

**ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT  
INTENTIONAL RADIATOR CERTIFICATION TO  
FCC PART 15 SUBPART B & C REQUIREMENT**

*OF*

**Wireless Camera**

**MODEL No.: CM388CWAS**

**Trademark: LYD**

**FCC ID: RAWCM388CWAS**

**REPORT NO: E0806669F**

**ISSUE DATE: July 28, 2008**

*Prepared for*

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*Prepared by*

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## VERIFICATION OF COMPLIANCE

|                      |                                                                                                                                          |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Applicant:           | ShenZhen LianYiDa Science co., LTD.<br>F5, Building A, Cun Nan Industrial Estate, Shui Dou Lao Wei,<br>Longhua, Bao'an, Shenzhen, China. |
| Product Description: | Wireless Camera                                                                                                                          |
| Trademark:           | LYD                                                                                                                                      |
| Model Number:        | CM388CWAS                                                                                                                                |
| File Number:         | E0806669F                                                                                                                                |
| Date of Test:        | July 05, 2008 to July 28, 2008                                                                                                           |

### We hereby certify that:

The above equipment was tested by DONGGUAN EMTEK CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.249.

The test results of this report relate only to the tested sample identified in this report.

*Approved By*



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**David Lee / Q.A. Manager**  
**DONGGUAN EMTEK CO., LTD.**

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## **1. GENERAL INFORMATION**

### **1.1 Product Description**

The ShenZhen LianYiDa Science co., LTD.. Model: CM388CWAS (referred to as the EUT in this report) The EUT is an short range, lower power, Wireless Camera designed as an " Input Device". It is designed by way of utilizing the FM modulation achieves the system operating.

A major technical descriptions of EUT is described as following:

- A). Operation Frequency:CH1: 2.400GHz, CH2:2.427GHz, CH3: 2.454GHz, CH4: 2.481GHz
- B). Modulation: FM
- C). Number of Channel: 4
- D). Antenna Designation: internal
- E). Power Supply: DC 5V with Adaptor

### **1.2 Related Submittal(s) / Grant (s)**

This submittal(s) (test report) is intended for FCC ID: RAWCM388CWAS filing to comply with Section 15.249 of the FCC Part 15, Subpart B and Subpart C Rules, The composite system (receiver) is compliance with Subpart B is authorized under a VoC procedure.

### **1.3 Test Methodology**

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.

### **1.4 Special Accessories**

Not available for this EUT intended for grant.

### **1.5 Equipment Modifications**

Not available for this EUT intended for grant.

## 1.6 Test Facility

Site Description  
EMC Lab.

: Accredited by CNAS, 2007.07.27  
The certificate is valid until 2012.07.26  
The Laboratory has been assessed and proved to be in compliance with CNAS/CL01:2005  
The Certificate Registration Number is L3150

Accredited by TUV Rheinland Guangzhou, 2005.1  
The certificate is valid until 2009.2  
The Laboratory has been assessed according to the requirements ISO/IEC 17025:1999

Accredited by FCC, January 03, 2006  
The Certificate Registration Number is 247565.

Accredited by Industry Canada, August 30, 2005  
The Certificate Registration Number is 46405-4480

Name of Firm  
Site Location

: DONGGUAN EMTEK CO., LTD  
: No.281, Guantai Road, Nancheng District,  
Dongguan, Guangdong, China

## 2. System Test Configuration

### 2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

### 2.2 EUT Exercise

The Transmitter was operated in the normal operating mode. the Tx frequency was fixed which was for the purpose of the measurements.

### 2.3 Test Procedure

#### 2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4-2003. Conducted emissions from the EUT measured in the **frequency range between 0.15 MHz and 30MHz** using **CISPR Quasi-Peak and average detector mode**.

#### 2.3.2 Radiated Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4-2003.

### 2.4 Limitation

#### (1) Conducted Emission

| Frequency(MHz) | Quasi-peak | Average |
|----------------|------------|---------|
| 0.15-0.5       | 66-56      | 56-46   |
| 0.5-5.0        | 56         | 46      |
| 5.0-30.0       | 60         | 50      |

**Note:**

1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

### Radiated Emissions FCC Rule: 15.249(a)

FCC Part 15, Subpart C Section 15.249. The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

| Frequency(MHz) | Filed Strength of Fundamental(at 3m) |         | Filed Strength of Harmonics(at 3m) |         |
|----------------|--------------------------------------|---------|------------------------------------|---------|
|                | PEAK                                 | AVERAGE | PEAK                               | AVERAGE |
| 902-928        | 114                                  | 94      | 74.0                               | 54.0    |
| 2400-2483.5    | 114                                  | 94      | 74.0                               | 54.0    |
| 5725-5875      | 114                                  | 94      | 74.0                               | 54.0    |
| 24000-24250    | 128                                  | 108     | 88.0                               | 68.0    |

### Radiated Emissions

#### FCC Rule: 15.249(d)(e)

FCC Part 15, Subpart C Section 15.209 limit of radiated emission for frequency below 1000GHz. The emissions from an intentional radiator shall not exceed the field strength level specified in the following table:

| Frequency (MHz) | Field strength $\mu\text{V/m}$ | Distance(m) | Field strength at 3m dB $\mu\text{V/m}$ |
|-----------------|--------------------------------|-------------|-----------------------------------------|
| 30-88           | 100                            | 3           | 40                                      |
| 88-216          | 150                            | 3           | 43.5                                    |
| 216-960         | 200                            | 3           | 46                                      |
| Above 960       | 500                            | 3           | 54                                      |

Remark: 1. Emission level in dB $\mu\text{V/m}$ =20 log (uV/m)  
 2. Measurement was performed at an antenna to the closed point of EUT distance of meters.

### FCC Part 15, Section 15.35(b) limit of radiated emission for frequency above 1000MHz

| Frequency(MHz) | Class A(dB $\mu\text{V/m}$ )(at 3m) |         | Class B(dB $\mu\text{V/m}$ )(at 3m) |         |
|----------------|-------------------------------------|---------|-------------------------------------|---------|
|                | PEAK                                | AVERAGE | PEAK                                | AVERAGE |
| Above 1000     | 80.0                                | 60.0    | 74.0                                | 54.0    |

## 2.5 Configuration of Tested System

**Fig. 2-1 Configuration of Tested System**

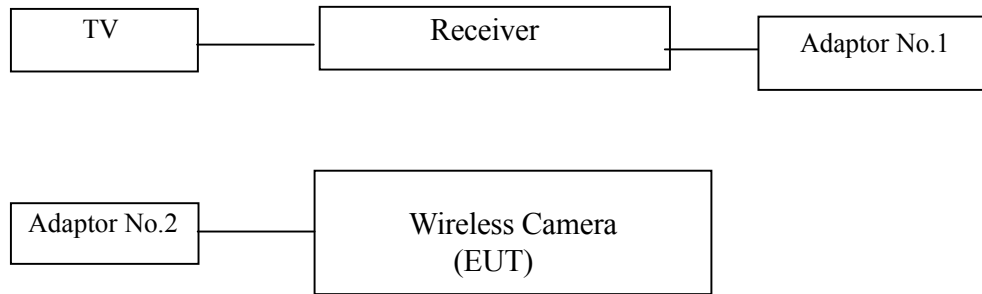


Table 2-1 Equipment Used in Tested System

| Item | Equipment       | Mfr/Brand | Model/Type No. | FCC ID       | Series No. | Note       |
|------|-----------------|-----------|----------------|--------------|------------|------------|
| 1.   | Wireless Camera | LYD       | CM388CWAS      | RAWCM388CWAS | N/A        | <b>EUT</b> |
| 2.   | Receiver        | LYD       | RC822A         | N/A          | N/A        |            |
| 3.   | TV              | SONY      | S82623         | N/A          | N/A        |            |
| 4.   | Adaptor No.1    | LYD       | XP20-050150    | N/A          | N/A        |            |
| 5.   | Adaptor No.2    | LYD       | XP20-050150    | N/A          | N/A        |            |

**Note:**

- (1) Unless otherwise denoted as EUT in 『Remark』 column , device(s) used in tested system is a support equipment.

### 3. Summary Of Test Results

| <b>FCC Rules</b>                  | <b>,Description Of Test</b> | <b>Result</b> |
|-----------------------------------|-----------------------------|---------------|
| § 15.207                          | Conducted Emission          | Compliant     |
| § 15.249 (a),(b),(d) (e) § 15.209 | Radiated Emission           | Compliant     |
| §15.203                           | Antenna Requirement         | Compliant     |

### 4. Description of test modes

The EUT (Wireless Camera) has been tested under normal operating condition. Three channels of EUT (the lowest channel, the middle channel and the highest channel) have been chosen for testing under Normal Operating condition. In this report, all the measured datum of the three channels have been reported. No software used to control the EUT for staying in continuous transmitting mode for testing.

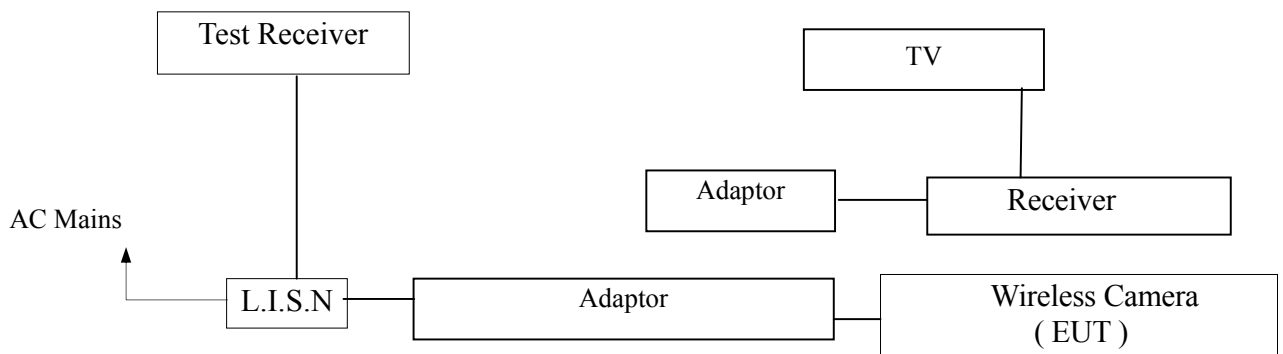
| <b>Channel</b> | <b>Frequency(MHz)</b> |
|----------------|-----------------------|
| 1              | 2400MHz               |
| 2              | 2427MHz               |
| 4              | 2481MHz               |

## 5. Conducted Emissions Test

### 5.1 Measurement Procedure:

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the three highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

### 5.2 Test SET-UP (Block Diagram of Configuration)



### 5.3 Measurement Equipment Used:

| Conducted Emission Test Site # 4 |                 |              |               |            |            |
|----------------------------------|-----------------|--------------|---------------|------------|------------|
| EQUIPMENT TYPE                   | MFR             | MODEL NUMBER | SERIAL NUMBER | LAST CAL.  | CAL DUE.   |
| Test Receiver                    | Rohde & Schwarz | ESCS30       | 828985/018    | 05/29/2008 | 05/29/2009 |
| L.I.S.N                          | Rohde & Schwarz | ESH2-Z5      | 834549/005    | 05/29/2008 | 05/29/2009 |
| L.I.S.N                          | Rohde & Schwarz | ESH2-Z5      | 834549/005    | 05/29/2008 | 05/29/2009 |
| 50ΩCoaxial Switch                | Anritsu         | MP59B        | M20531        | 05/29/2008 | 05/29/2009 |

#### 5.4 Measurement Result:

|                     |               |              |      |
|---------------------|---------------|--------------|------|
| Date of Test:       | July 16, 2008 | Temperature: | 22°C |
| Frequency Detector: | 0.15~30MHz    | Humidity:    | 50%  |
| Test Result:        | PASS          | Test Mode:   | On   |

| Test Line                                                                                                                                                                                      | Frequency MHz | Emission Level QP dB(μV) | Emission Level AV dB(μV) | Limits QP dB(μV) | Limits AV dB(μV) | Margin QP dB(μV) | Margin AV dB(μV) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------|--------------------------|------------------|------------------|------------------|------------------|
| Neutral                                                                                                                                                                                        | 0.414         | 45.50                    | 30.60                    | 57.57            | 47.57            | -12.07           | -16.97           |
|                                                                                                                                                                                                | 0.590         | 45.20                    | 28.70                    | 56.00            | 46.00            | -10.80           | -17.30           |
|                                                                                                                                                                                                | 0.706         | 44.80                    | 32.30                    | 56.00            | 46.00            | -11.20           | -13.70           |
|                                                                                                                                                                                                | 0.886         | 44.70                    | 29.80                    | 56.00            | 46.00            | -11.30           | -16.20           |
|                                                                                                                                                                                                | <b>1.650</b>  | <b>46.80</b>             | <b>32.50</b>             | <b>56.00</b>     | <b>46.00</b>     | <b>-9.20</b>     | <b>-13.50</b>    |
|                                                                                                                                                                                                | 2.354         | 44.70                    | 29.80                    | 56.00            | 46.00            | -11.30           | -16.20           |
| Line                                                                                                                                                                                           | 0.478         | 39.90                    | 27.40                    | 56.37            | 46.37            | -16.47           | -18.97           |
|                                                                                                                                                                                                | 0.770         | 40.30                    | 27.80                    | 56.00            | 46.00            | -15.70           | -18.20           |
|                                                                                                                                                                                                | 0.830         | 40.10                    | 28.50                    | 56.00            | 46.00            | -15.90           | -17.50           |
|                                                                                                                                                                                                | 1.710         | 42.30                    | 28.60                    | 56.00            | 46.00            | -13.70           | -17.40           |
|                                                                                                                                                                                                | 2.466         | 46.80                    | 28.70                    | 56.00            | 46.00            | -9.20            | -17.30           |
|                                                                                                                                                                                                | 3.942         | 45.80                    | 24.70                    | 56.00            | 46.00            | -10.20           | -21.30           |
| Remark: The worst emission is detected at <b>1.650MHz</b> with corrected <b>QP</b> signal Level of <b>46.80 dBμV</b> (Limit is 56.00 dBμV).When the Neutral of the EUT is connected to L.I.S.N |               |                          |                          |                  |                  |                  |                  |

**Conducted Measurement Photos:**



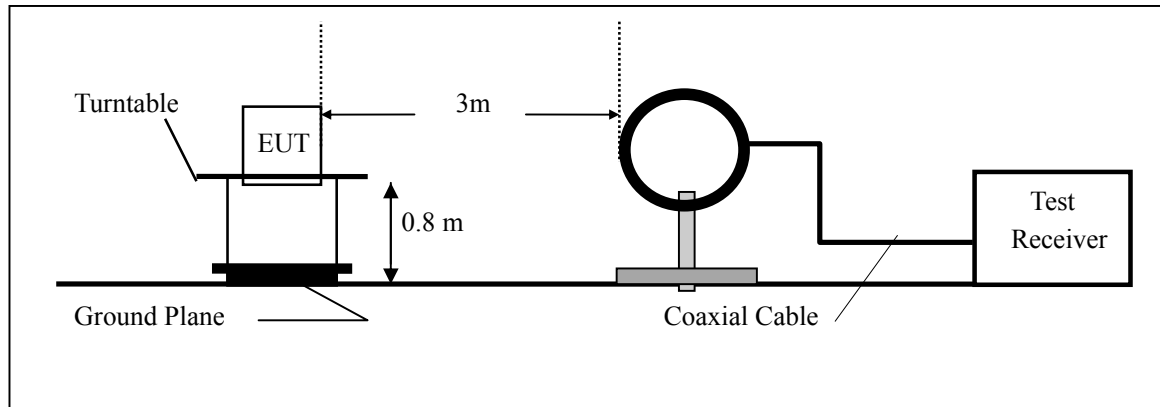
## **6. Radiated Emission Test**

### **6.1 Measurement Procedure**

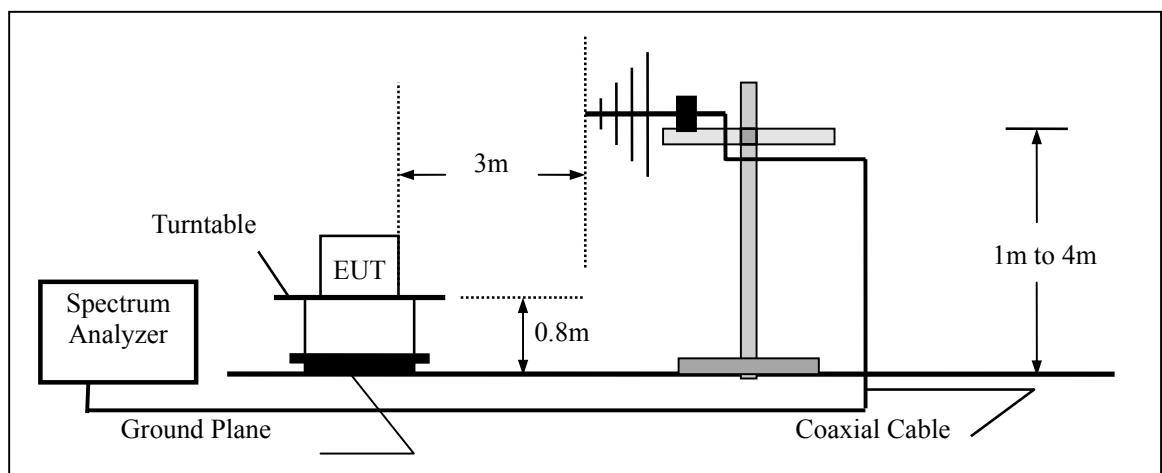
- 1 The EUT was placed on a turn table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measured were complete.

## 6.2 Test SET-UP (Block Diagram of Configuration)

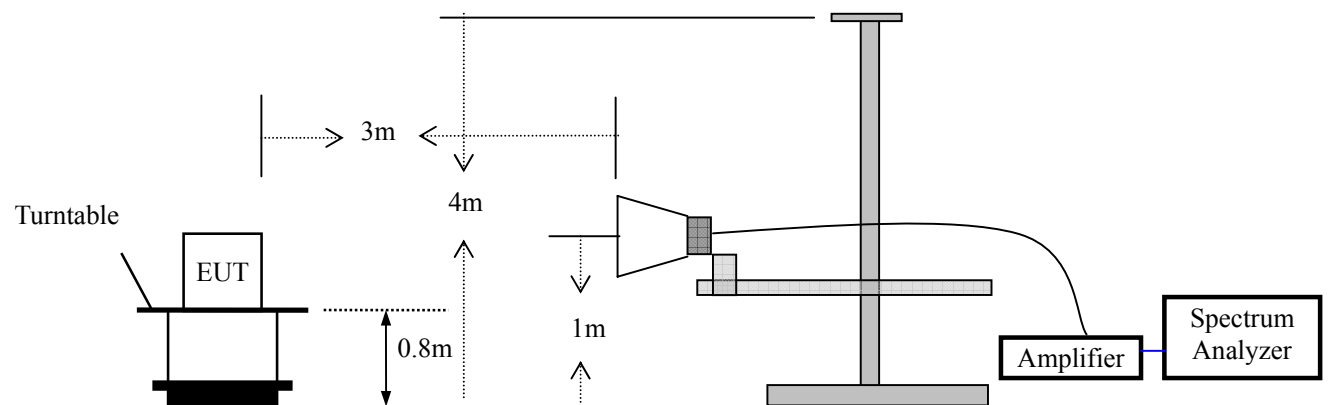
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



### 6.3 Measurement Equipment Used:

| EQUIPMENT TYPE    | MFR             | MODEL NUMBER | SERIAL NUMBER | LAST CAL.  | CAL DUE.   |
|-------------------|-----------------|--------------|---------------|------------|------------|
| Spectrum Analyzer | Rohde & Schwarz | FSP7         | 839511/010    | 05/29/2008 | 05/29/2009 |
| Spectrum Analyzer | HP              | E4407B       | 839840481     | 05/29/2008 | 05/29/2009 |
| EMI Test Receiver | Rohde & Schwarz | ESCS30       | 828985/018    | 05/29/2008 | 05/29/2009 |
| Pre-Amplifier     | HP              | 8447D        | 2944A07999    | 05/29/2008 | 05/29/2009 |
| Bilog Antenna     | Schwarzbeck     | VULB9163     | 142           | 05/29/2008 | 05/29/2009 |
| Loop Antenna      | ARA             | PLA-1030/B   | 1029          | 05/29/2008 | 05/29/2009 |
| Horn Antenna      | Electro-Metrics | EM-6961      | 103314        | 05/29/2008 | 05/29/2009 |
| Horn Antenna      | Schwarzbeck     | BBHA 9120    | D143          | 05/29/2008 | 05/29/2009 |

### 6.4 Out of Band Radiated Measurement Result

Operation Mode: On Test Date : July 18, 2008  
Frequency Range: 30~1000MHz Temperature : 28 °C  
Test Result: PASS Humidity : 65 %  
Measured Distance: 3m Test By: Andy

| Freq.<br>(MHz) | Ant.Pol.<br>H/V | Emission Level<br>(dBuV) | Limit 3m<br>(dBuV/m) | Margin<br>(dB) | Note |
|----------------|-----------------|--------------------------|----------------------|----------------|------|
| 70.920         | V               | 37.12                    | 40.00                | -2.88          | PK   |
| 92.240         | V               | 32.76                    | 43.50                | -10.74         | PK   |
| 130.760        | V               | 32.25                    | 43.50                | -11.25         | PK   |
| 177.325        | V               | 30.46                    | 43.50                | -13.04         | PK   |
| 195.060        | V               | 33.02                    | 43.50                | -10.48         | PK   |
| 212.796        | V               | 31.10                    | 43.50                | -12.40         | PK   |
| 74.215         | H               | 33.56                    | 40.00                | -6.44          | PK   |
| 89.216         | H               | 33.44                    | 43.50                | -10.06         | PK   |
| 177.335        | H               | 36.95                    | 43.50                | -6.65          | PK   |
| 198.454        | H               | 35.78                    | 43.50                | -7.72          | PK   |
| 212.798        | H               | 33.92                    | 43.50                | -9.58          | PK   |
| 675.225        | H               | 38.22                    | 46.00                | -7.78          | PK   |

**Note:** (1) All Readings are Peak Value.  
(2) Emission Level= Reading Level+Probe Factor +Cable Loss  
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

**No others harmonics emissions are higher than 20dB below the limits of 47 CFR Part 15.209.**

|                    |              |               |               |
|--------------------|--------------|---------------|---------------|
| Operation Mode:    | TX (2400MHz) | Test Date :   | July 18, 2008 |
| Frequency Range:   | 1-25GHz      | Temperature : | 28 °C         |
| Test Result:       | PASS         | Humidity :    | 65 %          |
| Measured Distance: | 3m           | Test By:      | Andy          |

| Freq.<br>(GHz) | Ant.Pol.<br>H/V | Emission Level(dBuV) |       | Limit 3m(dBuV/m) |    | Margin(dB) |        |
|----------------|-----------------|----------------------|-------|------------------|----|------------|--------|
|                |                 | PK                   | AV    | PK               | AV | PK         | AV     |
| 2.4(F)         | V               | 99.34                | 85.32 | 114              | 94 | -14.66     | -8.68  |
| 4.8            | V               | 62.56                | 46.43 | 74               | 54 | -11.44     | -7.57  |
| 7.2            | V               | 65.43                | 45.76 | 74               | 54 | -8.57      | -8.24  |
| 9.6            | V               | 62.56                | 41.78 | 74               | 54 | -11.44     | -12.22 |
| 12.0           | V               | 58.67                | 42.55 | 74               | 54 | -15.33     | -11.45 |
| 14.4           | V               | 63.56                | 43.87 | 74               | 54 | -10.44     | -10.13 |
| 16.8           | V               | 54.11                | 40.32 | 74               | 54 | -19.89     | -13.68 |
| 19.2           | V               | 58.78                | 40.55 | 74               | 54 | -15.22     | -13.45 |
| 21.6           | V               | 60.54                | 43.34 | 74               | 54 | -13.46     | -10.66 |
| 24.0           | V               | 59.22                | 42.48 | 74               | 54 | -14.78     | -11.52 |
| 2.4(F)         | H               | 98.43                | 84.66 | 114              | 94 | -15.57     | -9.34  |
| 4.8            | H               | 66.45                | 45.45 | 74               | 54 | -7.55      | -8.55  |
| 7.2            | H               | 63.55                | 43.22 | 74               | 54 | -10.45     | -10.78 |
| 9.6            | H               | 64.89                | 40.12 | 74               | 54 | -9.11      | -13.88 |
| 12.0           | H               | 59.56                | 43.56 | 74               | 54 | -14.44     | -10.44 |
| 14.4           | H               | 56.25                | 37.47 | 74               | 54 | -17.75     | -16.53 |
| 16.8           | H               | 55.76                | 46.43 | 74               | 54 | -18.24     | -7.57  |
| 19.2           | H               | 58.25                | 40.72 | 74               | 54 | -15.75     | -13.28 |
| 21.6           | H               | 61.44                | 42.34 | 74               | 54 | -12.56     | -11.66 |
| 24.0           | H               | 59.98                | 43.42 | 74               | 54 | -14.02     | -10.58 |

**No others harmonics emissions are higher than 20dB below the limits of 47 CFR Part 15.249.**

**Note:** (1) All Readings are Peak Value and AV.  
(2) Emission Level= Reading Level+Probe Factor +Cable Loss  
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

Operation Mode: TX(2427MHz)      Test Date : July 18, 2008  
Frequency Range: 1-25GHz      Temperature : 28 °C  
Test Result: PASS      Humidity : 65 %  
Measured Distance: 3m      Test By: Andy

| Freq.<br>(GHz) | Ant.Pol.<br>H/V | Emission Level(dBuV) |       | Limit 3m(dBuV/m) |    | Margin(dB) |        |
|----------------|-----------------|----------------------|-------|------------------|----|------------|--------|
|                |                 | PK                   | AV    | PK               | AV | PK         | AV     |
| 2.427(F)       | V               | 98.76                | 85.67 | 114              | 94 | -15.24     | -8.33  |
| 4.854          | V               | 63.55                | 42.43 | 74               | 54 | -10.45     | -11.57 |
| 7.281          | V               | 61.12                | 42.33 | 74               | 54 | -12.88     | -11.67 |
| 9.708          | V               | 57.43                | 40.64 | 74               | 54 | -16.57     | -13.36 |
| 12.135         | V               | 59.72                | 43.65 | 74               | 54 | -14.28     | -10.35 |
| 14.562         | V               | 62.43                | 43.56 | 74               | 54 | -11.57     | -10.44 |
| 16.989         | V               | 59.31                | 45.42 | 74               | 54 | -14.69     | -8.58  |
| 19.416         | V               | 61.23                | 43.45 | 74               | 54 | -12.77     | -10.55 |
| 21.843         | V               | 55.42                | 34.66 | 74               | 54 | -18.58     | -19.34 |
| 24.27          | V               | 63.78                | 41.87 | 74               | 54 | -10.22     | -12.13 |
| 2.427(F)       | H               | 97.54                | 78.44 | 114              | 94 | -16.46     | -15.56 |
| 4.854          | H               | 62.45                | 42.22 | 74               | 54 | -11.55     | -11.78 |
| 7.281          | H               | 63.22                | 42.67 | 74               | 54 | -10.78     | -11.37 |
| 9.708          | H               | 56.57                | 40.03 | 74               | 54 | -17.43     | -13.97 |
| 12.135         | H               | 57.57                | 38.97 | 74               | 54 | -16.43     | -15.03 |
| 14.562         | H               | 59.78                | 41.77 | 74               | 54 | -14.22     | -12.23 |
| 16.989         | H               | 63.64                | 43.55 | 74               | 54 | -10.36     | -10.45 |
| 19.416         | H               | 59.66                | 46.44 | 74               | 54 | -14.34     | -7.56  |
| 21.843         | H               | 64.35                | 45.55 | 74               | 54 | -9.65      | -8.45  |
| 24.27          | H               | 65.41                | 46.24 | 74               | 54 | -8.59      | -7.76  |

**No others harmonics emissions are higher than 20dB below the limits of 47 CFR Part 15.249.**

**Note:** (1) All Readings are Peak Value and AV.  
(2) Emission Level= Reading Level+Probe Factor +Cable Loss  
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

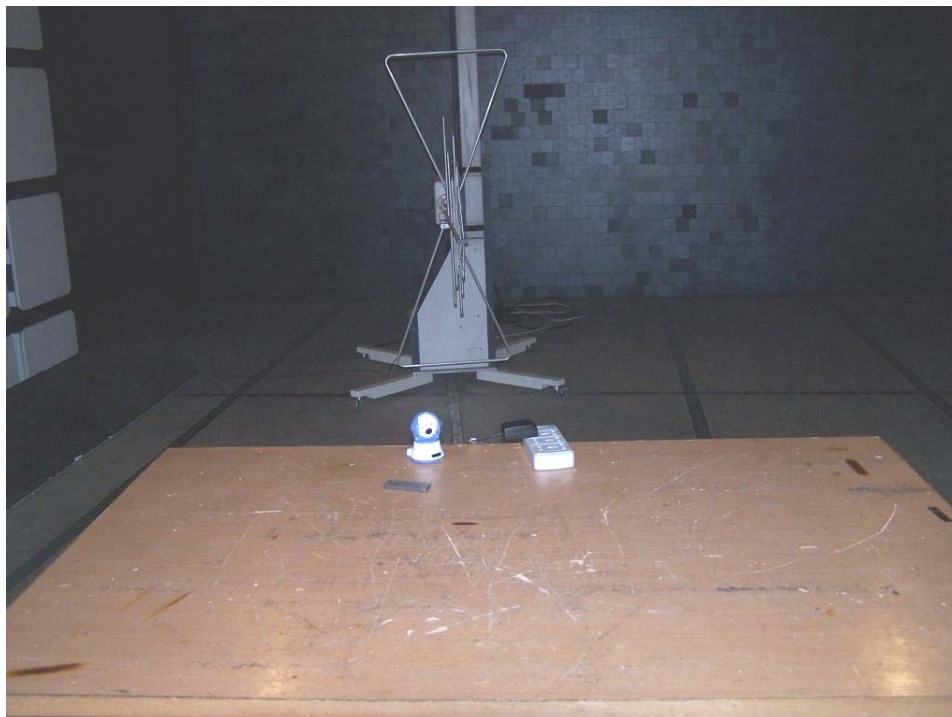
Operation Mode: TX(2481MHz)      Test Date : July 18, 2008  
Frequency Range: 1-25GHz      Temperature : 28 °C  
Test Result: PASS      Humidity : 65 %  
Measured Distance: 3m      Test By: Andy

| Freq.<br>(GHz) | Ant.Pol.<br>H/V | Emission Level(dBuV) |       | Limit 3m(dBuV/m) |    | Margin(dB) |        |
|----------------|-----------------|----------------------|-------|------------------|----|------------|--------|
|                |                 | PK                   | AV    | PK               | AV | PK         | AV     |
| 2.481(F)       | V               | 99.55                | 81.33 | 114              | 94 | -14.45     | -12.67 |
| 4.962          | V               | 63.34                | 45.67 | 74               | 54 | -10.66     | -8.33  |
| 7.443          | V               | 67.56                | 44.18 | 74               | 54 | -6.44      | -9.82  |
| 9.924          | V               | 59.87                | 41.34 | 74               | 54 | -14.13     | -12.66 |
| 12.405         | V               | 63.44                | 43.56 | 74               | 54 | -10.56     | -10.44 |
| 14.886         | V               | 62.62                | 44.66 | 74               | 54 | -11.38     | -9.34  |
| 17.367         | V               | 63.77                | 42.45 | 74               | 54 | -10.23     | -11.55 |
| 19.848         | V               | 59.72                | 41.11 | 74               | 54 | -14.28     | -12.89 |
| 22.329         | V               | 57.43                | 39.05 | 74               | 54 | -16.57     | -14.95 |
| 24.810         | V               | 59.33                | 40.64 | 74               | 54 | -14.67     | -13.36 |
| 2.481(F)       | H               | 97.36                | 81.66 | 114              | 94 | -16.64     | -12.34 |
| 4.962          | H               | 61.55                | 43.68 | 74               | 54 | -12.45     | -10.32 |
| 7.443          | H               | 59.77                | 41.44 | 74               | 54 | -14.23     | -12.56 |
| 9.924          | H               | 58.55                | 39.17 | 74               | 54 | -15.45     | -14.83 |
| 12.405         | H               | 62.45                | 42.51 | 74               | 54 | -11.55     | -11.49 |
| 14.886         | H               | 61.32                | 40.54 | 74               | 54 | -12.68     | -13.46 |
| 17.367         | H               | 60.56                | 41.76 | 74               | 54 | -13.46     | -12.24 |
| 19.848         | H               | 57.64                | 39.22 | 74               | 54 | -16.36     | -14.78 |
| 22.329         | H               | 59.76                | 40.33 | 74               | 54 | -14.24     | -13.67 |
| 24.810         | H               | 61.25                | 42.32 | 74               | 54 | -12.75     | -11.68 |

**No others harmonics emissions are higher than 20dB below the limits of 47 CFR Part 15.249.**

**Note:** (1) All Readings are Peak Value and AV.  
(2) Emission Level= Reading Level+Probe Factor +Cable Loss  
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

### 6.5 Radiated Measurement Photos:



## **7. Occupied Bandwidth**

### **7.1 Measurement Procedure**

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Set EUT as normal operation.
3. Set SPA Center Frequency = fundamental frequency, RBW=100KHz, VBW=300KHz.
4. Set SPA Max hold. Mark peak.

### **7.2 Test SET-UP(Block Diagram of Configuration)**

Same as 6.2 Radiated Emission Measurement.

### **7.3 Measurement Equipment Used:**

Same as 6.3 Radiated Emission Measurement.

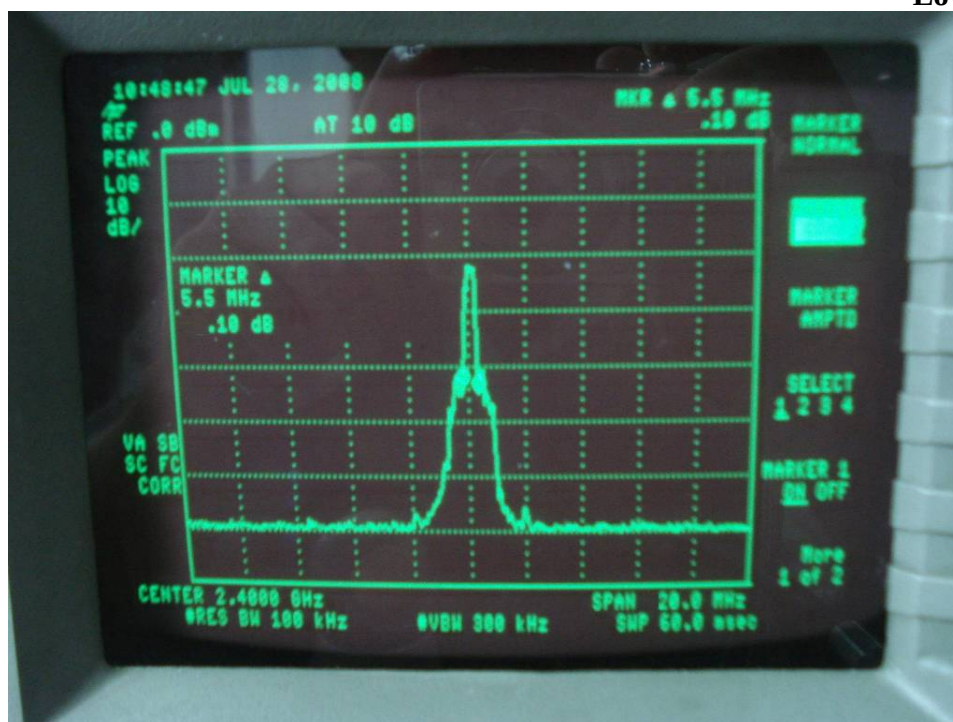
### **7.4 Measurement Results:**

The field strength of any emission which appear outside of this band shall not exceed the general radiated emission limits in section 15.209.

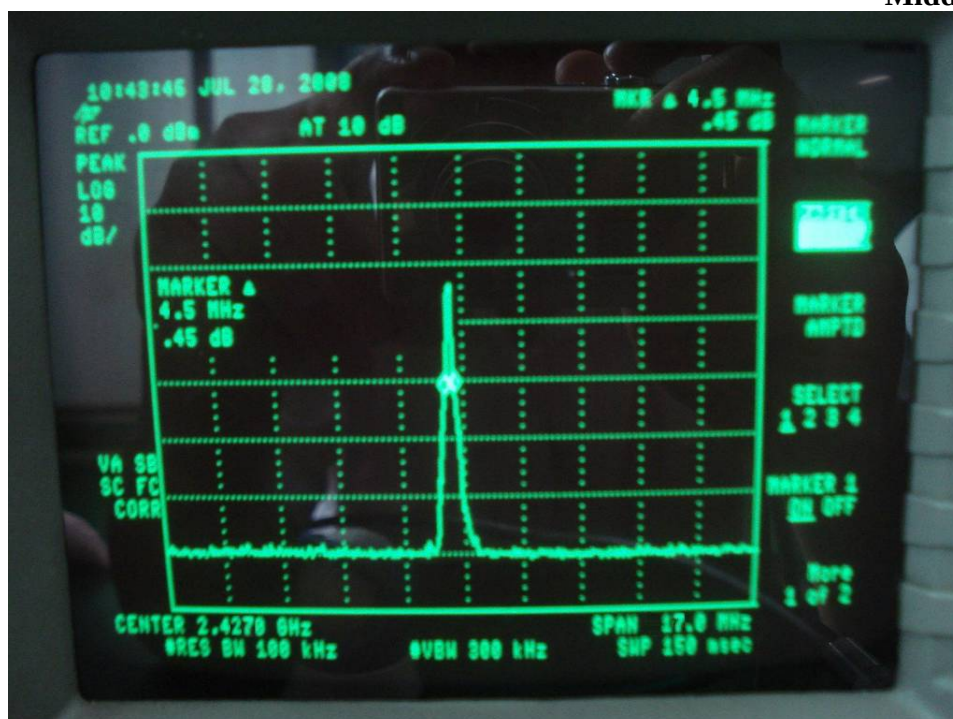
Refer to attached data chart.

## Band Width Test Data:

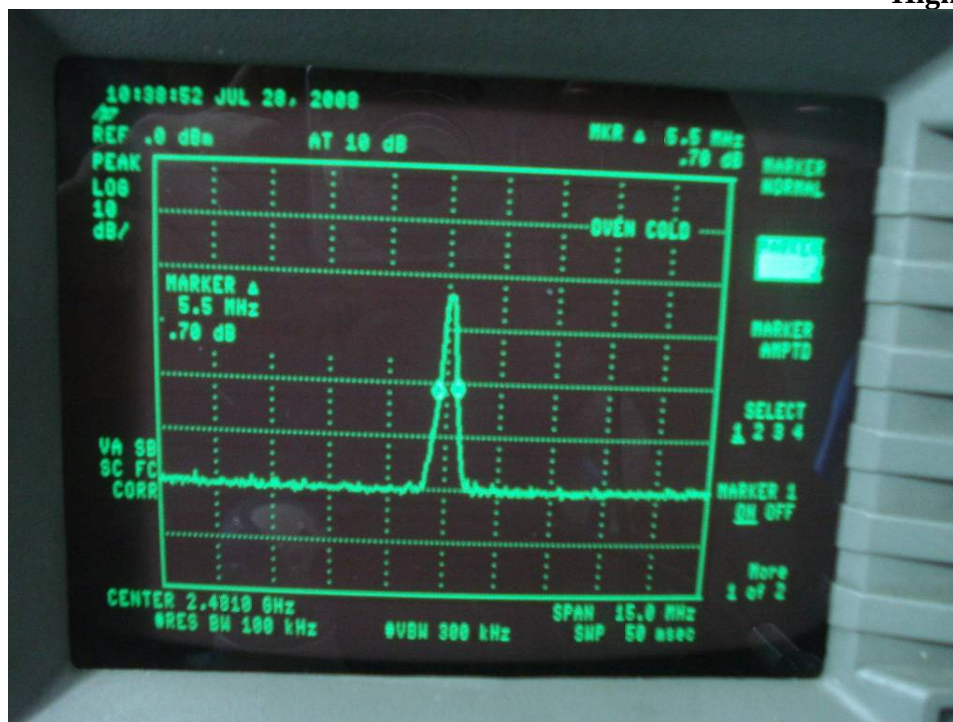
Low frequency



Middle frequency



### High frequency



## **8. Antenna Application**

### **8.1 Antenna requirement**

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible part shall be used with the device, The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section, The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

### **8.2 Antenna construction and directional gain**

An external specify type antenna was used.