



October 2005

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 Rules for Bluetooth Modules and RF Exposure

QUESTION: We manufacture a Bluetooth module which can be installed in a laptop computer or palm top computer. Does the FCC consider palm top computers and laptop computers to be mobile devices, for purposes of RF exposure, if they have an internal Bluetooth module? If they are considered to be portable devices when a Bluetooth module is installed, is Specific Absorption Rate(SAR) data required for 30 mW or 100 mW?

ANSWER: The requirements for Bluetooth transmitters and related RF exposure requirements are contained in 47 CFR 15.247 and 1.1307. A transmitter operating in or with a laptop or similar computer may be considered either a mobile or a portable device, depending on the design, operating configurations and exposure conditions of the composite setup. Output power levels do not determine if a device is mobile or portable. A palm top computer is typically considered a portable or hand-held and hand-operated only device, depending on its design, operating configurations and exposure conditions. For hand-held and hand-operated only configurations, SAR requirements would apply to the hand and wrist. If the device operates at least 20 cm from the person's body and there are ways to ensure this, Maximum Permissible Exposure (MPE) requirements would apply for the rest of the body. Bluetooth transmitters are required to satisfy the RF exposure requirements of 15.247(b)(4). The FCC typically does not expect RF exposure test data to be submitted with a filing to demonstrate compliance. Sometimes, applicants may choose to include such test data to expedite a filing. However, sufficient information should be included to satisfy the requirements of 15.247(b)(4), which would typically include specific operating and installation instructions/requirements, warning/caution instructions and/or labels when applicable. Based on the supporting information, the operating configurations and exposure conditions of the host and final products that would operate with the Bluetooth transmitter module, if compliance cannot be ensured or determined, SAR or MPE evaluation may be requested with respect to 1.1307(d).

EU WEEE Directive

QUESTION: What are the key provisions and deadlines under the European WEEE Directive?

ANSWER: The Directive came into effect on February 13, 2003 and Member States had to transpose them into national legislation by August 13, 2004. By August 13, 2005, Member States had to ensure that collection systems were set up and producers of electrical and electronic equipment provided for the financing of the collection, treatment, recovery and environmentally sound disposal. Collection means that consumers are able to hand in their old electrical and electronic equipment on a 1:1 basis when they purchase a new product. In addition, there are additional collection points where anybody in possession of WEEE and distributors will be able to return it free of charge. The establishment of such collection points takes into account accessibility and population density. All products put on the market after August 13, 2005 must be marked with a crossed-out rubbish bin, so consumers will know that they cannot simply throw away these products.

By December 31, 2006, EU Member States must ensure a rate of separate collection of 4 kg per inhabitant and year. Producers must meet various recovery and recycling/reuse targets for WEEE sent for treatment, calculated based on the average weight of the appliances in question. Priority is to be given to repairing the equipment so that it can be reused. Where this is not possible, the WEEE Directive sets targets for the reuse of components, and for the recycling and recovery of the materials it contains. For example, the recovery rate in the case of large domestic appliances, such as refrigerators and microwaves, is a minimum of 80%, and the rate of reusing/recycling their components, materials and substances is 75%. The recovery rate for small domestic appliances, lighting equipment, electrical and electronic tools, toys, leisure and sports equipment and monitoring and control instruments is 70%, and the reuse/recycling rate of their components, materials and substances is 50%. Different recovery and reuse/recycling targets are fixed per category.

RFID System Antenna Gain

QUESTION: How does the FCC determine the antenna gain for RFID systems with both vertical and horizontal radiating elements under 15.247?

ANSWER: Some RFID systems transmit simultaneously on both a vertical and a horizontal antenna to improve the read rates for tags that have unpredictable orientations. For such systems, the FCC uses the highest linear vertical and horizontal gain to determine compliance with Section 15.247. As an example, an RFID tag reader that employs a 6 dBi gain vertical antenna and a 6 dBi gain horizontal antenna will be treated as having a 6 dBi gain. An RFID tag reader that employs a 9 dBi gain vertical antenna and a 6 dBi gain horizontal antenna will be treated as having 9 dBi gain. Section 15.247 limits the conducted output power to 1 Watt. Therefore, for systems that employ a single transmitter to feed both the vertical and horizontal antenna, the total power may not exceed 1 Watt. Similarly, if separate transmitters are used to feed each antenna element, the aggregate conducted output power may not exceed 1 Watt. Note that Section 15.247 requires a reduction in conducted output power for antenna gains in excess of 6 dB for certain frequency bands.

Two FCC Identifiers for 900 MHz base & 2.4 GHz handset cordless telephones

QUESTION: We have a cordless phone that operates in two different frequency bands, 2.4 GHz and 5.8 GHz, and now requires FCC certification under one FCC identifier. Will the Commission allow both transmitters under one identifier?

ANSWER: The FCC requires a cordless telephone that operates on two different frequency bands to be approved under two separate FCC ID numbers, one for the base and one for the handset. The reasons behind this are as follows:

1. This type of device is not a composite device. A composite device is two different devices in one enclosure or separate enclosures connected by wire or cable, such as a receiver and transmitter. The base and handset of a cordless telephone are two different enclosures (not connected by a wire or cable). One cannot treat them as a composite device.
2. Section 15.214(a) of the Rules states a single application form may be filed for a cordless telephone system. However, this rule was written when cordless telephones operated at 46 or 49 MHz (under Section 15.233 of the FCC Rules) and both transmitters were identical. It is logical to not require a separate FCC ID number for a base and handset transmitter if both transmitters are identical. As cordless telephones systems evolved, the FCC expected that they would extend this rule to cover cordless telephones that operated at 902- 928 MHz (under Section 15.249 of the Rules), 902- 928 MHz (under Section 15.247), and 2402-2483 MHz (under Section 15.247). But, the stipulations for applying Section 15.214(a) to these devices were as follows: (1) the system had to be a cordless telephone system, and (2) the base and handset transmitters had to be identical (i.e., operate in the same frequency band). Clearly, the cordless telephone system that is described in the aforementioned question does not do this; therefore, it should be approved as two separate devices under different FCC ID numbers.

If any equipment exists similar to the one described above, it may have been granted by the Commission in error. However, the Commission on numerous other occasions has required other companies to obtain separate FCC ID numbers for a base and handset cordless telephone transmitter that did not operate in the same frequency band.

INTERNATIONAL UPDATE

US: FCC REALLOCATES 2155 - 2160 MHz BAND

On September 29, 2005, the FCC released its Eighth R&O in ET Docket No. 00-258 which continues to promote spectrum utilization and efficiency with regard to the provision of new services, including Advanced Wireless Services (AWS). Advanced wireless systems could provide, for example, a wide range of voice, data and broadband services over a variety of mobile and fixed networks. Specifically the Eighth R&O reallocates the 2155-2160 MHz band for Fixed and Mobile services and designates the 2155-2175 MHz band for the provision of AWS. The Eighth R&O is the latest in a series of decisions in ET Docket 00-258 allocating spectrum that can be used for the provision of new and innovative wireless communications services.

- [FCC Link](#)

EU: NEW STANDARDS RELEASED THIS MONTH

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

- EN 60376:2005 Specification of technical grade sulfur hexafluoride (SF6) for use in electrical equipment CLC/SR 10 2005-10-04
- EN 60740-1:2005 Laminations for transformers and inductors -- Part 1: Mechanical and electrical characteristics CLC/SR 51 2005-10-03
- EN 50288-7:2005 Multi-element metallic cables used in analogue and digital communication and control -- Part 7: Sectional specification for instrumentation and control cables CLC/SC 46XC 2005-09-30
- EN 50412-2-1:2005 Power line communication apparatus and systems used in low-voltage installations in the frequency range 1,6 MHz to 30 MHz -- Part 2-1: Residential, commercial and industrial environment - Immunity requirements CLC/SC 205A 2005-09-29
- EN 62328-2:2005 Multimedia home server systems - Interchangeable volume/file structure adaptation for broadcasting receivers -- Part 2: General recording structure CLC/SR 100 2005-09-27
- EN 62328-1:2005 Multimedia home server systems - Interchangeable volume/file structure adaptation for broadcasting receivers -- Part 1: General description and architecture CLC/SR 100 2005-09-27
- EN 62365:2005 Digital audio - Digital input-output interfacing - Transmission of digital audio over asynchronous transfer mode (ATM) networks CLC/SR 100 2005-09-23
- EN 61300-2-42:2005 Fibre optic interconnecting devices and passive components - Basic test and measurement procedures -- Part 2-42: Tests - Static side load for connectors CLC/TC 86BXA 2005-09-21
- EN 61300-2-18:2005 Fibre optic interconnecting devices and passive components - Basic test and measurement procedures -- Part 2-18: Tests - Dry heat - High temperature endurance CLC/TC 86BXA 2005-09-21
- EN 60519-10:2005 Safety in electroheat installations -- Part 10: Particular requirements for electrical resistance trace heating systems for industrial and commercial applications CLC/SR 27 2005-09-19
- EN 50065-2-1:2003/A1:2005 Signalling on low- voltage electrical installations in the frequency range 3 kHz to 148,5 kHz -- Part 2-1: Immunity requirements for mains communications equipment and systems operating in the range of frequencies 95 kHz to 148,5 kHz and intended for use in residential, commercial and light industrial environments CLC/SC 205A 2005-09-16
- EN 60947-4-1:2001/A2:2005 Low-voltage switchgear and controlgear -- Part 4-1: Contactors and motor-starters - Electromechanical contactors and motor-starters CLC/TC 17B 2005-09-14
- EN 61937-7:2005 Digital audio - Interface for non- linear PCM encoded audio bitstreams applying IEC 60958 -- Part 7: Non-linear PCM bitstreams according to the ATRAC, ATRAC2/3 and ATRAC-X formats CLC/SR 100 2005-09-07

[Cenelec Link](#)

CANADA: NEW REVISION OF RSS-132

On October 1, 2005, Industry Canada released a new version of Radio Standards Specification 132 (RSS- 132) which sets out requirements for the certification of transmitters and receivers for cellular systems in the 824-849 MHz and 869-894 MHz bands employing new technologies. This RSS was updated in order to include new technical specifications to account for technology changes of cellular devices. This issue was also reformatted as a result of the relocation to RSS-Gen of the general requirements common to all or most RSSs. This revised RSS is: Radio Standards Specifications 132, Issue 2, Cellular Telephones Employing New Technologies Operating in the Bands 824-849 MHz and 869-894 MHz (RSS-132) [Industry Canada Link](#)

KOREA: MIC CHANGES APPROVAL NUMBERING AND LABELING SCHEME

On 9/29/05, Korea's Ministry of Information and Communication, MIC, announced changes to the MIC approval numbering and labeling system.

1. The MIC certificate ID numbering system has changed. The new system is similar to that of the FCC. The applicant must first apply for a 3 digit applicant ID code. The 3 digit ID code will remain constant for the applicant. The applicant will then chose the remainder of the digits of the ID.
2. The product certification marking method has changed. The size of the MIC label can be enlarged or reduced at a uniform ratio depending on the size of the device. Additionally, certification marking must be produced by a proper method such as engraved index sticker or printing according to the equipment material and solidly affixed on a conspicuous location of the equipment. If it is difficult to put a MIC label on a very small device, then just the MIC grantee code number or MIC logo can be affixed to the product.
3. Devices requiring MIC/RRL or EMC registration must be marked as a commercial usage device or a home usage device at the end of certification number.
4. The applicant name, equipment name (model number), manufacturer date, manufacturer, origin country and grantee code (applicant identification code) must be shown in the user manual or product box.

EUROPE: THE EU PROPOSES ADVANCING THE SINGLE MARKET FOR RADIO SPECTRUM USE

Recently, the European Commission presented a new EU strategy for an optimal use of radio spectrum in Europe. The proposed EU strategy aims to lower the barriers to access radio resources and to take advantage of the synergies resulting from a common European approach.

The development of an integrated EU wireless market is dependent on a common approach at the EU level to managing radio spectrum resources. Currently, radio spectrum usage is somewhat fragmented among the 25 Member States. The Commission has proposed to develop common EU rules for a number of promising new mass-market applications, including Ultra Wideband and Broadband Wireless Access technologies as well as wireless barcodes for Radio Frequency Identification Tags (RFIDs).

The new Commission strategy also advocates overcoming the rigidity of traditional radio spectrum management approaches, where administrations tie usage rights of individual spectrum bands to specific transmission technologies and too narrow service definitions such as broadcasting or mobile communications. A greater flexibility in access to spectrum will give market players more freedom to use radio resources as they choose. This is an essential condition for achieving the full potential of radio spectrum resources and for keeping pace with technological advances and convergence both of technology platforms and of services.

As part of its spectrum reform strategy, the Commission also proposes that, between now and 2010, the exclusive usage rights for significant parts of the radio spectrum ought to be made tradable according to common EU rules. As a de-regulated access to spectrum can encourage the development and use of innovative technologies, the Commission's new strategy finally foresees investigating further the opportunities to make available license-free radio frequencies to allow different users to share bands as already the case for WiFi radio access. In the Commission's view, a better use of the

spectrum can also be achieved by seeking actively to free up parts of the radio spectrum for new uses. For instance, the current transition from analogue to digital broadcasting may lead to a considerable spectrum dividend . The Commission wishes to begin a discussion with the EU Member States on the extent to which part of this spectrum could be made available for new pan-European services, including converged applications such as mobile TV and data services. The new Commission strategy on radio spectrum is part of Commissioner Reding 's initiative i2010 a European Information Society for growth and jobs , adopted by the Commission on 1 June 2005 (see IP/05/643).

- [EU Link](#)

US: FCC WILL HOLD 3G SAR ROUND TABLE DISCUSSIONS

The Laboratory Division of the Office of Engineering and Technology (OET) will hold "Round Table" discussions on Equipment Authorization matters on October 25, 2005. The main topic of discussion will be "Radiofrequency Exposure Compliance Procedures for evaluating 3-G Portable Devices." These "Round Table" discussions are being held in order to try to identify methods and policies that may improve existing test procedures for evaluating these advanced wireless devices for Specific Absorption Rate (SAR) compliance and thereby simplify and streamline the equipment authorization process. The focus of the discussion will be to enable applicants and test laboratories to identify mechanisms that can further improve the FCC 's service to the public and to further a common understanding of the rules and of industry standards, measurement procedures, and application submittal requirements. The FCC will limit discussions to general means and methods for configuring 3-G devices, including CDMA-2000, EV- DO, DV-DV, WCDMA, HSDPA, according to established standards (3GPP2, 3GPP, TIA etc.) for SAR evaluation and to inform the public on its policies, rules, and regulations.

- [FCC Link](#)

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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Last revised: October 7, 2005