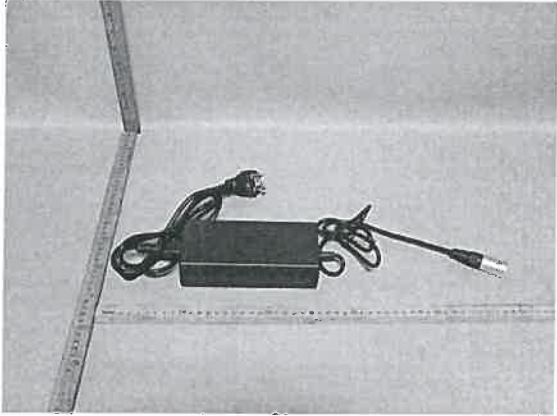


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Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	420594	Auftragsdatum: <i>Order date.:</i>	2015.11.26		
Auftraggeber: <i>Client:</i>	Wuxi Sans Electronic Co.,Ltd. Industrial WuYi, DongGang Town, Wuxi, Jiangsu, P.R. China				
Prüfgegenstand: <i>Test item:</i>	Li-ion Battery Charger				
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	SSLC084V42J, SSLC058V29J				
Auftrags-Inhalt: <i>Order content:</i>	CE EMC service				
Prüfgrundlage: <i>Test specification:</i>	EN 55014-1:2006+A1+A2 EN 55014-2:1997+A1+A2 EN 61000-3-2:2014 EN 61000-3-3:2013				
Wareneingangsdatum: <i>Date of receipt:</i>	2015.11.23				
Prüfmuster-Nr.: <i>Test sample No.:</i>	174042866-001				
Prüfzeitraum: <i>Testing period:</i>	Refer to test report				
Ort der Prüfung: <i>Place of testing:</i>	Refer to section 2.1				
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Guangdong) Ltd.				
Prüfergebnis*: <i>Test result*:</i>	Pass				
geprüft von / tested by:	kontrolliert von / reviewed by:				
2015.12.15 Jackson Yuan / Project Engineer <i>Jackson Yuan</i>	2015.12.15 Jeffery Xie/Section Manager <i>Jeffery Xie</i>				
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>
Sonstiges / Other:					
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>			Prüfmuster vollständig und unbeschädigt Test item complete and undamaged		
<p>* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specifications(s) F(ail) = failed a.m. test specifications(s) N/A = not applicable N/T = not tested</p>					
<p>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i></p>					

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TEST SUMMARY

5.1.1 HARMONICS CURRENT EMISSION ON AC MAINS

RESULT: *Pass*

5.1.2 VOLTAGE CHANGES, VOLTAGE FLUCTUATIONS AND FLICKER

RESULT: *Pass*

5.1.3 TERMINAL CONTINUOUS DISTURBANCE VOLTAGE

RESULT: *Pass*

5.1.4 TERMINAL DISCONTINUOUS DISTURBANCE VOLTAGE

RESULT: *N/A*

5.2.1 DISTURBANCE POWER

RESULT: *Pass*

6.2.1 RADIO-FREQUENCY COMMON MODE / CONDUCTED SUSCEPTIBILITY (CS)

RESULT: *Pass*

6.3.1 ELECTRICAL FAST TRANSIENTS (EFT)

RESULT: *Pass*

6.3.2 SURGE

RESULT: *Pass*

6.3.3 ELECTROSTATIC DISCHARGES (ESD)

RESULT: *Pass*

6.4.1 VOLTAGE DIPS AND INTERRUPTIONS

RESULT: *Pass*

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1. General Remarks

When applying the basic standards in this test report, please refer to the applied generic or product family standards for edition information:
For dated basic standards, only the edition cited applies. For undated basic standards, the latest edition (including any amendments) applies.

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix 1: Test Result

2. Test Sites

2.1 Test Facilities

WALTEK SERVICES (FO SHAN) CO., LTD.

No.13-19, 2/F, 2nd Building, Sunlink International Machinery City, Chencun Town,
Shunde District, Foshan. 528313, Guangdong, China

The test at these test sites has been conducted under the supervision of a TÜV
Rheinland engineer.

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2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Test Equipment	Model	Manufacturer	Serial No.	Cal Until
WALTEK SERVICES (FO SHAN) CO., LTD.				
Disturbance Voltage				<input checked="" type="checkbox"/>
EMI Test Receiver	ESCI	R&S	101178	07.Jan.2016
LISN	ENV216	R&S	101215	07.Jan.2016
Cable	CBL2-NN-3M	HUBER+SUHNER	2230300	07.Jan.2016
Switch	RSU/M2	ESE	---	07.Jan.2016
Disturbance Power				<input checked="" type="checkbox"/>
EMI Test Receiver	ESCI	R&S	101178	07.Jan.2016
Absorbing Clamp	MDS-21	LUTHI	4067	07.Jan.2016
Cable	CBL2-NN-9M	HUBER+SUHNER	2230900	07.Jan.2016
Switch	RSU/M2	ESE	---	07.Jan.2016
Harmonics & Flicker				<input checked="" type="checkbox"/>
Harmonics and Flicker Measuring System	PROFLINE2105-400	TESEQ	1133A01498	07.Jan.2016
Discontinuous Disturbance Voltage				<input type="checkbox"/>
Discontinues Disturbance Analyzer	DIA1512D	TESEQ	28302	07.Jan.2016
LISN	NSLK 8128	SCHWARZBECK	8128-289	07.Jan.2016
Electrostatic Discharge(ESD)				<input checked="" type="checkbox"/>
ESD Simulator	NSG437	TESEQ	521	07.Jan.2016
Electrical Fast Transient(EFT)				<input checked="" type="checkbox"/>
EMS test system	NSG3040	TESEQ	0319	07.Jan.2016

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Test Equipment	Model	Manufacturer	Serial No.	Cal Until
Step Transformer	INA6501	TESEQ	206	07.Jan.2016
Surge				<input checked="" type="checkbox"/>
Surge Simulator	NSG3060	TESEQ	1395	07.Jan.2016
Conducted Susceptibility (150kHz-230MHz)/(150kHz-80MHz)				<input checked="" type="checkbox"/>
Conducted Immunity test system	NSG4070-75	TESEQ	31469	07.Jan.2016
CDN	M016	TESEQ	31586	07.Jan.2016
Voltage Dips and Interruptions				<input checked="" type="checkbox"/>
EMS test system	NSG3040	TESEQ	0319	07.Jan.2016
Step Transformer	INA6501	TESEQ	206	07.Jan.2016

: **Not Used**

: **Used**

3. General Product Information

The submitted samples are Li-ion Battery Charger with electronic circuit.

Two models have same electric circuit and PCB layout, only their output voltage is different due to some passive components.

Therefore, full EMC tests were performed on model SSLC084V42J which with biggest output voltage.

3.1 Product Function and Intended Use

Refer to the Technical Documentation and user manual.

3.2 Ratings and System Details

Model Name	Rated Input	Rated Output	Protection Class
SSLC084V42J	AC 100-240V, 50-60Hz, 1.8A max	DC 42.0V, 2A	I
SSLC058V29J		DC 29.4V, 2A	

Refer to Technical Documentation for further information.

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3.3 Independent Operation Modes

The basic operation modes are:

On, Off

Refer to user manual for further information.

3.4 Noise Generating and Noise Suppressing Parts

Refer to Technical Documentation.

3.5 Submitted Documents

Difference declaration
Construction drawing
Circuit diagram
PCB layout
Parts list
Rating label
User manual

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

Immunity: The equipment under test (EUT) was configured to have its highest possible susceptibility against the tested phenomena. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Refer to test set-up in chapter 5 and chapter 6.

4.3 Special Accessories and Auxiliary Equipment

None.

4.4 Countermeasures to achieve EMC Compliance

No additional countermeasures to the submitted test sample(s) were employed to achieve compliance.

5. Test Results EMISSION

5.1 Emission in the Frequency Range up to 30 MHz

5.1.1 Harmonics Current Emission on AC Mains

RESULT: **Pass**

Test Specification

Basic standard	:	EN 61000-3-2:2014
Measurement equipment requirement	:	IEC 61000-4-7
Measured harmonics	:	1 – 40
Equipment class	:	A
Limits	:	Clause 7.1, Table 1

Test Setup

Date of testing	:	2015.11.25
Input voltage	:	AC 230V, 50Hz
Operation mode	:	Full load
Test observation period	:	2.5min
Temperature	:	20°C
Humidity	:	53%
Air pressure	:	101kPA

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Photograph 1: Set-up for Harmonics Current Emission on AC Mains



Test Result

For the measurement, refer to the appendix 1.

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5.1.2 Voltage Changes, Voltage Fluctuations and Flicker

RESULT: Pass

Test Specification

Basic standard	:	EN 61000-3-3:2013
Measurement equipment requirement	:	IEC 61000-4-15
Limits	:	EN 61000-3-3, Clause 5

According to the electrical characteristics and usage of the equipment, the EUTs are unlikely to produce significant voltage fluctuations or flicker.

5.1.3 Terminal Continuous Disturbance Voltage

RESULT: **Pass**

Test Specification

Test procedure	:	EN 55014-1:2006+A1+A2, Clause 5
Port	:	Mains*
Frequency range of Mains	:	148.5kHz-30MHz
Frequency range of Load	:	N/A
Frequency range of Additional Terminal	:	N/A
Test site	:	Shielded Room
Limits	:	EN 55014-1:2006+A1+A2, Clause 4.1.1, Table 1

Test Setup

Date of testing	:	2015.11.25/12.11
Input voltage	:	AC 264V, 50Hz, AC 100V, 60Hz
Operation mode	:	On
Artificial hand	:	N/A
Test configuration	:	Table-top
Temperature	:	23.1°C
Humidity	:	42.0%
Air pressure	:	101.2kPA

*)According to EN 55014-1:2006+A1+A2 clause 4.1.1.2 and description in user manual, the length of output cord of EUT is shorter than 2m and connected permanently to the ended product, therefore the test on load terminal is not applicable.

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Photograph 2: Set-up for Terminal Continuous Disturbance Voltage on AC Mains



Test Result

Measurement uncertainty: 2.66dB (k=2, $\sigma= 95\%$)

If the result of the measurement with the Quasi Peak detector is below the Average limit, the measurement with Average Detector has been omitted.

Disturbances other than those mentioned are small or not detectable.

Refer to the attached appendix 1. *note: full load is the worst condition after tested with full load, half load and empty load.

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5.1.4 Terminal Discontinuous Disturbance Voltage

RESULT: N/A

Test Specification

Test procedure	:	EN 55014-1:2006+A1+A2, Clause 5
Port	:	Mains
Test site	:	Shielded Room
Limits	:	EN 55014-1:2006+A1+A2, Clause 4.2.2.2
EUT category	:	According table A.1 of annex A
Factor <i>f</i> according table A.2	:	1.0

According to the electrical characteristics and usage of the equipment, the EUT does not produce discontinuous radio interference voltages on AC Mains. Therefore this test item has been skipped.

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5.2 Emission in the Frequency Range Above 30 MHz

5.2.1 Disturbance Power

RESULT: **Pass**

Test Specification

Test procedure	:	EN 55014-1:2006+A1+A2, Clause 6
Port	:	Mains, DC Mains
Frequency range of Mains	:	30MHz-300MHz
Test Site	:	Shielded Room
Limits	:	EN 55014-1:2006+A1+A2, Clause 4.1.2, Table 2a 2b

Test Setup

Date of testing	:	2015.11.25 to 2015.12.11
Input voltage	:	AC 264V, 50Hz, AC 100V, 60Hz
Operation mode	:	On
Temperature	:	23.1°C
Humidity	:	42.0%
Air pressure	:	101kPA

According to Clause 4.1.2.3.2:

Appliances are deemed to comply in the frequency range from 300 MHz to 1000 MHz as both of the following conditions (1) and 2)) are fulfilled:

- 1) all emission readings from the equipment under test are lower than the applicable limits (Table 2a) reduced by the margin (Table 2b);
- 2) the maximum clock frequency is less than 30 MHz.

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Photograph 3: Set-up for Disturbance Power on AC mains



Test Result

Measurement uncertainty: 3.21dB ($k=2$, $\sigma=95\%$)

If the result of the measurement with the Quasi Peak detector is below the Average limit, the measurement with Average Detector has been omitted.

The power cord had been extended to a length of 6m and routed through an absorber clamp. The clamp was moved along the cable to find the maximal emission.

Disturbances other than those mentioned are small or not detectable.

Refer to the attached appendix 1. *note: full load is the worst condition after tested with full load, half load and empty load.

6. Test Results IMMUNITY

6.1 Classification of Apparatus

The EUT contains electronic control circuit with no internal clock frequency or oscillator frequency higher than 15MHz, according to EN 55014-2:1997+A1+A2 clause 4.2, the EUT is a category II appliance.

Apparatus of the category II shall fulfill the requirements of:

Radio-frequency Common Mode / Conducted Susceptibility (CS)	Criterion A
Electrical Fast Transients (EFT)	Criterion B
Surge	Criterion B
Electrostatic Discharges (ESD)	Criterion B
Voltage Dips And Interruptions	Criterion C

6.2 Continuous Disturbances

6.2.1 Radio-frequency Common Mode / Conducted Susceptibility (CS)

RESULT: **Pass**

Test Specification

Family standard	:	EN 55014-2:1997+A1+A2, clause 5.3
Basic standard	:	IEC 61000-4-6
Characteristics of the test generator	:	
Output impedance	:	50 Ω
Harmonics and distortion	:	Any spurious spectral line at least 15 dB below the carrier level
Amplitude modulation	:	80 % \pm 5 % in depth, 1 kHz \pm 10 % sine wave
Frequency bandwidth	:	150 kHz to 230 MHz
Frequency step	:	1% with 1 s dwell time
Performance criterion	:	A

Test Setup

Date of testing	:	2015.11.26
Input voltage	:	AC 230V, 50Hz
Operation mode	:	On
Artificial hand	:	N/A
Signal lines and control lines	:	N/A
Input and output dc power ports	:	3V (rms)
Input ac power ports	:	3V (rms)
Temperature	:	23.1°C
Humidity	:	37.3%
Air pressure	:	100.8kPA

Photograph 4: Set-up for Radio-frequency Common Mode / Conducted Susceptibility (CS)



Test Result

Table 2: Immunity against Radio-frequency Common Mode / Conducted Susceptibility (CS)

Coupling point	Application	Level (V(r.m.s))	Remark
Power ports			
AC power port	CDN-M3	3	Applied, *)
DC power port	EM clamp	3	Applied, *)
Signal lines			
	EM clamp	1	N/A
Control lines			
	EM clamp	1	N/A

*) Remark: No degradation was found.

6.3 Transient Disturbances

6.3.1 Electrical Fast Transients (EFT)

RESULT: **Pass**

Test Specification

Family standard	:	EN 55014-2:1997+A1+A2, clause 5.2
Basic standard	:	IEC 61000-4-4
Wave shape of the pulse in 50 Ω load	:	
Rise time	:	5 ns \pm 30 %
Duration	:	50 ns \pm 30 %
Wave shape into 1 k Ω load	:	
Rise time	:	5 ns \pm 30 %
Duration	:	50 ns with a tolerance of -15 ns to + 100 ns
Burst duration	:	15 ms \pm 20 % at 5 kHz
Burst period	:	300 ms \pm 20 %
Repetition frequency	:	5 kHz
Polarity	:	Positive and negative
Time of application	:	2 minutes
Performance criterion	:	B

Test Setup

Date of testing	:	2015.11.26
Input voltage	:	AC 230V, 50Hz
Operation mode	:	On
Artificial hand	:	N/A
Signal lines and control lines	:	N/A
Input and output dc power ports	:	0.5kV
Input ac power ports	:	1kV
Temperature	:	23.1°C
Humidity	:	37.3%
Air pressure	:	100.8kPA

Photograph 5: Set-up for Electrical Fast Transient (EFT)



Test Result

Table 3: Immunity against Electrical Fast Transients (EFT)

Coupling point	Application	Level (kV)	Polarity	Remark
Power ports				
AC power port	Coupling network	1	+	Applied, *)
		1	-	Applied, *)
DC power port	Coupling clamp	0.5	+	Applied, *)
		0.5	-	Applied, *)
Signal lines				
	Coupling clamp	0.5	+/-	N/A
Control lines				
	Coupling clamp	0.5	+/-	N/A

*) Remark: No degradation was found.

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6.3.2 Surge

RESULT: **Pass**

Test Specification

Family standard	:	EN 55014-2:1997+A1+A2, clause 5.6
Basic standard	:	IEC 61000-4-5
Definitions of the waveform parameters :		
Front time		1.2 μ s \pm 30 %
Time to half value		50 μ s \pm 20 %
Source impedance	:	
Power line symmetrical		2 Ω + 18 μ F
Power line unsymmetrical		12 Ω + 9 μ F
Polarity	:	Positive and negative
Number of surges /polarity/phase angle :		5
Phase angles	:	90°, 270 °
Repetition rate	:	60 s
Performance criterion	:	B

Test Setup

Date of testing	:	2015.11.26
Input voltage	:	AC 230V, 50Hz
Operation mode	:	On
Temperature	:	23.1°C
Humidity	:	37.3%
Air pressure	:	100.8kPA

Photograph 6: Set-up for Surge on AC Power Supply



Test Result

Table 4: Surge Immunity Tests, AC Power Supply

Coupling point	Application	Level (kV)	Polarity	Remark
AC power port	Between phase and neutral	1	+	Applied, *)
		1	-	Applied, *)
AC power port	Between phase and protective earth	2	+	Applied, *)
		2	-	Applied, *)
AC power port	Between neutral and protective earth	2	+	Applied, *)
		2	-	Applied, *)

*) Remark: No degradation was found.

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6.3.3 Electrostatic Discharges (ESD)

RESULT: **Pass**

Test Specification

Family standard	:	EN 55014-2:1997+A1+A2, clause 5.1
Basic standard	:	IEC 61000-4-2
Discharge impedance	:	330 Ω / 150 pF
Number of discharges	:	≥ 10
Type of discharge	:	
Direct discharge		Air discharge, $\pm 8\text{kV}$ Contact discharge, $\pm 4\text{kV}$
Indirect discharge		Contact discharge, $\pm 4\text{kV}$
Polarity	:	Positive and negative
Discharge location	:	See photo documentation of the test set-up All external locations accessible by hand Horizontal coupling plate (HCP) Vertical coupling plate (VCP)
Performance criterion	:	B

Test Setup

Date of testing	:	2015.11.26
Input voltage	:	AC 230V, 50Hz
Operation mode	:	On
Temperature	:	23.1°C
Humidity	:	37.3%
Air pressure	:	100.8kPA

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Photograph 7: Set-up for Electrostatic Discharge

⚡ Contact Discharge $\pm 4\text{kV}$ ⚡ Air Discharge $\pm 8\text{kV}$



Test Result

Table 5: Electrostatic Discharge

Direct discharges			
Air discharges Discharge location	Air discharge voltage (kV)	Polarity	Remark
Refer to Photograph of ESD setup	8	+	Applied, *)
Refer to Photograph of ESD setup	8	-	Applied, *)
Non-conductive parts	8	+/-	Applied, *)
Contact discharges Discharge location	Contact discharge voltage (kV)	Polarity	Remark
Refer to Photograph of ESD setup	4	+	N/A
Refer to Photograph of ESD setup	4	-	N/A
Conductive parts	4	+/-	Applied, *)
Indirect discharges			
Contact discharges Discharge location	Contact discharge voltage (kV)	Polarity	Remark
HCP	4	+/-	Applied, *)
VCP	4	+/-	Applied, *)

*) Remark: No degradation was found.

6.4 Power Supply Alterations

6.4.1 Voltage Dips and Interruptions

RESULT: **Pass**

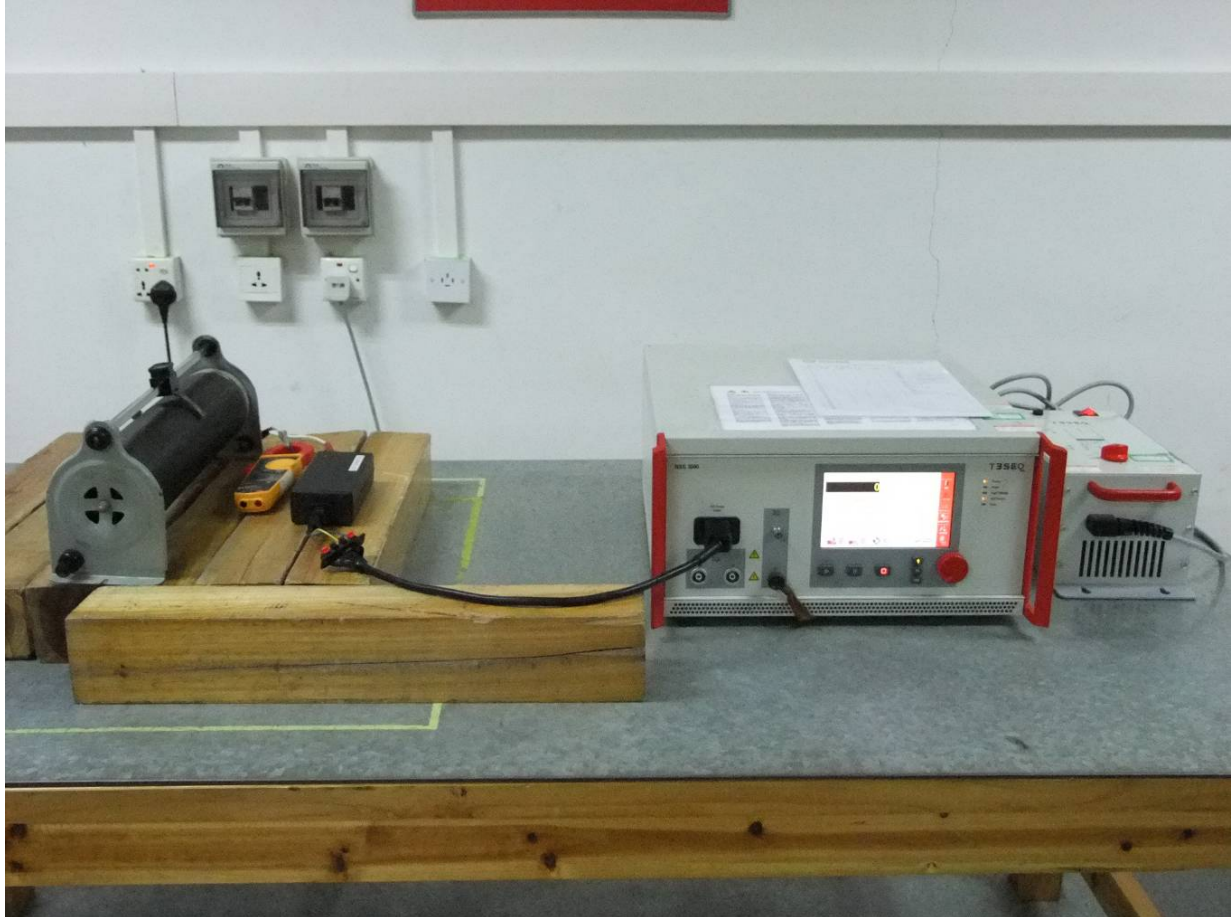
Test Specification

Family standard	:	EN 55014-2:1997+A1+A2, clause 5.7
Basic standard	:	IEC 61000-4-11
Test voltage generator characteristics for interruptions	:	
Rise time	:	Between 1 μ s and 5 μ s
Fall time	:	Between 1 μ s and 5 μ s
Output impedance of test voltage generator	:	<(0.4 + j 0.25 Ω)
Phase angle	:	0°
Nominal mains voltage (Ut)	:	230 V
Rated frequency	:	50/60Hz
Test level	:	
Test level in % Ut	:	Duration (in periods)
0	:	0.5
40	:	10/12
70	:	25/30
Number of interruptions	:	3
Number of voltage dips	:	3
Interval	:	>10s
Performance criterion	:	C

Test Setup

Date of testing	:	2015.11.26
Operation mode	:	On
Temperature	:	23.1°C
Humidity	:	37.3%
Air pressure	:	100.8kPA

Photograph 8: Set-up for Voltage Dips and Interruptions



Test Result

Table 6: Voltage Dip and Interruptions Immunity

Interruptions			
Test level (% Ut)	Duration (in periods)	Number of interruptions	Result
0	0.5	3	Applied, *)
Voltage dips			
Test level (% Ut)	Duration (in periods)	Number of voltage dips	Result
40	10/12	3	Applied, *)
70	25/30	3	Applied, *)

*) Remark: No degradation was found.

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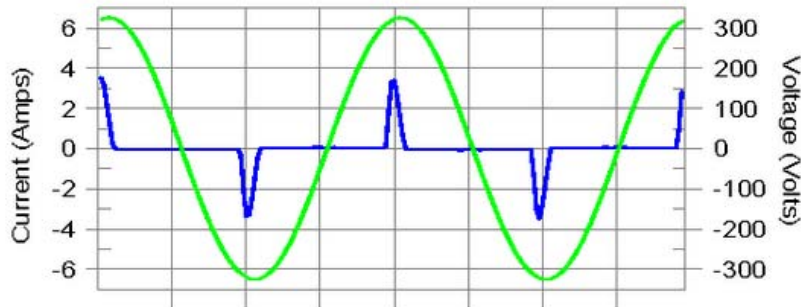
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Teseq Proflin
4542 Luterbach, Switzerland

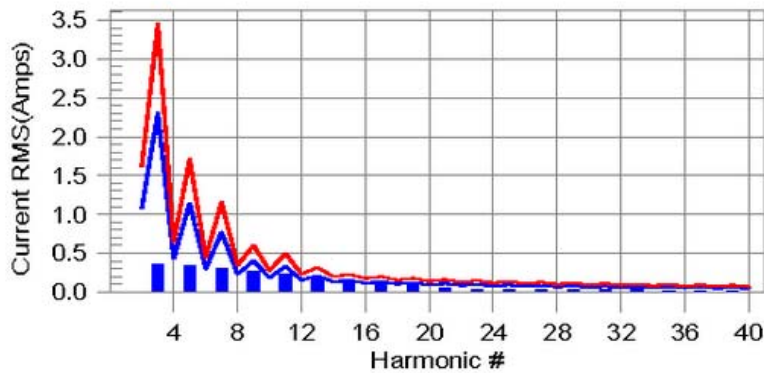
12/1/2015
5:23 PM

Harmonics – Class-A per Ed. 4.0 (2014)(Run time) incl. inter-harmonics

EUT: Li-ion Battery Charger SSLC084V42J (WTU15F1137061E) Tested by: Tony
Test category: Class-A per Ed. 4.0 (2014) (European limits) Test Margin: 100
Test date: 2015/11/25 Start time: 9:50:51 End time: 9:53:43
Test duration (min): 2.5 Data file name: H-002573.cts_data
Comment: Full load
Customer: Wuxi Sans Electronic Co.,Ltd
Test Result: Pass Source qualification: Normal
Current & voltage waveforms



Harmonics and Class A limit line **European Limits**



Test result: Pass **Worst harmonic was #15 with 99.4% of the limit.**

Tested by: *Tony Wu*

Reviewed by: *Tom Xiao*

Prüfbericht - Nr.: 16072519 001
Test Report no.:

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Teseq Proflin
4542 Luterbach, Switzerland

12/1/2015
5:23 PM

Current Test Result Summary (Run time)

EUT: Li-ion Battery Charger SSLC084V42J (WTU15F1137061E) Tested by: Tony
Test category: Class-A per Ed. 4.0 (2014) (European limits) Test Margin: 100
Test date: 2015/11/25 Start time: 9:50:51 End time: 9:53:43
Test duration (min): 2.5 Data file name: H-002573.cts_data

Comment: Full load

Customer: Wuxi Sans Electronic Co.,Ltd

Test Result: Pass Source qualification: Normal

THC(A): 0.743 I-THD(%): 197.5 POHC(A): 0.096 POHC Limit(A): 0.251

Highest parameter values during test:

V RMS (Volts): 230.20 Frequency(Hz): 50.00
I Peak (Amps): 3.570 I RMS (Amps): 0.834
I Fund (Amps): 0.377 Crest Factor: 4.283
Power (Watts): 84.2 Power Factor: 0.441

Harm#	Harms (avg)	100% Limit	% of Limit	Harms (max)	150% Limit	% of Limit	Status
2	0.002	1.080	N/A	0.004	1.620	N/A	Pass
3	0.358	2.300	15.6	0.359	3.450	10.4	Pass
4	0.003	0.430	N/A	0.004	0.645	N/A	Pass
5	0.337	1.140	29.6	0.338	1.710	19.8	Pass
6	0.002	0.300	N/A	0.003	0.450	N/A	Pass
7	0.308	0.770	40.0	0.309	1.155	26.8	Pass
8	0.002	0.230	N/A	0.004	0.345	N/A	Pass
9	0.273	0.400	68.1	0.273	0.600	45.5	Pass
10	0.002	0.184	N/A	0.004	0.276	N/A	Pass
11	0.232	0.330	70.4	0.234	0.495	47.2	Pass
12	0.002	0.153	N/A	0.004	0.230	N/A	Pass
13	0.190	0.210	90.7	0.192	0.315	61.0	Pass
14	0.002	0.131	N/A	0.004	0.197	N/A	Pass
15	0.149	0.150	99.4	0.151	0.225	67.2	Pass
16	0.002	0.115	N/A	0.004	0.173	N/A	Pass
17	0.111	0.132	84.1	0.113	0.198	57.2	Pass
18	0.002	0.102	N/A	0.003	0.153	N/A	Pass
19	0.078	0.118	66.0	0.080	0.178	45.1	Pass
20	0.002	0.092	N/A	0.003	0.138	N/A	Pass
21	0.053	0.107	49.3	0.054	0.161	33.9	Pass
22	0.002	0.084	N/A	0.003	0.125	N/A	Pass
23	0.038	0.098	38.4	0.038	0.147	26.2	Pass
24	0.001	0.077	N/A	0.002	0.115	N/A	Pass
25	0.032	0.090	35.8	0.033	0.135	24.1	Pass
26	0.001	0.071	N/A	0.002	0.107	N/A	Pass
27	0.032	0.083	38.5	0.033	0.125	26.1	Pass
28	0.001	0.066	N/A	0.002	0.099	N/A	Pass
29	0.032	0.078	40.8	0.033	0.116	28.0	Pass
30	0.001	0.061	N/A	0.002	0.092	N/A	Pass
31	0.029	0.073	40.0	0.029	0.109	27.0	Pass
32	0.001	0.058	N/A	0.002	0.086	N/A	Pass
33	0.024	0.068	35.6	0.025	0.102	24.2	Pass
34	0.001	0.054	N/A	0.001	0.081	N/A	Pass
35	0.018	0.064	28.3	0.019	0.096	19.4	Pass
36	0.001	0.051	N/A	0.001	0.077	N/A	Pass
37	0.012	0.061	19.5	0.013	0.091	13.7	Pass
38	0.001	0.048	N/A	0.001	0.073	N/A	Pass
39	0.007	0.058	11.9	0.007	0.087	8.6	Pass
40	0.001	0.046	N/A	0.001	0.069	N/A	Pass

Tested by: *Jing.Wu*

Reviewed by: *Tom Xiao*

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Teseq Profline
4542 Luterbach, Switzerland

12/1/2015
5:23 PM

Voltage Source Verification Data (Run time)

EUT: Li-ion Battery Charger SSLC084V42J (WTU15F1137061E) Tested by: Tony
 Test category: Class-A per Ed. 4.0 (2014) (European limits) Test Margin: 100
 Test date: 2015/11/25 Start time: 9:50:51 End time: 9:53:43
 Test duration (min): 2.5 Data file name: H-002573.cts_data
 Comment: Full load
 Customer: Wuxi Sans Electronic Co.,Ltd
 Test Result: Pass Source qualification: Normal
 Highest parameter values during test:

Voltage (Vrms): 230.20	Frequency(Hz): 50.00
I _{Peak} (Amps): 3.570	I _{RMS} (Amps): 0.834
I _{Fund} (Amps): 0.377	Crest Factor: 4.283
Power (Watts): 84.2	Power Factor: 0.441

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.072	0.460	15.68	OK
3	0.593	2.071	28.62	OK
4	0.116	0.460	25.14	OK
5	0.086	0.921	9.35	OK
6	0.042	0.460	9.12	OK
7	0.117	0.690	16.88	OK
8	0.013	0.460	2.82	OK
9	0.123	0.460	26.76	OK
10	0.014	0.460	2.98	OK
11	0.128	0.230	55.76	OK
12	0.014	0.230	5.93	OK
13	0.118	0.230	51.07	OK
14	0.008	0.230	3.46	OK
15	0.104	0.230	45.21	OK
16	0.012	0.230	5.08	OK
17	0.089	0.230	38.50	OK
18	0.015	0.230	6.32	OK
19	0.074	0.230	32.23	OK
20	0.018	0.230	8.02	OK
21	0.056	0.230	24.51	OK
22	0.006	0.230	2.68	OK
23	0.040	0.230	17.52	OK
24	0.004	0.230	1.91	OK
25	0.038	0.230	16.33	OK
26	0.005	0.230	2.19	OK
27	0.044	0.230	18.95	OK
28	0.006	0.230	2.47	OK
29	0.039	0.230	17.04	OK
30	0.004	0.230	1.65	OK
31	0.042	0.230	18.22	OK
32	0.005	0.230	2.30	OK
33	0.037	0.230	16.13	OK
34	0.006	0.230	2.44	OK
35	0.031	0.230	13.33	OK
36	0.004	0.230	1.60	OK
37	0.023	0.230	10.00	OK
38	0.006	0.230	2.82	OK
39	0.017	0.230	7.52	OK
40	0.009	0.230	4.04	OK

Tested by: *Jing.Wu* Reviewed by: *Tom Xiao*

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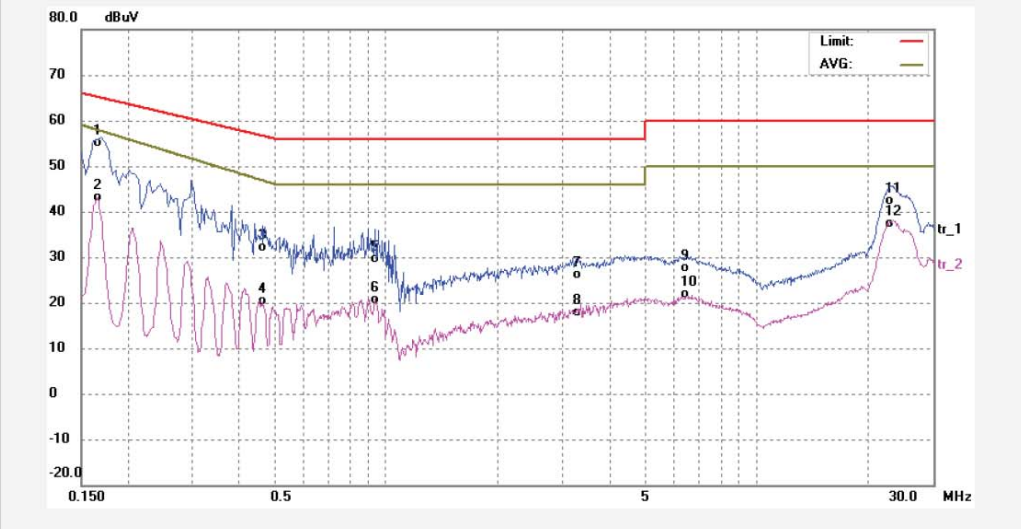
WALTEK SERVICES CO., LTD.

2/f,2nd Building,Sunlink International Machinery City,
Chencun Town,Shunde District,Foshan City,China.

Tel:+86-0757-23811398
Fax:+86-0757-23811381

Job No.: WTU15F1137061E	Phase: L1
Standard: 14_QP	Power Source: AC 100V/60Hz
Test item: Conduction Test	Date: 2015-12-11
Temp.(C)/Hum.(%): 23.1 C / 42.0 %	Time: 9/31/53
EUT: Battery Charger	Engineer Signature: Leo
Mode: Full load	
Model: SSLC084V42J	

Note:worst mode



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1660	44.72	9.34	54.06	65.15	-11.09	QP	
2	0.1660	32.89	9.34	42.23	57.90	-15.67	AVG	
3	0.4620	21.87	9.32	31.19	56.66	-25.47	QP	
4	0.4620	10.17	9.32	19.49	46.85	-27.36	AVG	
5	0.9300	19.29	9.34	28.63	56.00	-27.37	QP	
6	0.9300	10.17	9.34	19.51	46.00	-26.49	AVG	
7	3.2860	15.76	9.40	25.16	56.00	-30.84	QP	
8	3.2860	7.41	9.40	16.81	46.00	-29.19	AVG	
9	6.4060	17.21	9.47	26.68	60.00	-33.32	QP	
10	6.4060	11.29	9.47	20.76	50.00	-29.24	AVG	
11	22.9660	31.77	9.73	41.50	60.00	-18.50	QP	
12	22.9660	26.73	9.73	36.46	50.00	-13.54	AVG	

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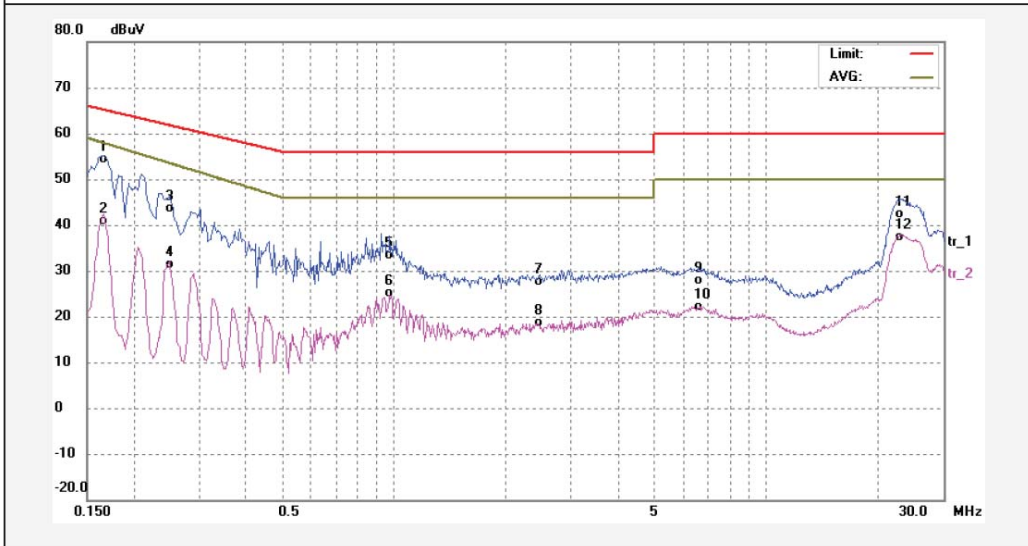


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Chencun Town,Shunde District,Foshan City,China.

Tel:+86-0757-23811398
Fax:+86-0757-23811381

Job No.: WTU15F1137061E	Phase: N
Standard: 14_QP	Power Source: AC 100V/60Hz
Test item: Conduction Test	Date: 2015-12-11
Temp.(C)/Hum.(%): 23.1 C / 42.0 %	Time: 9/34/08
EUT: Battery Charger	Engineer Signature: Leo
Mode: Full load	
Model: SSLC084V42J	

Note:worst mode



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1677	43.96	9.34	53.30	65.07	-11.77	QP	
2	0.1677	30.45	9.34	39.79	57.79	-18.00	AVG	
3	0.2500	33.20	9.33	42.53	61.75	-19.22	QP	
4	0.2500	21.04	9.33	30.37	53.48	-23.11	AVG	
5	0.9780	23.01	9.34	32.35	56.00	-23.65	QP	
6	0.9780	14.71	9.34	24.05	46.00	-21.95	AVG	
7	2.4820	17.27	9.39	26.66	56.00	-29.34	QP	
8	2.4820	8.23	9.39	17.62	46.00	-28.38	AVG	
9	6.6260	17.47	9.47	26.94	60.00	-33.06	QP	
10	6.6260	11.67	9.47	21.14	50.00	-28.86	AVG	
11	22.9060	31.77	9.73	41.50	60.00	-18.50	QP	
12	22.9060	26.77	9.73	36.50	50.00	-13.50	AVG	

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2/f,2nd Building,Sunlink International Machinery City,
Chencun Town,Shunde District,Foshan City,China.

Tel:+86-0757-23811398
Fax:+86-0757-23811381

Job No.: WTU15F1137061E

Phase: L1

Standard: 14_QP

Power Source: AC 264V/50Hz

Test item: Conduction Test

Date: 15/11/25/

Temp.(C)/Hum.(%): 23.1 C / 42.0 %

Time: 10/26/12

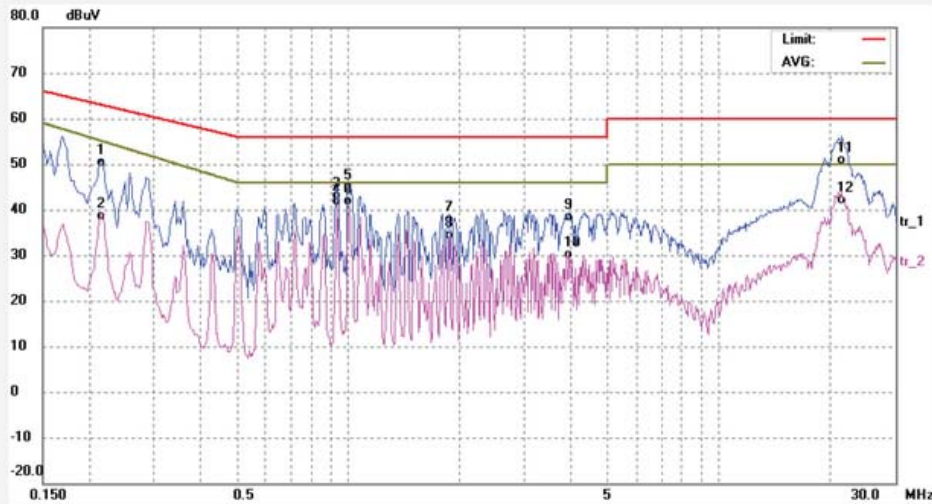
EUT: Battery Charger

Engineer Signature: Leo

Mode: Full load

Model: SSLC084V42J

Note:worst mode



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.2140	40.15	9.33	49.48	63.04	-13.56	QP	
2	0.2140	28.23	9.33	37.56	55.16	-17.60	AVG	
3	0.9340	32.88	9.34	42.22	56.00	-13.78	QP	
4	0.9340	31.60	9.34	40.94	46.00	-5.06	AVG	
5	1.0060	34.56	9.34	43.90	56.00	-12.10	QP	
6	1.0060	31.42	9.34	40.76	46.00	-5.24	AVG	
7	1.8690	27.40	9.37	36.77	56.00	-19.23	QP	
8	1.8690	23.90	9.37	33.27	46.00	-12.73	AVG	
9	3.9430	27.99	9.42	37.41	56.00	-18.59	QP	
10	3.9430	19.81	9.42	29.23	46.00	-16.77	AVG	
11	21.5340	40.23	9.76	49.99	60.00	-10.01	QP	
12	21.5340	31.43	9.76	41.19	50.00	-8.81	AVG	

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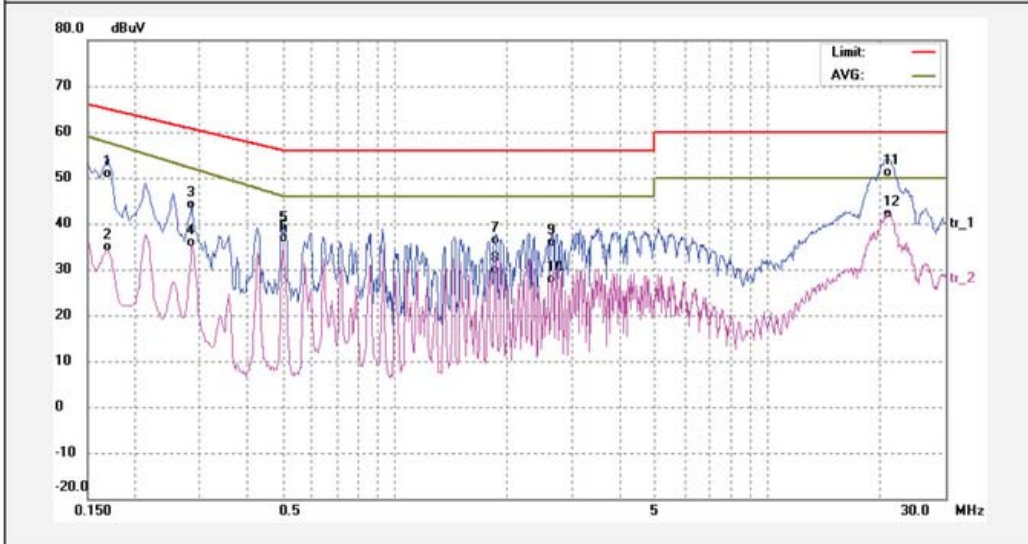


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2/f,2nd Building,Sunlink International Machinery City,
Chencun Town,Shunde District,Foshan City,China.

Tel:+86-0757-23811398
Fax:+86-0757-23811381

Job No.: WTU15F1137061E	Phase: N
Standard: 14_QP	Power Source: AC 264V/50Hz
Test item: Conduction Test	Date: 15/11/25/
Temp.(C)/Hum.(%): 23.1 C / 42.0 %	Time: 10/29/42
EUT: Battery Charger	Engineer Signature: Leo
Mode: Full load	
Model: SSLC084V42J	

Note:worst mode



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1700	40.56	9.34	49.90	64.96	-15.06	QP	
2	0.1700	24.55	9.34	33.89	57.64	-23.75	AVG	
3	0.2860	33.82	9.32	43.14	60.64	-17.50	QP	
4	0.2860	25.57	9.32	34.89	52.03	-17.14	AVG	
5	0.5020	28.42	9.32	37.74	56.00	-18.26	QP	
6	0.5020	26.51	9.32	35.83	46.00	-10.17	AVG	
7	1.8700	26.10	9.37	35.47	56.00	-20.53	QP	
8	1.8700	19.41	9.37	28.78	46.00	-17.22	AVG	
9	2.6460	25.52	9.39	34.91	56.00	-21.09	QP	
10	2.6460	17.40	9.39	26.79	46.00	-19.21	AVG	
11	20.9300	40.36	9.76	50.12	60.00	-9.88	QP	
12	20.9300	31.49	9.76	41.25	50.00	-8.75	AVG	

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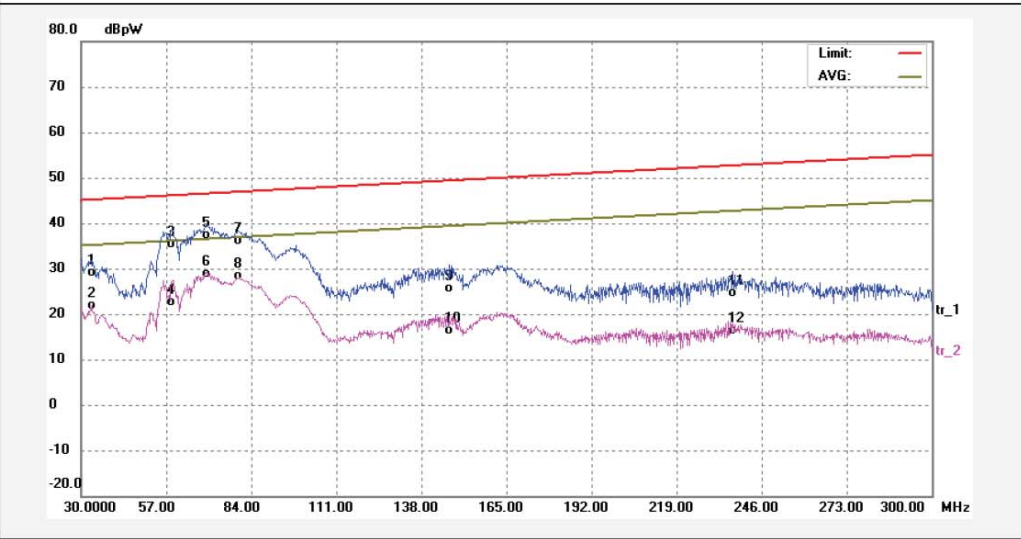
WALTEK SERVICES CO., LTD.

2/f,2nd Building,Sunlink International Machinery City,
Chencun Town,Shunde District,Foshan City,China.

Tel:+86-0757-23811398
Fax:+86-0757-23811381

Job No.: WTU15F1137061E	Power Source: AC 100V/60Hz
Standard: J14_QP	Date: 2015-12-11
Test item: Power Clamp Test	Time: 9/39/05
Temp.(C)/Hum.(%): 23.1 C / 42.0 %	Engineer Leo
EUT: Battery Charger	
Mode: Full load	
Model: SSLC084V42J	

Note:worst mode



No.	Freq. (MHz)	Reading (dBpW)	Factor (dB)	Result (dBpW)	Limit (dBpW)	Margin (dB)	Detector	Remark
1	33.2800	20.90	7.26	28.16	45.12	-16.96	QP	
2	33.2800	13.70	7.26	20.96	35.12	-14.16	AVG	
3	58.7600	28.72	5.68	34.40	46.07	-11.67	QP	
4	58.7600	15.90	5.68	21.58	36.07	-14.49	AVG	
5	69.7200	29.41	6.87	36.28	46.47	-10.19	QP	
6	69.7200	21.13	6.87	28.00	36.47	-8.47	AVG	
7	79.8800	30.13	5.08	35.21	46.85	-11.64	QP	
8	79.8800	22.21	5.08	27.29	36.85	-9.56	AVG	
9	146.9600	19.46	5.07	24.53	49.33	-24.80	QP	
10	146.9600	10.29	5.07	15.36	39.33	-23.97	AVG	
11	237.0000	19.49	4.08	23.57	52.67	-29.10	QP	
12	237.0000	11.30	4.08	15.38	42.67	-27.29	AVG	

Tested by: *Leo Feng* Reviewed by: *Tom Xiao*

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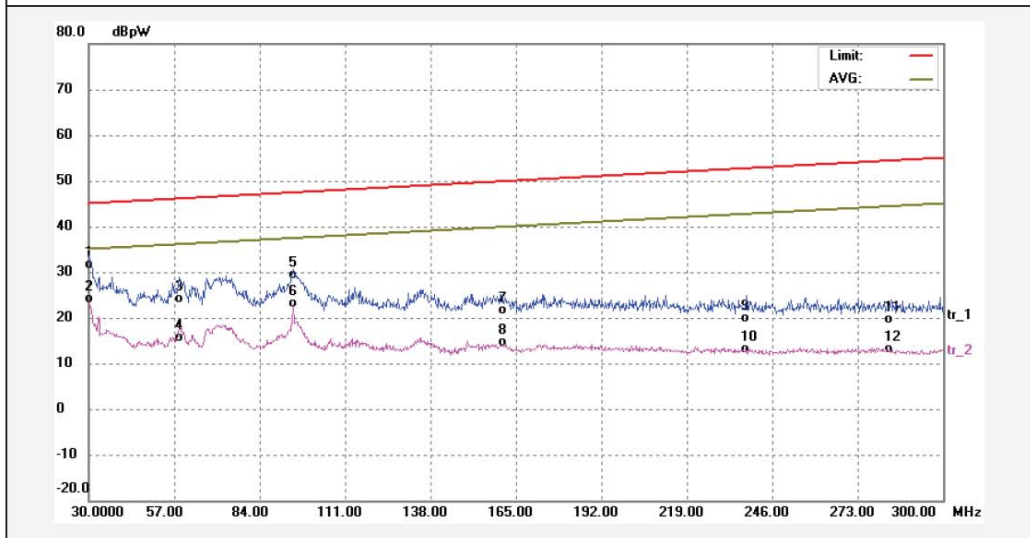


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2/f,2nd Building,Sunlink International Machinery City,
Chencun Town,Shunde District,Foshan City,China.

Tel:+86-0757-23811398
Fax:+86-0757-23811381

Job No.: WTU15F1137061E	Power Source: AC 100V/60Hz
Standard: J14_QP	Date: 2015-12-11
Test item: Power Clamp Test	Time: 9/42/05
Temp.(C)/Hum.(%): 23.1 C / 42.0 %	Engineer Leo
EUT: Battery Charger	
Mode: Full load	
Model: SSLC084V42J	
Note: DC worst mode	



No.	Freq. (MHz)	Reading (dBpW)	Factor (dB)	Result (dBpW)	Limit (dBpW)	Margin (dB)	Detector	Remark
1	30.0000	23.73	6.83	30.56	45.00	-14.44	QP	
2	30.0000	16.24	6.83	23.07	35.00	-11.93	AVG	
3	58.6800	17.55	5.67	23.22	46.06	-22.84	QP	
4	58.6800	8.85	5.67	14.52	36.06	-21.54	AVG	
5	94.6000	23.45	4.90	28.35	47.39	-19.04	QP	
6	94.6000	17.31	4.90	22.21	37.39	-15.18	AVG	
7	160.4000	16.06	4.54	20.60	49.83	-29.23	QP	
8	160.4000	9.16	4.54	13.70	39.83	-26.13	AVG	
9	238.1200	14.77	4.08	18.85	52.71	-33.86	QP	
10	238.1200	8.15	4.08	12.23	42.71	-30.48	AVG	
11	283.6000	13.94	4.76	18.70	54.39	-35.69	QP	
12	283.6000	7.36	4.76	12.12	44.39	-32.27	AVG	

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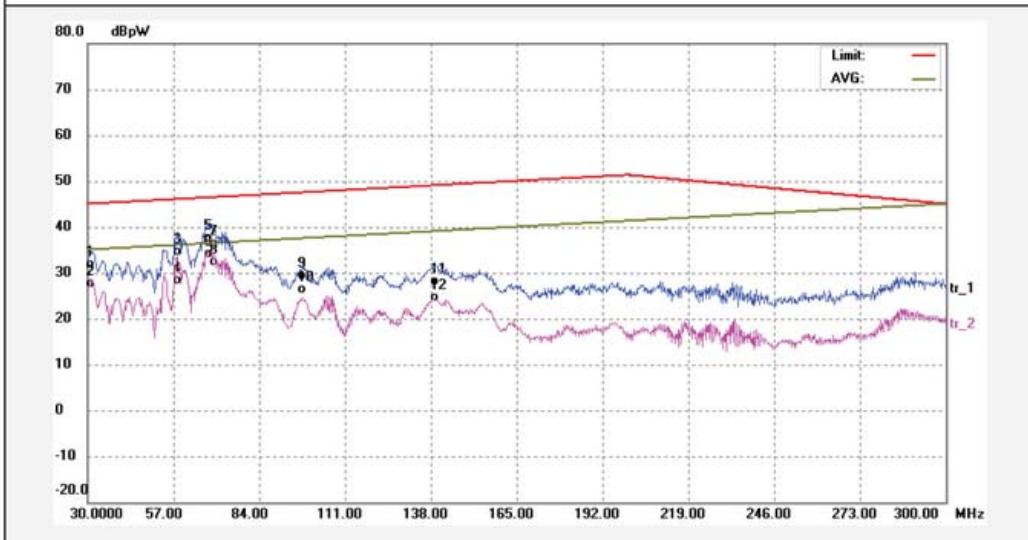
WALTEK SERVICES CO., LTD.

2/f,2nd Building,Sunlink International Machinery City,
Chencun Town,Shunde District,Foshan City,China.

Tel:+86-0757-23811398
Fax:+86-0757-23811381

Job No.: WTU15F1137061E	Power Source: AC 264V/50Hz
Standard: EN55014 Clamp(QP)	Date: 15/11/25/
Test item: Power Clamp Test	Time: 11/08/14
Temp.(C)/Hum.(%): 23.1 C / 42.0 %	Engineer Leo
EUT: Battery Charger	
Mode: Full load	
Model: SSLC084V42J	

Note:worst mode



No.	Freq. (MHz)	Reading (dBpW)	Factor (dB)	Result (dBpW)	Limit (dBpW)	Margin (dB)	Detector	Remark
1	31.0400	23.89	6.96	30.85	45.04	-14.19	QP	
2	31.0400	19.78	6.96	26.74	35.04	-8.30	AVG	
3	58.6000	28.00	5.67	33.67	46.06	-12.39	QP	
4	58.6000	21.69	5.67	27.36	36.06	-8.70	AVG	
5	67.9200	30.64	6.05	36.69	46.41	-9.72	QP	
6	67.9200	27.14	6.05	33.19	36.40	-3.21	AVG	
7	69.7200	28.50	6.87	35.37	46.47	-11.10	QP	
8	69.7200	24.63	6.87	31.50	36.47	-4.97	AVG	
9	97.5600	23.38	4.93	28.31	47.50	-19.19	QP	
10	97.5600	20.49	4.93	25.42	37.50	-12.08	AVG	
11	139.1200	21.59	5.46	27.05	49.04	-21.99	QP	
12	139.1200	18.26	5.46	23.72	39.04	-15.32	AVG	

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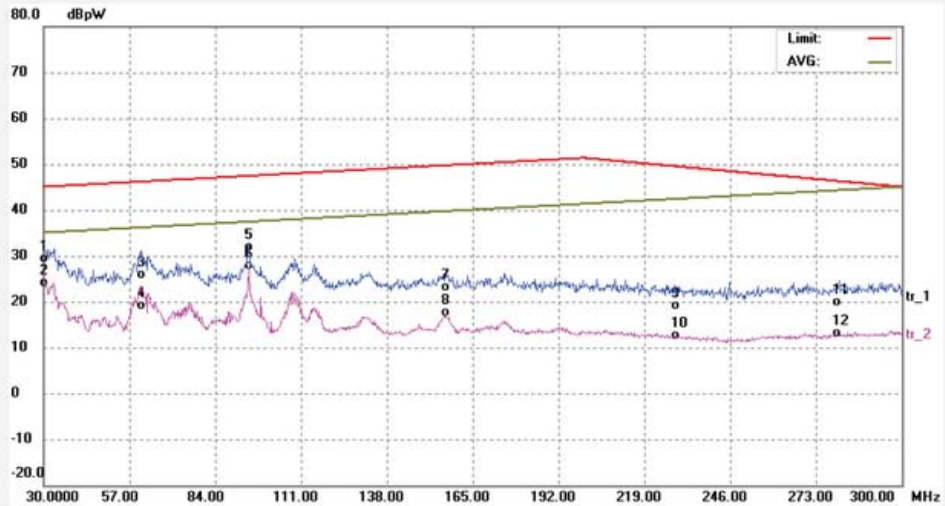
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Job No.: WTU15F1137061E	Power Source: AC 264V/50Hz
Standard: EN55014 Clamp(QP)	Date: 2015-12-1
Test item: Power Clamp Test	Time: 17/39/30
Temp.(C)/Hum.(%): 23.1 C / 42.0 %	Engineer Leo
EUT: Battery Charger	
Mode: Full load	
Model: SSLC084V42J	

Note:DCworst mode



No.	Freq. (MHz)	Reading (dBpW)	Factor (dB)	Result (dBpW)	Limit (dBpW)	Margin (dB)	Detector	Remark
1	30.0000	21.58	6.83	28.41	45.00	-16.59	QP	
2	30.0000	16.35	6.83	23.18	35.00	-11.82	AVG	
3	60.9200	19.22	5.54	24.76	46.15	-21.39	QP	
4	60.9200	12.60	5.54	18.14	36.15	-18.01	AVG	
5	94.6000	26.02	4.90	30.92	47.39	-16.47	QP	
6	94.6000	21.90	4.90	26.80	37.39	-10.59	AVG	
7	156.7200	17.29	4.76	22.05	49.70	-27.65	QP	
8	156.7200	11.99	4.76	16.75	39.69	-22.94	AVG	
9	228.5600	13.83	4.40	18.23	49.50	-31.27	QP	
10	228.5600	7.17	4.40	11.57	42.35	-30.78	AVG	
11	280.4400	14.04	4.74	18.78	46.23	-27.45	QP	
12	280.4400	7.35	4.74	12.09	44.28	-32.19	AVG	