SPECIFICATION FOR APPROVAL

60W Switching Power Adapter

KPL-060F(12V/5A)

Specifications

Customer Name : _____

Part No. : _____

Revision : _____

Description : AC-DC Power Adapter

Customer Approval		
WRITTEN	CHECKED	APPROVED

* Pls sign and return one copy
* All Production Units will be built according to this specification.

Jul. 2013

1F, 665-6, Pungdeokcheon-dong
Suji-gu, Yongin-si, Gyeonggi-do, Korea
Tel. (82) 070-7011-2806
Fax. (82) 31-276-7993

SPEC. Revision History

Date	Revision No.	Change Information	
		Description	Current version
2010/08/01	1	New revision	Initial
2011/01/25	2	Fuse is changed T4.0A	2.0
2011/04/01	3	Add AC adapter external dimension	3.0
2011/05/12	4	MTBF 50,000 H	4.0
2013/06/18	5	Sea level to 5000 meters	5.0

Table of Contents

1 SCOPE 5

2 ELECTRICAL SPECIFICATION 5

2.1 INPUT REQUIREMENT 5

2.1.1 Input voltage range 5

2.1.2 Input frequency range 5

2.1.3 AC inrush current 5

2.1.4 Input current 5

2.1.5 Leakage current 5

2.1.6 Insulation resistance 6

2.1.7 Low power consumption 6

2.2 INPUT PROTECTION 6

2.2.1 Input current protection 6

2.3 OUTPUT REQUIREMENT 6

2.3.1 Output power 6

2.3.2 Output voltage and current 6

2.3.3 Ripple and noise 7

2.3.4 Over voltage protection 7

2.3.5 Over current protection 7

2.3.6 Overshoot 7

2.3.7 Short circuit Potection 7

2.3.8 Audible noise 7

2.3.9 Limited power source 8

2.4 PERFORMANCE REQUIREMENT 8

2.4.1 Efficiency 8

2.4.2 Turn on delay time 8

2.4.3 Hold-up time 8

2.4.4 Dynamic load 8

3 ENVIRONMENTAL SPECIFICATION 8

3.1 TEMPERATURE 8

3.2 HUMIDITY 9

3.3 VIBRATION AND SHOCK 9

3.4 ALTITUDE 9
3.5 CALCULATED MEAN TIME BETWEEN FAILURES (MTBF) 9

4 APPLICATION STANDARD & RELATED SPECIFICATION 9

4.1 STANDARD & SAFETY CERTIFICATION 9
4.1.1 Safety standard 9
4.1.2 EMI 10
4.1.3 Immunity 10
4.1.4 Environment standards 10
4.1.5 Energy star 10

5 MECHANICAL 11

5.1 INPUT CONNECTOR AND OUTPUT CABLE 11
5.1.1 Input connector 11
5.1.2 Output jack and cable 11
5.2 AC ADAPTER EXTERNAL DIMENSION 11

1 SCOPE

This document describes basic electrical characteristics and mechanical characteristic of 60W power adapter.

2 ELECTRICAL SPECIFICATION

2.1 INPUT REQUIREMENT

2.1.1 INPUT VOLTAGE RANGE

Power adapter shall operate within input specification from 90Vac to 264Vac or provide automatic switching between high line and low line input ranges. The table below shows common input voltage range.

Input Range	Minimum	Nominal	Maximum	Unit
	90 V	100V- 240V	264V	Vac, rms

Table 1 - Input Voltage Range

2.1.2 INPUT FREQUENCY RANGE

The power adapter shall operate within specification from 47 to 63 Hz.

2.1.3 AC INRUSH CURRENT

Peak inrush current should not exceed 70 A at 240Vac, 50Hz, 25 degrees C, cold start. It should not interrupt line fuse or cause damage to the power adapter either at cold or warm start.

Peak inrush current should not exceed 70 A at 100Vac, 60Hz, 25 degrees C, cold start. It should not interrupt line fuse or cause damage to the power adapter either at cold or warm start.

The inrush current must be limited to the extent that no damage is done to the supply under any specified line, load, and temperature conditions. The inrush current shall not cause any external protection devices (i.e. fuses) to trip.

2.1.4 INPUT CURRENT

Maximum steady state input current shall not exceed 1.7 A for any line voltage specified in 2.1.1.

2.1.5 LEAKAGE CURRENT

0.7mA max. at 240Vac .

2.1.6 INSULATION RESISTANCE

Insulation resistance shall be more than 100M ohm between primary and secondary.

2.1.7 LOW POWER CONSUMPTION

Vin	Load	Power consumption
240Vac/50Hz 100Vac/60Hz	0A	≤ 0.3 W

Note: No load (0A) current draw complies to EPA standard Version 2.0 Energy Star EPS specification.

2.2 INPUT PROTECTION

2.2.1 INPUT CURRENT PROTECTION

A fuse with rating of 4.0 A / 250 V (Time Lag type) shall be installed on the input line side near the input connector and no any electrical components before.

2.3 OUTPUT REQUIREMENT

2.3.1 OUTPUT POWER

The total output power, under steady state conditions, shall not exceed 60 W.

Power supply will meet and be tested to IEC60950-1 LPS (Limited Power Source, section 2.5 in the standard) requirements. The LPS designation will be included on the data-plate label.

2.3.2 OUTPUT VOLTAGE AND CURRENT

Under any combination of line and load variation and environmental conditions, all outputs shall remain within tolerance as defined in Table 2. Output voltage(s) shall be measured at the load side of output connector.

Output Voltage	Voltage Range		Current Range	
	Lower Limit	Upper Limit	Minimum Load	Full rated load
+12.0V	11.40V	12.60V	0A	5.0A

Table 2 - Output Voltage and Current

2.3.3 RIPPLE AND NOISE

Measurements shall be made with an oscilloscope with minimum of 20MHz bandwidth and 1:1 scope probe, Output shall be bypassed at the connector with a 0.1μF ceramic disk capacitor and a 22μF electrolytic capacitor for general testing purpose.

Output Voltage	Maximum Ripple & Noise (Vp-p)
+12.0V	240mV

Table 3 – Ripple and Noise

2.3.4 OVER VOLTAGE PROTECTION

The power adapter shall provide with over voltage protection such that under any single component failure.

Output Voltage And Crrent	Maximum OVP Trip Voltage
+12.0V 5.0A	18.5V

Table 4 – Over Voltage Protection

The power supply provides output over voltage protected in latch off by zener diode, and no damage to customer device.

2.3.5 OVER CURRENT PROTECTION

The power supply shall be protected when operating any output in overload condition (set @ max load: 5.8A – 8.80A). The power adapter shall be shut down and no any damage when the over current condition occurs on the output, and It will be auto-recovered when the failure is removed. Input voltage:100Vac or 240Vac

2.3.6 OVERSHOOT

During turn on or turn off, the output overshoot shall not exceed nominal output voltage by more than 5%, and output shall not change its polarity with respect to its return line.

2.3.7 SHORT CIRCUIT POTECTION

Power adapter shall have self-limiting protection to protect against short circuit or overload conditions. No damage to the power adapter shall result from a continuous or intermittent short circuit condition. It will be auto-recovered when the failure is removed.

2.3.8 AUDIBLE NOISE

There is no audible noise can be hear when it work with rated spec.

2.3.9 LIMITED POWER SOURCE

The power supply shall comply with the limited power source requirement as defined in IEC 60950-1 section 2.5 standard.

2.4 PERFORMANCE REQUIREMENT

2.4.1 EFFICIENCY

Efficiency (watt out / watt in) shall be a minimum of 87.0 % at active average mode, which complies to EPA standard Version 2.0 Energy Star EPS specification.

Note: when testing efficiency, adapter need to electrify to perform after full load 30 minutes

Input voltage 115Vac 60Hz or 230Vac 50Hz

2.4.2 TURN ON DELAY TIME

Output shall reach steady state within 3.0 seconds of turn on at 100Vac or greater.

2.4.3 HOLD-UP TIME

Hold-up time shall be a minimum of 8.0 mS at 115Vac / 60Hz input.

2.4.4 DYNAMIC LOAD

Power adapter shall operate within regulation defined in section 2.3.2 at following conditions:

Step load change: from 50% Load to100% Load on the output.

Dwell Time: 100Hz & 1 KHz 50% duty.

Slew rate: 0.5A/usec

3 ENVIRONMENTAL SPECIFICATION

3.1 TEMPERATURE

Operation within specification: -10 to 40 degrees C.

Storage: -20 to 85 degrees C

3.2 HUMIDITY

Operation: 10% to 90% relative humidity, non-condensation.

Storage: 5% to 95% relative humidity, including condensation.

3.3 VIBRATION AND SHOCK

The power supply shall be designed to withstand normal transportation vibration per MIL-STD-810F, method 514 and procedures X, as it is mounted in the chassis assembly and packed for shipping.

3.4 ALTITUDE

Sea level to 5000 meters.

3.5 CALCULATED MEAN TIME BETWEEN FAILURES (MTBF)

The MTBF for the power adapter shall equal or exceed 50,000 hours when operated at full rated load in an ambient temperature of 25 degree C.

4 APPLICATION STANDARD & RELATED SPECIFICATION

4.1 STANDARD & SAFETY CERTIFICATION

4.1.1 SAFETY STANDARD

Agency	Certification required	Countries
UL	UL60950-1(QQGQ,QQGQ7;AZSQ,AZSQ7)	US
cUL	C22.2 No. 60950-1	Canada
CB	IEC-60950-1:2005;IEC 60065:2001+A1	IEC
CCC	GB 4943;GB8898	China
BSMI	CNS13438, CNS14336	Taiwan
GS	EN 60950-1:2006+A11;EN 60065:2002+A1+A11	Germany
IRAM	IEC 60065:2001+A1	Argentina
Australia/New Zealand	AS/NZS 60950.1	Australia/New Zealand

(All certification marks need to be shown on data-plate)

4.1.2 EMI

VCCI Class-B

FCC 15(Class-B, 115Vac operation)

CISPR 22 Class-B limits

EN55022 (1998+A1:2000+A2:2003 Class-B limits)

47 CFR Part 15, Subpart B, Class B limits

EN 61000-3-2 Power line Harmonics

EN 61000-3-3 Flicker Emissions

GB 9254 ITE Emissions Latest Edition

GB 17625.1 Harmonics Latest Edition

4.1.3 IMMUNITY

EN 55024: 1998+A1:2001+A2:2003

Electrostatic Discharge: 61000-4-2

RF Immunity: 61000-4-3

Electrical Fast Transients: 61000-4-4

Surge: 61000-4-5

Voltage Sags and Interrupts: 61000-4-11

Conducted Immunity: 61000-4-6

4.1.4 ENVIRONMENT STANDARDS

RoHS regulation.

The RoHS compliance symbol will be included on the dataplate.

4.1.5 ENERGY STAR

EPS complies to EPA standard Version 2.0 Energy Star EPS specification.

CWT will be responsible for meeting the EPA requirements. Including all testing and application. The Energy Star Version 2.0 compliance symbol is to be included on the data-plate.

5 MECHANICAL

5.1 INPUT CONNECTOR AND OUTPUT CABLE

5.1.1 INPUT CONNECTOR

AC Input connector shall be IEC320 C14 power connector.

5.1.2 OUTPUT JACK AND CABLE

The output cable shall be UL1185#16AWG 1200 +/- 30mm and Black in color. The DC Power Plug shall be 5.5 *2.5*11mm.

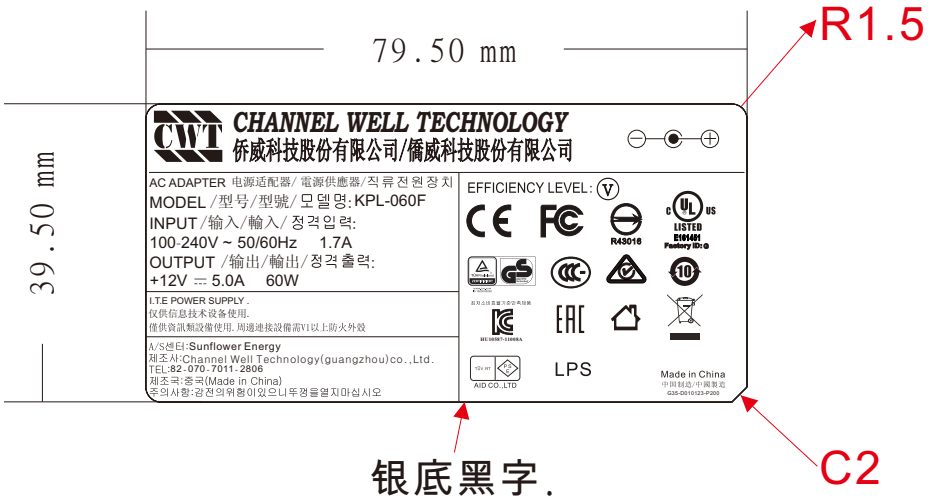
5.2 AC ADAPTER EXTERNAL DIMENSION

CHANNEL WELL TECHNOLOGY CO.,LTD.

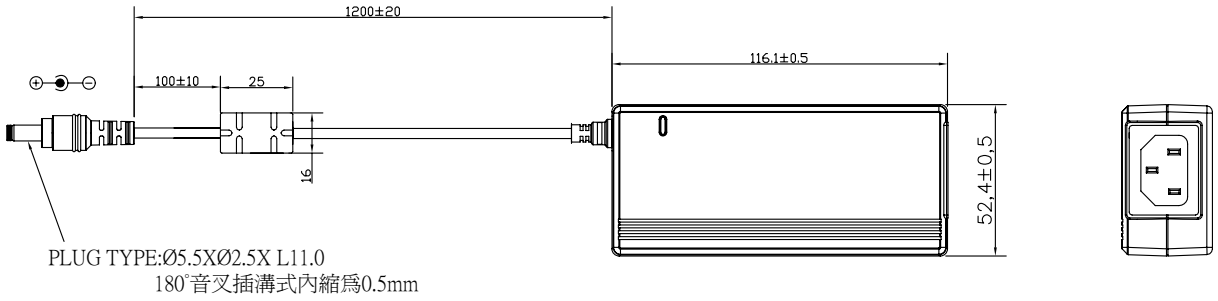
MODEL No.: KPL-060F	料號:G35-D010123-P200	REV: B

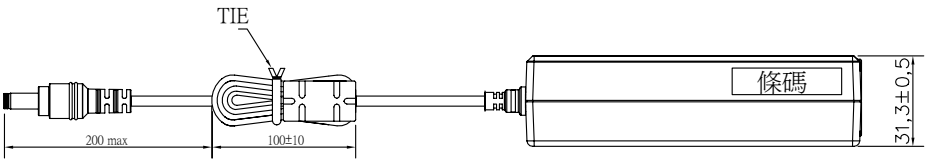
工作要點

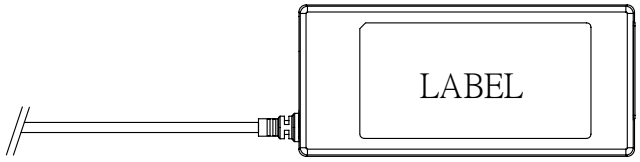
1.材質:100#消銀龍+OPP(UL安規)(厚度0.15~0.2mm)
2.SIZE:79.5*39.5mm
3.顏色:銀底黑字.
4.印刷字體大小,位置,內容詳見drawing.
5.印刷必須清晰不得有斷線,模糊不清等不良現象.
6.背膠必須耐溫100℃,2H不會產生翹起,起泡等不良現象.
7.請參照RoHS and REACH環保標準生產.
8.UL必須符合PGDQ2.
9.最小包裝上必須有廠商名稱或LOGO,產品名稱,產品型號,規格,
UL Mark以及UL Number.

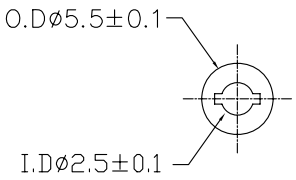


ISSUE BY: 王艷麗	CHECK BY: 宋書軍	APPROVED: 宋書軍









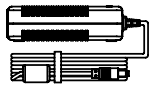
VIEW "A"
(SCALE 3:1)

NOTES:

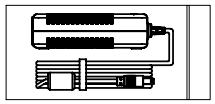
1. CASE & CABLE COLOR : BLACK
2. CABLE SPEC.:CABLE ARE UL 1185 單16AWG*1C+S BLACK
4. MODEL:G99-KPL060F-N057
5. PART NO.:G18-B3A212A-MD00

CWT *Channel Well Technology CO., LTD.*	APPROVED YL.WANG	DRAWING NO. KP-L-C14-046	UNIT INCHES(MM)	REV. A
TITLE Desktop Switching Adapter	DATE 2013.07.17	MODEL NO. KPL	TOLERANCES:	SHEET 1/1

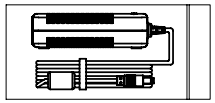
STEP1:將成品及線材整理如下圖,

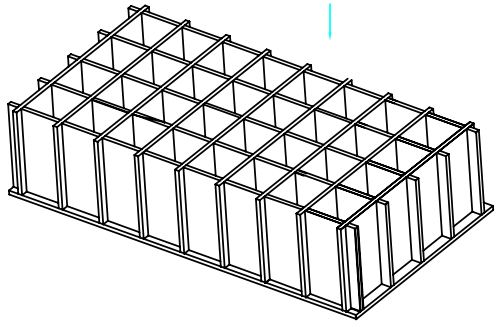


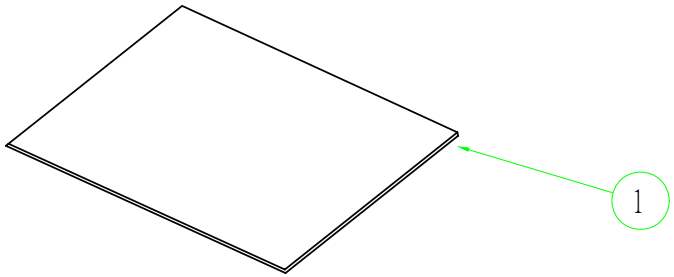
STEP2:將成品放入PE袋內　如下圖,

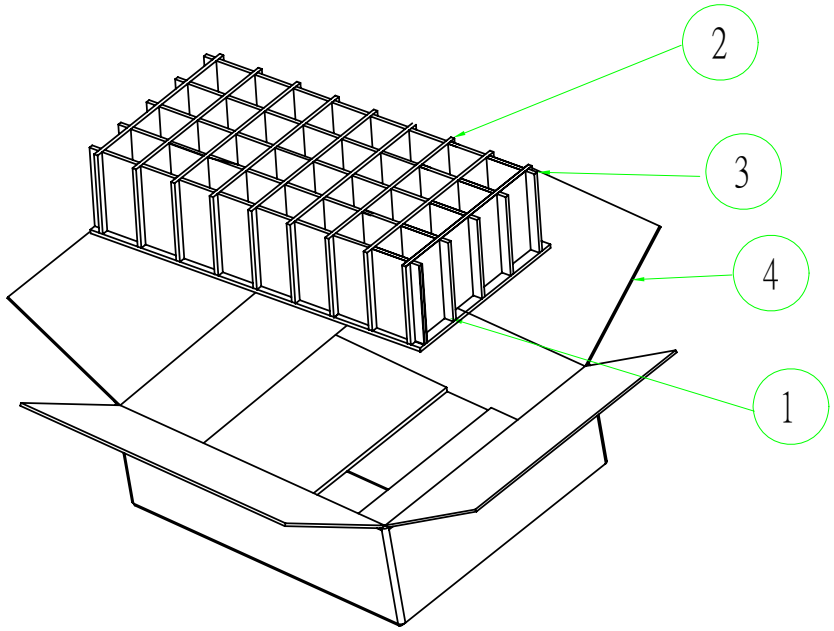


STEP3:將成品如圖般放入格板內









1.組件:
1.1.:天地板:
用量:2PCS
1.2.:五刀卡:
用量:9PCS
1.3.: 九刀卡:
用量:5PCS
1.4.:外箱:
用量:1PCS
外箱尺寸　408*405*176mm
Q'TY.:　32 PCS

環保材料標准:

No	有害物質名稱	含量標准
1	鎘 (Cd)	<75ppm
2	鉛 (Pb)	<800ppm
3	汞 (Hg)	<800ppm
4	六價鉻 (Cr)	<800ppm
5	多溴聯苯 (PBB)	<800ppm
6	多溴二苯醚 (PBDE)	<800ppm
7	鎘,鉛,汞,六價鉻,(包裝材料)	總含量<100ppm

SHEET METAL TOLERANCE (UNLESS OTHERWISE SPECIFIED)

DIMENSION	PIERCING	BENDING	ANGULAR
X < 8	±0.1	±0.15	±0.3°
8 ≤ X < 25	±0.1	±0.2	±0.5°
25 ≤ X < 100	±0.15	±0.25	±0.5°
100 ≤ X < 300	±0.2	±0.3	±1°
300 ≤ X < 800	±0.3	±0.5	±1.5°

REV.	DESCRIPTION
0.1	

僑威科技

UNIT: mm	MODEL NO.: KPA	
MATERIAL	PART NO.:	
******	DRAWING NO.:	
DESIGNED		
YL.WANG	SCALE:	SHEET M
DATE:12-08-30	THIRD ANGLE PROJECTION	1 OF 1 A4L

APPROVED	CHECKED
DATE:	DATE:

접 수 번 호 (Receipt No.) : 11-1920-2261

전기용품안전인증서

Electrical Appliances Safety Certificate

안전인증번호 (Certificate No.)	: SU10214-11006
제 조 업 자 명 (Factory)	: Ningbo ISO Electronics Co.,Ltd
대 표 자 명 (President)	: Peter
제 조 공 장 의 소 재 지 (Factory Address)	: 10, Chuang-ye Rd, The West of Ningbo Free Trade Zone, Ningbo, Zhejiang P.R.China
제 품 명 (Product)	: 직류전원장치(AC Adapter)
기 본 모 델 명 (Basic Model)	: KPL-065F
정 격 (Rating)	: AC100-240V~, 50/60Hz, 1.7A (Output: DC12V, 5.42A)
파 생 모 델 명 (Series Model)	: See the attachment 2
적 용 기 준 (Standard)	: K60950-1(2006-12), K00022(2009-12), K00024(2009-12)

「전기용품안전 관리법 시행규칙」 제6조제2항에 따라 위의 전기용품에 대하여 안전인증서를 발급합니다.

We Issue Electrical Appliances Safety Certification as above product by Article 6 Section 2 of the Electrical Appliances Safety Control Law Enforcement Regulation.

2011년 05월 16일
year month day

ktl 한국산업기술시험원장
KOREA TESTING LABORATORY

※ *이 인증서는 「전기용품안전 관리법」에 따른 전기용품 안전성 확인에 한정된 것이며, 그 밖의 다른 법률이 적용되는 제품의 경우에는 해당 법률에 따라 추가로 인증·허가 등을 받아야 합니다.*

첨 부 (Annex) :
1. 안전관리부품 및 재질목록 (List of Critical Components)
2. 기본모델·파생모델의 내용 (General Descriptions of Certified Products)
3. 전기용품안전인증의 변경 현황 (Status of Certificate Revisions)

ktl
Korea Testing Laboratory

안전인증번호: SU10214-11006
Certification No.

☐ 첨부 1 : 안전관리부품 및 재질목록
List of Critical Components

부품명(회로기호) Component(Part no.)	제조자(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
Plastic Enclosure	SABIC Innovative Plastics Japan L L C	SE1X	V-1 or better, 105°C, thickness 1.5 mm min.	UL
`<Alternative>	Teijin Chemicals Plastic Compounds Shanghai Ltd	LN-1250G	V-0 or better, 115°C, thickness 1.5 mm min.	UL
PCB	Various	Various	V-1 or better, min. 130°C	UL
Appliance Inlet (CON1)	Tecx-Unions Technology Corporation.	TU-301-SP	10 A, 250 Vac, 70°C	VDE, UL
<Alternative>	Tecx-Unions Technology Corporation.	TU-333	2.5 A, 250 Vac, 70°C	VDE, UL
<Alternative>	Rong Feng Industrial Co., Ltd.	RF-190	2.5 A, 250 Vac, 70°C	VDE, UL
<Alternative>	Rong Feng Industrial Co., Ltd.	SS-120	10A, 250 Vac, 70°C	VDE, UL
<Alternative>	Rich Bay Co., Ltd.	R-30790	2.5A, 250 Vac, 70°C	VDE, UL
<Alternative>	Rich Bay Co., Ltd.	R-301SN	10A, 250 Vac, 70°C	VDE, UL
<Alternative>	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	ST-A01-003J	10A, 250 Vac, 70°C	VDE, UL
<Alternative>	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	ST-A04-002	2.5A, 250 Vac, 70°C	VDE, UL
<Alternative>	Supercom Electronics Co., Ltd.	SC-8R	10A, 250 Vac, 70°C	VDE, UL
<Alternative>	Supercom Electronics Co., Ltd.	SC-14	2.5A, 250 Vac, 70°C	VDE, UL
Fuse (Fuse1)	XC Electronics (Shenzhen) Corp. Ltd.	4T	T4.0AL, 250 Vac	VDE, UL

부품명(회로기호) Component(Part no.)	제조자(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
<Alternative>	XC Electronics (Shenzhen) Corp. Ltd.	5TE	T4.0AL, 250 Vac	VDE, UL
<Alternative>	Ever Island Electric Co., Ltd. and Walter Electric	2010	T4.0AL, 250 Vac	VDE, UL
<Alternative>	Conquer Electronics Co., Ltd.	PTU	T4.0AL, 250 Vac	VDE, UL
<Alternative>	Conquer Electronics Co., Ltd.	MST	T4.0AL, 250 Vac	VDE, UL
<Alternative>	Littelfuse, Inc. Wickmann-Werke	392	T4.0AL, 250 Vac	VDE, UL
X-Capacitor (CX1) (X1 or X2 type)	Okaya Electric Industries Co., Ltd.	LE	0.47 mF, min. 250 Vac, 100°C	ENEC, UL
<Alternative>	Jenn Fu Electronics Corporation	MPX	0.47 mF, min. 250 Vac, 100°C	VDE, UL
<Alternative>	Europtronic (Taiwan) Ind. Corp.	MPX2	0.47 mF, min. 250 Vac, 110°C	VDE, UL
<Alternative>	Ultra Tech Xiphi Enterprise Co., Ltd.	HQX	0.47 mF, min. 250 Vac, 100°C	VDE, UL
<Alternative>	Hua Jung Components Co., Ltd.	MKP	0.47 mF, min. 250 Vac, 100°C	ENEC, UL
<Alternative>	Arcotronics Italia S.P.A	R.46	0.47 mF, min. 250 Vac, 100°C	ENEC, UL
Bleeder Resistor (R2, R3, R4, R5)	Various	Various	SMD type, 2.2 MW, 1/4 W, Four in series after fuse	Test within the unit
Bridging Capacitor (CY1) (Y1 type)	TDK Corporation	CD	2200 pF, min. 250 Vac, 125°C	VDE, UL
<Alternative>	Murata Mfg. Co., Ltd.	KX	2200 pF, min. 250 Vac, 125°C	VDE, UL

부품명(회로기호) Component(Part no.)	제조자(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
<Alternative>	Walsin Technology Corp.,	AH	2200 pF, min. 250 Vac, 125°C	VDE, UL
<Alternative>	JYA-NAY Co., Ltd.	JN	2200 pF, min. 250 Vac, 125°C	VDE, UL
<Alternative>	Success Electronics Co., Ltd.	SB, SE	2200 pF, min. 250 Vac, 125°C	VDE, UL
Transformer (T1)	Channel Well Technology Co., Ltd.	PQ-2620-12	Class B (GH-130)	-
Optocoupler (IC1)	Lite-On Technology Corporation	LTV-817	Dti ≥ 0.4 mm, Int. cr > 4.0 mm, Ext. cr = 8.0 mm, 110°C	VDE, Fimko, UL
<Alternative>	Cosmo Electronics Corporation	K1010	Dti = 0.5 mm, Int. cr = 5.3 mm, Ext. cr = 8.0 mm, 110°C	VDE, Fimko, UL
<Alternative>	Toshiba Corp. Semiconductor	TLP781/TL781 F	Dti = 0.5 mm, Int. cr = 6.0 mm, Ext. cr = 7.7 mm, 110°C	VDE, Fimko, UL
<Alternative>	Everlight Electronics Co Ltd	EL817	Dti = 0.5 mm, Int. cr = 6.0 mm, Ext. cr = 7.7 mm, 110°C	VDE, Fimko, UL
<Alternative>	Fairchild Semiconductor	FOD817	Dti ≥ 0.4 mm, Int. cr ≥ 5.0 mm, Ext. cr ≥ 7.0 mm, 110°C	VDE, Fimko, UL

☐ 유의사항 (Attention) :

1. 안전관리부품은 전기적인 안전에 직접적인 영향을 주는 부품으로서 안전인증기관이 정기공장검사 시 확인 관리 하는 사항입니다. 따라서 상기목록에 기재된 사항을 변경하거나 또는 복수등재를 원하시는 경우는 안전인증기관에 인증변경신청을 하여야 합니다.

   As the "Critical components" are parts in directly related with safety, these components shall be checked during a factory inspection by the certification body. In case of applying multiful listing or changing the items above, the certification revision shall be applied.

2. 인증변경신청 없이 임의로 변경하는 경우는, 전기용품안전관리법 제8조제1항의 규정에 의한 안전인증취소 사유가 됨을 유의하시기 바랍니다.

   The Safety Certification will be cancelled under the Safety Control Law for Electrical Appliances, Paragraph 1 of Article 8 if the contents of the Certification is altered without our authorization.

□ 첨부 2 : 기본모델 · 파생모델의 내용
General description of Certified Products

파생모델명 Derivative model	기본모델과의 차이점 Differences between the basic and derivative model(s)
KPL-040F	Same as Basic model except for model designation and output rating
KPL-040G	Same as Basic model except for model designation and output rating
KPL040V	Same as Basic model except for model designation and output rating
KPL-040H	Same as Basic model except for model designation and output rating
KPL-040I	Same as Basic model except for model designation and output rating
KPL-050F	Same as Basic model except for model designation and output rating
KPL-050G	Same as Basic model except for model designation and output rating
KPL-050V	Same as Basic model except for model designation and output rating
KPL-050H	Same as Basic model except for model designation and output rating
KPL-050I	Same as Basic model except for model designation and output rating
KPL-060F	Same as Basic model except for model designation and output rating
PPL-060G	Same as Basic model except for model designation and output rating
KPL-060V	Same as Basic model except for model designation and output rating
KPL-060H	Same as Basic model except for model designation and output rating
KPL-060I	Same as Basic model except for model designation and output rating

제품특기사항 및 시험조건
Remarks & Test conditions

1. Test Report Ref. No. : 11-1920-2261 (2011.05.02)

2. Product Description

- Class of Equipment : Class I
- Power consumption : 74.5 W
- Mass of Equipment(kg) :.0.27 Kg
- Protection against ingress of water : IPX0

□ 본 제품의 시험내용에 관하여 문의하실 사항이 있으시면 아래 연락처로 문의하시기 바랍니다.
시험담당자: 디지털산업본부 전기전자평가센터 전 현 종 / (02)8601-1435
□ *If you have any question on product testing, please contact the person below :*
Job holder: Digital Industry Division Electrics & Electronics Testing Center, Hyun-jong Jun / +82 2 8601-435

☐ 첨부 **3 :** 전기용품안전인증의 변경 현황
Status of Certificate Revisions

변경발급 내용 Contents of Certificate Revisions
Not applicable

FP511-11-00

IEC IECEE CB SCHEME

Ref. Certif. No.

JPTUV-037868

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE
CERTIFICAT D'ESSAI OC

Product Produit	AC ADAPTER
Name and address of the applicant Nom et adresse du demandeur	Channel Well Technology Co., Ltd. No.222, Sec. 2, Nankan Rd., Lujhu Township, Taoyuan Hsien, 33855 Taiwan
Name and address of the manufacturer Nom et adresse du fabricant	Channel Well Technology Co., Ltd. No.222, Sec. 2, Nankan Rd., Lujhu Township, Taoyuan Hsien, 33855 Taiwan
Name and address of the factory Nom et adresse de l'usine	See additional page(s)
Rating and principal characteristics Valeurs nominales et caractéristiques principales	AC input: 100-240V, 1.7A, 50/60Hz, Class I DC Output: refer to the test report.
Trade mark (if any) Marque de fabrique (si elle existe)	CWT
Model/type Ref. Ref. de type	KPL-xy (x = 040, 050, 060 or 065, denotes for output power; y = F, G, V, H, I, W, J, K, L, N, Q, R or M, denotes for output voltage)
Additional information (if necessary) Information complémentaire (si nécessaire)	For model differences, refer to the test report.
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60950-1:2005 National differences see test report
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue une partie de ce Certificat	15041982 001

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de Certification

TÜVRheinland®

TÜV Rheinland Japan Ltd.
Global Technology Assessment Center
4-25-2 Kita-Yamata, Tsuzuki-ku
Yokohama 224-0021 Japan
Phone + 81 45 914-3888
Fax + 81 45 914-3354
Mail: info@jpn.tuv.com
Web: www.tuv.com

Date: 29.03.2011

Signature:

Dipl.-Ing. B. Scheirer

IEC IECEE CB SCHEME

Ref. Certif. No.

JPTUV-037868

1. Ningbo Iso Electronic Co., Ltd.
   10, Chuange-ye Rd.,
   The West of Ningbo Free Trade Zone
   Ningbo, Zhejiang
   P.R. China

2. Channel Well Technology (Guangzhou)
   Co., Ltd.
   Bld. B, Eastern Hi-tech
   Industrial Base
   Zengjiang Street, Zengcheng, Guangzhou, Guangdong 511300, P.R. China

Additional information (if necessary)
Information complémentaire (si nécessaire)

Date: 29.03.2011

Signature: Dipl.-Ing. B. Scheirer

CE

Date of Issue: 2011/04/02

Attestation Number: SECE1101060

Product: Adapter

Model No.: KPL-040F; KPL-040G; KPL-040V ;KPL-040H; KPL-040I; KPL-040W ;KPL-040J; KPL-040K; KPL-040L ;KPL-040N; KPL-040Q ;KPL-040R; KPL-040M .

KPL-050F; KPL-050G; KPL-050V ;KPL-050H; KPL-050I; KPL-050W ;KPL-050J; KPL-050K; KPL-050L ;KPL-050N; KPL-050Q ;KPL-050R; KPL-050M .

KPL-060F; KPL-060G; KPL-060V ;KPL-060H; KPL-060I; KPL-060W ; KPL-060K; KPL-060M.

KPL-065F ;KPL-065J; KPL-065K ;KPL-065L; KPL-065N ; KPL-065Q ;KPL-065R; KPL-065M .

Applicant: Channel Well Technology Co., Ltd.

Address: No.222, Sec.2, Nankan Rd., Lujhu Township, Taoyuan Hsien, 33855 Taiwan

And, in accordance to the following Applicable Directives

Applicable to EUROPEAN COUNCIL DIRECTIVE 2004/108/EC

That this product has been assessed against the following Applicable Standards

EN 55022:2006/ A1:2007 (Class B)
EN 61000-3-2 : 2009
EN 61000-3-3 : 2008

EN 55024 : 1998/ A1:2001/ A2:2003
IEC 61000-4-2 : 2008
IEC 61000-4-3 : 2010
IEC 61000-4-4 : 2010
IEC 61000-4-5 : 2005
IEC 61000-4-6 : 2008
IEC 61000-4-8 : 2009
IEC 61000-4-11 : 2004

CERPASS hereby acknowledges that:

The measurements shown in this test report may issue a DECLARATION of CONFORMITY and apply the CE mark in accordance to European Union Rules.

Attestation by: Clinton Kao /Supervisor — 2011/04/02 Date

CERPASS TECHNOLOGY CORPORATION
No.66, Tangzhuang Road, Suzhou Industrial Park, Jiangsu, China
TEL:+86-512-6917-5888 FAX: +86-512-69175666

UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Listing
CCN:	QQGQ, QQGQ7 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Complementary CCN:	AZSQ, AZSQ7 (Audio/Video Apparatus)
Product:	AC Adaptor
Model:	KPL-040F, KPL-040G, KPL-040V, KPL-040H, KPL-040I, KPL-040W, KPL-040J, KPL-040K, KPL-040L, KPL-040N, KPL-040Q, KPL-040R, KPL-040M, KPL-050F, KPL-050G, KPL-050V, KPL-050H, KPL-050I, KPL-050W, KPL-050J, KPL-050K, KPL-050L, KPL-050N, KPL-050Q, KPL-050R, KPL-050M, KPL-060F, KPL-060G, KPL-060V, KPL-060H, KPL-060I, KPL-060W, KPL-060K, KPL-060M, KPL-065F, KPL-065J, KPL-065K, KPL-065L, KPL-065N, KPL-065Q, KPL-065R, KPL-065M.
Rating:	Input: 100-240 Vac, 50/60 Hz, 1.7 A Output: See Enclosure 7-01
Applicant Name and Address:	CHANNEL WELL TECHNOLOGY CO LTD 222 SEC 2 NANKAN RD LUJHU TOWNSHIP TAOYUAN HSIEN 33855 TAIWAN

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of Underwriters Laboratories Inc. ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

Prepared by: Jenly Ge
Underwriters Laboratories Inc.

Reviewed by: Iris Zhang
Underwriters Laboratories Inc.

Declaration of Conformity

We(Application/Importer)

Channel Well Technology Co., Ltd.

(company name)

No.222, Sec.2, Nankan Rd., Lujhu Township, Taoyuan Hsien, 33855

Taiwan

(address)

declares under our sole responsibility that the product

Equipment : Adapter

Model No. : KPL-040F; KPL-040G; KPL-040V ;KPL-040H; KPL-040I; KPL-040W ;KPL-040J; KPL-040K; KPL-040L ;KPL-040N; KPL-040Q ;KPL-040R; KPL-040M .

KPL-050F; KPL-050G; KPL-050V ;KPL-050H; KPL-050I; KPL-050W ;KPL-050J; KPL-050K; KPL-050L ;KPL-050N; KPL-050Q ;KPL-050R; KPL-050M .

KPL-060F; KPL-060G; KPL-060V ;KPL-060H; KPL-060I; KPL-060W ; KPL-060K; KPL-060M.

KPL-065F ;KPL-065J; KPL-065K ;KPL-065L; KPL-065N ;

KPL-065Q ;KPL-065R; KPL-065M .

to which this declaration relates is in conformity with the following standard(s) or other normative document(s)

47 CFR, Part2, Part 15 and CISPR PUB. 22

Applicable to ANSI C63.4 - 2003

Signature: _____ Date : _____

Full name: _____ TEL: _____

Title: _____ FAX: _____

Zertifikat *Certificate*

TÜVRheinland®

Zertifikat Nr. *Certificate No.*
S1 50198090

Blatt *Page*
0001

Ihr Zeichen *Client Reference*	**Unser Zeichen** *Our Reference*	**Längstens gültig bis** *Latest expiration date (day/mo/yr)*
M.H.	01-MRC- 15041983 001	28.03.2016

Genehmigungsinhaber *License Holder*
Channel Well Technology Co., Ltd.
No.222, Sec. 2, Nankan Rd.,
Lujhu Township, Taoyuan Hsien
33855
Taiwan

Fertigungsstätte *Manufacturing Plant*
Ningbo Iso Electronic Co., Ltd.
10, Chuange-ye Rd.,
The West of Ningbo Free Trade Zone
Ningbo, Zhejiang
P.R. China

Prüfzeichen *Test Mark*

Geprüft nach *Tested acc. to*
EN 60950-1:2006+A11

Der Anhang I der Richtlinie 2006/95/EG ist eingehalten. Das Zertifikat kann im Rahmen der Konformitätserklärung nach Anhang III verwendet werden.
Annex I of the directive 2006/95/EC is complied with. The certificate can be used in connection with the EC declaration of conformity acc. to Annex III.

Zertifiziertes Produkt (Geräteidentifikation) *Certified Product (Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Netzgerät (AC ADAPTER)

Bezeichnung (Type Designation)	: KPL-xy	8
(x = 040, 050, 060 or 065, denotes for output power; y = F, G, V, H, I, W, J, K, L, N, Q, R or M, denotes for output voltage)		2
Nennspannung (Rated Voltage)	: AC 100-240V, 50/60Hz	
Nennstrom (Rated Current)	: 1.7A	
Ausgangsspannung (Output Voltage)	: siehe Anlage 1.0 (see Appendix 1.0)	
Ausgangsstrom (Output Current)	: siehe Anlage 1.0 (see Appendix 1.0)	

Fortsetzung Blatt (continued on page) 0002

10

ANLAGE (Appendix): 1.0

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Produkt und Fertigungsstätte erfüllen § 4 (1) bzw. (2) und § 7(1) des Geräte- und Produktsicherheitsgesetzes.
This certificate is based on our Testing and Certification Regulation.
Product and production fulfill par 4 Art. 1 or Art. 2 and Par 7 Art. 1 of the German Equipment and Product Safety Law.

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Zertifizierungsstelle

TÜV Rheinland LGA Products GmbH TÜVRheinland® Zertifizierungsstelle

Dipl.-Ing. Bernd Scheirer

Ausstellungsdatum *Date of Issue* : 29.03.2011 **(day/mo/yr)**

Zertifikat *Certificate*

TÜVRheinland®

Zertifikat Nr. *Certificate No.*
S1 50198090

Blatt *Page*
0002

Ihr Zeichen *Client Reference*	**Unser Zeichen** *Our Reference*	**Längstens gültig bis** *Latest expiration date (day/mo/yr)*
M.H.	01-MRC- 15041983 001	28.03.2016

Genehmigungsinhaber *License Holder*
Channel Well Technology Co., Ltd.
No.222, Sec. 2, Nankan Rd.,
Lujhu Township, Taoyuan Hsien
33855
Taiwan

Fertigungsstätte *Manufacturing Plant*
Ningbo Iso Electronic Co., Ltd.
10, Chuange-ye Rd.,
The West of Ningbo Free Trade Zone
Ningbo, Zhejiang
P.R. China

Prüfzeichen *Test Mark*

Geprüft nach *Tested acc. to*
EN 60950-1:2006+A11

Der Anhang I der Richtlinie 2006/95/EG ist eingehalten. Das Zertifikat kann im Rahmen der Konformitätserklärung nach Anhang III verwendet werden.
Annex I of the directive 2006/95/EC is complied with. The certificate can be used in connection with the EC declaration of conformity acc. to Annex III.

Zertifiziertes Produkt (Geräteidentifikation) *Certified Product (Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Netzgerät (AC ADAPTER)

wie Blatt (as page) 0001
Fortsetzung (Continuation)

Max. Umgebungstemperatur : +40°C
(Max. Ambient Temperature)
Schutzklasse : I
(Protection Class)

Hinweis: Dieses Netzgerät ist geprüft und erfüllt die Anforderungen nach Abschnitt 2.5 als Stromquelle mit begrenzter Leistung. (Remark: The equipment is also tested and complies with sub-clause 2.5 as limited power source.)

ANLAGE (Appendix): 1.0

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Produkt und Fertigungsstätte erfüllen § 4 (1) bzw. (2) und § 7(1) des Geräte- und Produktsicherheitsgesetzes.
This certificate is based on our Testing and Certification Regulation.
Product and production fulfill par 4 Art. 1 or Art. 2 and Par 7 Art. 1 of the German Equipment and Product Safety Law.

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Zertifizierungsstelle

TÜV Rheinland LGA Products GmbH TÜVRheinland Zertifizierungsstelle

Dipl.-Ing. Bernd Scheirer

Ausstellungsdatum *Date of Issue* : 25.03.2011 **(day/mo/yr)**

Zertifikat *Certificate*

TÜVRheinland®

Zertifikat Nr. *Certificate No.*
S1 50198090

Blatt *Page*
0003

Ihr Zeichen *Client Reference*	**Unser Zeichen** *Our Reference*	**Längstens gültig bis** *Latest expiration date (day/mo/yr)*
M.H.	01-MRC- 15041983 001	28.03.2016

Genehmigungsinhaber *License Holder*
Channel Well Technology Co., Ltd.
No.222, Sec. 2, Nankan Rd.,
Lujhu Township, Taoyuan Hsien
33855
Taiwan

Fertigungsstätte *Manufacturing Plant*
Channel Well Technology (Guangzhou)
Co., Ltd.
Bld. B, Eastern Hi-tech
Industrial Base
Zengjiang Street, Zengcheng
Guangzhou, Guangdong 511300
P.R. China

Prüfzeichen *Test Mark*

Geprüft nach *Tested acc. to*
EN 60950-1:2006+A11

Der Anhang I der Richtlinie 2006/95/EG ist eingehalten. Das Zertifikat kann im Rahmen der Konformitätserklärung nach Anhang III verwendet werden.
Annex I of the directive 2006/95/EC is complied with. The certificate can be used in connection with the EC declaration of conformity acc. to Annex III.

Zertifiziertes Produkt (Geräteidentifikation) **Lizenzentgelte - Einheit**
Certified Product ***(Product Identification)*** ***License Fee - Unit***

Netzgerät (AC ADAPTER)

wie Blatt (as page) 0001

Ergänzung
(Addition)

Fertigungsstätte: Siehe oben
(Factory) (See above)

ANLAGE (Appendix): 1.0

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Produkt und Fertigungsstätte erfüllen § 4 (1) bzw. (2) und § 7(1) des Geräte- und Produktsicherheitsgesetzes.
This certificate is based on our Testing and Certification Regulation.
Product and production fulfill par 4 Art. 1 or Art. 2 and Par 7 Art. 1 of the German Equipment and Product Safety Law.

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Zertifizierungsstelle

TÜV Rheinland LGA Products GmbH TÜVRheinland® Zertifizierungsstelle

Dipl.-Ing. Bernd Scheirer

Ausstellungsdatum *Date of Issue* : 29.03.2011 **(day/mo/yr)**

經 濟 部 標 準 檢 驗 局
THE BUREAU OF STANDARDS METROLOGY AND INSPECTION
MINISTRY OF ECONOMIC AFFAIRS

商 品 驗 證 登 錄 證 書
CERTIFICATE OF THE REGISTRATION OF PRODUCT CERTIFICATION

證書號碼： CI430060160884 號 00
Certificate No.

茲據 僑威科技股份有限公司 申請驗證登錄，經審查結果符合規定，准予登錄並使用檢驗標誌及識別號碼： R43016 。其登錄事項如下：
The application made by for Registration of Product Certification has been reviewed and found to be in compliance with related regulations. Therefore, registration is granted with the Certification Mark and the Identification No. R43016 Details of the registration are follows :

申 請 人 ：僑威科技股份有限公司 統一編號：84573516
Applicant Uniform No

地 址 ：桃園縣蘆竹鄉長興村南崁路2段222號
Address

生產廠場 ：詳如附表
Factory

廠 址 ：詳如附表
Factory Address

產品種類名稱：
Type/name of product

商品分類號列： 8504.40.91.00.7
C.C.C Code

中文名稱 ： 電源供應器（本產品不得在市面上單獨販售）
Chinese name

英文名稱 ： AC Adapter
English name

型 式： KPL-065M
Type

系列型式 ： 詳如附表
Series of type

依據標準 ： CNS14336（94年版）、CNS13438（95年完整版）
Standards

標準檢驗局或所屬分局發證
（本證經發證機關使用鋼印後生效）
This certificate shall be is used by BSMI or its branches.
(This certificate will become effective only when stamped with this BSMI seal.)

登錄日期：中華民國	100	年	04	月	22	日
Registration Date	2011	(year)	04	(month)	22	(day)
本證書有效期限至	103	年	04	月	21	日
Exp iration Date	2014	(year)	04	(month)	21	(day)
發證日期：中華民國	100	年	04	月	22	日
Date of issue	2011	(year)	04	(month)	22	(day)

註一：持本證書進口時，進口人須與本證書申請人相同。

註二：次年度商品驗證登錄年費繳納期限為當年11月30日，逾期未繳納者，經限期繳納屆期未繳納，即依商品檢驗法第42條第7款規定廢止驗證登錄。

經 濟 部 標 準 檢 驗 局

商 品 驗 證 登 錄 證 書

Certificate of the Registration of Product Certification

Bureau of Standards, Metrology and Inspection,
Ministry of Economic Affairs, R.O.C.

證書號碼：CI430060160884 號 00
Certificate No.

系列型號：
Series type

KPL-040J	KPL-040K
KPL-040L	KPL-040M
KPL-040N	KPL-040Q
KPL-040R	KPL-040W
KPL-050J	KPL-050K
KPL-050L	KPL-050M
KPL-050N	KPL-050Q
KPL-050R	KPL-050W
KPL-060K	KPL-060M
KPL-060W	KPL-065J
KPL-065K	KPL-065L
KPL-065N	KPL-065Q
KPL-065R	

（以下空白）

經 濟 部 標 準 檢 驗 局

商 品 驗 證 登 錄 證 書

Certificate of the Registration of Product Certification

Bureau of Standards, Metrology and Inspection,
Ministry of Economic Affairs, R.O.C.

證書號碼：CI430060160884 號 00

Certificate No.

生產廠場：
Factory：

1. 廣州貴冠科技有限公司
   中國廣東省廣州市增城市增江街東區高科技工業基地Ｂ棟

2. 寧波冠碩電子有限公司
   中國浙江省寧波市北侖區寧波保稅區西區創業大道１０號

（以下空白）

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р

ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС TW.MO04.B02014

Срок действия с 06.04.2011 **по** 05.04.2014

№ 0566519

ОРГАН ПО СЕРТИФИКАЦИИ

рег. № РОСС RU.0001.11МО04.
ЭЛЕКТРООБОРУДОВАНИЯ И МЕДИЦИНСКИХ ИЗДЕЛИЙ ООО "ТЕСТСЕРТИФИКО".
107023, г. Москва, ул. Б.Семеновская, д.40, тел. 781 63 95, факс 781 63 95, e-mail: info@testsert.ru.

ПРОДУКЦИЯ

АДАПТЕР ПИТАНИЯ модели KPL-xy, где "x" может быть числами 040, 050, 060 или 065; "y" может быть буквами латинского алфавита F, G, V, H, I, W, J, K, L, N, Q, R или M.
Серийный выпуск.

код ОК 005 (ОКП): 40 2520

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ

ГОСТ Р МЭК 60950-1-2009, ГОСТ Р 51318.22-99,
ГОСТ Р 51317.3.2-2006 (Разд. 6, 7), ГОСТ Р 51317.3.3-2008

код ТН ВЭД России: 8504 40 999 0

ИЗГОТОВИТЕЛЬ

Channel Well Technology Co., Ltd.
Адрес: No. 222, Sec.2, Nankan Rd., Lujhu Township, Taoyuan Hsien, 33855 Taiwan, Тайвань (Китай).
заводы-изготовители согласно приложению к сертификату бланк №0350592

СЕРТИФИКАТ ВЫДАН

Channel Well Technology Co., Ltd.
Адрес: No. 222, Sec.2, Nankan Rd., Lujhu Township, Taoyuan Hsien, 33855 Taiwan, Тайвань (Китай).

НА ОСНОВАНИИ

протоколы испытаний №№ 372-ЭР/11, 372-БР/11 от 06.04.11 г.
ИЛ ЗАО НИЦ "САМТЭС", рег. № РОСС RU.0001.21МЭ40

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

Знак соответствия наносится на изделие, упаковку и в сопроводительную документацию.
Маркирование знаком соответствия по ГОСТ Р 50460-92.

Для сертификатов М.П.

Руководитель органа _____ О.Г. Фадеев
подпись инициалы, фамилия

Эксперт Садикова Н.Х. Садикова
подпись инициалы, фамилия

Сертификат имеет юридическую силу на всей территории Российской Федерации

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р

ФЕДЕРАЛЬНОЕ АГЕНТСТВО ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

№ 0350592

ПРИЛОЖЕНИЕ

К сертификату соответствия № РОСС TW.MO04.B02014

Перечень конкретной продукции, на которую распространяется действие сертификата соответствия

код ОК 005 (ОКП) код ТН ВЭД России	Наименование и обозначение продукции, ее изготовитель	Обозначение документации, по которой выпускается продукция
	ИЗГОТОВИТЕЛЬ: Channel Well Technology Co., Ltd. No. 222, Sec.2, Nankan Rd., Lujhu Township, Taoyuan Hsien, 33855 Taiwan, Тайвань (Китай)	
	на заводах-изготовителях: 1. Ningbo Iso Electronic Co., Ltd. 10, Chuange-ye Rd., The West of Ningbo Free Trade Zone Ningbo, Zhejiang P. R. China 2. Channel Well Technology (Guangzhou) Co., Ltd. Bld. B, Eastern Hi-tech Industrial Base, Zengjiang Street, Zengcheng, Guangzhou, Guangdong 511300, P. R. China	

Орган по сертификации "ТестСертификат" Для сертификатов № РОСС RU.0001.11МО04

М.П.

Руководитель органа _____ О.Г. Фадеев
подпись — инициалы, фамилия

Эксперт _____ Н.Х. Садикова
подпись — инициалы, фамилия

【写し Authorized Valid Copy】

適合証明書
Certificate of Conformity

TÜVRheinland®

証明書番号 Certificate No.	ページ Page
JD 50233087	1

申請者照会番号 Applicant Reference	検査機関照会番号 Our Reference	発行年月日 Date of Issue
SWK-113157736	ZTW1-FS-11028971 001	2012 年 07 月 20 日

申請者 Applicant	製造工場 Factory
Channel Well Technology (Guangzhou) Co., Ltd.	**Channel Well Technology (Guangzhou) Co., Ltd.**
Bild. B, Eastern Hi-tech Industrial Base, Zengjiang Street, Zengcheng, Guangzhou, Guangdong 511300, P. R. China	Bild. B, Eastern Hi-tech Industrial Base, Zengjiang Street, Zengcheng, Guangzhou, Guangdong 511300, P. R. China

TÜV RT PSE

検査の方法 Inspection Method

- 技術基準 省令第２項：J60950-1(H22), J55022(H22), J3000(H21)
  Technical Requirements Clause 2: J60950-1 (H22): 2010, J55022 (H22): 2010, J3000 (H21): 2009
- 施行規則別表第四（交流用電気機械器具）
  Appendix 4 of the Enforcement Regulations (AC Electric Appliances)

特定電気用品名 Name of Specified Electrical Appliance and Material	：	直流電源装置 DC Power Supply Unit
型式の区分 Type Classification	：	（「添付 1.0」参照） (Refer to "Attachment 1.0")
海外製造事業者 Overseas Manufacturer	：	**Channel Well Technology (Guangzhou) Co., Ltd.** Bild. B, Eastern Hi-tech Industrial Base, Zengjiang Street, Zengcheng, Guangzhou, Guangdong 511300, P. R. China
客先名 Client	：	**Channel Well Technology Co., Ltd.** No. 222, Sec. 2, Nankan Rd., Lujhu Township, Taoyuan Hsien, 33855 Taiwan
証明書の有効期間 Validity of Certificate	：	本証明書は、施行令で規定された期間である 2017 年 07 月 19 日まで有効です。 This certificate is effective until 19 Jnly, 2017 being the period stipulated by the Enforcement Ordinance.

これは、上記申請者より申請のあった上記特定電気用品及び製造工場が、電気用品安全法第八条第一項に規定する技術基準及び同法第九条第二項の経済産業省令で定める基準に適合していることを証明するものです。
This is to certify that the above-mentioned Specified Electrical Appliances and Materials and the factory which the above-mentioned applicant applied for have been complied with the Technical Requirements stipulated by Article 8, Paragraph 1 of the Electrical Appliance and Material Safety Law and the requirements stipulated by the METI Ordinance specified in Article 9, Paragraph 2 of the said law.

テュフ　ラインランド　台湾リミテッド
TÜV Rheinland Taiwan Ltd.
１１階、７５８、バートウロード、セクション４、ショウサン区、台北１０５、台湾
11F, No. 758, Bade Rd., Sec. 4, Songshan Dist., Taipei 105, Taiwan, R.O.C.

発行者 Issued by

氏名 Name　Dipl.-Ing. F. Stoelzel
フリードリット　シュトルツェル

Certificate No: SGS/110194

CERTIFICATE OF APPROVAL

This certificate is issued to confirm that ***SGS Systems & Services Certification Pty Ltd*** (Electrical Product Certification Services (EPCS) Australia) as accredited by JAS-ANZ in accordance with ISO/IEC Guide 65 has certified the equipment / appliance / accessory described hereunder to comply with the minimum safety standards for which the Application has been made by :-

CHANNEL WELL TECHNOLOGY CO., LTD
No.222, Sec.2, Nankan Rd., Lujhu Township,
Taoyuan Hsien, 33855
TAIWAN

DESCRIPTION OF ELECTRICAL EQUIPMENT

Class:		Power Supply or Charger
Product:		AC Adapter (for IT Equipment)
Trade Name / Manufacturer:		CWT
Catalogue / Model No(s):		KPL-xy x = 040, 050, 060 or 065, denoting output power; where 040 = 40W, 050 = 50W, 060 = 60W or 065 = 65W y = F, G, V, H, I, W, J, K, L, N, Q, R or M, denoting for output voltage; where F = 12V, G = 13V, V = 14V, H = 15V, I = 16V, W = 17V, J = 18V, K = 19V, L = 20V, N = 21V, Q = 22V, R = 23V or M = 24V
Ratings:	Input	100-240 V a.c.; 50/60 Hz; 1.7 A; Class I
	Output	12-24 V d.c.; 50-65 W Note: Output Current = Output Power / Output Voltage
Standard No.:		AS/NZS 60950.1:2011

REQUIRED MARKING: SGSEA/110194

EXPIRY DATE: 20 April 2016

DATE OF CERTIFICATION: 21 April 2011

JAS-ANZ

www.jas-anz.org/register

For and On Behalf of
SGS Systems & Services Certification Pty Ltd

graphic design atelier roger pfund printed by orell füssli security printing ltd switzerland

Certificado *Certificate*

Licencia de Marca de Conformidad según la Resolución Ex. S.I.C. y M. Nº 92/1998 relativa a Productos Eléctricos de Baja Tensión.

License of Conformity Mark according to Resolution Ex. S.I.C. and M. Nº 92/1998 related to Low Voltage Equipment.

Certificado Nro. *Certificate No.*	RA 3181471 E
Informe Nro. *Report No.*	15042947 001
Nombre y dirección del titular de la licencia *Name and address of the license holder*	Channel Well Technology Co., Ltd. No. 222, Sec.2, Nankan Rd., Lujhu Township, Taoyuan Hsien, Taiwan R.O.C.
Identificación tributaria (si aplica) *TAX ID - if applicable*	---
Nombre y dirección de la fábrica *Name and address of the factory*	Anexo I / *Annex I*
Origen *Origin*	Anexo I / *Annex I*
Producto *Product*	FUENTE DE ALIMENTACION *(AC Adapter)*
Designación *Type Designation*	KPL-xy x = 040, 050, 060 o 065 y = F, G, V, H, I, W, J, K, L, N, Q, R o M
Marca comercial *Trademark*	CWT
Características principales *Ratings and principal characteristics*	Tensión Nominal : AC 100-240V, 50/60Hz Potencia Nominal : 1.7A Tipo de Protección : I Salida Nominal : DC 12.0 a 24.0V, 1.67 a 5.42A Temperatura Ambiente Máxima : 40°C
Información adicional (si es necesaria) *Additional Information (if necessary)*	---
Ensayado según *Tested according to*	IEC 60065:2001+A1
Laboratorio de ensayo *Testing Laboratory*	Este certificado ha sido emitido en base a la Licencia-Certificado-Informe N° S1 50198093 emitido por TÜV Rheinland LGA Products GmbH

Este certificado está vinculado a un contrato y para el alcance arriba citado.
This certificate is based on our Testing and Certification Regulation for the above mentioned scope.

Fecha de emisión: 20/04/2011
Date of issue (day/mo/yr)

Firma: Dipl.-Ing. J. L. Diaz Pita
Signature

TÜV Rheinland Argentina S.A., San José 83 - Piso 7º,
(C1076AAA), Ciudad Autónoma de Buenos Aires, Argentina.
Acreditado por el OAA / Acredited by OAA
Reconocido por Disposición DNCI 1143/1999 / Recognized by Disposition DNCI 1143/1999

FCME-Rev. 3

Licencia de Marca de Conformidad según la Resolución Ex. S.I.C. y M. Nº 92/1998 relativa a Productos Eléctricos de Baja Tensión.

License of Conformity Mark according to Resolution Ex. S.I.C. and M. Nº 92/1998 related to Low Voltage Equipment.

Anexo I
Annex I

Certificado Nro. */ Certificate No.:* **RA 3181471 E**

Nombre y dirección de la/s fábrica/s
Name and address of the factory/ies

1. Ningbo Iso Electronic Co., Ltd.
10, Chuange-ye, Rd., The West of Ningbo Free Trade Zone, Ningbo, Zhejiang, P.R. China.
2. Channel Well Technology (Guangzhou) Co., Ltd.
Bld.B, Eastern Hi-Tech Industrial Base, Zengjiang Street, Zengcheng, Guangzhou, Guandong Province, P.R. China.

Origen
Origin

China

Fecha de emisión: 20/04/2011
Date of issue (day/mo/yr)

Firma:
Signature

Dipl.-Ing. J. L. Diaz Pita

TÜV Rheinland Argentina S.A., San José 83 - Piso 7º,
(C1076AAA), Ciudad Autónoma de Buenos Aires, Argentina.
Acreditado por el OAA / Acredited by OAA
Reconocido por Disposición DNCI 1143/1999 / Recognized by Disposition DNCI 1143/1999

Test Method for Calculating the Energy Efficiency of Single-Voltage External Ac-Dc and Ac-Ac Power Supplies

Channel Well Technology

Cord Length:		**Tester Signatures:**	
Temperature:		**Approved :**	Mickey Hsiung

Test Date:

Model Number	Nameplate AC Input Voltage (V)	Nameplate AC Input Frequency (Hz)	Nameplate DC Output Voltage (VDC)	Nameplate DC Output Power (W)	Nameplate DC Output Current (mA)	No-Load Input Power 115V @ 60Hz (W)	No Load Input Power 230V @ 50Hz (W)	Average Active Efficiency 115V @ 60Hz (W)	Average Active Efficiency 230V @ 50Hz (W)
KPL-060F	100-240	50/60	12	60.00	5000	0.030	0.060	87.292	88.421

MEASURED AND CALCULATED DATA AT 115V 60Hz FOR SAMPLE 1

Mode	Percent of nameplate current	VTHD (%)	Ture PF (W/VA)	Input Power(W)	Output Current(mA)	Output Voltage(V)	Output Power(W)	Power Consumed(W)	Efficiency(%)	Level IV Evaluation: Level IV Efficiency(%)	Level IV Evaluation: Judgement (OK/NG)	Two years after ErP Evaluation: ErP Efficiency(%)	Two years after ErP Evaluation: Judgement (OK/NG)	Level V Evaluation: Level V Efficiency(%)	Level V Evaluation: Judgement (OK/NG)	CoC Evaluation: CoC Efficiency(%)	CoC Evaluation: Judgement (OK/NG)
115V / 60Hz																	
Active mode	100%	186.52	0.581	67.200	5000.000	11.580	57.900	9.300	86.161		OK		OK		OK		OK
	75%	189.62	0.564	50.300	3750.000	11.667	43.751	6.549	86.981								
	50%	193.61	0.542	33.600	2500.000	11.752	29.380	4.220	87.440								
	25%	207.28	0.489	16.700	1250.000	11.835	14.794	1.906	88.585								
	Average								87.292	≧ 84.000		≧ 87.000		≧ 87.000		≧ 87.000	

No Load mode	VTHD (%)	Ture PF (W/VA)	Pin(W)	Level IV Pin(W)	Judgement (OK/NG)	ErP Pin(W)	Judgement (OK/NG)	Level V Pin(W)	Judgement (OK/NG)	CoC Pin(W)	Judgement (OK/NG)
	46.3	0.018	0.03	≦ 0.500	OK	< 0.500	OK	≦ 0.500	OK	≦ 0.500	OK

MEASURED AND CALCULATED DATA AT 230V 50Hz FOR SAMPLE 1

Mode	Percent of nameplate current	VTHD (%)	Ture PF (W/VA)	Input Power(W)	Output Current(mA)	Output Voltage(V)	Output Power(W)	Power Consumed(W)	Efficiency(%)	Level IV Evaluation: Level IV Efficiency(%)	Level IV Evaluation: Judgement (OK/NG)	Two years after ErP Evaluation: ErP Efficiency(%)	Two years after ErP Evaluation: Judgement (OK/NG)	Level V Evaluation: Level V Efficiency(%)	Level V Evaluation: Judgement (OK/NG)	CoC Evaluation: CoC Efficiency(%)	CoC Evaluation: Judgement (OK/NG)
230V / 50Hz																	
Active mode	100%	193.78	0.535	66.200	5000.000	11.602	58.010	8.190	87.628		OK		OK		OK		OK
	75%	199.77	0.518	49.500	3750.000	11.690	43.838	5.663	88.561								
	50%	209.36	0.497	33.400	2500.000	11.777	29.443	3.958	88.151								
	25%	208.94	0.466	16.600	1250.000	11.865	14.831	1.769	89.345								
	Average								88.421	≧ 84.000		≧ 87.000		≧ 87.000		≧ 87.000	

No Load mode	VTHD (%)	Ture PF (W/VA)	Pin(W)	Level IV Pin(W)	Judgement (OK/NG)	ErP Pin(W)	Judgement (OK/NG)	Level V Pin(W)	Judgement (OK/NG)	CoC Pin(W)	Judgement (OK/NG)
	6.59	0.011	0.06	≦ 0.500	OK	< 0.500	OK	≦ 0.500	OK	≦ 0.500	OK

Channel Well Technology

Model Number	Nameplate AC Input Voltage (V)	Nameplate AC Input Frequency (Hz)	Nameplate DC Output Voltage (VDC)	Nameplate DC Output Power (W)	Nameplate DC Output Current (mA)	No-Load Input Power 115V @ 60Hz (W)	No Load Input Power 230V @ 50Hz (W)	Average Active Efficiency 115V @ 60Hz (W)	Average Active Efficiency 230V @ 50Hz (W)		
KPL-060F	100-240	50/60	12	60.00	5000	0.050	0.080	87.336	88.464		

MEASURED AND CALCULATED DATA AT 115V 60Hz FOR SAMPLE 2

Mode										Level IV Evaluation		Two years after ErP Evaluation		Level V Evaluation		CoC Evaluation	
115V / 60Hz	Percent of nameplate current	VTHD (%)	Ture PF (W/VA)	Input Power(W)	Output Current(mA)	Output Voltage(V)	Output Power(W)	Power Consumed(W)	Efficiency(%)	Level IV Efficiency(%)	Judgement (OK/NG)	ErP Efficiency(%)	Judgement (OK/NG)	Level V Efficiency(%)	Judgement (OK/NG)	CoC Efficiency(%)	Judgement (OK/NG)
Active mode	100%	186.42	0.578	67.800	5000.000	11.692	58.460	9.340	86.224		OK		OK		OK		OK
	75%	189.62	0.561	50.800	3750.000	11.785	44.194	6.606	86.996								
	50%	192.53	0.538	33.900	2500.000	11.875	29.688	4.213	87.574								
	25%	206.78	0.488	16.900	1250.000	11.972	14.965	1.935	88.550								
	Average								87.336	≧ 84.000		≧ 87.000		≧ 87.000		≧ 87.000	

No Load mode	VTHD (%)	Ture PF (W/VA)	Pin(W)	Level IV Pin(W)	Judgement (OK/NG)	ErP Pin(W)	Judgement (OK/NG)	Level V Pin(W)	Judgement (OK/NG)	CoC Pin(W)	Judgement (OK/NG)
	46.24	0.02	0.05	≦ 0.500	OK	< 0.500	OK	≦ 0.500	OK	≦ 0.500	OK

MEASURED AND CALCULATED DATA AT 230V 50Hz FOR SAMPLE 2

Mode										Level IV Evaluation		Two years after ErP Evaluation		Level V Evaluation		CoC Evaluation	
230V / 50Hz	Percent of nameplate current	VTHD (%)	Ture PF (W/VA)	Input Power(W)	Output Current(mA)	Output Voltage(V)	Output Power(W)	Power Consumed(W)	Efficiency(%)	Level IV Efficiency(%)	Judgement (OK/NG)	ErP Efficiency(%)	Judgement (OK/NG)	Level V Efficiency(%)	Judgement (OK/NG)	CoC Efficiency(%)	Judgement (OK/NG)
Active mode	100%	193.8	0.536	66.900	5000.000	11.710	58.550	8.350	87.519		OK		OK		OK		OK
	75%	199.7	0.52	50.200	3750.000	11.795	44.231	5.969	88.110								
	50%	209.34	0.488	33.100	2500.000	11.880	29.700	3.400	89.728								
	25%	208.96	0.448	16.900	1250.000	11.965	14.956	1.944	88.499								
	Average								88.464	≧ 84.000		≧ 87.000		≧ 87.000		≧ 87.000	

No Load mode	VTHD (%)	Ture PF (W/VA)	Pin(W)	Level IV Pin(W)	Judgement (OK/NG)	ErP Pin(W)	Judgement (OK/NG)	Level V Pin(W)	Judgement (OK/NG)	CoC Pin(W)	Judgement (OK/NG)
	6.32	0.014	0.08	≦ 0.500	OK	< 0.500	OK	≦ 0.500	OK	≦ 0.500	OK

Channel Well Technology

Model Number	Nameplate AC Input Voltage (V)	Nameplate AC Input Frequency (Hz)	Nameplate DC Output Voltage (VDC)	Nameplate DC Output Power (W)	Nameplate DC Output Current (mA)	No-Load Input Power 115V @ 60Hz (W)	No Load Input Power 230V @ 50Hz (W)	Average Active Efficiency 115V @ 60Hz (W)	Average Active Efficiency 230V @ 50Hz (W)		
KPL-060F	100-240	50/60	12	60.00	5000	0.050	0.090	88.515	88.392		

MEASURED AND CALCULATED DATA AT 115V 60Hz FOR SAMPLE 3

Mode										Level IV Evaluation		Two years after ErP Evaluation		Level V Evaluation		CoC Evaluation	
115V / 60Hz	Percent of nameplate current	VTHD (%)	Ture PF (W/VA)	Input Power(W)	Output Current(mA)	Output Voltage(V)	Output Power(W)	Power Consumed(W)	Efficiency(%)	Level IV Efficiency(%)	Judgement (OK/NG)	ErP Efficiency(%)	Judgement (OK/NG)	Level V Efficiency(%)	Judgement (OK/NG)	CoC Efficiency(%)	Judgement (OK/NG)
Active mode	100%	186.63	0.578	67.200	5000.000	11.615	58.075	9.125	86.421		OK		OK		OK		OK
	75%	189.72	0.562	50.300	3750.000	11.702	43.883	6.418	87.242								
	50%	193.82	0.54	33.600	2500.000	11.785	29.463	4.138	87.686								
	25%	207.32	0.467	16.000	1250.000	11.867	14.834	1.166	92.711								
	Average								88.515	≧ 84.000		≧ 87.000		≧ 87.000		≧ 87.000	

No Load mode	VTHD (%)	Ture PF (W/VA)	Pin(W)	Level IV Pin(W)	Judgement (OK/NG)	ErP Pin(W)	Judgement (OK/NG)	Level V Pin(W)	Judgement (OK/NG)	CoC Pin(W)	Judgement (OK/NG)
	46.78	0.018	0.05	≦ 0.500	OK	< 0.500	OK	≦ 0.500	OK	≦ 0.500	OK

MEASURED AND CALCULATED DATA AT 230V 50Hz FOR SAMPLE 3

Mode										Level IV Evaluation		Two years after ErP Evaluation		Level V Evaluation		CoC Evaluation	
230V / 50Hz	Percent of nameplate current	VTHD (%)	Ture PF (W/VA)	Input Power(W)	Output Current(mA)	Output Voltage(V)	Output Power(W)	Power Consumed(W)	Efficiency(%)	Level IV Efficiency(%)	Judgement (OK/NG)	ErP Efficiency(%)	Judgement (OK/NG)	Level V Efficiency(%)	Judgement (OK/NG)	CoC Efficiency(%)	Judgement (OK/NG)
Active mode	100%	193.82	0.536	66.100	5000.000	11.590	57.950	8.150	87.670		OK		OK		OK		OK
	75%	199.82	0.513	49.000	3750.000	11.672	43.770	5.230	89.327								
	50%	209.44	0.496	33.400	2500.000	11.755	29.388	4.013	87.987								
	25%	208.24	0.448	16.700	1250.000	11.835	14.794	1.906	88.585								
	Average								88.392	≧ 84.000		≧ 87.000		≧ 87.000		≧ 87.000	

No Load mode	VTHD (%)	Ture PF (W/VA)	Pin(W)	Level IV Pin(W)	Judgement (OK/NG)	ErP Pin(W)	Judgement (OK/NG)	Level V Pin(W)	Judgement (OK/NG)	CoC Pin(W)	Judgement (OK/NG)
	6.42	0.013	0.09	≦ 0.500	OK	< 0.500	OK	≦ 0.500	OK	≦ 0.500	OK

MEASURED AND CALCULATED DATA AT 115V 60Hz (Average of three test units)						
	NO load	Active power values				
Percent of nameplate current	0%	25%	50%	75%	100%	Average
DC output current(mA)	0.000	1250.000	2500.000	3750.000	5000.000	
DC output voltage(V)		11.891	11.804	11.718	11.629	
DC output power(W)	0.000	14.864	29.510	43.943	58.145	
AC intput voltage(V)	115.000	115.000	115.000	115.000	115.000	
AC input power(W)	0.043	16.533	33.700	50.467	67.400	
VTHD(%)	46.440	207.127	193.320	189.653	186.523	
True Pf(W/VA)	0.019	0.481	0.540	0.562	0.579	0.436
Power consumed(W)	0.043	1.669	4.190	6.524	9.255	
Efficiency		89.949	87.567	87.073	86.269	87.714

MEASURED AND CALCULATED DATA AT 230V 50Hz (Average of three test units)						
	NO load	Active power values				
Percent of nameplate current	0%	25%	50%	75%	100%	Average
DC output current(mA)	0.000	1250.000	2500.000	3750.000	5000.000	
DC output voltage(V)		11.888	11.804	11.719	11.634	
DC output power(W)	0.000	14.860	29.510	43.946	58.170	
AC intput voltage(V)	230.000	230.000	230.000	230.000	230.000	
AC input power(W)	0.077	16.733	33.300	49.567	66.400	
VTHD(%)	6.443	208.713	209.380	199.763	193.800	
True Pf(W/VA)	0.013	0.454	0.494	0.517	0.536	0.403
Power consumed(W)	0.077	1.873	3.790	5.620	8.230	
Efficiency		88.810	88.622	88.666	87.606	88.426

KIND OF INSTRUMEN	MANUFACTURER	MODEL & SERIAL NO	RANGE USED	CALIBRATED DATE	RECOMMEND RECALL DATE	CALIBRATED REPORT
AC SOURCE	CHROMA	61604	0～300V	2010/08/11	2011/08/10	S004
DC LOAD	CHROMA	6304	64V,60A	2010/11/30	2011/11/29	S026
SINGLE PHASE POWER	VOLTECH	PM100	2～1000V	2010/08/11	2011/08/10	S002

Class IV		***Two years after ErP***		***Class V***		**CoC Evaluation**	
Criteria for Active Mode(吃載模式)		**Criteria for Active Mode(吃載模式)**		**Criteria for Active Mode(吃載模式)**		**Criteria for Active Mode(吃載模式)**	
Pno(輸出Wa	**Efficiency 100%+75%+50%+25%的最小平均值**	**Pno(輸出Watt)**	**Efficiency 100%+75%+50%+25%的最小平均值**	**Pno(輸出Watt)**	**Efficiency 100%+75%+50%+25%的最小平均值**	**Pno(輸出Watt)**	**Efficiency 100%+75%+50%+25%的最小平均值**
Pno≦1	≧0.5*Pno	Pno≦1	≧0.48*Pno+0.14	Pno≦1	≧0.48*Pno+0.14	Pno≦1	≧0.48*Pno+0.14
1<Pno≦51	≧[0.09*Ln(Pno)]+0.5	1<Pno≦51	≧[0.063*Ln(Pno)]+0.622	1<Pno≦49	≧[0.0626*Ln(Pno)]+0.622	1<Pno≦49	≧[0.0626*Ln(Pno)]+0.622
51<Pno≦250	≧0.85	51<Pno	≧0.87	49<Pno≦250	≧0.87	49<Pno≦250	≧0.87
Criteria for No-Load Mode(無載模式)		**Criteria for No-Load Mode(無載模式)**		**Criteria for No-Load Mode(無載模式)**		**Criteria for No-Load Mode(無載模式)**	
Pno(輸出Wa	**無載的最大Watt**	**Pno(輸出Watt)**	**無載的最大Watt**	**Pno(輸出Watt)**	**無載的最大Watt**	**Pno(輸出Watt)**	**無載的最大Watt**
Pno<10	≦0.5	Pno≦51	＜0.3	Pno<50	≦0.3	Pno<50	≦0.3
10≦Pno≦25	≦0.5	51<Pno≦250	＜0.5	50≦Pno≦250	≦0.5	50≦Pno≦250	≦0.5