

Emissions Test Report

EUT Name:Home Wi-Fi RouterModel No.:A010001CFR 47 Part 15.407 2015 and RSS 247: 2015

Prepared for:

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Note: Latest revision report will replace all previous reports.

Statement of Compliance

| Manufacturer: | eero inc 933 20th Street San Francisco, CA 94107 (415) 738-7972 |
|---|---|
| Requester / Applicant: | Clifford Clarke |
| Name of Equipment: Model No. Type of Equipment: Application of Regulations: Test Dates: | Home Wi-Fi Router A010001 Intentional Radiator CFR 47 Part 15.407 2015 and RSS 247: 2015 03 Nov 2015 to 09 Dec 2015 |

Guidance Documents:

Emissions: ANSI C63.10-2013, KDB 789033 D02 General UNII Test Procedures New Rules v01, KDB 662911 D01 Multiple Transmitter Output v02r01

Test Methods:

Emissions: ANSI C63.10-2013, KDB 789033 D02 General UNII Test Procedures New Rules v01, KDB 662911 D01 Multiple Transmitter Output v02r01

The electromagnetic compatibility test and documented data described in this report has been performed and recorded by TUV Rheinland, in accordance with the standards and procedures listed herein. As the responsible authorized agent of the EMC laboratory, I hereby declare that the equipment described above has been shown to be compliant with the EMC requirements of the stated regulations and standards based on these results. If any special accessories and/or modifications were required for compliance, they are listed in the Executive Summary of this report.

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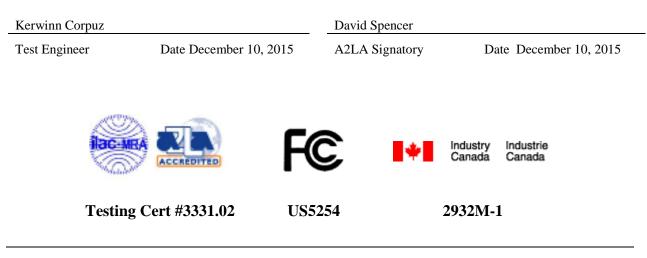


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1 Executive Summary

1.1 Scope

This report is intended to document the status of conformance with the requirements of the CFR 47 Part 15.407 2015 and RSS 247: 2015 based on the results of testing performed on 03 Nov 2015 to 09 Dec 2015 on the Home Wi-Fi Router Model A010001 manufactured by eero inc This report only applies to the specific samples tested under the stated test conditions. It is the responsibility of the manufacturer to assure that additional production units of this model are manufactured with identical or EMI equivalent electrical and mechanical components. This report is further intended to document changes and modifications to the EUT throughout its life cycle. All documentation will be included as a supplement.

1.2 Purpose

Testing was performed to evaluate the EMC performance of the EUT in accordance with the applicable requirements, procedures, and criteria defined in the application of regulations and application of standards listed in this report. The 5745 MHz to 5825 MHz frequency band is covered in this document.

1.3 Summary of Test Results

 Table 1: Summary of Test Results

| Test | Test Method ANSI C63.4 | Test Parameters (Measured) | Result |
|--|--|---|----------|
| Spurious Emission in Transmitted Mode | CFR47 15.209, CFR47 15.407 (b) RSS-GEN Sect.7.2.3, RSS 247 Sect. 6.2.4.2 | Class B | Complied |
| Restricted Bands of Operation | CFR47 15.205, RSS GEN Sect.8.10 | Class B | Complied |
| AC Power Conducted Emission | CFR47 15.207, RSS-GEN Sect.8.8 | Class B | Complied |
| Occupied Bandwidth | CFR47 15.407 (e), RSS GEN Sect.6.6 | See plots | Complied |
| Maximum Output Power | CFR47 15.407 (a), RSS 247 Sect. 6.2.4.1 | 25.35 dBm (11a mode) 25.46 dBm (HT 20) 25.17 dBm (VHT 20) 18.27 dBm (HT 40) 18.26 dBm (VHT 40) 14.62 dBm (VHT80) | Complied |
| Peak Power Spectral Density | CFR47 15.407 (a), RSS 247 Sect. 6.2.4.1 | < 30 dBm/500kHz | Complied |
| Conducted Emission – Antenna Port | CFR47 15.407 (b), RSS 247 Sect.6.2.4.2 | 30 MHz - 40 GHz < 27 dBm/MHz | Complied |
| Frequency Stability | CFR47 15.407 (g), RSS GEN Sect. 6.11 | ±20 ppm | Complied |
| RF Exposure | CFR47 15.407 (f), 2.1091, RSS-102 Issue 5 | General Population | Complied |

Note: This test report covers 5725 MHz to 5850 MHz band.

1.4 Special Accessories

No special accessories were necessary in order to achieve compliance.

1.5 Equipment Modifications

None

2 Laboratory Information

2.1 Accreditations & Endorsements

2.1.1 **US Federal Communications Commission**



TUV Rheinland of North America at 1279 Quarry Ln, Pleasanton, CA 94566 is recognized by the commission for performing testing services for the general public on a fee basis. These laboratory test facilities have been fully described in reports submitted to and accepted by the FCC (US5254). The laboratory scope of accreditation includes: Title 47 CFR Parts 15, 18, and 90. The accreditation is updated every 3 years.

2.1.2 NIST / A2LA



TUV Rheinland of North America is accredited by the National Voluntary Laboratory Accreditation Program, which is administered under the auspices of the National Institute of Standards and Technology. The laboratory has been assessed and accredited in accordance with ISO Guide 17025:1999 and ISO 9002 (Lab Code

Testing Cert #3331.02). The scope of laboratory accreditation includes emission and immunity testing. The accreditation is updated annually.

2.1.3 Canada – Industry Canada

Industry Canada Industrie Canada

TUV Rheinland of North America at the 1279 Quarry Ln, Pleasanton, CA 94566 address is accredited by Industry Canada for performing testing services for the general public on a fee basis. This laboratory test

facilities have been fully described in reports submitted to and accepted by Industry Canada (File Number 2932M). This reference number is the indication to the Industry Canada Certification Officers that the site meets the requirements of RSS 212, Issue 1 (Provisional). The accreditation is updated every 3 years.

2.1.4 Japan – VCCI



The Voluntary Control Council for Interference by Information Technology Equipment (VCCI) is a group that consists of Information Technology Equipment (ITE) manufacturers and EMC test laboratories. The purpose of the Council is to take voluntary control measures against electromagnetic interference from

Information Technology Equipment, and thereby contribute to the development of a socially beneficial and responsible state of affairs in the realm of Information Technology Equipment in Japan. TUV Rheinland of North America at 1279 Quarry Ln, Pleasanton, CA 94566 has been assessed and approved in accordance with the Regulations for Voluntary Control Measures.

VCCI Registration No. for Pleasanton: A-0031

VCCI Registration No. for Santa Clara: A-0032

2.1.5 Acceptance by Mutual Recognition Arrangement



The United States has an established agreement with specific countries under the Asia Pacific Laboratory Accreditation Corporation (APLAC) Mutual Recognition Arrangement. Under this agreement, all TUV Rheinland at 1279 Quarry Ln, Pleasanton, CA 94566 test results and test reports within the scope of the laboratory NIST / A2LA accreditation will be accepted by each member

country.

2.2 Test Facilities

All of the test facilities are located at 1279 Quarry Lane, Pleasanton, California 94566, USA. The 2305 Mission College, Santa Clara, 95054, USA location is considered a Pleasanton annex.

2.2.1 Emission Test Facility

The Semi-Anechoic chamber and AC Line Conducted measurement facility used to collect the radiated and conducted data has been constructed in accordance with ANSI C63.7:1992. The site has been measured in accordance with and verified to comply with the theoretical normalized site attenuation requirements of ANSI C63.4-2014, at a test distance of 3 and 5 meters. The site is listed with the FCC and accredited by A2LA (Lab Code Testing Cert #3331.02). The 3/5-meter semi-anechoic chamber used to collect the radiated data has been verified to comply with the theoretical normalized site attenuation requirements of ANSI C63.4-2014, at a test distance of 3 meters. The site is listed with the FCC and accredited by A2LA (Lab Code Testing Cert #3331.02). The 3/5-meter semi-anechoic chamber used to collect the radiated data has been verified to comply with the theoretical normalized site attenuation requirements of ANSI C63.4-2014, at a test distance of 3 meter and 5 meters. A report detailing this site can be obtained from TUV Rheinland of North America.

2.2.2 Immunity Test Facility

ESD, EFT, Surge, PQF: These tests are performed in an environmentally controlled room with a 3.7 m x 4.8 m x 3.175 mm thick aluminum floor connected to PE ground.

For ESD testing, tabletop equipment is placed on an insulated mat with a surface resistivity of 10^9 Ohms/square on a 1.6 m x 0.8 m x 0.8 m high non-conductive table with a 3.175 mm aluminum top (Horizontal Coupling Plane). The HCP is connected to the main ground plane via a low impedance ground strap through two 470-k Ω resistors. The Vertical Coupling Plane consists of an aluminum plate 50 cm x 50 cm x 3.175 mm thick. The VCP is connected to the main ground plane via a low impedance ground strap through two 470-k Ω resistors.

For EFT, Surge, PQF, the HCP and VCP are removed.

RF Field Immunity testing is performed in a 7.3m x 4.3m x 4.1m anechoic chamber.

RF Conducted and Magnetic Field Immunity testing is performed on a 4.8m x 3.7m x 3.175mm thick aluminum ground plane.

All test areas allow a minimum distance of 1 meter from the EUT to walls or conducting objects.

2.3 Measurement Uncertainty

Two types of measurement uncertainty are expressed in this report, per *ISO Guide To The Expression Of Uncertainty In Measurement*, 1st Edition, 1995.

The Combined Standard Uncertainty is the standard uncertainty of the result of a measurement when that result is obtained from the values of a number of other quantities; it is equal to the positive square root of the sum of the variances or co-variances of these other quantities, weighted according to how the measurement result varies with changes in these quantities. The term *standard uncertainty* is the result of a measurement expressed as a standard deviation.

2.3.1 Sample Calculation – radiated & conducted emissions

The field strength is calculated by subtracting the Amplifier Gain and adding the Cable Loss and Antenna Correction Factor to the measured reading. The basic equation is as follows:

Field Strength $(dB\mu V/m) = RAW - AMP + CBL + ACF$

Where: RAW = Measured level before correction ($dB\mu V$)

AMP = Amplifier Gain (dB)

CBL = Cable Loss (dB)

ACF = Antenna Correction Factor (dB/m)

$$V/m = 10^{\frac{dB\mu V/m}{20}}$$

Sample radiated emissions calculation @ 30 MHz

μ

Measurement +Antenna Factor-Amplifier Gain+Cable loss=Radiated Emissions (dBuV/m)

25 dBuV/m + 17.5 dB - 20 dB + 1.0 dB = 23.5 dBuV/m

2.3.2 Measurement Uncertainty

| Per CISPR 16-4-2 | Ulab | Ucispr | | | | |
|---|---------------------|---------|--|--|--|--|
| Radiated Disturbance @ 10 meters | | | | | | |
| 30 – 1,000 MHz | 2.25 dB | 4.51 dB | | | | |
| Radiated Disturbance @ 3 | ³ meters | | | | | |
| 30 – 1,000 MHz | 2.26 dB | 4.52 dB | | | | |
| 1 – 6 GHz | 2.12 dB | 4.25 dB | | | | |
| 6 – 18 GHz | 2.47 dB 4.93 dB | | | | | |
| Conducted Disturbance @ Mains Terminals | | | | | | |
| 150 kHz – 30 MHz | 1.09 dB | 2.18 dB | | | | |
| Disturbance Power | | | | | | |
| 30 MHz – 300 MHz | 3.92 dB | 4.3 dB | | | | |

Voltech PM6000A

| The estimated combined standard uncertainty for harmonic current and flicker measurements is \pm 5.0%. | Per CISPR 16-4-2 Methods |
|--|-----------------------------|
|--|-----------------------------|

1.1.1 Measurement Uncertainty Immunity

| The estimated combined standard uncertainty for ESD immunity measurements is \pm 8.2%. | Per IEC 61000-4-2 |
|---|-------------------|
| The estimated combined standard uncertainty for radiated immunity measurements is ± 4.10 dB. | Per IEC 61000-4-3 |
| The estimated combined standard uncertainty for conducted immunity measurements with CDN is \pm 3.66 dB | Per IEC 61000-4-6 |
| The estimated combined standard uncertainty for power frequency magnetic field immunity is $\pm 2.9\%$. | Per IEC 61000-4-8 |

Thermo KeyTek EMC Pro

| The estimated combined standard uncertainty for EFT fast transient immunity measurements is $\pm 2.6\%$. |
|---|
| The estimated combined standard uncertainty for surge immunity measurements is $\pm 2.6\%$. |
| The estimated combined standard uncertainty for voltage variation and interruption measurements is $\pm 1.74\%$. |

The expanded uncertainty at a level of 95% confidence is obtained by multiplying the combined standard uncertainty by a coverage factor of 2. Compliance criteria are not based on measurement uncertainty.

2.4 Calibration Traceability

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST). Measurement method complies with ANSI/NCSL Z540-1-1994 and ISO Standard 17025:2005. Equipment calibration records are kept on file at the test facility.

3 Product Information

3.1 Product Description

The Model A010001, Home Wi-Fi Router, is a Wi-Fi router for the home capable of operating in the 2.4 GHz and 5 GHz frequency bands over 20 MHz, 40 MHz and 80 MHz channels.

3.2 Equipment Configuration

A description of the equipment configuration is given in the Test Plan Section. The EUT was tested as called for in the test standard and was configured and operated in a manner consistent with its intended use. The EUT was connected to rated power and allowed to reach intended operating conditions. The placement of the EUT system components was guided by the test standard and selected to represent typical installation conditions.

In the case of an EUT that can operate in more than one configuration, preliminary testing was performed to determine the configuration that produced maximum radiation.

The final configuration was selected to produce the worst case radiation for emissions testing and to place the EUT in the most susceptible state for immunity testing.

3.3 Operating Mode

A description of the operation mode is given in the Test Plan Section. In the case of an EUT that can operate in more than one state, preliminary testing was performed to determine the operating mode that produced maximum radiation.

The final operating mode was selected to produce the worst case radiation for emissions testing and to place the EUT in the most susceptible state for immunity testing.

3.4 Unique Antenna Connector

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of CFR47 Parts 15.211, 15.213, 15.217, 15.219, or 15.221.

3.4.1 Results

The Home Wi-Fi Router has seven custom integrated antennas. The 5.8GHz band uses custom integrated antennas, Antenna 7 and Antenna 8, and has maximum gain + 2.24 dBi. There are no beam forming and no additional antenna available.

Refer to Table 13 for additional antenna information.

4 **Emissions**

Testing was performed in accordance with CFR 47 Part 15.407: 2015 and RSS 247 Sect.6: 2015. These test methods are listed under the laboratory's A2LA Scope of Accreditation. This test measures the levels emanating from the EUT, thus evaluating the potential for the EUT to cause radio frequency interference to other electronic devices. Procedures described in section 8 of the standard were used.

4.1 Output Power Requirements

The maximum output power requirement is the maximum equivalent isotropic radiated power delivering at the transmitting antenna under specified conditions of measurements in the presence of modulation.

The maximum output power and harmonics shall not exceed CFR47 Part 15.407 (a):2015 and RSS 247 Sect.6.2.4.1: 2015.

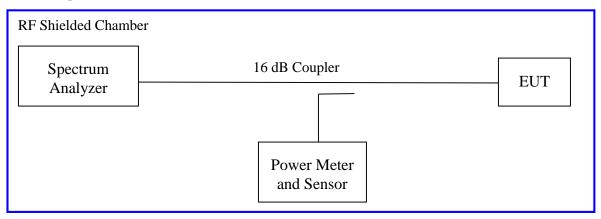
The maximum transmitted power is

Band 5725-5850 MHz: 1 W.

4.1.1 Test Method

The ANSI C63.10-2013 Section 6.10.3.1 conducted method was used to measure the channel power output. The preliminary investigation was performed at different data rate/ chain to determine the highest power output for each mode. The worst findings were conducted on 3 channels in each operating range per CFR47 Part 15.407(a): 2015 and RSS 247 Sect.6.2.4.1; 5725 MHz to 5825 MHz. The worst mode results indicated below.

Test Setup:



Method SA-1 of "Guidelines for Complance Testing of Unlicensed National Information Infrastructure (U-NII) Devices" applies since the EUT continuously transmit; where duty cycle is greater than 98%. Sample detector was used.

Each chain was measured individually and applied the measure-and-sum approach per KDB662911.

4.1.2 Results

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

| Test Conditions: Conducted Measurement, Normal Temperature | | | | | | |
|---|---|--------------------|--------------------|--------------------|-------|--|
| Antenna Type: Custom IntegratedPower Setting: See test plan | | | | | | |
| Max. Directional Gain: + 2.24 dBi | | | | | | |
| Signal State: | : Modulated | at 100%. | | | | |
| Ambient Ter | mp.: 23° C | | R | elative Humidity:3 | 36% | |
| | | | 802.11a | | | |
| Operating Channel (MHz) | Channel Limit Ch0 [dBm] Ch1 [dBm] I otal Power Margin | | | | | |
| 5745.00 | 30.00 | 18.09 | 19.76 | 22.02 | -7.98 | |
| 5765.00 | 30.00 | 23.45 | 24.26 | 26.88 | -3.12 | |
| 5785.00 | 30.00 | <mark>25.35</mark> | <mark>25.20</mark> | 28.29 | -1.71 | |
| 5805.00 | 30.00 | 22.41 | 23.36 | 25.92 | -4.08 | |
| 5825.00 30.00 16.41 17.62 20.07 -9.93 | | | | | | |
| Note: 1.The highest output power was observed at 802.11a, 6.0 Mbps, 1 Data Stream. 2. The sum of Ch0 and Ch1 = Total Power. 3. Plots for all the measurements stated above were taken, to reduce complexity and bulkiness of the report Highlighted Plots are placed in the report. | | | | | | |

Table 2: RF Output Power at the Antenna Port – Test Results

| Table 3: RF Output Power at the Antenna Port – Test Results | | | | | | |
|---|---|--|---------|------------------|-------|--|
| Test Conditions: Conducted Measurement, Normal Temperature | | | | | | |
| Antenna Ty | Antenna Type: Custom IntegratedPower Setting: See test plan | | | | | |
| Max. Direct | ional Gain: | + 2.24 dBi | | | | |
| Signal State | : Modulated | at 100%. | | | | |
| Ambient Te | mp.: 23° C | | R | elative Humidity | :36% | |
| | | | 802.11n | | | |
| Operating Channel (MHz) | Limit [dBm] | Ch0[dRm] Ch1[dRm] Com 2000000 Ch1[dRm] | | | | |
| 5745.00 | 30.00 | 18.43 | 19.88 | 22.23 | -7.77 | |
| 5765.00 | 30.00 | 23.47 | 24.22 | 26.87 | -3.13 | |
| 5785.00 30.00 25.16 25.46 28.32 -1.68 | | | | | | |
| 5805.00 | 30.00 | 22.36 | 23.21 | 25.82 | -4.18 | |
| 5825.00 30.00 16.23 17.64 20.00 -10.00 | | | | | | |
| Note: 1. The highest output power was observed at HT20 MCS0, 1 Data Streams. 2. The sum of Ch0 and Ch1 = Total Power. 3. Plots for all the measurements stated above were taken, to reduce complexity and bulkiness of the report Highlighted Plots are placed in the report. | | | | | | |

| Table 4: RF Output Power at the Antenna Port – Test Results Continues |
|--|
|--|

| | <u>.</u> | | nt, Normal Tempe | | |
|-------------------------------|--------------------------------|-------------------------------------|--------------------|---|-------------------|
| Antenna Ty | pe: Custom | Integrated | | Power Settir | ng: See test plan |
| Max. Direct | ional Gain: | + 2.24 dBi | | | |
| Signal State | : Modulated | at 100%. | | | |
| Ambient Te | mp.: 23° C | | R | elative Humidity | :36% |
| | | | 802.11ac | | |
| Operating Channel (MHz) | Limit [dBm] | Ch0 [dBm] | Ch1 [dBm] | Total Power [dBm] | Margin [dB] |
| 5745.00 | 30.00 | 18.22 | 19.66 | 22.01 | -7.99 |
| 5765.00 | 30.00 | 23.16 | 24.09 | 26.66 | -3.34 |
| 5785.00 | 30.00 | <mark>25.15</mark> | <mark>25.17</mark> | 28.17 | -1.83 |
| 5805.00 | 30.00 | 22.38 | 23.14 | 25.79 | -4.21 |
| 5825.00 | 30.00 | 15.27 | 16.55 | 18.97 | -11.03 |
| 2. The 3. Plo | e sum of Ch(ts for all the |) and Ch1 = Tota measurements st | l Power. |) MCS0, 1 Data St aken, to reduce co in the report. | |
| | | | 802.11n | | |
| Operating Channel (MHz) | Limit [dBm] | Ch0 [dBm] | Ch1 [dBm] | Total Power [dBm] | Margin [dB] |
| 5755.00 | 30.00 | 16.40 | 18.02 | 20.30 | -9.70 |

Note: 1. The highest output power was observed at HT40 MCS0, 1 Data Streams.

2. The sum of Ch0 and Ch1 = Total Power.

16.58

30.00

3. Plots for all the measurements stated above were taken, to reduce complexity and bulkiness of the report Highlighted Plots are placed in the report.

18.27

20.52

5795.00

-9.48

| Test Conditi | ions: Condu | cted Measurement | nt, Normal Tempe | erature | |
|---|--------------------------------|-------------------------------------|--------------------|---|-------------------|
| Antenna Ty | pe: Custom | Integrated | | Power Settir | ng: See test plan |
| Max. Direct | ional Gain: | + 2.24 dBi | | | |
| Signal State | : Modulated | at 100%. | | | |
| Ambient Temp.: 23° CRelative Humidity:36% | | | | | |
| | | | 802.11ac | | |
| Operating Channel (MHz) | Limit [dBm] | Ch0 [dBm] | Ch1 [dBm] | Total Power [dBm] | Margin [dB] |
| 5755.00 | 30.00 | 16.40 | 18.04 | 20.31 | -9.69 |
| 5795.00 | 30.00 | <mark>16.61</mark> | <mark>18.26</mark> | 20.52 | -9.48 |
| 2. The 3. Plo | e sum of Ch(ts for all the |) and Ch1 = Tota measurements st | l Power. |) MCS0, 1 Data St aken, to reduce co in the report. | |
| | | | 802.11ac | | |
| Operating Channel (MHz) | Limit [dBm] | Ch0 [dBm] | Ch1 [dBm] | Total Power [dBm] | Margin [dB] |
| 5775.00 | 30.00 | <mark>12.85</mark> | <mark>14.62</mark> | 16.83 | -13.17 |
| 2. The 3. Plo | e sum of Ch(ts for all the |) and Ch1 = Tota measurements st | l Power. | MCS0, 1 Data St aken, to reduce co in the report. | |

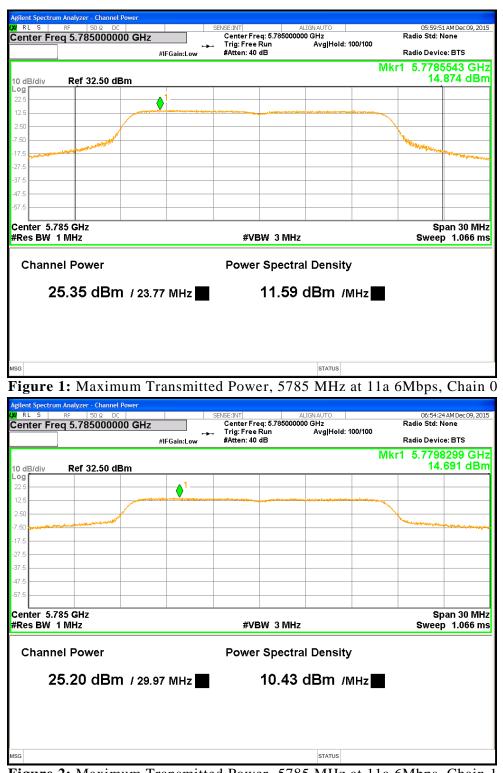


Figure 2: Maximum Transmitted Power, 5785 MHz at 11a 6Mbps, Chain 1



Figure 4: Maximum Transmitted Power, 5785 MHz at HT20 MCS0, Chain 1

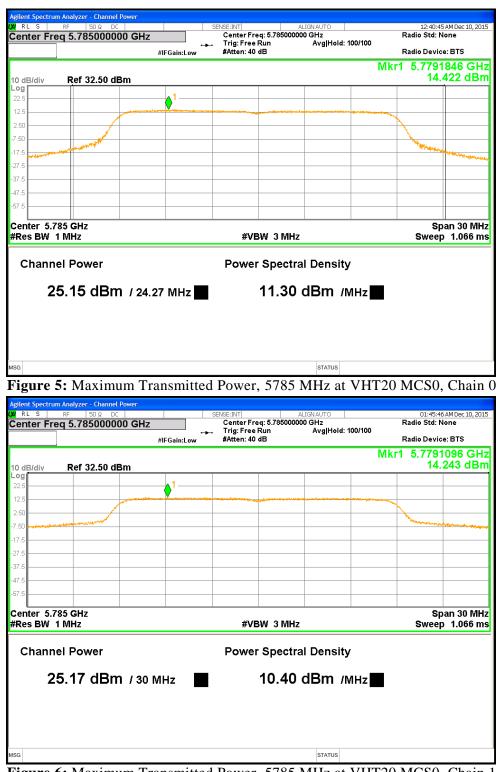


Figure 6: Maximum Transmitted Power, 5785 MHz at VHT20 MCS0, Chain 1

Report Number: 31563404.001 EUT: Home Wi-Fi Router Model: A010001 EMC / Rev 1.0

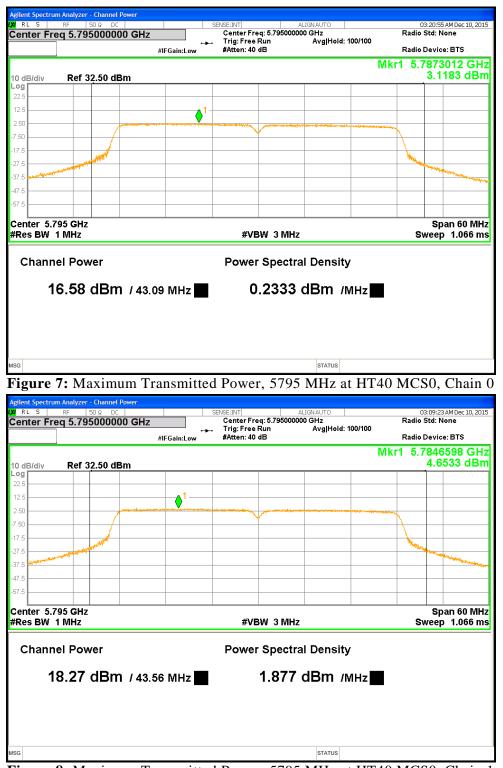


Figure 8: Maximum Transmitted Power, 5795 MHz at HT40 MCS0, Chain 1

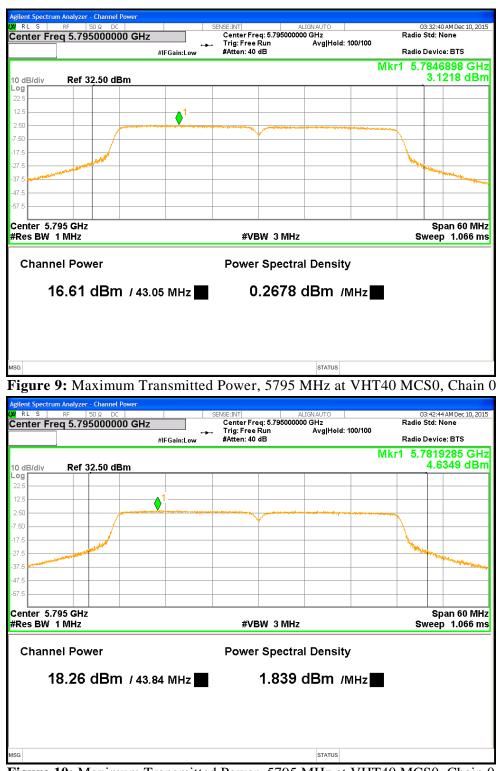


Figure 10: Maximum Transmitted Power, 5795 MHz at VHT40 MCS0, Chain 0

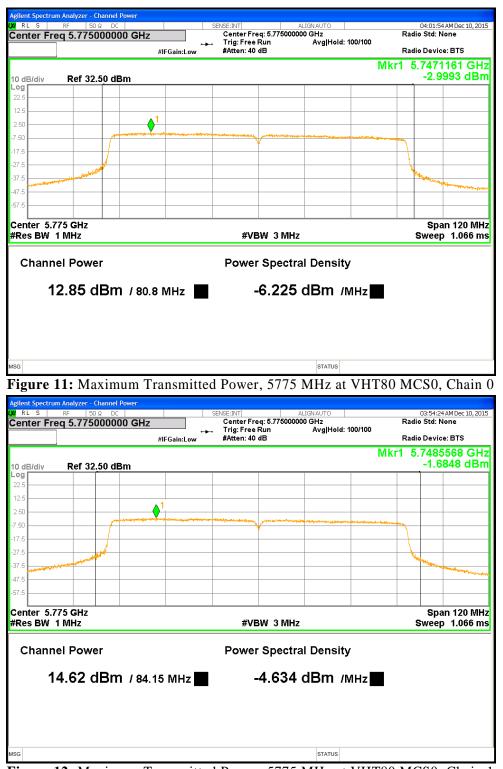


Figure 12: Maximum Transmitted Power, 5775 MHz at VHT80 MCS0, Chain 1

4.2 Occupied Bandwidth

The occupied bandwidth is measured at an amplitude level reduced from the reference level by a specified ratio. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency.

The 99% bandwidth is the bandwidth in which 99% of the transmitted power occupied.

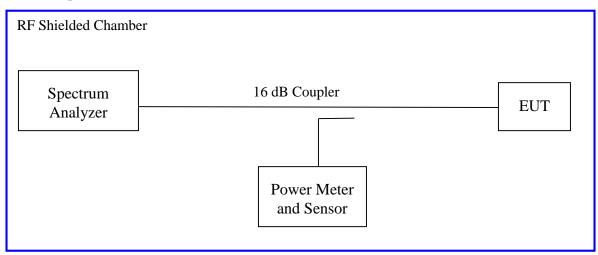
The 6 or 26 dB bandwidth is defined the bandwidth of 6 or 26 dBr from highest transmitted level of the fundamental frequency.

Within the 5.725 – 5.850 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz per CFR47 Part 15.407(e).

4.2.1 Test Method

The conducted method was used to measure the occupied bandwidth. The measurement was performed with modulation per CFR47 15.407(e) 2015 and RSS Gen Sect. 4.4.1:2010. The preliminary investigation was performed to find the narrowest 26 dB bandwidth for each operational mode at different data rates. This worst finding was performed on 3 channels in each operating frequency range; 5725 to 5850 MHz band, a 6 dB bandwidth was used. The worst results indicated below.

Test Setup:



4.2.2 Results

These occupied bandwidth measurements were taken for references only.

| Table 6: Occupied Band | width – Test Results |
|------------------------|----------------------|
|------------------------|----------------------|

| Test Conditions: Conducted Measurement, Normal Temperature | |
|--|--|
|--|--|

Antenna Type: Custom Integrated

Power Setting: See test plan

Max. Directional Gain: + 2.24 dBi

Signal State: Modulated at 100%.

Ambient Temp.: 23° C

Relative Humidity:36%

| | Bandwidth (MHz) for 802.11a | | | | | | | |
|-------|-----------------------------|--------------------|--------------------|--------------------|---------------------|--|---------------------------------|--|
| Freq. | | | | | 6dB Bandwidth (MHz) | | 6dB Bandwidth (MHz) 99% Bandwid | |
| (MHz) | Ch0 | Ch1 | Ch0 | Ch1 | | | | |
| 5745 | <mark>16.42</mark> | 16.31 | <mark>16.44</mark> | 16.46 | | | | |
| 5785 | 16.35 | <mark>16.34</mark> | 16.48 | <mark>20.08</mark> | | | | |
| 5825 | 16.33 | 16.28 | 16.46 | 16.46 | | | | |

Note: 1. The bandwidth was measured at 6.0 Mbps.

2. Plots for all the measurements stated above were taken, to reduce complexity and bulkiness of the report Highlighted Plots are placed in the report.

| | Bandwidth (MHz) for 802.11n | | | | |
|-------|--|--------------------|--------------------|-------|--|
| Freq. | 6dB Bandwidth (MHz)99% Bandwidth (MHz) | | | | |
| (MHz) | Ch0 | Ch1 | Ch0 | Ch1 | |
| 5745 | 16.97 | 17.21 | 17.66 | 17.65 | |
| 5785 | 17.14 | <mark>16.55</mark> | 17.67 | 21.31 | |
| 5825 | <mark>17.60</mark> | 17.57 | <mark>17.66</mark> | 17.66 | |

Note: 1. The bandwidth was measured at HT20 MCS0, 1 Data Streams

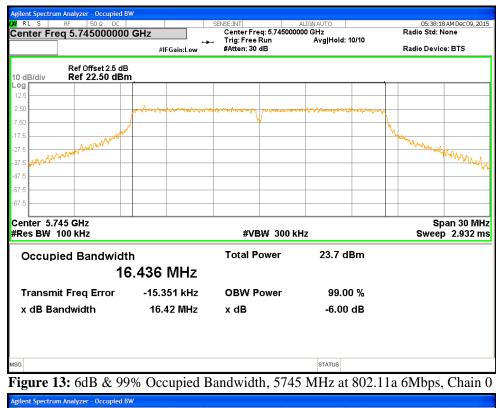
2. Plots for all the measurements stated above were taken, to reduce complexity and bulkiness of the report Highlighted Plots are placed in the report.

| | | Bandwidth (MHz) f | for 802.11ac | |
|---------|---|---------------------|--------------------|--------------------|
| Freq. | 6dB Bandwidth (MHz) 99% Bandwidth (MHz) | | | |
| (MHz) | Ch0 | Ch1 | Ch0 | Ch1 |
| 5745 | 16.92 | 17.68 | 17.64 | 17.66 |
| 5785 | 17.57 | 17.53 | <mark>17.68</mark> | <mark>21.09</mark> |
| 5825 | 17.54 | 17.58 | 17.64 | 17.66 |
| Note: 1 | The bandwidth was me | asured at VHT20 MCS | 0 1 Data Streams | |

Note: 1. The bandwidth was measured at VHT20 MCS0, 1 Data Streams

2. Plots for all the measurements stated above were taken, to reduce complexity and bulkiness of the report Highlighted Plots are placed in the report.

| Table 7: C | Jeeupieu Builu Main | | | |
|---|---|---|--|---|
| Test Cor | nditions: Conducted M | leasurement, Normal Te | mperature | |
| Antenna | Type: Custom Integra | nted | Power Settin | ng: See test plan |
| Max. Di | rectional Gain: + 2.24 | dBi | | |
| Signal St | tate: Modulated at 100 | %. | | |
| Ambient | t Temp.: 23° C | | Relative Humidity | :36% |
| | | Bandwidth (MHz) f | for 802.11n | |
| Freq. | 6dB Bandy | vidth (MHz) | 99% Band | lwidth (MHz) |
| (MHz) | Ch0 | Ch1 | Ch0 | Ch1 |
| 5755 | 35.70 | 35.07 | 36.13 | 36.15 |
| 5795 | <mark>35.70</mark> | <mark>35.95</mark> | <mark>36.14</mark> | <mark>36.15</mark> |
| 2.1 | Plots for all the measur | easured at HT40 MCS0, rements stated above we Plots are placed in the re | re taken, to reduce con | mplexity and bulkiness |
| 2. 1 of t | Plots for all the measur the report Highlighted h | ements stated above we Plots are placed in the re Bandwidth (MHz) f | re taken, to reduce comport. or 802.11ac | |
| 2.] of t Freq. | Plots for all the measur the report Highlighted b 6dB Bandy | rements stated above we Plots are placed in the re Bandwidth (MHz) f ridth (MHz) | re taken, to reduce con eport. for 802.11ac 99% Band | lwidth (MHz) |
| 2. 1 of t | Plots for all the measur the report Highlighted h | ements stated above we Plots are placed in the re Bandwidth (MHz) f | re taken, to reduce comport. or 802.11ac | |
| 2.] of t Freq. (MHz) | Plots for all the measur the report Highlighted 1 6dB Bandw Ch0 | ements stated above we Plots are placed in the re Bandwidth (MHz) f vidth (MHz) Ch1 | re taken, to reduce comport. or 802.11ac 99% Band Ch0 | lwidth (MHz) Ch1 |
| 2. 1 of t Freq. (MIHz) 5755 5795 Note: 1. 7 2. 1 | Plots for all the measur the report Highlighted 1 6dB Bandw Ch0 35.72 35.73 The bandwidth was me Plots for all the measur | ements stated above we Plots are placed in the re Bandwidth (MHz) f vidth (MHz) Ch1 35.91 | re taken, to reduce con eport. for 802.11ac 99% Band Ch0 36.12 36.12 0, 1 Data Streams re taken, to reduce con | lwidth (MHz) Ch1 36.15 36.17 |
| 2.1 of t Freq. (MHz) 5755 5795 S795 Note: 1.7 2.1 of t | Plots for all the measur the report Highlighted 1 6dB Bandw Ch0 35.72 35.73 The bandwidth was me Plots for all the measur the report Highlighted 1 | ements stated above we Plots are placed in the re Bandwidth (MHz) f vidth (MHz) Ch1 35.91 36.09 easured at VHT40 MCS rements stated above we Plots are placed in the re Bandwidth (MHz) f | re taken, to reduce comport. or 802.11ac 99% Band Ch0 36.12 36.17 0, 1 Data Streams re taken, to reduce comport. or 802.11ac | Iwidth (MHz) Ch1 36.15 36.17 mplexity and bulkiness |
| 2.1 of t Freq. (MHz) 5755 5795 Note: 1.7 2.1 of t Freq. | Plots for all the measur the report Highlighted 1 6dB Bandw Ch0 35.72 35.73 The bandwidth was me Plots for all the measur the report Highlighted 1 6dB Bandw | ements stated above we Plots are placed in the re Bandwidth (MHz) f vidth (MHz) Ch1 35.91 36.09 easured at VHT40 MCS rements stated above we Plots are placed in the re Bandwidth (MHz) f vidth (MHz) | re taken, to reduce comport. or 802.11ac 99% Band Ch0 36.12 36.12 0, 1 Data Streams re taken, to reduce comport. or 802.11ac 99% Band | Iwidth (MHz) Ch1 36.15 36.17 mplexity and bulkiness |
| 2.1 of t Freq. (MIHz) 5755 5795 Note: 1.7 2.1 of t Freq. (MIHz) | Plots for all the measur the report Highlighted 1 6dB Bandw Ch0 35.72 35.73 The bandwidth was me Plots for all the measur the report Highlighted 1 6dB Bandw Ch0 | ements stated above we Plots are placed in the re Bandwidth (MHz) f vidth (MHz) Ch1 35.91 36.09 easured at VHT40 MCS rements stated above we Plots are placed in the re Bandwidth (MHz) f vidth (MHz) Ch1 | re taken, to reduce comport. or 802.11ac 99% Band Ch0 36.12 36.17 0, 1 Data Streams re taken, to reduce comport. or 802.11ac 99% Band Ch0 | Iwidth (MHz) Ch1 36.15 36.17 mplexity and bulkiness |
| 2.1 of t (MIHz) 5755 5795 Note: 1.7 2.1 of t 5775 | Plots for all the measur the report Highlighted 1 6dB Bandw Ch0 35.72 35.73 The bandwidth was me Plots for all the measur the report Highlighted 1 6dB Bandw Ch0 66.61 | ements stated above we Plots are placed in the re Bandwidth (MHz) f vidth (MHz) Ch1 35.91 36.09 easured at VHT40 MCS rements stated above we Plots are placed in the re Bandwidth (MHz) f vidth (MHz) | re taken, to reduce con eport. or 802.11ac 99% Band Ch0 36.12 36.17 0, 1 Data Streams re taken, to reduce con eport. or 802.11ac 99% Band Ch0 75.47 | Iwidth (MHz) Ch1 36.15 36.17 mplexity and bulkiness |



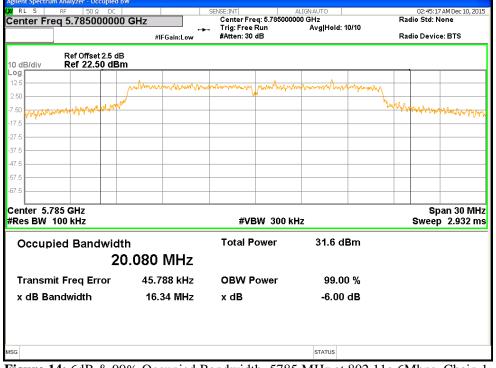


Figure 14: 6dB & 99% Occupied Bandwidth, 5785 MHz at 802.11a 6Mbps, Chain 1

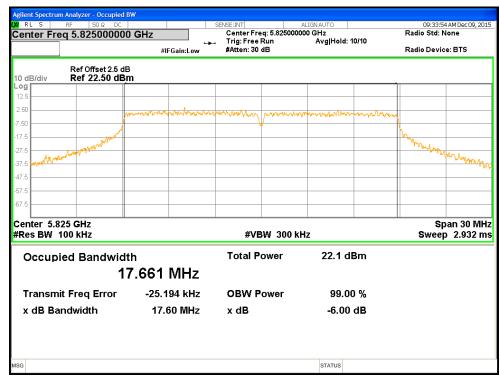


Figure 15: 6dB & 99% Occupied Bandwidth, 5825 MHz at HT20 MCS0, Chain 0

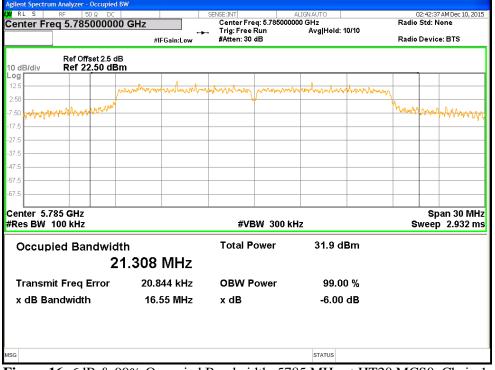


Figure 16: 6dB & 99% Occupied Bandwidth, 5785 MHz at HT20 MCS0, Chain 1

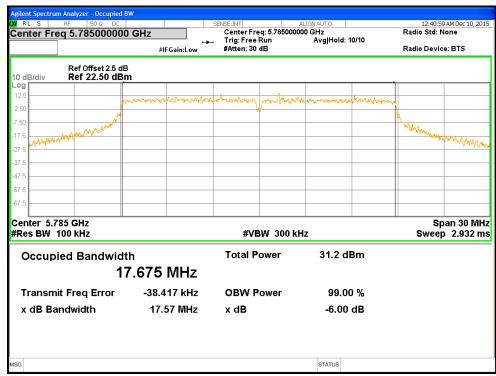


Figure 17: 6dB & 99% Occupied Bandwidth, 5785 MHz at VHT20 MCS0, Chain 0

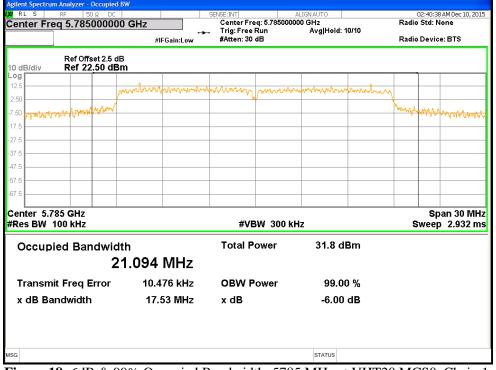


Figure 18: 6dB & 99% Occupied Bandwidth, 5785 MHz at VHT20 MCS0, Chain 1

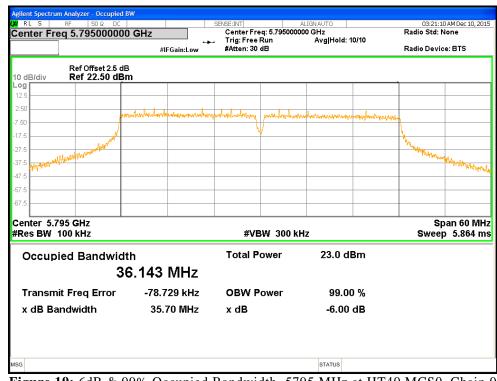


Figure 19: 6dB & 99% Occupied Bandwidth, 5795 MHz at HT40 MCS0, Chain 0

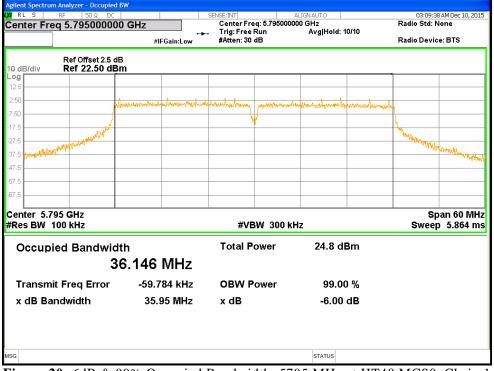


Figure 20: 6dB & 99% Occupied Bandwidth, 5795 MHz at HT40 MCS0, Chain 1

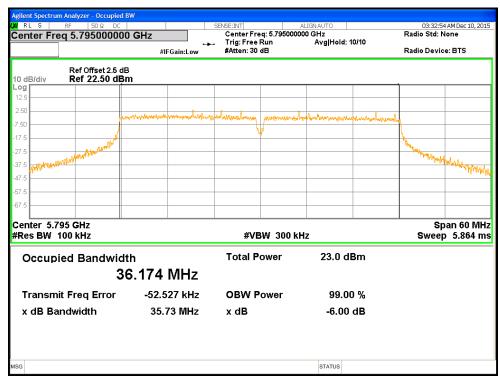


Figure 21: 6dB & 99% Occupied Bandwidth, 5795 MHz at VHT40 MCS0, Chain 0

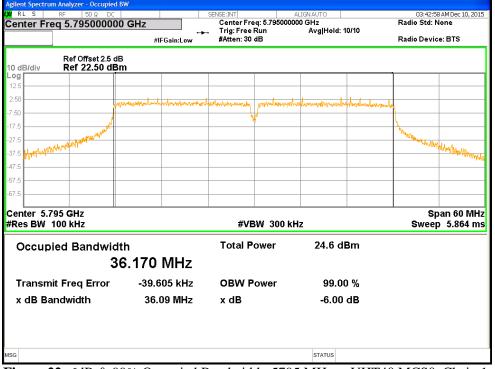


Figure 22: 6dB & 99% Occupied Bandwidth, 5795 MHz at VHT40 MCS0, Chain 1

Transmit Freq Error

x dB Bandwidth

Report Number: 31563404.001

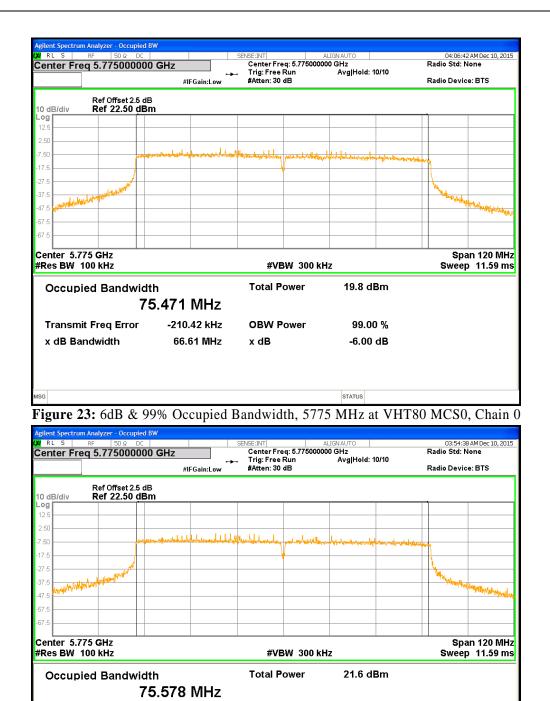
EUT: Home Wi-Fi Router

Model: A010001 EMC / Rev 1.0

MSG

-148.88 kHz

71.71 MHz



FCC ID: 2AEM4-A010001, IC: 20631-33ROI52C001

OBW Power

Figure 24: 6dB & 99% Occupied Bandwidth, 5775 MHz at VHT80 MCS0, Chain 1

x dB

99.00 %

-6.00 dB

STATUS

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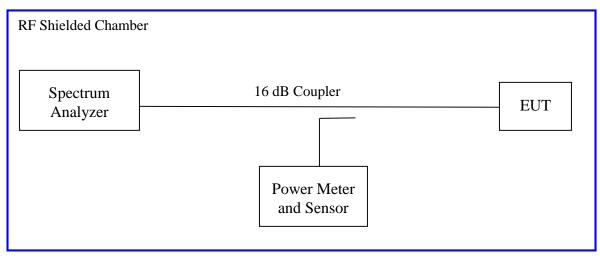
4.3 Peak Power Spectral Density

According to the CFR47 Part 15.407 (a) and RSS 247 Sect.6.2.4.1, in the 5.725 - 5.85 GHz band, the maximum power spectral density shall not exceed 30 dBm in any 500kHz band.during any time interval of continuous transmission.

4.3.1 Test Method

The conducted method was used to measure the channel power output per ANSI C63.10-2013 Section 6.11.2. The measurement was performed with modulation per CFR47 Part 15.407 (a) and RSS 247 Sect.6.2.4.1. The pre-evaluation was performed to find the worst modes. The worst findings were conducted on 3 channels in each operating frequency range of 5725 MHz to 5850 MHz. The worst sample result indicated below.

Test Setup:



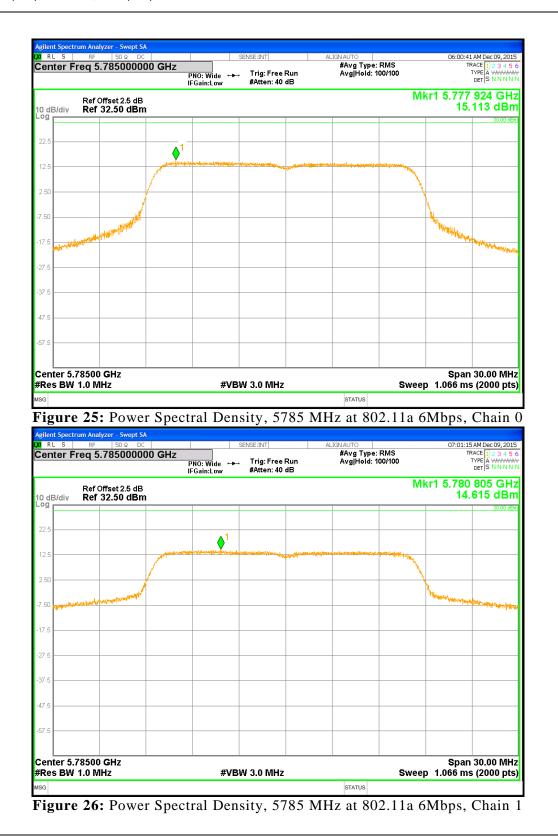
4.3.2 Results

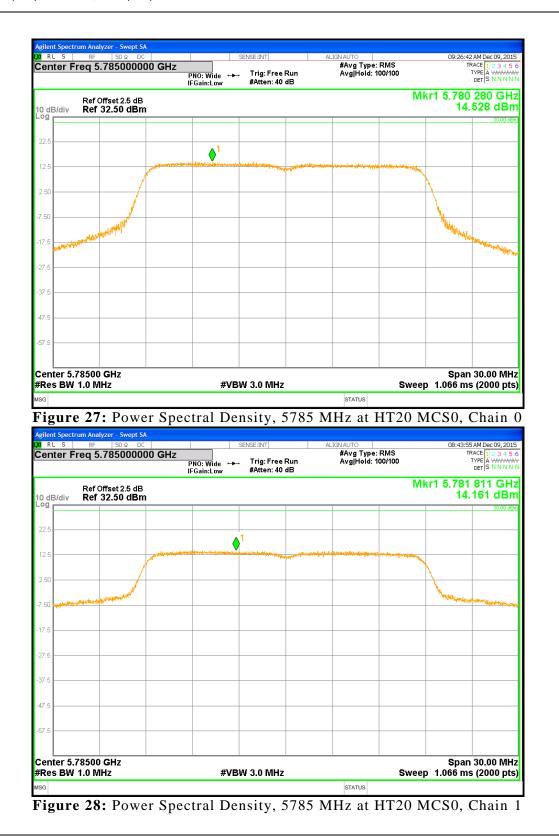
As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

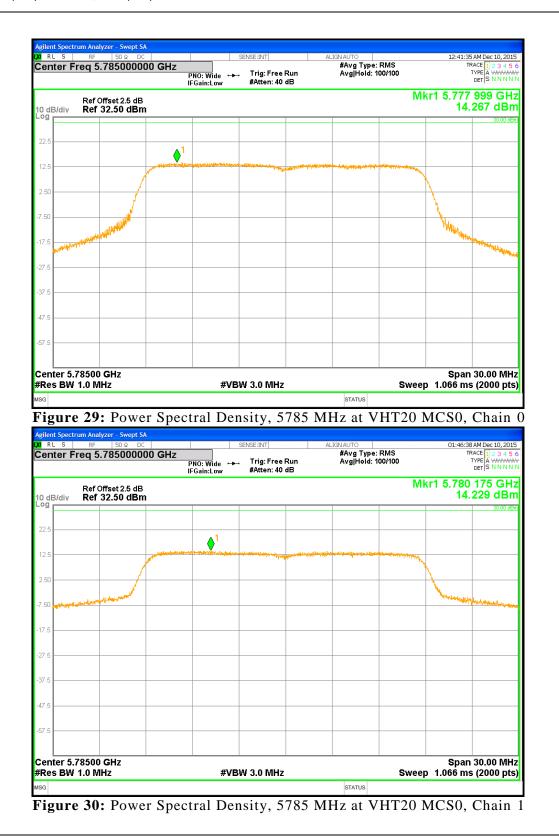
| Test Conditi | ons: Conducted | Measurement, 1 | Normal Temperat | ure | |
|----------------|--------------------|--|------------------------------|------------------|-----------------|
| Antenna Tyj | be: Custom Inte | grated | Power Setting: See test plan | | |
| Max. Directi | onal Gain: +2. | 24 dBi | | | |
| Signal State: | Modulated at 1 | 00%. | | | |
| Ambient Ter | np.: 23° C | | Rela | tive Humidity:36 | 5% |
| | | Peak Pow | er Spectral Dens | ity | |
| | | | 802.11a | | |
| Freq. (MHz) | Ch0 [dBm] | Ch1 [dBm] | Total PSD [dBm] | Limit [dBm] | Margin [dB] |
| 5745 | 7.75 | 9.01 | 11.44 | 30.00 | -18.56 |
| 5785 | <mark>15.11</mark> | <mark>14.62</mark> | 17.88 | 30.00 | -12.12 |
| 5825 | 5.00 | 6.88 | 9.05 | 30.00 | -20.95 |
| 2. The | sum of Ch0 and | ower spectral der d Ch1 = Total P f plots are placed | | d at 11a 6Mbps | per data stream |
| Freq. (MHz) | Ch0 [dBm] | Ch1 [dBm] | Total PSD [dBm] | Limit [dBm] | Margin [dB] |
| (11112) | 7.78 | 8.75 | 11.30 | 30.00 | -18.70 |
| 5745 | | | | | |
| . , | 14.53 | <mark>14.16</mark> | 17.36 | 30.00 | -12.64 |

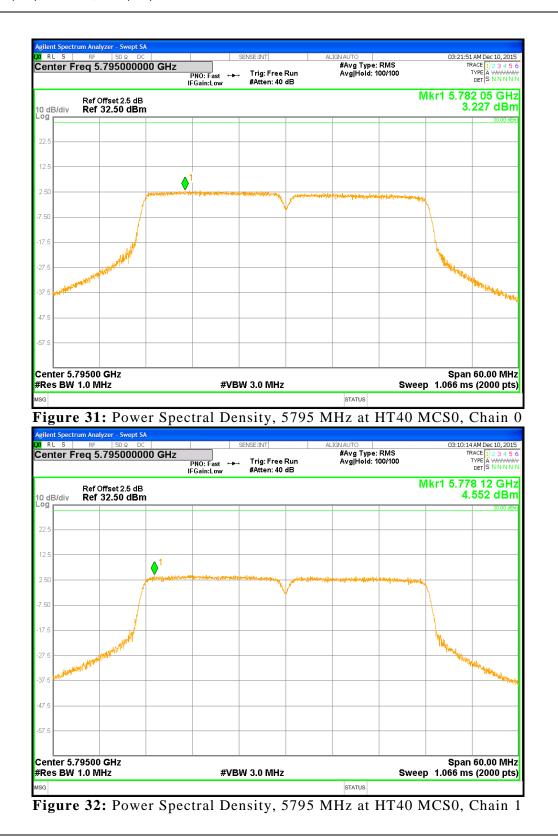
| Table 9: Peak I | Power Spectral | Density – Test F | Results Continues | | | | | | | | |
|---|--------------------|--|--------------------|-----------------------|----------------------------|--|--|--|--|--|--|
| Test Conditio | ons: Conducted | Measurement, N | Normal Temperatu | re | | | | | | | |
| Antenna Typ | e: Custom Integ | grated | | Power Setting: | See test plan | | | | | | |
| Max. Directio | onal Gain: + 2. | 24 dBi | | | | | | | | | |
| Signal State: | Modulated at 1 | 00%. | | | | | | | | | |
| Ambient Temp.: 23° CRelative Humidity:36% | | | | | | | | | | | |
| Peak Power Spectral Density | | | | | | | | | | | |
| 802.11ac | | | | | | | | | | | |
| Freq. (MHz) | Ch0 [dBm] | Ch1 [dBm] | Total PSD [dBm] | Limit [dBm] | Margin [dB] | | | | | | |
| 5745 | 7.54 | 8.91 | 11.29 | 30.00 | -18.71 | | | | | | |
| 5785 | <mark>14.27</mark> | <mark>14.23</mark> | 17.26 | 30.00 | -12.74 | | | | | | |
| 5825 | 4.58 | 5.68 | 8.18 | 30.00 | -21.82 | | | | | | |
| 2. The | sum of Ch0 and | wer spectral der l Ch1 = Total PS plots are placed | SD. | at VHT20 MCS | S0 per data stream. | | | | | | |
| | | | 802.11n | | | | | | | | |
| Freq. (MHz) | Ch0 [dBm] | Ch1 [dBm] | Total PSD [dBm] | Limit [dBm] | Margin [dB] | | | | | | |
| 5755 | 2.76 | 4.09 | 6.49 | 30.00 | -23.51 | | | | | | |
| 5795 | <mark>3.23</mark> | <mark>4.55</mark> | 6.95 | 30.00 | -23.05 | | | | | | |
| 2. The | sum of Ch0 and | wer spectral der l Ch1 = Total PS plots are placed | | at HT40 MCS0 |) per data stream. | | | | | | |

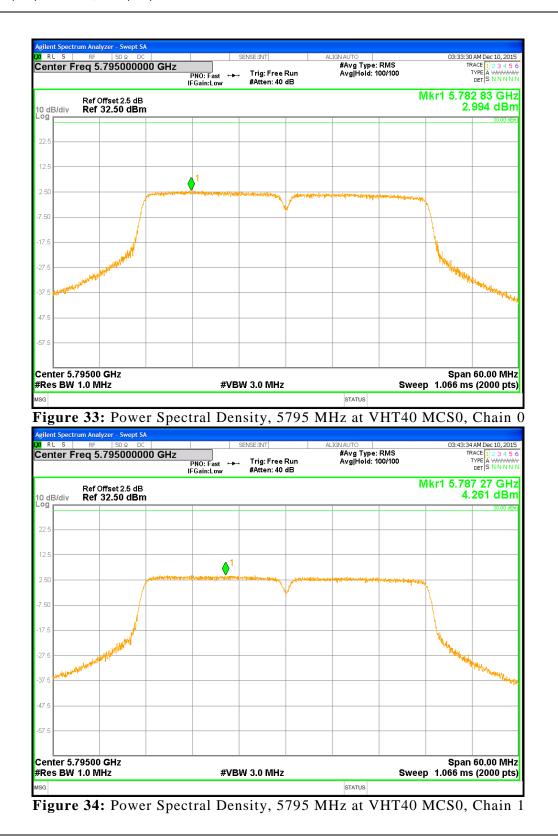
| Fable 10: Peak | Power Spectra | l Density – Test | Results Continues | | | | | | | | |
|----------------|--------------------|--|--------------------|------------------|--------------------|--|--|--|--|--|--|
| Test Condition | ons: Conducted | Measurement, N | Jormal Temperatur | re | | | | | | | |
| Antenna Typ | e: Custom Integ | grated | | Power Setting: S | See test plan | | | | | | |
| Max. Direction | onal Gain: + 2. | 24 dBi | | | | | | | | | |
| Signal State: | Modulated at 1 | 00%. | | | | | | | | | |
| Ambient Ten | пр.: 23° С | | Relati | ve Humidity:36% | % | | | | | | |
| | | Peak Pow | er Spectral Densi | ty | | | | | | | |
| 802.11ac | | | | | | | | | | | |
| Freq. (MHz) | Ch0 [dBm] | Ch1 [dBm] | Total PSD [dBm] | Limit [dBm] | Margin [dB] | | | | | | |
| 5755 | 2.65 | 4.18 | 6.49 | 30.00 | -23.51 | | | | | | |
| 5795 | <mark>2.99</mark> | <mark>4.26</mark> | 6.68 | 30.00 | -23.32 | | | | | | |
| 2. The | sum of Ch0 and | wer spectral den l Ch1 = Total PS plots are placed | SD. | at VHT40 MCS | 0 per data stream. | | | | | | |
| | | | 802.11ac | | | | | | | | |
| Freq. (MHz) | Ch0 [dBm] | Ch1 [dBm] | Total PSD [dBm] | Limit [dBm] | Margin [dB] | | | | | | |
| 5775 | <mark>-3.58</mark> | <mark>-1.86</mark> | 0.37 | 30.00 | -29.63 | | | | | | |
| 2. The | sum of Ch0 and | wer spectral den l Ch1 = Total PS plots are placed | SD. | at VHT80 MCS | 0 per data stream. | | | | | | |

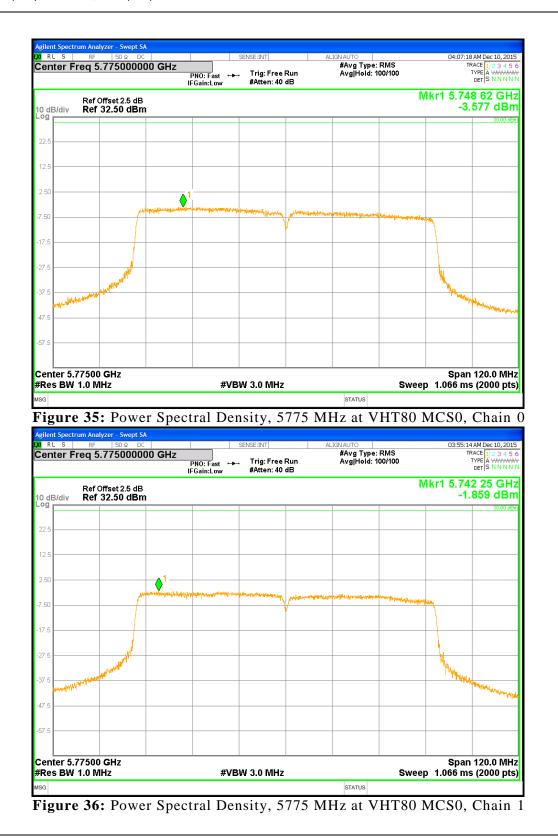












4.4 Undesirable Emission Limits

CFR47 15.407 (*b*) and *RSS* 247 Sect.6.2.4.2: The maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

4.4.1 Test Method

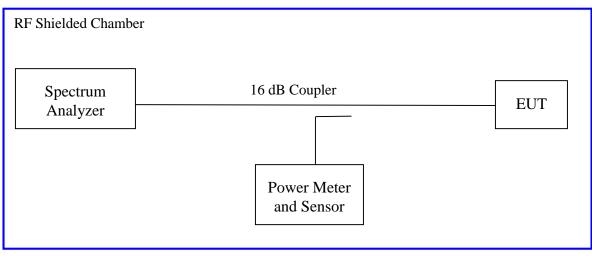
The conducted method was used to measure the undesirable emission requirement. The measurement was performed with modulation. This test was conducted on 3 channels of Sample in each mode on Sample.

Pre Scan - 802.11a, 802.11n (HT20) and 802.11ac (VHT20): Channel 149, 153, 157, 161 and 165.

The 20 MHz channel bandwidth power setting varies for each channel, therefore each channel were investigated for bandedge and undesireable emissions.

The worst sample result indicated below.

Test Setup:



Measurement Procedure AVG2 of KDB 662911

4.4.2 Results

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

| Table 11: E | missions at the Band-E | dge – Test | Results | | | |
|----------------|------------------------------|------------|-------------------|----------------|------------------|------------|
| Test Cond | itions: Conducted Mea | isurement, | Normal Tempe | rature | | |
| Antenna T | ype: Custom Integrate | d | | Power | Setting: See tes | st plan |
| Max. Dire | ctional Gain: + 2.24 d | Bi | | | | |
| Signal Sta | te: Modulated at 100% | | | | | |
| Ambient 7 | Г етр.: 23° С | | R | elative Hun | nidity:36% | |
| | No | n-Restrict | ed Frequency | Band Emiss | ion | |
| Freq. (MHz) | Mode | Chain | Measured (dBm) | Limit (dBm) | Plots | Comment |
| 39108 | 802.11a 6Mbps | 0 | -32.08 | -27.00 | Fig. 37, 38 | Below edge |
| 5714.6 | 802.11a 6Mbps | 1 | -31.09 | -27.00 | Fig. 39, 40 | Below edge |
| 39175 | 802.11a 6Mbps | 0 | -32.28 | -27.00 | Fig. 41, 42 | Above edge |
| 38315 | 802.11a 6Mbps | 1 | -31.11 | -27.00 | Fig. 43, 44 | Above edge |
| 39700 | HT20-MCS0 | 0 | -31.88 | -27.00 | Fig. 45, 46 | Below edge |
| 39964 | HT20-MCS0 | 1 | -31.71 | -27.00 | Fig. 47, 48 | Below edge |
| 38830 | HT20-MCS0 | 0 | -32.09 | -27.00 | Fig. 49, 50 | Above edge |
| 38819 | HT20-MCS0 | 1 | -32.25 | -27.00 | Fig. 51, 52 | Above edge |
| 39945 | VHT20 MCS0 | 0 | -32.00 | -27.00 | Fig. 53, 54 | Below edge |
| 5713.2 | VHT20 MCS0 | 1 | -28.29 | -27.00 | Fig. 55, 56 | Below edge |
| 39961 | VHT20 MCS0 | 0 | -31.48 | -27.00 | Fig. 57, 58 | Above edge |
| 5860.8 | VHT20 MCS0 | 1 | -31.44 | -27.00 | Fig. 59, 60 | Above edge |

Note: 1. All out of band emissions are lower than the 17dBr level (10 MHz below or above the band edge) and 27dBr level (10 MHz greater than below or above the band edge).

| Table 12: Emissions at the Band-Edge – Tes | t Results Continues |
|--|---------------------|
|--|---------------------|

| Test Conditions: Conducted Measurement, Normal Temper | rature |
|---|------------------------------|
| Antenna Type: Custom Integrated | Power Setting: See test plan |

Max. Directional Gain: + 2.24 dBi

Signal State: Modulated at 100%.

Ambient Temp.: 23° C **Relative Humidity:36% Non-Restricted Frequency Band Emission** Freq. Measured Limit Mode Chain **Plots** Comment (MHz) (dBm) (dBm) HT40 MCS0 0 -32.23 -27.00Fig. 61, 62 Below edge 39988 HT40 MCS0 1 -31.92 -27.00 Fig. 63, 64 Below edge 39917 HT40 MCS0 0 -31.49 -27.00 Fig. 65, 66 Above edge 38489 HT40 MCS0 1 -31.47 -27.00 Fig. 67, 68 Above edge 39667 VHT40-MCS0 0 -31.33 -27.00 Fig. 69, 70 Below edge 39998 VHT40-MCS0 1 -32.15 -27.00 Fig. 71, 72 Below edge 38510 0 VHT40-MCS0 -31.14 -27.00 Fig. 73, 74 Above edge 38822 VHT40-MCS0 1 -31.13 -27.00 Fig. 75, 76 Above edge 39122 0 VHT80 MCS0 -31.38 -27.00 Fig. 77, 78 Below edge 39665 1 Fig. 79, 80 VHT80 MCS0 -30.58 -27.00 Below edge 5714.3 VHT80 MCS0 0 -41.81 -27.00Fig. 77, 78 Above edge 5860 VHT80 MCS0 1 -40.94 -27.00 Fig. 79, 80 Above edge 5860 Note: 1. All out of band emissions are lower than the 17dBr level (10 MHz below or above the band

edge) and 27dBr level (10 MHz greater than below or above the band edge).

| | LS ker | 15 | .7150 | 50 Ω DC 000000000 GHz | | rig: Free Run tten: 36 dB | | NAUTO #Avg Type: Avg Hold: ' | 100/100 | т | 8 AM Dec 09, 201 RACE 1 2 3 4 5 TYPE MWWWW DET P N N N N |
|--------------------------------------|-----------|-----|------------------|---|---------------|------------------------------|---------|------------------------------------|---------|-------------------|---|
| I0 dl | B/div | | | set 2.5 dB '.50 dBm | | | | | N | /kr1 5.71 -34. | 5 00 GH .595 dBr |
| .og 17.5 | | | | | | Min Jania | | | | | |
| 7.50 | | | | | | | | | | | |
| -2.50 | | | | | | | | | | | |
| 12.5 | | | | | | | | | | | |
| 22.5 | | | | | | // | | | | | |
| 32.5 | | | | _ 1 | | | | hiller . | A3 A4 | | -27.00 dt |
| | | | ALC: NO. | فالمعتدة ويتجاره والمرجع لاعتمادهم ومقتراته | | | | A MANAGER | | decide marks | and the second second |
| 42.5 52.5 | | | | | | | | | | | |
| | | | | | | | | | | | |
| 62.5 | | | | | | | | | | | |
| ₽Re | s B | W 1 | 850 GH .0 MH2 | | #VBW 3 | .0 MHz | | | · · | 1.333 ms | 300.0 MH (10000 pt |
| MKR 1 | MODE N | TRC | SCL f | × 5.715 00 GH | z -34.595 dBn | FUNCTION | FUNCTIO | N WIDTH | F | UNCTION VALUE | |
| | N | | f | 5.725 00 GH | z -32.573 dBn | 1 | | | | | |
| 2 | Ν | | f f | 5.850 00 GH 5.860 00 GH | | | | | | | |
| | Ν | | | | | | | | | | |
| 2 3 4 5 | Ν | | | | | | | | | | |
| 2 3 4 5 6 7 | N | | | | | | | | | | |
| 2 3 4 5 6 7 8 9 | N | | | | | | | | | | |
| 2 3 4 5 6 7 8 9 | N | | | | | | | | | | |
| 2 3 4 5 6 7 8 | N | | | | | | | | | | |

Figure 37: Measured Below Edge for 802.11a-6Mbps at 5785 MHz, Chain 0

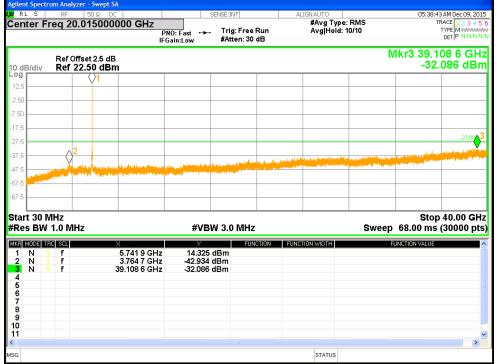


Figure 38: Undesirable Emission for 802.11a-6Mbps at 5745 MHz, Chain 0

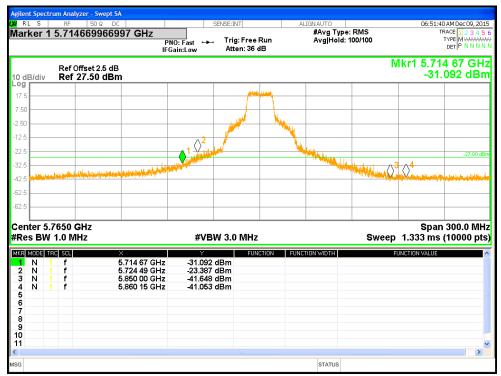


Figure 39: Measured Below Edge for 802.11a-6Mbps at 5765 MHz, Chain 1

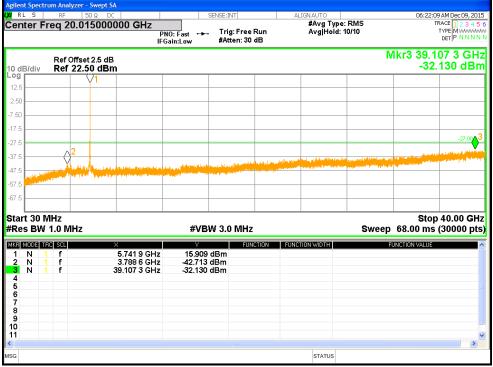


Figure 40: Undesirable Emission for 802.11a-6Mbps at 5745 MHz, Chain 1

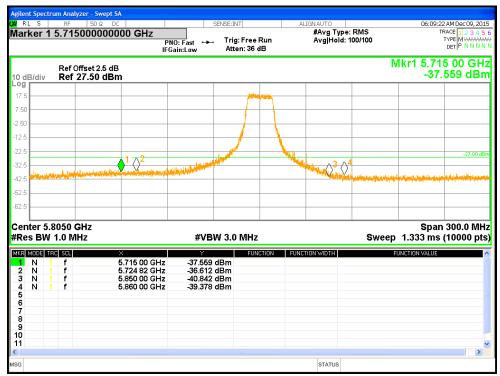


Figure 41: Measured Above Edge for 802.11a-6Mbps at 5805 MHz, Chain 0

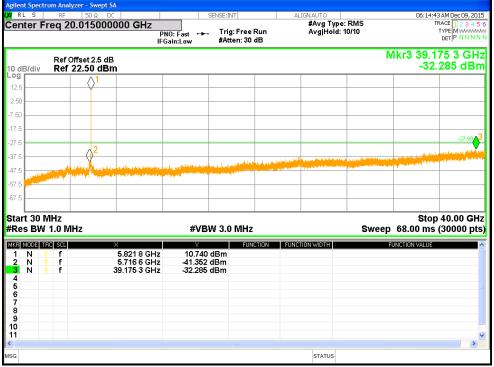


Figure 42: Undesirable Emission for 802.11a-6Mbps at 5825 MHz, Chain 0

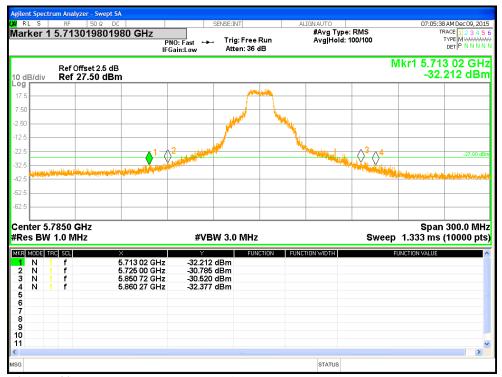


Figure 43: Measured Above Edge for 802.11a-6Mbps at 5785 MHz, Chain 1

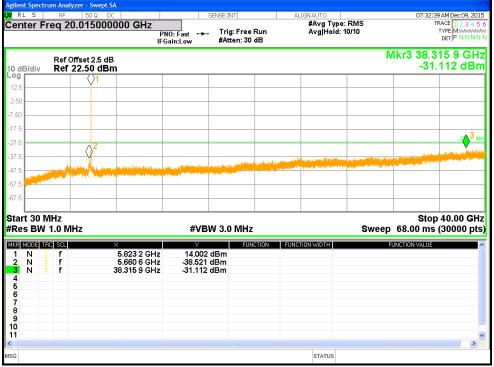
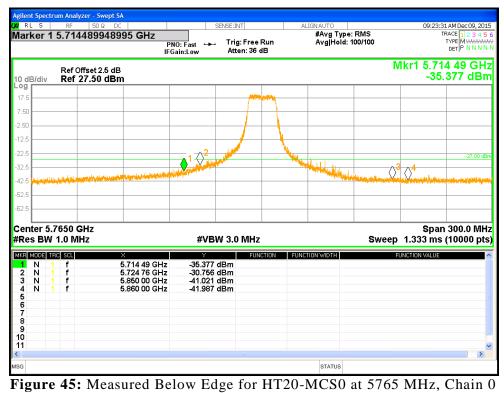


Figure 44: Undesirable Emission for 802.11a-6Mbps at 5825 MHz, Chain 1



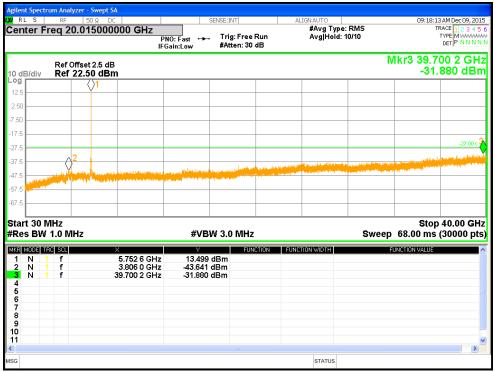
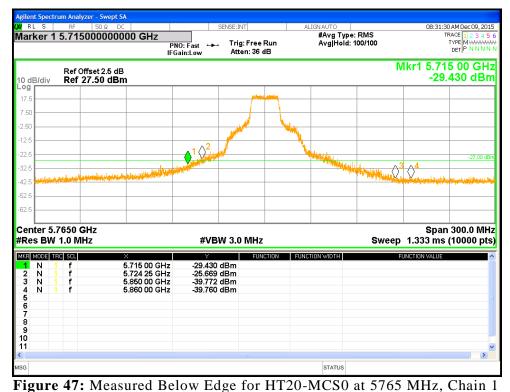


Figure 46: Undesirable Emission for HT20-MCS0 at 5745 MHz, Chain 0



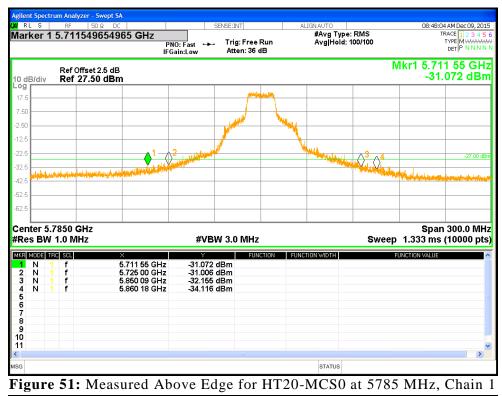
ilent Spectrum Analyzer - Swept SA RL S 36 AM Dec 09, 2019 TRACE 1 2 3 4 5 TYPE MWWWW DET P N N N N Center Freq 20.015000000 GHz #Avg Type: RMS Avg|Hold: 10/10 PNO: Fast IFGain:Low Tria: Free Run #Atten: 30 dB Mkr3 39.964 0 GHz Ref Offset 2.5 dB Ref 22.50 dBm -31.710 dBm 10 dB/div Log 12.5 2.50 7.50 17.5 37. ð 47 .57 .67 F Start 30 MHz Stop 40.00 GHz #Res BW 1.0 MHz Sweep 68.00 ms (30000 pts) #VBW 3.0 MHz MKR MODE TRC SCL FUNCTION FUNCTION WIDTH FUNCTION VALUE 5.748 6 GHz 3.767 3 GHz 39.964 0 GHz 15.684 dBm -42.828 dBm -31.710 dBm N N N 1 2 3 4 5 6 7 8 9 10 11 f STATUS Figure 48: Undesirable Emission for HT20-MCS0 at 5745 MHz, Chain 1

| | | ctru | | ılyzer - Swept S/ | | | | | | | | |
|-------------|----------|---|--------------|------------------------------------|---|----------------------------------|-------------------------|-----------|------------------------|-----------------------------|---|---------------------------------------|
| | L S | 4 4 | RF | 50 Ω DC 48199819 | | | SENSE:INT |) | ALIGNAUTO #Avg Type | DMS | | 1 AM Dec 09, 2015 RACE 1 2 3 4 5 6 |
| war | ker | 1 3 |). 71 | 40199019 | F | PNO: Fast 🔸 | Trig: Free Atten: 36 | | Avg Hold: | 100/100 | | |
| | B/div | | | Offset 2.5 dB 27.50 dBn | | | | | | N | | 4 82 GHz .557 dBm |
| Log 17.5 | | | | | | | | | | | | |
| 7.50 | | | | | | | Millio | | | | | |
| | | | | | | | | | | | | |
| -2.50 | | | | | | | | | | | | |
| -12.5 | | | | | | | | | | | | |
| -22.5 | | | | 1 - 2 | | | | | 4 | | | -27.00 dBm |
| -32.5 | La da | الماعاد | | | المتلاقين وتسمالي | - Standards on all description | hull - | | | | | |
| -42.5 | al tage | a de la comercia de l Comercia de la comercia de la comerci | k jandali | a ana da Milan and Alan Arthuranda | a na shi ka | frindlig de statue : a sur thânh | | | | alanı, fotosi di dinki dara | and the state of the second second second | |
| -52.5 | \vdash | | | | | | | | | | | |
| -62.5 | \vdash | | | | | | | | | | | |
| Cer | L | 5 8 | 250 | GHz | | | | | | | Snar | 300.0 MHz |
| #Re | | | | | | #VB | W 3.0 MHz | | | Sweep | | (10000 pts) |
| MKR | MODE | TRC | SCL | | × | Y | FUN | CTION FUN | CTION WIDTH | F | UNCTION VALUE | ~ |
| 1 | N N | 1 | f | | 5.714 82 GHz | -38.557 -39.169 | | | | | | |
| 2 3 | N | | f | | 5.724 97 GHz 5.850 00 GHz | -40.194 | dBm | | | | | |
| 4 5 | Ν | | f | | 5.862 04 GHz | -32.318 | dBm | | | | | |
| 6 7 | | | | | | | | | | | | |
| 7 8 9 | | | | | | | | | | | | |
| 9 10 | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | ~ |
| < | | | | | | | | | | | | > |
| MSG | | | | | | | | | STATUS | | | |

Figure 49: Measured Above Edge for HT20-MCS0 at 5825 MHz, Chain 0



Figure 50: Undesirable Emission for HT20-MCS0 at 5825 MHz, Chain 0



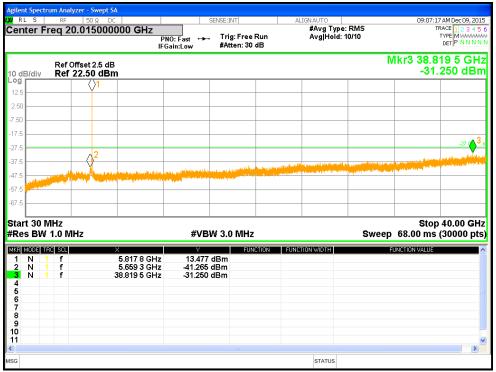
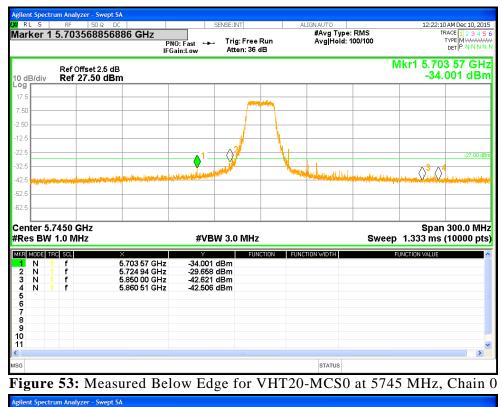


Figure 52: Undesirable Emission for HT20-MCS0 at 5825 MHz, Chain 1



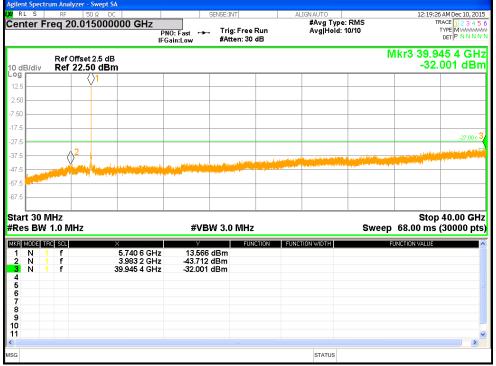


Figure 54: Undesirable Emission for VHT20-MCS0 at 5745 MHz, Chain 0

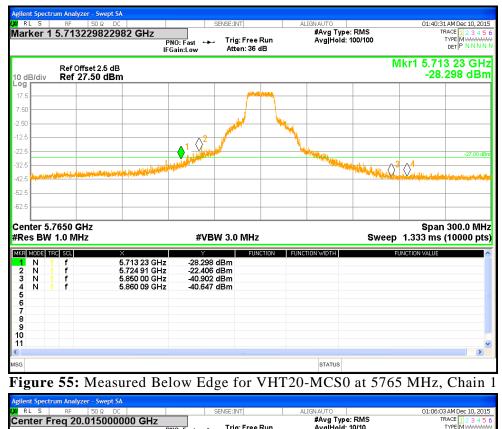
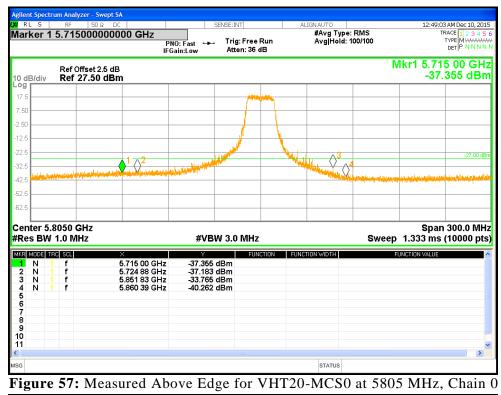




Figure 56: Undesirable Emission for VHT20-MCS0 at 5745 MHz, Chain 1



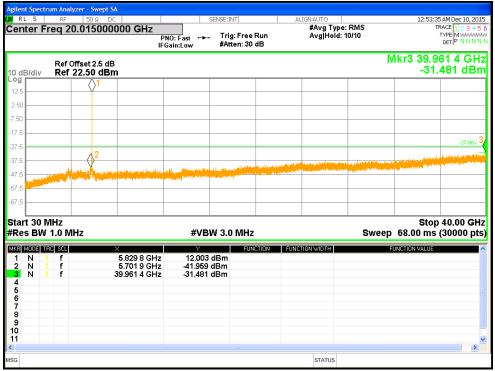
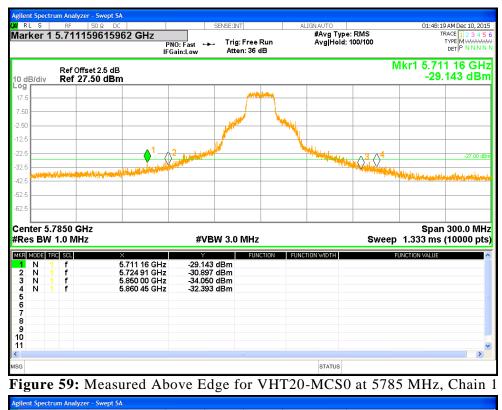


Figure 58: Undesirable Emission for VHT20-MCS0 at 5825 MHz, Chain 0



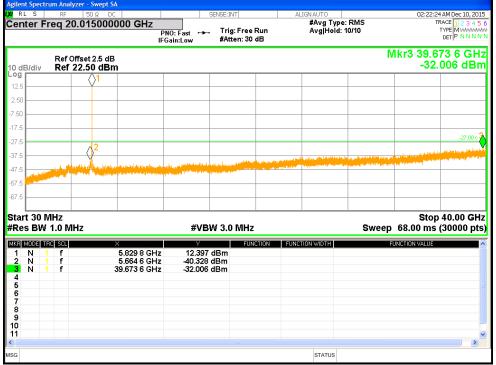


Figure 60: Undesirable Emission for VHT20-MCS0 at 5825 MHz, Chain 1

LUV Rheinland 1279 Quarry Lane, Ste. A, Pleasanton, CA 95466 Tel: (925) 249-9123, Fax: (925) 249-9124

| RLS RF 50 arker 1 5.715000 | | SENSE:INT | ALIGNAUTO #Avg Type: RMS | 03:18:57 AM Dec 10, 20 TRACE 1 2 3 4 |
|---|---|--|-----------------------------|---|
| arker 1 5.715000 | PNC |): Fast ↔→ Trig: Free Ru in:Low Atten: 36 dB | | TYPE MWWW DET PNNN |
| Ref Offset: dB/div Ref 27.50 | | | | Mkr1 5.715 00 GF -36.701 dB |
| 7.5 | | | | |
| .50 | | | | |
| 50 | | | | |
| 2.5 | | | | |
| 2.5 | | | | -27.00 c |
| 2.5 | | | | <mark>3 ∧</mark> 4 |
| 2.5 Japanes Handson and Internet Inter | والمتلك ومعالية والمحالية المحافظ والمحافظ والمحاف | | New Mitchester | ilaisinan katika kanya manana ataun sanka s |
| 2.5 | | | | |
| 2.5 | | | | |
| | | | | |
| enter 5.7550 GHz | | | | Span 300.0 M |
| | | #VBW 3.0 MHz | Swe | Span 300.0 Mi eep 1.333 ms (10000 pt |
| Res BW 1.0 MHz G MODE TRO SCL | X 5745 00 0U- | Y FUNCTIO | | |
| Res BW 1.0 MHz | 5.715 00 GHz 5.725 00 GHz | Y FUNCTIO -36.701 dBm -30.009 dBm | | ep 1.333 ms (10000 pt |
| Res BW 1.0 MHz IF MODE TEC SCL I N 1 f 2 N 1 f 3 N 1 f 4 N 1 f | 5.715 00 GHz | Y FUNCTIO -36.701 dBm | | ep 1.333 ms (10000 pt |
| Res BW 1.0 MHz Image: Solution of the state of the | 5.715 00 GHz 5.725 00 GHz 5.850 21 GHz | Y FUNCTIO -36.701 dBm -30.009 dBm -42.656 dBm | | ep 1.333 ms (10000 pt |
| 2 N 1 f 3 N 1 f 4 N 1 f 5 6 7 | 5.715 00 GHz 5.725 00 GHz 5.850 21 GHz | Y FUNCTIO -36.701 dBm -30.009 dBm -42.656 dBm | | ep 1.333 ms (10000 pt |
| Res BW 1.0 MHz IM002 TEC SCL I N 1 f 2 N 1 f 3 N 1 f 4 N 1 f 5 6 7 6 7 8 9 9 | 5.715 00 GHz 5.725 00 GHz 5.850 21 GHz | Y FUNCTIO -36.701 dBm -30.009 dBm -42.656 dBm | | ep 1.333 ms (10000 pt |
| Res BW 1.0 MHz Gr MODE TRC SCL I N 2 N 3 N 4 N 5 6 7 | 5.715 00 GHz 5.725 00 GHz 5.850 21 GHz | Y FUNCTIO -36.701 dBm -30.009 dBm -42.656 dBm | | ep 1.333 ms (10000 pt |

Figure 61: Measured Below Edge for HT40-MCS0 at 5755 MHz, Chain 0

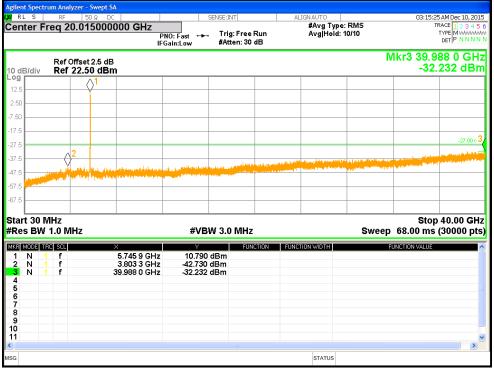


Figure 62: Undesirable Emission for HT40-MCS0 at 5755 MHz, Chain 0

| 50 Ω DC | SENSE:INT | | | 03:06:32 AM Dec 10, 201 TRACE 1 2 3 4 5 |
|--|--|--|--|---|
| | A rast r | | Id: 100/100 | DET P N N N |
| set 2.5 dB 7.50 dBm | | | M | kr1 5.715 00 GH -32.669 dBr |
| | | | | |
| | and the second s | the Plant Andrea | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | -27.00 dE |
| the second s | | Multiple | ومراديها والاول والمتحافظ فللم | $\Diamond \Diamond$ |
| | | | | |
| | | | | |
| | | | | |
| Hz | | | | Span 300.0 MH |
| z | #VBW 3.0 MH | z | Sweep | 1.333 ms (10000 pt |
| × | | NCTION FUNCTION WIDTH | FUN | NCTION VALUE |
| | | | | |
| 5.850 00 GHz | -40.370 dBm | | | |
| 5.860 00 GHz | -41.120 dBm | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | > |
| | PRG IFGa set 2.5 dB 7.50 dBm 1000000000000000000000000000000000000 | PN0: Fast → Trig: Fre. IFGain:Low → Atten: 36 Set 2.5 dB 7.50 dBm 12 2 #VBW 3.0 MH 5.715 00 GHz -32.669 dBm 5.724 82 GHz -42.6398 dBm 5.724 82 GHz -42.6398 dBm | PNO: Fast IF Gain:Low Trig: Free Run Atten: 36 dB AvgiHo set 2.5 dB 7.50 dBm | PN0:: Fast → Trig: Free Run Atten: 36 dB Avg Hold: 100/100 set 2.5 dB MI 7.50 dBm Image: Set 2.5 dB MI 1000000000000000000000000000000000000 |

measured Below Ed 101 нı 40 -MCSU at 5755 MHZ, Chain I

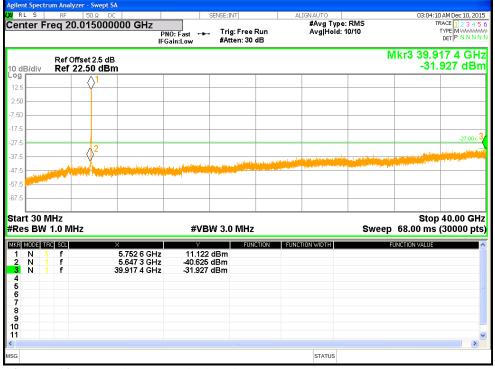


Figure 64: Undesirable Emission for HT40-MCS0 at 5755 MHz, Chain 1

| | um Analyzer - | | | | | | | |
|----------------|------------------------|--|----------------------------|-----------------------|------------------------|---------|-----------------------|------------------|
| RLS arker 1 | | ο Ω DC 9972997 GHz | SENSE:IN | TI | ALIGNAUTO #Avg Type | : RMS | | M Dec 10, 201 |
| | 0.1 1472. | P | | j:FreeRun en:36 dB | Avg Hold: | 100/100 | T | PE N N N N |
| | | IFC | Same Cow Fice | | | | lkr1 5.714 | 72 CH |
| dB/div | Ref Offset Ref 27.5 | | | | | | | 49 dBr |
| g | Kei Zi.J | o ubili | | | | | | |
| 7.5 | | | | | | | | |
| 50 | | | / | And the second states | | | | |
| 50 | | | | | | | | |
| .5 | | | | | | | | |
| 2.5 | | | | | \ | | | -27.00 dB |
| 2.5 | | 1 | | | | 3 _4 | | |
| 2.5 | والالتجا للمتالج للا | and the second | | | | | فالماري فراجيه والم | ور مناون و بود ا |
| | | | | | | | | |
| 2.5 | | | | | | | | |
| | | | | | | | | |
| | 7950 GHz 1.0 MHz | | #VBW 3.0 | MILI- | | Swoon | Span : 1.333 ms (* | 300.0 MH |
| | | | | | | | , | 10000 pt: |
| R MODE TR | f SCL | × 5.714 73 GHz | -39.249 dBm | FUNCTION | FUNCTION WIDTH | FI | UNCTION VALUE | _ |
| 2 N 1 3 N 1 | f | 5.724 82 GHz 5.850 00 GHz | -38.757 dBm -42.490 dBm | | | | | |
| 4 N 1 | f | 5.860 00 GHz | -42.544 dBm | | | | | |
| 5 | | | | | | | | |
| 7 | | | | | | | | |
| 3 | | | | | | | | |
| 0 1 | | | | | | | | |
| • | | | | | | | | > |
| 3 | | | | | STATUS | | | |
| sg | (5. N | feeenad Ah | ana Edaa | for UTA | | -4.5705 | | 71 |

Figure 65: Measured Above Edge for HT40-MCS0 at 5795 MHz, Chain 0

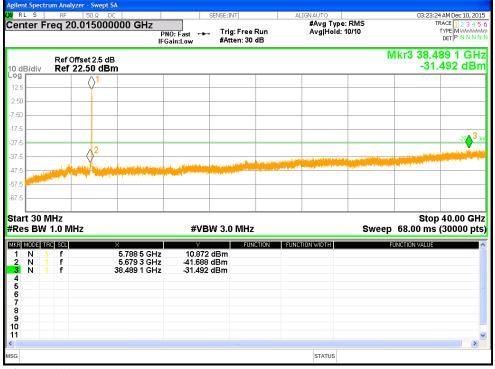


Figure 66: Undesirable Emission for HT40-MCS0 at 5795 MHz, Chain 0

| | | yzer - Swept S | | | | | | | | | |
|-------------|--------|----------------------------|----------------------------|--|--------------------|-----------------|--------|----------------------|-----------------------|--|------------------------------|
| RL S | RF | 50Ω DO | | | SENSE:INT | | ALIO | GNAUTO #Avg Type: | DMS | 03:12 | 14 AM Dec 10, 201 |
| arker i | 5.714 | 10/990/5 | | PNO: Fast | | ree Run | | Avg Hold: | 100/100 | | TYPE MWAAMA DET P N N N N |
| | | | | IFGain:Low | Atten: | 36 dB | | | | | |
| dB/div | |)ffset 2.5 dB 27.50 dBr | | | | | | | | | 14 88 GH 9.078 dBr |
| | KCI / | 27.30 001 | | | | | | | | | |
| 7.5 | | | | | | | | | | | |
| 50 | | | | | | area production | ┥──┼ | | | | |
| 50 | | | | | | | | | | | |
| .5 | | | | | | | | | | | _ |
| | | | | | | | | | | | -27.00 dE |
| 2.5 | | | | A State of the second sec | | | | $ \land$ | 4 | | |
| 5 1000 | | | and the second | the state of the second | · | | | | Million and the state | and the second | and the second second |
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| .5 | | | | | | | | | | | |
| | | | | | | | | | | | |
| enter 5. | | | | | | | | | 0 | | n 300.0 MH |
| tes BW | | | | # | VBW 3.0 M | | | | - | | s (10000 pt |
| R MODE T | RC SCL | | × 5.714 88 GH | | 7 078 dBm | FUNCTION | FUNCTI | ION WIDTH | | FUNCTION VALUE | |
| 2 N 1 | f | | 5.724 85 GH | z -38. | 825 dBm | | | | | | |
| 3 N 1 | f f | | 5.850 30 GH 5.861 14 GH | | 124 dBm 331 dBm | | | | | | |
| | | | | | | | | | | | |
| 5 5 7 | | | | | | | | | | | |
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| 3 | | | | | | | | | | | |
| 3)) | | | | | | | | | | | |
| 3 | | | | | | | | | | | > |
|)) | | | | | | | | STATUS | | | > |

Figure 67: Measured Above Edge for HT40-MCS0 at 5795 MHz, Chain 1

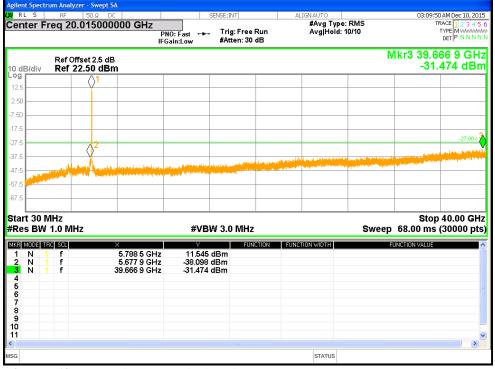


Figure 68: Undesirable Emission for HT40-MCS0 at 5795 MHz, Chain 1

| | | Ω DC | SENSE:INT | ALIGN AUTO | | | 9 AM Dec 10, 2 |
|---|-----------------------------|--|--|----------------------|---------------------------------------|------------------------|---|
| arker 1 | 5.715000 | |): Fast ↔ Trig: Free F in:Low Atten: 36 d | Run Avg H | Гуре: RMS old: 100/100 | | RACE 1 2 3 4 TYPE MWWW DET P N N N |
|) dB/div | Ref Offset 2 Ref 27.50 | | | | | Vkr1 5.71 -36. | 5 00 GI 855 dB |
| 7.5 | | | | | | | |
| .50 | | | | | | | |
| .50 | | | | | | | |
| 2.5 | | | | | | | |
| 2.5 | | | (2) ² | <u> </u> | | | -27.00 |
| 2.5 | | | | | 1 | | |
| 2.5 ministrat | engen dette giftel et sjite | an fi na parte ang ang sa talan ng parte i na sa talang sa talang sa talang sa talang sa talang sa talang sa t | | | Heriolan and a second and a second as | at a lind a firm and i | and the line of |
| 2.5 | | | | | | | |
| 2.5 | | | | | | | |
| | 7550 GHz | | | | | | 300.0 M |
| Res BW | 1.0 MHz | | #VBW 3.0 MHz | | Sweep | 1.333 ms | (10000 p |
| kr mode tr 1 N 1 | f SCL | × 5.715 00 GHz | -36.855 dBm | CTION FUNCTION WIDTH | | FUNCTION VALUE | |
| | f | 5.724 91 GHz | -28.565 dBm | | | | |
| 2 N 1 | | | -43.610 dBm | | | | |
| 2 N 1 3 N 1 | f | 5.850 00 GHz 5.860 15 GHz | | | | | |
| 2 N 1 3 N 1 4 N 1 5 | | 5.850 00 GHz 5.860 15 GHz | -42.161 dBm | | | | |
| 2 N 1 3 N 1 4 N 1 5 6 7 | | | | | | | |
| 2 N 1 3 N 1 4 N 1 5 6 7 8 | | | | | | | |
| 2 N 1 3 N 1 4 N 1 5 6 7 8 9 9 | | | | | | | |
| 2 N 1 3 N 1 4 N 1 5 6 7 8 9 | | | | | | | |
| 2 N 1 3 N 1 4 N 1 5 6 7 8 9 9 | | | | STATU | IS | | <u>)</u> |

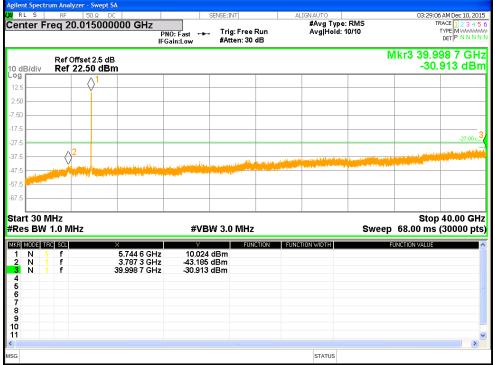


Figure 70: Undesirable Emission for VHT40-MCS0 at 5755 MHz, Chain 0

| RLS RF | 50 Ω DC | SENSE:INT | ALIGN AUTO | 03:41:02 AM Dec 10, 201 |
|---|---|--|---|---------------------------------|
| arker 1 5.7146 | | D: Fast 🛻 Trig: Free Ru | #Avg Type: RMS In Avg Hold: 100/100 | TRACE 1 2 3 4 5 TYPE MWWWW |
| | | 0: Fast ↔→ Trig: Free Ru ain:Low Atten: 36 dB | | DET PNNN |
| dB/div Ref 27 | et 2.5 dB .50 dBm | | | Mkr1 5.714 61 GH -33.435 dBi |
| pg | | | | |
| 7.5 | | antide in the second second | | |
| .50 | | | | |
| .50 | | | | |
| 2.5 | | 2 | | |
| 2.5 | | | | -27.00 d |
| | and a state of the second bill state of the | | No. of the Art of the | |
| | | | | |
| 2.5 | | | | |
| 2.5 | | | | |
| enter 5.7550 GH | | | _ | Span 300.0 MH |
| Res BW 1.0 MHz | • | #VBW 3.0 MHz | | weep 1.333 ms (10000 pt |
| | × | -33,435 dBm | ON FUNCTION WIDTH | FUNCTION VALUE |
| | 5 714 61 GHz | | | |
| 1 N 1 f 2 N 1 f | 5.714 61 GHz 5.724 85 GHz | -27.558 dBm | | |
| 1 N 1 F 2 N 1 F 3 N 1 F | | | | |
| I N 1 f 2 N 1 f 3 N 1 f 4 N 1 f 5 5 5 5 | 5.724 85 GHz 5.850 12 GHz | -27.558 dBm -39.492 dBm | | |
| I N 1 f 2 N 1 f 3 N 1 f 4 N 1 f 5 5 7 | 5.724 85 GHz 5.850 12 GHz | -27.558 dBm -39.492 dBm | | |
| N 1 f 2 N 1 f 3 N 1 f 4 N 1 f 5 - - - 6 - - - 7 - - - 8 9 - - | 5.724 85 GHz 5.850 12 GHz | -27.558 dBm -39.492 dBm | | |
| 2 N 1 f 3 N 1 f 4 N 1 f 6 7 8 9 9 | 5.724 85 GHz 5.850 12 GHz | -27.558 dBm -39.492 dBm | | |
| N 1 f 2 N 1 f 3 N 1 f 4 N 1 f 5 - - - 6 - - - 7 - - - 8 9 - - | 5.724 85 GHz 5.850 12 GHz | -27.558 dBm -39.492 dBm | | > |
| 1 N 1 f 2 N 1 f 3 N 1 f 4 N 1 f 5 6 7 8 9 0 | 5.724 85 GHz 5.850 12 GHz | -27.558 dBm -39.492 dBm | STATUS | |

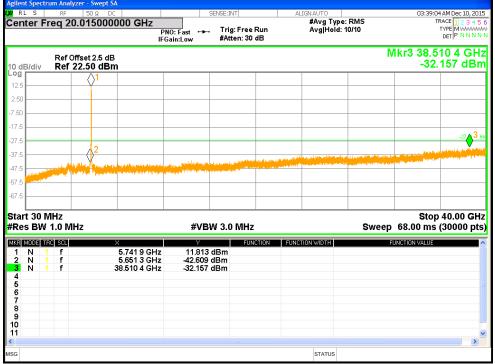


Figure 72: Undesirable Emission for VHT40-MCS0 at 5755 MHz, Chain 1

| | rum Anal | yzer - Swept | 5A | | | | | | | | | |
|--------------------|---|-------------------------------------|---|---------------------------|---------------------|--------------------------|-------|------------------------|-------|-----------------------|-------------------|---|
| RLS | RF | 50Ω C | | | SENSE:INT | | AL] | IGNAUTO #Avg Type | DMC | | | M Dec 10, 20 CE <mark>1 2 3 4</mark> |
| arker 1 | 1 5.71: | 5000000 | JUU GHZ | PNO: Fast ↔ IFGain:Low | ⊢ Trig:Fr Atten: | ee Run 36 dB | | Avg Hold: | | | TY | PE MWAAA ET P N N N |
| dB/div | |) 115 offset 2.5 di 127.50 dB | | | | | | | | Mkr1 | | 00 GI 90 dB |
| | Rei | 27.30 UB | | | | | | | | | | |
| 7.5 | | | | | | | | | | | | |
| .50 | | | | | /*** | States and the states of | | | | | | |
| 50 | | | | | | | | | | | | |
| 2.5 | | | | | | | 1 | | | | | |
| 2.5 | | | | | | | N | | | | | -27.00 |
| 2.5 | | | $+$ \uparrow \uparrow \uparrow \uparrow | | <u> </u> | | - 1 | <u> </u> | 4 | | | |
| 2.5 (444) | n na selen de la compación de l | والعفال فترالحماني | New York Contract of Contra | | | | | - Aleman and a second | - | and a straight of the | nili an sin an an | alan dina di |
| 2.5 | | | | | | | | | | | | |
| 2.5 | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| enter 5. Res BW | | | | #VI | BW 3.0 M | Hz | | | Swe | ep 1.33 | Span 3 3 ms (1 | |
| R MODE 1 | iric scl | | x | Y | | FUNCTION | FUNCT | ION WIDTH | | FUNCTION | VALUE | |
| 1 N 2 N | 1 f 1 f | | 5.715 00 GH 5.725 00 GH | | 0 dBm 2 dBm | | | | | | | |
| 3 N | 1 f | | 5.850 00 GH | lz -40.99 | 5 dBm | | | | | | | |
| 4 N | 1 f | | 5.860 27 GH | lz -41.65 | 3 dBm | | | | | | | |
| 5 7 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| à | | | | | | | | STATUS | | | | |
| igure | e 73: | Meas | ured A | bove E | dge fo | r VHT | 40- | -MCS0 | at 57 | '95 M | Hz, (| Chai |
| | | yzer - Swept | | | <u> </u> | | | | | | | _ |
| RL S | RF | 50 Ω C | | | SENSE:INT | | ALI | IGNAUTO | | | 03:33:06 A | M Dec 10, 2 |
| enter F | req 2 | | 0000 GHz | | Tria: E- | a Dun | | #Avg Type Avg Hold: | | | | CE 1 2 3 4 PE M WWW |
| | | | | PNO: Fast ↔ IFGain:Low | #Atten: | ee Run 30 dB | | Avgluoid: | 10/10 | | D | ET P N N N |
| | | | | | | | | | | Mkr3 | 38.82 | 2.2 GI |
| | Ref C | Offset 2.5 dl | 3 | | | | | | | WINIO | | 44 40 |

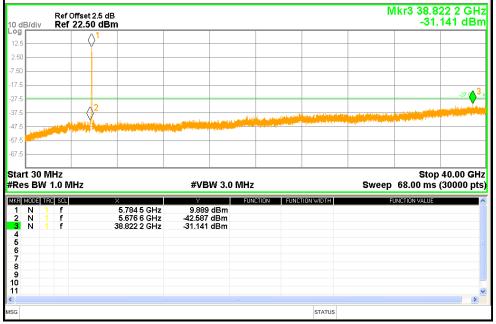
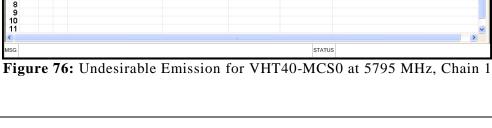


Figure 74: Undesirable Emission for VHT40-MCS0 at 5795 MHz, Chain 0

| RLS RF arker 1 5.715 | 50 Ω DC 0000000000 | PNO | D: Fast +++ | Trig: Free Rur Atten: 36 dB | 1 | IAUTO #Avg Type: Avg Hold: 10 | | 03.13 | 24 AM Dec 10, 20 TRACE 1 2 3 4 1 TYPE MWWWW DET P N N N |
|---|---|--|--|--------------------------------|------------|---------------------------------------|--------|-----------------------------|--|
| dB/div Ref 2 | ffset 2.5 dB 2 7.50 dB m | | | | | | | Mkr1 5.7 -38 | 15 00 GH 3.737 dB |
| 7.5 | | | | | | | | | |
| 50 | | | | | | | | | |
| 2.5 | | | | / | | | | | |
| 2.5 | | 1.0 | | | | | | | -27.00 0 |
| 2.5 2.5 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Manaling Internet Lange La | | And Street of Ballin | | \ | | S. | | and a second state and |
| 2.5 | | | | | | | | | |
| 2.5 | | | | | | | | | |
| tes BW 1.0 MH | łz | | #VBW | / 3.0 MHz | | | Swee | p 1.333 m | s (10000 p |
| N 1 f | | 5 00 GHz | Y -38.737 d | | N FUNCTION | I WIDTH | | FUNCTION VALUE | |
| N 1 f N 1 f N 1 f N 1 f | 5.725 5.850 | 5 00 GHz 5 00 GHz 0 00 GHz 0 18 GHz | -38.737 d -38.971 d -37.698 d -39.972 d | Bm Bm Bm | N FUNCTION | I WIDTH | | FUNCTION VALUE | |
| N 1 f 2 N 1 f 3 N 1 f 4 N 1 f 5 | 5.725 5.850 | 5 00 GHz 0 00 GHz | -38.971 d -37.698 d | Bm Bm Bm | N FUNCTION | I WIDTH | | FUNCTION VALUE | |
| N 1 f 2 N 1 f 3 N 1 f 5 7 5 3 3 | 5.725 5.850 | 5 00 GHz 0 00 GHz | -38.971 d -37.698 d | Bm Bm Bm | N FUNCTION | IWIDTH | | FUNCTION VALUE | |
| N 1 f N 1 f N 1 f J N 1 f J N 1 f J N 1 f J J J J J J J J J J J J J J J J J J J | 5.725 5.850 | 5 00 GHz 0 00 GHz | -38.971 d -37.698 d | Bm Bm Bm | | I WIDTH | | FUNCTION VALUE | |
| N 1 f 2 N 1 f 4 N 1 f 5 7 3 | 5.725 5.850 | 5 00 GHz 0 00 GHz | -38.971 d -37.698 d | Bm Bm Bm | | STATUS | | FUNCTION VALUE | |
| N 1 F 2 N 1 F 4 N 1 F 5 7 7 8 8 9 9 9 | 6.724 5.86(5.86(| 5 00 GHz 0 00 GHz 0 18 GHz | -38.971 d -37.698 d -39.972 d | Bm Bm Bm Bm | | STATUS | at 579 | | > |
| N 1 f N 1 f N 1 f A N 1 f a s a s a s a s a s a s a s a s a s a | 5.72 5.850 5.860 Measure zer - Swept SA | 5 00 GHz 0 00 GHz 0 18 GHz | 38.971 d 37.698 d 39.972 d | Bm Bm Bm ge for V | HT40-N | status MCS0 | at 579 | 95 MHz | z, Chair |
| N 1 f N 1 f N 1 f A N 1 f S S S S S S S S S S S S S S S S S S S | 5.72 5.850 5.860 2010 2011 50 2 DC | ed Abo | 38.971 d 37.698 d 39.972 d | Bm Bm Bm Bm | HT40-N | STATUS | RMS | 95 MHz | 2, Chair |
| N 1 f N 1 f N 1 f A N 1 f S S S S S S S S S S S S S S S S S S S | 5.72 5.850 5.860 2010 2010 2010 2010 2010 2010 2010 20 | ed Abo | 38.971 d 37.698 d 39.972 d | Bm Bm Bm ge for V] | HT40-N | STATUS MCSO HAUTO KAvg Type: | RMS | 95 MHz 03:43 Mkr3 39. | 2, Chair 109AM Dec 10, 20 TRACE 12.3.4 00F P N NN 122.0 GF |
| 2 N 1 f 3 N 1 f 4 N 1 f 5 6 7 8 9 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 5.72 5.850 5.860 <u>5.860</u> <u>5.860</u> <u>5.860</u> <u>5.860</u> <u>5.90</u> <u>50Ω</u> <u>DC</u> <u>50Ω</u> <u>DC</u> | ed Abo | 38.971 d 37.698 d 39.972 d | Bm Bm Bm ge for V] | HT40-N | STATUS MCSO HAUTO KAvg Type: | RMS | 95 MHz 03:43 Mkr3 39. | 2, Chair COSAMDec 10,20 TRACE 1234 TYPE MWWWW DET P NNN |



#VBW 3.0 MHz

11.409 dBm -40.433 dBm -31.134 dBm

5.805 9 GHz 5.666 0 GHz 39.122 0 GHz

FUNCTION FUNCTION WIDTH

-37.5 -47.5 .67 E

ISG

Start 30 MHz #Res BW 1.0 MHz

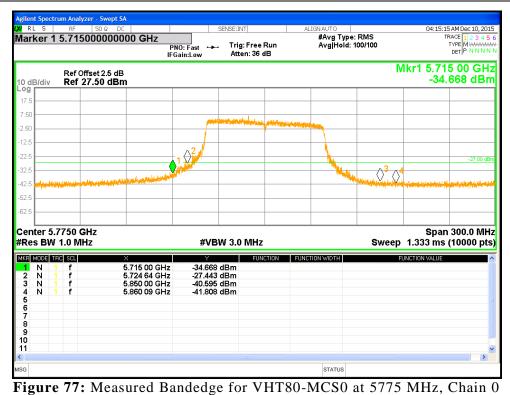
f

MKR MODE TRC SCL

N N N

Stop 40.00 GHz Sweep 68.00 ms (30000 pts)

FUNCTION VALUE



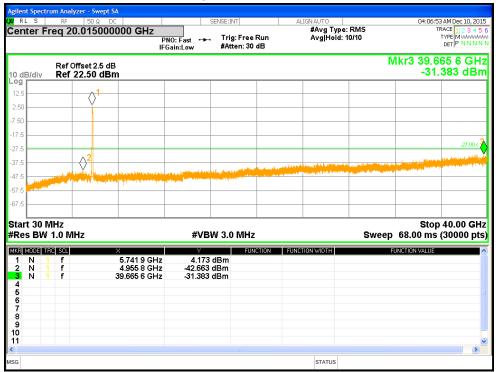
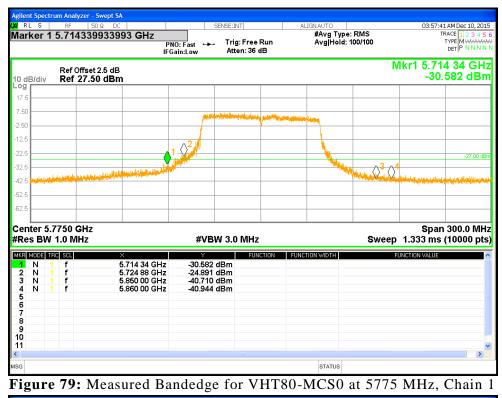


Figure 78: Undesirable Emission for VHT80-MCS0 at 5775 MHz, Chain 0



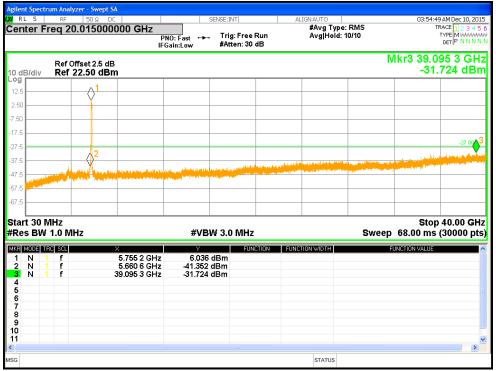


Figure 80: Undesirable Emission for VHT80-MCS0 at 5775 MHz, Chain 1

4.5 Transmitter Spurious Emissions

Transmitter spurious emissions are emissions outside the frequency range of the equipment when the equipment is in transmit mode; per requirement of CFR47 15.205, 15.209, 15.407(b), RSS 247 Sect. 6.2.4.2

4.5.1 Test Methodology

4.5.1.1 Preliminary Test

A test program that controls instrumentation and data logging was used to automate the preliminary RF emission test procedure. The frequency range of interest was divided into sub-ranges to yield a frequency resolution of approximately 120 kHz and provide a reading at each frequency for no more than 12° of turntable rotation. For each frequency sub-range the turntable was rotated 360° while peak emission data was recorded and plotted over the frequency range of interest in horizontal and vertical antenna polarization's.

Preliminary emission profile testing was performed inside the anechoic chamber. The EUT was placed on a 1.0m x 1.5m non-conductive table 80cm (<1 GHz) and 150cm (>1 GHz) above the floor. The EUT was positioned as shown in the setup photographs. The receiving antenna was placed at a distance of 3m at a fixed height of 1m. Measurement equipment was located outside of the chamber. A video camera was placed inside the chamber to view the EUT.

Pres-scans were performed to determine the worst data rate / chains for 802.11a, 802.11n (HT20 and HT40), 802.11ac (VHT20, VHT40 and VHT80).

4.5.1.2 Final Test

For each frequency measured, the peak emission was maximized by manipulating the receiving antenna from 1 to 4 meters above the ground plane and placing it at the position that produced the maximum signal strength reading. The turntable was then rotated through 360° while observing the peak signal and placing the EUT at the position that produced maximum radiation. The six highest emissions relative to the limit were measured unless such emissions were more than 20 dB below the limit. If less than six emissions are within 20 dB of the limit, than the noise level of the receiver is measured at frequencies where emissions are expected. Multiples of all oscillator and microprocessor frequencies were also checked.

Final testing was performed on an NSA compliant test site. The EUT was placed on a 1.0m x 1.5m non-conductive table 80cm (<1 GHz) and 150cm (>1 GHz) above the ground plane. The placement of EUT and cables were the same as for preliminary testing and is shown in the setup photographs.

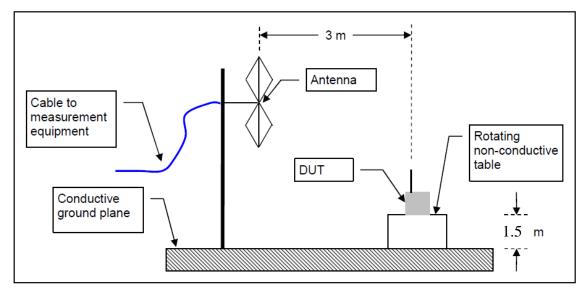
Final results are:

- 1. 802.11a at 6Mbps with 2 Chains (covering HT20 & VHT20)
- 2. HT40 at MCS0 with 2 Chains (covering VHT40)
- 3. VHT80 at MCS0 with 2 Chains

4.5.1.3 Deviations

None.

Test Setup:



4.5.2 Transmitter Spurious Emission Limit

The spurious emissions of the transmitter shall not exceed the values in CFR47 Part 15.205, 15.209: 2015 and RSS 247 Sect. 6.2.4.2 2015.

| Frequency (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) |
|--|--------------------------------------|-------------------------------------|
| 0.009-0.490 0.490-1.705 1.705-30.0 | 2400/F(kHz) 24000/F(kHz) 30 | 300 30 30 |
| 30-88 | 100 ** | 3 |
| 88-216 | 150 ** | 3 |
| 216-960 | 200 ** | 3 |
| Above 960 | 500 | 3 |

In the 5725 MHz – 5850 MHz band, all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz. The -17 dBm is equivalent to 78.2 dBuV/m and for -27 dBm is equivalent to 68.2 dBuV/m at 3 meter distance.

4.5.3 Test Results

The final measurement data was taken under the worst case operating modes, configurations, and/or cable positions. It also reflects the results including any modifications and/or special accessories listed in Sections 1.4 and test plan.

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

Power Setting: See test plan

Table 13: Transmit Spurious Emission at Band-Edge Requirements

Test Conditions: Radiated Measurement

Antenna Type: Custom Integrated

Max. Directional Gain: + 2.24 dBi

Signal State: Modulated at 100%.

| Ambient | Temp.: | 25 | °C | |
|---------|--------|----|----|--|
|---------|--------|----|----|--|

| Ambient | Temp.: 25 °C | 2 | | | Relat |) | | |
|----------------|---------------------|---------------|-------------------|----------------|--------|---------------|---------------|--|
| | | | | Band- | Edge R | lesults | | |
| Freq. (MHz) | Level (dBuV/m) | Pol. (H/V) | Limit (dBuV/m) | Margin (dB) | Det. | Table Deg. | Tower (cm) | Note |
| 5713.90 | 67.98 | V | 68.20 | -0.22 | РК | 282 | 192 | PLOT 81: 11a-6Mbps-5745MHz-TP18- Ch0 & Ch1 |
| 5713.24 | 66.37 | Н | 68.20 | -1.83 | PK | 77 | 158 | PLOT 82: 11a-6Mbps-5745MHz-TP18- Ch0 & Ch1 |
| 5713.32 | 67.72 | V | 68.20 | -0.48 | РК | 275 | 162 | PLOT 83: 11a-6Mbps-5765MHz-TP23- Ch0 & Ch1 |
| 5713.56 | 66.64 | Н | 68.20 | -1.56 | PK | 78 | 145 | PLOT 84: 11a-6Mbps-5765MHz-TP23- Ch0 & Ch1 |
| 5861.60 | 67.57 | V | 68.20 | -0.63 | PK | 351 | 140 | PLOT 85: 11a-6Mbps-5785MHz-TP25- Ch0 & Ch1 |
| 5860.00 | 67.76 | Н | 68.20 | -0.44 | РК | 81 | 138 | PLOT 86: 11a-6Mbps-5785MHz-TP25- Ch0 & Ch1 |
| 5862.28 | 66.97 | Н | 68.20 | -1.23 | РК | 106 | 146 | PLOT 87: 11a-6Mbps-5805MHz-TP22- Ch0 & Ch1 |
| 5860.00 | 66.44 | V | 68.20 | -1.76 | РК | 278 | 145 | PLOT 88: 11a-6Mbps-5805MHz-TP22- Ch0 & Ch1 |
| 5860.24 | 68.01 | V | 68.20 | -0.19 | РК | 279 | 166 | PLOT 89: 11a-6Mbps-5825MHz-TP14- Ch0 & Ch1 |
| 5861.20 | 67.57 | Н | 68.20 | -0.63 | РК | 84 | 150 | PLOT 90: 11a-6Mbps-5825MHz-TP14- Ch0 & Ch1 |
| 5715.00 | 67.66 | V | 68.20 | -0.54 | PK | 283 | 198 | PLOT 91: HT20-MCS0-5745MHz-TP18- Ch0 & Ch1 |
| 5713.90 | 67.63 | Н | 68.20 | -0.57 | PK | 102 | 191 | PLOT 92: HT20-MCS0-5745MHz-T P18- Ch0 & Ch1 |
| 5715.00 | 66.65 | V | 68.20 | -1.55 | PK | 306 | 200 | PLOT 93: HT20-MCS0-5765MHz-TP23- Ch0 & Ch1 |
| 5713.56 | 66.74 | Н | 68.20 | -1.46 | РК | 291 | 148 | PLOT 94: HT20-MCS0-5765MHz-TP23- Ch0 & Ch1 |
| 5861.28 | 68.11 | V | 68.20 | -0.09 | РК | 308 | 200 | PLOT 95: HT20-MCS0-5785MHz-TP25- Ch0 & Ch1 |
| 5860.64 | 67.62 | Н | 68.20 | -0.58 | РК | 83 | 170 | PLOT 96: HT20-MCS0-5785MHz-TP25- Ch0 & Ch1 |

Note: 1. Band-edge frequencies for UNII Band 3 are not a restricted band.

2. All out of band emissions are lower than the 17dBr level (10 MHz below or above the band edge) and 27dBr level (10 MHz greater than below or above the band edge).

Power Setting: See test plan

Table 14: Transmit Spurious Emission at Band-Edge Requirements Continues

Test Conditions: Radiated Measurement

Antenna Type: Custom Integrated

Max. Directional Gain: + 2.24 dBi

Signal State: Modulated at 100%.

| Ambient | Temp.: | 25 | °C | |
|---------|--------|----|----|--|
|---------|--------|----|----|--|

| Ambient | Temp.: 25 °C | C | | | Relative Humidity: 31% | | | | | | |
|----------------|---------------------|---------------|-------------------|----------------|-------------------------------|---------------|---------------|---|--|--|--|
| | | | | Band | -Edge | Results | | | | | |
| Freq. (MHz) | Level (dBuV/m) | Pol. (H/V) | Limit (dBuV/m) | Margin (dB) | Det. | Table Deg. | Tower (cm) | Note | | | |
| 5864.95 | 66.39 | V | 68.20 | -1.81 | РК | 308 | 200 | PLOT 97: HT20-MCS0-5805MHz-TP22- Ch0 & Ch1 | | | |
| 5862.28 | 67.82 | Н | 68.20 | -0.38 | PK | 79 | 170 | PLOT 98: HT20-MCS0-5805MHz-TP22- Ch0 & Ch1 | | | |
| 5860.96 | 67.43 | V | 68.20 | -0.77 | PK | 305 | 199 | PLOT 99: HT20-MCS0-5825MHz-TP14- Ch0 & Ch1 | | | |
| 5862.40 | 67.75 | Н | 68.20 | -0.45 | РК | 104 | 173 | PLOT 100: HT20-MCS0-5825MHz-TP14- Ch0 & Ch1 | | | |
| 5712.35 | 68.00 | V | 68.20 | -0.20 | РК | 310 | 165 | PLOT 101: VHT20-MCS0-5745MHz-TP18- Ch0 & Ch1 | | | |
| 5714.34 | 66.20 | Н | 68.20 | -2.00 | РК | 80 | 164 | PLOT 102: VHT20-MCS0-5745MHz-TP18- Ch0 & Ch1 | | | |
| 5714.04 | 67.94 | V | 68.20 | -0.26 | РК | 292 | 184 | PLOT 103: VHT20-MCS0-5765MHz-TP23- Ch0 & Ch1 | | | |
| 5714.04 | 66.87 | Н | 68.20 | -1.33 | РК | 80 | 140 | PLOT 104: VHT20-MCS0-5765MHz-TP23- Ch0 & Ch1 | | | |
| 5861.60 | 67.99 | V | 68.20 | -0.21 | PK | 311 | 143 | PLOT 105: VHT20-MCS0-5785MHz-TP25- Ch0 & Ch1 | | | |
| 5862.24 | 68.01 | Н | 68.20 | -0.19 | РК | 80 | 151 | PLOT 106: VHT20-MCS0-5785MHz-TP25- Ch0 & Ch1 | | | |
| 5896.93 | 67.47 | V | 68.20 | -0.73 | РК | 312 | 140 | PLOT 107: VHT20-MCS0-5805MHz-TP22- Ch0 & Ch1 | | | |
| 5863.43 | 66.70 | Н | 68.20 | -1.50 | РК | 82 | 173 | PLOT 108: VHT20-MCS0-5805MHz-TP22- Ch0 & Ch1 | | | |
| 5861.20 | 66.62 | V | 68.20 | -1.58 | РК | 309 | 148 | PLOT 109: VHT20-MCS0-5825MHz-TP14- Ch0 & Ch1 | | | |
| 5862.40 | 66.42 | Н | 68.20 | -1.78 | РК | 82 | 148 | PLOT 110: VHT20-MCS0-5825MHz-TP14- Ch0 & Ch1 | | | |
| 5713.80 | 66.37 | V | 68.20 | -1.83 | PK | 308 | 192 | PLOT 111: HT40-MCS0-5755MHz-TP16- Ch0 & Ch1 | | | |
| 5715.00 | 67.20 | Н | 68.20 | -1.00 | PK | 81 | 170 | PLOT 112: HT40-MCS0-5755MHz-TP16- Ch0 & Ch1 | | | |

Note: 1. Band-edge frequencies for UNII Band 3 are not a restricted band.

2. All out of band emissions are lower than the 17dBr level (10 MHz below or above the band edge) and 27dBr level (10 MHz greater than below or above the band edge).

Table 15: Transmit Spurious Emission at Band-Edge Requirements Continues

Test Conditions: Radiated Measurement

Antenna Type: Custom Integrated

Power Setting: See test plan

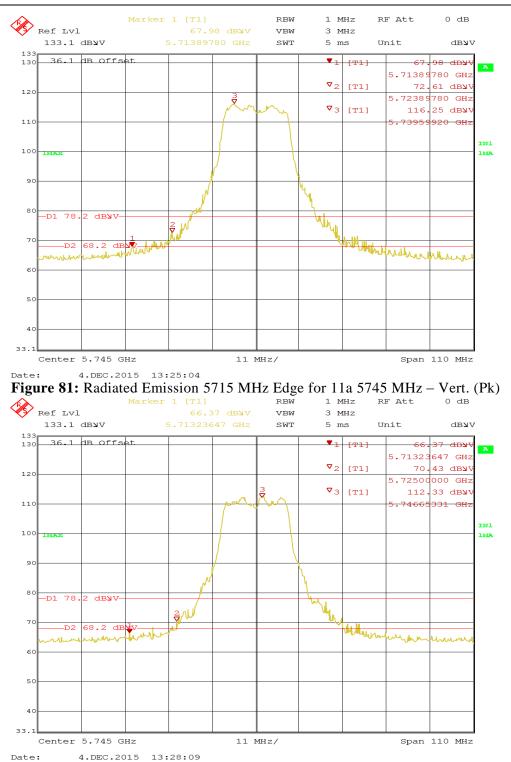
Max. Directional Gain: + 2.24 dBi

Signal State: Modulated at 100%.

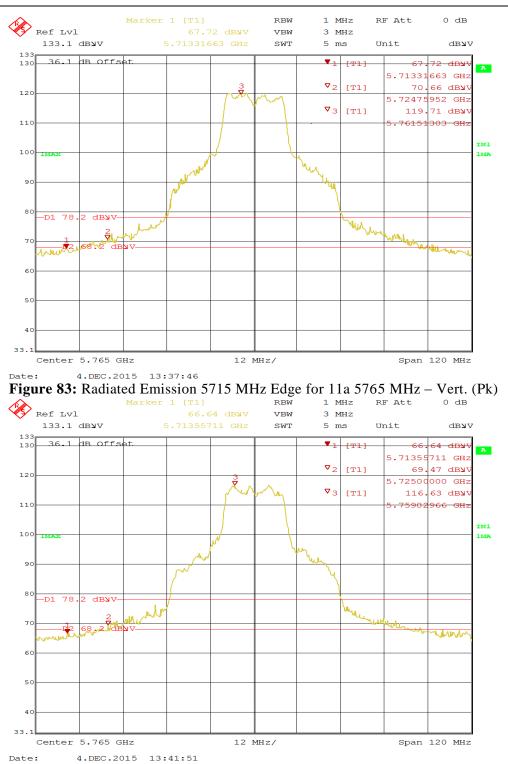
| Signal St | ale: Mouulate | at 100 | /0. | | | | | |
|----------------|---------------------|---------------|-------------------|----------------|-------|---------------|---------------|---|
| Ambient | Temp.: 25 °C | | | | Rela | tive Hur | nidity:319 | % |
| | | | | Band | -Edge | Results | | |
| Freq. (MHz) | Level (dBuV/m) | Pol. (H/V) | Limit (dBuV/m) | Margin (dB) | Det. | Table Deg. | Tower (cm) | Note |
| 5862.53 | 66.99 | V | 68.20 | -1.21 | РК | 302 | 211 | PLOT 113: HT40-MCS0-5795MHz-TP16- Ch0 & Ch1 |
| 5865.77 | 66.85 | Н | 68.20 | -1.35 | РК | 296 | 134 | PLOT 114: HT40-MCS0-5795MHz-TP16- Ch0 & Ch1 |
| 5710.99 | 67.14 | V | 68.20 | -1.06 | РК | 284 | 160 | PLOT 115: VHT40-MCS0-5755MHz-TP16- Ch0 & Ch1 |
| 5711.79 | 66.46 | Н | 68.20 | -1.74 | РК | 82 | 130 | PLOT 116: VHT40-MCS0-5755MHz-TP16- Ch0 & Ch1 |
| 5862.89 | 66.16 | Н | 68.20 | -2.04 | РК | 295 | 141 | PLOT 117: VHT40-MCS0-5795MHz-TP16- Ch0 & Ch1 |
| 5868.30 | 66.68 | V | 68.20 | -1.52 | PK | 278 | 158 | PLOT 118: VHT40-MCS0-5795MHz-TP16- Ch0 & Ch1 |
| 5701.77 | 67.95 | V | 68.20 | -0.25 | РК | 310 | 195 | PLOT 119: VHT80-MCS0-5775MHz-TP14- Ch0 & Ch1 |
| 5702.21 | 67.39 | Н | 68.20 | -0.82 | PK | 102 | 152 | PLOT 120: VHT80-MCS0-5775MHz-TP14- Ch0 & Ch1 |
| | | | | 1.0 | | | 1 | |

Note: 1. Band-edge frequencies for UNII Band 3 are not a restricted band.

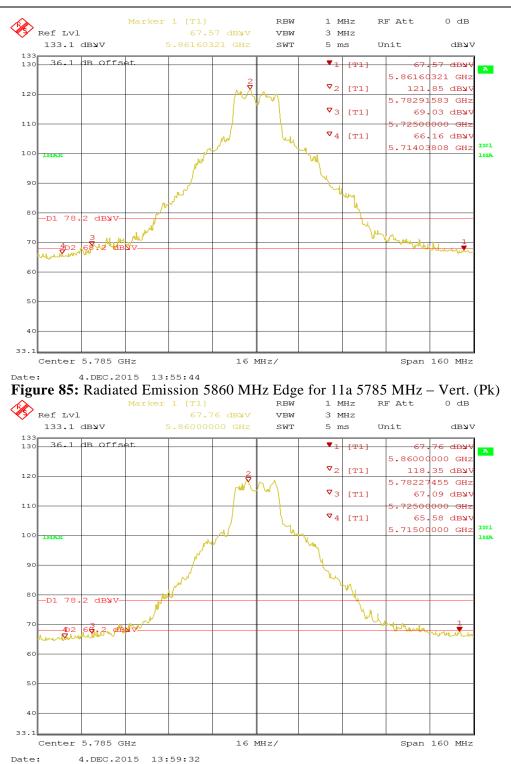
2. All out of band emissions are lower than the 17dBr level (10 MHz below or above the band edge) and 27dBr level (10 MHz greater than below or above the band edge).



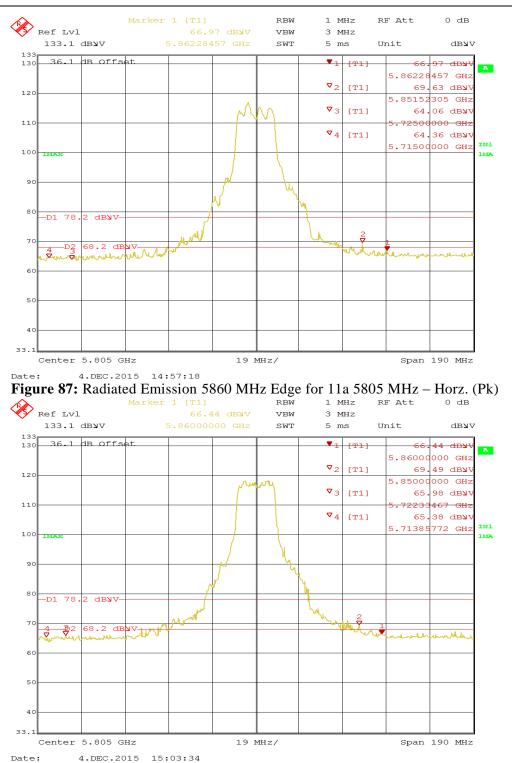


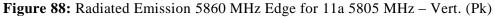


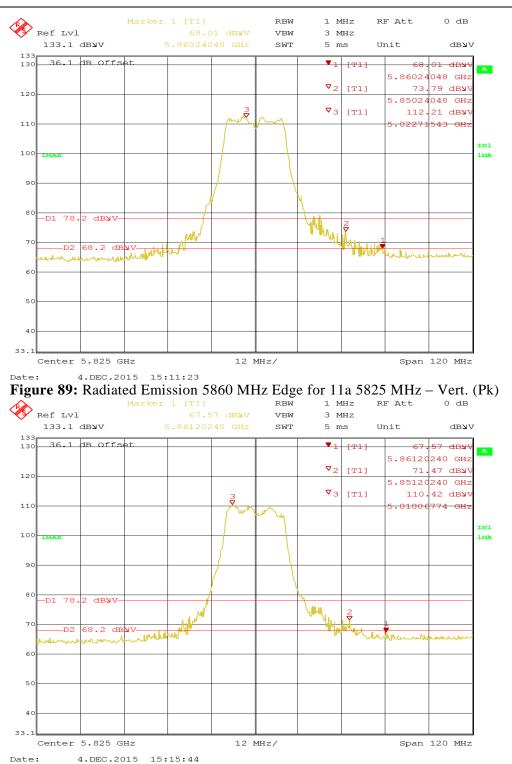




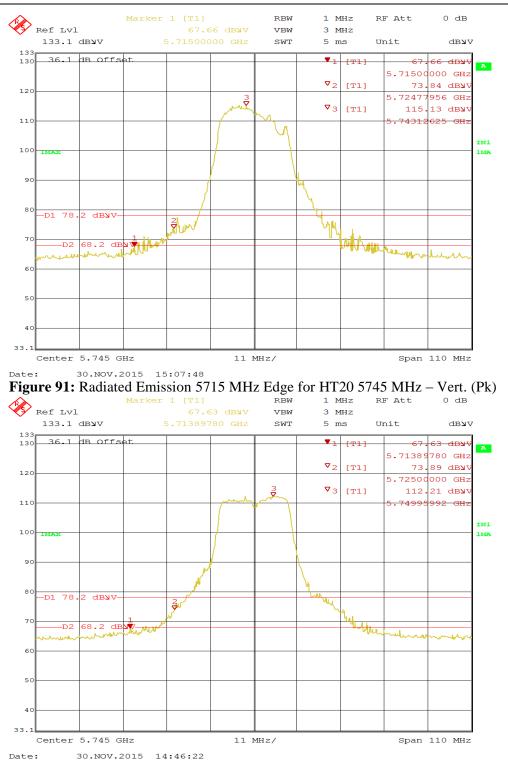


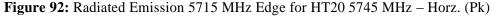


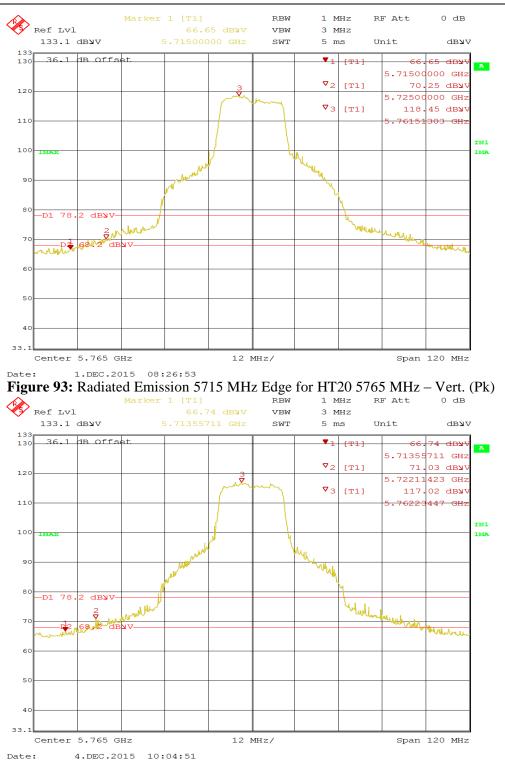


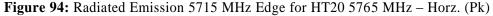


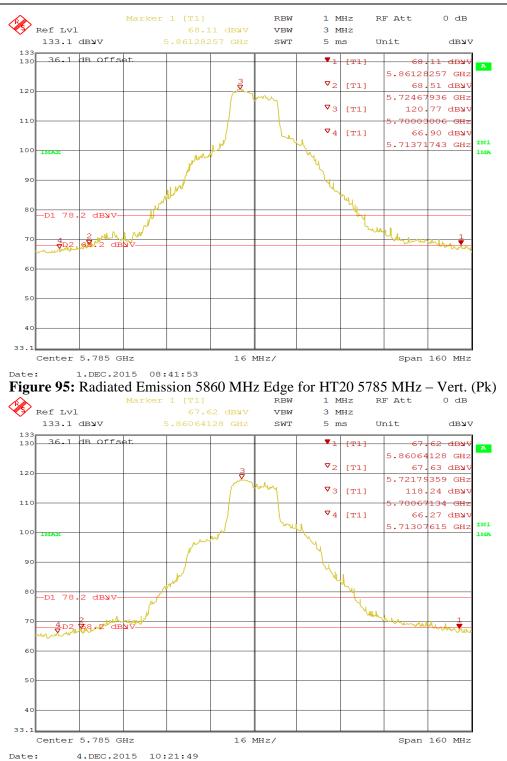


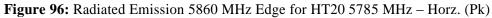


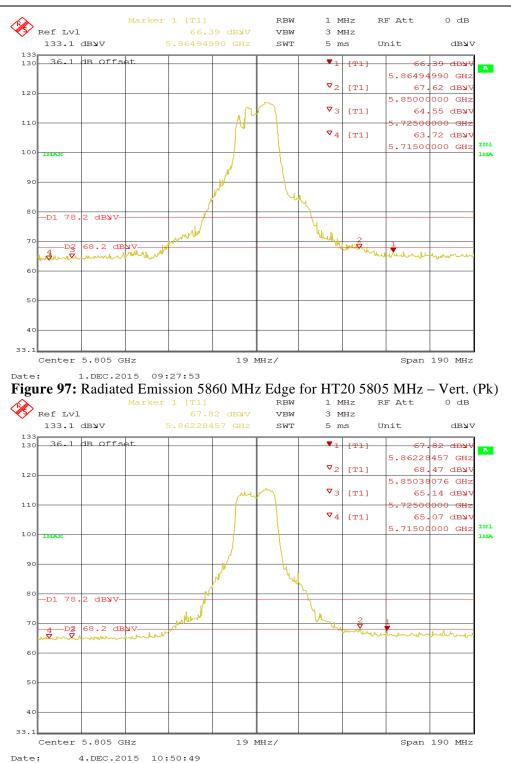


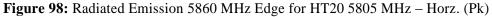


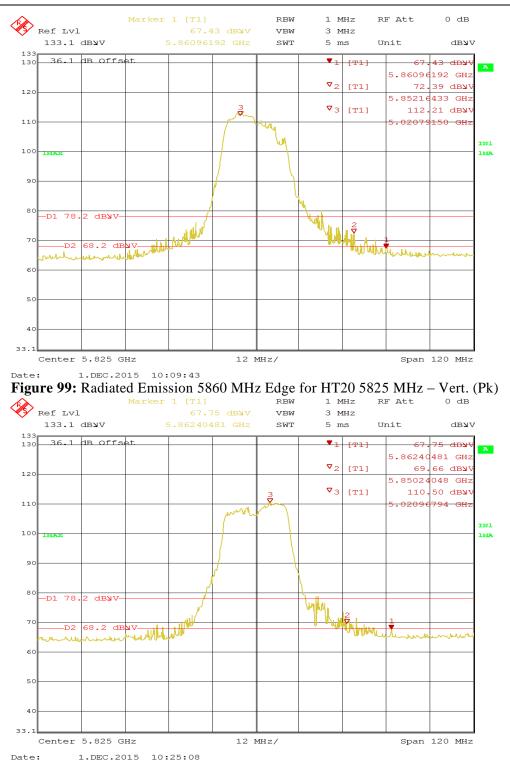


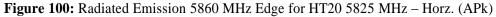


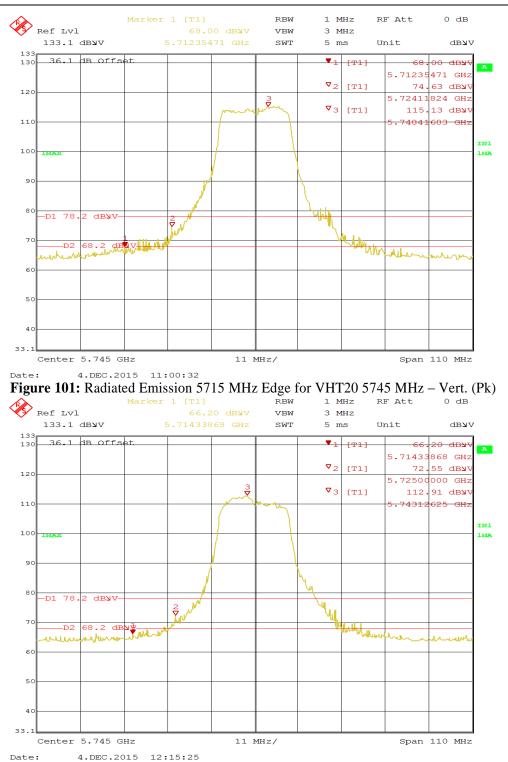


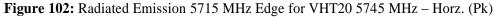


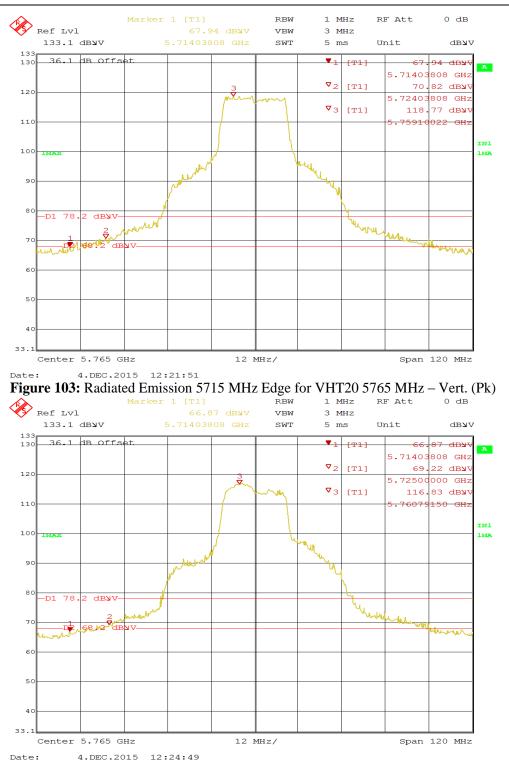


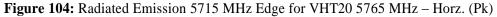


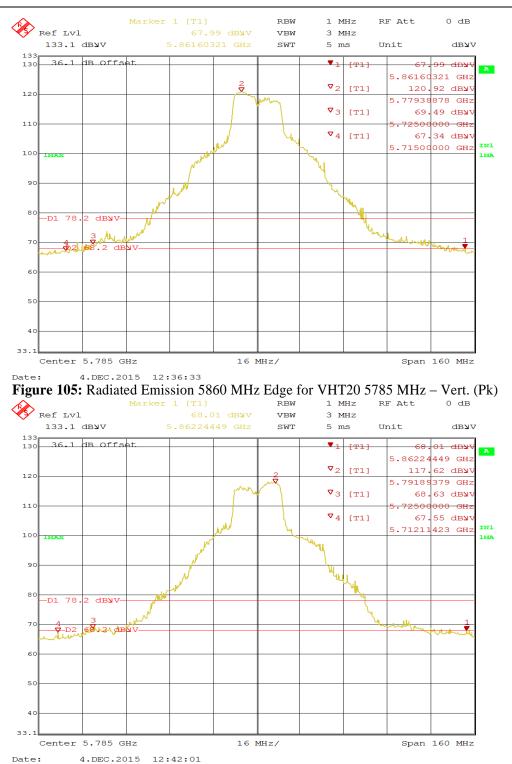


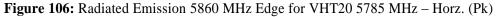


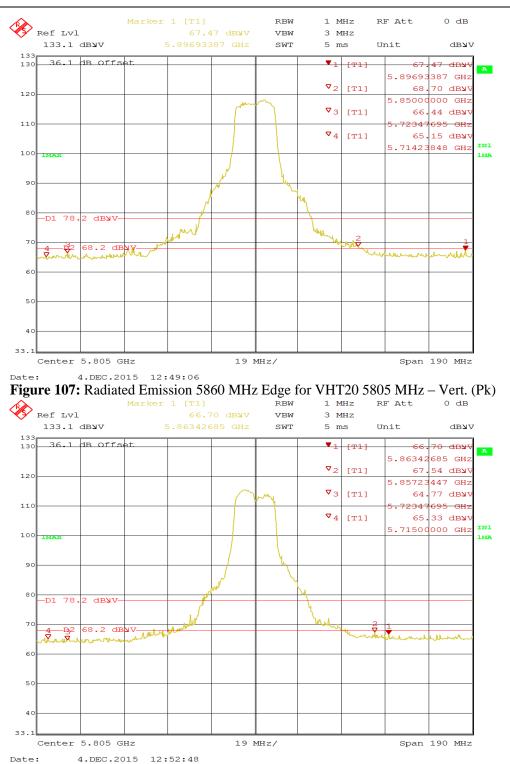


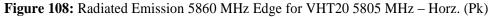


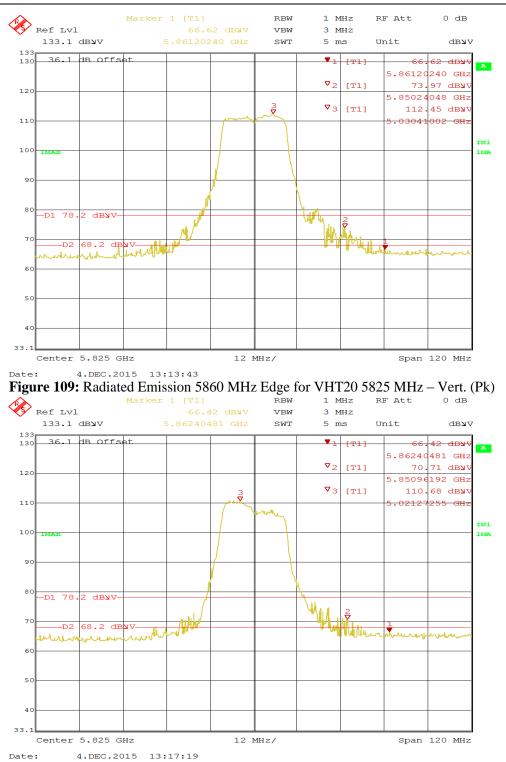


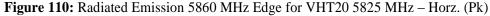


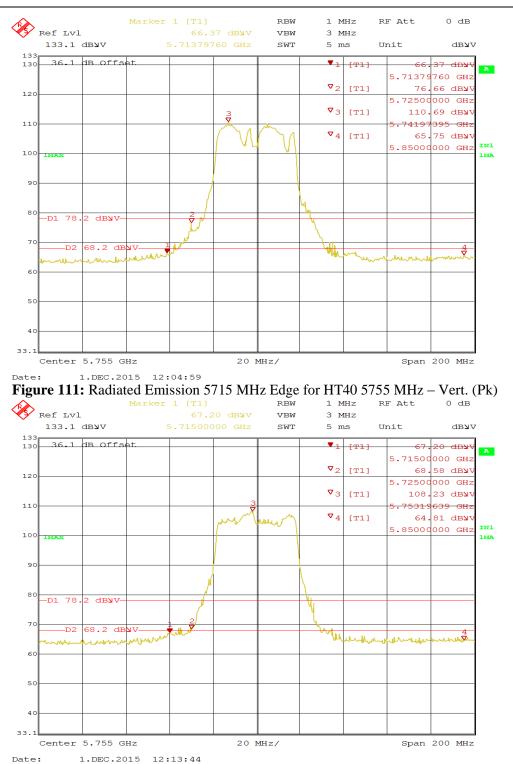


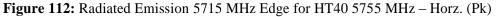


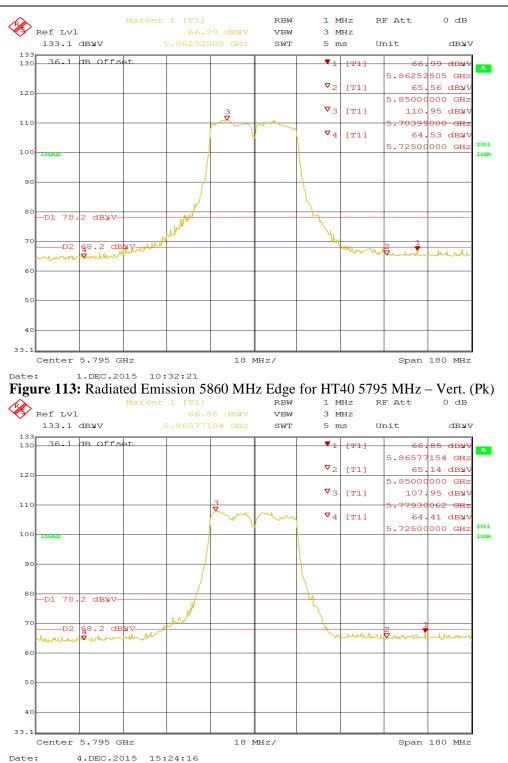


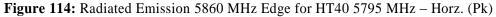


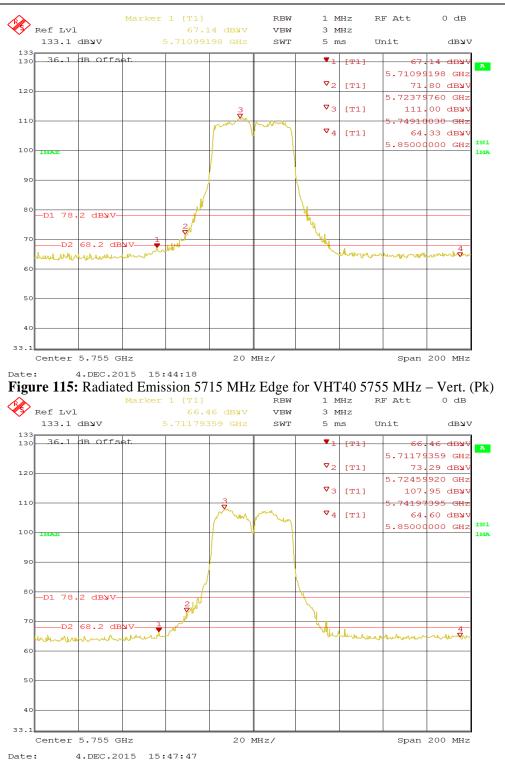


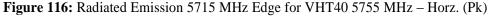


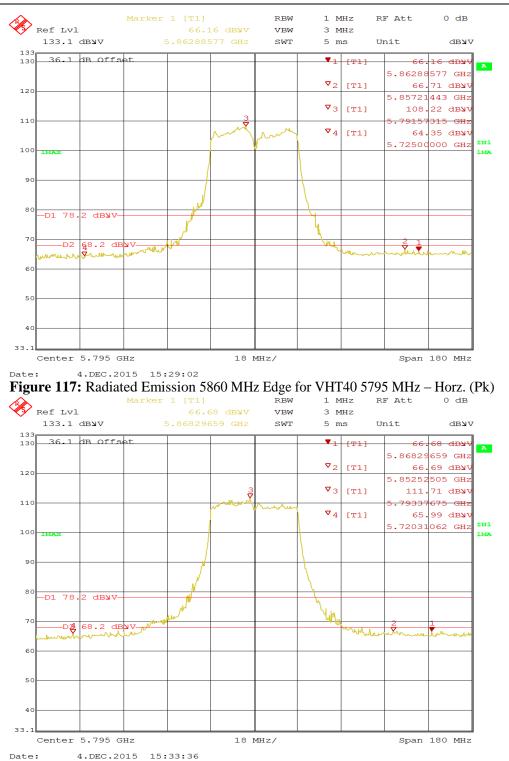


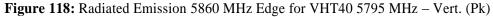


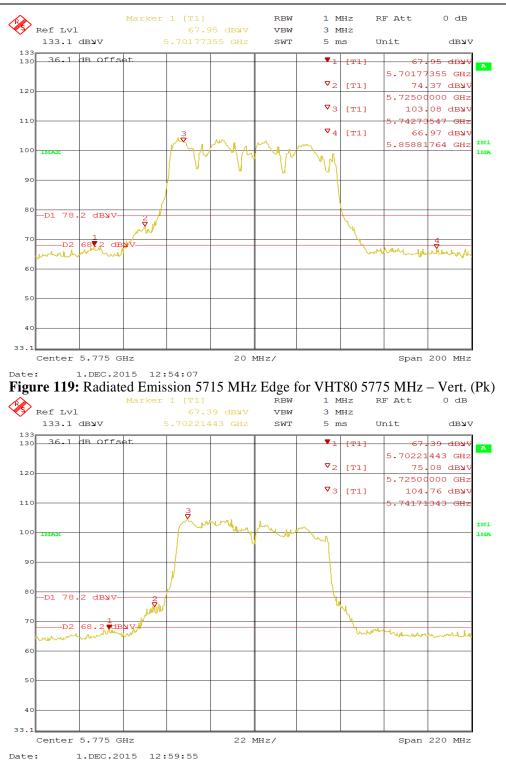


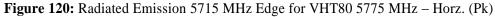












| SOP 1 Ra | diated F | missions | | | | Т | rac | king # | 315634 | 04.0 | 01 Page 1 | of 13 |
|----------------|------------------------|----------------------------------|------------------------|----------------------|--------------------|-----------------|------|----------|----------|-----------------|--------------|-----------|
| EUT Name | | e Wi-Fi Route | ər | | | | Da | 0 | | | 06, 2015 | |
| EUT Model | _ | | | | | | | emp / Hu | ım in | - | C / 34%rh | |
| EUT Serial | | -0053-5XKS | -EP43 | | | | | emp / Hu | | | | |
| EUT Config | | 11a at 6Mbps | | 0&1 | | | | ne AC / | | - | Vac / 60 H | Z |
| Standard | CFR | 47 Part 15 Su | ubpart E | , RSS-24 | 7, RSS-G | SEN | RE | 3W / VB | w | 120 | kHz/ 300 k | Hz |
| Dist/Ant Us | ed 3m / | JB3 | | | | | Pe | erforme | d by | Ker | winn Corpu | Z |
| | | | 30 MF | lz – 1 Gł | lz Transr | nit at 5 | 578 | 5 MHz | | | | |
| Frequency | Raw | Cable Loss | AF | Level | Detector | Pola | rity | Height | Azimu | uth | Limit | Margin |
| MHz | dBuV/m | dB | dB | dBuV/m | | H/\ | / | cm | deg | | dBuV/m | dB |
| 960.01 | 43.21 | 5.86 | -7.37 | 41.70 | QP | Н | | 160 | 112 | | 54.00 | -12.30 |
| 70.44 | 31.34 | 2.93 | -23.85 | 10.43 | QP | V | | 211 | 2 | | 40.00 | -29.57 |
| 79.09 | 53.47 | 2.99 | -24.19 | 32.27 | QP | V | | 111 | 312 | | 40.00 | -7.73 |
| 84.39 | 45.73 | 3.02 | -24.68 | 24.08 | QP | V | | 171 | 312 | | 40.00 | -15.92 |
| dBuV/m | | | TUV F | Rheinla | and of I | North | h A | meric | а | | 06 Nov 1 | 5 16:14 |
| 80.0 | | | 1911 | arenne | | 1910 | 1 | anone | | | 1 — m | Horizont: |
| 70.0 | | | | | | | | | | | <u> </u> | Vertical |
| | | | | | | | | | | | - Qp + Fo | rmal |
| 60.0 | _ | | | | | | - | | | | - · · · | |
| 50.0 | | | | | | | | | | | Qp | |
| | | | | | | | | | | | 1 | |
| 40.0 | _ | | | | | | | | | Ť | | |
| 30.0 11 | | | | | | | | | | | | |
| 20.0 | M.M. | | A L | . | | العيب | بلي | | المنصيلي | د اريل م | 2 | |
| 2000 | J.A | Mary Mary | Colory, | | | | Ē | | | | Meas D | |
| 10.0 | AMALE . | | | | | | | | | | Spec D | |
| 0.0 | | | | | | | | | | | Frequenc | y: MHz |
| 30.0 | 130.0 | 230.0 330. | | | | | 30.0 | 830. | 0 930 | 1.0 1 | 000.0 | |
| eero Filon: | ine, Horr ame: c:\v | e WiFi Rout program files | ter, TX 5 . (x86\\\ | 5785MHz emisoft - | at 11a 6 vasona | Mbps Vresult | te\2 | 2015110 | 6 eero | RE | 12 emi | |
| 1 11210 | | a seguente e tra- | - (nord) u | | a success that | an tanah talah | 1 | | | | | |
| Spec Margin | = E-Field (| QP - Limit, E- | Field OP | = FIM OP | + Total CF | + Lloc | erta | aintv | | | | |
| | | oss AF= Anten | | | | | | | | | | |
| | | s observed on | | | | | (1 | | h | | \ | |
| | | e 802.11a, HT plexity and bul | | | | | | | | | | |
| 5 | | | | | | | | 1.0000 | | - r- # | | |

| SOP | 1 Ra | diated E | Emissions | | | | Tra | acking # | 31563404.0 | 001 Page 2 | of 13 |
|-------|----------------|--|-----------------------------------|----------------|------------|-------------|---------------|-------------|-----------------|----------------|-----------|
| EUT | Name | Hom | e Wi-Fi Route | er | | | D | Date | No | v 05, 2015 | |
| EUT | Model | A010 | 001 | | | | т | emp / Hເ | $m in 23^\circ$ | °C/38%rh | |
| | Serial | | -0053-5XKS | -EP43 | | | | | um out N/A | | |
| EUT | Config | | 11a at 6Mbps | | 0 & 1 | | | .ine AC / | |) Vac / 60 H | Z |
| Stand | - | | 47 Part 15 Su | | | 7, RSS-G | | RBW / VB | | /Hz / 3 MHz | |
| Dist/ | Ant Us | | EMCO3115 | | | , | | Performe | dby Ke | rwinn Corpu | Z |
| | | | 1 - | - 18 GH | z Transm | nit at 5745 | | | <u>,</u> | | |
| Freq | uency | Raw | Cable Loss | AF | Level | Detector | Polarity | y Height | Azimuth | Limit | Margin |
| M | Hz | dBuV/m | dB | dB | dBuV/m | | H/V | cm | deg | dBuV/m | dB |
| 1467 | 78.76 | 39.27 | 4.42 | -6.50 | 37.19 | Average | Н | 145 | 58 | 54.00 | -16.81 |
| 1799 | 98.24 | 36.73 | 5.05 | 2.44 | 44.22 | Average | Н | 131 | 90 | 54.00 | -9.78 |
| 599 | 0.10 | 43.29 | 3.07 | -14.98 | 31.38 | Average | V | 153 | 256 | 54.00 | -22.62 |
| dBu | | | | | heinla | and of N | Jorth. | Americ | a | 05 Nov 1 | 5 21:55 - |
| 90.0 |) | | | | arronne | | 101011 | | | m | Horizont: |
| 80.0 | | | | | | | | | | — Ż | Vertical |
| out | ' | | | | | | | | | 1 — <u>A</u> i | i Lmt |
| 70.0 | | | | | | | | | | + Fo | rmal |
| 70.0 | ' <u> </u> | | | | | | | | | - | |
| 60.0 | | | | | | | | | | | |
| | | | | | | | | | | Im | |
| 50.0 |) | | | | | <u> </u> | + | | | ₩ | |
| | | | | | | I II. | سالهم رار | | | ' ∔ | |
| 40.0 | | | | | . Adam | | Sec | | | - | |
| | لمال | | ~ Mum | and the second | | a an | | | + | | |
| aut | | and the second | | | | - T | | | | Мере Г | Dist 3m |
| 20.0 | | | | | | | | | | Spec D | |
| 20.0 | ' <u> </u> | | | | | | | | | Frequenc | |
| 10.0 | | | | | | | | | | | y. MI 12. |
| | 1000.0 | | | | | | | 10000. | 0 | 18000.0 | |
| | eero | inc, Hon | ie WiFi Rout | er, TX 5 | 745MHz | at 11a 6 | Mbps | 10045440 | | -0 | |
| | - nen | ame. c.v | program files | (xou)/e | sinisoni - | vasona | results | 2010110 | N_CELO_R | Latenii | |
| | | | | | | | | | | | |
| | | | AVG - Limit, E | | | | al CF \pm U | Incertainty | | | |
| | | | oss AF= Anten | | |) | | | | | |
| | | | s observed on | | mode. | | | | | | |
| | | | l are HT20 and plexity and bul | | the report | t Worst coa | Plote | are placed | l in the repor | t | |
| | | | e the Spurious | | | | | | пп пе терог | ι. | |
| | | | | | | | | | | | |

| | | | | | | - | | | | | 6.40 |
|-------------|-----------------|--------------------------------|---|------------------|-----------------------------|---|----------|---------|-----------------|---------------|-------------------------|
| SOP 1 Ra | | Emissions | | | | Т | rackin | ng # | 31563404 | .001 Page 3 | of 13 |
| EUT Name | | e Wi-Fi Route | er | | | | Date | | | ov 06, 2015 | |
| EUT Model | | | | | | | Temp | | | 4° C / 34%rh | |
| EUT Serial | | A-0053-5XKS | | | | | | | um out <u>N</u> | | |
| EUT Config | | 11a at 6Mbps | | | 7 000 0 | | Line | | | 20 Vac / 60 H | |
| Standard | | 47 Part 15 Su | | | 7, RSS-G | | RBW | | | MHz / 3 MHz | |
| Dist/Ant Us | sea 3m – | EMCO3115 | | | | | Perfo | | 2 | erwinn Corpu | Z |
| | _ | | | | nit at 5745 | | <u>`</u> | | | 1 | |
| Frequency | | Cable Loss | AF | Level | Detector | | | | | | Margin |
| MHz | dBuV/m | dB | dB | dBuV/m | | H/\ | | cm | deg | dBuV/m | dB |
| 38188.10 | 45.65 | 7.52 | -12.00 | 41.17 | Average | H | 1 | 166 | -2 | 54.00 | -12.83 |
| 39836.08 | 47.32 | 7.65 | -13.54 | 41.43 | Average | Н | 1 | 145 | 198 | 54.00 | -12.57 |
| 33914.96 | 43.13 | 6.94 | -12.54 | 37.53 | Average | V | 1 | 165 | 224 | 54.00 | -16.47 |
| dBuV/m | | | TING | NI | | | | | | 06 Nov 1 | 5 12:04 |
| 100.0 | | | TUVE | <u>kneinia</u> | and of N | νοπη | n Am | ieric | a | | |
| 90.0 | | | | | | | | | | \pm | Horizonta Vertical |
| 50.0 | | | | | | | | | | K | Lmt |
| 80.0 | | | | | | | | | | — + Fo | rmal |
| 70.0 | | | | | | | | | | | |
| 60.0 | | | | | | | | | | | |
| | | | | | | | | | | | |
| 50.0 | | | | | | | أوسفعرن | Mr. A | ~~~ | - (ží | |
| 40.0 | | | | - P40- | | a de la d | | | ₩ | + | |
| 30.0 | | , | and the second secon | للهجيد | | | - | + | | | |
| 30.0 | | | | | | | | | | | |
| 20.0 | | | | | | | | | | Meas [| |
| 10.0 | | | | | | | | | | Spec E | |
| 0.0 | | | | | | | | | | Frequenc | y: MHz |
| 0.0 18000.0 |) | | | | | | | | | 39999.999999 | 9999 |
| eero | ine, Horr | ne WiFi Rout | ier, <u>TX 5</u> | 6745M <u>H</u> z | at 11a 6 | Mbps | | | | | |
| Filen | ame: c:\j | program files | (X80)% | emisort - | vasona) | vresult | SV201 | 19110 | o_eero_H | (E0.emi | |
| | | | | | | | | | | | |
| | | AVG - Limit, E | | | | al CF ± | Uncer | rtainty | | | |
| | | oss AF= Anten s observed on | | |) | | | | | | |
| | | d are HT20 and | | | | | | | | | |
| 3. To r | educe com | plexity and bul | kiness of | the repor | t Worst cas | se Plot | s are p | blaced | l in the repo | ort. | |

| SOP 1 | Radiated E | | | | | Tra | acking # | | 001 Page 4 | of 13 |
|--------------|--------------|--------------------------------|-----------|--------------|-------------|-----------|-------------|----------------|----------------------------|---|
| EUT Nar | | e Wi-Fi Route | er | | | | Date | | v 05, 2015 | |
| EUT Mo | | | | | | | ՝emp / Hւ | | ° C / 38%rh | |
| EUT Ser | | 4-0053-5XKS | - | | | | | um out N// | | |
| EUT Cor | · · | 11a at 6Mbps | | | | | .ine AC / | | 0 Vac / 60 H | |
| Standar | | 47 Part 15 Su | | | 7, RSS-G | | RBW / VB | | /Hz / 3 MHz | |
| Dist/Ant | Used 3m - | EMCO3115 | / 1m – A | AHA-840 | | P | Performe | dby Ke | rwinn Corpu | Z |
| | | 1 | – 18 GF | Iz Transm | nit at 5785 | 5 MHz (I | Mid Char | inel) | | |
| Frequen | cy Raw | Cable Loss | AF | Level | Detector | Polarity | y Height | Azimuth | Limit | Margin |
| MHz | dBuV/m | dB | dB | dBuV/m | | H/V | cm | deg | dBuV/m | dB |
| 14560.8 | 39 39.65 | 4.42 | -7.13 | 36.93 | Average | V | 225 | 40 | 54.00 | -17.07 |
| 17982.2 | 27 37.50 | 5.03 | 2.04 | 44.57 | Average | V | 172 | 74 | 54.00 | -9.43 |
| dBuV 90.0 | · | | TUV F | Rheinla | and of N | Vorth. | Americ | a | 05 Nov 1 | 5 22:23 - |
| 80.0 | | | | | | | | | 1 2 2 | Horizont: Vertical / Lmt ormal |
| 70.0 60.0 | | | | | | | | | | |
| 50.0 40.0 | | | | | h | بلللعله | استنجنيه | ~~~ | /#0 + | |
| 30.0 | And Mar | and for some | الميعجب | معالمما | \sim r | | | + | | |
| 20.0 | | | | | | | | | | Dist 3m Dist 3m |
| 10.0 | | | | | | | | | Frequence | sy: MHz |
| 10.0 | 1.0 | | | | | | 10000. | 0 | 18000.0 | |
| ee | ro inc, Horr | ne WiFi Rout | er, TX 8 | 5785MHz | at 11a 6 | Mbps | | _ | | |
| Fi | lename: c:\j | program files | (X80)/ | emisoft - | vasona) | results | 2015110 | lo_eero_R | E10.emi | |
| | | | | | | | | | | |
| | | AVG - Limit, E | | | | al CF ± U | Incertainty | | | |
| | | oss AF= Anten s observed on | | | | | | | | |
| | | d are HT20 and | | | | | | | | |
| | | plexity and bul | kiness of | f the report | t Worst cas | se Plots | are placed | I in the repor | t. | |

| SOP 1 Radiated Emissions Tracking # 31563404.001 Page 5 of 13 | | | | | | | | | | | | |
|---|-------------|---------------------------------|--------------|------------|----------------------------|---------------------------|----------|----------------|-------------|------------|-------------|-------------------------|
| | | | | | | 1 | | U | | | Ŭ | of 13 |
| EUT Name | | e Wi-Fi Route | er | | | | Date | - | | | 06, 2015 | |
| EUT Mode | | | FD 40 | | | | | np / Hu | - | | C / 34%rh | |
| EUT Serial EUT Config | | A-0053-5XKS 11a at 6Mbps | | 0 8 1 | | | | пр/ні e AC/ | Im out | | Vac / 60 H | 7 |
| Standard | | 47 Part 15 Su | | | 7 RSS-C | | | V/VB | | | Hz / 3 MHz | |
| | | - EMCO3115 | | | 7, 100-0 | | | forme | _ | | winn Corpu | |
| DISTANCO. | | | | | nit at 5785 | | | | | Ren | | ۲ |
| Frequency | Raw | Cable Loss | AF | Level | Detector | | <u>`</u> | | Azimu | th | Limit | Margin |
| MHz | dBuV/m | dB | dB | dBuV/m | 1 | H/V | - | cm | deg | | dBuV/m | dB |
| 34369.94 | 43.86 | 7.01 | -12.44 | 38.43 | Average | н | | 134 | 126 | | 54.00 | -15.57 |
| 39925.49 | 47.42 | 7.63 | -13.52 | 41.53 | Average | н | | 131 | 108 | | 54.00 | -12.47 |
| 38239.33 | 45.42 | 7.53 | -11.98 | 40.97 | Average | | | 166 | 351 | | 54.00 | -13.03 |
| dBuV/m | | | | Dhainle | and of N | Jorth | An | noric | - | | 06 Nov 1 | 5 12:23 - |
| 100.0 | | | TOVE | viieniie | and of t | VOLU | I AU | nenc | <i>.</i> a | | l nar | |
| 90.0 | | | | | | | | | | | ż | Horizonta Vertical |
| 80.0 | | | | | | | | | | | | Lmt |
| 00.0 | | | | | | | | | | | + -0 | rmal |
| 70.0 | | | | | | | | | | | | |
| 60.0 | | | | | | | | | | | | |
| 50.0 | | | | | | | | m. | ألمر | ~~ | êN 🛛 | |
| 40.0 | | | | - Mar | م <mark>ر. الدر بال</mark> | and a start of the second | ~~~ | * T | ، اسا | . . | + | |
| 30.0 | annt a | and a first state of the second | where a | أجحي | | | | + | | | | |
| 20.0 | | | | | | | | | | | Meas D | Sec. 4 |
| | | | | | | | | | | | Spec D | |
| 10.0 | | | | | | | | | | | Frequenc | y: MHz |
| 0.0 18000.0 |) | | | | | | | | | 3 | 9999 999999 | 9999 |
| eero | inc, Hom | ne WiFi Rout | er, TX 5 | 5785MHz | at 11a 6 | Mbps | | | | _ | _ | |
| Filen | ame: c:\j | program files | ; (X86)); | emisoft - | · vasona) | vresult | s\20 | 115110 | o_eero_ | _RE | /.emi | |
| | | | | | | | | | | | | |
| Spec Margin | = E-Field / | AVG - Limit, E oss AF= Anten | -Field A | /G = FIM / | AVG+ Tota | al CF ± | Unce | ertainty | | | | |
| | | s observed on | | | , | | | | | | | |
| 2. Moc | les covered | d are HT20 and | VHT20. | | | | | | | | | |
| 3. To r | educe com | plexity and bul | kiness of | the repor | t Worst cas | se Plots | s are | placed | l in the re | port. | | |

| SOP ' | 1 Ra | diated E | missions | | | | Trac | cking # | 31563404.0 | 01 Page 6 | of 13 |
|---------|-------|----------------|-----------------------------------|------------|-----------|-----------------------------|------------|------------|--|------------------|--------------------|
| EUT N | ame | Hom | e Wi-Fi Route | er | | | Da | ate | Νο | / 05, 2015 | |
| EUT M | odel | A010 | 0001 | | | | Те | emp / Hu | um in 23° | C / 38%rh | |
| EUT Se | erial | E59A | -0053-5XKS | -EP43 | | | Те | emp / Hu | um out N/A | ١ | |
| EUT C | onfig | . 802.1 | 11a at 6Mbps | / chain | 0&1 | | Li | ne AC / | Freq 120 |) Vac / 60 H | Z |
| Standa | ard | CFR | 47 Part 15 Su | ubpart E | , RSS-24 | 7, RSS-G | EN RE | BW / VB | W 1 M | IHz / 3 MHz | |
| Dist/Ar | nt Us | ed 3m - | EMCO3115 | / 1m – A | AHA-840 | | Pe | erforme | d by Ker | winn Corpu | Z |
| | | | 1 - | - 18 GH | z Transm | nit at 5825 | MHz (H | igh Chai | nnel) | - | |
| Freque | ency | Raw | Cable Loss | AF | Level | Detector | Polarity | Height | Azimuth | Limit | Margin |
| MH | z | dBuV/m | dB | dB | dBuV/m | | H/V | cm | deg | dBuV/m | dB |
| 6060 | .61 | 46.45 | 3.09 | -14.58 | 34.96 | Average | 203 | 294 | 54.00 | -19.04 | 203 |
| 14677 | 7.22 | 39.24 | 4.42 | -6.51 | 37.15 | Average | 194 | 54 | 54.00 | -16.85 | 194 |
| 17982 | 2.91 | 37.48 | 5.03 | 2.06 | 44.57 | Average | 143 | -2 | 54.00 | -9.43 | 143 |
| dBuV | (| | | TUV F | Rheinla | and of N | North A | merio | a | 05 Nov 1 | 5 22:40 |
| 90.0 | | | | | | | | | | — [1] | Horizonta |
| 80.0 | | | | | | | | | | _ — (2) | |
| | | | | | | | | | | | / Lmt vrmal |
| 70.0 | | | | | | | | | | - + ··· | u na |
| | | | | | | | | | | | |
| 60.0 | | | | | | | | | | | |
| 50.0 | | | | | | | | | | N) | |
| 10.0 | | | | | | A | وو الموجود | المعجبيها | and the second sec | ÷ | |
| 40.0 | | | | | متعالملي | ~ U^` | | | + | 1 | |
| 30.0 | -1- | haven | and a standard and | - - | · | | | | | | |
| 20.0 | - | Ť | | | | | | | | Meas D Spec D | Dist 3m Dist 3m |
| | | | | | | | | | | Frequenc | y: MHz |
| 10.0 | 0.00 | | | | | | | 10000. | 0 . | 18000.0 | |
| | eero | inc, Hom | ie WiFi Rout | ter, TX § | 5825MHz | at 11a 6 | Mbps | | - | | |
| | Filen | ame: c:\p | program files | i (x86)∖ | emisoft - | vasona) | results\; | 2015110 |)5_eero_RE | 11.emi | |
| | | | | | | | | | | | |
| | | | AVG - Limit, E | | | | I CF ± Ur | ncertainty | | | |
| | | | oss AF= Anten | | |) | | | | | |
| | | | s observed on | | | | | | | | |
| | | | l are HT20 and plexity and bul | | | t Worst cas | se Plots a | re placed | l in the report | | |
| | | | | | | | | | | - | |

| SOP 1 Radiated Emissions Tracking # 31563404.001 Page 7 of 13 | | | | | | | | | | | |
|---|--|-------------------------------|---|--------------|-----------------------------|-------------|-----------|------------|--------|---------------|--------------|
| EUT Name | Hom | e Wi-Fi Route | er | | | | Date | | No | / 06, 2015 | |
| EUT Model | A010 | 001 | | | | | | Hum in | | C / 34%rh | |
| EUT Serial | | -0053-5XKS | - | | | | | Hum ou | | | |
| EUT Config | | 11a at 6Mbps | | | | | | C / Freq | |) Vac / 60 H | |
| Standard | | 47 Part 15 Sι | | | 7, RSS-G | | RBW / | | | IHz / 3 MHz | |
| Dist/Ant Us | ed 3m – | EMCO3115 | | | | | | ned by | Ker | winn Corpu | Z |
| | | | - 40 GH | | it at 5825 | | ` ĭ | | | | |
| Frequency | Raw | Cable Loss | AF | | Detector | | | ght Azin | nuth | Limit | Margin |
| MHz | dBuV/m | dB | dB | dBuV/m | | H/V | | | eg | dBuV/m | dB |
| 34402.04 | 43.73 | 7.01 | -12.44 | 38.31 | Average | Н | 16 | 3 13 | 34 | 54.00 | -15.69 |
| 39927.45 | 47.42 | 7.63 | -13.52 | 41.53 | Average | Н | 15 | 4 16 | 60 | 54.00 | -12.47 |
| 38130.78 | 45.78 | 7.52 | -12.02 | 41.28 | Average | V | 16 | 4 15 | 52 | 54.00 | -12.72 |
| dBuV/m 100.0 | | | TUV F | Rheinla | and of N | North | n Ame | rica | | 06 Nov 1 | 5 12:47 |
| | | | | | | | | | |] — [1] | Horizonta |
| 90.0 | | | | | | | | | | [2] | |
| 80.0 | | | | | | | | | | | / Lmt mai |
| 70.0 | | | | | | | | | |] * `` | |
| | | | | | | | | | | 1 | |
| 60.0 | | | | | | | | | | | |
| 50.0 | | | | Α. | | | فمحصلين | V. 1 | | 倒 | |
| 40.0 | | | | - * ~ | ليه حمد مي | | • | | + | ÷ | |
| 30.0 | et and the second s | | ut an | لغيغيهم | | | | r | | | |
| 20.0 | | | | | | | | | | Mana F | Dist 1m |
| | | | | | | | | | | Spec D | |
| 10.0 | | | | | | | | | | Frequenc | y: MHz |
| 0.0 18000.0 | | | | | | | | | 2 | 39999.9999999 | 9999 |
| eero | ine. Hom | ie WiFi Rout | ter, TX 5 | 5825MHz | at 11a 6 | Mbps | | | | | |
| Filen | ame: c:∖j | program files | s (x86)\e | emisoft - | vasona) | \result | s\2015 | 1106_ee | ro_RE | 8.emi | |
| | | | | | | | | | | | |
| | | AVG - Limit, E | | | | al CF \pm | Uncerta | inty | | | |
| - | | oss AF= Anten | | |) | | | | | | |
| | | s observed on are HT20 and | | | | | | | | | |
| | | plexity and bul | | | t Worst cas | se Plots | s are pla | ced in the | report | | |
| | | | | | | | | | | | |

| SOP | 1 Ra | diated E | missions | | | | Tra | acking # | 31563404 | 1.001 Page 8 | of 13 |
|---|--------|-------------|---|----------|-----------|-------------|-----------|-------------|---------------|------------------|--------------------|
| EUT N | lame | Hom | e Wi-Fi Route | ər | | | 0 | Date | N | lov 05, 2015 | |
| EUT M | lodel | A010 | 0001 | | | | 1 | Temp / Hu | umin 23 | 3° C / 38%rh | |
| EUT S | erial | E59A | -0053-5XKS | -EP43 | | | ٦ ا | Γemp / Hι | um out N | /A | |
| EUT C | onfig | . 802.1 | 11n at HT40 I | MCS0/ | chain 0 & | .1 | L | _ine AC / | Freq 12 | 20 Vac / 60 H | Z |
| Standa | ard | CFR | 47 Part 15 Sι | ubpart E | , RSS-24 | 7, RSS-G | EN F | RBW / VB | W 1 | MHz / 3 MHz | |
| Dist/A | nt Us | ed 3m - | EMCO3115 | / 1m – A | AHA-840 | | F | Performe | dby K | erwinn Corpu | Z |
| | | | 1 - | – 18 GH | z Transm | nit at 5755 | 5 MHz (| Low Char | nnel) | | |
| Frequ | ency | Raw | Cable Loss | AF | Level | Detector | Polarit | y Height | Azimuth | i Limit | Margin |
| MH | łz | dBuV/m | dB | dB | dBuV/m | | H/V | cm | deg | dBuV/m | dB |
| 14713 | 3.51 | 39.52 | 4.39 | -6.40 | 37.51 | Average | V | 133 | 176 | 54.00 | -16.49 |
| 17983 | 3.62 | 37.50 | 5.03 | 2.08 | 44.61 | Average | V | 220 | 284 | 54.00 | -9.39 |
| dBu\ 90.0 | / | | | TUV F | Rheinla | and of I | Vorth | Americ | a | 05 Nov 1 | 5 22:56 |
| 90.0 | | | | | | | | | | [1] | Horizonta |
| 80.0 | | | | | | | | | | | i Lmt |
| 70.0 + Formal | | | | | | | | | | | |
| 60.0 | | | | | | | | | | | |
| 50.0 | | | | | | | | | | | |
| 40.0 | | | | | | | | | | | |
| 40.0 + | | | | | | | | | | | |
| 20.0 | 0. | | | | | | | | | Meas D Spec D | Dist 3m Dist 3m |
| | | | | | | | | | | Frequenc | y: MHz |
| 1000.0 10000.0 18000.0 | | | | | | | | | | | |
| eero inc. Home WiFi Router, TX 5755MHz at HT40 MCS0 | | | | | | | | | | | |
| | Filen | ame: c:\p | program files | (x86)\ | emisoft - | vasona | results | \2015110 |)5_eero_F | RE12.emi | |
| | | | | | | | | | | | |
| Spec M | largin | = E-Field A | AVG - Limit, E | -Field A | √G = FIM | AVG+ Tota | al CF ± L | Jncertaintv | | | |
| | | | oss AF= Anten | | | | | | | | |
| 2 | . Mod | e covered | s observed on is VHT40. plexity and bul | | | | se Plots | are placed | l in the repo | ort. | |
| | | | e the Sourious | | | | | | | | |

| SOP 1 Radiated EmissionsTracking # 31563404.001 Page 9 of 13 | | | | | | | | | | | | | |
|--|---|----------------|------------|----------|--------|------|------------|-------|------|----------|-------------------|-------------|------------|
| EUT Name Home Wi-Fi Router Date Nov 06, 2015 | | | | | | | | | | | | | |
| EUT Model A010001 Temp / Hum in 24° C / 34%rh | | | | | | | | | | | | | |
| EUT Serial E59A-0053-5XKS-EP43 Temp / Hum out N/A | | | | | | | | | | | | | |
| EUT Config. 802.11n at HT40 MCS0 / chain 0 & 1 Line AC / Freq 120 Vac / 60 Hz Standard CFR47 Part 15 Subpart E, RSS-247, RSS-GEN RBW / VBW 1 MHz / 3 MHz | | | | | | | | | | | | | |
| Standa | | | | | | | 7, RSS-G | EN | RE | 3W/VB | W <u>1</u> | MHz / 3 MH | Z |
| Dist/Ar | nt Us | ed 3m - | - EMCO3115 | / 1m – A | AHA-8 | 340 | | | Pe | erformed | alby K | erwinn Corp | uz |
| | | | 18 - | – 40 GH | lz Tra | insm | it at 5755 | 5 MHz | (Lo | ow Char | inel) | | |
| Freque | ency | Raw | Cable Loss | AF | Le | /el | Detector | Pola | rity | Height | Azimuth | n Limit | Margin |
| MH | Z | dBuV/m | dB | dB | dBu | V/m | | H/\ | / | cm | deg | dBuV/m | dB |
| 34127 | 7.24 | 43.07 | 6.97 | -12.43 | 37. | 60 | Average | 15 | 5 | 192 | 54.00 | -16.40 | 155 |
| 38162 | 2.56 | 45.59 | 7.52 | -12.01 | 41. | 10 | Average | 138 | 8 | 114 | 54.00 | -12.90 | 138 |
| 39863 | 3.52 | 47.48 | 7.64 | -13.53 | 41. | 58 | Average | 153 | 3 | 92 | 54.00 | -12.42 | 153 |
| dBuV | //m | | | | 2hoi | inla | and of N | Jort | hΔ | morio | e. | 06 Nov | 15 13:08 - |
| 100.0 TOV Kitelilland of Notur America | | | | | | | | | | | | | |
| 90.0 — [1] Horizonta [2] Vertical | | | | | | | | | | | | | |
| — Av Lmt | | | | | | | | | | | | | |
| 80.0 + Formal | | | | | | | | | | | | | |
| 70.0 | | | | | | | | | | | | | |
| 60.0 | | | | | | | | | | | | | |
| 50.0 AV | | | | | | | | | | | | | |
| 40.0 | | | | | | | | | | | | | |
| 30.0 + + | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| 20.0 Meas Dist 1m Spec Dist 3m | | | | | | | | | | | | | |
| 10.0 Frequency: MHz | | | | | | | | | | | | | |
| 0.0 39999 999999999 | | | | | | | | | | | | | |
| eero inc. Home WiFi Router. TX 5755MHz at HT40 MCS0 | | | | | | | | | | | | | |
| Filename: c:\program files (x88)\emisoft - vasona\results\20151106_eero_RE9.emi | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Spec Margin = E-Field AVG - Limit, E-Field AVG = FIM AVG+ Total CF \pm Uncertainty | | | | | | | | | | | | | |
| Total CF= AF+ Cable Loss AF= Antenna factor + Preamp | | | | | | | | | | | | | |
| Note: 1. Worst case was observed on HT40 MCS0 mode. | | | | | | | | | | | | | |
| | Mode covered is VHT40. To reduce complexity and bulkiness of the report Worst case Plots are placed in the report. | | | | | | | | | | | | |
| U. | | | | | | | | | | | | ···· | |

| SOP | 1 Ra | diated E | missions | | | | Trac | king # | 31563404. | 001 Page 1 | 0 of 13 | |
|--|---|--------------|-----------------|-----------|------------|-------------|------------|-----------|----------------|-------------|--------------------|--|
| EUT N | lame | Hom | e Wi-Fi Route | ər | | | Da | ate | | v 05, 2015 | | |
| EUT N | EUT Model A010001 Temp / Hum in 23° C / 38%rh | | | | | | | | | | | |
| EUT Serial E59A-0053-5XKS-EP43 Temp / Hum out N/A | | | | | | | | | | | | |
| EUT C | EUT Config. 802.11n at HT40 MCS0 / chain 0 & 1 Line AC / Freq 120 Vac / 60 Hz | | | | | | | | | | | |
| Standa | ard | CFR | 47 Part 15 Sι | ibpart E | , RSS-24 | 7, RSS-G | EN RI | 3W / VB | SW 1 N | /Hz / 3 MHz | | |
| Dist/A | nt Us | ed 3m - | EMCO3115 | / 1m – / | AHA-840 | | Pe | erforme | dby Ke | rwinn Corpu | Z | |
| | | | 1 - | - 18 GH | z Transm | it at 5795 | MHz (H | igh Cha | nnel) | | | |
| Frequ | ency | Raw | Cable Loss | AF | Level | Detector | Polarity | Height | Azimuth | Limit | Margin | |
| MH | łz | dBuV/m | dB | dB | dBuV/m | | H/V | cm | deg | dBuV/m | dB | |
| 14730 | 0.64 | 39.34 | 4.38 | -6.36 | 37.36 | Average | Н | 210 | -2 | 54.00 | -16.64 | |
| 17983 | 3.54 | 37.46 | 5.03 | 2.08 | 44.56 | Average | Н | 171 | 244 | 54.00 | -9.44 | |
| dBu\ 90.0 | / | | | TUV F | Rheinla | and of N | North A | merio | a | 05 Nov 1 | 15 23:11 | |
| 80.0 70.0 | | | | | | | | | | | | |
| 60.0 | | | | | | | | | | | | |
| 50.0 40.0 | | | | | | | | | | | | |
| 30.0 20.0 | <u>a</u> Ar | and a second | La karan | ~~~ | | | | | • | | Dist 3m Dist 3m | |
| 20.0 | | | | | | | | | | Frequenc | | |
| 10.0 1000.0 18000.0 | | | | | | | | | | | | |
| eero inc. Home WiFi Router. TX 5795MHz at HT40 MCS0 | | | | | | | | | | | | |
| Filename: c:\program files (x88)\emisoft - vasona\results\20151105_eero_RE13.emi | | | | | | | | | | | | |
| | | | | _ | | | | | | | | |
| Spec M | largin | = E-Field A | AVG - Limit, E | -Field A | √G = FIM / | AVG+ Tota | al CF ± Ur | certaint | , | | | |
| | | | oss AF= Anten | | | | | | | | | |
| | | | s observed on | HT40 MC | CS0 mode. | | | | | | | |
| | | e covered | | | • | | - | | | | | |
| 3 | . Io re | educe com | plexity and bul | kiness of | the report | t Worst cas | se Plots a | re placed | i in the repor | t. | | |

| SOP 1 Radiated EmissionsTracking # 31563404.001 Page 11 of 13 | | | | | | | | | | | | |
|--|----------|---------------------------|---------|---------|-------------|---------|----|--------------------|--------------|------|--------------------------|-----------|
| EUT Name Home Wi-Fi Router Date Nov 06, 2015 | | | | | | | | | | | | |
| EUT Model | | | | | | | | mp / Hւ | | | C / 34%rh | |
| EUT Serial | | -0053-5XKS | | | | | | | um out | | | |
| EUT Config | - | 11n at HT40 1 | | | | | | ne AC / | | | Vac / 60 H | |
| Standard | | 47 Part 15 St EMCO3115 | | | 7, RSS-G | EN | | 3W / VB erforme | | | Hz / 3 MHz vinn Corpu | |
| DISI/AIIL US | seu sm – | | | | nit at 5795 | | | | | Reiv | winn Corpu | Ζ |
| Frequency | Raw | Cable Loss | - 40 GH | Level | Detector | | | r I | | th | Limit | Margin |
| MHz | dBuV/m | dB | dB | dBuV/m | | H/ | | cm | deq | | dBuV/m | dB |
| 34209.36 | 43.62 | 6.98 | -12.43 | 38.17 | Average | H | | 149 | 294 | | 54.00 | -15.83 |
| | | | | | - | | | | | | | |
| 38593.24 | 45.85 | 7.55 | -12.05 | 41.36 | Average | V | | 156 | 98 | | 54.00 | -12.64 |
| 39875.66 | 47.52 | 7.64 | -13.53 | 41.63 | Average | V | | 157 | 164 | | 54.00 | -12.37 |
| dBuV/m | | | | 2hoinl: | and of N | Vorti | hΔ | meric | • - 2 | | 06 Nov 1 | 5 13:55 - |
| dBuV/m TUV Rheinland of North America — [1] Horizonta | | | | | | | | | | | | |
| 90.0 | | | | | | | | | | | — [ź] | |
| and Av Lmt | | | | | | | | | | | | |
| The second se | | | | | | | | | | | | |
| 70.0 | | | | | | | | | | | | |
| 60.0 | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| No. and Annual Providence of the Providence of t | | | | | | | | | | | | |
| 40.0 + + | | | | | | | | | | | | |
| 30.0 South and a state of the s | | | | | | | | | | | | |
| 20.0 Meas Dist 1m | | | | | | | | | | | | |
| | | | | | | | | | | | Spec D | |
| 10.0 Frequency: MHz | | | | | | | | | | | | |
| 0.0 39999 9999999999 | | | | | | | | | | | | |
| eero inc. Home WiFi Router. TX 5795MHz at HT40 MCS0 | | | | | | | | | | | | |
| Filename: c:\program files (x88)\emisoft - vasona\results\20151108_eero_RE10.emi | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | AVG - Limit, E | | | | al CF ± | Un | certainty | | | | |
| Total CF= AF+ Cable Loss AF= Antenna factor + Preamp | | | | | | | | | | | | |
| Note: 1. Worst case was observed on HT40 MCS0 mode. 2. Mode covered is VHT40. | | | | | | | | | | | | |
| Mode covered is VH140. To reduce complexity and bulkiness of the report Worst case Plots are placed in the report. | | | | | | | | | | | | |

| SOP 1 Radiated Emissions Tracking # 31563404.001 Page 12 of 13 EUT Name Home Wi-Fi Router Date Nov 05, 2015 EUT Model A010001 E590-0053-5XKS-EP43 Temp / Hum out N/A EUT Config. 802.11ac at VHT80 MCS0 / chain 0 & 1 Temp / Hum out N/A Standard CFR47 Part 15 Subpart E, RSS-247, RSS-GEN RBW / VBW 1 MHz / 3 MHz Dist/Ant Used 3m – EMCO3115 / 1m – AHA-840 Performed by Temp / Hum out Marz / 3 MHz Dist/Ant Used 3m – EMCO3115 / 1m – AHA-840 Performed by Kervinn Corpuz 1 MHz / 3 MHz 1 – 18 GHz Transmit at 5775 MHz (Center Channel) Frequency Raw Cable Loss AF Level Detector Polarity Height Azimuth Limit Margin MHz dBuV/m dB dB U/W HV Cond -9.46 14608.85 39.21 4.454 Average V 199 320 54.00 -9.46 0400 0 0 0 0 Numt + Formal Fo | | | | | | | | | | | | |
|--|--|-----------------|------|-------|---------|----------|---------|-------|-----|------------|------------|--|
| EUT Model A010001 Temp / Hum in E59A-0053-5XKS-EP43 Temp / Hum out Time AC / Freq 23° C / 38%rh EUT Config. 802.11ac at VHT80 MCS0 / chain 0 & 1 Temp / Hum out Standard N/A N/A Dist/Ant Used GFR47 Part 15 Subpart E, RSS-247, RSS-GEN RBW / VBW 1 MHz / 3 MHz Dist/Ant Used m - EMCO3115 / 1m - AHA-840 Performed by Kervinn Corpuz 1 - 18 GHz Transmit at 5775 MHz (Center Channel) Frequency Raw Cable Loss AF Level Detector Polarity Height Azimuth Limit Margin MHz dBuV/m dB dB dBuV/m HV cm deg dBuV/m dB 14608.85 39.21 4.44 -6.83 36.82 Average V 199 320 54.00 -17.18 dBuV TUV Rheinland of North America 05 Nov 15 23:25 | SOP 1 Radiated Emissions Tracking # 31563404.001 Page 12 of 13 | | | | | | | | | | | |
| EUT Serial E59A-0053-5XKS-EP43 Temp / Hum out N/A EUT Config. 302.11ac at VHT80 MCS0 / chain 0 & 1 120 Vac / 60 Hz 120 Vac / 60 Hz Standard CFR47 Part 15 Subpart E, RSS-247, RSS-GEN RBW / VBW 1 MHz / 3 MHz Dist/Ant Used 3m - EMC03115 / 1m - AHA-840 Performed by Kerwinn Corpuz 1 - 18 GHz Transmit at 5775 MHz (Center Channel) Frequency Raw Cable Loss AF Level Detector Polarity Height Azimuth Limit Margin MHz dBuV/m dB dBuV/m HV cm deg dBuV/m dB 17984.65 37.40 5.03 2.10 44.54 Average H 113 228 54.00 -9.46 14608.85 39.21 4.44 -6.83 36.82 Average V 199 320 54.00 -17.18 dBuV TUV Rheinland of North America | · · · · · · · · · · · · · · · · · · · | | | | | | | | | | | |
| EUT Config. 802.11ac at VHT80 MCS0 / chain 0 & 1 CFR47 Part 15 Subpart E, RSS-247, RSS-GEN Dist/Ant Used Line AC / Freq RBW / VBW 120 Vac / 60 Hz Dist/Ant Used 3m - EMC03115 / 1m - AHA-840 Performed by 1 MHz / 3 MHz Frequency Raw Cable Loss AF Level Detector Polarity Height Azimuth Limit Margin MHz dBuV/m dB dB dBuV/m H/V cm deg dBuV/m dB 17984.65 37.40 5.03 2.10 44.54 Average H 113 228 54.00 -9.46 14608.85 39.21 4.44 -6.83 36.82 Average V 199 320 54.00 -17.18 dBuV TUV Rheinland of North America 05 Nov 15 23:25 | | | | | | | | | | | | |
| Standard CFR47 Part 15 Subpart E, RSS-247, RSS-GEN RBW / VBW 1 MHz / 3 MHz Dist/Ant Used 3m - EMCO3115 / 1m - AHA-840 Performed by 1 mHz / 3 MHz Kerwinn Corpuz 1 - 18 GHz Transmit at 5775 MHz (Center Channel) Kerwinn Corpuz Frequency Raw Cable Loss AF Level Detector Polarity Height Azimuth Limit Margin MHz dBuV/m dB dB dBuV/m H/V cm deg dBuV/m dB 17984.65 37.40 5.03 2.10 44.54 Average H 113 228 54.00 -9.46 14608.85 39.21 4.44 -6.83 36.82 Average V 199 320 54.00 -17.18 dBuV TUV Rheinland of North America 05 Nov 15 23:25 | | | | | | | | | | | | |
| Dist/Ant Used 3m - EMCO3115 / 1m - AHA-840 Performed by Kerwinn Corpuz 1 - 18 GHz Transmit at 5775 MHz (Center Channel) Frequency Raw Cable Loss AF Level Detector Polarity Height Azimuth Limit Margin MHz dBuV/m dB dB dBuV/m H/V cm deg dBuV/m dB 17984.65 37.40 5.03 2.10 44.54 Average H 113 228 54.00 -9.46 14608.85 39.21 4.44 -6.83 36.82 Average V 199 320 54.00 -17.18 dBuV TUV Rheinland of North America 05 Nov 15 23:25 | | | | | | | | | | | | |
| 1 - 18 GHz Transmit at 5775 MHz (Center Channel) Frequency Raw Cable Loss AF Level Detector Polarity Height Azimuth Limit Margin MHz dBuV/m dB dB dBuV/m H/V cm deg dBuV/m dB 17984.65 37.40 5.03 2.10 44.54 Average H 113 228 54.00 -9.46 14608.85 39.21 4.44 -6.83 36.82 Average V 199 320 54.00 -17.18 dBuV TUV Rheinland of North America 05 Nov 15 23:25 | | | | | | 7, RSS-G | | | | | | |
| Frequency Raw Cable Loss AF Level Detector Polarity Height Azimuth Limit Margin MHz dBuV/m dB dB dBuV/m H/V cm deg dBuV/m dB 17984.65 37.40 5.03 2.10 44.54 Average H 113 228 54.00 -9.46 14608.85 39.21 4.44 -6.83 36.82 Average V 199 320 54.00 -17.18 dBuV TUV Rheinland of North America 05 Nov 15 23:25 | Dist/Ant U | sea 3m – | | | | | | | | winn Corpu | Z | |
| MHz dBuV/m dB dB dB dBUV/m H/V cm deg dBUV/m dB 17984.65 37.40 5.03 2.10 44.54 Average H 113 228 54.00 -9.46 14608.85 39.21 4.44 -6.83 36.82 Average V 199 320 54.00 -17.18 dBuV TUV Rheinland of North America 05 Nov 15 23:25 | _ | | | | | | ``` | | / | | | |
| 17984.65 37.40 5.03 2.10 44.54 Average H 113 228 54.00 -9.46 14608.85 39.21 4.44 -6.83 36.82 Average V 199 320 54.00 -17.18 dBuV TUV Rheinland of North America 05 Nov 15 23.25 | • | | | | 1 | | | | | | | |
| 14608.85 39.21 4.44 -6.83 36.82 Average V 199 320 54.00 -17.18 dBuV TUV Rheinland of North America 05 Nov 15 23:25 | | | | | | | | | ¥ | | | |
| dBuV TUV Rheinland of North America 05 Nov 15 23:25 80.0 Image: State of the | 17984.65 | 37.40 | 5.03 | 2.10 | 44.54 | Average | Н | 113 | 228 | 54.00 | -9.46 | |
| 900 IOV Rheinland of North America 900 III Horizon 800 III Horizon 700 III Horizon 700 <t< td=""><td>14608.85</td><td>39.21</td><td>4.44</td><td>-6.83</td><td>36.82</td><td>Average</td><td>V</td><td>199</td><td>320</td><td>54.00</td><td>-17.18</td></t<> | 14608.85 | 39.21 | 4.44 | -6.83 | 36.82 | Average | V | 199 | 320 | 54.00 | -17.18 | |
| 80.0 70.0 60.0 | | | | TUV F | Rheinla | and of N | North A | merio | a | 05 Nov 1 | 15 23:25 - | |
| 50.0 40.0 30.0 20.0 10.0 1000.0 eero inc. Home WiEi Router, TX 5775MHz at VHT80 MCS0 | 80.0 | | | | | | | | | | | |
| 40.0 40.0 30.0 20.0 10.0 1000.0 eero inc. Home WiEi Router, TX 5775MHz at VHT80 MCS0 1000.0 10000.0 1 | 60.0 | | | | | | | | | | | |
| 20.0 Spec Dist 3m 10.0 Frequency: MHz 1000.0 10000.0 18000.0 18000.0 | | | | | | | | | | | | |
| 10.0 1000.0 10000.0 18000.0 eero inc. Home WiEi Router, TX 5775MHz at VHT80 MCS0 | 20.0 Spec Dist 3m | | | | | | | | | | | |
| 1000.0 10000.0 18000.0 18000.0 18000.0 18000.0 | 10.0 | | | | | | | | | | | |
| eero inc, Home WIFI Router, 1X 5775MHz at VH180 MC50 Filename: c:\program files (x86)\emisoft - vasona\results\20151105_eero_RE14.emi | 1000.0 10000.0 18000.0 | | | | | | | | | | | |
| | eero inc, Home WiFi Router, TX 5775MHz at VHT80 MCS0 Filename: c:\program files (x86)\emisoft - vasona\results\20151105 eero RE14.emi | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Spec Margin = E-Field AVG - Limit, E-Field AVG = FIM AVG+ Total CF \pm Uncertainty | | | | | | | | | | | | |
| Total CF= AF+ Cable Loss AF= Antenna factor + Preamp | | | | | | | | | | | | |
| Note: 1. Worst case was observed on VHT80 MCS0 mode. 2. To reduce complexity and bulkiness of the report Worst case Plots are placed in the report. 3. Emission above the Spurious Limit is the Fundamental. | | | | | | | | | | | | |

| - | | | | | | | | | | | | |
|--|-----------|-----------------|-----------|-----------|-------------|---------|------|-----------|-------------|--------|------------------|-------------|
| SOP 1 Ra | diated E | missions | | | | Т | rac | king # | 315634 | 04.0 | 01 Page 13 | 3 of 13 |
| EUT Name | Hom | e Wi-Fi Route | er | | | | Da | ate | | Nov | / 06, 2015 | |
| EUT Model | A010 | 001 | | | | | Те | emp / Hu | ım in | 24° | C / 34%rh | |
| EUT Serial | E59A | -0053-5XKS | -EP43 | | | | Те | mp / Hu | um out | N/A | | |
| EUT Config. 802.11ac at VHT80 MCS0 / chain 0 & 1 Line AC / Freq 120 Vac / 60 Hz | | | | | | | | | | | | |
| Standard | CFR | 47 Part 15 Su | ubpart E | , RSS-24 | 7, RSS-G | EN | RB | 3W / VB | W | 1 M | Hz / 3 MHz | |
| Dist/Ant Us | sed 3m – | EMCO3115 | / 1m – A | AHA-840 | | | Ре | erforme | d by | Ker | winn Corpu | Z |
| | L | 18 – | 40 GHz | Transmit | at 5775 | MHz (| Cer | nter Cha | annel) | | | |
| Frequency | Raw | Cable Loss | AF | Level | Detector | Polar | rity | Height | Azimu | uth | Limit | Margin |
| MHz | dBuV/m | dB | dB | dBuV/m | | H/\ | / | cm | deg | | dBuV/m | dB |
| 34209.36 | 43.62 | 6.98 | -12.43 | 38.17 | Average | Н | | 149 | 294 | | 54.00 | -15.83 |
| 38593.24 | 45.85 | 7.55 | -12.05 | 41.36 | Average | V | | 156 | 98 | | 54.00 | -12.64 |
| 39875.66 | 47.52 | 7.64 | -13.53 | 41.63 | Average | V | | 157 | 164 | | 54.00 | -12.37 |
| dBuV/m | | | TUV F | Rheinla | and of I | Vorth | ٦A | merio | a | | 06 Nov 1 | 5 13:55 |
| 100.0 | | | | | | | | | - | | 1 — m | l Horizont: |
| 90.0 1 Horizont: | | | | | | | | | | | | |
| — Áv Lmt | | | | | | | | | | | | |
| 80.0 + Formal | | | | | | | | | | | | |
| 70.0 | | | | | | | | | | | | |
| 60.0 | | | | | | | | | | | | |
| 50.0 | | | | | | | | | | | | |
| 40.0 | | | | | | | | | | | | |
| 30.0 + + | | | | | | | | | | | | |
| 20.0 | | | | | | | | | | | Meas D Spec D | |
| 10.0 Frequency: MHz | | | | | | | | | | | | |
| 0.0 39999 99999999999 | | | | | | | | | | | | |
| eero inc. Home WiEi Router, TX 5795MHz at HT40 MCS0 | | | | | | | | | | | | |
| Filename: c:\program files (x88)\emisoft - vasona\results\20151106_eero_RE10.emi | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Spec Margin = E-Field AVG - Limit, E-Field AVG = FIM AVG+ Total CF \pm Uncertainty | | | | | | | | | | | | |
| Total CF= AF+ Cable Loss AF= Antenna factor + Preamp | | | | | | | | | | | | |
| Note: 1. Worst case was observed on VHT80 MCS0 mode. 2. To reduce complexity and bulkiness of the report Worst case Plots are placed in the report. | | | | | | | | | | | | |
| 2. Io re | educe com | plexity and bul | kiness of | the repor | t worst cas | se Plot | s ar | re placed | i in the re | eport. | | |

4.6 AC Conducted Emissions

Testing was performed in accordance with ANSI C63.4: 2014. These test methods are listed under the laboratory's A2LA Scope of Accreditation.

This test measures the levels emanating from the EUT's AC input port, thus evaluating the potential for the EUT to cause radio frequency interference to other electronic devices.

The AC conducted emissions of equipment under test shall not exceed the values in CFR47 Part 15.207: 2015 and RSS 247: 2015.

4.6.1 Test Methodology

A test program that controls instrumentation and data logging was used to automate the AC Power Line Conducted emission test procedure. The frequency range of interest was divided into sub-ranges such as to yield a frequency resolution of 9 kHz. Each phase and neutral of the AC power line were measured with respect to ground. Measurements were performed using a set of 50μ H / 50Ω LISNs.

Testing is performed in Lab 5. The setup photographs clearly identify which site was used. The vertical ground plane used in the semi-anechoic chamber is a 2m x 2m solid aluminum frame and panel, and it is bonded to the horizontal ground plane.

In the case of tabletop equipment, the EUT is placed on a 1.0m x 1.5m non-conductive table 80cm above the ground plane and 40cm from a vertical ground reference plane. The rear of the EUT was positioned flush with the backside of the table and directly over the LISNs. The power and I/O cables were routed over the edge of the table and bundled approximately 40cm from the ground plane. Support equipment was powered from a separate LISN.

4.6.1.1 Deviations

There were no deviations from this test methodology.

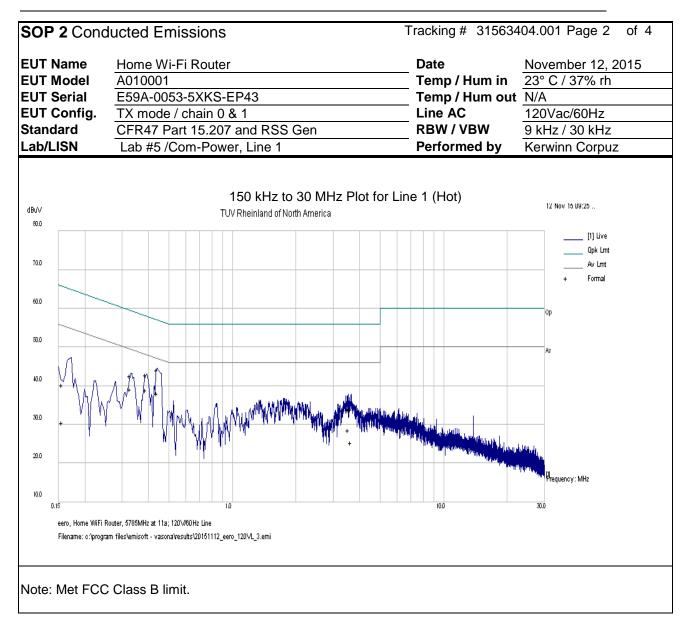
4.6.2 Test Results

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

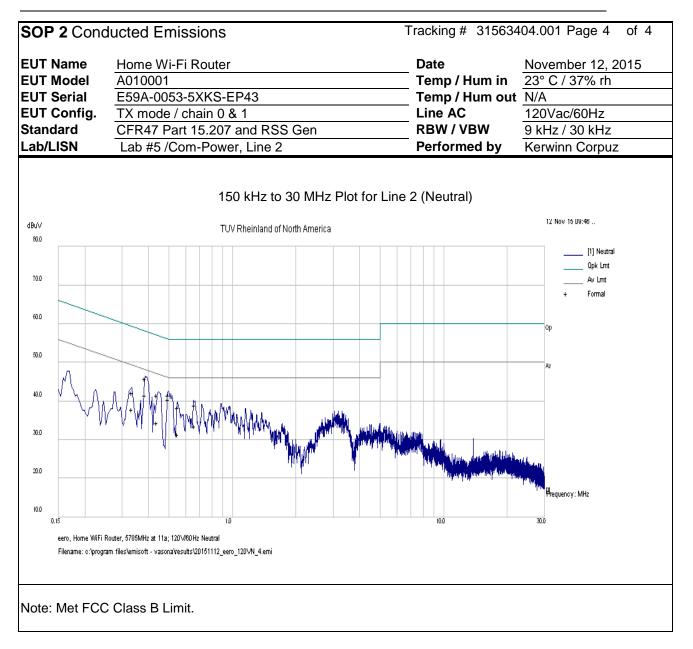
| Test Conditions: Conducted Measurement at Normal Conditions only | | | | | |
|--|--|---------------------------|-------------|--|--|
| Antenna Type: Custom Integrated Power Level: See Test Plan | | | | | |
| AC Power: 120 Vac/60 Hz | | Configuration: Tabletop | | | |
| Ambient Temperature: 22° C | | Relative Humidity: 37% RH | | | |
| Configuration Frequ | | iency Range | Test Result | | |
| Line 1 (Hot) 0.15 | | to 30 MHz | Pass | | |
| Line 2 (Neutral) 0.15 | | to 30 MHz | Pass | | |

Table 16: AC Conducted Emissions - Test Results

| SOP 2 Conducted Emissions | | | | Tra | cking # 315 | 63404.001 | Page 1 | of 4 | |
|---------------------------|-----------|---------------|--------------|-------------|-------------|-----------------------|-----------|-----------|--------|
| EUT Name | Home W | /i-Fi Router | | | Da | Date November 12, 201 | | | 15 |
| EUT Model | | A010001 | | | | emp / Hum i | | / 37% rh | |
| EUT Serial | E59A-00 |)53-5XKS-E | EP43 | | | emp / Hum | | | |
| EUT Config. | | e / chain 0 a | | | | ine AC / Fre | | c/60Hz | |
| Standard | | | and RSS (| Gen | | BW / VBW | | / 30 kHz | |
| Lab/LISN | Lab #5 / | Com-Powe | er, Line 1 | | P | erformed by | / Kerwir | nn Corpuz | |
| Frequency | Raw | Limiter | Ins. Loss | Level | Detector | Line | Limit | Margin | Result |
| MHz | dBuV | dB | dB | dBuV | | Line | dBuV | dB | |
| 0.440 | 33.92 | 9.97 | 0.09 | 43.98 | QP | Live | 57.07 | -13.09 | Pass |
| 0.440 | 27.94 | 9.97 | 0.09 | 38.00 | Ave | Live | 47.07 | -9.07 | Pass |
| 0.389 | 32.76 | 9.96 | 0.09 | 42.81 | QP | Live | 58.09 | -15.27 | Pass |
| 0.389 | 28.75 | 9.96 | 0.09 | 38.80 | Ave | Live | 48.09 | -9.28 | Pass |
| 0.328 | 32.50 | 9.96 | 0.11 | 42.56 | QP | Live | 59.49 | -16.93 | Pass |
| 0.328 | 28.94 | 9.96 | 0.11 | 39.00 | Ave | Live | 49.49 | -10.49 | Pass |
| 0.155 | 30.13 | 9.95 | 0.22 | 40.30 | QP | Live | 65.70 | -25.41 | Pass |
| 0.155 | 20.23 | 9.95 | 0.22 | 30.39 | Ave | Live | 55.70 | -25.31 | Pass |
| 3.540 | 23.59 | 10.03 | 0.05 | 33.66 | QP | Live | 56.00 | -22.34 | Pass |
| 3.540 | 18.43 | 10.03 | 0.05 | 28.51 | Ave | Live | 46.00 | -17.49 | Pass |
| 3.638 | 23.88 | 10.03 | 0.05 | 33.96 | QP | Live | 56.00 | -22.04 | Pass |
| 3.638 | 15.13 | 10.03 | 0.05 | 25.20 | Ave | Live | 46.00 | -20.80 | Pass |
| Spec Margin = | | | | | | | | | |
| Combined Stand | | | | | | | | | |
| Notes: EUT | was setup | as table to | p equipme | nt and trar | nsmitted at | 5785 MHz i | n 802.11a | at 6Mbps | |



| EUT Name | | i-Fi Router | | | | ate | | November 12, 2015 23° C / 37% rh | |
|--|--|--------------------|--------------|-------|-------------|------------------------|------------------------------|-------------------------------------|--------|
| EUT Model EUT Serial | A010001 | | D/2 | | | emp / Hum emp / Hum | | <i>31%</i> m | |
| EUT Config. | E59A-0053-5XKS-EP43 TX mode / chain 0 & 1 | | | | ine AC / Fr | | /ac/60Hz | | |
| Standard | | Part 15.207 | | Gen | | BW / VBW | · · · | z / 30 kHz | |
| _ab/LISN | | Com-Powe | | | | erformed b | _ | /inn Corpuz | , |
| Frequency | Raw | Limiter | Ins. Loss | Level | Detector | Line | Limit | Margin | Result |
| MHz | dBuV | dB | dB | dBuV | | Line | dBuV | dB | |
| 0.387 | 35.85 | 9.96 | 0.09 | 45.90 | QP | Neutral | 58.14 | -12.24 | Pass |
| 0.387 | 31.42 | 9.96 | 0.09 | 41.47 | Ave | Neutral | 48.14 | -6.66 | Pass |
| 0.495 | 31.44 | 9.98 | 0.08 | 41.50 | QP | Neutral | 56.09 | -14.59 | Pass |
| 0.495 | 30.31 | 9.98 | 0.08 | 40.37 | Ave | Neutral | 46.09 | -5.72 | Pass |
| 0.439 | 31.48 | 9.97 | 0.09 | 41.54 | QP | Neutral | 57.08 | -15.54 | Pass |
| 0.439 | 24.28 | 9.97 | 0.09 | 34.33 | Ave | Neutral | 47.08 | -12.74 | Pass |
| 0.660 | 28.92 | 9.98 | 0.07 | 38.97 | QP | Neutral | 56.00 | -17.03 | Pass |
| 0.660 | 23.55 | 9.98 | 0.07 | 33.60 | Ave | Neutral | 46.00 | -12.40 | Pass |
| 0.333 | 32.12 | 9.96 | 0.11 | 42.19 | QP | Neutral | 59.37 | -17.18 | Pass |
| 0.333 | 27.76 | 9.96 | 0.11 | 37.83 | Ave | Neutral | 49.37 | -11.54 | Pass |
| 0.550 | 28.21 | 9.98 | 0.08 | 38.27 | QP | Neutral | 56.00 | -17.73 | Pass |
| 0.550 | 21.20 | 9.98 | 0.08 | 31.26 | Ave | Neutral | 46.00 | -14.74 | Pass |
| Spec Margin = C Combined Standa Notes: EUT w | rd Uncertainty | $U_c(y) = \pm 1.2$ | 2 dB Expan | | | | or 95% confide 802.11a at | | |



4.7 Frequency Stability

In accordance with 47 CFR Part 15.407(g) the frequency stability of U-NII devices must be such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual. The Manufacturer calls out operating temperature ranges of $+0^{\circ}$ to $+35^{\circ}$ C

4.7.1 Test Methodology

The manufacturer of the equipment is responsible for ensuring that the frequency stability is such that emissions are always maintained within the band of operation under all conditions. This test performs according to ANSI C63.10-2013 Section 6.8

4.7.2 Manufacturer Declaration

The frequency stability of the reference oscillator sets the frequency stability of the RF transceiver signals. Therefore all of the RF signal should have ± 20 ppm stability.

This stability accounts for room temp tolerance of the crystal oscillator circuit, frequency variation across temperature, and crystal ageing.

Worst case: 5.800 GHz- ±20 ppm/116 kHz

 ± 20 ppm at 5.8 GHz translates to a maximum frequency shift of ± 116 kHz. As the edge of the channels are at least one MHz from either of the band edges, ± 103 kHz is more than sufficient to guarantee that the intentional emission will remain in the band over the entire operating range of the radio.

4.7.3 Limit

CFR47 Part 407(g) - Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

4.7.4 **Test results:**

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s) since the maximum frequency drift was -15.90 ppm.

| Temperature | Time | PPM |
|---------------------|------------------------------------|---|
| | Start | -12.96 |
| 0° C | 2 Min. | -7.43 |
| 0° C | 5 Min | -5.19 |
| | 10 min | -1.90 |
| | Start | -0.95 |
| 10° C | 2 Min. | 10.37 |
| 10 C | 5 Min | 1.04 |
| | 10 min | 1.04 |
| | Start | -0.95 |
| 20° C | 2 Min. | -3.28 |
| 20° C | 5 Min | -8.73 |
| | 10 min | -2.59 |
| | Start | -6.14 |
| 200 0 | 2 Min. | -6.14 |
| 30° C | 5 Min | -6.48 |
| | 10 min | -0.95 |
| | Start | -14.87 |
| 40° C | 2 Min. | -3.20 |
| 40° C | 5 Min | -6.57 |
| | 10 min | -15.90 |
| | Start | -9.68 |
| 50° C | 2 Min. | -7.09 |
| 50° C | 5 Min | -3.54 |
| | 10 min | -8.38 |
| Note: All frequency | v drifts were less than ± 20 p | opm. The worst frequency drift was -15.90 ppm |

 Table 17: Frequency Stability – Test Results

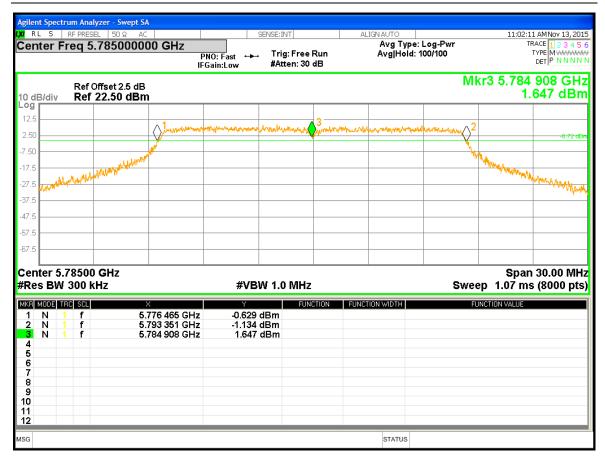


Figure 121: Frequency Stability – Worst Case

4.8 Voltage Variation

In accordance with 47 CFR Part 15.31 (e) intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.

4.8.1 Test Methodology

The ac supply voltage was varied between 85% and 115% of the nominal rated supply voltage. The fundamental frequency was observed during the variation. The access point was powered 120 Vac / 60 Hz by programmable power supply. The voltage was varied from 102 Vac to 138 Vac mean while the fundamental frequencies were observed and record for the maximum drift in ppm; part per millions.

4.8.2 Test results

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s). The fundamental frequencies drifted less than ± 20 ppm.

| Frequency | Nominal (120Vac) | Lo Voltage (102Vac) | Hi Voltage (138Vac) | Max Drift |
|-----------|---------------------|------------------------|------------------------|-----------|
| MHz | MHz | MHz | MHz | ppm |
| 5785 | 0.0360 | 0.0225 | 0.0320 | -6.223 |

Table 18: Voltage Variation – Test Results

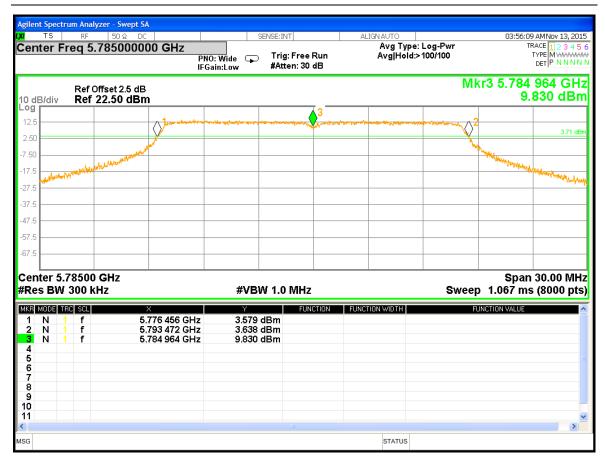


Figure 122: Voltage Variation – Worst Case

4.9 Maximum Permissible Exposure

4.9.1 Test Methodology

In this document, we try to prove the safety of radiation harmfulness to the human body for our product. The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The Gain of the antenna used in this calculation is declared by the manufacturer, and the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.

Although the Friis transmission formula is a far field assumption, the calculated result of that is an over-prediction for near field power density. We will take that as the worst case to specify the safety range.

4.9.2 **RF Exposure Limit**

According to FCC 1.1310 table 1: The criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in 1.1307(b)

| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm2) | Average Time (minutes) | | | | | |
|-----------------------------|--|----------------------------------|---------------------------|---------------------------|--|--|--|--|--|
| | (A)Limits For Occupational / Control Exposures | | | | | | | | |
| 0.3–3.0 | 614 | 1.63 | *(100) | 6 | | | | | |
| 3.0–30 | 1842/f | 4.89/f | *(900/f ²) | 6 | | | | | |
| 30–300 | | | 1.0 | 6 | | | | | |
| 300 - 1500 | | | f/300 | 6 | | | | | |
| 1500 - 100,000 | | | 5 | 6 | | | | | |
| (E | B)Limits For Gene | ral Population / Un | controlled Exposu | ire | | | | | |
| 0.3–1.34 | 614 | 1.63 | *(100) | 30 | | | | | |
| 1.34-30 | 824/f | 2.19/f | *(180/ f ²) | 30 | | | | | |
| 30–300 | 27.5 | 0.037 | 0.2 | 30 | | | | | |
| 300 - 1500 | | | f/1500 | 30 | | | | | |
| 1500 - 100,000 | | | 1.0 | 30 | | | | | |

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

F = Frequency in MHz

* = Plane-wave equivalent power density

4.9.3 EUT Operating Condition

The software provided by Manufacturer enabled the EUT to transmit data at lowest, middle and highest channel individually.

4.9.4 Classification

The antenna of the product, under normal use condition, is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm or more separation distance with the antenna should be included in user's manual. So, this device is classified as a **Mobile Device**.

See below calculation for 5.785 GHz, worse case, RF Exposure at a distance of 20cm.

4.9.5 Test Results

4.9.5.1 Antenna Gain

The 5.785 GHz transmitting maximum antenna gain is +2.24 dBi or 1.68 (numeric).

4.9.5.2 Output Power into Antenna & RF Exposure value at distance 20cm:

Calculations for this report are based on highest power measurement.

Limit for MPE (from FCC part 1.1310 table1) is 1.0 mW/cm²

The highest measured total power is +28.32 dBm or 679.20 mW (summed 2 chains)

Using the Friss transmission formula, the EIRP is Pout*G, and R is 20cm.

 $Pd = (679.20*1.68) / (1600\pi) = 0.2263 \text{ mW/cm}^2$, which is 0.7737 mW/cm² below to the limit.

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

4.9.6 Sample Calculation

The Friss transmission formula: $Pd = (Pout^*G) / (4^*\pi^*R^2)$

Where;

 $\begin{array}{l} Pd = power \ density \ in \ mW/cm_2\\ Pout = output \ power \ to \ antenna \ in \ mW\\ G = gain \ of \ antenna \ in \ linear \ scale\\ \pi \approx 3.1416\\ R = distance \ between \ observation \ point \ and \ center \ of \ the \ radiator \end{array}$

in cm

Ref. : David K. Cheng, Field and Wave Electromagnetics, Second Edition, Page 640, Eq. (11-133).

5 Test Equipment List

5.1 Equipment List

| Equipment | Manufacturer | Model # | Serial/Inst # | Last Cal mm/dd/yyyy | Next Cal mm/dd/yyyy |
|---------------------|--------------------|---------------|---------------|------------------------|------------------------|
| Bilog Antenna | Sunol Sciences | JB3 | A102606 | 07/08/2014 | 07/08/2016 |
| Horn Antenna | Sunol Sciences | DRH-118 | A040806 | 02/10/2015 | 02/10/2016 |
| Antenna (18-40 GHz) | Com-Power | AHA-840 | 105005 | 07/08/2015 | 07/08/2016 |
| Spectrum Analyzer | Rohde & Schwarz | FSL6 | 100169 | 01/13/2015 | 01/13/2016 |
| Spectrum Analyzer | Agilent | N9038A | MY51210195 | 01/12/2015 | 01/12/2016 |
| Spectrum Analyzer | Agilent | N9030A | MY52350885 | 03/02/2015 | 03/02/2016 |
| Spectrum Analyzer | Rohde Schwarz | ESIB | 832427/002 | 01/13/2015 | 01/13/2016 |
| Spectrum Analyzer | Rohde Schwarz | FSV40 | 1321.3008K40 | 11/01/2015 | 11/01/2016 |
| Amplifier | Sonoma Instruments | 310 | 185516 | 01/13/2015 | 01/13/2016 |
| Amplifier | Miteq | TTA1800-30-4G | 1842452 | 01/13/2015 | 01/13/2016 |
| Amplifier | Rohde & Schwarz | TS-PR26 | 100011 | 07/24/2014 | 07/24/2016 |
| Amplifier | Rohde & Schwarz | TS-PR40 | 100012 | 02/21/2015 | 02/21/2016 |
| Power Meter | Agilent | E4418B | MY45103902 | 01/15/2015 | 01/15/2016 |
| Power Sensor | Hewlett Packard | 8482A | US37295801 | 01/15/2015 | 01/15/2016 |
| Thermo Chamber | Espec | BTZ-133 | 0613436 | 03/16/2015 | 03/16/2016 |
| DC Power Supply | Agilent | E3634A | MY400004331 | 01/12/2015 | 01/12/2016 |
| Notch Filter | Micro-Tronics | BRM50716 | 003 | 01/30/2015 | 01/30/2016 |
| Signal Generator | Anritsu | MG3694A | 42803 | 01/13/2015 | 01/13/2016 |
| Power Sensors | Rohde & Schwarz | OSP120 | 1520.9010.02 | 12/19/2014 | 12/14/2015 |

* Calibration of equipment past due for re-calibration will be performed expeditiously. If any equipment is found to be out of tolerance at that time, affected customers will be notified accordingly.

6 EMC Test Plan

6.1 Introduction

This section provides a description of the Equipment Under Test (EUT), configurations, operating conditions, and performance acceptance criteria. It is an overview of information provided by the manufacturer so that the test laboratory may perform the requested testing.

6.2 Customer

Table 19: Customer Information

| Company Name | eero inc |
|------------------|-------------------------|
| Address | 933 20th Street |
| City, State, Zip | San Francisco, CA 94107 |
| Country | USA |
| Phone | (415) 738-7972 |
| Fax | |

 Table 20: Technical Contact Information

| Name | Clifford Clarke | | | |
|--------|---------------------|--|--|--|
| E-mail | compliance@eero.com | | | |
| Phone | (415) 738-7972 | | | |
| Fax | | | | |

6.3 Equipment Under Test (EUT)

Table 21: EUT Specifications

| EUT Specifications | | | | |
|--------------------------------------|--|--|--|--|
| Dimensions | W: 4.75in (121mm) x D: 4.75in (121mm) x H: 0.85-1.26in (22-33mm) | | | |
| AC Input | 100-240V AC, 50 – 60 Hz | | | |
| Environment | Indoor | | | |
| Operating Temperature Range: | 0 to 35 degrees C | | | |
| Multiple Feeds: | ☐ Yes and how many ⊠ No | | | |
| Hardware Version | 01A | | | |
| Part Number | 830-00001-14 | | | |
| RF Software Version | v1.0.0 | | | |
| 802.11-radio modules | | | | |
| Operating Mode | 802.11a, 802.11n (HT20, HT40), 802.11ac (VHT20, VHT40, VHT80) | | | |
| Transmitter Frequency Band | 5.725 GHz – 5.850 GHz, U-NII-3 band | | | |
| Max. Rated Power Output | See Channel Planning Table. | | | |
| Power Setting @ Operating Channel | See Channel Planning Table. | | | |
| Antenna Type | Qty 7 – 2 custom antennas at 5.8GHz. See Table 13 for details | | | |
| Antenna Gain | Antenna 7 = -1.01 dBi , Antenna 8 = $+2.24 \text{ dBi}$ | | | |
| Modulation Type | AM FM SSS OFDM Other describe: 16QAM and 64 QAM | | | |
| Data Rate | 802.11a: 2 Spatial Streams: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n/ac HT20/VHT20: 2 Spatial Streams: 13, 26, 39, 52, 78, 104, 117, 130 /156 Mbps (LGI) 802.11n/ac HT40/VHT40: 2 Spatial Streams: 27, 54, 81, 108, 162, 216, 243, 270 / 324, 370 Mbps (LGI) 802.11ac VHT 80: 2 Spatial Streams: 58.5, 117, 175.5, 234, 351, 468, 526.5, 585, 702, 780 Mbps (LGI) | | | |
| TX/RX Chain (s) | MIMO (2x2); no beam forming | | | |
| Directional Gain Type | Correlated Beam-Forming Other describe: | | | |

| EUT Specifications | | | | |
|--|--|--|--|--|
| Type of Equipment | Table Top Wall-mount Floor standing cabinet Other: | | | |
| Note: All 2 chains will be on / transmitted at all time. | | | | |

Table 22: Antenna Information

| Number | Antenna Type | Description | Max Gain (dBi) |
|-----------|--|-----------------------------------|----------------|
| Antenna 1 | Stamped metal Planar Inverted F antenna(PIFA) | 2.4 GHz Wi-Fi Chain 2 | 1.50 |
| Antenna 2 | Stamped metal PIFA | 2.4 GHz Wi-Fi Chain 1 | -0.75 |
| Antenna 3 | Stamped metal PIFA | Bluetooth | 2.51 |
| Antenna 5 | Monopole | 5 GHz Wi-Fi U-NII-1 Band, Chain 1 | 1.11 |
| Antenna 6 | Monopole | 5 GHz Wi-Fi U-NII-1 Band, Chain 2 | 2.13 |
| Antenna 7 | Monopole | 5 GHz Wi-Fi U-NII-3 Band, Chain 1 | -1.01 |
| Antenna 8 | Monopole | 5 GHz Wi-Fi U-NII-3 Band, Chain 2 | 2.24 |

Table 23: EUT Channel Power Specifications

Max Power for single Chain

| ТР | | No. Frequency (MHz) | Target Power Value dBm | | | | | |
|-----------|--|---------------------|------------------------|-----------------|-------------------|-----------------|-------------------|-------------------|
| Setting | No. | | 802.11a | 802.11n HT20 | 802.11ac VHT20 | 802.11n HT40 | 802.11ac VHT40 | 802.11ac VHT80 |
| 18 | 149 | 5745 | 19.76 | 19.88 | 19.66 | | | |
| 16 | 151 | 5755 | | | | 18.02 | 18.04 | |
| 23 | 153 | 5765 | 24.26 | 24.22 | 24.09 | | | |
| 14 | 155 | 5775 | | | | | | 14.62 |
| 25 | 157 | 5785 | 25.35 | 25.46 | 25.17 | | | |
| 16 | 159 | 5795 | | | | 18.27 | 18.26 | |
| 22 | 161 | 5805 | 23.36 | 23.21 | 23.14 | | | |
| 15 | 165 | 5825 | 17.62 | 17.64 | 16.55 | | | |
| Note: The | Note: The adjusted power target values are updated at the evaluated frequencies. | | | | | | | |

Table 24: Interface Specifications

| Interface Type | Cabled with what type of cable? | Is the cable shielded? | Maximum potential length of the cable? | Metallic (M), Coax (C), Fiber (F), or Not Applicable? |
|-------------------|------------------------------------|---------------------------|---|--|
| Ethernet | RJ45 | 🖂 No | 🛛 Metric: 2 m | N/A |

Table 25: Supported Equipment

| Equipment | Manufacturer | Model | Serial | Used for |
|-------------|--------------|----------|-------------|-----------------------------|
| Laptop | Dell | Latitude | 35521341769 | Setup EUT operating channel |
| Note: None. | | | | |

Table 26: Description of Sample used for Testing

| Device | Serial | RF Connection | CFR47 Part 15.247 |
|----------------------|------------|----------------------|------------------------------|
| | E59A-0053- | Custom Integrated | Radiated Emissions, |
| | 5XSK-EP43 | Antenna | AC Conducted Emissions |
| | E5AN0264 | Custom Integrated | Radiated Bandedge Emissions |
| Home Wi-Fi Router | | Antenna | Radiated Bandeuge Emissions |
| | E5AN0264 | | Peak Transmit Power, |
| | | Direct Connection | Peak Power Spectral Density, |
| | | | Occupied Bandwidth, |
| | | | Band-Edge, |
| | | | Out-of-Band Emissions |

 Table 27: Description of Test Configuration used for Radiated Measurement.

| Device | Antenna | Mode | Setup Photo (X-Axis) | Setup Photo (Y-Axis) | Setup Photo (Z-Axis) |
|----------------------|----------------------|----------|-------------------------|-------------------------|-------------------------|
| Home Wi-Fi Router | Custom Integrated | Transmit | EUT laid flat. | N/A | N/A |
| Note: N/A. | | | | | |

6.4 Test Specifications

Testing requirements

Table 28: Test Specifications

| Emissions and Immunity | | | |
|--------------------------|-------------|--|--|
| Standard | Requirement | | |
| CFR 47 Part 15.407: 2015 | All | | |
| RSS 247 Issue 1, 2015 | All | | |

END OF REPORT

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