

# TESTREPORT: Planet 3Now! Netzteilroundup 2006

<http://www.planet3dnow.de>

## Switch Mode Power Supply Testing Report

Test Program Name : Other\_TG1100-U95  
Serial No : Testing Data System Time : 2006/10/11 05:24:49  
PM  
Model Name : TG1100-U95 Elapsed Time :  
LOT Number : Environment :  
Order Number : Inspector : Planet 3DNow!  
Customer : Test Result : FAIL

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STEP.1(UUT Test seq.1) : Inrush Current Test -----  
PASS

Vin (V)= 230.00  
Fin (Hz)= 50.00  
UUT Off Time (s)= 0.00  
Turn On Phase = 90.00

Load Name	Loading (A/Ohm/V)
+5V	1.500
+12V3	8.000
+12V1	8.000
-12V	0.500
+3.3V	1.750
+5VSB	3.000
+12V4	8.000
+12V2	8.000

	Max	Min	Reading
Inrush Current (A)	60.00	*****	21.18

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STEP.2(UUT Test seq.2) : Extra Timing Test(Set Up Time Min load) -----  
PASS

Vin (V)= 230.00  
Fin (Hz)= 50.00  
Delay Time (ms)= 1500.00

Before Measurement: TTL State 1 = 0000    TTL State 2 = 0000  
                                   Relay State 1 = 01    Relay State 2 = 00  
 After Measurement: TTL State 1 = 0000    TTL State 2 = 0000  
                                   Relay State 1 = 00    Relay State 2 = 00  
 Change State Delay: For TTL (ms) = 0    For Relay(ms) = 1000

Trigger: 1:TTL1R    2:TTL2R    3:TTL3R    4:TTL4R    5:CMPar    6:CMpBR    7:SWR  
           8:TTL1F    9:TTL2F    10:TTL3F    11:TTL4F    12:CMpAF    13:CMpBF    14:SWF

TTL Index	Trigger Level
1	2.60
2	2.60
3	2.60
4	2.60

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	2.000	10	5	4.750	5.250
+12V3	1.000	10	5	11.400	12.600
+12V1	1.000	10	5	11.400	12.600
-12V	0.500	10	5	-10.800	-13.200
+3.3V	0.500	10	5	3.140	3.460
+5VSB	2.000	10	5	4.750	5.250
+12V4	1.000	10	5	11.400	12.600
+12V2	1.000	5	6	11.400	12.600

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	500.00	*****	71.63
+12V3	500.00	*****	73.36
+12V1	*****	*****	73.39
-12V	*****	*****	-----
+3.3V	500.00	*****	65.93
+5VSB	*****	*****	57.39
+12V4	500.00	*****	73.36
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	71.63
0	*****	*****	73.36
0	*****	*****	73.39
0	*****	*****	-----

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0          *****      *****      65.93
0          *****      *****      57.39
0          *****      *****      73.36
0          *****      *****      -----

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Ref ExtTime from which Load= 0
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Max          Min          Reading
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Tds      (ms) *****      *****      57.39
Tdl      (ms) *****      *****      73.39
Tdls     (ms) *****

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STEP.3(UUT Test seq.3) : Extra Timing Test(Set Up Time 20% Blance load) ---
PASS

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Vin      (V)= 230.00
Fin      (Hz)= 50.00
Delay Time (ms)= 1500.00

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Before Measurement: TTL State 1 = 0000   TTL State 2 = 0000
                   Relay State 1 = 01    Relay State 2 = 00
After Measurement:  TTL State 1 = 0000   TTL State 2 = 0000
                   Relay State 1 = 00    Relay State 2 = 00
Change State Delay: For TTL (ms) = 0     For Relay(ms) = 1000

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Trigger: 1:TTL1R  2:TTL2R  3:TTL3R  4:TTL4R  5:CMPPAR  6:CMPPBR  7:SWR
          8:TTL1F  9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

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TTL      Trigger
Index    Level
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1        2.60
2        2.60
3        2.60
4        2.60

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Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	2.400	10	5	4.750	5.250
+12V3	1.980	10	5	11.400	12.600
+12V1	1.980	10	5	11.400	12.600
-12V	0.500	10	5	-10.800	-13.200
+3.3V	3.630	10	5	3.140	3.460
+5VSB	3.000	10	5	4.750	5.250
+12V4	1.980	10	5	11.400	12.600
+12V2	1.980	5	6	11.400	12.600

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	500.00	*****	73.53
+12V3	500.00	*****	74.79
+12V1	*****	*****	74.84
-12V	*****	*****	-----
+3.3V	500.00	*****	68.37
+5VSB	*****	*****	59.69
+12V4	500.00	*****	74.78
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	73.53
0	*****	*****	74.79
0	*****	*****	74.84
0	*****	*****	-----
0	*****	*****	68.37
0	*****	*****	59.69
0	*****	*****	74.78
0	*****	*****	-----

Ref	ExtTime	from which	Load=	0	
	Max	Min			Reading
Tds	(ms)	*****	*****		59.69
Tdl	(ms)	*****	*****		74.84
Tdls	(ms)	*****			15.15

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STEP.4(UUT Test seq.4) : Extra Timing Test(Set Up Time 50% Load) -----  
PASS

Vin (V)= 230.00  
Fin (Hz)= 50.00  
Delay Time (ms)= 1500.00

Before Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
Relay State 1 = 01 Relay State 2 = 00  
After Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
Relay State 1 = 00 Relay State 2 = 00  
Change State Delay: For TTL (ms) = 0 For Relay(ms) = 1000

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPar 6:CMpBR 7:SWR  
8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMpAF 13:CMpBF 14:SWF

TTL Trigger

Index	Level
1	2.60
2	2.60
3	2.60
4	1.00

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	1.500	10	5	4.750	5.250
+12V3	8.000	10	5	11.400	12.600
+12V1	8.000	10	5	11.400	12.600
-12V	0.500	10	5	-10.800	-13.200
+3.3V	1.750	10	5	3.140	3.460
+5VSB	3.000	10	5	4.750	5.250
+12V4	8.000	10	5	11.400	12.600
+12V2	8.000	5	6	11.400	12.600

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	500.00	*****	71.38
+12V3	500.00	*****	72.75
+12V1	*****	*****	73.32
-12V	*****	*****	-----
+3.3V	500.00	*****	66.68
+5VSB	*****	*****	58.61
+12V4	500.00	*****	72.71
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	71.38
0	*****	*****	72.75
0	*****	*****	73.32
0	*****	*****	-----
0	*****	*****	66.68
0	*****	*****	58.61
0	*****	*****	72.71
0	*****	*****	-----

Ref	ExtTime (ms)	from which Load= 0	Max	Min	Reading
Tds	(ms)	*****	*****	*****	58.61
Tdl	(ms)	*****	*****	*****	73.32
Tdls	(ms)	*****	*****	*****	14.72

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STEP.5(UUT Test seq.5) : Extra Timing Test(Set Up Time 100% Load) -----  
 PASS

Vin (V)= 230.00  
 Fin (Hz)= 50.00  
 Delay Time (ms)= 1500.00

Before Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
 Relay State 1 = 01 Relay State 2 = 00  
 After Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
 Relay State 1 = 00 Relay State 2 = 00  
 Change State Delay: For TTL (ms) = 0 For Relay(ms) = 1000

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPPAR 6:CMPPBR 7:SWR  
 8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

TTL Index	Trigger Level
1	2.60
2	2.60
3	2.60
4	1.00

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	3.000	10	5	4.750	5.250
+12V3	19.000	10	5	11.400	12.600
+12V1	7.000	10	5	11.400	12.600
-12V	0.500	10	5	-10.800	-13.200
+3.3V	3.500	10	5	3.140	3.460
+5VSB	3.000	10	5	4.750	5.250
+12V4	19.000	10	5	11.400	12.600
+12V2	19.000	5	6	11.400	12.600

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	500.00	*****	72.57
+12V3	500.00	*****	74.22
+12V1	*****	*****	74.35
-12V	*****	*****	-----
+3.3V	500.00	*****	69.20
+5VSB	*****	*****	60.21
+12V4	500.00	*****	74.15
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	72.57
0	*****	*****	74.22
0	*****	*****	74.35
0	*****	*****	-----
0	*****	*****	69.20
0	*****	*****	60.21
0	*****	*****	74.15
0	*****	*****	-----

Ref ExtTime	from which	Load=	0
	Max	Min	Reading
Tds (ms)	*****	*****	60.21
Tdl (ms)	*****	*****	74.35
Tdls (ms)	*****		14.14

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STEP.6(UUT Test seq.6) : Extra Timing Test(Rise time Min load) -----  
FAIL

Vin (V)= 230.00  
 Fin (Hz)= 50.00  
 Delay Time (ms)= 1500.00

Before Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
 Relay State 1 = 00 Relay State 2 = 01  
 After Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
 Relay State 1 = 00 Relay State 2 = 00  
 Change State Delay: For TTL (ms) = 0 For Relay(ms) = 1000

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPPAR 6:CMPPBR 7:SWR  
 8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

TTL Index	Trigger Level
1	2.60
2	2.60
3	2.60
4	2.60

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	2.000	6	5	4.750	0.500

+12V3	1.000	6	5	11.400	1.200
+12V1	1.000	6	5	11.400	1.200
-12V	0.500	6	5	-10.800	-1.200
+3.3V	0.500	6	5	3.140	0.330
+5VSB	2.000	6	5	4.750	0.500
+12V4	1.000	6	5	11.400	1.200
+12V2	1.000	5	6	11.400	1.200

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	20.00	0.10	<u>21.77</u>
+12V3	20.00	0.10	<u>23.72</u>
+12V1	*****	*****	23.75
-12V	*****	*****	-----
+3.3V	20.00	0.10	16.40
+5VSB	*****	*****	8.82
+12V4	20.00	0.10	<u>23.72</u>
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	21.77
0	*****	*****	23.72
0	*****	*****	23.75
0	*****	*****	-----
0	*****	*****	16.40
0	*****	*****	8.82
0	*****	*****	23.72
0	*****	*****	-----

Ref	ExtTime	from which	Load=	0	Reading
		Max	Min		
Tds	(ms)	*****	*****		8.82
Tdl	(ms)	*****	*****		23.75
Tdls	(ms)	*****			14.93

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STEP.7(UUT Test seq.7) : Extra Timing Test(Rise time 20% Blance load) -----  
FAIL

Vin (V)= 230.00  
Fin (Hz)= 50.00  
Delay Time (ms)= 1500.00

Before Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
Relay State 1 = 00 Relay State 2 = 01

After Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
 Relay State 1 = 00 Relay State 2 = 00  
 Change State Delay: For TTL (ms) = 0 For Relay(ms) = 1000

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPPAR 6:CMPPBR 7:SWR  
 8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

TTL Index	Trigger Level
1	2.60
2	2.60
3	2.60
4	2.60

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	2.400	6	5	4.750	0.500
+12V3	1.980	6	5	11.400	1.200
+12V1	1.980	6	5	11.400	1.200
-12V	0.500	6	5	-10.800	-1.200
+3.3V	3.630	6	5	3.140	0.330
+5VSB	3.000	6	5	4.750	0.500
+12V4	1.980	6	5	11.400	1.200
+12V2	1.980	5	6	11.400	1.200

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	20.00	0.10	<u>22.18</u>
+12V3	20.00	0.10	<u>23.59</u>
+12V1	*****	*****	<u>23.64</u>
-12V	*****	*****	-----
+3.3V	20.00	0.10	17.15
+5VSB	*****	*****	9.27
+12V4	20.00	0.10	<u>23.58</u>
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	22.18
0	*****	*****	23.59
0	*****	*****	23.64
0	*****	*****	-----
0	*****	*****	17.15
0	*****	*****	9.27
0	*****	*****	23.58

0                   \*\*\*\*\*   \*\*\*\*\*   -----

Ref	ExtTime	from which	Load=	0
		Max	Min	Reading
Tds	(ms)	*****	*****	9.27
Tdl	(ms)	*****	*****	23.64
Tdls	(ms)	*****		14.37

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STEP.8(UUT Test seq.8) : Extra Timing Test(Rise time 50% Load) -----

FAIL

Vin               (V)=   230.00  
Fin               (Hz)=   50.00  
Delay Time       (ms)= 1500.00

Before Measurement: TTL State 1 = 0000   TTL State 2 = 0000  
                          Relay State 1 = 00   Relay State 2 = 01  
After Measurement:   TTL State 1 = 0000   TTL State 2 = 0000  
                          Relay State 1 = 00   Relay State 2 = 00  
Change State Delay: For TTL (ms) = 0   For Relay(ms) = 1000

Trigger: 1:TTL1R   2:TTL2R   3:TTL3R   4:TTL4R   5:CMPar   6:CMpBR   7:SWR  
          8:TTL1F   9:TTL2F 10:TTL3F 11:TTL4F 12:CMpAF 13:CMpBF 14:SWF

TTL Index	Trigger Level
1	2.60
2	2.60
3	2.60
4	2.60

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	1.500	6	5	4.750	0.500
+12V3	8.000	6	5	11.400	1.200
+12V1	8.000	6	5	11.400	1.200
-12V	0.500	6	5	-10.800	-1.200
+3.3V	1.750	6	5	3.140	0.330
+5VSB	3.000	6	5	4.750	0.500
+12V4	8.000	6	5	11.400	1.200
+12V2	8.000	5	6	11.400	1.200

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
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+5V	20.00	0.10	<u>22.77</u>
+12V3	20.00	0.10	<u>24.16</u>
+12V1	*****	*****	24.73
-12V	*****	*****	-----
+3.3V	20.00	0.10	17.83
+5VSB	*****	*****	10.39
+12V4	20.00	0.10	<u>24.14</u>
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	22.77
0	*****	*****	24.16
0	*****	*****	24.73
0	*****	*****	-----
0	*****	*****	17.83
0	*****	*****	10.39
0	*****	*****	24.14
0	*****	*****	-----

Ref ExtTime	from which Load=	0	
	Max	Min	Reading
Tds (ms)	*****	*****	10.39
Tdl (ms)	*****	*****	24.73
Tdls (ms)	*****		14.34

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STEP.9(UUT Test seq.9) : Extra Timing Test(Rise time 100% Load) -----  
FAIL

Vin (V)= 230.00  
Fin (Hz)= 50.00  
Delay Time (ms)= 1500.00

Before Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
Relay State 1 = 00 Relay State 2 = 01  
After Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
Relay State 1 = 00 Relay State 2 = 00  
Change State Delay: For TTL (ms) = 0 For Relay(ms) = 1000

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPar 6:CMpBR 7:SWR  
8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMpAF 13:CMpBF 14:SWF

TTL Index	Trigger Level
1	2.60

2 2.60  
 3 2.60  
 4 2.60

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	3.000	6	5	4.750	0.500
+12V3	19.000	6	5	11.400	1.200
+12V1	7.000	6	5	11.400	1.200
-12V	0.500	6	5	-10.800	-1.200
+3.3V	3.500	6	5	3.140	0.330
+5VSB	3.000	6	5	4.750	0.500
+12V4	19.000	6	5	11.400	1.200
+12V2	19.000	5	6	11.400	1.200

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	20.00	0.10	23.30
+12V3	20.00	0.10	25.06
+12V1	*****	*****	25.18
-12V	*****	*****	-----
+3.3V	20.00	0.10	19.52
+5VSB	*****	*****	11.27
+12V4	20.00	0.10	25.02
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	23.30
0	*****	*****	25.06
0	*****	*****	25.18
0	*****	*****	-----
0	*****	*****	19.52
0	*****	*****	11.27
0	*****	*****	25.02
0	*****	*****	-----

Ref	ExtTime (ms)	from which Load= 0	Max	Min	Reading
Tds	(ms)	*****	*****	*****	11.27
Tdl	(ms)	*****	*****	*****	25.18
Tdls	(ms)	*****	*****	*****	13.91

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STEP.10(UUT Test seq.10) : Extra Timing Test(P.G Min load) -----

PASS

Vin (V)= 230.00  
 Fin (Hz)= 50.00  
 Delay Time (ms)= 1500.00

Before Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
 Relay State 1 = 00 Relay State 2 = 01  
 After Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
 Relay State 1 = 00 Relay State 2 = 00  
 Change State Delay: For TTL (ms) = 0 For Relay(ms) = 1000

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPPAR 6:CMPPBR 7:SWR  
 8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

TTL Index	Trigger Level
1	2.60
2	2.60
3	2.60
4	2.60

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	2.000	5	2	4.750	0.500
+12V3	1.000	5	2	11.400	1.200
+12V1	1.000	5	2	11.400	1.200
-12V	0.500	5	2	-10.800	-1.200
+3.3V	0.500	5	2	3.140	0.330
+5VSB	2.000	5	2	4.750	0.500
+12V4	1.000	5	2	11.400	1.200
+12V2	1.000	5	2	11.400	1.200

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	500.00	100.00	307.20
+12V3	500.00	100.00	305.62
+12V1	500.00	100.00	305.60
-12V	*****	*****	-----
+3.3V	500.00	100.00	312.79
+5VSB	*****	*****	320.81
+12V4	500.00	100.00	305.62
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)

0	*****	*****	307.20
0	*****	*****	305.62
0	*****	*****	305.60
0	*****	*****	-----
0	*****	*****	312.79
0	*****	*****	320.81
0	*****	*****	305.62
0	*****	*****	-----

Ref ExtTime from which Load= 0

	Max	Min	Reading
Tds (ms)	*****	*****	305.60
Td1 (ms)	*****	*****	320.81
Tdls (ms)	*****		15.21

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 STEP.11(UUT Test seq.11) : Extra Timing Test(P.G 20% Blance load) -----  
 PASS

Vin (V)= 230.00  
 Fin (Hz)= 50.00  
 Delay Time (ms)= 1500.00

Before Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
 Relay State 1 = 00 Relay State 2 = 01  
 After Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
 Relay State 1 = 00 Relay State 2 = 00  
 Change State Delay: For TTL (ms) = 0 For Relay(ms) = 1000

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPar 6:CMpBR 7:SWR  
 8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMpAF 13:CMpBF 14:SWF

TTL Index	Trigger Level
1	2.60
2	2.60
3	2.60
4	2.60

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	2.400	5	2	4.750	0.500
+12V3	1.980	5	2	11.400	1.200
+12V1	1.980	5	2	11.400	1.200
-12V	0.500	5	2	-10.800	-1.200

+3.3V	3.630	5	2	3.140	0.330
+5VSB	3.000	5	2	4.750	0.500
+12V4	1.980	5	2	11.400	1.200
+12V2	1.980	5	2	11.400	1.200

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	500.00	100.00	290.56
+12V3	500.00	100.00	289.13
+12V1	500.00	100.00	289.09
-12V	*****	*****	-----
+3.3V	500.00	100.00	295.16
+5VSB	*****	*****	303.50
+12V4	500.00	100.00	289.13
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	290.56
0	*****	*****	289.13
0	*****	*****	289.09
0	*****	*****	-----
0	*****	*****	295.16
0	*****	*****	303.50
0	*****	*****	289.13
0	*****	*****	-----

Ref	ExtTime	from which	Load=	0	
	Max	Min			Reading
Tds	(ms)	*****	*****		289.09
Tdl	(ms)	*****	*****		303.50
Tdls	(ms)	*****			14.41

=====  
=====

STEP.12(UUT Test seq.12) : Extra Timing Test (P.G 50% Load) -----  
PASS

Vin (V) = 230.00  
Fin (Hz) = 50.00  
Delay Time (ms) = 1500.00

Before Measurement: TTL State 1 = 0000    TTL State 2 = 0000  
                          Relay State 1 = 00    Relay State 2 = 01  
After Measurement:   TTL State 1 = 0000    TTL State 2 = 0000  
                          Relay State 1 = 00    Relay State 2 = 00  
Change State Delay: For TTL (ms) = 0    For Relay(ms) = 1000

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPPAR 6:CMPPBR 7:SWR  
 8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

TTL Index	Trigger Level
1	2.60
2	2.60
3	2.60
4	2.60

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	1.500	5	2	4.750	0.500
+12V3	8.000	5	2	11.400	1.200
+12V1	8.000	5	2	11.400	1.200
-12V	0.500	5	2	-10.800	-1.200
+3.3V	1.750	5	2	3.140	0.330
+5VSB	3.000	5	2	4.750	0.500
+12V4	8.000	5	2	11.400	1.200
+12V2	8.000	5	2	11.400	1.200

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	500.00	100.00	307.00
+12V3	500.00	100.00	305.78
+12V1	500.00	100.00	305.24
-12V	*****	*****	-----
+3.3V	500.00	100.00	311.76
+5VSB	*****	*****	319.89
+12V4	500.00	100.00	305.78
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	307.00
0	*****	*****	305.78
0	*****	*****	305.24
0	*****	*****	-----
0	*****	*****	311.76
0	*****	*****	319.89
0	*****	*****	305.78
0	*****	*****	-----

Ref ExtTime from which Load= 0

		Max	Min	Reading
Tds	(ms)	*****	*****	305.24
Tdl	(ms)	*****	*****	319.89
Tdls	(ms)	*****		14.65

STEP.13(UUT Test seq.13) : Extra Timing Test(P.G 100% Load) -----

FAIL

Vin (V)= 230.00  
 Fin (Hz)= 50.00  
 Delay Time (ms)= 1500.00

Before Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
 Relay State 1 = 00 Relay State 2 = 01  
 After Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
 Relay State 1 = 00 Relay State 2 = 00  
 Change State Delay: For TTL (ms) = 0 For Relay(ms) = 1000

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPPAR 6:CMPPBR 7:SWR  
 8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

TTL Index	Trigger Level
1	2.60
2	2.60
3	2.60
4	2.60

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	3.000	5	2	4.750	0.500
+12V3	19.000	5	2	11.400	1.200
+12V1	7.000	5	2	11.400	1.200
-12V	0.500	5	2	-10.800	-1.200
+3.3V	3.500	5	2	3.140	0.330
+5VSB	3.000	5	2	4.750	0.500
+12V4	19.000	5	2	11.400	1.200
+12V2	19.000	5	2	11.400	1.200

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	500.00	100.00	-----
+12V3	500.00	100.00	-----
+12V1	500.00	100.00	-----

```

-12V          *****  *****  -----
+3.3V         500.00   100.00   -----
+5VSB        *****  *****  -----
+12V4        500.00   100.00   -----
+12V2        *****  *****  -----

```

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----

Ref ExtTime	from which	Load= 0		
	Max	Min	Reading	
Tds	(ms)	*****	*****	-----
Tdl	(ms)	*****	*****	-----
Tdls	(ms)	*****		-----

=====  
=====

STEP.14(UUT Test seq.14) : Extra Timing Test (P.F Min load) -----  
PASS

```

Vin      (V)= 230.00
Fin      (Hz)= 50.00
Delay Time (ms)= 1500.00

```

```

Before Measurement: TTL State 1 = 0000  TTL State 2 = 0000
                   Relay State 1 = 01   Relay State 2 = 00
After Measurement:  TTL State 1 = 0000  TTL State 2 = 0000
                   Relay State 1 = 00   Relay State 2 = 00
Change State Delay: For TTL (ms) = 0    For Relay(ms) = 1000

```

```

Trigger: 1:TTL1R  2:TTL2R  3:TTL3R  4:TTL4R  5:CMPPAR  6:CMPPBR  7:SWR
          8:TTL1F  9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

```

TTL Index	Trigger Level
1	2.60
2	2.60
3	2.60
4	2.60

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	2.000	9	12	4.750	0.500
+12V3	1.000	9	12	11.400	1.200
+12V1	1.000	9	12	11.400	1.200
-12V	0.500	9	12	-10.800	-1.200
+3.3V	0.500	9	12	3.140	0.330
+5VSB	2.000	9	12	4.750	0.500
+12V4	1.000	9	12	11.400	1.200
+12V2	1.000	9	12	11.400	1.200

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	*****	1.00	11.39
+12V3	*****	1.00	11.84
+12V1	*****	*****	11.77
-12V	*****	*****	-----
+3.3V	*****	1.00	12.88
+5VSB	*****	*****	19.88
+12V4	*****	1.00	11.84
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	11.39
0	*****	*****	11.84
0	*****	*****	11.77
0	*****	*****	-----
0	*****	*****	12.88
0	*****	*****	19.88
0	*****	*****	11.84
0	*****	*****	-----

Ref	ExtTime from which	Load=	0	
	Max	Min		Reading
Tds	(ms)	*****	*****	11.39
Tdl	(ms)	*****	*****	19.88
Tdls	(ms)	*****		8.50

=====  
STEP.15(UUT Test seq.15) : Extra Timing Test(P.F 20% Blance load) -----  
PASS  
Vin (V)= 230.00

Fin (Hz)= 50.00  
 Delay Time (ms)= 1500.00

Before Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
 Relay State 1 = 01 Relay State 2 = 00  
 After Measurement: TTL State 1 = 0000 TTL State 2 = 0000  
 Relay State 1 = 00 Relay State 2 = 00  
 Change State Delay: For TTL (ms) = 0 For Relay(ms) = 1000

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPar 6:CMpBR 7:SWR  
 8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMpAF 13:CMpBF 14:SWF

TTL Index	Trigger Level
1	2.60
2	2.60
3	2.60
4	2.60

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	2.400	9	12	4.750	0.500
+12V3	1.980	9	12	11.400	1.200
+12V1	1.980	9	12	11.400	1.200
-12V	0.500	9	12	-10.800	-1.200
+3.3V	3.630	9	12	3.140	0.330
+5VSB	3.000	9	12	4.750	0.500
+12V4	1.980	9	12	11.400	1.200
+12V2	1.980	9	12	11.400	1.200

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	*****	1.00	11.62
+12V3	*****	1.00	11.46
+12V1	*****	*****	11.39
-12V	*****	*****	-----
+3.3V	*****	1.00	10.88
+5VSB	*****	*****	20.45
+12V4	*****	1.00	11.46
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	11.62
0	*****	*****	11.46

```

0          ***** *****          11.39
0          ***** *****          -----
0          ***** *****          10.88
0          ***** *****          20.45
0          ***** *****          11.46
0          ***** *****          -----

```

Ref	ExtTime	from which	Load=	0	
		Max	Min		Reading
Tds	(ms)	*****	*****		10.88
Tdl	(ms)	*****	*****		20.45
Tdls	(ms)	*****			9.57

=====  
=====

STEP.16(UUT Test seq.16) : Extra Timing Test (P.F 50% Load) -----  
PASS

```

Vin          (V)= 230.00
Fin          (Hz)= 50.00
Delay Time   (ms)= 1500.00

```

```

Before Measurement: TTL State 1 = 0000   TTL State 2 = 0000
                   Relay State 1 = 01    Relay State 2 = 00
After Measurement:  TTL State 1 = 0000   TTL State 2 = 0000
                   Relay State 1 = 00    Relay State 2 = 00
Change State Delay: For TTL (ms) = 0     For Relay(ms) = 1000

```

```

Trigger: 1:TTL1R  2:TTL2R  3:TTL3R  4:TTL4R  5:CMPPAR  6:CMPPBR  7:SWR
          8:TTL1F  9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

```

TTL Index	Trigger Level
1	2.60
2	2.60
3	2.60
4	2.60

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	1.500	9	12	4.750	0.500
+12V3	8.000	9	12	11.400	1.200
+12V1	8.000	9	12	11.400	1.200
-12V	0.500	9	12	-10.800	-1.200
+3.3V	1.750	9	12	3.140	0.330
+5VSB	3.000	9	12	4.750	0.500
+12V4	8.000	9	12	11.400	1.200

+12V2                    8.000                    9                    12                    11.400                    1.200

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	*****	1.00	12.32
+12V3	*****	1.00	10.71
+12V1	*****	*****	10.65
-12V	*****	*****	-----
+3.3V	*****	1.00	11.31
+5VSB	*****	*****	20.72
+12V4	*****	1.00	10.71
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	12.32
0	*****	*****	10.71
0	*****	*****	10.65
0	*****	*****	-----
0	*****	*****	11.31
0	*****	*****	20.72
0	*****	*****	10.71
0	*****	*****	-----

Ref ExtTime from which Load= 0

	Max	Min	Reading
Tds (ms)	*****	*****	10.65
Td1 (ms)	*****	*****	20.72
Tdls (ms)	*****		10.08

=====  
=====

STEP.17(UUT Test seq.17) : Extra Timing Test(P.F 100% BLoad) -----

FAIL

Vin (V)= 230.00  
Fin (Hz)= 50.00  
Delay Time (ms)= 1500.00

Before Measurement: TTL State 1 = 0000    TTL State 2 = 0000  
                          Relay State 1 = 01    Relay State 2 = 00  
After Measurement:   TTL State 1 = 0000    TTL State 2 = 0000  
                          Relay State 1 = 00    Relay State 2 = 00  
Change State Delay: For TTL (ms) = 0    For Relay(ms) = 1000

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPPAR 6:CMPPBR 7:SWR  
          8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

TTL Index	Trigger Level
1	2.60
2	2.60
3	2.60
4	2.60

Load Name	Loading (A/V/Ohm)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	3.000	9	12	4.750	0.500
+12V3	19.000	9	12	11.400	1.200
+12V1	7.000	9	12	11.400	1.200
-12V	0.500	9	12	-10.800	-1.200
+3.3V	3.500	9	12	3.140	0.330
+5VSB	3.000	9	12	4.750	0.500
+12V4	19.000	9	12	11.400	1.200
+12V2	19.000	5	12	11.400	1.200

Load Name	ExtTime Max	ExtTime Min	ExtTime (ms)
+5V	*****	1.00	-----
+12V3	*****	1.00	-----
+12V1	*****	*****	-----
-12V	*****	*****	-----
+3.3V	*****	1.00	-----
+5VSB	*****	*****	-----
+12V4	*****	1.00	-----
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----

Ref Tds (ms)	ExtTime from which Load= 0 Max	ExtTime from which Load= 0 Min	Reading
Tds	*****	*****	-----

Tdl (ms) \*\*\*\*\*  
Tdls (ms) \*\*\*\*\*

STEP.18(UUT Test seq.18) : Cycle Dropout Test\_2(20% Blance load) -----  
FAIL

Vin (V)= 230.00  
Fin (Hz)= 50.00  
Delay Time (ms)= 3000.00 Drop Start Phase (ms)= 0.00  
Drop Time (ms)= 21.00 Drop Recovery Time(ms)= 100.00

Load	Loading	Vpk Max	Vpk Min	Vpk High
Vpk Low				
Name	(A/Ohm/V)	(V)	(V)	
(V)	(V)			
+5V	2.400	5.250	4.800	<4.800
+12V3	1.980	12.600	11.640	<11.640
+12V1	1.980	12.600	11.600	<11.600
-12V	0.500	-13.200	-10.800	<-10.800
+3.3V	3.630	3.470	3.140	<3.140
+5VSB	3.000	5.250	4.750	>4.750
+12V4	1.980	12.600	11.640	<11.640
+12V2	1.980	12.600	11.640	<11.640

STEP.19(UUT Test seq.19) : TTL & Relay Setup -----  
PASS

Delay Time (ms) = 1500  
TTL State 1 = 0000 TTL State 2 = 0000  
Relay State 1 = 00 Relay State 2 = 01  
TTL Change State Delay (ms) = 0  
Rley Change State Delay (ms) = 1000

STEP.20(UUT Test seq.20) : Cycle Dropout Test\_2(50% Load) -----  
PASS

Vin (V)= 230.00  
Fin (Hz)= 50.00  
Delay Time (ms)= 3000.00 Drop Start Phase (ms)= 0.00  
Drop Time (ms)= 21.00 Drop Recovery Time(ms)= 100.00

Load	Loading	Vpk Max	Vpk Min	Vpk High
Vpk Low				
Name	(A/Ohm/V)	(V)	(V)	
(V)	(V)			

+5V	1.500	5.250	4.800	<5.250	>4.800
+12V3	8.000	12.600	11.640	<12.600	>11.640
+12V1	8.000	12.600	11.600	<12.600	>11.600
-12V	0.500	-13.200	-10.800	<-13.200	>-10.800
+3.3V	1.750	3.470	3.140	<3.470	>3.140
+5VSB	3.000	5.250	4.750	<5.250	>4.750
+12V4	8.000	12.600	11.640	<12.600	>11.640
+12V2	8.000	12.600	11.640	<12.600	>11.640

=====  
STEP.21(UUT Test seq.21) : TTL & Relay Setup -----  
**PASS**  
Delay Time (ms) = 1500  
TTL State 1 = 0000            TTL State 2 = 0000  
Relay State 1 = 00            Relay State 2 = 01  
TTL Change State Delay (ms) = 0  
Rley Change State Delay (ms) = 1000

=====  
STEP.22(UUT Test seq.22) : Cycle Dropout Test\_2(100% Load) -----  
**FAIL**  
Vin (V) = 230.00  
Fin (Hz) = 50.00  
Delay Time (ms) = 3000.00      Drop Start Phase (ms) = 0.00  
Drop Time (ms) = 21.00      Drop Recovery Time(ms) = 100.00

Load	Loading	Vpk Max	Vpk Min	Vpk High
Vpk Low	(A/Ohm/V)	(V)	(V)	
Name	(V)			
+5V	3.000	5.250	4.800	<5.250 <u>&lt;4.800</u>
+12V3	19.000	12.600	11.640	<12.600 <u>&lt;11.640</u>
+12V1	7.000	12.600	11.600	<12.600 <u>&lt;11.600</u>
-12V	0.500	-13.200	-10.800	<-13.200 <u>&lt;-10.800</u>
+3.3V	3.500	3.470	3.140	<3.470 <u>&lt;3.140</u>
+5VSB	3.000	5.250	4.750	<5.250 <u>&gt;4.750</u>
+12V4	19.000	12.600	11.640	<12.600 <u>&lt;11.640</u>
+12V2	19.000	12.600	11.640	<12.600 <u>&lt;11.640</u>

=====  
STEP.23(UUT Test seq.23) : TTL & Relay Setup -----  
**PASS**  
Delay Time (ms) = 1500  
TTL State 1 = 0000            TTL State 2 = 0000

Relay State 1 = 00      Relay State 2 = 01  
 TTL Change State Delay (ms) = 0  
 Rley Change State Delay (ms) = 1000

=====  
 =====

STEP.24(UUT Test seq.24) : Hold Up & Sequence Test(Hold up time/AC OFF->4.7  
FAIL

Vin (V)= 230.00  
 Fin (Hz)= 50.00  
 Delay Time (ms)= 2000.00  
 On Phase Delay(ms)= 0.00  
 UUT Off Time (s)= 2.00

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPPAR 6:CMPPBR 7:SWR  
 8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

TTL Index	Trigger Level
1	3.50
2	3.50
3	3.50
4	1.00

Load Name	Loading (A/Ohm/V)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	2.400	8	12	4.740	5.250
+12V3	1.980	8	12	11.400	12.600
+12V1	1.980	8	12	11.400	12.600
-12V	0.500	8	12	-10.800	-13.200
+3.3V	3.630	8	12	3.130	3.460
+5VSB	3.000	8	12	4.750	5.250
+12V4	1.980	8	12	11.400	12.600
+12V2	1.980	8	12	11.400	12.600

Load Name	Tholdup Max	Tholdup Min	Tholdup (ms)
+5V	*****	21.00	-----
+12V3	*****	21.00	-----
+12V1	*****	*****	-----
-12V	*****	*****	-----
+3.3V	*****	21.00	-----
+5VSB	*****	*****	-----
+12V4	*****	21.00	-----
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----

Ref Tholdup from which Load = 0

	Max	Min	Reading
Tds (ms)	*****	*****	-----
Tdl (ms)	*****	*****	-----
Tdls (ms)	*****		-----

=====  
 =====

STEP.25(UUT Test seq.25) : Hold Up & Sequence Test(Hold up time/AC OFF->P.F  
 PASS

Vin (V)= 230.00  
 Fin (Hz)= 50.00  
 Delay Time (ms)= 2000.00  
 On Phase Delay(ms)= 0.00  
 UUT Off Time (s)= 2.00

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPar 6:CMpBR 7:SWR  
 8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMpAF 13:CMpBF 14:SWF

TTL Index	Trigger Level
1	3.50
2	3.50
3	3.50
4	1.00

Load Name	Loading (A/Ohm/V)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	2.400	8	9	4.700	5.250
+12V3	1.980	8	9	11.400	12.600
+12V1	1.980	8	9	11.400	12.600
-12V	0.500	8	9	-10.800	-13.200
+3.3V	3.630	8	9	3.000	3.460
+5VSB	3.000	8	9	4.750	5.250

+12V4	1.980	8	9	11.400	12.600
+12V2	1.980	8	9	11.400	12.600

Load Name	Tholdup Max	Tholdup Min	Tholdup (ms)
+5V	*****	21.00	192.39
+12V3	*****	21.00	192.39
+12V1	*****	*****	192.39
-12V	*****	*****	192.39
+3.3V	*****	21.00	192.39
+5VSB	*****	*****	192.39
+12V4	*****	21.00	192.39
+12V2	*****	*****	192.39

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	192.39
0	*****	*****	192.39
0	*****	*****	192.39
0	*****	*****	192.39
0	*****	*****	192.39
0	*****	*****	192.39
0	*****	*****	192.39
0	*****	*****	192.39

Ref Tholdup from which Load = 0

	Max	Min	Reading
Tds (ms)	*****	*****	192.39
Tdl (ms)	*****	*****	192.39
Tdls (ms)	*****		0.00

=====  
=====

STEP.26(UUT Test seq.26) : TTL & Relay Setup -----  
PASS

Delay Time (ms) = 1500  
 TTL State 1 = 0000                      TTL State 2 = 0000  
 Relay State 1 = 00                      Relay State 2 = 01  
 TTL Change State Delay (ms) = 0  
 Rley Change State Delay (ms) = 1000

=====  
=====

STEP.27(UUT Test seq.27) : Hold Up & Sequence Test(Hold up time/AC OFF->4.7  
PASS

Vin (V) = 230.00

Fin (Hz)= 50.00  
 Delay Time (ms)= 2000.00  
 On Phase Delay(ms)= 0.00  
 UUT Off Time (s)= 2.00

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPPAR 6:CMPPBR 7:SWR  
 8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

TTL Index	Trigger Level
1	3.50
2	3.50
3	3.50
4	1.00

Load Name	Loading (A/Ohm/V)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	1.500	8	12	4.740	5.250
+12V3	8.000	8	12	11.400	12.600
+12V1	8.000	8	12	11.400	12.600
-12V	0.500	8	12	-10.800	-13.200
+3.3V	1.750	8	12	3.130	3.460
+5VSB	3.000	8	12	4.750	5.250
+12V4	8.000	8	12	11.400	12.600
+12V2	8.000	8	12	11.400	12.600

Load Name	Tholdup Max	Tholdup Min	Tholdup (ms)
+5V	*****	21.00	64.38
+12V3	*****	21.00	51.89
+12V1	*****	*****	49.66
-12V	*****	*****	-----
+3.3V	*****	21.00	73.22
+5VSB	*****	*****	77.64
+12V4	*****	21.00	51.96
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	64.38
0	*****	*****	51.89
0	*****	*****	49.66
0	*****	*****	-----
0	*****	*****	73.22
0	*****	*****	77.64

```

0          *****  *****  51.96
0          *****  *****  -----

```

Ref Tholdup from which Load = 0

		Max	Min	Reading
Tds	(ms)	*****	*****	49.66
Tdl	(ms)	*****	*****	77.64
Tdls	(ms)	*****		27.97

=====  
=====

STEP.28(UUT Test seq.28) : Hold Up & Sequence Test(Hold up time/AC OFF->P.F  
PASS

```

Vin          (V)= 230.00
Fin          (Hz)= 50.00
Delay Time   (ms)= 2000.00
On Phase Delay(ms)= 0.00
UUT Off Time (s)= 2.00

```

```

Trigger: 1:TTL1R  2:TTL2R  3:TTL3R  4:TTL4R  5:CMPPAR  6:CMPPBR  7:SWR
          8:TTL1F  9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

```

TTL Index	Trigger Level
1	3.50
2	3.50
3	3.50
4	1.00

Load Name	Loading (A/Ohm/V)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	1.500	8	9	4.700	5.250
+12V3	8.000	8	9	11.400	12.600
+12V1	8.000	8	9	11.400	12.600
-12V	0.500	8	9	-10.800	-13.200
+3.3V	1.750	8	9	3.000	3.460
+5VSB	3.000	8	9	4.750	5.250
+12V4	8.000	8	9	11.400	12.600
+12V2	8.000	8	9	11.400	12.600

Load Name	Tholdup Max	Tholdup Min	Tholdup (ms)
+5V	*****	21.00	69.41
+12V3	*****	21.00	69.41
+12V1	*****	*****	69.40

```

-12V          *****  *****  69.41
+3.3V         *****  21.00    69.40
+5VSB         *****  *****  69.41
+12V4         *****  21.00    69.40
+12V2         *****  *****  69.40

```

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	69.41
0	*****	*****	69.41
0	*****	*****	69.40
0	*****	*****	69.41
0	*****	*****	69.40
0	*****	*****	69.41
0	*****	*****	69.40
0	*****	*****	69.40

```

Ref Tholdup from which Load = 0

```

	Max	Min	Reading
Tds (ms)	*****	*****	69.40
Tdl (ms)	*****	*****	69.41
Tdls (ms)	*****		0.00

=====  
=====

```

STEP.29(UUT Test seq.29) : TTL & Relay Setup -----
PASS
Delay Time (ms) = 1500
TTL State 1 = 0000      TTL State 2 = 0000
Relay State 1 = 00      Relay State 2 = 01
TTL Change State Delay (ms) = 0
Rley Change State Delay (ms) = 1000

```

=====  
=====

```

STEP.30(UUT Test seq.30) : Hold Up & Sequence Test(Hold up time/AC OFF->4.7
FAIL
Vin (V) = 230.00
Fin (Hz) = 50.00
Delay Time (ms) = 2000.00
On Phase Delay(ms) = 0.00
UUT Off Time (s) = 2.00

```

```

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPPAR 6:CMPPBR 7:SWR
          8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

```

TTL Trigger

Index	Level
1	3.50
2	3.50
3	3.50
4	1.00

Load Name	Loading (A/Ohm/V)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	3.000	8	12	4.740	5.250
+12V3	19.000	8	12	11.400	12.600
+12V1	7.000	8	12	11.400	12.600
-12V	0.500	8	12	-10.800	-13.200
+3.3V	3.500	8	12	3.130	3.460
+5VSB	3.000	8	12	4.750	5.250
+12V4	19.000	8	12	11.400	12.600
+12V2	19.000	8	12	11.400	12.600

Load Name	Tholdup Max	Tholdup Min	Tholdup (ms)
+5V	*****	21.00	-----
+12V3	*****	21.00	-----
+12V1	*****	*****	-----
-12V	*****	*****	-----
+3.3V	*****	21.00	-----
+5VSB	*****	*****	-----
+12V4	*****	21.00	-----
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----
0	*****	*****	-----

Ref Tholdup from which Load = 0

	Max	Min	Reading
Tds (ms)	*****	*****	-----
Tdl (ms)	*****	*****	-----
Tdls (ms)	*****	*****	-----

=====  
 STEP.31(UUT Test seq.31) : Hold Up & Sequence Test(Hold up time/AC OFF->P.F  
FAIL

Vin (V)= 230.00  
 Fin (Hz)= 50.00  
 Delay Time (ms)= 2000.00  
 On Phase Delay(ms)= 0.00  
 UUT Off Time (s)= 2.00

Trigger: 1:TTL1R 2:TTL2R 3:TTL3R 4:TTL4R 5:CMPPAR 6:CMPPBR 7:SWR  
 8:TTL1F 9:TTL2F 10:TTL3F 11:TTL4F 12:CMPPAF 13:CMPPBF 14:SWF

TTL Index	Trigger Level
1	3.50
2	3.50
3	3.50
4	1.00

Load Name	Loading (A/Ohm/V)	Start Trigger	End Trigger	VcmpA (V)	VcmpB (V)
+5V	3.000	8	9	4.700	5.250
+12V3	19.000	8	9	11.400	12.600
+12V1	7.000	8	9	11.400	12.600
-12V	0.500	8	9	-10.800	-13.200
+3.3V	3.500	8	9	3.000	3.460
+5VSB	3.000	8	9	4.750	5.250
+12V4	19.000	8	9	11.400	12.600
+12V2	19.000	8	9	11.400	12.600

Load Name	Tholdup Max	Tholdup Min	Tholdup (ms)
+5V	*****	21.00	-----
+12V3	*****	21.00	-----
+12V1	*****	*****	-----
-12V	*****	*****	-----
+3.3V	*****	21.00	-----
+5VSB	*****	*****	-----
+12V4	*****	21.00	-----
+12V2	*****	*****	-----

Ref Load No.	Td Max	Td Min	Td (ms)

```

0          *****  *****  -----
0          *****  *****  -----
0          *****  *****  -----
0          *****  *****  -----
0          *****  *****  -----
0          *****  *****  -----
0          *****  *****  -----
0          *****  *****  -----
0          *****  *****  -----

```

Ref Tholdup from which Load = 0

		Max	Min	Reading
Tds	(ms)	*****	*****	-----
Tdl	(ms)	*****	*****	-----
Tdls	(ms)	*****		-----

=====  
=====

STEP.32(UUT Test seq.32) : TTL & Relay Setup -----

PASS

```

Delay Time (ms) = 1500
TTL State 1    = 0000      TTL State 2    = 0000
Relay State 1  = 00       Relay State 2  = 01
TTL Change State Delay (ms) = 0
Rley Change State Delay (ms) = 1000

```

=====  
=====

STEP.33(UUT Test seq.33) : INPUTO/OUTPUT(Vpp) (Min load) ---- (5'117) -----

FAIL

```

Vin          (V)= 230.00
Fin          (Hz)= 50.00
Delay Time   (ms)= 2000.00

```

Load Name	Loading (A/Ohm/V)
+5V	2.000
+12V3	1.000
+12V1	1.000
-12V	0.500
+3.3V	0.500
+5VSB	2.000
+12V4	1.000
+12V2	1.000

		Max	Min	Reading
Vinrms	(V)	*****	*****	230.53

Iinrms	(A)	4.00	*****	0.62
Iinpk+	(A)	*****	*****	0.96
Iinpk-	(A)	*****	*****	0.96
Pin	(W)	*****	*****	120.66
Pout	(W)	*****	*****	77.21
PF	(0~1)	*****	*****	0.8460
Eff	(%)	*****	*****	63.99

Load Name	Vout Max	Vout Min	Vout (V)	Iout Max	Iout Min	Iout (A)
+5V	5.250	4.800	5.210	*****	*****	1.989
+12V3	12.600	11.640	12.347	*****	*****	1.003
+12V1	12.600	11.600	12.318	*****	*****	1.001
-12V	-13.200	-10.800	-12.010	*****	*****	0.499
+3.3V	3.470	3.140	3.408	*****	*****	0.493
+5VSB	5.250	4.750	4.985	*****	*****	1.981
+12V4	12.600	11.640	12.333	*****	*****	0.984
+12V2	12.600	11.640	12.350	*****	*****	1.007

LOAD NAME	Vpp Max	Vpp Min
+5V	0.050	0.031
+12V3	0.120	0.046
+12V1	0.120	0.037
-12V	0.120	0.036
+3.3V	0.050	0.042
+5VSB	0.050	0.125
+12V4	0.120	0.045
+12V2	0.120	0.012

=====  
=====

STEP.34(UUT Test seq.34) : INPUTO/OUTPUT(Vpp) (20% Blance load) ---- (4'917)

FAIL

Vin (V)= 230.00  
Fin (Hz)= 50.00  
Delay Time (ms)= 2000.00

Load Name	Loading (A/Ohm/V)
+5V	2.400
+12V3	1.980
+12V1	1.980
-12V	0.500
+3.3V	3.630
+5VSB	3.000
+12V4	1.980

+12V2 1.980

		Max	Min	Reading
Vinrms	(V)	*****	*****	230.47
Iinrms	(A)	4.00	*****	0.93
Iinpk+	(A)	*****	*****	1.29
Iinpk-	(A)	*****	*****	1.29
Pin	(W)	*****	*****	197.08
Pout	(W)	*****	*****	143.03
PF	(0~1)	*****	*****	0.9170
Eff	(%)	*****	*****	72.58

Load Name	Vout Max	Vout Min	Vout (V)	Iout Max	Iout Min	Iout (A)
+5V	5.250	4.800	5.207	*****	*****	2.394
+12V3	12.600	11.640	12.335	*****	*****	1.978
+12V1	12.600	11.600	12.280	*****	*****	1.976
-12V	-13.200	-10.800	-12.085	*****	*****	0.499
+3.3V	3.470	3.140	3.405	*****	*****	3.628
+5VSB	5.250	4.750	4.935	*****	*****	2.984
+12V4	12.600	11.640	12.310	*****	*****	1.976
+12V2	12.600	11.640	12.340	*****	*****	1.982

LOAD NAME	Vpp Max	Vpp Min
+5V	0.050	0.033
+12V3	0.120	0.048
+12V1	0.120	0.040
-12V	0.120	0.039
+3.3V	0.050	0.045
+5VSB	0.050	0.139
+12V4	0.120	0.047
+12V2	0.120	0.012

=====  
STEP.35(UUT Test seq.35) : INPUT/OUTPUT (Vpp) (50% Load) ---- (5'027) -----

FAIL

Vin (V)= 230.00  
Fin (Hz)= 50.00  
Delay Time (ms)= 2000.00

Load Name	Loading (A/Ohm/V)
+5V	1.500
+12V3	8.000

```

+12V1      8.000
-12V       0.500
+3.3V      1.750
+5VSB      3.000
+12V4      8.000
+12V2      8.000

```

		Max	Min	Reading
Vinrms	(V)	*****	*****	230.21
Iinrms	(A)	4.00	*****	2.32
Iinpk+	(A)	*****	*****	3.39
Iinpk-	(A)	*****	*****	3.39
Pin	(W)	*****	*****	525.20
Pout	(W)	*****	*****	424.73
PF	(0~1)	*****	*****	0.9830
Eff	(%)	*****	*****	80.87

Load Name	Vout Max	Vout Min	Vout (V)	Iout Max	Iout Min	Iout (A)
+5V	5.250	4.800	5.205	*****	*****	1.494
+12V3	12.600	11.640	12.273	*****	*****	7.995
+12V1	12.600	11.600	12.065	*****	*****	7.991
-12V	-13.200	-10.800	-12.315	*****	*****	0.499
+3.3V	3.470	3.140	3.398	*****	*****	1.753
+5VSB	5.250	4.750	4.910	*****	*****	2.984
+12V4	12.600	11.640	12.167	*****	*****	8.010
+12V2	12.600	11.640	12.280	*****	*****	7.997

LOAD NAME	Vpp Max	Vpp Min
+5V	0.050	0.037
+12V3	0.120	0.065
+12V1	0.120	0.055
-12V	0.120	0.043
+3.3V	0.050	0.066
+5VSB	0.050	0.151
+12V4	0.120	0.065
+12V2	0.120	0.017

STEP.36(UUT Test seq.36) : INPUTO/OUTPUT(Vpp)(100% Load) ---- (4'907) ----

FAIL

```

Vin      (V)= 230.00
Fin      (Hz)= 50.00
Delay Time (ms)= 2000.00

```

Load Name	Loading (A/Ohm/V)
+5V	3.000
+12V3	19.000
+12V1	7.000
-12V	0.500
+3.3V	3.500
+5VSB	3.000
+12V4	19.000
+12V2	19.000

		Max	Min	Reading
Vinrms (V)	*****	*****	*****	230.60
Iinrms (A)	4.00	*****	*****	0.23
Iinpk+ (A)	*****	*****	*****	1.11
Iinpk- (A)	*****	*****	*****	1.04
Pin (W)	*****	*****	*****	21.29
Pout (W)	*****	*****	*****	14.76
PF (0~1)	*****	*****	*****	0.3920
Eff (%)	*****	*****	*****	69.31

Load Name	Vout Max	Vout Min	Vout (V)	Iout Max	Iout Min	Iout (A)
+5V	5.250	4.800	<u>0.000</u>	*****	*****	0.000
+12V3	12.600	11.640	<u>0.050</u>	*****	*****	0.002
+12V1	12.600	11.600	<u>0.047</u>	*****	*****	0.000
-12V	-13.200	-10.800	<u>-0.065</u>	*****	*****	0.000
+3.3V	3.470	3.140	<u>0.010</u>	*****	*****	0.002
+5VSB	5.250	4.750	<u>4.948</u>	*****	*****	2.983
+12V4	12.600	11.640	<u>0.050</u>	*****	*****	0.002
+12V2	12.600	11.640	<u>0.055</u>	*****	*****	0.006

LOAD NAME	Vpp Max	Vpp Min
+5V	0.050	0.021
+12V3	0.120	0.013
+12V1	0.120	0.009
-12V	0.120	0.040
+3.3V	0.050	0.026
+5VSB	0.050	<u>0.152</u>
+12V4	0.120	0.011
+12V2	0.120	0.008

=====  
STEP.37(UUT Test seq.37) : TTL & Relay Setup -----

PASS

```

Delay Time (ms) = 1500
TTL State 1     = 0000      TTL State 2     = 0000
Relay State 1   = 00       Relay State 2   = 01
TTL Change State Delay (ms) = 0
Rley Change State Delay (ms) = 1000

```

=====  
STEP.38(UUT Test seq.38) : Overshoot Voltage Test\_2(A2/C) -----

PASS

```

Vin          (V)= 230.00
Fin          (Hz)= 50.00
On Phase Delay(ms)= 3.97
UUT Off Time (s)= 1.00

```

Load Name	Loading (A/Ohm/V)	Vout Max	Vout Min	Vout (V)	Vpk Max	Vpk (V)
+5V	2.000	5.500	*****	0.000	5.500	<5.500
+12V3	1.000	13.200	*****	0.005	13.200	<13.200
+12V1	1.000	13.200	*****	0.000	*****	0.000
-12V	0.500	-13.200	*****	-0.023	-13.200	<-13.200
+3.3V	0.500	3.630	*****	0.000	3.630	<3.630
+5VSB	2.000	5.500	*****	4.990	5.500	<5.500
+12V4	1.000	13.200	*****	0.005	13.200	<13.200
+12V2	1.000	13.200	*****	0.010	*****	0.000

=====  
STEP.39(UUT Test seq.39) : TTL & Relay Setup(A/No Load) -----

PASS

```

Delay Time (ms) = 1500
TTL State 1     = 0000      TTL State 2     = 0000
Relay State 1   = 00       Relay State 2   = 01
TTL Change State Delay (ms) = 0
Rley Change State Delay (ms) = 1000

```

=====  
STEP.40(UUT Test seq.40) : INPUTO/OUTPUT(Vpp) (A/No Load) ---- (5'038) -----

PASS

```

Vin          (V)= 230.00
Fin          (Hz)= 50.00
Delay Time   (ms)= 2000.00

```

Load Name	Loading (A/Ohm/V)
-----	-----

```

+5V          0.000
+12V3       0.000
+12V1       0.000
-12V        0.000
+3.3V       0.000
+5VSB       0.000
+12V4       0.000
+12V2       0.000

```

		Max	Min	Reading
Vinrms	(V)	*****	*****	230.61
Iinrms	(A)	*****	*****	0.22
Iinpk+	(A)	*****	*****	0.95
Iinpk-	(A)	*****	*****	0.93
Pin	(W)	*****	*****	21.27
Pout	(W)	*****	*****	0.18
PF	(0~1)	*****	*****	0.4090
Eff	(%)	*****	*****	0.85

Load Name	Vout Max	Vout Min	Vout (V)	Iout Max	Iout Min	Iout (A)
+5V	5.500	4.500	5.215	*****	*****	0.000
+12V3	13.200	10.800	12.365	*****	*****	0.002
+12V1	13.200	10.800	12.365	*****	*****	0.000
-12V	-13.200	-10.800	-12.295	*****	*****	0.000
+3.3V	3.630	2.970	3.430	*****	*****	0.002
+5VSB	5.500	4.500	5.070	*****	*****	0.002
+12V4	13.200	10.800	12.370	*****	*****	0.004
+12V2	13.200	10.800	12.368	*****	*****	0.007

LOAD NAME	Vpp Max	Vpp Min
+5V	*****	0.012
+12V3	*****	0.049
+12V1	*****	0.043
-12V	*****	0.012
+3.3V	*****	0.024
+5VSB	*****	0.060
+12V4	*****	0.049
+12V2	*****	0.010

```

=====
=====

```

STEP.41(UUT Test seq.41) : TTL & Relay Setup -----

PASS

Delay Time (ms) = 1500

TTL State 1 = 0000

TTL State 2 = 0000

Relay State 1 = 00      Relay State 2 = 01  
 TTL Change State Delay (ms) = 0  
 Rley Change State Delay (ms) = 1000

=====  
 =====

STEP.42(UUT Test seq.42) : Voltage Regulation Test(20% Balance Load) -----  
 PASS

Vin-1            (V)= 264.00            Fin-1            (Hz)= 50.00  
 Vin-2            (V)= 180.00            Fin-2            (Hz)= 50.00  
 Delay Time      (ms)= 3000.00

Load Name	Loading-1 (A/Ohm/V)	Loading-2 (A/Ohm/V)
+5V	2.400	2.400
+12V3	1.980	1.980
+12V1	1.980	1.980
-12V	0.500	0.500
+3.3V	3.630	3.630
+5VSB	3.000	3.000
+12V4	1.980	1.980
+12V2	1.980	1.980

Load Name	Vout-1 Max	Vout-1 Min	Vout-1 (V)	Vout-2 Max	Vout-2 Min	Vout-2 (V)
+5V	5.250	4.800	5.205	5.250	4.800	5.205
+12V3	12.600	11.640	12.340	12.600	11.640	12.337
+12V1	12.600	11.600	12.278	12.600	11.600	12.285
-12V	-13.200	-10.800	-12.090	-13.200	-10.800	-12.085
+3.3V	3.470	3.140	3.405	3.470	3.140	3.405
+5VSB	5.250	4.750	4.935	5.250	4.750	4.932
+12V4	12.600	11.640	12.305	12.600	11.640	12.318
+12V2	12.600	11.640	12.347	12.600	11.640	12.340

Load Name	dVout Max	dVout Min	dVout (V)
+5V	*****	*****	0.000
+12V3	*****	*****	-0.003
+12V1	*****	*****	0.007
-12V	*****	*****	-0.005
+3.3V	*****	*****	0.000
+5VSB	*****	*****	-0.002
+12V4	*****	*****	0.013
+12V2	*****	*****	-0.007

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STEP.43(UUT Test seq.43) : Voltage Regulation Test(20% Balance Load) -----

PASS

Vin-1 (V)= 264.00 Fin-1 (Hz)= 50.00  
 Vin-2 (V)= 230.00 Fin-2 (Hz)= 50.00  
 Delay Time (ms)= 3000.00

Load Name	Loading-1 (A/Ohm/V)	Loading-2 (A/Ohm/V)
+5V	2.000	2.000
+12V3	1.000	1.000
+12V1	1.000	1.000
-12V	0.500	0.500
+3.3V	0.500	0.500
+5VSB	2.000	2.000
+12V4	1.000	1.000
+12V2	1.000	1.000

Load Name	Vout-1 Max	Vout-1 Min	Vout-1 (V)	Vout-2 Max	Vout-2 Min	Vout-2 (V)
+5V	5.250	4.800	5.207	5.250	4.800	5.207
+12V3	12.600	11.640	12.355	12.600	11.640	12.347
+12V1	12.600	11.600	12.320	12.600	11.600	12.320
-12V	-13.200	-10.800	-12.023	-13.200	-10.800	-12.020
+3.3V	3.470	3.140	3.408	3.470	3.140	3.408
+5VSB	5.250	4.750	4.985	5.250	4.750	4.985
+12V4	12.600	11.640	12.335	12.600	11.640	12.337
+12V2	12.600	11.640	12.358	12.600	11.640	12.350

Load Name	dVout Max	dVout Min	dVout (V)
+5V	*****	*****	0.000
+12V3	*****	*****	-0.007
+12V1	*****	*****	0.000
-12V	*****	*****	-0.002
+3.3V	*****	*****	0.000
+5VSB	*****	*****	0.000
+12V4	*****	*****	0.002
+12V2	*****	*****	-0.007

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STEP.44(UUT Test seq.44) : TTL & Relay Setup -----

PASS

Delay Time (ms) = 1500  
 TTL State 1 = 0000 TTL State 2 = 0000

Relay State 1 = 00      Relay State 2 = 01  
 TTL Change State Delay (ms) = 0  
 Rley Change State Delay (ms) = 1000

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STEP.45(UUT Test seq.45) : Voltage Regulation Test(50% Load) -----  
 PASS

Vin-1 (V)= 264.00      Fin-1 (Hz)= 50.00  
 Vin-2 (V)= 180.00      Fin-2 (Hz)= 50.00  
 Delay Time (ms)= 3000.00

Load Name	Loading-1 (A/Ohm/V)	Loading-2 (A/Ohm/V)
+5V	1.500	1.500
+12V3	8.000	8.000
+12V1	8.000	8.000
-12V	0.500	0.500
+3.3V	1.750	1.750
+5VSB	3.000	3.000
+12V4	8.000	8.000
+12V2	8.000	8.000

Load Name	Vout-1 Max	Vout-1 Min	Vout-1 (V)	Vout-2 Max	Vout-2 Min	Vout-2 (V)
+5V	5.250	4.800	5.202	5.250	4.800	5.205
+12V3	12.600	11.640	12.283	12.600	11.640	12.280
+12V1	12.600	11.600	12.078	12.600	11.600	12.083
-12V	-13.200	-10.800	-12.330	-13.200	-10.800	-12.318
+3.3V	3.470	3.140	3.400	3.470	3.140	3.400
+5VSB	5.250	4.750	4.910	5.250	4.750	4.910
+12V4	12.600	11.640	12.185	12.600	11.640	12.190
+12V2	12.600	11.640	12.288	12.600	11.640	12.290

Load Name	dVout Max	dVout Min	dVout (V)
+5V	*****	*****	0.002
+12V3	*****	*****	-0.003
+12V1	*****	*****	0.005
-12V	*****	*****	-0.013
+3.3V	*****	*****	0.000
+5VSB	*****	*****	0.000
+12V4	*****	*****	0.005
+12V2	*****	*****	0.002

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STEP.46(UUT Test seq.46) : Voltage Regulation Test (50% Load) -----

**FAIL**

Vin-1	(V)=	264.00	Fin-1	(Hz)=	50.00
Vin-2	(V)=	230.00	Fin-2	(Hz)=	50.00
Delay Time	(ms)=	500.00			

Load Name	Loading-1 (A/Ohm/V)	Loading-2 (A/Ohm/V)
+5V	3.000	3.000
+12V3	19.000	19.000
+12V1	7.000	7.000
-12V	0.500	0.500
+3.3V	3.500	3.500
+5VSB	3.000	3.000
+12V4	19.000	19.000
+12V2	19.000	19.000

Load Name	Vout-1 Max	Vout-1 Min	Vout-1 (V)	Vout-2 Max	Vout-2 Min	Vout-2 (V)
+5V	5.250	4.800	<u>0.000</u>	5.250	4.800	<u>0.000</u>
+12V3	12.600	11.640	<u>0.452</u>	12.600	11.640	<u>0.188</u>
+12V1	12.600	11.600	<u>0.458</u>	12.600	11.600	<u>0.172</u>
-12V	-13.200	-10.800	<u>-0.357</u>	-13.200	-10.800	<u>-0.160</u>
+3.3V	3.470	3.140	<u>0.188</u>	3.470	3.140	<u>0.055</u>
+5VSB	5.250	4.750	<u>4.948</u>	5.250	4.750	<u>4.950</u>
+12V4	12.600	11.640	<u>0.430</u>	12.600	11.640	<u>0.168</u>
+12V2	12.600	11.640	<u>0.435</u>	12.600	11.640	<u>0.185</u>

Load Name	dVout Max	dVout Min	dVout (V)
+5V	*****	*****	0.000
+12V3	*****	*****	-0.265
+12V1	*****	*****	-0.285
-12V	*****	*****	-0.198
+3.3V	*****	*****	-0.132
+5VSB	*****	*****	0.002
+12V4	*****	*****	-0.262
+12V2	*****	*****	-0.250

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STEP.47(UUT Test seq.47) : TTL & Relay Setup -----

**PASS**

Delay Time (ms)	=	1500			
TTL State 1	=	0000	TTL State 2	=	0000

Relay State 1 = 00      Relay State 2 = 01  
 TTL Change State Delay (ms) = 0  
 Rley Change State Delay (ms) = 1000

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STEP.48(UUT Test seq.48) : Voltage Regulation Test(100% Load) -----

FAIL

Vin-1 (V)= 264.00      Fin-1 (Hz)= 50.00  
 Vin-2 (V)= 180.00      Fin-2 (Hz)= 50.00  
 Delay Time (ms)= 3000.00

Load Name	Loading-1 (A/Ohm/V)	Loading-2 (A/Ohm/V)
+5V	3.000	3.000
+12V3	19.000	19.000
+12V1	7.000	7.000
-12V	0.500	0.500
+3.3V	3.500	3.500
+5VSB	3.000	3.000
+12V4	19.000	19.000
+12V2	19.000	19.000

Load Name	Vout-1 Max	Vout-1 Min	Vout-1 (V)	Vout-2 Max	Vout-2 Min	Vout-2 (V)
+5V	5.250	4.800	<u>0.000</u>	5.250	4.800	<u>0.000</u>
+12V3	12.600	11.640	<u>0.007</u>	12.600	11.640	<u>0.005</u>
+12V1	12.600	11.600	<u>0.002</u>	12.600	11.600	<u>0.000</u>
-12V	-13.200	-10.800	<u>-0.035</u>	-13.200	-10.800	<u>-0.030</u>
+3.3V	3.470	3.140	<u>0.000</u>	3.470	3.140	<u>0.000</u>
+5VSB	5.250	4.750	<u>4.950</u>	5.250	4.750	<u>4.948</u>
+12V4	12.600	11.640	<u>0.007</u>	12.600	11.640	<u>0.005</u>
+12V2	12.600	11.640	<u>0.013</u>	12.600	11.640	<u>0.010</u>

Load Name	dVout Max	dVout Min	dVout (V)
+5V	*****	*****	0.000
+12V3	*****	*****	-0.002
+12V1	*****	*****	-0.002
-12V	*****	*****	-0.005
+3.3V	*****	*****	0.000
+5VSB	*****	*****	-0.002
+12V4	*****	*****	-0.002
+12V2	*****	*****	-0.002

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STEP.49(UUT Test seq.49) : Voltage Regulation Test(100% Load) -----

**FAIL**

Vin-1 (V)= 264.00 Fin-1 (Hz)= 50.00  
 Vin-2 (V)= 230.00 Fin-2 (Hz)= 50.00  
 Delay Time (ms)= 3000.00

Load Name	Loading-1 (A/Ohm/V)	Loading-2 (A/Ohm/V)
+5V	3.000	3.000
+12V3	19.000	19.000
+12V1	7.000	7.000
-12V	0.500	0.500
+3.3V	3.500	3.500
+5VSB	3.000	3.000
+12V4	19.000	19.000
+12V2	19.000	19.000

Load Name	Vout-1 Max	Vout-1 Min	Vout-1 (V)	Vout-2 Max	Vout-2 Min	Vout-2 (V)
+5V	5.250	4.800	<u>0.000</u>	5.250	4.800	<u>0.000</u>
+12V3	12.600	11.640	<u>0.005</u>	12.600	11.640	<u>0.002</u>
+12V1	12.600	11.600	<u>0.000</u>	12.600	11.600	<u>0.000</u>
-12V	-13.200	-10.800	<u>-0.030</u>	-13.200	-10.800	<u>-0.030</u>
+3.3V	3.470	3.140	<u>0.000</u>	3.470	3.140	<u>0.000</u>
+5VSB	5.250	4.750	<u>4.948</u>	5.250	4.750	<u>4.945</u>
+12V4	12.600	11.640	<u>0.002</u>	12.600	11.640	<u>0.002</u>
+12V2	12.600	11.640	<u>0.007</u>	12.600	11.640	<u>0.005</u>

Load Name	dVout Max	dVout Min	dVout (V)
+5V	*****	*****	0.000
+12V3	*****	*****	-0.002
+12V1	*****	*****	0.000
-12V	*****	*****	0.000
+3.3V	*****	*****	0.000
+5VSB	*****	*****	-0.002
+12V4	*****	*****	0.000
+12V2	*****	*****	-0.002

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STEP.50(UUT Test seq.50) : TTL & Relay Setup -----

**PASS**

Delay Time (ms) = 1500  
 TTL State 1 = 0000 TTL State 2 = 0000

Relay State 1 = 00      Relay State 2 = 00  
 TTL Change State Delay (ms) = 0  
 Rley Change State Delay (ms) = 1000

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STEP.51(UUT Test seq.51) : INPUTO/OUTPUT(Vpp) (5VS 0.1A) ---- (4'907) -----  
FAIL

Vin (V) = 230.00  
 Fin (Hz) = 50.00  
 Delay Time (ms) = 2000.00

Load Name	Loading (A/Ohm/V)
+5V	0.000
+12V3	0.000
+12V1	0.000
-12V	0.000
+3.3V	0.000
+5VSB	0.100
+12V4	0.000
+12V2	0.000

		Max	Min	Reading
Vinrms (V)	*****	*****	*****	230.62
Iinrms (A)	*****	*****	*****	0.05
Iinpk+ (A)	*****	*****	*****	0.14
Iinpk- (A)	*****	*****	*****	0.11
Pin (W)	*****	*****	*****	1.68
Pout (W)	*****	*****	*****	0.44
PF (0~1)	*****	*****	*****	0.1330
Eff (%)	*****	*****	50.00	<u>26.34</u>

Load Name	Vout Max	Vout Min	Vout (V)	Iout Max	Iout Min	Iout (A)
+5V	3.500	*****	0.000	*****	*****	0.000
+12V3	9.000	*****	0.005	*****	*****	0.000
+12V1	9.000	*****	0.000	*****	*****	0.000
-12V	-9.000	*****	-0.002	*****	*****	0.000
+3.3V	2.000	*****	0.000	*****	*****	0.002
+5VSB	5.250	4.750	5.065	*****	*****	0.087
+12V4	9.000	*****	0.005	*****	*****	0.002
+12V2	9.000	*****	0.010	*****	*****	0.006

LOAD NAME      Vpp Max      Vpp Min

+5V	0.050	0.009
+12V3	0.120	0.008
+12V1	0.120	0.005
-12V	0.120	0.014
+3.3V	0.050	0.011
+5VSB	0.050	<u>0.068</u>
+12V4	0.120	0.007
+12V2	0.120	0.007

STEP.52(UUT Test seq.52) : INPUTO/OUTPUT(Vpp) (5VS 0.5A) ---- (5'018) -----  
FAIL

Vin (V)= 230.00  
 Fin (Hz)= 50.00  
 Delay Time (ms)= 2000.00

Load Name	Loading (A/Ohm/V)
+5V	0.000
+12V3	0.000
+12V1	0.000
-12V	0.000
+3.3V	0.000
+5VSB	0.500
+12V4	0.000
+12V2	0.000

		Max	Min	Reading
Vinrms (V)	*****	*****	*****	230.62
Iinrms (A)	*****	*****	*****	0.08
Iinpk+ (A)	*****	*****	*****	0.34
Iinpk- (A)	*****	*****	*****	0.30
Pin (W)	*****	*****	*****	4.41
Pout (W)	*****	*****	*****	2.44
PF (0~1)	*****	*****	*****	0.2560
Eff (%)	*****	50.00	*****	55.40

Load Name	Vout Max	Vout Min	Vout (V)	Iout Max	Iout Min	Iout (A)
+5V	3.500	*****	0.000	*****	*****	0.000
+12V3	9.000	*****	0.002	*****	*****	0.000
+12V1	9.000	*****	0.000	*****	*****	0.000
-12V	-9.000	*****	-0.007	*****	*****	0.000
+3.3V	2.000	*****	0.000	*****	*****	0.002
+5VSB	5.250	4.750	5.050	*****	*****	0.484

+12V4	9.000	*****	0.005	*****	*****	0.002
+12V2	9.000	*****	0.007	*****	*****	0.006

LOAD NAME	Vpp Max	Vpp Min
+5V	0.050	0.010
+12V3	0.120	0.009
+12V1	0.120	0.005
-12V	0.120	0.016
+3.3V	0.050	0.012
+5VSB	0.050	<u>0.071</u>
+12V4	0.120	0.007
+12V2	0.120	0.007

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 STEP.53(UUT Test seq.53) : INPUT/OUTPUT (Vpp) (5VS 3.0A) ---- (5'067) ----

FAIL

Vin (V) = 230.00  
 Fin (Hz) = 50.00  
 Delay Time (ms) = 2000.00

Load Name	Loading (A/Ohm/V)
+5V	0.000
+12V3	0.000
+12V1	0.000
-12V	0.000
+3.3V	0.000
+5VSB	3.000
+12V4	0.000
+12V2	0.000

		Max	Min	Reading
Vinrms (V)	*****	*****		230.60
Iinrms (A)	*****	*****		0.23
Iinpk+ (A)	*****	*****		1.06
Iinpk- (A)	*****	*****		1.01
Pin (W)	*****	*****		21.33
Pout (W)	*****	*****		14.75
PF (0~1)	*****	*****		0.3980
Eff (%)	*****	50.00		69.18

Load Name	Vout Max	Vout Min	Vout (V)	Iout Max	Iout Min	Iout (A)
+5V	3.500	*****	0.000	*****	*****	0.000

+12V3	9.000	*****	0.000	*****	*****	0.000
+12V1	9.000	*****	0.000	*****	*****	0.000
-12V	-9.000	*****	-0.027	*****	*****	0.000
+3.3V	2.000	*****	0.000	*****	*****	0.002
+5VSB	5.250	4.750	4.945	*****	*****	2.984
+12V4	9.000	*****	0.000	*****	*****	0.002
+12V2	9.000	*****	0.005	*****	*****	0.006

LOAD NAME	Vpp Max	Vpp Min
-----		
+5V	0.050	0.019
+12V3	0.120	0.012
+12V1	0.120	0.007
-12V	0.120	0.040
+3.3V	0.050	0.022
+5VSB	0.050	<u>0.149</u>
+12V4	0.120	0.009
+12V2	0.120	0.006
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=====		