

FCC PART 15 CLASS B  
EMI MEASUREMENT AND TEST REPORT  
For  
Hitevision Digital Media Technology Co., Ltd.

No. 1 Building, Hong Hui Industrial Park, Liu Xian No. 2 Road, No. 68 Zone, Bao An District,  
Shenzhen, China

**FCC ID: X66WMD-02**

June 8, 2012

This Report Concerns: Original Report	Equipment Type: Wireless Module for IR COM-Dongle
Test Engineer:	Eric Li <i>Eric Li</i>
Report No.:	BST12050416Y-1E-3
Receive EUT Date/Test Date:	May 24, 2012/ May 25-30, 2012
Reviewed By:	Christina Deng <i>Christina Deng</i>
Prepared By:	 <p><b>Shenzhen BST Technology Co.,Ltd.</b> 3F,Weames Technology Building, No. 10 Kefa Road,Science Park, Nanshan District,Shenzhen,Guangdong,China Tel: 0755-26747751 ~ 3 Fax: 0755-26747751 ~ 3 ext.826</p>

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## 1. GENERAL INFORMATION

### 1.1. Report information

1.1.1. This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that BST approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that BST in any way guarantees the later performance of the product/equipment.

1.1.2. The sample/s mentioned in this report is/are supplied by Applicant, BST therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through BST, unless the applicant has authorized BST in writing to do so.

Test Facility -

The test site used to collect the radiated data is located on the address of  
Shenzhen Certification Technology Service Co., Ltd  
(FCC Registered Test Site Number: 197647) on  
2F, Building B, East Area of Nanchang Second Industrial Zone, Gushu 2nd Road,  
Bao'an District, shenzhen 518126, China  
The Test Site is constructed and calibrated to meet the FCC requirements.

### 1.2. Measurement Uncertainty

Available upon request.

## 2. PRODUCT DESCRIPTION

### 2.1. EUT Description

Applicant : Hitevision Digital Media Technology Co., Ltd.  
 Address : No. 1 Building, Hong Hui Industrial Park, Liu Xian No. 2 Road,  
               No. 68 Zone, Bao An District, Shenzhen, China

Manufacturer : Hitevision Digital Media Technology Co., Ltd.  
 Address : 11th Floor, Build C, Jinyu Jiahua Building, No.9th Shangdi 3rd  
               Street, Haidian District, Beijing, China

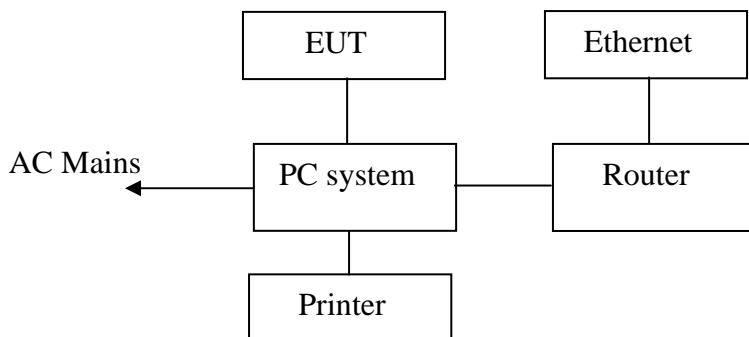
EUT Description : Wireless Module for IR COM-Dongle

Trade Name : N/A

Model Number : WMD-02

Power Supply : DC 5V powered by USB

### 2.2. Block Diagram of EUT Configuration



### 2.3. Support Equipment List

Name	Model No	S/N	Manufacturer	Used " "
PC system	AM1830	N/A	Acer	
Printer	HP1020	N/A	HP	
Router	TL-R402M	07115200391	TP-LINK	

### 2.4. Test Conditions

Temperature: 20~25

Relative Humidity: 50~63 %

### 3. FCC ID LABEL

**FCC ID: X66WMD-02**

#### **Label Location on EUT**

#### **EUT View/ FCC ID Label Location**



#### 4. TEST RESULTS SUMMARY

**Table 1 Test Results Summary**

Test Items	Test Results
Conducted disturbance	Pass
Radiated disturbance	Pass

Statement: All testing was performed using the test procedures found in ANSI C63.4-20003.

#### Modifications

No modification was made.

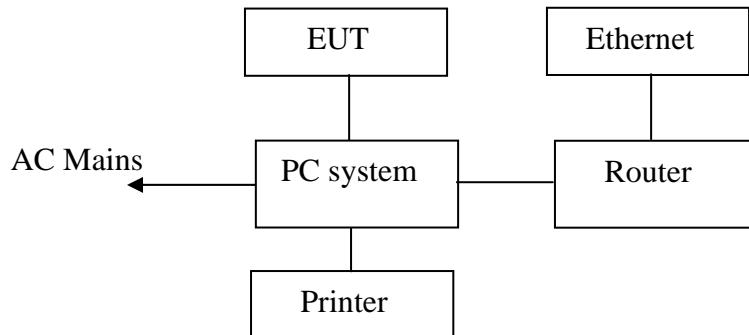
## 5. TEST EQUIPMENT USED

Equipment/Facilities	Manufacturer	Model #	Serial no.	Date of Cal.	Cal. Interval
Cable	Resenberger	N/A	NO.1	Mar 10 , 2012	1 Year
Cable	SCHWARZBECK	N/A	NO.2	Mar 10 , 2012	1 Year
Cable	SCHWARZBECK	N/A	NO.3	Mar 10 , 2012	1 Year
LISN	Rohde & Schwarz	ESH3-Z5	100305	Mar 10 , 2012	1 Year
50 Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Mar 10 , 2012	1 Year
EMI Test Receiver	Rohde & Schwarz	ESP13	100180	Oct.11,2011	1 Year
Spectrum Analyzer	Rohde & Schwarz	FSP40	100273	Sep.10,2011	1 Year
3m Semi-Anechoic Chamber	Albatross Projects	9mx6mx6m	N/A	Feb.20,2012	1 Year
Signal Generator	FLUKE	PM5418 + Y/C	LO747012	Feb.20,2012	1 Year
Signal Generator	FLUKE	PM5418TX	LO738007	Feb.20,2012	1 Year
Loop Antenna	SCHWARZBECK	FMZB1516	113	Jan.30,2012	1 Year
Trilog-Super Broadband Antenna	SCHWARZBECK	VULB9161	9161-4079	Sep.22,2011	1 Year
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-564	Sep.22,2011	1 Year
Horn Antenna	Schwarzbeck	BBHA9170	208 279	May 12, 2012	1 Year
Ultra Broadband Antenna	Rohde & Schwarz	HL-562	100110	June.15,2011	1 Year
AMN	Rohde & Schwarz	ESH3-Z5	100196	Oct.11,2011	1 Year
AMN	Rohde & Schwarz	ESH3-Z5	100197	Oct.11,2011	1 Year
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	N/A	N/A	N/A
Power Meter	Rohde & Schwarz	NRVD	100041	Feb.20,2012	1 Year
EMI Test Receiver	Rohde & Schwarz	ESCS30	100003	Feb.20,2012	1 Year
Coaxial Cable with N-connectors	SCHWARZBECK	AK9515H	95549	Sep.22,2011	1 Year
Radio Communication Test Set	Rohde & Schwarz	CMS 54	846621/024	Feb.20,2012	1 Year
Modulation Analyzer	Hewlett-Packard	8901B	2303A00362	Feb.20,2012	1 Year
Absorbing clamp	Rohde & Schwarz	MDS-21	N/A	Oct.11,2011	1 Year

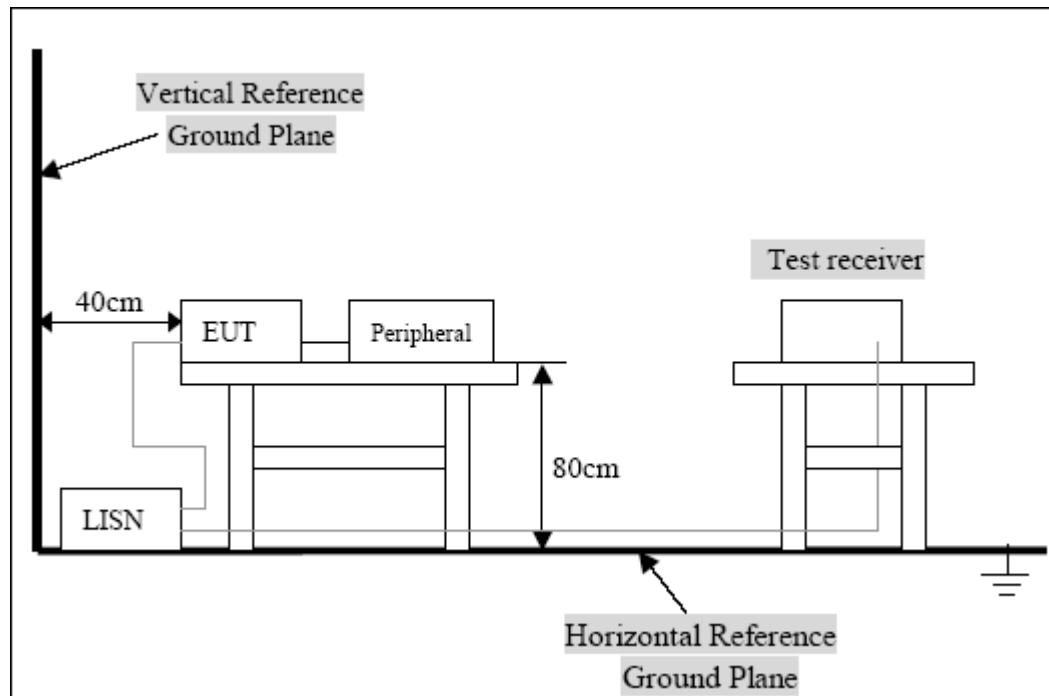
## 6. CONDUCTED EMISSION TEST

### 6.1. Block Diagram of Test Setup

6.1.1. Block Diagram of connection between the EUT and the simulators



6.1.2. Test Setup Diagram



### 6.2. Test Standard

FCC Part 15 CLASS B

ANSI C63.4-2003

### 6.3. Conducted Emission Limit(Class B)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. \*Decreasing linearly with logarithm of frequency.

### 6.4. EUT Configuration on Test

The following equipments are installed on conducted emission test to meet FCC Part 15 requirement and operating in a manner, which tends to maximize its emission characteristics in a normal application.

#### 6.4.1. EUT Information

Model Number: WMD-02

Serial Number: N/A

### 6.5. Operating Condition of EUT

6.5.1. Setup the EUT and simulators as shown in Section 6.1.

6.5.2. Turn on the power of all equipments.

6.5.3. Let the EUT work in test mode (Connect to PC) and test it.

### 6.6. Test Procedure

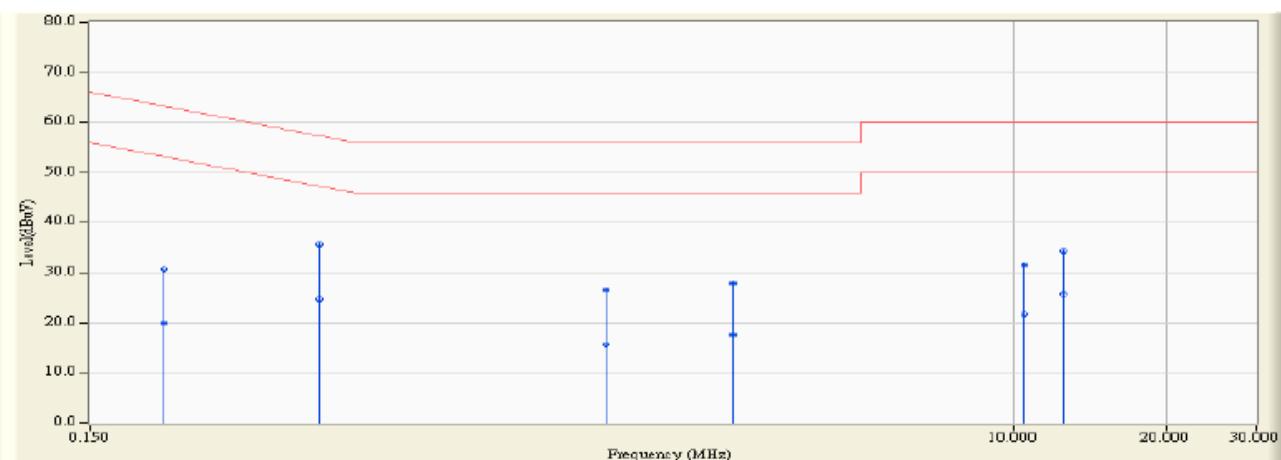
The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI test receiver (R&S Test Receiver ESCS30) is used to test the emissions form both sides of AC line. The bandwidth of EMI test receiver is set at 9kHz.

### 6.7. Test Result

**Pass**

Date of Test:	May 28, 2012	Temperature:	25°C
EUT:	Wireless Module for IR COM-Dongle	Humidity:	56%
Model No.:	WMD-02	Power Supply:	DC 5V power by PC USB port PC power: AC120V/60Hz
Test Mode:	Connect to PC	Test Engineer:	Eric Li

## L Line

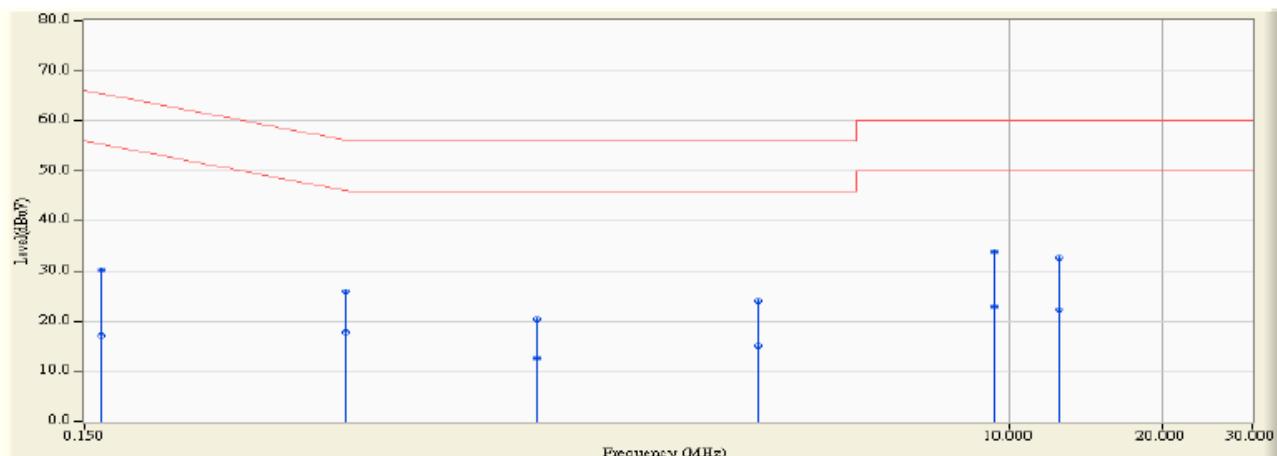


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	0.209	9.842	20.880	30.722	-32.539	63.261	QUASIPEAK
2	0.209	9.842	10.170	20.012	-33.249	53.261	AVERAGE
3 *	0.423	9.774	25.780	35.555	-21.826	57.380	QUASIPEAK
4	0.423	9.774	14.940	24.715	-22.666	47.380	AVERAGE
5	1.564	9.822	16.800	26.622	-29.378	56.000	QUASIPEAK
6	1.564	9.822	5.740	15.562	-30.438	46.000	AVERAGE
7	2.791	9.874	18.080	27.954	-28.046	56.000	QUASIPEAK
8	2.791	9.874	7.770	17.644	-28.356	46.000	AVERAGE
9	10.494	10.142	21.320	31.462	-28.538	60.000	QUASIPEAK
10	10.494	10.142	11.610	21.752	-28.248	50.000	AVERAGE
11	12.451	10.150	24.260	34.410	-25.590	60.000	QUASIPEAK
12	12.451	10.150	15.640	25.790	-24.210	50.000	AVERAGE

## Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

## N Line



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.162	9.807	20.490	30.297	-35.079	65.375	QUASIPEAK
2		0.162	9.807	7.430	17.237	-38.139	55.375	AVERAGE
3		0.490	9.767	16.160	25.927	-30.243	56.170	QUASIPEAK
4		0.490	9.767	7.950	17.717	-28.453	46.170	AVERAGE
5		1.170	9.779	10.560	20.339	-35.661	56.000	QUASIPEAK
6		1.170	9.779	2.860	12.639	-33.361	46.000	AVERAGE
7		3.197	9.882	14.140	24.022	-31.978	56.000	QUASIPEAK
8		3.197	9.882	5.150	15.032	-30.968	46.000	AVERAGE
9	*	9.318	10.143	23.670	33.812	-26.188	60.000	QUASIPEAK
10		9.318	10.143	12.890	23.032	-26.968	50.000	AVERAGE
11		12.529	10.210	22.440	32.650	-27.350	60.000	QUASIPEAK
12		12.529	10.210	12.020	22.230	-27.770	50.000	AVERAGE

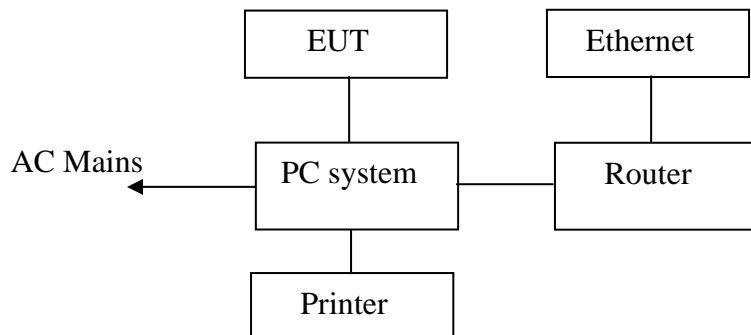
## Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

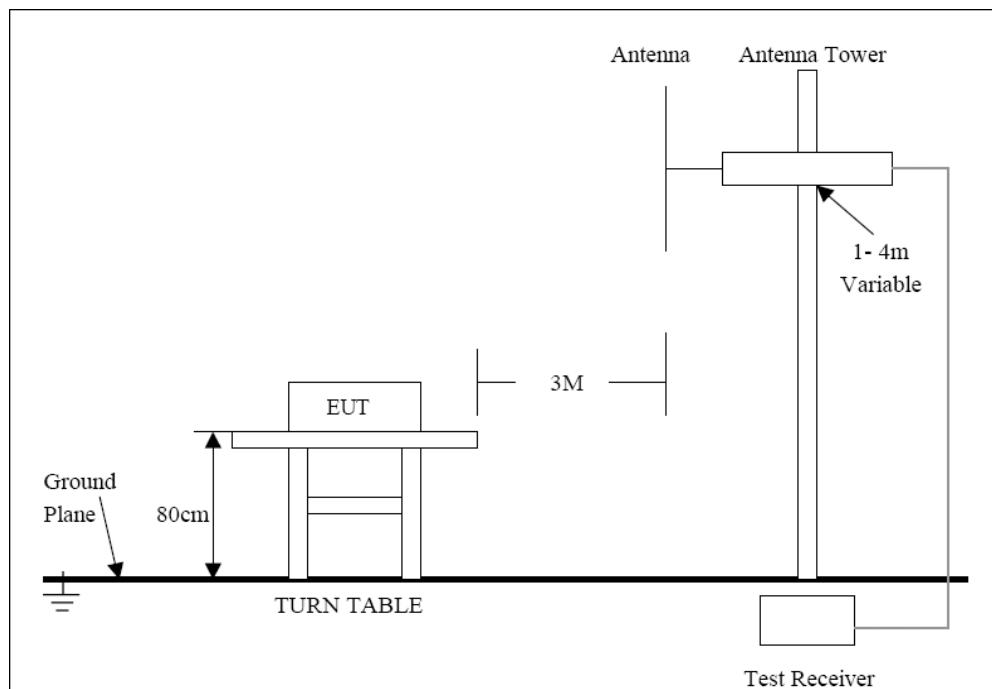
## 7. RADIATED EMISSION MEASUREMENT

### 7.1. Block Diagram of EUT Configuration

7.1.1. Block Diagram of connection between the EUT and the simulators



7.1.2. Semi-anechoic Chamber Test Setup Diagram



### 7.2. Test Standard

FCC Part 15 CLASS B  
ANSI C63.4-2003

### 7.3. Radiated Emission Limit(Class B)

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dB $\mu$ V/m)
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
Above 1000	3	54.0

Note:(1) The smaller limit shall apply at the edge between two frequency bands.

(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT or system.

### 7.4. EUT Configuration on Test

The following equipment are installed on Radiated Emission Measurement to meet the Commission requirements and operating regulations in a manner which tends to maximize Its emission characteristics in normal application.

### 7.5. Operating Condition of EUT

7.5.1. Setup the EUT as shown on Section 7.1

7.5.2. Turn on the power of all equipments.

7.5.3. Let the EUT work in test mode (Connect to PC) and measure it.

### 7.6. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Calibrated Loop antenna is used as receiving antenna for frequencies below 30MHz, Calibrated Bilog antenna is used as receiving antenna for frequencies between 30 MHz and 1 GHz, Calibrated Horn antenna is used as receiving antenna for frequencies above 1000MHz. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4: 2003 on radiated emission measurement.

The bandwidth of test receiver is set at 9kHz in below 30MHz. and set at 120kHz in 30-1000MHz.

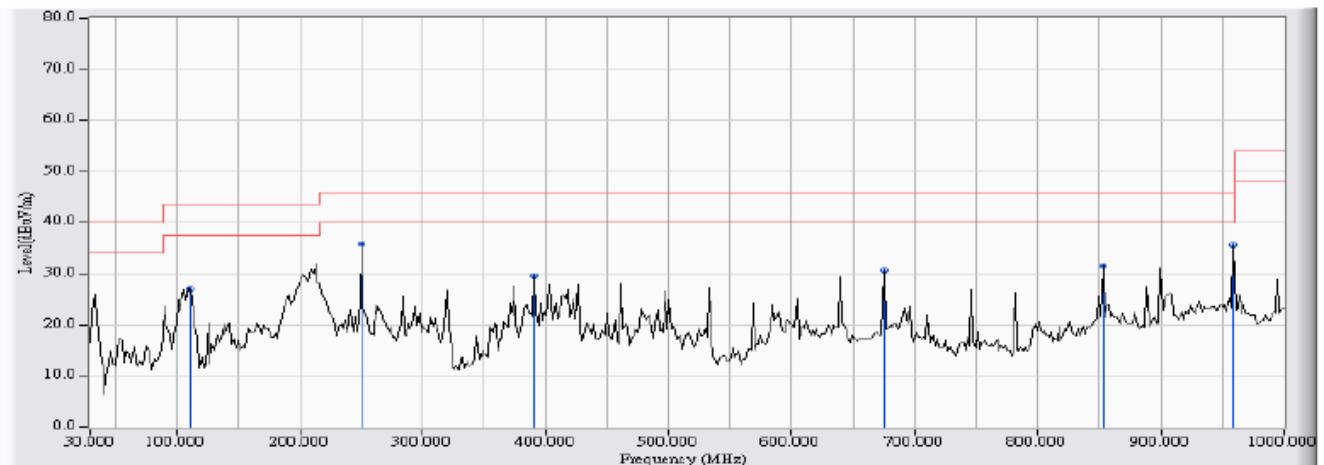
The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Peak detector and Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

The frequency range from 9kHz to 1000MHz is checked. All the test results are listed in Section 7.7.

## 7.7. Test Result

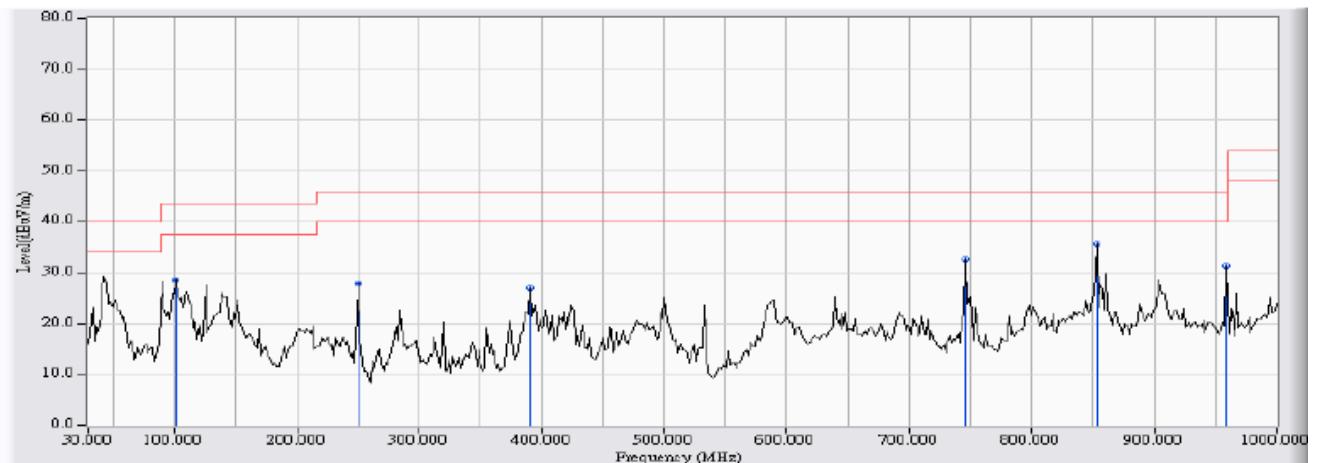
PASS

### Horizontal polarization



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	110.833	-15.426	42.345	26.918	-16.582	43.500	QUASIPEAK
2 *	249.867	-13.345	49.121	35.776	-10.224	46.000	QUASIPEAK
3	390.517	-9.163	38.857	29.694	-16.306	46.000	QUASIPEAK
4	675.050	-3.408	34.034	30.627	-15.373	46.000	QUASIPEAK
5	852.883	-0.749	32.283	31.534	-14.466	46.000	QUASIPEAK
6	959.583	1.179	34.368	35.547	-10.453	46.000	QUASIPEAK

## Vertical polarization



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	101.133	-11.753	40.243	28.490	-15.010	43.500	QUASIPEAK
2	249.867	-14.145	41.950	27.805	-18.195	46.000	QUASIPEAK
3	390.517	-7.860	34.959	27.099	-18.901	46.000	QUASIPEAK
4	746.183	-5.396	38.023	32.627	-13.373	46.000	QUASIPEAK
5	*	-2.700	38.346	35.645	-10.355	46.000	QUASIPEAK
6	959.583	-5.055	36.405	31.350	-14.650	46.000	QUASIPEAK