

|                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                       |                                                            |                                                                                                |                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------------------------------------------|-----------------------------------------|
| <b>Prüfbericht-Nr.:</b><br>Test report no.:                                                                                                                                                                                                                                                                                                                                                      | <b>SE23IRVV-003</b>                                                                                                                                   | <b>Auftrags-Nr.:</b><br>Order no.:                         | <b>0290100214</b>                                                                              | Seite 1 von 64<br>Page 1 of 64          |
| <b>Kunden-Referenz-Nr.:</b><br>Client reference no.:                                                                                                                                                                                                                                                                                                                                             | <b>2458172</b>                                                                                                                                        | <b>Auftragsdatum:</b><br>Order date:                       | <b>2022.09.29</b>                                                                              |                                         |
| <b>Auftraggeber:</b><br>Client:                                                                                                                                                                                                                                                                                                                                                                  | <b>Nomono AS</b>                                                                                                                                      |                                                            |                                                                                                |                                         |
| <b>Prüfgegenstand:</b><br>Test item:                                                                                                                                                                                                                                                                                                                                                             | <b>Central hub of recording device</b>                                                                                                                |                                                            |                                                                                                |                                         |
| <b>Bezeichnung / Typ-Nr.:</b><br>Identification / Type no.:                                                                                                                                                                                                                                                                                                                                      | <b>Space Recorder / IC ID: 29748-REC1</b>                                                                                                             |                                                            |                                                                                                |                                         |
| <b>Auftrags-Inhalt:</b><br>Order content:                                                                                                                                                                                                                                                                                                                                                        | <b>Accredited Testing</b>                                                                                                                             |                                                            |                                                                                                |                                         |
| <b>Prüfgrundlage:</b><br>Test specification:                                                                                                                                                                                                                                                                                                                                                     | <b>RSS-247 issue 2, RSS-GEN Issue 5<br/>ANSI C63.10: 2013</b>                                                                                         |                                                            |                                                                                                |                                         |
| <b>Wareneingangsdatum:</b><br>Date of sample receipt:                                                                                                                                                                                                                                                                                                                                            | <b>2022.11.09</b>                                                                                                                                     |                                                            |                                                                                                |                                         |
| <b>Prüfmuster-Nr.:</b><br>Test sample no.:                                                                                                                                                                                                                                                                                                                                                       | <b>See section 2.3</b>                                                                                                                                |                                                            |                                                                                                |                                         |
| <b>Prüfzeitraum:</b><br>Testing period:                                                                                                                                                                                                                                                                                                                                                          | <b>2023.02.21 - 2023.05.03</b>                                                                                                                        |                                                            |                                                                                                |                                         |
| <b>Ort der Prüfung:</b><br>Place of testing:                                                                                                                                                                                                                                                                                                                                                     | <b>Lund, Sweden</b>                                                                                                                                   |                                                            |                                                                                                |                                         |
| <b>Prüflaboratorium:</b><br>Testing laboratory:                                                                                                                                                                                                                                                                                                                                                  | <b>TÜV Rheinland Sweden</b>                                                                                                                           |                                                            |                                                                                                |                                         |
| <b>Prüfergebnis*:</b><br>Test result*:                                                                                                                                                                                                                                                                                                                                                           | <b>Pass</b>                                                                                                                                           |                                                            |                                                                                                |                                         |
| <b>überprüft von:</b><br>reviewed by:                                                                                                                                                                                                                                                                                                                                                            | <b>X</b>                                                           | <b>genehmigt von:</b><br>authorized by:                    | <b>X</b>  |                                         |
| <b>Datum: 2023.05.17</b><br>Date:                                                                                                                                                                                                                                                                                                                                                                | Signed by: Niall Forrester                                                                                                                            | <b>Datum: 2023.05.17</b><br>Date:                          | Signed by: Hakan Ahlberg                                                                       |                                         |
| <b>Stellung / Position:</b>                                                                                                                                                                                                                                                                                                                                                                      | <b>Senior Technical Expert</b>                                                                                                                        | <b>Stellung / Position:</b>                                | <b>Lab Manager</b>                                                                             |                                         |
| <b>Sonstiges / Other:</b>                                                                                                                                                                                                                                                                                                                                                                        | <b>The device contains multiple radio transmitters. Please see section 2.1 for details and section 3.7 for notes about the configurations tested.</b> |                                                            |                                                                                                |                                         |
| <b>Zustand des Prüfgegenstandes bei Anlieferung:</b><br>Condition of the test item at delivery:                                                                                                                                                                                                                                                                                                  | <b>Prüfmuster vollständig und unbeschädigt</b><br><b>Test item complete and undamaged</b>                                                             |                                                            |                                                                                                |                                         |
| * Legende:                                                                                                                                                                                                                                                                                                                                                                                       | 1 = sehr gut<br>P(ass) = entspricht o.g. Prüfgrundlage(n)                                                                                             | 2 = gut<br>F(ail) = entspricht nicht o.g. Prüfgrundlage(n) | 3 = befriedigend<br>N/A = nicht anwendbar                                                      | 4 = ausreichend<br>N/T = nicht getestet |
| * Legend:                                                                                                                                                                                                                                                                                                                                                                                        | 1 = very good<br>P(ass) = passed a.m. test specification(s)                                                                                           | 2 = good<br>F(ail) = failed a.m. test specification(s)     | 3 = satisfactory<br>N/A = not applicable                                                       | 4 = sufficient<br>N/T = not tested      |
| <b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b><br><b>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts.</b> |                                                                                                                                                       |                                                            |                                                                                                |                                         |

## Revision History

| REVISION                                                       | DATE       | REMARKS                     | AUTHOR          |
|----------------------------------------------------------------|------------|-----------------------------|-----------------|
| 001                                                            | 2023.04.24 | First release               | Niall Forrester |
| 002                                                            | 2023.05.03 | Added 99% Bandwidth results | Niall Forrester |
| 003                                                            | 2023.05.17 | Updated module text         | Niall Forrester |
| Note: Latest revision report will replace all previous reports |            |                             |                 |
| This report based on RSS-247 Template version 1.1              |            |                             |                 |

## Summary of Test Results

| ISED Rule Part                 | Test Description                                    | Applicability | Report Section | RESULT | REMARKS                      |
|--------------------------------|-----------------------------------------------------|---------------|----------------|--------|------------------------------|
| RSS-GEN 8.8                    | AC Power Line Conducted Emissions (Radio Apparatus) | YES           | 4.1            | PASS   |                              |
| RSS-GEN 8.9                    | Radiated Emissions (Radio Apparatus)                | YES           | 4.2            | PASS*  |                              |
| RSS-247 5.5                    | Antenna Conducted Emissions                         | NO            | 4.3            | N/A    | Radiated testing performed   |
| RSS-247 5.5                    | Band Edge Compliance (Authorized Band)              | YES           | 4.4            | PASS   |                              |
| RSS-247 5.5<br>RSS-GEN 8.10    | Band Edge Compliance (Restricted Band)              | YES           | 4.5            | N.P.   | Only "Auth Band" part tested |
| RSS-247 5.1 (a)<br>RSS-GEN 6.7 | 20dB Bandwidth<br>99% Emission Bandwidth            | NO            | 4.6            | N/A    | WLAN is non-hopping          |
| RSS-247 5.1 (b)                | Carrier (Hopping Channel) Separation                | NO            | 4.7            | N/A    | WLAN is non-hopping          |
| RSS-247 5.1 (d)                | Number of Hopping Channels                          | NO            | 4.8            | N/A    | WLAN is non-hopping          |
| RSS-247 5.1 (d)                | Time of Occupancy (Dwell Time)                      | NO            | 4.9            | N/A    | WLAN is non-hopping          |
| RSS-247 5.2 (a)<br>RSS-GEN 6.7 | 6dB Bandwidth<br>99% Emission Bandwidth             | YES           | 4.10           | PASS   |                              |
| RSS-247 5.4                    | Peak Conducted Output Power                         | YES           | 4.11           | PASS   |                              |
| RSS-247 5.2 (b)                | Power Spectral Density                              | YES           | 4.12           | PASS   |                              |
| RSS-GEN 6.11                   | Transmitter Frequency Stability                     | NO            | 4.13           | N/A    | N/A for WLAN                 |
| -                              | Maximum Power & e.r.p. Summary                      | -             | 4.13           | -      | For Information Only         |

Possible test case verdicts:

- |                                                |                       |
|------------------------------------------------|-----------------------|
| - Test case does not apply to the test object: | N/A                   |
| - Test object complies with the requirement:   | PASS or COMPLIANT     |
| - Test object does not meet the requirement:   | FAIL or NOT COMPLIANT |
| - Test case not performed on the test object:  | N.P.                  |

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## 1. GENERAL INFORMATION

### 1.1 Test Site

|                                     |                         |
|-------------------------------------|-------------------------|
| Test Facility:                      | TÜV Rheinland Sweden AB |
| Address:                            | Mobilvägen 10           |
|                                     | 223 62 Lund             |
|                                     | Sweden                  |
|                                     |                         |
| Swedac Registration Number:         | 10325                   |
| FCC Test Firm Registration Number:  | 517458                  |
| ISED Test Site Registration Number: | 24753                   |

### 1.2 Client Information

|                            |                                                                                                     |
|----------------------------|-----------------------------------------------------------------------------------------------------|
| Company Name:              | Nomono AS                                                                                           |
| Address:                   | Strandveien 43                                                                                      |
|                            | 7067 Trondheim                                                                                      |
|                            | Norway                                                                                              |
|                            |                                                                                                     |
| Contact Person:            | Kristine Snyder / Sindre Georgsen                                                                   |
| Contact e-Mail / Telephone | <a href="mailto:compliance@nomono.co">compliance@nomono.co</a><br>+47 40 44 00 40 / +47 93 42 48 42 |

## 2. PRODUCT INFORMATION

### 2.1 General Description

|                                       |                                 |
|---------------------------------------|---------------------------------|
| <b>Model name:</b>                    | Space Recorder                  |
| <b>Manufacturer:</b>                  | Nomono                          |
| <b>Model number / Marketing name:</b> | Space Recorder                  |
| <b>IC ID:</b>                         | IC ID: 29748-REC1               |
| <b>Description:</b>                   | Central hub of recording device |
| <b>Ancillary Equipment:</b>           | See section 0                   |

The device incorporates five separate radio transmitters:

A “Main” module for WLAN 2.4 GHz 802.11 b/g/n, WLAN 5GHz 802.11 a/n/ac and Bluetooth Low Energy. This module uses its own SMT antenna

4 x “Microphone” modules (labelled “Tx0” “Tx3” below) for communicating with a wireless microphone via Bluetooth Low Energy. Each of these modules is connected to its own PCB antenna

### 2.2 Device Characteristics

|                                          |                                                                                                                                        |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Type of Power Supply</b>              | Internal battery<br>Charging via dedicated charging base or<br>Charging via USB C<br>(No dedicated AC/DC adapter supplied with device) |
| <b>Nominal Supply Voltage</b>            | 3.6V DC (Battery)<br>5.0V DC (From charging base)<br>5.0V DC (USB)                                                                     |
| <b>Supply Voltage Range</b>              | 2.75V – 4.2V (Battery)<br>4.9V – 5.1V (From charging base)<br>5.0V – 12.0V DC (USB)                                                    |
| <b>Operating Temperature Range</b>       | 0 to 45 °C                                                                                                                             |
| <b>Operating Air Humidity Range</b>      | -                                                                                                                                      |
| <b>Highest Internal Frequency Source</b> | 5825 MHz                                                                                                                               |

## 2.3 Test Samples

| EUT # | EUT ID         | Description                                                                                          | Used For:                                    |
|-------|----------------|------------------------------------------------------------------------------------------------------|----------------------------------------------|
| 1     | A003418772-001 | Modified with Semi-Rigid<br>Hardware: 830-00002 rev. 4<br>Firmware: nRF radio: v0.8.0<br>CPU: v0.6.1 | Conducted RF                                 |
| 2     | A003420354-001 | Standard Sample<br>Hardware: 830-00002 rev. 4<br>Firmware: nRF radio: v0.8.0<br>CPU: v0.6.1          | Radiated Emissions                           |
| 3     | A003421467-001 | Standard Sample<br>Hardware: 830-00002 rev. 4<br>Firmware: nRF radio: v0.8.0<br>CPU: v0.6.1          | AC Conducted Emissions<br>Radiated Emissions |
| 4     | A003421467-002 | Standard Sample<br>Hardware: 830-00002 rev. 4<br>Firmware: nRF radio: v0.8.0<br>CPU: v0.6.1          | Radiated Emissions                           |

## 2.4 Wireless Technologies and Bands Supported by the EUT

| Technology                            | Band    | Frequency Range (Tx) | Evaluation Performed* |
|---------------------------------------|---------|----------------------|-----------------------|
| WLAN 802.11b/g/n (Main)               | 2.4 GHz | 2412 MHz - 2462 MHz  | YES                   |
| WLAN 802.11a/n/ac (Main)              | 5 GHz   | 5180 MHz – 5825 MHz  | NO                    |
| Bluetooth Low Energy (Main)           | 2.4 GHz | 2402 MHz - 2480 MHz  | NO                    |
| Bluetooth Low Energy (Microphone Tx0) | 2.4 GHz | 2402 MHz - 2480 MHz  | NO                    |
| Bluetooth Low Energy (Microphone Tx1) | 2.4 GHz | 2402 MHz - 2480 MHz  | NO                    |
| Bluetooth Low Energy (Microphone Tx2) | 2.4 GHz | 2402 MHz - 2480 MHz  | NO                    |
| Bluetooth Low Energy (Microphone Tx3) | 2.4 GHz | 2402 MHz - 2480 MHz  | NO                    |

\*This statement refers only to this report. Other wireless technologies may be covered by other reports.

(Note that other parts of the recording system contain additional wireless transmitters have been tested separately)

## 2.5 Antenna Information

| Technology                                                  | Band    | Number of Antennas | Antenna Type(s)  | Gain (dBi) |
|-------------------------------------------------------------|---------|--------------------|------------------|------------|
| WLAN 802.11b/g/n (Main)<br>&<br>Bluetooth Low Energy (Main) | 2.4 GHz | 1                  | SMT Chip Antenna | 4.20       |
| WLAN 802.11a/n/ac (Main)                                    | 5 GHz   | 1                  | SMT Chip Antenna | 4.50       |
| Bluetooth Low Energy (Microphone Tx0)                       | 2.4 GHz | 1                  | PCB Antenna      | 2.05       |
| Bluetooth Low Energy (Microphone Tx1)                       | 2.4 GHz | 1                  | PCB Antenna      | 1.99       |
| Bluetooth Low Energy (Microphone Tx2)                       | 2.4 GHz | 1                  | PCB Antenna      | 2.58       |
| Bluetooth Low Energy (Microphone Tx3)                       | 2.4 GHz | 1                  | PCB Antenna      | 1.16       |

## 2.6 Simultaneous Transmission Capabilities

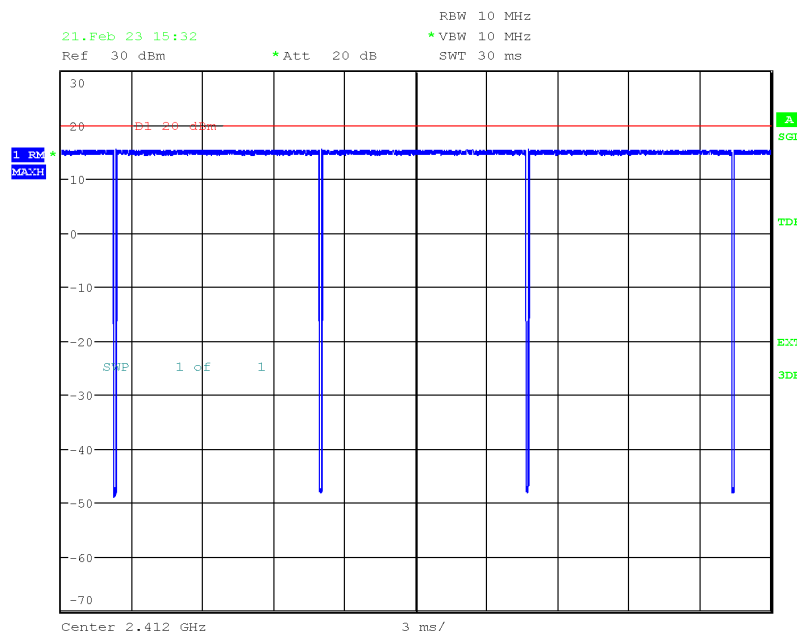
| Active Technologies                                                                                                                                 | Bands                                               | Active Modules                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| WLAN 802.11 b/g/n<br>Bluetooth Low Energy<br>Bluetooth Low Energy<br>Bluetooth Low Energy<br>Bluetooth Low Energy<br>(All active simultaneously)    | 2.4 GHz<br>2.4 GHz<br>2.4 GHz<br>2.4 GHz<br>2.4 GHz | Main<br>Microphone Tx0<br>Microphone Tx1<br>Microphone Tx2<br>Microphone Tx3<br>(All active simultaneously) |
| Bluetooth Low Energy<br>Bluetooth Low Energy<br>Bluetooth Low Energy<br>Bluetooth Low Energy<br>Bluetooth Low Energy<br>(All active simultaneously) | 2.4 GHz<br>2.4 GHz<br>2.4 GHz<br>2.4 GHz<br>2.4 GHz | Main<br>Microphone Tx0<br>Microphone Tx1<br>Microphone Tx2<br>Microphone Tx3<br>(All active simultaneously) |
| WLAN 802.11 a/n/ac<br>Bluetooth Low Energy<br>Bluetooth Low Energy<br>Bluetooth Low Energy<br>Bluetooth Low Energy<br>(All active simultaneously)   | 5 GHz<br>2.4 GHz<br>2.4 GHz<br>2.4 GHz<br>2.4 GHz   | Main<br>Microphone Tx0<br>Microphone Tx1<br>Microphone Tx2<br>Microphone Tx3<br>(All active simultaneously) |

The configurations listed above represent the worst cases. Variations of these configurations where one or more radio transmitters is not active are also possible. The “Microphone” modules operate independent of each other and independent of the “Main” module. The “Main” module is not capable of transmitting WLAN 2.4GHz and WLAN 5GHz simultaneously, neither can it transmit Bluetooth Low Energy and WLAN simultaneously.

## 2.7 Wireless Technology Details

| Technology                            | Band    | Modulation Type(s)              | No. of Channels    | Channel Spacing    | Adaptivity |
|---------------------------------------|---------|---------------------------------|--------------------|--------------------|------------|
| WLAN 802.11b/g/n (Main)               | 2.4 GHz | CCK, BPSK, QPSK, 16-QAM, 64-QAM | As per 802.11 Spec | As per 802.11 Spec | N/A        |
| WLAN 802.11a/n/ac (Main)              | 5 GHz   | CCK, BPSK, QPSK, 16-QAM, 64-QAM | As per 802.11 Spec | As per 802.11 Spec | N/A        |
| Bluetooth Low Energy (Main)           | 2.4 GHz | GFSK                            | 40                 | 2 MHz              | N/A        |
| Bluetooth Low Energy (Microphone Tx0) | 2.4 GHz | GFSK                            | 40                 | 2 MHz              | N/A        |
| Bluetooth Low Energy (Microphone Tx1) | 2.4 GHz | GFSK                            | 40                 | 2 MHz              | N/A        |
| Bluetooth Low Energy (Microphone Tx2) | 2.4 GHz | GFSK                            | 40                 | 2 MHz              | N/A        |
| Bluetooth Low Energy (Microphone Tx3) | 2.4 GHz | GFSK                            | 40                 | 2 MHz              | N/A        |

### 2.7.1 Typical Pulse Train – WLAN 802.11b/g/n: 2.4GHz



Date: 21.FEB.2023 15:32:16

## 2.8 Ancillary Equipment

| ID             | Description | Manufacturer / Model | Hardware & Software Versions |
|----------------|-------------|----------------------|------------------------------|
| A003389898-003 | USB Charger | Samsung<br>EP-T4510  | HW: 13.08.2022<br>FW: N/A    |

## 2.9 Emission Designators

| Technology                               | Band    | Emission Designator |
|------------------------------------------|---------|---------------------|
| WLAN 802.11b/g/n<br>(Main)               | 2.4 GHz | GXW                 |
| WLAN 802.11a/n/ac<br>(Main)              | 5 GHz   | GXW                 |
| Bluetooth Low Energy<br>(Main)           | 2.4 GHz | F1D                 |
| Bluetooth Low Energy<br>(Microphone Tx0) | 2.4 GHz | F1D                 |
| Bluetooth Low Energy<br>(Microphone Tx1) | 2.4 GHz | F1D                 |
| Bluetooth Low Energy<br>(Microphone Tx2) | 2.4 GHz | F1D                 |
| Bluetooth Low Energy<br>(Microphone Tx3) | 2.4 GHz | F1D                 |

## 2.10 EUT Diagrams

-

### 3. TEST METHODS

#### 3.1 Test Standards

Testing was performed according to the following standards / references

| Standard | Version | Description                                                                                    |
|----------|---------|------------------------------------------------------------------------------------------------|
| RSS-247  | Issue 2 | Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSs) and Licence-Exempt Local |
| RSS-GEN  | Issue 5 | General Requirements for Compliance of Radio Apparatus                                         |

#### 3.2 Additional references

The following standards / references were also considered for the testing

| Standard    | Version | Description                                                                                    |
|-------------|---------|------------------------------------------------------------------------------------------------|
| ANSI C63.10 | 2013    | American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices |

### 3.3 Limits

| ISED Rule Part                 | Test Description                                    | Limit Reference (ISED Reference)          |
|--------------------------------|-----------------------------------------------------|-------------------------------------------|
| RSS-GEN 8.8                    | AC Power Line Conducted Emissions (Radio Apparatus) | RSS-GEN 8.8<br>See note 2                 |
| RSS-GEN 8.9                    | Radiated Emissions (Radio Apparatus)                | RSS-GEN 8.9<br>See note 1,2               |
| RSS-247 5.5                    | Antenna Conducted Emissions                         | RSS-247 5.5                               |
| RSS-247 5.5                    | Band Edge Compliance (Authorized Band)              | RSS-247 5.5<br>RSS-GEN 8.10               |
| RSS-247 5.5<br>RSS-GEN 8.10    | Band Edge Compliance (Restricted Band)              | RSS-GEN 8.10<br>See note 2                |
| RSS-247 5.1 (a)<br>RSS-GEN 6.7 | 20dB Bandwidth<br>99% Emission Bandwidth            | RSS-247 5.1<br>RSS-GEN 6.7                |
| RSS-247 5.1 (b)                | Carrier (Hopping Channel) Separation                | RSS-247 5.1 (b)                           |
| RSS-247 5.1 (d)                | Number of Hopping Channels                          | RSS-247 5.1 (d)                           |
| RSS-247 5.1 (d)                | Time of Occupancy (Dwell Time)                      | RSS-247 5.1 (d)                           |
| RSS-247 5.2 (a)<br>RSS-GEN 6.7 | 6dB Bandwidth<br>99% Emission Bandwidth             | RSS-247 5.2<br>RSS-GEN 6.7                |
| RSS-247 5.4                    | Peak Conducted Output Power                         | RSS-247 5.4                               |
| RSS-247 5.2 (b)                | Power Spectral Density                              | RSS-247 5.2 (b)                           |
| RSS-GEN 6.11                   | Transmitter Frequency Stability                     | RSS-GEN 8.11<br>(central 80% requirement) |

Interpretation of the measurement results has been performed in accordance with ANSI C63.10 section 1.3

Compliance with the requirements has been based on the results of the measurements compared to the specified limits, not taking into account measurement instrumentation uncertainty.

Measurement Uncertainty figures are stated in section 6

#### ISED – FCC Requirement Equivalencies

Some graphs in this report may contain references to FCC Limits. The table below lists equivalencies between FCC and ISED requirements

| ISED Reference           | FCC Reference     | Description                                       |
|--------------------------|-------------------|---------------------------------------------------|
| RSS-GEN 8.8<br>Table 4   | 47 CFR 15.207 (a) | AC power-line conducted emissions limits          |
| RSS-GEN 8.9<br>(Table 5) | 47 CFR 15.209 (a) | Transmitter emission limits at frequencies >30MHz |
| RSS-GEN 8.9<br>(Table 6) | 47 CFR 15.209 (a) | Transmitter emission limits at frequencies <30MHz |

#### Note 1

Radiated Emissions limits in the tables from RSS-GEN 8.9 Table 6 are presented in  $\mu\text{A/m}$  but measurements were made in  $\text{dB}\mu\text{V/m}$ . Conversion from  $\mu\text{A/m}$  to  $\mu\text{V/m}$  is done using a free space impedance of  $377\Omega$ , thus:

$$\text{Limit}_{\mu\text{V/m}} = 377 \times \text{Limit}_{\mu\text{A/m}}$$

Example: from RSS-GEN Table 6 the limit for 1.705MHz – 30MHz is  $0.08\mu\text{A/m}$  at 30m

$$\text{Limit}_{\mu\text{V/m}} = 377 \times 0.08 = 30\mu\text{V/m at 30m}$$

#### Note 2

Radiated Emissions limits in the tables from RSS-GEN 8.9 Table 5 are presented in  $\mu\text{V/m}$ . Measurements on the test system are made in  $\text{dB}\mu\text{V/m}$ . To convert between these, the following adjustment is used:

$$\text{New Limit} = 20 \log \left( \frac{\text{Original Limit}}{10^6} \right) + 120$$

Example: from RSS-GEN Table 5 the limit for 30MHz – 88MHz is  $100\mu\text{V/m}$  at 3m. This gives:

$$\text{New Limit} = 20 \log \left( \frac{100}{10^6} \right) + 120 = 40\text{dB}\mu\text{V/m at 3m}$$

In some cases testing has been performed at distances other than those specified in the tables. When this has occurred, the limits have been adjusted in accordance with the requirements in RSS-GEN 6.5 and 6.6, using an extrapolation factor of 40dB/decade at frequencies below 30MHz and 20dB/decade at or above 30MHz

Example: from RSS-GEN Table 5 the limit for 1GHz – 18GHz is  $500\mu\text{V/m}$  (=53.98  $\text{dB}\mu\text{V/m}$ ) at 3m

$$\text{Limit@1m} = \text{Limit@3m} + 20 \log \left( \frac{3}{1} \right) = 53.98 + 9.54 = 63.52 \text{ dB}\mu\text{V/m at 1m}$$

Example: from RSS-GEN Table 6 the limit for 1.705MHz – 30MHz is  $0.08\mu\text{A/m}$  (=29.54  $\text{dB}\mu\text{V/m}$ ) at 30m

$$\text{Limit@3m} = \text{Limit@30m} + 40 \log \left( \frac{30}{3} \right) = 29.54 + 40.00 = 69.54 \text{ dB}\mu\text{V/m at 3m}$$

### 3.4 Description of Test Methods and Equipment Setup

#### 3.4.1 General Description

Testing was performed in accordance with the various requirements of ANSI C63.4 and ANSI C63.10. Any deviations from the test methods are described in section 0

Where different arrangements of equipment were used for different types of measurements, these are tabulated in section 3.4.2 and details of each arrangement are included in subsequent sections

#### 3.4.2 Test Equipment Setup Used by Test Type

| ISED Rule Part                 | Test Description                                       | Test Equipment Used |
|--------------------------------|--------------------------------------------------------|---------------------|
| RSS-GEN 8.8                    | AC Power Line Conducted Emissions<br>(Radio Apparatus) | Conducted Emissions |
| RSS-GEN 8.9                    | Radiated Emissions<br>(Radio Apparatus)                | SAC5                |
| RSS-247 5.5                    | Antenna Conducted Emissions                            | N/A                 |
| RSS-247 5.5                    | Band Edge Compliance<br>(Authorized Band)              | CTE                 |
| RSS-247 5.5<br>RSS-GEN 8.10    | Band Edge Compliance<br>(Restricted Band)              | SAC 5               |
| RSS-247 5.1 (a)<br>RSS-GEN 6.7 | 20dB Bandwidth<br>99% Emission Bandwidth               | N/A                 |
| RSS-247 5.1 (b)                | Carrier (Hopping Channel) Separation                   | N/A                 |
| RSS-247 5.1 (d)                | Number of Hopping Channels                             | N/A                 |
| RSS-247 5.1 (d)                | Time of Occupancy<br>(Dwell Time)                      | N/A                 |
| RSS-247 5.2 (a)<br>RSS-GEN 6.7 | 6dB Bandwidth<br>99% Emission Bandwidth                | CTE                 |
| RSS-247 5.4                    | Peak Conducted Output Power                            | CTE                 |
| RSS-247 5.2 (b)                | Power Spectral Density                                 | CTE                 |
| RSS-GEN 6.11                   | Transmitter Frequency Stability                        | CTE                 |

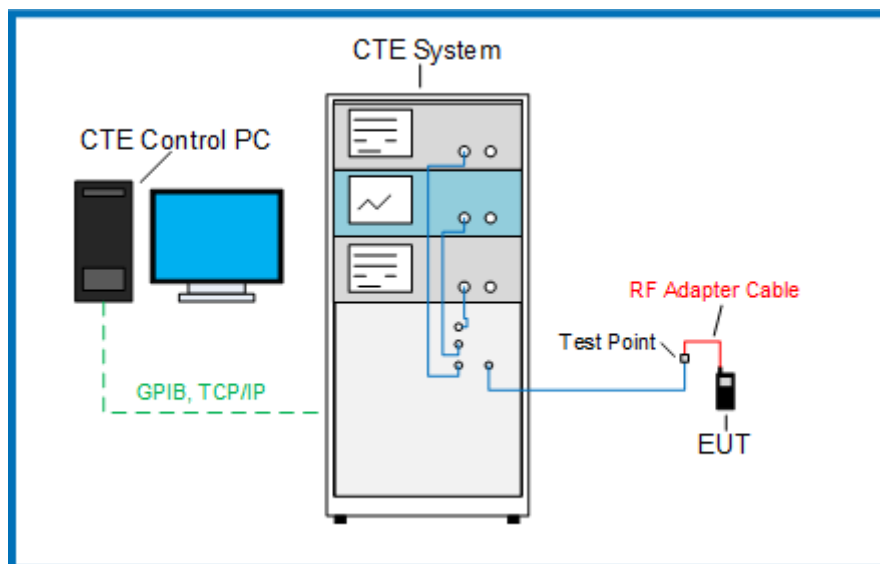
### 3.4.3 Test Equipment Setup – CTE System

The Comprehensive Test Environment (CTE) system consists of a number of instruments (see section 5.1.1) mounted in a rack together with automated relays and interconnecting hardware. The instruments and other equipment are controlled from a standard PC running software provided by the manufacturer. The RF output of the EUT is connected to the test system via a coaxial cable.

Tests are in the form of pre-defined scripts that can be loaded on the PC. The scripts, as well as the hardware setup, have been verified for conformance with the relevant test specifications.

Losses in the cables and interconnects have been measured using the system's own automated routines and are compensated for automatically. Any additional loss in RF adapter cables supplied together with the EUT can be compensated for using the known characteristics of that adapter.

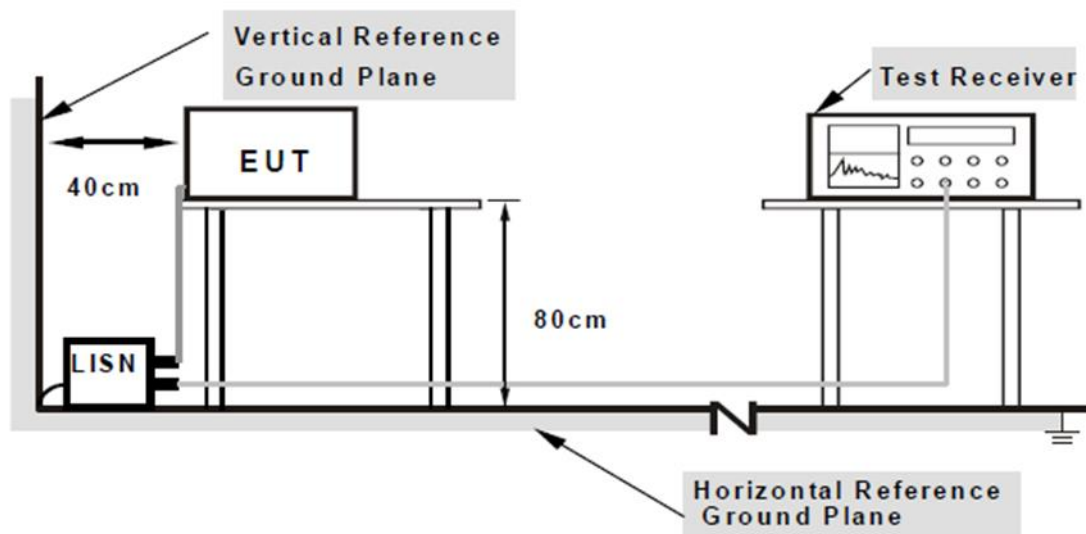
**CTE Block Diagram**



For frequency stability tests, the EUT is connected directly to the Network Emulator or Spectrum Analyser, and frequency measurements made directly on that instrument.

#### 3.4.4 Test Equipment Setup – Conducted Emissions

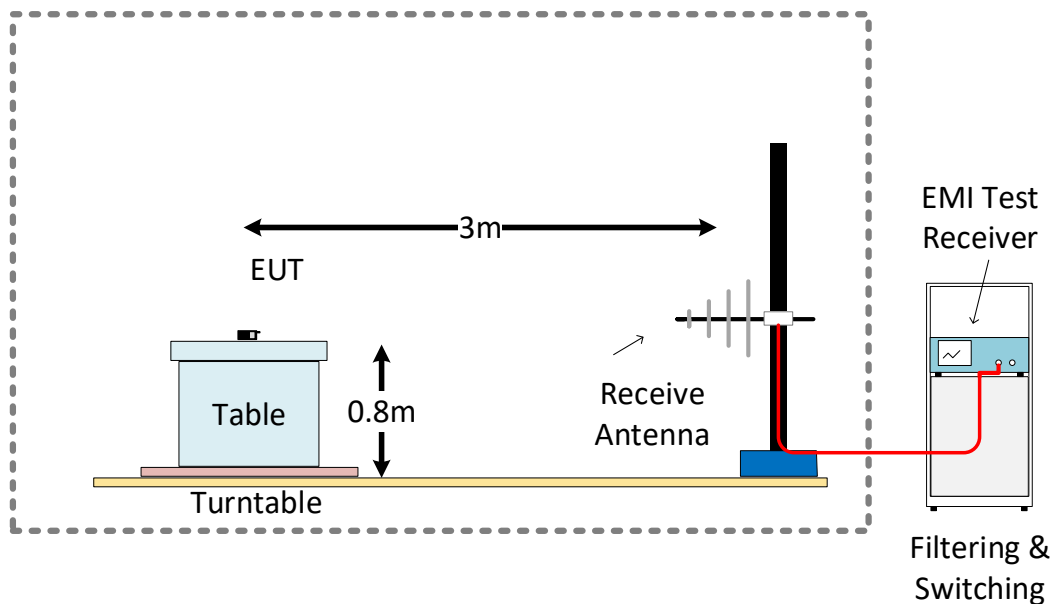
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The LISNs provide 50Ω/ 50μH of coupling impedance for the measuring instrument.
- The lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10 dB under the prescribed limits could not be reported.



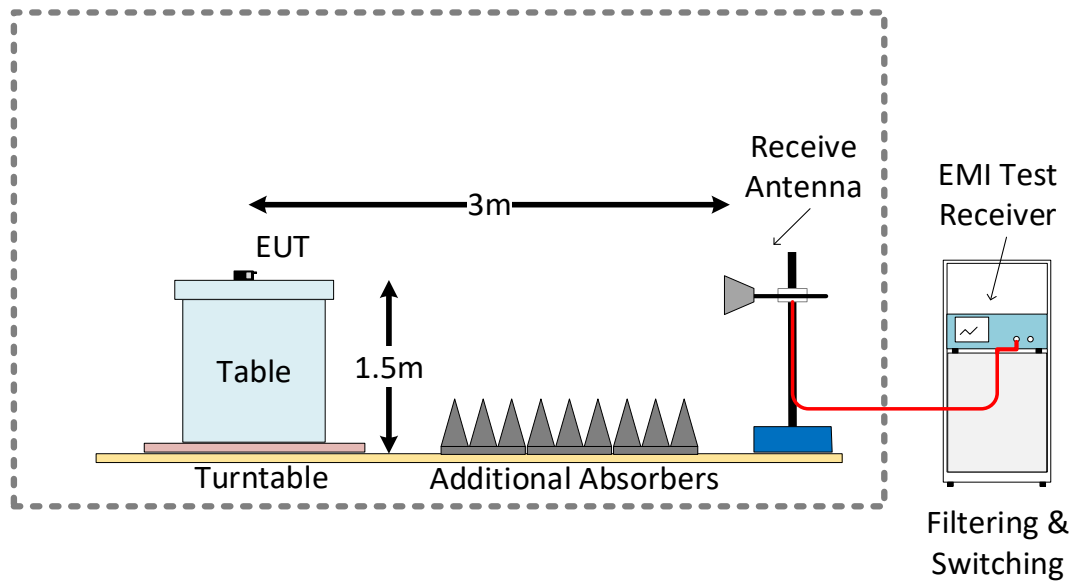
### 3.4.5 Test Equipment Setup – SAC 5 (Radiated Emissions and Restricted Band Edge)

- For frequency range 30MHz-1GHz Log-Periodic Antenna was used. Antenna elevated from 100 cm from floor to 400 cm from floor, and was placed at 3 m from center of turntable in tilted position. The equipment under test (EUT) was placed at the middle of the turntable at 80 cm height from floor. The antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained.
- For frequency range 1GHz-18GHz horn Antenna was used. Antenna elevated from 100 cm from floor to 200 cm from floor, and was placed at 3 m from center of turntable. The equipment under test (EUT) was placed at the middle of the turntable at 150 cm height from floor. The antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained.
- For frequency range 18GHz-40GHz double horn Antenna was used. Antenna's height was adjusted to 150 cm from floor, and 1 m distance to center of turntable. The equipment under test (EUT) was placed at the middle of the turntable on at 150 cm height from floor.
- For all frequency ranges the turntable was rotated 360° for obtaining the maximum emission.

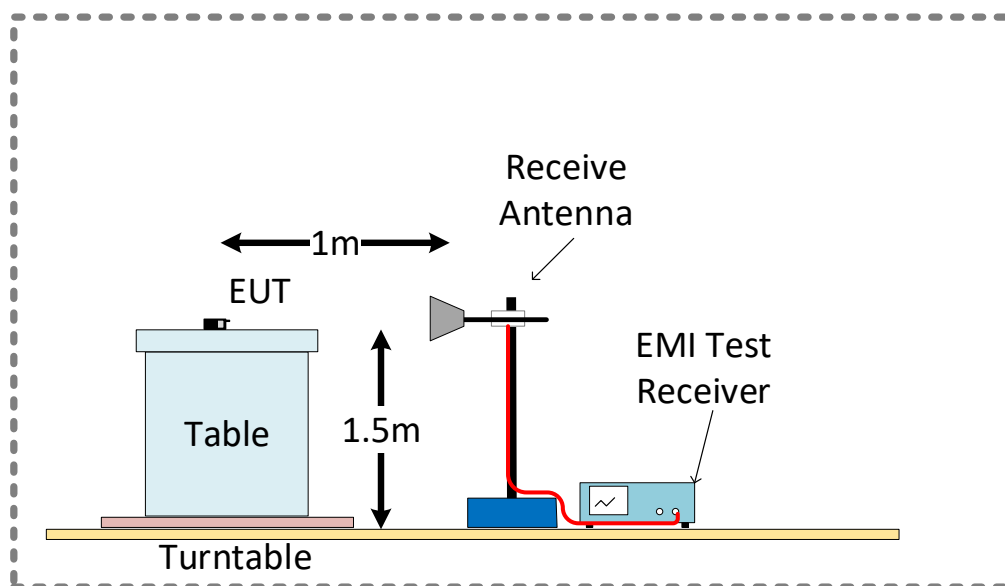
**SAC 5 Test Setup Configuration 30MHz – 1GHz**



### SAC 5 Test Setup Configuration 1GHz – 18GHz

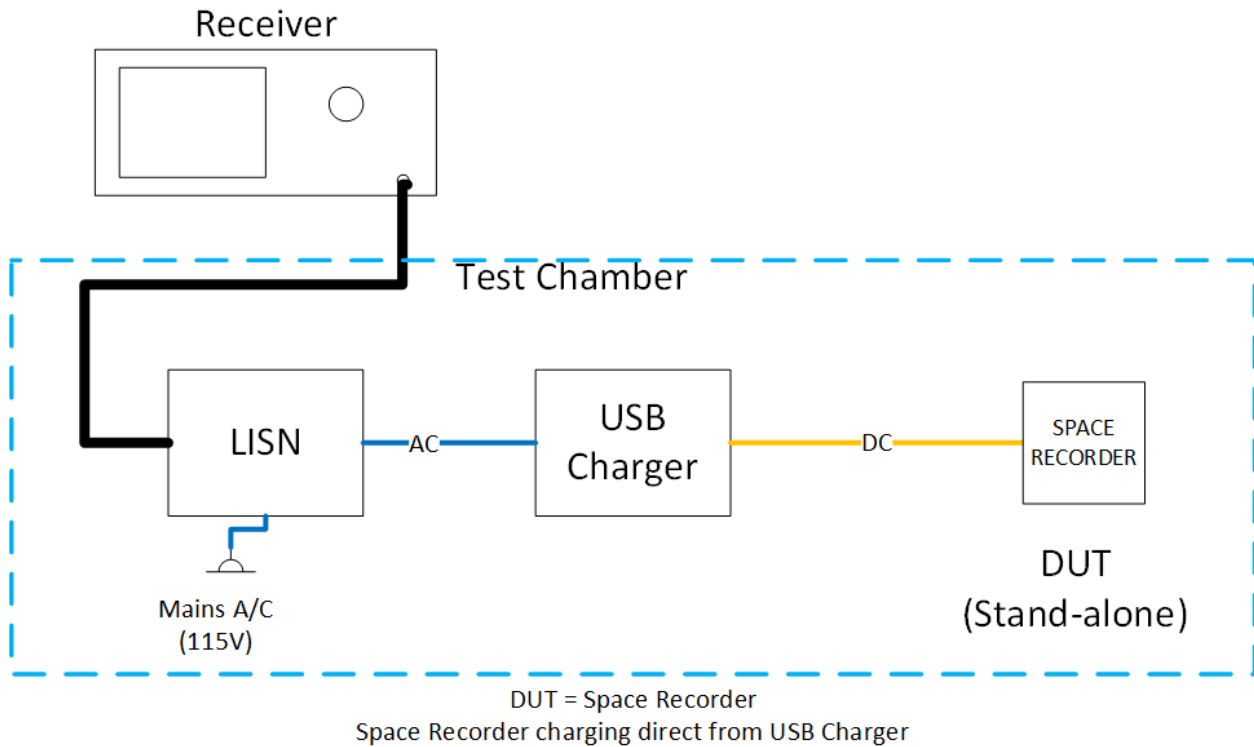


### SAC 5 Test Setup Configuration 18GHz – 40GHz



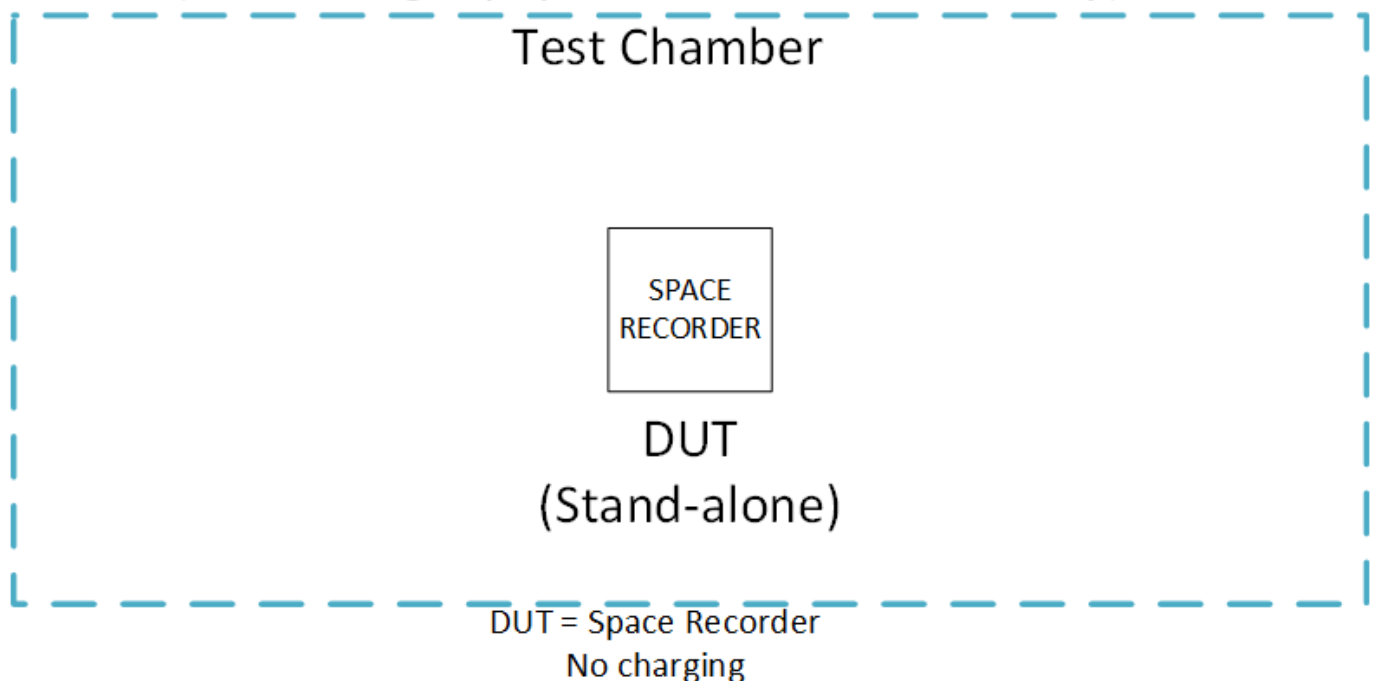
### 3.5 EUT Configuration During Test

#### AC Conducted Emissions Testing: Block Diagram (Stand-alone with charging)



#### Radiated Emissions & Radiated RF Testing: Block Diagram (Stand-alone, no charging)

(Measuring equipment omitted for clarity)



### 3.6 EUT Operation Modes

| Operation mode     | Description                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rec – Charge - CTX | Space Recorder only in “stand-alone” configuration.<br>Device charging via USB (not in charging base)<br>Radio transmitter(s) in ‘continuous transmit’ mode – channel frequency and modulation can be set manually.<br>Details about which transmitters, channels etc. listed under “Wireless Configuration”                                                                          |
| Rec – No Chg - CTX | Space Recorder only in “stand-alone” configuration.<br>Device not charging (neither base nor USB) – battery power only<br>Radio transmitter(s) in ‘continuous transmit’ mode – channel frequency and modulation can be set manually.<br>Details about which transmitters, channels etc. listed under “Wireless Configuration”                                                         |
| Rec – Cond - CTX   | Space Recorder only in “stand-alone” configuration.<br>Antenna replaced by semi-rigid cable for conducted measurements<br>Device not charging – DC power from lab power supply<br>Radio transmitter(s) in ‘continuous transmit’ mode – channel frequency and modulation can be set manually.<br>Details about which transmitters, channels etc. listed under “Wireless Configuration” |

### 3.7 Deviations from the Test Standard

- As defined in RSS-GEN 6.10, a peak detector has been used in place of the quasi-peak detector for measurements between 9kHz and 30MHz in order to reduce test time
- Note about the “Main” module

The “Main” module supports WLAN 2.4GHz, WLAN 2.5 GHz and Bluetooth Low Energy.

Conducted radio tests for WLAN 2.4 GHz have been run for multiple channels, modes and data rates where appropriate. For radiated tests, the configurations with the highest power levels have been selected for radiated testing. The following approach has been applied:

- For spurious emissions 9 kHz – 30 MHz: only a single channel for a single mode and data rate has been tested
- For spurious emissions 30 MHz – 1 GHz: low, mid and high channels for the worst case mode / data rate have been tested
- For spurious emissions 1 GHz – 40 GHz: low, mid and high channels for the worst case mode / data rate have been tested and additionally the worst case channel has been tested for two further mode/data rate combinations covering different modulation types
- Band edge testing is only performed as a conducted radio test in “Authorized Band” section.
- AC Power Line emissions has been tested with one combination of WLAN 2.4GHz channel / mode / data rate.
- Results for additional testing with multiple radio transmitters operating simultaneously is available in a separate report.

### 3.8 Environmental Conditions

#### 3.8.1 Environmental Conditions – CTE System

| Date       | Time  | Temperature (°C) | Relative Humidity (%) |
|------------|-------|------------------|-----------------------|
| 2023.02.21 | 09:20 | 20.6             | 32                    |
| 2023.02.22 | 15:30 | 19.8             | 28                    |
| 2023.02.23 | 07:18 | 19.4             | 29                    |
| 2023.02.24 | 10:48 | 20.2             | 29                    |
| 2023.02.28 | 10:57 | 20.2             | 31                    |
| 2023.03.07 | 09:50 | 20.4             | 27                    |
| 2023.03.08 | 08:08 | 19.8             | 21                    |
| 2023.05.03 | 13:34 | 21.5             | 28                    |

#### 3.8.2 Environmental Conditions – Conducted Emissions System

| Date       | Time  | Temperature (°C) | Relative Humidity (%) |
|------------|-------|------------------|-----------------------|
| 2023.03.02 | 09:57 | 22.5             | 23                    |

#### 3.8.3 Environmental Conditions – SAC5 (Radiated Emissions)

| Date       | Time  | Temperature (°C) | Relative Humidity (%) |
|------------|-------|------------------|-----------------------|
| 2023.02.23 | 08:00 | 18.1             | 32                    |
| 2023.02.24 | 11:10 | 18.5             | 34                    |
| 2023.02.27 | 09:15 | 18.4             | 30                    |
| 2023.02.28 | 07:35 | 18.7             | 32                    |
| 2023.03.01 | 07:17 | 18.7             | 33                    |
| 2023.03.02 | 07:50 | 18.9             | 32                    |

## 4. TEST RESULTS

### 4.1 Test Results – AC Power Line Conducted Emissions (Intentional Transmitter)

#### 4.1.1 AC Power Line Conducted Emissions (Intentional) – Test Summary

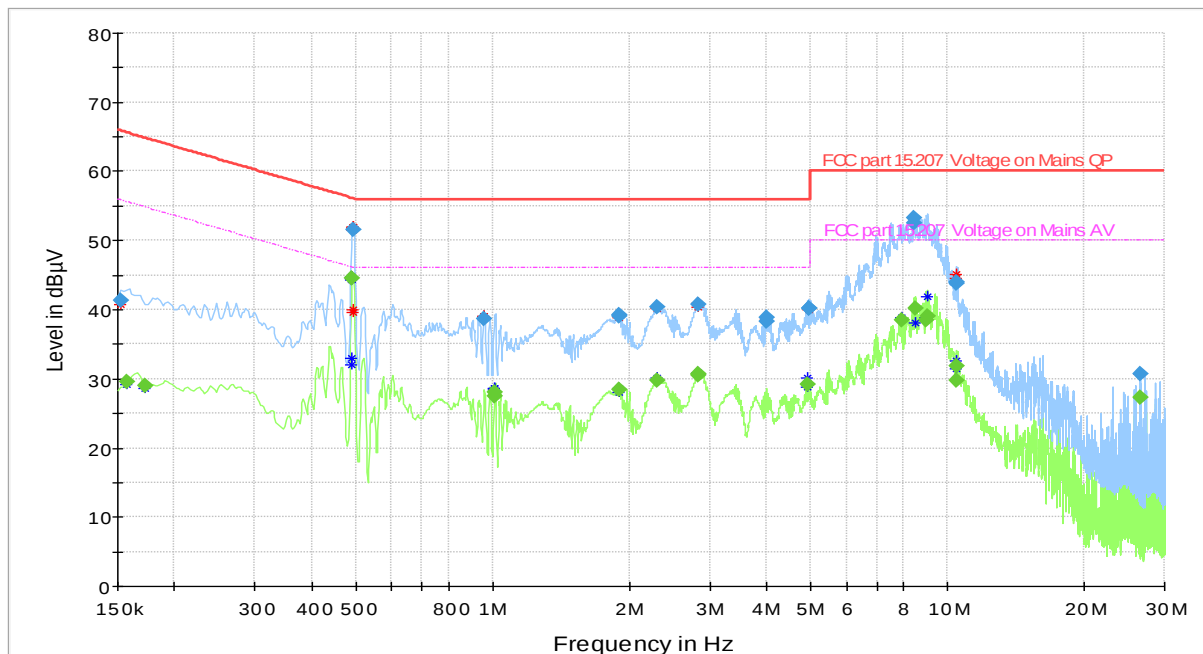
|                                 |                                          |                |  |
|---------------------------------|------------------------------------------|----------------|--|
| Test Specification              | RSS-GEN 8.8                              |                |  |
| Test Engineer & Date            | Niall Forrester                          | 2023.03.02     |  |
| EUT and Ancillary Equipment IDs | A003421467-001                           | A003389898-003 |  |
| EUT Operation Mode(s)           | Rec – Charge - CTX                       |                |  |
| EUT Wireless Configuration(s)   | WLAN 802.11b 2.4 GHz (see details below) |                |  |
| EUT Hardware Configuration(s)   | Stand-alone (Space Recorder)             |                |  |
| Overall Result                  | PASS                                     |                |  |

| Test Parameter                                                        | Wireless Configuration                         | Frequency Range | Result* |
|-----------------------------------------------------------------------|------------------------------------------------|-----------------|---------|
| AC Conducted Power Line Emissions – “N” Line 115V / 60Hz Stand-alone  | WLAN 802.11b 20MHz 11Mbps CH 6 (QPSK 2437 MHz) | 150kHz – 30MHz  | PASS    |
| AC Conducted Power Line Emissions – “L1” Line 115V / 60Hz Stand-alone | WLAN 802.11b 20MHz 11Mbps CH 6 (QPSK 2437 MHz) | 150kHz – 30MHz  | PASS    |

\* For detailed measurements, see tables and graphs in sections below

#### 4.1.2 AC Power Line Conducted Emissions (Intentional) – Test Details: Stand-alone

|                     |                     |                  |
|---------------------|---------------------|------------------|
| Test mode condition | Conducted Emissions |                  |
| Sweep frequency     | 150 kHz – 30 MHz    |                  |
| Standard            | FCC 47 Part 15.207  |                  |
| EUT                 | A003421467-001      |                  |
| Ancillary Equipment | A003389898-003      |                  |
| Test Engineer       | Niall Forrester     | Date: 2023.03.02 |



| Frequency<br>(MHz) | QuasiPeak<br>(dBµV) | CAverage<br>(dBµV) | Limit<br>(dBµV) | Margin<br>(dB) | Meas. Time<br>(ms) | Bandwidth<br>(kHz) | Line | Filter | Corr.<br>(dB) |
|--------------------|---------------------|--------------------|-----------------|----------------|--------------------|--------------------|------|--------|---------------|
| 0.152250           | 41.25               | ---                | 65.88           | 24.62          | 1000.0             | 9.000              | L1   | ON     | 9.7           |
| 0.156750           | ---                 | 29.66              | 55.63           | 25.97          | 1000.0             | 9.000              | L1   | ON     | 9.7           |
| 0.172500           | ---                 | 28.92              | 54.84           | 25.92          | 1000.0             | 9.000              | L1   | ON     | 9.7           |
| 0.492000           | ---                 | 44.47              | 46.13           | 1.67           | 1000.0             | 9.000              | L1   | ON     | 9.6           |
| 0.494250           | 51.50               | ---                | 56.10           | 4.59           | 1000.0             | 9.000              | L1   | ON     | 9.6           |
| 0.960000           | 38.62               | ---                | 56.00           | 17.38          | 1000.0             | 9.000              | L1   | ON     | 9.7           |
| 1.009500           | ---                 | 28.00              | 46.00           | 18.00          | 1000.0             | 9.000              | L1   | ON     | 9.7           |
| 1.011750           | ---                 | 27.53              | 46.00           | 18.47          | 1000.0             | 9.000              | L1   | ON     | 9.7           |
| 1.893750           | 39.18               | ---                | 56.00           | 16.82          | 1000.0             | 9.000              | L1   | ON     | 9.7           |
| 1.893750           | ---                 | 28.41              | 46.00           | 17.59          | 1000.0             | 9.000              | L1   | ON     | 9.7           |
| 1.896000           | 39.05               | ---                | 56.00           | 16.95          | 1000.0             | 9.000              | L1   | ON     | 9.7           |
| 2.298750           | 40.43               | ---                | 56.00           | 15.57          | 1000.0             | 9.000              | L1   | ON     | 9.7           |
| 2.301000           | ---                 | 29.82              | 46.00           | 16.18          | 1000.0             | 9.000              | L1   | ON     | 9.7           |
| 2.838750           | 40.77               | ---                | 56.00           | 15.23          | 1000.0             | 9.000              | L1   | ON     | 9.8           |
| 2.838750           | ---                 | 30.53              | 46.00           | 15.47          | 1000.0             | 9.000              | L1   | ON     | 9.8           |
| 2.841000           | ---                 | 30.72              | 46.00           | 15.28          | 1000.0             | 9.000              | L1   | ON     | 9.8           |
| 3.986250           | 38.88               | ---                | 56.00           | 17.12          | 1000.0             | 9.000              | L1   | ON     | 9.8           |
| 3.988500           | 38.32               | ---                | 56.00           | 17.68          | 1000.0             | 9.000              | L1   | ON     | 9.8           |
| 4.920000           | ---                 | 29.29              | 46.00           | 16.71          | 1000.0             | 9.000              | L1   | ON     | 9.8           |
| 4.960500           | 40.10               | ---                | 56.00           | 15.90          | 1000.0             | 9.000              | L1   | ON     | 9.8           |
| 4.980750           | 40.12               | ---                | 56.00           | 15.88          | 1000.0             | 9.000              | L1   | ON     | 9.8           |
| 7.917000           | ---                 | 38.48              | 50.00           | 11.52          | 1000.0             | 9.000              | L1   | ON     | 9.8           |
| 8.430000           | 53.21               | ---                | 60.00           | 6.79           | 1000.0             | 9.000              | N    | ON     | 9.8           |
| 8.441250           | 52.45               | ---                | 60.00           | 7.55           | 1000.0             | 9.000              | N    | ON     | 9.8           |
| 8.481750           | ---                 | 40.22              | 50.00           | 9.78           | 1000.0             | 9.000              | N    | ON     | 9.8           |
| 8.999250           | ---                 | 38.53              | 50.00           | 11.47          | 1000.0             | 9.000              | N    | ON     | 9.9           |
| 9.024000           | ---                 | 38.96              | 50.00           | 11.04          | 1000.0             | 9.000              | L1   | ON     | 9.9           |
| 10.477500          | ---                 | 29.85              | 50.00           | 20.15          | 1000.0             | 9.000              | N    | ON     | 9.9           |
| 10.479750          | ---                 | 31.89              | 50.00           | 18.11          | 1000.0             | 9.000              | N    | ON     | 9.9           |
| 10.486500          | 43.72               | ---                | 60.00           | 16.28          | 1000.0             | 9.000              | L1   | ON     | 9.9           |
| 10.488750          | 43.95               | ---                | 60.00           | 16.05          | 1000.0             | 9.000              | L1   | ON     | 9.9           |
| 26.610000          | ---                 | 27.25              | 50.00           | 22.75          | 1000.0             | 9.000              | N    | ON     | 10.1          |
| 26.610000          | 30.67               | ---                | 60.00           | 29.33          | 1000.0             | 9.000              | N    | ON     | 10.1          |

## 4.2 Test Results – Radiated Emissions (Intentional Transmitter)

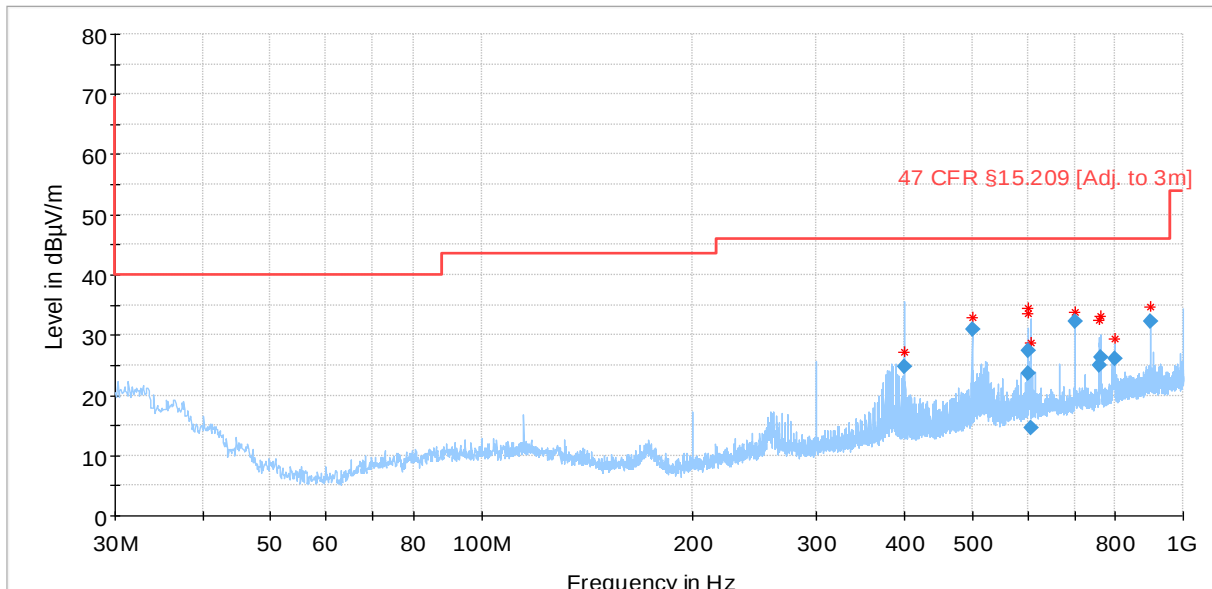
### 4.2.1 Radiated Emissions (Intentional) – Test Summary

|                                 |                                                     |                                                    |                         |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------|-------------------------|
| Test Specification              |                                                     | RSS-GEN 8.9                                        |                         |
| Test Engineer & Date            |                                                     | Niall Forrester<br>Sam Ebadeh                      | 2023.02.23 – 2023.03.02 |
| EUT and Ancillary Equipment IDs |                                                     | A003420354-001<br>A003421467-001<br>A003421467-002 | N/A                     |
| EUT Operation Mode(s)           |                                                     | Rec – No Chg - CTX                                 |                         |
| EUT Wireless Configuration(s)   |                                                     | WLAN 802.11b 2.4 GHz (see details below)           |                         |
| EUT Hardware Configuration(s)   |                                                     | Stand-alone (Space Recorder)                       |                         |
| Overall Result                  |                                                     | PASS                                               |                         |
| Test Parameter                  | Wireless Configuration                              | Frequency Range                                    | Result                  |
| Radiated Emissions              | WLAN 802.11b 20MHz 11Mbps<br>CH 1 (QPSK 2412 MHz)   | 30 MHz – 1 GHz                                     | PASS                    |
| Radiated Emissions              | WLAN 802.11b 20MHz 11Mbps<br>CH 1 (QPSK 2412 MHz)   | 1 GHz – 18 GHz                                     | PASS                    |
| Radiated Emissions              | WLAN 802.11b 20MHz 11Mbps<br>CH 1 (QPSK 2412 MHz)   | 18 GHz – 40 GHz                                    | PASS                    |
| Radiated Emissions              | WLAN 802.11b 20MHz 11Mbps<br>CH 6 (QPSK 2437 MHz)   | 9 kHz – 30 MHz                                     | PASS                    |
| Radiated Emissions              | WLAN 802.11b 20MHz 11Mbps<br>CH 6 (QPSK 2437 MHz)   | 30 MHz – 1 GHz                                     | PASS                    |
| Radiated Emissions              | WLAN 802.11b 20MHz 11Mbps<br>CH 6 (QPSK 2437 MHz)   | 1 GHz – 18 GHz                                     | PASS                    |
| Radiated Emissions              | WLAN 802.11g 20MHz 24Mbps<br>CH 6 (16-QAM 2437 MHz) | 1 GHz – 18 GHz                                     | PASS                    |
| Radiated Emissions              | WLAN 802.11n 20MHz MCS3<br>CH 6 (16-QAM 2437 MHz)   | 1 GHz – 18 GHz                                     | PASS                    |
| Radiated Emissions              | WLAN 802.11b 20MHz 11Mbps<br>CH 6 (QPSK 2437 MHz)   | 18 GHz – 40 GHz                                    | PASS                    |
| Radiated Emissions              | WLAN 802.11g 20MHz 24Mbps<br>CH 6 (16-QAM 2437 MHz) | 18 GHz – 40 GHz                                    | PASS                    |
| Radiated Emissions              | WLAN 802.11n 20MHz MCS3<br>CH 6 (16-QAM 2437 MHz)   | 18 GHz – 40 GHz                                    | PASS                    |
| Radiated Emissions              | WLAN 802.11b 20MHz 11Mbps<br>CH 11 (QPSK 2462 MHz)  | 30 MHz – 1 GHz                                     | PASS                    |
| Radiated Emissions              | WLAN 802.11b 20MHz 11Mbps<br>CH 11 (QPSK 2462 MHz)  | 1 GHz – 18 GHz                                     | PASS                    |
| Radiated Emissions              | WLAN 802.11b 20MHz 11Mbps<br>CH 11 (QPSK 2462 MHz)  | 18 GHz – 40 GHz                                    | PASS                    |

#### 4.2.2 Radiated Emissions (Intentional) – Test Details

Low Channel – 802.11b 20MHz 11Mbps: 30 MHz – 1 GHz

|                     |                               |                  |
|---------------------|-------------------------------|------------------|
| Test mode condition | WLAN 802.11b 20MHz 11Mbps CH1 |                  |
| Antenna orientation | Horizontal & vertical         |                  |
| Sweep frequency     | 30 MHz – 1 GHz                |                  |
| Standard            | 47 CFR FCC Part 15 subpart C  |                  |
| EUT                 | A003421467-001                |                  |
| Ancillary Equipment | N/A                           |                  |
| Test Engineer       | Sam Ebadeh                    | Date: 2023.02.27 |
| Chamber details     | Chamber: SAC 5                |                  |

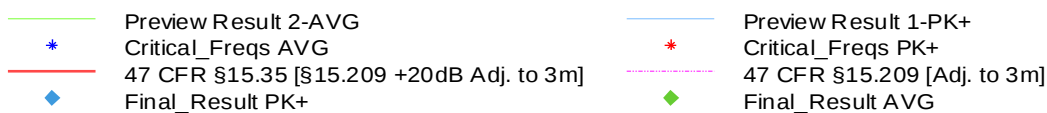
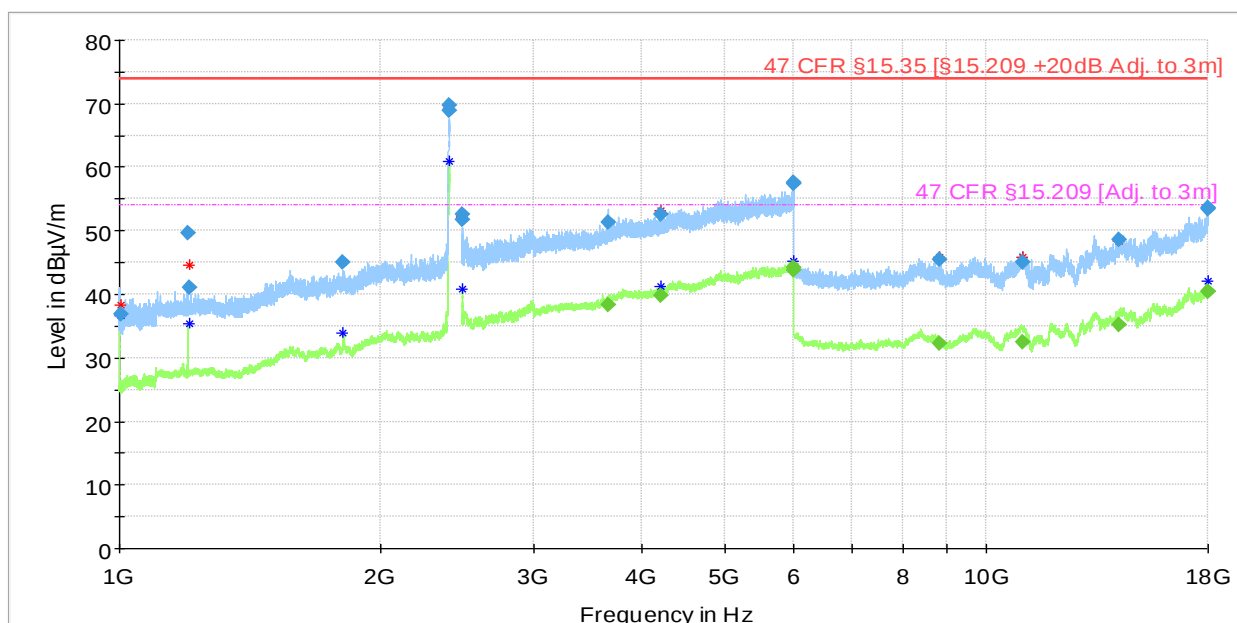


|                             |                        |
|-----------------------------|------------------------|
| Preview Result 2-AVG        | Preview Result 1-PK+   |
| * Critical_Freqs AVG        | * Critical_Freqs PK+   |
| 47 CFR §15.209 [Adj. to 3m] | ◆ Final_Result QPK     |
| ◆ Final_Result AVG          | × MaxPeak-PK+ (Single) |
| + QuasiPeak-QPK (Single)    | × Average-AVG (Single) |

| Frequency (MHz) | QuasiPeak (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|--------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 400.008040      | 24.75              | 46.02          | 21.27       | 1000.0          | 120.000         | 104.0       | H   | 112.0         |
| 500.000520      | 30.86              | 46.02          | 15.16       | 1000.0          | 120.000         | 125.0       | V   | 89.0          |
| 599.965280      | 23.65              | 46.02          | 22.37       | 1000.0          | 120.000         | 100.0       | V   | 289.0         |
| 599.968880      | 27.32              | 46.02          | 18.70       | 1000.0          | 120.000         | 100.0       | V   | 292.0         |
| 607.847640      | 14.69              | 46.02          | 31.33       | 1000.0          | 120.000         | 104.0       | V   | 292.0         |
| 700.003720      | 32.31              | 46.02          | 13.71       | 1000.0          | 120.000         | 208.0       | V   | 292.0         |
| 758.986000      | 24.88              | 46.02          | 21.14       | 1000.0          | 120.000         | 175.0       | V   | 252.0         |
| 763.067200      | 26.37              | 46.02          | 19.65       | 1000.0          | 120.000         | 175.0       | V   | 280.0         |
| 800.013360      | 26.13              | 46.02          | 19.89       | 1000.0          | 120.000         | 129.0       | V   | -22.0         |
| 900.005120      | 32.26              | 46.02          | 13.76       | 1000.0          | 120.000         | 129.0       | V   | -22.0         |

Low Channel – 802.11b 20MHz 11Mbps: 1 GHz – 18 GHz

|                     |                               |                  |
|---------------------|-------------------------------|------------------|
| Test mode condition | WLAN 802.11b 20MHz 11Mbps CH1 |                  |
| Antenna orientation | Horizontal & vertical         |                  |
| Sweep frequency     | 1 GHz – 18 GHz                |                  |
| Standard            | 47 CFR FCC Part 15 subpart C  |                  |
| EUT                 | A003421467-002                |                  |
| Ancillary Equipment | N/A                           |                  |
| Test Engineer       | Niall Forrester               | Date: 2023.02.24 |
| Chamber details     | Chamber: SAC 5                |                  |

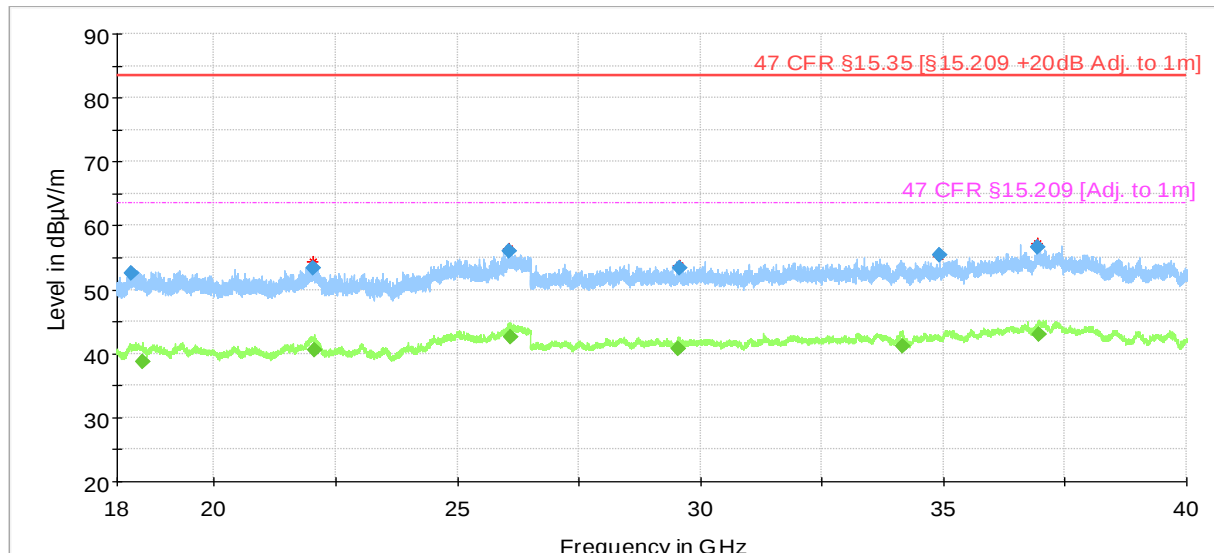


**NOTE: peak at 2400MHz is an artefact of the measuring equipment and not due to the DUT**  
**See Band Edge tests for more detailed results at this frequency**

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 1002.357179     | 36.87            | ---              | 73.98          | 37.11       | 1000.0          | 1000.000        | 199.0       | H   | -22.0         |
| 1200.125000     | 49.62            | ---              | 73.98          | 24.36       | 1000.0          | 1000.000        | 125.0       | V   | -22.0         |
| 1203.785000     | 41.10            | ---              | 73.98          | 32.88       | 1000.0          | 1000.000        | 100.0       | V   | 296.0         |
| 1810.109000     | 45.04            | ---              | 73.98          | 28.94       | 1000.0          | 1000.000        | 100.0       | H   | 296.0         |
| 2397.167494     | 68.93            | ---              | 73.98          | 5.05        | 1000.0          | 1000.000        | 159.0       | H   | 26.0          |
| 2397.870520     | 69.81            | ---              | 73.98          | 4.17        | 1000.0          | 1000.000        | 160.0       | H   | 42.0          |
| 2483.595000     | 52.58            | ---              | 73.98          | 21.40       | 1000.0          | 1000.000        | 206.0       | H   | 202.0         |
| 2483.683209     | 51.79            | ---              | 73.98          | 22.19       | 1000.0          | 1000.000        | 159.0       | V   | 26.0          |
| 3662.559000     | ---              | 38.34            | 53.98          | 15.64       | 1000.0          | 1000.000        | 102.0       | H   | -2.0          |
| 3662.559000     | 51.32            | ---              | 73.98          | 22.66       | 1000.0          | 1000.000        | 102.0       | H   | -2.0          |
| 4214.757000     | ---              | 39.76            | 53.98          | 14.22       | 1000.0          | 1000.000        | 125.0       | V   | 68.0          |
| 4214.757000     | 52.52            | ---              | 73.98          | 21.46       | 1000.0          | 1000.000        | 125.0       | V   | 68.0          |
| 5979.305000     | 57.58            | ---              | 73.98          | 16.40       | 1000.0          | 1000.000        | 100.0       | V   | 158.0         |
| 5979.305000     | ---              | 44.18            | 53.98          | 9.80        | 1000.0          | 1000.000        | 100.0       | V   | 158.0         |
| 5999.561920     | 57.41            | ---              | 73.98          | 16.57       | 1000.0          | 1000.000        | 170.0       | V   | 100.0         |
| 5999.561920     | ---              | 43.73            | 53.98          | 10.25       | 1000.0          | 1000.000        | 170.0       | V   | 100.0         |
| 8821.946000     | 45.41            | ---              | 73.98          | 28.57       | 1000.0          | 1000.000        | 120.0       | V   | 162.0         |
| 8821.946000     | ---              | 32.24            | 53.98          | 21.74       | 1000.0          | 1000.000        | 120.0       | V   | 162.0         |
| 11000.062000    | ---              | 32.50            | 53.98          | 21.48       | 1000.0          | 1000.000        | 175.0       | V   | 338.0         |
| 11000.062000    | 45.08            | ---              | 73.98          | 28.90       | 1000.0          | 1000.000        | 175.0       | V   | 338.0         |
| 14232.847000    | ---              | 35.23            | 53.98          | 18.75       | 1000.0          | 1000.000        | 159.0       | H   | 22.0          |
| 14232.847000    | 48.52            | ---              | 73.98          | 25.46       | 1000.0          | 1000.000        | 159.0       | H   | 22.0          |
| 17979.793000    | ---              | 40.40            | 53.98          | 13.58       | 1000.0          | 1000.000        | 210.0       | H   | 158.0         |
| 17979.793000    | 53.33            | ---              | 73.98          | 20.65       | 1000.0          | 1000.000        | 210.0       | H   | 158.0         |
| 17980.592000    | ---              | 40.32            | 53.98          | 13.66       | 1000.0          | 1000.000        | 135.0       | H   | 233.0         |
| 17980.592000    | 53.60            | ---              | 73.98          | 20.38       | 1000.0          | 1000.000        | 135.0       | H   | 233.0         |

Low Channel – 802.11b 20MHz 11Mbps: 18 GHz – 40 GHz

|                     |                               |                  |
|---------------------|-------------------------------|------------------|
| Test mode condition | WLAN 802.11b 20MHz 11Mbps CH1 |                  |
| Antenna orientation | Horizontal & vertical         |                  |
| Sweep frequency     | 18 GHz – 40 GHz               |                  |
| Standard            | 47 CFR FCC Part 15 subpart C  |                  |
| EUT                 | A003420354-001                |                  |
| Ancillary Equipment | N/A                           |                  |
| Test Engineer       | Niall Forrester               | Date: 2023.02.23 |
| Chamber details     | Chamber: SAC 5                |                  |

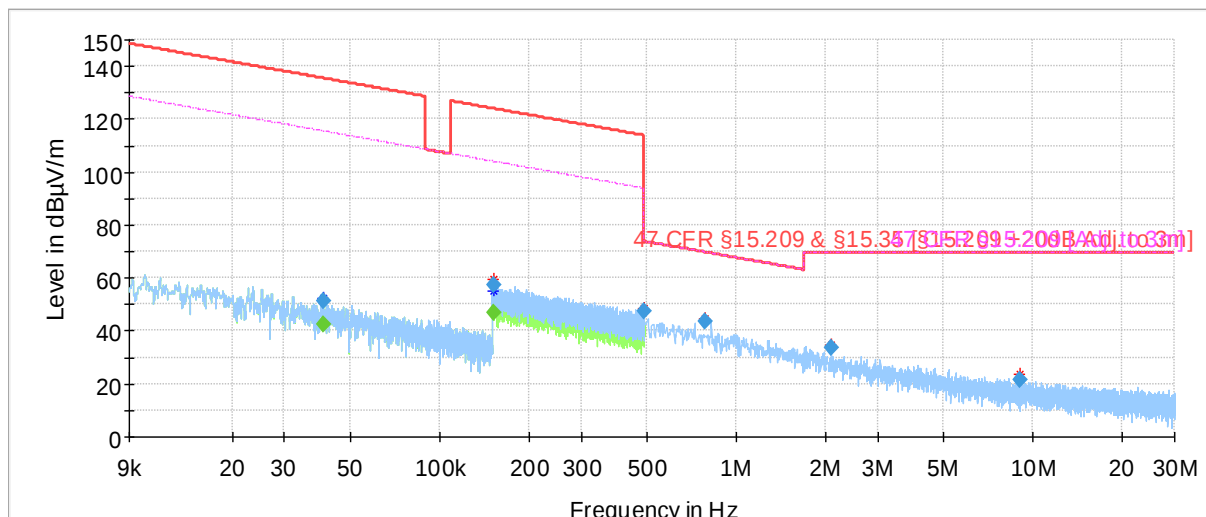


|                                          |                             |
|------------------------------------------|-----------------------------|
| Preview Result 2-AVG                     | Preview Result 1-PK+        |
| * Critical_Freqs AVG                     | * Critical_Freqs PK+        |
| * Critical_Freqs AVG                     | * Critical_Freqs PK+        |
| 47 CFR §15.35 [§15.209 +20dB Adj. to 1m] | 47 CFR §15.209 [Adj. to 1m] |
| ◆ Final_Result PK+                       | ◆ Final_Result AVG          |
| ◆ Final_Result PK+                       | ◆ Final_Result AVG          |

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 18285.654000    | 52.50            | ---              | 83.52          | 31.03       | 1000.0          | 1000.000        | 155.0       | V   | 246.0         |
| 18524.094000    | ---              | 38.76            | 63.52          | 24.76       | 1000.0          | 1000.000        | 155.0       | V   | 308.0         |
| 22035.542000    | 53.46            | ---              | 83.52          | 30.06       | 1000.0          | 1000.000        | 155.0       | H   | 202.0         |
| 22049.963000    | ---              | 40.53            | 63.52          | 22.99       | 1000.0          | 1000.000        | 155.0       | H   | 338.0         |
| 26060.067000    | 56.10            | ---              | 83.52          | 27.42       | 1000.0          | 1000.000        | 155.0       | H   | 292.0         |
| 26086.820000    | ---              | 42.55            | 63.52          | 20.97       | 1000.0          | 1000.000        | 155.0       | V   | 313.0         |
| 29550.348000    | ---              | 40.82            | 63.52          | 22.70       | 1000.0          | 1000.000        | 155.0       | H   | 6.0           |
| 29577.952000    | 53.35            | ---              | 83.52          | 30.17       | 1000.0          | 1000.000        | 155.0       | H   | 172.0         |
| 34147.063000    | ---              | 41.13            | 63.52          | 22.40       | 1000.0          | 1000.000        | 155.0       | V   | 112.0         |
| 34912.480000    | 55.34            | ---              | 83.52          | 28.18       | 1000.0          | 1000.000        | 155.0       | V   | 112.0         |
| 36919.813000    | 56.67            | ---              | 83.52          | 26.85       | 1000.0          | 1000.000        | 155.0       | V   | 102.0         |
| 36954.953000    | ---              | 42.96            | 63.52          | 20.57       | 1000.0          | 1000.000        | 155.0       | V   | 188.0         |

Mid Channel – 802.11b 20MHz 11Mbps: 9 kHz – 30 MHz

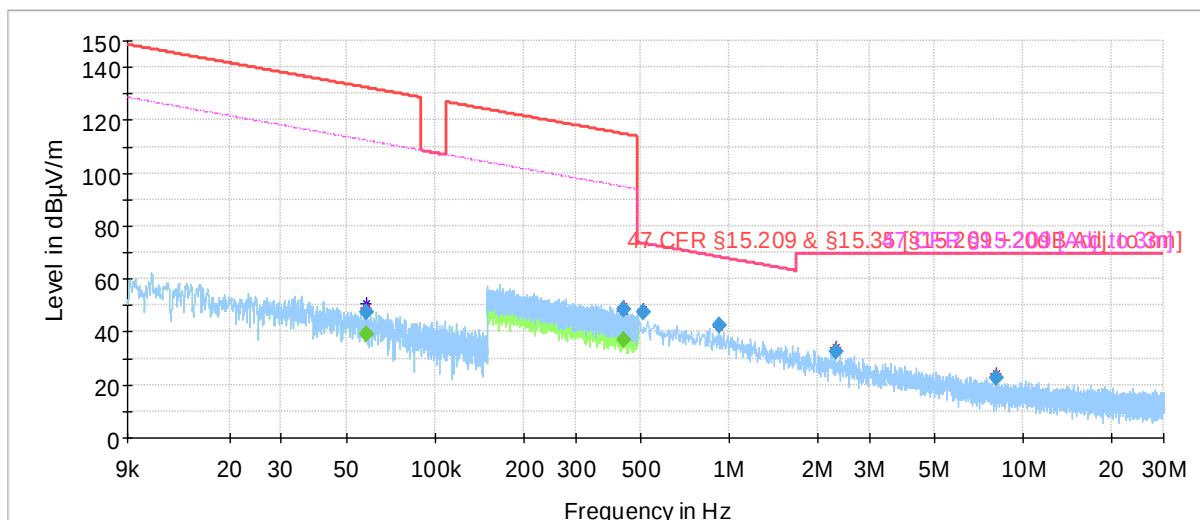
|                     |                               |                  |
|---------------------|-------------------------------|------------------|
| Test mode condition | WLAN 802.11b 20MHz 11Mbps CH6 |                  |
| Antenna orientation | Loop Antenna parallel to axis |                  |
| Sweep frequency     | 9 kHz – 30 MHz                |                  |
| Standard            | 47 CFR FCC Part 15 subpart C  |                  |
| EUT                 | A003420354-001                |                  |
| Ancillary Equipment | N/A                           |                  |
| Test Engineer       | Niall Forrester               | Date: 2023.02.23 |
| Chamber details     | Chamber: SAC 5                |                  |



- Preview Result 2-AVG
- Preview Result 1-PK+
- \* Critical\_Freqs AVG
- \* Critical\_Freqs PK+
- 47 CFR §15.209 & §15.35 [§15.209 +20dB Adj. to 3m]
- 47 CFR §15.209 [Adj. to 3m]
- ◆ Final\_Result PK+
- ◆ Final\_Result AVG
- × MaxPeak-PK+ (Single)
- + Average-AVG (Single)

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 0.040440        | 51.33            | ---              | 135.47         | 84.14       | 1000.0          | 0.200           | 100.0       | H   | -26.0         |
| 0.040440        | ---              | 42.24            | 115.47         | 73.23       | 1000.0          | 0.200           | 100.0       | H   | -26.0         |
| 0.152069        | 57.49            | ---              | 123.96         | 66.47       | 1000.0          | 9.000           | 100.0       | H   | 135.0         |
| 0.152069        | ---              | 46.61            | 103.96         | 57.35       | 1000.0          | 9.000           | 100.0       | H   | 135.0         |
| 0.490394        | 47.56            | ---              | 73.79          | 26.23       | 1000.0          | 9.000           | 100.0       | H   | -13.0         |
| 0.781460        | 43.66            | ---              | 69.76          | 26.10       | 1000.0          | 9.000           | 100.0       | H   | 101.0         |
| 2.080710        | 33.39            | ---              | 69.50          | 36.11       | 1000.0          | 9.000           | 100.0       | H   | 205.0         |
| 9.064792        | 21.62            | ---              | 69.50          | 47.88       | 1000.0          | 9.000           | 100.0       | H   | 135.0         |

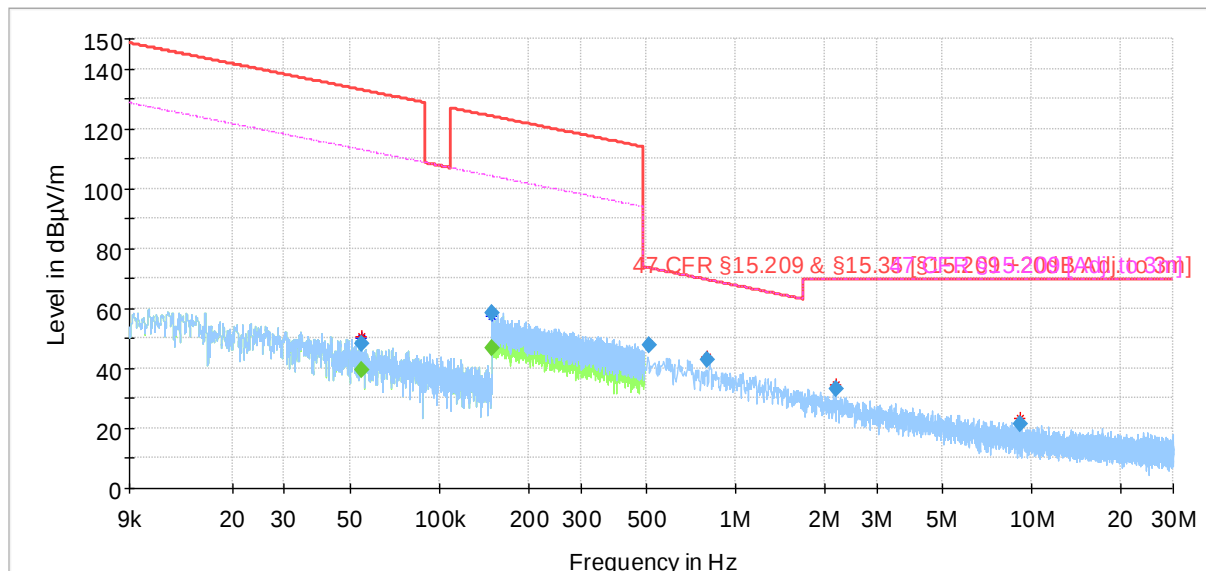
|                     |                                    |                  |
|---------------------|------------------------------------|------------------|
| Test mode condition | WLAN 802.11b 20MHz 11Mbps CH6      |                  |
| Antenna orientation | Loop Antenna perpendicular to axis |                  |
| Sweep frequency     | 9 kHz – 30 MHz                     |                  |
| Standard            | 47 CFR FCC Part 15 subpart C       |                  |
| EUT                 | A003420354-001                     |                  |
| Ancillary Equipment | N/A                                |                  |
| Test Engineer       | Niall Forrester                    | Date: 2023.02.23 |
| Chamber details     | Chamber: SAC 5                     |                  |



- Preview Result 2-AVG
- Preview Result 1-PK+
- \* Critical\_Freqs AVG
- \* Critical\_Freqs PK+
- 47 CFR §15.209 & §15.35 [§15.209 +20dB Adj. to 3m]
- 47 CFR §15.209 [Adj. to 3m]
- ◆ Final\_Result PK+
- ◆ Final\_Result AVG
- × MaxPeak-PK+ (Single)
- + Average-AVG (Single)

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 0.058196        | 47.69            | ---              | 132.31         | 84.62       | 1000.0          | 0.200           | 100.0       | H   | 135.0         |
| 0.058196        | ---              | 39.01            | 112.31         | 73.30       | 1000.0          | 0.200           | 100.0       | H   | 135.0         |
| 0.438109        | 48.43            | ---              | 114.77         | 66.34       | 1000.0          | 9.000           | 100.0       | H   | 225.0         |
| 0.438109        | ---              | 37.22            | 94.77          | 57.55       | 1000.0          | 9.000           | 100.0       | H   | 225.0         |
| 0.512000        | 47.41            | ---              | 73.42          | 26.01       | 1000.0          | 9.000           | 100.0       | H   | 135.0         |
| 0.923986        | 42.52            | ---              | 68.31          | 25.79       | 1000.0          | 9.000           | 100.0       | H   | 135.0         |
| 2.300031        | 32.59            | ---              | 69.50          | 36.91       | 1000.0          | 9.000           | 100.0       | H   | 315.0         |
| 8.072999        | 22.63            | ---              | 69.50          | 46.87       | 1000.0          | 9.000           | 100.0       | H   | 225.0         |

|                     |                                |                  |
|---------------------|--------------------------------|------------------|
| Test mode condition | WLAN 802.11b 20MHz 11Mbps CH6  |                  |
| Antenna orientation | Loop Antenna parallel to floor |                  |
| Sweep frequency     | 9 kHz – 30 MHz                 |                  |
| Standard            | 47 CFR FCC Part 15 subpart C   |                  |
| EUT                 | A003420354-001                 |                  |
| Ancillary Equipment | N/A                            |                  |
| Test Engineer       | Niall Forrester                | Date: 2023.02.23 |
| Chamber details     | Chamber: SAC 5                 |                  |

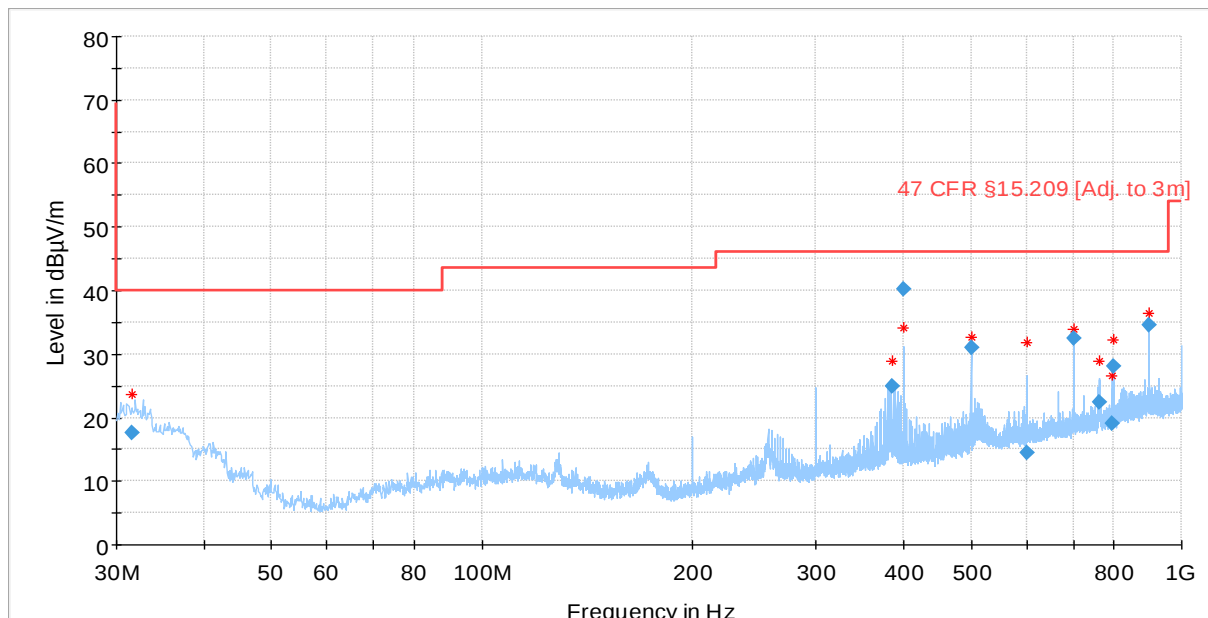


- Preview Result 2-AVG
- Preview Result 1-PK+
- \* Critical\_Freqs AVG
- \* Critical\_Freqs PK+
- 47 CFR §15.209 & §15.35 [§15.209 +20dB Adj. to 3m]
- 47 CFR §15.209 [Adj. to 3m]
- ◆ Final\_Result PK+
- ◆ Final\_Result AVG

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 0.054568        | 48.39            | ---              | 132.87         | 84.48       | 1000.0          | 0.200           | 100.0       | H   | 182.0         |
| 0.054568        | ---              | 39.51            | 112.87         | 73.35       | 1000.0          | 0.200           | 100.0       | H   | 182.0         |
| 0.150241        | ---              | 46.53            | 104.07         | 57.54       | 1000.0          | 9.000           | 100.0       | H   | 45.0          |
| 0.150241        | 58.52            | ---              | 124.07         | 65.55       | 1000.0          | 9.000           | 100.0       | H   | 45.0          |
| 0.513681        | 47.90            | ---              | 73.39          | 25.49       | 1000.0          | 9.000           | 100.0       | H   | 102.0         |
| 0.800488        | 42.91            | ---              | 69.55          | 26.64       | 1000.0          | 9.000           | 100.0       | H   | 45.0          |
| 2.196107        | 33.03            | ---              | 69.50          | 36.47       | 1000.0          | 9.000           | 100.0       | H   | 45.0          |
| 9.092481        | 21.54            | ---              | 69.50          | 47.96       | 1000.0          | 9.000           | 100.0       | H   | 315.0         |

Mid Channel – 802.11b 20MHz 11Mbps: 30 MHz – 1 GHz

|                     |                               |                  |
|---------------------|-------------------------------|------------------|
| Test mode condition | WLAN 802.11b 20MHz 11Mbps CH6 |                  |
| Antenna orientation | Horizontal & vertical         |                  |
| Sweep frequency     | 30 MHz – 1 GHz                |                  |
| Standard            | 47 CFR FCC Part 15 subpart C  |                  |
| EUT                 | A003421467-001                |                  |
| Ancillary Equipment | N/A                           |                  |
| Test Engineer       | Niall Forrester               | Date: 2023.03.02 |
| Chamber details     | Chamber: SAC 5                |                  |

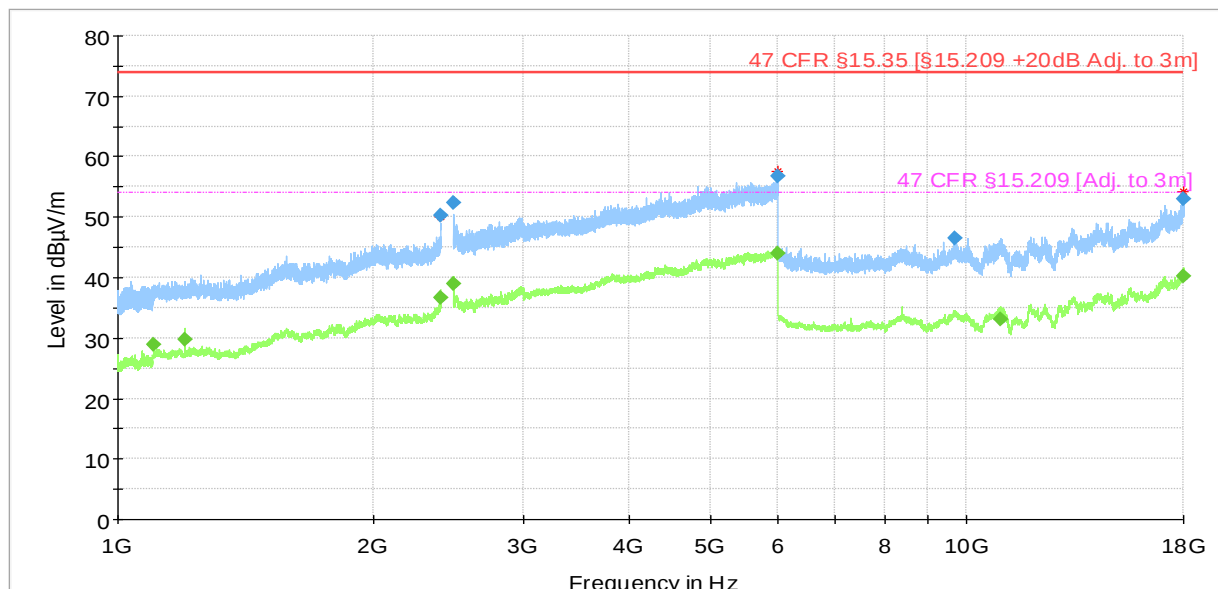


— Preview Result 2-AVG  
\* Critical\_Freqs AVG  
— 47 CFR §15.209 [Adj. to 3m]  
◆ Final\_Result AVG  
— Preview Result 1-PK+  
\* Critical\_Freqs PK+  
◆ Final\_Result QPK

| Frequency (MHz) | QuasiPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|--------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 31.534160       | 17.52              | ---              | 40.00          | 22.48       | 1000.0          | 120.000         | 100.0       | V   | 20.0          |
| 384.903560      | 24.92              | ---              | 46.02          | 21.10       | 1000.0          | 120.000         | 179.0       | V   | 252.0         |
| 399.992200      | 40.12              | ---              | 46.02          | 5.90        | 1000.0          | 120.000         | 175.0       | V   | 292.0         |
| 500.002080      | 31.07              | ---              | 46.02          | 14.95       | 1000.0          | 120.000         | 100.0       | V   | 244.0         |
| 599.819720      | 14.47              | ---              | 46.02          | 31.55       | 1000.0          | 120.000         | 100.0       | V   | 72.0          |
| 699.989440      | 32.40              | ---              | 46.02          | 13.63       | 1000.0          | 120.000         | 179.0       | V   | 158.0         |
| 762.947800      | 22.37              | ---              | 46.02          | 23.65       | 1000.0          | 120.000         | 157.0       | V   | 190.0         |
| 796.888600      | 19.03              | ---              | 46.02          | 26.99       | 1000.0          | 120.000         | 175.0       | V   | 22.0          |
| 799.988200      | 27.99              | ---              | 46.02          | 18.03       | 1000.0          | 120.000         | 125.0       | V   | 131.0         |
| 900.012440      | 34.62              | ---              | 46.02          | 11.40       | 1000.0          | 120.000         | 125.0       | V   | 143.0         |

Mid Channel – 802.11b 20MHz 11Mbps: 1 GHz – 18 GHz

|                     |                               |                  |
|---------------------|-------------------------------|------------------|
| Test mode condition | WLAN 802.11b 20MHz 11Mbps CH6 |                  |
| Antenna orientation | Horizontal & vertical         |                  |
| Sweep frequency     | 1 GHz – 18 GHz                |                  |
| Standard            | 47 CFR FCC Part 15 subpart C  |                  |
| EUT                 | A003421467-001                |                  |
| Ancillary Equipment | N/A                           |                  |
| Test Engineer       | Niall Forrester               | Date: 2023.03.01 |
| Chamber details     | Chamber: SAC 5                |                  |

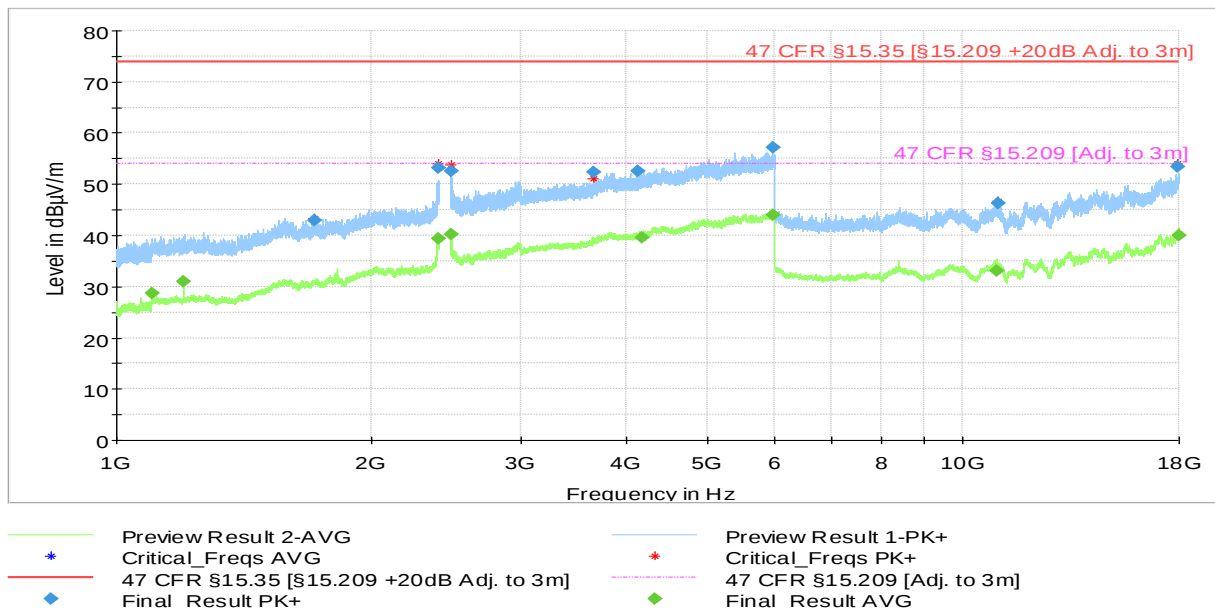


— Preview Result 2-AVG  
— Preview Result 1-PK+  
♦ Critical\_Freqs AVG  
— 47 CFR §15.35 [§15.209 +20dB Adj. to 3m]  
— 47 CFR §15.209 [Adj. to 3m]  
♦ Final\_Result PK+  
♦ Final\_Result AVG

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 1100.034371     | ---              | 28.95            | 53.98          | 25.03       | 1000.0          | 1000.000        | 100.0       | V   | 68.0          |
| 1199.675000     | ---              | 29.74            | 53.98          | 24.24       | 1000.0          | 1000.000        | 125.0       | V   | 158.0         |
| 2399.839000     | ---              | 36.74            | 53.98          | 17.24       | 1000.0          | 1000.000        | 170.0       | V   | -18.0         |
| 2399.937932     | 50.21            | ---              | 73.98          | 23.77       | 1000.0          | 1000.000        | 125.0       | V   | 222.0         |
| 2483.504041     | 52.42            | ---              | 73.98          | 21.56       | 1000.0          | 1000.000        | 175.0       | V   | 178.0         |
| 2483.541500     | ---              | 39.02            | 53.98          | 14.96       | 1000.0          | 1000.000        | 210.0       | V   | 202.0         |
| 5978.423000     | ---              | 44.07            | 53.98          | 9.91        | 1000.0          | 1000.000        | 149.0       | H   | -2.0          |
| 5979.788000     | 56.74            | ---              | 73.98          | 17.24       | 1000.0          | 1000.000        | 100.0       | V   | 269.0         |
| 9666.679000     | 46.46            | ---              | 73.98          | 27.52       | 1000.0          | 1000.000        | 100.0       | V   | 338.0         |
| 10955.387000    | ---              | 33.11            | 53.98          | 20.87       | 1000.0          | 1000.000        | 175.0       | V   | 112.0         |
| 17981.064000    | 52.95            | ---              | 73.98          | 21.03       | 1000.0          | 1000.000        | 125.0       | H   | 292.0         |
| 17986.027000    | ---              | 40.22            | 53.98          | 13.75       | 1000.0          | 1000.000        | 125.0       | V   | 279.0         |

Mid Channel – 802.11g 20MHz 24Mbps: 1 GHz – 18 GHz

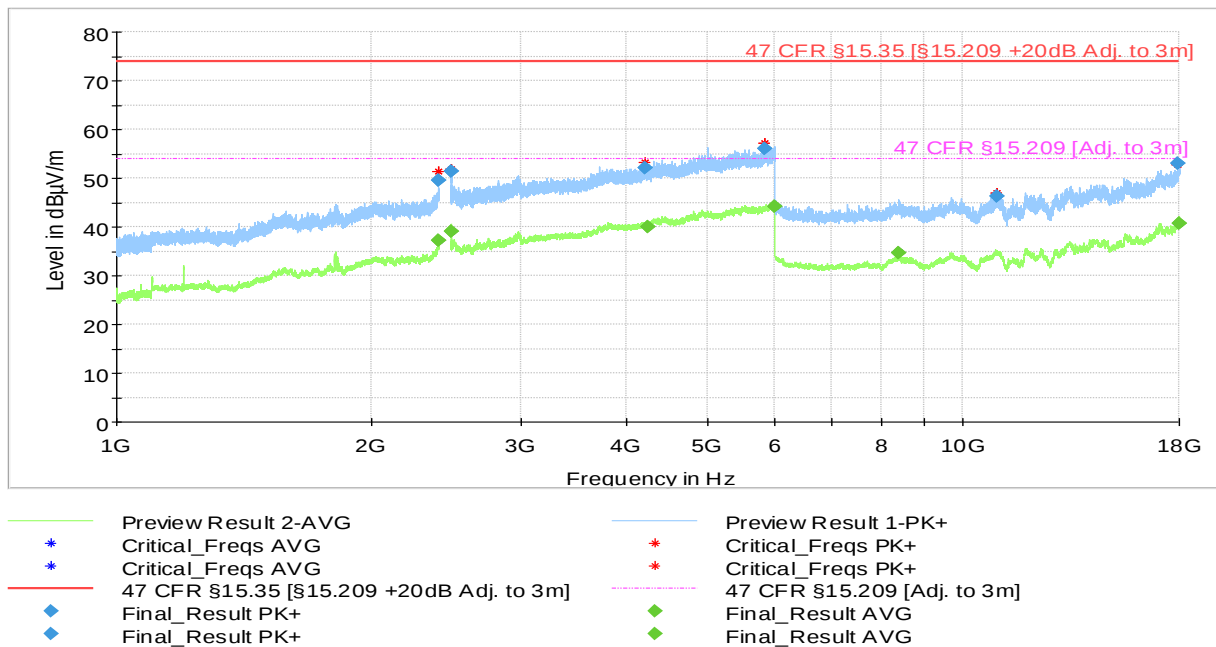
|                     |                               |                  |
|---------------------|-------------------------------|------------------|
| Test mode condition | WLAN 802.11g 20MHz 24Mbps CH6 |                  |
| Antenna orientation | Horizontal & vertical         |                  |
| Sweep frequency     | 1 GHz – 18 GHz                |                  |
| Standard            | 47 CFR FCC Part 15 subpart C  |                  |
| EUT                 | A003421467-001                |                  |
| Ancillary Equipment | N/A                           |                  |
| Test Engineer       | Niall Forrester               | Date: 2023.03.01 |
| Chamber details     | Chamber: SAC 5                |                  |



| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 1099.977956     | ---              | 28.68            | 53.98          | 25.30       | 1000.0          | 1000.000        | 100.0       | V   | 72.0          |
| 1199.949000     | ---              | 30.94            | 53.98          | 23.04       | 1000.0          | 1000.000        | 187.0       | H   | 222.0         |
| 1710.683000     | 42.86            | ---              | 73.98          | 31.12       | 1000.0          | 1000.000        | 175.0       | H   | 65.0          |
| 2399.736474     | 53.24            | ---              | 73.98          | 20.74       | 1000.0          | 1000.000        | 198.0       | H   | 190.0         |
| 2399.933310     | ---              | 39.40            | 53.98          | 14.58       | 1000.0          | 1000.000        | 125.0       | H   | 191.0         |
| 2483.542868     | ---              | 40.27            | 53.98          | 13.71       | 1000.0          | 1000.000        | 175.0       | H   | -3.0          |
| 2486.405712     | 52.47            | ---              | 73.98          | 21.50       | 1000.0          | 1000.000        | 175.0       | H   | 20.0          |
| 3659.508000     | 52.27            | ---              | 73.98          | 21.71       | 1000.0          | 1000.000        | 210.0       | H   | 234.0         |
| 4125.905000     | 52.48            | ---              | 73.98          | 21.50       | 1000.0          | 1000.000        | 125.0       | V   | 200.0         |
| 4184.231000     | ---              | 39.65            | 53.98          | 14.33       | 1000.0          | 1000.000        | 100.0       | V   | 338.0         |
| 5974.767000     | 57.11            | ---              | 73.98          | 16.87       | 1000.0          | 1000.000        | 187.0       | V   | 191.0         |
| 5977.916000     | ---              | 44.06            | 53.98          | 9.92        | 1000.0          | 1000.000        | 102.0       | V   | 292.0         |
| 10945.594000    | ---              | 33.06            | 53.98          | 20.92       | 1000.0          | 1000.000        | 175.0       | H   | 296.0         |
| 10991.232000    | 46.26            | ---              | 73.98          | 27.72       | 1000.0          | 1000.000        | 175.0       | V   | 154.0         |
| 17962.489000    | 53.51            | ---              | 73.98          | 20.47       | 1000.0          | 1000.000        | 125.0       | H   | 142.0         |
| 17967.360000    | ---              | 40.10            | 53.98          | 13.88       | 1000.0          | 1000.000        | 210.0       | V   | 68.0          |

Mid Channel – 802.11n 20MHz MCS3: 1 GHz – 18 GHz

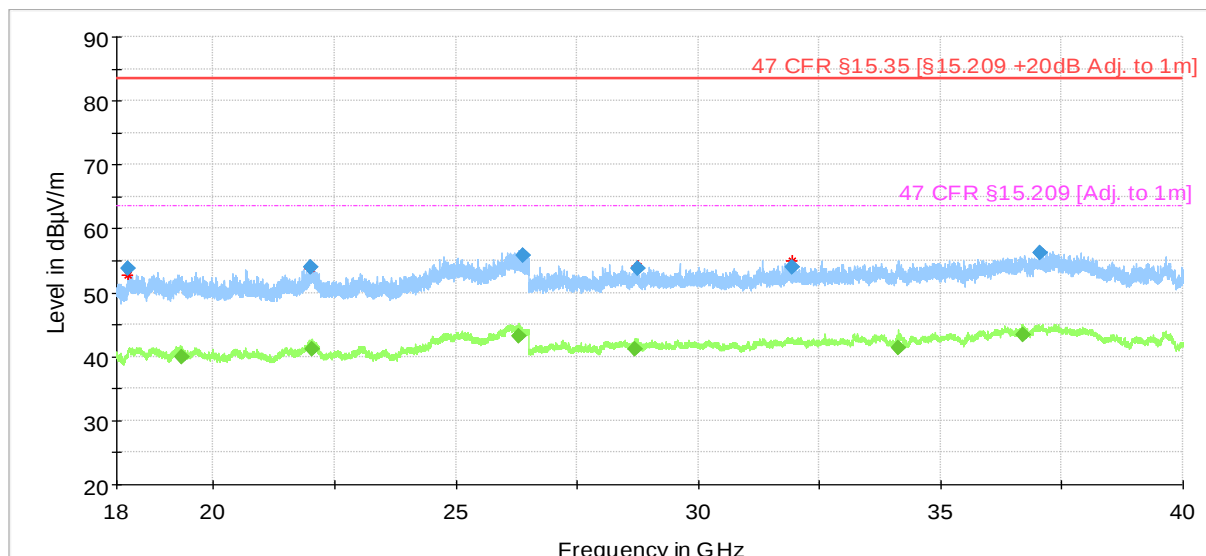
|                     |                              |                  |
|---------------------|------------------------------|------------------|
| Test mode condition | WLAN 802.11n 20MHz MCS3 CH6  |                  |
| Antenna orientation | Horizontal & vertical        |                  |
| Sweep frequency     | 1 GHz – 18 GHz               |                  |
| Standard            | 47 CFR FCC Part 15 subpart C |                  |
| EUT                 | A003421467-001               |                  |
| Ancillary Equipment | N/A                          |                  |
| Test Engineer       | Niall Forrester              | Date: 2023.03.02 |
| Chamber details     | Chamber: SAC 5               |                  |



| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 2399.861000     | 49.57            | ---              | 73.98          | 24.41       | 1000.0          | 1000.000        | 210.0       | H   | 11.0          |
| 2399.972500     | ---              | 37.17            | 53.98          | 16.81       | 1000.0          | 1000.000        | 210.0       | V   | 162.0         |
| 2483.558000     | ---              | 39.04            | 53.98          | 14.94       | 1000.0          | 1000.000        | 125.0       | V   | -18.0         |
| 2483.770500     | 51.50            | ---              | 73.98          | 22.48       | 1000.0          | 1000.000        | 188.0       | V   | 10.0          |
| 4207.231000     | 52.20            | ---              | 73.98          | 21.78       | 1000.0          | 1000.000        | 146.0       | H   | 72.0          |
| 4239.901000     | ---              | 39.91            | 53.98          | 14.07       | 1000.0          | 1000.000        | 210.0       | H   | 89.0          |
| 5822.540000     | 55.98            | ---              | 73.98          | 18.00       | 1000.0          | 1000.000        | 100.0       | H   | 190.0         |
| 5979.220000     | ---              | 44.18            | 53.98          | 9.80        | 1000.0          | 1000.000        | 100.0       | V   | 200.0         |
| 8400.095000     | ---              | 34.68            | 53.98          | 19.30       | 1000.0          | 1000.000        | 186.0       | V   | 86.0          |
| 10974.337000    | 46.39            | ---              | 73.98          | 27.59       | 1000.0          | 1000.000        | 206.0       | V   | 40.0          |
| 17948.956000    | 52.92            | ---              | 73.98          | 21.06       | 1000.0          | 1000.000        | 197.0       | V   | 220.0         |
| 17993.848540    | ---              | 40.73            | 53.98          | 13.25       | 1000.0          | 1000.000        | 210.0       | V   | 162.0         |

Mid Channel – 802.11b 20MHz 11Mbps: 18 GHz – 40 GHz

|                     |                               |                  |
|---------------------|-------------------------------|------------------|
| Test mode condition | WLAN 802.11b 20MHz 11Mbps CH6 |                  |
| Antenna orientation | Horizontal & vertical         |                  |
| Sweep frequency     | 18 GHz – 40 GHz               |                  |
| Standard            | 47 CFR FCC Part 15 subpart C  |                  |
| EUT                 | A003420354-001                |                  |
| Ancillary Equipment | N/A                           |                  |
| Test Engineer       | Niall Forrester               | Date: 2023.02.23 |
| Chamber details     | Chamber: SAC 5                |                  |

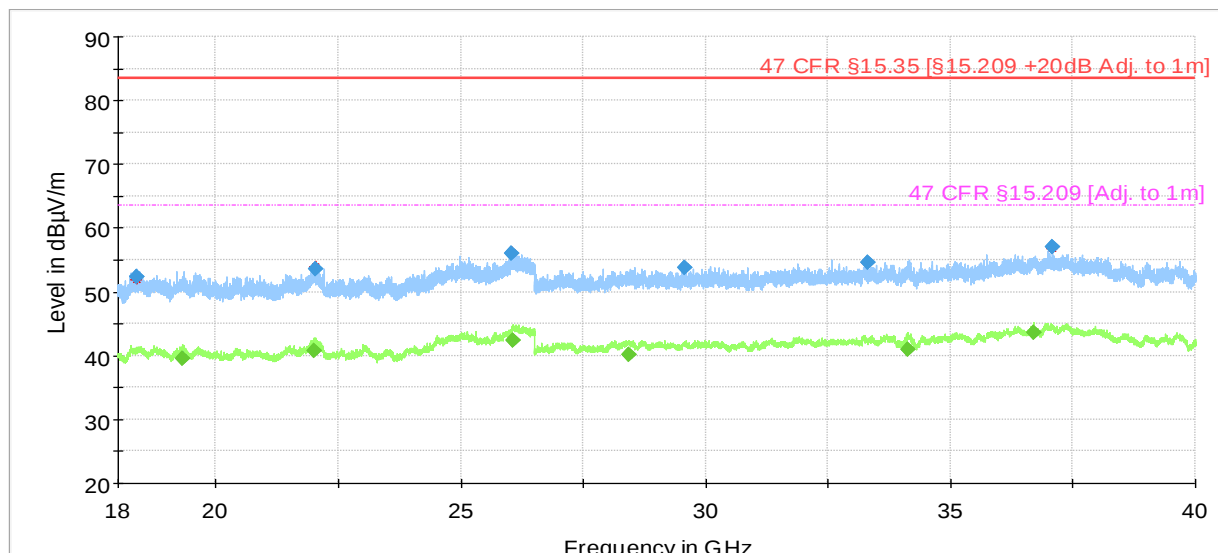


|                                          |                             |
|------------------------------------------|-----------------------------|
| Preview Result 2-AVG                     | Preview Result 1-PK+        |
| * Critical_Freqs AVG                     | * Critical_Freqs PK+        |
| * Critical_Freqs AVG                     | * Critical_Freqs PK+        |
| 47 CFR §15.35 [§15.209 +20dB Adj. to 1m] | 47 CFR §15.209 [Adj. to 1m] |
| ◆ Final_Result PK+                       | ◆ Final_Result AVG          |
| ◆ Final_Result PK+                       | ◆ Final_Result AVG          |

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 18239.269000    | 53.79            | ---              | 83.52          | 29.73       | 1000.0          | 1000.000        | 155.0       | H   | 206.0         |
| 19331.241000    | ---              | 39.84            | 63.52          | 23.68       | 1000.0          | 1000.000        | 155.0       | H   | 42.0          |
| 21994.798000    | 54.04            | ---              | 83.52          | 29.48       | 1000.0          | 1000.000        | 155.0       | H   | 98.0          |
| 22041.676000    | ---              | 41.10            | 63.52          | 22.42       | 1000.0          | 1000.000        | 155.0       | H   | 128.0         |
| 26286.839000    | ---              | 43.13            | 63.52          | 20.40       | 1000.0          | 1000.000        | 155.0       | V   | 98.0          |
| 26391.545000    | 55.79            | ---              | 83.52          | 27.73       | 1000.0          | 1000.000        | 155.0       | H   | 232.0         |
| 28699.960000    | ---              | 41.12            | 63.52          | 22.40       | 1000.0          | 1000.000        | 155.0       | H   | 142.0         |
| 28744.754000    | 53.84            | ---              | 83.52          | 29.68       | 1000.0          | 1000.000        | 155.0       | V   | 82.0          |
| 31929.136000    | 54.01            | ---              | 83.52          | 29.51       | 1000.0          | 1000.000        | 155.0       | H   | 102.0         |
| 34121.078000    | ---              | 41.27            | 63.52          | 22.26       | 1000.0          | 1000.000        | 155.0       | V   | 22.0          |
| 36704.831000    | ---              | 43.49            | 63.52          | 20.03       | 1000.0          | 1000.000        | 155.0       | V   | 176.0         |
| 37051.062000    | 56.14            | ---              | 83.52          | 27.38       | 1000.0          | 1000.000        | 155.0       | H   | 98.0          |

Mid Channel – 802.11g 20MHz 24Mbps: 18 GHz – 40 GHz

|                     |                               |                  |
|---------------------|-------------------------------|------------------|
| Test mode condition | WLAN 802.11g 20MHz 24Mbps CH6 |                  |
| Antenna orientation | Horizontal & vertical         |                  |
| Sweep frequency     | 18 GHz – 40 GHz               |                  |
| Standard            | 47 CFR FCC Part 15 subpart C  |                  |
| EUT                 | A003420354-001                |                  |
| Ancillary Equipment | N/A                           |                  |
| Test Engineer       | Niall Forrester               | Date: 2023.02.23 |
| Chamber details     | Chamber: SAC 5                |                  |

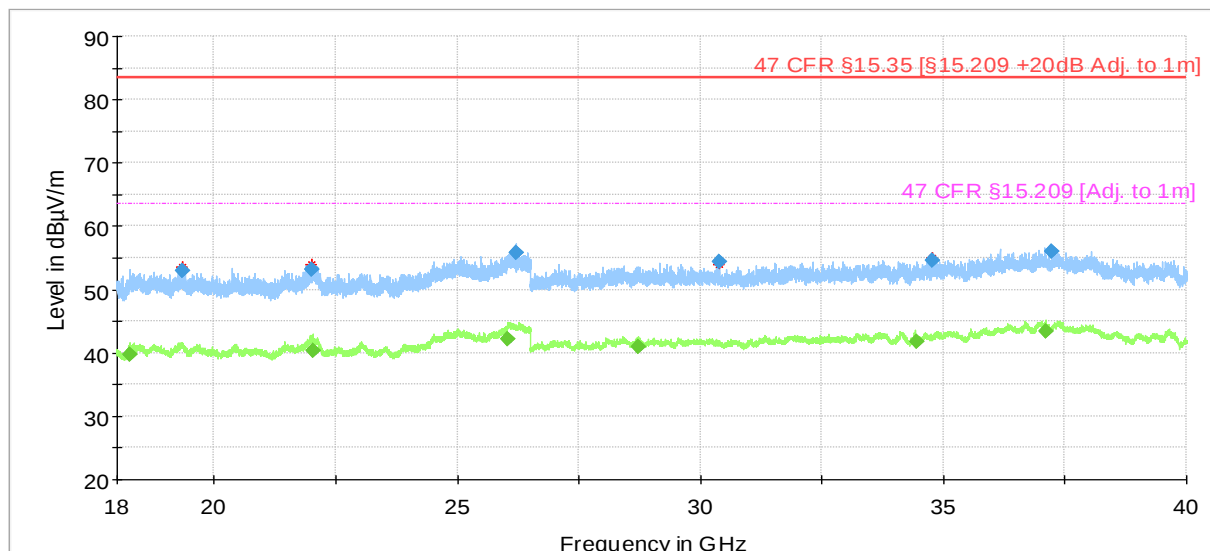


|                                          |                             |
|------------------------------------------|-----------------------------|
| Preview Result 2-AVG                     | Preview Result 1-PK+        |
| Critical_Freqs AVG                       | Critical_Freqs PK+          |
| Critical_Freqs AVG                       | Critical_Freqs PK+          |
| 47 CFR §15.35 [§15.209 +20dB Adj. to 1m] | 47 CFR §15.209 [Adj. to 1m] |
| Final_Result PK+                         | Final_Result AVG            |
| Final_Result PK+                         | Final_Result AVG            |

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 18373.629000    | 52.32            | ---              | 83.52          | 31.20       | 1000.0          | 1000.000        | 155.0       | H   | 26.0          |
| 19323.007000    | ---              | 39.63            | 63.52          | 23.89       | 1000.0          | 1000.000        | 155.0       | H   | 142.0         |
| 22003.717000    | ---              | 40.79            | 63.52          | 22.73       | 1000.0          | 1000.000        | 155.0       | H   | 222.0         |
| 22019.399000    | 53.59            | ---              | 83.52          | 29.93       | 1000.0          | 1000.000        | 155.0       | H   | 66.0          |
| 26033.744000    | 56.00            | ---              | 83.52          | 27.52       | 1000.0          | 1000.000        | 155.0       | H   | 52.0          |
| 26062.826000    | ---              | 42.39            | 63.52          | 21.13       | 1000.0          | 1000.000        | 155.0       | V   | 248.0         |
| 28431.035000    | ---              | 40.17            | 63.52          | 23.35       | 1000.0          | 1000.000        | 155.0       | H   | 98.0          |
| 29573.397000    | 53.70            | ---              | 83.52          | 29.82       | 1000.0          | 1000.000        | 155.0       | V   | 38.0          |
| 33304.765000    | 54.60            | ---              | 83.52          | 28.93       | 1000.0          | 1000.000        | 155.0       | V   | 38.0          |
| 34135.285000    | ---              | 40.92            | 63.52          | 22.61       | 1000.0          | 1000.000        | 155.0       | H   | 112.0         |
| 36684.927000    | ---              | 43.57            | 63.52          | 19.95       | 1000.0          | 1000.000        | 155.0       | V   | 232.0         |
| 37082.046000    | 57.06            | ---              | 83.52          | 26.46       | 1000.0          | 1000.000        | 155.0       | V   | 296.0         |

Mid Channel – 802.11n 20MHz MCS3: 18 GHz – 40 GHz

|                     |                               |                  |
|---------------------|-------------------------------|------------------|
| Test mode condition | WLAN 802.11g 20MHz 24Mbps CH6 |                  |
| Antenna orientation | Horizontal & vertical         |                  |
| Sweep frequency     | 18 GHz – 40 GHz               |                  |
| Standard            | 47 CFR FCC Part 15 subpart C  |                  |
| EUT                 | A003420354-001                |                  |
| Ancillary Equipment | N/A                           |                  |
| Test Engineer       | Niall Forrester               | Date: 2023.02.23 |
| Chamber details     | Chamber: SAC 5                |                  |

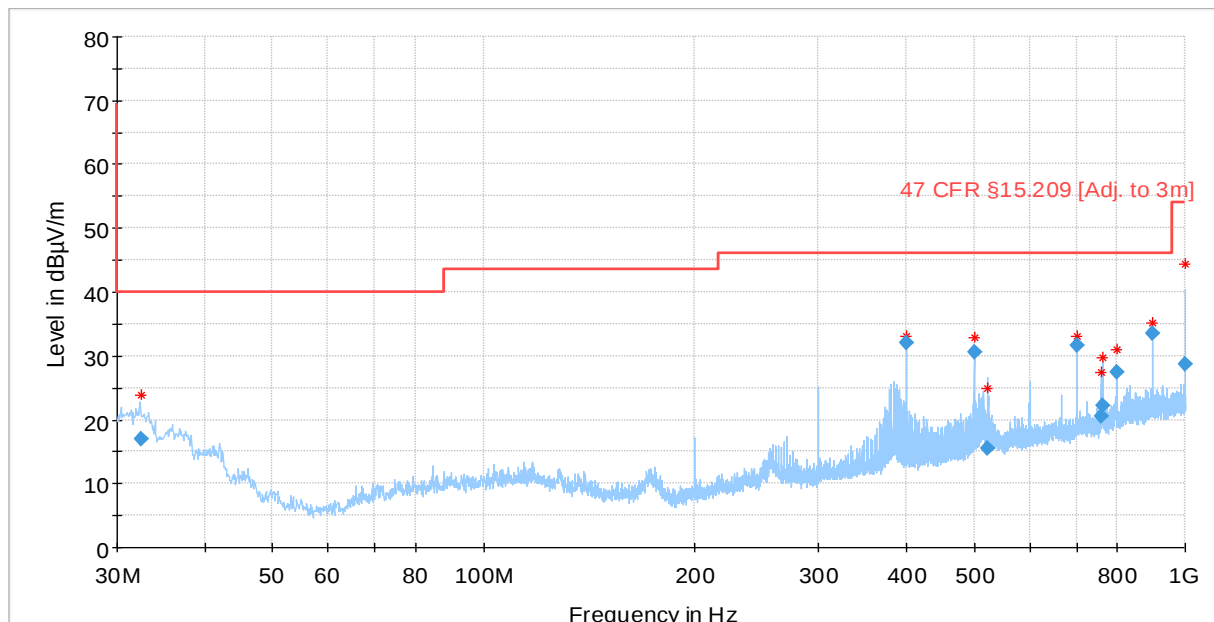


|                                            |                               |
|--------------------------------------------|-------------------------------|
| Preview Result 2-AVG                       | Preview Result 1-PK+          |
| * Critical_Freqs AVG                       | * Critical_Freqs PK+          |
| * Critical_Freqs AVG                       | * Critical_Freqs PK+          |
| — 47 CFR §15.35 [§15.209 +20dB Adj. to 1m] | — 47 CFR §15.209 [Adj. to 1m] |
| ◆ Final_Result PK+                         | ◆ Final_Result AVG            |
| ◆ Final_Result PK+                         | ◆ Final_Result AVG            |

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 18262.109000    | ---              | 39.81            | 63.52          | 23.71       | 1000.0          | 1000.000        | 155.0       | H   | 142.0         |
| 19330.763000    | 52.89            | ---              | 83.52          | 30.63       | 1000.0          | 1000.000        | 155.0       | H   | 172.0         |
| 21993.925000    | 53.14            | ---              | 83.52          | 30.39       | 1000.0          | 1000.000        | 155.0       | V   | 308.0         |
| 22024.262000    | ---              | 40.42            | 63.52          | 23.10       | 1000.0          | 1000.000        | 155.0       | V   | 158.0         |
| 26035.912000    | ---              | 42.20            | 63.52          | 21.32       | 1000.0          | 1000.000        | 155.0       | V   | 8.0           |
| 26213.151000    | 55.78            | ---              | 83.52          | 27.74       | 1000.0          | 1000.000        | 155.0       | H   | 52.0          |
| 28725.626000    | ---              | 41.01            | 63.52          | 22.51       | 1000.0          | 1000.000        | 155.0       | H   | 266.0         |
| 30378.136000    | 54.36            | ---              | 83.52          | 29.16       | 1000.0          | 1000.000        | 155.0       | V   | 156.0         |
| 34435.876000    | ---              | 41.86            | 63.52          | 21.66       | 1000.0          | 1000.000        | 155.0       | V   | 202.0         |
| 34770.197000    | 54.52            | ---              | 83.52          | 29.00       | 1000.0          | 1000.000        | 155.0       | V   | 278.0         |
| 37094.624000    | ---              | 43.35            | 63.52          | 20.17       | 1000.0          | 1000.000        | 155.0       | H   | 322.0         |
| 37233.638000    | 55.92            | ---              | 83.52          | 27.61       | 1000.0          | 1000.000        | 155.0       | V   | 8.0           |

High Channel – 802.11b 20MHz 11Mbps: 30 MHz – 1 GHz

|                     |                                |                  |
|---------------------|--------------------------------|------------------|
| Test mode condition | WLAN 802.11b 20MHz 11Mbps CH11 |                  |
| Antenna orientation | Horizontal & vertical          |                  |
| Sweep frequency     | 30 MHz – 1 GHz                 |                  |
| Standard            | 47 CFR FCC Part 15 subpart C   |                  |
| EUT                 | A003421467-001                 |                  |
| Ancillary Equipment | N/A                            |                  |
| Test Engineer       | Sam Ebadeh                     | Date: 2023.02.28 |
| Chamber details     | Chamber: SAC 5                 |                  |

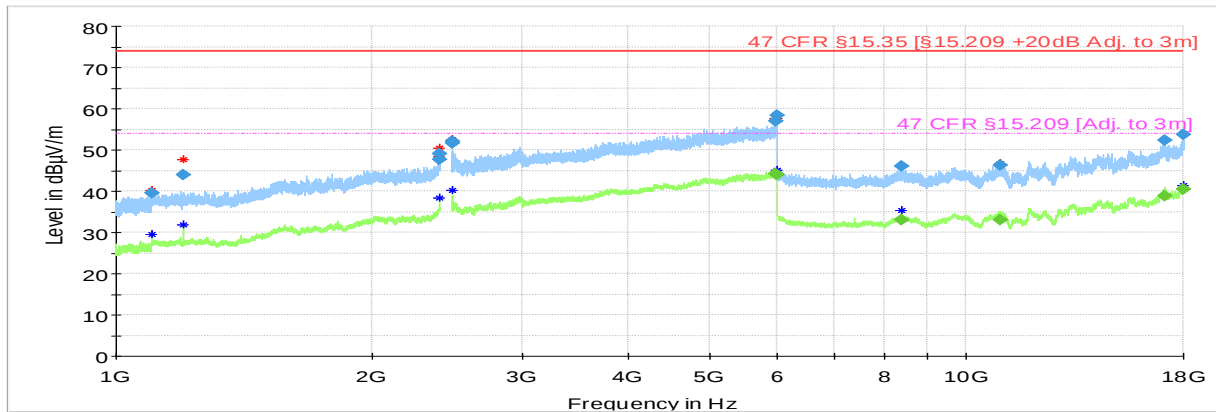


— Preview Result 2-AVG  
\* Critical\_Freqs AVG  
— 47 CFR §15.209 [Adj. to 3m]  
◆ Final\_Result AVG  
— Preview Result 1-PK+  
\* Critical\_Freqs PK+  
◆ Final\_Result QPK

| Frequency (MHz) | QuasiPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|--------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 32.510520       | 17.00              | ---              | 40.00          | 23.00       | 1000.0          | 120.000         | 125.0       | H   | 289.0         |
| 400.004200      | 31.97              | ---              | 46.02          | 14.05       | 1000.0          | 120.000         | 175.0       | V   | 221.0         |
| 500.000400      | 30.57              | ---              | 46.02          | 15.45       | 1000.0          | 120.000         | 125.0       | V   | 65.0          |
| 521.855480      | 15.46              | ---              | 46.02          | 30.56       | 1000.0          | 120.000         | 100.0       | V   | 143.0         |
| 699.987040      | 31.58              | ---              | 46.02          | 14.44       | 1000.0          | 120.000         | 179.0       | V   | 296.0         |
| 758.865840      | 20.57              | ---              | 46.02          | 25.45       | 1000.0          | 120.000         | 279.0       | V   | 280.0         |
| 763.215840      | 22.20              | ---              | 46.02          | 23.82       | 1000.0          | 120.000         | 279.0       | V   | 154.0         |
| 799.980840      | 27.36              | ---              | 46.02          | 18.66       | 1000.0          | 120.000         | 129.0       | V   | 335.0         |
| 899.981240      | 33.43              | ---              | 46.02          | 12.59       | 1000.0          | 120.000         | 129.0       | V   | 296.0         |
| 999.985840      | 28.69              | ---              | 53.98          | 25.29       | 1000.0          | 120.000         | 125.0       | V   | 162.0         |

High Channel – 802.11b 20MHz 11Mbps: 1 GHz – 18 GHz

|                     |                                |                  |
|---------------------|--------------------------------|------------------|
| Test mode condition | WLAN 802.11b 20MHz 11Mbps CH11 |                  |
| Antenna orientation | Horizontal & vertical          |                  |
| Sweep frequency     | 1 GHz – 18 GHz                 |                  |
| Standard            | 47 CFR FCC Part 15 subpart C   |                  |
| EUT                 | A003421467-001                 |                  |
| Ancillary Equipment | N/A                            |                  |
| Test Engineer       | Niall Forrester                | Date: 2023.03.01 |
| Chamber details     | Chamber: SAC 5                 |                  |

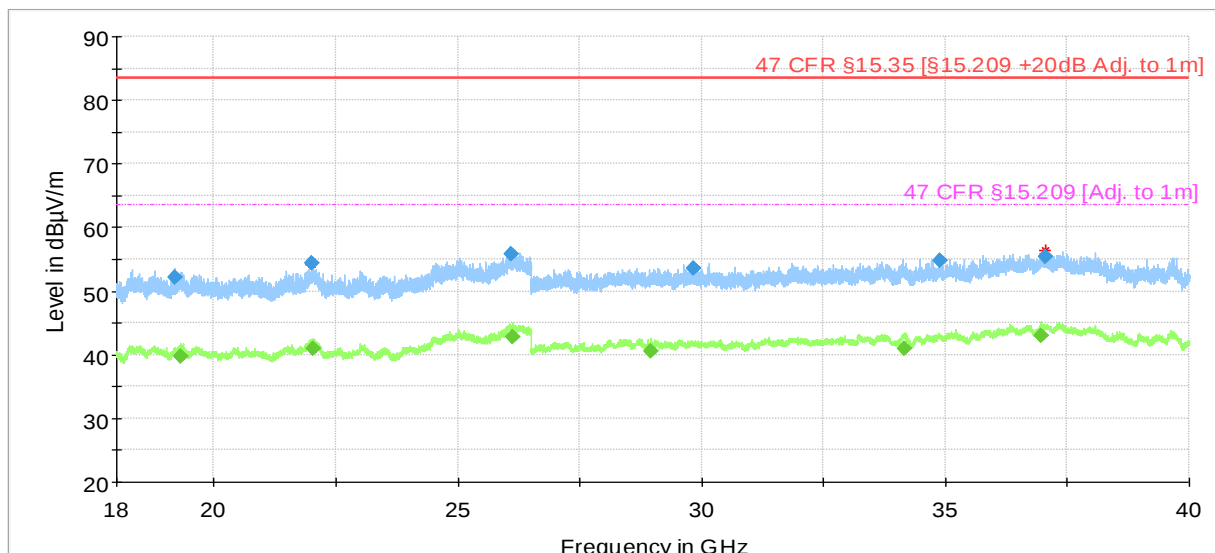


— Preview Result 2-AVG  
— Preview Result 1-PK+  
\* Critical\_Freqs AVG  
\* Critical\_Freqs PK+  
— 47 CFR §15.35 [§15.209 +20dB Adj. to 3m]  
— 47 CFR §15.209 [Adj. to 3m]  
◆ Final\_Result PK+  
◆ Final\_Result PK+

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 1099.757824     | 39.48            | ---              | 73.98          | 34.50       | 1000.0          | 1000.000        | 100.0       | V   | 55.0          |
| 1199.673000     | 43.88            | ---              | 73.98          | 30.10       | 1000.0          | 1000.000        | 125.0       | V   | 144.0         |
| 2398.837500     | 47.67            | ---              | 73.98          | 26.30       | 1000.0          | 1000.000        | 175.0       | H   | -22.0         |
| 2399.710500     | 48.96            | ---              | 73.98          | 25.02       | 1000.0          | 1000.000        | 113.0       | H   | 100.0         |
| 2483.535054     | 52.02            | ---              | 73.98          | 21.96       | 1000.0          | 1000.000        | 121.0       | V   | 200.0         |
| 2483.631500     | 51.74            | ---              | 73.98          | 22.24       | 1000.0          | 1000.000        | 127.0       | H   | 334.0         |
| 5976.953000     | 57.08            | ---              | 73.98          | 16.90       | 1000.0          | 1000.000        | 113.0       | H   | 200.0         |
| 5976.953000     | ---              | 44.09            | 53.98          | 9.89        | 1000.0          | 1000.000        | 113.0       | H   | 200.0         |
| 5979.585000     | ---              | 44.06            | 53.98          | 9.92        | 1000.0          | 1000.000        | 100.0       | V   | 202.0         |
| 5979.585000     | 58.26            | ---              | 73.98          | 15.72       | 1000.0          | 1000.000        | 100.0       | V   | 202.0         |
| 8401.406000     | ---              | 32.99            | 53.98          | 20.99       | 1000.0          | 1000.000        | 110.0       | V   | 219.0         |
| 8401.406000     | 45.95            | ---              | 73.98          | 28.03       | 1000.0          | 1000.000        | 110.0       | V   | 219.0         |
| 10958.400000    | ---              | 33.00            | 53.98          | 20.98       | 1000.0          | 1000.000        | 125.0       | V   | 334.0         |
| 10958.400000    | 46.30            | ---              | 73.98          | 27.68       | 1000.0          | 1000.000        | 125.0       | V   | 334.0         |
| 17115.312000    | 52.30            | ---              | 73.98          | 21.68       | 1000.0          | 1000.000        | 100.0       | V   | 68.0          |
| 17115.312000    | ---              | 38.92            | 53.98          | 15.06       | 1000.0          | 1000.000        | 100.0       | V   | 68.0          |
| 17995.518000    | 53.66            | ---              | 73.98          | 20.32       | 1000.0          | 1000.000        | 125.0       | V   | 158.0         |
| 17995.518000    | ---              | 40.43            | 53.98          | 13.55       | 1000.0          | 1000.000        | 125.0       | V   | 158.0         |

High Channel – 802.11b 20MHz 11Mbps: 18 GHz – 40 GHz

|                     |                                |                  |
|---------------------|--------------------------------|------------------|
| Test mode condition | WLAN 802.11b 20MHz 11Mbps CH11 |                  |
| Antenna orientation | Horizontal & vertical          |                  |
| Sweep frequency     | 18 GHz – 40 GHz                |                  |
| Standard            | 47 CFR FCC Part 15 subpart C   |                  |
| EUT                 | A003420354-001                 |                  |
| Ancillary Equipment | N/A                            |                  |
| Test Engineer       | Niall Forrester                | Date: 2023.02.23 |
| Chamber details     | Chamber: SAC 5                 |                  |



|                                          |                             |
|------------------------------------------|-----------------------------|
| Preview Result 2-AVG                     | Preview Result 1-PK+        |
| Critical_Freqs AVG                       | Critical_Freqs PK+          |
| Critical_Freqs AVG                       | Critical_Freqs PK+          |
| 47 CFR §15.35 [§15.209 +20dB Adj. to 1m] | 47 CFR §15.209 [Adj. to 1m] |
| Final_Result PK+                         | Final_Result AVG            |
| Final_Result PK+                         | Final_Result AVG            |

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|
| 19194.528000    | 52.11            | ---              | 83.52          | 31.41       | 1000.0          | 1000.000        | 155.0       | H   | 98.0          |
| 19323.824000    | ---              | 39.65            | 63.52          | 23.87       | 1000.0          | 1000.000        | 155.0       | H   | 248.0         |
| 22016.679000    | 54.41            | ---              | 83.52          | 29.11       | 1000.0          | 1000.000        | 155.0       | H   | 262.0         |
| 22041.138000    | ---              | 40.98            | 63.52          | 22.54       | 1000.0          | 1000.000        | 155.0       | H   | 248.0         |
| 26106.103000    | 55.82            | ---              | 83.52          | 27.70       | 1000.0          | 1000.000        | 155.0       | V   | 82.0          |
| 26112.204000    | ---              | 42.77            | 63.52          | 20.75       | 1000.0          | 1000.000        | 155.0       | V   | 248.0         |
| 28959.753000    | ---              | 40.51            | 63.52          | 23.01       | 1000.0          | 1000.000        | 155.0       | H   | 162.0         |
| 29828.851000    | 53.66            | ---              | 83.52          | 29.86       | 1000.0          | 1000.000        | 155.0       | V   | 188.0         |
| 34151.106000    | ---              | 40.92            | 63.52          | 22.60       | 1000.0          | 1000.000        | 155.0       | H   | 172.0         |
| 34898.547000    | 54.83            | ---              | 83.52          | 28.70       | 1000.0          | 1000.000        | 155.0       | H   | 322.0         |
| 36967.605000    | ---              | 42.92            | 63.52          | 20.60       | 1000.0          | 1000.000        | 155.0       | H   | 112.0         |
| 37035.892000    | 55.39            | ---              | 83.52          | 28.14       | 1000.0          | 1000.000        | 155.0       | V   | 218.0         |

## 4.3 Test Results – Antenna Conducted Emissions

### 4.3.1 Antenna Conducted Emissions – Test Summary

Emissions measurements have been performed as radiated test (see section 4.2)

## 4.4 Test Results – Band Edge Compliance (Authorized Band)

### 4.4.1 Band Edge Compliance (Authorized Band) – Test Summary

|                                 |                                              |                         |
|---------------------------------|----------------------------------------------|-------------------------|
| Test Specification              | RSS-247 5.5                                  |                         |
| Test Engineer & Date            | Niall Forrester                              | 2023.02.21 – 2023.02.28 |
| EUT and Ancillary Equipment IDs | A003418772_001                               | N/A                     |
| EUT Operation Mode(s)           | Rec – Cond - CTX                             |                         |
| EUT Wireless Configuration(s)   | WLAN 802.11b/g/n 2.4 GHz (see details below) |                         |
| EUT Hardware Configuration(s)   | Stand-alone (Space Recorder)                 |                         |
| Overall Result                  | PASS                                         |                         |

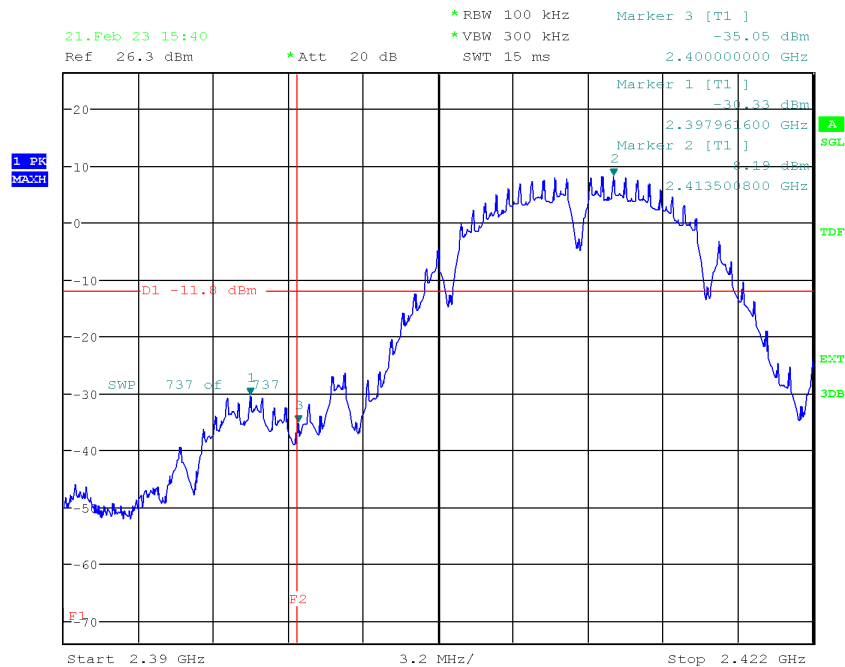
| Test Parameter                                          | Wireless Configuration                              | Max Pwr<br>(dBm/<br>100kHz) | Max<br>Emission<br>(dBC) | Limit<br>(dBC) | Result |
|---------------------------------------------------------|-----------------------------------------------------|-----------------------------|--------------------------|----------------|--------|
| Peak Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11b 20MHz 1Mbps<br>CH 1 (BPSK 2412 MHz)    | 8.19                        | <b>-38.52</b>            | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11b 20MHz 1Mbps<br>CH 1 (BPSK 2412 MHz)    | -0.89                       | <b>-38.13</b>            | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11b 20MHz 5.5Mbps<br>CH 1 (QPSK 2412 MHz)  | 8.94                        | -38.95                   | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11b 20MHz 5.5Mbps<br>CH 1 (QPSK 2412 MHz)  | -0.83                       | -45.42                   | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11b 20MHz 11Mbps<br>CH 1 (QPSK 2412 MHz)   | 8.63                        | -38.95                   | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11b 20MHz 11Mbps<br>CH 1 (QPSK 2412 MHz)   | -1.22                       | -40.37                   | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11b 20MHz 1Mbps<br>CH 11 (BPSK 2462 MHz)   | 7.83                        | <b>-53.77</b>            | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11b 20MHz 1Mbps<br>CH 11 (BPSK 2462 MHz)   | -1.06                       | <b>-54.34</b>            | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11b 20MHz 5.5Mbps<br>CH 11 (QPSK 2462 MHz) | 9.55                        | -56.68                   | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11b 20MHz 5.5Mbps<br>CH 11 (QPSK 2462 MHz) | -1.11                       | -57.43                   | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11b 20MHz 11Mbps<br>CH 11 (QPSK 2462 MHz)  | 8.45                        | -55.96                   | -20            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11b 20MHz 11Mbps<br>CH 11 (QPSK 2462 MHz)  | -1.42                       | -55.17                   | -30            | PASS   |

| Test Parameter                                          | Wireless Configuration                               | Max Pwr<br>(dBm/<br>100kHz) | Max<br>Emission<br>(dBC) | Limit<br>(dBC) | Result |
|---------------------------------------------------------|------------------------------------------------------|-----------------------------|--------------------------|----------------|--------|
| Peak Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11g 20MHz 6Mbps<br>CH 1 (BPSK 2412 MHz)     | 1.31                        | <b>-33.50</b>            | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11g 20MHz 6Mbps<br>CH 1 (BPSK 2412 MHz)     | -6.13                       | <b>-39.75</b>            | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11g 20MHz 24Mbps<br>CH 1 (16-QAM 2412 MHz)  | 1.39                        | -37.87                   | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11g 20MHz 24Mbps<br>CH 1 (16-QAM 2412 MHz)  | -7.03                       | -39.96                   | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11g 20MHz 54Mbps<br>CH 1 (64-QAM 2412 MHz)  | 1.26                        | -39.13                   | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11g 20MHz 54Mbps<br>CH 1 (64-QAM 2412 MHz)  | -7.22                       | -41.60                   | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11g 20MHz 6Mbps<br>CH 11 (BPSK 2462 MHz)    | 1.35                        | <b>-48.36</b>            | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11g 20MHz 6Mbps<br>CH 11 (BPSK 2462 MHz)    | -5.91                       | -52.96                   | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11g 20MHz 24Mbps<br>CH 11 (16-QAM 2462 MHz) | 1.49                        | -50.21                   | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11g 20MHz 24Mbps<br>CH 11 (16-QAM 2462 MHz) | -6.71                       | <b>-52.67</b>            | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11g 20MHz 54Mbps<br>CH 11 (64-QAM 2462 MHz) | 1.24                        | -51.10                   | -20            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11b 20MHz 54Mbps<br>CH 11 (64-QAM 2462 MHz) | -7.03                       | -53.97                   | -30            | PASS   |

| Test Parameter                                          | Wireless Configuration                             | Max Pwr<br>(dBm/<br>100kHz) | Max<br>Emission<br>(dBC) | Limit<br>(dBC) | Result |
|---------------------------------------------------------|----------------------------------------------------|-----------------------------|--------------------------|----------------|--------|
| Peak Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11n 20MHz MCS0<br>CH 1 (BPSK 2412 MHz)    | 1.25                        | <b>-36.32</b>            | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11n 20MHz MCS0<br>CH 1 (BPSK 2412 MHz)    | -7.00                       | <b>-42.12</b>            | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11n 20MHz MCS3<br>CH 1 (16-QAM 2412 MHz)  | 1.27                        | -38.52                   | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11n 20MHz MCS3<br>CH 1 (16-QAM 2412 MHz)  | -7.22                       | -42.27                   | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11n 20MHz MCS7<br>CH 1 (64-QAM 2412 MHz)  | 1.04                        | -38.77                   | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – Low Edge)  | WLAN 802.11n 20MHz MCS7<br>CH 1 (64-QAM 2412 MHz)  | -8.15                       | -42.13                   | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11n 20MHz MCS0<br>CH 11 (BPSK 2462 MHz)   | 1.67                        | <b>-50.18</b>            | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11n 20MHz MCS0<br>CH 11 (BPSK 2462 MHz)   | -6.71                       | -53.33                   | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11n 20MHz MCS3<br>CH 11 (16-QAM 2462 MHz) | 1.34                        | -51.50                   | -20            | PASS   |
| Avg. Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11n 20MHz MCS3<br>CH 11 (16-QAM 2462 MHz) | -7.49                       | -53.00                   | -30            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11n 20MHz MCS7<br>CH 11 (64-QAM 2462 MHz) | 1.18                        | -51.68                   | -20            | PASS   |
| Peak Emissions at Band Edge<br>(Auth. Band – High Edge) | WLAN 802.11n 20MHz MCS7<br>CH 11 (64-QAM 2462 MHz) | -7.95                       | <b>-52.99</b>            | -30            | PASS   |

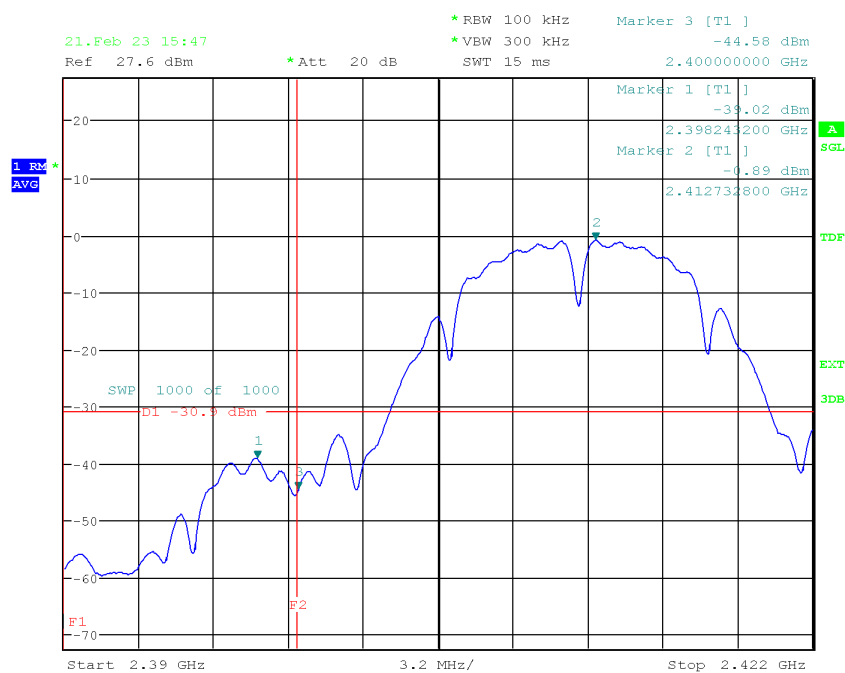
#### 4.4.2 Band Edge Compliance (Authorized Band) – Test Details (Worst Case Plots):

##### Low Channel – 802.11b 20MHz 1Mbps – Peak



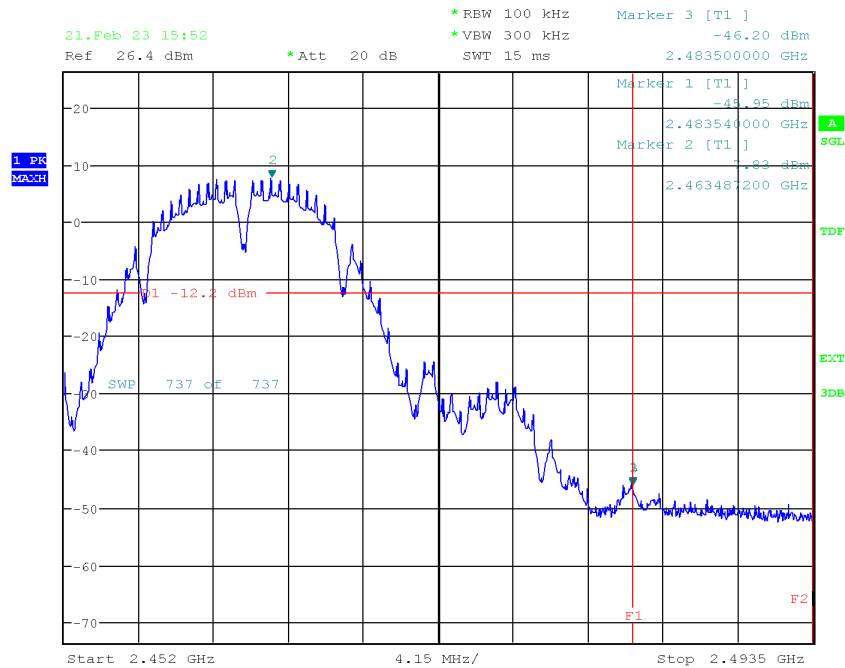
Date: 21.FEB.2023 15:40:07

##### Low Channel – 802.11b 20MHz 1Mbps – Average



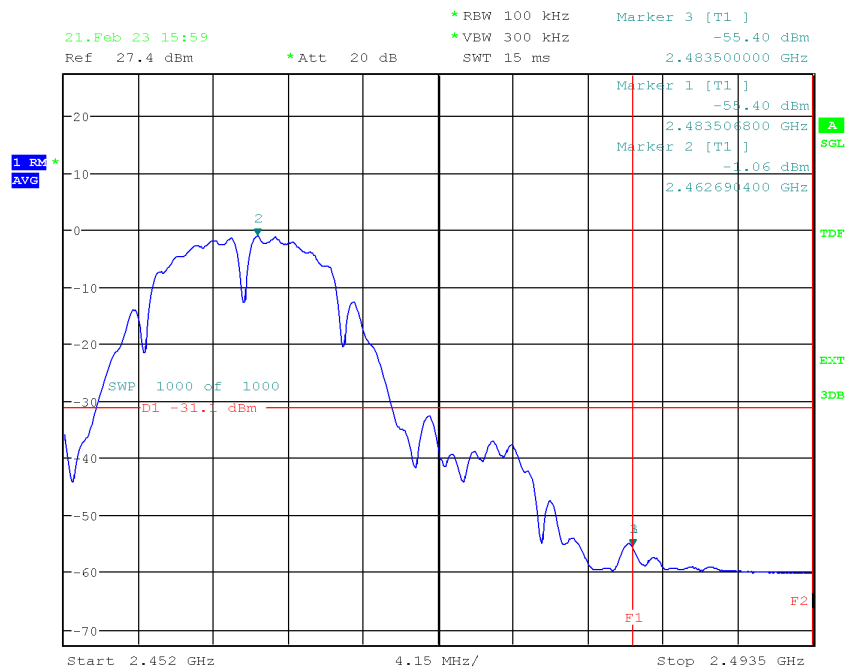
Date: 21.FEB.2023 15:47:15

### High Channel – 802.11b 20MHz 1Mbps – Peak



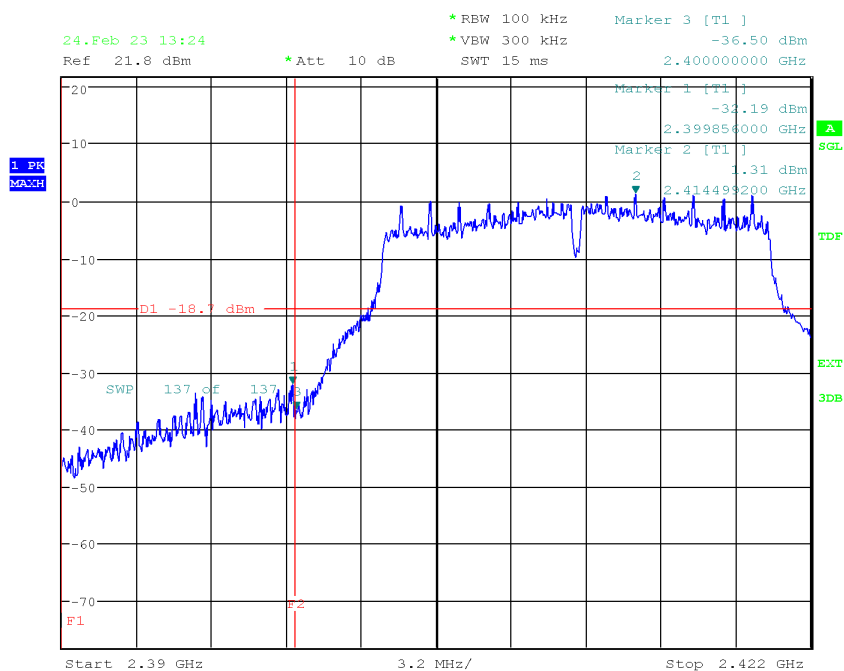
Date: 21.FEB.2023 15:52:41

### High Channel – 802.11b 20MHz 1Mbps – Average



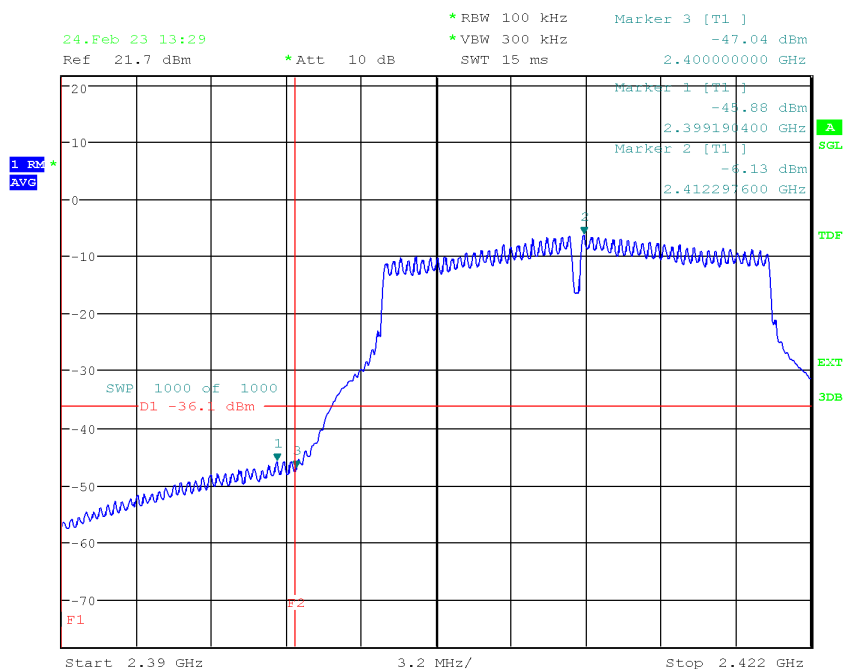
Date: 21.FEB.2023 15:59:39

### Low Channel – 802.11g 20MHz 6Mbps – Peak



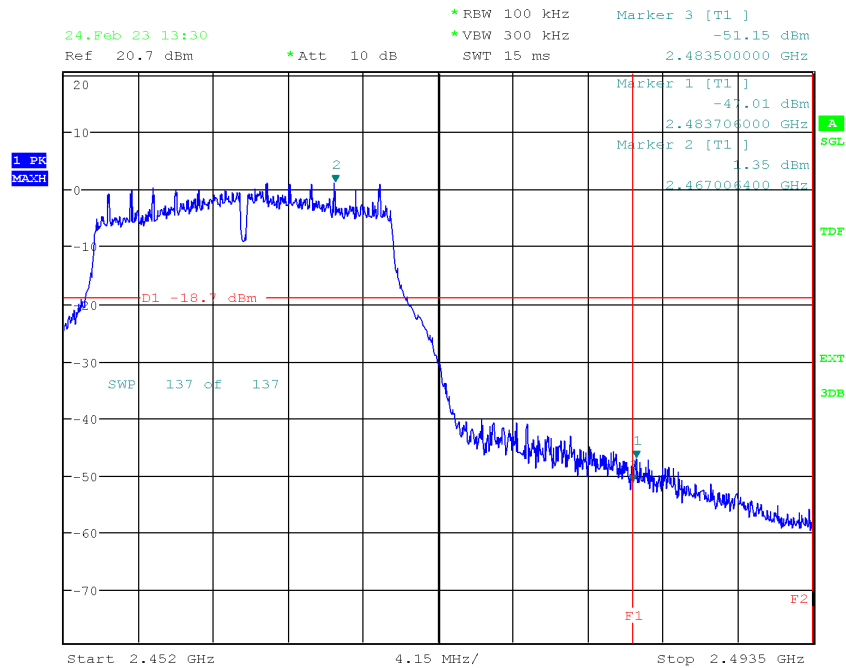
Date: 24.FEB.2023 13:24:27

### Low Channel – 802.11g 20MHz 6Mbps – Average



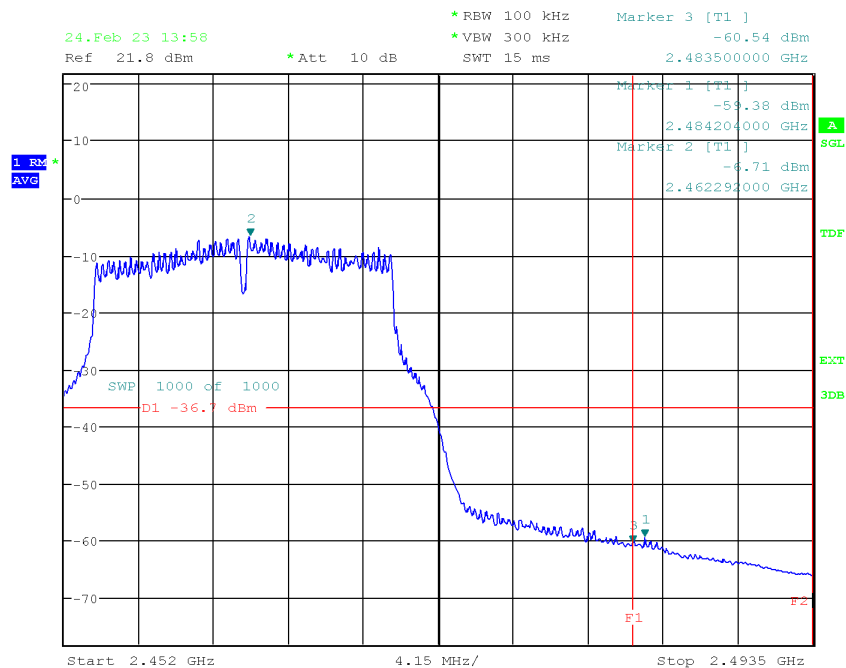
Date: 24.FEB.2023 13:29:26

### High Channel – 802.11g 20MHz 6Mbps – Peak



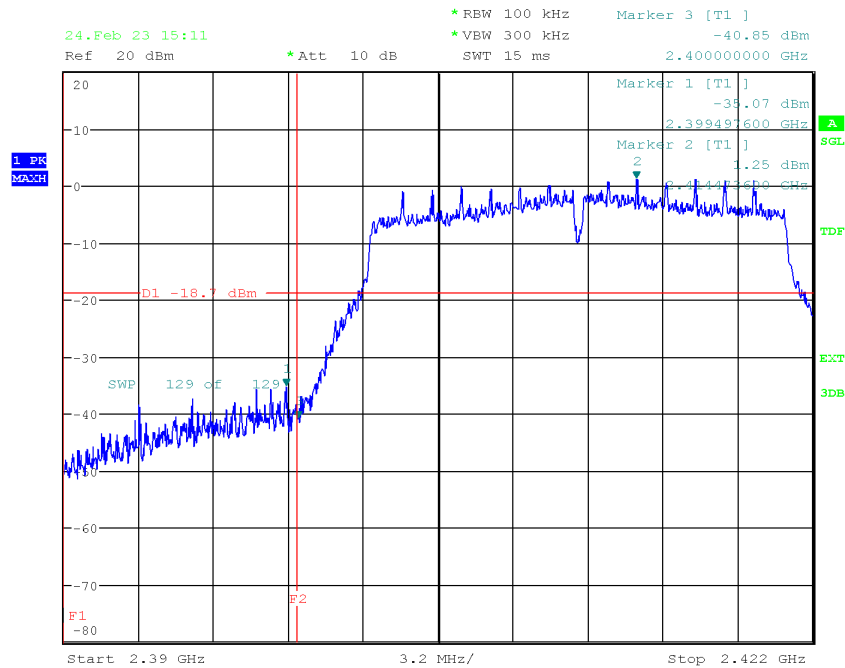
Date: 24.FEB.2023 13:30:51

### High Channel – 802.11g 20MHz 24Mbps – Average



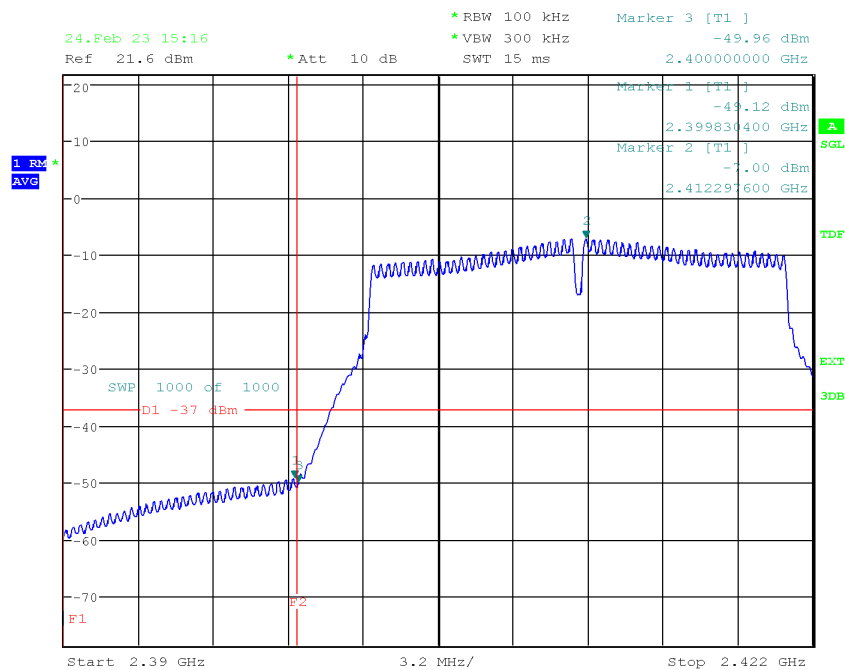
Date: 24.FEB.2023 13:58:41

### Low Channel – 802.11n 20MHz MCS0 – Peak



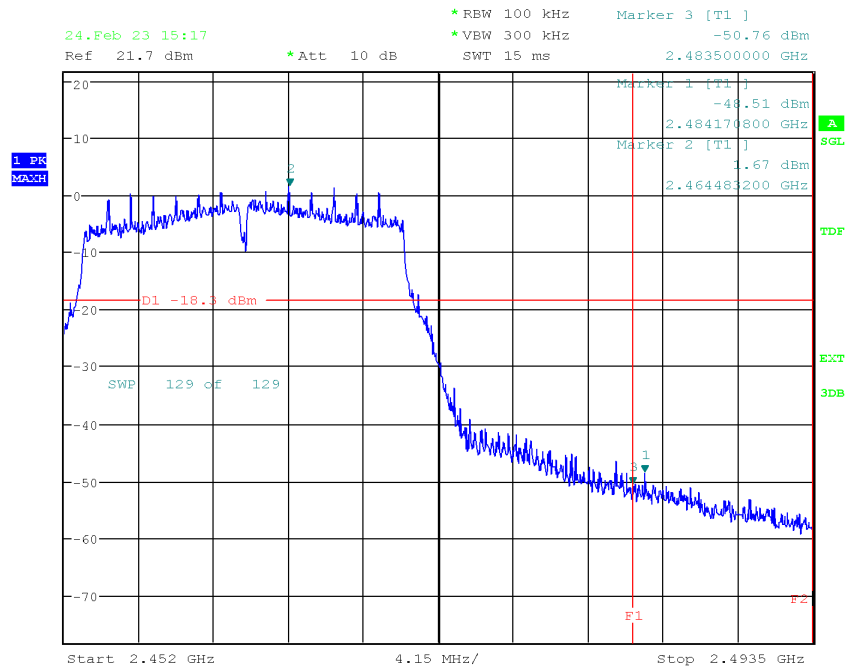
Date: 24.FEB.2023 15:11:13

### Low Channel – 802.11n 20MHz MCS0 – Average



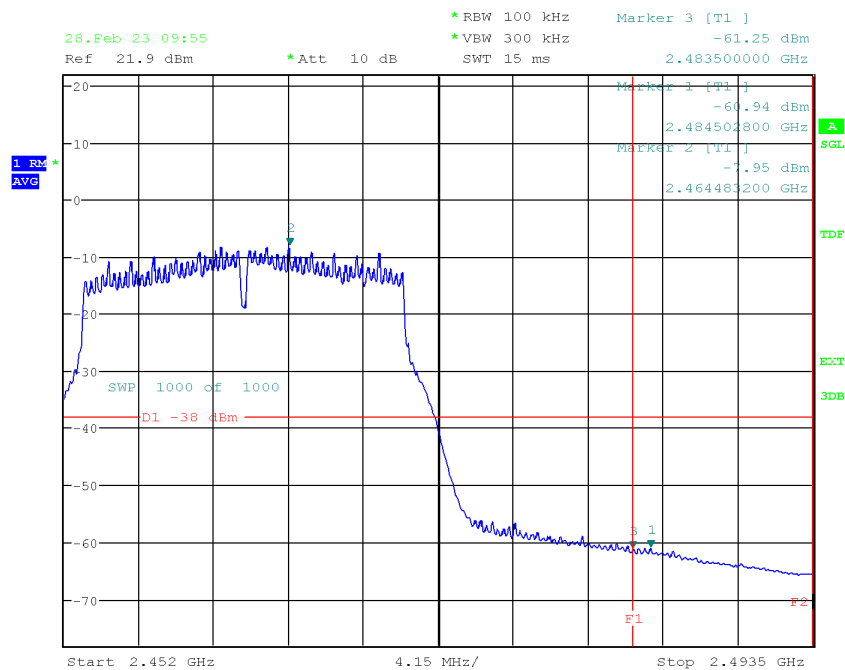
Date: 24.FEB.2023 15:16:11

### High Channel – 802.11n 20MHz MCS0 – Peak



Date: 24.FEB.2023 15:17:35

### High Channel – 802.11n 20MHz MCS7 – Average



Date: 28.FEB.2023 09:55:25

## 4.5 Test Results – Band Edge Compliance (Restricted Band)

### 4.5.1 Band Edge Compliance (Restricted Band) – Test Summary

Test not performed. See also section 4.4

## 4.6 Test Results – 20dB Emission Bandwidth

### 4.6.1 20dB Emission Bandwidth – Test Summary

This requirement is not applicable as the radio technology is non-hopping

## 4.7 Test Results – Carrier (Hopping Channel) Separation

### 4.7.1 Carrier (Hopping Channel) Separation – Test Summary

This requirement is not applicable as the radio technology is non-hopping

## 4.8 Test Results – Number of Hopping Channels

### 4.8.1 Number of Hopping Channels – Test Summary

This requirement is not applicable as the radio technology is non-hopping

## 4.9 Test Results – Time of Occupancy (Dwell Time)

### 4.9.1 Time of Occupancy (Dwell Time) – Test Summary

This requirement is not applicable as the radio technology is non-hopping

## 4.10 Test Results – 6dB & 99% Emission Bandwidth

### 4.10.1 6dB & 99% Bandwidth – Test Summary

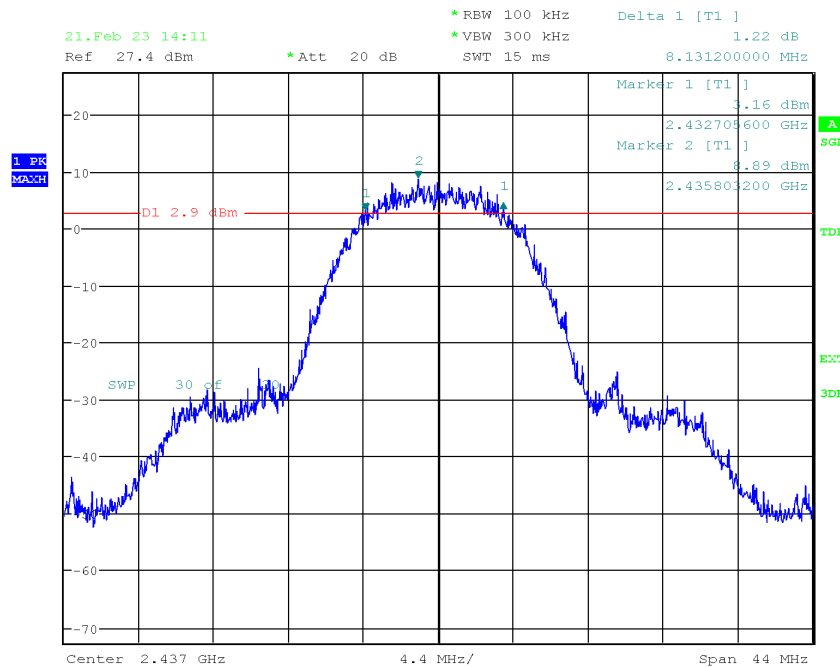
|                                 |                                              |                         |
|---------------------------------|----------------------------------------------|-------------------------|
| Test Specification              | RSS-247 5.4                                  |                         |
| Test Engineer & Date            | Niall Forrester                              | 2023.02.21 – 2023.05.03 |
| EUT and Ancillary Equipment IDs | A003418772_001                               | N/A                     |
| EUT Operation Mode(s)           | Rec – Cond - CTX                             |                         |
| EUT Wireless Configuration(s)   | WLAN 802.11b/g/n 2.4 GHz (see details below) |                         |
| EUT Hardware Configuration(s)   | Stand-alone (Space Recorder)                 |                         |
| Overall Result                  | PASS                                         |                         |

| Test Parameter | Wireless Configuration             | CH1<br>(2412 MHz)<br>Measured<br>(kHz) | CH6<br>(2437 MHz)<br>Measured<br>(kHz) | CH11<br>(2462 MHz)<br>Measured<br>(kHz) | Limit<br>(kHz) | Result |
|----------------|------------------------------------|----------------------------------------|----------------------------------------|-----------------------------------------|----------------|--------|
| 6dB Bandwidth  | WLAN 802.11b 20MHz 1Mbps (BPSK)    | 9046                                   | 9082                                   | 9046                                    | >500           | PASS   |
| 6dB Bandwidth  | WLAN 802.11b 20MHz 5.5Mbps (QPSK)  | 8413                                   | 8554                                   | 9046                                    | >500           | PASS   |
| 6dB Bandwidth  | WLAN 802.11b 20MHz 11Mbps (QPSK)   | 8765                                   | <b>8131</b>                            | 8342                                    | >500           | PASS   |
| 6dB Bandwidth  | WLAN 802.11g 20MHz 6Mbps (BPSK)    | 15648                                  | 16320                                  | 16000                                   | >500           | PASS   |
| 6dB Bandwidth  | WLAN 802.11g 20MHz 24Mbps (16-QAM) | 15968                                  | 16320                                  | 16320                                   | >500           | PASS   |
| 6dB Bandwidth  | WLAN 802.11g 20MHz 54Mbps (64-QAM) | 15904                                  | 15744                                  | 15872                                   | >500           | PASS   |
| 6dB Bandwidth  | WLAN 802.11n 20MHz MCS0 (BPSK)     | 16288                                  | 17152                                  | 16032                                   | >500           | PASS   |
| 6dB Bandwidth  | WLAN 802.11n 20MHz MCS3 (16-QAM)   | 17280                                  | 17632                                  | 16864                                   | >500           | PASS   |
| 6dB Bandwidth  | WLAN 802.11n 20MHz MCS7 (64-QAM)   | 15104                                  | 17408                                  | 16896                                   | >500           | PASS   |

| Test Parameter | Wireless Configuration             | CH1<br>(2412 MHz)<br>Measured<br>(kHz) | CH6<br>(2437 MHz)<br>Measured<br>(kHz) | CH11<br>(2462 MHz)<br>Measured<br>(kHz) | Limit<br>(kHz) | Result    |
|----------------|------------------------------------|----------------------------------------|----------------------------------------|-----------------------------------------|----------------|-----------|
| 99% Bandwidth  | WLAN 802.11b 20MHz 1Mbps (BPSK)    | 12179.49                               | 12243.59                               | 12307.69                                | -              | Info Only |
| 99% Bandwidth  | WLAN 802.11b 20MHz 5.5Mbps (QPSK)  | 11666.67                               | 11666.67                               | 11794.87                                | -              | Info Only |
| 99% Bandwidth  | WLAN 802.11b 20MHz 11Mbps (QPSK)   | 11794.87                               | 11923.08                               | 11987.18                                | -              | Info Only |
| 99% Bandwidth  | WLAN 802.11g 20MHz 6Mbps (BPSK)    | 17115.38                               | 17243.59                               | 16987.18                                | -              | Info Only |
| 99% Bandwidth  | WLAN 802.11g 20MHz 24Mbps (16-QAM) | 16858.97                               | 16923.08                               | 16794.82                                | -              | Info Only |
| 99% Bandwidth  | WLAN 802.11g 20MHz 54Mbps (64-QAM) | 16602.56                               | 16666.67                               | 16602.56                                | -              | Info Only |
| 99% Bandwidth  | WLAN 802.11n 20MHz MCS0 (BPSK)     | 18141.03                               | 18141.03                               | 17884.62                                | -              | Info Only |
| 99% Bandwidth  | WLAN 802.11n 20MHz MCS3 (16-QAM)   | 17948.72                               | 18012.82                               | 17884.62                                | -              | Info Only |
| 99% Bandwidth  | WLAN 802.11n 20MHz MCS7 (64-QAM)   | 18012.82                               | 17884.62                               | 17948.72                                | -              | Info Only |

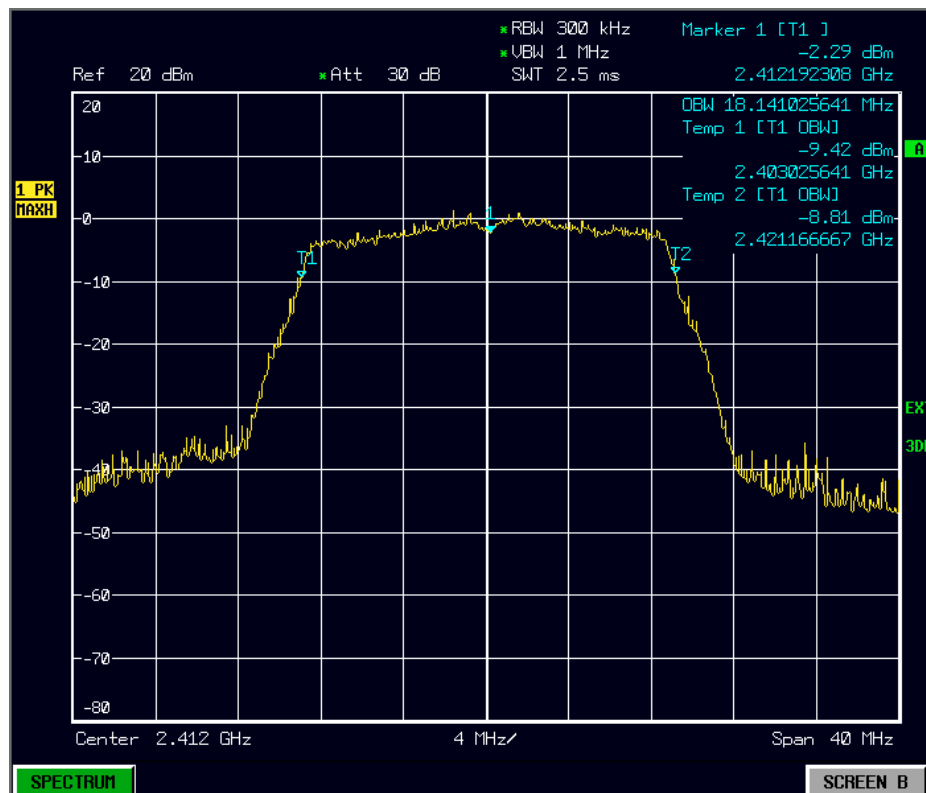
#### 4.10.2 6dB & 99% Bandwidth – Test Details: (Worst Case Plot):

##### 6dB bandwidth: Mid Channel – 802.11b 20MHz 1Mbps



Date: 21.FEB.2023 14:11:20

##### 99% Bandwidth: Low Channel – 802.11n 20MHz MCS0



DATE: 16.JAN.2023 16:09:00

## 4.11 Test Results – Peak Conducted Output Power

### 4.11.1 Peak Conducted Output Power – Test Summary

|                                 |                                              |                         |
|---------------------------------|----------------------------------------------|-------------------------|
| Test Specification              | RSS-247 5.4                                  |                         |
| Test Engineer & Date            | Niall Forrester                              | 2023.02.21 – 2023.03.08 |
| EUT and Ancillary Equipment IDs | A003418772_001                               | N/A                     |
| EUT Operation Mode(s)           | Rec – Cond - CTX                             |                         |
| EUT Wireless Configuration(s)   | WLAN 802.11b/g/n 2.4 GHz (see details below) |                         |
| EUT Hardware Configuration(s)   | Stand-alone (Space Recorder)                 |                         |
| Overall Result                  | PASS                                         |                         |

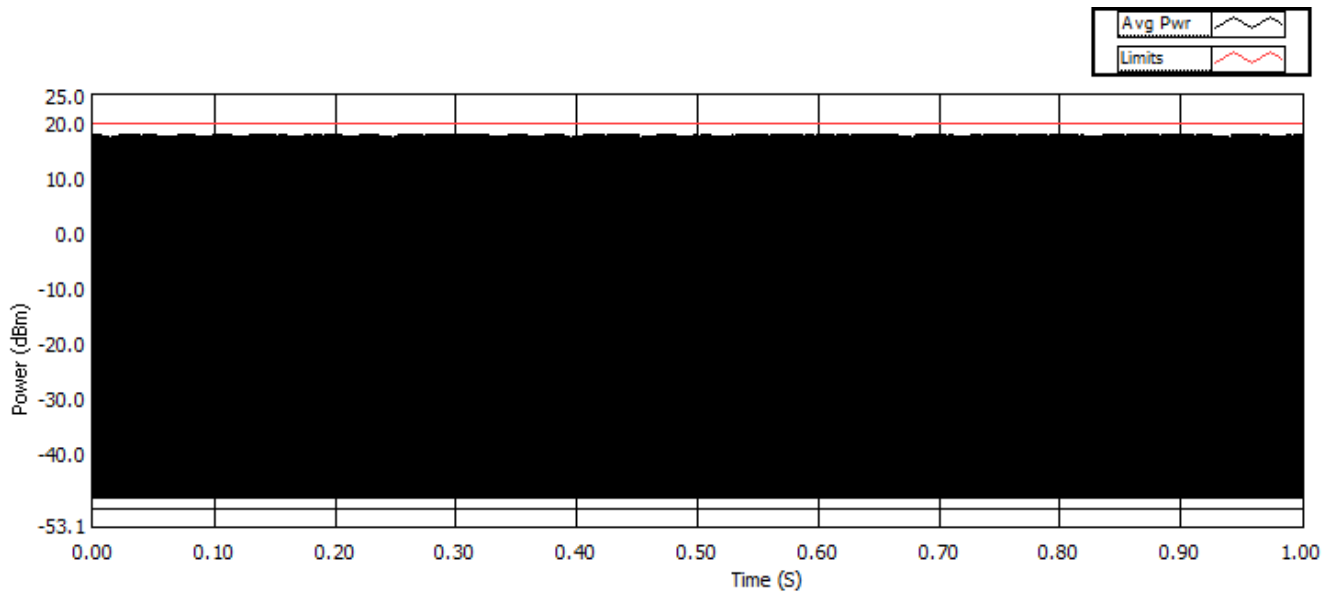
| Test Parameter              | Wireless Configuration                              | Measured Level (dBm) |              |               | Limit (dBm)   | Result |
|-----------------------------|-----------------------------------------------------|----------------------|--------------|---------------|---------------|--------|
|                             |                                                     | Low*<br>2.75V        | Nom*<br>3.6V | High*<br>4.2V |               |        |
| Peak Conducted Output Power | WLAN 802.11b 20MHz 1Mbps<br>CH 1 (BPSK 2412 MHz)    | -                    | 17.70        | -             | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11b 20MHz 5.5Mbps<br>CH 1 (QPSK 2412 MHz)  | -                    | 17.52        | -             | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11b 20MHz 11Mbps<br>CH 1 (QPSK 2412 MHz)   | 17.45                | 17.64        | 17.62         | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11b 20MHz 1Mbps<br>CH 6 (BPSK 2437 MHz)    | -                    | 17.96        | -             | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11b 20MHz 5.5Mbps<br>CH 6 (QPSK 2437 MHz)  | -                    | 17.98        | -             | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11b 20MHz 11Mbps<br>CH 6 (QPSK 2437 MHz)   | 17.94                | <b>18.11</b> | 18.16         | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11b 20MHz 1Mbps<br>CH 11 (BPSK 2462 MHz)   | -                    | 17.62        | -             | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11b 20MHz 5.5Mbps<br>CH 11 (QPSK 2462 MHz) | -                    | 17.51        | -             | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11b 20MHz 11Mbps<br>CH 11 (QPSK 2462 MHz)  | 17.56                | 17.63        | 17.64         | > -20<br>< 30 | PASS   |

| Test Parameter              | Wireless Configuration                            | Measured Level (dBm) |              |               | Limit (dBm)   | Result |
|-----------------------------|---------------------------------------------------|----------------------|--------------|---------------|---------------|--------|
|                             |                                                   | Low*<br>2.75V        | Nom*<br>3.6V | High*<br>4.2V |               |        |
| Peak Conducted Output Power | WLAN 802.11g 20MHz 6Mbps CH 1 (BPSK 2412 MHz)     | 13.57                | 13.52        | 13.55         | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11g 20MHz 24Mbps CH 1 (16-QAM 2412 MHz)  | 13.57                | 13.58        | 13.55         | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11g 20MHz 54Mbps CH 1 (64-QAM 2412 MHz)  | -                    | 13.41        | -             | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11g 20MHz 6Mbps CH 6 (BPSK 2437 MHz)     | 17.76                | <b>17.99</b> | 18.11         | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11g 20MHz 24Mbps CH 6 (16-QAM 2437 MHz)  | 17.63                | 17.65        | 17.71         | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11g 20MHz 54Mbps CH 6 (64-QAM 2437 MHz)  | -                    | 15.01        | -             | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11g 20MHz 6Mbps CH 11 (BPSK 2462 MHz)    | 13.73                | 13.61        | 13.62         | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11g 20MHz 24Mbps CH 11 (16-QAM 2462 MHz) | 13.51                | 13.42        | 13.68         | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11g 20MHz 54Mbps CH 11 (64-QAM 2462 MHz) | -                    | 13.58        | -             | > -20<br>< 30 | PASS   |

| Test Parameter              | Wireless Configuration                          | Measured Level (dBm) |              |               | Limit (dBm)   | Result |
|-----------------------------|-------------------------------------------------|----------------------|--------------|---------------|---------------|--------|
|                             |                                                 | Low*<br>2.75V        | Nom*<br>3.6V | High*<br>4.2V |               |        |
| Peak Conducted Output Power | WLAN 802.11n 20MHz MCS0 CH 1 (BPSK 2412 MHz)    | -                    | 12.98        | -             | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11n 20MHz MCS3 CH 6 (16-QAM 2437 MHz)  | 13.15                | 13.30        | 13.35         | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11n 20MHz MCS7 CH 11 (64-QAM 2462 MHz) | -                    | 13.46        | -             | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11n 20MHz MCS0 CH 1 (BPSK 2412 MHz)    | -                    | 15.52        | -             | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11n 20MHz MCS3 CH 6 (16-QAM 2437 MHz)  | 15.69                | <b>15.65</b> | 15.59         | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11n 20MHz MCS7 CH 11 (64-QAM 2462 MHz) | -                    | 13.80        | -             | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11n 20MHz MCS0 CH 1 (BPSK 2412 MHz)    | -                    | 13.37        | -             | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11n 20MHz MCS3 CH 6 (16-QAM 2437 MHz)  | 13.36                | 13.30        | 13.46         | > -20<br>< 30 | PASS   |
| Peak Conducted Output Power | WLAN 802.11n 20MHz MCS7 CH 11 (64-QAM 2462 MHz) | -                    | 13.39        | -             | > -20<br>< 30 | PASS   |

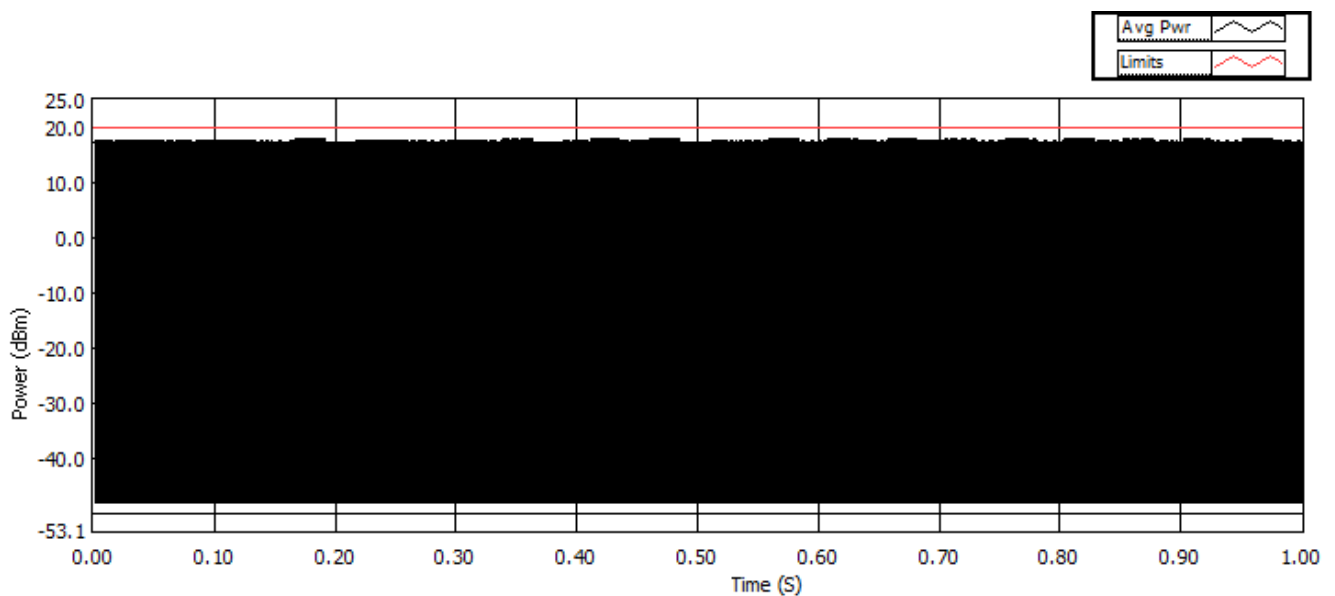
#### 4.11.2 Peak Conducted Output Power – Test Details: (Worst case Plots for nominal conditions)

##### Mid Channel – 802.11b 20MHz 11Mbps



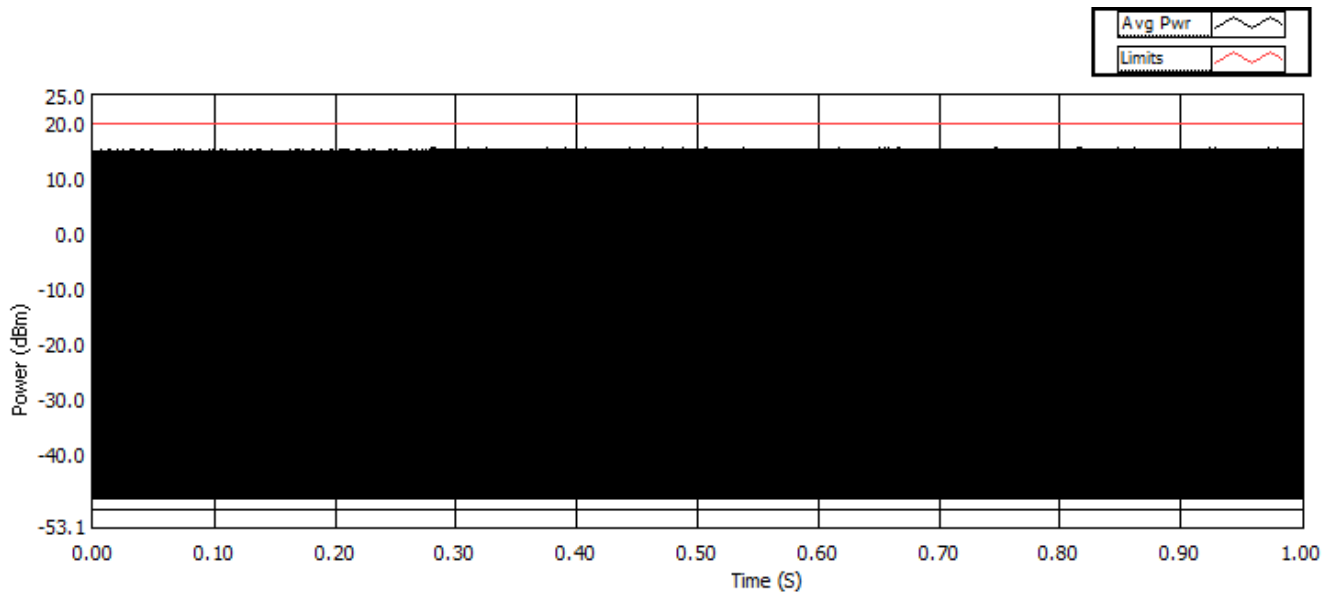
WLAN\_F\_TXMAXP\_2.4G\_20M\_TBW\_Ch\_6\_B\_Ck11M\_HrDsL\_A1\_Other Settings\_hWnd\_0\_  
ID\_0\_MB\_Burst\_TGTY\_BurstTrigger\_SR\_5.0Ms/s\_TH\_20.0dBc\_MT\_1.0s

##### Mid Channel – 802.11g 20MHz 6Mbps



WLAN\_F\_TXMAXP\_2.4G\_20M\_TBW\_Ch\_6\_G\_Of6M\_Er\_A1\_Other Settings\_hWnd\_0\_  
ID\_0\_MB\_Burst\_TGTY\_BurstTrigger\_SR\_5.0Ms/s\_TH\_20.0dBc\_MT\_1.0s

Mid Channel – 802.11n 20MHz MCS3



WLAN\_F\_TXMAXP\_2.4G\_20M\_TBW\_Ch\_6\_N\_MCS3\_HtMF\_LGI\_A1\_Other Settings\_hWnd\_  
0\_ID\_0\_MB\_Burst\_TGTY\_BurstTrigger\_SR\_5.0Ms/s\_TH\_20.0dBc\_MT\_1.0s

#### 4.11.3 Power Spectral Density – Test Summary

|                                 |                                              |                         |
|---------------------------------|----------------------------------------------|-------------------------|
| Test Specification              | RSS-247 5.2 (b)                              |                         |
| Test Engineer & Date            | Niall Forrester                              | 2023.02.21 – 2023.02.23 |
| EUT and Ancillary Equipment IDs | A003418772_001                               | N/A                     |
| EUT Operation Mode(s)           | Rec – Cond - CTX                             |                         |
| EUT Wireless Configuration(s)   | WLAN 802.11b/g/n 2.4 GHz (see details below) |                         |
| EUT Hardware Configuration(s)   | Stand-alone (Space Recorder)                 |                         |
| Overall Result                  | PASS                                         |                         |

| Test Parameter | Wireless Configuration                              | Measured (dBm/3kHz) | Low Limit (dBm/3kHz) | High Limit (dBm/3kHz) | Result |
|----------------|-----------------------------------------------------|---------------------|----------------------|-----------------------|--------|
| Power Density  | WLAN 802.11b 20MHz 1Mbps<br>CH 1 (BPSK 2412 MHz)    | -15.88              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11b 20MHz 5.5Mbps<br>CH 1 (QPSK 2412 MHz)  | -15.11              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11b 20MHz 11Mbps<br>CH 1 (QPSK 2412 MHz)   | -14.46              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11b 20MHz 1Mbps<br>CH 6 (BPSK 2437 MHz)    | -15.47              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11b 20MHz 5.5Mbps<br>CH 6 (QPSK 2437 MHz)  | -14.48              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11b 20MHz 11Mbps<br>CH 6 (QPSK 2437 MHz)   | <b>-14.11</b>       | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11b 20MHz 1Mbps<br>CH 11 (BPSK 2462 MHz)   | -15.83              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11b 20MHz 5.5Mbps<br>CH 11 (QPSK 2462 MHz) | -15.38              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11b 20MHz 11Mbps<br>CH 11 (QPSK 2462 MHz)  | -14.20              | -30.00               | 8.00                  | PASS   |

| Test Parameter | Wireless Configuration                               | Measured (dBm/3kHz) | Low Limit (dBm/3kHz) | High Limit (dBm/3kHz) | Result |
|----------------|------------------------------------------------------|---------------------|----------------------|-----------------------|--------|
| Power Density  | WLAN 802.11g 20MHz 6Mbps<br>CH 1 (BPSK 2412 MHz)     | -18.75              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11g 20MHz 24Mbps<br>CH 1 (16-QAM 2412 MHz)  | -18.05              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11g 20MHz 54Mbps<br>CH 1 (64-QAM 2412 MHz)  | -16.89              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11g 20MHz 6Mbps<br>CH 6 (BPSK 2437 MHz)     | -14.53              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11g 20MHz 24Mbps<br>CH 6 (16-QAM 2437 MHz)  | <b>-13.68</b>       | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11g 20MHz 54Mbps<br>CH 6 (64-QAM 2437 MHz)  | -15.48              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11g 20MHz 6Mbps<br>CH 11 (BPSK 2462 MHz)    | -18.58              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11g 20MHz 24Mbps<br>CH 11 (16-QAM 2462 MHz) | -17.61              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11g 20MHz 54Mbps<br>CH 11 (64-QAM 2462 MHz) | -16.43              | -30.00               | 8.00                  | PASS   |

| Test Parameter | Wireless Configuration                          | Measured (dBm/3kHz) | Low Limit (dBm/3kHz) | High Limit (dBm/3kHz) | Result |
|----------------|-------------------------------------------------|---------------------|----------------------|-----------------------|--------|
| Power Density  | WLAN 802.11n 20MHz MCS0 CH 1 (BPSK 2412 MHz)    | -21.19              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11n 20MHz MCS3 CH 6 (16-QAM 2437 MHz)  | -20.20              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11n 20MHz MCS7 CH 11 (64-QAM 2462 MHz) | -18.38              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11n 20MHz MCS0 CH 1 (BPSK 2412 MHz)    | -18.72              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11n 20MHz MCS3 CH 6 (16-QAM 2437 MHz)  | -17.74              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11n 20MHz MCS7 CH 11 (64-QAM 2462 MHz) | -18.39              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11n 20MHz MCS0 CH 1 (BPSK 2412 MHz)    | -20.86              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11n 20MHz MCS3 CH 6 (16-QAM 2437 MHz)  | -20.01              | -30.00               | 8.00                  | PASS   |
| Power Density  | WLAN 802.11n 20MHz MCS7 CH 11 (64-QAM 2462 MHz) | -18.27              | -30.00               | 8.00                  | PASS   |

## 4.12 Test Results – Transmitter Frequency Stability

### 4.12.1 Transmitter Frequency Stability – Test Summary

This requirement is not applicable for WLAN

## 4.13 Test Results – Maximum Power and e.r.p. Summary

The following details are presented for information only

| Technology              | Band / Configuration | Measured Maximum Conducted Power (dBm) | Measured Maximum Conducted Power (mW) | Antenna Gain (dBi) | Calculated Maximum e.r.p (dBm) | Calculated Maximum e.r.p (mW) |
|-------------------------|----------------------|----------------------------------------|---------------------------------------|--------------------|--------------------------------|-------------------------------|
| WLAN 802.11b/g/n (Main) | 2.4 GHz 802.11b      | 18.16                                  | 65.46                                 | 4.20               | 20.21                          | 104.95                        |
| WLAN 802.11b/g/n (Main) | 2.4 GHz 802.11g      | 18.11                                  | 64.71                                 | 4.20               | 20.16                          | 103.75                        |
| WLAN 802.11b/g/n (Main) | 2.4 GHz 802.11n      | 15.69                                  | 37.07                                 | 4.20               | 17.74                          | 59.43                         |

## 5. TEST EQUIPMENT STATUS

### 5.1 List of Hardware with Calibration Dates

#### 5.1.1 Hardware List – CTE System

| Type                              | Manufacturer               | Model      | Serial Number / ID           | Calibration Date | Calibration Due |
|-----------------------------------|----------------------------|------------|------------------------------|------------------|-----------------|
| Comprehensive Testing Environment | TÜV Rheinland LGA Products | HWE 6000   | 00139                        | N/A              | N/A             |
| Bluetooth Signaling Unit          | Rohde & Schwarz            | CMW500     | 163750<br>2711468            | 2022.07.18       | 2023.07.18      |
| Spectrum Analyzer                 | Rohde & Schwarz            | FSU26      | 100308<br>2704108            | 2022.07.13       | 2023.07.13      |
| Vector Signal Generator           | Rohde & Schwarz            | SMU200A    | 101584<br>2704111            | 2022.09.08       | 2023.09.08      |
| Power Supply                      | Keithley                   | 2303       | 1198722<br>2717714           | 2022.08.22       | 2023.08.22      |
| Multimeter                        | Keithley                   | 2700       | 1035251<br>2704115           | 2022.07.06       | 2023.07.06      |
| Average Power Sensor              | Rohde & Schwarz            | NRP-Z31    | 102145<br>2704104            | 2022.07.14       | 2023.07.14      |
| Temperature Chamber               | Vötsch                     | VT4002     | 58566081940010<br>2717693    | N/A              | N/A             |
| Single Input Thermometer          | Fluke                      | Fluke-51-2 | 41410362WS<br>2807523        | 2022.07.02       | 2023.07.02      |
| Temperature probe                 | Fluke                      | 80PK-1     | WPL26041802<br>2807528       | 2022.07.02       | 2023.07.02      |
| Digital Multimeter                | Fluke                      | 87         | 61320241<br>2744110          | 2022.07.05       | 2023.07.05      |
| Humidity Temperature Probe        | Lufft                      | OPUS 20    | 146.0216.0802.030<br>2703980 | 2022.07.27       | 2024.07.27      |

#### 5.1.2 Hardware List – Conducted Emissions System

| Type                          | Manufacturer    | Model   | Serial Number / ID           | Calibration Date | Calibration Due |
|-------------------------------|-----------------|---------|------------------------------|------------------|-----------------|
| Two-Line V-network            | Rohde & Schwarz | ENV216  | 101090<br>2704076            | 2022.07.14       | 2023.07.14      |
| Test Receiver 9KHz to 3.5 GHz | Rohde & Schwarz | ESR3    | 101674<br>2704016            | 2022.08.19       | 2023.08.19      |
| Humidity Temperature Probe    | Lufft           | OPUS 20 | 146.0216.0802.030<br>2703980 | 2022.07.27       | 2024.07.27      |

### 5.1.3 Hardware List – SAC5 System

| Type                                 | Manufacturer    | Model                | Serial Number / ID           | Calibration Date | Calibration Due |
|--------------------------------------|-----------------|----------------------|------------------------------|------------------|-----------------|
| EMI Test Receiver                    | Rohde & Schwarz | ESW44                | 101760<br>2881044            | 2022.07.21       | 2023.07.21      |
| Ultra Broadband Antenna              | Rohde & Schwarz | HL562E               | 100988<br>2823181            | 2021.07.26       | 2023.07.26      |
| Double Ridged Waveguide Horn Antenna | Rohde & Schwarz | HF907                | 102678<br>2823164            | 2021.07.26       | 2023.07.26      |
| Horn Antenna                         | ETS Lindgren    | UG-596A/U            | 20898<br>2814839             | 2022.07.26       | 2024.07.26      |
| Horn Antenna – 40 GHz                | ETS Lindgren    | UG-600A/U            | 20623<br>2814834             | 2022.07.26       | 2024.07.26      |
| Control Device                       | Maturo          | NCD                  | NCD/393/2372.01<br>2884216   | N/A              | N/A             |
| Open Switch & Control Unit           | Rohde & Schwarz | OSP150               | 100081<br>2884198            | 2022.08.01       | 2023.08.01      |
| Open Switch & Control Unit           | Rohde & Schwarz | OSP120               | 100084<br>2761253            | 2022.08.01       | 2023.08.01      |
| Shielded Filter Unit                 | Rohde & Schwarz | OSP-F<br>Extension 1 | 101333<br>2761265            | 2022.08.01       | 2023.08.01      |
| Shielded Filter Unit                 | Rohde & Schwarz | OSP-F<br>Extension 2 | 101335<br>2761266            | 2022.08.01       | 2023.08.01      |
| Shielded Filter Unit                 | Rohde & Schwarz | OSP-F<br>Base Unit   | 101330<br>2761262            | 2022.08.01       | 2023.08.01      |
| Humidity Temperature Probe           | Lufft           | OPUS 20              | 146.0216.0802.030<br>2703980 | 2022.07.27       | 2024.07.27      |

## 5.2 Software / Firmware Versions

| Equipment                               | Software / Firmware Name | Version        |
|-----------------------------------------|--------------------------|----------------|
| Comprehensive Testing Environment (CTE) | CTE – TMF<br>CTE – BT    | V51.0<br>V44.0 |
| Conducted Emissions System              | EMC 32                   | V10.60.20      |
| SAC 5                                   | EMC 32                   | V10.60.20      |

## 6. MEASUREMENT UNCERTAINTY

### 6.1 Measurement Uncertainty for CTE

| Parameter                                                       | Uncertainty (Coverage Factor k=2) |
|-----------------------------------------------------------------|-----------------------------------|
| Maximum Output Power (15.247b)                                  | ±0.51 dB                          |
| 6dB / 20dB Channel Bandwidth & 99% Occupied bandwidth (15.247a) | <5%                               |
| Carrier Frequency Separation (15.247a)                          | N/A                               |
| Number of Hopping Channels (15.247a)                            | N/A                               |
| Time of Occupancy – Dwell Time (15.247a)                        | N/A                               |
| Band Edge Compliance of Conducted Emissions (15.247a)           | ±1.04 dB                          |
| Conducted Spurious Emissions (15.247d)                          | ±2.98 dB                          |
| Power Spectral Density (15.247e)                                | ±0.51 dB                          |

### 6.2 Measurement Uncertainty for Conducted Emissions

| Parameter                                      | Uncertainty (Coverage Factor k=2) |
|------------------------------------------------|-----------------------------------|
| Conducted emissions with LISN 150KHz to 30 MHz | 2.98 dB                           |

### 6.3 Measurement Uncertainty for SAC 5 (Radiated Emissions & Band Edge)

| Parameter                       | Uncertainty (Coverage Factor k=2) |
|---------------------------------|-----------------------------------|
| Field Strength 10 Hz -9 kHz     | 3.38 dB                           |
| Field Strength 9 kHz -30 MHz    | 3.38 dB                           |
| Field Strength 30 MHz -1000 MHz | 3.38 dB                           |
| Field Strength 1 GHz -18 GHz    | 4.88 dB                           |
| Field Strength 18 GHz - 40 GHz  | 5.14 dB                           |

## 7. PHOTOGRAPHS

See Appendix 1 for photographs