DLP240-24-1

TEST DATA

IEC61000 SERIES

DWG No. CA736-58-01			
QA APPD	APPD	CHK	DWG
T. Murayama 4/Jun./'03	30. May. 2003	14/May/'03	Yanglei 14/May/'03

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✳ Test results are typical data. Nevertheless the following results are considered to be actual capability data because all units have nearly the same characteristics.

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

MODEL : DLP240-24-1

(1) Equipment Used

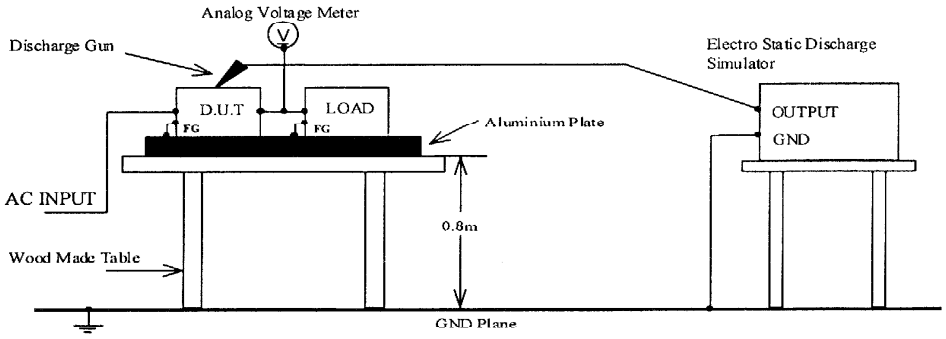
Electro Static Discharge Simulator : NSG435 (SCHAFFNER)
Discharge Resistance : 330Ω Capacity : 150pF

(2) Test Conditions

- Input Voltage : 100, 230VAC
- Output Current : 0% , 100%
- Number of Tests : 10 times
- Ambient Temperture : 25°C
- Output Voltage : Rated
- Polarity : + , -
- Discharge Interval : >1 second

(3) Test Method and Device Test Point

Contact Discharge : FG, Case Screw
Air Discharge : Input and Output Terminal



(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, no discharge of fire or smoke, as well as no output failure.

(5) Test Result

Contact Discharge (kV)	DLP240-24-1	Air Discharge (kV)	DLP240-24-1
2	PASS	2	PASS
4	PASS	4	PASS
		8	PASS

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

MODEL : DLP240-24-1

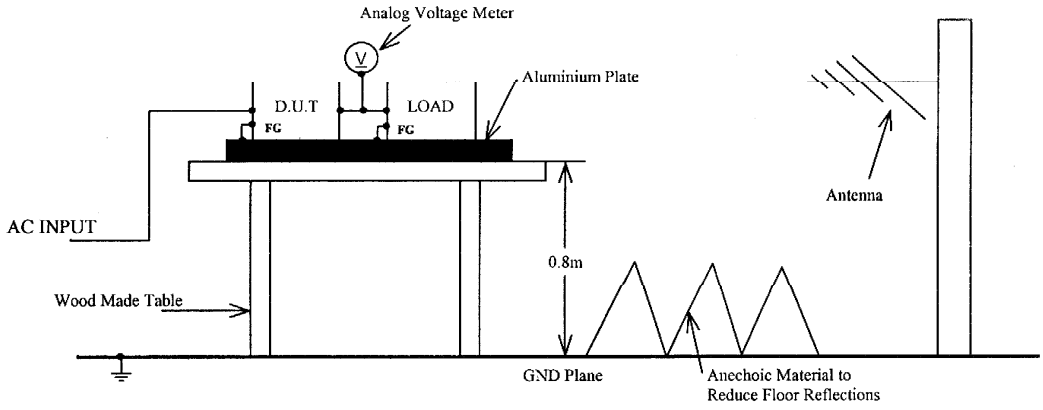
(1) Equipment Used

TS5010 RADIATION IMMUNITY MEASUREMENT SYSTEM (TOYO CORPORATION)
BILOG ANTENNA (CHASE)

(2) Test Conditions

- Input Voltage : 100, 230VAC
- Output Voltage : Rated
- Output Current : 100%
- Amplitude Modulated : 80%, 1kHz
- Electromagnetic Frequency : 80~1000MHZ
- Ambient Temperature : 25°C
- Distance : 2.4m
- Wave Angle : Horizontal and Vertical
- 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, no discharge of fire or smoke, as well as no output failure.

(5) Test Result

Radiation Field Strength (V/m)	DLP240-24-1
1	PASS
3	PASS
10	PASS

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

MODEL : DLP240-24-1

(1) Equipment Used

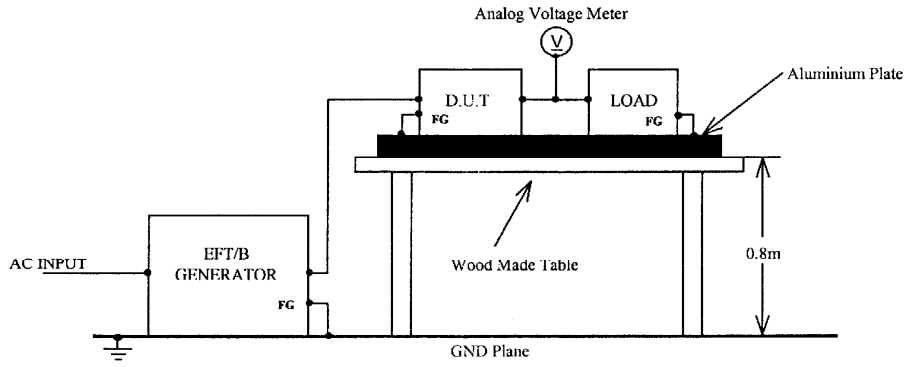
EFT/B Generator : FNS-100L (NOISEKEN)

(2) Test Conditions

- Input voltage : 100, 230VAC
- Output current : 0% , 100%
- Polarity : + , -
- Number of tests : 3 times
- Output voltage : Rated
- Test time : 1 minute
- Ambient temperature : 25°C

(3) Test Method and Device Test Point

Apply to (N,L,FG), (NL), (N), (L), (FG)



(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, no discharge of fire or smoke, as well as no output failure.

(5) Test Result

Test Voltage (kV)	Repetition Rate (kHz)	DLP240-24-1
0.5	5	PASS
1.0	5	PASS
2.0	5	PASS

4. Surge Immunity Test (IEC 61000-4-5)

MODEL : DLP240-24-1

(1) Equipment Used

Surge Generator : NSG651 (SCHAFFNER)

Coupling Impedance : Common 12Ω Coupling Capacitance : Common 9uF

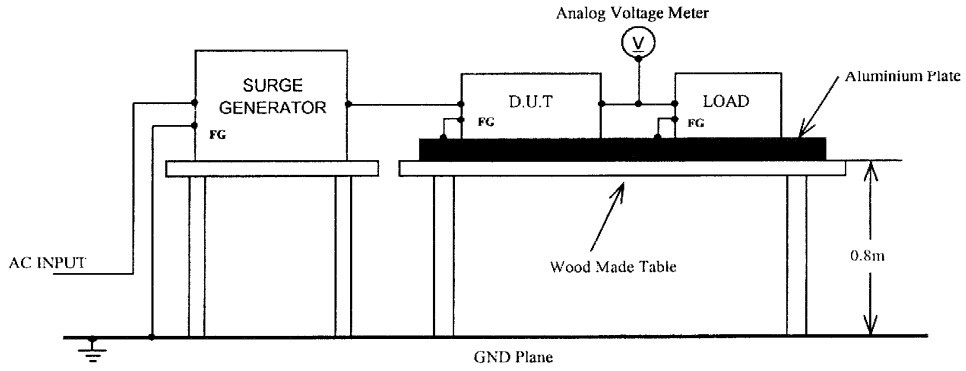
Normal 2Ω Normal 18uF

(2) Test Conditions

- Input Voltage : 100, 230VAC
- Output Voltage : Rated
- Output Current : 0% , 100%
- Number of Tests : 5 times
- Polarity : + , -
- Mode : Common, Normal
- Phase : 0, 90 deg
- Ambient Temperature : 25°C

(3) Test Method and Device Test Point

Apply to Common mode(N-FG, L-FG) 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, no discharge of fire or smoke, as well as no output failure.

(5) Test Result

Test Voltage (kV) Common	DLP240-24-1	Test Voltage (kV) Normal	DLP240-24-1
0.5	PASS	0.5	PASS
1.0	PASS	1.0	PASS
2.0	PASS	2.0	PASS
4.0	PASS		

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

MODEL : DLP240-24-1

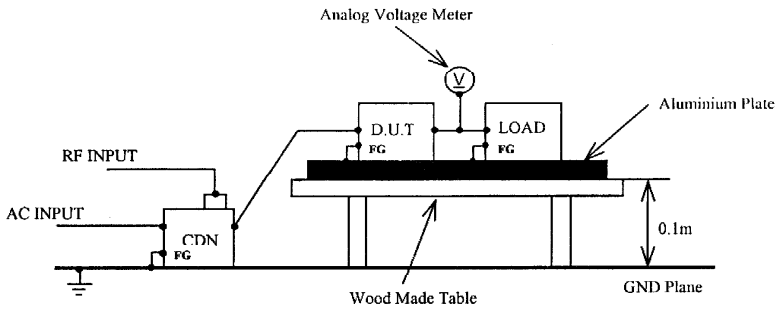
(1) Equipment Used

RF POWER AMPLIFIER	A01500-50-R (R&K)
SIGNAL GENERATOR	SMG (ROHDE & SCHWARZ)
COUPLING DE-COUPLING NETWORK (CDN)	KSI-8003 (KYORITSU)

(2) Test Conditions

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

(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, no discharge of fire or smoke, as well as no output failure.

(5) Test Result

Voltage Level (V)	DLP240-24-1
1	PASS
3	PASS
10	PASS

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

MODEL : DLP240-24-1

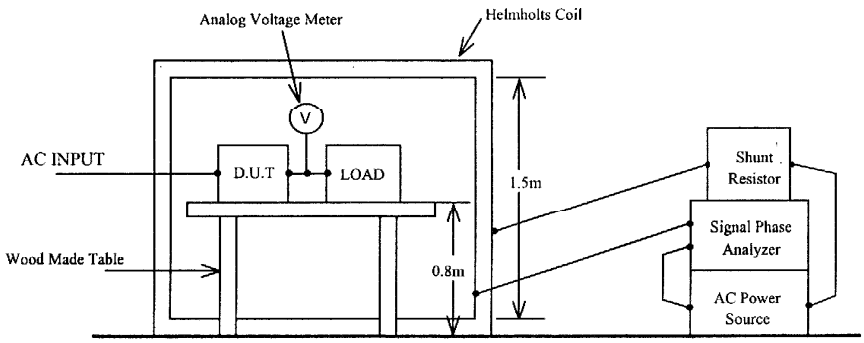
(1) Equipment Used

AC Power Source	: 1501L (California Instrument)
Signal Phase Power Analyzer	: PM100 (Voltech)
Shunt Resister	: 2.5Ω
Helmholts Coil	: HHS5215 (Spulen)

(2) Test Conditions

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

(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, no discharge of fire or smoke, as well as no output failure.

(5) Test Result

Magnetic Field Strength (A/m)	DLP240-24-1
1	PASS
3	PASS
10	PASS
30	PASS

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

MODEL : DLP240-24-1

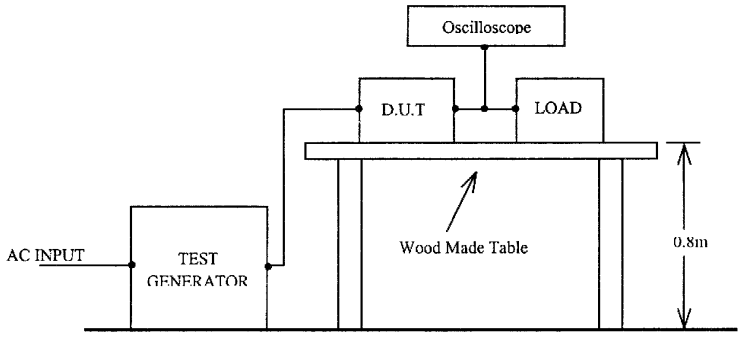
(1) Equipment Used

Test Generator : 4420 (NF)

(2) Test Conditions

- Input Voltage : 100, 230VAC
- Output Current : 100%
- Number of Tests : 3 times
- Output Voltage : Rated
- Ambient Temperature : 25°C
- Test interval : More than 10sec

(3) Test Method and Device Test Point



(4) Acceptable Conditions

At Test level 70%

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, no discharge of fire or smoke, as well as no output failure.

At Test level 40%, 0%

1. Output voltage to be within output voltage regulation specification after the test.
2. No discharge of fire or smoke.

(5) Test Result

Test Level	Dip rate	Continue Time	DLP240-24-1
70%	30%	10ms	PASS
40%	60%	100ms	PASS
0%	100%	5000ms	PASS