

FCC DECLARATION OF CONFORMITY

Certificate No : EMC-2014/047
Type of equipment : Mobile Photo Printer
Model Name : M1
Variant Model Name : IPWF-P01-VP

It's herewith confirmed to comply with the requirements of FCC Part 15 Rules. (Class B)

Operating 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 equipment was tested by EMC compliance. Ltd. for compliance with the requirements Set forth in the FCC Rules and Regulation Part 15 and the measurement procedure according to ANSI C63.4. The test was carried out from the submitted samples.

These results are deemed satisfactory evidence of compliance with ICES-003 of the Canadian Interference-Causing Equipment Regulations.

The following importer/ manufacturer is responsible for this declaration

Applicant : PRINICS Co., Ltd.
3F, 108, Saneop-Ro, Gwonseon-Gu,
Suwon-Si, Gyeonggi-Do, Korea

Manufacturer : PRINICS Co., Ltd.
3F, 108, Saneop-Ro, Gwonseon-Gu,
Suwon-Si, Gyeonggi-Do, Korea

MANUFACTURER/IMPORTER

(Name)

(Date)

TESTING LABORATORY



(Name) Han-Seok, Yeom

(Date) September 11, 2014

FCC COMPLIANCE REPORT

Test report No : EMC-2014/047
Type of Equipment : Mobile Photo Printer
Model Name : M1
Variant Model Name : IPWF-P01-VP
Applicant : PRINICS Co., Ltd.
3F, 108, Saneop-Ro, Gwonseon-Gu,
Suwon-Si, Gyeonggi-Do, Korea
Manufacturer : PRINICS Co., Ltd.
3F, 108, Saneop-Ro, Gwonseon-Gu,
Suwon-Si, Gyeonggi-Do, Korea
Test standards : FCC part 15 subpart B, Class B
FCC ID : PO5M1
Classification : DoC
Test Procedure and Items
- AC Power Line Conducted Emissions Measurement: ANSI C63.4-2009
- Radiated Emissions Measurement : ANSI C63.4-2009

Testing Laboratory : EMC Compliance Ltd.
Test result : Complied

The above equipment was tested by EMC compliance Testing Laboratory for compliance with the requirements of FCC Rules and Regulations. The results of testing in this report apply to the product/system which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

These results are deemed satisfactory evidence of compliance with ICES-003 of the Canadian Interference-Causing Equipment Regulations.

Date of receipt: 2014. 07. 11

Date of testing: 2014. 07. 21 ~ 07. 29

Issued date: 2014. 09. 11

Tested by:


PARK, GUN-SU

Approved by:


YEOM, HAN-SEOK

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1. Applicant information

Applicant: PRINICS Co., Ltd.
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E-mail: jbkim@prinics.com
Contact name: **Kim Jeong Bok**

Manufacturer: PRINICS Co., Ltd.
Address: 3F, 108, Saneop-Ro, Gwonseon-Gu,
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Telephone: +82-31-293-5993
Fax: +82-31-293-5994
E-mail: jbkim@prinics.com
Contact name: **Kim Jeong Bok**

2. Laboratory information

Address

EMC compliance Ltd.

65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-390, Korea

Telephone Number: 82 31 336 9919

Facsimile Number: 82 505 299 8311

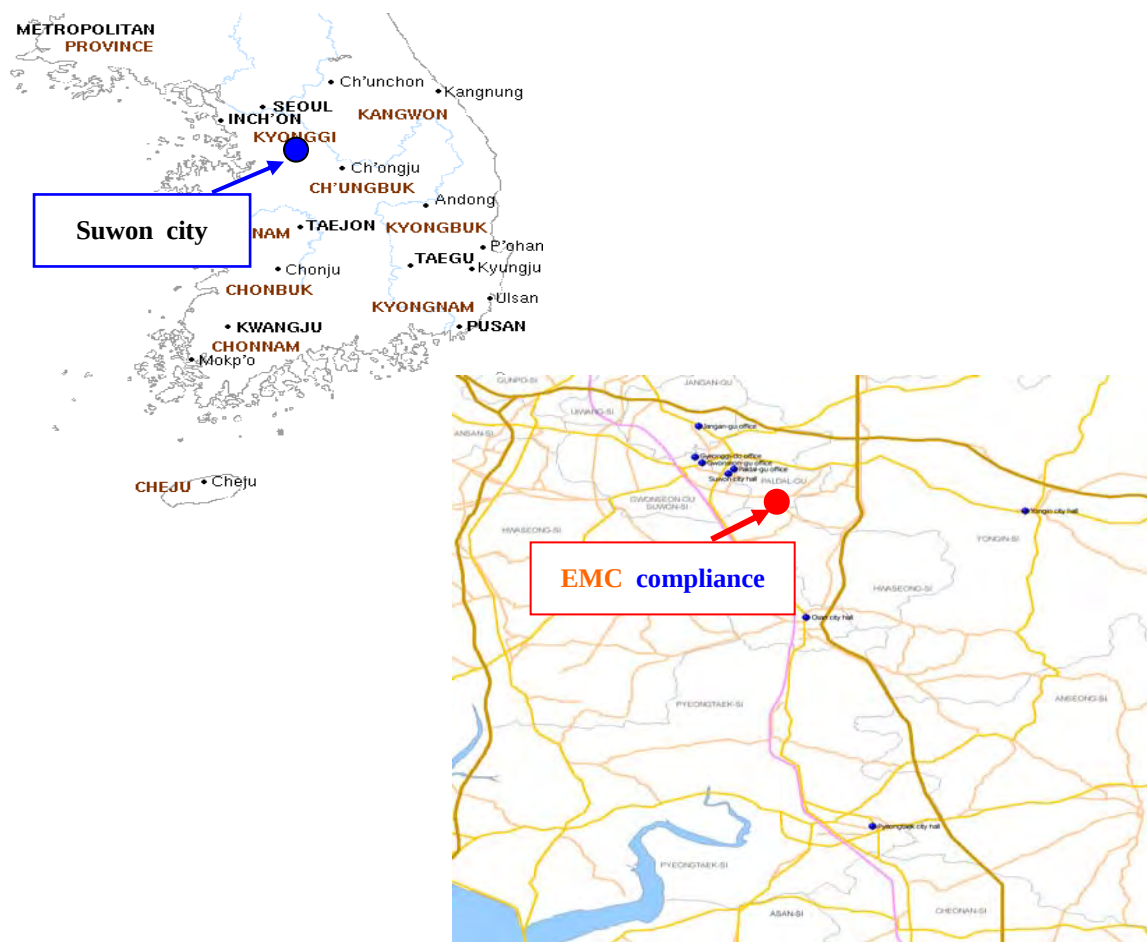
FCC CAB.: KR0040

VCCI Registration No. : R-3327, G-198, C-3706, T-1849

Industry Canada Registration No.: 8035A

KOLAS NO.: 231

SITE MAP



3. Test system configuration

3.1 Operation environment

	Temperature	Humidity	Pressure
Chamber(10 m)	: 19.2 °C	57.8 % R.H.	-
Shielded room(CE)	: 22.4 °C	47.9 % R.H.	-

Test site

These testing items were performed following locations;

Test item	Test site
Conducted Emission	Shielded Room
Radiated Emission	10 m Chamber

3.2 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC.

The factors contributing to uncertainties are test receiver, cable loss, antenna factor calibration, Antenna directivity, antenna factor variation with height, antenna phase center variation, antenna frequency interpolation, measurement distance variation, site imperfection, mismatch, and system repeatability. Based on CISPR 16-4-2, the measurement uncertainty level with a 95 % confidence level was applied.

Conducted emission measurement (C.L: Approx 95 %, k = 2)		
Shielded Room (CE#1)	9 kHz ~ 150 kHz: ± 3.75 dB	
	150 kHz ~ 30 MHz: ± 3.36 dB	
Shielded Room (CE#2)	9 kHz ~ 150 kHz: ± 3.79 dB	
	150 kHz ~ 30 MHz: ± 3.42 dB	
Radiated Emission measurement (C.L: Approx 95 %, k = 2)		
10 m Chamber (#F4)	30 MHz ~ 300 MHz	3 m: + 4.87 dB, - 4.99 dB 10 m: + 4.86 dB, - 4.98 dB
	300 MHz ~ 1 000 MHz	3 m: + 5.04 dB, - 5.14 dB 10 m: + 4.91 dB, - 5.02 dB
	1 GHz ~ 6 GHz	3 m: + 6.03 dB, - 6.06 dB
10 m Chamber (#F2)	30 MHz ~ 300 MHz	3 m: + 4.94 dB, - 5.06 dB 10 m: + 4.93 dB, - 5.05 dB
	300 MHz ~ 1 000 MHz	3 m: + 4.97 dB, - 5.08 dB 10 m: + 4.84 dB, - 4.96 dB
	1 GHz ~ 6 GHz	3 m: + 6.03 dB, - 6.05 dB
10 m Chamber	6 GHz ~ 18 GHz	3 m: + 6.60 dB, - 6.78 dB

4. Description of E.U.T.

4.1 General information

Model description		Mobile Photo Printer with WiFi connectivity
Printing Method		Dye Sublimation Thermal Transfer
Print Resolution		291dpi
Gradation		256 Gradation / 16.7 Million Colors
Photo Format Supported		JPEG Photo
Image File Size		Recommend below 3MB
Color Print Size		54 * 86 mm (2.1 * 3.4 inch)
Media Support		Photo Paper, Sticker Paper
Printing Time		35 sec (Yellow/Magenta/Cyan/Overcoating, excluding data processing)
Dimension		78(W) * 140(D) * 28(H) mm
Weight	Set	0.32 KG
	Gift Box	0.40 KG
Interface	WiFi	
	iOS Devices	Made for iPod touch (2 nd , 3 rd , 4 th and 5 th generation), Made for iPhone 5, 4S, iPhone 4, iPhone 3GS and iPhone 3G, Made for the new iPad, iPad2 and iPad.
	Android OS Devices	NFC / WiFi / WiFi Direct For Android smartphones OS version 2.0 and above. Such as Samsung Galaxy series(Galaxy S3, Galaxy Note, Galaxy Tab), LG Optimus series, HTC and etc.
Battery	Capacity	TBD , xx photo print capable
	Charging Time	1.5Hrs
Condumable	Standard Paper	NP-S10 (10 Card size Ribbon & Photo Paper All-in-One Cartridge)
	Sticker	NP-C10 (15 Card size Ribbon & Sticker Paper All-in-One Cartridge)

Frequency Range	2 412 MHz ~ 2 462 MHz (802.11b/g/n_HT20)
Communication	IEEE 802.11b/g/n_HT20
Type of Modulation	CCK, OFDM
Number of Channels	11 ch (802.11b/g/n_HT20)
Type of Antenna	PCB Pattern Antenna
Antenna Gain	-0.37 dBi
Transmit Power	22.38 dBm
Power supply	DC 7.4 V

4.2 Product description

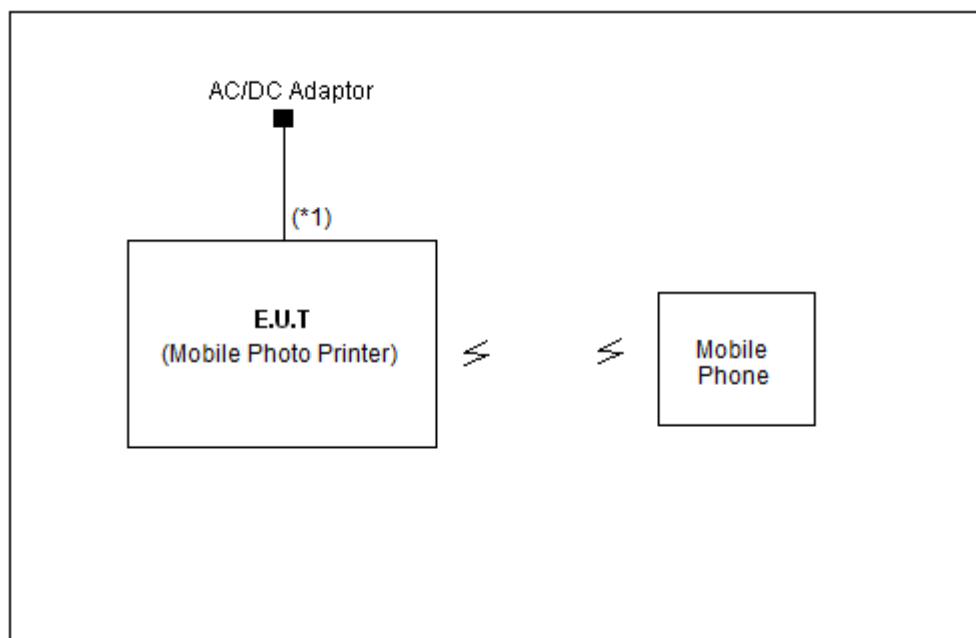
Type of product	Mobile Photo Printer
Model name (Basic)	M1
Model name (Variant)	IPWF-P01-VP
Difference	Color, Print difference
Trade name	-
Serial no	Engineering Sample
Testing voltage	120 V , 60 Hz / DC 7.4 V
Product rating	*AC/DC Adaptor (model name: ADS-5MA-06A) Input: 100 - 240 V , 50/60 Hz, 0.3 A Output: DC 5 V , 1.0 A * Battery:DC 7.4 V
Internal clock frequency	Above 108 MHz
Note	AC/DC adaptor was provided by the manufacturer.

4.3 Auxiliary equipments

Type	Model / Part #	Serial number	Manufacturer
Mobile Phone	SM-N900S	-	SAMSUNG

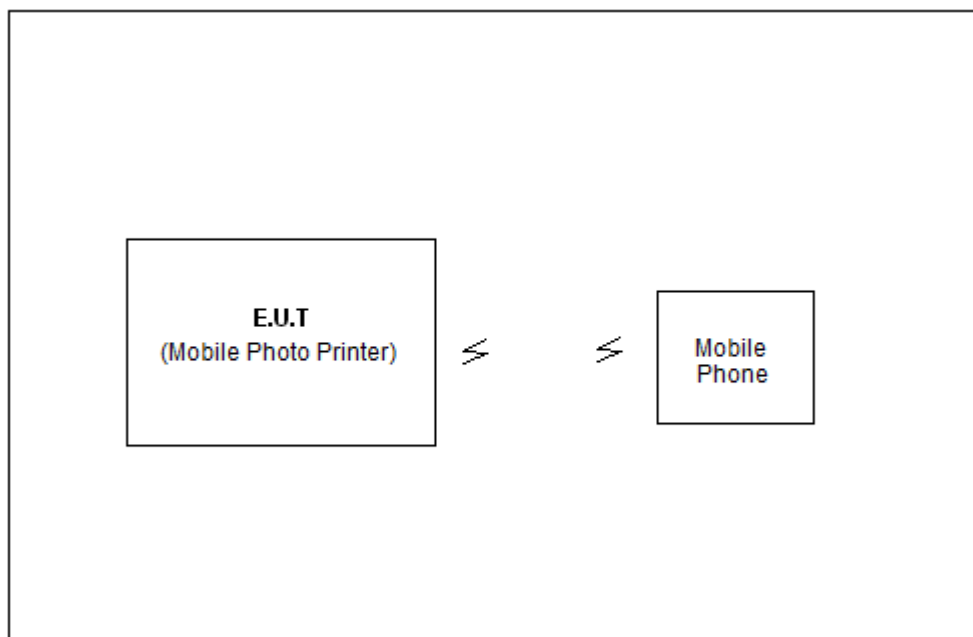
4.4 Test configuration

* Charging Mode



Note	Start		End		Cable	
	Name	I/O port	Name	I/O port	Length (m)	Spec.
1	EUT (Mobile Photo Printer)	Power	AC/DC Adaptor	Power	1.7	Shield

*** Alone Mode**



Note	Start		End		Cable	
	Name	I/O port	Name	I/O port	Length (m)	Spec.
-	EUT (Mobile Photo Printer)	-	-	-	-	-

4.5 Operating conditions

The EUT was configured as normal intended use.

Test mode	Normal operating
Charging Mode	WIFI Print Mode
Alone Mode	WIFI Print Mode

5. Summary of test results

In the above configuration tested, The EUT complied with the requirement of the specification

5.1 Summary of EMI emission test results

FCC Part 15 Subpart B (Class B)

ANSI C63.4 – 2009

Applied	Test items	Test method	Result
☒	Conducted Emission	ANSI C63.4 – 2009	Complied
☒	Radiated Emission	ANSI C63.4 – 2009	Complied

6. Test results

6.1 Conducted Emission

Test specification	FCC Part 15, Section 15.107(a), Class B		
Testing voltage	120 V, 60 Hz		
Test facility	Shielded room (CE#1)		
Date	2014. 07. 29		
Temperature(°C)	22.4 °C	Humidity (% R.H.)	47.9 % R.H.
Remarks	Complied		

6.1.1 Limits of conducted emission measurement

Frequency [MHz]	Class A (dB(μV))		Class B (dB(μV))	
	Quasi-peak	Average	Quasi-peak	Average
0.15 ~ 0.5	79	66	66 ~ 56 *	56 ~ 46*
0.5 ~ 5	73	60	56	46
5 ~ 30	73	60	60	50

*The limit decreases linearly with the logarithm of frequency.

6.1.2 Measurement procedure

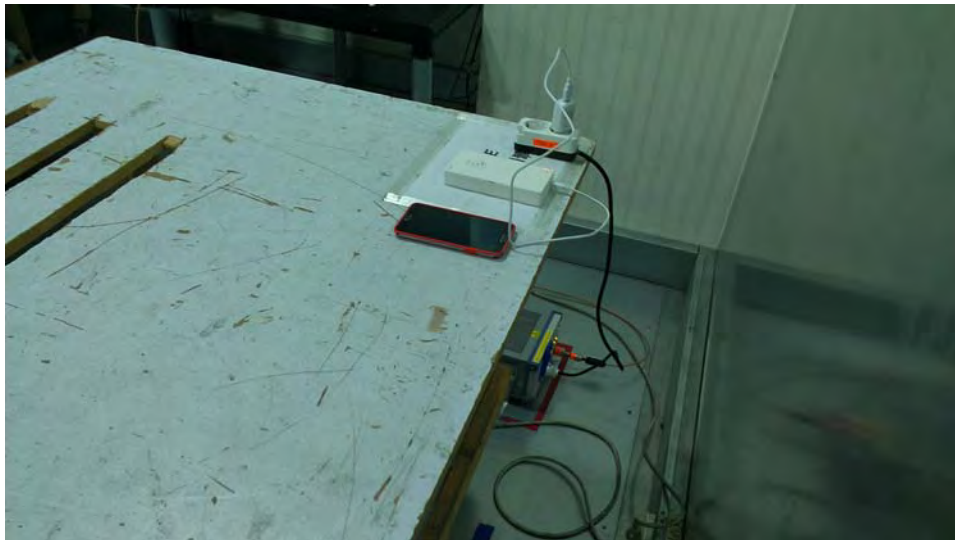
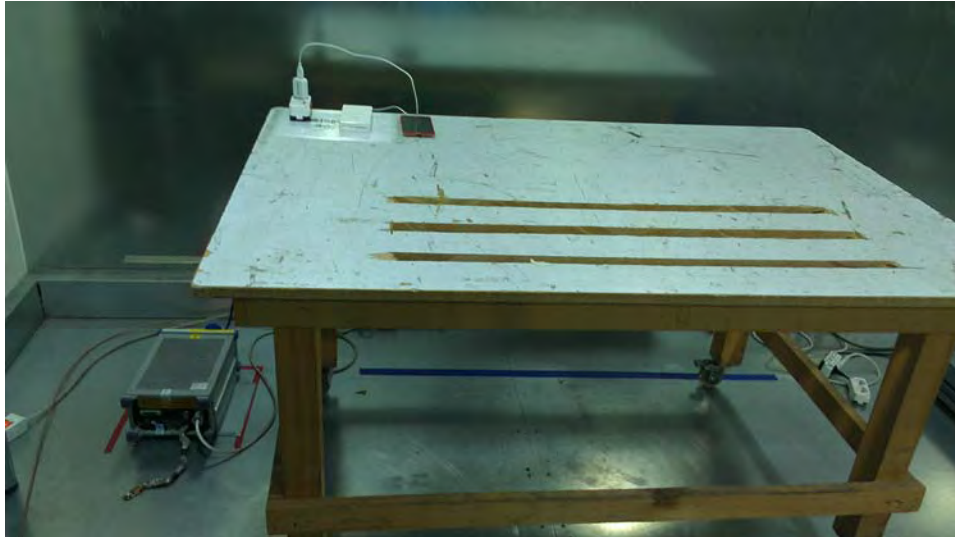
The measurements were performed in a shielded room. EUT was setup as shown in photograph and placed on a non-metallic table height of 0.8 m above the reference ground plane. The rear of table was located 0.4 m to the vertical conducted plane. EUT was power through the LISN, which was bonded to the ground plane. The LISN power was filtered. Each EUT power lead, except ground (safety) lead was individually connected through a LISN to input power source. EUT signal cables that hung closer than 0.4 m to the Horizontal metal ground 0.3 m ~ 0.4 m long. The power cord was bundles in the center. All peripheral equipment was powered from a sub LISN. The LISN and ISN were positioned 0.8 m from the EUT. Peak and Average detection were used in preliminary testing and Quasi-peak and Average detections were used at final measurement. Both lines of power cord, hot and neutral, were measured.

6.1.3 Used equipments

Equipment	Model	Serial No.	Makers	Next Cal. Date	Used
Test Receiver	ESCI7	100732	R&S	2015.01.27	☐
Test Receiver	ESCI	100001	R&S	2015.07.14	☒
Test Receiver	ESCI	100710	R&S	2014.10.28	☐
LISN	ENV216	101358	R&S	2014.10.04	☒
LISN	ESH3-Z5	100267	R&S	2015.06.24	☐

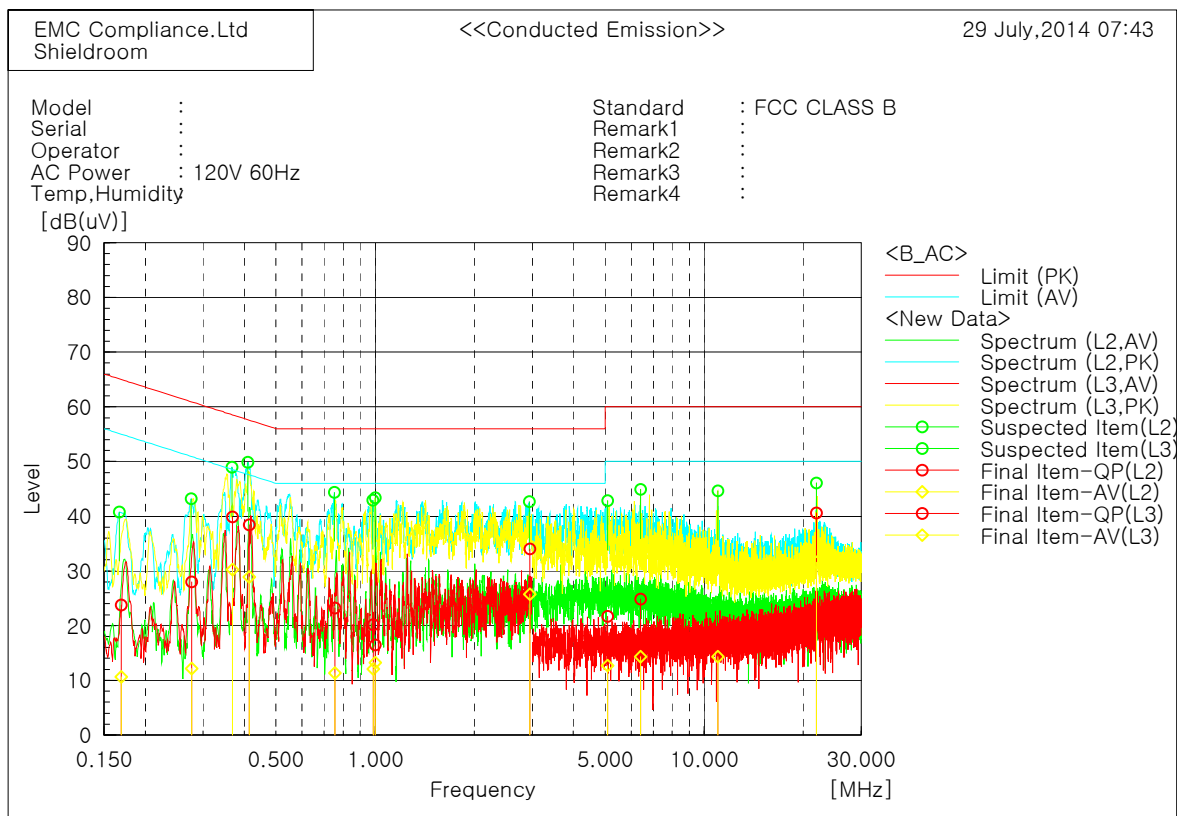
6.1.4 Photographs of test setup

* Charging Mode



6.1.5 Conducted emission measurement result

* AC main (M1)_Charging Mode



Final Result

--- L2 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading CAV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result CAV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin CAV [dB]
1	0.1694	13.4	0.2	10.4	23.8	10.6	65.0	55.0	41.2	44.4
2	0.2772	17.7	1.8	10.3	28.0	12.1	60.9	50.9	32.9	38.8
3	0.36905	29.4	19.8	10.5	39.9	30.3	58.5	48.5	18.6	18.2
4	0.41488	28.0	18.4	10.5	38.5	28.9	57.6	47.6	19.1	18.7
5	0.7536	12.8	0.9	10.4	23.2	11.3	56.0	46.0	32.8	34.7
6	0.98773	9.9	1.8	10.3	20.2	12.1	56.0	46.0	35.8	33.9
7	2.95061	23.7	15.5	10.3	34.0	25.8	56.0	46.0	22.0	20.2

--- L3 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading CAV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result CAV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin CAV [dB]
1	1.00002	6.2	2.9	10.3	16.5	13.2	56.0	46.0	39.5	32.8
2	5.08522	11.2	2.2	10.5	21.7	12.7	60.0	50.0	38.3	37.3
3	6.40525	14.1	3.6	10.7	24.8	14.3	60.0	50.0	35.2	35.7
4	10.99039	4.7	2.7	11.6	16.3	14.3	60.0	50.0	43.7	35.7
5	21.94547	25.6	16.6	15.0	40.6	31.6	60.0	50.0	19.4	18.4

6.2 Radiated Emission

Test specification	FCC Part 15, Section 15.109(g), Class B		
Testing voltage	120 V, 60 Hz / DC 7.4 V		
Test facility	10 m Chamber (#F2)		
Test distance	10 m, 3 m		
Date	2014. 07. 21		
Temperature (°C)	19.2 °C	Humidity (% R.H.)	57.8 % R.H.
Remarks	Complied		

6.2.1 Limits of radiated emission measurement

Frequency [MHz]	Class A (dB(μV/m)) @ 10 m	Class B (dB(μV/m)) @ 3 m
30-88	39	40
88-216	43.5	43.5
216-960	46.4	46
Above 960	49.5	54

*** Note- Alternative standard: CISPR, Pub. 22 ***

6.2.2 Measurement procedure

The test was done at a 10 m chamber with a quasi-peak detector. EUT was placed on a non-metallic table height of 0.8 m above the reference ground plane. Cables were folded back and forth forming a bundle 0.3 m to 0.4 m long and were hanged at a 0.4 m height to the ground plane.

Cables connected to EUT were fixed to cause maximum emission. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.

6.2.3 Used equipments

Equipment	Model no.	Serial no.	Makers	Next Cal. Date	Used
Test Receiver	ESCI7	100732	R&S	2015.01.27	☐
Test Receiver	ESCI	100001	R&S	2015.07.14	☐
Test Receiver	ESCI	100710	R&S	2014.10.28	☐
Test Receiver	ESR	101078	R&S	2015.02.24	☒
Bi-Log Antenna	VULB 9168	440	SCHWARZBECK	2015.10.16	☒
Amplifier	310N	293004	SONOMA INSTRUMENT	2014.10.31	☒
3 dB Attenuator	8491B	22981	HP	2015.03.04	☒
Antenna Mast	MA4000-EP	303	Innco Systems	-	☒
Turn Table	DT2000S-1t	079	Innco Systems	-	☒
Amplifier	8449B	3008A02343	AGILENT	2014.10.31	☒
Horn ANT	3115	00155772	ETS	2015.02.26	☒
Spectrum Analyzer	E4407B	US39010142	AGILENT	2014.10.21	☐

6.2.4 Sample calculation

The field strength is calculated adding the antenna Factor, cable loss and, Antenna pad adding, subtracting the amplifier gain from the measured reading.

The sample calculation is as follow:

$$\text{Result} = \text{M.R} + \text{C.F}(\text{A.F} + \text{C.L} + 3 \text{ dB Att} - \text{A.G})$$

M.R = Meter Reading

C.F = Correction Factor

A.F = Antenna Factor

C.L = Cable Loss

A.G= Amplifier Gain

3 dB Att = 3 dB Attenuator

If M.R is 30 dB, A.F 12 dB, C.L 5 dB, 3 dB, A.G 35 dB

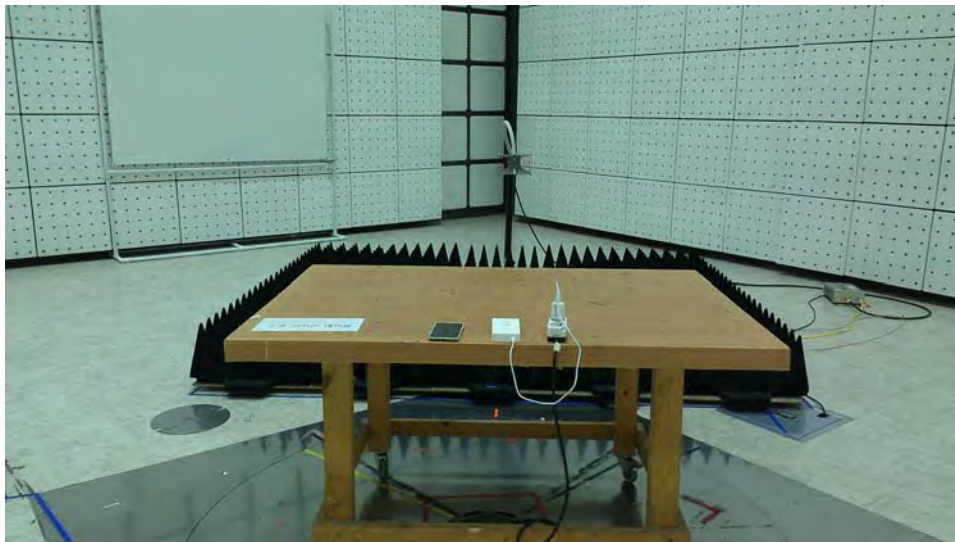
The result is $30 + 12 + 5 + 3 - 35 = 15 \text{ dB}(\mu\text{V/m})$

6.2.5 Photographs of test setup

* 30 MHz ~ 1 GHz (Charging Mode)



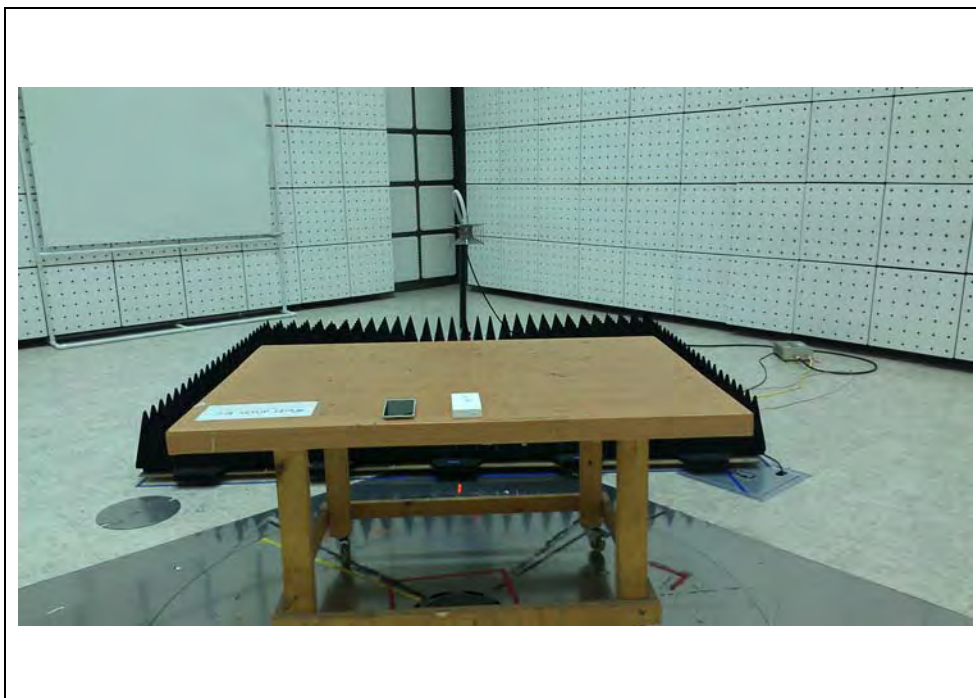
*1 GHz ~ 6 GHz (Charging Mode)



* 30 MHz ~ 1 GHz (Alone Mode)



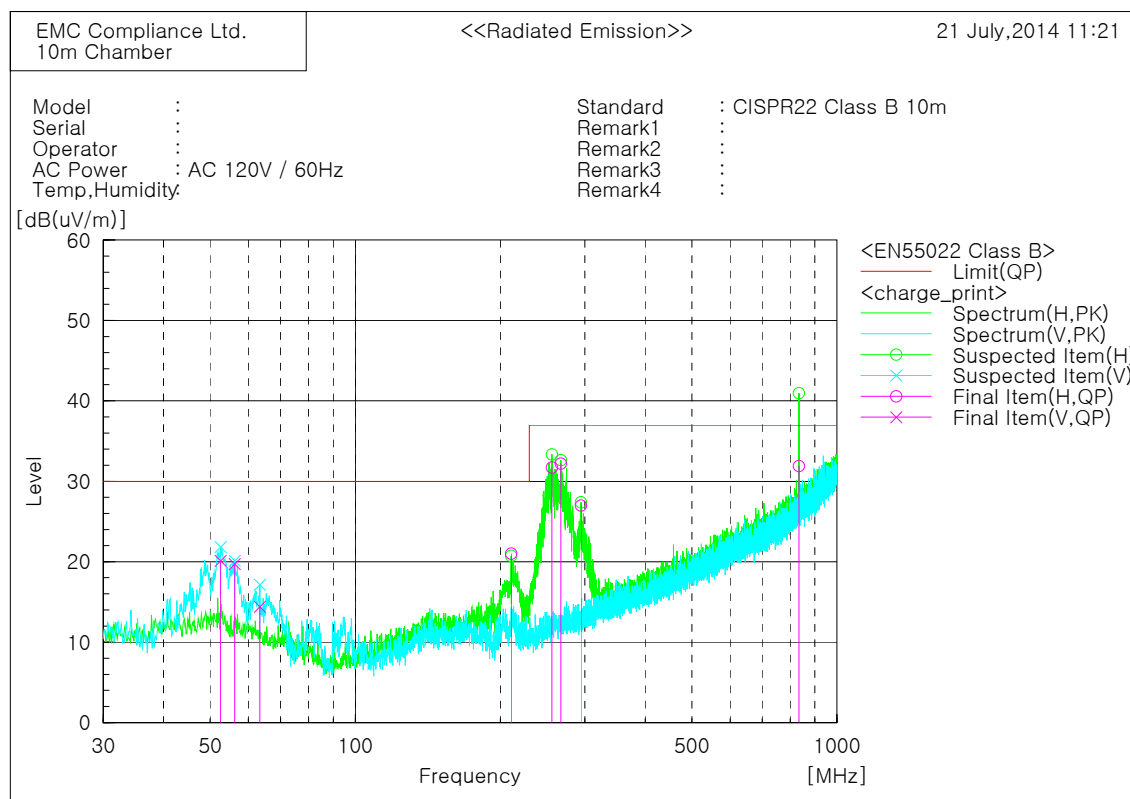
*1 GHz ~ 6 GHz (Alone Mode)



6.2.6 Radiated emission measurement result

* Graph and Data

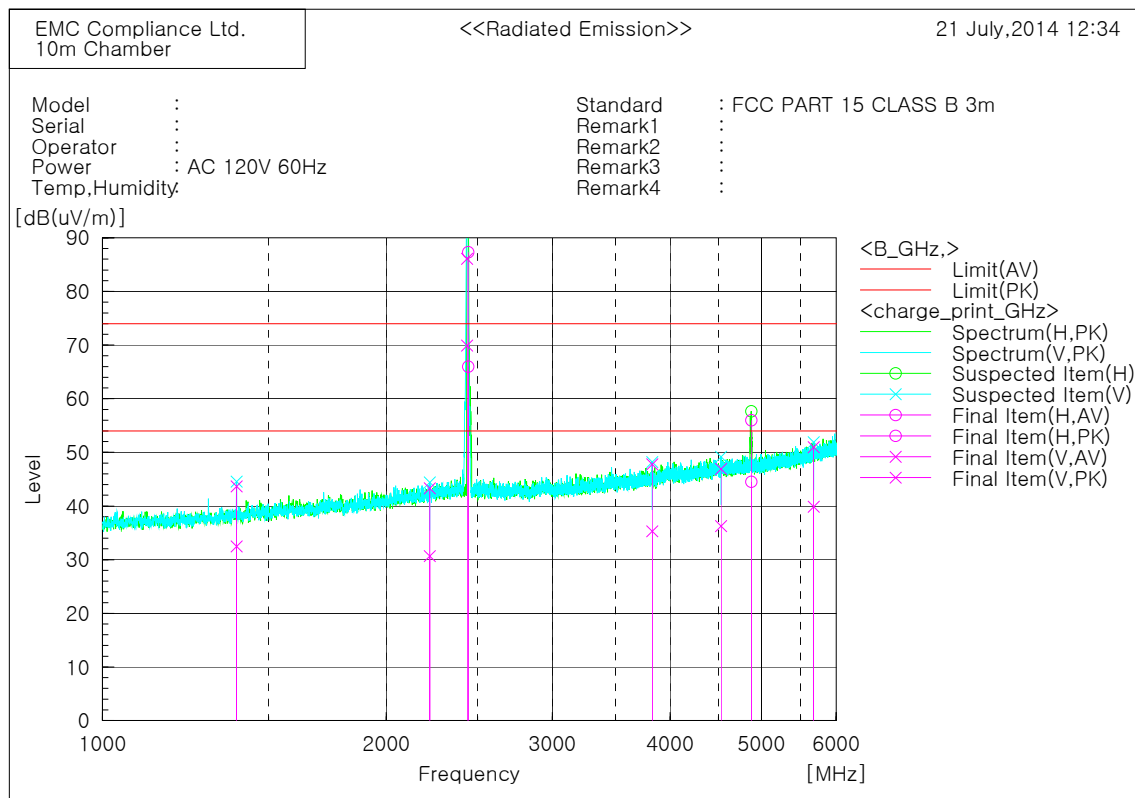
* 30 MHz ~ 1 GHz (M1)_Charging Mode



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
1	52.553	V	33.5	-13.4	20.1	30.0	9.9	400.0	66.4
2	56.190	V	33.4	-13.7	19.7	30.0	10.3	400.0	34.8
3	63.344	V	29.2	-14.8	14.4	30.0	15.6	400.0	114.9
4	210.784	H	35.7	-14.7	21.0	30.0	9.0	400.0	273.5
5	256.131	H	43.6	-11.9	31.7	37.0	5.3	400.0	118.4
6	267.286	H	43.7	-11.5	32.2	37.0	4.8	400.0	118.4
7	294.204	H	37.6	-10.6	27.0	37.0	10.0	400.0	118.4
8	834.130	H	29.3	2.6	31.9	37.0	5.1	400.0	118.4

* 1 GHz ~ 6 GHz (M1)_Charging Mode

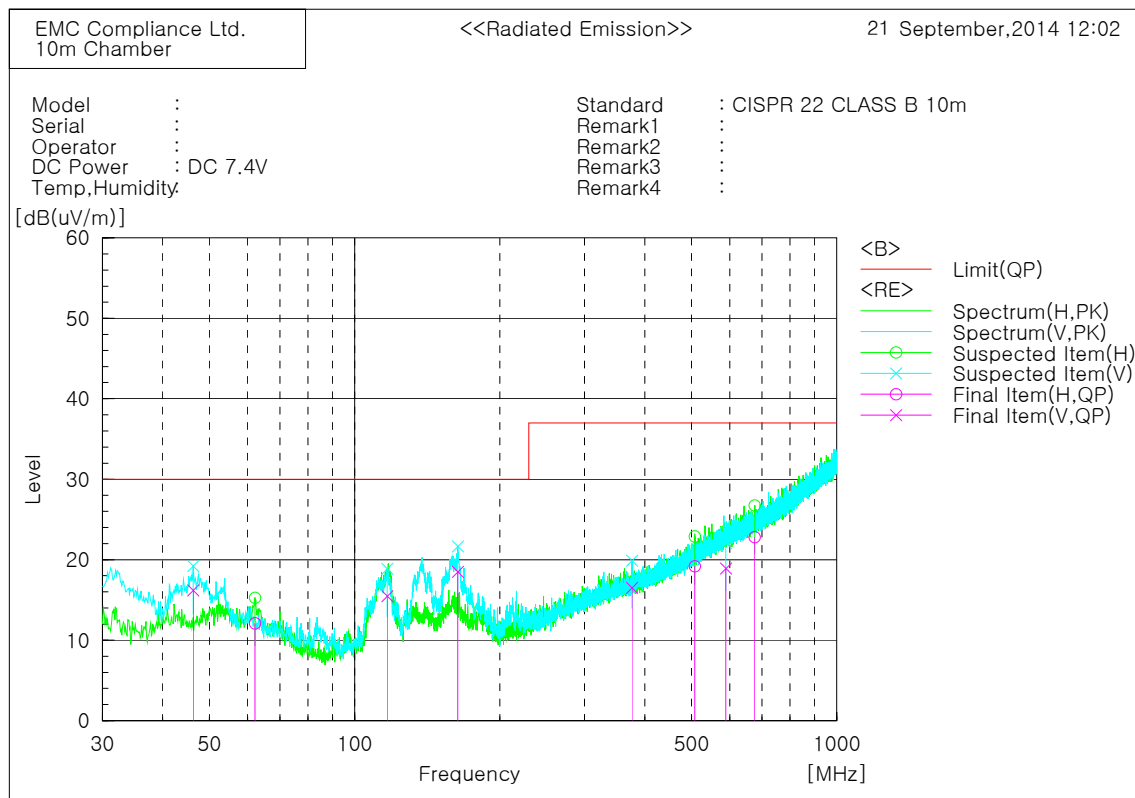


Final Result

No.	Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result AV [dB(uV/m)]	Result PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]
1	1387.500	V	37.1	48.3	-4.6	32.5	43.7	54.0	74.0	21.5	30.3	100.0	210.9
2	2223.125	V	30.2	42.8	0.5	30.7	43.3	54.0	74.0	23.3	30.7	100.0	162.7
3	2435.000	V	68.5	84.7	1.4	69.9	86.1	54.0	74.0	-15.9	-12.1	100.0	347.8
4	2442.500	H	64.6	85.9	1.4	66.0	87.3	54.0	74.0	-12.0	-13.3	100.0	283.1
5	3828.125	V	30.6	43.1	4.7	35.3	47.8	54.0	74.0	18.7	26.2	100.0	224.5
6	4527.500	V	29.5	40.1	6.8	36.3	46.9	54.0	74.0	17.7	27.1	100.0	131.0
7	4875.000	H	38.9	48.4	7.6	44.5	56.0	54.0	74.0	9.5	18.0	100.0	293.7
8	5677.500	V	29.6	40.7	10.3	39.9	51.0	54.0	74.0	14.1	23.0	100.0	290.9

* Fundamental frequency: 2435.000 MHz, 2442.500 MHz

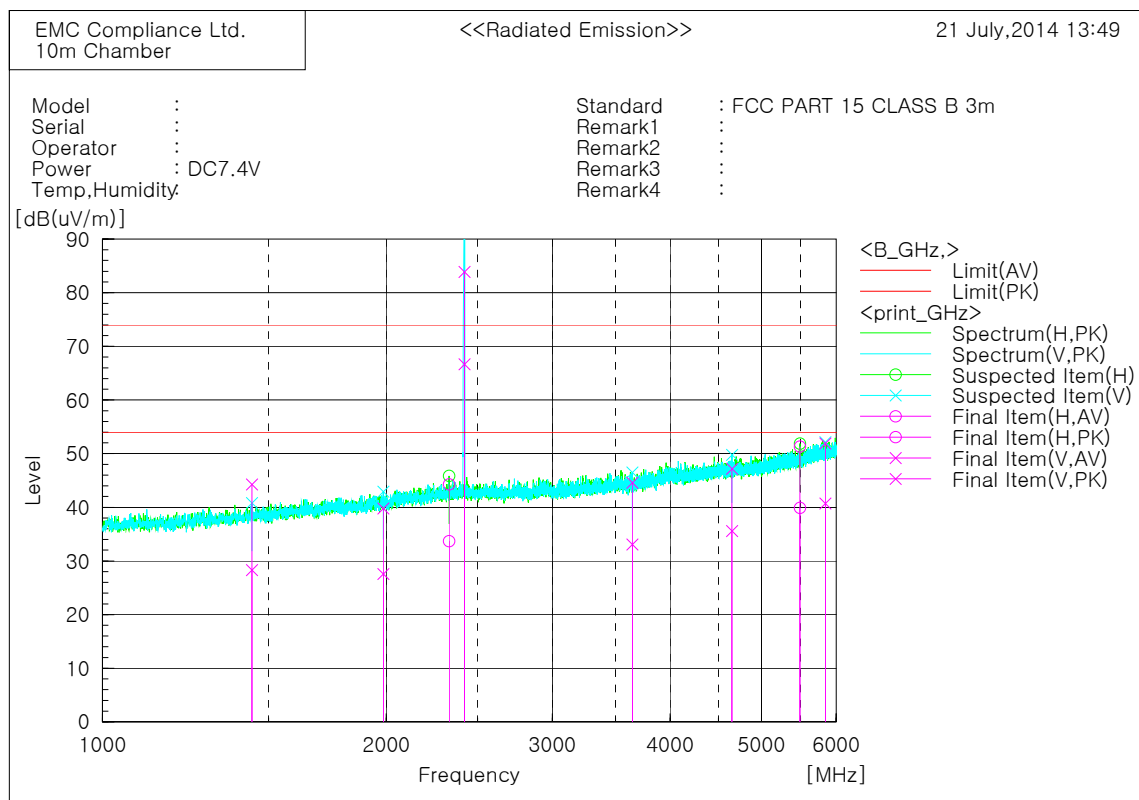
* 30 MHz ~ 1 GHz (M1)_Alone Mode



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
1	46.248	V	29.7	-13.5	16.2	30.0	13.8	100.0	57.8
2	62.131	H	25.8	-13.7	12.1	30.0	17.9	400.0	349.0
3	116.815	V	30.1	-14.6	15.5	30.0	14.5	400.0	228.1
4	163.739	V	30.8	-12.3	18.5	30.0	11.5	100.0	318.0
5	376.048	V	24.3	-7.8	16.5	37.0	20.5	199.0	149.8
6	507.604	H	23.4	-4.2	19.2	37.0	17.8	400.0	10.1
7	589.205	V	20.7	-1.8	18.9	37.0	18.1	299.0	353.4
8	676.141	H	23.1	-0.3	22.8	37.0	14.2	202.0	290.8

* 1 GHz ~ 6 GHz (M1)_Alone Mode



Final Result

No.	Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result AV [dB(uV/m)]	Result PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]
1	1440.625	V	32.5	48.5	-4.2	28.3	44.3	54.0	74.0	25.7	29.7	100.0	53.0
2	1985.000	V	28.5	40.7	-0.9	27.6	39.8	54.0	74.0	26.4	34.2	100.0	93.9
3	2331.250	H	32.6	43.2	1.1	33.7	44.3	54.0	74.0	20.3	29.7	100.0	335.9
4	2420.000	V	65.3	82.5	1.4	66.7	83.9	54.0	74.0	-12.7	-9.9	100.0	2.2
5	3646.875	V	29.2	40.7	3.9	33.1	44.6	54.0	74.0	20.9	29.4	100.0	291.7
6	4650.625	V	28.5	40.1	7.1	35.6	47.2	54.0	74.0	18.4	26.8	100.0	246.3
7	5491.250	H	30.3	41.7	9.6	39.9	51.3	54.0	74.0	14.1	22.7	100.0	33.7
8	5841.250	V	29.6	40.8	11.1	40.7	51.9	54.0	74.0	13.3	22.1	100.0	181.5

* Fundamental frequency: 2420.000 MHz

7. E.U.T. photographs

Front View



Rear View



Left View



Right View



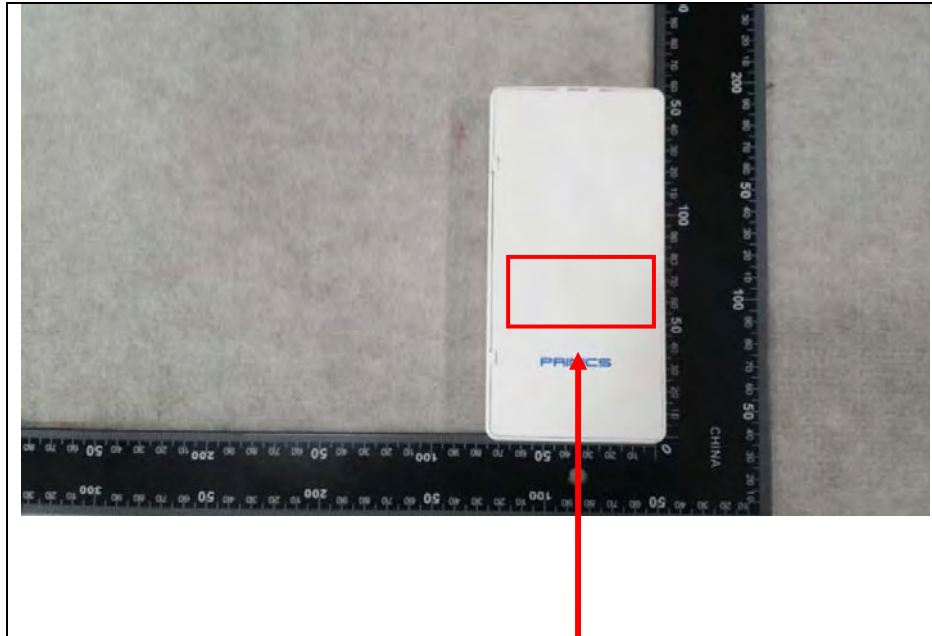
Top View



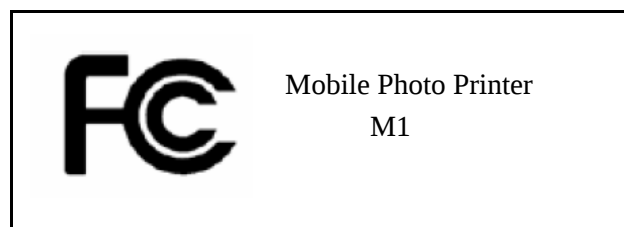
Bottom View



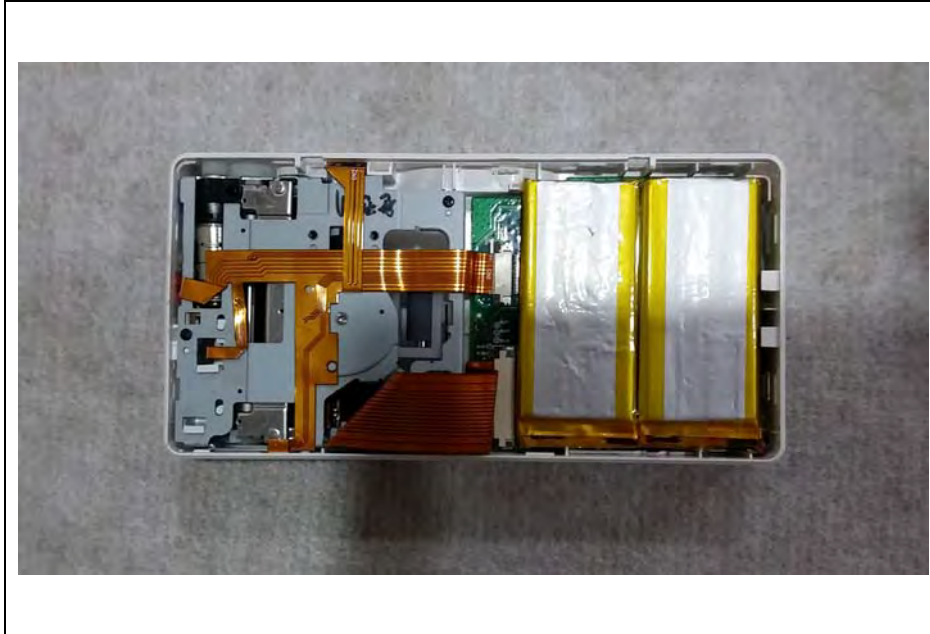
Label



FCC Label Location



Inside



Main Board



Battery



USB Cable



AC/DC Adaptor

