



Test Report: NSP-100-24

100W AC/DC High Reliable Multi-Industries Enclosed Type Power Supply

■ 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

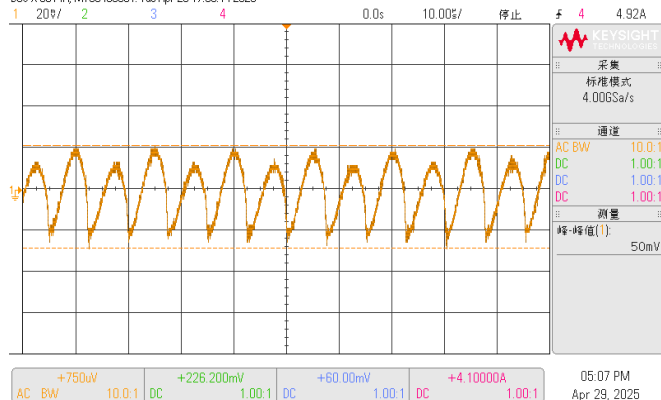
DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1: 21V~26V	I/P : 230 VAC O/P : MIN LOAD Ta : 25°C	20.02V~27.56V/230VAC
2	OUTPUT VOLTAGE TOLERANCE	V1: -1 %~ 1%	I/P: 85VAC /305VAC O/P:FULL/ MIN. LOAD Ta:25°C	V1: 0.37 %~0.42%
3	LINE REGULATION	V1: -0.5%~ 0.5 %	I/P: 85VAC~ 305VAC O/P:FULL LOAD Ta:25°C	V1: 0%~ 0.08%
4	LOAD REGULATION	V1: -0.5%~ 0.5%	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: 0 %~ 0.04 %
5	OVER/UNDERSHOOT TEST	< ± 5%	I/P: 230VAC O/P:FULL LOAD Ta:25°C	0.5%
6	RIPPLE & NOISE (Max)	V1: 200 mVp-p	I/P: 230 VAC O/P: MIN LOAD—FULL LOAD Ta:25°C	V1:58 mVp-p / 100% load

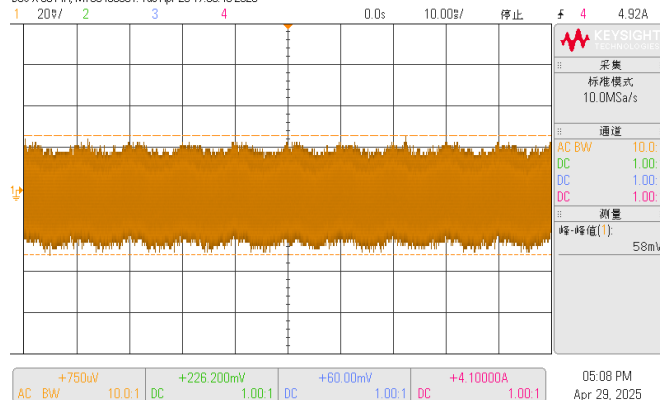
high frequency :

DSO-X 3014A, MY53400391: Tue Apr 29 17:08:14 2025



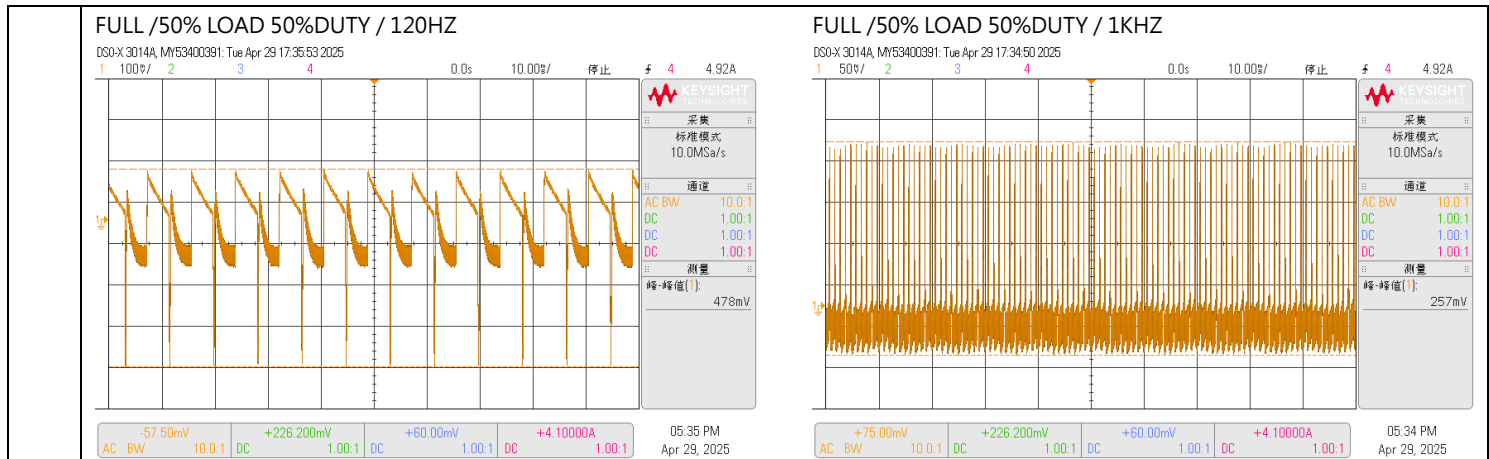
low frequency :

DSO-X 3014A, MY53400391: Tue Apr 29 17:08:49 2025



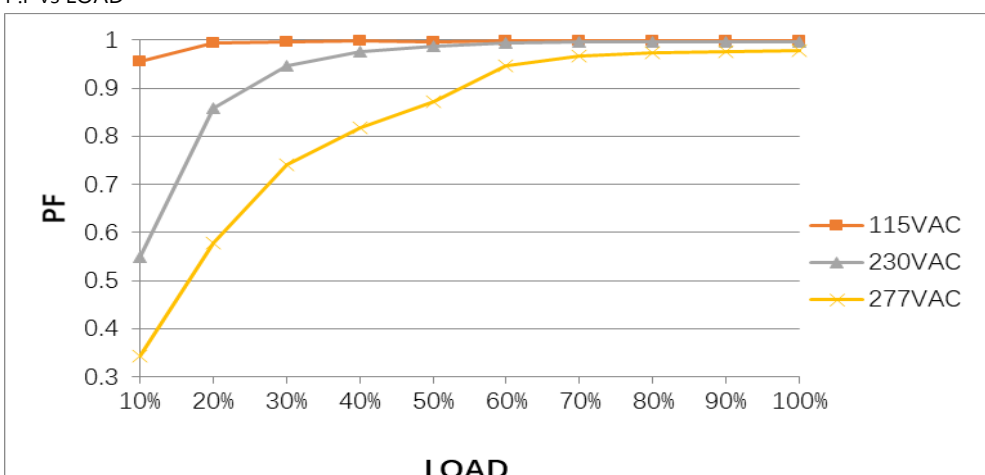
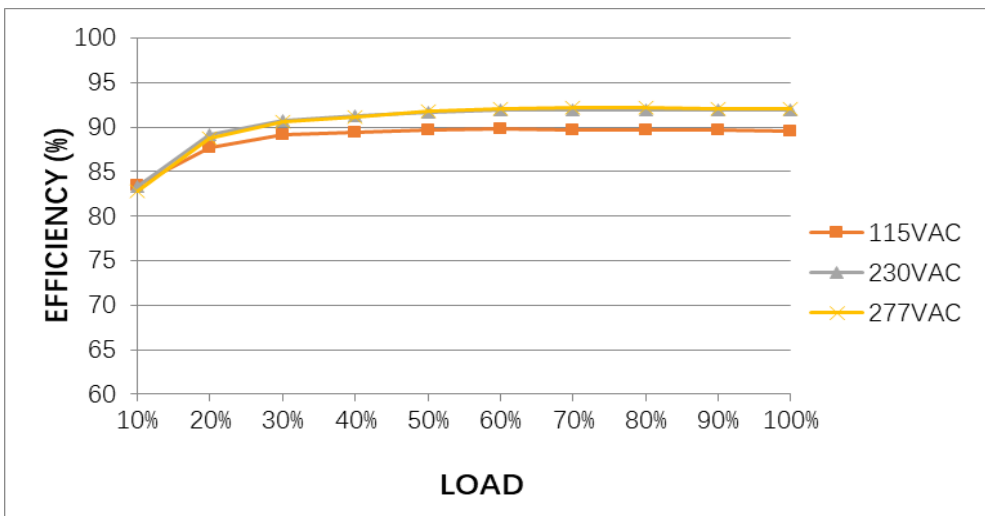
7	SET UP TIME(Max)	277VAC/1000ms 230VAC/1000ms 115VAC/1500ms	I/P : 277 VAC I/P : 230 VAC I/P : 115VAC O/P : FULL LOAD Ta : 25°C	277VAC/436ms 230VAC/434ms 115VAC/388ms
INPUT=277VAC/60HZ @ FULL LOAD CH1 : Output Voltage CH2 : AC Input Voltage INPUT=230VAC/50HZ @ FULL LOAD CH1 : Output Voltage CH2 : AC Input Voltage				
INPUT=115VAC/60HZ @ FULL LOAD CH1 : Output Voltage CH2 : AC Input Voltage				
8	RISE TIME (Max)	277VAC/80ms 230VAC/80ms 115VAC/80ms	I/P : 277 VAC I/P : 230 VAC I/P : 115VAC O/P : FULL LOAD Ta : 25°C	277VAC/6.3ms 230VAC/5.9ms 115VAC/10.2ms
INPUT=277VAC/60HZ @ FULL LOAD CH1 : Output Voltage INPUT=230VAC/50HZ @ FULL LOAD CH1 : Output Voltage				

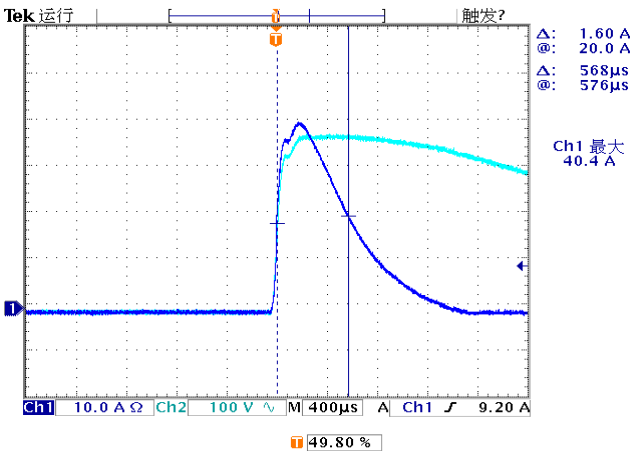
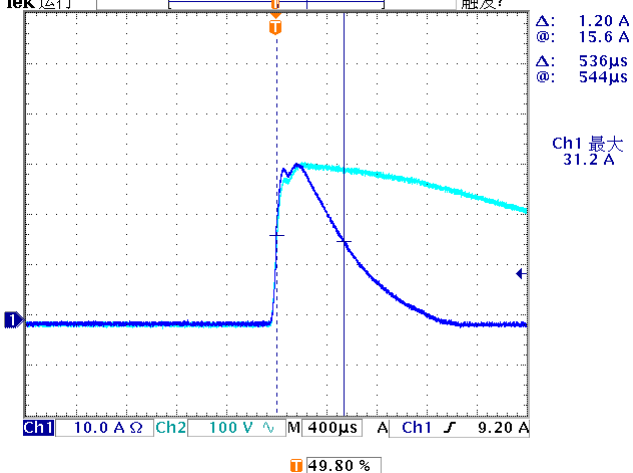
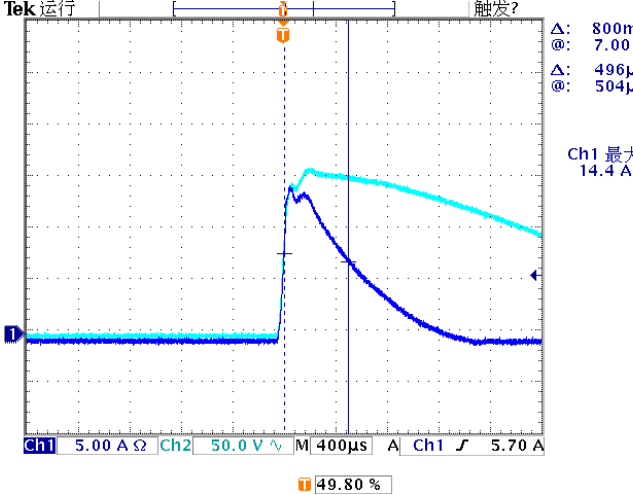
INPUT=115VAC/60HZ @ FULL LOAD CH1 : Output Voltage				
9	HOLD UP TIME (Typ.)	277VAC/16ms 230VAC/16ms 115VAC/16ms	I/P : 277 VAC I/P : 230VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	277VAC/28.4ms 230VAC/28.6 ms 115VAC/ 28.2 ms
INPUT=277VAC/60HZ @ FULL LOAD CH1 : Output Voltage CH2 : AC Input Voltage INPUT=230VAC/50HZ @ FULL LOAD CH1 : Output Voltage CH2 : AC Input Voltage				
INPUT=115VAC/60HZ @ FULL LOAD CH1 : Output Voltage CH2 : AC Input Voltage				
10	DYNAMIC LOAD	V1: 2400mVp-p	I/P: 230VAC O/P: (1)FULL /50% LOAD 50%DUTY / 120HZ (2)FULL /50% LOAD 50%DUTY / 1KHZ Ta:25°C	478mVp-p 257mVp-p



INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	85VAC~305VAC 120VDC~ 431VDC	(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°C	(1) 82V~ 308 V (2) 120Vdc~434Vdc/FULL LOAD 120Vdc~434Vdc/50% LOAD (3) 120Vdc~434Vdc/FULL LOAD 120Vdc~434Vdc/50% LOAD
			I/P: LOW-LINE-3V=82V HIGH-LINE+10V=315 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:85 VAC ~305VAC O/P:FULL~MIN LOAD Ta:25°C	TEST: OK
3	INPUT CURRENT (Typ.)	277V/ 0.45 A 230V/ 0.52 A 115V/ 1.1 A	I/P : 277 VAC I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I =0.40A/ 277VAC I =0.48A/ 230VAC I =0.98A/ 115VAC
4	LEAKAGE CURRENT	Earth leakage current <350μA(rms)@277Vac	I/P : 277 VAC O/P : Min LOAD Ta : 25°C	L-FG : 211μA N-FG : 211μA
		Touch current <100μA(rms)@277Vac	I/P : 277 VAC O/P : Min LOAD Ta : 25°C	L-V+ : 45 μA L-V- : 47 μA N-V+ : 45 μA N-V- : 47 μA

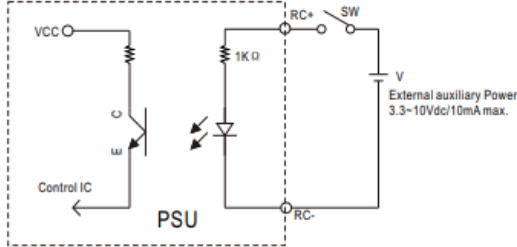
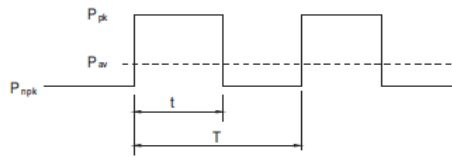
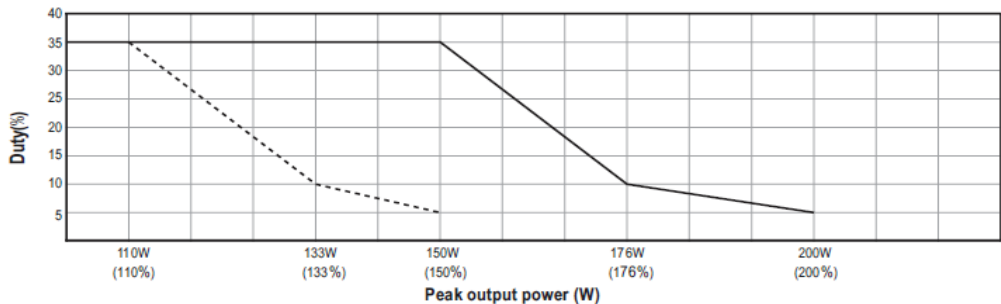
5	POWER FACTOR (Typ.)	0.9/277VAC 0.93/ 230VAC 0.98/ 115VAC	I/P : 277 VAC I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	PF=0.978/277VAC PF=0.997/230VAC PF=0.998/115VAC																																												
P.F vs LOAD <table><caption>P.F vs LOAD Data (Approximate)</caption><thead><tr><th>LOAD (%)</th><th>115VAC PF</th><th>230VAC PF</th><th>277VAC PF</th></tr></thead><tbody><tr><td>10%</td><td>0.95</td><td>0.55</td><td>0.35</td></tr><tr><td>20%</td><td>0.98</td><td>0.85</td><td>0.58</td></tr><tr><td>30%</td><td>0.99</td><td>0.92</td><td>0.72</td></tr><tr><td>40%</td><td>0.99</td><td>0.95</td><td>0.82</td></tr><tr><td>50%</td><td>0.99</td><td>0.97</td><td>0.88</td></tr><tr><td>60%</td><td>0.99</td><td>0.98</td><td>0.92</td></tr><tr><td>70%</td><td>0.99</td><td>0.98</td><td>0.95</td></tr><tr><td>80%</td><td>0.99</td><td>0.98</td><td>0.96</td></tr><tr><td>90%</td><td>0.99</td><td>0.98</td><td>0.97</td></tr><tr><td>100%</td><td>0.99</td><td>0.98</td><td>0.97</td></tr></tbody></table>					LOAD (%)	115VAC PF	230VAC PF	277VAC PF	10%	0.95	0.55	0.35	20%	0.98	0.85	0.58	30%	0.99	0.92	0.72	40%	0.99	0.95	0.82	50%	0.99	0.97	0.88	60%	0.99	0.98	0.92	70%	0.99	0.98	0.95	80%	0.99	0.98	0.96	90%	0.99	0.98	0.97	100%	0.99	0.98	0.97
LOAD (%)	115VAC PF	230VAC PF	277VAC PF																																													
10%	0.95	0.55	0.35																																													
20%	0.98	0.85	0.58																																													
30%	0.99	0.92	0.72																																													
40%	0.99	0.95	0.82																																													
50%	0.99	0.97	0.88																																													
60%	0.99	0.98	0.92																																													
70%	0.99	0.98	0.95																																													
80%	0.99	0.98	0.96																																													
90%	0.99	0.98	0.97																																													
100%	0.99	0.98	0.97																																													
6	EFFICIENCY(Typ.)	91%	I/P:230 VAC O/P:FULL LOAD Ta:25°C	91.87%																																												
EFFICIENCY vs LOAD <table><caption>EFFICIENCY vs LOAD Data (Approximate)</caption><thead><tr><th>LOAD (%)</th><th>115VAC Efficiency (%)</th><th>230VAC Efficiency (%)</th><th>277VAC Efficiency (%)</th></tr></thead><tbody><tr><td>10%</td><td>83</td><td>83</td><td>83</td></tr><tr><td>20%</td><td>88</td><td>89</td><td>89</td></tr><tr><td>30%</td><td>89</td><td>90</td><td>90</td></tr><tr><td>40%</td><td>89</td><td>91</td><td>91</td></tr><tr><td>50%</td><td>89</td><td>91</td><td>92</td></tr><tr><td>60%</td><td>89</td><td>91</td><td>92</td></tr><tr><td>70%</td><td>89</td><td>91</td><td>92</td></tr><tr><td>80%</td><td>89</td><td>91</td><td>92</td></tr><tr><td>90%</td><td>89</td><td>91</td><td>92</td></tr><tr><td>100%</td><td>89</td><td>91</td><td>92</td></tr></tbody></table>					LOAD (%)	115VAC Efficiency (%)	230VAC Efficiency (%)	277VAC Efficiency (%)	10%	83	83	83	20%	88	89	89	30%	89	90	90	40%	89	91	91	50%	89	91	92	60%	89	91	92	70%	89	91	92	80%	89	91	92	90%	89	91	92	100%	89	91	92
LOAD (%)	115VAC Efficiency (%)	230VAC Efficiency (%)	277VAC Efficiency (%)																																													
10%	83	83	83																																													
20%	88	89	89																																													
30%	89	90	90																																													
40%	89	91	91																																													
50%	89	91	92																																													
60%	89	91	92																																													
70%	89	91	92																																													
80%	89	91	92																																													
90%	89	91	92																																													
100%	89	91	92																																													
7	NO LOAD POWER CONSUMPTION(Typ.)	Remote Power ON : 2W/277VAC 2W/230VAC 2W/115VAC Remote Power OFF : 0.5W/277VAC 0.5W/230VAC 0.3W/115VAC	I/P : 277 VAC I/P : 230 VAC I/P : 115 VAC O/P : RC ON/RC OFF Ta : 25°C	Remote Power ON : 1.2301W/277VAC 1.2402W/230VAC 1.254W/115VAC Remote Power OFF : 0.3819W/277VAC 0.334W/230VAC 0.1443W/115VAC																																												

8	INRUSH CURRENT(Typ.)	277V/45A 230V/35A 115V/20A COLD START	I/P : 277 VAC I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I =40.4A/ 277VAC T50=568 us/277V I =31.2A/ 230VAC T50= 536 us/230V I =14.4A/ 115VAC T50= 496 us/115V
INPUT=277VAC/50HZ @ FULL LOAD CH2 : AC Input Voltage CH1 : Input current  Ch1 最大 40.4 A △: 1.60 A @: 20.0 A △: 568μs @: 576μs Ch1 10.0 A Ω Ch2 100 V V M 400μs A Ch1 9.20 A 49.80 % INPUT=230VAC/50HZ @ FULL LOAD CH2 : AC Input Voltage CH1 : Input current  Ch1 最大 31.2 A △: 1.20 A @: 15.6 A △: 536μs @: 544μs Ch1 10.0 A Ω Ch2 100 V V M 400μs A Ch1 9.20 A 49.80 % INPUT=115VAC/50HZ @ FULL LOAD CH2 : AC Input Voltage CH1 : Input current  Ch1 最大 14.4 A △: 800mA @: 7.00 A △: 496μs @: 504μs Ch1 5.00 A Ω Ch2 50.0 V V M 400μs A Ch1 5.70 A 49.80 %				

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	105%~ 200%	I/P: 305VAC I/P: 230VAC I/P: 85VAC O/P:TESTING Ta:25°C	127.3%/ 305VAC 126.8%/ 230VAC 127.1%/85VAC Protection type : 1、Normally works within 105 ~ 200% rated output power for more than 5 seconds and then constant current limiting without shutdown(Vout>30%), recovers automatically after fault condition is removed, or shut down o/p voltage when Vout<30%,AC re-power on to recover 2、>200% rated power, constant current limiting (Vout>30%)with auto-recovery after fault condition is removed, or shut down o/p voltage when Vout<30%,AC re-power on to recover
2	OVER VOLTAGE PROTECTION	28V~36V	I/P: 305VAC I/P: 230VAC I/P: 85VAC O/P:MIN LOAD Ta:25°C	31.3V/ 305VAC 31.5V/ 230VAC 31.3V/ 85VAC Protection type : Shut down o/p voltage, AC re-power on to recover
3	OVER TEMPERATURE PROTECTION	NO DAMAGE	I/P: 305VAC I/P: 85VAC O/P:FULL LOAD	O.T.P Active Protection type : Shut down o/p voltage, AC re-power on to recover
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 305VAC I/P: 85VAC O/P: FULL LOAD Ta:25°C	NO DAMAGE Protection type : Constant current limiting for more than 5 seconds (Vout<30%) and then shut down a/p voltage, AC re-power on to recover

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT												
1	REMOTE ON/OFF CONTROL	2.Remote Control The PSU can be turned ON/OFF by using the "Remote Control" function with external switch and auxiliary power <table><tr><td>PSU Vo Status</td><td>Between RC-(pin1) and RC+(pin2) on CN1</td></tr><tr><td>POWER ON</td><td>Keep 0~0.8Vdc or open</td></tr><tr><td>POWER OFF</td><td>Keep 3.3~10Vdc by external voltage</td></tr></table> I/P: 230 VAC O/P:FULL LOAD Ta:25°C Test Result : <table><tr><td>Between ON/OFF</td><td>Power Output Status</td></tr><tr><td>SW OFF (0~0.8V)</td><td>ON</td></tr><tr><td>SW ON (3.3~10V)</td><td>OFF</td></tr></table>	PSU Vo Status	Between RC-(pin1) and RC+(pin2) on CN1	POWER ON	Keep 0~0.8Vdc or open	POWER OFF	Keep 3.3~10Vdc by external voltage	Between ON/OFF	Power Output Status	SW OFF (0~0.8V)	ON	SW ON (3.3~10V)	OFF		
PSU Vo Status	Between RC-(pin1) and RC+(pin2) on CN1															
POWER ON	Keep 0~0.8Vdc or open															
POWER OFF	Keep 3.3~10Vdc by external voltage															
Between ON/OFF	Power Output Status															
SW OFF (0~0.8V)	ON															
SW ON (3.3~10V)	OFF															
2	PEAK POWER	1. Peak Power $P_{av} = \frac{P_{pk} \times t + P_{npk} \times (T-t)}{T} \leq P_{rated}$ $Duty = \frac{t}{T} \times 100\% \leq 35\%$ $t \leq 5 \text{ sec}$  P_{av}: Average output power (W) P_{pk}: Peak output power (W) P_{npk}: Non-peak output power (W) P_{rated}: Rated output power (W) t: Peak power width (sec) T: Period (sec)  For example (24V model) : $V_{in} = 200V_{ac}$ $Duty_max = 5\%$ $P_{av} = P_{rated} = 100W$ $P_{pk} = 200W$ $t \leq 5 \text{ sec}$ $T \geq \frac{5 \text{ sec}}{5\%} \geq 100 \text{ sec}$ $P_{npk} \leq \frac{TP_{av} - tP_{pk}}{T-t}$ $P_{npk} \leq 94.7W$ Note:When the output voltage is adjusted to the upper limit, the peak power is 150% rated power I/P: 100/305VAC O/P:PEAK LOAD (1Hour NO DAMAGE) Ta:25°C Test Result: OK														

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	PWM Transistor (D to S) or (C to E) Peak Voltage	Q6 Rated 650 V/11 A	AC ON/OFF I/P:High-Line +3V =308V 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. I/P:Low-Line -3V = 82V 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°C	VDS: (1) 444V (2) 468V (3) 444V (4) 444V (5) 444V (6) 444V (7) 488V VDS: (1) 428V (2) 460V (3) 428V (4) 428V (5) 428V (6) 428V (7) 476V
2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q1 Rated 650 V/15A	I/P:High-Line +3V =308V 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.	VDS: (1) 472V (2) 459V (3) 447V (4) 452V (5) 456V (6) 459V (7) 459V

			I/P:Low-Line -3V =82V 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°C	VDS: (1) 500V (2) 472V (3) 492V (4) 468V (5) 460V (6) 492V (7) 484V
3	P.F.C DIODE	D8 Rated 4 A/650V	I/P:High-Line +3V =308 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 I/P:Low-Line -3V = 82V 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°C	(1) 434V (2) 430V (3) 430V (4) 438V (1) 442V (2) 434V (3) 442V (4) 438V
4	Diode Peak Voltage	D101 Rated 20 A/ 100 V	AC ON/OFF I/P:High-Line +3V =308 V 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 Ta:25°C	D101: VDS: (1) 61V (2) 11.6V (3) 61V (4) 61V (5) 61V (6) 62.6V (7) 65V (8) 53.8V

5	Input Voltage	Capacitor C5 Rated: 68μ/ 450V Surge voltage:500V	I/P:High-Line +3V =308V 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°C	(1)432V (2)432V (3)440V (4) 424V
6	Control IC Voltage Test	PWM IC U2 Rated -0.4 V~ 30 V	AC ON/OFF I/P:High-Line +3V =308 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°C	U2 (1) 18.8V (2) 18.8V (3) 18.8V (4) 18.8V (5) 13.8V

■ SAFETY& E.M.C. TEST

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	WITHSTAND VOLTAGE	I/P-O/P: 4.2 K VAC/min I/P-FG : 2.1 K VAC/min O/P-FG: 1.5 KVAC/min	I/P-O/P: 4.62 KVAC/min I/P-FG: 2.52 KVAC/min O/P-FG: 1.8 KVAC/min Ta:25°C	I/P-O/P: 1.948 mA I/P-FG: 1.960 mA O/P-FG: 1.573 mA
2	ISOLATION RESISTANCE	I/P-O/P: 500 VDC>100MΩ I/P-FG: 500 VDC>100MΩ O/P-FG: 500 VDC >100MΩ	I/P-O/P: 500 VDC I/P-FG: 500 VDC O/P-FG: 500 VDC Ta:25°C	I/P-O/P: >9999 MΩ I/P-FG: >9999 MΩ O/P-FG: >9999 MΩ NO DAMAGE
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40A / 2min Ta:25°C	10 mΩ

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	EN61000-3-2 CLASS A	I/P:230VAC/50HZ O/P:FULL LOAD Ta:25°C	PASS
2	CONDUCTION	BS EN/EN55032(CISPR32),CNS 15936 EN/EN55014-1(CISPR14-1) EN/EN55011(CISPR11)	I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25°C	PASS Test by certified Lab
3	RADIATION	BS EN/EN55032(CISPR32),CNS 15936 EN/EN55014-1(CISPR14-1) EN/EN55011(CISPR11)	I/P : 230 VAC (50HZ) O/P : FULL LOAD Ta : 25°C	PASS Test by certified Lab
4	E.S.D	EN61000-4-2 AIR : 15KV / Contact : 8KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
5	E.F.T	EN61000-4-4 INPUT : 2KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
6	SURGE	IEC61000-4-5 L-N : 2KV L,N-PE : 4KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	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 : NSP-100-24 1. ROOM AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta=30.7 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta=63 °C <table><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT Ta=30.7 °C</th><th>HIGH AMBIENT Ta=63 °C</th></tr><tr><td>1</td><td>C1</td><td>52.1°C</td><td>83.9°C</td></tr><tr><td>2</td><td>LF1</td><td>55.8°C</td><td>87.0°C</td></tr><tr><td>3</td><td>L1</td><td>60.2°C</td><td>89.3°C</td></tr><tr><td>4</td><td>C10</td><td>58.0°C</td><td>88.6°C</td></tr><tr><td>5</td><td>Q1</td><td>59.5°C</td><td>91.3°C</td></tr><tr><td>6</td><td>C5</td><td>58.8°C</td><td>89.8°C</td></tr><tr><td>7</td><td>C14</td><td>66.5°C</td><td>97.5°C</td></tr><tr><td>8</td><td>U2</td><td>75.3°C</td><td>105.5°C</td></tr><tr><td>9</td><td>C36</td><td>69.3°C</td><td>99.7°C</td></tr><tr><td>10</td><td>U4</td><td>65.3°C</td><td>96.6°C</td></tr><tr><td>11</td><td>BD1</td><td>60.3°C</td><td>90.2°C</td></tr><tr><td>12</td><td>Q6</td><td>67.2°C</td><td>98.7°C</td></tr><tr><td>13</td><td>T1</td><td>91.6°C</td><td>122.2°C</td></tr><tr><td>14</td><td>C200</td><td>69.2°C</td><td>101.1°C</td></tr><tr><td>15</td><td>C105</td><td>63.3°C</td><td>95.4°C</td></tr><tr><td>16</td><td>D101</td><td>68.4°C</td><td>99.0°C</td></tr><tr><td>17</td><td>U101</td><td>62.5°C</td><td>94.1°C</td></tr><tr><td>18</td><td>RTH3</td><td>64.4°C</td><td>96.8°C</td></tr><tr><td>19</td><td>TC</td><td>53.8°C</td><td>85.1°C</td></tr></table>			NO	Position	ROOM AMBIENT Ta=30.7 °C	HIGH AMBIENT Ta=63 °C	1	C1	52.1°C	83.9°C	2	LF1	55.8°C	87.0°C	3	L1	60.2°C	89.3°C	4	C10	58.0°C	88.6°C	5	Q1	59.5°C	91.3°C	6	C5	58.8°C	89.8°C	7	C14	66.5°C	97.5°C	8	U2	75.3°C	105.5°C	9	C36	69.3°C	99.7°C	10	U4	65.3°C	96.6°C	11	BD1	60.3°C	90.2°C	12	Q6	67.2°C	98.7°C	13	T1	91.6°C	122.2°C	14	C200	69.2°C	101.1°C	15	C105	63.3°C	95.4°C	16	D101	68.4°C	99.0°C	17	U101	62.5°C	94.1°C	18	RTH3	64.4°C	96.8°C	19	TC	53.8°C	85.1°C
NO	Position	ROOM AMBIENT Ta=30.7 °C	HIGH AMBIENT Ta=63 °C																																																																																	
1	C1	52.1°C	83.9°C																																																																																	
2	LF1	55.8°C	87.0°C																																																																																	
3	L1	60.2°C	89.3°C																																																																																	
4	C10	58.0°C	88.6°C																																																																																	
5	Q1	59.5°C	91.3°C																																																																																	
6	C5	58.8°C	89.8°C																																																																																	
7	C14	66.5°C	97.5°C																																																																																	
8	U2	75.3°C	105.5°C																																																																																	
9	C36	69.3°C	99.7°C																																																																																	
10	U4	65.3°C	96.6°C																																																																																	
11	BD1	60.3°C	90.2°C																																																																																	
12	Q6	67.2°C	98.7°C																																																																																	
13	T1	91.6°C	122.2°C																																																																																	
14	C200	69.2°C	101.1°C																																																																																	
15	C105	63.3°C	95.4°C																																																																																	
16	D101	68.4°C	99.0°C																																																																																	
17	U101	62.5°C	94.1°C																																																																																	
18	RTH3	64.4°C	96.8°C																																																																																	
19	TC	53.8°C	85.1°C																																																																																	
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P : 230 VAC O/P : 126 % LOAD Ta : 25°C	TEST : OK																																																																																
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 85VAC/305VAC O/P : 80/100 % LOAD Ta=-35/-45 °C	TEST : OK																																																																																
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 50 °C/95 %R.H NO DAMAGE	I/P : 315 VAC O/P : FULL LOAD Ta= 50 °C HUMIDITY= 95 %R.H	TEST : OK																																																																																
5	TEMPERATURE COEFFICIENT	± 0.05 %/°C(0~60°C)	I/P : 230 VAC O/P : FULL LOAD	± 0.004 %/°C(0~60°C)																																																																																

6	STORAGE TEMPERATURE TEST	-40~85°C	1. Thermal shock Temperature : -45°C~ +90°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 10 CYCLE 5. Input/Output condition : STATIC
7	THERMAL SHOCK TEST	-40~60°C	1. Thermal shock Temperature : -45°C~ +65°C 2. Temperature change rate : 25°C / 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
8	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°C
9	CAPACITOR LIFE CYCLE	SUPPOSE C105 IS THE MOST CRITICAL COMPONENT (1) I/P : 230VAC O/P : FULL LOAD Ta=25 °C LIFE TIME (2) I/P : 230VAC O/P : FULL LOAD Ta=60 °C LIFE TIME (3) I/P : 230VAC O/P : 75% LOAD Ta=60 °C LIFE TIME (4) I/P : 230VAC O/P : 50% LOAD Ta=60 °C LIFE TIME	(1) 328602HRS (2) 32227HRS (3) 51406HRS (4) 85519HRS
10	MTBF	Conducted by Parts Stress Analysis Prediction 2163.5K hrs min. Telcordia SR-332 (Bellcore) ; 250.4K hrs min. MIL-HDBK-217F (25°C)	
11	Ongoing Reliability Test	I/P : 230VAC O/P : FULL LOAD TA=50°C Demonstration Mean Time Between Failure : 50,000 hours	

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	WUWQIN/ZHOUBIAO	WENF	WUWQ

2020.10.1 TAG-QA-009