

Fall

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DLS News & Views

To help keep you better informed

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Certificated Agency

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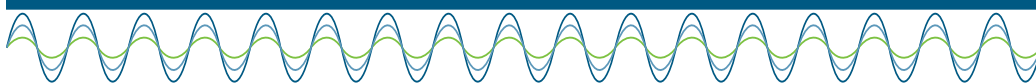
REGULATORY requirements update

UL approves D.L.S. Conformity Assessment, Inc. for Safety Testing



Underwriters Laboratories officially accepted D.L.S. Conformity Assessment, Inc., a subsidiary of D.L.S. Electronic Systems, Inc., into their Third Party Test Data Program. This program works directly with UL standards for ITE, audio/video, medical devices and equipment, and laboratory test and measurement equipment for formal listing. Manufacturers will be able to complete their EMC, Safety and Environmental testing requirements all under one roof, saving them time and allowing them to speed their product to market. This program provides for a formal UL listing for U.S. and Canadian safety standards.

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RTCA DO 160G Update

New changes to seven different sections of the RTCA DO 160 EMC Standards are now in effect. They are as follows:

Section 15 Magnetic Field

- Changes have been made for magnetic field testing with respect to the set up. These changes identify how to determine the specified distance to observe needle deflection on the compass with respect to the EUT.

Section 16 Power Input

- All AC powered devices will require testing for Momentary Interruptions using Tables 16-1 and 16-2, depending on application and requirements.
- 3 phase AC powered devices will require abnormal surge testing.
- Updates have been made to Tables 16-1, 16-2, and 16-3 for Momentary Interruptions.
- Applied testing voltages have been modified with respect to tolerances, in essence to show the expected conditions for the application, and to make the testing more efficient.

Continued on page 3

Wireless Qi Certification

D.L.S. announces new Wireless Power Charging Compliance Program including Qi Certification through the Wireless Power Consortium.



As one of only two labs participating in the Qi Compliance program, D.L.S. will offer Qi pre-compliance and formal certification. This includes:

- interoperability
- wireless transmitter and receiver testing under FCC Part 15 and FCC Part 18 for North America, and the EMC and R&TTE Directives for the European Union
- Product Safety testing and certification for North America and Europe.

The recent introduction to the market of "inductive" wireless chargers and wireless power pads has created some misunderstanding and misapplication of EMC and Product Safety regulations.

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Why sell to Europe now?

By Donald L. Sweeney

I recently returned from a trip to the European Union. I attended both the ECACB and R&TTE meeting in Lyon, France in May and had sticker shock at how expensive it was for some of the simplest things. I bought some oversized Band-Aids, antiseptic and a sterile cloth to clean and cover an injury I sustained going down a steep grade of a small mountain. It was \$45.00!

When the Euro was first issued, you could buy one Euro for 86 cents U.S. Two weeks ago, I was paying \$1.43 per Euro. That is a 66% increase!

What does this mean to you as a U.S. manufacturer?

Let's say you make a widget that you sold in Europe for 100 Euros in 1999. You received \$86 U.S. for your widget. Today if you can still sell the widget for the same price because you have controlled your cost, you would receive \$143. You are competing with European manufacturers whose expenses have probably gone up close to 66% because the employees are being paid in Euros.

I listened to a presentation a few years ago by a European auto manufacturer. They had a 5-year plan to sell so many cars in the U.S. at a planned price based on the dollar. They felt they had to continue selling that car at that dollar price even though their cost had increased dramatically, simply due to the Euros change in value. They felt the only thing they could do was to move their manufacturing to the U.S. to reduce their manufacturing cost.

What should this be telling you as a U.S. manufacturer?

There is a tremendous opportunity for you manufacturing in the U.S. to not just compete with European manufacturers but to be able to out sell them on price and still make a good profit!

We at D.L.S. can help you meet the regulatory requirements for marketing your product in Europe! Call Steve Grimes, Jack Black or Jim Burgard to learn how.

regulatory requirements **UPDATE** (cont'd)

UL Approval (continued)

Our scope of UL approval includes:

- UL 60950 ITE Equipment
- UL 60065 Audio/Video
- UL 60601 Medical
- UL 61010 Lab Equipment



Performing Leakage Current Test on laboratory device

D.L.S.'s commitment to meet our clients' present and future needs is second to none. We strongly believe that our relationship with UL demonstrates our ability to produce a complete compliance solution for our customers. We can now present you with a truly one-stop-shop for all your certification requirements.

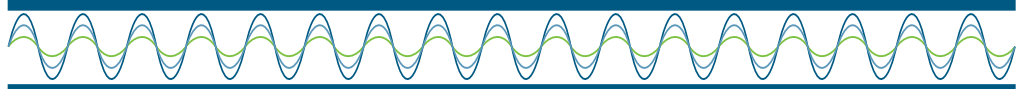
Wireless Qi Mark (continued)

How these regulations apply to these devices depends on how the devices operate at various frequencies and whether or not there is any wireless communication present. Careful attention must be taken to ensure that the correct regulations are applied and tested to, and the correct procedures for regulatory compliance have been followed.

Each different device's application, use, and operation must be reviewed before the proper regulations can be determined and applied. Many of these devices will require that the full administrative and technical requirements of the North American standards and European Union Directives be applied, while others may require minor compliance consideration.

If you are planning to market a wireless power or charging product, please contact us. Let our experience with testing and certification of a number of these devices help you determine your compliance needs.

We offer a full compliance program for North America and the European Union, including the UL Product Safety mark for North American use, and the European CE Mark for compliance to EMC, R&TTE, and Low Voltage Directives.



Safety Updates

Please contact D.L.S. at 847-537-6400 for all your safety compliance needs and to determine how these new requirements will affect your current and future product certifications.

ITE Equipment

The new EN 60950-22:2006 safety standard, covering specific requirements for information technology equipment (ITE) that is installed outdoors, was published on December 1, 2006. In addition, it became effective on December 1, 2010.

The new safety standard amendment EN 60950-1:2006/A1:2010, covering general requirements for information technology equipment (ITE), was published on March 1, 2011. In addition, it is currently scheduled to become effective on March 1, 2013.

Audio Video Equipment

The new safety standard amendment EN 60065:2002/A2:2010, covering general requirements for audio, video and similar electronic apparatus, is currently scheduled to be published on October 1, 2011. In addition, it is currently scheduled to become effective on October 1, 2013.

Household and Similar Appliances

The new safety standard amendment EN 60335-1:2002/A14:2010, covering general requirements for household and similar electrical appliances, was published on November 1, 2010. In addition, it is currently scheduled to become effective on May 1, 2013.

RTCA DO 160G Update

(continued from page 1)

Section 17 Voltage Spike - no changes

Section 18 Audio Conducted Susceptibility

- A 36 amp peak to peak test current limit has been added, which changes from a previous limit of 100 watts.
- Eliminated requirements for 0.6 ohm output impedance for coupling transformers.
- Overall user guide has been added.

Section 19 Induced Signal Susceptibility

- Specifies that power input leads or cables are not applicable to this section.
- A new electric field test has been added with a requirement of 170 Vrms, 400 Hz across all categories and applications.
- Testing has been enhanced for E and H induced fields.

Section 20 Conducted Susceptibility

- HIRF testing: In an effort to provide continuity to similar tests, such as those in FAA Advisory Circular 20-158 and SAE document ARP5583A, changes to phrases and wording has been implemented.
- Provisions have been made in the tailoring of Anechoic Chamber testing procedures, as devices tested for Radiated Susceptibility shall have all exposed faces of the device being tested directly exposed to the test antenna unless specific instances where tailoring of the test procedure is warranted. In this event specific references are to be identified and referenced in the test report and findings.
- Reverberation chamber testing has been changed from Mode Tuned to Mode Stirred.



HIRF Testing

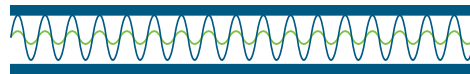
Section 21 Radiated Emissions

- References to VHF and GPS receiver testing have been changed and new Category Q has been added.
- Measurement receiver bandwidth change of 100 kHz to 1 MHz has been moved from 1GHz to 960 MHz.
- 10 kHz bandwidth for notches above 960 MHz are no longer permitted.

Section 22 Lightning Induced Transient Susceptibility

- Added a new waveform, Waveform 6, applicable only to Multiple Burst requirements.
- The resistor methods commonly used for source impedance determination has been eliminated.
- Calibration of Pin Injection, as well as testing set up was updated.
- Update to Users Guide.

Contact D.L.S. at 847-537-6400 today for more details and to determine if your project may be affected by these changes.



CISPR 14 Update

In May 2012, manufacturers declaring to the base standard EN 55014-1 will have to include the Al:2009 amendment.

In September 2009, EN 55014-1:2006 emissions replaced EN 55014-1:2000, A1:2001, A2:2002. The 2000 version with its two amendments can no longer be used in a manufacturer's Declaration of Conformity (DoC). The DoC should now show conformance to EN 55014-1:2006 for emissions.

Amendment 1:2009 (A1:2009) to the base standard EN 55014-1:2006 has been published and has a mandatory implementation date of May 1, 2012. It will be required on this date and thereafter. With A1:2009 being harmonized, a manufacturer can declare prior to this May 2012 transition date and is highly recommended to do so. The amendment allows the use of free field radiated emissions testing (similar to CISPR 22) in place of the absorption clamp method, for testing above 30 MHz.

For more information on the CISPR 14 Update please access our website at www.dlsemc.com/1016.

Why take our class on EMC design?



By Donald L. Sweeney

If you are like most manufacturers of electronic products, you need to comply with many regulatory requirements. This means you need to understand the following:

- The EMC regulations (We discuss FCC, CE, U.S. Military, RTCA-D0 160 and regulations of many foreign countries)
- How an electronic circuit becomes a radio transmitter
- How the physics of even the simplest devices such as capacitors, inductors and shielding can help or hinder your compliance depending on your understanding of them
- How you can control "your" design to minimize emissions

We carry you step-by-step through an understanding of all of the above, including sample calculations, followed by learning to use our proprietary software to assist in future calculation when you return to your office.

We also discuss how to troubleshoot a product that does not meet the requirements.

After the class is over you will be given an opportunity in a one-on-one "Product Review" to discuss your own product, a product you are considering or EMC concerns you have which were never answered for you in the past.

One of my students told me during one of these "Product Reviews," "I would not have even understood what you are talking about had I not just taken your class. Now I see what we have been doing wrong!"

Come and learn for yourself how we can save you possibly 10s or 100s of thousands of dollars and reduce your time to market.

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In response to your many requests
New 3-Day Format

*Keeping the same important concepts and material
presented in a more condensed format*



EMC By Your Design

An EMC Practical Applications Seminar and Workshop
with a free 45 min. individual product design evaluation on Oct. 21,
take home proprietary computer program,
expanded chapter on filter design, signal integrity,
signal return currents on PCB's
and a second textbook at no extra charge

Tuesday October 18 - Thursday October 20, 2011
Hilton Hotel, Northbrook, IL



**We are offering a special
\$300 discount if you register by September 27, 2011**

Classes fill quickly so register early

email cgorowski@dlsemc.com or call 847-537-6400
www.dlsemc.com/1001