FCC 47 CFR PART 15 SUBPART B

TEST REPORT

HONGKONG CHUANGYU TECHNOLOGY LIMITED

CAR CHARGER

Test Model: CHY-CC-U2CQ3C

Additional Model No.: CHY-CC-U2CQ3M, CHY-CC-U2CQ3C

Prepared for	:	HONGKONG CHUANGYU TECHNOLOGY LIMITED
Address	:	ROOM 603F, 6/F, HANG PONT COMMERCILAL BUILDING, 31 TONKIN STREET,CHEUNG SHA WAN, KOWLOON, HONG KONG, CHINA
Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	:	1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
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Web	:	www.LCS-cert.com
Mail	:	webmaster@LCS-cert.com
Date of receipt of test sample	:	October 31, 2018
Number of tested samples	:	1
Serial number	:	Prototype
Date of Test	:	October 31, 2018 ~ December 04, 2018
Date of Report	:	December 04, 2018

FCC TEST REPORT
FCC 47 CFR PART 15 SUBPART B

Report Reference No. ..... :		**LCS181031114AE**
Date Of Issue.....	:	December 04, 2018
Testing Laboratory Name ..... :		**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address.....	:	1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
Testing Location/ Procedure	:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name ..... :		**HONGKONG CHUANGYU TECHNOLOGY LIMITED**
Address.....	:	ROOM 603F, 6/F, HANG PONT COMMERCILAL BUILDING, 31 TONKIN STREET,CHEUNG SHA WAN, KOWLOON, HONG KONG, CHINA
Test Specification		
Standard	:	FCC 47 CFR PART 15 SUBPART B, ANSI C63.4 -2014
Test Report Form No.....	:	LCSEMC-1.0
TRF Originator.....	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF.....	:	Dated 2011-03

Test Item Description. ..... :		**CAR CHARGER**
Trade Mark	:	N/A
Test Model.....	:	CHY-CC-U2CQ3C
Ratings.....	:	Input: DC 12-24V Output: USB-A: QC3.0 18W(DC 5V-2.4A, 3.6-6.5V/3A, 6.5-9V/2A, 9-12V/1.5A) USB-C: USB 18W(DC 5V/2.1A, 9V/2A, 12V/1.5A)
Result ..... :		**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
Dick Su	Calvin Weng	Gavin Liang
Dick Su / File administrators	Calvin Weng / Technique principal	Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No. :	**LCS181031114AE**	December 04, 2018 Date of issue

Test Model.....	:	CHY-CC-U2CQ3C
EUT.....	:	CAR CHARGER
Applicant.....	**:**	**HONGKONG CHUANGYU TECHNOLOGY LIMITED**
Address.....	:	ROOM 603F, 6/F, HANG PONT COMMERCILAL BUILDING, 31 TONKIN STREET,CHEUNG SHA WAN, KOWLOON, HONG KONG, CHINA
Telephone.....	:	/
Fax.....	:	/
Manufacturer.....	**:**	**Shenzhen Huakexun Electronics Co., Ltd.**
Address.....	:	4 F, 6 buildings, B District, Hang Lung Industrial Park, paddy field fourth industrial area, Shiyan Town, Baoan District, Shenzhen City, Guangdong Province, China
Telephone.....	:	/
Fax.....	:	/
Factory.....	**:**	**Shenzhen Huakexun Electronics Co., Ltd.**
Address.....	:	4 F, 6 buildings, B District, Hang Lung Industrial Park, paddy field fourth industrial area, Shiyan Town, Baoan District, Shenzhen City, Guangdong Province, China
Telephone.....	:	/
Fax.....	:	/

Test Result	**Positive**

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.

Revision History

Revision	Issue Date	Revisions	Revised By
000	December 04, 2018	Initial Issue	Gavin Liang

TABLE OF CONTENTS

1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Device (EUT)

The EUT have been tested according to the applicable standards as referenced below.

EMISSION			
Description of Test Item	**Standard**	**Limits**	**Results**
Conducted disturbance at mains terminals	FCC 47 CFR PART 15 SUBPART B, ANSI C63.4 -2014	Class B	PASS
Radiated disturbance	FCC 47 CFR PART 15 SUBPART B, ANSI C63.4 -2014	Class B	PASS
N/A is an abbreviation for Not Applicable.			

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT	:	CAR CHARGER
Trade Mark	:	N/A
Test Model	:	CHY-CC-U2CQ3C
Model List No.	:	CHY-CC-U2CQ3M, CHY-CC-U2CQ3C
Model Declaration	:	PCB board, structure and internal of these model(s) are the same, So no additional models were tested.
Power Supply	:	Input: DC 12-24V Output: USB-A: QC3.0 18W (DC 5V-2.4A, 3.6-6.5V/3A, 6.5-9V/2A, 9-12V/1.5A) USB-C: USB 18W (DC 5V/2.1A, 9V/2A, 12V/1.5A)
EUT Clock Frequency	:	≤108MHz

2.2. Support equipment List

Name	Manufacturers	M/N	S/N
Load	-	-	-

2.3. Description of Test Facility

FCC Registration Number. is 254912.
Industry Canada Registration Number. is 9642A-1.
ESMD Registration Number. is ARCB0108.
UL Registration Number. is 100571-492.
TUV SUD Registration Number. is SCN1081.
TUV RH Registration Number. is UA 50296516-001
NVLAP Registration Code is 600167-0

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.4:2014 and CISPR 16-1-4:2010 SVSWR requirement for radiated emission above 1GHz.

2.4. Statement of the Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

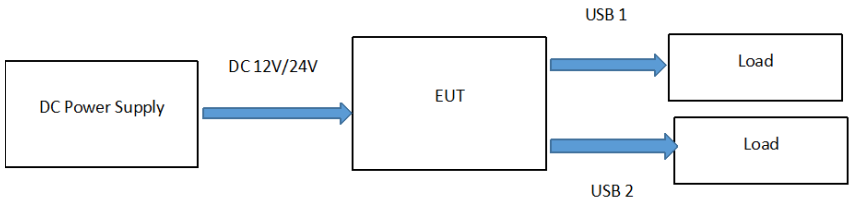
2.5. Measurement Uncertainty

Test	Parameters	Expanded uncertainty (U_{lab})	Expanded uncertainty (U_{cispr})
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 2.63 dB ± 2.35 dB	± 4.0 dB ± 3.6 dB
Radiated Emission	Level accuracy (9kHz to 30MHz)	± 3.68 dB	± 2.63 dB
Radiated Emission	Level accuracy (30MHz to 1000MHz)	± 3.48 dB	± 2.63 dB
Radiated Emission	Level accuracy (above 1000MHz)	± 3.90 dB	N/A

(1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.

(2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

2.6. Block Diagram of Test Setup



3. POWER LINE CONDUCTED EMISSION MEASUREMENT (NOT APPLICANLE)

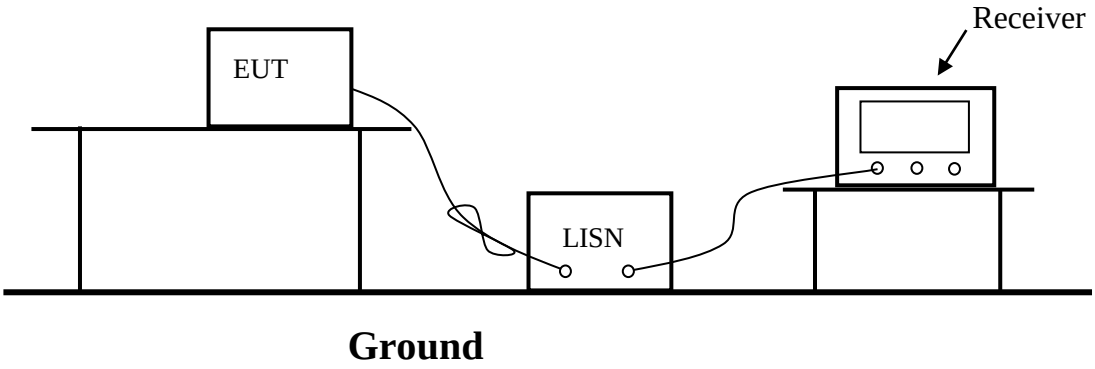
3.1. Test Equipment

The following test equipment's are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESR 7	101181	2018-06-18
2	10dB Attenuator	SCHWARZBECK	MTS-IMP136	261115-001-0032	2018-06-18
3	Artificial Mains	ROHDE & SCHWARZ	ENV216	101288	2018-06-18
4	EMI Test Software	AUDIX	E3	N/A	N/A
5	ISN	SCHWARZBECK	NTFM 8158	NTFM 8158 0120	2018-06-18

Remark: The Cal. Interval is one year.

3.2. Block Diagram of Test Setup



3.3.Test Standard

Power Line Conducted Emission Limits (Class B)

Frequency (MHz)			Limit (dBμV)	
			Quasi-peak Level	Average Level
0.15	~	0.50	66.0 ~ 56.0 *	56.0 ~ 46.0 *
0.50	~	5.00	56.0	46.0
5.00	~	30.00	60.0	50.0
NOTE1-The lower limit shall apply at the transition frequencies. NOTE2-The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.				

3.4. EUT Configuration on Test

The following equipment are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

3.5. Operating Condition of EUT

3.5.1. Setup the EUT as shown on Section 3.2

3.5.2. Turn on the power of all equipment.

3.5.3. Let the EUT work in measuring mode (ON) and measure it.

3.6. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC/ANSI C63.4-2014 on Conducted Emission Measurement.

The bandwidth of the test receiver is set at 9 kHz.

The frequency range from 150 kHz to 30MHz is investigated

3.7. Test Results

Not Applicable!!!

The EUT was powered by DC 12V or DC 24V.

4. RADIATED EMISSION MEASUREMENT

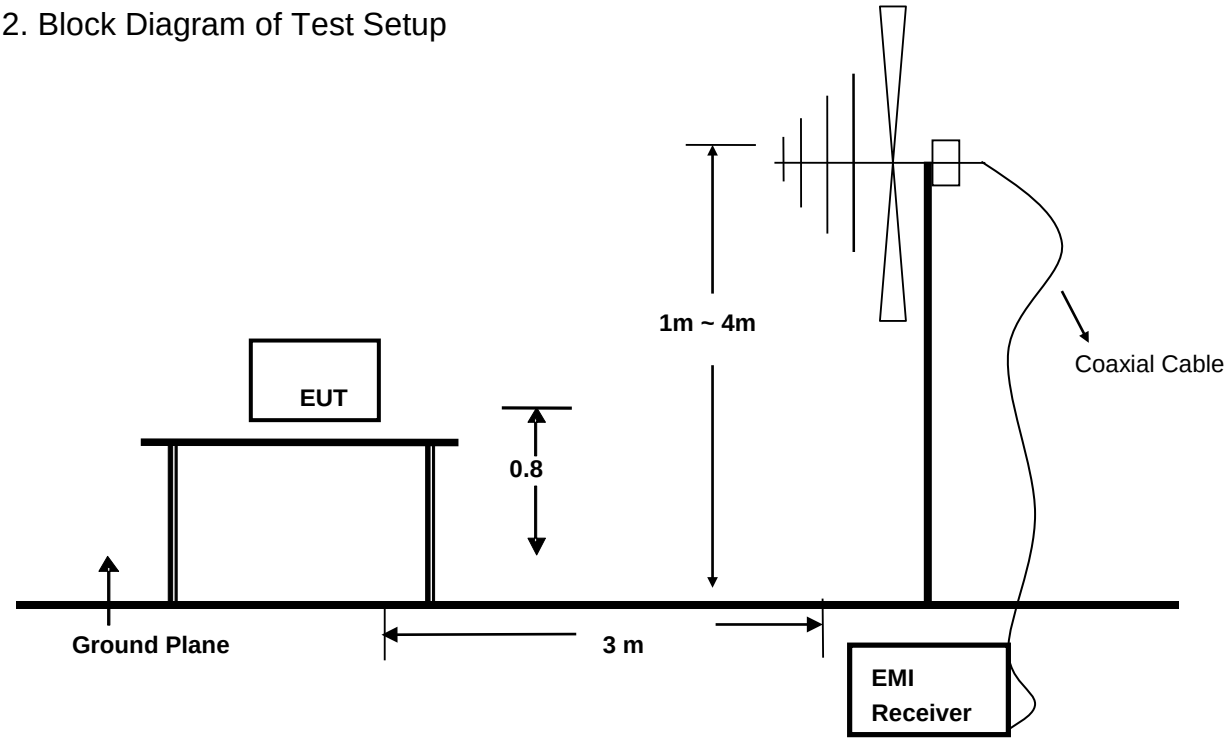
4.1. Test Equipment

The following test equipment are used during the radiated emission measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2018-06-16
2	EMI Test Receiver	ROHDE & SCHWARZ	ESR 7	101181	2018-06-16
3	By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2018-05-01
4	EMI Test Software	AUDIX	E3	N/A	N/A
5	Positioning Controller	MF	MF-7082	/	2018-06-16

The Cal. Interval is 1 year.

4.2. Block Diagram of Test Setup



4.3. Radiated Emission Limit (Class B)

Limits for radiated disturbance Blow 1GHz

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
30 ~ 88	3	100	40
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46
960 ~ 1000	3	500	54

Remark : (1) Emission level (dB)μV = 20 log Emission level μV/m

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

4.4. EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.5. Operating Condition of EUT

4.5.1. Setup the EUT as shown in Section 4.2.

4.5.2. Let the EUT work in test mode (USB) and measure it.

4.6. Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated by-log antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2009 on radiated emission measurement.

The bandwidth of the EMI test receiver is set at 120 kHz, 1000 kHz.

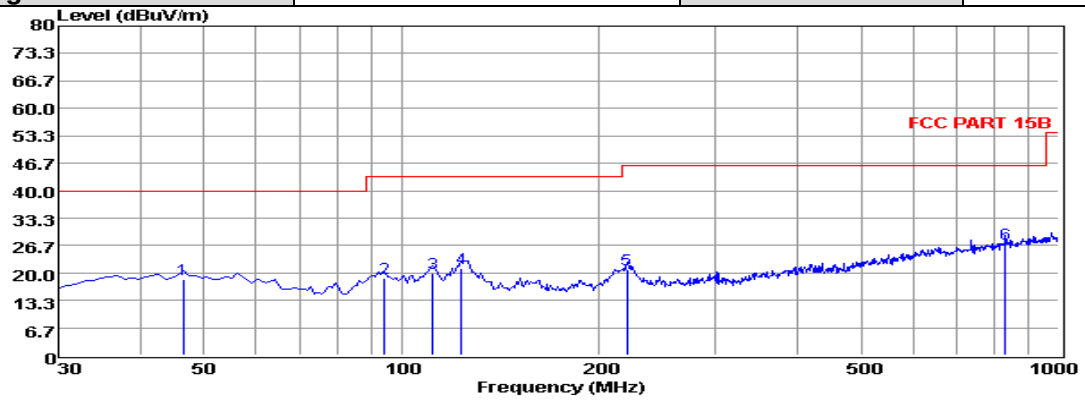
The frequency range from 30MHz to 1000MHz is checked.

4.7. Radiated Emission Noise Measurement Result

PASS.

The scanning waveforms please refer to the next page.

Test Model	CHY-CC-U2CQ3C	Test Mode	Full Load
Environmental Conditions	23.5℃, 51% RH	Detector Function	Quasi-peak
Pol	Vertical	Distance	3m
Test Engineer	Shane Wu		

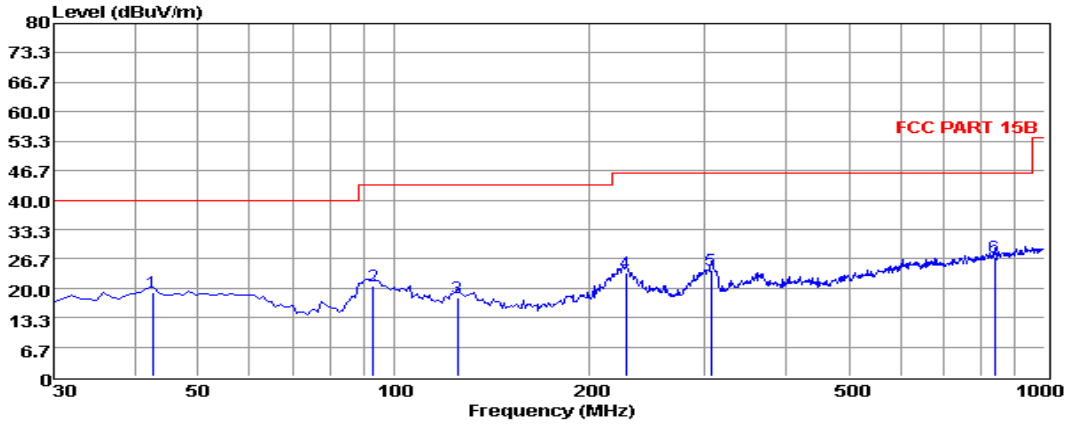


pol: VERTICAL

	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	46.49	4.64	0.35	13.46	18.45	40.00	-21.55	QP
2	94.02	5.37	0.58	12.66	18.61	43.50	-24.89	QP
3	111.48	7.22	0.61	11.99	19.82	43.50	-23.68	QP
4	123.12	10.35	0.70	10.00	21.05	43.50	-22.45	QP
5	220.12	8.55	0.95	11.21	20.71	46.00	-25.29	QP
6	829.28	4.97	1.67	20.36	27.00	46.00	-19.00	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that ate 20db blow the offficial limit are not reported

Test Model	CHY-CC-U2CQ3C	Test Mode	Full Load
Environmental Conditions	23.5℃, 51% RH	Detector Function	Quasi-peak
Pol	Horizontal	Distance	3m
Test Engineer	Shane Wu		



pol: HORIZONTAL

	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	42.61	5.07	0.50	13.56	19.13	40.00	-20.87	QP
2	93.05	7.36	0.56	12.47	20.39	43.50	-23.11	QP
3	125.06	7.47	0.71	9.70	17.88	43.50	-25.62	QP
4	226.91	11.00	0.89	11.51	23.40	46.00	-22.60	QP
5	307.42	9.85	1.05	13.16	24.06	46.00	-21.94	QP
6	838.01	4.90	1.70	20.45	27.05	46.00	-18.95	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that ate 20db blow the offficial limit are not reported

Note: Pre-Scan all mode, Thus record worse case mode result in this report.

5. TEST SETUP PHOTOGRAPHS OF EUT

Please refer to separated files for Test Setup Photos of the EUT.

6. EXTERIOR PHOTOGRAPHS OF EUT

Please refer to separated files for External Photos of the EUT.

7. INTERIOR PHOTOGRAPHS OF EUT

Please refer to separated files for Internal Photos of the EUT.

----------THE END OF TEST REPORT----------