



Industry  
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Canada

RSP-100  
Issue 8, Revision 1  
May 2002

Spectrum Management and Telecommunications Policy

Radio Standards Procedure

# Radio Equipment Certification Procedure

## **Foreword**

This Issue, Issue 8 Revision 1, supercedes Issue 8 (Provisional), dated February 2002, and will be in force as of the date of publication. This document was modified to address the comments received during the public consultation period.

This document will be reviewed and amended from time to time to reflect necessary changes in procedural requirements. The Department encourages comments and welcomes suggestions that will enhance the effectiveness of the document.

Issued under the authority  
of the Minister of Industry

R.W. McCaughern  
Director General  
Spectrum Engineering

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## 1. Purpose

This document specifies the procedural requirements to be followed and the information to be submitted by an applicant wishing to obtain certification of radio equipment by the Certification and Engineering Bureau of Industry Canada.

Radio equipment for which certification is required is referred to as Category I equipment.

Certified radio equipment may require a license to operate. However, the certification of such equipment does not imply that a license will be granted.

The Department may require corrective action should the radio equipment (even if certified and licensed) cause interference.

## 2. General Information

### 2.1 Definitions

For the purpose of this document:

**Department** means Industry Canada.

**Bureau** means the Department's Certification and Engineering Bureau.

**Applicant** is the entity applying for certification.

**Regulations** means the Radiocommunication Regulations.

**Minister** means the Minister of Industry.

**TAC** means a Technical Acceptance Certificate issued by the Bureau.

**CB** means a certification body that has been recognized by the Department.

**Certificate** means a certificate issued by a CB.

**Radio Equipment** means radio apparatus, excluding broadcasting equipment.

**REL** means the Department's Radio Equipment List of equipment for which a TAC or a Certificate has been issued.

## 2.2 Related Documents

**Radio Standards Specifications (RSS):** these documents specify technical requirements applicable to the certification of radio equipment.

**Procedure for Declaration of Conformity and Registration of Terminal Equipment (DC-01):** this document describes the procedure to declare conformity and to register the terminal equipment with Industry Canada.

**Telecommunications Regulation Circular 43 (TRC-43):** this document gives guidance on how to obtain the Emission Designator code.

**Telecommunications Regulation Circular 49 (TRC-49):** this document gives information related to the fees associated with a certification application.

**Radiocommunication Information Circular 66 (RIC-66):** this document contains the addresses and telephone numbers of the Regional and District Offices of the Department.

## 2.3 Availability of Documents

The Department's documents and other pertinent information are available on the Internet at the following address: <http://strategis.gc.ca/spectrum>.

## 2.4 Public Inquiries

Inquiries concerning the certification process or this document should be directed to:

Certification and Engineering Bureau  
Industry Canada  
Spectrum Engineering Branch  
3701 Carling Avenue, Building 94  
Ottawa, Ontario  
K2H 8S2  
Telephone: (613) 990-4389  
Fax: (613) 990-5009  
e-mail: [certification.bureau@ic.gc.ca](mailto:certification.bureau@ic.gc.ca)

Inquiries concerning Radio Equipment Standards should be directed to:

Manager  
Radio Equipment Standards  
Industry Canada  
Spectrum Engineering Branch

300 Slater Street  
Ottawa, Ontario K1A 0C8  
Telephone: (613) 990-4699  
Fax: (613) 991-3961  
e-mail: [res.nmr@ic.gc.ca](mailto:res.nmr@ic.gc.ca)

Inquiries concerning Terminal equipment should be directed to:

TAPAC Secretariat  
Directorate of Telecommunications Engineering and Certification  
Industry Canada  
Spectrum Engineering Branch  
300 Slater Street, 13<sup>th</sup> Floor  
Ottawa, Ontario  
K1A 0C8  
Telephone: (613) 990-4526  
Fax: (613) 957-8845  
e-mail: [tapac-ccprt@ic.gc.ca](mailto:tapac-ccprt@ic.gc.ca)

Inquiries concerning Transport Canada Approval of Emergency Locator Transmitters (ELTs) should be directed to:

Manager Aircraft Certification Regulatory Specialist  
Transport Canada - Aircraft Certification Branch (AARD)  
330 Sparks Street, 3rd Floor, Tower C, Place de Ville  
Ottawa, Ontario  
K1A 0N8  
Telephone: (613)990-5213  
Fax: (613) 996-9178  
e-mail: [moring@tc.gc.ca](mailto:moring@tc.gc.ca)

Inquiries concerning Transport Canada Approval of Emergency Position Indicating Radio Beacons (EPIRBs) should be directed to:

Director  
Ships and Operations Standards (AMSE)  
Transport Canada - Marine Safety  
330 Sparks Street, Tower C, 11<sup>th</sup> Floor, Place de Ville  
Ottawa, Ontario  
K1A 0N8  
Telephone: (613) 991-3131  
Fax: (613) 993-8196  
e-mail: [webfeedback@tc.gc.ca](mailto:webfeedback@tc.gc.ca)

Inquiries concerning National Search and Rescue Secretariat (NSS) Approval of Personal Locator Beacons (PLBs) should be directed to:

Manager  
Canadian Beacon Register  
National Search and Rescue Secretariat (NSS)  
275 Slater Street, 4<sup>th</sup> Floor  
Ottawa, Ontario  
K1A 0K2  
Telephone: (613) 992-6667 or 1-800-727-9414  
Fax: (613) 996-3746  
e-mail: [dawn@nss.gc.ca](mailto:dawn@nss.gc.ca)

### **3. Certification Requirements**

#### **3.1 General**

Certification is based on the review of a technical brief that demonstrates that a unit, representative of the final production model, complies with the applicable standard(s).

#### **3.2 Radio Equipment**

Radio equipment subject to an RSS found in the "Category I Equipment Standards List" requires certification.

Such equipment which is intended to be connected to a public telecommunications network is also subject to a Declaration of Conformity and registration to the Terminal Attachment Program as described in document DC-01.

Any radio equipment imported only for demonstration or trial purposes does not have to be certified. However, it may require a developmental radio licence. More information can be obtained from the office of the Department nearest to the demonstration or trial site.

#### **3.3 Approval by Other Agencies**

Some radio equipment requires the approval of other Regulatory Agencies *before* a certification application can be submitted. In such cases, the other approval(s) must be included with the application.

**Disclaimer:** certification does not necessarily imply acceptance or approval by another agency and the approval of another agency does not imply certification.

### **3.3.1 Approval by Transport Canada Aircraft Certification Branch (AARD)**

Emergency Locator Transmitters (ELT's) must initially be approved by AARD before certification can be granted. Once certified, the ELT will be listed on the REL. Only ELT's that have successfully completed this two-part approval process and are listed in the REL will be eligible for installation in Canadian registered aircraft. Other radio equipment intended for installation on aircraft which does not require prior approval by AARD to qualify for certification will be processed for certification directly. In such cases, Transport Canada will be notified of new certifications through the daily update to the REL.

### **3.3.2 Approval by Transport Canada Marine Safety (AMSE)**

Emergency Position Indicating Radio Beacons (EPIRBs) used in the maritime service and Global Maritime Distress & Safety System (GMDSS) equipment must initially be approved by AMSE before certification can be granted.

### **3.3.3 Approval by National Search and Rescue Secretariat (NSS)**

Personal Locator Beacons (PLBs) equipment must initially be approved by NSS before certification can be granted.

## **3.4 Required Representative**

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

## **4. Labelling of Certified Radio Equipment**

Certified radio equipment must be labelled with a unique certification/registration number, which consists of the Company Number (CN), assigned by the Bureau, followed by the Unique Product Number (UPN), assigned by the TAC or Certificate holder.

The certification/registration number shall appear as follows:

“IC: XXXXXX-YYYYYYYY”

Where:

- “XXXXXX-YYYYYYYY” is the certification/registration number;
- “XXXXXX” is the Company Number (CN), made of at most 6 alphanumeric characters (A-Z, 0-9), assigned by Industry Canada;
- “YYYYYYYY” is the Unique Product Number (UPN), made of at most 8 alphanumeric characters (A-Z, 0-9) assigned by the applicant; and
- The letters "IC" have no other meaning or purpose than to identify the Industry Canada certification number/registration number.

Permitted alphanumerical characters used in the CN and 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 having a CN of “21” and wishing to use a UPN of “A3 ” would thus be: **IC: 21-A3**.

All Category I radio equipment intended for use in Canada must permanently display on each transmitter, receiver, or inseparable combination thereof, the information required above. This information must be affixed by labelling or other means, in such a manner as not to be removable except by destruction or defacement.

**A radio equipment that is issued a TAC or a Certificate but is not properly labelled is not considered certified.**

## **5. Types of Certification Services**

The following sections have been prepared to assist the applicant when filing for equipment certification services.

### **5.1 Single Certification**

Single certification may be granted to radio equipment provided that the equipment model is assigned a unique model number by the manufacturer and certification has never been granted for that model by the Bureau.

The following information shall be submitted:

- (a) a completed and signed original copy of Appendix I;
- (b) a covering letter explaining the type of certification services requested and a brief description of the radio equipment;
- (c) a completed and signed original copy of Appendix II attached to the test report;
- (d) a detailed test report meeting the technical requirements of the applicable radio standards specification (RSS);

- (e) photographs and product literature of the new model(s);
- (f) schematic diagrams and block diagrams, and
- (g) a drawing, sample or illustration of the product label.

## 5.2 Family Certification

Family certification may be granted to many models of radio equipment that are nearly identical in design and construction provided that each model is assigned a unique model number by the manufacturer.

5.2.1 New Family - If family certification is requested and none of the models in the family have ever been certified by the Bureau, the following information shall be provided:

- the information required for single certification, and
- a list of all the models to be included in the family.

5.2.2 Existing Family - If family certification is requested and at least one model in the family has been certified by the Bureau, the following information shall be submitted:

- (a) the model number, TAC number and certification number of the approved equipment with a detailed description of the differences between the new device and the previously certified device, with particular emphasis on the following:
  - (1) the radio frequency and RF output power;
  - (2) the radio frequency circuitry;
  - (3) functional capabilities, and
  - (4) a test report to cover the parameters likely to be affected by differences described in (1), (2), or (3).

A test report is not required where the differences are cosmetic only.

- (b) a completed and signed original copy of Appendix I. If more than one model is to be approved, the additional models may be shown on an attached list;
- (c) a completed and signed original copy of Appendix II attached to the test report;
- (d) photographs and product literature if the new model's(s') internal or external appearance differ(s) from the previously certified models;
- (e) a drawing, sample or illustration of the product label, if this is not shown in (d), and

- (f) a brief statement as to why the new product should qualify for family approval. This statement must be augmented with schematic diagrams and block diagrams. If modifications have been made to the circuitry, a test report verifying affected parameters may be required.

### **5.3 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).

A radio equipment may be multiple listed to other manufacturers or distributors based upon the approval granted to the original TAC holder.

In order to obtain a multiple listing certification, the following documentation must be submitted to the Bureau:

- (a) the model number, TAC number and certification number of the approved radio equipment;
- (b) a signed letter from the original TAC holder authorizing the Department to use information on file to grant a multiple listing certification. The name/model number, TAC number and certification number of the radio equipment must be shown. The letter must also declare that the model to be multiple listed is identical in design and construction to the originally approved model;
- (c) a letter, from the applicant, requesting the certification;
- (d) a completed and signed original copy of Appendix I, and
- (e) a drawing, sample or illustration of the product label.

### **5.4 Reassessment (Modification of Radio Equipment)**

A reassessment is required when a Class II permissive change (see Section 6) is made to a previously certified equipment.

In order to obtain a reassessment certification, the following documentation must be presented to the Bureau:

- (a) the model number, TAC number and certification number of the approved radio equipment with a detailed description of the differences between the modified device and the previously certified device, with particular emphasis on the following:
  - (1) the radio frequency and RF output power;
  - (2) the radio frequency circuitry;
  - (3) functional capabilities, and
  - (4) a test report to cover the parameters likely to be affected by differences described in (1), (2), or (3).

- (b) a completed and signed original copy of Appendix I. If more than one model is to be approved, the additional models may be shown on an attached list;
- (c) a completed and signed original copy of Appendix II attached to the test report;
- (d) photographs and product literature if the modified model's(s') internal or external appearance differ(s) from the previously certified models;
- (e) a drawing, sample or illustration of the product label, if this is not shown in (c), and
- (f) a brief statement as to why the modified product still qualifies for certification. This statement must be accompanied by schematic diagrams and block diagrams.

## 5.5 Transfer of a TAC

A TAC ownership may be transferred from the current owner to a new entity that wishes to assume all of the previous owner's responsibilities associated to the TAC. To transfer the ownership, the new entity shall send a letter to the Bureau providing a copy of a signed letter from the current TAC holder, authorizing the Department to transfer the ownership from the current owner to the new entity and change the TAC file information to reflect the new owner's information. The letter must also attest that the equipment covered by the TAC is identical in design and construction to the originally approved model.

## 6. Modification of Certified Radio Equipment

### 6.1 General

Modifications to certified radio equipment may require re-certification of the radio equipment. The TAC holder shall inform the Department of any changes that may affect compliance with the technical requirements of the standards under which the device was originally certified. These changes may require either complete or partial re-testing. Full details shall be submitted to the Bureau, including any test results where applicable.

### 6.2 Class I Permissive Change

A class I permissive change includes those modifications in the radio equipment that *DO NOT* change the electrical characteristics beyond the rated limits established by the manufacturer and accepted by Industry Canada for its certification, *DO NOT* change external or internal mechanical characteristics significantly enough to require new photographs to identify the modified radio equipment, and *DO NOT* change the model number. A class I permissive change does not require notification to Industry Canada. **However, when Class I permissible changes are made, the TAC holder must ensure that the attestation of compliance with RSS-102, last submitted to the Bureau, continues to be valid.**

### 6.3 Class II Permissive Change

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 minimum requirements of the applicable standard. This type of change requires notification to Industry Canada.

## 7. Testing and Technical Brief

### 7.1 Testing

If the measurement requires the use of an Open Area Test Site (OATS), a testing laboratory shall have filed a description of such a test site and associated test instruments with the Bureau, in advance, and have obtained a reference number. Requirements associated with Open Area Test Sites can be found in RSS-212 *Test Facilities and Test Methods for Radio Equipment*. Detailed information on OATS filings can also be found at:

[http://spectrum.ic.gc.ca/~cert/oats\\_e.html](http://spectrum.ic.gc.ca/~cert/oats_e.html)

A list of testing laboratories which have submitted their OATS filing is available at:

[http://spectrum.ic.gc.ca/~cert/labs/oats\\_lab\\_e.html](http://spectrum.ic.gc.ca/~cert/labs/oats_lab_e.html)

There is no fee or form associated with an OATS filing. Your OATS submission may be sent by mail to the Bureau or alternatively sent by e-mail in Adobe Acrobat PDF format.

### 7.2 Technical Brief

Certification shall be based on the assessment of a technical brief consisting, at a minimum, of:

- (a) a covering letter precisely describing the radio apparatus and its specific use.
- (b) a detailed description of the product and its application, including advertising literature, user and maintenance manuals, and schematic diagrams of the RF circuitry and block diagrams of associated circuitry;
- (c) a test report which shall contain:
  - (i) the test report cover sheet shown in Appendix II appropriately filled out and signed;

- (ii) the results of measurements conducted on the device as described in the applicable technical standard. If used, a full description of the alternative testing method and the reasons for using it shall be provided when filing for certification. If an alternative method is used, it is advisable to adopt a method used by a national or international organization; and
  - (iii) the radio frequency emission type designator used by the ITU-R (International Telecommunications Union-Radio). See document TRC-43. An emission designator calculator is available on Industry Canada's Web site;
- (d) the supporting information which shall contain the photographs of the internal circuit boards and external views of the product required to precisely identify the radio equipment. (the photographs shall be large enough to allow the major components to be clearly identified).

## **8. Certification Retention and Audits**

TAC holders shall ensure that all production units of certified radio equipment continue to meet the applicable procedural and technical requirements. Post-certification audits will be conducted in order to ensure continuing compliance.

The adherence of subsequent production units to the technical quality and characteristics under which certification was originally issued is implicit. To this end, periodic testing shall be carried out by the TAC holder to ensure continuing compliance with the technical standards.

The Department may request from a TAC holder random radio equipment samples at his/her expense for post-certification audit testing, or as a result of radio interference complaints. If the samples fail the tests, the TAC holder will be required to take corrective action.

## **9. Withdrawal of Certification**

Where, as a result of post-certification audit or other information obtained by the Department, a certified device fails to meet this procedure or the applicable technical requirements, or where there is reasonable evidence that a certified device is creating electromagnetic interference, or not operating in accordance with the parameters described on the TAC, the TAC holder will be required to take remedial action.

If no remedial action is taken, the offending equipment will be removed from the **REL**. The Department will also require that all units of the offending radio equipment be removed from service, and no longer be made available for sale or distribution in Canada.

**10. Disclosure of Information**

The applicant shall indicate which information and documents furnished in support of an application for certification are confidential. The provisions of the *Access to Information Act* apply.

## **Appendices**

## Appendix I

### Application and Agreement for Certification Services

APPLICANT & ADDRESS:	CONTACT NAME:	TELEPHONE NO.:
	EMAIL ADDRESS:	FACSIMILE NO.:

CANADIAN REPRESENTATIVE & ADDRESS:	CONTACT NAME:	TELEPHONE NO.:
	EMAIL ADDRESS:	FACSIMILE NO.:

COMPANY NUMBER and UPN NUMBER:
MODEL NUMBER:
SPECIFICATION STANDARD:
TYPE OF SERVICE: ' SINGLE ' NEW FAMILY ' EXISTING FAMILY ' MULTIPLE LISTING ' REASSESSMENT

If payment by cheque/ amount:	CARD HOLDER'S NAME:
CHEQUE Number:	CREDIT CARD TYPE: (VISA, MASTERCARD or AMEX)
Card Holder is: ' Applicant or ' Test facility	CREDIT CARD NO.:
AUTHORIZED AMOUNT:	EXPIRY DATE:
CARD HOLDER'S SIGNATURE: _____	
I agree to pay the total amount entered above in accordance with the credit card holder's agreement.	

<b>AGREEMENT:</b>	
THE APPLICANT AGREES TO:	
(i) Accept responsibility for all Departmental charges arising from this application;	
(ii) Meet all requirements in accordance with Radio Standards Procedure 100 and other applicable procedures;	
(iii) Warrant that the test results submitted are a true representation of the characteristics of the radio equipment type for which certification is requested;	
(iv) Inform the Bureau of any changes to the information submitted.	
NAME AND TITLE OF APPLICANT (PLEASE PRINT OR TYPE):	
SIGNATURE OF APPLICANT:	DATE:

**Note: This form must be completed and provided with the submission.**

**Appendix II****Test Report Cover Sheet****COMPANY NUMBER:** \_\_\_\_\_**MODEL NUMBER:** \_\_\_\_\_**MANUFACTURER:** \_\_\_\_\_**TESTED TO RADIO STANDARDS SPECIFICATION (RSS) NO. :** \_\_\_\_\_**OPEN AREA TEST SITE INDUSTRY CANADA NUMBER:** \_\_\_\_\_**FREQUENCY RANGE (or fixed frequency):** \_\_\_\_\_**R.F. POWER IN WATTS:** \_\_\_\_\_**FIELD STRENGTH (at what distance):** \_\_\_\_\_**OCCUPIED BANDWIDTH (99% BW):** \_\_\_\_\_**TYPE OF MODULATION:** \_\_\_\_\_**EMISSION DESIGNATOR (TRC-43):** \_\_\_\_\_**TRANSMITTER SPURIOUS (worst case):** \_\_\_\_\_**RECEIVER SPURIOUS (worst case):** \_\_\_\_\_

**ATTESTATION:** I attest that the testing was performed or supervised by me; that the test measurements were made in accordance with the above-mentioned departmental standard(s), and that the radio equipment identified in this application has been subject to all the applicable test conditions specified in the departmental standards and all of the requirements of the standards have been met.

**Signature:** \_\_\_\_\_**Date:** \_\_\_\_\_**NAME AND TITLE (Please print or type):**  
  
  

**Note:** This form must be completed and provided with the submission.

**Appendix III****Checklist for Radio Certification**

Obtain "Company Number" from Industry Canada, if not previously assigned	
Obtain "OATS Number" from Industry Canada, if not previously assigned	
Complete and sign Application and Agreement for Certification Services (Appendix I)	
Complete and sign Test Report Cover Sheet (Appendix II)	
Attach a covering letter precisely describing the radio apparatus and its specific use	
Attach payment of applicable fees (TRC-49)	