



**FCC 47 CFR PART 15 SUBPART E**

**CERTIFICATION TEST REPORT**

**FOR**

**GSM/WCDMA/LTE PHABLET + BLUETOOTH, DTS/UNII a/b/g/n & NFC**

**MODEL NUMBER: LG-H740, LGH740, H740**

**FCC ID: ZNFH740**

**REPORT NUMBER: 15I21238-E5 REVISION B**

**ISSUE DATE: AUGUST 17, 2015**

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Revision History

| Issue |          |                                        |            |
|-------|----------|----------------------------------------|------------|
| Rev.  | Date     | Revisions                              | Revised By |
| --    | 08/4/15  | Initial Issue                          |            |
| A     | 08/11/15 | Updated Section 14.14                  | D. Corona  |
| B     | 08/17/15 | Corrected Section from 14.14 to 14.1.4 | D. Corona  |

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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** LG ELECTRONICS MOBILECOMM U.S.A., INC  
**EUT DESCRIPTION:** GSM/WCDMA/LTE PHABLET + BLUETOOTH, DTS/UNII a/b/g/n & NFC  
**MODEL:** LG-H740, LGH740, H740  
**SERIAL NUMBER:** 1ZW89 (RADIATED), 1ZW8C (CONDUCTED)  
**DATE TESTED:** JULY 11-28, 2015

| APPLICABLE STANDARDS     |              |
|--------------------------|--------------|
| STANDARD                 | TEST RESULTS |
| CFR 47 Part 15 Subpart E | Pass         |

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15 E, and ANSI C63.10-2009.

### ANSI C63.10-2009 Deviation:

Radiated spurious emission above 1GHz EUT height is 1.5m not 0.8m.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

| 47173 Benicia Street                                       | 47266 Benicia Street                            |
|------------------------------------------------------------|-------------------------------------------------|
| <input checked="" type="checkbox"/> Chamber A(IC: 2324B-1) | <input type="checkbox"/> Chamber D(IC: 2324B-4) |
| <input checked="" type="checkbox"/> Chamber B(IC: 2324B-2) | <input type="checkbox"/> Chamber E(IC: 2324B-5) |
| <input checked="" type="checkbox"/> Chamber C(IC: 2324B-3) | <input type="checkbox"/> Chamber F(IC: 2324B-6) |
|                                                            | <input type="checkbox"/> Chamber G(IC: 2324B-7) |
|                                                            | <input type="checkbox"/> Chamber H(IC: 2324B-8) |

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/2000650.htm>.

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned}\text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m}\end{aligned}$$

### 4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| PARAMETER                             | UNCERTAINTY |
|---------------------------------------|-------------|
| Conducted Disturbance, 0.15 to 30 MHz | 3.52 dB     |
| Radiated Disturbance, 30 to 18000 MHz | 4.94 dB     |

Uncertainty figures are valid to a confidence level of 95%.

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE PHABLET + BLUETOOTH, DTS/UNII a/b/g/n and NFC

### 5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

| Frequency Range (MHz) | Mode         | Output Power (dBm) | Output Power (mW) |
|-----------------------|--------------|--------------------|-------------------|
| 5180 - 5240           | 802.11a      | 13.96              | 24.89             |
| 5180 - 5240           | 802.11n HT20 | 12.91              | 19.54             |
| 5190 - 5230           | 802.11n HT40 | 12.19              | 16.56             |
| 5260 - 5320           | 802.11a      | 14.24              | 26.55             |
| 5260 - 5320           | 802.11n HT20 | 13.17              | 20.75             |
| 5270 - 5310           | 802.11n HT40 | 12.09              | 16.18             |
| 5500 - 5700           | 802.11a      | 13.78              | 23.88             |
| 5500 - 5700           | 802.11n HT20 | 13.03              | 20.09             |
| 5510 - 5670           | 802.11n HT40 | 11.91              | 15.52             |
| 5745 - 5825           | 802.11a      | 13.85              | 24.27             |
| 5745 - 5825           | 802.11n HT20 | 13.05              | 20.18             |
| 5755 - 5795           | 802.11n HT40 | 11.78              | 15.07             |

### 5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna, with a maximum gain of -3.1 dBi.

## **5.4. WORST-CASE CONFIGURATION AND MODE**

Radiated emission below 1GHz and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y, Z it was determined that the X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in the X orientation.

Based on the baseline scan, the worst-case data rates were:

802.11a mode: 6 Mbps

802.11n HT20mode: MCS0

802.11n HT40mode: MCS0

## 5.5. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

| Support Equipment List |              |           |               |        |
|------------------------|--------------|-----------|---------------|--------|
| Description            | Manufacturer | Model     | Serial Number | FCC ID |
| AC Adapter             | LG           | MCS-01WRE | RA560000025   | N/A    |
| Earphone               | LG           | -         | -             | -      |

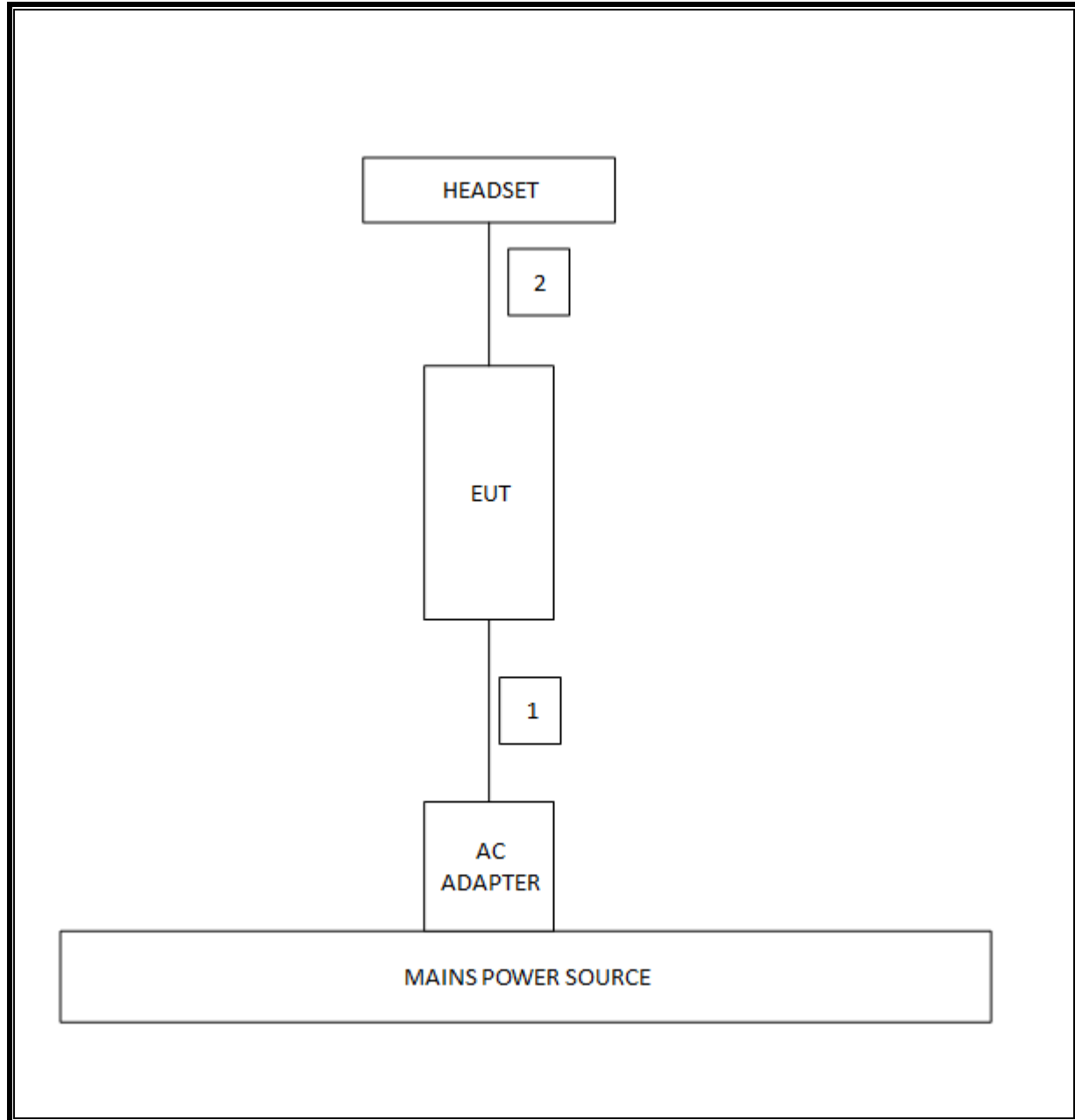
### I/O CABLES

| I/O Cable List |          |                      |                |            |                  |         |
|----------------|----------|----------------------|----------------|------------|------------------|---------|
| Cable No       | Port     | # of identical ports | Connector Type | Cable Type | Cable Length (m) | Remarks |
| 1              | DC Power | 1                    | Mini-USB       | Shielded   | 1.2m             | N/A     |
| 2              | Audio    | 1                    | Mini-Jack      | Unshielded | 1.0m             | N/A     |

### TEST SETUP

The EUT is a stand-alone unit during the tests. Test software exercised the radio card.

**SETUP DIAGRAM FOR TESTS**



## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

| Test Equipment List                |                |             |                          |          |
|------------------------------------|----------------|-------------|--------------------------|----------|
| Description                        | Manufacturer   | Model       | Asset                    | Cal Due  |
| Spectrum Analyzer, 44 GHz          | Agilent / HP   | E4446A      | C01069                   | 12/20/15 |
| Spectrum Analyzer, 9KHz-40GHz      | HP             | 8564E       | C00986                   | 04/01/16 |
| EMI Test Receiver, 9 kHz-7 GHz     | R & S          | ESCI 7      | 1000741                  | 08/13/15 |
| EMI Test Receiver, 30 MHz          | R & S          | ESHS 20     | N02396                   | 08/18/15 |
| Peak Power Meter                   | Agilent / HP   | E4416A      | C00963                   | 12/13/15 |
| Peak / Average Power Sensor        | Agilent / HP   | E9327A      | C00964                   | 12/13/15 |
| Antenna, Horn, 1-18 GHz            | ETS            | 3117        | T119                     | 01/05/16 |
| Antenna, Horn, 1-18 GHz            | ETS            | 3117        | T136                     | 03/03/16 |
| Antenna, Horn, 1-18 GHz            | ETS            | 3117        | T345                     | 03/03/16 |
| Antenna, Horn, 18- 26 GHz          | ARA            | MWH-1826/B  | C00946                   | 11/12/15 |
| Antenna, Horn, 26-40 GHz           | ARA            | MWH-2640    | C00891                   | 06/28/16 |
| Antenna, Bilog, 30MHz-1 GHz        | Sunol Sciences | JB1         | T243                     | 03/06/16 |
| RF Preamplifier, 100KHz -> 1300MHz | HP             | TBD         | C00825                   | 06/01/16 |
| RF Preamplifier, 1GHz - 18GHz      | Miteq          | NSP4000-SP2 | 924343                   | 03/23/16 |
| RF Preamplifier, 1GHz - 26.5GHz    | HP             | 8449B       | T404                     | 06/29/16 |
| AC Power Supply, 2,500VA 45-500Hz  | Elgar-Ametek   | CW2501M     | F00013                   | CNR      |
| RF Preamplifier, 1GHz - 40GHz      | Miteq          | NSP4000-SP2 | C00990                   | 08/20/15 |
| Attenuator / Switch driver         | HP             | 11713A      | F00204                   | CNR      |
| Low Pass Filter 3GHz               | Micro-Tronics  | LPS17541    | F00219                   | 05/23/16 |
| High Pass Filter 5GHz              | Micro-Tronics  | HPS17542    | F00222                   | 05/22/16 |
| High Pass Filter 6GHz              | Micro-Tronics  | HPM17543    | F00224                   | 05/22/16 |
| Radiated Software                  | UL             | UL EMC      | Ver 9.5, June 24, 2015   |          |
| Conducted Software                 | UL             | UL EMC      | Ver 9.5, May 17 2012     |          |
| CLT Software                       | UL             | UL RF       | Ver 1.0, Feb 2 2015      |          |
| Antenna Port Software              | UL             | UL RF       | Ver 2.1.1.1, Jan 20 2015 |          |

## 7. SUMMARY TABLE

| FCC Part Section    | RSS Section   | Test Description                         | Test Limit                                       | Test Condition       | Test Result | Worst Case        |
|---------------------|---------------|------------------------------------------|--------------------------------------------------|----------------------|-------------|-------------------|
| 15.407 (a)          | RSS-247       | Occupied Band width (26dB)               | N/A                                              | Conducted            | Pass        | 43.84 MHz         |
| 15.407              | RSS-247 6.2.4 | 6dB Band width (5.8Ghz)                  | 500KHz                                           |                      | Pass        | 35.086 MHz        |
| 15.407 (a)(1)       | RSS-247 6.2   | TX Cond. Powe, 5.15-5.25                 | <24dBm (FCC)/<br><23dBm or<br>10+10Log(OBW) (IC) |                      | Pass        | 13.96 dBm         |
| 15.407 (a)(2)       | RSS-247 6.2   | TX Cond. Powe, 5.25-5.35 &<br>5.47-5.725 | <24dBm or<br>11+10Log(OBW)                       |                      | Pass        | 14.24 dBm         |
| 15.407 (a)(3)       | RSS-247 6.2.4 | TX Cond. Power 5.725-5.825               | < 30dBm                                          |                      | Pass        | 13.85 dBm         |
| 15.407 (a)(1)       | RSS-247 6.2   | PSD (5.2GHz)                             | <11dBm (FCC)/<br><10dBm(IC)                      |                      | Pass        | 2.37 dBm          |
| 15.407 (a)(5)       | RSS-247 6.2   | PSD (5.3,5.5GHz)                         | <11dBm                                           |                      | Pass        | 2.72 dBm          |
| 15.407 (a)(5)       | RSS-247 6.2.4 | PSD (5.8GHz)                             | 30dBm per 500kHz                                 |                      | Pass        | 2.33 dB           |
| 15.207 (a)          | RSS-GEN 8.8   | AC Power Line conducted emissions        | Section 10                                       | Radiated             | Pass        | 44.62 dBμV        |
| 15.407 (b) & 15.209 | RSS-GEN 8.9/7 | Radiated Spurious Emission               | < 54dBuV/m                                       |                      | Pass        | 46.13 dBμV/m (AV) |
| 15.407 (h)(2)       | RSS-247 6.3   | Dynamic Frequency Selection              | N/A                                              | Radiated / Conducted | Pass        | N/A               |

## 8. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

### LIMITS

None; for reporting purposes only.

### PROCEDURE

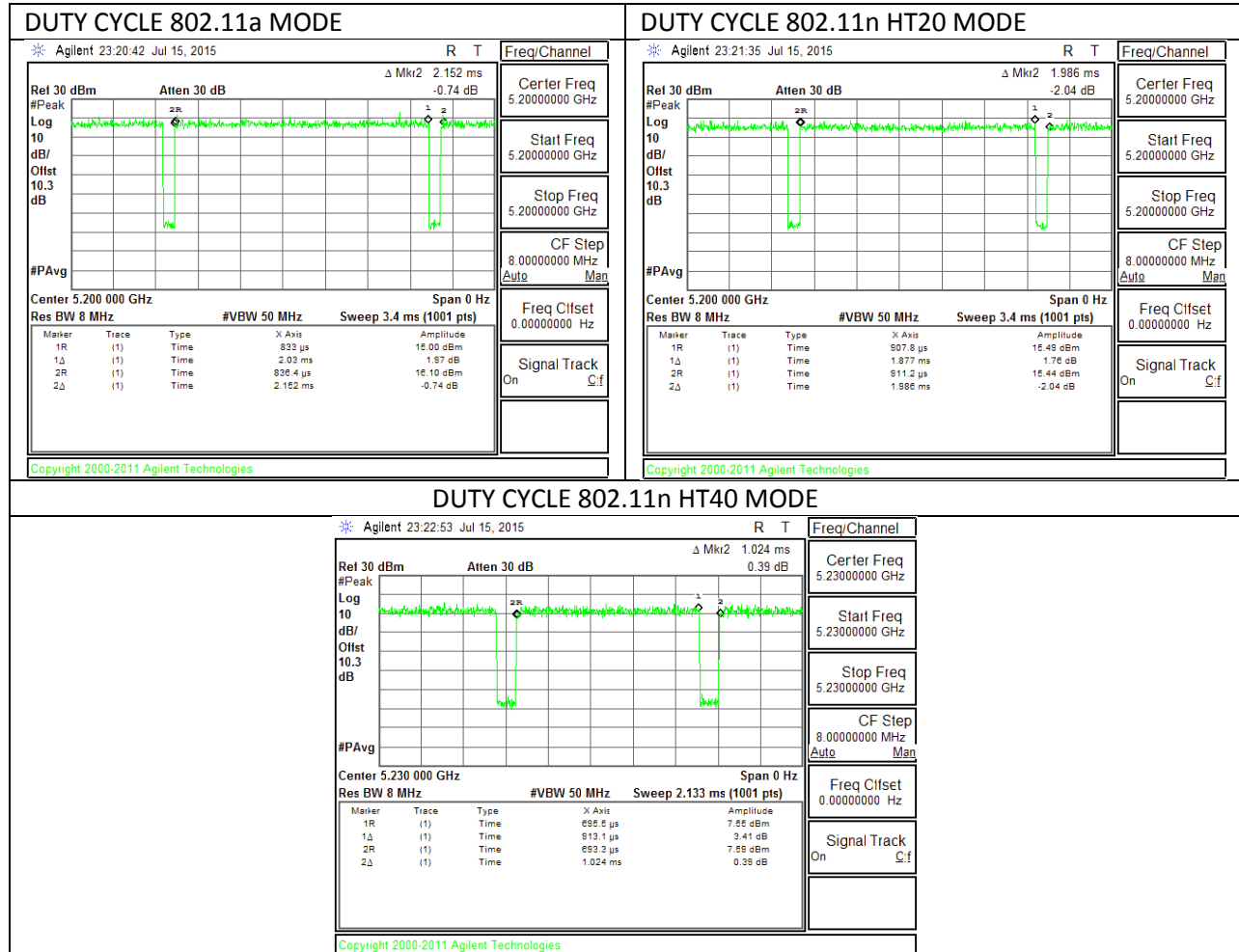
KDB 789033 Zero-Span Spectrum Analyzer Method.

### RESULTS

#### 8.1. ON TIME AND DUTY CYCLE RESULTS

| Mode         | ON Time<br>B<br>(msec) | Period<br>(msec) | Duty Cycle<br>x<br>(linear) | Duty<br>Cycle<br>(%) | Duty Cycle<br>Correction Factor<br>(dB) | 1/T<br>Minimum VBW<br>(kHz) |
|--------------|------------------------|------------------|-----------------------------|----------------------|-----------------------------------------|-----------------------------|
| 802.11a      | 2.030                  | 2.152            | 0.943                       | 94.3%                | 0.25                                    | 0.493                       |
| 802.11n HT20 | 1.877                  | 1.986            | 0.945                       | 94.5%                | 0.25                                    | 0.533                       |
| 802.11n HT40 | 0.913                  | 1.024            | 0.892                       | 89.2%                | 0.50                                    | 1.095                       |

## 8.2. DUTY CYCLE PLOTS



## 9. MEASUREMENT METHOD

789033 D02 General UNII Test Procedures New Rules v01

The Duty Cycle is  $\geq 98\%$  and consistent; therefore KDB 789033 Method SA-1 is used for power and PPSD.

The Duty Cycle is less than 98% and consistent, KDB 789033 Method SA-2 with Power RMS Averaging and duty cycle correction is used.

## **10. ANTENNA PORT TEST RESULTS**

### **10.1. 6 dB BANDWIDTH**

#### **LIMITS**

FCC §15.407

The minimum 6 dB bandwidth shall be at least 500 kHz.

#### **TEST PROCEDURE**

Reference to 789033 D02 General UNII Test Procedures New Rules v01: The transmitter output is connected to a spectrum analyzer with the RBW set to 100KHz, the VBW  $\geq 3 \times$  RBW, peak detector and max hold.

#### **RESULTS**

**10.1.1. 802.11a MODE IN THE 5.8 GHz BAND**

| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | Minimum Limit (MHz) |
|---------|-----------------|----------------------|---------------------|
| Low     | 5745            | 16.400               | 0.5                 |
| Mid     | 5785            | 16.400               | 0.5                 |
| High    | 5825            | 16.375               | 0.5                 |
| Worst   |                 | 16.375               |                     |

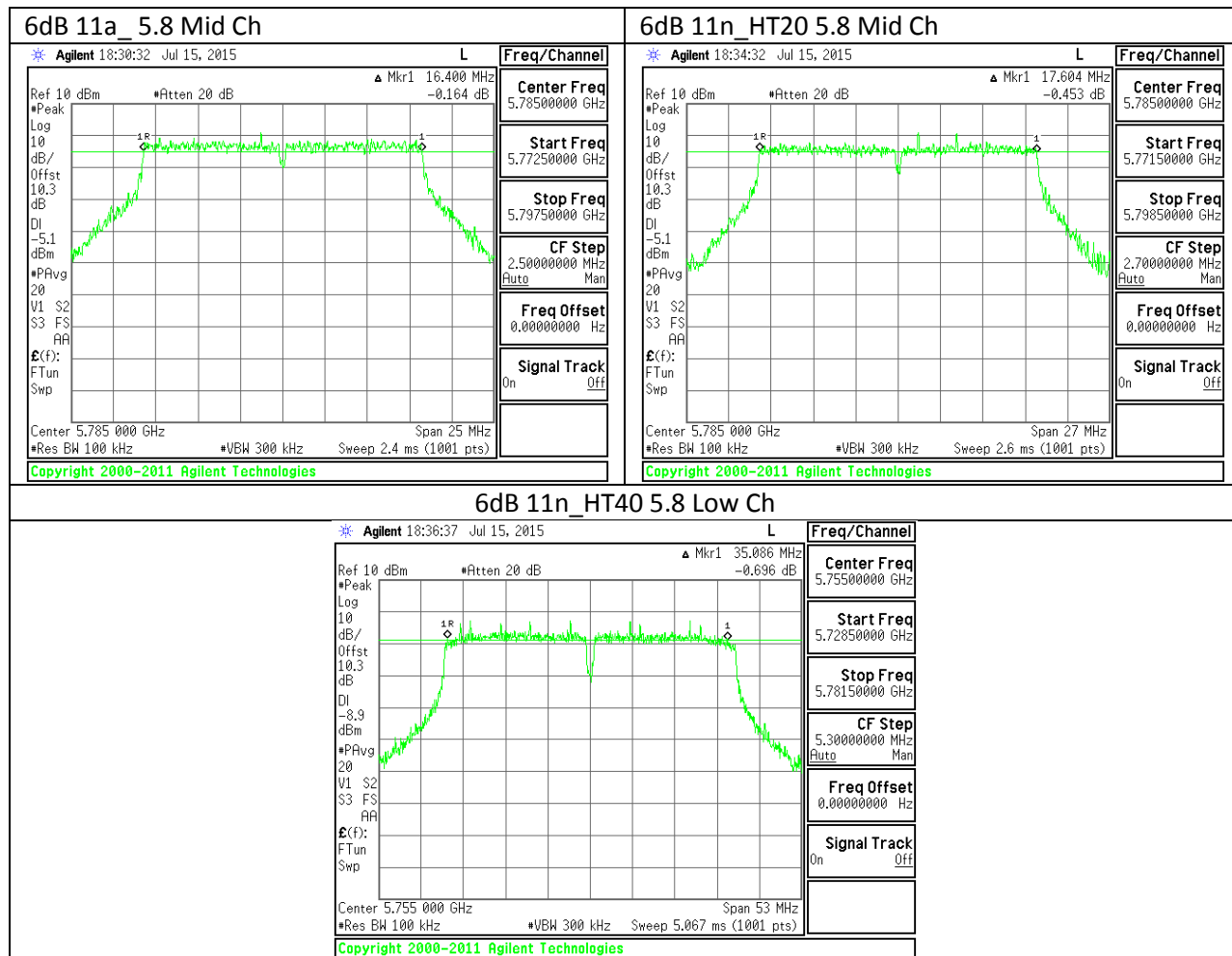
**10.1.2. 802.11n HT20 MODE IN THE 5.8 GHz BAND**

| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | Minimum Limit (MHz) |
|---------|-----------------|----------------------|---------------------|
| Low     | 5745            | 17.604               | 0.5                 |
| Mid     | 5785            | 17.604               | 0.5                 |
| High    | 5825            | 17.604               | 0.5                 |
| Worst   |                 | 17.604               |                     |

**10.1.3. 802.11n HT40 MODE IN THE 5.8 GHz BAND**

| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | Minimum Limit (MHz) |
|---------|-----------------|----------------------|---------------------|
| Low     | 5755            | 35.086               | 0.5                 |
| High    | 5795            | 33.860               | 0.5                 |
| Worst   |                 | 33.860               |                     |

## 10.1.4. 6 dB BANDWIDTH MID CH PLOTS



## 10.2. 26 dB BANDWIDTH

### LIMITS

None; for reporting purposes only.

### RESULTS

#### 10.2.1. 802.11a MODE IN THE 5.2 GHz BAND

| Channel | Frequency<br>(MHz) | 26 dB Bandwidth<br>(MHz) |
|---------|--------------------|--------------------------|
| Low     | 5180               | 21.912                   |
| Mid     | 5200               | 21.813                   |
| High    | 5240               | 21.714                   |

#### 10.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

| Channel | Frequency<br>(MHz) | 26 dB Bandwidth<br>(MHz) |
|---------|--------------------|--------------------------|
| Low     | 5180               | 22.785                   |
| Mid     | 5200               | 22.134                   |
| High    | 5240               | 22.610                   |

#### 10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

| Channel | Frequency<br>(MHz) | 26dB Bandwidth<br>(MHz) |
|---------|--------------------|-------------------------|
| Low     | 5190               | 43.030                  |
| Mid     | 5230               | 43.840                  |

#### **10.2.4. 802.11a MODE IN THE 5.3 GHz BAND**

| Channel | Frequency<br>(MHz) | 26 dB Bandwidth<br>(MHz) |
|---------|--------------------|--------------------------|
| Low     | 5260               | 21.648                   |
| Mid     | 5300               | 21.879                   |
| High    | 5320               | 22.134                   |

#### **10.2.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND**

| Channel | Frequency<br>(MHz) | 26 dB Bandwidth<br>(MHz) |
|---------|--------------------|--------------------------|
| Low     | 5260               | 22.372                   |
| Mid     | 5300               | 21.897                   |
| High    | 5320               | 22.134                   |

#### **10.2.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND**

| Channel | Frequency<br>(MHz) | 26 dB Bandwidth<br>(MHz) |
|---------|--------------------|--------------------------|
| Low     | 5270               | 42.770                   |
| High    | 5310               | 43.692                   |

**10.2.7. 802.11a MODE IN THE 5.5 GHz BAND**

| Channel | Frequency (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|-----------------------|
| Low     | 5500            | 21.897                |
| Mid     | 5580            | 22.100                |
| High    | 5700            | 21.978                |

**10.2.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND**

| Channel | Frequency (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|-----------------------|
| Low     | 5500            | 22.236                |
| Mid     | 5580            | 22.440                |
| High    | 5700            | 22.209                |

**10.2.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND**

| Channel | Frequency (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|-----------------------|
| Low     | 5510            | 43.225                |
| Mid     | 5550            | 43.160                |
| High    | 5670            | 43.890                |

### **10.2.10. 802.11a MODE IN THE 5.8 GHz BAND**

| Channel | Frequency (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|-----------------------|
| Low     | 5745            | 22.168                |
| Mid     | 5785            | 21.590                |
| High    | 5825            | 21.648                |

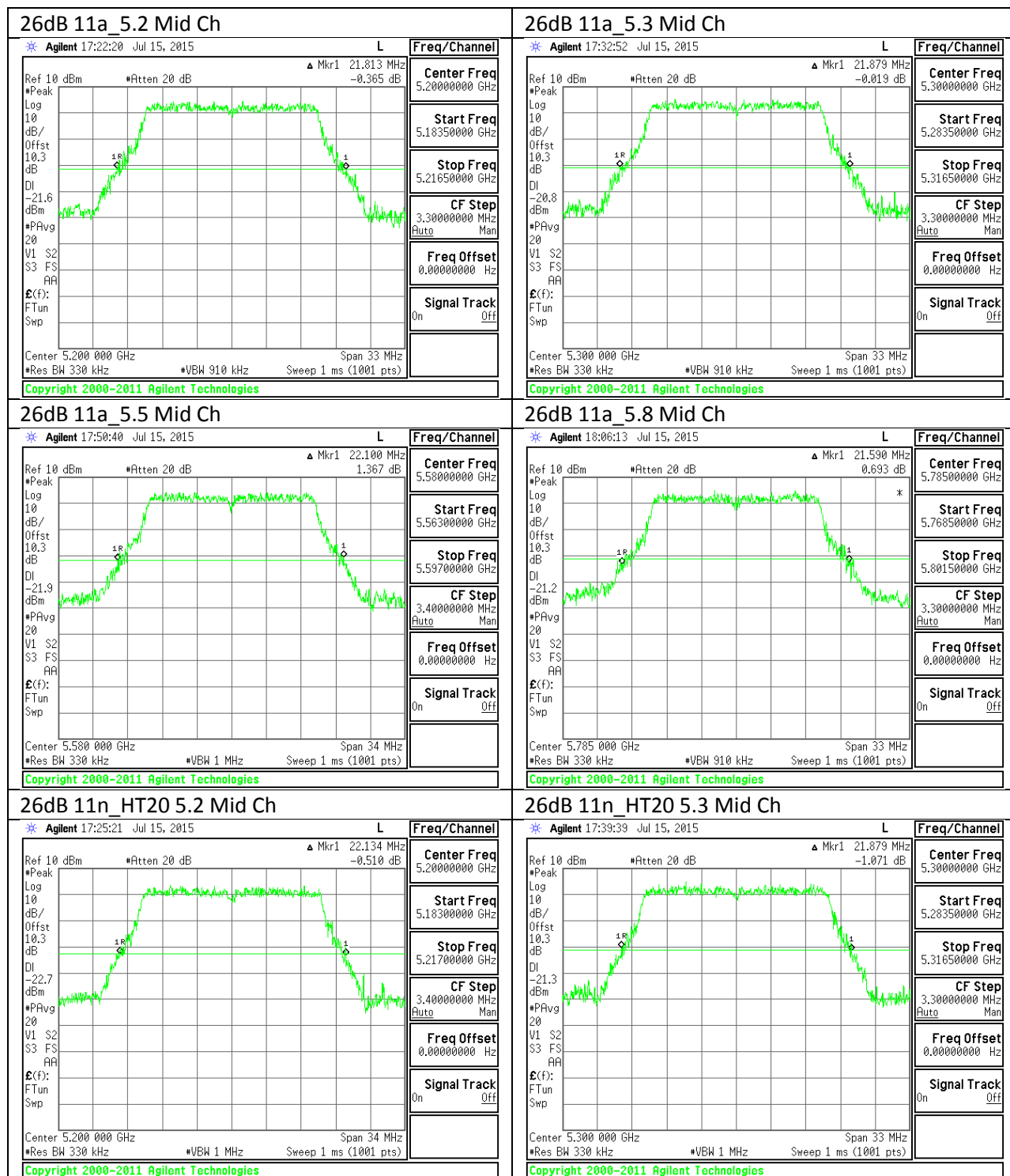
### **10.2.11. 802.11n HT20 MODE IN THE 5.8 GHz BAND**

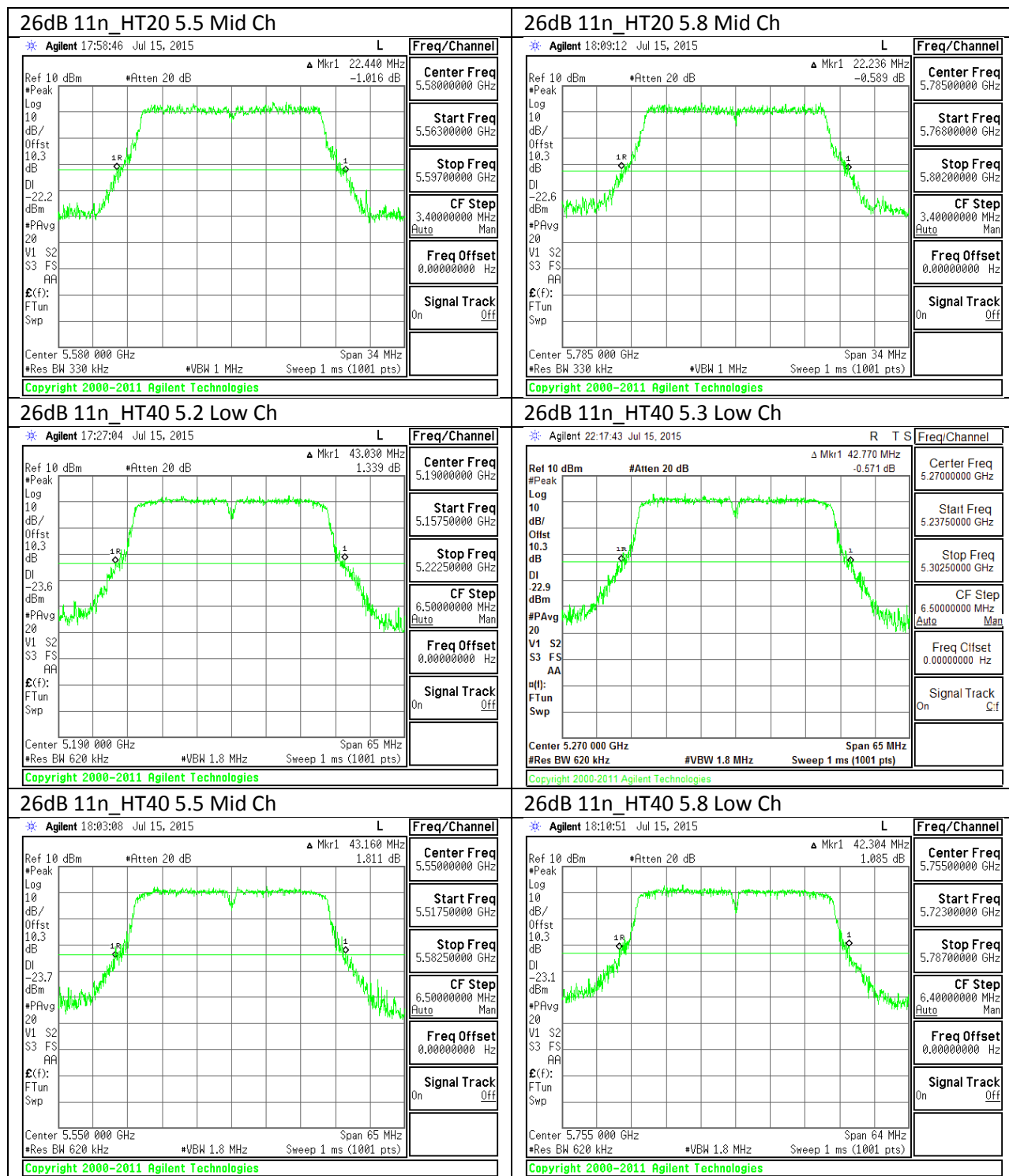
| Channel | Frequency (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|-----------------------|
| Low     | 5745            | 22.474                |
| Mid     | 5785            | 22.236                |
| High    | 5825            | 21.747                |

### **10.2.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND**

| Channel | Frequency (MHz) | 26 dB Bandwidth (MHz) |
|---------|-----------------|-----------------------|
| Low     | 5755            | 42.304                |
| High    | 5795            | 43.032                |

## 10.2.1. 26 dB BANDWIDTH PLOTS





### **10.3. 99% BANDWIDTH**

#### **LIMITS**

None; for reporting purposes only.

#### **RESULTS**

##### **10.3.1. 802.11a MODE IN THE 5.2 GHz BAND**

| Channel | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------|--------------------|------------------------|
| Low     | 5180               | 16.3982                |
| Mid     | 5200               | 16.4430                |
| High    | 5240               | 16.4843                |

##### **10.3.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND**

| Channel | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------|--------------------|------------------------|
| Low     | 5180               | 17.6189                |
| Mid     | 5200               | 17.5797                |
| High    | 5240               | 17.5593                |

##### **10.3.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND**

| Channel | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------|--------------------|------------------------|
| Low     | 5190               | 35.4865                |
| Mid     | 5230               | 35.1552                |

#### **10.3.4. 802.11a MODE IN THE 5.3 GHz BAND**

| Channel | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------|--------------------|------------------------|
| Low     | 5260               | 16.4449                |
| Mid     | 5300               | 16.3010                |
| High    | 5320               | 16.3856                |

#### **10.3.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND**

| Channel | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------|--------------------|------------------------|
| Low     | 5260               | 17.5367                |
| Mid     | 5300               | 17.6078                |
| High    | 5320               | 17.4855                |

#### **10.3.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND**

| Channel | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------|--------------------|------------------------|
| Low     | 5270               | 35.3877                |
| High    | 5310               | 35.4030                |

### **10.3.7. 802.11a MODE IN THE 5.5 GHz BAND**

| Channel | Frequency (MHz) | 99% Bandwidth (MHz) |
|---------|-----------------|---------------------|
| Low     | 5500            | 16.4014             |
| Mid     | 5580            | 16.4079             |
| High    | 5700            | 16.4630             |

### **10.3.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND**

| Channel | Frequency (MHz) | 99% Bandwidth (MHz) |
|---------|-----------------|---------------------|
| Low     | 5500            | 17.5570             |
| Mid     | 5580            | 17.5431             |
| High    | 5700            | 17.6915             |

### **10.3.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND**

| Channel | Frequency (MHz) | 99% Bandwidth (MHz) |
|---------|-----------------|---------------------|
| Low     | 5510            | 35.0899             |
| Mid     | 5550            | 35.3465             |
| High    | 5670            | 35.4124             |

**10.3.10. 802.11a MODE IN THE 5.8 GHz BAND**

| Channel | Frequency (MHz) | 99% Bandwidth (MHz) |
|---------|-----------------|---------------------|
| Low     | 5745            | 16.3620             |
| Mid     | 5785            | 16.4525             |
| High    | 5825            | 16.3786             |

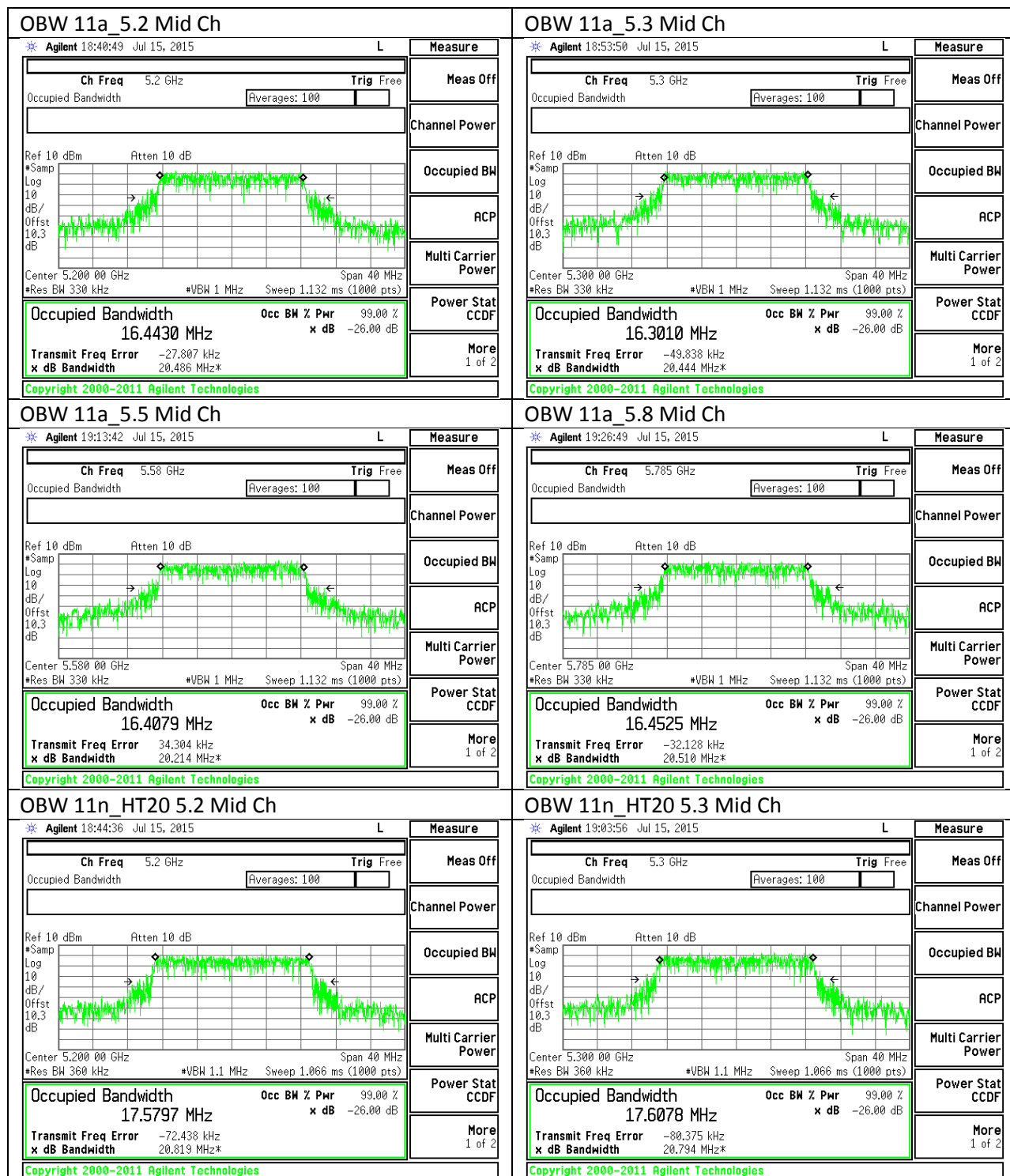
**10.3.11. 802.11n HT20 MODE IN THE 5.8 GHz BAND**

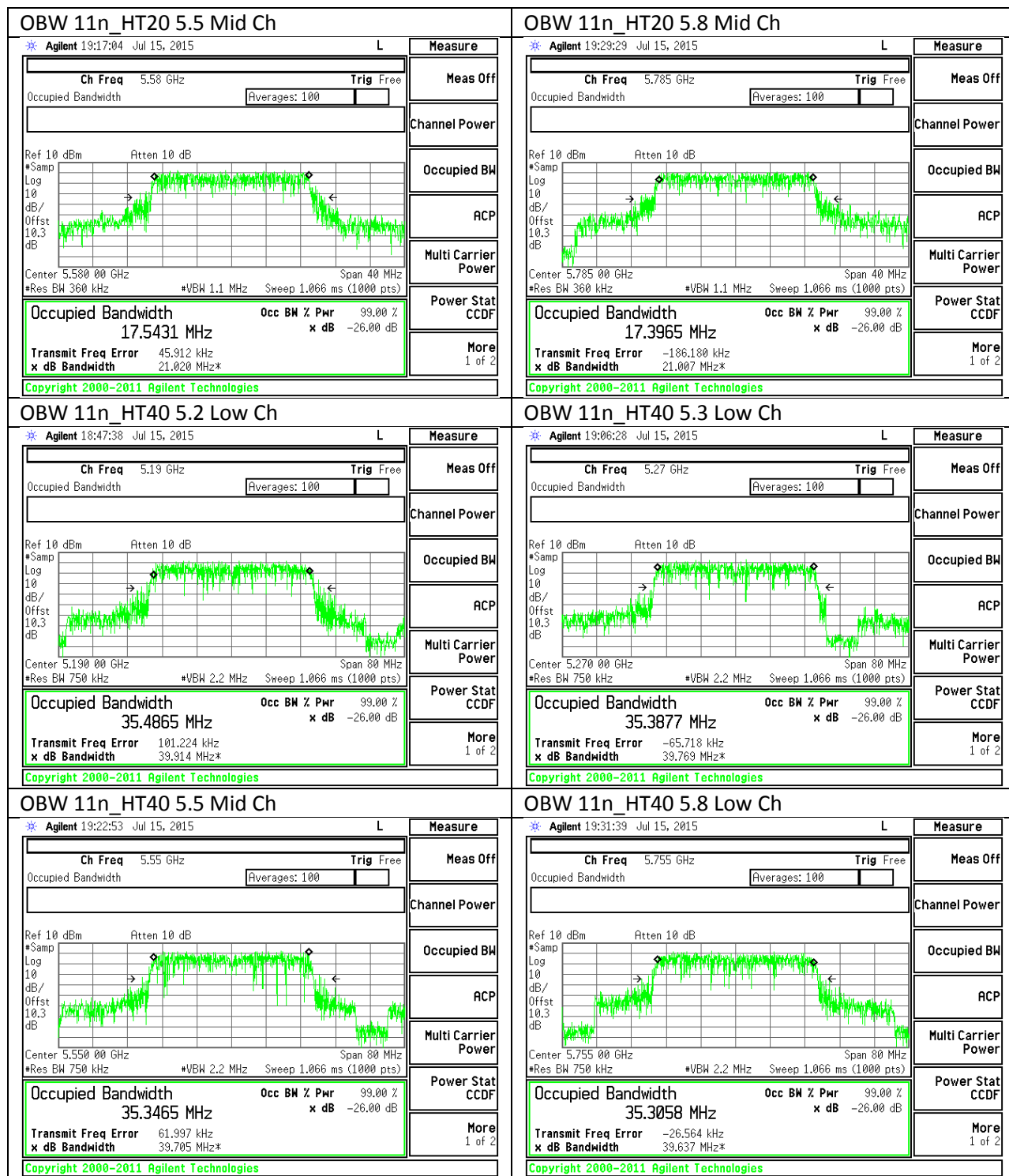
| Channel | Frequency (MHz) | 99% Bandwidth (MHz) |
|---------|-----------------|---------------------|
| Low     | 5745            | 17.6186             |
| Mid     | 5785            | 17.3965             |
| High    | 5825            | 17.5548             |

**10.3.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND**

| Channel | Frequency (MHz) | 99% Bandwidth (MHz) |
|---------|-----------------|---------------------|
| Low     | 5755            | 35.3058             |
| High    | 5795            | 35.5652             |

### 10.3.1. 99% BANDWIDTH PLOTS





## **10.4. AVERAGE POWER**

### **LIMITS**

None; for reporting purposes only.

### **TEST PROCEDURE**

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10.4 dB (including 10 dB pad and 0.4 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

### **RESULTS**

#### **10.4.1. 802.11a MODE IN THE 5.2 GHz BAND**

| Channel | Frequency (MHz) | Avg Power (dBm) |
|---------|-----------------|-----------------|
| Low     | 5180            | 12.70           |
| Mid     | 5200            | 12.80           |
| High    | 5240            | 13.00           |
| Worst   |                 | 13.00           |

#### **10.4.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND**

| Channel | Frequency (MHz) | Avg Power (dBm) |
|---------|-----------------|-----------------|
| Low     | 5180            | 11.50           |
| Mid     | 5200            | 11.50           |
| High    | 5240            | 12.00           |
| Worst   |                 | 12.00           |

#### **10.4.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND**

| Channel | Frequency (MHz) | Avg Power (dBm) |
|---------|-----------------|-----------------|
| Low     | 5190            | 11.00           |
| Mid     | 5230            | 11.50           |
| Worst   |                 | 11.50           |

#### **10.4.4. 802.11a MODE IN THE 5.3 GHz BAND**

| Channel | Frequency<br>(MHz) | Avg Power<br>(dBm) |
|---------|--------------------|--------------------|
| Low     | 5260               | 13.20              |
| Mid     | 5300               | 13.20              |
| High    | 5320               | 12.90              |
| Worst   |                    | 13.20              |

#### **10.4.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND**

| Channel | Frequency<br>(MHz) | Avg Power<br>(dBm) |
|---------|--------------------|--------------------|
| Low     | 5260               | 12.00              |
| Mid     | 5300               | 12.00              |
| High    | 5320               | 11.40              |
| Worst   |                    | 12.00              |

#### **10.4.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND**

| Channel | Frequency<br>(MHz) | Avg Power<br>(dBm) |
|---------|--------------------|--------------------|
| Low     | 5270               | 11.30              |
| High    | 5310               | 10.80              |
| Worst   |                    | 11.30              |

**10.4.7. 802.11a MODE IN THE 5.5 GHz BAND**

| Channel | Frequency (MHz) | Avg Power (dBm) |
|---------|-----------------|-----------------|
| Low     | 5500            | 12.70           |
| Mid     | 5580            | 12.70           |
| High    | 5700            | 12.90           |
| Worst   |                 | 12.90           |

**10.4.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND**

| Channel | Frequency (MHz) | Avg Power (dBm) |
|---------|-----------------|-----------------|
| Low     | 5500            | 11.60           |
| Mid     | 5580            | 11.50           |
| High    | 5700            | 11.70           |
| Worst   |                 | 11.70           |

**10.4.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND**

| Channel | Frequency (MHz) | Avg Power (dBm) |
|---------|-----------------|-----------------|
| Low     | 5510            | 10.40           |
| Mid     | 5550            | 11.40           |
| High    | 5670            | 10.50           |
| Worst   |                 | 11.40           |

**10.4.10. 802.11a MODE IN THE 5.8 GHz BAND**

| Channel | Frequency (MHz) | Avg Power (dBm) |
|---------|-----------------|-----------------|
| Low     | 5745            | 12.70           |
| Mid     | 5785            | 12.60           |
| High    | 5825            | 12.70           |
| Worst   |                 | 12.70           |

**10.4.11. 802.11n HT20 MODE IN THE 5.8 GHz BAND**

| Channel | Frequency (MHz) | Avg Power (dBm) |
|---------|-----------------|-----------------|
| Low     | 5745            | 11.80           |
| Mid     | 5785            | 11.70           |
| High    | 5825            | 11.80           |
| Worst   |                 | 11.80           |

**10.4.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND**

| Channel | Frequency (MHz) | Avg Power (dBm) |
|---------|-----------------|-----------------|
| Low     | 5755            | 10.50           |
| High    | 5795            | 10.50           |
| Worst   |                 | 10.50           |

## 10.5. OUTPUT POWER AND PPSD

### LIMITS

#### FCC §15.407 (a) (1)

##### **Band 5150-5250 MHz:**

For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

##### **Band 5250-5350 MHz:**

The maximum conducted output power shall not exceed 250 mW or  $10 + 10 \log_{10} B$ , dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or  $17 + 10 \log_{10} B$ , dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

##### **Bands 5470-5600 MHz and 5650-5725 MHz:**

The maximum conducted output power shall not exceed 250 mW or  $11 + 10 \log_{10} B$ , dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or  $17 + 10 \log_{10} B$ , dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

**Band 5725-5850 MHz:**

The maximum conducted output power shall not exceed 1 W. The power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

**DIRECTIONAL ANTENNA GAIN**

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

**RESULTS**

### 10.5.1. 802.11a MODE IN THE 5.2 GHz BAND

#### Bandwidth and Antenna Gain

| Channel | Frequency<br>(MHz) | Min<br>26 dB<br>BW<br>(MHz) | Min<br>99%<br>BW<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Directional<br>Gain<br>for PPSP<br>(dBi) |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5180               | 21.912                      | 16.3982                   | -3.10                                     | -3.10                                    |
| Mid     | 5200               | 21.813                      | 16.4430                   | -3.10                                     | -3.10                                    |
| High    | 5240               | 21.714                      | 16.4843                   | -3.10                                     | -3.10                                    |

#### Limits

| Channel | Frequency<br>(MHz) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>EIRP<br>Limit<br>(dBm) | Max<br>IC<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | FCC<br>PPSP<br>Limit<br>(dBm) | IC<br>eirp<br>PPSP<br>Limit<br>(dBm) | PPSP<br>Limit<br>(dBm) |
|---------|--------------------|--------------------------------|------------------------------|-----------------------------|-------------------------|-------------------------------|--------------------------------------|------------------------|
| Low     | 5180               | 24.00                          | 22.15                        | 25.25                       | 24.00                   | 11.00                         | 10.00                                | 11.00                  |
| Mid     | 5200               | 24.00                          | 22.16                        | 25.26                       | 24.00                   | 11.00                         | 10.00                                | 11.00                  |
| High    | 5240               | 24.00                          | 22.17                        | 25.27                       | 24.00                   | 11.00                         | 10.00                                | 11.00                  |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF (dB) | 0.25 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5180               | 13.188                            | 13.44                             | 24.00                   | -10.56                  |
| Mid     | 5200               | 13.303                            | 13.55                             | 24.00                   | -10.45                  |
| High    | 5240               | 13.713                            | 13.96                             | 24.00                   | -10.04                  |

#### PPSP Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PPSP<br>(dBm) | Total<br>Corr'd<br>PPSP<br>(dBm) | PPSP<br>Limit<br>(dBm) | PPSP<br>Margin<br>(dB) |
|---------|--------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5180               | 1.630                            | 1.88                             | 11.00                  | -9.12                  |
| Mid     | 5200               | 1.810                            | 2.06                             | 11.00                  | -8.94                  |
| High    | 5240               | 2.120                            | 2.37                             | 11.00                  | -8.63                  |

## 10.5.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

### Bandwidth and Antenna Gain

| Channel | Frequency<br>(MHz) | Min<br>26 dB<br>BW<br>(MHz) | Min<br>99%<br>BW<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Directional<br>Gain<br>for PPSP<br>(dBi) |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5180               | 22.785                      | 17.6189                   | -3.10                                     | -3.10                                    |
| Mid     | 5200               | 22.134                      | 17.5797                   | -3.10                                     | -3.10                                    |
| High    | 5240               | 22.610                      | 17.5593                   | -3.10                                     | -3.10                                    |

### Limits

| Channel | Frequency<br>(MHz) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>EIRP<br>Limit<br>(dBm) | Max<br>IC<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | FCC<br>PPSP<br>Limit<br>(dBm) | IC<br>eirp<br>PPSP<br>Limit<br>(dBm) | PPSP<br>Limit<br>(dBm) |
|---------|--------------------|--------------------------------|------------------------------|-----------------------------|-------------------------|-------------------------------|--------------------------------------|------------------------|
| Low     | 5180               | 24.00                          | 22.46                        | 25.56                       | 24.00                   | 11.00                         | 10.00                                | 11.00                  |
| Mid     | 5200               | 24.00                          | 22.45                        | 25.55                       | 24.00                   | 11.00                         | 10.00                                | 11.00                  |
| High    | 5240               | 24.00                          | 22.45                        | 25.55                       | 24.00                   | 11.00                         | 10.00                                | 11.00                  |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF (dB) | 0.25 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5180               | 12.293                            | 12.54                             | 24.00                   | -11.46                  |
| Mid     | 5200               | 12.316                            | 12.57                             | 24.00                   | -11.43                  |
| High    | 5240               | 12.660                            | 12.91                             | 24.00                   | -11.09                  |

### PPSP Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PPSP<br>(dBm) | Total<br>Corr'd<br>PPSP<br>(dBm) | PPSP<br>Limit<br>(dBm) | PPSP<br>Margin<br>(dB) |
|---------|--------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5180               | 0.410                            | 0.66                             | 11.00                  | -10.34                 |
| Mid     | 5200               | 0.520                            | 0.77                             | 11.00                  | -10.23                 |
| High    | 5240               | 0.740                            | 0.99                             | 11.00                  | -10.01                 |

### 10.5.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

#### Bandwidth and Antenna Gain

| Channel | Frequency<br>(MHz) | Min<br>26 dB<br>BW<br>(MHz) | Min<br>99%<br>BW<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Directional<br>Gain<br>for PPSD<br>(dBi) |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5190               | 43.030                      | 35.4865                   | -3.10                                     | -3.10                                    |
| Mid     | 5230               | 43.840                      | 35.1552                   | -3.10                                     | -3.10                                    |

#### Limits

| Channel            | Frequency<br>(MHz) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>EIRP<br>Limit<br>(dBm)                    | Max<br>IC<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | FCC<br>PPSD<br>Limit<br>(dBm) | IC<br>eirp<br>PSD<br>Limit<br>(dBm) | PPSD<br>Limit<br>(dBm) |
|--------------------|--------------------|--------------------------------|-------------------------------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------------------|------------------------|
| Low                | 5190               | 24.00                          | 23.00                                           | 26.10                       | 24.00                   | 11.00                         | 10.00                               | 11.00                  |
| Mid                | 5230               | 24.00                          | 23.00                                           | 26.10                       | 24.00                   | 11.00                         | 10.00                               | 11.00                  |
| Duty Cycle CF (dB) |                    | 0.50                           | Included in Calculations of Corr'd Power & PPSD |                             |                         |                               |                                     |                        |

#### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5190               | 11.185                            | 11.69                             | 24.00                   | -12.32                  |
| Mid     | 5230               | 11.692                            | 12.19                             | 24.00                   | -11.81                  |

#### PPSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PPSD<br>(dBm) | Total<br>Corr'd<br>PPSD<br>(dBm) | PPSD<br>Limit<br>(dBm) | PPSD<br>Margin<br>(dB) |
|---------|--------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5190               | -3.370                           | -2.87                            | 11.00                  | -13.87                 |
| Mid     | 5230               | -2.980                           | -2.48                            | 11.00                  | -13.48                 |

#### 10.5.4. 802.11a MODE IN THE 5.3 GHz BAND

##### Bandwidth and Antenna Gain

| Channel | Frequency<br>(MHz) | Min<br>26 dB<br>BW<br>(MHz) | Min<br>99%<br>BW<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Directional<br>Gain<br>for PPSD<br>(dBi) |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5260               | 21.648                      | 16.4449                   | -3.10                                     | -3.10                                    |
| Mid     | 5300               | 21.879                      | 16.3010                   | -3.10                                     | -3.10                                    |
| High    | 5320               | 22.134                      | 16.3856                   | -3.10                                     | -3.10                                    |

##### Limits

| Channel | Frequency<br>(MHz) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>Power<br>Limit<br>(dBm) | IC<br>EIRP<br>Limit<br>(dBm) | Power<br>Limit<br>(dBm) | FCC<br>PPSD<br>Limit<br>(dBm) | IC<br>PSD<br>Limit<br>(dBm) | PPSD<br>Limit<br>(dBm) |
|---------|--------------------|--------------------------------|-------------------------------|------------------------------|-------------------------|-------------------------------|-----------------------------|------------------------|
| Low     | 5260               | 24.00                          | 23.16                         | 29.16                        | 23.16                   | 11.00                         | 11.00                       | 11.00                  |
| Mid     | 5300               | 24.00                          | 23.12                         | 29.12                        | 23.12                   | 11.00                         | 11.00                       | 11.00                  |
| High    | 5320               | 24.00                          | 23.14                         | 29.14                        | 23.14                   | 11.00                         | 11.00                       | 11.00                  |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF (dB) | 0.25 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

##### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5260               | 13.988                            | 14.24                             | 23.16                   | -8.92                   |
| Mid     | 5300               | 13.977                            | 14.23                             | 23.12                   | -8.90                   |
| High    | 5320               | 13.408                            | 13.66                             | 23.14                   | -9.49                   |

##### PPSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PPSD<br>(dBm) | Total<br>Corr'd<br>PPSD<br>(dBm) | PPSD<br>Limit<br>(dBm) | PPSD<br>Margin<br>(dB) |
|---------|--------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5260               | 2.470                            | 2.72                             | 11.00                  | -8.28                  |
| Mid     | 5300               | 2.380                            | 2.63                             | 11.00                  | -8.37                  |
| High    | 5320               | 1.810                            | 2.06                             | 11.00                  | -8.94                  |

### 10.5.5. 802.11n HT20 MODE IN THE 5.3 GHz BAND

#### Bandwidth and Antenna Gain

| Channel | Frequency<br>(MHz) | Min<br>26 dB<br>BW<br>(MHz) | Min<br>99%<br>BW<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Directional<br>Gain<br>for PPSD<br>(dBi) |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5260               | 22.372                      | 17.5367                   | -3.10                                     | -3.10                                    |
| Mid     | 5300               | 21.897                      | 17.6078                   | -3.10                                     | -3.10                                    |
| High    | 5320               | 22.134                      | 17.4855                   | -3.10                                     | -3.10                                    |

#### Limits

| Channel | Frequency<br>(MHz) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>Power<br>Limit<br>(dBm) | IC<br>EIRP<br>Limit<br>(dBm) | Power<br>Limit<br>(dBm) | FCC<br>PPSD<br>Limit<br>(dBm) | IC<br>PSD<br>Limit<br>(dBm) | PPSD<br>Limit<br>(dBm) |
|---------|--------------------|--------------------------------|-------------------------------|------------------------------|-------------------------|-------------------------------|-----------------------------|------------------------|
| Low     | 5260               | 24.00                          | 23.44                         | 29.44                        | 23.44                   | 11.00                         | 11.00                       | 11.00                  |
| Mid     | 5300               | 24.00                          | 23.46                         | 29.46                        | 23.46                   | 11.00                         | 11.00                       | 11.00                  |
| High    | 5320               | 24.00                          | 23.43                         | 29.43                        | 23.43                   | 11.00                         | 11.00                       | 11.00                  |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF (dB) | 0.25 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5260               | 12.690                            | 12.94                             | 23.44                   | -10.50                  |
| Mid     | 5300               | 12.923                            | 13.17                             | 23.46                   | -10.28                  |
| High    | 5320               | 12.462                            | 12.71                             | 23.43                   | -10.71                  |

#### PPSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PPSD<br>(dBm) | Total<br>Corr'd<br>PPSD<br>(dBm) | PPSD<br>Limit<br>(dBm) | PPSD<br>Margin<br>(dB) |
|---------|--------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5260               | 0.770                            | 1.02                             | 11.00                  | -9.98                  |
| Mid     | 5300               | 1.040                            | 1.29                             | 11.00                  | -9.71                  |
| High    | 5320               | 0.600                            | 0.85                             | 11.00                  | -10.15                 |

### 10.5.6. 802.11n HT40 MODE IN THE 5.3 GHz BAND

#### Bandwidth and Antenna Gain

| Channel | Frequency<br>(MHz) | Min<br>26 dB<br>BW<br>(MHz) | Min<br>99%<br>BW<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Directional<br>Gain<br>for PPSD<br>(dBi) |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5270               | 42.770                      | 35.3877                   | -3.10                                     | -3.10                                    |
| High    | 5310               | 43.692                      | 35.4030                   | -3.10                                     | -3.10                                    |

#### Limits

| Channel | Frequency<br>(MHz) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>Power<br>Limit<br>(dBm) | IC<br>EIRP<br>Limit<br>(dBm) | Power<br>Limit<br>(dBm) | FCC<br>PPSD<br>Limit<br>(dBm) | IC<br>PSD<br>Limit<br>(dBm) | PPSD<br>Limit<br>(dBm) |
|---------|--------------------|--------------------------------|-------------------------------|------------------------------|-------------------------|-------------------------------|-----------------------------|------------------------|
| Low     | 5270               | 24.00                          | 24.00                         | 30.00                        | 24.00                   | 11.00                         | 11.00                       | 11.00                  |
| High    | 5310               | 24.00                          | 24.00                         | 30.00                        | 24.00                   | 11.00                         | 11.00                       | 11.00                  |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF (dB) | 0.50 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5270               | 11.589                            | 12.09                             | 24.00                   | -11.91                  |
| High    | 5310               | 11.227                            | 11.73                             | 24.00                   | -12.27                  |

#### PPSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PPSD<br>(dBm) | Total<br>Corr'd<br>PPSD<br>(dBm) | PPSD<br>Limit<br>(dBm) | PPSD<br>Margin<br>(dB) |
|---------|--------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5270               | -2.980                           | -2.48                            | 11.00                  | -13.48                 |
| High    | 5310               | -3.370                           | -2.87                            | 11.00                  | -13.87                 |

## 10.5.7. 802.11a MODE IN THE 5.5 GHz BAND

### Bandwidth and Antenna Gain

| Channel | Frequency<br>(MHz) | Min<br>26 dB<br>BW<br>(MHz) | Min<br>99%<br>BW<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Directional<br>Gain<br>for PPSP<br>(dBi) |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5500               | 21.897                      | 16.4014                   | -3.10                                     | -3.10                                    |
| Mid     | 5580               | 22.100                      | 16.4079                   | -3.10                                     | -3.10                                    |
| High    | 5700               | 21.978                      | 16.4630                   | -3.10                                     | -3.10                                    |

### Limits

| Channel | Frequency<br>(MHz) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>Power<br>Limit<br>(dBm) | IC<br>EIRP<br>Limit<br>(dBm) | Power<br>Limit<br>(dBm) | FCC<br>PPSP<br>Limit<br>(dBm) | IC<br>PSD<br>Limit<br>(dBm) | PPSP<br>Limit<br>(dBm) |
|---------|--------------------|--------------------------------|-------------------------------|------------------------------|-------------------------|-------------------------------|-----------------------------|------------------------|
| Low     | 5500               | 24.00                          | 23.15                         | 29.15                        | 23.15                   | 11.00                         | 11.00                       | 11.00                  |
| Mid     | 5580               | 24.00                          | 23.15                         | 29.15                        | 23.15                   | 11.00                         | 11.00                       | 11.00                  |
| High    | 5700               | 24.00                          | 23.17                         | 29.17                        | 23.17                   | 11.00                         | 11.00                       | 11.00                  |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF (dB) | 0.25 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5500               | 13.533                            | 13.78                             | 23.15                   | -9.37                   |
| Mid     | 5580               | 13.530                            | 13.78                             | 23.15                   | -9.37                   |
| High    | 5700               | 13.448                            | 13.70                             | 23.17                   | -9.47                   |

### PPSP Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PPSP<br>(dBm) | Total<br>Corr'd<br>PPSP<br>(dBm) | PPSP<br>Limit<br>(dBm) | PPSP<br>Margin<br>(dB) |
|---------|--------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5500               | 1.940                            | 2.19                             | 11.00                  | -8.81                  |
| Mid     | 5580               | 1.890                            | 2.14                             | 11.00                  | -8.86                  |
| High    | 5700               | 1.900                            | 2.15                             | 11.00                  | -8.85                  |

### 10.5.8. 802.11n HT20 MODE IN THE 5.5 GHz BAND

#### Bandwidth and Antenna Gain

| Channel | Frequency<br>(MHz) | Min<br>26 dB<br>BW<br>(MHz) | Min<br>99%<br>BW<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Directional<br>Gain<br>for PPSP<br>(dBi) |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5500               | 22.236                      | 17.5570                   | -3.10                                     | -3.10                                    |
| Mid     | 5580               | 22.440                      | 17.5431                   | -3.10                                     | -3.10                                    |
| High    | 5700               | 22.209                      | 17.6915                   | -3.10                                     | -3.10                                    |

#### Limits

| Channel | Frequency<br>(MHz) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>Power<br>Limit<br>(dBm) | IC<br>EIRP<br>Limit<br>(dBm) | Power<br>Limit<br>(dBm) | FCC<br>PPSP<br>Limit<br>(dBm) | IC<br>PSD<br>Limit<br>(dBm) | PPSP<br>Limit<br>(dBm) |
|---------|--------------------|--------------------------------|-------------------------------|------------------------------|-------------------------|-------------------------------|-----------------------------|------------------------|
| Low     | 5500               | 24.00                          | 23.44                         | 29.44                        | 23.44                   | 11.00                         | 11.00                       | 11.00                  |
| Mid     | 5580               | 24.00                          | 23.44                         | 29.44                        | 23.44                   | 11.00                         | 11.00                       | 11.00                  |
| High    | 5700               | 24.00                          | 23.48                         | 29.48                        | 23.48                   | 11.00                         | 11.00                       | 11.00                  |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF (dB) | 0.25 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5500               | 12.362                            | 12.61                             | 23.44                   | -10.83                  |
| Mid     | 5580               | 12.782                            | 13.03                             | 23.44                   | -10.41                  |
| High    | 5700               | 12.527                            | 12.78                             | 23.48                   | -10.70                  |

#### PPSP Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PPSP<br>(dBm) | Total<br>Corr'd<br>PPSP<br>(dBm) | PPSP<br>Limit<br>(dBm) | PPSP<br>Margin<br>(dB) |
|---------|--------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5500               | 0.450                            | 0.70                             | 11.00                  | -10.30                 |
| Mid     | 5580               | 0.850                            | 1.10                             | 11.00                  | -9.90                  |
| High    | 5700               | 0.620                            | 0.87                             | 11.00                  | -10.13                 |

### 10.5.9. 802.11n HT40 MODE IN THE 5.5 GHz BAND

#### Bandwidth and Antenna Gain

| Channel | Frequency<br>(MHz) | Min<br>26 dB<br>BW<br>(MHz) | Min<br>99%<br>BW<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Directional<br>Gain<br>for PPSP<br>(dBi) |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5510               | 43.225                      | 35.0899                   | -3.10                                     | -3.10                                    |
| Mid     | 5550               | 43.160                      | 35.3465                   | -3.10                                     | -3.10                                    |
| High    | 5670               | 43.890                      | 35.4124                   | -3.10                                     | -3.10                                    |

#### Limits

| Channel | Frequency<br>(MHz) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>Power<br>Limit<br>(dBm) | IC<br>EIRP<br>Limit<br>(dBm) | Power<br>Limit<br>(dBm) | FCC<br>PPSP<br>Limit<br>(dBm) | IC<br>PPSP<br>Limit<br>(dBm) | PPSP<br>Limit<br>(dBm) |
|---------|--------------------|--------------------------------|-------------------------------|------------------------------|-------------------------|-------------------------------|------------------------------|------------------------|
| Low     | 5510               | 24.00                          | 24.00                         | 30.00                        | 24.00                   | 11.00                         | 11.00                        | 11.00                  |
| Mid     | 5550               | 24.00                          | 24.00                         | 30.00                        | 24.00                   | 11.00                         | 11.00                        | 11.00                  |
| High    | 5670               | 24.00                          | 24.00                         | 30.00                        | 24.00                   | 11.00                         | 11.00                        | 11.00                  |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF (dB) | 0.50 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5510               | 11.282                            | 11.78                             | 24.00                   | -12.22                  |
| Mid     | 5550               | 11.327                            | 11.83                             | 24.00                   | -12.17                  |
| High    | 5670               | 11.409                            | 11.91                             | 24.00                   | -12.09                  |

#### PPSP Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PPSP<br>(dBm) | Total<br>Corr'd<br>PPSP<br>(dBm) | PPSP<br>Limit<br>(dBm) | PPSP<br>Margin<br>(dB) |
|---------|--------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5510               | -3.190                           | -2.69                            | 11.00                  | -13.69                 |
| Mid     | 5550               | -3.330                           | -2.83                            | 11.00                  | -13.83                 |
| High    | 5670               | -3.200                           | -2.70                            | 11.00                  | -13.70                 |

### 10.5.10. 802.11a MODE IN THE 5.8 GHz BAND

#### Antenna Gain

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Directional<br>Gain<br>for PSD<br>(dBi) |
|---------|--------------------|-------------------------------------------|-----------------------------------------|
| Low     | 5745               | -3.10                                     | -3.10                                   |
| Mid     | 5785               | -3.10                                     | -3.10                                   |
| High    | 5825               | -3.10                                     | -3.10                                   |

#### Limits

| Channel | Frequency<br>(MHz) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>Power<br>Limit<br>(dBm) | Power<br>Limit<br>(dBm) | FCC<br>PPSD<br>Limit<br>(dBm) | IC<br>PSD<br>Limit<br>(dBm) | PPSD<br>Limit<br>(dBm) |
|---------|--------------------|--------------------------------|-------------------------------|-------------------------|-------------------------------|-----------------------------|------------------------|
| Low     | 5745               | 30.00                          | 30.00                         | 30.00                   | 30.00                         | 30.00                       | 30.00                  |
| Mid     | 5785               | 30.00                          | 30.00                         | 30.00                   | 30.00                         | 30.00                       | 30.00                  |
| High    | 5825               | 30.00                          | 30.00                         | 30.00                   | 30.00                         | 30.00                       | 30.00                  |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF (dB) | 0.25 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5745               | 13.604                            | 13.85                             | 30.00                   | -16.15                  |
| Mid     | 5785               | 13.291                            | 13.54                             | 30.00                   | -16.46                  |
| High    | 5825               | 13.338                            | 13.59                             | 30.00                   | -16.41                  |

#### PPSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PPSD<br>(dBm) | Total<br>Corr'd<br>PPSD<br>(dBm) | PPSD<br>Limit<br>(dBm) | PPSD<br>Margin<br>(dB) |
|---------|--------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5745               | 2.080                            | 2.33                             | 30.00                  | -27.67                 |
| Mid     | 5785               | 1.730                            | 1.98                             | 30.00                  | -28.02                 |
| High    | 5825               | 1.780                            | 2.03                             | 30.00                  | -27.97                 |

### 10.5.11. 802.11n HT20 MODE IN THE 5.8 GHz BAND

#### Antenna Gain

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Directional<br>Gain<br>for PSD<br>(dBi) |
|---------|--------------------|-------------------------------------------|-----------------------------------------|
| Low     | 5745               | -3.10                                     | -3.10                                   |
| Mid     | 5785               | -3.10                                     | -3.10                                   |
| High    | 5825               | -3.10                                     | -3.10                                   |

#### Limits

| Channel | Frequency<br>(MHz) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>Power<br>Limit<br>(dBm) | Power<br>Limit<br>(dBm) | FCC<br>PPSD<br>Limit<br>(dBm) | IC<br>PSD<br>Limit<br>(dBm) | PPSD<br>Limit<br>(dBm) |
|---------|--------------------|--------------------------------|-------------------------------|-------------------------|-------------------------------|-----------------------------|------------------------|
| Low     | 5745               | 30.00                          | 30.00                         | 30.00                   | 30.00                         | 30.00                       | 30.00                  |
| Mid     | 5785               | 30.00                          | 30.00                         | 30.00                   | 30.00                         | 30.00                       | 30.00                  |
| High    | 5825               | 30.00                          | 30.00                         | 30.00                   | 30.00                         | 30.00                       | 30.00                  |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF (dB) | 0.25 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5745               | 12.721                            | 12.97                             | 30.00                   | -17.03                  |
| Mid     | 5785               | 12.371                            | 12.62                             | 30.00                   | -17.38                  |
| High    | 5825               | 12.796                            | 13.05                             | 30.00                   | -16.95                  |

#### PPSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PPSD<br>(dBm) | Total<br>Corr'd<br>PPSD<br>(dBm) | PPSD<br>Limit<br>(dBm) | PPSD<br>Margin<br>(dB) |
|---------|--------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5745               | 0.860                            | 1.11                             | 30.00                  | -28.89                 |
| Mid     | 5785               | 0.470                            | 0.72                             | 30.00                  | -29.28                 |
| High    | 5825               | 0.960                            | 1.21                             | 30.00                  | -28.79                 |

## 10.5.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND

### Antenna Gain

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Directional<br>Gain<br>for PSD<br>(dBi) |
|---------|--------------------|-------------------------------------------|-----------------------------------------|
| Low     | 5755               | -3.10                                     | -3.10                                   |
| High    | 5795               | -3.10                                     | -3.10                                   |

### Limits

| Channel | Frequency<br>(MHz) | FCC<br>Power<br>Limit<br>(dBm) | IC<br>Power<br>Limit<br>(dBm) | Power<br>Limit<br>(dBm) | FCC<br>PPSD<br>Limit<br>(dBm) | IC<br>PSD<br>Limit<br>(dBm) | PPSD<br>Limit<br>(dBm) |
|---------|--------------------|--------------------------------|-------------------------------|-------------------------|-------------------------------|-----------------------------|------------------------|
| Low     | 5755               | 30.00                          | 30.00                         | 30.00                   | 30.00                         | 30.00                       | 30.00                  |
| High    | 5795               | 30.00                          | 30.00                         | 30.00                   | 30.00                         | 30.00                       | 30.00                  |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF (dB) | 0.50 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

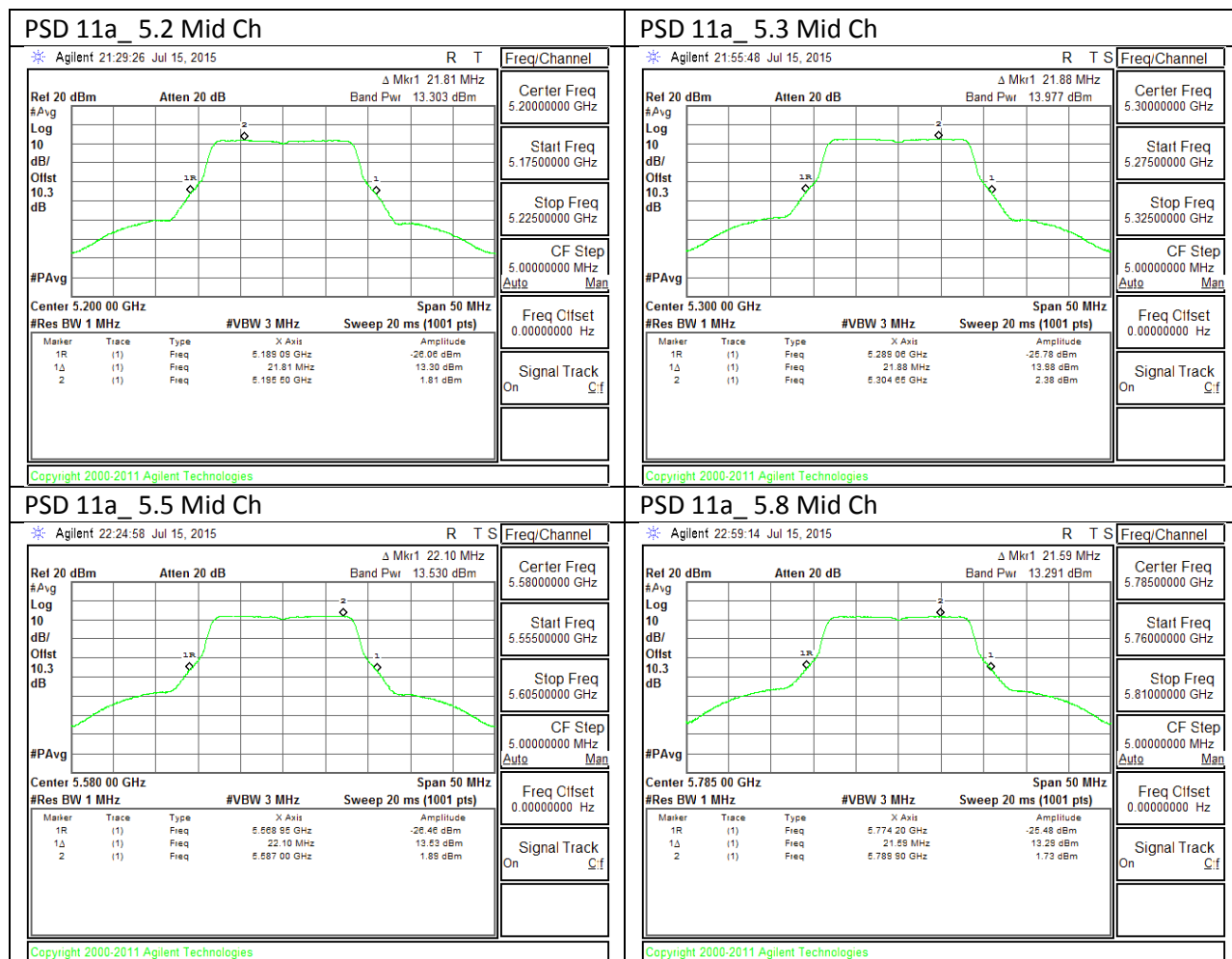
### Output Power Results

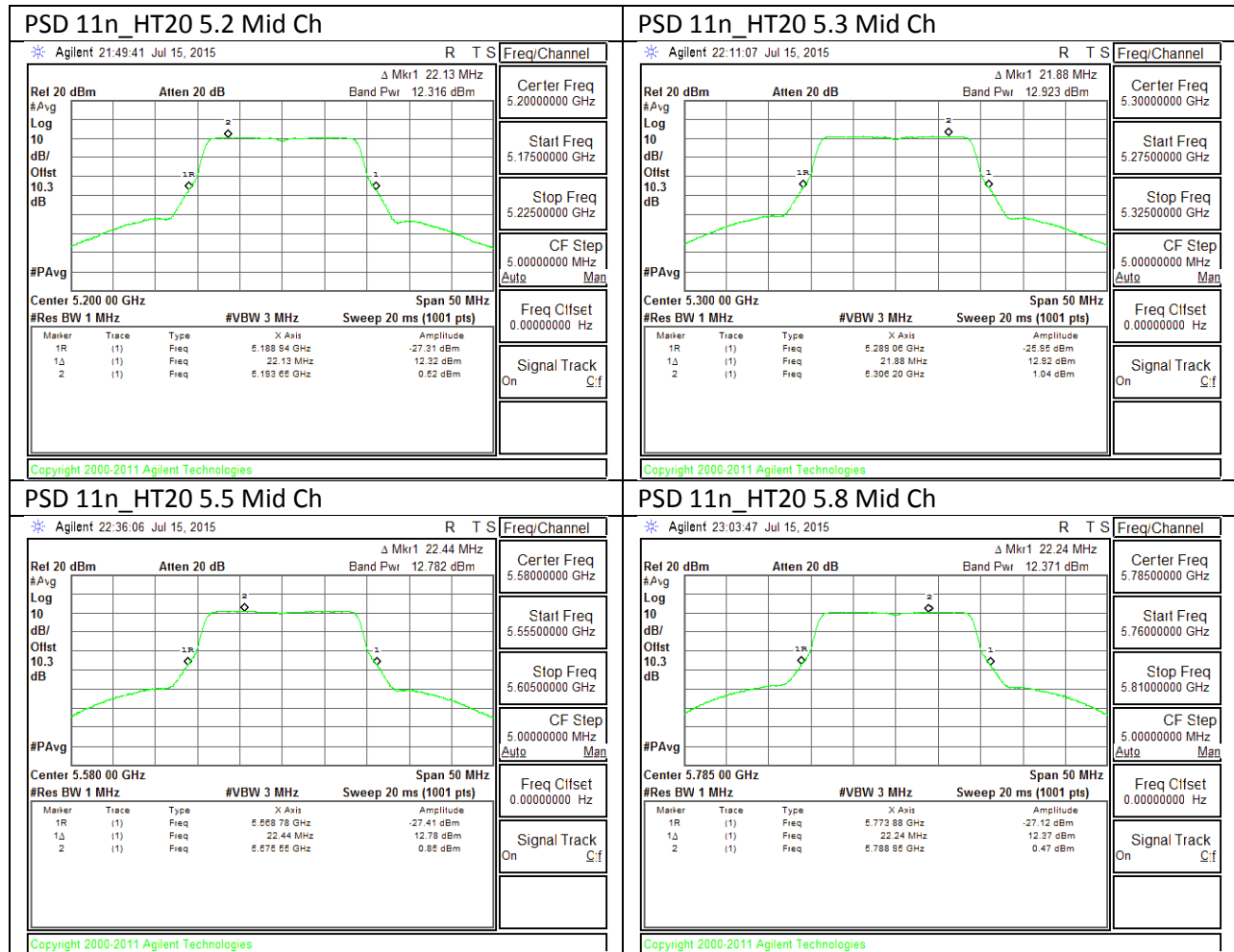
| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5755               | 11.276                            | 11.78                             | 30.00                   | -18.22                  |
| High    | 5795               | 11.125                            | 11.63                             | 30.00                   | -18.38                  |

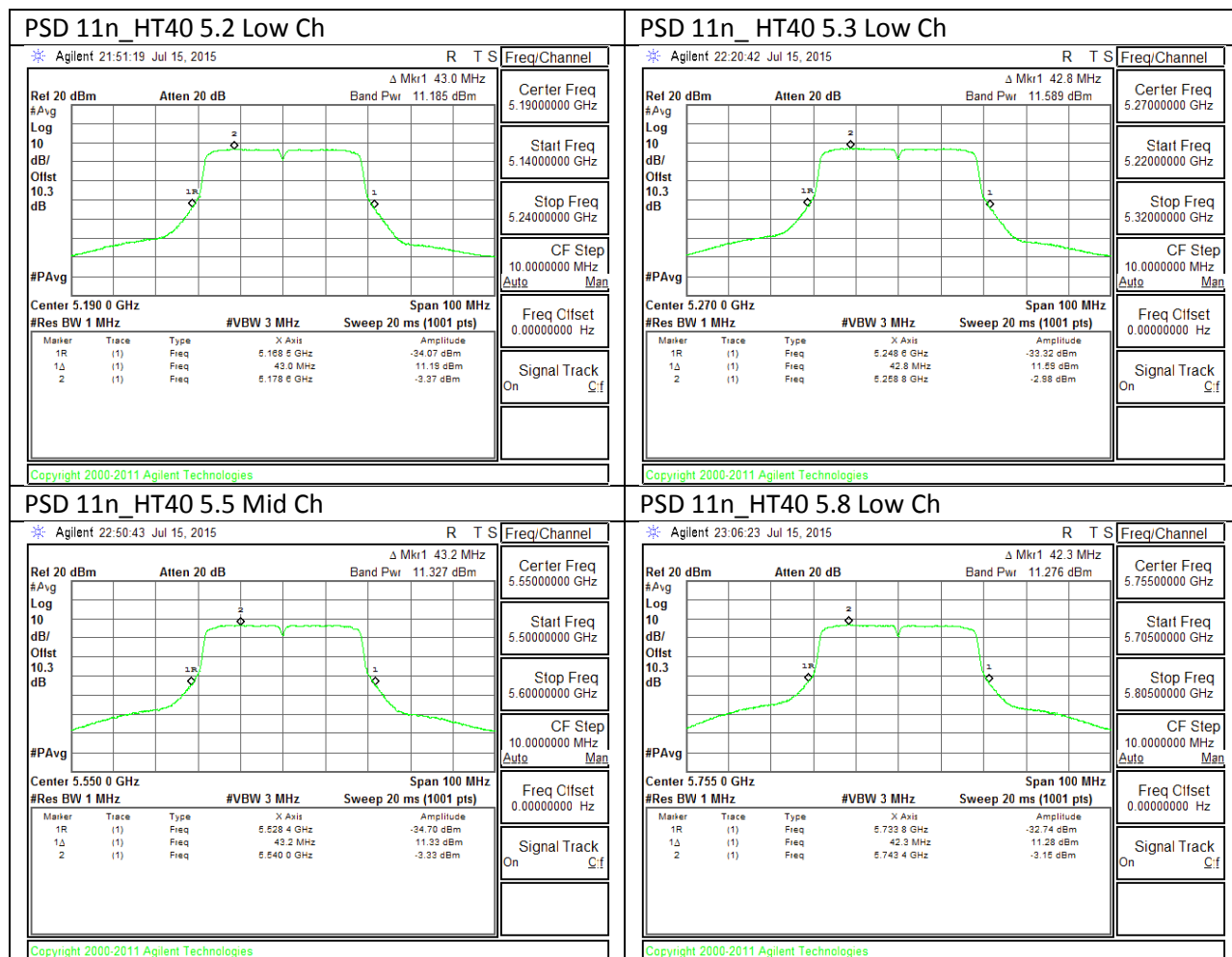
### PPSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PPSD<br>(dBm) | Total<br>Corr'd<br>PPSD<br>(dBm) | PPSD<br>Limit<br>(dBm) | PPSD<br>Margin<br>(dB) |
|---------|--------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5755               | -3.150                           | -2.65                            | 30.00                  | -32.65                 |
| High    | 5795               | -3.540                           | -3.04                            | 30.00                  | -33.04                 |

### 10.5.13. OUTPUT POWER AND PPSD PLOTS, Chain 0







## 11. TRANSMITTER ABOVE 1 GHz

### LIMITS

FCC §15.205 and §15.209

| Frequency Range<br>(MHz) | Field Strength Limit<br>(uV/m) at 3 m | Field Strength Limit<br>(dBuV/m) at 3 m |
|--------------------------|---------------------------------------|-----------------------------------------|
| 30 - 88                  | 100                                   | 40                                      |
| 88 - 216                 | 150                                   | 43.5                                    |
| 216 - 960                | 200                                   | 46                                      |
| Above 960                | 500                                   | 54                                      |

### TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150cm for above 1GHz. The antenna to EUT distance is 3 meters.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

Reference to KDB 789033 UNII part G) 6) d) Method AD:

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor to the reading offset for average measurements.

The spectrum from 1GHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

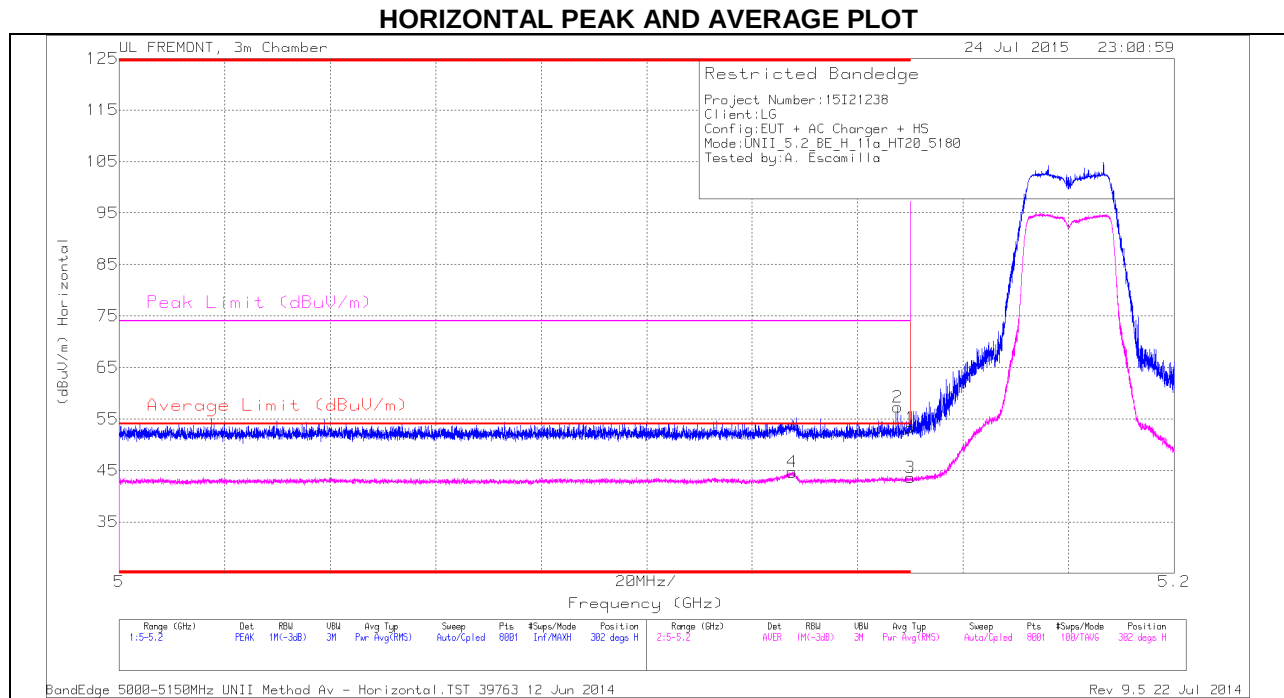
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

### RESULTS

## 11.1. 5.2 GHz

### 11.1.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND

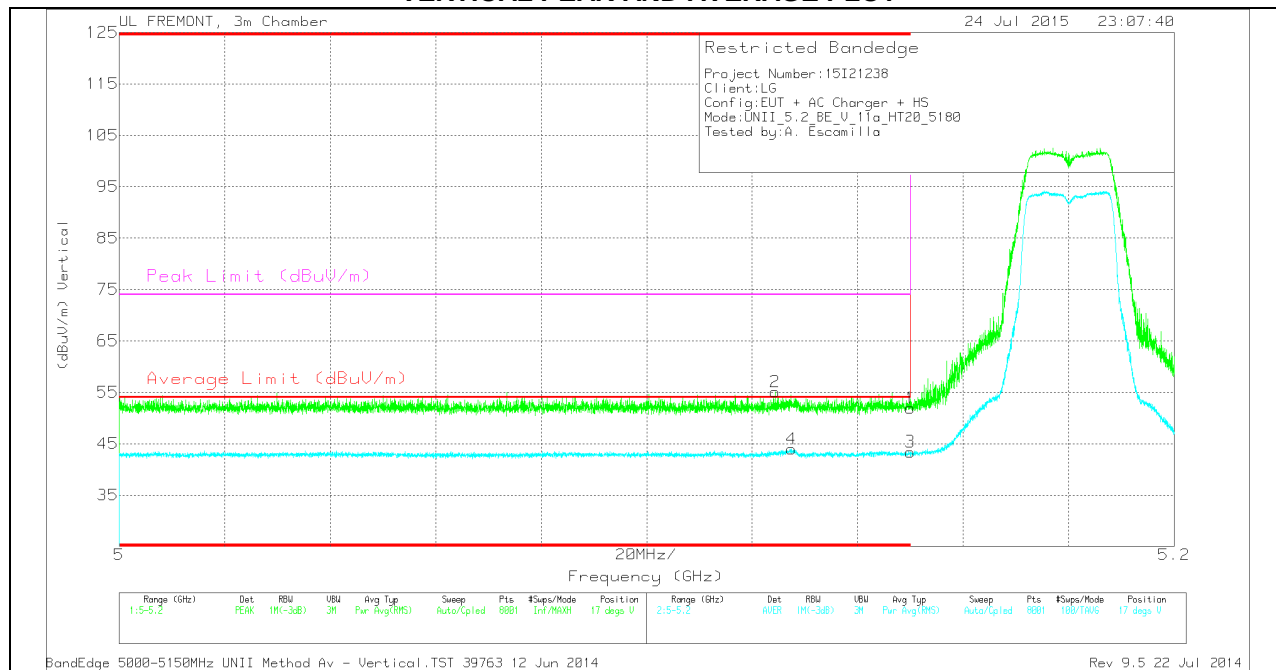
#### RESTRICTED BANDEDGE (LOW CHANNEL)



#### HORIZONTAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cb/Filter/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 4      | * 5.128         | 31.11                | RMS | 34.2           | -20.9                  | .25          | 44.66                      | 54                     | -9.34       | -                   | -              | 302            | 100         | H        |
| 2      | * 5.148         | 43.89                | PK  | 34.2           | -20.8                  | 0            | 57.29                      | -                      | -           | 74                  | -16.71         | 302            | 100         | H        |
| 1      | * 5.15          | 39.84                | PK  | 34.2           | -20.8                  | 0            | 53.24                      | -                      | -           | 74                  | -20.76         | 302            | 100         | H        |
| 3      | * 5.15          | 29.94                | RMS | 34.2           | -20.8                  | .25          | 43.59                      | 54                     | -10.41      | -                   | -              | 302            | 100         | H        |

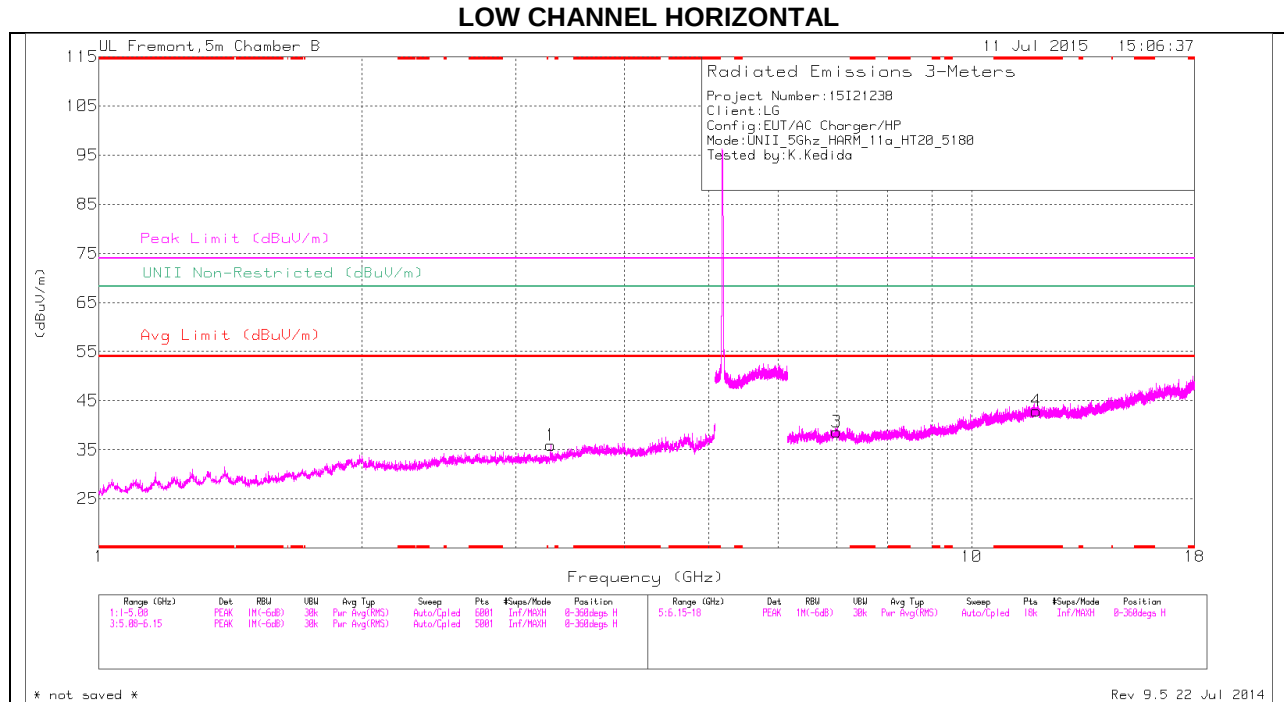
### VERTICAL PEAK AND AVERAGE PLOT



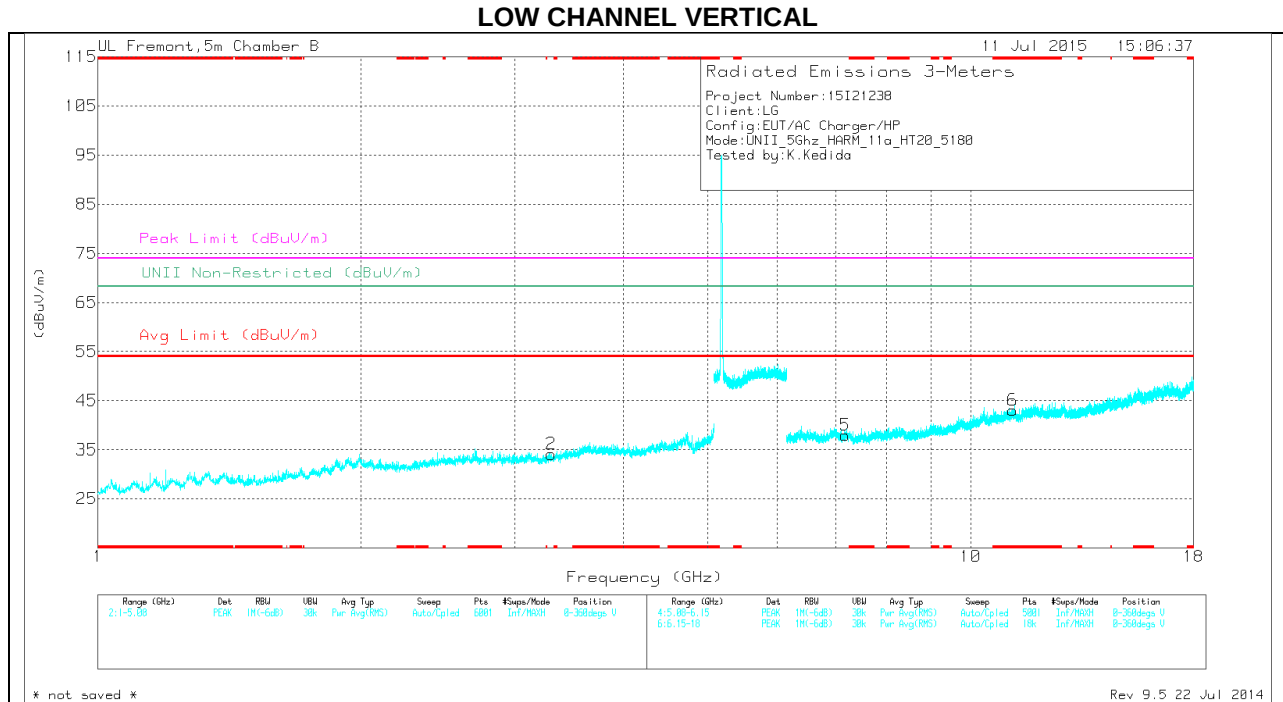
### VERTICAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cb/Filter/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 2      | * 5.124         | 41.77                | PK  | 34.2           | -20.9                  | 0            | 55.07                      | -                      | -           | 74                  | -18.93         | 17             | 233         | V        |
| 4      | * 5.127         | 30.4                 | RMS | 34.2           | -20.9                  | .25          | 43.95                      | 54                     | -10.05      | -                   | -              | 17             | 233         | V        |
| 1      | * 5.15          | 38.49                | PK  | 34.2           | -20.8                  | 0            | 51.89                      | -                      | -           | 74                  | -22.11         | 17             | 233         | V        |
| 3      | * 5.15          | 29.76                | RMS | 34.2           | -20.8                  | .25          | 43.41                      | 54                     | -10.59      | -                   | -              | 17             | 233         | V        |

## HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## LOW CHANNEL DATA

### TRACE MARKERS

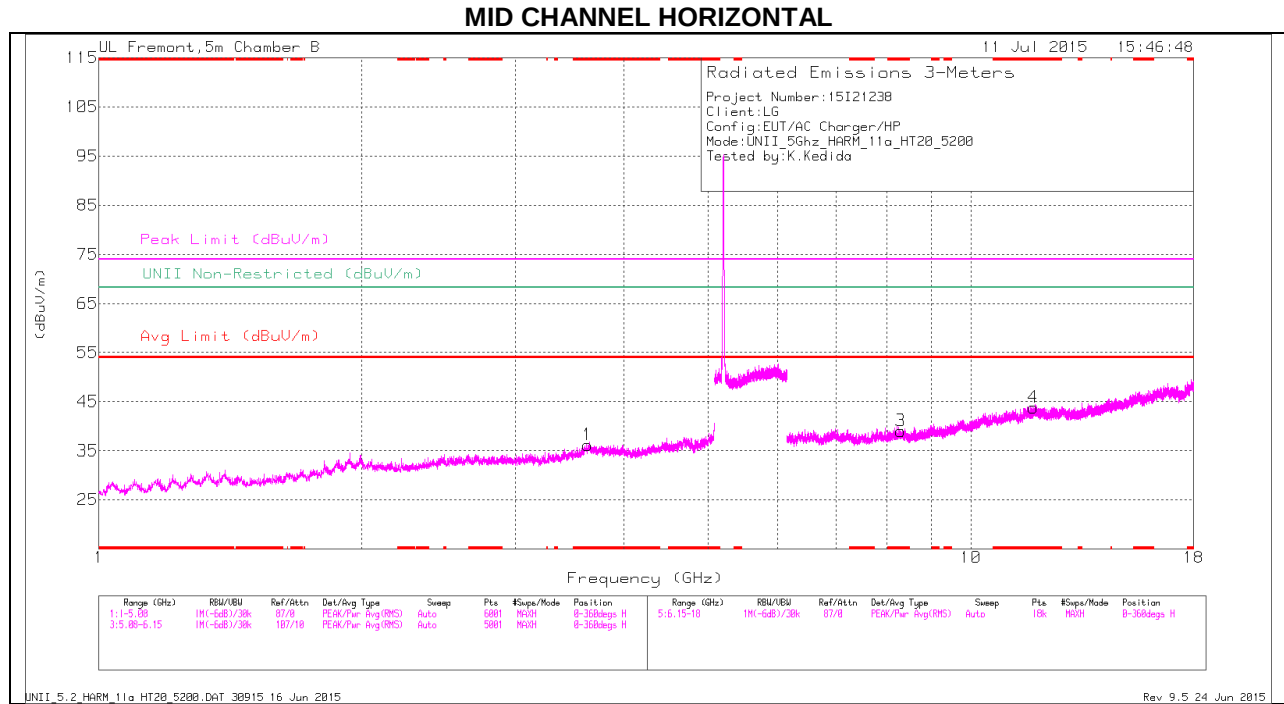
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cbl/Fil tr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 4      | * 11.848        | 25.56                | Pk  | 38.6           | -21.3                   | 0            | 42.86                      | -                  | -           | 74                  | -31.14         | -                            | -              | 0-360          | 101         | H        |
| 6      | * 11.171        | 26.42                | Pk  | 37.8           | -21.2                   | 0            | 43.02                      | -                  | -           | 74                  | -30.98         | -                            | -              | 0-360          | 200         | V        |
| 1      | 3.294           | 34.04                | Pk  | 32.7           | -30.8                   | 0            | 35.94                      | -                  | -           | -                   | -              | 68.2                         | -32.26         | 0-360          | 199         | H        |
| 2      | 3.307           | 31.98                | Pk  | 32.8           | -30.7                   | 0            | 34.08                      | -                  | -           | -                   | -              | 68.2                         | -34.12         | 0-360          | 101         | V        |
| 3      | 7.004           | 29.27                | Pk  | 36             | -26.6                   | 0            | 38.67                      | -                  | -           | -                   | -              | 68.2                         | -29.53         | 0-360          | 101         | H        |
| 5      | 7.18            | 29.07                | Pk  | 35.4           | -26.5                   | 0            | 37.97                      | -                  | -           | -                   | -              | 68.2                         | -30.23         | 0-360          | 101         | V        |

PK - Peak detector

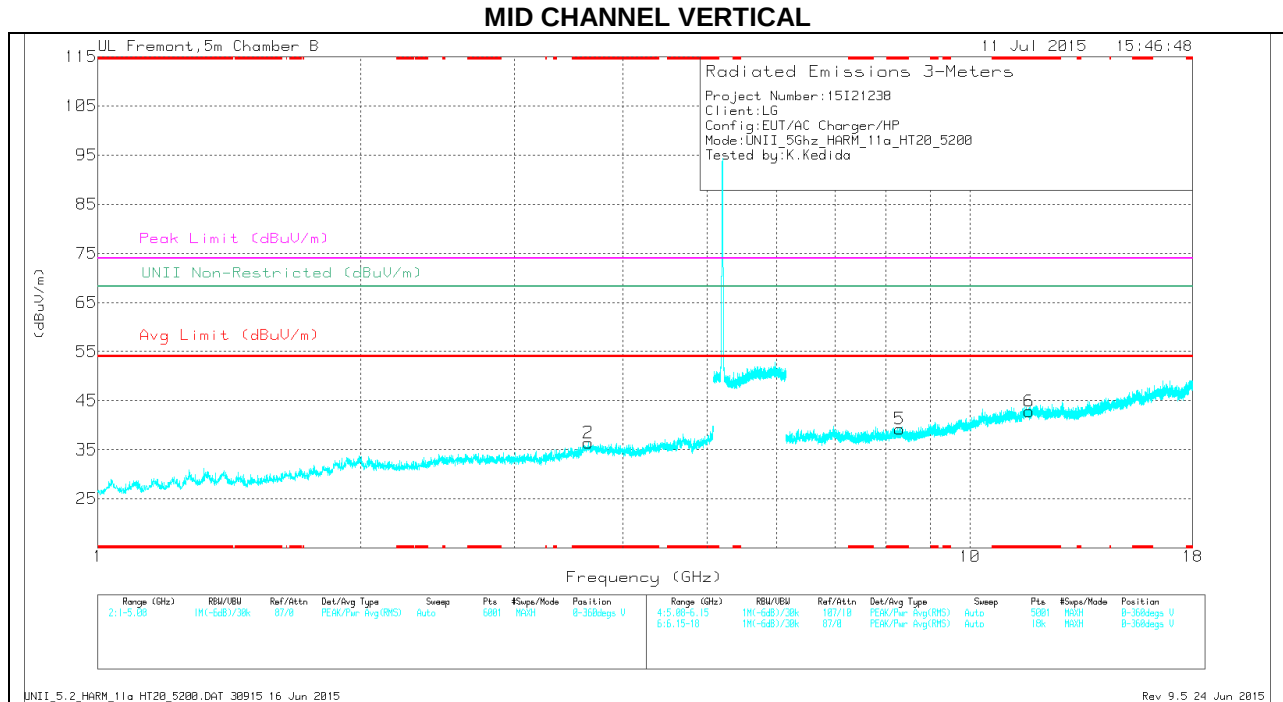
### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T345 (dB/m) | Amp/Cbl/Fil tr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|-------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 11.846        | 34.54                | PK-U | 38.6           | -21.3                   | 0            | 51.84                      | -                  | -           | 74                  | -22.16         | -                            | -              | 0              | 102         | H        |
| * 11.849        | 22.87                | ADR  | 38.6           | -21.3                   | .25          | 40.42                      | 54                 | -13.58      | -                   | -              | -                            | -              | 0              | 102         | H        |
| * 11.171        | 34.35                | PK-U | 37.8           | -21.2                   | 0            | 50.95                      | -                  | -           | 74                  | -23.05         | -                            | -              | 0              | 200         | V        |
| * 11.17         | 23.29                | ADR  | 37.8           | -21.2                   | .25          | 40.14                      | 54                 | -13.86      | -                   | -              | -                            | -              | 0              | 200         | V        |
| 3.292           | 28.86                | ADR  | 32.7           | -30.8                   | .25          | 31.01                      | -                  | -           | -                   | -              | -                            | -              | 0              | 199         | H        |
| 3.294           | 40.54                | PK-U | 32.7           | -30.8                   | 0            | 42.44                      | -                  | -           | -                   | -              | 68.2                         | -25.76         | 0              | 199         | H        |
| 3.307           | 41.2                 | PK-U | 32.8           | -30.7                   | 0            | 43.3                       | -                  | -           | -                   | -              | 68.2                         | -24.9          | 0              | 102         | V        |
| 7.005           | 37.68                | PK-U | 36             | -26.6                   | 0            | 47.08                      | -                  | -           | -                   | -              | 68.2                         | -21.12         | 0              | 102         | H        |
| 7.182           | 37.63                | PK-U | 35.4           | -26.4                   | 0            | 46.63                      | -                  | -           | -                   | -              | 68.2                         | -21.57         | 0              | 102         | V        |

FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 17 Jun 2014



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## MID CHANNEL DATA

### TRACE MARKERS

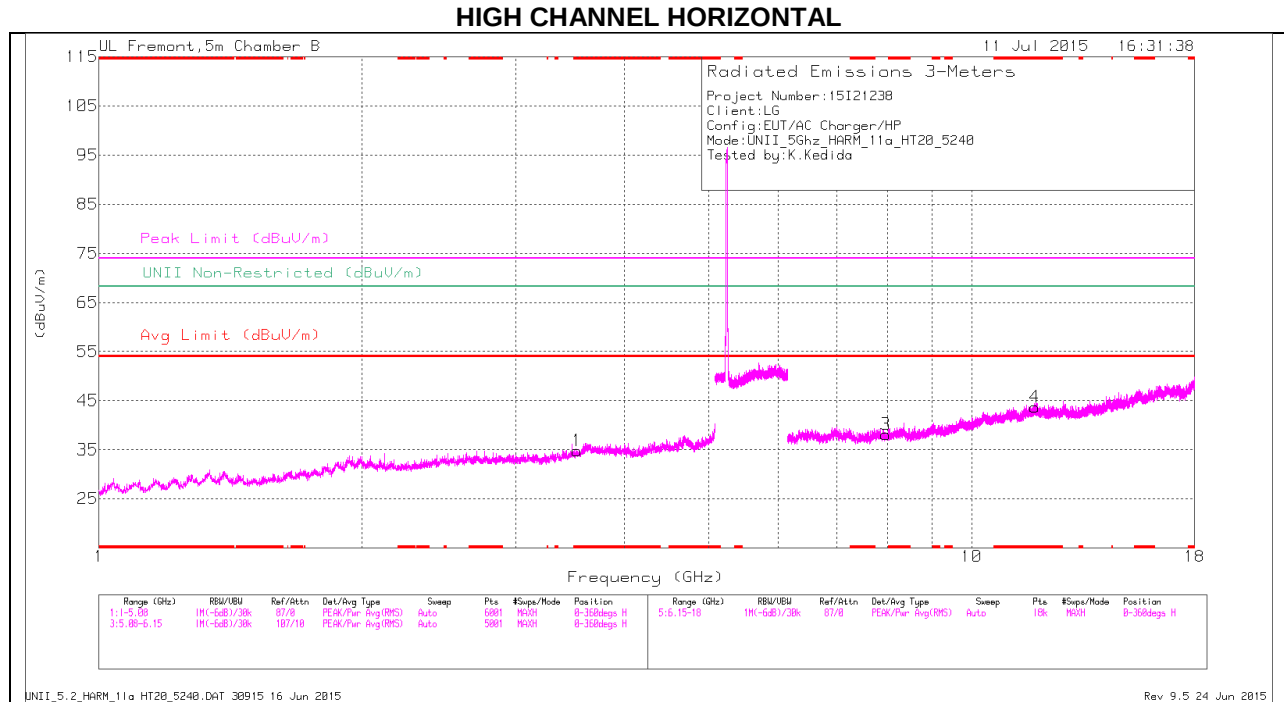
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T34S (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 3.635         | 32.85                | Pk  | 33.8           | -30.5                | 0            | 36.15                      | -                  | -           | 74                  | -37.85         | -                            | -              | 0-360          | 199         | H        |
| 2      | * 3.651         | 33.01                | Pk  | 33.7           | -30.3                | 0            | 36.41                      | -                  | -           | 74                  | -37.59         | -                            | -              | 0-360          | 101         | V        |
| 3      | * 8.309         | 28.62                | Pk  | 35.7           | -25.3                | 0            | 39.02                      | -                  | -           | 74                  | -34.98         | -                            | -              | 0-360          | 200         | H        |
| 4      | * 11.787        | 26.3                 | Pk  | 38.6           | -21.1                | 0            | 43.8                       | -                  | -           | 74                  | -30.2          | -                            | -              | 0-360          | 200         | H        |
| 5      | * 8.311         | 28.9                 | Pk  | 35.7           | -25.4                | 0            | 39.2                       | -                  | -           | 74                  | -34.8          | -                            | -              | 0-360          | 200         | V        |
| 6      | * 11.686        | 26.01                | Pk  | 38.5           | -21.7                | 0            | 42.81                      | -                  | -           | 74                  | -31.19         | -                            | -              | 0-360          | 200         | V        |

PK - Peak detector

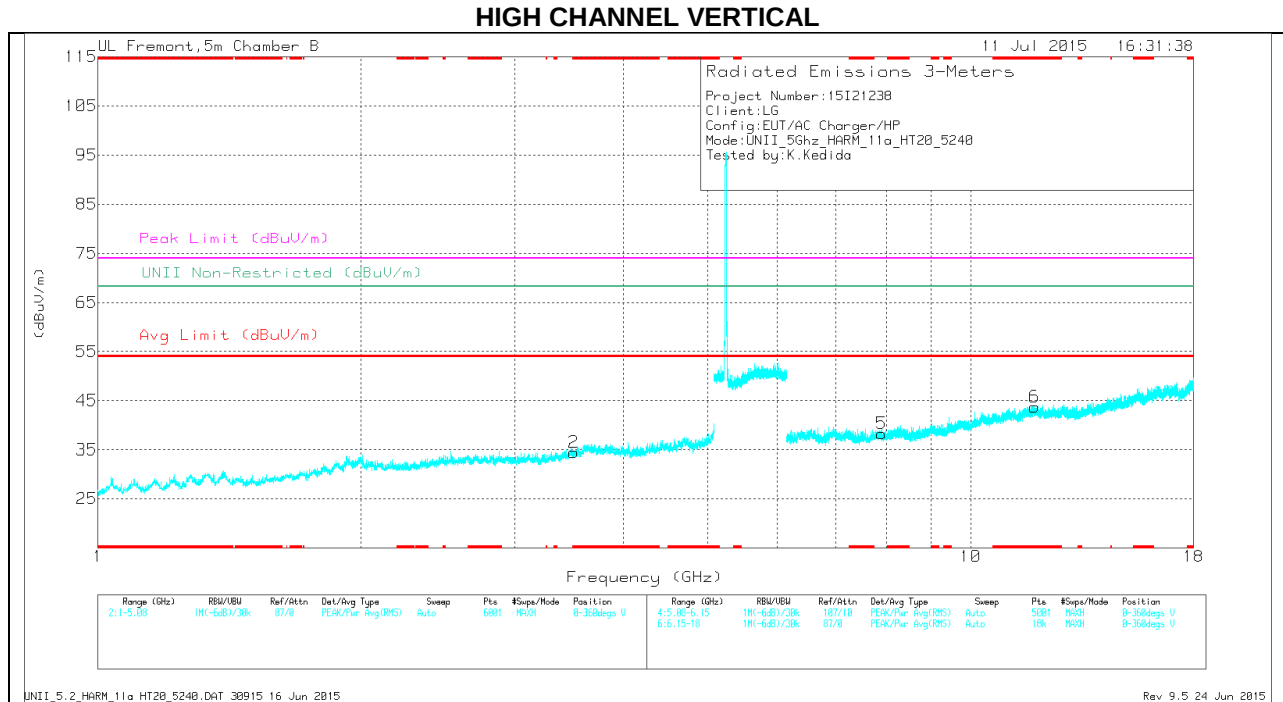
### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T34S (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 3.637         | 40.1                 | PK-U | 33.8           | -30.5                | 0            | 43.4                       | -                  | -           | 74                  | -30.6          | -                            | -              | 1              | 199         | H        |
| * 3.634         | 29.16                | ADR  | 33.8           | -30.5                | .25          | 32.71                      | 54                 | -21.29      | -                   | -              | -                            | -              | 1              | 199         | H        |
| * 3.653         | 41.32                | PK-U | 33.7           | -30.3                | 0            | 44.72                      | -                  | -           | 74                  | -29.28         | -                            | -              | 1              | 102         | V        |
| * 3.651         | 29.21                | ADR  | 33.7           | -30.3                | .25          | 32.86                      | 54                 | -21.14      | -                   | -              | -                            | -              | 1              | 102         | V        |
| * 8.31          | 37.03                | PK-U | 35.7           | -25.4                | 0            | 47.33                      | -                  | -           | 74                  | -26.67         | -                            | -              | 1              | 199         | H        |
| * 8.309         | 25.58                | ADR  | 35.7           | -25.3                | .25          | 36.23                      | 54                 | -17.77      | -                   | -              | -                            | -              | 1              | 199         | H        |
| * 11.788        | 34.6                 | PK-U | 38.6           | -21.1                | 0            | 52.1                       | -                  | -           | 74                  | -21.9          | -                            | -              | 1              | 199         | H        |
| * 11.785        | 23.24                | ADR  | 38.6           | -21.1                | .25          | 40.99                      | 54                 | -13.01      | -                   | -              | -                            | -              | 1              | 199         | H        |
| * 8.31          | 36.73                | PK-U | 35.7           | -25.4                | 0            | 47.03                      | -                  | -           | 74                  | -26.97         | -                            | -              | 1              | 199         | V        |
| * 8.31          | 25.62                | ADR  | 35.7           | -25.4                | .25          | 36.17                      | 54                 | -17.83      | -                   | -              | -                            | -              | 1              | 199         | V        |
| * 11.687        | 33.91                | PK-U | 38.5           | -21.7                | 0            | 50.71                      | -                  | -           | 74                  | -23.29         | -                            | -              | 1              | 199         | V        |
| * 11.685        | 23.27                | ADR  | 38.5           | -21.7                | .25          | 40.32                      | 54                 | -13.68      | -                   | -              | -                            | -              | 1              | 199         | V        |

FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 17 Jun 2014



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## HIGH CHANNEL DATA

### TRACE MARKERS

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 3.53          | 32.19                | Pk  | 33.6           | -31                    | 0            | 34.79                      | -                  | -           | 74                  | -39.21         | -                            | -              | 0-360          | 101         | H        |
| 2      | * 3.506         | 31.69                | Pk  | 33.6           | -30.8                  | 0            | 34.49                      | -                  | -           | 74                  | -39.51         | -                            | -              | 0-360          | 101         | V        |
| 4      | * 11.805        | 26.16                | Pk  | 38.6           | -21.1                  | 0            | 43.66                      | -                  | -           | 74                  | -30.34         | -                            | -              | 0-360          | 200         | H        |
| 6      | * 11.828        | 26.43                | Pk  | 38.6           | -21.3                  | 0            | 43.73                      | -                  | -           | 74                  | -30.27         | -                            | -              | 0-360          | 101         | V        |
| 5      | 7.902           | 28.47                | Pk  | 35.6           | -25.8                  | 0            | 38.27                      | -                  | -           | -                   | -              | 68.2                         | -29.93         | 0-360          | 101         | V        |
| 3      | 7.973           | 28.58                | Pk  | 35.6           | -26.1                  | 0            | 38.08                      | -                  | -           | -                   | -              | 68.2                         | -30.12         | 0-360          | 101         | H        |

PK - Peak detector

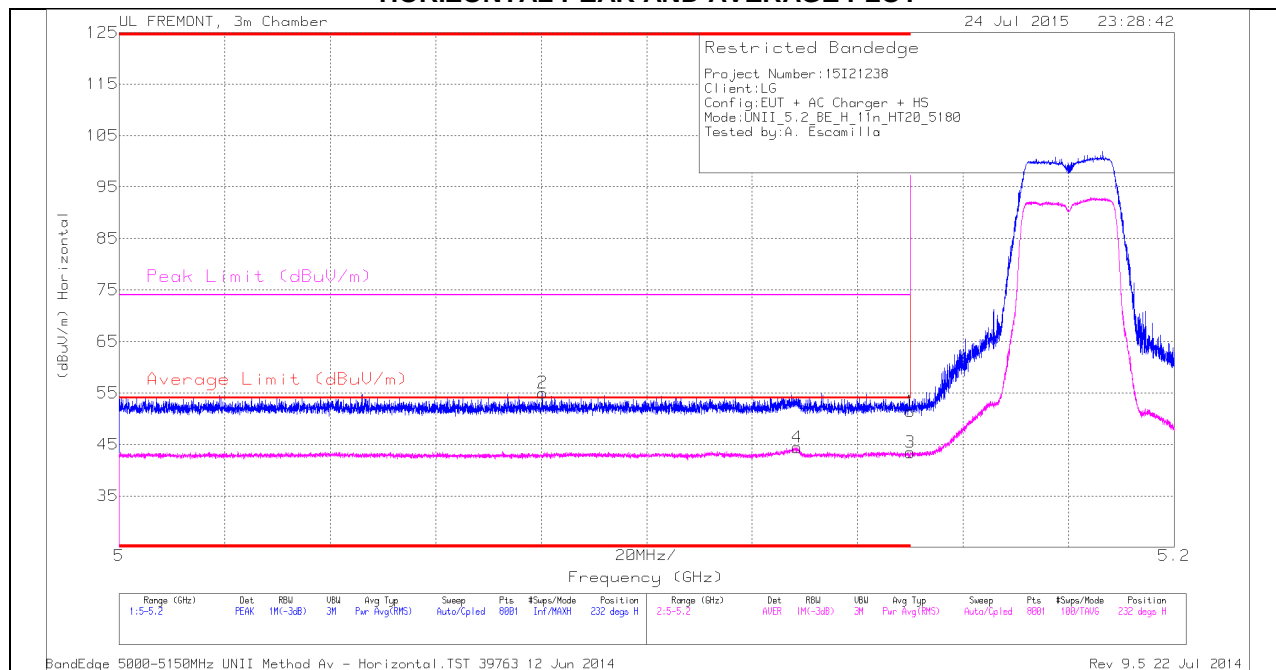
### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det  | AF T345 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 3.53          | 40.85                | PK-U | 33.7           | -31                    | 0            | 43.55                      | -                  | -           | 74                  | -30.45         | -                            | -              | 1              | 101         | H        |
| * 3.528         | 28.94                | ADR  | 33.6           | -31.1                  | .25          | 31.69                      | 54                 | -22.31      | -                   | -              | -                            | -              | 1              | 101         | H        |
| * 3.507         | 40.46                | PK-U | 33.6           | -30.8                  | 0            | 43.26                      | -                  | -           | 74                  | -30.74         | -                            | -              | 1              | 101         | V        |
| * 3.508         | 28.64                | ADR  | 33.6           | -30.8                  | .25          | 31.69                      | 54                 | -22.31      | -                   | -              | -                            | -              | 1              | 101         | V        |
| * 11.687        | 33.91                | PK-U | 38.5           | -21.7                  | 0            | 50.71                      | -                  | -           | 74                  | -23.29         | -                            | -              | 1              | 199         | V        |
| * 11.685        | 23.27                | ADR  | 38.5           | -21.7                  | .25          | 40.32                      | 54                 | -13.68      | -                   | -              | -                            | -              | 1              | 199         | V        |
| 7.903           | 36.57                | PK-U | 35.6           | -25.9                  | 0            | 46.27                      | -                  | -           | -                   | -              | 68.2                         | -21.93         | 1              | 101         | V        |
| 7.972           | 37.17                | PK-U | 35.6           | -26.1                  | 0            | 46.67                      | -                  | -           | -                   | -              | 68.2                         | -21.53         | 1              | 101         | H        |
| 7.975           | 37.42                | PK-U | 35.6           | -26.2                  | 0            | 46.82                      | -                  | -           | -                   | -              | 68.2                         | -21.38         | 1              | 101         | H        |

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## 11.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

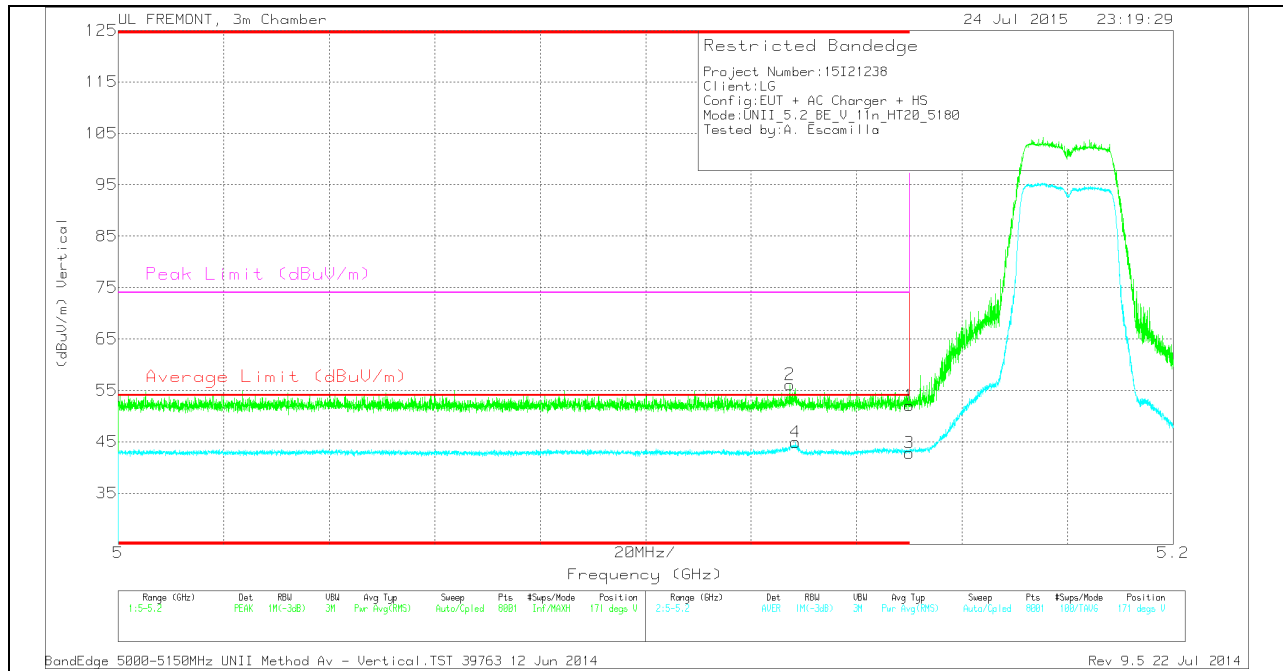
### HORIZONTAL PEAK AND AVERAGE PLOT



### HORIZONTAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cb/Filter/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 2      | * 5.08          | 41.61                | PK  | 34.1           | -20.7                  | 0            | 55.01                      | -                      | -           | 74                  | -18.99         | 232            | 301         | H        |
| 4      | * 5.129         | 30.76                | RMS | 34.2           | -20.8                  | .25          | 44.41                      | 54                     | -9.59       | -                   | -              | 232            | 301         | H        |
| 1      | * 5.15          | 38.03                | PK  | 34.2           | -20.8                  | 0            | 51.43                      | -                      | -           | 74                  | -22.57         | 232            | 301         | H        |
| 3      | * 5.15          | 29.79                | RMS | 34.2           | -20.8                  | .25          | 43.44                      | 54                     | -10.56      | -                   | -              | 232            | 301         | H        |

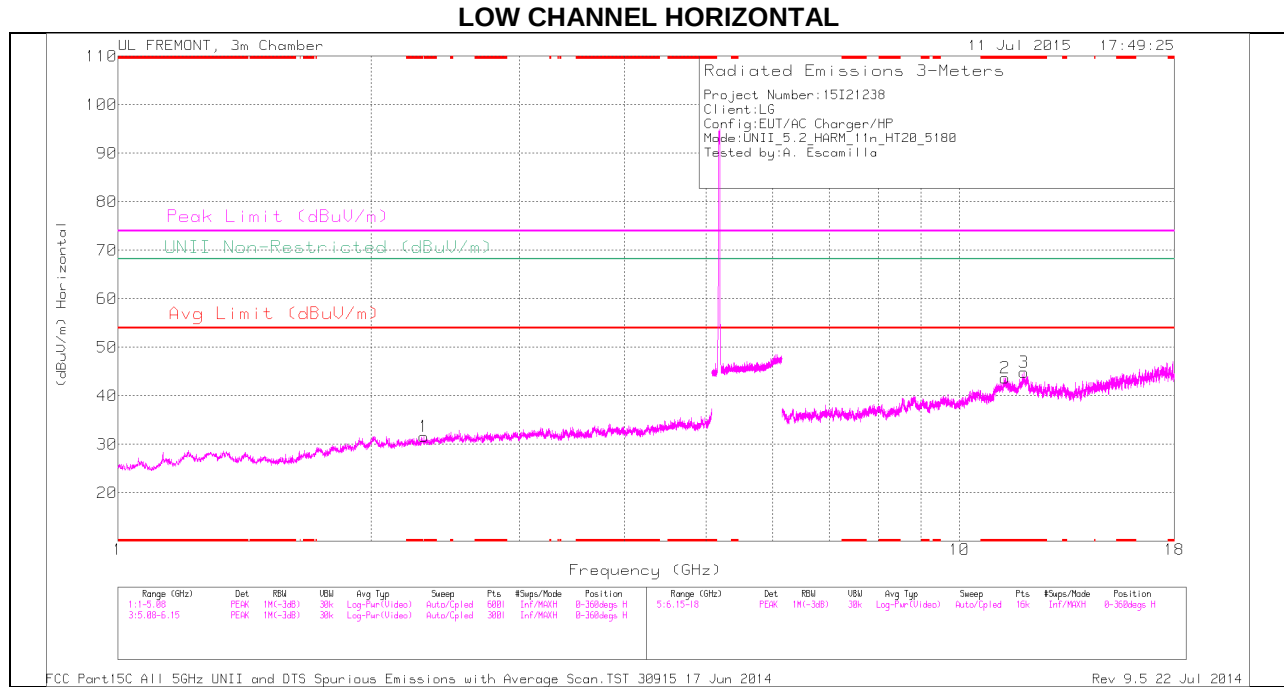
### VERTICAL PEAK AND AVERAGE PLOT



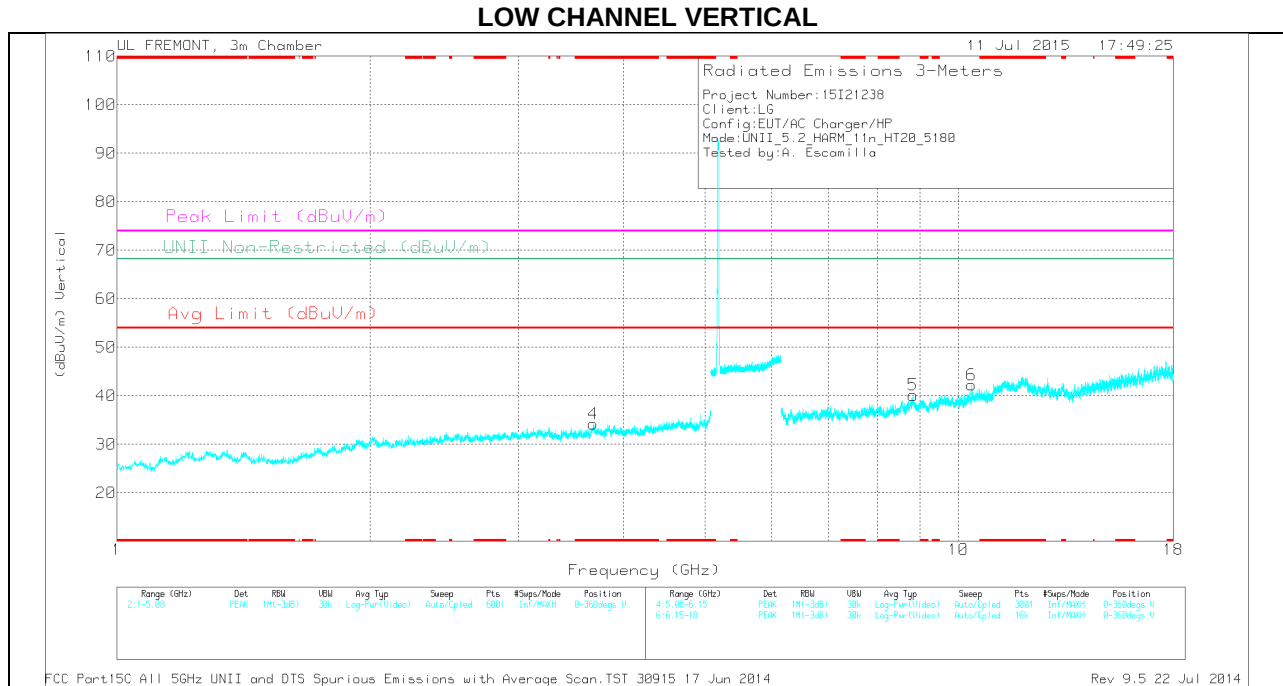
### VERTICAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cb/Filter/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 5.15          | 38.62                | PK  | 34.2           | -20.8                  | 0            | 52.02                      | -                      | -           | 74                  | -21.98         | 171            | 377         | V        |
| 2      | * 5.127         | 42.8                 | PK  | 34.2           | -20.9                  | 0            | 56.1                       | -                      | -           | 74                  | -17.9          | 171            | 377         | V        |
| 3      | * 5.15          | 29.17                | RMS | 34.2           | -20.8                  | .25          | 42.82                      | 54                     | -11.18      | -                   | -              | 171            | 377         | V        |
| 4      | * 5.128         | 31.25                | RMS | 34.2           | -20.8                  | .25          | 44.9                       | 54                     | -9.1        | -                   | -              | 171            | 377         | V        |

## HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## LOW CHANNEL DATA

### TRACE MARKERS

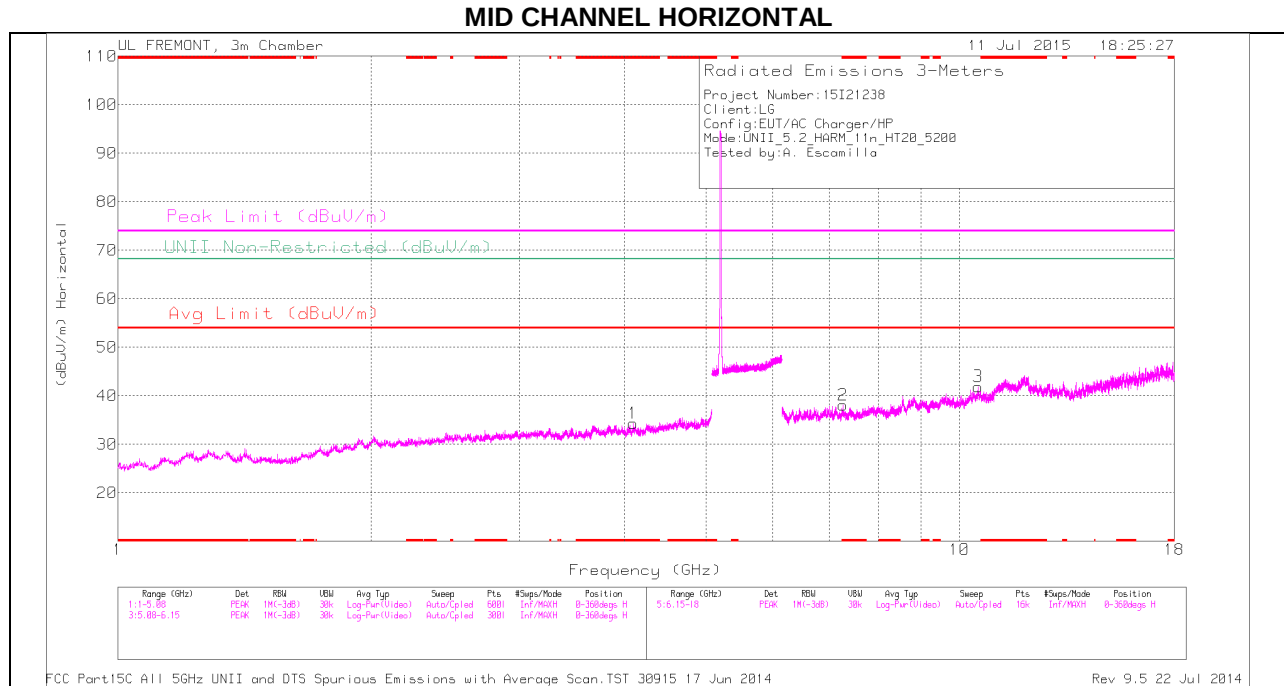
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 2.31          | 31.85                | PK  | 31.7           | -31.9                | 0            | 31.65                      | -                  | -           | 74                  | -42.35         | -                            | -              | 0-360          | 100         | H        |
| 4      | * 3.683         | 30.89                | PK  | 33             | -29.7                | 0            | 34.19                      | -                  | -           | 74                  | -39.81         | -                            | -              | 0-360          | 100         | V        |
| 2      | * 11.338        | 28.28                | PK  | 38.1           | -22.7                | 0            | 43.68                      | -                  | -           | 74                  | -30.32         | -                            | -              | 0-360          | 100         | H        |
| 3      | * 11.935        | 29.32                | PK  | 39.1           | -23.6                | 0            | 44.82                      | -                  | -           | 74                  | -29.18         | -                            | -              | 0-360          | 100         | H        |
| 5      | 8.83            | 28.52                | PK  | 35.9           | -24.3                | 0            | 40.12                      | -                  | -           | -                   | -              | 68.2                         | -28.08         | 0-360          | 200         | V        |
| 6      | 10.359          | 29.04                | PK  | 37.2           | -24                  | 0            | 42.24                      | -                  | -           | -                   | -              | 68.2                         | -25.96         | 0-360          | 100         | V        |

PK - Peak detector

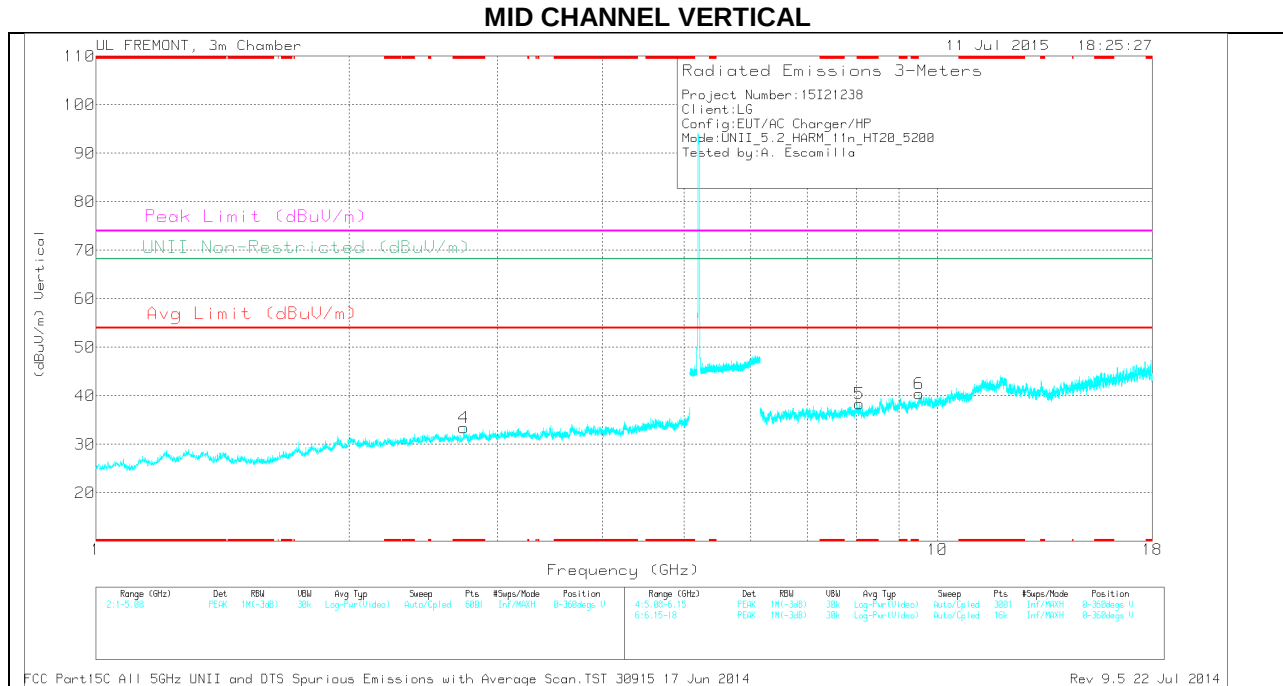
### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 2.311         | 40.67                | PK1 | 31.7           | -31.9                | 0            | 40.47                      | -                  | -           | 74                  | -33.53         | -                            | -              | 344            | 138         | H        |
| * 2.31          | 29.57                | AD1 | 31.7           | -31.9                | .25          | 29.62                      | 54                 | -24.38      | -                   | -              | -                            | -              | 344            | 138         | H        |
| * 3.684         | 40.24                | PK1 | 33             | -29.8                | 0            | 43.44                      | -                  | -           | 74                  | -30.56         | -                            | -              | 162            | 163         | V        |
| * 3.682         | 28.8                 | AD1 | 33             | -29.7                | .25          | 32.35                      | 54                 | -21.65      | -                   | -              | -                            | -              | 162            | 163         | V        |
| * 11.338        | 37.04                | PK1 | 38.1           | -22.7                | 0            | 52.44                      | -                  | -           | 74                  | -21.56         | -                            | -              | 302            | 163         | H        |
| * 11.339        | 25.4                 | AD1 | 38.1           | -22.7                | .25          | 41.05                      | 54                 | -12.95      | -                   | -              | -                            | -              | 302            | 163         | H        |
| * 11.934        | 37.45                | PK1 | 39.1           | -23.6                | 0            | 52.95                      | -                  | -           | 74                  | -21.05         | -                            | -              | 299            | 207         | H        |
| * 11.933        | 26                   | AD1 | 39.1           | -23.6                | .25          | 41.75                      | 54                 | -12.25      | -                   | -              | -                            | -              | 299            | 207         | H        |
| 8.829           | 37.11                | PK1 | 35.9           | -24.3                | 0            | 48.71                      | -                  | -           | -                   | -              | 68.2                         | -19.49         | 79             | 212         | V        |
| 10.36           | 36.99                | PK1 | 37.2           | -24                  | 0            | 50.19                      | -                  | -           | -                   | -              | 68.2                         | -18.01         | 47             | 187         | V        |

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Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## MID CHANNEL DATA

### TRACE MARKERS

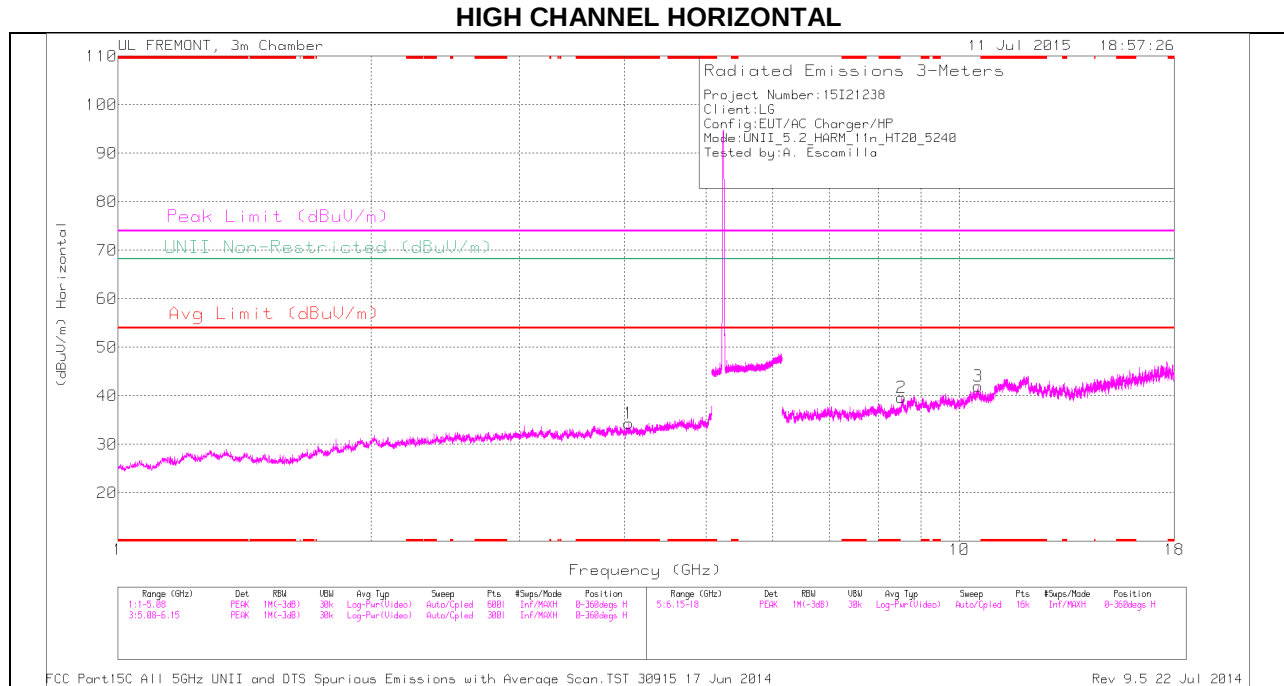
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 4.093         | 31.37                | PK  | 33.3           | -30.3                | 0            | 34.37                      | -                  | -           | 74                  | -39.63         | -                            | -              | 0-360          | 200         | H        |
| 4      | * 2.736         | 32.59                | PK  | 32.4           | -31.6                | 0            | 33.39                      | -                  | -           | 74                  | -40.61         | -                            | -              | 0-360          | 100         | V        |
| 2      | * 7.27          | 30.85                | PK  | 35.6           | -28.4                | 0            | 38.05                      | -                  | -           | 74                  | -35.95         | -                            | -              | 0-360          | 200         | H        |
| 5      | * 8.073         | 29.18                | PK  | 35.7           | -26.5                | 0            | 38.38                      | -                  | -           | 74                  | -35.62         | -                            | -              | 0-360          | 100         | V        |
| 6      | 9.513           | 27.76                | PK  | 36.6           | -23.9                | 0            | 40.46                      | -                  | -           | -                   | -              | 68.2                         | -27.74         | 0-360          | 100         | V        |
| 3      | 10.53           | 27.73                | PK  | 37.5           | -23.3                | 0            | 41.93                      | -                  | -           | -                   | -              | 68.2                         | -26.27         | 0-360          | 100         | H        |

PK - Peak detector

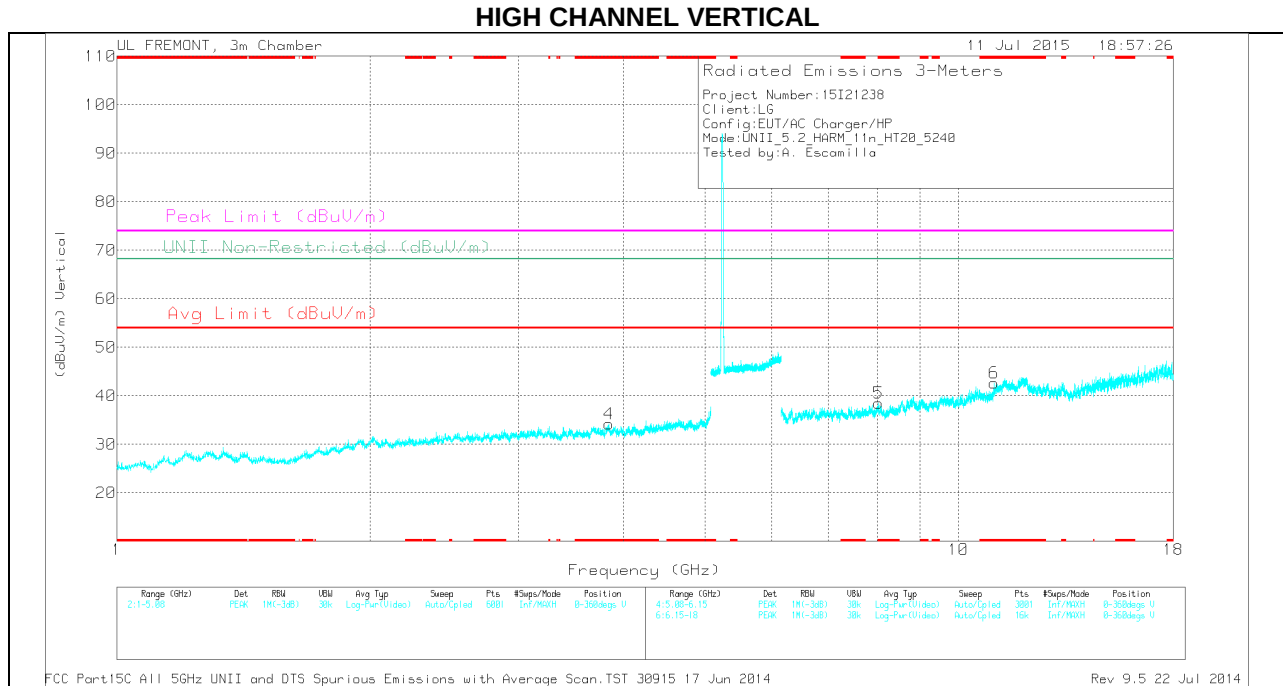
### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 4.092         | 40.27                | PK1 | 33.3           | -30.3                | 0            | 43.27                      | -                  | -           | 74                  | -30.73         | -                            | -              | 11             | 206         | H        |
| * 4.091         | 28.68                | AD1 | 33.3           | -30.3                | .25          | 31.93                      | 54                 | -22.07      | -                   | -              | -                            | -              | 11             | 206         | H        |
| * 2.736         | 41.07                | PK1 | 32.4           | -31.6                | 0            | 41.87                      | -                  | -           | 74                  | -32.13         | -                            | -              | 109            | 189         | V        |
| * 2.734         | 29.28                | AD1 | 32.4           | -31.6                | .25          | 30.33                      | 54                 | -23.67      | -                   | -              | -                            | -              | 109            | 189         | V        |
| * 7.27          | 38.85                | PK1 | 35.6           | -28.4                | 0            | 46.05                      | -                  | -           | 74                  | -27.95         | -                            | -              | 45             | 208         | H        |
| * 7.272         | 27.66                | AD1 | 35.6           | -28.4                | .25          | 35.11                      | 54                 | -18.89      | -                   | -              | -                            | -              | 45             | 208         | H        |
| * 8.072         | 37.76                | PK1 | 35.7           | -26.5                | 0            | 46.96                      | -                  | -           | 74                  | -27.04         | -                            | -              | 189            | 219         | V        |
| * 8.074         | 26.52                | AD1 | 35.7           | -26.4                | .25          | 36.07                      | 54                 | -17.93      | -                   | -              | -                            | -              | 189            | 219         | V        |
| 9.515           | 35.99                | PK1 | 36.6           | -23.9                | 0            | 48.69                      | -                  | -           | -                   | -              | 68.2                         | -19.51         | 245            | 195         | V        |
| 10.53           | 35.81                | PK1 | 37.5           | -23.3                | 0            | 50.01                      | -                  | -           | -                   | -              | 68.2                         | -18.19         | 77             | 160         | H        |

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Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## HIGH CHANNEL DATA

### TRACE MARKERS

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 4.046         | 31.4                 | PK  | 33.3           | -30.4                | 0            | 34.3                       | -                  | -           | 74                  | -39.7          | -                            | -              | 0-360          | 200         | H        |
| 4      | * 3.842         | 31.28                | PK  | 33.1           | -30.2                | 0            | 34.18                      | -                  | -           | 74                  | -39.82         | -                            | -              | 0-360          | 100         | V        |
| 5      | * 8.033         | 29.4                 | PK  | 35.7           | -26.6                | 0            | 38.5                       | -                  | -           | 74                  | -35.5          | -                            | -              | 0-360          | 200         | V        |
| 6      | * 11.018        | 27.67                | PK  | 37.9           | -22.9                | 0            | 42.67                      | -                  | -           | 74                  | -31.33         | -                            | -              | 0-360          | 200         | V        |
| 2      | 8.535           | 29.61                | PK  | 35.8           | -25.7                | 0            | 39.71                      | -                  | -           | -                   | -              | 68.2                         | -28.49         | 0-360          | 100         | H        |
| 3      | 10.527          | 27.77                | PK  | 37.5           | -23.3                | 0            | 41.97                      | -                  | -           | -                   | -              | 68.2                         | -26.23         | 0-360          | 100         | H        |

PK - Peak detector

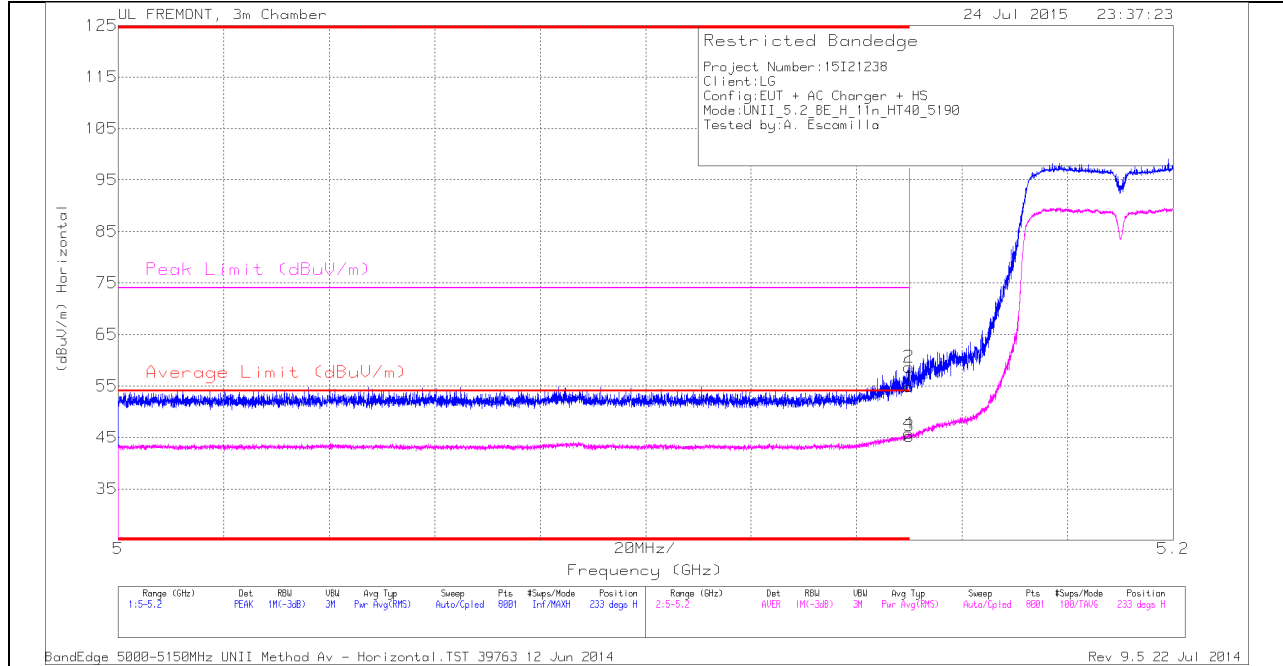
### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 4.047         | 40.49                | PK1 | 33.3           | -30.4                | 0            | 43.39                      | -                  | -           | 74                  | -30.61         | -                            | -              | 333            | 200         | H        |
| * 4.047         | 28.92                | AD1 | 33.3           | -30.4                | .23          | 32.07                      | 54                 | -21.93      | -                   | -              | -                            | -              | 333            | 200         | H        |
| * 3.842         | 41.02                | PK1 | 33.1           | -30.2                | 0            | 43.92                      | -                  | -           | 74                  | -30.08         | -                            | -              | 175            | 216         | V        |
| * 3.84          | 28.9                 | AD1 | 33.1           | -30.2                | .23          | 32.05                      | 54                 | -21.95      | -                   | -              | -                            | -              | 175            | 216         | V        |
| * 8.034         | 37.88                | PK1 | 35.7           | -26.5                | 0            | 47.08                      | -                  | -           | 74                  | -26.92         | -                            | -              | 90             | 261         | V        |
| * 8.034         | 26.58                | AD1 | 35.7           | -26.5                | .23          | 36.03                      | 54                 | -17.97      | -                   | -              | -                            | -              | 90             | 261         | V        |
| * 11.019        | 36.54                | PK1 | 37.9           | -22.9                | 0            | 51.54                      | -                  | -           | 74                  | -22.46         | -                            | -              | 55             | 178         | V        |
| * 11.019        | 25.05                | AD1 | 37.9           | -22.9                | .23          | 40.3                       | 54                 | -13.7       | -                   | -              | -                            | -              | 55             | 178         | V        |
| 8.534           | 37.23                | PK1 | 35.8           | -25.7                | 0            | 47.33                      | -                  | -           | -                   | -              | 68.2                         | -20.87         | 307            | 189         | H        |
| 10.528          | 36.04                | PK1 | 37.5           | -23.3                | 0            | 50.24                      | -                  | -           | -                   | -              | 68.2                         | -17.96         | 237            | 132         | H        |

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### 11.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

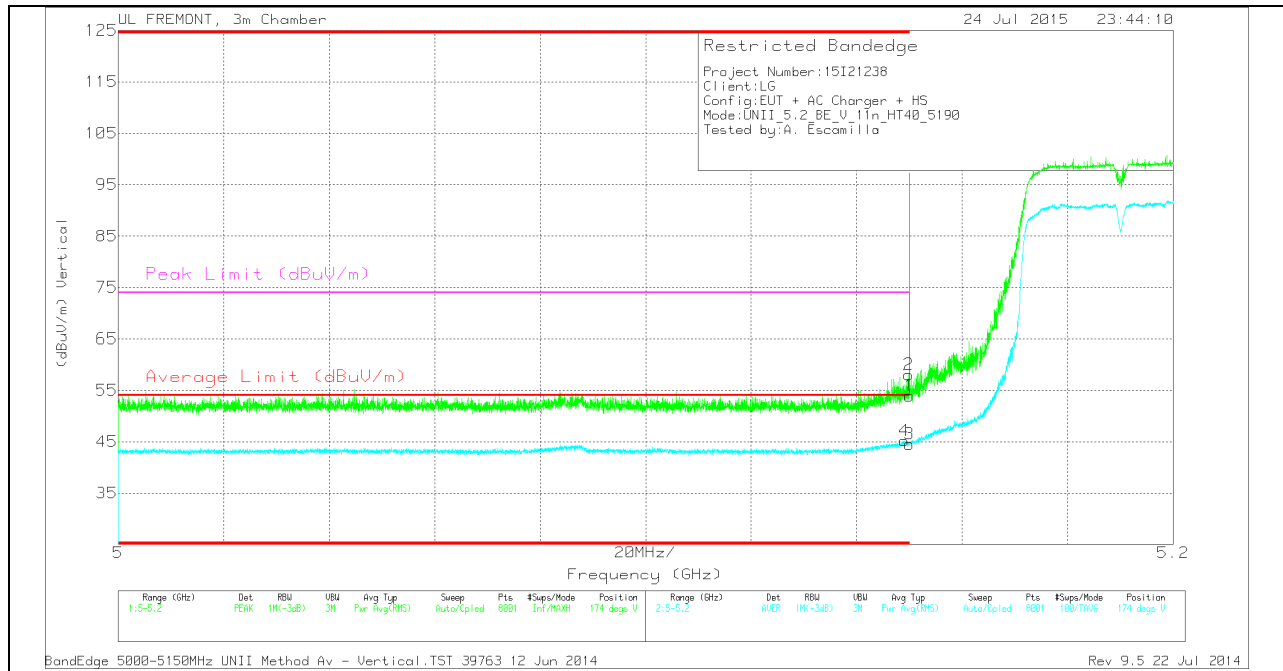
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 5.15          | 41.42                | PK  | 34.2           | -20.8                  | 0            | 54.82                      | -                      | -           | 74                  | -19.18         | 233            | 317         | H        |
| 2      | * 5.15          | 45.28                | PK  | 34.2           | -20.8                  | 0            | 58.68                      | -                      | -           | 74                  | -15.32         | 233            | 317         | H        |
| 3      | * 5.15          | 31.37                | RMS | 34.2           | -20.8                  | .5           | 45.27                      | 54                     | -8.73       | -                   | -              | 233            | 317         | H        |
| 4      | * 5.15          | 31.91                | RMS | 34.2           | -20.8                  | .5           | 45.81                      | 54                     | -8.19       | -                   | -              | 233            | 317         | H        |

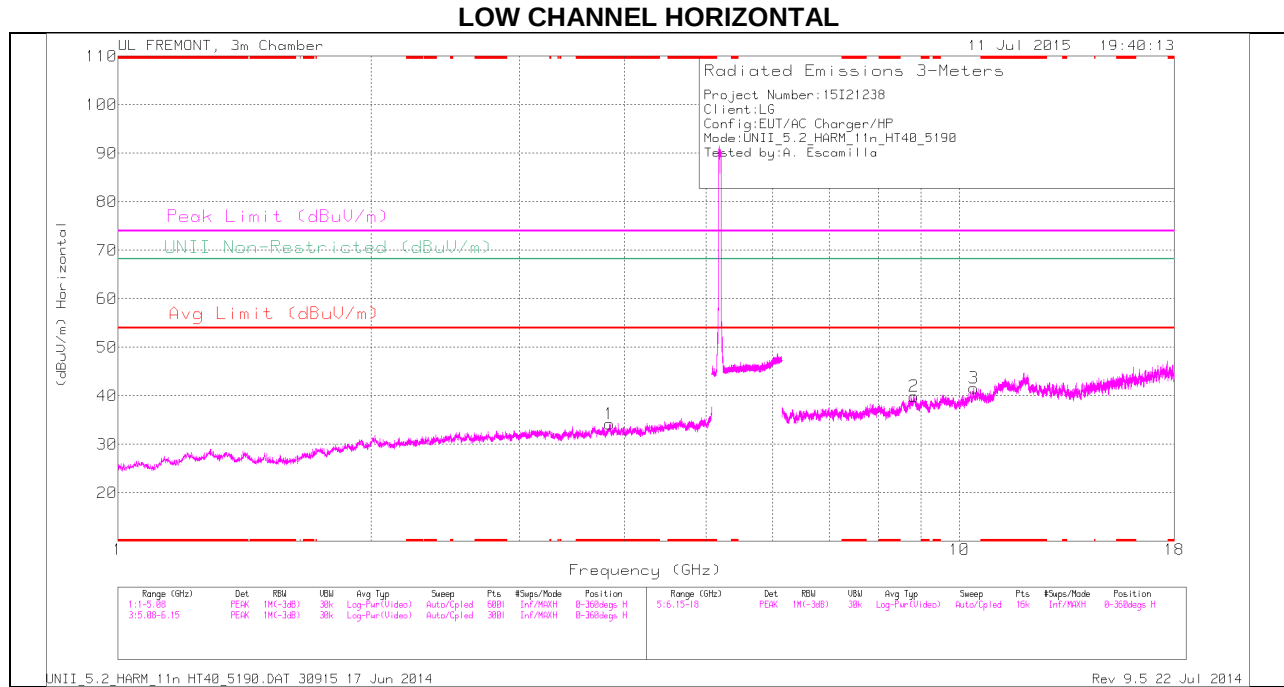
### VERTICAL PEAK AND AVERAGE PLOT



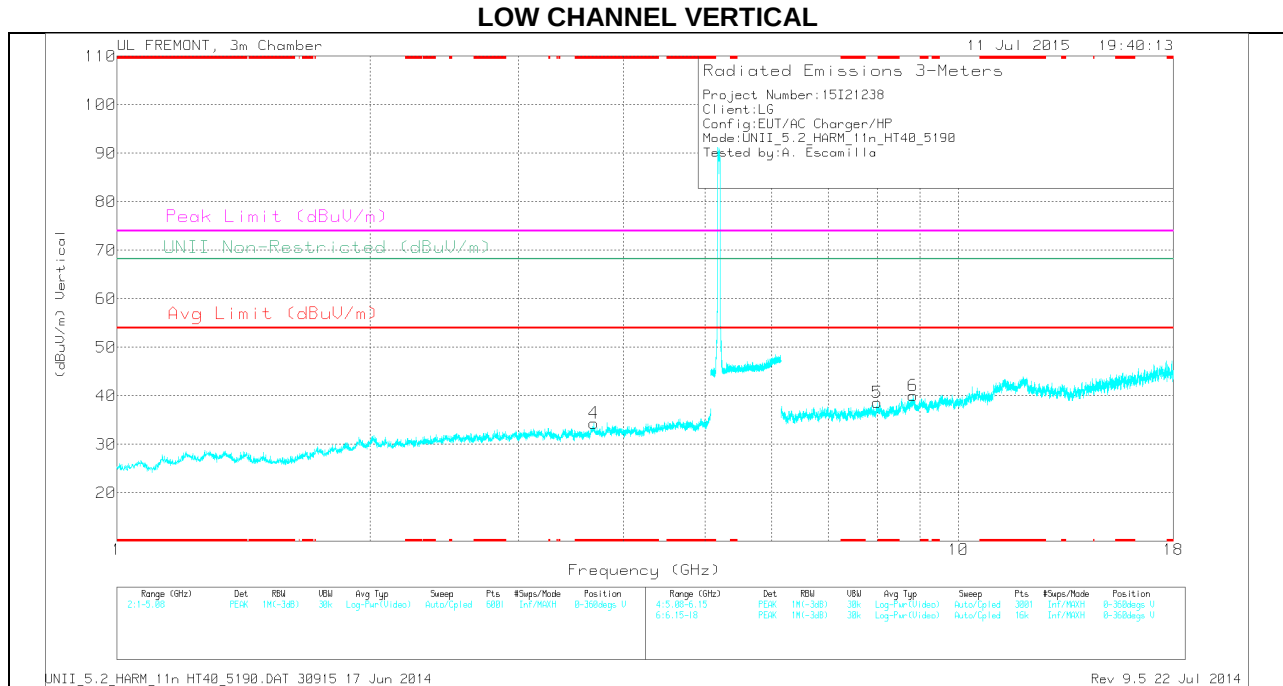
### VERTICAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 4      | * 5.149         | 31.3                 | RMS | 34.2           | -20.8                  | .5           | 45.2                       | 54                     | -8.8        | -                   | -              | 174            | 374         | V        |
| 1      | * 5.15          | 40.54                | PK  | 34.2           | -20.8                  | 0            | 53.94                      | -                      | -           | 74                  | -20.06         | 174            | 374         | V        |
| 2      | * 5.15          | 44.64                | PK  | 34.2           | -20.8                  | 0            | 58.04                      | -                      | -           | 74                  | -15.96         | 174            | 374         | V        |
| 3      | * 5.15          | 30.63                | RMS | 34.2           | -20.8                  | .5           | 44.53                      | 54                     | -9.47       | -                   | -              | 174            | 374         | V        |

## HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## LOW CHANNEL DATA

### TRACE MARKERS

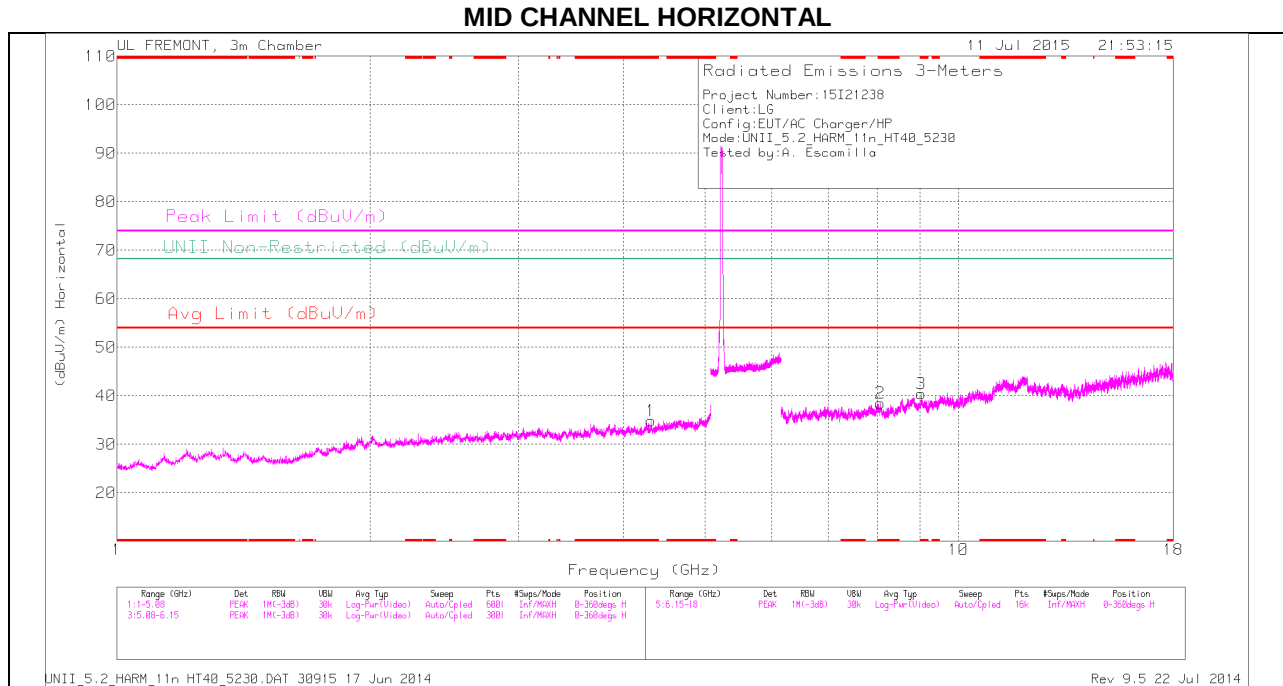
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 3.839         | 31.35                | PK  | 33.1           | -30.2                | 0            | 34.25                      | -                  | -           | 74                  | -39.75         | -                            | -              | 0-360          | 200         | H        |
| 4      | * 3.687         | 31.3                 | PK  | 33             | -29.9                | 0            | 34.4                       | -                  | -           | 74                  | -39.6          | -                            | -              | 0-360          | 100         | V        |
| 5      | 8.013           | 29.72                | PK  | 35.8           | -26.9                | 0            | 38.62                      | -                  | -           | -                   | -              | 68.2                         | -29.58         | 0-360          | 100         | V        |
| 2      | 8.83            | 28.33                | PK  | 35.9           | -24.3                | 0            | 39.93                      | -                  | -           | -                   | -              | 68.2                         | -28.27         | 0-360          | 100         | H        |
| 6      | 8.83            | 28.43                | PK  | 35.9           | -24.3                | 0            | 40.03                      | -                  | -           | -                   | -              | 68.2                         | -28.17         | 0-360          | 100         | V        |
| 3      | 10.4            | 28.65                | PK  | 37.3           | -24.3                | 0            | 41.65                      | -                  | -           | -                   | -              | 68.2                         | -26.55         | 0-360          | 100         | H        |

PK - Peak detector

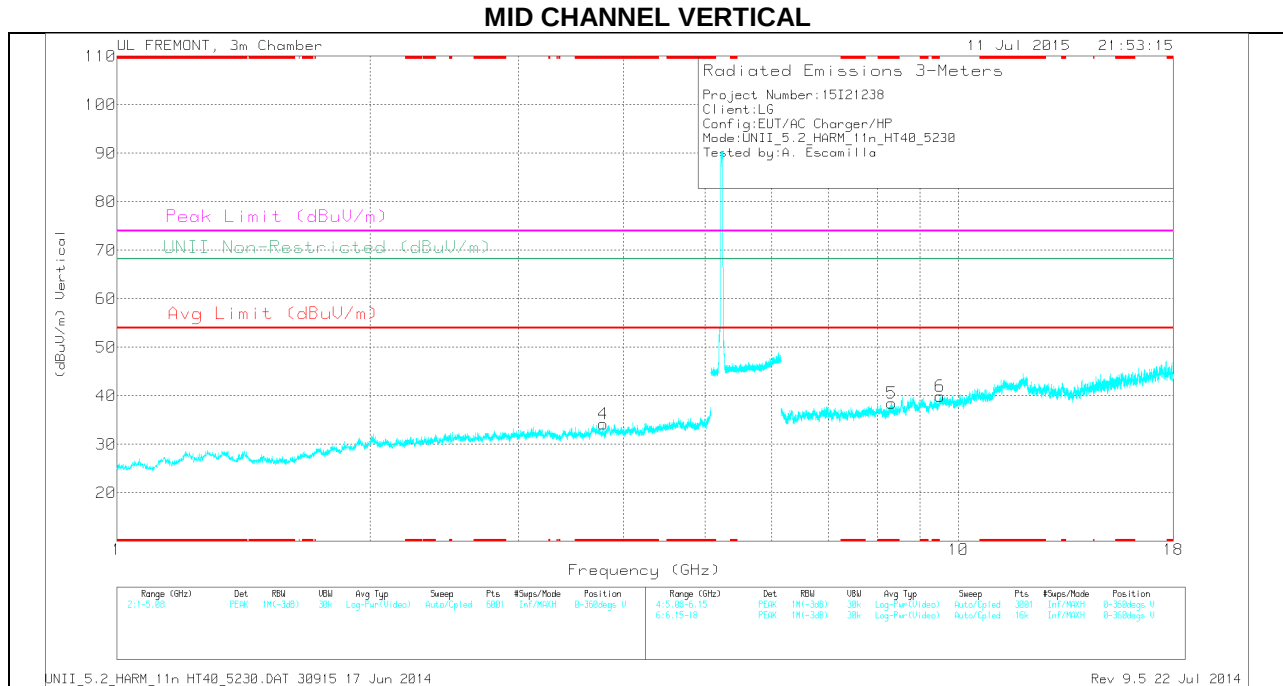
### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 3.839         | 40.24                | PK1 | 33.1           | -30.2                | 0            | 43.14                      | -                  | -           | 74                  | -30.86         | -                            | -              | 13             | 200         | H        |
| * 3.84          | 28.74                | AD1 | 33.1           | -30.2                | .5           | 32.14                      | 54                 | -21.86      | -                   | -              | -                            | -              | 13             | 200         | H        |
| * 3.687         | 40.43                | PK1 | 33             | -29.9                | 0            | 43.53                      | -                  | -           | 74                  | -30.47         | -                            | -              | 108            | 209         | V        |
| * 3.686         | 28.48                | AD1 | 33             | -29.9                | .5           | 32.14                      | 54                 | -21.92      | -                   | -              | -                            | -              | 108            | 209         | V        |
| 8.014           | 38.74                | PK1 | 35.8           | -26.9                | 0            | 47.64                      | -                  | -           | -                   | -              | 68.2                         | -20.56         | 141            | 186         | V        |
| 8.831           | 36.6                 | PK1 | 35.9           | -24.3                | 0            | 48.2                       | -                  | -           | -                   | -              | 68.2                         | -20            | 45             | 184         | H        |
| 8.831           | 36.77                | PK1 | 35.9           | -24.3                | 0            | 48.37                      | -                  | -           | -                   | -              | 68.2                         | -19.83         | 245            | 199         | V        |
| 10.402          | 36.48                | PK1 | 37.3           | -24.3                | 0            | 49.48                      | -                  | -           | -                   | -              | 68.2                         | -18.72         | 80             | 158         | H        |

FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 17 Jun 2014



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## MID CHANNEL DATA

### TRACE MARKERS

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Chl/ Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 4.311         | 30.75                | PK  | 33.5           | -29.4                 | 0            | 34.85                      | -                  | -           | 74                  | -39.15         | -                            | -              | 0-360          | 100         | H        |
| 4      | * 3.781         | 32.15                | PK  | 33.1           | -31                   | 0            | 34.25                      | -                  | -           | 74                  | -39.75         | -                            | -              | 0-360          | 200         | V        |
| 2      | * 8.072         | 29.33                | PK  | 35.7           | -26.5                 | 0            | 38.53                      | -                  | -           | 74                  | -35.47         | -                            | -              | 0-360          | 100         | H        |
| 3      | * 9.037         | 28.04                | PK  | 36.1           | -23.7                 | 0            | 40.44                      | -                  | -           | 74                  | -33.56         | -                            | -              | 0-360          | 100         | H        |
| 5      | * 8.323         | 28.43                | PK  | 35.8           | -25.7                 | 0            | 38.53                      | -                  | -           | 74                  | -35.47         | -                            | -              | 0-360          | 200         | V        |
| 6      | 9.506           | 27.19                | PK  | 36.6           | -23.9                 | 0            | 39.89                      | -                  | -           | -                   | -              | 68.2                         | -28.31         | 0-360          | 200         | V        |

PK - Peak detector

### RADIATED EMISSIONS

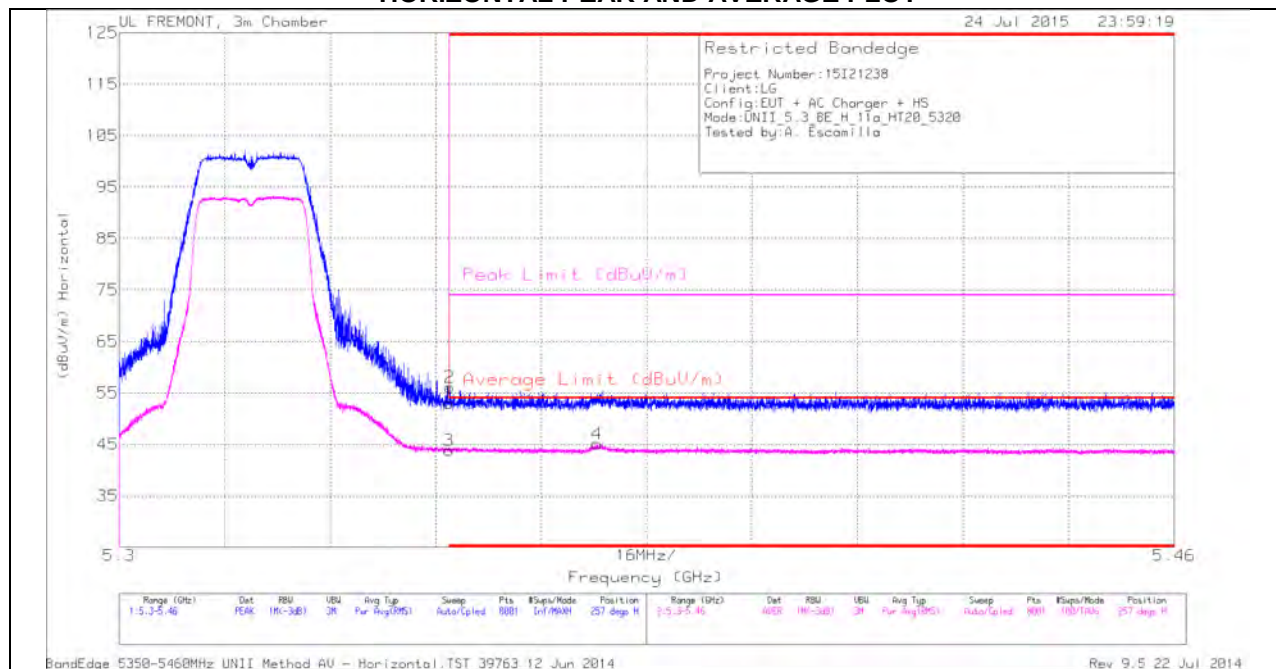
| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Chl/ Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 4.309         | 39.71                | PK1 | 33.5           | -29.4                 | 0            | 43.81                      | -                  | -           | 74                  | -30.19         | -                            | -              | 339            | 155         | H        |
| * 4.312         | 27.67                | AD1 | 33.5           | -29.4                 | .5           | 32.27                      | 54                 | -21.73      | -                   | -              | -                            | -              | 339            | 155         | H        |
| * 3.783         | 40.15                | PK1 | 33.1           | -31                   | 0            | 42.25                      | -                  | -           | 74                  | -31.75         | -                            | -              | 194            | 197         | V        |
| * 3.78          | 28.75                | AD1 | 33.1           | -30.9                 | .5           | 31.48                      | 54                 | -22.55      | -                   | -              | -                            | -              | 194            | 197         | V        |
| * 8.074         | 37.69                | PK1 | 35.7           | -26.5                 | 0            | 46.89                      | -                  | -           | 74                  | -27.11         | -                            | -              | 294            | 139         | H        |
| * 8.074         | 26.16                | AD1 | 35.7           | -26.5                 | .5           | 35.86                      | 54                 | -18.14      | -                   | -              | -                            | -              | 294            | 139         | H        |
| * 9.038         | 36.32                | PK1 | 36.1           | -23.7                 | 0            | 48.72                      | -                  | -           | 74                  | -25.28         | -                            | -              | 227            | 161         | H        |
| * 9.036         | 24.98                | AD1 | 36.1           | -23.7                 | .5           | 37.88                      | 54                 | -16.12      | -                   | -              | -                            | -              | 227            | 161         | H        |
| * 8.323         | 37.45                | PK1 | 35.8           | -25.7                 | 0            | 47.55                      | -                  | -           | 74                  | -26.45         | -                            | -              | 143            | 184         | V        |
| * 8.322         | 25.97                | AD1 | 35.8           | -25.7                 | .5           | 36.57                      | 54                 | -17.43      | -                   | -              | -                            | -              | 143            | 184         | V        |
| 9.506           | 36.16                | PK1 | 36.6           | -23.9                 | 0            | 48.86                      | -                  | -           | -                   | -              | 68.2                         | -19.34         | 85             | 213         | V        |

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## 11.2. 5.3 GHz

### 11.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

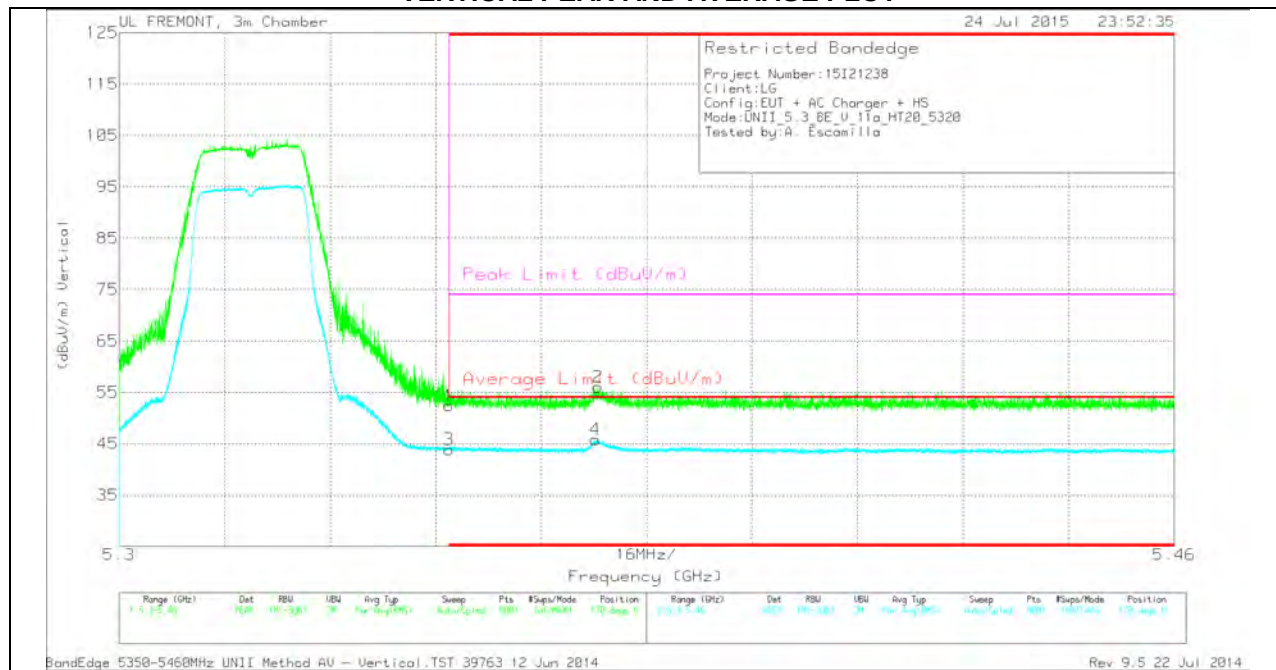
#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cb/Filter/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 5.35          | 38.99                | PK  | 34.5           | -20.5                  | 0            | 52.99                      | -                      | -           | 74                  | -21.01         | 257            | 334         | H        |
| 2      | * 5.35          | 42.09                | PK  | 34.5           | -20.5                  | 0            | 56.09                      | -                      | -           | 74                  | -17.91         | 257            | 334         | H        |
| 3      | * 5.35          | 29.59                | RMS | 34.5           | -20.5                  | .25          | 43.84                      | 54                     | -10.16      | -                   | -              | 257            | 334         | H        |
| 4      | * 5.372         | 30.81                | RMS | 34.6           | -20.6                  | .25          | 45.06                      | 54                     | -8.94       | -                   | -              | 257            | 334         | H        |

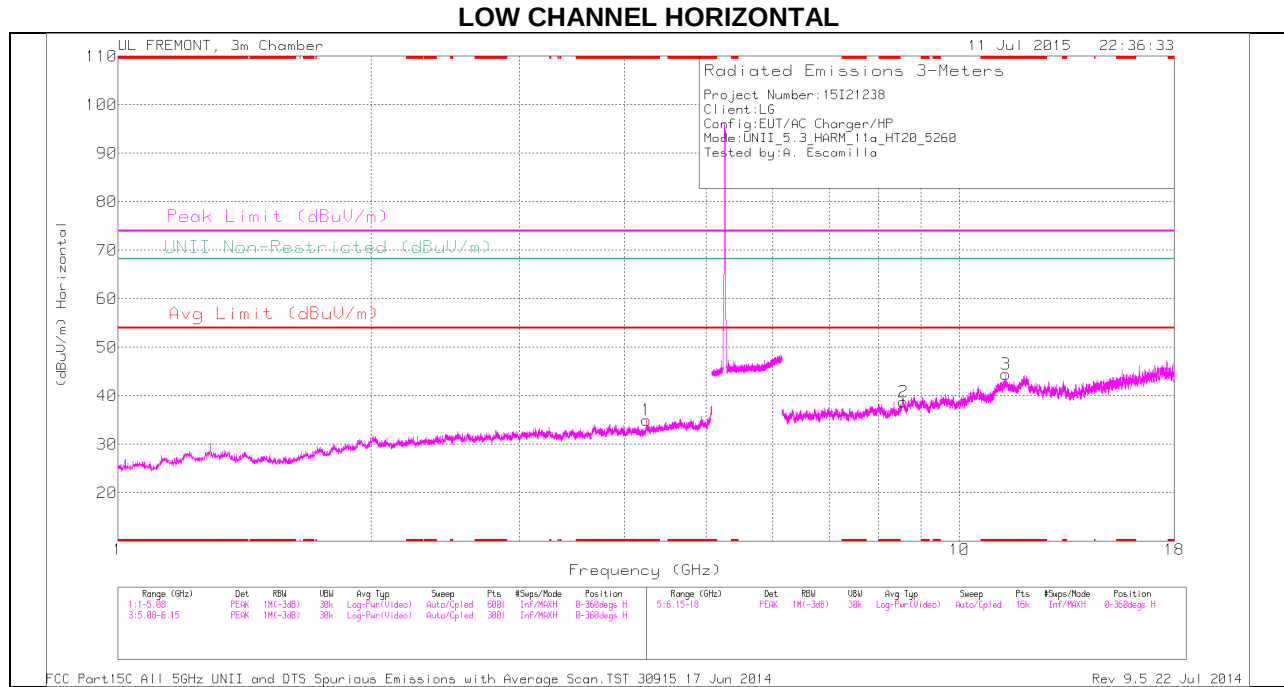
### VERTICAL PEAK AND AVERAGE PLOT



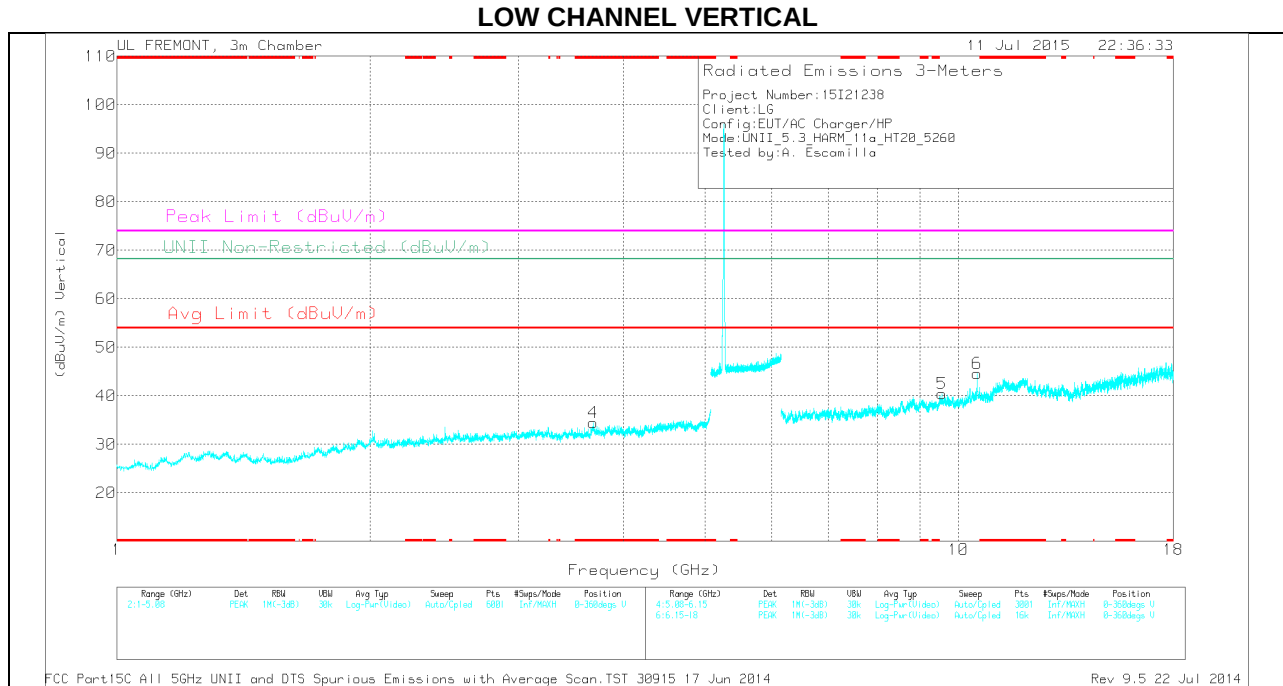
### VERTICAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/ Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-----------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 5.35          | 38.42                | PK  | 34.5           | -20.5                 | 0            | 52.42                      | -                      | -           | 74                  | -21.58         | 170            | 337         | V        |
| 2      | * 5.373         | 42.03                | PK  | 34.6           | -20.6                 | 0            | 56.03                      | -                      | -           | 74                  | -17.97         | 170            | 337         | V        |
| 3      | * 5.35          | 29.63                | RMS | 34.5           | -20.5                 | .25          | 43.88                      | 54                     | -10.12      | -                   | -              | 170            | 337         | V        |
| 4      | * 5.372         | 31.58                | RMS | 34.6           | -20.6                 | .25          | 45.83                      | 54                     | -8.17       | -                   | -              | 170            | 337         | V        |

## HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## LOW CHANNEL DATA

### TRACE MARKERS

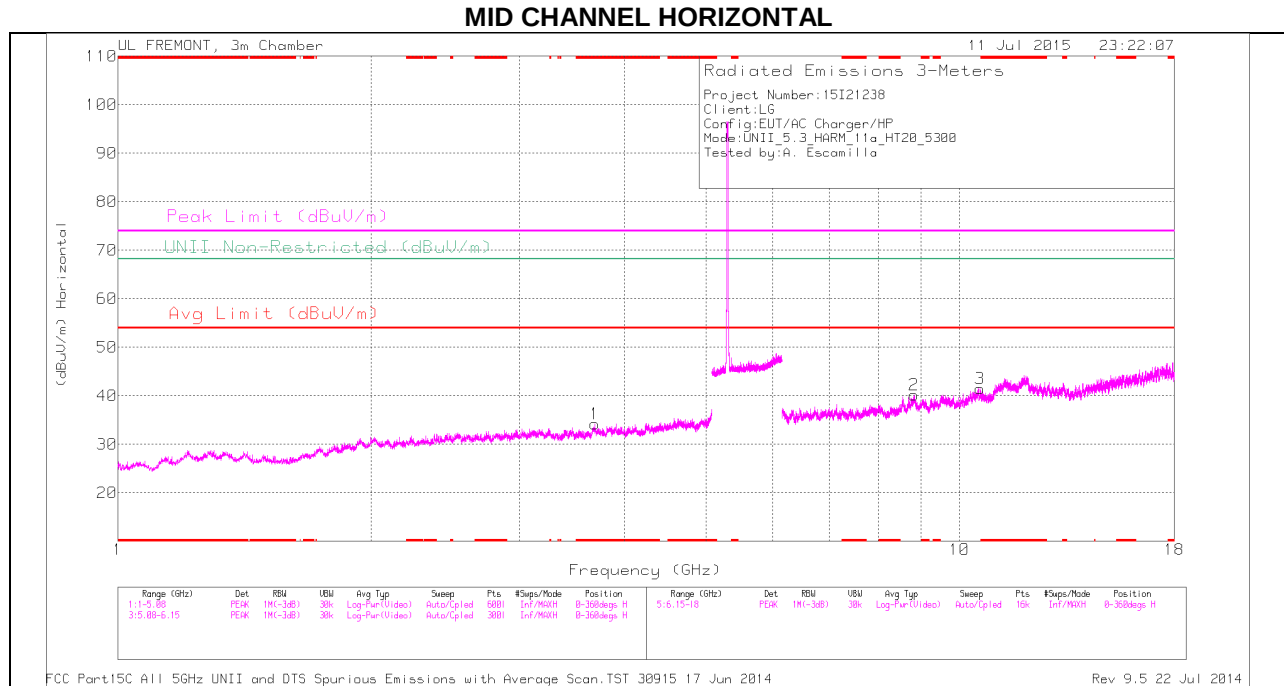
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 4.243         | 31.74                | PK  | 33.4           | -30.2                | 0            | 34.94                      | -                  | -           | 74                  | -39.06         | -                            | -              | 0-360          | 100         | H        |
| 4      | * 3.681         | 31.18                | PK  | 33             | -29.7                | 0            | 34.48                      | -                  | -           | 74                  | -39.52         | -                            | -              | 0-360          | 200         | V        |
| 3      | * 11.343        | 29.09                | PK  | 38.1           | -22.7                | 0            | 44.49                      | -                  | -           | 74                  | -29.51         | -                            | -              | 0-360          | 100         | H        |
| 2      | 8.58            | 27.94                | PK  | 35.8           | -25                  | 0            | 38.74                      | -                  | -           | -                   | -              | 68.2                         | -29.46         | 0-360          | 100         | H        |
| 5      | 9.563           | 27.27                | PK  | 36.7           | -23.5                | 0            | 40.47                      | -                  | -           | -                   | -              | 68.2                         | -27.73         | 0-360          | 100         | V        |
| 6      | 10.521          | 30.48                | PK  | 37.5           | -23.4                | 0            | 44.58                      | -                  | -           | -                   | -              | 68.2                         | -23.62         | 0-360          | 100         | V        |

PK - Peak detector

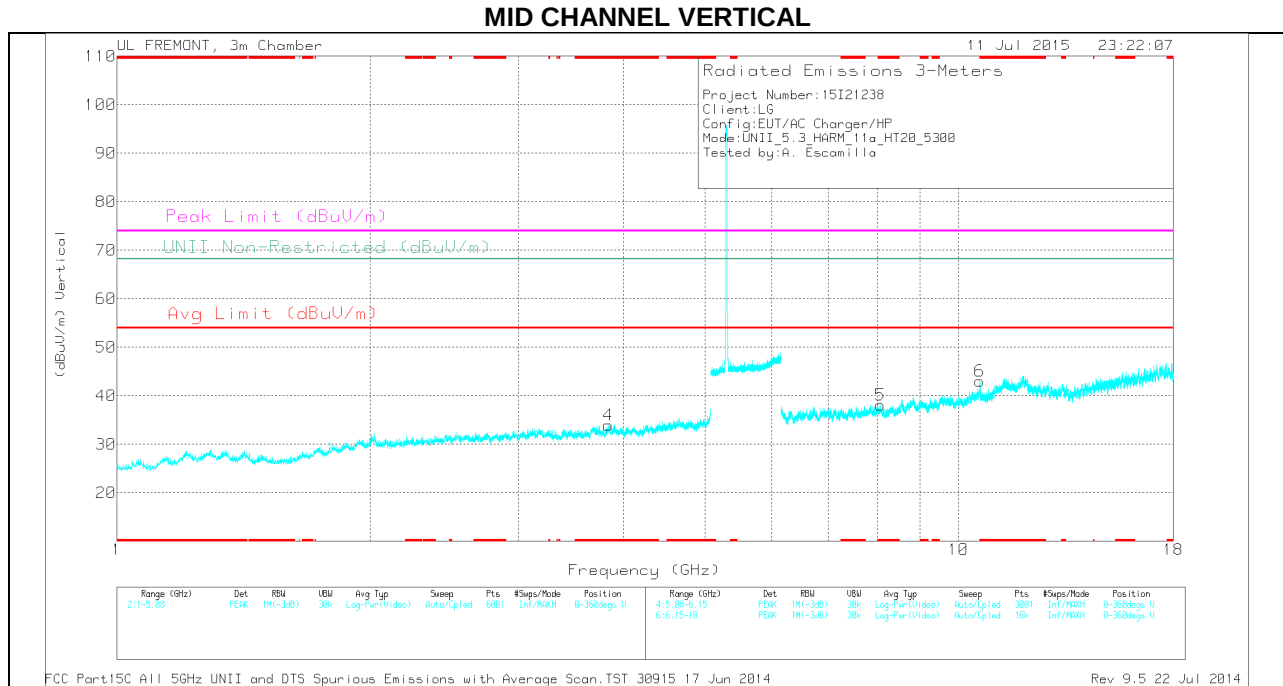
### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 4.243         | 39.95                | PK1 | 33.4           | -30.2                | 0            | 43.15                      | -                  | -           | 74                  | -30.85         | -                            | -              | 11             | 154         | H        |
| * 4.245         | 28.72                | AD1 | 33.4           | -30.2                | .2           | 32.12                      | 54                 | -21.88      | -                   | -              | -                            | -              | 11             | 154         | H        |
| * 3.683         | 40.43                | PK1 | 33             | -29.7                | 0            | 43.73                      | -                  | -           | 74                  | -30.27         | -                            | -              | 91             | 226         | V        |
| * 3.683         | 28.58                | AD1 | 33             | -29.7                | .2           | 32.08                      | 54                 | -21.92      | -                   | -              | -                            | -              | 91             | 226         | V        |
| * 11.342        | 36.69                | PK1 | 38.1           | -22.7                | 0            | 52.09                      | -                  | -           | 74                  | -21.91         | -                            | -              | 55             | 194         | H        |
| * 11.345        | 25.45                | AD1 | 38.1           | -22.8                | .2           | 40.95                      | 54                 | -13.05      | -                   | -              | -                            | -              | 55             | 194         | H        |
| 8.579           | 37.36                | PK1 | 35.8           | -24.9                | 0            | 48.26                      | -                  | -           | -                   | -              | 68.2                         | -19.94         | 31             | 154         | H        |
| 9.564           | 36.16                | PK1 | 36.7           | -23.4                | 0            | 49.46                      | -                  | -           | -                   | -              | 68.2                         | -18.74         | 125            | 170         | V        |
| 10.521          | 36.5                 | PK1 | 37.5           | -23.4                | 0            | 50.6                       | -                  | -           | -                   | -              | 68.2                         | -17.6          | 85             | 150         | V        |

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Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## MID CHANNEL DATA

### TRACE MARKERS

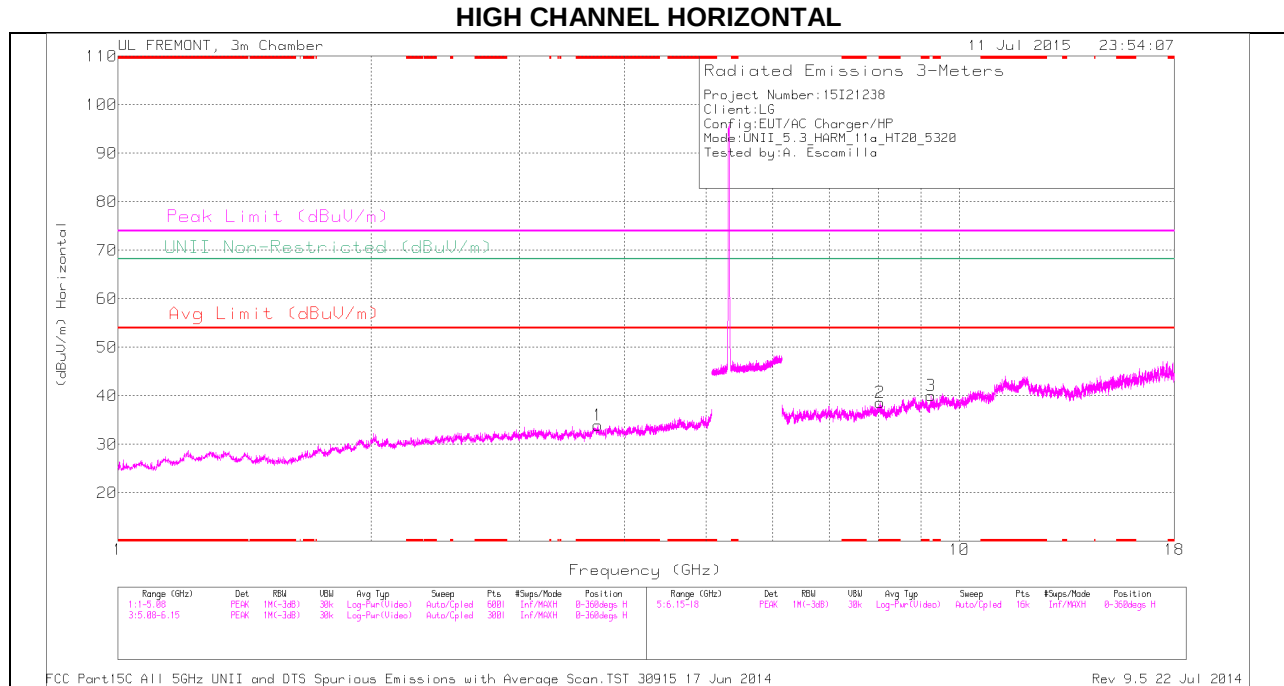
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Chl/ Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 3.689         | 31.22                | PK  | 33             | -30                   | 0            | 34.22                      | -                  | -           | 74                  | -39.78         | -                            | -              | 0-360          | 100         | H        |
| 4      | * 3.837         | 30.93                | PK  | 33.1           | -30.1                 | 0            | 33.93                      | -                  | -           | 74                  | -40.07         | -                            | -              | 0-360          | 200         | V        |
| 5      | * 8.072         | 28.88                | PK  | 35.7           | -26.5                 | 0            | 38.08                      | -                  | -           | 74                  | -35.92         | -                            | -              | 0-360          | 100         | V        |
| 2      | 8.829           | 28.6                 | PK  | 35.9           | -24.3                 | 0            | 40.2                       | -                  | -           | -                   | -              | 68.2                         | -28            | 0-360          | 100         | H        |
| 3      | 10.573          | 26.9                 | PK  | 37.6           | -23                   | 0            | 41.5                       | -                  | -           | -                   | -              | 68.2                         | -26.7          | 0-360          | 100         | H        |
| 6      | 10.598          | 28.65                | PK  | 37.6           | -23.2                 | 0            | 43.05                      | -                  | -           | -                   | -              | 68.2                         | -25.15         | 0-360          | 100         | V        |

PK - Peak detector

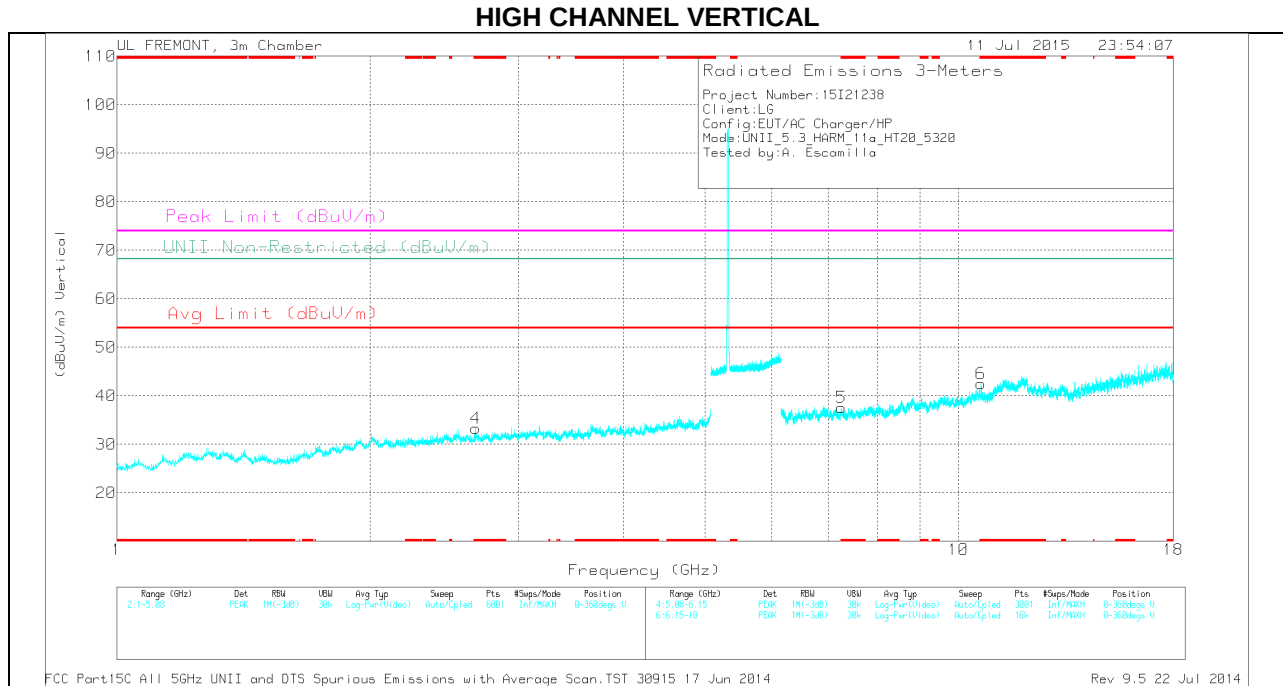
### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Chl/ Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 3.687         | 39.75                | PK1 | 33             | -29.9                 | 0            | 42.85                      | -                  | -           | 74                  | -31.15         | -                            | -              | 24             | 134         | H        |
| * 3.69          | 28.44                | AD1 | 33             | -30                   | .25          | 31.69                      | 54                 | -22.31      | -                   | -              | -                            | -              | 24             | 134         | H        |
| * 3.837         | 40.04                | PK1 | 33.1           | -30.1                 | 0            | 43.04                      | -                  | -           | 74                  | -30.96         | -                            | -              | 76             | 200         | V        |
| * 3.838         | 28.78                | AD1 | 33.1           | -30.1                 | .25          | 32.03                      | 54                 | -21.97      | -                   | -              | -                            | -              | 76             | 200         | V        |
| * 8.07          | 38                   | PK1 | 35.7           | -26.6                 | 0            | 47.1                       | -                  | -           | 74                  | -26.9          | -                            | -              | 103            | 150         | V        |
| * 8.073         | 26.5                 | AD1 | 35.7           | -26.5                 | .25          | 35.95                      | 54                 | -18.05      | -                   | -              | -                            | -              | 103            | 150         | V        |
| 8.831           | 36.83                | PK1 | 35.9           | -24.3                 | 0            | 48.43                      | -                  | -           | -                   | -              | 68.2                         | -19.77         | 58             | 181         | H        |
| 10.575          | 35.5                 | PK1 | 37.6           | -22.9                 | 0            | 50.2                       | -                  | -           | -                   | -              | 68.2                         | -18            | 93             | 158         | H        |
| 10.599          | 37.64                | PK1 | 37.6           | -23.3                 | 0            | 51.94                      | -                  | -           | -                   | -              | 68.2                         | -16.26         | 169            | 176         | V        |

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Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## HIGH CHANNEL DATA

### TRACE MARKERS

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 3.716         | 31.25                | PK  | 33             | -30.3                | 0            | 33.95                      | -                  | -           | 74                  | -40.05         | -                            | -              | 0-360          | 200         | H        |
| 4      | * 2.669         | 32.64                | PK  | 32.3           | -31.6                | 0            | 33.34                      | -                  | -           | 74                  | -40.66         | -                            | -              | 0-360          | 200         | V        |
| 2      | * 8.044         | 29.31                | PK  | 35.7           | -26.4                | 0            | 38.61                      | -                  | -           | 74                  | -35.39         | -                            | -              | 0-360          | 200         | H        |
| 5      | * 7.255         | 30.03                | PK  | 35.6           | -28                  | 0            | 37.63                      | -                  | -           | 74                  | -36.37         | -                            | -              | 0-360          | 100         | V        |
| 6      | * 10.641        | 28.45                | PK  | 37.7           | -23.6                | 0            | 42.55                      | -                  | -           | 74                  | -31.45         | -                            | -              | 0-360          | 100         | V        |
| 3      | 9.251           | 28.27                | PK  | 36.3           | -24.5                | 0            | 40.07                      | -                  | -           | -                   | -              | 68.2                         | -28.13         | 0-360          | 100         | H        |

PK - Peak detector

### RADIATED EMISSIONS

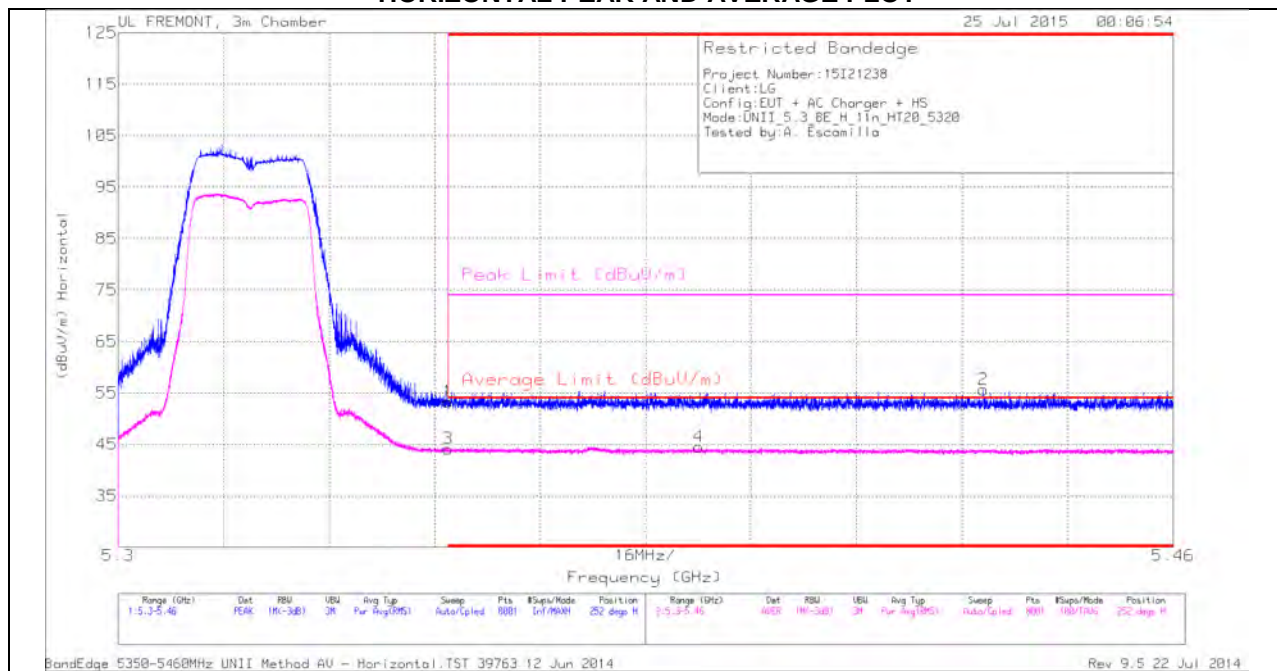
| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 3.717         | 39.67                | PK1 | 33             | -30.3                | 0            | 42.37                      | -                  | -           | 74                  | -31.63         | -                            | -              | 0              | 202         | H        |
| * 3.717         | 28.31                | AD1 | 33             | -30.3                | .25          | 31.26                      | 54                 | -22.74      | -                   | -              | -                            | -              | 0              | 202         | H        |
| * 2.669         | 40.96                | PK1 | 32.3           | -31.6                | 0            | 41.66                      | -                  | -           | 74                  | -32.34         | -                            | -              | 93             | 207         | V        |
| * 2.671         | 29.33                | AD1 | 32.3           | -31.6                | .25          | 30.28                      | 54                 | -23.72      | -                   | -              | -                            | -              | 93             | 207         | V        |
| * 8.042         | 37.18                | PK1 | 35.7           | -26.4                | 0            | 46.48                      | -                  | -           | 74                  | -27.52         | -                            | -              | 17             | 218         | H        |
| * 8.046         | 25.95                | AD1 | 35.7           | -26.4                | .25          | 35.5                       | 54                 | -18.5       | -                   | -              | -                            | -              | 17             | 218         | H        |
| * 7.256         | 39.23                | PK1 | 35.6           | -28                  | 0            | 46.83                      | -                  | -           | 74                  | -27.17         | -                            | -              | 139            | 217         | V        |
| * 7.256         | 27.67                | AD1 | 35.6           | -28                  | .25          | 35.52                      | 54                 | -18.48      | -                   | -              | -                            | -              | 139            | 217         | V        |
| * 10.642        | 38.16                | PK1 | 37.7           | -23.6                | 0            | 52.26                      | -                  | -           | 74                  | -21.74         | -                            | -              | 173            | 234         | V        |
| * 10.642        | 25.63                | AD1 | 37.7           | -23.6                | .25          | 39.98                      | 54                 | -14.02      | -                   | -              | -                            | -              | 173            | 234         | V        |
| 9.251           | 37.06                | PK1 | 36.3           | -24.5                | 0            | 48.86                      | -                  | -           | -                   | -              | 68.2                         | -19.34         | 54             | 159         | H        |

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## 11.2.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND

### AUTHORIZED BANDEDGE (HIGH CHANNEL)

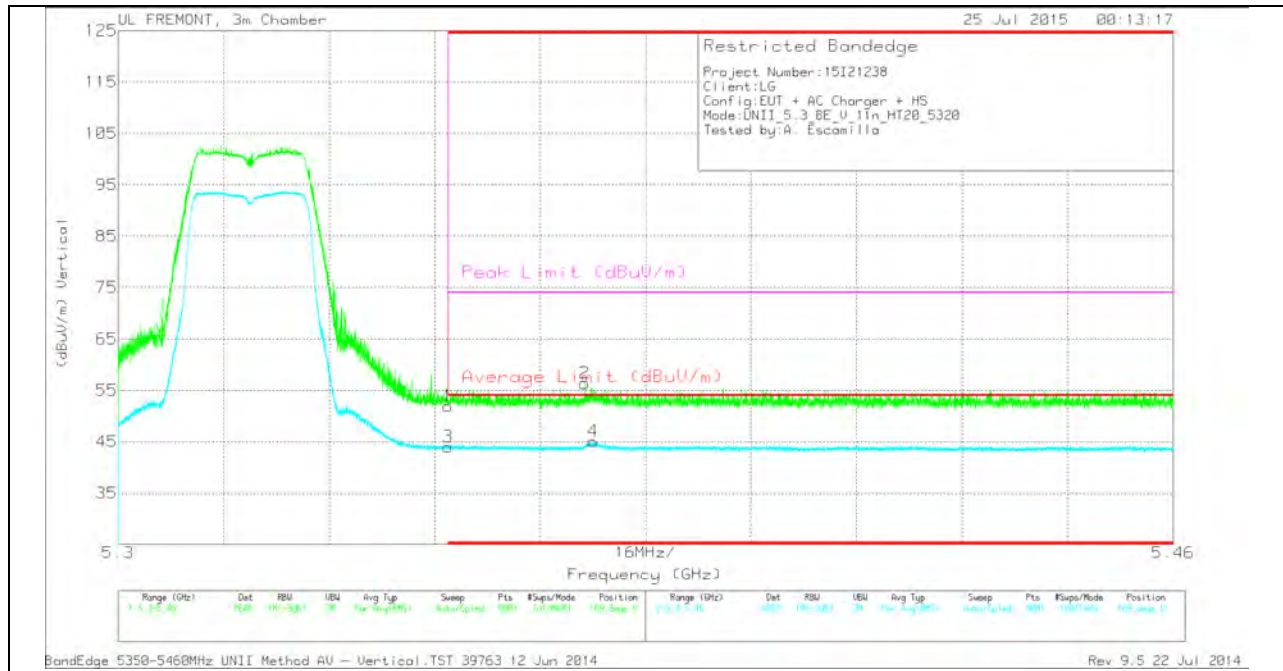
#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 5.35          | 39.3                 | PK  | 34.5           | -20.5                  | 0            | 53.3                       | -                      | -           | 74                  | -20.7          | 252            | 390         | H        |
| 3      | * 5.35          | 29.9                 | RMS | 34.5           | -20.5                  | .25          | 44.15                      | 54                     | -9.85       | -                   | -              | 252            | 390         | H        |
| 4      | * 5.388         | 30.26                | RMS | 34.6           | -20.6                  | .25          | 44.51                      | 54                     | -9.49       | -                   | -              | 252            | 390         | H        |
| 2      | * 5.431         | 41.76                | PK  | 34.6           | -20.7                  | 0            | 55.66                      | -                      | -           | 74                  | -18.34         | 252            | 390         | H        |

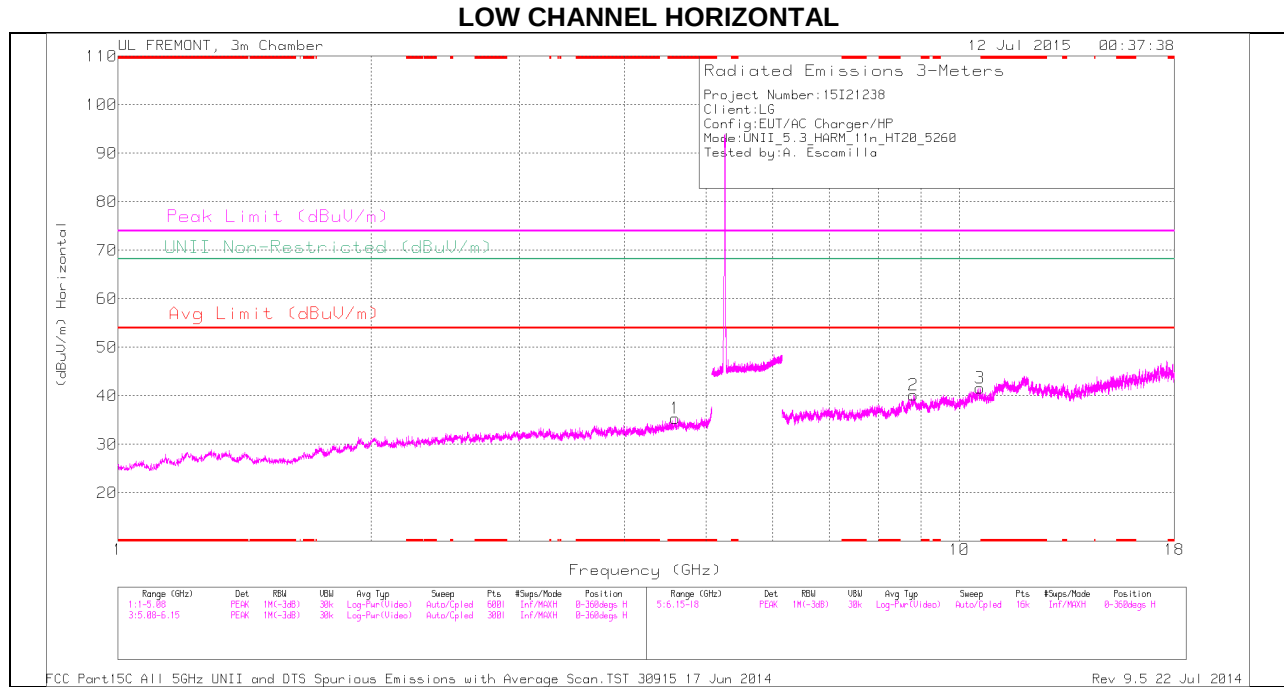
### VERTICAL PEAK AND AVERAGE PLOT



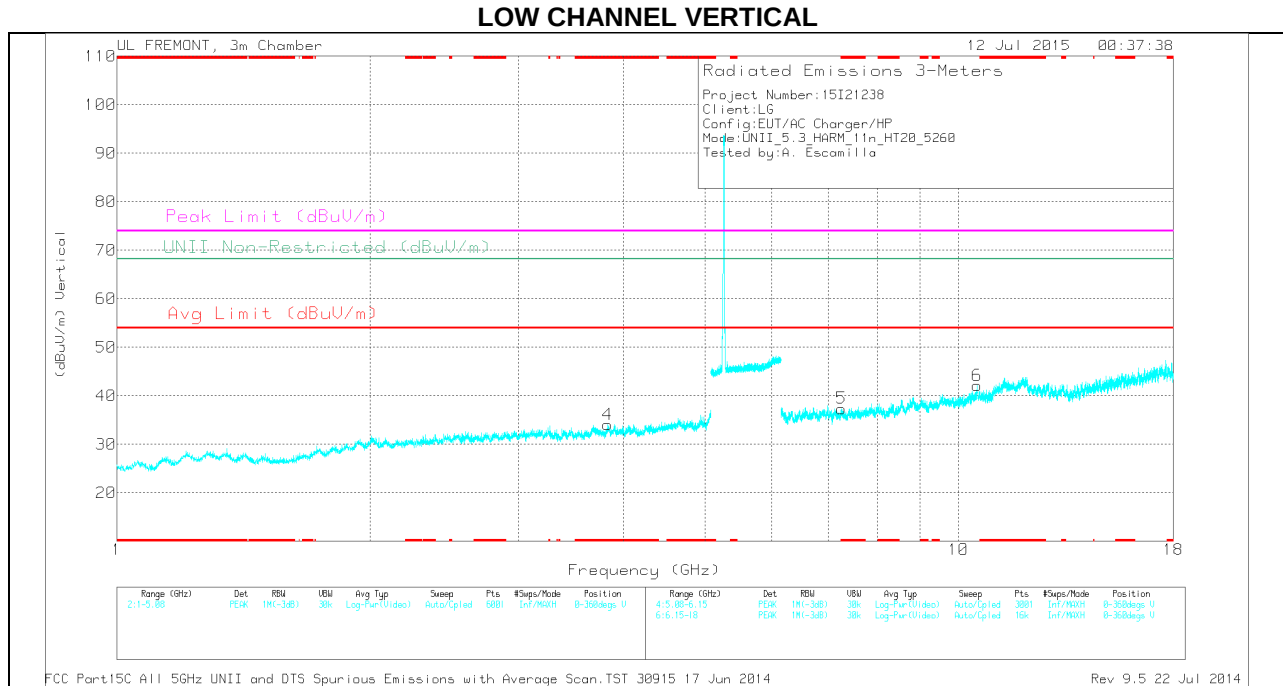
### VERTICAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 5.35          | 37.96                | PK  | 34.5           | -20.5                  | 0            | 51.96                      | -                      | -           | 74                  | -22.04         | 169            | 398         | V        |
| 3      | * 5.35          | 29.76                | RMS | 34.5           | -20.5                  | .25          | 44.01                      | 54                     | -9.99       | -                   | -              | 169            | 398         | V        |
| 2      | * 5.371         | 42.5                 | PK  | 34.6           | -20.7                  | 0            | 56.4                       | -                      | -           | 74                  | -17.6          | 169            | 398         | V        |
| 4      | * 5.372         | 30.85                | RMS | 34.6           | -20.6                  | .25          | 45.1                       | 54                     | -8.9        | -                   | -              | 169            | 398         | V        |

## HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## LOW CHANNEL DATA

### TRACE MARKERS

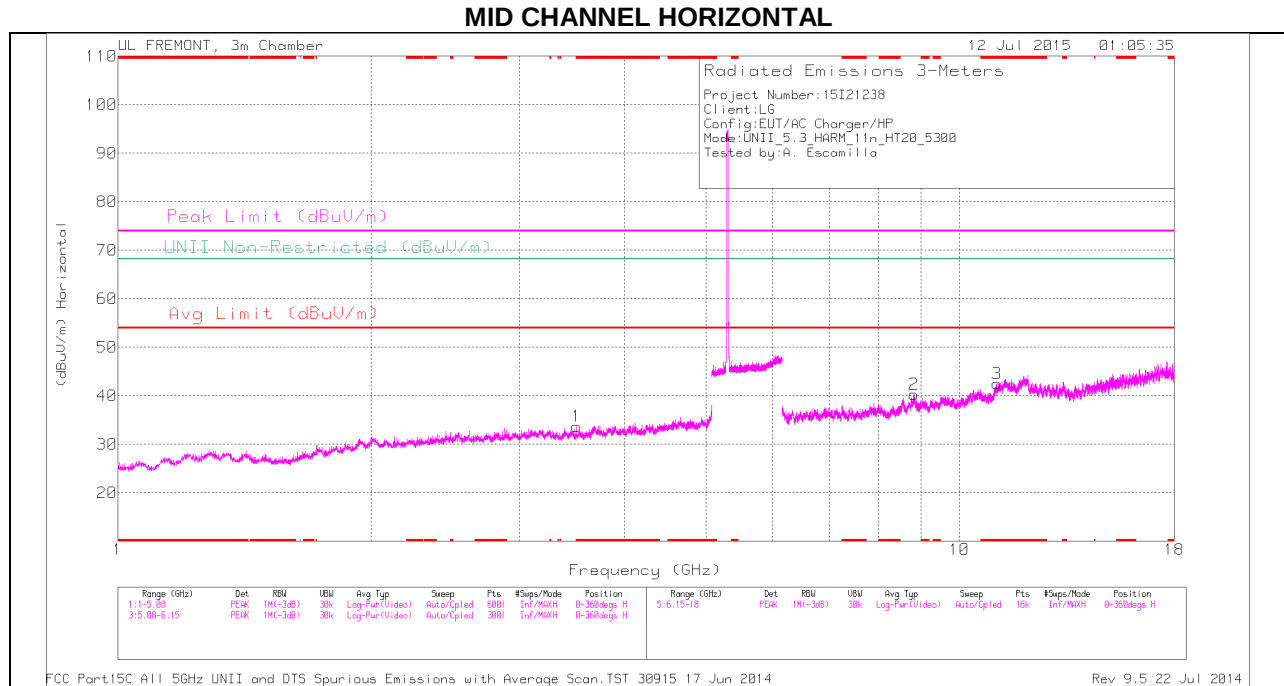
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 4.592         | 31.31                | PK  | 33.9           | -29.8                | 0            | 35.41                      | -                  | -           | 74                  | -38.59         | -                            | -              | 0-360          | 200         | H        |
| 4      | * 3.827         | 31.22                | PK  | 33.1           | -30.2                | 0            | 34.12                      | -                  | -           | 74                  | -39.88         | -                            | -              | 0-360          | 200         | V        |
| 5      | * 7.254         | 29.79                | PK  | 35.6           | -28                  | 0            | 37.39                      | -                  | -           | 74                  | -36.61         | -                            | -              | 0-360          | 200         | V        |
| 2      | 8.817           | 28.48                | PK  | 35.9           | -24.2                | 0            | 40.18                      | -                  | -           | -                   | -              | 68.2                         | -28.02         | 0-360          | 100         | H        |
| 6      | 10.525          | 27.98                | PK  | 37.5           | -23.3                | 0            | 42.18                      | -                  | -           | -                   | -              | 68.2                         | -26.02         | 0-360          | 100         | V        |
| 3      | 10.579          | 26.76                | PK  | 37.6           | -22.7                | 0            | 41.66                      | -                  | -           | -                   | -              | 68.2                         | -26.54         | 0-360          | 100         | H        |

PK - Peak detector

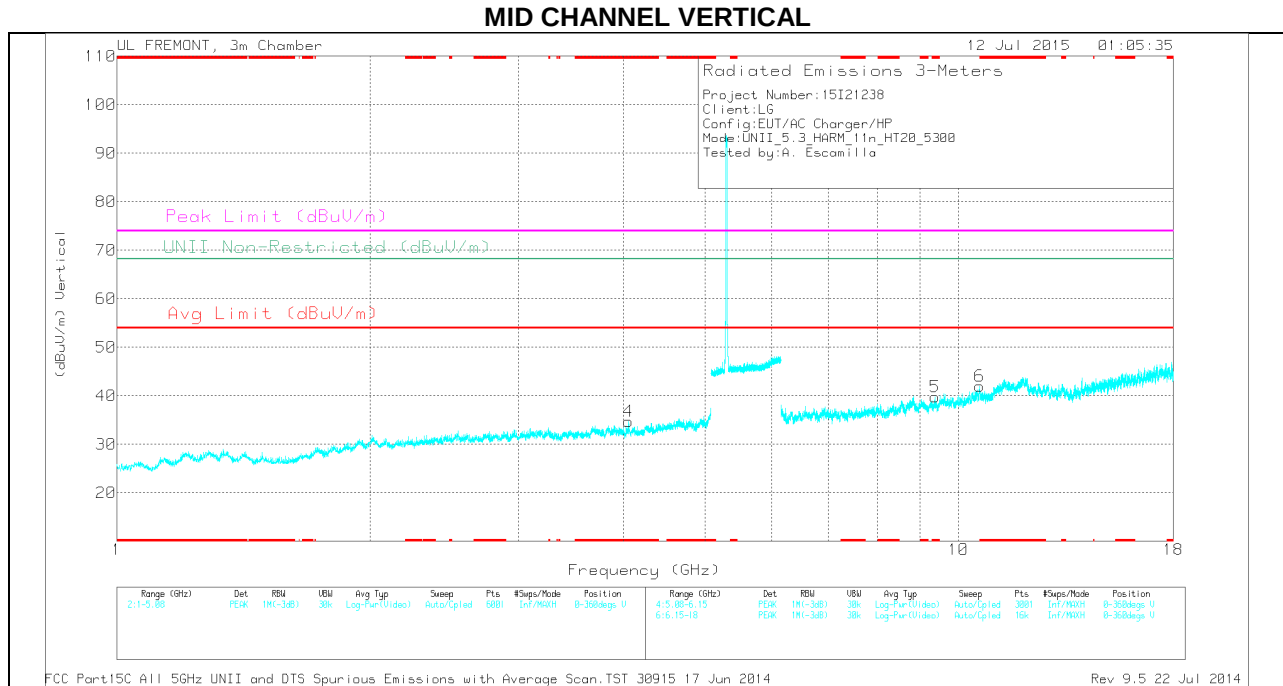
### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 4.592         | 39.86                | PK1 | 33.9           | -29.8                | 0            | 43.96                      | -                  | -           | 74                  | -30.04         | -                            | -              | 7              | 200         | H        |
| * 4.594         | 28.41                | AD1 | 33.9           | -29.7                | .25          | 32.86                      | 54                 | -21.14      | -                   | -              | -                            | -              | 7              | 200         | H        |
| * 3.829         | 40.41                | PK1 | 33.1           | -30.2                | 0            | 43.31                      | -                  | -           | 74                  | -30.69         | -                            | -              | 112            | 190         | V        |
| * 3.829         | 28.51                | AD1 | 33.1           | -30.2                | .25          | 31.66                      | 54                 | -22.34      | -                   | -              | -                            | -              | 112            | 190         | V        |
| * 7.256         | 39.07                | PK1 | 35.6           | -28                  | 0            | 46.67                      | -                  | -           | 74                  | -27.33         | -                            | -              | 108            | 224         | V        |
| * 7.256         | 27.65                | AD1 | 35.6           | -28                  | .25          | 35.5                       | 54                 | -18.5       | -                   | -              | -                            | -              | 108            | 224         | V        |
| 8.816           | 36.56                | PK1 | 35.9           | -24.3                | 0            | 48.16                      | -                  | -           | -                   | -              | 68.2                         | -20.04         | 39             | 181         | H        |
| 10.525          | 37.15                | PK1 | 37.5           | -23.3                | 0            | 51.35                      | -                  | -           | -                   | -              | 68.2                         | -16.85         | 209            | 205         | V        |
| 10.58           | 35.47                | PK1 | 37.6           | -22.7                | 0            | 50.37                      | -                  | -           | -                   | -              | 68.2                         | -17.83         | 80             | 158         | H        |

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Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## MID CHANNEL DATA

### TRACE MARKERS

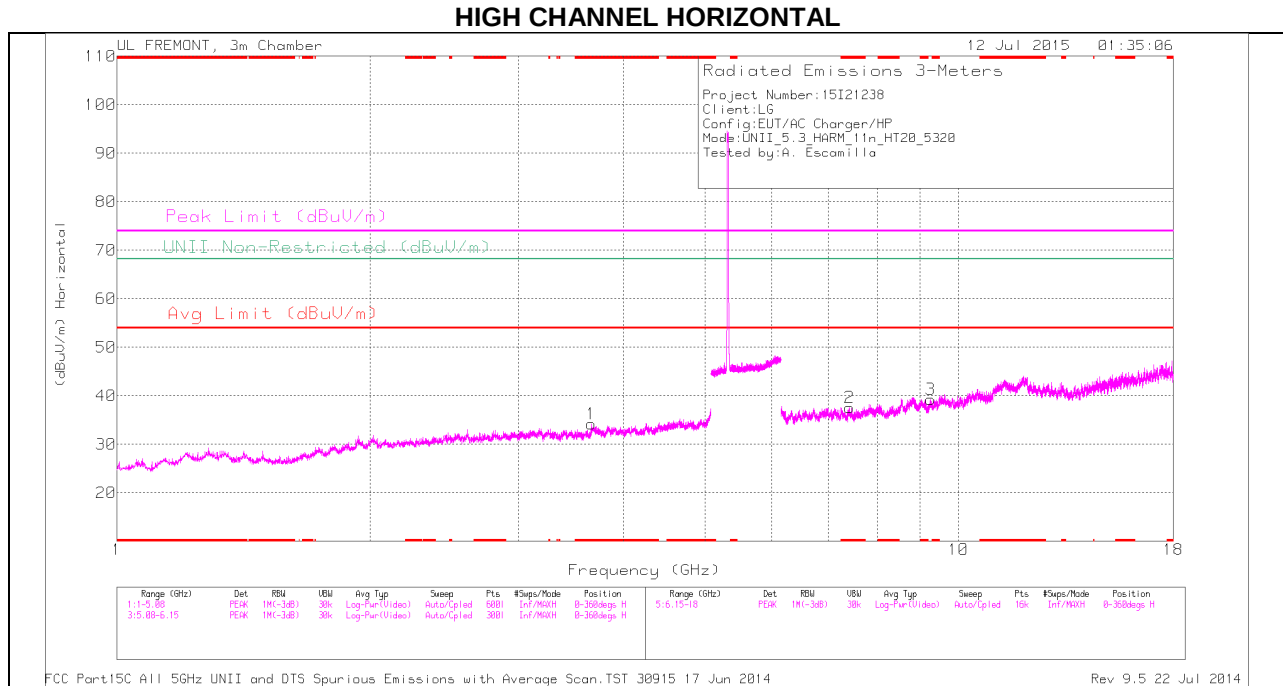
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 3.506         | 31.59                | PK  | 32.8           | -30.7                | 0            | 33.69                      | -                  | -           | 74                  | -40.31         | -                            | -              | 0-360          | 100         | H        |
| 4      | * 4.055         | 31.54                | PK  | 33.3           | -30.1                | 0            | 34.74                      | -                  | -           | 74                  | -39.26         | -                            | -              | 0-360          | 200         | V        |
| 3      | * 11.085        | 27.87                | PK  | 37.8           | -23.2                | 0            | 42.47                      | -                  | -           | 74                  | -31.53         | -                            | -              | 0-360          | 200         | H        |
| 5      | * 9.38          | 28.07                | PK  | 36.4           | -24.7                | 0            | 39.77                      | -                  | -           | 74                  | -34.23         | -                            | -              | 0-360          | 100         | V        |
| 6      | * 10.6          | 27.82                | PK  | 37.6           | -23.4                | 0            | 42.02                      | -                  | -           | 74                  | -31.98         | -                            | -              | 0-360          | 100         | V        |
| 2      | 8.832           | 28.67                | PK  | 35.9           | -24.3                | 0            | 40.27                      | -                  | -           | -                   | -              | 68.2                         | -27.93         | 0-360          | 100         | H        |

PK - Peak detector

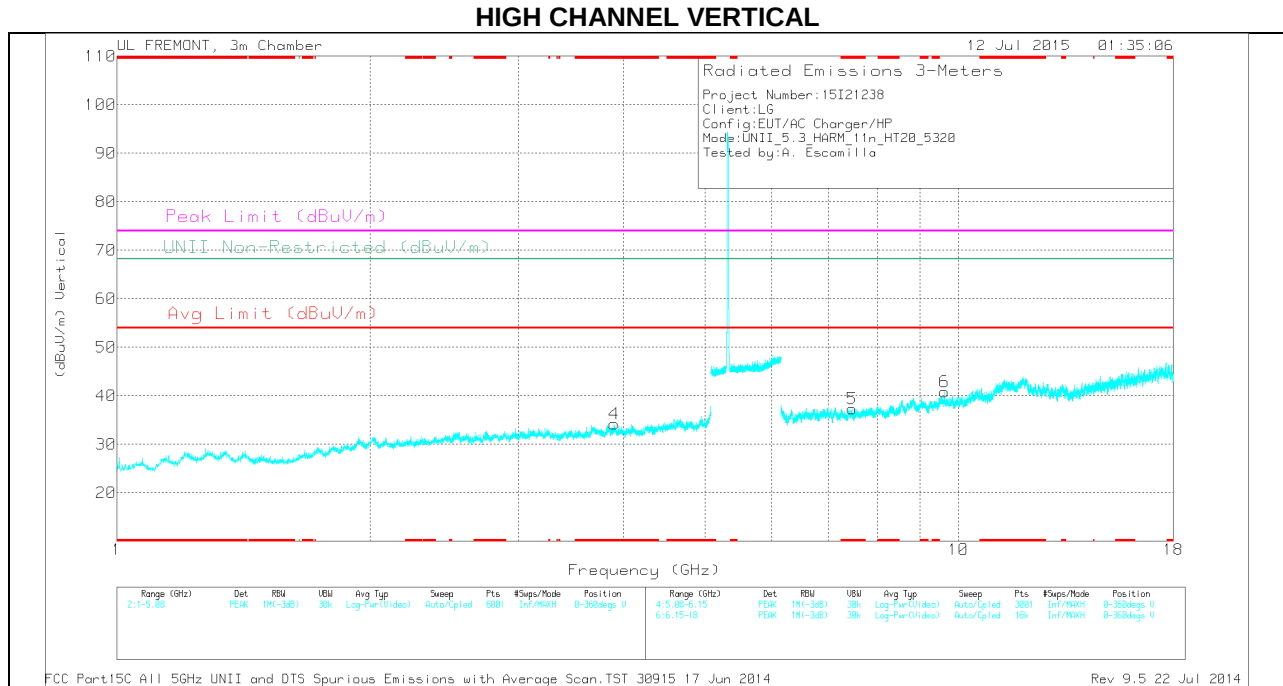
### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 3.507         | 40.48                | PK1 | 32.8           | -30.6                | 0            | 42.68                      | -                  | -           | 74                  | -31.32         | -                            | -              | 351            | 204         | H        |
| * 3.507         | 28.41                | AD1 | 32.8           | -30.6                | .25          | 30.86                      | 54                 | -23.14      | -                   | -              | -                            | -              | 351            | 204         | H        |
| * 4.055         | 40.26                | PK1 | 33.3           | -30.1                | 0            | 43.46                      | -                  | -           | 74                  | -30.54         | -                            | -              | 277            | 212         | V        |
| * 4.057         | 28.74                | AD1 | 33.3           | -30.2                | .25          | 32.09                      | 54                 | -21.91      | -                   | -              | -                            | -              | 277            | 212         | V        |
| * 11.086        | 35.98                | PK1 | 37.8           | -23.2                | 0            | 50.58                      | -                  | -           | 74                  | -23.42         | -                            | -              | 294            | 180         | H        |
| * 11.087        | 24.98                | AD1 | 37.8           | -23.3                | .25          | 39.73                      | 54                 | -14.27      | -                   | -              | -                            | -              | 294            | 180         | H        |
| * 9.381         | 37.6                 | PK1 | 36.4           | -24.8                | 0            | 49.2                       | -                  | -           | 74                  | -24.8          | -                            | -              | 228            | 169         | V        |
| * 9.379         | 25.33                | AD1 | 36.4           | -24.7                | .25          | 37.28                      | 54                 | -16.72      | -                   | -              | -                            | -              | 228            | 169         | V        |
| * 10.6          | 37.36                | PK1 | 37.6           | -23.4                | 0            | 51.56                      | -                  | -           | 74                  | -22.44         | -                            | -              | 200            | 167         | V        |
| * 10.6          | 25.92                | AD1 | 37.6           | -23.4                | .25          | 40.37                      | 54                 | -13.63      | -                   | -              | -                            | -              | 200            | 167         | V        |
| 8.834           | 36.67                | PK1 | 35.9           | -24.4                | 0            | 48.17                      | -                  | -           | -                   | -              | 68.2                         | -20.03         | 311            | 162         | H        |

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Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## HIGH CHANNEL DATA

### TRACE MARKERS

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 3.659         | 31.39                | PK  | 32.9           | -30.1                | 0            | 34.19                      | -                  | -           | 74                  | -39.81         | -                            | -              | 0-360          | 100         | H        |
| 4      | * 3.899         | 31.11                | PK  | 33.2           | -30.1                | 0            | 34.21                      | -                  | -           | 74                  | -39.79         | -                            | -              | 0-360          | 100         | V        |
| 2      | * 7.417         | 29.44                | PK  | 35.6           | -27.4                | 0            | 37.64                      | -                  | -           | 74                  | -36.36         | -                            | -              | 0-360          | 100         | H        |
| 5      | * 7.471         | 29.22                | PK  | 35.7           | -27.6                | 0            | 37.32                      | -                  | -           | 74                  | -36.68         | -                            | -              | 0-360          | 100         | V        |
| 3      | 9.266           | 27.48                | PK  | 36.3           | -24.5                | 0            | 39.28                      | -                  | -           | -                   | -              | 68.2                         | -28.92         | 0-360          | 100         | H        |
| 6      | 9.623           | 27.92                | PK  | 36.7           | -23.8                | 0            | 40.82                      | -                  | -           | -                   | -              | 68.2                         | -27.38         | 0-360          | 100         | V        |

PK - Peak detector

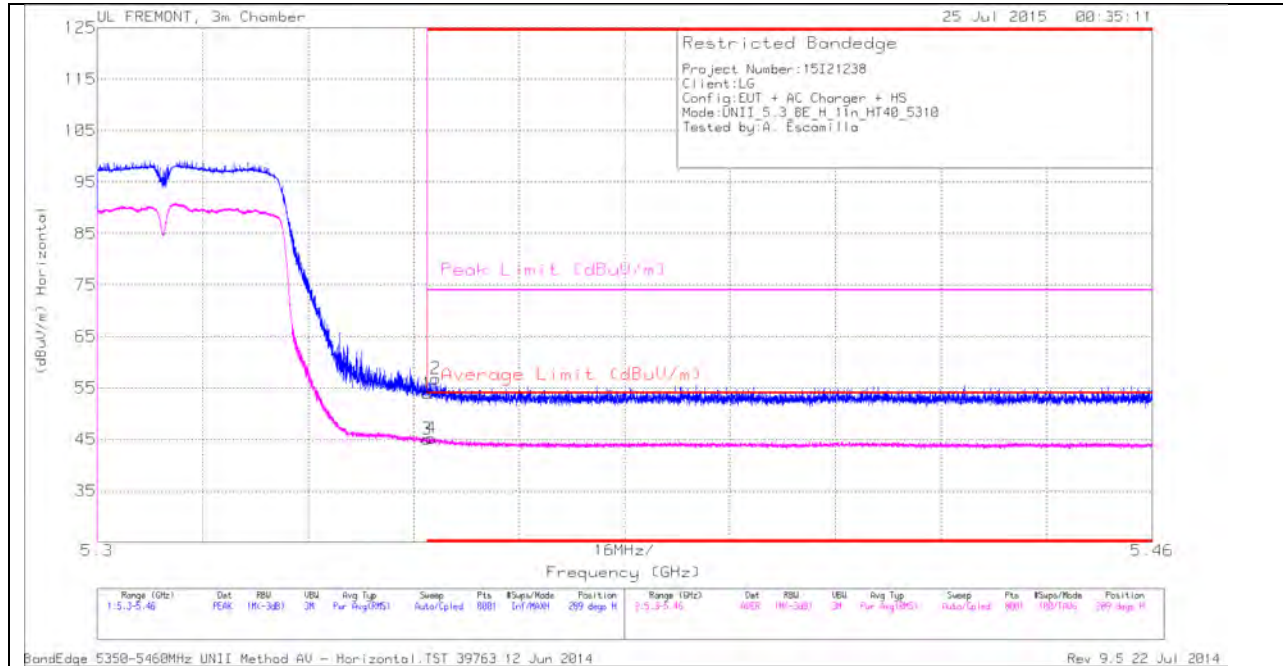
### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 3.661         | 40.25                | PK1 | 32.9           | -30                  | 0            | 43.15                      | -                  | -           | 74                  | -30.85         | -                            | -              | 341            | 238         | H        |
| * 3.66          | 28.19                | AD1 | 32.9           | -30                  | .25          | 31.34                      | 54                 | -22.66      | -                   | -              | -                            | -              | 341            | 238         | H        |
| * 3.898         | 40.42                | PK1 | 33.2           | -30                  | 0            | 43.62                      | -                  | -           | 74                  | -30.38         | -                            | -              | 254            | 144         | V        |
| * 3.899         | 28.84                | AD1 | 33.2           | -30.1                | .25          | 32.19                      | 54                 | -21.81      | -                   | -              | -                            | -              | 254            | 144         | V        |
| * 7.418         | 38.51                | PK1 | 35.6           | -27.5                | 0            | 46.61                      | -                  | -           | 74                  | -27.39         | -                            | -              | 321            | 219         | H        |
| * 7.415         | 27.09                | AD1 | 35.6           | -27.5                | .25          | 35.44                      | 54                 | -18.56      | -                   | -              | -                            | -              | 321            | 219         | H        |
| * 7.471         | 38.51                | PK1 | 35.7           | -27.6                | 0            | 46.61                      | -                  | -           | 74                  | -27.39         | -                            | -              | 291            | 238         | V        |
| * 7.472         | 27.33                | AD1 | 35.7           | -27.6                | .25          | 35.68                      | 54                 | -18.32      | -                   | -              | -                            | -              | 291            | 238         | V        |
| 9.265           | 37.32                | PK1 | 36.3           | -24.5                | 0            | 49.12                      | -                  | -           | -                   | -              | 68.2                         | -19.08         | 293            | 187         | H        |
| 9.622           | 35.99                | PK1 | 36.7           | -23.8                | 0            | 48.89                      | -                  | -           | -                   | -              | 68.2                         | -19.31         | 302            | 168         | V        |

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### 11.2.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND AUTHORIZED BANDEDGE (HIGH CHANNEL)

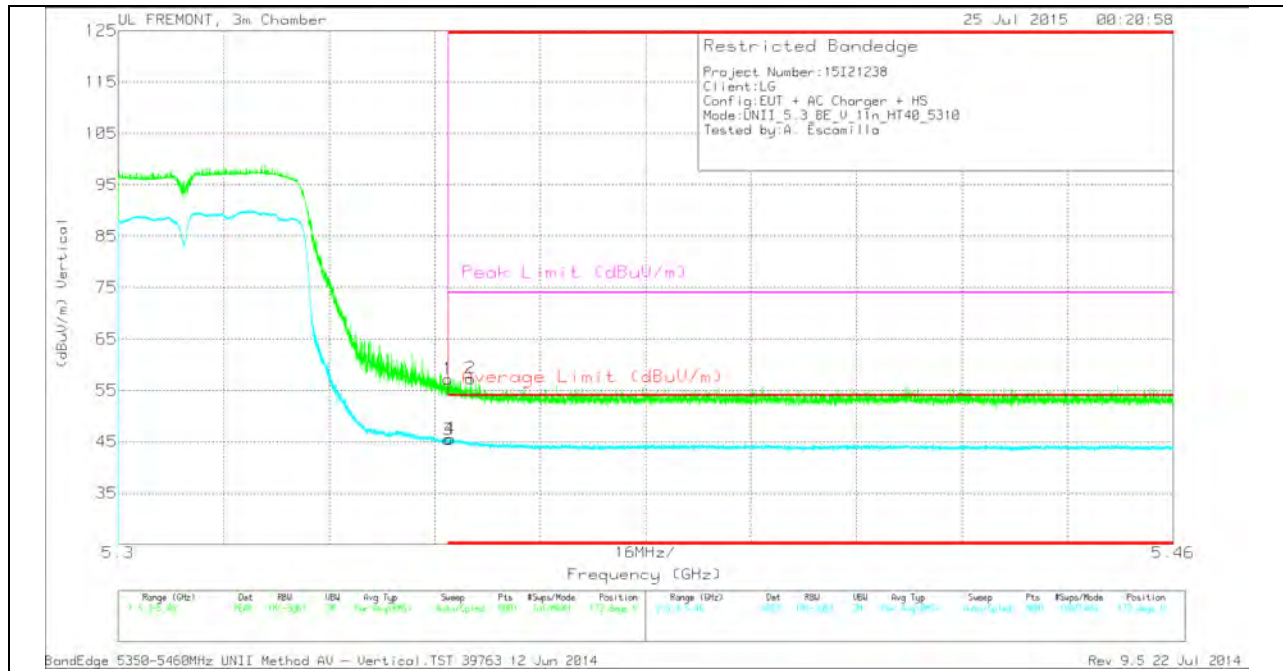
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 5.35          | 39.96                | PK  | 34.5           | -20.5                  | 0            | 53.96                      | -                      | -           | 74                  | -20.04         | 289            | 390         | H        |
| 3      | * 5.35          | 30.59                | RMS | 34.5           | -20.5                  | .5           | 45.09                      | 54                     | -8.91       | -                   | -              | 289            | 390         | H        |
| 2      | * 5.351         | 42.83                | PK  | 34.5           | -20.5                  | 0            | 56.83                      | -                      | -           | 74                  | -17.17         | 289            | 390         | H        |
| 4      | * 5.351         | 30.76                | RMS | 34.5           | -20.5                  | .5           | 45.26                      | 54                     | -8.74       | -                   | -              | 289            | 390         | H        |

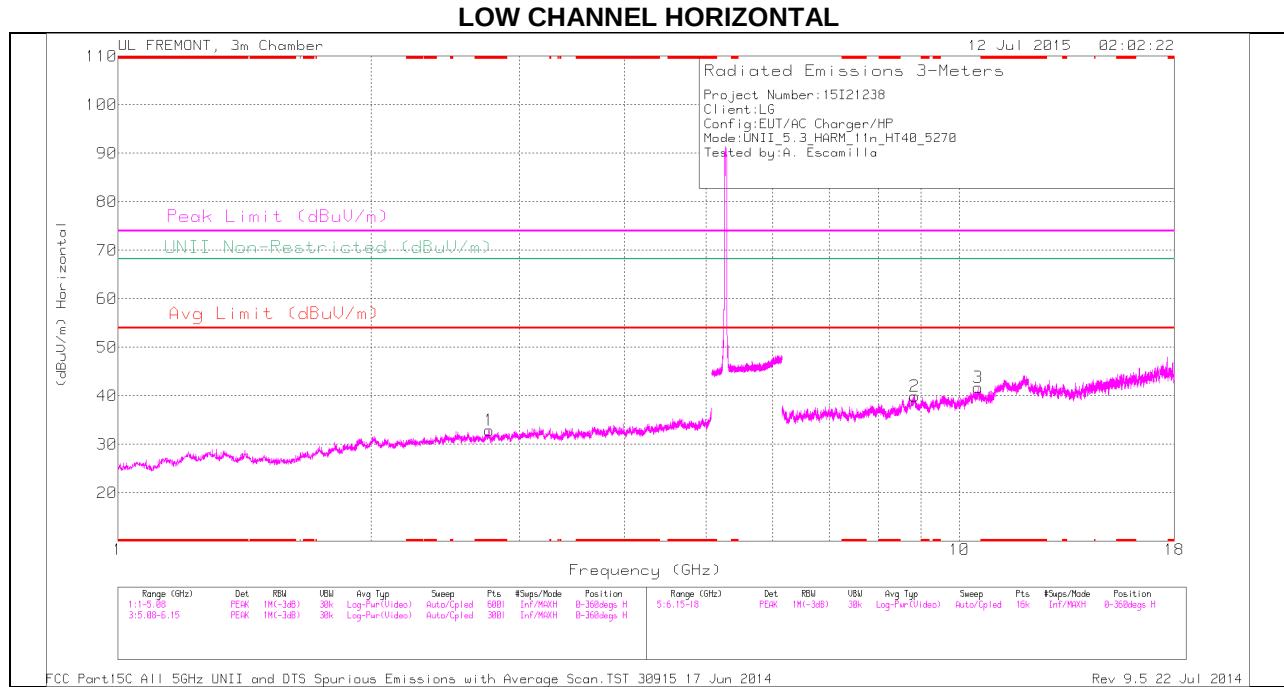
### VERTICAL PEAK AND AVERAGE PLOT



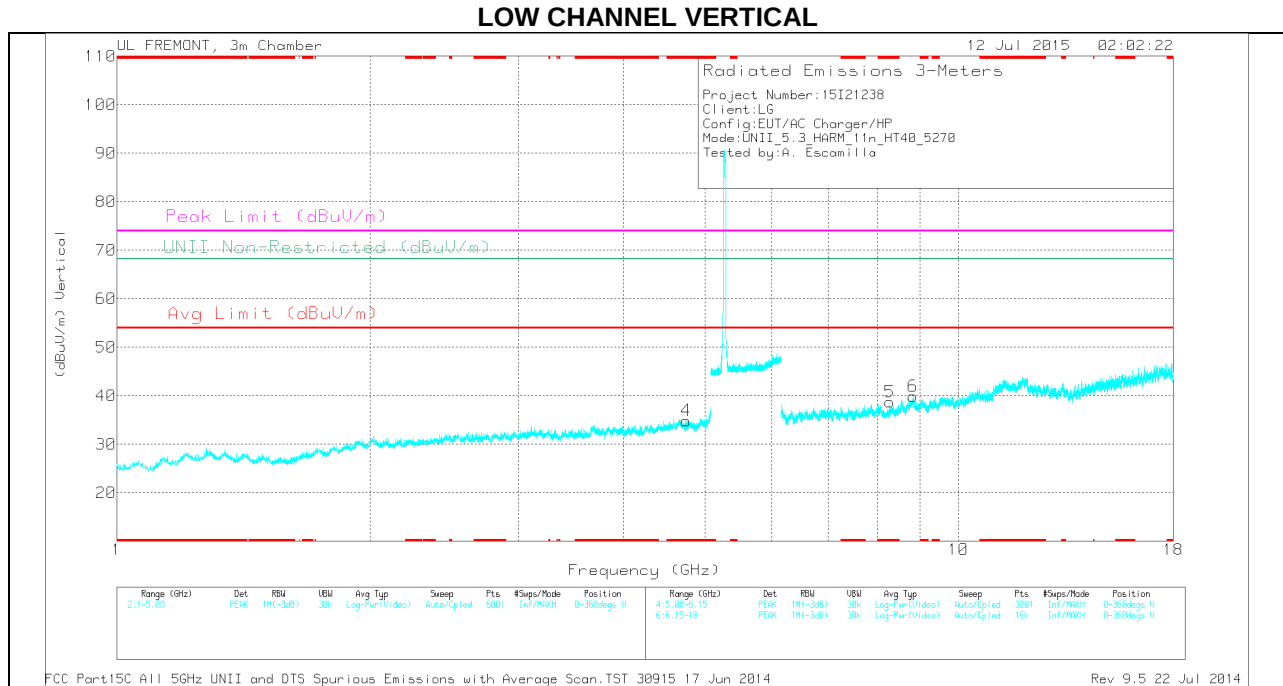
### VERTICAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 5.35          | 43.23                | PK  | 34.5           | -20.5                  | 0            | 57.23                      | -                      | -           | 74                  | -16.77         | 173            | 374         | V        |
| 3      | * 5.35          | 30.95                | RMS | 34.5           | -20.5                  | .5           | 45.45                      | 54                     | -8.55       | -                   | -              | 173            | 374         | V        |
| 4      | * 5.35          | 31.1                 | RMS | 34.5           | -20.5                  | .5           | 45.6                       | 54                     | -8.4        | -                   | -              | 173            | 374         | V        |
| 2      | * 5.354         | 43.45                | PK  | 34.5           | -20.6                  | 0            | 57.35                      | -                      | -           | 74                  | -16.65         | 173            | 374         | V        |

## HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## LOW CHANNEL DATA

### TRACE MARKERS

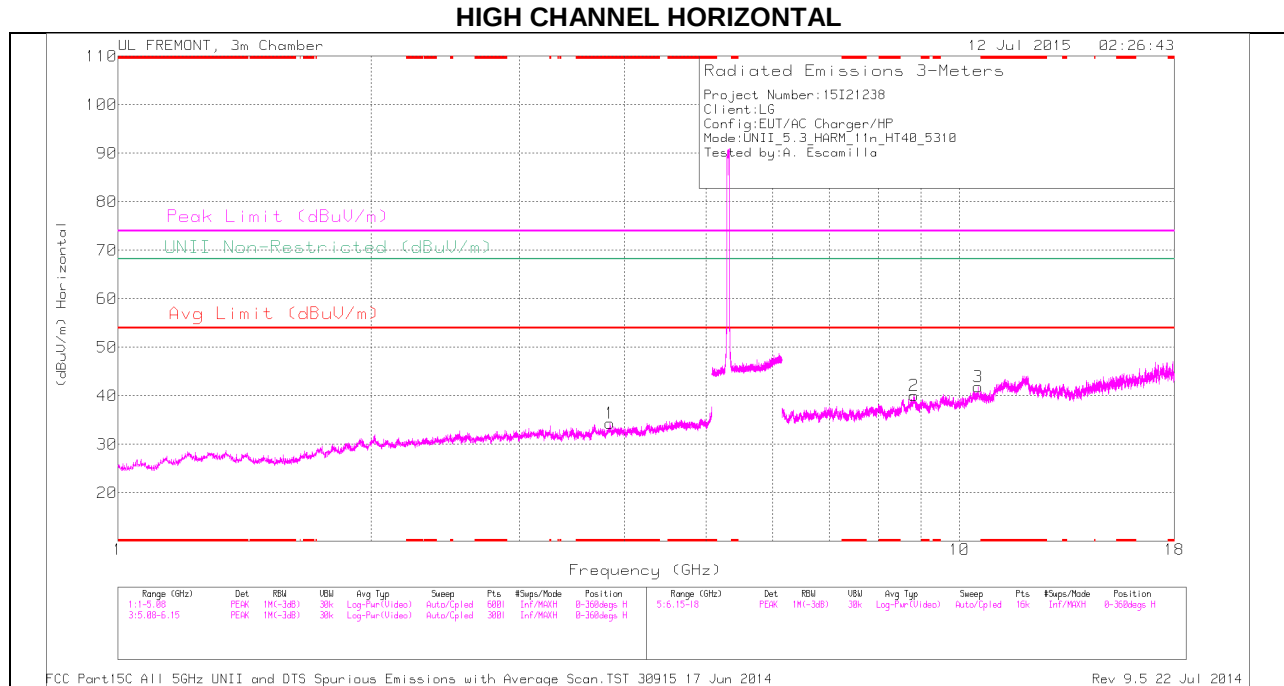
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 2.762         | 32.02                | PK  | 32.5           | -31.6                | 0            | 32.92                      | -                  | -           | 74                  | -41.08         | -                            | -              | 0-360          | 200         | H        |
| 4      | * 4.745         | 30.82                | PK  | 34             | -29.9                | 0            | 34.92                      | -                  | -           | 74                  | -39.08         | -                            | -              | 0-360          | 200         | V        |
| 5      | * 8.289         | 28.76                | PK  | 35.8           | -25.8                | 0            | 38.76                      | -                  | -           | 74                  | -35.24         | -                            | -              | 0-360          | 100         | V        |
| 6      | 8.827           | 28.28                | PK  | 35.9           | -24.3                | 0            | 39.88                      | -                  | -           | -                   | -              | 68.2                         | -28.32         | 0-360          | 200         | V        |
| 2      | 8.849           | 28.94                | PK  | 35.9           | -24.9                | 0            | 39.94                      | -                  | -           | -                   | -              | 68.2                         | -28.26         | 0-360          | 100         | H        |
| 3      | 10.519          | 27.75                | PK  | 37.5           | -23.5                | 0            | 41.75                      | -                  | -           | -                   | -              | 68.2                         | -26.45         | 0-360          | 100         | H        |

PK - Peak detector

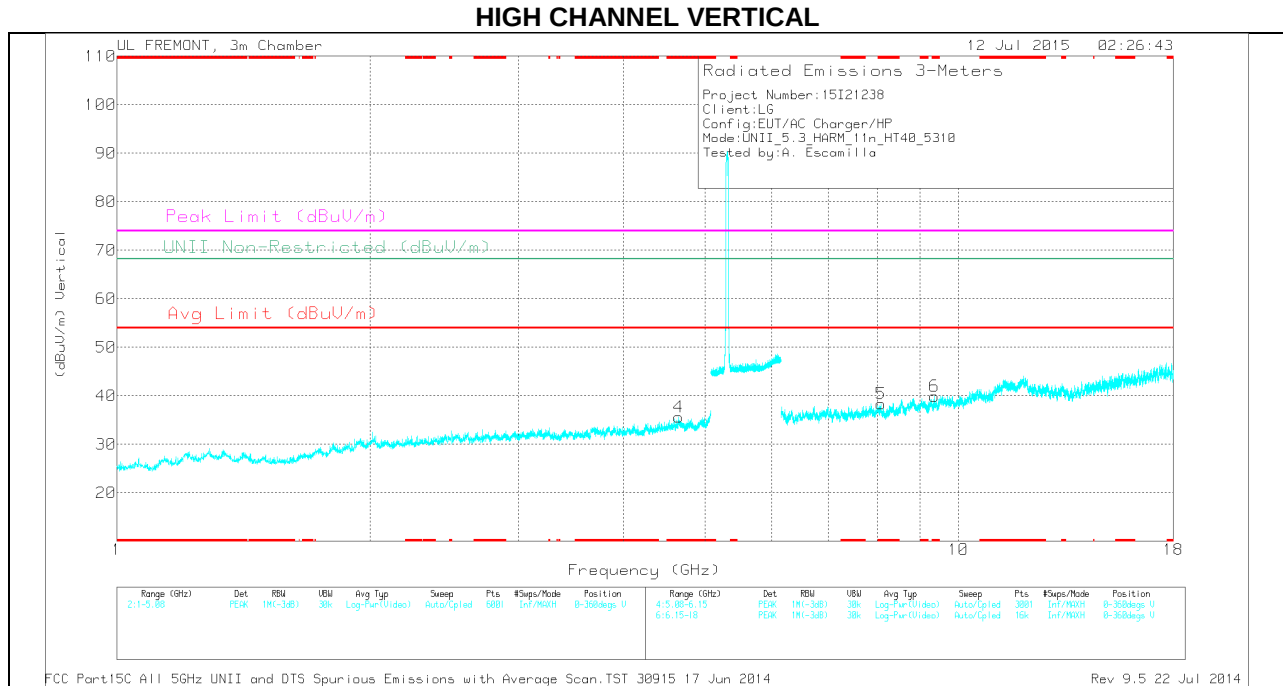
### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 2.761         | 40.73                | PK1 | 32.5           | -31.6                | 0            | 41.63                      | -                  | -           | 74                  | -32.37         | -                            | -              | 345            | 235         | H        |
| * 2.761         | 29.13                | AD1 | 32.5           | -31.6                | .5           | 30.56                      | 54                 | -23.44      | -                   | -              | -                            | -              | 345            | 235         | H        |
| * 4.745         | 40.17                | PK1 | 34             | -29.9                | 0            | 44.27                      | -                  | -           | 74                  | -29.73         | -                            | -              | 178            | 224         | V        |
| * 4.744         | 28.48                | AD1 | 34             | -29.9                | .5           | 33.11                      | 54                 | -20.89      | -                   | -              | -                            | -              | 178            | 224         | V        |
| * 8.287         | 37.72                | PK1 | 35.8           | -25.9                | 0            | 47.62                      | -                  | -           | 74                  | -26.38         | -                            | -              | 143            | 132         | V        |
| * 8.287         | 26.26                | AD1 | 35.8           | -25.9                | .5           | 36.69                      | 54                 | -17.31      | -                   | -              | -                            | -              | 143            | 132         | V        |
| 8.829           | 38.14                | PK1 | 35.9           | -24.3                | 0            | 49.74                      | -                  | -           | -                   | -              | 68.2                         | -18.46         | 112            | 173         | V        |
| 8.851           | 37.34                | PK1 | 35.9           | -25                  | 0            | 48.24                      | -                  | -           | -                   | -              | 68.2                         | -19.96         | 305            | 211         | H        |
| 10.517          | 36.04                | PK1 | 37.5           | -23.6                | 0            | 49.94                      | -                  | -           | -                   | -              | 68.2                         | -18.26         | 276            | 192         | H        |

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Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## HIGH CHANNEL DATA

### TRACE MARKERS

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Chl/ Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | * 3.842         | 31.41                | PK  | 33.1           | -30.2                 | 0            | 34.31                      | -                  | -           | 74                  | -39.69         | -                            | -              | 0-360          | 100         | H        |
| 4      | * 4.648         | 31.25                | PK  | 34             | -29.6                 | 0            | 35.65                      | -                  | -           | 74                  | -38.35         | -                            | -              | 0-360          | 200         | V        |
| 5      | * 8.09          | 28.91                | PK  | 35.7           | -26.2                 | 0            | 38.41                      | -                  | -           | 74                  | -35.59         | -                            | -              | 0-360          | 200         | V        |
| 6      | * 9.357         | 27.79                | PK  | 36.4           | -24.3                 | 0            | 39.89                      | -                  | -           | 74                  | -34.11         | -                            | -              | 0-360          | 200         | V        |
| 2      | 8.828           | 28.44                | PK  | 35.9           | -24.3                 | 0            | 40.04                      | -                  | -           | -                   | -              | 68.2                         | -28.16         | 0-360          | 100         | H        |
| 3      | 10.526          | 27.62                | PK  | 37.5           | -23.3                 | 0            | 41.82                      | -                  | -           | -                   | -              | 68.2                         | -26.38         | 0-360          | 200         | H        |

PK - Peak detector

### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Chl/ Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 3.842         | 40.39                | PK1 | 33.1           | -30.2                 | 0            | 43.29                      | -                  | -           | 74                  | -30.71         | -                            | -              | 10             | 216         | H        |
| * 3.842         | 28.64                | AD1 | 33.1           | -30.2                 | .5           | 32.04                      | 54                 | -21.96      | -                   | -              | -                            | -              | 10             | 216         | H        |
| * 4.649         | 40.33                | PK1 | 34             | -29.6                 | 0            | 44.73                      | -                  | -           | 74                  | -29.27         | -                            | -              | 100            | 232         | V        |
| * 4.647         | 28.53                | AD1 | 34             | -29.6                 | .5           | 33.43                      | 54                 | -20.57      | -                   | -              | -                            | -              | 100            | 232         | V        |
| * 8.09          | 37.42                | PK1 | 35.7           | -26.2                 | 0            | 46.92                      | -                  | -           | 74                  | -27.08         | -                            | -              | 39             | 194         | V        |
| * 8.092         | 25.92                | AD1 | 35.7           | -26.2                 | .5           | 35.92                      | 54                 | -18.08      | -                   | -              | -                            | -              | 39             | 194         | V        |
| * 9.356         | 36.45                | PK1 | 36.4           | -24.2                 | 0            | 48.65                      | -                  | -           | 74                  | -25.35         | -                            | -              | 26             | 206         | V        |
| * 9.359         | 24.85                | AD1 | 36.4           | -24.3                 | .5           | 37.48                      | 54                 | -16.52      | -                   | -              | -                            | -              | 26             | 206         | V        |
| 8.83            | 36.89                | PK1 | 35.9           | -24.3                 | 0            | 48.49                      | -                  | -           | -                   | -              | 68.2                         | -19.71         | 45             | 198         | H        |
| 10.528          | 36.07                | PK1 | 37.5           | -23.3                 | 0            | 50.27                      | -                  | -           | -                   | -              | 68.2                         | -17.93         | 69             | 200         | H        |

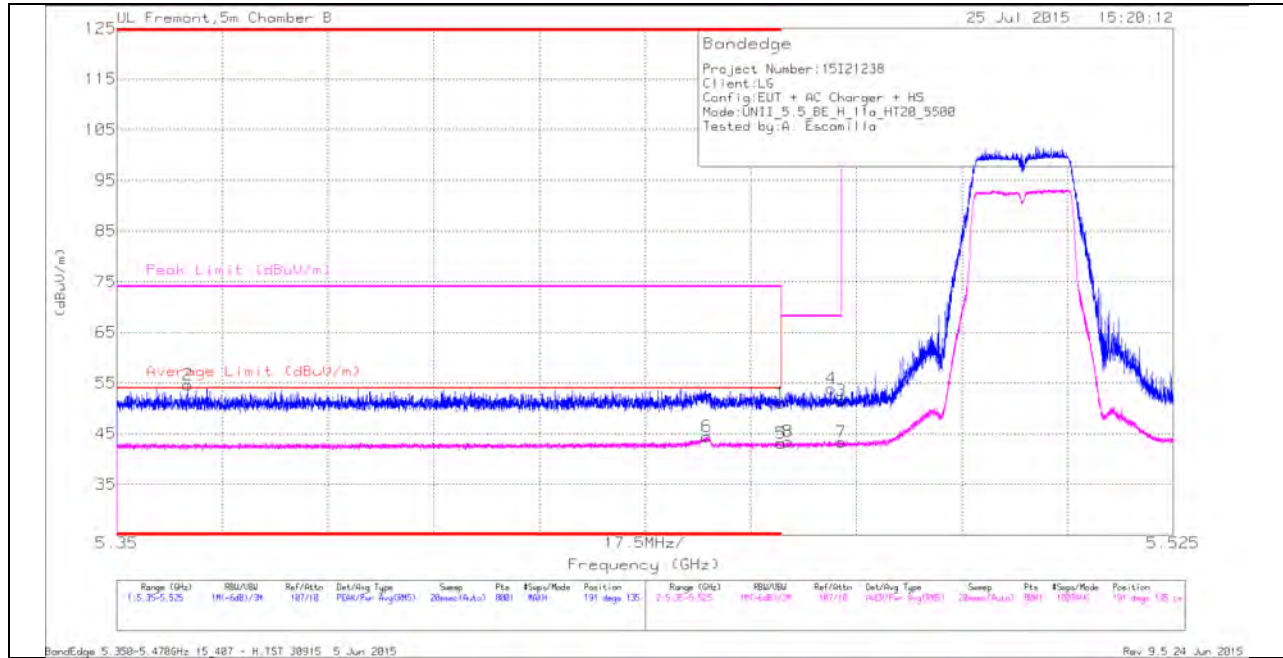
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### 11.3. 5.5-5.6 GHz

#### 11.3.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.5 GHz BAND

#### RESTRICTED BANDEDGE (LOW CHANNEL)

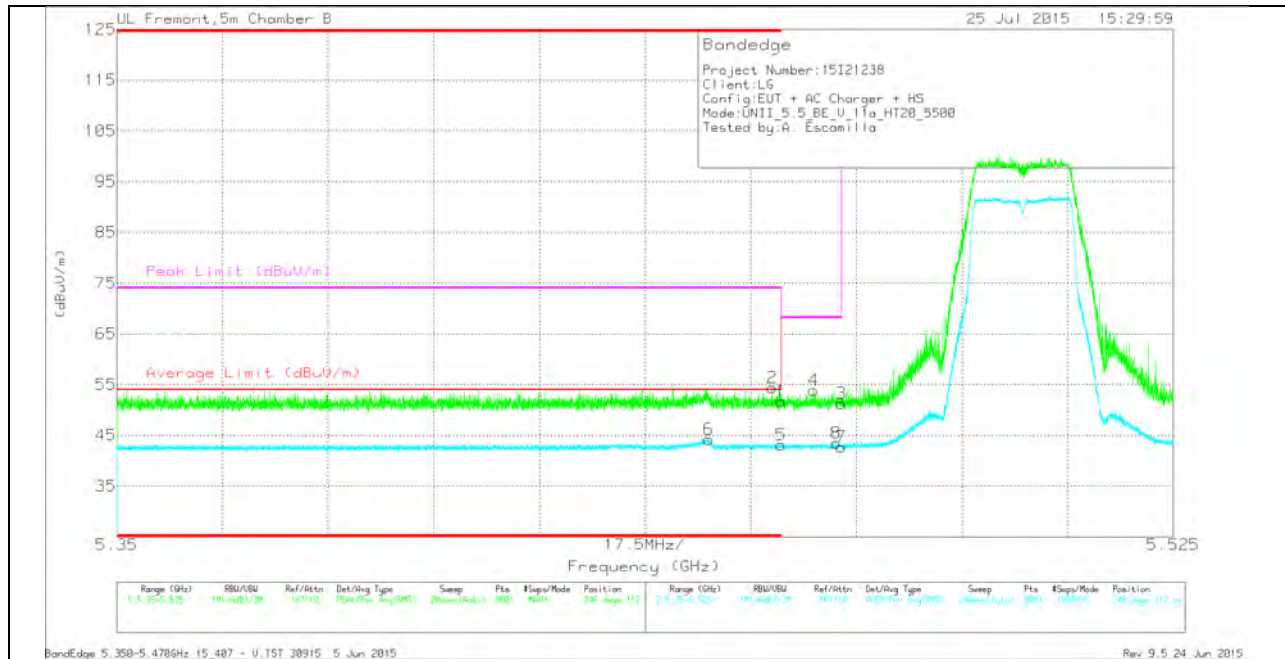
#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cbl/Filt r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1      | * 5.46          | 38.55                | Pk  | 34.5           | -22                     | 0            | 51.05                      | -                      | -           | 74                  | -22.95         | 191            | 135         | H        |
| 2      | * 5.362         | 42.35                | Pk  | 34.4           | -22.1                   | 0            | 54.65                      | -                      | -           | 74                  | -19.35         | 191            | 135         | H        |
| 5      | * 5.46          | 30.32                | RMS | 34.5           | -22                     | .25          | 43.07                      | -                      | -           | -                   | -              | 191            | 135         | H        |
| 6      | * 5.448         | 31.73                | RMS | 34.5           | -22                     | .25          | 44.48                      | -                      | -           | -                   | -              | 191            | 135         | H        |
| 8      | 5.461           | 30.75                | RMS | 34.5           | -22                     | .25          | 43.5                       | -                      | -           | -                   | -              | 191            | 135         | H        |
| 4      | 5.468           | 41.54                | Pk  | 34.5           | -22.1                   | 0            | 53.94                      | -                      | -           | 68.2                | -14.26         | 191            | 135         | H        |
| 3      | 5.47            | 39.12                | Pk  | 34.5           | -22.1                   | 0            | 51.52                      | -                      | -           | 68.2                | -16.68         | 191            | 135         | H        |
| 7      | 5.47            | 30.73                | RMS | 34.5           | -22.1                   | .25          | 43.38                      | -                      | -           | -                   | -              | 191            | 135         | H        |

### VERTICAL PEAK AND AVERAGE PLOT

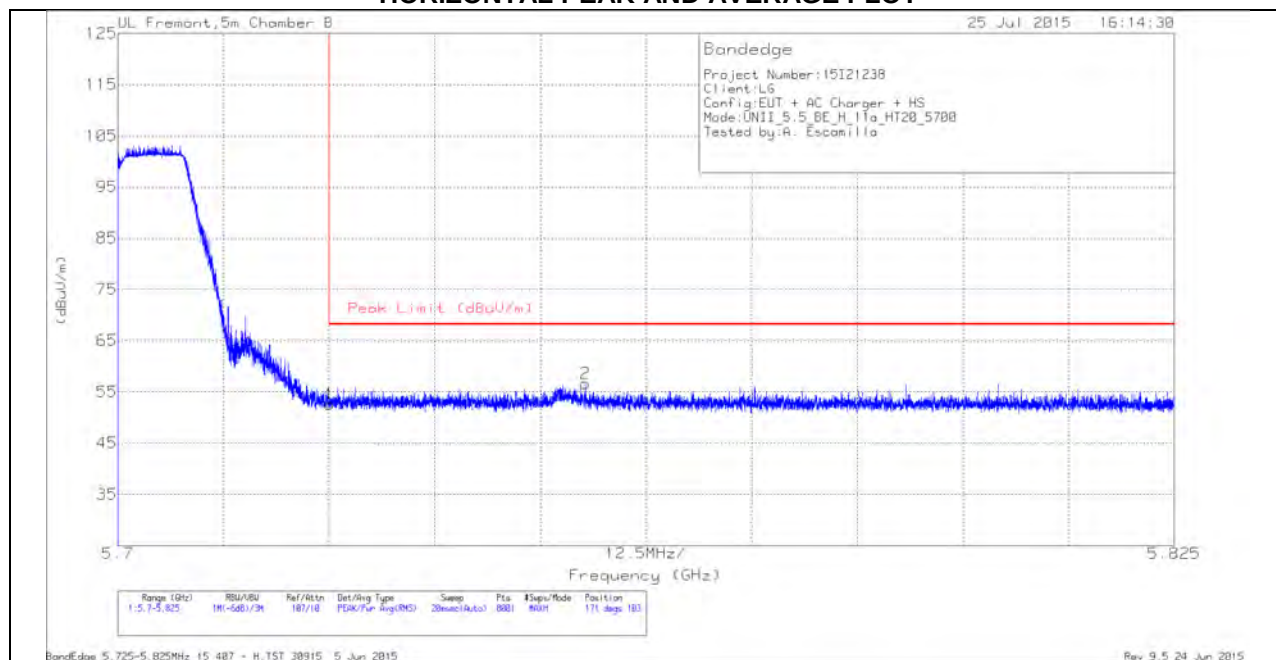


### VERTICAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 6      | * 5.448         | 31.51                | RMS | 34.5           | -22                    | .25          | 44.26                      | -                      | -           | -                   | -              | 246            | 112         | V        |
| 2      | * 5.459         | 41.94                | Pk  | 34.5           | -22                    | 0            | 54.44                      | -                      | -           | 74                  | -19.56         | 246            | 112         | V        |
| 1      | * 5.46          | 39.22                | Pk  | 34.5           | -22                    | 0            | 51.72                      | -                      | -           | 74                  | -22.28         | 246            | 112         | V        |
| 5      | * 5.46          | 30.29                | RMS | 34.5           | -22                    | .25          | 43.04                      | -                      | -           | -                   | -              | 246            | 112         | V        |
| 4      | 5.465           | 41.36                | Pk  | 34.5           | -22                    | 0            | 53.86                      | -                      | -           | 68.2                | -14.34         | 246            | 112         | V        |
| 8      | 5.469           | 30.85                | RMS | 34.5           | -22.1                  | .25          | 43.5                       | -                      | -           | -                   | -              | 246            | 112         | V        |
| 3      | 5.47            | 38.87                | Pk  | 34.5           | -22.1                  | 0            | 51.27                      | -                      | -           | 68.2                | -16.93         | 246            | 112         | V        |
| 7      | 5.47            | 30.09                | RMS | 34.5           | -22.1                  | .25          | 42.74                      | -                      | -           | -                   | -              | 246            | 112         | V        |

## AUTHORIZED BANDEDGE (HIGH CHANNEL)

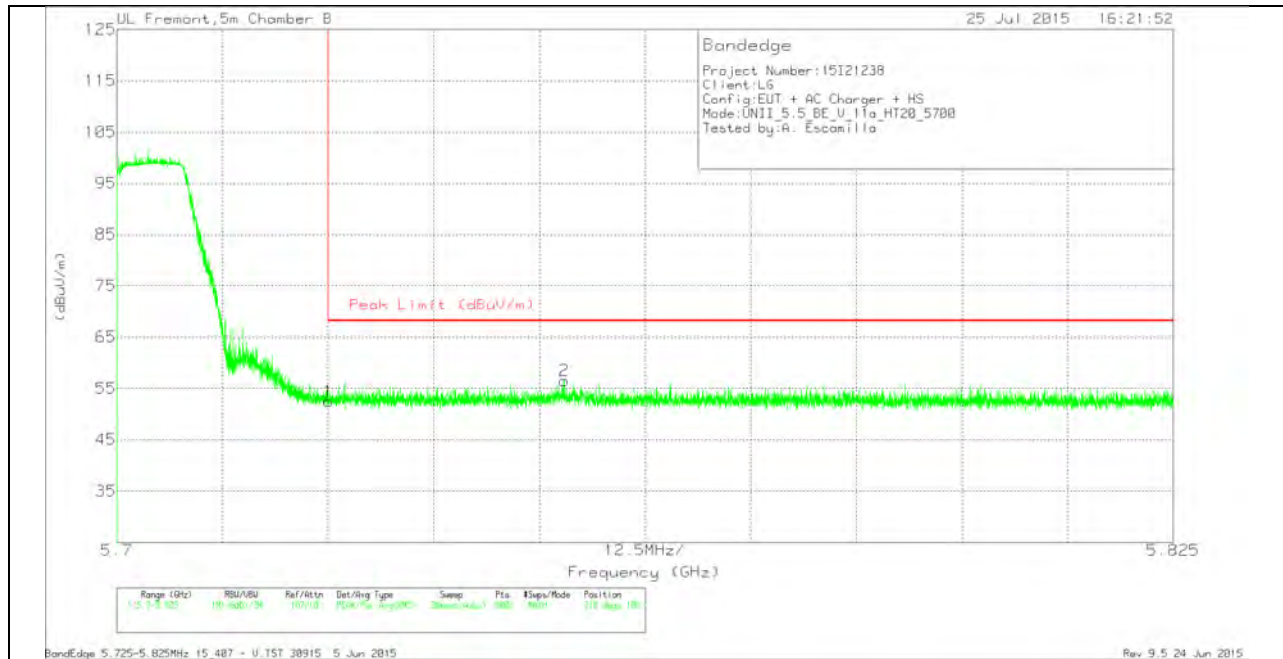
### HORIZONTAL PEAK AND AVERAGE PLOT



### HORIZONTAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cbl/F ltr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|---------------------|----------------|----------------|-------------|----------|
| 1      | 5.725           | 39.31                | Pk  | 35             | -21.7                  | 0            | 52.61                      | 68.2                | -15.59         | 171            | 103         | H        |
| 2      | 5.755           | 43.28                | Pk  | 35.1           | -21.7                  | 0            | 56.68                      | 68.2                | -11.52         | 171            | 103         | H        |

### VERTICAL PEAK AND AVERAGE PLOT

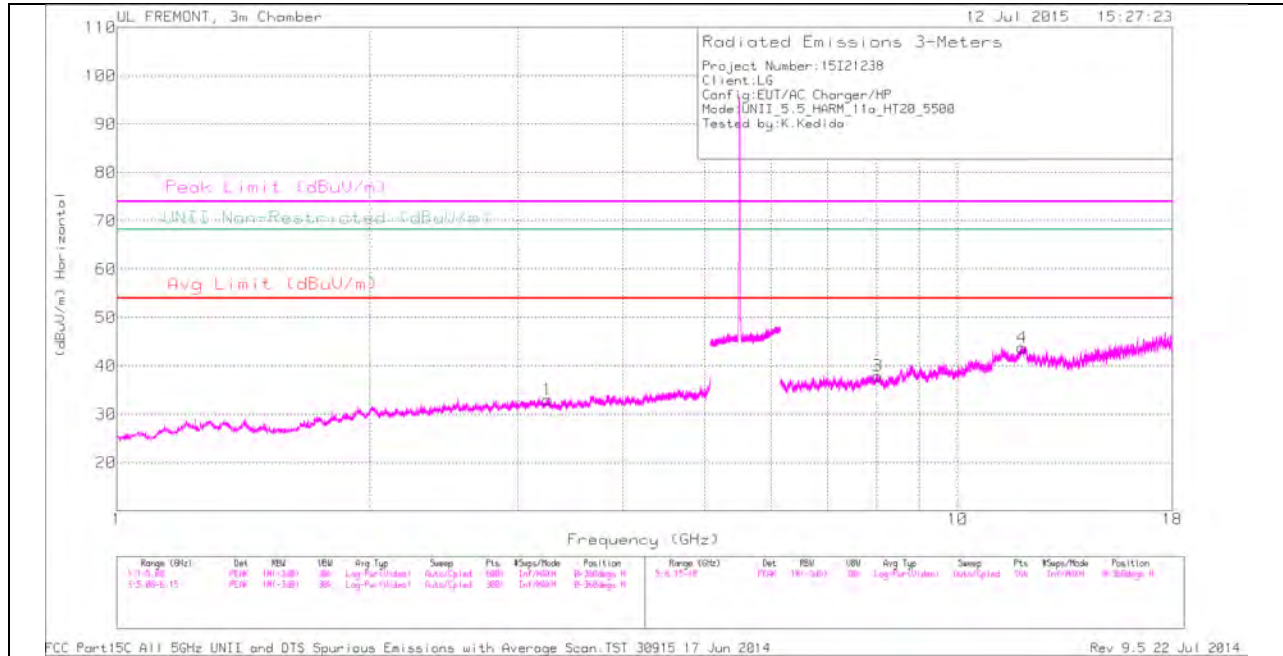


### VERTICAL DATA

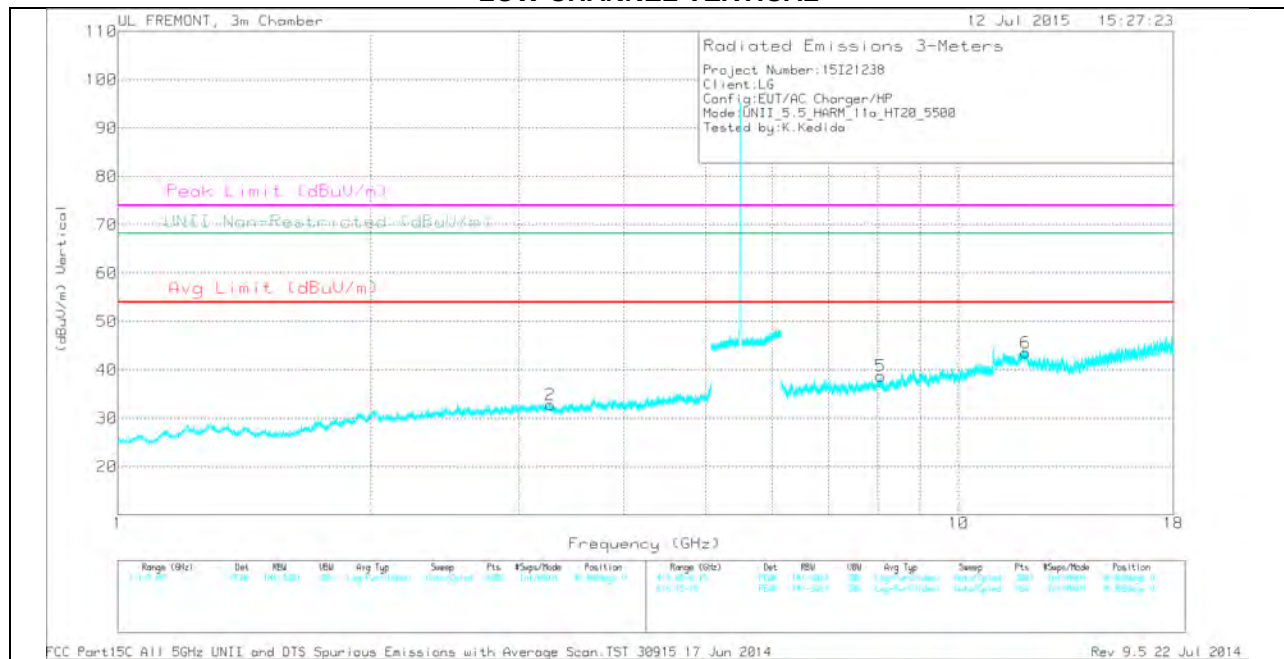
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cb/F ltr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-----------------------|--------------|----------------------------|---------------------|----------------|----------------|-------------|----------|
| 1      | 5.725           | 39.14                | Pk  | 35             | -21.7                 | 0            | 52.44                      | 68.2                | -15.76         | 218            | 108         | V        |
| 2      | 5.753           | 43.11                | Pk  | 35.1           | -21.7                 | 0            | 56.51                      | 68.2                | -11.69         | 218            | 108         | V        |

## HARMONICS AND SPURIOUS EMISSIONS

### LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.



## LOW CHANNEL DATA

### TRACE MARKERS

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 1      | 3.255           | 31.37                | PK  | 32.6           | -30.9                | 0            | 33.07                      | -                  | -           | -                   | -              | 68.2                         | -35.13         | 0-360          | 100         | H        |
| 2      | 3.266           | 31.38                | PK  | 32.6           | -31.2                | 0            | 32.78                      | -                  | -           | 74                  | -41.22         | -                            | -              | 0-360          | 200         | V        |
| 3      | 8.032           | 28.9                 | PK  | 35.7           | -26.6                | 0            | 38                         | -                  | -           | 74                  | -36            | -                            | -              | 0-360          | 100         | H        |
| 5      | 8.078           | 29.39                | PK  | 35.7           | -26.3                | 0            | 38.79                      | -                  | -           | 74                  | -35.21         | -                            | -              | 0-360          | 200         | V        |
| 4      | 11.922          | 28.36                | PK  | 39.1           | -23.6                | 0            | 43.86                      | -                  | -           | 74                  | -30.14         | -                            | -              | 0-360          | 200         | H        |
| 6      | 12.012          | 27.98                | PK  | 39.1           | -23.5                | 0            | 43.58                      | -                  | -           | 74                  | -30.42         | -                            | -              | 0-360          | 100         | V        |

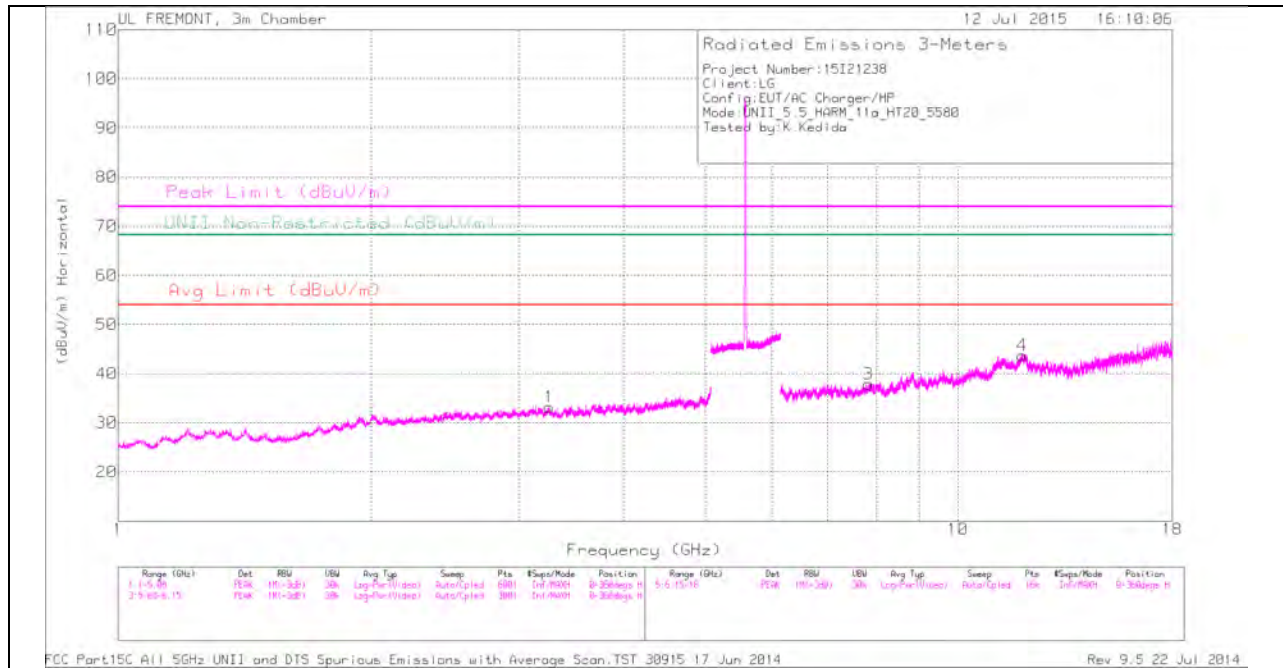
PK - Peak detector

### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 3.261         | 29.52                | AD1 | 32.6           | -31                  | .25          | 31.37                      | 54                 | -22.63      | -                   | -              | -                            | -              | 360            | 200         | H        |
| * 3.261         | 41.08                | PK1 | 32.6           | -31                  | 0            | 42.68                      | -                  | -           | 74                  | -31.32         | -                            | -              | 360            | 200         | V        |
| * 11.932        | 37.39                | PK1 | 39.1           | -23.6                | 0            | 52.89                      | -                  | -           | 74                  | -21.11         | -                            | -              | 360            | 100         | H        |
| * 11.934        | 26.17                | AD1 | 39.1           | -23.6                | .25          | 41.92                      | 54                 | -12.08      | -                   | -              | -                            | -              | 360            | 100         | H        |
| * 11.16         | 38.31                | PK1 | 37.9           | -23.5                | 0            | 52.71                      | -                  | -           | 74                  | -21.29         | -                            | -              | 360            | 100         | V        |
| * 11.16         | 26.34                | AD1 | 37.9           | -23.5                | .25          | 40.99                      | 54                 | -13.01      | -                   | -              | -                            | -              | 360            | 100         | V        |
| 3.26            | 41.42                | PK1 | 32.6           | -31                  | 0            | 43.02                      | -                  | -           | -                   | -              | 68.2                         | -25.18         | 360            | 200         | H        |
| 7.801           | 38.45                | PK1 | 35.7           | -27.7                | 0            | 46.45                      | -                  | -           | -                   | -              | 68.2                         | -21.75         | 360            | 100         | V        |
| 7.825           | 38.19                | PK1 | 35.8           | -26.8                | 0            | 47.19                      | -                  | -           | -                   | -              | 68.2                         | -21.01         | 360            | 100         | H        |

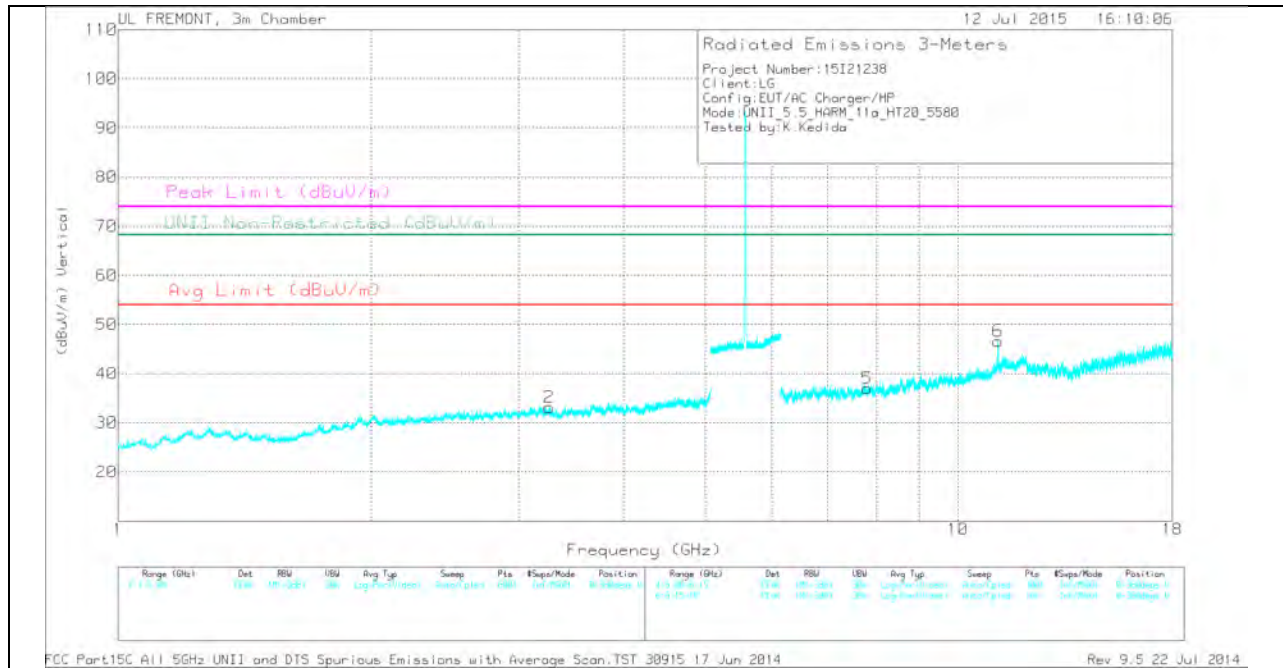
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### MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

### MID CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## MID CHANNEL DATA

### TRACE MARKERS

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Chl/ Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 2      | *3.26           | 31.54                | PK  | 32.6           | -31                   | 0            | 33.14                      | -                  | -           | 74                  | -40.86         | -                            | -              | 0-360          | 200         | V        |
| 1      | *3.262          | 31.59                | PK  | 32.6           | -31                   | 0            | 33.19                      | -                  | -           | 74                  | -40.81         | -                            | -              | 0-360          | 200         | H        |
| 5      | 7.801           | 28.99                | PK  | 35.7           | -27.7                 | 0            | 36.99                      | -                  | -           | -                   | -              | 68.2                         | -31.21         | 0-360          | 100         | V        |
| 3      | 7.825           | 28.87                | PK  | 35.8           | -26.8                 | 0            | 37.87                      | -                  | -           | -                   | -              | 68.2                         | -30.33         | 0-360          | 100         | H        |
| 6      | *11.161         | 32.23                | PK  | 37.9           | -23.5                 | 0            | 46.63                      | -                  | -           | 74                  | -27.37         | -                            | -              | 0-360          | 100         | V        |
| 4      | *11.932         | 28.19                | PK  | 39.1           | -23.6                 | 0            | 43.69                      | -                  | -           | 74                  | -30.31         | -                            | -              | 0-360          | 100         | H        |

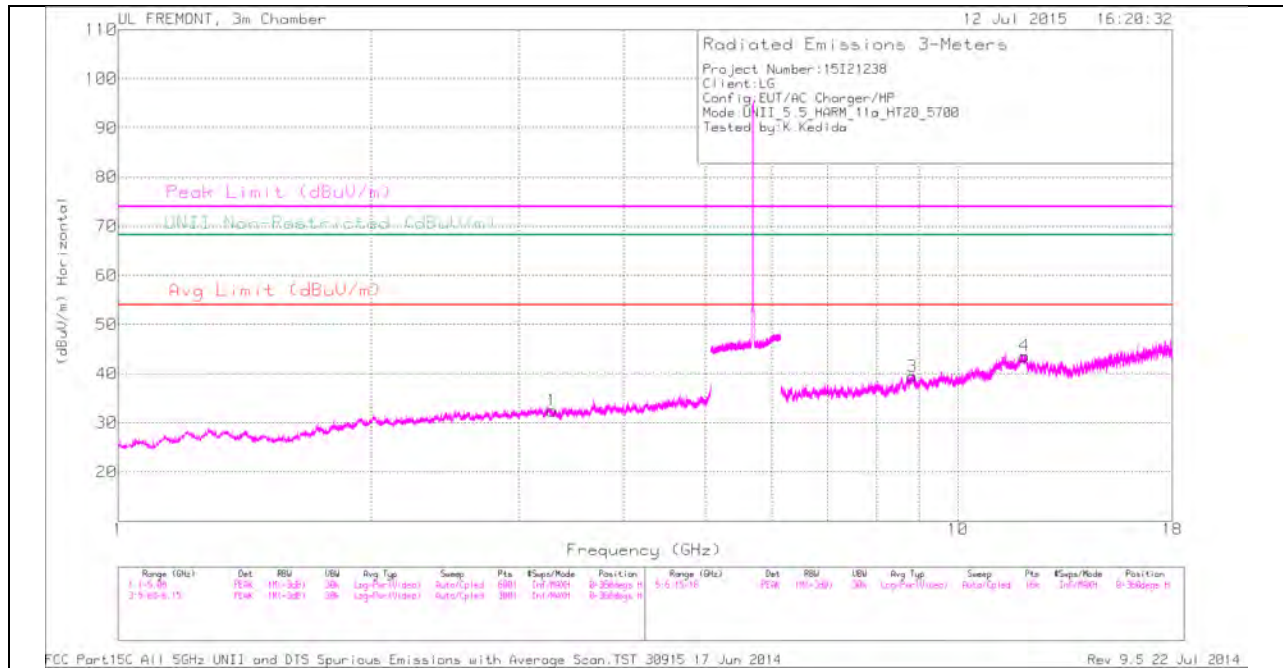
PK - Peak detector

### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Chl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| *3.26           | 41.42                | PK1 | 32.6           | -31                  | 0            | 43.02                      | -                  | -           | 74                  | -31.98         | 68.2                         | -25.18         | 360            | 200         | H        |
| *3.26           | 29.37                | AD1 | 32.6           | -31                  | .25          | 31.22                      | 54                 | -22.78      | -                   | -              | -                            | -              | 360            | 200         | V        |
| *3.261          | 29.52                | AD1 | 32.6           | -31                  | .25          | 31.37                      | 54                 | -22.66      | -                   | -              | -                            | -              | 360            | 200         | H        |
| *3.261          | 41.08                | PK1 | 32.6           | -31                  | 0            | 42.68                      | -                  | -           | 74                  | -31.32         | -                            | -              | 360            | 200         | V        |
| 7.801           | 38.45                | PK1 | 35.7           | -27.7                | 0            | 46.45                      | -                  | -           | -                   | -              | 68.2                         | -21.75         | 360            | 100         | V        |
| 7.825           | 38.19                | PK1 | 35.8           | -26.8                | 0            | 47.19                      | -                  | -           | -                   | -              | 68.2                         | -21.01         | 360            | 100         | H        |
| *11.16          | 38.31                | PK1 | 37.9           | -23.5                | 0            | 52.71                      | -                  | -           | 74                  | -21.29         | -                            | -              | 360            | 100         | V        |
| *11.16          | 26.34                | AD1 | 37.9           | -23.5                | .25          | 40.99                      | 54                 | -13.01      | -                   | -              | -                            | -              | 360            | 100         | V        |
| *11.932         | 37.39                | PK1 | 39.1           | -23.6                | 0            | 52.89                      | -                  | -           | 74                  | -21.11         | -                            | -              | 360            | 100         | H        |
| *11.934         | 26.17                | AD1 | 39.1           | -23.6                | .25          | 41.92                      | 54                 | -12.08      | -                   | -              | -                            | -              | 360            | 100         | H        |

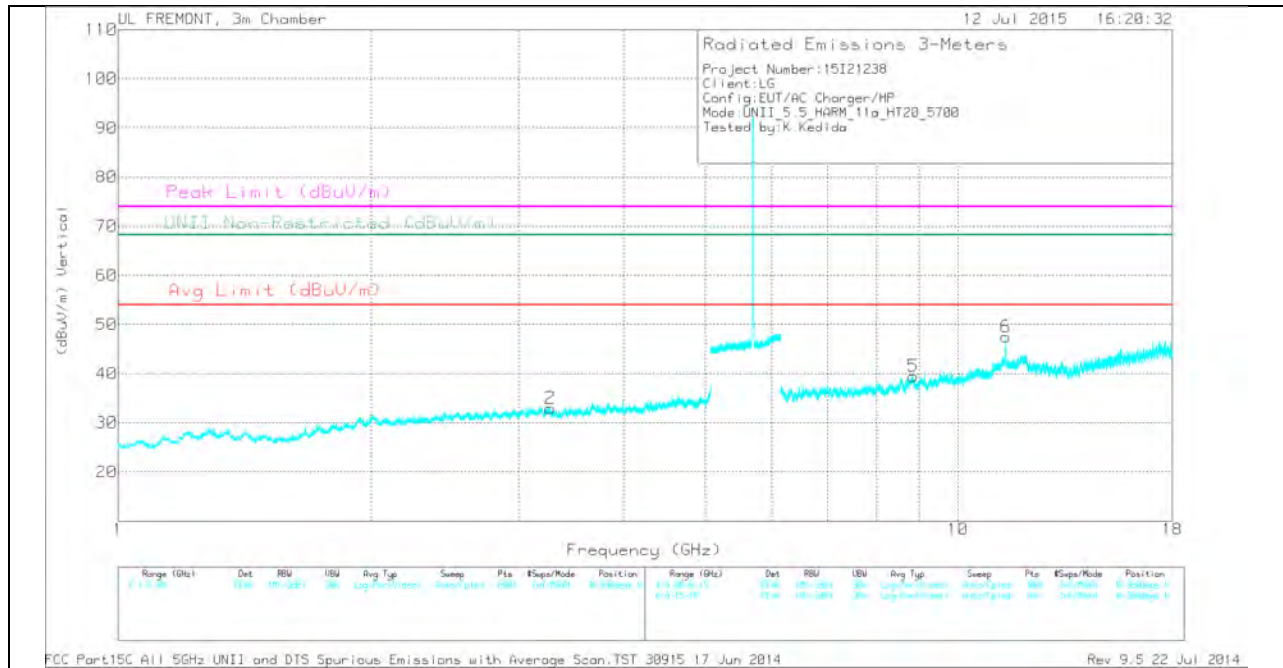
FCC Part15C All 5GHz UNII and DTS Spurious Emissions with Average Scan.TST 30915 17 Jun 2014

### HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

### HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

## HIGH CHANNEL DATA

### TRACE MARKERS

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| 4      | * 11.999        | 27.9                 | Pk  | 39.1           | -23.4                | 0            | 43.6                       | -                  | -           | 74                  | -30.4          | -                            | -              | 0-360          | 200         | H        |
| 6      | * 11.4          | 32.42                | Pk  | 38.2           | -23.1                | 0            | 47.52                      | -                  | -           | 74                  | -26.48         | -                            | -              | 0-360          | 100         | V        |
| 2      | 3.271           | 31.67                | Pk  | 32.6           | -31.3                | 0            | 32.97                      | -                  | -           | -                   | -              | 68.2                         | -35.23         | 0-360          | 100         | V        |
| 1      | 3.288           | 31.31                | Pk  | 32.6           | -31.4                | 0            | 32.51                      | -                  | -           | -                   | -              | 68.2                         | -35.69         | 0-360          | 100         | H        |
| 3      | 8.822           | 27.72                | Pk  | 35.9           | -24.2                | 0            | 39.42                      | -                  | -           | -                   | -              | 68.2                         | -28.78         | 0-360          | 100         | H        |
| 5      | 8.847           | 28.4                 | Pk  | 35.9           | -24.8                | 0            | 39.5                       | -                  | -           | -                   | -              | 68.2                         | -28.7          | 0-360          | 200         | V        |

PK - Peak detector

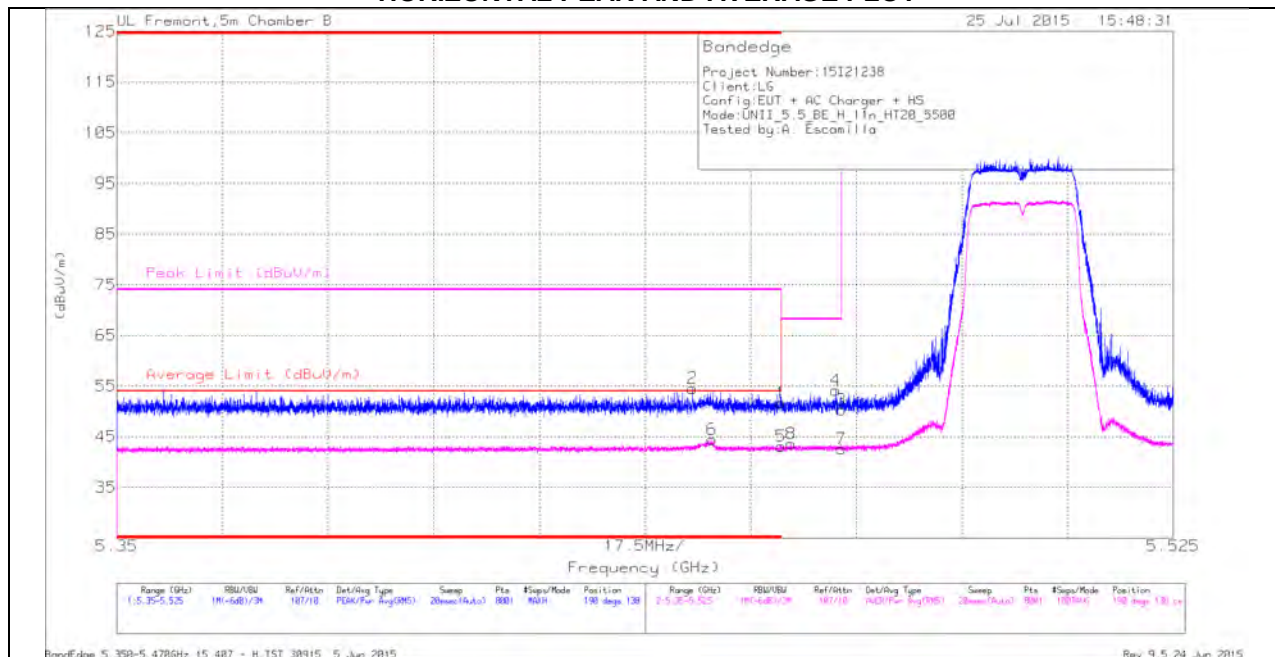
### RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | UNII Non-Restricted (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|------------------------------|----------------|----------------|-------------|----------|
| * 11.999        | 36.41                | PK1 | 39.1           | -23.4                | 0            | 52.11                      | -                  | -           | 74                  | -21.89         | -                            | -              | 360            | 200         | H        |
| * 11.997        | 24.87                | AD1 | 39.1           | -23.4                | .25          | 40.82                      | 54                 | -13.18      | -                   | -              | -                            | -              | 360            | 200         | H        |
| * 11.4          | 42.57                | PK1 | 38.2           | -23.1                | 0            | 57.67                      | -                  | -           | 74                  | -16.33         | -                            | -              | 335            | 136         | V        |
| * 11.4          | 28.64                | AD1 | 38.2           | -23.1                | .25          | 43.99                      | 54                 | -10.01      | -                   | -              | -                            | -              | 335            | 136         | V        |
| 3.271           | 40.75                | PK1 | 32.6           | -31.3                | 0            | 42.05                      | -                  | -           | -                   | -              | 68.2                         | -26.15         | 360            | 100         | V        |
| 3.289           | 41.07                | PK1 | 32.6           | -31.4                | 0            | 42.27                      | -                  | -           | -                   | -              | 68.2                         | -25.93         | 360            | 100         | H        |
| 8.823           | 36.77                | PK1 | 35.9           | -24.2                | 0            | 48.47                      | -                  | -           | -                   | -              | 68.2                         | -19.73         | 360            | 100         | H        |
| 8.848           | 37.04                | PK1 | 35.9           | -24.8                | 0            | 48.14                      | -                  | -           | -                   | -              | 68.2                         | -20.06         | 360            | 200         | V        |

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### 11.3.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.5 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

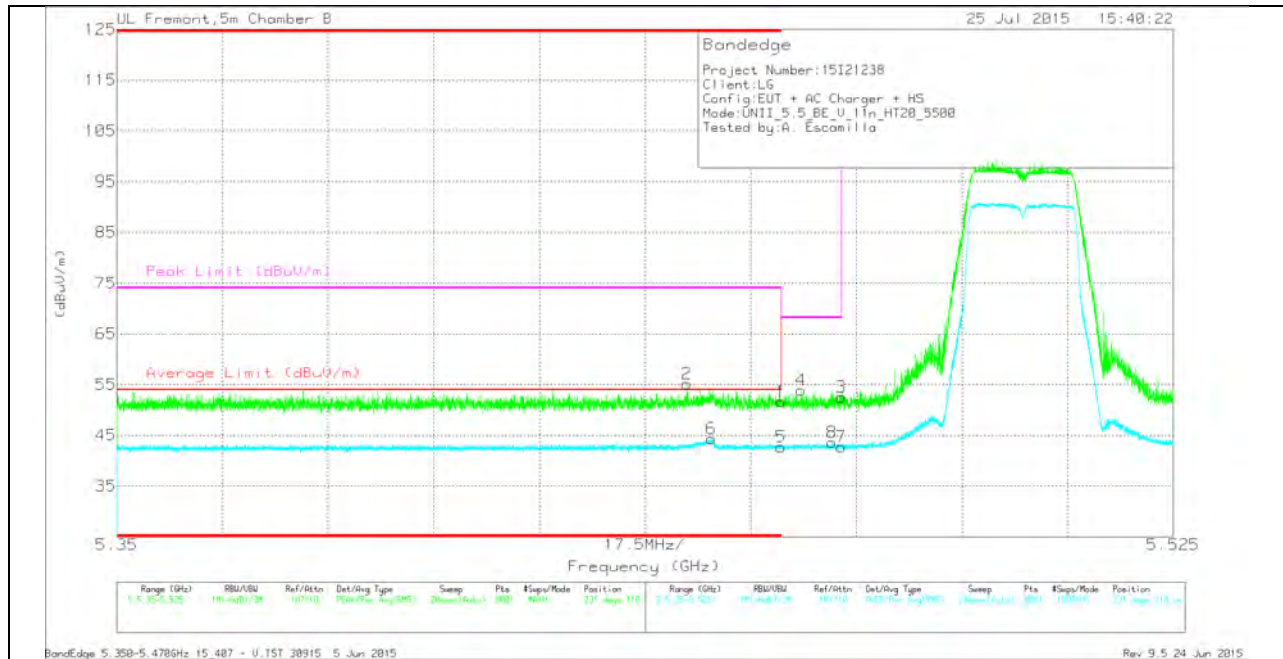
#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 2      | * 5.445         | 42.07                | Pk  | 34.5           | -22                    | 0            | 54.57                      | -                      | -           | 74                  | -19.43         | 190            | 138         | H        |
| 6      | * 5.449         | 31.79                | RMS | 34.5           | -22.1                  | .25          | 44.44                      | -                      | -           | -                   | -              | 190            | 138         | H        |
| 1      | * 5.46          | 39.13                | Pk  | 34.5           | -22                    | 0            | 51.63                      | -                      | -           | 74                  | -22.37         | 190            | 138         | H        |
| 5      | * 5.46          | 30.3                 | RMS | 34.5           | -22                    | .25          | 43.05                      | -                      | -           | -                   | -              | 190            | 138         | H        |
| 8      | 5.462           | 30.88                | RMS | 34.5           | -22                    | .25          | 43.63                      | -                      | -           | -                   | -              | 190            | 138         | H        |
| 4      | 5.469           | 41.76                | Pk  | 34.5           | -22.1                  | 0            | 54.16                      | -                      | -           | 68.2                | -14.04         | 190            | 138         | H        |
| 3      | 5.47            | 37.85                | Pk  | 34.5           | -22.1                  | 0            | 50.25                      | -                      | -           | 68.2                | -17.95         | 190            | 138         | H        |
| 7      | 5.47            | 29.98                | RMS | 34.5           | -22.1                  | .25          | 42.63                      | -                      | -           | -                   | -              | 190            | 138         | H        |

### VERTICAL PEAK AND AVERAGE PLOT

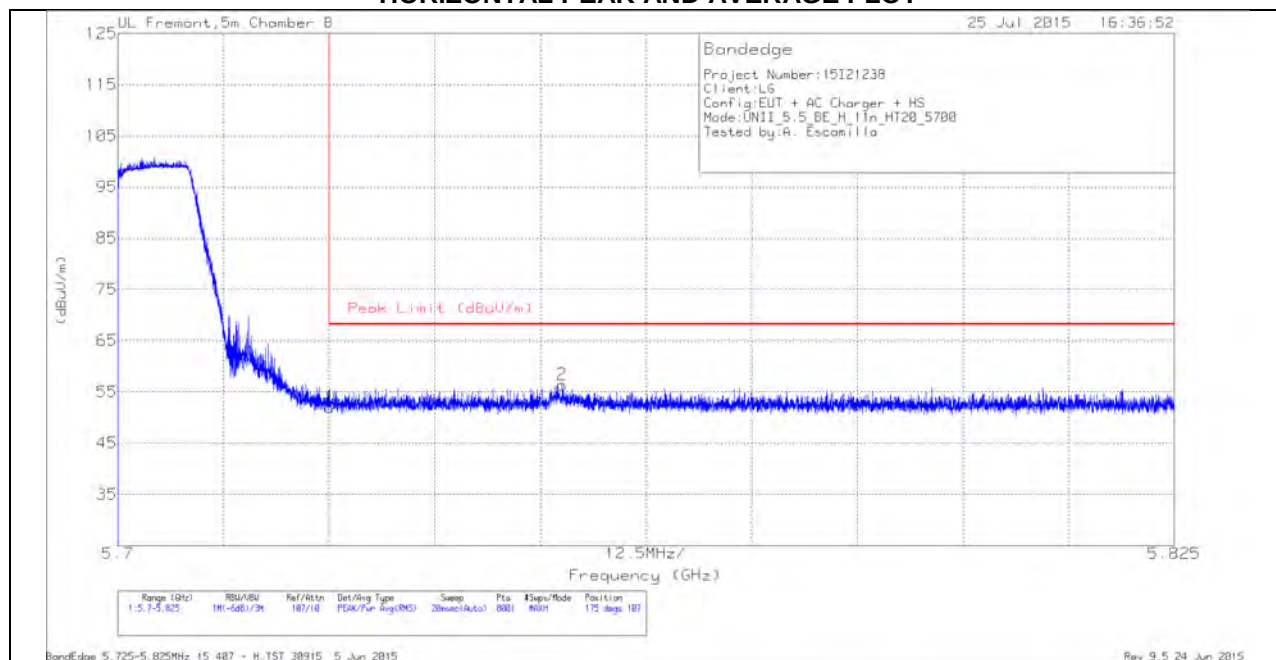


### VERTICAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cbl/Fit r/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 2      | * 5.444         | 42.68                | Pk  | 34.5           | -22                    | 0            | 55.18                      | -                      | -           | 74                  | -18.82         | 231            | 110         | V        |
| 6      | * 5.448         | 31.68                | RMS | 34.5           | -22.1                  | .25          | 44.33                      | -                      | -           | -                   | -              | 231            | 110         | V        |
| 1      | * 5.46          | 39.2                 | Pk  | 34.5           | -22                    | 0            | 51.7                       | -                      | -           | 74                  | -22.3          | 231            | 110         | V        |
| 5      | * 5.46          | 30                   | RMS | 34.5           | -22                    | .25          | 42.75                      | -                      | -           | -                   | -              | 231            | 110         | V        |
| 4      | 5.463           | 41.42                | Pk  | 34.5           | -22                    | 0            | 53.92                      | -                      | -           | 68.2                | -14.28         | 231            | 110         | V        |
| 8      | 5.468           | 30.91                | RMS | 34.5           | -22.1                  | .25          | 43.56                      | -                      | -           | -                   | -              | 231            | 110         | V        |
| 3      | 5.47            | 40.09                | Pk  | 34.5           | -22.1                  | 0            | 52.49                      | -                      | -           | 68.2                | -15.71         | 231            | 110         | V        |
| 7      | 5.47            | 30.06                | RMS | 34.5           | -22.1                  | .25          | 42.71                      | -                      | -           | -                   | -              | 231            | 110         | V        |

## AUTHORIZED BANDEDGE (HIGH CHANNEL)

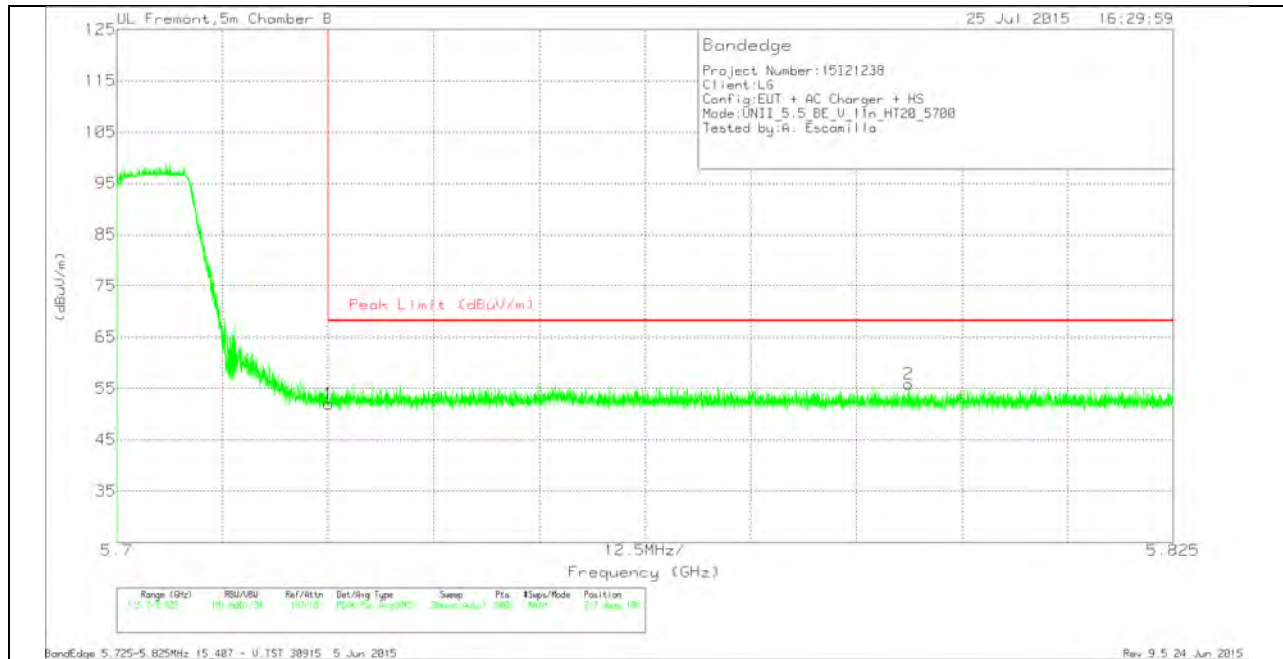
### HORIZONTAL PEAK AND AVERAGE PLOT



### HORIZONTAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cbl/F ltr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|---------------------|----------------|----------------|-------------|----------|
| 1      | 5.725           | 38.67                | Pk  | 35             | -21.7                  | 0            | 51.97                      | 68.2                | -16.23         | 175            | 107         | H        |
| 2      | 5.753           | 43.04                | Pk  | 35.1           | -21.7                  | 0            | 56.44                      | 68.2                | -11.76         | 175            | 107         | H        |

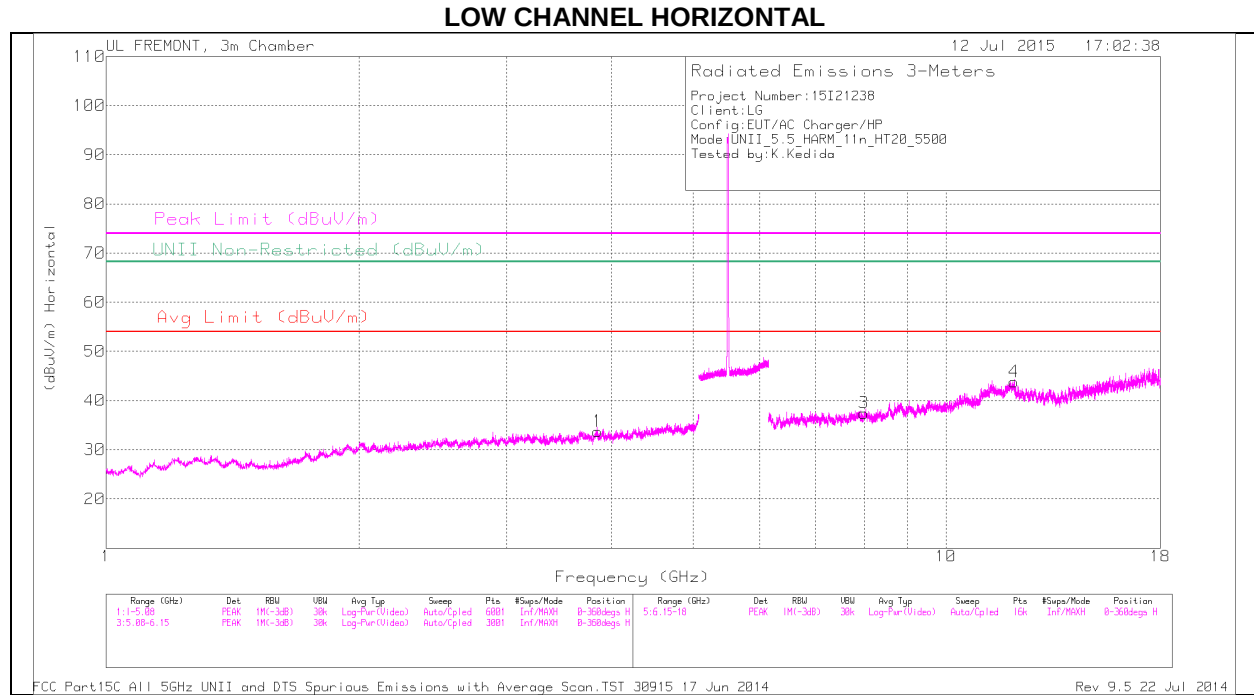
### VERTICAL PEAK AND AVERAGE PLOT



### VERTICAL DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T345 (dB/m) | Amp/Cb/F ltr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|-----------------------|--------------|----------------------------|---------------------|----------------|----------------|-------------|----------|
| 1      | 5.725           | 38.68                | Pk  | 35             | -21.7                 | 0            | 51.98                      | 68.2                | -16.22         | 217            | 108         | V        |
| 2      | 5.794           | 42.37                | Pk  | 35.2           | -21.7                 | 0            | 55.87                      | 68.2                | -12.33         | 217            | 108         | V        |

## HARMONICS AND SPURIOUS EMISSIONS



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.