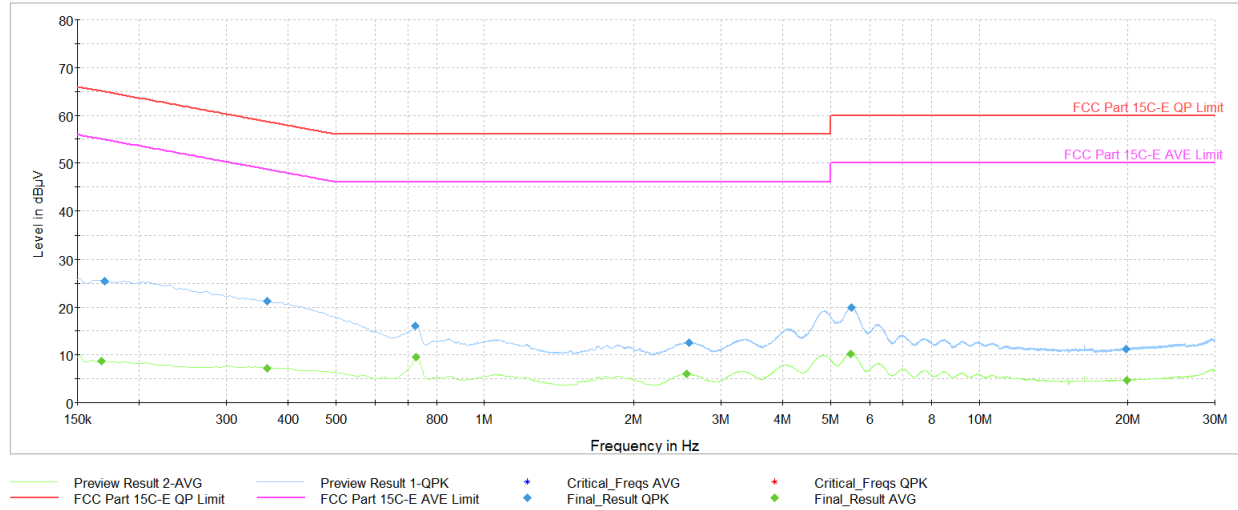
Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.168	FINAL	26.7	—	65.06	-38.38	L1	GND
0.170	FINAL	—	9.16	54.95	-45.79	L1	GND
0.350	FINAL	—	7.32	48.96	-41.63	L1	GND
0.364	FINAL	22.1	—	58.64	-36.53	L1	GND
0.728	FINAL	14.3	—	56.00	-41.66	L1	GND
0.737	FINAL	—	7.16	46.00	-38.84	L1	GND
2.553	FINAL	—	5.63	46.00	-40.37	L1	GND
2.564	FINAL	12.2	—	56.00	-43.82	L1	GND
5.469	FINAL	—	9.22	50.00	-40.78	L1	GND
5.521	FINAL	18.8	—	60.00	-41.21	L1	GND
16.332	FINAL	—	5.40	50.00	-44.60	L1	GND
16.438	FINAL	11.2	—	60.00	-48.76	L1	GND

Table 7-28. AC Line Conducted Data (NB UNII HDR4 – 6264MHz) (L1) with AC/DC adaptor

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 74 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



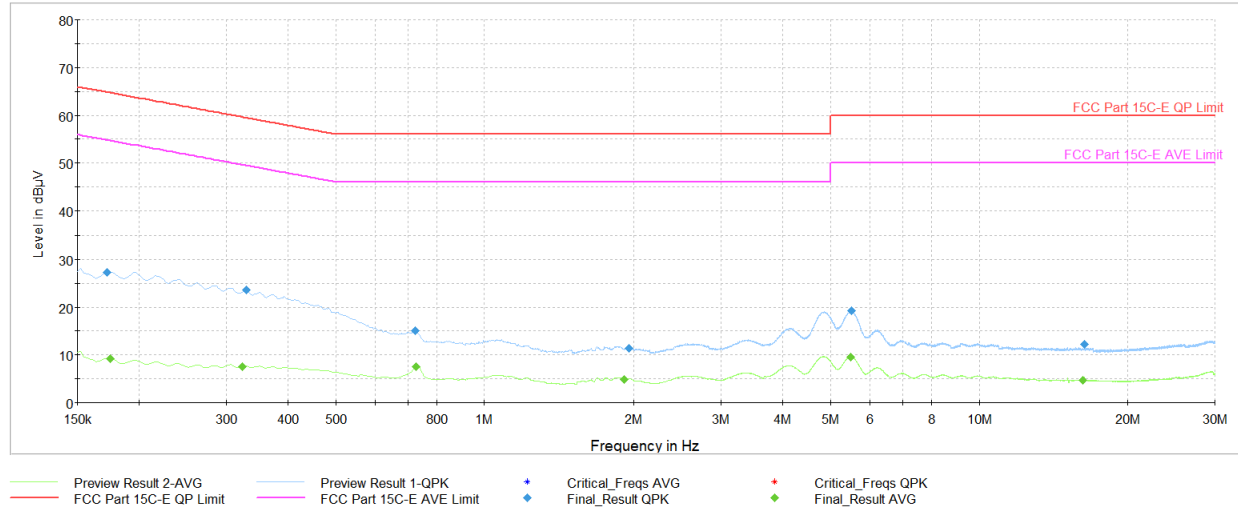
Plot 7-54. AC Line Conducted Plot (NB UNII HDR4 – 6264MHz) (N) with AC/DC adaptor

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.168	FINAL	—	8.63	55.06	-46.43	N	GND
0.170	FINAL	25.4	—	64.95	-39.58	N	GND
0.364	FINAL	—	7.28	48.64	-41.37	N	GND
0.364	FINAL	21.2	—	58.64	-37.47	N	GND
0.724	FINAL	16.0	—	56.00	-39.98	N	GND
0.728	FINAL	—	9.52	46.00	-36.48	N	GND
2.560	FINAL	—	6.08	46.00	-39.92	N	GND
2.587	FINAL	12.6	—	56.00	-43.45	N	GND
5.494	FINAL	—	10.14	50.00	-39.86	N	GND
5.519	FINAL	20.0	—	60.00	-40.03	N	GND
19.790	FINAL	11.2	—	60.00	-48.80	N	GND
19.876	FINAL	—	4.73	50.00	-45.27	N	GND

Table 7-29. AC Line Conducted (NB UNII HDR4 – 6264MHz) (N) with AC/DC adaptor

FCC ID: BCG-A3454 IC: 579C-A3454		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 75 of 78

V 11.0 06/2025



Plot 7-55. AC Line Conducted Plot (NB UNII LE1M – 6420MHz) (L1) with AC/DC adaptor

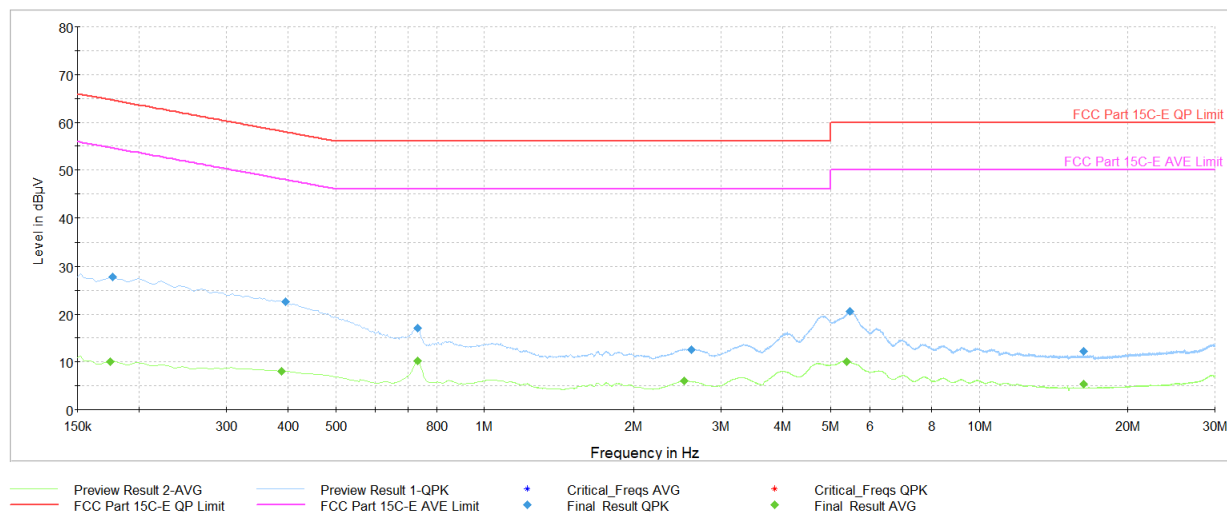
Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.173	FINAL	27.3	—	64.84	-37.59	L1	GND
0.175	FINAL	—	9.24	54.73	-45.50	L1	GND
0.323	FINAL	—	7.55	49.62	-42.07	L1	GND
0.330	FINAL	23.6	—	59.45	-35.82	L1	GND
0.724	FINAL	15.1	—	56.00	-40.91	L1	GND
0.726	FINAL	—	7.52	46.00	-38.48	L1	GND
1.910	FINAL	—	4.82	46.00	-41.18	L1	GND
1.952	FINAL	11.4	—	56.00	-44.56	L1	GND
5.494	FINAL	—	9.57	50.00	-40.43	L1	GND
5.516	FINAL	19.2	—	60.00	-40.78	L1	GND
16.224	FINAL	—	4.67	50.00	-45.33	L1	GND
16.307	FINAL	12.3	—	60.00	-47.74	L1	GND

Table 7-30. AC Line Conducted Data (NB UNII LE1M – 6420MHz) (L1) with AC/DC adaptor

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 76 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



Plot 7-56. AC Line Conducted Plot (NB UNII LE1M – 6420MHz) (N) with AC/DC adaptor

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.175	FINAL	—	10.08	54.73	-44.65	N	GND
0.177	FINAL	27.7	—	64.63	-36.91	N	GND
0.389	FINAL	—	8.08	48.10	-40.01	N	GND
0.395	FINAL	22.7	—	57.95	-35.30	N	GND
0.733	FINAL	17.1	—	56.00	-38.93	N	GND
0.733	FINAL	—	10.22	46.00	-35.78	N	GND
2.531	FINAL	—	6.03	46.00	-39.97	N	GND
2.614	FINAL	12.5	—	56.00	-43.50	N	GND
5.399	FINAL	—	10.12	50.00	-39.88	N	GND
5.469	FINAL	20.5	—	60.00	-39.49	N	GND
16.285	FINAL	—	5.39	50.00	-44.61	N	GND
16.287	FINAL	12.2	—	60.00	-47.85	N	GND

Table 7-31. AC Line Conducted (NB UNII LE1M – 6420MHz) (N) with AC/DC adaptor

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 77 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Apple Wireless Headphones FCC ID: BCG-A3454** and **IC: 579C-A3454** is in compliance with Part 15 Subpart E (15.407) of the FCC Rules and RSS-248 of the Innovation, Science and Economic Development Canada Rules.

FCC ID: BCG-A3454 IC: 579C-A3454	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2512110102-07-R1.BCG	Test Dates: 12/11/2025 - 02/19/2026	EUT Type: Wireless Headphones	Page 78 of 78

V 11.0 06/2025

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element Materials Technology. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.