
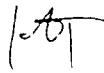




**SWS50**

**TEST DATA**

**IEC61000 SERIES**

DWG No. CA729-58-01			
QA APPD	APPD	CHK	DWG
	 23.May.03	 22.May'03	 22.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 : SWS50-5**

### (1) Equipment Used

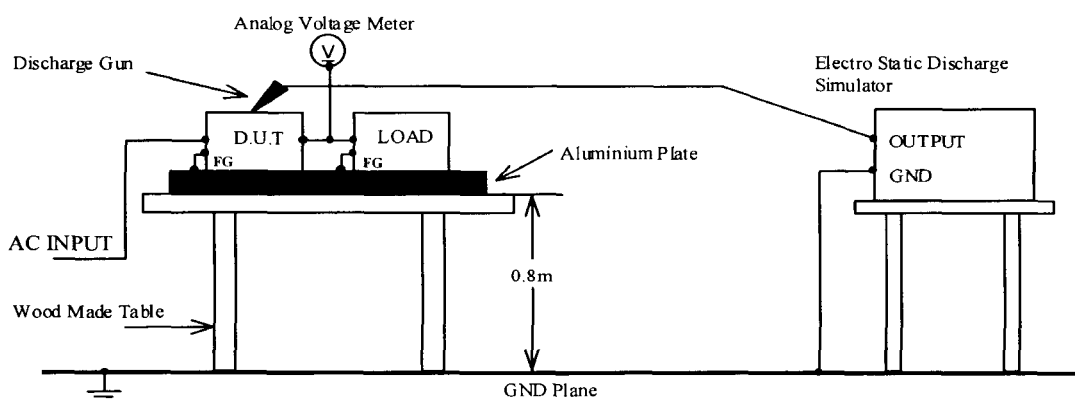
Electro Static Discharge Simulator : NSG435 (SCHAFFNER)  
 Discharge Resistance : 330Ω Capacity : 150pF

### (2) Test Conditions

- Input Voltage : 115, 230VAC
- Output Current : 100%
- Number of Tests : 10 times
- Ambient Temperature : 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  $\pm 5\%$  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

Contact Discharge (kV)	SWS50-5	Air Discharge ( kV )	SWS50-5
4	PASS	8	PASS

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

**MODEL : SWS50-5**

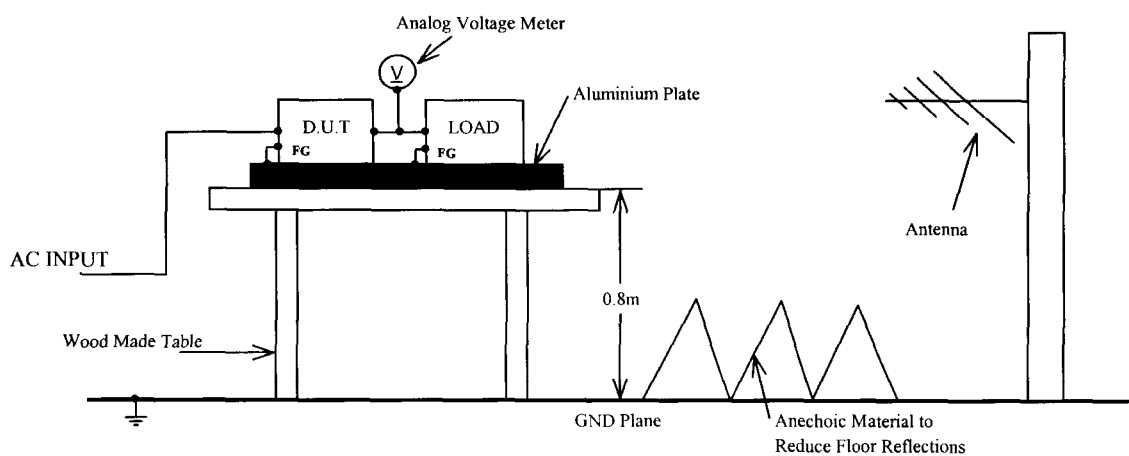
### (1) Equipment Used

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

### (2) Test Conditions

- Input Voltage : 230VAC
- Output Current : 100%
- Electromagnetic Frequency : 80~1000MHZ
- Distance : 2.4m
- 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
- Wave Angle : Horizontal and Vertical

### (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.

### (5) Test Result

Radiation Field Strength (V/m)	SWS50-5
10	PASS

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

**MODEL : SWS50-5**

#### (1) Equipment Used

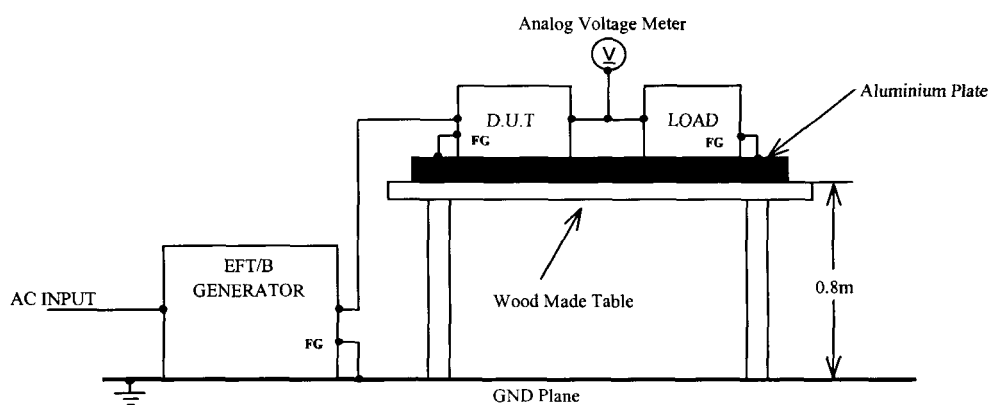
EFT/B Generator : FNS-100L (NOISEKEN)

#### (2) Test Conditions

- Input voltage : 115, 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 (N,L,FG), (NL), (N), (L), (FG)



#### (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 (kV)	Repetition Rate (kHz)	SWS50-5
0.5	5	PASS
1.0	5	PASS
2.0	5	PASS

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

**MODEL : SWS50-5**

### (1) Equipment Used

Surge Generator : NSG651 (SCHAFFNER)

Coupling Impedance : Common 12Ω  
Normal 2Ω

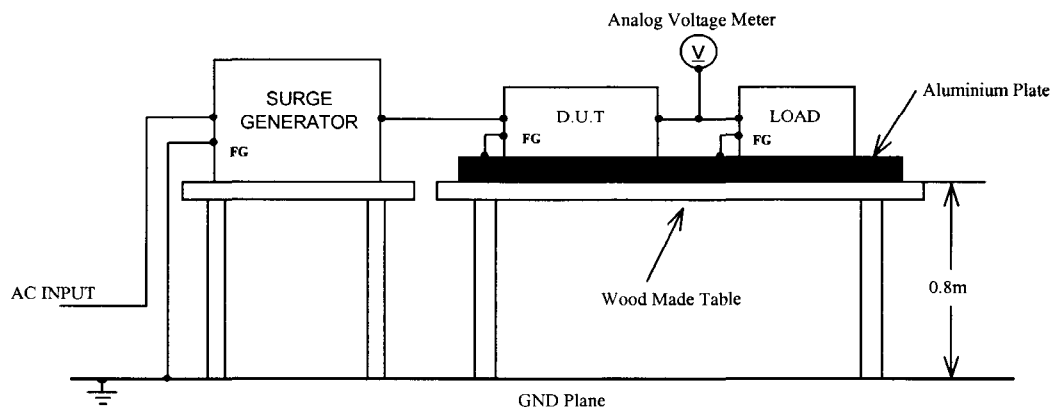
Coupling Capacitance : Common 9uF  
Normal 18uF

## (2) Test Conditions

- |                  |               |                       |                  |
|------------------|---------------|-----------------------|------------------|
| • Input Voltage  | : 115, 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  $\pm 5\%$  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 ( kV ) Common	SWS50-5	Test Voltage (kV) Normal	SWS50-5
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 : SWS50-5

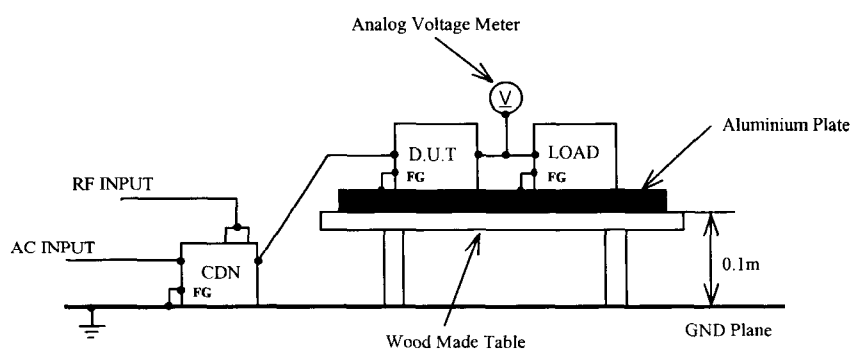
### (1) Equipment Used

RF POWER AMPLIFIER	(AR U.S.A)
SIGNAL GENERATOR	IFR 2023A (IFR U.K)

### (2) Test Conditions

- |                       |                                  |                             |                |
|-----------------------|----------------------------------|-----------------------------|----------------|
| • Input Voltage       | : 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  $\pm 5\%$  of initial (before test ) value during test.
2. Output voltage to be within regulation specification after the test.

### (5) Test Result

Voltage Level ( V )	SWS50-5
10	PASS