March 24, 2008

Shen Zhen MTC Co., LTD 31-32/F., A Xing He Shi Ji Bldg., 2069 Cai Tian Road, Shen Zhen, P.R.China

Dear Kang Jian:

Enclosed you will find your file copy of a Part 15 Certification (FCC ID: UVD20071228001).

For your reference, TCB will normally take another 20 days for reviewing the report. Approval will then be granted when no query is sorted.

Please contact me if you have any questions regarding the enclosed material.

Sincerely,

Shawn Xing

**Assistant Manager** 

**Enclosure** 

## Shen Zhen MTC Co., LTD

Application
For
Certification
(FCC ID: UVD20071228001)

TV Interface Device

Birly li

GZ08020186-1 Billy Li March 24, 2008

- The test results reported in this test report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
- This report shall not be reproduced except in full without prior authorization from Intertek Testing Services Hong Kong Limited.
- For Terms And Conditions of the services, it can be provided upon request.
- The evaluation data of the report will be kept for 3 years from the date of issuance.

1~8th floor, Block E2, 11 Cai Pin Road, Science city, Guangzhou Economic Development Zone, Guangzhou, P. R. China

Tel: (8620) 8213 9688 Fax: (8620) 3205 7538

#### LIST OF EXHIBITS

#### INTRODUCTION

EXHIBIT 1: General Description

EXHIBIT 2: System Test Configuration

EXHIBIT 3: Emission Results

EXHIBIT 4: Equipment Photographs

EXHIBIT 5: Product Labelling

EXHIBIT 6: Technical Specifications

EXHIBIT 7: Instruction Manual

EXHIBIT 8: Miscellaneous Information

FCC ID: UVD20071228001

### MEASUREMENT/TECHNICAL REPORT

Shen Zhen MTC Co., LTD

MODEL: AT2016

ADDITIONAL MODEL: AT2\*\*\* (\*\*\* can from 001 to 999) / MAT-K50 / DTA1010 / RJ-900ATSC, RJ-1000ATSC / STB-T8, STB-T9, STB-T10 ATSC Converter Box FCC ID: UVD20071228001

March 24, 2008

| ·  | e:) Original Grant X Class II Change  Device (example: TV modulator, etc.)   |
|--|--|
|  | A7 CFR 0.457(d)(1)(ii)? Yes No Xdate_Company Name agrees to notify date of the intended date of announcement of the e issued on that date.   |
| Transition Rules Request per 18 If no, assumed Part 15, Subp [09-20-07 Edition] provision. | 5.37? Yes NoX part B for intentional radiator - the new 47 CFR   |
| Report prepared by:  | Shawn Xing Intertek Testing Services Shenzhen Ltd. Guangzhou Branch 1~8th floor, Block E2, 11 Cai Pin Road, Sciencecity, Guangzhou Economic Development Zone, Guangzhou, P. R.China. Phone: (8620) 8213 9688 Fax: (8620) 3205 7538 Fax: 86-755-8601-6751 |

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## List of attached file

| Exhibit type          | File Description           | filename             |
|-----------------------|----------------------------|----------------------|
| Test Report           | Test Report                | report.pdf           |
| Operation Description | Technical Description      | descri.pdf           |
| Test Setup Photo      | Radiated Emission          | radiated photos.pdf  |
| Test Setup Photo      | Conducted Emission         | conducted photos.pdf |
| External Photo        | External Photo             | external photos.pdf  |
| Internal Photo        | Internal Photo             | internal photos.pdf  |
| Block Diagram         | Block Diagram              | block.pdf            |
| Schematics            | Circuit Diagram            | circuit.pdf          |
| ID Label/Location     | Label Artwork and Location | label.pdf            |
| RF Signal             | Modulator Signal Output    | ch3 and ch4.pdf      |
| User Manual           | User Manual                | manual.pdf           |
| Cover Letter          | Letter of Agency           | agency.pdf           |

FCC ID: UVD20071228001

# EXHIBIT 1 GENERAL DESCRIPTION

#### 1.0 **General Description**

#### 1.1 Product Description

This Equipment Under Test (EUT) is a ATSC Set Top Box, it used to receive the digital TV signal (ATSC) and demodulate to Audio / Video signal out put via the RF tuner. This EUT is powered by 120V/AC. Besides , it can also modulated the ATSC signal to TV receiver via RF output terminal which is designed to convert the Audio / Video signal to standard NTSC CH3 or CH4 RF signal. There are two different channels available, Channel 3 and Channel 4, it can be selected by the switch on the back panel. A coaxial cable (75 ohm, 0.8m) is provided with this device. Power and channel-select buttons are located on the front panel, most of the input or output terminals are located at the back panel including a smart antenna terminal that can be connected to a terrestrial antenna, the EUT can control the terrestrial antenna gain and direction automatically to optimize the receiving signal via the smart antenna terminal.

Models AT2\*\*\* (\*\*\* can from 001 to 999), MAT-K50, DTA1010, RJ-900ATSC, RJ-1000ATSC, STB-T8, STB-T9, STB-T10 are identical in the hardware aspect, The difference in model number and trade name serves as marketing strategy. We have tested one model AT2601 during this compliance test period. For electronic filing, the brief circuit description with the RF tuner specification is saved with filename: descri.pdf.

#### 1.2 Related Submittal(s) Grants

This is a single application for certification of a TV interface device for the function RF modulation of this EUT, and the other function is subject to the FCC part 15 verification.

#### 1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2003). Radiated emission measurement was performed in semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "Justification Section" of this Application.

### 1.4 Test Facility

The Semi-Anechoic Chamber & shielded room facility used to collect the radiated & conducted emissions data is **SHENZHEN ACADEMY OF METROLOGY & QUALITY INSPECTION** located at Longzhu Road, Shenzhen. This test facility and site measurement data have been fully placed on file with the FCC.

FCC ID: UVD20071228001

# EXHIBIT 2 SYSTEM TEST CONFIGURATION

#### 2.0 **System Test Configuration**

#### 2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.4 (2003).

For maximizing emissions below 30 MHz, the EUT was rotated through 360°, the centre of the loop antenna was placed 1 meter above the ground, and the antenna polarization was changed. For maximizing emission at and above 30 MHz, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data report in Exhibit 3.0.

The unit was placed in the rear of the turntable.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was placed on a turn table, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

The frequency range from 30MHz to 2GHz was searched for spurious emissions from the device. Only those emissions reported were detected. All other emissions were at least 20 dB below the applicable limits.

## 2.2 EUT Exercising Software

There was no special software to exercise the device. Once the unit is powered up, it transmits the typical signal continuously.

#### 2.3 Special Accessories

No special accessories were used for compliance of this product.

#### 2.4 Equipment Modification

Any modifications installed previous to testing by Shenzhen MTC Co., LTD will be incorporated in each production model sold/leased in the United States.

No modifications were installed by Intertek Testing Services

### 2.5 Measurement Uncertainty

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

#### 2.6 Support Equipment List and Description

This product was tested in the following configuration:

Refer List:

| Description  | Manufacturer  | Model No.   | Serial No.   |
|--|---------------|-------------|--------------|
| TV-Test Transmitter  | ROHDE&SCHWARZ | SFQ         | 2072.5501.02 |
| MPEG2 Measurement Generator  | ROHDE&SCHWARZ | DVG         | 2068.8600.03 |
| 75 Ω RF Termination  |               |             |              |
| 10 k $\Omega$ , 22k $\Omega$ , 75 $\Omega$ , 100 $\Omega$<br>Termination loading |               |             |              |
| 1 x 75 Ω coaxial cable (Provided by Client)                                      |               |             |              |
| 3 x 1.5m AV cable  |               |             |              |
| Pass splitter  | ROHDE&SCHWARZ |             | 800.6612.52  |
| RF cable   |               | 50 Ω , 1.5m |              |
| 50 – 75 Ω Matching Pad   |               |             |              |
| Impedance Transformer  | NMC           | MB-009      |              |

All the items listed under section 2.0 of this report are

Confirmed by:

Shawn Xing Assistant Manager Intertek Testing Services Shenzhen Ltd. Guangzhou Branch Agent for Shenzhen MTC Co., LTD

Signature

March 24, 2008

Date

# EXHIBIT 3 EMISSION RESULTS

## 3.0 **Emission Results**

Data is included worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

#### 3.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

where  $FS = Field Strength in dB\mu V/m$ 

RA = Receiver Amplitude (including preamplifier) in dBµV

CF = Cable Attenuation Factor in dB

AF = Antenna Factor in dB AG = Amplifier Gain in dB

PD = Pulse Desensitization in dB

AV = Average Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

#### 3.1 Field Strength Calculation (cont'd)

#### Example

Assume a receiver reading of 62.0 dB $\mu$ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB, and the resultant average factor was -10 dB. The net field strength for comparison to the appropriate emission limit is 32 dB $\mu$ V/m. This value in dB $\mu$ V/m was converted to its corresponding level in  $\mu$ V/m.

$$RA = 62.0 \text{ dB}\mu\text{V}$$
  
 $AF = 7.4 \text{ dB}$   
 $CF = 1.6 \text{ dB}$   
 $AG = 29.0 \text{ dB}$   
 $PD = 0 \text{ dB}$ 

$$AV = -10 dB$$

$$FS = 62 + 7.4 + 1.6 - 29 + 0 + (-10) = 32 dB\mu V/m$$

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

FCC ID: UVD20071228001

# 3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission at 386.438 MHz

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos.pdf.

#### 3.3 Radiated Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 1.2 dB

| IESI | PERSONNEL: |  |
|------|------------|--|
|      |            |  |
|      |            |  |

zing li

Signature

Billy Li, Compliance Engineer
Typed/Printed Name

March 24, 2008

Date

Applicant: Shenzhen MTC Co., LTD Date of Test: January 28, 2008

Model: AT2016 Mode: Modulating

Table 1

#### **Radiated Emissions**

|       |           |         |         | Antenna |           |             |        |
|-------|-----------|---------|---------|---------|-----------|-------------|--------|
|       | Frequency | Reading | Pre-Amp | factor  | Net at 3m | Limit at 3m | Margin |
| Polar | (MHz)     | (dBuV)  | (dB)    | (dB)    | (dBuV/m)  | (dBuV/m)    | (dB)   |
| Н     | 38.425    | 49.8    | 26.5    | 9.2     | 32.5      | 40.0        | -7.5   |
| V     | 63.046    | 52.5    | 26.2    | 9.3     | 35.6      | 40.0        | -4.4   |
| Н     | 83.267    | 52.1    | 25.8    | 8.5     | 34.8      | 40.0        | -5.2   |
| Н     | 377.956   | 45.3    | 25.7    | 23.7    | 43.3      | 46.0        | -2.7   |
| V     | 386.438   | 48.2    | 25.8    | 22.4    | 44.8      | 46.0        | -1.2   |
| V     | 460.588   | 44.5    | 26.0    | 22.0    | 40.5      | 46.0        | -5.5   |
| V     | 980.662   | 41.8    | 25.9    | 23.7    | 39.6      | 54.0        | -14.4  |
| V     | 1240.266  | 39.0    | 34.8    | 27.6    | 31.8      | 54.0        | -22.2  |
| V     | 1608.357  | 38.8    | 35.1    | 28.3    | 32.0      | 54.0        | -22.0  |

Notes: 1. Peak Detector Data unless otherwise stated.

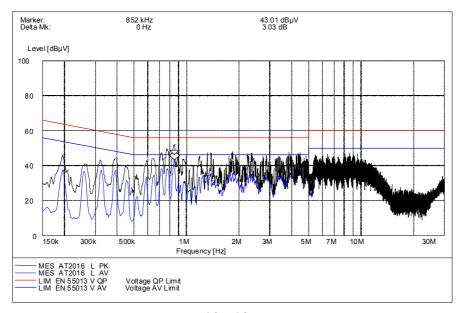
- 2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3 meter distance were measured at 0.3 meter and an inverse proportional extrapolation was performed to compare the signal level to the 3 meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3 meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna is used for the emissions over 1000MHz.
- 5. The smart antenna port was terminated with 10 k $\Omega$  and 100 $\Omega$  resistor according to the manufacturer's specification.

Test Engineer: Billy Li

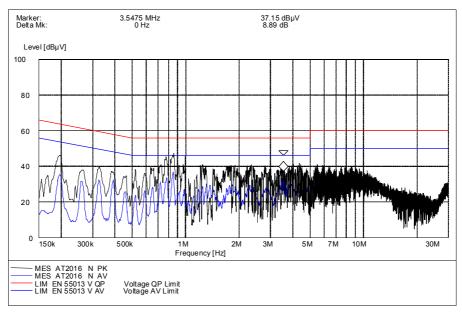
## 3.4 Conducted Emission Configuration Photograph

### Worst Case Line-Conducted Configuration At 0.852 MHz

For electronic filing, the worst case conducted emission configuration photograph is saved with filename: conducted photos.pdf.



#### **Live Line**



**Neutral Line** 

## 3.5 Conducted Emission Data

Judgement: Passed by 3.2 dB

**TEST PERSONNEL:** 

Birly Li

Signature

Billy Li, Compliance Engineer
Typed/Printed Name

March 24, 2008

Date

Applicant: Shenzhen MTC Co., LTD Date of Test: January 29, 2008

Model: AT2016 Mode: Modulating

Table 2
Conducted Emissions

## Live Line Data

| Frequency<br>(MHz) | y Guasii Can                   |                              | Average                        |                              |  |
|--------------------|--------------------------------|------------------------------|--------------------------------|------------------------------|--|
|                    | Disturbance<br>level<br>dB(μV) | Permitted<br>limit<br>dB(μV) | Disturbance<br>level<br>dB(μV) | Permitted<br>limit<br>dB(μV) |  |
| 0.784              | 49.5                           | 56.0                         | 40.1                           | 46.0                         |  |
| 0.852              | 50.5                           | 56.0                         | 42.8                           | 46.0                         |  |
| 1.389              | 42.6                           | 56.0                         | 35.8                           | 46.0                         |  |
| 2.255              | 40.8                           | 56.0                         | 32.5                           | 46.0                         |  |
| 3.893              | 39.5                           | 56.0                         | 31.7                           | 46.0                         |  |
| 4.533              | 38.6                           | 56.0                         | 30.2                           | 46.0                         |  |

## **Neutral Line Data**

| Frequency<br>(MHz) | Quasi-Peak Average             |                              | rage                           |                              |
|--------------------|--------------------------------|------------------------------|--------------------------------|------------------------------|
|                    | Disturbance<br>level<br>dB(μV) | Permitted<br>limit<br>dB(μV) | Disturbance<br>level<br>dB(μV) | Permitted<br>limit<br>dB(μV) |
| 0.228              | 48.5                           | 62.5                         | 37.8                           | 52.5                         |
| 0.784              | 45.2                           | 56.0                         | 36.5                           | 46.0                         |
| 0.852              | 46.1                           | 56.0                         | 37.8                           | 46.0                         |
| 1.292              | 39.5                           | 56.0                         | 30.2                           | 46.0                         |
| 3.547              | 39.1                           | 56.0                         | 37.2                           | 46.0                         |
| 4.448              | 38.6                           | 56.0                         | 29.8                           | 46.0                         |

Test Engineer: Billy Li

FCC ID: UVD20071228001

## 3.6 RF Output Level Measurement

Worst Case Line-Conducted Configuration At 61.250 MHz

For electronic filing, the plot shows the RF output signal are saved with filename: ch3.pdf. and ch4.pdf

## 3.7 RF Output Level Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 4.0 dB

| TEST PERSONNE | L: |
|---------------|----|
|---------------|----|

\_\_\_\_\_\_ Signature

Birly Li

Billy Li, Compliance Engineer
Typed/Printed Name

March 24, 2008

Date

Applicant: Shenzhen MTC Co., LTD Date of Test: March 20, 2008

Model: AT2016 Mode: Modulating

Table 3
RF Output Level Measurement

| Test<br>Mode | C hannel | Туре   | Frequency<br>(M H z) | Meter<br>Reading<br>(dBµV) | Pad<br>Loss<br>(dB) | Result<br>(dB µV) | Lim it<br>(dB µV) | Margin<br>(dB) |
|--------------|----------|--------|----------------------|----------------------------|---------------------|-------------------|-------------------|----------------|
|              | 03       | Aural  | 56.750               | 46.2                       | 6.0                 | 52.2              | 56.5              | -4.3           |
| DTV          | 03       | Visual | 61.250               | 59.5                       | 6.0                 | 65.5              | 69.5              | -4.0           |
|              | 03       | Aural  | 65.750               | 46.1                       | 6.0                 | 52.1              | 56.5              | -4.4           |
|              | 04       | Aural  | 62.750               | 46.4                       | 6.0                 | 52.4              | 56.5              | -4.1           |
| DTV          | 04       | Visual | 67.250               | 58.5                       | 6.0                 | 64.5              | 69.5              | -5.0           |
|              | 04       | Aural  | 71.750               | 46.2                       | 6.0                 | 52.2              | 56.5              | -4.3           |

NOTES: 1. Test according to section 12.2.5 of ANSI C63.4

- 2. 50 to  $75\Omega$  (6dB attenuation) matching-impedance pad was employed.
- 3. Negative sign in the column shows value below limit.
- 4. Technical Limits: Video signal: 346.4 ×√R in microvolts = 3000.0μV or 69.5dBμV Audio signal: 77.5 ×√R in microvolts = 671.0μV or 56.5dBμV

Test Engineer: Billy Li

#### 3.8 Spurious Emission Measurement

Conducted spurious emissions measurement more than 4.6MHz below or 7.4MHz above the carrier frequency.

- The range for measurement is from 30MHz to 4.6MHz below the visual carrier frequency, and any emissions in range from 7.4MHz above the visual carrier frequency to 1G.
- The measuring instrument was set to 100kHz bandwidth and the detector function to peak mode.
- Technical Limits: -4.6 MHz of video carrier frequency and +7.4 MHz shall not exceed  $10.95 \times \sqrt{R}$  in microvolts or  $39.5 dB\mu V$ .

FCC ID: UVD20071228001

## 3.9 Spurious Emission Measurement Data

| Test<br>Mode | Channel | Frequency<br>(MHz) | Meter<br>Reading<br>(dВµV) | Pad<br>Loss<br>(dB) | Amplifier (-dB) | Result<br>(dBµV) | Limit<br>(dBµV) | Margin<br>(dB) |
|--------------|---------|--------------------|----------------------------|---------------------|-----------------|------------------|-----------------|----------------|
| DTV          | 03      | 56.250             | 56.9                       | 6.0                 | 26.0            | 36.9             | 39.5            | -2.6           |
| DTV          | 04      | 62.290             | 55.8                       | 6.0                 | 26.0            | 35.8             | 39.5            | -3.7           |

The worst case emission for more than 4.6MHz below or 7.4MHz above the carrier frequency was showed as above. And all spurious emission was measured and found to be at least 20 dB below the limit.

| TEST PERSONNEL:                                  |
|--|
| Birly Li   |
| Signature  |
| Pilly Li Compliance Engineer                     |
| Billy Li, Compliance Engineer Typed/Printed Name |
| March 24, 2008                                   |
| Date   |

## 3.10 Antenna Transfer Switch Measurement

Worst Case Transfer Switch Emission At 61.250 MHz

#### 3.11 Antenna Transfer Switch Measurement Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 8.0 dB

| TEST | PERSO | NNEL: |
|------|-------|-------|
|------|-------|-------|

Birly Li

Signature

Billy Li, Compliance Engineer
Typed/Printed Name

March 24, 2008

Date

Applicant: Shenzhen MTC Co., LTD Date of Test: March 19, 2008

Model: AT2016 Mode: Modulating

Table 4 Antenna Transfer Switch Measurement Pursuant to FCC Part 15 Section 15.115 Requirement

| Channel | Frequency<br>(M Hz) | Reading<br>(dBµV) | Pre-am<br>p (dB) | Pad +<br>Pass<br>splitter<br>Loss<br>(dB) | Result<br>(dBµV) | Lim it<br>(dBµV) | Margin<br>(dB) |
|---------|---------------------|-------------------|------------------|---|------------------|------------------|----------------|
| 03      | 61.250              | 12.0              | 22.5             | 12.0                                      | 1.5              | 9.5              | -8.0           |
| 04      | 67.250              | 11.8              | 22.5             | 12.0                                      | 1.3              | 9.5              | -8.2           |

NOTES: 1. Test according to section 12.2.6 of ANSI C63.4

- 2. A pass splitter (6dB attenuation) and a 50 to  $75\Omega$  (6dB attenuation) matching-impedance pad were employed.
- 3. Negative sign in the column shows value below limit.
- 4. The measuring instrument was set to 100kHz bandwidth and the detector function to peak mode
- 5. Limit should not exceed 3.0μV or 9.5dBμV.

Test Engineer: Billy Li

FCC ID: UVD20071228001

# EXHIBIT 4 EQUIPMENT PHOTOGRAPHS

## 4.0 **Equipment Photographs**

For electronic filing, the photographs of the tested EUT are saved with filename: external photos.doc & internal photos.doc.

# EXHIBIT 5 PRODUCT LABELLING

## 5.0 **Product Labelling**

For electronic filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

# EXHIBIT 6 TECHNICAL SPECIFICATIONS

## 6.0 <u>Technical Specifications</u>

For electronic filing, the block diagram and schematics of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

# **EXHIBIT 7**

## **INSTRUCTION MANUAL**

## 7.0 <u>Instruction Manual</u>

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

# **EXHIBIT 8**

## **MISCELLANEOUS INFORMATION**

## 8.0 <u>Miscellaneous Information</u>

This miscellaneous information includes emission measuring procedure.

#### 8.1 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services in the measurements of EUT operating under Part 15, Subpart B rules.

The test set-up and procedures described below are designed to meet the requirements of ANSI C63.4 - 2003.

The equipment under test (EUT) is placed on a wooden turntable which is four feet in diameter and approximately one meter in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjusted through all three orthogonal axes to obtain maximum emission levels. The antenna height and polarization are varied during the testing to search for maximum signal levels. The height of the antenna is varied from one to four meters.

Detector function for radiated emissions from the frequency band 30MHz to 1GHz is in QP mode and RBW setting is 120kHz. Detector function for radiated emissions for frequency band above 1GHz, both peak and AV detectors shall be used to measure the emissions and the peak limit is 20dB above the maximum permitted average emission limit and RBW setting is 1MHz. Detector function for conducted emissions are in QP & AV mode and IFBW setting is 9kHz from the frequency band 150kHz to 30MHz.

For radiated emission, the frequency range scanned is 30MHz to 2GHz. For line-conducted emissions, the range scanned is 150kHz to 30MHz.

FCC ID: UVD20071228001

## 8.1 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

AC power to the unit is varied from 85% to 115% nominal and variation in the fundamental emission field strength is recorded. If battery powered, a new, fully charged battery is used.

Conducted measurements are made as described in ANSI C63.4 - 2003.