

GEN 2400 SERIES TEST DATA EN61000

DWG:		
APPD	CHK	DWG
<i>PC</i> <i>Aug 21</i>	<i>F</i> <i>21/08/08</i>	<i>Dima</i> <i>21/08/08</i>

 **NEMIC-LAMBDA LTD.**

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The above data is typical value.

The values are considered to be actual capability data.

1. ELECTRO-STATIC DISCHARGE TEST (EN61000-4-2)

(1) Equipment used:

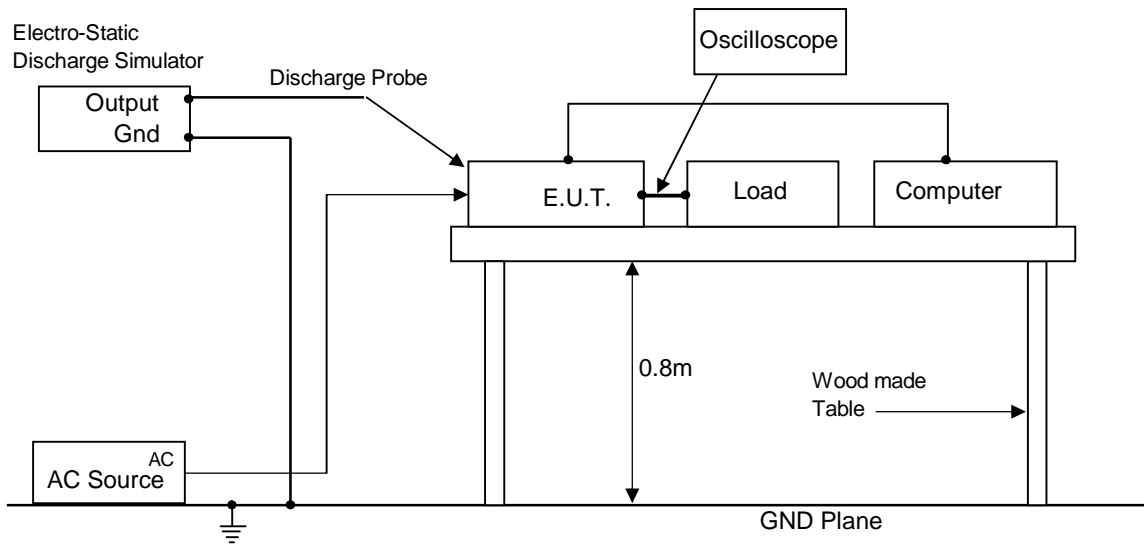
ESD simulator system: Noise Ken ESS 2000
 Discharge resistance: 330 Ohm Capacity: 150pF

(2) Test conditions:

Input voltage:	Rated	Output voltage:	Rated
Output current:	100%	Polarity:	-,+
Number of tests:	10 times	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 failre.

(5) Test Result:

Contact Discharge (Kv)	GEN8-300	GEN60-40	GEN600-4	Air Discharge (Kv)	GEN8-300	GEN60-40	GEN600-4
2	PASS	PASS	PASS	4	PASS	PASS	PASS
4	PASS	PASS	PASS	8	PASS	PASS	PASS

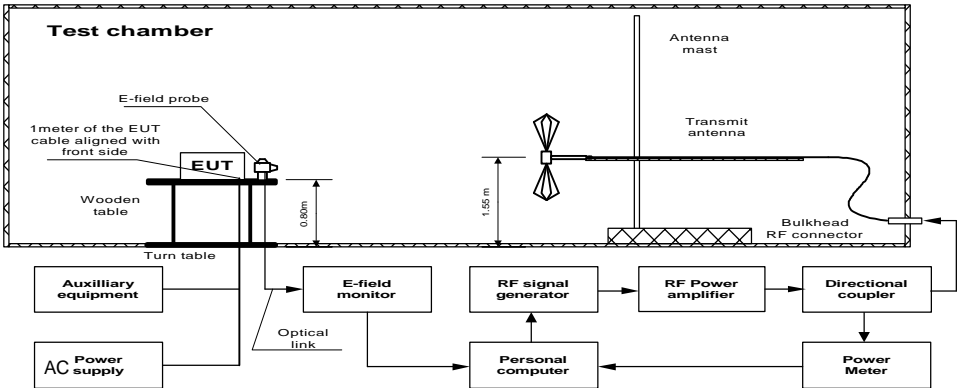
**2. ELECTROMAGNETIC RADIATION SUSCEPTIBILITY TEST
(EN61000-4-3)**

(1) Equipment used:

- | | |
|---|------------------------------|
| Anechoic test chamber | Hermon Labs AC-2 |
| Antenna, biconical, high power 20-300MHz, 1kW | A.H.Systems inc. SAS-200/543 |
| Antenna, double-ridged waveguide horn, 1-18GHz, 300W | EMC Test Systems 3115 |
| Synthesized RF signal generator, 10kHz-1.05GHz | Fluke 6061A |
| Monitor, field, 10kHz-1GHz, 1-300V/m, w/fiberoptic | Amplifier Research FM1000 |
| Coupling-decoupling network according to ENV 50141 (S1) | Hermon Labs 50141S1 |
| RF amplifier, 10kHz-220MHz, 150W | Amplifier Research 150L |
| RF amplifier, 500MHz to 1000MHz, 120W | Hermon Labs A-120 |
| RF amplifier, 1 to 4 GHz, 55W | Milmega AS 0104-55/55B |
| RF power meter | Boonton 4200 |

(2) Test conditions:

- | | | | |
|----------------------------|--|----------------------|----------|
| Input voltage: | Rated | Output voltage: | Rated |
| Output current: | 100% | Amplitude Modulated: | 80%,1kHz |
| Electromagnetic Frequency: | 80~1000MHz | Ambient temperature: | 25°C |
| Sweep Condition: | 1.5 x 10 ⁻³ Decade/Second,1.0 Second Hold | | |



(3) Acceptable conditions:

- Output voltage regulation not to exceed ± 5% of initial (before test) value during test.
- Output voltage to be within regulation specification after the test.
- Along with 1 and 2, no discharge of fire or smoke, as well as no output failure.

(4) Test Result:

Radiated Field Strength (V/m)	GEN8-300	GEN150-16	GEN600-4
1	PASS	PASS	PASS
2	PASS	PASS	PASS
3	PASS	PASS	PASS

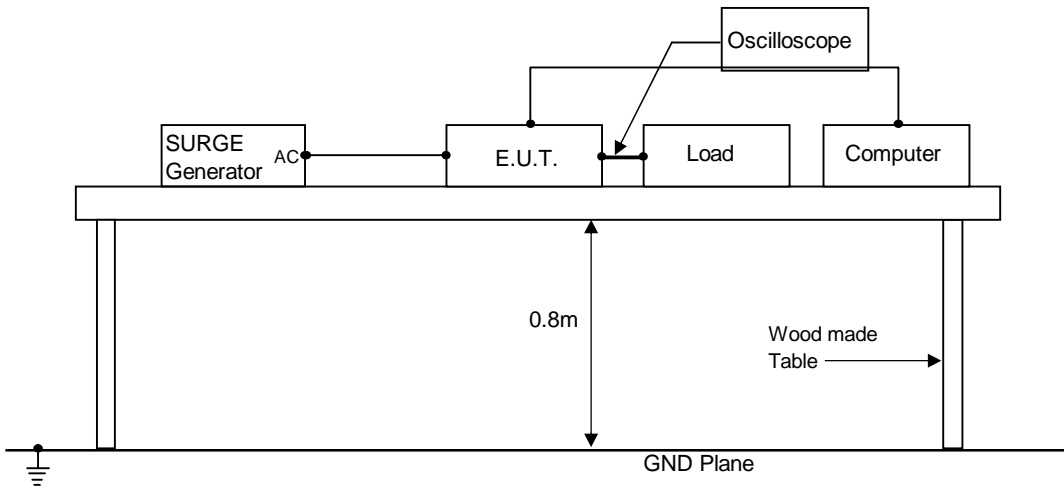
**4. SURGE TEST
(EN61000-4-5)**

(1) Equipment used:

Surge Generator: SCHAFFNER- NSG651
 Coupling impedance: Common - 12 OHm
 Normal - 2 OHm
 Coupling capacitance: Common - 9uF
 Normal - 18uF
 Coupling network: SCHAFFNER- CDN110

(2) Test method and device test point:

Input voltage: Rated Output voltage: Rated
 Output current: 100% Number of tests: 5 times
 Polarity: -,+ Mode: Common, Normal
 Phase: 0,90 DEG. Ambient temperature: 25°C



(3) 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.

(4) Test Result:

Test Voltage (kV) Common	GEN8-300	GEN150-16	GEN600-4	Test Voltage (kV) Normal	GEN8-300	GEN150-16	GEN600-4
0.5	PASS	PASS	PASS	0.5	PASS	PASS	PASS
1.0	PASS	PASS	PASS	1.0	PASS	PASS	PASS
2.0	PASS	PASS	PASS				

5. CONDUCTED SUSCEPTIBILITY TEST (EN61000-4-6)

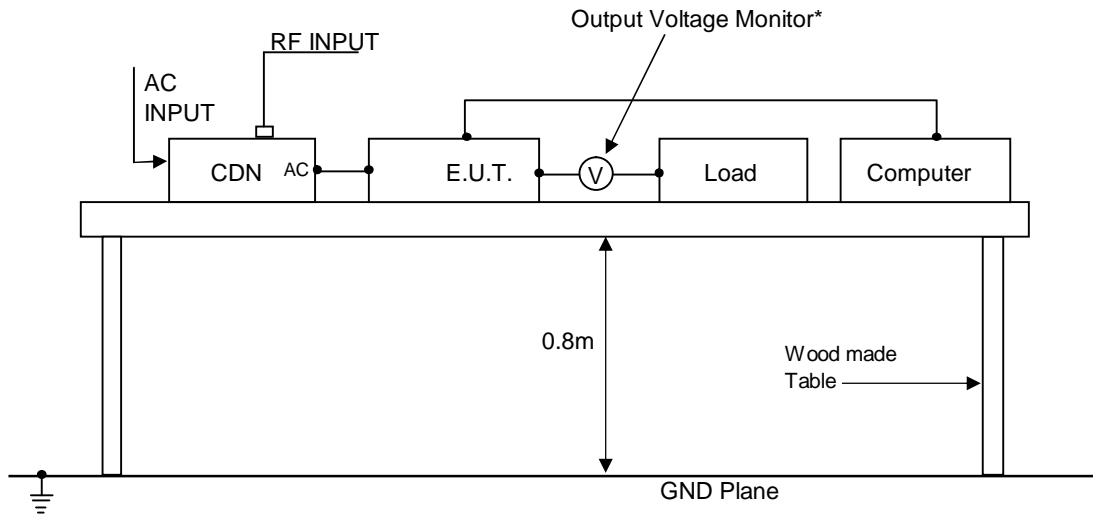
(1) Equipment used:

RF Signal Generator 9kHz-1.2GHz	Marconi Instruments 2023
RF Amplifier 10kHz-220MHz,150W	Amplifier Research, 150L
Coupling/Decoupling Network	HL 230-M3
Coupling/Decoupling Network	HL 230-M2
Attenuator 6 dB, 150W, DC-1000MHz, with 230VAC/12VDC adapter	HL 6-150

(2) Test Condition:

Input voltage:	Rated	Output voltage:	Rated
Output current:	100%	Electromagnetic	
		Frequency:	150kHz~80MHz
Sweep Condition:	1.0% Step Up, 2.0 Seconds Hold		
Ambient temperature:	25°C		

(3) Test Method:



*Used Oscilloscope or Analog Voltage Meter

(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:

Voltage Level (V)	GEN8-300	GEN150-16	GEN600-4
1	PASS	PASS	PASS
2	PASS	PASS	PASS
3	PASS	PASS	PASS

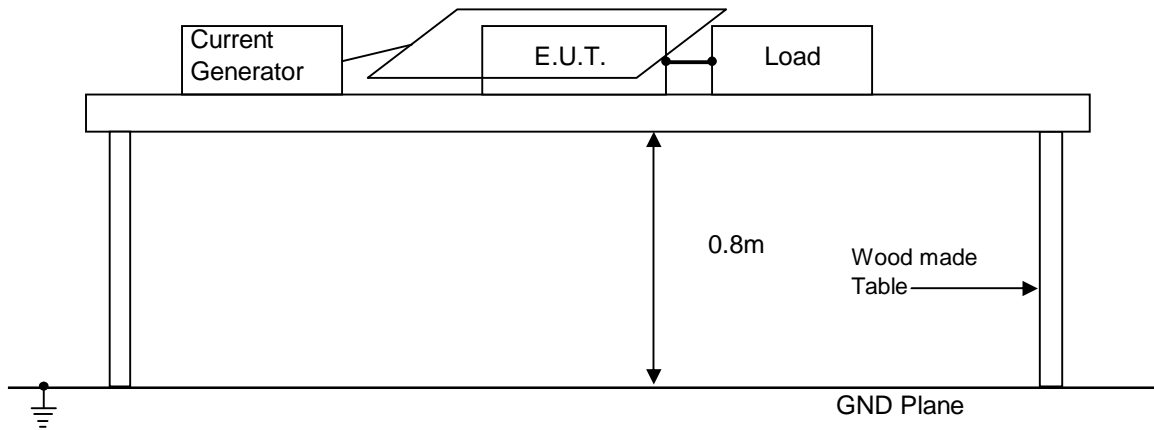
7. IMMUNITY TO MAGNETIC FIELD (EN61000-4-8)

(1) Equipment used:

Current Generator: F-1000-4-8-125A FCC
 Magnetic Loop: F-1000-4-8/9/10-L-1M FCC

(2) Test Condition:

Input voltage: Rated
 Output current: 100%
 Output voltage: Rated
 Ambient temperature: 25°C



(3) 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.

(4) Test Result:

Position	Strenght of magnetic field (A/m)	Resoult
Vertical	1	PASS
Vertical at 90 ⁰	1	PASS
Horizontal	1	PASS

8. VOLTAGE DIPS AND SHORT INTERRUPTION (EN61000-4-11)

(1) Equipment used:

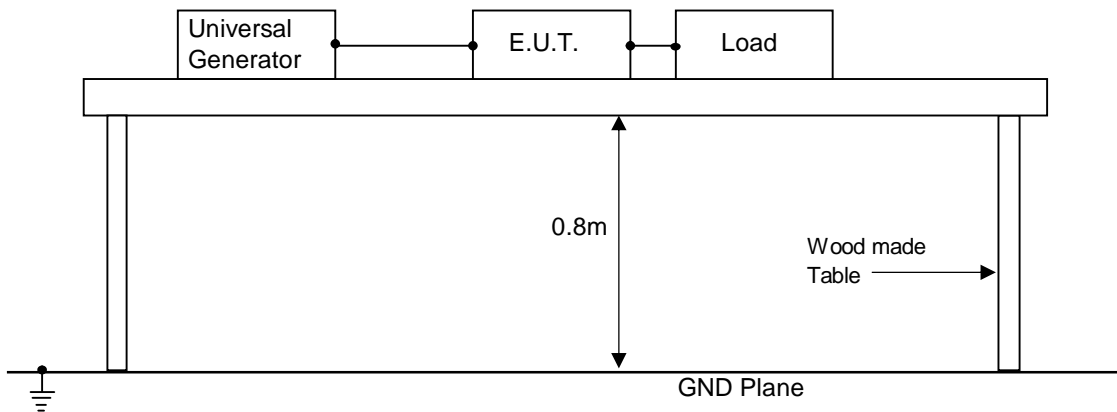
Surge Generator: UCS500 -M4 EM TEST
 AC Power Source: UCS500 -M4 EM TEST

(2) Test Condition:

Input voltage: Rated
 Output current: 100%
 Output voltage: Rated
 Ambient temperature: 25°C
 Number of tests: 3 Times.

(3) Test method and device test point:

Voltage dip: 0.5 period, reduction of > 95% of U_t
 Voltage dip: 25 periods, reduction of 30% of U_t .
 Voltage interruptions: 250 periods, reduction of > 95% of U_t .



(4) Acceptable conditions:

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	GEN60-55
5%	95%	10ms	PASS (criteria A)
70%	30%	500ms	PASS (criteria B)
5%	95%	5000ms	PASS (criteria B)