

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010

TEST REPORT**Report Number: 3077009LAX-001****Project Number: 3077009****August 25, 2005****Testing performed on the
Wireless Video Transmitter****FCC ID: PO288CE-T010****Model: CE-T010**

to

FCC Part 15.249**For
Chang Industry, Inc.**

A2LA Certificate Number: 2085-01

Test Performed by:

Intertek

27611 La Paz Road., Suite C
Laguna Niguel, CA 92677

Test Authorized by:

Chang Industry, Inc.

1925 McKinley Ave. Suite F
La Verne, CA 91750

Prepared by:

A handwritten signature in black ink, appearing to read 'S. Marker', written over a horizontal line.
Sergey Marker

Date: August 25, 2005

Reviewed by:

A handwritten signature in blue ink, appearing to read 'Ollie Moyrong', written over a horizontal line.
Ollie Moyrong

Date: August 26, 2005

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1.0 Summary of Test Results

| FCC RULE | DESCRIPTION OF TEST | RESULT | PAGE |
|--------------|--|---|--------|
| 15.249a | Field Strength of fundamental | Worst case: 91.6 dB(μ V/m) Margin: 2.4 dB | 11 |
| 15.249a | Field Strength of harmonics | Worst case: 46.2 dB(μ V/m) @ 9140 MHz. Margin: 7.8 dB | 11 |
| 15.249c | Radiated emissions outside the band, except harmonics. | Worst case: 38.8 dB(μ V/m) @ 601.4 MHz Margin: 7.2 dB | 18 |
| 15.203 | Antenna requirement | Complies | 29 |
| 15.107 / 207 | Line Conducted Emissions | N/A | |
| 15.109 / 209 | Radiated Emission | Worst case: 38.8 dB(μ V/m) @ 601.4 MHz Margin: 7.2 dB(μ V/m) | 14, 16 |

We attest to the accuracy of this report:

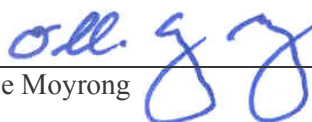
EMC Department

Date of issue: August 25, 2005

Test Engineer:


Sergey Marker

Reviewing Engineer:


Ollie Moyrong

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010

2.0 General Description**2.1 Product Description***EQUIPMENT UNDER TEST**Type of equipment* Wireless Video Transmitter*Type/Model* CE-T010*EUT description**Video Camera :*

- 1/3-inch CCD Image Sensor
- Resolution: Horizontal 420 TV lines
- Sensitivity: 0.05 LUX
- Automatic Exposure Control
- Pinhole Lens, 90° Field of View

RF Transmitter:

- Type of Emission: F3F
- Frequency: 900 MHz ISM Band.
- Can be configured to operate on one of four fixed frequencies: 909, 914, 919, 924 MHz
- Output Power: 0 dBm
- Modulation: FM
- Antennas: ¼ Wave Vertical Antenna (permanently attached)
- Batteries: Up to 4 hours of continuous operation with Lithium Polymer Pack

Manufacturer Chang Industry, Inc.
1925 McKinley Ave. Suite F
La Verne, CA 91750*Tested by request of* Mr. Steve Spears
Tel: 909-596-7888
Fax: 909-596-8388*Standards:* FCC Part 15.249*Test Report No.* 3077009LAX-001*FCC ID:* PO288CE-T010

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2.2 Related Submittal(s) Grants

This report is for use with an application for certification of a low power transmitter. One transmitter is included in the application. This specific report details the emission characteristics of transmitter.

2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2003). Radiated emission measurements were performed in 10 m OATS. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the **"Justification Section"** of this Application.

2.4 Test Facility

The test facility was a specially designed and constructed Open Area Test Site (OATS).

Test site included a metal ground plane constructed of 22-gauge sheet metal. It contained a 2.5 meter diameter turntable for floor standing equipment, and a fiber glass table measuring 1.5 x 1.5 x 0.8 meters for table top equipment. To facilitate testing, also it has heat and air conditioning systems to control environmental test conditions.

This test facility and site measurement data have been fully placed on file with the FCC, Industry of Canada and A2LA accredited.

Test Facility: Intertek ETL Semko
27611 La Paz Road, Suite C
Laguna Niguel, CA 92677

Accreditations:

FCC Registration Number: 90711
A2LA Certificate Number: 2085-01
IC Reference Number: IC 3753

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3.0 System Test Configuration

3.1 Justification

For emission testing, the equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). During testing, all cables were manipulated to produce worst case emissions.

For the measurements, the EUT is attached to a cardboard box (if necessary) and placed on the fiber glass turntable. If the EUT attaches to peripherals, they are connected and operational (as typical as possible). The EUT is wired to transmit full power.

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters.

Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance. All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance.

3.2 EUT Exercising Software

No software was required to exercise the EUT.

3.3 System Test Configuration

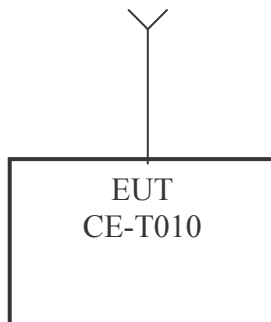
3.3.1 Support Equipment

No support equipment was required to operate the EUT.

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3.3.2 Block Diagram of Test Setup



| | | |
|--------------------|----------------------|-----------------------------|
| S: Shielded | U: Unshielded | F: With Ferrite Core |
|--------------------|----------------------|-----------------------------|

| Support Equipment | | | | | |
|-------------------|-----------|--------------|---------|-------|--------|
| Equip.# | Equipment | Manufacturer | Model # | S/N # | FCC ID |
| None | | | | | |

3.4 Equipment Modification

None

3.5 Mode(s) of operation

The EUT was powered from fully charged batteries. During the tests EUT was operating at continuous transmitting mode

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4.0 Field Strength of Emission

4.1 Test Description

| | |
|-------------------|---------------------|
| Parameter: | FCC 15.249a |
| Requirement: | FCC 15.249a |
| Fundamental: | Limit 94 dB μ V |
| Harmonics: | Limit 54 dB μ V |

4.1.1 Test Procedure

For the measurements, the EUT is attached to a cardboard box (if necessary) and placed on the wooden turntable which is 0.8 m above the ground plane on the open test site. If the EUT attaches to peripherals, they are connected and operational (as typical as possible). The EUT is wired to transmit full power. The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance. All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Radiated emission measurements were performed from 30 MHz to the 10th harmonic of transmitter frequency. Analyzer resolution is 120 KHz for 30 to 1000 MHz, 1 MHz for >1000 MHz. This test was performed per test procedure specified in ANSI C63.4 (2003).

4.1.2 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with antennas, cables, preamplifiers (if any) and average factors (when specified limits is in average and measurements are made with peak detectors) The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - AG + AV$$

where FS = Field Strength in dB(μ V/m)

RA = Receiver Amplitude in dB(μ V)

CF = Cable Attenuation Factor in dB

AF = Antenna Factor in dB/m

AG = Amplifier Gain in dB

Assume a receiver reading of 52.0 dB(μ V) is obtained. The antenna factor of 7.4 dB/m and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dB(μ V/m).

$$RA = 52 \text{ dB}(\mu\text{V})$$

$$CF = 1.6 \text{ dB}$$

$$AF = 7.4 \text{ dB/m}$$

$$AG = 29 \text{ dB}$$

$$FS = 52 + 7.4 + 1.6 - 29 = 32 \text{ dB}(\mu\text{V/m})$$

This value in dB(μ V/m) was converted to its corresponding level in μ V/m.

Level in μ V/m = Common Antilogarithm $\{[32 \text{ dB}(\mu\text{V/m})]/20\} = 39.8 \mu\text{V/m}$

Note: In the following table(s), the level shown on the data table includes the antenna factor, cable factor and preamplifier gain.

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4.1.3 Radiated Emission Data

Standard: FCC Part 15.249a

Measurement Uncertainty: 3.92dB

Company: Chang Industry, Inc.

Temperature: 24°C

Job No. 3077009LAX-001

Relative Humidity: 49 %

Model Name: CE-T010**Date:** 8/22/05**Distance:** 3 m**Test Channel:** Channel 1 (909 MHz)

| Frequency | Detector | Vertical level | Horizontal level | D.C.F. | Limit | Margin |
|-----------|----------|----------------|------------------|--------|----------|--------|
| MHz | | (dBuV/m) | (dBuV/m) | dB | (dBuV/m) | (dB) |
| 909 | Q.Peak | 90.0 | 82.4 | 0.0 | 94 | -4.0 |
| 1818 | Peak | 43.0 | 38.8 | 0.0 | 74.0 | -30.7 |
| 1818 | Ave | 29.6 | 28.9 | 0.0 | 54.0 | -24.4 |
| *2727 | Peak | 48.5 | 46.0 | 0.0 | 74.0 | -25.5 |
| *2727 | Ave. | 33.8 | 32.8 | 0.0 | 54.0 | -20.2 |
| *3636 | Peak | 47.9 | 48.3 | 0.0 | 74.0 | -25.7 |
| *3636 | Ave. | 35.3 | 35.1 | 0.0 | 54.0 | -18.7 |
| *4545 | Peak | 49.6 | 48.6 | 0.0 | 74.0 | -24.4 |
| *4545 | Ave. | 36.5 | 35.2 | 0.0 | 54.0 | -17.5 |
| *5454 | Peak | 54.1 | 48.7 | 0.0 | 74.0 | -19.9 |
| *5454 | Ave. | 38.8 | 36.2 | 0.0 | 54.0 | -15.2 |
| 6363 | Peak | 55.1 | 54.0 | 0.0 | 74.0 | -18.9 |
| 6363 | Ave. | 39.8 | 39.6 | 0.0 | 54.0 | -14.2 |
| *7272 | Peak | 53.1 | 52.8 | 0.0 | 74.0 | -21.2 |
| *7272 | Ave. | 41.3 | 41.2 | 0.0 | 54.0 | -12.7 |
| *8181 | Peak | 54.1 | 54.8 | 0.0 | 74.0 | -19.2 |
| *8181 | Ave. | 42.8 | 43.0 | 0.0 | 54.0 | -11.0 |
| *9090 | Peak | 57.0 | 56.6 | 0.0 | 74.0 | -17.0 |
| *9090 | Ave. | 45.4 | 45.4 | 0.0 | 54.0 | -8.6 |

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Test Channel: Channel 4 (914 MHz)

| Frequency | Detector | Vertical level | Horizontal level | D.C.F. | Limit | Margin |
|-----------|----------|----------------|------------------|--------|----------|--------|
| MHz | | (dBuV/m) | (dBuV/m) | dB | (dBuV/m) | (dB) |
| **914 | Q.Peak | 91.6 | 82.6 | 0.0 | 94 | -2.4 |
| 1828 | Peak | 40.8 | 41.4 | 0.0 | 74.0 | -32.6 |
| 1828 | Ave | 30.4 | 28.0 | 0.0 | 54.0 | -23.6 |
| *2742 | Peak | 45.1 | 43.5 | 0.0 | 74.0 | -28.9 |
| *2742 | Ave. | 32.5 | 31.3 | 0.0 | 54.0 | -21.5 |
| *3656 | Peak | 49.2 | 47.0 | 0.0 | 74.0 | -24.8 |
| *3656 | Ave. | 35.4 | 35.9 | 0.0 | 54.0 | -18.1 |
| *4570 | Peak | 49.9 | 47.8 | 0.0 | 74.0 | -24.1 |
| *4570 | Ave. | 36.4 | 36.7 | 0.0 | 54.0 | -17.3 |
| 5484 | Peak | 52.5 | 50.6 | 0.0 | 74.0 | -21.5 |
| 5484 | Ave. | 38.9 | 38.5 | 0.0 | 54.0 | -15.1 |
| 6398 | Peak | 54.1 | 51.4 | 0.0 | 74.0 | -19.9 |
| 6398 | Ave. | 39.6 | 39.3 | 0.0 | 54.0 | -14.4 |
| *7312 | Peak | 54.3 | 52.9 | 0.0 | 74.0 | -19.7 |
| *7312 | Ave. | 42.1 | 41.4 | 0.0 | 54.0 | -11.9 |
| *8226 | Peak | 55.0 | 54.9 | 0.0 | 74.0 | -19.0 |
| *8226 | Ave. | 43.3 | 43.0 | 0.0 | 54.0 | -10.7 |
| *9140 | Peak | 57.5 | 57.8 | 0.0 | 74.0 | -16.2 |
| *9140 | Ave. | 46.2 | 45.5 | 0.0 | 54.0 | -7.8 |

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Test Channel: Channel 2 (924 MHz)

| Frequency | Detector | Vertical level | Horizontal level | D.C.F. | Limit | Margin |
|-----------|----------|----------------|------------------|--------|----------|--------|
| MHz | | (dBuV/m) | (dBuV/m) | dB | (dBuV/m) | (dB) |
| **924 | Q.Peak | 90.2 | 83.4 | 0.0 | 94 | -3.8 |
| 1848 | Peak | 42.0 | 39.7 | 0.0 | 74.0 | -32.0 |
| 1848 | Ave | 30.2 | 29.3 | 0.0 | 54.0 | -23.8 |
| *2772 | Peak | 42.9 | 44.8 | 0.0 | 74.0 | -29.2 |
| *2772 | Ave. | 32.4 | 32.9 | 0.0 | 54.0 | 021.1 |
| *3696 | Peak | 48.3 | 47.7 | 0.0 | 74.0 | -25.7 |
| *3696 | Ave. | 35.9 | 35.6 | 0.0 | 54.0 | -18.1 |
| *4650 | Peak | 50.4 | 49.5 | 0.0 | 74.0 | -23.6 |
| *4650 | Ave. | 36.3 | 36.2 | 0.0 | 54.0 | -17.7 |
| 5544 | Peak | 52.6 | 51.8 | 0.0 | 74.0 | -21.4 |
| 5544 | Ave. | 39.0 | 38.9 | 0.0 | 54.0 | -15.0 |
| 6468 | Peak | 52.5 | 53.8 | 0.0 | 74.0 | -20.2 |
| 6468 | Ave. | 39.3 | 39.2 | 0.0 | 54.0 | -14.7 |
| *7392 | Peak | 53.4 | 52.3 | 0.0 | 74.0 | -20.6 |
| *7392 | Ave. | 41.1 | 41.2 | 0.0 | 54.0 | -12.8 |
| *8316 | Peak | 54.8 | 55.1 | 0.0 | 74.0 | -18.9 |
| *8316 | Ave. | 43.8 | 43.8 | 0.0 | 54.0 | -10.2 |
| 9240 | Peak | 58.0 | 57.4 | 0.0 | 74.0 | -16.0 |
| 9240 | Ave. | 45.5 | 45.4 | 0.0 | 54.0 | -8.5 |

Notes:

- The field strength shown in the table (Vertical and Horizontal levels) included Antenna factor, Cable loss and Pre-amplifier Gain (if applicable).
- Negative signs (-) in Margin column signify levels below the limits.
- For frequencies below 1000 MHz the, above limits are based on quasi-peak limits.
Analyzer setting: RBW =120 KHz, VBW =300 KHz
- For frequencies above 1000 MHz the, above limits are based on average limits.
Analyzer setting: RBW =1 MHz, VBW =1 MHz
- Peak measurement shown for the compliance with 15.35b (peak measurements of emission shall not exceed the average limits specified above by more than 20 dB).
- All other emissions not reported are below the equipment noise floor which is at least 6 dB below the limits.
- D.C.F: Distance Correction Factor.

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h) * Restricted Frequency Band. Only spurious emissions are permitted (15.205).

| | |
|--------------------|---|
| Test Result | Passed with margin 2.4 dB at 914 MHz. ** The measurement result is below the specification limit by a margin less than the measurement uncertainty; it is not therefore possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a high probability that the product tested complies with the specification limit |
|--------------------|---|

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010**4.2 Test Description**

| | |
|---------------|-----------------------|
| Parameter: | FCC 15.109 |
| Requirement: | FCC 15.109, class B |
| 30-88 MHz | 40 dB μ @ 3 m |
| 88-216 MHz | 43.5 dB μ V @ 3 m |
| 216-960 MHz | 46 dB μ V @ 3 m |
| Above 960 MHz | 54 dB μ V @ 3 m |

4.2.1 Test Procedure

See section 4.1.1.

4.2.2 Field Strength Calculation

See section 4.1.2.

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FCC ID: PO288CE-T010

4.2.3 Radiated Emission Data

Standard: FCC Part 15, Subpart C (15.109)

Measurement Uncertainty: 3.92dB

Company: Chang Industry, Inc.

Temperature: 24°C

Job No. 3077009LAX-001

Relative Humidity: 49 %

Model Name: CE-T010

Date: 8/23/05

Mode: Channel 1 (904 MHz)

| Frequency | Detector | Vertical level | Horizontal level | Distance | D.C.F. | Limit | Margin |
|-----------|----------|----------------|------------------|----------|--------|----------|--------|
| MHz | | (dBuV/m) | (dBuV/m) | m | dB | (dBuV/m) | (dB) |
| 601.4 | Q-P | 38.5 | 30.9 | 3 | 0.0 | 46 | -7.5 |

Mode: Channel 4 (914 MHz)

| Frequency | Detector | Vertical level | Horizontal level | Distance | D.C.F. | Limit | Margin |
|-----------|----------|----------------|------------------|----------|--------|----------|--------|
| MHz | | (dBuV/m) | (dBuV/m) | m | dB | (dBuV/m) | (dB) |
| 601.4 | Q-P | 37.5 | 30.5 | 3 | 0.0 | 46 | -8.5 |

Mode: Channel 2 (924 MHz)

| Frequency | Detector | Vertical level | Horizontal level | Distance | D.C.F. | Limit | Margin |
|-----------|----------|----------------|------------------|----------|--------|----------|--------|
| MHz | | (dBuV/m) | (dBuV/m) | m | dB | (dBuV/m) | (dB) |
| 601.4 | Q-P | 38.8 | 31.2 | 3 | 0.0 | 46 | -7.2 |

Notes:

- The field strength shown in the table for Q-Peak Detector (Vertical and Horizontal levels) included Antenna factor, Cable loss and Pre-amplifier Gain (if applicable).
- All emissions not reported were at least 20 dB below the limits or noise level of EMI receiver.
- Negative signs (-) in Margin column signify levels below the limits.
- Analyzer setting: RBW \geq 1 MHz, VBW \geq 1 MHz, for freq. $>$ 1 GHz
RBW \geq 100kHz, VBW \geq 100 kHz, for freq. $<$ 1 GHz
RBW \geq 1 kHz, VBW \geq 1 kHz for freq. $<$ 150 kHz
Detector mode: Average ($>$ 1 GHz and $<$ 150 kHz) and Quasi-peak ($<$ 1 GHz).
- D.C.F: Distance Correction Factor

| | |
|-------------|---|
| Test Result | Passed with 7.2 dB margin at 601.4 MHz. |
|-------------|---|

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4.3 Test Description

| | |
|---------------|--|
| Parameter: | FCC 15.209 |
| Requirement: | FCC 15.209 |
| 0.009 – 0.490 | 2400/F (kHz) ($\mu\text{V/m}$) @ 300 m |
| 0.490 – 1.705 | 2400/F (kHz) ($\mu\text{V/m}$) @ 30 m |
| 1.705 – 30.0 | 29.5 dB μV @ 30 m |
| 30-88 MHz | 40 dB μ @ 3 m |
| 88-216 MHz | 43.5 dB μV @ 3 m |
| 216-960 MHz | 46 dB μV @ 3 m |
| Above 960 MHz | 54 dB μV @ 3 m |

4.3.1 Test Procedure

See section 4.1.1.

4.3.2 Field Strength Calculation

See section 4.1.2.

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4.3.3 Radiated Emission Data

Standard: FCC Part 15, Subpart C (15.209)

Measurement Uncertainty: 3.92dB

Company: Chang Industry, Inc.

Temperature: 24°C

Job No. 3077009LAX-001

Relative Humidity: 49 %

Model Name: CE-T010**Date:** 8/23/05**Mode:** Channel 1 (904 MHz)

| Frequency | Detector | Vertical level | Horizontal level | Distance | D.C.F. | Limit | Margin |
|-----------|----------|----------------|------------------|----------|--------|----------|--------|
| MHz | | (dBuV/m) | (dBuV/m) | m | dB | (dBuV/m) | (dB) |
| 601.4 | Q-P | 38.5 | 30.9 | 3 | 0.0 | 46 | -7.5 |

Mode: Channel 4 (914 MHz)

| Frequency | Detector | Vertical level | Horizontal level | Distance | D.C.F. | Limit | Margin |
|-----------|----------|----------------|------------------|----------|--------|----------|--------|
| MHz | | (dBuV/m) | (dBuV/m) | m | dB | (dBuV/m) | (dB) |
| 601.4 | Q-P | 37.5 | 30.5 | 3 | 0.0 | 46 | -8.5 |

Mode: Channel 2 (924 MHz)

| Frequency | Detector | Vertical level | Horizontal level | Distance | D.C.F. | Limit | Margin |
|-----------|----------|----------------|------------------|----------|--------|----------|--------|
| MHz | | (dBuV/m) | (dBuV/m) | m | dB | (dBuV/m) | (dB) |
| 601.4 | Q-P | 38.8 | 31.2 | 3 | 0.0 | 46 | -7.2 |

Notes:

- The field strength shown in the table for Q-Peak Detector (Vertical and Horizontal levels) included Antenna factor, Cable loss and Pre-amplifier Gain (if applicable).
- All emissions not reported were at least 20 dB below the limits or noise level of EMI receiver
- Negative signs (-) in Margin column signify levels below the limits.
- Analyzer setting: RBW \geq 1 MHz, VBW \geq 1 MHz, for freq. $>$ 1 GHz
RBW \geq 100 kHz, VBW \geq 100 kHz, for freq. $<$ 1 GHz
RBW \geq 1 kHz, VBW \geq 1 kHz for freq. $<$ 150 kHz
Detector mode: Average ($>$ 1 GHz and $<$ 150 kHz) and Quasi-peak ($<$ 1 GHz).
- D.C.F: Distance Correction Factor

| | |
|--------------------|--|
| Test Result | Passed with 7.2 dB margin at 601.4 MHz. |
|--------------------|--|

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5 Out of Band Emission

5.1 Test Description

| | |
|--------------------|-----------------------|
| Parameter: | FCC 15.249c |
| Requirement: | FCC 15.249c |
| Attenuation limits | > 50 dB or FCC 15.209 |

5.2 Test Procedure

These measurements performed inside the semi anechoic chamber. For measurements below 1 GHz, a biconilog antenna was used. For measurements above 1 GHz, a horn antenna was used. Several plots were made to show emissions from 30 MHz up to 7th harmonic.

5.3 Test Results

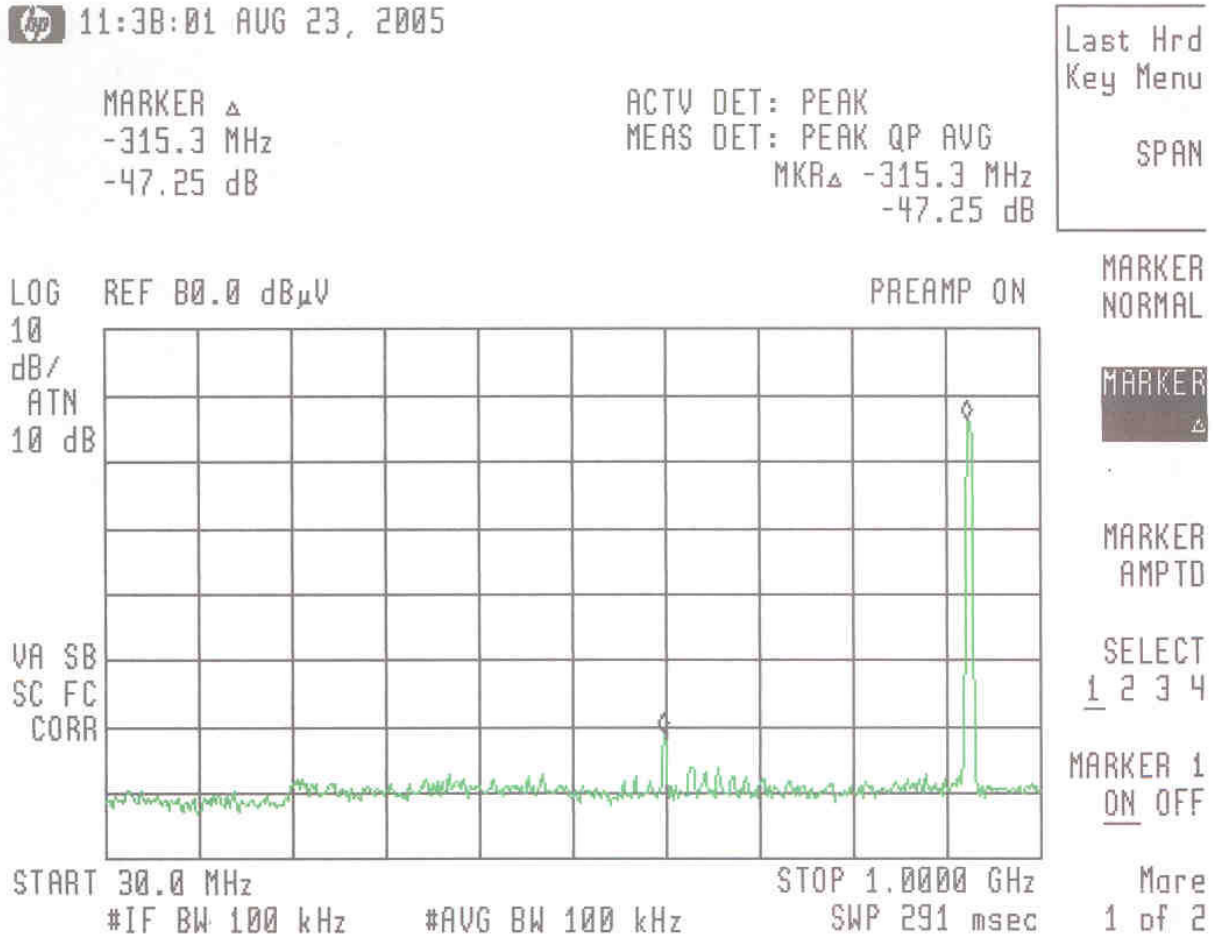
The following plots show the relative spurious emission levels of the transmitter.

| Plot # | Description |
|--------|--|
| 5.3.1 | Plot shows peak measurements differential between fundamental and frequency range from 30 to 902 MHz. Complies with >50 dB, except @ f = 601.4 MHz complies with 15.209 (see section 4.3). |
| 5.3.2 | Plot shows peak measurements differential between fundamental @ 904 MHz and lower edge of the frequency band. Complies with >50 dB. |
| 5.3.3 | Plot shows peak measurements differential between fundamental @ 904 MHz and upper edge of the frequency band. Complies with >50 dB. |
| 5.3.4 | Plot shows peak measurements differential between fundamental @ 914 MHz and lower edge of the frequency band. Complies with >50 dB. |
| 5.3.5 | Plot shows peak measurements differential between fundamental @ 914 MHz and upper edge of the frequency band. Complies with >50 dB. |
| 5.3.6 | Plot shows peak measurements differential between fundamental @ 924 MHz and lower edge of the frequency band. Complies with >50 dB. |
| 5.3.7 | Plot shows peak measurements differential between fundamental @ 924 MHz and upper edge of the frequency band. Complies with >50 dB. |
| 5.3.8 | Plot shows peak measurements differential between fundamental and frequency range from 902 to 2000 MHz. Complies with >50 dB. |
| 5.3.9 | Plot shows no spurious emission from 2000 to 4000 MHz. It also shows compliance with 50 dB below the level of fundamental (complies with >50 dB) |
| 5.3.10 | Plot shows no spurious emission from 4000 to 6500 MHz. It also shows compliance with 50 dB below the level of fundamental (complies with >50 dB) |

Note 1: There are no emissions observed above 3rd harmonic of fundamental frequency. All spurious emissions outside the frequency band 902 – 928 MHz are attenuated by more than 50 dB below the level of fundamental or below the limits specified in 15.209

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010



Plot 5.3.1

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010

11:30:21 AUG 23, 2005

MARKER Δ
-7.22 MHz
-54.95 dB

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR Δ -7.22 MHz
-54.95 dB

Last Hrd
Key Menu

SPAN

LOG REF B0.0 dB μ V

PREAMP ON

MARKER
NORMAL

10
dB/
ATN
10 dB

VA SB
SC FC
CORR

START 902.00 MHz

#IF BW 100 kHz

#AVG BW 100 kHz

STOP 928.00 MHz

SWP 20.0 msec

MARKER
 Δ

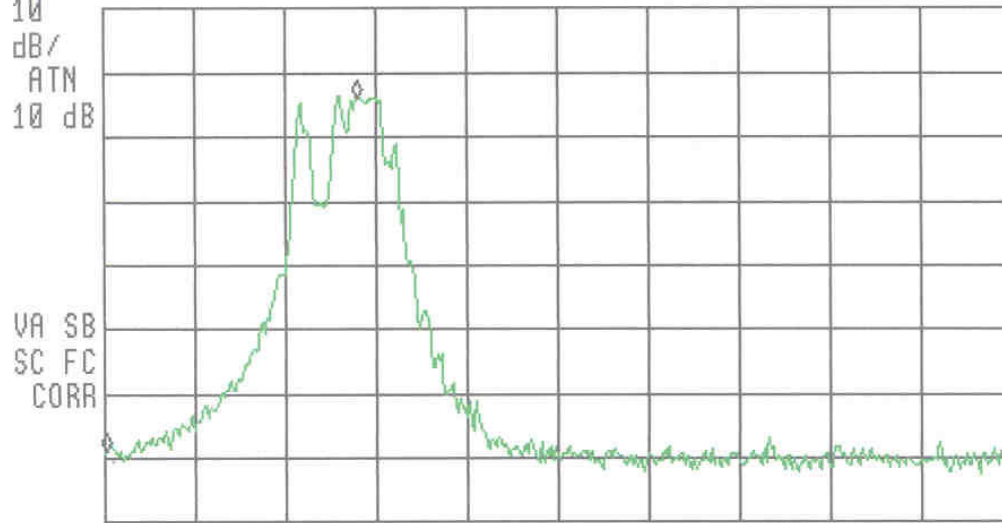
MARKER
AMPTD

SELECT
1 2 3 4

MARKER 1
ON OFF

More

1 of 2



Plot 5.3.2

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010

11:31:40 AUG 23, 2005

MARKER Δ
18.66 MHz
-56.47 dB

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR Δ 18.66 MHz
-56.47 dB

Last Hrd
Key Menu

SPAN

LOG REF 00.0 dB μ V

PREAMP ON

MARKER
NORMAL

10
dB/
ATN
10 dB

VA SB
SC FC
CORR

START 902.00 MHz

#IF BW 100 kHz

#AVG BW 100 kHz

STOP 928.00 MHz

SWP 20.0 msec

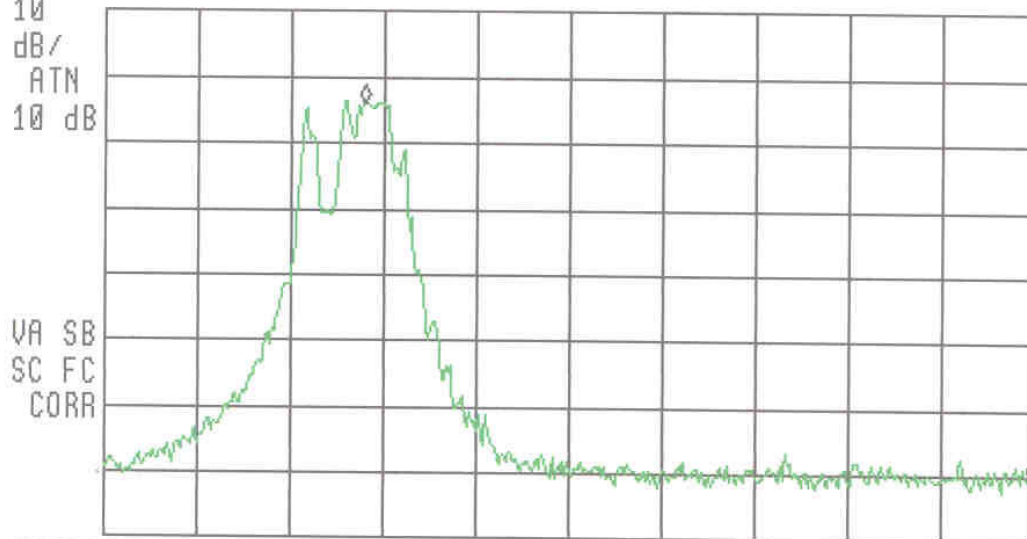
MARKER
 Δ

MARKER
AMPTD

SELECT
1 2 3 4

MARKER 1
ON OFF

More
1 of 2



Plot 5.3.3

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010

11:52:35 AUG 23, 2005

MARKER Δ
-12.22 MHz
-56.77 dB

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR Δ -12.22 MHz
-56.77 dB

Last Hrd
Key Menu

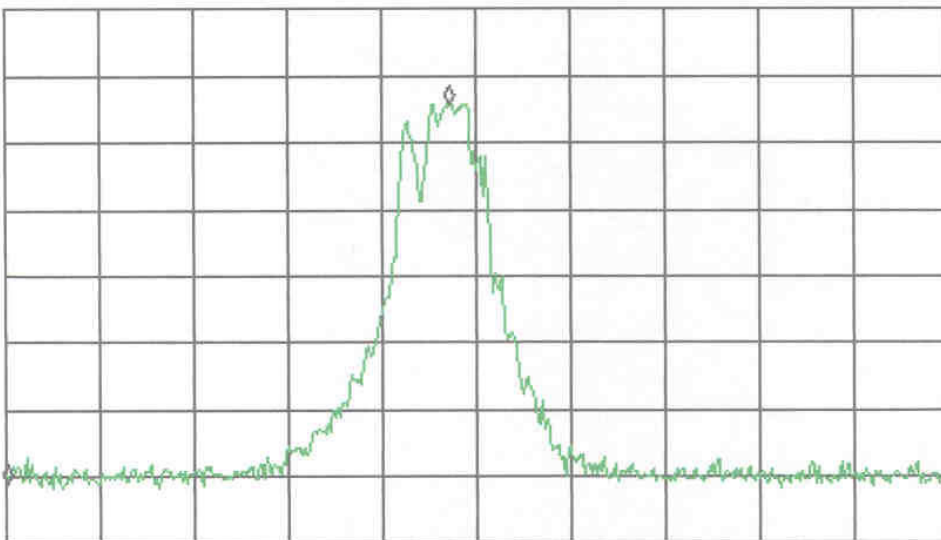
SPAN

LOG REF 00.0 dB μ V

PREAMP ON

10
dB/
ATN
10 dB

VA SB
SC FC
CORR



START 902.00 MHz

STOP 928.00 MHz

#IF BW 100 kHz

#AVG BW 100 kHz

SWP 20.0 msec

MARKER
NORMAL

MARKER
 Δ

MARKER
AMPTD

SELECT
1 2 3 4

MARKER 1
ON OFF

More
1 of 2

Plot 5.3.4

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010

11:54:06 AUG 23, 2005

MARKER Δ
13.72 MHz
-55.78 dB

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR Δ 13.72 MHz
-55.78 dB

Last Hrd
Key Menu

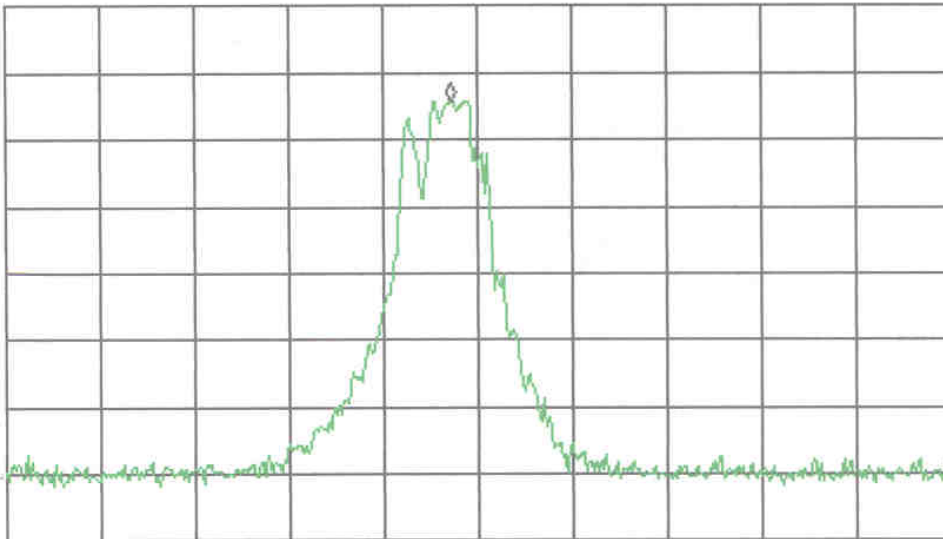
SPAN

LOG REF 00.0 dB μ V

PREAMP ON

10
dB/
ATN
10 dB

VA SB
SC FC
CORR



START 902.00 MHz

#IF BW 100 kHz

#AVG BW 100 kHz

STOP 928.00 MHz

SWP 20.0 msec

MARKER
NORMAL

MARKER
 Δ

MARKER
AMPTD

SELECT
1 2 3 4

MARKER 1
ON OFF

More

1 of 2

Plot 5.3.5

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010

11:59:15 AUG 23, 2005

MARKER Δ
-22.30 MHz
-55.13 dB

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR Δ -22.30 MHz
-55.13 dB

Last Hrd
Key Menu

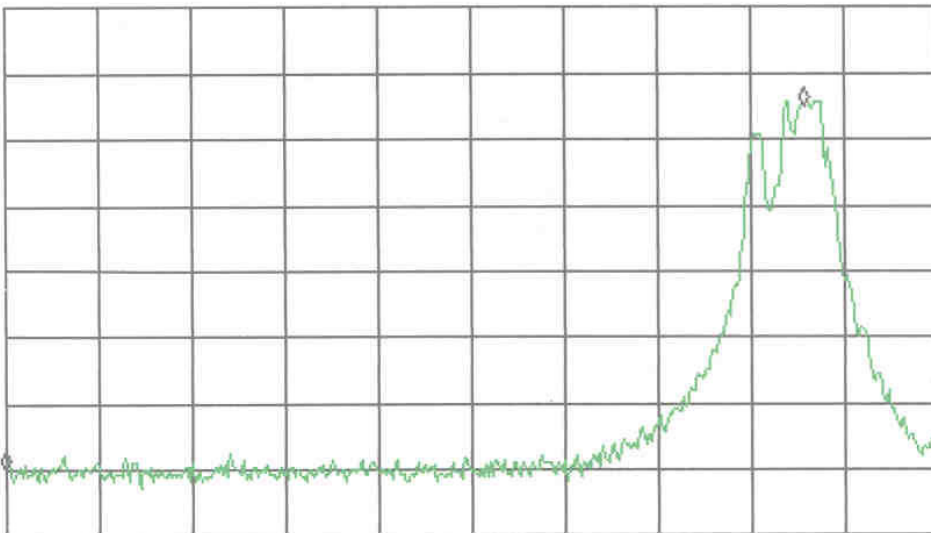
SPAN

LOG REF 00.0 dB μ V

PREAMP ON

10
dB/
ATN
10 dB

VA SB
SC FC
CORR



START 902.00 MHz

STOP 928.00 MHz

#IF BW 100 kHz

#AVG BW 100 kHz

SWP 20.0 msec

MARKER
NORMAL

MARKER
 Δ

MARKER
AMPTD

SELECT
1 2 3 4

MARKER 1
ON OFF

More

1 of 2

Plot 5.3.6

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010

12:02:31 AUG 23, 2005

MARKER Δ
3.64 MHz
-53.71 dB

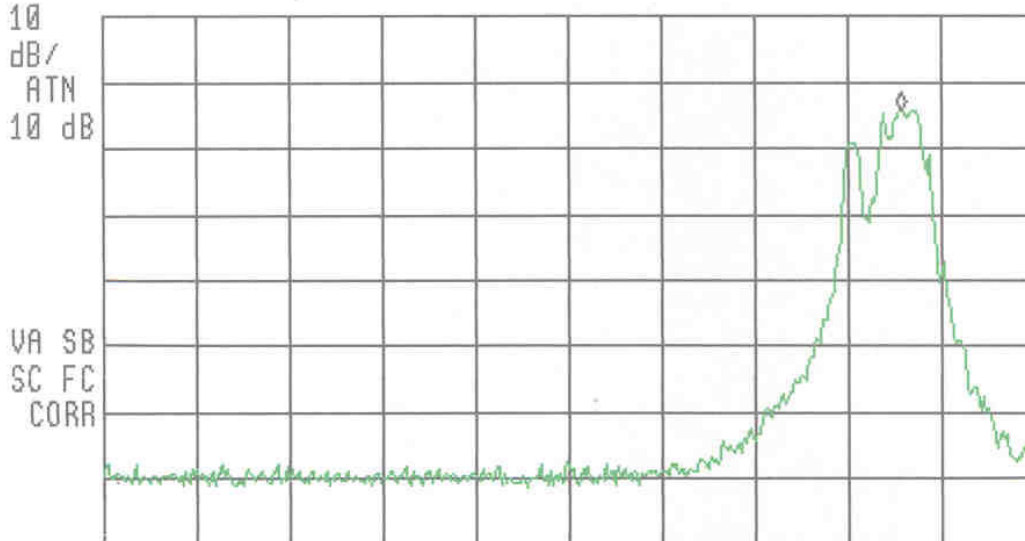
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR Δ 3.64 MHz
-53.71 dB

Last Hrd
Key Menu
SPAN

LOG REF 00.0 dB μ V

PREAMP ON

MARKER
NORMAL



MARKER
 Δ

MARKER
AMPTD

SELECT
1 2 3 4

MARKER 1
ON OFF

More
1 of 2

Plot 5.3.7

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010

13:45:28 AUG 23, 2005

MARKER Δ
244 MHz
-58.51 dB

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR Δ 244 MHz
-58.51 dB

Last Hrd
Key Menu

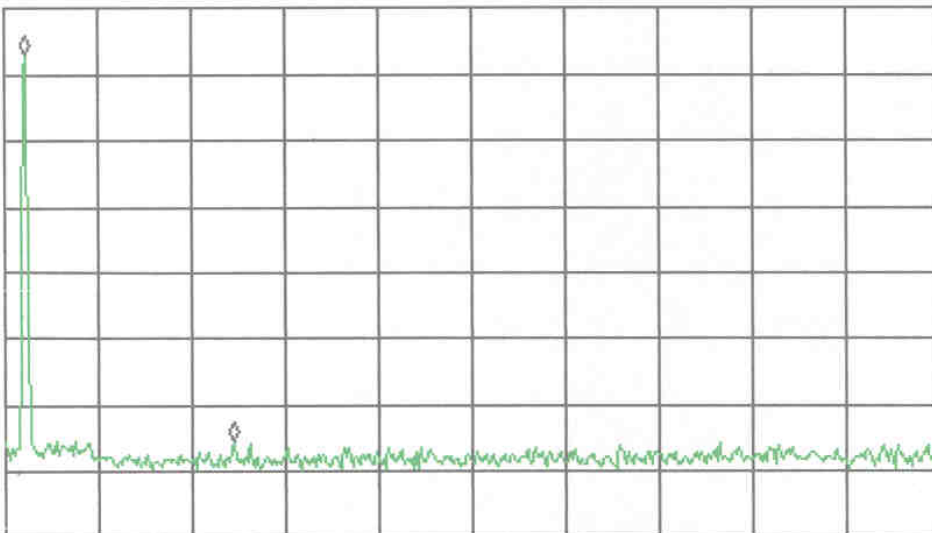
SPAN

LOG REF 77.0 dB μ V

PREAMP ON

10
dB/
ATN
10 dB

VA SB
SC FC
CORR



START 902 MHz

#IF BW 100 kHz

#AVG BW 100 kHz

STOP 2.000 GHz

SWP 329 msec

MARKER
 Δ CF

MARKER
 Δ

NEXT
PEAK

NEXT PK
RIGHT

NEXT PK
LEFT

More
1 of 2

Plot 5.3.8

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010

13:48:48 AUG 23, 2005

MARKER
2.7763 GHz
13.66 dBμV

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 2.7763 GHz
13.66 dBμV

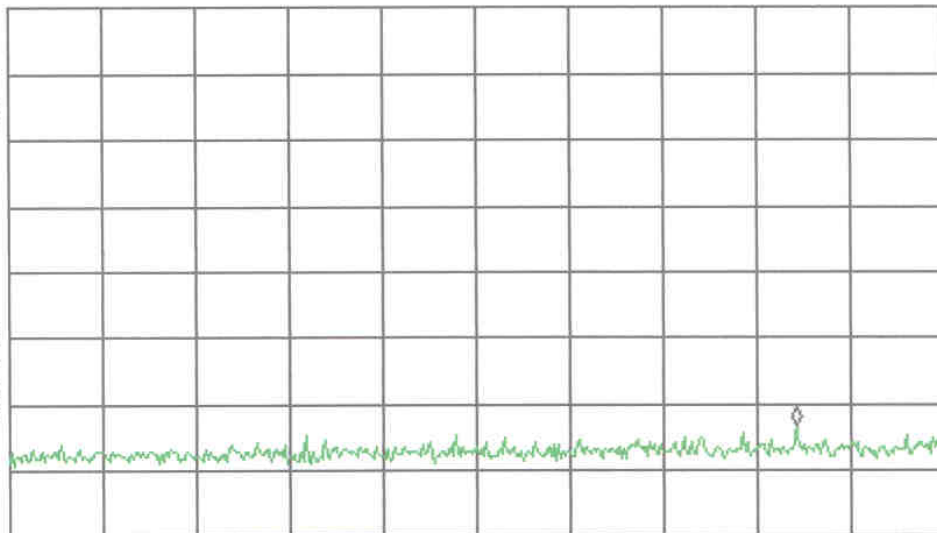
Last Hrd
Key Menu
SPAN

LOG REF 77.0 dBμV

PREAMP ON

10
dB/
ATN
10 dB

VA SB
SC FC
CORR



START 2.0000 GHz

#IF BW 100 kHz

#AVG BW 100 kHz

STOP 2.9214 GHz

SWP 276 msec

MARKER
↓ CF

MARKER
Δ

NEXT
PEAK

NEXT PK
RIGHT

NEXT PK
LEFT

More
1 of 2

Plot 5.3.9

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010

13:53:51 AUG 23, 2005

MARKER
5.863 GHz
9.98 dB μ V

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 5.863 GHz
9.98 dBμV

Last Hrd
Key Menu

SPAN

LOG REF 77.0 dB μ V

PREAMP ON

MARKER
→ CF

10
dB/
ATN
10 dB

VA SB
SC FC
CORR

MARKER
Δ

NEXT
PEAK

NEXT PK
RIGHT

NEXT PK
LEFT

START 4.000 GHz

#IF BW 100 kHz

#AVG BW 100 kHz

STOP 6.500 GHz

SWP 750 msec

More
1 of 2

Plot 5.3.10

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010**6.0 Antenna Requirement****6.1 Test description**

| | |
|---------------|---|
| Parameter: | FCC 15.203 |
| Requirement: | FCC 15.203 |
| Descriptions: | No antenna other than furnished by the responsible party shall be used with the device. |

6.2 Test Procedure

None

6.3 Test Result

The device is considered to comply with the requirements by:

| | |
|---|--|
| | Description |
| X | The transmitter uses a permanently connected antenna. |
| | The antenna is affixed to the EUT using a unique connector which allows for replacement of a broken antenna, but does NOT use a standard antenna jack or electrical connector. |

Date of Test: August 22 to 24, 2005

FCC ID: PO288CE-T010

7.0 TEST EQUIPMENT

Measurement equipment used for emission compliance testing utilized the equipment on the following list:

Receivers / Spectrum Analyzers

| DESCRIPTION | SERIAL NO. | LAST CAL DATE | CAL DUE | TICK IF USED |
|-------------------------------|------------|---------------------|------------|--------------------|
| HP 8546A Receiver RF Section | 3549A00261 | 11/16/04 | 11/16/05 | X |
| HP 85460A RF Filter Section | 3448A00265 | 11/16/04 | 11/16/05 | X |
| Tile Software | Rev. 3.0 G | N/A | N/A | X |
| R & S FSP40 Spectrum Analyzer | 100027 | 2/21/05 | 2/21/06 | X |

Antennas

| DESCRIPTION | SERIAL NO. | LAST CAL DATE | CAL DUE | TICK IF USED |
|--------------------------------------|------------|---------------------|------------|--------------------|
| Electro-metrics LPA-25 Log Periodic | 1077 | 08/27/04 | 08/27/05 | |
| Comp Power Biconical Antenna AB 900 | 15299 | 03/22/05 | 03/22/06 | X |
| Com-Power AL-100 Logperiodic Antenna | 16055 | 05/02/05 | 05/02/06 | X |
| ETS Lindgren 3115 Horn Antenna | 00031626 | 03/09/05 | 03/09/06 | X |
| Chase Bilog Antenna CBL6112 | 2040 | 11/23/04 | 11/23/05 | |

Artificial Mains Networks/Absorbing Clamps

| DESCRIPTION | SERIAL NO. | LAST CAL DATE | CAL DUE | TICK IF USED |
|---------------------------|------------|---------------------|------------|--------------------|
| EMCO 3816/2NM 16A LISN | 1039 | 08/20/04 | 08/20/05 | |
| FCC LISN 50 Amp 5 μ H | 9827 | 02/07/05 | 02/07/06 | |