



## **“Step By Step” Procedure**

### **HouseHold Appliances and Similar Apparatuses (HHA)**

**You simply call D.L.S. Electronic Systems, Inc. @ 847-537-6400**

**We will help you:**

1. Determine if your product fits the EN 55014-1 and possibly EN 61000-3-2,3 criteria.
2. Test emissions at D.L.S. (appointed test laboratory) to EN 55014-1 and possibly EN 61000-3-2,3.
3. Determine if your product fits the EN 55014-2 immunity criteria.
4. Test immunity at D.L.S. to the IEC 61000-4-? basic standards.

**You receive from D.L.S.:**

5. Test reports.

**You will then:**

6. Issue the Declaration of Conformity.
7. Put the CE mark on your product.
8. Market your product in all of Europe.

### **EMISSIONS**

**Emission Limits according to the Product Standard EN 55014-1 and possibly EN 61000-3-2,3**

**Determine if your product fits the EN 55014-1 and possibly EN 61000-3-2,3 criteria which apply to House-Hold Apparatuses and similar apparatus.** This is household electrical equipment, portable tools and other electrical apparatus, which may cause interference to radio reception, such as: office machines, movie projectors, electric toys, blenders, and toasters.

**Test emissions to EN 55014-1 and possibly EN 61000-3-2,3 (harmonic & flicker)**

Terminal Disturbance Voltage (conducted) .15-30 MHz, continuous emissions

Terminal Disturbance Voltage (conducted) .15-30 MHz, discontinuous emissions (clicks, if possible)

Disturbance power (absorption clamp) 30-300 MHz

### **IMMUNITY**

**Immunity according to the Product Standard EN 55014-2**

The EUT would need to be categorized as one of the following:

**Category I:** Apparatus containing no electronic control circuitry, e.g., motor operated appliances, toys, tools, thermal appliances and similar electronic apparatus.

**Category II:** mains powered devices containing electronic control circuitry with an internal clock or oscillator frequency lower than 15 MHz. (Controls containing transistors or more complex circuitry would be Category II, and possibly higher).

**Category III:** Battery powered equipment which in normal use is not connected to the mains and which contains an electronic control circuitry with an internal clock or oscillator frequency lower than 15 MHz.

**Category IV:** All other apparatuses covered by the scope of this standard.

**Immunity severity levels according to the Product Immunity Standard EN 55014-2 (Cat IV example):**

	<b>Basic Standards</b>	<b>EN 55014-2 Cat IV</b>
<b>Electro-Static Discharge</b>	IEC 61000-4-2	$\pm 8$ kV air $\pm 4$ kV contact
<b>Radiated RF Field</b>	IEC 61000-4-3	80-1000 MHz 3V/m w/ 80% AM mod @ 1 kHz
<b>Electrical Fast Transients</b>	IEC 61000-4-4	AC, $\pm 1$ kV DC, Signal & Control lines, $\pm .5$ kV
<b>Surge</b>	IEC 61000-4-5	AC lines + 1 kV line-to-line + 2 kV line-to-ground
<b>RF Conducted</b>	IEC 61000-4-6	.15-80 MHz w/ 80% am mod @ 1 kHz AC, 3V rms DC, Signal & Control lines, 1V rms
<b>Voltage Interrupt</b>	IEC 61000-4-11	<i>30 % dip @ 1s</i> <i>60 % dip @ 200 ms</i> <i>100 % interrupt @ 10ms</i>

**You receive from D.L.S. after testing:**

**Test reports describing the testing** that was performed and the results of these tests.

**You will:**

**Issue the Declaration of Conformity**

You would then issue your DoC have it signed by you the manufacturer of the product and/or your legal representative in Europe. It is kept on file with your legal representative in Europe to be made available to the authorities if required.

**Put CE mark on your product**

The mark is simply placed on the product indicating all requirements have been met.

Market your product in Europe

Please understand that the EU EMC requirements for your product and the interpretations of the requirements may change. These potential changes create risk but we believe that your greatest risk would be to do nothing.

**Call D.L.S. Electronic Systems, Inc. @847-537-6400** for any questions you have about EU testing, scheduling and cost. We will be most happy to assist you.