

Are you ready...

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Are you ready to design your product to meet the EMC Standards?

*EMC Practical Applications
Seminar/Workshop
April 27-28 and May 1-2, 2006
Hilton Hotel, Northbrook, IL*

Tired of taking classes that don't give you real world applications and hands-on opportunities to use what you learn? The new D.L.S. EMC Practical Applications Seminar/Workshop is taught by EMC engineers with 75 years combined experience in real world engineering. Spend three days learning EMC concepts and design techniques and a fourth day designing a real life product. Take home the computer programs designed by the instructors. As an added extra value with no additional charge, apply what you have learned in an optional 45-minute design review of your own product.



The class and workshop will help you to improve your design skills in minimizing emissions and increasing your product's immunity. We will take the equations covered in the textbook *Design Techniques for Controlling Radiated Emissions* and help you make calculations manually to understand how they work. Then we will teach you how to use the computer programs to add speed, accuracy and understanding to what you have already learned. We will then use the programs to analyze a commercial PC (at a speed ~95% of what you are presently using in your designs) and see how our calculations compare to a real life product.

The class includes:

1. A combination of PowerPoint slides, video, computer programs and live presentations to help you learn in multiple ways.
2. Sample problems we will work through together to give you a working knowledge of the concepts covered.
3. Worksheets and step-by-step examples of how to design a product to meet the various "World Emission and Immunity Requirements."
4. The textbook *Controlling Radiated Emissions by Design, 2nd Edition* by Michel Mardiguian, edited by one of the instructors, used throughout the class.
5. A notebook of all the slides presented during the class, with room for writing personal notes.
6. A CD containing all the programs used in class as well as supplemental material.

What is the advantage of the Free Product Review?

After class you will have the option to sit down with an EMC engineer for 45 minutes to privately discuss your company's product, with the added knowledge and understanding of what you learned. One class member said after his product review, "I would not have understood many of the items you pointed out that I need to change, had I not had the class beforehand. I can now go back and make changes to my product with the confidence I will do it right." Those without a product can talk about ideas for future products. Confidentiality agreements are available upon request.

Here's what customers are saying about it:

"Best program I've seen. Software provided is worth the price of the seminar." - Scott D.

"This course would be helpful for any design engineer." - Shane S.

"Good information, presented well, extremely relevant." - Bryan P.

Registration

To register call Carol at
847-537-6400
or email her at
cgorowski@dlsemc.com

For more information: www.dlsemc.com/class301.htm

Are you ready to take advantage of the huge new market in China?

D.L.S. is ready to take your product through China's CCC process from beginning to end.

China's CCC Certification Procedure

China's CCC certification procedure requires you to obtain the CCC Mark before exporting or selling your product to the Chinese market. Otherwise, your product may be held at the border and be subjected to penalties. Certification is complex and involves the following five steps:

1. Application
2. Testing
3. Initial factory inspection
4. Evaluation of results and approval
5. Follow up factory inspections

At this time, CNCA (Certification and Accreditation Administration of the People's Republic of China) has authorized 9 CCC certification bodies (for example CQC and CEMC), each authorized for specific products, and close to 100 test labs, each testing for specific products.

How D.L.S. Can Help

D.L.S. is currently working with several of the test labs in China in order to simplify this process for you. In November 2005, a seventeen-person delegation from the People's Republic of China visited D.L.S. Electronic Systems, Inc. to observe our testing procedures and discuss the CCC certification process. It is our goal to bring you up-to-date information on this developing new market.



Jack Prawica explaining D.L.S.'s CCC immunity testing to Chinese delegation.

Products Subject to China's CCC Certification

Currently, more than 160 products are subject to CCC certification and are divided into 22 categories, including, but not limited to: household appliances, medical devices, information technology equipment, electric hand tools, audio and video products, wireless LAN, and TTE. A partial category product list for CCC certification is summarized in Table 1.



Professor Zhang, Northern Jiaotong Univ. & Deputy Secretary-General Zho, China Electrotechnical Society with Donald Sweeney of D.L.S.



Chinese delegation visits D.L.S.

Category	Name of the product category	No. products
1	Electric Wires and Cables	5
2	Connecters such as Plugs and Sockets for Household and Industry Appliance	6
3	Low-voltage Circuit Switches and Protective Devices	9
4	Small-Power Motors	1
5	Electric Tools	16
6	Electric Welding Machines	15
7	Household Appliances	18
8	Audio & Video products	16
9	Information Technology Equipments	12
10	Lighting Electrical Appliances	2
11	Motor Vehicle Products	4
12	Tire Products	2
13	Safety Windows for Cars and Buildings	4
14	Rubber Products	1
15	Equipment for Crop Protection Purposes	3
16	Telecommunication Terminal Equipment	9
17	Medical Equipment	12
18	Fire Fighting Products	3
19	Intruder Alarm Systems for Security Purposes	1
20	Wireless Local Area Networks	40
21	Decoration Materials for Construction Industry e.g. Wallpaper	2
22	Chemical Products for Carpentrv e.g. Glue	1

Table 1. The summarized product list covered by CCC certification Colored items currently tested by D.L.S

Summary of CCC Certification Process

The CCC certification system has its own unique requirements that are much different from the U.S certification process. As mentioned above, you will have to know which of nine certification bodies and which specific lab in China handles your type of product, how to apply for factory inspections, how to communicate in Chinese, and how to arrange for customs clearance. Now the question is, how can you get the CCC mark for your products in the fastest and most economical way? D.L.S. will take you through the CCC mark process. Please contact Jack Black at 847-537-6400 or at jblack@dlsemc.com.

For more information go to:
www.dlsemc.com/ccc.htm

Are you ready for the new RoHS and WEEE requirements on imports to Europe?

D.L.S. can evaluate your product for RoHS, WEEE, EMC, and Safety and, if changes are needed, minimize your total testing time by use of a product matrix.

RoHS and WEEE are two new environmental friendly directives in the European Union. RoHS restricts the use of the hazardous substances lead, cadmium, mercury, hexavalent chromium, PBB, and PBDE in all products and goes in to effect on July 1, 2006.

WEEE requires manufacturers to set up programs to collect and recycle electrical equipment. This will become the responsibility of manufacturers and retailers in June 2006.

To meet these requirements you will need to:

1. Determine if your products contain any forbidden materials

D.L.S. Conformity Assessment, Inc. now offers an evaluation service for RoHS and WEEE compliance. This service can identify if your products currently have non-compliant substances. Devices such as circuit boards, flame-retardants in plastics, solder, and metal treatments like platings should be reviewed to identify any necessary changes.

2. Replace restricted materials found with acceptable substitutes

Be sure to check with us before making your changes to verify the EMC acceptability of the materials you will be using.

3. Determine if any of the above changes have an effect on your product's EMC and Safety Compliance.

Changes which might affect EMC and/or Safety compliance are:

- *Power Supplies* - Removing lead from the PCB's and components as well as possibly changing capacitors will require a review of the conducted emissions and immunity.
- *Logic PCB's* - Removing lead and making other changes can possibly affect the radiated emissions and immunity.
- *Cabinet Plating* - Changing your plating or coating on your metal cabinet can affect the radiated emissions and immunity of your systems.
- *Relay Changes* - Replacing mercury wetted relays with solid state components can affect both conducted and radiated emissions and immunity.

An example of how one manufacturer's simple change of relays greatly impacted their products' EMC and Safety certifications:

To meet the RoHS/WEEE requirements, this company's mercury-wetted relays had been replaced with solid-state relays across their entire product line. When we reviewed the product for EMC retesting, we knew that solid state relays are not immune to outside EMC interference and that they might also cause emissions. Solid-state relays can also impact the safety of the product. Since D.L.S. is a Competent Body (CAB) for Europe, we were able to generate a product matrix, which covered all the requirements for our customer's entire product line, which limited the amount of testing needed. We were able to complete the required testing within a few days while the original series of tests, when the products were being developed, took many weeks of testing.

4. Retest your equipment after making changes

We are ready to assist you in meeting the EU requirements for these two new directives. Call or e-mail Jack Black today 847-537-6400 or jblack@dlsemc.com to find out more about this program. Also visit us at www.dlsemc.com/rohs.htm.

*There is such a thing
as a free lunch!*

Served daily at D.L.S. during testing.

Radio Standards Reminder

On Sept. 10, 2005, Industry Canada published one updated standard: Radio Standards Specification 210 (RSS-210) Issue 6, and two new standards: RSS-310 Issue 1 and RSS-Gen Issue. These Standards came into effect September 10, 2005 and had no transition period. Find additional information at www.dlsemc.com/ic.htm

Zigbee

D.L.S. offers testing to the Zigbee Standard, which is one of the newer low-cost wireless networking applications that is targeted at "last-meter connectivity." Zigbee is subject to FCC Part 15, Industry Canada RSS-210 Certification, and DoC for the European Union R&TTE Directive, as well as Australia/New Zealand. Typical applications include home/commercial/industrial networking and inter-active toys. For more information go to www.dlsemc.com/zigbee.htm.

DLS NEWS & views

To help keep you better informed
EMC, Safety, Radio

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See inside for:
EMC Training Class
New RoHS Evaluation Program
China's CCC Compliance Program

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How can D.L.S. make your job easier?

Ever feel like you're on information overload?

Trying to sift through stacks of EMC and Safety regulations can be daunting. Let us handle the red tape for you. You can be confident that we have an intimate understanding of the testing requirements and principles, and know which ones apply to your product. We devote much time to keeping abreast of the latest changes in the rules and regulations. With the large number of NARTE certified engineers on our staff, we have been awarded the NARTE Organizational Certification and are the "largest" organization to ever receive this honor.

Do deadlines arrive too soon?

We work hard to meet your scheduling needs, ensuring speed to market and saving you time and money. With a little ingenuity and a lot of long hours, we can meet your deadlines. At D.L.S. we never ask, "Can we do this?" We ask, "How can we do this?" With 13 test labs and 3 open area test sites, we have unparalleled capacity, resulting in the scheduling flexibility you need. Let us know your needs and we will do our very best to meet them.

Just when you think you have everything under control, do problems arise?

When that happens, we are here for you. If you have problems and need to make changes to your product during testing, we will help you do so quickly and at no extra cost. We are known for our expert problem solving abilities.

*If you have other needs, call 847-537-6400 and let us know.
We'll do everything we can to help make your job easier.*

Don

Donald L. Sweeney
President

