



Test Report: HRPG-1000N3-48

1000W Ultra-High Peak 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

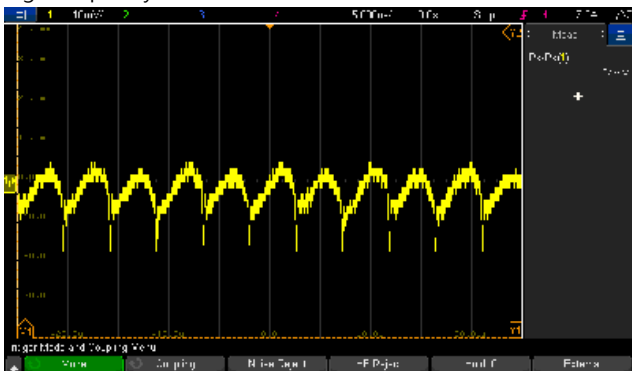
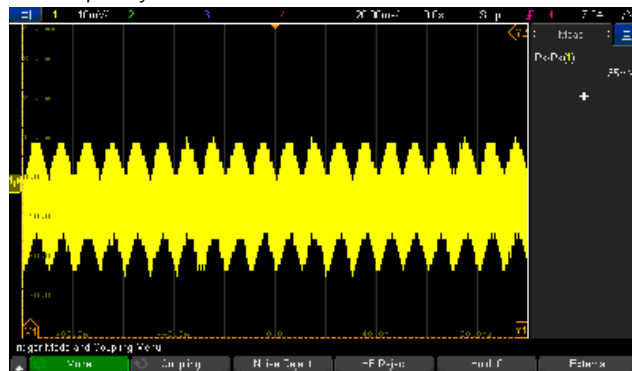
E.M.C. Test

■ RELIABILITY TEST

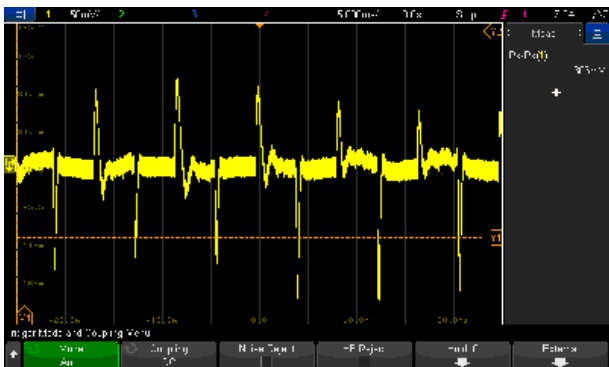
ENVIRONMENT TEST

■ DESIGN VERIFY TEST

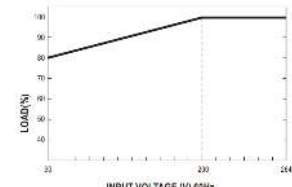
OUTPUT FUNCTION TEST

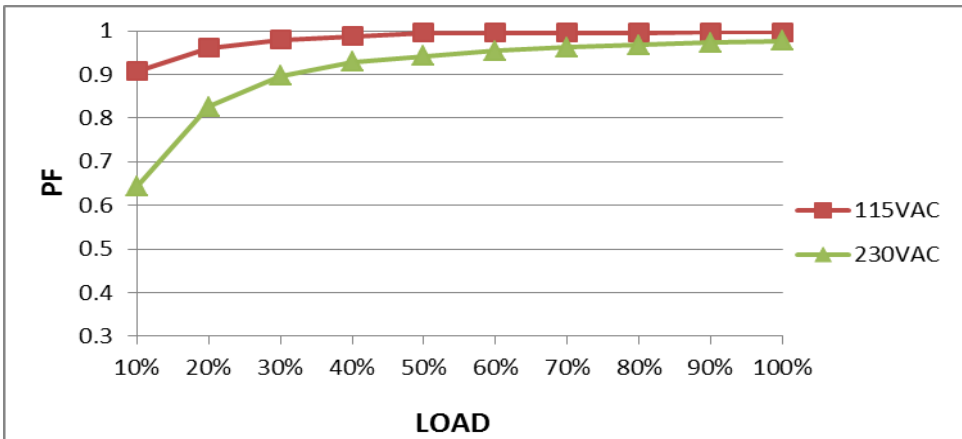
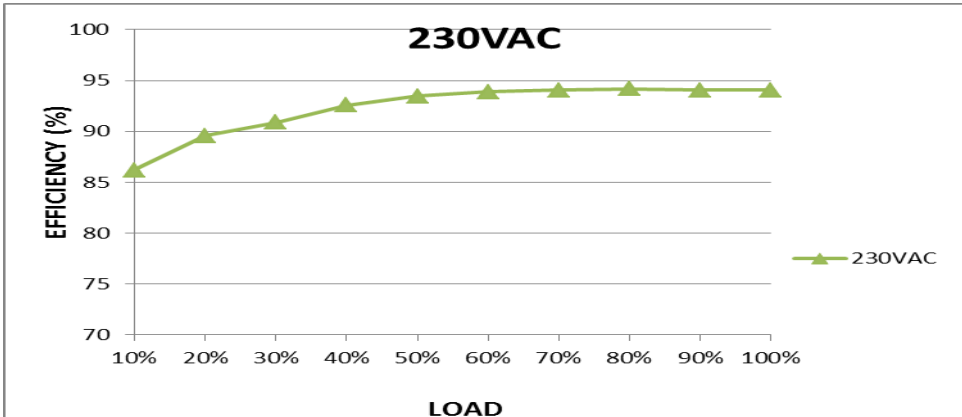
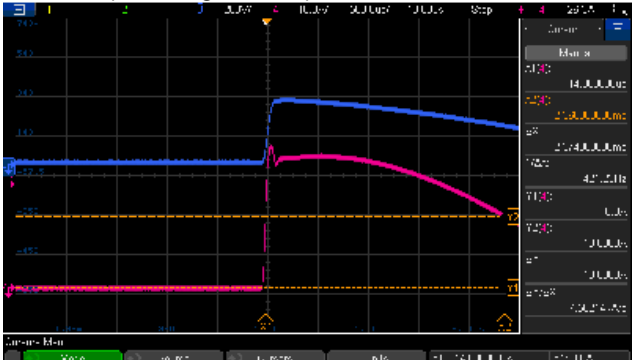
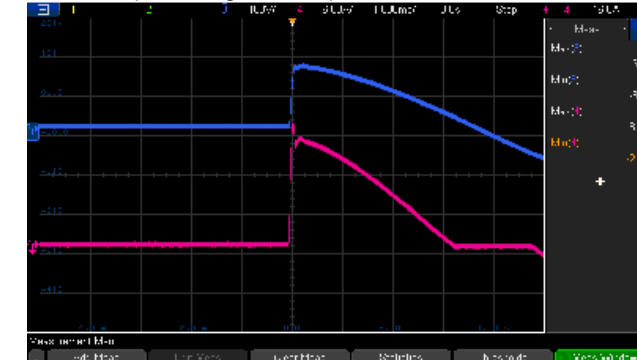
NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1: 46V~56V	I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C	43.46V~57.35V/230VAC 43.45V~57.35V/115VAC
2	OUTPUT VOLTAGE TOLERANCE	V1: -1.0 %~ +1.0 %	I/P: 90VAC /264VAC O/P:FULL/ MIN. LOAD Ta:25°C	V1: -0.01 %~ 0.03%
3	LINE REGULATION	V1: -0.5 %~ 0.5 %	I/P: 90VAC~ 264VAC O/P:FULL LOAD Ta:25°C	V1: 0 %~ 0.004%
4	LOAD REGULATION	V1: -0.5 %~ 0.5 %	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: -0.01 %~ 0.03%
5	OVER/UNDERSHOOT TEST	<±5%	I/P: 230VAC O/P:FULL LOAD Ta:25°C	-1.91%
6	RIPPLE & NOISE (Max)	V1: 250 mVp-p	I/P:230VAC O/P:FULL LOAD Ta:25°C	V1: 24mVp-p / high frequency 35mVp-p / low frequency
high frequency :  low frequency : 				
7	SET UP TIME(Max)	230VAC/1000ms 115VAC/2000ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 339ms 115VAC/ 442ms
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)	230VAC/50ms 115VAC/50ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 4.76ms 115VAC/ 4.28ms
INPUT=230VAC/50HZ @ FULL LOAD CH1 : Output Voltage INPUT=115VAC/60HZ @ FULL LOAD CH1 : Output Voltage				
9	HOLD UP TIME (Typ.)	230VAC/16ms 115VAC/16ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 25.6ms 115VAC/ 25.2ms
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: 4800mVp-p	I/P: 230VAC O/P: (1)FULL /50% LOAD 50%DUTY / 120HZ (2)FULL /50% LOAD 50%DUTY / 1KHZ Ta:25°C	306mVp-p 324mVp-p

	FULL /50% LOAD 50%DUTY / 120HZ		FULL /50% LOAD 50%DUTY / 1KHZ	
				
11	TRANSIENT RECOVERY TIME	V1: 4800 mVp-p <500us	I/P: 230VAC O/P:40% LOAD CHANGE 50%DUTY/120HZ 1.25A/us	236mVp-p 0us
12	PEAK LOAD	PEAK LOAD@5S	I/P: 264VAC I/P: 200VAC I/P: 100VAC O/P: PEAK LOAD	TEST : I/P: 264VAC OK I/P: 200VAC OK I/P: 100VAC OK

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	90VAC~264VAC (300VAC for 5 sec.) 127VDC~ 370VDC 	(1) I/P:TESTING O/P: FULL / 80% LOAD (2) I/P:DC TESTING(L:- N:-) O/P: FULL / 80% LOAD (3) I/P:DC TESTING(L:- N:+) O/P: FULL / 80% LOAD Ta:25°C I/P: HIGH-LINE +15%=300V O/P:FULL/MIN LOAD (PLEASE CHECK DERATING CURVE) ON: 30 Sec OFF: 30 Sec 10MIN (POWER ON/OFF NO DAMAGE)	(1) 82.7V~264V/ FULL LOAD 75.8V~264V/ 80% LOAD (2) 117.9Vdc~370Vdc/FULL LOAD 117.9Vdc~370Vdc/80% LOAD (3) 117.9Vdc~370Vdc/FULL LOAD 117.9Vdc~370Vdc/80% LOAD TEST : OK
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE	I/P:90 VAC ~264 VAC O/P:FULL~MIN LOAD Ta:25°C	TEST: OK
3	INPUT CURRENT (Typ.)	230V/ 5 A 115V/ 8.5 A	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I =4.796A/ 230VAC I =8.303A/ 115VAC
4	LEAKAGE CURRENT	< 1.2mA / 240 VAC	I/P : 240 VAC O/P : Min LOAD Ta : 25°C	0.656mA
5	NO LOAD CONSUMPTION	<0.85W@RC OFF	I/P : 240VAC O/P : NO LOAD Ta : 25°C	0.645W/ 240VAC

6	POWER FACTOR (Typ.)	0.95/ 230VAC 0.99/115VAC	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	PF=0.978/230VAC PF=0.997/115VAC
	P.F vs LOAD 			
7	EFFICIENCY(Typ.)	94%	I/P:230 VAC O/P:FULL LOAD Ta:25°C	94.13 %
	EFFICIENCY vs LOAD 			
8	INRUSH CURRENT(Typ.)	230V/40A 115V/25A COLD START	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I =36.0A/ 230VAC I =18.5A/ 115VAC T50= 2374us/230V
	INPUT=230VAC/50HZ @ FULL LOAD CH3: AC Input Voltage CH4: Input current  INPUT=115VAC/ 60HZ @ FULL LOAD CH3: AC Input Voltage CH4: Input current 			

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	Output power >105% rated for more than 5 seconds then shut down o/p voltage, re-power on to recover ; Output power >350% rated then shut down o/p voltage, re-power on to recover	I/P: 264VAC I/P: 230VAC I/P: 200VAC O/P: TESTING Ta:25°C	>105%: 118.6%/ 264VAC 118.1%/ 230VAC 118.1%/200VAC >350% : 348.1%/ 264VAC 347.6%/ 230VAC 347.6%/200VAC PROTECTION TYPE : Output power >105% rated for more than 5 seconds then shut down o/p voltage, re-power on to recover ; Output power >350% rated then shut down o/p voltage, re-power on to recover
2	OVER VOLTAGE PROTECTION	58V~65V Protection type : Shut down o/p voltage, re-power on to recover	I/P: 264VAC I/P: 90VAC O/P: MIN LOAD Ta:25°C	61.9V/ 264VAC 62.1V/ 90VAC PROTECTION TYPE : Shut down 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 OK Protection type : Shut down o/p voltage, recovers automatically after temperature goes down
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 264VAC I/P: 90VAC O/P: FULL LOAD Ta:25°C	NO DAMAGE PROTECTION TYPE : Shut down o/p voltage, re-power on to recover.

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT			
1	REMOTE ON/OFF CONTROL	Power ON : short; Power OFF : open.	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	TEST: OK			
2	REMOTE SENSE	S+ / S- The remote sensing compensates voltage drop on the load wiring up to 0.5V	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	TEST: OK			
3	DC-OK SIGNAL	The TTL signal out, PSU turn on = 3.3 ~ 5.6V ; PSU turn off = 0 ~ 1V	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	PSU turn on = 4.78 V PSU turn off = 0.05 V			
4	5V STANDBY	5VSB : 5V@0.3A ; tolerance 5%, ripple : 50mVp-p(max.)	I/P: 230 VAC O/P:TESTING Ta:25°C	TOLERANCE	RIPPLE		
				-0.72%~0.42 %	13mVp-p		
5	FAN ON/OFF CONTROL	Fan on/off by NTC(RT50) or 30% load min	I/P: 230 VAC O/P:TESTING		By NTC	LOAD (%)	
				FAN ON	OK	0.48%	
6	CURRENT SHARING	Up to 4000W or (3+1) units.	I/P: 230 VAC O/P: (The rated current per unit) x (Number of unit) x 0.9 Ta:25°C	TEST: OK			

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	
1	PWM Transistor (D to S) or (C to E) Peak Voltage	Q910 / Q911 Rated: 66 A/ 600 V	AC ON/OFF I/P:High-Line =300V 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. (8)Peak Load Ta:25°C	Q910 VDS: (1) 472V (2) 468V (3) 472V (4) 472V (5) 472V (6) 472V (7) 476V (8) 476V	Q911 VDS: (1) 476V (2) 468V (3) 480V (4) 476V (5) 476V (6) 476V (7) 484V (8) 480V

2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q1 Rated : 73 A/ 600 V	AC ON/OFF I/P:High-Line =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. (8)Peak Load Ta:25°C	Q1 VDS: (1) 473V (2) 457V (3) 473V (4) 473V (5) 473V (6) 469V (7) 469V (8) 477V
3	P.F.C DIODE	D6 Rated : 20 A/ 650 V	I/P:High-Line =267V 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 (5) Peak Load Ta:25°C	(1) 412V (2) 396V (3) 412V (4) 412V (5) 410V
4	AUX MOS	U971 Rated : 1.8 A/ 700V	AC ON/OFF I/P:High-Line =300V 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. (8)Peak Load Ta:25°C	VDS: (1) 557V (2) 531V (3) 553V (4) 553V (5) 557V (6) 557V (7) 545V (8) 545V
5	Diode Peak Voltage	Q501/Q503 /Q505/Q507 Rated: 36 A/200V	AC ON/OFF I/P:High-Line =300 V Vo=Vmax O/P: (1)Full Load (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/1KHz	Q501: Vo=Vmax VDS: (1) 153V (2) 141V (3) 152V (4) 152V Q503: Vo=Vmax VDS: (1) 166V (2) 160V (3) 168V (4) 168V

			(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 (9) burst Mode 脫離前 (10) Peak Load Vo=Vnormal O/P: (1)Full Load Ta:25°C	(5) 152V (6) 150V (7) 190V (8) 139V (9) 146V (10) 182V Vo=Vnormal (1) 153V Q505: Vo=Vmax VDS: (1) 166V (2) 161V (3) 162V (4) 164V (5) 164V (6) 162V (7) 184V (8) 153V (9) 157V (10) 184V Vo=Vnormal (1) 161V	(5) 167V (6) 168V (7) 188V (8) 139V (9) 174V (10) 184V Vo=Vnormal (1) 179V Q507: Vo=Vmax VDS: (1) 174V (2) 162V (3) 174V (4) 175V (5) 174V (6) 173V (7) 186V (8) 145V (9) 161V (10) 190V Vo=Vnormal (1) 166V
6	Input Capacitor Voltage	C5 Rated :270 μ / 420 V	I/P:High-Line =300V O/P: (1)Full Load input on/off (2) Min load input on /Off (3)Full Load /Min load Change (4)Full load continue (5)Peak Load on/off (320%) (6)Peak Load continue (320%) Ta:25°C	(1) 388V (2) 388V (3) 401V (4) 388V (5) 405V (6) 405V	
7	Control IC Voltage Test	PFC IC U1 Rated 12V~ 25V PWM IC U900 Rated 8.9 V~ 15.5V AUX PWM IC U971 Rated 15V~ 32V	AC ON/OFF I/P:High-Line =300 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	U1 (1) 19.1V (2) 19.1V (3) 19.1V (4) 19.1V (5) 15.9V U900 (1) 14.1V (2) 14.1V (3) 14.1V (4) 14.3V (5) 13.5V	U971 (1) 19.4V (2) 19.4V (3) 19.4V (4) 19.2V (5) 19.2V

■ 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°C	I/P-O/P: 5.57 mA I/P-FG: 4.68 mA O/P-FG: 2.79 mA 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: 600 VDC I/P-FG: 600 VDC O/P-FG: 600 VDC Ta:25°C	I/P-O/P: 50 GΩ I/P-FG: 24841MΩ O/P-FG: 44154MΩ NO DAMAGE
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40A / 2min Ta:25°C	12mΩ

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°C	PASS
2	CONDUCTION	BS EN/ EN55032 (CISPR32) CLASS B	I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25°C	PASS Test by certified Lab
3	RADIATION	BS EN/ EN55032 (CISPR32) CLASS B	I/P : 230 VAC (50HZ) O/P : FULL LOAD Ta : 25°C	PASS Test by certified Lab
4	E.S.D	BS EN/ EN61000-4-2 AIR : 8KV / Contact : 4KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
5	E.F.T	BS EN/ EN61000-4-4 INDUSTRY INPUT : 2KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
6	SURGE	BS EN/ EN61000-4-5 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 : HRP-1000N3-24 1. ROOM AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta= 26.8 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta= 60.9 °C <table><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT Ta= 26.8 °C</th><th>HIGH AMBIENT Ta= 60.9 °C</th></tr><tr><td>1</td><td>RTH3</td><td>42.8°C</td><td>76.9°C</td></tr><tr><td>2</td><td>LF2</td><td>42.2°C</td><td>77°C</td></tr><tr><td>3</td><td>C1</td><td>34°C</td><td>69.2°C</td></tr><tr><td>4</td><td>ZNR1</td><td>31°C</td><td>65.8°C</td></tr><tr><td>5</td><td>LF1</td><td>40.4°C</td><td>76°C</td></tr><tr><td>6</td><td>L900</td><td>54°C</td><td>87.7°C</td></tr><tr><td>7</td><td>Q910</td><td>55°C</td><td>91.8°C</td></tr><tr><td>8</td><td>Q911</td><td>50.5°C</td><td>86.6°C</td></tr><tr><td>9</td><td>C950</td><td>37.2°C</td><td>72°C</td></tr><tr><td>10</td><td>C11</td><td>41.5°C</td><td>75.7°C</td></tr><tr><td>11</td><td>BD1</td><td>47.7°C</td><td>81°C</td></tr><tr><td>12</td><td>Q1</td><td>38.9°C</td><td>73.3°C</td></tr><tr><td>13</td><td>Q2</td><td>37.3°C</td><td>71.6°C</td></tr><tr><td>14</td><td>TSW4</td><td>33.9°C</td><td>68.3°C</td></tr><tr><td>15</td><td>L1</td><td>54°C</td><td>86.8°C</td></tr><tr><td>16</td><td>C6</td><td>37.3°C</td><td>70.9°C</td></tr><tr><td>17</td><td>T2coil</td><td>66.7°C</td><td>99.2°C</td></tr><tr><td>18</td><td>T2core</td><td>53.1°C</td><td>85.1°C</td></tr><tr><td>19</td><td>D935</td><td>34.7°C</td><td>64.7°C</td></tr><tr><td>20</td><td>T1coil</td><td>66°C</td><td>99.9°C</td></tr><tr><td>21</td><td>T1core</td><td>52.4°C</td><td>84.3°C</td></tr><tr><td>22</td><td>D6</td><td>43.1°C</td><td>77.6°C</td></tr><tr><td>23</td><td>Q508</td><td>43.1°C</td><td>76.8°C</td></tr><tr><td>24</td><td>Q505</td><td>45.8°C</td><td>80.7°C</td></tr><tr><td>25</td><td>RT50</td><td>42.4°C</td><td>78°C</td></tr><tr><td>26</td><td>Q504</td><td>45.9°C</td><td>70.5°C</td></tr><tr><td>27</td><td>Q502</td><td>44.9°C</td><td>79.2°C</td></tr><tr><td>28</td><td>TSW3</td><td>36.7°C</td><td>71.8°C</td></tr><tr><td>29</td><td>U502</td><td>44.8°C</td><td>79.6°C</td></tr></table>			NO	Position	ROOM AMBIENT Ta= 26.8 °C	HIGH AMBIENT Ta= 60.9 °C	1	RTH3	42.8°C	76.9°C	2	LF2	42.2°C	77°C	3	C1	34°C	69.2°C	4	ZNR1	31°C	65.8°C	5	LF1	40.4°C	76°C	6	L900	54°C	87.7°C	7	Q910	55°C	91.8°C	8	Q911	50.5°C	86.6°C	9	C950	37.2°C	72°C	10	C11	41.5°C	75.7°C	11	BD1	47.7°C	81°C	12	Q1	38.9°C	73.3°C	13	Q2	37.3°C	71.6°C	14	TSW4	33.9°C	68.3°C	15	L1	54°C	86.8°C	16	C6	37.3°C	70.9°C	17	T2coil	66.7°C	99.2°C	18	T2core	53.1°C	85.1°C	19	D935	34.7°C	64.7°C	20	T1coil	66°C	99.9°C	21	T1core	52.4°C	84.3°C	22	D6	43.1°C	77.6°C	23	Q508	43.1°C	76.8°C	24	Q505	45.8°C	80.7°C	25	RT50	42.4°C	78°C	26	Q504	45.9°C	70.5°C	27	Q502	44.9°C	79.2°C	28	TSW3	36.7°C	71.8°C	29	U502	44.8°C	79.6°C
NO	Position	ROOM AMBIENT Ta= 26.8 °C	HIGH AMBIENT Ta= 60.9 °C																																																																																																																									
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8	Q911	50.5°C	86.6°C																																																																																																																									
9	C950	37.2°C	72°C																																																																																																																									
10	C11	41.5°C	75.7°C																																																																																																																									
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12	Q1	38.9°C	73.3°C																																																																																																																									
13	Q2	37.3°C	71.6°C																																																																																																																									
14	TSW4	33.9°C	68.3°C																																																																																																																									
15	L1	54°C	86.8°C																																																																																																																									
16	C6	37.3°C	70.9°C																																																																																																																									
17	T2coil	66.7°C	99.2°C																																																																																																																									
18	T2core	53.1°C	85.1°C																																																																																																																									
19	D935	34.7°C	64.7°C																																																																																																																									
20	T1coil	66°C	99.9°C																																																																																																																									
21	T1core	52.4°C	84.3°C																																																																																																																									
22	D6	43.1°C	77.6°C																																																																																																																									
23	Q508	43.1°C	76.8°C																																																																																																																									
24	Q505	45.8°C	80.7°C																																																																																																																									
25	RT50	42.4°C	78°C																																																																																																																									
26	Q504	45.9°C	70.5°C																																																																																																																									
27	Q502	44.9°C	79.2°C																																																																																																																									
28	TSW3	36.7°C	71.8°C																																																																																																																									
29	U502	44.8°C	79.6°C																																																																																																																									

		<table><tr><td>30</td><td>U503</td><td>46.9℃</td><td>81.4℃</td></tr><tr><td>31</td><td>C108</td><td>34.7℃</td><td>69.2℃</td></tr><tr><td>32</td><td>C107</td><td>36.6℃</td><td>71.5℃</td></tr><tr><td>33</td><td>J101</td><td>36.1℃</td><td>70.8℃</td></tr><tr><td>34</td><td>R6</td><td>45.7℃</td><td>79.6℃</td></tr><tr><td>35</td><td>U1</td><td>40.2℃</td><td>71.7℃</td></tr><tr><td>36</td><td>Q914</td><td>42.4℃</td><td>77.1℃</td></tr><tr><td>37</td><td>D240</td><td>37.7℃</td><td>70.5℃</td></tr><tr><td>38</td><td>U971</td><td>48.2℃</td><td>81.6℃</td></tr><tr><td>39</td><td>T951</td><td>48.4℃</td><td>82.2℃</td></tr><tr><td>40</td><td>RG2</td><td>43.5℃</td><td>78.6℃</td></tr><tr><td>41</td><td>U900</td><td>32.4℃</td><td>67.5℃</td></tr><tr><td>42</td><td>U903</td><td>28.3℃</td><td>63℃</td></tr><tr><td>43</td><td>R977</td><td>64.1℃</td><td>97.5℃</td></tr><tr><td>44</td><td>U202</td><td>27.8℃</td><td>62.4℃</td></tr><tr><td>45</td><td>D431</td><td>51.9℃</td><td>84.5℃</td></tr><tr><td>46</td><td>C115</td><td>29.2℃</td><td>63.8℃</td></tr><tr><td>47</td><td>C113</td><td>29.6℃</td><td>64.3℃</td></tr><tr><td>48</td><td>C112</td><td>31.2℃</td><td>65.9℃</td></tr><tr><td>49</td><td>R504</td><td>44.7℃</td><td>78.3℃</td></tr></table>				30	U503	46.9℃	81.4℃	31	C108	34.7℃	69.2℃	32	C107	36.6℃	71.5℃	33	J101	36.1℃	70.8℃	34	R6	45.7℃	79.6℃	35	U1	40.2℃	71.7℃	36	Q914	42.4℃	77.1℃	37	D240	37.7℃	70.5℃	38	U971	48.2℃	81.6℃	39	T951	48.4℃	82.2℃	40	RG2	43.5℃	78.6℃	41	U900	32.4℃	67.5℃	42	U903	28.3℃	63℃	43	R977	64.1℃	97.5℃	44	U202	27.8℃	62.4℃	45	D431	51.9℃	84.5℃	46	C115	29.2℃	63.8℃	47	C113	29.6℃	64.3℃	48	C112	31.2℃	65.9℃	49	R504	44.7℃	78.3℃
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P : 230 VAC O/P : 108%LOAD Ta : 25℃	TEST : OK																																																																																	
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 264VAC/200VAC O/P : 100 %LOAD Ta= -45℃	TEST : OK																																																																																	
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 60 °C/95 %R.H NO DAMAGE	I/P : 272 VAC O/P : FULL LOAD Ta= 59.4 °C HUMIDITY= 95 %R.H	TEST : OK																																																																																	
5	TEMPERATURE COEFFICIENT	± 0.03%/°C(0~50℃)	I/P : 230 VAC O/P : FULL LOAD	0.02%/°C(0~50℃)																																																																																	
6	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 : 10 CYCLE 5. Input/Output condition : STATIC																																																																																		
7	THERMAL SHOCK TEST	-40~60℃	1. Thermal shock Temperature : -45℃~ +65℃ 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																																																																																		

8	VIBRATION TEST	10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes	1 Carton & 1 Set (1) Waveform : Sine Wave (2) Frequency : 10~500Hz (3) Sweep Time : 12min/sweep cycle (4) Acceleration : 6G (5) Test Time : 180min in each axis (X.Y.Z) (6) Ta : 25°C
9	CAPACITOR LIFE CYCLE	SUPPOSE C107 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) 1575336.8HRS (2) 131730.4HRS (3) 187927.8HRS (4) 228149.2HRS
10	MTBF	Conducted by Parts Stress Analysis Prediction 989.2K hrs min. Telcordia SR-332 (Bellcore) ; 130.6K 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	Yuwei	Liutt	Wangdz

2020.10.1 TAG-QA-009