

588 West Jindu Road, Songjiang District, Shanghai, China

Telephone: +86 (0) 21 6191 5666 Fax: +86 (0) 21 6191 5678

ee.shanghai@sgs.com

Report No.: SHEM140300064001 Page: 1 of 27

### 1 Cover Page

### **FCC REPORT**

Application No.:	SHEM1403000640RF			
Applicant:	WUYI GOLD SCIENCE TECHNOLOGY CO., LTD			
FCC ID:	2ACEEFD-RC			
	Equipment Under Test (EUT): NOTE: The following sample(s) submitted was/were identified on behalf of the client as			
Product Name:	REMOTE CONTROLLER			
Model No.(EUT):	FD-RC			
Standards:	FCC PART 15 Subpart C Section 15.249: 2013			
Date of Receipt:	March 26, 2014			
Date of Test:	May 19, 2014			
Date of Issue:	May 22, 2014			
Test Result:	Pass*			

<sup>\*</sup>In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Tony Wu

E&E Section Manager

SGS-CSTC (Shanghai) Co., Ltd.

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <a href="https://www.sgs.com/terms">www.sgs.com/terms</a> and conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="https://www.sgs.com/terms\_e-document.htm">www.sgs.com/terms\_e-document.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only



Report No.: SHEM140300064001

Page: 2 of 27

### 2 Version

Revision Record							
Version	Version Chapter Date Modifier Remark						
00 May 22, 2014 Original				Original			

Authorized for issue by:		
Engineer	Eddy Zong	Eddy Zong
	Print Name	
Clerk	Susie Liu	Suire Lin
	Print Name	
Reviewer	Keny Xu	Keny. Ku
	Print Name	



Report No.: SHEM140300064001

Page: 3 of 27

### 3 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	FCC Part 15, Subpart C Section 15.203		PASS
AC Power Line Conducted Emission	FCC Part 15, Subpart C Section 15.207	ANSI C63.10 (2009) Section 6.2	N/A*
Field Strength of the Fundamental Signal			PASS
Radiated Emissions and Bandedge	FCC Part 15, Subpart C Section 15.249 (a)/15.209/15.205	ANSI C63.10 (2009) Section 6.12	PASS
20dB Bandwidth	FCC Part 15, Subpart C Section 15.215 (c)	ANSI C63.10 (2009) Section 6.9	PASS

Note:\* Please refer to Section 7.2 of this report for details.



Report No.: SHEM140300064001

Page: 4 of 27

### 4 Contents

		Page
1 (	COVER PAGE	1
2 V	VERSION	2
3 T	TEST SUMMARY	3
	CONTENTS	
	GENERAL INFORMATION	
5.1	CLIENT INFORMATION	
5.2	GENERAL DESCRIPTION OF E.U.T.	
5.3	TECHNICAL SPECIFICATIONS:	
5.4	E.U.T OPERATION MODE	5
5.5	DESCRIPTION OF SUPPORT UNITS	5
5.6	TEST LOCATION	5
5.7	TEST FACILITY	
5.8	MEASUREMENT UNCERTAINTY	6
6 E	EQUIPMENTS LIST	7
7 T	TEST RESULTS AND MEASUREMENT DATA	8
7.1	E.U.T. TEST CONDITIONS	8
7.2	ANTENNA REQUIREMENT	9
7.3	CONDUCTED EMISSIONS	
7.4	FIELD STRENGTH OF THE FUNDAMENTAL SIGNAL	
7.5	RADIATED EMISSIONS AND BAND EDGE	
7.6	20dB Bandwidth	24
8 T	TEST SETUP PHOTOGRAPHS	27
9 E	EUT CONSTRUCTIONAL DETAILS	27



Report No.: SHEM140300064001

Page: 5 of 27

### 5 General Information

#### 5.1 Client Information

Applicant: WUYI GOLD SCIENCE TECHNOLOGY CO., LTD

Address of Applicant: SHUXI STREET, SOUTHEAST INDUSTRIAL AREA, WUYI, CHINA

Manufacturer: WUYI GOLD SCIENCE TECHNOLOGY CO., LTD

Address of Manufacturer: SHUXI STREET, SOUTHEAST INDUSTRIAL AREA, WUYI, CHINA

Factory: WUYI GOLD SCIENCE TECHNOLOGY CO., LTD

Address of Factory: SHUXI STREET, SOUTHEAST INDUSTRIAL AREA, WUYI, CHINA

### 5.2 General Description of E.U.T.

Product Description: Portable Product

### 5.3 Technical Specifications:

Operation Frequency: 2401MHz-2483MHz

Modulation Type: FSK
Number of Channel: 165
Channel Separation: 0.5MHz

Antenna Type: Integral antenna

Power Supply: DC 9.0V by Nishika battery

Supply the EUT with new battery during the testing.

### 5.4 E.U.T Operation Mode

Control EUT work in continuous transmitter mode. And select test channel as below:

Channel	Frequency (MHz)
Low Channel	2401
Middle Channel	2441
High Channel	2483

### 5.5 Description of Support Units

The EUT has been tested independently.

#### 5.6 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab No.588 West Jindu Road, Songjiang District, Shanghai, China. 201612.

Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

No tests were sub-contracted.



Report No.: SHEM140300064001

Page: 6 of 27

### 5.7 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### • CNAS (No. CNAS L0599)

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing. Date of expiry: 2014-07-26.

#### FCC – Registration No.: 402683

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683, Expiry Date: 2015-02-22.

#### Industry Canada (IC) – IC Assigned Code: 8617A

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A. Expiry Date: 2014-09-20.

#### VCCI (Member No.: 3061)

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-3868 and C-4336 respectively. Date of Registration: 2012-05-29. Date of Expiry: 2015-05-28.

### 5.8 Measurement Uncertainty

No.	Parameter	Measurement Uncertainty
1	Radio Frequency	< ±1 x 10 <sup>-5</sup>
2	Total RF power, conducted	< ±1.5 dB
3	RF power density, conducted	< ±3 dB
4	Spurious emissions, conducted	< ±3 dB
5	All emissions, radiated	< ±6 dB (30MHz – 1GHz) < ±6 dB (above 1GHz)
6	Temperature	< ±1°C
7	Humidity	< ±5 %
8	DC and low frequency voltages	< ±3 %



Report No.: SHEM140300064001

Page: 7 of 27

### 6 Equipments List

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due date
1	Power meter	Rohde & Schwarz	NRP	101641	2014-02-14	2015-02-13
2	Power Sensor	Rohde & Schwarz	NRP-Z22	1137.7506. 02	2013-11-21	2014-11-20
3	Spectrum Analyzer	Rohde & Schwarz	FSP-30	270512100 9	2014-02-14	2015-02-13
4	EMI test receiver	Rohde & Schwarz	ESU40	100109	2014-02-14	2015-02-13
5	Horn Antenna (1GHz to 18GHz)	SCHWARZBECK	BBHA9120D	9120D-679	2014-02-14	2015-02-13
6	Horn Antenna (14GHz to 40GHz)	SCHWARZBECK	BBHA 9170	BBHA9170 373	2014-02-14	2015-02-13
7	ANTENNA (25MHz to 2GHz)	SCHWARZBECK	VULB9168	9168-313	2014-02-14	2015-02-13
8	Ultra broadband antenna (30MHz to3GHz)	Rohde & Schwarz	HL562	100227	2013-10-09	2014-10-08
9	Horn Antenna (1GHz to 18GHz)	Rohde & Schwarz	HF906	100284	2014-02-14	2015-02-13
10	Active Loop Antenna (9kHz to 30MHz)	Rohde & Schwarz	FMZB 1519	1519-034	2013-07-28	2014-07-27
11	High-low temperature cabinet	Suzhou Zhihe	TL-40	50110050	2014-04-13	2015-04-12
12	Tunable Notch Filter	Wainwright instruments Gmbh	WRCT800.0/ 880.0- 0.2/40-5SSK	9	2013-06-02	2014-06-01
13	High pass Filter	FSCW	HP 12/2800- 5AA2	19A45-02	2013-06-02	2014-06-01
14	Low noise amplifier	TESEQ	LNA6900	70133	2014-02-14	2015-02-13
15	AC power stabilizer	WOCEN	6100	51122	2013-06-02	2014-06-01
16	DC power	QJE	QJ30003SII	611145	2013-06-02	2014-06-01



Report No.: SHEM140300064001

Page: 8 of 27

### 7 Test results and Measurement Data

#### 7.1 E.U.T. test conditions

Test Power: DC 9.0V

Requirements: 15.31(e) For intentional radiators, measurements of the variation of the input

power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a

new battery.

Operating Environment:

•	
Temperature:	24.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1008 kPa

#### Test frequencies:

According to the 15.31(m) Measurements on intentional radiators or receivers, other than TV broadcast receivers, shall be performed and. if required reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table:

Frequency range over	Number of	Location in the range of	
which device operates	frequencies	operation	
1 MHz or less	1	Middle	
1 to 10 MHz	2	1 near top and 1 near bottom	
More than 10 MHz	3	1 near top. 1 near middle and 1 near bottom	

Pursuant to Part 15.31(c) For swept frequency equipment, measurements shall be made with the frequency sweep stopped at those frequencies chosen for the measurements to be reported.

Test frequency is the lowest channel: 1 channel (2401MHz), middle channel: 81 channel (2441MHz) and highest channel: 165 channel (2483MHz) with fixed at channel.



Report No.: SHEM140300064001

Page: 9 of 27

### 7.2 Antenna Requirement

Standard requirement: 47 CFR Part 15C Section 15.203

**15.203 Requirement:** An intentional radiator shall be designed to ensure that no antenna

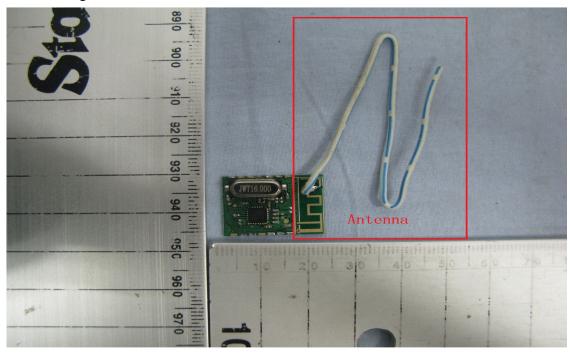
other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or

electrical connector is prohibited.

#### **EUT Antenna:**

The antenna is integrated on the main PCB and no consideration of replacement.

#### **Antenna Configuration:**





Report No.: SHEM140300064001

Page: 10 of 27

#### 7.3 **Conducted Emissions**

Test Frequency Range: 150kHz to 30MHz

Limit:

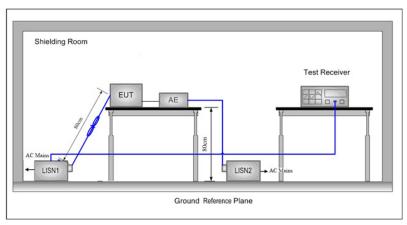
Fraguency range (MHz)	Limit (dBuV)		
Frequency range (MHz)	Quasi-peak	Average	
0.15-0.5	66 to 56*	56 to 46*	
0.5-5	56	46	
5-30	60	50	

<sup>\*</sup> Decreases with the logarithm of the frequency.

**Test Procedure:** 

- 1) The mains terminal disturbance voltage test was conducted in a shielded
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides  $50\Omega/50\mu H + 5\Omega$  linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2009 on conducted measurement.

**Test Setup:** 



**Test Results:** 

**Pass** 

**Measurement Data:** 

This EUT is powered by battery only; therefore the AC Conducted Emission test is not applicable.



Report No.: SHEM140300064001

Page: 11 of 27

### 7.4 Field Strength of the Fundamental Signal

Test Site: Measurement Distance: 3m (Semi-Anechoic Chamber)

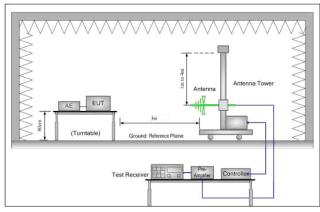
**Receiver Setup:** 

Frequency	Detector	RBW	VBW	Remark
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Limit:

Frequency	Limit (dBuV/m)	Remark
2400-2483.5 MHz	114	Peak
	94	Average

#### Test Setup:



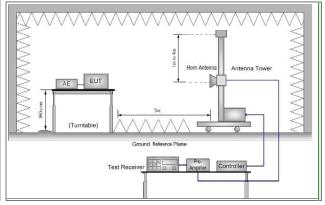


Figure 1. 30MHz to 1GHz

Figure 2. Above 1 GHz

#### **Test Procedure:**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- g. Repeat above procedures until all frequencies measured was complete.

Test Results: Pass



Report No.: SHEM140300064001

Page: 12 of 27

#### **Measurement Data**

#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2401.0	77.63	-4.02	73.61	94	-20.39	Horizontal
2401.0	77.34	-4.02	73.32	94	-20.68	Vertical
2441.5	77.35	-4.35	73.00	94	-21.00	Horizontal
2441.5	77.30	-4.35	72.95	94	-21.05	Vertical
2483.0	76.17	-4.53	71.64	94	-22.36	Horizontal
2483.0	77.27	-4.53	72.74	94	-21.26	Vertical

#### Remark:

- The basic equation with a sample calculation is as follows: Level = Read Level + Factor.
   (The Factor is calculated by adding the Antenna Factor, Cable Loss and Preamp Factor)
- 2) If the Peak value below the AV Limit, the AV test doesn't perform for this submission.



Report No.: SHEM140300064001

Page: 13 of 27

### 7.5 Radiated Emissions and band edge

Test frequency range: 9KHz - 25GHz

Test Site: Measurement Distance: 3m (Semi-Anechoic Chamber)

**Receiver Setup:** 

Frequency	Detect	or	RBW	VBW
0.009MHz-0.090MHz	Peak		10kHz	30KHz
0.009MHz-0.090MHz	Averaç	ge	10kHz	30KHz
0.090MHz-0.110MHz	Quasi-p	eak	10kHz	30KHz
0.110MHz-0.490MHz	.490MHz Peak			30KHz
0.110MHz-0.490MHz	Averaç	ge	10kHz	30KHz
0.490MHz -30MHz	Quasi-p	eak	10kHz	30kHz
30MHz-1GHz	Quasi-p	eak	100 kHz	300KHz
Above 1GHz	Peak		1MHz	3MHz
Above 1GHZ	Averaç	ge	1MHz	10Hz
Frequency	Field strength (uV/m)	Limit (dBuV/m )	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

#### **Test Procedure:**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Limit:



Report No.: SHEM140300064001

Page: 14 of 27

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

#### Test Setup:

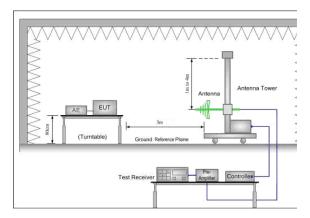


Figure 1. Below 30MHz **Test Results:** Pass

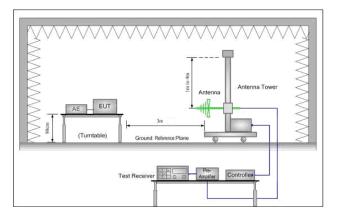


Figure 2. 30MHz to 1GHz

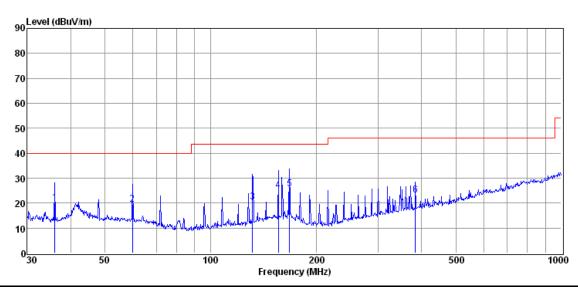


Report No.: SHEM140300064001

Page: 15 of 27

#### 30MHz-1GHz:

#### Vertical



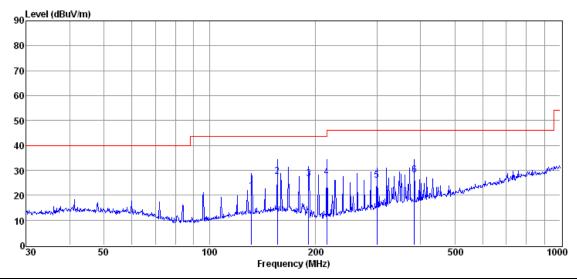
Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
1	36.00	31.83	12.58	24.70	0.50	20.21	40.00	-19.79	QP
2	59.86	31.36	12.21	24.70	0.73	19.60	40.00	-20.40	QP
3	131.76	33.15	10.86	24.70	1.19	20.50	43.50	-23.00	QP
4	155.91	35.94	12.64	24.70	1.30	25.18	43.50	-18.32	QP
5	167.82	36.60	12.37	24.62	1.35	25.70	43.50	-17.80	QP
6	383.93	31.01	14.48	24.40	2.24	23.33	46.00	-22.67	QP



Report No.: SHEM140300064001

Page: 16 of 27

#### Horizontal



Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	
1	131.76	33.46	11.69	24.70	1.19	21.64	43.50	-21.86	QP
2	155.91	38.15	12.64	24.70	1.30	27.39	43.50	-16.11	QP
3	191.75	40.03	9.63	24.60	1.47	26.53	43.50	-16.97	QP
4	216.02	41.16	9.14	24.60	1.58	27.28	46.00	-18.72	QP
5	300.37	36.15	12.41	24.50	1.95	26.01	46.00	-19.99	QP
6	383.93	36.15	14.23	24.40	2.24	28.22	46.00	-17.78	QP

Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor



Report No.: SHEM140300064001

Page: 17 of 27

#### 1GHz-12GHz:

Lowest Channel (2400MHz)

Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector	polarization
(Mark)	(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		
1	4796.930	50.96	32.04	41.64	10.85	52.21	54.00	-1.79	peak	Horizontal
2	7210.229	46.04	36.62	41.60	10.68	51.74	54.00	-2.26	peak	Horizontal
3	4796.930	51.88	32.04	41.64	10.85	53.13	54.00	-0.87	peak	Vertical
4	7210.229	44.20	36.62	41.60	10.68	49.90	54.00	-4.10	peak	Vertical

Middle Channel (2441MHz)

IVIIGG	Wildle Originici (244 tivii 12)											
Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector	polarization		
(Mark)	(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)				
1	4881.099	51.32	32.21	41.69	11.15	52.99	54.00	-1.01	peak	Horizontal		
2	7318.536	39.00	36.70	41.57	10.75	44.88	54.00	-9.12	peak	Horizontal		
3	11705.490	37.51	39.56	42.58	13.35	47.84	54.00	-6.16	peak	Horizontal		
4	4881.099	50.94	32.21	41.69	11.15	52.61	54.00	-1.39	peak	Vertical		
5	11734.610	37.56	39.52	42.60	13.37	47.85	54.00	-6.15	peak	Vertical		

High Channel (2483MHz)

Item	Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector	polarization
(Mark)	(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		
1	4966.746	50.80	32.35	41.74	11.46	52.87	54.00	-1.13	peak	Horizontal
2	11532.260	42.69	39.76	42.48	13.24	53.21	54.00	-0.79	peak	Horizontal
3	4966.746	50.44	32.35	41.74	11.46	52.51	54.00	-1.49	peak	Horizontal
4	7446.950	44.34	36.77	41.55	10.84	50.40	54.00	-3.60	peak	Vertical
5	11446.610	42.50	39.75	42.43	13.18	53.00	54.00	-1.00	peak	Vertical

Remark: 1. Test Level = Receiver Reading + Antenna Factor + Cable Loss - Preamplifier Factor.

- 2. No any other emissions level which are attenuated less than 20dB below the limit.

  According to 15.31(o), the amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part. Hence there no other emissions have been reported.
- 3. If the Peak value below the AV Limit, the AV test doesn't perform for this submission.



Report No.: SHEM140300064001

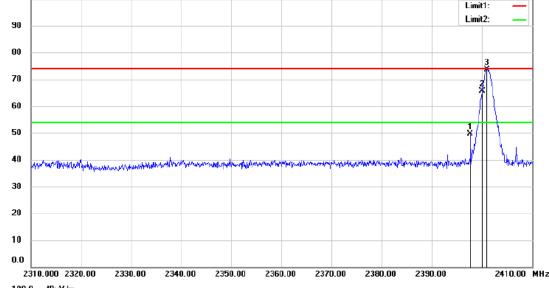
Page: 18 of 27

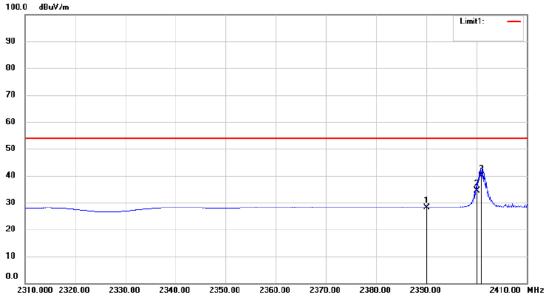
#### Band-edge

#### Lowest Channel(2401MHz)

MK.	Frequency (MHz)	Reading Level (dBuV/m)	Corrected factor(dB)	Result Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Polarization			
1	2397.700	53.66	-4.00	49.66	74	-24.34	Peak	Horizontal			
2	2400.000	69.67	-4.01	65.66	74	-8.34	Peak	Horizontal			
3	2401.000	77.63	-4.02	73.61	74	-0.39	Peak	Horizontal			
1	2390.000	32.04	-3.95	28.09	54	-25.91	Average	Horizontal			
2	2400.000	38.47	-4.01	34.46	54	-19.54	Average	Horizontal			
3	2401.000	43.81	-4.02	39.79	54	-14.21	Average	Horizontal			
	100.0 dBuV/m										

Peak:







Report No.: SHEM140300064001

Page: 19 of 27



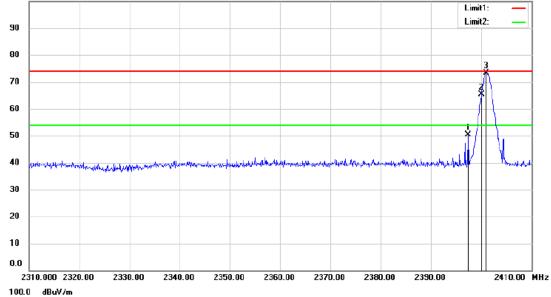
Report No.: SHEM140300064001

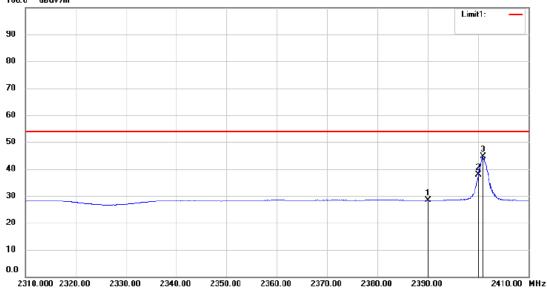
Page: 20 of 27

#### Lowest Channel(2401MHz)

MK.	Frequency (MHz)	Reading Level (dBuV/m)	Corrected factor(dB)	Result Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Polarization				
1	2397.400	54.40	-3.99	50.41	74	-23.59	Peak	Vertical				
2	2400.000	69.33	-4.01	65.32	74	-8.68	Peak	Vertical				
3	2401.000	77.34	-4.02	73.32	74	-0.68	Peak	Vertical				
1	2390.000	32.25	-3.95	28.30	54	-25.70	Average	Vertical				
2	2400.000	41.95	-4.01	37.97	54	-16.03	Average	Vertical				
3	2401.000	48.58	-4.02	44.56	54	-9.44	Average	Vertical				
	100.0 dBuV/m											

Peak:







Report No.: SHEM140300064001

Page: 21 of 27

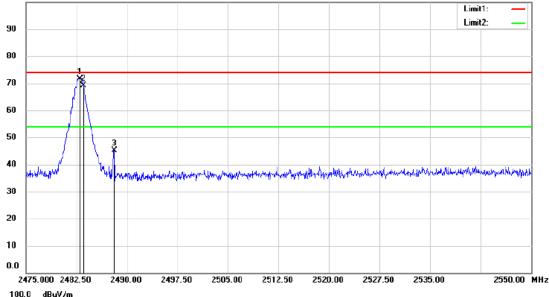
#### Highest Channel(2483MHz)

100.0

dBuV/m

MK.	Frequency (MHz)	Reading Level (dBuV/m)	Corrected factor(dB)	Result Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	2483.000	76.17	-4.53	71.64	74	-2.36	Peak	Horizontal
2	2483.500	73.76	-4.53	69.23	74	-4.77	Peak	Horizontal
3	2488.125	49.74	-4.56	45.18	74	-28.82	Peak	Horizontal
1	2483.000	49.14	-4.53	44.61	54	-9.39	Average	Horizontal
2	2483.500	42.39	-4.53	37.86	54	-16.14	Average	Horizontal
3	2486.000	31.44	-4.55	26.89	54	-27.11	Average	Horizontal

Peak:







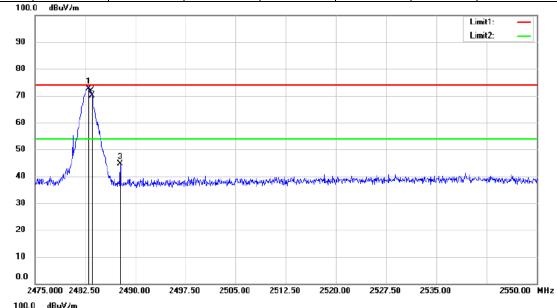
Report No.: SHEM140300064001

Page: 22 of 27

#### Highest Channel(2483MHz)

MK.	Frequency (MHz)	Reading Level (dBuV/m)	Corrected factor(dB)	Result Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	2483.000	77.27	-4.53	72.74	74	-1.26	Peak	Vertical
2	2483.500	74.76	-4.53	70.23	74	-3.77	Peak	Vertical
3	2487.750	49.10	-4.56	44.54	74	-29.46	Peak	Vertical
1	2483.000	47.17	-4.53	42.64	54	-11.36	Average	Vertical
2	2483.500	42.36	-4.53	37.83	54	-16.17	Average	Vertical
3	2486.000	31.10	-4.55	26.55	54	-27.45	Average	Vertical

Peak:







Report No.: SHEM140300064001

Page: 23 of 27

Remark: 1. Result Level = Reading Level + Corrected factor

2. No any other emissions level which are attenuated less than 20dB below the limit. According to 15.31(o), the amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part. Hence there no other emissions have been reported.

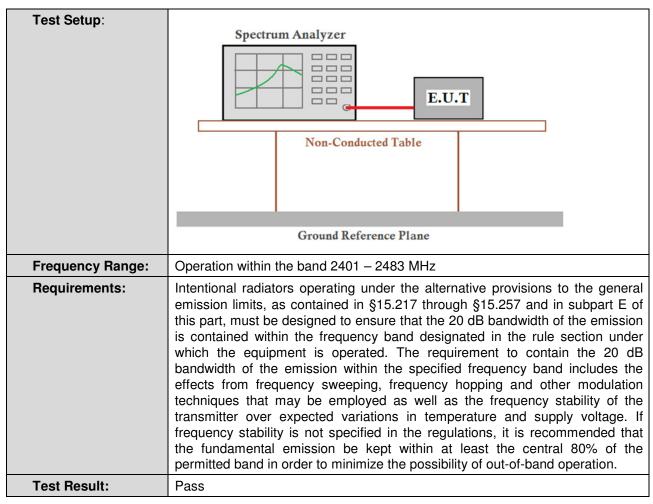
All frequencies within the "Restricted bands" have been evaluated to compliance. Section 15.205 Restricted bands of operation.



Report No.: SHEM140300064001

Page: 24 of 27

#### 7.6 20dB Bandwidth



#### **Measurement Data:**

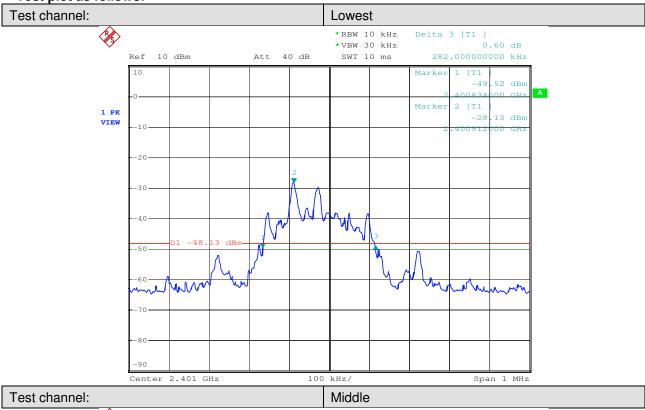
Frequency (MHz)	20dB bandwidth
	(MHz)
2401.0	0.282
2441.5	0.300
2483.0	0.286



Report No.: SHEM140300064001

Page: 25 of 27

### Test plot as follows:

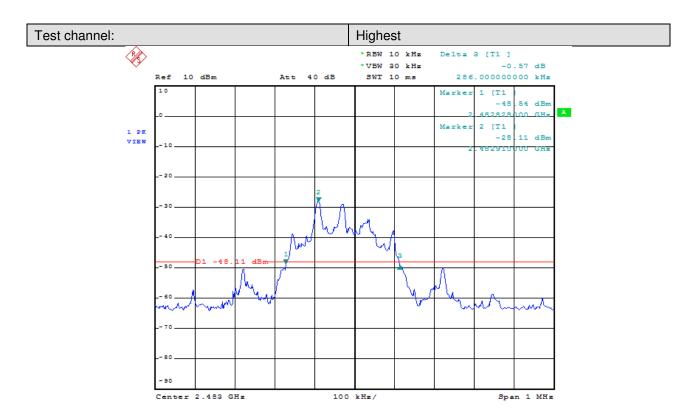






Report No.: SHEM140300064001

Page: 26 of 27





Report No.: SHEM140300064001

Page: 27 of 27

### 8 Test Setup Photographs

Refer to the < FD-RC \_Test Setup Photos-FCC >

### 9 EUT Constructional Details

Refer to the < FD-RC \_External Photos-FCC> & < FD-RC \_Internal Photos-FCC>.

-- End of the Report--