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Spectrum Management and Telecommunications Policy
Interference-Causing Equipment Standard

Digital Apparatus

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1. General

- 1.1 This Interference-Causing Equipment Standard sets out the technical requirements relative to the radiated and conducted radio noise emissions from digital apparatus.
- 1.2.1 Subject to Sections 1.2.2 and 1.2.3, Sections 3 to 7 apply to every digital apparatus, the model of which is newly manufactured in or imported into Canada, except digital apparatus manufactured or imported solely for export purposes.
- 1.2.1.1 A transition period ending June 1, 2004 is provided, within which compliance with either ICES-003 Issue 3 or ICES-003 Issue 4 will be accepted. After June 1, 2004, only compliance with ICES-003 Issue 4 will be accepted.
- 1.2.2 Sections 3 to 7 do not apply to digital apparatus used:
- (a) in a transportation vehicle;
 - (b) as an electronic control, either by a public utility or in an industrial plant;
 - (c) in a power system, either by a public utility or in an industrial plant;
 - (d) as test equipment, including an oscilloscope and a frequency counter, in an industrial, commercial or medical environment;
 - (e) as a medical computing device, under the direction of a licensed health care practitioner;
 - (f) in machinery, apparatus or equipment:
 - (i) the primary function of which is to apply energy to a process or material through the action of an electric motor or a resistive heating element;
 - (ii) that draws a steady-state current that does not exceed:
 - (A) in the case of an electric motor, 20 A RMS;
 - (B) in the case of an electric heating element, used either alone or in conjunction with an electric motor, 50 A RMS;
 - (iii) that operates from an alternating current voltage supply that does not exceed 150 V RMS; or
 - (iv) where the machinery, apparatus or equipment is a portable tool and has an input power that does not exceed 2 kW.
 - (g) in central office telephone equipment operated by a telecommunications common carrier in a central office;

- (h) in a device having a power consumption not exceeding 6 nW;
 - (i) in a device in which both the highest frequency generated and the highest frequency used are less than 1.705 MHz and which neither operates from, nor contains provision for operation while directly or indirectly connected to the AC power lines;
 - (j) solely for demonstration and exhibition purposes; or
 - (k) as a prototype unit.
- 1.2.3
- (1) Sections 3 to 7 do not apply to units or models of digital apparatus for which the manufacturer, importer or owner has been granted a special permission by the Minister.
 - (2) The Minister may grant a special permission where:
 - (a) the manufacturer, importer or owner has presented a written application giving:
 - (i) the reasons for the request;
 - (ii) an analysis based on sound engineering principles showing that the unit or model of digital apparatus will not pose a significant risk to radiocommunication; and
 - (iii) a guarantee of compliance with all the conditions the Minister may set in the special permission.
 - (b) and, the Minister is satisfied that the unit or model will not pose a significant risk to radiocommunication.
 - (3) The special permission is valid only if:
 - (a) the unit bears a label stating that it is operating under special permission and setting out the conditions of that special permission; and
 - (b) the unit complies with all conditions set out in the special permission.
 - (4) The Minister may revoke or amend the special permission granted under subsection (2) at any time without prior notice.

2. Definitions

2.1 In this Standard,

"digital apparatus" means an electronic apparatus that generates and uses timing signals at a rate in excess of 10,000 pulses per second and that utilizes radio frequency energy for the

purpose of performing functions including computations, operations, transformations, recording, filing, sorting, storage, retrieval and transfer, but does not include an ISM (industrial, scientific or medical) radio frequency generator.

"Class A digital apparatus" means a model of digital apparatus for which, by virtue of its characteristics, it is highly unlikely that any units of the model will be used in a residential environment, which includes a home business. Characteristics considered to be applicable in this assessment include: price, marketing and advertising methodology, the degree to which the functional design inhibits applications suitable to residential environments or any combination of features which would effectively preclude its use in a residential environment.

"Class B digital apparatus" means any model of digital apparatus that cannot qualify as Class A digital apparatus.

3. Instrumentation

3.1 Instrumentation shall be in accordance with the publication referred to in Section 7.1.

4. Method of Measurement

4.1 A representative type or model of each digital apparatus shall be tested in accordance with the measurement method described in the publication referred to in Section 7.1.

4.2 The field intensity of radiated radio noise emissions may be measured at a distance other than that prescribed in subsection 4.1 but in such case the measurement result shall be extrapolated to the prescribed distance in accordance with the publication referred to in Section 7.1.

5. Limits

5.1 The limits of radio noise set out in Sections 5.2 to 5.5 do not apply to a unit of digital apparatus while it is being tested for compliance with this Standard.

5.2 The voltage of radio noise emissions that are conducted along the power supply lines of a Class A digital apparatus shall not exceed the limits specified in Table 1 of the publication referred to in Section 7.1, within the indicated frequency range.

5.3 The voltage of radio noise emissions that are conducted along the power supply lines of a Class B digital apparatus shall not exceed the limits specified in Table 2 of the publication referred to in Section 7.1, within the indicated frequency range.

5.4 The field intensity of radio noise emissions that are radiated from a Class A digital apparatus shall not exceed the limits specified in Table 5 of the publication referred to in Section 7.1, within the indicated frequency range.

- 5.5 The field intensity of radio noise emissions that are radiated from a Class B digital apparatus shall not exceed the limits specified in Table 6 of the publication referred to in Section 7.1, within the indicated frequency range.

6. Procedural Requirements

- 6.1 A record of the measurements and results, showing the date that the measurements were completed, shall be retained by the manufacturer or importer for a period of at least five years from the date shown in the record and made available for examination on the request of the Minister.
- 6.2 A written notice indicating compliance must accompany each unit of digital apparatus to the end user. The notice shall be in the form of a label that is affixed to the apparatus. Where because of insufficient space or other constraints it is not feasible to affix a label to the apparatus, the notice may be in the form of a statement included in the user's manual. A suggested text for the notice, in English and in French, is provided in the Annex.

7. Reference Publication

- 7.1 This Standard refers to the following publication and where such reference is made, it shall be to the edition listed below.

Canadian Standards Association Standard CAN/CSA-CEI/IEC CISPR 22:02, "Limits and Methods of Measurement of Radio Disturbance Characteristics of Information Technology Equipment."

Issued under the authority of
Industry Canada

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Annex

Suggested text for the notice indicating compliance with this Standard:

This Class [*] digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe [*] est conforme à la norme NMB-003 du Canada.

[*] Insert either "A" or "B" but not both as appropriate for the equipment requirements.