TEST REPORT

Reference No.	:	WTS16S0550024E
Product Name	:	Multi Chemistry Charger
Model No.	:	e450
Brand Name	:	N/A
Standards	:	EN 55014-1: 2006+A1:2009+A2: 2011 EN 55014-2:2015 EN 61000-3-2: 2014 EN 61000-3-3: 2013
Date of Receipt sample	:	May 10, 2016
Date of Test	:	May 12 – 14, 2016
Date of Issue	:	May 18, 2016
Test Result	:	**Pass**

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company.
The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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1 Test Summary

EMISSION（EN 55014-1: 2006+A1: 2009+A2: 2011）			
Test Item	**Test Standard**	**Class / Severity**	**Result**
Conducted Disturbance at Mains Terminal	EN 55014-1: 2006+A1: 2009+A2: 2011	Clause 4.1.1	Pass
Disturbance Power, 30MHz to 300MHz	EN 55014-1:2006+A1:2009+A2: 2011	Clause 4.1.2	N/A
Discontious Disturbance (Click)	EN 55014-1: 2006+A1:2009+A2: 2011	Clause 4.2.2	N/A
Radiation Emission, 30MHz to 1000MHz	EN 55014-1: 2006+A1:2009+A2: 2011	Clause 4.1.2	Pass
Harmonic Current emission	EN 61000-3-2: 2014	Class A	N/A
Voltage Fluction and Flicker	EN 61000-3-3: 2013	Clause 5	Pass

IMMUNITY（EN 55014-2:2015）				
Test Item	**Test Method**	**Class / Severity**	**Performance Criteria**	**Result**
Electrostatic Discharge(ESD)	IEC 61000-4-2: 2008	±4 kV Contact ±8 kV Air	B	Pass
Radiation Immunity (80MHz to 1GHz)	IEC 61000-4-3: 2010	3V/m, 80%, 1kHz, Amp. Mod.	A	Pass
Electrical Fast Transients (EFT)	IEC 61000-4-4: 2012	AC ±1.0kV DC ±0.5kV	B	Pass
Surge	IEC 61000-4-5: 2014	±1kV D.M.† ±2kV C.M.‡	B	Pass
Injected Currents, 0.15MHz to 80MHz	IEC 61000-4-6: 2013	3Vr.m.s.(emf), 80%, 1kHz Amp. Mod.	A	Pass
Voltage Dips and Interruptions	IEC 61000-4-11:2004	0 % UT* for 0.5per	C	Pass
		40 % UT* for 10per		Pass
		70 % UT* for 25per		Pass

Remark:

Pass	Test item meets the requirement
Fail	Test item does not meet the requirement
N/A	Test case does not apply to the test object
A.M	Amplitude Modulation
†	Differential Mode
‡	Common Mode
*	U_T is the nominal supply voltage

2 Contents

Page

3 General Information

3.1 General Description of E.U.T.

Product Name ..... : Multi Chemistry Charger

Model No. ..... : e450

3.2 Details of E.U.T.

Technical Data..... : Input: AC 100~240V, 50/60Hz, 1.2A, 50W

3.3 Standards Applicable for Testing

The tests were performed according to following standards:

EN 55014-1:2006+A1:2009 +A2:2011	Electromagnetic compatibility-Requirements for household appliances, electric tools and similar apparatus-Part 1:Emission
EN 55014-2:2015	Electromagnetic compatibility-Requirements for household appliances, Part 2:Immunity Product family.
EN 61000-3-2:2014	Electromagnetic compatibility (EMC) -- Part 3-2:Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase).
EN 61000-3-3:2013	Electromagnetic compatibility (EMC) -- Part 3-3:Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection.

3.4 Test Facility

The test facility has a test site registered with the following organizations:

- **IC – Registration No.: 7760A-1**

Waltek Services(Shenzhen) Co., Ltd. has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration 7760A-1, October 15, 2015.

- **FCC – Registration No.: 880581**

Waltek Services (Shenzhen) Co., Ltd. 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 880581, April 29, 2014.

- **FCC – Registration No.: 328995**

Waltek Services(Shenzhen) 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 328995, December 3, 2014.

3.5 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test Lab: N/A

Lab address: N/A

Test items: N/A

3.6 Abnormalities from Standard Conditions

None.

4 Equipment Used during Test

4.1 Equipment List

Conducted Emissions at Mains Terminals Disturbance Voltage						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMI Test Receiver	R&S	ESCI	100947	Sep.15, 2014	Sep.14, 2015
2.	LISN	R&S	ENV216	100115	Sep.15, 2014	Sep.14, 2015
3.	Cable	Top	TYPE16(3.5M)	-	Sep.15, 2014	Sep.14, 2015
3m Semi-anechoic Chamber for Radiation(TDK)						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No**	**Last Calibration Date**	**Calibration Due Date**
1	Test Receiver	R&S	ESCI	101296	Mar.23, 2016	Mar.22, 2017
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	Apr.18, 2016	Apr.17, 2017
3	Amplifier	ANRITSU	MH648A	M43381	Apr.18, 2016	Apr.17, 2017
4	Cable	HUBER+SUHNER	CBL2	525178	Mar.23, 2016	Mar.22, 2017
Flicker Measuring System						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	Digital Power Analyzer	SCHAFFNER	CCN 1000-1	72625	Jun.03,2015	Jun.02,2016
2	Power Source	SCHAFFNER	NSG 1007	58477	Jun.03,2015	Jun.02,2016
Electrostatic Discharge						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	Electrostatic Discharge Simulator	Em Test	DITO	V0745103094	Oct.28, 2015	Oct.27, 2016
Radio-frequency electromagnetic fields						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	Signal Generater	R&S	SMB100A	105942	Sep.15, 2015	Sep.14, 2016
2	RF Power Amplifier	R&S	BLWA0830-160/100/40D	128740	Sep.15, 2015	Sep.14, 2016
3	Gestockte Breitband (S tacked) Log.-per.Antenna	R&S	STLP9128D	043	Sep.15, 2015	Sep.14, 2016
4	Power Meter	R&S	NRP2	102031	Sep.15, 2015	Sep.14, 2016
Surge, EFT, Voltage dips and Interruption						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last**	**Calibration**

					Calibration Date	Due Date
1	All Modules Generator	SCHAFFNER	6150	34579	Sep.15, 2015	Sep.14, 2016
2	Capacitive Coupling Clamp	SCHAFFNER	CDN 8014	25311	Sep.15, 2015	Sep.14, 2016
3	Signal and Data Line Coupling Network	SCHAFFNER	CDN 117	25627	Sep.15, 2015	Sep.14, 2016
4	AC Power Supply	TONGYUN	DTDGC-4	-	Sep.15, 2015	Sep.14, 2016
Conducted Immunity						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	RF Generator	TESEQ	NSG4070	25781	Sep.15, 2015	Sep.14, 2016
2	CDN M-Type	TESEQ	CDN M016	25112	Sep.15, 2015	Sep.14, 2016
3	EM-Clamp	TESEQ	KEMZ 801	25453	Sep.15, 2015	Sep.14, 2016
4	Attenuator 6dB	TESEQ	ATN6050	25365	Sep.15, 2015	Sep.14, 2016

4.2 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conduction disturbance	150kHz~30MHz	±3.64dB	(1)
Radiation Emission	30MHz~1000MHz	±5.03dB	(1)

(1)This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

5 Emission Test Results

5.1 Conducted Disturbance at Mains Terminal

Test Requirement	:	EN 55014-1
Test Method	:	EN 55014-1
Test Result	:	Pass
Frequency Range	:	148.5kHz to 30MHz
Class/Severity	:	Table 1 of EN 55014-1

5.1.1 E.U.T. Operation

Operating Environment:

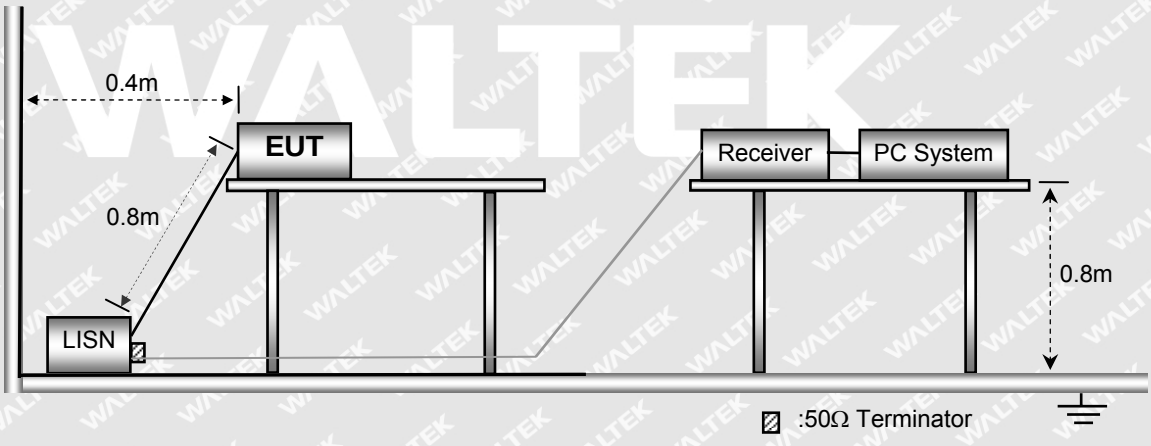
Temperature	:	22.2°C
Humidity	:	53.3%RH
Atmospheric Pressure	:	101.2kPa

EUT Operation:

Input Voltage	:	AC 90V/50Hz, AC 264V/50Hz
Operating Mode	:	Charging mode
Remark	:	The worse case is under the condition of AC 264V/50Hz and the data is shown as follow.

5.1.2 Block Diagram of Test Setup

The Conducted Disturbance at Mains Terminal tests were performed in accordance with the EN 55014-1.

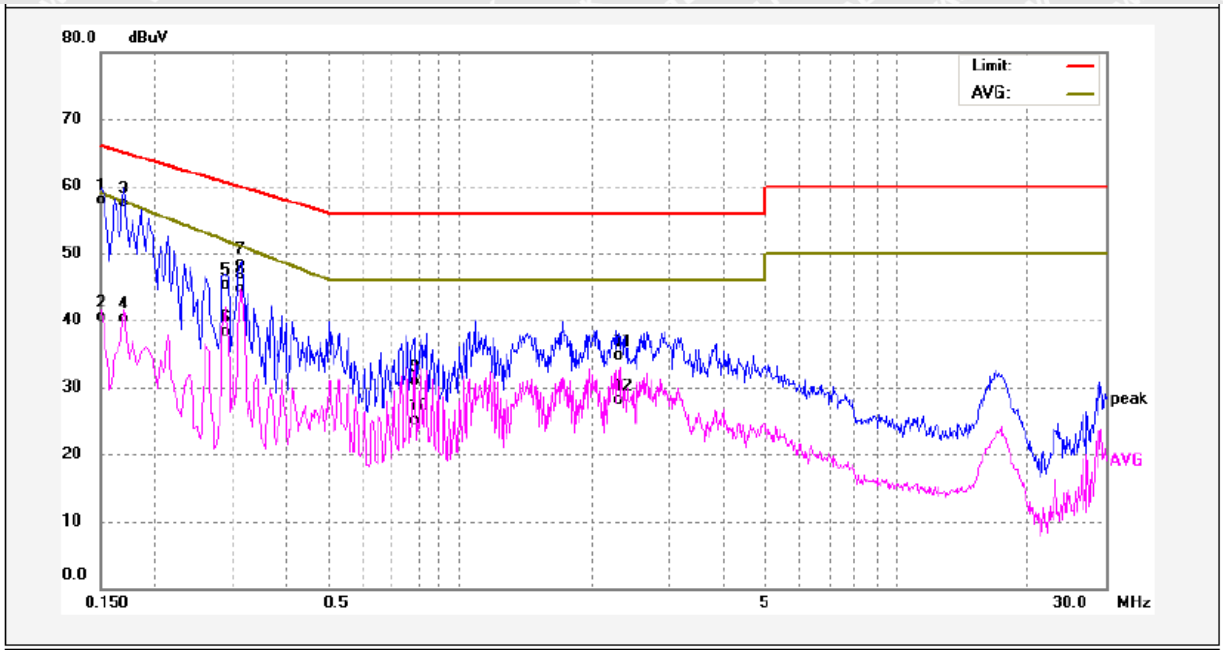


5.1.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

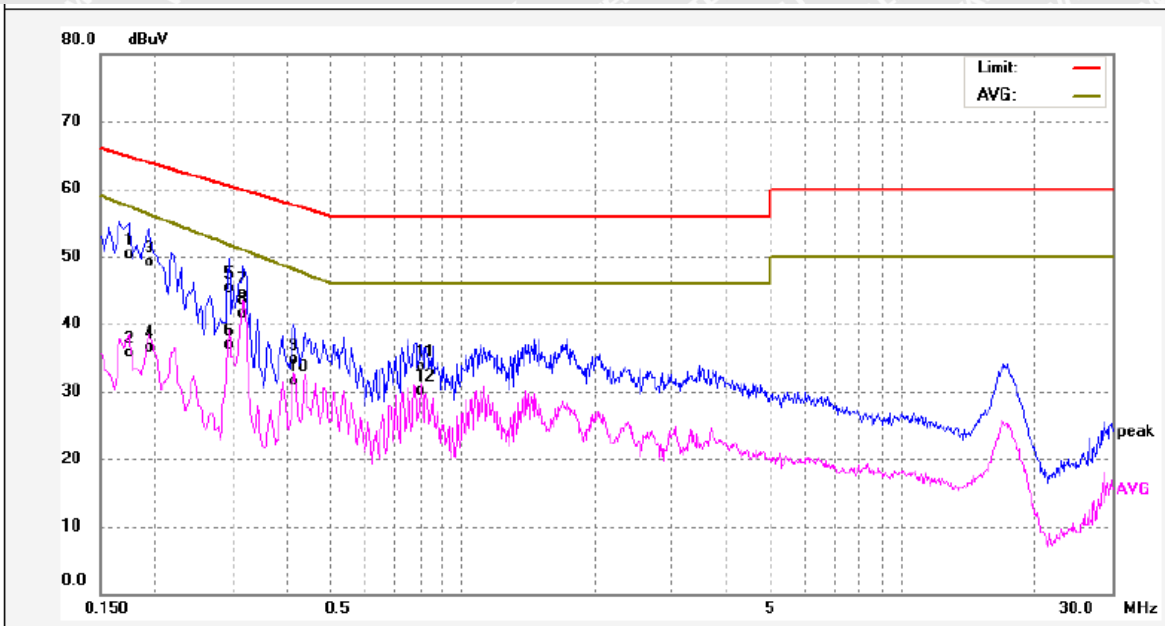
5.1.4 Mains Terminals Disturbance Voltage Test Data

Live Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1500	47.53	10.29	57.82	65.99	-8.17	QP	
2	0.1500	30.19	10.29	40.48	58.99	-18.51	AVG	
3	0.1700	47.23	10.28	57.51	64.96	-7.45	QP	
4	0.1700	30.03	10.28	40.31	57.64	-17.33	AVG	
5	0.2900	35.09	10.28	45.37	60.52	-15.15	QP	
6	0.2900	27.95	10.28	38.23	51.88	-13.65	AVG	
7	0.3180	38.32	10.28	48.60	59.76	-11.16	QP	
8	0.3180	34.33	10.28	44.61	50.88	-6.27	AVG	
9	0.7860	20.60	10.36	30.96	56.00	-25.04	QP	
10	0.7860	14.69	10.36	25.05	46.00	-20.95	AVG	
11	2.3100	24.28	10.48	34.76	56.00	-21.24	QP	
12	2.3100	17.61	10.48	28.09	46.00	-17.91	AVG	

Neutral Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1740	39.99	10.28	50.27	64.76	-14.49	QP	
2	0.1740	25.34	10.28	35.62	57.39	-21.77	AVG	
3	0.1940	38.88	10.26	49.14	63.86	-14.72	QP	
4	0.1940	26.28	10.26	36.54	56.22	-19.68	AVG	
5	0.2940	34.94	10.28	45.22	60.41	-15.19	QP	
6	0.2940	26.55	10.28	36.83	51.73	-14.90	AVG	
7	0.3180	34.29	10.28	44.57	59.76	-15.19	QP	
8	0.3180	31.21	10.28	41.49	50.88	-9.39	AVG	
9	0.4140	24.47	10.27	34.74	57.57	-22.83	QP	
10	0.4140	21.16	10.27	31.43	48.04	-16.61	AVG	
11	0.8059	23.28	10.36	33.64	56.00	-22.36	QP	
12	0.8059	19.81	10.36	30.17	46.00	-15.83	AVG	

5.2 Radiation Emission, 30MHz to 1000MHz

Test Requirement.....	:	EN 55014-1
Test Method	:	EN 55014-1
Test Result	:	Pass
Frequency Range.....	:	30MHz to 1000MHz
Class/Severity	:	Table 3 of EN 55014-1

5.2.1 E.U.T. Operation

Operating Environment:

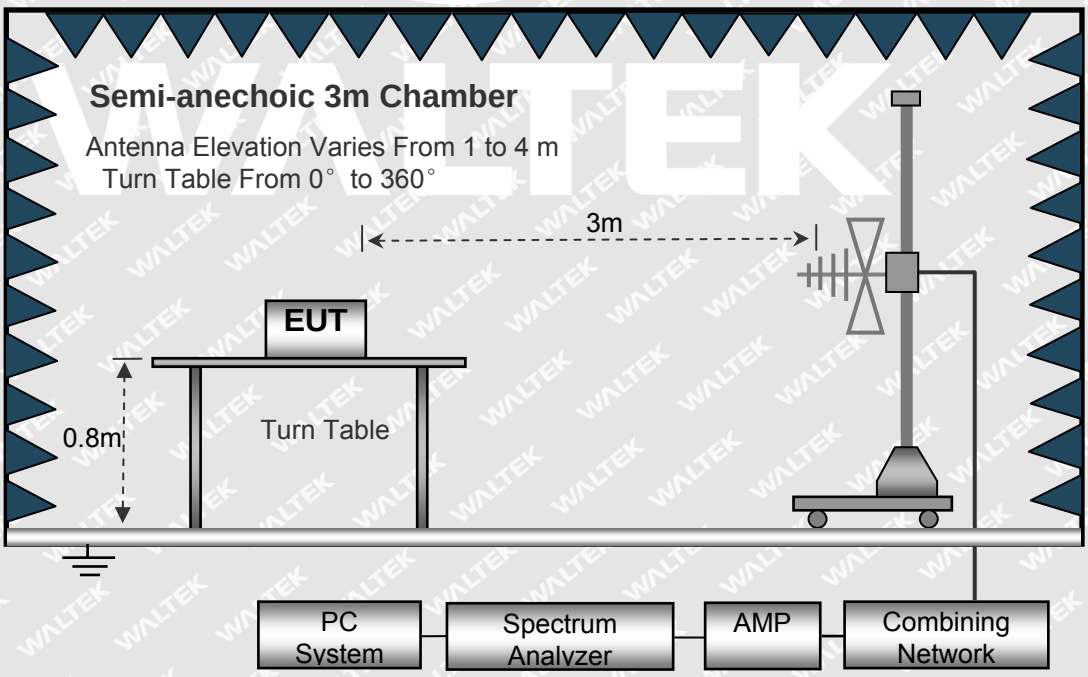
Temperature	:	23°C
Humidity.....	:	53.8%RH
Atmospheric Pressure	:	101.5kPa

EUT Operation:

Input Voltage	:	AC 90V/50Hz, AC 264V/50Hz
Operating Mode.....	:	Charging mode
Remark	:	The worse case is under the condition of AC 264V/50Hz and the data is shown as follow.

5.2.2 Block Diagram of Test Setup

The Radiation emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the EN 55014-1.

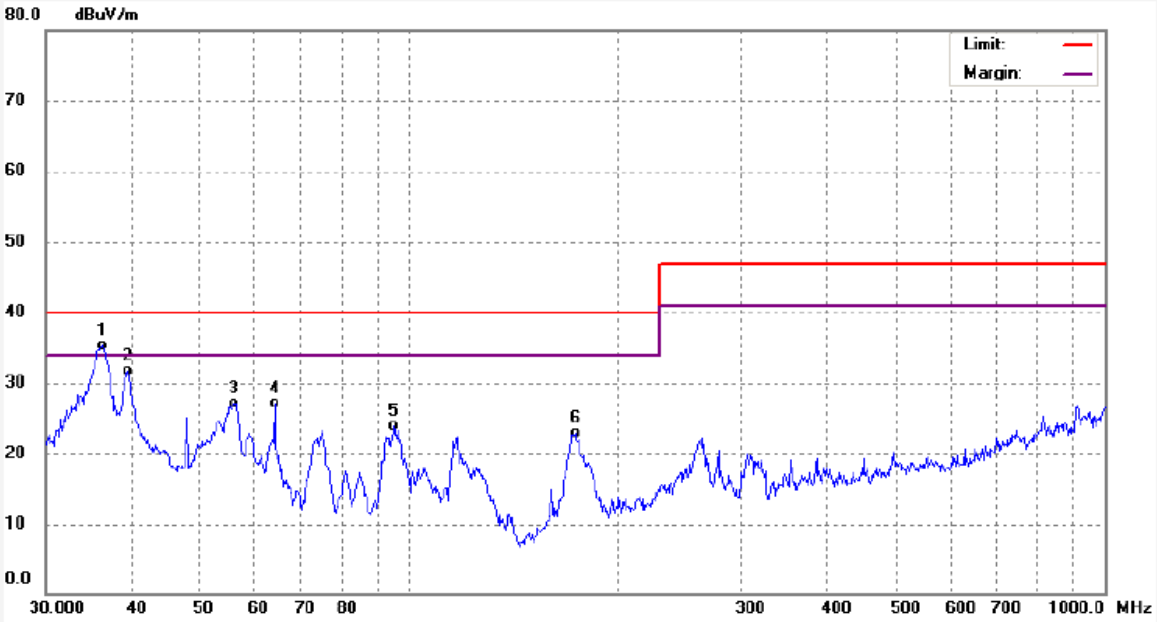


5.2.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for both the Antenna Vertical Polarization and Antenna Horizontal Polarization. Quasi-peak measurements were performed if peak emissions were within 6dB of the Quasi-peak limit line.

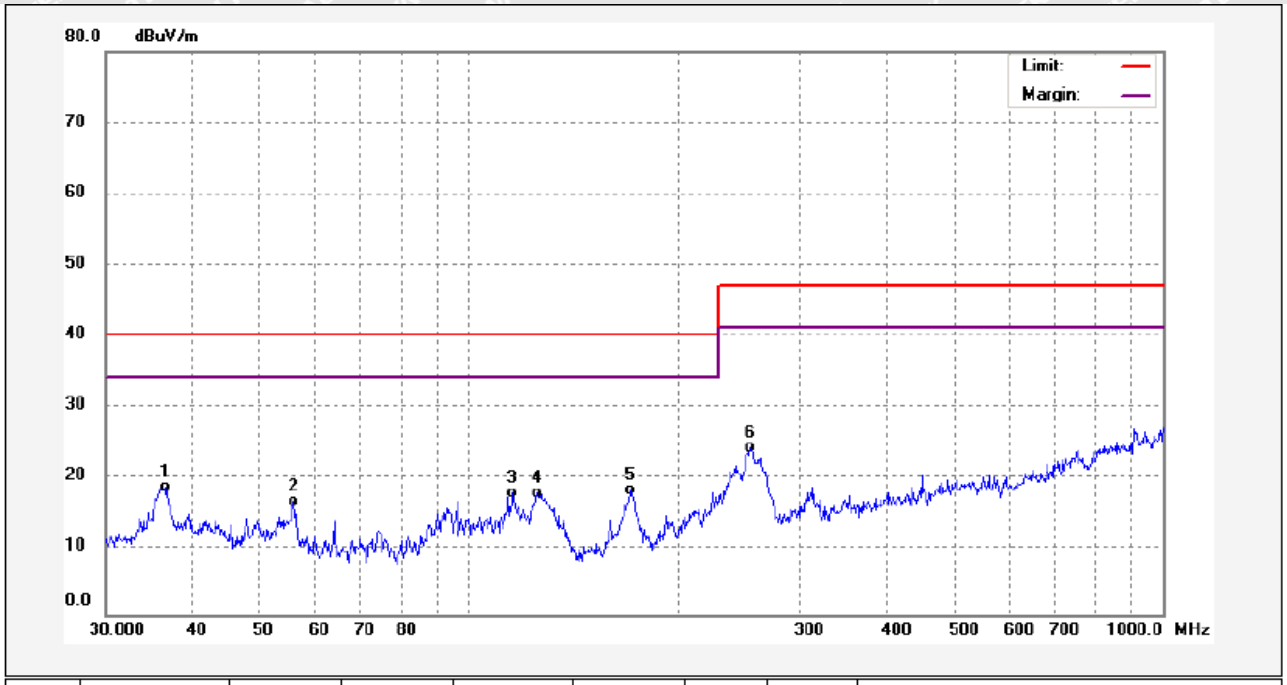
5.2.4 Radiation Emission Test Data, 30MHz to 1000MHz

Antenna polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	36.2541	51.03	-15.66	35.37	40.00	-4.63	QP	
2	39.4371	46.58	-14.92	31.66	40.00	-8.34	QP	
3	56.0007	44.86	-17.80	27.06	40.00	-12.94	QP	
4	63.9828	46.22	-19.20	27.02	40.00	-12.98	QP	
5	95.0930	41.56	-17.65	23.91	40.00	-16.09	QP	
6	173.2051	41.42	-18.46	22.96	40.00	-17.04	QP	

Antenna polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	36.5092	33.97	-15.61	18.36	40.00	-21.64	QP	
2	56.0007	34.02	-17.80	16.22	40.00	-23.78	QP	
3	115.7256	34.49	-16.91	17.58	40.00	-22.42	QP	
4	125.4457	35.50	-18.08	17.42	40.00	-22.58	QP	
5	171.3926	36.35	-18.53	17.82	40.00	-22.18	QP	
6	254.7284	40.18	-16.22	23.96	47.00	-23.04	QP	

5.3 Harmonics Current Emission

Test Requirement	:	EN 61000-3-2
Test Method	:	EN 61000-4-7
Test Result	:	N/A
Class/Severity	:	Class A
Remark.....	:	There is no need for Harmonics test to be performed on this product (rated power is less than 75W) in accordance with EN 61000-3-2 (2009). For further details, please refer to Clause 7, Note 1 of EN 61000-3-2 which states:- “For the following categories of equipment limits are not specified in this edition of the standard. Note 1: Equipment with a rated power of 75W or less, other than lighting equipment.”

5.4 Voltage Fluctuation and Flicker

Test Requirement..... : EN 61000-3-3

Test Method..... : EN 61000-4-15

Test Result ..... : Pass

5.4.1 E.U.T. Operation

Operating Environment:

Temperature ..... : 23.1°C

Humidity..... : 53.4%RH

Barometric Pressure..... : 101.4kPa

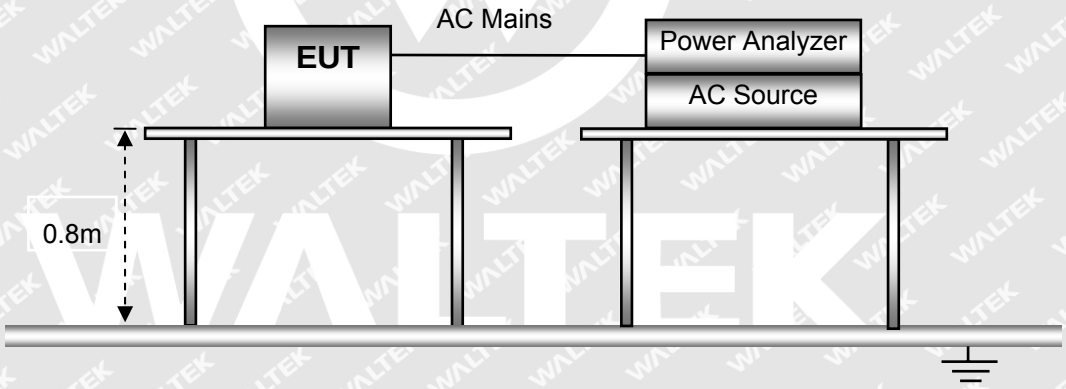
EUT Operation:

Input Voltage..... : AC 230V/50Hz

Operating Mode ..... : Charging mode

5.4.2 Block Diagram of Setup

The Voltage Fluctuation and Flicker test was performed in accordance with the EN 61000-4-15.



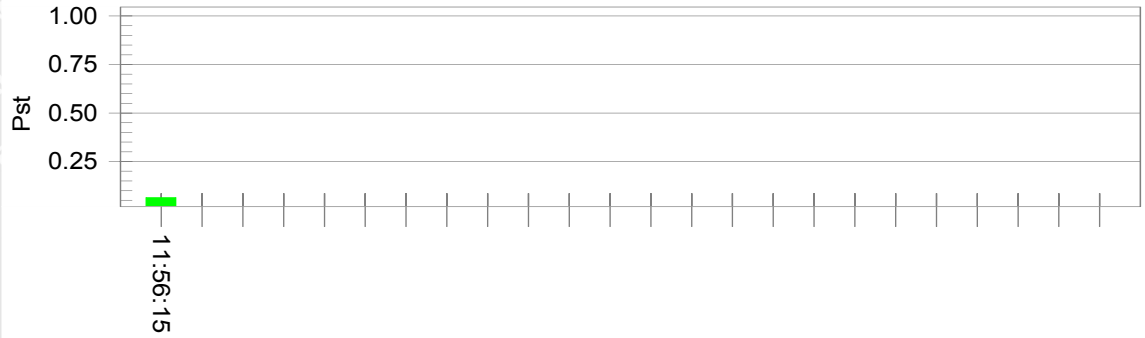
5.4.3 Voltage Fluctuation and Flicker Test Data

Flicker Test Summary per EN/IEC61000-3-3 (Run time)

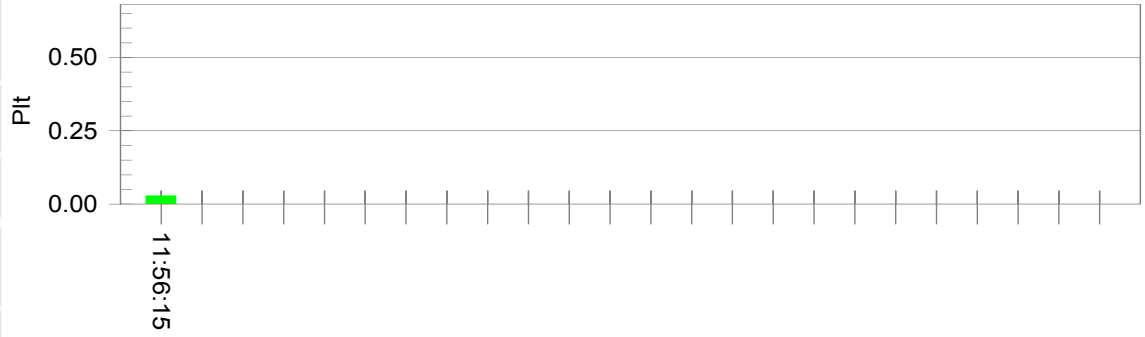
EUT: Multi Chemistry Charger **Tested by: LIU REN BIN**
Test category: All parameters (European limits) **Test Margin: 100**
Test date: 2016-5-11 **Start time: 11:45:45** **End time: 11:56:16**
Test duration (min): 10 **Data file name: F-000714.cts_data**
Comment: charging mode
Customer: e450

Test Result: Pass **Status: Test Completed**

Pst_i and limit line **European Limits**



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):	**229.57**			
Highest dt (%):	**0.00**	**Test limit (%):**	**N/A**	**N/A**
T-max (mS):	**0**	**Test limit (mS):**	**500.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**-0.04**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.064**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.028**	**Test limit:**	**0.650**	**Pass**

6 Immunity Test Results

6.1 Performance Criteria

Performance criterion A: The apparatus shall continue to operate as intended during the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.

Performance criterion B: The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however, no change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.

Performance criterion C: Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use. For further details, please refer to EN 55014-2.

6.2 Electrostatic Discharge(ESD)

Test Requirement	:	EN 55014-2
Test Method	:	IEC 61000-4-2
Test Result	:	Pass
Discharge Impedance	:	330Ω / 150pF
Discharge Voltage	:	Air Discharge: ±8kV Contact Discharge: ±4kV HCP & VCP: ±4kV
Polarity	:	Positive & Negative
Number of Discharge	:	Minimum 10 times at each test point
Discharge Mode	:	Single Discharge
Discharge Period	:	1 second minimum

6.2.1 E.U.T. Operation

Operating Environment:

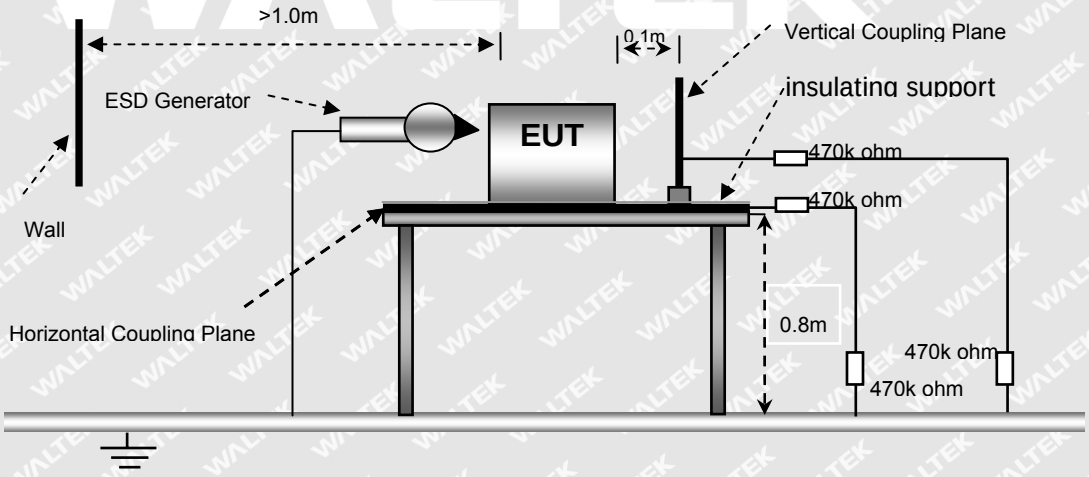
Temperature	:	22.7°C
Humidity	:	53.4%RH
Barometric Pressure	:	101.8kPa

EUT Operation:

Input Voltage	:	AC 230V/50Hz
Operating Mode	:	Charging mode

6.2.2 Block Diagram of Setup

The ESD test was performed in accordance with the IEC 61000-4-2.



6.2.3 Direct Discharge Test Results

Observations: Test points: 1. All Exposed Surface & Seams;
2. All metallic part

Direct Discharge			Test Results	
Applied Voltage (kV)	Performance Criterion	Test Point	Contact Discharge	Air Discharge
±8	B	1	N/A	Pass*
±4	B	2	Pass*	N/A

Remark: * During the test no deviation was detected to the selected operation mode(s)

6.2.4 Indirect Discharge Test Results

Observations: Test points: 1. All sides.

Indirect Discharge			Test Results	
Applied Voltage (kV)	Performance Criterion	Test Point	Horizontal Coupling	Vertical Coupling
±4	B	1	Pass*	Pass*

Remark: * During the test no deviation was detected to the selected operation mode(s)

6.1 Radio-frequency electromagnetic fields, 80MHz to 1GHz

Test Requirement	:	EN 55014-2
Test Method	:	IEC 61000-4-3
Test Result	:	Pass
Frequency Range	:	80MHz to 1GHz
Modulation	:	80%, 1kHz Amplitude Modulation.
Face of EUT	:	Front, Back, Left, Right
Antenna polarisation	:	Horizontal&Vertical

6.1.1 E.U.T. Operation

Operating Environment:

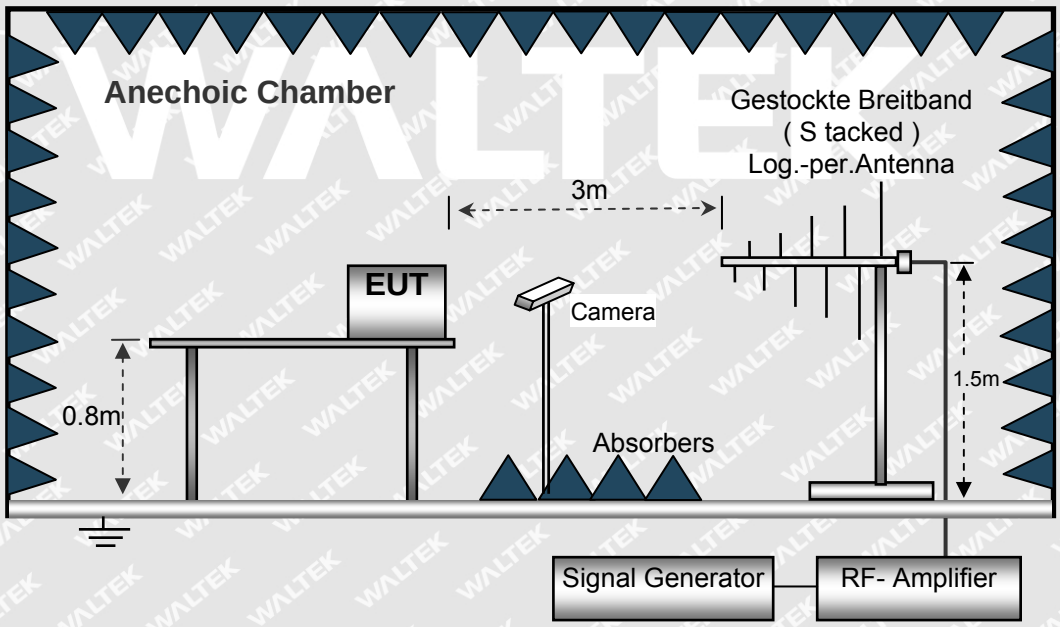
Temperature	:	22.4°C
Humidity	:	51%RH
Barometric Pressure	:	102.7kPa

EUT Operation:

Input Voltage	:	AC 230V/50Hz
Operating Mode	:	Charging mode

6.1.2 Block Diagram of Setup

The Radio-frequency electromagnetic fields Immunity test was performed in accordance with the IEC 61000-4-3.



6.1.3 Test Results

Frequency	Face of EUT	Antenna polarisation	Test Level	Step Size	Dwell Time	Performance Criterion	Result
80 to 1000MHz	Front, Back, Left, Right	Horizontal	3V/m	1%	1s	A	Pass*
80 to 1000MHz	Front, Back, Left, Right	Vertical	3V/m	1%	1s	A	Pass*

Remark:

* During the test no deviation was detected to the selected operation mode(s)

6.2 Electrical Fast Transients(EFT)

Test Requirement	:	EN 55014-2
Test Method	:	IEC 61000-4-4
Test Result	:	Pass
Polarity	:	Positive & Negative
Repetition Frequency	:	5kHz
Burst Duration	:	300ms
Test Duration	:	2 minutes per level & polarity

6.2.1 E.U.T. Operation

Operating Environment:

Temperature	:	23.2°C
Humidity	:	53.5%RH
Barometric Pressure	:	101.9kPa

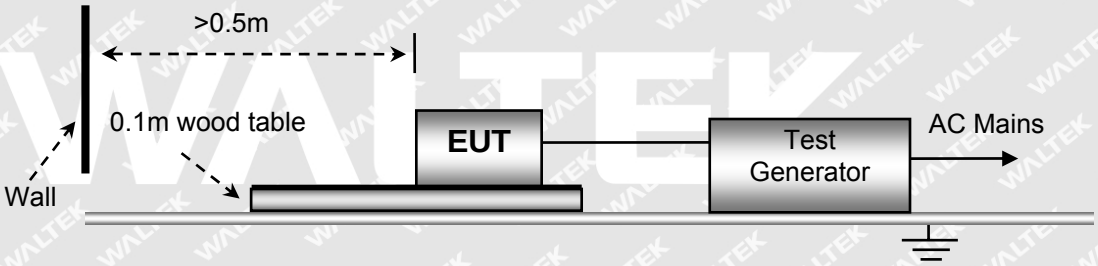
EUT Operation:

Input Voltage	:	AC 230V/50Hz
Operating Mode	:	Charging mode

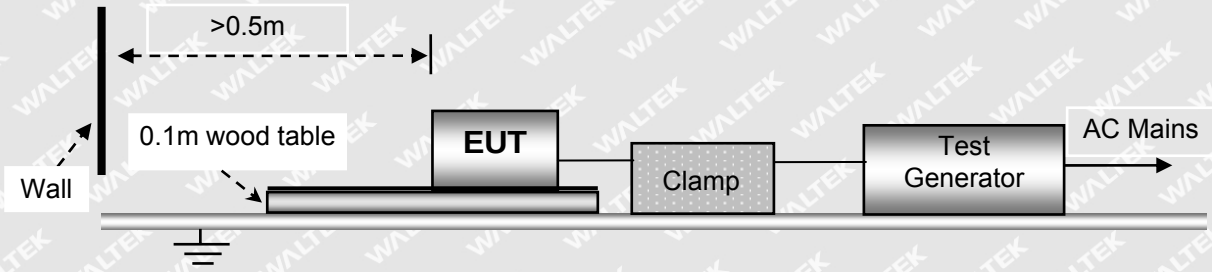
6.2.2 Block Diagram of Setup

The Electrical Fast Transients Immunity test was performed in accordance with the IEC 61000-4-4.

For AC Mains or DC Ports:



For Signal Ports:



6.2.3 Test Results

Test Port	Test Level(kV)	Performance Criterion	Result
AC Mains	±1.0	B	PASS *
Signal	±0.5	B	N/A [a] *
DC Ports	±0.5	B	N/A *

Remark:

* During the test no deviation was detected to the selected operation mode(s)

a Applicable only to cables which according to the manufacturer's specification supports communication on cable lengths greater than 3 m.

6.3 Surge

Test Requirement ..... : EN 55014-2

Test Method ..... : IEC 61000-4-5

Test Result ..... : Pass

Interval ..... : 60s between each surge

No. of surges ..... : 5 positive at 90°, 5 negative at 270°.

6.3.1 E.U.T. Operation

Operating Environment:

Temperature ..... : 23..3°C

Humidity ..... : 52.8%RH

Barometric Pressure ..... : 101.6kPa

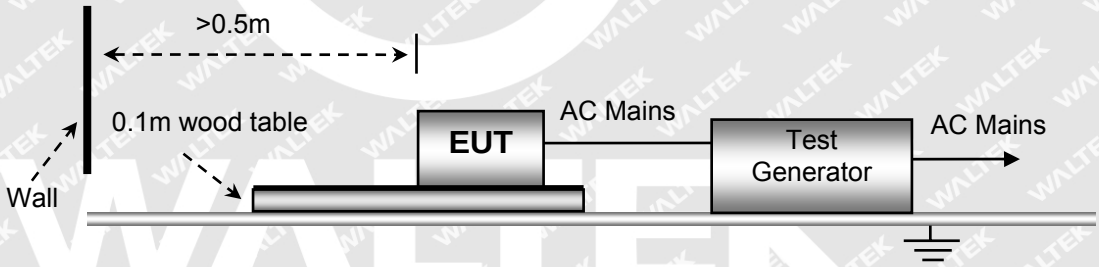
EUT Operation:

Input Voltage ..... : AC 230V/50Hz

Operating Mode ..... : Charging mode

6.3.2 Block Diagram of Setup

The Surge Immunity test was performed in accordance with the IEC 61000-4-5.



6.3.3 Test Results

Test Port	Applied Voltage (kV)	Performance criterion	Result
Between Live And Neutral:	±1	B	Pass*
Between Live And Earth:	±2	B	N/A
Between Neutral And Earth:	±2	B	N/A

Remark:

* During the test no deviation was detected to the selected operation mode(s)

6.4 Injected Currents Immunity, 0.15MHz to 80MHz

Test Requirement ..... : EN 55014-2

Test Method..... : IEC 61000-4-6

Test Result..... : Pass

Frequency Range ..... : 0.15MHz to 80MHz

Modulation ..... : 80%, 1kHz Amplitude Modulation.

6.4.1 E.U.T. Operation

Operating Environment:

Temperature ..... : 22.1°C

Humidity..... : 52.7% RH

Barometric Pressure..... : 101.4kPa

EUT Operation:

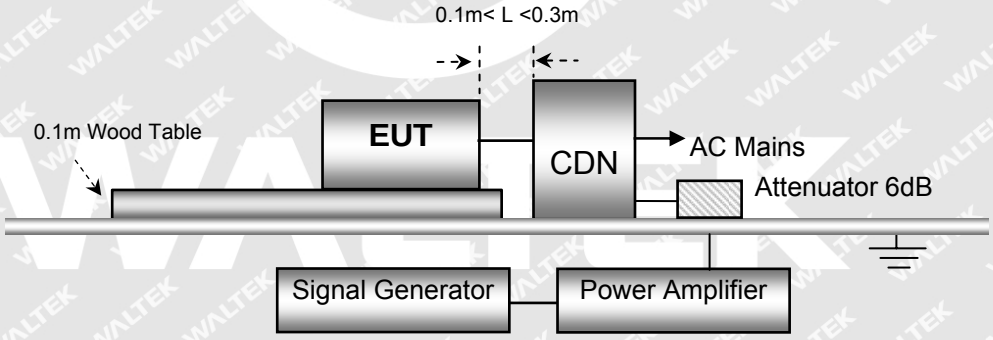
Input Voltage..... : AC 230V/50Hz

Operating Mode..... : Charging mode

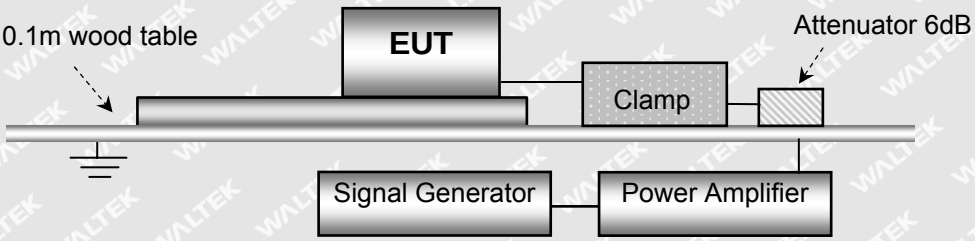
6.4.2 Block Diagram of Setup

The Injected Currents Immunity test was performed in accordance with the IEC 61000-4-6.

For AC Mains or DC Input:



For Signal Ports:



6.4.3 Test Results

Frequency	Line	Test Level	Modulation	Step Size	Dwell Time	Performance Criterion	Result
0.15MHz to 80MHz	2 Wire AC Supply Cables	3Vr.m.s.	80%, 1kHz Amp. Mod.	1%	1s	A	PASS *
0.15MHz to 80MHz	Signal	1Vr.m.s.	80%, 1kHz Amp. Mod.	1%	1s	A	N/A *a
0.15MHz to 80MHz	DC in	1Vr.m.s.	80%, 1kHz Amp. Mod.	1%	1s	A	N/A *b

Remark:

* During the test no deviation was detected to the selected operation mode(s)

a Applicable only to cables which according to the manufacturer's specification supports communication on cable lengths greater than 3 m.

b Not apply Batter power input ports.

6.5 Voltage Dips and Interruptions

Test Requirement ..... : EN 55014-2

Test Method..... : IEC 61000-4-11

Test Result..... : Pass

Test Level(Voltage reduction) : 0% & 40% &70 % of U_T (Supply Voltage)

No. of Dips / Interruptions..... : 1 per Level at 20ms intervals

6.5.1 E.U.T. Operation

Operating Environment:

Temperature ..... : 22.1°C

Humidity..... : 52.7% RH

Barometric Pressure..... : 101.4kPa

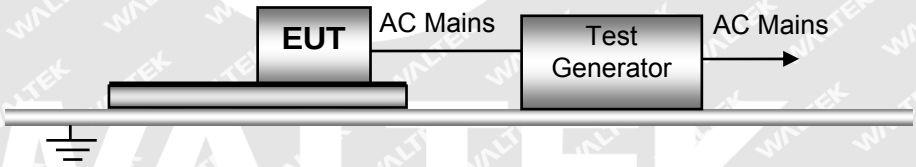
EUT Operation:

Input Voltage..... : AC 230V/50Hz

Operating Mode..... : Charging mode

6.5.2 Block Diagram of Setup

The Voltage Dips and Interruptions Immunity test was performed in accordance with the IEC 61000-4-11.



6.5.3 Test Results

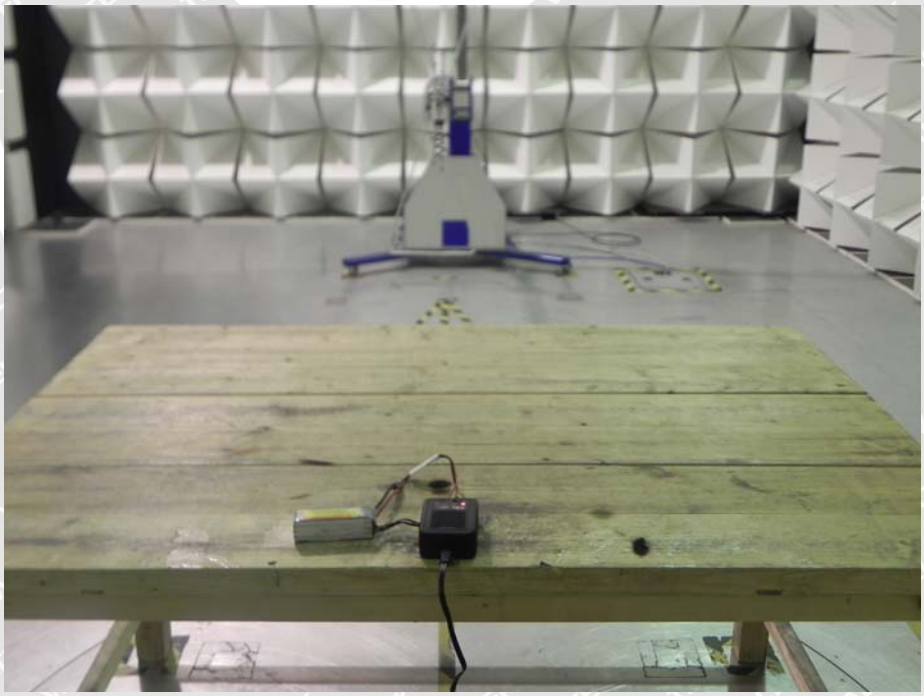
Test Level in%U_T	Performance criterion	50Hz		60Hz	
		Duration	Result	Duration	Result
0	C	0.5	Pass*	0.5	Pass*
40	C	10	Pass*	12	Pass*
70	C	25	Pass*	30	Pass*

Remark: * During the test no deviation was detected to the selected operation mode(s)

7 Photographs – Test Setup

7.1 Photograph – Mains Terminal Disturbance Voltage Test Setup

7.2 Photograph –Radiation Emission Test Setup for Below 1GHz

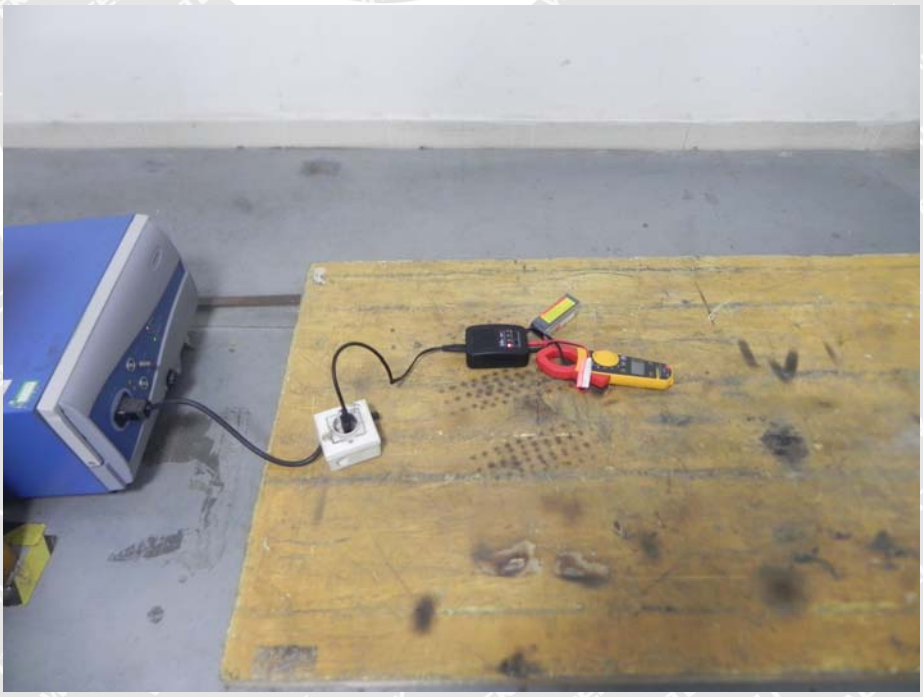


7.3 Photograph – Harmonic Current and Voltage Fluctuation and Flicker Test Setup

7.4 Photograph – ESD Immunity Test Setup

7.5 Photograph –Radio-frequency electromagnetic fields Test Setup

7.6 Photograph – EFT&Surge&Voltage Dips and Interruptions Immunity Test Setup



7.7 Photograph – Injected Currents Immunity Test Setup

8 Photographs – Constructional Details

8.1 EUT – Appearance View


LiPo
LiFe
LiHV
NiMH
Multi Chemistry Charger

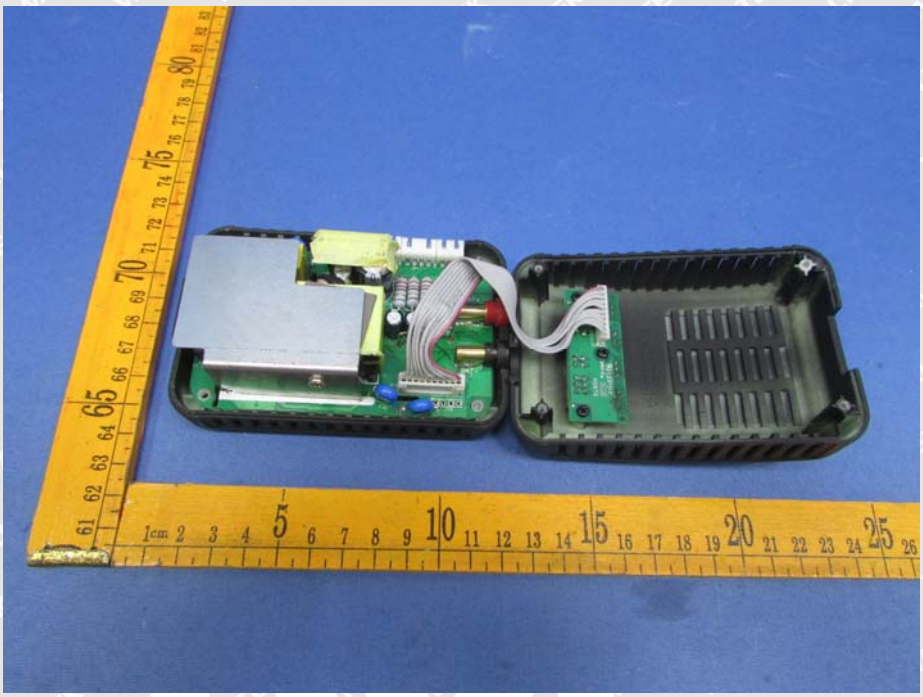

SKYRC
e450
Multi Chemistry Charger
LiPo
LiFe
LiHV
NiMH
BATT TYPE
1A
2A
3A
4A

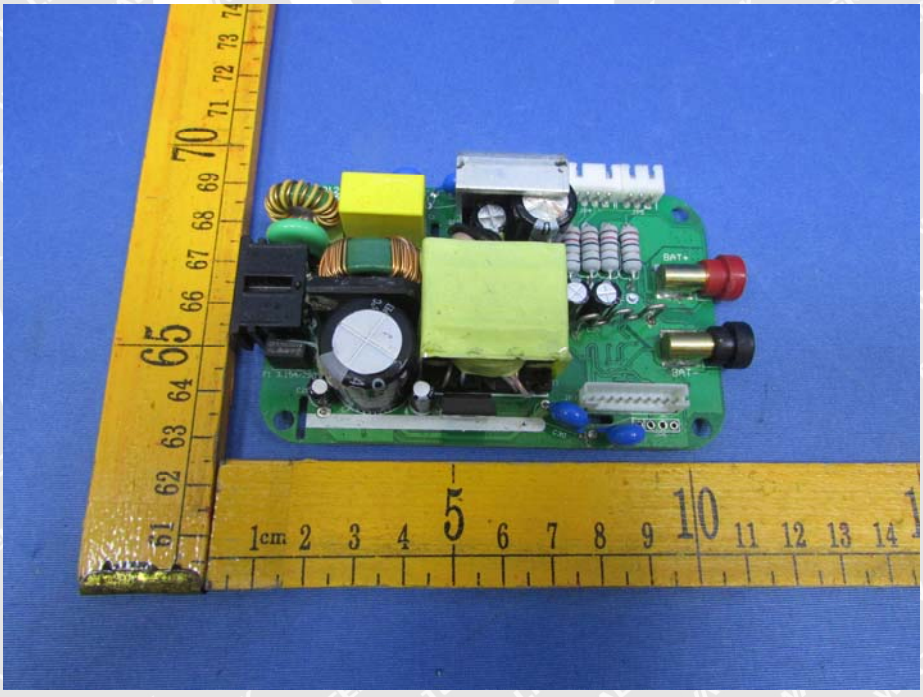

e450 SKYRC
Multi Chemistry Charger
LiPo
LiFe
LiHV
NiMH
1A
2A
3A
4A
BATT TYPE

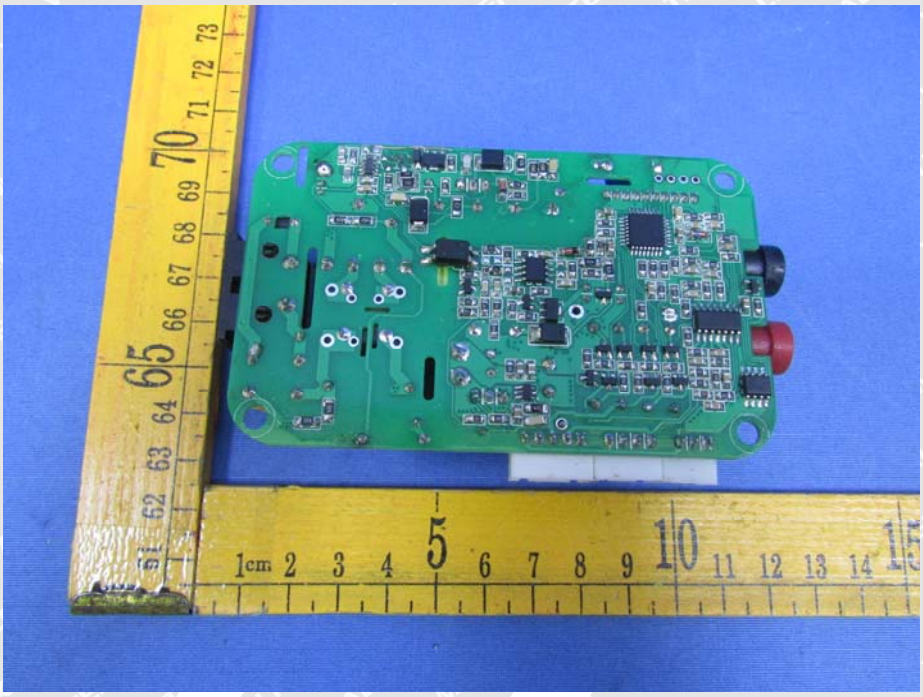

SKYRC e450
Multi Chemistry Charger
www.skyrc.com Made in China

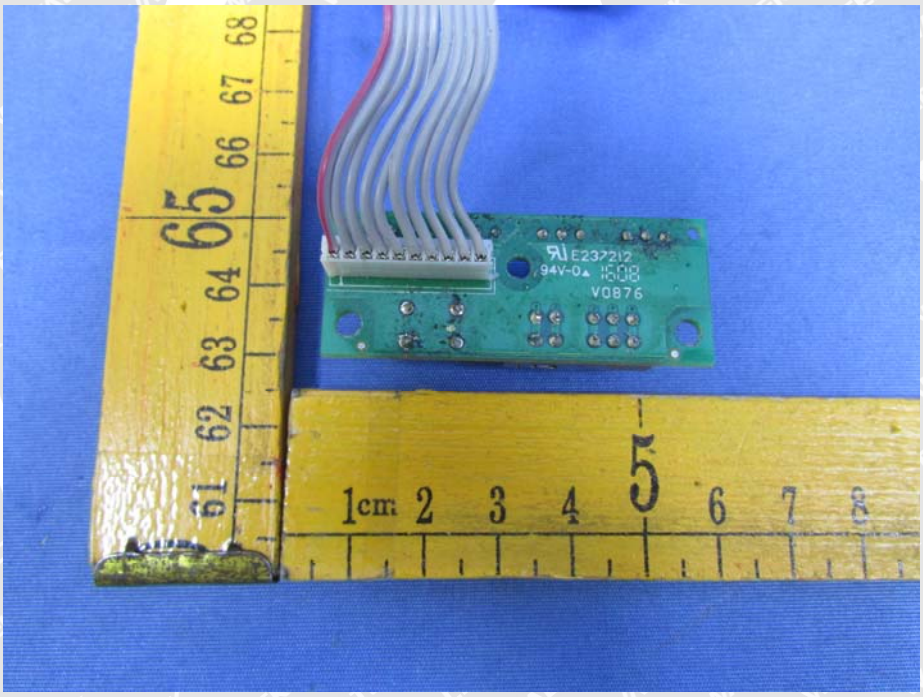

e450 SKYRC
Multi Chemistry Charger
LiPo LiFe LiHV NiMH
1A 2A 3A 4A
BATT TYPE

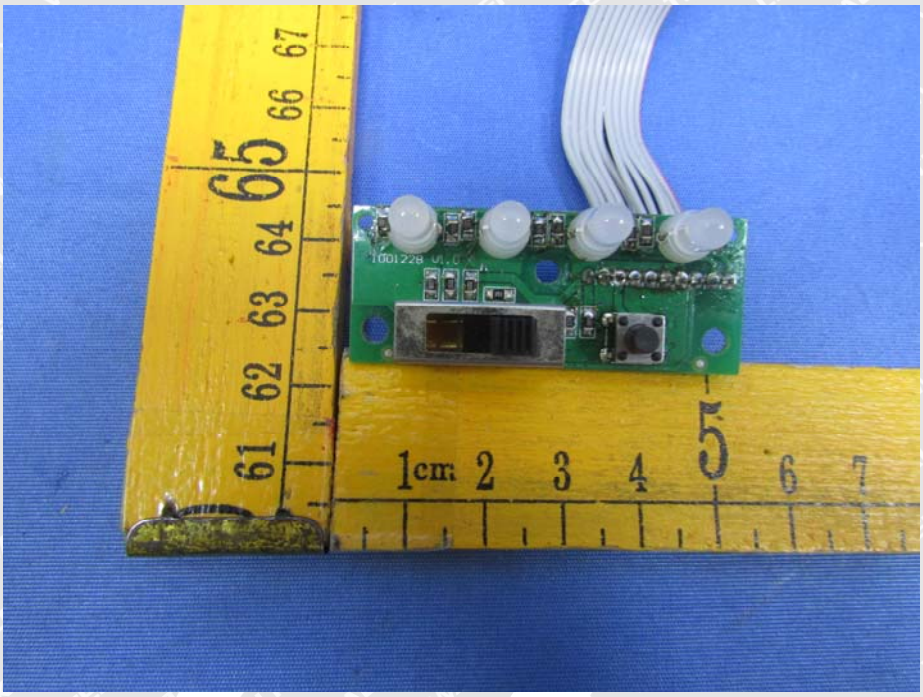
8.2 EUT – Open View











======End of Report======