



September 2008

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 Part 20.19 for HAC

QUESTION: The current mobile telephone technology has such a large number of operational modes that testing for compliance is extremely difficult for each individual mode. Is there any allowance to reduce the number of tests for each mode of operation for compliance to FCC Part 20.19 for Hearing Aid Compatibility?

ANSWER: The FCC believes that testing a subset of operational modes may be sufficient, if all modes are documented and justification clearly states the arguments for testing only a subset of the operational modes. The applicant is responsible for compliance to Section 20.19 in all voice modes intended for voice communication.

When filing the test results for a subset of operational modes, the documentation must list all operational modes of the device that may effect compliance with FCC rules. This includes user selectable options, as well as the modes that are used to implement the service capabilities that may be invisible to a user. For each mode listed, the applicant must justify why it was or was not tested, and how it ensures compliance if not tested. The documentation should be submitted in the HAC report. The Hearing Aid Compatibility (HAC) report must be filed in the test report section of the filing and should be a separate exhibit from the EMC test report.

For example, a phone is capable of both voice and internet access. The voice mode can be implemented by four over-the-air-protocol modes and each protocol has ten voice encoding - vocoder (a portmanteau of voice and encoder) - transport modes. Arguments should be stated why or why not a test was made for each of the 40 line items (four air- protocol modes X ten vocoder transport modes).

The filing should clearly document any pre-testing performed used to justify the final test configurations chosen, when only a subset is used. The justification should focus on RF emission testing for Peak Field, and Peak Power (defined in C63.19, Section 4). Special attention should be made for modes using transmission protocols that have periodic rates in the audio range.

Sample testing of the various modes can be performed at the worst- case probe location for each band and field type (E or H) as part of subset testing justification. Sample testing of conducted RF Peak Power can also be used to help in the justification.

For T-coil compliance, modes that produce higher levels of base band magnetic noise are of interest for the ABM2 measurements, such as RF modes with high peak-to-average power ratio, noisy display settings, or operational modes requiring high digital computations/processing. Additionally, ABM1 measurements might be influenced by audio processing such as vocoder or audio auto leveling options and should be investigated.

Prior to certification of a device, it is the TCB's responsibility to understand the associated technology to the extent that the TCB can fully address all issues related to FCC compliance.

TCB Approval of a Part 74 Device

QUESTION: We manufacture a Part 74 device operating at the 698 MHz to 806 MHz frequency band. Can our Telecommunications Certification Body (TCB) approve our device?

ANSWER: The FCC does not allow TCBs to grant low power auxiliary stations in the 698-806 MHz band under Part 74 H. Effective August 20, 2008, the FCC announced in Notice of Proposed Rulemaking and Order FCC 08-188 and the associated press release, that it imposed a freeze on granting any equipment authorization requests for low power auxiliary station devices. These devices would normally operate in any of the 700 MHz Band frequencies. Applications for these devices may be filed with the FCC but will not be acted upon until the conclusion of the proceeding. [Link to FCC 08-188](#)

Part 15C or Part 18 Device

QUESTION: Our firm manufactures a device that uses a flat pad to produce a 220 kHz RF field and the "receiver" uses this 220 kHz RF field to charge a battery. Is this an FCC Part 18 ISM device since the pad is producing the RF field or is it an intentional radiator under part FCC Part 15C?

ANSWER: If the charging is done locally, that is, the charger is on the pad, the device may be certified or declared (Declaration of Conformity (DoC)) under FCC Part 18 or certified under FCC Part 15. If the charger is not in contact with or contiguous to the pad, it must be certified under FCC Part 15. Note that for certification under FCC Part 15, it must comply with all the requirements of the section under which it is to be authorized.

RFID Device and EU Regulations

QUESTION: We have an inquiry about an R&TTE requirement for our RFID device, which we certified earlier under FCC rules. The device operates at 13.56 MHz and 14.7456 MHz and is used only as a sensor. Which countries may we market this device to in Europe?

ANSWER: The 13.56 MHz transmitter is subject to Annex 9, frequency band f1 (pages 16 and 26 of European Regulatory Commission ERC RECOMMENDATION 70-03), which is a harmonized band. For the 14.7456 MHz transmitter, Annex 9, frequency band l2 (page 16 and implementation status appendix 1, page 27 of REC 70-03) is not a harmonized band. Appendix 1 Page 27 of REC 70-03 gives a good guide of the EU countries that will allow that frequency range to be used with 'Y' (for implemented or "yes"). However, 5 MHz to 30 MHz is quite a big band (by the terms of the low frequency) and therefore some of the EU countries with a 'N' (for "no") might allow 14.7456 MHz. In fact, they just may not allow the entire band as it is.

The device will be a Class 2 device and will need EU country Notifications. Therefore, if you want to sell to a Country that says "N" for no, then you could try doing a Country Notification and wait for the Country specific national regulatory reply in order to determine if additional requirements may be necessary. It may be that the whole band is not allowed but that 14.7456 MHz is allowed. If you have the business there, it is worth a try. I would recommend testing the device to EN 302 291 and EN 300 330, but first consult with a Notify Body and discuss the issues as outlined in our answer here - you may receive other recommendations from them.

INTERNATIONAL UPDATE

EU: NEW CENELEC STANDARDS RELEASED THIS MONTH This is a shortened list of the CENELEC standards published during the past month:

- **EN 55025:2008** (8/27/2008) Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of on-board receivers
- **EN 61496-1:2004/A1:2008** (8/29/2008) Safety of machinery - Electro-sensitive protective equipment - Part 1: General requirements and tests
- **EN 61162-3:2008** (9/4/2008) Maritime navigation and radiocommunication equipment and systems - Digital interfaces -- Part 3: Serial data instrument network
- **EN 60730-2-6:2008** (9/4/2008) Automatic electrical controls for household and similar use -- Part 2-6: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements
- **EN 62031:2008** (9/11/2008) LED modules for general lighting - Safety specifications
- **EN 60255-22-3:2008** (9/17/2008) Measuring relays and protection equipment -- Part 22-3: Electrical disturbance tests - Radiated electromagnetic field immunity
- **EN 60730-2-14:1997/A2:2008** (9/19/2008) Automatic electrical controls for household and similar use -- Part 2-14: Particular requirements for electric actuators
- **EN 60950-22:2006/A11:2008** (9/24/2008) Information technology equipment - Safety -- Part 22: Equipment installed outdoors
- **EN 60335-2-49:2003/A1:2008** (9/24/2008) Household and similar electrical appliances - Safety -- Part 2-49: Particular requirements for commercial electric appliances for keeping food and crockery warm
- **EN 62460:2008** (9/25/2008) Temperature - Electromotive force (EMF) tables for pure-element thermocouple combinations

See [CENELEC](#) 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 62369-1** (8/28/2008) Evaluation of human exposure to electromagnetic fields from short range devices (SRDs) in various applications over the frequency range 0 GHz to 300 GHz - Part 1: Fields produced by devices used for electronic article surveillance, radio frequency identification and similar systems
- **IEC 62040-1 Corr.1** (9/8/2008) Corrigendum 1 - Uninterruptible power systems (UPS) - Part 1: General and safety requirements for UPS
- **IEC 61326-3-1 Corr.1** (9/8/2008) Corrigendum 1 - Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- **IEC 60335-2-98** (9/9/2008) Household and similar electrical appliances - Safety - Part 2-98: Particular requirements for humidifiers
- **IEC 60335-2-4** (9/19/2008) Household and similar electrical appliances - Safety - Part 2-4: Particular requirements for spin extractors
- **IEC 60335-2-60** (9/19/2008) Household and similar electrical appliances - Safety - Part 2-60: Particular requirements for whirlpool baths and whirlpool spas
- **IEC 60335-2-5** (9/19/2008) Household and similar electrical appliances - Safety - Part 2-5: Particular requirements for dishwashers
- **IEC 60335-2-14** (9/19/2008) Household and similar electrical appliances - Safety - Part 2-14: Particular requirements for kitchen machines
- **CISPR 22** (9/24/2008) Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
- **IEC 61174** (9/26/2008) Maritime navigation and radiocommunication equipment and systems - Electronic chart display and information system (ECDIS) - Operational and performance requirements, methods of testing and required test results

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 301 489-12 V2.2.2](#) (September 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 12: Specific conditions for Very Small Aperture Terminal, Satellite Interactive Earth Stations operated in the frequency ranges between 4 GHz and 30 GHz in the Fixed Satellite Service (FSS)
- [ETSI TR 102 649-2 V1.1.1](#) (September 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Technical characteristics of Short Range Devices (SRD) and RFID in the UHF Band; System Reference Document for Radio Frequency Identification (RFID) and SRD equipment; Part 2: Additional spectrum requirements for UHF RFID, non-specific SRDs and specific SRDs
- [ETSI EN 302 571 V1.1.1](#) (September 2008) Intelligent Transport Systems (ITS); Radiocommunications equipment operating in the 5 855 MHz to 5 925 MHz frequency band; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive
- [ETSI TR 102 631 V1.1.1](#) (September 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); System Reference Document; Technical Characteristics for Airborne In- Flight Entertainment Systems operating in the frequency range 5 150 MHz to 5 875 MHz
- [ETSI EN 300 086-1 V1.3.1](#) (September 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Land Mobile Service; Radio equipment with an internal or external RF connector intended primarily for analogue speech; Part 1: Technical characteristics and methods of measurement
- [ETSI EN 300 086-2 V1.2.1](#) (September 2008) Electromagnetic compatibility and Radio spectrum Matters (ERM); Land Mobile Service; Radio equipment with an internal or external RF connector intended primarily for analogue speech; Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

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

ISRAEL: 802.11N DRAFT 2 PRODUCT APPROVALS As of September 2008, Israel's Ministry of Communications is allowing 802.11N draft 2 products to be certified in Israel with the following guidance and limitations:

- MIMO - allowed
- 40 MHz channels - allowed
- 2.4 - 2.4835 GHz allowed upon the already allowed 802.11 b/g parameters EN 300-328 or 300- 440 100 mW EIRP
- 5.150 -5350 GHz allowed upon the 802.11a Israeli already allowed parameters
- WIFI alliance web site certificate

Because 802.11n is a draft, the certificate validation period is for 2 years only. It is possible that the users may have to stop using the products at the end of the certificate validity date. Importers of 802.11n draft 2 products must alert customers of this limitation.

EU: DECISION 2005/928/EC AMENDED On August 13, 2008, the EU Commission amended Decision 2005/928/EC on the harmonization of the 169.4-169.8125 MHz frequency band in Europe. The document was amended as follows:

- In the 4th row of the frequency plan in the Annex the channel raster (in kHz) figure "12.5" for channels 1a, 1b, 2a, 2b, 3a and 3b is replaced by "up to 50 kHz".
- In the 4th row of the frequency plan in the Annex the channel raster (in kHz) figure "50" for channels 4b + 5 + 6a and 6b + 7 + 8a is replaced by "up to 50 kHz".

The amendments are effective 10/31/2008. [Link](#)

CANADA: NEW STANDARD ISSUE RELEASED: SRSP-503, ISSUE 7 On September 6, 2008, Industry Canada Released SRSP-503, Issue 7 - Technical Requirements for Cellular Radiotelephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz. This Standard states the minimum technical requirements for the efficient use of the frequency bands 824-849 MHz and 869-894 MHz by public cellular radiotelephone systems and replaced SRSP-503, Issue 6. This new release of SRSP-503 allows better coverage and higher throughput for mobile data services in rural and remote areas. Changes include:

- increase of the EIRP limits outside of urban areas
- increase of the EIRP limit for mobile terminals
- update of the coordination distance for base stations using the increased EIRP limits
- additional updates and editorial corrections [Link to SRSP- 503, Issue 7](#)

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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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