ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT

OF

CCA ELECTRONIC FACTORY

Wireless Charger

MODEL No.: QI-1206A

FCC ID: SYMQI-1206A

Trademark: CCA

REPORT NO: ES130201002E

ISSUE DATE: March 12, 2013

Prepared for

CCA ELECTRONIC FACTORY
Building 82-83th,Pinghuan Industrial City, PingShan Town, LongGang District, ShenZhen City, China.

Prepared by
SHENZHEN EMTEK CO., LTD.

Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China
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VERIFICATION OF COMPLIANCE

Applicant:	CCA ELECTRONIC FACTORY Building 82-83th,Pinghuan Industrial City, PingShan Town, LongGang District, ShenZhen City, China.
Manufacturer:	CCA ELECTRONIC FACTORY Building 82-83th,Pinghuan Industrial City, PingShan Town, LongGang District, ShenZhen City, China.
Product Description:	Wireless Charger
Model Number:	QI-1206A
Trademark:	CCA
File Number:	ES130201002E
Date of Test:	February 25, 3013 to March 08, 2013

We hereby certify that:

The above equipment was tested by SHENZHEN EMTEK CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2009) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15C.

The test results of this report relate only to the tested sample identified in this report.

Date of Test : June 16, 2012 to October 18, 2012

Prepared by : Aaron Lai/Editor

Reviewer : King Wang/Supervisor

SHENZHEN EMTEK CO., LTD. TESTING

Approve & Authorized Signer : Lisa Wang/Manager

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1 General Information

1.1 Product Description

A major technical descriptions of EUT is described as following:

Product	QI WIRELESS CHARGER
Model Number	QI-1206A
Power Supply	M/N:YLS0301E-X180100 Input: 100-240V~, 60/50Hz, 0.8A Output: 18V⎓, 1A
Receiver Frequency	110-205KHz
Modulation Technique	Induction
Antenna Type	Induction coil

1.2 Related Submittal(s) / Grant(s)

This submittal(s) (test report) is intended for FCC ID: SYMQI-1206A filing to comply with the FCC Part 15, Subpart C Rules.

1.3 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2009). Radiated testing was performed at an antenna to EUT distance 3 meters.

1.4 Special Accessories

Not available for this EUT intended for grant.

1.5 Equipment Modifications

Not available for this EUT intended for grant.

1.6 Test Facility

Site Description

EMC Lab. : Accredited by CNAS, 2010.10.29
The certificate is valid until 2013.10.28
The Laboratory has been assessed and proved to be in compliance with CNAS/CL01: 2006(identical to ISO/IEC17025: 2005)
The Certificate Registration Number is L2291

Accredited by TUV Rheinland Shenzhen 2010.5.25
The Laboratory has been assessed according to the requirements ISO/IEC 17025

Accredited by FCC, October 28, 2010
The Certificate Registration Number is 406365.

Accredited by Industry Canada, March 05, 2010
The Certificate Registration Number is 46405-4480.

Name of Firm : SHENZHEN EMTEK CO., LTD.

Site Location : Bldg 69, Majialong Industry Zone,
Nanshan District, Shenzhen, Guangdong, China

2 System Test Configuration

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

2.3 Test Procedure

2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4-2009 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

2.3.2 Radiated Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4-2009.

2.4 Configuration of Tested System

Fig. 2-1 Configuration of Tested System

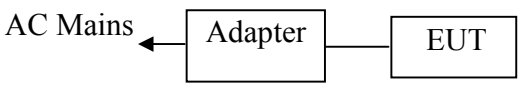


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
1.	Wireless Charger	CCA ELECTRONIC FACTORY	QI-1206A	SYM QI-1206A	N/A	EUT

Note:

(1) Unless otherwise denoted as EUT in『Remark』column, device(s) used in tested system is a support equipment.

3 Summary of Test Results

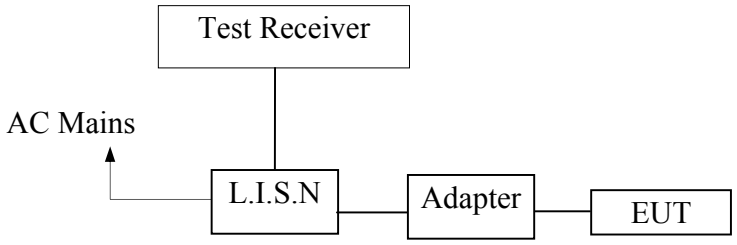
FCC Rules	Description Of Test	Result
§15.207	AC Power Conducted Emission	Compliant
§15.209	Radiated Emission	Compliant

4 Conducted Emissions Test

4.1 Measurement Procedure

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured was complete.

4.2 Test SET-UP (Block Diagram of Configuration)



4.3 Measurement Equipment Used

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Test Receiver	Rohde & Schwarz	ESCS30	828985/018	05/29/2012	05/28/2013
L.I.S.N.	Schwarzbeck	NNLK8129	8129203	05/29/2012	05/28/2013
50Ω Coaxial Switch	Anritsu	MP59B	M20531	N/A	N/A
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	05/29/2012	05/28/2013
Voltage Probe	Rohde & Schwarz	TK9416	N/A	05/29/2012	05/28/2013
I.S.N	Rohde & Schwarz	ENY22	1109.9508.02	05/29/2012	05/28/2013

4.4 Conducted Emission Limit

Conducted Emission

Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

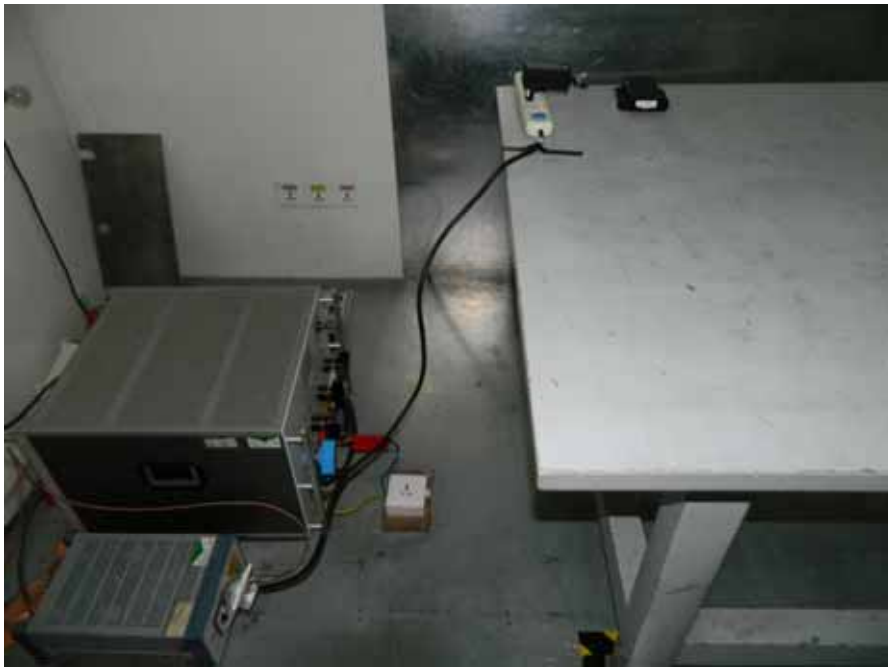
Note: 1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.5 Measurement Result

Date of Test:	March 02, 2013	Temperature:	22℃
Frequency Detector:	0.15~30MHz	Humidity:	50%
Test Result:	PASS	Test Mode:	TX Mode

Test Line	Frequency MHz	Emission Level QP dB(μV)	Emission Level AV dB(μV)	Limits QP dB(μV)	Limits AV dB(μV)	Over QP dB(μV)	Over AV dB(μV)
Line	0.1600	46.48	33.54	64.49	54.49	-18.01	-20.95
	0.1800	44.12	33.87	62.82	52.82	-18.7	-18.95
	0.2200	42.98	34.36	62.10	52.10	-19.12	-17.74
	0.2400	44.12	33.87	62.82	52.82	-18.7	-18.95
	0.4600	37.47	34.69	56.69	46.69	-19.22	-12
	17.1250	37.1	31.08	60.00	50.00	-22.9	-18.92
Neutral	0.1600	44.12	33.87	62.82	52.82	-18.7	-18.95
	0.1800	42.98	34.36	62.10	52.10	-19.12	-17.74
	0.2200	44.12	33.87	62.82	52.82	-18.7	-18.95
	0.2400	37.47	34.69	56.69	46.69	-19.22	-12
	0.4600	37.1	31.08	60.00	50.00	-22.9	-18.92
	17.1250	46.48	33.54	64.49	54.49	-18.01	-20.95

4.6 Conducted Measurement Photo



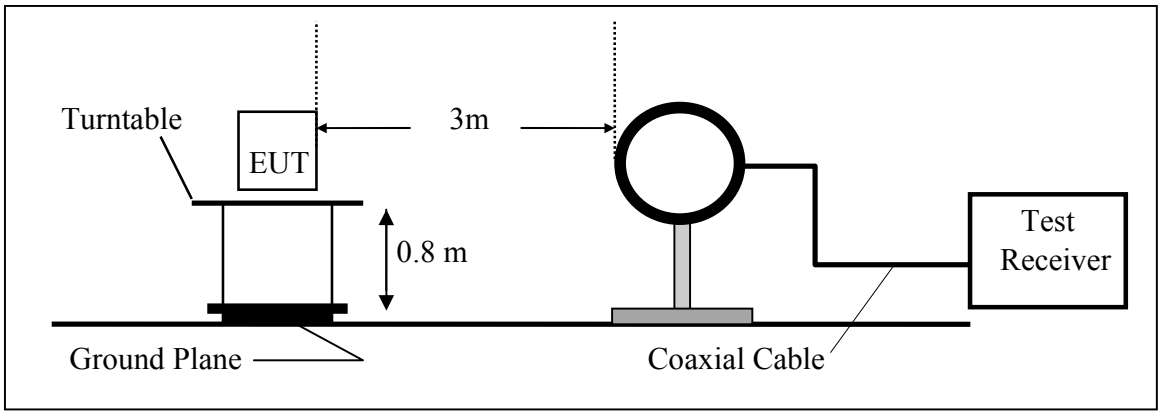
5 Radiated Emission Test

5.1 Measurement Procedure

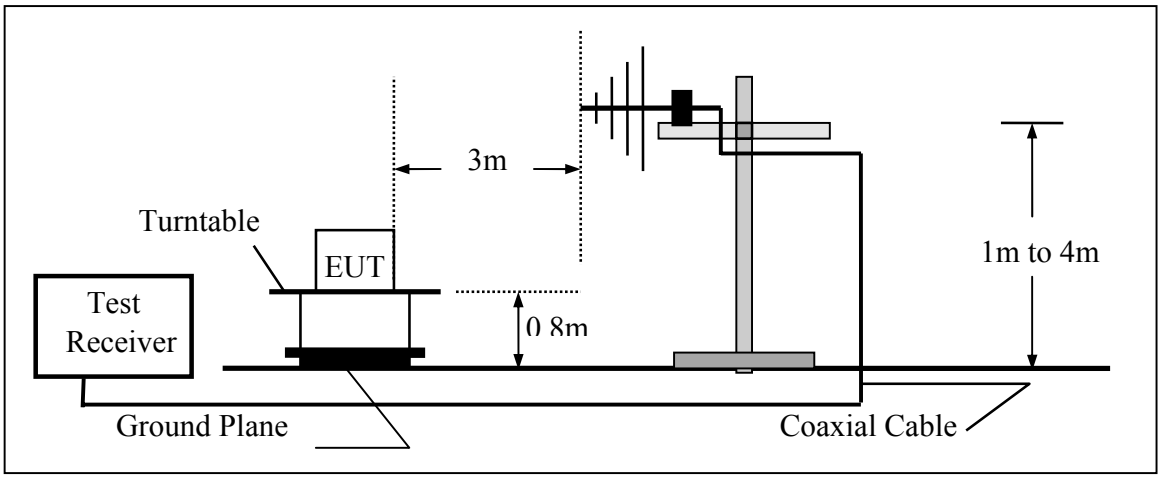
1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measured were complete.

5.2 Test SET-UP (Block Diagram of Configuration)

(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



5.3 Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMI Test Receiver	Rohde & Schwarz	ESU	1302.6005.26	May 29, 2012	05/28/2013
Pre-Amplifier	HP	8447D	2944A07999	May 29, 2012	05/28/2013
Bilog Antenna	Schwarzbeck	VULB9163	142	May 29, 2012	05/28/2013
Loop Antenna	ARA	PLA-1030/B	1029	May 29, 2012	05/28/2013
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170399	May 29, 2012	05/28/2013
Horn Antenna	Schwarzbeck	BBHA 9120	D143	May 29, 2012	05/28/2013
Cable	Schwarzbeck	AK9513	ACRX1	May 29, 2012	05/28/2013
Cable	Rosenberger	N/A	FP2RX2	May 29, 2012	05/28/2013
Cable	Schwarzbeck	AK9513	CRPX1	May 29, 2012	05/28/2013
Cable	Schwarzbeck	AK9513	CRRX2	May 29, 2012	05/28/2013

5.4 Radiated Emission Limit

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table 15.209(a):

FCC Part 15.209				
Frequency (MHz)	Field Strength Limitation		Field Strength Limitation Frequency tion at 3m Measurement Dist	
	(uV/m)	Dist	(uV/m)	(dBuV/m)
0.009 – 0.490	2400 / F(KHz)	300m	10000 * 2400/F(KHz)	20log 2400/F(KHz) + 80
0.490 – 1.705	24000 / F(KHz)	30m	100 * 24000/F(KHz)	20log 24000/F(KHz) + 40
1.705 – 30.00	30	30m	100* 30	20log 30 + 40
30.0 – 88.0	100	3m	100	20log 100
88.0 – 216.0	150	3m	150	20log 150
216.0 – 960.0	200	3m	200	20log 200
Above 960.0	500	3m	500	20log 500

15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])

Remark: 1. Emission level in dBuV/m=20 log (uV/m)
2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
3. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of ξ 15.205, and the emissions located in restricted bands also comply with 15.209 limit.

5.5 Measurement Result

Low frequency:

Operation Mode:	110.91KHz	Test Date :	March 02, 2013
Frequency Range:	9KHz~30MHz	Temperature :	28℃
Test Result:	PASS	Humidity :	65 %
Measured Distance:	3m	Test By:	WOLF

Freq. (MHz)	Ant.Pol.	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)	Note
0.110	X	40.13	107.78	-67.65	PK
0.149	X	69.37	104.14	-34.77	PK

Mid frequency:

Operation Mode:	162.80KHz	Test Date :	March 02, 2013
Frequency Range:	9KHz~30MHz	Temperature :	28℃
Test Result:	PASS	Humidity :	65 %
Measured Distance:	3m	Test By:	WOLF

Freq. (MHz)	Ant.Pol.	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)	Note
0.107	X	43.89	107.01	-63.12	PK
0.162	X	67.86	103.41	-35.55	PK

High frequency:

Operation Mode:	204.2KHz	Test Date :	March 02, 2013
Frequency Range:	9KHz~30MHz	Temperature :	28℃
Test Result:	PASS	Humidity :	65 %
Measured Distance:	3m	Test By:	WOLF

Freq. (MHz)	Ant.Pol.	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)	Note
0.204	X	62.86	101.41	-38.55	PK
0.424	X	45.42	95.05	-49.63	PK

Note:
Below 30MHz, Pre-test the X, Y, Z axis to find X axis is worst case, so only record X axis test data.
X: Field strength which this device generates since the position of the charging coil and loop antenna differ by 0 degrees.
Y: Field strength which this device generates since the position of the charging coil and loop antenna differ by 90 degrees.
Z: Field strength which this device generates since the position of the charging coil and loop antenna differ by 180 degrees.

Low frequency:

Operation Mode:	110.91KHz	Test Date :	March 02, 2013
Frequency Range:	30~1000MHz	Temperature :	28℃
Test Result:	PASS	Humidity :	65 %
Measured Distance:	3m	Test By:	WOLF

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)	Note
40.55	V	32.54	40.00	-7.46	PK
63.22	V	25.64	40.00	-14.36	PK
87.66	V	30.58	40.00	-9.42	PK
137.80	V	35.74	43.50	-7.76	PK
214.00	V	33.52	43.50	-9.98	PK
40.23	H	31.38	40.0	-8.62	PK
101.44	H	26.18	43.50	-17.32	PK
139.65	H	28.10	43.50	-15.4	PK
214.00	H	35.08	43.50	-8.42	PK
280.19	H	32.20	46.00	-13.8	PK

Note: (1) All Readings are Peak Value.
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) The average measurement was not performed when the peak measured data under the limit of average detection.
(4) EUT lying on the table position is the worst case result in the report.

Mid frequency:

Operation Mode:	162.80KHz	Test Date :	March 02, 2013
Frequency Range:	30~1000MHz	Temperature :	28℃
Test Result:	PASS	Humidity :	65 %
Measured Distance:	3m	Test By:	WOLF

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)	Note
41.53	V	31.76	40	-8.24	PK
64.2	V	24.86	40	-15.14	PK
88.64	V	29.8	40	-10.2	PK
138.43	V	34.96	43.5	-8.54	PK
214.63	V	32.74	43.5	-10.76	PK
41.21	H	30.6	40	-9.4	PK
102.42	H	25.4	43.5	-18.1	PK
140.63	H	27.32	43.5	-16.18	PK
214.63	H	34.3	43.5	-9.2	PK
280.82	H	31.42	46	-14.58	PK

Note: (1) All Readings are Peak Value.
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) The average measurement was not performed when the peak measured data under the limit of average detection.
(4) EUT lying on the table position is the worst case result in the report.

High frequency:

Operation Mode:	204.2KHz	Test Date :	March 02, 2013
Frequency Range:	30~1000MHz	Temperature :	28℃
Test Result:	PASS	Humidity :	65 %
Measured Distance:	3m	Test By:	WOLF

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)	Note
40.87	V	31.98	40	-8.02	PK
63.54	V	25.08	40	-14.92	PK
87.98	V	30.02	40	-9.98	PK
138.12	V	35.18	43.5	-8.32	PK
214.32	V	32.96	43.5	-10.54	PK
40.55	H	30.82	40	-9.18	PK
101.76	H	25.62	43.5	-17.88	PK
139.97	H	27.54	43.5	-15.96	PK
214.32	H	34.52	43.5	-8.98	PK
280.51	H	31.64	46	-14.36	PK

Note: (1) All Readings are Peak Value.
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) The average measurement was not performed when the peak measured data under the limit of average detection.
(4) EUT lying on the table position is the worst case result in the report.

5.6 Radiated Measurement Photos