CUS150M1

TEST DATA

IEC61000 SERIES

TDK-LAMBDA

CA848-58-01

INDEX

PAGE

1. Electrostatic Discharge Immunity Test (IEC61000-4-2) ····· R-1

2. Radiated Radio-Frequency Electromagnetic Field Immunity Test (IEC61000-4-3) ···· R-2

3.Electrical Fast Transient / Burst Immunity Test (IEC61000-4-4) ····· R-3

4. Surge Immunity Test (IEC61000-4-5) ····· R-4

5.Conducted Disturbances Induced by Radio-Frequency Field Immunity Test (IEC61000-4-6) ····· R-5

6. Power Frequency Magnetic Field Immunity Test (IEC61000-4-8) ····· R-6

7. Voltage Dips, Short Interruptions Immunity Test (IEC61000-4-11) ····· R-7

Terminology used

FG ····· Frame GND

※ Test results are reference data based on our standard measurement condition.

1. Electrostatic Discharge Immunity Test (IEC61000-4-2)

MODEL : CUS150M1

(1) Equipment Used

Electro Static Discharge Simulator : NSG435 (SCHFFNER)

Discharge Resistance : 330Ω Capacity : 150pF

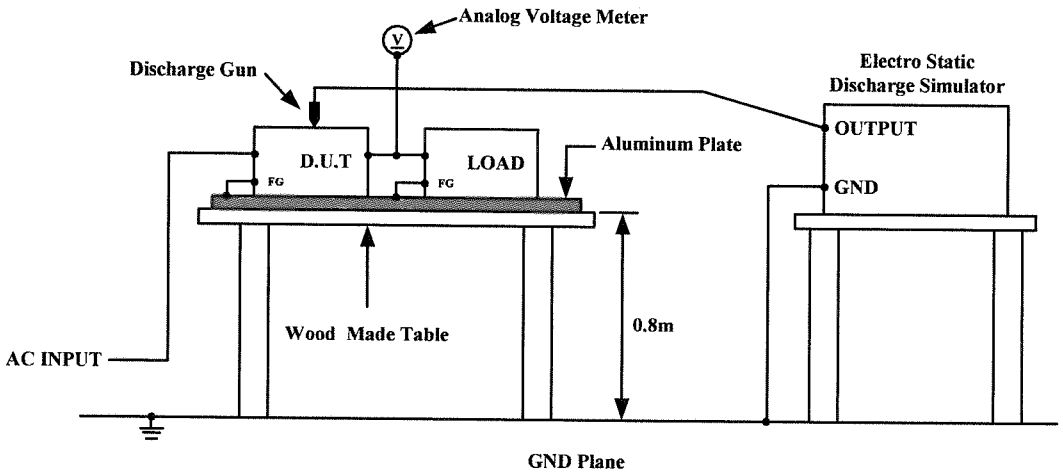
(2) Test Conditions

・Input Voltage	: 115, 230VAC	・Output Voltage	: Rated
・Output Current	: 100%	・Polarity	: +, −
・Test Times	: 10 times	・Discharge Interval	: > 1 second
・Ambient Temperature	: 25℃		

(3) Test Method and Device Test Point

Contact Discharge : ⏚ 、Mounting screw

Air Discharge : ⏚ , Input and output terminal, Mounting screw



(4) Acceptable Conditions

1. Output voltage regulation not to exceed ±5% of initial (before test) value during test.

2. Output voltage to be within regulation specification after the test.

3. Along with 1 and 2, without the occurrence of smoke and fire, as well as no output failure.

(5) Test Result

Contact Discharge (kV)	CUS150M1-12/18/24/36/48	Air Discharge(kV)	CUS150M1-12/18/24/36/48
2	PASS	2	PASS
4	PASS	4	PASS
		8	PASS

2. Radiated Radio-Frequency Electromagnetic Field Immunity Test (IEC61000-4-3)

MODEL : CUS150M1

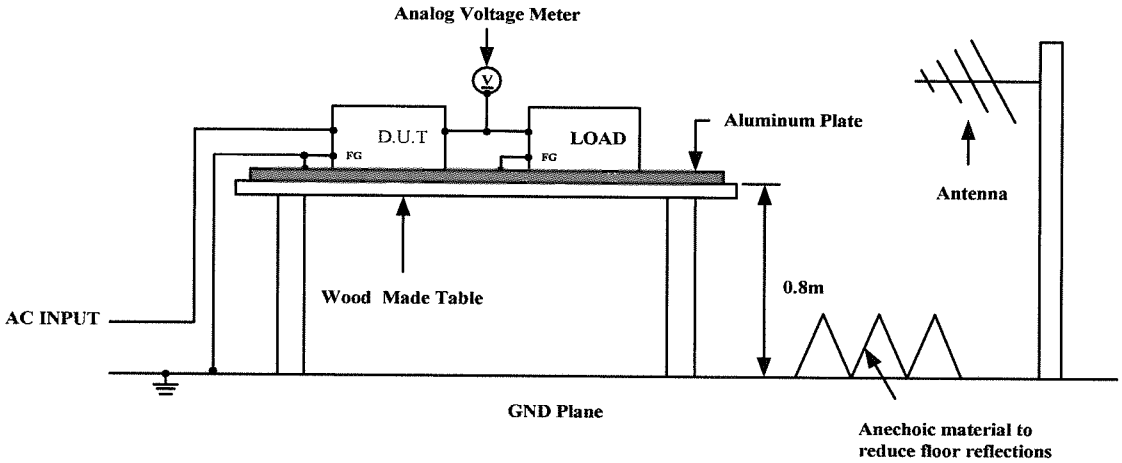
(1) Equipment Used

SML 03(RS CORPORATION)
HL 046(RS CORPORATION)
AR500W 1000A(AR CORPORATION)
FM5004(AR CORPORATION)
FP6001(AR CORPORATION)

(2) Test Conditions

・Input Voltage	:115, 230VAC	・Output Voltage	: Rated
・Output Current	:100%	・Amplitude Modulated	:80%, 1kHz
・Electromagnetic Frequency	:80～1000MHz	・Ambient Temperature	:25℃
・Wave Angle	: Horizontal and Vertical	・Distance	:3.0m
・Sweep Condition	: 1.0%Step Up, 2.8 Seconds Hold		
・Test Angle	:Top/Bottom, Both Sides, Front/Back		

(3) Test Method



(4) Acceptable Conditions

1. Output voltage regulation not to exceed ±5% of initial (before test) value during test.

2. Output voltage to be within regulation specification after the test.

3. Along with 1 and 2, without the occurrence of smoke and fire, as well as no output failure.

(5) Test Result

Radiation Field Strength (V/m)	CUS150M1-12/18/24/36/48
1	PASS
3	PASS
10	PASS

3. Electrical Fast Transient / Burst Immunity Test (IEC61000-4-4)

MODEL : CUS150M1

(1) Equipment Used

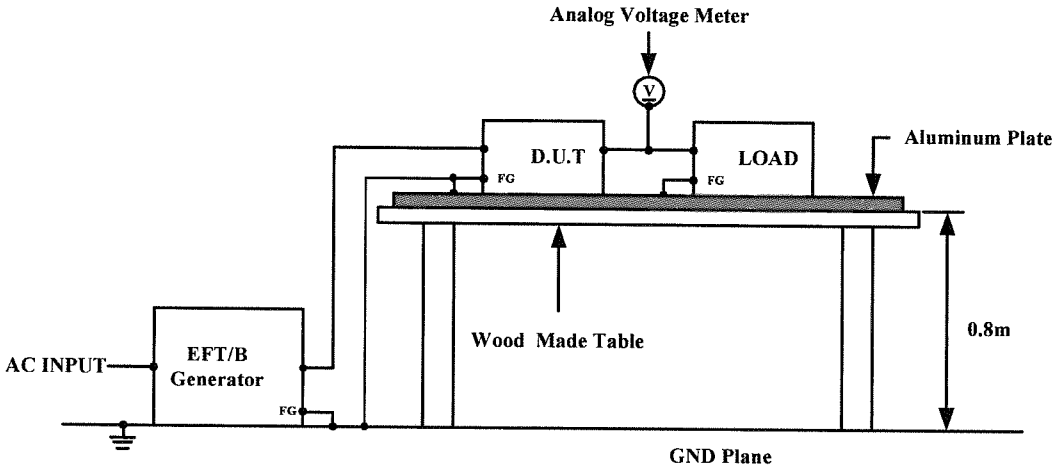
EFT/B Generator :FNS-100L (NOISEKEN)

(2) Test Conditions

・Input Voltage	:115, 230VAC	・Output Voltage	:Rated
・Output Current	:100%	・Test Time	:1 minute
・Polarity	:+,−	・Ambient Temperature	:25℃
・Number of Tests	:3 times		

(3) Test Method and Device Test Point

Apply to (N, L, ⏚), (N, L), (N), (L), (⏚).



(4) Acceptable Conditions

1. Output voltage regulation not to exceed ±5% of initial (before test) value during test.

2. Output voltage to be within output voltage regulation specification after the test.

3. Along with 1 and 2, without the occurrence of smoke and fire, as well as no output failure.

(5) Test Result

Test Voltage (kV)	Repetition Rate (kHz)	CUS150M1-12/18/24/36/48
0.5	5 / 100	PASS
1	5 / 100	PASS
2	5 / 100	PASS

4. Surge Immunity Test (IEC61000-4-5)

MODEL : CUS150M1

(1) Equipment Used

Surge Generator :6100 (SCHAFFNER)

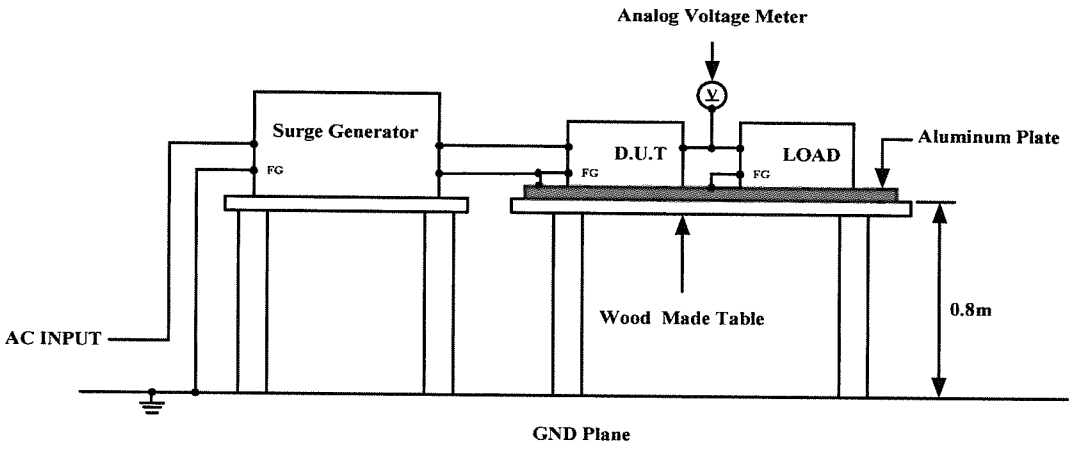
Coupling Impedance	: Common 12Ω	Coupling Capacitance	: Common 9μF
	Normal 2Ω		Normal 18μF

(2) Test Conditions

·Input Voltage	:115, 230VAC	·Output Voltage	:Rated
·Output Current	:0, 100%	·Number of Tests	:3 times
·Polarity	:+,−	·Mode	: Common, Normal
·Phase	:0, 90 deg	·Ambient Temperature	:25℃

(3) Test Method and Device Test Points

Apply to Common mode (N-⏚, L-⏚) and Normal mode (N-L).



(4) Acceptable Conditions

1. Output voltage regulation not to exceed ±5% of initial (before test) value during test.

2. Output voltage to be within regulation specification after the test.

3. Along with 1 and 2, without the occurrence of smoke and fire, as well as no output failure.

(5) Test Result

Common		Normal	
Test Voltage (kV)	CUS150M1-12/18/24/36/48	Test Voltage (kV)	CUS150M1-12/18/24/36/48
0.5	PASS	0.5	PASS
1	PASS	1	PASS
2	PASS	2	PASS
4	PASS		

5. Conducted Disturbances Induced by Radio-Frequency Field Immunity Test (IEC61000-4-6)

MODEL : CUS150M1

(1) Equipment Used

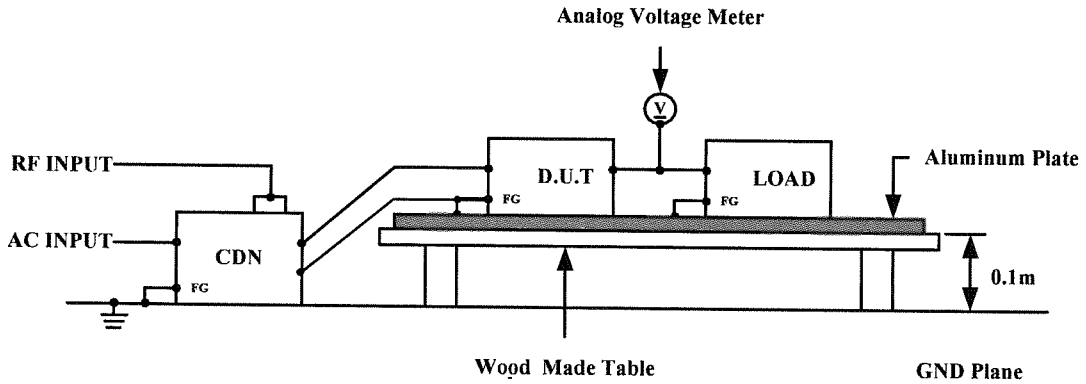
RF POWER AMPLIFIER : (AR U.S.A)

SIGNAL GENERATOR : IFR 2023A (IFR U.K)

(2) Test Conditions

- Input Voltage : 115, 230VAC
- Output Voltage : Rated
- Output Current : 100%
- Electromagnetic Frequency : 150kHz～80MHz
- Ambient Temperature : 25℃
- Sweep Condition : 1.0%Step Up, 2.8 Seconds Hold

(3) Test Method



(4) Acceptable Conditions

1. Output voltage regulation not to exceed ±5% of initial (before test) value during test.
2. Output voltage to be within regulation specification after the test.
3. Along with 1 and 2, without the occurrence of smoke and fire, as well as no output failure.

(5) Test Result

Voltage Level (V)	CUS150M1-12/18/24/36/48
1	PASS
3	PASS
10	PASS

6. Power Frequency Magnetic Field Immunity Test (IEC61000-4-8)

MODEL : CUS150M1

(1) Equipment Used

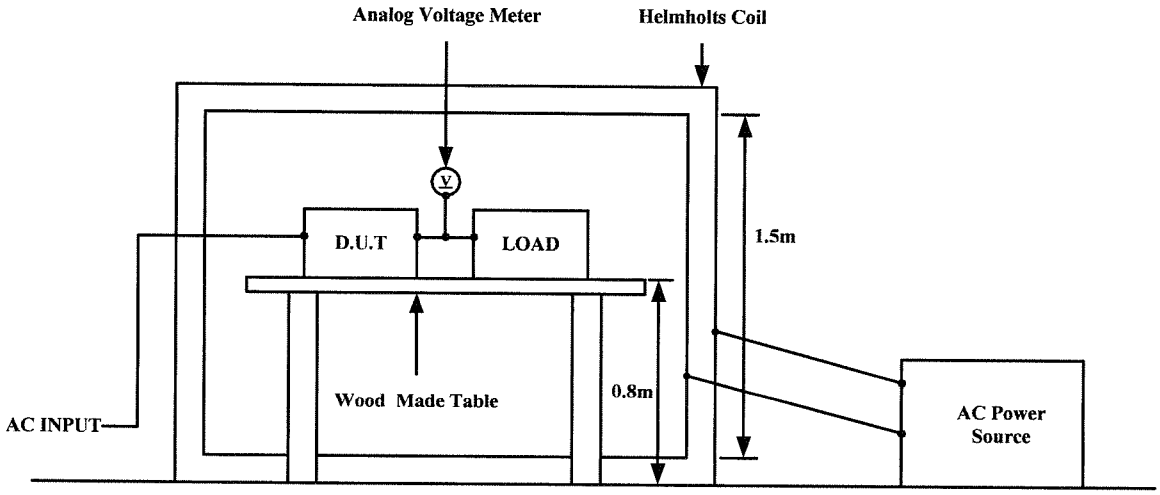
AC Power Source : 1501L (California Instrument)

Helmholts Coil : HHS5215 (Spulen)

(2) Test Conditions

- Input Voltage : 115, 230VAC
- Output Voltage : Rated
- Output Current : 100%
- Magnetic Frequency : 50Hz
- Ambient Temperature : 25℃
- Direction : X, Y, Z
- Test Time : More than 10 seconds(Each direction)

(3) Test Method and Device Test Point



(4) Acceptable Conditions

1. Output voltage regulation not to exceed ±5% of initial (before test) value during test.
2. Output voltage to be within regulation specification after the test.
3. Along with 1 and 2, without the occurrence of smoke and fire, as well as no output failure.

(5) Test Result

Magnetic Field Strength (A/m)	CUS150M1-12/18/24/36/48
1	PASS
3	PASS
10	PASS
30	PASS

7. Voltage Dips, Short Interruptions Immunity Test (IEC61000-4-11)

MODEL : CUS150M1

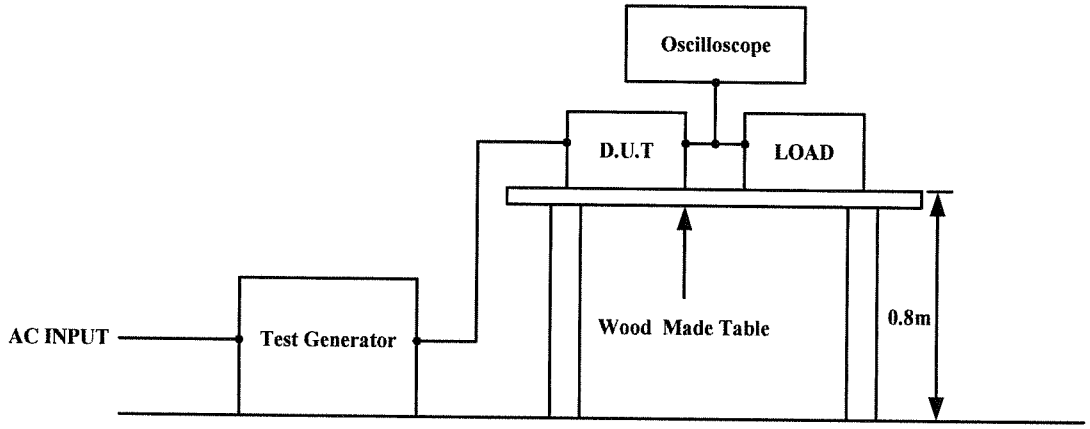
(1) Equipment Used

Test Generator :PCR2000L (KIKUSUI)

(2) Test Conditions

・Input Voltage	:115, 230VAC	・Output Voltage	:Rated
・Output Current	:100%	・Ambient Temperature	:25℃
・Number of Tests	:3 times	・Test interval	: More than 10 seconds

(3) Test Method and Device Test Point



(4) Acceptable Conditions

1. Output voltage to be within output voltage regulation specification after the test.

2. Smoke and fire do not occur.

(5) Test Result

Test Level	Dip rate	Continue Time	CUS150M1-12/18/24/36/48
70%	30%	500ms	PASS
40%	60%	200ms	PASS
0%	100%	20ms	PASS
0%	100%	5000ms	PASS