Test Report: NPP-450-24

450W High Reliable Ultra Wide Output Range Battery Charger & Power Supply 2-in-1

■ DESIGN VERIFY TEST

Output Function Test
Input Function Test
Protection Function Test
Control Function Test
Component Stress Test

■ SAFETY & E.M.C. TEST

Safety Test
E.M.C. Test

■ RELIABILITY TEST

ENVIRONMENT TEST

Battery Charger mode

■ DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	BOOST CHARGE VOLTAGE (default)	28.8V± 0.48 V	I/P: 230 VAC O/P: CC=90% LOAD Ta:25℃	28.897 V
2	FLOAT CHARGE VOLTAGE (default)	27.6V± 0.24 V	I/P: 230 VAC O/P:NO LOAD Ta:25℃	27.749V
3	MAX. OUTPUT CURRENT	13.5A± 0.135 A	I/P: 230 VAC O/P:C.V MODE-1V Ta:25℃	13.583 A
4	MAX. POWER	453.6W	I/P: 230 VAC O/P:C.V =33.6V Ta:25℃	454.2W
5	OUTPUT VOLTAGE ADJUST RANGE	21 V~ 42 V	I/P： 230 VAC O/P：CC=90% LOAD Ta：25℃	20.037V~43.835V
6	CURRENT ADJUSTABLE RANGE	6.75~13.5A	I/P： 230 VAC O/P：C.V MODE-1V Ta：25℃	6.498A~14.012A

PROTECTION FUNCTION TEST

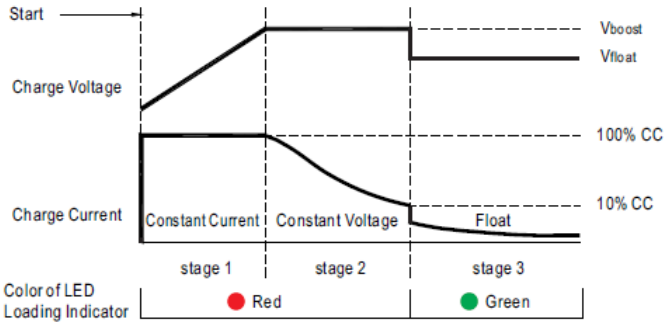
NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE Constant current Range： 12.15~16.2A PROTECTION TYPE： Constant current limiting, charger will shut down after 5 sec, re-power on to recover	I/P: 264 VAC O/P: BAT. LOAD Ta:25℃	NO DAMAGE Constant current Range： 13.926 A PROTECTION TYPE： Constant current limiting, charger will shut down after 5 sec, re-power on to recover
2	OVER VOLTAGE PROTECTION	43V~52V PROTECTION TYPE： Shut down and latch off o/p voltage, re-power on to recover	I/P: 264VAC I/P: 230VAC I/P: 90VAC O/P:MIN LOAD Ta:25℃	47.4V / 264VAC 47.8V/ 230VAC 47.4V/ 90VAC PROTECTION TYPE： Shut down and latch off o/p voltage, re-power on to recover
3	OVER TEMPERATURE PROTECTION	Protection type： Shut down O/P voltage, recovers automatically after	I/P: 264VAC I/P: 90VAC O/P:FULL LOAD	O.T.P. Active PROTECTION TYPE： Shut down O/P voltage,

		temperature goes down		recovers automatically after temperature goes down

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	FAN SPEED CONTROL	Depends on internal temperature	I/P: 230 VAC O/P:BAT. LOAD Ta:25℃	TEST: OK
2	REMOTE CONTROL	Rc+ / Rc- OPEN(-0.5V~0.5V) : Charger OFF ; SHORT(10.8V~13.2V) : Charger ON	I/P: 230 VAC O/P:BAT. LOAD Ta:25℃	OPEN /SHORT TEST: OK Charger OFF: -0.5V~1.7V Charger ON: 1.8~13.2V (1) Remote off Pin=4.43W (2) Remote off Vo= 0.19V
3	CHARGE OK SIGNAL	The TTL signal out, Charger OK = 4.5 ~ 5.5V; Charger failure or protection = -0.5 ~ 0.5V	I/P: 230 VAC O/P:BAT. LOAD Ta:25℃	TEST: Charger OK = 5.192 V; Charger failure or protection = 0.037 V
4	BATTERY FULL SIGNAL	The TTL signal out, Battery full = 4.5 ~ 5.5V Charging = -0.5 ~ 0.5V	I/P: 230 VAC O/P:BAT. LOAD Ta:25℃	TEST: Battery full = 5.197 V Charging = 0.034 V
5	AUX POWER	OUTPUT VOLTAGE RANGE : 10.8~13.2V OUTPUT RIPPLE&NOISE: 240mVp-p	I/P: 230 VAC O/P:BAT. LOAD Ta:25℃	TEST: 12.038 V 29 mVp-p
6	CHARGING CURVE	I/P:230Vac O/P:TESTING Ta:25℃		

◎ 3 stage charging curve (Default)



Taper Current	1.35A±0.135A
Io	1.273A

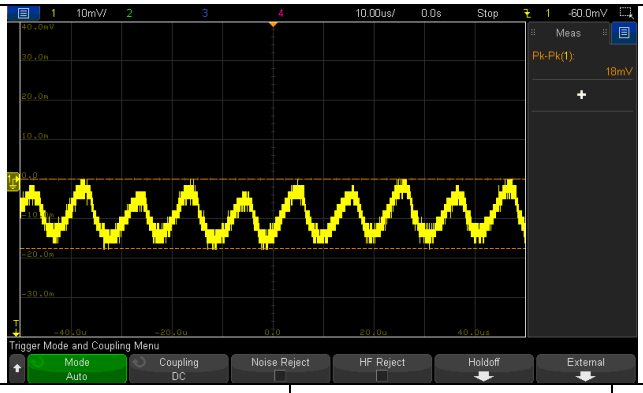
7	LED INDICATOR	<table><tr><th>LED Indicator</th><th>Charger(Default)</th><th>Power Supply</th></tr><tr><td>Green</td><td>Float stage(stage 3) or full charged</td><td>Normal working</td></tr><tr><td>Red</td><td>Charging(stage 1 or 2)</td><td>——</td></tr><tr><td>NO Light</td><td>Abnormal</td><td>Abnormal</td></tr></table> I/P: 230V O/P:TESTING LOAD Ta:25℃	TEST： OK

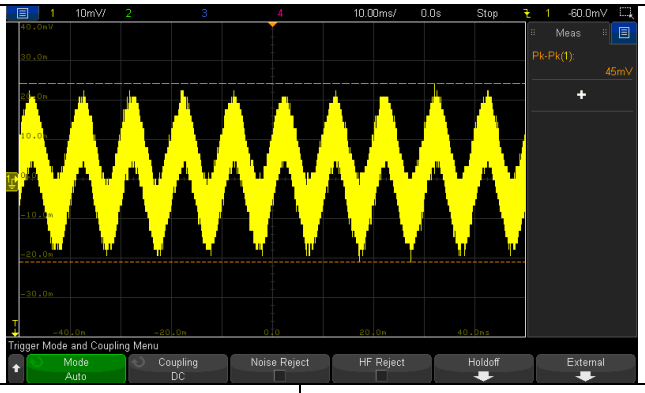
Power Supply mode

■ DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

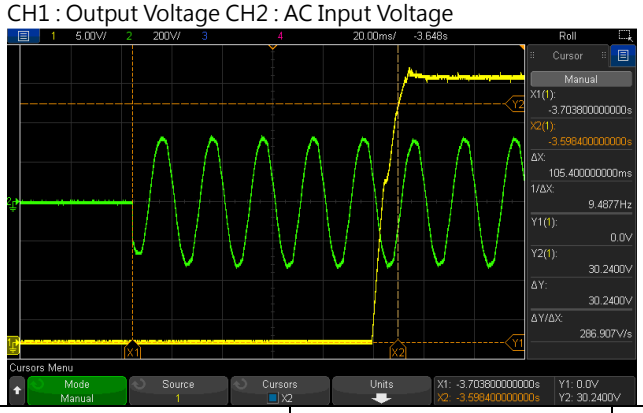
NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1: 21 V~ 42 V	I/P： 230 VAC I/P： 115 VAC O/P：MIN LOAD Ta：25℃	20.095V~43.863V/230VAC 20.094V~43.864V/115VAC
2	CURRENTADJUSTABLE RANGE	6.75~13.5A	I/P： 230 VAC O/P：TEST LOAD Ta：25℃	6.54A~13.66A
3	OUTPUT VOLTAGE(Max) TOLERANCE	V1: -1.0 %~ +1.0 %	I/P: 90VAC /264VAC O/P:FULL/ MIN. LOAD Ta:25℃	V1: -0.0475%~0.051%
4	LINE REGULATION (Max)	V1: -0.5 %~ +0.5 %	I/P: 90VAC~ 264VAC O/P:FULL LOAD Ta:25℃	V1: -0.0029%~ 0.015%
5	LOAD REGULATION(Max)	V1: -1.0 %~ +1.0 %	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25℃	V1: -0.0475%~0.051%
6	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230VAC O/P:FULL LOAD Ta:25℃	4.2 %
7	RIPPLE & NOISE(Max)	V1: 300 mVp-p	I/P: 230VAC O/P:FULL LOAD Ta:25℃	V1: 45mVp-p
	high frequency：		low frequency：	





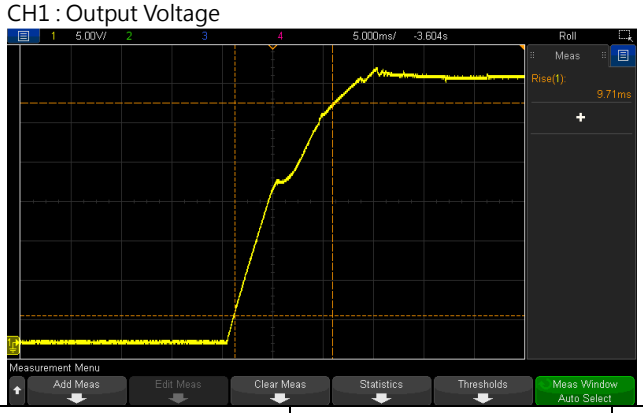
8	SET UP TIME(Max)	230VAC/1800ms	I/P： 230 VAC O/P：FULL LOAD Ta：25℃	230VAC/ 105.4ms

INPUT=230VAC/50HZ @ FULL LOAD
CH1 : Output Voltage CH2 : AC Input Voltage



9	RISE TIME (Max)	230VAC/60ms	I/P： 230 VAC O/P：FULL LOAD Ta：25℃	230VAC/9.71ms

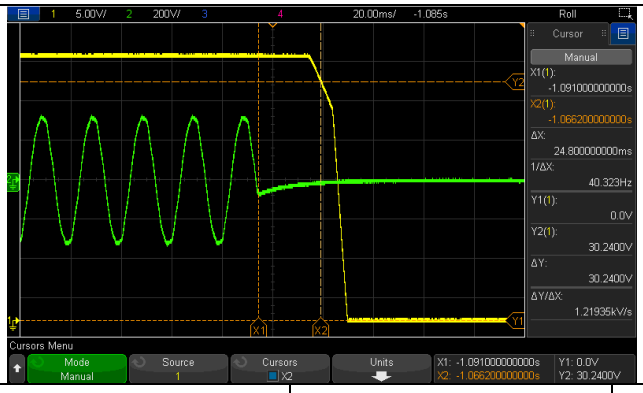
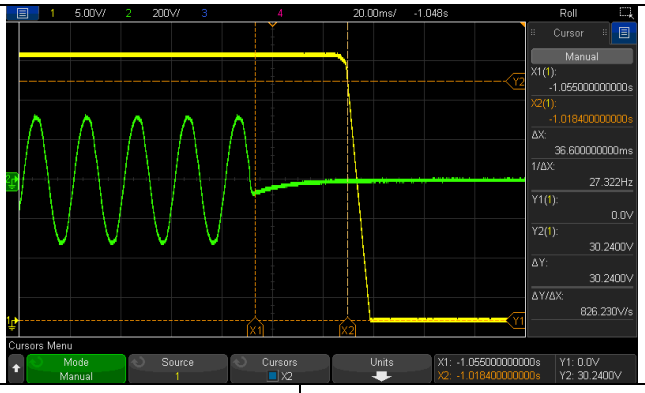
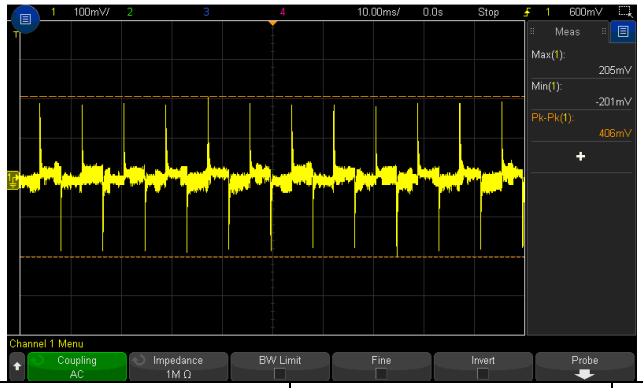
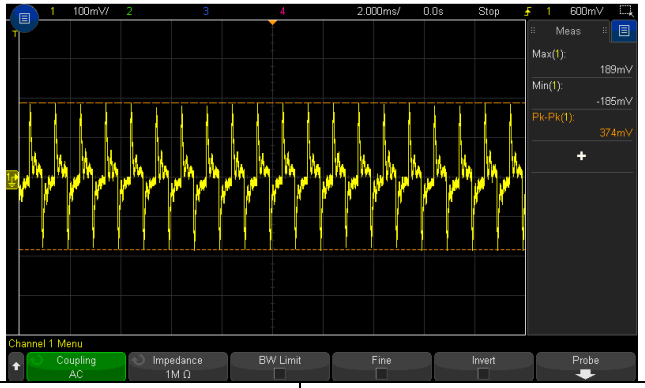
INPUT=230VAC/50HZ @ FULL LOAD
CH1 : Output Voltage



10	HOLD UP TIME (Typ.)	230VAC/FULL LOAD /10ms 230VAC/75% LOAD /16ms	I/P： 230 VAC O/P：FULL LOAD Ta：25℃	230VAC/FULL LOAD / 24.8ms 230VAC/75% LOAD / 36.6ms

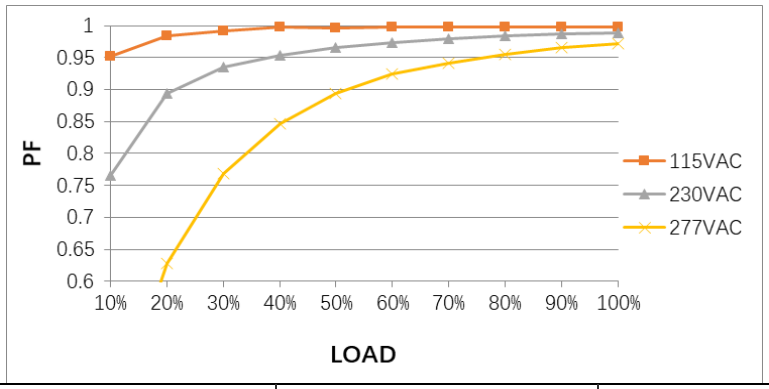
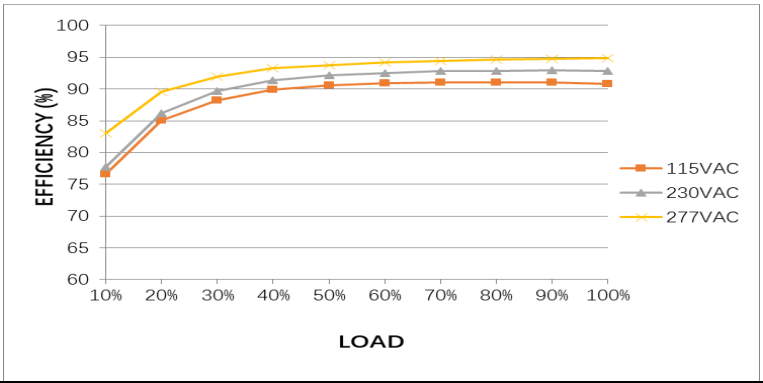
INPUT=230VAC/50HZ @ FULL LOAD
CH1 : Output Voltage CH2 : AC Input Voltage

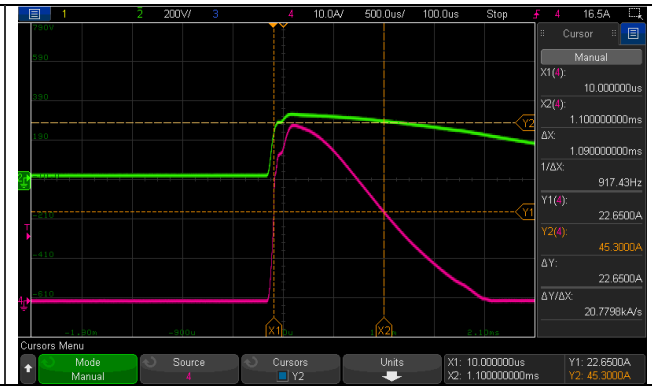
INPUT=230VAC/50HZ @ 75% LOAD
CH1 : Output Voltage CH2 : AC Input Voltage

				
11	DYNAMIC LOAD	V1: 2880 mVp-p	I/P: 230VAC O/P: (1)FULL /50% LOAD 50%DUTY / 120HZ (2)FULL /50% LOAD 50%DUTY / 1KHZ Ta:25℃	406mVp-p 374mVp-p
	FULL /50% LOAD 50%DUTY / 120HZ 		FULL /50% LOAD 50%DUTY / 1KHZ 	
12	TRANSIENT RECOVERY TIME	V1: 2880 mVp-p	I/P: 230VAC O/P:40% LOAD CHANGE 50%DUTY/120HZ 1.25A/us	334mVp-p

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	90VAC~264VAC 127VDC~ 370VDC	(1) I/P:TESTING O/P:FULL LOAD (2) I/P:DC TESTING(L:+ N:-) O/P: FULL / 50% LOAD (3) I/P:DC TESTING(L:- N:+) O/P: FULL / 50% LOAD Ta:25℃	(1) 85.6 V~264V (2) 117Vdc~370Vdc/FULL LOAD 117Vdc~370Vdc/50% LOAD (3) 117Vdc~370Vdc/FULL LOAD 117Vdc~370 Vdc/50% LOAD

			I/P: LOW-LINE-3V=87 V HIGH-LINE+15%=300 V O/P:FULL/MIN LOAD (PLEASE CHECK DERATING CURVE) ON: 30 Sec OFF: 30 Sec 10MIN (POWER ON/OFF NO DAMAGE)	TEST:OK
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE	I/P:90 VAC ~264 VAC O/P:FULL~MIN LOAD Ta:25℃	TEST: OK
3	INPUT CURRENT (Typ.)	230V/ 2.2 A 115V/ 4.5 A	I/P： 230 VAC I/P： 115 VAC O/P：FULL LOAD Ta：25℃	I =2.11A/ 230VAC I =4.29A/ 115VAC
6	POWER FACTOR (Typ.)	0.95/ 230VAC 0.98/115VAC	I/P： 230 VAC I/P： 115 VAC O/P：FULL LOAD Ta：25℃	PF=0.988/230VAC PF=0.997/115VAC
	P.F vs LOAD 			
7	EFFICIENCY(Typ.)	93%	I/P:230 VAC O/P:FULL LOAD Ta:25℃	94.23%
	EFFICIENCY vs LOAD 			
8	INRUSH CURRENT(Typ.)	230V/50A COLD START	I/P： 230 VAC O/P：FULL LOAD Ta：25℃	I =45.3A/ 230VAC T50= 1.09ms/230V
	INPUT=230VAC/50HZ @ FULL LOAD CH2 : AC Input Voltage CH4 : Input current			



PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	105 %~ 115 % PROTECTION TYPE : Constant current limiting, unit will shut down after 5 sec, re-power on to recover	I/P: 264VAC I/P: 230VAC I/P: 100VAC O/P:TESTING Ta:25℃	106.63%/ 264VAC 106.68%/ 230VAC 106.63%/100VAC PROTECTION TYPE : Constant current limiting, unit will shut down after 5 sec, re-power on to recover
2	OVER VOLTAGE PROTECTION	43V~52V PROTECTION TYPE : Shut down and latch off o/p voltage, re-power on to recover	I/P: 264VAC I/P: 230VAC I/P: 90VAC O/P:MIN LOAD Ta:25℃	47.4V / 264VAC 47.8V/ 230VAC 47.4V/ 90VAC PROTECTION TYPE : Shut down and latch off o/p voltage, re-power on to recover
3	OVER TEMPERATURE PROTECTION	Protection type : Shut down O/P voltage, recovers automatically after temperature goes down	I/P: 264VAC I/P: 90VAC O/P:FULL LOAD	O.T.P. Active PROTECTION TYPE : Shut down O/P voltage, recovers automatically after temperature goes down
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE Constant current Range： 12.15~16.2A PROTECTION TYPE : Constant current limiting, charger will shut down after 5 sec, re-power on to recover	I/P: 264 VAC O/P: BAT. LOAD Ta:25℃	NO DAMAGE Constant current Range： 13. 69 A PROTECTION TYPE : Constant current limiting, charger will shut down after 5 sec, re-power on to recover

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	FAN SPEED CONTROL	Depends on internal temperature	I/P: 230 VAC O/P:testing Ta:25℃	TEST: OK
2	REMOTE CONTROL	OPEN：POWER OFF ; SHORT：POWER ON	I/P: 230 VAC O/P:FULL. LOAD Ta:25℃	OPEN/SHORT TEST: OK
3	DC OK	The TTL signal out, DC OK = 4.5 ~ 5.5V; Power supply failure or protection = -0.5 ~ 0.5V	I/P: 230 VAC O/P:BAT. LOAD Ta:25℃	TEST： Charger OK = 5.195 V; Charger failure or protection = 0.036 V

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	PWM Transistor (D to S) or (C to E) Peak Voltage	Q 5/Q6 Rated : 25A/ 600 V	AC ON/OFF I/P: High-Line +3V =267V VDS: O/P: (1) Full Load (2) Output Short (3) Dynamic Load Full Load/ Min. Load 90%Duty/1KHz (4) Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (5) Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (6) Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (7)0%→400% Load. Ta:25℃	Q5 VDS: (1) 493V (2) 505V (3) 489V (4) 493V (5) 489V (6) 493V (7) 453V Q6 VDS: (1) 495V (2) 511V (3) 495V (4) 491V (5) 491V (6) 495V (7) 451V
2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q1 Rated : 18A/ 600 V	I/P: High-Line +3V =267 V AC ON/OFF O/P: (1)Full Load (2)Output Short (3) Dynamic Load Full Load/ Min. Load 90%Duty/1KHz (4) Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (5) Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (6) Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (7)0%→400% Load. Ta:25℃	VDS: (1) 515V (2) 483V (3) 515V (4) 515V (5) 515V (6) 515V (7) 475V

3	AUX MOS	U600 Rated: 0.88A/ 725V	I/P: High-Line +3V =267 V AC ON/OFF O/P: (1)Full Load (2)Output Short (3) Dynamic Load Full Load/ Min. Load 90%Duty/1KHz (4) Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (5) Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (6) Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (7)0%→400% Load. Ta:25℃	VDS: (1) 632V (2) 604V (3) 632V (4) 632V (5) 636V (6) 636V (7) 600V
4	P.F.C DIODE	D 19 Rated : 650 V/ 6 A	I/P:High-Line +3V =267 V AC ON/OFF O/P: (1)Full Load (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (4)Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz Ta:25℃	(1) 471V (2) 455V (3) 467V (4) 471V
5	Diode Peak Voltage	Q211/ Q213 :100A/120V	AC ON/OFF I/P:High-Line +3V =267 V Vo=Vmax O/P: (1)Full Load (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/1KHz (4)Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (5)Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (6)Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (7)0%→400% Load. (8)NO LOAD Vo=Normal O/P: (1)Full Load (2) Before Burst Mode Ta:25℃	Q211 VDS: Vo=Vmax (1) 96.7V (2) 94.3V (3) 96.7V (4) 96.7V (5) 96.7V (6) 96.7V (7) 94.3V (8) 92.0V Vo=Normal (1) 75.0V (2) 68.1V Q213 VDS: Vo=Vmax (1) 95.9V (2) 94.3V (3) 96.7V (4) 96.7V (5) 97.5V (6) 99.9V (7) 95.9V (8) 93.5V Vo=Normal (1) 74.3V (2) 69.4V
6	Input Capacitor Voltage	C5 Rated: 220u / 450 V	I/P:High-Line +3V =267V O/P: (1)Full Load input on/off (2) Min load input on /Off (3)Full Load /Min load Change (4)Full load continue Ta:25℃	(1) 449V (2) 447V (3) 449V (4) 439V

7	Control IC Voltage Test	PWM IC U3 Rated 8.9V~15.5V PFC IC U2 Rated 11V~26V O/P IC U801 Rated 4.5V~36V U100 Rated 6.5V~35V	AC ON/OFF I/P:High-Line +3V =267 V O/P(1)FULL LOAD (2) Output Short (3)O.L.P (4)O.V.P. (5)NO LOAD VRmin(LOW LINE) Ta:25℃	U3 (1) 13.45V (2) 13.45V (3) 13.45V (4) 13.45V (5) 13.37V U2 (1) 14.50V (2) 13.37V (3) 13.93V (4) 13.93V (5) 13.93V	U801 (1) 10.40V (2) 10.49V (3) 10.32V (4) 10.40V (5) 10.40V U100 (1) 12.65V (2) 14.18V (3) 12.49V (4) 12.49V (5) 12.65V

■ SAFETY& E.M.C. TEST

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	WITHSTAND VOLTAGE	I/P-O/P: 3KVAC/min I/P-FG :2KVAC/min O/P-FG:0.5KVAC/min	I/P-O/P: 3.6 KVAC/min I/P-FG: 2.4 KVAC/min O/P-FG:0.6 KVAC/min Ta:25℃	I/P-O/P:3.65mA I/P-FG:3.71mA O/P-FG:1.06m A NO DAMAGE
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ I/P-FG: 500VDC>100MΩ O/P-FG:500VDC>100MΩ	I/P-O/P: 500 VDC I/P-FG: 500 VDC O/P-FG: 500 VDC Ta:25℃	I/P-O/P: 9999MΩ I/P-FG: 9999MΩ O/P-FG: 9999MΩ NO DAMAGE
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40A / 2min Ta:25℃	18mΩ

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	BS EN/EN61000-3-2 CLASS A	I/P:230VAC/50HZ O/P:FULL LOAD Ta:25℃	PASS
2	CONDUCTION	BS EN/EN 55032 (CISPR32), BS EN / EN55014-1 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL/50% LOAD Ta:25℃	PASS Test by certified Lab
3	RADIATION	BS EN/EN 55032 (CISPR32), BS EN / EN55014-1 CLASS B	I/P:230VAC/50HZ O/P:FULL/50% LOAD Ta:25℃	PASS Test by certified Lab

4	E.S.D	BS EN/EN61000-4-2 AIR：8KV / Contact：4KV	I/P:230VAC/50HZ O/P:FULL LOAD Ta:25℃	CRITERIA A
5	E.F.T	BS EN/EN61000-4-4 INPUT: 1KV	I/P:230VAC/50HZ O/P:FULL LOAD Ta:25℃	CRITERIA A
6	SURGE	BS EN/EN 61000-4-5 L-N :1KV L,N-PE:2KV	I/P:230VAC/50HZ O/P:FULL LOAD Ta:25℃	CRITERIA A
7	Test by certified Lab & Test Report Prepare Any contradictions of the test results, please refer to the latest EMC test report			

■ RELIABILITY TEST

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	TEMPERATURE RISE TEST	MODEL：NPP-450-12 1. ROOM AMBIENT BURN-IN：2 HRS I/P： 230VAC O/P： FULL LOAD Ta= 26.2 ℃ 2. HIGH AMBIENT BURN-IN： 2 HRS I/P： 230VAC O/P： FULL LOAD Ta= 50.8 ℃		

NO	Position	ROOM AMBIENT Ta= 26.2 ℃	HIGH AMBIENT Ta=50.8℃
1	ZNR1	31.9℃	59.2℃
2	LF1	34.0℃	60.8℃
3	RY1	37.8℃	63.8℃
4	U3	38.4℃	64.9℃
5	RTH2	35.1℃	61.1℃
6	LF2	38.3℃	65.0℃
7	C2	35.8℃	62.2℃
8	C8	41.9℃	68.8℃
9	BD1	42.1℃	68.8℃
10	R18	45.8℃	73.3℃
11	C24	39.6℃	66.1℃
12	C5	42.8℃	67.7℃
13	L1	51.0℃	79.3℃
14	C60	48.6℃	75.1℃
15	Q2	44.6℃	71.1℃
16	TSW1	35.6℃	61.1℃
17	Q5	39.4℃	65.4℃
18	T1	63.8℃	90.1℃
19	T600	43.7℃	69.3℃
20	U600	50.9℃	76.6℃
21	RTH5	42.8℃	68.7℃
22	Q211	50.0℃	77.7℃
23	Q213	45.1℃	71.6℃
24	C111	38.8℃	64.4℃
25	C113	38.4℃	63.9℃
26	LF100	38.8℃	65.2℃
27	U150	37.0℃	62.4℃
28	U801	29.8℃	55.0℃
29	C830	28.1℃	53.0℃
30	J102	51.2℃	77.2℃
31	U100	60.0℃	87.6℃
32	R210	54.7℃	82.8℃
33	D651	45.9℃	70.7℃
34	D19	47.0℃	73.8℃
35	U2	43.4℃	70.0℃
36	PCB	50.4℃	77.2℃
37	Q632	43.1℃	69.3℃

2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P： 230VAC/100VAC O/P： 100 %LOAD Ta= -35℃	TEST：OK
3	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 50 ℃ NO DAMAGE	I/P： 272 VAC O/P：FULL LOAD Ta= 50.1 ℃ HUMIDITY= 95 %R.H	TEST：OK
4	TEMPERATURE COEFFICIENT	± 0.05%/ (0℃~50℃)	I/P： 230 VAC O/P：FULL LOAD	0.0061 %/℃(0~50℃)

5	STORAGE TEMPERATURE TEST	-40~85℃	1. Thermal shock Temperature： -45℃~ +90℃ 2. Temperature change rate ：25℃ / MIN 3. Dwell time low and high temperature ： 30 MIN/EACH 4. Total test cycle：10CYCLE 5. Input/Output condition： STATIC
6	THERMAL SHOCK TEST	-30~50℃	1. Thermal shock Temperature： -35℃~ +55℃ 2. Temperature change rate ：25℃ / MIN 3. Dwell time low and high temperature ： 30 MIN/EACH 4. Total test cycle：16 CYCLE 5. Input/Output condition： 15cycle:230V/ FULL LOAD AC ON 3sec/AC OFF 1sec TEST 1cycle:230V/ FULL LOAD Burn In Test
7	VIBRATION TEST	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes	1 Carton & 1 Set (1) Waveform： Sine Wave (2) Frequency：10~500Hz (3) Sweep Time：10min/sweep cycle (4) Acceleration：3G (5) Test Time：180min in each axis (X.Y.Z) (6) Ta：25℃
8	CAPACITOR LIFE CYCLE	SUPPOSE C111 IS THE MOST CRITICAL COMPONENT (1) I/P： 230VAC O/P：FULL LOAD Ta= 25 ℃ LIFE TIME (2) I/P： 230VAC O/P：FULL LOAD Ta= 50 ℃ LIFE TIME (3) I/P： 230VAC O/P：75% LOAD Ta= 50 ℃ LIFE TIME (4) I/P： 230VAC O/P：50% LOAD Ta= 50 ℃ LIFE TIME	 (1) 1666932.8HRS (2) 274941.4HRS (3) 421577.4HRS (4) 571813.7HRS
9	MTBF	Conducted by Parts Stress Analysis Prediction 1056.9K hrs min. Telcordia SR-332 (Bellcore) ; 118.5K hrs min. MIL-HDBK-217F (25℃)	
10	Ongoing Reliability Test	I/P：230VAC O/P：FULL LOAD TA=50℃ Demonstration Mean Time Between Failure : 30,000 hours	

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	LIUTT		Wangdz

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