

FCC Test Report

APPLICANT : ACER INCORPORATED
EQUIPMENT : Acer Wireless Power Bank
BRAND NAME : Acer
MODEL NAME : WPB1
FCC ID : HLZWPB1
STANDARD : FCC Part 15 Subpart C
CLASSIFICATION : Part 15 Low Power Transmitter Below 1705 kHz(DCD)

The product was received on Feb. 20, 2016 and completely tested on Apr. 02, 2016. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.



Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.

SPORTON INTERNATIONAL INC.

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FCC ID : HLZWPB1

Page Number : 1 of 40

Report Issued Date : Apr. 11, 2016

Report Version : Rev. 01

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR622001	Rev. 01	Initial issue of report	Apr. 11, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049	20dB Bandwidth	-	Pass	-
3.1	-	99% Bandwidth	-	Pass	-
3.2	15.207	AC Conducted Emission	15.207(a)	PASS	Under limit 7.00 dB at 0.182 MHz
3.3	15.209	Radiated Emission	15.209(a)	PASS	Under limit 3.33 dB at 40.800 MHz

1. General Description

1.1. Applicant

ACER INCORPORATED

8F., No.88, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City 22181, Taiwan (R.O.C)

1.2. Manufacturer

ACER INCORPORATED

8F., No.88, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City 22181, Taiwan (R.O.C)

1.3. Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Acer Wireless Power Bank
Brand Name	Acer
Model Number	WPB1
FCC ID	HLZWPB1
Tx Frequency	110 kHz ~ 205 kHz
Antenna Type	Integral Antenna
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4. Modification of EUT

No modifications are made to the EUT during all test items.

1.5. Test Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978		
Test Site No.	Sporton Site No.		
	TH03-HY	CO05-HY	03CH07-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

1.6. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC Part 15 Subpart C
- ♦ ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2. Test Configuration of Equipment Under Test

2.1. Test Mode

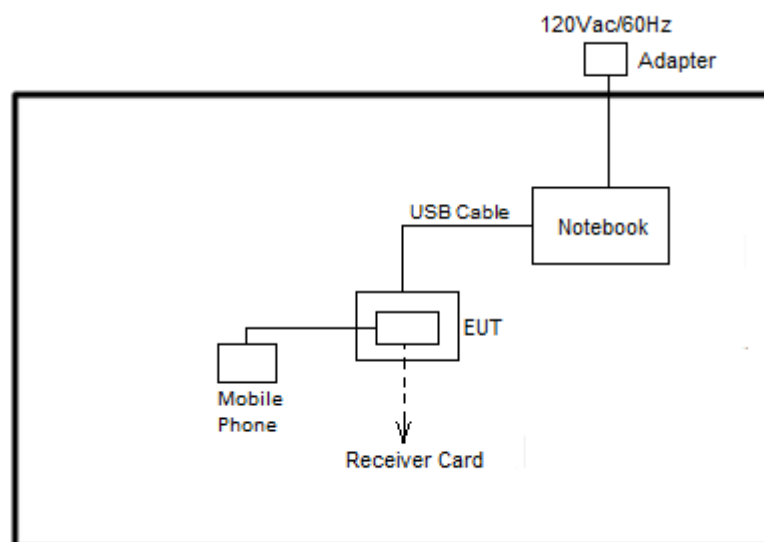
The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

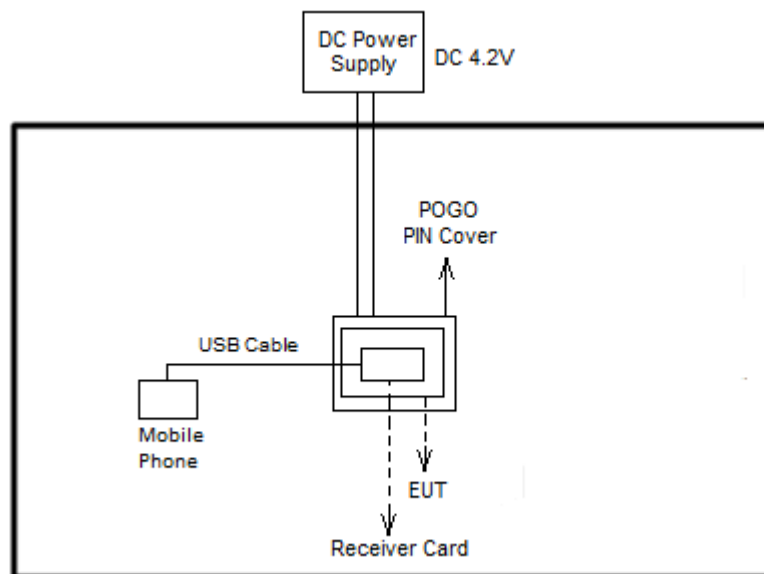
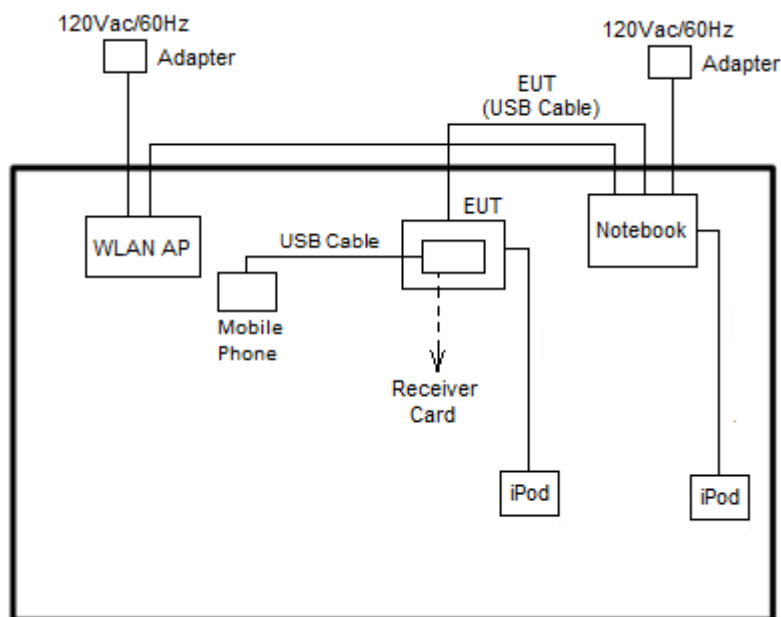
Frequency range investigated: conduction (150 kHz to 30 MHz), radiation (9 kHz to the 1000MHz).

Test Items	Function Type
AC Conducted Emission	Mode 1: WPC Tx + Receiver Card connect to Mobile Phone + Micro USB Cable (Charging from Notebook) + iPod
Radiated Emission	Mode 1: WPC Tx + Receiver Card connect to Mobile Phone + Micro USB Cable (Charging from Notebook) Mode 2: WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)
Remark: The worst case of RE is mode 2; only the test data of this mode was reported.	

2.2. Connection Diagram of Test System

<EUT with Micro USB Cable (Charging from Notebook)>



<EUT with POGO PIN Cover (Charging from DC 4.2V)>

<EUT with iPod and Micro USB Cable (Charging from Notebook)>


2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Mobile Phone	HTC	Desire200	NM8PO60100	N/A	N/A
2.	DC Power Supply	GW Instek	PSS-2005	N/A	N/A	N/A
3.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0m	N/A
5.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0m	N/A
6.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded,1.8m

3. Test Result

3.1. 20dB and 99% Bandwidth Measurement

3.1.1 Limit of 20dB and 99% Bandwidth

Reporting only

3.1.2 Measuring Instruments

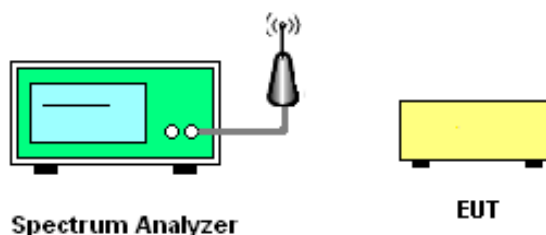
The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The 20dB bandwidth is measured with a spectrum analyzer connected via a receiver antenna placed near the EUT while wirelessly charging a charging board.
2. Use the following spectrum analyzer settings for 99 % Bandwidth measurement.
3. For 99% Bandwidth measurement, the RBW=10kHz, and VBW = 30kHz. Sweep = auto;
4. Measure and record the results in the test report.

Mode	Frequency	Occupied Bandwidth
Battery at 0%	116.00 kHz	23.00 kHz
Battery at 50% charge	141.50 kHz	23.75 kHz
Battery near 100% charge	174.25 kHz	26.50 kHz

3.1.4 Test Setup

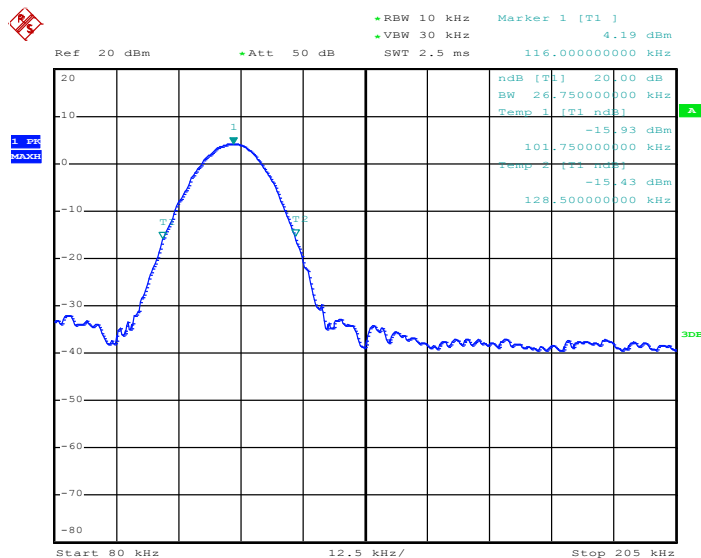


3.1.5 Test Result of 20dB and 99% Bandwidth

Test Engineer :	Tommy Lee	Temperature :	23.4°C
		Relative Humidity :	52.9%

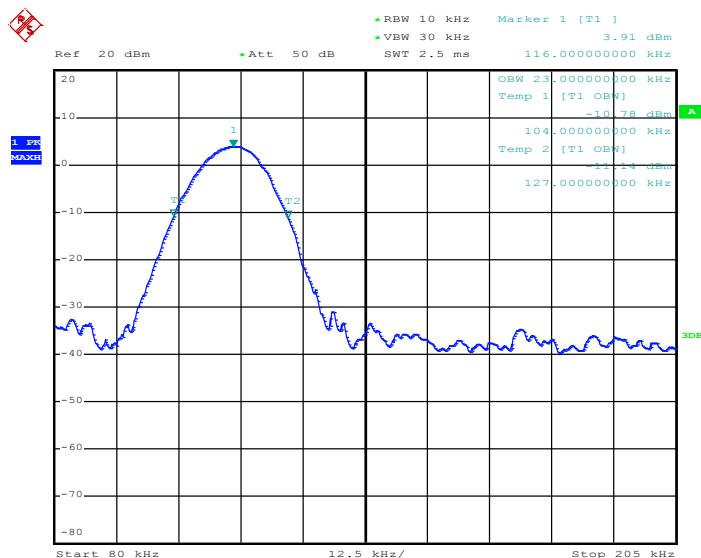
Battery at 0%

20 dB Bandwidth Plot

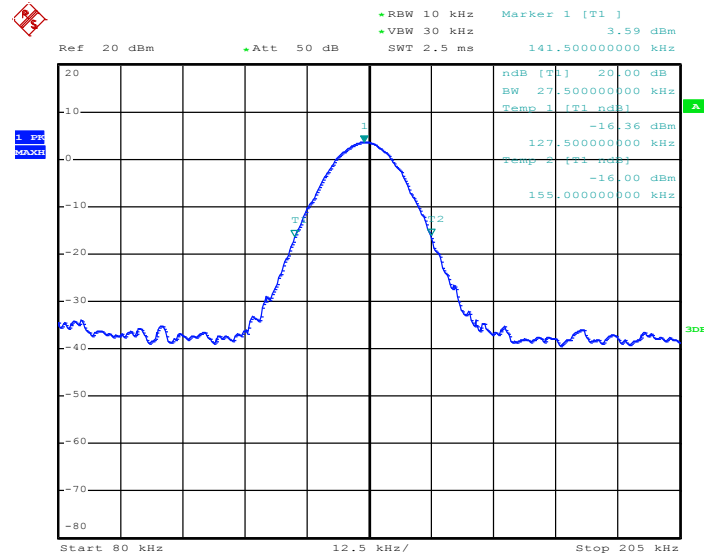


Date: 15.MAR.2016 13:37:38

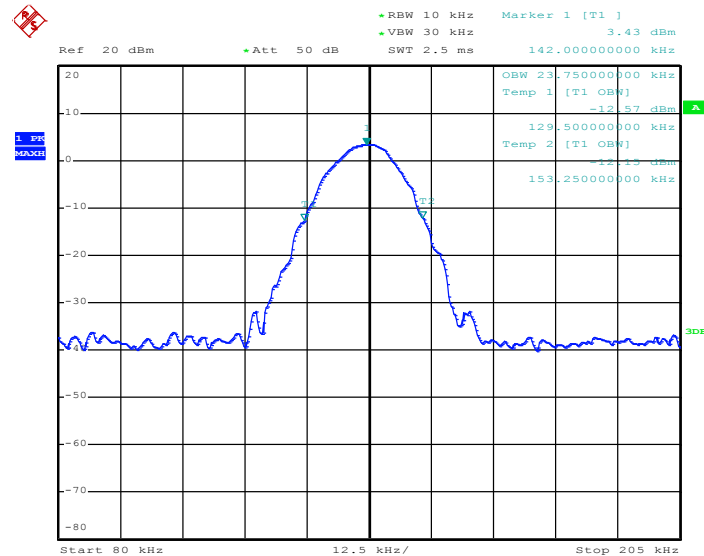
99% Occupied Bandwidth Plot



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Battery at 50% charge
20 dB Bandwidth Plot


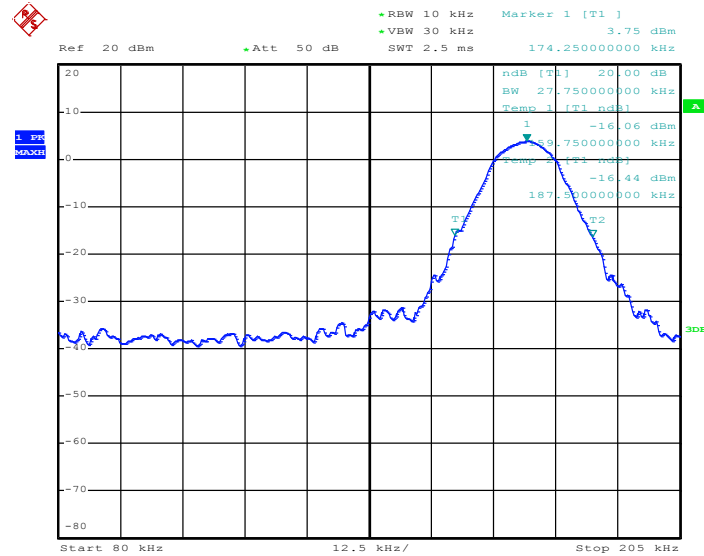
Date: 15.MAR.2016 11:58:41

99% Occupied Bandwidth Plot


Date: 15.MAR.2016 11:57:14

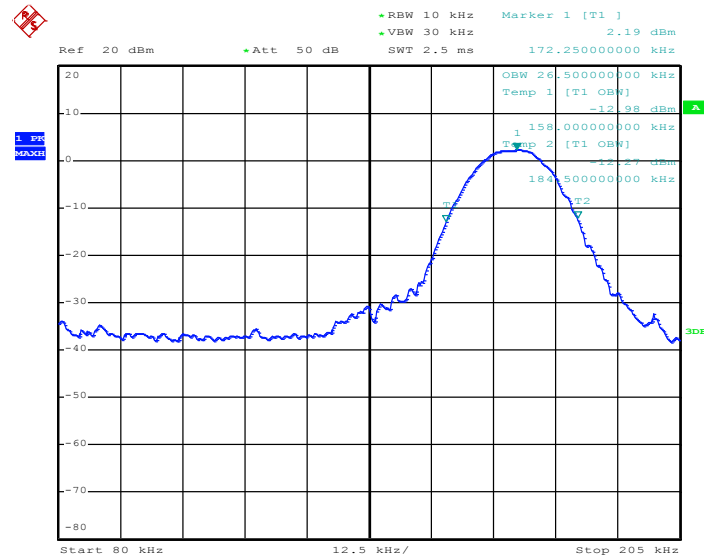
Battery Near 100% Charge

20 dB Bandwidth Plot



Date: 15.MAR.2016 09:58:35

99% Occupied Bandwidth Plot



Date: 15.MAR.2016 09:57:00

3.2. Test of AC Conducted Emission Measurement

3.2.1. Limits of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

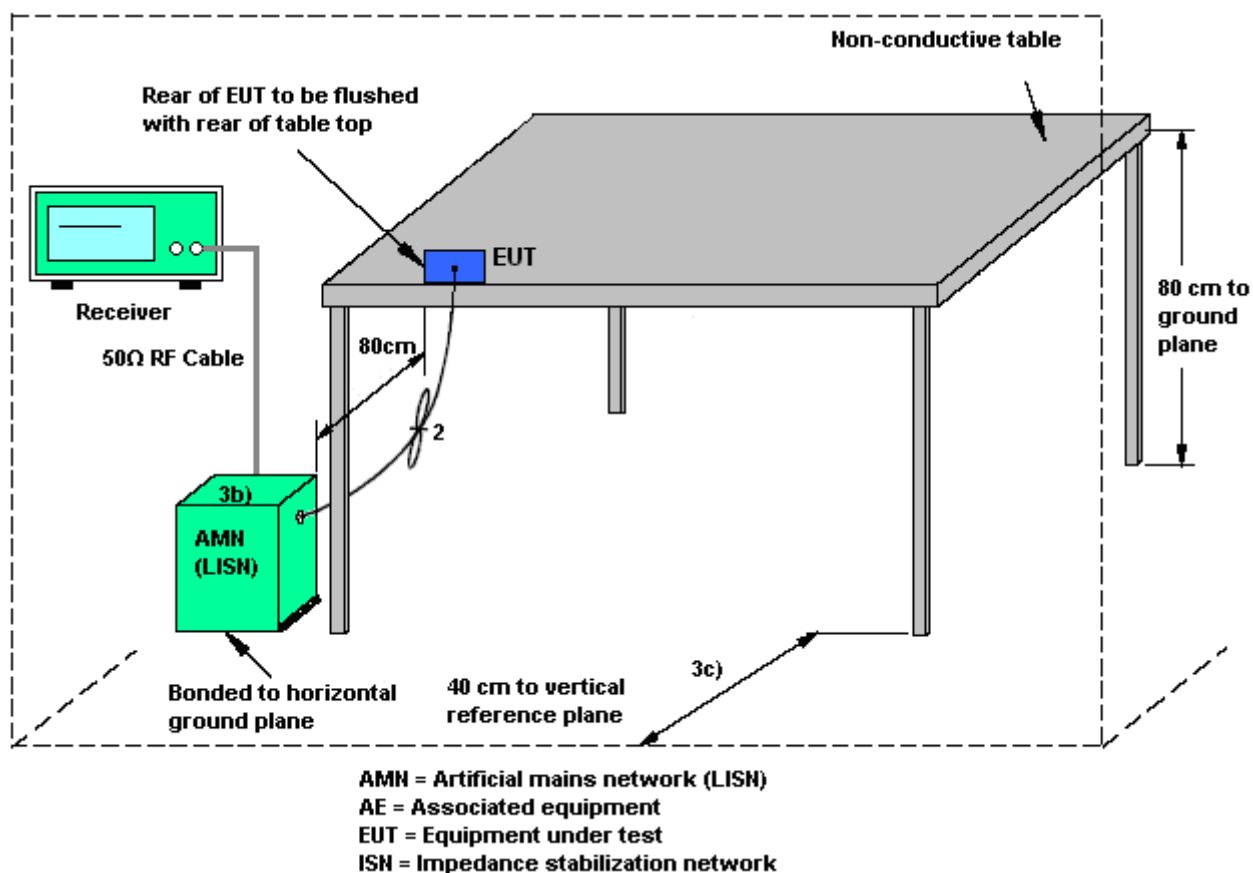
3.2.2. Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedure

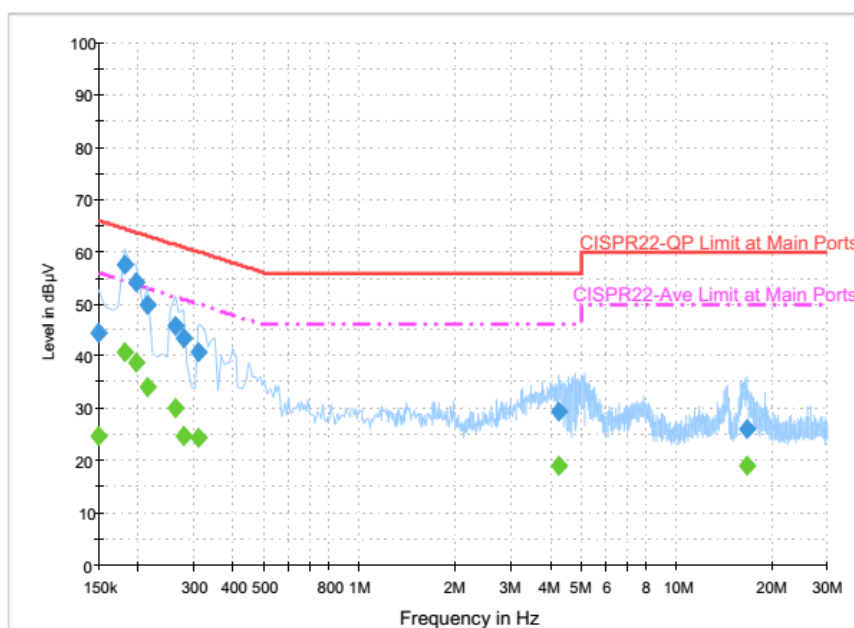
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.2.4. Test Setup



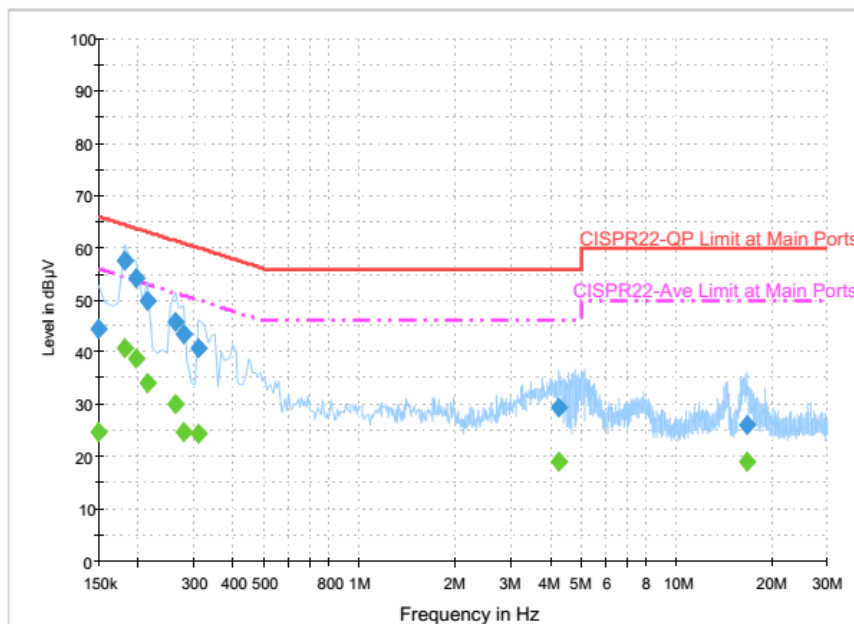
3.2.5. Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	23~24℃
Test Engineer :	Kai-Chun Chu	Relative Humidity :	45~46%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + Micro USB Cable (Charging from Notebook) + iPod		


Final Result : QuasiPeak

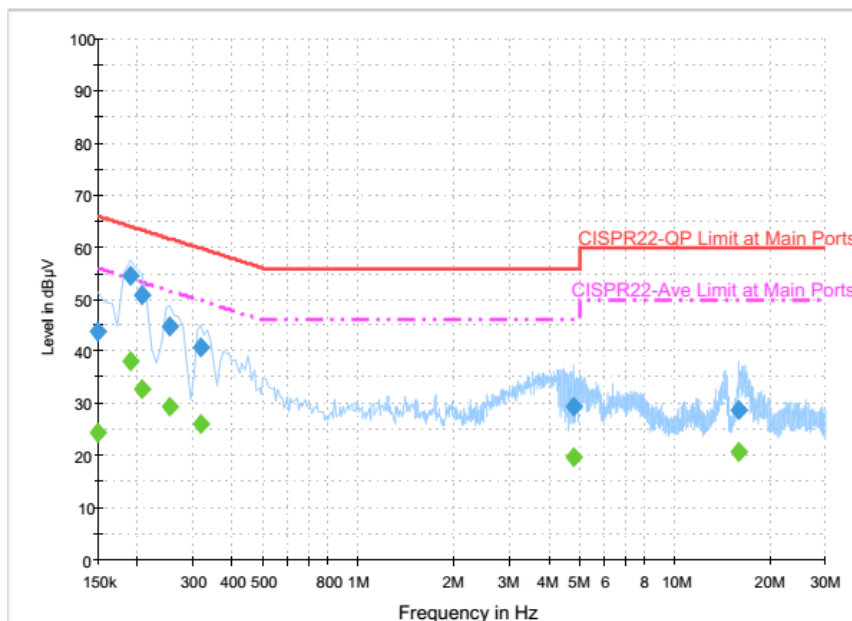
Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	44.4	Off	L1	19.6	21.6	66.0
0.182000	57.4	Off	L1	19.6	7.0	64.4
0.198000	54.3	Off	L1	19.6	9.4	63.7
0.214000	50.0	Off	L1	19.6	13.0	63.0
0.262000	45.8	Off	L1	19.6	15.6	61.4
0.278000	43.6	Off	L1	19.6	17.3	60.9
0.310000	41.0	Off	L1	19.6	19.0	60.0
4.278000	29.3	Off	L1	19.7	26.7	56.0
16.718000	26.0	Off	L1	19.8	34.0	60.0

Test Mode :	Mode 1	Temperature :	23~24°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	45~46%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + Micro USB Cable (Charging from Notebook) + iPod		


Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	24.9	Off	L1	19.6	31.1	56.0
0.182000	40.7	Off	L1	19.6	13.7	54.4
0.198000	38.7	Off	L1	19.6	15.0	53.7
0.214000	34.1	Off	L1	19.6	18.9	53.0
0.262000	29.9	Off	L1	19.6	21.5	51.4
0.278000	24.6	Off	L1	19.6	26.3	50.9
0.310000	24.4	Off	L1	19.6	25.6	50.0
4.278000	19.2	Off	L1	19.7	26.8	46.0
16.718000	18.9	Off	L1	19.8	31.1	50.0

Test Mode :	Mode 1	Temperature :	23~24°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	45~46%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + Micro USB Cable (Charging from Notebook) + iPod		


Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	43.8	Off	N	19.6	22.2	66.0
0.190000	54.4	Off	N	19.6	9.6	64.0
0.206000	50.8	Off	N	19.6	12.6	63.4
0.254000	44.9	Off	N	19.6	16.7	61.6
0.318000	40.7	Off	N	19.6	19.1	59.8
4.806000	29.3	Off	N	19.6	26.7	56.0
16.022000	28.7	Off	N	19.9	31.3	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	24.5	Off	N	19.6	31.5	56.0
0.190000	38.1	Off	N	19.6	15.9	54.0
0.206000	32.9	Off	N	19.6	20.5	53.4
0.254000	29.5	Off	N	19.6	22.1	51.6
0.318000	26.0	Off	N	19.6	23.8	49.8
4.806000	19.7	Off	N	19.6	26.3	46.0
16.022000	20.8	Off	N	19.9	29.2	50.0

3.3. Test of Radiated Emission Measurement

3.3.1. Limit of Radiated Emission

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.3.2. Measuring Instruments

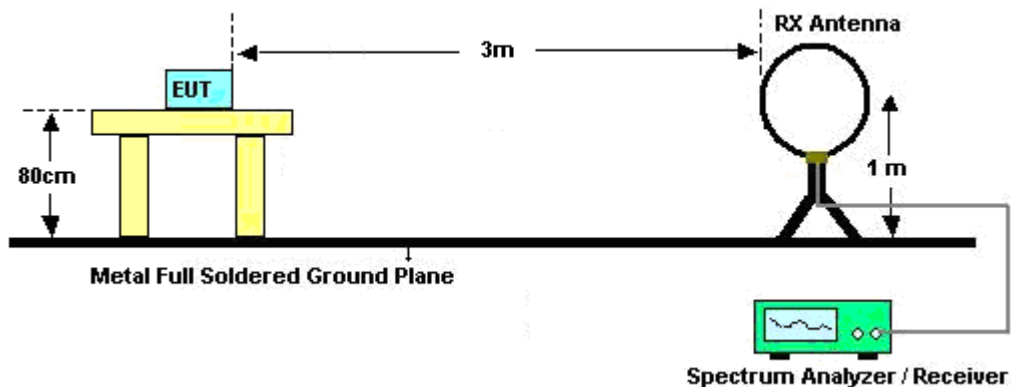
The measuring equipment is listed in the section 4 of this test report.

3.3.3. Test Procedures

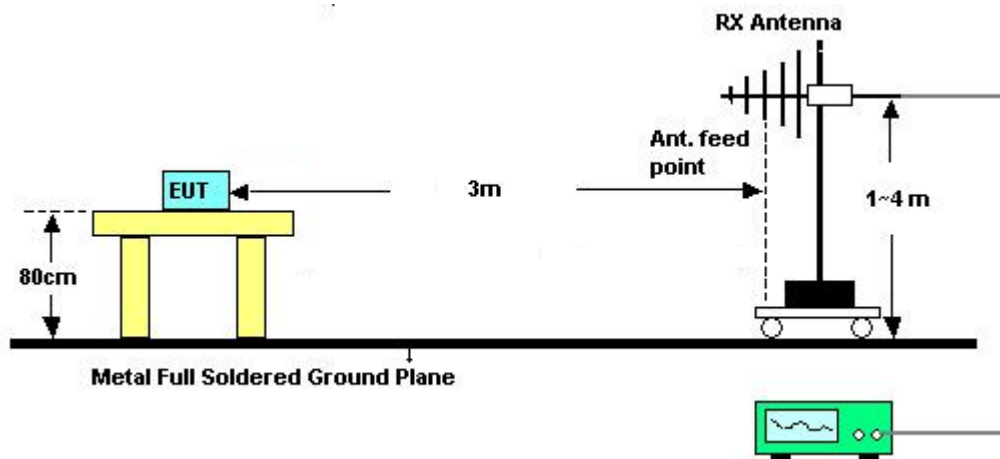
Follow the guidelines in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission for three EUT orthogonal planes, and adjusting the measurement antenna height and polarization. A pre-amp and a high pass filter are used for this test in order to get the good signal level.

3.3.4. Test Setup of Radiated Emission

For radiated emissions below 30MHz



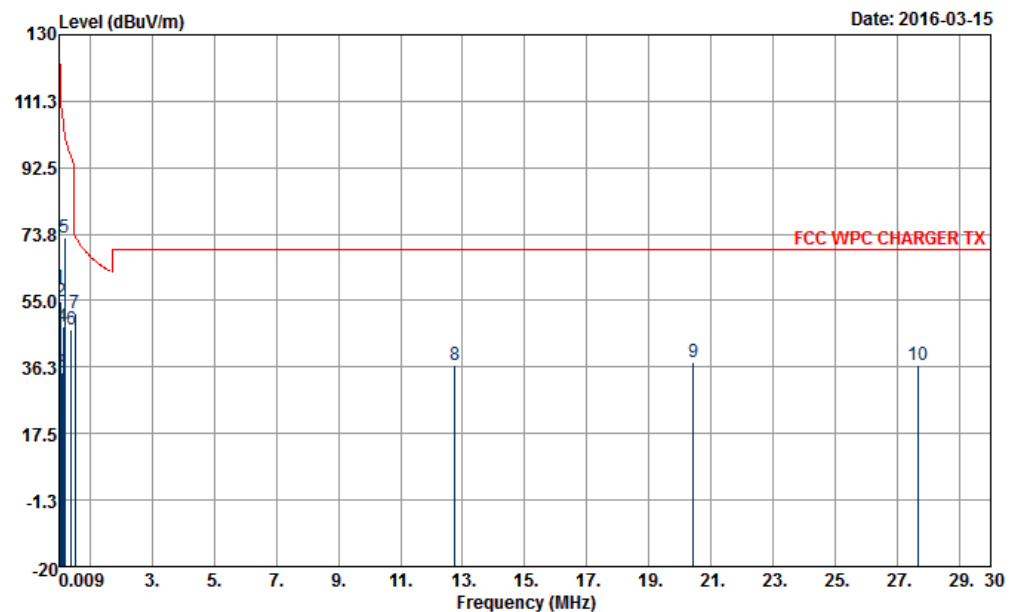
For radiated emissions above 30MHz



3.3.5. Test Result of Radiated Emission (9kHz ~ 30MHz)

<Battery at 0%>

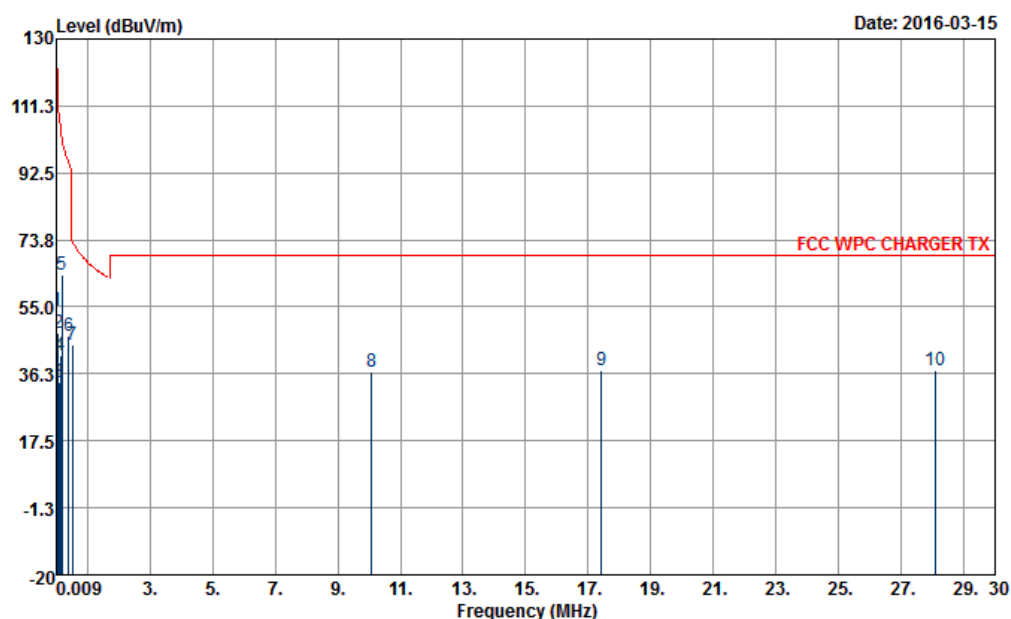
Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		
Remark	#5 is transmitter's fundamental signal.		



Site : 03CH07-HY
Condition : FCC WPC CHARGER TX 3m LOOP_ANT(H) HORIZONTAL
Project : 622001

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level Factor	Cable Loss	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	0.01	58.68	-68.91	127.59	37.75	20.25	0.68	---	---	Average
2	0.06	54.96	-56.42	111.38	34.24	20.04	0.68	---	---	Average
3	0.09	34.58	-73.92	108.50	13.91	19.99	0.68	---	---	QP
4	0.13	47.86	-57.50	105.36	27.21	19.97	0.68	---	---	Average
5	0.18	72.96	-29.69	102.65	52.35	19.93	0.68	---	---	Average
6	0.41	47.01	-48.37	95.38	26.43	19.90	0.68	---	---	Average
7	0.53	51.24	-21.92	73.16	30.66	19.90	0.68	100	0	QP
8	12.74	36.77	-32.73	69.50	16.03	20.06	0.68	---	---	QP
9	20.43	37.58	-31.92	69.50	16.06	20.45	1.07	---	---	QP
10	27.64	36.94	-32.56	69.50	15.25	20.62	1.07	---	---	QP

Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Vertical
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		
Remark	#5 is transmitter's fundamental signal.		

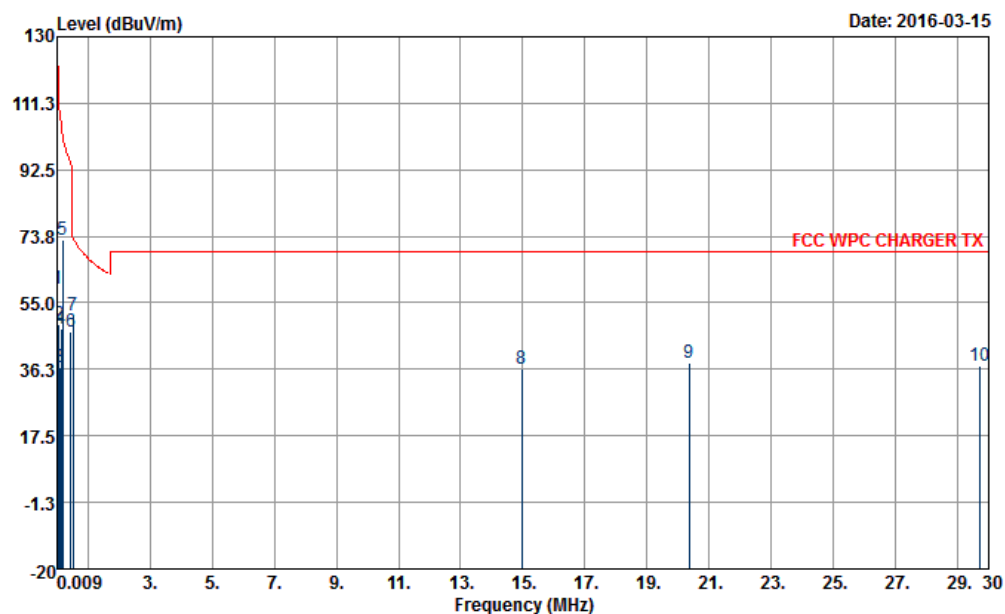


Site : 03CH07-HY
 Condition : FCC WPC CHARGER TX 3m LOOP_ANT(V) VERTICAL
 Project : 622001

	Freq	Level	Over	Limit	ReadAntenna	Cable	A/Pos	T/Pos	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	cm	deg
1	0.01	54.03	-73.56	127.59	33.10	20.25	0.68	---	Average
2	0.06	47.63	-63.75	111.38	26.91	20.04	0.68	---	Average
3	0.10	33.91	-73.86	107.77	13.24	19.99	0.68	---	QP
4	0.13	41.50	-63.86	105.36	20.85	19.97	0.68	---	Average
5	0.18	64.07	-38.56	102.63	43.46	19.93	0.68	---	Average
6	0.41	46.90	-48.43	95.33	26.32	19.90	0.68	---	Average
7	0.53	44.51	-28.65	73.16	23.93	19.90	0.68	100	QP
8	10.08	36.71	-32.79	69.50	16.00	20.03	0.68	---	QP
9	17.42	37.29	-32.21	69.50	16.45	20.16	0.68	---	QP
10	28.11	37.11	-32.39	69.50	15.44	20.60	1.07	---	QP

<Battery at 50% Charge>

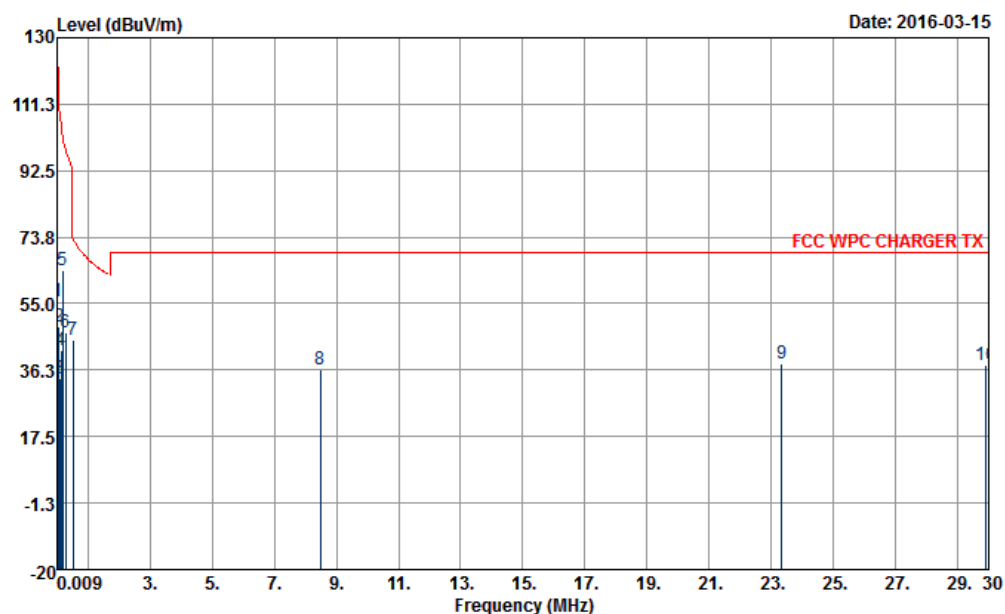
Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		
Remark	#5 is transmitter's fundamental signal.		



Site : 03CH07-HY
Condition : FCC WPC CHARGER TX 3m LOOP_ANT(H) HORIZONTAL
Project : 622001

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	0.01	58.85	-68.74	127.59	37.92	20.25	0.68	---	---	Average
2	0.06	49.05	-62.33	111.38	28.33	20.04	0.68	---	---	Average
3	0.10	36.73	-70.66	107.39	16.06	19.99	0.68	---	---	QP
4	0.13	47.72	-57.64	105.36	27.07	19.97	0.68	---	---	Average
5	0.18	72.94	-29.73	102.67	52.33	19.93	0.68	---	---	Average
6	0.45	46.66	-47.84	94.50	26.08	19.90	0.68	---	---	Average
7	0.53	51.32	-21.84	73.16	30.74	19.90	0.68	100	0	QP
8	14.98	36.56	-32.94	69.50	15.83	20.05	0.68	---	---	QP
9	20.37	38.27	-31.23	69.50	16.75	20.45	1.07	---	---	QP
10	29.73	37.11	-32.39	69.50	15.69	20.35	1.07	---	---	QP

Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Vertical
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		
Remark	#5 is transmitter's fundamental signal.		

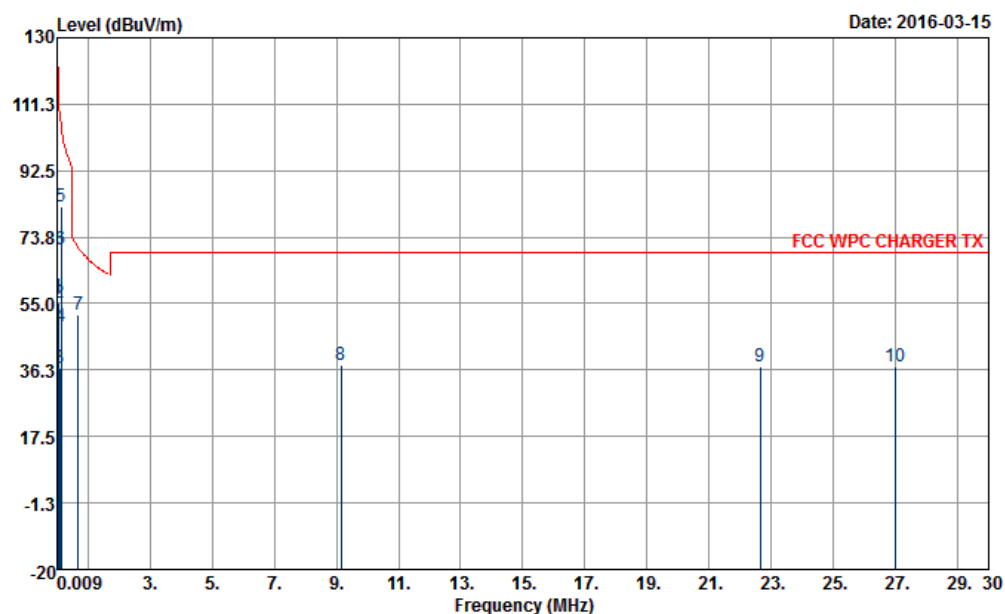


Site : 03CH07-HY
Condition : FCC WPC CHARGER TX 3m LOOP_ANT(V) VERTICAL
Project : 622001

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	0.01	55.61	-71.98	127.59	34.68	20.25	0.68	---	---	Average
2	0.06	48.38	-63.00	111.38	27.66	20.04	0.68	---	---	Average
3	0.09	33.81	-74.26	108.07	13.14	19.99	0.68	---	---	QP
4	0.13	42.04	-63.32	105.36	21.39	19.97	0.68	---	---	Average
5	0.18	64.45	-38.17	102.62	43.84	19.93	0.68	---	---	Average
6	0.28	47.01	-51.52	98.53	26.41	19.92	0.68	---	---	Average
7	0.53	44.90	-28.26	73.16	24.32	19.90	0.68	100	0	QP
8	8.49	36.60	-32.90	69.50	15.95	19.97	0.68	---	---	QP
9	23.34	38.04	-31.46	69.50	16.41	20.56	1.07	---	---	QP
10	29.89	37.51	-31.99	69.50	16.12	20.32	1.07	---	---	QP

<Battery Near 100% Charge>

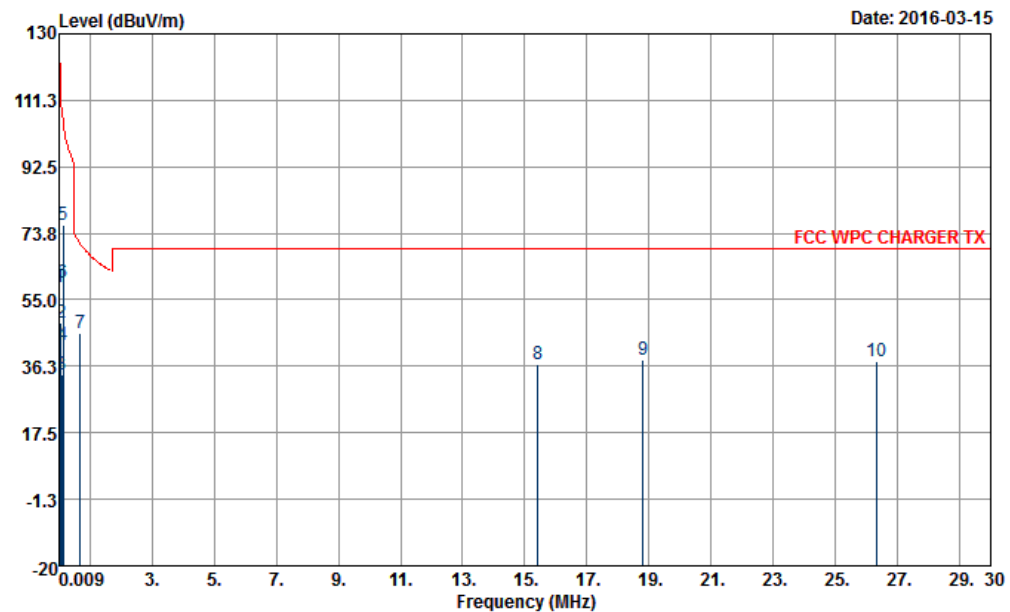
Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		
Remark	#5 is transmitter's fundamental signal.		



Site : 03CH07-HY
Condition : FCC WPC CHARGER TX 3m LOOP_ANT(H) HORIZONTAL
Project : 622001

	Freq	Level	Over	Limit	ReadAntenna	Cable	A/Pos	T/Pos	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	cm	deg
1	0.01	56.69	-70.90	127.59	35.76	20.25	0.68	---	Average
2	0.06	55.20	-56.18	111.38	34.48	20.04	0.68	---	Average
3	0.10	36.89	-70.49	107.38	16.22	19.99	0.68	---	QP
4	0.13	48.52	-56.84	105.36	27.87	19.97	0.68	---	Average
5	0.14	82.29	-22.40	104.69	61.64	19.97	0.68	---	Average
6	0.15	70.07	-34.01	104.08	49.44	19.95	0.68	---	Average
7	0.69	51.71	-19.08	70.79	31.13	19.90	0.68	100	0 QP
8	9.14	37.58	-31.92	69.50	16.91	19.99	0.68	---	QP
9	22.65	37.06	-32.44	69.50	15.43	20.56	1.07	---	QP
10	27.01	37.08	-32.42	69.50	15.38	20.63	1.07	---	QP

Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Vertical
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		
Remark	#5 is transmitter's fundamental signal.		



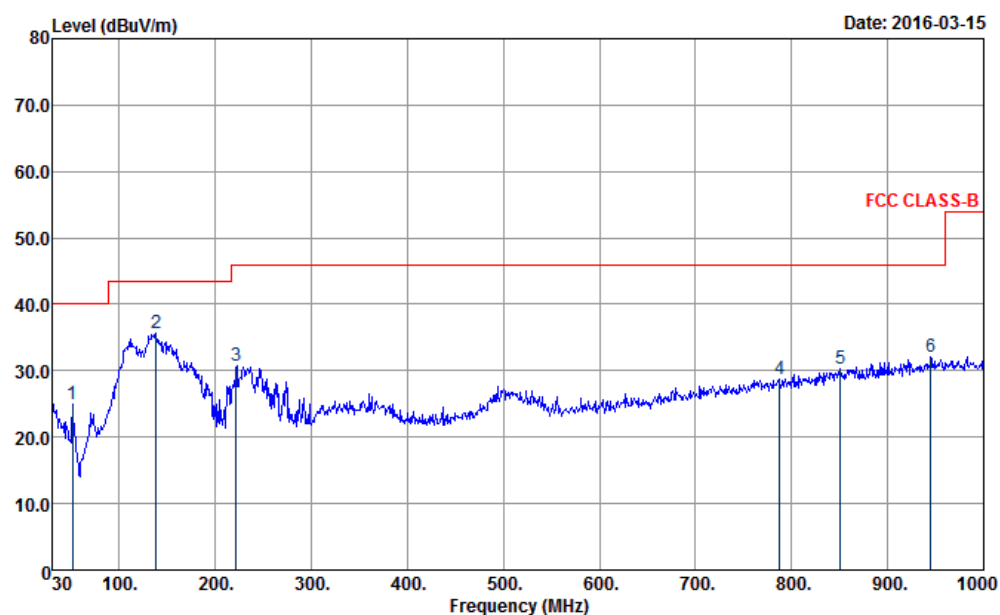
Site : 03CH07-HY
Condition : FCC WPC CHARGER TX 3m LOOP_ANT(V) VERTICAL
Project : 622001

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	0.01	58.62	-68.97	127.59	37.69	20.25	0.68	---	---	Average
2	0.06	48.56	-62.82	111.38	27.84	20.04	0.68	---	---	Average
3	0.09	34.05	-74.47	108.52	13.38	19.99	0.68	---	---	QP
4	0.13	42.11	-63.25	105.36	21.46	19.97	0.68	---	---	Average
5	0.14	76.18	-28.58	104.76	55.53	19.97	0.68	---	---	Average
6	0.15	59.75	-44.33	104.08	39.12	19.95	0.68	---	---	Average
7	0.70	45.74	-24.96	70.70	25.16	19.90	0.68	100	0	QP
8	15.42	36.71	-32.79	69.50	15.98	20.05	0.68	---	---	QP
9	18.82	38.17	-31.33	69.50	17.19	20.30	0.68	---	---	QP
10	26.32	37.50	-32.00	69.50	15.81	20.62	1.07	---	---	QP

3.3.6. Test Result of Radiated Emission (30MHz ~ 1000MHz)

<Battery at 0%>

Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		

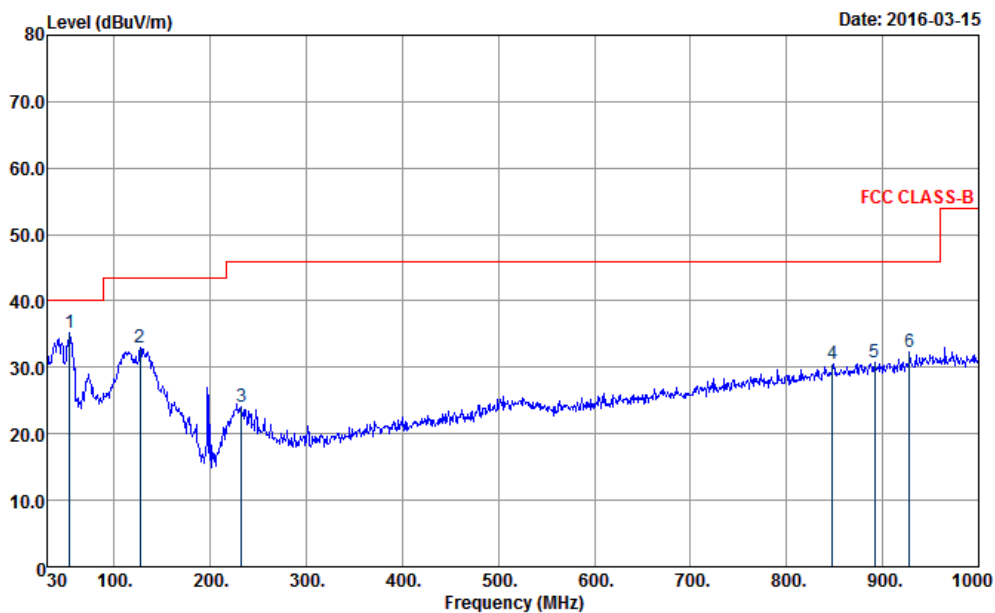


Site : 03CH07-HY
Condition : FCC CLASS-B 3m LF-ANT-35419(6) HORIZONTAL
Project : 622001

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	cm	deg
1	51.06	24.89	-15.11	40.00	41.29	14.79	1.07	32.26	---	Peak
2	138.54	35.72	-7.78	43.50	48.35	18.03	1.55	32.21	100	0 Peak
3	221.97	30.84	-15.16	46.00	44.40	16.56	2.07	32.19	---	Peak
4	787.90	28.84	-17.16	46.00	29.33	27.58	3.90	31.97	---	Peak
5	850.90	30.38	-15.62	46.00	29.27	28.71	4.10	31.70	---	Peak
6	944.70	32.00	-14.00	46.00	28.89	30.08	4.07	31.04	---	Peak



Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Vertical
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		

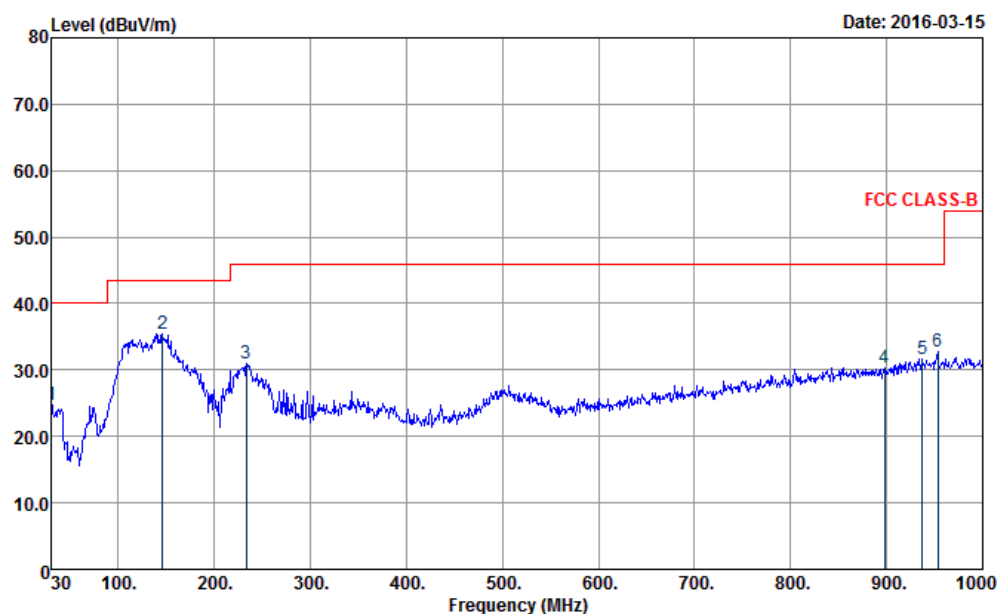


Site : 03CH07-HY
Condition : FCC CLASS-B 3m LF-ANT-35419(6) VERTICAL
Project : 622001

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	53.22	35.20	-4.80	40.00	52.22	14.17	1.07	32.26	100	0	Peak
2	126.93	33.03	-10.47	43.50	45.50	18.18	1.55	32.20	---	---	Peak
3	232.23	23.98	-22.02	46.00	36.73	17.36	2.07	32.18	---	---	Peak
4	848.10	30.47	-15.53	46.00	29.42	28.66	4.10	31.71	---	---	Peak
5	891.50	30.76	-15.24	46.00	29.15	28.95	4.17	31.51	---	---	Peak
6	927.90	32.36	-13.64	46.00	29.76	29.68	4.12	31.20	---	---	Peak

<Battery at 50% Charge>

Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		

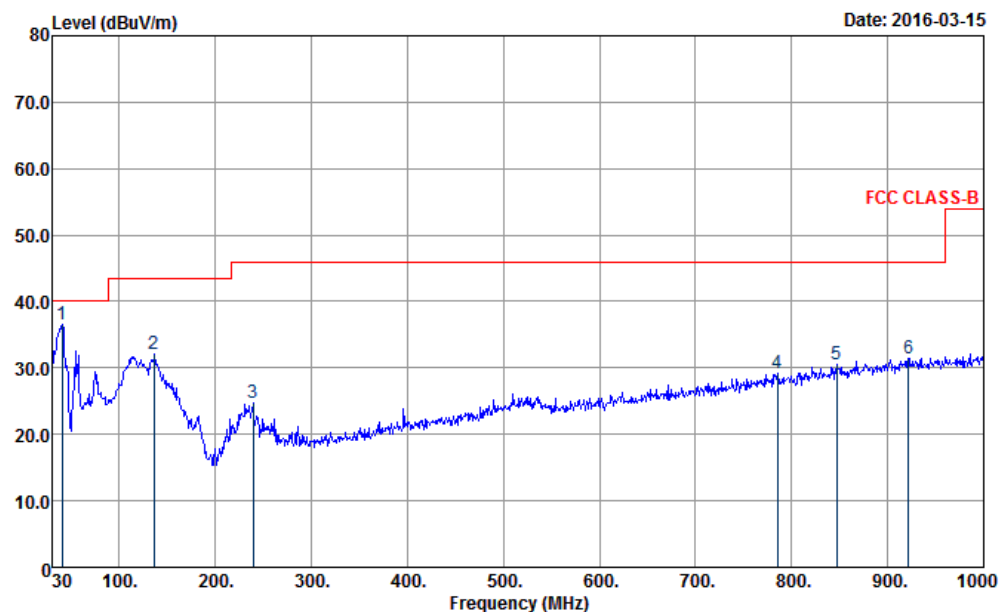


Site : 03CH07-HY
 Condition : FCC CLASS-B 3m LF-ANT-35419(6) HORIZONTAL
 Project : 622001

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.54	24.78	-15.22	40.00	30.58	25.46	1.07	32.33	---	---	Peak
2	145.83	35.46	-8.04	43.50	48.05	17.84	1.78	32.21	100	0	Peak
3	233.31	30.99	-15.01	46.00	43.58	17.52	2.07	32.18	---	---	Peak
4	897.80	30.35	-15.65	46.00	28.67	28.99	4.17	31.48	---	---	Peak
5	937.00	31.71	-14.29	46.00	28.82	29.89	4.12	31.12	---	---	Peak
6	953.10	32.69	-13.31	46.00	29.38	30.21	4.07	30.97	---	---	Peak



Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Vertical
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		

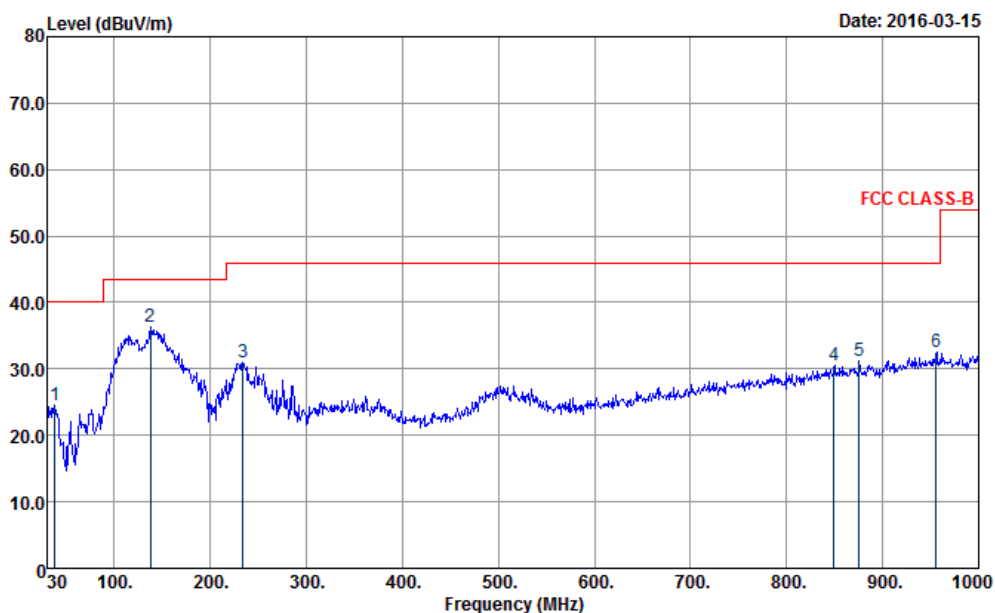


Site : 03CH07-HY
Condition : FCC CLASS-B 3m LF-ANT-35419(6) VERTICAL
Project : 622001

	Freq	Level	Over	Limit	ReadAntenna	Cable Preamp	A/Pos	T/Pos	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	cm	deg
1	40.53	36.56	-3.44	40.00	47.95	19.84	1.07	32.30	100 0 Peak
2	136.11	32.07	-11.43	43.50	44.60	18.12	1.55	32.20	--- --- Peak
3	238.98	24.81	-21.19	46.00	36.99	17.92	2.07	32.17	--- --- Peak
4	785.10	29.29	-16.71	46.00	29.81	27.55	3.90	31.97	--- --- Peak
5	846.70	30.47	-15.53	46.00	29.45	28.64	4.10	31.72	--- --- Peak
6	921.60	31.53	-14.47	46.00	29.15	29.52	4.12	31.26	--- --- Peak

<Battery Near 100% Charge>

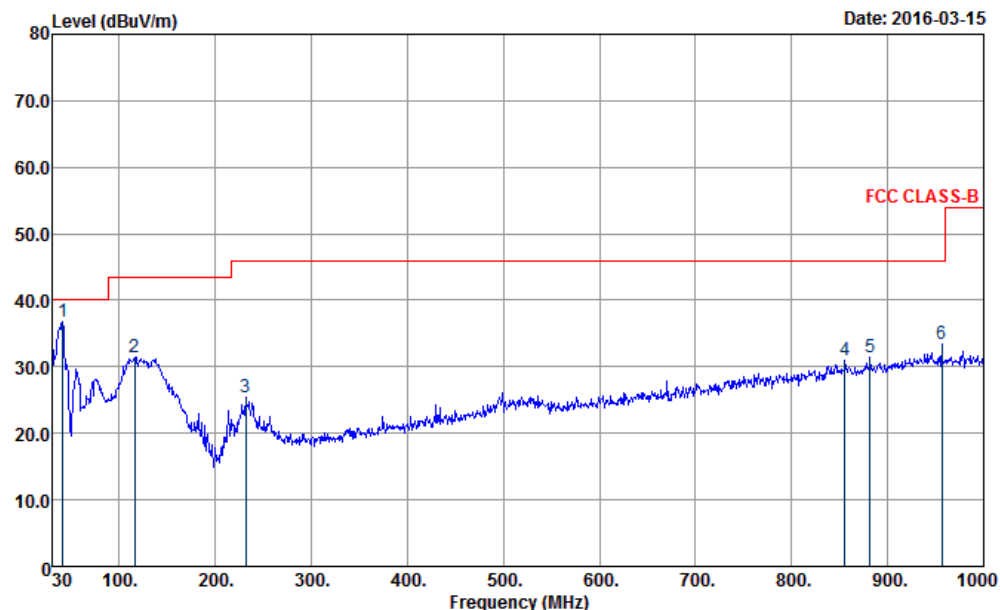
Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		



Site : 03CH07-HY
 Condition : FCC CLASS-B 3m LF-ANT-35419(6) HORIZONTAL
 Project : 622001

	Freq	Level	Over	Limit	ReadAntenna	Cable Preamp	A/Pos	T/Pos	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	
			dB	dBuV/m	dBuV		dB	dB	
1	37.83	24.43	-15.57	40.00	34.11	21.56	1.07	32.31	---
2	137.73	36.37	-7.13	43.50	48.97	18.06	1.55	32.21	100
3	233.58	30.90	-15.10	46.00	43.49	17.52	2.07	32.18	---
4	849.50	30.50	-15.50	46.00	29.41	28.70	4.10	31.71	---
5	875.40	31.25	-14.75	46.00	29.81	28.86	4.17	31.59	---
6	955.90	32.60	-13.40	46.00	29.26	30.21	4.07	30.94	---

Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Vertical
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		



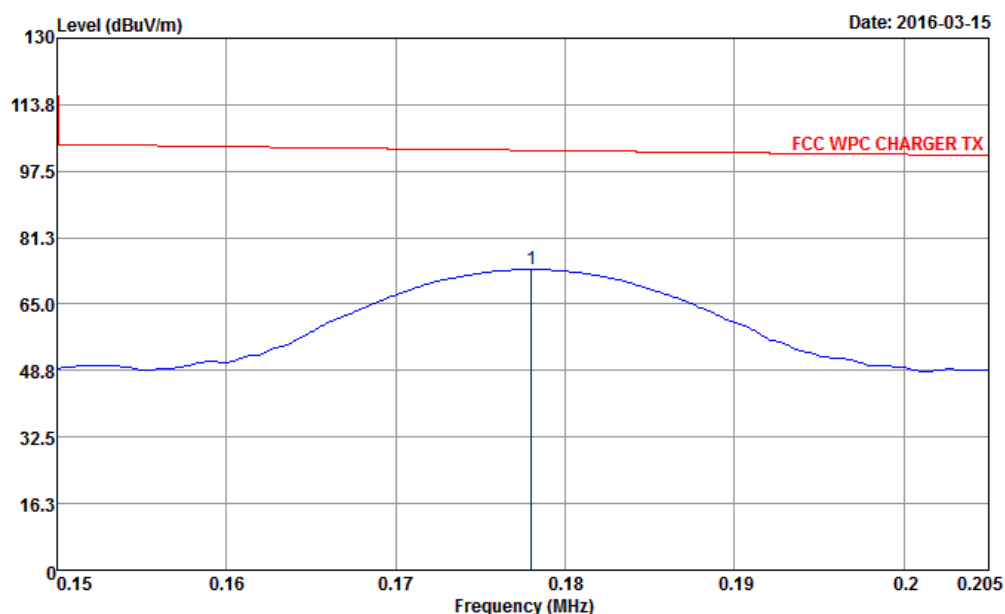
Site : 03CH07-HY
Condition : FCC CLASS-B 3m LF-ANT-35419(6) VERTICAL
Project : 622001

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamplifier	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	40.80	36.67	-3.33	40.00	48.05	19.84	1.07	32.29	100	0	Peak
2	116.13	31.50	-12.00	43.50	44.47	17.68	1.55	32.20	---	---	Peak
3	231.69	25.42	-20.58	46.00	38.17	17.36	2.07	32.18	---	---	Peak
4	855.80	31.07	-14.93	46.00	29.92	28.73	4.10	31.68	---	---	Peak
5	881.70	31.34	-14.66	46.00	29.83	28.89	4.17	31.55	---	---	Peak
6	956.60	33.41	-12.59	46.00	30.06	30.21	4.07	30.93	---	---	Peak

3.3.7. Test Result of Field Strength of Fundamental Emissions

<Battery at 0%>

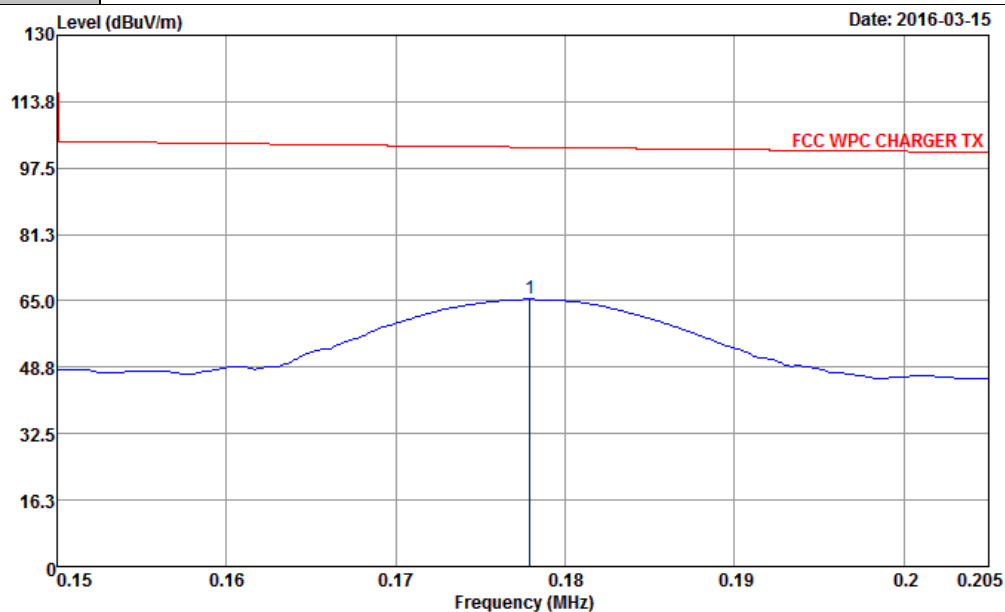
Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		



Site : 03CH07-HY
 Condition : FCC WPC CHARGER TX 3m LOOP_ANT(H) HORIZONTAL
 : RBW:10.000KHz VBW:30.000KHz SWT:Auto
 Project : 622001

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg
1	0.18	73.53	-29.07	102.60	52.92	19.93	0.68	100	33 QP

Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Vertical
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		

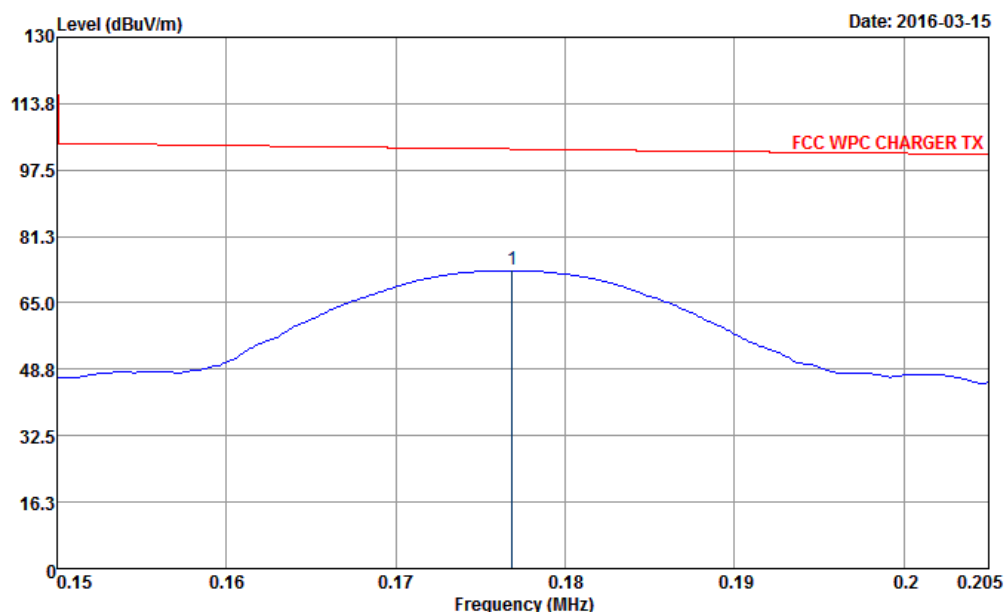


Site : 03CH07-HY
 Condition : FCC WPC CHARGER TX 3m LOOP_ANT(V) VERTICAL
 : RBW:10.000KHz VBW:30.000KHz SWT:Auto
 Project : 622001

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level Factor	Cable Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg
1	0.18	65.55	-37.05	102.60	44.94	19.93	0.68	100	212 QP

<Battery at 50% Charge>

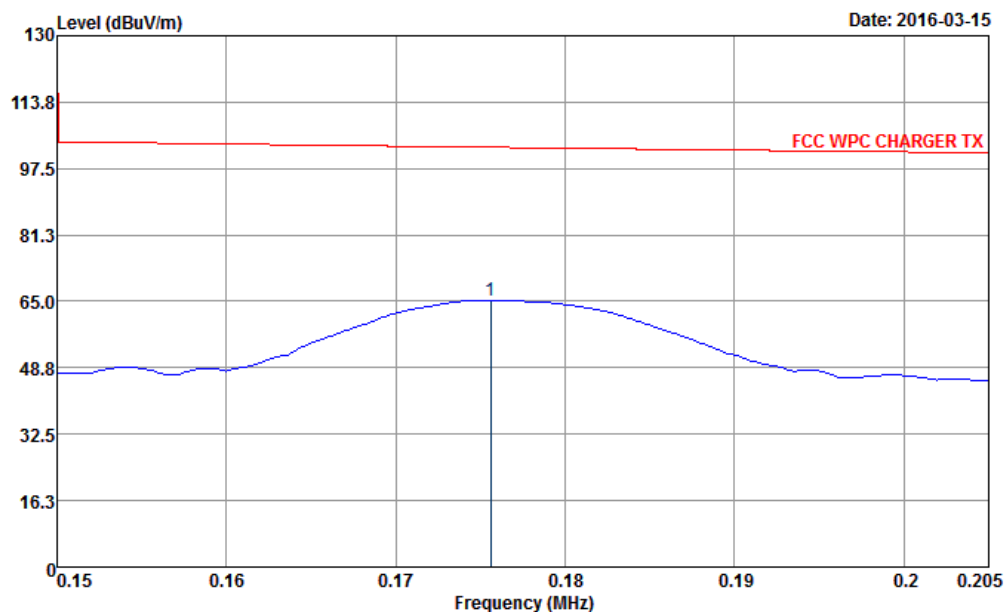
Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		



Site : 03CH07-HY
 Condition : FCC WPC CHARGER TX 3m LOOP_ANT(H) HORIZONTAL
 : RBW:10.000KHz VBW:30.000KHz SWT:Auto
 Project : 622001

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Cable Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	0.18	73.22	-29.43	102.65	52.61	19.93	0.68	100	212	QP

Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Vertical
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		

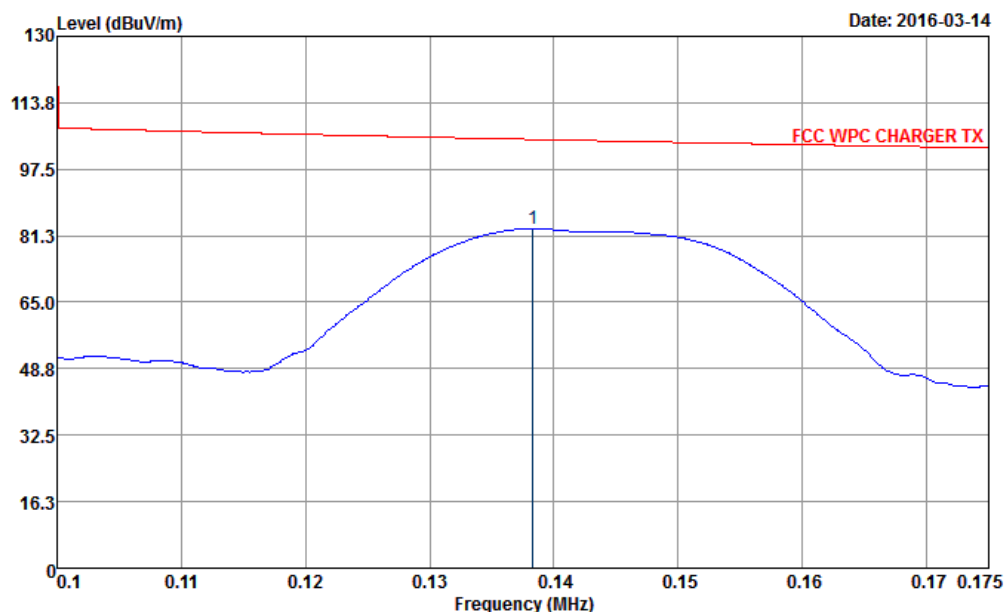


Site : 03CH07-HY
 Condition : FCC WPC CHARGER TX 3m LOOP_ANT(V) VERTICAL
 : RBW:10.000KHz VBW:30.000KHz SWT:Auto
 Project : 622001

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level Factor	Cable Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg
1	0.18	65.28	-37.43	102.71	44.67	19.93	0.68	100	33 QP

<Battery Near 100% Charge>

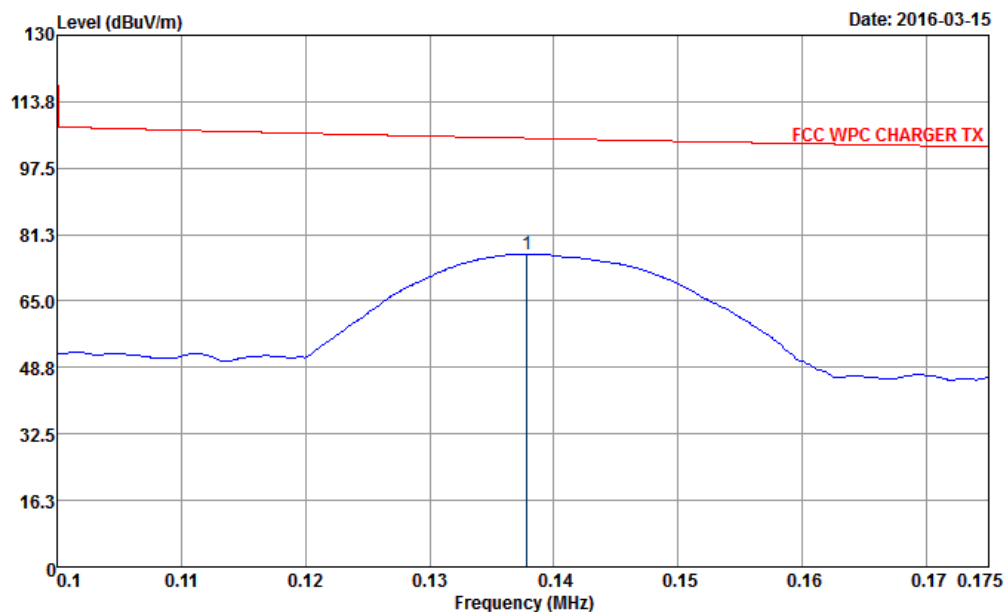
Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		



Site : 03CH07-HY
 Condition : FCC WPC CHARGER TX 3m LOOP_ANT(H) HORIZONTAL
 : RBW:10.000KHz VBW:30.000KHz SWT:Auto
 Project : 622001

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	0.14	82.98	-21.81	104.79	62.33	19.97	0.68	100	21	QP

Test Mode :	Mode 2	Temperature :	19~22°C
Test Engineer :	James Chiu	Relative Humidity :	54~58%
Test Distance :	3m	Polarization :	Vertical
Function Type :	WPC Tx + Receiver Card connect to Mobile Phone + EUT connect to POGO PIN Cover (Charging from DC 4.2V)		



Site : 03CH07-HY
 Condition : FCC WPC CHARGER TX 3m LOOP_ANT(V) VERTICAL
 : RBW:10.000KHz VBW:30.000KHz SWT:Auto
 Project : 622001

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg
1	0.14	76.58	-28.24	104.82	55.93	19.97	0.68	100	121 QP

4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP30	101329	9kHz~30GHz	Jun. 24, 2015	Mar. 15, 2016	Jun. 23, 2016	Conducted (TH03-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Mar. 14, 2016 ~ Mar. 15, 2016	Sep. 01, 2016	Radiation (03CH07-HY)
Bilog Antenna	TESEQ	CBL 6111D	35419	30MHz to 1GHz	Jan. 13, 2016	Mar. 14, 2016 ~ Mar. 15, 2016	Jan. 12, 2017	Radiation (03CH07-HY)
Amplifier	Sonoma-Instrument	310 N	187282	10MHz~1GHz	Dec. 31, 2015	Mar. 14, 2016 ~ Mar. 15, 2016	Dec. 30, 2016	Radiation (03CH07-HY)
EMI Test Receiver	Keysight	N9038A (MXE)	MY54130085	20Hz ~ 8.4GHz	Nov. 04, 2015	Mar. 14, 2016 ~ Mar. 15, 2016	Nov. 03, 2016	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Feb. 27, 2016	Mar. 14, 2016 ~ Mar. 15, 2016	Feb. 26, 2017	Radiation (03CH07-HY)
Controller	ChainTek	Chaintek 3000	N/A	Control Turn table	N/A	Mar. 14, 2016 ~ Mar. 15, 2016	N/A	Radiation (03CH07-HY)
Controller	Max-Full	MF7802	MF780208368	Control Ant Mast	N/A	Mar. 14, 2016 ~ Mar. 15, 2016	N/A	Radiation (03CH07-HY)
Antenna Mast	Max-Full	MFA520BS	N/A	1m~4m	N/A	Mar. 14, 2016 ~ Mar. 15, 2016	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Mar. 14, 2016 ~ Mar. 15, 2016	N/A	Radiation (03CH07-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Mar. 12, 2016 ~ Apr. 02, 2016	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 26, 2015	Mar. 12, 2016 ~ Apr. 02, 2016	Aug. 25, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2015	Mar. 12, 2016 ~ Apr. 02, 2016	Dec. 01, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 14, 2015	Mar. 12, 2016 ~ Apr. 02, 2016	Dec. 13, 2016	Conduction (CO05-HY)

5. Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.26
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	5.6
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