



**FCC CFR47 PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 8**

CERTIFICATION TEST REPORT

FOR

**Tablet with cellular GSM/GPRS/EGPRS/WCDMA/HSPA+/DC-
HSDPA/CDMA1xRTT/1x Advanced/EV-DO Rev 0, A, B/LTE/IEEE 802.11a/b/g/n
(MIMO 2x2) and Bluetooth radio**

MODEL: A1475

**FCC ID: BCGA1475
IC: 579C-A1475**

REPORT NUMBER: 13U15555-11

ISSUE DATE: SEPTEMBER 17, 2013

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

| <u>Rev.</u> | <u>Issue Date</u> | <u>Revisions</u> | <u>Revised By</u> |
|-------------|-------------------|------------------|-------------------|
| --- | 09/17/13 | Initial Issue | T. Chan |

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: APPLE, INC.
1 INFINITE LOOP
CUPERTINO, CA 95014, U.S.A.

EUT DESCRIPTION: Tablet with cellular GSM/GPRS/EGPRS/WCDMA/HSPA+/DC-HSDPA/CDMA1xRTT/1x Advanced/EV-DO Rev 0, A, B/LTE/IEEE 802.11a/b/g/n (MIMO 2x2) and Bluetooth radio

MODEL: A1475

SERIAL NUMBER: DLXL104WFMNF

DATE TESTED: AUGUST 21 – AUGUST 28, 2013

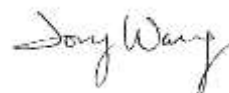
| APPLICABLE STANDARDS | |
|---|--------------|
| STANDARD | TEST RESULTS |
| CFR 47 Part 15 Subpart C | Pass |
| INDUSTRY CANADA RSS-210 Issue 8 Annex 8 | Pass |
| INDUSTRY CANADA RSS-GEN Issue 3 | Pass |

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:

Tested By:



Thu Chan
WiSE Operations Manager
UL Verification Services Inc.

TONY WANG
WiSE Technician
UL Verification Services Inc

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2009, RSS-GEN Issue 3, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

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 checked="" type="checkbox"/> Chamber D |
| <input type="checkbox"/> Chamber B | <input checked="" type="checkbox"/> Chamber E |
| <input type="checkbox"/> Chamber C | <input type="checkbox"/> Chamber F |

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

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

This is a tablet with GSM/GPRS/EGPRS/WCDMA/HSPA+/DC-HSDPA/CDMA1xRTT/1x Advanced/EV-DO Rev 0, A, B/LTE/IEEE 802.11a/b/g/n (MIMO 2x2) and Bluetooth radio

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 | 8.02 | 6.34 |

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PiFA antenna, with a maximum gain of 0.5dBi.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was Broadcom Bluetool 1.5.6.2.

5.5. WORST-CASE CONFIGURATION AND MODE

The worst-position was the EUT with highest emissions. To determine the worst-case, the EUT is a portable device that has three orientations; therefore X, Y and Z orientations have been investigated with AC adapter and Headset, and the worst case was found to be at X position without AC adapter and headset.

The worst-case mode and channel used for 30-1000 MHz radiated and power line conducted emissions was including headset and AC charger.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

| Support Equipment List | | | | |
|------------------------|--------------|-------|---------------|--------|
| Description | Manufacturer | Model | Serial Number | FCC ID |
| AC/DC Adapter | Apple | A1401 | 60812 | DoC |

I/O CABLES (Conducted Setup)

| I/O Cable List | | | | | | |
|----------------|---------|----------------------|----------------|------------|------------------|----------------------|
| Cable No | Port | # of identical ports | Connector Type | Cable Type | Cable Length (m) | Remarks |
| 1 | Antenna | 1 | SMA | Shielded | 0.1m | To Spectrum Analyzer |

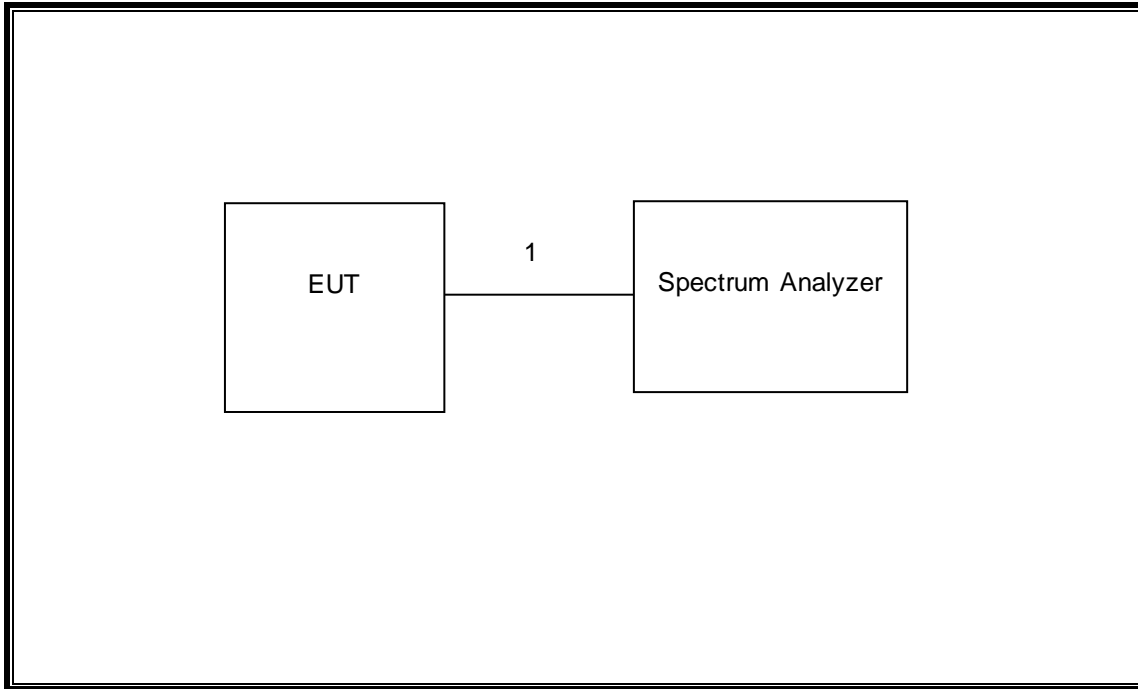
I/O CABLES (Radiated Setup)

| I/O Cable List | | | | | | |
|----------------|-----------|----------------------|----------------|------------|------------------|---------|
| Cable No | Port | # of identical ports | Connector Type | Cable Type | Cable Length (m) | Remarks |
| 1 | AudioJack | 1 | Earphone | Unshielded | 0.5m | N/A |

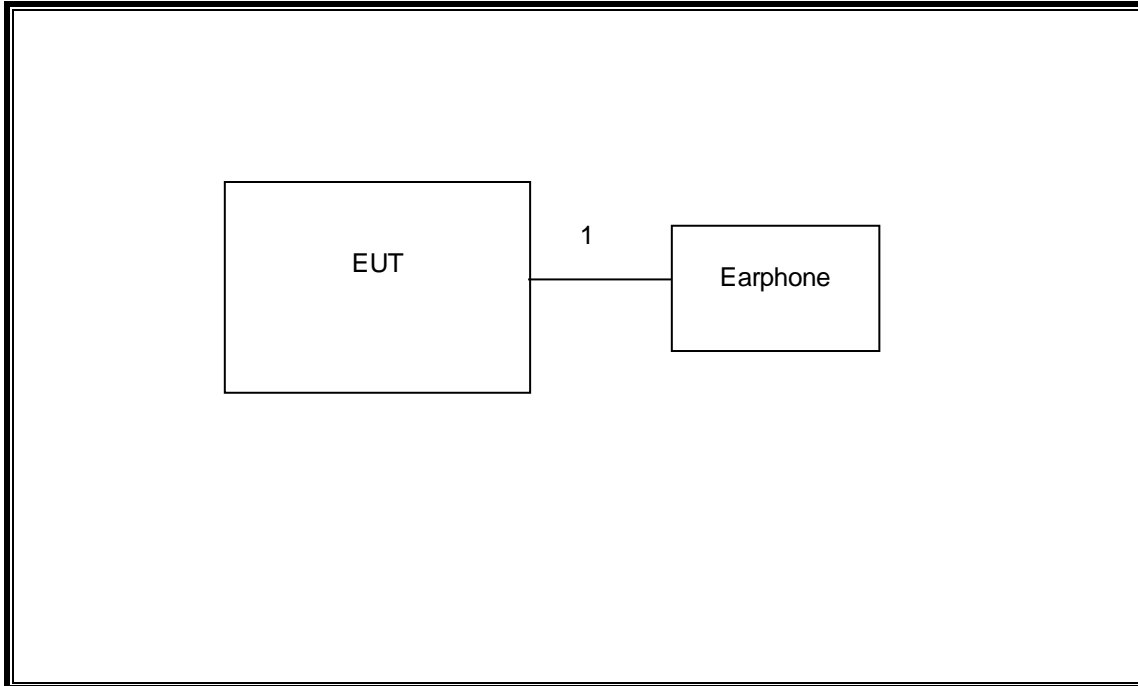
I/O CABLES (AC POWER CONDUCTED TEST)

| I/O Cable List | | | | | | |
|----------------|-------|----------------------|----------------|-------------|------------------|---------|
| Cable No | Port | # of identical ports | Connector Type | Cable Type | Cable Length (m) | Remarks |
| 1 | AC | 1 | US115 | Un-Shielded | 2m | NA |
| 2 | DC | 1 | USB | Un-Shielded | 2m | NA |
| 3 | Audio | 1 | Jack | Un-Shielded | 0.5m | NA |

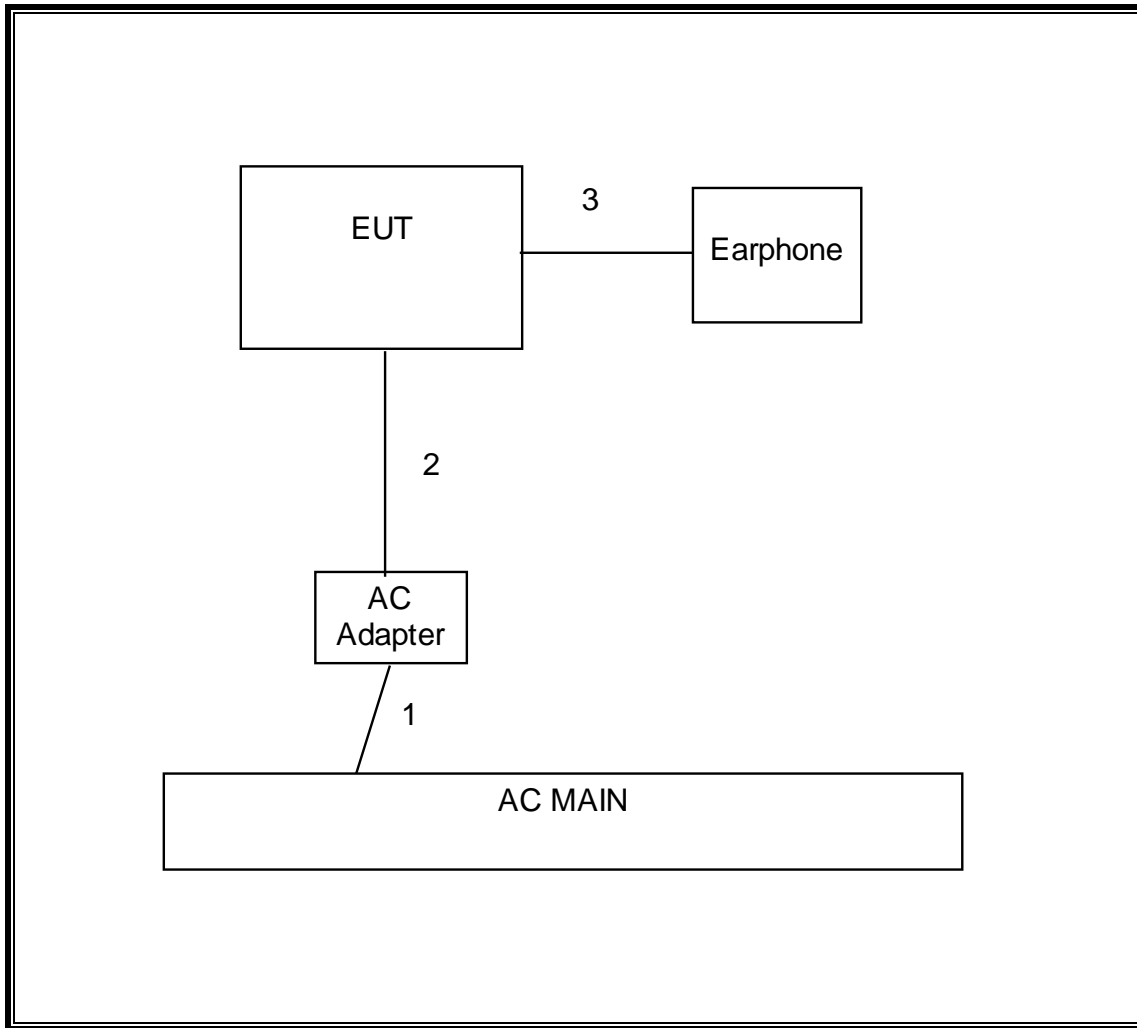
SETUP DIAGRAM FOR CONDUCTED TESTS



SETUP DIAGRAM FOR RADIATED TESTS



SETUP DIAGRAM FOR BELOW 1GHZ & AC POWER CONDUCTED TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

| Test Equipment List | | | | |
|-------------------------------------|----------------|------------------|--------|----------|
| Description | Manufacturer | Model | Asset | Cal Due |
| Horn Antenna 1-18GHz | ETS Lindgren | 3117 | F00132 | 02/19/14 |
| Preamplifier, 1300 MHz | Agilent / HP | 8447D | C00580 | 01/28/14 |
| Antenna, Horn, 26.5 GHz | ARA | SWH-28 | C01015 | 05/06/14 |
| Antenna, Biconolog, 30MHz-1 GHz | Sunol Sciences | JB3 | F00027 | 03/07/14 |
| LISN, 30 MHz | FCC | LISN-50/250-25-2 | N02625 | 01/14/14 |
| Peak / Average Power Sensor | Agilent / HP | E9323A | F00026 | 04/03/14 |
| P-Series single channel Power Meter | Agilent / HP | N1911A | F00153 | 04/05/14 |
| Spectrum Analyzer, 44GHz | Agilent | E4446A | C01159 | 04/10/14 |
| Spectrum Analyzer, 44GHz | Agilent | N9030A | F00129 | 02/22/14 |
| PreApmplifier, 1-26.5GHz | Agilent | 8449B | C01052 | 10/22/13 |
| EMI Test Receiver, 30 MHz | R & S | ESHS 20 | N02396 | 08/09/14 |

7. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 789033 Zero-Span Spectrum Analyzer Method.

7.1. 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 2441MHZ | 2.865 | 3.750 | 0.764 | 76.40% | 1.169 | 0.349 |

7.2. MEASUREMENT METHODS

6 dB BW: KDB 558074 D01.

Output Power: KDB 558074 D01.

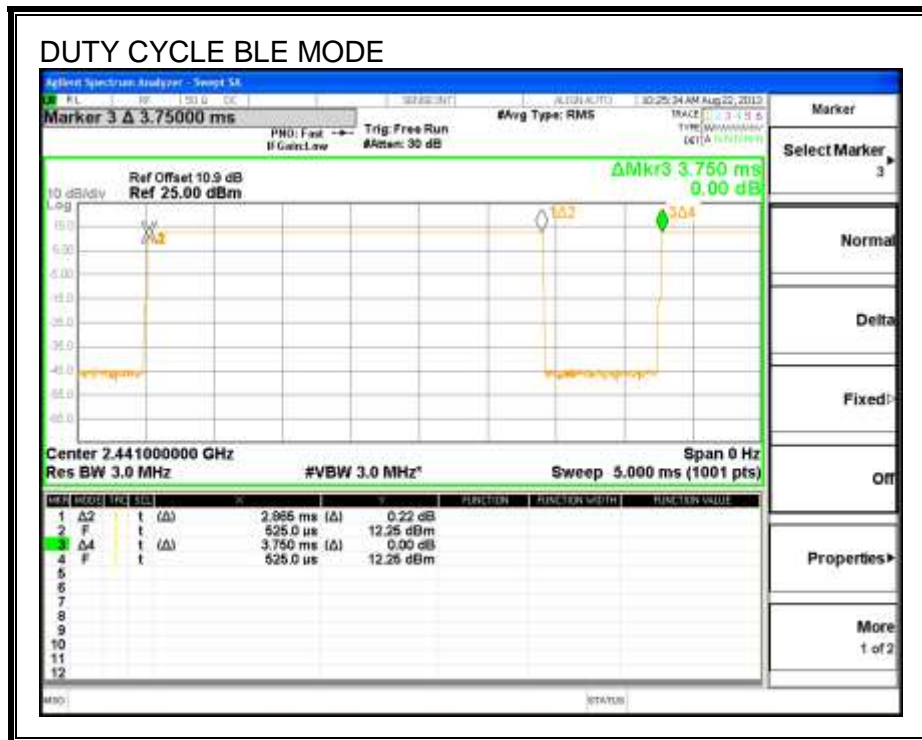
Power Spectral Density: KDB 558074 D01.

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

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

7.2.1. DUTY CYCLE PLOTS

2.4 GHz Band



8. ANTENNA PORT TEST RESULTS

8.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

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

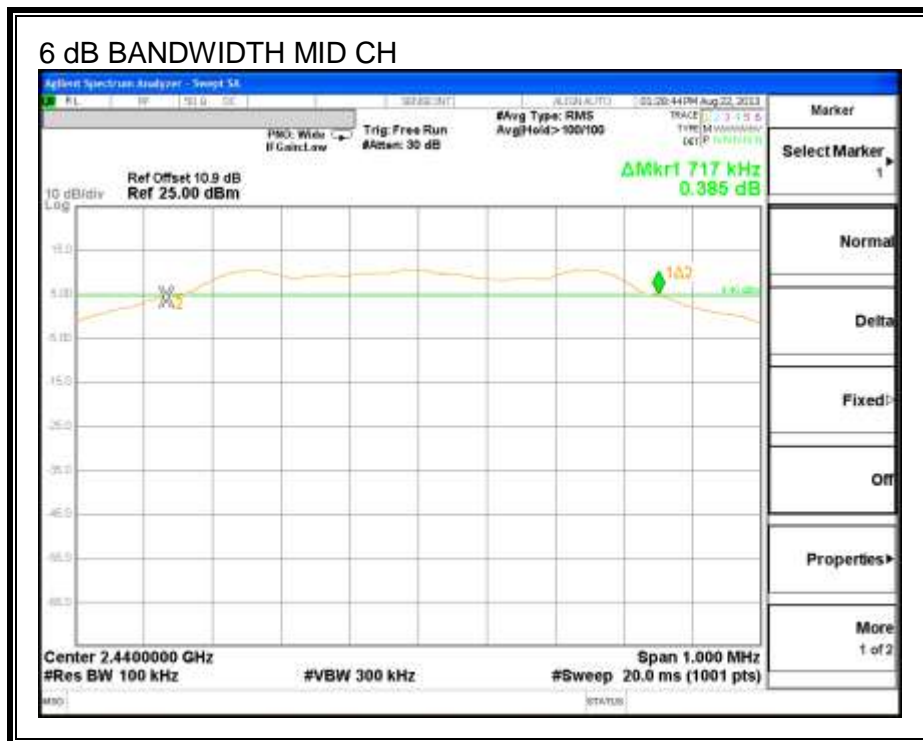
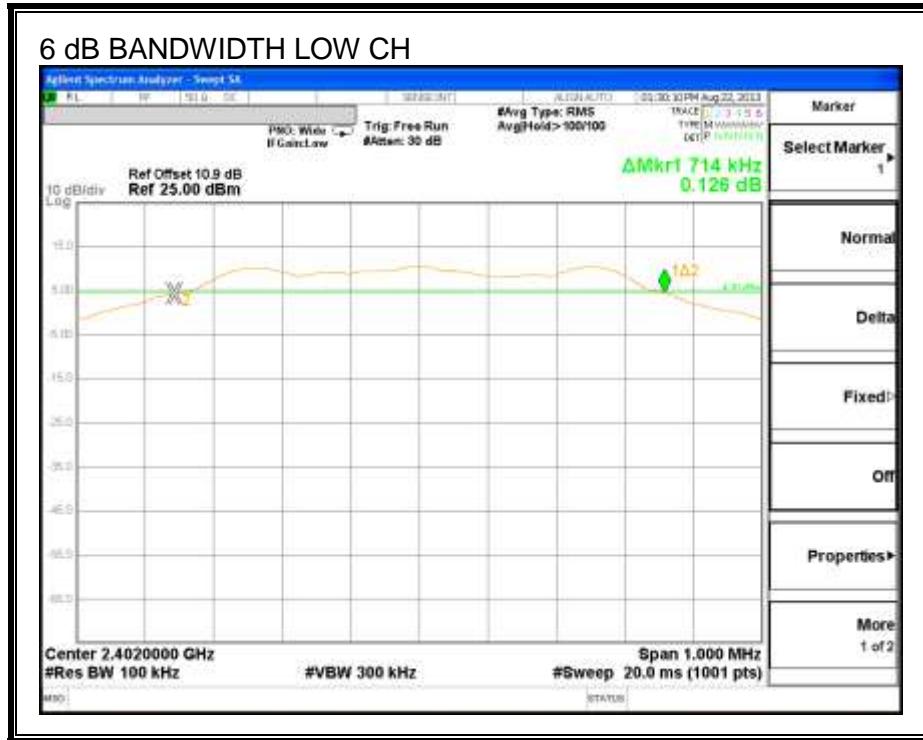
TEST PROCEDURE

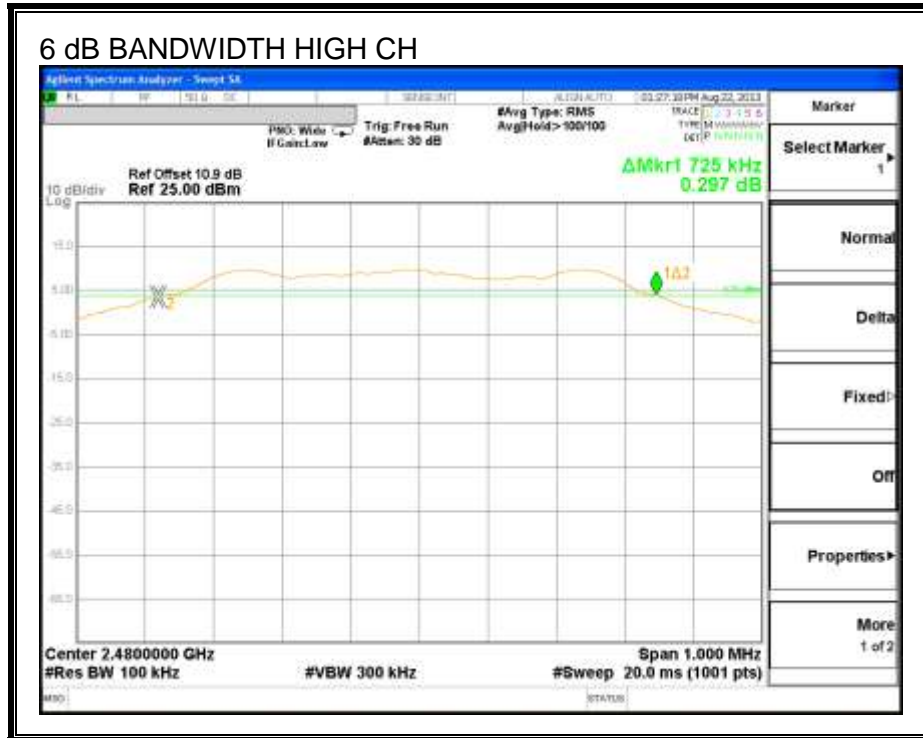
KDB 558074 D01 v01 "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under 15.247".

RESULTS

| Channel | Frequency (MHz) | 6 dB Bandwidth (KHz) | Minimum Limit (KHz) |
|---------|--------------------|-------------------------|------------------------|
| Low | 2402 | 714.00 | 500.0 |
| Middle | 2440 | 717.00 | 500.0 |
| High | 2480 | 725.00 | 500.0 |

6 dB BANDWIDTH





8.2. 99% BANDWIDTH

LIMIT

None; for reporting purposes only.

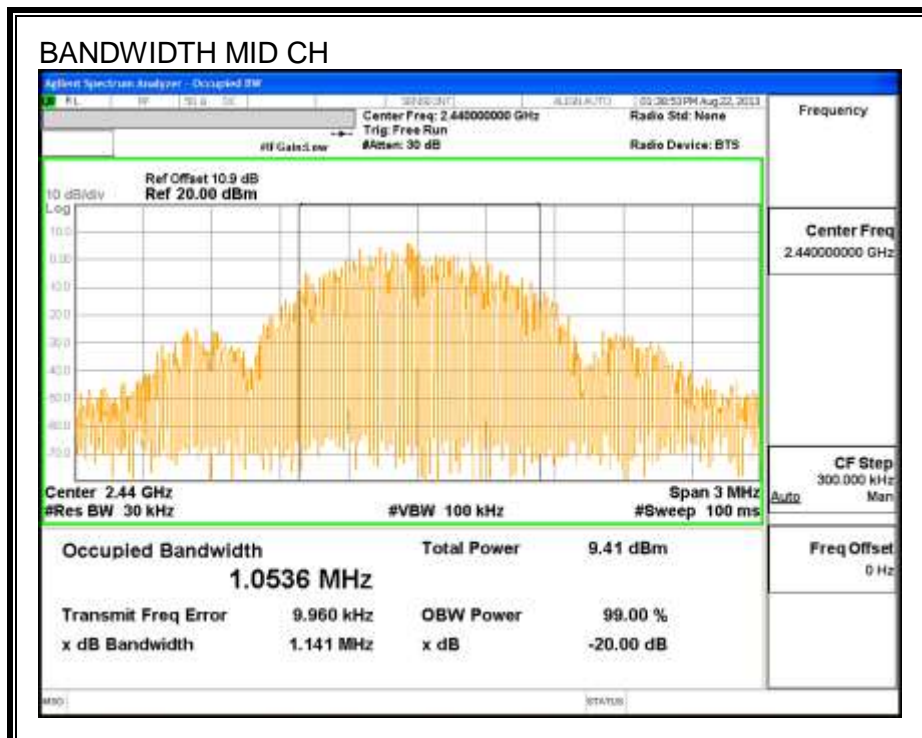
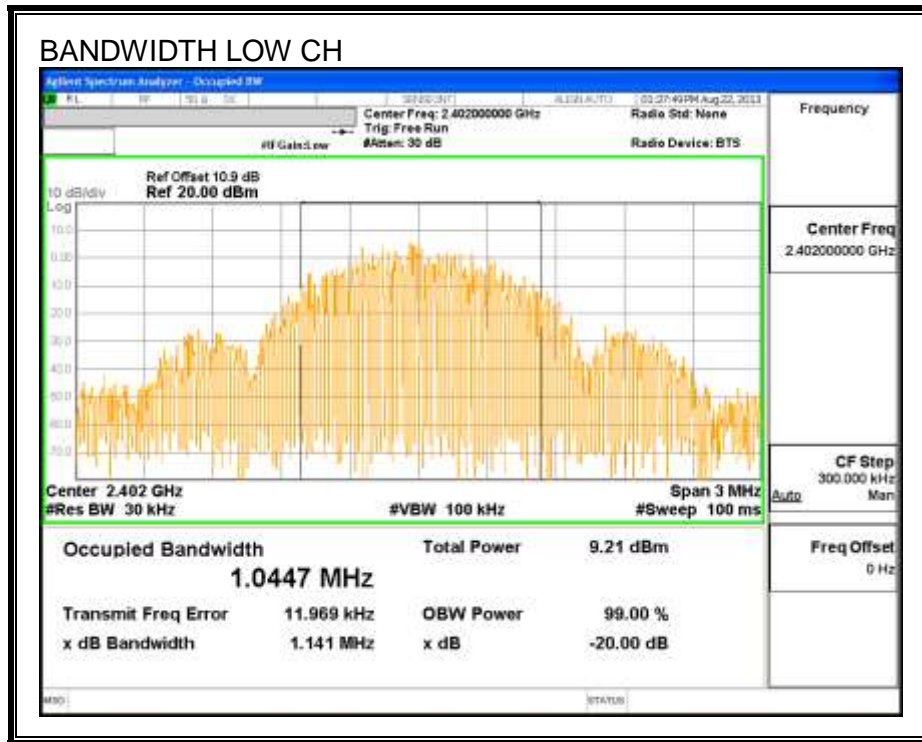
TEST PROCEDURE

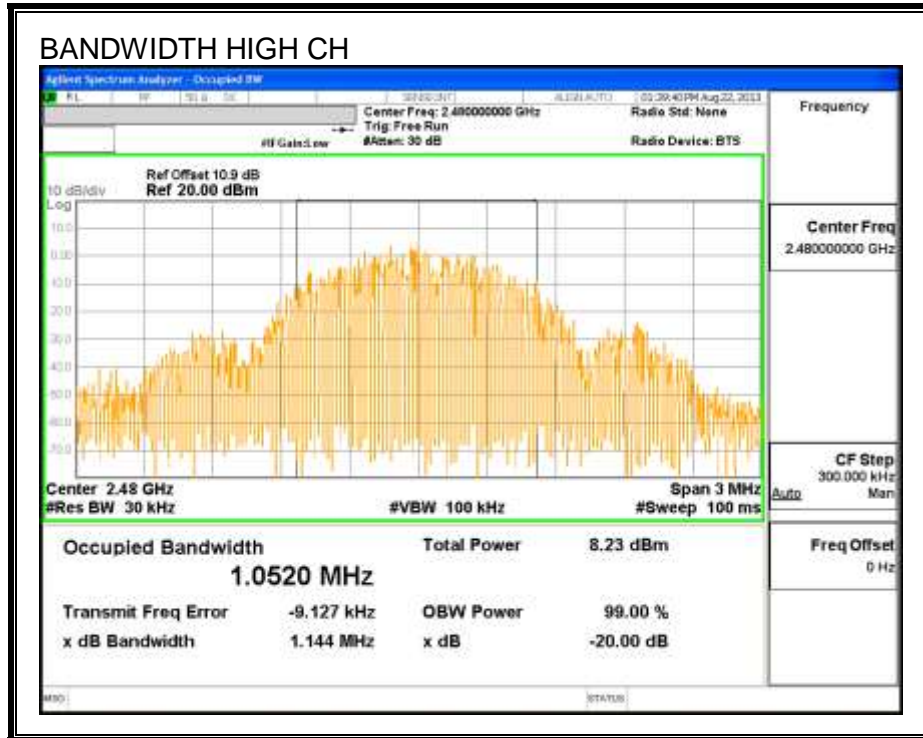
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth and to 1% of the span. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

| Channel | Frequency (MHz) | 99% Bandwidth (MHz) |
|---------|--------------------|------------------------|
| Low | 2402 | 1.0447 |
| Middle | 2441 | 1.0536 |
| High | 2480 | 1.0520 |

99% BANDWIDTH





8.3. OUTPUT POWER

LIMIT

§15.247 (b) (1)

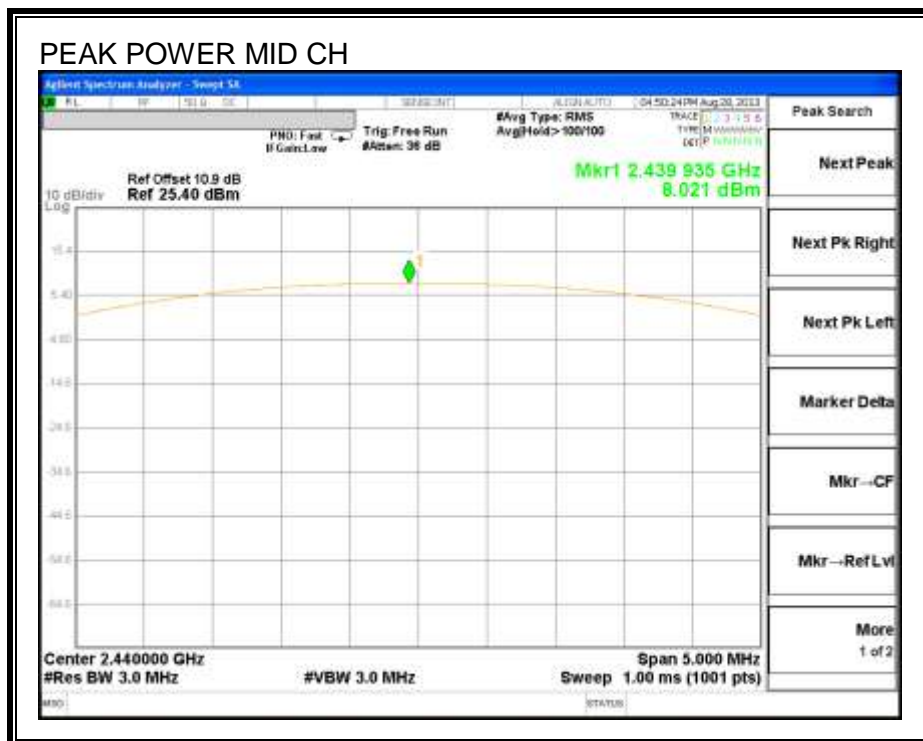
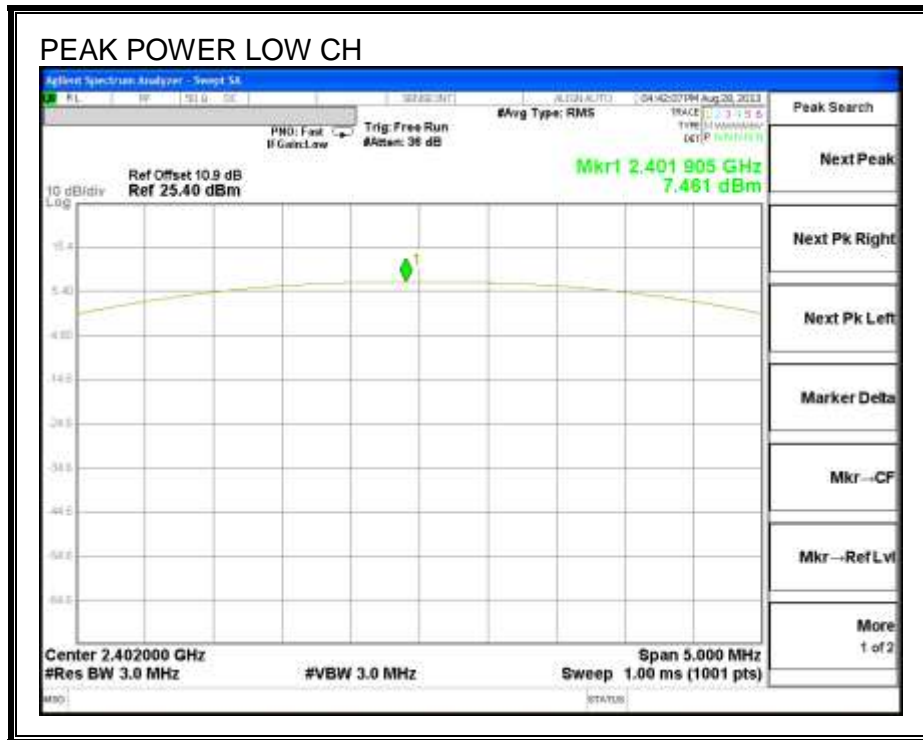
The maximum antenna gain is less than 6 dBi, therefore the limit is 30 dBm.

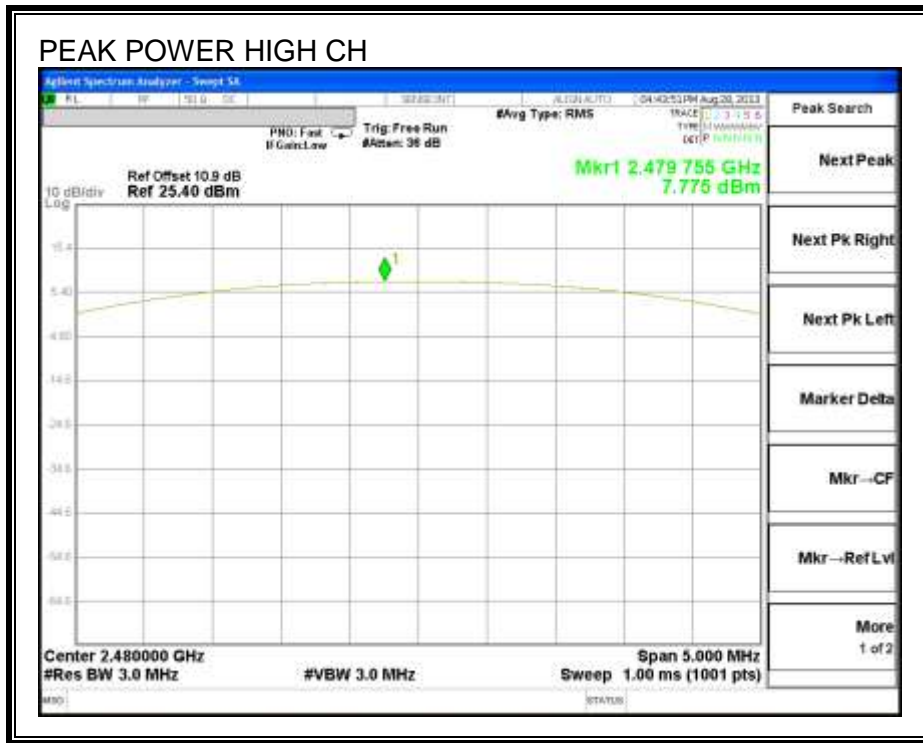
TEST PROCEDURE

KDB 558074 D01 v01 "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 | 7.46 | 30 | -22.54 |
| Middle | 2440 | 8.02 | 30 | -21.98 |
| High | 2480 | 7.78 | 30 | -22.22 |





8.4. 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 10.9 dB (including 10 dB pad and 0.9 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 | 7.22 |
| Middle | 2440 | 7.57 |
| High | 2480 | 7.43 |

8.5. 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.

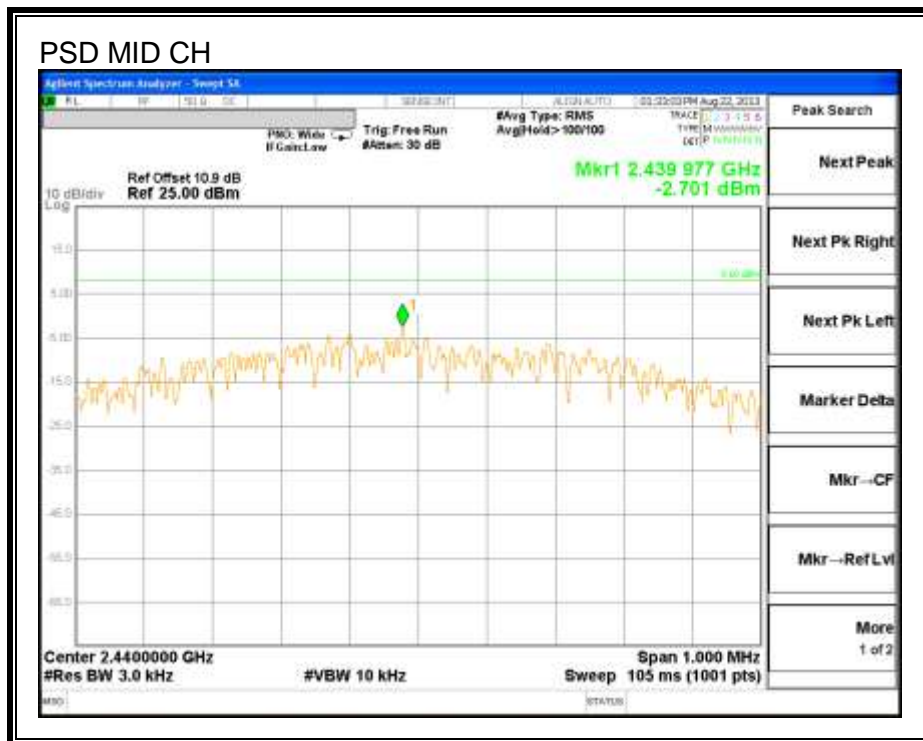
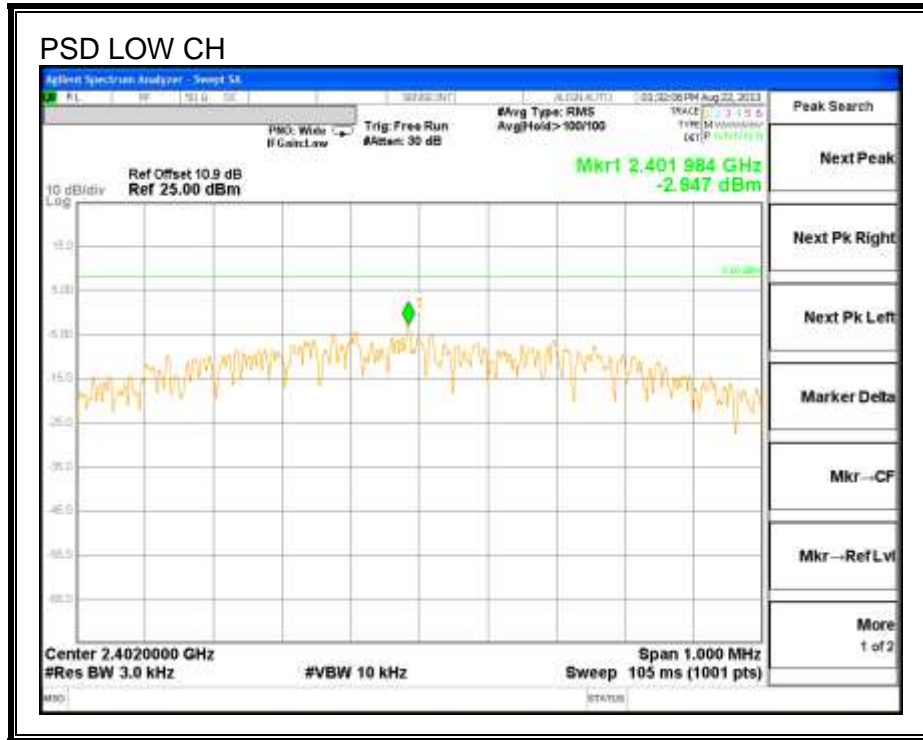
TEST PROCEDURE

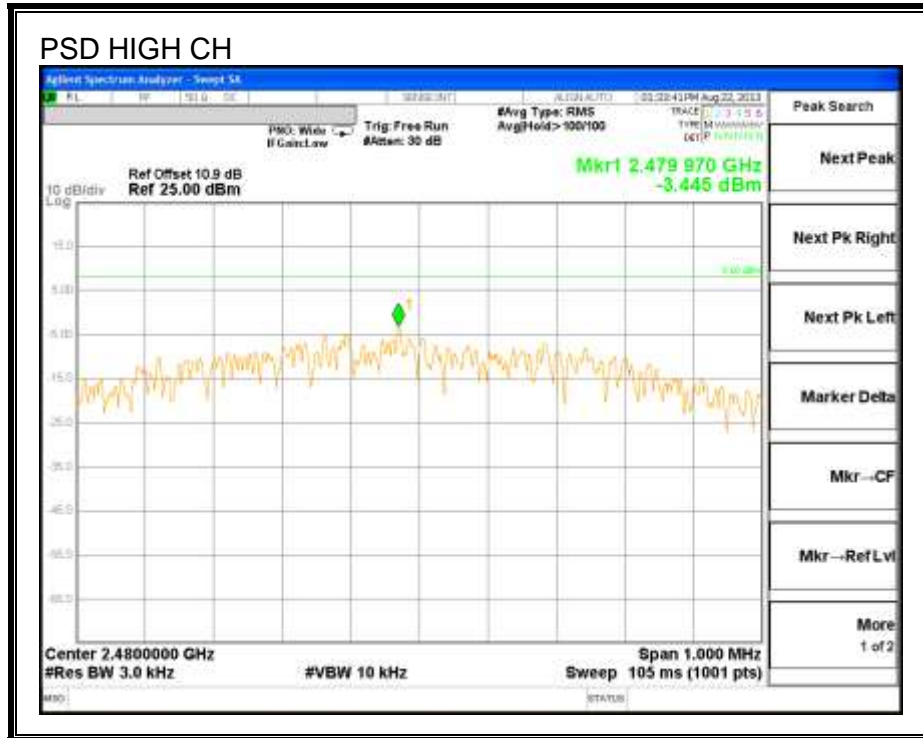
KDB 558074 D01 v01 "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under 15.247".

RESULTS

| Channel | Frequency (MHz) | PPSD (dBm) | Limit (dBm) | Margin (dB) |
|---------|-----------------|------------|-------------|-------------|
| Low | 2402 | -2.95 | 8 | -10.95 |
| Middle | 2440 | -2.70 | 8 | -10.70 |
| High | 2480 | -3.45 | 8 | -11.45 |

POWER SPECTRAL DENSITY





8.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

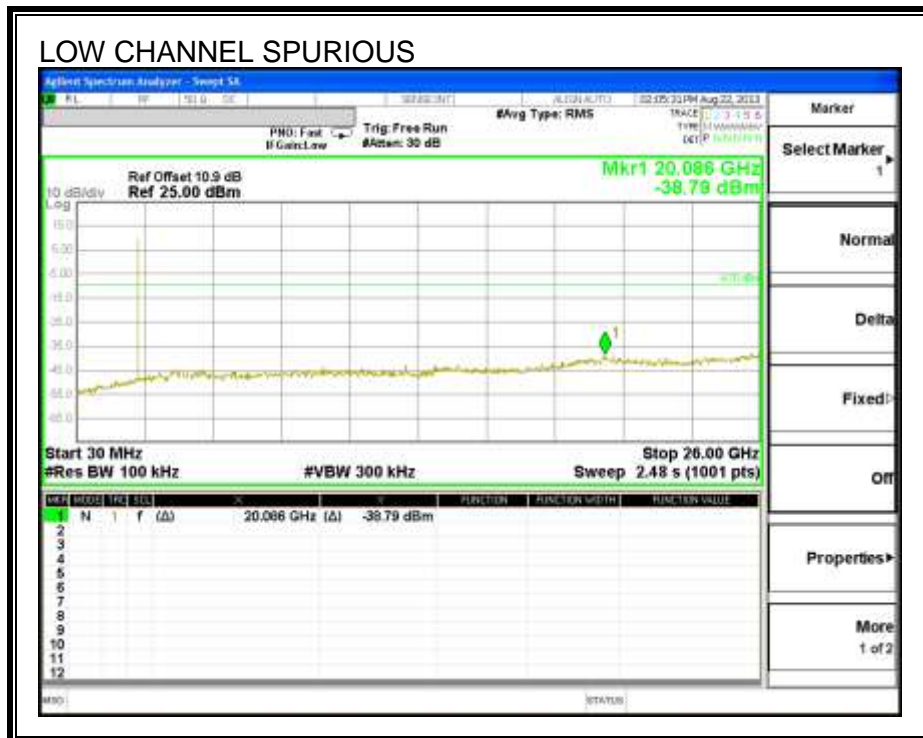
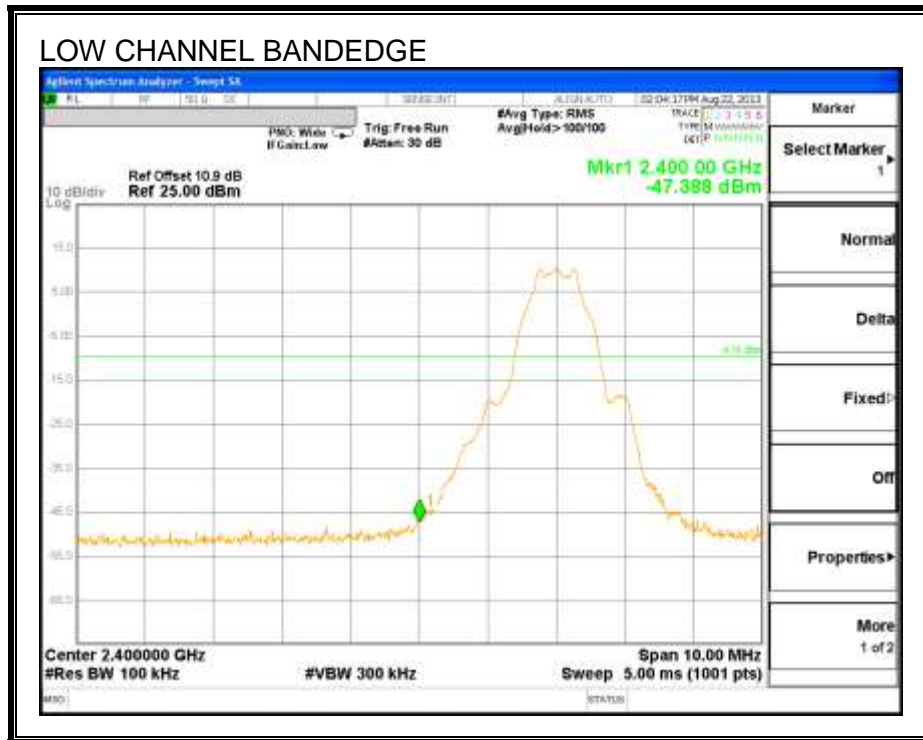
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

TEST PROCEDURE

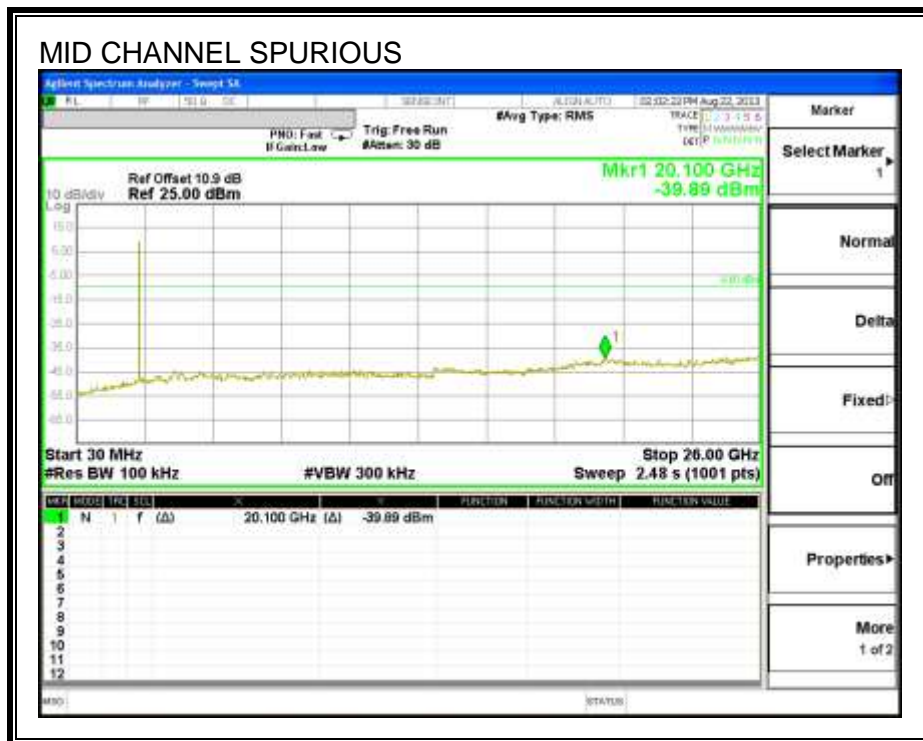
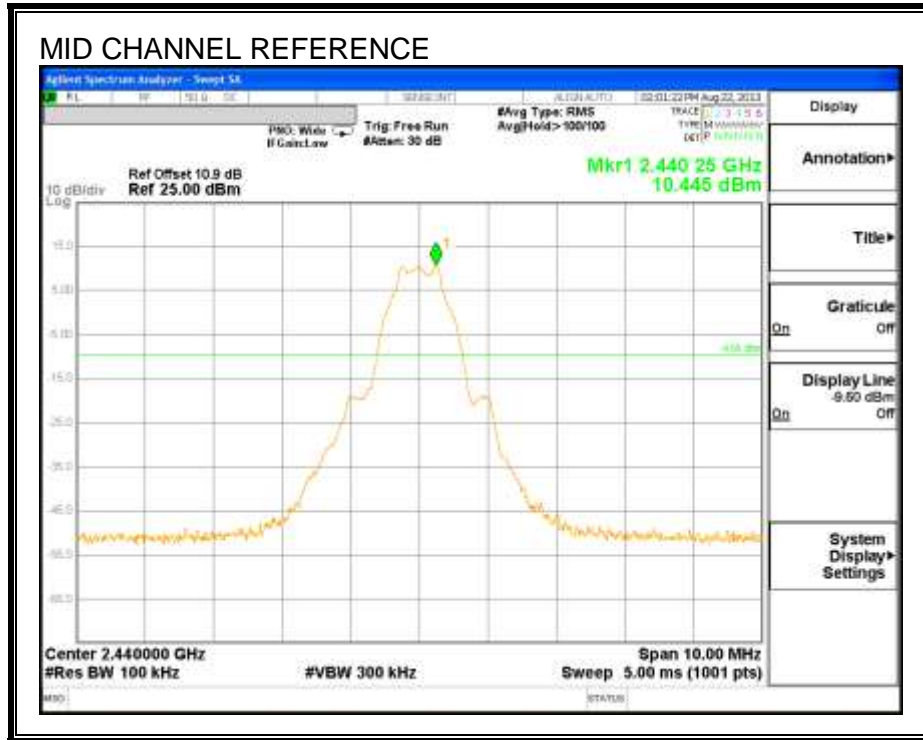
KDB 558074 D01 v01 "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under 15.247".

RESULTS

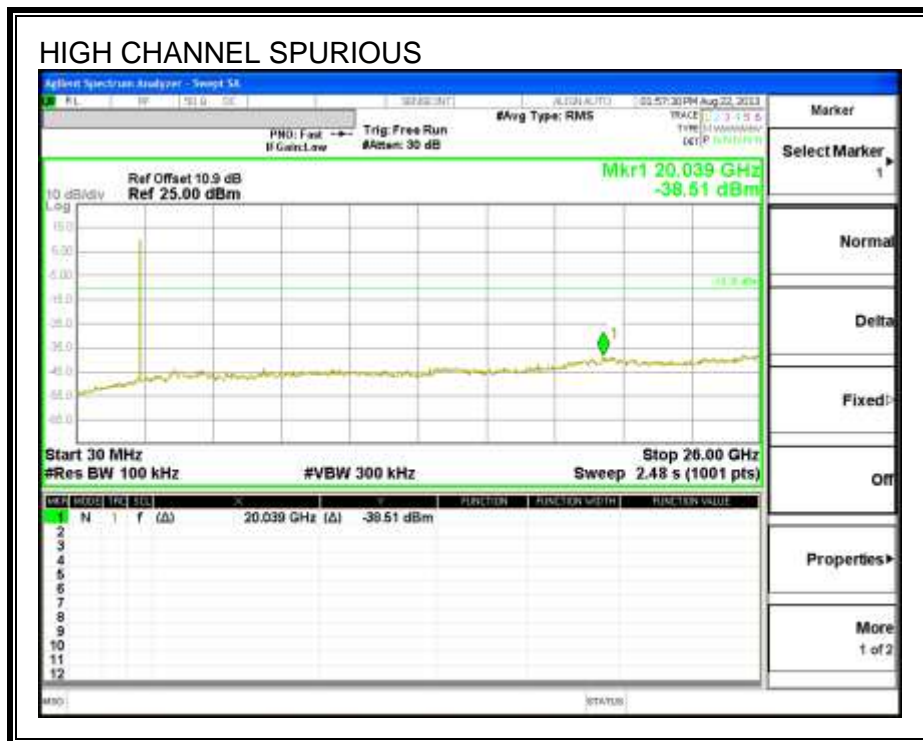
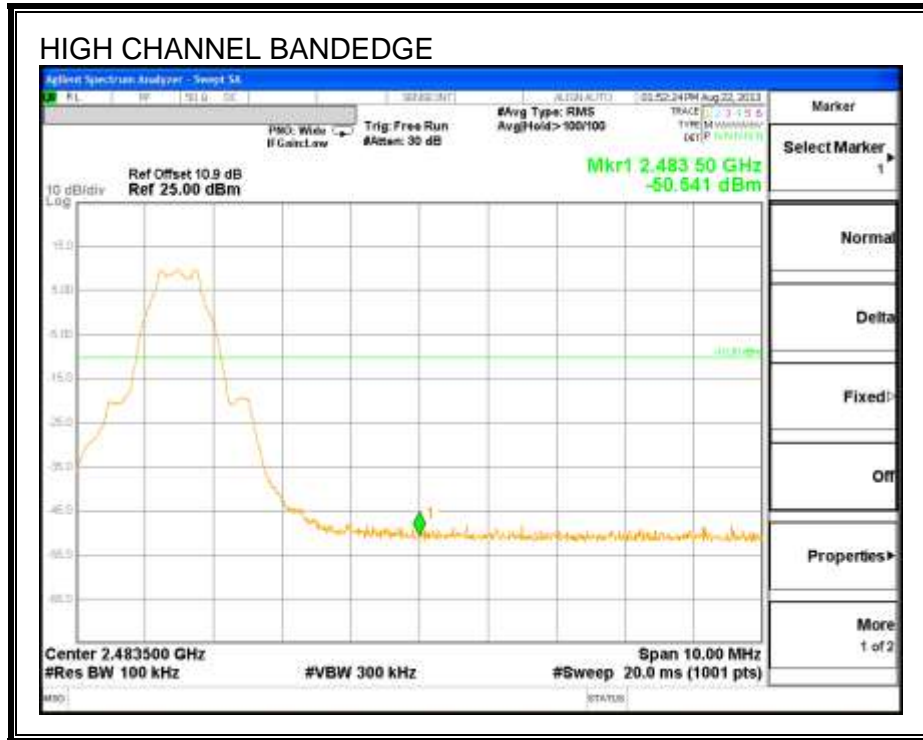
SPURIOUS EMISSIONS, LOW CHANNEL



SPURIOUS EMISSIONS, MID CHANNEL



SPURIOUS EMISSIONS, HIGH CHANNEL



9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

| 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 C63.4. 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.

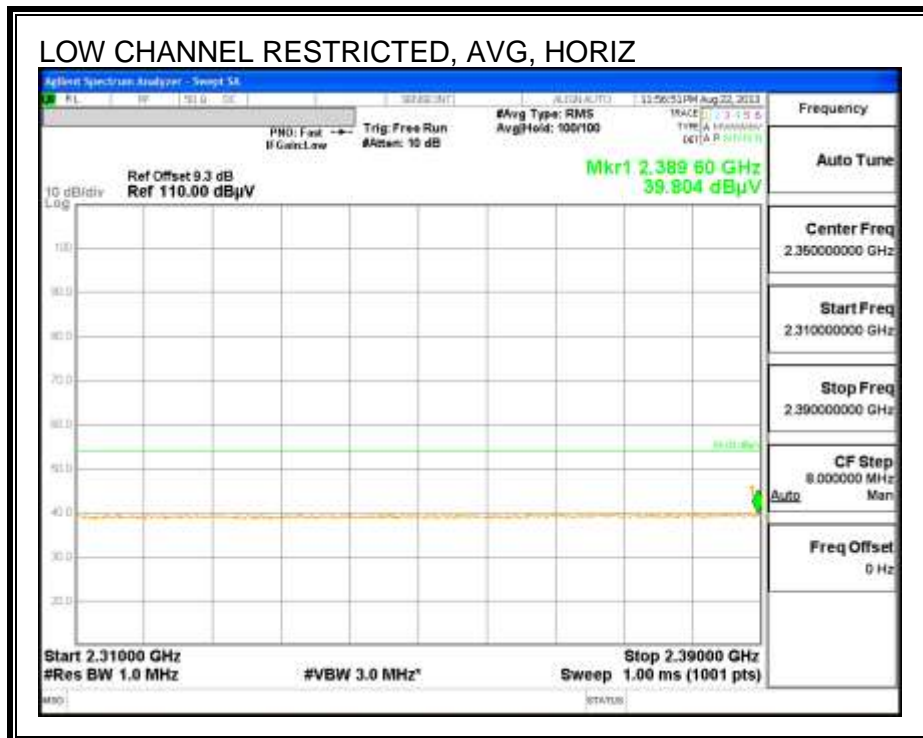
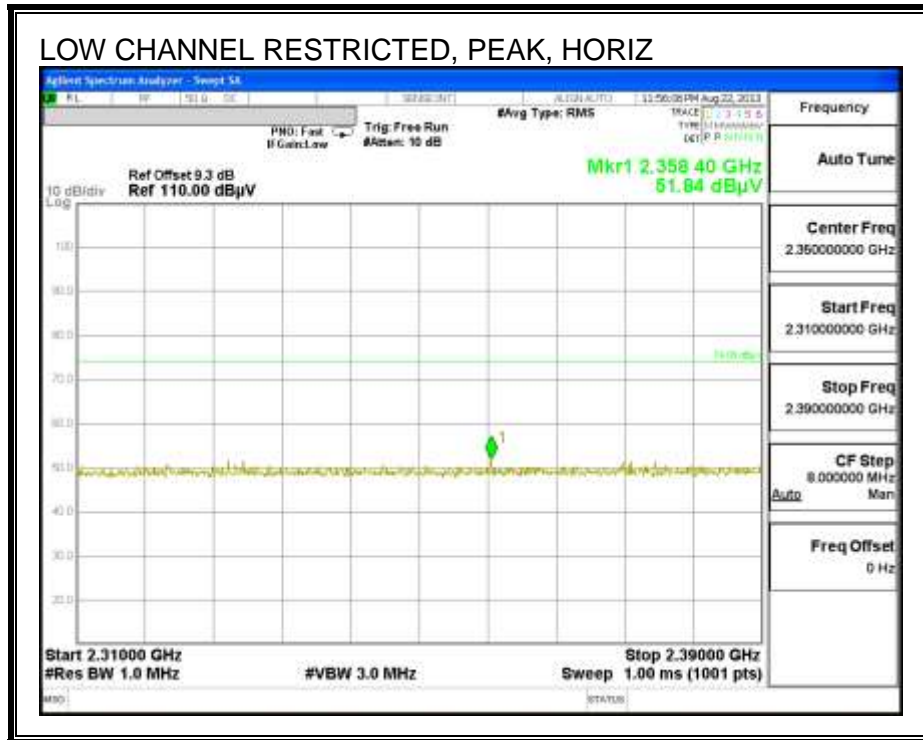
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

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.

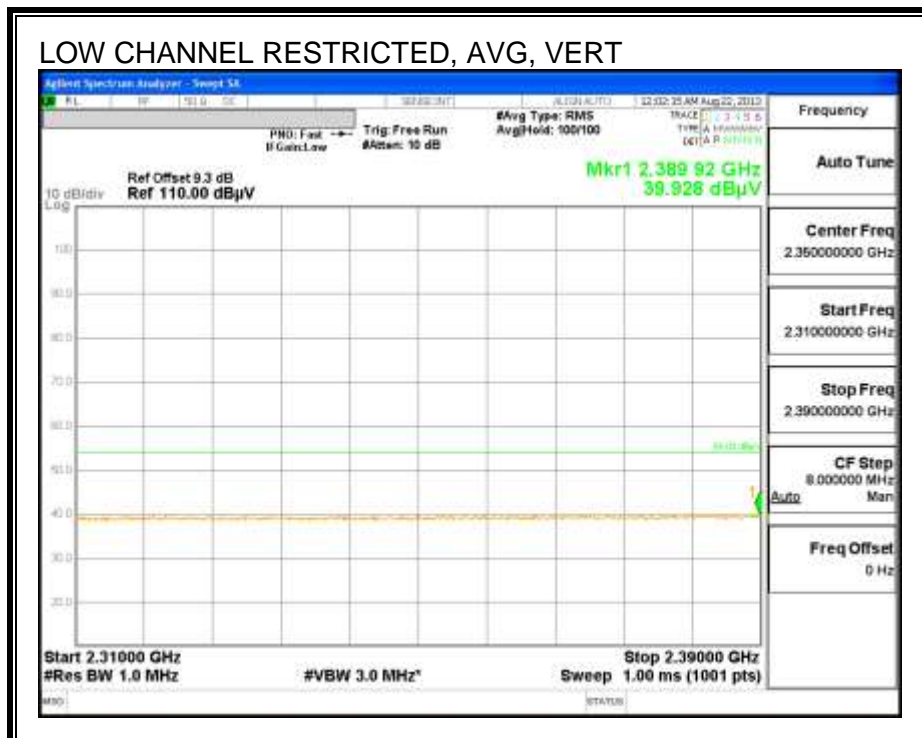
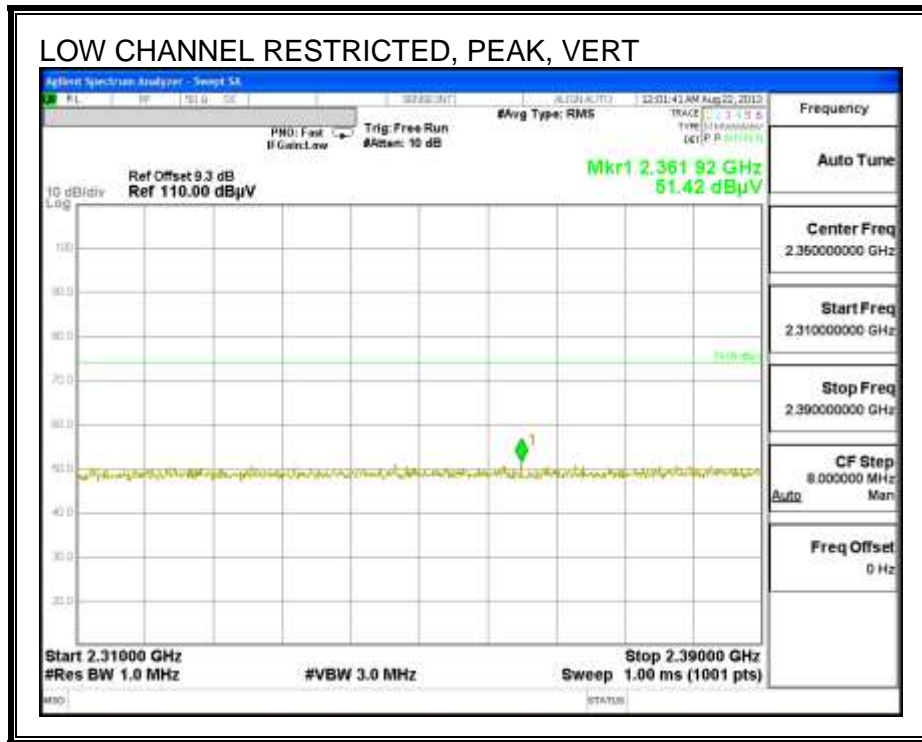
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

9.2. TRANSMITTER ABOVE 1 GHz

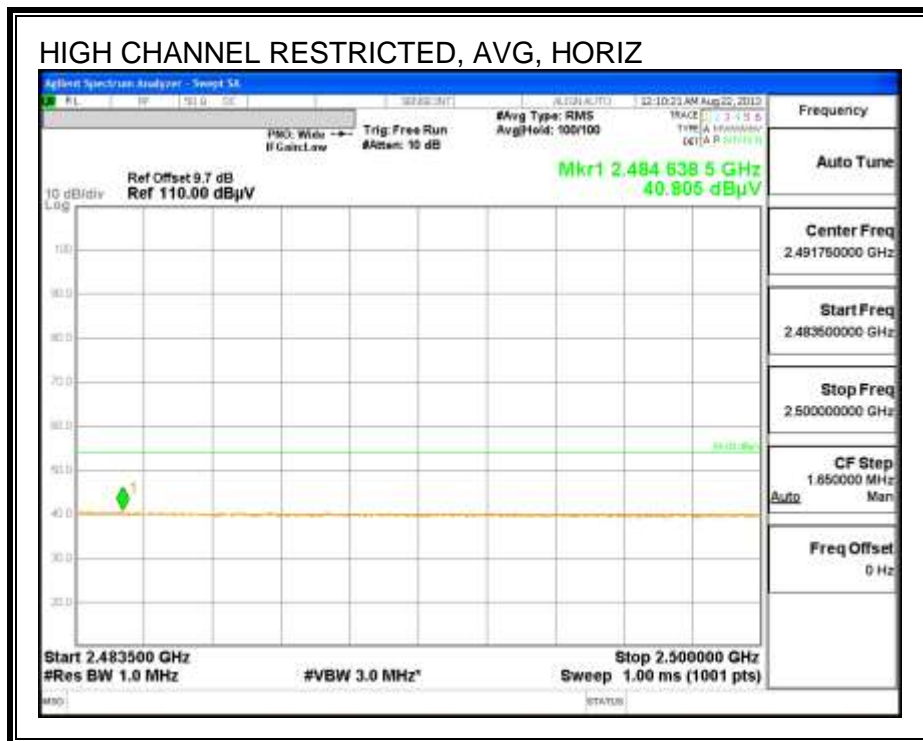
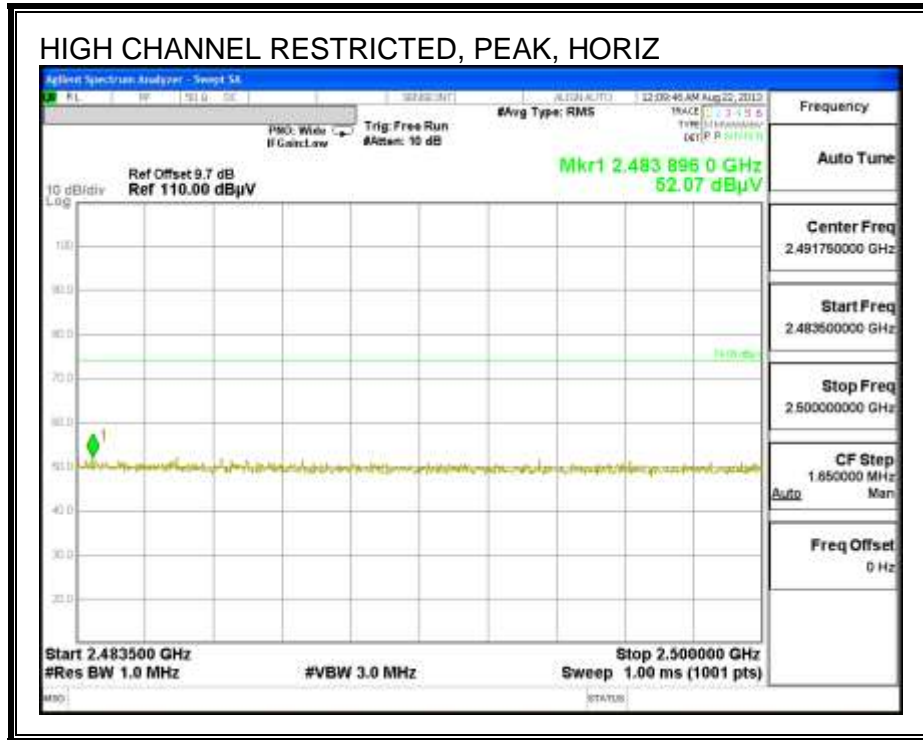
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



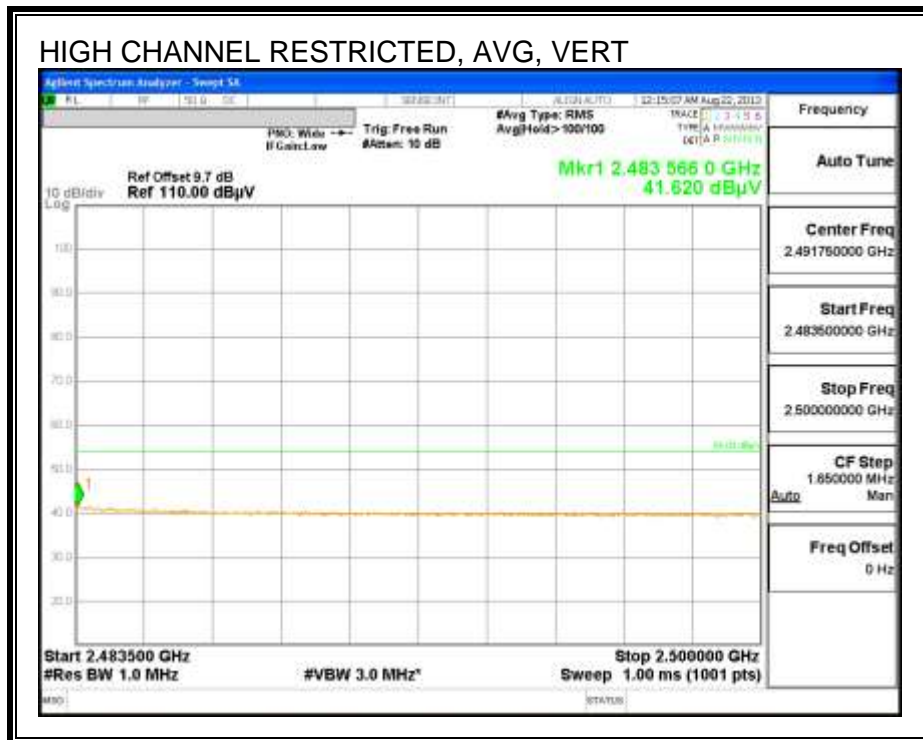
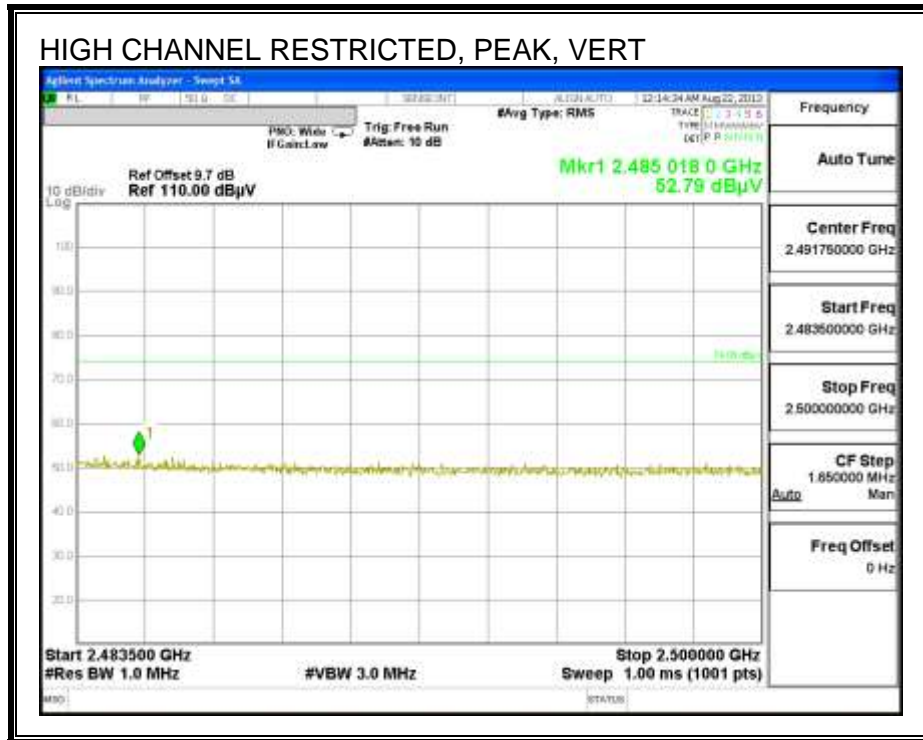
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



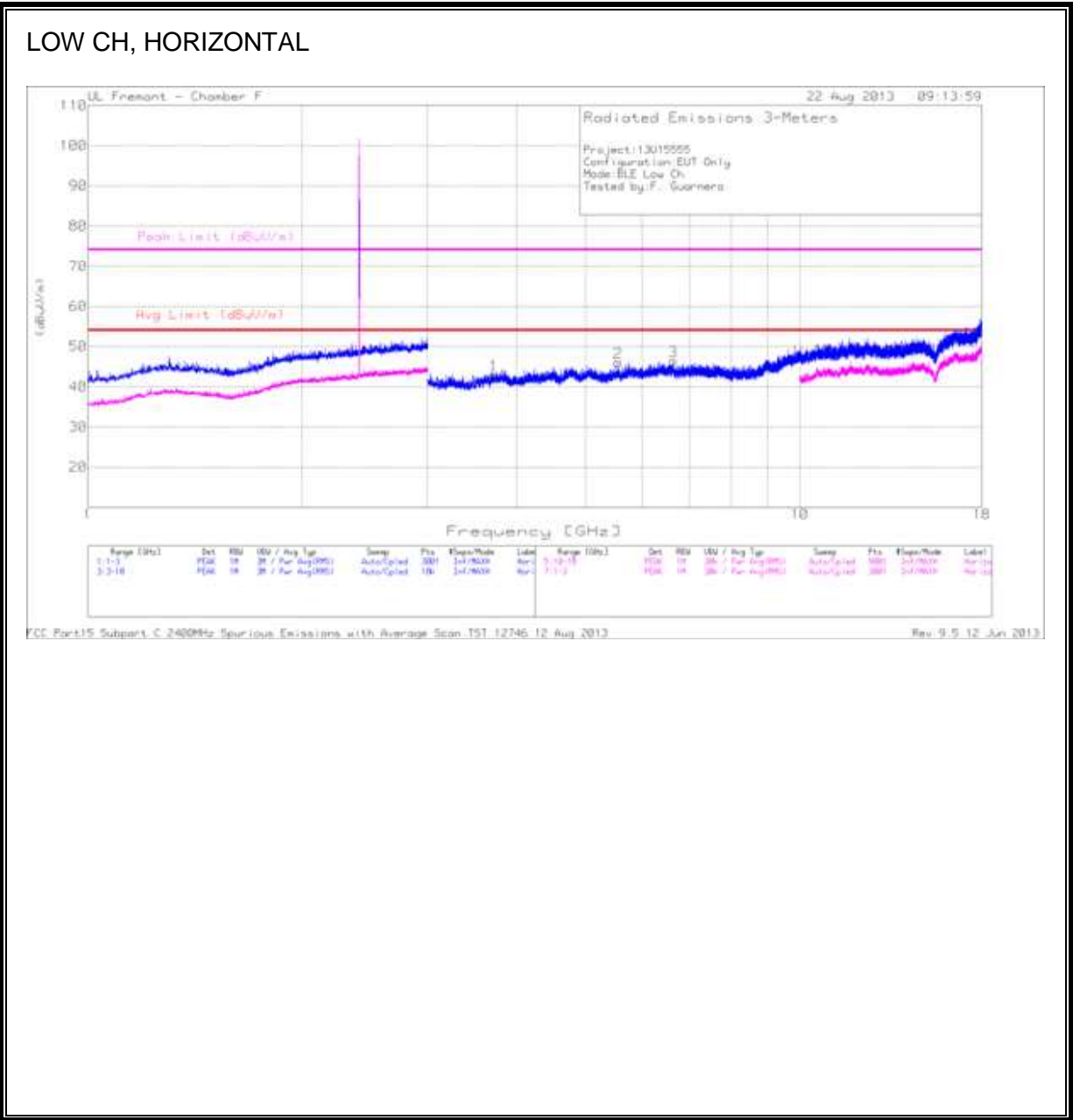
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



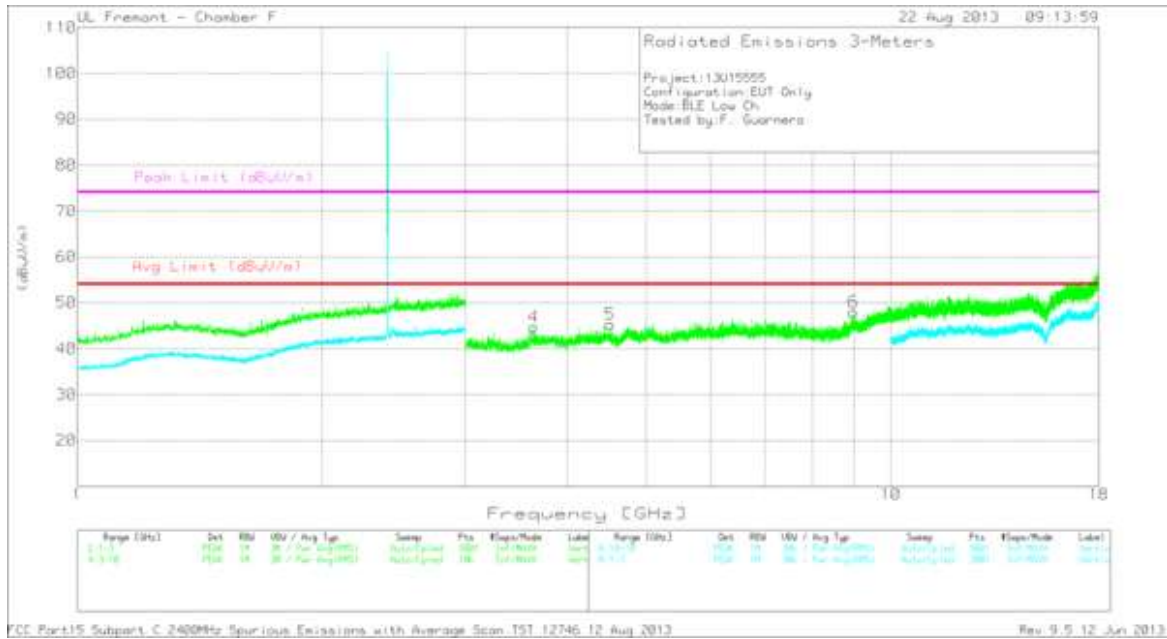
RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS



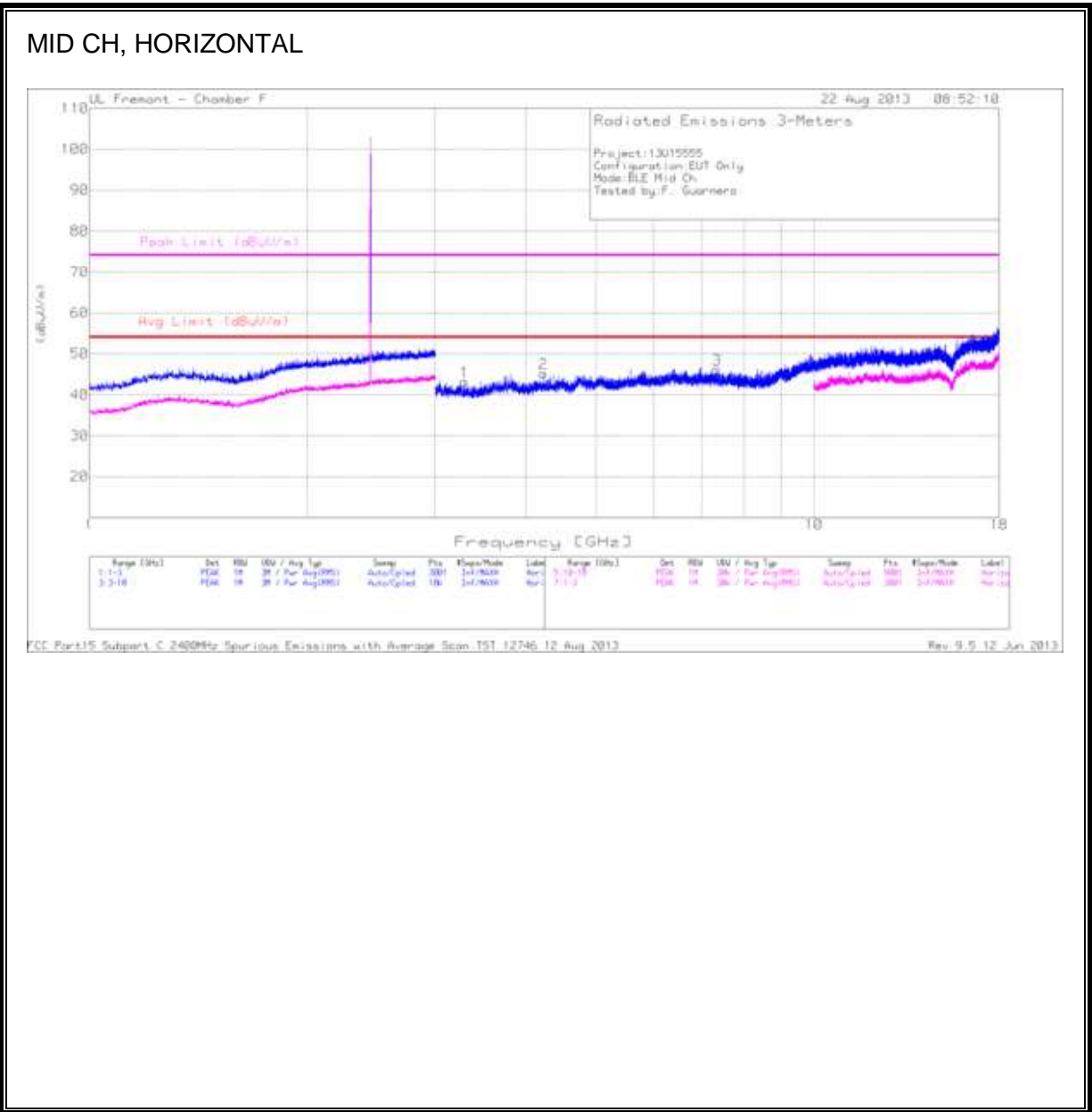
LOW CH, VERTICAL

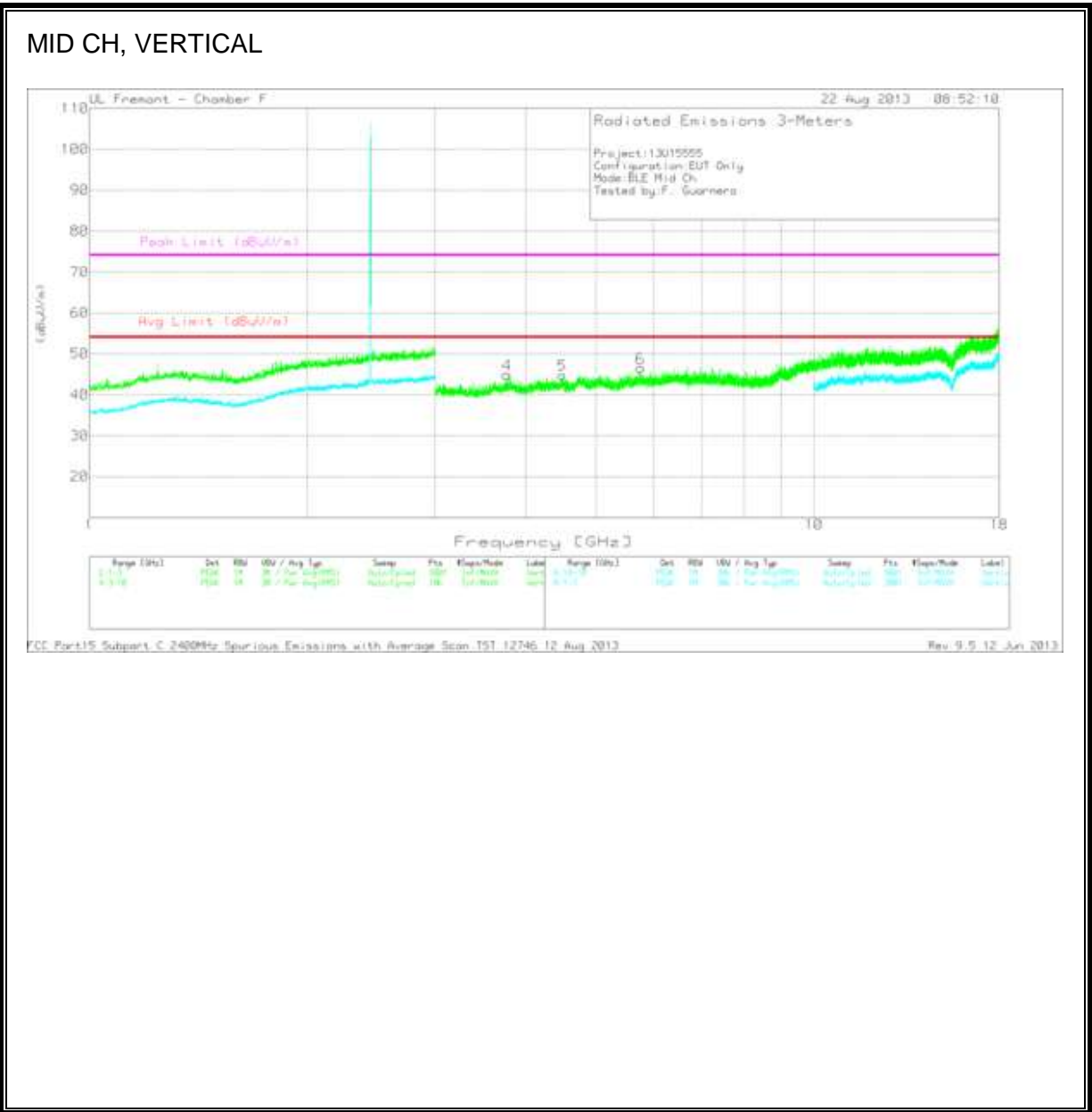


DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T120 (dB/m) | Amp/Cbl /Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|--------------------|----------------------------|-----|-------------------|-------------------------------|----------------------------------|-----------------------|----------------|---------------------------|----------------|-------------------|----------------|----------|
| 1 | 3.717 | 38.92 | PK | 33.5 | -29.5 | 42.92 | 53.97 | -11.05 | 74 | -31.08 | 0-360 | 199 | H |
| 2 | *5.556 | 40.18 | PK | 34.7 | -28.9 | 45.98 | --- | --- | --- | --- | 0-360 | 100 | H |
| 3 | *6.637 | 37.66 | PK | 35.8 | -27.1 | 46.36 | --- | --- | --- | --- | 0-360 | 100 | H |
| 4 | 3.638 | 40.68 | PK | 33.7 | -29.7 | 44.68 | 53.97 | -9.29 | 74 | -29.32 | 0-360 | 201 | V |
| 5 | 4.516 | 39.28 | PK | 34 | -28 | 45.28 | 53.97 | -8.69 | 74 | -28.72 | 0-360 | 201 | V |
| 6 | *8.996 | 35.89 | PK | 36.3 | -24.2 | 47.99 | --- | --- | --- | --- | 0-360 | 201 | V |

* Not in the Restricted Band



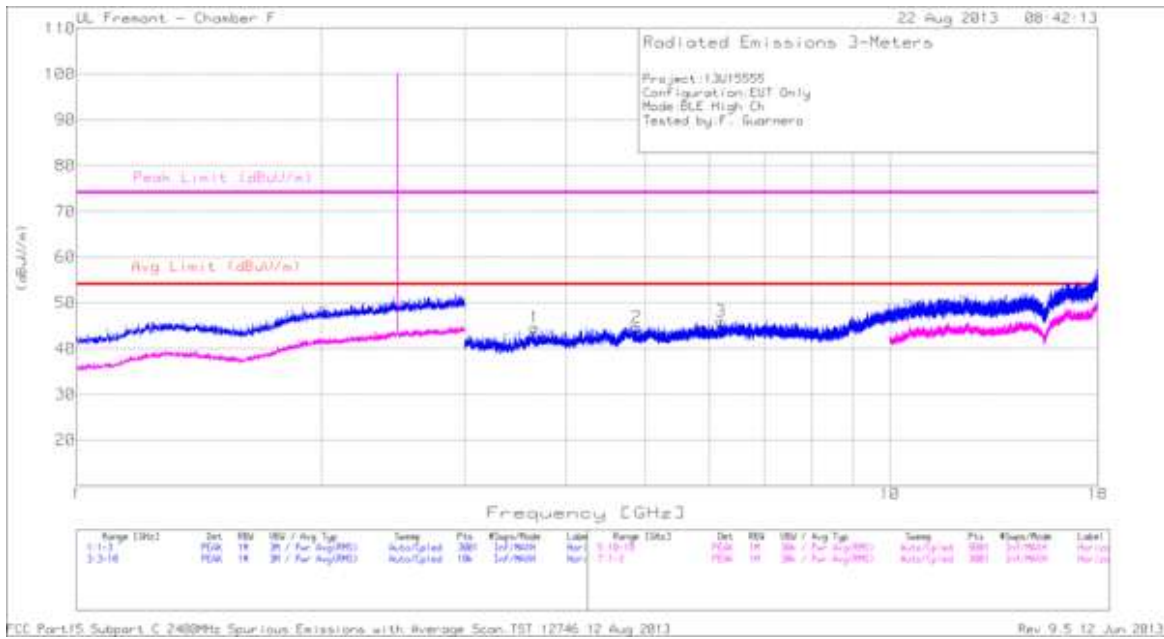


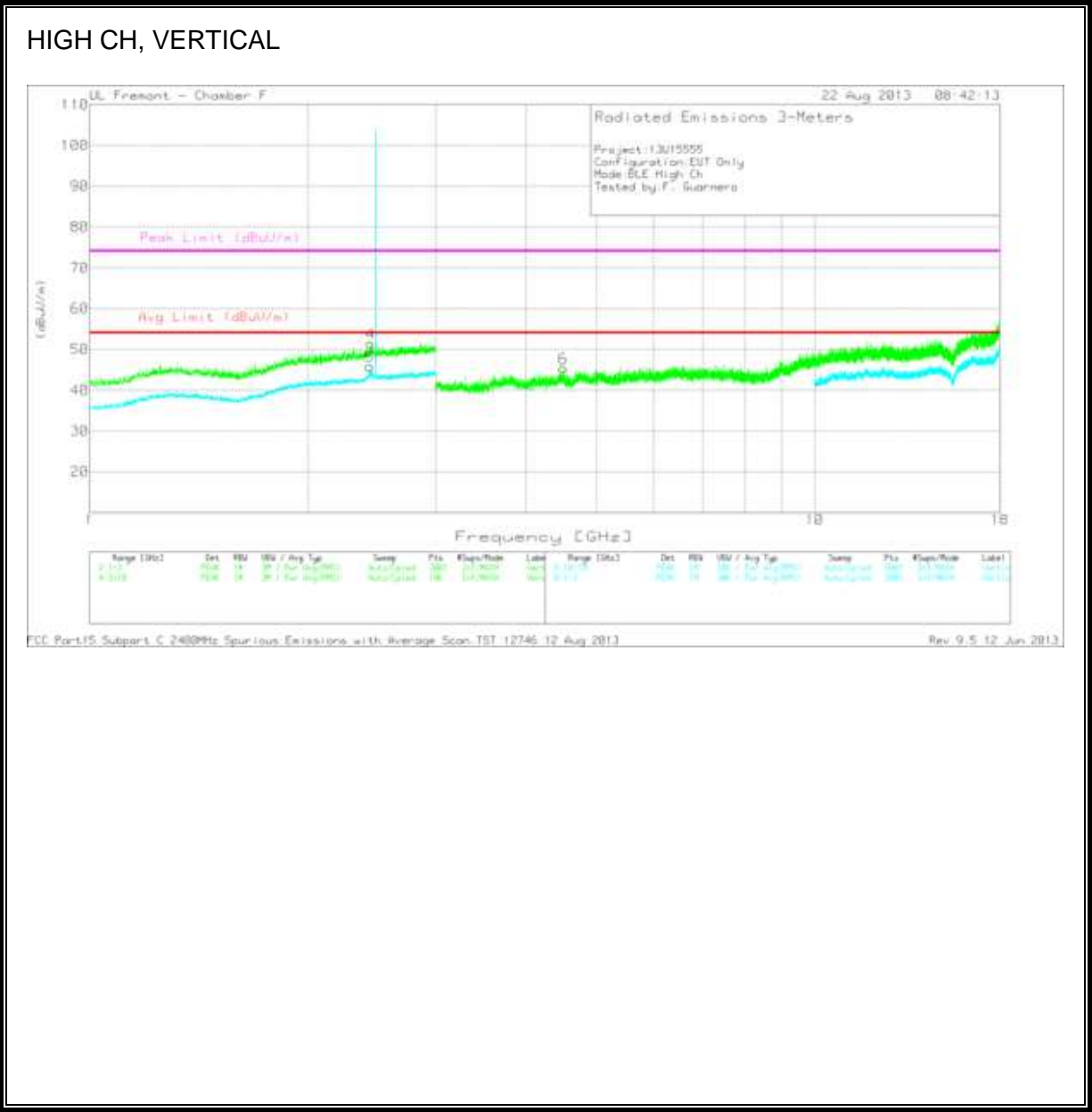
DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T120 (dB/m) | Amp/Cbl /Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/ m) | Margin (dB) | Peak Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|--------------------|----------------------------|-----|-------------------|-------------------------------|----------------------------------|------------------------------|----------------|------------------------|----------------|-------------------|----------------|----------|
| 1 | 3.292 | 39.4 | PK | 33.1 | -29.3 | 43.2 | 53.97 | -10.77 | 74 | -30.8 | 0-360 | 199 | H |
| 2 | 4.232 | 40.83 | PK | 33.4 | -29 | 45.23 | 53.97 | -8.74 | 74 | -28.77 | 0-360 | 100 | H |
| 3 | 7.341 | 37.8 | PK | 35.7 | -27.3 | 46.2 | 53.97 | -7.77 | 74 | -27.8 | 0-360 | 199 | H |
| 4 | 3.768 | 40.59 | PK | 33.6 | -29.3 | 44.89 | 53.97 | -9.08 | 74 | -29.11 | 0-360 | 100 | V |
| 5 | 4.496 | 39.05 | PK | 33.9 | -28.1 | 44.85 | 53.97 | -9.12 | 74 | -29.15 | 0-360 | 100 | V |
| 6 | *5.759 | 38.6 | PK | 35 | -27.1 | 46.5 | --- | --- | --- | --- | 0-360 | 200 | V |

* Not in the Restricted Band

HIGH CH, HORIZONTAL





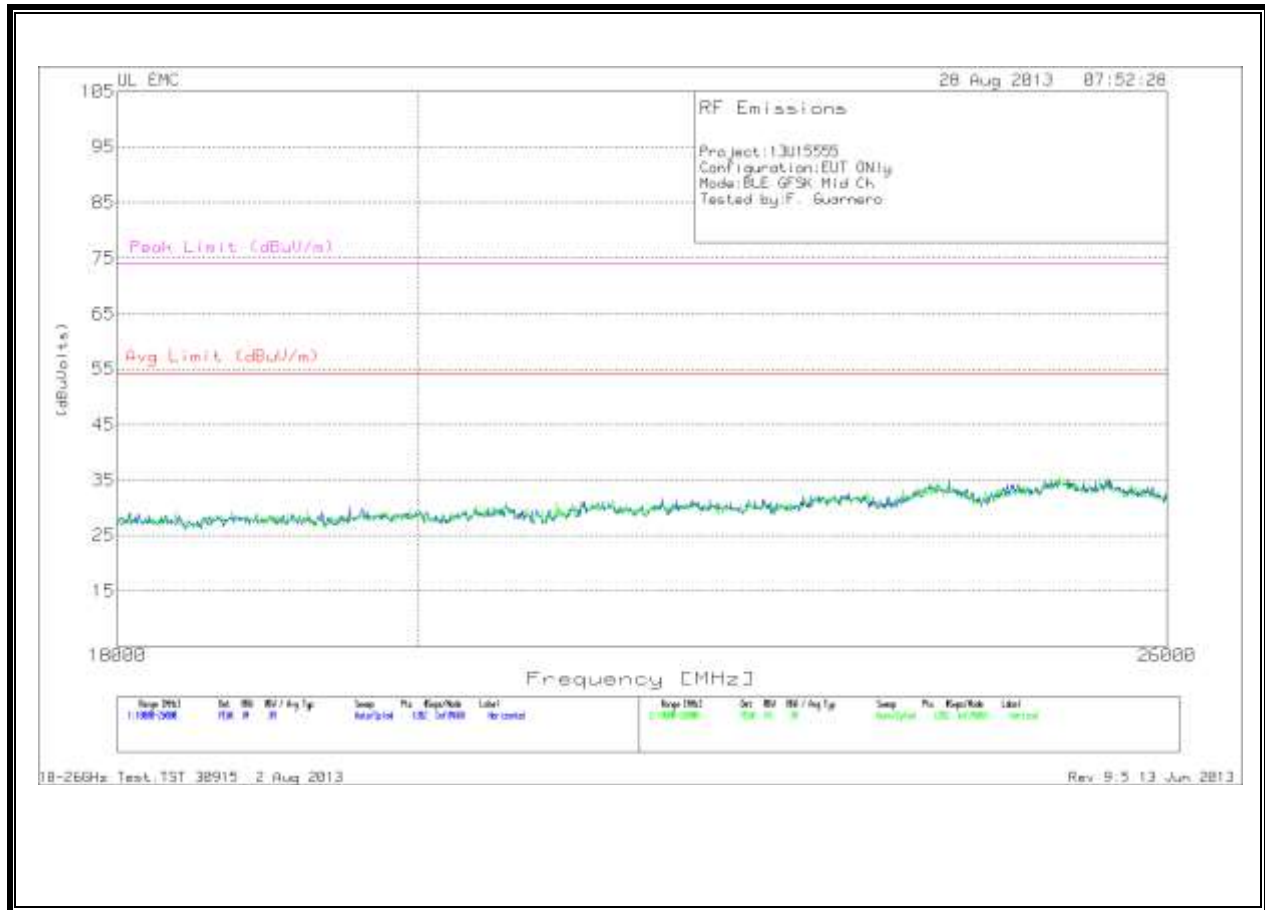
DATA

| Marker | Frequency (GHz) | Meter Reading (dBuV) | Det | AF T120 (dB/m) | Amp/Cbl /Filtr/Pad (dB) | Corrected Reading (dBuV/m) | Avg Limit (dBuV/m) | Margin (dB) | Peak Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|--------------------|----------------------------|-----|-------------------|-------------------------------|----------------------------------|-----------------------|----------------|---------------------------|----------------|-------------------|----------------|----------|
| 1 | 3.658 | 40.58 | PK | 33.6 | -29.6 | 44.58 | 53.97 | -9.39 | 74 | -29.42 | 0-360 | 101 | H |
| 2 | 4.885 | 39.14 | PK | 34 | -28.5 | 44.64 | 53.97 | -9.33 | 74 | -29.36 | 0-360 | 201 | H |
| 3 | *6.197 | 38.56 | PK | 35.5 | -28.1 | 45.96 | -- | -- | -- | -- | 0-360 | 101 | H |
| 4 | *2.441 | 41.87 | PK | 32.3 | -22.7 | 51.47 | -- | -- | -- | -- | 0-360 | 100 | V |
| 6 | 4.502 | 39.05 | PK | 33.9 | -28.1 | 44.85 | 53.97 | -9.12 | 74 | -29.15 | 0-360 | 100 | V |
| 5 | *2.435 | 36.39 | PK | 32.3 | -22.8 | 45.89 | -- | -- | -- | -- | 0-360 | 201 | V |

* Not in the Restricted Band

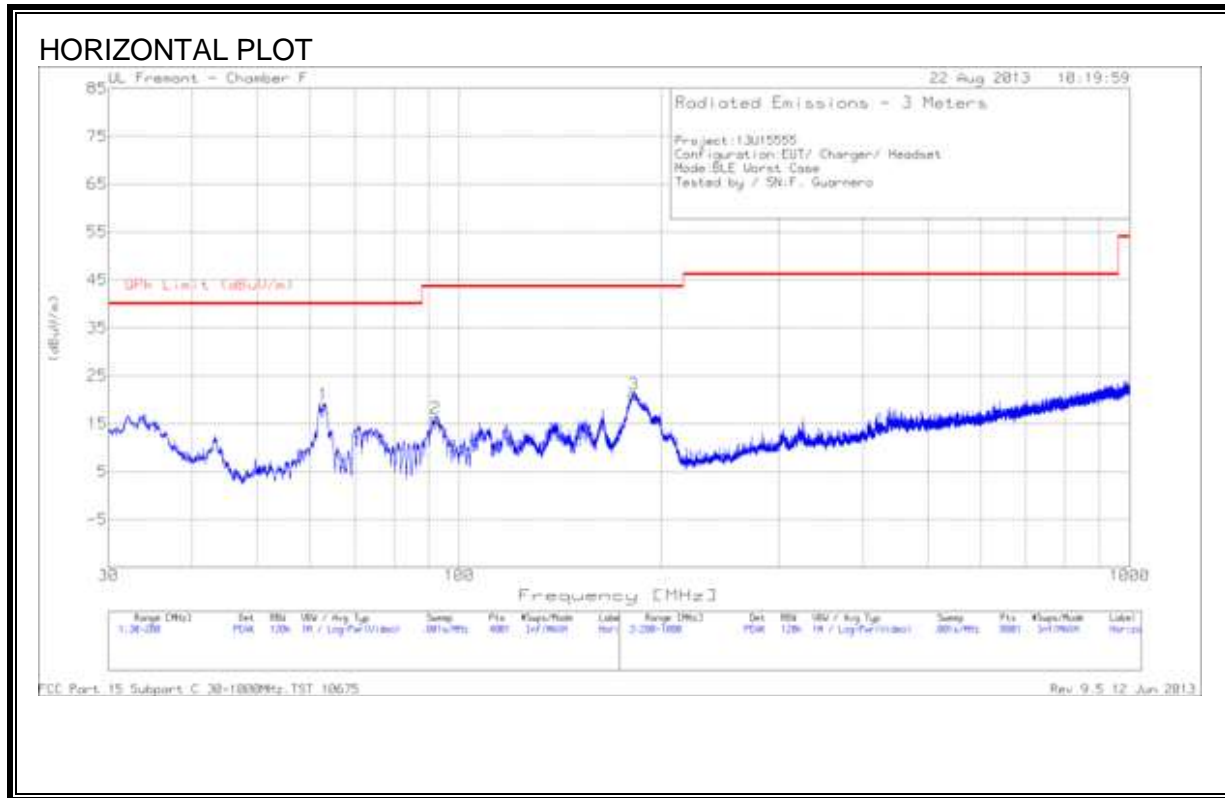
9.3. WORST-CASE ABOVE 18 GHz

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

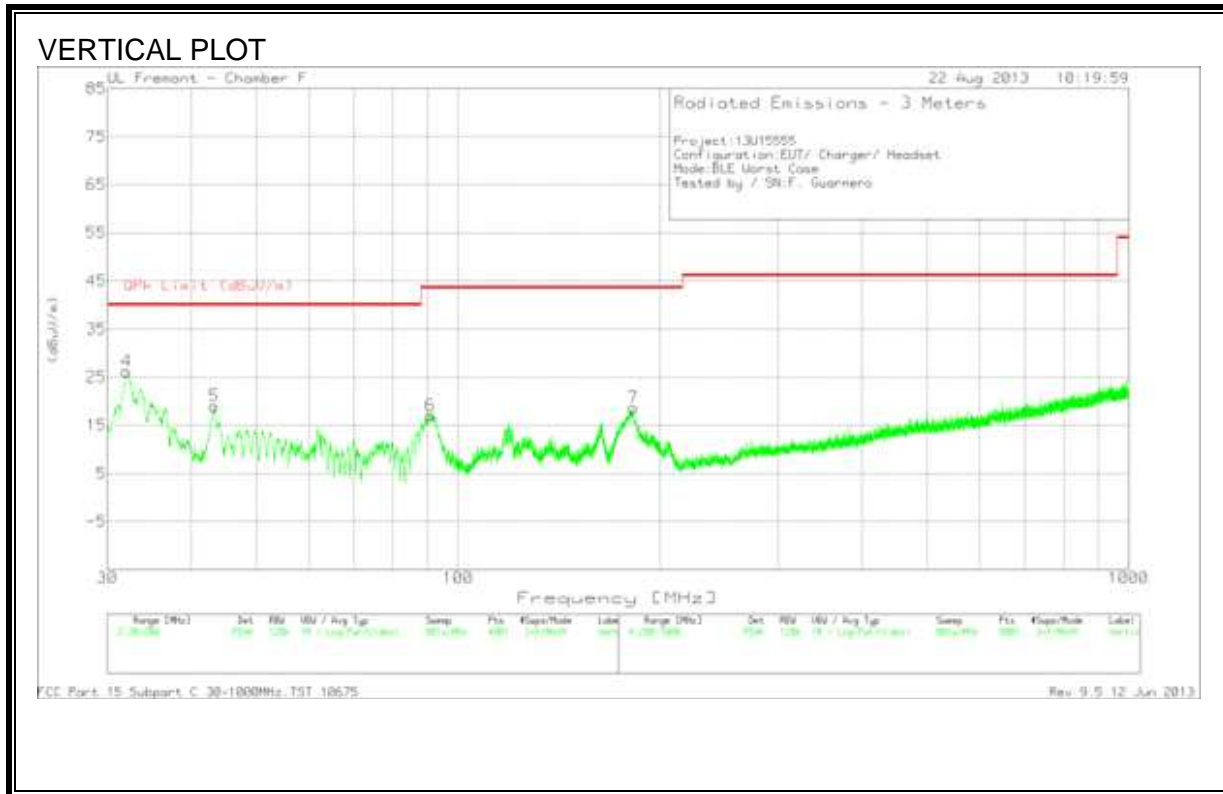


9.4. WORST-CASE BELOW 1 GHz

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



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



DATA

| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | AF T122 (dB/m) | Amp/Cbl (dB) | Corrected Reading (dBuV/m) | QPk Limit (dBuV/m) | Margin (dB) | Azimuth (Degs) | Height (cm) | Polarity |
|--------|--------------------|----------------------------|-----|-------------------|-----------------|----------------------------------|-----------------------|-------------|-------------------|----------------|----------|
| 1 | 62.7675 | 43.1 | PK | 7.7 | -31.9 | 18.9 | 40 | -21.1 | 0-360 | 200 | H |
| 2 | 92.2625 | 39.46 | PK | 8.3 | -31.6 | 16.16 | 43.52 | -27.36 | 0-360 | 200 | H |
| 3 | 182.1075 | 41.23 | PK | 11.1 | -31.2 | 21.13 | 43.52 | -22.39 | 0-360 | 200 | H |
| 4 | 32.04 | 38.53 | PK | 19.8 | -32.1 | 26.23 | 40 | -13.77 | 0-360 | 100 | V |
| 5 | 43.3025 | 39.58 | PK | 11.4 | -32 | 18.98 | 40 | -21.02 | 0-360 | 100 | V |
| 6 | 90.9875 | 40.66 | PK | 8 | -31.6 | 17.06 | 43.52 | -26.46 | 0-360 | 100 | V |
| 7 | 182.49 | 38.79 | PK | 11.1 | -31.2 | 18.69 | 43.52 | -24.83 | 0-360 | 100 | V |

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

| 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

ANSI C63.4

RESULTS

Line-L1 .15 - 30MHz

Trace Markers

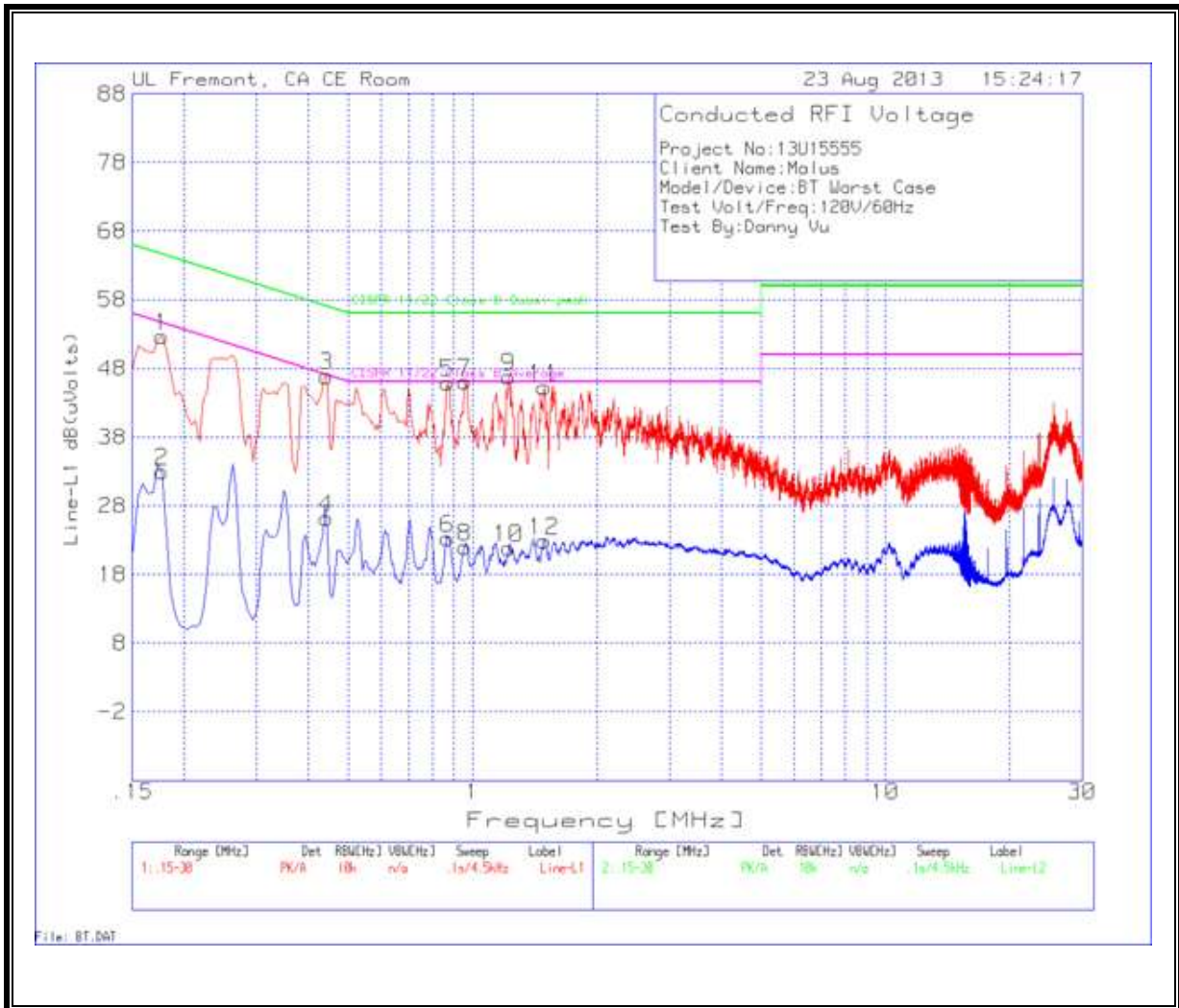
| Marker | Frequency (MHz) | Meter Reading (dBuV) | Det | T24 IL L1 (dB) | LC Cables 1&3 (dB) | Corrected Reading dB(uVolts) | CISPR 11/22 Class B Quasi-peak | Margin to Limit (dB) | CISPR 11/22 Class B Average | Margin to Limit (dB) |
|--------|-----------------|----------------------|-----|----------------|--------------------|------------------------------|--------------------------------|----------------------|-----------------------------|----------------------|
| 1 | .177 | 52.59 | PK | .1 | 0 | 52.69 | 64.6 | -11.91 | - | - |
| 2 | .177 | 32.86 | Av | .1 | 0 | 32.96 | - | - | 54.6 | -21.64 |
| 3 | .4425 | 46.78 | PK | .1 | 0 | 46.88 | 57 | -10.12 | - | - |
| 4 | .4425 | 26.14 | Av | .1 | 0 | 26.24 | - | - | 47 | -20.76 |
| 5 | .87 | 45.8 | PK | .1 | 0 | 45.9 | 56 | -10.1 | - | - |
| 6 | .87 | 23.12 | Av | .1 | 0 | 23.22 | - | - | 46 | -22.78 |
| 7 | .96 | 45.95 | PK | .1 | 0 | 46.05 | 56 | -9.95 | - | - |
| 8 | .96 | 21.94 | Av | .1 | 0 | 22.04 | - | - | 46 | -23.96 |
| 9 | 1.2255 | 46.58 | PK | .1 | .1 | 46.78 | 56 | -9.22 | - | - |
| 10 | 1.2255 | 21.61 | Av | .1 | .1 | 21.81 | - | - | 46 | -24.19 |
| 11 | 1.491 | 45.05 | PK | .1 | .1 | 45.25 | 56 | -10.75 | - | - |
| 12 | 1.491 | 22.67 | Av | .1 | .1 | 22.87 | - | - | 46 | -23.13 |

Line-L2 .15 - 30MHz

Trace Markers

| Marker | Frequency (MHz) | Meter Reading (dBUV) | Det | T24 IL L2 (dB) | LC Cables 2&3 (dB) | Corrected Reading dB(uVolts) | CISPR 11/22 Class B Quasi-peak | Margin to Limit (dB) | CISPR 11/22 Class B Average | Margin to Limit (dB) |
|--------|-----------------|----------------------|-----|----------------|--------------------|------------------------------|--------------------------------|----------------------|-----------------------------|----------------------|
| 13 | .177 | 54.56 | PK | .1 | 0 | 54.66 | 64.6 | -9.94 | - | - |
| 14 | .177 | 29.55 | Av | .1 | 0 | 29.65 | - | - | 54.6 | -24.95 |
| 15 | .438 | 48.54 | PK | .1 | 0 | 48.64 | 57.1 | -8.46 | - | - |
| 16 | .438 | 27.91 | Av | .1 | 0 | 28.01 | - | - | 47.1 | -19.09 |
| 17 | .87 | 47.63 | PK | .1 | 0 | 47.73 | 56 | -8.27 | - | - |
| 18 | .87 | 28.38 | Av | .1 | 0 | 28.48 | - | - | 46 | -17.52 |
| 19 | .9555 | 47.18 | PK | .1 | 0 | 47.28 | 56 | -8.72 | - | - |
| 20 | .9555 | 26.56 | Av | .1 | 0 | 26.66 | - | - | 46 | -19.34 |
| 21 | 1.203 | 49.12 | PK | .1 | .1 | 49.32 | 56 | -6.68 | - | - |
| 22 | 1.203 | 28.09 | Av | .1 | .1 | 28.29 | - | - | 46 | -17.71 |
| 23 | 1.491 | 46.86 | PK | .1 | .1 | 47.06 | 56 | -8.94 | - | - |
| 24 | 1.491 | 29.46 | Av | .1 | .1 | 29.66 | - | - | 46 | -16.34 |

LINE 1 RESULTS



LINE 2 RESULTS

