



September 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](#).

Grantee Code Modification

QUESTION: How does one change an address on a Grant of Application?

ANSWER: Changes to address, contact information or company name for a Grantee Code can be done on-line at this [link](#).

Address and contact information can be changed on line, using the Grantee Code and Grantee Code Registration Number, without FCC intervention and changes take effect immediately. However, changes in name, ownership, assigning, or transferring of responsibility associated with a Grantee Code require FCC review and approval. The website will require uploading of supporting documentation necessary for the FCC to review and approve the change. The documents must contain a general statement explaining the reason for the name change, merger, buy-out, etc. with supporting correspondence from all parties involved.

Example: Company A (Old Grantee) - declaring transfer of responsibility to Company B (New Grantee)
Company B (New Grantee) - declaring they accept responsibility for continued compliance of products previously the responsibility of Company A (Old Grantee).

The documents should be on company letterhead and the information should include names, contact information, and titles. Acceptable file formats are listed as a drop down on the attachments page of the Grantee Code Modification module. A change request should be approved within four business days. Copies of the grants with the corrected address may be obtained on the website generic search.

The Grantee Code is the first three characters of the FCC ID. The remaining characters uniquely identify an individual grant associated with a specific type of device or product. Normally one Grantee Code will have many grants associated with it. Modifying the address, contact information, or company name through the on-line process will change the grantee address of all grants that are prefixed with this one Grantee Code.

If the Grantee Code Registration Number is not known, please contact easadmin@fcc.gov. Include sufficient information in the request to substantiate that the requestor is the Grantee of record. Assigned since April 2005, the Grantee Code Registration Number is a secure access pin that allows modification of the company name associated with a Grantee Code as well as a change in address or other Grantee information. This Grantee Code Registration Number should be shared only with individuals authorized by the Grantee to make changes.

FCC Requirements for Wireless Devices

QUESTION: We are a wireless manufacturer and have the following two questions regarding the new products we are designing:

1. What are the FCC requirements for using the CDMA 1.25 MHz bandwidth signal over the air and using an up-converter to up-convert this signal to 2.4 GHz? After utilizing the up-converter, the device would then transmit this signal to another unit within a building and using a down-converter, down-convert this 2.4 GHz signal to 800 MHz or 1900 MHz.
2. Is operation in an airplane of UNII devices, under 47 CFR Part 15 Subpart E operating in the 5.15-5.25 GHz band, considered indoor operation?

ANSWER:

1. This device requires authorization as a composite device under Section 15.247 or 15.249 and under Part 22 and Part 24. Under Section 15.247 or 15.249, the device must comply with all technical requirements, regardless of the multiple input signals in the 800/1900 MHz band. The down converter must comply with Part 22 and/or 24 licensed service rules regardless of the signal states and configuration of the Section 15.247 or 15.249 input signals.
2. Yes, under the current rules, operation in an airplane is considered indoor operation. However, please note that operation in a train or in an automobile is not considered indoor operation.

FCC Part 90

QUESTION: We manufacture a 5- Watt Part 90 transmitter operating at 27.45 - 27.49 MHz. This device transmits only upon command a 1 second CW signal for purposes of measuring leakage ingress into cable systems. The FCC has approved similar devices in the past - devices with G1D emission designator at 20-Watt . Our device is unusual in that it utilizes NON emissions. Can our device be certified under Part 90, given the type of emissions and frequency of operation?

ANSWER: FCC Part 90.209 authorizes 20 kHz maximum bandwidth for devices operating in the 25-50 MHz band. The applicable mask falls under Mask C, part 90.210. If these specifications can be met, along with the other out-of-band emissions limits, the device may be deemed by the FCC to be certifiable. Please note that the FCC Licensing Division may not allow this type of operation in this band. You are best advised to contact the FCC Wireless Bureau concerning licensing issues:

- E-Mail: fccinfo@fcc.gov
- Written Inquiries: Written inquiries concerning cellular/PCS/paging issues may be sent to:
- Telephone Inquiries: Inquiries via telephone may be directed to the FCC's Consumer Center toll free at 1-888-CALL- FCC (1-888-225-5322) or by TDD at 1-888- 835-5322 (TELL-FCC)
- Records Research: To conduct research and obtain information from official FCC records pertaining to wireless issues, contact the FCC's Reference Information Center at 202-418-1355

FCC Testing of Meters

QUESTION: Our firm designs and manufactures water meters. We would like to know whether a Part 15 water meter transceiver used only in water pit installations, in the ground, using metallic, concrete, or plastic enclosures should be tested in a typical installation as opposed to on an Open Area Test Site (OATS)?

ANSWER: Yes, however, the FCC would only allow the device to be authorized for use in pit installations in the ground as stated in the application and as tested. The Grant will be conditioned accordingly. Professional installation is required, and the instructions must provide appropriate details for the installation of the transmitter in the pits and must specify the types of pits and lids that can be used and provide any materials necessary to comply with the conditions of the Grant.

When compliance tests are performed, it is important to ensure that the receiving antenna is not placed on a tripod with a fixed height. A mast that allows the receiving antenna to be raised and lowered between 1 and 4 meters must be used to aid in determining the maximum signal. In addition, when making radiated emissions tests, if a continuous azimuth search cannot be made Section 8.1 in ANSI C63.4 should be consulted. Frequency scans of the Equipment Under Test (EUT) field strength with both polarities of the measuring antenna shall be made at a minimum of 16 azimuth angles (nominally 22.5 degrees apart) around the EUT.

Licensed Radio Device Testing

QUESTION: We manufacture licensed radios and have the following questions:

1. What test procedure must be followed when testing licensed radios for radiated field strength measurements according to 47CFR 2.1053?
2. Under what circumstance can direct field strength measurements as specified in ANSI C63.4 2003 be used for licensed devices instead of the substitution method?
3. Since Part 15 devices use ANSI C63.4- 2003 measurement procedures at listed or certified OATS sites that require calibration, which is effectively the same substitution method used in TIA-603-C-2004, why can't ANSI C63.4-2003 measurement procedures be used (at an OATS site) as an alternative method for licensed transmitters?
4. When testing a licensed radio at a listed or certified OATS site, should one use a separate signal generator as part of the calibrated substitution setup?
5. When a signal generator cannot generate the field strength needed to measure the Equipment-Under-Test (EUT), could a lower value field strength be used to calibrate the substitution field strength?

ANSWER: Please see the following in response to your questions:

1. Communications Equipment Measurement and Performance Standards (ANSI/TIA-603-B-2002) (Superseded by TIA- 603-C-2004) is the test procedure for licensed devices. This document provides definition, method of measurement and performance standards for radio equipment used in the Private (Dispatch) Land Mobile Services that employ FM or PM modulation, for transmission of voice or data using analog or digital techniques, with a frequency of 1 GHz or less.
2. None. There are no circumstances for using direct field strength measurements for radiated measurements over the substitution method for licensed transmitters. The FCC requires the substitution method under all circumstances. Sections 2.2.17 and 2.1.12 of ANSI/TIA-603 are the basis for the substitution method.
3. ANSI/TIA C63.4-2003 test methods cannot be used as an alternative for licensed transmitters. First, there is no requirement for licensed transmitters to be tested for compliance at listed or certified C63.4 EIA/TIA test sites. Second, if licensed transmitters are tested at a qualified C63.4 EIA/TIA test site, the TIA-603-C-2004 test procedure still must be used.
4. Yes, there is no alternative method for testing licensed radios. Independent calibration substitution measurements must be made for licensed radios. The FCC's current practice is to reference separate standards for licensed and unlicensed devices. ANSI/TIA-603-B-2004 is the test method for licensed radios (substitution method), ANSI/TIA C63.4-2003 is the test method for part 15 and part 18 unlicensed devices (Direct radiated measurement at a calibrated OATS site).
5. Yes, one can use the signal generator at a lower level as a calibrated field strength for the required higher field strength. For example, a signal generator that can only generate a calibrated field strength of 100 dBuV/m at the point of measurement can be used to simulate a value of 120 dBuV/m, by adding 20 dB to the 100 dBuV/m calibrated field strength.

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 50511:2007** (8/30/2007) Railway applications - Communications, signalling and processing systems - ERTMS/ETCS - External signalling for lines equipped with ERTMS/ETCS Level 2
- **EN 62317-1:2007** (8/31/2007) Ferrite cores - Dimensions -- Part 1: General specification
- **EN 61968-4:2007** (8/31/2007) Application integration at electric utilities - System interfaces for distribution management -- Part 4: Interfaces for records and asset management
- **EN 61097-1:2007** (8/31/2007) Global maritime distress and safety system (GMDSS) -- Part 1: Radar transponder - Marine search and rescue (SART) - Operational and performance requirements, methods of testing and required test results
- **EN 61800-5-1:2007** (9/7/2007) Adjustable speed electrical power drive systems -- Part 5-1: Safety requirements - Electrical, thermal and energy
- **EN 61131-2:2007** (9/7/2007) Programmable controllers -- Part 2: Equipment requirements and tests
- **EN 60064:1995/A4:2007** (9/14/2007) Tungsten filament lamps for domestic and similar general lighting purposes - Performance requirements
- **EN 50173-3:2007** (9/14/2007) Information technology - Generic cabling systems -- Part 3: Industrial premises

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 61912-1** (8/23/2007) Low-voltage switchgear and controlgear - Overcurrent protective devices - Part 1: Application of short-circuit ratings
- **IEC 62127-1** (8/23/2007) Ultrasonics - Hydrophones - Part 1: Measurement and characterization of medical ultrasonic fields up to 40 MHz
- **IEC 60730-2-17-am2** (August 29, 2007) Amendment 2 - Automatic electrical controls for household and similar use - Part 2-17: Particular requirements for electrically operated gas valves, including mechanical requirements
- **IEC 60974-10** (8/29/2007) Arc welding equipment - Part 10: Electromagnetic compatibility (EMC) requirements
- **IEC 62135-2** (8/29/2007) Resistance welding equipment - Part 2: Electromagnetic compatibility (EMC) requirements
- **IEC 61193-2** (8/30/2007) Quality assessment systems - Part 2: Selection and use of sampling plans for inspection of electronic components and packages
- **IEC 60086-4** (9/10/2007) Primary batteries - Part 4: Safety of lithium batteries
- **IEC GUIDE 115** (9/11/2007) Application of uncertainty of measurement to conformity assessment activities in the electrotechnical sector
- **ISO/IEC 18046-3** (9/13/2007) Information technology - Radio frequency identification device performance test methods - Part 3: Test methods for tag performance
- **ISO/IEC 28360** (9/13/2007) Information technology - Office equipment - Determination of chemical emission rates from electronic equipment

See [IEC](#) 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 EN 301 447 V1.1.1](#) (August 2007) Satellite Earth Stations and Systems (SES); Harmonized EN for satellite Earth Stations on board Vessels (ESVs) operating in the 4/6 GHz frequency bands allocated to the Fixed Satellite Service (FSS) covering essential requirements of article 3.2 of the R&TTE directive
- [ETSI EN 302 194-2 V1.1.2](#) (August 2007) Electromagnetic compatibility and Radio spectrum Matters (ERM); Navigation radar used on inland waterways; Part 2: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive
- [ETSI EN 301 489-23 V1.3.1](#) (August 2007) Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 23: Specific conditions for IMT-2000 CDMA Direct Spread (UTRA) Base Station (BS) radio, repeater and ancillary equipment
- [ETSI EN 302 217-2-2 V1.2.3](#) (September 2007) Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas; Part 2-2: Harmonized EN covering essential requirements of Article 3.2 of R&TTE Directive for digital systems operating in frequency bands where frequency co-ordination is applied
- [ETSI TR 102 433 V1.2.1](#) (September 2007) Electromagnetic compatibility and Radio spectrum Matters (ERM); Digital Private Mobile Radio (DPMR) using a channel spacing of 6,25 kHz and operating in specified VHF and UHF bands under general authorization without individual rights; System reference document
- [ETSI TR 102 495-2 V1.2.1](#) (September 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 2: Object Discrimination and Characterization (ODC) applications for power tool devices operating in the frequency band of 2,2 GHz to 8,5 GHz
- [ETSI TS 102 545-1 V1.1.1](#) (September 2007) Broadband Radio Access Networks (BRAN); HiperMAN; Conformance Testing for WiMAX/HiperMAN 1.3.1; Part 1: Protocol Implementation Conformance Statement (PICS) proforma
- [ETSI EN 301 489-24 V1.4.1](#) (September 2007) Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 24: Specific conditions for IMT-2000 CDMA Direct Spread (UTRA) for Mobile and portable (UE) radio and ancillary equipment
- [ETSI EN 301 908-4 V3.2.1](#) (September 2007) Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third- Generation cellular networks; Part 4: Harmonized EN for IMT-2000, CDMA Multi- Carrier (cdma2000) (UE) covering essential requirements of article 3.2 of the R&TTE Directive
- [ETSI EN 301 908-5 V3.2.1](#) (September 2007) Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third- Generation cellular networks; Part 5: Harmonized EN for IMT-2000, CDMA Multi- Carrier (cdma2000) (BS) covering essential requirements of article 3.2 of the R&TTE Directive

See new [ETSI website](#) for additional information.

FCC: FUTURE CHANGES TO THE 2155-2175 MHz AWS BAND

On September 19, 2007, the FCC released a Notice of Proposed Rule Making (NPRM) seeking industry comments on the proposed service rules for the 2155-2175 MHz band. This band has been allocated for fixed and mobile services, including Advanced Wireless Services (AWS).

Presently, the 2155-2175 MHz band is occupied by over 1,800 active, incumbent Fixed Service (FS) and Broadband Radio Service (BRS) licenses, which are subject to relocation by AWS entrants. This spectrum consists of a single, unpaired, 20 MHz block, rather than two, separate paired blocks. Therefore, a symmetrical pairing approach - in which one block is used for base station transmissions and another, equally-sized block is used for mobile handset transmissions - cannot be adopted in the rules for this spectrum. Due to this constraint, the FCC is seeking comments on different ways to utilize the 2155-2175 MHz band given the characteristic of the spectrum.

The NPRM is seeking comment on whether to auction the spectrum, authorize unlicensed use of the spectrum, or adopt some other alternative licensing approach. Depending on the approach adopted, the FCC is also seeking comments on licensing and operational rules for this spectrum. [Link](#)

FCC: 800 MHZ REBANDING GUIDANCE

On September 12, 2007, the FCC released supplemental procedures and provided guidance for completion of 800 MHz rebanding by National Public Safety Planning Advisory Committee (NPSPAC) licensees. As part of the rebanding process, NPSPAC licensees are being relocated to new frequencies in the 800 MHz band, with all rebanding costs to be paid by Sprint Corporation (Sprint). The FCC's orders provide for the rebanding process to be completed by June 26, 2008. [Link](#)

EU: UPDATED STANDARDS HARMONIZED FOR EMC DIRECTIVE

On July 20th, 2007, The EU Commission published an updated list of standards harmonized for the purposes of the EMC Directive. This release coincides with the repeal of EMC directive 89/336/EEC and adoption of Directive 2004/108/EC. [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: multipoint@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: multipoint@rheintech.com
phone: 703-689-0368
web: <http://www.rheintech.com>

Last revised: September 21, 2007