



April 2007

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](#).

Dual Band Portable GMRS and FRS Radio

QUESTION: Our newest product under development is a dual band portable GMRS and FRS radio operating in the 467 MHz band. What are the FCC technical requirements and special considerations for such a device?

ANSWER: This device is authorized under FCC Part 95 Subpart A "General Mobile Radio Service" (Sections 95.1 through 95.183 and Appendix A) and Part 95 Subpart B "Family Radio Service" (Sections 95.191 through 95.194) of the FCC rules. The technical requirements for this device can be found in Part 95 Subpart E "Technical Regulations" (sections 95.601 through 95.678 and Appendix 1). Please keep in mind the following special certification considerations:

- **Radiated Power:** The power selection must be automatic based on the service channels selected - users or other third party selections or configurations are not allowed. The applicant must clearly state how the power control is implemented and how users or third parties are prevented from selecting or configuring GMRS power when operating on FRS channels. The power limit for a portable device (a small non fixed base station) operating on GMRS channels is up to 5 W Effective Radiated Power (ERP) and up to 500 mW ERP for 'FRS ONLY' channels. The ERP must be measured for both modes and must be listed on the grant of authorization.
- **Bandwidth Requirements:** The authorized bandwidth for a GMRS channel is up to 20 kHz with a default of 12.5 kHz. FRS channels are only authorized to occupy a bandwidth up to 12.5 kHz.
- **Antenna Requirements:** Only an integral antenna is allowed to operate in the FRS and GMRS bands.
- **Manual Requirements:** The user's manual must include information stating that operation on GMRS frequencies requires an FCC license, and such operation is subject to additional rules specified in Part 95 including prohibited communications in Section 95.183.

Radio Frequency (RF) Safety Requirements: RF Exposure procedures for GMRS devices can be found in "Evaluation Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields" ([OET Bulletin 65](#)) and associated supplement C.

FCC Rules for Integral Antenna Connectors

QUESTION: Our firm plans to manufacture a Part 15 intentional radiator and we would like to install a locking antenna connector that can snap-on, but is not removable without breaking either the connector or PC board. Would this type of connector qualify as an integral antenna connector?

ANSWER: Under Part 15 of the FCC rules, Section 15.203 contains the requirements for an antenna attached to an intentional radiator. A permanent locking antenna connector is acceptable as long as it cannot be removed with a special tool available to the end user. As long as the end user cannot replace the antenna with another antenna, under any circumstances, the locking antenna connector is acceptable.

FCC Rules Cordless Phones

QUESTION: We are designing a cordless phone in which the remote and base units operate under different frequencies. Can both the remote and base unit be filed under the same FCC Identifier?

ANSWER: Yes, generally a single FCC Identifier may be used for cordless phones (which meet the Part 15.214 cordless phone definition) in which the remote and base units operate under different frequencies.

Jamaican Type Approval

QUESTION: We have a 2.4 GHz device certified in the US and Canada and also tested to the EU requirements under the R&TTE Directive. We have some potential sales in Jamaica for the device. Does Jamaica have any regulatory requirements?

ANSWER: In Jamaica, the 2.4 GHz band is license exempt spectrum but Jamaica's Spectrum Management Authority (SMA) still requires type approval. The process of type approval involves an assessment of the technical specifications of the device to ensure that it is suitable for operations in the license exempt bands in Jamaica and that it conforms to the required international standards.

For the 2.4 - 2.4835 GHz band, Jamaica's SMA specifies 1) the hopping channels should have a minimum bandwidth of 1 MHz; 2) if the minimum number of hopping channel is 15, then the average time within the hopping channel should be 0.4 sec. times 15 (hopping channels), and the power should be 0.125 Watt; and 3) if the minimum number of hopping channel is 75, then the average time within the hopping channel should be 0.4 sec. times 75.

Combination FRS and Portable Marine VHF Device

QUESTION: We plan to manufacture a combination FRS and portable marine VHF device. What is the best way to approach FCC certification of this device?

ANSWER: Your combination radio can be approved as a composite device under equipment authorization procedure Section 2.925 (b). A single FCC Identifier can be assigned when the device is assembled in a common enclosure, on a common chassis or circuit board with common frequency controlling circuits. Separate FCC Identifiers may be assigned to a device constructed on separate sub-units or circuit boards with independent frequency controlling circuits as explained in Section 2.925 (b)(1).

INTERNATIONAL UPDATE

EU: NEW CENELEC STANDARDS RELEASED THIS MONTH

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

- **CLC/TR 50493:2007** (4/13/2007) National wordings of laser warning labels
- **EN 62273-1:2007** (4/12/2007) Methods of measurement for radio transmitters -- Part 1: Performance characteristics of terrestrial digital television transmitters
- **EN 60947-6-2:2003/A1:2007** (3/30/2007) Low-voltage switchgear and controlgear -- Part 6-2: Multiple function equipment - Control and protective switching devices (or equipment) (CPS)
- **EN 55016-1-1:2007** (3/30/2007) Specification for radio disturbance and immunity measuring apparatus and methods -- Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus
- **EN 55011:2007** (3/29/2007) Industrial, scientific and medical (ISM) radio-frequency equipment - Electromagnetic disturbance characteristics - Limits and methods of measurement

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:

- **IEC 60825-1** (3/30/07) Safety of laser products - Part 1: Equipment classification and requirements
- **IEC 60601-1-2** (3/30/07) Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests
- **IEC 60934** (3/30/07) Circuit- breakers for equipment (CBE)
- **IEC 60086-1** (3/29/07) Primary batteries - Part 1: General
- **IEC 60730-1** (3/28/07) Automatic electrical controls for household and similar use - Part 1: General requirements
- **IEC 60335-2-53** (3/21/07) Household and similar electrical appliances - Safety - Part 2-53: Particular requirements for sauna heating appliances
- **IEC 60335-2-24** (3/21/07) Household and similar electrical appliances - Safety - Part 2-24: Particular requirements for refrigerating appliances, ice- cream appliances and ice-makers
- **IEC 61587-1** (3/20/07) Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297 - Part 1: Climatic, mechanical tests and safety aspects for cabinets, racks, subracks and chassis

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

EU: NEW ETSI STANDARDS RELEASED THIS MONTH

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

- [ETSI TR 102 649- 1 V1.1.1](#) (April 2007) Electromagnetic compatibility and Radio spectrum Matters (ERM); Technical characteristics of RFID in the UHF Band; System Reference Document for Radio Frequency Identification (RFID) equipment; Part 1: RFID equipment operating in the range from 865 MHz to 868 MHz
- [ETSI EN 300 676-1 V1.4.1](#) (April 2007) Electromagnetic compatibility and Radio spectrum Matters (ERM); Ground-based VHF hand-held, mobile and fixed radio transmitters, receivers and transceivers for the VHF aeronautical mobile service using amplitude modulation; Part 1: Technical characteristics and methods of measurement
- [ETSI TR 102 495- 3 V1.2.1](#) (April 2007) Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Technical characteristics for SRD equipment using Ultra Wide Band Sensor technology (UWB); System Reference Document Part 3: Location tracking applications type 1 operating in the frequency band from 6 GHz to 9 GHz for indoor and outdoor usage
- [ETSI TS 125 113 V7.6.0](#) (March 2007) Universal Mobile Telecommunications System (UMTS); Base station and repeater electromagnetic compatibility (EMC) (3GPP TS 25.113 version 7.6.0 Release 7)
- [ETSI TS 102 562 V1.1.1](#) (March 2007) Electromagnetic compatibility and Radio spectrum Matters (ERM); Improved spectrum efficiency for RFID in the UHF Band

See [ETSI](http://www.etsi.org) for additional information.

CANADA: 5850 - 5925 MHZ SPECTRUM PLANS

On March 31, 2007, Industry Canada announced its proposed spectrum utilization policy and technical/licensing requirements to introduce Dedicated Short-Range Communications (DSRC)-based Intelligent Transportation Systems (ITS) applications in the band of 5850 - 5925 MHz. Industry Canada has received comments which support this allocation and now Industry Canada is undertaking a full consultative review of the band. Industry Canada is seeking industry comment on this spectrum proposal. [Link](#)

US: RULES FOR PRIVATE LAND MOBILE RADIO SYSTEMS TO TRANSITION TO 6.25 KHz NARROWBAND

On March 22, 2007, the FCC adopted a third Report and Order that declines, for now, to establish a fixed date for private land mobile radio (PLMR) systems in the 150-174 MHz and 421-512 MHz bands to transition to 6.25 kHz narrowband technology. The FCC strongly urges licensees to consider migrating directly to 6.25 kHz technology rather than first adopting 12.5 kHz technology and later migrating to 6.25 kHz technology. The Order also revises the implementation date of the 6.25 kHz equipment certification rules from January 1, 2005 to January 1, 2011. [Link](#)

EU: NEW GUIDE FOR EU DIRECTIVE

On March 22, 2007, The European Commission released its revised Guide for the EU Directive. The main purpose of the document is to give guidance on certain matters and procedures of the Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility. The main modifications made in Directive 2004/108/EC as compared to the Directive 89/336/EEC are as follows:

- The new legal text makes a clear distinction between the requirements and assessment procedures for apparatus and for fixed installations;
- Definitions are included for apparatus and fixed installations;
- Fixed installations, although they must comply with the protection requirements, require neither an EC Declaration of Conformity (DoC) nor CE marking;
- Mobile installations are considered apparatus;
- For apparatus, there are changes in the documentation and information requirements;
- The conformity assessment procedure for apparatus has been simplified to a single procedure. There is no compulsory involvement of a third party, but the manufacturer has the option of presenting his technical documentation to a Notified Body for assessment;
- When deviating from the European harmonised standards or not applying them fully, the manufacturer has to perform an EMC assessment and provide detailed documentary evidence that the apparatus complies with the protection requirements of the EMC Directive;
- Apparatus intended for a given fixed installation and not otherwise commercially available may be exempt from the requirements and procedures for apparatus (e.g. EC Declaration of Conformity and CE marking), provided that certain documentation requirements are met, including precautions to be taken in order not to compromise the EMC characteristics of the fixed installation;
- The regulatory role of Competent Bodies has been removed. [Link](#)

JAPAN: 315 MHZ BAND

Japan's Ministry of Communication (MIC) is in the process of modifying its Radio Law so that tire pressure monitors and remote keyless entry systems can operate on the 315 MHz band. Existing Japan Radio Law currently allows low power emission radio stations to operate between 312 MHz and 315.25 MHz. [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.

A special thank you to those who have recommended and contributed articles for our newsletter. Please continue to forward new and interesting material to our attention: multipt@rheintech.com. We respect the privacy of our customers and colleagues. If you would like to cancel your MultiPoint updates, please follow the instructions at the end of this email. The information in the MultiPoint update is subject to change without notice. [Learn More](#)

email: multipt@rheintech.com
phone: 703-689-0368
web: <http://www.rheintech.com>

Last revised: April 19, 2007