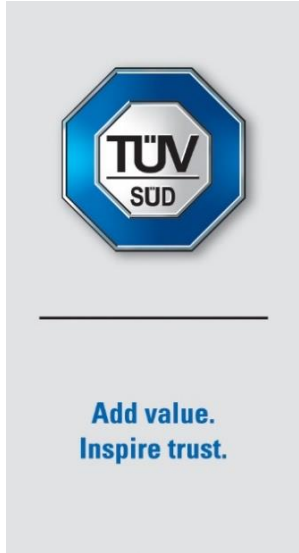


FCC and ISED Test Report

Apple Inc
Model: A2874

In accordance with FCC 47 CFR Part 15, ISED RSS-247, ISED RSS-248 and ISED RSS-GEN (2.4 GHz Bluetooth, 2.4 GHz WLAN, 5 GHz WLAN, 6 GHz WLAN and Narrowband)

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



FCC ID: BCGA2874

IC: 579C-A2874

COMMERCIAL-IN-CONFIDENCE

Document 75957630-29 Issue 02

| SIGNATURE | | | |
|-----------------|----------------|----------------------|-----------------|
| | | | |
| NAME | JOB TITLE | RESPONSIBLE FOR | ISSUE DATE |
| Matthew Russell | Chief Engineer | Authorised Signatory | 11 October 2023 |

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 15, ISED RSS-247, ISED RSS-248 and ISED RSS-GEN. The sample tested was found to comply with the requirements defined in the applied rules.

| RESPONSIBLE FOR | NAME | DATE | SIGNATURE |
|-------------------|----------------|-----------------|-----------|
| Report Generation | Lauren Walters | 11 October 2023 | |

FCC Accreditation

553713/UK2026 Concorde Park, Fareham Test Laboratory

ISED Accreditation

28798 Concorde Park, Fareham Test Laboratory

EXECUTIVE SUMMARY

A sample of this product was tested and found to be compliant with FCC 47 CFR Part 15: 2021, ISED RSS-247: Issue 2 (2017-02), ISED RSS-248: Issue 2 (2022-12) and ISED RSS-GEN: Issue 5 (2018-04) + A2 (2021-02) for the tests detailed in section 1.3.

| | | |
|--|--|---|
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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 | 18-April-2023 |
| 2 | Update to FCC/ISED Accreditation Number Update to RSS 248 issue 2 | 11-October-2023 |

Table 1

1.2 Introduction

| | |
|-------------------------------|--|
| Applicant | Apple Inc |
| Manufacturer | Apple Inc |
| Model Number(s) | A2874 |
| Serial Number(s) | PNYQPYL91C |
| Hardware Version(s) | REV 1.0 |
| Software Version(s) | 22E31550w |
| Number of Samples Tested | 1 |
| Test Specification/Issue/Date | FCC 47 CFR Part 15: 2021 ISED RSS-247: Issue 2 (2017-02) ISED RSS-248: Issue 2 (2022-12) ISED RSS-GEN: Issue 5 (2018-04) + A2 (2021-02) |
| Start of Test | 22-March-2023 |
| Finish of Test | 24-March-2023 |
| Name of Engineer(s) | Colin Brain and Thomas Randall |
| Related Document(s) | ANSI C63.10: 2013 ANSI C63.10: 2020 ANSI C63.4: 2014 KDB 789033 D02 v02r01 KDB 987594 D02 v01r01 |



1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 15, ISED RSS-247, ISED RSS-248 and ISED RSS-GEN is shown below.

| Section | Specification Clause | | | | Test Description | Result | Comments/Base Standard |
|---|---------------------------------|-------------|---------|---------|---|--------|------------------------|
| | Part 15 | RSS-247 | RSS-248 | RSS-GEN | | | |
| Configuration and Mode: CoTx - 2.4 GHz Bluetooth and 5 GHz WLAN | | | | | | | |
| 2.1 | 15.209, 15.247(d) and 15.407(b) | 5.5 and 6.2 | - | 8.9 | Radiated Spurious Emissions (Simultaneous Transmission) | Pass | |
| Configuration and Mode: CoTx - 2.4 GHz Bluetooth and 6 GHz WLAN | | | | | | | |
| 2.1 | 15.209, 15.247(d) and 15.407(b) | 5.5 | 4.6 | 8.9 | Radiated Spurious Emissions (Simultaneous Transmission) | Pass | |
| Configuration and Mode: CoTx - 2.4 GHz WLAN and Narrowband | | | | | | | |
| 2.1 | 15.209, 15.247(d) and 15.407(b) | 5.5 and 6.2 | - | 8.9 | Radiated Spurious Emissions (Simultaneous Transmission) | Pass | |

Table 2



1.4 Product Information

1.4.1 Technical Description

The equipment under test (EUT) was an Apple desktop computer with Bluetooth® Low Energy, Thread and IEEE 802.11 a/b/g/n/ac/ax Wi-Fi capabilities in the 2.4 GHz, 5 GHz and 6 GHz bands.

1.5 Deviations from the Standard

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

1.6 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: A2874, Serial Number: PNYQPYL91C | | | |
| 0 | As supplied by the customer | Not Applicable | Not Applicable |

Table 3

1.7 Test Location

TÜV SÜD conducted the following tests at our Concorde Park Test Laboratory.

| Test Name | Name of Engineer(s) | Accreditation |
|---|--------------------------------|---------------|
| Configuration and Mode: CoTx - 2.4 GHz Bluetooth and 5 GHz WLAN | | |
| Radiated Spurious Emissions (Simultaneous Transmission) | Colin Brain and Thomas Randall | UKAS |
| Configuration and Mode: CoTx - 2.4 GHz Bluetooth and 6 GHz WLAN | | |
| Radiated Spurious Emissions (Simultaneous Transmission) | Colin Brain and Thomas Randall | UKAS |
| Configuration and Mode: CoTx - 2.4 GHz WLAN and Narrowband | | |
| Radiated Spurious Emissions (Simultaneous Transmission) | Colin Brain and Thomas Randall | UKAS |

Table 4

Office Address:

TÜV SÜD
Concorde Park
Concorde Way
Fareham
Hampshire
PO15 5FG
United Kingdom



2 Test Details

2.1 Radiated Spurious Emissions (Simultaneous Transmission)

2.1.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.209, 15.247(d) and 15.407(b)
ISED RSS-247, Clause 5.5 and 6.2
ISED RSS-248, Clause 4.6
ISED RSS-GEN, Clause 8.9

2.1.2 Equipment Under Test and Modification State

A2874, S/N: PNYQPYL91C - Modification State 0

2.1.3 Date of Test

22-March-2023 to 24-March-2023

2.1.4 Test Method

This test was performed in accordance with ANSI C63.10, clause 6.3, 6.5 and 6.6.

The EUT was placed on the non-conducting platform in a manner typical of a normal installation.

Ports on the EUT were terminated with loads as described in ANSI C63.4 clause 6.2.4 for each type of port on the EUT.

For frequencies > 1 GHz, plots for average measurements were taken in accordance with ANSI C63.10, clause 4.1.4.2.5 to characterize the EUT. Where emissions were detected, final average measurements were taken in accordance with ANSI C63.10, clause 4.1.4.2.2, 11.11, 11.12, 12.7.2 or 12.7.3 depending on the nature of the emission measured.

The plots shown are the characterisation of the EUT. The limits on the plots represent the most stringent case for restricted bands, (74/54 dBuV/m) when compared to non-restricted band limits. The limits shown have been used as a threshold to determine where further measurements are necessary. Where results are within 10 dB of the limits shown on the plots, further investigation was carried out and reported in results tables.

The following conversion can be applied to convert from dBµV/m to µV/m:
 $10^{(\text{Field Strength in dB}\mu\text{V}/\text{m}/20)}$.

At a measurement distance of 1 meter the limit line was increased by $20 \cdot \text{LOG}(3/1) = 9.54$ dB.

2.1.5 Example Test Setup Diagram

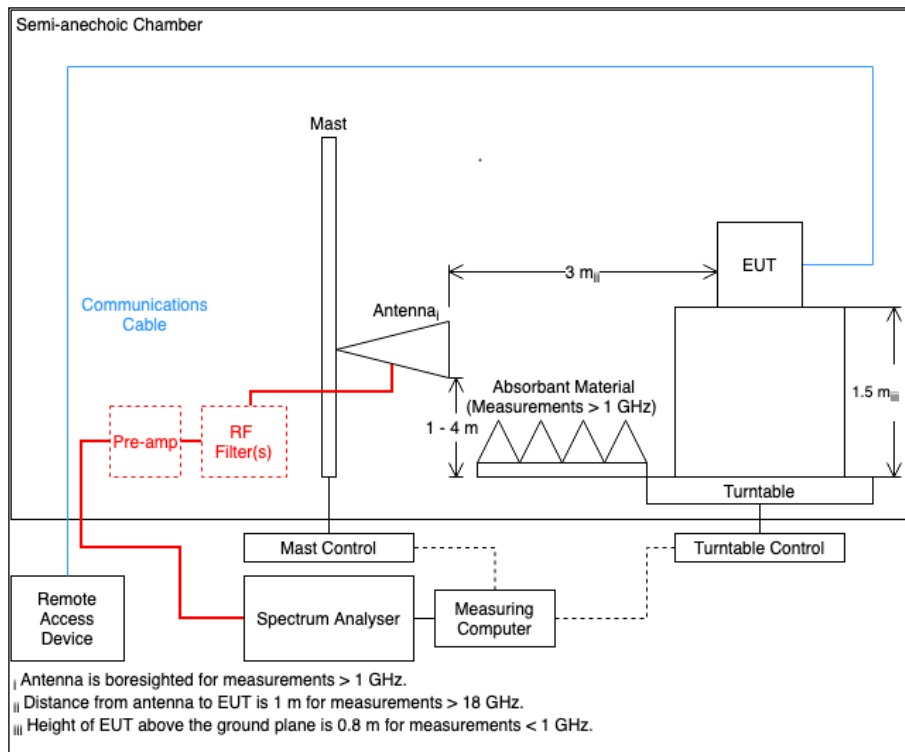


Figure 1

2.1.6 Environmental Conditions

| | |
|---------------------|----------------|
| Ambient Temperature | 22.4 - 23.4 °C |
| Relative Humidity | 34.5 - 49.1 % |



2.1.7 Test Results

CoTx - 2.4 GHz Bluetooth and 5 GHz WLAN

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|-----------|-----------|-------------|--------------|
| 4882.008 | 41.85 | 54.00 | -12.15 | CISPR Avg | 249 | 200 | Vertical |

Table 5 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-1 - 5240 MHz (CH48), VHT20, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

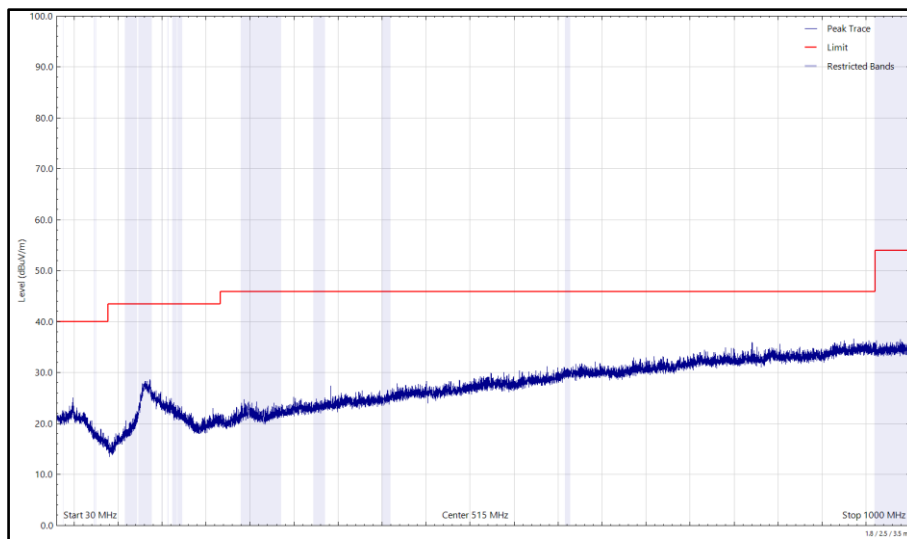


Figure 2 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-1 - 5240 MHz (CH48), VHT20, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

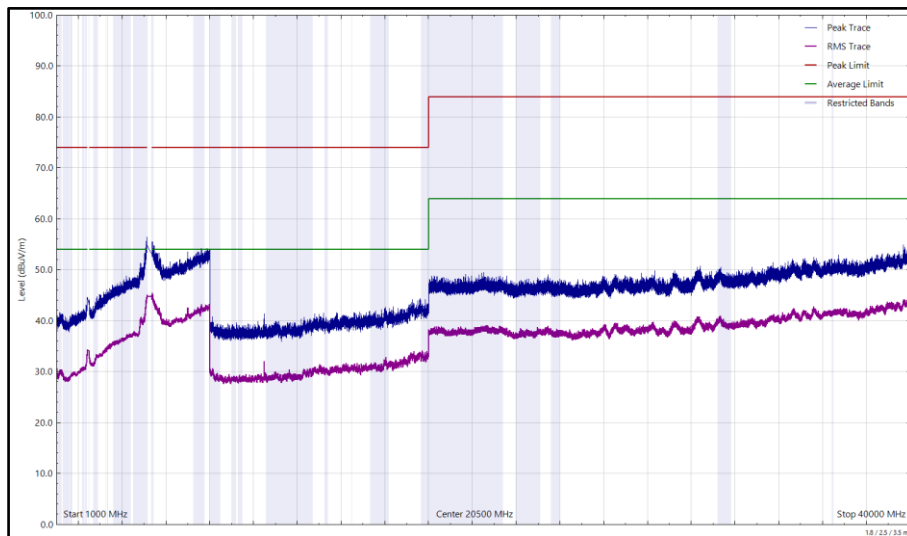


Figure 3 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-1 - 5240 MHz (CH48), VHT20, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

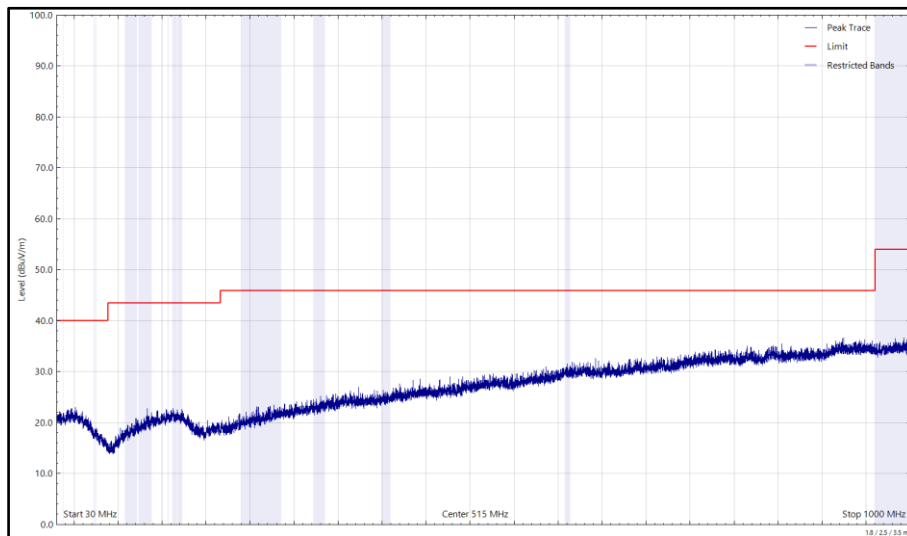


Figure 4 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-1 - 5240 MHz (CH48), VHT20, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

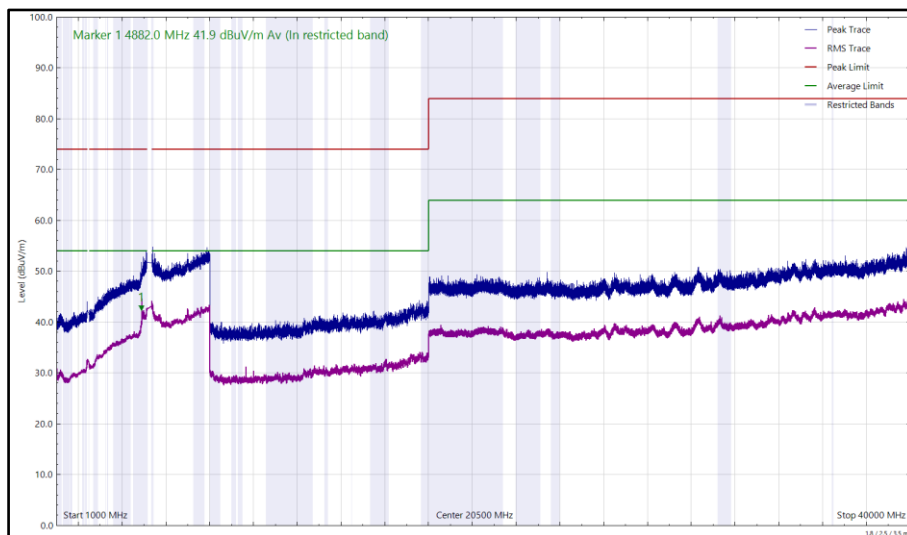


Figure 5 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-1 - 5240 MHz (CH48), VHT20, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical



| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|-----------|-----------|-------------|--------------|
| 4881.608 | 39.80 | 54.00 | -14.20 | CISPR Avg | 247 | 164 | Vertical |

Table 6 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-2C - 5640 MHz (CH128), VHT20, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

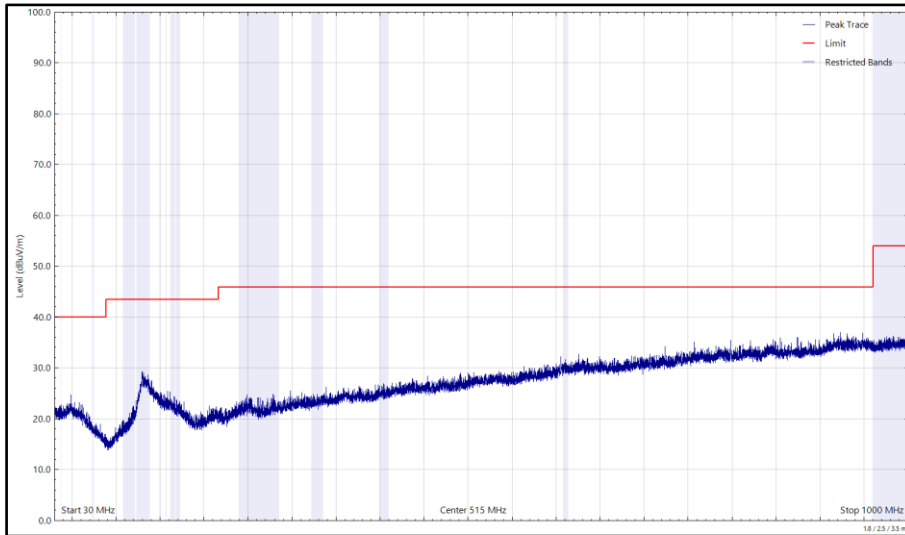


Figure 6 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-2C - 5640 MHz (CH128), VHT20, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

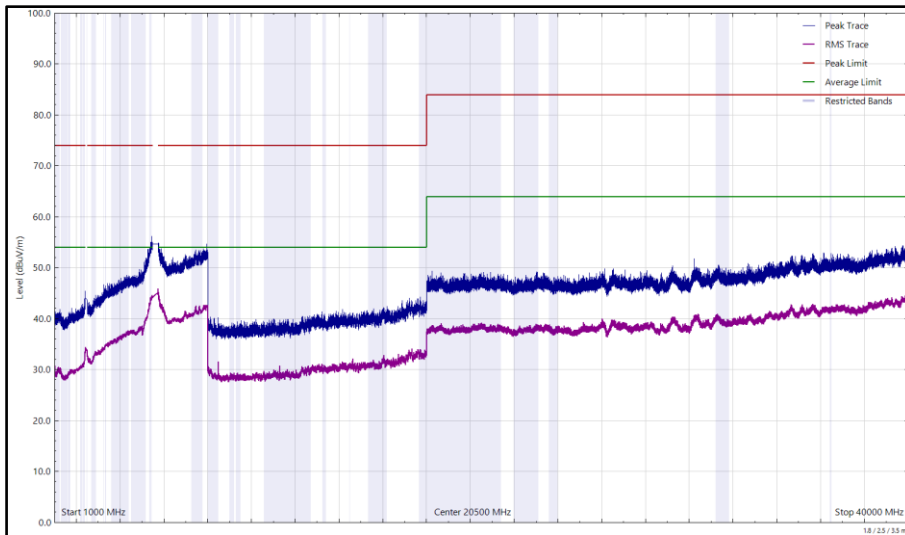


Figure 7 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-2C - 5640 MHz (CH128), VHT20, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

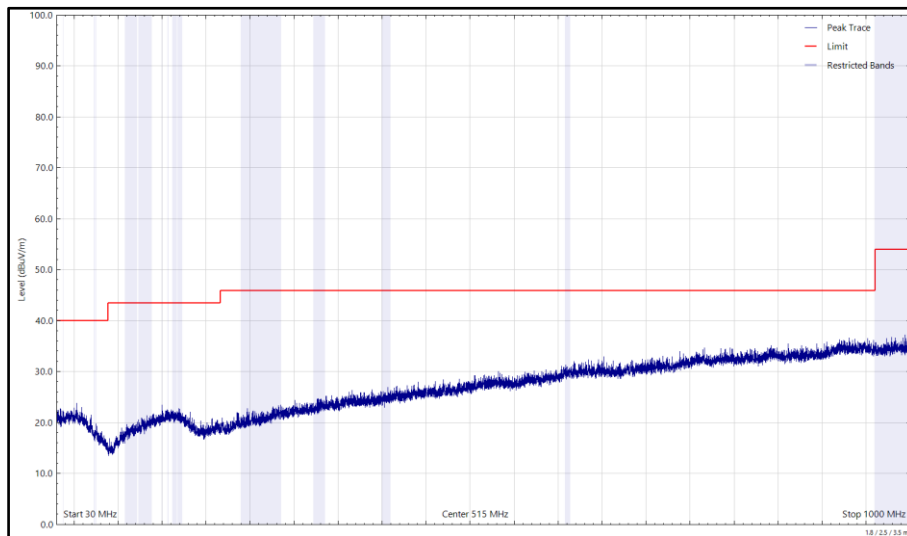


Figure 8 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-2C - 5640 MHz (CH128), VHT20, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

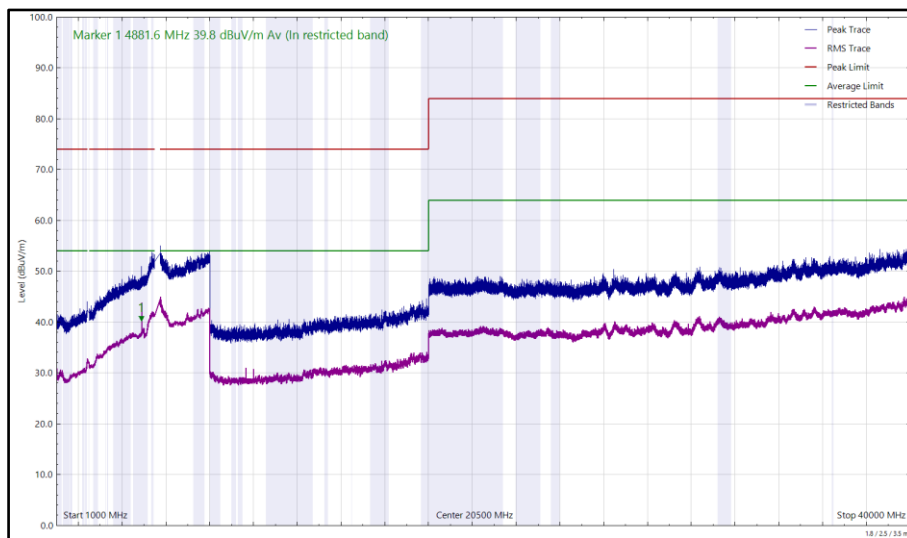


Figure 9 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-2C - 5640 MHz (CH128), VHT20, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical



| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|-----------|-----------|-------------|--------------|
| 4882.373 | 40.28 | 54.00 | -13.72 | CISPR Avg | 249 | 182 | Vertical |

Table 7 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-3 - 5785 MHz (CH157), VHT20, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

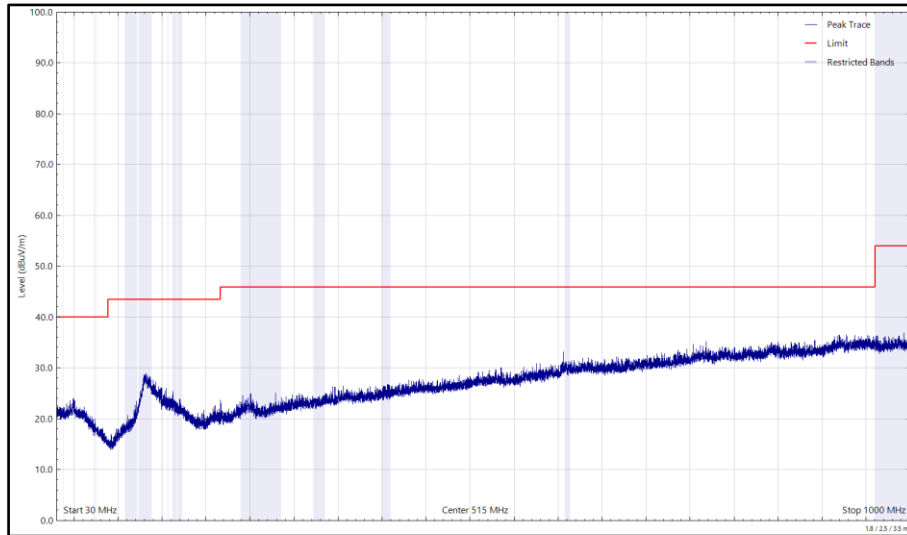


Figure 10 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-3 - 5785 MHz (CH157), VHT20, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

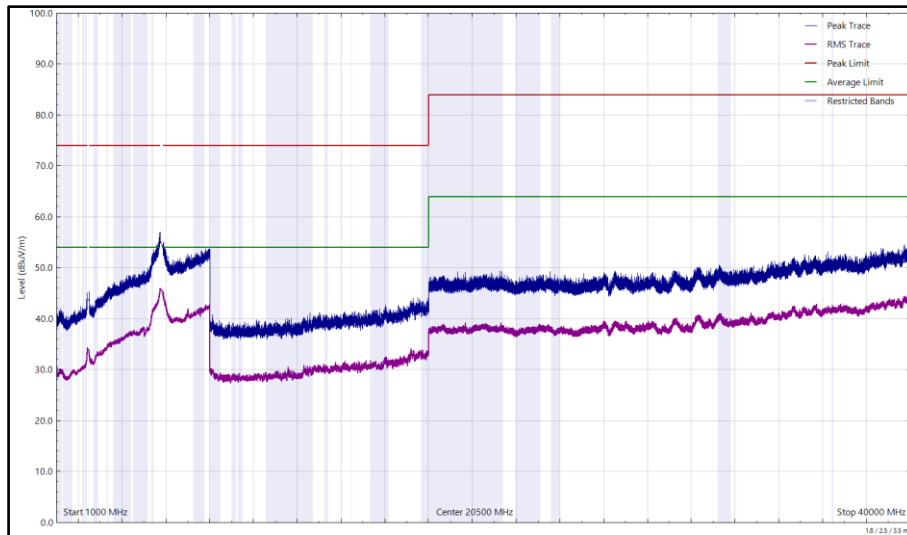


Figure 11 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-3 - 5785 MHz (CH157), VHT20, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

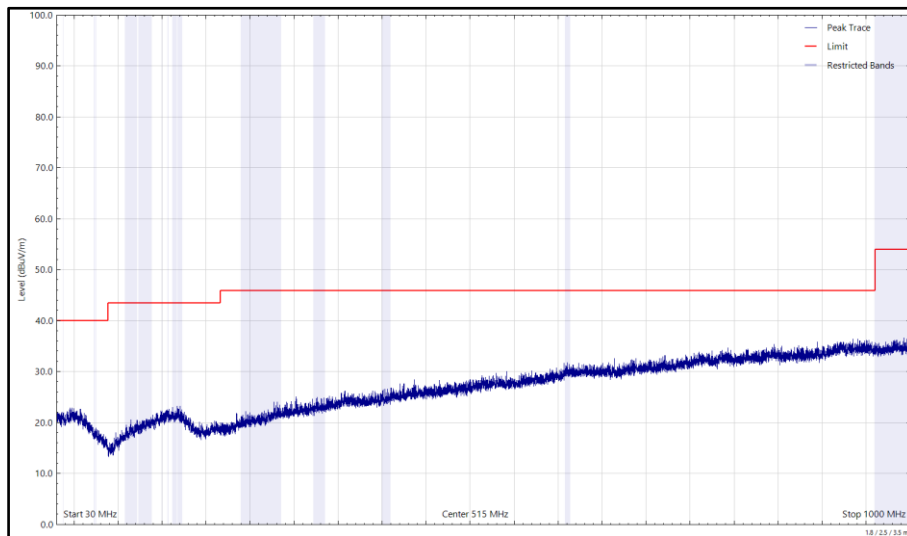


Figure 12 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-3 - 5785 MHz (CH157), VHT20, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

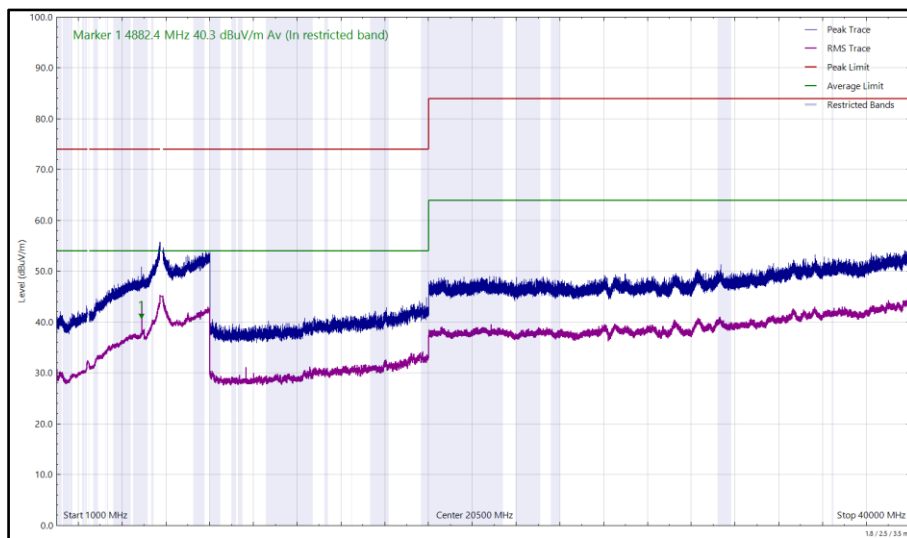


Figure 13 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-3 - 5785 MHz (CH157), VHT20, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical



FCC 47 CFR Part 15, ISED RSS-247 and ISED RSS-GEN

The least stringent limit from the applicable rule parts was used to determine compliance for Radiated Emissions testing of multiple transmission sources.

The least stringent applicable limit was:

| Clause | Limit |
|---|---|
| Part 15 247 (d) / RSS-247 Clause 5.5 | -20 dBc |
| Part 15.407 (b) / RSS-247 Clause 6.2 | -27 dBm e.i.r.p |
| Part 15.209 / RSS-GEN Clause 8.9 | Peak: 74 dB μ V/m at 3m, Average 54 dB μ V/m at 3m (Restricted bands > 1 GHz) |

Table 8



CoTx - 2.4 GHz Bluetooth and 6 GHz WLAN

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| 7322.997 | 39.76 | 54.00 | -14.24 | RMS | 83 | 166 | Vertical |
| 7323.080 | 42.53 | 54.00 | -11.47 | RMS | 21 | 350 | Horizontal |
| 7323.257 | 54.66 | 74.00 | -19.34 | Peak | 33 | 325 | Horizontal |
| 11909.785 | 34.17 | 54.00 | -19.83 | RMS | 80 | 227 | Horizontal |

Table 9 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-5 - 5955 MHz (CH1), HE20, SU, CDD, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

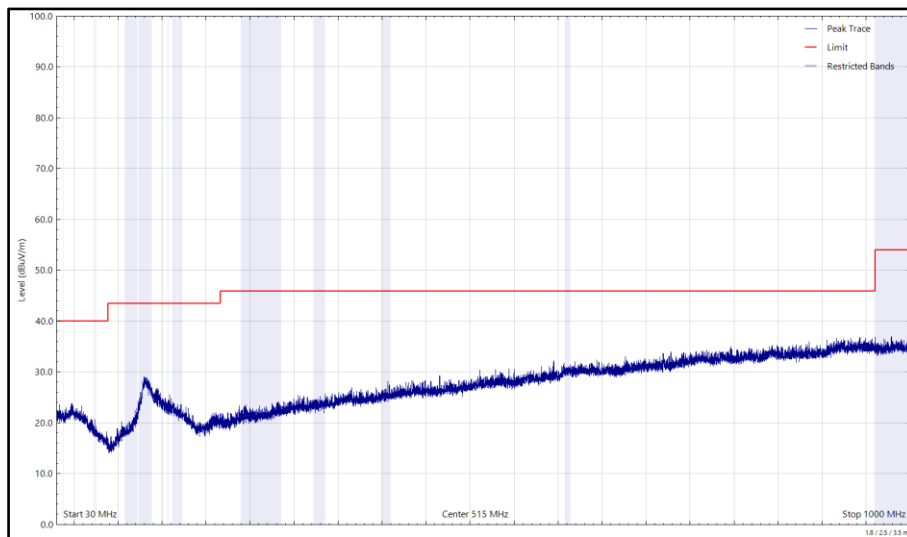


Figure 14 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-5 - 5955 MHz (CH1), HE20, SU, CDD, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

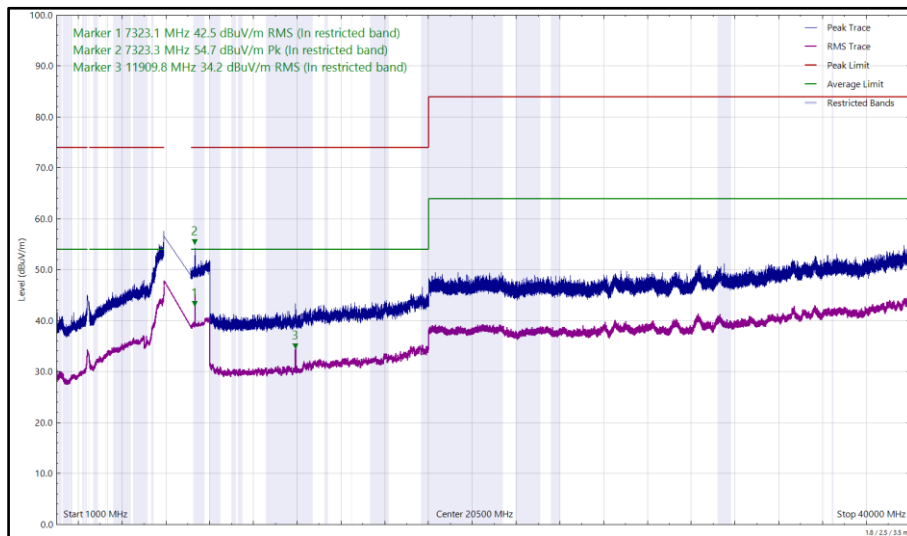


Figure 15 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-5 - 5955 MHz (CH1), HE20, SU, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

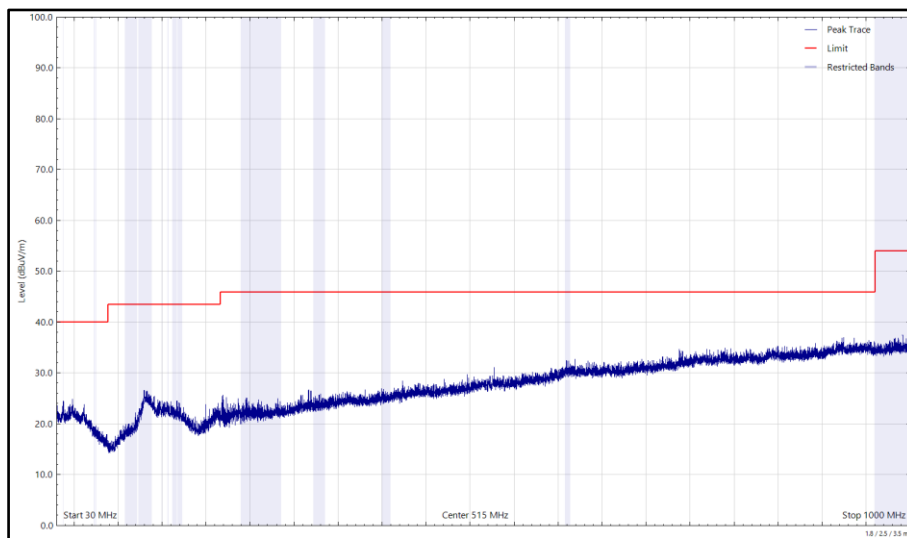


Figure 16 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-5 - 5955 MHz (CH1), HE20, SU, CDD, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

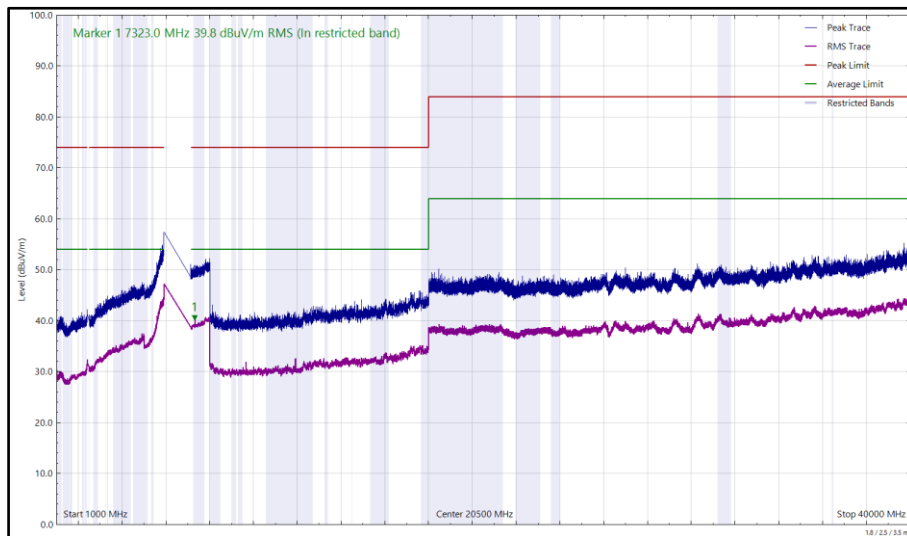


Figure 17 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-5 - 5955 MHz (CH1), HE20, SU, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical



| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| 5334.349 | 60.15 | 88.2 | -28.05 | Peak | 46 | 258 | Horizontal |
| 5335.088 | 55.47 | 88.2 | -32.73 | Peak | 35 | 173 | Vertical |
| 7322.687 | 56.01 | 74.00 | -17.99 | Peak | 22 | 309 | Horizontal |
| 7322.687 | 45.48 | 54.00 | -8.52 | RMS | 22 | 309 | Horizontal |
| 7322.929 | 42.06 | 54.00 | -11.94 | RMS | 265 | 172 | Vertical |

Table 10 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-8 - 7115 MHz (CH233), HE20, SU, CDD, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

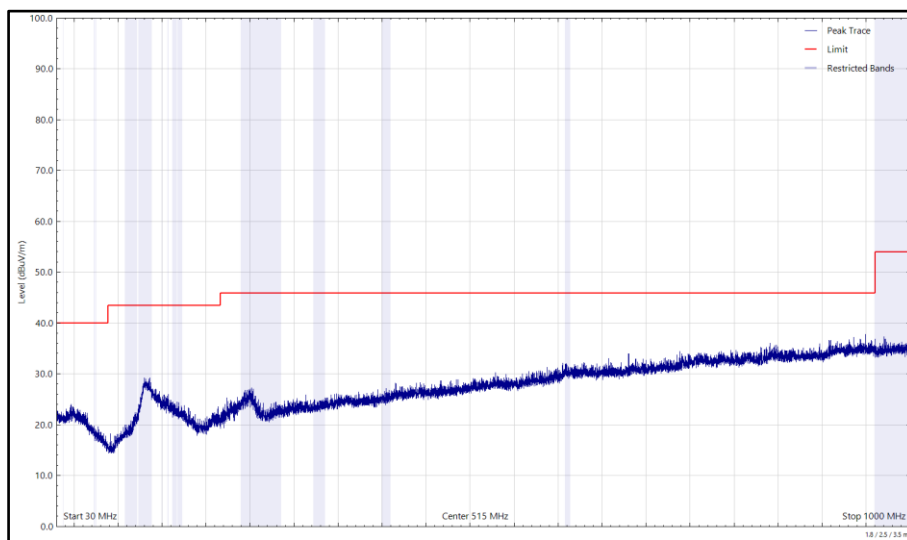


Figure 18 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-8 - 7115 MHz (CH233), HE20, SU, CDD, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

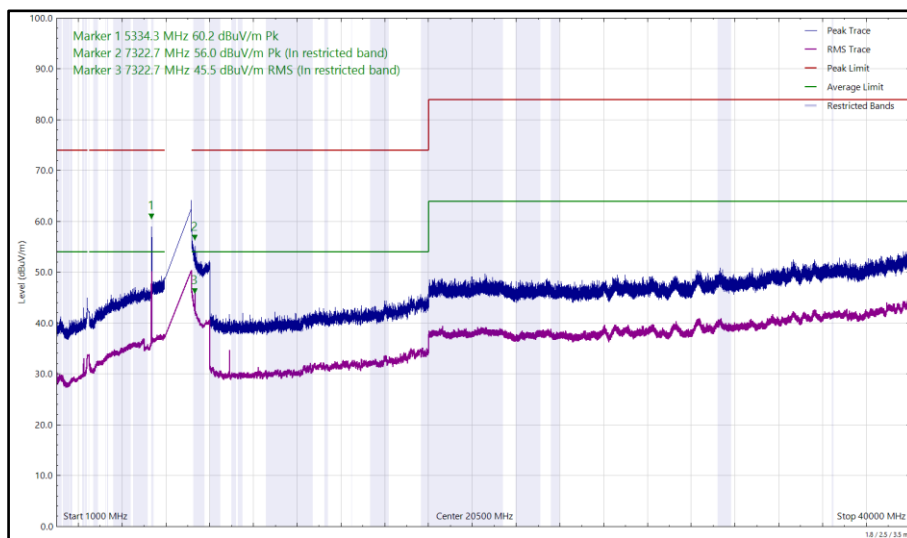


Figure 19 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-8 - 7115 MHz (CH233), HE20, SU, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal

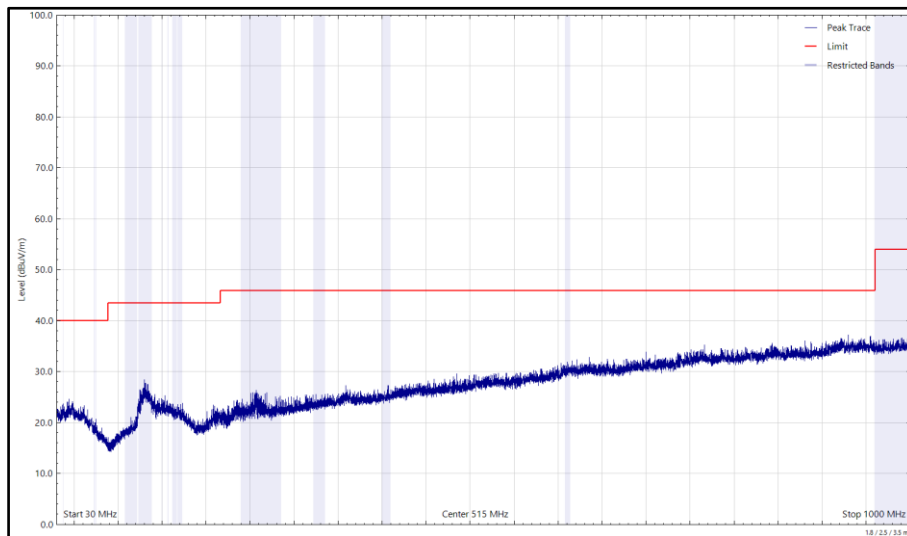


Figure 20 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-8 - 7115 MHz (CH233), HE20, SU, CDD, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

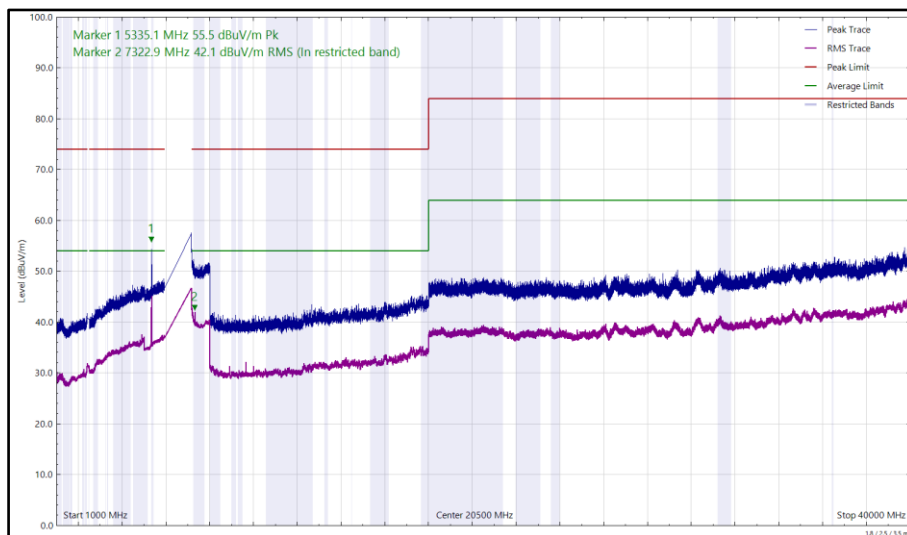


Figure 21 - 2441 MHz (CH39), 2-DH5, ePA, Core 0 + Core 1 and U-NII-8 - 7115 MHz (CH233), HE20, SU, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical



FCC 47 CFR Part 15, ISED RSS-247, ISED RSS-248 and ISED RSS-GEN

The least stringent limit from the applicable rule parts was used to determine compliance for Radiated Emissions testing of multiple transmission sources.

The least stringent applicable limit was:

| Clause | Limit |
|---|---|
| Part 15 247 (d) / RSS-247 Clause 5.5 | -20 dBc |
| Part 15.407 (b) / RSS-248 Clause 4.6.2 | Peak: -7 dBm/MHz e.i.r.p, Average: -27 dBm/MHz e.i.r.p |
| Part 15.209 / RSS-GEN Clause 8.9 | Peak: 74 dB μ V/m at 3m, Average 54 dB μ V/m at 3m (Restricted bands > 1 GHz) |

Table 11



CoTx - 2.4 GHz WLAN and Narrowband

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| * | | | | | | | |

Table 12 - 2437 MHz (CH6), HT20, Core 0 and 5204 MHz, HDR8, ePA, Core 1, 30 MHz to 40 GHz

*No emissions found within 10 dB of the limit.

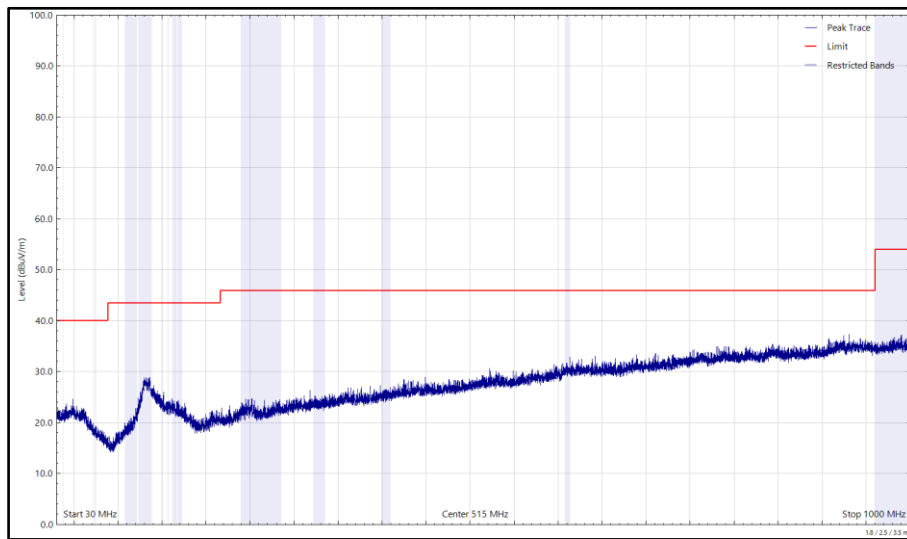


Figure 22 - 2437 MHz (CH6), HT20, Core 0 and 5204 MHz, HDR8, ePA, Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

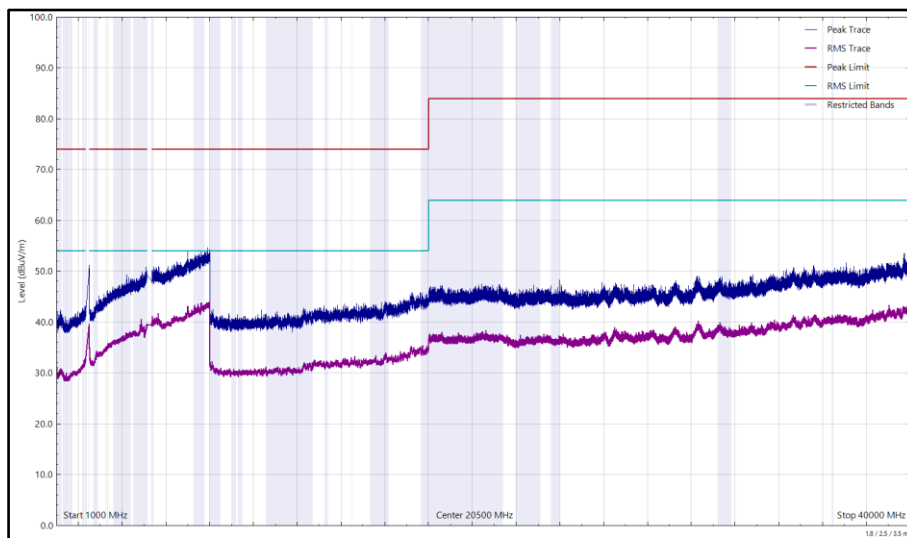


Figure 23 - 2437 MHz (CH6), HT20, Core 0 and 5204 MHz, HDR8, ePA, Core 1, 1 GHz to 40 GHz, Horizontal

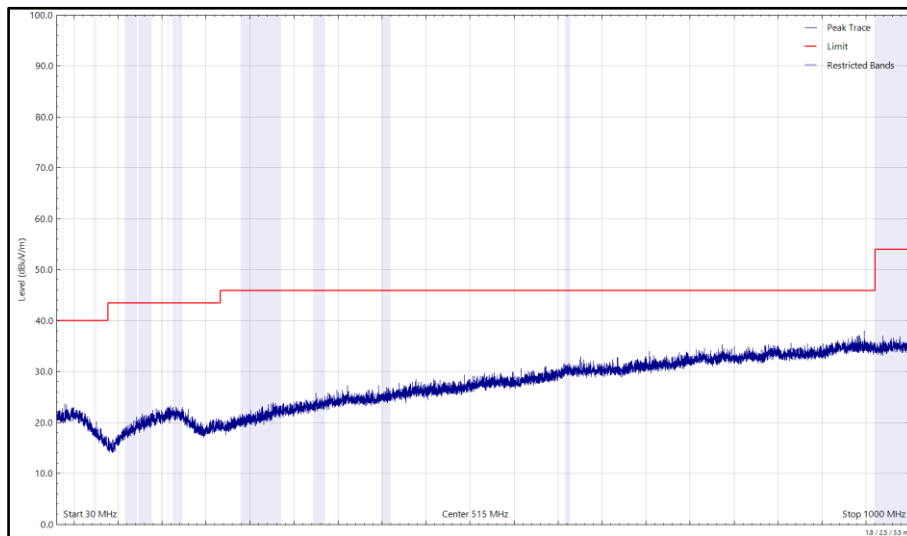


Figure 24 - 2437 MHz (CH6), HT20, Core 0 and 5204 MHz, HDR8, ePA, Core 1, 30 MHz to 1 GHz, Vertical (Peak)

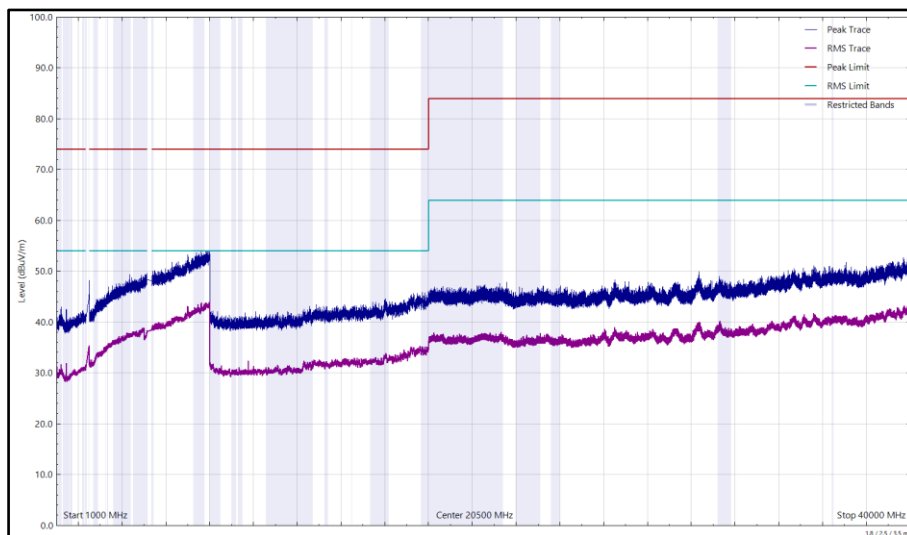


Figure 25 - 2437 MHz (CH6), HT20, Core 0 and 5204 MHz, HDR8, ePA, Core 1, 1 GHz to 40 GHz, Vertical



| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| 5374.486 | 39.95 | 54.00 | -14.05 | RMS | 39 | 400 | Vertical |
| 5374.535 | 43.75 | 54.00 | -10.25 | RMS | 38 | 108 | Horizontal |

Table 13 - 2437 MHz (CH6), HT20, Core 0 and 5788 MHz, HDR4, ePA, Core 1, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

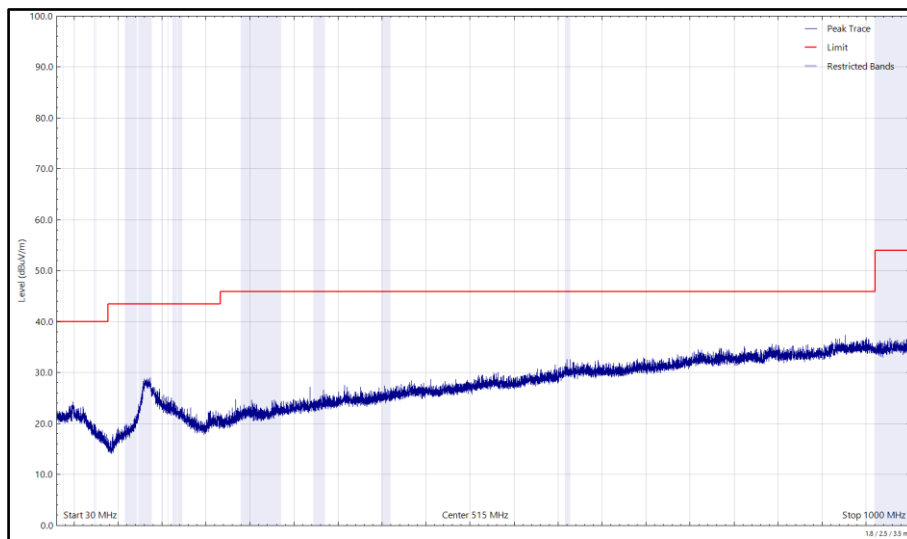


Figure 26 - 2437 MHz (CH6), HT20, Core 0 and 5788 MHz, HDR4, ePA, Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

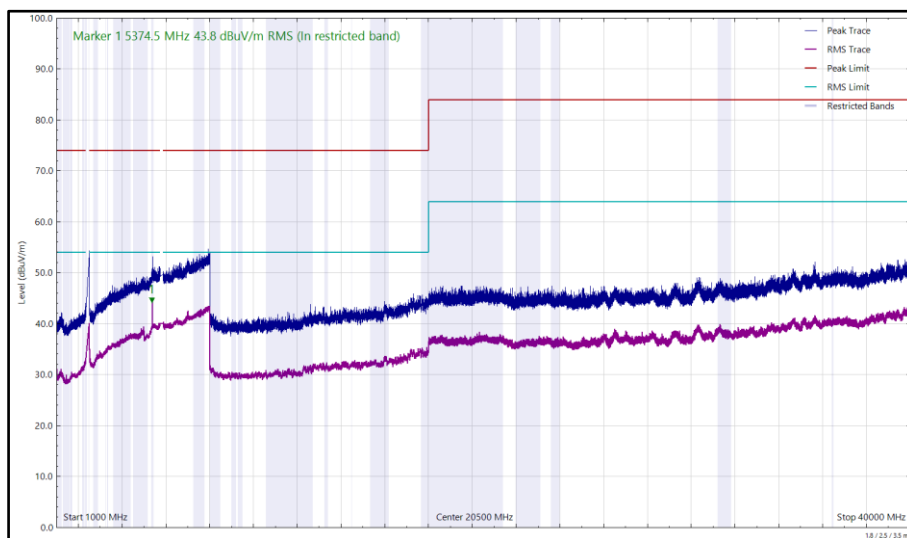


Figure 27 - 2437 MHz (CH6), HT20, Core 0 and 5788 MHz, HDR4, ePA, Core 1, 1 GHz to 40 GHz, Horizontal

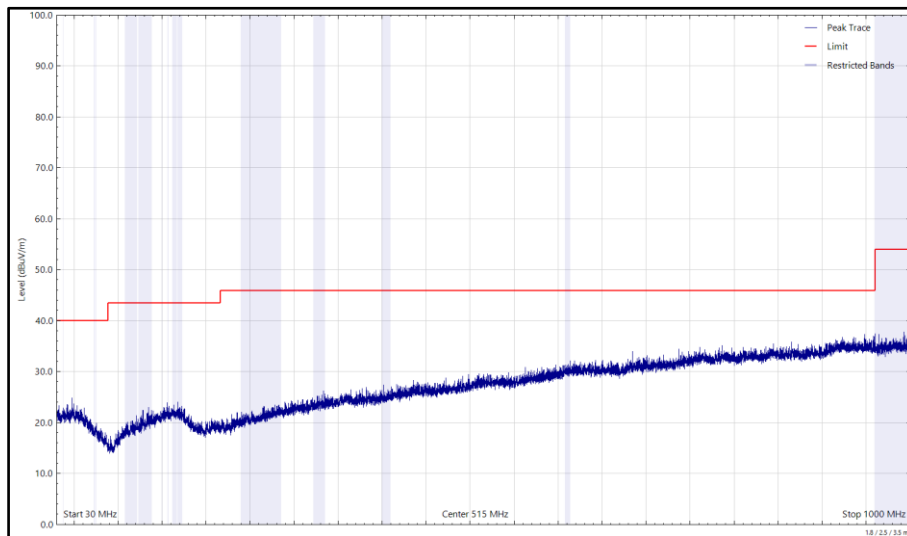


Figure 28 - 2437 MHz (CH6), HT20, Core 0 and 5788 MHz, HDR4, ePA, Core 1, 30 MHz to 1 GHz, Vertical (Peak)

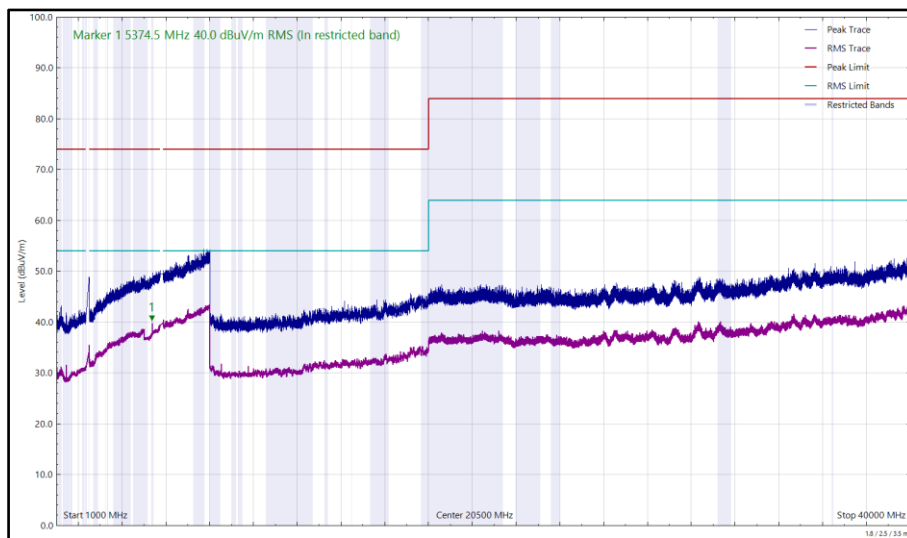


Figure 29 - 2437 MHz (CH6), HT20, Core 0 and 5788 MHz, HDR4, ePA, Core 1, 1 GHz to 40 GHz, Vertical



| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| * | | | | | | | |

Table 14 - 2437 MHz (CH6), HT20, Core 1 and 5204 MHz, HDR8, ePA, Core 0, 30 MHz to 40 GHz

*No emissions found within 10 dB of the limit.

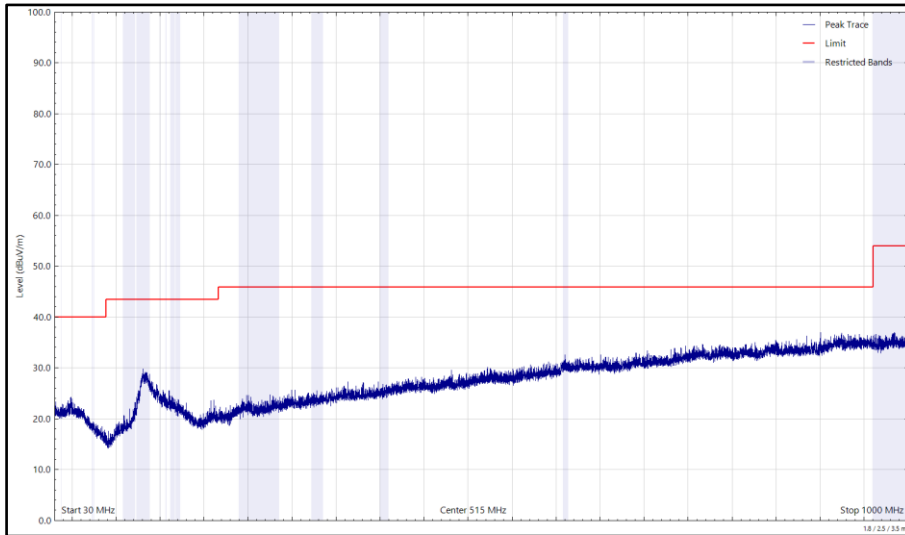


Figure 30 - 2437 MHz (CH6), HT20, Core 1 and 5204 MHz, HDR8, ePA, Core 0, 30 MHz to 1 GHz, Horizontal (Peak)

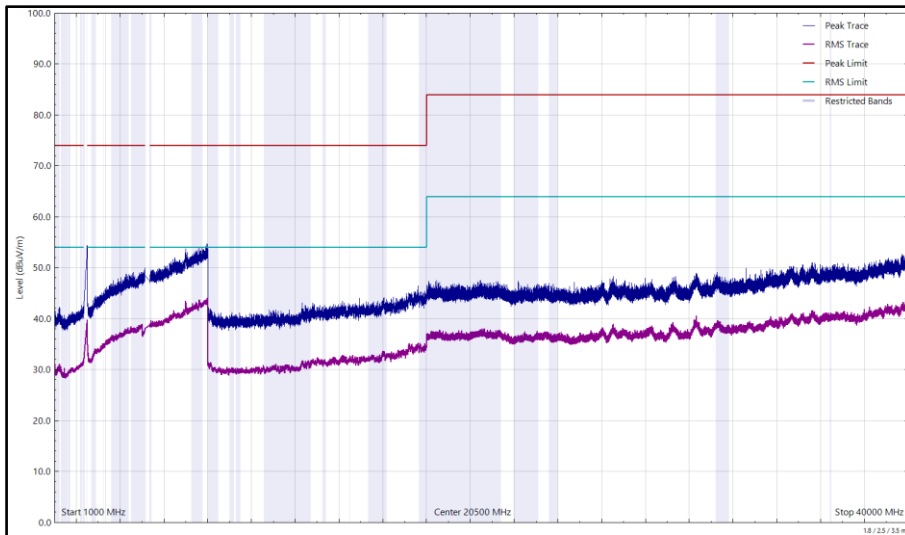


Figure 31 - 2437 MHz (CH6), HT20, Core 1 and 5204 MHz, HDR8, ePA, Core 0, 1 GHz to 40 GHz, Horizontal

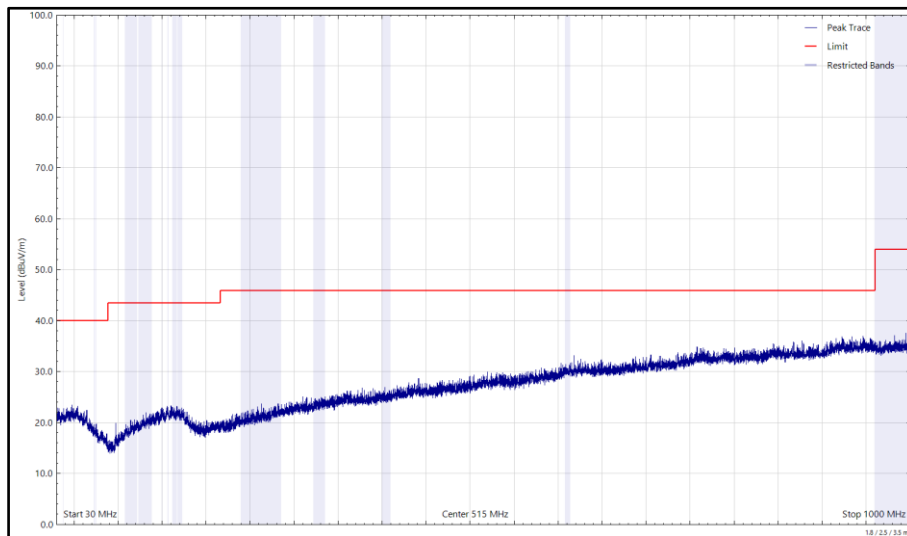


Figure 32 - 2437 MHz (CH6), HT20, Core 1 and 5204 MHz, HDR8, ePA, Core 0, 30 MHz to 1 GHz, Vertical (Peak)

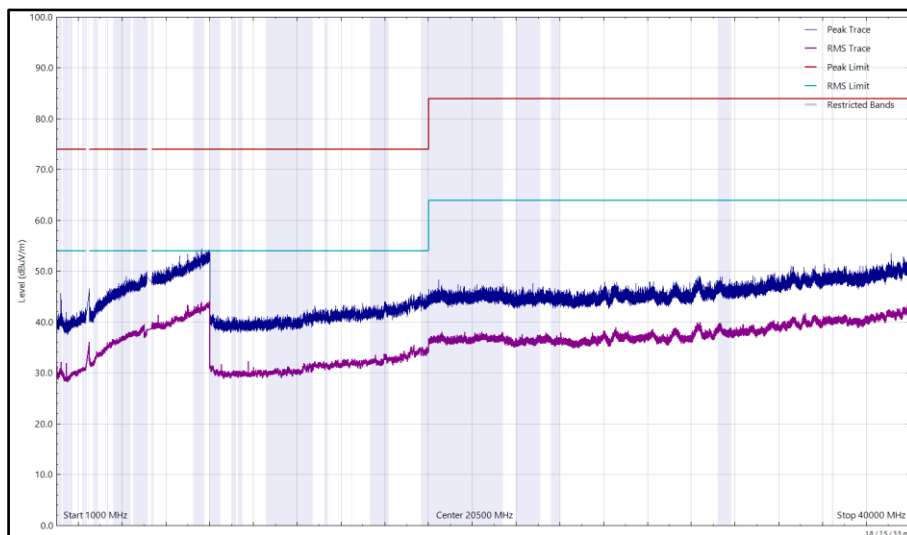


Figure 33 - 2437 MHz (CH6), HT20, Core 1 and 5204 MHz, HDR8, ePA, Core 0, 1 GHz to 40 GHz, Vertical



| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| 5374.500 | 42.15 | 54.00 | -11.85 | RMS | 262 | 192 | Vertical |

Table 15 - 2437 MHz (CH6), HT20, Core 1 and 5788 MHz, HDR4, ePA, Core 0, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

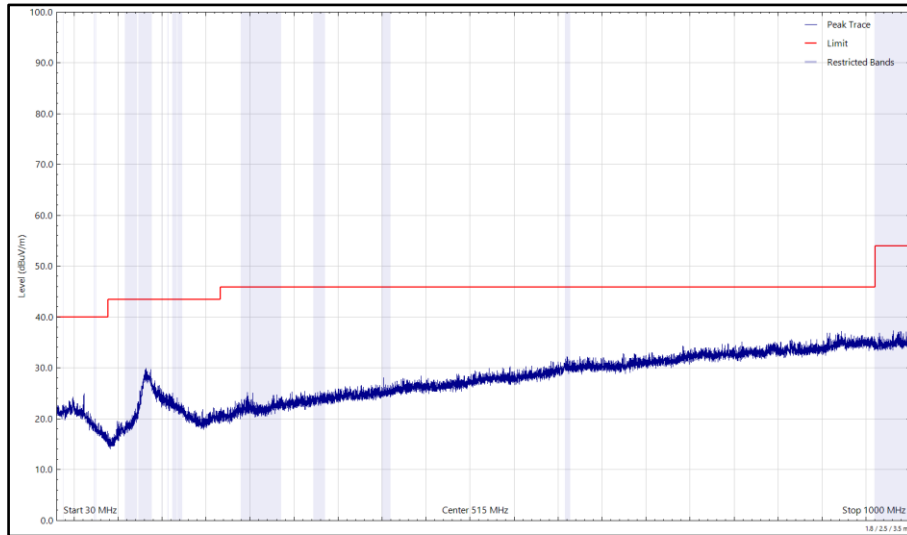


Figure 34 - 2437 MHz (CH6), HT20, Core 1 and 5788 MHz, HDR4, ePA, Core 0, 30 MHz to 1 GHz, Horizontal (Peak)

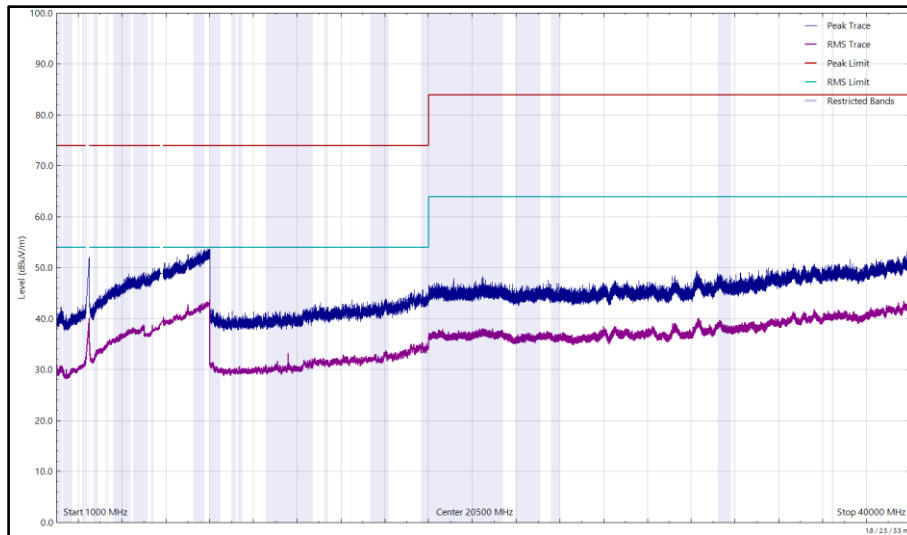


Figure 35 - 2437 MHz (CH6), HT20, Core 1 and 5788 MHz, HDR4, ePA, Core 0, 1 GHz to 40 GHz, Horizontal

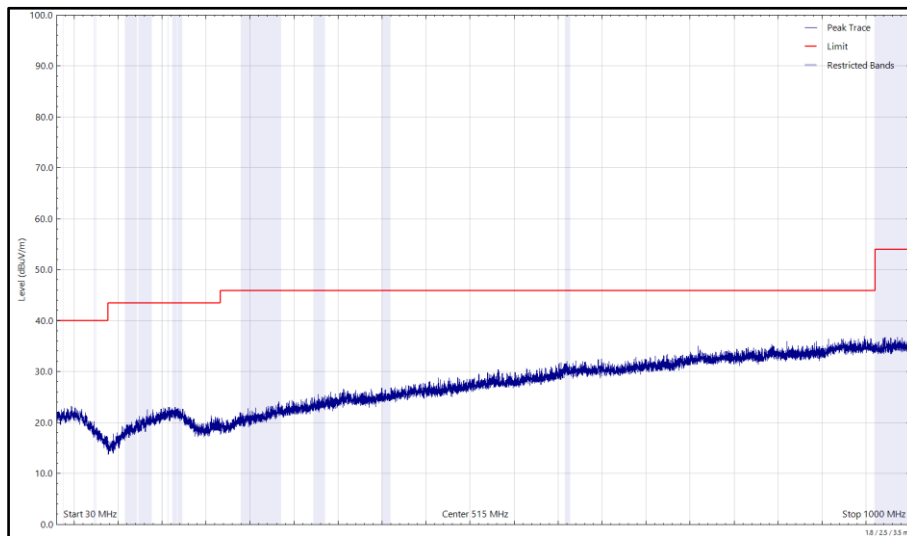


Figure 36 - 2437 MHz (CH6), HT20, Core 1 and 5788 MHz, HDR4, ePA, Core 0, 30 MHz to 1 GHz, Vertical (Peak)

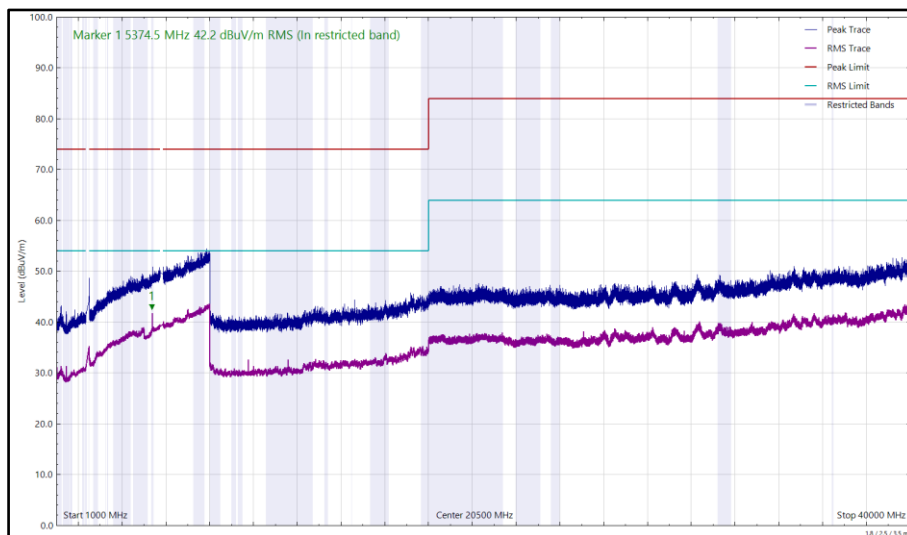


Figure 37 - 2437 MHz (CH6), HT20, Core 1 and 5788 MHz, HDR4, ePA, Core 0, 1 GHz to 40 GHz, Vertical



FCC 47 CFR Part 15, ISED RSS-247 and ISED RSS-GEN

The least stringent limit from the applicable rule parts was used to determine compliance for Radiated Emissions testing of multiple transmission sources.

The least stringent applicable limit was:

| Clause | Limit |
|---|---|
| Part 15.247 (d) / RSS-247 Clause 5.5 | -30 dBc |
| Part 15.407 (b) / RSS-247 Clause 6.2 | -27 dBm e.i.r.p |
| Part 15.209 / RSS-GEN Clause 8.9 | Peak: 74 dB μ V/m at 3m, Average 54 dB μ V/m at 3m (Restricted bands > 1 GHz) |

Table 16



2.1.8 Test Location and Test Equipment Used

This test was carried out in RF Chamber 14.

| Instrument | Manufacturer | Type No. | TE No. | Calibration Period (months) | Calibration Expiry Date |
|--|---------------------|---------------------------|--------|-----------------------------|-------------------------|
| Emissions Software | TUV SUD | EmX V3.1.10 | 5125 | - | Software |
| Test Receiver | Rohde & Schwarz | ESW44 | 5914 | 12 | 24-Feb-2024 |
| Cable (K Type 2m) | Junkosha | MWX241-02000KMSKMS/B | 5935 | 12 | 14-May-2023 |
| DRG Horn Antenna (7.5-18GHz) | Schwarzbeck | HWRD750 | 5941 | 12 | 29-May-2023 |
| TRILOG Super Broadband Test Antenna | Schwarzbeck | VULB 9168 | 5943 | 24 | 03-Feb-2024 |
| 1500W (300V 12A) AC Power Supply | iTech | IT7324 | 5955 | - | O/P Mon |
| 5m Semi-Anechoic Chamber (Dual-Axis) | Albatross Projects | RF Chamber 14 | 5958 | 36 | 26-Apr-2025 |
| Compact Antenna Mast | Maturo Gmbh | CAM4.0-P | 5959 | - | TU |
| Mast & Turntable Controller | Maturo Gmbh | FCU3.0 | 5960 | - | TU |
| Tilt Antenna Mast | Maturo Gmbh | BAM4.5-P | 5961 | - | TU |
| Turntable | Maturo Gmbh | TT1.5SI | 5962 | - | TU |
| Cable (SMA to SMA 1m) | Junkosha | MWX221-01000AMSAMS/A | 5997 | 12 | 06-Jun-2023 |
| Cable (SMA to SMA 6.5m) | Junkosha | MWX221-06500AMSAMS/B | 6003 | 12 | 07-Jun-2023 |
| Cable (SMA to SMA 1m) | Junkosha | MWX221-01000AMSAMS/A | 6008 | 12 | 06-Jun-2023 |
| Cable (N to N 7m) | Junkosha | MWX221-07000NMSNMS/B | 6016 | 12 | 05-Jun-2023 |
| Cable (N to N 8m) | Junkosha | MWX221-08000NMSNMS/A | 6017 | 12 | 05-Jun-2023 |
| Horn Antenna (1-10 GHz) | Schwarzbeck | BBHA9120B | 6141 | 12 | 21-Jun-2023 |
| SAC Switch Unit | TUV SUD | TUV_SSU_001 | 6144 | 12 | 5-Dec-2023 |
| Digital Multimeter | Fluke | 115 | 6146 | 12 | 16-Jun-2023 |
| Humidity & Temperature meter | R.S Components | 1364 | 6149 | 12 | 17-Jun-2023 |
| Double Ridge Active Horn Antenna (18-40 GHz) | Com-Power | AHA-840 | 6188 | 24 | 02-Jun-2024 |
| 8 GHz Highpass Filter | Wainwright | WHKX 7150 8000 18000 50SS | 6194 | 12 | 15-Jul-2023 |
| Pre Amp 8 - 18 GHz | Wright Technologies | APS06 0061 | 6199 | 12 | 19-Jul-2023 |
| Attenuator 4dB | Pasternack | PE7074-4 | 6202 | 24 | 16-Jul-2024 |
| Cable (SMA to SMA 20cm) | TUV SUD | MH-FH 8-18 | 6215 | 12 | 25-Jul-2023 |

Table 17

TU - Traceability Unscheduled
 O/P Mon - Output Monitored using calibrated equipment



3 Measurement Uncertainty

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

| Test Name | Measurement Uncertainty |
|---|--|
| Radiated Spurious Emissions (Simultaneous Transmission) | 30 MHz to 1 GHz: ± 5.2 dB 1 GHz to 40 GHz: ± 6.3 dB |

Table 18

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.