



FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

SMART BRACELET

MODEL NUMBER: MICA

REPORT NUMBER: 14U19370-E3, Revision B

FCC ID: 2AB8ZND2

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NVLAP LAB CODE 200065-0

Revision History

| Rev. | Issue Date | Revisions | Revised By |
|------|------------|--|------------|
| | 11/19/2014 | Initial Issue | C. Pang |
| A | 11/26/2014 | Addressed TCB's Questions on KDB rule and Page 40. | C. Pang |
| B | 12/01/2014 | Address TCB's questions on page 12,18, 20, 23 and 27 | C. Pang |

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Intel Corporation
2200 Mission College Boulevard
Santa Clara, Ca 95052, U.S.A

EUT DESCRIPTION: Smart Bracelet

MODEL: MICA

SERIAL NUMBER: FZMK4440002J, FZMK44400022

DATE TESTED: November 17-19, 2014

| APPLICABLE STANDARDS | |
|--------------------------|--------------|
| STANDARD | TEST RESULTS |
| CFR 47 Part 15 Subpart C | 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 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.

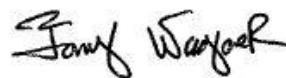
Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services 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:



Chin Pang
Senior Engineer
UL Verification Services Inc.

Tested By:



TONY WAGONER
Lab Technician
UL Verification Services Inc

2. TEST METHODOLOGY

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

3. FACILITIES AND ACCREDITATION

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

| 47173 Benicia Street | 47266 Benicia Street |
|---|---|
| <input type="checkbox"/> Chamber A | <input type="checkbox"/> Chamber D |
| <input type="checkbox"/> Chamber B | <input type="checkbox"/> Chamber E |
| <input checked="" type="checkbox"/> Chamber C | <input checked="" type="checkbox"/> Chamber F |
| | <input type="checkbox"/> Chamber G |
| | <input type="checkbox"/> Chamber H |

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

| PARAMETER | UNCERTAINTY |
|---------------------------------------|-------------|
| Conducted Disturbance, 0.15 to 30 MHz | ±3.52 dB |
| Radiated Disturbance, 30 to 1000 MHz | ±4.94 dB |

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a smart bracelet with cellular GPRS/WCDMA/HSDPA and Bluetooth low power.

5.2. 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 | 3.55 | 2.26 |

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a chip antenna with 2dBi gain:

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was xmm6321_xges2_ndg_mckee2.

5.5. WORST-CASE CONFIGURATION AND MODE

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

Worst-case data rates based on the baseline scan:
BLE: 1 Mbps.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT & PERIPHERALS

| PERIPHERAL SUPPORT EQUIPMENT LIST | | | |
|-----------------------------------|--------------|------------|---------------|
| Description | Manufacturer | Model | S/N |
| Charging Adapter | Samsung | ETA0U83CBC | DW2F416DS/A-E |

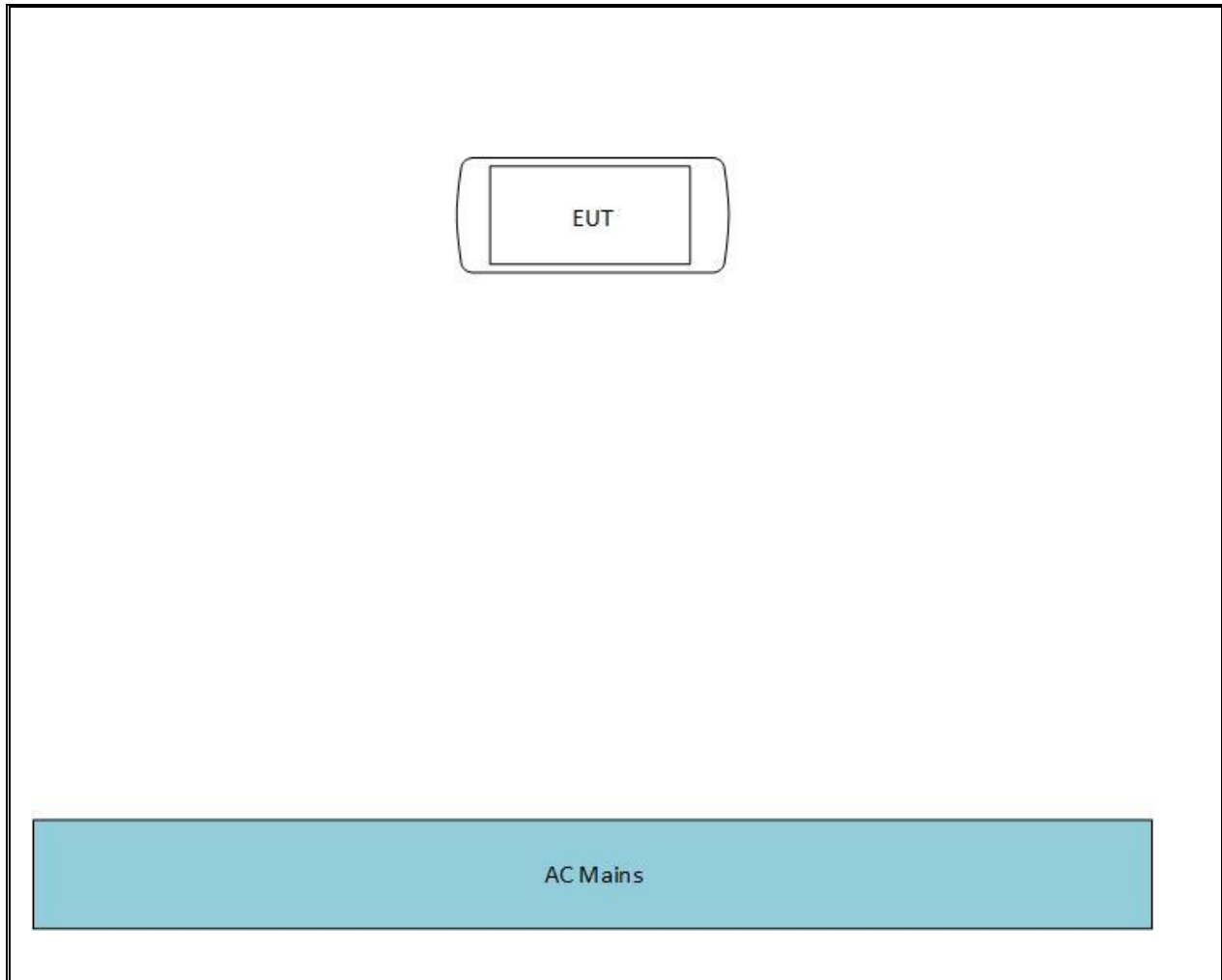
I/O CABLES

| I/O CABLE LIST | | | | | | |
|----------------|------|------------------------|----------------|------------|------------------|---------|
| Cable No. | Port | No. of identical ports | Connector Type | Cable Type | Cable Length (m) | Remarks |
| 1 | USB | 1 | USB | Unshielded | 0.15 | N/A |

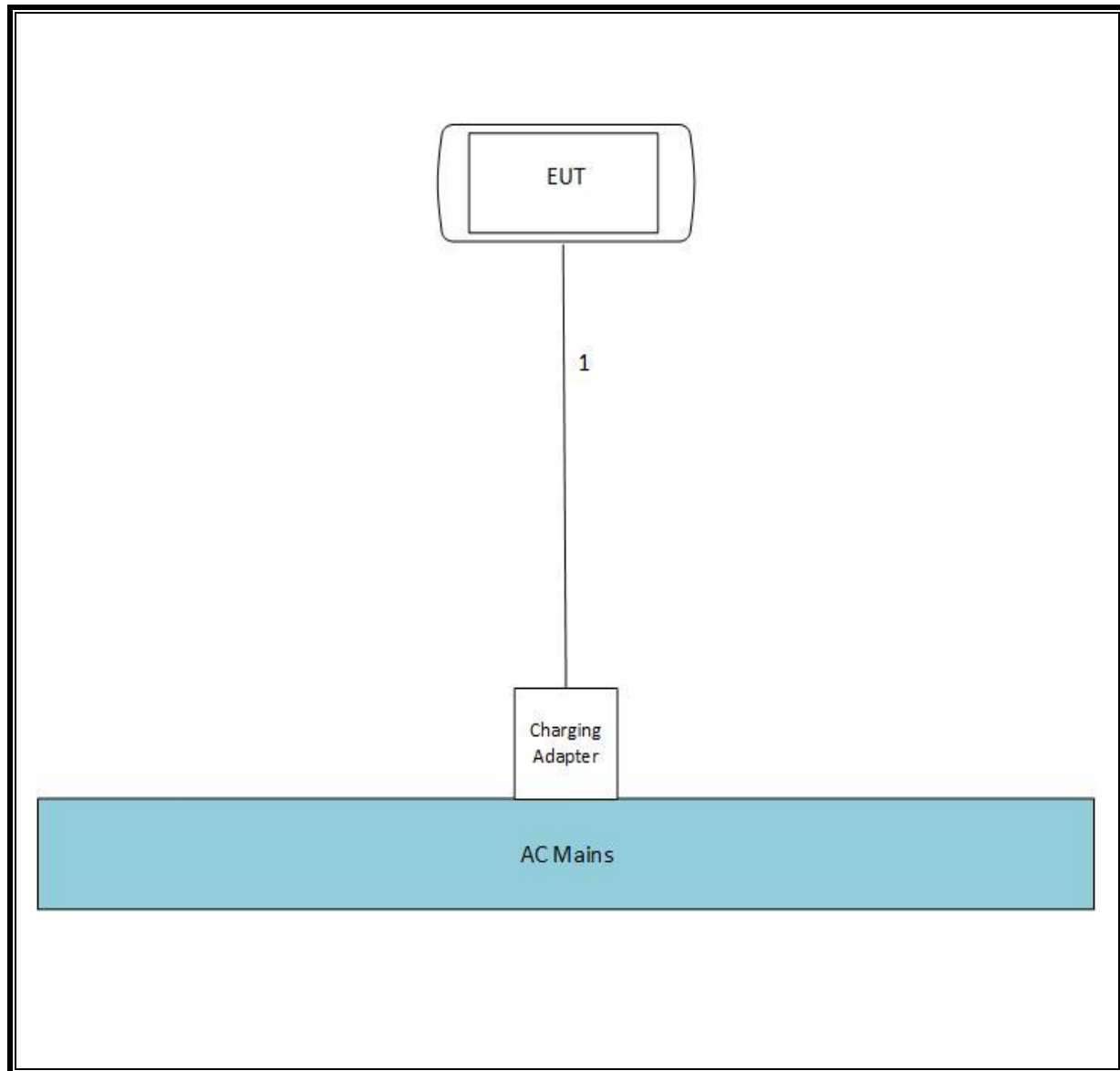
TEST SETUP

Test software exercised the EUT during test. Refer to the following diagram for testing configurations.

SETUP DIAGRAM – CONFIGURATION A



SETUP DIAGRAM – CONFIGURATION B



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 | Serial Number | Cal Due |
| Spectrum Analyzer, PSA, 3Hz- 26.5GHz | Agilent | E4440A | MY46186329 | 05/09/15 |
| Power Meter, P-series single channel | Agilent | N1911A | MY53060007 | 09/15/15 |
| Power Sensor, Peak and average, 50MHz- | Agilent | E9323A | MY530770013 | 05/02/15 |
| 3mC Radiated Chamber Equipment | | | | |
| Spectrum Analyzer, PSA, 3Hz- 44GHz | Agilent | E4446A | US42510266 | 06/03/15 |
| Filter, Highpass 4.0Ghz | Micro-Tronics | HPM13351 | 4 | CNR |
| Filter, Highpass 7.6 to 18Ghz | Micro-Tronics | HPM13195 | 7 | CNR |
| Antenna, Horn 1-18GHz | ETS Lindgren | 3117 | 3/21/1980 | 01/06/15 |
| Antenna Broadband Hybrid 30 Mhz to | Sunol Sciences | JB1 | A092308 | 02/12/15 |
| Amplifier ,1-26.5GHz, 23.5 Gain Minimum | Agilent | 8449B | 3008A0713 | 08/19/15 |
| Amplifier, 10KHz-1GHz, 32dB | Agilent | 8447D | 2944A06550 | 08/16/15 |
| 3mF Radiated Chamber Equipment | | | | |
| Antenna, Horn 1-18GHz | ETS Lindgren | 3117 | 00029310 | 03/20/15 |
| Filter, High Pass, 3.0GHz | Micro-Tronics | HPM17543 | 002 | 01/20/15 |
| Filter, Loss Pass, 5.0GHz | Micro-Tronics | LPS17541 | 002 | 01/20/15 |
| Filter, High Pass, 6.0GHz | Micro-Tronics | HPS17542 | 003 | 01/20/15 |
| Amplifier 1-18Ghz | Miteq | Miteq | AFS42-00101800-25-S-42 | 01/20/15 |
| Spectrum Analyzer, PXA, 3Hz-44GHz | Agilent | N9030A | MY51380911 | 02/12/15 |
| EMI Test Receiver, 9 kHz-7 GHz | R & S | ESCI 7 | 100935 | 09/16/15 |
| LISN for Conducted Emissions CISPR-16 | FCC | LISN-50/250-25-2 | 114 | 01/17/15 |

7. MEASUREMENT METHODS

6 dB BW: KDB 558074 D01 v03r02

Output Power: KDB 558074 D01 v03r02.

Power Spectral Density: KDB 558074 D01 v03r02.

Out-of-band emissions in non-restricted bands: KDB 558074 D01 v03r02.

Out-of-band emissions in restricted bands: KDB 558074 D01 v03r02.

8. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

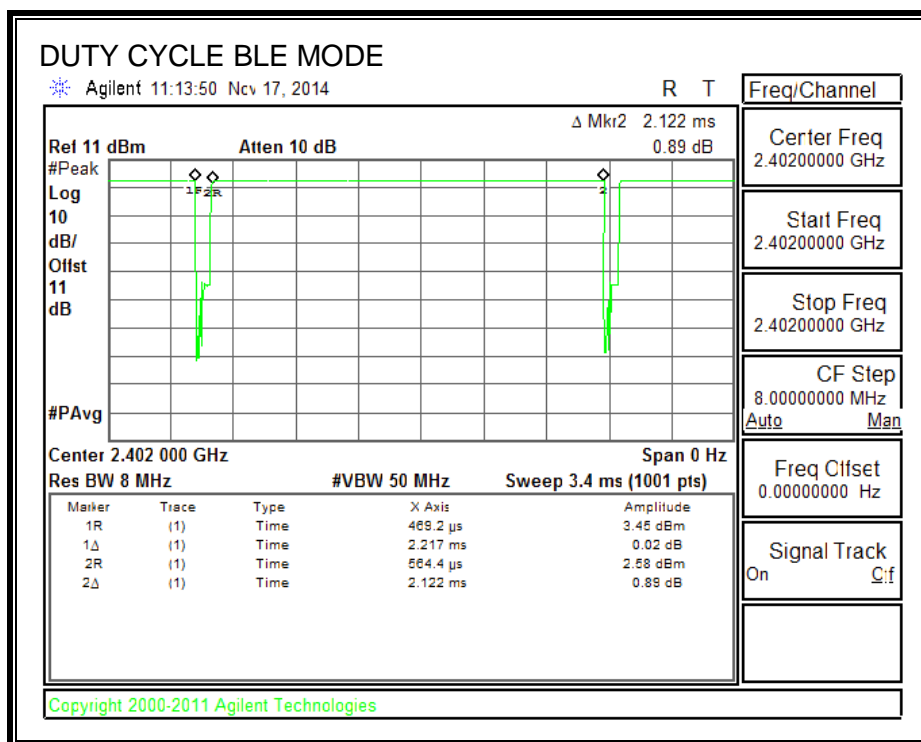
PROCEDURE

KDB 789033 Zero-Span Spectrum Analyzer Method.

8.1. 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) |
|------|------------------------|------------------|-----------------------------|----------------------|---|-----------------------------|
| BLE | 0.469 | 0.564 | 0.831 | 83.1% | 0.802 | 2.131 |

DUTY CYCLE PLOT



9. ANTENNA PORT TEST RESULTS

9.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

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

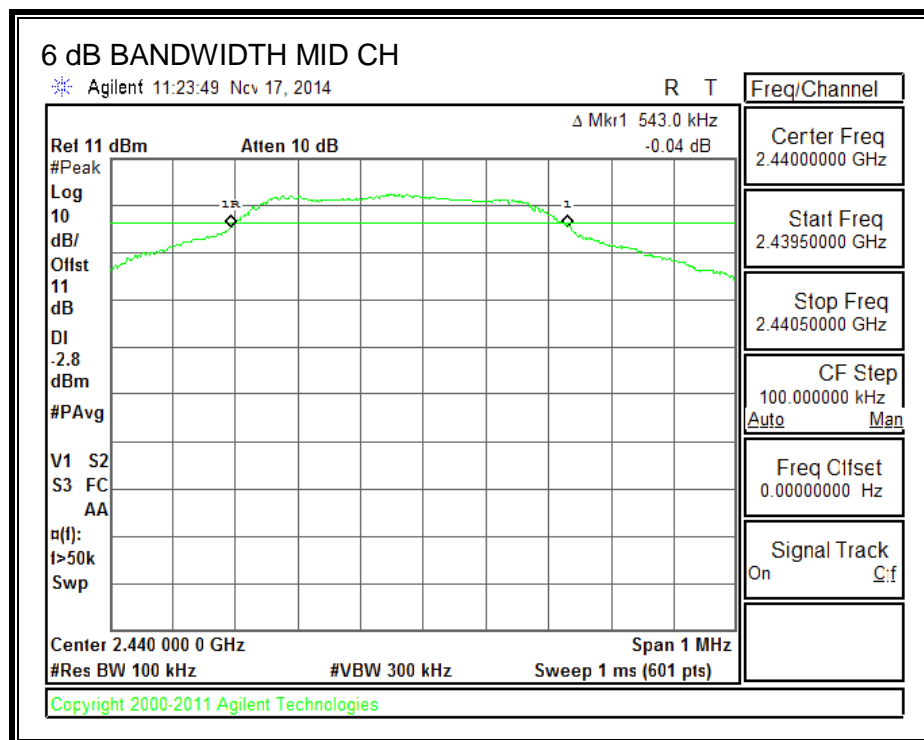
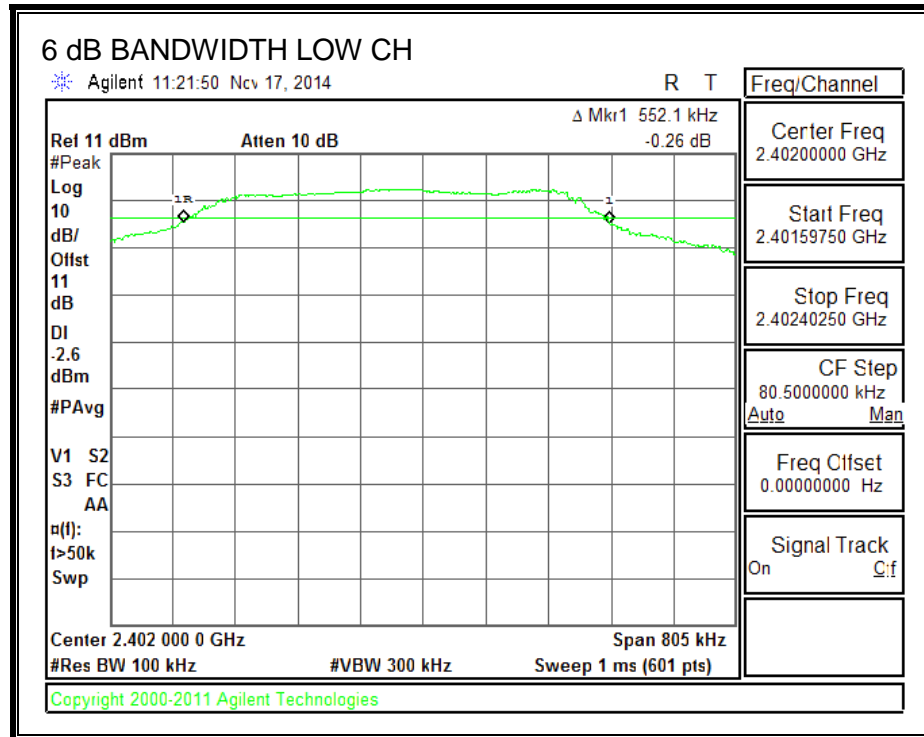
TEST PROCEDURE

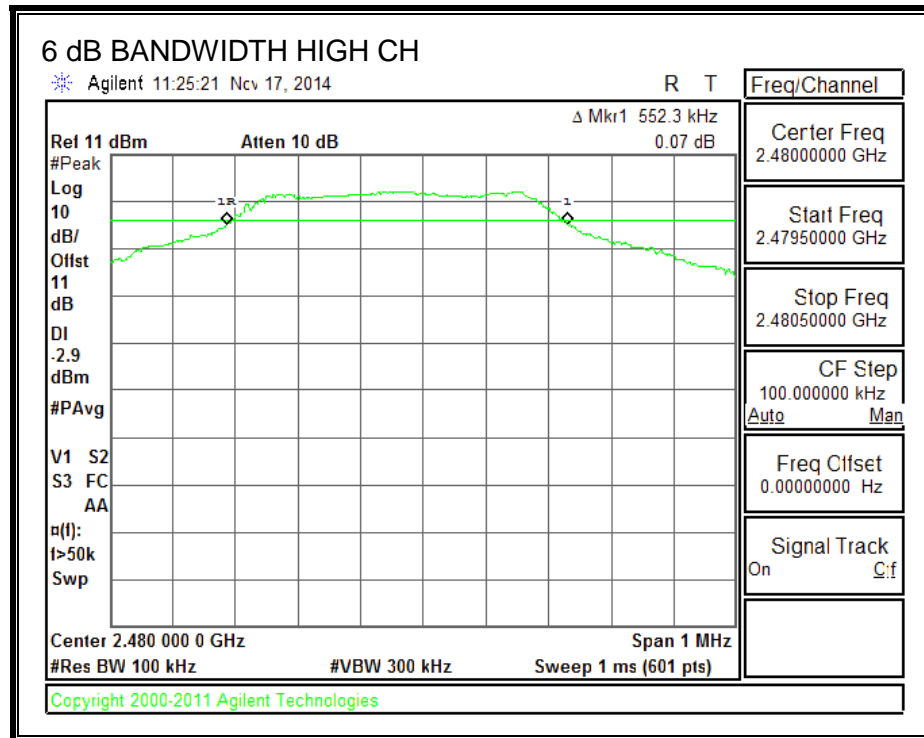
KDB 558074 D01 v03r02 "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under 15.247".

RESULTS

| Channel | Frequency (MHz) | 6 dB Bandwidth (KHz) | Minimum Limit (KHz) |
|---------|--------------------|-------------------------|------------------------|
| Low | 2402 | 552.1 | 500.0 |
| Middle | 2440 | 543.0 | 500.0 |
| High | 2480 | 552.3 | 500.0 |

6 dB BANDWIDTH





9.2. 99% BANDWIDTH

LIMIT

None; for reporting purposes only.

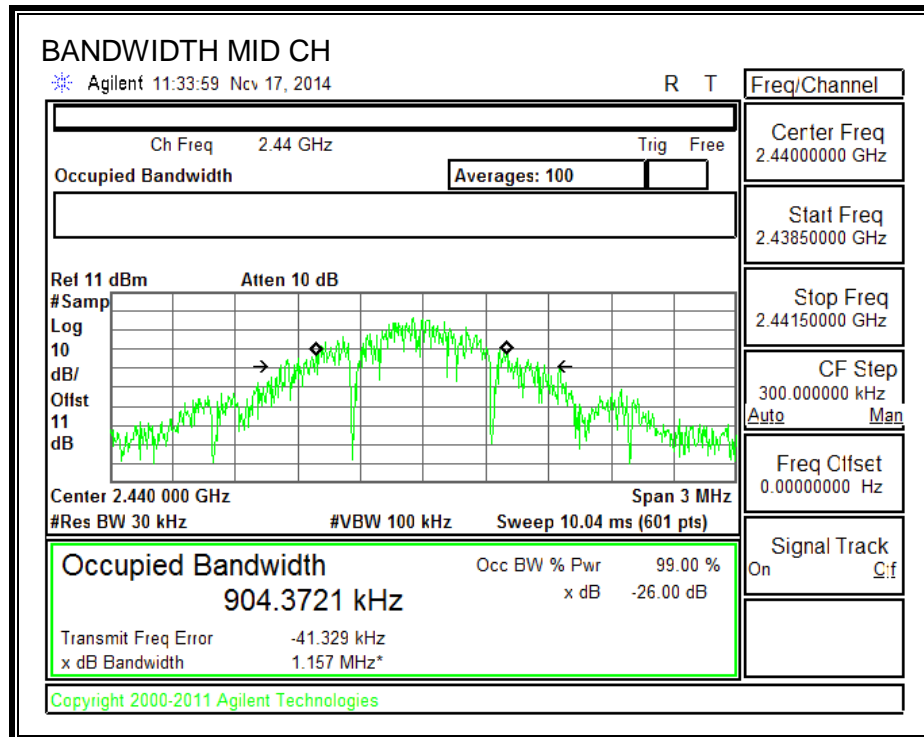
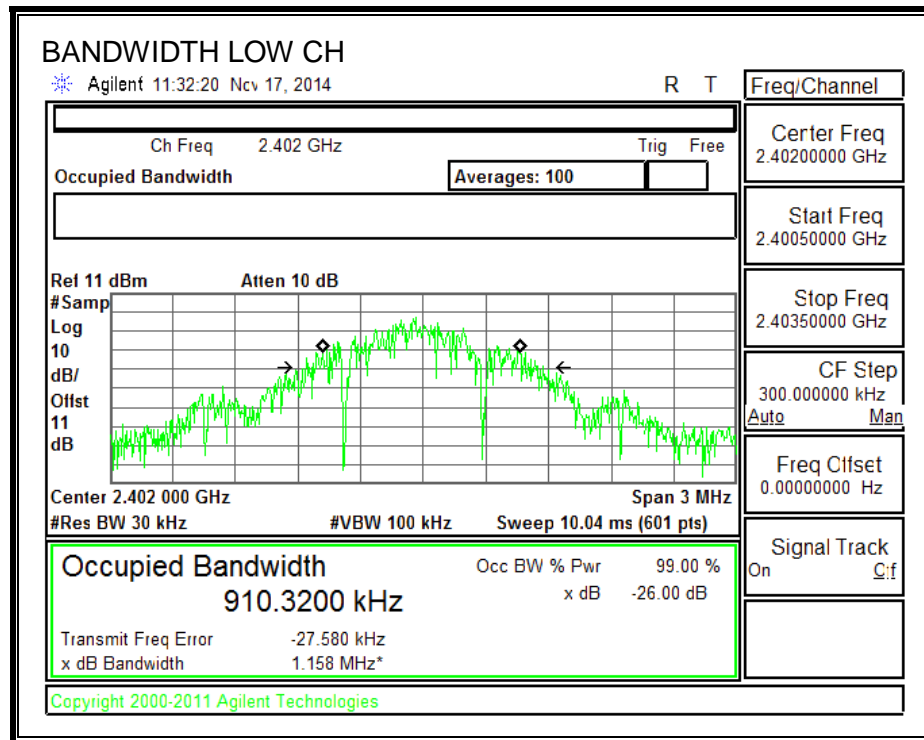
TEST PROCEDURE

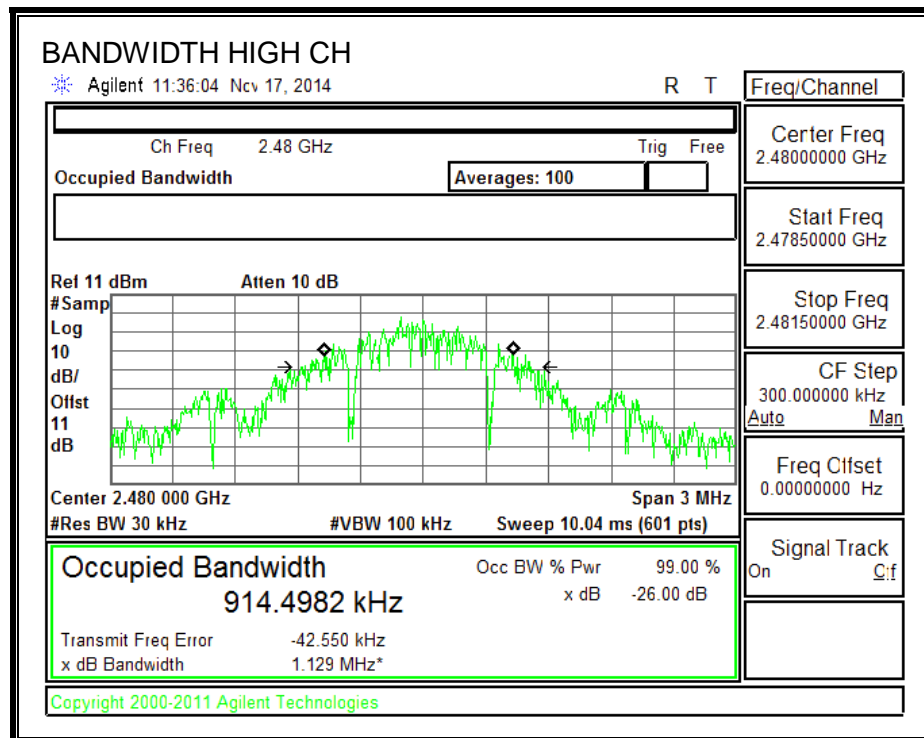
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth and to 1% of the span. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

| Frequency (MHz) | 99% Bandwidth (KHz) |
|--------------------|------------------------|
| 2402 | 910.3200 |
| 2440 | 904.3721 |
| 2480 | 914.4982 |

99% BANDWIDTH





9.3. OUTPUT POWER

LIMIT

§15.247 (b) (1)

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

TEST PROCEDURE

KDB 558074 D01 v03r02 "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under 15.247".

RESULTS

| Channel | Frequency (MHz) | Output Power (dBm) | Limit (dBm) | Margin (dB) |
|---------|--------------------|-----------------------|----------------|----------------|
| Low | 2402 | 3.44 | 30 | -26.56 |
| Middle | 2440 | 3.55 | 30 | -26.45 |
| High | 2480 | 3.21 | 30 | -26.79 |

9.4. AVERAGE POWER

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

| Channel | Frequency (MHz) | Average Power (dBm) |
|---------|--------------------|------------------------|
| Low | 2402 | 3.39 |
| Middle | 2440 | 3.44 |
| High | 2480 | 3.19 |

9.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

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.

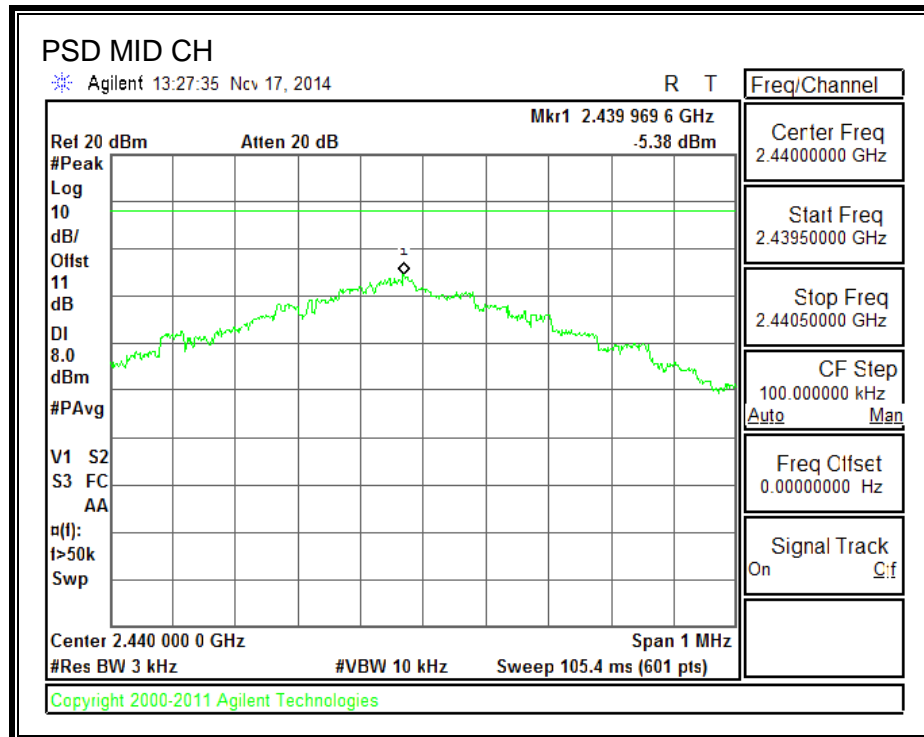
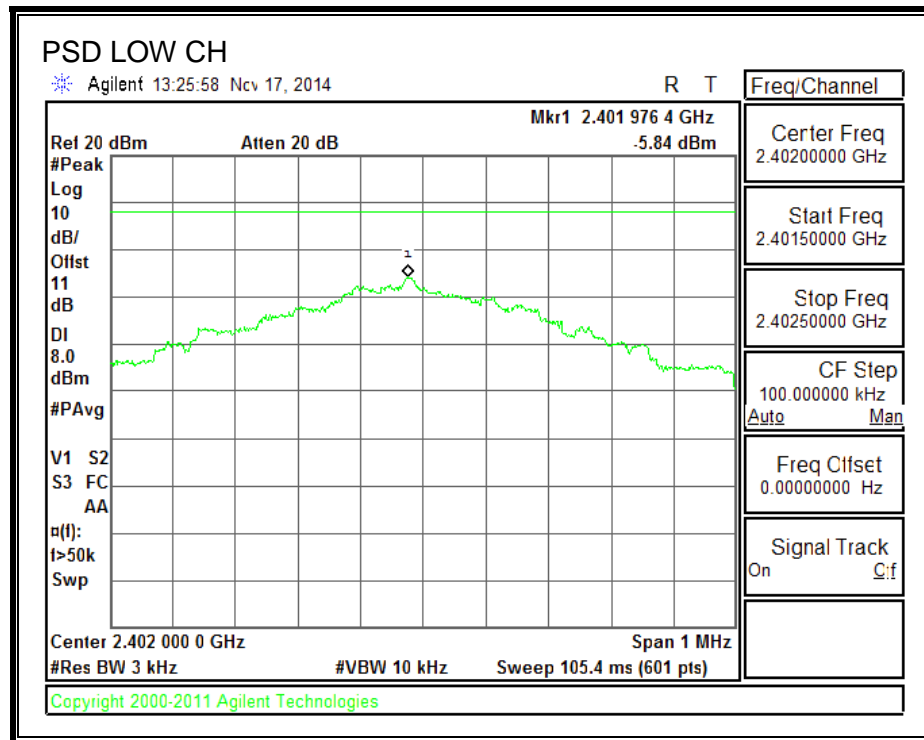
TEST PROCEDURE

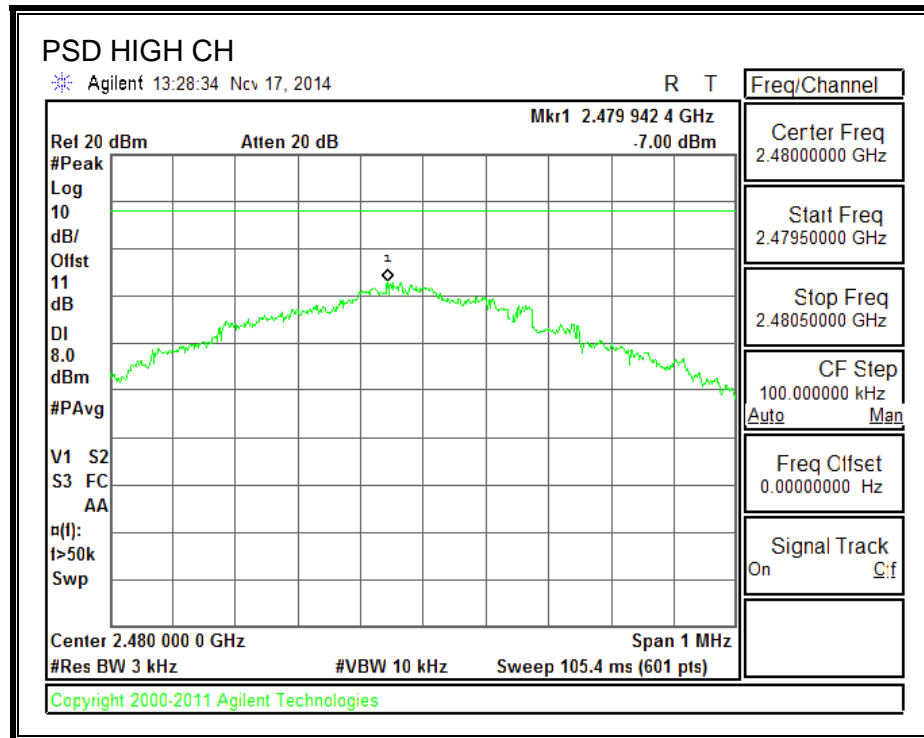
KDB 558074 D01 v03r02 "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under 15.247".

RESULTS

| Channel | Frequency (MHz) | PPSD (dBm) | Limit (dBm) | Margin (dB) |
|---------|--------------------|---------------|----------------|----------------|
| Low | 2402 | -5.84 | 8 | -13.84 |
| Middle | 2440 | -5.38 | 8 | -13.38 |
| High | 2480 | -7.00 | 8 | -15.00 |

POWER SPECTRAL DENSITY





9.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

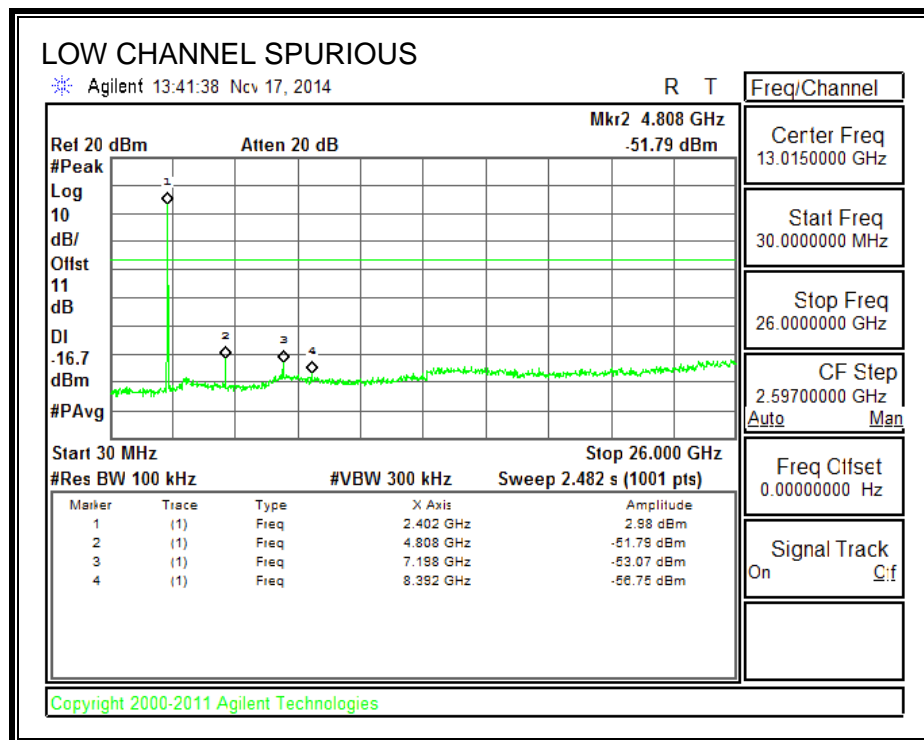
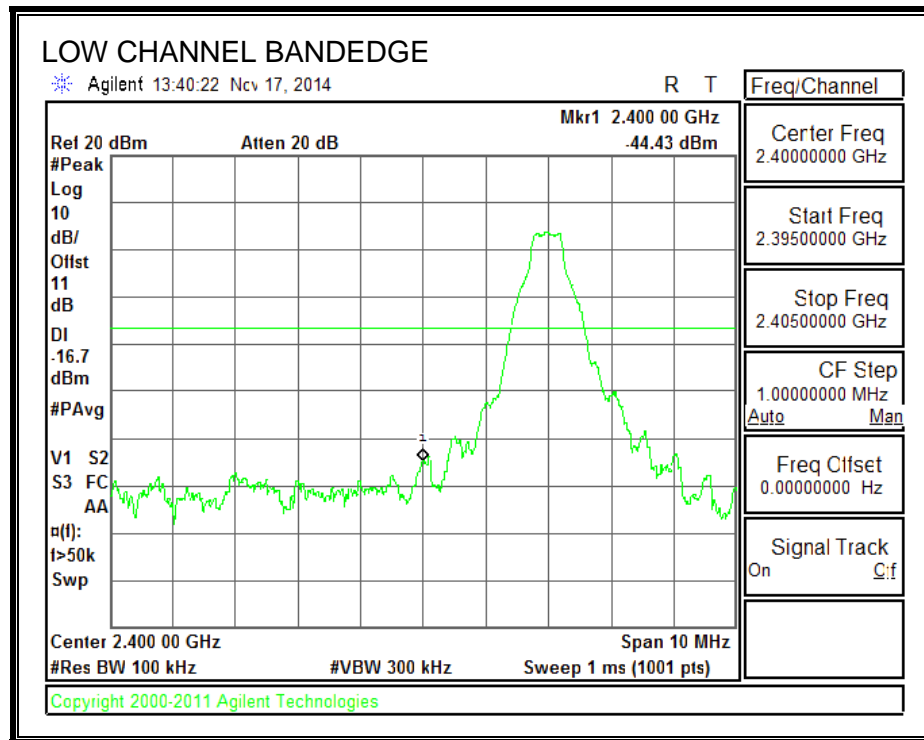
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

TEST PROCEDURE

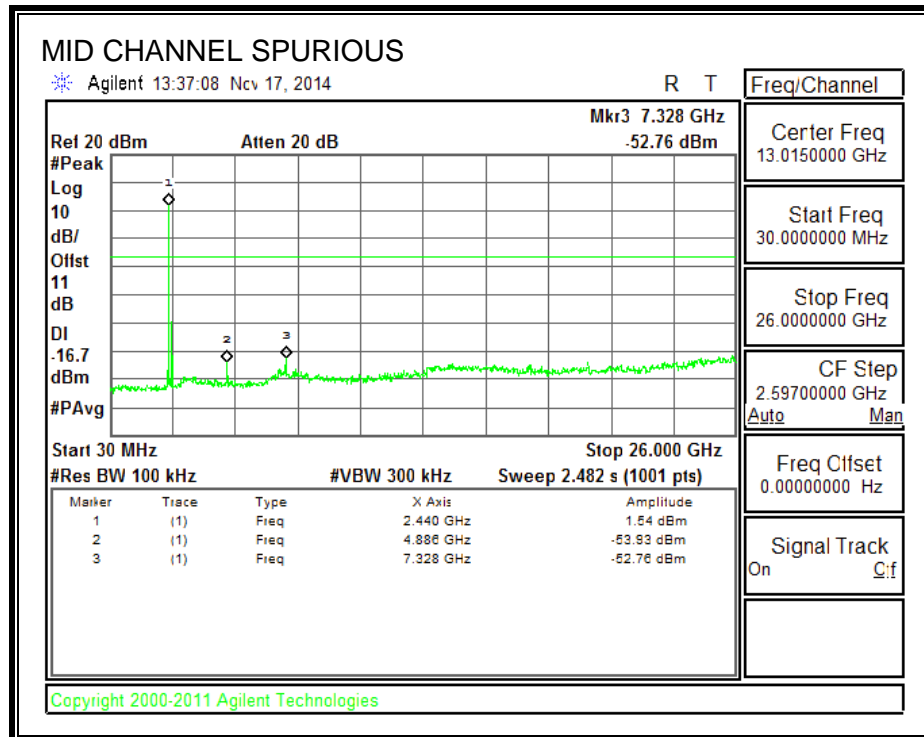
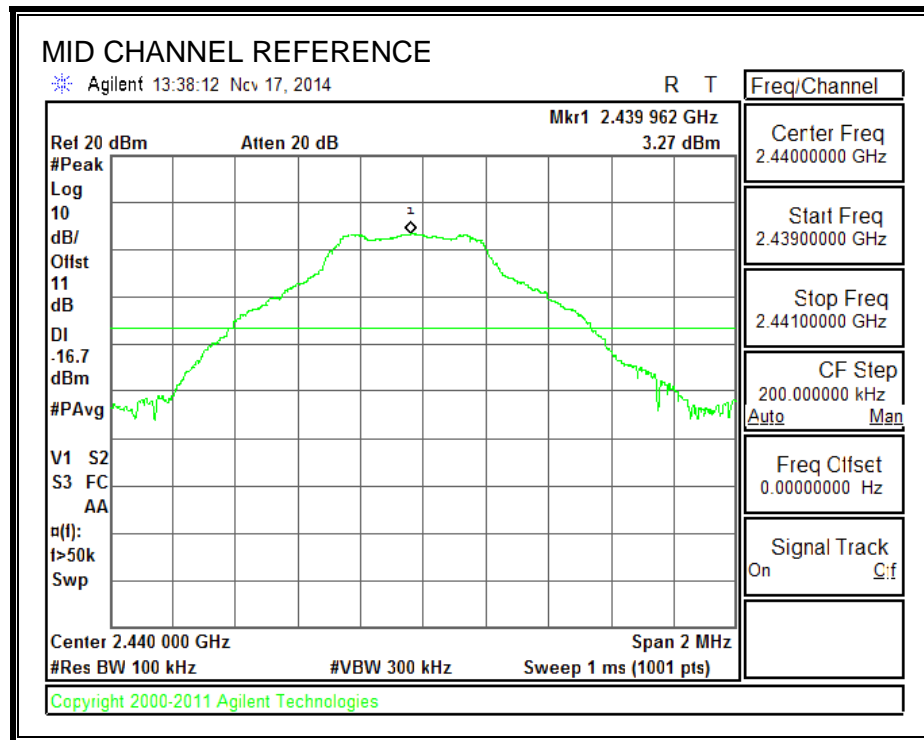
KDB 558074 D01 v03r02 "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under 15.247".

RESULTS

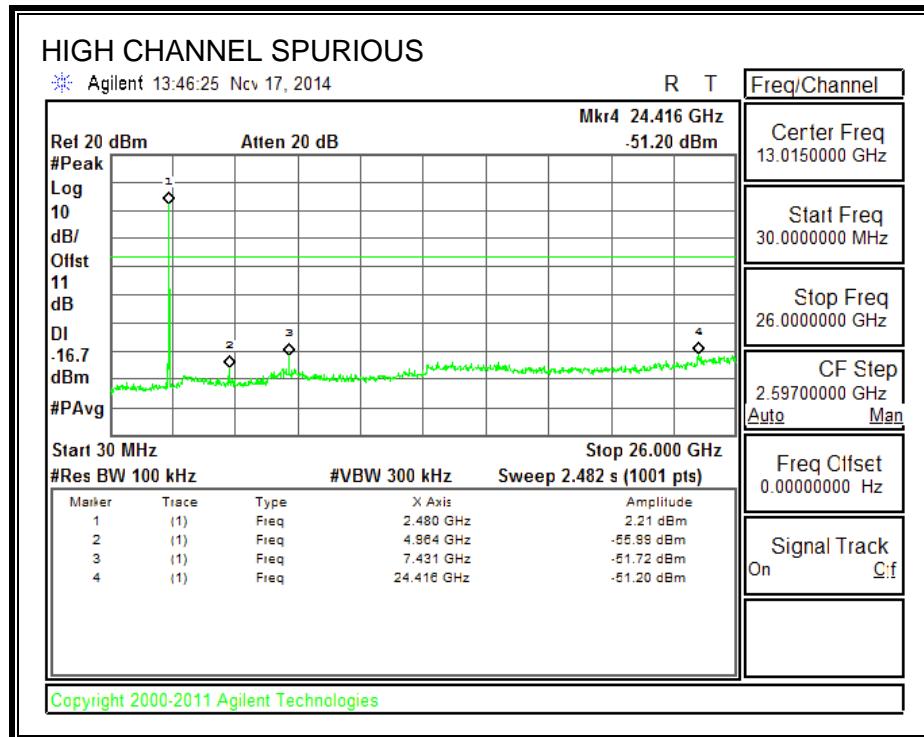
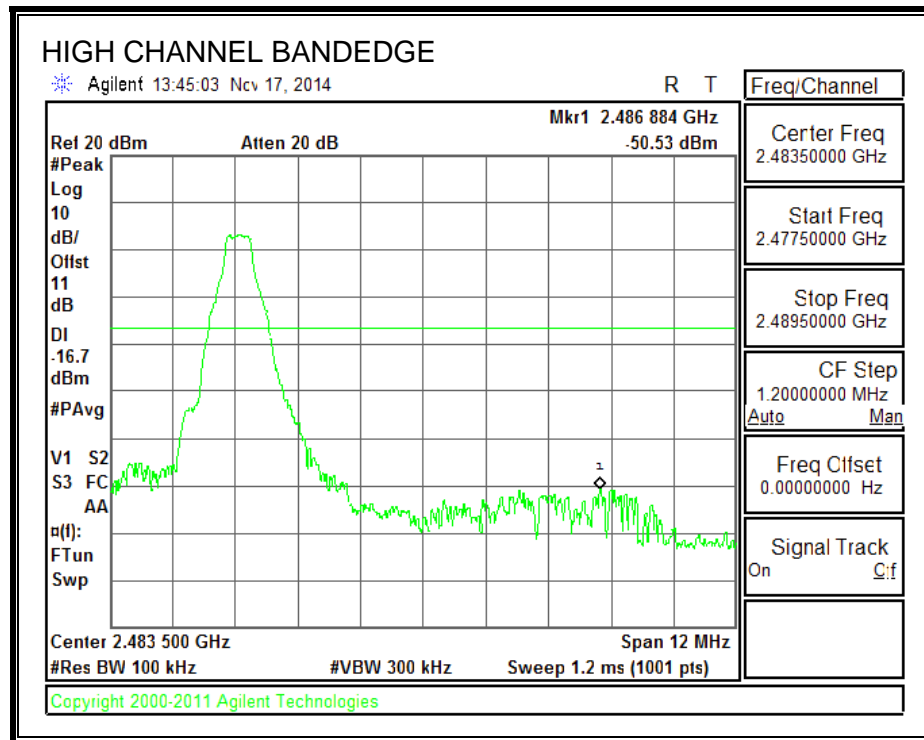
SPURIOUS EMISSIONS, LOW CHANNEL



SPURIOUS EMISSIONS, MID CHANNEL



SPURIOUS EMISSIONS, HIGH CHANNEL



10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

| 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. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10-2009,. 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.

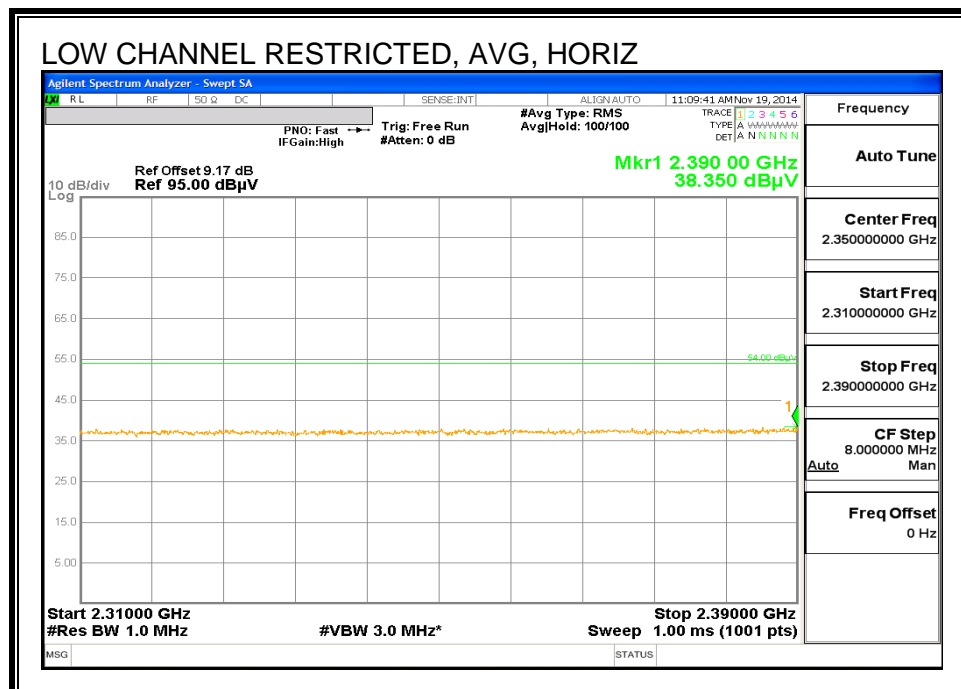
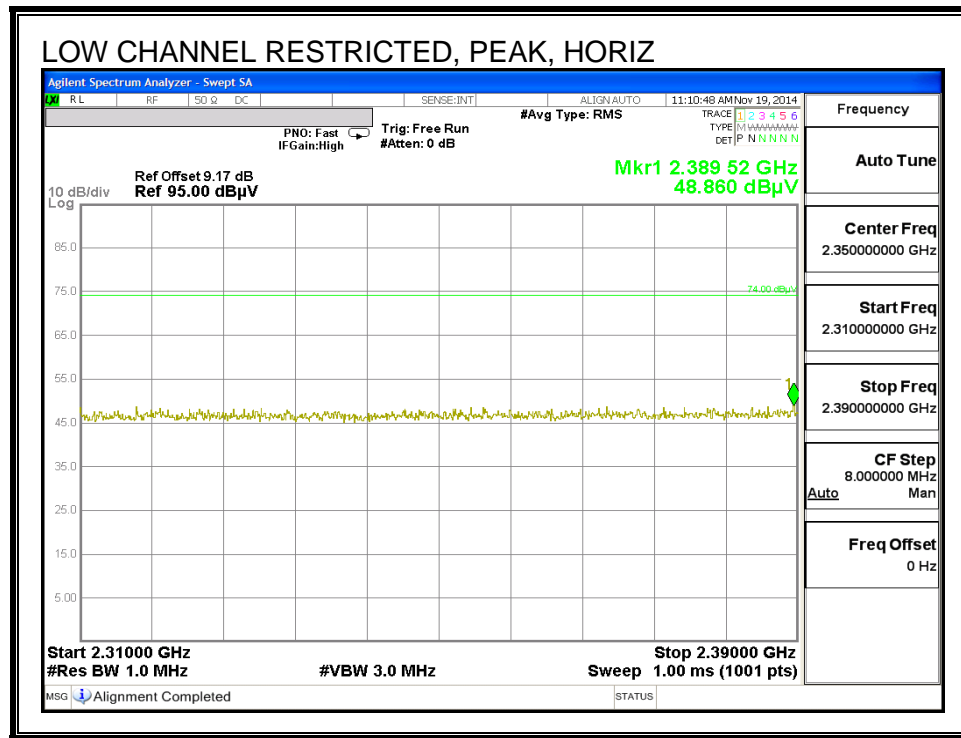
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

For 2.4 GHz band, 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.

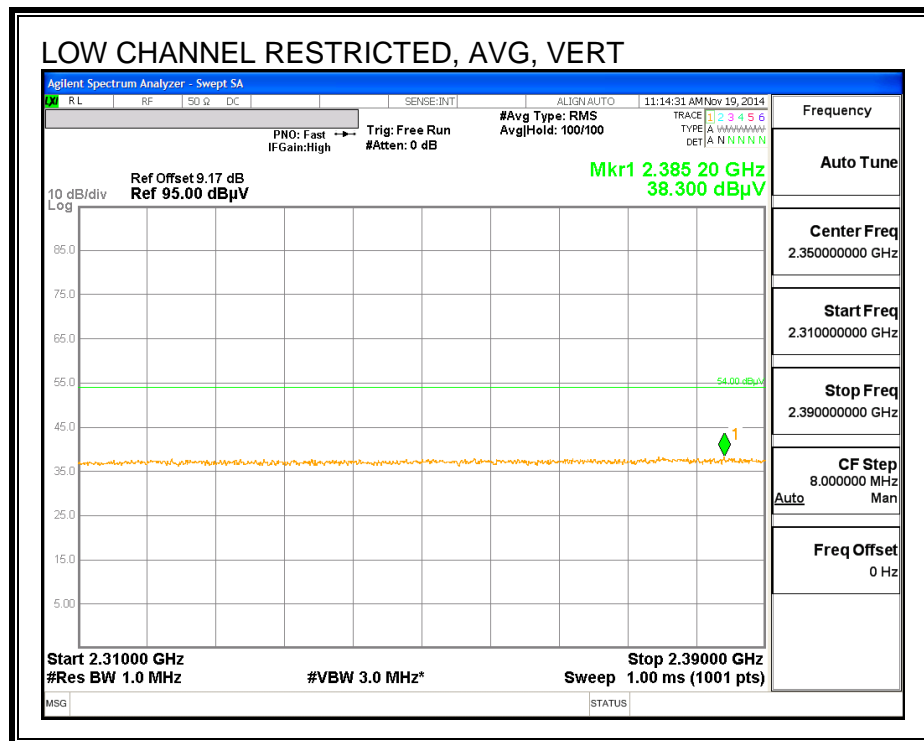
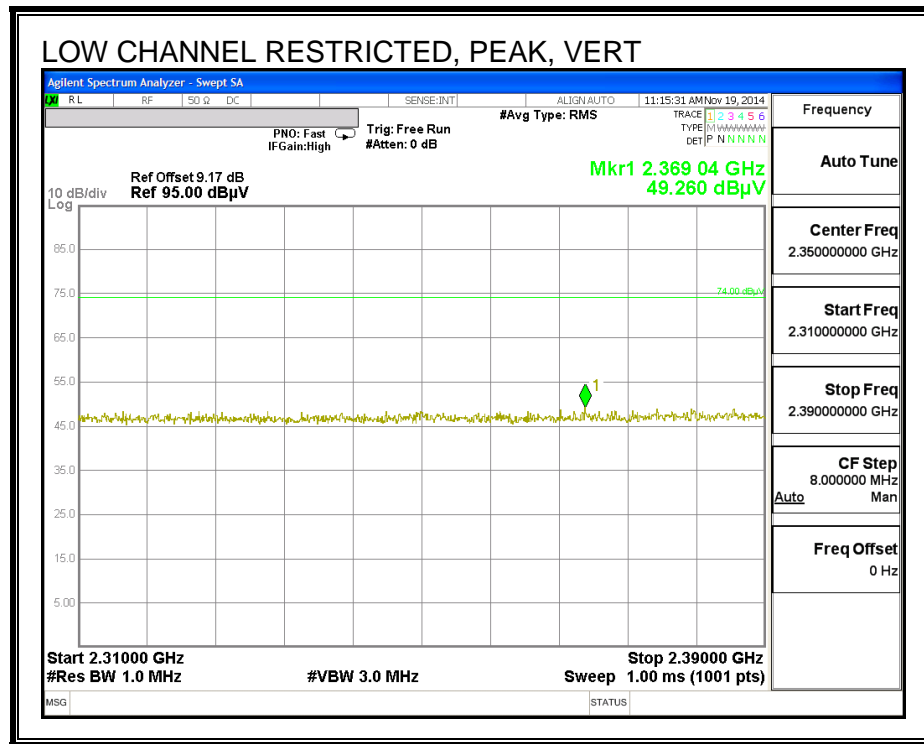
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

10.2. TRANSMITTER ABOVE 1 GHz

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

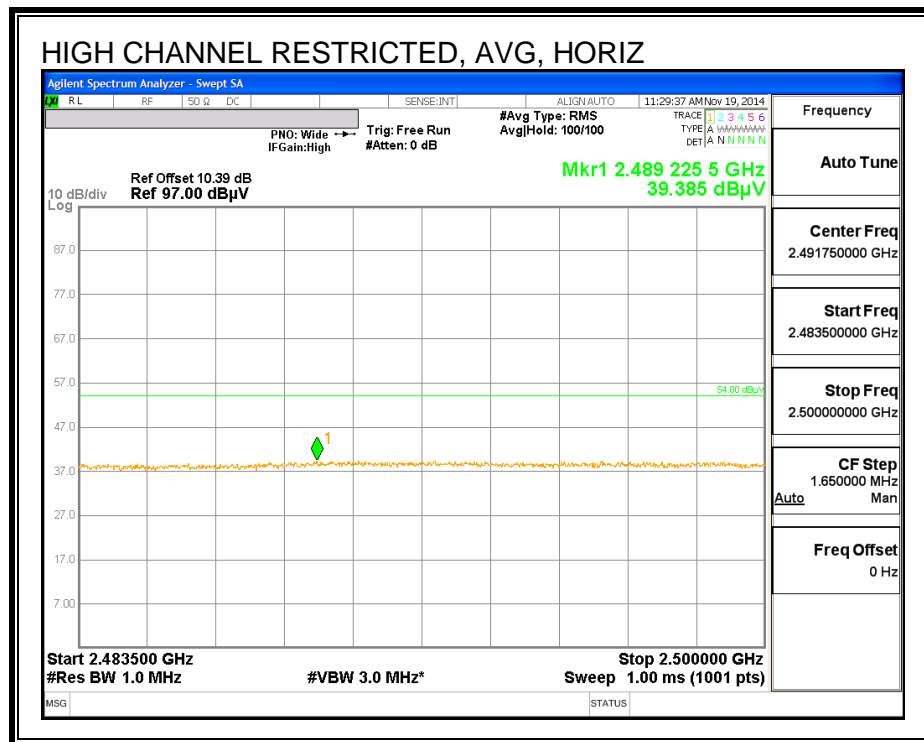
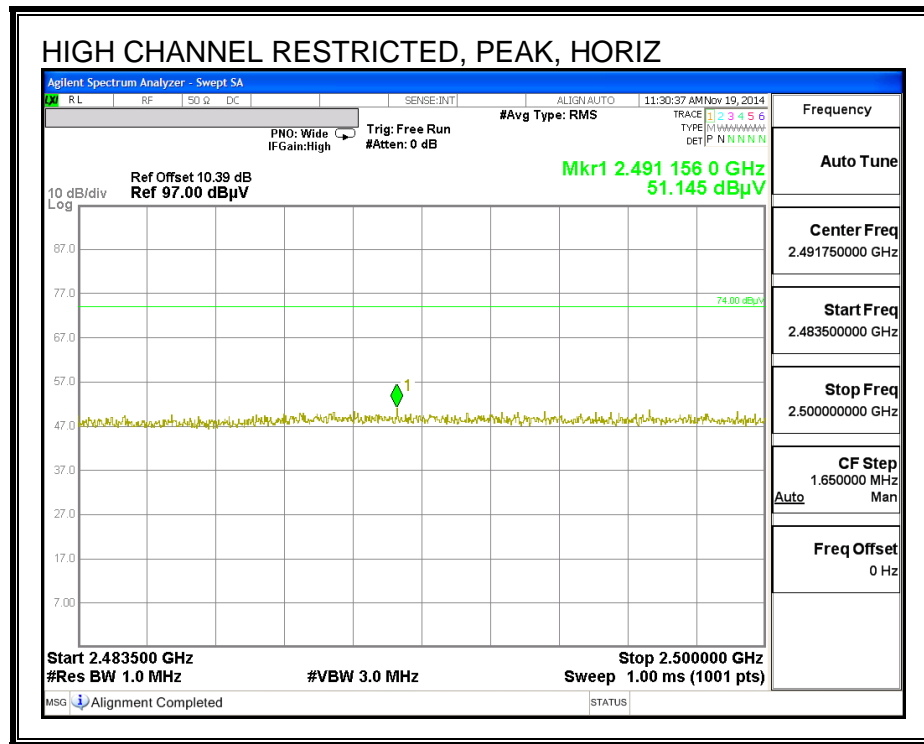


RESTRICTED BANEDGE (LOW CHANNEL, VERTICAL)

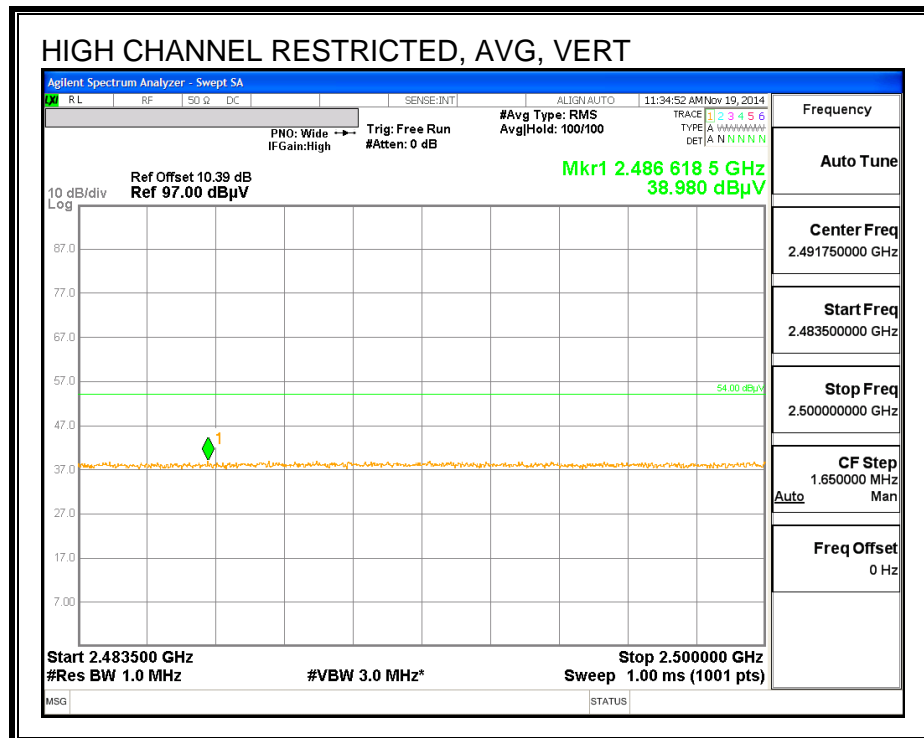
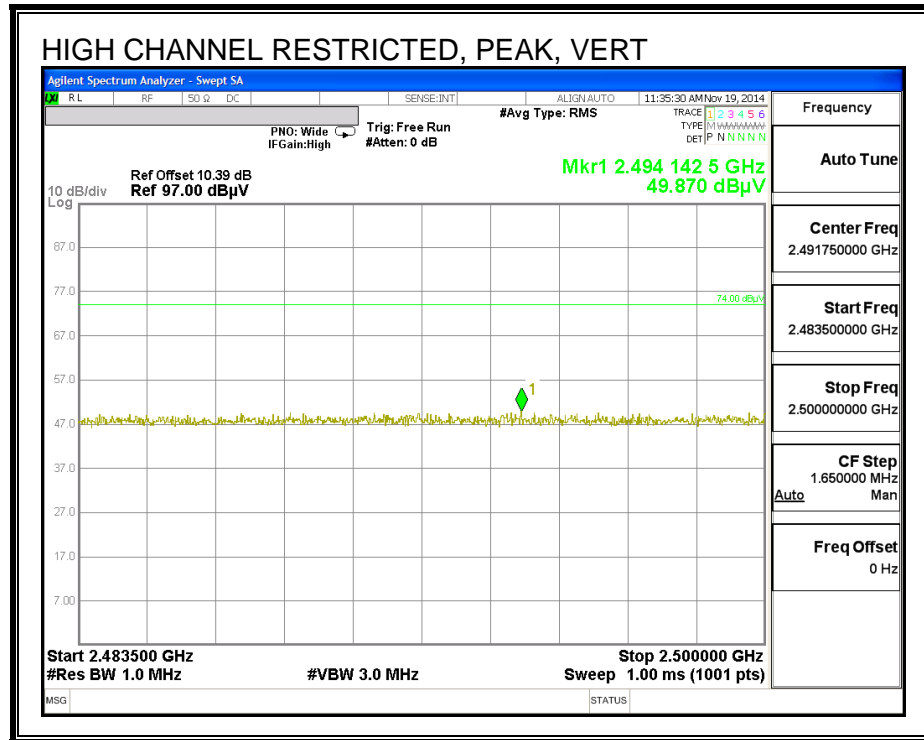


Corrected Value = Marker reading + Duty Cycle Factor
Final Corrected Average Value: 39.399dBuV + 3.72 = 43.119dBuV

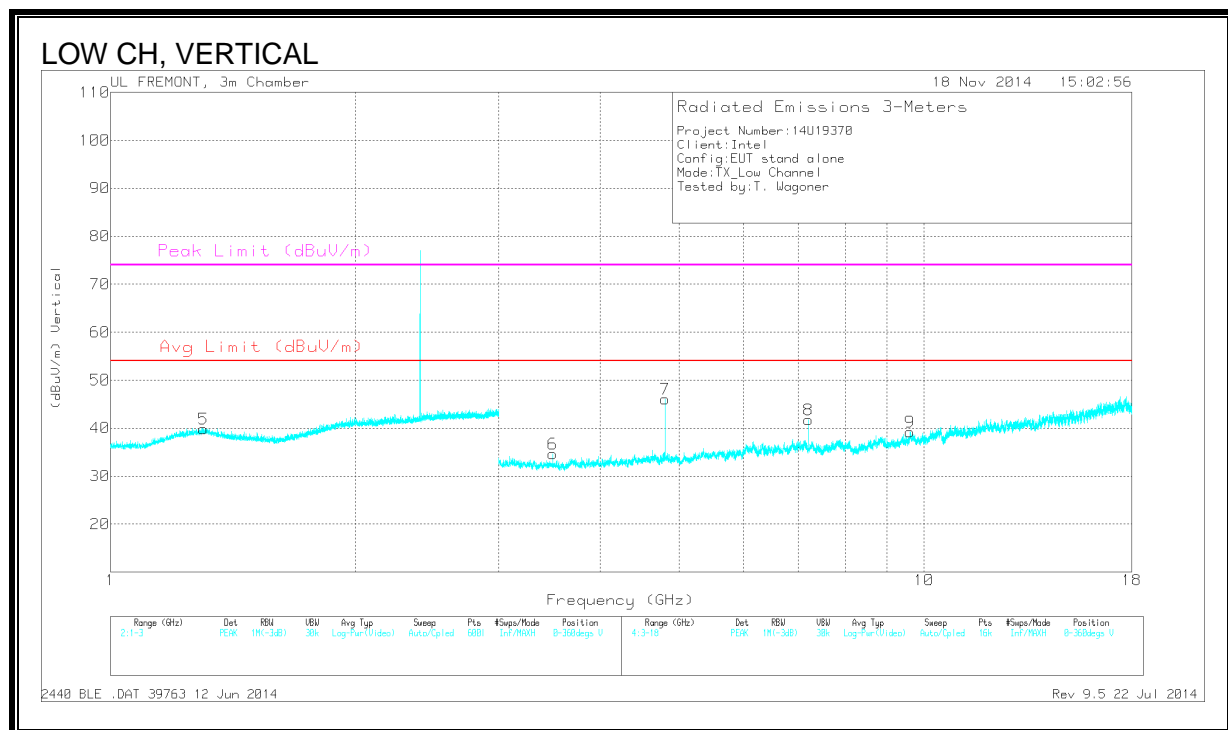
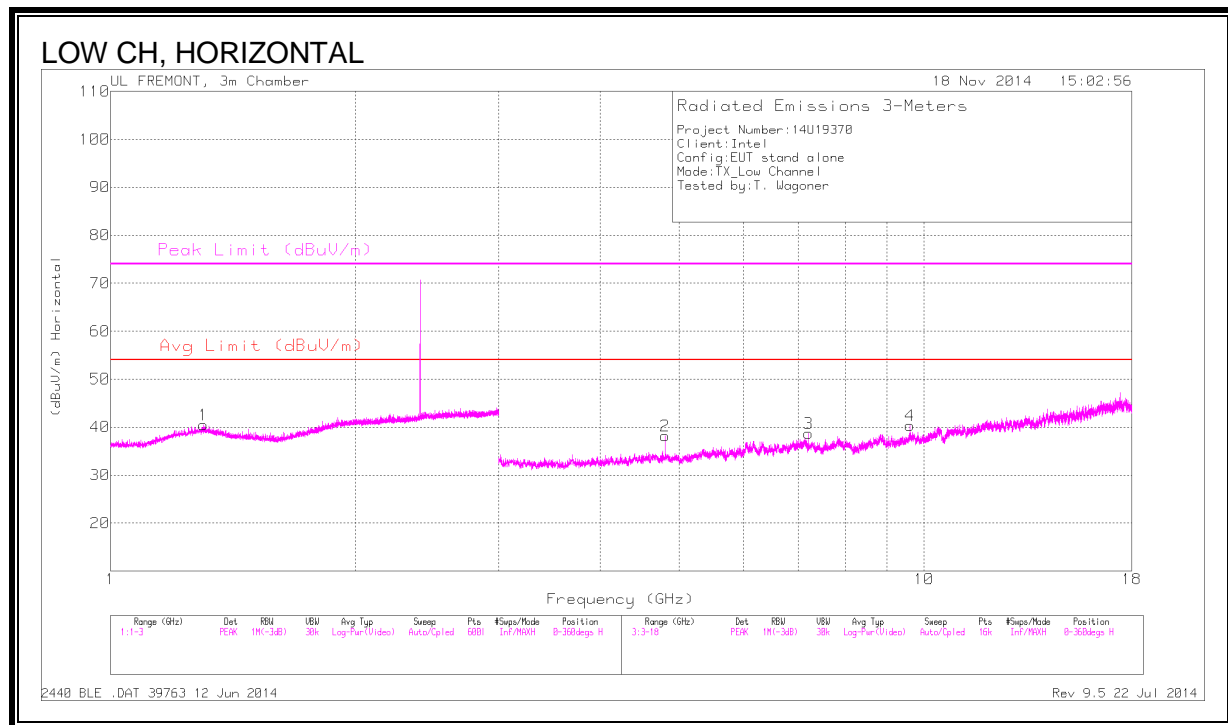
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANEDGE (HIGH CHANNEL, VERTICAL)



LOW CHANNEL HARMONICS AND SPURIOUS EMISSIONS



DATA

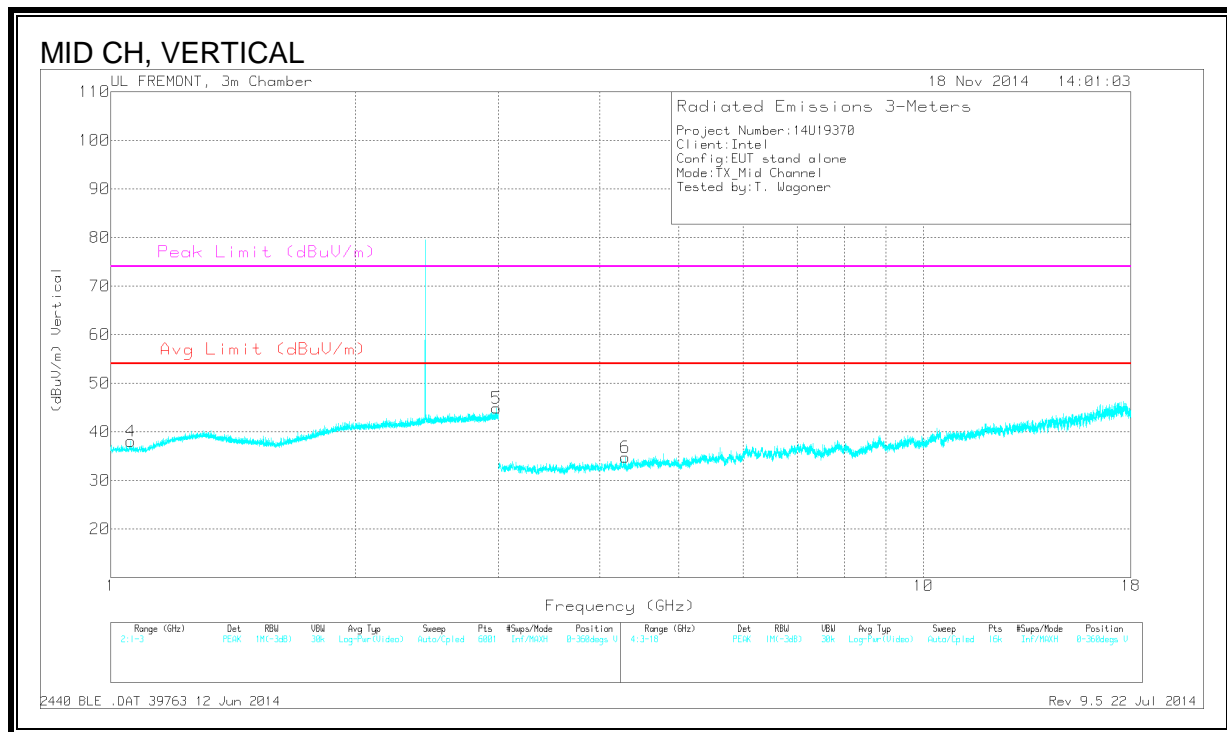
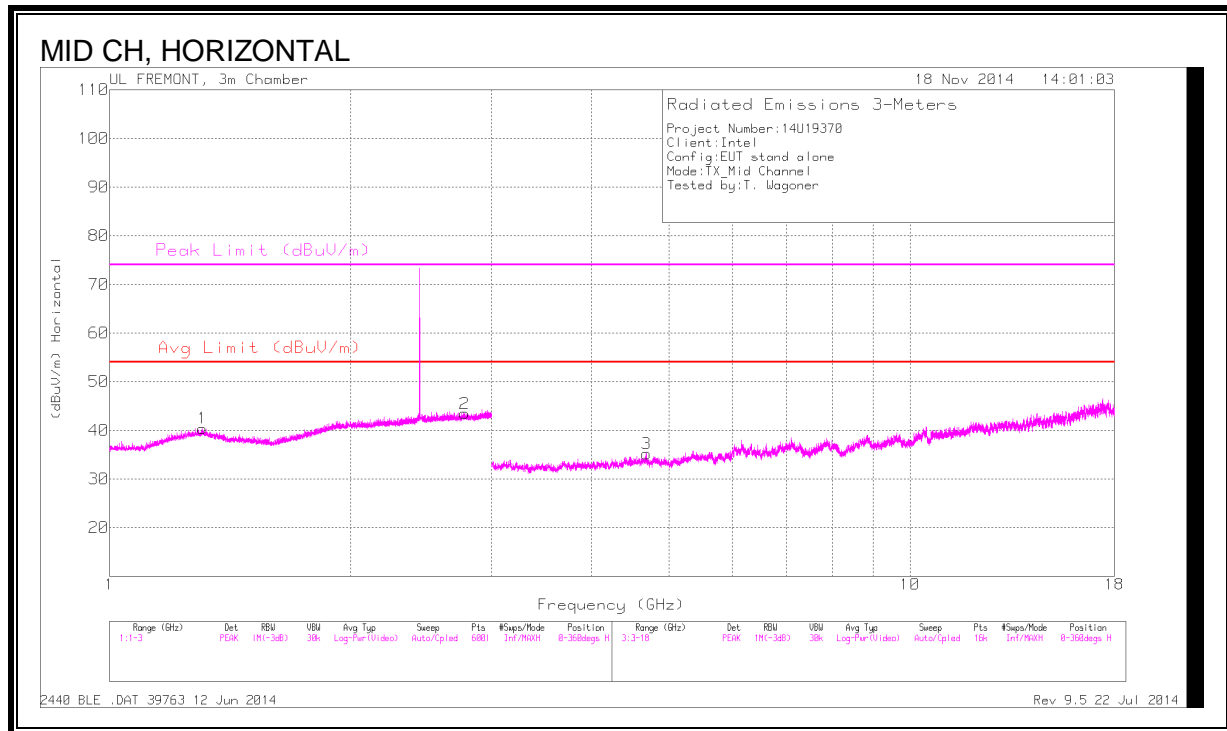
Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T119 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 5 | 1.3 | 33.41 | PK | 30.2 | -23.8 | 0 | 39.81 | 54 | -14.19 | 74 | -34.19 | 0-360 | 100 | V |
| 1 | 1.301 | 34.03 | PK | 30.2 | -23.8 | 0 | 40.43 | 54 | -13.57 | 74 | -33.57 | 0-360 | 200 | H |
| 6 | 3.496 | 32.5 | PK | 33 | -30.9 | 0 | 34.6 | - | - | - | - | 0-360 | 200 | V |
| 2 | 4.804 | 34.36 | PK | 34.1 | -30.3 | 0 | 38.16 | 54 | -15.84 | 74 | -35.84 | 0-360 | 200 | H |
| 7 | 4.804 | 42.23 | PK | 34.1 | -30.3 | 0 | 46.03 | 54 | -7.97 | 74 | -27.97 | 0-360 | 100 | V |
| 3 | 7.205 | 32.33 | PK | 35.6 | -29.2 | 0 | 38.73 | - | - | - | - | 0-360 | 100 | H |
| 8 | 7.205 | 35.38 | PK | 35.6 | -29.2 | 0 | 41.78 | - | - | - | - | 0-360 | 200 | V |
| 4 | 9.607 | 28.9 | PK | 36.7 | -25.2 | 0 | 40.4 | - | - | - | - | 0-360 | 200 | H |
| 9 | 9.607 | 27.67 | PK | 36.7 | -25.2 | 0 | 39.17 | - | - | - | - | 0-360 | 200 | V |

PK - Peak detector

Rev 9.5 22 Jul 2014

MID CHANNEL HARMONICS AND SPURIOUS EMISSIONS



DATA

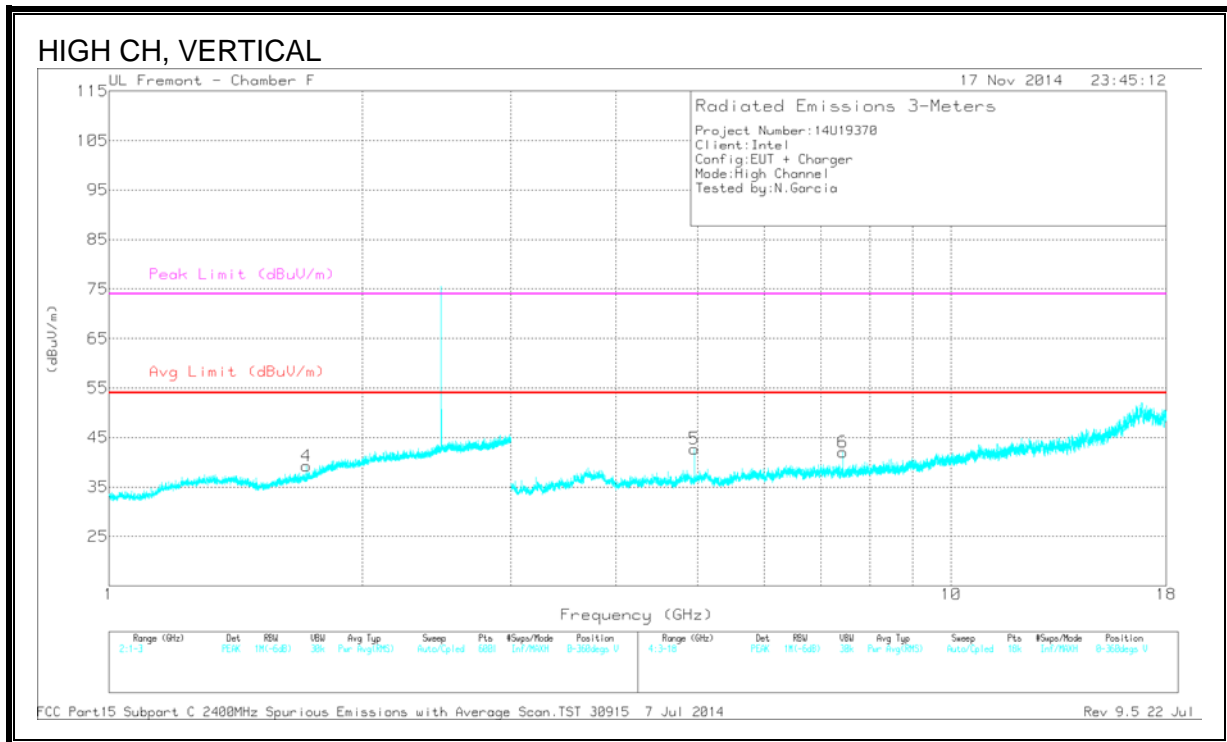
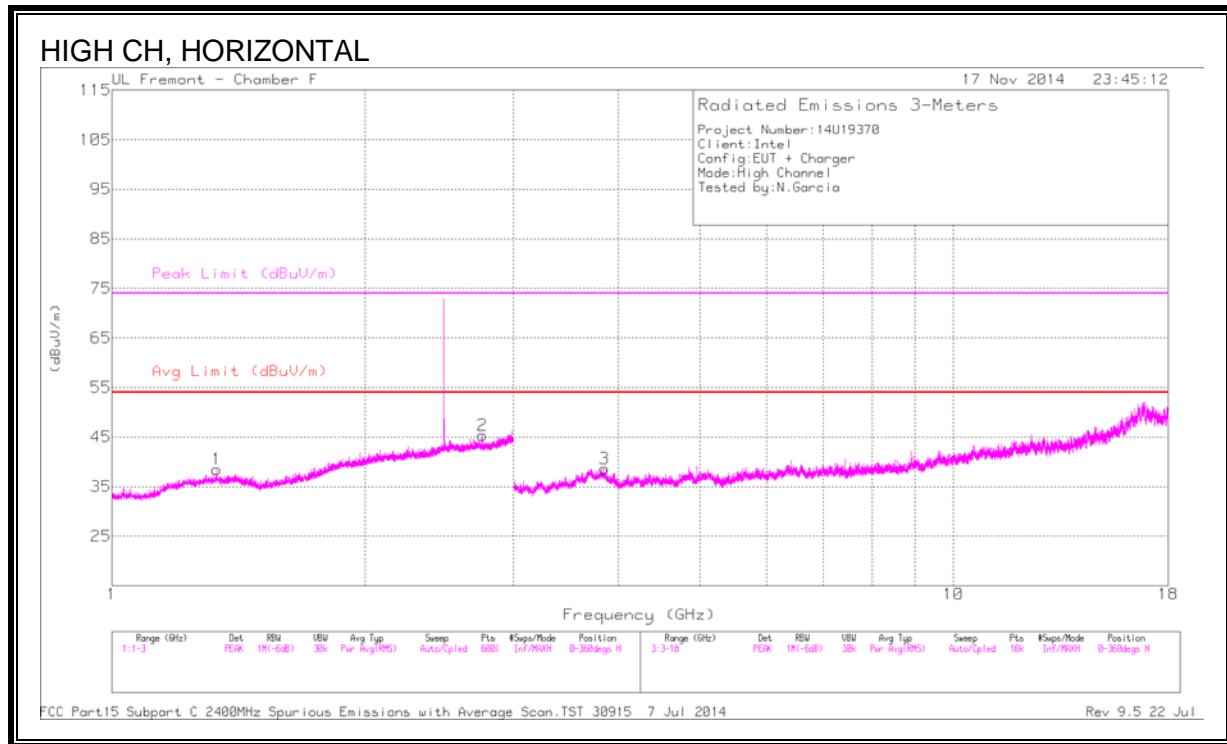
Trace Markers

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AFT119 (dB/m) | Amp/Cbl/Filtr/Pad (dB) | DC Corr (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | PK Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|---------------|------------------------|--------------|----------------------------|--------------------|-------------|---------------------|----------------|----------------|-------------|----------|
| 4 | 1.059 | 34.75 | PK | 27.2 | -23.9 | 0 | 38.05 | 54 | -15.95 | 74 | -35.95 | 0-360 | 100 | V |
| 1 | 1.305 | 34.01 | PK | 30.2 | -23.8 | 0 | 40.41 | 54 | -13.59 | 74 | -33.59 | 0-360 | 100 | H |
| 2 | 2.777 | 33.57 | PK | 32.7 | -22.8 | 0 | 43.47 | 54 | -10.53 | 74 | -30.53 | 0-360 | 100 | H |
| 5 | 2.984 | 34.37 | PK | 32.9 | -22.4 | 0 | 44.87 | - | - | - | - | 0-360 | 100 | V |
| 6 | 4.299 | 31.97 | PK | 33.6 | -30.8 | 0 | 34.77 | 54 | -19.23 | 74 | -39.23 | 0-360 | 200 | V |
| 3 | 4.684 | 31.77 | PK | 34.1 | -30.7 | 0 | 35.17 | 54 | -18.83 | 74 | -38.83 | 0-360 | 100 | H |

PK - Peak detector

Rev 9.5 22 Jul 2014

HIGH CHANNEL HARMONICS AND SPURIOUS EMISSIONS



DATA

Radiated Emissions

| Markers | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T120 (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 | * 1.331 | 42.25 | PK2 | 29.8 | -26.5 | 0 | 45.55 | - | - | 74 | -28.45 | 126 | 126 | H |
| | * 1.332 | 31.13 | MAv1 | 29.8 | -26.5 | .8 | 35.23 | 54 | -18.77 | - | - | 126 | 126 | H |
| 2 | * 2.759 | 41.76 | PK2 | 32.8 | -22.8 | 0 | 51.76 | - | - | 74 | -22.24 | 144 | 238 | H |
| | * 2.759 | 30.01 | MAv1 | 32.8 | -22.8 | .8 | 40.81 | 54 | -13.19 | - | - | 144 | 238 | H |
| 3 | * 3.848 | 39.14 | PK2 | 34.2 | -29.1 | 0 | 44.24 | - | - | 74 | -29.76 | 265 | 116 | H |
| | * 3.846 | 27.63 | MAv1 | 34.2 | -29 | .8 | 33.63 | 54 | -20.37 | - | - | 265 | 116 | H |
| 4 | 1.716 | 41.28 | PK2 | 29.4 | -25.5 | 0 | 45.18 | - | - | - | - | 155 | 113 | V |
| 5 | * 4.958 | 42.95 | PK2 | 34.2 | -29.2 | 0 | 47.95 | - | - | 74 | -26.05 | 255 | 247 | V |
| | * 4.958 | 36.44 | MAv1 | 34.2 | -29.2 | .8 | 42.24 | 54 | -11.76 | - | - | 255 | 247 | V |
| 6 | * 7.437 | 40.76 | PK2 | 35.6 | -26.2 | 0 | 50.16 | - | - | 74 | -23.84 | 242 | 308 | V |
| | * 7.437 | 33.25 | MAv1 | 35.6 | -26.2 | .8 | 43.45 | 54 | -10.55 | - | - | 242 | 308 | V |

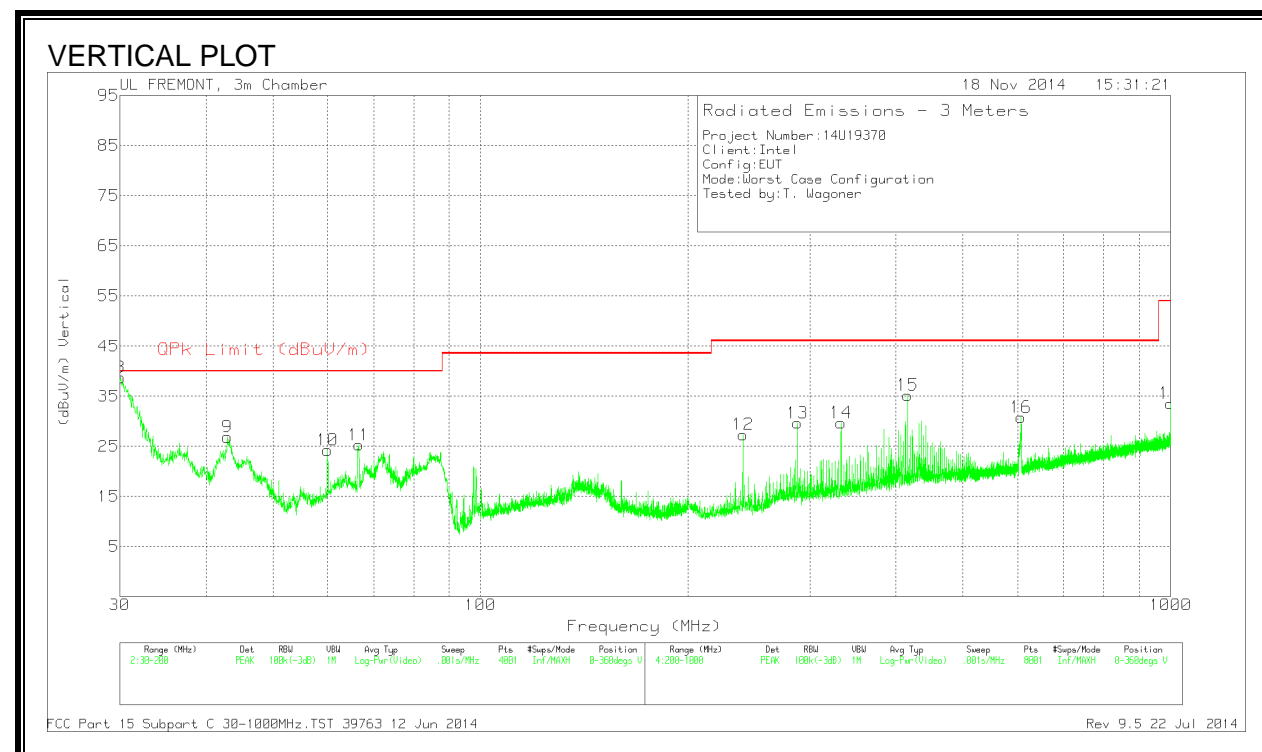
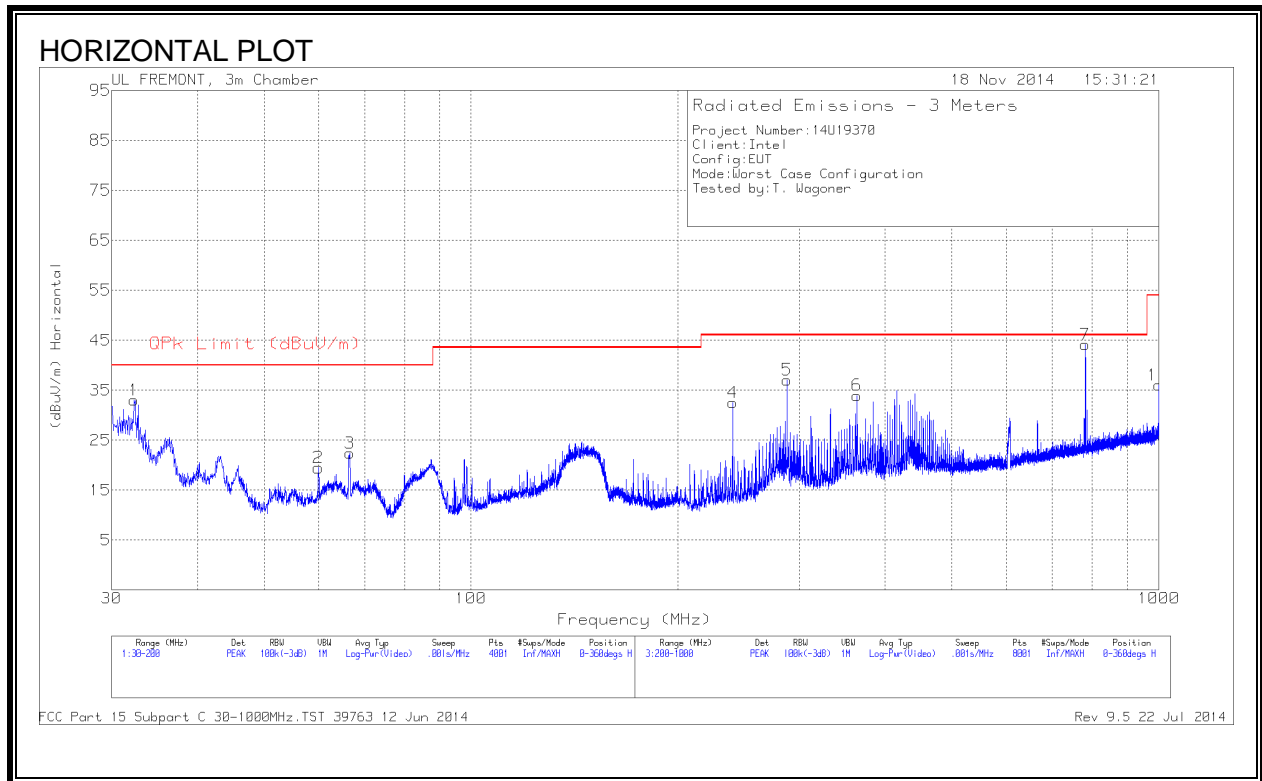
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

10.3. WORST-CASE BELOW 1 GHz

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



DATA

Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AF T185 (dB/m) | Amp/Cbl (dB/m) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|-----------------|----------------------|-----|----------------|----------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 8 | 30.0425 | 45.22 | PK | 21 | -27.5 | 38.72 | 40 | -1.28 | 0-360 | 100 | V |
| 1 | 32.3375 | 41.3 | PK | 19.2 | -27.5 | 33 | 40 | -7 | 0-360 | 200 | H |
| 9 | 43.005 | 42.85 | PK | 11.4 | -27.4 | 26.85 | 40 | -13.15 | 0-360 | 100 | V |
| 2 | 59.9625 | 39.59 | PK | 7.1 | -27.2 | 19.49 | 40 | -20.51 | 0-360 | 300 | H |
| 10 | 60.005 | 44.23 | PK | 7.1 | -27.1 | 24.23 | 40 | -15.77 | 0-360 | 100 | V |
| 3 | 66.5925 | 41.7 | PK | 7.8 | -27.1 | 22.4 | 40 | -17.6 | 0-360 | 200 | H |
| 11 | 66.5925 | 44.56 | PK | 7.8 | -27.1 | 25.26 | 40 | -14.74 | 0-360 | 100 | V |
| 4 | 240 | 46.2 | PK | 11.7 | -25.4 | 32.5 | 46.02 | -13.52 | 0-360 | 100 | H |
| 12 | 240 | 41.04 | PK | 11.7 | -25.4 | 27.34 | 46.02 | -18.68 | 0-360 | 100 | V |
| 5 | 288 | 48.86 | PK | 13.3 | -25.1 | 37.06 | 46.02 | -8.96 | 0-360 | 100 | H |
| 13 | 288 | 41.42 | PK | 13.3 | -25.1 | 29.62 | 46.02 | -16.4 | 0-360 | 100 | V |
| 14 | 333 | 40.9 | PK | 14 | -25.2 | 29.7 | 46.02 | -16.32 | 0-360 | 100 | V |
| 6 | 364 | 44.35 | PK | 15 | -25.4 | 33.95 | 46.02 | -12.07 | 0-360 | 100 | H |
| 15 | 416 | 44.69 | PK | 16.2 | -25.7 | 35.19 | 46.02 | -10.83 | 0-360 | 100 | V |
| 16 | 607.2 | 37.79 | PK | 18.6 | -25.6 | 30.79 | 46.02 | -15.23 | 0-360 | 100 | V |
| 7 | 781.3 | 47.73 | PK | 21.1 | -24.7 | 44.13 | 46.02 | -1.89 | 0-360 | 200 | H |
| 18 | 999 | 36.11 | PK | 23.3 | -23.4 | 36.01 | 53.97 | -17.96 | 0-360 | 200 | H |
| 17 | 999 | 33.65 | PK | 23.3 | -23.4 | 33.55 | 53.97 | -20.42 | 0-360 | 100 | V |

PK - Peak detector

Radiated Emissions

| Frequency (MHz) | Meter Reading (dBuV) | Det | AF T185 (dB/m) | Amp/Cbl (dB/m) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|-----------------|----------------------|-----|----------------|----------------|----------------------------|--------------------|-------------|----------------|-------------|----------|
| 30.0104 | 40.62 | QP | 21 | -27.5 | 34.12 | 40 | -5.88 | 111 | 115 | V |
| 34.7216 | 26.9 | QP | 17.5 | -27.5 | 16.9 | 40 | -23.1 | 260 | 227 | H |
| 784.8309 | 22.93 | QP | 21.2 | -24.7 | 19.43 | 46.02 | -26.59 | 103 | 112 | H |

QP - Quasi-Peak detector

FCC Part 15 Subpart C 30-1000MHz.TST 39763 12 Jun 2014

Rev 9.5 22 Jul 2014

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

| 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

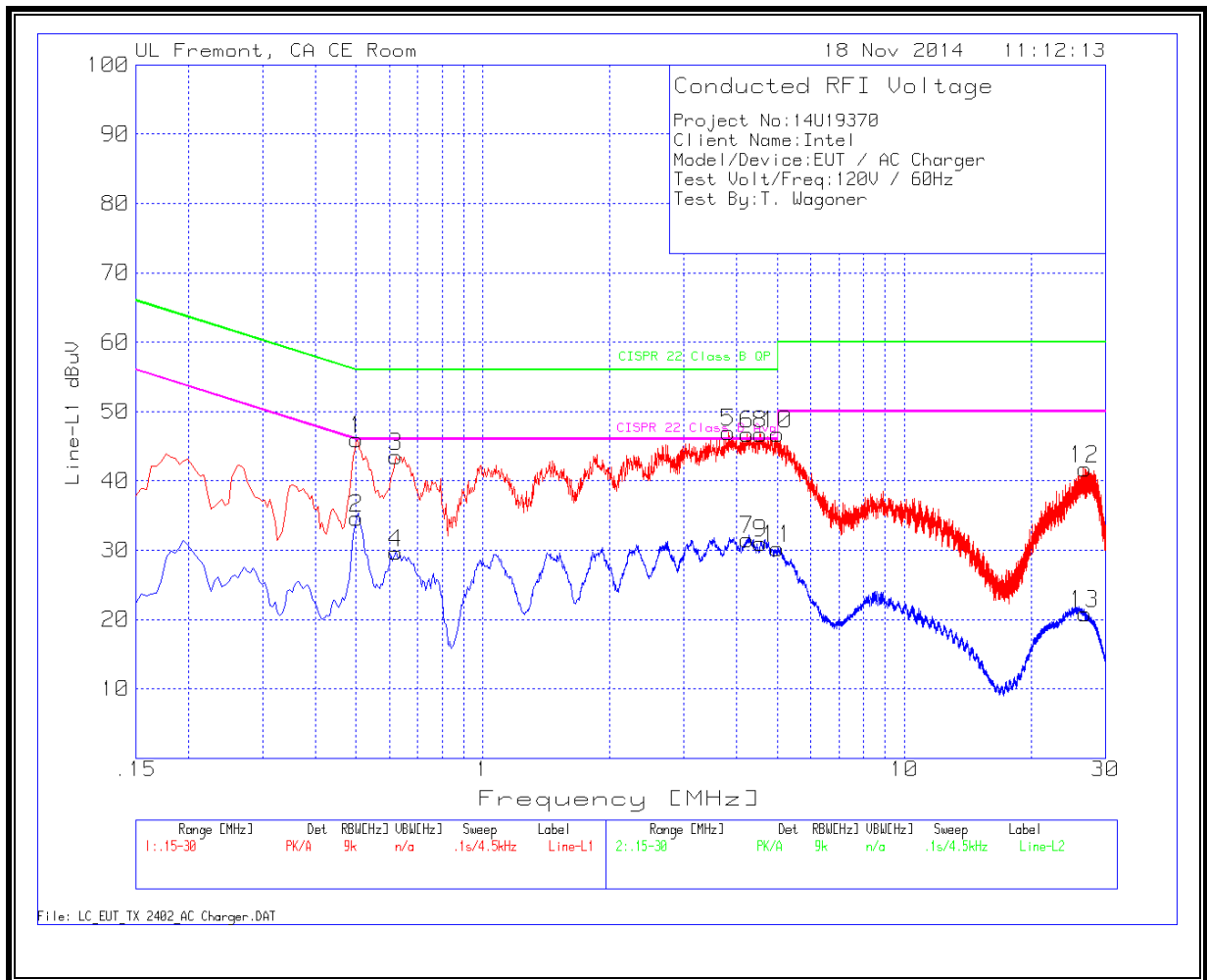
The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.2009.

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.

DATA RESULTS

LINE 1 PLOT



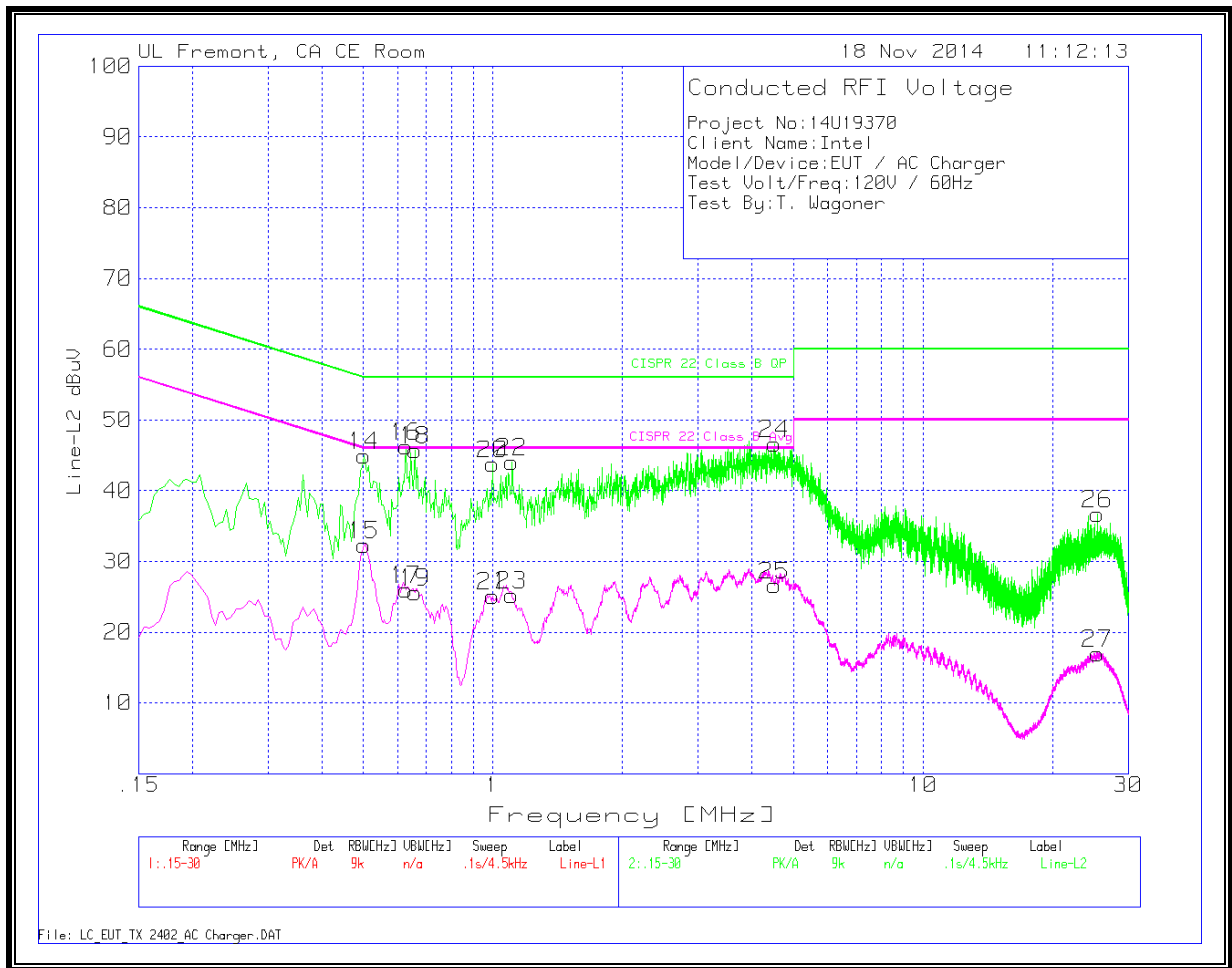
DATA

Line-L1 .15 - 30MHz

Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | T24 IL L1 (dB) | LC Cables 1&3 (dB) | Corrected Reading dBuV | CISPR 22 Class B QP | Margin to Limit (dB) | CISPR 22 Class B Avg | Margin to Limit (dB) |
|--------|-----------------|----------------------|-----|----------------|--------------------|------------------------|---------------------|----------------------|----------------------|----------------------|
| 1 | .501 | 45.7 | PK | .3 | 0 | 46 | 56 | -10 | - | - |
| 2 | .501 | 34.37 | Av | .3 | 0 | 34.67 | - | - | 46 | -11.33 |
| 3 | .6225 | 43.26 | PK | .3 | 0 | 43.56 | 56 | -12.44 | - | - |
| 4 | .6225 | 29.37 | Av | .3 | 0 | 29.67 | - | - | 46 | -16.33 |
| 5 | 3.831 | 46.67 | PK | .2 | .1 | 46.97 | 56 | -9.03 | - | - |
| 6 | 4.2405 | 46.42 | PK | .2 | .1 | 46.72 | 56 | -9.28 | - | - |
| 7 | 4.2405 | 31.24 | Av | .2 | .1 | 31.54 | - | - | 46 | -14.46 |
| 8 | 4.5645 | 46.5 | PK | .2 | .1 | 46.8 | 56 | -9.2 | - | - |
| 9 | 4.5645 | 30.75 | Av | .2 | .1 | 31.05 | - | - | 46 | -14.95 |
| 10 | 5.01 | 46.48 | PK | .2 | .1 | 46.78 | 60 | -13.22 | - | - |
| 11 | 5.01 | 30.01 | Av | .2 | .1 | 30.31 | - | - | 50 | -19.69 |
| 12 | 26.7585 | 41.15 | PK | .3 | .3 | 41.75 | 60 | -18.25 | - | - |
| 13 | 26.7585 | 20.3 | Av | .3 | .3 | 20.9 | - | - | 50 | -29.1 |

LINE 2 PLOT



DATA

Line-L2 .15 - 30MHz

Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | T24 IL L2 (dB) | LC Cables 2&3 (dB) | Corrected Reading dBuV | CISPR 22 Class B QP | Margin to Limit (dB) | CISPR 22 Class B Avg | Margin to Limit (dB) |
|--------|-----------------|----------------------|-----|----------------|--------------------|------------------------|---------------------|----------------------|----------------------|----------------------|
| 14 | .501 | 44.5 | PK | .4 | 0 | 44.9 | 56 | -11.1 | - | - |
| 15 | .501 | 31.89 | Av | .4 | 0 | 32.29 | - | - | 46 | -13.71 |
| 16 | .627 | 45.99 | PK | .3 | 0 | 46.29 | 56 | -9.71 | - | - |
| 17 | .627 | 25.74 | Av | .3 | 0 | 26.04 | - | - | 46 | -19.96 |
| 18 | .6585 | 45.37 | PK | .3 | 0 | 45.67 | 56 | -10.33 | - | - |
| 19 | .6585 | 25.34 | Av | .3 | 0 | 25.64 | - | - | 46 | -20.36 |
| 20 | 1.0005 | 43.43 | PK | .3 | 0 | 43.73 | 56 | -12.27 | - | - |
| 21 | 1.0005 | 24.81 | Av | .3 | 0 | 25.11 | - | - | 46 | -20.89 |
| 22 | 1.1085 | 43.71 | PK | .3 | 0 | 44.01 | 56 | -11.99 | - | - |
| 23 | 1.1085 | 24.93 | Av | .3 | 0 | 25.23 | - | - | 46 | -20.77 |
| 28 | 1.1085 | 24.93 | Av | .3 | 0 | 25.23 | - | - | 46 | -20.77 |
| 29 | 3.8445 | 46.01 | PK | .2 | .1 | 46.31 | 56 | -9.69 | - | - |
| 30 | 3.8445 | 28.09 | Av | .2 | .1 | 28.39 | - | - | 46 | -17.61 |
| 31 | 3.9435 | 46.68 | PK | .2 | .1 | 46.98 | 56 | -9.02 | - | - |
| 32 | 3.9435 | 28.3 | Av | .2 | .1 | 28.6 | - | - | 46 | -17.4 |
| 24 | 4.524 | 46.33 | PK | .2 | .1 | 46.63 | 56 | -9.37 | - | - |
| 25 | 4.524 | 26.28 | Av | .2 | .1 | 26.58 | - | - | 46 | -19.42 |
| 26 | 25.4625 | 36.07 | PK | .3 | .3 | 36.67 | 60 | -23.33 | - | - |
| 27 | 25.4625 | 16.33 | Av | .3 | .3 | 16.93 | - | - | 50 | -33.07 |
| 33 | 25.4625 | 36.07 | PK | .3 | .3 | 36.67 | 60 | -23.33 | - | - |
| 34 | 25.4625 | 16.33 | Av | .3 | .3 | 16.93 | - | - | 50 | -33.07 |

PK - Peak detector

QP - Quasi-Peak detector