



Shenzhen Huatongwei International Inspection Co., Ltd.

Keji S,12th , Road, Hi-tech Industrial Park, Shenzhen, Guangdong, China

Phone:86-755-26748099

Fax:86-755-26748089

<http://www.szhtw.com.cn>



## MPE TEST REPORT

### FCC Per 47 CFR 2.1091(b)

Report Reference No.....: TRE1212010002 R/C:21574

FCC ID.....: X5QRD77723

Compiled by

( position+printed name+signature) ..: File administrators Tim Zhang

Tim Zhang

Supervised by

( position+printed name+signature) ..: Test Engineer Eric Zhang

Eric Zhang

Approved by

( position+printed name+signature) ..: Manager Wenliang Li

Wenliang Li

Date of issue.....: Jan 04, 2013

Testing Laboratory Name ..: Shenzhen Huatongwei International Inspection Co., Ltd

Address.....: Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China

Applicant's name.....: Jetlun(ShenZhen)Corporation

Address.....: 1008A Skyworth Building Gao-xin RD South High-tech Park  
Nanshan District Shenzhen China

#### Test specification:

Standard .....: FCC Per 47 CFR 2.1091(b)

TRF Originator .....: Shenzhen Huatongwei International Inspection CO., Ltd

Master TRF .....: Dated 2006-06

#### Shenzhen Huatongwei International Inspection Co., Ltd. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen Huatongwei International Inspection Co., Ltd is acknowledged as copyright owner and source of the material. Shenzhen Huatongwei International Inspection Co., Ltd takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

Test item description .....: In Home Display

Trade Mark .....: /

Model/Type reference.....: RD77723

Listed Models .....: /

Operation Frequency.....: From 2400MHz to 2483.5MHz

Result.....: Positive

## MPE T E S T R E P O R T

<b>Test Report No. :</b>	<b>TRE1212010002</b>	Jan 04, 2013 Date of issue
--------------------------	----------------------	-------------------------------

Equipment under Test : In Home Display

Model /Type : RD77723

Listed Models : /

**Applicant** : **Jetlun(ShenZhen)Corporation**

Address : 1008A Skyworth Building Gao-xin RD South High-tech Park Nanshan District Shenzhen China

**Manufacturer** : **ZHUHAI YUEHUA ELECTRONIC CO., LTD**

Address : #13, No.4 PINGDONG ROAD, NANPING TECHNOLOGY DISTRICT, ZHUHAI, GUANGDONG, CHINA

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

## Contents

<u>1.</u>	<u>SUMMARY</u>	4
1.1.	<b>EUT configuration</b>	4
1.2.	<b>NOTE</b>	4
<u>2.</u>	<u>TEST ENVIRONMENT</u>	5
2.1.	<b>Address of the test laboratory</b>	5
2.2.	<b>Environmental conditions</b>	5
2.3.	<b>Statement of the measurement uncertainty</b>	5
<u>3.</u>	<u>METHOD OF MEASUREMENT</u>	5
3.1.	<b>Applicable Standard</b>	5
3.2.	<b>Limit</b>	6
3.3.	<b>MPE Calculation Method</b>	6
<u>4.</u>	<u>CONCLUSION</u>	6

## 1. SUMMARY

### 1.1. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

- - supplied by the manufacturer
- - supplied by the lab

○	Power Cable	Length (m) :	/
		Shield :	/
		Detachable :	/
○	Multimeter	Manufacturer :	/
		Model No. :	/

### 1.2. NOTE

1. The EUT is a In Home Display, The functions of the EUT listed as below:

	Test Standards	Reference Report
Zigbee	FCC Part 15 Subpart C (Section15.247)	TRE1212010001
MPE REPORT	FCC Per 47 CFR 2.1091(b)	TRE1212010002
EMC REPORT	FCC PART 15 Subpart B	TRE1212010003

2. The frequency bands used in this EUT are listed as follows:

Frequency Band(MHz)	2400-2483.5	5150-5350	5470-5725	5725-5850
Zigbee	√	—	—	—

3. The EUT provides one completed transmitter and receiver.

Modulation Mode	TX Function
Zigbee	1TX

## 2. TEST ENVIRONMENT

### 2.1. Address of the test laboratory

Shenzhen Huatongwei International Inspection Co., Ltd  
Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China  
Phone: 86-755-26715686 Fax: 86-755-26748089

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 (2009) and CISPR Publication 22.

### 2.2. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

### 2.3. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

Test Items	Measurement Uncertainty	Notes
Transmitter power conducted	0.57 dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

## 3. Method of measurement

### 3.1. Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

### 3.2. Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	6
3.0 – 30	1842/f	4.89/f	(900/f)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	/	/	f/300	6
1500 – 100,000	/	/	5	6

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	30
3.0 – 30	824/f	2.19/f	(180/f)*	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	/	/	f/1500	30
1500 – 100,000	/	/	1.0	30

F=frequency in MHz

\*=Plane-wave equivalent power density

### 3.3. MPE Calculation Method

Predication of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

Where: S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the antenna is 3.0 dBi, the RF power density can be obtained.

### TEST RESULTS

Test Frequency (MHz)	Minimum Separation Distance (cm)	Output Power (dBm)	Output Power (mW)	Antenna Gain (Numeric)	Power Density Limit (mW/cm <sup>2</sup> )	Power Density At 20 cm (mW/cm <sup>2</sup> )	Test Results
2405	20.00	18.60	72.44	1.995	1.000	0.029	Pass
2440	20.00	18.51	70.96	1.995	1.000	0.013	Pass
2480	20.00	3.14	2.06	1.995	1.000	0.002	Pass

### 4. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure.

.....End of Report.....