



July 2005

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 Rules Regarding External Radio Power Amplifiers

QUESTION: We are the manufacturer of an external radio power amplifier for 802.11 wireless access-points. Our amplifier was recently certified by the FCC as a system (including both a patch antenna and a dipole antenna). We have now been asked by our customers to supply our amplifier to work with other wireless 802.11 access points. However, we are concerned about the Commission's rules and regulations to allow shipping and marketing our product. Please clarify.

ANSWER: External radio frequency power amplifiers designed to boost the power of radio transmitters, such as 802.11 access points, are governed by section 15.204(d)(1) of the Commission's Rules and Regulations. If an external radio frequency power amplifier is marketed for individual sale, then it "must be of a design such that it can only be connected as part of a system in which it has been previously authorized". Since a grant was issued for use with your specific access point and specific types of antennas, you cannot market, distribute or sell the amplifier with another access point unless the radio frequency power amplifier is retested with the new intended access point under a new FCC ID. Section 2.803(a) of the Commission's rules prohibits marketing external radio frequency power amplifiers in a manner that is inconsistent with the terms of the grant and the requirements of Section 15.204(a) of the Commission's rules. Marketing or selling your radio frequency power amplifier with access points that are not listed on the FCC grant will result in FCC forfeiture. Please see a recent case involving a similar product at link below.

[FCC Case Link](#)

Industry Canada Rule Clarification of RSS-210 and ICES-003

QUESTION: We have three questions with respect to the following statement regarding section 5.17 Digital Circuits from Industry Canada's standard RSS-210, Low Power License-Exempt Radio-communication Devices (All Frequency Bands): "If the device contains digital circuitry that is not directly associated with the radio transmitter, the device shall also have to comply with the "Interference- Causing Equipment Standard 003 (ICES-003) - Digital Apparatus, class A or B as appropriate, except for ICES-003 labeling requirements. The test data obtained (for the ICES-003 tests) shall be kept by the manufacturer or importer whose name appears on the equipment label, and made available to Industry Canada on request, for as long as the model is being marketed in Canada." Please provide answers to the following questions:

1. In RSS-210, one can find both transmitter and receiver requirements. Does this mean RSS-210 includes devices covered under FCC Part 15 C and Part 15 B?
2. In ICES-003, required for digital apparatus, can you confirm that the definition of digital apparatus does not include Industrial Scientific & Medical (ISM) RF devices?
3. If notes 1 and 2 are valid then is RSS-210 only required for WLAN and ICES-003 is required for PCs, notebook etc?

ANSWER: Please see the following answers:

1. This is correct only in part. Please note that some items under FCC Part 15 B do not fall under RSS-210 (Personal Computers, Notebooks, PC peripherals, and Verified Devices) and instead fall under ICES-003. However, in general, receivers that falls under FCC Part 15 B do fall under RSS-210.
2. ICES-003 is not for ISM devices or transmitters. Under FCC rules and regulations, non-RF ISM devices fall under FCC Part 18.
3. The digital device aspect of a WLAN device, or the PC peripheral portion of a WLAN device falls under ICES-003; while transmitter and receiver emissions fall under RSS-210. Please note the underlined text the device shall also have to comply with the Interference-Causing Equipment Standard 003 (ICES-003) - Digital in paragraph 5.17 of RSS-210.

[RSS-210 Link](#)

[ICES-003 Link](#)

FCC Rules for a Bluetooth Transmitter as a DTS Device

QUESTION: We have designed a Bluetooth transmitter and would like to know if it can be considered as a DTS device without providing the 6 dB > 500 kHz bandwidth data. We found 3 approvals granted by the Commission over the past year whereby the Bluetooth portion was included as one of two DTS devices on the grants, but the data for the Bluetooth device was only provided to show compliance as a DSS device. The following are application examples from the Commission's database:

1. FCC ID: XXXX1: The Bluetooth report was uploaded as a DSS device, but granted as a DTS device along with a WLAN. Compliance in general to DTS rules with the exception of the 6 dB bandwidth can be determined.
2. b. FCC ID: XXXX2: The Bluetooth report was uploaded as a DSS device, but granted as a DTS along with the WLAN. Compliance in general to DTS rules with the exception of the 6 dB bandwidth can be determined.

3. c. FCC ID: XXXX3: The Bluetooth report was uploaded as a DSS, but granted as a DTS device along with the WLAN device. Compliance in general to DTS rules, with the exception of the 6 dB bandwidth can be determined.

It appears the Commission is willing to accept applications for a Bluetooth device as a DTS device, without showing the > 500 kHz bandwidth data, as long as there is also an additional DTS transmitter contained within the device. Please explain if the Commission will approve our Bluetooth transmitter under DTS rules.

ANSWER: The Commission appears to be willing to allow applicants to combine Bluetooth and 802.11a/b/g devices into one DTS equipment class when filing for certification to demonstrate compliance without the 6 dB bandwidth requirement for the Bluetooth device. Although the Commission allows a Bluetooth device to be filed either as a DTS or a DSS equipment class, please be aware that when filing as a DTS device only, the applicant must show compliance with all of the DTS requirements. In order for a Bluetooth device to qualify for an approval under the DTS equipment class, the applicant must show compliance with (among the usual tests such as output power, spurious, band-edge, etc.) the minimum 500 kHz, 6 dB occupied bandwidth requirement in Section 15.247(a) (2). Additionally, compliance must be shown with the 3 kHz power spectral density limit of 8 dBm in Section 15.247(e). If the Bluetooth test results do not comply with these DTS requirements, a second application must be filed for the Bluetooth device under the DSS equipment class and the appropriate fee must be paid to the Commission.

FCC Part 90 and Part 80 Rule Requirements

QUESTION: We have the following two questions relating to FCC Part 90 and Part 80:

- What are the requirements for a transmitter, previously certified under 47 CFR Part 90, to be reauthorized under the new Multi-Use Radio Service (MURS) Permissive Changes in 47 CFR Part 95? The transmitter already meets the MURS power limits so that it does not require modification of circuitry for MURS use. Does a new application for certification and technical data need to be submitted?
- Please explain Part 80 marine VHF (156- 162 MHz band) ship radio frequency allocations with regard to domestic and international regulations.

ANSWER: Please see the following answers below:

- You must file an application for a Class II permissive change per 47 CFR 2.1043 in order to change an existing grant of certification. The filing must be accompanied with a clear statement of the requested change and the reason for the change. In addition, the filing should include the necessary test data or other technical information to show continued compliance of the transmitter. For MURS equipment operating under 47 CFR Part 95 - Subpart J, the existing filing may not need additional technical information if the technical requirements are no higher than those for Part 90 transmitter.
- A marine VHF radio certified under Part 80 must comply with the following:
 1. Transmitting frequencies must be limited to those described in 47 CFR 80.871(d), i.e., using the ship station frequencies in the table in the simplex and semi-duplex modes (as applicable).
 2. The unit and manual provided channel numbers must be consistent with the table in 47 CFR 80.871(d).
 3. If the unit and manual provided a domestic mode (e.g., US, domestic use), the frequencies in the domestic mode may consist only of those listed in 47 CFR 80.371(c) and 80.373(f), except for the following case. EXCEPTION: The domestic mode may contain marine VHF channel numbers 3, 21, 23, 61, 64, 81, 82, or 83, so long as either the unit or the manual make clear that these frequencies are not for use by the general public in US waters (a user would require special authorization under a private land mobile license or from the Coast Guard). The domestic mode may not contain marine VHF channel numbers 2, 4, 60, and 62 (these are slightly offset from

private land mobile frequencies and there is no means to legally use these as carrier frequencies in US waters). Note that the rules do not provide authority to require specific warning labels or place additional burdens on manufacturers that meet these requirements.

4. If the unit and manual provided an international mode (e.g., international, ITU, Appendix 18, foreign) or a mode specific to a particular administration (e.g., Canada, Japan, UK), the unit and manual need only comply with item #1 listed above. There is no need to check whether these frequency assignments are consistent with domestic plans adopted by foreign administrations.



INTERNATIONAL UPDATE

Australia: Broadcasting Authority and the Australian Communications Authority (ACA) merge

On July 1, 2005, the Australian Broadcasting Authority and the Australian Communications Authority (ACA) merged to become the Australian Communications and Media Authority (ACMA). A consequence of this merger is that the existing web content of both agencies was also merged to form <http://www.acma.gov.au/>. The ACMA is responsible for the regulation of broadcasting, radio communications, telecommunications and online content. ACMA's responsibilities include: promoting self-regulation and competition in the telecommunications industry, while protecting consumers and other users, fostering an environment in which electronic media respect community standards and responds to audience and user needs, managing access to the radiofrequency spectrum, including the broadcasting services bands, and representing Australia's communications and broadcasting interests internationally. The procedures for radio type approvals should remain the same as under the ACA.

- [ACMA Website](#)

EU: New Standards Released

The European Commission has recently published two updated standards in the Official Journal of the European Union to be used for assessing compliance:

MDD Directive 93/42/EEC - harmonized standards: An updated consolidated list of harmonized standards in the framework of the MDD Directive was published in the Official Journal of the European Union on April 28, 2005.

LVD Directive 73/23/EEC - harmonized standards: An updated consolidated list of harmonized standards in the framework of the LVD Directive was published in the Official Journal of the European Union on April 27, 2005.

[OJ Link](#)

[US: FCC Part 15 Digital Device Compliance](#)

The deadline has arrived for FCC Part 15 compliance. Per previously announced FCC Part 15 rule changes, all Class A and all Class B digital devices built after July 10, 2005 must meet EN55022 compliance guidelines. Specifically, this change affects the lower frequency (conducted) as measured in the past per FCC Part 15. The lower limit is shifted from 450 kHz to 150 kHz with the upper limit remaining at 30 MHz.

- [Part 15 Link](#)

[Canada: Release of RSS-133](#)

In June 2005, Industry Canada released issue 3 of RSS-133 which replaces Issue 2, Revision 1 of RSS- 133 dated November 6, 1999. The main changes are as follows:

1. General reformatting, editorial changes and updating to reflect current practice.
2. Modify Section 6.1 Frequency Plan to refer to Standard Radio System Plan 510 (SRSP-510) for details on frequency plan and system's multiplexing techniques.
3. Change the definition of Emission Bandwidth to accept the -20 dBc bandwidth instead of the -26 dBc bandwidth as emission bandwidth (Section 2.6).
4. Allow any type of modulation techniques to be employed (Section 6.2).
5. Modify the electronic serial number (ESN) requirements to acknowledge that the Mobile Equipment Identifier (MEID) will comply with the ESN requirements (Section 5.4).
6. Update the Unwanted Emissions section (Section 6.5) to include a new alternative base station spectrum mask for the first 1.5 MHz from block edge. The new mask is equivalent to current Universal Mobile Telecommunication System (UMTS) base station specifications.
7. The spurious emission limit (using radiated measurement) for receivers at frequencies above 1610 MHz has been abolished. The 960-1610 MHz limit is now applicable to all receiver spurious emissions at frequencies above 960 MHz (Section 6.7).

- [RSS-133 Link](#)

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

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