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RF EXPOSURE REPORT

Report Reference No......: **CTL1807023021-MPE**

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Address.....: Floor 1-A, Baisha Technology Park, No. 3011, Shahehexi Road,
Nanshan, Shenzhen 518055 China.

Applicant's name.....: **Shenzhen Cheng Hui Da Electronics Co.,Ltd**

Address.....: 7th Building, Fuqiao 5th Industrial Area, Qiaotou Community,
Fuyong Town, Baoan District, Shenzhen, Guangdong, China
518103

Test specification

Standard.....: **FCC CFR 47 part1, 1.1307(b), 1.1310**

TRF Originator.....: Shenzhen CTL Testing Technology Co., Ltd.

Master TRF.....: Dated 2011-01

Test item description

FCC ID.....: 2APIQ-AP03

Trade Mark

Model/Type reference.....: AP03

Transmit Frequency.....: 115~205KHz

Antenna type

Date of Receipt.....: July 05, 2018

Date of Test Date

Date of Issue

Result.....: **Pass**

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TEST REPORT

Test Report No. : CTL1807023021-MPE	July 17, 2018
	Date of issue

Equipment under Test : Apple Watch Charger+Wireless Charger+Power Bank

Type / Model(s) : AP03

Applicant : **Shenzhen Cheng Hui Da Electronics Co.,Ltd**

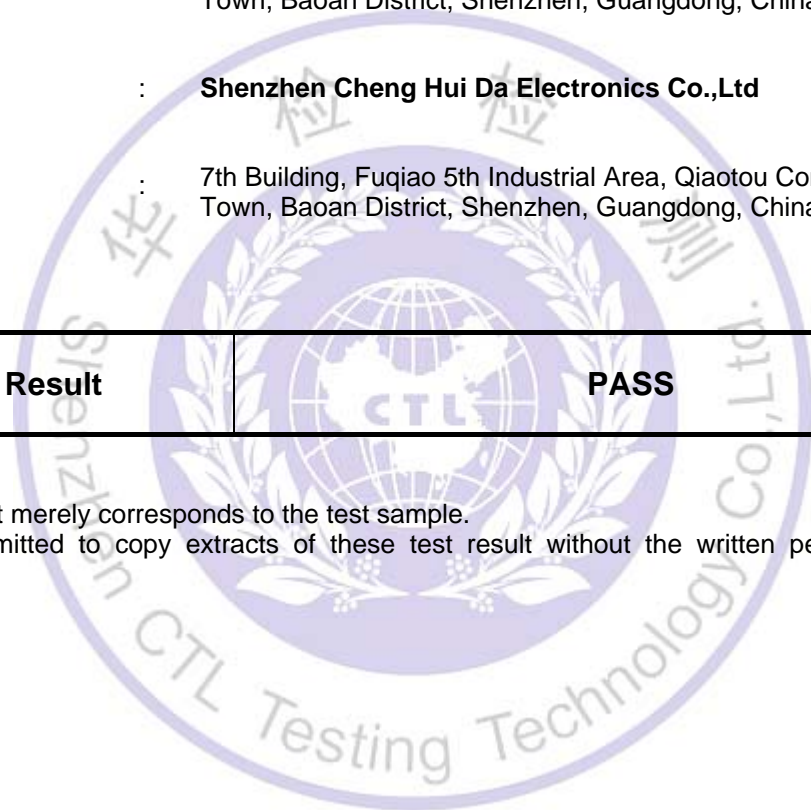
Address : 7th Building, Fuqiao 5th Industrial Area, Qiaotou Community, Fuyong Town, Baoan District, Shenzhen, Guangdong, China 518103

Manufacturer : **Shenzhen Cheng Hui Da Electronics Co.,Ltd**

Address : 7th Building, Fuqiao 5th Industrial Area, Qiaotou Community, Fuyong Town, Baoan District, Shenzhen, Guangdong, China 518103

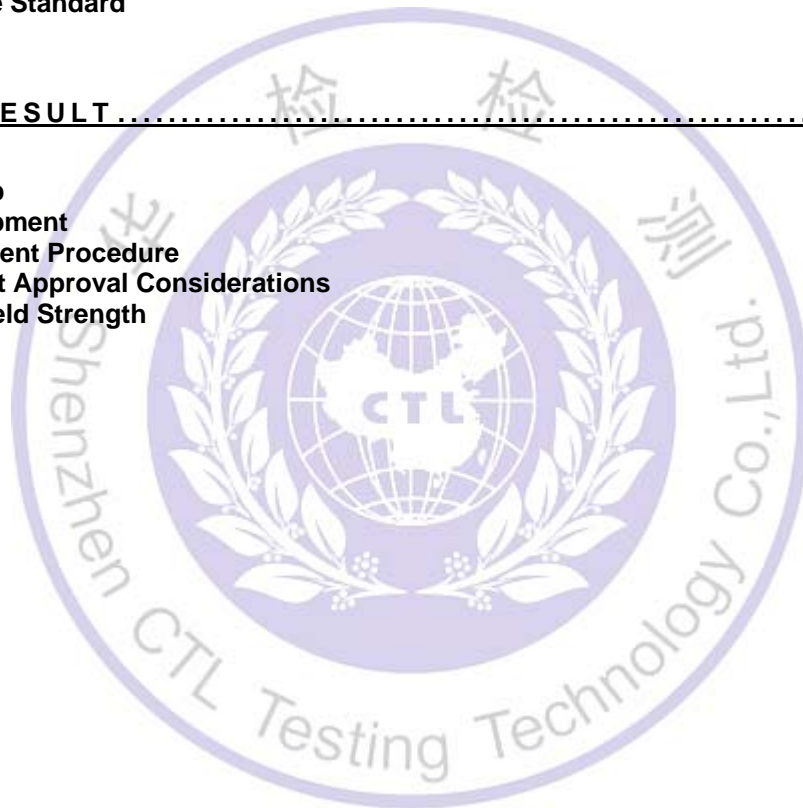
Test Result	PASS
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.



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1. SUMMARY

1.1. EUT configuration

Kind of Product	Apple Watch Charger+Wireless Charger+Power Bank
Model Name	AP03
Frequency Range	115-205KHz
Antenna Type	Inductive loop coil antenna
FCC ID	2APIQ-AP03

2. TEST ENVIRONMENT

2.1. Address of the test laboratory

Shenzhen CTL Testing Technology Co., Ltd.

Floor 1-A, Baisha Technology Park, No.3011, Shahexi Road, Nanshan District, Shenzhen, China 518055

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 (2013) and CISPR Publication 22.

2.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

IC Registration No.: 9618B

The 3m alternate test site of Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration No.: 9618B on November 13, 2013.

FCC-Registration No.: 399832

Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 399832, December 08, 2017.

2.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature: 15-35 ° C

Humidity: 30-60 %

Atmospheric pressure: 950-1050mbar

2.4. Statement of the measurement uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-5}$
total RF power, conducted	$\pm 1,5$ dB
RF power density, conducted	± 3 dB
spurious emissions, conducted	± 3 dB
all emissions, radiated	± 6 dB
temperature	$\pm 1^{\circ}\text{C}$
humidity	± 5 %
DC and low frequency voltages	± 3 %

3. Method of measurement

3.1. Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

According KDB 680106 D01 RF Exposure Wireless Charging App v03.

3.2. Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	6
3.0 – 30	1842/f	4.89/f	(900/f)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	/	/	f/300	6
1500 – 100,000	/	/	5	6

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

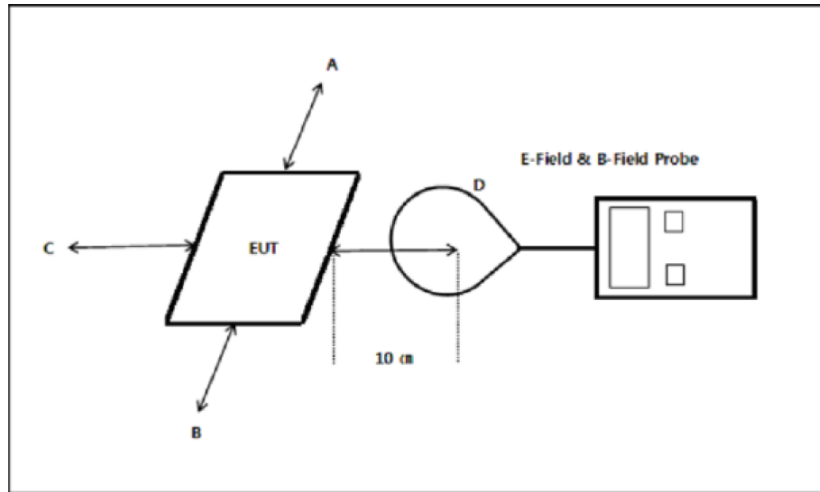
Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	30
3.0 – 30	824/f	2.19/f	(180/f)*	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	/	/	f/1500	30
1500 – 100,000	/	/	1.0	30

F=frequency in MHz

*=Plane-wave equivalent power density

4. Test Result

4.1. Test Setup



Note: A, B, C, D, E for six surfaces of the product.

4.2. Test Equipment

Equipment	Manufacturer	Model	Serial no.	Calibrated date	Calibrated until
E-Field Probe	HOLADAY	HI3637	00052130	2018.5.20	2019.5.19
H-Field Probe	HOLADAY	HI3637	00052130	2018.5.20	2019.5.19

4.3. Measurement Procedure

- The RF exposure test was performed on 360 degree turn table in anechoic chamber.
- The measurement probe was placed at test distance (10cm) which is between the edge of the charger and the geometric centre of probe.
- The turn table was rotated 360d degree to search of highest strength.
- The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
- The EUT were measured according to the dictates of KDB 680106 D01 RF Exposure Wireless Charging App v03.

4.4. Equipment Approval Considerations

The EUT does comply with KDB 680106 D01 RF Exposure Wireless Charging App v03.

- Power transfer frequency is less than 1 MHz..
- Output power from each primary coil is less than or equal to 15 watts.
- The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.
- Client device is placed directly in contact with the transmitter.
- Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
- The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

Remark: Meet all the above requirements.

4.5. E and H field Strength

Test mode for wireless charger: Normal Operation (Charging mode)

E-Filed Strength at 15 cm from the edges surrounding the EUT

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Limits (V/m)
0.1352	1.49	1.32	1.27	1.33	614.0

E-Filed Strength at 20 cm from the top of the EUT (V/m)

Frequency Range (MHz)	Test Position E	Limits (V/m)
0.1352	1.13	614.0

H-Filed Strength at 15 cm from the edges surrounding the EUT

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Limits (A/m)
0.1352	0.393	0.362	0.377	0.381	1.63

H-Filed Strength at 20 cm from the top of the EUT (V/m)

Frequency Range (MHz)	Test Position E	Limits (A/m)
0.1352	0.317	1.63

Test mode for wireless charger: Normal Operation (No load mode)

E-Filed Strength at 15 cm from the edges surrounding the EUT

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Limits (V/m)
0.1352	0.14	0.22	0.25	0.19	614.0

E-Filed Strength at 20 cm from the top of the EUT (V/m)

Frequency Range (MHz)	Test Position E	Limits (V/m)
0.1352	0.11	614.0

H-Filed Strength at 15 cm from the edges surrounding the EUT

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Limits (A/m)
0.1352	0.088	0.074	0.061	0.065	1.63

H-Filed Strength at 20 cm from the top of the EUT (V/m)

Frequency Range (MHz)	Test Position E	Limits (A/m)
0.1352	0.043	1.63

5. Test Setup Photo



.....**End of Report**.....