



FCC PART 15E TEST REPORT No.23T04Z80940-09

for

TCL Communication Ltd.

Tablet PC

9199S

FCC ID:2ACCJB217

with

Hardware Version: 05

Software Version: 4DS9

Issued Date: 2024-02-26

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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No.23T04Z80940-09

REPORT HISTORY

| Report Number | Revision | Description | Issue Date |
|----------------------|-----------------|--------------------|-------------------|
| 23T04Z80940-09 | Rev.0 | 1st edition | 2024-02-26 |
| | | | |

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(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,
P. R. China100191

Radiated testing Location: CTTL(BDA)

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

1.3. TestingEnvironment

Normal Temperature: 15-35°C

Relative Humidity: 20-75%

1.4. Project date

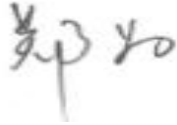
Testing Start Date: 2023-12-26

Testing End Date: 2024-02-26

1.5. Signature

姚兴宇

Yao Xingyu
(Prepared this test report)



Zheng Wei
(Reviewed this test report)



Pang Shuai
(Approved this test report)



2. Client Information

2.1. Applicant Information

Company Name: TCL Communication Ltd.
Address: 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science
Park, Shatin, NT, Hong Kong
City: Hong Kong
Postal Code: /
Country: China
Telephone: +86 755 3661 1621
Fax: +86 755 3661 2000-81722

2.2. Manufacturer Information

Company Name: TCL Communication Ltd.
Address: 5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science
Park, Shatin, NT, Hong Kong
City: Hong Kong
Postal Code: /
Country: China
Telephone: +86 755 3661 1621
Fax: +86 755 3661 2000-81722

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

3.1. About EUT

| | |
|----------------------|---------------------------|
| Description | Tablet PC |
| Model name | 9199S |
| FCC ID | 2ACCJB217 |
| WLAN Frequency Band | ISM Band: 5725MHz~5850MHz |
| Type of modulation | OFDM |
| Nominal Voltage | 3.85V |
| Extreme High Voltage | 4.4V |
| Extreme Low Voltage | 3.6V |

3.2. Internal Identification of EUT used during the test

| EUT ID* | IMEI | HW Version | SW Version | Date of receipt |
|----------------|-----------------|-------------------|-------------------|------------------------|
| UT33a | 354709280001551 | 05 | 4DS9 | 2024-02-01 |
| UT81a | 354709280002070 | 05 | 4DS9 | 2024-01-08 |
| UT85a | 354709280002054 | 05 | 4DS9 | 2024-01-08 |

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

UT33a is used for Conduction test, UT81a and UT85a is used for Radiation test.

3.3. Internal Identification of AE used during the test

| AE ID* | Description | Note | Manufacturer |
|---------------|--------------------|-------------|---------------------|
| AE1 | Battery | TLp058DA | TMB |
| AE2 | Charger | / | / |
| AE3 | USB cable | / | / |

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

3.4. General Description

Equipment Under Test (EUT) is a model of Tablet PC with integrated antenna. It consists of normal options: Battery and Charger.

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

Samples undergoing test were selected by the Client.

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 CFR 47, Part 15, Subpart C and E: | |
| FCC Part15 | 15.205 Restricted bands of operation; 15.209 Radiated emission limits, general requirements; 15.407 General technical requirements | 2021 |
| ANSI C63.10 | Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz | 2013 |
| UNII: KDB 789033 D02 | General U-NII Test Procedures New Rules v02r01 | 2017-12 |

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 Peak Output Power | 15.407 (a) | / | P |
| Peak Power Spectral Density | 15.407 (a) | / | P |
| Occupied 6dB Bandwidth | 15.407 (e) | / | P |
| Band Edges Compliance - Conducted& Radiated | 15.407 (b) | / | P |
| Transmitter Spurious Emission - Radiated | 15.407, 15.205, 15.209 | / | P |
| AC Powerline Conducted Emission | 15.107, 15.207 | / | P |

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

Terms used in Verdict column

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

6.2. Statements

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

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

6.3. Test Conditions

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

| | |
|-------------|-------|
| Temperature | 26°C |
| Voltage | 3.85V |
| Humidity | 44% |

7. Test Facilities Utilized

Conducted test system

| No. | Equipment | Model | Serial Number | Manufacturer | Calibration Period | Calibration Due date |
|-----|------------------------|---------|---------------|-----------------|--------------------|----------------------|
| 1 | Vector Signal Analyzer | FSQ40 | 200089 | Rohde & Schwarz | 1 year | 2024-07-04 |
| 2 | Vector Signal Analyzer | FSW67 | 104051 | Rohde & Schwarz | 1 year | 2024-03-06 |
| 3 | Test Receiver | ESCI | 100766 | R&S | 1 year | 2024-03-30 |
| 4 | LISN | ENV216 | 101459 | R&S | 1 year | 2024-03-29 |
| 5 | Attenuator | 10dB/2W | / | Rosenberger | / | / |
| 6 | Shielding Room | S81 | / | ETS-Lindgren | / | / |

Radiated emission test system

| No. | Equipment | Model | Serial Number | Manufacturer | Calibration Period | Calibration Due date |
|-----|---------------|-------------------|---------------|--------------|--------------------|----------------------|
| 1 | Test Receiver | ESW44 | 103015 | R&S | 1 year | 2025-01-18 |
| 2 | EMI Antenna | VULB9163 | 9163-235 | Schwarzbeck | 1 year | 2024-02-28 |
| 3 | EMI Antenna | 3117 | 00139065 | ETS | 1 year | 2024-04-25 |
| 4 | EMI Antenna | LB-180400-25-C-KF | 2110084000006 | A-INFO | 1 year | 2024-03-02 |

| Test Item | Software | Manufacturer |
|--------------------|-----------------|--------------|
| Conducted emission | EMC32 V8.53.0 | R&S |
| Radiated emission | EMC32 V10.60.20 | R&S |

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. 6dB 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 |

Radiated (k=2)

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

8.6. AC Power-line Conducted Emission

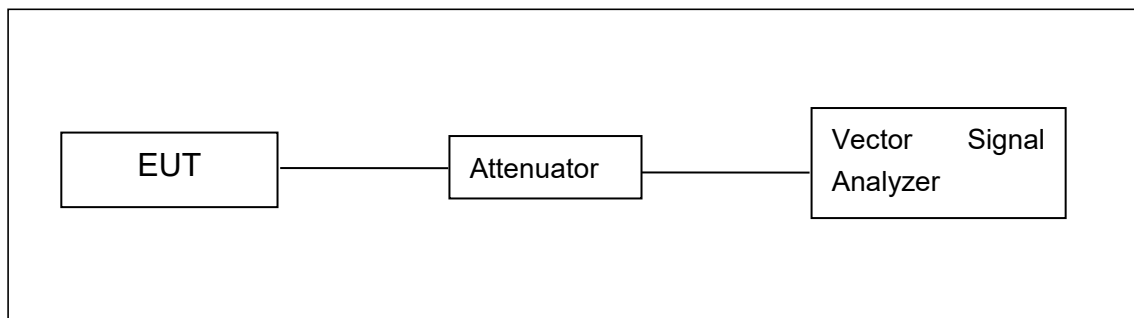
Measurement Uncertainty : 3.10dB,k=2

ANNEX A: MEASUREMENT 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

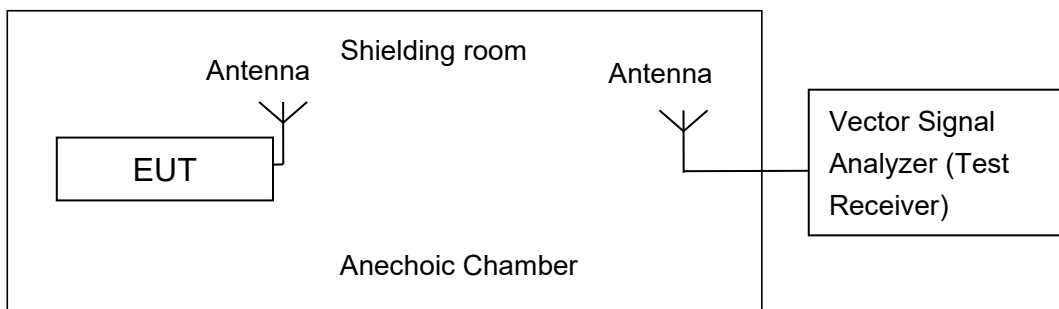


A.1.2. Radiated Emission Measurements

In the case of radiated emission, the used settings are as follows,

Sweep frequency from 30 MHz to 1GHz, RBW = 100 kHz, VBW = 300 kHz;

Sweep frequency from 1 GHz to 26GHz, RBW = 1MHz, VBW = 3MHz;



The measurement is made according to ANSI C63.10.

The radiated emission test is performed in semi-anechoic chamber. The distance from the EUT to the reference point of measurement antenna is 3m. 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 360° and the measurement antenna is moved from 1m to 4m to get the maximization result.

A.2. Maximum Peak Output Power

Measurement Limit and Method:

| Standard | Limit (dBm) |
|------------------------|--------------------|
| FCC CRF Part 15.407(a) | < 30 |

Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.

Set RBW = 1 MHz.

Set VBW \geq 3 MHz.

Number of points in sweep $\geq 2 \times$ span / RBW.

Sweep time = auto.

Detector = power averaging (rms)

Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.

Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal. Add 10 log (1/x), where x is the duty cycle

A.2.1 Antenna Gain

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

A.2.2. Maximum Average Output Power-Conducted

EUT ID: UT33a

Measurement Results:

802.11a mode

| Mode | Data Rate (Mbps) | Test Result (dBm) | | |
|-------------|-------------------------|--------------------------|------------------------|------------------------|
| | | 5745MHz (Ch149) | 5785MHz (Ch157) | 5825MHz (Ch165) |
| 802.11a | 6 | 18.22 | 18.35 | 18.42 |

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

802.11n-HT20 mode

| Mode | Data Rate (Index) | Test Result (dBm) | | |
|-----------------|--------------------------|--------------------------|------------------------|------------------------|
| | | 5745MHz (Ch149) | 5785MHz (Ch157) | 5825MHz (Ch165) |
| 802.11n (20MHz) | MCS0 | 17.17 | 17.29 | 17.32 |

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

this condition.

802.11ac-VHT20 mode

| Mode | Data Rate (Index) | Test Result (dBm) | | |
|---------------------|----------------------|--------------------|--------------------|--------------------|
| | | 5745MHz (Ch149) | 5785MHz (Ch157) | 5825MHz (Ch165) |
| 802.11ac (20MHz) | MCS0 | 17.25 | 17.35 | 17.35 |

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

802.11n-HT40 mode

| Mode | Data Rate (Index) | Test Result (dBm) | |
|--------------------|----------------------|--------------------|--------------------|
| | | 5755MHz (Ch151) | 5795MHz (Ch159) |
| 802.11n (40MHz) | MCS0 | 17.36 | 17.24 |

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

802.11ac-VHT40 mode

| Mode | Data Rate (Index) | Test Result (dBm) | |
|---------------------|----------------------|--------------------|--------------------|
| | | 5755MHz (Ch151) | 5795MHz (Ch159) |
| 802.11ac (40MHz) | MCS0 | 16.28 | 16.36 |

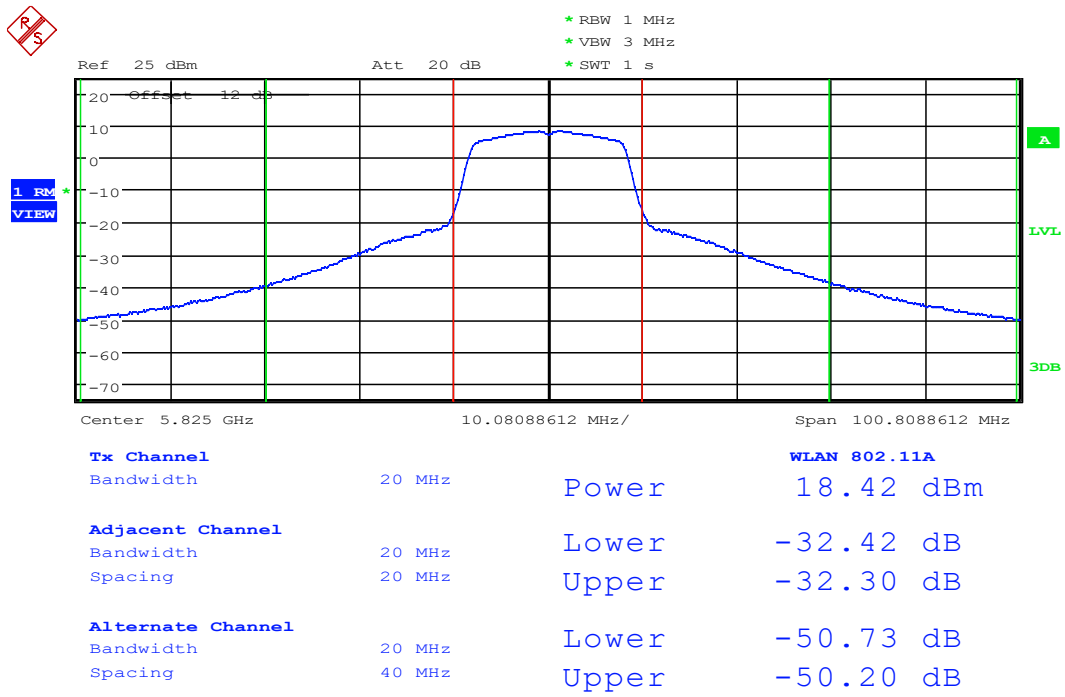
The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ac-VHT80 mode

| Mode | Data Rate (Index) | Test Result (dBm) |
|---------------------|----------------------|--------------------|
| | | 5775MHz (Ch155) |
| 802.11ac (80MHz) | MCS0 | 16.25 |

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%



Date: 26.FEB.2024 09:35:40

Maximum output Power: 11a CH165

Conclusion: PASS

A.3. Peak Power Spectral Density

Measurement Limit:

| Standard | Limit |
|---------------------------|------------------|
| FCC 47 CFR Part 15.407(a) | < 30 dBm/500 kHz |

Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.

Set RBW = 500 kHz.

Set VBW \geq 3 MHz.

Number of points in sweep $\geq 2 \times$ span / RBW.

Sweep time = auto.

Detector = power averaging (rms)

Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter. Use the peak search function on the instrument to find the peak of the spectrum and record its value. Add $10 \log (1/x)$, where x is the duty cycle.

Measurement Uncertainty:

| | |
|-------------------------|--------|
| Measurement Uncertainty | 0.75dB |
|-------------------------|--------|

EUT ID: UT33a

Measurement Results:

| Mode | Channel | Power Spectral Density (dBm/500kHz) | Conclusion |
|-------------------|----------------|--|-------------------|
| 802.11a | 149 | 5.95 | P |
| | 157 | 5.47 | P |
| | 165 | 5.54 | P |
| 802.11ac VHT20 | 149 | 4.65 | P |
| | 157 | 4.24 | P |
| | 165 | 4.31 | P |
| 802.11n HT40 | 151 | 1.61 | P |
| | 159 | 1.25 | P |
| 802.11ac VHT80 | 155 | -3.75 | P |



Peak Power Spectral Density:11a CH149

Conclusion: PASS

A.4. 6dB Emission Bandwidth

Measurement Limit:

| Standard | Limit (kHz) |
|----------------------------|-------------|
| FCC 47 CFR Part 15.407 (e) | ≥ 500 |

Set RBW = 100 kHz.

Set the video bandwidth (VBW) ≥ 3 × RBW.

Detector = Peak.

Trace mode = max hold.

Sweep = auto couple.

Allow the trace to stabilize.

Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Measurement Uncertainty:

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

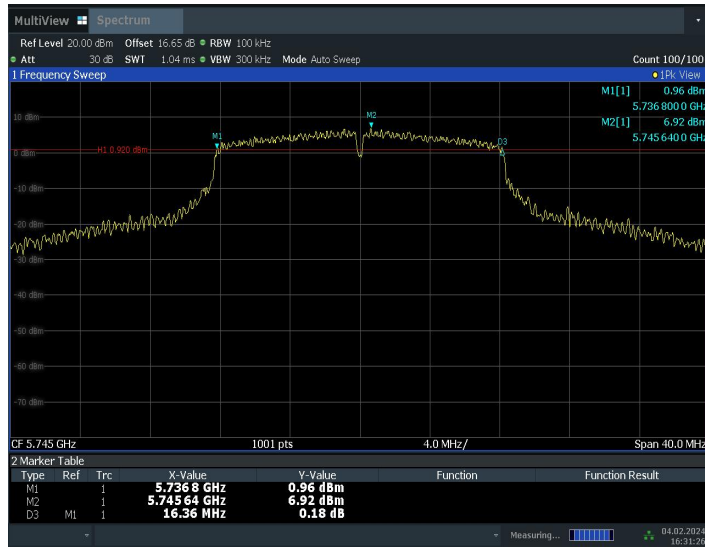
EUT ID: UT33a

Measurement Result:

| Mode | Channel | 6dB Emission Bandwidth (MHz) | | conclusion |
|----------|---------|-------------------------------|-------|------------|
| 802.11a | 149 | Fig.1 | 16.36 | P |
| | 157 | Fig.2 | 16.32 | P |
| | 165 | Fig.3 | 16.36 | P |
| 802.11ac | 149 | Fig.4 | 17.56 | P |

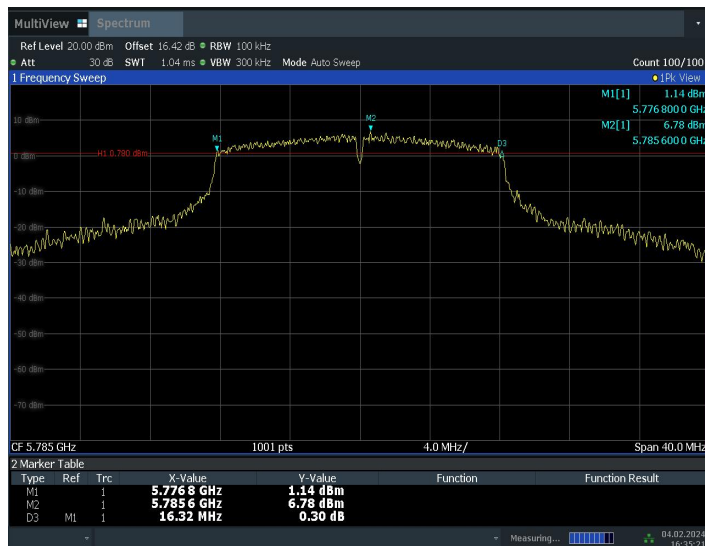
| | | | | |
|------------------|-----|-------|-------|---|
| (VHT20) | 157 | Fig.5 | 17.56 | P |
| | 165 | Fig.6 | 17.60 | P |
| 802.11n HT40 | 151 | Fig.7 | 36.32 | P |
| | 159 | Fig.8 | 35.92 | P |
| 802.11ac (VHT80) | 155 | Fig.9 | 76.16 | P |

Test graphs as below:



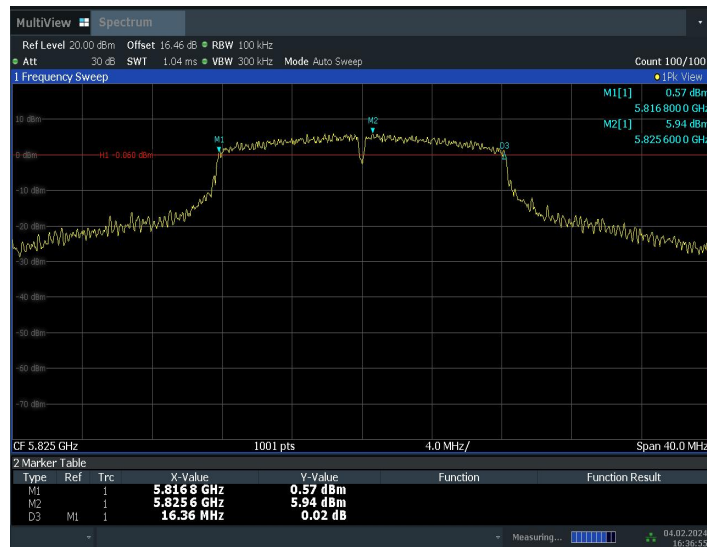
16:31:26 04.02.2024

Fig. 1 6dB Emission Bandwidth (802.11a, Ch 149)



16:35:22 04.02.2024

Fig. 2 6dB Emission Bandwidth (802.11a, Ch 157)



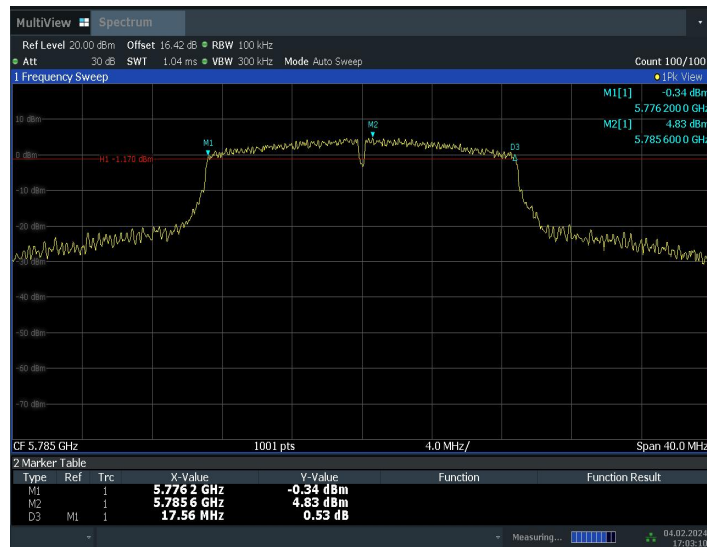
16:36:56 04.02.2024

Fig. 3 6dB Emission Bandwidth (802.11a, Ch 165)



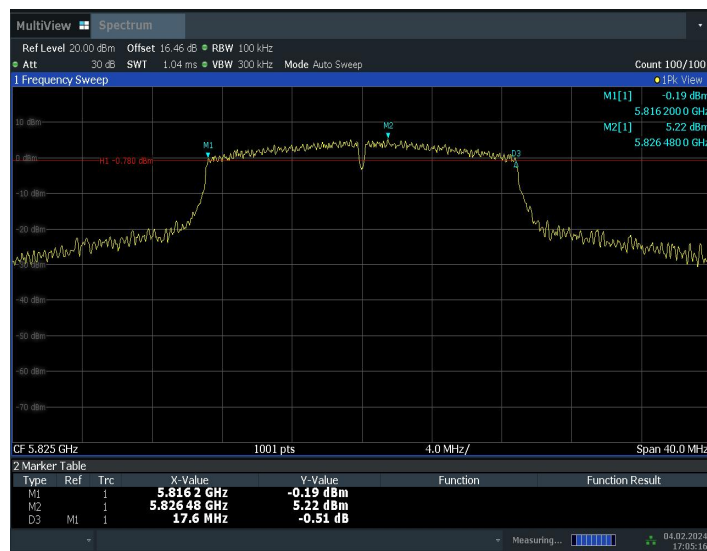
17:01:55 04.02.2024

Fig. 4 6dB Emission Bandwidth (802.11ac-VHT20, Ch 149)



17:03:11 04.02.2024

Fig. 5 6dB Emission Bandwidth (802.11ac-VHT20, Ch 157)



17:05:17 04.02.2024

Fig. 6 6dB Emission Bandwidth (802.11ac-VHT20, Ch 165)

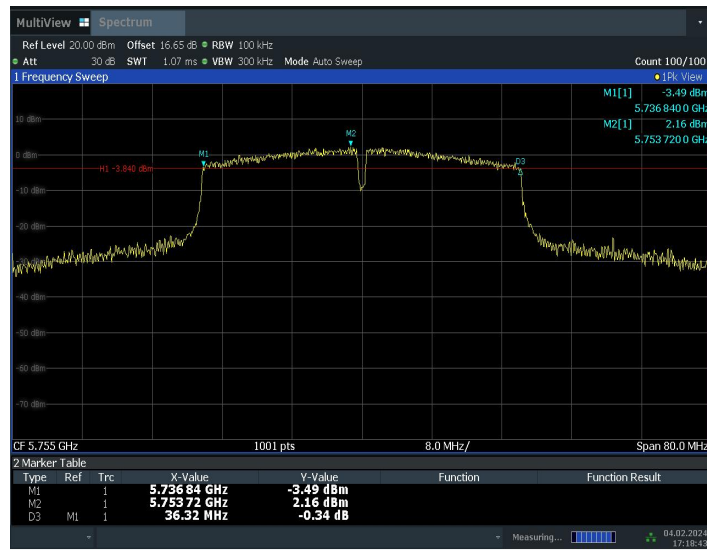


Fig. 7 6dB Emission Bandwidth (802.11n-HT40, Ch 151)

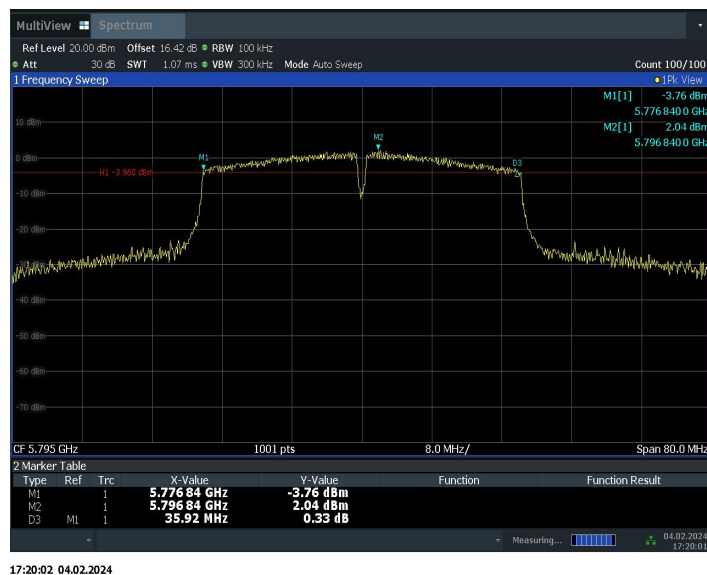


Fig. 8 6dB Emission Bandwidth (802.11n-HT40, Ch 159)



Fig. 9 6dB Emission Bandwidth (802.11ac-VHT80, Ch 155)

Conclusion: PASS

A.5. Transmitter Spurious Emission

A.5.1 Transmitter Spurious Emission - Radiated

Measurement Limit:

| Standard | Frequency (MHz) | Limit (dBm/MHz) |
|------------------------|-----------------|-----------------|
| FCC 47 CFR Part 15.407 | 5725MHz~5850MHz | < -27 |

The measurement is made according to ANSI C63.10 .

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)).

Limit in restricted band:

| Frequency of emission (MHz) | Field strength (uV/m) | Field strength (dBµV/m) | Measurement distance(m) |
|-----------------------------|-----------------------|-------------------------|-------------------------|
| 30-88 | 100 | 40.0 | 3 |
| 88-216 | 150 | 43.5 | 3 |
| 216-960 | 200 | 46.0 | 3 |
| Above 960 | 500 | 54.0 | 3 |

Measurement Results:

EUT ID: UT81a

Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

P_{Mea} is the field strength recorded from the instrument.

Conclusion: PASS

Average Results:
802.11a

Channel 149

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5455.750 | 42.84 | -23.16 | 33.61 | 32.38 | 54.00 | 11.16 | V |
| 5460.250 | 42.87 | -23.15 | 33.62 | 32.40 | 54.00 | 11.13 | V |
| 11490.000 | 35.01 | -30.98 | 38.98 | 27.01 | 54.00 | 18.99 | V |
| 15845.500 | 35.82 | -25.52 | 38.65 | 22.70 | 54.00 | 18.18 | H |
| 17787.500 | 39.55 | -25.05 | 41.71 | 22.89 | 54.00 | 14.45 | V |
| 17957.500 | 39.75 | -24.66 | 41.82 | 22.60 | 54.00 | 14.25 | V |

Channel 157

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5454.750 | 43.15 | -23.16 | 33.61 | 32.69 | 54.00 | 10.85 | V |
| 5458.500 | 43.11 | -23.15 | 33.62 | 32.64 | 54.00 | 10.89 | V |
| 11570.000 | 34.56 | -30.33 | 38.93 | 25.96 | 54.00 | 19.44 | H |
| 15845.000 | 35.77 | -25.52 | 38.65 | 22.65 | 54.00 | 18.23 | V |
| 17771.000 | 39.49 | -25.06 | 41.73 | 22.82 | 54.00 | 14.51 | V |
| 17956.500 | 39.76 | -24.66 | 41.81 | 22.60 | 54.00 | 14.24 | V |

Channel 165

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5457.750 | 42.80 | -23.15 | 33.62 | 32.34 | 54.00 | 11.20 | V |
| 5459.500 | 42.77 | -23.15 | 33.62 | 32.30 | 54.00 | 11.23 | V |
| 11650.000 | 34.99 | -29.87 | 38.85 | 26.01 | 54.00 | 19.01 | V |
| 15848.500 | 35.76 | -25.52 | 38.65 | 22.63 | 54.00 | 18.24 | V |
| 17785.000 | 39.51 | -25.05 | 41.71 | 22.84 | 54.00 | 14.49 | H |
| 17957.000 | 39.81 | -24.66 | 41.81 | 22.65 | 54.00 | 14.19 | V |

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Channel 149

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5456.875 | 42.59 | -23.15 | 33.61 | 32.13 | 54.00 | 11.41 | V |
| 5460.000 | 42.64 | -23.15 | 33.62 | 32.18 | 54.00 | 11.36 | V |
| 11490.000 | 34.31 | -30.98 | 38.98 | 26.30 | 54.00 | 19.69 | V |
| 15943.000 | 35.65 | -25.41 | 38.79 | 22.27 | 54.00 | 18.35 | H |
| 17804.000 | 39.43 | -25.05 | 41.70 | 22.78 | 54.00 | 14.57 | V |
| 17956.500 | 39.69 | -24.66 | 41.81 | 22.54 | 54.00 | 14.31 | V |

Channel 157

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5453.875 | 42.48 | -23.16 | 33.61 | 32.03 | 54.00 | 11.52 | V |
| 5458.000 | 42.59 | -23.15 | 33.62 | 32.13 | 54.00 | 11.41 | V |
| 11570.000 | 34.31 | -30.33 | 38.93 | 25.71 | 54.00 | 19.69 | V |
| 15847.500 | 35.66 | -25.52 | 38.65 | 22.53 | 54.00 | 18.34 | H |
| 17784.000 | 39.44 | -25.05 | 41.72 | 22.77 | 54.00 | 14.56 | V |
| 17960.500 | 39.67 | -24.65 | 41.82 | 22.50 | 54.00 | 14.33 | H |

Channel 165

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5448.875 | 42.48 | -23.16 | 33.59 | 32.04 | 54.00 | 11.52 | V |
| 5457.375 | 42.57 | -23.15 | 33.61 | 32.11 | 54.00 | 11.43 | V |
| 11650.000 | 34.69 | -29.87 | 38.85 | 25.70 | 54.00 | 19.31 | H |
| 15845.000 | 35.81 | -25.52 | 38.65 | 22.69 | 54.00 | 18.19 | V |
| 17789.500 | 39.57 | -25.05 | 41.71 | 22.92 | 54.00 | 14.43 | V |
| 17957.000 | 39.84 | -24.66 | 41.81 | 22.69 | 54.00 | 14.16 | H |

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Channel 151

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5456.000 | 42.77 | -23.16 | 33.61 | 32.32 | 54.00 | 11.23 | V |
| 5458.250 | 42.72 | -23.15 | 33.62 | 32.25 | 54.00 | 11.28 | V |
| 11510.000 | 34.43 | -30.85 | 38.99 | 26.29 | 54.00 | 19.57 | V |
| 15852.500 | 35.56 | -25.51 | 38.65 | 22.43 | 54.00 | 18.44 | H |
| 17819.000 | 39.37 | -25.02 | 41.70 | 22.70 | 54.00 | 14.63 | H |
| 17956.000 | 39.72 | -24.66 | 41.81 | 22.57 | 54.00 | 14.28 | V |

Channel 159

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5449.500 | 42.69 | -23.16 | 33.60 | 32.25 | 54.00 | 11.31 | V |
| 5454.750 | 42.74 | -23.16 | 33.61 | 32.28 | 54.00 | 11.26 | V |
| 11590.000 | 34.20 | -30.16 | 38.91 | 25.45 | 54.00 | 19.80 | V |
| 15940.500 | 35.52 | -25.41 | 38.78 | 22.15 | 54.00 | 18.48 | V |
| 17787.500 | 39.42 | -25.05 | 41.71 | 22.76 | 54.00 | 14.58 | V |
| 17953.500 | 39.65 | -24.67 | 41.81 | 22.51 | 54.00 | 14.35 | H |

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Channel 149

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5455.250 | 42.54 | -23.16 | 33.61 | 32.09 | 54.00 | 11.46 | V |
| 5457.500 | 42.67 | -23.15 | 33.62 | 32.21 | 54.00 | 11.33 | V |
| 11490.000 | 34.30 | -30.98 | 38.98 | 26.30 | 54.00 | 19.70 | V |
| 15852.500 | 35.74 | -25.51 | 38.65 | 22.61 | 54.00 | 18.26 | H |
| 17792.000 | 39.48 | -25.05 | 41.71 | 22.83 | 54.00 | 14.52 | H |
| 17958.500 | 39.75 | -24.66 | 41.82 | 22.59 | 54.00 | 14.25 | H |

Channel 157

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5454.375 | 42.62 | -23.16 | 33.61 | 32.16 | 54.00 | 11.38 | V |
| 5458.250 | 42.67 | -23.15 | 33.62 | 32.21 | 54.00 | 11.33 | V |
| 11570.000 | 34.42 | -30.33 | 38.93 | 25.82 | 54.00 | 19.58 | H |
| 15848.500 | 35.63 | -25.52 | 38.65 | 22.50 | 54.00 | 18.37 | H |
| 17818.000 | 39.44 | -25.02 | 41.70 | 22.76 | 54.00 | 14.56 | V |
| 17956.500 | 39.67 | -24.66 | 41.81 | 22.52 | 54.00 | 14.33 | H |

Channel 165

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5456.250 | 42.65 | -23.16 | 33.61 | 32.19 | 54.00 | 11.35 | V |
| 5458.250 | 42.77 | -23.15 | 33.62 | 32.31 | 54.00 | 11.23 | V |
| 11650.000 | 34.37 | -29.87 | 38.85 | 25.38 | 54.00 | 19.63 | H |
| 15844.500 | 35.65 | -25.52 | 38.64 | 22.53 | 54.00 | 18.35 | V |
| 17819.000 | 39.46 | -25.02 | 41.70 | 22.78 | 54.00 | 14.54 | H |
| 17954.500 | 39.74 | -24.67 | 41.81 | 22.59 | 54.00 | 14.26 | V |

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Channel 151

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5455.125 | 42.72 | -23.16 | 33.61 | 32.26 | 54.00 | 11.28 | V |
| 5459.875 | 42.84 | -23.15 | 33.62 | 32.37 | 54.00 | 11.16 | V |
| 11510.000 | 34.94 | -30.85 | 38.99 | 26.80 | 54.00 | 19.06 | H |
| 15847.000 | 35.89 | -25.52 | 38.65 | 22.76 | 54.00 | 18.11 | H |
| 17821.500 | 39.64 | -25.02 | 41.70 | 22.96 | 54.00 | 14.36 | V |
| 17958.500 | 39.93 | -24.66 | 41.82 | 22.77 | 54.00 | 14.07 | V |

Channel 159

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5456.875 | 42.73 | -23.15 | 33.61 | 32.27 | 54.00 | 11.27 | V |
| 5458.375 | 42.84 | -23.15 | 33.62 | 32.38 | 54.00 | 11.16 | V |
| 11590.000 | 34.54 | -30.16 | 38.91 | 25.78 | 54.00 | 19.46 | H |
| 15852.000 | 35.63 | -25.51 | 38.65 | 22.49 | 54.00 | 18.37 | V |
| 17955.500 | 39.65 | -24.66 | 41.81 | 22.50 | 54.00 | 14.35 | H |
| 17992.500 | 39.58 | -24.65 | 41.89 | 22.35 | 54.00 | 14.42 | V |

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Channel 155 L

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5454.750 | 42.8 | -23.2 | 33.6 | 32.39 | 54.0 | 11.2 | V |
| 5459.250 | 43.0 | -23.2 | 33.6 | 32.52 | 54.0 | 11.0 | V |
| 11550.000 | 34.1 | -30.5 | 38.9 | 25.63 | 54.0 | 19.9 | V |
| 15850.500 | 35.5 | -25.5 | 38.7 | 22.40 | 54.0 | 18.5 | V |
| 17791.000 | 39.5 | -25.1 | 41.7 | 22.80 | 54.0 | 14.5 | H |
| 17958.000 | 39.6 | -24.7 | 41.8 | 22.42 | 54.0 | 14.4 | H |

Channel 155 R

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5454.750 | 42.8 | -23.2 | 33.6 | 32.39 | 54.0 | 11.2 | V |
| 5459.250 | 43.0 | -23.2 | 33.6 | 32.52 | 54.0 | 11.0 | V |
| 11550.000 | 34.1 | -30.5 | 38.9 | 25.63 | 54.0 | 19.9 | V |
| 15850.500 | 35.5 | -25.5 | 38.7 | 22.40 | 54.0 | 18.5 | V |
| 17791.000 | 39.5 | -25.1 | 41.7 | 22.80 | 54.0 | 14.5 | V |
| 17958.000 | 39.6 | -24.7 | 41.8 | 22.42 | 54.0 | 14.4 | V |

Peak Results:
802.11a

Channel 149

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5650.460 | 57.37 | -22.87 | 33.90 | 46.34 | 68.54 | 11.17 | H |
| 5651.610 | 56.99 | -22.87 | 33.90 | 45.95 | 69.39 | 12.40 | H |
| 11490.000 | 46.73 | -30.98 | 38.98 | 38.73 | 74.00 | 27.27 | H |
| 17235.000 | 51.81 | -24.76 | 41.57 | 35.00 | 68.30 | 16.49 | V |
| 17458.000 | 53.16 | -24.94 | 42.00 | 36.11 | 68.30 | 15.13 | H |
| 17622.500 | 53.43 | -25.08 | 41.88 | 36.64 | 68.30 | 14.87 | H |

Channel 157

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5723.500 | 59.82 | -22.73 | 34.05 | 48.50 | 68.30 | 8.48 | H |
| 5846.500 | 58.50 | -23.10 | 34.50 | 47.10 | 68.30 | 9.80 | V |
| 11570.000 | 45.77 | -30.33 | 38.93 | 37.17 | 74.00 | 28.23 | H |
| 17355.000 | 52.55 | -24.77 | 41.87 | 35.46 | 68.30 | 15.74 | H |
| 17533.500 | 53.72 | -25.01 | 41.97 | 36.76 | 68.30 | 14.58 | H |
| 17619.500 | 53.37 | -25.08 | 41.88 | 36.57 | 68.30 | 14.93 | H |

Channel 165

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5922.757 | 58.31 | -23.24 | 34.89 | 46.66 | 69.86 | 11.55 | V |
| 5924.655 | 58.53 | -23.23 | 34.90 | 46.87 | 68.46 | 9.92 | H |
| 11650.000 | 47.17 | -29.87 | 38.85 | 38.19 | 74.00 | 26.83 | H |
| 17475.000 | 51.53 | -24.96 | 42.00 | 34.49 | 68.30 | 16.77 | V |
| 17638.000 | 53.53 | -25.09 | 41.86 | 36.76 | 68.30 | 14.77 | V |
| 17675.000 | 53.13 | -25.08 | 41.82 | 36.39 | 68.30 | 15.17 | V |

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Channel 149

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5652.587 | 57.38 | -22.86 | 33.91 | 46.34 | 70.11 | 12.73 | H |
| 5653.335 | 56.79 | -22.86 | 33.91 | 45.74 | 70.67 | 13.88 | H |
| 11490.000 | 45.77 | -30.98 | 38.98 | 37.77 | 74.00 | 28.23 | V |
| 17235.000 | 50.80 | -24.76 | 41.57 | 34.00 | 68.30 | 17.49 | H |
| 17484.500 | 52.70 | -24.96 | 42.00 | 35.67 | 68.30 | 15.60 | H |
| 17615.500 | 53.49 | -25.08 | 41.88 | 36.68 | 68.30 | 14.81 | H |

Channel 157

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5721.500 | 57.43 | -22.73 | 34.04 | 46.12 | 68.30 | 10.87 | V |
| 5841.000 | 58.74 | -23.09 | 34.50 | 47.32 | 68.30 | 9.56 | H |
| 11570.000 | 45.79 | -30.33 | 38.93 | 37.19 | 74.00 | 28.21 | V |
| 17355.000 | 52.40 | -24.77 | 41.87 | 35.30 | 68.30 | 15.90 | H |
| 17575.500 | 52.69 | -25.04 | 41.92 | 35.80 | 68.30 | 15.61 | V |
| 17668.000 | 52.89 | -25.08 | 41.83 | 36.15 | 68.30 | 15.41 | V |

Channel 165

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5924.368 | 57.29 | -23.24 | 34.90 | 45.62 | 68.67 | 11.38 | V |
| 5924.828 | 57.90 | -23.23 | 34.90 | 46.23 | 68.33 | 10.43 | H |
| 11650.000 | 46.69 | -29.87 | 38.85 | 37.70 | 74.00 | 27.31 | H |
| 17475.000 | 52.03 | -24.96 | 42.00 | 34.98 | 68.30 | 16.27 | V |
| 17596.500 | 53.65 | -25.06 | 41.90 | 36.81 | 68.30 | 14.65 | V |
| 17648.000 | 54.09 | -25.09 | 41.85 | 37.33 | 68.30 | 14.21 | H |

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Channel 151

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5650.345 | 58.75 | -22.87 | 33.90 | 47.72 | 68.46 | 9.70 | V |
| 5651.552 | 58.02 | -22.87 | 33.90 | 46.98 | 69.35 | 11.33 | V |
| 11510.000 | 45.86 | -30.85 | 38.99 | 37.72 | 74.00 | 28.14 | H |
| 17265.000 | 50.61 | -24.70 | 41.63 | 33.68 | 68.30 | 17.69 | H |
| 17398.000 | 52.90 | -24.84 | 41.99 | 35.75 | 68.30 | 15.40 | V |
| 17585.500 | 52.26 | -25.05 | 41.91 | 35.40 | 68.30 | 16.04 | V |

Channel 159

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5923.448 | 57.48 | -23.24 | 34.89 | 45.82 | 69.35 | 11.87 | V |
| 5924.023 | 57.52 | -23.24 | 34.90 | 45.86 | 68.92 | 11.40 | V |
| 11590.000 | 45.77 | -30.16 | 38.91 | 37.02 | 74.00 | 28.23 | H |
| 17385.000 | 51.19 | -24.82 | 41.96 | 34.06 | 68.30 | 17.11 | H |
| 17517.500 | 52.82 | -24.99 | 41.98 | 35.83 | 68.30 | 15.48 | V |
| 17666.000 | 52.47 | -25.08 | 41.83 | 35.72 | 68.30 | 15.83 | V |

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Channel 149

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5650.690 | 57.11 | -22.87 | 33.90 | 46.08 | 68.71 | 11.60 | H |
| 5651.725 | 56.94 | -22.87 | 33.90 | 45.90 | 69.48 | 12.54 | V |
| 11490.000 | 46.15 | -30.98 | 38.98 | 38.15 | 74.00 | 27.85 | V |
| 17235.000 | 52.04 | -24.76 | 41.57 | 35.24 | 68.30 | 16.26 | V |
| 17406.500 | 53.30 | -24.86 | 42.00 | 36.16 | 68.30 | 15.00 | V |
| 17583.500 | 53.19 | -25.05 | 41.92 | 36.32 | 68.30 | 15.11 | H |

Channel 157

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5726.000 | 57.90 | -22.73 | 34.05 | 46.58 | 68.30 | 10.40 | H |
| 5841.000 | 58.65 | -23.09 | 34.50 | 47.24 | 68.30 | 9.65 | V |
| 11570.000 | 45.61 | -30.33 | 38.93 | 37.01 | 74.00 | 28.39 | H |
| 17355.000 | 51.22 | -24.77 | 41.87 | 34.13 | 68.30 | 17.08 | H |
| 17529.000 | 52.62 | -25.00 | 41.97 | 35.65 | 68.30 | 15.68 | H |
| 17689.500 | 52.54 | -25.08 | 41.81 | 35.81 | 68.30 | 15.76 | V |

Channel 165

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5923.275 | 57.15 | -23.24 | 34.89 | 45.49 | 69.48 | 12.33 | H |
| 5923.908 | 57.39 | -23.24 | 34.90 | 45.73 | 69.01 | 11.62 | H |
| 11650.000 | 47.03 | -29.87 | 38.85 | 38.05 | 74.00 | 26.97 | V |
| 17475.000 | 51.80 | -24.96 | 42.00 | 34.76 | 68.30 | 16.50 | V |
| 17552.500 | 52.26 | -25.02 | 41.95 | 35.34 | 68.30 | 16.04 | V |
| 17664.000 | 52.29 | -25.08 | 41.84 | 35.54 | 68.30 | 16.01 | H |

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Channel 151

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5651.323 | 58.58 | -22.87 | 33.90 | 47.54 | 69.18 | 10.60 | V |
| 5652.703 | 57.35 | -22.86 | 33.91 | 46.30 | 70.20 | 12.85 | H |
| 11510.000 | 46.72 | -30.85 | 38.99 | 38.59 | 68.30 | 21.58 | H |
| 17265.000 | 51.34 | -24.70 | 41.63 | 34.41 | 74.00 | 22.66 | H |
| 17482.000 | 52.84 | -24.96 | 42.00 | 35.80 | 68.30 | 15.46 | V |
| 17673.500 | 52.97 | -25.08 | 41.83 | 36.23 | 68.30 | 15.33 | V |

Channel 159

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5923.792 | 57.59 | -23.24 | 34.90 | 45.93 | 69.09 | 11.50 | V |
| 5924.770 | 57.69 | -23.23 | 34.90 | 46.03 | 68.37 | 10.68 | H |
| 11590.000 | 46.99 | -30.16 | 38.91 | 38.23 | 74.00 | 27.01 | V |
| 17385.000 | 51.05 | -24.82 | 41.96 | 33.91 | 68.30 | 17.25 | H |
| 17542.500 | 52.77 | -25.01 | 41.96 | 35.82 | 68.30 | 15.53 | H |
| 17669.500 | 53.27 | -25.08 | 41.83 | 36.52 | 68.30 | 15.03 | H |

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Channel 155 L

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5652.473 | 62.7 | -22.9 | 33.9 | 51.67 | 70.0 | 7.3 | V |
| 5654.485 | 62.0 | -22.9 | 33.9 | 50.91 | 71.5 | 9.6 | H |
| 11550.000 | 46.2 | -30.5 | 38.9 | 37.77 | 74.0 | 27.8 | V |
| 17325.000 | 50.9 | -24.7 | 41.8 | 33.86 | 68.3 | 17.4 | V |
| 17460.000 | 52.4 | -24.9 | 42.0 | 35.39 | 68.3 | 15.9 | H |
| 17629.500 | 52.7 | -25.1 | 41.9 | 35.90 | 68.3 | 15.6 | V |

Channel 155 R

| 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) |
|-----------------|-----------------------------|-----------------|-----------------------|-------------------------|----------------|-------------|--------------------|
| 5923.620 | 58.0 | -23.2 | 34.9 | 46.31 | 69.2 | 11.3 | V |
| 5924.770 | 58.9 | -23.2 | 34.9 | 47.22 | 68.4 | 9.5 | V |
| 11550.000 | 46.2 | -30.5 | 38.9 | 37.77 | 74.0 | 27.8 | V |
| 17325.000 | 50.9 | -24.7 | 41.8 | 33.86 | 68.3 | 17.4 | H |
| 17460.000 | 52.4 | -24.9 | 42.0 | 35.39 | 68.3 | 15.9 | H |
| 17629.500 | 52.7 | -25.1 | 41.9 | 35.90 | 68.3 | 15.6 | H |

A.6. Band Edges Compliance

A6.1 Band Edges - Radiated

Measurement Limit:

| Standard | Limit (dBm/MHz) | |
|---------------------------|--|------|
| FCC 47 CFR Part 15.407 | at the band edge | 27 |
| | at 5 MHz above or below the band edge | 15.6 |
| | at 25 MHz above or below the band edge | 10 |
| | at 75 MHz or more above or below the band edge | -27 |
| | Note: increasing linearly from point to point. | |

The measurement is made according to KDB 789033 D02

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)).

Measurement Result:

EUT ID: UT81a

| Mode | Channel | Test Results | Conclusion |
|------------------|----------------|---------------------|-------------------|
| 802.11a | 5745 MHz | Fig.10 | P |
| | 5825 MHz | Fig.11 | P |
| 802.11n HT20 | 5745 MHz | Fig.12 | P |
| | 5825 MHz | Fig.13 | P |
| 802.11n HT40 | 5755 MHz | Fig.14 | P |
| | 5795 MHz | Fig.15 | P |
| 802.11ac HT20 | 5745 MHz | Fig.16 | P |
| | 5825 MHz | Fig.17 | P |
| 802.11ac HT40 | 5755 MHz | Fig.18 | P |
| | 5795 MHz | Fig.19 | P |
| 802.11ac HT80 | 5775 MHz | Fig.20 Fig.21 | P |

Conclusion: PASS

Test graphs as below:

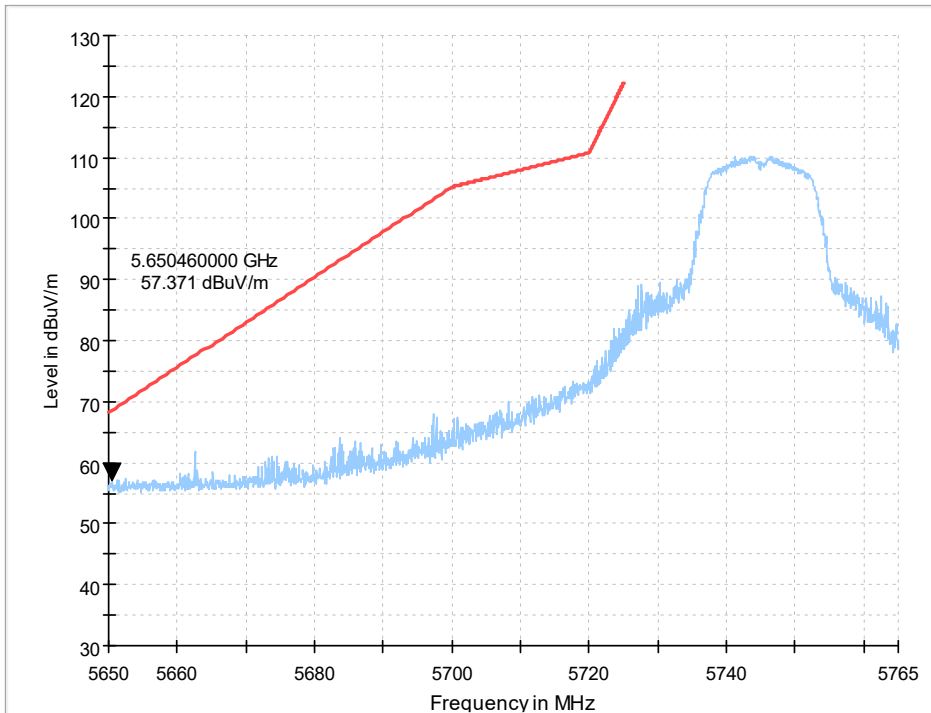


Fig. 10 Band Edges (802.11a Ch149,5745MHz)

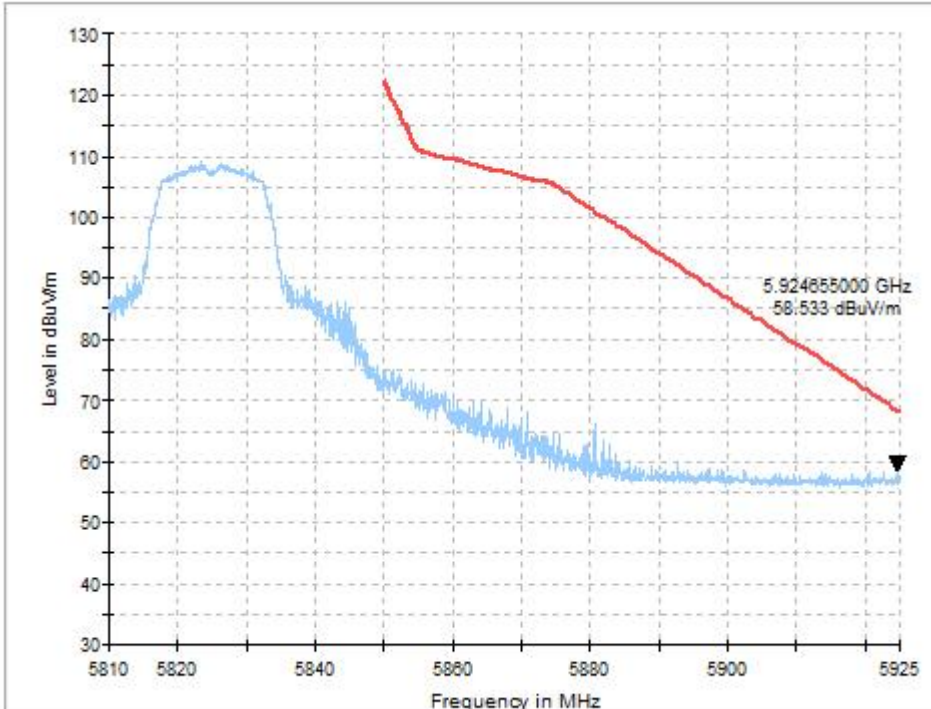


Fig. 11 Band Edges (802.11a Ch165, 5825MHz)

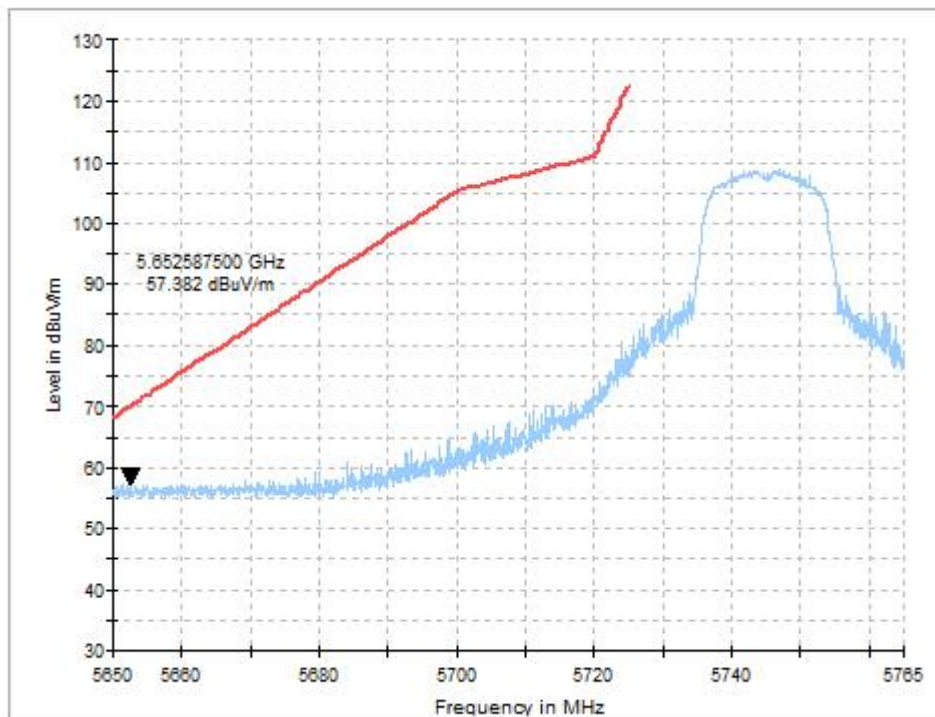


Fig. 12 Band Edges (802.11n-HT20 Ch149, 5745MHz)

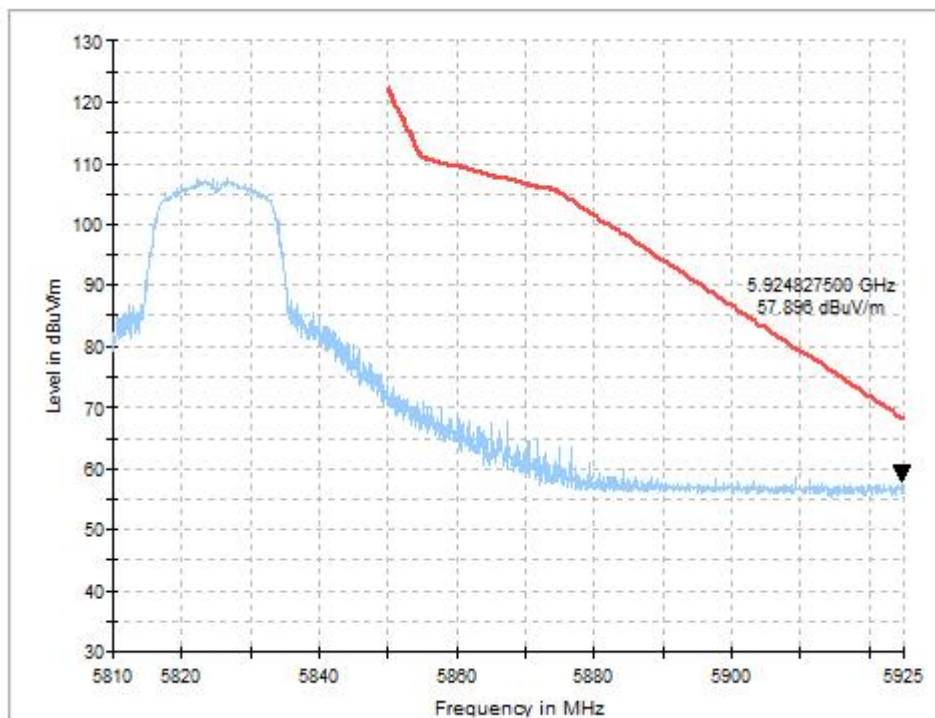


Fig. 13 Band Edges (802.11n-HT20 Ch165, 5825MHz)

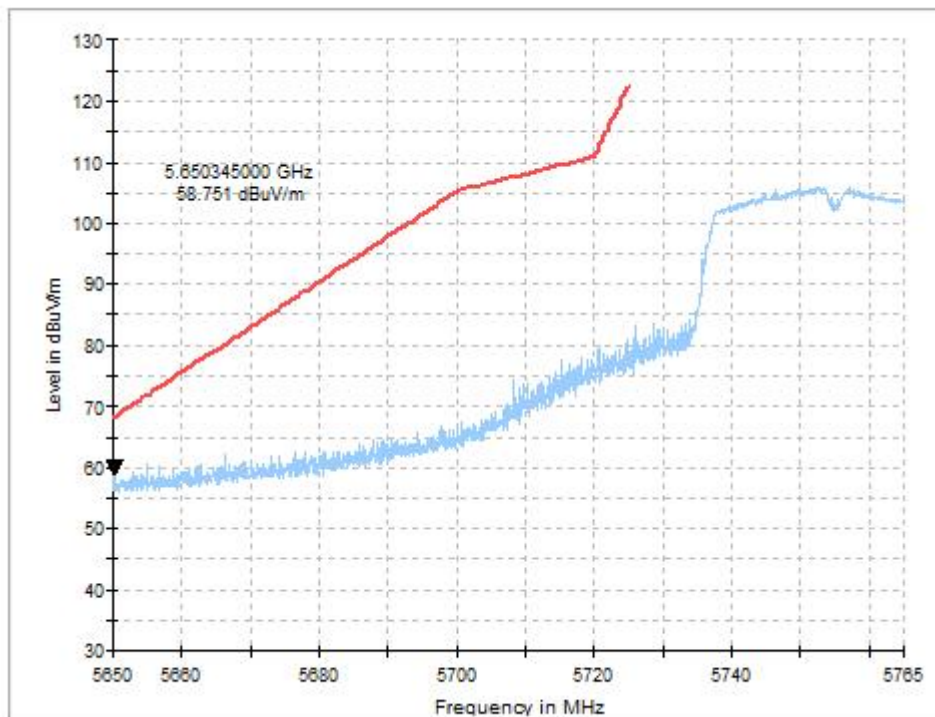


Fig. 14 Band Edges (802.11n-HT40 Ch151, 5755MHz)

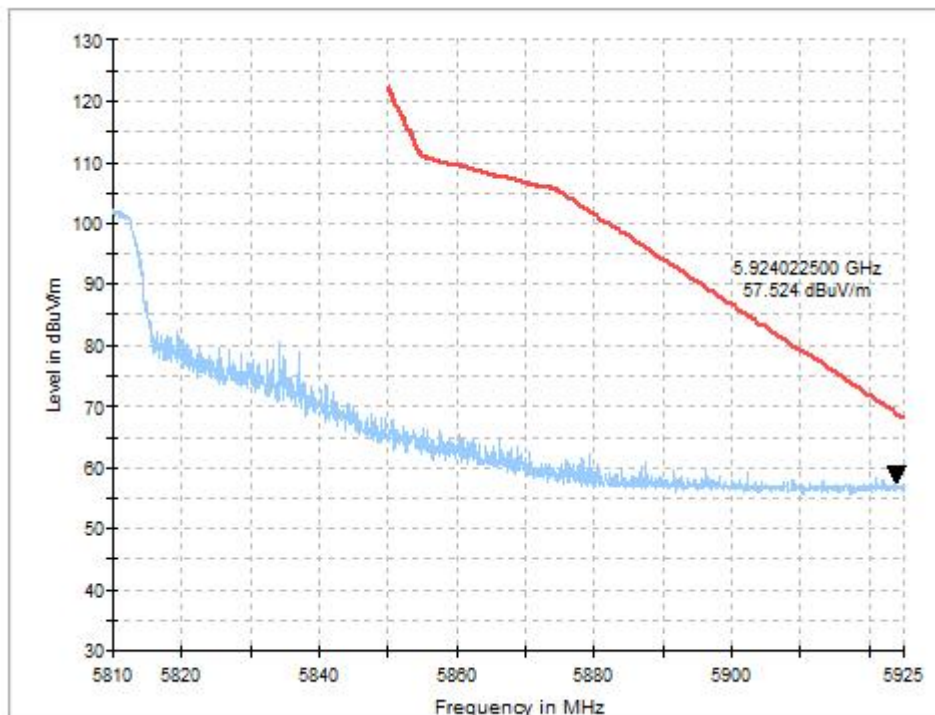


Fig. 15 Band Edges (802.11n-HT40 Ch159, 5795MHz)

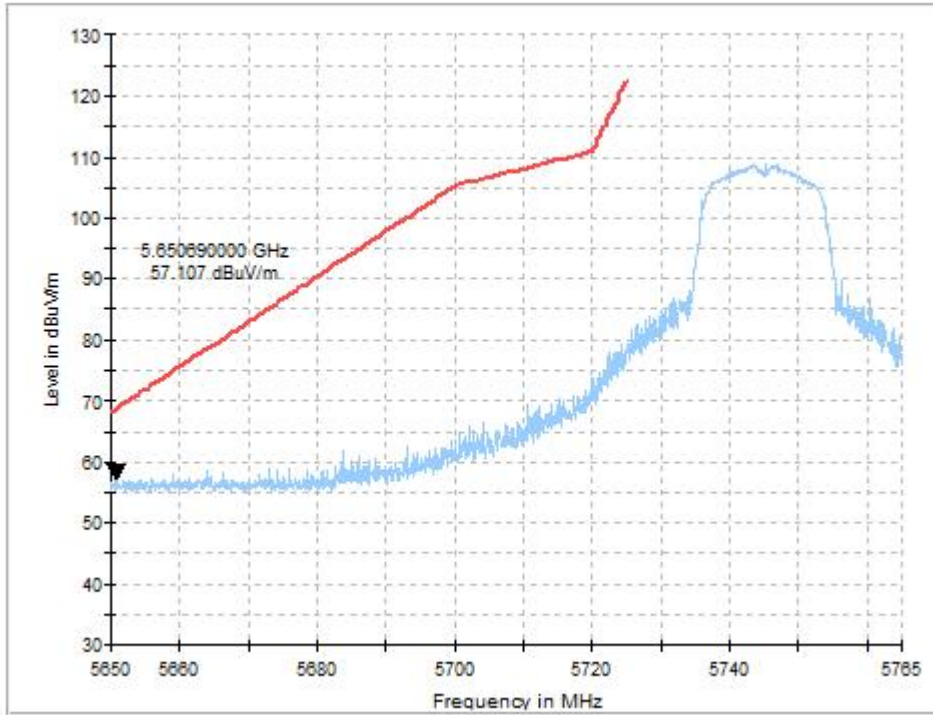


Fig. 16 Band Edges (802.11ac-HT20 Ch149, 5745MHz)

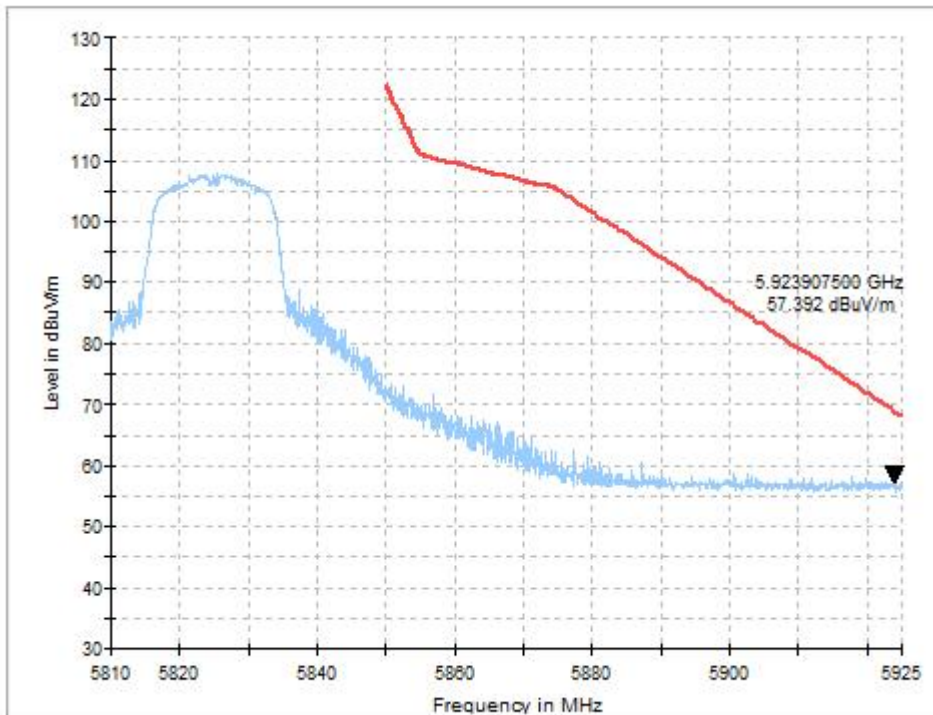


Fig. 17 Band Edges (802.11ac-HT20 Ch165, 5825MHz)

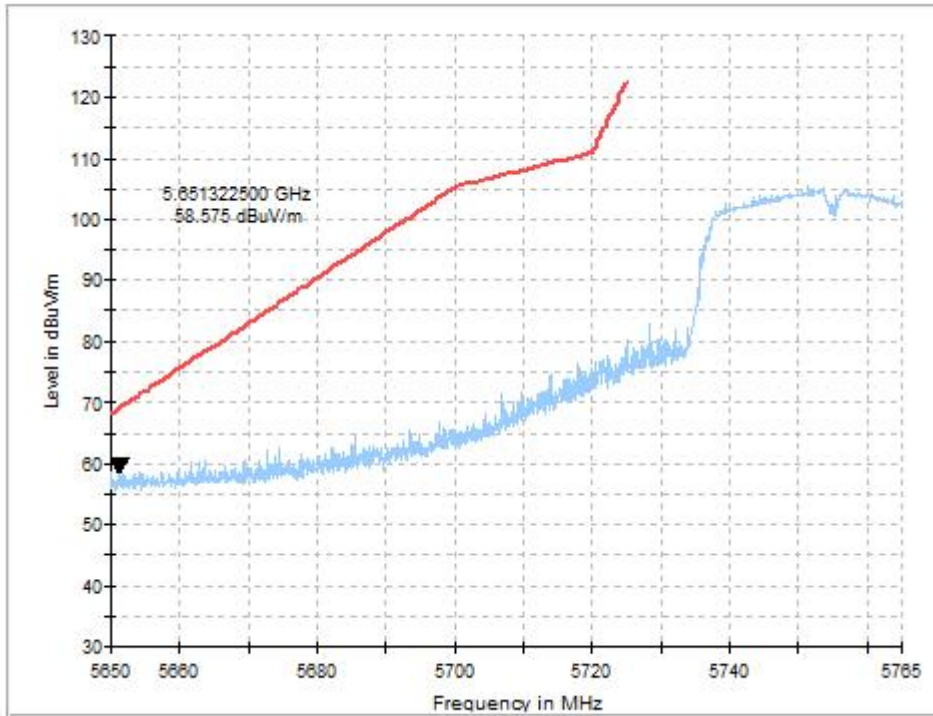


Fig. 18 Band Edges (802.11ac-HT40 Ch151, 5755MHz)

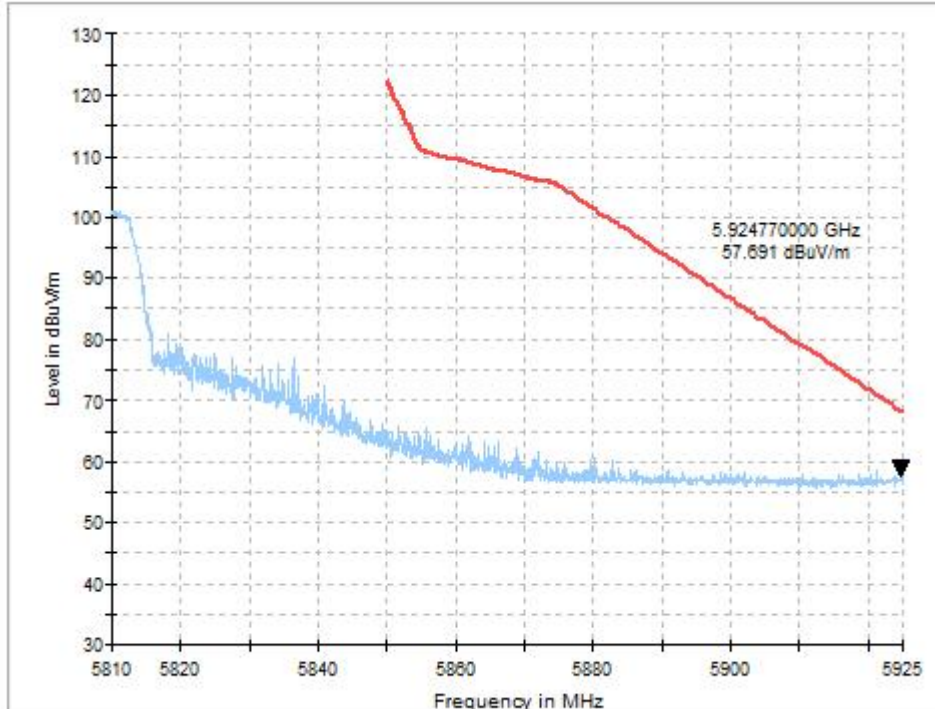


Fig. 19 Band Edges (802.11ac-HT40 Ch159, 5795MHz)

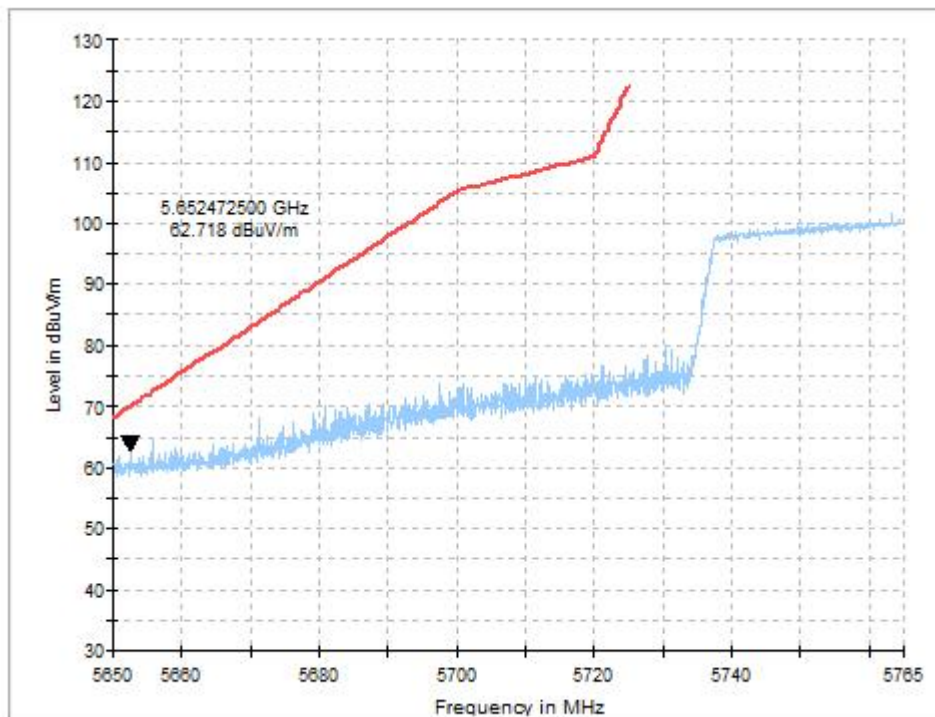


Fig. 20 Band Edges (802.11ac-HT80 Ch155, 5775MHz)

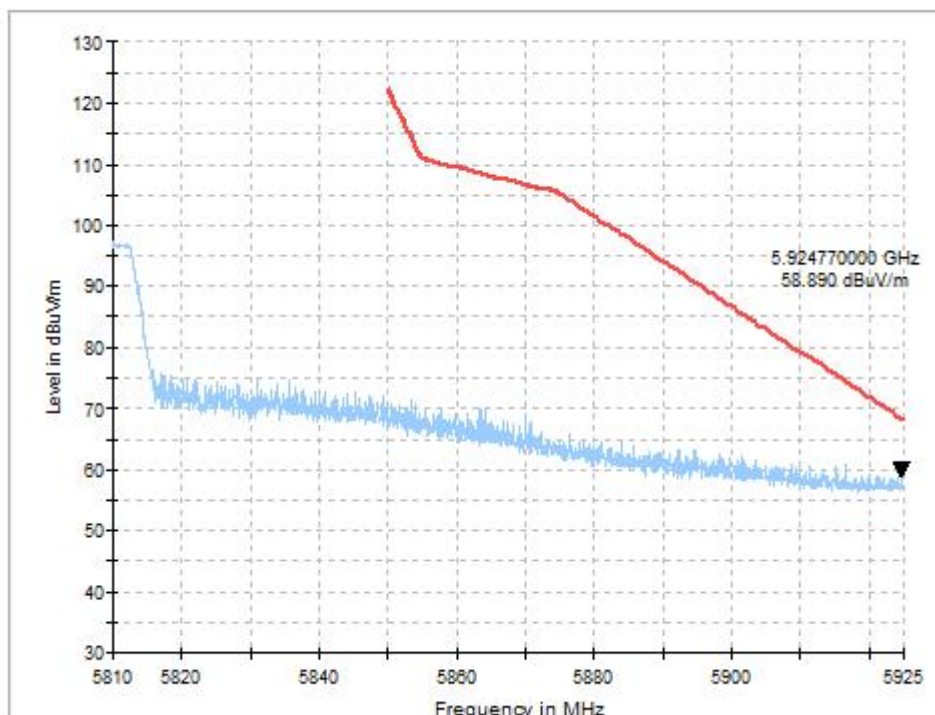


Fig. 21 Band Edges (802.11ac-HT80 Ch155, 5775MHz)

A.7. AC Powerline Conducted Emission

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

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.

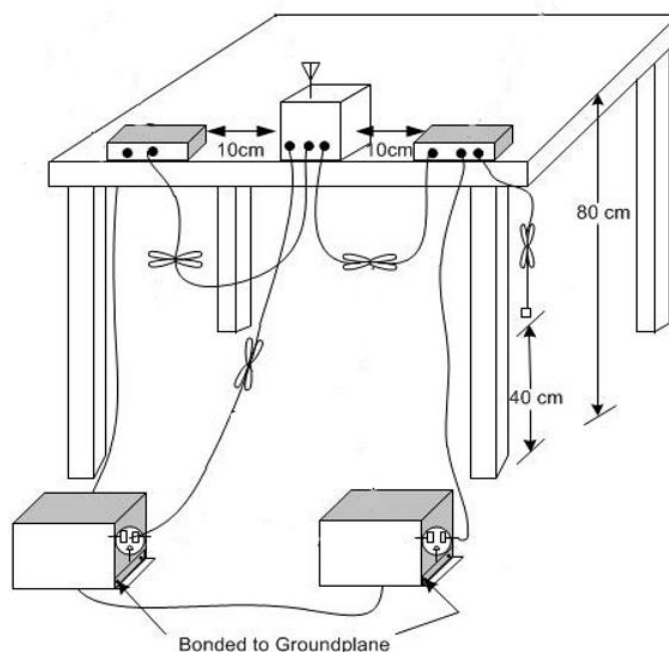
The measurement bandwidth is:

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

Test Condition:

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

Test setup



Measurement Result and limit:

EUT ID: UT85a

WLAN (Quasi-peak Limit)

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| Frequency range (MHz) | Quasi-peak Limit (dB μ V) | Result (dB μ V) | | Conclusion |
|-----------------------|-------------------------------|---------------------|--------|------------|
| | | With charger | | |
| | | 802.11a | Idle | |
| 0.15 to 0.5 | 66 to 56 | Fig.22 | Fig.23 | P |
| 0.5 to 5 | 56 | | | |
| 5 to 30 | 60 | | | |

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

WLAN (Average Limit)

| Frequency range (MHz) | Average Limit (dB μ V) | Result (dB μ V) | | Conclusion |
|-----------------------|----------------------------|---------------------|--------|------------|
| | | With charger | | |
| | | 802.11a | Idle | |
| 0.15 to 0.5 | 56 to 46 | Fig.22 | Fig.23 | 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.

The measurement is made according to ANSI C63.10 .

Conclusion: PASS

Test graphs as below:

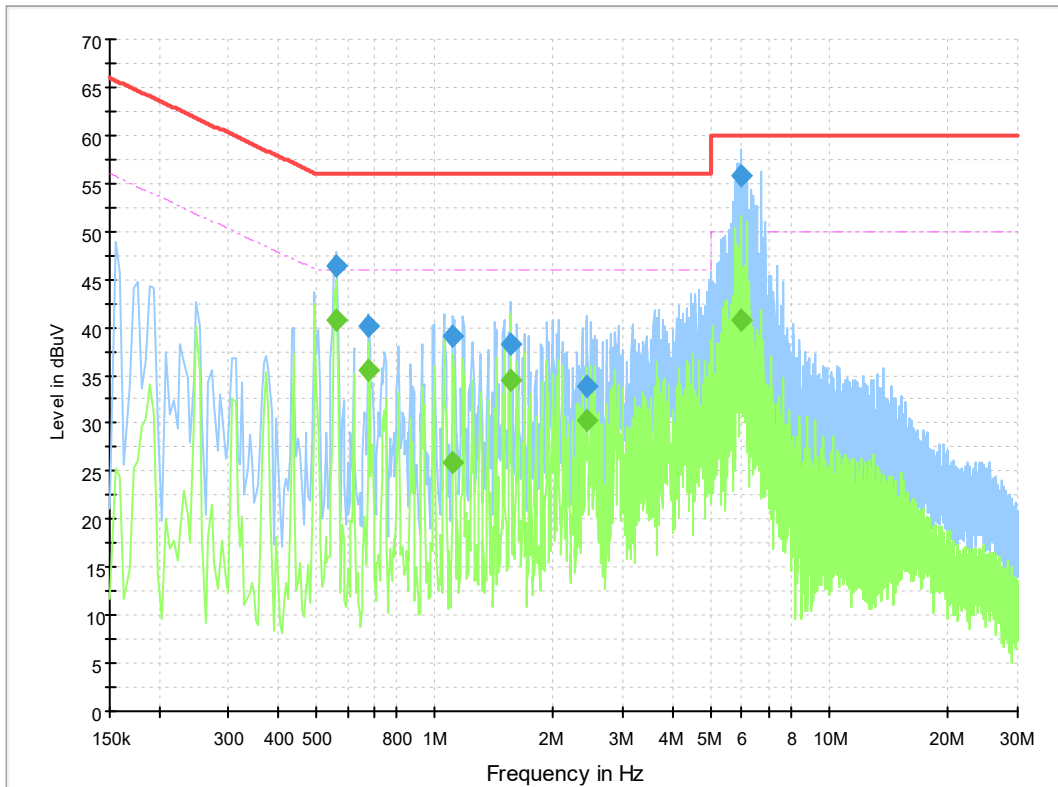


Fig. 22 AC Powerline Conducted Emission-802.11a

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

| Frequency (MHz) | QuasiPeak (dB μ V) | Meas. Time | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dB μ V) |
|-----------------|------------------------|------------|-----------------|--------|------|------------|-------------|--------------------|
| 0.564000 | 46.3 | 2000.0 | 9.000 | Off | L1 | 19.6 | 9.7 | 56.0 |
| 0.681000 | 40.1 | 2000.0 | 9.000 | Off | L1 | 19.6 | 15.9 | 56.0 |
| 1.113000 | 39.0 | 2000.0 | 9.000 | Off | L1 | 19.7 | 17.0 | 56.0 |
| 1.558500 | 38.2 | 2000.0 | 9.000 | Off | N | 19.7 | 17.8 | 56.0 |
| 2.427000 | 33.9 | 2000.0 | 9.000 | Off | N | 19.7 | 22.1 | 56.0 |
| 5.946000 | 55.8 | 2000.0 | 9.000 | Off | L1 | 19.8 | 4.2 | 60.0 |

Final Result 2

| Frequency (MHz) | CAverage (dB μ V) | Meas. Time | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dB μ V) |
|-----------------|-----------------------|------------|-----------------|--------|------|------------|-------------|--------------------|
| 0.564000 | 40.7 | 2000.0 | 9.000 | Off | L1 | 19.6 | 5.3 | 46.0 |
| 0.681000 | 35.5 | 2000.0 | 9.000 | Off | L1 | 19.6 | 10.5 | 46.0 |
| 1.113000 | 25.9 | 2000.0 | 9.000 | Off | N | 19.7 | 20.1 | 46.0 |
| 1.558500 | 34.6 | 2000.0 | 9.000 | Off | L1 | 19.7 | 11.4 | 46.0 |
| 2.436000 | 30.3 | 2000.0 | 9.000 | Off | L1 | 19.8 | 15.7 | 46.0 |
| 5.946000 | 40.7 | 2000.0 | 9.000 | Off | N | 19.8 | 9.3 | 50.0 |

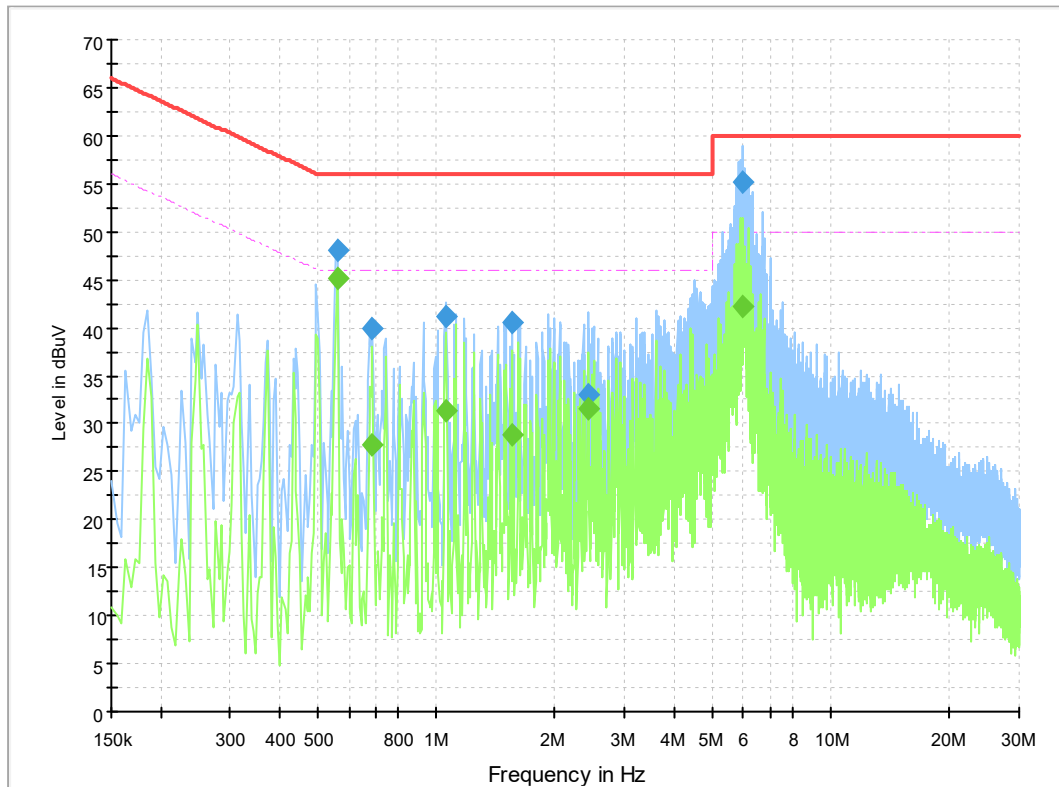


Fig. 23 AC Powerline Conducted Emission-Idle

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

| Frequency (MHz) | QuasiPeak (dB μ V) | Meas. Time | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dB μ V) |
|-----------------|------------------------|------------|-----------------|--------|------|------------|-------------|--------------------|
| 0.559500 | 48.1 | 2000.0 | 9.000 | Off | L1 | 19.6 | 7.9 | 56.0 |
| 0.690000 | 39.8 | 2000.0 | 9.000 | Off | L1 | 19.6 | 16.2 | 56.0 |
| 1.054500 | 41.2 | 2000.0 | 9.000 | Off | L1 | 19.7 | 14.8 | 56.0 |
| 1.554000 | 40.6 | 2000.0 | 9.000 | Off | L1 | 19.7 | 15.4 | 56.0 |
| 2.422500 | 33.0 | 2000.0 | 9.000 | Off | N | 19.7 | 23.0 | 56.0 |
| 5.946000 | 55.1 | 2000.0 | 9.000 | Off | L1 | 19.8 | 4.9 | 60.0 |

Final Result 2

| Frequency (MHz) | CAverage (dB μ V) | Meas. Time | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dB μ V) |
|-----------------|-----------------------|------------|-----------------|--------|------|------------|-------------|--------------------|
| 0.559500 | 45.1 | 2000.0 | 9.000 | Off | L1 | 19.6 | 0.9 | 46.0 |
| 0.690000 | 27.8 | 2000.0 | 9.000 | Off | N | 19.6 | 18.2 | 46.0 |
| 1.054500 | 31.3 | 2000.0 | 9.000 | Off | N | 19.7 | 14.7 | 46.0 |
| 1.554000 | 28.9 | 2000.0 | 9.000 | Off | N | 19.7 | 17.1 | 46.0 |
| 2.422500 | 31.6 | 2000.0 | 9.000 | Off | L1 | 19.7 | 14.4 | 46.0 |
| 5.946000 | 42.2 | 2000.0 | 9.000 | Off | L1 | 19.8 | 7.8 | 50.0 |

ANNEX B: EUT parameters

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

ANNEX C: Accreditation Certificate



Accredited Laboratory

A2LA has accredited

TELECOMMUNICATION TECHNOLOGY LABS, CAICT
Beijing, People's Republic of China

for technical competence in the field of
Electrical Testing

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



Presented this 26th day of June 2023.



Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 7049.01
Valid to July 31, 2024

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

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