

FCC and ISED Test Report

Apple Inc
Model: A3404



In accordance with FCC 47 CFR Part 15C,
ISED RSS-247 and ISED RSS-GEN

Prepared for: Apple Inc
One Apple Park Way
Cupertino
California
95014
USA

TUV SUD
SERVICES
(UK) LIMITED
Digitally signed by
TUV SUD SERVICES
(UK) LIMITED
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Document 75963993-60 Issue 01

SIGNATURE

A. Lawson

NAME	JOB TITLE	RESPONSIBLE FOR	ISSUE DATE
Andrew Lawson	Chief Engineer	Authorised Signatory	17 December 2025

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD document control rules.

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC 47 CFR Part 15C and ISED RSS-247 and ISED RSS-GEN. The sample tested was found to comply with the requirements defined in the applied rules.

RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Testing	Sreemon Jayachandran Nair	17 December 2025	<i>[Signature]</i>

FCC Accreditation 492497/UK2010 Octagon House, Fareham Test Laboratory
ISED Accreditation 12669A/UK0003 Octagon House, Fareham Test Laboratory

EXECUTIVE SUMMARY

A sample of this product was tested and found to be compliant with FCC 47 CFR Part 15C, ISED RSS-247 and ISED RSS-GEN: 2024, Issue 3 (2023-08) and Issue 5 (2018-04) + A2 (2021-02) for the tests detailed in section 1.3.



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ACCREDITATION

Our UKAS Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our UKAS Accreditation. Results of tests not covered by our UKAS Accreditation Schedule are marked NUA (Not UKAS Accredited). Results of tests covered by our Flexible UKAS Accreditation Schedule are marked FS (Flexible Scope).

TÜV SÜD
is a trading name of TÜV SÜD Ltd
Registered in Scotland at East Kilbride,
Glasgow G75 0QF, United Kingdom
Registered number: SC215164

TÜV SÜD Ltd is a
TÜV SÜD Group Company

Phone: +44 (0) 1489 558100
Fax: +44 (0) 1489 558101
www.tuvsud.com/en

TÜV SÜD
Octagon House
Concorde Way
Fareham
Hampshire PO15 5RL
United Kingdom

TÜV SÜD

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1 Report Summary

1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

Issue	Description of Change	Date of Issue
1	First Issue	17-Dec-2025

Table 1

1.2 Introduction

Applicant	Apple Inc
Manufacturer	Apple Inc
EUT/Sample Identification	Refer to section 1.6
Test Specification/Issue/Date	FCC 47 CFR Part 15C, ISED RSS-247 and ISED RSS-GEN: 2024, Issue 3 (2023-08) and Issue 5 (2018-04) + A2 (2021-02)
Start of Test	14-November-2025
Finish of Test	14-November-2025
Name of Engineer(s)	Sreemon Jayachandran Nair
Related Document(s)	ANSI C63.10 (2020)



1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 15C and ISED RSS-247 and ISED RSS-GEN is shown below.

Section	Specification Clause	Test Description	Result	Comments/Base Standard
Configuration and Mode: AC Powered - 2.4 GHz Bluetooth				
2.1	15.207, 3.1 and 8.8	AC Power Line Conducted Emissions	Pass	ANSI C63.10 (2020)
Configuration and Mode: AC Powered - 2.4 GHz WLAN				
2.1	15.207, 3.1 and 8.8	AC Power Line Conducted Emissions	Pass	ANSI C63.10 (2020)
Configuration and Mode: AC Powered – 5 GHz WLAN				
2.1	15.207, 3.1 and 8.8	AC Power Line Conducted Emissions	Pass	ANSI C63.10 (2020)
Configuration and Mode: AC Powered – 6 GHz WLAN				
2.1	15.207, 3.1 and 8.8	AC Power Line Conducted Emissions	Pass	ANSI C63.10 (2020)

Table 2



1.4 Product Information

1.4.1 Technical Description

The equipment under test (EUT) was a portable laptop computer.

1.4.2 EUT Port/Cable Identification

Port	Max Cable Length specified	Usage	Type	Screened
Configuration and Mode: AC Powered - Transmitters Idle				
AC Power Port	2 m	Main Power	AC to DC Power Adapter with USB-C output.	No
USB Port 1	1.5 m	Power/Data	USB Type-C	Yes
USB Port 2	1.5 m	Power/Data	USB Type-C	Yes
Audio Jack Port	1 m	Analogue Audio Output	3.5 mm Jack	No

Table 3

1.4.3 Test Configuration

Configuration	Description
AC Powered	The EUT was powered from a 115 V 60 Hz AC supply using an AC to DC adapter with USB-C output and MagSafe cable. PSU Model: A2676 The EUT had the following connections made: • A mouse was used to terminate USB Port 1. • A set of headphones were used to terminate the Audio Jack Port. • USB Port 2 was unterminated.

Table 4

1.4.4 Modes of Operation

Mode	Description
2.4 GHz Bluetooth	The EUT was powered with a connection established with a CMW 500 test set.
2.4 GHz WLAN	The EUT was powered with a network link established with an access point.
5 GHz WLAN	The EUT was powered with a network link established with an access point.
6 GHz WLAN	The EUT was powered with a network link established with an access point.

Table 5



1.5 Deviations from the Standard

No deviations from the applicable test standard were made during testing.

1.6 Identification of the EUT

The table below details identification of the EUT(s) that have been used to carry out the testing within this report.

Serial Number	Hardware Version	Software Version
HWH7MHKN3X	REV1.0	25D53

Table 6

1.7 EUT Modification Record

The table below details modifications made to the EUT during the test programme.

The modifications incorporated during each test are recorded on the appropriate test pages.

Modification State	Description of Modification still fitted to EUT	Modification Fitted By	Date Modification Fitted
Model: A3404, Serial Number: HWH7MHKN3X			
0	As supplied by the customer	Not Applicable	Not Applicable

Table 7

1.8 Test Location

TÜV SÜD conducted the following tests at our Octagon House Test Laboratory.

Test Name	Name of Engineer(s)	Accreditation
Configuration and Mode: AC Powered - 2.4 GHz Bluetooth		
AC Power Line Conducted Emissions	Sreemon Jayachandran Nair	UKAS
Configuration and Mode: AC Powered - 2.4 GHz WLAN		
AC Power Line Conducted Emissions	Sreemon Jayachandran Nair	UKAS
Configuration and Mode: AC Powered – 5 GHz WLAN		
AC Power Line Conducted Emissions	Sreemon Jayachandran Nair	UKAS
Configuration and Mode: AC Powered – 6 GHz WLAN		
AC Power Line Conducted Emissions	Sreemon Jayachandran Nair	UKAS

Table 8

Office Address:
TÜV SÜD
Octagon House
Concorde Way
Fareham
Hampshire
PO15 5RL
United Kingdom



2 Test Details

2.1 AC Power Line Conducted Emissions

2.1.1 Specification Reference

FCC 47 CFR Part 15C, ISED RSS-247 and ISED RSS-GEN, Clause 15.207, 3.1 and 8.8

2.1.2 Equipment Under Test and Modification State

A3404, S/N: HWH7MHKN3X - Modification State 0

2.1.3 Date of Test

14-November-2025

2.1.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 6.2.

The EUT was placed on a non-conductive table 0.8m above a reference ground plane and 0.4m away from a vertical coupling plane

All power was connected to the EUT through an Artificial Mains Network (AMN).

Conducted disturbance voltage measurements on mains lines were made at the output of the AMN.

2.1.5 Example Calculation

Quasi-Peak level (dBμV) = Receiver level (dBμV) + Correction Factor (dB)
Margin (dB) = Quasi-Peak level (dBμV) - Limit (dBμV)

CISPR Average level (dBμV) = Receiver level (dBμV) + Correction Factor (dB)
Margin (dB) = CISPR Average level (dBμV) - Limit (dBμV)



2.1.6 Example Test Setup Diagram

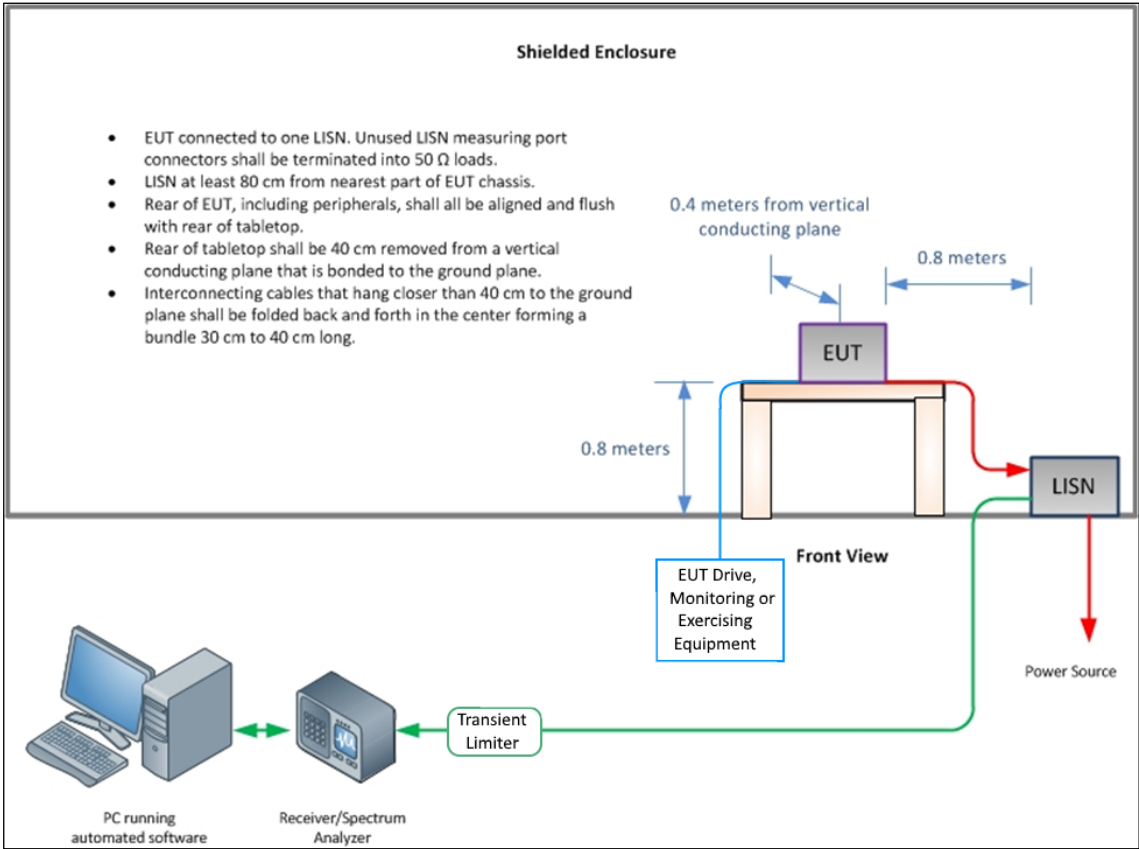


Figure 1 - Conducted Emissions Example Test Setup

2.1.7 Environmental Conditions

Ambient Temperature 23.3 - 23.4 °C
Relative Humidity 54.3 - 55.1 %

2.1.8 Specification Limits

Required Specification Limits - Class B			
Line Under Test	Frequency Range (MHz)	Quasi-Peak Test Limit (dBμV)	CISPR Average Test Limit (dBμV)
AC Power Port	0.15 to 0.5	66 to 56 ⁽¹⁾	56 to 46 ⁽¹⁾
	0.5 to 5	56	46
	5 to 30	60	50
Supplementary information: Note 1. Decreases with the logarithm of the frequency.			

Table 9

2.1.9 Test Results

Results for Configuration and Mode: AC Powered – 2.4 GHz Bluetooth.

This test was performed to the requirements of the Class B limits.

Performance assessment of the EUT made during this test: Pass.

Detailed results are shown below.

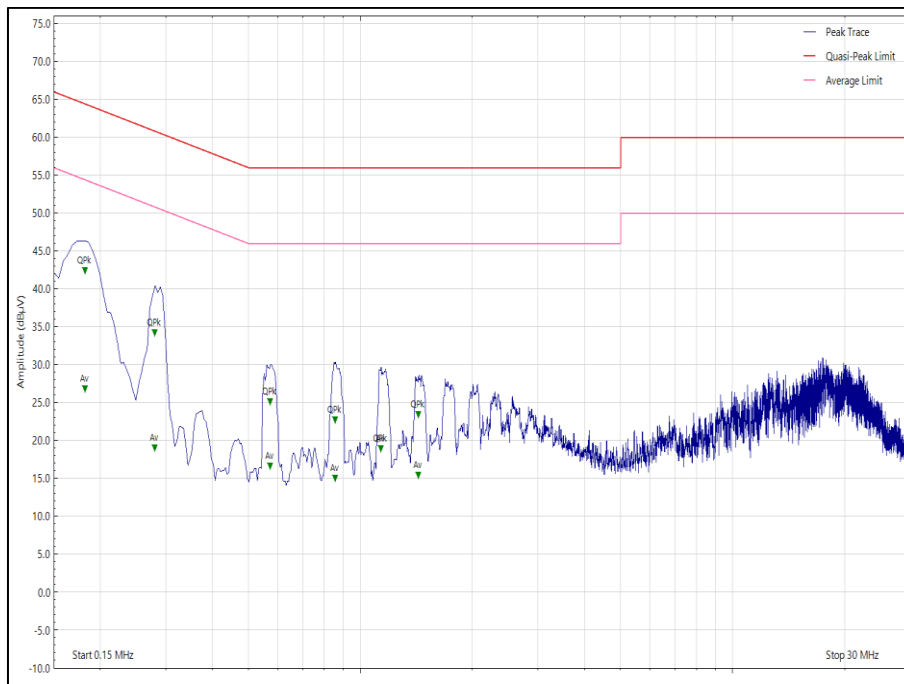


Figure 2 - Graphical Results - AC Power Port Live

Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Margin (dB)	Detector
0.182	41.67	64.40	-22.73	Q-Peak
0.182	26.08	54.40	-28.32	CISPR Avg
0.280	33.47	60.80	-27.33	Q-Peak
0.280	18.29	50.80	-32.51	CISPR Avg
0.573	24.41	56.00	-31.59	Q-Peak
0.573	15.91	46.00	-30.09	CISPR Avg
0.856	21.97	56.00	-34.03	Q-Peak
0.856	14.37	46.00	-31.63	CISPR Avg
1.136	18.26	56.00	-37.74	Q-Peak
1.136	18.17	46.00	-27.83	CISPR Avg
1.433	22.69	56.00	-33.31	Q-Peak
1.433	14.69	46.00	-31.31	CISPR Avg

Table 10

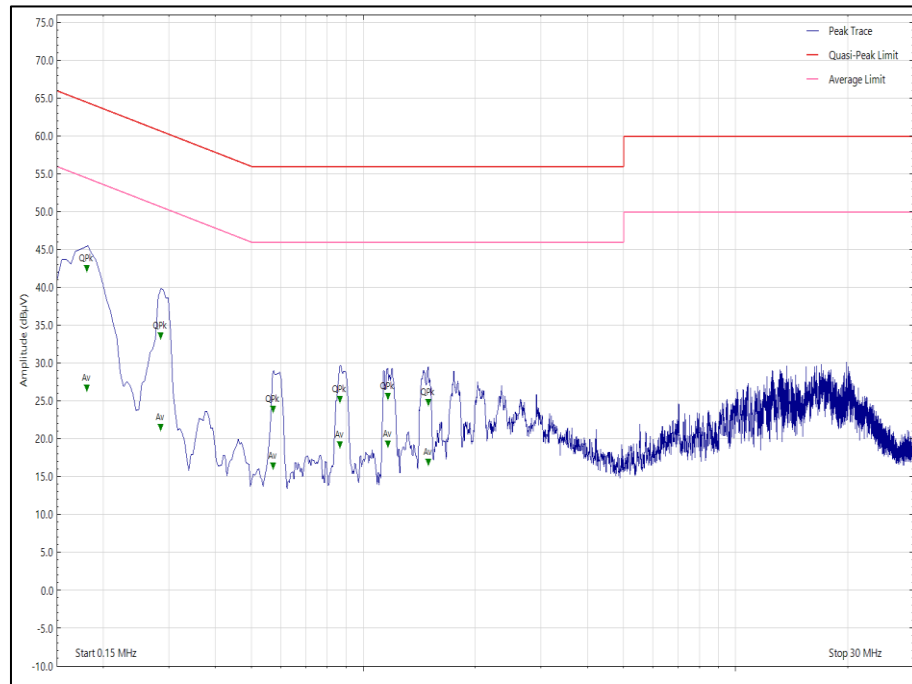


Figure 3 - Graphical Results - AC Power Port Neutral

Frequency (MHz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
0.181	41.79	64.40	-22.61	Q-Peak
0.181	26.01	54.40	-28.39	CISPR Avg
0.285	32.92	60.70	-27.78	Q-Peak
0.285	20.86	50.70	-29.84	CISPR Avg
0.573	23.26	56.00	-32.74	Q-Peak
0.573	15.72	46.00	-30.28	CISPR Avg
0.866	24.46	56.00	-31.54	Q-Peak
0.866	18.49	46.00	-27.51	CISPR Avg
1.163	24.95	56.00	-31.05	Q-Peak
1.163	18.61	46.00	-27.39	CISPR Avg
1.495	24.10	56.00	-31.90	Q-Peak
1.495	16.19	46.00	-29.81	CISPR Avg

Table 11

Results for Configuration and Mode: AC Powered – 2.4 GHz WLAN.

This test was performed to the requirements of the Class B limits.

Performance assessment of the EUT made during this test: Pass.

Detailed results are shown below.

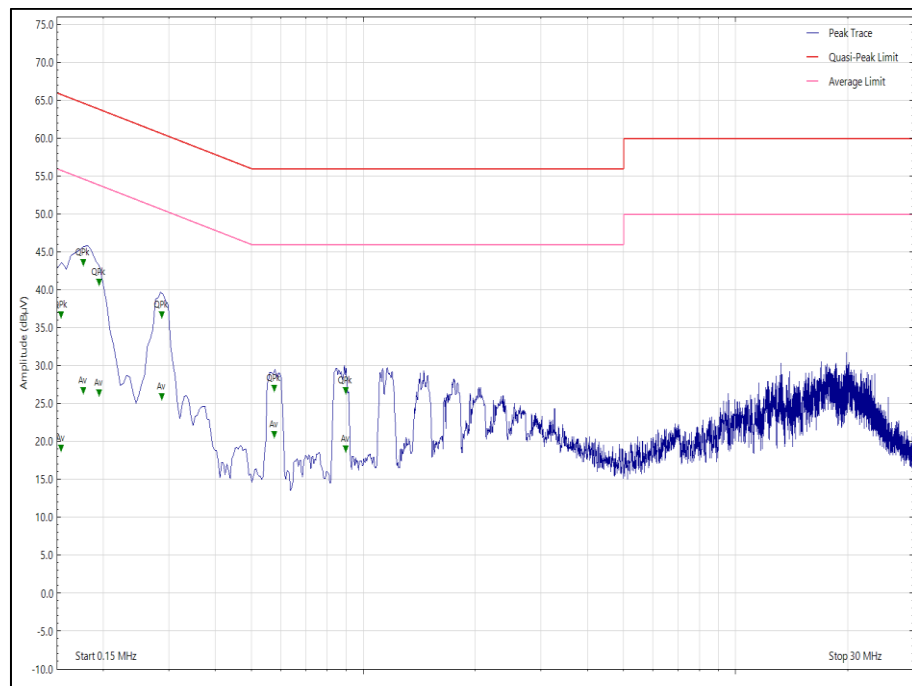


Figure 4 - Graphical Results - AC Power Port Live

Frequency (MHz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
0.154	36.03	65.80	-29.77	Q-Peak
0.154	18.38	55.80	-37.42	CISPR Avg
0.177	42.84	64.60	-21.76	Q-Peak
0.177	26.04	54.60	-28.56	CISPR Avg
0.195	40.32	63.80	-23.48	Q-Peak
0.195	25.69	53.80	-28.11	CISPR Avg
0.287	35.95	60.60	-24.65	Q-Peak
0.287	25.21	50.60	-25.39	CISPR Avg
0.577	26.35	56.00	-29.65	Q-Peak
0.577	20.18	46.00	-25.82	CISPR Avg
0.897	26.00	56.00	-30.00	Q-Peak
0.897	18.36	46.00	-27.64	CISPR Avg

Table 12

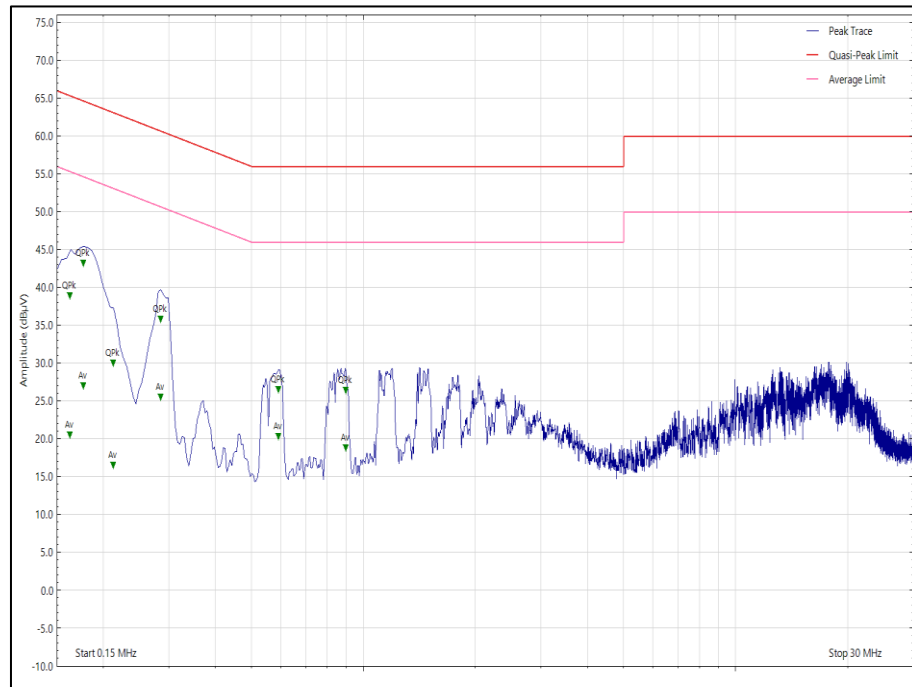


Figure 5 - Graphical Results - AC Power Port Neutral

Frequency (MHz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
0.163	38.17	65.30	-27.13	Q-Peak
0.163	19.79	55.30	-35.51	CISPR Avg
0.177	42.47	64.60	-22.13	Q-Peak
0.177	26.26	54.60	-28.34	CISPR Avg
0.213	29.31	63.10	-33.79	Q-Peak
0.213	15.81	53.10	-37.29	CISPR Avg
0.285	35.10	60.70	-25.60	Q-Peak
0.285	24.78	50.70	-25.92	CISPR Avg
0.591	25.82	56.00	-30.18	Q-Peak
0.591	19.64	46.00	-26.36	CISPR Avg
0.897	25.71	56.00	-30.29	Q-Peak
0.897	18.14	46.00	-27.86	CISPR Avg

Table 13

Results for Configuration and Mode: AC Powered – 5 GHz WLAN.

This test was performed to the requirements of the Class B limits.

Performance assessment of the EUT made during this test: Pass.

Detailed results are shown below.

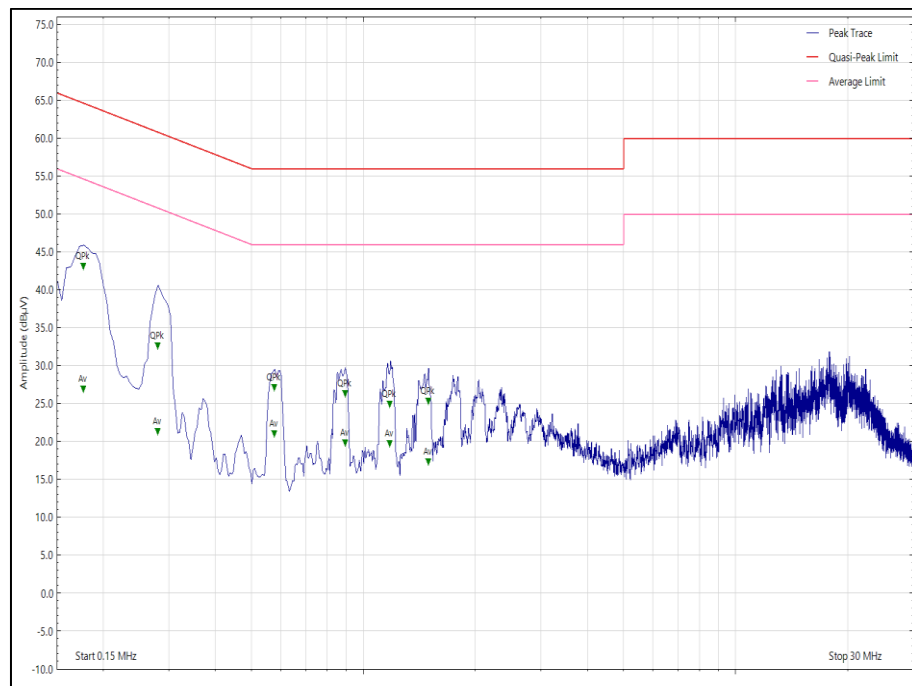


Figure 6 - Graphical Results - AC Power Port Live

Frequency (MHz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
0.177	42.43	64.60	-22.17	Q-Peak
0.177	26.17	54.60	-28.43	CISPR Avg
0.280	31.89	60.80	-28.91	Q-Peak
0.280	20.62	50.80	-30.18	CISPR Avg
0.577	26.42	56.00	-29.58	Q-Peak
0.577	20.34	46.00	-25.66	CISPR Avg
0.893	25.65	56.00	-30.35	Q-Peak
0.893	19.08	46.00	-26.92	CISPR Avg
1.179	24.25	56.00	-31.75	Q-Peak
1.179	18.99	46.00	-27.01	CISPR Avg
1.497	24.59	56.00	-31.41	Q-Peak
1.497	16.62	46.00	-29.38	CISPR Avg

Table 14

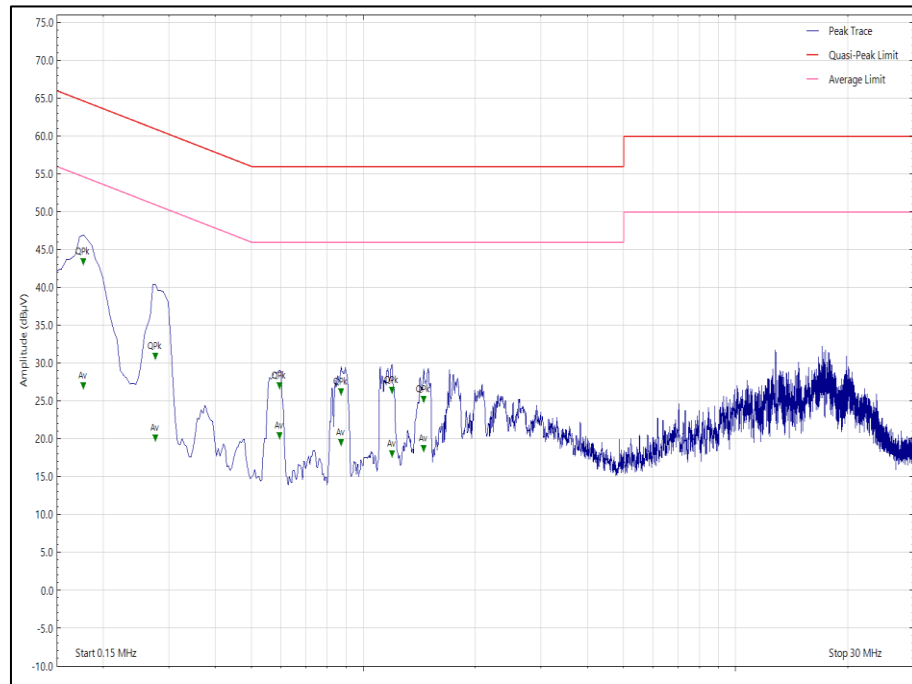


Figure 7 - Graphical Results - AC Power Port Neutral

Frequency (MHz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
0.177	42.68	64.60	-21.92	Q-Peak
0.177	26.26	54.60	-28.34	CISPR Avg
0.276	30.16	60.90	-30.74	Q-Peak
0.276	19.37	50.90	-31.53	CISPR Avg
0.596	26.32	56.00	-29.68	Q-Peak
0.596	19.74	46.00	-26.26	CISPR Avg
0.870	25.49	56.00	-30.51	Q-Peak
0.870	18.83	46.00	-27.17	CISPR Avg
1.194	25.68	56.00	-30.32	Q-Peak
1.194	17.29	46.00	-28.71	CISPR Avg
1.454	24.48	56.00	-31.52	Q-Peak
1.454	18.02	46.00	-27.98	CISPR Avg

Table 15

Results for Configuration and Mode: AC Powered – 6 GHz WLAN.

This test was performed to the requirements of the Class B limits.

Performance assessment of the EUT made during this test: Pass.

Detailed results are shown below.

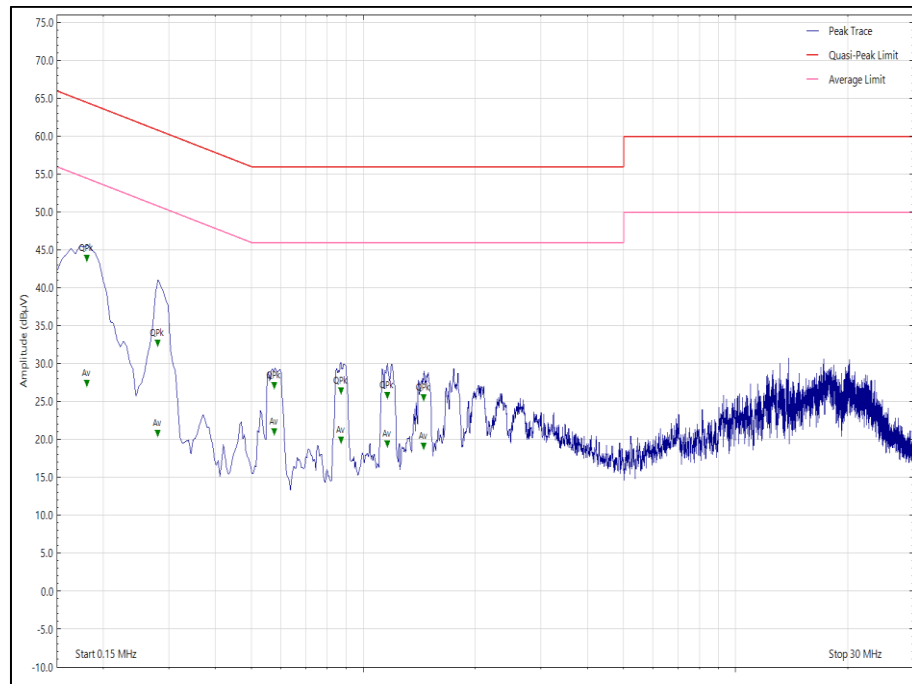


Figure 8 - Graphical Results - AC Power Port Live

Frequency (MHz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
0.181	43.18	64.40	-21.22	Q-Peak
0.181	26.73	54.40	-27.67	CISPR Avg
0.280	32.05	60.80	-28.75	Q-Peak
0.280	20.14	50.80	-30.66	CISPR Avg
0.577	26.39	56.00	-29.61	Q-Peak
0.577	20.33	46.00	-25.67	CISPR Avg
0.870	25.73	56.00	-30.27	Q-Peak
0.870	19.26	46.00	-26.74	CISPR Avg
1.161	25.12	56.00	-30.88	Q-Peak
1.161	18.76	46.00	-27.24	CISPR Avg
1.454	24.85	56.00	-31.15	Q-Peak
1.454	18.41	46.00	-27.59	CISPR Avg

Table 16

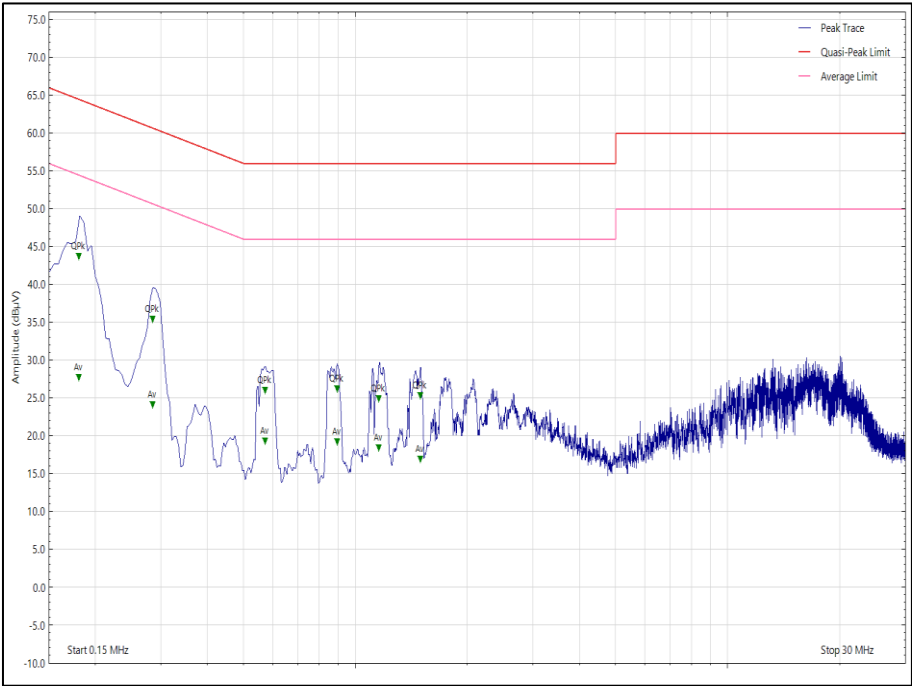


Figure 9 - Graphical Results - AC Power Port Neutral

Frequency (MHz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
0.181	43.03	64.40	-21.37	Q-Peak
0.181	26.96	54.40	-27.44	CISPR Avg
0.285	34.69	60.70	-26.01	Q-Peak
0.285	23.45	50.70	-27.25	CISPR Avg
0.573	25.28	56.00	-30.72	Q-Peak
0.573	18.59	46.00	-27.41	CISPR Avg
0.893	25.47	56.00	-30.53	Q-Peak
0.893	18.48	46.00	-27.52	CISPR Avg
1.158	24.20	56.00	-31.80	Q-Peak
1.158	17.74	46.00	-28.26	CISPR Avg
1.496	24.61	56.00	-31.39	Q-Peak
1.496	16.26	46.00	-29.74	CISPR Avg

Table 17



2.1.10 Test Location and Test Equipment Used

This test was carried out in EMC Chamber 12.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
3m Semi-Anechoic Chamber	MVG	EMC Chamber 12	5621	36	07-Aug-2026
Emissions Software	TUV SUD	EmX V3.5.5	5125	-	Software
Test Receiver	Rohde & Schwarz	ESW44	5382	12	09-Oct-2026
Transient Limiter	Hewlett Packard	11947A	1032	12	16-Jan-2026
Cable (N-Type to N-Type, 2 m)	Teledyne	269-0078-2000	3325	12	12-Sep-2026
Cable (N-Type to N-Type, 8 m)	Junkosha	MWX221-08000NMSNMS/B	7054	12	01-Jun-2026
LISN (CISPR 16, Single Phase)	Rohde & Schwarz	ESH3-Z5	1390	12	04-Feb-2026
Thermo-Hygro-Barometer	PCE Instruments	PCE-THB-40	5471	12	14-May-2026

Table 18



3 Test Equipment Information

3.1 General Test Equipment Used

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Multimeter	Fluke	79 Series III	498	12	26-Feb-2026
Milliohm Meter	VICI	2682132	7012	12	21-May-2026

Table 19



4 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

Test Name	Measurement Uncertainty
AC Power Line Conducted Emissions	150 kHz to 30 MHz, LISN, ± 3.3 dB

Table 20

Measurement Uncertainty Decision Rule – Accuracy Method

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115:2021, Clause 4.4.3 (Procedure 2). The measurement results are directly compared with the test limit to determine conformance with the requirements of the standard.

Risk: The uncertainty of measurement about the measured result is negligible with regard to the final pass/fail decision. The measurement result can be directly compared with the test limit to determine conformance with the requirement (compare IEC Guide 115). The level of risk to falsely accept and falsely reject items is further described in ILAC-G8.