# CERTIFICATION TEST REPORT

## Report Number. : 11854771-E1V2

| | | |
|---|---|---|
| **Applicant** | : | GATE LABS, INC.<br>379 CLEMENTINA ST, SUITE A<br>SAN FRANCISCO, CA, 94103 USA |
| **Model** | : | BLB0 |
| **FCC ID** | : | 2AMVI-G1 |
| **IC** | : | 22940-G1 |
| **EUT Description** | : | Smart Lock |
| **Test Standard(s)** | : | FCC 47 CFR PART 15 SUBPART C<br>INDUSTRY CANADA RSS - 247 ISSUE 2<br>INDUSTRY CANADA RSS-GEN ISSUE 4 |

**Date Of Issue:**
August 10, 2017

**Prepared by:**
UL Verification Services Inc.
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NVLAP LAB CODE 200065-0

## Revision History

| Rev. | Issue Date | Revisions | Revised By |
|---|---|---|---|
| V1 | 07/27/2017 | Initial Issue | --- |
| V2 | 08/10/2017 | Updated section 9.1 | F. de Anda |


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# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** GATE LABS, INC.
379 CLEMENTINA ST, SUITE A
SAN FRANCISCO, CA, 94103 USA

**EUT DESCRIPTION:** SMART LOCK

**MODEL:** BLB0

**SERIAL NUMBER:** PVTGK164 -Radiated, PVTGK010 -Conducted

**DATE TESTED:** July 12th, 2017 – July 24th, 2017

| APPLICABLE STANDARDS | |
|---|---|
| **STANDARD** | **TEST RESULTS** |
| CFR 47 Part 15 Subpart C | Pass |
| INDUSTRY CANADA RSS-247 Issue 2 | Pass |
| INDUSTRY CANADA RSS-GEN Issue 4 | 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 the U.S. government.

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UL Verification Services Inc.


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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, KDB 558074 D01 v04, ANSI C63.10-2013, RSS-GEN Issue 4, and RSS-247 Issue 2.

# 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 |
|---|---|
| ☒ Chamber A | ☐ Chamber D |
| ☐ Chamber B | ☐ Chamber E |
| ☒ Chamber C | ☐ Chamber F |
| | ☐ Chamber G |
| | ☐ Chamber H |

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers A through C are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-3, respectively. Chambers D through H are covered under Industry Canada company address code 22541 with site numbers 22541 -1 through 22541-5, respectively.

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.


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# 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:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

## 4.3. MEASUREMENT UNCERTAINTY

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

| Parameter | Uncertainty |
|---|---|
| Worst Case Conducted Disturbance, 9KHz to 0.15 MHz | 3.84 dB |
| Worst Case Conducted Disturbance, 0.15 to 30 MHz | 3.65 dB |
| Worst Case Radiated Disturbance, 9KHz to 30 MHz | 3.15 dB |
| Worst Case Radiated Disturbance, 30 to 1000 MHz | 5.36 dB |
| Worst Case Radiated Disturbance, 1000 to 18000 MHz | 4.32 dB |
| Worst Case Radiated Disturbance, 18000 to 26000 MHz | 4.45 dB |
| Worst Case Radiated Disturbance, 26000 to 40000 MHz | 5.24 dB |

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


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# 5. EQUIPMENT UNDER TEST

## 5.1. DESCRIPTION OF EUT

The EUT is a wireless Smart Lock.

## 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) |
|---|---|---|---|
| 2412 - 2462 | 802.11b | 14.01 | 25.18 |
| 2412 - 2462 | 802.11g | 12.85 | 19.28 |

## 5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an antenna, with a maximum gain of 3.2 dBi.

## 5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was 1.1.0.0.

## 5.5. WORST-CASE CONFIGURATION AND MODE

For below 1GHz radiated emission 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 orientation of the EUT was set in its designated fixed position for standard operation.

Worst-case data rates as provided by the client were:
Based on the baseline scan, the worst-case data rates were:

802.11b mode: 1 Mbps
802.11g mode: 6 Mbps


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## 5.6. DESCRIPTION OF TEST SETUP

**SUPPORT EQUIPMENT**

| Support Equipment List | | | | |
|---|---|---|---|---|
| **Description** | **Manufacturer** | **Model** | **Serial Number** | **FCC ID** |
| Laptop | Acer | Aspire E5-575 | NXGE6AA0196470A5A57600 | PPD-QCNFA435 |
| Interface Board | Gate Labs | 634815170015 | N/A | N/A |

**I/O CABLES**

| I/O Cable List | | | | | | |
|---|---|---|---|---|---|---|
| **Cable No** | **Port** | **# of identical ports** | **Connector Type** | **Cable Type** | **Cable Length (m)** | **Remarks** |
| 1 | Data | 1 | header | Un-shielded | 0.15 | |
| 2 | USB | 1 | USB | Shielded | 1 | |

**TEST SETUP**

The EUT was connected to a support laptop to set test modes via an interface board. Radiated testing was performed with EUT in standalone mode, battery powered. Test software exercised the radio card.


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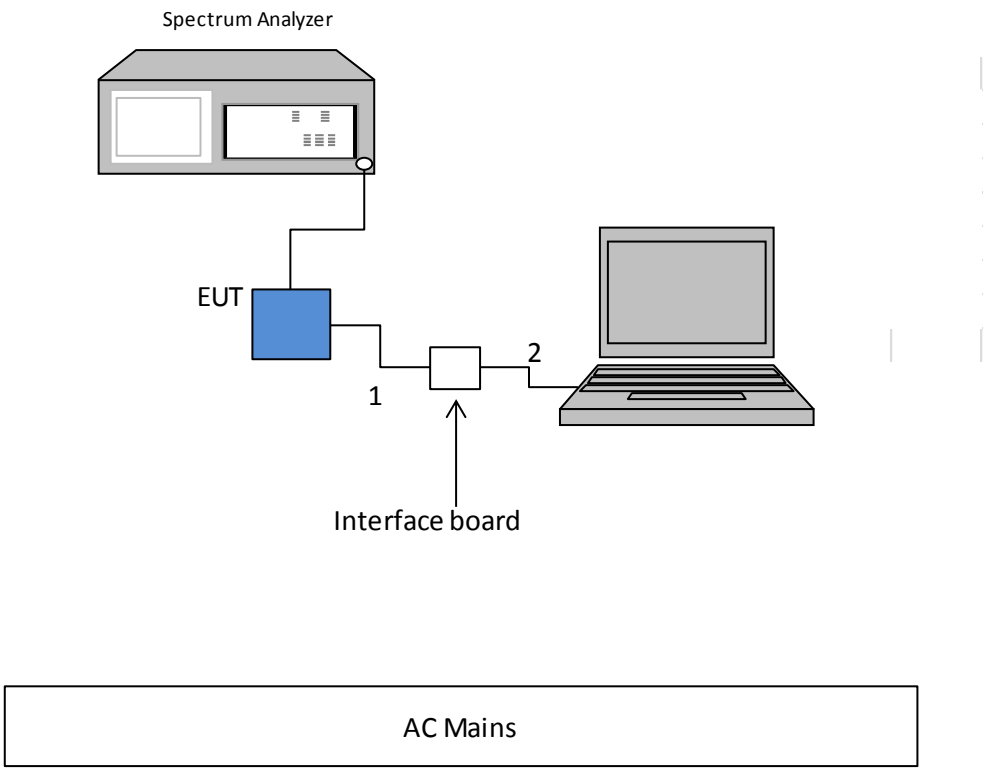
**SETUP DIAGRAM FOR ANTENNA PORT CONDUCTED TESTS**





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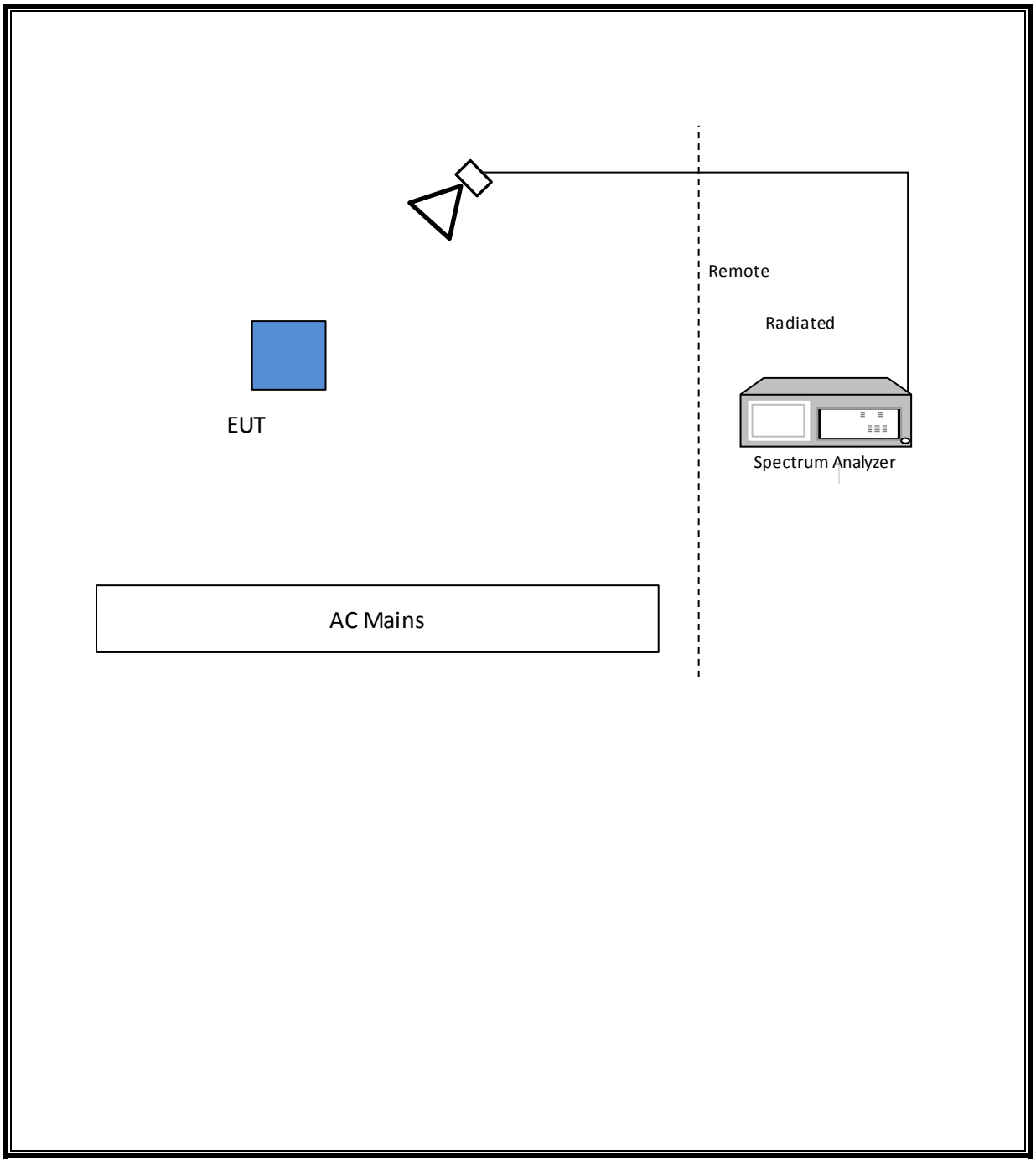
**SETUP DIAGRAM FOR RADIATED TESTS**





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# 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** |
| Antenna, Broadband Hybrid, 30MHz to 2000MHz w/4dB Pad | Sunol Sciences Corp. | JB3 | T477 | 06/22/2018 |
| Antenna, Horn 1-18GHz | ETS-Lindgren | 3117 | T712 | 01/30/2018 |
| Antenna, Horn 18-26.5GHz | ARA | MWH-1826/B | T449 | 06/12/2018 |
| Power Meter, P-series single channel | Agilent (Keysight) Technologies | N1911A | T1264 | 07/08/2018 |
| Power Sensor, P – series, 50MHz to 18GHz, Wideband | Agilent (Keysight) Technologies | N1921A | T413 | 06/20/2018 |
| Amplifier, 1-26.5GHz | MITEQ | AFS42-00101800-25-S-42 | T1165 | 08/01/2017 |
| Amplifier, 1-26.5GHz | Agilent (Keysight) Technologies | 8449B | T404 | 07/05/2018 |
| Amplifier, 10kHz-1GHz | Agilent (Keysight) Technologies | 8447D | T15 | 08/26/2017 |
| Amplifier, 1-8 GHz | MITEQ | AMF-4D-01000800-30-29P | T1170 | 04/28/2018 |
| Spectrum Analyzer, PSA, 3Hz to 26.5GHz | Agilent (Keysight) Technologies | E4440A | T908 | 04/13/2018 |
| Spectrum Analyzer, PXA, 3Hz to 44GHz | Agilent (Keysight) Technologies | N9030A | T907 | 01/23/2018 |
| Spectrum Analyzer, PSA, 3Hz to 26.5GHz | Agilent (Keysight) Technologies | E9030A | T905 | 01/11/2018 |
| LISN | FISCHER | FCC-LISN-50/250-25-2-01 | T1310 | 06/08/2018 |

| Test Software List | | | |
|---|---|---|---|
| **Description** | **Manufacturer** | **Model** | **Version** |
| Radiated Software | UL | UL EMC | Ver 9.5, Apr 26, 2016 |
| Conducted Software | UL | UL EMC | Ver 9.5, May 26, 2015 |
| Antenna Port Software | UL | UL RF | Ver 5.1.1, July 15, 2016 |


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# 7. MEASUREMENT METHODS

On Time and Duty Cycle: KDB 558074 D01 v04, Section 6.

6 dB BW: KDB 558074 D01 v04, Section 8.1.

99% BW: ANSI C63.10-2013, Section 6.9.3.

Output Power: KDB 558074 D01 v04, Section 9.2.3.2.

Power Spectral Density: KDB 558074 D01 v04, Section 10.3.

Out-of-band emissions in non-restricted bands: KDB 558074 D01 v04, Section 11.1 (b).

Out-of-band emissions in restricted bands: KDB 558074 D01 v04, Section 12.1.

Band-edge: KDB 558074 D01 v04, Section 12.1.


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# 8. ANTENNA PORT TEST RESULTS

## 8.1. ON TIME AND DUTY CYCLE

**LIMITS**

None; for reporting purposes only.

**PROCEDURE**

KDB 558074 Zero-Span Spectrum Analyzer Method.

**ON TIME AND DUTY CYCLE RESULTS**

| Mode | ON Time B (msec) | Period (msec) | Duty Cycle x (linear) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) | 1/B Minimum VBW (kHz) |
|---|---|---|---|---|---|---|
| 802.11b | 128.200 | 128.200 | 1.000 | 100.00% | 0.00 | 0.010 |
| 802.11g | 128.200 | 128.200 | 1.000 | 100.00% | 0.00 | 0.010 |


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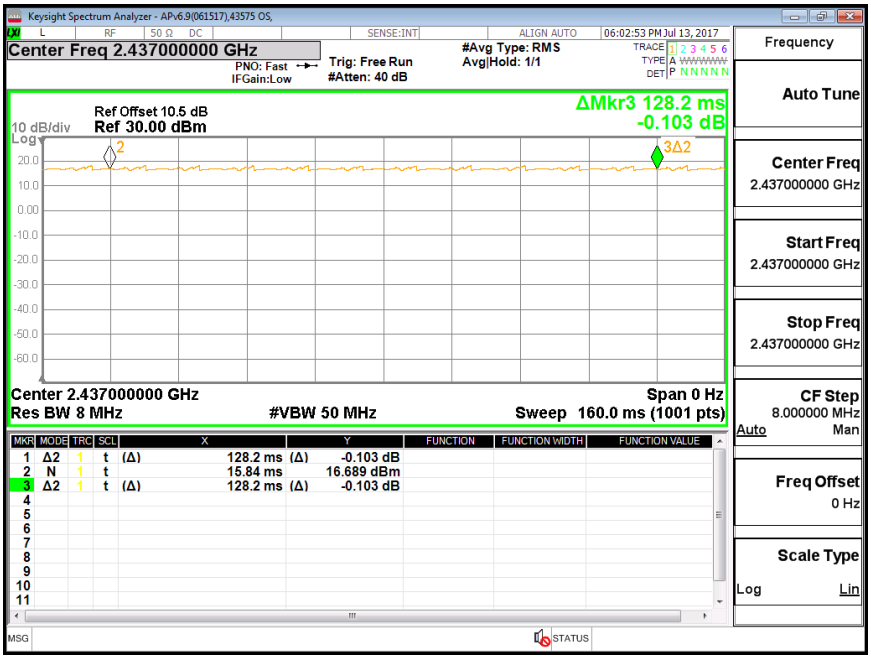
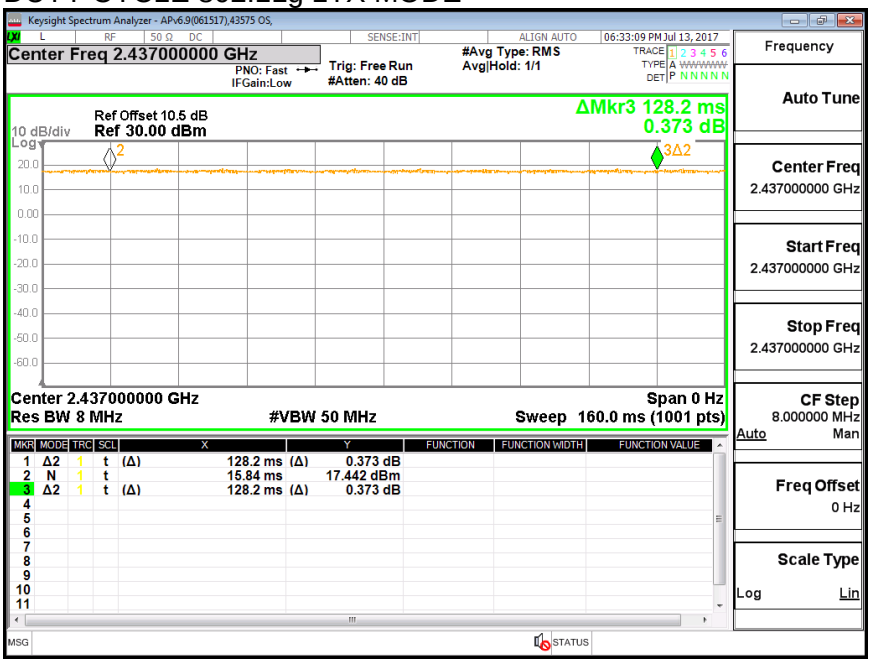
## DUTY CYCLE PLOTS

### 2.4 GHz BAND

DUTY CYCLE 802.11b 1TX MODE




DUTY CYCLE 802.11g 1TX MODE





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## 8.2. 802.11b MODE IN THE 2.4 GHz BAND

### 8.2.1. 6 dB BANDWIDTH

**LIMITS**

FCC §15.247 (a) (2)

IC RSS-247 (5.2) (1)

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

**RESULTS**

| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | Minimum Limit (MHz) |
|---|---|---|---|
| Low | 2412 | 10.040 | 0.5 |
| Mid | 2437 | 9.960 | 0.5 |
| High | 2462 | 13.040 | 0.5 |


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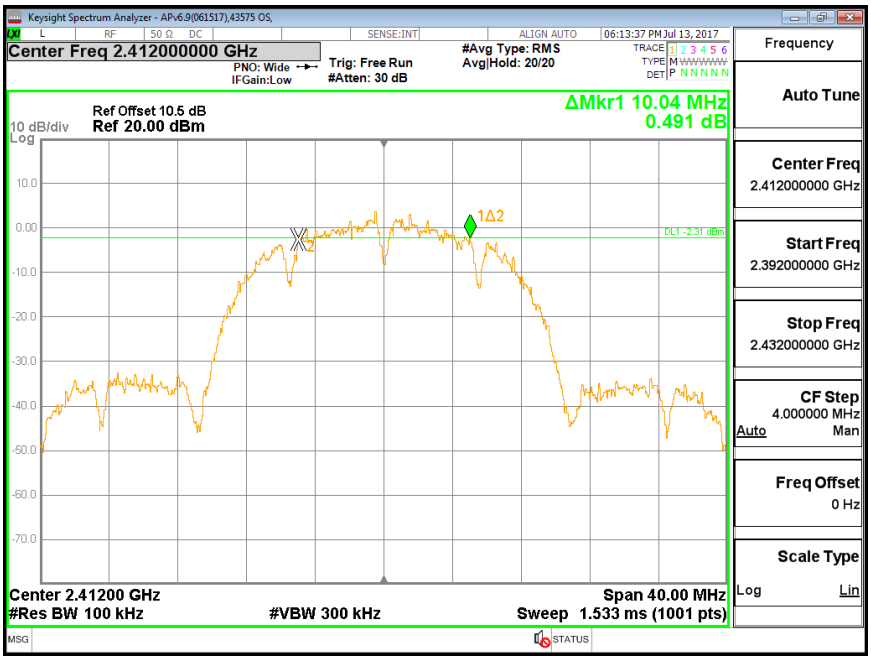
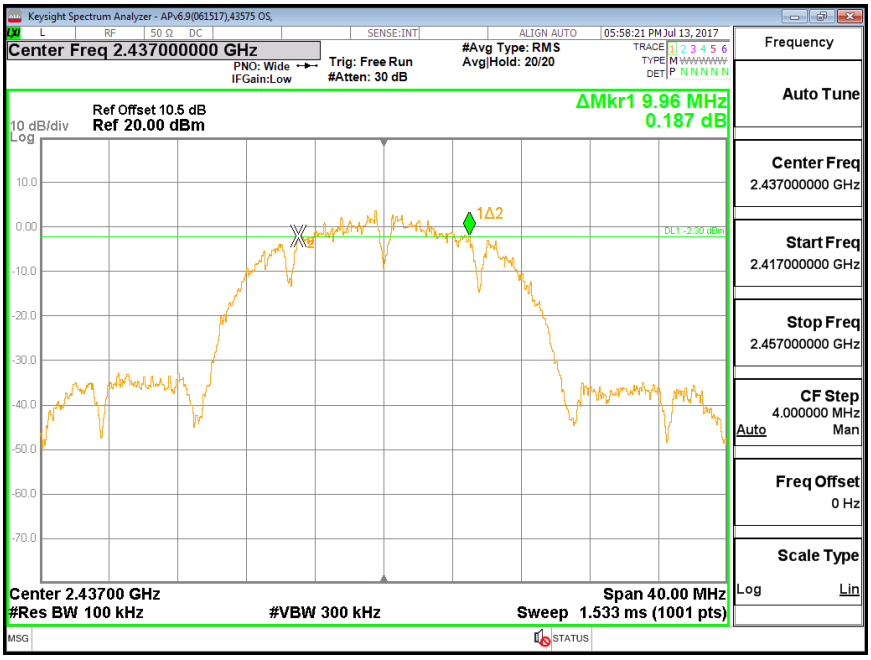
**6 dB BANDWIDTH**

6 dB BANDWIDTH LOW CH




6 dB BANDWIDTH MID CH





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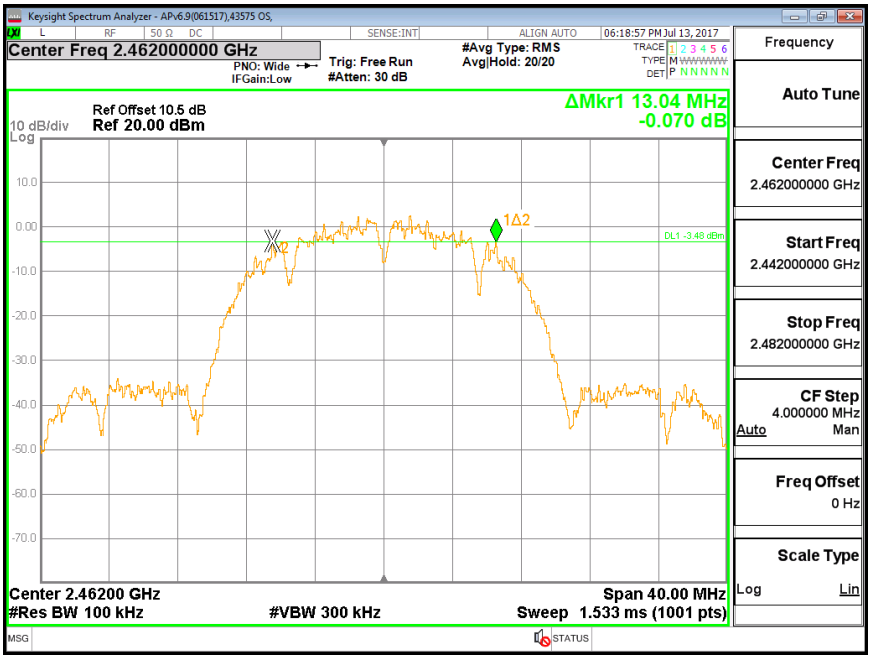
6 dB BANDWIDTH HIGH CH





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### 8.2.2. 99% BANDWIDTH

**LIMITS**

None; for reporting purposes only.

**TEST PROCEDURE**

ANSI C63.10: 2013 Section 6.9.3

**RESULTS**

| Channel | Frequency (MHz) | 99% Bandwidth Chain 0 (MHz) |
|---|---|---|
| Low | 2412 | 16.057 |
| Mid | 2437 | 15.917 |
| High | 2462 | 15.978 |


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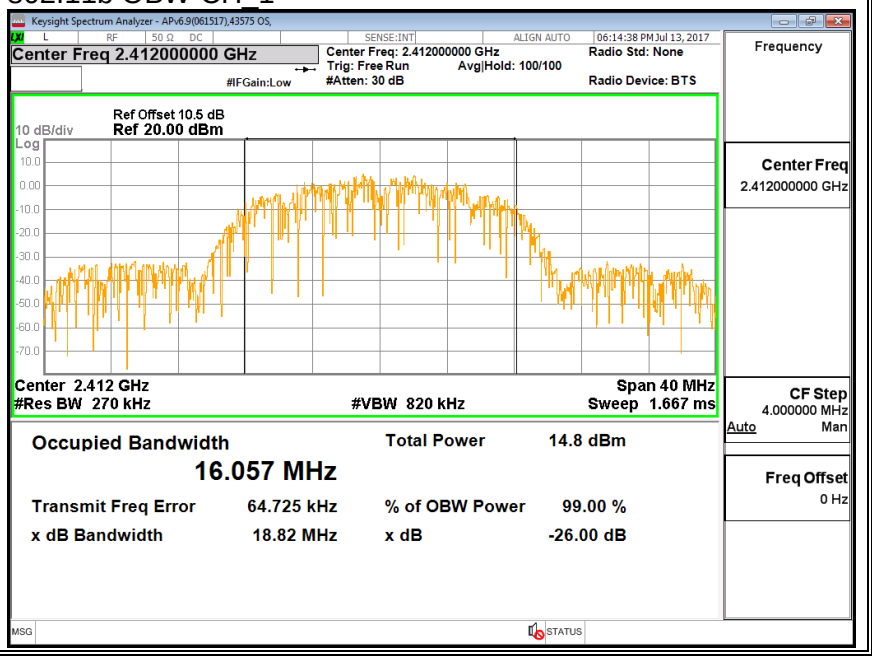
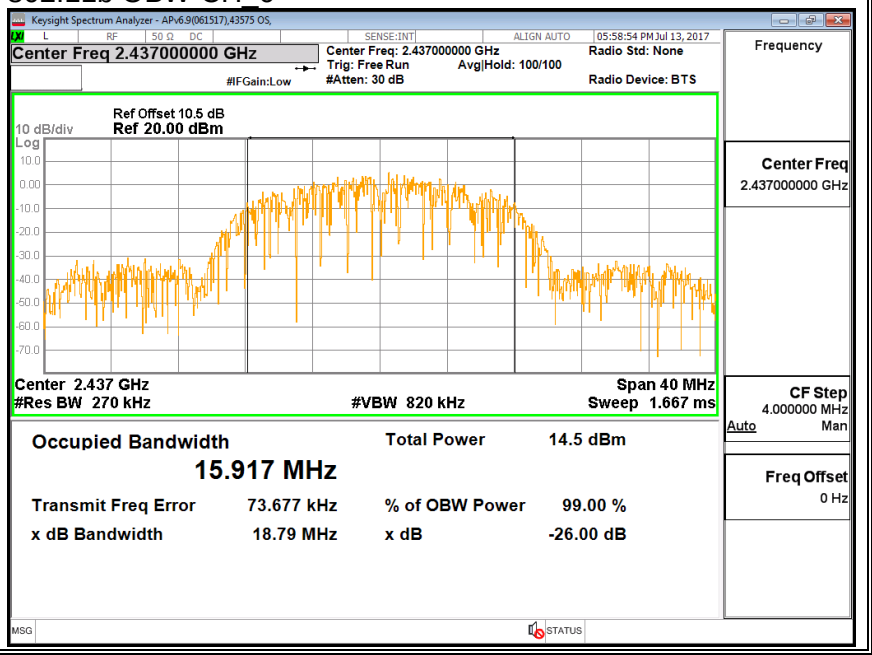
802.11b OBW CH_1




802.11b OBW CH_6





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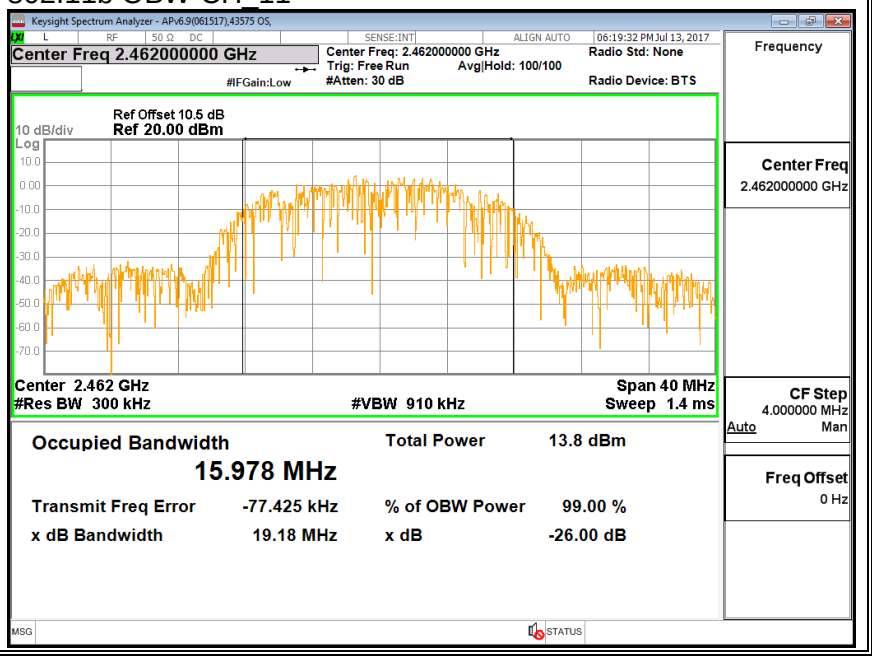
802.11b OBW CH_11





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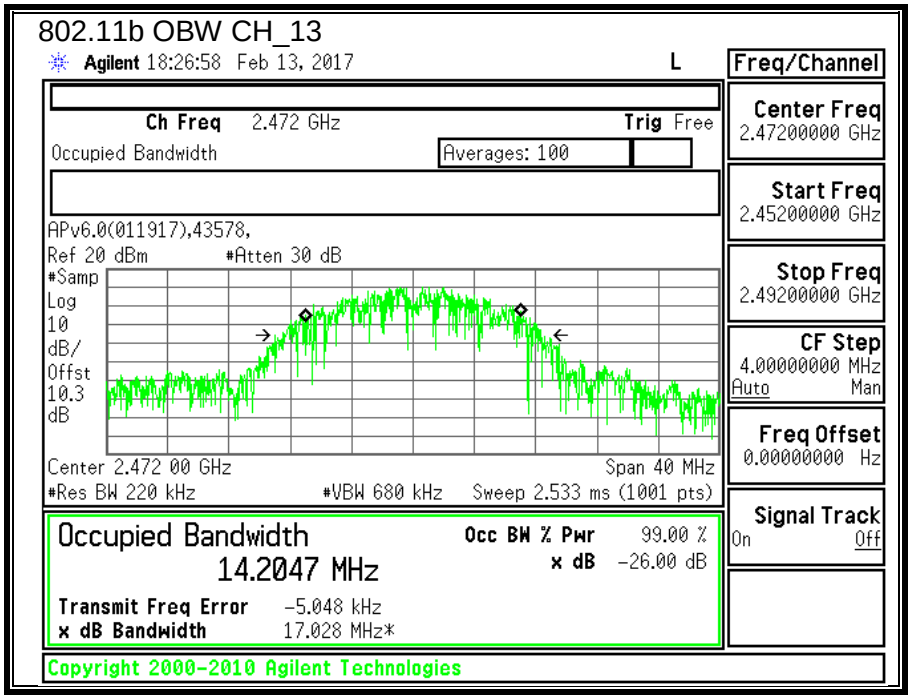


### 8.2.3. OUTPUT POWER

**LIMITS**

FCC §15.247

IC RSS-247 (5.4) (4)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**DIRECTIONAL ANTENNA GAIN**

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


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**RESULTS**

**Limits**

| Channel | Frequency (MHz) | Directional Gain (dBi) | FCC Power Limit (dBm) | IC Power Limit (dBm) | IC EIRP Limit (dBm) | Max Power (dBm) |
|---|---|---|---|---|---|---|
| Low | 2412 | 3.20 | 30.00 | 30 | 36 | 30.00 |
| Mid | 2437 | 3.20 | 30.00 | 30 | 36 | 30.00 |
| High | 2462 | 3.20 | 30.00 | 30 | 36 | 30.00 |

| | | |
|---|---|---|
| **Duty Cycle CF (dB)** | 0.00 | **Included in Calculations of Corr'd Power** |

**Results**

| Channel | Frequency (MHz) | Chain 0 Meas Power (dBm) | Total Corr'd Power (dBm) | Power Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|
| Low | 2412 | 14.01 | 14.01 | 30.00 | -15.99 |
| Mid | 2437 | 13.73 | 13.73 | 30.00 | -16.27 |
| High | 2462 | 13.59 | 13.59 | 30.00 | -16.41 |

**TEST INFORMATION**

**Date**: 7/13/17
**Tester:** 43575 OS


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## 8.2.4. POWER SPECTRAL DENSITY

**LIMITS**

FCC §15.247

IC RSS-247 (5.2) (2)

**RESULTS**

| Duty Cycle CF (dB) | 0.00 | Included in Calculations of Corr'd PSD |
|---|---|---|

**PSD Results**

| Channel | Frequency (MHz) | Chain 0 Meas (dBm) | Total Corr'd PSD (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|
| Low | 2412 | -8.23 | -8.23 | 8.0 | -16.2 |
| Mid | 2437 | -8.24 | -8.24 | 8.0 | -16.2 |
| High | 2462 | -8.36 | -8.36 | 8.0 | -16.4 |


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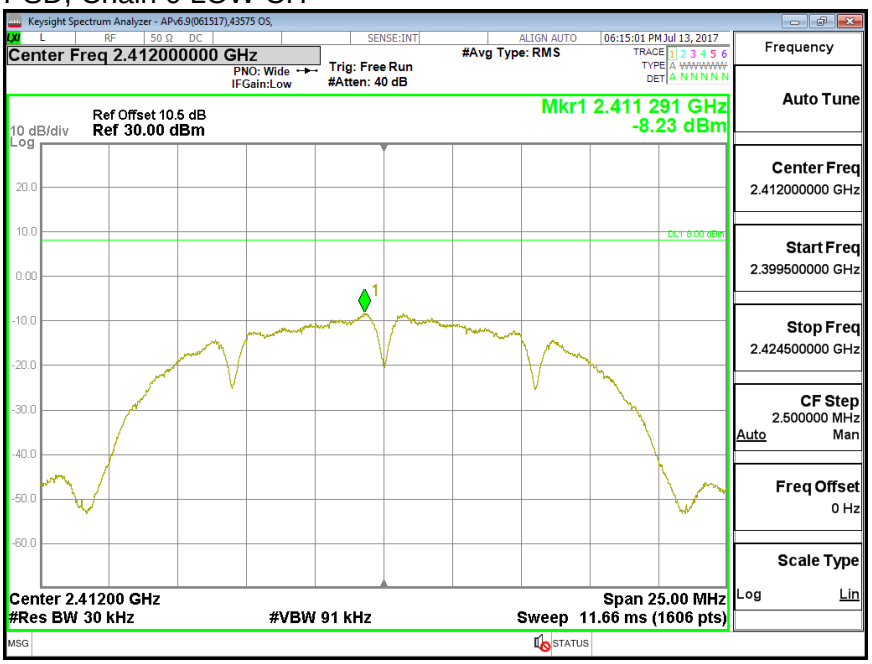
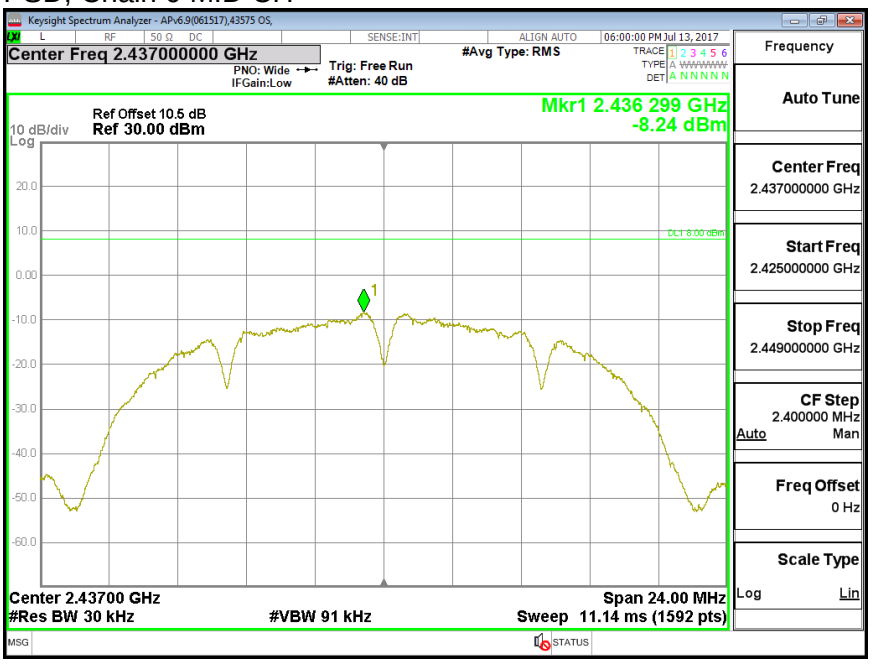
**PSD, Chain 0**

PSD, Chain 0 LOW CH




PSD, Chain 0 MID CH





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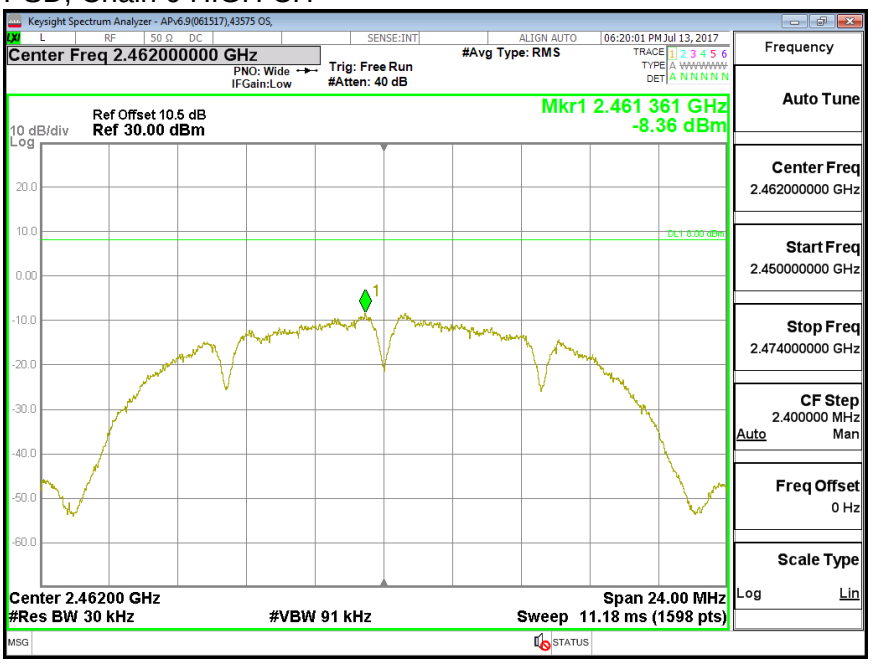
PSD, Chain 0 HIGH CH





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### 8.2.5. OUT-OF-BAND EMISSIONS

**LIMITS**

FCC §15.247 (d)

IC RSS-247 (5.5)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.


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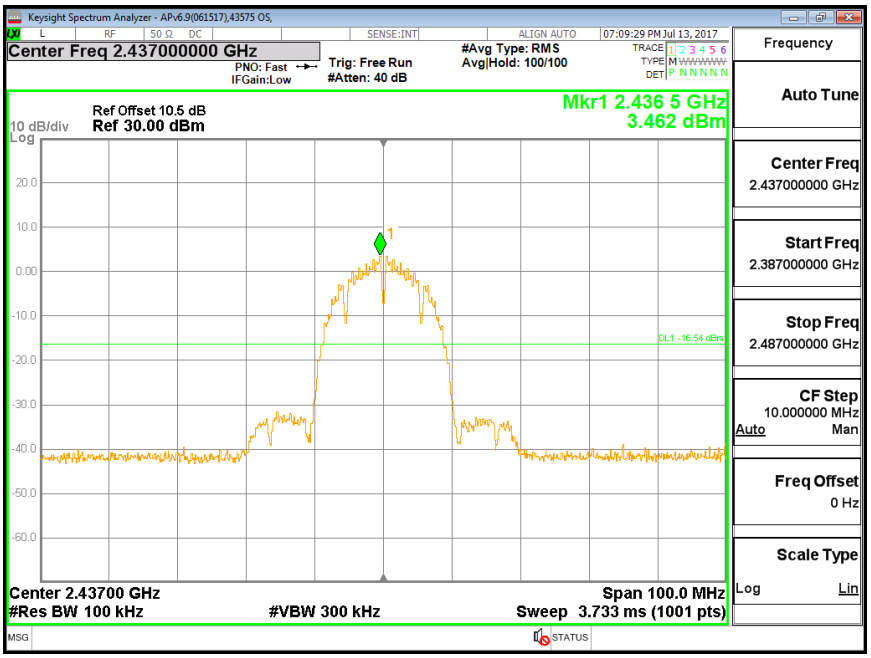
## RESULTS

## IN-BAND REFERENCE LEVEL

REFERENCE LEVEL MID CH





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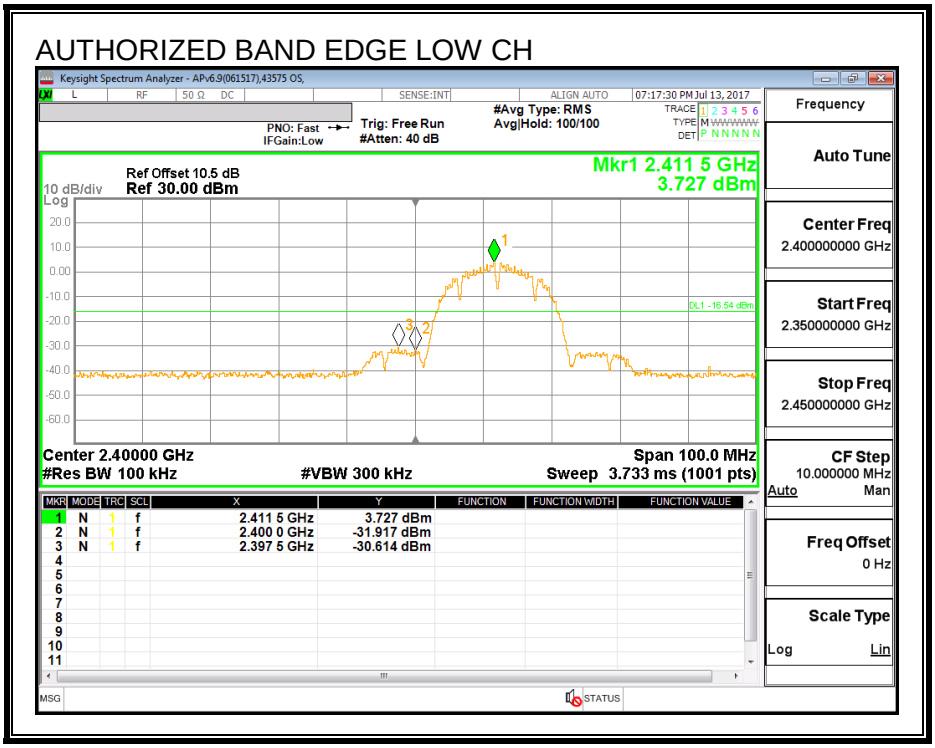
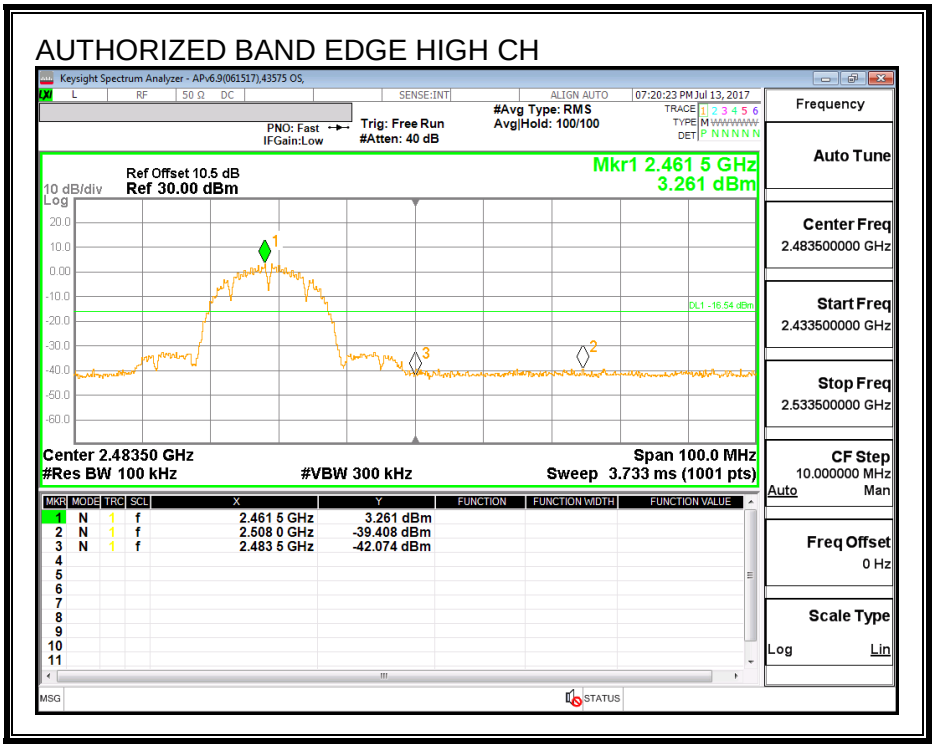
**LOW CHANNEL BANDEDGE**




**HIGH CHANNEL BANDEDGE**





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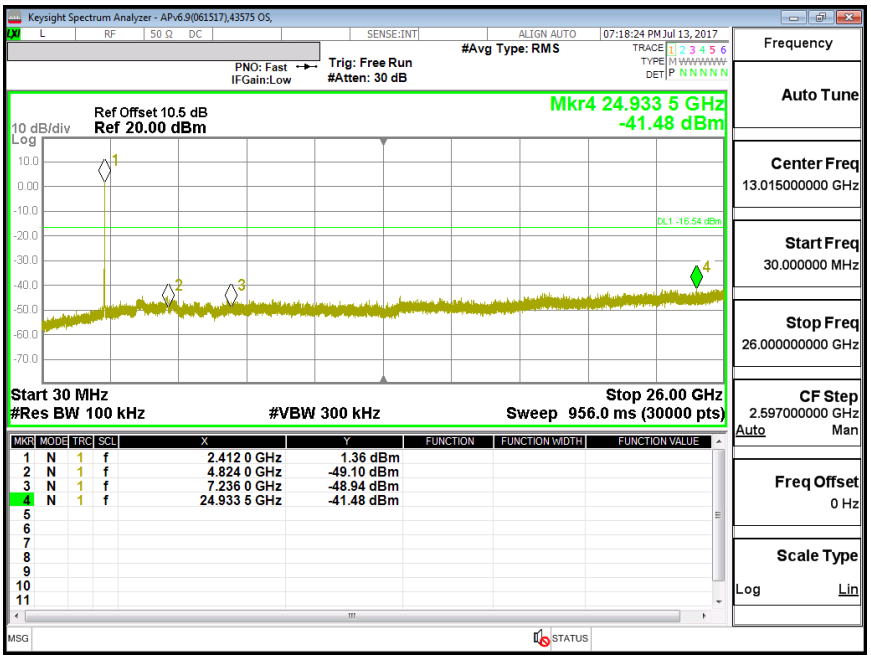
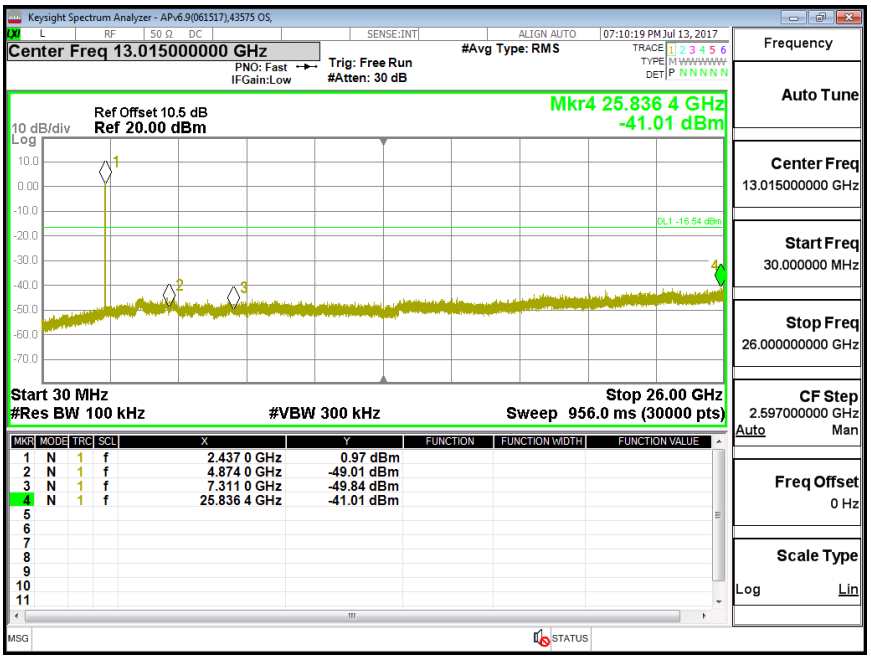
**OUT-OF-BAND EMISSIONS**

OUT OF BAND LOW CH




OUT OF BAND MID CH





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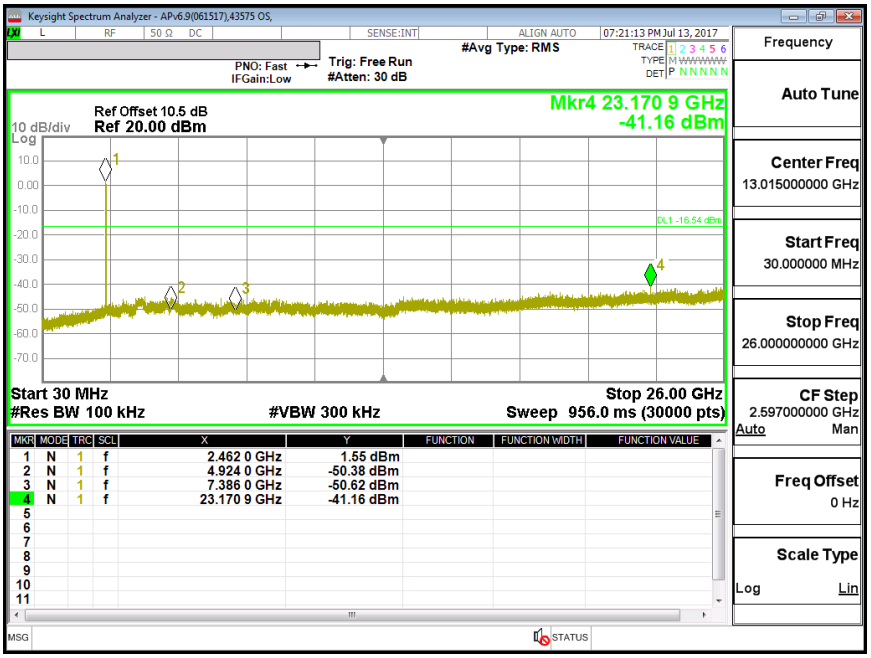
OUT OF BAND HIGH CH





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## 8.3. 802.11g MODE IN THE 2.4 GHz BAND

### 8.3.1. 6 dB BANDWIDTH

**LIMITS**

FCC §15.247 (a) (2)

IC RSS-247 (5.2) (1)

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

**RESULTS**

| Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | Minimum Limit (MHz) |
|---|---|---|---|
| Low | 2412 | 16.360 | 0.5 |
| Mid | 2437 | 16.360 | 0.5 |
| High | 2462 | 16.320 | 0.5 |


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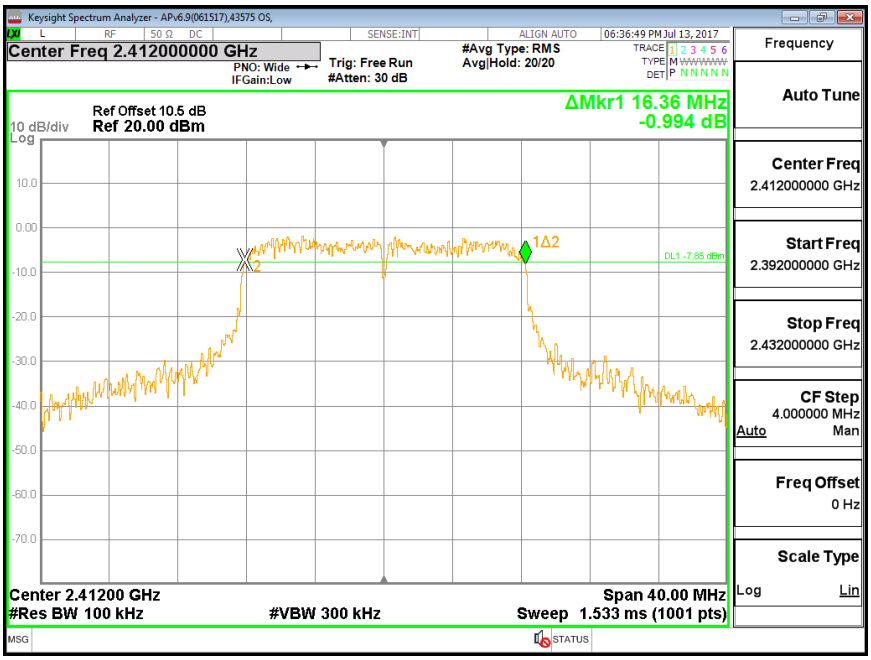
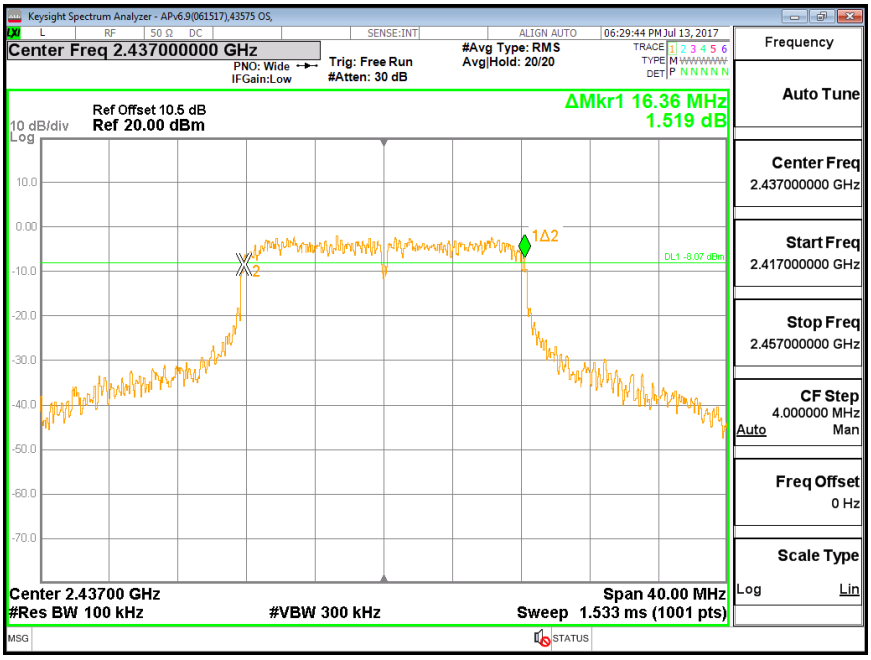
**6 dB BANDWIDTH**

6 dB BANDWIDTH LOW CH




6 dB BANDWIDTH MID CH





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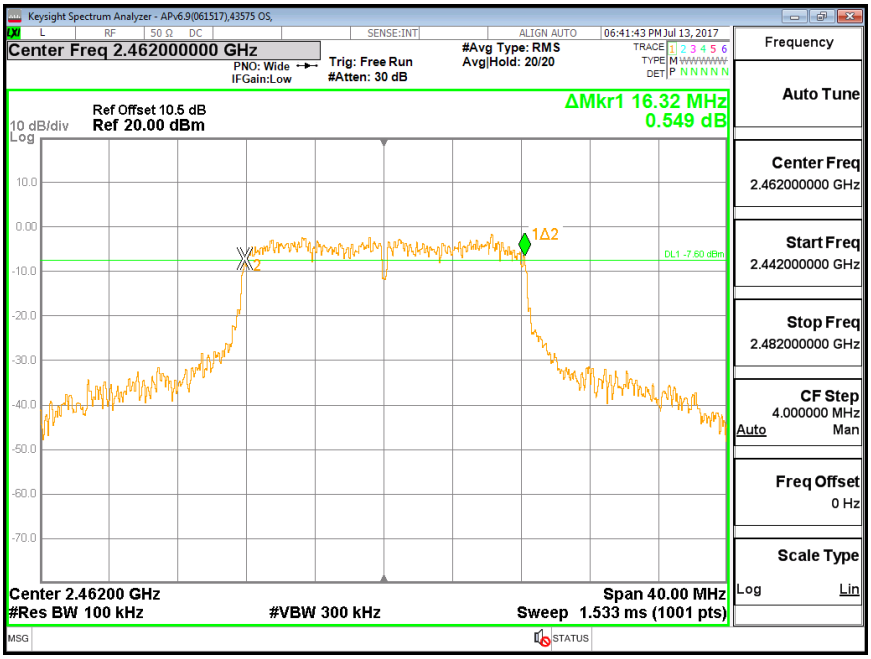
6 dB BANDWIDTH HIGH CH





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### 8.3.2. 99% BANDWIDTH

**LIMITS**

None; for reporting purposes only.

**TEST PROCEDURE**

ANSI C63.10: 2013 Section 6.9.3

**RESULTS**

| Channel | Frequency (MHz) | 99% Bandwidth Chain 0 (MHz) |
|---|---|---|
| Low | 2412 | 16.424 |
| Mid | 2437 | 16.225 |
| High | 2462 | 16.397 |


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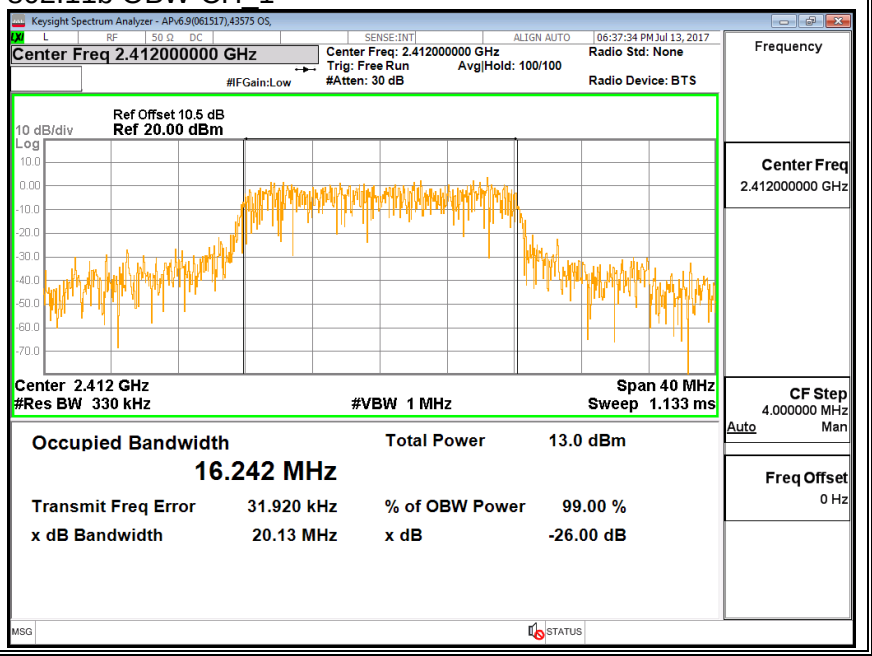
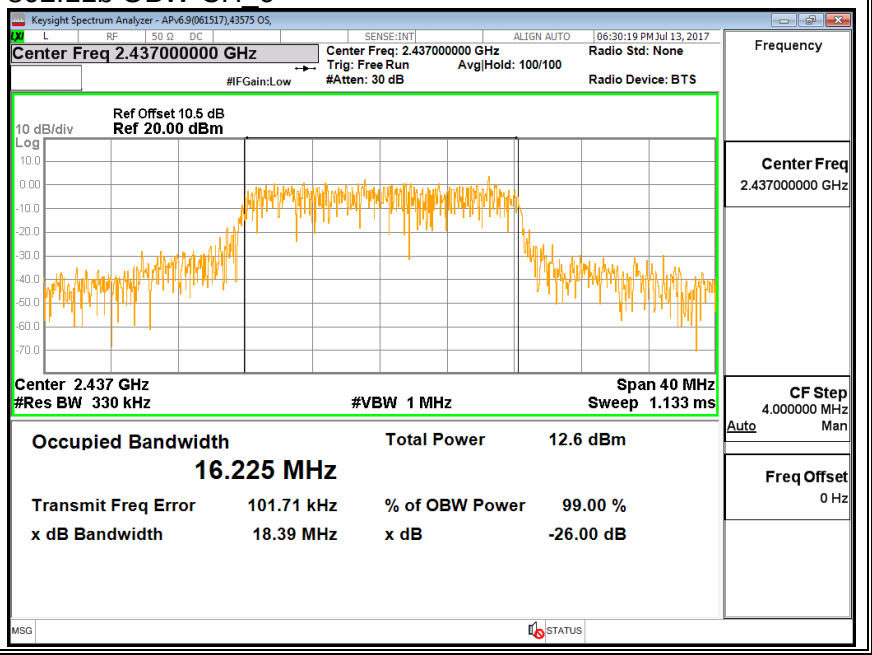
802.11b OBW CH_1




802.11b OBW CH_6





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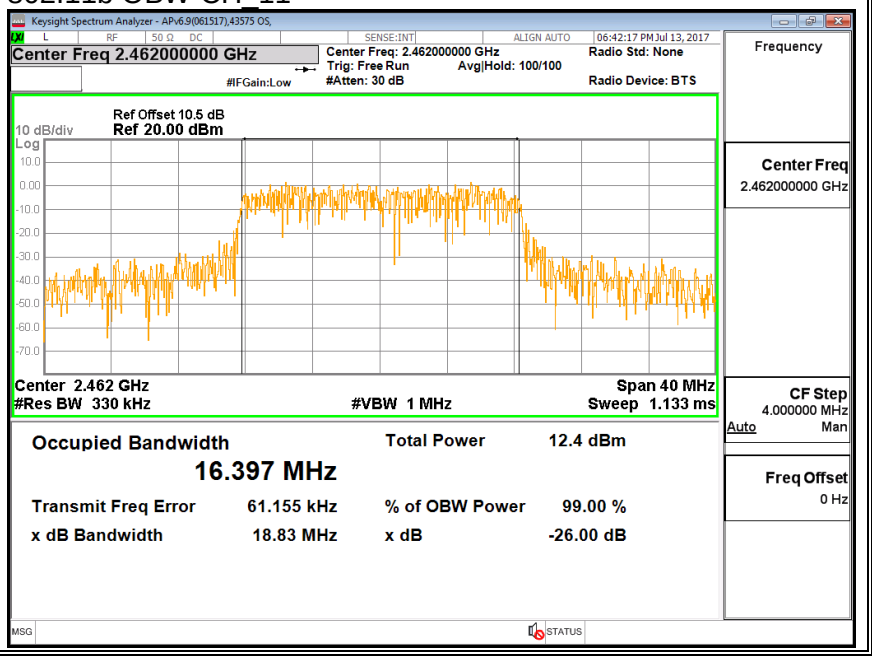
802.11b OBW CH_11





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### 8.3.3. OUTPUT POWER

**LIMITS**

FCC §15.247

IC RSS-247 (5.4) (4)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**DIRECTIONAL ANTENNA GAIN**

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


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**RESULTS**

**Limits**

| Channel | Frequency (MHz) | Directional Gain (dBi) | FCC Power Limit (dBm) | IC Power Limit (dBm) | IC EIRP Limit (dBm) | Max Power (dBm) |
|---|---|---|---|---|---|---|
| Low | 2412 | 3.20 | 30.00 | 30 | 36 | 30.00 |
| Mid | 2437 | 3.20 | 30.00 | 30 | 36 | 30.00 |
| High | 2462 | 3.20 | 30.00 | 30 | 36 | 30.00 |

| | | |
|---|---|---|
| **Duty Cycle CF (dB)** | 0.00 | **Included in Calculations of Corr'd Power** |

**Results**

| Channel | Frequency (MHz) | Chain 0 Meas Power (dBm) | Total Corr'd Power (dBm) | Power Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|
| Low | 2412 | 12.52 | 12.52 | 30.00 | -17.48 |
| Mid | 2437 | 12.25 | 12.25 | 30.00 | -17.75 |
| High | 2462 | 12.85 | 12.85 | 30.00 | -17.15 |

**TEST INFORMATION**

**Date**: 7/13/17
**Tester:** 43575 OS


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## 8.3.4. POWER SPECTRAL DENSITY

**LIMITS**

FCC §15.247

IC RSS-247 (5.2) (2)

**RESULTS**

| Duty Cycle CF (dB) | 0.00 | Included in Calculations of Corr'd PSD |
|---|---|---|

**PSD Results**

| Channel | Frequency (MHz) | Chain 0 Meas (dBm) | Total Corr'd PSD (dBm) | Limit (dBm) | Margin (dB) |
|---|---|---|---|---|---|
| Low | 2412 | -11.68 | -11.68 | 8.0 | -19.7 |
| Mid | 2437 | -11.87 | -11.87 | 8.0 | -19.9 |
| High | 2462 | -12.36 | -12.36 | 8.0 | -20.4 |


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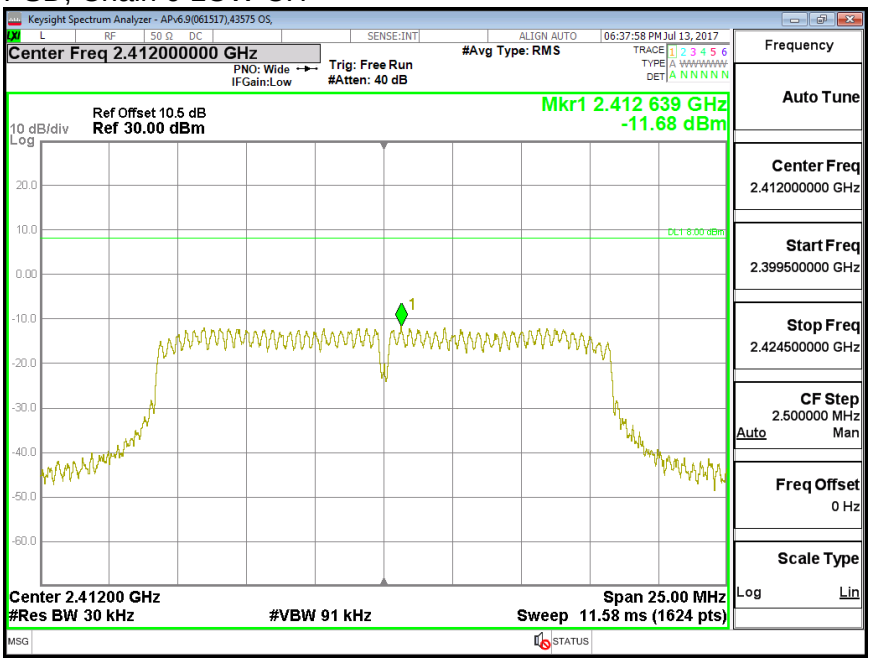
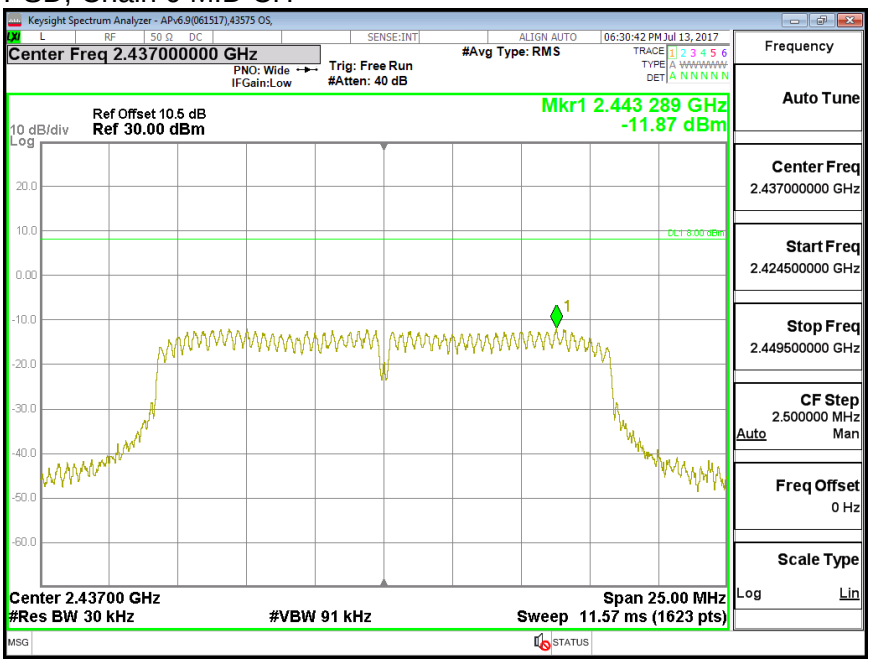
**PSD, Chain 0**

PSD, Chain 0 LOW CH




PSD, Chain 0 MID CH





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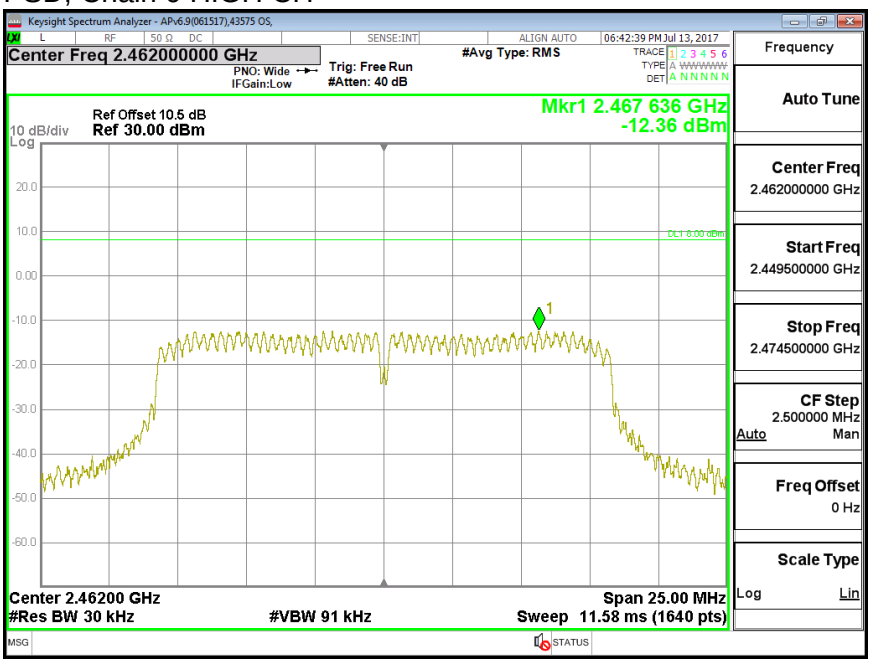
PSD, Chain 0 HIGH CH





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### 8.3.5. OUT-OF-BAND EMISSIONS

**LIMITS**

FCC §15.247 (d)

IC RSS-247 (5.5)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.


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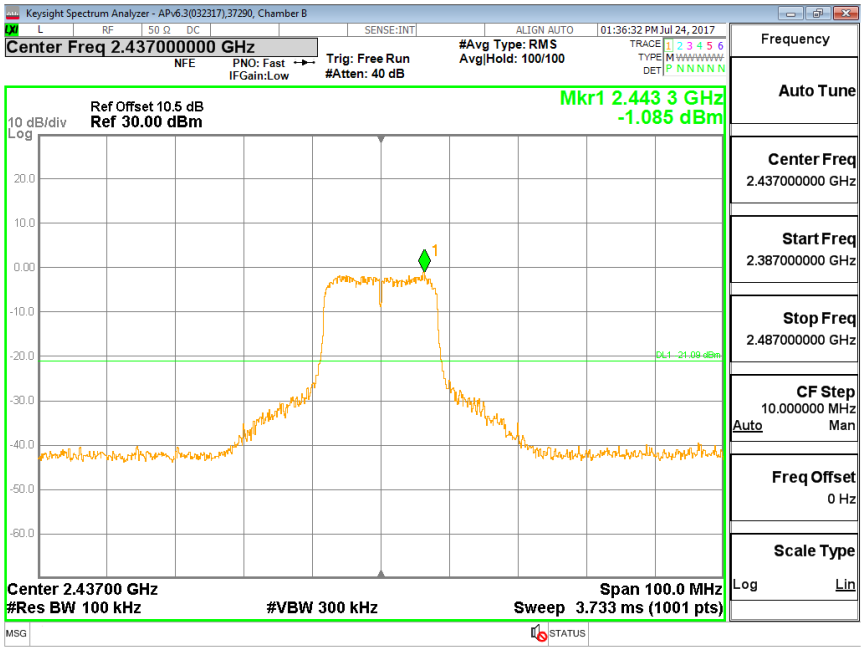
## RESULTS

## IN-BAND REFERENCE LEVEL

REFERENCE LEVEL MID CH





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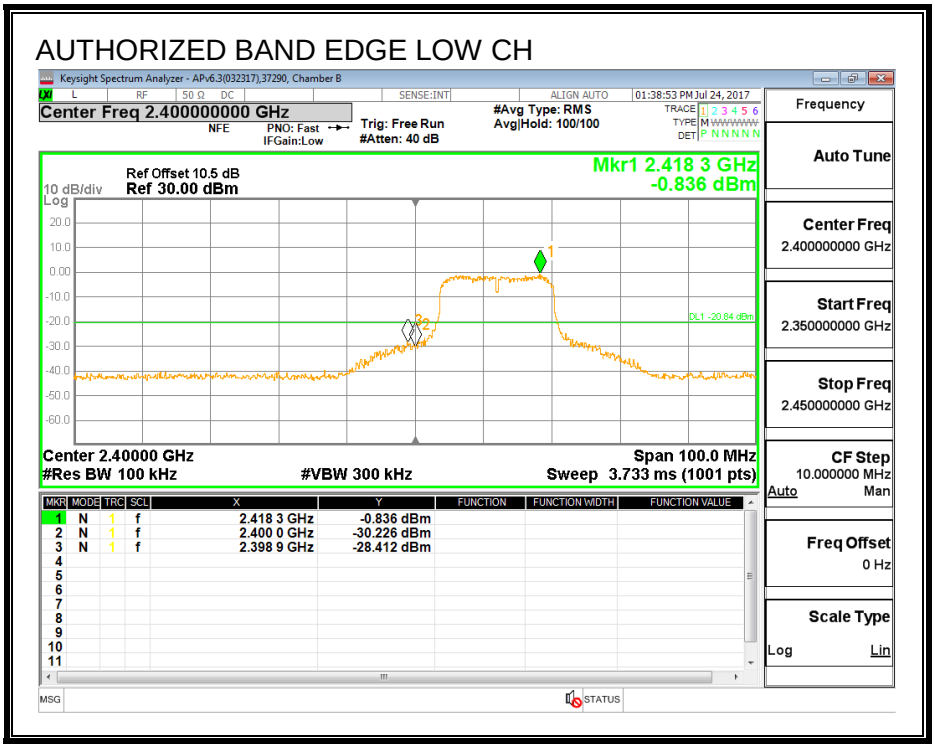
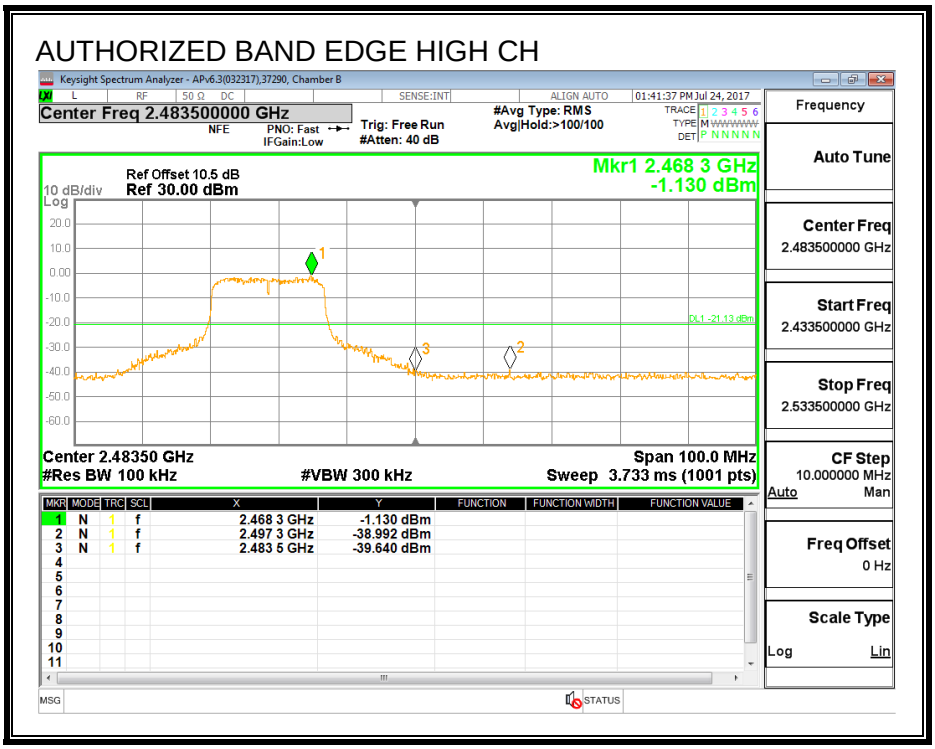
**LOW CHANNEL BANDEDGE**




**HIGH CHANNEL BANDEDGE**





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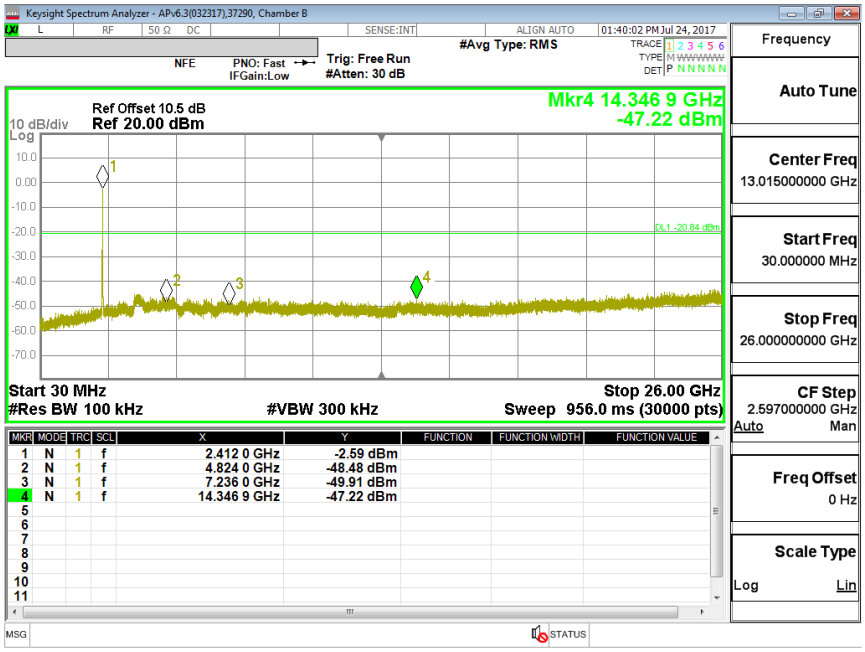
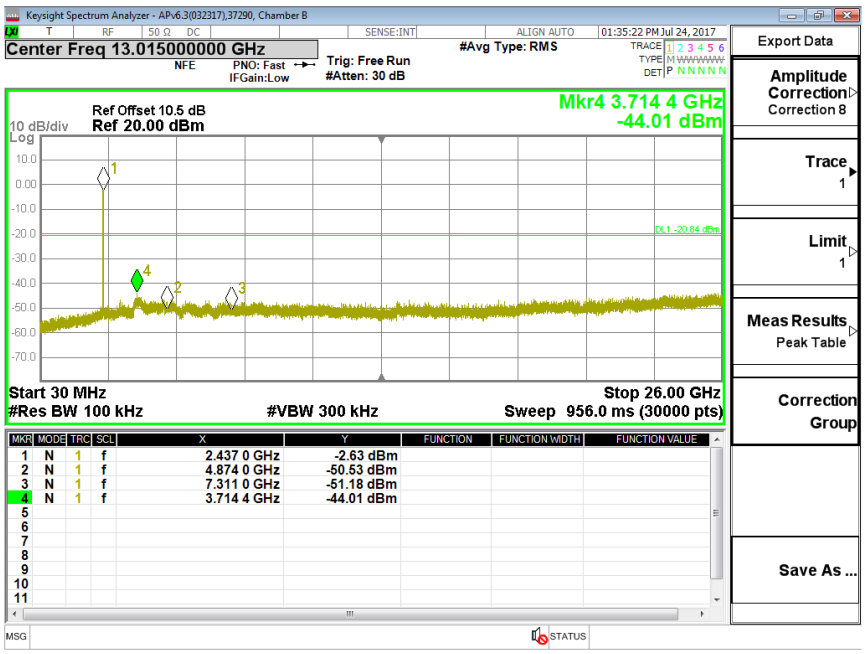
**OUT-OF-BAND EMISSIONS**

OUT OF BAND LOW CH




OUT OF BAND MID CH





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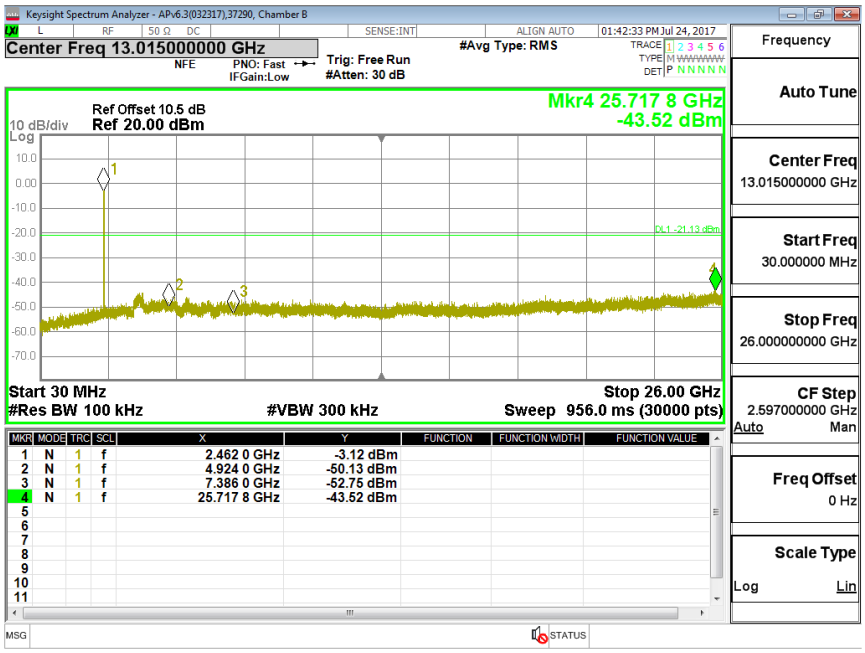
OUT OF BAND HIGH CH





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# 9. RADIATED TEST RESULTS

## 9.1. LIMITS AND PROCEDURE

**LIMITS**

FCC §15.205 and §15.209

IC RSS-GEN, Section 8.9 and 8.10.

| Frequency Range (MHz) | Field Strength Limit (uV/m) at 3 m | Field Strength Limit (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 measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

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.

For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

For 2.4 GHz band, the spectrum from 30 MHz to 1 GHz and from 18 GHz to 26 GHz is investigated with the transmitter set to the channel with the highest output power as worst case in each applicable band. The spectrum from 1 GHz to 18GHz 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


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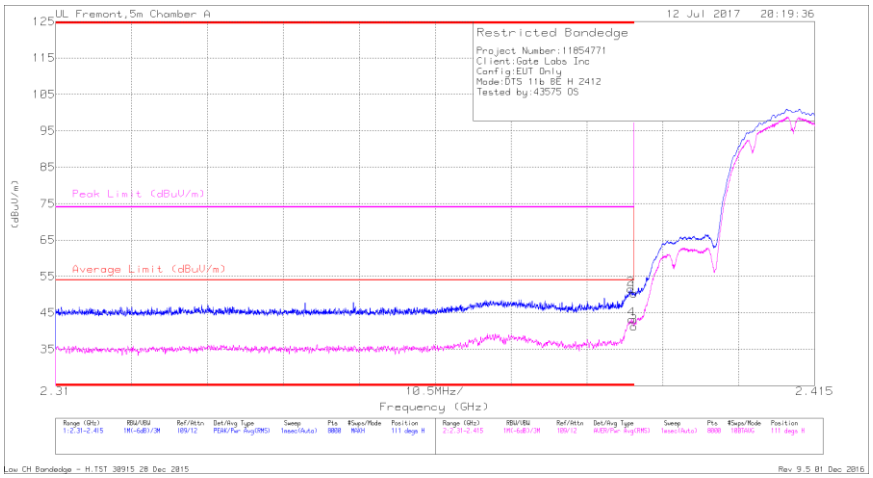
# 9.2. TRANSMITTER ABOVE 1 GHz

## 9.2.1. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

**RESTRICTED BANDEDGE (LOW CHANNEL)**

LOW CHANNEL HORIZONTAL




Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T862 (dB/m) | Amp/Cbl/Fltr/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 | * 2.39 | 41.75 | Pk | 31.8 | -23.2 | 0 | 50.35 | - | - | 74 | -23.65 | 111 | 331 | H |
| 2 | * 2.39 | 42.88 | Pk | 31.8 | -23.2 | 0 | 51.48 | - | - | 74 | -22.52 | 111 | 331 | H |
| 3 | * 2.39 | 32.67 | RMS | 31.8 | -23.2 | 0 | 41.27 | 54 | -12.73 | - | - | 111 | 331 | H |
| 4 | * 2.39 | 34.6 | RMS | 31.8 | -23.2 | 0 | 43.2 | 54 | -10.8 | - | - | 111 | 331 | H |

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection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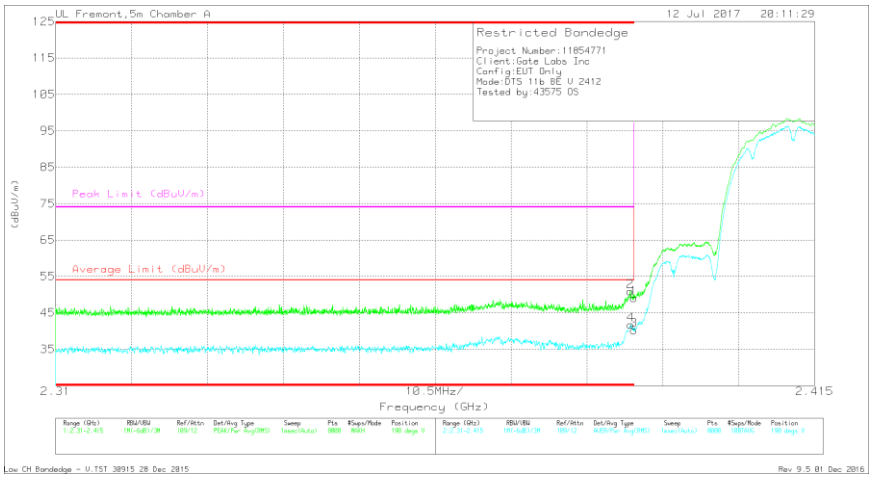
LOW CHANNEL VERTICAL




## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T862 (dB/m) | Amp/Cbl/Fltr/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 | * 2.39 | 40.42 | Pk | 31.8 | -23.2 | 0 | 49.02 | - | - | 74 | -24.98 | 190 | 373 | V |
| 2 | * 2.389 | 42.26 | Pk | 31.8 | -23.2 | 0 | 50.86 | - | - | 74 | -23.14 | 190 | 373 | V |
| 3 | * 2.39 | 31.62 | RMS | 31.8 | -23.2 | 0 | 40.22 | 54 | -13.78 | - | - | 190 | 373 | V |
| 4 | * 2.39 | 33.12 | RMS | 31.8 | -23.2 | 0 | 41.72 | 54 | -12.28 | - | - | 190 | 373 | V |

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection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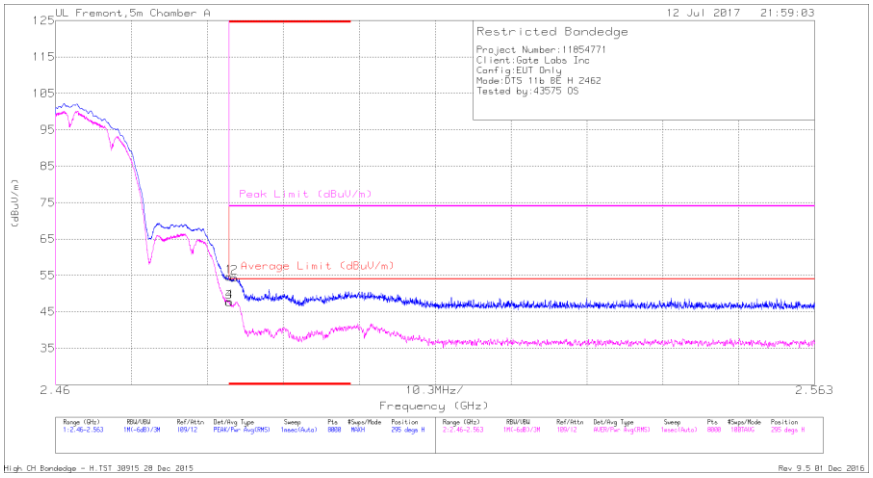
**AUTHORIZED BANDEDGE (HIGH CHANNEL)**

HIGH CHANNEL HORIZONTAL




Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T862 (dB/m) | Amp/Cbl/Fltr/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 | * 2.484 | 45.46 | Pk | 32.3 | -23.1 | 0 | 54.66 | - | - | 74 | -19.34 | 295 | 189 | H |
| 2 | * 2.484 | 45.25 | Pk | 32.3 | -23.1 | 0 | 54.45 | - | - | 74 | -19.55 | 295 | 189 | H |
| 3 | * 2.484 | 38.43 | RMS | 32.3 | -23.1 | 0 | 47.63 | 54 | -6.37 | - | - | 295 | 189 | H |
| 4 | * 2.484 | 38.55 | RMS | 32.3 | -23.1 | 0 | 47.75 | 54 | -6.25 | - | - | 295 | 189 | H |

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection
High CH Bandedge - H.TST 30915 28 Dec 2015
Rev 9.5 01 Dec 2016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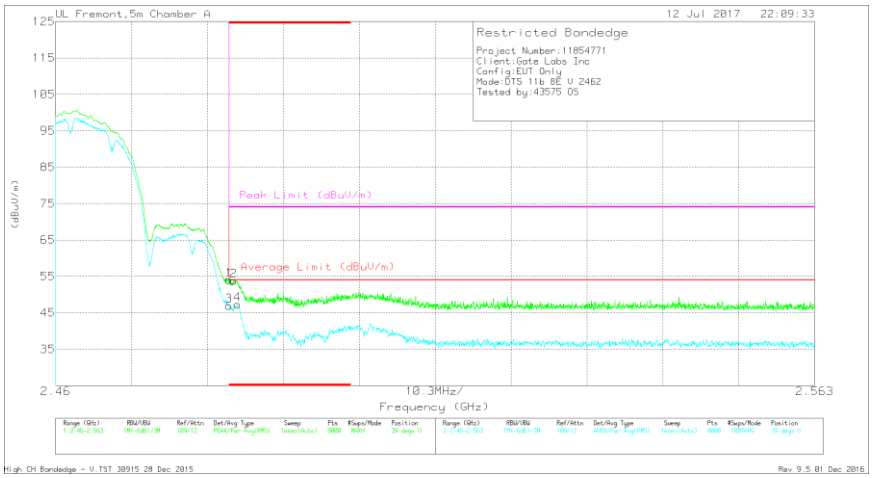
HIGH CHANNEL VERTICAL




Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T862 (dB/m) | Amp/Cbl/Fltr/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 | * 2.484 | 44.83 | Pk | 32.3 | -23.1 | 0 | 54.03 | - | - | 74 | -19.97 | 39 | 122 | V |
| 2 | * 2.484 | 44.58 | Pk | 32.3 | -23.1 | 0 | 53.78 | - | - | 74 | -20.22 | 39 | 122 | V |
| 3 | * 2.484 | 37.73 | RMS | 32.3 | -23.1 | 0 | 46.93 | 54 | -7.07 | - | - | 39 | 122 | V |
| 4 | * 2.485 | 38.13 | RMS | 32.3 | -23.1 | 0 | 47.33 | 54 | -6.67 | - | - | 39 | 122 | V |

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection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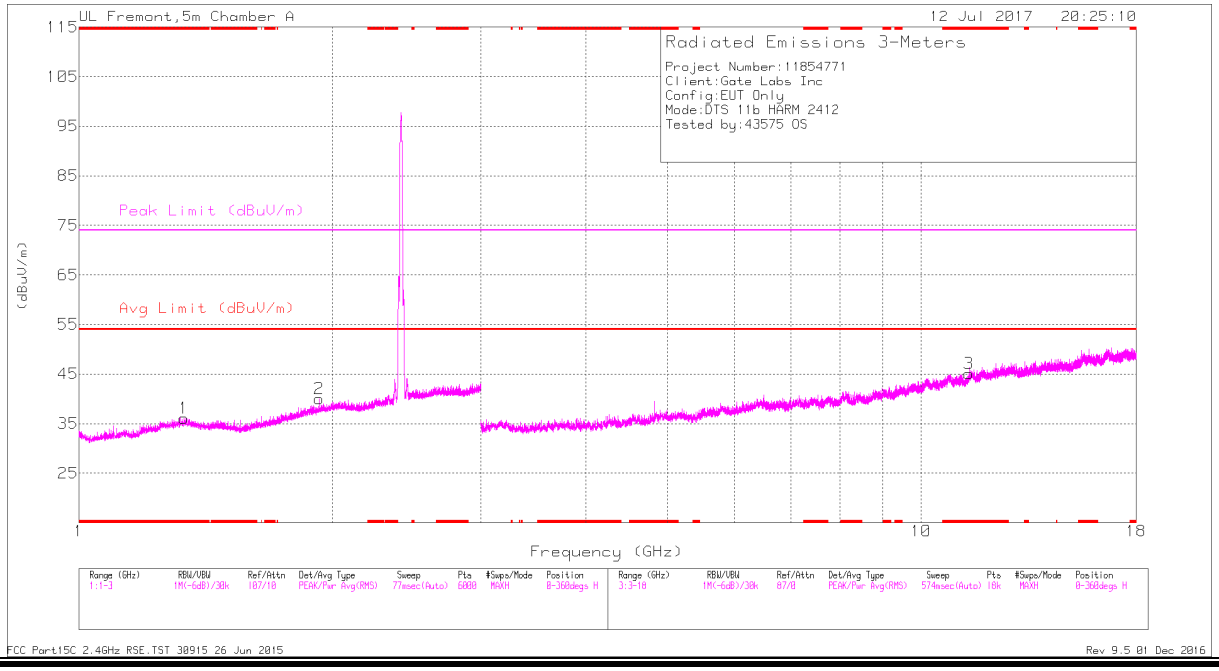
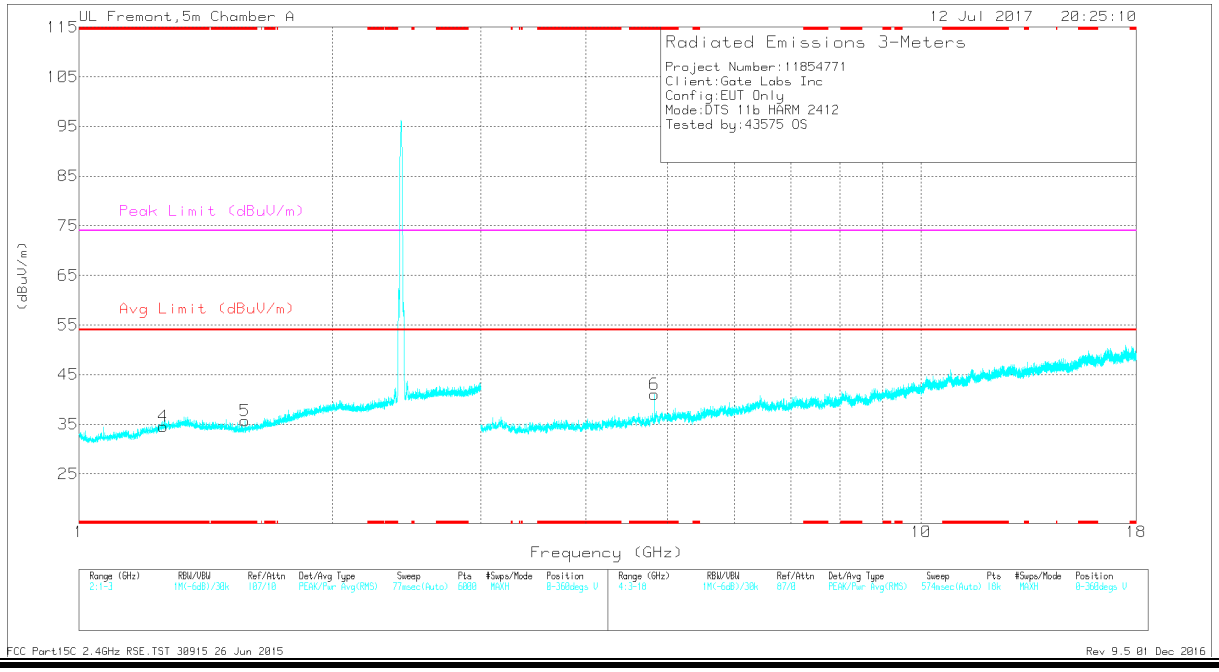
**HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, CH 1)**

LOW CHANNEL HORIZONTAL




LOW CHANNEL VERTICAL





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## Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T711 (dB/m) | Amp/Cbl/Fltr/ Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * 1.331 | 36.4 | PK2 | 29.5 | -23.5 | 0 | 42.4 | - | - | 74 | -31.6 | 244 | 288 | H |
| * 1.331 | 24.17 | MAv1 | 29.5 | -23.5 | 0 | 30.17 | 54 | -23.83 | - | - | 244 | 288 | H |
| * 1.261 | 35.81 | PK2 | 29.2 | -23.6 | 0 | 41.41 | - | - | 74 | -32.59 | 235 | 283 | V |
| * 1.259 | 23.94 | MAv1 | 29.2 | -23.6 | 0 | 29.54 | 54 | -24.46 | - | - | 235 | 283 | V |
| * 1.577 | 36.72 | PK2 | 28 | -23.2 | 0 | 41.52 | - | - | 74 | -32.48 | 6 | 202 | V |
| * 1.576 | 24.24 | MAv1 | 28 | -23.2 | 0 | 29.04 | 54 | -24.96 | - | - | 6 | 202 | V |
| * 11.391 | 33.11 | PK2 | 38.2 | -19.2 | 0 | 52.11 | - | - | 74 | -21.89 | 282 | 241 | H |
| * 11.389 | 20.46 | MAv1 | 38.2 | -19.2 | 0 | 39.46 | 54 | -14.54 | - | - | 282 | 241 | H |
| * 4.824 | 38.96 | PK2 | 34.2 | -27.3 | 0 | 45.86 | - | - | 74 | -28.14 | 49 | 101 | V |
| * 4.824 | 32.4 | MAv1 | 34.2 | -27.3 | 0 | 39.3 | 54 | -14.7 | - | - | 49 | 101 | V |
| 1.928 | 24.38 | MAv1 | 31.2 | -23.1 | 0 | 32.48 | - | - | - | - | 9 | 278 | H |
| 1.93 | 36.43 | PK2 | 31.2 | -23.1 | 0 | 44.53 | - | - | - | - | 9 | 278 | H |

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average


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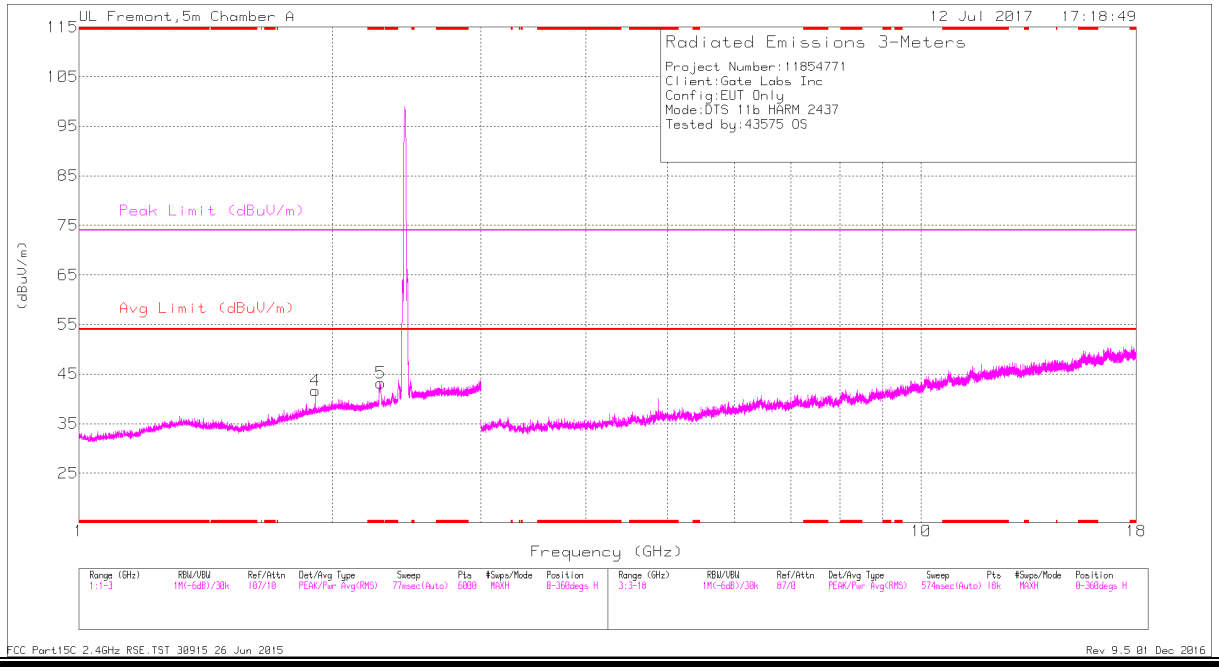
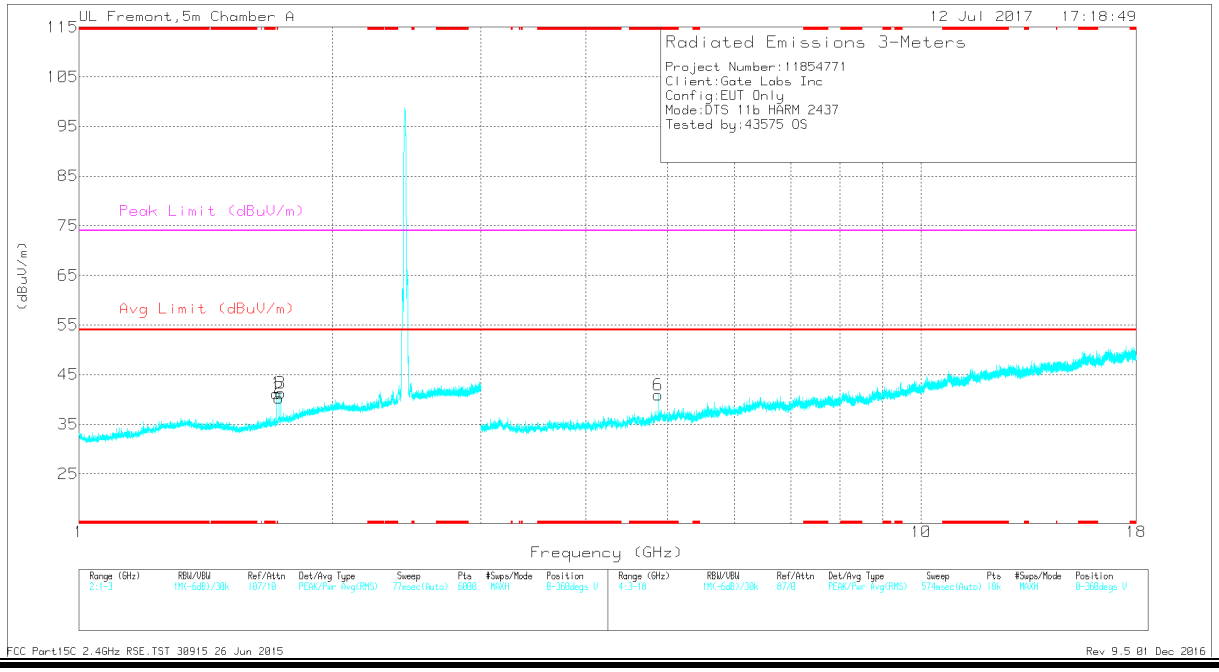
**HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, CH 6)**

HIGH CHANNEL HORIZONTAL




HIGH CHANNEL VERTICAL





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## Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T711 (dB/m) | Amp/Cbl/Fltr/ Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * 2.28 | 40.82 | PK2 | 31.5 | -23.3 | 0 | 49.02 | - | - | 74 | -24.98 | 114 | 190 | H |
| * 2.279 | 31.79 | MAv1 | 31.5 | -23.3 | 0 | 39.99 | 54 | -14.01 | - | - | 114 | 190 | H |
| * 4.874 | 38.84 | PK2 | 34.1 | -27.2 | 0 | 45.74 | - | - | 74 | -28.26 | 58 | 109 | V |
| * 4.874 | 32.25 | MAv1 | 34.1 | -27.2 | 0 | 39.15 | 54 | -14.85 | - | - | 58 | 109 | V |
| 1.716 | 37.06 | PK2 | 29.2 | -23.3 | 0 | 42.96 | - | - | - | - | 1 | 153 | V |
| 1.717 | 24.42 | MAv1 | 29.2 | -23.3 | 0 | 30.32 | - | - | - | - | 1 | 153 | V |
| 1.728 | 24.42 | MAv1 | 29.4 | -23.3 | 0 | 30.52 | - | - | - | - | 254 | 241 | V |
| 1.729 | 36.16 | PK2 | 29.4 | -23.3 | 0 | 42.26 | - | - | - | - | 254 | 241 | V |
| 1.736 | 36.5 | PK2 | 29.5 | -23.3 | 0 | 42.7 | - | - | - | - | 6 | 377 | V |
| 1.736 | 24.46 | MAv1 | 29.5 | -23.3 | 0 | 30.66 | - | - | - | - | 6 | 377 | V |
| 1.911 | 36.36 | PK2 | 31.1 | -23.2 | 0 | 44.26 | - | - | - | - | 226 | 375 | H |
| 1.912 | 24.35 | MAv1 | 31.1 | -23.2 | 0 | 32.25 | - | - | - | - | 226 | 375 | H |

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average


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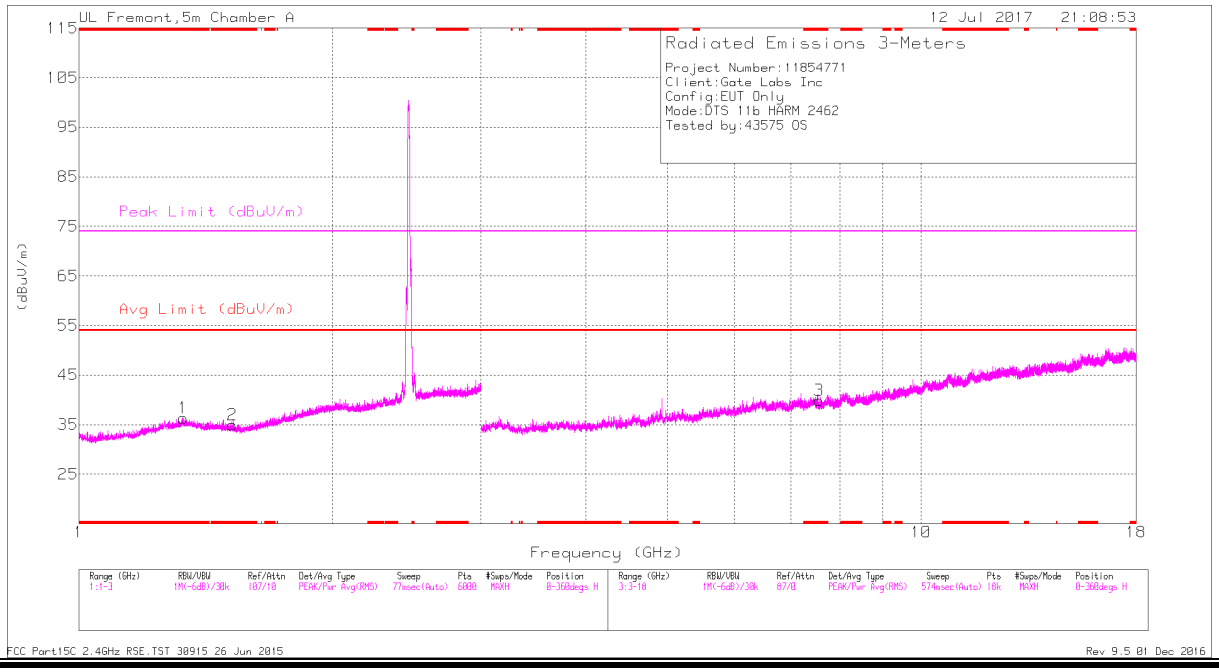
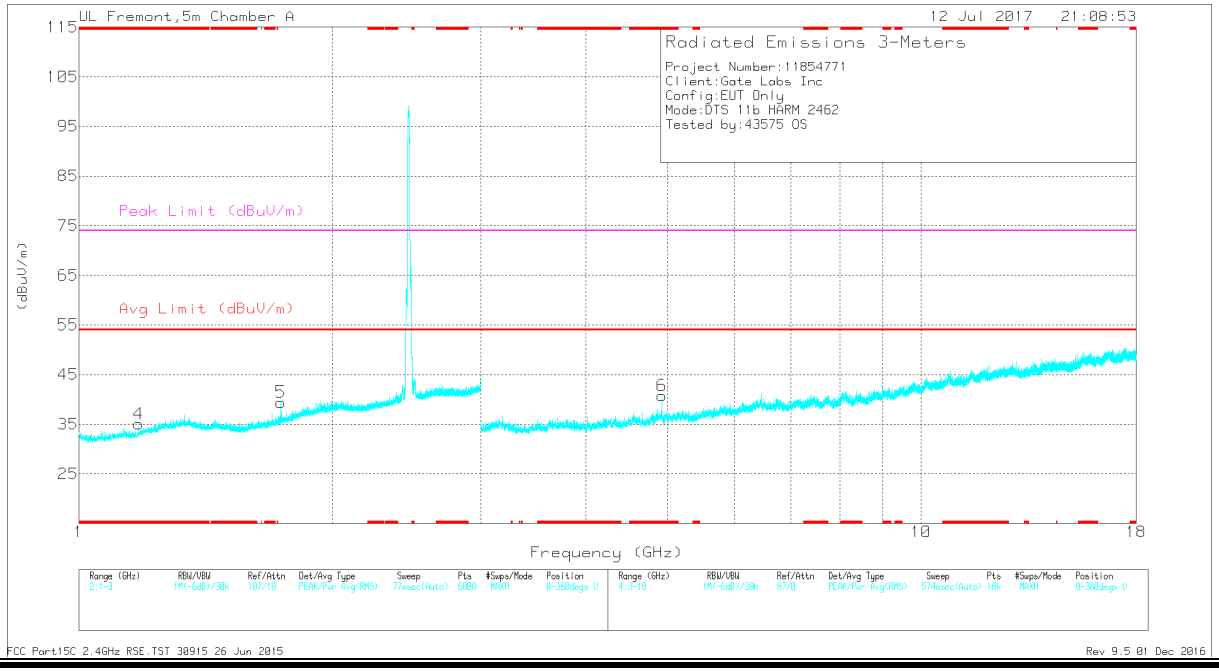
**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, CH 11)**

HIGH CHANNEL HORIZONTAL




HIGH CHANNEL VERTICAL





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## Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T711 (dB/m) | Amp/Cbl/Fltr/ Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * 1.331 | 36.25 | PK2 | 29.5 | -23.5 | 0 | 42.25 | - | - | 74 | -31.75 | 256 | 174 | H |
| * 1.327 | 24.26 | MAv1 | 29.5 | -23.5 | 0 | 30.26 | 54 | -23.74 | - | - | 256 | 174 | H |
| * 1.521 | 35.88 | PK2 | 28.1 | -23.2 | 0 | 40.78 | - | - | 74 | -33.22 | 313 | 249 | H |
| * 1.52 | 24.28 | MAv1 | 28.1 | -23.3 | 0 | 29.08 | 54 | -24.92 | - | - | 313 | 249 | H |
| * 1.176 | 35.87 | PK2 | 27.9 | -23.7 | 0 | 40.07 | - | - | 74 | -33.93 | 110 | 212 | V |
| * 1.178 | 23.95 | MAv1 | 27.9 | -23.7 | 0 | 28.15 | 54 | -25.85 | - | - | 110 | 212 | V |
| * 7.564 | 33.5 | PK2 | 35.7 | -23.5 | 0 | 45.7 | - | - | 74 | -28.3 | 277 | 400 | H |
| * 7.566 | 21.87 | MAv1 | 35.7 | -23.4 | 0 | 34.17 | 54 | -19.83 | - | - | 277 | 400 | H |
| * 4.924 | 38.51 | PK2 | 34.1 | -27.1 | 0 | 45.51 | - | - | 74 | -28.49 | 222 | 110 | V |
| * 4.924 | 30.11 | MAv1 | 34.1 | -27.1 | 0 | 37.11 | 54 | -16.89 | - | - | 222 | 110 | V |
| 1.737 | 24.57 | MAv1 | 29.6 | -23.3 | 0 | 30.87 | - | - | - | - | 46 | 252 | V |
| 1.738 | 36.49 | PK2 | 29.6 | -23.3 | 0 | 42.79 | - | - | - | - | 46 | 252 | V |

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average


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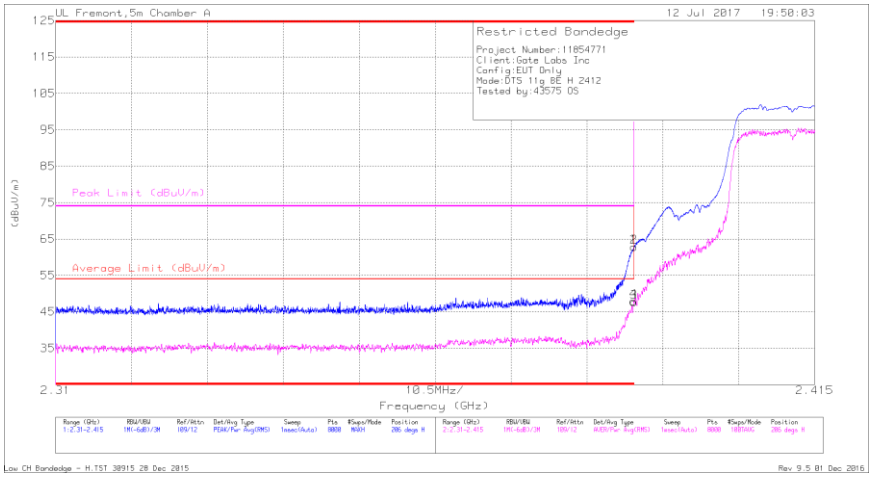
## 9.2.2. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

**RESTRICTED BANDEDGE (LOW CHANNEL)**

LOW CHANNEL HORIZONTAL




Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T862 (dB/m) | Amp/Cbl/Fltr/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 | * 2.39 | 54.19 | Pk | 31.8 | -23.2 | 0 | 62.79 | - | - | 74 | -11.21 | 206 | 286 | H |
| 2 | * 2.39 | 54.28 | Pk | 31.8 | -23.2 | 0 | 62.88 | - | - | 74 | -11.12 | 206 | 286 | H |
| 3 | * 2.39 | 39.11 | RMS | 31.8 | -23.2 | 0 | 47.71 | 54 | -6.29 | - | - | 206 | 286 | H |
| 4 | * 2.39 | 39.3 | RMS | 31.8 | -23.2 | 0 | 47.9 | 54 | -6.1 | - | - | 206 | 286 | H |

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection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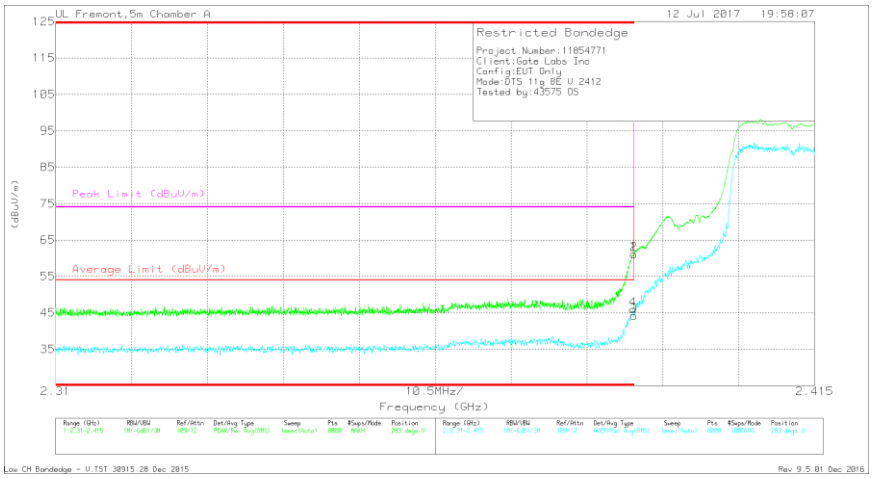
LOW CHANNEL VERTICAL




## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T862 (dB/m) | Amp/Chl/Fltr/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 | * 2.39 | 52.45 | Pk | 31.8 | -23.2 | 0 | 61.05 | - | - | 74 | -12.95 | 283 | 374 | V |
| 2 | * 2.39 | 52.5 | Pk | 31.8 | -23.2 | 0 | 61.1 | - | - | 74 | -12.9 | 283 | 374 | V |
| 3 | * 2.39 | 35.65 | RMS | 31.8 | -23.2 | 0 | 44.25 | 54 | -9.75 | - | - | 283 | 374 | V |
| 4 | * 2.39 | 37.4 | RMS | 31.8 | -23.2 | 0 | 46 | 54 | -8 | - | - | 283 | 374 | V |

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection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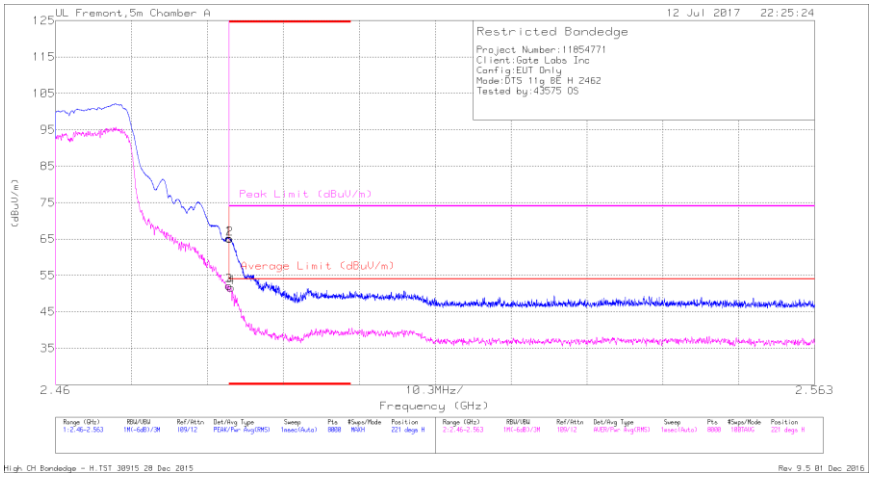
**AUTHORIZED BANDEDGE (HIGH CHANNEL)**

HIGH CHANNEL HORIZONTAL




Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T862 (dB/m) | Amp/Cbl/Fltr/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 | * 2.484 | 56.03 | Pk | 32.3 | -23.1 | 0 | 65.23 | - | - | 74 | -8.77 | 221 | 129 | H |
| 2 | * 2.484 | 55.92 | Pk | 32.3 | -23.1 | 0 | 65.12 | - | - | 74 | -8.88 | 221 | 129 | H |
| 3 | * 2.484 | 42.9 | RMS | 32.3 | -23.1 | 0 | 52.1 | 54 | -1.9 | - | - | 221 | 129 | H |
| 4 | * 2.484 | 42.5 | RMS | 32.3 | -23.1 | 0 | 51.7 | 54 | -2.3 | - | - | 221 | 129 | H |

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection
High CH Bandedge - H.TST 30915 28 Dec 2015
Rev 9.5 01 Dec 2016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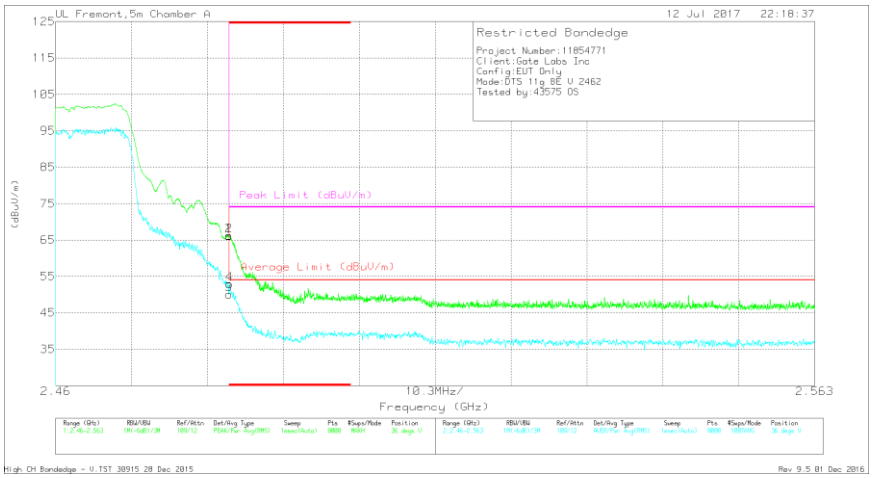
HIGH CHANNEL VERTICAL




Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T862 (dB/m) | Amp/Cbl/Fltr/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 | * 2.484 | 56.86 | Pk | 32.3 | -23.1 | 0 | 66.06 | - | - | 74 | -7.94 | 36 | 121 | V |
| 2 | * 2.484 | 56.96 | Pk | 32.3 | -23.1 | 0 | 66.16 | - | - | 74 | -7.84 | 36 | 121 | V |
| 3 | * 2.484 | 40.88 | RMS | 32.3 | -23.1 | 0 | 50.08 | 54 | -3.92 | - | - | 36 | 121 | V |
| 4 | * 2.484 | 43.65 | RMS | 32.3 | -23.1 | 0 | 52.85 | 54 | -1.15 | - | - | 36 | 121 | V |

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection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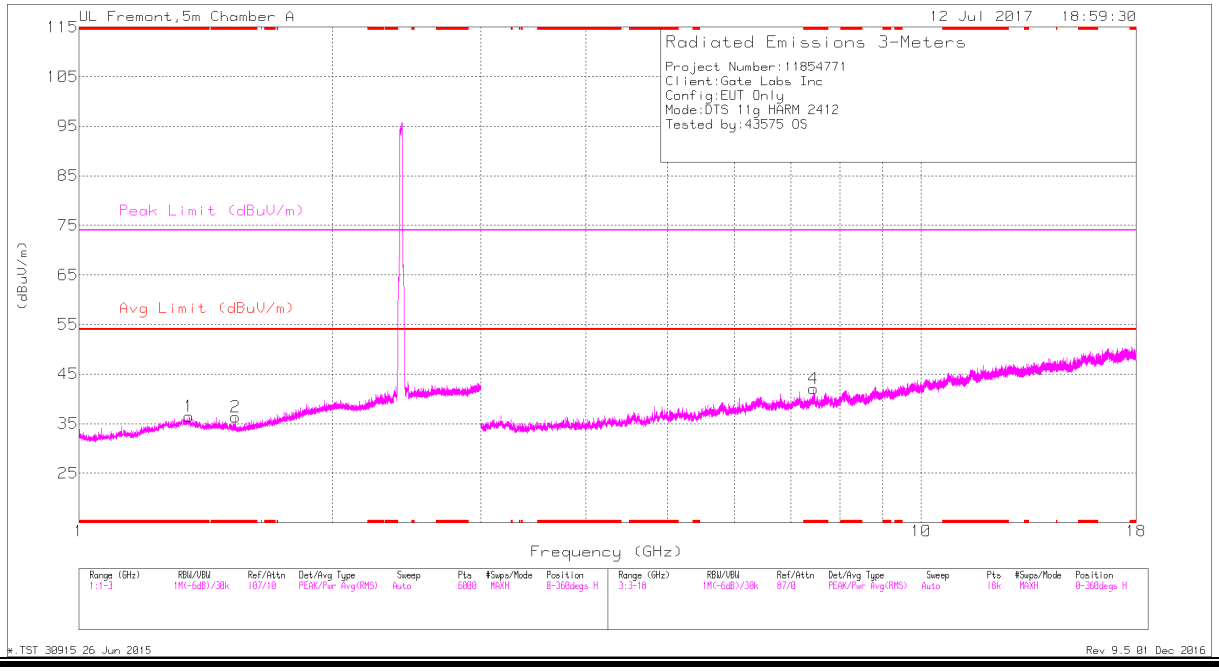
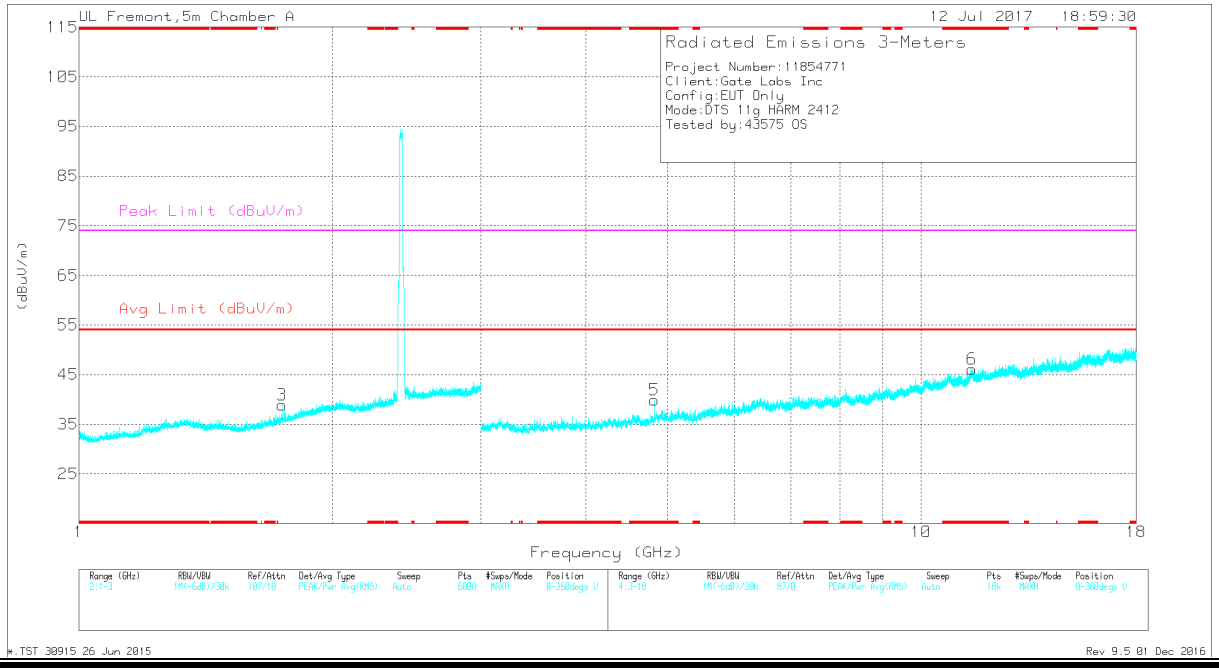
**HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, CH 1)**

LOW CHANNEL HORIZONTAL




LOW CHANNEL VERTICAL





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## Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T711 (dB/m) | Amp/Cbl/Fltr/ Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * 1.352 | 35.75 | PK2 | 29.5 | -23.3 | 0 | 41.95 | - | - | 74 | -32.05 | 132 | 347 | H |
| * 1.353 | 23.92 | MAv1 | 29.4 | -23.4 | 0 | 29.92 | 54 | -24.08 | - | - | 132 | 347 | H |
| * 1.533 | 36.89 | PK2 | 28 | -23.2 | 0 | 41.69 | - | - | 74 | -32.31 | 122 | 219 | H |
| * 1.536 | 24.27 | MAv1 | 28 | -23.2 | 0 | 29.07 | 54 | -24.93 | - | - | 122 | 219 | H |
| * 7.449 | 33.08 | PK2 | 35.6 | -22.1 | 0 | 46.58 | - | - | 74 | -27.42 | 242 | 218 | H |
| * 7.448 | 21.43 | MAv1 | 35.6 | -22.1 | 0 | 34.93 | 54 | -19.07 | - | - | 242 | 218 | H |
| * 4.824 | 38.96 | PK2 | 34.2 | -27.3 | 0 | 45.86 | - | - | 74 | -28.14 | 140 | 109 | V |
| * 4.824 | 31.29 | MAv1 | 34.2 | -27.3 | 0 | 38.19 | 54 | -15.81 | - | - | 140 | 109 | V |
| * 11.484 | 32.15 | PK2 | 38.3 | -18.4 | 0 | 52.05 | - | - | 74 | -21.95 | 30 | 338 | V |
| * 11.483 | 20.44 | MAv1 | 38.3 | -18.3 | 0 | 40.44 | 54 | -13.56 | - | - | 30 | 338 | V |
| 1.741 | 36.59 | PK2 | 29.6 | -23.3 | 0 | 42.89 | - | - | - | - | 264 | 190 | V |
| 1.743 | 24.43 | MAv1 | 29.7 | -23.3 | 0 | 30.83 | - | - | - | - | 264 | 190 | V |

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average


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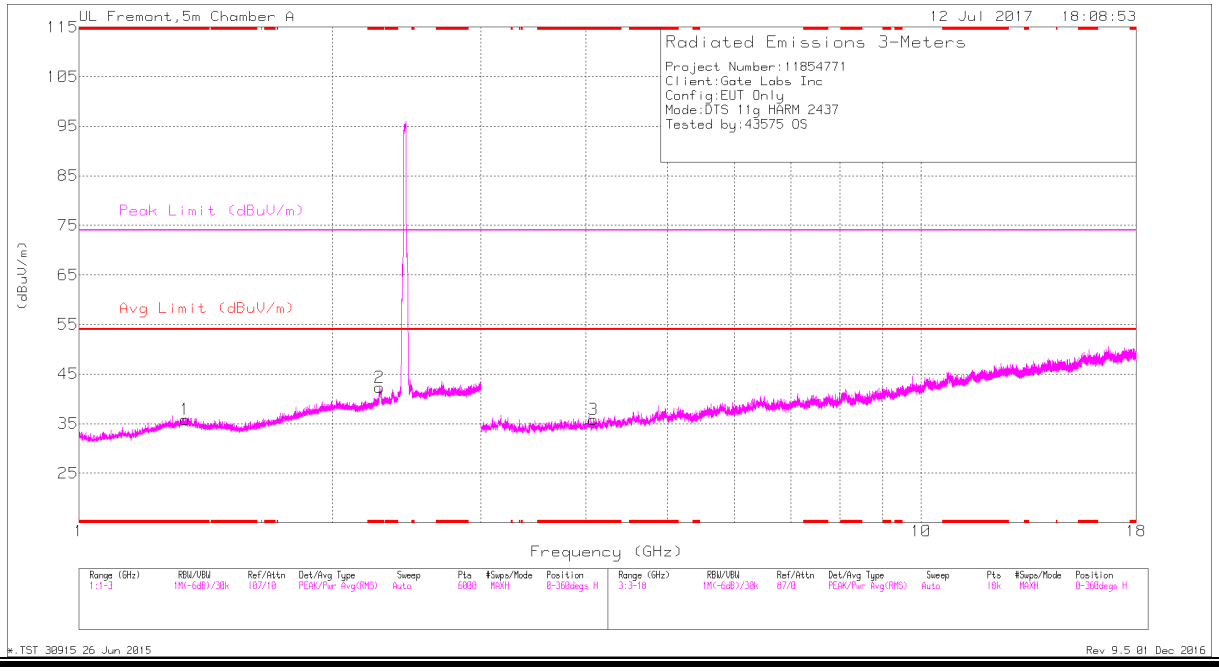
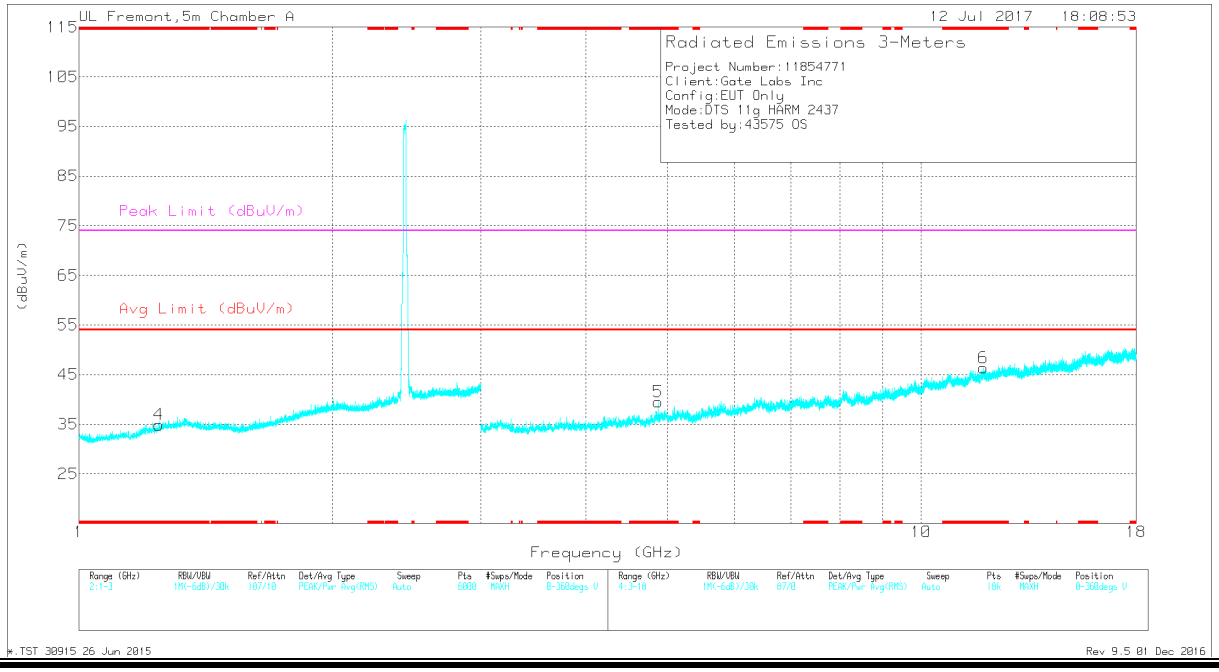
**HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, CH 6)**

HIGH CHANNEL HORIZONTAL




HIGH CHANNEL VERTICAL





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## Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T711 (dB/m) | Amp/Cbl/Fltr/ Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * 1.335 | 36.21 | PK2 | 29.5 | -23.5 | 0 | 42.21 | - | - | 74 | -31.79 | 340 | 168 | H |
| * 1.336 | 24.15 | MAv1 | 29.5 | -23.5 | 0 | 30.15 | 54 | -23.85 | - | - | 340 | 168 | H |
| * 2.277 | 41.86 | PK2 | 31.5 | -23.3 | 0 | 50.06 | - | - | 74 | -23.94 | 293 | 213 | H |
| * 2.276 | 29.66 | MAv1 | 31.5 | -23.3 | 0 | 37.86 | 54 | -16.14 | - | - | 293 | 213 | H |
| * 1.243 | 35.82 | PK2 | 29 | -23.7 | 0 | 41.12 | - | - | 74 | -32.88 | 111 | 344 | V |
| * 1.243 | 24.03 | MAv1 | 29 | -23.7 | 0 | 29.33 | 54 | -24.67 | - | - | 111 | 344 | V |
| * 4.076 | 37.9 | PK2 | 33.4 | -29.3 | 0 | 42 | - | - | 74 | -32 | 4 | 353 | H |
| * 4.079 | 25.95 | MAv1 | 33.4 | -29.2 | 0 | 30.15 | 54 | -23.85 | - | - | 4 | 353 | H |
| * 4.874 | 38.57 | PK2 | 34.1 | -27.2 | 0 | 45.47 | - | - | 74 | -28.53 | 224 | 105 | V |
| * 4.874 | 31.16 | MAv1 | 34.1 | -27.2 | 0 | 38.06 | 54 | -15.94 | - | - | 224 | 105 | V |
| * 11.848 | 31.85 | PK2 | 38.8 | -18.8 | 0 | 51.85 | - | - | 74 | -22.15 | 0 | 342 | V |
| * 11.846 | 20.29 | MAv1 | 38.8 | -18.7 | 0 | 40.39 | 54 | -13.61 | - | - | 0 | 342 | V |

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average


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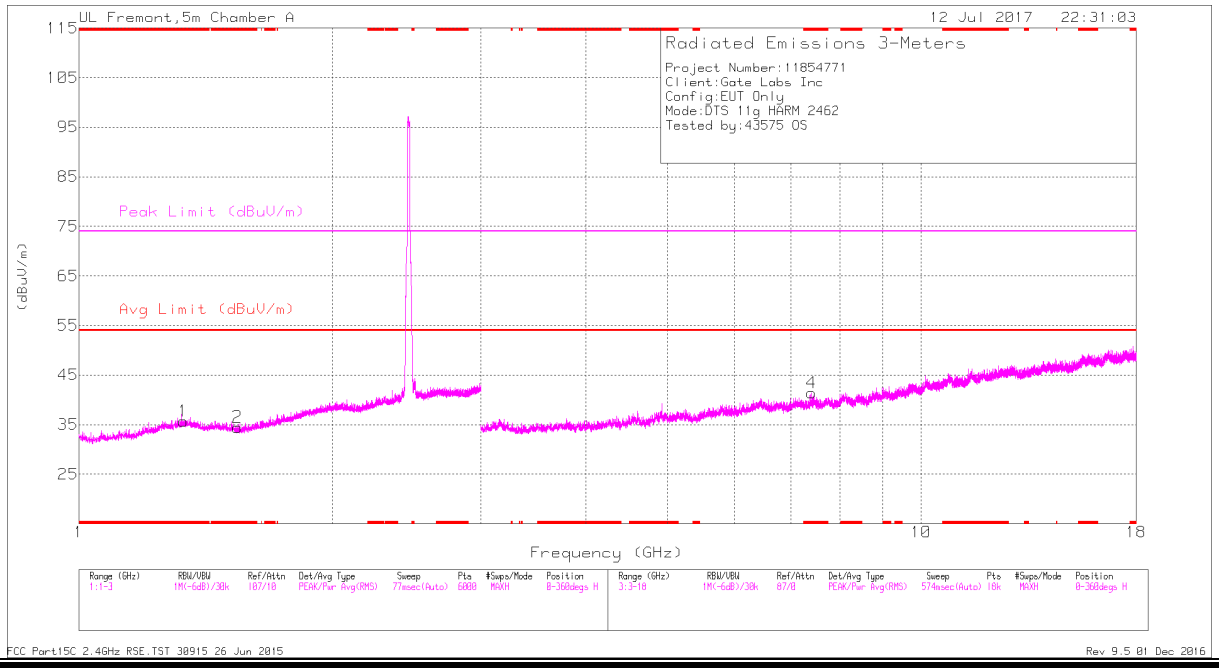
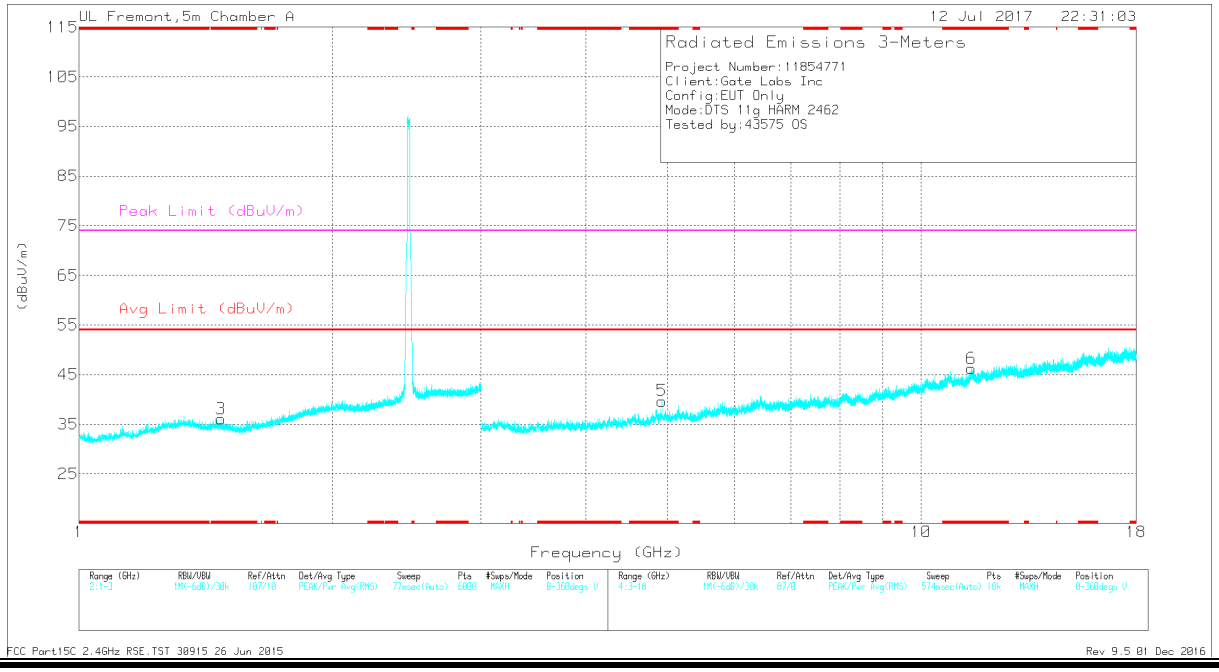
**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, CH 11)**

HIGH CHANNEL HORIZONTAL




HIGH CHANNEL VERTICAL





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## Radiated Emissions

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T711 (dB/m) | Amp/Cbl/Fltr/ Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * 1.328 | 35.8 | PK2 | 29.5 | -23.5 | 0 | 41.8 | - | - | 74 | -32.2 | 83 | 192 | H |
| * 1.327 | 24.18 | MAv1 | 29.5 | -23.5 | 0 | 30.18 | 54 | -23.82 | - | - | 83 | 192 | H |
| * 1.543 | 36.41 | PK2 | 27.9 | -23.2 | 0 | 41.11 | - | - | 74 | -32.89 | 354 | 350 | H |
| * 1.545 | 24.16 | MAv1 | 27.8 | -23.2 | 0 | 28.76 | 54 | -25.24 | - | - | 354 | 350 | H |
| * 1.472 | 36.11 | PK2 | 28.6 | -23.2 | 0 | 41.51 | - | - | 74 | -32.49 | 327 | 220 | V |
| * 1.474 | 24.16 | MAv1 | 28.6 | -23.2 | 0 | 29.56 | 54 | -24.44 | - | - | 327 | 220 | V |
| * 7.408 | 33.35 | PK2 | 35.6 | -22.6 | 0 | 46.35 | - | - | 74 | -27.65 | 184 | 125 | H |
| * 7.408 | 21.73 | MAv1 | 35.6 | -22.6 | 0 | 34.73 | 54 | -19.27 | - | - | 184 | 125 | H |
| * 4.924 | 39.03 | PK2 | 34.1 | -27.1 | 0 | 46.03 | - | - | 74 | -27.97 | 229 | 111 | V |
| * 4.924 | 30.74 | MAv1 | 34.1 | -27.1 | 0 | 37.74 | 54 | -16.26 | - | - | 229 | 111 | V |
| * 11.475 | 32.31 | PK2 | 38.3 | -18.4 | 0 | 52.21 | - | - | 74 | -21.79 | 357 | 380 | V |
| * 11.474 | 20.57 | MAv1 | 38.3 | -18.4 | 0 | 40.47 | 54 | -13.53 | - | - | 357 | 380 | V |

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average


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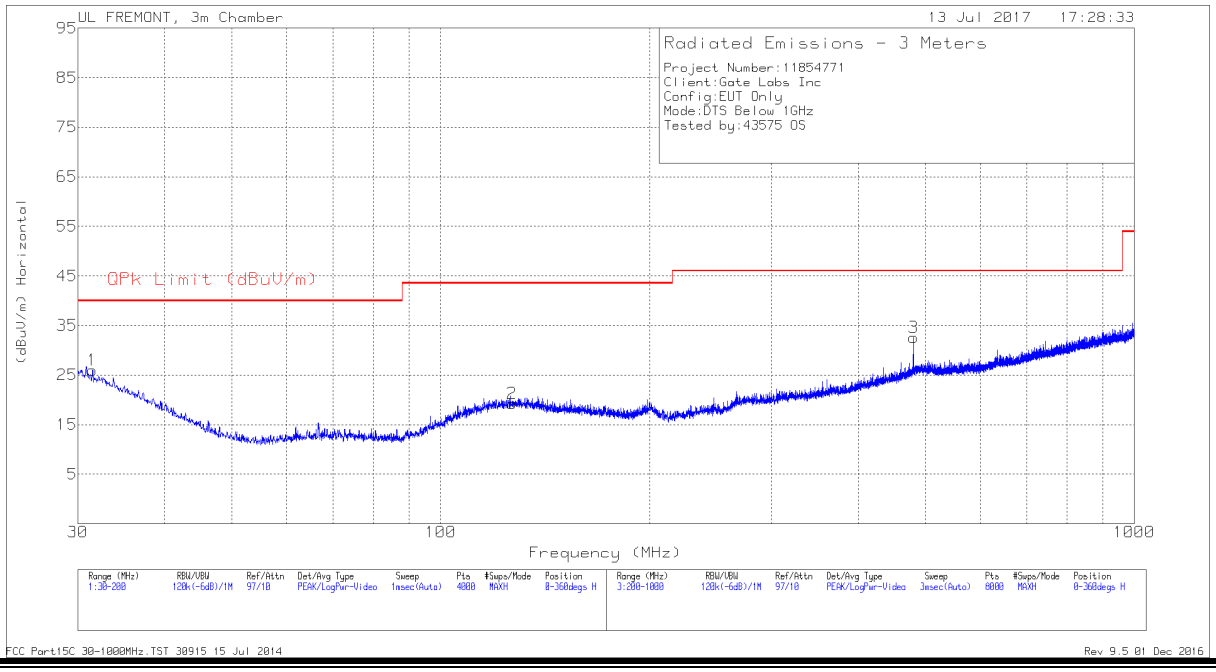
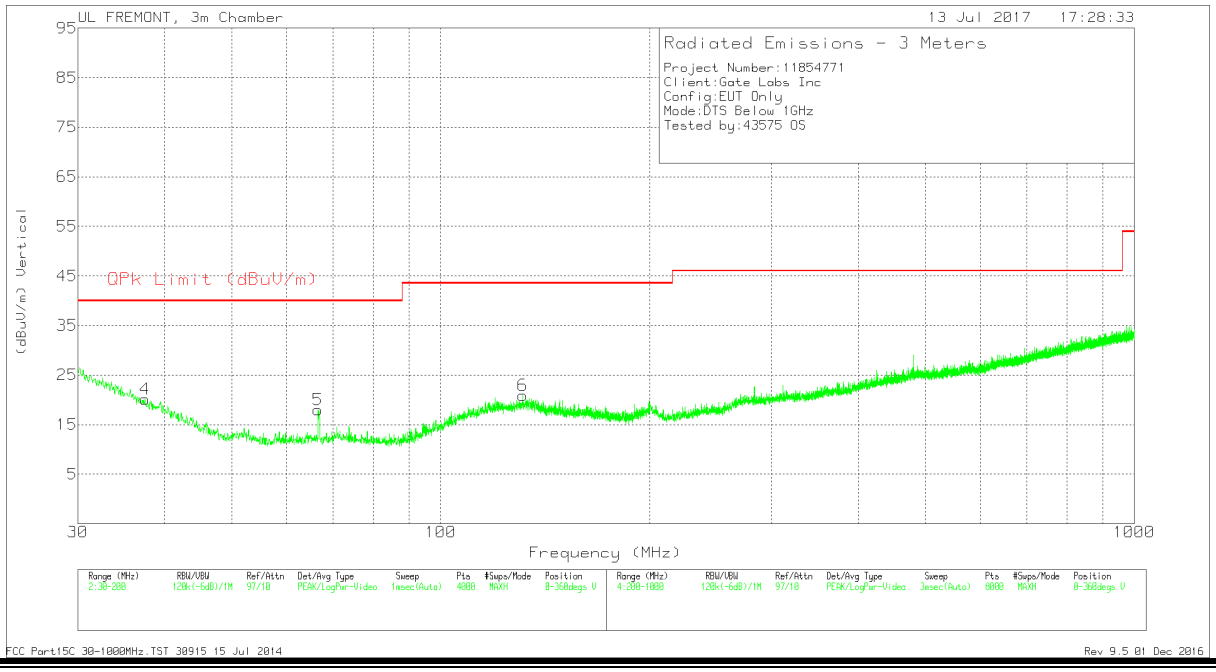
## 9.3. WORST-CASE BELOW 1 GHz

**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION)**

HORIZONTAL PLOT




VERTICAL PLOT





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## Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AF T408 (dB/m) | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 31.4879 | 28.98 | Pk | 24.2 | -27.2 | 25.98 | 40 | -14.02 | 0-360 | 300 | H |
| 4 | 37.4819 | 27.54 | Pk | 19.8 | -27.2 | 20.14 | 40 | -19.86 | 0-360 | 100 | V |
| 5 | 66.602 | 32.7 | Pk | 12 | -26.7 | 18 | 40 | -22 | 0-360 | 100 | V |
| 2 | 126.7125 | 27.4 | Pk | 17.8 | -25.9 | 19.3 | 43.52 | -24.22 | 0-360 | 100 | H |
| 6 | 131.2612 | 29.09 | Pk | 17.7 | -25.9 | 20.89 | 43.52 | -22.63 | 0-360 | 100 | V |
| 3 | 480.3364 | 35.65 | Pk | 21.6 | -24.7 | 32.55 | 46.02 | -13.47 | 0-360 | 200 | H |

Pk - Peak detector

## Radiated Emissions

| Frequency (MHz) | Meter Reading (dBuV) | Det | AF T408 (dB/m) | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|---|---|---|---|---|---|---|---|---|---|---|
| 480.4535 | 25.93 | Qp | 21.6 | -24.7 | 22.83 | 46.02 | -23.19 | 17 | 192 | H |

Qp - Quasi-Peak detector


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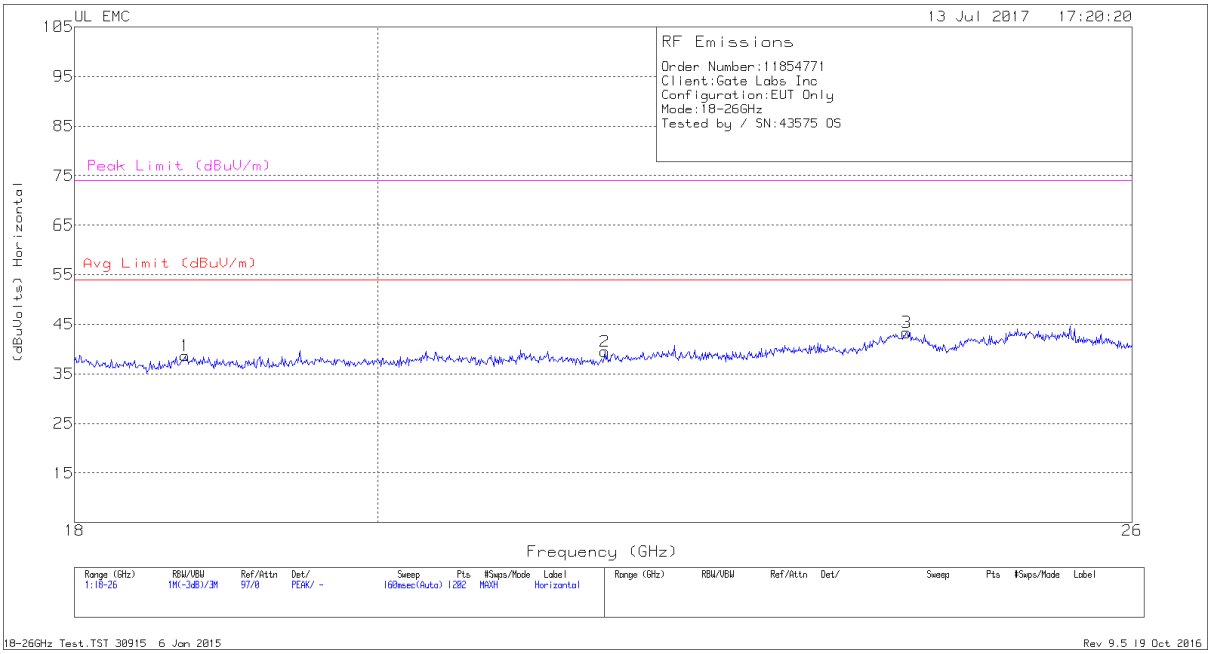
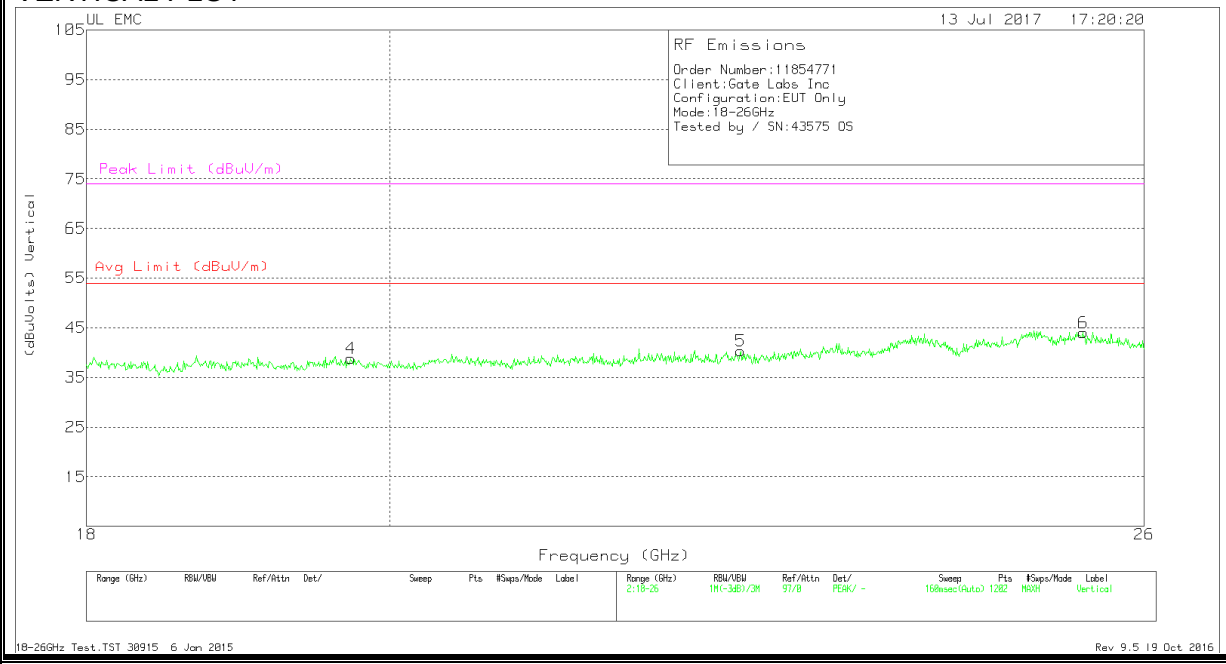
## 9.4. WORST-CASE 18 to 26 GHz

**SPURIOUS EMISSIONS 18 TO 26 GHz (WORST-CASE CONFIGURATION, HORIZONTAL & VERTICAL)**

HORIZONTAL PLOT




VERTICAL PLOT





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## Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | T449 AF (dB/m) | Amp/Cbl (dB) | Dist Corr (dB) | Corrected Reading (dBuVolts) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18.706 | 40.27 | Pk | 32.3 | -24.4 | -9.5 | 38.67 | 54 | -15.33 | 74 | -35.33 |
| 2 | 21.644 | 41 | Pk | 33.2 | -25.2 | -9.5 | 39.5 | 54 | -14.5 | 74 | -34.5 |
| 3 | 24.038 | 43.33 | Pk | 33.9 | -24.4 | -9.5 | 43.33 | 54 | -10.67 | 74 | -30.67 |
| 4 | 19.732 | 40.53 | Pk | 32.7 | -24.9 | -9.5 | 38.83 | 54 | -15.17 | 74 | -35.17 |
| 5 | 22.596 | 41.93 | Pk | 33.4 | -25.5 | -9.5 | 40.33 | 54 | -13.67 | 74 | -33.67 |
| 6 | 25.454 | 43.6 | Pk | 34.4 | -24.5 | -9.5 | 44 | 54 | -10 | 74 | -30 |

Pk - Peak detector


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