



Issue 22 / December 2004

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 multipt@rheintech.com.

See our website at www.rheintech.com for MultiPoint archives, a [facility virtual tour](#), and other helpful information.

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FCC Certification and SAR data for a GMRS / FRS device:

Question:

We have a GMRS / FRS walkie-talkie operating between 462 MHz and 467 MHz. Are we required to provide SAR data for FCC certification?

Response:

Unfortunately there are different power levels for SAR when submitting to the Commission or a TCB. The Commission specifies one level for its submissions and another for submittals to TCB's. The Commission is currently working on making a single level for both submissions, but this is not yet a reality.

The Commission's procedure, "Federal Communications Commission OET Laboratory Division March 18, 2004 Mobile and Portable Device RF Exposure Equipment Authorization Procedures" section 1, Portable push-to-talk (PTT) – Parts 80, 90, 95a, states the following:

- a) For equipment certifications submitted **to the FCC**, SAR data is requested for GMRS PTT radios with either conducted or radiated (EIRP) output power higher than 1.0 W.

b) For equipment certifications submitted **to a TCB**, SAR data is requested if output power is greater than the low thresholds in the July 2002 TCB Exclusion List.

c) Basic RF exposure instructions, similar to Supplement C body-worn recommendations, are requested for devices that satisfy general population exposure requirements as part of the §2.1033(c)(3) required operating instructions. RF exposure training instructions and labeling info are requested for devices that satisfy occupational exposure requirements.

Basically, the Commission requires SAR if the power is greater than 1.0 Watt (conducted or EIRP) and the application is submitted to them. TCB's require SAR if power (conducted or EIRP) is above 0.256W [using 120/f] assuming face to mouth use and any body clips allows > 2.5 cm spacing if the device is capable of transmitting on the body. If < 2.5 cm, for body worn conditions this would be 0.128 W (using 60/f). Note that for comparison of power to these limits, one can assume that a 50% duty cycle can be applied if the radios are push to talk (most FRS and GPRS are). Additionally, FRS and combined GPRS radios must meet general population RF exposure limits. Though you may be able to submit to the FCC without SAR, the application processing time is longer than TCB's. Even then, the Commission sometimes requests SAR data at lower values when there are concerns. TCB's can usually perform the review in a matter of days, but they will require SAR even at lower output levels.

Modifications to FCC Part 15 Rules in 2005:

Question:

We would like to know the basic FCC Part 15 issues the Commission plans on addressing in new or proposed rule changes in 2005. Can you comment briefly or provide a short list on the specific issues the Commission is currently addressing or will be addressing soon regarding Part 15?

Response:

The Commission has recently indicated that it would be working on the following topics:

- a) RF ID reader interpretation
- b) Part 15 UWB test procedure
- c) Dynamic frequency test procedure
- d) UNII devices Notice of Proposed Rulemaking expanding modular approval

FCC Short-Term Confidentiality Extensions:

Question:

Are there maximum numbers of days or times short-term confidentiality can be extended by the Commission? We currently have an application that will be submitted in the near future but we want to release items publicly in April. This would require 2 or 3 extensions depending on the exact date of grant and day in April which we desire. Would this be a problem?

Response:

The Commission's current policy is to allow a maximum of 4 extensions of 45 calendar days for a total 180 days.

FCC Part 15 Testing of Motors:

Question:

Our understanding is that regular motors are exempt from FCC Part 15 testing. We have a receiver that operates at 49 MHz and 433.92 MHz and it includes a motor. Should disturbance from the motor be considered under FCC Part 15.109?

Response:

We recommend including the disturbance from any motors in FCC Part 15.109 measurements. However, if the final end user device is marketed and used commercially or residentially, it would be subject to Class A or Class B emissions respectively. Note the receiver limits are equivalent to Class B limits. Thus, if the end user device is intended for industrial use only, all other digital emissions not coming from the receiver section may meet Class A limits.

If the motor is AC or pulse driven by frequencies of 9 kHz or higher (as defined by 15.3(k)), they must be measured under FCC 15.109 to Class A or B limits as appropriate. There are variable speed drives that can be considered digital devices under FCC Part 15 subpart B. If the motor is DC driven or AC driven strictly from switched AC line power (50 or 60 Hz), it may be possible to consider emissions from that portion of the device exempt. However, there are cases where the design of the device is not clear and whether motors can be considered exempt is difficult to determine. In such cases, the manufacturer should be cautioned to consider them exempt only after obtaining a written confirmation from the Commission. If it is determined motor emissions can be exempted, the test needs to be conducted with the motor installed in the device and in an idle mode of operation to make sure it doesn't amplify any digital device emissions or contribute to the overall digital device radiated emissions.

Since portions of the end user device such as digital circuits, receiver etc. are subject to FCC Part 15 and the device labeled as such, the consumer will also assume the whole device to be compliant. If any part of the device is considered exempt from FCC Part 15, it is still subject to the exemption requirements of FCC 15.103. This section of the rules states that even if a device is exempted from the rules, if it causes or creates interference the manufacturer will still be considered liable. This section of the rules also states "although not mandatory, it is strongly recommended that the manufacturer of an exempted device endeavor to have the device meet the specific technical standards in this part." The manufacturer is ultimately responsible for any interference the device produces.

Worldwide updates:

US Update

FCC MODIFIES PART 15, PART 2 RULES AND OTHER REQUIREMENTS

On 11/5/04, the FCC modified existing rules as follows: 1) the Commission will now allow compliance information statements for self-authorized equipment to be

provided in alternative formats and simplified DoC labeling; 2) the Commission will permit longer duration transmissions during the setup of security systems; 3) the Commission further relaxed the equipment authorization requirements for low frequency intentional radiators; and 4) the Commission eliminated the requirement for an accredited laboratory to file a description of its measurement facilities with the Commission.

The Commission modified the rules to allow Part 15 information statements to be placed in the instruction manual of a device when the manual is provided in formats other than paper, such as on a computer disk or over the Internet. In recognition of the fact that some users do not have access to a computer or the Internet and would not have the capability of reading instruction manuals in alternative formats, the Commission allowed warning statements to be provided in alternative forms only when the instruction manual is provided in the same alternative form and the user can reasonably be expected to have the capability to access information in that form. These rule changes apply to information statements required by Sections 15.21, 15.27(a) and 15.105(e) of the rules.

Additionally, the Commission simplified the labeling requirements for equipment authorized under the DoC procedure. For most devices authorized under the DoC procedure, the changed rule requires that the label show the FCC logo and the equipment trade name and model number. The Commission also clarified that the trade name and model number may be placed on the equipment in a location other than on the DoC label when necessary.

The Commission changed the equipment authorization requirement from certification to verification for intentional radiators operating below 490 kHz in which all emissions are at least 40 dB below the Part 15 limit. The Commission stated that because the interference potential of such devices is extremely low, requiring certification seems to be an unnecessary burden on manufacturers.

The Commission eliminated the requirement for an accredited laboratory to file a description of its measurement facilities with the Commission if the accrediting organization submitted certain information about the laboratory to the Commission. The purpose of this change was to reduce the burden on laboratories by eliminating the need to file duplicate information with both the Commission and an accrediting organization.

ET Docket No. 01-278 http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-262A1.doc

EU Update

ON 11.13/04, THE EUROPEAN COMMISSION PUBLISHED A NEW DIRECTIVE, 2004/104/EC, RELATING TO THE COMPATIBILITY OF MOTOR VEHICLES AND THEIR ELECTRONIC COMPONENTS

Because in recent years the use of electrical and electronic systems in motor vehicles has increased tremendously, the EU Commission has recently published a new directive aimed at improving the safety of road users by adapting the existing legislation to technical progress. The new Directive is a modification of the existing Directive and the main changes are as follows:

- The Directive allows for aftermarket equipment, not related to safety critical functions, to be provided with a self declaration from manufacturers, replacing conventional third party type-approval;
- The test provisions and reference limits take into account the work done in international harmonization;
- The Directive now refers to the latest standards available from the International Special Committee on Radio Interference (CISPR) and the International Organization for Standardization (ISO). This replaces the outdated copies of certain standards for immunity and emissions testing used in the current Directive;
- The Directive now contains for the first time provisions relating to the potentially more hazardous conducted emissions;
- With regard to new techniques, like steering and braking by wire, tire pressure monitoring systems or distance radar, the Directive gives particular attention to safety related functions and components.

<http://europa.eu.int/comm/enterprise/automotive/index.htm>

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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), ACA (Australia), and other international standards.

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