

客户承认书

SPECIFICATION FOR APPROVAL

CUSTOMER/ 客户: 日本分公司

CUSTOMER P.N./客户物料号: _____

MODEL NO./ 产品型号: HKA01105021-2B

APPROVAL NO./ 承认编号: WI-F-20110314

PREPARED DATE/拟定日期: 2011-4-22

CUSTOMER AUTHORIZED SIGNATURE/客户承认签核		

Please return to us one copy of "SPECIFICATION FOR APPROVAL" with you approved signature./ /客户确认签字, 盖章后请回传一份承认书给我司.

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E. C. LIST/变更履历表

Rev. 版本	Description of Change/变更内容描述		Changed Date/日期	ECN No.
	Before/变更前	After/变更后		
1	Original Release	---	2011-3-5	---
2		修改上、下盖丝印	2011-3-29	
3		增加 USB 输出电压示意图	2011-4-22	

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1. SCOPE/概述

The document details the electrical, mechanical and environmental specifications of a SMPS, the power supply provides 10.5 W continuous output power.

资料详细描述了一款 10.5 W(连续输出功率)开关电源的电气性,结构性及环境等要求.

The power supply shall meet the **RoHS** requirements.

此款电源符合 **RoHS** 要求.

Description/描述:

- SMPS Adaptor(Wall mount)/插墙式适配器 SMPS Adaptor(Desk-top)/桌面型适配器
 Open Frame/开放式结构 SMPS Unit (With Case)/带铁壳型
 Others/其它

2. Input Characteristics/输入特性

2.1. Input Voltage & Frequency/输入电压与频率

The range of input voltage is from 90Vac to 264Vac with a single phase.

输入电压范围: 从 90Vac 到 264Vac, 单相输入.

	Minimum/最小	Rating/额定值	Maximum/最大
Input Voltage/输入电压	90Vac	100Vac~240Vac	264Vac
Input Frequency/输入频率	47Hz	60Hz/50Hz	63Hz

2.2. Input AC Current/输入交流电流

0.5Amax. @ 100Vac input & Full load/在 100Vac 输入和满载条件下最大 0.5A

2.3. Inrush Current (cold start)/浪涌电流(冷启动)

40Amax. @ 240Vac input/在 240Vac 输入条件下最大 40A

2.4. Average Efficiency /平均效率

While input 115Vac and 230Vac, the average efficiency is more than 73.7%.The test point is at 25%, 50%, 75% and 100% of max load respectively.

在输入 115Vac 和 230Vac 条件下,平均效率不小于 73.7%。测试点分别是最大载的 25%,50%,75%和 100%。

2.5. No-Load Input Power Dissipation/输入空载功率损耗

While input 100Vac ~ 240Vac and the output is no load, the input power loss must be less than 0.30W.

在输入 100Vac~240Vac, 空载功耗小于 0.30W.

3. Output Characteristics/输出特性

3.1. Static Output Characteristics <Vo & R+N>/静态输出特性<输出&纹波+噪音>

Output	Rated Load/额定负载		Peak Load	Output Range 输出电压范围	R+N 纹波与噪声	Remark 备注
	Min. Load	Max. Load				
+5.0V	0A	2.1A	/	4.75V ~ 5.25V	100mVp-p	

Ripple & Noise: Tested by a oscilloscope using 20MHz bandwidth and the output is paralleled a 0.1uF ceramic capacitor and a 10uF electrolysis capacitor. (Under the input Voltage 100~240Vac)

纹波与噪声: 量测时示波器选用 20MHz 带宽限制,输出端要并联一颗 0.1uF 的陶瓷电容和一颗 10uF 的电解电容(输入电压 100~240Vac)

USB 4PIN output: 1PIN +5V, 2PIN 2.0V, 3PIN 2.7V, 4PIN GND

USB 接口输出为: 1PIN 为+5V, 2PIN 为 2.0V, 3PIN 为 2.7V,4PIN 接地

3.2. Line/ Load Regulation/线性/负载调整率

Output	Load Condition/负载条件		Line Regulation	Load Regulation	Remark
Rating	Min. Load	Max. Load	线性调整率	负载调整率	备注
+5.0V	0A	2.1A	±2%	±5%	

3.3. Turn - on Delay Time/开机延迟时间

5S max. @ 90Vac input & Full load/在 90Vac 输入和满载条件下最大 5S

3.4. Hold-up Time/关机维持时间

10mS min. @ Full load & 115Vac/60Hz input turn off at worst case

在 115Vac 输入, 满载同时最差情况下关机, 最小 10mS

20mS min. @ Full load & 230Vac/50Hz input turn off at worst case

在 230Vac 输入, 满载同时最差情况下关机, 最小 20mS

3.5. Rise Time/上升时间

30mS max. @ Full load/在满载条件下最大 30mS

3.6. Fall Time/下降时间

20mS max. @ Full load/在满载条件下最大 20mS

3.7. Output Overshoot / Undershoot/输出过冲/欠冲

10% max. When the power on or off/当电源开/关机时最大 10%

3.8. Output Load Transient Response/输出负载瞬态响应

Output voltage is within 4.5-5.5V while the load step is from 20% to 80% of max load, R/S: 0.5A/uS, frequency: 100Hz and 8mS duration at 80% of max load.

输出电压在 4.5-5.5V 之间,负载变化: 从最大载的 20%到 80%,斜率: 0.5A/uS,频率: 100Hz, 80%负载持续时间为 8mS.

4. Protection Requirements/保护要求

4.1. Over Current Protection/过流保护

OCP Point Limited: < 2.5A/保护点限制: 小于 2.5A

The output shall hiccup when the over currents applied to the output rail, and shall be self-recovery when the fault condition is removed

当过电流时,输出将进入打嗝模式,当过流情况解除后,产品将会自动恢复正常

4.2. Short Circuit Protection/短路保护

The input power shall decrease when the output rail short, the power supply shall no damage, and shall be self-recovery when the fault condition is removed

当输出短路时,产品输入功率降低且不会损伤,当短路情况解除后,产品将会自动恢复正常

4.3. Over Voltage Protection/过压保护

OVP Point Limited: < 6.3V/保护点限制: 小于 6.3V

The power supply shall be protected when the output is over voltage..

当输出过压时,产品保护

4.4. Over Temperature Protection 过温保护

A temperature sensor and associated protection circuitry are installed inside the adapter to detect the case internal temperature and provide protection against damage to the adapter. And the input power shall be latched off when the unit works in OTP mode.

过温保护电路被设置在适配器内部，避免适配器损坏，且当温度超过 OTP 点时，产品会进入自锁模式。

5. Environment Requirements/环境要求

5.1. Operating Temperature and Relative Humidity/操作温度和湿度要求

0°C to +40°C

10%RH to 90%RH

5.2. Storage Temperature and Relative Humidity/存储温度和湿度要求

-30°C to +70°C

10%RH to 90%RH (non-condensing) @ Sea level shall below 10,000 feet

在海拔低于 10,000 英尺的条件下，低温存储下限为-30°C（无结冰环境）；高温存储上限为

+70°C,相对湿度为 10%RH to 90%RH。

5.3. Vibration/振动

10 to 300Hz sweep at a constant acceleration of 1.0G (Breadth: 3.5mm) for 1Hour for each of the perpendicular axes X, Y, Z

扫描频率: 10 to 300Hz, 加速度: 1.0G(位移: 3.5mm), X, Y, Z 三垂直坐标轴向各振动 1 小时

5.4. Drop in/跌落

1 Corner, 3 Edges, 6 Surfaces, Height: 100cm, on the cement plane

1 角, 3 棱, 6 面, 跌落高度: 100 厘米, 跌落到水泥面上

6. Reliability Requirements/可靠性要求

6.1. MTBF Qualification/平均间隔故障时间估算

The MTBF shall be at least 50,000hours at 25°C, Full load and normal input condition

平均间隔故障时间: 至少 50,000 小时,25°C 环境及额定输入与满载条件下

7. EMI/EMS Standards/EMI/EMS 标准

7.1. EMI Standards/EMI 标准

EN 55022:1998, +A1:2000 +A2:2003, Class B

CISPR 22:2003, Class B

AS/NZS CISPR 22: 2004, Class B

7.2. EMS Standards/EMS 标准

EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EN 61000-4-2	Electrostatic Discharge(ESD): 8kV air discharge, 6kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient/Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 1kV, line to earth 2kV

EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8	Power Frequency Magnetic Field Test
EN 61000-4-11	Voltage Dips

8. Safety Standards/安规标准

8.1. Dielectric Strength(Hi-pot)/介电耐压强度(高压)

Primary to Secondary: 3000Vac / 3.5mA / 60second (3second for production)
Or 4242Vdc / 3.5mA / 60second (3second for production)

初级对次级: 3000Vac / 3.5mA / 60 秒(生产时高压测试时间: 3 秒)

或 4242Vdc / 3.5mA / 60 秒(生产时高压测试时间: 3 秒)

8.2. Leakage Current/漏电流

0.1mAmax. at 264Vac / 50Hz input/在输入 264Vac/50Hz 的条件下最大 0.1mA

8.3. Insulation Resistance/绝缘阻抗

10MΩ min. @ primary to secondary add a 500Vdc test voltage

在初级与次级间加 500Vdc 进行测试,最小 10MΩ

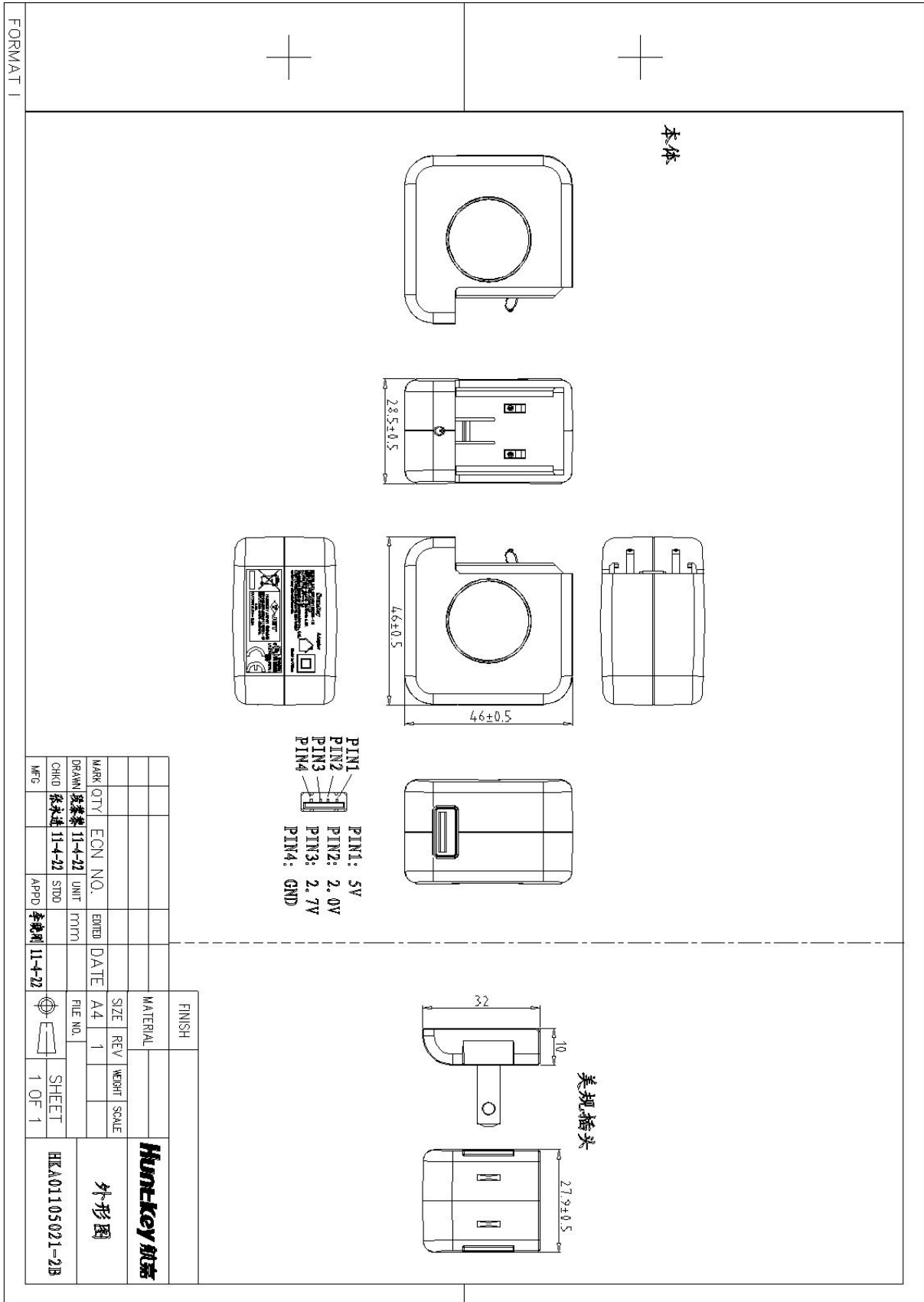
10MΩ min. @ primary to case add a 500Vdc test voltage

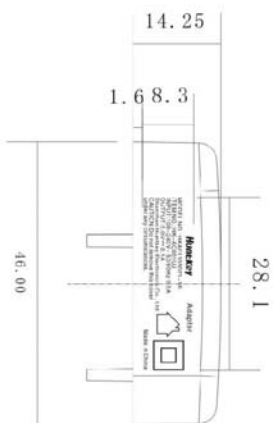
在初级与外壳间加 500Vdc 进行测试,最小 10MΩ

8.4. Regulatory Standards/安规标准

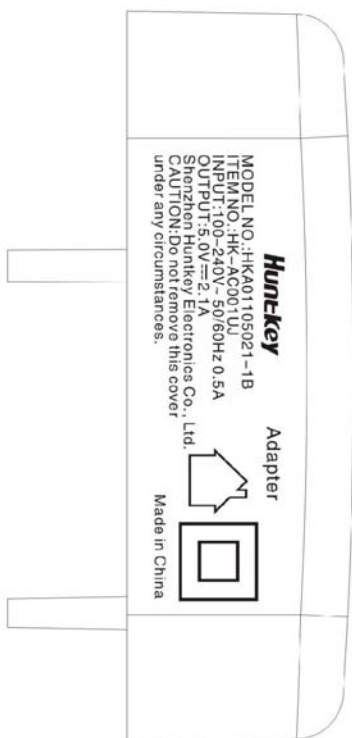
Type	Country	Standard	Type	Country	Standard
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<input type="checkbox"/> TUV	Europe	EN60950-1	<input checked="" type="checkbox"/> PSE	Japan	J60950
<input type="checkbox"/> CCC	China	GB4943	<input type="checkbox"/> NOM	Mexico	NOM-001
<input checked="" type="checkbox"/> CE	Europe	EN60950-1	<input type="checkbox"/> GOST	Russia	MEK60950

9. Mach. Outline Drawing/外观图





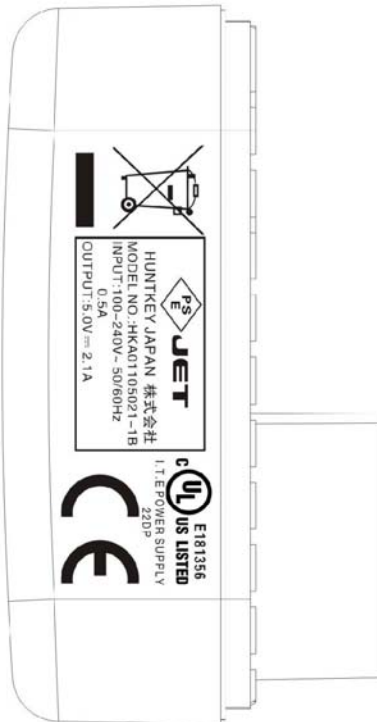
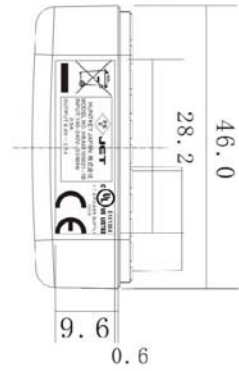
变更日期	标记	次数	变更描述
2011.03.24			变更丝印内容



技术要求:

- 1、丝印颜色为PANTONE 423C,字体为方正黑体-GBK;
- 2、字体清晰、颜色均匀、无毛边,用50g砑码耐酒精擦拭50次无不良;
- 3、未标注公差: +/-0.5.

Huntkey 航嘉		MATERIAL	丝印	MATERIAL
SHEET	2 OF 2	MATERIAL No.	289-730C002J	FILE NAME
UNIT	mm	SCALE	✓	DATE
DESIGNED	CHECKED	DATE	2011.03.16	REV
胡婷婷	徐加红	CHECKED	秦文刚	APPROVED
				李晓明
				FILE No.
				2
				HKA01105021-1B (自本公司日期)



技术要求:

- 1、丝印颜色为PANTONE 423C,字体为方正黑体-GBK,左右居中;
- 2、字体清晰、颜色均匀、无毛边,用50g砂纸耐酒精擦拭50次无不良;
- 3、未标注公差: +/-0.5.

变更日期	标记	处数	变更描述

Huntkey 航嘉		MATERIAL	丝印	MATERIAL
SHEET	2 OF 2	MATERIAL No.	289-800C002R	FILE NAME
UNIT	mm	SCALE	1	REV
DESIGNED	CHECKED	DATE	2011.03.16	FILE No.
胡婷婷	徐加红	CHECKED	秦文刚	李晓明

10. Package Drawing/包装图

正面

180.0

反面

180.0

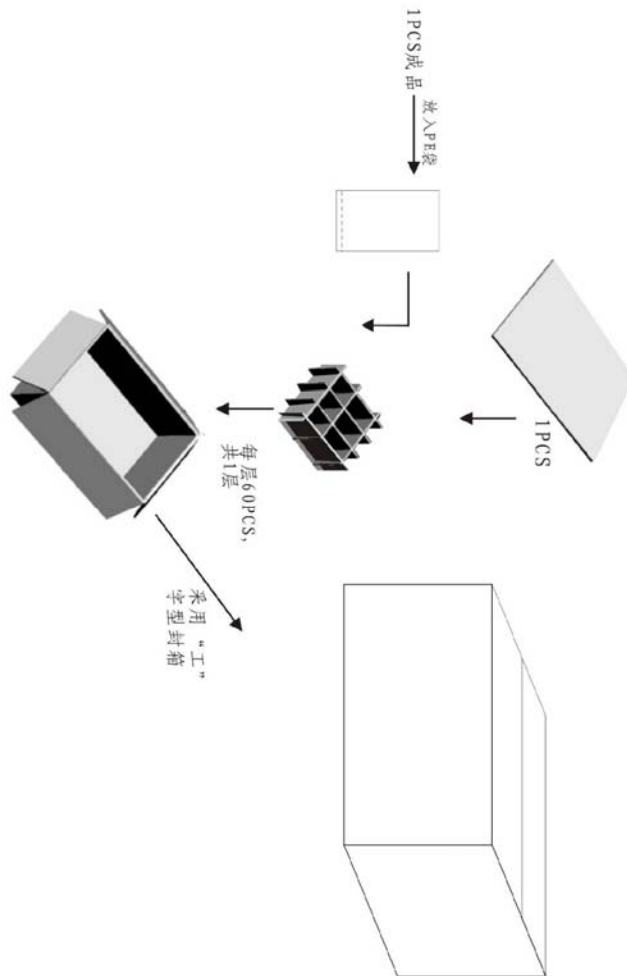
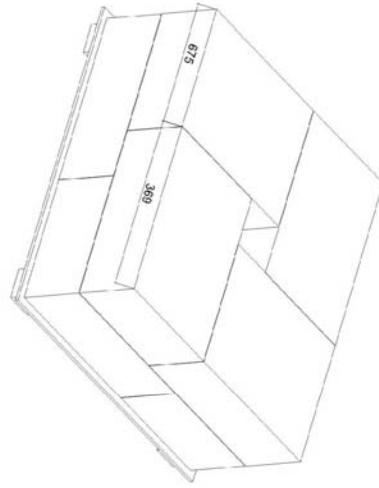
技术要求:

1. 材质: 250G双粉, 过UV;
2. 尺寸公差: +/- 0.2mm;
3. 彩卡四角需倒圆角, 条码需为可扫描;
4. 具体见样板.

变更日期	标记	处数	变更描述

Huntkey 航嘉		MATERIAL	彩卡	MATERIAL	250g双粉过UV
SHEET	1 OF 1	MATERIAL No.	352-3018000R	FILE NAME	HK-A001U (体字半 未配)
UNIT	mm	SCALE	1	DATE	2011.02.22
DESIGNED	CHECKED	DATE	2011.02.22	REV	1
胡婷婷	徐加红	CHECKED	秦文刚	APPROVED	李晓刚
				FILE No.	

采用货架方式：需交错咬合放置，需要使货物包围膜、角纸、打包带为一个整体。堆高，堆高不超过7层。



尺寸范围 (mm)	公差
0-5-10	+0.5
10-100	+1.0
100-200	+1.5
200-500	+2.0
500以上	+3.0

Huntkey 航嘉		MATERIAL		外包装箱		MATERIAL	
SHEET	5 OF 5	MATERIAL No.	365-1067500R	FILE NAME	8E00190501-7A	制表	日本电产公司 宋彬
UNIT	mm	SCALE	1/1	DATE	2011.03.04	REV	1
DESIGNED	胡婷婷	CHECKED	徐加红	CHECKED	秦文刚	APPROVED	李晓刚
FILE NO.							