



## Test Report

**Date :** 2017-06-22  
**No. :** HM170722

**Page 1 of 21**

**Applicant:** Heng Yu Electronic Manufacturing Co., Ltd.  
Room 3-5, 15/F., Nan Fung Commercial Center 19 Lam Lok Street,  
Kowloon Bay

**Manufacturer:** Zhuhai Heng Yu New Technology Company Limited  
Heng Ke Campus, Jin Hai Avenue, San Zao, Zhuhai, Guangdong  
P.R.C., 519040

**Description of Sample(s):** Product: Wireless Keyboard  
Brand Name: Heng Yu  
Model Number: CK103A-RF  
FCC ID: XENCK103ARF01


**Date Sample(s) Received:** 2017-04-13

**Date Tested:** 2017-04-25 to 2017-05-02

**Investigation Requested:** Perform ElectroMagnetic Interference measurement in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2016 and ANSI C63.10:2013 for FCC Certification.

**Conclusion(s):** The submitted product COMPLIED with the requirements of Federal Communications Commission [FCC] Rules and Regulations Part 15. The tests were performed in accordance with the standards described above and on Section 2.2 in this Test Report.

**Remark(s):** This Laboratory Report supersedes our previous Test Report No. HM170722 issued on 2017-05-18 which is hereby deemed null and void.

  
Dr. LEE Kam Chuen  
Authorized Signatory  
ElectroMagnetic Compatibility Department  
For and on behalf of

The Hong Kong Standards and Testing Centre Ltd.

The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Tai Po Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.





## Test Report

Date : 2017-06-22

No. : HM170722

Page 2 of 21

### CONTENT:

Cover	Page 1 of 21
Content	Page 2 of 21
<b><u>1.0 General Details</u></b>	
1.1 Equipment Under Test [EUT] Description of EUT operation	Page 3 of 21
1.2 Description of EUT Operation	
1.3 Date of Order	Page 3 of 21
1.4 Submitted Sample	Page 3 of 21
1.5 Test Duration	Page 3 of 21
1.6 Country of Origin	Page 3 of 21
<b><u>2.0 Technical Details</u></b>	
2.1 Investigations Requested	Page 4 of 21
2.2 Test Standards and Results Summary	Page 4 of 21
<b><u>3.0 Test Results</u></b>	
3.1 Emission	Page 5-16 of 21
<b><u>Appendix A</u></b>	
List of Measurement Equipment	Page 17 of 21
<b><u>Appendix B</u></b>	
Photographs	Page 18-21 of 21

The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.



## Test Report

Date : 2017-06-22  
No. : HM170722

Page 3 of 21

### **1.0 General Details**

#### **1.1 Equipment Under Test [EUT] Description of Sample(s)**

Product: Wireless Keyboard  
Manufacturer: Zhuhai Heng Yu New Technology Company Limited  
Heng Ke Campus, Jin Hal Avenue, San Zao, Zhu Hai, Guang Dong P.R.C.  
519040  
Brand Name: Heng Yu  
Model Number: CK103A-RF  
Rating: 4.5Vd.c. ("AAA"\*3)

#### **1.2 Description of EUT Operation**

The Equipment Under Test (EUT) is a 2.4GHz Wireless Keyboard. The EUT type of modulation is GFSK, the channel frequency range 2404-2480MHz.

#### **1.3 Date of Order**

2017-04-13

#### **1.4 Submitted Sample(s):**

1 Sample

#### **1.5 Test Duration**

2017-04-25 to 2017-04-29

#### **1.6 Country of Origin**

China

The Hong Kong Standards and Testing Centre Limited  
10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.



## Test Report

Date : 2017-06-22  
No. : HM170722

Page 4 of 21

### **2.0 Technical Details**

#### **2.1 Investigations Requested**

Perform Electromagnetic Interference measurements in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2016 Regulations and ANSI C63.10:2013 for FCC Certification.

#### **2.2 Test Standards and Results Summary Tables**

EMISSION Results Summary					
Test Condition	Test Requirement	Test Method	Class / Severity	Test Result	
				Pass	Fail
Field Strength of Fundamental & Harmonics Emissions	FCC 47CFR 15.249	ANSI C63.10:2013	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Radiated Emissions	FCC 47CFR 15.209	ANSI C63.10:2013	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Note: N/A - Not Applicable

The Hong Kong Standards and Testing Centre Limited  
10 Dai Wang Street, Taiipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.



## Test Report

Date : 2017-06-22  
No. : HM170722

Page 5 of 21

### **3.0 Test Results**

#### **3.1 Emission**

##### **3.1.1 Field Strength of Fundamental & Harmonics Emissions**

Test Requirement:	FCC 47CFR 15.249
Test Method:	ANSI C63.10:2013
Test Date:	2017-04-25 to 2017-04-29
Mode of Operation:	Tx Mode

#### **Test Method:**

For measurement above 1GHz, the sample was placed 0.8m above the ground plane on a standard radiated emission test site. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. In the frequency range of 9kHz to 30MHz, The center of the loop antenna shall be 1 meter above the ground and rotated loop axis for maximum reading. The emissions worst-case are shown in Test Results of the following pages.

Remark: 3 orthogonal axis apply to hand-held device only.

\*: Semi-anechoic chamber located on the G/F of The Hong Kong Standards and Testing Centre Ltd. with a metal ground plane filed with the FCC pursuant to section 2.948 of the FCC rules, with Registration Number: 607756.

The Hong Kong Standards and Testing Centre Limited  
10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.

## Test Report

**Date : 2017-06-22**

**Page 6 of 21**

**No. : HM170722**

### **Spectrum Analyzer Setting:**

9KHz – 30MHz (Pk & Av)

RBW: 10kHz

VBW: 30kHz

Sweep: Auto

Span: Fully capture the emissions being measured

Trace: Max. hold

30MHz – 1GHz (QP)

RBW: 120kHz

VBW: 120kHz

Sweep: Auto

Span: Fully capture the emissions being measured

Trace: Max. hold

Above 1GHz (Pk & Av)

RBW: 1MHz

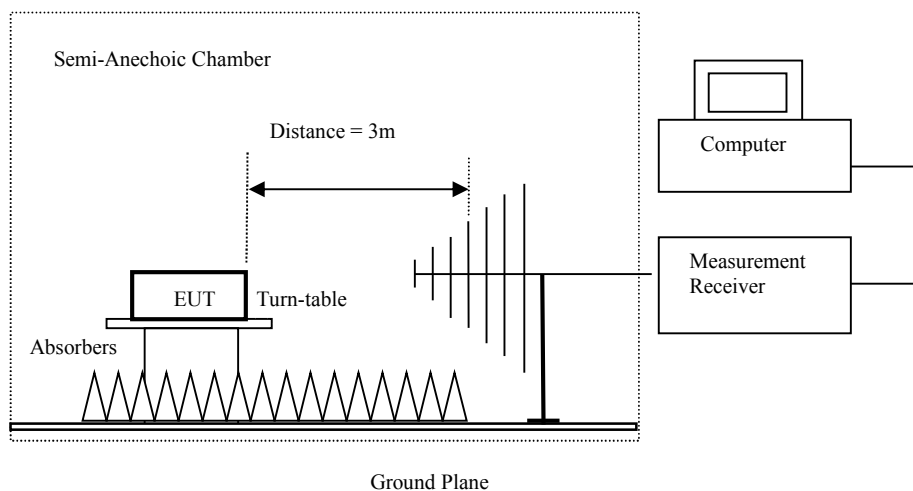
VBW: 3MHz

Sweep: Auto

Span: Fully capture the emissions being measured

Trace: Max. hold

### **Test Setup:**



Absorbers placed on top of the ground plane are for measurements above 1000MHz only.

The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.



## Test Report

Date : 2017-06-22

Page 7 of 21

No. : HM170722

### Limits for Field Strength of Fundamental & Harmonics Emissions [FCC 47CFR 15.249]:

Fundamental frequency [MHz]	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

### Result of TX mode, (Lowest Channel): Pass

Field Strength of Fundamental and Harmonics Emissions						
Peak Value						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
2404.0	53.6	27.5	81.1	11,350.1	500,000	Vertical
* 4808.0	19.0	31.7	50.7	342.8	5,000	Vertical
* 7212.2	12.8	38.6	51.4	371.5	5,000	Vertical
* 9616.0	Emissions detected are more than 20 dB below the FCC Limits				5,000	Vertical
12020.0					5,000	Vertical
14424.0					5,000	Vertical
16828.0					5,000	Vertical
19232.0					5,000	Vertical
21636.0					5,000	Vertical
24040.0					5,000	Vertical

Field Strength of Fundamental and Harmonics Emissions						
Average Value						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
2404.0	45.8	27.5	73.3	4,623.8	50,000	Vertical
4808.0	10.5	31.7	42.2	128.8	500	Vertical
7212.2	6.7	38.6	45.3	184.1	500	Vertical
* 9616.0	Emissions detected are more than 20 dB below the FCC Limits				500	Vertical
12020.0					500	Vertical
14424.0					500	Vertical
16828.0					500	Vertical
* 19232.0					500	Vertical
21636.0					500	Vertical
24040.0					500	Vertical

The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Tai Po Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: hkstc@hkstc.org Website: www.stc-group.org

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.



## Test Report

Date : 2017-06-22

Page 8 of 21

No. : HM170722

**Result of TX mode, (Middle Channel ): Pass**

Field Strength of Fundamental and Harmonics Emissions						
Peak Value						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
2442.0	52.7	27.9	80.6	10,715.2	500,000	Horizontal
4884.1	19.1	31.4	50.5	335.0	5,000	Horizontal
7326.3	10.3	39.1	49.4	295.1	5,000	Horizontal
* 9768.0	Emissions detected are more than 20 dB below the FCC Limits				5,000	Horizontal
12210.0					5,000	Horizontal
14652.0					5,000	Horizontal
17094.0					5,000	Horizontal
* 19536.0					5,000	Horizontal
21978.0					5,000	Horizontal
24420.0					5,000	Horizontal

Field Strength of Fundamental and Harmonics Emissions						
Average Value						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
2442.0	44.6	27.9	72.5	4,217.0	50,000	Horizontal
4884.1	9.4	31.4	40.8	109.6	500	Horizontal
7326.3	7.1	39.1	46.2	204.2	500	Horizontal
* 9768.0	Emissions detected are more than 20 dB below the FCC Limits				500	Horizontal
12210.0					500	Horizontal
14652.0					500	Horizontal
17094.0					500	Horizontal
* 19536.0					500	Horizontal
21978.0					500	Horizontal
24420.0					500	Horizontal

The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.





## Test Report

Date : 2017-06-22

Page 9 of 21

No. : HM170722

**Result of TX mode, (Highest Channel): Pass**

Field Strength of Fundamental and Harmonics Emissions						
Peak Value						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
2480.0	54.1	28.1	82.2	12,882.5	500,000	Horizontal
4960.3	18.3	31.8	50.1	319.9	5,000	Horizontal
7440.2	10.3	39.3	49.6	302.0	5,000	Horizontal
* 9920.0	Emissions detected are more than 20 dB below the FCC Limits				5,000	Horizontal
12400.0					5,000	Horizontal
14880.0					5,000	Horizontal
17360.0					5,000	Horizontal
* 19840.0					5,000	Horizontal
22320.0					5,000	Horizontal
24800.0					5,000	Horizontal

Field Strength of Fundamental and Harmonics Emissions						
Average Value						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
2480.0	43.2	28.1	71.3	3,672.8	50,000	Horizontal
4960.3	9.2	31.8	41.0	112.2	500	Horizontal
7440.2	6.3	39.3	45.6	190.5	500	Horizontal
* 9920.0	Emissions detected are more than 20 dB below the FCC Limits				500	Horizontal
12400.0					500	Horizontal
14880.0					500	Horizontal
17360.0					500	Horizontal
* 19840.0					500	Horizontal
22320.0					500	Horizontal
24800.0					500	Horizontal

The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: hkstc@hkstc.org Website: www.stc-group.org

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.



## Test Report

**Date : 2017-06-22**

**Page 10 of 21**

**No. : HM170722**

Remarks:

No additional spurious emissions found between lowest internal used/generated frequency and 30 MHz

\*: Denotes restricted band of operation.

Measurements were made using a peak detector. Any emission less than 1000 MHz and falling within the restricted bands of FCC Rules Part 15 Section 15.205 and the limits of FCC Rules Part 15 Section 15.209 were applied.

Calculated measurement uncertainty	:	9kHz to 30MHz	2.4dB
		30MHz to 1GHz	4.9dB
		1GHz to 6GHz	4.02dB
		6GHz to 18GHz	4.03dB

The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.



## Test Report

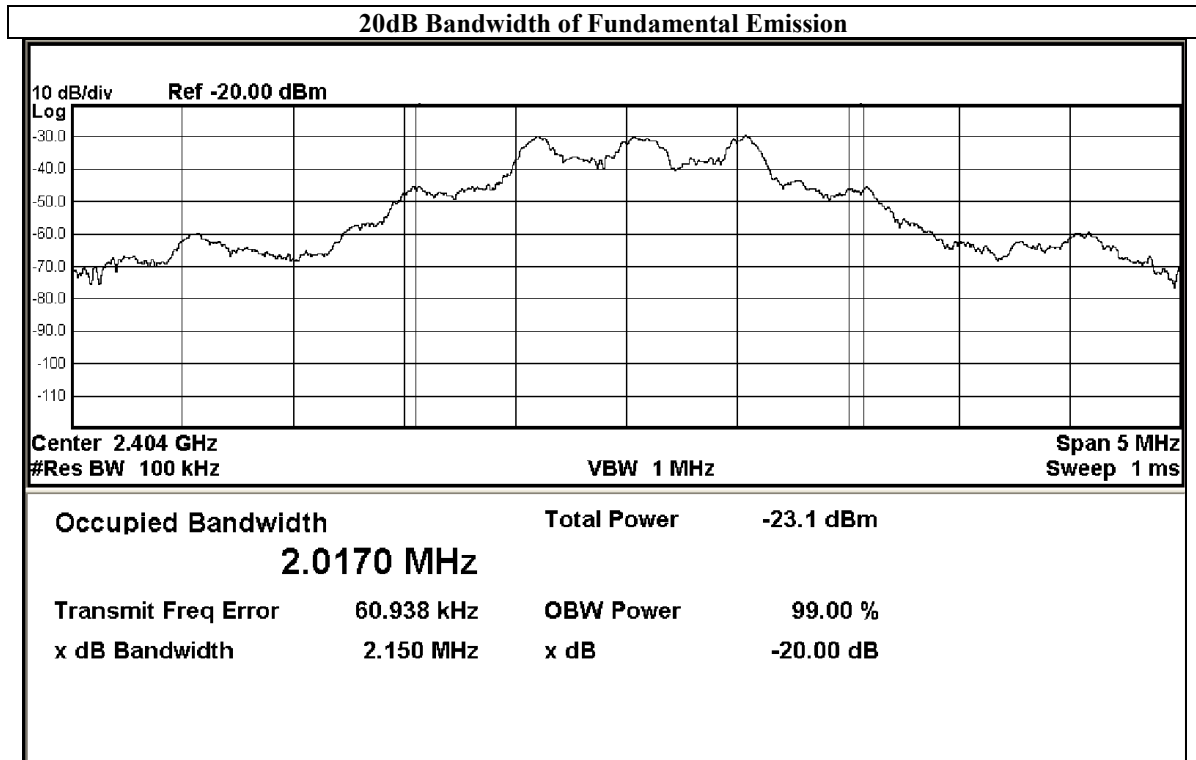
Date : 2017-06-22  
No. : HM170722

Page 11 of 21

### Limits for 20dB Bandwidth of Fundamental Emission:

Frequency Range [MHz]	20dB Bandwidth [MHz]
2404	2.15

### Tx mode – Lowest Channel





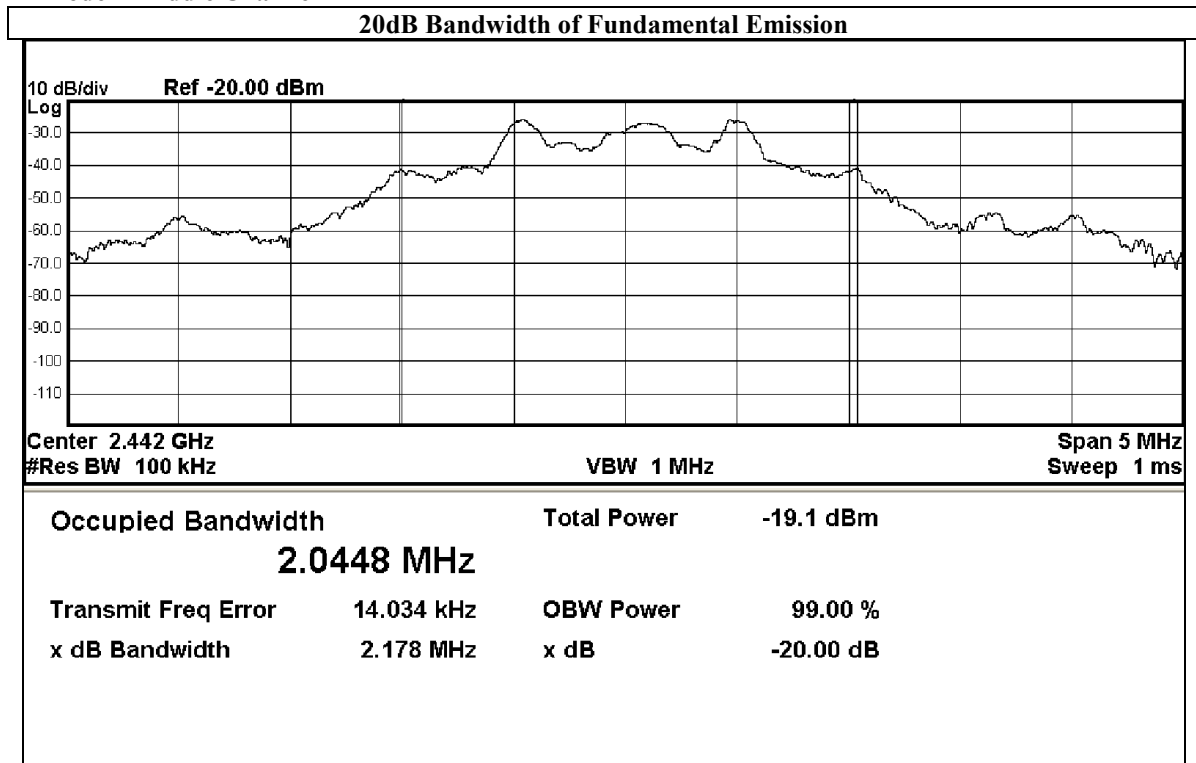
## Test Report

Date : 2017-06-22  
No. : HM170722

Page 12 of 21

Frequency Range [MHz]	20dB Bandwidth [MHz]
2442.0	2.18

**Tx mode – Middle Channel**



The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.



## Test Report

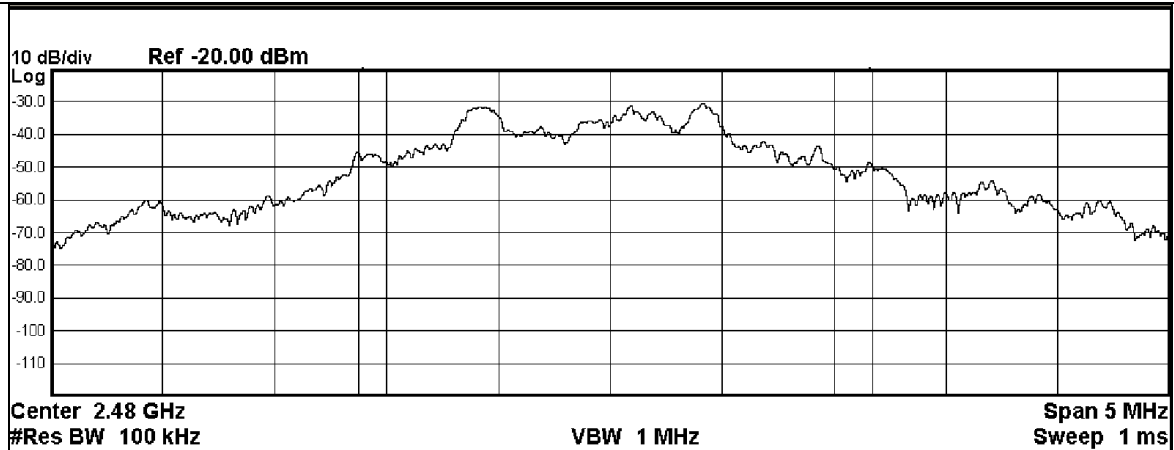
Date : 2017-06-22  
No. : HM170722

Page 13 of 21

Frequency Range [MHz]	20dB Bandwidth [MHz]
2480.0	2.37

Tx mode – Highest Channel

### 20dB Bandwidth of Fundamental Emission



Occupied Bandwidth		Total Power	-24.2 dBm
2.2907 MHz			
Transmit Freq Error	26.471 kHz	OBW Power	99.00 %
x dB Bandwidth	2.374 MHz	x dB	-20.00 dB

The Hong Kong Standards and Testing Centre Limited  
10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.



## Test Report

Date : 2017-06-22

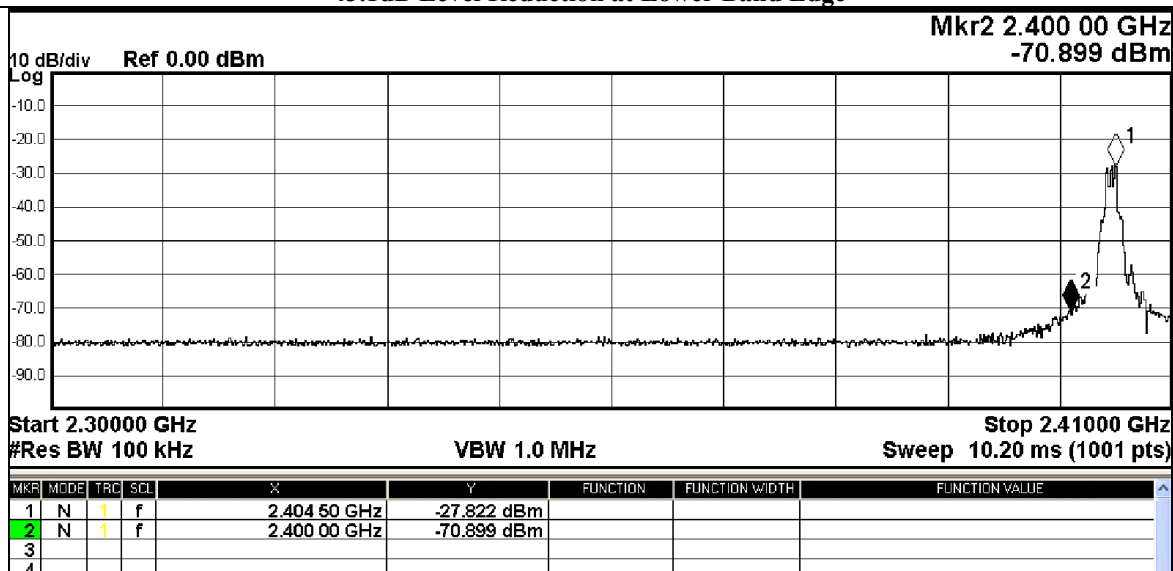
Page 14 of 21

No. : HM170722

### Band Edge Measurement:

Frequency Range [MHz]	Radiated Emission Attenuated below the Fundamental [dB]
2404– Lowest Fundamental	43.1

### 43.1dB Level Reduction at Lower Band Edge



### Field Strength of Band Edge Emissions

#### Peak Value

Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
2399.1	12.3	27.5	39.8	97.7	5,000	Vertical

### Field Strength of Band Edge Emissions

#### Average Value

Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
2399.1	0.7	27.5	28.2	25.7	500	Vertical

The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.



## Test Report

Date : 2017-06-22

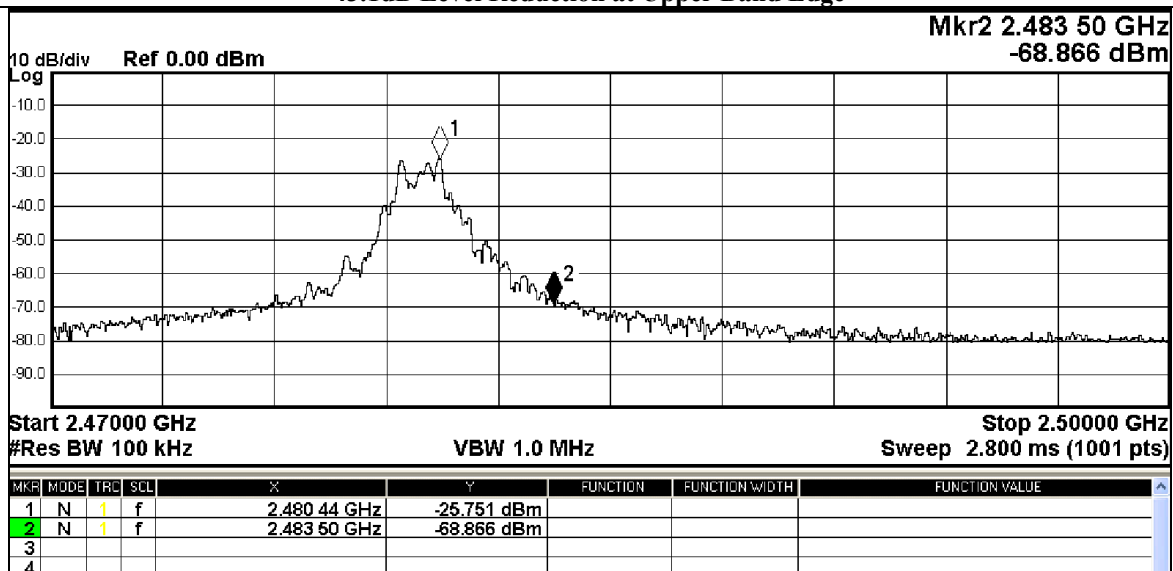
Page 15 of 21

No. : HM170722

### Band Edge Measurement:

Frequency Range [MHz]	Radiated Emission Attenuated below the Fundamental [dB]
2480 – Highest Fundamental	43.1

### 43.1dB Level Reduction at Upper Band Edge



### Field Strength of Band Edge Emissions

#### Peak Value

Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
2484.1	11.0	28.1	39.1	90.2	5,000	Vertical

### Field Strength of Band Edge Emissions

#### Average Value

Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
2484.1	0.9	28.1	29.0	28.2	500	Vertical

The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: hkstc@hkstc.org Website: www.stc-group.org

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.



## Test Report

Date : 2017-06-22

Page 16 of 21

No. : HM170722

### Limits for Radiated Emissions [FCC 47 CFR 15.209 Class B]:

Frequency Range [MHz]	Quasi-Peak Limits [μV/m]
0.009-0.490	2400/F (kHz)
0.490-1.705	24000/F (kHz)
1.705-30	30
30-88	100
88-216	150
216-960	200
Above960	500

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

### Result of Tx mode, (9kHz – 30MHz): PASS

Emissions detected are more than 20 dB below the FCC Limits

### Result of Tx mode, (30MHz – 1GHz): PASS

Field Strength of Fundamental and Harmonics Emissions						
Quasi-Peak Value						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
77.5	0.3	6.8	7.1	2.3	100	Vertical
111.2	0.1	8.6	8.7	2.7	150	Vertical
194.3	0.2	10.4	10.6	3.4	150	Horizontal
247.1	0.7	12.7	13.4	4.7	200	Horizontal
387.5	0.5	16.9	17.4	7.4	200	Horizontal
437.1	0.5	17.5	18.0	7.9	200	Horizontal

The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.





## Test Report

Date : 2017-06-22

No. : HM170722

Page 17 of 21

### Appendix A

#### LIST OF MEASUREMENT EQUIPMENT

##### Radiated Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL	DUE CAL
EM215	MULTIDEVICE CONTROLLER	EMCO	2090	00024676	N/A	N/A
EM217	ELECTRIC POWERED TURN TABLE	EMCO	2088	00029144	N/A	N/A
EM218	ANECHOIC CHAMBER	ETS-LINDGREN	FACT-3	--	2017/04/21	2018/04/21
EM356	ANTENNA POSITIONING TOWER	ETS-LINDGREN	2171B	00150346	N/A	N/A
EM354	BICONILOG ANTENNA	ETS-LINDGREN	3143B	00142073	2016/02/29	2018/02/29
EM229	EMI TEST RECEIVER	R&S	ESIB40	100248	2016/06/01	2017/06/01
EM299	DOUBLE-RIDGED WAVEGUIDE HORN ANTENNA	ETS-LINDGREN	3115	00114120	2016/04/27	2018/04/27
EM300	PYRAMIDAL STANDARD GAIN HORN ANTENNA	ETS-LINDGREN	3160-09	00130130	2016/05/13	2018/05/13
EM301	PYRAMIDAL STANDARD GAIN HORN ANTENNA	ETS-LINDGREN	3160-10	00130988	2016/05/13	2018/05/13
EM353	LOOP ANTENNA	ETS LINDGREN	6502	00206533	2016/03/16	2018/03/16

#### Remarks:

CM     Corrective Maintenance  
N/A    Not Applicable or Not Available  
TBD    To Be Determined

The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Taiipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.

## Test Report

Date : 2017-06-22

Page 18 of 21

No. : HM170722

### Appendix B

#### Photographs of EUT

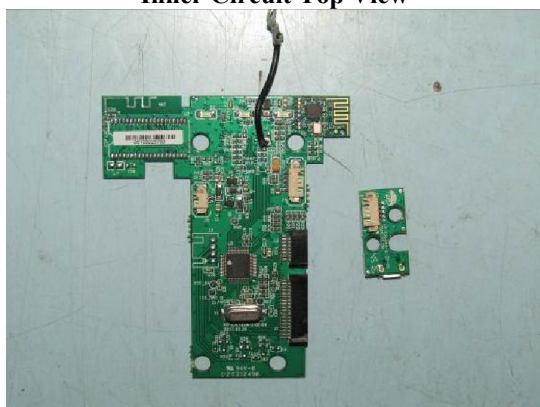
**Front View of the product**



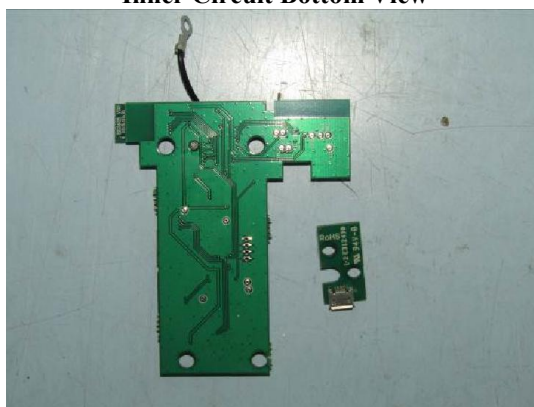
**Rear View of the product**



**Inner Circuit Top View**



**Inner Circuit Bottom View**



The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.

## Test Report

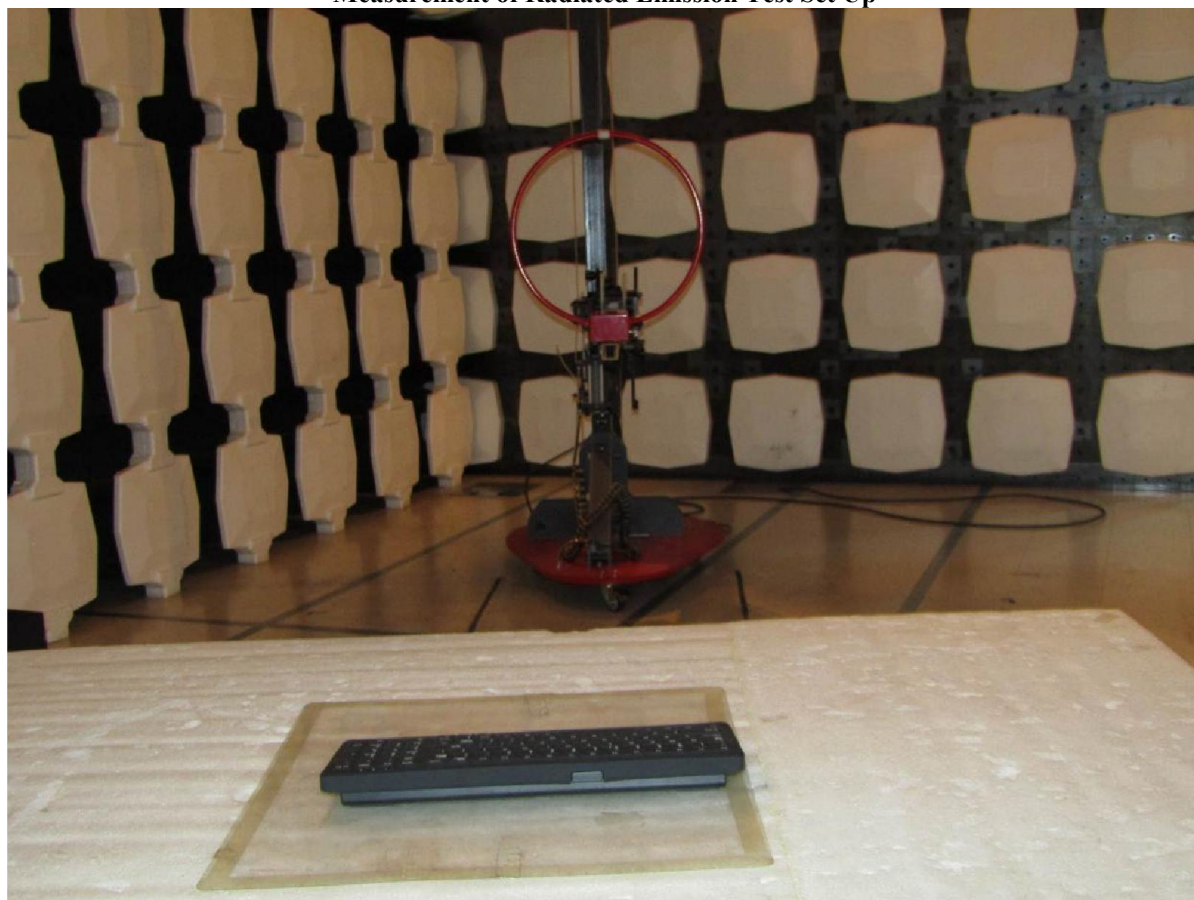
Date : 2017-06-22

No. : HM170722

Page 19 of 21

### Photographs of EUT

Measurement of Radiated Emission Test Set Up



The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Tai Po Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.

## Test Report

Date : 2017-06-22  
No. : HM170722

Page 20 of 21

**Measurement of Radiated Emission Test Set Up**



The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.



## Test Report

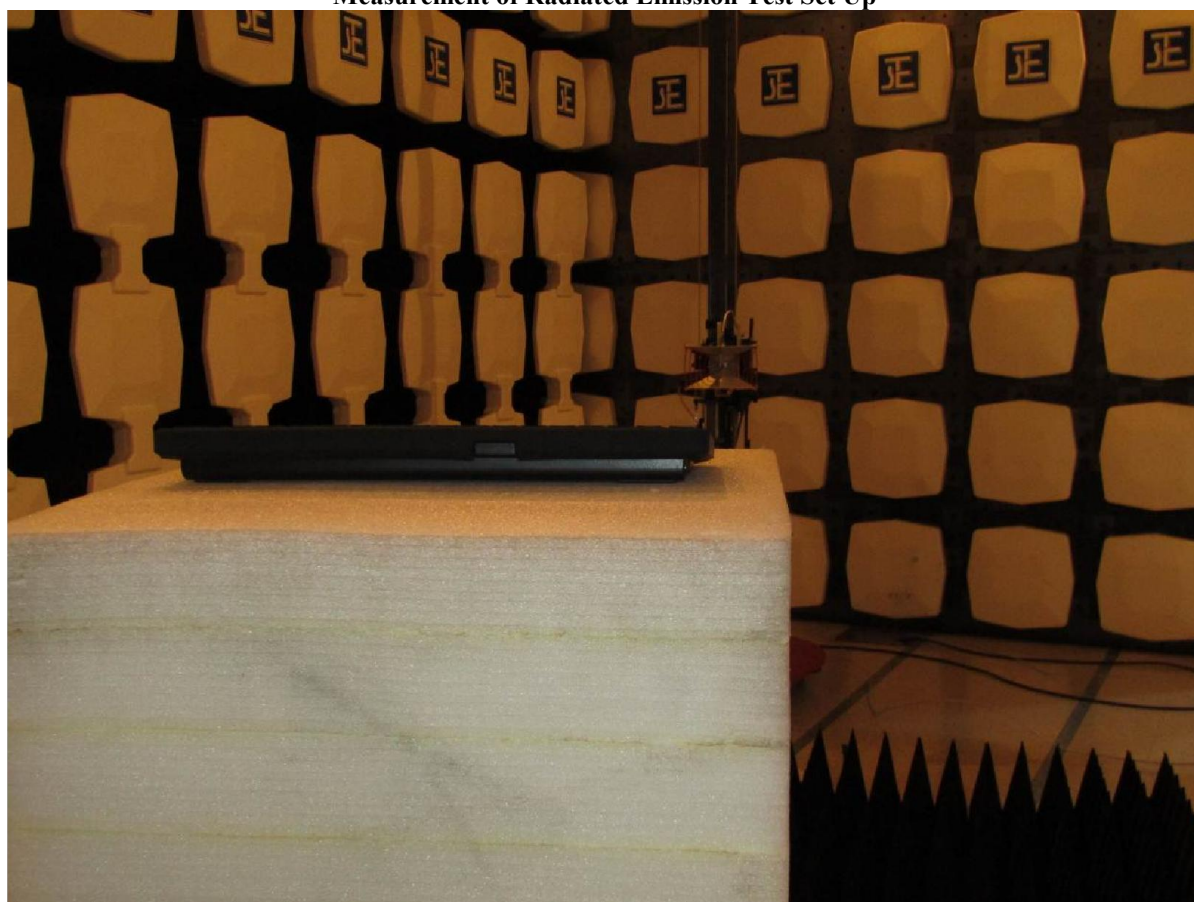
Date : 2017-06-22

No. : HM170722

Page 21 of 21

### Photographs of EUT

Measurement of Radiated Emission Test Set Up



\*\*\*\*\* End of Test Report \*\*\*\*\*

The Hong Kong Standards and Testing Centre Limited

10 Dai Wang Street, Taipo Industrial Estate, Tai Po, N.T., Hong Kong

Tel: +852 2666 1888 Fax: +852 2664 4353 Email: [hkstc@hkstc.org](mailto:hkstc@hkstc.org) Website: [www.stc-group.org](http://www.stc-group.org)

This report shall not be reproduced unless with prior written approval from The Hong Kong Standards and Testing Centre Limited.

For Conditions of Issuance of this test report, please refer to "Conditions of Issuance of Test Reports" section or Website.

## Conditions of Issuance of Test Reports

1. All samples and goods are accepted by The Hong Kong Standards & Testing Centre Limited (the “Company”) solely for testing and reporting in accordance with the following terms and conditions. The Company provides its services on the basis that such terms and conditions constitute express agreement between the Company and any person, firm or company requesting its services (the “Clients”).
2. Any report issued by the Company as a result of this application for testing service (the “Report”) shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to his customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
4. The Report refers only to the sample tested and does not apply to the bulk, unless the sampling has been carried out by the Company and is stated as such in the Report.
5. In the event of the improper use the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
6. Sample submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
7. The Company will not be liable for or accept responsibility for any loss or damage howsoever arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
8. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
9. Subject to the variable length of retention time for test data and report stored hereinto as to otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of this test report for a period of three years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after the retention period. Under no circumstances shall we be liable for damages of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.
10. Issuance records of the Report are available on the internet at [www.stc-group.org](http://www.stc-group.org). Further enquiry of validity or verification of the Reports should be addressed to the Company.