



Certificate of Compliance
for the FCC Declaration of Conformity Procedure from the
Conformity Assessment Body
Hong Kong Standards and Testing Centre
Designation Number: HK0001

on the basis of Asia-Pacific Economic Cooperation (APEC) economies' Mutual Recognition Arrangement for Conformity Assessment of Telecommunications Equipment (APEC Tel MRA) scheme sanctioned by the Federal Communications Commission of the United States Government.

Certificate Number: FCC002264
Test Laboratory: The Hong Kong Standards and Testing Centre Ltd.
Test Report / Issued date: MH189511 / 25 November 2013.
Applicant: SANHO ELECTRONICS TECHNOLOGY CO., LTD
Manufacturer: SANHO ELECTRONICS TECHNOLOGY CO., LTD
Type of Equipment: Wireless USB Hub
Brand Name: Hyper Drive
Model Number: iUSBport2

Rules and Regulations

United States CFR 47 FCC Part 15 Subpart B (Unintentional Radiators).

Standards

ANSI C63.4-2009, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40GHz.

Remark

This certificate shall be used in conjunction with the above mentioned test report.

Signed by Dr. LEE Kam Chuen,

ElectroMagnetic Compatibility Department

For and on behalf of

Date: 2013-11-25

The Hong Kong Standards and Testing Centre Ltd.

(Conformity Assessment Body CAB under the APEC Tel MRA)



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Applicant(KAW001): SANHO ELECTRONICS TECHNOLOGY CO., LTD
1/F, BLOCK 1, #1177 LINGYUN ROAD, NINGBO,
CHINA

Manufacturer: SANHO ELECTRONICS TECHNOLOGY CO., LTD
1/F, BLOCK 1, #1177 LINGYUN ROAD, NINGBO,
CHINA

Description of Sample(s): Submitted sample(s) said to be
Product: Wireless USB Hub
Brand Name: Hyper Drive
Model Number: iUSBport2

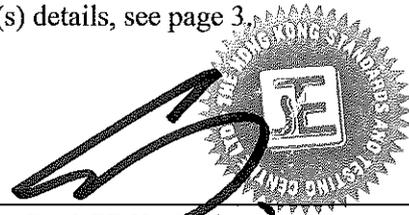
Date Sample(s) Received: 2013-11-14

Date Tested: 2013-11-16

Investigation Requested: FCC Part 15 Subpart B

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): The EUT operating frequency provided by manufacturer is 24MHz (RF function excluded).
For additional model(s) details, see page 3.



Dr. LEE Kam Chuen
Authorized Signatory
ElectroMagnetic Compatibility Department
For and on behalf of
The Hong Kong Standards and Testing Centre Ltd.

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1.0 General Details

1.1 Equipment Under Test [EUT]

Description of Sample(s)

Submitted sample(s) said to be

Product:	Wireless USB Hub
Manufacturer:	SANHO ELECTRONICS TECHNOLOGY CO., LTD
Brand Name:	Hyper Drive
Model Number:	iUSBport2
Additional Model Number(s):	iUSBport CAMERA2, WD720
Rating:	Input: 5Vd.c. Max. 2A(Powered by PC USB port), Output: 5Vd.c. Max. 1A.

1.2 Description of EUT Operation

The Equipment Under Test (EUT) is a Wireless USB Hub of SANHO ELECTRONICS TECHNOLOGY CO., LTD. During the test, the EUT was connected to PC, the 2 USB port was terminated by 5 ohm resistive load and the TF card slot was inserted with a TF card to perform charging and download mode to simulate the normal operating condition.

1.3 Date of Order

2013-11-14

1.4 Submitted Sample(s):

1 Sample

1.5 Test Duration

2013-11-16

1.6 Country of Origin

China

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2.0 Technical Details

2.1 Investigations Requested

Perform ElectroMagnetic Interference measurement in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2012 and ANSI C63.4: 2009 for FCC DoC.

2.2 Test Standards and Results Summary Tables

EMISSION Results Summary					
Test Condition	Test Requirement	Test Method	Class / Severity	Test Result	
				Pass	Failed
Radiated Emissions	FCC 47CFR 15.109	ANSI C63.4:2009	Class B	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Conducted Emissions on AC, 0.15MHz to 30MHz	FCC 47CFR 15.107	ANSI C63.4:2009	Class B	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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3.0 Test Results

3.1 Emission

3.1.1 Radiated Emissions

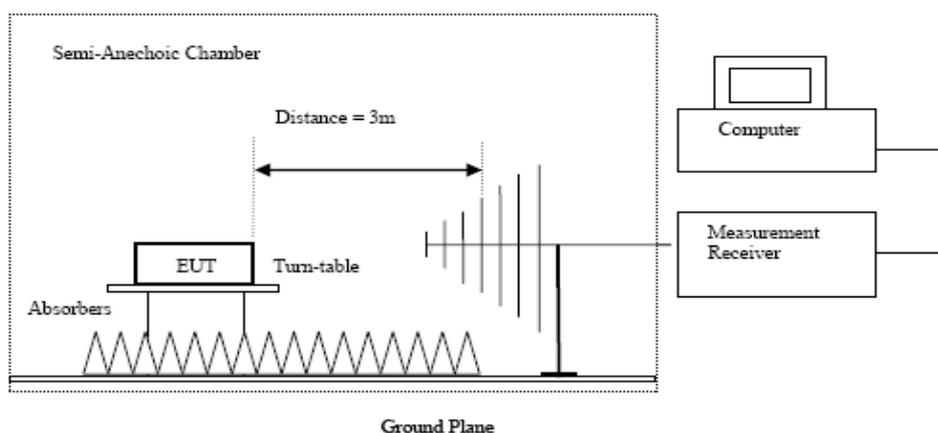
Test Requirement: FCC 47CFR 15.109
Test Method: ANSI C63.4:2009
Test Date: 2013-11-16
Mode of Operation: Download and charging (connected to PC, TF card and 5 ohm resistive load)

Test Method:

The sample was placed 0.8m above the ground plane of Semi-Anechoic chamber*. 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. The emissions worst-case are shown in Test Results of the following pages.

*: 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.

Test Setup:



- Absorbers placed on top of the ground plane are for measurements above 1000MHz only.
- Measurements between 30MHz to 1000MHz made with Bi-log antenna, above 1000MHz horn antenna is used.

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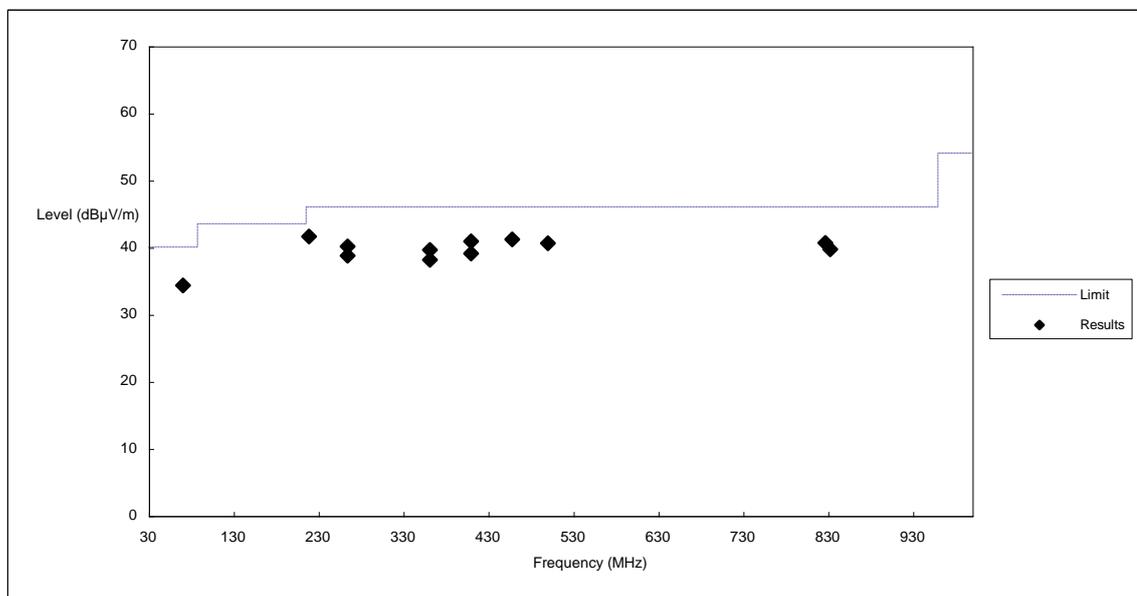
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Limits for Radiated Emissions [FCC 47 CFR 15.109 Class B]:

Frequency Range [MHz]	Quasi-Peak Limits [$\mu\text{V/m}$]
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.

Results of Download and charging(connected to PC, TF card and 5 ohm resistive load) : PASS



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Results of Download and charging(connected to PC, TF card and 5 ohm resistive load) : PASS

Radiated Emissions Quasi-Peak					
Emission Frequency MHz	E-Field Polarity	Level @3m dB μ V/m	Limit @3m dB μ V/m	Level @3m μ V/m	Limit @3m μ V/m
219.15	Horizontal	41.6	46.0	119.7	200
264.74	Horizontal	40.1	46.0	100.9	200
361.74	Horizontal	39.6	46.0	95.3	200
410.24	Horizontal	40.9	46.0	110.5	200
458.74	Horizontal	41.2	46.0	114.2	200
833.16	Horizontal	39.7	46.0	96.5	200
70.74	Vertical	34.3	40.0	51.8	100
264.74	Vertical	38.7	46.0	86.1	200
361.74	Vertical	38.1	46.0	80.4	200
410.24	Vertical	39.1	46.0	89.8	200
500.45	Vertical	40.6	46.0	107.0	200
827.34	Vertical	40.6	46.0	107.5	200

Remarks:

Calculated measurement uncertainty (30MHz – 1GHz): 4.9dB

Emissions in the vertical and horizontal polarizations have been investigated and the worst-case test results are recorded in this report.

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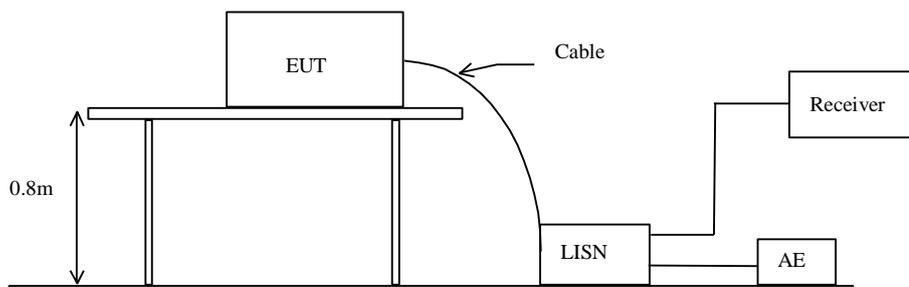
3.1.2 Conducted Emissions (0.15MHz to 30MHz)

Test Requirement: FCC 47CFR 15.107
Test Method: ANSI C63.4:2009
Test Date: 2013-11-16
Mode of Operation: Download and charging (connected to PC, TF card and 5 ohm resistive load, PC mains)

Test Method:

The test was performed in accordance with ANSI C63.4: 2009, with the following: an initial measurement was performed in peak and average detection mode on the live line, any emissions recorded within 30dB of the relevant limit line were re-measured using quasi-peak and average detection on the live and neutral lines with the worst case recorded in the table of results.

Test Setup:



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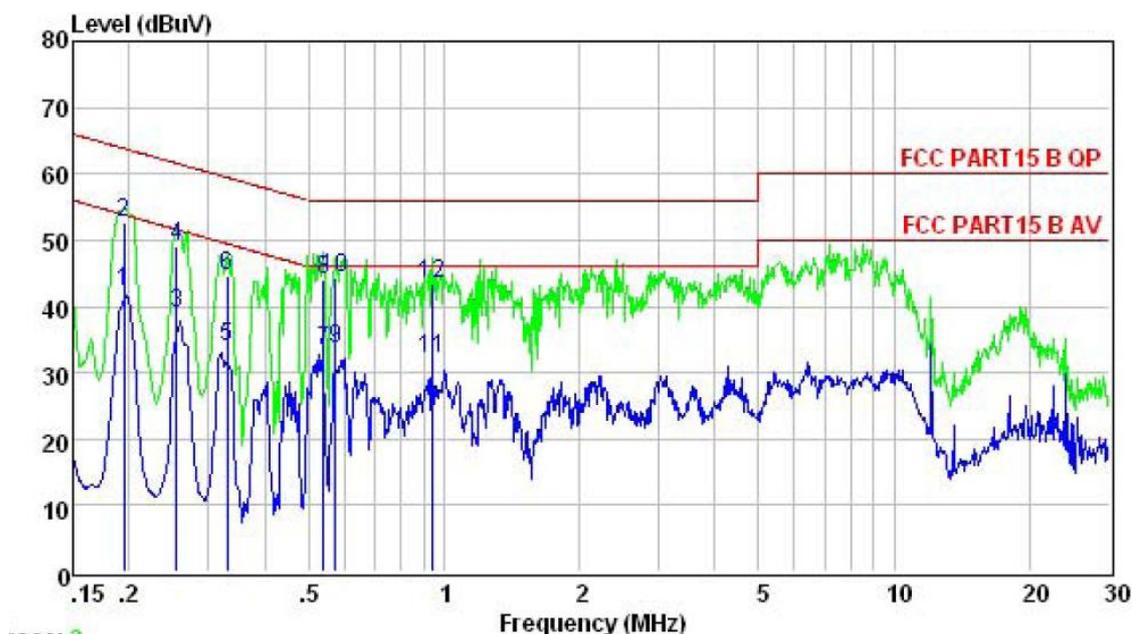
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dB μ V]	Average [dB μ V]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

Results of Download and charging (connected to PC, TF card and 5 ohm resistive load, PC mains)
(L) : PASS



Conductor Live or Neutral	Frequency MHz	Quasi-peak		Average	
		Level dB μ V	Limit dB μ V	Level dB μ V	Limit dB μ V
Live	0.195	52.6	63.8	42.3	53.8
Live	0.255	49.0	61.6	39.1	51.6
Live	0.330	44.6	59.5	33.8	49.5
Live	0.540	44.0	56.0	33.2	46.0
Live	0.575	44.4	56.0	33.5	46.0
Live	0.940	43.3	56.0	32.1	46.0

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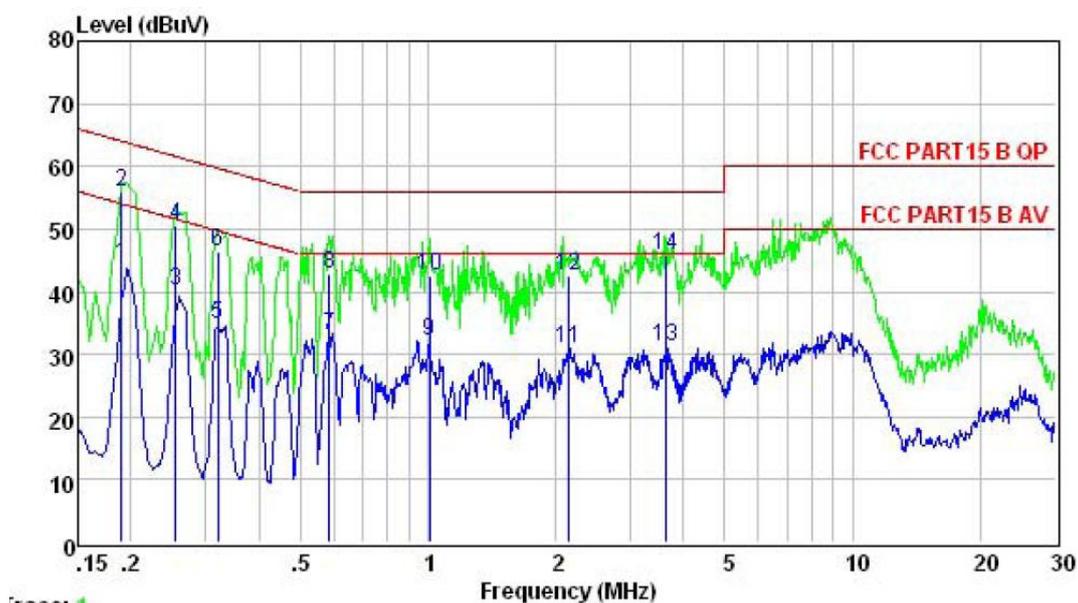
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dB μ V]	Average [dB μ V]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

**Results of Download and charging(connected to PC, TF card and 5 ohm resistive load, PC mains)
(N) : PASS**



Conductor Live or Neutral	Frequency MHz	Quasi-peak		Average	
		Level dB μ V	Limit dB μ V	Level dB μ V	Limit dB μ V
Neutral	0.190	55.8	64.0	44.3	54.0
Neutral	0.255	50.7	61.6	40.0	51.6
Neutral	0.320	46.5	59.7	34.8	49.7
Neutral	0.585	42.8	56.0	33.0	46.0
Neutral	1.010	42.6	56.0	32.2	46.0
Neutral	2.133	42.6	56.0	30.8	46.0
Neutral	3.642	45.9	56.0	31.3	46.0

Remark:

Calculated measurement uncertainty (0.15MHz - 30 MHz): 3.25dB

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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
EM216	MINI MAST SYSTEM	EMCO	2075	00026842	N/A	N/A
EM217	ELECTRIC POWERED TURNTABLE	EMCO	2088	00029144	N/A	N/A
EM218	ANECHOIC CHAMBER	ETS-LINDGREN	FACT-3	--	2013/09/30	2014/09/30
EM174	BICONILOG ANTENNA	EMCO	3142B	1671	2012/05/31	2014/05/31
EM229	EMI TEST RECEIVER	R&S	ESIB40	100248	2013/05/07	2014/05/07
EM299	DOUBLE-RIDGED WAVEGUIDE HORN ANTENNA	ETS-LINDGREN	3115	00114120	2012/01/25	2014/01/25

Line Conducted

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL	DUE CAL
EM232	LISN	SCHAFFNER	NNB41	04/100082	2013/04/15	2014/05/07
EM145	EMI TEST RECEIVER	R & S	ESCS 30	830245/021	2013/05/07	2014/05/07
EM179	IMPULSE LIMITER	ROHDE & SCHWARZ	ESH3-Z2	357-8810.52/54	2013/01/27	2014/01/27
EM154	SHIELDING ROOM	SIEMENS MATSUSHITA COMPONENTS	N/A	803-740-057-99A	2012/02/03	2017/02/03

Remarks:-

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

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Appendix B

Ancillary Equipment

ITEM NO.	DESCRIPTION	MODEL NO.	FCC ID	REMARK
1	DELL COMPUTER	DMC	N/A	N/A
2	DELL MONITOR	E177FPB	ARSCM356N	RESOLUTION 1024*768 (DURING TESTING) 1.0M UNSHIEDED POWER VORD CONNECTED TO THE COMPUTER 1.5M SHIELEDDED CABLE CONNECTED TO THE COMPUTER
3	DELL KEYBOARD	SK-8110	N/A	1.8M SHIELEDDED COILED CABLE CONNECTED TO THE COMPUTER
4	DELL MOUSE	N/A	N/A	2.4M UNSHIELEDDED CABLE CONNECTED TO THE COMPUTER
5	LASER PRINTER	HP LASERJET 1020 PLUS	N/A	1.8M UNSHIELEDDED POWER CORD 2.8M SHIELEDDED CABLE (BUNDLED TO 1M) CONNECTED TO THE COMPUTER
6	TF CARD	N/A	4G	BRAND NAME: SANDISK
7	5 Ohm CEMENT RESISTOR	20W5RJ	N/A	CONNECTED TO USB PORT
8	5 Ohm CEMENT RESISTOR	20W5RJ	N/A	CONNECTED TO USB PORT

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Appendix C

Photographs of EUT

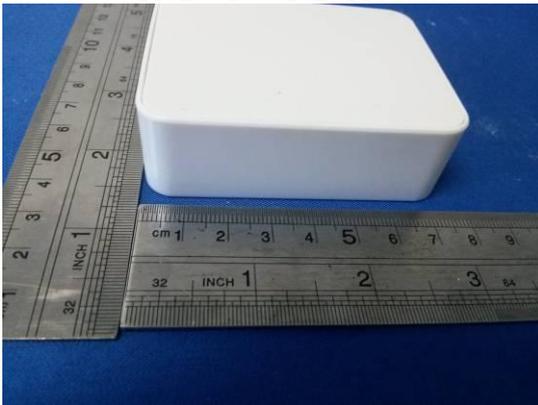
Top View of the Product



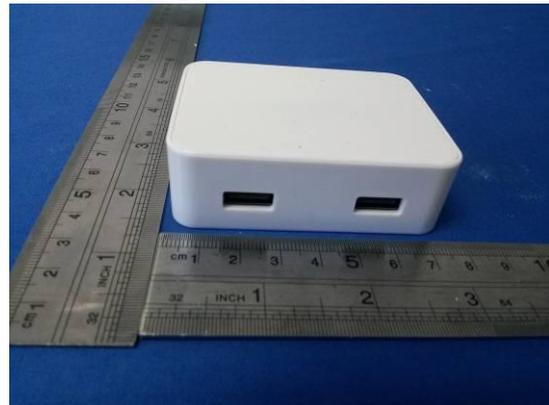
Bottom View of the Product



Front View of the Product



Rear View of the Product



Left View of the Product



Right View of the Product



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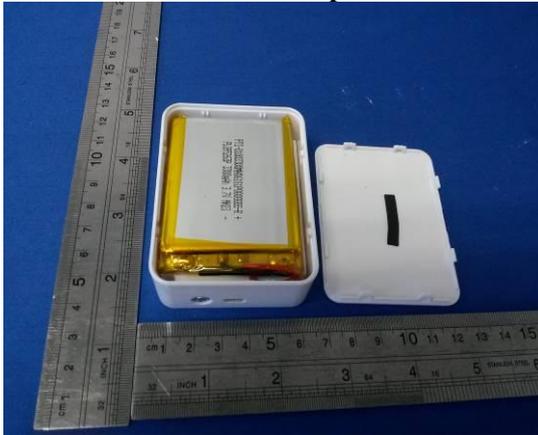
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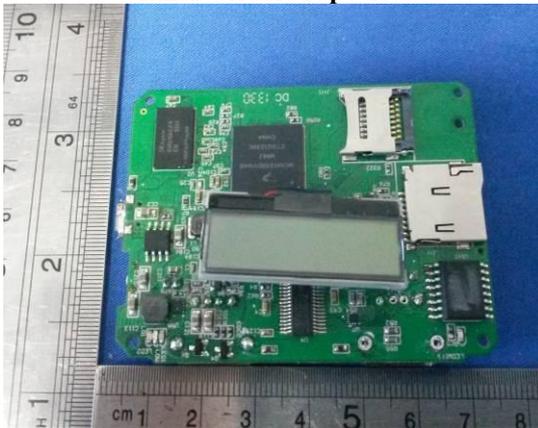
Inner Circuit Top View



Inner Circuit Top View



Inner Circuit Top View



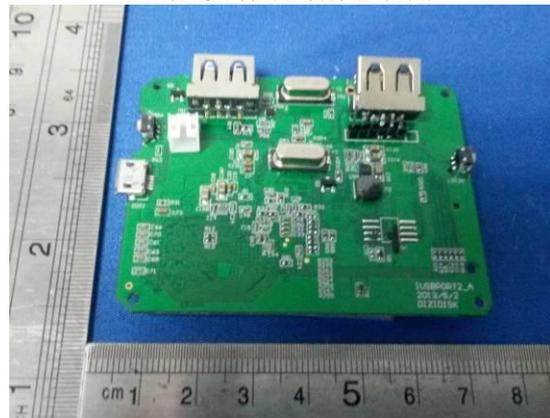
Inner Circuit Top View



Inner Circuit Bottom View



Inner Circuit Bottom View



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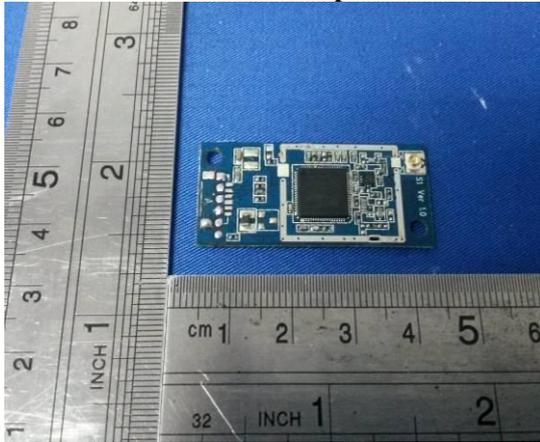
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Photographs of EUT

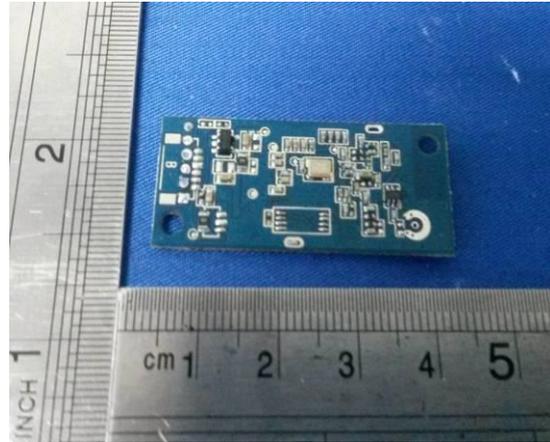
Inner Circuit Top View



Inner Circuit Top View



Inner Circuit Bottom View



Inner Circuit Bottom View



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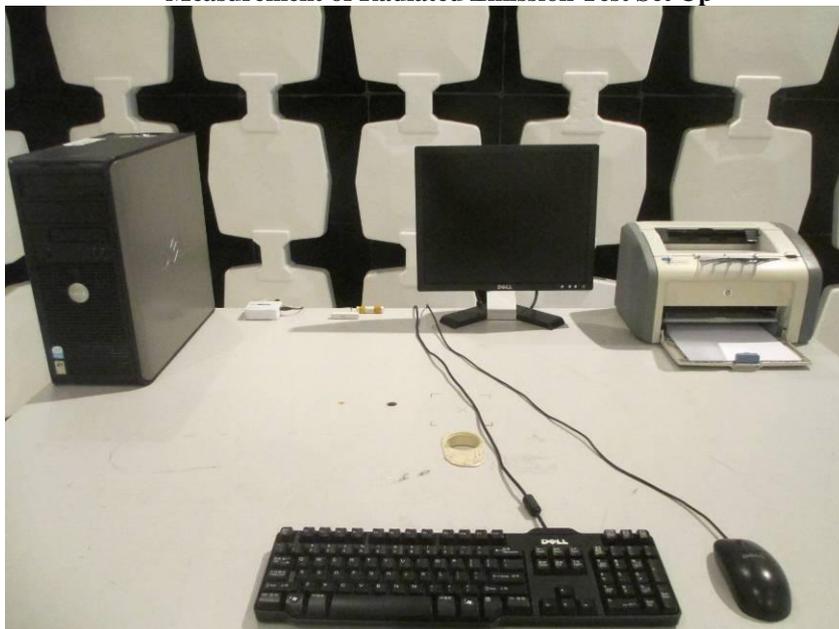
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Photographs of EUT

Measurement of Radiated Emission Test Set Up



Measurement of Conducted Emission Test Set Up



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