



September 2006

EMC Regulatory Update

Dear Colleague,

We have provided typical questions and answers that represent in most cases technical opinions with justification in FCC and CE requirements. The particulars of the product for certification must be considered with respect to the applicability of these questions and answers. We hope you find our update valuable and welcome your feedback if you have any special needs or questions. Call at 703-689-0368 or view archived issues of MultiPoint at our [web site](#).

FCC Label Placement / Battery Compartment

QUESTION: Our client manufactures products that are typically small, such as wireless mice, and they would like to place the FCC Identifier inside the user accessible battery compartment. The FCC Identifier would be visible to the user when they replace the batteries of the device. The placement would not be on a removable door covering the battery, but rather the FCC Identifier label would be on the inside surface of the "main product." This approach would be the same process as found in nearly all cell phones today. Would the FCC allow such an implementation?

ANSWER: The FCC does not allow labels to be placed inside any accessible battery compartment unless on cell phones. It is the FCC's policy that only cell phones are specifically allowed to have labels inside the enclosure of a device. If your client wishes to place such label on a small wireless device, they must apply for exemption from the FCC. The FCC may or may not grant your client permission - this is handled on a case-by-case basis by the FCC.

FCC Class II Permissive Change Policy for Base Station

Question: We have an FCC Part 90 base station that was granted several years ago. The device has not changed and the manufacturer now wants to add an additional emissions designator. The capability of this designator has always been available but not enabled/used. The manufacturer will run this designator at a reduced power than other designators on the original grant. The original application shows the device operates over a power level between 15 to 75 watts. The new designator will only be used at 45 watts. As the ability was always there and as the device has a power operating range between 15 to 45 watts, it would seem that the FCC would allow the change to be made under its Class II Permissive Change policy. Can you confirm this?

Answer: Confirmed, the FCC would allow changes to be filed so that the new emission designator can be added under its Class II Permissive Change policy, since the power operating range capability of the device was intact when the original grant was issued.

Europe: How To Apply the R&TTE Directive on an RLAN Device

QUESTION: Our company was recently informed that the RLAN device we plan to manufacture for Europe requires marking with the CE mark (with the exclamation mark) after notification to the respective EU countries. Our device operates at 20 mW EIRP and in the 2454 MHz -2483.5 MHz band. Can you provide some clarification on this issue?

ANSWER: The CE mark and use is more than just notifying any specific EU country. It deals with what the EU Commission has declared the device to be. In the case of devices operating between 2454 MHz and 2483.5 MHz, the EU Commission has no stated assignment of the aforementioned devices as Class 1 category device. While many manufacturers and others believe that if they use such devices indoors, their device somehow become Class 1 type equipment; this is not true. The Classification deals with the fact that there are restrictions on the device in the EU market. Even if you do not market the product in any country with the restriction, you must still apply the CE mark with the alert symbol. Again, the issue is that the device is above 10 mW, and it operates in the 2454 MHz-2483.5 MHz band and is not classified in the Class 1 category as defined in subclass 22 of Telecommunications Conformity Assessment and Market Surveillance Committee (TCAM). If the device is not defined by the EU Commission in TCAM subclass 22 as being a Class 1 device, and if it has restrictions (regardless if it is marketed in a specific country or not) it is a Class 2 device. This is our understanding of the EU rules governing this type of device. Notified Bodies may have varying opinions on this issue, but in our opinion, a device operating between 2454 MHz and 2483.5 MHz does not fall under subclass 22 and thus is not a Class 1 but rather a Class 2 device. If an applicant does not want to put the alert symbol on the device, then they must reduce the device power in the 2454- 2483.5 MHz range to below 10 mW EIRP. If they do not want to reduce the power, then they must put the alert symbol on the product.

Subclass 22 only states that the 10 mW are Class 1 devices in the 2400-2483.5 MHz range. Anything operating above 2454 MHz and 10 mW has restrictions for indoor use only. That is the restriction and it needs to be noted on the device by the alert symbol – it really does not matter if it is only used indoors or not – the restriction applies. Because subclass 22 specifically leaves out devices over 10 mW in the 2454-2483.5 MHz range, it seems only logical then that an alert symbol would be required on any device not meeting subclass 22 definitions. Many manufacturers assume that RLANs in the 2400- 2483.5 MHz bands are under a fully harmonized use protocol. This simply is not true. Consequently, many manufacturers incorrectly mark devices with an output power greater than 10 mW with only the CE mark.

The following explanation should help you understand the EU Commission decision and why WLAN devices over 10 mW need the alert symbol.

Per the RTTED Annex VI: "The equipment class identifier must take a form to be decided by the Commission in accordance with the procedure laid down in Article 14. Where appropriate it must include an element intended to provide information to the user that the apparatus makes use of radio frequency bands where their use is not harmonized throughout the Community. It must have the same height as the initials 'CE'." devices.

Telecommunications Conformity Assessment and Market Surveillance Committee (TCAM) developed two main classes and a number of subclasses.

- Class 1 devices – use FULLY harmonized – need only the CE marking.
- Class 2 devices – devices whose use is not fully harmonized – need the CE Marking and the Alert symbol.
- RLANs operating in the 2400 – 2454 MHz range at or below 100 mW EIRP have a Class 1 subclass 22 designation.
- RLANs operating in the 2400-2483.5 MHz operating at or below 10 mW also are in the Class 1 subclass 22 designation.

Finally, this particular device operates above 2454 MHz and above 10 mW EIRP. Consequently, operation in the frequency range between 2454 MHz and 2483.5 MHz it is not defined in the EU Commission Decision subclass 22 as Class 1. Since the device operates in the 2454-2483.5 MHz range above 10 mW and since some EU countries have restrictions limited to 10 mW in that range, the device is automatically a Class 2 device as defined in the TCAM documentation, the EU Commission Decision and the RTTED. Class 2 devices in accordance with TCAM and article 1.2 of the Commission Decision 2000/299/EC require the alert symbol.

FCC Test Methodology for 13.56 RFID Products

QUESTION: We were informed that the FCC has a more "relaxed policy" when measuring conducted emissions from 13.56 MHz RFID products. Is this correct?

ANSWER: The FCC does not have a "relaxed policy" towards measuring conducted emissions from 13.56 MHz RFIDs. The test methodology may be what you are thinking of. The FCC allows the RFID antenna to be removed and a resistive load attached to the antenna port and conducted emissions are then retaken. If the 13.56 MHz still fails then the device fails conducted emissions. The FCC allows this method so that any radiated emissions coupling onto the line from the antenna are removed.

FCC Set Aside of TCB Grants

Question: What happens to a TCB grant when the FCC sets aside the grant for 30 days? What are the obligations of the grantee?

Answer: When a TCB issues a grant, the device may be marketed immediately. However, when the FCC audits a TCB issued grant of authorization and finds conditions of non-compliance with its Rules and Regulations, grants less than 30 days old may be set aside under 47CFR Section 1.113 (a). When the FCC sets a grant of authorization aside, marketing must cease. The applicant must contact the FCC to resolve the issue. If a grant is older than 30 calendar days and non-compliance is found; the TCB and the manufacturer must resolve any problem of non-compliance to the satisfaction of the FCC.

INTERNATIONAL UPDATE

CANADA: SPECTRUM UTILIZATION POLICY FOR WBS BAND: 3650-3700 MHZ

Industry Canada (IC) recently released Gazette Notice DGTP-006-06 announcing a proposal to establish the spectrum policy, technical and licensing provisions to accommodate new Wireless Broadband Services (WBS) in the band 3650-3700 MHz. Past industry comments regarding this band have supported general harmonization with the U.S. as being in the best interest of Canadians. In March 2005, the FCC adopted rules, different from their original plans of deploying license-exempt devices, to open access to new spectrum for wireless broadband applications in the band 3650-3700 MHz. Consequently, IC is proceeding with this consultation which proposes to establish the spectrum policy, technical and licensing provisions to accommodate new Wireless Broadband Services in the band 3650- 3700 MHz. Interested parties are invited to submit comments on the proposals to IC before October 2006.

[Link](#)

JAPAN: MIC TO ALLOW LONGER RANGE RFID

Japan's Ministry of Internal Affairs and Communications (MIC) plans to approve the use of active radio frequency identification (RFID) chips that are capable of sending data across a distance of more than 100 meters. The RFID tags for long range data transmission, known as active RFID, have built-in batteries and use high power radio waves. It is expected that MIC will set the radio frequency at 433 MHz, in line with the US standard. Most of the RFID chips currently used in Japan can communicate only over a distance of less than a few dozen centimeters and cannot be used for identifying large items such as cargo containers. [Link](#)

US: FCC ANNOUNCES TIMELINE FOR UNLICENSED DEVICES UNDER 900 MHZ

The FCC released ET Docket No. 04-186 on Sept. 11th announcing the timeline for allowing unlicensed wireless devices access to empty "white spaces" in the current analog TV spectrum. In early 2009, broadcasters are due to switch to digital signals and frequencies below 900 MHz will become open for unlicensed wireless devices. The FCC expects to have interference test results by July 2007 and would set final technical requirements for devices to use those airwaves without an FCC license by October 2007. The FCC expects to accept equipment applications in December 2007 with the goal of having the devices available on retail store shelves by February 2009.

[Link](#)

EU: NEW ETSI STANDARDS RELEASED THIS MONTH

This is a shortened list of the new ETSI standards published during the past month:

- [ETSI TS 102 490 V1.2.1](#) (August 2006) Electromagnetic compatibility and Radio spectrum Matters (ERM); Peer-to-Peer Digital Private Mobile Radio using FDMA with a channel spacing of 6,25 kHz with e.r.p. of up to 500 mW
- [ETSI TS 101 909-4 V1.5.2](#) (August 2006) Digital Broadband Cable Access to the Public Telecommunications Network; IP Multimedia Time Critical Services; Part 4: Network Call Signalling Protocol [Partial Endorsement of ITU-T Recommendation J.162 (11/2005), modified]
- [ETSI EN 300 396-2 V1.3.1](#) (September 2006) Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 2: Radio aspects
- [ETSI EN 302 426 V1.1.1](#) (September 2006) Electromagnetic compatibility and Radio spectrum Matters (ERM); Harmonized EN for CDMA spread spectrum Repeaters operating in the 450 MHz cellular band (CDMA450) and the 410 MHz, 450 MHz and 870 MHz PAMR bands (CDMA-PAMR) covering essential requirements of article 3.2 of the R&TTE Directive
- [ETSI TS 102 361-1 V1.3.1](#) (September 2006) Electromagnetic compatibility and Radio spectrum Matters (ERM); Digital Mobile Radio (DMR) Systems; Part 1: DMR Air Interface (AI) protocol
- [ETSI TS 102 361-2 V1.2.3](#) (September 2006) Electromagnetic compatibility and Radio spectrum Matters (ERM); Digital Mobile Radio (DMR) Systems; Part 2: DMR voice and generic services and facilities
- [ETSI TS 102 361-3 V1.1.3](#) (September 2006) Electromagnetic compatibility and Radio spectrum Matters (ERM); Digital Mobile Radio (DMR) Systems; Part 3: DMR data protocol
- [ETSI TS 102 361-4 V1.2.1](#) (September 2006) Electromagnetic compatibility and Radio spectrum Matters (ERM); Digital Mobile Radio (DMR) Systems; Part 4: DMR trunking protocol

See [ETSI](#) for additional information.

EU: NEW CENELEC STANDARDS RELEASED THIS MONTH

This is a shortened list of the CENELEC standards published during the past month:

- **EN 61534-21:2006** (September 11, 2006) Powertrack systems -- Part 21: Particular requirements for powertrack systems intended for wall and ceiling mounting
- **EN 60061-4:1992/A10:2006** (September 8, 2006) Lamp caps and holders together with gauges for the control of interchangeability and safety -- Part 4: Guidelines and general information
- **EN 60335-1:2002/A2:2006** (August 31, 2006) Household and similar electrical appliances - Safety -- Part 1: General requirements
- **EN 60745-1:2006** (August 31, 2006) Hand-held motor-operated electric tools - Safety -- Part 1: General requirements
- **EN 60335-2-75:2004/A11:2006** (August 31, 2006) Household and similar electrical appliances - Safety -- Part 2-75: Particular requirements for commercial dispensing appliances and vending machines
- **EN 60749-26:2006** (August 25, 2006) Semiconductor devices - Mechanical and climatic test methods -- Part 26: Electrostatic discharge (ESD) sensitivity testing - Human body model (HBM)
- **EN 50338:2006** (August 24, 2006) Safety of household and similar electrical appliances - Particular requirements for pedestrian-controlled battery powered electrical lawn mowers

- **EN 61010-2-020:2006** (August 18, 2006) Safety requirements for electrical equipment for measurement, control, and laboratory use -- Part 2- 020: Particular requirements for laboratory centrifuges
- **EN 62153-4-7:2006** (August 16, 2006) Metallic communication cables test methods -- Part 4-7: Electromagnetic compatibility (EMC) - Test method for measuring the transfer impedance and the screening - or the coupling attenuation - Tube in tube method
- **EN 61326-2-3:2006** (August 16, 2006) Electrical equipment for measurement, control and laboratory use - EMC requirements -- Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning

See www.cenelec.org for additional information.

EU: NEW IEC STANDARDS RECENTLY RELEASED

This is a shortened list of the new IEC standards published during the past month:

- **CISPR 16-SER** (September 13, 2006) Specification for radio disturbance and immunity measuring apparatus and methods - ALL PARTS
- **IEC 61000-4-12** (September 13, 2006) Electromagnetic compatibility (EMC) - Part 4-12: Testing and measurement techniques - Ring wave immunity test
- **CISPR 16-1-1-am1** (September 13, 2006) Amendment 1 - Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus
- **ISO/IEC 17021** (August 31, 2006) Conformity assessment - Requirements for bodies providing audit and certification of management systems
- **IEC 60669-2-2** (August 29, 2006) Switches for household and similar fixed electrical installations - Part 2-2: Particular requirements - Electromagnetic remote-control switches (RCS)
- **IEC 60825-4** (August 16, 2006) Safety of laser products - Part 4: Laser guards
- **IEC 60318-5** (August 16, 2006) Electroacoustics - Simulators of human head and ear - Part 5: 2 cm3 coupler for the measurement of hearing aids and earphones coupled to the ear by means of ear inserts
- **ISO/IEC 17025 Corr.1** (August 15, 2006) General requirements for the competence of testing and calibration laboratories
- **IEC 61000-4-30 Corr.1** (August 15, 2006) Electromagnetic compatibility (EMC) - Part 4-30: Testing and measurement techniques - Power quality measurement methods
- **IEC 61000-4-4 Corr.1** (August 15, 2006) Corrigendum 1 - Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test

See [IEC](http://www.iec.ch) for additional information.

ABOUT US

RTL has provided EMC compliance engineering & testing services since 1988 and has a superior reputation with both the Federal Communications Commission and others in the industry. RTL provides testing services to meet the emissions, immunity, and safety requirements of the European EMC Directive and the EU R&TTE Directive, all FCC rules and regulations, VCCI (Japan), ACMA (Australia), and other international standards.

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