

FCC TEST REPORT



Report No NSL-010916010203-R

Applicant Wuxi Sans Electronic Co.,Ltd
Industrial Wuyi,DongGang Town,Wuxi City,Jiangsu Province,China

Product Li-ion Battery Charger
SSLC300V72-UL

Specification 47 CFR Part 15, Subpart B: 2016

Results Complies with the requirements of the above specification

Authorized by

Handwritten signature of Andy Lu in black ink.

Andy Lu



(Laboratory Director)

Issue Date 01 September, 2016

Laboratory

SUZHOU NEW-STANDARD LABORATORY CO LTD

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All applicable tests according to the above specified standard, See clauses tested of the test report. Test results are valid only for the tested samples. This report shall not be reproduced, except in full, without the written approval of the NEW-STANDARD laboratory.

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Report No.: NSL-020916010203-R

TEST REPORT

FCC Part 15

Report:

Report No. : NSL-010916010203-R

 Tested by
 (Printed name and signature) : Jack Liu
 

 Approved by
 (Printed name and signature) : Andy Lu
 

Date of issue : 01 September, 2016

Total number of pages : 19

Client:

Applicant name : Wuxi Sans Electronic Co.,Ltd

Address : Industrial WuYi,DongGang Town,Wuxi City,Jiangsu Province,China

Manufacturer name : Same as applicant

Address : -

Factory name : Same as applicant

Address : --

Testing Laboratory:

Name : SUZHOU NEW-STANDARD LABORATORY CO LTD

Address : NO. 199, JINFENG ROAD, SUZHOU, 215011 P. R. CHINA

Testing location : NO. 1168, WUZHONG ROAD, SUZHOU, P. R. CHINA


Test specification:

Standard : 47 CFR Part 15, Subpart B: 2016

Non-standard test method : --

Test Item:

Product/Description : Li-ion Battery Charger

Trade Mark : 

Model/Type reference : SSLC300V72-UL

Ratings : Input:90-135V~, 50-60 Hz,5.0A Max

Output: 72V DC,3.5A



Copy of marking plate

SANS Li-ion Battery Charger

MODEL: SSLC300V72-UL

INPUT: AC90V-135V~5.0A MAX
50-60Hz

OUTPUT: 72V==3.5A

CAUTION

- Indoor use only.
- Protection Fuse T5A/250V
- Charge only 60V series 30Ah Li-ion type rechargeable battery. Other types of batteries may burst causing personal injury and damage.

CAUTION: To reduce the risk of electric shock, do not remove cover (or back).

- No users serviceable parts inside refer servicing to qualified service personnel. Before charging read the instructions!

MADE IN CHINA
MANUFACTURED BY: NEW STANDARD CO., LTD.
ADDRESS: HONGKONG, HONGKONG, CHINA

UL LISTED E484821

FC

CHARGING

CHARGE-FULL OR DISCONNECT



Report No.: NSL-010916010203-R

Test item particulars:

Class of equipment..... : Class B
 Test voltage..... : AC 120 V, 60 Hz
 Working condition..... : On mode

Possible test case verdicts:

- test case does not apply to the test object : N (Not applicable)
 - test object does meet the requirement : P (Pass)
 - test object does not meet the requirement : F (Fail)

Testing:

Date of receipt of test item : 25 August, 2016
 Date(s) of performance of tests : 26 August, 2016 to 31 August, 2016

Environmental condition:

Ambient temperature (°C) : 22-25
 Relative humidity (%) : 35-45
 Atmospheric pressure (kPa) : 102.1-102.9

General remarks:

“EUT” refer to equipment (sample) under test.

“CDN” refer to coupling and decoupling network.

“LISN” refer to line impedance stabilization network.

Throughout this report a point is used as the decimal separator.

The measurements shown in this test report were made in accordance with the procedures given in ANSI C63.4.

When determining of test conclusion, measurement uncertainty of test has been considered. The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k=2. See below details.

Conducted Emission uncertainty (9-150 kHz): 3.6 dB

Conducted Emission uncertainty (0.15-30 MHz): 3.5 dB

Radiated Emission uncertainty (30-1000 MHz): 4.0 dB

General product information

This Battery Charger is for indoor use.

Model difference

Single model

Report No.: NSL-010916010203-R

SUMMARY OF TESTING			
NO.	TEST(S)	STANDARD(S)	RESULT
5	EMISSION TEST	47 CFR Part 15, Subpart B:2016	P
5-1	CONDUCTED EMISSION		P
5-2	RADIATED EMISSION		P
Remarks			



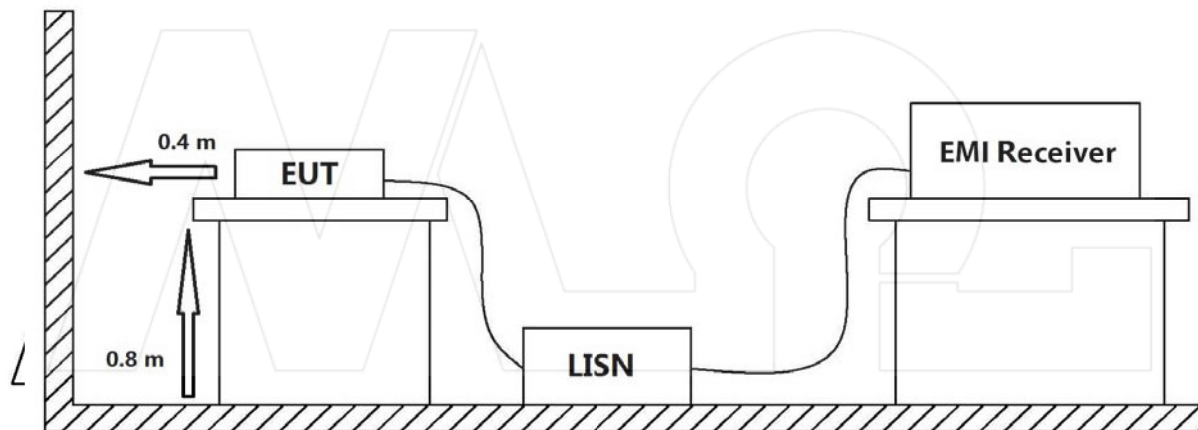
EMISSION TEST

5-1 CONDUCTED EMISSION

5-1-1 TEST PROCEDURE

1. The EUT was placed on a non-conductive table which was 0.8 m above the ground plane. The rear of the EUT was 0.4 m from the vertical coupling plane and connected to the main power through a line impedance stabilization network (LISN). This set up provided 50 ohm / 50 μ H coupling impedance for the measuring equipment.
2. The conducted emissions were measured between the line phase and ground, and between the neutral phase and ground using an EMI Receiver.
3. The frequency range from 150 kHz to 30 MHz is checked.

5-1-2 TEST SETUP



5-1-3 MEASUREMENT LIMITS

Frequency (MHz)	Limits dB(μ V)			
	Class A		Class B	
	Quasi-Peak	Average*	Quasi-Peak	Average*
0.15-0.5	79	66	66-56	56-46
0.5-5	73	60	56	46
0.5-30	73	60	60	50

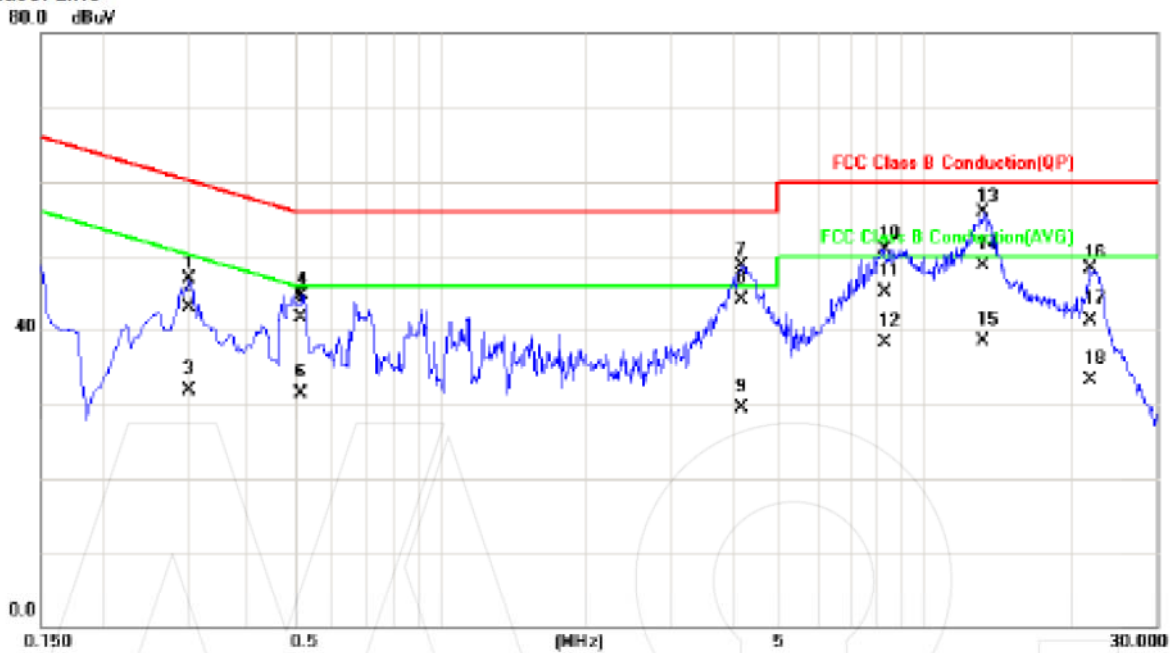
* If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the equipment under test shall be deemed to meet both limits and the measurement using the receiver with an average detector need not be carried out.

EMISSION TEST 5-1 CONDUCTED EMISSION

5-1-4 TEST RESULTS

Class B

Phase: Line



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.3020	33.78	13.20	46.98	60.19	-13.21	peak	
2		0.3020	29.95	13.20	43.15	60.19	-17.04	QP	
3		0.3020	18.63	13.20	31.83	50.19	-18.36	AVG	
4		0.5180	31.46	13.34	44.80	56.00	-11.20	peak	
5		0.5180	28.40	13.34	41.74	56.00	-14.26	QP	
6		0.5180	18.19	13.34	31.53	46.00	-14.47	AVG	
7		4.2180	35.32	13.45	48.77	56.00	-7.23	peak	
8		4.2180	30.63	13.45	44.08	56.00	-11.92	QP	
9		4.2180	16.03	13.45	29.48	46.00	-16.52	AVG	
10		8.2740	37.11	13.88	50.99	60.00	-9.01	peak	
11		8.2740	31.14	13.88	45.02	60.00	-14.98	QP	
12		8.2740	24.46	13.88	38.34	50.00	-11.66	AVG	
13	*	13.2420	41.57	14.40	55.97	60.00	-4.03	peak	
14		13.2420	34.33	14.40	48.73	60.00	-11.27	QP	
15		13.2420	24.12	14.40	38.52	50.00	-11.48	AVG	
16		22.0140	34.24	14.14	48.38	60.00	-11.62	peak	
17		22.0140	27.21	14.14	41.35	60.00	-18.65	QP	
18		22.0140	19.23	14.14	33.37	50.00	-16.63	AVG	

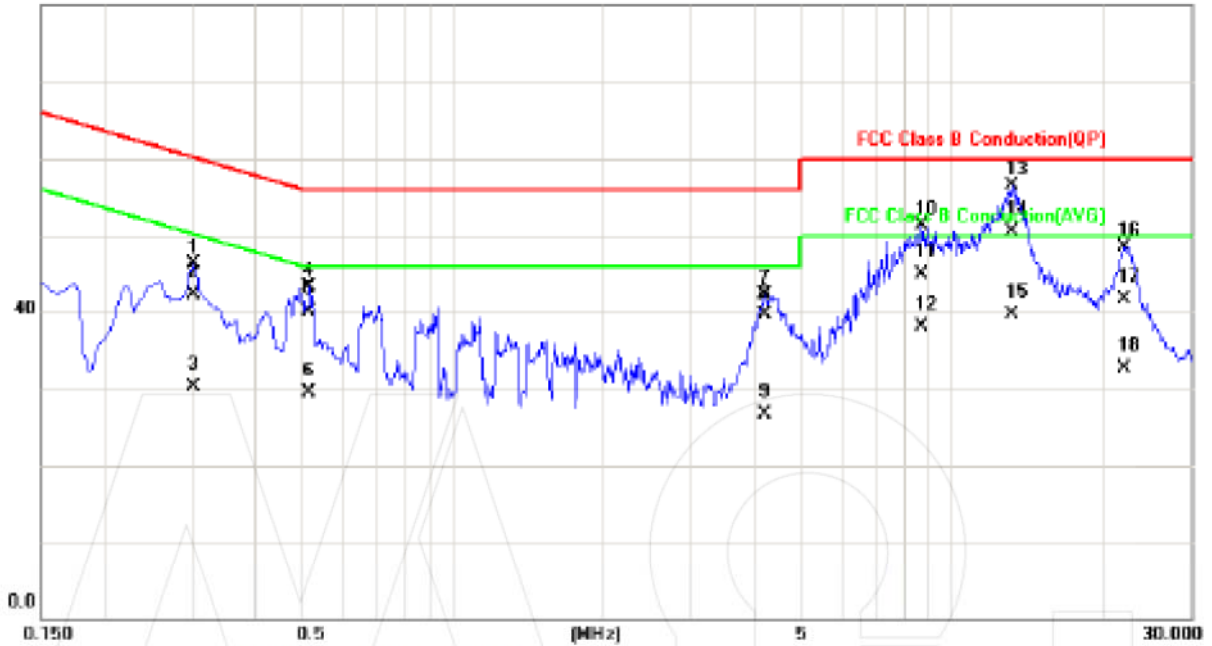
EMISSION TEST 5-1 CONDUCTED EMISSION

5-1-4 TEST RESULTS

Class B

Phase: Neutral

60.0 dBuV



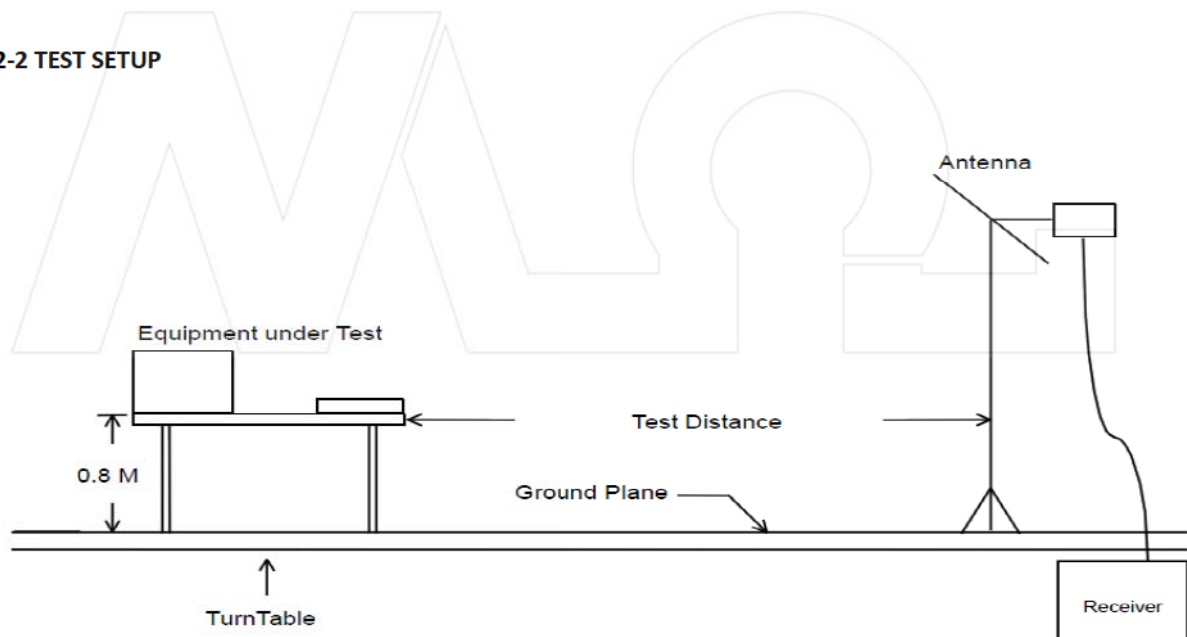
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.3020	33.02	13.20	46.22	60.19	-13.97	peak	
2		0.3020	29.14	13.20	42.34	60.19	-17.85	QP	
3		0.3020	17.20	13.20	30.40	50.19	-19.79	AVG	
4		0.5180	30.03	13.34	43.37	56.00	-12.63	peak	
5		0.5180	26.82	13.34	40.16	56.00	-15.84	QP	
6		0.5180	16.24	13.34	29.58	46.00	-16.42	AVG	
7		4.2420	28.76	13.45	42.21	56.00	-13.79	peak	
8		4.2420	26.30	13.45	39.75	56.00	-16.25	QP	
9		4.2420	13.24	13.45	26.69	46.00	-19.31	AVG	
10		8.7100	37.47	13.93	51.40	60.00	-8.60	peak	
11		8.7100	30.99	13.93	44.92	60.00	-15.08	QP	
12		8.7100	24.18	13.93	38.11	50.00	-11.89	AVG	
13	*	13.1700	42.19	14.39	56.58	60.00	-3.42	peak	
14		13.1700	36.08	14.39	50.47	60.00	-9.53	QP	
15		13.1700	25.37	14.39	39.76	50.00	-10.24	AVG	
16		22.1740	34.37	14.08	48.45	60.00	-11.55	peak	
17		22.1740	27.65	14.08	41.73	60.00	-18.27	QP	
18		22.1740	18.72	14.08	32.80	50.00	-17.20	AVG	

EMISSION TEST 5-2 RADIATED EMISSION

5-2-1 TEST PROCEDURE

1. The EUT was placed on a non-conductive table which was 0.8 m above the ground plane at a semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 m away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna is a broadband antenna, and its height is varied from 1 to 4 m above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to the heights from 1 to 4 m and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The frequency spectrum from 30 MHz to 1000 MHz was scanned and maximum emission levels at each frequency recorded.

5-2-2 TEST SETUP



5-2-3 MEASUREMENT LIMITS (CLASS B)

Frequency (MHz)	Quasi-peak limits dB($\mu\text{V}/\text{m}$) ^a
30-230	40
230-1000	54

Remark:

^a At the transition frequency, the lower limit applies.

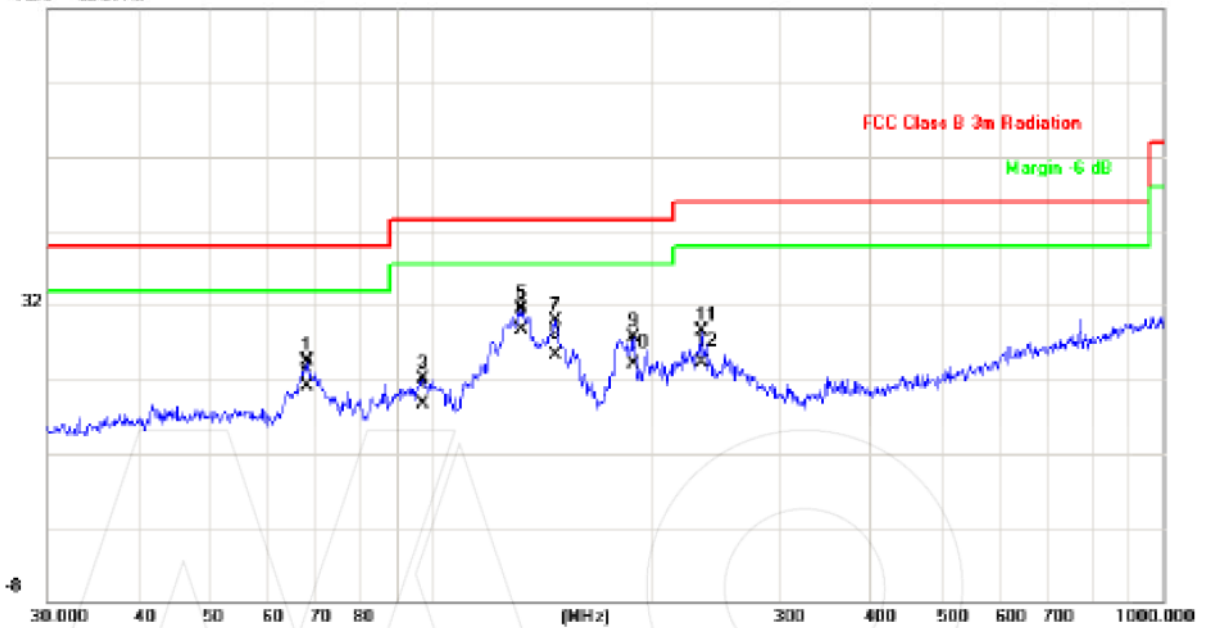
^b is 3 meters measurement limit.

EMISSION TEST 5-2 RADIATED EMISSION

5-2-4 TEST RESULTS

Antenna polarization: Horizontal

72.0 dBuV/m



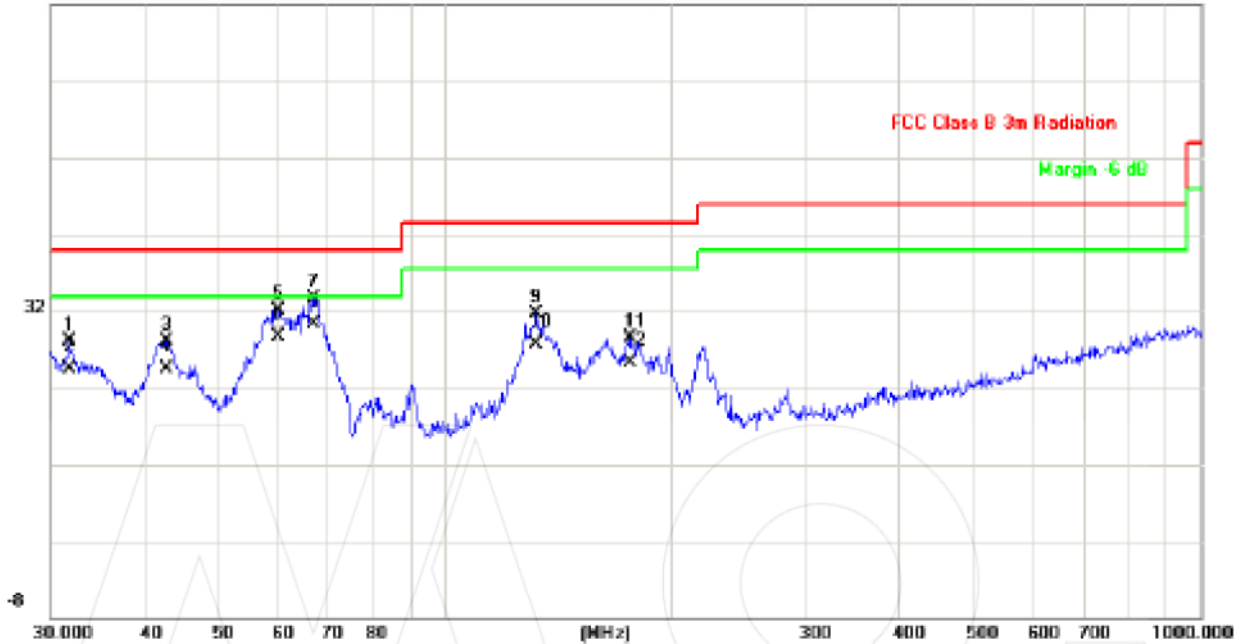
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	67.4382	14.58	10.96	25.54	40.00	-14.46	peak	
2	67.4382	10.10	10.96	21.06	40.00	-18.94	QP	
3	90.8554	13.13	10.44	23.57	43.50	-19.93	peak	
4	90.8554	9.40	10.44	19.84	43.50	-23.66	QP	
5	126.7723	24.61	9.48	34.09	43.50	-9.41	peak	
6	126.7723	21.18	9.48	30.66	43.50	-12.84	QP	
7	137.9028	25.12	8.62	33.74	43.50	-9.76	peak	
8	137.9028	20.84	8.62	29.46	43.50	-14.04	QP	
9	163.7550	26.03	9.03	35.06	43.50	-8.44	peak	
10	163.7550	22.17	9.03	31.20	43.50	-12.30	QP	
11 *	175.0368	26.96	9.83	36.79	43.50	-6.71	peak	
12	175.0368	22.74	9.83	32.57	43.50	-10.93	QP	

EMISSION TEST 5-2 RADIATED EMISSION

5-2-4 TEST RESULTS

Antenna polarization: Vertical

72.0 dBuV/m



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	31.7313	16.50	11.55	28.05	40.00	-11.95	peak	
2	31.7313	13.02	11.55	24.57	40.00	-15.43	QP	
3	42.6000	14.80	13.22	28.02	40.00	-11.98	peak	
4	42.6000	11.23	13.22	24.45	40.00	-15.55	QP	
5	60.0691	20.33	11.82	32.15	40.00	-7.85	peak	
6	60.0691	16.79	11.82	28.61	40.00	-11.39	QP	
7 *	66.7325	22.54	11.15	33.69	40.00	-6.31	peak	
8	66.7325	19.11	11.15	30.26	40.00	-9.74	QP	
9	131.7577	22.89	8.91	31.80	43.50	-11.70	peak	
10	131.7577	18.72	8.91	27.63	43.50	-15.87	QP	
11	175.6516	18.55	9.90	28.45	43.50	-15.05	peak	
12	175.6516	15.33	9.90	25.23	43.50	-18.27	QP	

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ANNEX 1
TEST EQUIPMENT LIST

Equipment Name	Manufacturer	Model No.	Cal. Date
EMI Test Receiver	ROHDE & SCHWARZ	ESCI	2016-01-05
EMI Test Receiver	ROHDE & SCHWARZ	ESU8	2016-01-05
LISN	ROHDE & SCHWARZ	ESH3-z5	2016-01-05
LISN	ROHDE & SCHWARZ	ESH3-z6	2016-01-05
LISN	ROHDE & SCHWARZ	ENV26	2016-01-05
Pulse Limiter	ROHDE & SCHWARZ	ESH3-z2	2016-01-05
Voltage Probe	Schwarzbeck	TK9146	2016-01-05
Broadband Test Antenna	Schwarzbeck	VULB9163	2016-01-05
Horn Antenna	ROHDE & SCHWARZ	HF906	2016-01-05
Bilog Antenna	Schwarzbeck	VULB9163	2016-01-05
Compliance Test System	CI	5001ix	2016-01-05
EMC Test System	KeyTek	ECAT	2016-01-05
ESD Generator	Teseq	NSG437	2016-01-05
Signal Generator	ROHDE & SCHWARZ	SML02	2016-01-05
Power Amplifier	Amplifier Research	150W1000	2016-01-05
Power Amplifier	Amplifier Research	75A250M	2016-01-05
Field Monitor	Amplifier Research	FM5004	2016-01-05
Shield Room	Nanbo Tech	Site 1	2016-01-05
Anechoic Chamber	Albatross	SAC-3	2016-01-05
Anechoic Chamber	Albatross	H-249	2016-01-05
CDN	EM Test	M2/M3	2016-01-05
Ultra compact Simulator	EM Test	UCS500N5	2016-01-05
Capacitive Clamp	EM Test	HFK	2016-01-05
EM Injection Clamp	FCC	F-203I	2016-01-05
Absorbing Clamp	ROHDE & SCHWARZ	MDS21	2016-01-05
Magnetic Field Tester	HAEFELY	MAG100	2016-01-05
Power Source	iDRC	CIF-3000A	2016-01-05

ANNEX 3
PHOTOGRAPHS OF EUT

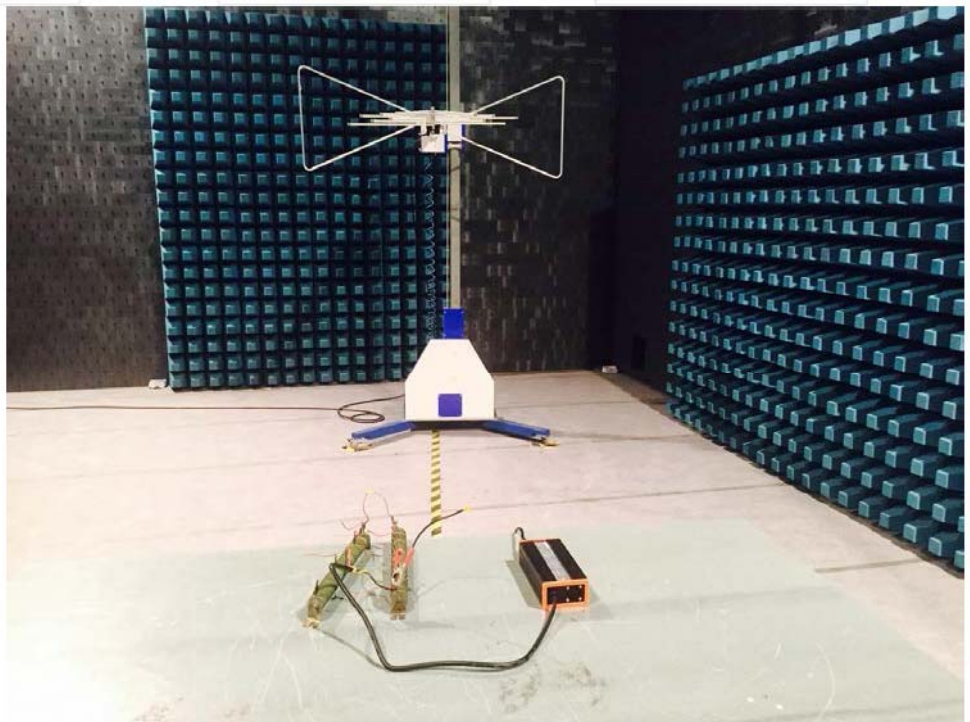
No. 1

- Test No. 5-1
- Test No. 5-2



No. 2

- Test No. 5-1
- Test No. 5-2



**ANNEX 3
PHOTOGRAPHS OF EUT**

No. 1

- General
- Appearance
- Label
- Internal
- PCB board
- Transformer
- Motor
- Other:



No. 2

- General
- Appearance
- Label
- Internal
- PCB board
- Transformer
- Motor
- Other:



ANNEX 3
PHOTOGRAPHS OF EUT

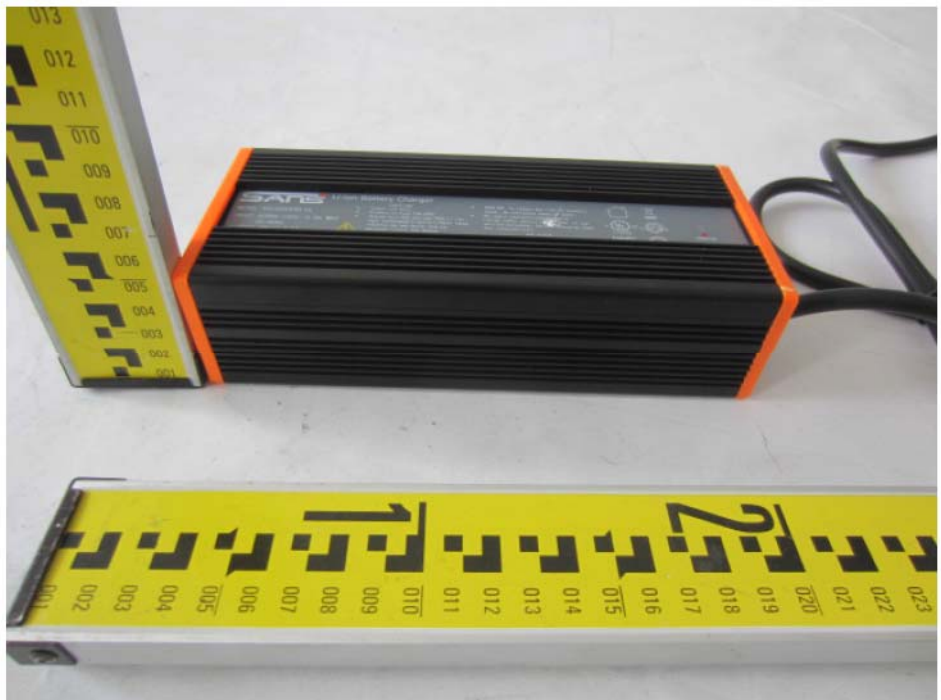
No. 3

- General
- Appearance
- Label
- Internal
- PCB board
- Transformer
- Motor
- Other:



No. 4

- General
- Appearance
- Label
- Internal
- PCB board
- Transformer
- Motor
- Other:



ANNEX 3
PHOTOGRAPHS OF EUT

No. 5

- General
- Appearance
- Label
- Internal
- PCB board
- Transformer
- Motor
- Other:



No. 6

- General
- Appearance
- Label
- Internal
- PCB board
- Transformer
- Motor
- Other:



ANNEX 3
PHOTOGRAPHS OF EUT

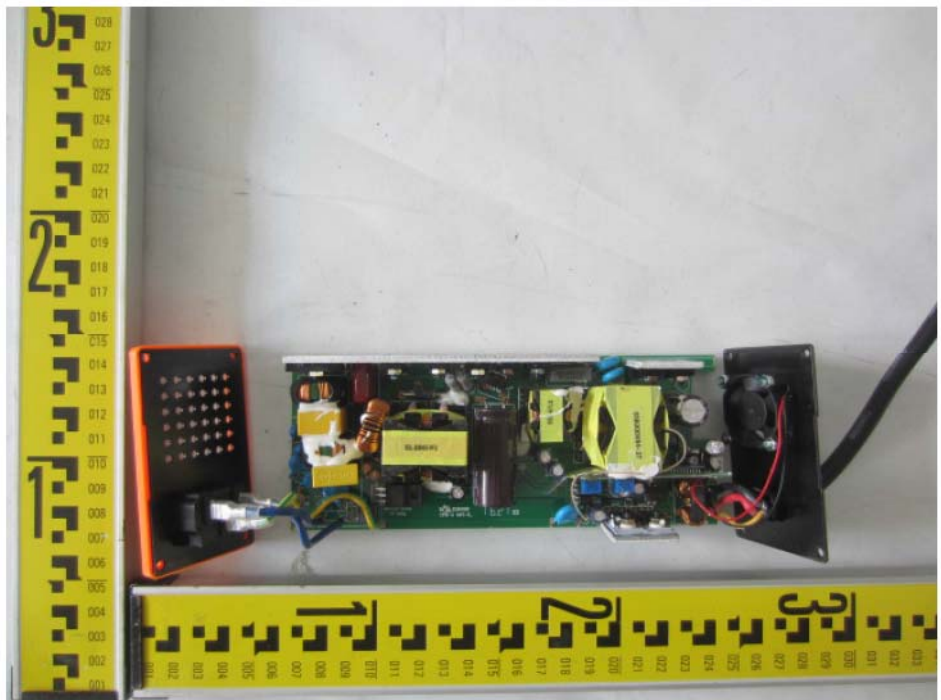
No. 7

- General
- Appearance
- Label
- Internal
- PCB board
- Transformer
- Motor
- Other:



No. 8

- General
- Appearance
- Label
- Internal
- PCB board
- Transformer
- Motor
- Other:



ANNEX 3
PHOTOGRAPHS OF EUT

No. 9

- General
- Appearance
- Label
- Internal
- PCB board
- Transformer
- Motor
- Other:

