



**Issue 24 / February 2005**

**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 send email to [multiPoint@rheintech.com](mailto:multiPoint@rheintech.com).

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#### **FCC Labeling Requirements for Miniature Transmitters:**

##### **Question:**

What are the labeling requirements for medically implanted devices, specifically transmitters to be swallowed, and where can I find the associated labeling requirements? We intend to submit a Part 15 intentional radiator for FCC certification. The product is a small capsule encased device which is swallowed by animals and remains in their stomach. The transmitter only operates when it is internal to the animal. Can the label (FCC ID) be included in the associated literature and not on the device? The only way for it to appear on the device is to have it molded into the plastic of the capsule casing and we prefer not to do this.

##### **Response:**

The labeling requirements for medical implanted intentional radiators, operating under 47 CFR Part 15, are contained in 47 CFR 2.925(e) and 47 CFR 15.19. These rules state that when a permanently affixed label is not feasible, such as on an implanted device, then an alternative method may be used if approved by the Commission. The manufacturer may place the FCC ID on the PC board inside the case (even if it has to be in very small type set) and also in the instruction manual. This allows the FCC ID to be visible at the time of purchase

in the manual, and the FCC ID can also be found on the equipment in case the manual is misplaced. With respect to transmitters that can be swallowed, the FCC ID label may be placed in the user's manual and on the device packaging. The FCC ID must be in both places; however, the compliance statement from Section 15.19(a)(3) needs only to be in the user's manual. Previously, the Commission approved a similar FCC ID alternative labeling scheme for a similar device that is swallowed by humans.

## **FCC Guidance on Measuring Antenna Emissions**

### **Question:**

We want to use a 6 foot dish antenna with 37 dBi of gain, approximately 10 dB higher than the previously certified antenna. In order to use this antenna we will be reducing the output power from the device by a factor of 10 dB from the radio. Due to the size of the antenna, it will be difficult (but not impossible) to verify that the radiated spurious emissions are still within the limits. Would it be possible to simply measure the antenna-conducted emissions with the reduced power from the radio, verify that all spurious emissions are at least 10 dB down from the previously measured levels (levels submitted to the FCC from the original application), and submit these results for a permissive change to our original FCC grant?

### **Response:**

The Commission's primary concern is that different antennas have different cut-off characteristics, i.e., the amount of attenuation at various frequencies (not the fundamental), and varying pass-bands within different antennas. Even if the RF conducted emissions are all down by 10 dB, this does not necessarily mean that the associated radiated emissions (particularly spurs) will also be down 10 dB. As a result, the Commission would require that the actual radiated emissions be measured.

## **DC Backup Equipment Conducted Emissions**

### **Question:**

Please provide clarification with respect to the availability of the conducted emissions limits to equipment connected to the AC lines but operating off DC backup when the AC power is lost. In the DC backup modes, does the equipment still need to meet the AC conducted emissions requirements even if there is no AC power at the AC mains terminal?

### **Response:**

If the equipment remains connected to the AC mains, even when operating off of DC backup, it is possible that RF noise generated in the equipment could be coupled onto the AC input lines. Thus, even if there is no power at the AC mains terminal, the equipment could be transmitting RF noise onto the public utility (AC) power line. As a result, the line conducted emissions test must still be performed when the equipment is operating in the DC backup mode.

## **Vehicle Remote Keyless Entry Systems**

### **Question:**

In the US, vehicle remote keyless entry systems operate at 315 MHz and as a result all European manufacturers produce such systems to operate at 315 MHz for the US. However, this frequency is not accepted in Europe and this creates additional work and money for the EU manufacturers. After reading the FCC rules several times, I cannot find any reason why 433 MHz is not to be used in the US for keyless entry systems. This could greatly reduce cost because 433 MHz is also accepted in Europe. Please explain why 315 MHz is used in the US for keyless entry products, and if it is possible to get FCC approval for a 433 MHz keyless entry transmitter.

**Response:**

A keyless entry transmitter, authorized under Section 15.231, may indeed periodically operate at 433 MHz. A number of European manufacturers have, in the past, attempted to authorize transmitters at 433 MHz under Section 15.231. The Commission has rejected those attempts, because data transmission is not allowed under 15.231 (with exception of 15.231 (e), but the timing requirements have prohibited the operation of such transmitters under that paragraph).

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**Worldwide updates:**

**US Update**

**COMMISSION CLARIFIES EQUIPMENT AUTHORIZATION POLICY FOR UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE (U-NII) DEVICES**

In Public Notice DA 05 175 released on January 26, 2005, the Commission further clarified equipment authorization policy for U-NII devices operating in the 5 GHz band. Previously, in the 5 GHz U-NII Report and Order, ET Dkt No. 03-122, 18 FCC Rcd 24484 (2003), the Commission required, among other things, that U-NII devices operating in the 5.250-5.350 GHz band employ dynamic frequency selection (DFS) to ensure protection of Federal Government radar systems. Prior to initiating a transmission, a U-NII device's DFS mechanism would monitor the available spectrum in which it could operate for a radar signal. If a signal were to be detected, the channel associated with the radar signal would either be vacated and/or flagged as unavailable for use by the U-NII device. Applications for initial equipment certification filed after January 20, 2005 for U-NII equipment operating in the 5.250-5.350 GHz band must meet the rules adopted in the 5 GHz U-NII Report and Order. In addition, to prevent equipment without DFS capabilities from being imported and marketed indefinitely, equipment designed to operate in the 5.250-5.350 GHz band cannot be marketed or imported after January 20, 2006. See 47 C.F.R. § 15.37(l).

The FCC, National Telecommunications & Information Administration (NTIA), the Department of Defense (DOD) and the industry have been developing the testing methodologies for ensuring that DFS adequately protects Federal Government radar systems. As a result, measurement procedures for certifying U-NII devices containing DFS capabilities have not yet been finalized. All parties are currently working together to reach an agreement and expect that remaining issues will be resolved expeditiously.

Because of the circumstances, the Commission will not apply the January 20, 2005 cut-off date for applications for certification of U-NII equipment operating

without DFS or transmit power control (TPC) in the 5.250-5.350 GHz band for a period of sixty (60) days, effective immediately upon release of this Public Notice. The Commission will issue further guidance on this matter soon.

[http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DA-05-175A1.doc](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-05-175A1.doc)

## **EU UPDATE**

### **The International Electrotechnical Commission(IEC) Issues New Standards**

The IEC has recently issued the following new standards:

- IEC 60118-13 Ed. 2.0 (2004-11) Electroacoustics - Hearing aids - Part 13: Electromagnetic compatibility (EMC)
- IEC 61010-2-081 Amd.1 Ed. 1.0 (2004-11) Amendment 1 - Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-081: Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes
- IEC 62226-2-1 Ed. 1.0 (2004-11) Exposure to electric or magnetic fields in the low and intermediate frequency range - Methods for calculating the current density and internal electric field induced in the human body - Part 2-1: Exposure to magnetic fields - 2D models
- IEC 60335-2-3 Amd.1 Ed. 5.0 (2004-11) Amendment 1 - Household and similar electrical appliances - Safety - Part 2-3: Particular requirements for electric irons
- IEC 60335-2-6 Amd.1 Ed. 5.0 (2004-11) Amendment 1 - Household and similar electrical appliances - Safety- Part 2-6: Particular requirements for stationary cooking ranges, hobs, ovens and similar appliances
- IEC 60335-2-60 Amd.1 Ed. 3.0 (2004-11) Amendment 1 - Household and similar electrical appliances - Safety - Part 2-60: Particular requirements for whirlpool baths and whirlpool spas
- IEC 60335-2-75 Amd.1 Ed. 2.0 (2004-11) Amendment 1 - Household and similar electrical appliances - Safety - Part 2-75: Particular requirements for commercial dispensing appliances and vending machines
- IEC 60335-2-95 Amd.1 Ed. 2.0 (2004-11) Amendment 1 - Household and similar electrical appliances - Safety - Part 2-95: Particular requirements for drives for vertically moving garage doors for residential use
- IEC 60335-2-98 Amd.1 Ed. 2.0 (2004-11) Amendment 1 - Household and similar electrical appliances - Safety - Part 2-98: Particular requirements for humidifiers
- IEC 61000-4-6 Ed. 2.1 (2004-11) Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields
- IEC 61000-1-5 Ed. 1.0 (2004-11) Electromagnetic compatibility (EMC) - Part 1-5: General - High power electromagnetic (HPEM) effects on civil systems

### **European Commission approves specific frequencies for short-range radar that can detect a potential collision and automatically apply vehicle brakes.**

The technology should be available by mid 2005 and the Commission is urging automobile manufacturers to take advantage of the move. Anti-crash devices have been around for some time, but to permit their legal use an EU-wide radio frequency had to be made available which would not interfere with other equipment such as cellular phones or police radar. This decision allows the first

large-scale application in Europe of Ultra-Wide Band (UWB), a low-power wireless technology that re-uses frequencies already employed by other radio services. Other useful applications of UWB technology are being developed with the support of EU Community funded research. This decision, made in late January 2005, opens the 24 GHz frequency band for a time-limited period to the use of car radars across the EU. Beyond 2013, by which time the number of cars using SRR may have grown to a level where other wireless services could be affected, new automotive radar applications will be required to use another frequency band (79 GHz) previously harmonized by the earlier Commission Decision 2004/545/EC.

[http://europa.eu.int/information\\_society/policy/radio\\_spectrum/ref\\_info/document/s/legislative\\_documents/index\\_en.htm](http://europa.eu.int/information_society/policy/radio_spectrum/ref_info/document/s/legislative_documents/index_en.htm)

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