RoHS PARTS

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SPECIFICATION FOR APPROVAL

CUSTOMER：

PROGRAM NO. ：LED-11-76V-0.221A-001-R1-V2

ISSUE DATE: 20200619

VERSION	Details
V0	Initiated
V1	Update DB1
V2	Improve Surge

DESIGNED BY	CHECKED BY
GMJ	

CUSTOMER APPROVED SIGNATURE :

APPROVED DATE:

FERRICS TECHNOLOGY CO., LIMITED

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LED-11-76V-0.221A-001-R1-V2

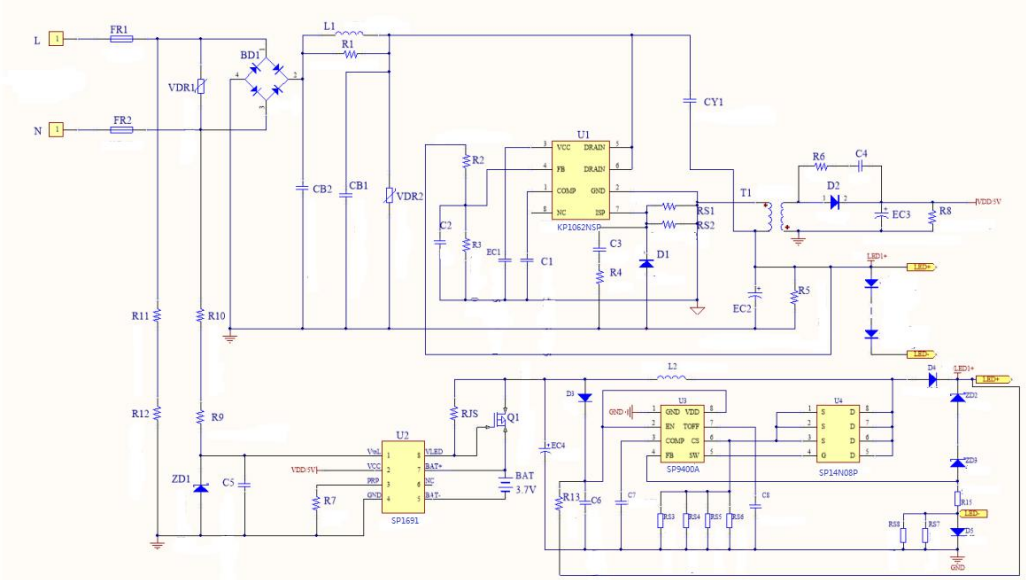
1. Photograph

Whole Lamp View	SKD View
	

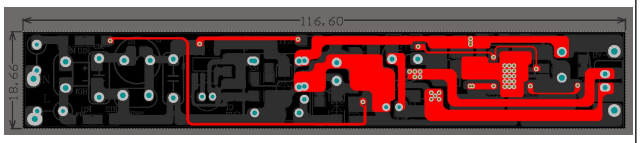
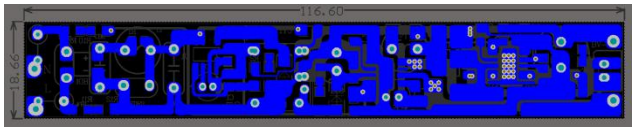
2. Input & Output Parameters (NO BAT)

	Min	Normal	Max
Input Voltage(Vac)	180	230	420-440
Input Power(W)		19.5	
Output Voltage(Vdc)		76	
Output Current(mA)		221	
Efficiency		86%	
Surge			4KV

3. Schematic diagram



4. PCB layout

Top View	Bottom View
	

5. Test Reports

1) No load Output Voltage (NO BAT)

AC input Voltage(Vac)	180Vac	230Vac	264Vac	300Vac	350Vac	440Vac
Output voltage(Vdc)	86	87	88	91	93	94

2) General Test (NO BAT)

Input : AC input voltage is 180Vac,230Vac,264Vac,300Vac,350Vac,440Vac.

Load condition:LED-25S4P*76V

Input Voltage	Load	Input Power (W)	PF	THD	Output Voltage (V)	Output Current (mA)	Eff (%)
180Vac	LED-25S4P*76V	19.41	0.985		75.38	226	87.77
230Vac		19.46	0.987	13.6	75.63	227	88.22
264Vac		19.41	0.985		75.22	228	88.36
300Vac		19.45	0.981		75.88	228	88.95
350Vac		19.64	0.973		75.70	228	87.88
440Vac		20.84	0.951		75.55	229	83.02

3) Short-Circuit Test

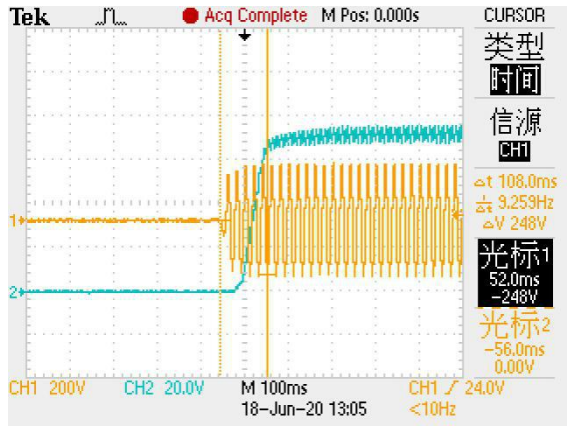
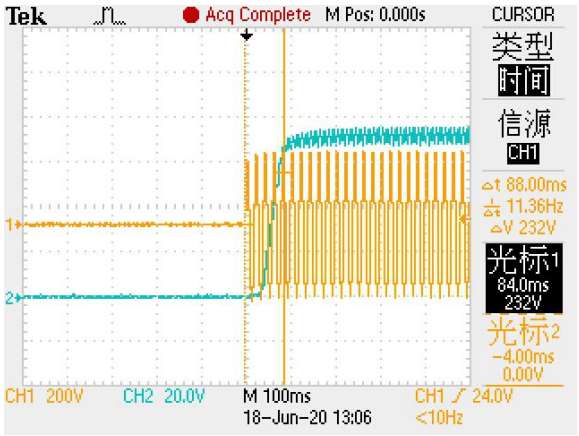
Input: AC180~440V; Output: short.

Test result: No components damaged, the demo board should be working when the short-circuit is removed.

AC input Voltage(Vac)	180Vac	230Vac	264Vac	300Vac	350Vac	440Vac
Input Power (W)	0.41	0.67	0.87	1.08	1.36	2.84

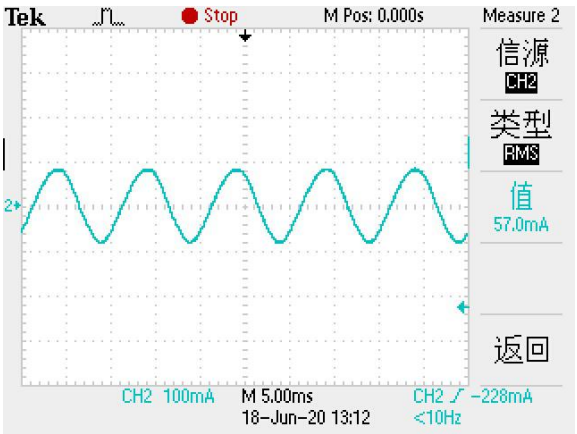
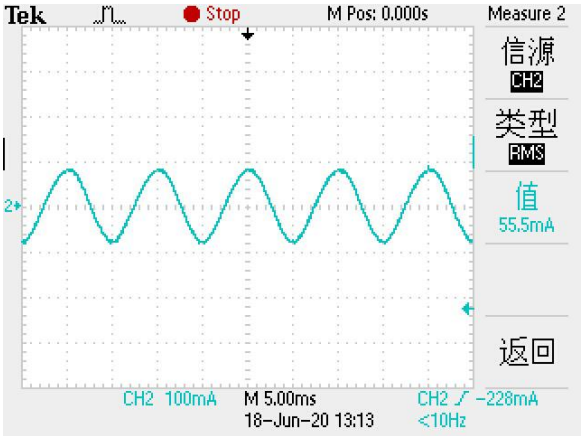
4) Start-up Time

Load condition: Full led load.

Input Voltage 180Vac	Input Voltage 230Vac
	
108ms	88ms

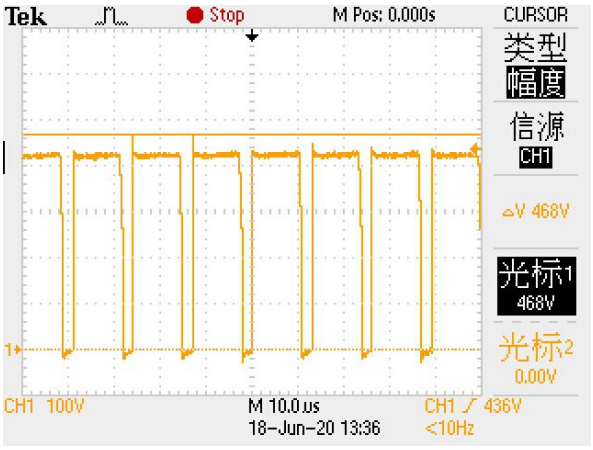
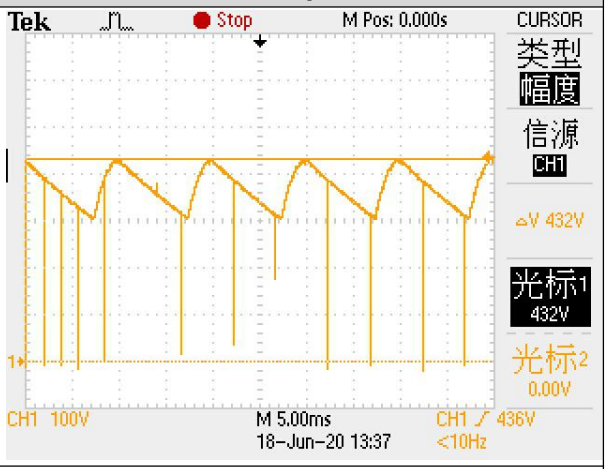
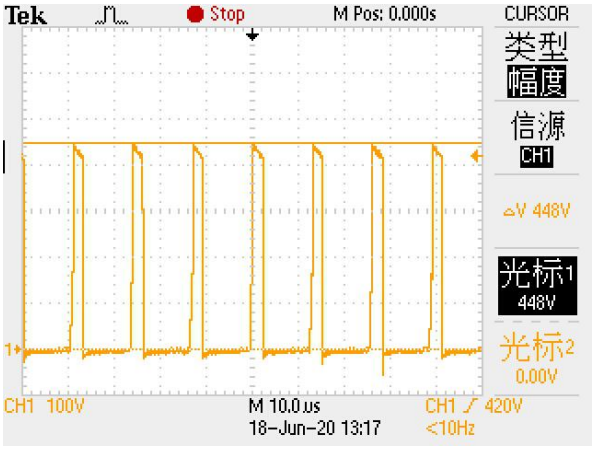
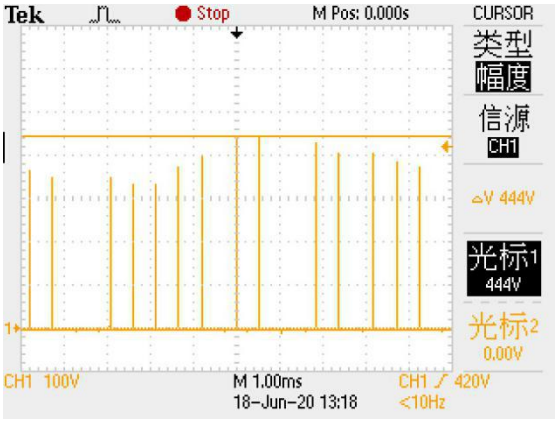
5) Ripple current Test (RMS)

Load condition: Full led load.

Input Voltage 230Vac	Input Voltage 300Vac
	
ΔI=57mA	ΔI=55.5mA

6) Mosfet and DIODE Voltage Stress Test

Input voltage: 300Vac, Load condition: full led load/short

MOSFET Voltage 300Vac,full load	MOSFET Voltage 300Vac,short
	
ΔV=468V	ΔV=432V
Diode Voltage 300Vac,full load	**Diode Voltage 300Vac,short**
	
ΔV=448V	ΔV=444V

7) Temperature Test

Case Closed, No wind environmental test. Vin:180Vac/230Vac/300Vac ,Full led load.

Position	180Vac	230Vac	300Vac
F1	81.3	92.1	78.3
L1	89.8	81.8	77.8
CB1	73.4	75.1	76.9
T WIRE	82.4	81.3	87.6
T CORE	80.6	78.9	85.8
EC3	60.6	57.2	59
L2	51.2	51.2	52.7
EC2	48.7	48.9	49.5
U1	97.9	98.4	104.3
U2	67	67	69.3
U3	63.3	63.2	64.2
U4	64.3	64.3	65.5
D1	91.7	89.8	96.5
D2	71.1	70.4	73.9
Q4	91.8	97.8	92.9
Q1	49.2	44.5	45.2
LED	80.5	82.4	31.6
Ambient temperature	25℃	25℃	25℃

8) Surge Testing

Test Voltage:230VAC

Surge Voltage:4KV 30S

Connect BATTERY

Angel	Positive or Negative	times	Pass/Fail
0	+	5	P
0	-	5	P
90	+	5	P
90	-	5	P
180	+	5	P
180	-	5	P
270	+	5	P
270	-	5	P

9) Luminous Test(NO BAT)

Ferrics Technology

Lightsource Test Report

Product Infomation

Product Number: 92638

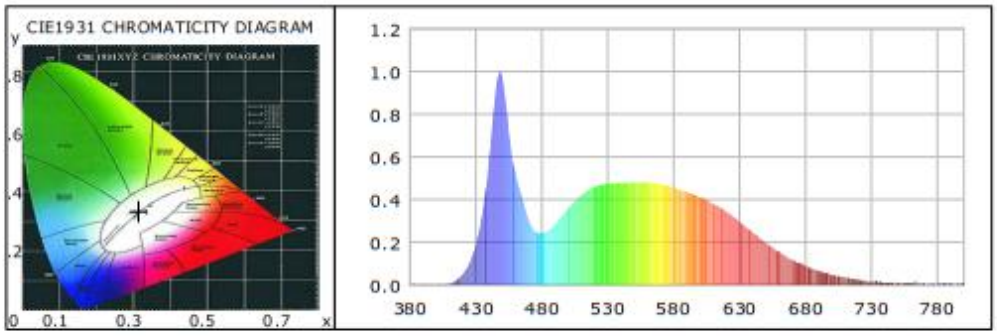
CIE Colorimetric Parameters

Chromaticity coordinates: x=0.3131 y=0.3332 u(u')=0.1966 v=0.3137 v'=0.4706
CCT: Tc=6452K (duv=0.00513) Color Ratio: R=0.135 G=0.811 B=0.055
Peak Wavelength: 448.4nm Half Bandwidth: 22.3nm
Dominant Wavelength: 491.7nm Color Purity: 0.068
CRI: Ra= 83.6 TM30: Rf= 82, Rg= 96

R1 =82	R2 =86	R3 =90	R4 =84	R5 =83	R6 =82	R7 =89	R8 =73
R9 =13	R10=68	R11=84	R12=62	R13=83	R14=95	R15=77	

Color Quality Scale: Qa= 83.2, Qf= 83.0, Qp= 84.0, Qg= 92.9

Q1 =86	Q2 =98	Q3 =79	Q4 =76	Q5 =82	Q6 =85	Q7 =87	Q8 =91
Q9 =96	Q10=86	Q11=83	Q12=83	Q13=84	Q14=73	Q15=78	



Photometric Parameters

Luminous Flux: 1894.13 lm Efficiency: 101.02 lm/W Radiant Power: 6.128 W
EEI: 0.13 Energy Efficiency Class: A+ (EU 874-2012)

Electric Parameters

Voltage: 231.00V Current: 0.0820A Power: 18.75W
Power Factor: 0.9870 Frequency: 49.98Hz

Test Infomation
Scan Range: 380~800:1nm
Stabilization Time: 30 Min
4∏ Max of Signal: 43619 (3484)
Photometric Method: sphere-spectroradiometer
Photometric Condition: Sphere diameter: 1.75m,
CCD Integration Time: 394.26 ms

Emergency Test					
Battery model	2000mAh*2P				
Environmental	15℃				
Comment	Battery full state Vbat=4.2V				
project number	Emergency time	Luminous flux (lm)	Explicit index	CCT	R9
	0h	529.6	86.3	6730k	26
	1h	497.4	85.9	6611k	24
	2h	476.5	86	6622k	24
	3h	452	86	6625k	24
	3.5h	100	86.5	6750k	27
Requirements: 1. Battery voltage control before testing 2. Environmental temperature record					