Industry Canada Industrie Canada

RSS-215
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Spectrum Management and Telecommunications Policy

Radio Standards Specification

Analogue Scanner Receivers

Canada

Aussi disponible en français - CNR-215

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1. Scope

1.1 This document sets out standards for analogue scanner receivers.

A technical acceptance certificate (TAC) is required for analogue scanner receivers, pursuant to subsection 4(2) of the *Radiocommunication Act* and the *Radiocommunication Regulations*. Before certification is granted, the applicant shall show that the applicable standards have been complied with.

Analogue scanner receivers are exempt from licensing. In the case of a digital scanner receiver, please refer to RSS-135, *Digital Scanner Receivers*. (Note: digital scanner receivers require TAC and licensing.)

This standard does not apply to:

(a) a receiver that scans radio frequencies for the purpose of enabling its associated transmitter to avoid transmitting in an occupied frequency but which does not have the capability of decoding the message (e.g. converting it to audio voice) contained in the radio signal;

(b) a manually tunable receiver not employing programmable or preset channel frequencies (with or without digital decoding capability);

(c) test equipment receiver that scans radio frequencies but is incapable of decoding digital signals;

(d) receivers capable of receiving broadcasting signals only; and

(e) equipment intended for use by amateur radio operators and not capable of scanning frequency bands other than bands allocated for the amateur radio service.

2. Definitions

In this standard,

"scanner receiver" means any receiver capable of automatically scanning a frequency band, or several frequency bands, for RF signals, or a manually tunable receiver employing programmable or preset channel frequencies, and decoding the messages that are transmitted by other parties on those frequencies;

"analogue scanner receiver" means a scanner receiver capable of only decoding analogue signals;

"digital scanner receiver" means a scanner receiver capable of decoding digital signals.

3. General

3.1 Quality Control

Periodic testing shall be carried out by the manufacturer or importer to ensure continuing compliance (with standards) of the newly manufactured/imported units intended for sale in Canada. Non-compliance problems shall be corrected by the manufacturer or importer. The Department of Industry (also known as Industry Canada, or the Department) will conduct audit checks from time to time to ensure compliance.

3.2 Inquiries about this Standard

Inquiries concerning this Standard may be directed to Industry Canada's local office or to:

Manager, Radio Equipment Standards
Industry Canada
300 Slater Street
Ottawa, Ontario
Canada, K1A 0C8
Tel (613) 990-4699 / Fax (613) 990-3158
E-mail: res.nmr@ic.gc.ca

However, inquiries concerning **equipment certification** matters should be directed to Chief, Certification and Engineering Bureau; see address in section 8.

4. Related Documents

The following are related documents. Radio Standards Procedure 100 (RSP-100) and Telecommunications Regulations Circular 49 (TRC-49) provide guidance and the fee schedule when applying for equipment certification.

4.1 RSP-100: "Radio Equipment Certification Procedure".
4.2 TRC-49: "Certification Service Fees".
4.3 RSS-212: "Test Facilities and Test Methods for Radio Equipment".
4.4 RIC 66: Radiocommunication Information Circular: "Addresses and Telephone Numbers of Regional and District Offices of Industry Canada".

Industry Canada documents are available in English and French on the Internet at:
http://strategis.ic.gc.ca/spectrum (English)
http://strategis.ic.gc.ca/spectre (French)

For assistance regarding this web site, please contact: DOSP-P, 300 Slater Street, Ottawa, Ontario, K1A 0C8, telephone: (613) 990-4761, fax: (613) 952-9871, e-mail: spectrum_pubs@ic.gc.ca.

5. Test Instruments

The test report shall list all test instruments used. The list shall identify instruments by manufacturer, type and model numbers.

6. Equipment Requirements

6.1 Equipment Labels

Equipment that is certified under this RSS shall be permanently labeled on each item or inseparable combination. The label shall contain the following:

(a) The certification number, prefixed by the name "Canada".
(b) The manufacturer's name or trade name or brand name.
(c) A model name or number.

Equipment for which a certificate has been issued is not considered certified if it is not properly labeled. **Note:** The information on the Canadian label can be combined with the manufacturer’s other labelling requirements.

6.2 Information on Scanner Receivers

The following information shall be supplied in the application for equipment certification:

(a) Principle of operation, accompanied by block and circuitry diagrams;
(b) Frequency band(s) that it scans and/or it can scan;
(c) Its intended function or usage;
(d) Copy of user manual;
(e) A declaration by the manufacturer that the scanner receiver is not a digital scanner and that it is **INCAPABLE** of being converted or modified to a digital scanner receiver by the user.

Receivers capable of being modified by the user include, but not limited to, those for which the ability to receive such digital transmissions can be added by clipping the leads of, or installing, a simple component such as a diode, resistor and/or a jumper wire; replacing a plug-in; or programming a semi-conductor chip using special access codes or an external device, such as a personal computer.

7. Receiver Spurious Emissions

Radiation measurement is the standard method (with the device's antenna in place) for receiver spurious emissions. But, as an alternative method, for receivers equipped with a detachable antenna, measurement of the spurious signal at the antenna connector is permissible.

The receiver shall be operated in the normal receive mode near the mid-point of the band over which the receiver is designed to operate. The scanner receiver spurious emissions are to be measured when the receiver is in the scanning mode and repeated when the scanning is stopped.

(a) Radiation measurements may be performed using a calibrated open area test site. Description of a suitable open area test site is found in RSS-212, *Test Facilities and Test Methods for Radio Equipment*.

(b) If the antenna is detachable, the receiver spurious signal may be measured by replacing the antenna with a spectrum analyzer of internal resistance equal to the impedance specified for the antenna.

The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (local oscillator frequency, intermediate frequency or carrier frequency), or 30 MHz, whichever is the higher, to at least 3 times the highest tunable or local oscillator frequency, whichever is the higher frequency without exceeding 40 GHz.

Minimum standard

(i) The field strength of any spurious frequency in each polarization (vertical and horizontal), measured at a distance of 3 metres, shall not exceed 100 microvolt/m (in the band 30-88 MHz), 150 microvolts/m (88-216 MHz), 200 microvolts/m (216-960 MHz), 500 microvolts/m (960-1610 MHz) and 1000 microvolts/m above 1610 MHz. The resolution bandwidth of the spectrum analyzer shall be 100 kHz for measuring spurious emissions below 1.0 GHz, and 1.0 MHz above 1.0 GHz.

(ii) If spurious emissions are to be measured at the antenna connector, the emission power in any 4 kHz shall not exceed 2 nanowatts (below 1 GHz) and 5 nW (above 1 GHz).

8. Equipment Certification and Test Report Submission

The test report, complete with measurement results and the information specified in section 6.2, that addresses the requirements of this standard, is to be submitted with the application for certification.

The application for certification should be prepared in accordance with RSP-100 and sent to:

Chief, Certification and Engineering Bureau
Industry Canada
1241 Clyde Avenue
Ottawa, Ontario
Canada, K2C 1Y3
Tel: (613) 952-3200 / Fax: (613) 952-1088
E-mail: certification.bureau@ic.gc.ca

Issued under the authority of
the Minister of Industry

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Director General
Spectrum Engineering