

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                             |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------|--------------------------------|----------------|--------------|---------|------------------|-----------------|----------------|--|-------------------------------------------|-------------------------------------------------|-----------------------|----------------------|--|-----------|---------------|----------|------------------|----------------|----------|--|--------------------------------------------|--------------------------------------------|----------------------|------------------|--|
| <b>Prüfbericht-Nr.:</b><br><i>Test report no.:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | CN25TYS3 001                                                | <b>Auftrags-Nr.:</b><br><i>Order no.:</i>                                          | 48273429               | Seite 1 von 35<br>Page 1 of 35 |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Kunden-Referenz-Nr.:</b><br><i>Client reference no.:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | N/A                                                         | <b>Auftragsdatum:</b><br><i>Order date:</i>                                        | 2025-02-25             |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Auftraggeber:</b><br><i>Client:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | BenQ Corporation<br>16 Jihu Road, Neihu, Taipei 114, Taiwan |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Prüfgegenstand:</b><br><i>Test item:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | InstaShow                                                   |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Bezeichnung / Typ-Nr.:</b><br><i>Identification / Type no.:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | WDC15R                                                      |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Auftrags-Inhalt:</b><br><i>Order content:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | FCC Part 15E Test report (WiFi 5GHz)                        |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Prüfgrundlage:</b><br><i>Test specification:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | FCC 47CFR Part 15: Subpart E Section 15.407                 |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Wareneingangsdatum:</b><br><i>Date of sample receipt:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2025-04-17                                                  |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Prüfmuster-Nr.:</b><br><i>Test sample no:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A003974671-018                                              |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Prüfzeitraum:</b><br><i>Testing period:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2025-04-18 - 2025-05-17                                     |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Ort der Prüfung:</b><br><i>Place of testing:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | EMC/RF Taipei Testing Site                                  |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Prüflaboratorium:</b><br><i>Testing laboratory:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Taipei Testing Laboratories                                 |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Prüfergebnis*:</b><br><i>Test result*:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Pass                                                        |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>überprüft von:</b><br><i>compiled by:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>genehmigt von:</b><br><i>authorized by:</i>              |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Datum:</b><br><i>Date:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2025-06-02                                                  |                                                                                    | 2025-06-02             |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Stellung / Position:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Section Manager                                             |                                                                                    | Senior Project Manager |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Sonstiges / Other:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                             |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                             |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <b>Zustand des Prüfgegenstandes bei Anlieferung:</b><br><i>Condition of the test item at delivery:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                             | Prüfmuster vollständig und unbeschädigt<br><i>Test item complete and undamaged</i> |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| <table><tr><td>* Legende:</td><td>1 = sehr gut</td><td>2 = gut</td><td>3 = befriedigend</td><td>4 = ausreichend</td><td>5 = mangelhaft</td></tr><tr><td></td><td>P(ass) = entspricht o.g. Prüfgrundlage(n)</td><td>F(ail) = entspricht nicht o.g. Prüfgrundlage(n)</td><td>N/A = nicht anwendbar</td><td>N/T = nicht getestet</td><td></td></tr><tr><td>* Legend:</td><td>1 = very good</td><td>2 = good</td><td>3 = satisfactory</td><td>4 = sufficient</td><td>5 = poor</td></tr><tr><td></td><td>P(ass) = passed a.m. test specification(s)</td><td>F(ail) = failed a.m. test specification(s)</td><td>N/A = not applicable</td><td>N/T = not tested</td><td></td></tr></table> |                                                             |                                                                                    |                        |                                | * Legende:     | 1 = sehr gut | 2 = gut | 3 = befriedigend | 4 = ausreichend | 5 = mangelhaft |  | P(ass) = entspricht o.g. Prüfgrundlage(n) | F(ail) = entspricht nicht o.g. Prüfgrundlage(n) | N/A = nicht anwendbar | N/T = nicht getestet |  | * Legend: | 1 = very good | 2 = good | 3 = satisfactory | 4 = sufficient | 5 = poor |  | P(ass) = passed a.m. test specification(s) | F(ail) = failed a.m. test specification(s) | N/A = not applicable | N/T = not tested |  |
| * Legende:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1 = sehr gut                                                | 2 = gut                                                                            | 3 = befriedigend       | 4 = ausreichend                | 5 = mangelhaft |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | P(ass) = entspricht o.g. Prüfgrundlage(n)                   | F(ail) = entspricht nicht o.g. Prüfgrundlage(n)                                    | N/A = nicht anwendbar  | N/T = nicht getestet           |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
| * Legend:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1 = very good                                               | 2 = good                                                                           | 3 = satisfactory       | 4 = sufficient                 | 5 = poor       |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | P(ass) = passed a.m. test specification(s)                  | F(ail) = failed a.m. test specification(s)                                         | N/A = not applicable   | 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><i>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. This test report does not entitle to carry any test mark.</i>                                                                                                                                                                                                                         |                                                             |                                                                                    |                        |                                |                |              |         |                  |                 |                |  |                                           |                                                 |                       |                      |  |           |               |          |                  |                |          |  |                                            |                                            |                      |                  |  |

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**Anmerkungen**  
*Remarks*

- |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b> | <p>Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben.<br/>Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden.</p> <p><i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>2</b> | <p>Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben. Informationen zur Verifizierung der Authentizität unserer Dokumente erhalten Sie auf folgender Webseite: <a href="https://go.tuv.com/digital-signature">go.tuv.com/digital-signature</a></p> <p><i>As contractually agreed, this document has been signed digitally only. TUV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TUV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged. For information on verifying the authenticity of our documents, please visit the following website: <a href="https://go.tuv.com/digital-signature">go.tuv.com/digital-signature</a></i></p> |
| <b>3</b> | <p>Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben.<br/>Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt.</p> <p><i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.<br/>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>4</b> | <p>Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2023, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019.</p> <p><i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2023, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i></p>                                                                                                                                                                                                                                                                                         |

## TEST SUMMARY

| Report Section | FCC Clause                     | Test Item                                  | Result |
|----------------|--------------------------------|--------------------------------------------|--------|
| 5.1.1          | 15.407(a) & 15.203             | Antenna Requirement                        | Pass   |
| 5.1.2          | 15.407(a)                      | Maximum Conducted Output Power             | Pass   |
| -              | 15.407(h)(1)                   | Transmit Power Control (TPC)               | N/A    |
| 5.1.3          | 15.407(a)                      | 26 dB Bandwidth                            | Pass   |
| 5.1.3          | 2.1049                         | 99% Occupied Bandwidth                     | Pass   |
| 5.1.4          | 15.407(e)                      | 6 dB Bandwidth<br>(U-NII-3 Band only)      | Pass   |
| 5.1.5          | 15.407(g)                      | Frequency Stability                        | Pass   |
| 5.1.6          | 15.407(a)                      | Power Spectral Density                     | Pass   |
| 5.1.7          | 15.407(b) & 15.205<br>& 15.209 | Radiated Spurious Emissions and Band Edges | Pass   |
| -              | 15.407(h) &<br>KDB 905462 D02  | Dynamic Frequency Selection                | N/A    |
| 5.2.1          | 15.207                         | Mains Conducted Emission                   | Pass   |

**Note:** Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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**APPENDIX A - TEST RESULT OF CONDUCTED**

**APPENDIX B - TEST RESULT OF RADIATED EMISSIONS & MAINS CONDUCTED EMISSION**

**APPENDIX SP - PHOTOGRAPHS OF TEST SETUP**

**APPENDIX EP - PHOTOGRAPHS OF EUT**

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## HISTORY OF THIS TEST REPORT

| Revision | Description      | Date Issued |
|----------|------------------|-------------|
| R01      | Original Release | 2025-06-02  |

# 1. General Remarks

## 1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

**Appendix A - Test Result of Conducted**

**Appendix B - Test Result of Radiated Emissions & Mains Conducted Emission**

**Appendix SP - Photographs of Test Setup**

**Appendix EP - Photographs of EUT**

### Applied Standard and Test Levels

| Radio                                                        |
|--------------------------------------------------------------|
| FCC 47CFR Part 15: Subpart E Section 15.407                  |
| FCC 47CFR Part 2: Subpart J Section 2.1049                   |
| ANSI C63.10:2013                                             |
| KDB 789033 D02 General UNII Test Procedures New Rules v02r01 |
| KDB 662911 D01 Multiple Transmitter Output v02r01            |

## 1.2 Decision Rule of Conformity

The decision rule of conformity of this test report is following the requirements of the requested standard in the quotation, and agreed among testing laboratory and manufacturer (applicant) to exclude the consideration of Measurement Uncertainty, unless it is required by the specific standard.

## 2. Test Sites

### 2.1 Test Laboratory

Taipei Testing Laboratories

11F. No.758, Sec. 4, Bade Rd., Songshan Dist.  
Taipei City 105  
Taiwan (R.O.C.)

### 2.2 Test Facility

Taipei Testing Laboratories

No.458-18, Sec. 2, Fenliao Rd., Linkou Dist.,  
New Taipei City 244  
Taiwan (R.O.C.)  
FCC Registration No.: 180491  
ISED Registration No.: 25563

## 2.3 Traceability

All measurement equipment calibrations are traceable to NML(Taiwan)/NIST(USA) or where calibration is performed outside Taiwan, to equivalent nationally recognized standards organizations.

## 2.4 Calibration

Equipment requiring calibration is calibrated periodically in a suitably accredited Calibration Lab. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

## 2.5 Measurement Uncertainty

All measurement uncertainty values are shown with a coverage factor of  $k=2$  to indicate a 95% level of confidence.

### Emission Measurement Uncertainty

| Parameter                            | Uncertainty   |
|--------------------------------------|---------------|
| Radiated Emission (9 kHz ~ 30 MHz)   | $\pm 1.15$ dB |
| Radiated Emission (30 MHz ~ 200 MHz) | $\pm 1.32$ dB |
| Radiated Emission (200 MHz ~ 1 GHz)  | $\pm 1.31$ dB |
| Radiated Emission (1 GHz ~ 18 GHz)   | $\pm 1.53$ dB |
| Radiated Emission (18 GHz ~ 40 GHz)  | $\pm 2.50$ dB |
| Mains Conducted Emission             | $\pm 1.65$ dB |

### 3. General Product Information

#### 3.1 Product Function and Intended Use

The EUT is a InstaShow. It contains a WLAN compatible module enabling the user to communicate data through a Wireless interface.

For details refer to the User Guide, Data Sheet and Circuit Diagram.

#### 3.2 System Details and Ratings

##### Basic Information of EUT

| Item                        | EUT information |
|-----------------------------|-----------------|
| Kind of Equipment/Test Item | InstaShow       |
| Type Identification         | WDC15R          |
| FCC ID                      | JVPWDC15R       |

##### Technical Specification of EUT

| Item                      | EUT information                                                                                                                                                                                                                    |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Frequency       | Band 1: 5180 MHz ~ 5240 MHz<br>Band 4: 5745 MHz ~ 5825 MHz                                                                                                                                                                         |
| Channel Number            | Band 1: 4 for 802.11a, 802.11n HT20, 802.11ac VHT20<br>2 for 802.11n HT40, 802.11ac VHT40<br>1 for 802.11ac VHT80<br>Band 4: 5 for 802.11a, 802.11n HT20, 802.11ac VHT20<br>2 802.11n HT40, 802.11ac VHT40<br>1 for 802.11ac VHT80 |
| Data Rate                 | 802.11a: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps<br>802.11n: up to MCS7<br>802.11ac: up to MCS9                                                                                                                   |
| Operation Voltage         | 5 Vdc                                                                                                                                                                                                                              |
| Modulation                | OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)                                                                                                                                                                                            |
| Maximum Output Power (mW) | 5180 ~ 5240 MHz: 275.17<br>5745 ~ 5825 MHz: 229.75                                                                                                                                                                                 |
| Antenna Information       | Refer to 5.1.1                                                                                                                                                                                                                     |
| Accessory Device          | Refer to 4.4                                                                                                                                                                                                                       |

### 3.3 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

### 3.4 Submitted Documents

- Circuit Diagram
- Instruction Manual
- Rating Label
- Technical Description

## 4. Test Set-up and Operation Modes

### 4.1 Principle of Configuration Selection

The test modes were adapted accordingly in reference to the instructions for use.

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output expected by the customer and is going to be fixed on the firmware of the final end product.

**Table for Parameters of Test Software Setting**

| 802.11a |               | 802.11n HT20<br>802.11ac VHT20 |               | 802.11n HT40<br>802.11ac VHT40 |               | 802.11ac VHT80 |               |
|---------|---------------|--------------------------------|---------------|--------------------------------|---------------|----------------|---------------|
| Channel | Power Setting | Channel                        | Power Setting | Channel                        | Power Setting | Channel        | Power Setting |
| 36      | 74/73         | 36                             | 73/72         | 38                             | 61/60         | 42             | 50/49         |
| 40      | 74/73         | 40                             | 80/79         | 46                             | 91/90         | 155            | 79/78         |
| 48      | 78/77         | 48                             | 75/74         | 151                            | 77 / 76       |                |               |
| 149     | 61/60         | 149                            | 60/59         | 159                            | 77 / 76       |                |               |
| 157     | 59/58         | 157                            | 58/57         |                                |               |                |               |
| 165     | 58/57         | 165                            | 58/57         |                                |               |                |               |

### 4.2 Carrier Frequency and Channel

| Band                | Channel | Frequency (MHz) | 802.11a<br>802.11n HT20<br>802.11ac VHT20 | 802.11n HT40<br>802.11ac VHT40 | 802.11ac VHT80 |
|---------------------|---------|-----------------|-------------------------------------------|--------------------------------|----------------|
| U-NII-1<br>(Band 1) | 36      | 5180            | V                                         |                                |                |
|                     | 38      | 5190            |                                           | V                              |                |
|                     | 40      | 5200            | V                                         |                                |                |
|                     | 42      | 5210            |                                           |                                | V              |
|                     | 44      | 5220            | V                                         |                                |                |
|                     | 46      | 5230            |                                           | V                              |                |
|                     | 48      | 5240            | V                                         |                                |                |
| U-NII-3<br>(Band 4) | 149     | 5745            | V                                         |                                |                |
|                     | 151     | 5755            |                                           | V                              |                |
|                     | 153     | 5765            | V                                         |                                |                |
|                     | 155     | 5775            |                                           |                                | V              |
|                     | 157     | 5785            | V                                         |                                |                |
|                     | 159     | 5795            |                                           | V                              |                |
|                     | 161     | 5805            | V                                         |                                |                |
|                     | 165     | 5825            | V                                         |                                |                |

## 4.3 Test Operation and Test Software

Setup for testing: Test samples are provided with UART interface which makes it possible to control them through a test software installed on a notebook computer.

This software was running on the laptop computer connected to the EUT. It was used to enable the operation modes listed as below.

|               |           |
|---------------|-----------|
| Test Software | Tera Term |
|---------------|-----------|

The samples were used as follows:  
 A003974671-018

Full test was applied on all test modes, but only worst case was shown.

The EUT provides two completed transmitters and receivers.

| Modulation Mode | Tx Function |
|-----------------|-------------|
| 802.11a         | 2TX         |
| 802.11n HT20    | 2TX         |
| 802.11n HT40    | 2TX         |
| 802.11ac VHT20  | 2TX         |
| 802.11ac VHT40  | 2TX         |
| 802.11ac VHT80  | 2TX         |

\* The modulation and bandwidth are similar for 802.11n mode HT20/HT40 and 802.11ac mode VHT20/VHT40, therefore investigated worse case as representative mode in test report.

| EUT Configure Mode | Applicable To                      |                                         |                                         |                          | Description |
|--------------------|------------------------------------|-----------------------------------------|-----------------------------------------|--------------------------|-------------|
|                    | Antenna Port Conducted Measurement | Radiated Spurious Emissions above 1 GHz | Radiated Spurious Emissions below 1 GHz | Mains Conducted Emission |             |
| -                  | √                                  | √                                       | √                                       | √                        | -           |

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when position on **Y-plane**.
2. "-" means no effect.

### Antenna Port Conducted Measurement

- ☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.  
☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | Mode                      | Frequency (MHz) | Available Channel | Tested Channel | Date Rate (Mbps) |
|--------------------|---------------------------|-----------------|-------------------|----------------|------------------|
| -                  | 802.11a                   | 5180-5240       | 36 to 48          | 36, 40, 48     | 6.0              |
| -                  |                           | 5745-5825       | 149 to 165        | 149, 157, 165  |                  |
| -                  | 802.11n HT20 (Power only) | 5180-5240       | 36 to 48          | 36, 40, 48     | MCS0             |
| -                  |                           | 5745-5825       | 149 to 165        | 149, 157, 165  |                  |
| -                  | 802.11n HT40 (Power only) | 5180-5240       | 38 to 46          | 38, 46         | MCS0             |
| -                  |                           | 5745-5825       | 151 to 159        | 151, 159       |                  |
| -                  | 802.11ac VHT20            | 5180-5240       | 36 to 48          | 36, 40, 48     | NSS1 MCS0        |
| -                  |                           | 5745-5825       | 149 to 165        | 149, 157, 165  |                  |
| -                  | 802.11ac VHT40            | 5180-5240       | 38 to 46          | 38, 46         | NSS1 MCS0        |
| -                  |                           | 5745-5825       | 151 to 159        | 151, 159       |                  |
| -                  | 802.11ac VHT80            | 5180-5240       | 42                | 42             | NSS1 MCS0        |
| -                  |                           | 5745-5825       | 155               | 155            |                  |

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**Radiated Spurious Emissions (Above 1 GHz)**

- ☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.  
☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | Mode           | Frequency (MHz) | Available Channel | Tested Channel | Date Rate (Mbps) |
|--------------------|----------------|-----------------|-------------------|----------------|------------------|
| -                  | 802.11a        | 5180-5240       | 36 to 48          | 36, 40, 48     | 6.0              |
| -                  |                | 5745-5825       | 149 to 165        | 149, 157, 165  |                  |
| -                  | 802.11ac VHT20 | 5180-5240       | 36 to 48          | 36, 40, 48     | NSS1 MCS0        |
| -                  |                | 5745-5825       | 149 to 165        | 149, 157, 165  |                  |
| -                  | 802.11ac VHT40 | 5180-5240       | 38 to 46          | 38, 46         | NSS1 MCS0        |
| -                  |                | 5745-5825       | 151 to 159        | 151, 159       |                  |
| -                  | 802.11ac VHT80 | 5180-5240       | 42                | 42             | NSS1 MCS0        |
| -                  |                | 5745-5825       | 155               | 155            |                  |

**Radiated Spurious Emissions (Below 1 GHz)**

- ☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.  
☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | Mode           | Frequency (MHz) | Available Channel | Tested Channel | Date Rate (Mbps) |
|--------------------|----------------|-----------------|-------------------|----------------|------------------|
| -                  | 802.11ac VHT40 | 5180-5240       | 38 to 46          | 46             | NSS1 MCS0        |

**Mains Conducted Emission Test**

- ☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.  
☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | Mode           | Frequency (MHz) | Available Channel | Tested Channel | Date Rate (Mbps) |
|--------------------|----------------|-----------------|-------------------|----------------|------------------|
| -                  | 802.11ac VHT40 | 5180-5240       | 38 to 46          | 46             | NSS1 MCS0        |

**Test Condition**

| Test Item                               | Ambient Temperature | Relative Humidity | Tested by            |
|-----------------------------------------|---------------------|-------------------|----------------------|
| Conducted Measurement                   | 20.1-23.3 °C        | 55-69 %           | Nick Hsu / Andy Chen |
| Radiated Spurious Emissions above 1 GHz | 23.6-24.9 °C        | 54-55 %           | Chuan Chu            |
| Radiated Spurious Emissions below 1 GHz | 23.6-24.9 °C        | 54-55 %           | Chuan Chu            |
| Mains Conducted Emission                | 24.2 °C             | 55 %              | Chuan Chu            |

## 4.4 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

### Accessory of EUT

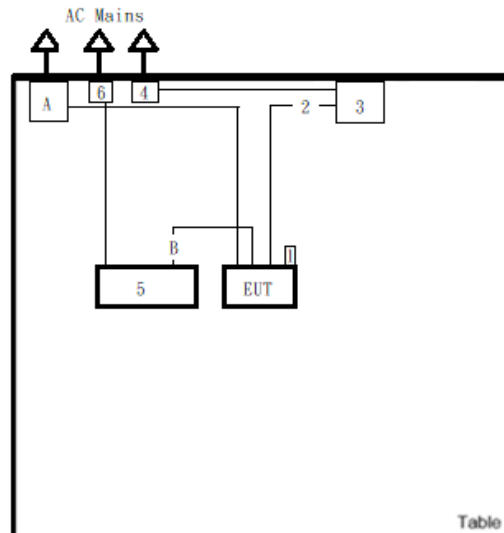
| No. | Product           | Brand      | Model             | Description |
|-----|-------------------|------------|-------------------|-------------|
| A   | Power Adapter     | SPC        | ZZU1001-200050    | --          |
| -   | Cradle            | Wenonic    | 34M0-00000159-01Z | --          |
| B   | HDMI A to A Cable | Chang Yang | 4109-00000007-01Z | --          |

### Support Unit

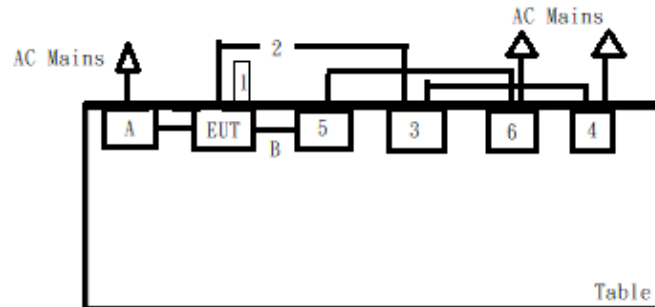
| Support Unit |                 |         |               |              |          |                    |             |        |
|--------------|-----------------|---------|---------------|--------------|----------|--------------------|-------------|--------|
| No           | Description     | Brand   | Model         | S/N          | Shielded | Ferrite Core (Qty) | Length (cm) | Remark |
| 1            | USB flash drive | Sandisk | SDCZ50C-032G  | BM2204581574 | -        | -                  | -           | --     |
| 2            | RJ 45 Cable     | TUV     | TUV-001       | N/A          | NO       | NO                 | 140         | --     |
| 3            | NB              | HP      | 15-da1046TX   | CND9111RJ B  | -        | -                  | -           | --     |
| 4            | Adapter         | HP      | TPN-DA17      | N/A          | NO       | NO                 | 180         | --     |
| 5            | Monitor         | ASUS    | MX27U         | K8LMRS024559 | -        | -                  | -           | --     |
| 6            | Adapter         | ASUS    | ADP-120RH-8   | N/A          | NO       | NO                 | 180         | --     |
| -            | Notebook        | DELL    | Latitude 7490 | 887V7Y2      | -        | -                  | -           | --     |
| -            | UART            | JIN HUA | CP2102        | NA           | -        | -                  | -           | --     |
| -            | USB Cable       | TUV     | TUV-06        | 1            | NO       | NO                 | 150         | --     |

## 4.5 Test Setup Diagram

<Radiated Spurious Emissions mode>

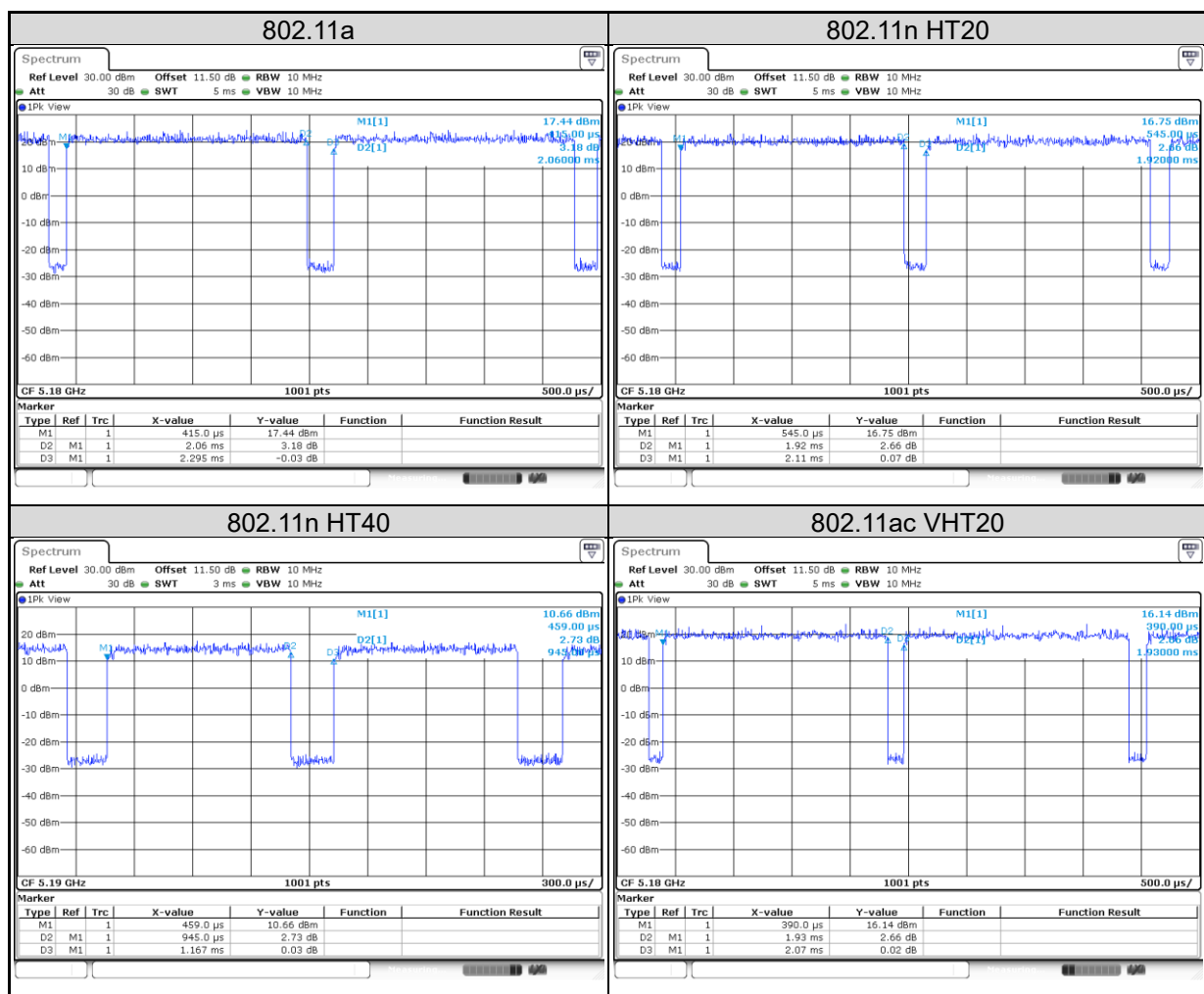


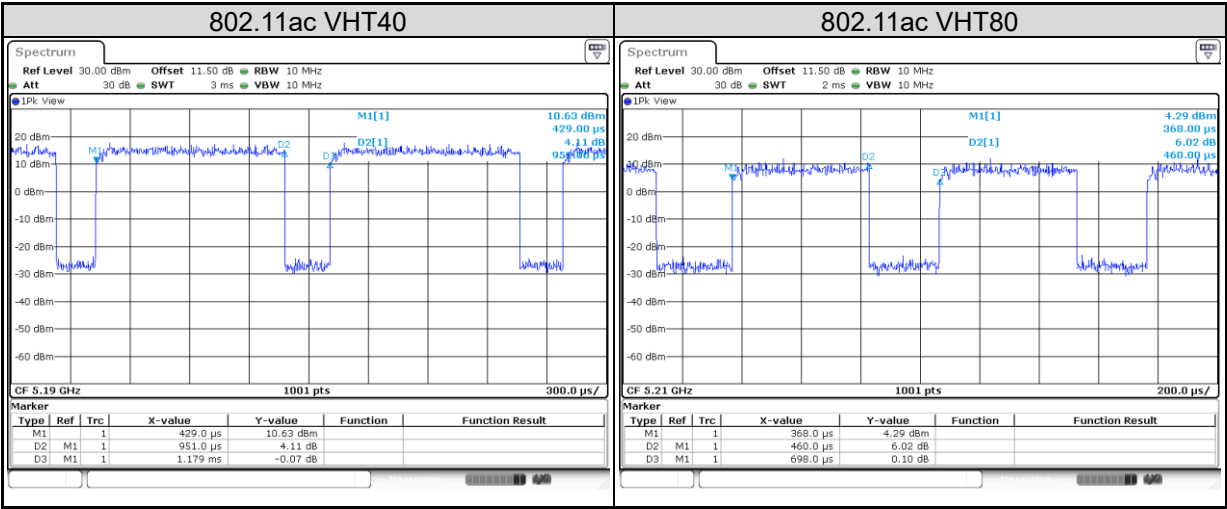
<Mains Conducted Emission mode>



## 4.6 Duty Cycle of Test Signal

| Mode           | On + Off Time (ms) | On Time (ms) | Duty Cycle (%) | Duty Factor (dB) |
|----------------|--------------------|--------------|----------------|------------------|
| 802.11a        | 2.295              | 2.060        | 89.76          | 0.47             |
| 802.11n HT20   | 2.110              | 1.920        | 91.00          | 0.41             |
| 802.11n HT40   | 1.167              | 0.945        | 80.98          | 0.92             |
| 802.11ac VHT20 | 2.070              | 1.930        | 93.24          | 0.30             |
| 802.11ac VHT40 | 1.179              | 0.951        | 80.66          | 0.93             |
| 802.11ac VHT80 | 0.698              | 0.460        | 65.90          | 1.81             |





## 5. Test Results

### 5.1 Transmitter Requirement & Test Suites

#### 5.1.1 Antenna Requirement

**Requirement** Use of approved antennas only

According to the manufacturer declaration, the antenna information is as listed below. The antenna is with no possibility of replacement with a non-approved antenna by the end-user. Therefore, the EUT is considered to comply with this provision.

| Ant No.                | Antenna Type   | Antenna Gain (dBi) |
|------------------------|----------------|--------------------|
| 1                      | Dipole Antenna | 2                  |
| 2                      | Dipole Antenna | 2                  |
| Max. Peak Gain         |                | 2                  |
| Power Directional Gain |                | 2                  |
| PSD Directional Gain   |                | 5.01               |

Note: PSD Directional Gain =  $G_{ANT} + 10\log(N_{ANT})$

Refer to EUT photo for details.

## 5.1.2 Maximum Conducted Output Power

### Limit

| Operation Band | EUT Category                      | Limit                                                                                                                         |
|----------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| U-NII-1        | Outdoor Access Point              | 1 Watt (30 dBm)<br>(Max. e.i.r.p $\leq$ 125 mW (21 dBm) at any elevation angle above 30 degrees as measured from the horizon) |
|                | Fixed point-to-point Access Point | 1 Watt (30 dBm)                                                                                                               |
|                | Indoor Access Point               | 1 Watt (30 dBm)                                                                                                               |
|                | Mobile and Portable client device | 250 mW (24 dBm)                                                                                                               |
| U-NII-2A       | ---                               | 250 mW (24 dBm) or 11 dBm + 10 log B*                                                                                         |
| U-NII-2C       | ---                               | 250 mW (24 dBm) or 11 dBm + 10 log B*                                                                                         |
| U-NII-3        | ---                               | 1 Watt (30 dBm)                                                                                                               |

Note: B\* is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for  $N_{ANT} \leq 4$ ;

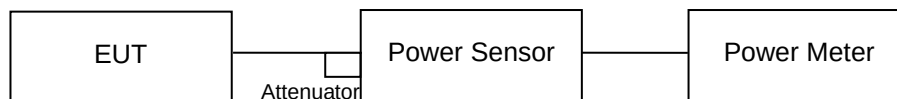
Array Gain = 0 dB (i.e., no array gain) for channel widths  $\geq 40$  MHz for any  $N_{ANT}$ ;

Array Gain =  $5 \log(N_{ANT}/N_{SS})$  dB or 3 dB, whichever is less for 20 MHz channel widths with  $N_{ANT} \geq 5$ .

For power measurements on all other devices: Array Gain =  $10 \log(N_{ANT}/N_{SS})$  dB.

**Kind of Test Site**                      Shielded room

### Test Setup



### Test Instruments

| Kind of Equipment | Manufacturer | Type    | S/N     | Calibration Date | Calibration Due Date | Test Date |           |
|-------------------|--------------|---------|---------|------------------|----------------------|-----------|-----------|
|                   |              |         |         |                  |                      | From      | Until     |
| Power Meter       | Anritsu      | ML2495A | 1901008 | 2025/02/26       | 2026/02/25           | 2025/4/18 | 2025/4/28 |
| Power Sensor      | Anritsu      | MA2411B | 1725269 | 2025/02/26       | 2026/02/25           | 2025/4/18 | 2025/4/28 |

### Test Procedures

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst and set the detector to AVERAGE. Duty factor is not added to measured value.

**Test Result**
**<802.11a>**

| Channel | Channel Frequency (MHz) | Average Output Power (dBm) |         | Total Power |        | Limit (dBm) |
|---------|-------------------------|----------------------------|---------|-------------|--------|-------------|
|         |                         | Chain 0                    | Chain 1 | (dBm)       | (mW)   |             |
| 36      | 5180                    | 17.02                      | 17.19   | 20.12       | 102.71 | 30.00       |
| 40      | 5200                    | 17.24                      | 17.47   | 20.37       | 108.81 | 30.00       |
| 48      | 5240                    | 18.54                      | 18.71   | 21.64       | 145.75 | 30.00       |
| 149     | 5745                    | 16.83                      | 16.48   | 19.67       | 92.66  | 30.00       |
| 157     | 5785                    | 16.42                      | 16.09   | 19.27       | 84.50  | 30.00       |
| 165     | 5825                    | 16.19                      | 15.85   | 19.03       | 80.05  | 30.00       |

**<802.11n HT20>**

| Channel | Channel Frequency (MHz) | Average Output Power (dBm) |         | Total Power |        | Limit (dBm) |
|---------|-------------------------|----------------------------|---------|-------------|--------|-------------|
|         |                         | Chain 0                    | Chain 1 | (dBm)       | (mW)   |             |
| 36      | 5180                    | 16.75                      | 16.80   | 19.79       | 95.18  | 30.00       |
| 40      | 5200                    | 18.40                      | 18.66   | 21.54       | 142.63 | 30.00       |
| 48      | 5240                    | 17.96                      | 17.82   | 20.90       | 123.05 | 30.00       |
| 149     | 5745                    | 16.21                      | 16.57   | 19.40       | 87.18  | 30.00       |
| 157     | 5785                    | 16.15                      | 15.89   | 19.03       | 80.02  | 30.00       |
| 165     | 5825                    | 15.68                      | 15.77   | 18.74       | 74.74  | 30.00       |

**<802.11n HT40>**

| Channel | Channel Frequency (MHz) | Average Output Power (dBm) |         | Total Power |        | Limit (dBm) |
|---------|-------------------------|----------------------------|---------|-------------|--------|-------------|
|         |                         | Chain 0                    | Chain 1 | (dBm)       | (mW)   |             |
| 38      | 5190                    | 13.64                      | 13.79   | 16.73       | 47.05  | 30.00       |
| 46      | 5230                    | 21.37                      | 21.23   | 24.31       | 269.83 | 30.00       |
| 151     | 5755                    | 20.44                      | 20.52   | 23.49       | 223.38 | 30.00       |
| 159     | 5795                    | 20.00                      | 19.94   | 22.98       | 198.63 | 30.00       |

**<802.11ac VHT20>**

| Channel | Channel Frequency (MHz) | Average Output Power (dBm) |         | Total Power |        | Limit (dBm) |
|---------|-------------------------|----------------------------|---------|-------------|--------|-------------|
|         |                         | Chain 0                    | Chain 1 | (dBm)       | (mW)   |             |
| 36      | 5180                    | 16.85                      | 16.91   | 19.89       | 97.51  | 30.00       |
| 40      | 5200                    | 18.49                      | 18.76   | 21.64       | 145.79 | 30.00       |
| 48      | 5240                    | 18.05                      | 17.91   | 20.99       | 125.63 | 30.00       |
| 149     | 5745                    | 16.32                      | 16.67   | 19.51       | 89.31  | 30.00       |
| 157     | 5785                    | 16.25                      | 15.97   | 19.12       | 81.71  | 30.00       |
| 165     | 5825                    | 15.76                      | 15.87   | 18.83       | 76.31  | 30.00       |

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**<802.11ac VHT40>**

| Channel | Channel Frequency (MHz) | Average Output Power (dBm) |         | Total Power |        | Limit (dBm) |
|---------|-------------------------|----------------------------|---------|-------------|--------|-------------|
|         |                         | Chain 0                    | Chain 1 | (dBm)       | (mW)   |             |
| 38      | 5190                    | 13.74                      | 13.91   | 16.84       | 48.26  | 30.00       |
| 46      | 5230                    | 21.46                      | 21.31   | 24.40       | 275.17 | 30.00       |
| 151     | 5755                    | 20.54                      | 20.63   | 23.60       | 228.85 | 30.00       |
| 159     | 5795                    | 20.11                      | 20.04   | 23.09       | 203.49 | 30.00       |

**<802.11ac VHT80>**

| Channel | Channel Frequency (MHz) | Average Output Power (dBm) |         | Total Power |        | Limit (dBm) |
|---------|-------------------------|----------------------------|---------|-------------|--------|-------------|
|         |                         | Chain 0                    | Chain 1 | (dBm)       | (mW)   |             |
| 42      | 5210                    | 10.98                      | 11.12   | 14.06       | 25.47  | 30.00       |
| 155     | 5775                    | 20.74                      | 20.46   | 23.61       | 229.75 | 30.00       |

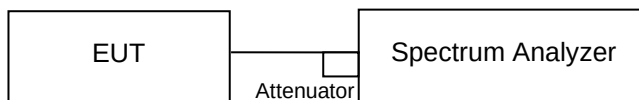
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### 5.1.3 26 dB Bandwidth and 99% Occupied Bandwidth

**Kind of Test Site**                      Shielded room

#### Test Setup



#### Test Instruments

| Kind of Equipment | Manufacturer | Type | S/N    | Calibration Date | Calibration Due Date | Test Date |           |
|-------------------|--------------|------|--------|------------------|----------------------|-----------|-----------|
|                   |              |      |        |                  |                      | From      | Until     |
| Spectrum Analyzer | R&S          | FSV  | 101513 | 2024/05/09       | 2025/05/08           | 2025/4/18 | 2025/4/28 |

#### Test Procedure

- a. Set RBW = approximately 1% of the emission bandwidth.
- b. Set the VBW > RBW.
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
- f. For 99% Bandwidth Measurement, the transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to PEAK. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean power of a given emission.

#### Test Results

Please refer to Appendix A

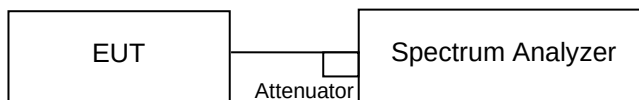
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### 5.1.4 6 dB Bandwidth (5725-5850MHz)

**Kind of Test Site**                      Shielded room

#### Test Setup



#### Test Instruments

| Kind of Equipment | Manufacturer | Type | S/N    | Calibration Date | Calibration Due Date | Test Date |           |
|-------------------|--------------|------|--------|------------------|----------------------|-----------|-----------|
|                   |              |      |        |                  |                      | From      | Until     |
| Spectrum Analyzer | R&S          | FSV  | 101513 | 2024/05/09       | 2025/05/08           | 2025/4/18 | 2025/4/28 |

#### Test Procedure

##### MEASUREMENT PROCEDURE REF

- Set resolution bandwidth (RBW) = 100 kHz
- Set the video bandwidth (VBW)  $\geq 3 \times$  RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

#### Test Results

Please refer to Appendix A

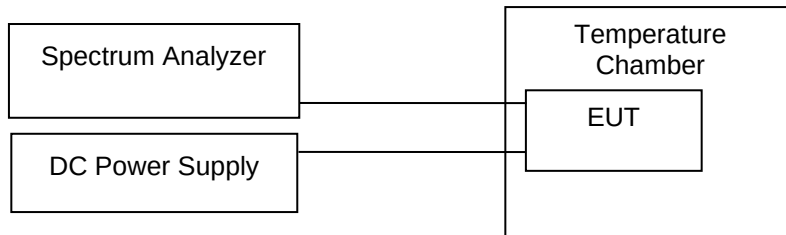
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## 5.1.5 Frequency Stability Measurement

**Kind of Test Site**                      Shielded room

### Test Setup



### Test Instruments

| Kind of Equipment | Manufacturer | Type             | S/N         | Calibration Date | Calibration Due Date | Test Date |           |
|-------------------|--------------|------------------|-------------|------------------|----------------------|-----------|-----------|
|                   |              |                  |             |                  |                      | From      | Until     |
| Spectrum Analyzer | R&S          | FSV              | 101513      | 2024/05/09       | 2025/05/08           | 2025/4/18 | 2025/4/28 |
| Thermal Chamber   | Giant Force  | GHT-150-40-CP-SD | MAA1902-011 | 2025/04/14       | 2026/04/13           | 2025/4/18 | 2025/4/28 |

### Test Procedure

- To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
- The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10 dB lower than the measured peak value.
- The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

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**Test Results**

| Frequency (MHz)      | 5180                        |            |            |                      |
|----------------------|-----------------------------|------------|------------|----------------------|
| Voltage (V)          | Measurement Frequency (MHz) |            |            | Max. Deviation (ppm) |
| 5.5                  | 5179.96208                  |            |            | 7.320                |
| 5                    | 5179.96179                  |            |            | 7.376                |
| 4.5                  | 5179.96237                  |            |            | 7.264                |
| Temperature (°C)     | Measurement Frequency (MHz) |            |            |                      |
|                      | 0 Minute                    | 2 Minute   | 5 Minute   | 10 Minute            |
| 40                   | 5179.95543                  | 5179.95427 | 5179.95253 | 5179.95282           |
| 30                   | 5179.96816                  | 5179.96874 | 5179.97221 | 5179.97192           |
| 20                   | 5179.96179                  | 5179.95919 | 5179.95687 | 5179.95456           |
| 10                   | 5180.00897                  | 5180.01331 | 5180.01852 | 5180.02287           |
| 0                    | 5180.02402                  | 5180.02894 | 5180.04081 | 5180.04602           |
| Max. Deviation (ppm) | 8.604                       | 8.828      | 9.164      | 9.108                |

### 5.1.6 Power Spectral Density

#### Limit

For the 5.15~5.25GHz Bands:

For mobile and portable client devices in the 5.15~5.25GHz band, the Maximum Power spectral density shall not exceed 11dBm/MHz. For an indoor access point operating in the band 5.15~5.25GHz, the maximum power spectral density shall not exceed 17dBm/MHz.

For the 5.25~5.35GHz and 5.47~5.725GHz Bands:

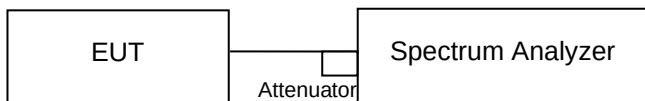
The maximum power spectral density shall not exceed 11dBm/MHz.

For the 5.745~5.85GHz Bands:

The maximum power spectral density shall not exceed 30dBm/500kHz.

**Kind of Test Site**                      Shielded room

#### Test Setup



#### Test Instruments

| Kind of Equipment | Manufacturer | Type | S/N    | Calibration Date | Calibration Due Date | Test Date |           |
|-------------------|--------------|------|--------|------------------|----------------------|-----------|-----------|
|                   |              |      |        |                  |                      | From      | Until     |
| Spectrum Analyzer | R&S          | FSV  | 101513 | 2024/05/09       | 2025/05/08           | 2025/4/18 | 2025/4/28 |

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### Test Procedure

#### For U-NII-1:

Using method SA-2

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW  $\geq$  3 MHz, Detector = RMS
3. Sweep time = auto, trigger set to "free run".
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and add 10 log (1/duty cycle)

#### ※For U-NII-3:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 500 kHz, Set VBW  $\geq$  3 RBW, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 500 kHz band segment within the fundamental EBW.
4. Sweep time = auto, trigger set to "free run".
5. Trace average at least 100 traces in power averaging mode.
6. Record the max value and add 10 log (1/duty cycle)

For MIMO mode, calculation method follows FCC KDB 662911 Method 2) a) of power density measurement using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

### Test Results

Please refer to Appendix A

## 5.1.7 Radiated Spurious Emissions

### Limit

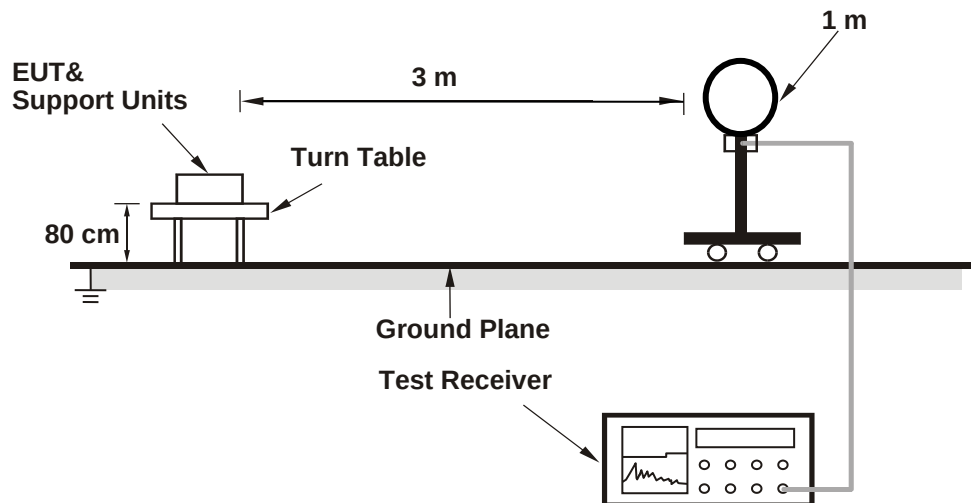
Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must comply with the radiated emission limits specified in §15.209(a).

Emissions radiated outside the restricted and authorized frequency bands must either comply with the radiated emission limits specified for the restricted bands or in §15.407(b).

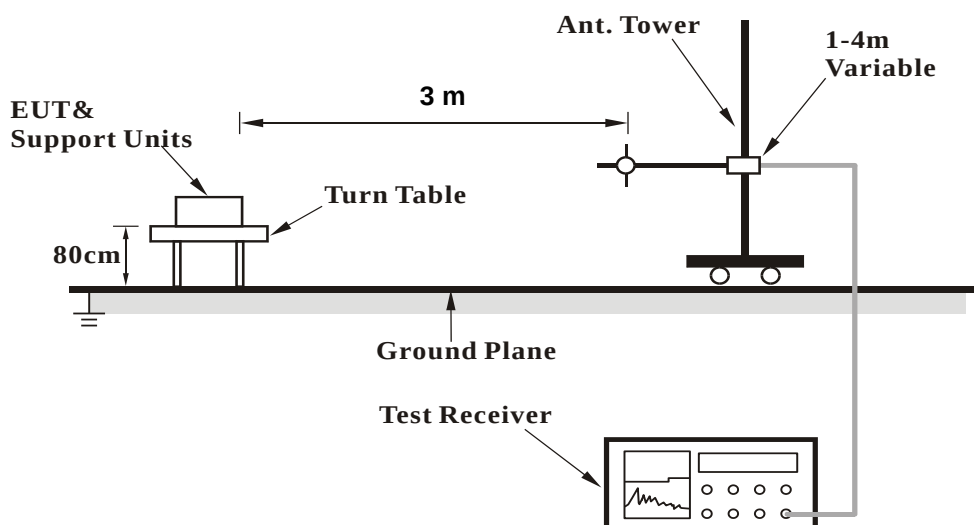
**Kind of Test Site** 3m Semi-Anechoic Chamber

### Test Setup

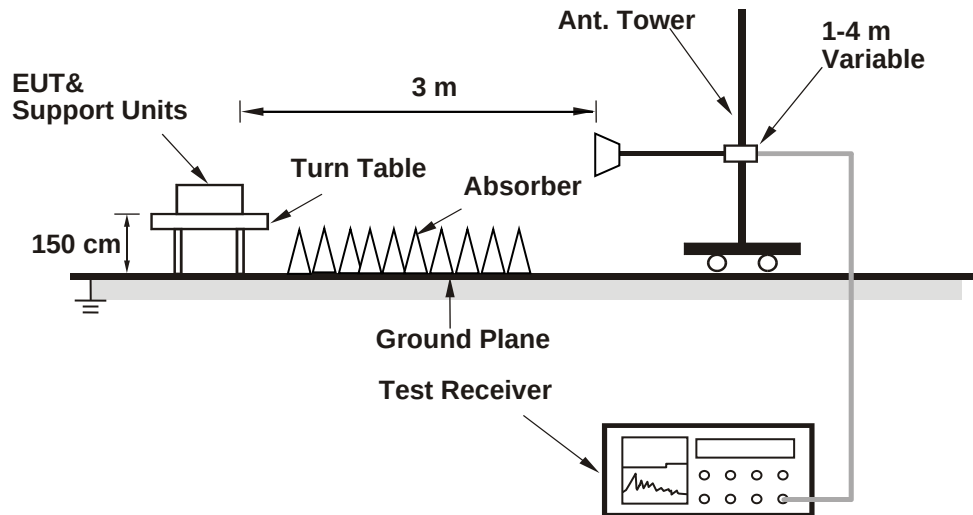
#### <Radiated Emissions below 30 MHz>



#### <Radiated Emissions 30 MHz to 1 GHz>



<Radiated Emissions above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

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**Test Instruments**

| Kind of Equipment  | Manufacturer | Type                    | S/N        | Calibration Date | Calibration Due Date |
|--------------------|--------------|-------------------------|------------|------------------|----------------------|
| Above 1 GHz        |              |                         |            |                  |                      |
| Signal Analyzer    | R&S          | FSV40                   | 101512     | 2025/2/26        | 2026/2/25            |
| Horn Antenna       | ETS-Lindgren | 3117                    | 00218929   | 2024/11/21       | 2025/11/20           |
| Horn Antenna       | SCHWARZBECK  | BBHA 9170               | 00887      | 2025/3/28        | 2026/3/27            |
| HF-AMP + AC source | EMCI         | EMC051845SE             | 980633     | 2025/1/15        | 2026/1/14            |
| HF-AMP + AC source | EMCI         | EMC184045SE             | 980656     | 2025/1/15        | 2026/1/14            |
| Test Software      | Audix E3     | 15914a_20191<br>106 tuv | PK-001087  | N/A              | N/A                  |
| 30 MHz ~ 1 GHz     |              |                         |            |                  |                      |
| Receiver           | R&S          | ESR7                    | 102108     | 2024/7/4         | 2025/7/3             |
| Bilog Antenna      | SCHWARZBECK  | VULB-9168               | 00951      | 2025/4/8         | 2026/4/7             |
| LF-AMP             | Agilent      | 8447D                   | 2727A05146 | 2025/1/15        | 2026/1/14            |
| Test Software      | Audix E3     | 15914a_20191<br>106 tuv | PK-001087  | N/A              | N/A                  |
| Below 30 MHz       |              |                         |            |                  |                      |
| Receiver           | R&S          | ESR7                    | 102108     | 2024/7/4         | 2025/7/3             |
| Loop Antenna       | SCHWARZBECK  | FMZB 1519B              | 00215      | 2024/12/11       | 2025/12/10           |
| Test Software      | Audix E3     | 15914a_20191<br>106 tuv | PK-001087  | N/A              | N/A                  |

**Test Procedures****For Radiated Emissions below 30 MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel (OPEN), perpendicular (CLOSE), and ground-parallel (GROUND) orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

## Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

**For Radiated Emissions above 30 MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

## Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is  $\geq 1/T$  (Duty cycle  $< 98\%$ ) or 10 Hz (Duty cycle  $\geq 98\%$ ) for Average detection (AV) at frequency above 1 GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.
5. The Radiated Emissions testing was performed in the X(E1), Y(H) and Z(E2) axis orientation. The worst-case Axis orientation is recorded in this test report.
6. The emission levels of other frequencies (including the 10th harmonic of the highest fundamental frequency) are very lower than the limit and are not shown in the test report.

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#### Test Results

Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) – Amplifier (dB)

Level (dBuV/m) = Reading (dBuV) + Factor (dB/m)

Please refer to Appendix B.

## 5.2 Mains Emission

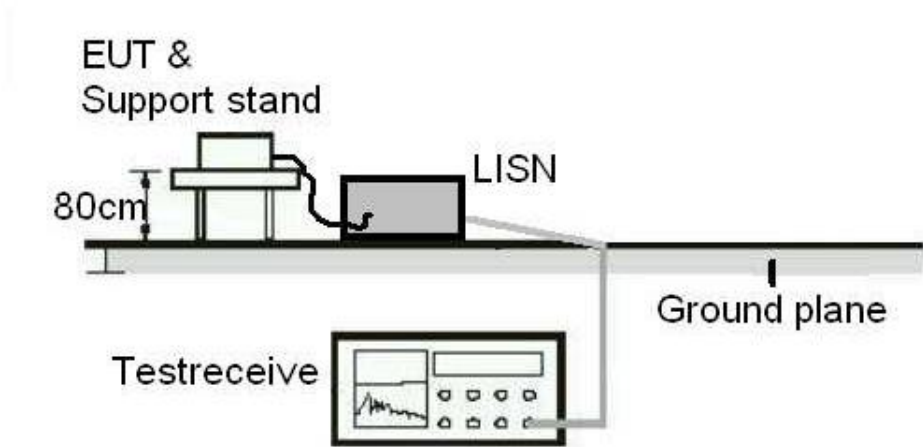
### 5.2.1 Mains Conducted Emission

**Limit**

Mains Conducted emissions as defined in §15.207 must comply with the mains conducted emission limits.

**Kind of Test Site**                      Shielded room

**Test Setup**



**Test Instruments**

| Kind of Equipment  | Manufacturer    | Type   | S/N    | Calibration Date | Calibration Due Date |
|--------------------|-----------------|--------|--------|------------------|----------------------|
| Two-Line V-Network | Rohde & Schwarz | ENV216 | 101938 | 2024/10/22       | 2025/10/21           |
| EMI Test Receiver  | R&S             | ESCI   | 101094 | 2024/11/25       | 2025/11/24           |

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#### Test Procedures

- a. 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 two LISNs provide 50 ohm/50 uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz – 30 MHz.

#### Test Results

Please refer to Appendix B.

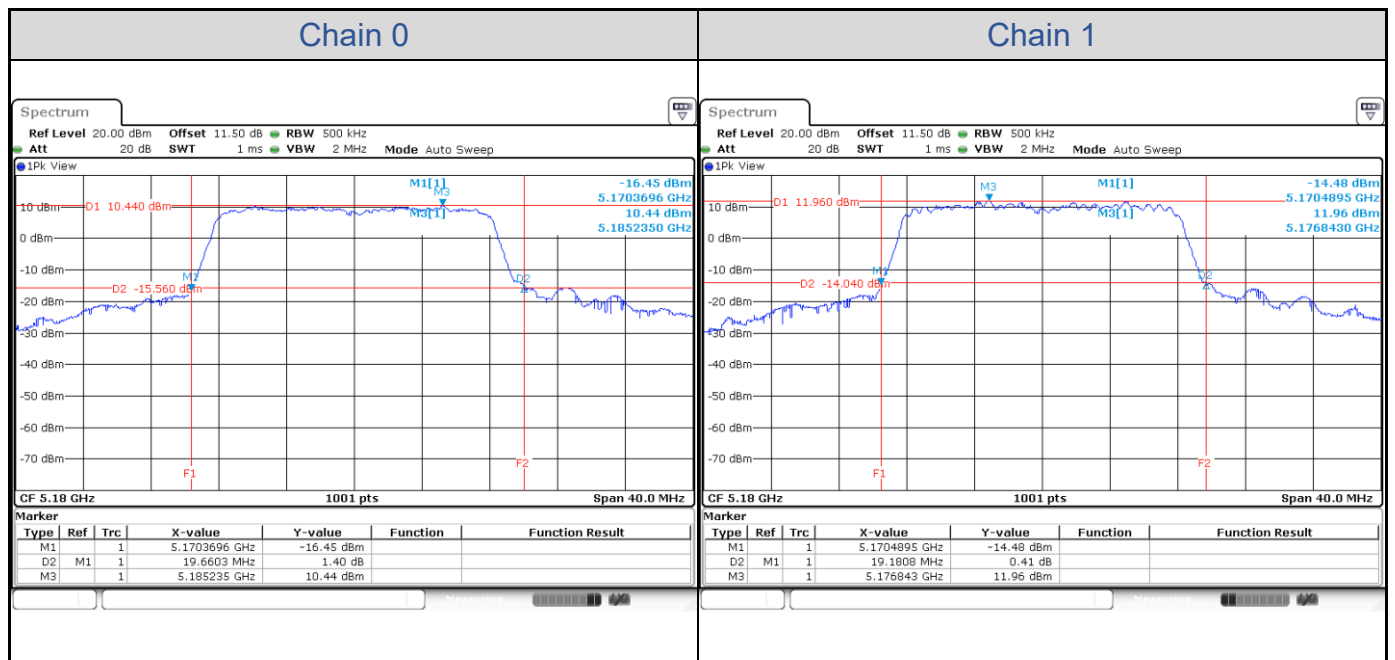
## Appendix A: Test Results of Conducted Test

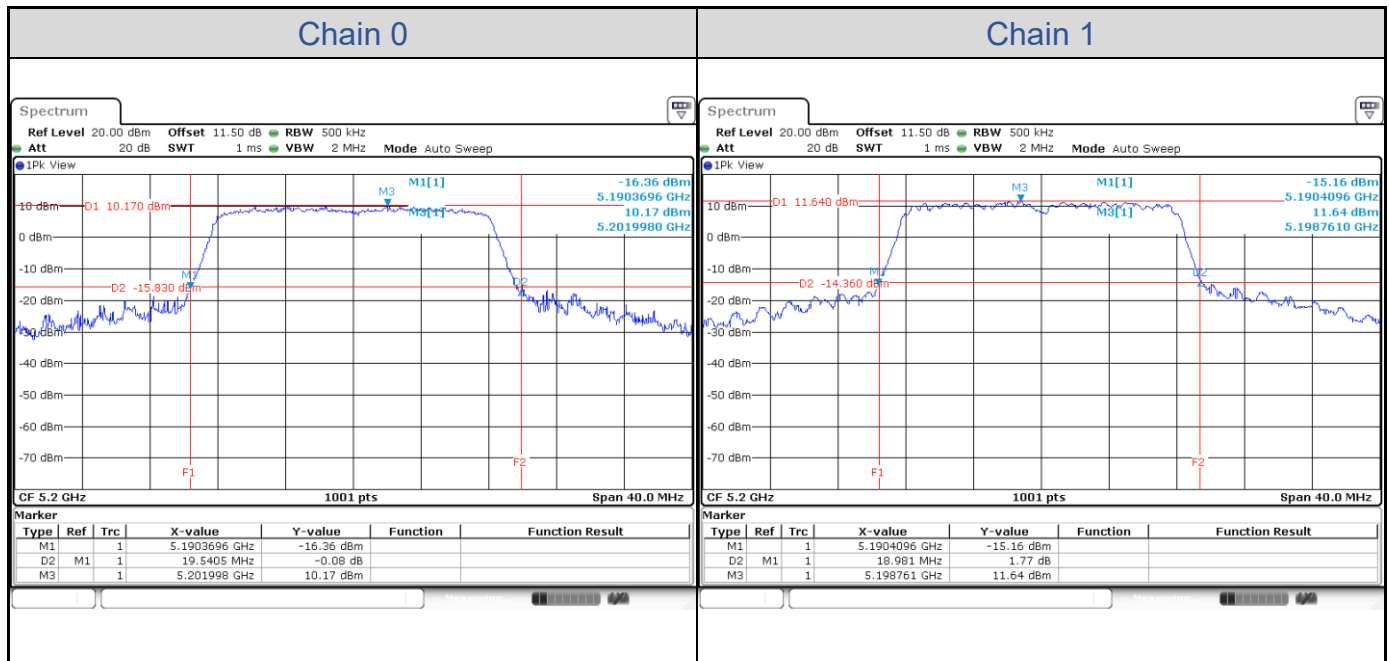
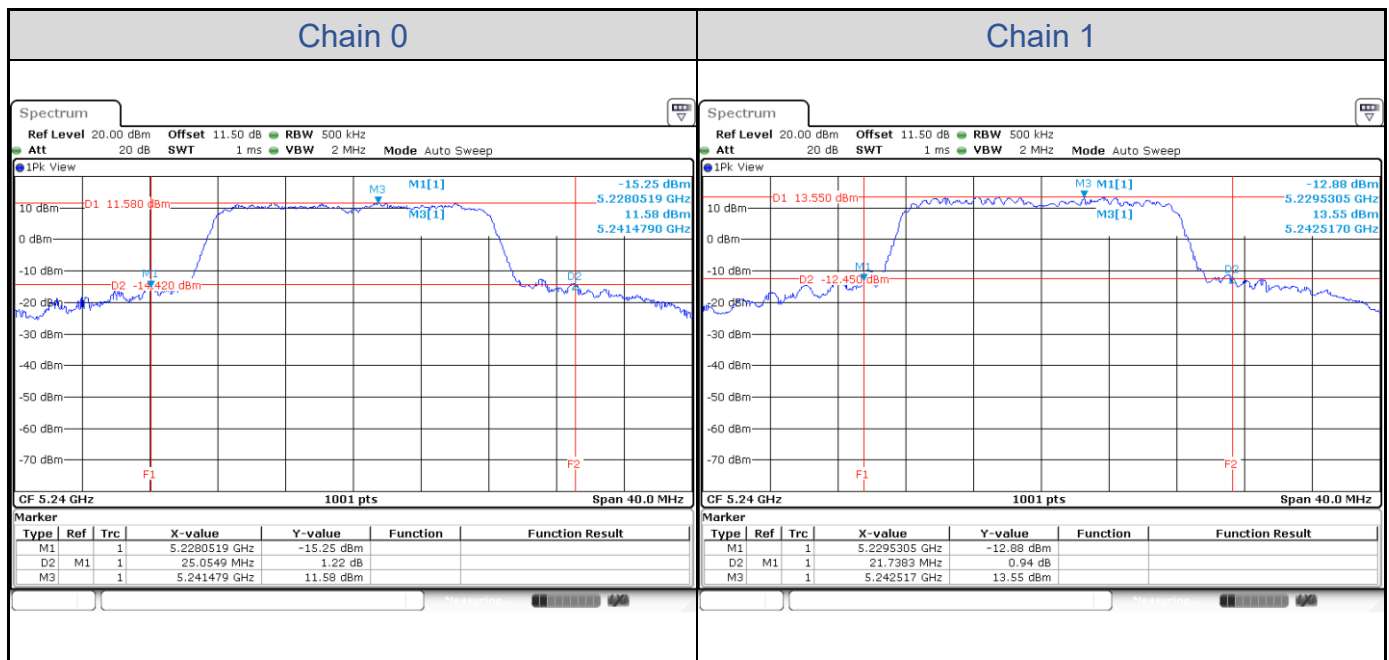
### Test Result of 26 dB Bandwidth

#### 802.11a

| Band    | Channel | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|---------|---------|-----------------|-----------------------|---------|
|         |         |                 | Chain 0               | Chain 1 |
| U-NII-1 | 36      | 5180            | 19.66                 | 19.18   |
|         | 40      | 5200            | 19.54                 | 18.98   |
|         | 48      | 5240            | 25.05                 | 21.74   |

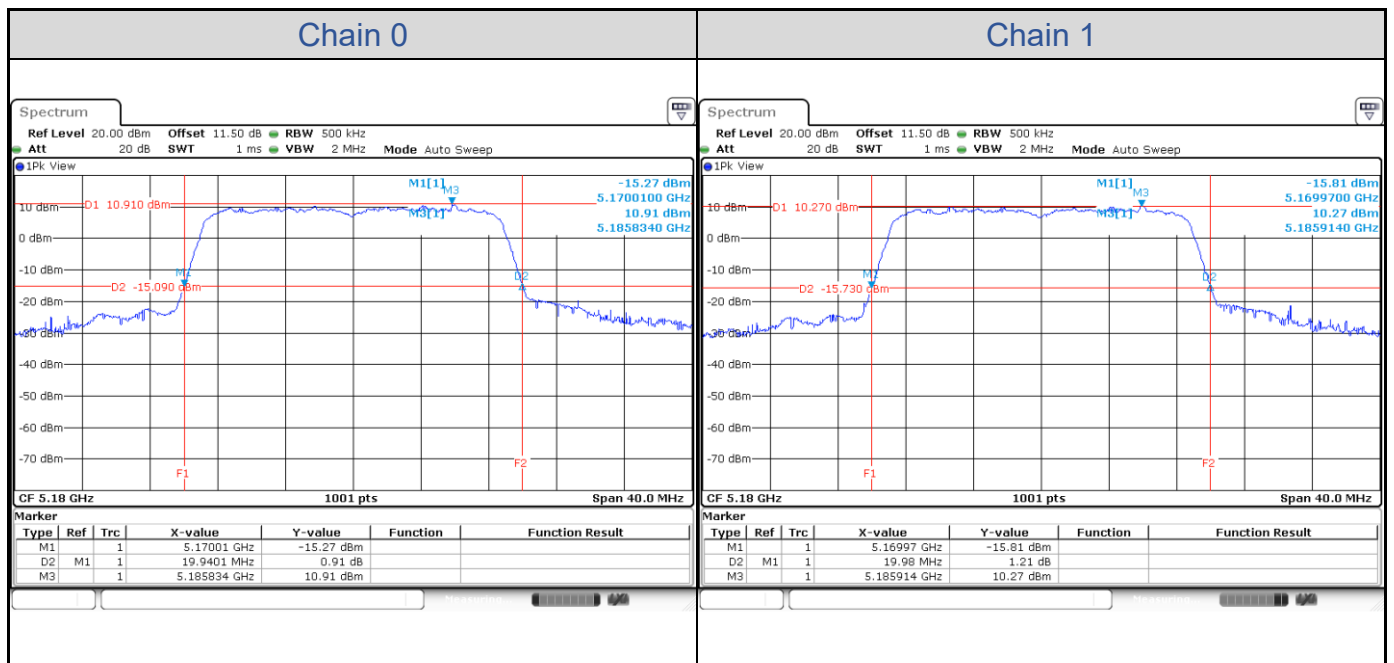
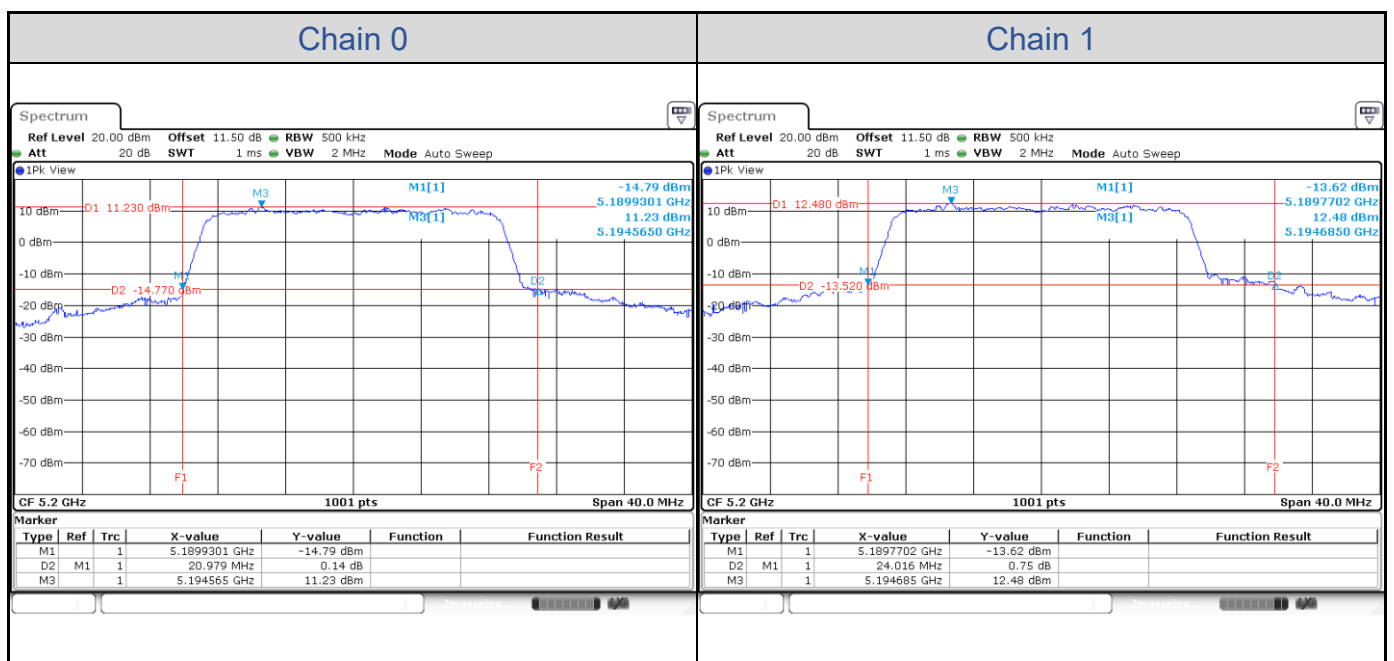
#### 802.11a-Channel 36

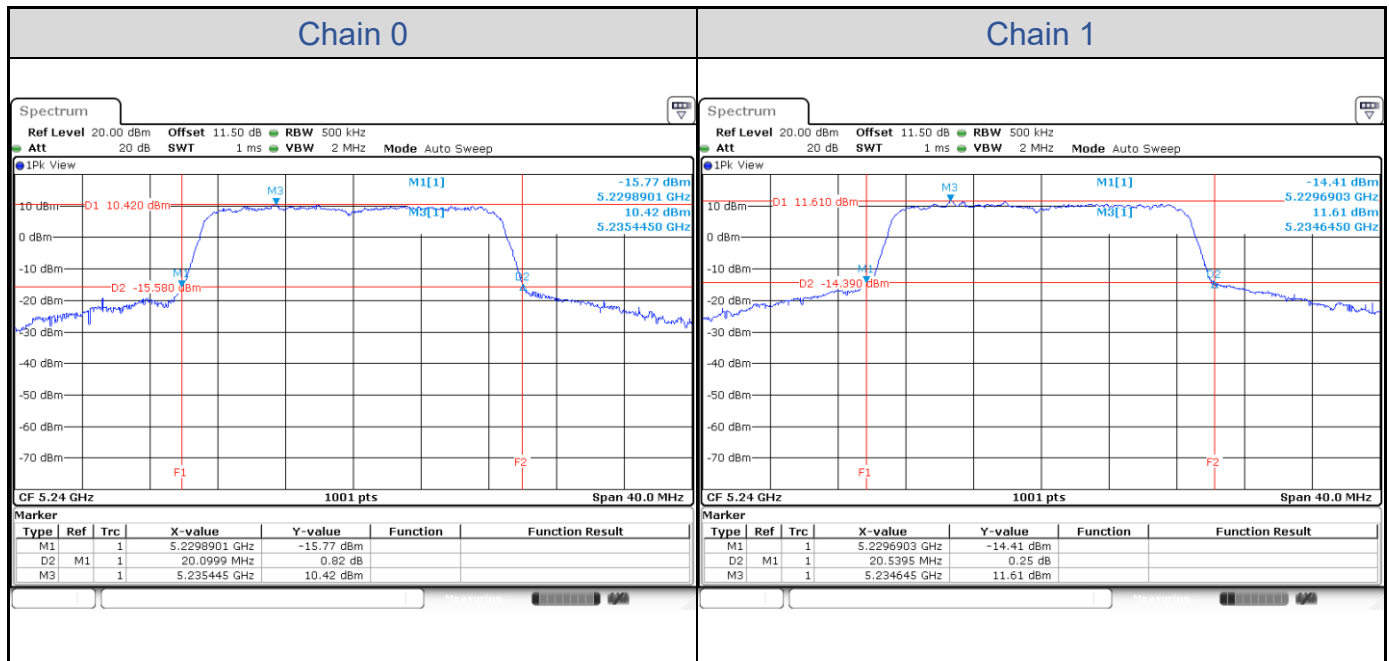


**802.11a-Channel 40**

**802.11a-Channel 48**


**802.11ac VHT20**

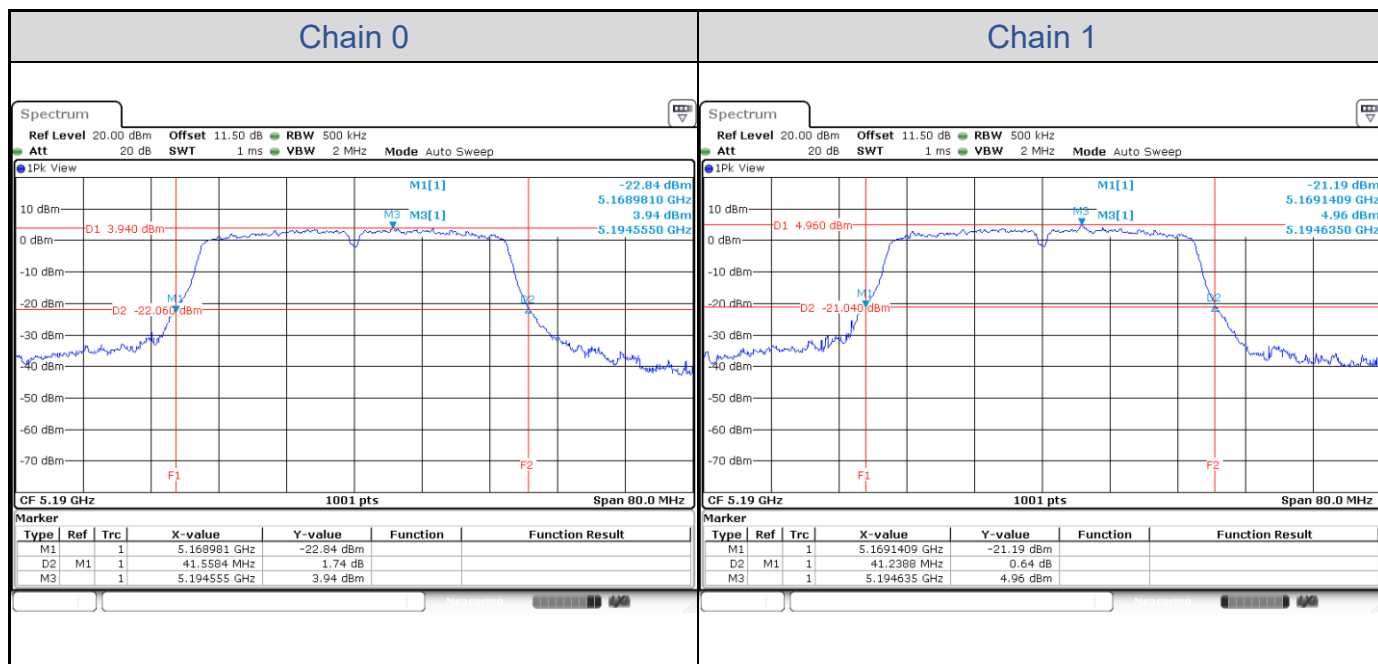
| Band    | Channel | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|---------|---------|-----------------|-----------------------|---------|
|         |         |                 | Chain 0               | Chain 1 |
| U-NII-1 | 36      | 5180            | 19.94                 | 19.98   |
|         | 40      | 5200            | 20.98                 | 24.02   |
|         | 48      | 5240            | 20.10                 | 20.54   |

**802.11ac VHT20-Channel 36**

**802.11ac VHT20-Channel 40**


**802.11ac VHT20-Channel 48**


**802.11ac VHT40**

| Band    | Channel | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|---------|---------|-----------------|-----------------------|---------|
|         |         |                 | Chain 0               | Chain 1 |
| U-NII-1 | 38      | 5190            | 41.56                 | 41.24   |
|         | 46      | 5230            | 67.29                 | 67.69   |

**802.11ac VHT40-Channel 38**

**802.11ac VHT40-Channel 46**
