



Issue 20 / October 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 multiPoint@rheintech.com.

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

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Certification of RFID Devices:

Question:

We have an RFID device that we would like certified under the Frequency Hopping Spread Spectrum (FHSS) rules of FCC 15.247. Would the Commission allow such a device to be certified under this rule part?

Response:

Due to the recent increase of interest in RFID devices, the Commission has consistently denied proposals for RF tag readers transmitting a CW signal to a passive tag under the FHSS rules in Section 15.247. The definition of a FHSS system under Section 2.1 of the rules requires that the carrier of a frequency hopping system is modulated with coded information. A system that uses CW signals with no modulated information is not considered under this rule part, hence would not be certified.

Additionally, Section 15.247(a)(1) requires the transmit bandwidth to match the receiver bandwidth. The reader transmit bandwidth must match the reader receiver bandwidth so the uplink and downlink bandwidths must be the same.

Devices whose downlink signals (CW signal) do not match the uplink signal (i.e. modulated signal) would be denied by the Commission.

Furthermore, a system employing "useless modulation" (information not written to or read from the passive tag) for the purpose of meeting paragraph (a)(1) transmitter/receiver bandwidth requirement does not meet the intent of section 2.1 rules. The reader must be able to write to and read information from the passive tag.

Permissive Change Grant Notes:

Question:

We were advised by our TCB that Class II permissive change applications should preserve or carry forward all original grant notes and it is only necessary to add information relating to worse case information (e.g. higher SAR number etc.). However, sometimes a grant has a note similar to the following on it: "This application was originally granted on 05/29/2002".

Can you please confirm if these types of notes should be preserved on Class II permissive changes or if it doesn't really matter from a procedural perspective? If the Commission desires to have these types of notes preserved and it is irrelevant to a current permissive change application, can you explain the Commission's rationale for keeping this?

Response:

The note "this application was originally granted on 05/29/2002" (or one similar) should not be carried forward to a Class II permissive change grant as a note or comment. These types of notes were meant for use only on an original grant as a means to track whether the grant was set-aside and reissued by the Commission.

Frequency Range Tested for FCC Part 15 Intentional Radiators:

Question:

What is the frequency range over which a device must be tested? EMC labs seem to agree the upper range for FCC Part 15 intentional radiators should be the 10th harmonic of the highest fundamental frequency carrier (Fc) or to the 5th if Fc > 10 GHz, but what about the low part of the frequency range? Some EMC labs use 30 MHz. Others use between the highest fundamental frequency carrier (Fc2) – and the lowest fundamental frequency carrier (Fc1), and others use 9 kHz. What is the low range for these tests? Does FCC 15.33(a) intend that all inter-modulation testing be done to 9 kHz? Or is testing between Fc2 and Fc1 satisfactory?

Response:

Based on FCC 15.33(a), the lowest fundamental frequency carrier for intentional radiators to be investigated during radiated emissions testing is the lowest frequency carrier generated in the device, down to 9 kHz. This could be the fundamental frequency carrier or it could be lower than the fundamental carrier if an oscillator is present on board. For example, if a 2.4 GHz cordless phone contains a 9 kHz oscillator on board, radiated testing starts at 9 kHz and if a 5 kHz oscillator is on board, radiated testing still starts at 9 kHz. If the lowest frequency carrier oscillator on board is 2.4 GHz, then testing starts at 2.4 GHz.

FCC or TCB Approval for MIMO and BSA Devices:

Question:

We have a Multiple Input/Multiple Output (MIMO) and Beam-Steering Antenna (BSA) device for testing and certification. Can a TCB certify such device applications?

Response:

TCBs cannot approve MIMO & SBA devices; the Commission must review these new technology applications. Devices employing MIMO powers and antennas and BSA are considered new technologies which are excluded from the TCB approval process until the Commission has established policies and procedures for reviewing these device applications. Currently, the Commission is developing policies and procedures for MIMO and BSA approvals. Once such policies and procedures are completed, TCBs will be allowed to review these types of applications for Certification.

Worldwide updates:

US Update

FCC RELEASES 20 MHZ OF LICENSED SPECTRUM ON 9/9/04

In an effort to promote a more efficient use of spectrum, the Commission recently made 20 MHz of licensed spectrum available for new advanced wireless services and technology.

The allocation of an additional 20 MHz, previously used by unlicensed personal communications services and mobile satellite service, is aimed at expediting the delivery of licensed broadband Internet wireless services to U.S. consumers. The Commission allocated and paired 5 MHz blocks of spectrum at 1915-1920 MHz with 1995-2000 MHz, and 2020-2025 MHz with 2175-2180 MHz for AWS use. The United States has increased its broadband adoption over the past year but is still behind other nations with regard to the number of homes or offices with high-speed Internet connections.

Potentially, this allocation faces criticism from companies using nearby bandwidth, such as cellular carriers or satellite service providers. To address this issue, the Commission is asking for technical studies on how best to control "in-band and out-of-band interference"--or interference with those sharing the same spectrum and neighboring spectrum. The Commission also seeks research on appropriate power limits, RF safety limits, Canadian and Mexican border coordination. **ET Docket No. 00-258:** http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-219A1.doc

CANADIAN APPROVALS: FREQUENTLY ASKED QUESTIONS

Which procedure do I use for an application regarding radio equipment?

The procedure to apply for radio equipment certification is RSP-100. Appendix I and appendix II forms from RSP-100 must be thoroughly completed, signed, and accompany your submission. For the latest version of **RSP-100**, see link:

<http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/en/sf01130e.html>

Where can I find the Canadian radio requirements (standards)?

See link for a list of Canadian radio standards: http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/en/h_sf01375e.html

Do we require Canadian certification if we can show compliance with foreign requirements?

Yes, Canadian equipment certification is required. All radio equipment must comply with Canadian procedures and technical standards.

If no Canadian standard exists, how do we obtain radio equipment certification?

Certification will not be issued until an applicable standard has been published. The release of Canadian radio standards may be verified with the Canadian manager of equipment standards. e-mail address: res.nmr@ic.gc.ca

How do I obtain a Company Number (CN)?

To request or verify a company number, send an e-mail to certification.bureau@ic.gc.ca prior to applying for equipment certification. Provide the full company name, mailing address, telephone number, fax number, contact name and email address. Request a company number before sending your submission. A CN can only be obtained via the certification and engineering bureau.

Is the certification number on the label to be prefixed by "IC:"? Does this replace the previous prefix of "CANADA:" or "CAN:"?

Yes, the certification number is prefixed by "IC:" as per the labeling requirements in **RSP-100**: <http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/en/sf01130e.html>, which replaces previous requirements.

Does IC choose the Unique Product Number (UPN)?

It is preferable that the client chooses the UPN. Permitted alphanumerical characters used in the UPN are limited to capital letters (A-Z) and digits (0-9). Other characters, such as "#", "/" or "-", shall not be used. An example of the new format for a company being issued a company number (CN) of "1234A" by the Certification & Engineering Bureau and wishing to use a UPN of "6A5S" would thus be: IC:1234A-6A5S

Where can I find information on Canadian filing fees?

The fees are detailed in **TRC-49**: <http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/en/sf00059e.html>

What is a listing fee?

Once the radio equipment has received certification, it is listed in the **radio equipment list** (http://strategis.ic.gc.ca/epic/internet/inceb-bhst.nsf/en/h_tt00020e.html). The listing fee is \$45.00 per model.

On the application, what is meant by Canadian representative?

The applicant must provide in writing the identity of a representative in Canada who is capable of responding to inquiries and who can provide post-certification audit samples at no charge to Industry Canada.

What does family certification mean?

Family certification may be granted to many models of radio equipment, which are nearly electrically identical in design and construction, provided that each model is assigned a unique model number by the manufacturer. Additional information can be found in **RSP-100**: <http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/en/sf01130e.html>

What exactly is multiple listing?

Multiple listing is required when a manufacturer or distributor wishes to list under their name and unique model number, a certified radio equipment of an original equipment manufacturer (OEM). Radio equipment may be multiple listed to other manufacturers or distributors based upon the approval granted to the original Technical Acceptance Certificate holder.

What is required if we modify certified equipment?

A reassessment is required when a Class II permissive change is made to previously certified equipment per **RSP-100**: <http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/en/sf01130e.html>

What is a Class II Permissive change (Reassessment)?

A Class II Permissive change requires notification to Industry Canada. A Class II permissive change includes those modifications in the radio equipment, which DO change the electrical characteristics beyond the rated limits established by the manufacturer and accepted by Industry Canada for its certification, WITHOUT violating the requirements of the applicable standard. This type of change requires notification to Industry Canada. The type of service is called reassessment.

What is the turn-around time to obtain equipment certification?

The turn-around time is normally less than fifteen business days.

This information is provided from the Industry Canada website:

http://strategis.ic.gc.ca/epic/internet/inceb-bhst.nsf/en/h_tt00051e.html

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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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Last revised: October 7, 2004

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