



**FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-247 ISSUE 1**

CERTIFICATION TEST REPORT

FOR

BT, BLE and 802.11 a/b/g/n RADIO MODULE

MODEL NUMBER: CONAPPWM

**FCC ID: MHI-CONAPPWM
IC ID: 3681C-CONAPPWM**

REPORT NUMBER: 16U22930-E2V2

ISSUE DATE: 9/1/2016

Prepared for
**CARD ACCESS, INC.
11778 SOUTH ELECTION RD. #260
DRAPER UT 84020, U.S.A.**

Prepared by
**UL VERIFICATION SERVICES INC.
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888**



NVLAP LAB CODE 200065-0

REVISION HISTORY

| Rev. | Issue Date | Revisions | Revised By |
|------|------------|---|-------------|
| V1 | 04/5/16 | Initial Issue | C. Vergonio |
| V2 | 09/1/16 | Updated Section 3.5, Section 5.2 and Section 6. | C. Vergonio |

TABLE OF CONTENTS

| | |
|---|-----------|
| REVISION HISTORY | 2 |
| TABLE OF CONTENTS | 3 |
| 1. ATTESTATION OF TEST RESULTS | 4 |
| 2. SUMMARY OF TESTING | 5 |
| 2.1. <i>FACILITIES AND ACCREDITATION</i> | <i>5</i> |
| 2.2. <i>SUMMARY TABLE</i> | <i>6</i> |
| 2.3. <i>TEST METHODOLOGY.....</i> | <i>7</i> |
| 2.4. <i>CALIBRATION AND UNCERTAINTY</i> | <i>7</i> |
| 2.5. <i>MEASUREMENT METHOD.....</i> | <i>8</i> |
| 2.6. <i>TEST AND MEASUREMENT EQUIPMENT.....</i> | <i>9</i> |
| 3. EQUIPMENT UNDER TEST | 10 |
| 3.1. <i>DESCRIPTION OF EUT</i> | <i>10</i> |
| 3.2. <i>MAXIMUM OUTPUT POWER.....</i> | <i>10</i> |
| 3.3. <i>DESCRIPTION OF AVAILABLE ANTENNAS</i> | <i>10</i> |
| 3.4. <i>SOFTWARE AND FIRMWARE.....</i> | <i>10</i> |
| 3.5. <i>WORST-CASE CONFIGURATION AND MODE.....</i> | <i>10</i> |
| 3.6. <i>DESCRIPTION OF TEST SETUP.....</i> | <i>11</i> |
| 4. ANTENNA PORT TEST RESULTS | 13 |
| 4.1. <i>ON TIME, DUTY CYCLE</i> | <i>13</i> |
| 4.2. <i>6 dB BANDWIDTH.....</i> | <i>14</i> |
| 4.3. <i>99% BANDWIDTH.....</i> | <i>16</i> |
| 4.4. <i>OUTPUT POWER.....</i> | <i>17</i> |
| 4.5. <i>POWER SPECTRAL DENSITY</i> | <i>19</i> |
| 4.6. <i>CONDUCTED SPURIOUS EMISSIONS.....</i> | <i>21</i> |
| 5. RADIATED TEST RESULTS..... | 24 |
| 5.1. <i>LIMITS AND PROCEDURE</i> | <i>24</i> |
| 5.2. <i>TRANSMITTER ABOVE 1 GHz.....</i> | <i>25</i> |
| 5.1. <i>WORST-CASE BELOW 1 GHz.....</i> | <i>35</i> |
| 5.2. <i>WORST-CASE BELOW 30 MHz.....</i> | <i>37</i> |
| 5.3. <i>AC POWER LINE CONDUCTED EMISSIONS</i> | <i>39</i> |
| 6. SETUP PHOTOS..... | 42 |

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: CARD ACCESS INC.
11778 SOUTH ELECTION RD. #260
DRAPER, UT 84020, USA

EUT DESCRIPTION: BT, BLE and 802.11 a/b/g/n RADIO MODULE

MODEL: CONAPPWM

SERIAL NUMBER: 427258, 427299, 427300

DATE TESTED: March 1 – August 31, 2016

| APPLICABLE STANDARDS | |
|---------------------------------|--------------|
| STANDARD | TEST RESULTS |
| CFR 47 Part 15 Subpart C | Pass |
| INDUSTRY CANADA RSS-247 Issue 1 | 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 any government.

Approved & Released For
UL Verification Services Inc. By:

Prepared By:



CHARLES VERGONIO
CONSUMER TECHNOLOGY DIVISION
WISE ENGINEER
UL VERIFICATION SERVICES INC

JONATHAN HSU
CONSUMER TECHNOLOGY DIVISION
WISE LAB ENGINEER
UL VERIFICATION SERVICES INC

2. SUMMARY OF TESTING

2.1. 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 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) |

The above test sites and facilities are covered under FCC Test Firm Registration # 208313.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

2.2. SUMMARY TABLE

| FCC Part Section | RSS Section(s) | Test Description | Test Limit | Test Condition | Test Result |
|--------------------|----------------|---|------------|----------------|-------------|
| 15.247 (a)(2) | RSS-247 5.2.1 | Occupied Band width (6dB) | >500KHz | Conducted | Pass |
| 2.1051, 15.247 (d) | RSS-247 5.5 | Band Edge / Conducted Spurious Emission | -20dBc | | Pass |
| 15.247 | RSS-247 5.4.4 | TX conducted output power | <30dBm | | Pass |
| 15.247 | RSS-247 5.2.2 | PSD | <8dBm | | Pass |
| 15.207 (a) | RSS-GEN 8.8 | AC Power Line conducted emissions | Section 10 | | Pass |
| 15.205, 15.209 | RSS-GEN 8.9/7 | Radiated Spurious Emission | < 54dBuV/m | Radiated | Pass |

2.3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 4, and RSS-247 Issue 1.

2.4. CALIBRATION AND UNCERTAINTY

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.

SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

MEASUREMENT UNCERTAINTY

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

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

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

2.5. MEASUREMENT METHOD

On Time and Duty Cycle: KDB 558074 D01 v03r05, Section 6.

6 dB Emission BW: KDB 558074 D01 v03r05, Section 8.1.

Conducted Output Power: KDB 558074 D01 v03r05, Section 9.1.1.

Power Spectral Density: KDB 558074 D01 v03r05, Section 10.2 (Method PKPSD).

Unwanted emissions in restricted bands: KDB 558074 D01 v03r05, Section 12.1, 12.2.

Unwanted emissions in non-restricted bands: KDB 558074 D01 v03r05, Section 11.0.

Band-edge: KDB 558074 D01 v03r05, Section 13.2.

AC Power Line Conducted Emissions: ANSI C63.10-2013, Section 6.2.

2.6. 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 | T Number | Cal Due |
| Amplifier, 1-18GHz | Miteq | AFS42-00101800-25-S-42 | 1165 | 07/20/16 |
| Amplifier, 1-8GHz, 35 dB | Miteq | AMF-4D-01000800-30-29P | 1172 | 07/20/16 |
| Antenna, Biconolog, 30MHz-1 GHz | Sunol Sciences | JB1 | 122 | 01/29/17 |
| Antenna, Horn, 18GHz | ETS Lindgren | 3117 | 345 | 02/22/17 |
| Antenna, Horn, 26.5 GHz | ARA | MWH-1826/B | 447 | 05/12/16 |
| ESR7 EMI Test Receiver 7GHz | Rohde & Schwarz | ESR | 1436 | 12/19/16 |
| High Pass Filter 3GHz | Micro-Tronics | HPS17543 | 486 | 07/20/16 |
| High Pass Filter 6GHz | Micro-Tronics | HPS17542 | 484 | 07/20/16 |
| LISN, 30 MHz | FCC | FCC-LISN-50/250-25-2 | 1310 | 09/16/17 |
| Low Pass Filter 5GHz | Micro-Tronics | LPS17541 | 481 | 07/20/16 |
| Peak / Average Power Sensor | Keysight | N1921A | 750 | 09/17/16 |
| Peak Power Meter | Agilent / HP | N1911A | 1268 | 07/06/17 |
| RF Pre-amplifier, 1GHz - 18GHz | Miteq | NSP4000-SP2 | 88 | 04/07/16 |
| RF Pre-amplifier, 1GHz - 26.5GHz | HP | 8449B | 404 | 06/29/16 |
| Spectrum Analyzer, 44 GHz | Agilent / HP | E4446A | 99 | 06/10/16 |
| Spectrum Analyzer, PXA, 3 Hz to 44 GHz | Keysight | N9030A | PRE0126777 | 12/21/16 |

| Test Software List | | | |
|-----------------------|--------------|--------|------------------------|
| Description | Manufacturer | Model | Version |
| Radiated Software | UL | UL EMC | Ver 9.5, June 24, 2015 |
| Conducted Software | UL | UL EMC | Ver 9.5, May 26, 2015 |
| Antenna Port Software | UL | UL RF | Ver 4.2, Feb 2, 2016 |

3. EQUIPMENT UNDER TEST

3.1. DESCRIPTION OF EUT

The EUT is a BT, BLE and 802.11 a/b/g/n RADIO MODULE.

3.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

| Frequency Range (MHz) | Mode | Output Power (dBm) | Output Power (mW) |
|-----------------------|------|--------------------|-------------------|
| 2402 - 2480 | BLE | 1.69 | 1.48 |

3.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an PIFA antenna, with a maximum gain of -0.5dBi.

3.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was BusyBox, rev.1.19.4 <2016-02-18 14:39:10 MST> built-In Shell (ash).

The test utility software used during testing was Tera Term, rev 4.8.3(SVN#5602)

3.5. WORST-CASE CONFIGURATION AND MODE

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

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

3.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

| Support Equipment List | | | | |
|------------------------|--------------|-------------|------------------------|--------|
| Description | Manufacturer | Model | Serial Number | FCC ID |
| AC Adapter | TRIAD | WSU120-0700 | N/A | N/A |
| Laptop | Lenovo | T430 | PB-05HPL | N/A |
| Laptop AC Adapter | Lenovo | ADLX90NLT2A | 11S45N0707Z1ZL7436RDM2 | N/A |

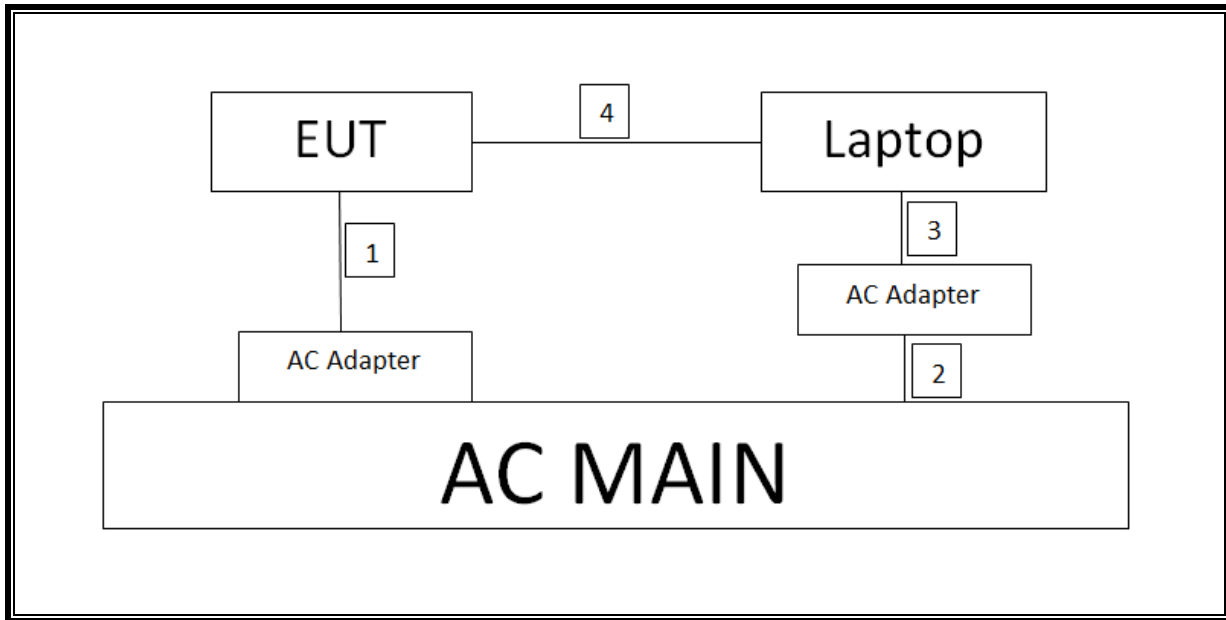
I/O CABLES

| I/O Cable List | | | | | | |
|----------------|-------|----------------------|----------------|------------|------------------|-----------------------|
| Cable No | Port | # of identical ports | Connector Type | Cable Type | Cable Length (m) | Remarks |
| 1 | AC/DC | 1 | US115V/12V | Unshielded | 1 | |
| 2 | AC | 1 | US115V | Unshielded | 1 | |
| 3 | DC | 1 | 20Vdc | Unshielded | 1.5 | Ferrite on Laptop end |
| 4 | Com | 1 | USB/Serial | Unshielded | 1.5 | |

TEST SETUP

The EUT is stand-alone unit during the tests; test software exercised the radio card via USB-Serial cable.

SETUP DIAGRAM FOR TESTS



Note: For radiated testing, the unit was test stand alone with AC adapter

4. ANTENNA PORT TEST RESULTS

4.1. ON TIME, DUTY CYCLE

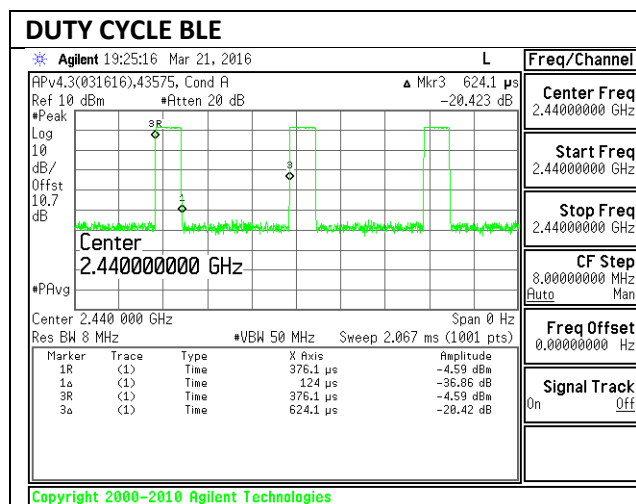
LIMITS

None; for reporting purposes only.

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) |
|--------------------|------------------------|------------------|-----------------------------|----------------------|---|-----------------------------|
| 2.4GHz Band | | | | | | |
| BLE | 0.124 | 0.624 | 0.199 | 19.87% | 7.02 | 8.065 |

DUTY CYCLE PLOTS



4.2. 6 dB BANDWIDTH

LIMITS

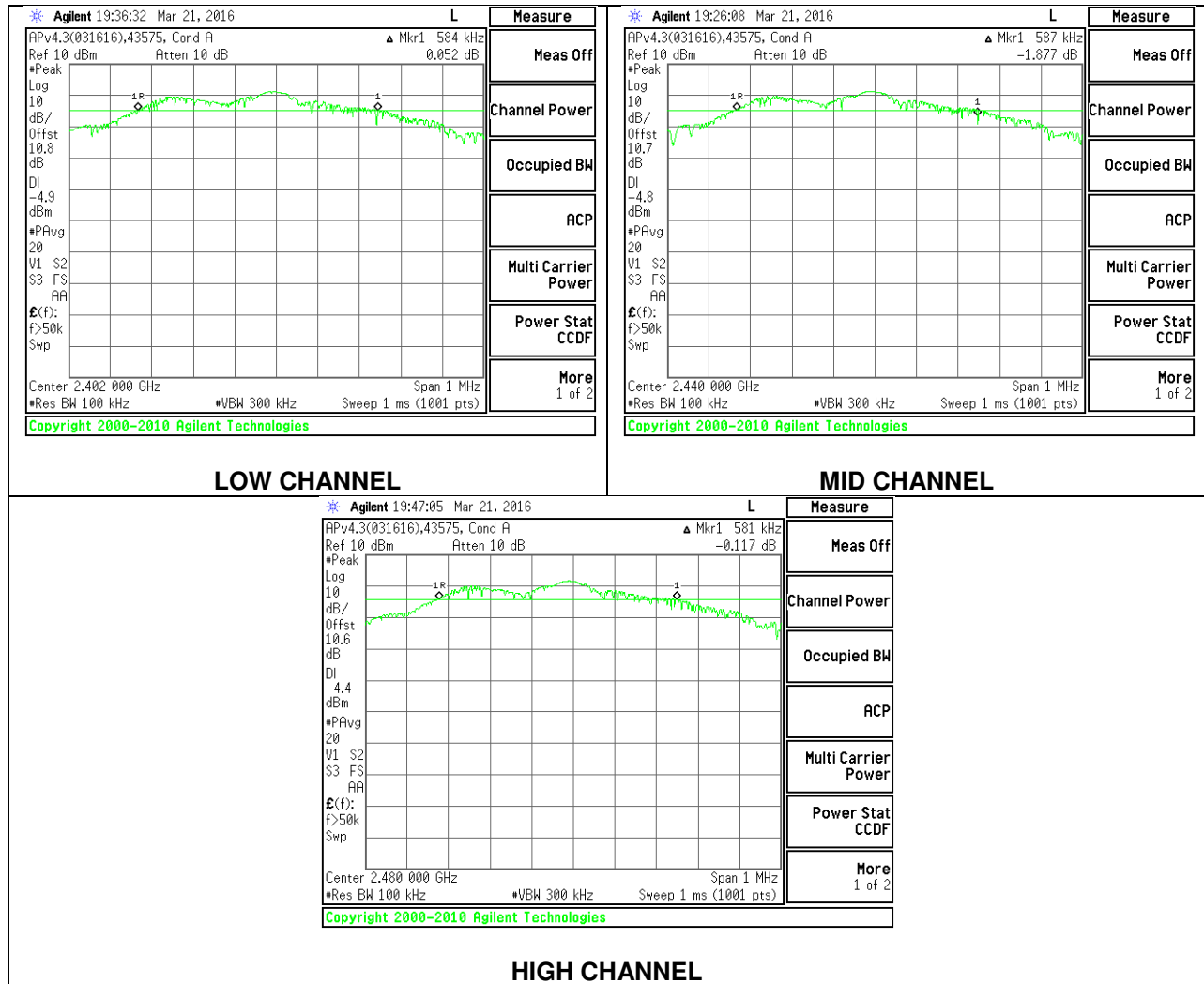
FCC §15.247 (a) (2)

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 | 2402 | 0.5840 | 0.5 |
| Middle | 2440 | 0.5870 | 0.5 |
| High | 2480 | 0.5810 | 0.5 |



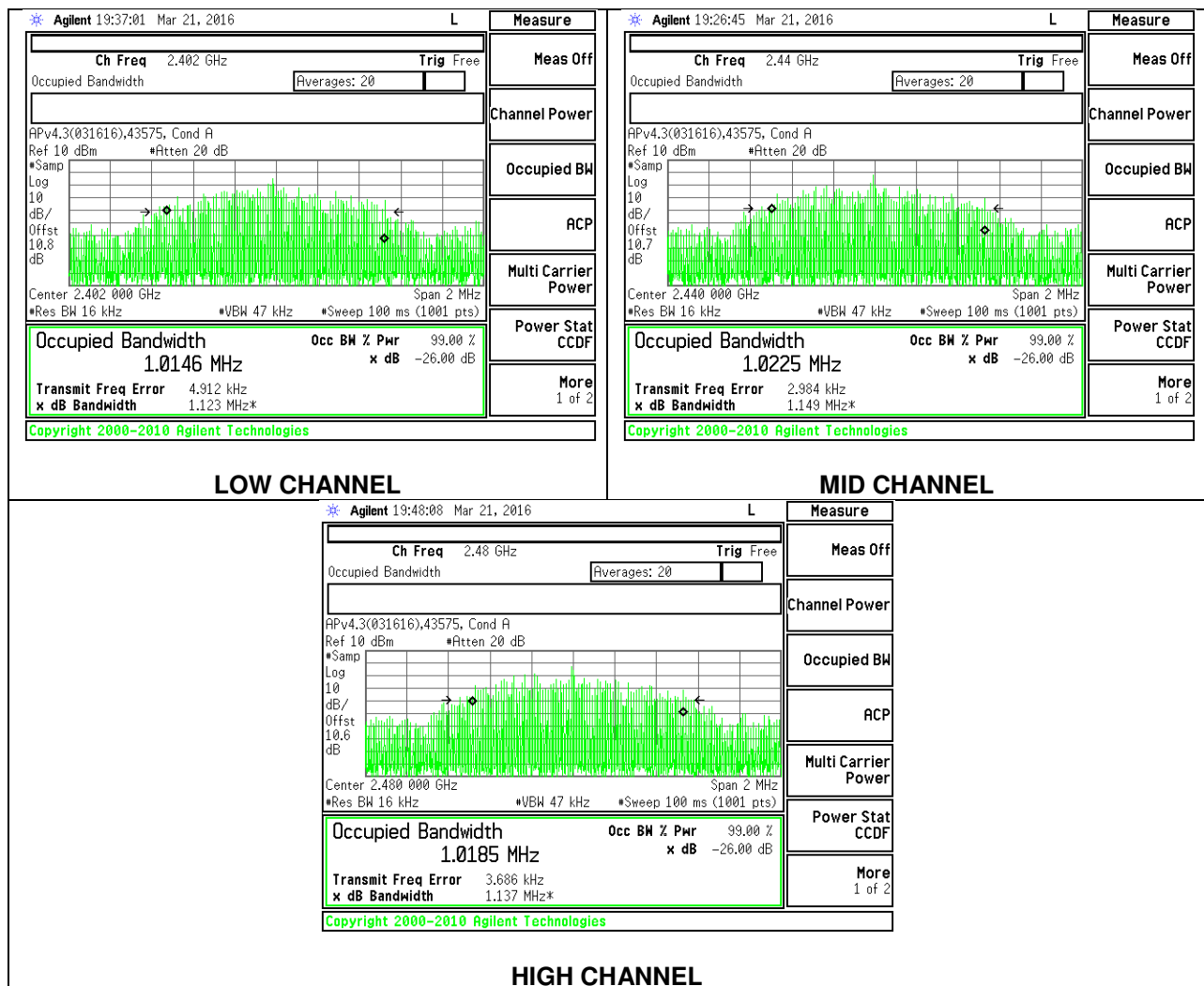
4.3. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

| Channel | Frequency (MHz) | 99% Bandwidth (MHz) |
|---------|-----------------|---------------------|
| Low | 2402 | 1.0146 |
| Middle | 2440 | 1.0225 |
| High | 2480 | 1.0185 |



4.4. OUTPUT POWER

LIMITS

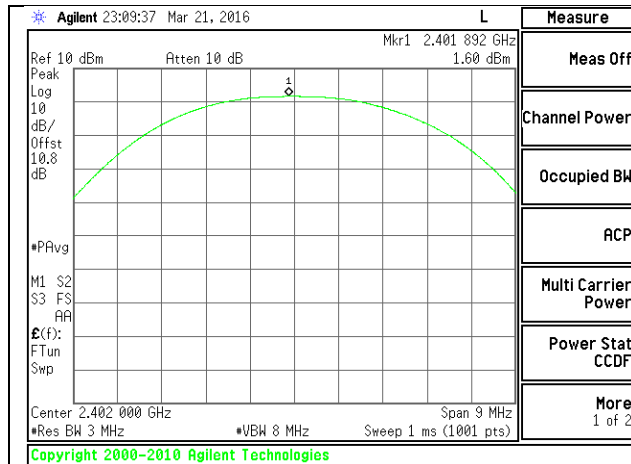
FCC §15.247 (b)

IC RSS-247 5.4.4

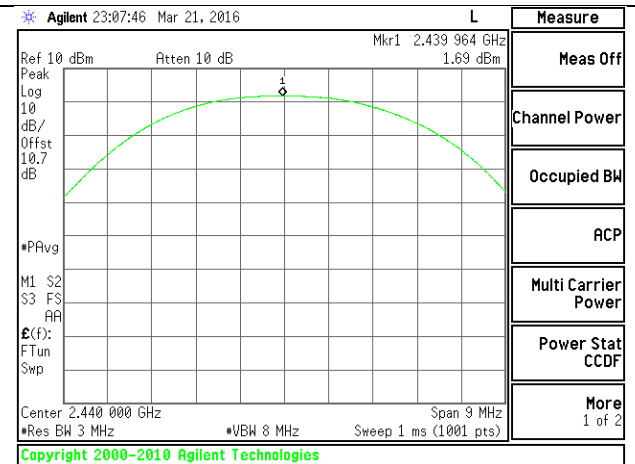
The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

RESULTS

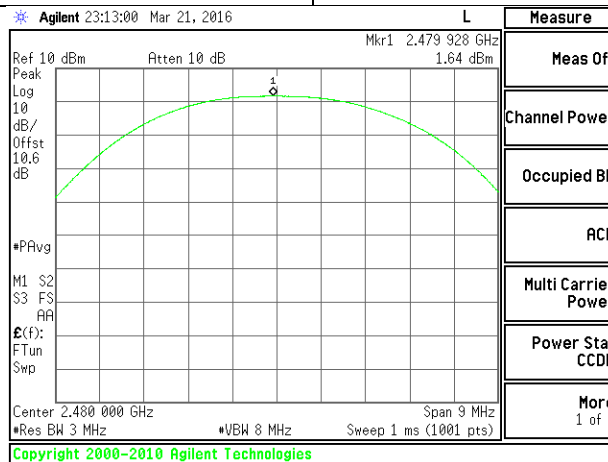
| Channel | Frequency (MHz) | Peak Power Reading (dBm) | Limit (dBm) | Margin (dB) |
|---------|-----------------|--------------------------|-------------|-------------|
| Low | 2402 | 1.600 | 30 | -28.400 |
| Middle | 2440 | 1.690 | 30 | -28.310 |
| High | 2480 | 1.640 | 30 | -28.360 |



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

4.5. POWER SPECTRAL DENSITY

LIMITS

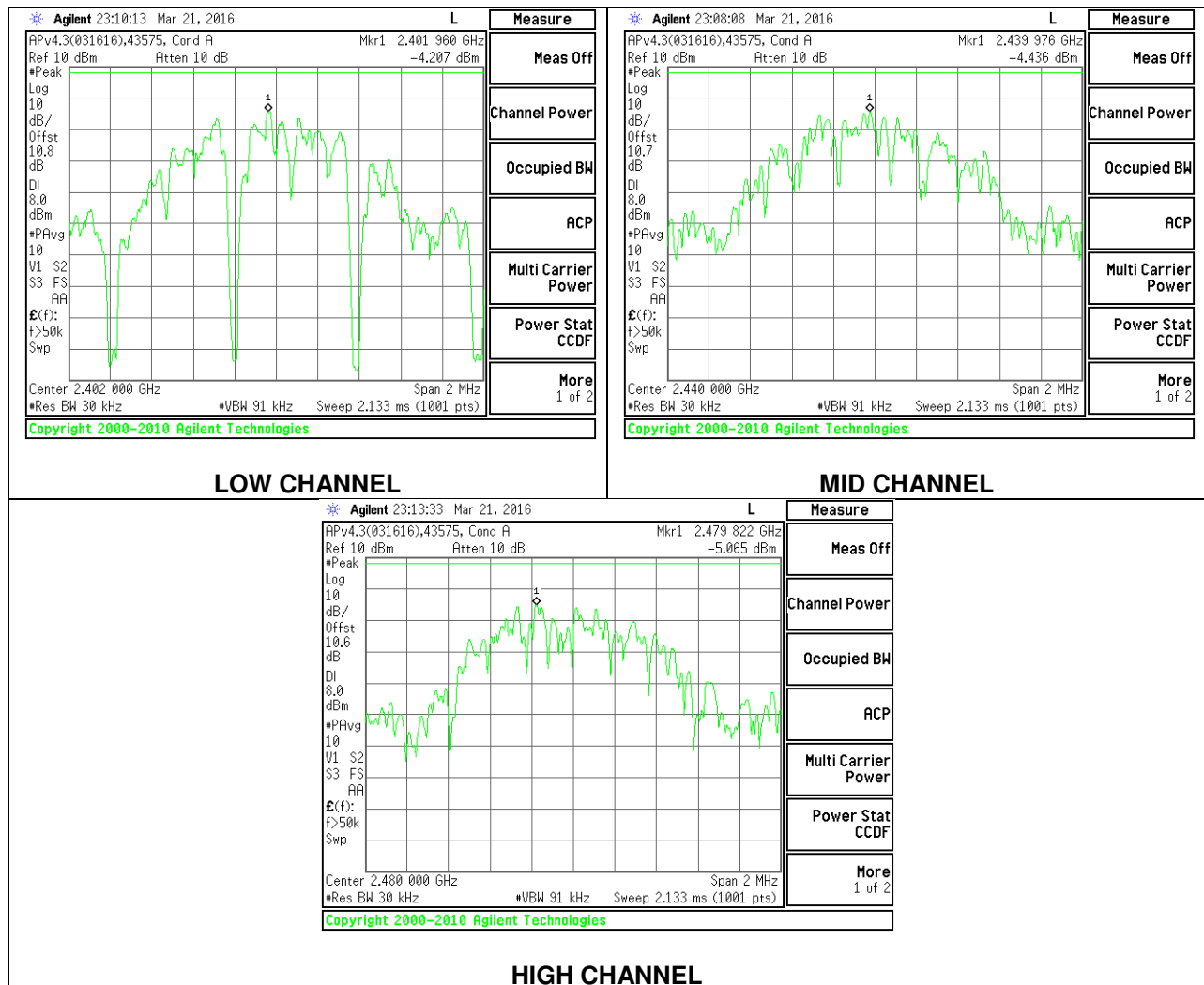
FCC §15.247 (e)

IC RSS-247 5.2.2

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

RESULTS

| Channel | Frequency (MHz) | PSD (dBm) | Limit (dBm) | Margin (dB) |
|---------|-----------------|-----------|-------------|-------------|
| Low | 2402 | -4.207 | 8 | -12.21 |
| Middle | 2440 | -4.436 | 8 | -12.44 |
| High | 2480 | -5.065 | 8 | -13.07 |



4.6. CONDUCTED SPURIOUS EMISSIONS

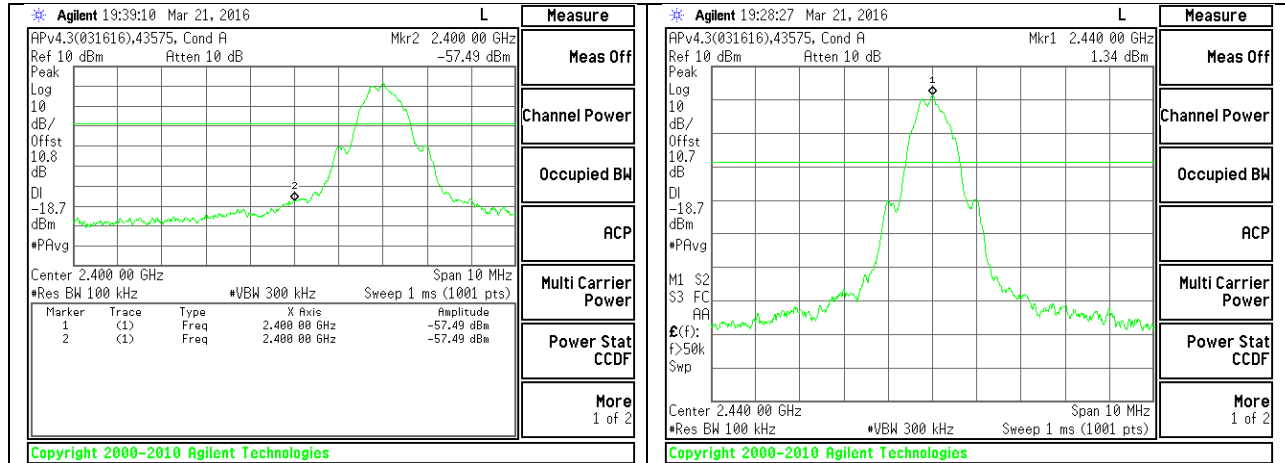
LIMITS

FCC §15.247 (d)

IC RSS-247 5.5

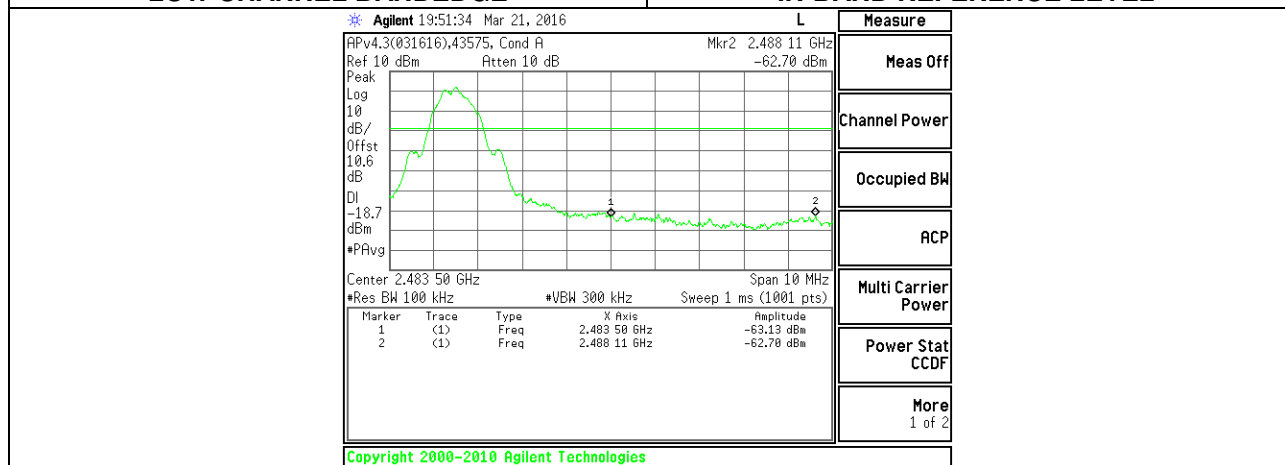
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

RESULTS

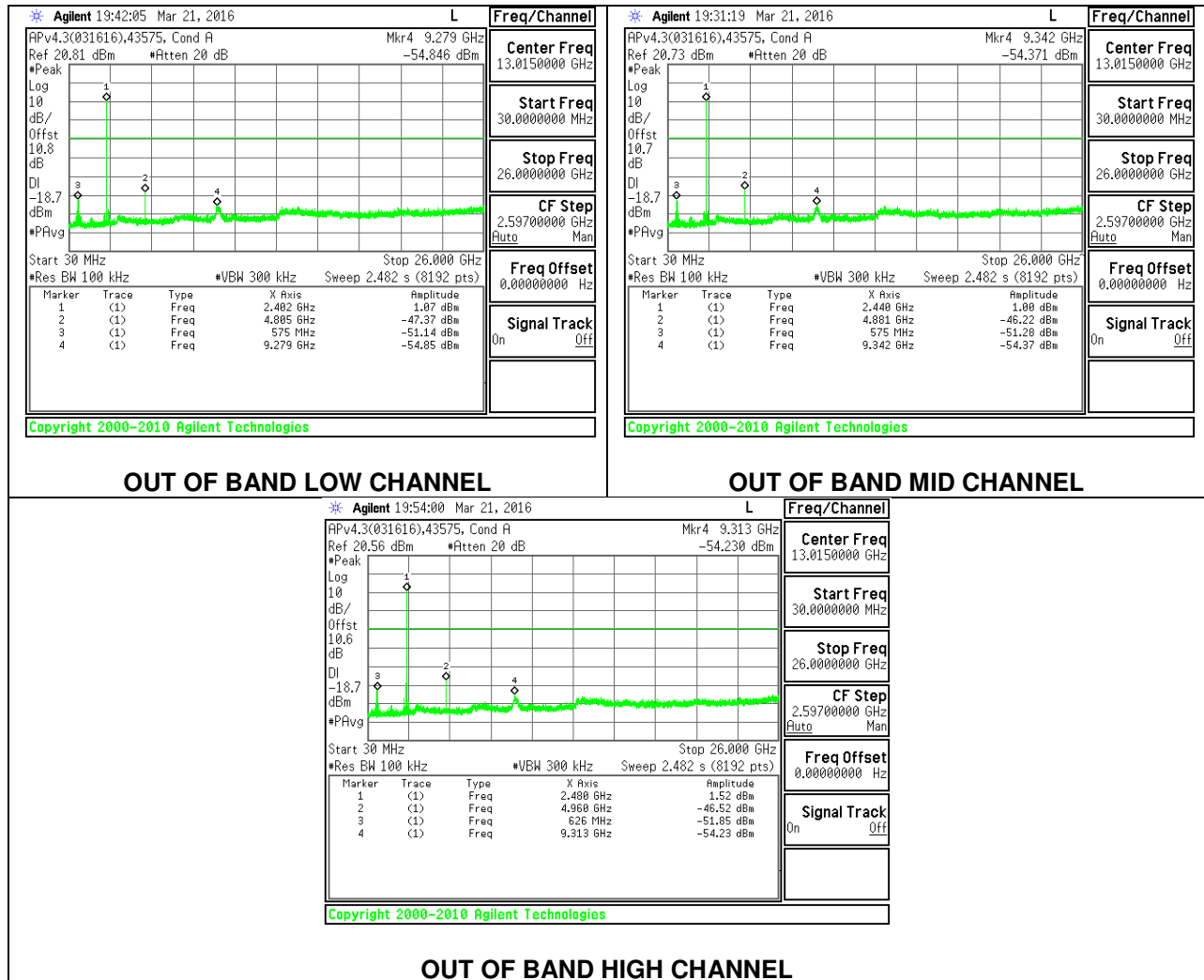


LOW CHANNEL BANDEDGE

IN-BAND REFERENCE LEVEL



HIGH CHANNEL BANDEDGE



5. RADIATED TEST RESULTS

5.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-GEN Clause 8.9 (Transmitter)

| 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 below 1GHz and 150cm for 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 measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and add duty cycle factor for average measurements. Duty cycle factor = $10 \log(1/x)$. For this sample: DCF = $10\log(1/0.199)=7.02\text{dB}$.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

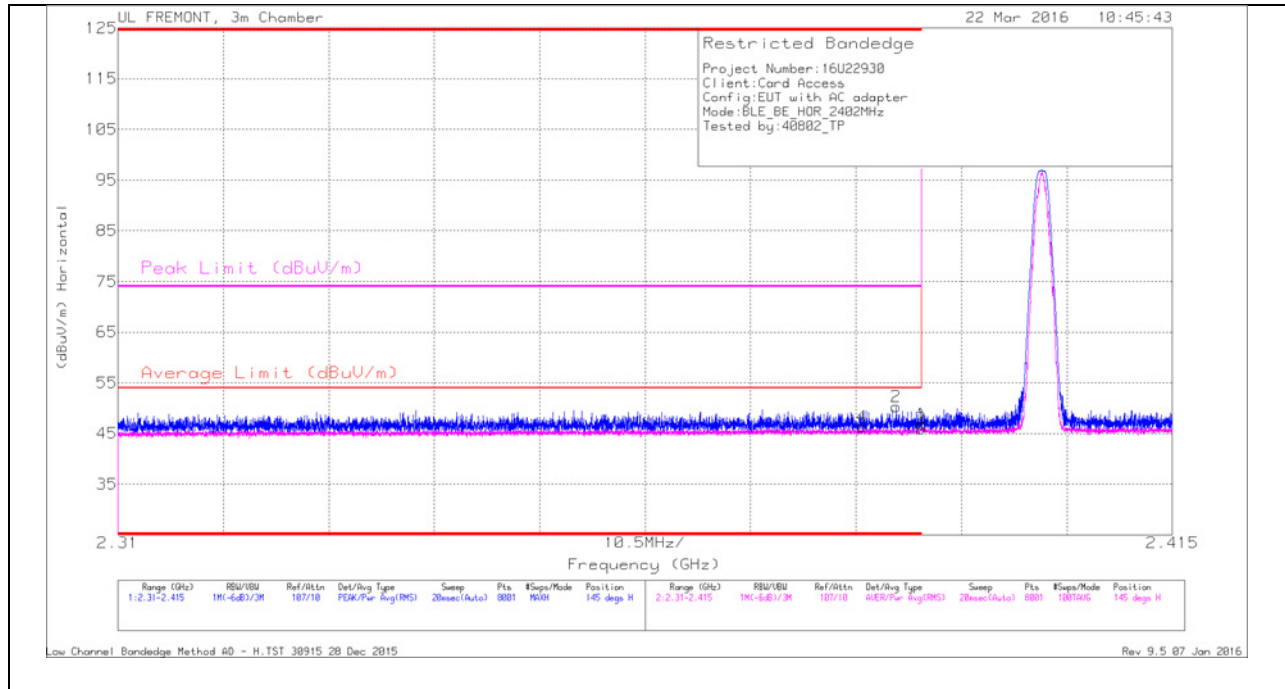
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

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.

5.2. TRANSMITTER ABOVE 1 GHz

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULTS



Trace Markers

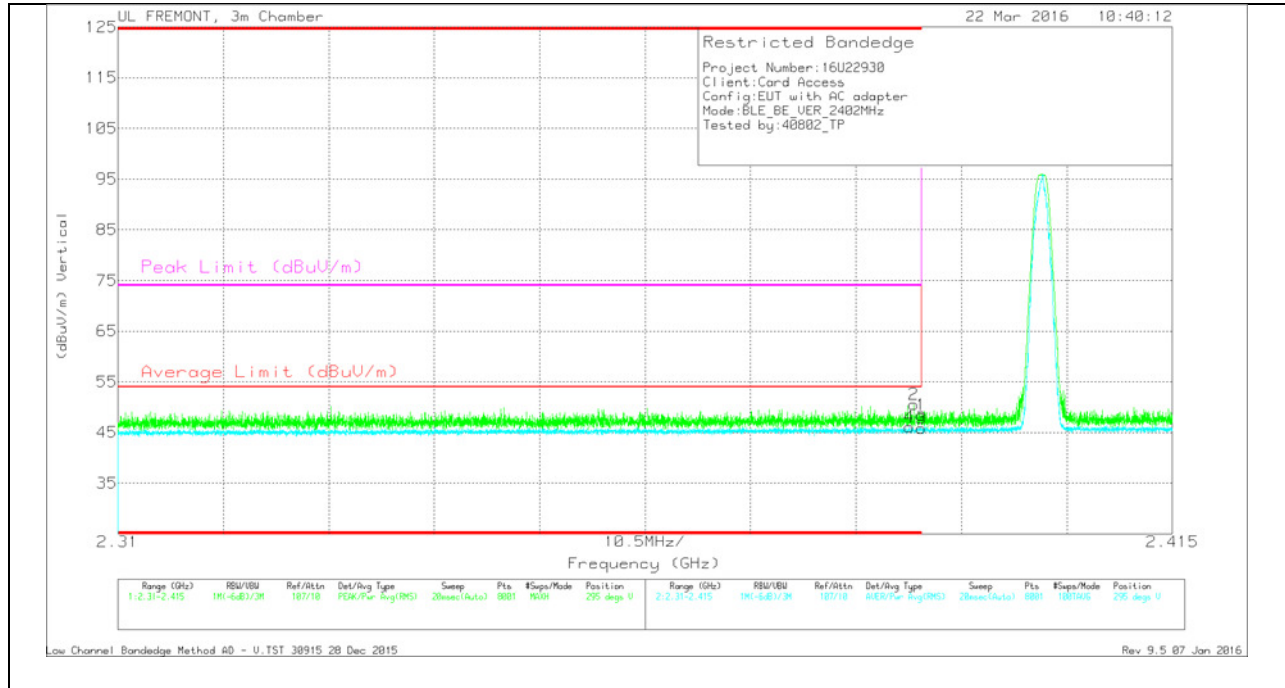
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AFT119 (dB/m) | Amp/Cb/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|---------------|---------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1 | * 2.39 | 36.92 | Pk | 32.1 | -22.2 | 0 | 46.82 | - | - | 74 | -27.18 | 145 | 326 | H |
| 2 | * 2.388 | 40.5 | Pk | 32 | -22.2 | 0 | 50.3 | - | - | 74 | -23.7 | 145 | 326 | H |
| 3 | * 2.39 | 29.05 | RMS | 32.1 | -22.2 | 7.02 | 45.97 | 54 | -8.03 | - | - | 145 | 326 | H |
| 4 | * 2.384 | 29.47 | RMS | 32 | -22.2 | 7.02 | 46.29 | 54 | -7.71 | - | - | 145 | 326 | H |

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

VERTICAL RESULTS



Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Chl/FHz/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 | 38.56 | Pk | 32.1 | -22.2 | 0 | 48.46 | - | - | 74 | -25.54 | 295 | 368 | V |
| 2 | * 2.389 | 40.66 | Pk | 32.1 | -22.2 | 0 | 50.56 | - | - | 74 | -23.44 | 295 | 368 | V |
| 3 | * 2.39 | 28.92 | RMS | 32.1 | -22.2 | 7.02 | 45.84 | 54 | -8.16 | - | - | 295 | 368 | V |
| 4 | * 2.389 | 29.2 | RMS | 32.1 | -22.2 | 7.02 | 46.12 | 54 | -7.88 | - | - | 295 | 368 | V |

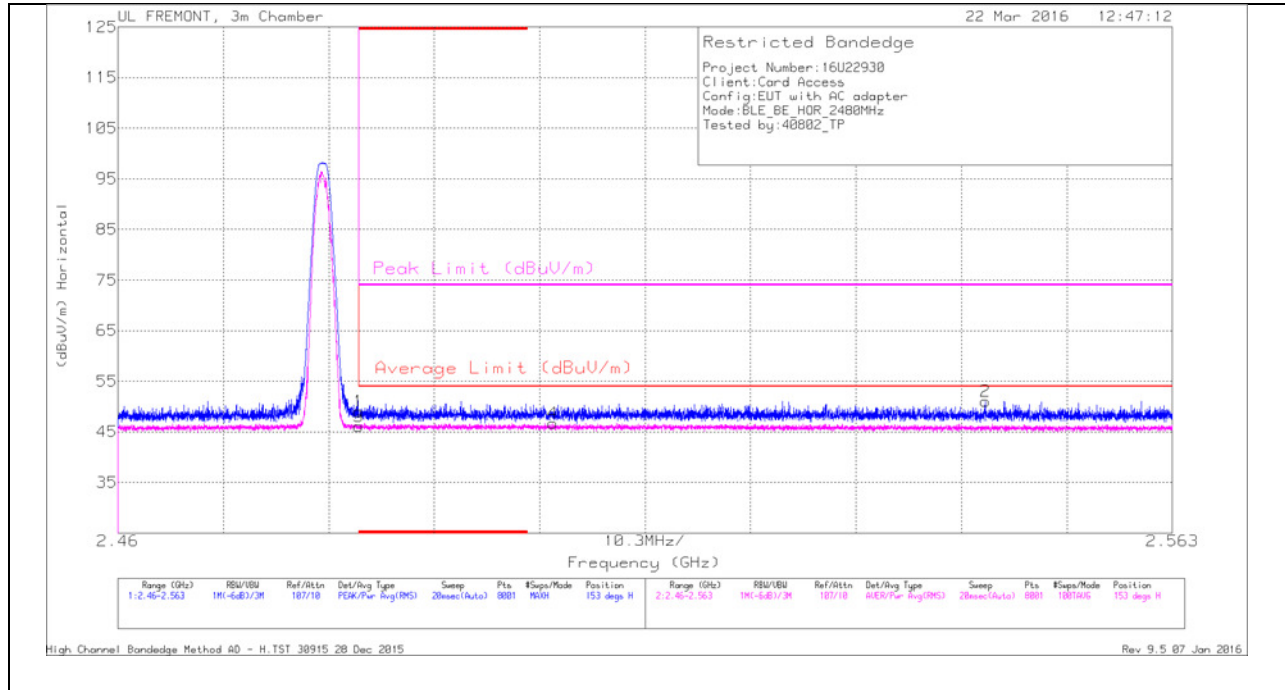
* - indicates frequency in CFR15.205/IC8.10 Restricted Band

Pk - Peak detector

RMS - RMS detection

AUTHORIZED BANDEGE (HIGH CHANNEL)

HORIZONTAL RESULTS



Trace Markers

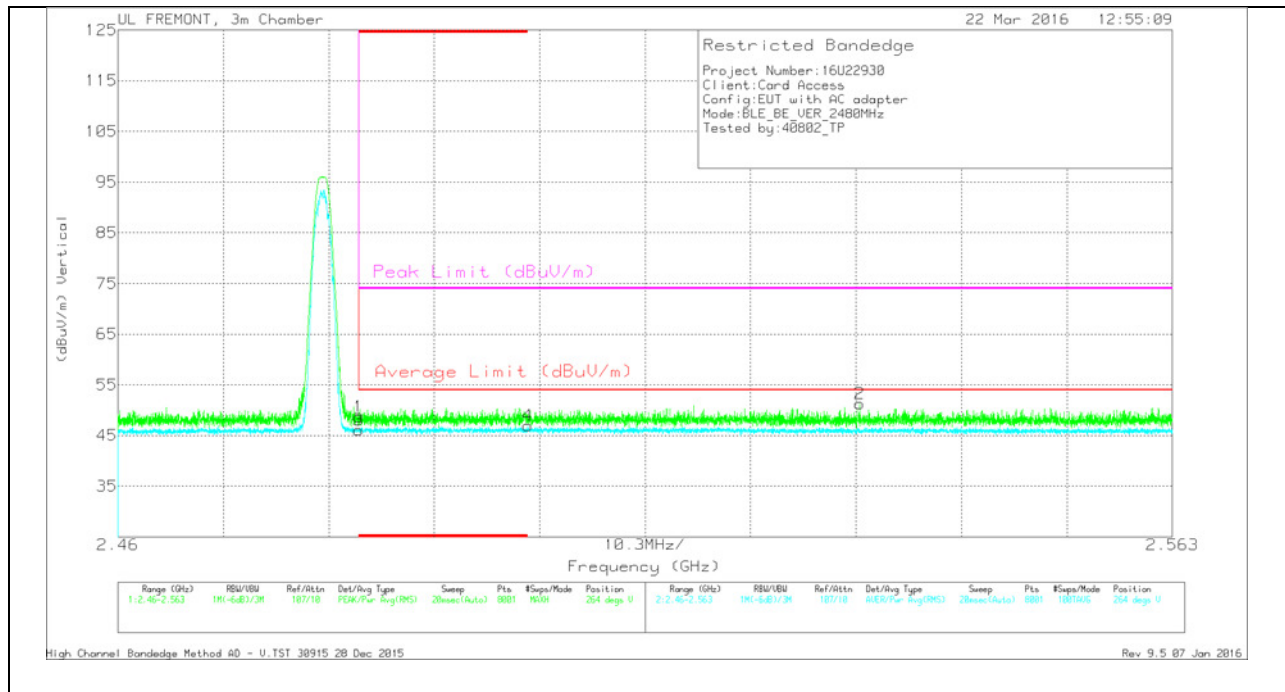
| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Ftr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Average Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------------|--------------|----------------------------|------------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 1 | * 2.484 | 38.59 | PK | 32.4 | -22 | 0 | 48.99 | - | - | 74 | -25.01 | 153 | 387 | H |
| 3 | * 2.484 | 28.62 | RMS | 32.4 | -22 | 7.02 | 46.04 | 54 | -7.96 | - | - | 153 | 387 | H |
| 4 | 2.502 | 29.2 | RMS | 32.4 | -21.9 | 7.02 | 46.72 | 54 | -7.28 | - | - | 153 | 387 | H |
| 2 | 2.545 | 40.58 | PK | 32.4 | -21.9 | 0 | 51.08 | - | - | 74 | -22.92 | 153 | 387 | H |

* - indicates frequency in CFR15.205/IC8.10 Restricted Band

PK - Peak detector

RMS - RMS detection

VERTICAL RESULTS



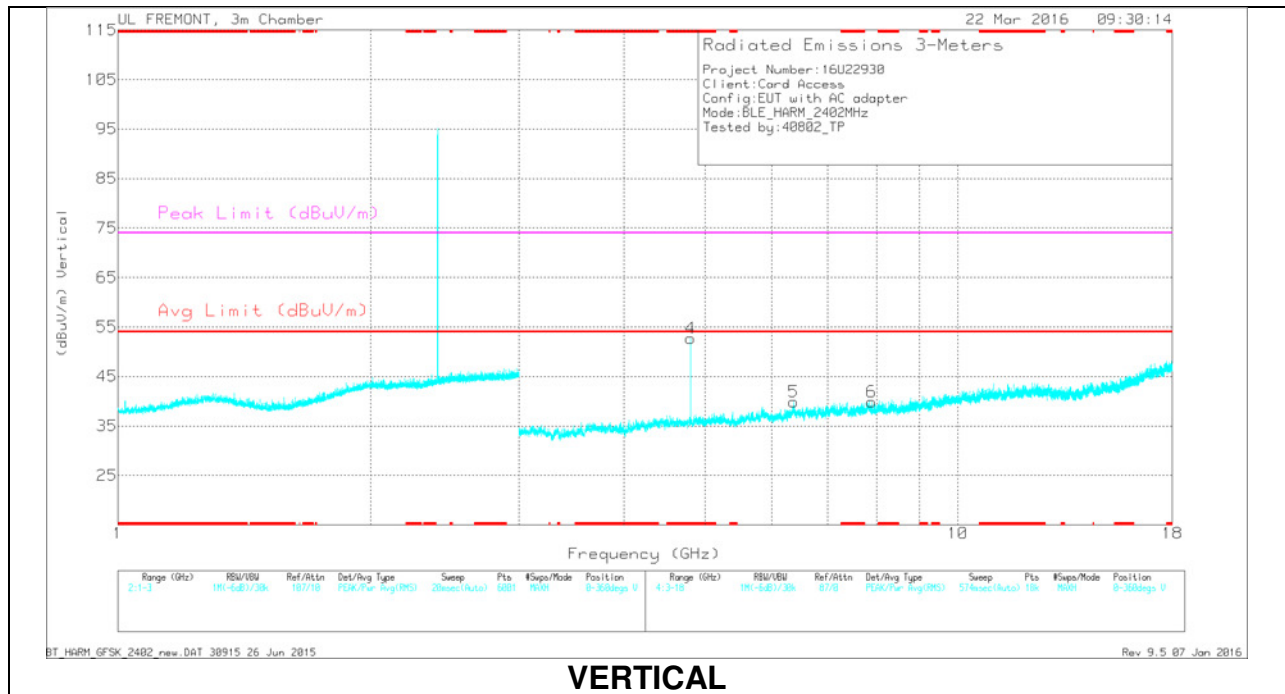
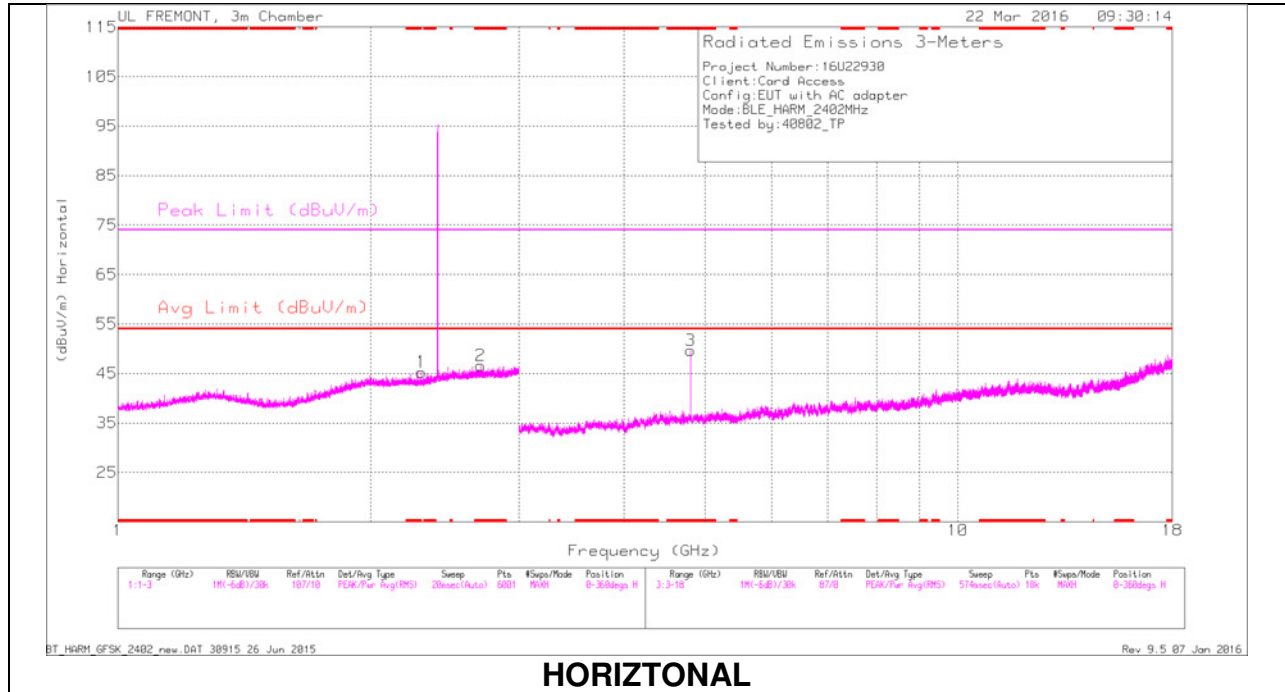
Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AFT119 (dB/m) | Amp/Cbl/Fix/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 | 38.27 | Pk | 32.4 | -22 | 0 | 48.67 | - | - | 74 | -25.33 | 264 | 356 | V |
| 3 | * 2.484 | 28.66 | RMS | 32.4 | -22 | 7.02 | 46.08 | 54 | -7.92 | - | - | 264 | 356 | V |
| 4 | 2.5 | 29.37 | RMS | 32.4 | -21.9 | 7.02 | 46.89 | 54 | -7.11 | - | - | 264 | 356 | V |
| 2 | 2.532 | 40.73 | Pk | 32.4 | -21.9 | 0 | 51.23 | - | - | 74 | -22.77 | 264 | 356 | V |

* - indicates frequency in CFR15.205/IC8.10 Restricted Band
 Pk - Peak detector
 RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



Note: Emission was scanned up to 26GHz; 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/Fitr/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 | * 2.298 | 35.98 | Pk | 31.6 | -22.3 | 0 | 45.28 | - | - | 74 | -28.72 | 0-360 | 100 | H |
| 2 | * 2.701 | 35.96 | Pk | 32.6 | -21.9 | 0 | 46.66 | - | - | 74 | -27.34 | 0-360 | 100 | H |
| 3 | * 4.803 | 44.59 | Pk | 34.2 | -29.1 | 0 | 49.69 | - | - | 74 | -24.31 | 0-360 | 200 | H |
| 4 | * 4.803 | 47.58 | Pk | 34.2 | -29.1 | 0 | 52.68 | - | - | 74 | -21.32 | 0-360 | 100 | V |
| 5 | 6.377 | 31.36 | Pk | 35.6 | -27.1 | 0 | 39.86 | - | - | - | - | 0-360 | 200 | V |
| 6 | 7.886 | 30.07 | Pk | 35.8 | -26 | 0 | 39.87 | - | - | - | - | 0-360 | 200 | V |

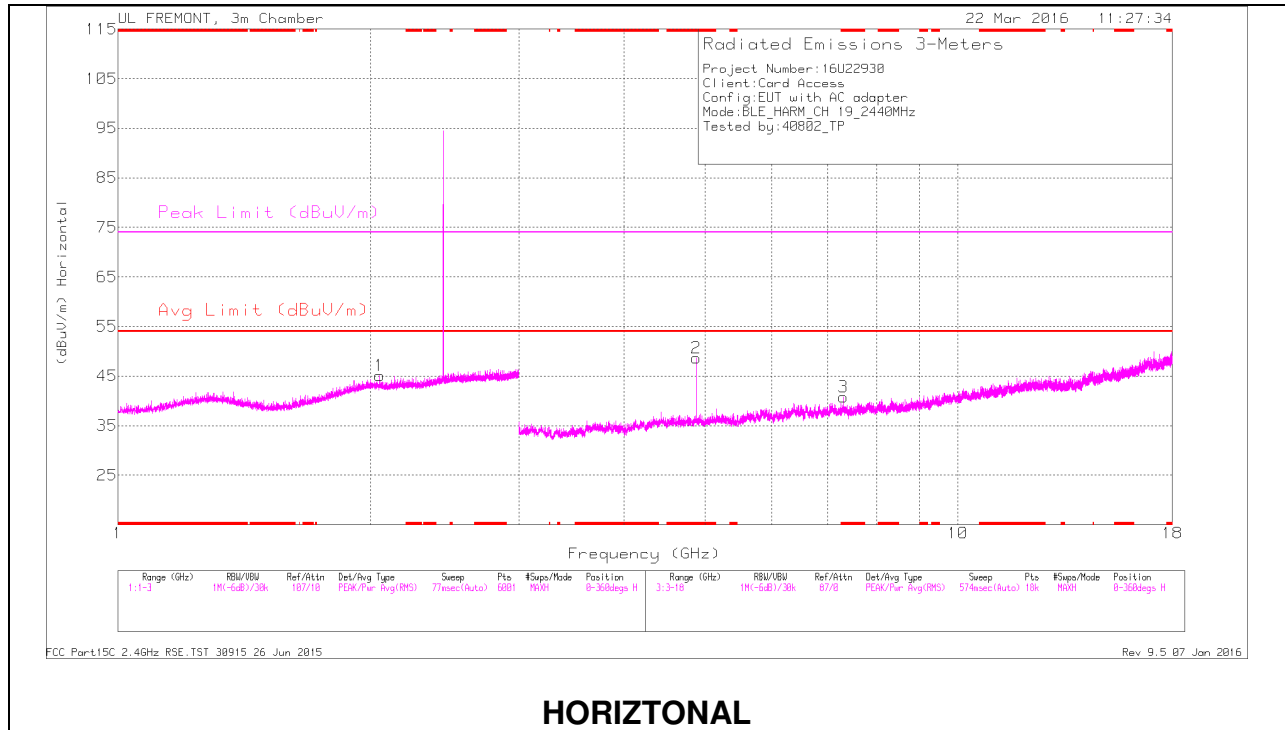
* - indicates frequency in CFR15.205/IC8.10 Restricted Band
 Pk - Peak detector

RADIATED EMISSIONS

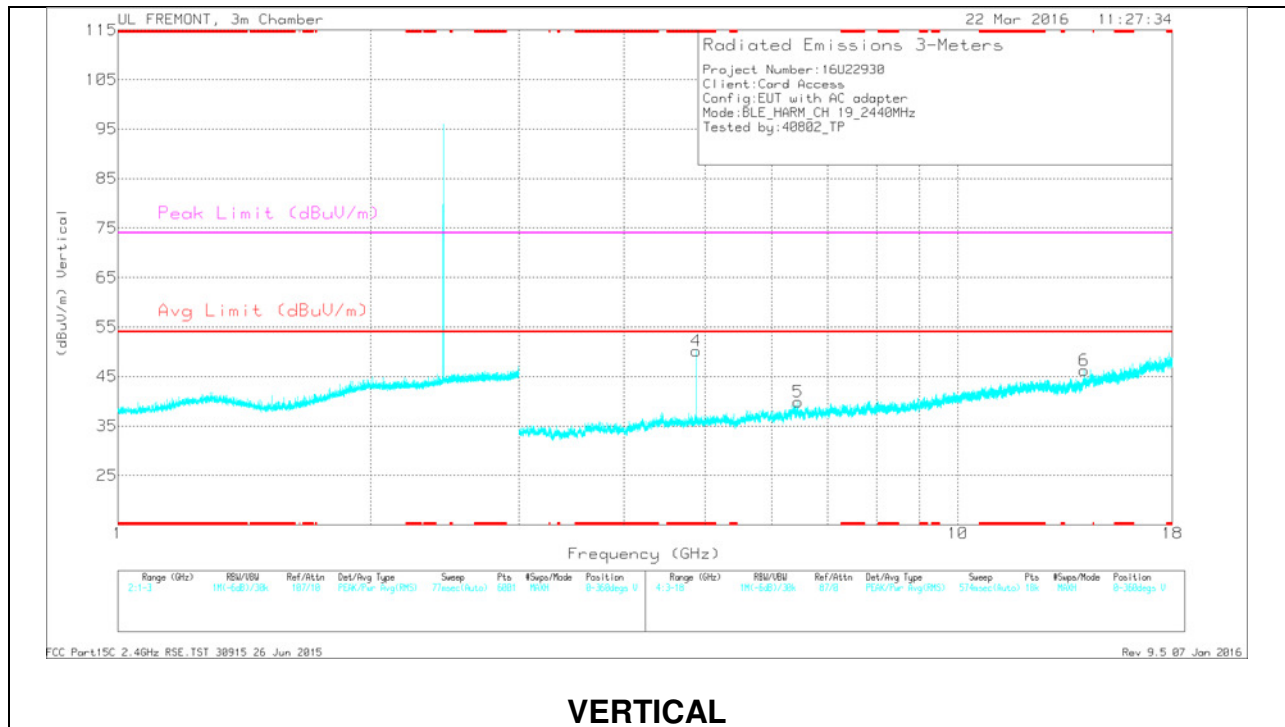
| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Fitr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 2.3 | 40.78 | PK2 | 31.6 | -22.3 | 0 | 50.08 | - | - | 74 | -23.92 | 20 | 378 | H |
| * 2.299 | 28.89 | MAv1 | 31.6 | -22.3 | 7.02 | 45.21 | 54 | -8.79 | - | - | 20 | 378 | H |
| * 2.703 | 40.87 | PK2 | 32.6 | -21.9 | 0 | 51.57 | - | - | 74 | -22.43 | 301 | 212 | H |
| * 2.701 | 28.89 | MAv1 | 32.6 | -21.9 | 7.02 | 46.61 | 54 | -7.39 | - | - | 301 | 212 | H |
| * 4.804 | 50.63 | PK2 | 34.2 | -29.1 | 0 | 55.73 | - | - | 74 | -18.27 | 20 | 276 | H |
| * 4.804 | 41.24 | MAv1 | 34.2 | -29.1 | 7.02 | 53.36 | 54 | -6.4 | - | - | 20 | 276 | H |
| * 4.804 | 51.38 | PK2 | 34.2 | -29.1 | 0 | 56.48 | - | - | 74 | -17.52 | 188 | 103 | V |
| * 4.804 | 41.47 | MAv1 | 34.2 | -29.1 | 7.02 | 53.59 | 54 | -4.1 | - | - | 188 | 103 | V |
| 6.377 | 36.69 | PK2 | 35.6 | -27.1 | 0 | 45.19 | - | - | 74 | -28.81 | 304 | 166 | V |
| 7.887 | 34.69 | PK2 | 35.8 | -26 | 0 | 44.49 | - | - | 74 | -29.51 | 120 | 366 | V |

* - indicates frequency in CFR15.205/IC8.10 Restricted Band
 PK2 - KDB558074 Method: Maximum Peak
 MAv1 - KDB558074 Option 1 Maximum RMS Average

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

Note: Emission was scanned up to 26GHz; 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/Fitr/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 | * 4.88 | 43.2 | Pk | 34.2 | -28.8 | 0 | 48.6 | - | - | 74 | -25.4 | 0-360 | 100 | H |
| 3 | * 7.307 | 31.88 | Pk | 35.7 | -26.8 | 0 | 40.78 | - | - | 74 | -33.22 | 0-360 | 100 | H |
| 4 | * 4.88 | 44.77 | Pk | 34.2 | -28.8 | 0 | 50.17 | - | - | 74 | -23.83 | 0-360 | 100 | V |
| 1 | 2.049 | 35.82 | Pk | 31.7 | -22.4 | 0 | 45.12 | - | - | - | - | 0-360 | 100 | H |
| 5 | 6.45 | 33 | Pk | 35.6 | -28.7 | 0 | 39.9 | - | - | - | - | 0-360 | 200 | V |
| 6 | 14.133 | 30.78 | Pk | 39.2 | -23.8 | 0 | 46.18 | - | - | - | - | 0-360 | 100 | V |

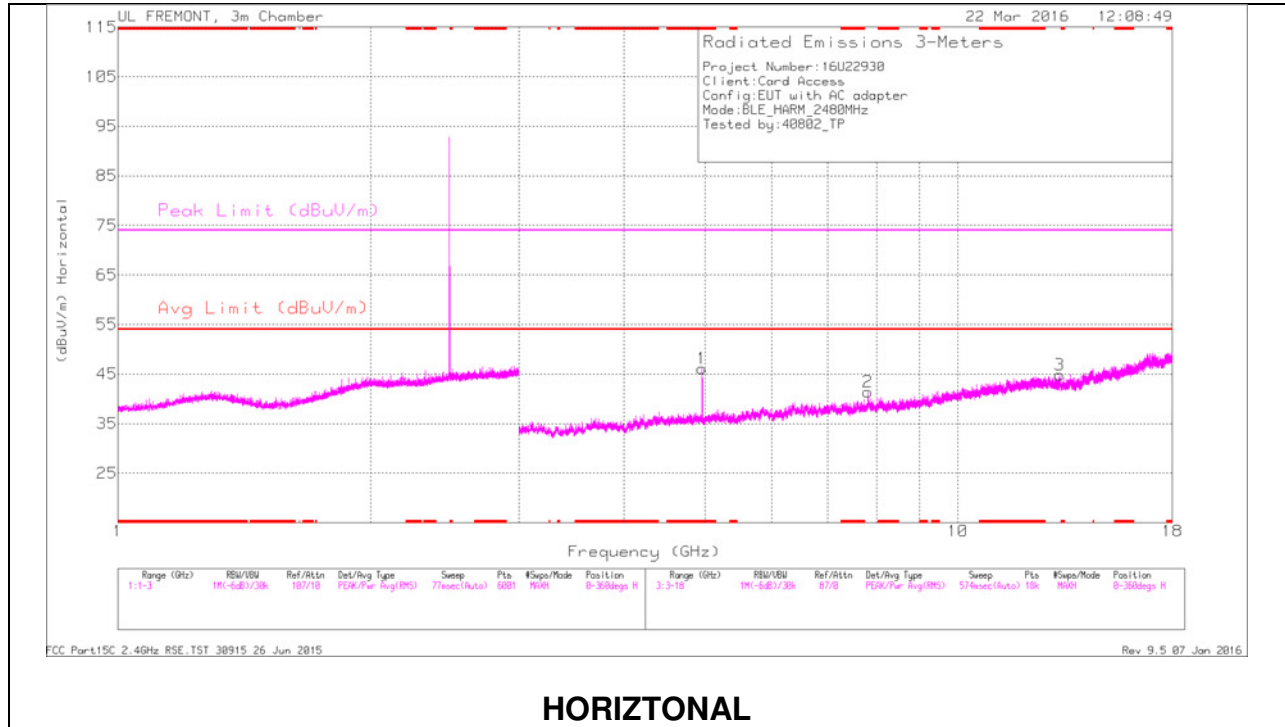
* - indicates frequency in CFR15.205/IC8.10 Restricted Band
 Pk - Peak detector

RADIATED EMISSIONS

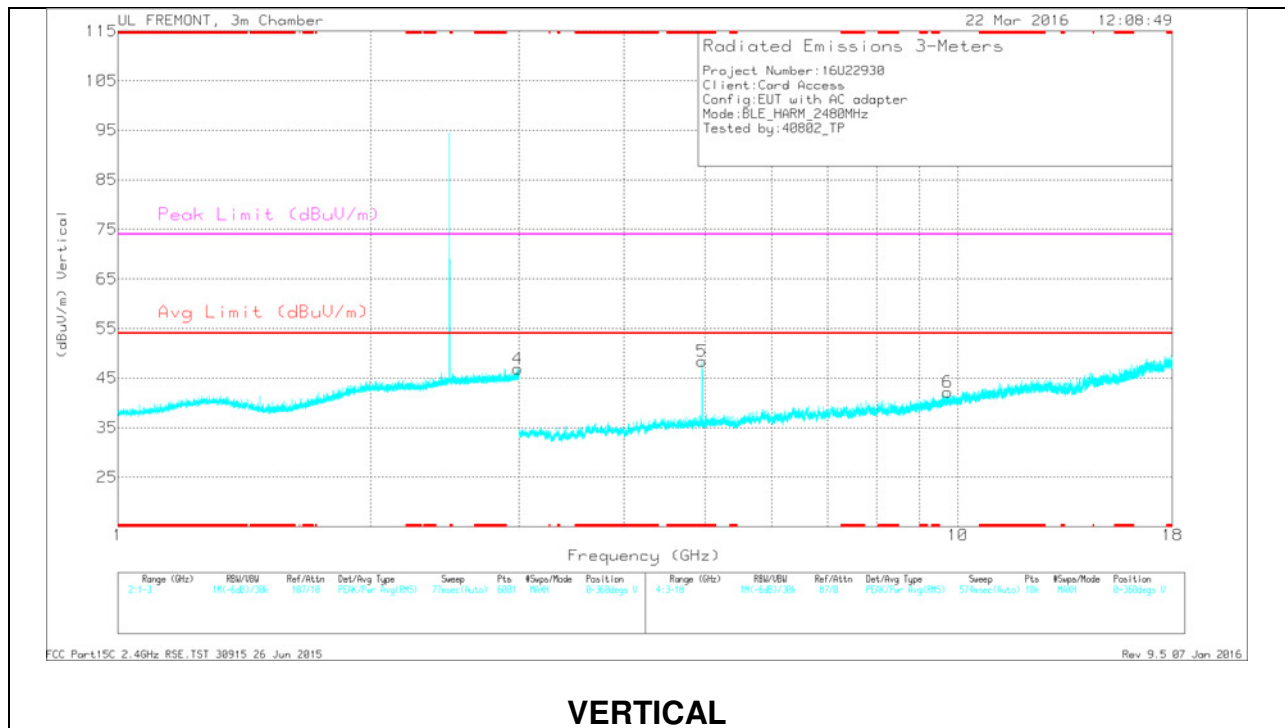
| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Fitr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|------|----------------|-----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 4.88 | 46.17 | PK2 | 34.2 | -28.8 | 0 | 51.57 | - | - | 74 | -22.43 | 36 | 148 | H |
| * 4.88 | 36.8 | MAv1 | 34.2 | -28.8 | 7.02 | 49.22 | 54 | -4.78 | - | - | 36 | 148 | H |
| * 7.306 | 36.81 | PK2 | 35.7 | -26.8 | 0 | 45.71 | - | - | 74 | -28.29 | 70 | 346 | H |
| * 7.307 | 24.66 | MAv1 | 35.7 | -26.8 | 7.02 | 40.58 | 54 | -13.42 | - | - | 70 | 346 | H |
| * 4.88 | 48.21 | PK2 | 34.2 | -28.8 | 0 | 53.61 | - | - | 74 | -20.39 | 278 | 386 | V |
| * 4.88 | 38.25 | MAv1 | 34.2 | -28.8 | 7.02 | 50.67 | 54 | -3.33 | - | - | 278 | 386 | V |
| 2.048 | 40.91 | PK2 | 31.7 | -22.4 | 0 | 50.21 | - | - | 74 | -23.79 | 219 | 129 | H |
| 6.452 | 37.82 | PK2 | 35.6 | -28.7 | 0 | 44.72 | - | - | 74 | -29.28 | 261 | 107 | V |
| 14.132 | 36.18 | PK2 | 39.2 | -23.8 | 0 | 51.58 | - | - | 74 | -22.42 | 234 | 107 | V |

* - indicates frequency in CFR15.205/IC8.10 Restricted Band
 PK2 - KDB558074 Method: Maximum Peak
 MAv1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Note: Emission was scanned up to 26GHz; 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/Cb/Fitr/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 | * 4.96 | 41.34 | Pk | 34.2 | -29.4 | 0 | 46.14 | - | - | 74 | -27.86 | 0-360 | 100 | H |
| 5 | * 4.96 | 43.62 | Pk | 34.2 | -29.4 | 0 | 48.42 | - | - | 74 | -25.58 | 0-360 | 100 | V |
| 4 | 2.99 | 35.78 | Pk | 32.8 | -21.7 | 0 | 46.88 | - | - | - | - | 0-360 | 100 | V |
| 2 | 7.818 | 31.62 | Pk | 35.8 | -26 | 0 | 41.42 | - | - | - | - | 0-360 | 100 | H |
| 6 | 9.73 | 29.07 | Pk | 36.8 | -23.7 | 0 | 42.17 | - | - | - | - | 0-360 | 200 | V |
| 3 | 13.214 | 29.57 | Pk | 39.1 | -23.8 | 0 | 44.87 | - | - | - | - | 0-360 | 100 | H |

* - indicates frequency in CFR15.205/IC8.10 Restricted Band
 Pk - Peak detector

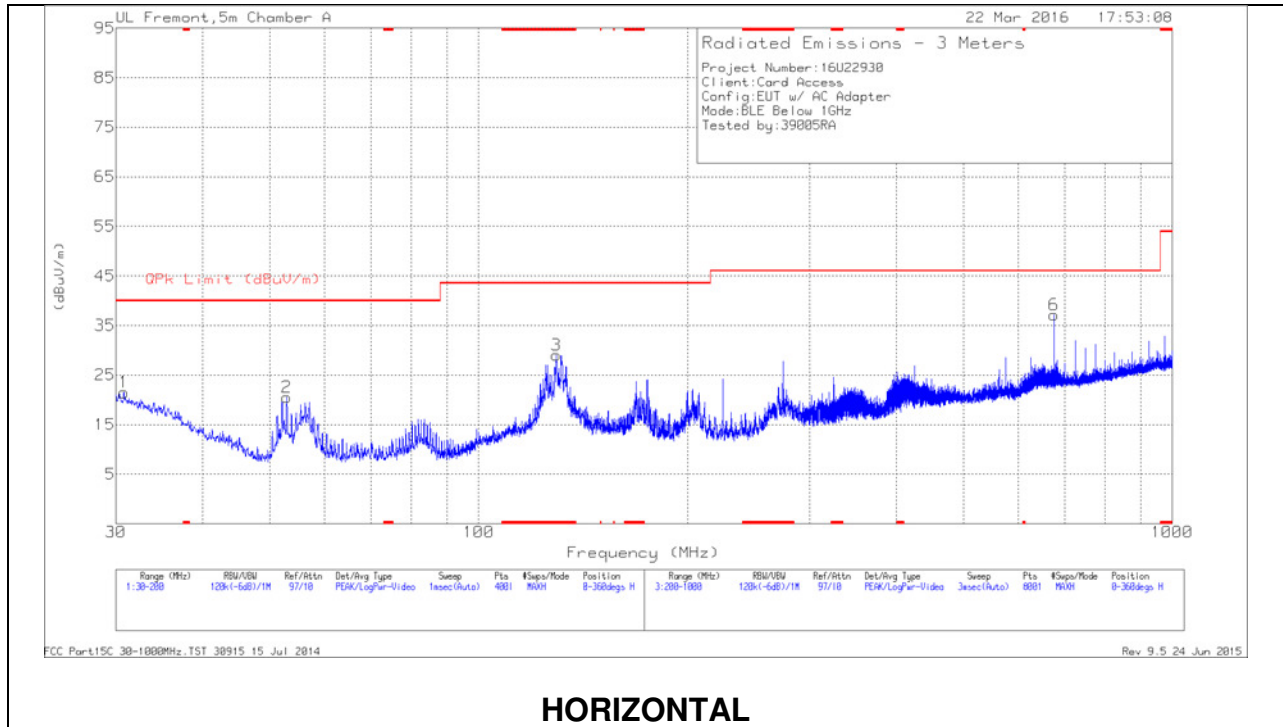
RADIATED EMISSIONS

| Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cb/Fitr/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 |
|-----------------|----------------------|------|----------------|----------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| * 4.959 | 45.46 | PK2 | 34.2 | -29.4 | 0 | 50.26 | - | - | 74 | -23.74 | 144 | 100 | H |
| * 4.96 | 34.52 | MAV1 | 34.2 | -29.4 | 7.02 | 46.34 | 54 | -7.66 | - | - | 144 | 100 | H |
| * 4.96 | 46.91 | PK2 | 34.2 | -29.5 | 0 | 51.61 | - | - | 74 | -22.39 | 263 | 332 | V |
| * 4.96 | 36.71 | MAV1 | 34.2 | -29.4 | 7.02 | 48.53 | 54 | -5.47 | - | - | 263 | 332 | V |
| 2.992 | 40.65 | PK2 | 32.8 | -21.6 | 0 | 51.85 | - | - | 74 | -22.15 | 42 | 366 | V |
| 7.82 | 36.13 | PK2 | 35.8 | -25.9 | 0 | 46.03 | - | - | 74 | -27.97 | 31 | 400 | H |
| 9.731 | 33.77 | PK2 | 36.8 | -23.7 | 0 | 46.87 | - | - | 74 | -27.13 | 290 | 325 | V |
| 13.215 | 35.69 | PK2 | 39.1 | -23.8 | 0 | 50.99 | - | - | 74 | -23.01 | 359 | 152 | H |

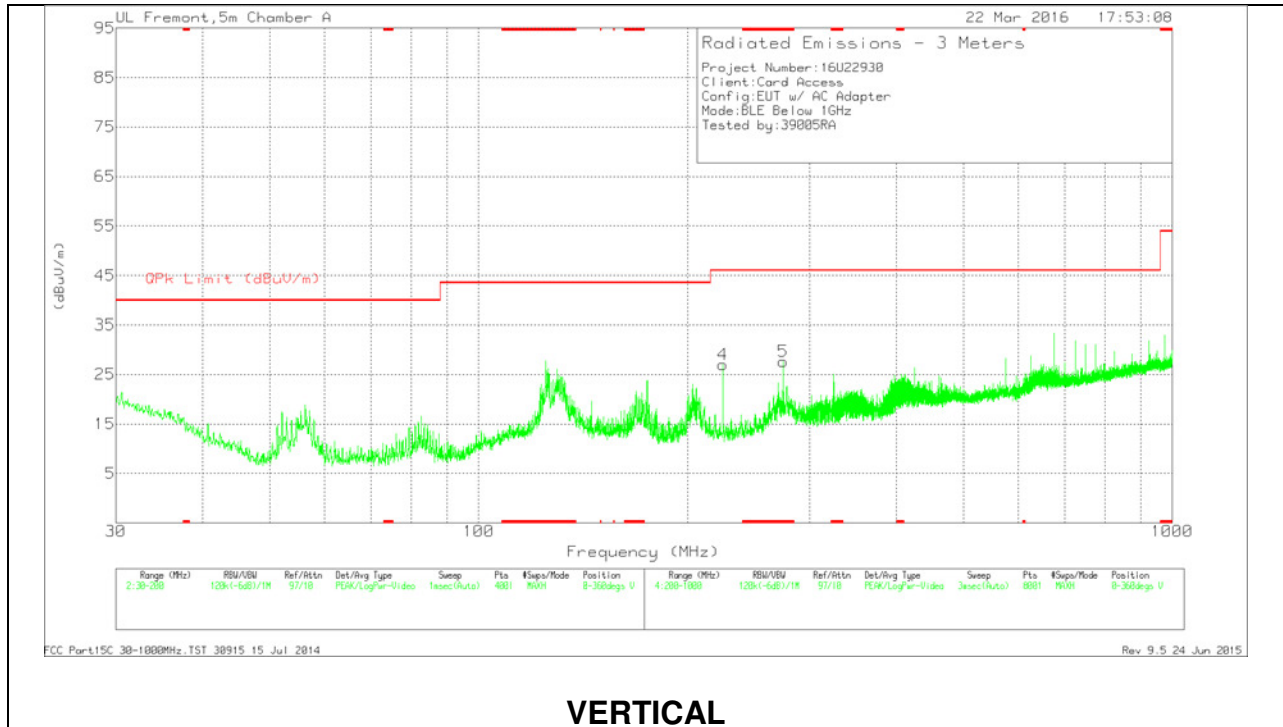
* - indicates frequency in CFR15.205/IC8.10 Restricted Band
 PK2 - KDB558074 Method: Maximum Peak
 MAV1 - KDB558074 Option 1 Maximum RMS Average

5.1. WORST-CASE BELOW 1 GHz

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



HORIZONTAL



VERTICAL

Data

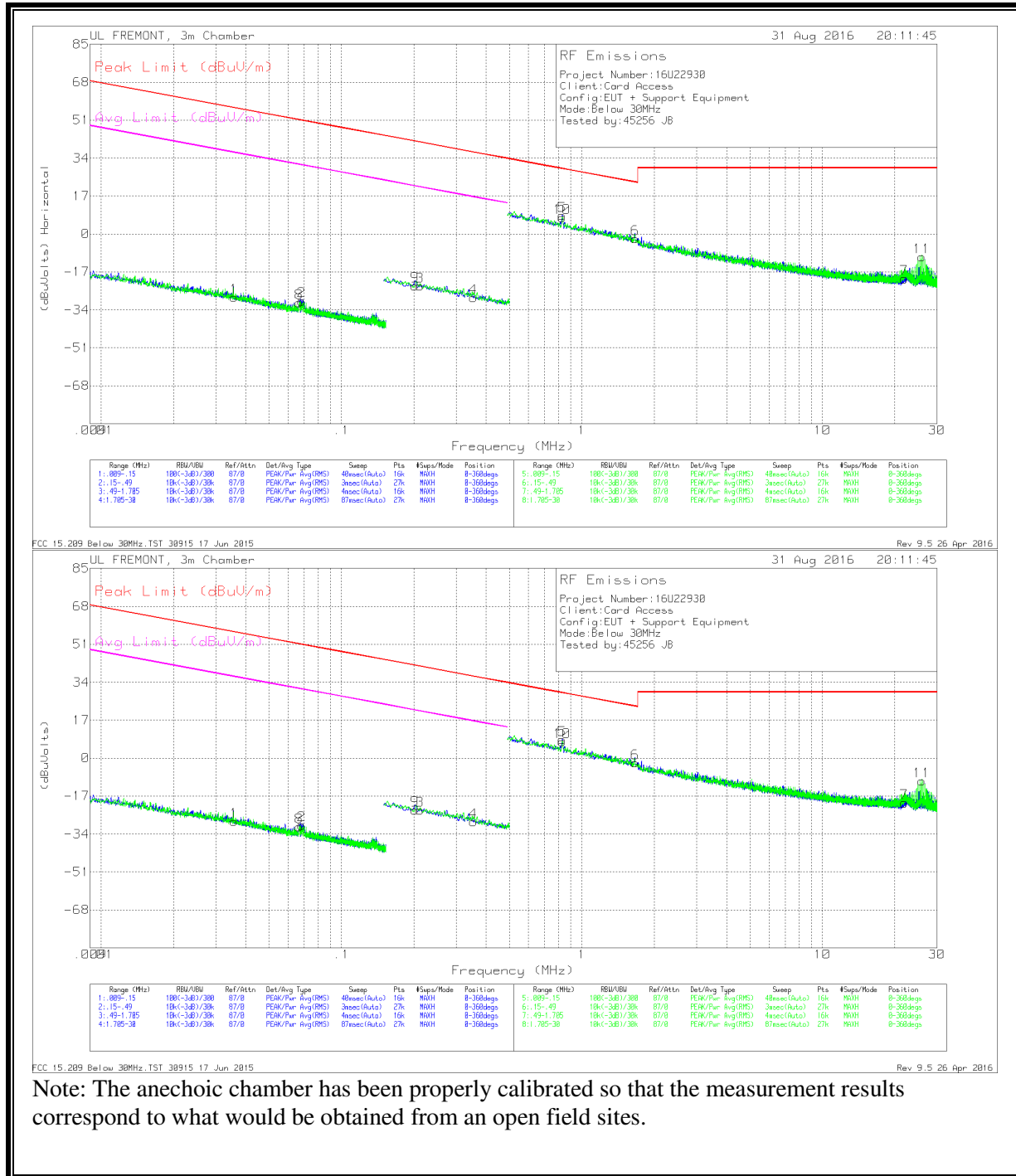
| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AF T477 (dB/m) | Amp/Cbl (dB/m) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) |
|--------|-----------------|----------------------|-----|----------------|----------------|----------------------------|--------------------|-------------|----------------|
| 3 | * 129.3863 | 41.76 | Pk | 17.7 | -30.4 | 29.06 | 43.52 | -14.46 | 0-360 |
| 5 | * 275 | 39.89 | Pk | 17.3 | -29.5 | 27.69 | 46.02 | -18.33 | 0-360 |
| 1 | 30.8075 | 28.08 | Pk | 24.6 | -31.2 | 21.48 | 40 | -18.52 | 0-360 |
| 2 | 52.9075 | 40.35 | Pk | 11.2 | -31 | 20.55 | 40 | -19.45 | 0-360 |
| 4 | 225 | 41.96 | Pk | 14.8 | -29.8 | 26.96 | 46.02 | -19.06 | 0-360 |
| 6 | 675 | 41.63 | Pk | 23.7 | -28.2 | 37.13 | 46.02 | -8.89 | 0-360 |

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

5.2. WORST-CASE BELOW 30 MHz

SPURIOUS EMISSIONS BELOW 30 MHz



BELOW 30 MHz TABLE

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna (dB/m) | Cbl (dB) | Dist Corr 300m | Corrected Reading (dBuVolts) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) |
|--------|-----------------|----------------------|-----|---------------------|----------|----------------|------------------------------|---------------------|-------------|--------------------|-------------|----------------|
| 1 | .03572 | 37.74 | Pk | 12.5 | 1.4 | -80 | -28.36 | 56.55 | -84.91 | 36.55 | -64.91 | 0-360 |
| 8 | .06665 | 36.7 | Pk | 11 | 1.4 | -80 | -30.9 | 51.13 | -82.03 | 31.13 | -62.03 | 0-360 |
| 2 | .06831 | 37.57 | Pk | 11 | 1.4 | -80 | -30.03 | 50.91 | -80.94 | 30.91 | -60.94 | 0-360 |
| 9 | .20214 | 44.44 | Pk | 10.8 | 1.5 | -80 | -23.26 | 41.49 | -64.75 | 21.49 | -44.75 | 0-360 |
| 3 | .21212 | 44.38 | Pk | 10.8 | 1.5 | -80 | -23.32 | 41.07 | -64.39 | 21.07 | -44.39 | 0-360 |
| 4 | .35393 | 39.25 | Pk | 10.7 | 1.5 | -80 | -28.55 | 36.63 | -65.18 | 16.63 | -45.18 | 0-360 |

Pk - Peak detector

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | Loop Antenna (dB/m) | Cbl (dB) | Dist Corr 30m | Corrected Reading (dBuVolts) | Peak Limit (dBuV/m) | Margin (dB) | Avg Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) |
|--------|-----------------|----------------------|-----|---------------------|----------|---------------|------------------------------|---------------------|-------------|--------------------|-------------|----------------|
| 5 | .82767 | 36.23 | Pk | 10.6 | 1.5 | -40 | 8.33 | 29.25 | -20.92 | - | - | 0-360 |
| 10 | .82767 | 35.17 | Pk | 10.6 | 1.5 | -40 | 7.27 | 29.25 | -21.98 | - | - | 0-360 |
| 6 | 1.66504 | 25.52 | Pk | 10.8 | 1.5 | -40 | -2.18 | 23.18 | -25.36 | - | - | 0-360 |
| 7 | 21.90992 | 8.41 | Pk | 9.8 | 1.7 | -40 | -20.09 | 29.54 | -49.63 | - | - | 0-360 |
| 11 | 25.93371 | 19.12 | Pk | 9 | 1.7 | -40 | -10.18 | 29.54 | -39.72 | - | - | 0-360 |

Pk - Peak detector

5.3. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

| Frequency of Emission (MHz) | Conducted Limit (dBuV) | |
|-----------------------------|------------------------|----------|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56 | 56 to 46 |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

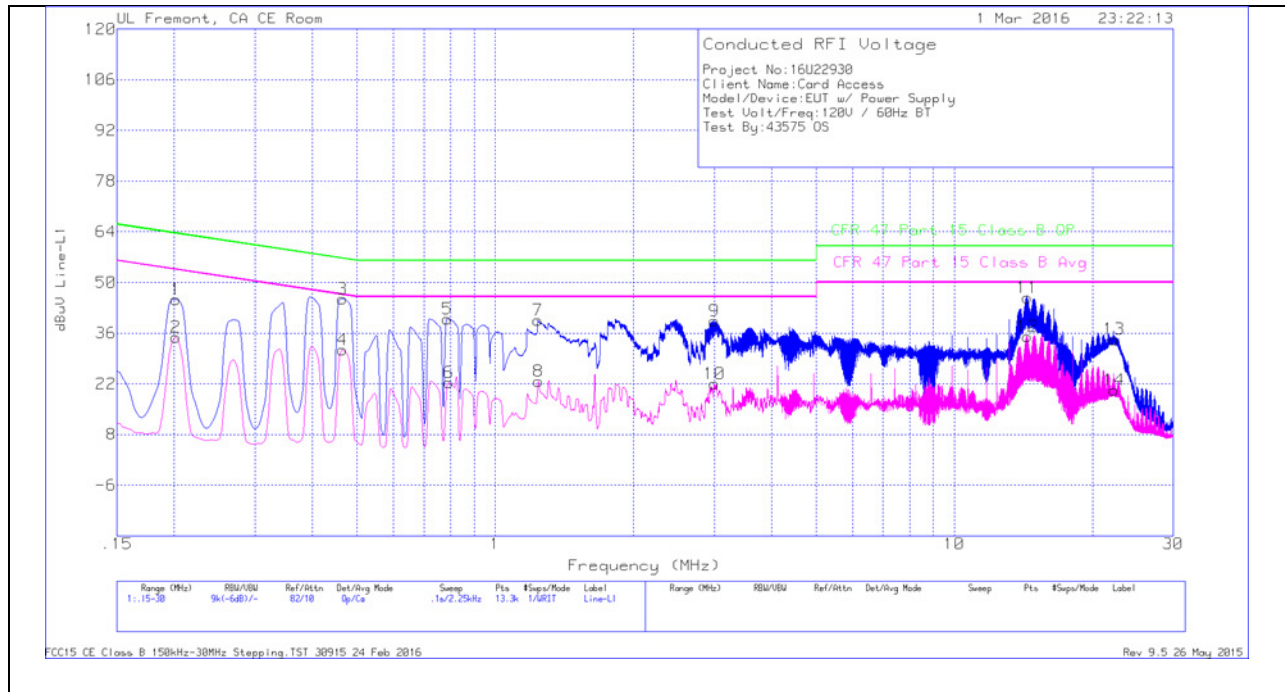
The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

LINE 1 RESULTS



Trace Markers

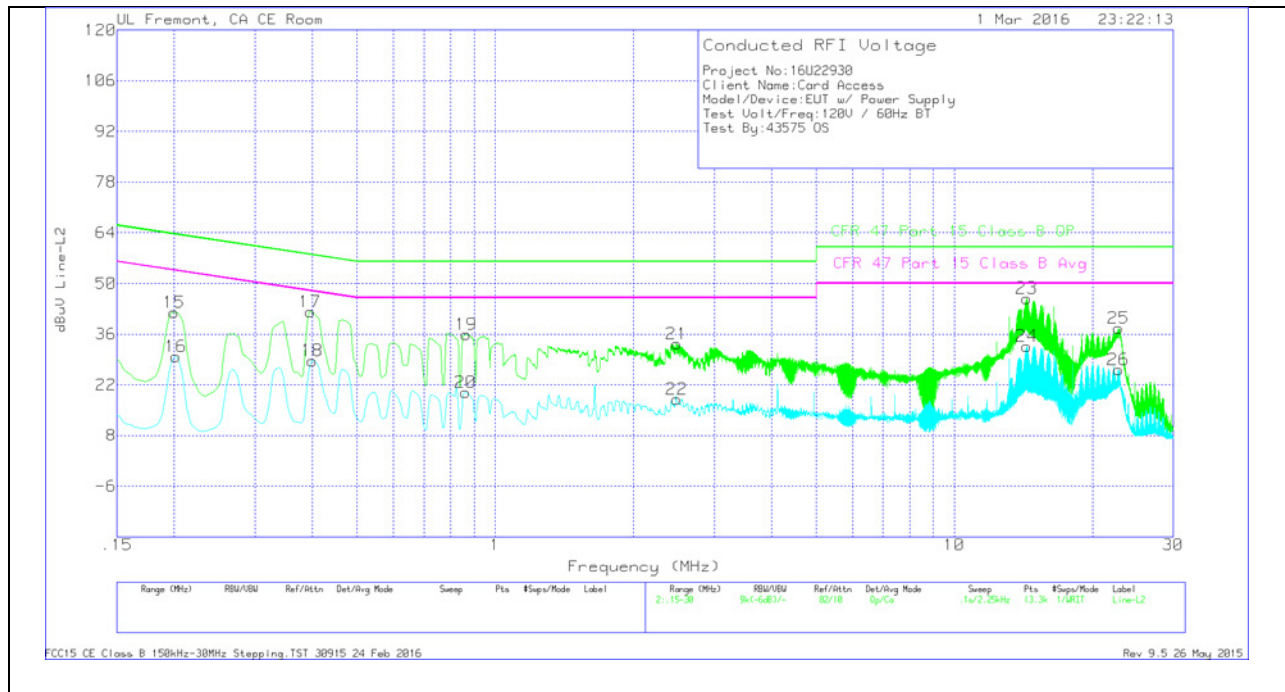
Range 1: Line-L1 .15 - 30MHz

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | T1310 IL L1 | LC Cables 1&3 | Limiter (dB) | Corrected Reading dBuV | CFR 47 Part 15 Class B QP | QP Margin (dB) | CFR 47 Part 15 Class B Avg | Av(CISPR) Margin (dB) |
|--------|-----------------|----------------------|-----|-------------|---------------|--------------|------------------------|---------------------------|----------------|----------------------------|-----------------------|
| 1 | .20175 | 35.24 | Qp | 0 | 0 | 10.1 | 45.34 | 63.54 | -18.2 | - | - |
| 2 | .20175 | 24.83 | Ca | 0 | 0 | 10.1 | 34.93 | - | - | 53.54 | -18.61 |
| 3 | .465 | 35.43 | Qp | 0 | 0 | 10.1 | 45.53 | 56.6 | -11.07 | - | - |
| 4 | .465 | 21.3 | Ca | 0 | 0 | 10.1 | 31.4 | - | - | 46.6 | -15.2 |
| 5 | .78675 | 29.82 | Qp | 0 | 0 | 10.1 | 39.92 | 56 | -16.08 | - | - |
| 6 | .79125 | 12.2 | Ca | 0 | 0 | 10.1 | 22.3 | - | - | 46 | -23.7 |
| 7 | 1.239 | 29.42 | Qp | 0 | 0 | 10.1 | 39.52 | 56 | -16.48 | - | - |
| 8 | 1.24125 | 12.55 | Ca | 0 | 0 | 10.1 | 22.65 | - | - | 46 | -23.35 |
| 9 | 3.00075 | 29.14 | Qp | 0 | .1 | 10.1 | 39.34 | 56 | -16.66 | - | - |
| 10 | 3.00075 | 11.74 | Ca | 0 | .1 | 10.1 | 21.94 | - | - | 46 | -24.06 |
| 11 | 14.43975 | 35.42 | Qp | 0 | .2 | 10.2 | 45.82 | 60 | -14.18 | - | - |
| 12 | 14.43975 | 24.63 | Ca | 0 | .2 | 10.2 | 35.03 | - | - | 50 | -14.97 |
| 13 | 22.30575 | 23.57 | Qp | 0 | .3 | 10.4 | 34.27 | 60 | -25.73 | - | - |
| 14 | 22.2855 | 9.54 | Ca | 0 | .3 | 10.4 | 20.24 | - | - | 50 | -29.76 |

Qp - Quasi-Peak detector

Ca - CISPR average detection

LINE 2 RESULTS



Trace Markers

Range 2: Line-L2 .15 - 30MHz

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | T1310 IL L2 | LC Cables 2&3 | Limiter (dB) | Corrected Reading dBuV | CFR 47 Part 15 Class B QP | QP Margin (dB) | CFR 47 Part 15 Class B Avg | Av(CISPR) Margin (dB) |
|--------|-----------------|----------------------|-----|-------------|---------------|--------------|------------------------|---------------------------|----------------|----------------------------|-----------------------|
| 15 | .1995 | 31.94 | Qp | 0 | 0 | 10.1 | 42.04 | 63.63 | -21.59 | - | - |
| 16 | .20175 | 19.74 | Ca | 0 | 0 | 10.1 | 29.84 | - | - | 53.54 | -23.7 |
| 17 | .39525 | 32.05 | Qp | 0 | 0 | 10.1 | 42.15 | 57.95 | -15.8 | - | - |
| 18 | .39975 | 18.6 | Ca | 0 | 0 | 10.1 | 28.7 | - | - | 47.86 | -19.16 |
| 19 | .8655 | 25.78 | Qp | 0 | 0 | 10.1 | 35.88 | 56 | -20.12 | - | - |
| 20 | .86325 | 9.85 | Ca | 0 | 0 | 10.1 | 19.95 | - | - | 46 | -26.05 |
| 21 | 2.48775 | 23.05 | Qp | 0 | .1 | 10.1 | 33.25 | 56 | -22.75 | - | - |
| 22 | 2.48775 | 7.85 | Ca | 0 | .1 | 10.1 | 18.05 | - | - | 46 | -27.95 |
| 23 | 14.39925 | 35.41 | Qp | .1 | .2 | 10.2 | 45.91 | 60 | -14.09 | - | - |
| 24 | 14.39925 | 22.2 | Ca | .1 | .2 | 10.2 | 32.7 | - | - | 50 | -17.3 |
| 25 | 22.80075 | 26.92 | Qp | 0 | .3 | 10.4 | 37.62 | 60 | -22.38 | - | - |
| 26 | 22.76025 | 15.5 | Ca | 0 | .3 | 10.4 | 26.2 | - | - | 50 | -23.8 |

Qp - Quasi-Peak detector

Ca - CISPR average detection