

**Report No. : E86.12.328.002**

**This Test Report is Prepared for**

**Shenzhen Excel Digital Technology Co., LTD**

1907,Overseas Chinese High-Tech Venture Park,Nanshan,Shenzhen,P.R.China

Product Name: Multi-Function Remote

Model No.: AF101RX,AF101GRX,AF106RX

Brand Name: N/A

Applicable standards: FCC Part 15 Subpart C, Paragraph 15.249

Test result: The FCC testing has been performed on the submitted samples and found in compliance with ANSI C63.4&FCC Part 15 Subpart C, Paragraph 15.249.

Prepared by :



Shirley Xu Assistant

Reviewer :



Mary Huang/Supervisor

Approved & Authorized Signer :



Mike Wang/ Manager

**Note:** This report shall not be reproduced except in full, without the written approval of Greatwall International Approval Co., Ltd. This document may be altered or revised by Greatwall International Approval Co., Ltd. personnel only, and shall be noted in the revision section of the document. The test results in the report only apply to the tested sample



Test Report Conclusion  
Content

<b>1.0</b>	<b>General Details</b>	3
1.1	<b>Details of Applicant</b>	3
1.2	Applicant Details	3
1.3	General Description of EUT	3
<b>2.0</b>	<b>List of Measurement Equipment</b>	4
<b>3.0</b>	<b>Technical Details</b>	5
3.1	Summary of Test Results	5
3.2	Test Standards	5
<b>4.0</b>	<b>Test Lab Details</b>	5
<b>5.0</b>	<b>Power Line Conducted Emission Test</b>	6
<b>5.1</b>	Schematics of the Test	6
<b>5.2</b>	Test Method and Test Procedure	6
<b>5.3</b>	Configuration of the EUT	6
<b>5.4</b>	EUT Operating Condition	7
<b>5.5</b>	Conducted Emission Limit	7
<b>5.6</b>	Test Result	7
<b>6.0</b>	<b>Radiated Emission test</b>	10
<b>6.1</b>	Test Method and Test Procedure	10
<b>6.2</b>	Configuration of the EUT	10
<b>6.3</b>	EUT Operation Condition	10
<b>6.4</b>	Radiated Emission Limit	11
<b>6.5</b>	Test Result	12
<b>7.0</b>	<b>Band Edge</b>	20
<b>7.1</b>	Test Method and Test Procedure	20
<b>7.2</b>	Radiated Test Setup	20
<b>7.3</b>	Configuration of the EUT	20
<b>7.4</b>	EUT Operating Condition	20
<b>7.5</b>	Band Edge Limit	20
<b>7.6</b>	Band Edge Test Result	21
<b>8.0</b>	<b>Antenna Requirement</b>	22
<b>9.0</b>	<b>20dB bandwidth measurement</b>	23
<b>10.0</b>	<b>FCC ID Label</b>	26
<b>11.0</b>	<b>Photo of Test Setup and EUT View</b>	27

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



## 1. General Information

### 1.1 Details of Applicant

Name: Shenzhen Excel Digital Technology Co.,LTD

Address: 1907,Overseas Chinese High-Tech Venture Park,Nanshan,Shenzhen,P.R.China

### 1.2 Application Details

Date of Receipt of Application: Nov 26, 2012

Date of Receipt of Test Item: Nov 26, 2012

Date of Test: Nov 26, 2012~ Dec 12, 2012

### 1.3 General Description of EUT

Product Name:	Multi-Function Remote
Model No.:	AF101RX,AF101GRX,AF106RX
Brand Name;	N/A
Operation Frequency:	2402~2480MHz
Modulation Technology:	GFSK
Antenna Type:	PCB Antenna with Gain 0dBi
Power supply:	Input: DC5V, 0.1A
Remark:	Only the basic model No. AF101RX was tested. The other models are identical in the same PCB layout, interior structure and electrical circuits with the basic model. The only difference is the model name for commercial purpose.
FCC ID:	QZVCZ-DG-AF100

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or other persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



<b>2.0 Test Equipments</b>					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	ROHDE&SCHWARZ	ESPI 3	100379	2012-04-26	2013-04-25
EMI Test Receiver	ROHDE&SCHWARZ	ESH3	860905/006	2012-04-26	2013-04-25
Spectrum Analyzer	HP	ESA-L1500A	US37451154	2012-04-26	2013-04-25
TWO Line-V-NETW	ROHDE&SCHWARZ	EZH3-Z5	100294	2012-04-26	2013-04-25
Ultra Broadband ANT	Schwarebeck	VULB9163	9163/340	2012-04-26	2013-04-25
ESDV Test Receiver	ROHDE&SCHWARZ	ESDV	100008	2012-04-26	2013-04-25
Spectrum Analyzer	HP	8595E	3441A00893	2012-04-26	2013-04-25
Impuls-Begrenzer	ROHDE&SCHWARZ	ESH3-Z2	100281	2012-04-26	2013-04-25
ESPI Test Receiver	ROHDE&SCHWARZ	ESI26	838786/013	2012-04-26	2013-04-25
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170265	2012-04-26	2013-04-25
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-631	2012-04-26	2013-04-25

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or other persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



### 3.0 Technical Details

#### 3.1 Summary of test results

The EUT has been tested according to the following specifications:			
Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.207	Conducted Emission Test	PASS	Complies
FCC Part 15 Subpart C Paragraph 15.249(a) & 15.249(b) Limit	Field Strength of Fundamental	PASS	Complies
FCC Part 15, Paragraph 15.209	Radiated Emission Test	PASS	Complies
FCC Part 15 Subpart C Paragraph 15.249(d) Limit	Band Edge Test	PASS	Complies

#### 3.2 Test Standards

FCC Part 15 Subpart C, Paragraph 15.249

#### 4.0 Test Lab Details

**Name: SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD**

Address: 5/F,Block 4, Anhua Industrial Zone.,No.8 TaiRan Rd.CheGongMiao,FuTian District, Shenzhen,CHINA.

FCC Registration Number: 899988

Note: All tests were done at SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD

The report refers only to the sample tested and does not apply to the bulk.

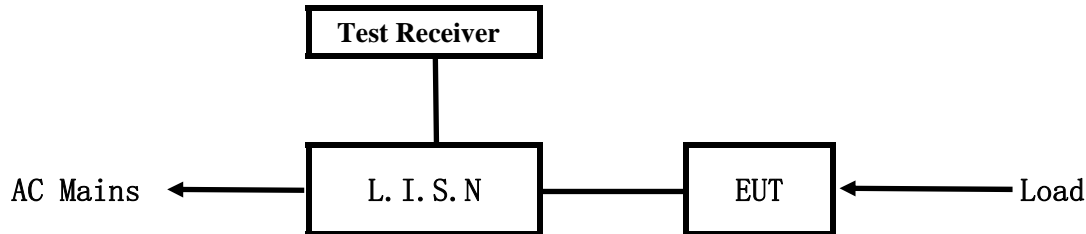
This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertizing. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



## 5. Power Line Conducted Emission Test

### 5.1 Schematics of the test



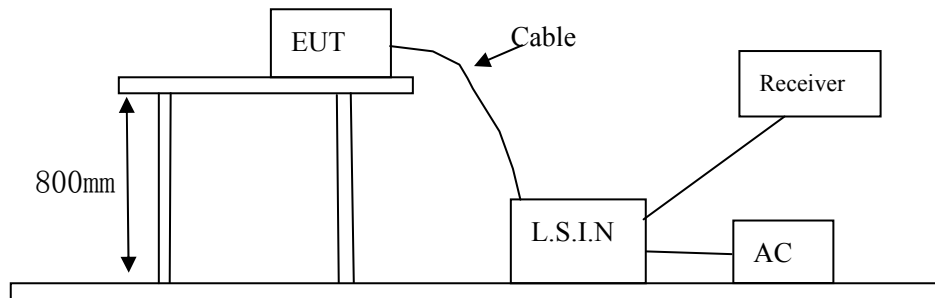
EUT: Equipment Under Test

### 5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2003. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2003.

Test Voltage: 120V~, 60Hz

Block diagram of Test setup



### 5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.4-2003. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

One channels are provided to the EUT

#### A. EUT

Device	Manufacturer	Model	FCC ID
Multi-Function Remote	Shenzhen Excel Digital Technology Co.,LTD	AF101RX,AF101GRX, AF106RX	QZVCZ-DG-AF100

#### B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertizing. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



### C. Peripherals

Device	Manufacturer	Model	FCC ID/DOC	Cable
PC	IBM	R400	DOC	--
Mouse	L.SEletron	M-F105	DOC	
Earphone	--	--	--	--

### 5.4 EUT Operating Condition

Operating condition is according to ANSI C63.4 -2003

A Setup the EUT and simulators as shown on follow

B Enable AF signal and confirm EUT active to normal condition

### 5.5 Power line conducted Emission Limit according to Paragraph 15.207

Frequency(MHz)	Class A Limits (dB $\mu$ V)		Class B Limits (dB $\mu$ V)	
	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
0.15 ~ 0.50	79.0	66.0	66.0~56.0*	56.0~46.0*
0.50 ~ 5.00	73.0	60.0	56.0	46.0
5.00 ~ 30.00	73.0	60.0	60.0	50.0

- Notes:
1. \*Decreasing linearly with logarithm of frequency.
  2. The tighter limit shall apply at the transition frequencies

### 5.6 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertizing. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



**A: Conducted Emission on Live Terminal (150kHz to 30MHz)**

**EUT Operating Environment**

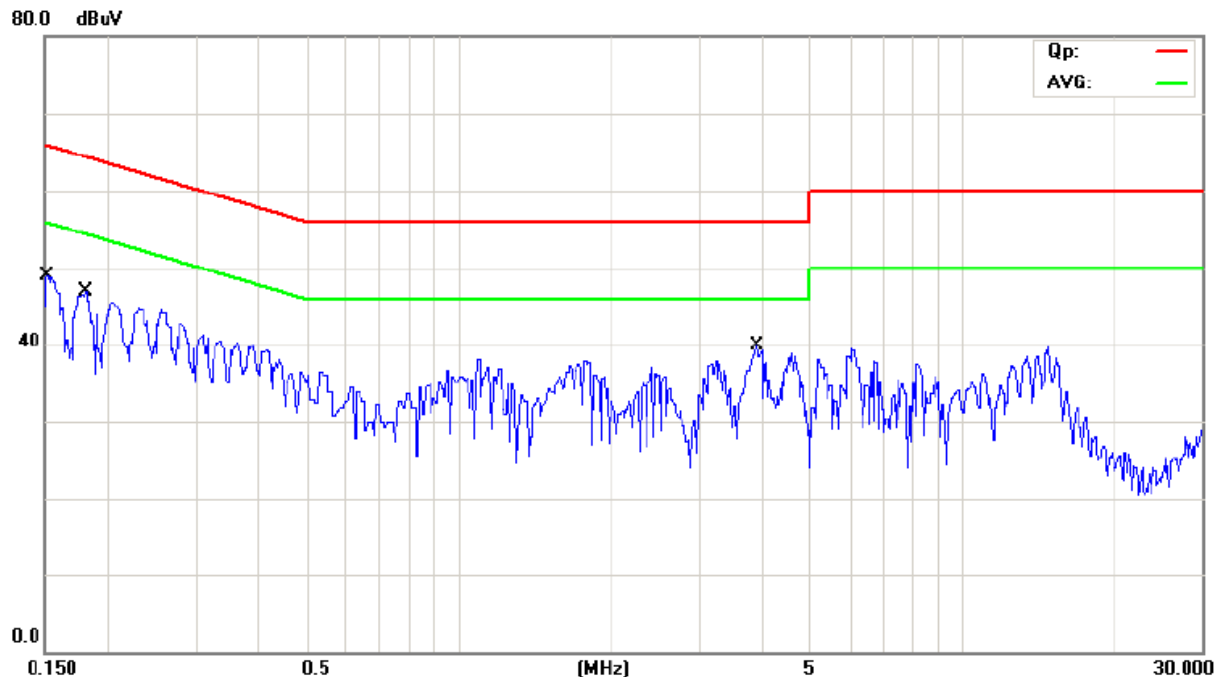
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Keep Transmitting**

**Equipment Level: Class B**

**Results: Pass**

Please refer to following diagram for individual



Frequency (MHz)	Line	Reading(dBμV)		Limit(dBμV)	
		Quasi-peak	Average	Quasi-peak	Average
0.151	Live	48.87	36.49	65.91	55.91
0.180	Live	46.83	35.36	64.46	54.46
3.897	Live	39.85	26.85	56.00	46.00

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertizing. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.





**B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)**

**EUT Operating Environment**

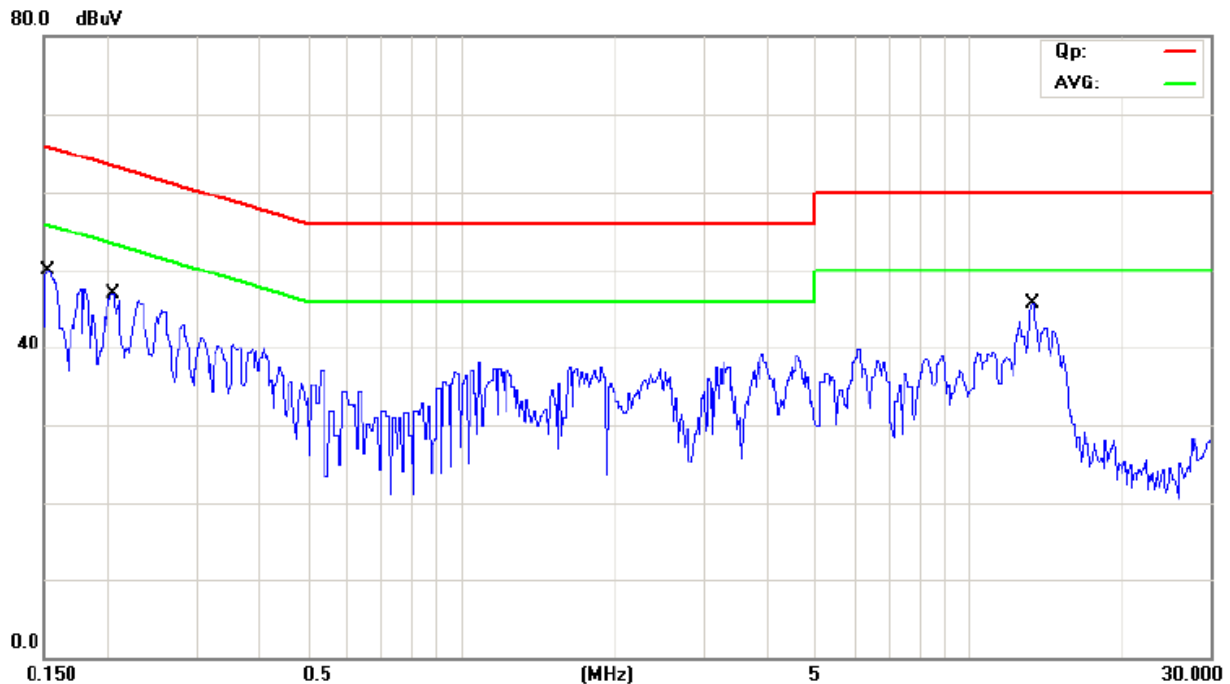
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Keep Transmitting**

**Equipment Level: Class B**

**Results: Pass**

Please refer to following diagram for individual



Frequency (MHz)	Line	Reading(dBμV)		Limit(dBμV)	
		Quasi-peak	Average	Quasi-peak	Average
0.152	Neutral	49.88	38.52	65.86	55.86
0.205	Neutral	46.99	34.18	63.40	53.40
13.375	Neutral	45.70	31.51	60.00	50.00

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertizing. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.

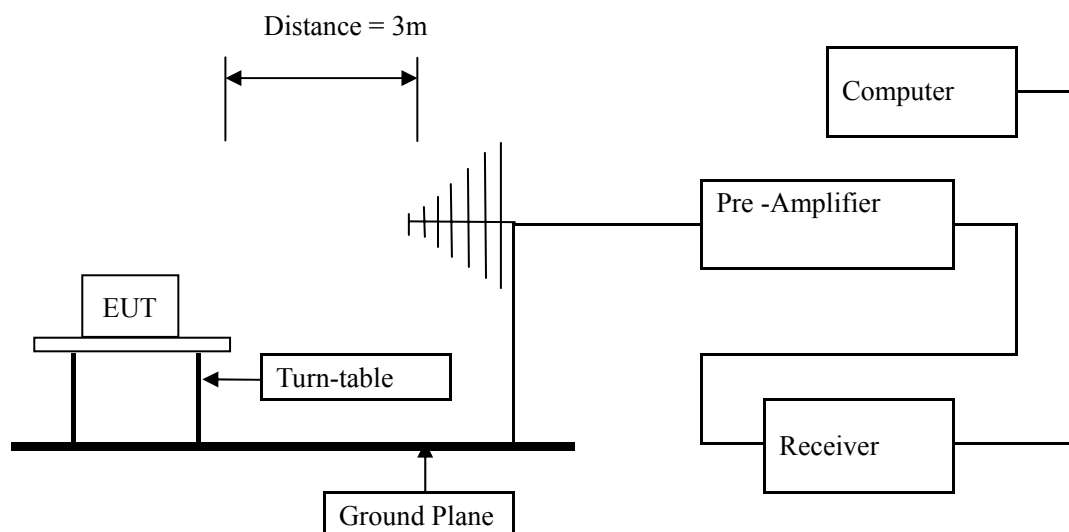


## 6 Radiated Emission Test

### 6.1 Test Method and test Procedure:

- (1) The EUT was tested according to ANSI C63.4 –2003. The radiated test was performed at Timeway Laboratory. This site is on file with the FCC laboratory division, Registration No.899988
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.4-2003.
- (3) The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. All readings except for Fundamental radiated emissions are above 1 GHz, peak values with a resolution bandwidth of 1 MHz . For Fundamental radiated emissions, the RBW is 3MHz. Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) The antenna polarization : Vertical polarization and Horizontal polarization.

#### Block diagram of Test setup



### 6.2 Configuration of The EUT

Same as section 5.3 of this report

### 6.3 EUT Operating Condition

Same as section 5.4 of this report.

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or other persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



#### 6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

##### A FCC Part 15 Subpart C Paragraph 15.249(a) Limit

Fundamental Frequency (MHz)	Field Strength of Fundamental (3m)			Field Strength of Harmonics (3m)		
	mV/m	dBuV/m		uV/m	dBuV/m	
2400-2483.5	50	94 (Average)	114 (Peak)	500	54 (Average)	74 (Peak)

- Note:
1. RF Field Strength (dBuV) = 20 log RF Voltage (uV)
  2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
  3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

##### B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

Frequency Range (MHz)	Distance (m)	Field strength (dB $\mu$ V/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

- Note:
1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
  2. In the Above Table, the tighter limit applies at the band edges.
  3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
  4. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz. As to 1G-25G, the final emission level got using PK and AV detector.

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or other persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



## 6.5 Test result

### A Fundamental & Harmonics Radiated Emission Data

Product:	Multi-Function Remote	Test Mode:	Low Channel- keep transmitting
Test Item:	Fundamental Radiated Emission Data	Temperature:	25°C
Test Voltage:	5.0VDC	Humidity:	56%
Test Result:	Pass		

Frequency (MHz)	Emission PK/AV (dBuV/m)	Horiz / Vert	Limits PK/AV (dBuV/m)	Margin (dB)
2402	86.13 (PK)	H	114/94	-7.87
2402	83.76 (PK)	V	114/94	-10.24
4804	--	H/V	74/54	--
7206	--	H/V	74/54	--
9608	--	H/V	74/54	--
12010	--	H/V	74/54	--
14412	--	H/V	74/54	--
16814	--	H/V	74/54	--
19216	--	H/V	74/54	--
21618	--	H/V	74/54	--
24020	--	H/V	74/54	--

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertizing. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



Product:	Multi-Function Remote	Test Mode:	Middle Channel- keep transmitting
Test Item:	Fundamental Radiated Emission Data	Temperature:	25°C
Test Voltage:	5.0VDC	Humidity:	56%
Test Result:	Pass		

Frequency (MHz)	Emission PK/AV (dBuV/m)	Horiz / Vert	Limits PK/AV (dBuV/m)	Margin (dB)
2441	81.33 (PK)	H	114/94	-12.67
2441	83.56 (PK)	V	114/94	-10.44
4882	--	H	74/54	--
7323	--	V	74/54	--
9764	--	H/V	74/54	--
12205	--	H/V	74/54	--
14646	--	H/V	74/54	--
17087	--	H/V	74/54	--
19528	--	H/V	74/54	--
21969	--	H/V	74/54	--
24410	--	H/V	74/54	--

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or other persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



Product:	Multi-Function Remote	Test Mode:	High Channel- keep transmitting
Test Item:	Fundamental Radiated Emission Data	Temperature:	25°C
Test Voltage:	5.0VDC	Humidity:	56%
Test Result:	Pass		

Frequency (MHz)	Emission PK/AV (dBuV/m)	Horiz / Vert	Limits PK/AV (dBuV/m)	Margin (dB)
2480	81.62 (PK)	V	114/94	-12.38
2480	84.69 (PK)	H	114/94	-9.31
4960	--	H/V	74/54	--
7440	--	H/V	74/54	--
9920	--	H/V	74/54	--
12400	--	H/V	74/54	--
14880	--	H/V	74/54	--
17360	--	H/V	74/54	--
19840	--	H/V	74/54	--
22320	--	H/V	74/54	--
24800	--	H/V	74/54	--

- Note:
- (1) PK= Peak, AV= Average
  - (2) Emission Level = Reading Level + Antenna Factor + Cable Loss.
  - (3) Margin=Emission-Limits
  - (4) According to section 15.35(b), the peak limit is 20dB higher than the average limit
  - (5) The measured PK value less than the AV limit.

The report refers only to the sample tested and does not apply to the bulk.

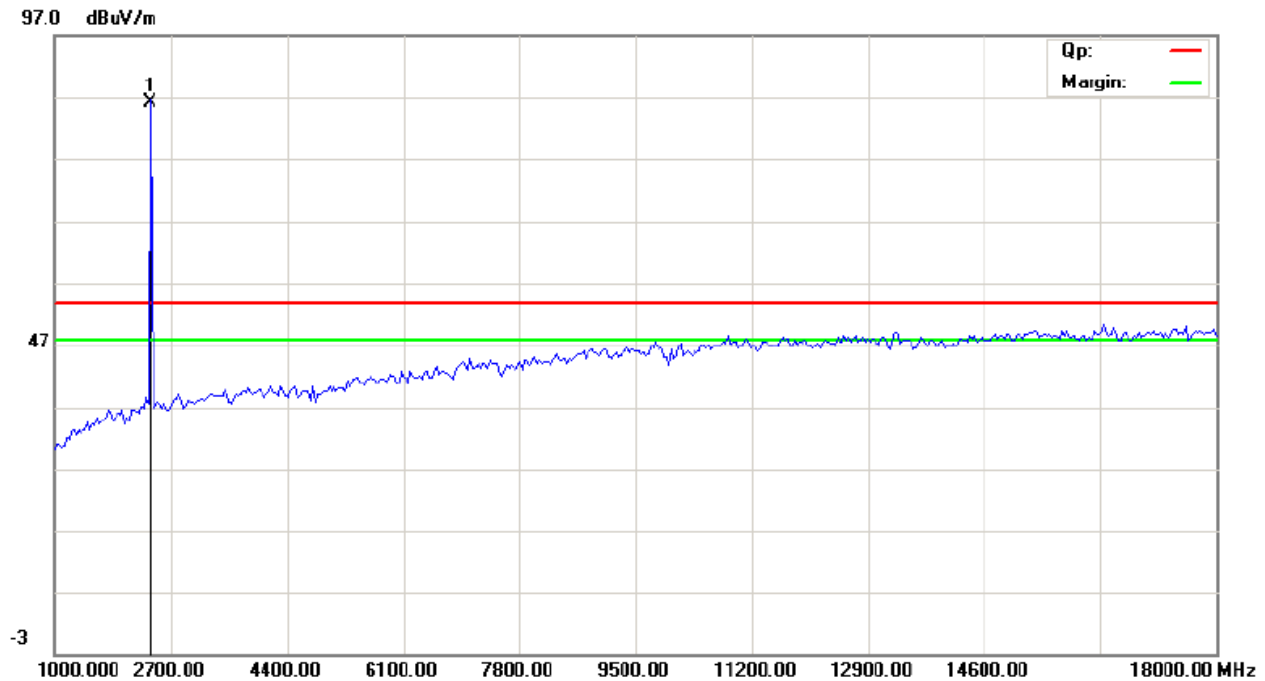
This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or other persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.

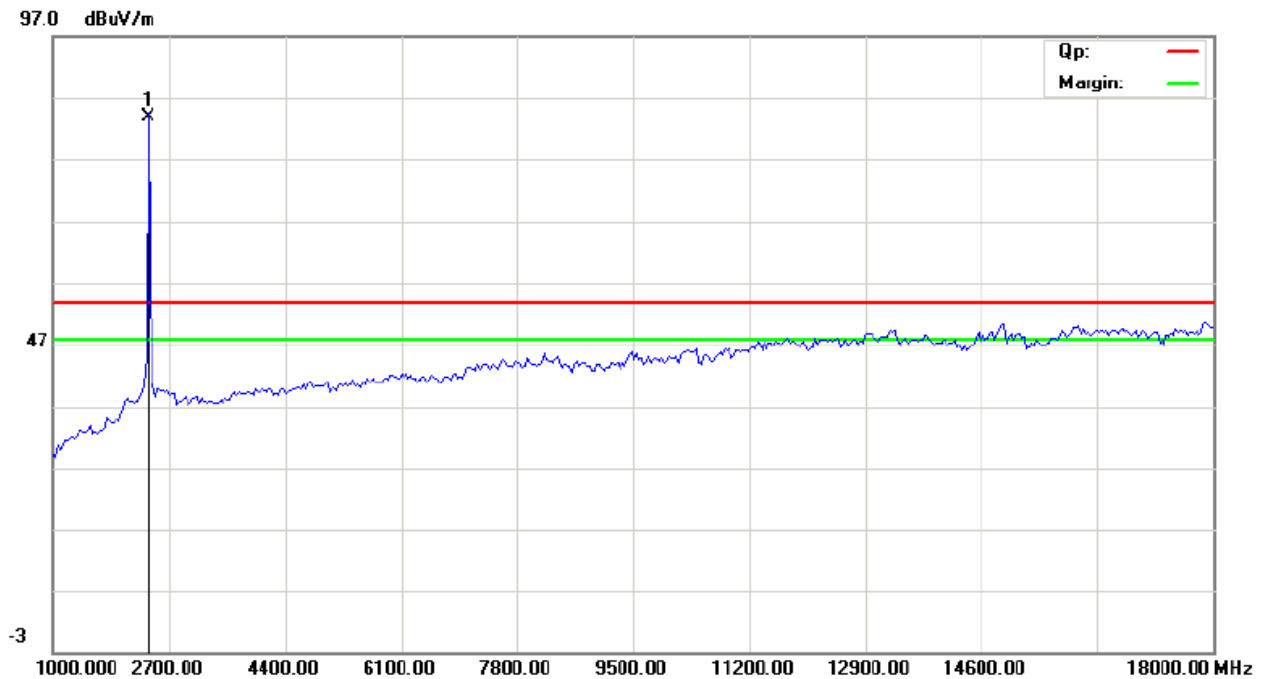


Please refer to the following test plots for details:

**Low Channel: Horizontal**



**Low Channel : Vertical**



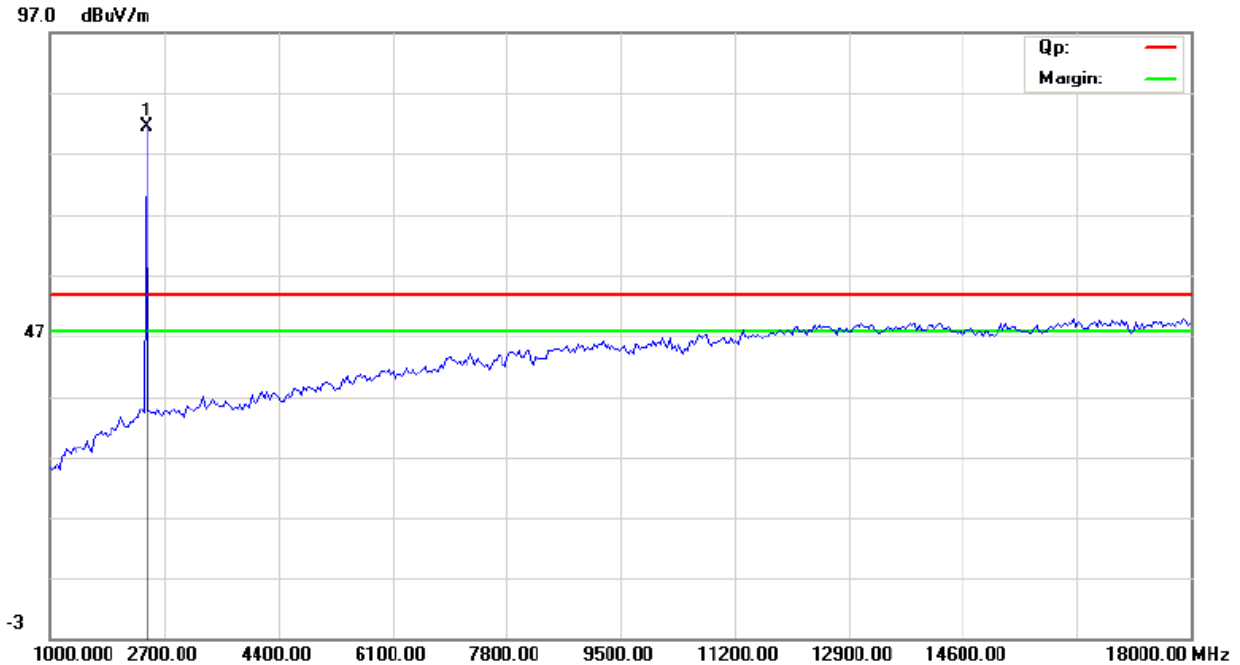
The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertizing. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

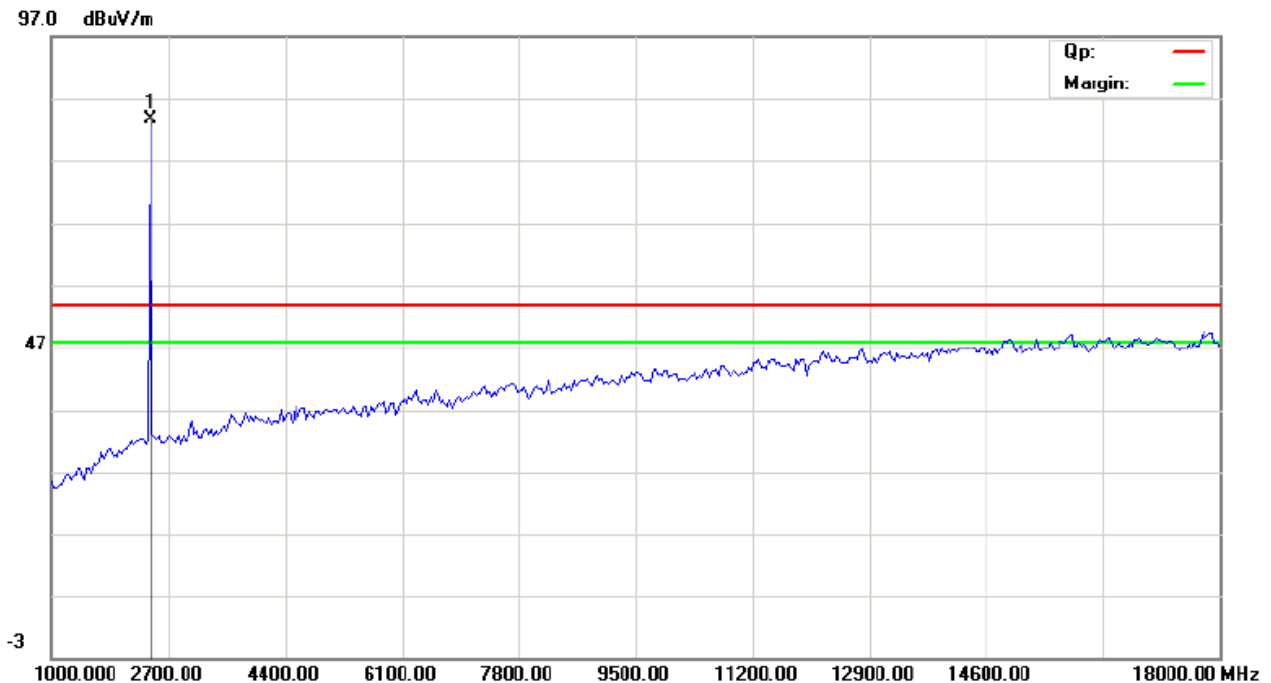
In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



### Middle Channel : Horizontal



### Middle Channel : Vertical



The report refers only to the sample tested and does not apply to the bulk.

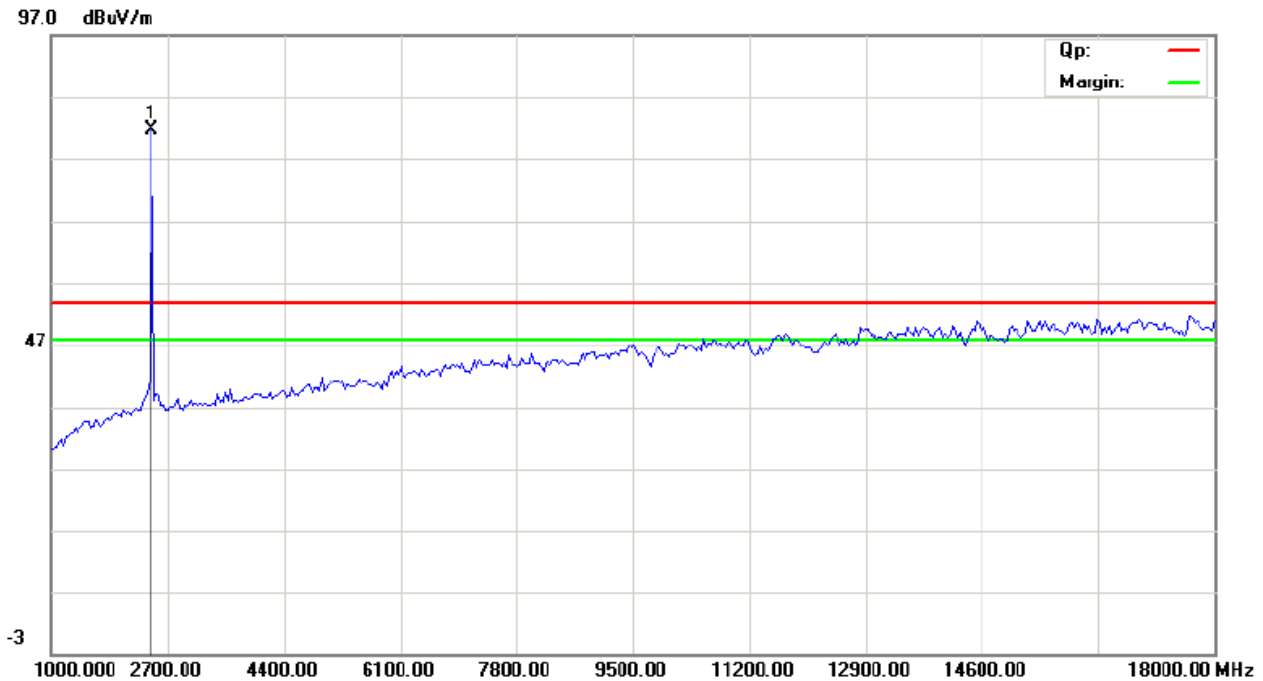
This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.

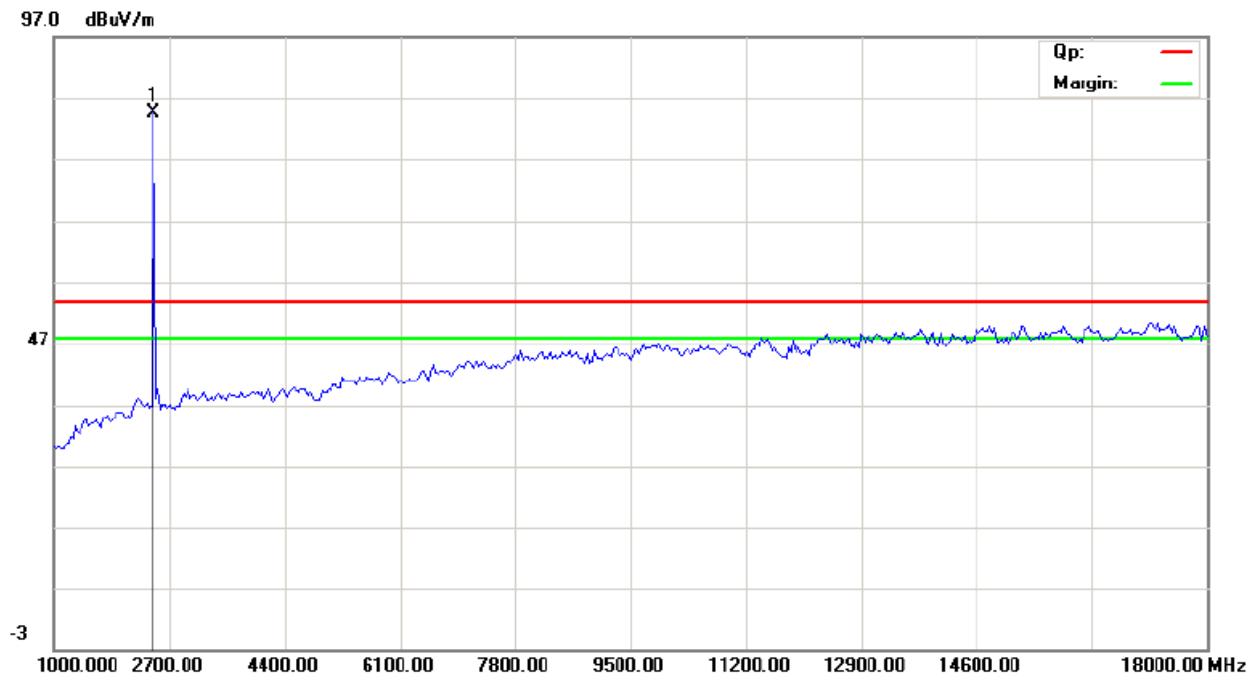




### High Channel : Horizontal



### High Channel : Vertical



**Note: for the radiated emissions from 18-25GHz, it was the floor noise.**

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



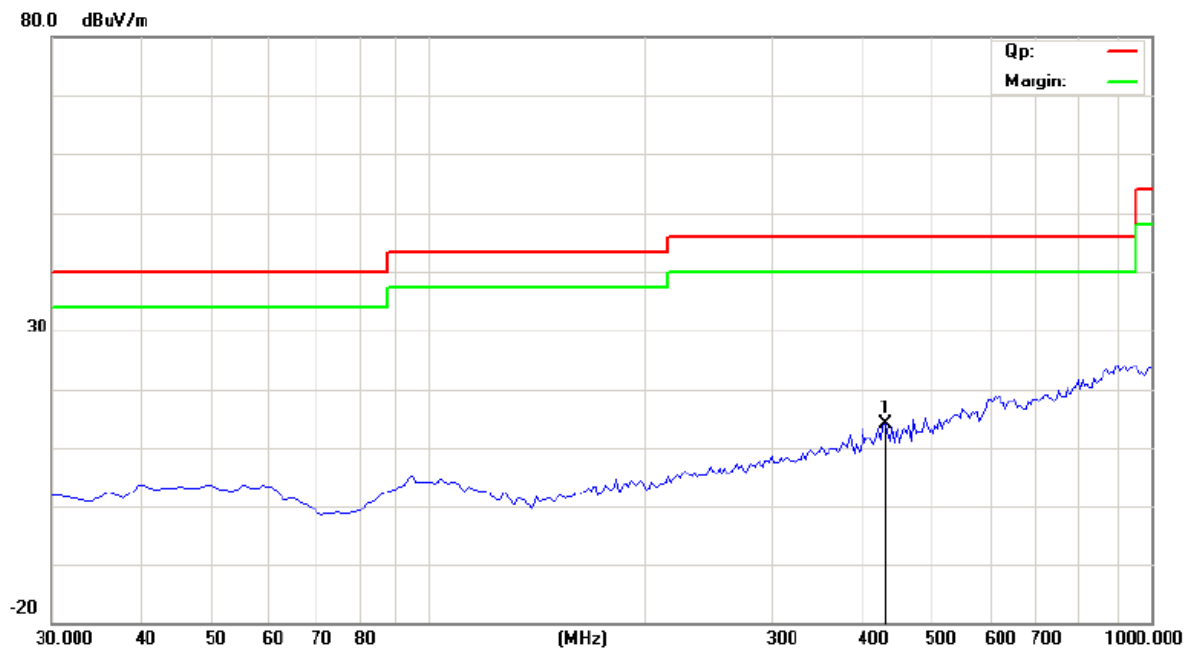
**B. General Radiated Emission Data**  
**Radiated Emission In Horizontal (30MHz----1000MHz)**

EUT set Condition: **Keep Transmitting**

Mode: Low Channel

**Results: Pass**

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB $\mu$ V/m)
428.497	14.07	H	46.00

Note: Low Channel was the worse case

The report refers only to the sample tested and does not apply to the bulk.  
This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertizing. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.  
In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



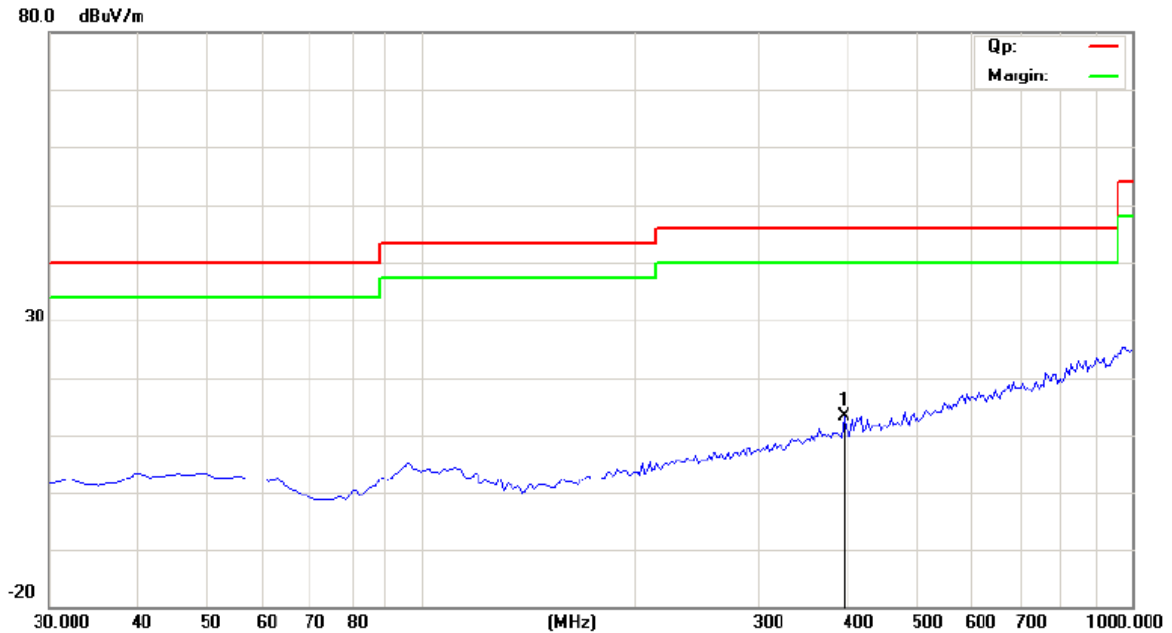
### Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: **Keep Transmitting**

Mode: Low Channel

**Results: Pass**

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB $\mu$ V/m)
393.507	13.41	V	46.00

Note: Low Channel was the worse case

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertizing. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.

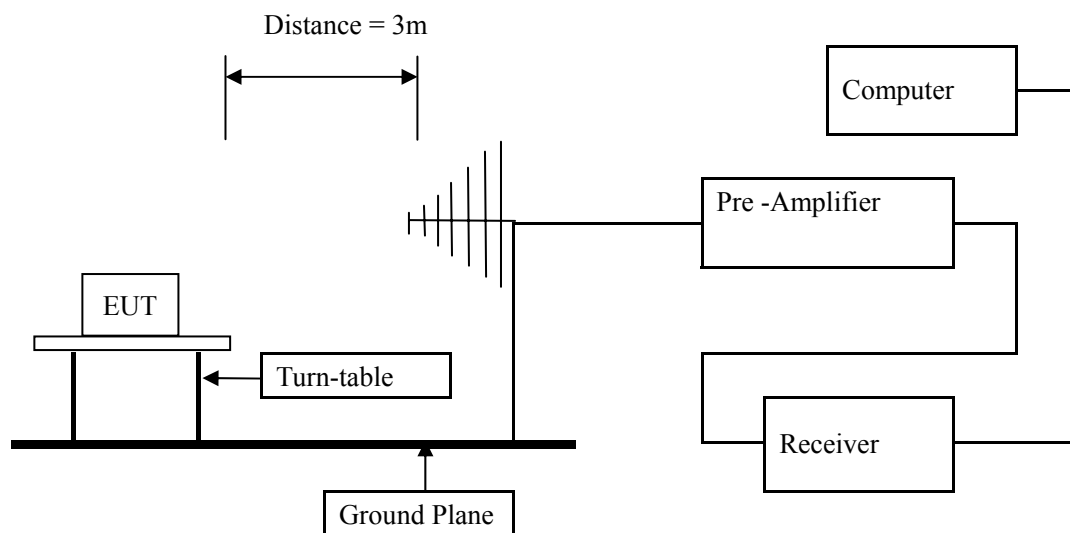


## 7. Band Edge

### 7.1 Test Method and test Procedure:

- (1) The EUT was tested according to ANSI C63.4 –2003. The radiated test was performed at Timeway Laboratory. This site is on file with the FCC laboratory division, Registration No.899988
- (2) Set Spectrum as RBW=VBW=1MHz and Peak detector used
- (3) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (4) The antenna polarization: Vertical polarization and Horizontal polarization.

### 7.2 Radiated Test Setup



For the actual test configuration , please refer to the related items – Photos of Testing

### 7.3 Configuration of The EUT

Same as section 5.3 of this report

### 7.4 EUT Operating Condition

Same as section 5.4 of this report.

### 7.5 Band Edge Limit

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Remark: low, mid and high channel all have been tested; only worse case is reported.

The report refers only to the sample tested and does not apply to the bulk.  
This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it , or a certified copy there of prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.  
In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



## 7.6 Test Result

### Horizontal

Product:	Multi-Function Remote		Test Mode:	Low Channel- keep transmitting
Mode	Keeping Transmitting		Test Voltage	DC5.0V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
2400MHz	PK (dBμV/m)	44.38	Limit	74(dBμV/m)
	AV(dBμV/m)	33.23		54(dBμV/m)
2390MHz	PK (dBμV/m)	39.12	Limit	74(dBμV/m)
	AV(dBμV/m)	--		54(dBμV/m)

### Vertical

Product:	Multi-Function Remote		Test Mode:	Low Channel- keep transmitting
Mode	Keeping Transmitting		Test Voltage	DC5.0V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
2400MHz	PK (dBμV/m)	45.72	Limit	74(dBμV/m)
	AV(dBμV/m)	33.89		54(dBμV/m)
2390MHz	PK (dBμV/m)	40.25	Limit	74(dBμV/m)
	AV(dBμV/m)	--		54(dBμV/m)

### Horizontal

Product:	Multi-Function Remote		Test Mode:	High Channel- keep transmitting
Mode	Keeping Transmitting		Test Voltage	DC5.0V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
2483.5MHz	PK (dBμV/m)	40.83	Limit	74(dBμV/m)
	AV(dBμV/m)	--		54(dBμV/m)

### Vertical

Product:	Multi-Function Remote		Test Mode:	High Channel- keep transmitting
Mode	Keeping Transmitting		Test Voltage	DC5.0V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
2483.5MHz	PK (dBμV/m)	41.24	Limit	74(dBμV/m)

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



## 8.0 Antenna Requirement

### Applicable Standard

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 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.

This product has integral permanent antenna, fulfill the requirement of this section.

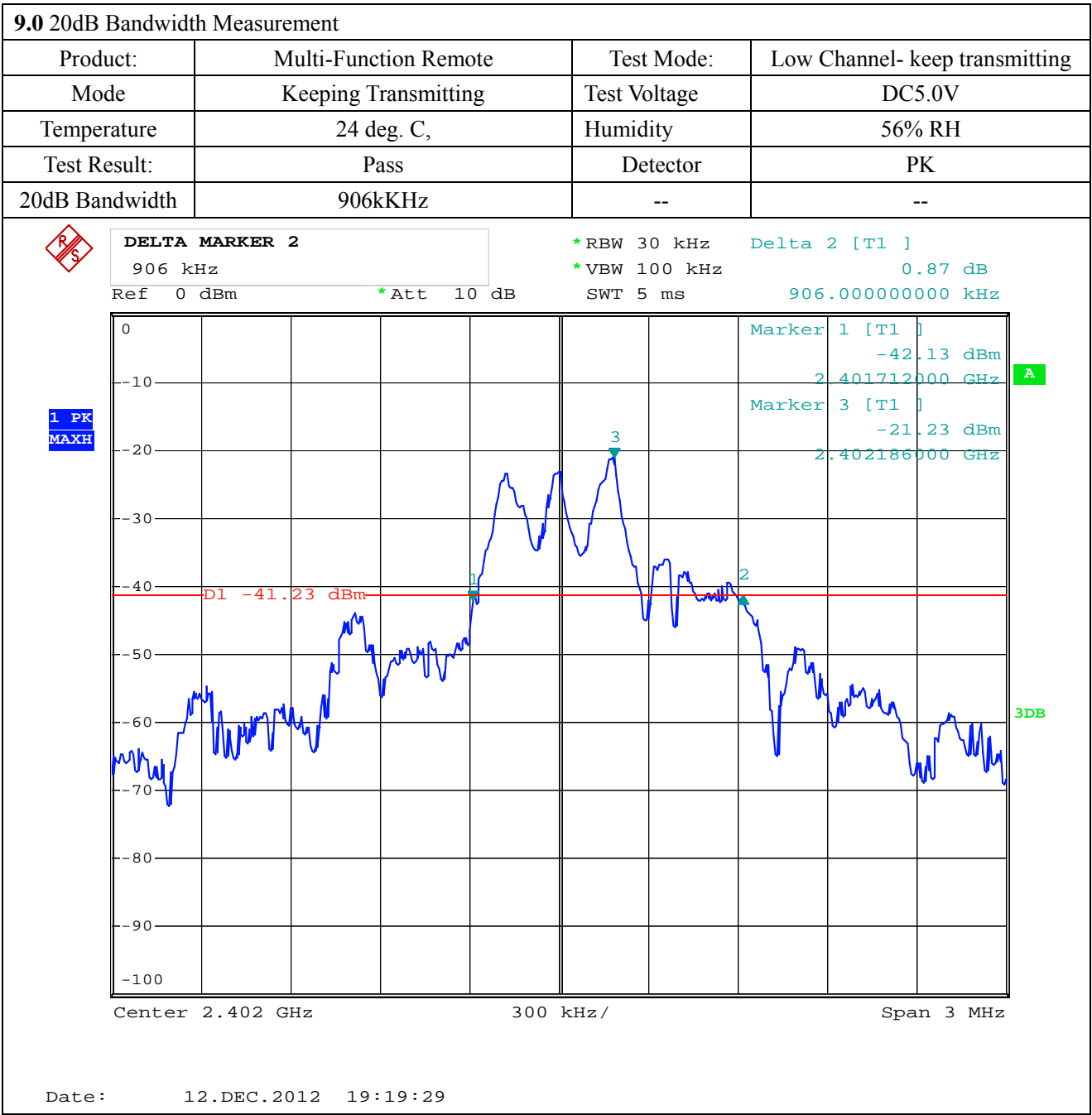
PCB antenna with Gain 0dBi was used.

Test Result: Pass

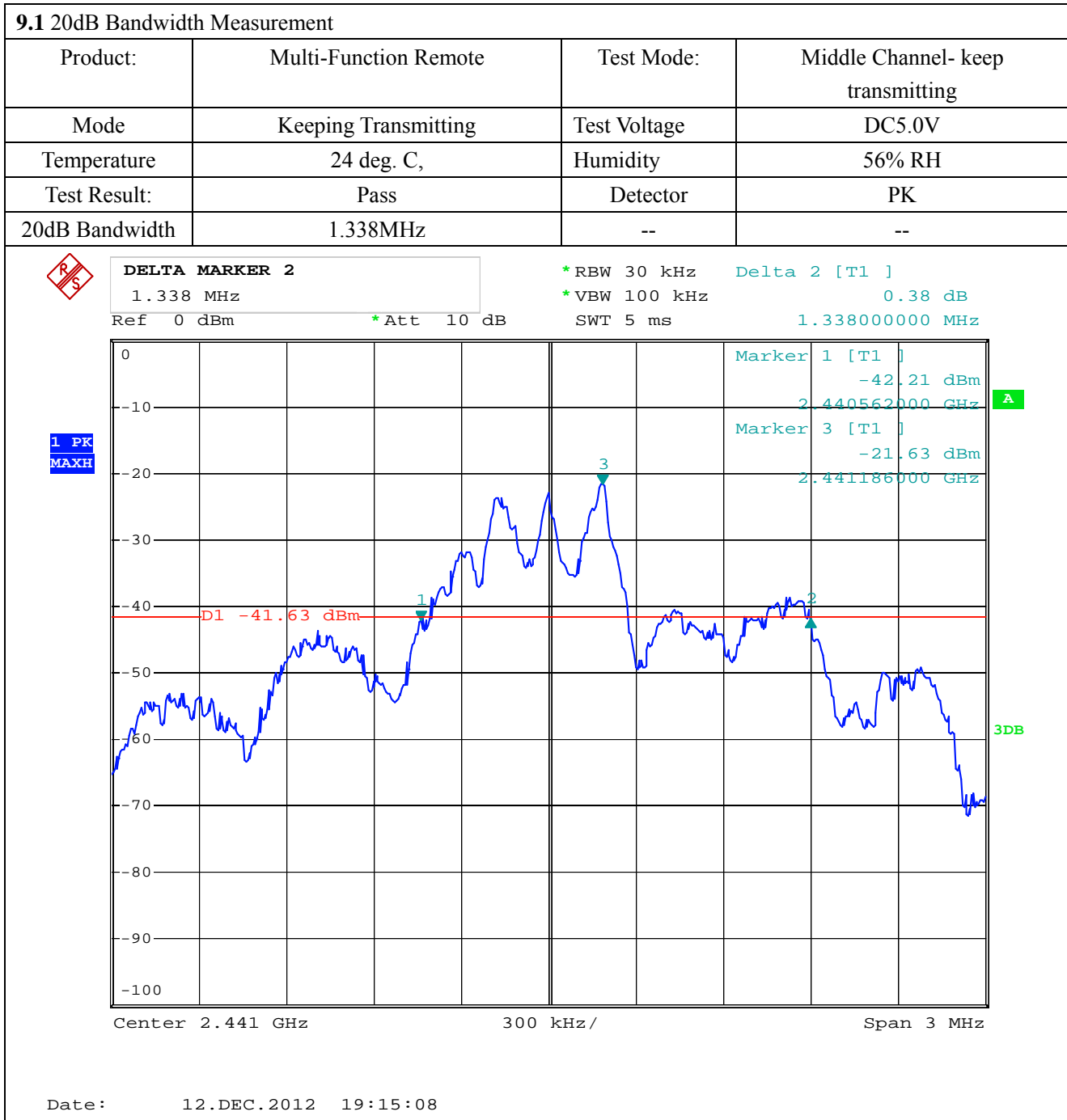
The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or other persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



The report refers only to the sample tested and does not apply to the bulk.  
This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for adverting. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.  
In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.

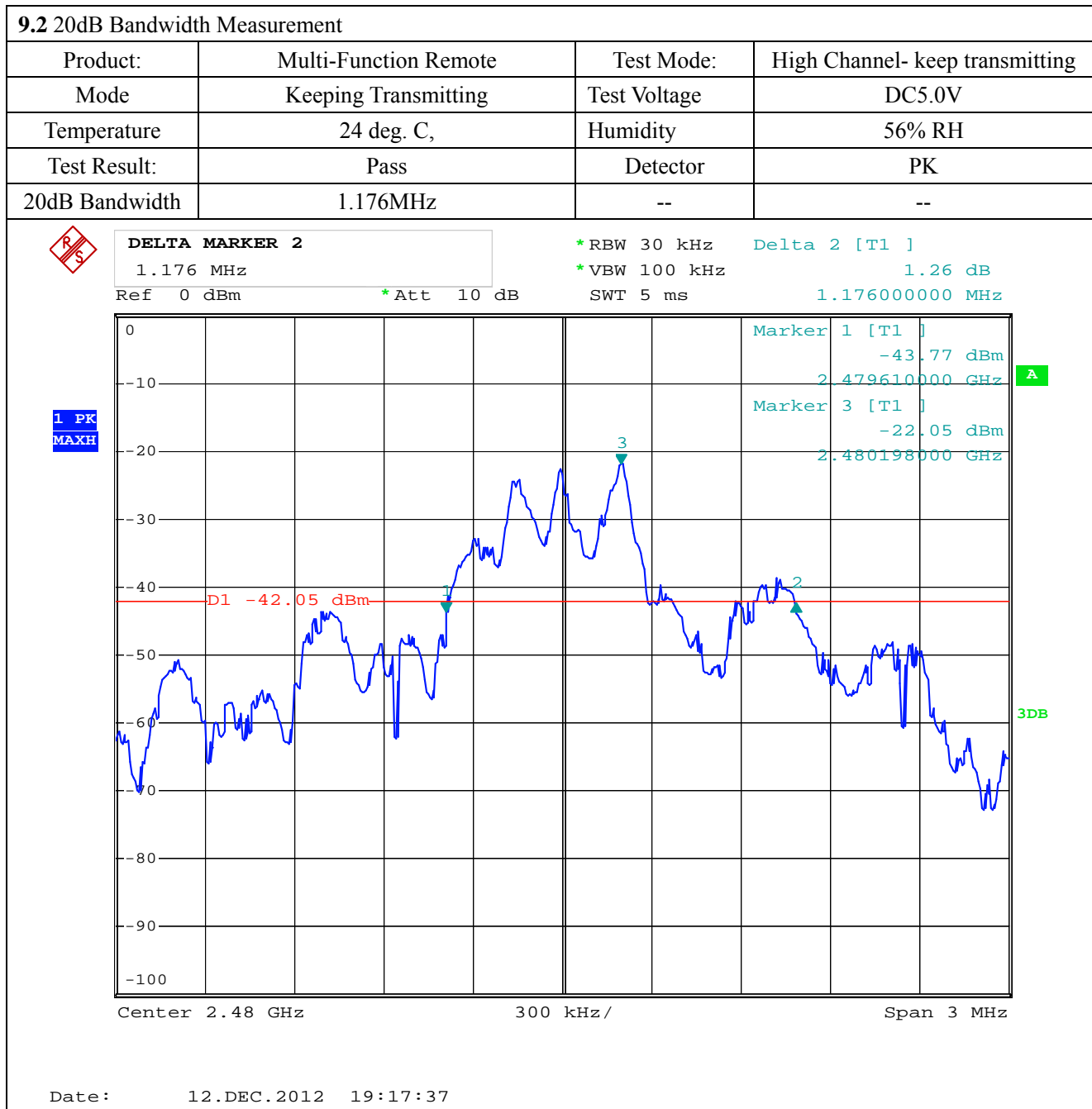


The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertizing. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.





The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for adverting. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



## 10.0 FCC ID Label

### FCC ID: QZVCZ-DG-AF100

**This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.**

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

#### Mark Location:



FCC ID Label Location

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



## 11.0 Photo of testing

### 11.1 Conducted test View--



The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertizing. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



## 11.2 Radiated emission test view



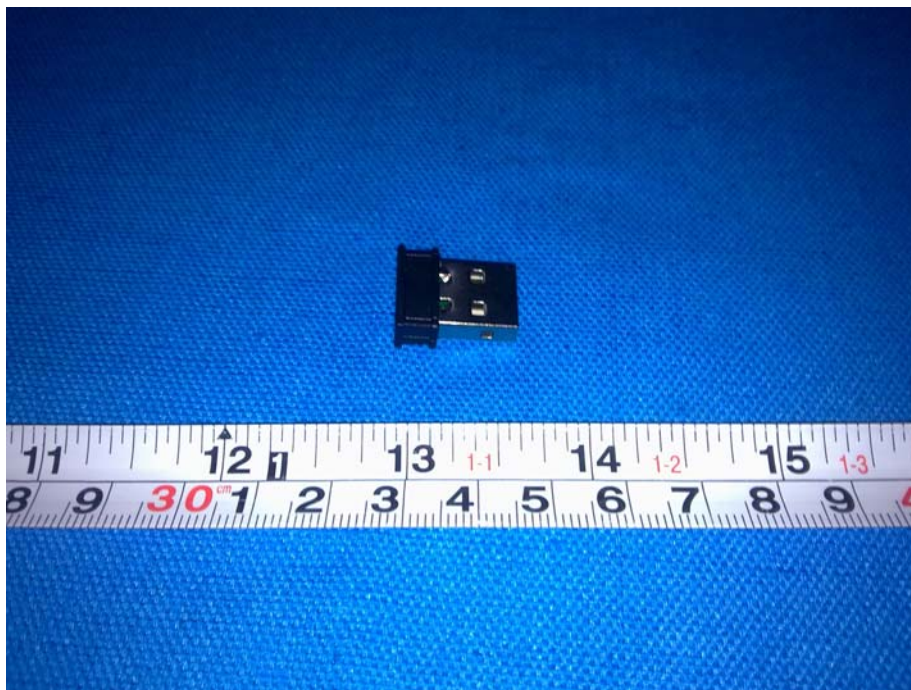
The report refers only to the sample tested and does not apply to the bulk.  
This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertizing. The client to whom the report is issued may, however, show or send it . or a certified copy there of prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.  
In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.





### 11.3 Photographs - EUT

Outside View—



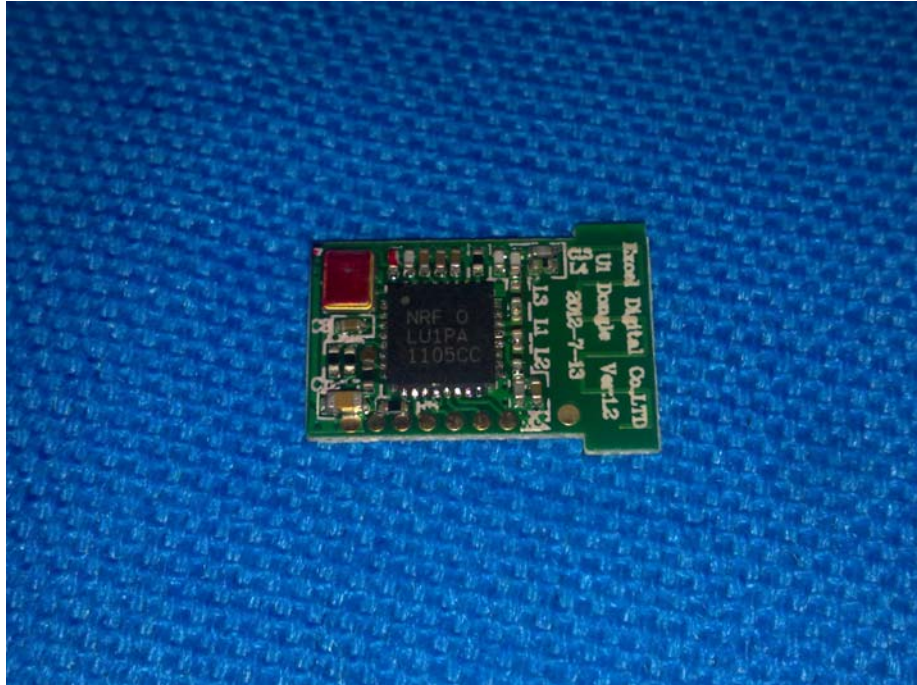
The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



Interior View—



### End of the report

The report refers only to the sample tested and does not apply to the bulk.

This report is issued in confidence to the client and it will be strictly treated as such by the Greatwall International Approval Co., Limited. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it, or a certified copy thereof prepared by the Greatwall International Approval Co., Limited to his customer. Supplier or others persons directly concerned. Greatwall International Approval Co., Limited will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

In the event of the improper use of the report. The Greatwall International Approval Co., Limited reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.