

FCC TEST REPORT



Page 1 of 19

Report No NSL-010916010103-R

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

Product Li-ion Battery Charger
SSLC300V60-UL

Specification 47 CFR Part 15, Subpart B: 2016

Results Complies with the requirements of the above specification

Authorized by

A handwritten signature in black ink, appearing to read 'Andy Lu'.

Andy Lu



(Laboratory Director)

Issue Date 01 September, 2016

Laboratory

SUZHOU NEW-STANDARD LABORATORY CO LTD

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

E-mail: SERVICE_NSL@163.COM HTTP://WWW.NSLAB.CN

TEL: +86-512-68022130 FAX: +86-512-68027530

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-010916010103-R

TEST REPORT

FCC Part 15

Report:

Report No. : NSL-010916010103-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 : SSLC300V60-UL

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

Output: 60V DC,4.5A



Copy of marking plate

 Li-ion Battery Charger		<p>CAUTION</p> <ul style="list-style-type: none"> Indoor use only Protection Fuse: T5A/250V Charge only 60V maximum 30Wh Li-ion type rechargeable battery. Other types of batteries may burst causing personal injury and damage. 	<ul style="list-style-type: none"> CAUTION: To reduce the risk of electric shock, do not remove cover (or back). No users user-serviceable parts inside. Refer servicing to qualified service personnel before charging read the instructions! 	  
<p>MODEL: SSLC300V60-UL</p> <p>INPUT: AC90V-135V~5.0A MAX 50-60Hz</p> <p>OUTPUT: 60V---4.5A</p> 	<p>LISTED</p> <p>E484821</p>   			
		<p>MADE IN CHINA</p> <p>MANUFACTURED BY SANS ELECTRONICS CO. LTD.</p> <p>ADDRESS: INDUSTRIAL WULI, SHANGHAI TONGJI UNIVERSITY, CHINA</p>		



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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-010916010103-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			



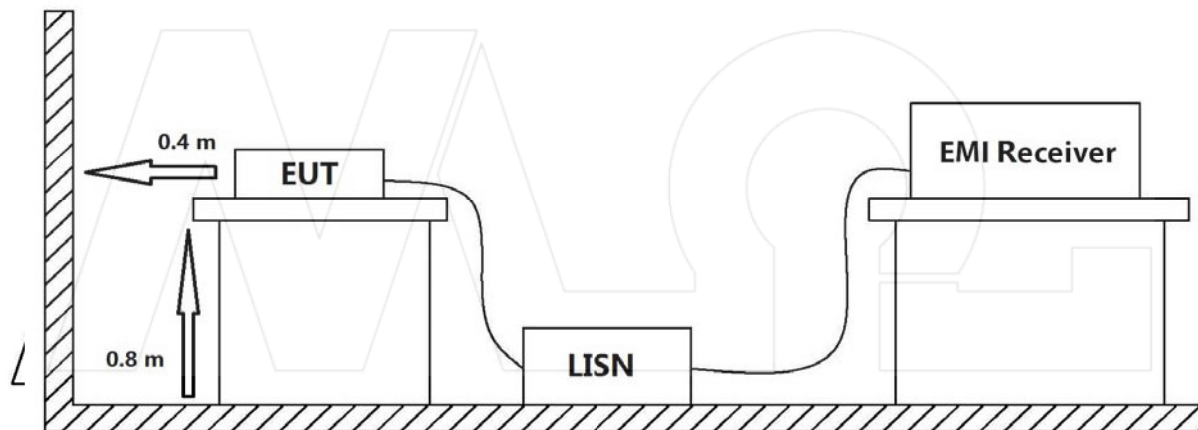
EMISSION TEST

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

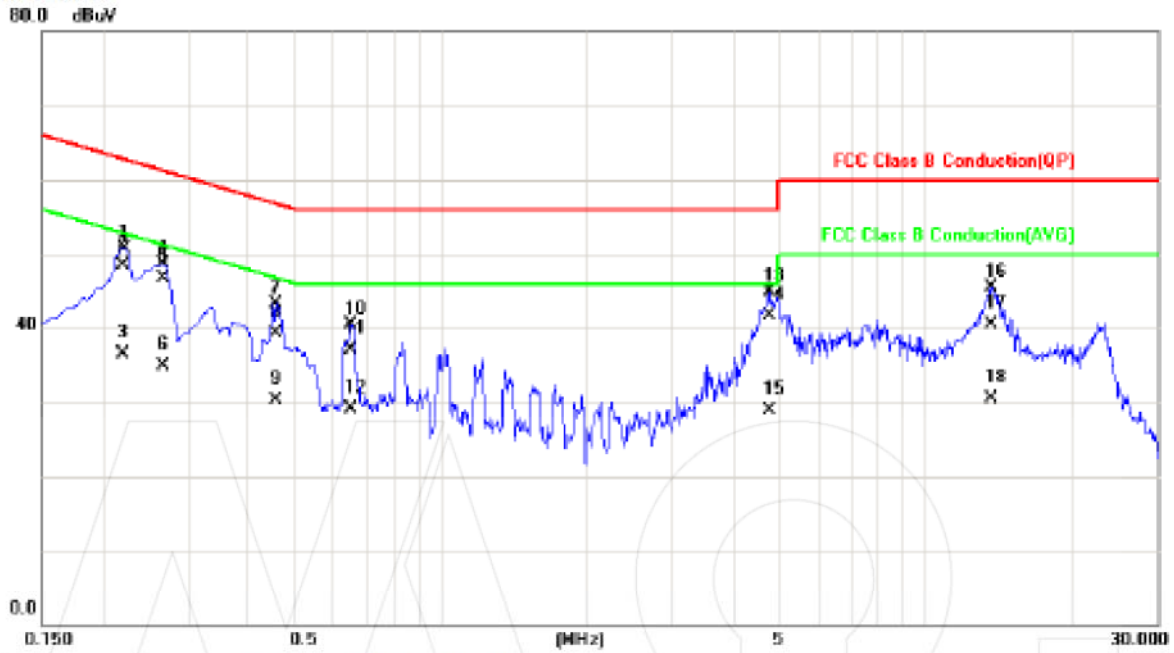
* If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the equipment under test shall be deemed to meet both limits and the measurement using the receiver with an average detector need not be carried out.

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	Measurement dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.2220	37.54	13.14	50.68	62.74	-12.06	peak	
2	0.2220	35.30	13.14	48.44	62.74	-14.30	QP	
3	0.2220	23.29	13.14	36.43	52.74	-16.31	AVG	
4	0.2660	35.46	13.17	48.63	61.24	-12.61	peak	
5	0.2660	33.60	13.17	46.77	61.24	-14.47	QP	
6	0.2660	21.74	13.17	34.91	51.24	-16.33	AVG	
7	0.4580	30.07	13.31	43.38	56.73	-13.35	peak	
8	0.4580	25.93	13.31	39.24	56.73	-17.49	QP	
9	0.4580	17.03	13.31	30.34	46.73	-16.39	AVG	
10	0.6540	27.24	13.34	40.58	56.00	-15.42	peak	
11	0.6540	23.76	13.34	37.10	56.00	-18.90	QP	
12	0.6540	15.84	13.34	29.18	46.00	-16.82	AVG	
13 *	4.7700	31.42	13.47	44.89	56.00	-11.11	peak	
14	4.7700	28.27	13.47	41.74	56.00	-14.26	QP	
15	4.7700	15.43	13.47	28.90	46.00	-17.10	AVG	
16	13.6900	31.04	14.44	45.48	60.00	-14.52	peak	
17	13.6900	26.14	14.44	40.58	60.00	-19.42	QP	
18	13.6900	15.97	14.44	30.41	50.00	-19.59	AVG	

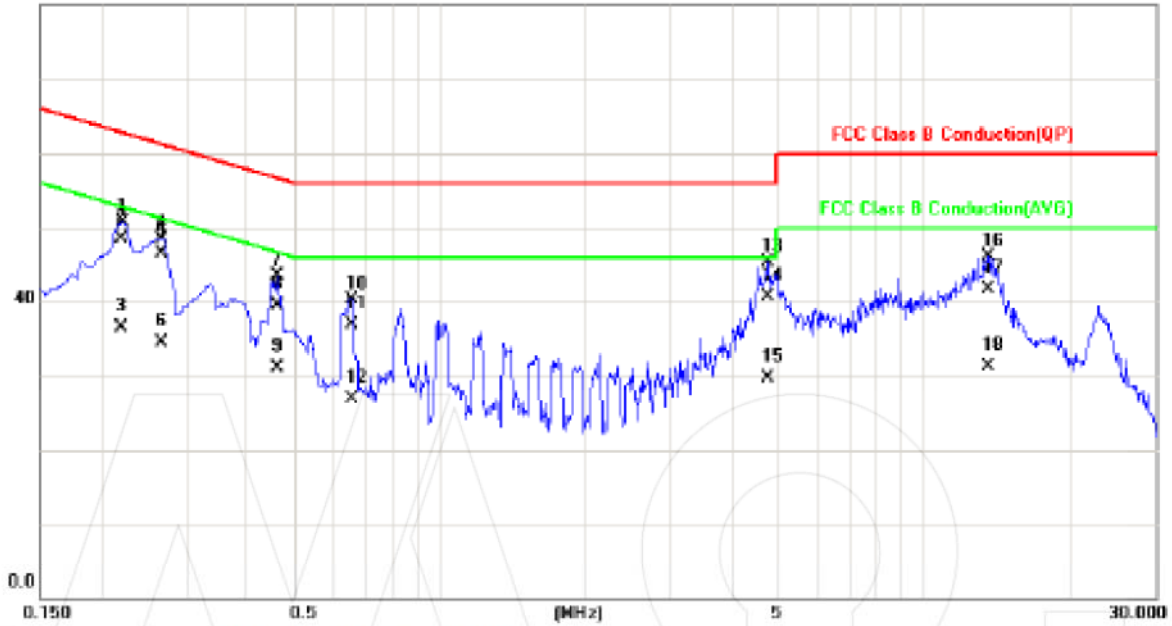
EMISSION TEST 5-1 CONDUCTED EMISSION

5-1-4 TEST RESULTS

Class B

Phase: Neutral

60.0 dBuV



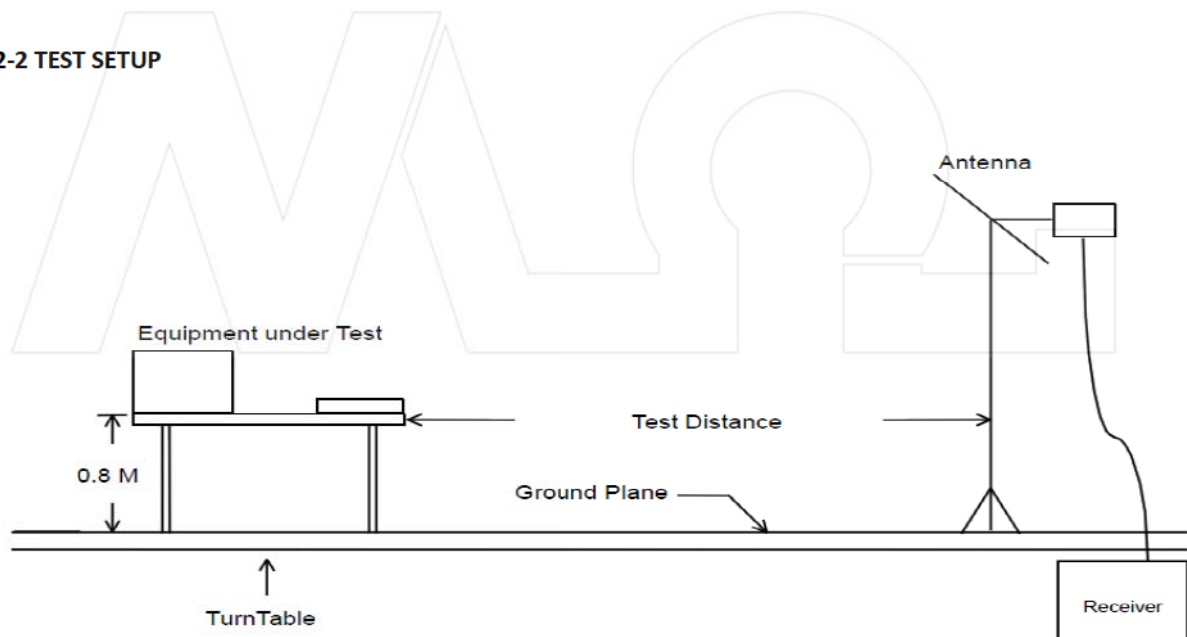
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.2220	37.51	13.14	50.65	62.74	-12.09	peak	
2		0.2220	35.32	13.14	48.46	62.74	-14.28	QP	
3		0.2220	23.37	13.14	36.51	52.74	-16.23	AVG	
4		0.2660	35.39	13.17	48.56	61.24	-12.68	peak	
5		0.2660	33.42	13.17	46.59	61.24	-14.65	QP	
6		0.2660	21.30	13.17	34.47	51.24	-16.77	AVG	
7		0.4620	30.12	13.31	43.43	56.66	-13.23	peak	
8		0.4620	26.16	13.31	39.47	56.66	-17.19	QP	
9		0.4620	17.76	13.31	31.07	46.66	-15.59	AVG	
10		0.6580	27.06	13.34	40.40	56.00	-15.60	peak	
11		0.6580	23.47	13.34	36.81	56.00	-19.19	QP	
12		0.6580	13.58	13.34	26.92	46.00	-19.08	AVG	
13	*	4.7820	31.79	13.47	45.26	56.00	-10.74	peak	
14		4.7820	27.31	13.47	40.78	56.00	-15.22	QP	
15		4.7820	16.31	13.47	29.78	46.00	-16.22	AVG	
16		13.6060	31.72	14.43	46.15	60.00	-13.85	peak	
17		13.6060	27.36	14.43	41.79	60.00	-18.21	QP	
18		13.6060	16.91	14.43	31.34	50.00	-18.66	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.

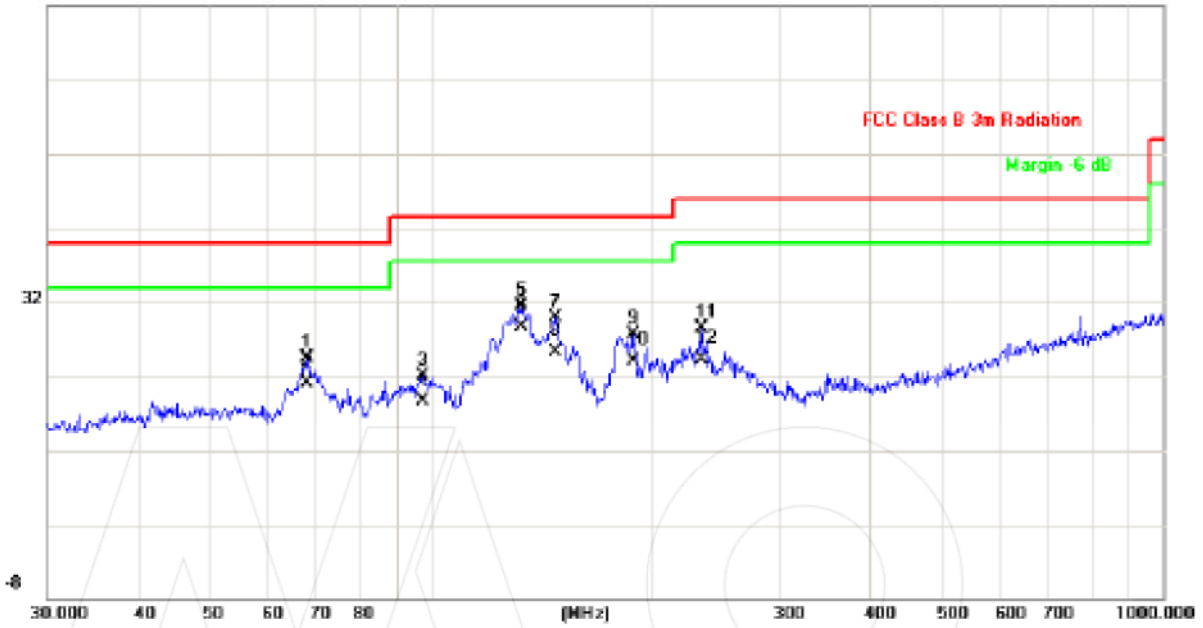
^b is 3 meters measurement limit.

**EMISSION TEST
5-2 RADIATED EMISSION**

5-2-4 TEST RESULTS

Antenna polarization: Horizontal

72.0 dBuV/m



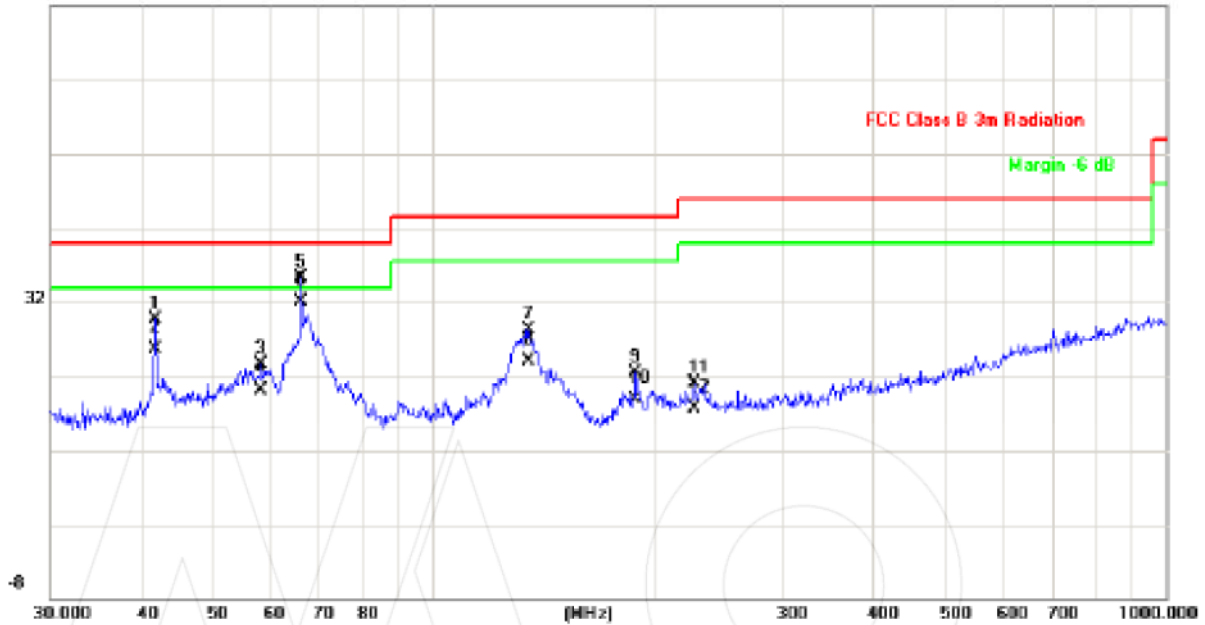
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	67.9130	13.61	10.82	24.43	40.00	-15.57	peak	
2	67.9130	10.24	10.82	21.06	40.00	-18.94	QP	
3	97.4560	10.68	11.41	22.09	43.50	-21.41	peak	
4	97.4560	7.23	11.41	18.64	43.50	-24.86	QP	
5 *	133.1511	22.57	8.85	31.42	43.50	-12.08	peak	
6	133.1511	19.82	8.85	28.67	43.50	-14.83	QP	
7	147.9214	21.33	8.54	29.87	43.50	-13.63	peak	
8	147.9214	16.80	8.54	25.34	43.50	-18.16	QP	
9	189.7385	16.47	11.16	27.63	43.50	-15.87	peak	
10	189.7385	12.99	11.16	24.15	43.50	-19.35	QP	
11	234.9910	15.72	12.72	28.44	46.00	-17.56	peak	
12	234.9910	11.61	12.72	24.33	46.00	-21.67	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	41.7130	16.61	13.16	29.77	40.00	-10.23	peak	
2	41.7130	12.45	13.16	25.61	40.00	-14.39	QP	
3	58.2030	11.27	12.36	23.63	40.00	-16.37	peak	
4	58.2030	7.78	12.36	20.14	40.00	-19.86	QP	
5 *	66.0342	23.99	11.34	35.33	40.00	-4.67	peak	
6	66.0342	20.71	11.34	32.05	40.00	-7.95	QP	
7	134.5592	19.54	8.78	28.32	43.50	-15.18	peak	
8	134.5592	15.33	8.78	24.11	43.50	-19.39	QP	
9	189.0743	11.60	10.92	22.52	43.50	-20.98	peak	
10	189.0743	8.00	10.92	18.92	43.50	-24.58	QP	
11	227.6906	8.69	12.43	21.12	46.00	-24.88	peak	
12	227.6906	5.22	12.43	17.65	46.00	-28.35	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

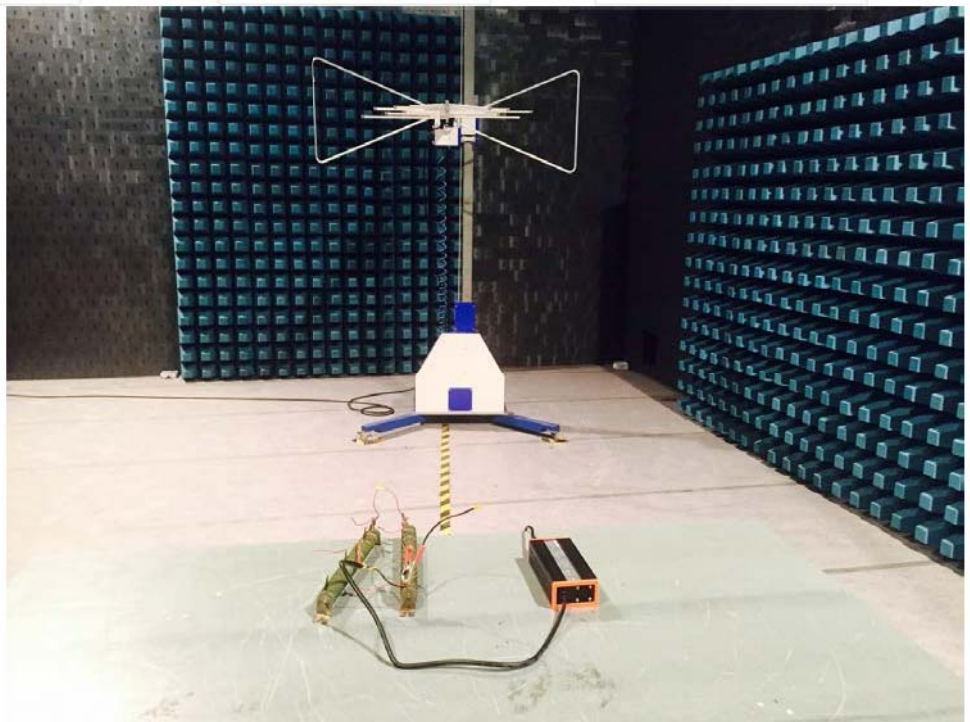
No. 1

- 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

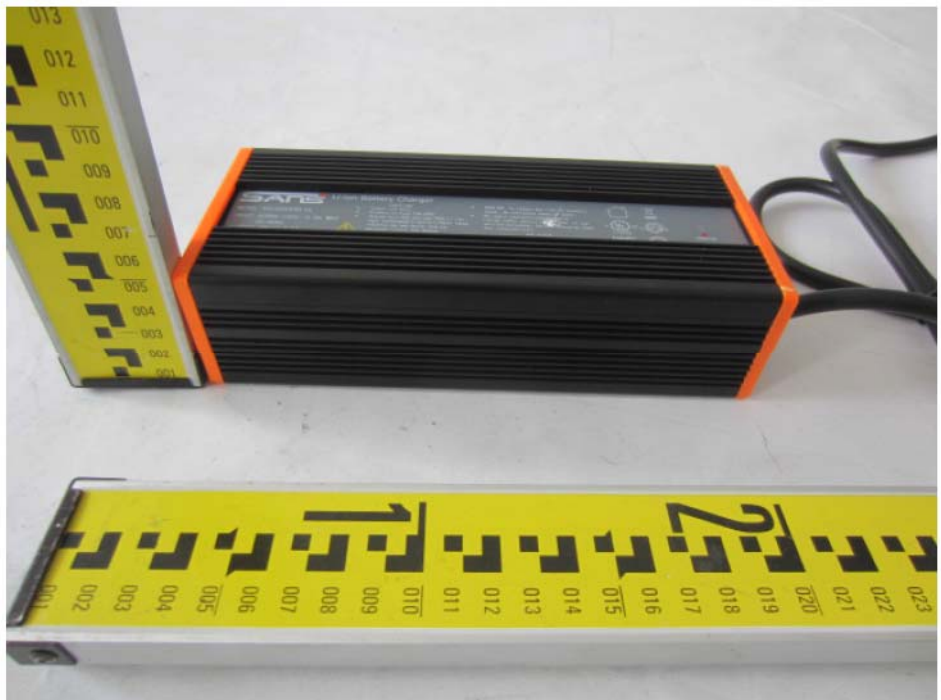
No. 3

- 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:

