MultiPoint
A Rhein Tech EMC Regulatory Update

Issue 3 / April 2003

Dear Customer,

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. Thus, we hope you find our updates valuable, and welcome your calls and or emails if you have any special needs or questions. Please call at 703-689-0368 or email us at mailto:multipoint@rheintech.com

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Measurement Bandwidth Selection:

Question:
What is the recommended procedure for bandwidth selection when measuring band edges?

Response:
The recommended procedure is to use a bandwidth that will include the center point of the lowest or highest channel that you are measuring and include at least 10 MHz span of the nearest restricted band to that channel. The plots provided should be taken using both an average detector and a peak detector. Plots and data should be provided for each combination of antenna and power output being certified. Proper measurements at the band edge may require the use of a delta type measurement as described in FCC Docket 96-8, which can be downloaded from the FCC web site at: www.fcc.gov.

Band Edge Correction Factor:

Question:
Is it possible to use a correction factor for compliance with the band edges testing?

Response:
When a signal is pulsed modulated, a correction factor could be used per FCC rule Part 15.35. We must consider the worst-case duty factor in any 100 ms period in any mode of operation. This correction factor could be used, as an example, for a DSSS transmitter, if one can prove that when the unit is set to a maximum duty factor, it would not be exceeded due to the unit's inherent function.

Portable Transmitter Cards:

Question:
Should all 15.247 PCMCIA cards with integral antennas intended for general use (laptops, PDA, routers, etc) be evaluated as a "portable modular" transceiver?

Response:
The main issues with the FCC concerning portable cards and wireless devices center around the RF Safety/Exposure issues. First, an integral-antenna PCMCIA card is a portable device. Modular approval has not been required for all PCMCIA cards. The FCC is still working on other policies, including possible host-independent criteria.

The following general points are critical when discussing these types of devices:

1) A new certification is required when changing from mobile category to portable. A Class II permissive change for mobile to portable is not allowed, mostly because these have different exposure limits.
2) "Full modular" approval is not allowed for portables, mostly because the final product must be evaluated for compliance with portable exposure conditions.
3) "Limited modular" approval accounts for EMC in a "stand-alone" condition, plus possibly RF exposure for some specific host. Subsequent host or antenna changes need Class II permissive change with RF exposure and radiated EMC.
4) "Modular approval" for licensed-services devices is not allowed, mostly because these operate at powers relatively higher than Part 15 modules. Thus, it is more important to evaluate exposure conditions of final host configurations only. In certain cases, some licensed-service devices may qualify for approval for use in a limited class of host devices for mobile exposure conditions only.
5) From DA-00-1407A1.doc: "The holder of the grant of equipment authorization (Grantee) of the module is responsible for the compliance of the module in its final configuration, provided that the OEM, integrator,

and/or end user has complied with all of the instructions provided by the grantee which indicate installation and/or operating conditions necessary for compliance."

6) The FCC is considering working towards possible host-independent approvals.

SAR measurements:

Question:
We manufacture a GMRS/FRS handheld radio with 1W/0.5W peak power, respectively. It is our understanding that SAR measurements would not be required for this type of radio since Part 1.1307 categorically excludes Part 95 devices. However, with the Commission's new position with respect to RF Safety, are we correct in our understanding?

Response:
The April 2002 TCB Workshop notes show possible threshold power levels for uncontrolled and controlled conditions. Devices with FRS mode should comply with uncontrolled limits. Normally, a 50% user-based duty factor applies for push-to-talk devices. Unless a device has close spacing to the body and/or metallic belt-clips, a 1W device probably does not need SAR. Routine evaluation for some devices may be requested based on 1.1307(d).

Worldwide updates:

FCC Update
On March 13, 2003 the FCC issued a news release stating it will initiate proceedings designed to facilitate the provision of fixed and mobile broadband access, educational, and other advanced wireless services in the 2500 – 2690 MHz bands. The goal of the FCC is to promote competition, innovation and investment in wireless broadband services and to promote educational services. In addition, the FCC strives to simplify the licensing process, thereby supporting the development of innovative service offerings to consumers, educational institutions, medical institutions, and others.

The FCC expects the proposed rule changes will afford licensees an opportunity to provide alternatives for the provision of broadband services to consumers in urban, suburban, and rural areas as well as improve opportunities for distance learning and telemedicine services by new or incumbent licensees.
WT Docket No. 02-68: 03-66; 03-67; MM Docket No. 97-217(http://www.fcc.gov/)

Australia Update

The Australian Communications Authority (ACA) has implemented new regulations for setting limits for human exposure to electromagnetic radiation (EMR). The regulations, which came into effect on 1 March 2003, cover all mobile transmitters such as remote controlled toys, walkie-talkies and hand held two-way radios as well as radiocommunications installations, such as broadcast towers and amateur radio stations. The new regulations extend the previous arrangements which only covered mobile handsets and base stations. In general, devices used within 2.5cm of the body and transmitting greater than 20 mW RF power will require SAR evaluation. Devices operating 20cm or more for the body do not require SAR evaluation, but must comply with ARPANSA reference levels.

This new standard refers to EN50361 (EU SAR standard for cell phones) and FCC OET65C 01-01 SAR evaluation guidelines for other devices.
http://www.aca.gov.au/aca_home/media_releases/media_enquiries/2003/03-07.htm

Russia Update

New safety standard for Russian products - A new Russian law, effective July 1, 2003, will replace several Federal Laws currently in force, such as the law "On Certification of Products and Services", "On Standardization", and other subsidiary acts. The intent is to raise safety levels by shifting the responsibility for maintaining safety standards from the government to the private sector. Currently, the government issues certificates, but under the new law Russian manufacturers and suppliers, and representatives of foreign producers, must obtain certificates from a specially created agency and ensure that their goods are properly labeled.

The law requires the new safety regulations replace existing regulations, such as GOST (General Government Standards) and SniPy (Safety Standards upon Construction of buildings).

Currently, the government issues certificates, but under the new law, Russian manufactures, suppliers and representatives of foreign producers must obtain certificates from a specially created agency and ensure their products are correctly labeled. Certificates issued before the enactment of the law will be valid until they expire. Additionally, the law will recognize foreign certificates, but only if a relevant treaty exists between Russia and the country in question. The details of the implementation of this new policy are completed.
http://www.law-now.com/

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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, all FCC rules and regulations, VCCI (Japan), ACA (Australia), and other international standards.

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