# FCC PART 15E
# TEST REPORT
## No.24T04Z103031-007

**for**

**TCL Communication Ltd.**

**Tablet PC**

**9185W**

**FCC ID: 2ACCJB229**

**with**

**Hardware Version: 05**

**Software Version: 4J3M**

**Issued Date: 2025-03-06**

**Note:**

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

**Test Laboratory:**

**CTTL-Telecommunication Technology Labs, CAICT**

No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191.

Tel:+86(0)10-62304633-2512, Fax:+86(0)10-62304633-2504

Email: cttl_terminals@caict.ac.cn, website: www.caict.ac.cn

*©Copyright. All rights reserved by CTTL.*

# REPORT HISTORY

| Report Number | Revision | Description | Issue Date |
|---|---|---|---|
| 24T04Z103031-007 | Rev.0 | 1st edition | 2025-03-06 |

Note: the latest revision of the test report supersedes all previous version.

©Copyright. All rights reserved by CTTL.

# CONTENTS


**1. TEST LABORATORY ..... 5**

1.1. INTRODUCTION & ACCREDITATION ..... 5
1.2. TESTING LOCATION ..... 5
1.3. TESTING ENVIRONMENT ..... 5
1.4. PROJECT DATE ..... 5
1.5. SIGNATURE ..... 5

**2. CLIENT INFORMATION ..... 6**

2.1 APPLICANT INFORMATION ..... 6
2.2 MANUFACTURER INFORMATION ..... 6

**3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE) ..... 7**

3.1. ABOUT EUT ..... 7
3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST ..... 7
3.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST ..... 7
3.4. GENERAL DESCRIPTION ..... 7
3.5. INTERPRETATION OF THE TEST ENVIRONMENT ..... 8

**4. REFERENCE DOCUMENTS ..... 8**

4.1. DOCUMENTS SUPPLIED BY APPLICANT ..... 8
4.2. REFERENCE DOCUMENTS FOR TESTING ..... 8

**5. LABORATORY ENVIRONMENT ..... 8**

**6. TEST RESULTS ..... 9**

6.1. SUMMARY OF TEST RESULTS ..... 9
6.2. STATEMENTS ..... 9
6.3. TEST CONDITIONS ..... 9

**7. TEST FACILITIES UTILIZED ..... 10**

**8. MEASUREMENT UNCERTAINTY ..... 11**

8.1 TRANSMITTER OUTPUT POWER ..... 11
8.2 PEAK POWER SPECTRAL DENSITY ..... 11
8.3 26DB EMISSION BANDWIDTH ..... 11
8.4 BAND EDGES COMPLIANCE ..... 11
8.5 SPURIOUS EMISSIONS ..... 11
8.6 RADIATED UNWANTED EMISSION ..... 11
8.7 AC POWER-LINE CONDUCTED EMISSION ..... 11

**ANNEX A: DETAILED TEST RESULTS ..... 12**

A.1. MEASUREMENT METHOD ..... 12
A.2. MAXIMUM OUTPUT POWER ..... 13
A.2.1 ANTENNA GAIN ..... 13


©Copyright. All rights reserved by CTTL.

A.2.2 MAXIMUM OUTPUT POWER-CONDUCTED ..... 13
A.3. PEAK POWER SPECTRAL DENSITY (CONDUCTED) ..... 17
A.4. 26DB EMISSION BANDWIDTH (CONDUCTED) ..... 19
A.5. RADIATED UNWANTED EMISSION ..... 37
A.5.1 LIMITS ..... 37
A.5.2 TEST SETUP ..... 38
A.5.3 TEST PROCEDURES ..... 39
A.5.4 CALCULATION ..... 39
A.6. AC POWERLINE CONDUCTED EMISSION (150KHZ- 30MHZ) ..... 69
A.6.1 SUMMARY ..... 69
A.6.2 METHOD OF MEASUREMENT ..... 69
A.6.3 TEST CONDITION ..... 69
A.6.4 TEST SETUP ..... 69
A.8. 99% OCCUPIED BANDWIDTH ..... 73
A.9. POWER CONTROL ..... 90

**A.10. ANTENNA REQUIREMENT ..... 90**

**ANNEX B: EUT PARAMETERS ..... 91**

**ANNEX C: ACCREDITATION CERTIFICATE ..... 91**

©Copyright. All rights reserved by CTTL.

# 1. Test Laboratory

## 1.1. Introduction & Accreditation

**Telecommunication Technology Labs, CAICT** is an ISO/IEC 17025:2017 accredited test laboratory under American Association for Laboratory Accreditation (A2LA) with lab code 7049.01, and is also an FCC accredited test laboratory (CN1349), and ISED accredited test laboratory (CAB identifier:CN0066). The detail accreditation scope can be found on A2LA website.

## 1.2. Testing Location

Conducted testing Location: CTTL(Gaolizhang Road)

Address: Cuihu Cloud Center, No.1, Gaolizhang Road, Wenquan, Haidian District, Beijing, China

Radiated testing Location: CTTL (BDA)

Address: No.18A, Kangding Street, Beijing Economic-Technology Development Area, Beijing, P. R. China 100176

## 1.3. Testing Environment

Normal Temperature: 15-35°C

Relative Humidity: 20-75%

## 1.4. Project date

Testing Start Date: 2024-12-31

Testing End Date: 2025-03-06

## 1.5. Signature

**Dong Jiaxuan**

**( Prepared this test report )**

**Zheng Wei**

**(Reviewed this test report)**

**Pang Shuai**

**(Approved this test report)**

©Copyright. All rights reserved by CTTL.

# 2. Client Information

## 2.1 Applicant Information

| | |
|---|---|
| Company Name: | TCL Communication Ltd. |
| Address: | 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong |
| City: | Hong Kong |
| Contact: | Ting Wang |
| Email: | ting.wang.hz@tcl.com |
| Telephone: | +86 752 2639091 |
| Fax: | +86 755 3661 2000-81722 |

## 2.2 Manufacturer Information

| | |
|---|---|
| Company Name: | TCL Communication Ltd. |
| Address: | 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong |
| City: | Hong Kong |
| Contact: | Ting Wang |
| Email: | ting.wang.hz@tcl.com |
| Telephone: | +86 752 2639091 |
| Fax: | +86 755 3661 2000-81722 |

©Copyright. All rights reserved by CTTL.

# 3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

## 3.1. About EUT

| | |
|---|---|
| Description | Tablet PC |
| Model name | 9185W |
| FCC ID | 2ACCJB229 |
| WLAN Frequency Band | ISM Bands:<br>-5150MHz~5250MHz<br>-5250MHz~5350MHz<br>-5470MHz~5725MHz |
| Type of modulation | OFDM |
| Antenna | Integral Antenna |
| Nominal Voltage | 3.8V |

## 3.2. Internal Identification of EUT used during the test

| EUT ID* | SN or IMEI | HW Version | SW Version | Date of receipt |
|---|---|---|---|---|
| UT89a | 016645000023444<br>016645000023451 | 05 | 4J3M | 2025-02-10 |
| UT53a | 016645000021653<br>016645000021703 | 05 | 4J3M | 2025-02-10 |

*EUT ID: is used to identify the test sample in the lab internally.

UT53a is used for Conduction test, UT89a is used for Radiation test.

## 3.3. Internal Identification of AE used during the test

| AE ID* | Name | Model | Manufacturer |
|---|---|---|---|
| AE1 | Battery | TLp058C7 | Veken |
| AE2* | Charger | / | / |
| AE3 | USB cable | CDA0000296C8 | PUAN |
| AE4* | Headset | / | / |

*AE ID: is used to identify the test sample in the lab internally.

*AE2 and AE4 are not the AE for EUT, provided by the lab for relevant tests.

## 3.4. General Description

The Equipment under Test (EUT) is a model of Tablet PC with integrated antenna and inbuilt battery.

It consists of normal options: travel charger, USB cable.

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the client.

©Copyright. All rights reserved by CTTL.

### 3.5. Interpretation of the Test Environment

For the test methods, the test environment uncertainty figures correspond to an expansion factor k=2.

Measurement Uncertainty

| Parameter | Uncertainty |
|---|---|
| temperature | 0.48°C |
| humidity | 2 % |
| DC voltages | 0.003V |

## 4. Reference Documents

### 4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

### 4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

| | | |
|---|---|---|
| FCC Part15 | Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices | 2021 |
| ANSI C63.10 | Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz | 2013 |
| UNII: KDB 789033 D02 | General U-NII Test Procedures New Rules v02r01 | 2017-12 |

Note: UNII: KDB 789033 D02 is not in the scope of ISO/IEC 17025 accreditation by A2LA.

## 5. Laboratory Environment

Conducted RF performance testing is performed in shielding room.

EMC performance testing is performed in Semi-anechoic chamber.

©Copyright. All rights reserved by CTTL.

# 6. Test Results

## 6.1. Summary of Test Results

| SUMMARY OF MEASUREMENT RESULTS | Sub-clause of Part15E | Sub-clause of IC | Verdict |
|---|---|---|---|
| Maximum Output Power | 15.407 | / | **P** |
| Peak Power Spectral Density | 15.407 | / | **P** |
| Occupied 26dB Bandwidth | 15.403 | / | **P** |
| Radiated Unwanted Emission | 15.407, 15.205, 15.209 | / | **P** |
| AC Powerline Conducted Emission | 15.107, 15.207 | / | **P** |
| 99% Occupied bandwidth | / | / | **P** |
| Transmit Power Control | 15.407 | / | **NA** |

Please refer to **ANNEX A** for detail.

Terms used in Verdict column

| | |
|---|---|
| P | Pass, The EUT complies with the essential requirements in the standard. |
| NM | Not measured, The test was not measured by CTTL |
| NA | Not Applicable, The test was not applicable |
| F | Fail, The EUT does not comply with the essential requirements in the standard |

## 6.2. Statements

CTTL has evaluated the test cases as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.

This report only deals with the WLAN function among the features described in section 3.

## 6.3. Test Conditions

For this report, all the test cases are tested under normal temperature and normal voltage, and also under norm humidity, the specific condition is shown as follows:

| | |
|---|---|
| Temperature | 26°C |
| Voltage | 3.8V |
| Humidity | 44% |

©Copyright. All rights reserved by CTTL.

## 7. Test Facilities Utilized

### Conducted test system

| No. | Equipment | Model | Serial Number | Manufacturer | Calibration Period | Calibration Due date |
|---|---|---|---|---|---|---|
| 1 | Vector Signal Analyzer | FSQ40 | 200089 | Rohde & Schwarz | 1 year | 2025-08-11 |
| 2 | Vector Signal Analyzer | FSW67 | 104051 | Rohde & Schwarz | 1 year | 2025-04-30 |
| 3 | Test Receiver | ESCI | 100344 | R&S | 1 year | 2025-04-01 |
| 4 | LISN | ENV216 | 101200 | R&S | 1 year | 2025-05-16 |
| 5 | Attenuator | 10dB/2W | / | Rosenberger | / | / |
| 6 | Shielding Room | S81 | / | ETS-Lindgren | / | / |

### Radiated emission test system

| No. | Equipment | Model | Serial Number | Manufacturer | Calibration Period | Calibration Due date |
|---|---|---|---|---|---|---|
| 1 | Test Receiver | ESU26 | 100376 | R&S | 1 year | 2025-06-06 |
| 2 | Test Receiver | FSV40 | 101047 | R&S | 1 year | 2025-07-28 |
| 3 | Loop Antenna | HFH2-Z2 | 829324/007 | R&S | 2 years | 2026-01-04 |
| 4 | EMI Antenna | VULB9163 | 01177 | Schwarzbeck | 1 year | 2025-11-19 |
| 5 | EMI Antenna | 3115 | 00146404 | ETS-Lindgren | 1 year | 2025-05-16 |
| 6 | EMI Antenna | 3117 | 00119021 | ETS-Lindgren | 1 year | 2025-09-18 |
| 7 | EMI Antenna | LB-180400-25-C-KF | 2110084000006 | A-INFO | 1 year | 2025-05-15 |

### AC Power Line Conducted Emission

| No. | Equipment | Model | Serial Number | Manufacturer | Calibration Period | Calibration Due date |
|---|---|---|---|---|---|---|
| 1 | LISN | ENV216 | 101459 | R&S | 1 year | 2025-05-16 |
| 2 | Test Receiver | ESCI | 100766 | R&S | 1 year | 2025-04-18 |

©Copyright. All rights reserved by CTTL.

# 8. Measurement Uncertainty

## 8.1 Transmitter Output Power

Measurement Uncertainty: 0.387dB,k=1.96

## 8.2 Peak Power Spectral Density

Measurement Uncertainty: 0.705dB,k=1.96

## 8.3 26dB Emission Bandwidth

Measurement Uncertainty: 60.80Hz,k=1.96

## 8.4 Band Edges Compliance

Measurement Uncertainty : 0.62dB,k=1.96

## 8.5 Spurious Emissions

**Conducted (k=1.96)**

| Frequency Range | Uncertainty(dB) |
|---|---|
| 30MHz ≤ f ≤ 2GHz | 1.22 |
| 2GHz ≤ f ≤3.6GHz | 1.22 |
| 3.6GHz ≤ f ≤8GHz | 1.22 |
| 8GHz ≤ f ≤12.75GHz | 1.51 |
| 12.75GHz ≤ f ≤26GHz | 1.51 |
| 26GHz ≤ f ≤40GHz | 1.59 |

## 8.6 Radiated Unwanted Emission

| Frequency Range | Uncertainty(dB) (k=2) |
|---|---|
| 9kHz-30MHz | 3.96 |
| 30MHz ≤ f ≤ 1GHz | 5.73 |
| 1GHz ≤ f ≤18GHz | 5.58 |
| 18GHz ≤ f ≤40GHz | 3.37 |

## 8.7 AC Power-line Conducted Emission

Measurement Uncertainty: 3.10dB, k=2

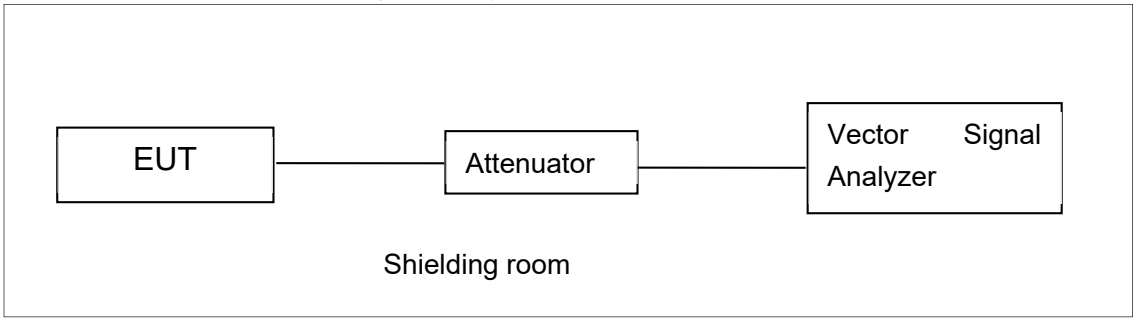
©Copyright. All rights reserved by CTTL.

# ANNEX A: Detailed Test Results

## A.1. Measurement Method

### A.1.1. Conducted Measurements

1). Connect the EUT to the test system correctly.
2). Set the EUT to the required work mode.
3). Set the EUT to the required channel.
4). Set the spectrum analyzer to start measurement.
5). Record the values. Vector Signal Analyzer




### A.1.2. Radiated Emission Measurements

Measurement performed according to Clause 6.4, 6.5, 6.6 in ANSI C63.10 and II.G.4, II.G.5, II.G.6 in KDB 789033.

The radiated emission test is performed in semi-anechoic chamber. The EUT was placed on a non-conductive table with 80cm above the ground plane for measurement below 1GHz and 1.5m above the ground plane for measurement above 1GHz. The measurement antenna was placed at a distance of 3 meters from the EUT. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept. During the test, the turntable is rotated from 0° to 360°and the measurement antenna is moved from 1m to 4m to get the maximization result. The maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

©Copyright. All rights reserved by CTTL.

## A.2. Maximum output Power

**Measurement Limit and Method:**

| Standard | Frequency (MHz) | Limit (dBm) |
|---|---|---|
| FCC CRF Part 15.407(a) | 5150MHz~5250MHz | 24dBm |
| | 5250MHz~5350MHz | 24dBm or 11+10logB |
| | 5470MHz~5725MHz | 24dBm or 11+10logB |

Limit use the less value, and B is the 26dB bandwidth.
The measurementmethod SA-2 is made according to KDB 789033

### A.2.1 Antenna Gain

Antenna gain is -2.7dBi and the value is supplied by the applicant or manufacturer.

### A.2.2 Maximum output Power-Conducted

**EUT ID: UT53a**

**Measurement Results:**

**802.11a mode**

| Mode | Frequency | Test Result (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Data Rate (Mbps) | | | | | | | |
| | | 6 | 9 | 12 | 18 | 24 | 36 | 48 | 54 |
| 802.11a | 5180MHz | 18.58 | / | / | / | / | / | / | / |
| | 5200MHz | 18.74 | / | / | / | / | / | / | / |
| | 5240MHz | 18.93 | / | / | / | / | / | / | / |
| | 5260MHz | 18.60 | / | / | / | / | / | / | / |
| | 5280MHz | 18.96 | / | / | / | / | / | / | / |
| | 5320MHz | 18.56 | / | / | / | / | / | / | / |
| | 5500MHz | 14.72 | / | / | / | / | / | / | / |
| | 5580MHz | 18.20 | / | / | / | / | / | / | / |
| | 5700MHz | 16.68 | / | / | / | / | / | / | / |
| | 5720MHz | 18.28 | / | / | / | / | / | / | / |

The data rate 6Mbps is selected as worst condition, and the following cases are performed with this condition.

**802.11n-HT20 mode**

| Mode | Frequency | Test Result (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Data Rate | | | | | | | |
| | | MCS0 | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 |
| 802.11n (HT20) | 5180MHz | 17.68 | / | / | / | / | / | / | / |
| | 5200MHz | 17.79 | / | / | / | / | / | / | / |
| | 5240MHz | 18.08 | / | / | / | / | / | / | / |
| | 5260MHz | 17.63 | / | / | / | / | / | / | / |
| | 5280MHz | 18.07 | / | / | / | / | / | / | / |
| | 5320MHz | 17.69 | / | / | / | / | / | / | / |

©Copyright. All rights reserved by CTTL.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 5500MHz | 14.58 | / | / | / | / | / | / | / |
| | 5580MHz | 17.38 | / | / | / | / | / | / | / |
| | 5700MHz | 16.46 | / | / | / | / | / | / | / |
| | 5720MHz | 17.39 | / | / | / | / | / | / | / |

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

**802.11ac-VHT20 mode**

| Mode | Frequency | Test Result (dBm) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Data Rate | | | | | | | | |
| | | MCS0 | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 | MCS8 |
| 802.11ac (VHT20) | 5180MHz | 15.43 | / | / | / | / | / | / | / | / |
| | 5200MHz | 15.58 | / | / | / | / | / | / | / | / |
| | 5240MHz | 15.81 | / | / | / | / | / | / | / | / |
| | 5260MHz | 15.45 | / | / | / | / | / | / | / | / |
| | 5280MHz | 15.91 | / | / | / | / | / | / | / | / |
| | 5320MHz | 15.56 | / | / | / | / | / | / | / | / |
| | 5500MHz | 15.18 | / | / | / | / | / | / | / | / |
| | 5580MHz | 15.39 | / | / | / | / | / | / | / | / |
| | 5700MHz | 15.27 | / | / | / | / | / | / | / | / |
| | 5720MHz | 15.33 | / | / | / | / | / | / | / | / |

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

**802.11n-HT40 mode**

| Mode | Frequency | Test Result (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Data Rate | | | | | | | |
| | | MCS0 | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 |
| 802.11n (HT40) | 5190MHz | 15.52 | / | / | / | / | / | / | / |
| | 5230MHz | 15.73 | / | / | / | / | / | / | / |
| | 5270MHz | 16.18 | / | / | / | / | / | / | / |
| | 5310MHz | 16.09 | / | / | / | / | / | / | / |
| | 5510MHz | 14.06 | / | / | / | / | / | / | / |
| | 5550MHz | 15.89 | / | / | / | / | / | / | / |
| | 5670MHz | 15.85 | / | / | / | / | / | / | / |
| | 5710MHz | 16.04 | / | / | / | / | / | / | / |

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

©Copyright. All rights reserved by CTTL.

**802.11ac-VHT40 mode**

| Mode | Frequency | Test Result (dBm) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Data Rate | | | | | | | | | |
| | | MCS0 | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 | MCS8 | MCS9 |
| 802.11ac (VHT40) | 5190MHz | 14.55 | / | / | / | / | / | / | / | / | / |
| | 5230MHz | 14.73 | / | / | / | / | / | / | / | / | / |
| | 5270MHz | 14.75 | / | / | / | / | / | / | / | / | / |
| | 5310MHz | 14.63 | / | / | / | / | / | / | / | / | / |
| | 5510MHz | 13.05 | / | / | / | / | / | / | / | / | / |
| | 5550MHz | 14.50 | / | / | / | / | / | / | / | / | / |
| | 5670MHz | 14.82 | / | / | / | / | / | / | / | / | / |
| | 5710MHz | 15.03 | / | / | / | / | / | / | / | / | / |

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

**802.11ac-VHT80 mode**

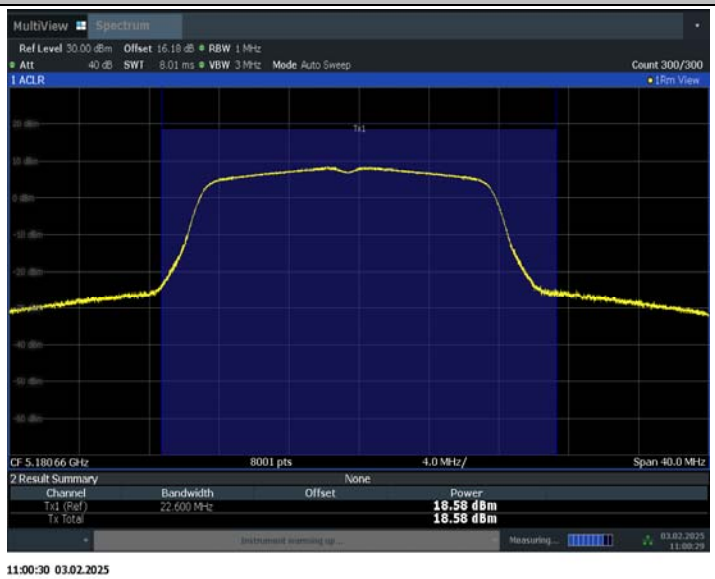
| Mode | Frequency | Test Result (dBm) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Data Rate | | | | | | | | | |
| | | MCS0 | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 | MCS8 | MCS9 |
| 802.11ac (VHT80) | 5210MHz | 13.41 | / | / | / | / | / | / | / | / | / |
| | 5290MHz | 14.17 | / | / | / | / | / | / | / | / | / |
| | 5530MHz | 14.26 | / | / | / | / | / | / | / | / | / |
| | 5610MHz | 13.60 | / | / | / | / | / | / | / | / | / |
| | 5690MHz | 14.34 | / | / | / | / | / | / | / | / | / |

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

The duty cycle

| TestMode | Antenna | Duty Cycle [%] |
|---|---|---|
| 11A | Ant1 | 97.90 |
| 11N20SISO | Ant1 | 96.99 |
| 11N40SISO | Ant1 | 95.59 |
| 11AC20SISO | Ant1 | 97.76 |
| 11AC40SISO | Ant1 | 95.65 |
| 11AC80SISO | Ant1 | 88.89 |

©Copyright. All rights reserved by CTTL.

| 11A_Ant1_5180 |
| --- |
|  |



**Maximum output Power**

**Conclusion: PASS**

©Copyright. All rights reserved by CTTL.

## A.3. Peak Power Spectral Density (conducted)

**Measurement Limit:**

| Standard | Frequency (MHz) | Limit (dBm/MHz) |
|---|---|---|
| FCC CRF Part 15.407(a) | 5150MHz~5250MHz | 11 |
| | 5250MHz~5350MHz | 11 |
| | 5470MHz~5725MHz | 11 |

The output power measurement method Section F is made according to KDB 789033

**EUT ID: UT53a**

**Measurement Results:**

| TestMode | Antenna | Frequency[MHz] | Result [dBm/MHz] | Limit[dBm/MHz] | Verdict |
|---|---|---|---|---|---|
| 11A | Ant1 | 5180 | 8.34 | ≤11.00 | PASS |
| | | 5200 | 8.64 | ≤11.00 | PASS |
| | | 5240 | 9.14 | ≤11.00 | PASS |
| | | 5260 | 8.44 | ≤11.00 | PASS |
| | | 5280 | 8.70 | ≤11.00 | PASS |
| | | 5320 | 8.32 | ≤11.00 | PASS |
| | | 5500 | 8.30 | ≤11.00 | PASS |
| | | 5580 | 8.02 | ≤11.00 | PASS |
| | | 5700 | 8.86 | ≤11.00 | PASS |
| | | 5720 | 8.11 | ≤11.00 | PASS |
| 11N20SISO | Ant1 | 5180 | 7.12 | ≤11.00 | PASS |
| | | 5200 | 7.33 | ≤11.00 | PASS |
| | | 5240 | 7.85 | ≤11.00 | PASS |
| | | 5260 | 7.27 | ≤11.00 | PASS |
| | | 5280 | 7.79 | ≤11.00 | PASS |
| | | 5320 | 7.23 | ≤11.00 | PASS |
| | | 5500 | 7.39 | ≤11.00 | PASS |
| | | 5580 | 7.14 | ≤11.00 | PASS |
| | | 5700 | 7.80 | ≤11.00 | PASS |
| | | 5720 | 7.67 | ≤11.00 | PASS |
| 11N40SISO | Ant1 | 5190 | 2.29 | ≤11.00 | PASS |
| | | 5230 | 2.60 | ≤11.00 | PASS |
| | | 5270 | 2.85 | ≤11.00 | PASS |
| | | 5310 | 2.75 | ≤11.00 | PASS |
| | | 5510 | 3.05 | ≤11.00 | PASS |
| | | 5550 | 2.66 | ≤11.00 | PASS |
| | | 5670 | 2.52 | ≤11.00 | PASS |
| | | 5710 | 3.00 | ≤11.00 | PASS |
| 11AC80SISO | Ant1 | 5210 | -3.13 | ≤11.00 | PASS |
| | | 5290 | -2.13 | ≤11.00 | PASS |

©Copyright. All rights reserved by CTTL.

| | | | | | |
|---|---|---|---|---|---|
| | | 5530 | -2.05 | ≤11.00 | PASS |
| | | 5610 | -2.58 | ≤11.00 | PASS |
| | | 5690 | -1.75 | ≤11.00 | PASS |

| 11A_Ant1_5180 |
|---|
| |



**Peak Power Spectral Density**

**Conclusion: PASS**

©Copyright. All rights reserved by CTTL.

## A.4. 26dB Emission Bandwidth (conducted)

**Measurement Limit:**

| Standard | Limit (kHz) |
|---|---|
| FCC 47 CFR Part 15.403 (i) | / |

The measurement is made according to KDB 789033

**Measurement Uncertainty:**

| | |
|---|---|
| Measurement Uncertainty | 60.80Hz |

**EUT ID: UT53a**

**Measurement Result:**

| TestMode | Antenna | Frequency[MHz] | 26db EBW [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|---|---|---|---|---|---|---|---|
| 11A | Ant1 | 5180 | 22.60 | 5169.36 | 5191.96 | --- | --- |
| | | 5200 | 21.32 | 5189.04 | 5210.36 | --- | --- |
| | | 5240 | 22.00 | 5228.80 | 5250.80 | --- | --- |
| | | 5260 | 27.48 | 5247.60 | 5275.08 | --- | --- |
| | | 5280 | 23.32 | 5268.64 | 5291.96 | --- | --- |
| | | 5320 | 22.60 | 5308.96 | 5331.56 | --- | --- |
| | | 5500 | 26.16 | 5486.08 | 5512.24 | --- | --- |
| | | 5580 | 25.92 | 5566.76 | 5592.68 | --- | --- |
| | | 5700 | 26.16 | 5688.24 | 5714.40 | --- | --- |
| | | 5720 | 28.92 | 5706.40 | 5735.32 | --- | --- |
| 11N20SISO | Ant1 | 5180 | 24.00 | 5168.24 | 5192.24 | --- | --- |
| | | 5200 | 23.40 | 5188.24 | 5211.64 | --- | --- |
| | | 5240 | 22.68 | 5228.04 | 5250.72 | --- | --- |
| | | 5260 | 24.84 | 5248.28 | 5273.12 | --- | --- |
| | | 5280 | 23.64 | 5268.24 | 5291.88 | --- | --- |
| | | 5320 | 24.68 | 5308.32 | 5333.00 | --- | --- |
| | | 5500 | 26.16 | 5486.12 | 5512.28 | --- | --- |
| | | 5580 | 24.32 | 5567.24 | 5591.56 | --- | --- |
| | | 5700 | 24.64 | 5688.16 | 5712.80 | --- | --- |
| | | 5720 | 28.28 | 5705.84 | 5734.12 | --- | --- |
| 11N40SISO | Ant1 | 5190 | 41.04 | 5169.36 | 5210.40 | --- | --- |
| | | 5230 | 41.44 | 5209.20 | 5250.64 | --- | --- |
| | | 5270 | 45.20 | 5249.36 | 5294.56 | --- | --- |
| | | 5310 | 41.84 | 5289.60 | 5331.44 | --- | --- |
| | | 5510 | 42.24 | 5489.12 | 5531.36 | --- | --- |
| | | 5550 | 42.08 | 5529.28 | 5571.36 | --- | --- |
| | | 5670 | 53.84 | 5640.72 | 5694.56 | --- | --- |
| | | 5710 | 45.36 | 5689.04 | 5734.40 | --- | --- |
| 11AC80SISO | Ant1 | 5210 | 81.44 | 5169.20 | 5250.64 | --- | --- |
| | | 5290 | 81.44 | 5249.20 | 5330.64 | --- | --- |

©Copyright. All rights reserved by CTTL.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 5530 | 81.92 | 5488.88 | 5570.80 | --- | --- |
| | | 5610 | 81.44 | 5569.20 | 5650.64 | --- | --- |
| | | 5690 | 81.92 | 5649.04 | 5730.96 | --- | --- |

**Test graphs as below:**

11A_Ant1_5180

11A_Ant1_5200

11A_Ant1_5240

©Copyright. All rights reserved by CTTL.

11:02:10 03.02.2025

11A_Ant1_5260

11:03:29 03.02.2025

11A_Ant1_5280

©Copyright. All rights reserved by CTTL.

11A_Ant1_5320

11A_Ant1_5500

©Copyright. All rights reserved by CTTL.

11A_Ant1_5580

11A_Ant1_5700

©Copyright. All rights reserved by CTTL.

11A_Ant1_5720

11N20SISO_Ant1_5180

©Copyright. All rights reserved by CTTL.

11:15:17 03.02.2025

11N20SISO_Ant1_5200

11:16:28 03.02.2025

11N20SISO_Ant1_5240

©Copyright. All rights reserved by CTTL.

11N20SISO_Ant1_5260

11N20SISO_Ant1_5280

©Copyright. All rights reserved by CTTL.

11N20SISO_Ant1_5320

11N20SISO_Ant1_5500

©Copyright. All rights reserved by CTTL.

11N20SISO_Ant1_5580

11N20SISO_Ant1_5700

©Copyright. All rights reserved by CTTL.

11N20SISO_Ant1_5720

11N40SISO_Ant1_5190

©Copyright. All rights reserved by CTTL.

11N40SISO_Ant1_5230

11N40SISO_Ant1_5270

©Copyright. All rights reserved by CTTL.

11N40SISO_Ant1_5310

11N40SISO_Ant1_5510

©Copyright. All rights reserved by CTTL.

11N40SISO_Ant1_5550

11N40SISO_Ant1_5670

©Copyright. All rights reserved by CTTL.

11N40SISO_Ant1_5710

11AC80SISO_Ant1_5210

©Copyright. All rights reserved by CTTL.

11AC80SISO_Ant1_5290

11AC80SISO_Ant1_5530

©Copyright. All rights reserved by CTTL.

11AC80SISO_Ant1_5610

11AC80SISO_Ant1_5690

©Copyright. All rights reserved by CTTL.

**Conclusion: PASS**

©Copyright. All rights reserved by CTTL.

## A.5. Radiated Unwanted Emission

### A.5.1 Limits

Unwanted Emissions in the unrestricted bands shall not exceed the limits that shown in 15.407:

| Standard | Limit |
|---|---|
| FCC 47 CFR Part 15.407 | (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.<br>(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.<br>(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz. |

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c))

| Frequency (MHz) | Field strength(μV/m) | Measurement distance (m) |
|---|---|---|
| 0.009 - 0.490 | 2400/F(kHz) | 300 |
| 0.490 - 1.705 | 24000/F(kHz) | 30 |
| 1.705 – 30.0 | 30 | 30 |

| Frequency of emission (MHz) | Field strength (uV/m) | Field strength (dBuV/m) | Measurement distance (m) |
|---|---|---|---|
| 30-88 | 100 | 40 | 3 |
| 88-216 | 150 | 43.5 | 3 |
| 216-960 | 200 | 46 | 3 |
| Above 960 | 500 | 54 | 3 |

Note: When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor (as defined in KDB 789033 II.G.2.d).

©Copyright. All rights reserved by CTTL.

### A.5.2 Test setup

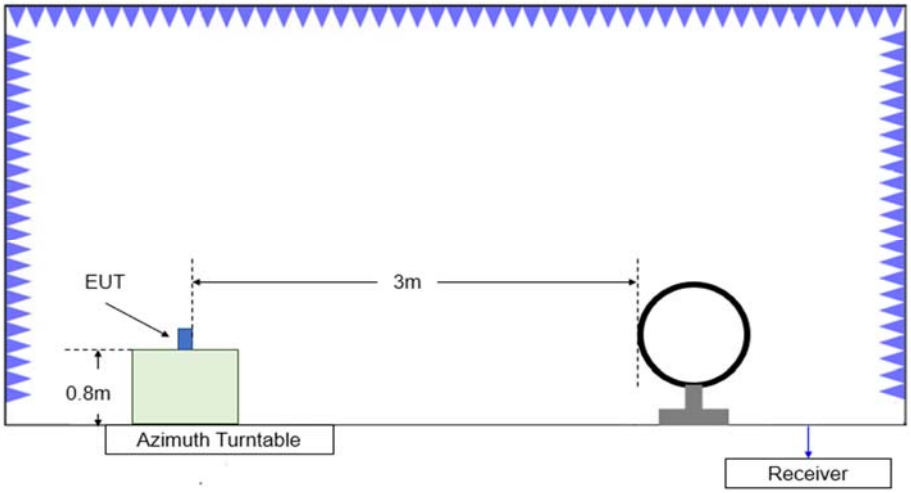



**Figure A.5.1. Test Site Diagram (9kHz-30MHz)**

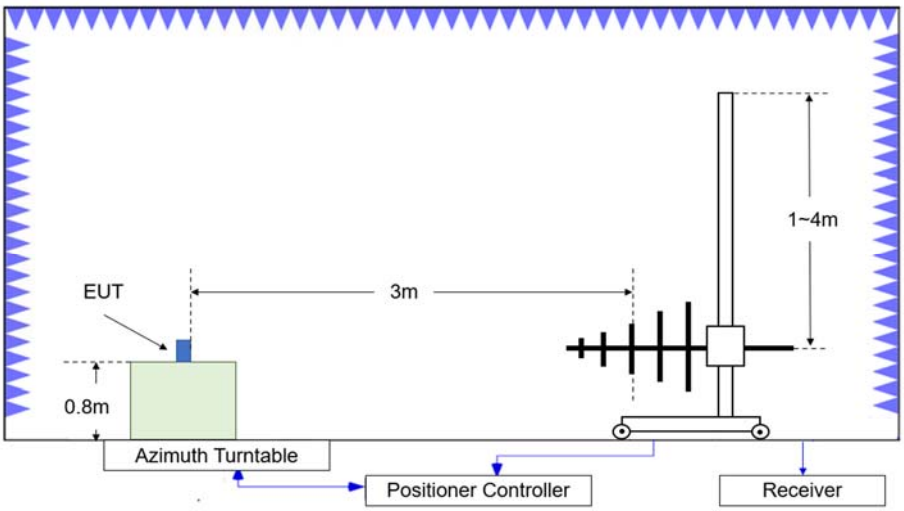



**Figure A.5.2. Test Site Diagram (30MHz-1GHz)**

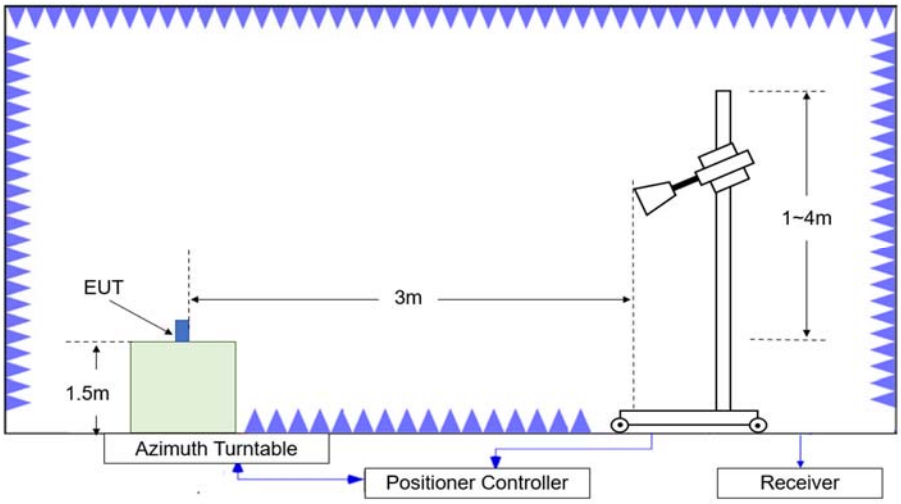



**Figure A.5.3. Test Site Diagram (1GHz-40GHz)**

©Copyright. All rights reserved by CTTL.

### A.5.3 Test Procedures

Radiated unwanted emissions from the EUT were measured according to ANSI C63.10and KDB 789033.

Test setting

| Frequency of emission (MHz) | RBW/VBW |
|---|---|
| 30-1000 | 100kHz/300kHz |
| 1000-4000 | 1MHz/3MHz |
| 4000-18000 | 1MHz/3MHz |
| 18000-26500 | 1MHz/3MHz |
| 26500-40000 | 1MHz/3MHz |

### A.5.4 Calculation

1. The measurement results reported below is calculated by:

Measurement Results (dBμV/m) = $P_{measurement}$ (dBμV) + Cable Loss(dB) + Antenna Factor (dB/m)

Where: $P_{measurement}$ is the field strength recorded from the instrument

2. Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:

E=EIRP- 20log (*D*) +104.77

Where:

*E* is the field strength in dBμV/m

*D* is the measurement distance in meters

EIRP is the equivalent isotropically radiated power in dBm

**Test note**

1. The EUT is operating at its maximum duty cycle and its maximum power control level.
2. Investigation has been done on all modes and modulations/data rates. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.
3. Spurious emissions for all channels were investigated and almost the same below 1GHz. According to FCC 47 CFR §15.31, emission levels are not report much lower than the limit by over 20dB
4. Measurement frequencies were performed from 9 kHz to 40GHz.

©Copyright. All rights reserved by CTTL.

**A.5.5 Measurement Results:**

**Average Results:**

**802.11a**

Channel 36

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5147.800 | 47.1 | -23.1 | 34.0 | 36.26 | 54.0 | 6.9 | V |
| 5149.900 | 47.7 | -23.2 | 34.0 | 36.87 | 54.0 | 6.3 | V |
| 10785.600 | 34.9 | -28.8 | 37.8 | 25.94 | 54.0 | 19.1 | V |
| 15540.000 | 38.2 | -24.4 | 40.4 | 22.22 | 54.0 | 15.8 | V |
| 17891.600 | 40.3 | -21.0 | 40.5 | 20.80 | 54.0 | 13.7 | V |
| 17950.000 | 40.3 | -20.8 | 40.6 | 20.54 | 54.0 | 13.7 | H |

Channel 64

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5350.650 | 47.3 | -23.1 | 34.1 | 36.27 | 54.0 | 6.7 | V |
| 5352.700 | 46.9 | -23.0 | 34.1 | 35.78 | 54.0 | 7.1 | V |
| 10640.000 | 34.5 | -29.1 | 37.6 | 26.02 | 54.0 | 19.5 | V |
| 15960.000 | 38.8 | -23.4 | 40.8 | 21.41 | 54.0 | 15.2 | V |
| 17890.000 | 40.1 | -21.0 | 40.5 | 20.60 | 54.0 | 13.9 | H |
| 17950.800 | 40.2 | -20.8 | 40.6 | 20.52 | 54.0 | 13.8 | H |

Channel 100

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5439.300 | 45.3 | -22.5 | 34.5 | 33.40 | 54.0 | 8.7 | V |
| 5492.500 | 45.6 | -22.7 | 34.3 | 34.02 | 54.0 | 8.4 | V |
| 11000.000 | 35.4 | -28.9 | 37.9 | 26.40 | 54.0 | 18.6 | H |
| 16102.400 | 39.2 | -23.5 | 41.1 | 21.64 | 54.0 | 14.8 | V |
| 17891.200 | 40.1 | -21.0 | 40.5 | 20.64 | 54.0 | 13.9 | H |
| 17951.200 | 40.2 | -20.8 | 40.6 | 20.44 | 54.0 | 13.8 | H |

©Copyright. All rights reserved by CTTL.

Channel 116

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5458.650 | 45.1 | -22.5 | 34.5 | 33.16 | 54.0 | 8.9 | V |
| 5459.500 | 45.2 | -22.5 | 34.5 | 33.18 | 54.0 | 8.8 | V |
| 11160.000 | 35.1 | -28.6 | 37.9 | 25.81 | 54.0 | 18.9 | H |
| 16014.800 | 39.1 | -23.5 | 40.8 | 21.74 | 54.0 | 14.9 | H |
| 17888.000 | 40.3 | -21.0 | 40.5 | 20.77 | 54.0 | 13.7 | H |
| 17951.600 | 40.4 | -20.8 | 40.6 | 20.69 | 54.0 | 13.6 | V |

Channel 140

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5422.950 | 45.1 | -22.5 | 34.4 | 33.23 | 54.0 | 8.9 | V |
| 5459.750 | 45.1 | -22.5 | 34.5 | 33.16 | 54.0 | 8.9 | V |
| 11400.000 | 35.2 | -28.4 | 38.0 | 25.59 | 54.0 | 18.8 | V |
| 16102.400 | 39.2 | -23.5 | 41.1 | 21.58 | 54.0 | 14.8 | H |
| 17888.400 | 40.2 | -21.0 | 40.5 | 20.66 | 54.0 | 13.8 | H |
| 17950.800 | 40.2 | -20.8 | 40.6 | 20.49 | 54.0 | 13.8 | V |

**802.11n-HT20**

Channel 36

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5149.950 | 47.7 | -23.2 | 34.0 | 36.82 | 54.0 | 6.3 | V |
| 5149.900 | 47.7 | -23.2 | 34.0 | 36.84 | 54.0 | 6.3 | V |
| 11961.600 | 36.6 | -27.8 | 38.8 | 25.54 | 54.0 | 17.4 | V |
| 15540.000 | 38.2 | -24.4 | 40.4 | 22.15 | 54.0 | 15.8 | V |
| 17794.000 | 38.8 | -21.4 | 40.6 | 19.60 | 54.0 | 15.2 | V |
| 17881.200 | 38.9 | -21.0 | 40.5 | 19.37 | 54.0 | 15.1 | H |

©Copyright. All rights reserved by CTTL.

Channel 64

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5350.050 | 48.6 | -23.1 | 34.1 | 37.58 | 54.0 | 5.4 | V |
| 5350.100 | 48.5 | -23.1 | 34.1 | 37.52 | 54.0 | 5.5 | V |
| 10640.000 | 34.6 | -29.1 | 37.6 | 26.10 | 54.0 | 19.4 | V |
| 15960.000 | 38.6 | -23.4 | 40.8 | 21.18 | 54.0 | 15.4 | V |
| 17788.400 | 39.3 | -21.3 | 40.6 | 20.05 | 54.0 | 14.7 | V |
| 17880.000 | 39.6 | -21.0 | 40.5 | 20.01 | 54.0 | 14.4 | H |

Channel 100

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5459.000 | 45.4 | -22.5 | 34.5 | 33.47 | 54.0 | 8.6 | V |
| 5459.600 | 45.5 | -22.5 | 34.5 | 33.53 | 54.0 | 8.5 | V |
| 11000.000 | 35.3 | -28.9 | 37.9 | 26.34 | 54.0 | 18.7 | V |
| 16004.000 | 38.8 | -23.4 | 40.8 | 21.41 | 54.0 | 15.2 | H |
| 17787.200 | 39.4 | -21.3 | 40.6 | 20.15 | 54.0 | 14.6 | V |
| 17880.000 | 39.6 | -21.0 | 40.5 | 20.03 | 54.0 | 14.4 | H |

**802.11n-HT40**

Channel 38

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5147.350 | 45.4 | -23.1 | 34.0 | 34.49 | 54.0 | 8.6 | V |
| 5149.750 | 45.7 | -23.2 | 34.0 | 34.86 | 54.0 | 8.3 | V |
| 11959.600 | 36.7 | -27.7 | 38.8 | 25.61 | 54.0 | 17.3 | V |
| 15570.000 | 38.3 | -24.3 | 40.4 | 22.16 | 54.0 | 15.7 | H |
| 17867.600 | 39.2 | -21.3 | 40.5 | 20.00 | 54.0 | 14.8 | V |
| 17947.200 | 39.5 | -21.0 | 40.5 | 19.90 | 54.0 | 14.5 | V |

©Copyright. All rights reserved by CTTL.

Channel 62

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5350.250 | 46.4 | -23.1 | 34.1 | 35.41 | 54.0 | 7.6 | V |
| 5350.650 | 46.4 | -23.1 | 34.1 | 35.41 | 54.0 | 7.6 | V |
| 10620.000 | 34.4 | -29.2 | 37.6 | 26.02 | 54.0 | 19.6 | H |
| 15930.000 | 38.9 | -23.9 | 40.9 | 21.94 | 54.0 | 15.1 | H |
| 17890.800 | 39.4 | -21.0 | 40.5 | 19.91 | 54.0 | 14.6 | V |
| 17955.200 | 39.3 | -20.9 | 40.6 | 19.62 | 54.0 | 14.7 | H |

Channel 102

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5459.800 | 45.5 | -22.5 | 34.5 | 33.47 | 54.0 | 8.5 | V |
| 5459.900 | 45.5 | -22.5 | 34.5 | 33.49 | 54.0 | 8.5 | V |
| 11020.000 | 35.3 | -28.9 | 37.9 | 26.29 | 54.0 | 18.7 | H |
| 15999.600 | 39.5 | -23.4 | 40.8 | 22.08 | 54.0 | 14.5 | V |
| 17788.800 | 39.3 | -21.3 | 40.6 | 20.02 | 54.0 | 14.7 | H |
| 17886.000 | 39.5 | -21.0 | 40.5 | 20.00 | 54.0 | 14.5 | V |

Channel 118

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5458.500 | 45.2 | -22.5 | 34.5 | 33.18 | 54.0 | 8.8 | V |
| 5459.650 | 45.1 | -22.5 | 34.5 | 33.15 | 54.0 | 8.9 | V |
| 11180.000 | 35.5 | -28.7 | 38.0 | 26.24 | 54.0 | 18.5 | H |
| 16003.200 | 39.6 | -23.4 | 40.8 | 22.24 | 54.0 | 14.4 | V |
| 17842.800 | 39.5 | -21.3 | 40.6 | 20.25 | 54.0 | 14.5 | H |
| 17886.800 | 39.8 | -21.0 | 40.5 | 20.23 | 54.0 | 14.2 | V |

©Copyright. All rights reserved by CTTL.

**802.11ac-HT20**

Channel 36

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5142.700 | 44.9 | -23.1 | 34.0 | 34.00 | 54.0 | 9.1 | V |
| 5149.700 | 45.1 | -23.2 | 34.0 | 34.23 | 54.0 | 8.9 | V |
| 11962.000 | 36.6 | -27.8 | 38.8 | 25.63 | 54.0 | 17.4 | V |
| 15540.000 | 38.5 | -24.4 | 40.4 | 22.50 | 54.0 | 15.5 | V |
| 17894.000 | 39.8 | -21.1 | 40.5 | 20.34 | 54.0 | 14.2 | V |
| 17954.000 | 39.8 | -20.9 | 40.6 | 20.14 | 54.0 | 14.2 | H |

Channel 64

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5350.050 | 45.4 | -23.1 | 34.1 | 34.36 | 54.0 | 8.6 | V |
| 5369.450 | 45.4 | -22.5 | 34.2 | 33.73 | 54.0 | 8.6 | V |
| 10640.000 | 34.8 | -29.1 | 37.6 | 26.31 | 54.0 | 19.2 | H |
| 15960.000 | 39.2 | -23.4 | 40.8 | 21.80 | 54.0 | 14.8 | V |
| 17819.600 | 39.5 | -21.5 | 40.6 | 20.45 | 54.0 | 14.5 | H |
| 17886.400 | 40.0 | -21.0 | 40.5 | 20.49 | 54.0 | 14.0 | V |

Channel 100

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5450.150 | 45.6 | -22.6 | 34.5 | 33.67 | 54.0 | 8.4 | V |
| 5459.500 | 45.7 | -22.5 | 34.5 | 33.74 | 54.0 | 8.3 | V |
| 11000.000 | 34.7 | -28.9 | 37.9 | 25.75 | 54.0 | 19.3 | H |
| 15871.200 | 38.4 | -23.2 | 40.9 | 20.72 | 54.0 | 15.6 | H |
| 17848.000 | 38.6 | -21.3 | 40.6 | 19.27 | 54.0 | 15.4 | H |
| 17880.400 | 38.7 | -21.0 | 40.5 | 19.12 | 54.0 | 15.3 | V |

©Copyright. All rights reserved by CTTL.

Channel 116

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5458.550 | 45.2 | -22.5 | 34.5 | 33.18 | 54.0 | 8.8 | V |
| 5459.400 | 45.2 | -22.5 | 34.5 | 33.19 | 54.0 | 8.8 | V |
| 11160.000 | 34.4 | -28.6 | 37.9 | 25.12 | 54.0 | 19.6 | H |
| 15868.800 | 38.0 | -23.1 | 40.9 | 20.24 | 54.0 | 16.0 | H |
| 17883.600 | 39.1 | -21.0 | 40.5 | 19.51 | 54.0 | 14.9 | H |
| 17950.000 | 39.1 | -20.8 | 40.6 | 19.33 | 54.0 | 14.9 | H |

Channel 140

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5430.450 | 45.1 | -22.5 | 34.4 | 33.21 | 54.0 | 8.9 | V |
| 5459.550 | 45.1 | -22.5 | 34.5 | 33.15 | 54.0 | 8.9 | V |
| 11400.000 | 34.5 | -28.4 | 38.0 | 24.88 | 54.0 | 19.5 | V |
| 15860.000 | 37.8 | -23.4 | 40.9 | 20.28 | 54.0 | 16.2 | H |
| 17883.600 | 39.0 | -21.0 | 40.5 | 19.40 | 54.0 | 15.0 | H |
| 17948.000 | 38.9 | -20.9 | 40.5 | 19.33 | 54.0 | 15.1 | V |

**802.11ac-HT40**

Channel 38

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5143.500 | 45.3 | -23.1 | 34.0 | 34.41 | 54.0 | 8.7 | V |
| 5149.300 | 45.8 | -23.2 | 34.0 | 34.93 | 54.0 | 8.2 | V |
| 11949.200 | 36.0 | -27.6 | 38.8 | 24.78 | 54.0 | 18.0 | V |
| 15570.000 | 37.6 | -24.3 | 40.4 | 21.45 | 54.0 | 16.4 | V |
| 17883.600 | 39.4 | -21.0 | 40.5 | 19.84 | 54.0 | 14.6 | V |
| 17948.400 | 39.3 | -20.9 | 40.5 | 19.69 | 54.0 | 14.7 | H |

©Copyright. All rights reserved by CTTL.

Channel 62

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5351.300 | 45.4 | -23.1 | 34.1 | 34.39 | 54.0 | 8.6 | V |
| 5369.650 | 45.3 | -22.5 | 34.2 | 33.67 | 54.0 | 8.7 | V |
| 10620.000 | 33.9 | -29.2 | 37.6 | 25.51 | 54.0 | 20.1 | H |
| 15930.000 | 38.2 | -23.9 | 40.9 | 21.23 | 54.0 | 15.8 | V |
| 17883.600 | 39.4 | -21.0 | 40.5 | 19.85 | 54.0 | 14.6 | V |
| 17946.800 | 39.4 | -21.0 | 40.5 | 19.88 | 54.0 | 14.6 | H |

Channel 102

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5448.650 | 45.4 | -22.6 | 34.5 | 33.52 | 54.0 | 8.6 | V |
| 5460.000 | 45.6 | -22.5 | 34.5 | 33.58 | 54.0 | 8.4 | V |
| 11020.000 | 34.6 | -28.9 | 37.9 | 25.66 | 54.0 | 19.4 | V |
| 15862.400 | 38.8 | -23.3 | 40.9 | 21.26 | 54.0 | 15.2 | V |
| 17879.600 | 39.3 | -21.0 | 40.5 | 19.75 | 54.0 | 14.7 | H |
| 17954.000 | 39.4 | -20.9 | 40.6 | 19.74 | 54.0 | 14.6 | H |

**802.11ac-HT80**

Channel 42

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5145.800 | 45.8 | -23.1 | 34.0 | 34.96 | 54.0 | 8.2 | V |
| 5149.750 | 46.2 | -23.2 | 34.0 | 35.34 | 54.0 | 7.8 | V |
| 11960.400 | 36.2 | -27.8 | 38.8 | 25.19 | 54.0 | 17.8 | V |
| 15630.000 | 37.8 | -24.0 | 40.5 | 21.36 | 54.0 | 16.2 | V |
| 17859.600 | 39.4 | -21.3 | 40.5 | 20.18 | 54.0 | 14.6 | V |
| 17948.000 | 39.7 | -20.9 | 40.5 | 20.07 | 54.0 | 14.3 | H |

©Copyright. All rights reserved by CTTL.

Channel 58

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5350.450 | 45.6 | -23.1 | 34.1 | 34.57 | 54.0 | 8.4 | V |
| 5370.950 | 45.9 | -22.5 | 34.2 | 34.24 | 54.0 | 8.1 | V |
| 11958.800 | 36.2 | -27.7 | 38.8 | 25.11 | 54.0 | 17.8 | H |
| 15870.000 | 38.9 | -23.1 | 40.9 | 21.12 | 54.0 | 15.1 | H |
| 17879.600 | 39.7 | -21.0 | 40.5 | 20.18 | 54.0 | 14.3 | H |
| 17950.400 | 39.8 | -20.8 | 40.6 | 20.08 | 54.0 | 14.2 | V |

Channel 106

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5453.500 | 45.5 | -22.6 | 34.5 | 33.59 | 54.0 | 8.5 | V |
| 5457.600 | 45.6 | -22.5 | 34.5 | 33.61 | 54.0 | 8.4 | V |
| 11060.000 | 34.9 | -28.8 | 37.8 | 25.85 | 54.0 | 19.1 | V |
| 15991.200 | 39.0 | -23.3 | 40.8 | 21.57 | 54.0 | 15.0 | H |
| 17882.000 | 39.8 | -21.0 | 40.5 | 20.21 | 54.0 | 14.2 | V |
| 17954.000 | 39.8 | -20.9 | 40.6 | 20.11 | 54.0 | 14.2 | H |

**PEAK Results:**

**802.11a**

Channel 36

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5147.000 | 70.2 | -23.1 | 34.0 | 59.30 | 74.0 | 3.8 | V |
| 5147.753 | 70.3 | -23.1 | 34.0 | 59.44 | 74.0 | 3.7 | V |
| 10359.950 | 47.4 | -29.1 | 37.4 | 39.15 | 68.2 | 20.8 | V |
| 15537.650 | 52.0 | -24.4 | 40.4 | 36.03 | 74.0 | 22.0 | H |
| 17014.400 | 55.2 | -22.1 | 41.1 | 36.26 | 68.2 | 13.0 | V |
| 17539.650 | 54.6 | -20.7 | 40.8 | 34.46 | 68.2 | 13.6 | V |

©Copyright. All rights reserved by CTTL.

Channel 64

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5353.377 | 71.1 | -23.0 | 34.1 | 59.95 | 74.0 | 2.9 | V |
| 5362.922 | 70.9 | -22.7 | 34.2 | 59.54 | 74.0 | 3.1 | V |
| 10639.350 | 48.3 | -29.1 | 37.6 | 39.74 | 74.0 | 25.7 | H |
| 15960.050 | 52.1 | -23.4 | 40.8 | 34.71 | 74.0 | 21.9 | H |
| 16650.300 | 53.6 | -22.7 | 41.4 | 35.00 | 68.2 | 14.6 | H |
| 17633.150 | 53.7 | -21.7 | 40.6 | 34.75 | 68.2 | 14.5 | H |

Channel 100

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5468.725 | 67.1 | -22.2 | 34.4 | 54.87 | 68.2 | 1.1 | V |
| 5469.370 | 65.4 | -22.2 | 34.4 | 53.22 | 68.2 | 2.8 | H |
| 10999.600 | 48.4 | -28.9 | 37.9 | 39.43 | 74.0 | 25.6 | H |
| 16499.600 | 51.6 | -22.7 | 41.1 | 33.25 | 68.2 | 16.6 | V |
| 16893.400 | 53.9 | -22.4 | 41.4 | 34.90 | 68.2 | 14.3 | V |
| 17528.100 | 53.9 | -21.6 | 40.8 | 34.81 | 68.2 | 14.3 | H |

Channel 116

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5491.200 | 56.9 | -22.7 | 34.3 | 45.24 | 68.2 | 11.3 | V |
| 5669.400 | 56.9 | -22.5 | 34.5 | 44.82 | 68.2 | 11.3 | V |
| 11160.750 | 48.2 | -28.6 | 37.9 | 38.93 | 74.0 | 25.8 | V |
| 16740.500 | 51.4 | -22.9 | 41.4 | 32.89 | 68.2 | 16.8 | H |
| 17543.500 | 54.3 | -20.9 | 40.8 | 34.43 | 68.2 | 13.9 | V |
| 17654.050 | 54.2 | -21.3 | 40.6 | 34.92 | 68.2 | 14.0 | V |

©Copyright. All rights reserved by CTTL.

Channel 140

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5727.238 | 66.7 | -22.1 | 34.3 | 54.50 | 68.2 | 1.5 | H |
| 5727.788 | 67.0 | -22.2 | 34.3 | 54.85 | 68.2 | 1.2 | H |
| 11401.650 | 48.5 | -28.4 | 38.0 | 38.86 | 74.0 | 25.5 | H |
| 17098.550 | 52.2 | -22.3 | 41.0 | 33.53 | 68.2 | 16.0 | V |
| 17535.800 | 54.1 | -21.0 | 40.8 | 34.40 | 68.2 | 14.1 | V |
| 17667.800 | 54.1 | -21.3 | 40.6 | 34.78 | 68.2 | 14.1 | V |

**802.11n-HT20**

Channel 36

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5146.930 | 68.7 | -23.1 | 34.0 | 57.79 | 74.0 | 5.3 | V |
| 5148.120 | 69.8 | -23.1 | 34.0 | 58.92 | 74.0 | 4.2 | H |
| 10359.950 | 46.7 | -29.1 | 37.4 | 38.45 | 68.2 | 21.5 | V |
| 15539.850 | 50.2 | -24.4 | 40.4 | 34.21 | 74.0 | 23.8 | V |
| 17178.300 | 54.3 | -22.3 | 40.9 | 35.65 | 68.2 | 13.9 | H |
| 17539.100 | 54.1 | -20.7 | 40.8 | 34.03 | 68.2 | 14.1 | H |

Channel 64

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5351.366 | 71.7 | -23.1 | 34.1 | 60.65 | 74.0 | 2.3 | V |
| 5351.676 | 72.1 | -23.1 | 34.1 | 61.03 | 74.0 | 1.9 | H |
| 10639.900 | 46.6 | -29.1 | 37.6 | 38.04 | 74.0 | 27.4 | H |
| 15960.050 | 51.1 | -23.4 | 40.8 | 33.67 | 74.0 | 22.9 | V |
| 17428.000 | 53.7 | -21.7 | 40.7 | 34.68 | 68.2 | 14.5 | V |
| 17539.650 | 53.9 | -20.7 | 40.8 | 33.83 | 68.2 | 14.3 | H |

©Copyright. All rights reserved by CTTL.

Channel 100

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5466.475 | 63.7 | -22.3 | 34.4 | 51.54 | 68.2 | 4.5 | H |
| 5468.703 | 65.1 | -22.2 | 34.4 | 52.91 | 68.2 | 3.1 | V |
| 11000.150 | 47.7 | -28.9 | 37.9 | 38.77 | 74.0 | 26.3 | V |
| 16500.150 | 50.9 | -22.7 | 41.1 | 32.52 | 68.2 | 17.3 | V |
| 16889.000 | 54.1 | -22.3 | 41.4 | 34.93 | 68.2 | 14.1 | V |
| 17254.750 | 54.8 | -22.2 | 40.8 | 36.19 | 68.2 | 13.4 | H |

Channel 140

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5725.525 | 67.2 | -22.1 | 34.3 | 55.04 | 68.2 | 1.0 | V |
| 5726.113 | 66.9 | -22.1 | 34.3 | 54.72 | 68.2 | 1.3 | V |
| 11400.000 | 46.6 | -28.4 | 38.0 | 37.00 | 74.0 | 27.4 | H |
| 16597.500 | 53.5 | -22.3 | 41.3 | 34.50 | 68.2 | 14.7 | V |
| 17096.900 | 53.8 | -22.3 | 41.0 | 35.17 | 68.2 | 14.4 | H |
| 17540.200 | 53.5 | -20.6 | 40.8 | 33.35 | 68.2 | 14.7 | H |

**802.11n-HT40**

Channel 38

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5147.350 | 45.4 | -23.1 | 34.0 | 34.49 | 54.0 | 8.6 | V |
| 5149.750 | 45.7 | -23.2 | 34.0 | 34.86 | 54.0 | 8.3 | V |
| 11959.600 | 36.7 | -27.7 | 38.8 | 25.61 | 54.0 | 17.3 | V |
| 15570.000 | 38.3 | -24.3 | 40.4 | 22.16 | 54.0 | 15.7 | H |
| 17867.600 | 39.2 | -21.3 | 40.5 | 20.00 | 54.0 | 14.8 | V |
| 17947.200 | 39.5 | -21.0 | 40.5 | 19.90 | 54.0 | 14.5 | V |

©Copyright. All rights reserved by CTTL.

Channel 62

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5350.250 | 46.4 | -23.1 | 34.1 | 35.41 | 54.0 | 7.6 | V |
| 5350.650 | 46.4 | -23.1 | 34.1 | 35.41 | 54.0 | 7.6 | V |
| 10620.000 | 34.4 | -29.2 | 37.6 | 26.02 | 54.0 | 19.6 | H |
| 15930.000 | 38.9 | -23.9 | 40.9 | 21.94 | 54.0 | 15.1 | H |
| 17890.800 | 39.4 | -21.0 | 40.5 | 19.91 | 54.0 | 14.6 | V |
| 17955.200 | 39.3 | -20.9 | 40.6 | 19.62 | 54.0 | 14.7 | H |

Channel 102

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5459.800 | 45.5 | -22.5 | 34.5 | 33.47 | 54.0 | 8.5 | V |
| 5459.900 | 45.5 | -22.5 | 34.5 | 33.49 | 54.0 | 8.5 | V |
| 11020.000 | 35.3 | -28.9 | 37.9 | 26.29 | 54.0 | 18.7 | H |
| 15999.600 | 39.5 | -23.4 | 40.8 | 22.08 | 54.0 | 14.5 | V |
| 17788.800 | 39.3 | -21.3 | 40.6 | 20.02 | 54.0 | 14.7 | H |
| 17886.000 | 39.5 | -21.0 | 40.5 | 20.00 | 54.0 | 14.5 | V |

Channel 118

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5458.500 | 45.2 | -22.5 | 34.5 | 33.18 | 54.0 | 8.8 | V |
| 5459.650 | 45.1 | -22.5 | 34.5 | 33.15 | 54.0 | 8.9 | V |
| 11180.000 | 35.5 | -28.7 | 38.0 | 26.24 | 54.0 | 18.5 | H |
| 16003.200 | 39.6 | -23.4 | 40.8 | 22.24 | 54.0 | 14.4 | V |
| 17842.800 | 39.5 | -21.3 | 40.6 | 20.25 | 54.0 | 14.5 | H |
| 17886.800 | 39.8 | -21.0 | 40.5 | 20.23 | 54.0 | 14.2 | V |

©Copyright. All rights reserved by CTTL.

Channel 134

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5725.900 | 64.6 | -22.1 | 34.3 | 52.40 | 68.2 | 3.6 | H |
| 5732.625 | 63.8 | -22.2 | 34.3 | 51.70 | 68.2 | 4.4 | V |
| 11340.050 | 47.4 | -28.1 | 37.9 | 37.64 | 74.0 | 26.6 | V |
| 16616.200 | 52.7 | -22.4 | 41.3 | 33.85 | 68.2 | 15.5 | V |
| 17010.000 | 51.7 | -22.2 | 41.1 | 32.75 | 68.2 | 16.5 | H |
| 17423.050 | 53.1 | -21.8 | 40.7 | 34.14 | 68.2 | 15.1 | V |

**802.11ac-HT20**

Channel 36

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5147.718 | 65.6 | -23.1 | 34.0 | 54.71 | 74.0 | 8.4 | H |
| 5149.783 | 66.2 | -23.2 | 34.0 | 55.32 | 74.0 | 7.8 | H |
| 10359.950 | 47.2 | -29.1 | 37.4 | 38.90 | 68.2 | 21.0 | V |
| 15539.850 | 50.9 | -24.4 | 40.4 | 34.87 | 74.0 | 23.1 | V |
| 16394.000 | 53.9 | -22.7 | 40.9 | 35.70 | 68.2 | 14.3 | H |
| 16948.400 | 54.2 | -22.2 | 41.3 | 35.17 | 68.2 | 14.0 | V |

Channel 64

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5350.002 | 68.3 | -23.1 | 34.1 | 57.25 | 74.0 | 5.7 | H |
| 5351.649 | 68.3 | -23.1 | 34.1 | 57.29 | 74.0 | 5.7 | V |
| 10639.900 | 46.5 | -29.1 | 37.6 | 37.97 | 74.0 | 27.5 | H |
| 15960.050 | 51.0 | -23.4 | 40.8 | 33.56 | 74.0 | 23.0 | H |
| 16671.200 | 54.1 | -22.5 | 41.4 | 35.17 | 68.2 | 14.1 | H |
| 17540.750 | 54.9 | -20.7 | 40.8 | 34.87 | 68.2 | 13.3 | H |

©Copyright. All rights reserved by CTTL.

Channel 100

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5466.535 | 65.6 | -22.3 | 34.4 | 53.42 | 68.2 | 2.6 | V |
| 5469.693 | 66.6 | -22.2 | 34.4 | 54.33 | 68.2 | 1.7 | V |
| 11000.150 | 46.3 | -28.9 | 37.9 | 37.32 | 74.0 | 27.7 | H |
| 16500.150 | 49.9 | -22.7 | 41.1 | 31.47 | 68.2 | 18.3 | V |
| 16629.400 | 52.8 | -22.6 | 41.3 | 34.04 | 68.2 | 15.4 | V |
| 17066.100 | 52.7 | -22.2 | 41.0 | 33.86 | 68.2 | 15.5 | V |

Channel 116

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5507.400 | 57.3 | -22.8 | 34.3 | 45.88 | 68.2 | 10.9 | H |
| 5629.000 | 57.4 | -22.5 | 34.5 | 45.44 | 68.2 | 10.8 | V |
| 11160.200 | 46.2 | -28.6 | 37.9 | 36.91 | 74.0 | 27.8 | H |
| 16739.950 | 50.5 | -22.9 | 41.4 | 31.92 | 68.2 | 17.7 | H |
| 16862.050 | 52.8 | -22.6 | 41.4 | 33.99 | 68.2 | 15.4 | V |
| 17465.950 | 52.7 | -21.8 | 40.8 | 33.73 | 68.2 | 15.5 | V |

Channel 140

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5725.563 | 66.3 | -22.1 | 34.3 | 54.11 | 68.2 | 1.9 | V |
| 5725.888 | 66.8 | -22.1 | 34.3 | 54.55 | 68.2 | 1.4 | H |
| 11400.000 | 48.0 | -28.4 | 38.0 | 38.39 | 74.0 | 26.0 | H |
| 16584.300 | 53.1 | -22.3 | 41.3 | 34.15 | 68.2 | 15.1 | H |
| 16926.950 | 53.9 | -22.5 | 41.3 | 35.03 | 68.2 | 14.3 | H |
| 17100.200 | 50.8 | -22.3 | 41.0 | 32.13 | 68.2 | 17.4 | H |

©Copyright. All rights reserved by CTTL.

**802.11ac-HT40**

Channel 38

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5147.175 | 66.7 | -23.1 | 34.0 | 55.80 | 74.0 | 7.3 | V |
| 5149.538 | 67.2 | -23.2 | 34.0 | 56.41 | 74.0 | 6.8 | H |
| 10379.750 | 47.2 | -29.2 | 37.5 | 38.95 | 68.2 | 21.0 | V |
| 15570.100 | 50.3 | -24.3 | 40.4 | 34.16 | 74.0 | 23.7 | H |
| 16655.800 | 53.5 | -22.5 | 41.4 | 34.71 | 68.2 | 14.7 | H |
| 16909.900 | 54.0 | -22.3 | 41.4 | 34.92 | 68.2 | 14.2 | H |

Channel 62

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5357.198 | 68.1 | -22.9 | 34.1 | 56.90 | 74.0 | 5.9 | H |
| 5357.603 | 69.0 | -22.9 | 34.1 | 57.72 | 74.0 | 5.1 | V |
| 10620.100 | 45.9 | -29.2 | 37.6 | 37.57 | 74.0 | 28.1 | H |
| 15929.800 | 51.2 | -23.9 | 40.9 | 34.21 | 74.0 | 22.8 | H |
| 16530.950 | 53.3 | -22.6 | 41.2 | 34.72 | 68.2 | 14.9 | H |
| 16945.100 | 53.3 | -22.3 | 41.3 | 34.30 | 68.2 | 14.9 | V |

Channel 102

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5468.815 | 67.1 | -22.2 | 34.4 | 54.86 | 68.2 | 1.1 | V |
| 5469.415 | 66.7 | -22.2 | 34.4 | 54.51 | 68.2 | 1.5 | H |
| 11019.950 | 46.6 | -28.9 | 37.9 | 37.65 | 74.0 | 27.4 | H |
| 16529.850 | 51.1 | -22.5 | 41.2 | 32.51 | 68.2 | 17.1 | V |
| 17022.650 | 53.8 | -22.2 | 41.1 | 34.83 | 68.2 | 14.4 | V |
| 17525.350 | 54.4 | -21.7 | 40.8 | 35.27 | 68.2 | 13.8 | V |

©Copyright. All rights reserved by CTTL.

**802.11ac-HT80**

Channel 42

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5143.623 | 64.9 | -23.1 | 34.0 | 54.03 | 74.0 | 9.1 | H |
| 5147.805 | 64.2 | -23.1 | 34.0 | 53.35 | 74.0 | 9.8 | H |
| 10419.900 | 46.4 | -29.4 | 37.5 | 38.25 | 68.2 | 21.8 | V |
| 15630.050 | 49.7 | -24.0 | 40.5 | 33.21 | 74.0 | 24.3 | H |
| 16616.750 | 54.0 | -22.4 | 41.3 | 35.11 | 68.2 | 14.2 | H |
| 17057.300 | 53.9 | -22.4 | 41.0 | 35.32 | 68.2 | 14.3 | H |

Channel 58

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5350.353 | 66.7 | -23.1 | 34.1 | 55.68 | 74.0 | 7.3 | H |
| 5367.674 | 67.4 | -22.6 | 34.2 | 55.79 | 74.0 | 6.6 | H |
| 10579.950 | 47.3 | -28.8 | 37.6 | 38.58 | 68.2 | 20.9 | H |
| 15869.850 | 51.5 | -23.1 | 40.9 | 33.71 | 74.0 | 22.5 | V |
| 17127.150 | 53.4 | -22.3 | 41.0 | 34.78 | 68.2 | 14.8 | V |
| 17530.300 | 54.3 | -21.6 | 40.8 | 35.07 | 68.2 | 13.9 | H |

Channel 106

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 5464.083 | 67.7 | -22.3 | 34.4 | 55.60 | 68.2 | 0.5 | V |
| 5467.353 | 67.2 | -22.2 | 34.4 | 54.98 | 68.2 | 1.0 | V |
| 11060.100 | 47.7 | -28.8 | 37.8 | 38.70 | 74.0 | 26.3 | V |
| 16589.800 | 51.9 | -22.3 | 41.3 | 32.93 | 68.2 | 16.3 | H |
| 16758.100 | 53.4 | -22.8 | 41.4 | 34.82 | 68.2 | 14.8 | H |
| 17043.550 | 53.8 | -22.7 | 41.1 | 35.35 | 68.2 | 14.4 | H |

**Conclusion: PASS**

**Note:**

1. The spurious emission above 18G is noise only.
2. All emissions below 30MHz are more than 20 dB below the limit

©Copyright. All rights reserved by CTTL.

**Band edge compliance**

| Mode | Channel | Test Results | Conclusion |
|---|---|---|---|
| 802.11a | 5180 MHz | Fig.1 | P |
| | 5320 MHz | Fig.2 | P |
| | 5500 MHz | Fig.3 | P |
| | 5700 MHz | Fig.4 | P |
| 802.11n HT20 | 5180 MHz | Fig.5 | P |
| | 5320 MHz | Fig.6 | P |
| | 5500 MHz | Fig.7 | P |
| | 5700 MHz | Fig.8 | P |
| 802.11n HT40 | 5190 MHz | Fig.9 | P |
| | 5310 MHz | Fig.10 | P |
| | 5510 MHz | Fig.11 | P |
| | 5670 MHz | Fig.12 | P |
| 802.11ac HT20 | 5180 MHz | Fig.13 | P |
| | 5320 MHz | Fig.14 | P |
| | 5500 MHz | Fig.15 | P |
| | 5700 MHz | Fig.16 | P |
| 802.11ac HT40 | 5190 MHz | Fig.17 | P |
| | 5310 MHz | Fig.18 | P |
| | 5510 MHz | Fig.19 | P |
| | 5670 MHz | Fig.20 | P |
| 802.11ac HT80 | 5210MHz | Fig.21 | P |
| | 5290MHz | Fig.22 | P |
| | 5530MHz | Fig.23 | P |
| | 5610MHz | Fig.24 | P |

**Conclusion: PASS**

**Test graphs as below:**

©Copyright. All rights reserved by CTTL.

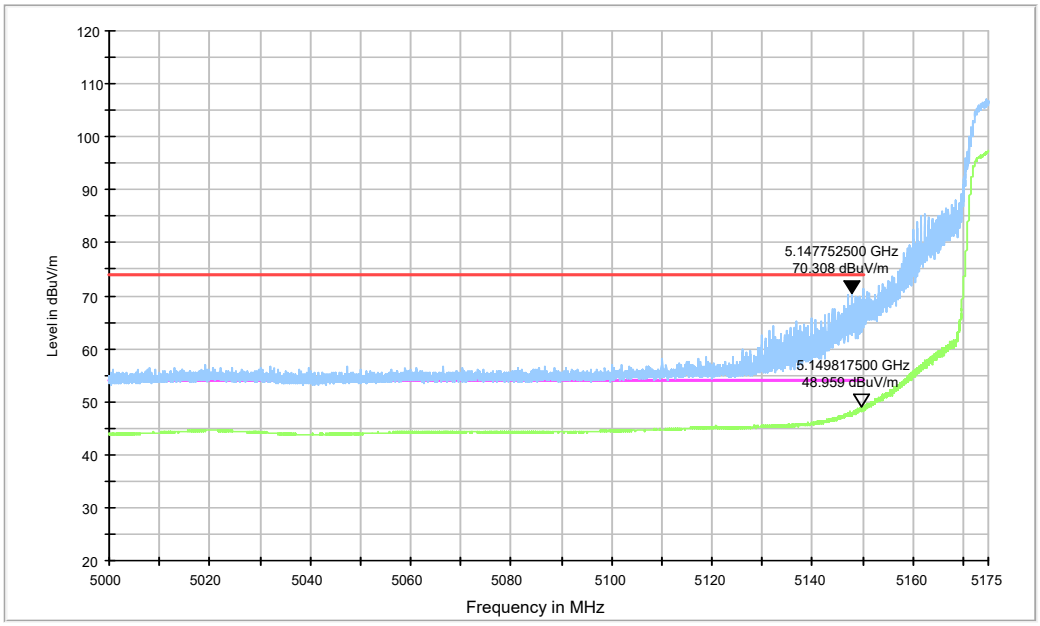



**Fig. 1 Band Edges (802.11a Ch36, 5180MHz)**

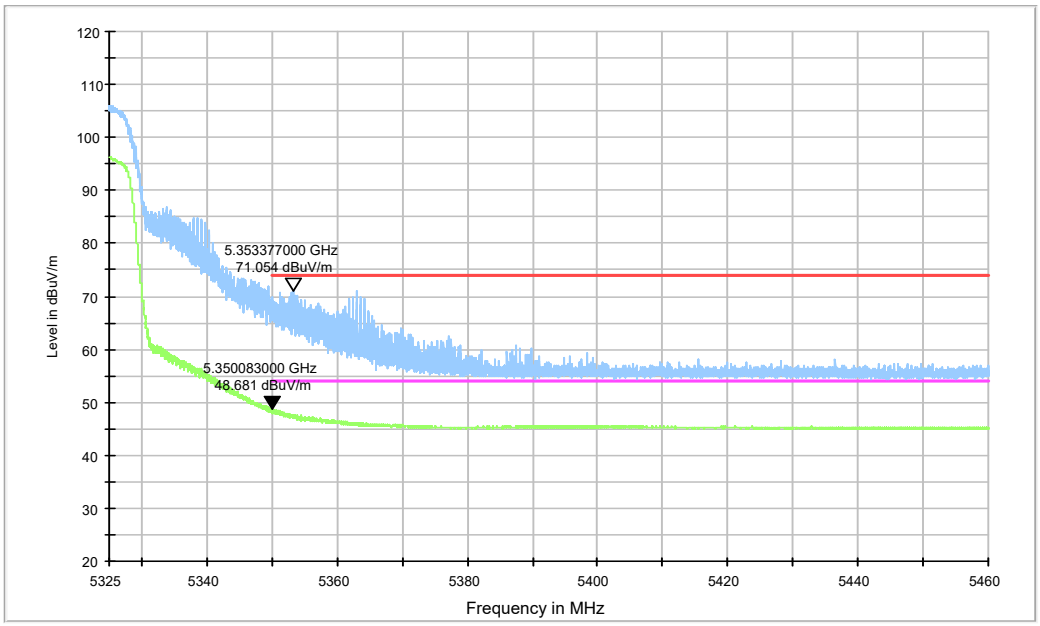



**Fig. 2 Band Edges (802.11a Ch64, 5320MHz)**

©Copyright. All rights reserved by CTTL.

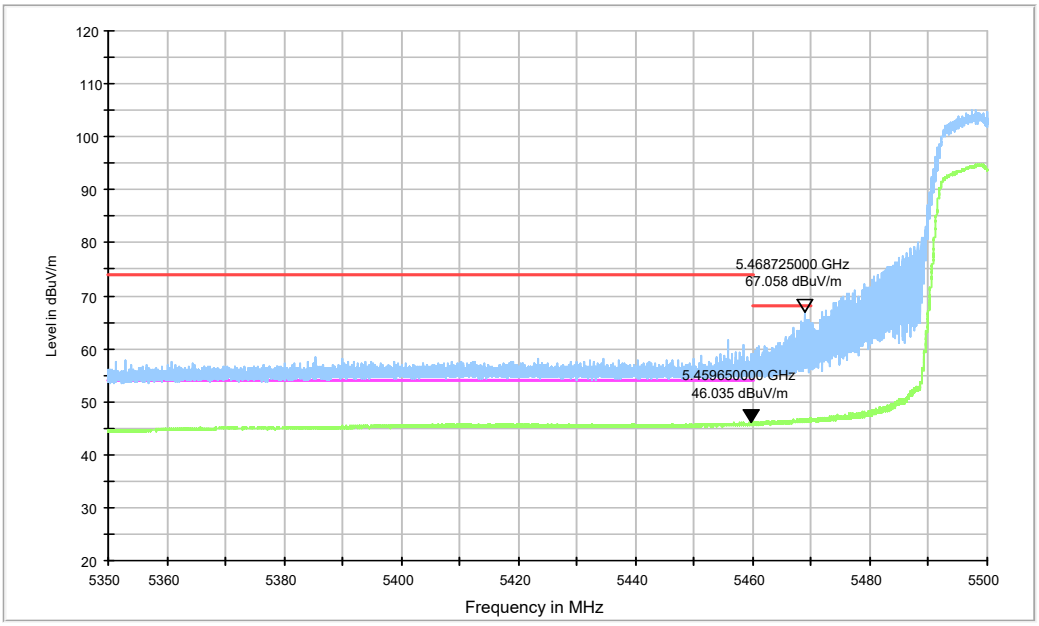



**Fig. 3 Band Edges (802.11a Ch100, 5500MHz)**

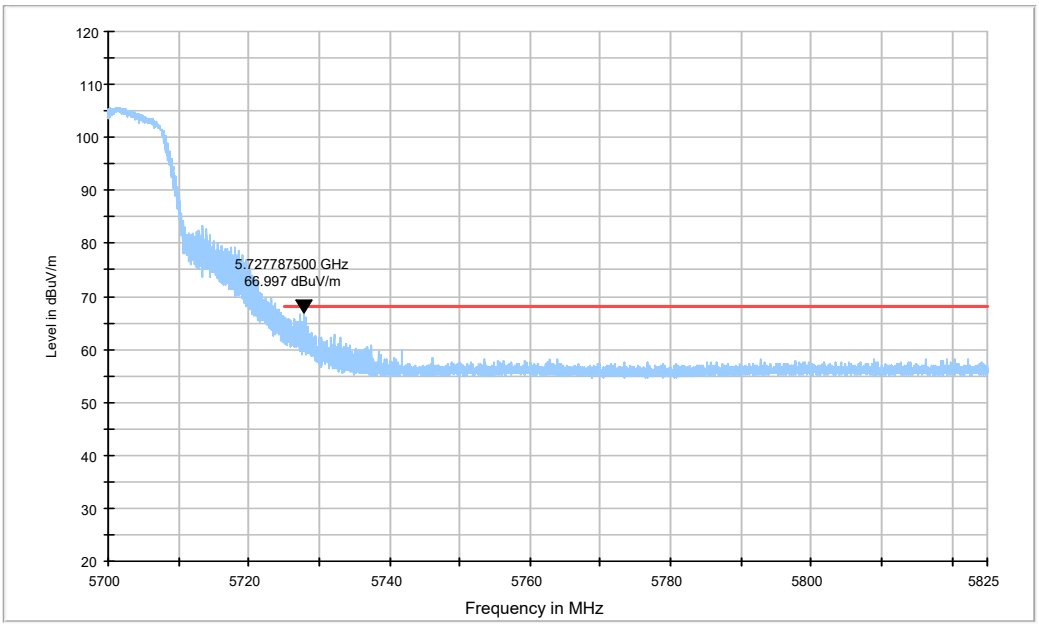



**Fig. 4 Band Edges (802.11a Ch140, 5700MHz)**

©Copyright. All rights reserved by CTTL.

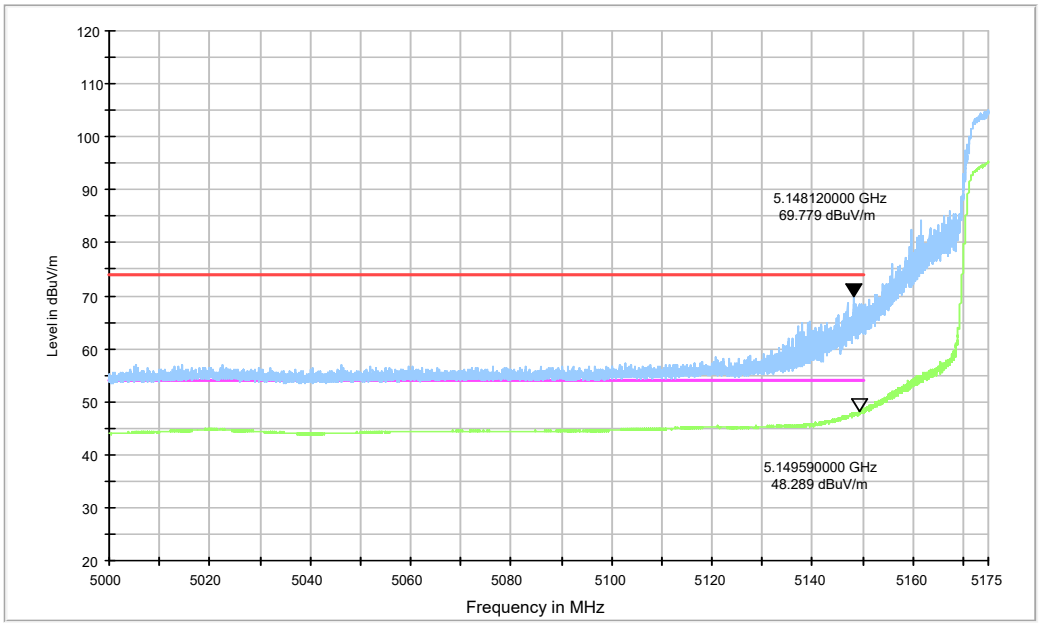



**Fig. 5 Band Edges (802.11n-HT20 Ch36, 5180MHz)**

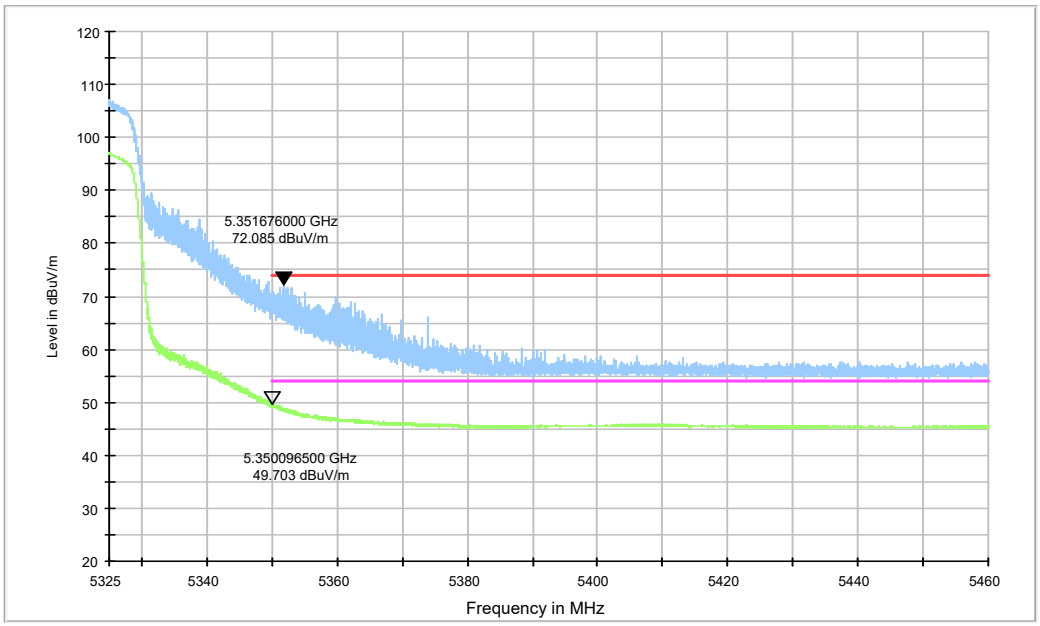



**Fig. 6 Band Edges (802.11n-HT20 Ch64, 5320MHz)**

©Copyright. All rights reserved by CTTL.

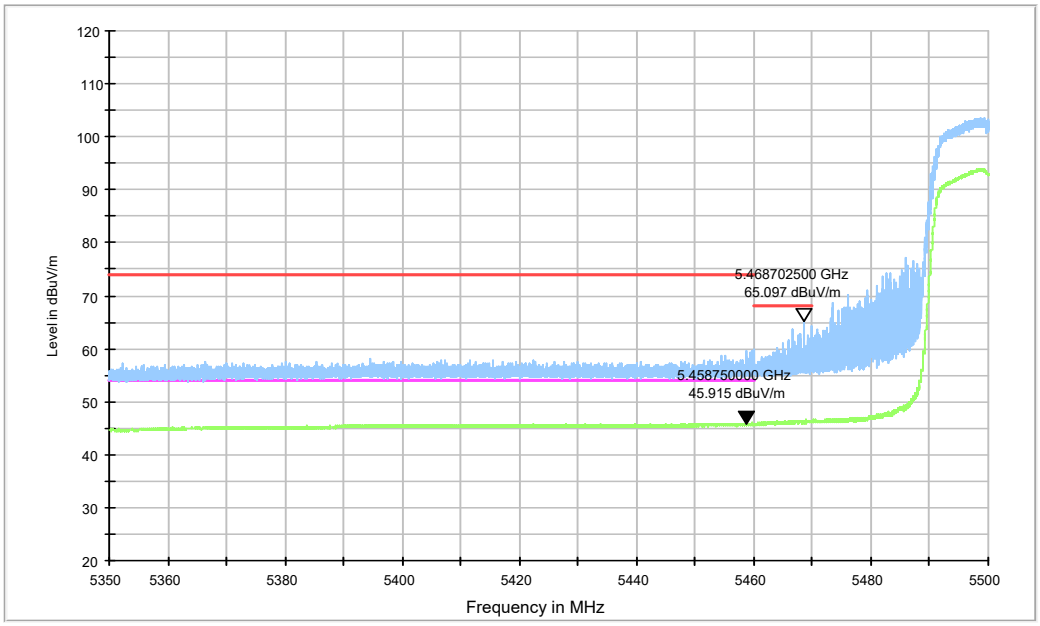



**Fig. 7 Band Edges (802.11n-HT20 Ch100, 5500MHz)**

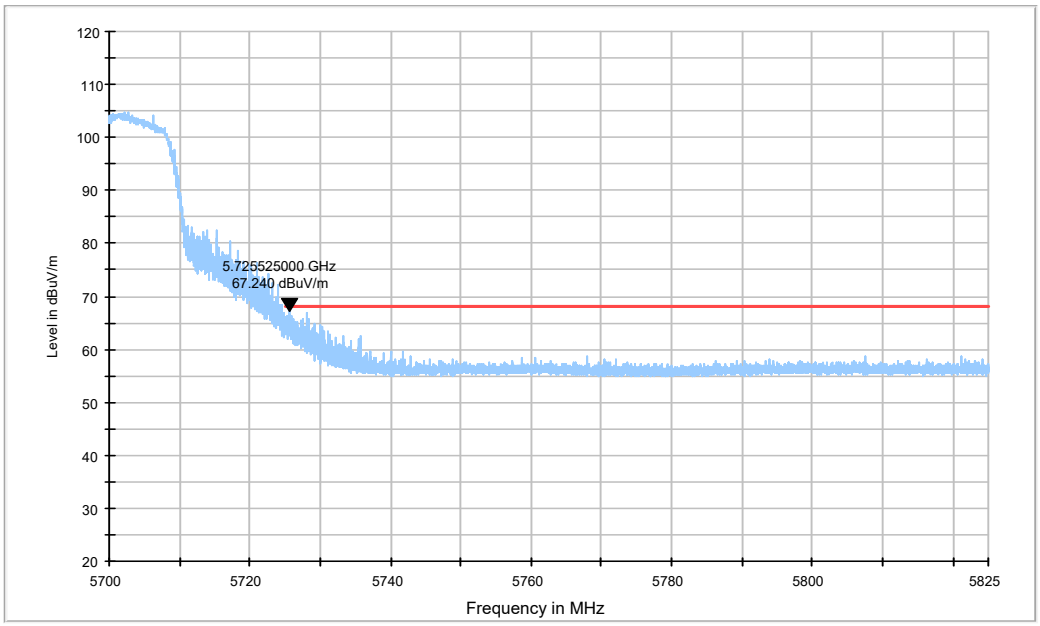



**Fig. 8 Band Edges (802.11n-HT20 Ch140, 5700MHz)**

©Copyright. All rights reserved by CTTL.

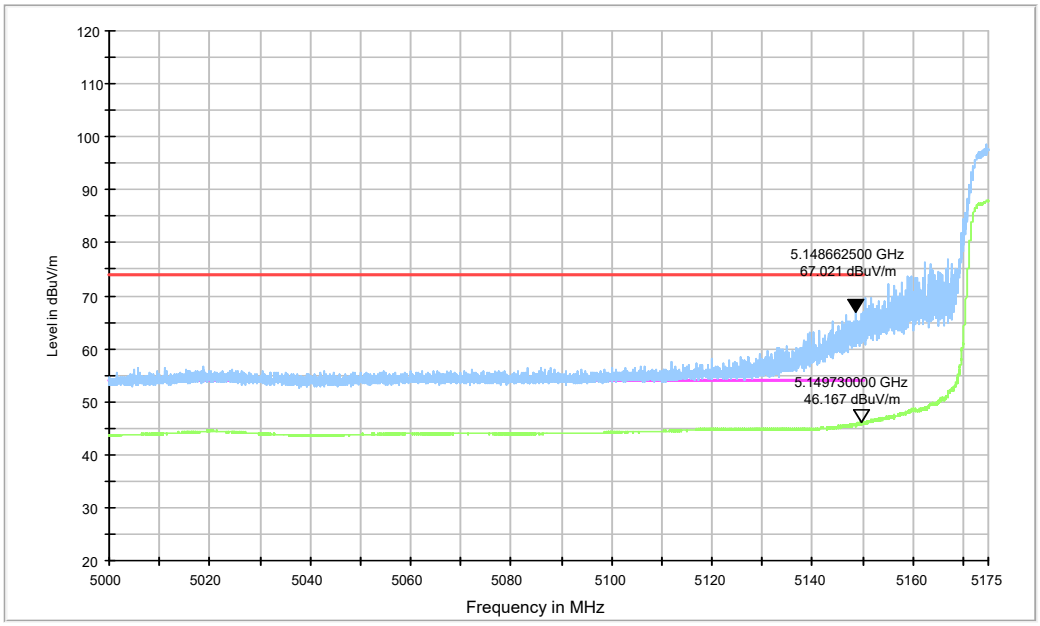



**Fig. 9 Band Edges (802.11n-HT40 Ch38, 5190MHz)**

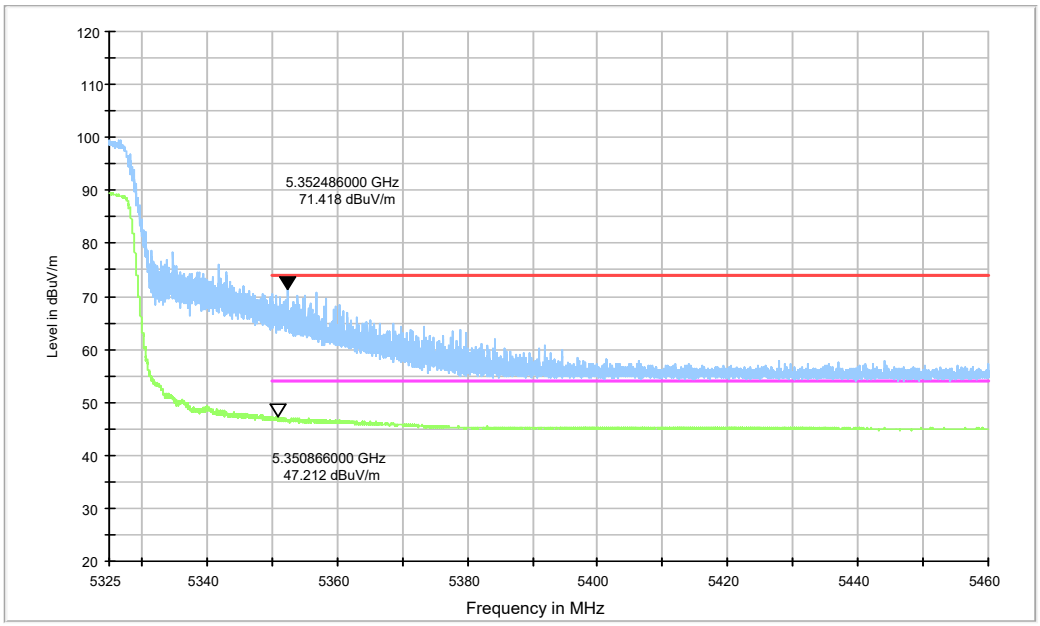



**Fig. 10 Band Edges (802.11n-HT40 Ch62, 5310MHz)**

©Copyright. All rights reserved by CTTL.

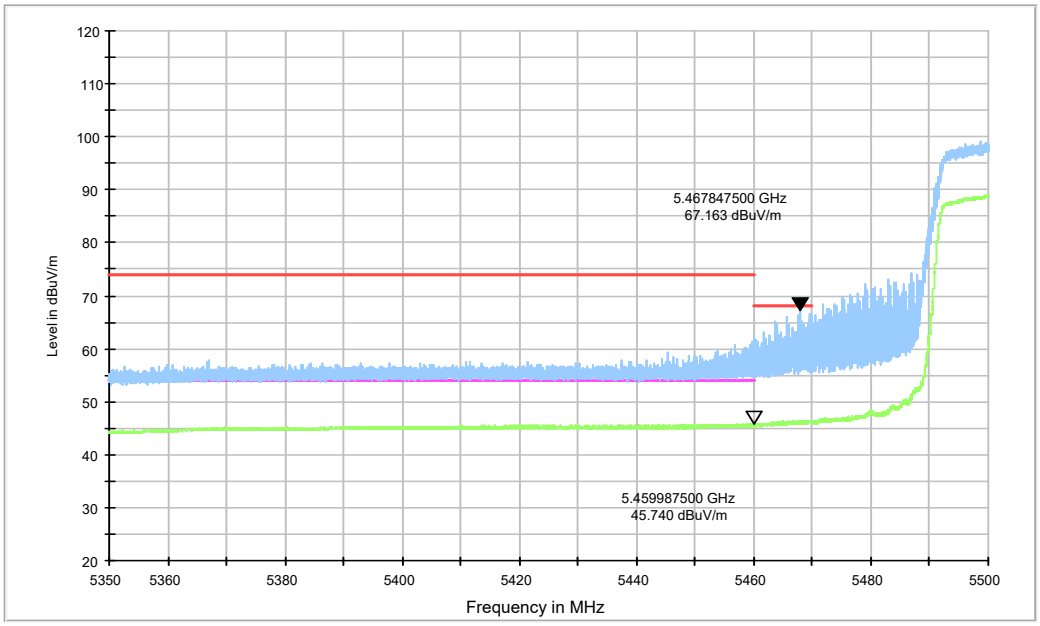



**Fig. 11 Band Edges (802.11n-HT40 Ch102, 5510MHz)**

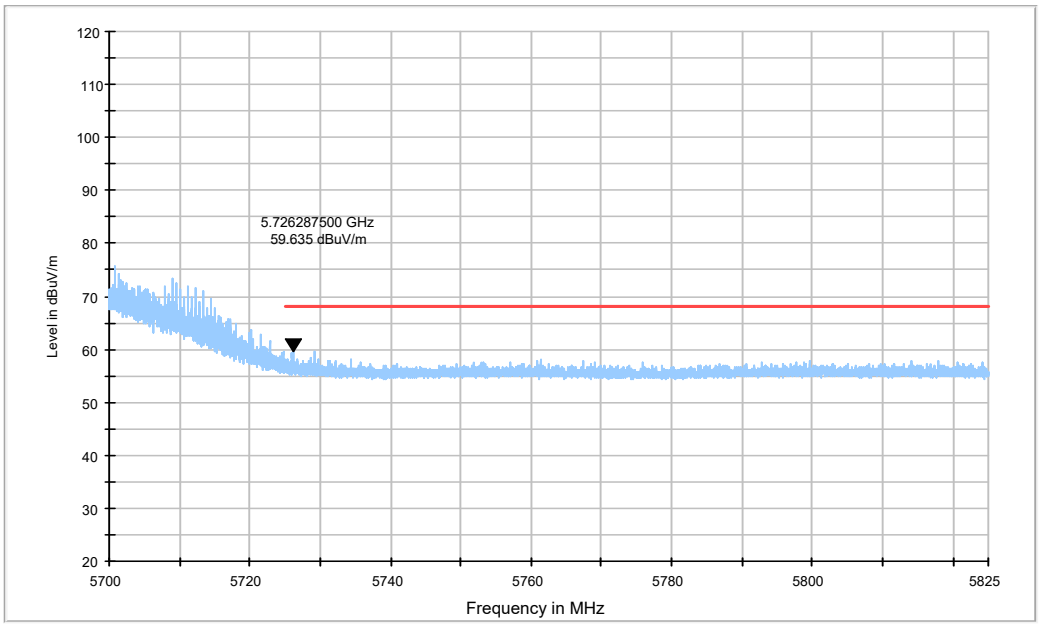



**Fig. 12 Band Edges (802.11n-HT40 Ch134, 5670MHz)**

©Copyright. All rights reserved by CTTL.

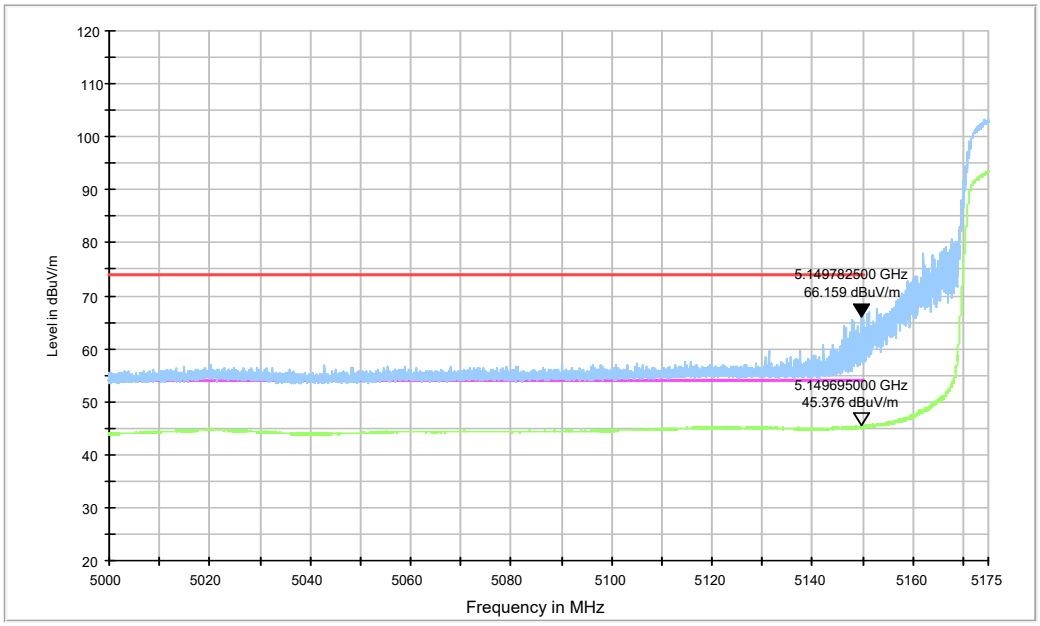



**Fig. 13 Band Edges (802.11ac-HT20 Ch36, 5180MHz)**

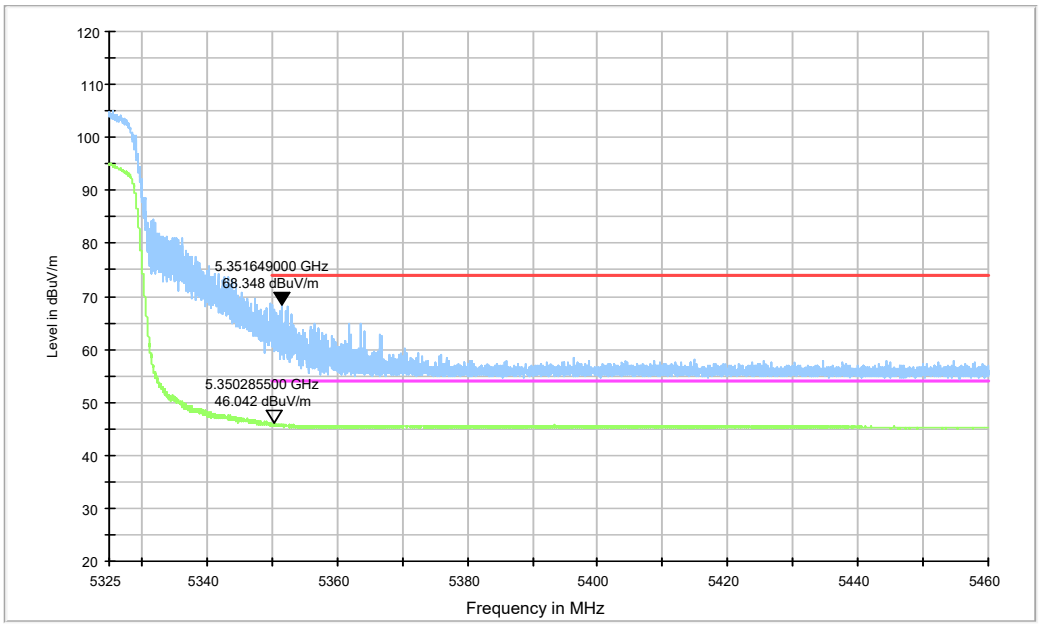



**Fig. 14 Band Edges (802.11ac-HT20 Ch64, 5320MHz)**

©Copyright. All rights reserved by CTTL.

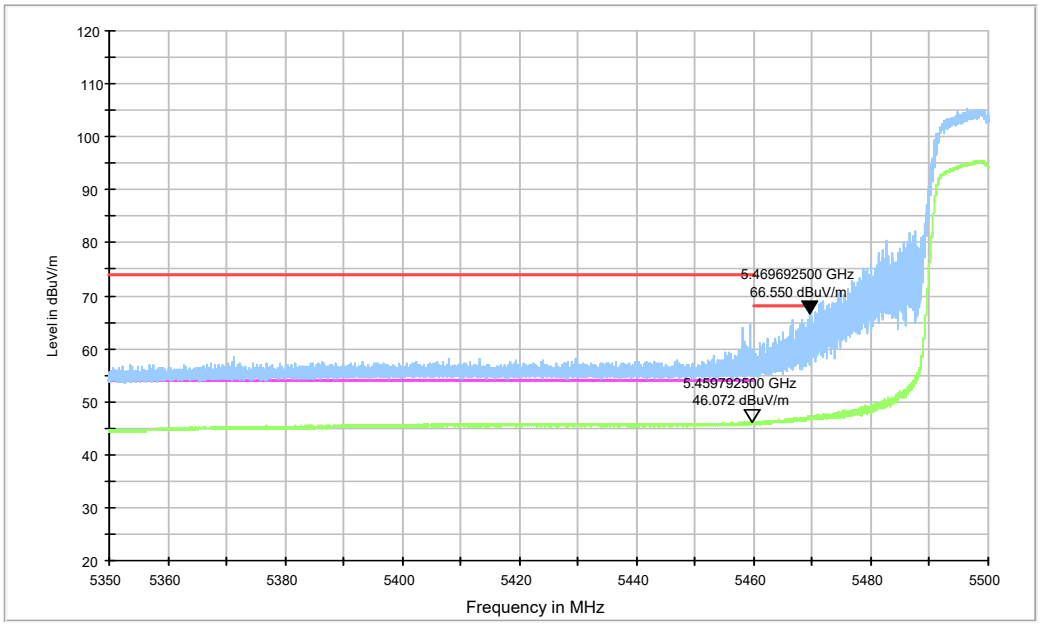



**Fig. 15 Band Edges (802.11ac-HT20 Ch100, 5500MHz)**

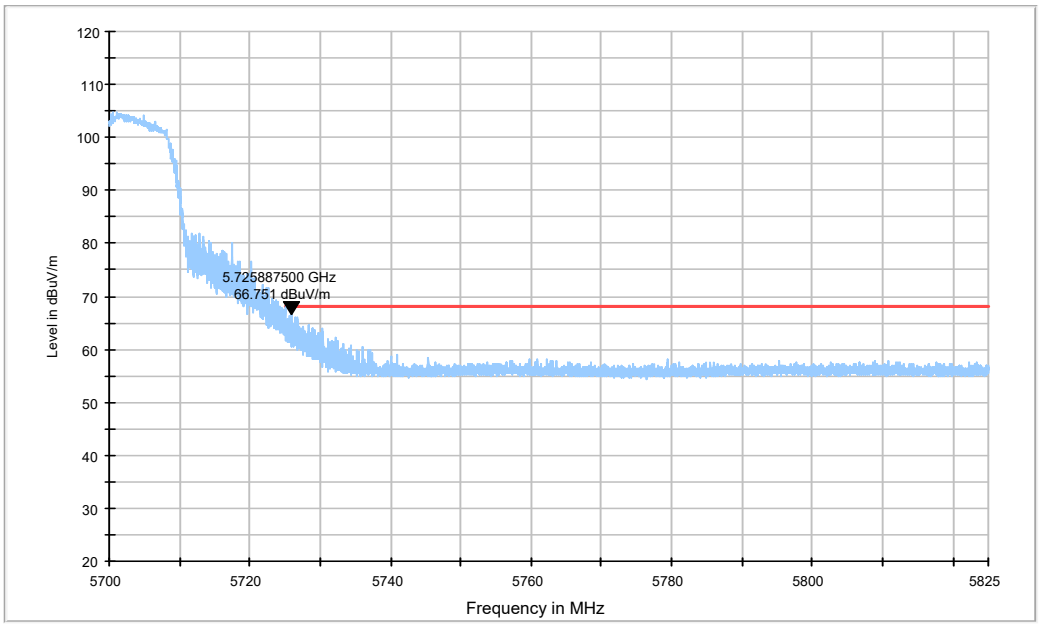



**Fig. 16 Band Edges (802.11ac-HT20 Ch140, 5700MHz)**

©Copyright. All rights reserved by CTTL.

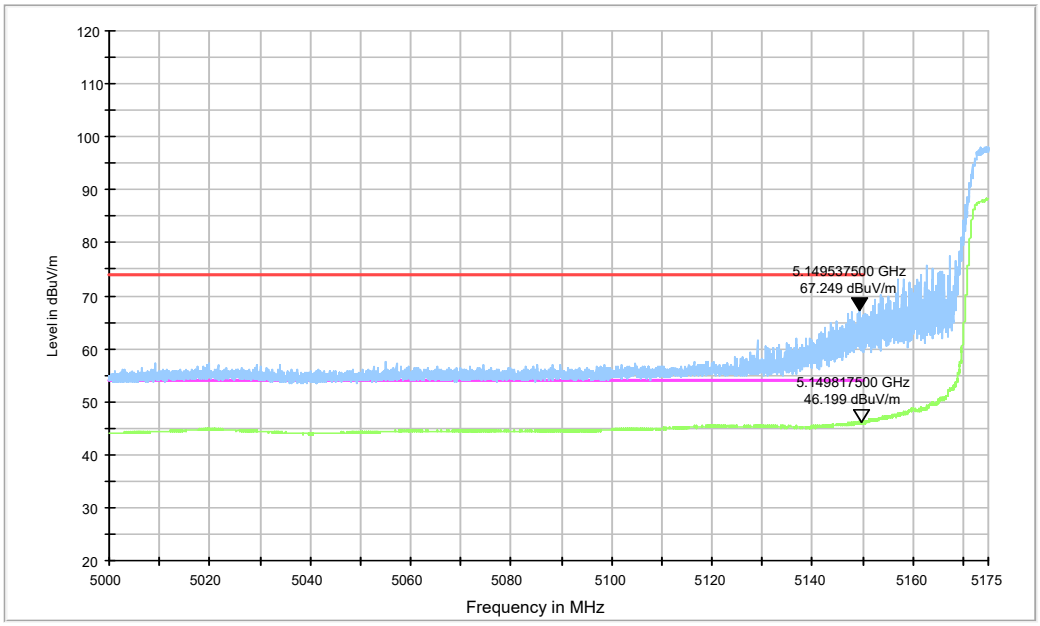



**Fig. 17 Band Edges (802.11ac-HT40 Ch38, 5190MHz)**

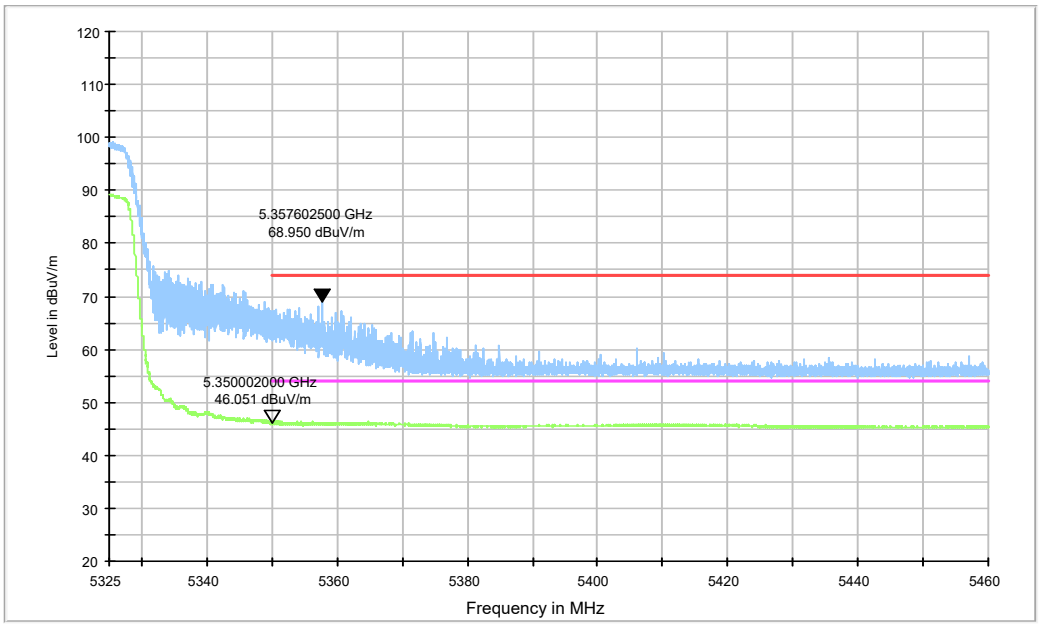



**Fig. 18 Band Edges (802.11ac-HT40 Ch62, 5310MHz)**

©Copyright. All rights reserved by CTTL.

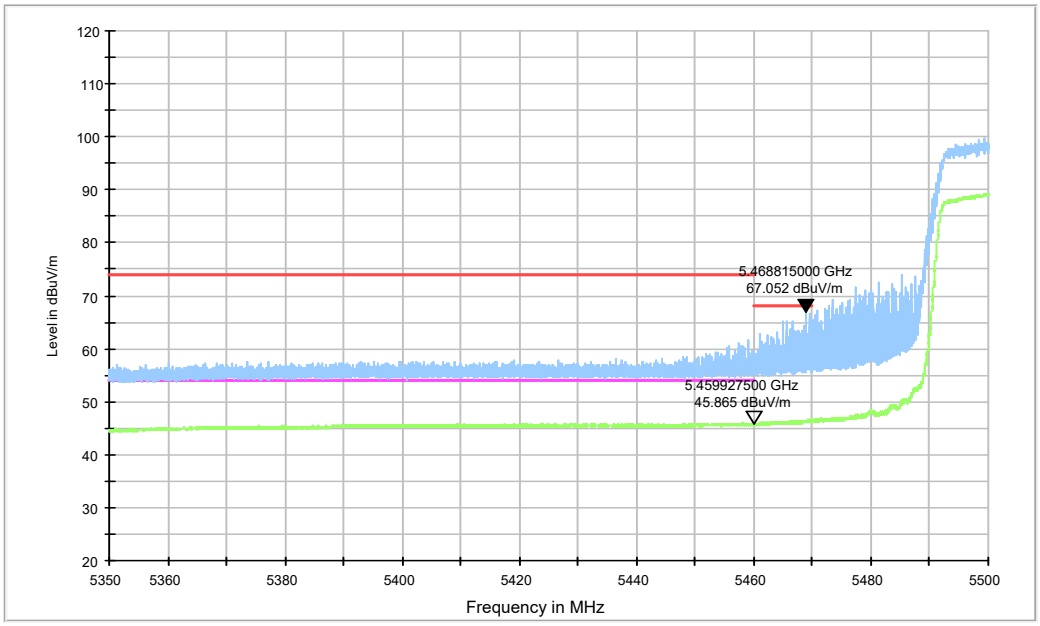



**Fig. 19 Band Edges (802.11ac-HT40 Ch102, 5510MHz)**

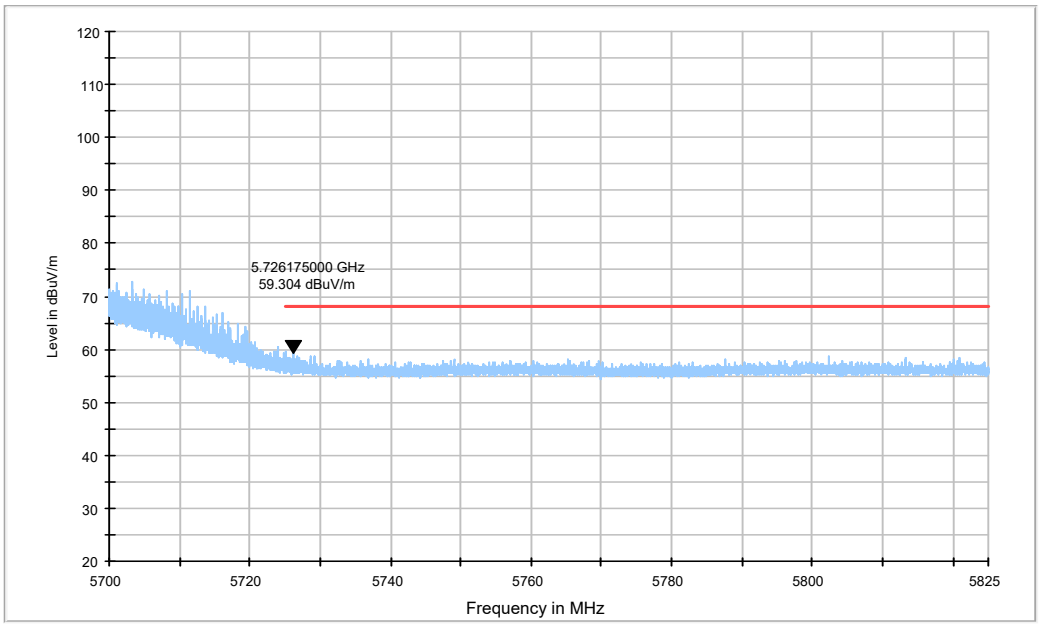



**Fig. 20 Band Edges (802.11ac-HT40 Ch134, 5670MHz)**

©Copyright. All rights reserved by CTTL.

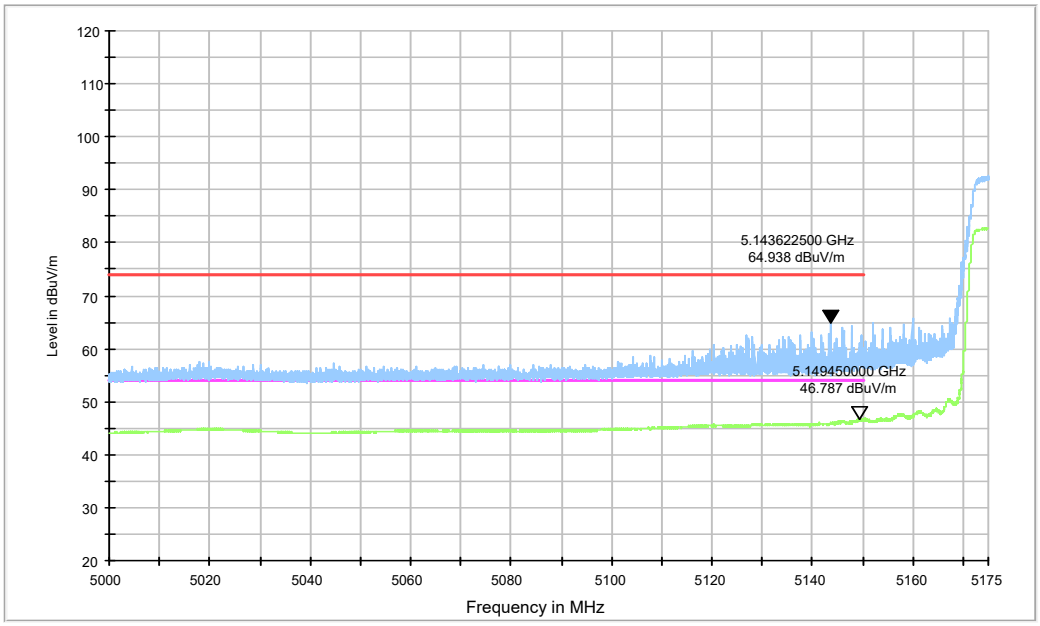



**Fig. 21 Band Edges (802.11ac-HT80 Ch42 , 5210MHz)**

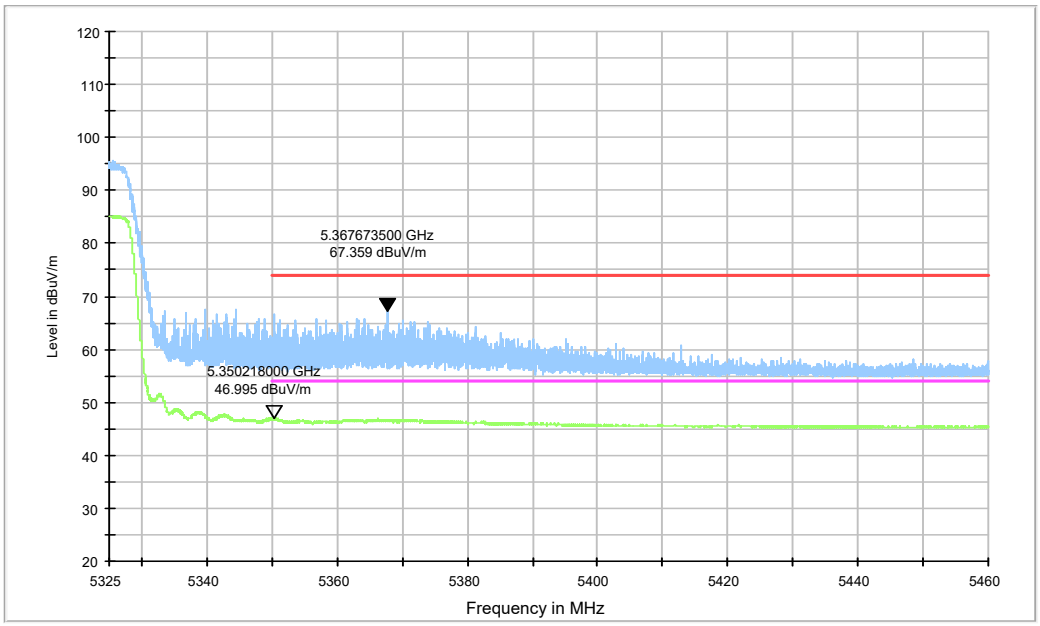



**Fig. 22 Band Edges (802.11ac-HT80 Ch58, 5290MHz)**

©Copyright. All rights reserved by CTTL.

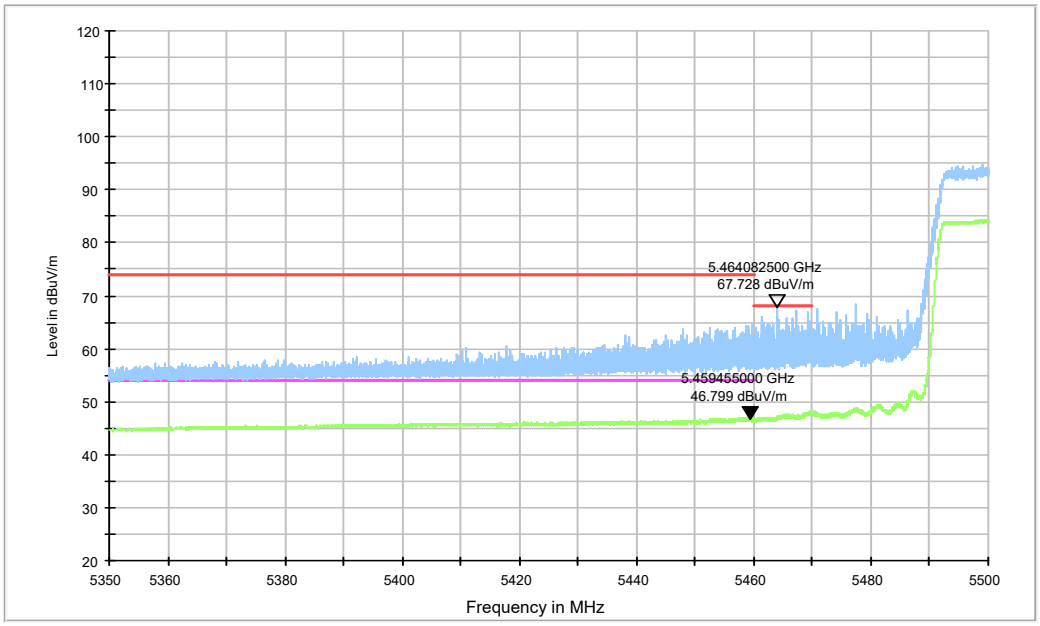



**Fig. 23 Band Edges (802.11ac-HT80 Ch106, 5530MHz)**

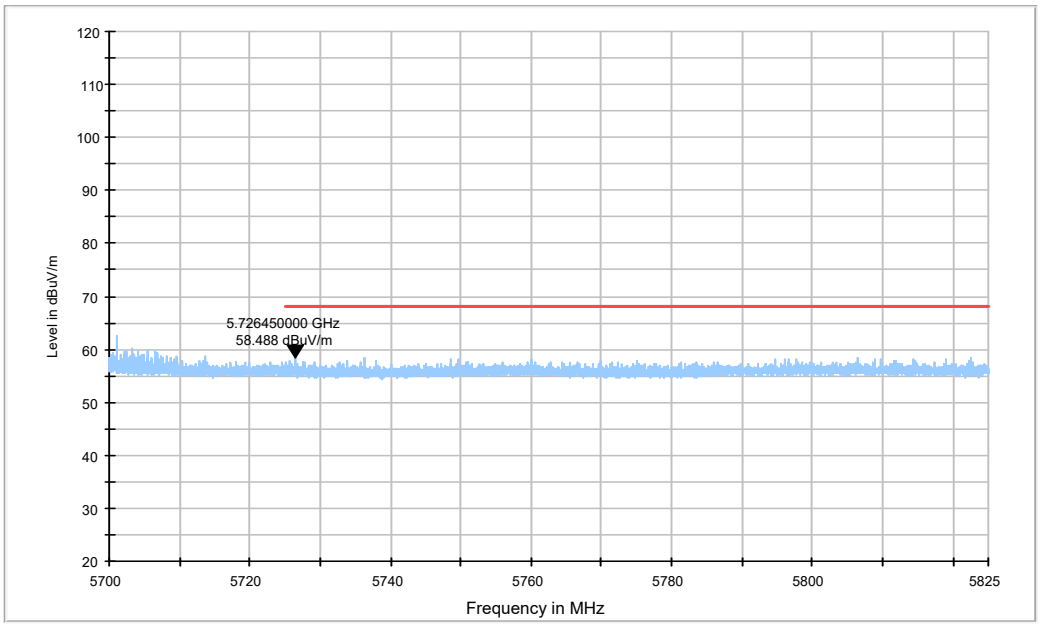



**Fig. 24 Band Edges (802.11ac-HT80 Ch122, 5610MHz)**

©Copyright. All rights reserved by CTTL.

## A.6. AC Powerline Conducted Emission (150kHz- 30MHz)

### A.6.1 Summary

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section

### A.6.2 Method of Measurement

See Clause 6.2 of ANSI C63.10 specifically.

See Clause 4 and Clause 5 of ANSI C63.10 generally.

The conducted emissions from the AC port of the EUT are measured in a shielding room. The EUT is connected to a Line Impedance Stabilization Network (LISN). An overview sweep with peak detection was performed. The measurements were performed with a quasi-peak detector and if required, an average detector.

The conducted emission measurements were made with the following detector of the test receiver: Quasi-Peak / Average Detector.

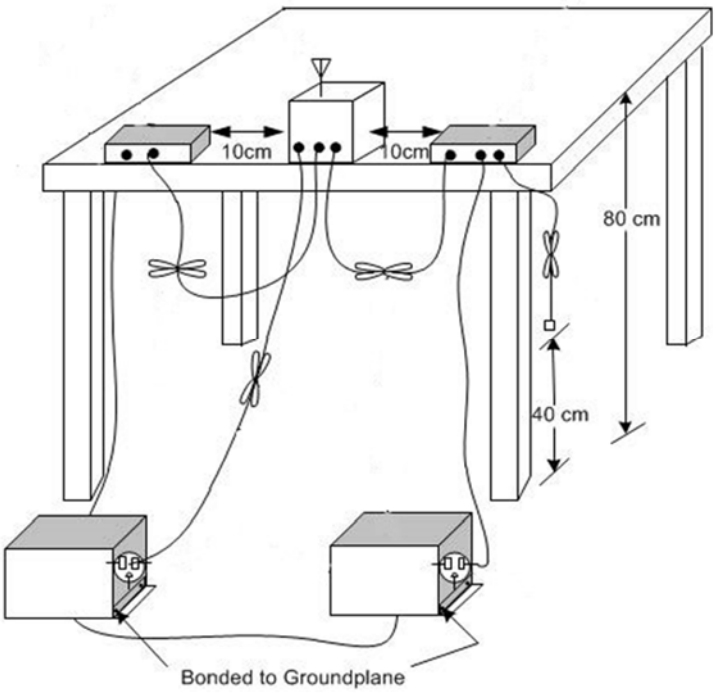
The measurement bandwidth is:

| Frequency of Emission (MHz) | RBW/IF bandwidth |
|---|---|
| 0.15-30 | 9kHz |

### A.6.3 Test Condition

| Voltage（V） | Frequency（Hz） |
|---|---|
| 120 | 60 |

### A.6.4 Test setup




©Copyright. All rights reserved by CTTL.

**Measurement Result and limit:**

WLAN (Quasi-peak Limit)

| Frequency range (MHz) | Quasi-peak Limit (dBμV) | Result (dBμV) | | Conclusion |
|---|---|---|---|---|
| | | With charger | | |
| | | 11a mode | Idle | |
| 0.15 to 0.5 | 66 to 56 | Fig.25 | Fig.26 | P |
| 0.5 to 5 | 56 | | | |
| 5 to 30 | 60 | | | |
| NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz. | | | | |

WLAN (Average Limit)

| Frequency range (MHz) | Average Limit (dBμV) | Result (dBμV) | | Conclusion |
|---|---|---|---|---|
| | | With charger | | |
| | | 11a mode | Idle | |
| 0.15 to 0.5 | 56 to 46 | Fig.25 | Fig.26 | P |
| 0.5 to 5 | 46 | | | |
| 5 to 30 | 50 | | | |
| NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz. | | | | |

**Conclusion: PASS**

**Test graphs as below:**

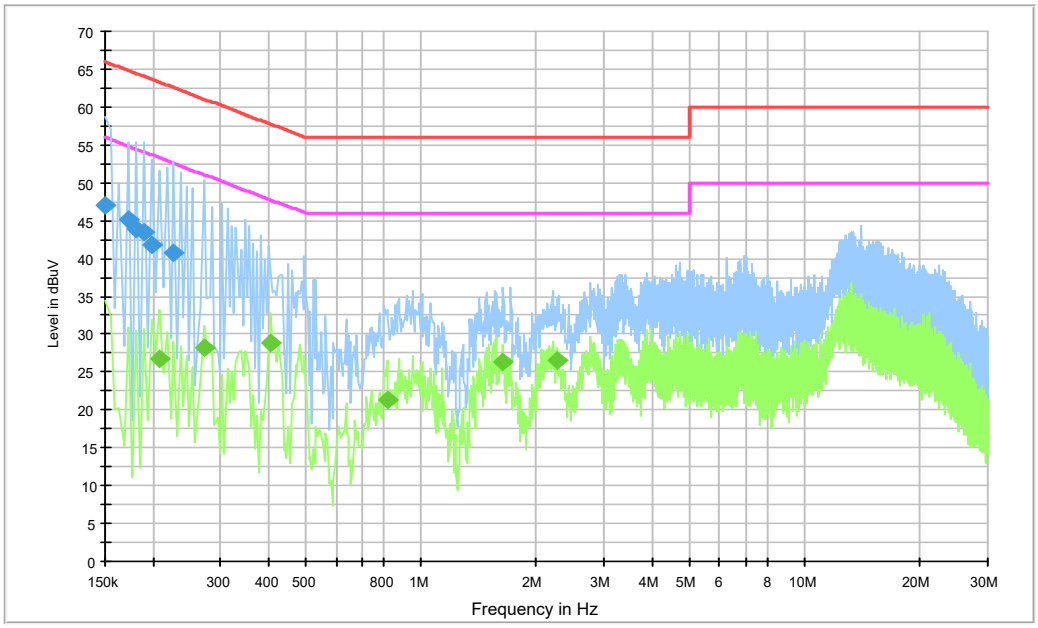



**Fig.25 Conducted Emission (802.11a, TX)**

©Copyright. All rights reserved by CTTL.

Measurement Result:

| Frequency (MHz) | QuasiPeak (dBμV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|---|---|---|---|---|---|---|---|---|
| 0.150000 | 47.0 | 2000.0 | 9.000 | On | L1 | 20.2 | 19.0 | 66.0 |
| 0.172500 | 45.0 | 2000.0 | 9.000 | On | N | 20.0 | 19.8 | 64.8 |
| 0.181500 | 43.9 | 2000.0 | 9.000 | On | N | 20.0 | 20.5 | 64.4 |
| 0.190500 | 43.4 | 2000.0 | 9.000 | On | N | 20.0 | 20.6 | 64.0 |
| 0.199500 | 41.8 | 2000.0 | 9.000 | On | N | 20.0 | 21.8 | 63.6 |
| 0.226500 | 40.8 | 2000.0 | 9.000 | On | N | 20.0 | 21.8 | 62.6 |

Measurement Result:

| Frequency (MHz) | Average (dBμV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|---|---|---|---|---|---|---|---|---|
| 0.208500 | 26.8 | 2000.0 | 9.000 | On | N | 20.0 | 26.4 | 53.3 |
| 0.271500 | 28.1 | 2000.0 | 9.000 | On | L1 | 20.0 | 23.0 | 51.1 |
| 0.406500 | 28.9 | 2000.0 | 9.000 | On | L1 | 20.0 | 18.8 | 47.7 |
| 0.816000 | 21.4 | 2000.0 | 9.000 | On | N | 20.1 | 24.6 | 46.0 |
| 1.639500 | 26.3 | 2000.0 | 9.000 | On | L1 | 19.8 | 19.7 | 46.0 |
| 2.274000 | 26.5 | 2000.0 | 9.000 | On | L1 | 19.8 | 19.5 | 46.0 |

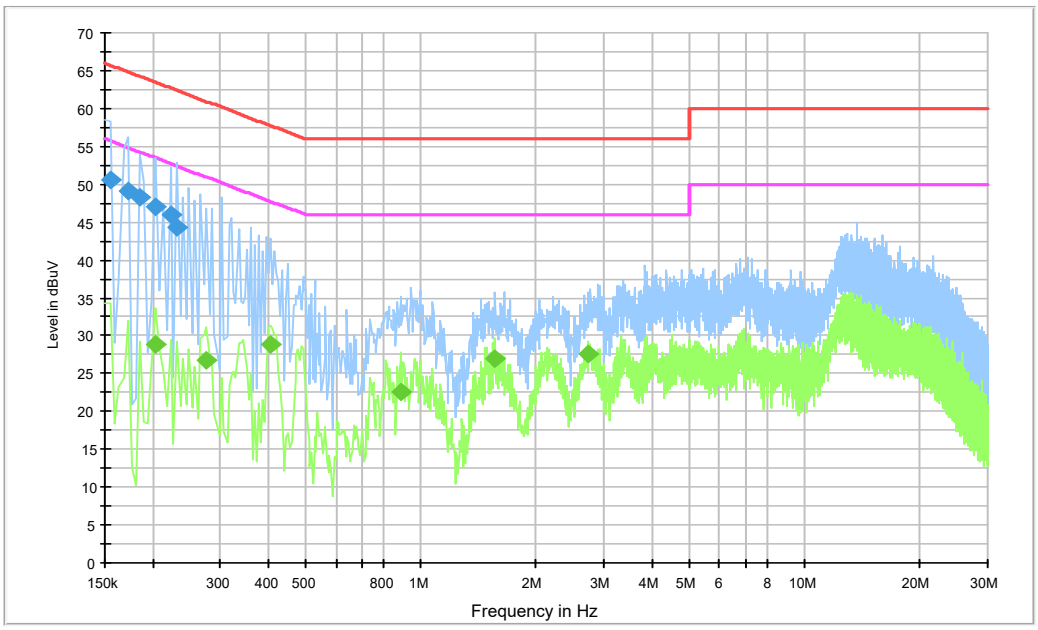



**Fig.26 Conducted Emission (802.11a, IDLE)**

©Copyright. All rights reserved by CTTL.

Measurement Result:

| Frequency (MHz) | QuasiPeak (dBμV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|---|---|---|---|---|---|---|---|---|
| 0.154500 | 50.5 | 2000.0 | 9.000 | On | L1 | 20.1 | 15.3 | 65.8 |
| 0.172500 | 49.1 | 2000.0 | 9.000 | On | L1 | 20.0 | 15.8 | 64.8 |
| 0.186000 | 48.2 | 2000.0 | 9.000 | On | N | 20.0 | 16.0 | 64.2 |
| 0.204000 | 46.9 | 2000.0 | 9.000 | On | N | 20.0 | 16.5 | 63.4 |
| 0.222000 | 45.9 | 2000.0 | 9.000 | On | N | 20.0 | 16.9 | 62.7 |
| 0.231000 | 44.4 | 2000.0 | 9.000 | On | L1 | 20.0 | 18.0 | 62.4 |

Measurement Result:

| Frequency (MHz) | Average (dBμV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|---|---|---|---|---|---|---|---|---|
| 0.204000 | 28.9 | 2000.0 | 9.000 | On | N | 20.0 | 24.6 | 53.4 |
| 0.276000 | 26.8 | 2000.0 | 9.000 | On | N | 20.1 | 24.2 | 50.9 |
| 0.406500 | 28.9 | 2000.0 | 9.000 | On | N | 20.1 | 18.8 | 47.7 |
| 0.888000 | 22.6 | 2000.0 | 9.000 | On | N | 20.1 | 23.4 | 46.0 |
| 1.563000 | 26.9 | 2000.0 | 9.000 | On | L1 | 19.9 | 19.1 | 46.0 |
| 2.742000 | 27.6 | 2000.0 | 9.000 | On | L1 | 19.9 | 18.4 | 46.0 |

©Copyright. All rights reserved by CTTL.

## A.8. 99% Occupied bandwidth

Method of Measurement: See ANSI C63.10-2013-clause 12.4.2.

a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.

c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.

d) Step a) through step c) might require iteration to adjust within the specified range.

e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.

f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% ofthe total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.

h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

**Measurement Uncertainty:**

| | |
|---|---|
| Measurement Uncertainty | 60.80Hz |

**EUT ID: UT53a**

| TestMode | Antenna | Frequency[MHz] | OCB [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|---|---|---|---|---|---|---|---|
| 11A | Ant1 | 5180 | 17.518 | 5171.2712 | 5188.7896 | --- | --- |
| | | 5200 | 17.439 | 5191.2955 | 5208.7342 | --- | --- |
| | | 5240 | 17.558 | 5231.1797 | 5248.7375 | --- | --- |
| | | 5260 | 17.707 | 5251.1780 | 5268.8853 | --- | --- |
| | | 5280 | 17.49 | 5271.2679 | 5288.7575 | --- | --- |
| | | 5320 | 17.611 | 5311.2631 | 5328.8743 | --- | --- |
| | | 5500 | 17.692 | 5491.1526 | 5508.8449 | --- | --- |
| | | 5580 | 17.755 | 5571.0974 | 5588.8526 | --- | --- |
| | | 5700 | 17.696 | 5691.1311 | 5708.8274 | --- | --- |
| | | 5720 | 17.872 | 5711.0609 | 5728.9328 | --- | --- |
| 11N20SISO | Ant1 | 5180 | 18.441 | 5170.7682 | 5189.2090 | --- | --- |
| | | 5200 | 18.379 | 5190.7504 | 5209.1292 | --- | --- |
| | | 5240 | 18.382 | 5230.7858 | 5249.1679 | --- | --- |

©Copyright. All rights reserved by CTTL.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 5260 | 18.561 | 5250.7344 | 5269.2950 | --- | --- |
| | | 5280 | 18.352 | 5270.7741 | 5289.1266 | --- | --- |
| | | 5320 | 18.443 | 5310.7771 | 5329.2206 | --- | --- |
| | | 5500 | 18.477 | 5490.7269 | 5509.2043 | --- | --- |
| | | 5580 | 18.584 | 5570.6460 | 5589.2299 | --- | --- |
| | | 5700 | 18.51 | 5690.6773 | 5709.1877 | --- | --- |
| | | 5720 | 18.588 | 5710.6701 | 5729.2585 | --- | --- |
| 11N40SISO | Ant1 | 5190 | 36.909 | 5171.5505 | 5208.4595 | --- | --- |
| | | 5230 | 36.704 | 5211.6818 | 5248.3861 | --- | --- |
| | | 5270 | 36.827 | 5251.6611 | 5288.4886 | --- | --- |
| | | 5310 | 36.871 | 5291.5868 | 5328.4582 | --- | --- |
| | | 5510 | 36.84 | 5491.5500 | 5528.3904 | --- | --- |
| | | 5550 | 36.812 | 5531.5930 | 5568.4052 | --- | --- |
| | | 5670 | 36.988 | 5651.4622 | 5688.4501 | --- | --- |
| | | 5710 | 36.881 | 5691.5362 | 5728.4171 | --- | --- |
| 11AC80SISO | Ant1 | 5210 | 75.141 | 5172.4183 | 5247.5595 | --- | --- |
| | | 5290 | 75.271 | 5252.4786 | 5327.7492 | --- | --- |
| | | 5530 | 75.386 | 5492.1495 | 5567.5353 | --- | --- |
| | | 5610 | 75.535 | 5572.1821 | 5647.7168 | --- | --- |
| | | 5690 | 75.402 | 5652.1619 | 5727.5636 | --- | --- |

11A_Ant1_5180

11A_Ant1_5200

©Copyright. All rights reserved by CTTL.

11:01:11 03.02.2025

11A_Ant1_5240

11:02:17 03.02.2025

11A_Ant1_5260

©Copyright. All rights reserved by CTTL.

11:03:36 03.02.2025

11A_Ant1_5280

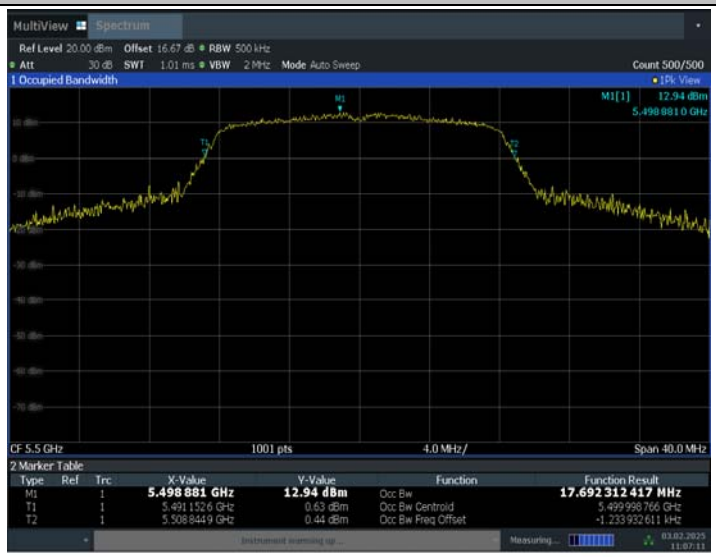
11:04:42 03.02.2025

11A_Ant1_5320

©Copyright. All rights reserved by CTTL.

11:06:05 03.02.2025

11A_Ant1_5500




11:07:11 03.02.2025

11A_Ant1_5580

©Copyright. All rights reserved by CTTL.

11:08:16 03.02.2025

11A_Ant1_5700

11:09:21 03.02.2025

11A_Ant1_5720

©Copyright. All rights reserved by CTTL.

11:10:35 03.02.2025

11N20SISO_Ant1_5180

11:15:24 03.02.2025

11N20SISO_Ant1_5200

©Copyright. All rights reserved by CTTL.

11N20SISO_Ant1_5240

11N20SISO_Ant1_5260

©Copyright. All rights reserved by CTTL.

11:18:41 03.02.2025

11N20SISO_Ant1_5280

11:19:58 03.02.2025

11N20SISO_Ant1_5320

©Copyright. All rights reserved by CTTL.

11N20SISO_Ant1_5500

11N20SISO_Ant1_5580

©Copyright. All rights reserved by CTTL.

11N20SISO_Ant1_5700

11N20SISO_Ant1_5720

©Copyright. All rights reserved by CTTL.

11N40SISO_Ant1_5190

11N40SISO_Ant1_5230

©Copyright. All rights reserved by CTTL.

11N40SISO_Ant1_5270

11N40SISO_Ant1_5310

©Copyright. All rights reserved by CTTL.

11N40SISO_Ant1_5510

11N40SISO_Ant1_5550

©Copyright. All rights reserved by CTTL.

11N40SISO_Ant1_5670

11N40SISO_Ant1_5710

©Copyright. All rights reserved by CTTL.

11:41:37 03.02.2025

11AC80SISO_Ant1_5210

12:37:50 03.02.2025

11AC80SISO_Ant1_5290

©Copyright. All rights reserved by CTTL.

11AC80SISO_Ant1_5530

11AC80SISO_Ant1_5610

©Copyright. All rights reserved by CTTL.

11AC80SISO_Ant1_5690

**Conclusion: PASS**

## A.9. Power control

A Transmission Power Control mechanism is not required for systems with an e.i.r.p. of less than 27dBm (500 mW).

## A.10. Antenna Requirement

The antenna of the device is permanently attached. There are no provisions for connection to an external antenna.

The unit complies with the requirement of FCC Part 15.203.

©Copyright. All rights reserved by CTTL.

## ANNEX B: EUT parameters

Disclaimer: The antenna gain and worse case provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

## ANNEX C: Accreditation Certificate

Accredited Laboratory

A2LA has accredited

TELECOMMUNICATION TECHNOLOGY LABS, CAICT

*Beijing, People's Republic of China*

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 23rd day of July 2024.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 7049.01
Valid to July 31, 2026

*For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.*

***** END OF REPORT BODY *****

©Copyright. All rights reserved by CTTL.