

# CUS250LD

## TEST DATA

### IEC61000 SERIES

DWG No. CA802-58-01/LD		
APPD	CHK	DWG
<i>Zhao</i>	Andrew	<i>Perry</i>
16-Jan-13	09-Jan-'13	09-Jan-'13

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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 : CUS250LD**

**(1) Equipment Used**

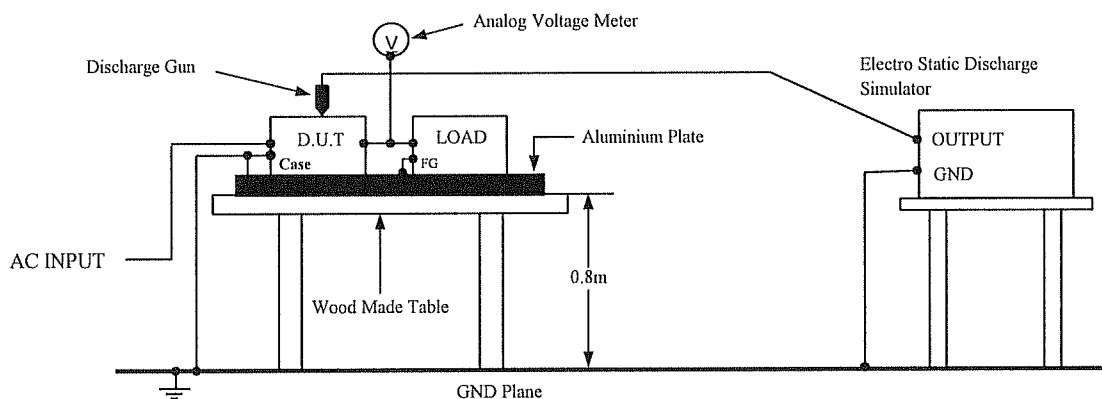
Electro Static Discharge Simulator : NSG435 (SCHAFFNER)  
 Discharge Resistance : 330Ω Capacity : 150pF

**(2) Test Conditions**

- Input Voltage : 115VAC/230VAC
- Output Voltage : Rated
- Output Current : 100%
- Polarity : + , -
- Number of Tests : 10 times
- Discharge Interval : >1 second
- Ambient Temperature : 25°C

**(3) Test Method and Device Test Point**

Contact Discharge : Case Screw  
 Air Discharge : Input and Output Terminal, Case 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, no discharge of fire or smoke, as well as no output failure.

**(5) Test Result**

Contact Discharge					Air Discharge				
Test Volotage/Level	2kV/1	4kV/2	6kV/3	8kV/4	Test Voltage/Level	2kV/1	4kV/2	8kV/3	15kV/4
CUS250LD-3	PASS	PASS	PASS	PASS	CUS250LD-3	PASS	PASS	PASS	PASS
CUS250LD-4	PASS	PASS	PASS	PASS	CUS250LD-4	PASS	PASS	PASS	PASS
CUS250LD-5	PASS	PASS	PASS	PASS	CUS250LD-5	PASS	PASS	PASS	PASS
CUS250LD-12	PASS	PASS	PASS	PASS	CUS250LD-12	PASS	PASS	PASS	PASS
CUS250LD-24	PASS	PASS	PASS	PASS	CUS250LD-24	PASS	PASS	PASS	PASS

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

MODEL : CUS250LD

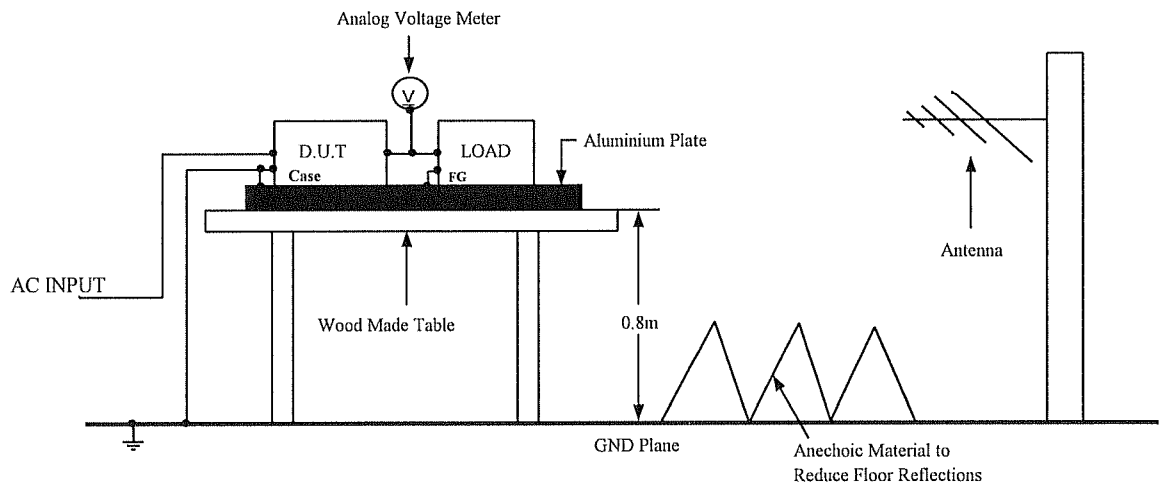
### (1) Equipment Used

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

### (2) Test Conditions

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

### (3) Test Method



### (4) Acceptable Conditions

1. Output voltage regulation not to exceed  $\pm 5\%$  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)/Level	CUS250LD-3	CUS250LD-4	CUS250LD-5	CUS250LD-12	CUS250LD-24
1/1	PASS	PASS	PASS	PASS	PASS
3/2	PASS	PASS	PASS	PASS	PASS
10/3	PASS	PASS	PASS	PASS	PASS

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

**MODEL : CUS250LD**

**(1) Equipment Used**

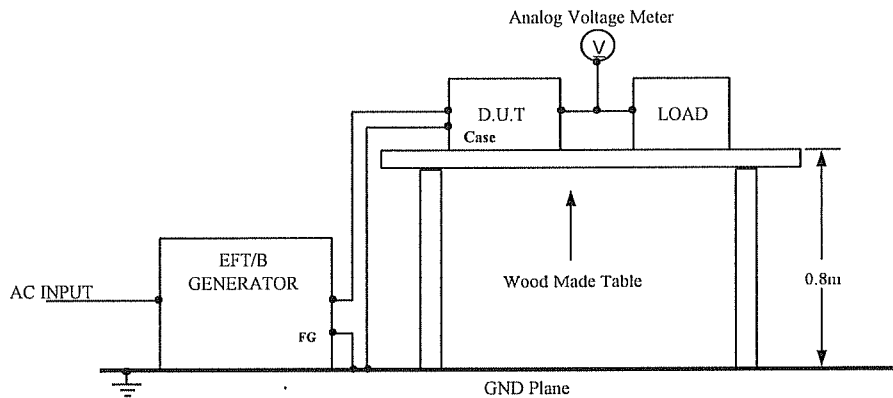
EFT/B Generator : FNS-100L (NOISEKEN)

**(2) Test Conditions**

- Input voltage : 115VAC/230VAC
- Output current : 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 (L,N,FG), (L,N), (FG), (L), (N),



**(4) Acceptable Conditions**

1. Output voltage regulation not to exceed  $\pm 5\%$  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/Level	Repetition Rate	CUS250LD-3	CUS250LD-4	CUS250LD-5	CUS250LD-12	CUS250LD-24
0.5kV/1	5kHz	PASS	PASS	PASS	PASS	PASS
1.0kV/2	5kHz	PASS	PASS	PASS	PASS	PASS
2.0kV/3	5kHz	PASS	PASS	PASS	PASS	PASS
4.0kV/4	2.5kHz	PASS	PASS	PASS	PASS	PASS



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

**MODEL : CUS250LD**

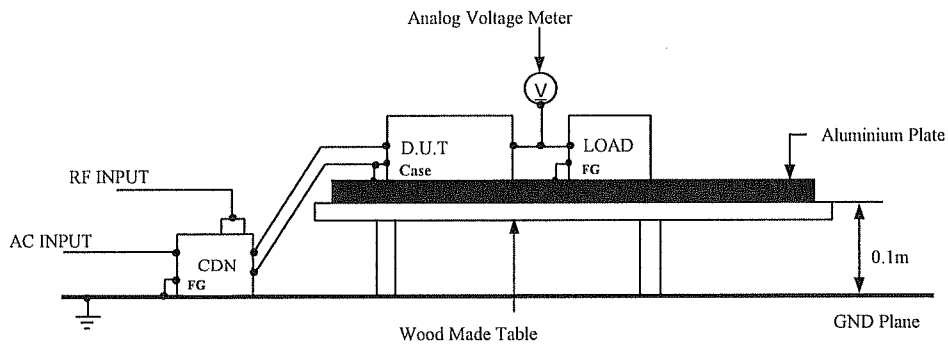
**(1) Equipment Used**

SIGNAL GENERATOR 500D (EM TEST)

**(2) Test Conditions**

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

**(3) Test Method**



**(4) Acceptable Conditions**

1. Output voltage regulation not to exceed  $\pm 5\%$  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/Level	CUS250LD-3	CUS250LD-4	CUS250LD-5	CUS250LD-12	CUS250LD-24
1V/1	PASS	PASS	PASS	PASS	PASS
3V/2	PASS	PASS	PASS	PASS	PASS
10V/3	PASS	PASS	PASS	PASS	PASS

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

MODEL : CUS250LD

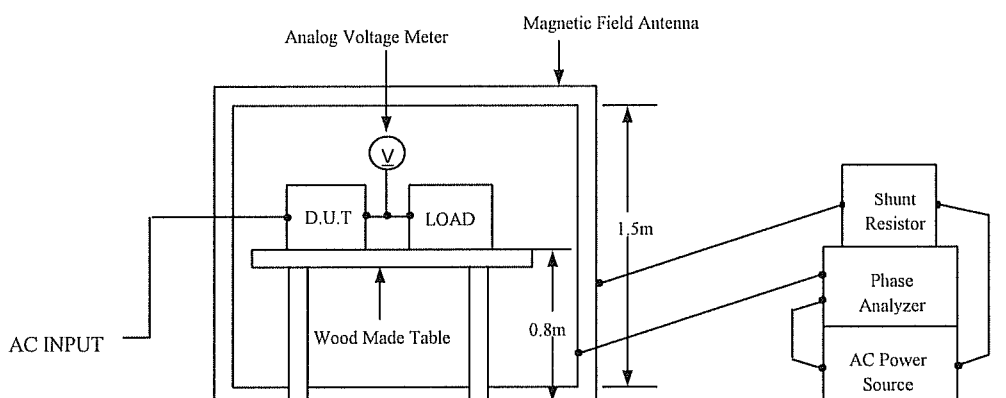
### (1) Equipment Used

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

### (2) Test Conditions

- Input Voltage : 115VAC/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  $\pm 5\%$  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)/Level	CUS250LD-3	CUS250LD-4	CUS250LD-5	CUS250LD-12	CUS250LD-24
1/1	PASS	PASS	PASS	PASS	PASS
3/2	PASS	PASS	PASS	PASS	PASS
10/3	PASS	PASS	PASS	PASS	PASS
30/4	PASS	PASS	PASS	PASS	PASS



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

**MODEL : CUS250LD**

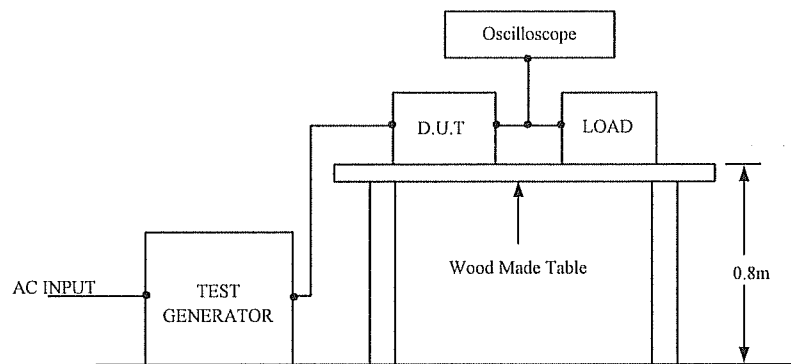
**(1) Equipment Used**

Test Generator : Chroma PROGRAMMABLE AC SOURCE MODEL 6530

**(2) Test Conditions**

- Input Voltage : 115VAC
- 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  $\pm 5\%$  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	CUS250LD-3	CUS250LD-4	CUS250LD-5	CUS250LD-12	CUS250LD-24
70%	30%	500ms	PASS	PASS	PASS	PASS	PASS
40%	60%	100ms	PASS	PASS	PASS	PASS	PASS
0%	100%	20ms	PASS	PASS	PASS	PASS	PASS
0%	100%	5000ms	PASS	PASS	PASS	PASS	PASS