Industry Canada

RSS-135
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Spectrum Management

Radio Standards Specification

Digital Scanner Receivers

Canada

Aussi disponible en français - CNR-135

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1. Scope

1.1 This document sets out standards for digital scanner receivers. **Digital scanner receivers require a licence**. For information regarding the licensing policy applicable to these devices, please contact Industry Canada, Manager (DOSP-A), 300 Slater Street, Ottawa, K1A 0C8. Tel.: (613) 990-4747; Fax.: (613) 952-9871.

A technical acceptance certificate (TAC) is required for digital scanner receivers, pursuant to section 4(2) of the *Radiocommunication Act* and the *Radiocommunication Regulations*. Before certification is granted for digital scanners, the applicant shall show that the applicable standards have been complied with. **TACs issued for digital scanners contain a term and condition that limits the distribution of the equipment**.

Analogue scanner receivers require a TAC but are exempt from licensing. For information on analogue scanners, please see RSS-210.

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

(d) receivers capable of receiving broadcasting signals only.

(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 Periodic Testing

Periodic testing shall be carried out by the manufacturer or importer to ensure continuing compliance with the standard. Non-compliance problems shall be corrected by the manufacturer or importer. Industry Canada (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
K1A 0C8
Tel.: (613) 990-4699
Fax: (613) 990-3158
Internet: Lum.kwai@ic.gc.ca

However, inquiries concerning **equipment certification** matters should be directed to Manager, Certification, Engineering And Operations Section; see address in section 7.

This RSS is available in English and French from the local offices of Industry Canada or from:

Chief, Production of Publications
Industry Canada
300 Slater Street
Ottawa, Canada
K1A 0C8
Tel: (613) 990-4761 / Fax: (613) 990-3341
Internet: Spectrum_pubs@ic.gc.ca

The electronic version of this RSS is available at the Internet WWW address: http://info.ic.gc.ca/ic-data/telecom/dgse/index.html

4. Test Instruments

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

5. Equipment Requirements

5.1 Equipment Labels

Equipment that is certified under this RSS shall be permanently labelled 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.
(d) the following or equivalent notice: "A radio licence must be obtained prior to possession and use of this scanner receiver."

Equipment for which a certificate has been issued is not considered certified if it is not properly labelled.

5.2 Information on Digital 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 that it scans and/or it can scan;
(c) its intended function or usage;
(d) copy of user manual.

Those wishing to certify a digital scanner receiver should obtain more information and details from Industry Canada, see section 1.1.

6. Receiver Spurious Emissions

Radiation measurement is the standard method (with the device's antenna in place). 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.

(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.

Minimum standard

(i) The field strength of any spurious frequency in the vertical or horizontal polarization, measured at a distance of 3 metres from the antenna, shall not exceed 100 microvolt/m (in the band 30-88 MHz), 150 microvolts/m (88-216 MHz), 200 microvolts/m (216-960 MHz), or 500 microvolts/m (above 960 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 (316 microvolts across 50 ohms).

7. Equipment Certification and Test Report Submission

The test report, complete with measurement results, 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:

Manager
Certification, Engineering and Operations
Industry Canada
1241 Clyde Avenue
Ottawa, Ontario
K2C 1Y3
Canada
Tel: (613) 952-3200 / Fax: (613) 952-1088
Internet: Corey.bob@ic.gc.ca

Issued under the authority of
the Minister of Industry

R.W. McCaughern
Acting Director General
Spectrum Engineering