	MODEL NO.	AG2412-B281	SHEET NO	1
	DESCRIPTION	SWITCHING MODE AC ADAPTER	ISSUED DATE: REVISED DATE:	JUL/06/2007

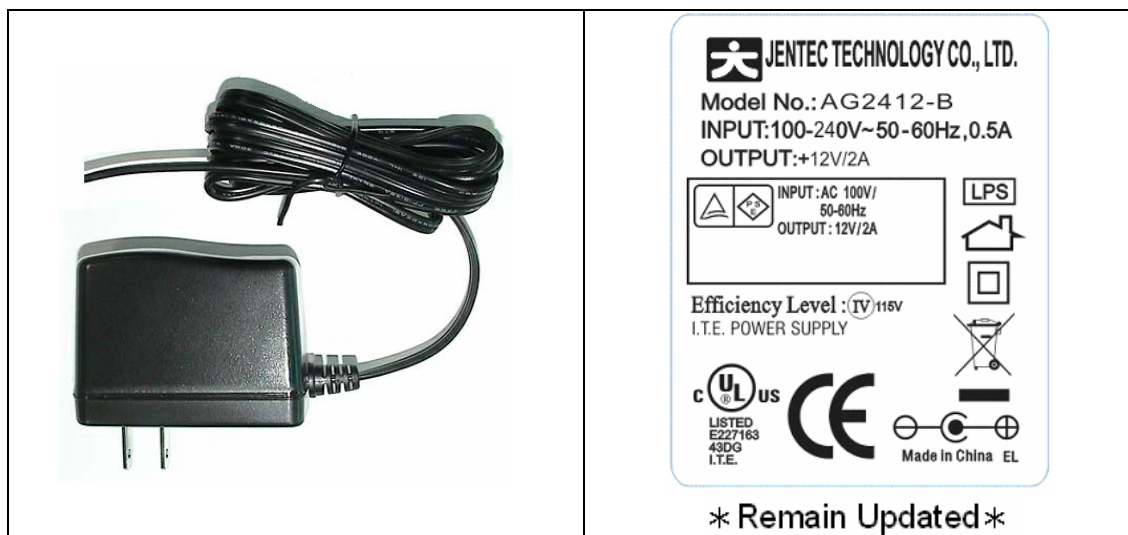
APPROVAL SIGNATURE
DATE:

CUSTOMER : Phidgets Inc.


Model : AG2412-B281(2A0F) Phidgets

REV.00

AC Input	100-240Vac	DC Output	12V/2A	PC / NP
DC O/P cable	2468 20# 2.1X5.5X9.5mm 180° Tuning fork +Kink 6FT			
AC plug	US 2Pin	Packaging	PE Bag	



Jentec Technology Co., Ltd.
17F #2 Jian-Ba Rd., Chung-Ho City
Taipei Hsien , Taiwan.
Tel : 886-2-8226-2057
Fax: 886-2-8226-2077
www.jentec.com.tw

	MODEL NO.	AG2412-B281	SHEET NO	3
	DESCRIPTION	SWITCHING MODE AC ADAPTER	ISSUED DATE: REVISED DATE:	JUL/06/2007

CONTAINS:

INTRODUCTION

1.0 INPUT REQUIREMENTS

- 1.1 Voltage (VAC)
- 1.2 Frequency
- 1.3 In-Rush Current
- 1.4 Ac Input Current

2.0 OUTPUT REQUIREMENTS

- 2.1 Output Power
- 2.2 Output Regulation
 - 2.2.1 Input Voltage
 - 2.2.2 Input Frequency
 - 2.2.3 Static Load
 - 2.2.4 Output Voltage
 - 2.2.5 Ripple
- 2.3 Transient Response and Deviation
- 2.4 Turn on, Hold up Time
- 2.5 Efficiency

3.0 PROTECTION

- 3.1 Input Current
- 3.2 Output Voltage
- 3.3 Output Current
- 3.4 Short Circuit Protection

4.0 MECHANICAL


- 4.1 Introduction
- 4.2 General Requirements
- 4.3 Power Supply Dimensions
- 4.4 Input / Output Connection
- 4.5 Unit Color

5.0 RELIABILITY AND QUALITY CONTROL

- 5.1 MTBF
- 5.2 Burn-In

6.0 ENVIRONMENTAL CONDITIONS

- 6.1 Non-operating
 - 6.1.1 Ambient Temperature
 - 6.1.2 Relative Humidity
- 6.2 Operating
 - 6.2.1 Ambient Temperature

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	DESCRIPTION	SWITCHING MODE AC ADAPTER	ISSUED DATE: REVISED DATE:	JUL/06/2007

6.2.2 Relative Humidity

7.0 EMI EMISSIONS

8.0 SAFETY

8.1 Dielectric Strength (Hi-Pot) Test

8.2 Insulation Resistance

8.3 Leakage current

9.0 ENVIROMENTAL PROTECTION

9.1 RoHS and WEEE


9.2 EPA /CEC and MEPS

10.0 PACKAGING

11.0 LABEL/MARKING

12.0 OUTLOOKING

13.0 SAFETY CERTIFICATIONS

	MODEL NO.	AG2412-B281	SHEET NO	5
	DESCRIPTION	SWITCHING MODE AC ADAPTER	ISSUED DATE: REVISED DATE:	JUL/06/2007

INTRODUCTION

This documents specifies ONE voltage +12V power supply for electronic data processing equipment. The power supply will provide power to all system components.

1.0 INPUT REQUIREMENTS

1.1 Input Voltage Designing Range: 90~264 VAC.

1.2 Line Frequency Designing Range: 47 HZ to 63 HZ.

1.3 In-Rush Current: 30 A max. less under 115V conditions.

Interruption of the input voltage for duration sufficient to cause the output voltage to drop below the regulation setting shall cause reactivation of in rush limiting capability. (Full-load 25°C Cold-start)

1.4 Input Current: 0.5 A max. at any line voltage specified in 2.1 at output full load condition.

2.0 OUTPUT REQUIREMENTS

2.1 Output Power (Rated Power)

The unit total output power from all voltage under steady state condition will not exceed 24W watts

2.2 Output Regulation

Label Information per Safety Agencies according to UL1950 and or EN60950 Requirements.

2.2.1 Input Rated Voltage Range: 100~240 VAC.

2.2.2 Line Rated Frequency: 50 HZ to 60 HZ.

2.2.3 Static Load

TABLE 2.2.3

Output	Voltage	Minimum Load	Maximum Load	Surge Current
1	+12V	0A	2A	-----

2.2.4 Output Voltage

The output voltage shall be statically regulated for all combinations of load (min./ max.), line and environment, including cross regulation (if any) as shown:


TABLE 2.2.4

Output #	Voltage	Range	Tolerance
1	+12V	+11.4V~+12.6V	-5%,+5%

NOTE: Test measurement will be made at the output connector on the power Supply output cord and well connected on the mating connector.

2.2.5 Ripple and Noise

Differential ripple and noise at the power supply output shall be as

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shown below when measured under constant load range of 0.01 ~2A with an oscilloscope with at bandwidth of 20MHz.

TABLE 2.2.5

Output #	Voltage	Maximum peak to peak ripple and noise
1	+12V	120 mV

NOTE: Test measurement will be made at the output connector on the power Supply output cord. With used an aluminum Electrolytic capacitor of 10uf and ceramic of 0.1uf parallel on output terminal can prevent unknown noise pick up.

2.3 Transient Response and Deviation

The load regulation for +12V is less than +/-10% while the measuring is down by changing the measured output loading from +20% to +80% of rated load .

2.4 Turn on, Hold up Time

During turn on and turn off, no voltage shall exceed its nominal voltage by more than 10% and no output will change its polarity with respect to its return line. All outputs shall reach their steady state values within 2 seconds of turn on and the hold up time for the output must be at least 10 mS tested at 110VAC/50HZ input with 80% maximum load on output.

2.5 Efficiency

The efficiency (watt out/watt in) shall be a minimum of 78.6 % under line input 115Vac/60Hz and full load.

3.0 PROTECTION

3.1 Input Current

An input fuse with a rating of 2A/250V Amps, shall be provided to protect the power supply and the input wiring. Note: The fuse shall be an unchangeable unit.

3.2 Output Voltage (OVP)

The power supply shall shut down all outputs when any output voltage reaches to it's over voltage protection trigger point. (Maximum=130% output voltage)


Note: This is not a repeatable test, when it triggers it is a perennial shut down.

3.3 Output Current (OCP)

Overload conditions shall cause both the output current and the output voltages to decrease. Removal of an output overload conditions shall permit automatic recovery of the output voltage. The over current protection point Maximum=300% for all outputs . Note : The total output power should not over Rated power to operate ,otherwise will caused the power supply to damage.

3.4 Short Circuit Protection (SCP)

The power supply shall be protected from damage of accidentally short on the output terminal.

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4.0 MECHANICAL

Introduction


The power supply will provide

Output power connector show as in

Table 4.1

FRONT VIEW OF OUTPUT CONNECTOR

Table 4.1 Pin out for DC Connector

PIN #	Output Voltage
	

4.2 General Requirements

The power supply must not exceed an audible noise level of 32 dB while operating under any combination of specified load and input voltages and frequencies. This noise level shall be measured according to IEC standards 651 type 1, with the sound level meter pointed directly at the power supply in a free-field condition, at a distance of 1 meter and by selecting nominal “A” weighting frequency attenuation.

4.3 Power Supply Dimensions

The dimensions of the power supply are shown : (75x 55x34.5 m/m)

4.4 Input / Output Connection

AC PLUG	US 2PIN
DC OUTPUT	2468 20# 2.1X5.5X9.5mm 180° Tuning fork +Kink 6FT

4.5 Unit Color: BLACK

5.0 RELIABILITY

5.1 Reliability

The design and construction of this power supply shall exhibit a minimum mean time between failure of 50,000 hours full rated load operation at 25.0°C, According to the MIL-HDBK-217F.


5.2 Burn-in

The power supply will be performed 100% burn-in at 40°C(±5°C) under 80%-100% of full load on all power supplies.

6.0 ENVIRONMENT

6.1 Storage

The power supply shall be capable of withstanding the following environmental conditions for extended periods of time, without sustaining electrical and/or mechanical damage and subsequent operational deficiencies:

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6.1.1 Ambient temperature: -25°C ~ +85°C

6.1.2 Relative Humidity: 10% ~ 95%

6.2 Operation

The power supply shall be capable of operating continuously in any mode without performance deterioration in the following environmental conditions:

6.2.1 Ambient Temperature: 0°C ~ 40°C

6.2.2 Relative Humidity: 10% ~ 95%.

7.0 EMI EMISSIONS

The power supply meets the radiated and conducted emission requirements for a FCC part 15B (class B)(DoC)

8.0 SAFETY

The power supply must be certified or meet of the following safety standards:

	Certified	Meet
UL	★	
CSA or CUL	★	
PSE	★	
CE	★	

8.1 Dielectric Strength (Hi-Pot) Test System:

Withstand AC 3 K V/10mA, for 2 sec./ min., primary to secondary.

8.2 Insulation Resistance:

Primary to secondary: 10 M OHM at 500 VDC.

8.3 Leakage current: \leq 0.25mA

9.0 ENVIROMENTAL PROTECTION


9.1 RoHS and WEEE

This product from design to production all the parts and process should meet the requirement of Restriction of the use of certain hazardous substances in electrical and electronic equipment RoHS directive 2002/95/EC and also meet the directive 2002/96/EC of Waste electrical and electronic equipment (WEEE) .

9.2 EPA/CEC/MEPS regulation

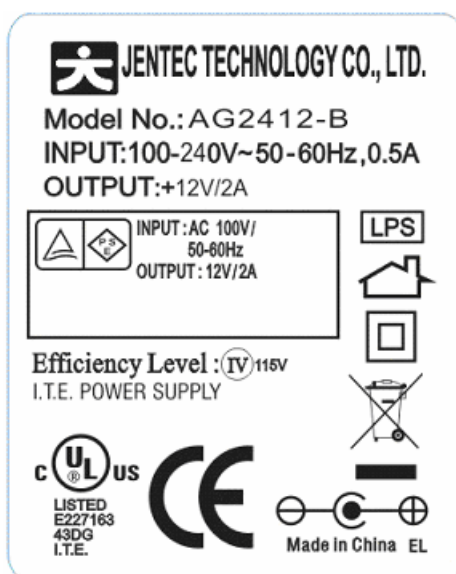
To meet the energy saving trend, this product has designed to meet the American EPA energy star program for the EPS regulation , or requirement of CEC 400-2006-002, AS/NZS/4665.2.2005 for Australia and New Zealand.

10.0 PACKAGING: PE Bag .

	MODEL NO.	AG2412-B281	SHEET NO	9
	DESCRIPTION	SWITCHING MODE AC ADAPTER	ISSUED DATE: REVISED DATE:	JUL/06/2007

11.0 LABEL/MARKING

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* Remain Updated *

	MODEL NO.	AG2412-B281	SHEET NO	10
	DESCRIPTION	SWITCHING MODE AC ADAPTER	ISSUED DATE: REVISED DATE:	JUL/06/2007

12.0 OUTLOOKING

JENTEC TECHNOLOGY CO., LTD.

Model No.: AG2412-B

INPUT: 100-240V~50-60Hz, 0.5A

OUTPUT: +12V/2A

Efficiency Level: IV/16V
I.T.E. POWER SUPPLY

Made in China

Note:

1. Length : 1800mm+200mm-30mm
2. Type : UL 2468 20AWG
3. 180° molding plug type
4. Kink and Tuning Fork
5. Diameter
Outside : 5.5mm ± 0.1
Inside : 2.1mm ± 0.1
6. Connector color : Black


Rev.	Description	Issuing date	Description : AG2412-B281(2A0F)	Mechanical	Dimension	Drawing
1. 00	Original	JUL/06/2007		Checked by :	MODEL NO :	
2.				Drawn by :		
3.						
4.						
5.						
6.						

Charles Huang
JUL/06/2007

Charles Huang
JUL/06/2007

AG2412-B281(2A0F)

JENTEC TECHNOLOGY CO., LTD.

	MODEL NO.	AG2412-B281	SHEET NO	11
	DESCRIPTION	SWITCHING MODE AC ADAPTER	ISSUED DATE: REVISED DATE:	JUL/06/2007

13.0 SAFETY CERTIFICATIONS



美商優力安全認證有限公司台灣分公司
UL International, L.L.C., Taiwan Branch
台北市 112 北投區大業路 260 號 1 樓
1st Fl 260 Da-Yeh Road Paitou Taipei City Taiwan 112
tel: 886-2-2888-7760 fax: 886-2-2881-7644
http://www.ul.com.tw

NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

TAIWAN OFFICE

Date - December 2, 2005

TO: Jentec Technology Co., Ltd.
14th Fl-9 2 Jian-Ba Rd
Chung-Ho City, Taipei Hsien 235, Taiwan
Attention: Mr. Charles Huang
Our Reference: File E227163 Project 05SC05808
Product: UL and C-UL Investigation for Switching Power Adapter, Model AX24YY-B (X may be F, G or H; YY may be 09 to 24)

Dear Mr. Huang:

Any information and documentation provided to you involving UL Mark services are provided on behalf of Underwriters Laboratories Inc.

UL's Investigation of your product has been completed under the above project number and the subject product was determined to comply with the applicable requirements.

This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Listing Mark only at the factory under UL's Follow-Up Services Program to the subject product which is constructed as described below:

Identical to switching power adapter, Model AX24YY-B which was submitted to UL for this investigation. The UL records covering the product will be in the Follow-Up Services Procedure, File E227163, Volume X2, Report Reference Number E227163-A14-UL-1.

To provide the manufacturer with the intended authorization to use the UL Mark, the addressee must send a copy of this Notice and all attached material to each manufacturing location as currently authorized in File E227163, Volume X2.

This authorization is effective from the date of this Notice and only for products at the indicated manufacturing locations. Records in the Follow-Up Services Procedure covering the product is now being prepared and will be sent to the indicated manufacturing locations in the near future. Please note that Follow-Up Services Procedures are sent to the manufacturers only unless the Applicant specifically requests this document.

Products that bear the UL Mark shall be identical to those that were evaluated by UL and found to comply with UL's requirements. If changes in construction are discovered, appropriate action will be taken for products not in conformance with UL's requirements and continued use of the UL Mark may be withdrawn.

Very truly yours,

Reviewed by:

Nathan Chen /rc

Wisely Lin /rc


Nathan Chen (Ext. 62265)
Engineer
Conformity Assessment Services, 3013DTPI

Wisely Lin (Ext. 62403)
Associate Project Engineer
Conformity Assessment Services, 3013DTPI

CC: Creative Safety & Consultant Co.
Fax: (02)8753-4152
Attn: Ms. Jennifer Liu

An independent organization working for a safer world with integrity, precision and knowledge



	MODEL NO.	AG2412-B281	SHEET NO	12
	DESCRIPTION	SWITCHING MODE AC ADAPTER	ISSUED DATE: REVISED DATE:	JUL/06/2007

適合証明書

Certificate of Conformity



証明書番号 Certificate No.

ページ Page

JD 50049205

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

EH-13054170

ZJ-YH-12303475 001

(3041226)

2004 年 09 月 21 日

申請者 Applicant

製造工場 Factory

Super Union Industries Ltd.

Super Union Industries Ltd.

No. 2, Chang-Jin Road., Chang-Jang-Bu Industries District
Ho Au Chun, Heng Gang Zhen, Lung Gang Qu
Guang Dong, P.R. China

No. 2, Chang-Jin Road., Chang-Jang-Bu Industries District
Ho Au Chun, Heng Gang Zhen, Lung Gang Qu
Guang Dong, P.R. China



検査の方法 Inspection Method

- ・ 技術基準 省令第 2 項 : J60950(H16), J55022(H14)
Technical Requirements Clause 2: J60950 (H16): 2004, J55022 (H14): 2002
- ・ 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

: 直流電源装置

Name of Specified Electrical
Appliance and Material

DC Power Supply Unit

型式の区分

: (「添付 1.0」参照)

Type Classification

(Refer to "Attachment 1.0")

海外製造事業者

: Super Union Industries Ltd.

Overseas Manufacturer

No. 2, Chang-Jin Road., Chang-Jang-Bu Industries District
Ho Au Chun, Heng Gang Zhen, Lung Gang Qu Guang Dong, P.R. China

客先名

: Jentec Technology Co., Ltd.

Client

14F-9, No. 2 Jian-Ba Rd., Chung-Ho City Taipei Hsien, Taiwan

証明書の有効期間

: 本証明書は、施行令で規定された期間である 2009 年 09 月 20 日まで有効です。

Validity of Certificate

This certificate is effective until 20.September, 2009 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・ジャパン株式会社

TÜV Rheinland Japan Ltd.

〒222-0033

横浜市港北区新横浜 3-19-5 新横浜第二センタービル

Shin Yokohama Daini Center Bldg.,

3-19-5, Shin Yokohama, Kohoku-ku, Yokohama 222-0033


発行者 Issued by



氏名 Name

榎山 泰亮

Yasuaki Hazeyama

	MODEL NO.	AG2412-B281	SHEET NO	13
	DESCRIPTION	SWITCHING MODE AC ADAPTER	ISSUED DATE: REVISED DATE:	JUL/06/2007

添付 Attachment : 1.0

発行日 Date of Issue : 2004 年 09 月 21 日

【型式の区分 Type Classification】

型式区分管理 No: (Type Classification Control No.) : CL-01

証明書番号 (Certificate No.) : JD 50049205

特定電気用品名 : 直流電源装置
(Name of Specified Electrical Appliance and Material) DC Power Supply Unit

申請者 (Applicant) : Super Union Industries Ltd.

海外製造事業者 : Super Union Industries Ltd.
(Overseas Manufacturer/factory)

客先名 (client) : Jentec Technology Co., Ltd.



要素 Factor	区分 Classification
定格入力電圧 (Rated input voltage)	125V 以下のもの 及び 125V を超えるもの (125V or less, and exceeding 125V)
入力側の定格容量 (Rated capacity on input side)	40VA を超え 50VA 以下のもの 及び 50VA を超え 60VA 以下のもの (Exceeding 40VA, and less than or equal to 50VA, And exceeding 50VA, and less than or equal to 60VA)
定格周波数 (変圧器を有するものの場合に限る。) (Rated frequency (limited to those with transformer))	50Hz のもの 及び 60Hz のもの (50Hz, and 60Hz)
交流用端子 (AC terminal)	ないもの (Without AC terminal)
直流定格電圧 (Rated DC voltage)	15V 以下のもの (15V or less)
変圧器 (Transformer)	あるもの (With transformer)
変圧器の巻線の絶縁の種類 (Transformer winding insulation class)	B 種のもの (Class B)
直流電圧の調整装置 (DC voltage adjusting mechanism)	ないもの (Without adjusting mechanism)
回路の保護機構 (Circuit protection device)	あるもの (With circuit protection device)
器体スイッチ (Body switch)	ないもの (Without body switch)
外郭の材料 (Outer case material)	合成樹脂のもの (Plastic)
用途 (Application)	電池充電用のもの 及び その他のもの (For battery charging, and Others)
電源電線と器体との接続の方式 (Method of attaching power supply cord)	接続器利用のもの (Coupling device)
二重絶縁 (Double insulation)	施してあるもの (With double insulation)

テュフ・ラインランド・ジャパン株式会社
TÜV Rheinland Japan Ltd.


〒222-0033

横浜市中区新横浜 3-19-5 新横浜第二センタービル
Shin Yokohama Daini Center Bldg.,
3-19-5, Shin Yokohama, Kohoku-ku, Yokohama 222-0033

発行者 Issued by

氏名 Name 樫山 泰晃
Yasuaki Hazeyama



	MODEL NO.	AG2412-B281	SHEET NO	14
	DESCRIPTION	SWITCHING MODE AC ADAPTER	ISSUED DATE: REVISED DATE:	JUL/06/2007



VERIFICATION OF COMPLIANCE

This Verification of Compliance is hereby issued to the product designated below.

Product	ADAPTOR
Model	AX24XX-X (The first X = H, F, G; The other X = 0-9, A-Z)
Trade name	JENTEC
Applicant	Jentec Technology Co., Ltd. 17F, No. 2, Jian-Ba Rd., Chung-Ho City, Taipei Hsien, Taiwan, R.O.C.
Applicable Standard(s)	EN 55022: 1998 + A1: 2000 + A2: 2003 EN 61000-3-2: 2000 EN 61000-3-3: 1995 + A1: 2001 EN 55024: 1998 + A1: 2001 + A2: 2003 IEC 61000-4-2: 1995 + A1: 1998 + A2: 2000; IEC 61000-4-3: 2002 + A1: 2002; IEC 61000-4-4: 1995 + A1: 2000 + A2: 2001; IEC 61000-4-5: 1995 + A1: 2000; IEC 61000-4-6: 1996 + A1: 2000; IEC 61000-4-8: 1993 + A1: 2000; IEC 61000-4-11: 1994 + A1: 2000
Report No.	51027106-E
Test Laboratory	Compliance Certification Services Inc. No. 81-1, Lane 210, Bade Rd., 2, Luchu Hsiang, Taoyuan Hsien, Taiwan, R.O.C. Tel: +886-3-3240332/ Fax: +886-3-3245235

This device has been tested and found to comply with the stated standard(s), which is(are) required by the Council Directive of 89/336/EEC, Amended by 92/31/EEC and 93/68/EEC. The test results are indicated in the test report and are applicable only to the tested sample identified in the report.

Kurt Chen

Kurt Chen / Director of Linkou Laboratory
Date: November 4, 2005