



# FCC PART 15E TEST REPORT No.25T04Z100234-005

for

**TCL Communication Ltd.**

**GSM/UMTS/LTE mobile phone**

**Model Name: T517J**

**FCC ID: 2ACCJB237**

with

**Hardware Version: 05**

**Software Version: 3A4G**

**Issued Date: 2025-03-27**

**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.

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## **REPORT HISTORY**

| <b>Report Number</b> | <b>Revision</b> | <b>Description</b> | <b>Issue Date</b> |
|----------------------|-----------------|--------------------|-------------------|
| 25T04Z100234-005     | Rev.0           | 1st edition        | 2025-03-27        |

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

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## 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

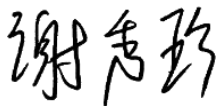
Relative Humidity: 20-75%

### 1.4. Project date

Testing Start Date: 2025-02-10

Testing End Date: 2025-03-21

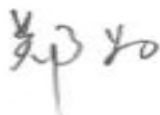
### 1.5. Signature



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Xie Xiuzhen

(Prepared this test report)



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Zheng Wei

(Reviewed this test report)



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Pang Shuai

(Approved this test report)

## **2. Client Information**

### **2.1. Applicant Information**

Company Name: TCL Communication Ltd.  
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### **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  
Contact: Ting Wang  
Email: ting.wang.hz@tcl.com  
Telephone: +86 752 2639091  
Fax: +86 755 36612000-81722

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

#### 3.1. About EUT

|                      |                                                                        |
|----------------------|------------------------------------------------------------------------|
| Description          | GSM/UMTS/LTE mobile phone                                              |
| Model name           | T517J                                                                  |
| FCC ID               | 2ACCJB237                                                              |
| WLAN Frequency Band  | ISM Bands:<br>-5150MHz~5250MHz<br>-5250MHz~5350MHz<br>-5470MHz~5725MHz |
| Type of modulation   | OFDM                                                                   |
| Antenna              | Integral Antenna                                                       |
| Normal Voltage       | 3.91V                                                                  |
| Extreme High Voltage | 4.5V                                                                   |
| Extreme Low Voltage  | 3.6V                                                                   |

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

| EUT ID*        | SN or IMEI       | HW Version | SW Version | Date of receipt |
|----------------|------------------|------------|------------|-----------------|
| UT07a          | 356956250000133/ | 05         | 3A4G       | 2025-02-10      |
| (25T04Z100217) | 356956250000141  |            |            |                 |
| UT18a          | 356956250000596/ | 05         | 3A4G       | 2025-03-10      |
| (25T04Z100217) | 356956250000604  |            |            |                 |

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

UT07a is used for Conduction test, UT18a is used for Radiation test.

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

| AE ID* | Description | Model         | Manufacturer                                      |
|--------|-------------|---------------|---------------------------------------------------|
| AE1    | Battery1    | TLp050C7      | Dongguan Veken Battery Co., Ltd.                  |
| AE2    | Battery2    | TLp050CB      | Shenzhen Aerospace Electronic Co., Ltd.           |
| AE3    | Charger1    | QC13US-N      | ShenZhen BajunDa Electronics Co.,Ltd              |
| AE4    | USB Cable1  | JWUB1686-M01R | Huizhou Juwei Electronics Co.,Ltd                 |
| AE5    | USB Cable2  | FKY-23-367    | Qiyang Fukangyuan Electronic Technology Co., Ltd. |

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

### **3.4. General Description**

The Equipment under Test (EUT) is a model of GSM/UMTS/LTE mobile phone 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.

### **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<br>Part 15 - Radio frequency devices                                                | 2021    |
| ANSI C63.10             | Methods of Measurement of Radio-Noise Emissions from<br>Low-Voltage Electrical and Electronic Equipment in the<br>Range of 9 kHz to 40 GHz | 2013    |
| UNII: KDB 789033<br>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.



## 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                 | /                | BR      |
| Peak Power Spectral Density     | 15.407                 | /                | BR      |
| 26dB Emission Bandwidth         | 15.403                 | /                | BR      |
| Radiated Unwanted Emission      | 15.407, 15.205, 15.209 | /                | BR      |
| AC Powerline Conducted Emission | 15.107, 15.207         | /                | BR      |
| 99% Occupied bandwidth          | /                      | /                | BR      |
| Transmit Power Control          | 15.407                 | /                | BR      |

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 |
| BR | Re-use test data from basic model report.                                     |

### 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.

The Equipment Under Test (EUT) model T517J (FCC ID: 2ACCJB237) is a variant product of T517H (FCC ID: 2ACCJB237), according to the declaration of changes provided by the applicant and FCC KDB publication 178919 D01, all results are derived from test report No.25T04Z100217-064.

For detail differences between two models please refer the Declaration of Changes document.

### 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     | 3.91V |
| Humidity    | 44%   |

## 7. Test Facilities Utilized

### Conducted test system

| No. | Equipment              | Model   | Serial Number | Manufacturer    | Calibration Period | Calibration Due date |
|-----|------------------------|---------|---------------|-----------------|--------------------|----------------------|
| 1   | Vector Signal Analyzer | FSW67   | 104051        | Rohde & Schwarz | 1 year             | 2025-04-30           |
| 2   | Test Receiver          | ESCI    | 100766        | R&S             | 1 year             | 2025-04-18           |
| 3   | LISN                   | ENV216  | 101459        | R&S             | 1 year             | 2025-05-16           |
| 4   | Attenuator             | 10dB/2W | /             | Rosenberger     | /                  | /                    |
| 5   | Shielding Room         | S81     | /             | ETS-Lindgren    | /                  | /                    |

### Radiated emission test system

| No. | Equipment     | Model             | Serial Number | Manufacturer | Calibration Period | Calibration Due date |
|-----|---------------|-------------------|---------------|--------------|--------------------|----------------------|
| 1   | Test Receiver | ESW44             | 103015        | R&S          | 1 year             | 2026-01-15           |
| 2   | EMI Antenna   | VULB 9163         | 01176         | SCHWARZBECK  | 1 year             | 2025-04-07           |
| 3   | EMI Antenna   | 3117              | 00058888      | ETS-Lindgren | 1 year             | 2025-09-18           |
| 4   | EMI Antenna   | LB-180400-25-C-KF | 2110084000006 | A-INFO       | 1 year             | 2025-05-22           |

## 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) |
|--------------------------------------------|-----------------|
| $30\text{MHz} \leq f \leq 2\text{GHz}$     | 1.22            |
| $2\text{GHz} \leq f \leq 3.6\text{GHz}$    | 1.22            |
| $3.6\text{GHz} \leq f \leq 8\text{GHz}$    | 1.22            |
| $8\text{GHz} \leq f \leq 12.75\text{GHz}$  | 1.51            |
| $12.75\text{GHz} \leq f \leq 26\text{GHz}$ | 1.51            |
| $26\text{GHz} \leq f \leq 40\text{GHz}$    | 1.59            |

### 8.6 Radiated Unwanted Emission

| Frequency Range                         | Uncertainty(dB) (k=2) |
|-----------------------------------------|-----------------------|
| 9kHz-30MHz                              | 3.96                  |
| $30\text{MHz} \leq f \leq 1\text{GHz}$  | 5.29                  |
| $1\text{GHz} \leq f \leq 18\text{GHz}$  | 5.62                  |
| $18\text{GHz} \leq f \leq 40\text{GHz}$ | 3.52                  |

### 8.7 AC Power-line Conducted Emission

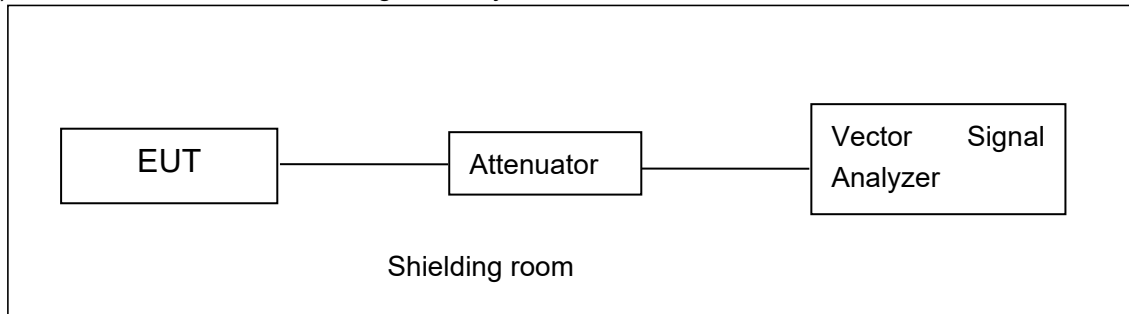
Measurement Uncertainty : 3.10 dB,k=2

## **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 C63.10-2013 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

## 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 measurement method SA-2 is made according to KDB 789033

### A.2.1 Antenna Gain

Antenna gain is 1.2dBi and the value is supplied by the applicant or manufacturer.

### A.2.2 Maximum output Power-Conducted

EUT ID: UT07a

### Measurement Results:

#### 802.11a mode

| Mode    | Frequency | Test Result (dBm) |   |    |    |    |    |    |    |
|---------|-----------|-------------------|---|----|----|----|----|----|----|
|         |           | Data Rate (Mbps)  |   |    |    |    |    |    |    |
|         |           | 6                 | 9 | 12 | 18 | 24 | 36 | 48 | 54 |
| 802.11a | 5180MHz   | 17.42             | / | /  | /  | /  | /  | /  | /  |
|         | 5200MHz   | 17.69             | / | /  | /  | /  | /  | /  | /  |
|         | 5240MHz   | 17.77             | / | /  | /  | /  | /  | /  | /  |
|         | 5260MHz   | 17.60             | / | /  | /  | /  | /  | /  | /  |
|         | 5280MHz   | 17.79             | / | /  | /  | /  | /  | /  | /  |
|         | 5320MHz   | 17.47             | / | /  | /  | /  | /  | /  | /  |
|         | 5500MHz   | 16.99             | / | /  | /  | /  | /  | /  | /  |
|         | 5580MHz   | 17.00             | / | /  | /  | /  | /  | /  | /  |
|         | 5700MHz   | 15.98             | / | /  | /  | /  | /  | /  | /  |
|         | 5720MHz   | 17.76             | / | /  | /  | /  | /  | /  | /  |

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<br>(HT20) | 5180MHz   | 16.85             | /    | /    | /    | /    | /    | /    | /    |
|                   | 5200MHz   | 17.01             | /    | /    | /    | /    | /    | /    | /    |
|                   | 5240MHz   | 17.16             | /    | /    | /    | /    | /    | /    | /    |
|                   | 5260MHz   | 16.78             | /    | /    | /    | /    | /    | /    | /    |
|                   | 5280MHz   | 17.06             | /    | /    | /    | /    | /    | /    | /    |
|                   | 5320MHz   | 16.86             | /    | /    | /    | /    | /    | /    | /    |
|                   | 5500MHz   | 17.11             | /    | /    | /    | /    | /    | /    | /    |

|  |         |       |   |   |   |   |   |   |   |
|--|---------|-------|---|---|---|---|---|---|---|
|  | 5580MHz | 16.53 | / | / | / | / | / | / | / |
|  | 5700MHz | 16.38 | / | / | / | / | / | / | / |
|  | 5720MHz | 16.92 | / | / | / | / | / | / | / |

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<br>(VHT20) | 5180MHz   | 14.52             | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5200MHz   | 14.80             | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5240MHz   | 14.98             | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5260MHz   | 14.71             | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5280MHz   | 14.87             | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5320MHz   | 14.84             | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5500MHz   | 14.92             | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5580MHz   | 14.41             | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5700MHz   | 14.99             | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5720MHz   | 14.68             | /    | /    | /    | /    | /    | /    | /    | /    |

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<br>(HT40) | 5190MHz   | 16.71             | /    | /    | /    | /    | /    | /    | /    |
|                   | 5230MHz   | 16.96             | /    | /    | /    | /    | /    | /    | /    |
|                   | 5270MHz   | 16.85             | /    | /    | /    | /    | /    | /    | /    |
|                   | 5310MHz   | 16.73             | /    | /    | /    | /    | /    | /    | /    |
|                   | 5510MHz   | 15.94             | /    | /    | /    | /    | /    | /    | /    |
|                   | 5550MHz   | 16.53             | /    | /    | /    | /    | /    | /    | /    |
|                   | 5670MHz   | 16.56             | /    | /    | /    | /    | /    | /    | /    |
|                   | 5710MHz   | 16.76             | /    | /    | /    | /    | /    | /    | /    |

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

### 802.11ac-VHT40 mode

| Mode                | Frequency | Test Result (dBm) |      |      |      |      |      |      |      |      |      |
|---------------------|-----------|-------------------|------|------|------|------|------|------|------|------|------|
|                     |           | Data Rate         |      |      |      |      |      |      |      |      |      |
|                     |           | MCS0              | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 | MCS8 | MCS9 |
| 802.11ac<br>(VHT40) | 5190MHz   | 14.68             | /    | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5230MHz   | 14.83             | /    | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5270MHz   | 14.67             | /    | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5310MHz   | 14.54             | /    | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5510MHz   | 14.77             | /    | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5550MHz   | 14.56             | /    | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5670MHz   | 14.57             | /    | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5710MHz   | 14.85             | /    | /    | /    | /    | /    | /    | /    | /    | /    |

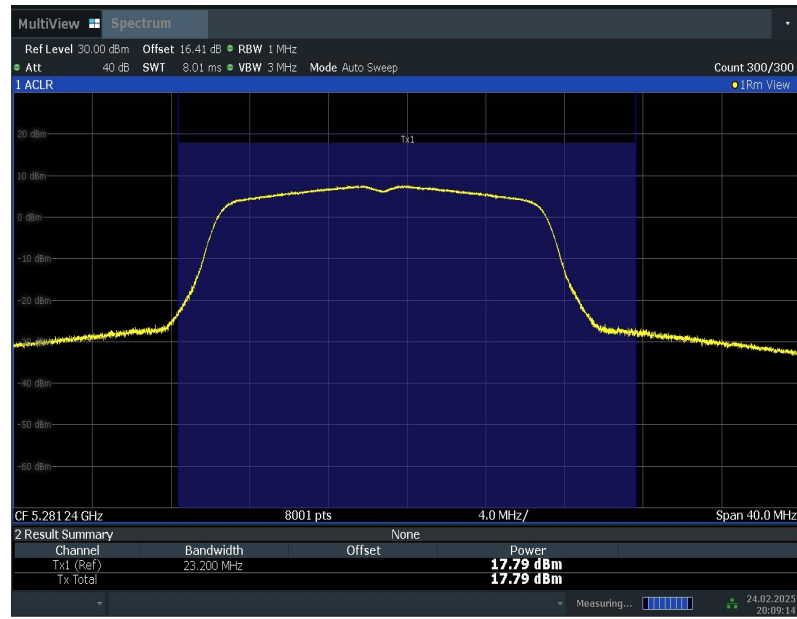
The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

### 802.11ac-VHT80 mode

| Mode                | Frequency | Test Result (dBm) |      |      |      |      |      |      |      |      |      |
|---------------------|-----------|-------------------|------|------|------|------|------|------|------|------|------|
|                     |           | Data Rate         |      |      |      |      |      |      |      |      |      |
|                     |           | MCS0              | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 | MCS8 | MCS9 |
| 802.11ac<br>(VHT80) | 5210MHz   | 14.67             | /    | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5290MHz   | 15.05             | /    | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5530MHz   | 15.11             | /    | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5610MHz   | 14.15             | /    | /    | /    | /    | /    | /    | /    | /    | /    |
|                     | 5690MHz   | 14.74             | /    | /    | /    | /    | /    | /    | /    | /    | /    |

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

The duty cycle of all mode are 100%



20:09:15 24.02.2025

**Maximum output Power: 11a CH56**

**Conclusion: PASS**



### 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              |

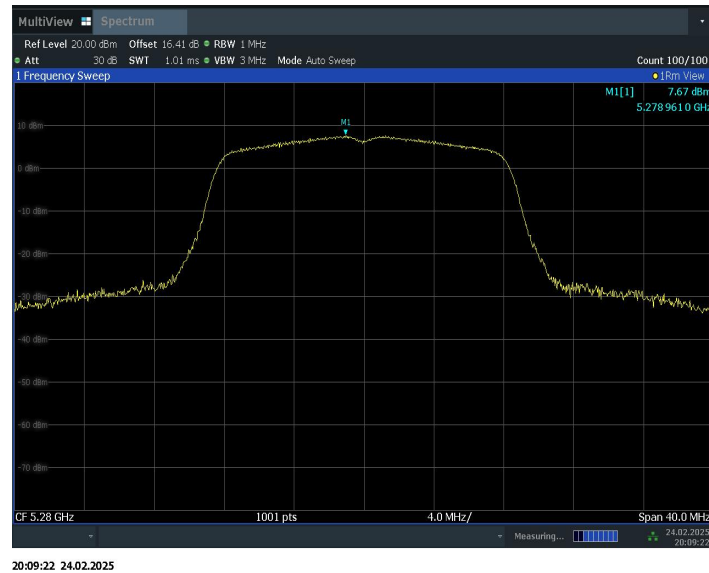
The output power measurement method Section F is made according to KDB 789033

EUT ID: UT07a

#### Measurement Results:

| TestMode   | Frequency[MHz] | Result [dBm/MHz] | Limit[dBm/MHz] | Verdict |
|------------|----------------|------------------|----------------|---------|
| 11A        | 5180           | 7.22             | ≤11.00         | PASS    |
|            | 5200           | 7.51             | ≤11.00         | PASS    |
|            | 5240           | 7.63             | ≤11.00         | PASS    |
|            | 5260           | 7.40             | ≤11.00         | PASS    |
|            | 5280           | 7.67             | ≤11.00         | PASS    |
|            | 5320           | 7.30             | ≤11.00         | PASS    |
|            | 5500           | 7.06             | ≤11.00         | PASS    |
|            | 5580           | 6.91             | ≤11.00         | PASS    |
|            | 5700           | 5.87             | ≤11.00         | PASS    |
|            | 5720           | 7.67             | ≤11.00         | PASS    |
| 11N20SISO  | 5180           | 6.24             | ≤11.00         | PASS    |
|            | 5200           | 6.68             | ≤11.00         | PASS    |
|            | 5240           | 6.81             | ≤11.00         | PASS    |
|            | 5260           | 6.36             | ≤11.00         | PASS    |
|            | 5280           | 6.76             | ≤11.00         | PASS    |
|            | 5320           | 6.52             | ≤11.00         | PASS    |
|            | 5500           | 6.73             | ≤11.00         | PASS    |
|            | 5580           | 6.08             | ≤11.00         | PASS    |
|            | 5700           | 6.01             | ≤11.00         | PASS    |
|            | 5720           | 6.61             | ≤11.00         | PASS    |
| 11N40SISO  | 5190           | 3.66             | ≤11.00         | PASS    |
|            | 5230           | 3.84             | ≤11.00         | PASS    |
|            | 5270           | 3.88             | ≤11.00         | PASS    |
|            | 5310           | 3.12             | ≤11.00         | PASS    |
|            | 5510           | 2.72             | ≤11.00         | PASS    |
|            | 5550           | 3.10             | ≤11.00         | PASS    |
|            | 5670           | 3.11             | ≤11.00         | PASS    |
|            | 5710           | 3.51             | ≤11.00         | PASS    |
| 11AC80SISO | 5210           | -1.87            | ≤11.00         | PASS    |
|            | 5290           | -1.30            | ≤11.00         | PASS    |
|            | 5530           | -1.41            | ≤11.00         | PASS    |

|  |      |       |              |      |
|--|------|-------|--------------|------|
|  | 5610 | -1.90 | $\leq 11.00$ | PASS |
|  | 5690 | -1.24 | $\leq 11.00$ | PASS |



Peak Power Spectral Density:11a CH56

Conclusion: PASS

#### **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 |
|-------------------------|---------|

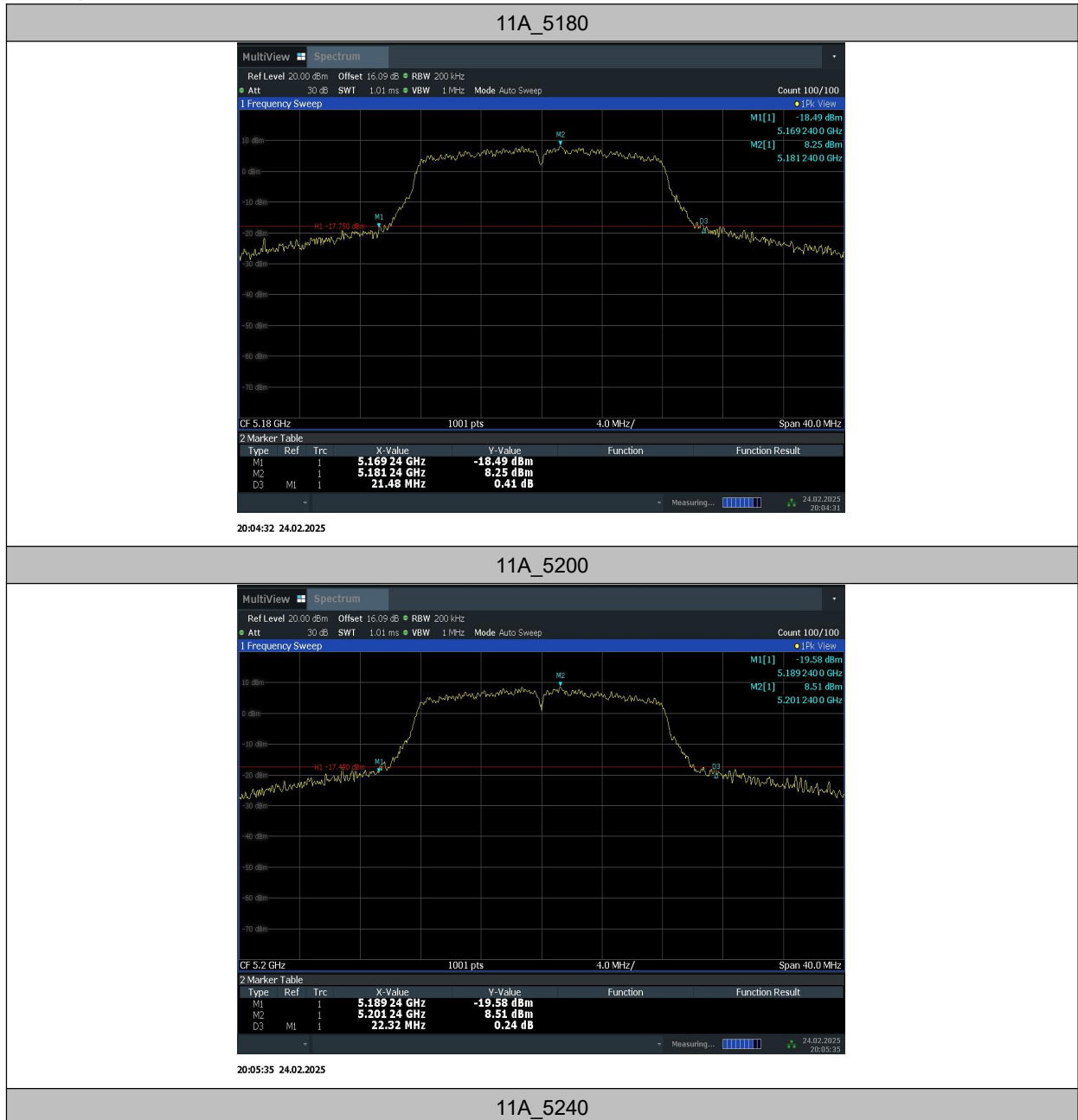
##### **EUT ID: UT07a**

##### **Measurement Result:**

| TestMode   | Frequency[MHz] | 26db EBW [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|------------|----------------|----------------|---------|---------|------------|---------|
| 11A        | 5180           | 21.48          | 5169.24 | 5190.72 | ---        | ---     |
|            | 5200           | 22.32          | 5189.24 | 5211.56 | ---        | ---     |
|            | 5240           | 21.92          | 5229.48 | 5251.40 | ---        | ---     |
|            | 5260           | 22.64          | 5247.96 | 5270.60 | ---        | ---     |
|            | 5280           | 23.20          | 5269.64 | 5292.84 | ---        | ---     |
|            | 5320           | 23.04          | 5308.64 | 5331.68 | ---        | ---     |
|            | 5500           | 22.56          | 5489.16 | 5511.72 | ---        | ---     |
|            | 5580           | 23.92          | 5567.72 | 5591.64 | ---        | ---     |
|            | 5700           | 20.16          | 5689.84 | 5710.00 | ---        | ---     |
|            | 5720           | 24.96          | 5707.60 | 5732.56 | ---        | ---     |
| 11N20SISO  | 5180           | 22.16          | 5168.32 | 5190.48 | ---        | ---     |
|            | 5200           | 20.84          | 5189.32 | 5210.16 | ---        | ---     |
|            | 5240           | 22.88          | 5227.28 | 5250.16 | ---        | ---     |
|            | 5260           | 23.92          | 5249.36 | 5273.28 | ---        | ---     |
|            | 5280           | 22.28          | 5268.04 | 5290.32 | ---        | ---     |
|            | 5320           | 21.84          | 5309.12 | 5330.96 | ---        | ---     |
|            | 5500           | 24.16          | 5488.28 | 5512.44 | ---        | ---     |
|            | 5580           | 24.28          | 5567.32 | 5591.60 | ---        | ---     |
|            | 5700           | 21.24          | 5689.28 | 5710.52 | ---        | ---     |
|            | 5720           | 24.24          | 5708.20 | 5732.44 | ---        | ---     |
| 11N40SISO  | 5190           | 41.44          | 5169.12 | 5210.56 | ---        | ---     |
|            | 5230           | 40.72          | 5209.60 | 5250.32 | ---        | ---     |
|            | 5270           | 42.48          | 5249.60 | 5292.08 | ---        | ---     |
|            | 5310           | 47.04          | 5287.52 | 5334.56 | ---        | ---     |
|            | 5510           | 41.20          | 5489.36 | 5530.56 | ---        | ---     |
|            | 5550           | 42.40          | 5529.28 | 5571.68 | ---        | ---     |
|            | 5670           | 48.56          | 5646.16 | 5694.72 | ---        | ---     |
|            | 5710           | 47.28          | 5687.44 | 5734.72 | ---        | ---     |
| 11AC80SISO | 5210           | 81.60          | 5169.20 | 5250.80 | ---        | ---     |
|            | 5290           | 81.44          | 5249.20 | 5330.64 | ---        | ---     |

|  |      |       |         |         |     |     |
|--|------|-------|---------|---------|-----|-----|
|  | 5530 | 81.44 | 5489.20 | 5570.64 | --- | --- |
|  | 5610 | 81.44 | 5569.20 | 5650.64 | --- | --- |
|  | 5690 | 84.32 | 5646.48 | 5730.80 | --- | --- |

Test graphs as below:





20:06:38 24.02.2025

11A\_5260



20:07:40 24.02.2025

11A\_5280



20:08:42 24.02.2025

## 11A\_5320



20:09:43 24.02.2025

## 11A\_5500



20:39:09 18.03.2025

## 11A\_5580



20:11:51 24.02.2025

11A\_5700



20:42:02 18.03.2025

11A\_5720



20:14:04 24.02.2025

## 11N20SISO\_5180



20:19:37 24.02.2025

## 11N20SISO\_5200



20:20:41 24.02.2025

## 11N20SISO\_5240





20:21:43 24.02.2025

## 11N20SISO\_5260



20:22:45 24.02.2025

## 11N20SISO\_5280



20:23:48 24.02.2025

## 11N20SISO\_5320



20:24:49 24.02.2025

## 11N20SISO\_5500



20:25:51 24.02.2025

## 11N20SISO\_5580



20:26:53 24.02.2025

### 11N20SISO\_5700



20:46:08 18.03.2025

### 11N20SISO\_5720



20:28:55 24.02.2025

## 11N40SISO\_5190



21:17:04 24.02.2025

## 11N40SISO\_5230



21:17:29 24.02.2025

## 11N40SISO\_5270



21:17:58 24.02.2025

## 11N40SISO\_5310



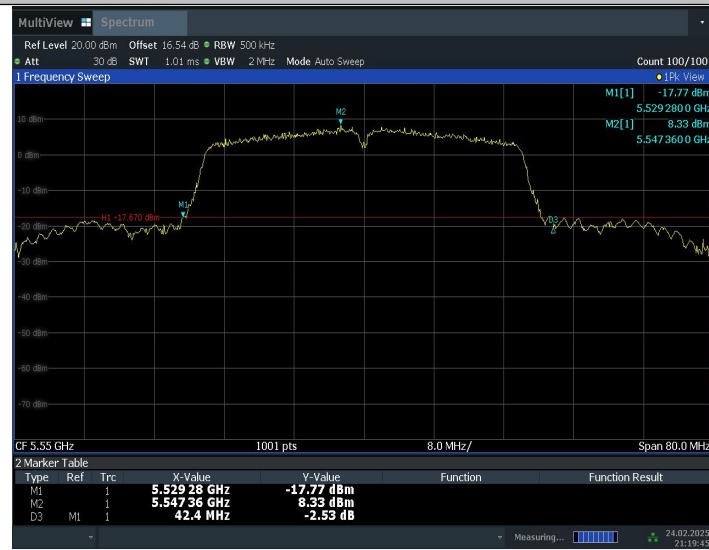
21:18:58 24.02.2025

## 11N40SISO\_5510



20:47:50 18.03.2025

## 11N40SISO\_5550



21:19:46 24.02.2025

## 11N40SISO\_5670



21:21:38 24.02.2025

## 11N40SISO\_5710



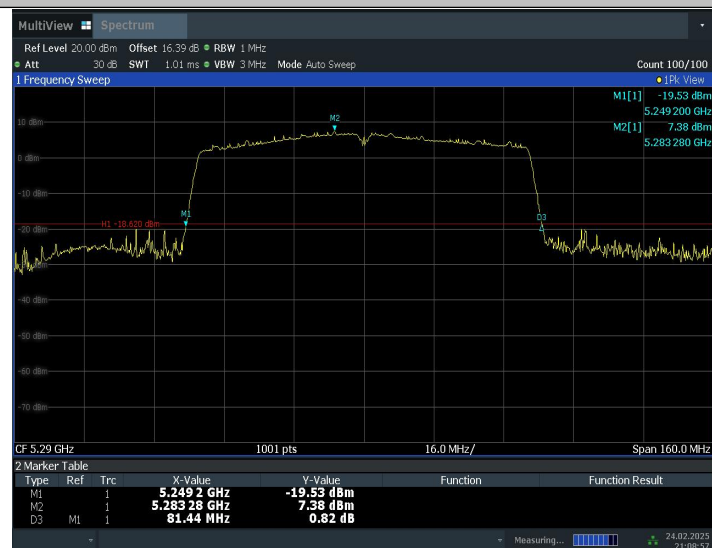
21:20:30 24.02.2025

### 11AC80SISO\_5210



21:08:00 24.02.2025

### 11AC80SISO\_5290



21:08:58 24.02.2025

## 11AC80SISO\_5530



21:09:54 24.02.2025

## 11AC80SISO\_5610



21:10:54 24.02.2025

## 11AC80SISO\_5690





**Conclusion: PASS**

## 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. |

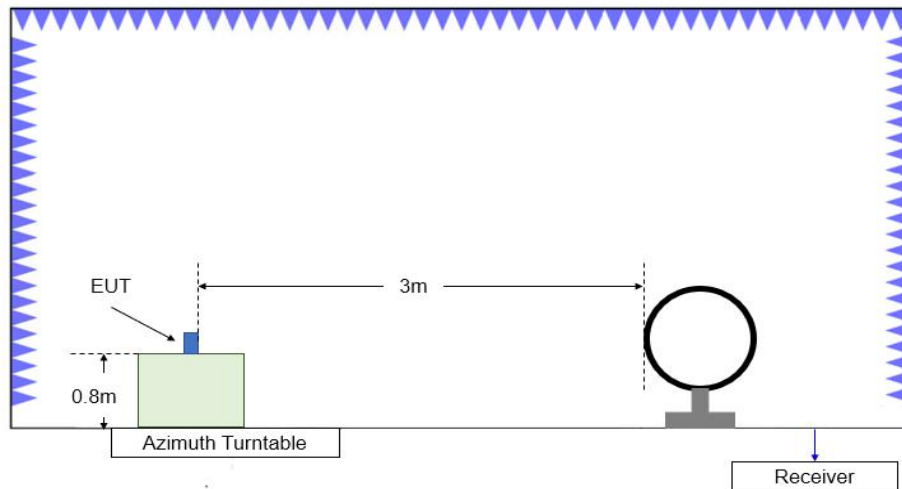
In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c))

| Frequency (MHz) | Field strength( $\mu$ V/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                       |

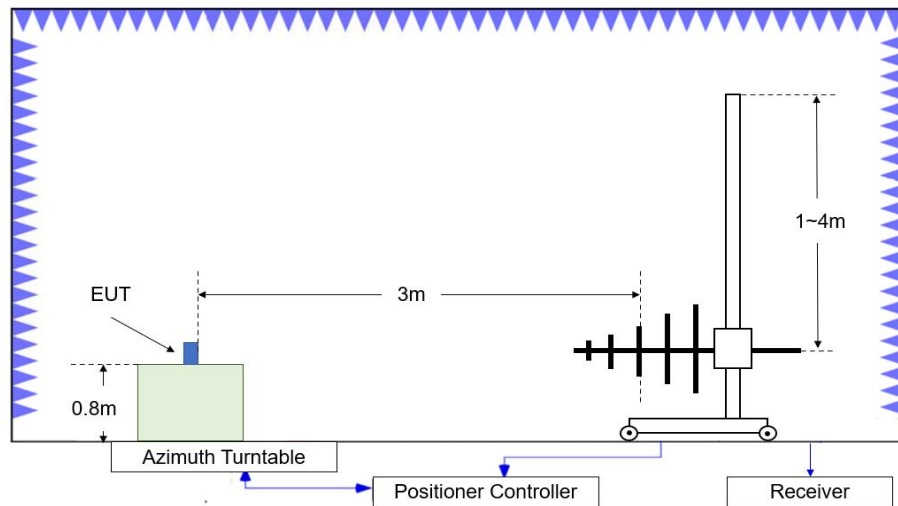
| Frequency of emission (MHz) | Field strength ( $\mu$ V/m) | Field strength (dBuV/m) | Measurement distance (m) |
|-----------------------------|-----------------------------|-------------------------|--------------------------|
| 30-88                       | 100                         | 40                      | 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).

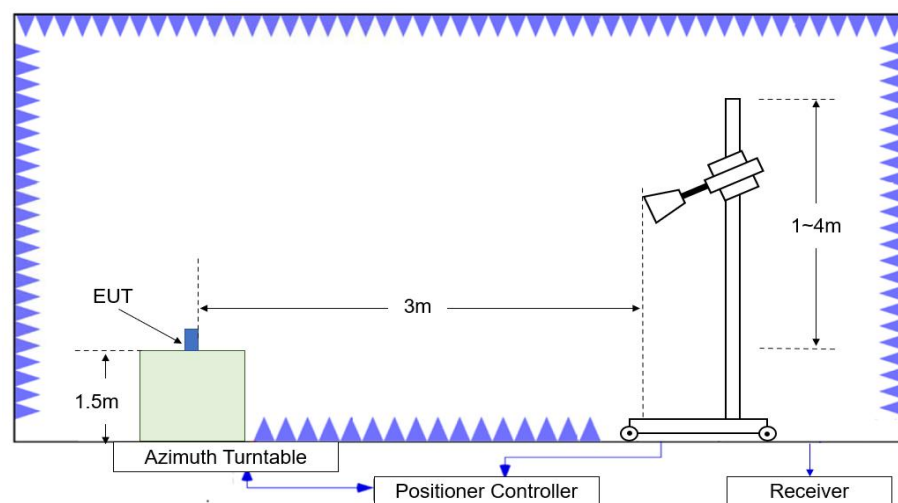
## A.5.2 Test setup



**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)**

### A.5.3 Test Procedures

Radiated unwanted emissions from the EUT were measured according to ANSI C63.10 and KDB 789033 D02 v02r01.

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 (dB $\mu$ V/m) =  $P_{\text{measurement}}$  (dB $\mu$ V) + Cable Loss (dB) + Antenna Factor (dB/m)

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

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

$$E = \text{EIRP} - 20 \log(D) + 104.77$$

Where:

$E$  is the field strength in dB $\mu$ V/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. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept.
5. EUT in each of three orthogonal axis emissions had been tested out only the worst case (axis data) recorded in the report.
6. Measurement frequencies were performed from 9 kHz to the 10<sup>th</sup> harmonic of highest fundamental frequency or 40GHz, whichever is lower.
7. No spurious emissions were detected within 20dB of the limit below 30MHz. OFS and semi-chamber comparison testing had been performed and the result came out very similar. (KDB 414788)

**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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5147.600        | 48.90                       | -20.71          | 34.30                 | 35.31                   | 54.00          | 5.10        | V                  |
| 5149.600        | 48.89                       | -20.69          | 34.30                 | 35.27                   | 54.00          | 5.11        | V                  |
| 12241.500       | 38.42                       | -26.04          | 38.74                 | 25.72                   | 54.00          | 15.58       | H                  |
| 15540.000       | 39.63                       | -21.91          | 40.14                 | 21.41                   | 54.00          | 14.37       | H                  |
| 17854.000       | 42.32                       | -21.12          | 41.95                 | 21.48                   | 54.00          | 11.68       | V                  |
| 17943.000       | 42.97                       | -19.90          | 41.91                 | 20.96                   | 54.00          | 11.03       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5350.400        | 49.59                       | -21.72          | 34.40                 | 36.90                   | 54.00          | 4.41        | V                  |
| 5352.800        | 49.54                       | -21.68          | 34.41                 | 36.81                   | 54.00          | 4.46        | V                  |
| 10640.000       | 34.09                       | -27.41          | 37.66                 | 23.84                   | 54.00          | 19.91       | V                  |
| 15960.000       | 40.27                       | -22.11          | 40.72                 | 21.65                   | 54.00          | 13.73       | H                  |
| 17881.500       | 42.46                       | -20.94          | 41.98                 | 21.42                   | 54.00          | 11.54       | V                  |
| 17962.000       | 42.96                       | -20.02          | 41.88                 | 21.10                   | 54.00          | 11.04       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5454.800        | 48.74                       | -20.91          | 34.68                 | 34.96                   | 54.00          | 5.26        | V                  |
| 5458.000        | 49.13                       | -20.61          | 34.67                 | 35.07                   | 54.00          | 4.87        | V                  |
| 11000.000       | 35.22                       | -27.51          | 37.90                 | 24.83                   | 54.00          | 18.78       | V                  |
| 15807.000       | 40.35                       | -22.15          | 40.60                 | 21.89                   | 54.00          | 13.65       | H                  |
| 17896.500       | 42.56                       | -20.84          | 42.00                 | 21.40                   | 54.00          | 11.44       | H                  |
| 17959.000       | 42.77                       | -19.95          | 41.88                 | 20.84                   | 54.00          | 11.23       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5382.400        | 47.78                       | -20.82          | 34.53                 | 34.07                   | 54.00          | 6.22        | V                  |
| 5453.600        | 47.77                       | -21.02          | 34.69                 | 34.10                   | 54.00          | 6.23        | V                  |
| 11400.000       | 34.80                       | -28.51          | 38.10                 | 25.22                   | 54.00          | 19.20       | H                  |
| 17712.000       | 41.85                       | -21.27          | 41.81                 | 21.31                   | 54.00          | 12.15       | V                  |
| 17794.000       | 41.86                       | -21.26          | 41.89                 | 21.23                   | 54.00          | 12.14       | H                  |
| 17954.000       | 42.26                       | -19.84          | 41.89                 | 20.21                   | 54.00          | 11.74       | H                  |

## 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5141.600        | 48.61                       | -20.80          | 34.28                 | 35.12                   | 54.00          | 5.39        | V                  |
| 5149.200        | 48.85                       | -20.69          | 34.30                 | 35.24                   | 54.00          | 5.15        | V                  |
| 11759.500       | 37.58                       | -26.68          | 38.42                 | 25.85                   | 54.00          | 16.42       | V                  |
| 15540.000       | 39.42                       | -21.91          | 40.14                 | 21.20                   | 54.00          | 14.58       | V                  |
| 17881.500       | 42.25                       | -20.94          | 41.98                 | 21.21                   | 54.00          | 11.75       | H                  |
| 17958.000       | 42.36                       | -19.93          | 41.88                 | 20.40                   | 54.00          | 11.64       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5350.400        | 48.36                       | -21.72          | 34.40                 | 35.68                   | 54.00          | 5.64        | V                  |
| 5352.400        | 48.35                       | -21.68          | 34.41                 | 35.62                   | 54.00          | 5.65        | V                  |
| 10640.000       | 34.52                       | -27.41          | 37.66                 | 24.27                   | 54.00          | 19.48       | H                  |
| 15960.000       | 39.57                       | -22.11          | 40.72                 | 20.96                   | 54.00          | 14.43       | H                  |
| 17892.500       | 42.92                       | -20.87          | 41.99                 | 21.80                   | 54.00          | 11.08       | V                  |
| 17955.500       | 43.41                       | -19.88          | 41.89                 | 21.40                   | 54.00          | 10.59       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5457.600        | 48.82                       | -20.65          | 34.67                 | 34.79                   | 54.00          | 5.18        | V                  |
| 5460.000        | 48.90                       | -20.42          | 34.66                 | 34.67                   | 54.00          | 5.10        | V                  |
| 11000.000       | 35.28                       | -27.51          | 37.90                 | 24.89                   | 54.00          | 18.72       | H                  |
| 15815.500       | 40.45                       | -22.21          | 40.60                 | 22.07                   | 54.00          | 13.55       | V                  |
| 17928.500       | 42.63                       | -20.21          | 41.94                 | 20.90                   | 54.00          | 11.37       | V                  |
| 17967.500       | 42.63                       | -20.14          | 41.86                 | 20.91                   | 54.00          | 11.37       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5391.200        | 47.60                       | -20.56          | 34.56                 | 33.59                   | 54.00          | 6.40        | V                  |
| 5455.600        | 48.36                       | -20.83          | 34.68                 | 34.51                   | 54.00          | 5.64        | V                  |
| 11400.000       | 34.60                       | -28.51          | 38.10                 | 25.01                   | 54.00          | 19.40       | V                  |
| 17708.000       | 41.99                       | -21.21          | 41.81                 | 21.39                   | 54.00          | 12.01       | V                  |
| 17887.500       | 42.13                       | -20.90          | 41.99                 | 21.04                   | 54.00          | 11.87       | H                  |
| 17920.500       | 42.90                       | -20.38          | 41.96                 | 21.32                   | 54.00          | 11.10       | V                  |

## 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5149.200        | 50.36                       | -20.69          | 34.30                 | 36.75                   | 54.00          | 3.64        | V                  |
| 5150.000        | 50.44                       | -20.68          | 34.30                 | 36.82                   | 54.00          | 3.56        | V                  |
| 12236.000       | 37.77                       | -26.03          | 38.74                 | 25.07                   | 54.00          | 16.23       | H                  |
| 15570.000       | 38.87                       | -22.19          | 40.17                 | 20.88                   | 54.00          | 15.13       | H                  |
| 17795.500       | 41.80                       | -21.24          | 41.90                 | 21.15                   | 54.00          | 12.20       | H                  |
| 17959.500       | 42.16                       | -19.97          | 41.88                 | 20.25                   | 54.00          | 11.84       | V                  |

## 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5350.800        | 51.66                       | -21.71          | 34.40                 | 38.97                   | 54.00          | 2.34        | V                  |
| 5352.000        | 51.16                       | -21.69          | 34.41                 | 38.44                   | 54.00          | 2.84        | V                  |
| 10620.000       | 33.50                       | -27.88          | 37.68                 | 23.70                   | 54.00          | 20.50       | H                  |
| 15930.000       | 39.95                       | -22.01          | 40.66                 | 21.30                   | 54.00          | 14.05       | H                  |
| 17930.500       | 43.11                       | -20.17          | 41.94                 | 21.34                   | 54.00          | 10.89       | H                  |
| 17957.000       | 43.91                       | -19.91          | 41.89                 | 21.93                   | 54.00          | 10.09       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5382.800        | 47.81                       | -20.80          | 34.53                 | 34.08                   | 54.00          | 6.19        | V                  |
| 5450.000        | 48.02                       | -21.35          | 34.70                 | 34.68                   | 54.00          | 5.98        | V                  |
| 11020.000       | 35.60                       | -27.71          | 37.92                 | 25.39                   | 54.00          | 18.40       | V                  |
| 15805.000       | 40.37                       | -22.13          | 40.60                 | 21.90                   | 54.00          | 13.63       | H                  |
| 17778.000       | 42.16                       | -21.49          | 41.88                 | 21.78                   | 54.00          | 11.84       | V                  |
| 17930.500       | 42.30                       | -20.17          | 41.94                 | 20.53                   | 54.00          | 11.70       | V                  |

## 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5370.000        | 47.69                       | -21.03          | 34.48                 | 34.23                   | 54.00          | 6.31        | V                  |
| 5395.600        | 47.70                       | -20.80          | 34.58                 | 33.91                   | 54.00          | 6.30        | V                  |
| 11340.000       | 35.29                       | -28.07          | 38.04                 | 25.32                   | 54.00          | 18.71       | V                  |
| 17788.000       | 41.98                       | -21.35          | 41.89                 | 21.44                   | 54.00          | 12.02       | V                  |
| 17927.000       | 42.63                       | -20.24          | 41.95                 | 20.93                   | 54.00          | 11.37       | H                  |
| 17964.000       | 42.58                       | -20.07          | 41.87                 | 20.77                   | 54.00          | 11.42       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5147.200        | 48.97                       | -20.72          | 34.29                 | 35.40                   | 54.00          | 5.03        | V                  |
| 5149.600        | 48.97                       | -20.69          | 34.30                 | 35.35                   | 54.00          | 5.03        | V                  |
| 12235.500       | 38.18                       | -26.03          | 38.74                 | 25.48                   | 54.00          | 15.82       | H                  |
| 15540.000       | 39.40                       | -21.91          | 40.14                 | 21.17                   | 54.00          | 14.60       | H                  |
| 17909.500       | 42.49                       | -20.62          | 41.98                 | 21.13                   | 54.00          | 11.51       | H                  |
| 17970.000       | 42.55                       | -20.20          | 41.86                 | 20.89                   | 54.00          | 11.45       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5364.800        | 48.09                       | -21.30          | 34.46                 | 34.94                   | 54.00          | 5.91        | V                  |
| 5370.400        | 48.09                       | -21.02          | 34.48                 | 34.63                   | 54.00          | 5.91        | V                  |
| 10640.000       | 34.96                       | -27.41          | 37.66                 | 24.71                   | 54.00          | 19.04       | V                  |
| 15960.000       | 40.27                       | -22.11          | 40.72                 | 21.66                   | 54.00          | 13.73       | V                  |
| 17917.500       | 42.84                       | -20.45          | 41.96                 | 21.32                   | 54.00          | 11.16       | H                  |
| 17959.000       | 43.50                       | -19.95          | 41.88                 | 21.57                   | 54.00          | 10.50       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5385.600        | 48.20                       | -20.68          | 34.54                 | 34.34                   | 54.00          | 5.80        | V                  |
| 5459.200        | 48.47                       | -20.50          | 34.66                 | 34.31                   | 54.00          | 5.53        | V                  |
| 11000.000       | 35.51                       | -27.51          | 37.90                 | 25.12                   | 54.00          | 18.49       | H                  |
| 15941.500       | 40.57                       | -22.14          | 40.68                 | 22.03                   | 54.00          | 13.43       | V                  |
| 17921.000       | 42.45                       | -20.37          | 41.96                 | 20.87                   | 54.00          | 11.55       | V                  |
| 17950.000       | 42.57                       | -19.75          | 41.90                 | 20.42                   | 54.00          | 11.43       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5379.600        | 47.86                       | -20.93          | 34.52                 | 34.27                   | 54.00          | 6.14        | V                  |
| 5389.600        | 47.80                       | -20.51          | 34.56                 | 33.74                   | 54.00          | 6.20        | V                  |
| 11400.000       | 34.48                       | -28.51          | 38.10                 | 24.89                   | 54.00          | 19.52       | V                  |
| 15922.500       | 40.75                       | -21.93          | 40.65                 | 22.04                   | 54.00          | 13.25       | V                  |
| 17892.000       | 42.14                       | -20.87          | 41.99                 | 21.02                   | 54.00          | 11.86       | V                  |
| 17931.500       | 42.47                       | -20.15          | 41.94                 | 20.68                   | 54.00          | 11.53       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5148.400        | 48.94                       | -20.70          | 34.30                 | 35.35                   | 54.00          | 5.06        | V                  |
| 5149.200        | 48.76                       | -20.69          | 34.30                 | 35.15                   | 54.00          | 5.24        | V                  |
| 11850.000       | 37.71                       | -27.05          | 38.50                 | 26.26                   | 54.00          | 16.29       | V                  |
| 15507.500       | 40.64                       | -21.73          | 40.11                 | 22.26                   | 54.00          | 13.36       | H                  |
| 17831.500       | 41.82                       | -21.15          | 41.93                 | 21.04                   | 54.00          | 12.18       | H                  |
| 17956.500       | 42.51                       | -19.90          | 41.89                 | 20.52                   | 54.00          | 11.49       | V                  |

#### 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5351.600        | 47.95                       | -21.70          | 34.41                 | 35.24                   | 54.00          | 6.05        | V                  |
| 5355.200        | 47.87                       | -21.64          | 34.42                 | 35.09                   | 54.00          | 6.13        | V                  |
| 12239.500       | 37.89                       | -26.04          | 38.74                 | 25.18                   | 54.00          | 16.11       | V                  |
| 15930.000       | 39.80                       | -22.01          | 40.66                 | 21.15                   | 54.00          | 14.20       | H                  |
| 17924.500       | 42.74                       | -20.30          | 41.95                 | 21.08                   | 54.00          | 11.26       | H                  |
| 17957.500       | 43.38                       | -19.92          | 41.88                 | 21.41                   | 54.00          | 10.62       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5383.600        | 47.87                       | -20.77          | 34.53                 | 34.10                   | 54.00          | 6.13        | V                  |
| 5420.000        | 47.95                       | -20.82          | 34.64                 | 34.12                   | 54.00          | 6.05        | V                  |
| 11020.000       | 35.91                       | -27.71          | 37.92                 | 25.70                   | 54.00          | 18.09       | V                  |
| 15859.500       | 40.50                       | -22.33          | 40.60                 | 22.23                   | 54.00          | 13.50       | V                  |
| 17757.000       | 41.97                       | -21.80          | 41.86                 | 21.90                   | 54.00          | 12.03       | H                  |
| 17944.000       | 42.53                       | -19.88          | 41.91                 | 20.50                   | 54.00          | 11.47       | V                  |

## 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5398.400        | 47.88                       | -20.96          | 34.59                 | 34.24                   | 54.00          | 6.12        | V                  |
| 5430.000        | 47.86                       | -21.09          | 34.66                 | 34.29                   | 54.00          | 6.14        | V                  |
| 11340.000       | 34.91                       | -28.07          | 38.04                 | 24.94                   | 54.00          | 19.09       | H                  |
| 17704.500       | 41.79                       | -21.15          | 41.80                 | 21.13                   | 54.00          | 12.21       | H                  |
| 17928.500       | 42.79                       | -20.21          | 41.94                 | 21.05                   | 54.00          | 11.21       | V                  |
| 17957.000       | 42.80                       | -19.91          | 41.89                 | 20.82                   | 54.00          | 11.20       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5149.600        | 49.97                       | -20.69          | 34.30                 | 36.36                   | 54.00          | 4.03        | V                  |
| 5150.000        | 49.58                       | -20.68          | 34.30                 | 35.96                   | 54.00          | 4.42        | V                  |
| 11793.000       | 37.37                       | -26.77          | 38.49                 | 25.65                   | 54.00          | 16.63       | V                  |
| 15630.000       | 37.94                       | -22.52          | 40.26                 | 20.20                   | 54.00          | 16.06       | V                  |
| 17886.500       | 41.96                       | -20.91          | 41.99                 | 20.89                   | 54.00          | 12.04       | V                  |
| 17953.000       | 42.36                       | -19.82          | 41.89                 | 20.28                   | 54.00          | 11.64       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5350.400        | 51.41                       | -21.72          | 34.40                 | 38.73                   | 54.00          | 2.59        | V                  |
| 5354.000        | 51.47                       | -21.66          | 34.42                 | 38.71                   | 54.00          | 2.53        | V                  |
| 10892.000       | 35.78                       | -26.87          | 37.80                 | 24.86                   | 54.00          | 18.22       | V                  |
| 15780.000       | 39.30                       | -22.15          | 40.56                 | 20.89                   | 54.00          | 14.70       | H                  |
| 17864.000       | 42.30                       | -21.05          | 41.96                 | 21.39                   | 54.00          | 11.70       | V                  |
| 17950.000       | 42.86                       | -19.75          | 41.90                 | 20.72                   | 54.00          | 11.14       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5448.800        | 48.67                       | -21.38          | 34.70                 | 35.35                   | 54.00          | 5.33        | V                  |
| 5454.000        | 49.42                       | -20.98          | 34.68                 | 35.71                   | 54.00          | 4.58        | V                  |
| 11060.000       | 34.48                       | -28.08          | 37.96                 | 24.59                   | 54.00          | 19.52       | H                  |
| 15974.000       | 40.16                       | -21.93          | 40.75                 | 21.34                   | 54.00          | 13.84       | V                  |
| 17934.000       | 42.46                       | -20.09          | 41.93                 | 20.63                   | 54.00          | 11.54       | V                  |
| 17969.000       | 42.29                       | -20.18          | 41.86                 | 20.61                   | 54.00          | 11.71       | V                  |

## Channel 122

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5398.800        | 47.79                       | -20.98          | 34.60                 | 34.18                   | 54.00          | 6.21        | V                  |
| 5459.600        | 48.16                       | -20.46          | 34.66                 | 33.96                   | 54.00          | 5.84        | V                  |
| 11220.000       | 34.60                       | -28.12          | 37.92                 | 24.81                   | 54.00          | 19.40       | V                  |
| 15814.500       | 40.53                       | -22.21          | 40.60                 | 22.13                   | 54.00          | 13.47       | H                  |
| 17919.500       | 42.56                       | -20.40          | 41.96                 | 21.00                   | 54.00          | 11.44       | V                  |
| 17954.500       | 42.74                       | -19.85          | 41.89                 | 20.71                   | 54.00          | 11.26       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5144.625        | 64.70                       | -20.75          | 34.29                 | 51.17                   | 74.00          | 9.30        | V                  |
| 5149.250        | 62.81                       | -20.69          | 34.30                 | 49.20                   | 74.00          | 11.19       | H                  |
| 10360.000       | 44.82                       | -27.18          | 37.78                 | 34.22                   | 68.20          | 23.38       | V                  |
| 15540.000       | 49.68                       | -21.91          | 40.14                 | 31.45                   | 74.00          | 24.32       | V                  |
| 16815.500       | 54.86                       | -21.27          | 42.79                 | 33.34                   | 68.20          | 13.34       | H                  |
| 17280.500       | 54.02                       | -21.11          | 41.72                 | 33.41                   | 68.20          | 14.19       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5350.000        | 59.75                       | -21.72          | 34.40                 | 47.08                   | 74.00          | 14.25       | V                  |
| 5350.375        | 59.53                       | -21.72          | 34.40                 | 46.85                   | 74.00          | 14.47       | H                  |
| 10640.000       | 44.94                       | -27.41          | 37.66                 | 34.69                   | 74.00          | 29.06       | H                  |
| 15960.000       | 49.40                       | -22.11          | 40.72                 | 30.78                   | 74.00          | 24.60       | H                  |
| 16785.000       | 53.70                       | -21.45          | 42.76                 | 32.40                   | 68.20          | 14.50       | V                  |
| 17601.000       | 53.57                       | -20.62          | 41.80                 | 32.40                   | 68.20          | 14.63       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5466.500        | 64.18                       | -20.72          | 34.63                 | 50.26                   | 68.20          | 4.02        | V                  |
| 5468.750        | 64.03                       | -20.82          | 34.62                 | 50.22                   | 68.20          | 4.17        | V                  |
| 11000.000       | 44.92                       | -27.51          | 37.90                 | 34.53                   | 74.00          | 29.08       | H                  |
| 16500.000       | 49.42                       | -22.20          | 41.60                 | 30.01                   | 68.20          | 18.78       | V                  |
| 16738.000       | 53.37                       | -22.18          | 42.61                 | 32.94                   | 68.20          | 14.83       | H                  |
| 17282.000       | 53.36                       | -21.08          | 41.72                 | 32.72                   | 68.20          | 14.84       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5725.750        | 65.03                       | -20.65          | 34.65                 | 51.03                   | 68.20          | 3.17        | V                  |
| 5727.125        | 64.90                       | -20.63          | 34.65                 | 50.88                   | 68.20          | 3.30        | V                  |
| 11400.000       | 43.32                       | -28.51          | 38.10                 | 33.73                   | 74.00          | 30.68       | V                  |
| 16750.500       | 53.22                       | -22.20          | 42.65                 | 32.77                   | 68.20          | 14.98       | H                  |
| 17100.000       | 51.05                       | -21.01          | 42.10                 | 29.96                   | 68.20          | 17.15       | H                  |
| 17293.000       | 54.01                       | -20.87          | 41.71                 | 33.17                   | 68.20          | 14.19       | H                  |

## 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5147.250        | 61.21                       | -20.72          | 34.29                 | 47.64                   | 74.00          | 12.79       | H                  |
| 5149.500        | 61.47                       | -20.69          | 34.30                 | 47.86                   | 74.00          | 12.53       | V                  |
| 10360.000       | 46.22                       | -27.18          | 37.78                 | 35.62                   | 68.20          | 21.98       | V                  |
| 15540.000       | 49.87                       | -21.91          | 40.14                 | 31.64                   | 74.00          | 24.13       | V                  |
| 16739.000       | 52.97                       | -22.19          | 42.62                 | 32.54                   | 68.20          | 15.23       | H                  |
| 17309.000       | 53.75                       | -20.83          | 41.69                 | 32.89                   | 68.20          | 14.45       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5350.750        | 65.30                       | -21.71          | 34.40                 | 52.61                   | 74.00          | 8.70        | V                  |
| 5351.125        | 64.38                       | -21.71          | 34.40                 | 51.68                   | 74.00          | 9.62        | V                  |
| 10640.000       | 43.87                       | -27.41          | 37.66                 | 33.62                   | 74.00          | 30.13       | V                  |
| 15960.000       | 49.24                       | -22.11          | 40.72                 | 30.63                   | 74.00          | 24.76       | H                  |
| 16818.500       | 53.47                       | -21.29          | 42.79                 | 31.97                   | 68.20          | 14.73       | V                  |
| 17046.500       | 53.93                       | -21.03          | 42.42                 | 32.54                   | 68.20          | 14.27       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5468.250        | 66.80                       | -20.80          | 34.63                 | 52.97                   | 68.20          | 1.40        | H                  |
| 5469.750        | 65.97                       | -20.87          | 34.62                 | 52.22                   | 68.20          | 2.23        | V                  |
| 11000.000       | 45.36                       | -27.51          | 37.90                 | 34.97                   | 74.00          | 28.64       | V                  |
| 16500.000       | 48.78                       | -22.20          | 41.60                 | 29.38                   | 68.20          | 19.42       | H                  |
| 16819.000       | 53.06                       | -21.30          | 42.79                 | 31.57                   | 68.20          | 15.14       | V                  |
| 17095.000       | 53.08                       | -21.01          | 42.13                 | 31.96                   | 68.20          | 15.12       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5725.750        | 65.12                       | -20.65          | 34.65                 | 51.12                   | 68.20          | 3.08        | V                  |
| 5726.750        | 66.07                       | -20.64          | 34.65                 | 52.05                   | 68.20          | 2.13        | H                  |
| 11400.000       | 44.47                       | -28.51          | 38.10                 | 34.88                   | 74.00          | 29.53       | V                  |
| 16869.000       | 53.26                       | -21.53          | 42.77                 | 32.03                   | 68.20          | 14.94       | V                  |
| 17100.000       | 50.70                       | -21.01          | 42.10                 | 29.62                   | 68.20          | 17.50       | V                  |
| 17419.500       | 53.45                       | -20.43          | 41.62                 | 32.26                   | 68.20          | 14.75       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5148.000        | 67.20                       | -20.71          | 34.30                 | 53.61                   | 74.00          | 6.80        | H                  |
| 5148.625        | 67.03                       | -20.70          | 34.30                 | 53.43                   | 74.00          | 6.97        | V                  |
| 10380.000       | 46.68                       | -27.22          | 37.84                 | 36.07                   | 68.20          | 21.52       | H                  |
| 15570.000       | 48.41                       | -22.19          | 40.17                 | 30.43                   | 74.00          | 25.59       | H                  |
| 16838.500       | 53.90                       | -21.48          | 42.78                 | 32.60                   | 68.20          | 14.30       | H                  |
| 17277.000       | 52.86                       | -21.18          | 41.72                 | 32.32                   | 68.20          | 15.34       | V                  |

## 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5351.375        | 69.08                       | -21.70          | 34.41                 | 56.38                   | 74.00          | 4.92        | V                  |
| 5358.500        | 67.50                       | -21.58          | 34.43                 | 54.65                   | 74.00          | 6.50        | H                  |
| 10620.000       | 43.12                       | -27.88          | 37.68                 | 33.32                   | 74.00          | 30.88       | H                  |
| 15930.000       | 49.95                       | -22.01          | 40.66                 | 31.30                   | 74.00          | 24.05       | H                  |
| 16576.500       | 55.42                       | -21.50          | 41.83                 | 35.09                   | 68.20          | 12.78       | V                  |
| 17377.500       | 52.92                       | -20.65          | 41.62                 | 31.95                   | 68.20          | 15.28       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5463.750        | 62.98                       | -20.59          | 34.64                 | 48.93                   | 68.20          | 5.22        | V                  |
| 5464.750        | 63.65                       | -20.64          | 34.64                 | 49.65                   | 68.20          | 4.55        | V                  |
| 11020.000       | 45.61                       | -27.71          | 37.92                 | 35.40                   | 74.00          | 28.39       | V                  |
| 16530.000       | 49.75                       | -21.53          | 41.69                 | 29.59                   | 68.20          | 18.45       | H                  |
| 16778.500       | 53.09                       | -21.59          | 42.74                 | 31.95                   | 68.20          | 15.11       | V                  |
| 17384.000       | 52.87                       | -20.49          | 41.62                 | 31.75                   | 68.20          | 15.33       | V                  |

## 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5725.750        | 60.85                       | -20.65          | 34.65                 | 46.85                   | 68.20          | 7.35        | V                  |
| 5727.500        | 60.20                       | -20.63          | 34.66                 | 46.18                   | 68.20          | 8.00        | H                  |
| 11340.000       | 44.52                       | -28.07          | 38.04                 | 34.55                   | 74.00          | 29.48       | V                  |
| 16795.500       | 54.09                       | -21.22          | 42.79                 | 32.53                   | 68.20          | 14.11       | V                  |
| 17010.000       | 50.45                       | -21.63          | 42.64                 | 29.44                   | 68.20          | 17.75       | H                  |
| 17261.500       | 53.63                       | -21.49          | 41.74                 | 33.38                   | 68.20          | 14.57       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5143.875        | 59.37                       | -20.76          | 34.29                 | 45.85                   | 74.00          | 14.63       | V                  |
| 5148.125        | 58.90                       | -20.71          | 34.30                 | 45.31                   | 74.00          | 15.10       | H                  |
| 10360.000       | 45.66                       | -27.18          | 37.78                 | 35.06                   | 68.20          | 22.54       | H                  |
| 15540.000       | 49.49                       | -21.91          | 40.14                 | 31.26                   | 74.00          | 24.51       | V                  |
| 16756.000       | 53.12                       | -22.08          | 42.67                 | 32.53                   | 68.20          | 15.08       | H                  |
| 17368.500       | 53.79                       | -20.86          | 41.63                 | 33.01                   | 68.20          | 14.41       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5351.250        | 62.13                       | -21.70          | 34.41                 | 49.43                   | 74.00          | 11.87       | H                  |
| 5356.625        | 60.53                       | -21.61          | 34.43                 | 47.72                   | 74.00          | 13.47       | V                  |
| 10640.000       | 45.03                       | -27.41          | 37.66                 | 34.79                   | 74.00          | 28.97       | H                  |
| 15960.000       | 49.32                       | -22.11          | 40.72                 | 30.71                   | 74.00          | 24.68       | H                  |
| 16900.500       | 54.05                       | -21.45          | 42.75                 | 32.75                   | 68.20          | 14.15       | V                  |
| 17502.500       | 53.93                       | -21.16          | 41.70                 | 33.38                   | 68.20          | 14.27       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5469.000        | 63.32                       | -20.83          | 34.62                 | 49.53                   | 68.20          | 4.88        | H                  |
| 5470.000        | 62.81                       | -20.88          | 34.62                 | 49.07                   | 68.20          | 5.39        | V                  |
| 11000.000       | 44.98                       | -27.51          | 37.90                 | 34.59                   | 74.00          | 29.02       | V                  |
| 16500.000       | 49.25                       | -22.20          | 41.60                 | 29.85                   | 68.20          | 18.95       | V                  |
| 16826.000       | 53.71                       | -21.36          | 42.79                 | 32.29                   | 68.20          | 14.49       | V                  |
| 17292.500       | 53.23                       | -20.88          | 41.71                 | 32.40                   | 68.20          | 14.97       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5725.625        | 63.90                       | -20.65          | 34.65                 | 49.89                   | 68.20          | 4.30        | H                  |
| 5728.125        | 62.15                       | -20.62          | 34.66                 | 48.12                   | 68.20          | 6.05        | V                  |
| 11400.000       | 44.03                       | -28.51          | 38.10                 | 34.44                   | 74.00          | 29.97       | V                  |
| 16873.500       | 53.16                       | -21.52          | 42.76                 | 31.91                   | 68.20          | 15.04       | V                  |
| 17100.000       | 52.21                       | -21.01          | 42.10                 | 31.12                   | 68.20          | 15.99       | V                  |
| 17179.500       | 52.77                       | -21.49          | 41.86                 | 32.39                   | 68.20          | 15.43       | H                  |

## 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5147.125        | 61.11                       | -20.72          | 34.29                 | 47.53                   | 74.00          | 12.89       | V                  |
| 5148.250        | 61.27                       | -20.70          | 34.30                 | 47.68                   | 74.00          | 12.73       | H                  |
| 10380.000       | 46.88                       | -27.22          | 37.84                 | 36.26                   | 68.20          | 21.32       | H                  |
| 15570.000       | 48.74                       | -22.19          | 40.17                 | 30.76                   | 74.00          | 25.26       | V                  |
| 16817.000       | 53.01                       | -21.28          | 42.79                 | 31.50                   | 68.20          | 15.19       | V                  |
| 17322.000       | 53.25                       | -20.97          | 41.68                 | 32.55                   | 68.20          | 14.95       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5350.375        | 62.89                       | -21.72          | 34.40                 | 50.21                   | 74.00          | 11.11       | H                  |
| 5350.625        | 62.99                       | -21.71          | 34.40                 | 50.30                   | 74.00          | 11.01       | V                  |
| 10620.000       | 43.36                       | -27.88          | 37.68                 | 33.56                   | 74.00          | 30.64       | H                  |
| 15930.000       | 49.95                       | -22.01          | 40.66                 | 31.30                   | 74.00          | 24.05       | H                  |
| 16825.500       | 53.41                       | -21.36          | 42.79                 | 31.98                   | 68.20          | 14.79       | V                  |
| 16976.000       | 53.29                       | -21.87          | 42.71                 | 32.45                   | 68.20          | 14.91       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5465.125        | 63.80                       | -20.66          | 34.64                 | 49.81                   | 68.20          | 4.41        | V                  |
| 5468.250        | 65.56                       | -20.80          | 34.63                 | 51.73                   | 68.20          | 2.64        | V                  |
| 11020.000       | 46.00                       | -27.71          | 37.92                 | 35.79                   | 74.00          | 28.00       | V                  |
| 16530.000       | 49.59                       | -21.53          | 41.69                 | 29.42                   | 68.20          | 18.62       | H                  |
| 16777.000       | 53.59                       | -21.62          | 42.73                 | 32.48                   | 68.20          | 14.61       | H                  |
| 17232.500       | 53.23                       | -21.76          | 41.77                 | 33.23                   | 68.20          | 14.97       | V                  |

## 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5727.875        | 59.63                       | -20.63          | 34.66                 | 45.60                   | 68.20          | 8.57        | H                  |
| 5731.250        | 59.06                       | -20.71          | 34.66                 | 45.10                   | 68.20          | 9.14        | H                  |
| 11340.000       | 45.16                       | -28.07          | 38.04                 | 35.19                   | 74.00          | 28.84       | H                  |
| 16788.000       | 53.51                       | -21.39          | 42.76                 | 32.13                   | 68.20          | 14.69       | H                  |
| 17010.000       | 50.10                       | -21.63          | 42.64                 | 29.09                   | 68.20          | 18.10       | V                  |
| 17351.000       | 53.62                       | -21.26          | 41.65                 | 33.23                   | 68.20          | 14.58       | H                  |

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## 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5132.500        | 62.11                       | -21.23          | 34.27                 | 49.08                   | 74.00          | 11.89       | V                  |
| 5140.125        | 62.84                       | -20.82          | 34.28                 | 49.38                   | 74.00          | 11.16       | H                  |
| 10420.000       | 45.39                       | -27.40          | 37.86                 | 34.94                   | 68.20          | 22.81       | H                  |
| 15630.000       | 47.66                       | -22.52          | 40.26                 | 29.92                   | 74.00          | 26.34       | H                  |
| 16717.500       | 52.86                       | -22.14          | 42.55                 | 32.44                   | 68.20          | 15.34       | V                  |
| 17272.000       | 53.29                       | -21.28          | 41.73                 | 32.84                   | 68.20          | 14.91       | V                  |

## 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5350.875        | 65.51                       | -21.71          | 34.40                 | 52.81                   | 74.00          | 8.49        | H                  |
| 5355.875        | 64.32                       | -21.63          | 34.42                 | 51.52                   | 74.00          | 9.68        | H                  |
| 10580.000       | 45.71                       | -28.26          | 37.70                 | 36.27                   | 68.20          | 22.49       | V                  |
| 15870.000       | 48.56                       | -22.16          | 40.60                 | 30.12                   | 74.00          | 25.44       | V                  |
| 16868.000       | 52.77                       | -21.53          | 42.77                 | 31.54                   | 68.20          | 15.43       | H                  |
| 17419.000       | 53.19                       | -20.42          | 41.62                 | 31.99                   | 68.20          | 15.01       | 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5466.500        | 65.98                       | -20.72          | 34.63                 | 52.07                   | 68.20          | 2.22        | H                  |
| 5468.750        | 65.66                       | -20.82          | 34.62                 | 51.85                   | 68.20          | 2.54        | H                  |
| 11060.000       | 44.08                       | -28.08          | 37.96                 | 34.20                   | 74.00          | 29.92       | H                  |
| 16590.000       | 50.50                       | -21.71          | 41.87                 | 30.34                   | 68.20          | 17.70       | V                  |
| 17267.000       | 53.52                       | -21.38          | 41.73                 | 33.16                   | 68.20          | 14.68       | V                  |
| 17539.000       | 53.50                       | -20.97          | 41.74                 | 32.73                   | 68.20          | 14.70       | H                  |

## Channel 122

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5726.375        | 59.56                       | -20.64          | 34.65                 | 45.55                   | 68.20          | 8.64        | V                  |
| 5727.500        | 59.12                       | -20.63          | 34.66                 | 45.09                   | 68.20          | 9.08        | H                  |
| 11220.000       | 44.63                       | -28.12          | 37.92                 | 34.84                   | 74.00          | 29.37       | V                  |
| 16830.000       | 51.55                       | -21.40          | 42.78                 | 30.16                   | 68.20          | 16.65       | V                  |
| 17387.500       | 53.88                       | -20.41          | 41.61                 | 32.68                   | 68.20          | 14.33       | V                  |
| 17648.500       | 52.77                       | -21.11          | 41.80                 | 32.08                   | 68.20          | 15.44       | V                  |

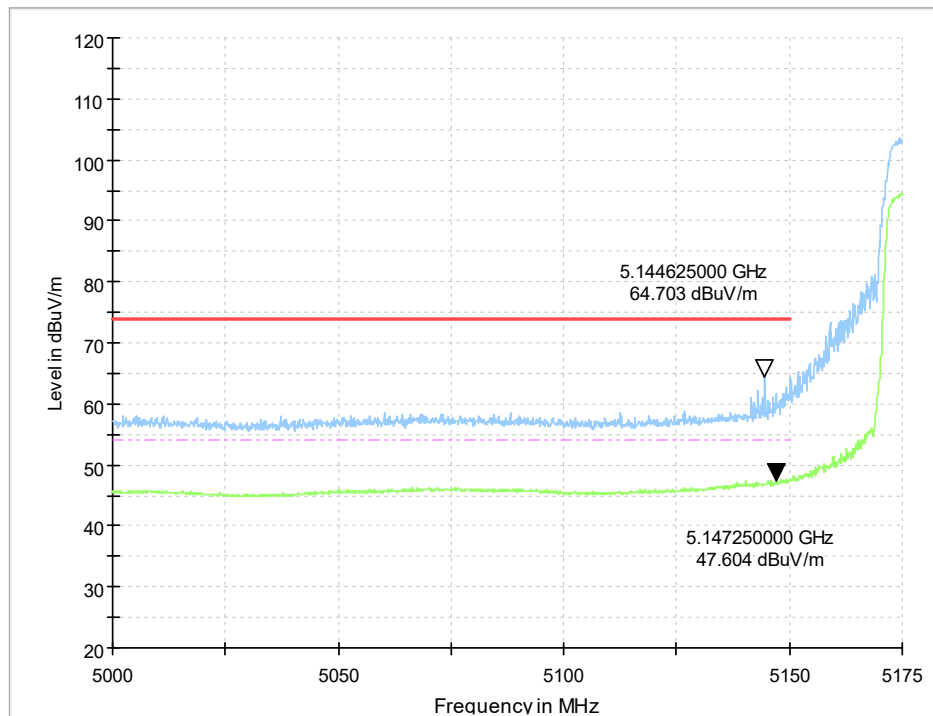
**Conclusion: PASS**

### Band edge compliance

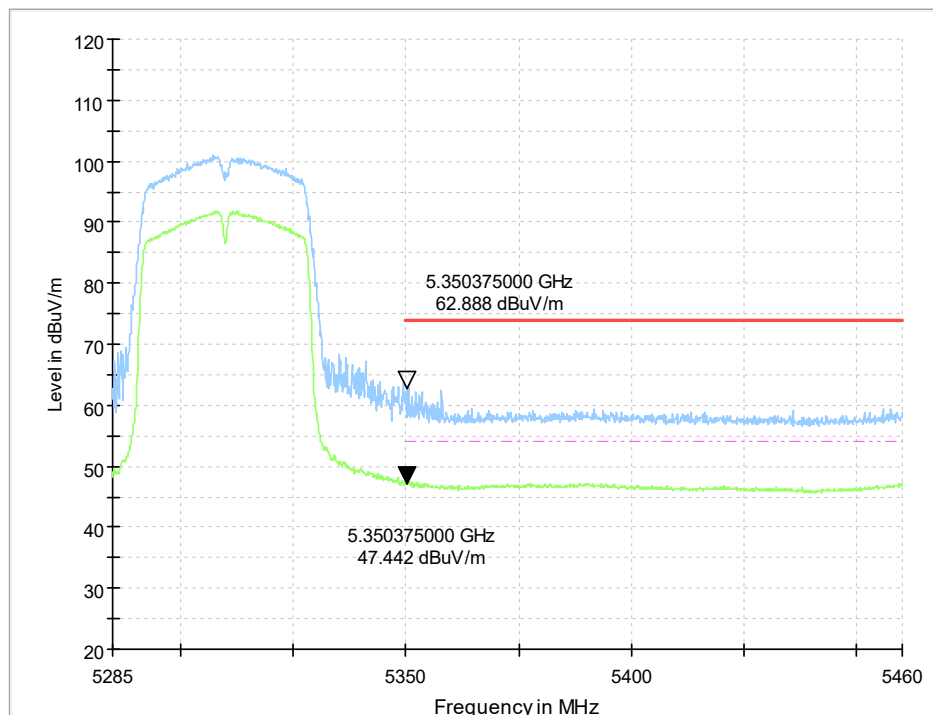
| Mode          | Channel  | Test Results | Conclusion |
|---------------|----------|--------------|------------|
| 802.11a       | 5180 MHz | Fig.1        | P          |
|               | 5320 MHz | Fig.2        | P          |
|               | 5500 MHz | Fig.3        | P          |
|               | 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**

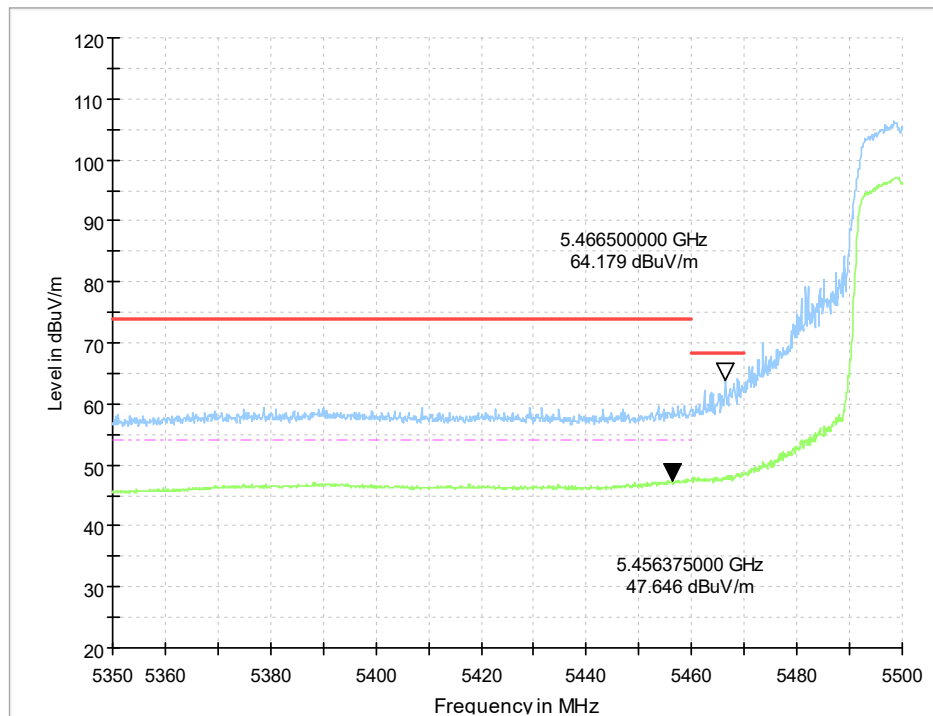
**Test graphs as below:**



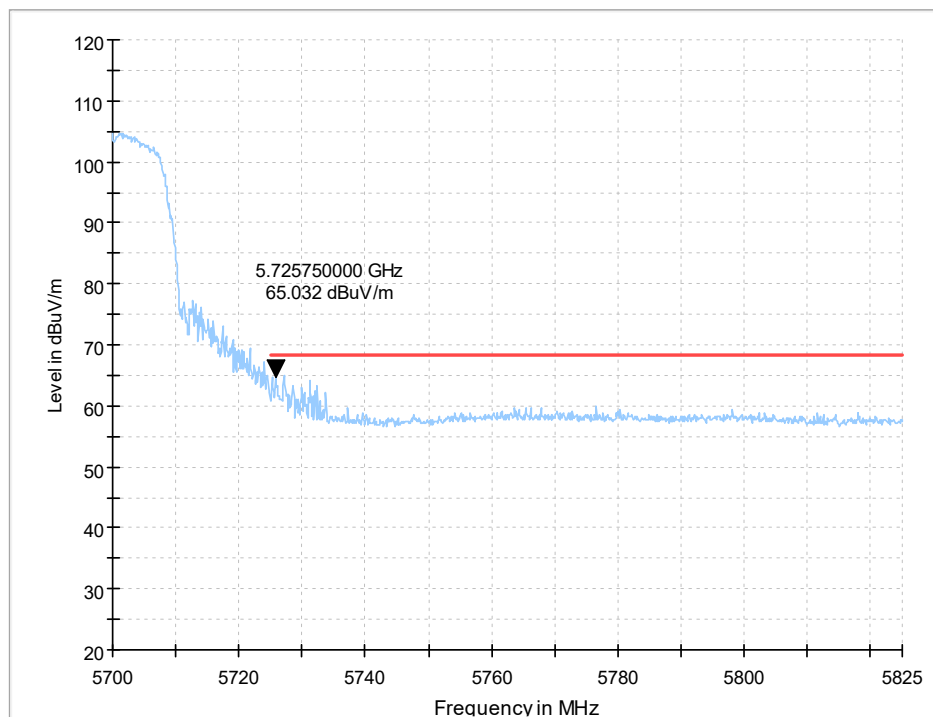
**Fig. 1 Band Edges (802.11a Ch36, 5180MHz)**



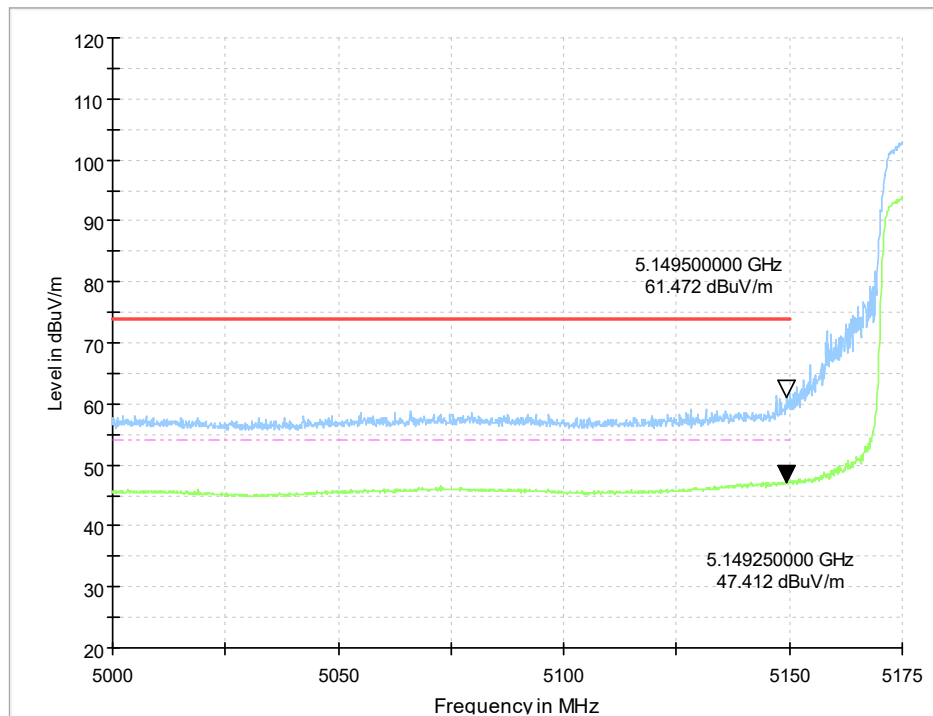
**Fig. 2 Band Edges (802.11a Ch64, 5320MHz)**



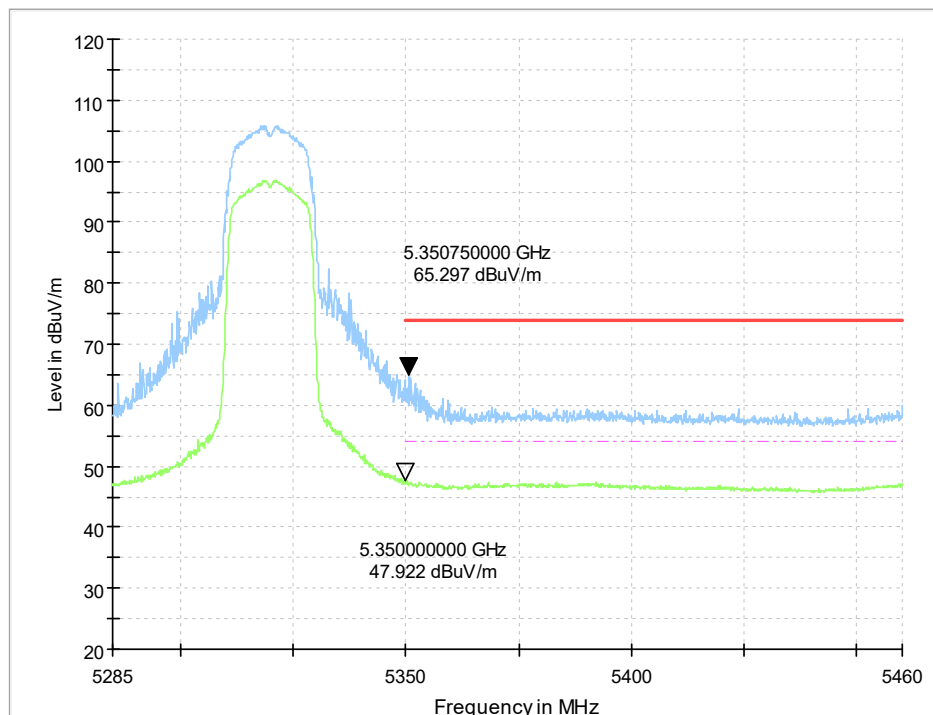
**Fig. 3 Band Edges (802.11a Ch100, 5500MHz)**



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

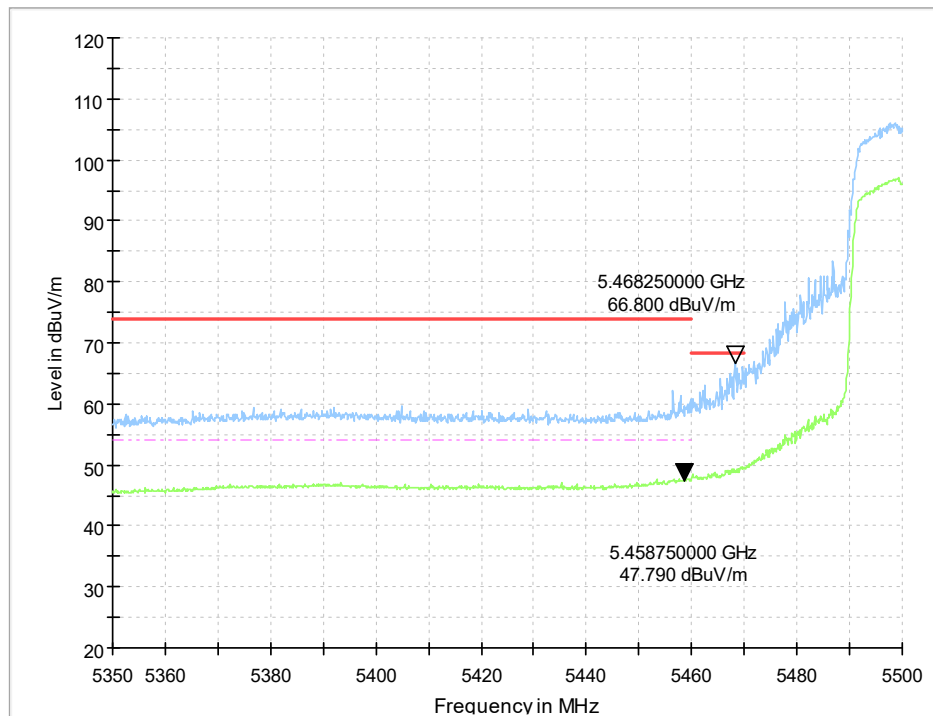


**Fig. 5 Band Edges (802.11n-HT20 Ch36, 5180MHz)**

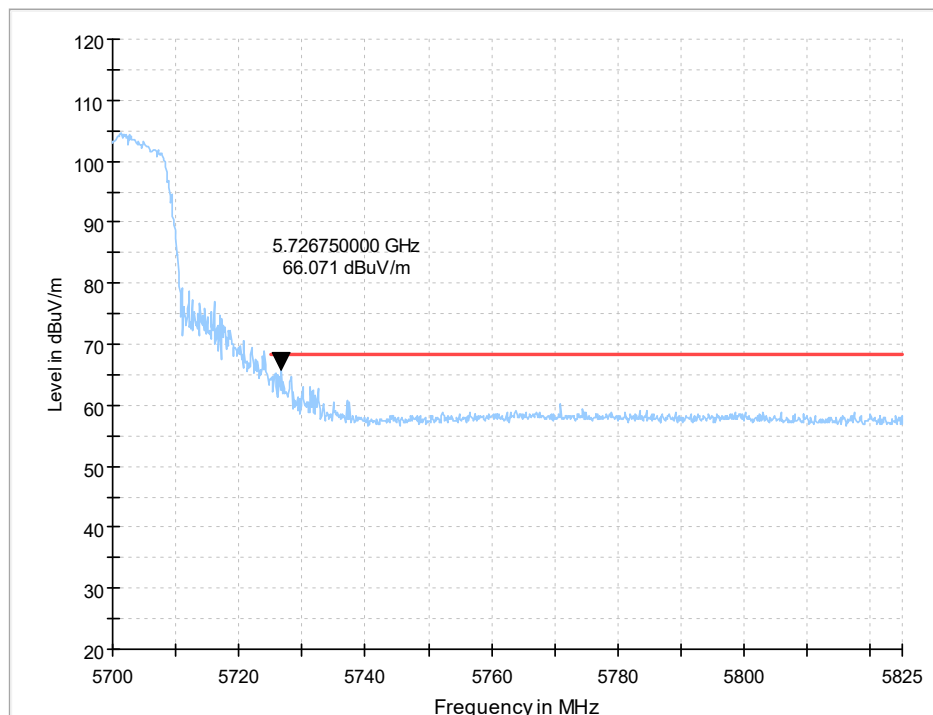


**Fig. 6 Band Edges (802.11n-HT20 Ch64, 5320MHz)**

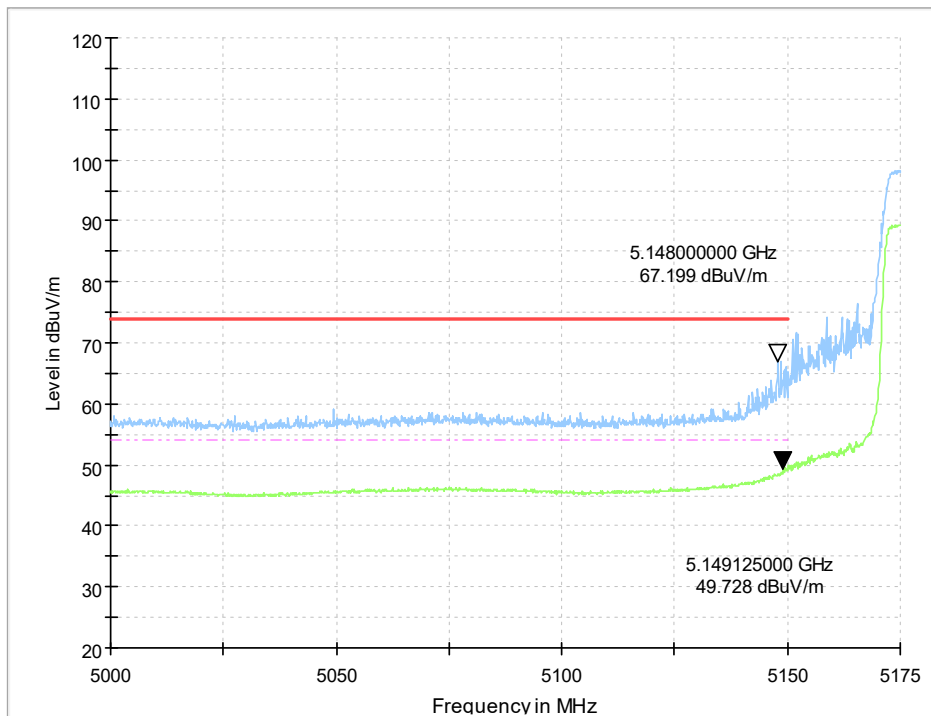




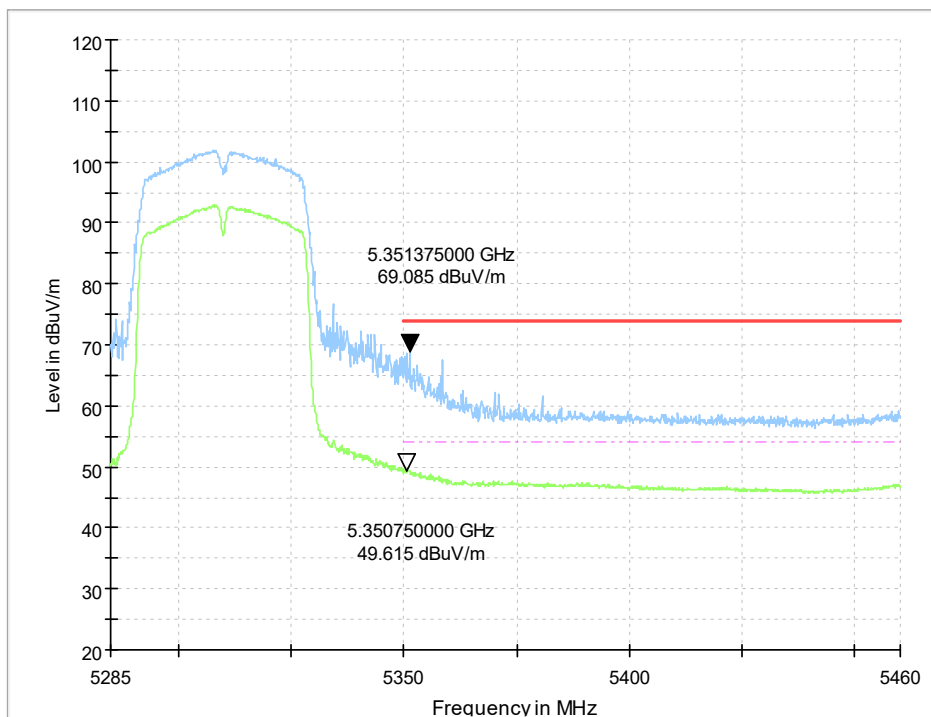
**Fig. 7 Band Edges (802.11n-HT20 Ch100, 5500MHz)**



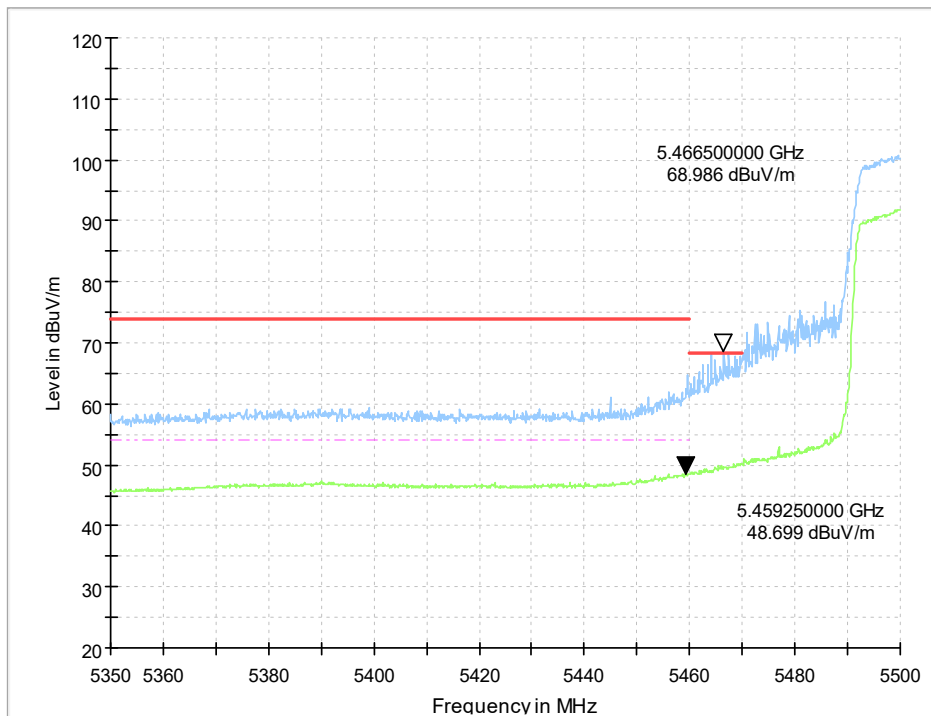
**Fig. 8 Band Edges (802.11n-HT20 Ch140, 5700MHz)**



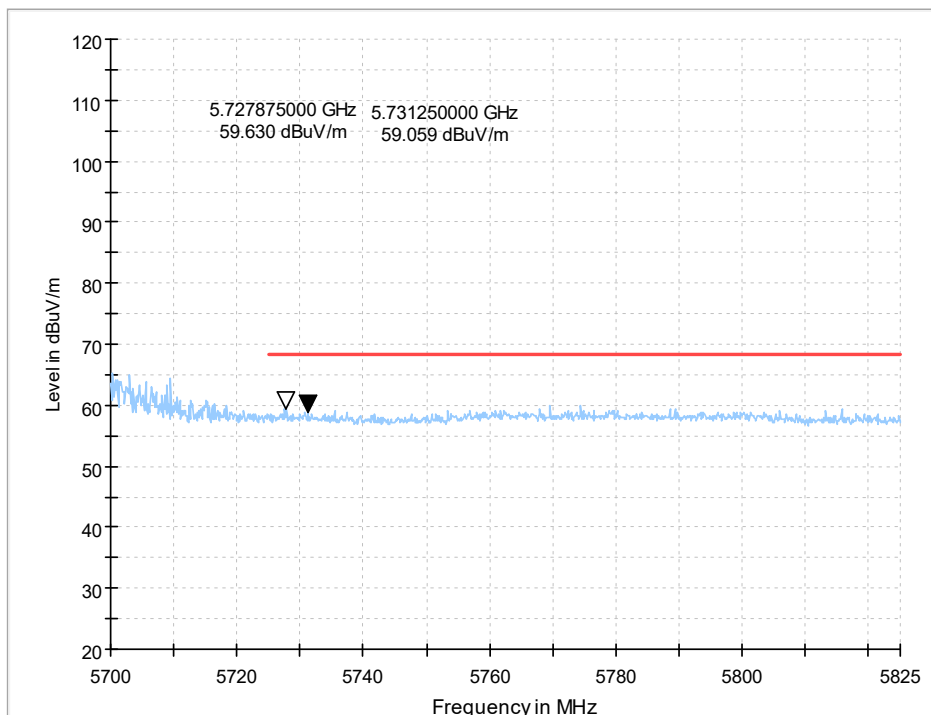
**Fig. 9 Band Edges (802.11n-HT40 Ch38, 5190MHz)**



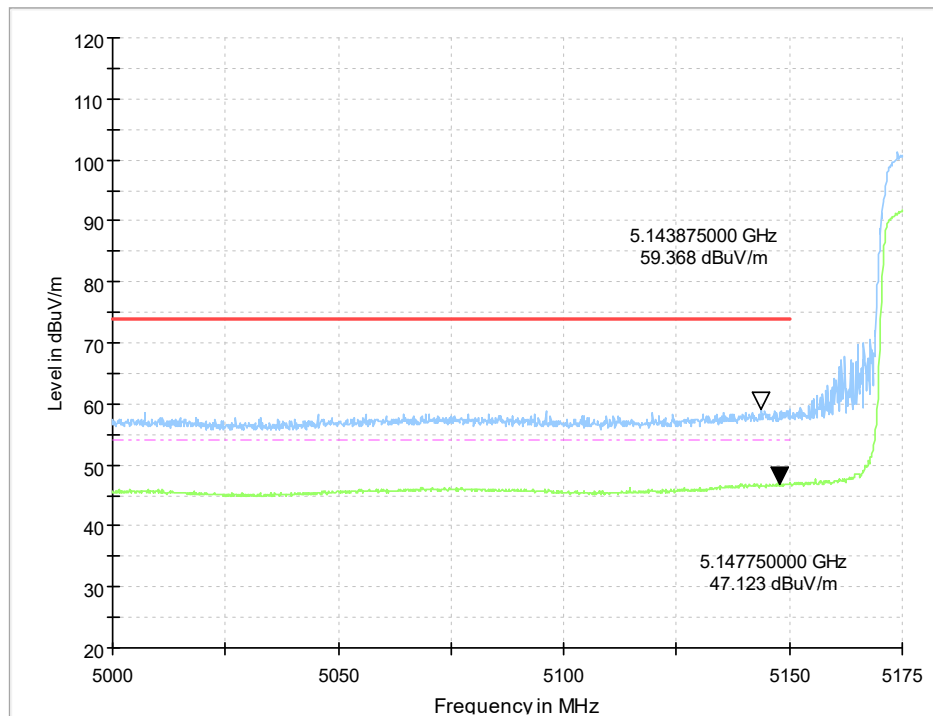
**Fig. 10 Band Edges (802.11n-HT40 Ch62, 5310MHz)**



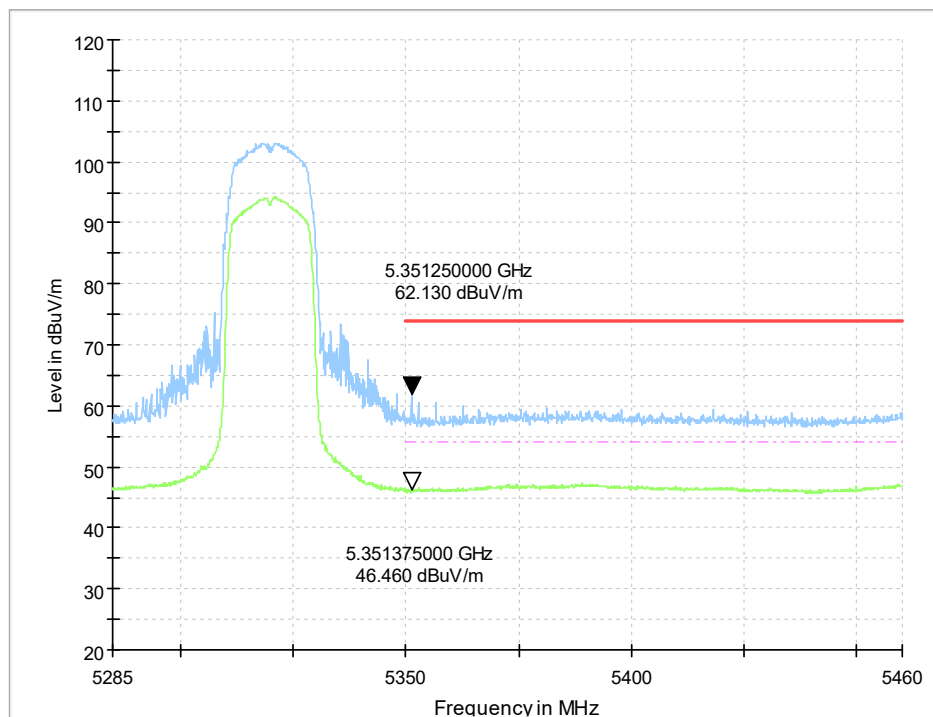
**Fig. 11 Band Edges (802.11n-HT40 Ch102, 5510MHz)**



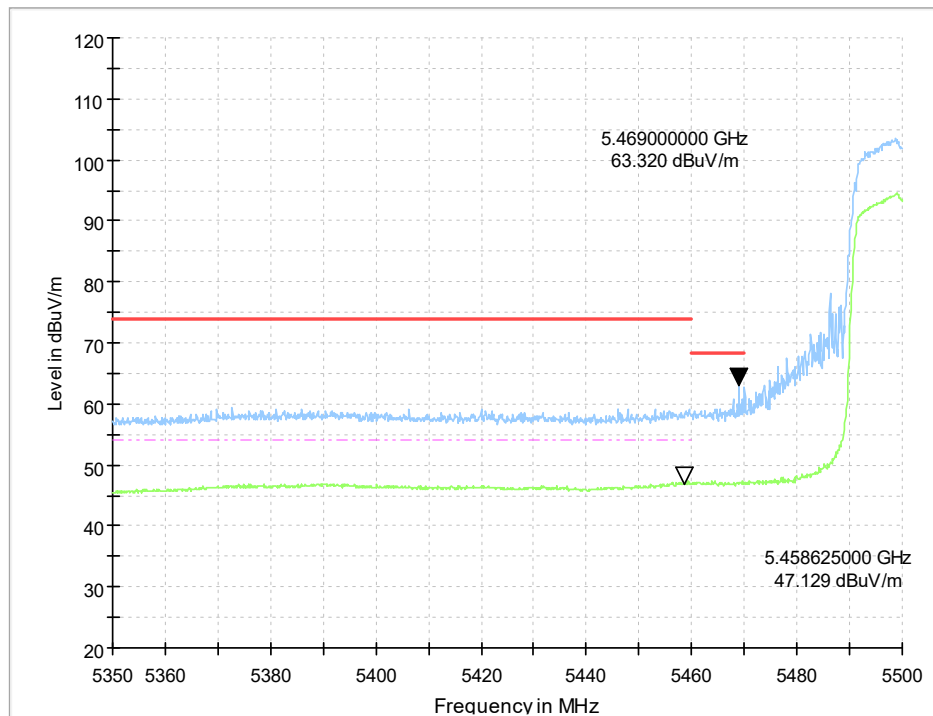
**Fig. 12 Band Edges (802.11n-HT40 Ch134, 5670MHz)**



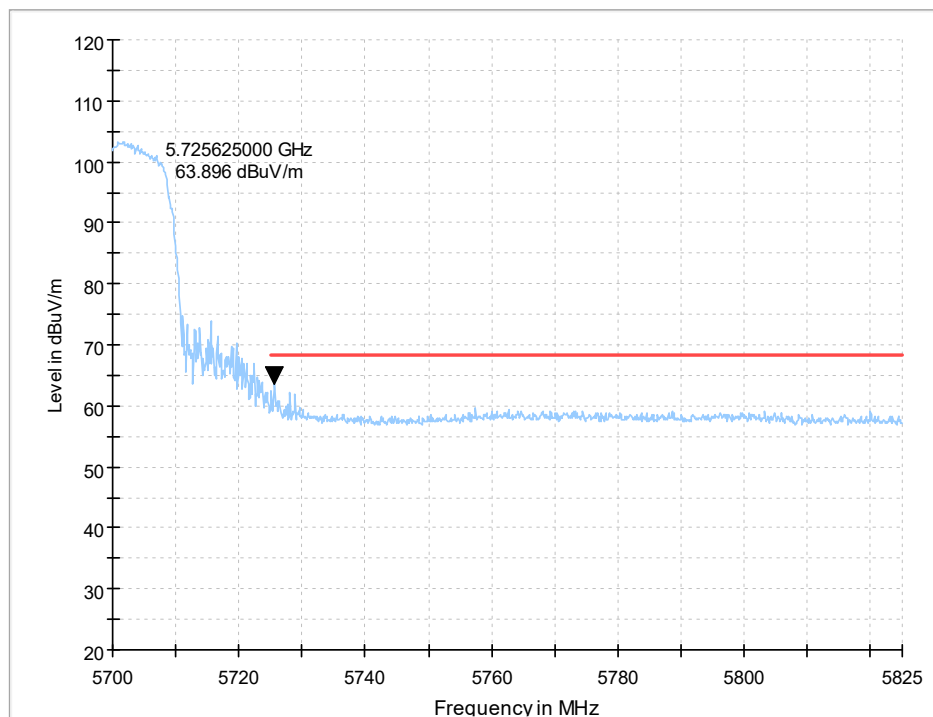
**Fig. 13 Band Edges (802.11ac-HT20 Ch36, 5180MHz)**



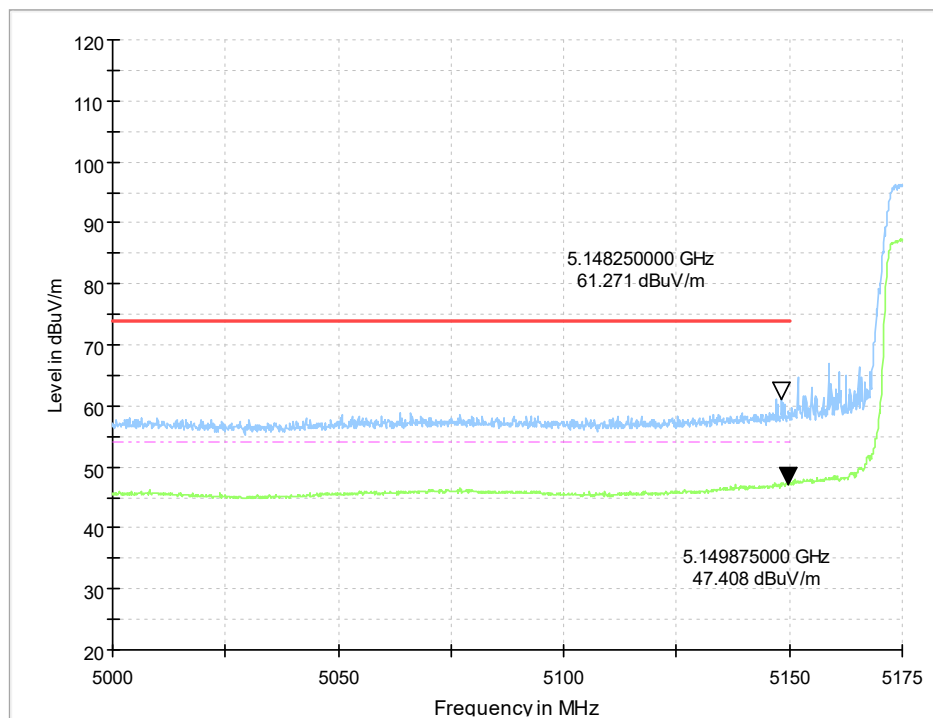
**Fig. 14 Band Edges (802.11ac-HT20 Ch64, 5320MHz)**



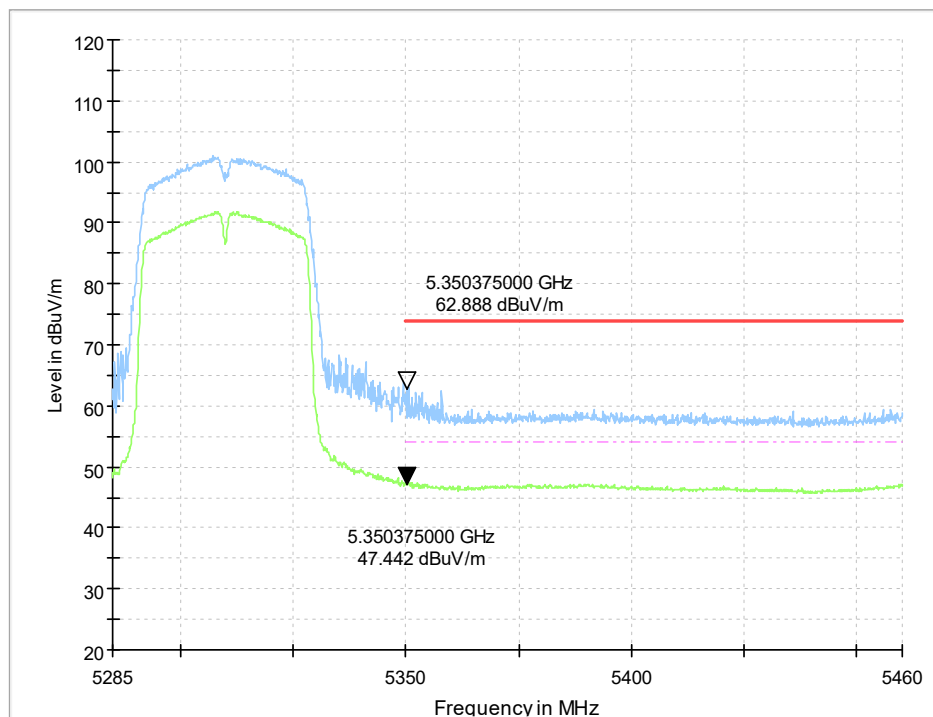
**Fig. 15 Band Edges (802.11ac-HT20 Ch100, 5500MHz)**



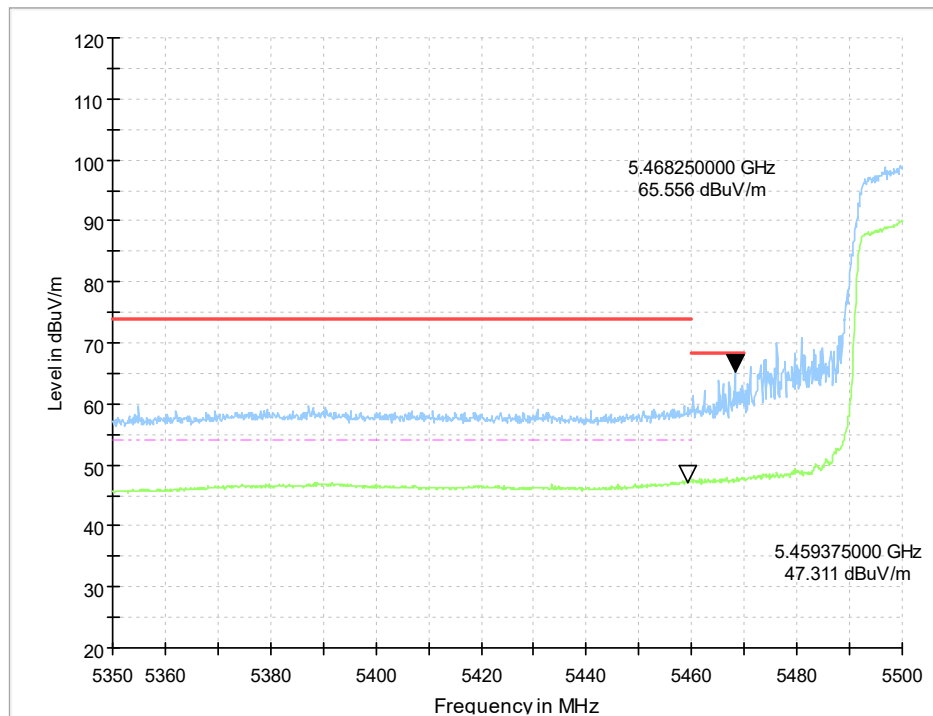
**Fig. 16 Band Edges (802.11ac-HT20 Ch140, 5700MHz)**



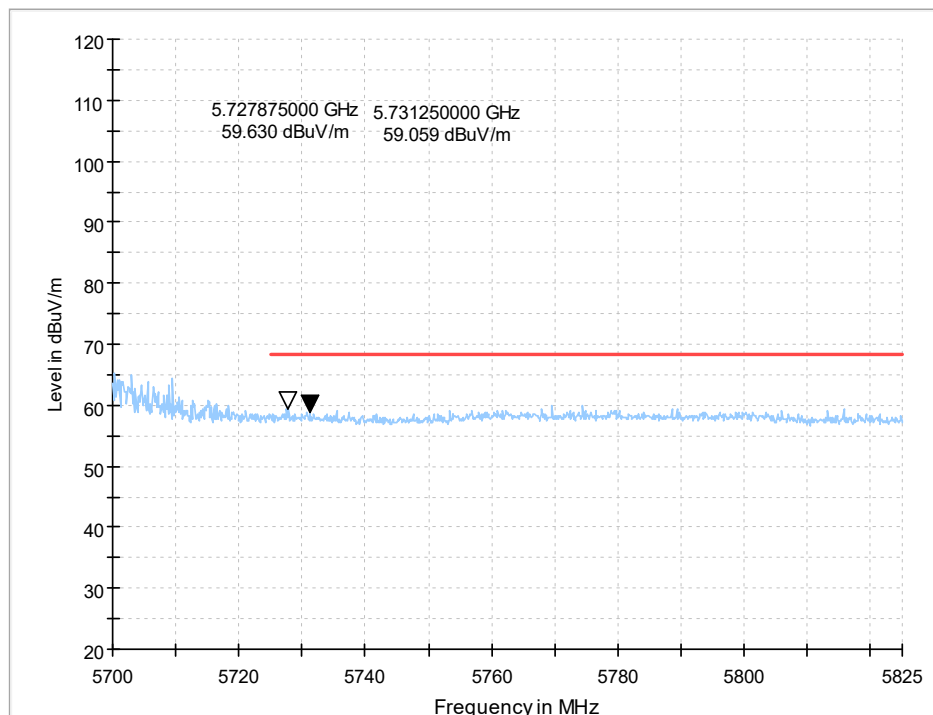
**Fig. 17 Band Edges (802.11ac-HT40 Ch38, 5190MHz)**



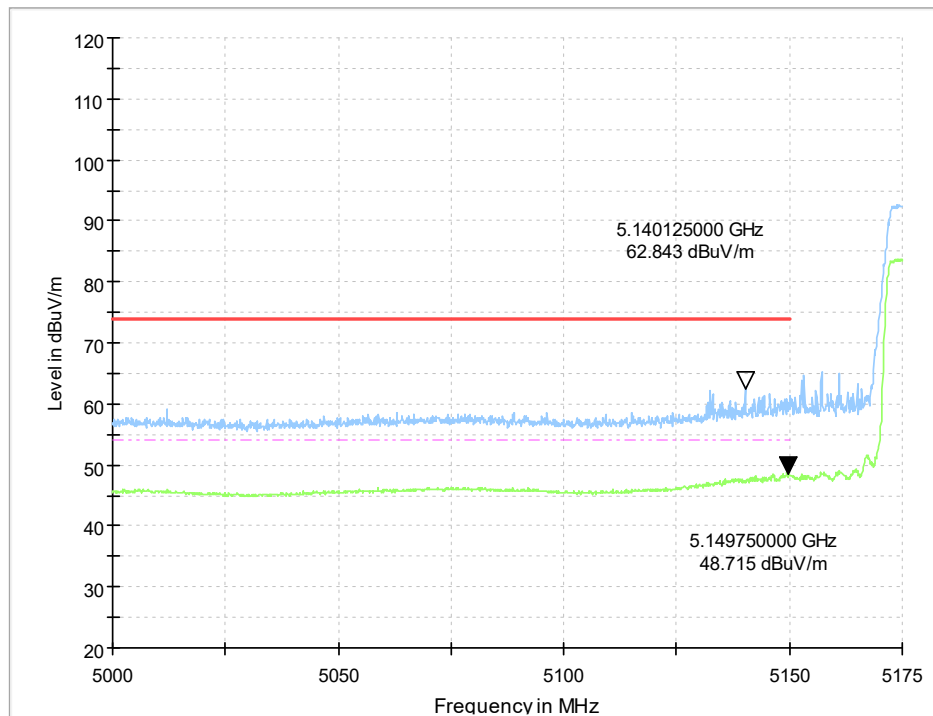
**Fig. 18 Band Edges (802.11ac-HT40 Ch62, 5310MHz)**



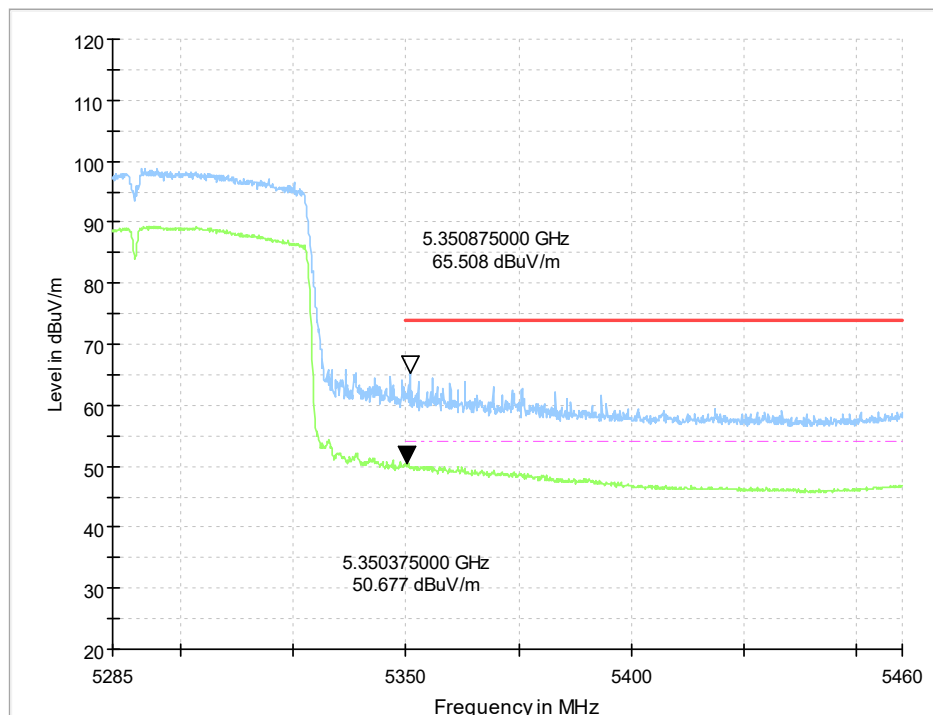
**Fig. 19 Band Edges (802.11ac-HT40 Ch102, 5510MHz)**



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

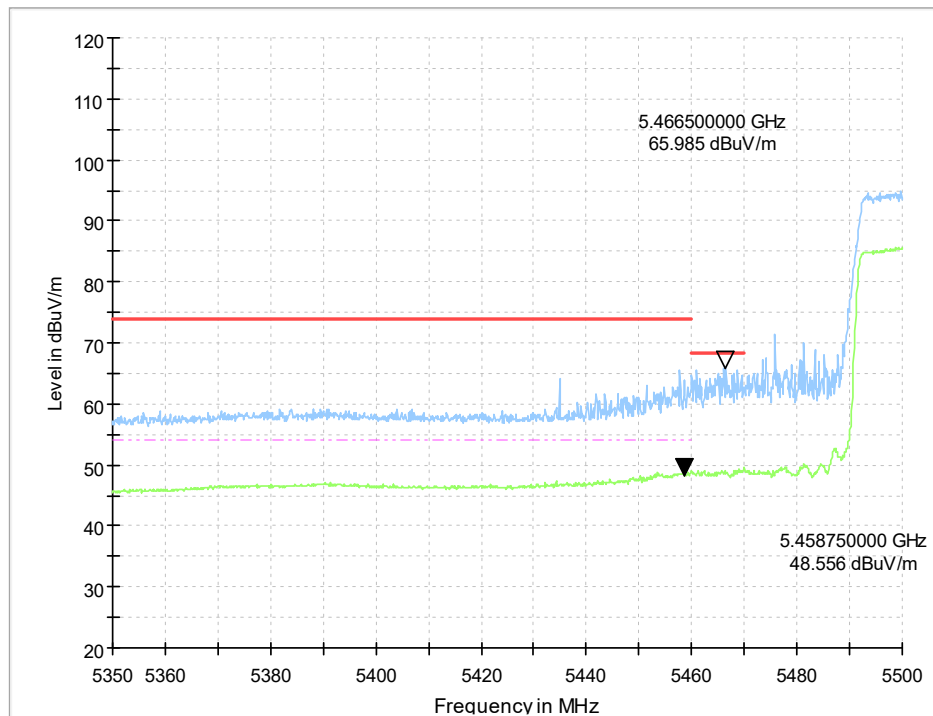


**Fig. 21 Band Edges (802.11ac-HT80 Ch42 , 5210MHz)**

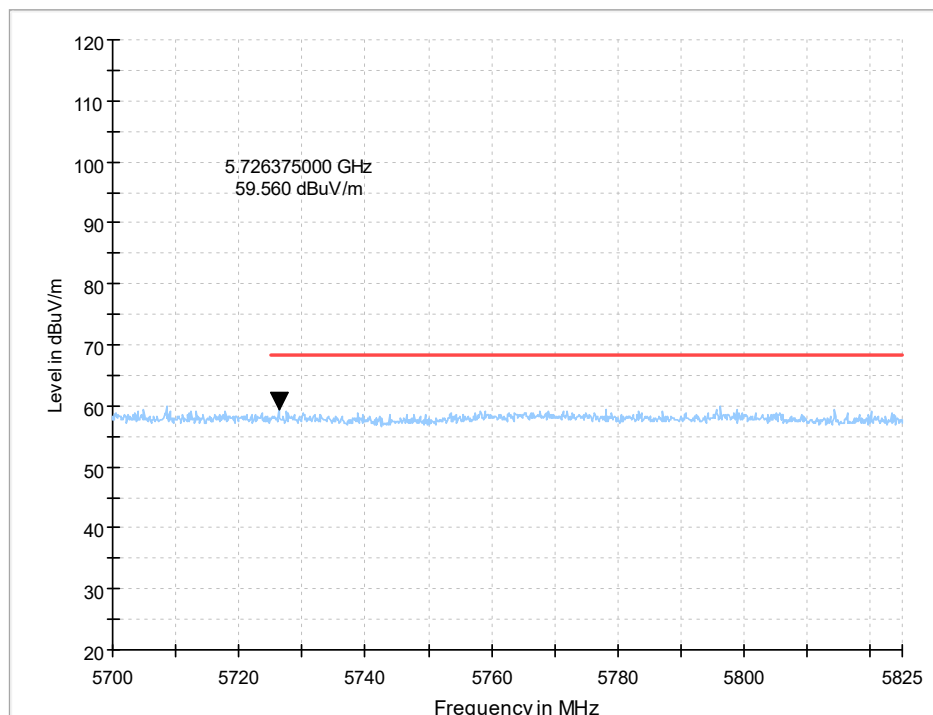


**Fig. 22 Band Edges (802.11ac-HT80 Ch58, 5290MHz)**





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



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

#### **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.

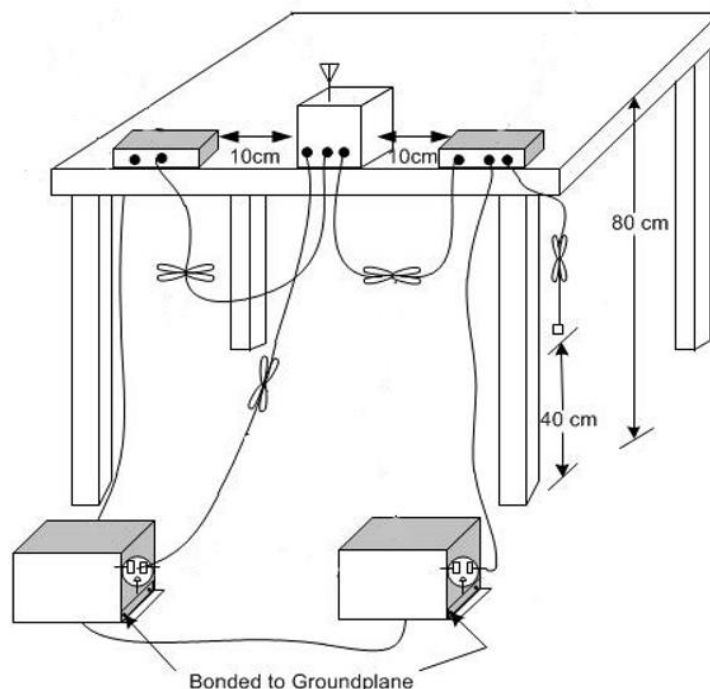
The measurement bandwidth is:

|                             |                  |
|-----------------------------|------------------|
| 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



**Measurement Result and limit:**
**WLAN (Quasi-peak Limit)**

| Frequency range<br>(MHz) | Quasi-peak<br>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.

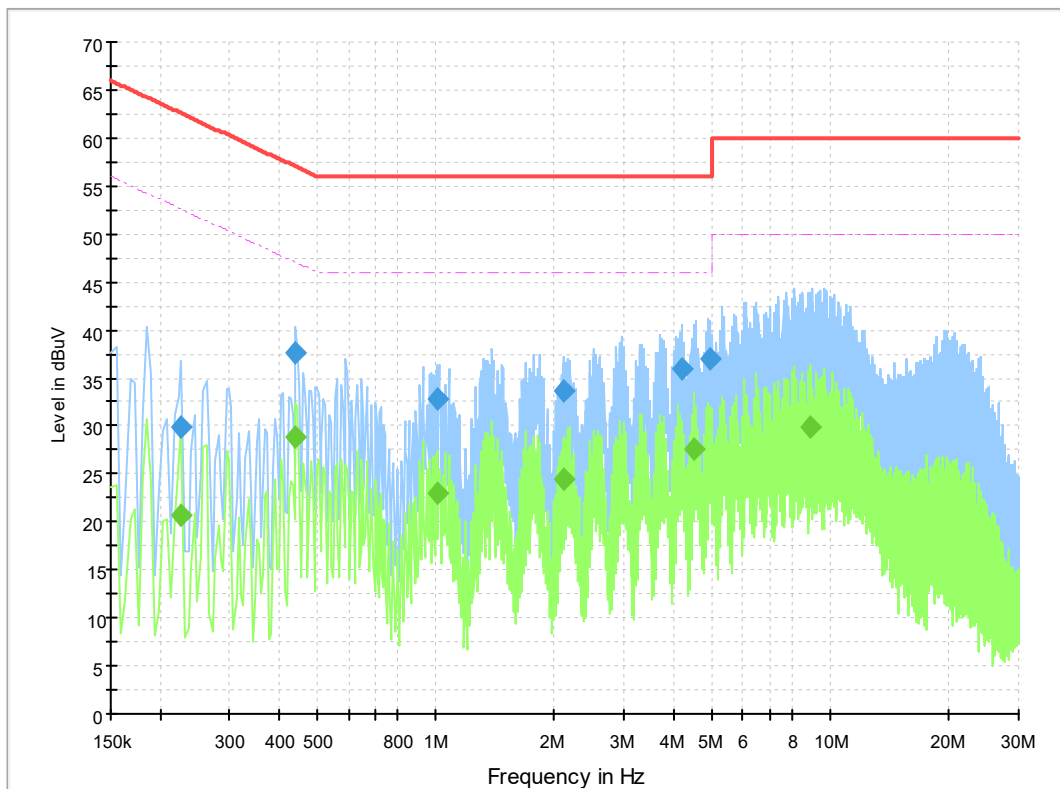
**WLAN (Average Limit)**

| Frequency range<br>(MHz) | Average Limit<br>(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:**



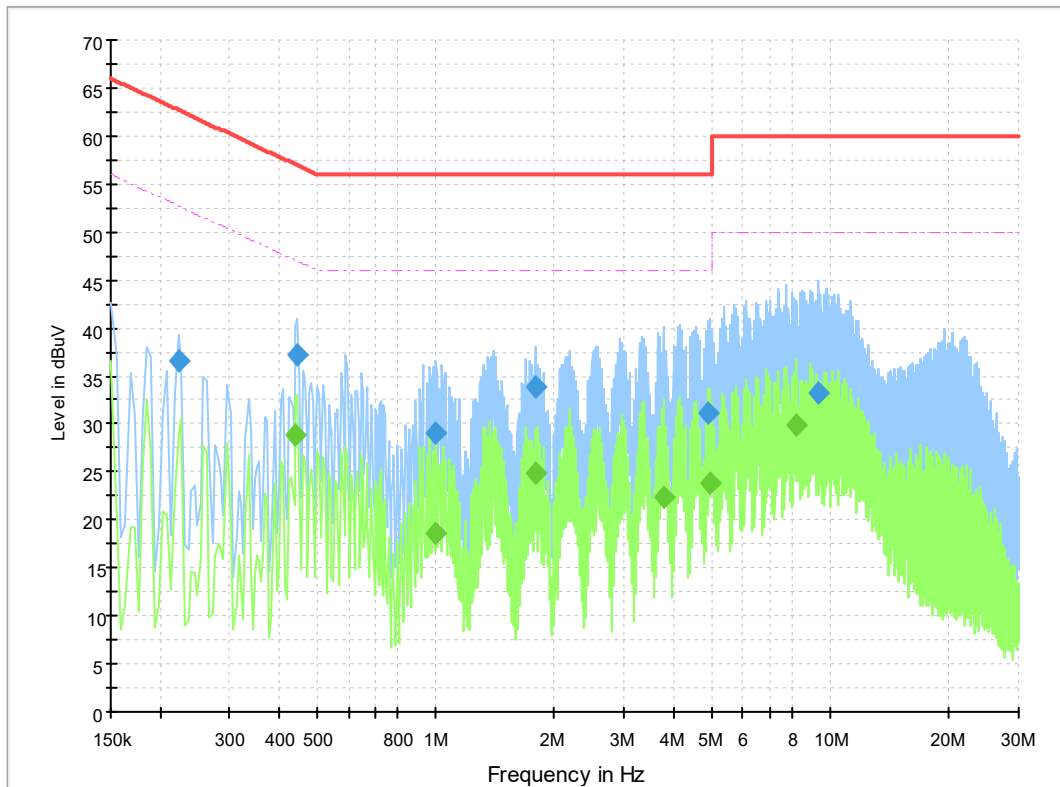
**Fig.25 Conducted Emission(802.11a, Ch36, TX)**

### Final Result 1

| Frequency (MHz) | QuasiPeak (dBμV) | Meas. Time | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) | Comment |
|-----------------|------------------|------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.226500        | 29.9             | 2000.0     | 9.000           | On     | N    | 20.0       | 32.7        | 62.6         |         |
| 0.442500        | 37.7             | 2000.0     | 9.000           | On     | L1   | 20.1       | 19.3        | 57.0         |         |
| 1.005000        | 32.9             | 2000.0     | 9.000           | On     | L1   | 19.9       | 23.1        | 56.0         |         |
| 2.116500        | 33.5             | 2000.0     | 9.000           | On     | L1   | 19.8       | 22.5        | 56.0         |         |
| 4.186500        | 35.9             | 2000.0     | 9.000           | On     | L1   | 19.9       | 20.1        | 56.0         |         |
| 4.929000        | 36.9             | 2000.0     | 9.000           | On     | L1   | 19.9       | 19.1        | 56.0         |         |

### Final Result 2

| Frequency (MHz) | CAverage (dBμV) | Meas. Time | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) | Comment |
|-----------------|-----------------|------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.226500        | 20.6            | 2000.0     | 9.000           | On     | L1   | 20.0       | 31.9        | 52.6         |         |
| 0.442500        | 28.8            | 2000.0     | 9.000           | On     | L1   | 20.1       | 18.2        | 47.0         |         |
| 1.005000        | 23.1            | 2000.0     | 9.000           | On     | L1   | 19.9       | 22.9        | 46.0         |         |
| 2.112000        | 24.5            | 2000.0     | 9.000           | On     | L1   | 19.8       | 21.5        | 46.0         |         |
| 4.528500        | 27.7            | 2000.0     | 9.000           | On     | L1   | 19.8       | 18.3        | 46.0         |         |
| 8.889000        | 29.8            | 2000.0     | 9.000           | On     | L1   | 19.9       | 20.2        | 50.0         |         |



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

### Final Result 1

| Frequency (MHz) | QuasiPeak (dBμV) | Meas. Time | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) | Comment |
|-----------------|------------------|------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.222000        | 36.6             | 2000.0     | 9.000           | On     | L1   | 20.0       | 26.2        | 62.7         |         |
| 0.447000        | 37.2             | 2000.0     | 9.000           | On     | L1   | 20.1       | 19.8        | 56.9         |         |
| 1.000500        | 29.1             | 2000.0     | 9.000           | On     | N    | 20.0       | 26.9        | 56.0         |         |
| 1.783500        | 33.8             | 2000.0     | 9.000           | On     | L1   | 19.8       | 22.2        | 56.0         |         |
| 4.897500        | 31.1             | 2000.0     | 9.000           | On     | N    | 20.0       | 24.9        | 56.0         |         |
| 9.361500        | 33.2             | 2000.0     | 9.000           | On     | N    | 20.1       | 26.8        | 60.0         |         |

### Final Result 2

| Frequency (MHz) | CAverage (dBμV) | Meas. Time | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) | Comment |
|-----------------|-----------------|------------|-----------------|--------|------|------------|-------------|--------------|---------|
| 0.442500        | 28.9            | 2000.0     | 9.000           | On     | L1   | 20.1       | 18.1        | 47.0         |         |
| 1.000500        | 18.7            | 2000.0     | 9.000           | On     | N    | 20.0       | 27.3        | 46.0         |         |
| 1.783500        | 24.8            | 2000.0     | 9.000           | On     | L1   | 19.8       | 21.2        | 46.0         |         |
| 3.781500        | 22.4            | 2000.0     | 9.000           | On     | N    | 20.0       | 23.6        | 46.0         |         |
| 4.960500        | 23.9            | 2000.0     | 9.000           | On     | N    | 20.0       | 22.1        | 46.0         |         |
| 8.155500        | 29.9            | 2000.0     | 9.000           | On     | L1   | 19.9       | 20.1        | 50.0         |         |

### **A.7. 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% of the 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: UT07a**

#### **Measurement Result:**

| TestMode   | Frequency[MHz] | OCB [MHz] | FL[MHz]   | FH[MHz]   | Limit[MHz] | Verdict |
|------------|----------------|-----------|-----------|-----------|------------|---------|
| 11A        | 5180           | 17.613    | 5171.1892 | 5188.8018 | ---        | ---     |
|            | 5200           | 17.476    | 5191.2331 | 5208.7093 | ---        | ---     |
|            | 5240           | 17.487    | 5231.2198 | 5248.7069 | ---        | ---     |
| 11N20SISO  | 5180           | 18.405    | 5170.7554 | 5189.1600 | ---        | ---     |
|            | 5200           | 18.326    | 5190.7844 | 5209.1108 | ---        | ---     |
|            | 5240           | 18.383    | 5230.7159 | 5249.0986 | ---        | ---     |
| 11N40SISO  | 5190           | 36.961    | 5171.4946 | 5208.4556 | ---        | ---     |
|            | 5230           | 36.846    | 5211.5299 | 5248.3758 | ---        | ---     |
| 11AC80SISO | 5210           | 75.305    | 5172.3512 | 5247.6566 | ---        | ---     |

Test graphs as below:

