MultiPoint
A Rhein Tech EMC Regulatory Update

Issue 1 / February 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

Contents

Shipping with a Class B integral antenna:

Question:

We have a new thin and light mobile PC that has an embedded 802.11B WLAN as an option. The 802.11B option is added to the system in our local factory. The 802.11B sub-system consists of a mini-PCI card as the base transmitter and a coaxial cable to an omni-directional antenna. The antenna is mounted in the LCD's panel and the cable runs through the inside of the panel case to the bottom of the system and plugs into the mini-PCI card via a unique connector. The mini-PCI card is installed behind an access panel in the bottom of the chassis. In order to ship the laptops to our factory they must be mostly assembled. Due to the class of the mobile PC (thin and light) and the position of the antenna, it is very difficult to disassemble the PC to add the antenna and cable. It is also likely that disassembly of the LCD panel will increase the system fall out rate. Since it is very difficult and costly to disassemble the mobile PC to install the antenna and cabling as an option, we would like to be able to ship the system to the end user with the cable and antenna installed even when the transmitter portion of the wireless device is not in the system. Our proposed

question would be, "Due to the difficulty of the manufacturing process and high fall out rate when the LCD panel is disassembled, will the TCB/FCC allow a system with an optional approved transmitter to be shipped to the end user without the transmitter section, but with the antenna and cable installed?

Response:
As long as the optional transmitter sub-system portion is assembled into the PC only by the grantee or OEM to create the complete transmitter. When the grantee or OEM assembles the complete transmitter, the FCC identifier for the transmitter is then placed on the final product by the grantee or OEM. The transmitter must not be assembled then labeled by the user.

Wide Band Frequency Hopping Systems:

Question:
What are the current requirements for Frequency Hopping systems?

Response:
The FCC has released the final requirements for Wide Band Frequency Hopper Systems operating under 15.247 on May 16th, 2002. Under the permanent rules these systems must use at least 15 non-overlapping hopping channels and are limited to a maximum power output of 125mW plus 6dBi gain antenna. The commission has not made the requirement for adaptive hopping mandatory as of yet, it is believed that this issue can best be addressed by the standard committees. Frequency Hopping Spread Spectrum devices with hopping sequence using 1 MHz wide bandwidth are not affected by this power reduction.

OFDM modulation:

Question:
Can a device that is designed using OFDM modulation be certified under FCC 15.247 or 15.401? How does the FCC determine the classification of these types of devices?

Response:
While OFDM is sort of a "spread spectrum" and considered Digital Modulation, it is not Direct Spread Spectrum Sequence covered under FCC rule part 15.247. (DTS ISM band 5725-5850 MHz). The OFDM version of the 5750-5825 MHz band is covered under the UNII-3 rules of FCC 15.407. It is possible to file under the UNII rules or the DTS rules for the same device using a composite application.

SAR evaluation:

Question:
We have a 2.4 GHz PCMCIA transmitter card that is below 50mW peak conducted as well as EIRP level. This device is used in a portable configuration. Do we need SAR evaluation and can this device be approved by a TCB?

Response:
If the device is less than 50 mW for peak conducted power as well as EIRP, SAR evaluation is not required for FCC submittal. However, the device cannot be approved by a TCB unless the following conditions are satisfied:

(a) The peak conducted and EIRP levels must be less than 24 mW without SAR evaluation if the transmitting antenna can be placed less than 2.5 cm from the human body.

(b) When the distance from the transmitting antenna is equal to or greater than 2.5 cm and the peak conducted and EIRP levels are less than 50 mW, the device can be granted by a TCB.

Worldwide updates:

FCC Updates
General Spectrum Issues: The FCC recently closed the comment period on Public Notice 92-135 in which it was seeking comments on Spectrum Issues in general. The FCC Spectrum Task Force hopes to issue a full report by mid October on various spectrum issues. Please check www.fcc.gov for this report.
Higher Frequencies: The FCC has released NPRM 02-142 addressing licensed and unlicensed operation in 71-76 GHz, 81-86 GHz and 92-95 GHz bands. Comment period is 90 days from the publishing in the Federal Register. The FCC is considering allocating about 1200 MHz of spectrum for unlicensed use in the 92-95 GHz bands.
Radar Detectors: The FCC has modified Part 15 rules requiring certification for Radar Detector Receivers operating at frequencies greater than 960 MHz. This new category of receivers now requires certification.

Canada Updates
Industry Canada comment period for their spectrum plan ended Sept 2, 2002. Information on this proceeding can be obtained from the Industry Canada web page at http://spectrum.ic.gc.ca

Australian Updates
The comment period for adoption of the new EMR standard was July 31st. Currently, the Australians have postponed adopting new requirements and under study is the adoption of the international recommendations and requirements

China Updates

China has rolled back the adoption of their proposed EMR standard until further information can be gathered. This standard would have been one of the tightest limits to meet and would have forced manufacturers to reduce power for mobile and portable transmitters. The MII is postponing adoption until additional studies on EMR limits are complete.

China has also rolled back its power limitation of 10mW for 2.4GHz radios and now will approve systems with power up to 100mW EIRP. Systems are restricted to indoor use only.

Contact Information

Rhein Tech Laboratories, Inc.
360 Herndon Pkwy, #1400
Herndon, VA 20170
703-689-0368 FAX 703-689-2056
http://www.rheintech.com/

RTL has been providing 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 new EU R&TTE Directive for wireless intentional radiators, all FCC rules and regulations, VCCI (Japan), ACA (Australia), and other international standards.

Back to top

Last revised: February 5, 2003

We respect the privacy of our customers. If you would like to cancel your Multipoint updates, just reply to this message and use "unsubscribe" as the subject line. The information in Multipoint update is subject to change without notice.