

# **FCC TEST REPORT**

## **for**

### **Yoostar USB Camera System**

Model No. : YS-1000

FCC ID : W9SYS1000

Operating Frequency : 2402-2481 MHz

Applicant : Yoostar Entertainment Group, Inc.  
244W 54th Street, 9th Floor, New York, NY 10019

Regulation : ***FCC Part 15.249 Subpart C***

Prepared by : AOV Testing Technology Co., Ltd  
AOV Building, Xueyuan Road East, University City, Shenzhen  
(Tanglang Village, Xili Town, Nanshan District), China

Test Date : April 10-July 20, 2009

Date of Report : July 21, 2009

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## TEST REPORT DECLARATION

Applicant : Yoostar Entertainment Group, Inc.  
Manufacturer : Keysbond Limited  
EUT Description : Yoostar USB Camera System

**Test Procedure Used:**  
**FCC Part 15.249 Subpart C**

The E. U. T. listed below has been completed RFI testing by Shenzhen AOV Testing Technology Co., Ltd at the test site of Bontek Compliance Testing Laboratory Ltd. And the Interference emissions can pass **FCC Part 15** limitations.

The test configurations and the facility comply with the radiated site criteria in **ANSI C63.4-2003**.

Date of Test:

April 10-July 20, 2009

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Prepared by:



Project Engineer

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Reviewer :



Project Manager

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## 1. GENERAL INFORMATION

### 1.1 General Information

Description : Yoostar USB Camera System

Number of Channels : 6 (2402MHz, 2415 MHz, 2428 MHz  
2440 MHz, 2458 MHz, 2481 MHz)

Model No. : YS-1000

Applicant : Yoostar Entertainment Group, Inc.  
244W 54th Street, 9th Floor, New York, NY 10019

Manufacturer : Keysbond Limited  
Metro Center Phase 132 Lam Hing St. #301-310  
Kowloon Bay, Hong Kong

### 1.2 Test Facility

Test Firm : Bontek Compliance Testing Laboratory Ltd.  
Certificated by FCC, Registration No.: 338263

Address : FL.1, Building H-3, Hua Qiao Cheng East Industrial Area  
Qiaocheng East Road, Nanshan, Shenzhen, P.R.China

Tel : 86-755-86337020

Fax : 86-755-86337028

### 1.3 Test Instrument Used

| No. | Equipment                      | Manufacturer    | Model No.  | S/N            | Calculator date |
|-----|--------------------------------|-----------------|------------|----------------|-----------------|
| 1.  | EMI Test Receiver              | R&S             | ESCI       | 100687         | 2009-2-22       |
| 2.  | EMI Test Receiver              | R&S             | FSU        | BCT-019        | 2009-2-22       |
| 3.  | Amplifier                      | HP              | 8447D      | 1937A02492     | 2009-2-22       |
| 4.  | TRILOG Broadband Test-Antenna  | SCHWARZBECK     | VULB9163   | 9163-324       | 2009-2-22       |
| 5.  | Horn Antenna                   | SCHWARZBECK     | BBHA9120A  | B08000991-0001 | 2009-2-27       |
| 6.  | High Field Biconical Antenna   | ELECTRO-METRICS | EM-6913    | 166            | 2009-2-22       |
| 7.  | Log Periodic Antenna           | ELECTRO-METRICS | EM-6950    | 811            | 2009-2-22       |
| 8.  | Remote Active Vertical Antenna | ELECTRO-METRICS | EM-6892    | 304            | 2009-2-22       |
| 9.  | Teo Line Single Phase Module   | SCHWARZBECK     | NSLK8128   | D-69250        | 2009-3-31       |
| 10. | Positioning Controller         | C&C             | CC-C-1F    | MF7802113      | 2009-2-22       |
| 11. | Triple-Loop Antenna            | EVERFINE        | LLA-2      | 607004         | 2009-2-27       |
| 12. | 10dB attenuator                | SCHWARZBECK     | MTAIMP-136 | R65.90.0001#06 | 2009-2-22       |

## 2. RADIATION INTERFERENCE

### 2.1. Rules Part No.

15.249

### 2.2. Limits

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

| Fundamental Frequency    | Field Strength of Fundamental (millivolts/meter) | Field Strength of Harmonics (microvolts/meter) |
|--------------------------|--|--|
| 902 - 928 MHz            | 50   | 500  |
| <b>2400 - 2483.5 MHz</b> | <b>50 (94)</b>                                   | <b>500 (54)</b>                                |
| 5725 - 5875 MHz          | 50   | 500  |
| 24.0 - 24.25 GHz         | 250  | 2500   |

The field strength of any emissions radiated on any frequency outside of the fundamental band shall not exceed the general radiated emission limits in Section 15.209.

| Frequency of (MHz) | Emission Field Strength (microvolts/meter) |
|--------------------|--|
| 30 - 88            | 100 (40)                                   |
| 88 - 216           | 150 (43.5)                                 |
| 216 - 960          | 200 (46.0)                                 |
| Above 960          | 500 (54.0)                                 |

### 2.3. Test Procedure

#### ANSI STANDARD C63.4-2003 10.1.7 MEASUREMENT PROCEDURES:

The EUT is placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (log periodical antenna and horn antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz.

The spectrum was scanned from 30 MHz to 10th harmonic of the fundamental.

## 2.4. Test Result

**PASS**

### Low Channel: 2402MHz

Field Strength of Fundamental:

Horizontal:

| Frequency (MHz) | PK (dBuV/m) | Read Level (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) |
|-----------------|-------------|---------------------|----------------|-----------------|
| 2402.4400       | 93.50       | 82.80(AV)           | 94.00          | 11.20           |

Vertical:

| Frequency (MHz) | PK (dBuV/m) | Read Level (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) |
|-----------------|-------------|---------------------|----------------|-----------------|
| 2402.4400       | 95.70       | 81.30(AV)           | 94.00          | 12.70           |

Field Strength of Spurious Emission:

Horizontal:

| Frequency (MHz) | PK (dBuV/m) | Read Level (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) |
|-----------------|-------------|---------------------|----------------|-----------------|
| 47.4600         | 24.60       | ---                 | 40.00          | 15.40           |
| 95.9600         | 24.00       | ---                 | 43.50          | 19.50           |
| 103.7200        | 25.30       | ---                 | 43.50          | 18.20           |
| 225.9400        | 24.40       | ---                 | 46.00          | 21.60           |
| 544.1000        | 30.70       | ---                 | 46.00          | 15.30           |
| 4731.9500       | 49.44       | 41.30(AV)           | 54.00          | 12.70           |
| 14681.9500      | 44.16       | 40.70(AV)           | 54.00          | 13.30           |
| 17843.5000      | 47.46       | 41.00(AV)           | 54.00          | 13.00           |

Vertical:

| Frequency (MHz) | PK (dBuV/m) | Read Level (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) |
|-----------------|-------------|---------------------|----------------|-----------------|
| 51.3400         | 22.50       | ---                 | 40.00          | 17.50           |
| 94.0200         | 22.70       | ---                 | 43.50          | 20.80           |
| 101.7800        | 24.30       | ---                 | 43.50          | 19.20           |
| 208.4800        | 22.80       | ---                 | 43.50          | 20.70           |
| 540.2200        | 29.80       | ---                 | 46.00          | 16.20           |
| 3996.8800       | 41.39       | 40.02(AV)           | 54.00          | 13.98           |
| 6883.0600       | 42.78       | 42.50(AV)           | 54.00          | 11.50           |
| 14152.0000      | 43.70       | 43.20(AV)           | 54.00          | 10.80           |

**Middle Channel: 2440MHz**

Field Strength of Fundamental:

Horizontal:

| Frequency (MHz) | PK (dBuV/m) | Read Level (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) |
|-----------------|-------------|---------------------|----------------|-----------------|
| 2440.7300       | 92.90       | 81.00(AV)           | 94.00          | 13.00           |

Vertical:

| Frequency (MHz) | PK (dBuV/m) | Read Level (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) |
|-----------------|-------------|---------------------|----------------|-----------------|
| 2440.7000       | 97.10       | 82.50(AV)           | 94.00          | 11.50           |

Field Strength of Spurious Emission:

Horizontal:

| Frequency (MHz) | PK (dBuV/m) | Read Level (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) |
|-----------------|-------------|---------------------|----------------|-----------------|
| 39.7000         | 23.70       | ---                 | 40.00          | 16.30           |
| 95.9600         | 24.10       | ---                 | 43.50          | 19.40           |
| 123.1200        | 26.50       | ---                 | 43.50          | 17.00           |
| 179.3800        | 24.30       | ---                 | 43.50          | 19.20           |
| 551.8600        | 31.20       | ---                 | 46.00          | 14.80           |
| 4801.9500       | 49.34       | 42.02(AV)           | 54.00          | 11.98           |
| 14596.7400      | 46.05       | 40.18(AV)           | 54.00          | 13.82           |
| 17895.5200      | 45.60       | 43.30(AV)           | 54.00          | 10.70           |

Vertical:

| Frequency (MHz) | PK (dBuV/m) | Read Level (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) |
|-----------------|-------------|---------------------|----------------|-----------------|
| 30.0000         | 21.30       | ---                 | 40.00          | 18.70           |
| 92.0800         | 24.30       | ---                 | 43.50          | 19.20           |
| 123.2000        | 25.10       | ---                 | 43.50          | 18.40           |
| 179.3800        | 24.80       | ---                 | 43.50          | 18.70           |
| 542.1600        | 30.70       | ---                 | 46.00          | 15.30           |
| 4801.9600       | 47.60       | 40.40(AV)           | 54.00          | 13.60           |
| 11768.2200      | 45.30       | 40.10(AV)           | 54.00          | 13.90           |
| 14596.7400      | 46.08       | 43.00(AV)           | 54.00          | 11.00           |



**High Channel: 2481MHz****Field Strength of Fundamental:**

Horizontal:

| Frequency (MHz) | PK (dBuV/m) | Read Level (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) |
|-----------------|-------------|---------------------|----------------|-----------------|
| 2481.3900       | 93.83       | 83.00(AV)           | 94.00          | 11.00           |

Vertical:

| Frequency (MHz) | PK (dBuV/m) | Read Level (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) |
|-----------------|-------------|---------------------|----------------|-----------------|
| 2481.3900       | 93.03       | 82.50(AV)           | 94.00          | 11.50           |

**Field Strength of Spurious Emission:**

Horizontal:

| Frequency (MHz) | PK (dBuV/m) | Read Level (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) |
|-----------------|-------------|---------------------|----------------|-----------------|
| 51.3400         | 22.60       | ---                 | 40.00          | 17.40           |
| 95.9600         | 23.30       | ---                 | 43.50          | 20.20           |
| 97.9000         | 23.40       | ---                 | 43.50          | 20.10           |
| 210.4200        | 24.00       | ---                 | 43.50          | 19.50           |
| 547.9800        | 30.00       | ---                 | 46.00          | 16.00           |
| 4945.8800       | 44.26       | 40.82(AV)           | 54.00          | 13.18           |
| 6671.2500       | 46.26       | 43.16(AV)           | 54.00          | 10.84           |
| 14554.3100      | 49.13       | 42.44(AV)           | 54.00          | 11.56           |

Vertical:

| Frequency (MHz) | PK (dBuV/m) | Read Level (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) |
|-----------------|-------------|---------------------|----------------|-----------------|
| 47.4600         | 24.00       | ---                 | 40.00          | 16.00           |
| 95.9600         | 23.80       | ---                 | 43.50          | 19.70           |
| 99.8400         | 24.90       | ---                 | 43.50          | 18.60           |
| 204.6000        | 24.20       | ---                 | 43.50          | 19.30           |
| 544.1000        | 31.20       | ---                 | 46.00          | 14.80           |
| 4945.8800       | 46.24       | 42.70(AV)           | 54.00          | 11.30           |
| 9768.0300       | 46.25       | 40.00(AV)           | 54.00          | 14.00           |
| 11768.2200      | 47.30       | 42.80(AV)           | 54.00          | 11.20           |

### 3. BAND EDGE

#### 3.1.Rules Part No.

15.249

#### 3.2.Limits

In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 50dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

#### 3.3.Test Procedure

Record the respond of frequency waveform when the EUT was working by a spectrum analyzer or EMI Receiver. Low and high channel were tested

Set 1MHz RBW and 1MHz VBW when use PK detector.

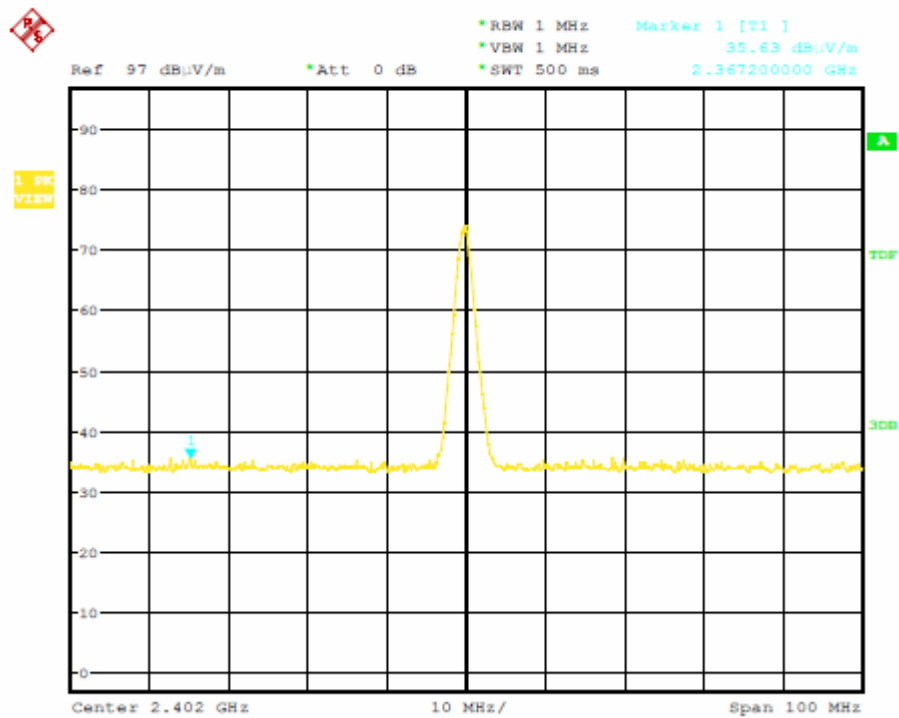
Set 1MHz RBW and 10 Hz VBW when use AV detector.

#### 3.4.Test Result

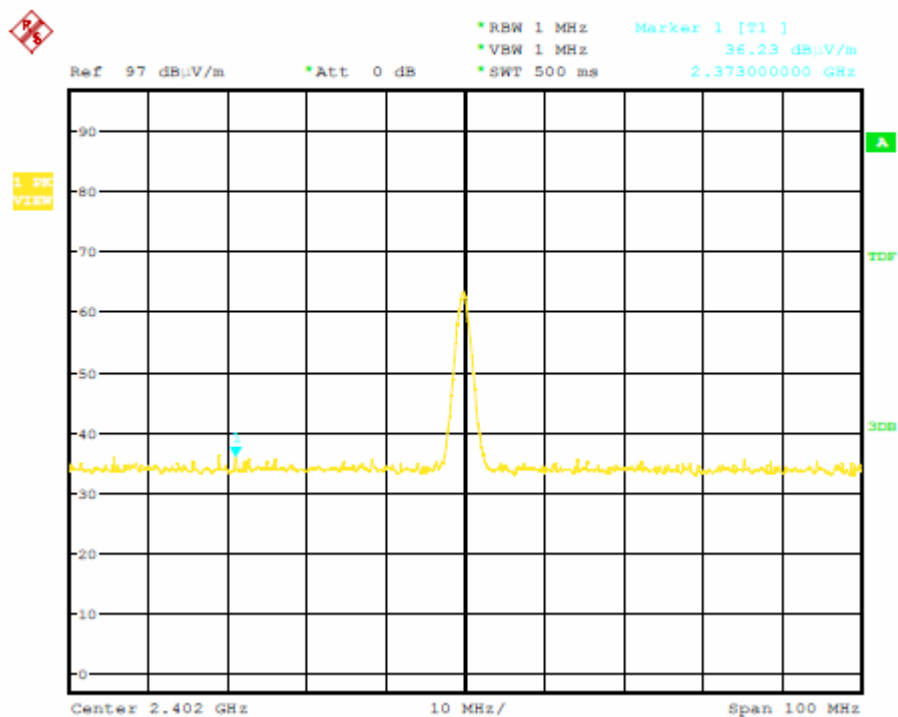
**PASS**

## Low Channel: 2402MHz

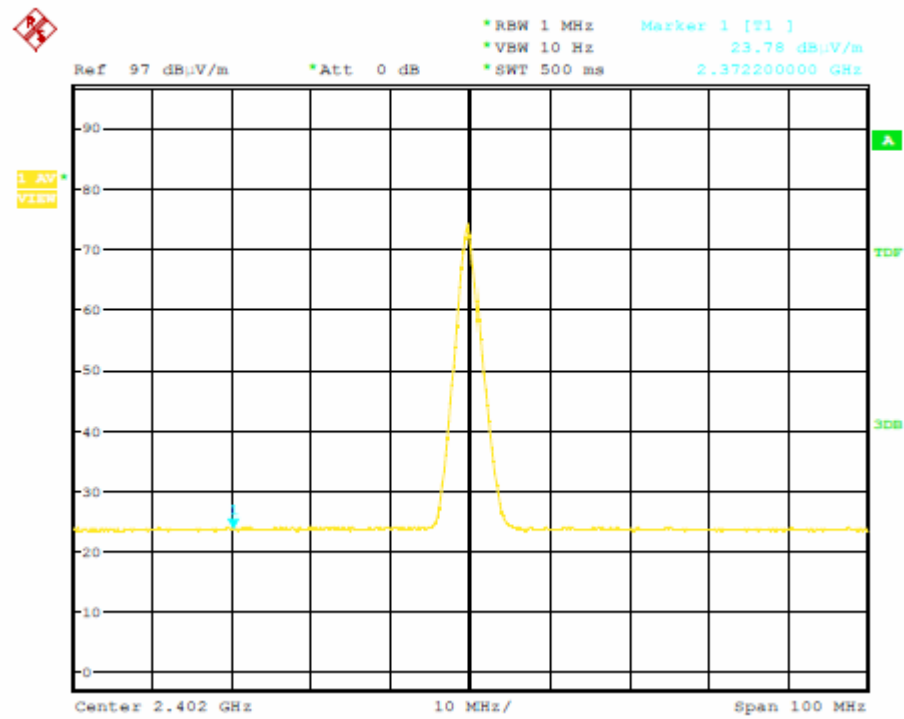
## Peak Horizontal:



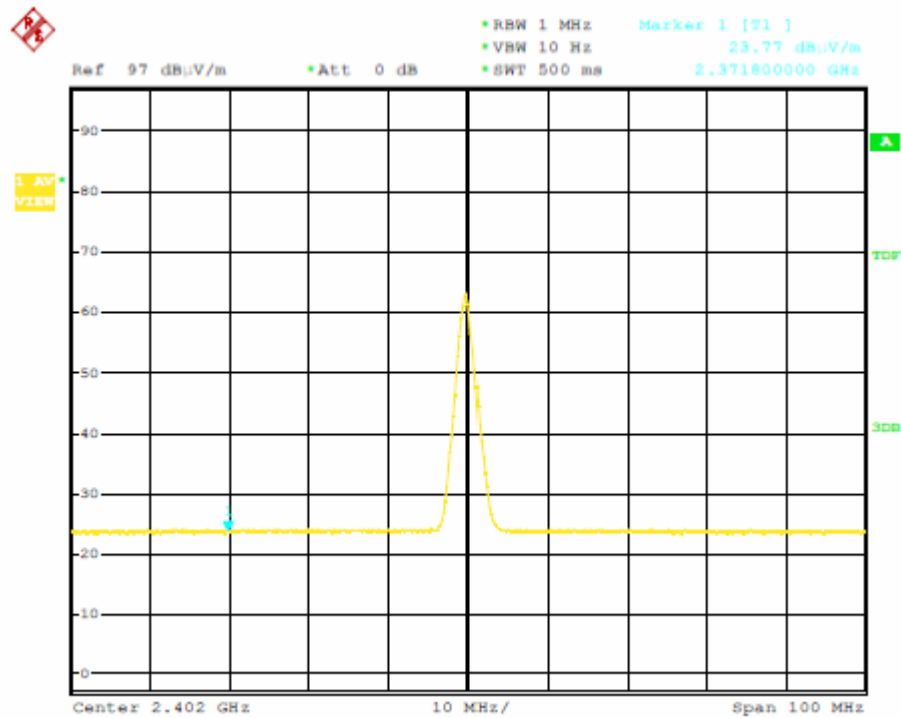
## Peak Vertical:



## AV Horizontal:

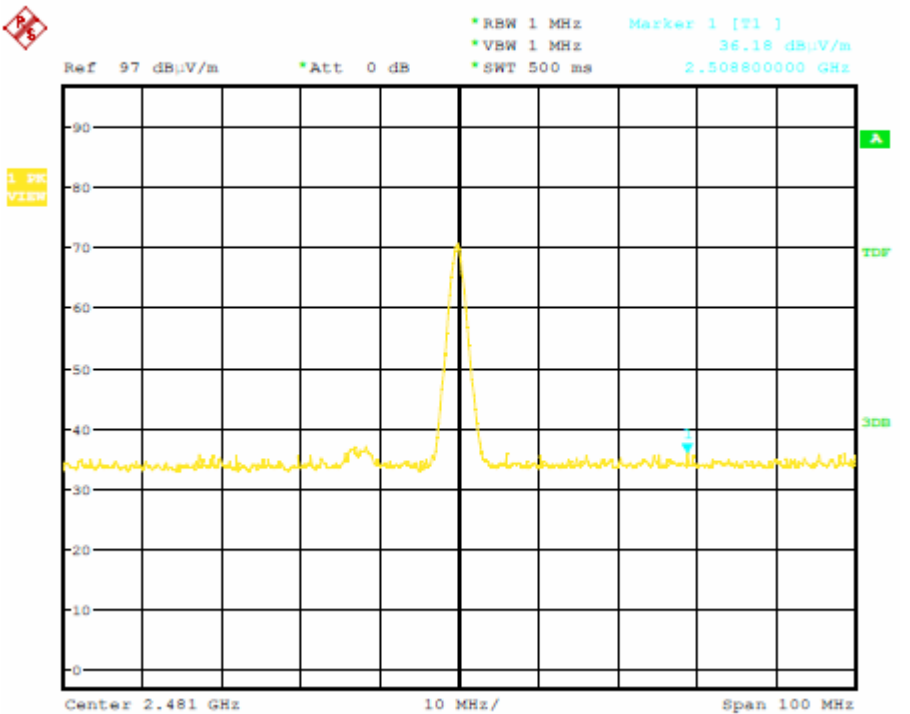


## AV Vertical

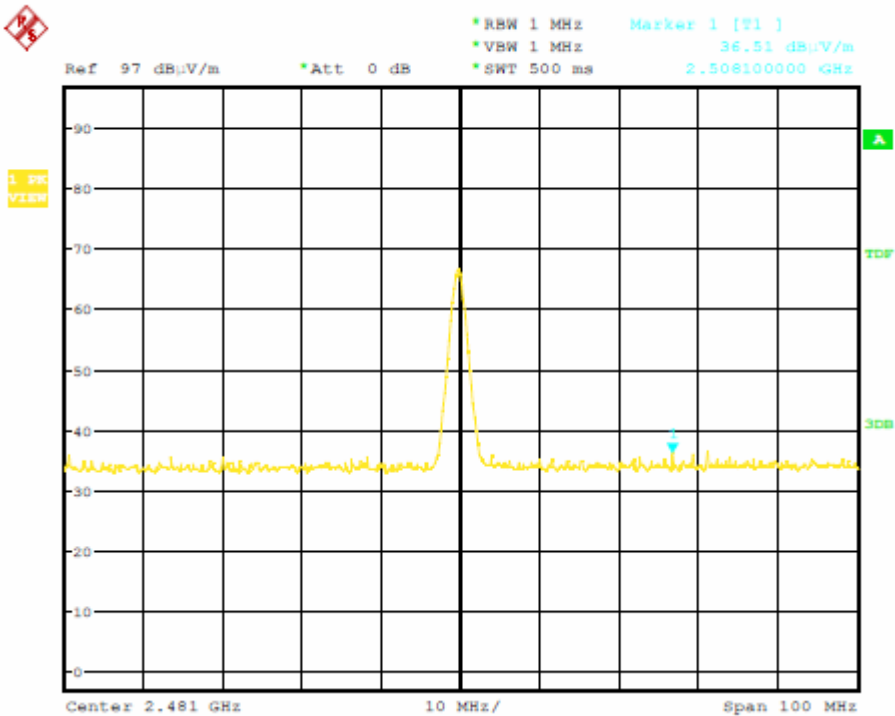


High Channel: 2481MHz

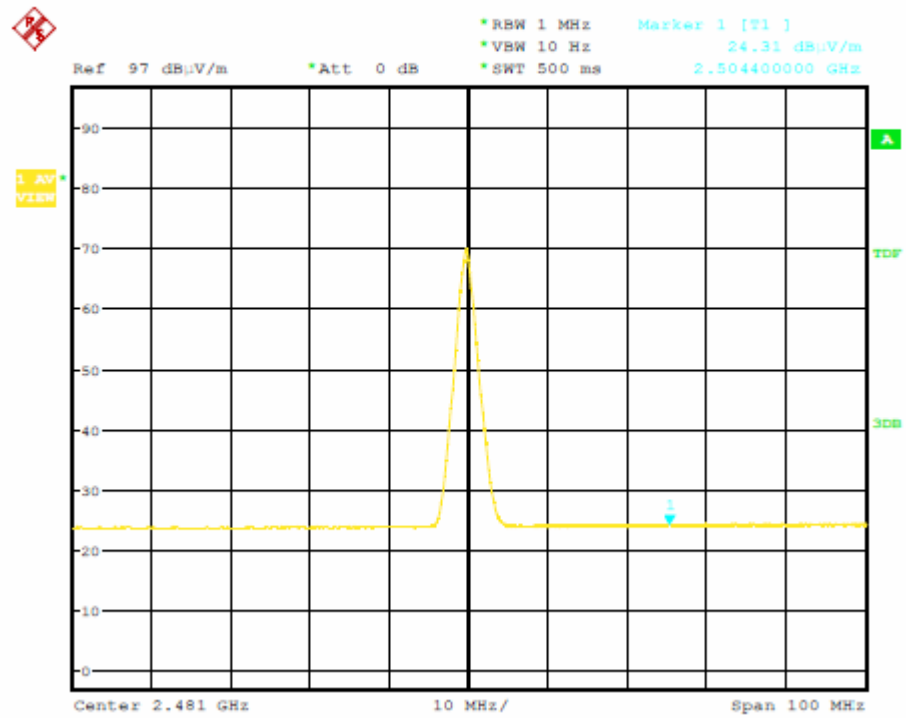
Peak Horizontal:



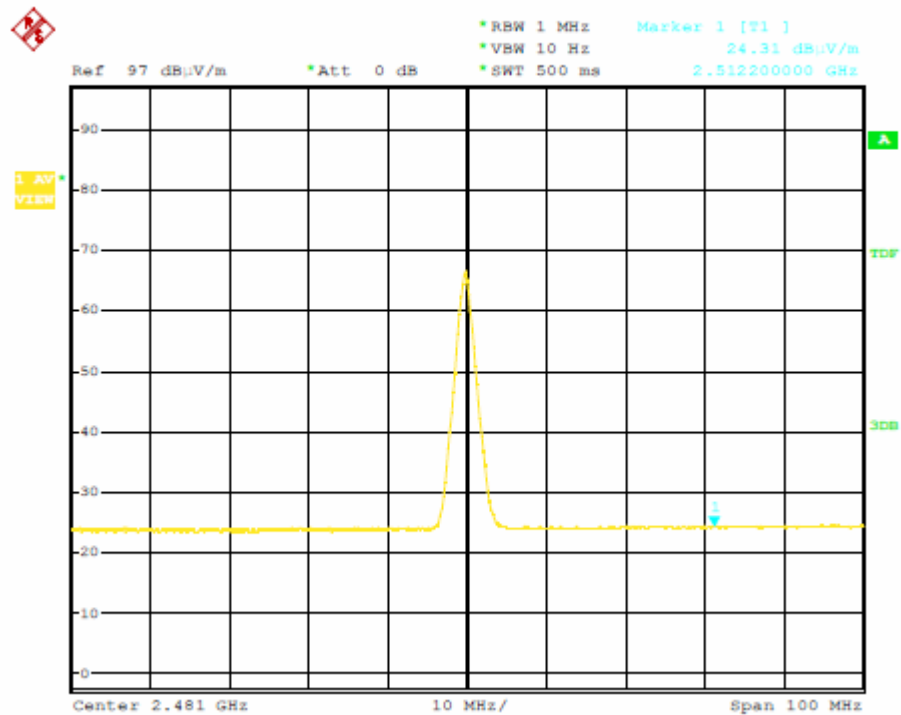
Peak Vertical:



## AV Horizontal:



## AV Vertical:



## **4. ANTENNA REQUIREMENT**

According to Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

The EUT has no antenna connector for printed antenna. Therefore the EUT complies with Section 15.203 of the FCC rules.

## 5. PHOTOGRAPH OF TEST

### Radiated Emission test

(Below 1GHz)



(Above 1GHz)

