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Interference-Causing Equipment Standard

General Requirements for Compliance of Interference-Causing Equipment

Preface

Interference-Causing Equipment Standard ICES-Gen, issue 1, *General Requirements for Compliance of Interference-Causing Equipment*, sets out general requirements that are common and applicable to all categories of interference-causing equipment, unless stated otherwise in the corresponding ICES standard.

This issue of the ICES-Gen standard will come into force upon publication on Innovation, Science and Economic Development Canada (ISED) website.

Inquiries may be submitted by one of the following methods:

- 1) Online, using the [General Inquiry form](#) (in the form, the Regulatory Standards Branch radio button should be selected and “ICES-Gen” should be specified in the General Inquiry field).

- 2) By mail to the following address:

Innovation, Science and Economic Development Canada
Engineering, Planning and Standards Branch
Attention: Regulatory Standards Directorate
235 Queen Street
Ottawa, Ontario K1A 0H5 Canada

- 3) By email to ic.consultationradiostandards-consultationnormesradio.ic@canada.ca

Comments and suggestions for improving this standard may be submitted online using the [Standard Change Request form](#) or by mail or email to the above addresses.

All spectrum and telecommunications related documents are available on ISED's [Spectrum Management and Telecommunications](#) website.

Issued under the authority of
the Minister of Innovation, Science and Economic Development Canada

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Director General
Engineering, Planning and Standards Branch

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1. Scope

This Interference-Causing Equipment Standard (ICES) sets out the general requirements applicable to interference-causing equipment.

2. Definitions

The following is a list of terms commonly used in ICES standards, including this one, and associated definitions.

Category I equipment

Radio apparatus that requires a technical acceptance certificate (TAC), issued by ISED's Certification and Engineering Bureau, or a certificate issued by a recognized Certification Body (CB), pursuant to subsections 4(2) of the [Radiocommunication Act](#) and 21(1) of the [Radiocommunication Regulations](#).

Category II equipment

Radio apparatus or broadcasting equipment that is exempt from certification (does not require a TAC or a certificate issued by a CB), or interference-causing equipment.

Class A

Equipment that is, by virtue of its characteristics, highly unlikely to be used in a residential environment, including a home business. Characteristics considered 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 that would effectively preclude the use of such equipment in a residential environment. Also used for denoting the corresponding emission limits applicable to such equipment.

Class B

Equipment that cannot be classified as Class A; also used for denoting the corresponding emission limits applicable to such equipment.

Emission

Electromagnetic transmission through radiated means by an electric or electronic device, or conducted by such a device through its attached wired interfaces. These emissions can be either intentional or non-intentional.

Intentional radiator

A device that intentionally generates and emits radio frequency energy by radiation, induction or conduction. This can be interference-causing equipment (e.g. industrial, scientific, or medical equipment) or radio apparatus (of Category I or Category II).

Interference-causing equipment

Any device, machinery or equipment, other than radio apparatus, that causes or is capable of causing interference to radiocommunication.

Main function (main operation mode)

Function (operation mode) of a device, as declared by the manufacturer in the product documentation or marketing material for that device model.

Radiation

The outward flow of electromagnetic energy from a source in the form of radio waves.

Radio apparatus

A device or combination of devices intended for, or capable of being used for, radiocommunication.

Radio apparatus module

A radio apparatus that cannot function by itself and must be incorporated in another (host) device to be able to operate. Such a module could be manufactured, marketed and certified (if it is Category I) by a third party.

Radio apparatus subassembly/subcircuit

A circuit or assembly that provides a radio apparatus function to a more complex device (i.e. which also includes functions other than radiocommunication) and is an integral and inseparable part of that device (e.g. on same printed circuit board as the rest of the device circuitry).

Radiocommunication

Any transmission, emission or reception of signs, signals, writing, images, sounds or intelligence of any nature by means of electromagnetic waves of frequencies lower than 3000 GHz propagated in space without artificial guide.

Residential environment

Environment for people to live in, such as a house, an apartment, or a recreational vehicle.

Standard test voltage

The primary voltage applied to the input end of the power cable normally connected to the equipment. It shall be within $\pm 2\%$ of the value stated by the manufacturer to be the normal working voltage.

Terminal equipment

Equipment that connects to the public switched telecommunications network (PSTN) via physical wire connection to provide telecommunication services.

Terminal equipment subassembly/subcircuit

A circuit or assembly that provides a terminal equipment function to a more complex device (i.e. which also includes functions other than terminal equipment) and is an integral and inseparable part of that device (e.g. on same printed circuit board as the rest of the device circuitry).

Unintentional radiator

A device that generates radio frequency (RF) energy that is not intended to be radiated for reception by a radio receiver.

3. General

3.1 Purpose and application

Interference-causing equipment is a device, machinery or equipment, other than radio apparatus or terminal equipment, that causes or is capable of causing interference to radiocommunication.

ICES-Gen shall be used in conjunction with the ICES standard applicable to the specific type of interference-causing equipment, for assessing the equipment's compliance with the ISED requirements, provided the applicable standard has been updated to refer to ICES-Gen for the common requirements.

Where requirements in this standard are different from those in the applicable ICES standard, the latter shall take precedence.

3.2 Responsible party

The responsible party is the party that is involved in one of the activities listed in article 4 of the [Radiocommunication Act](#) relative to a specific model of interference-causing equipment. These activities are: manufacture, importation, distribution, lease, offering for sale, and sale.

The responsible party will depend on the specific situation. For example, a person or entity importing interference-causing equipment units of a specific model into Canada will be the responsible party under the *Radiocommunication Act* article 4, as will be all persons and entities subsequently involved in the distribution, lease, offering for sale, and sale of such equipment in Canada; but the manufacturer might not be a responsible party under the Act in this scenario.

3.3 Supplier's Declaration of Conformity

The Supplier's Declaration of Conformity (SDoC)¹ is the conformity assessment scheme used for Category II radio, broadcasting, and interference-causing equipment. The responsible party tests the Category II equipment and ensures that it meets the appropriate technical standards. The responsible party also labels the equipment and fulfils any other administrative requirements as required by the standards (e.g. user manual notices, test report retention). Equipment testing does not have to be performed by a recognized ISED testing laboratory.

Category II equipment is exempt from certification and registration. The label placed on each unit of the interference-causing equipment model, according to the applicable ICES standard, represents the manufacturer's or the importer's SDoC with ISED requirements.²

¹ The "supplier" in the "SDoC" is usually the manufacturer or the importer. However, all persons or entities involved in one of the activities listed in article 4 of the *Radiocommunication Act* are responsible under the Act for ensuring the specific interference-causing equipment is compliant with the applicable ISED standards (see section 3.2).

² While the SDoC process newly introduced by the United States' Federal Communications Commission (FCC), replacing and combining the previous "verification" and "DoC" processes, is now more aligned with the Canadian SDoC process (see section 3.3), there are still differences between the two, e.g. labelling requirements. The new FCC process is described in the [First Report and Order – ET Docket 15-170](#) from 22 June 2017.

Refer to the Telecommunications Equipment Regulatory Process website (section 3, [Conformity assessment schemes](#)) for more information on SDoCs.

Note: Category II equipment includes interference-causing equipment and certain categories of radio and broadcasting apparatus that do not require certification. See paragraph 21(5) of the [Radiocommunication Regulations](#) and the ISED [Category II Equipment Standards List](#).

3.4 Determination of interference

As per paragraphs 5(1)(l) and 6(1)(i) of the [Radiocommunication Act](#), the following applies to any unit of interference-causing equipment.

Where ISED determines that a model or several models of equipment cause or are likely to cause interference to radiocommunication or suffer from or are likely to suffer from adverse effects of electromagnetic energy, ISED shall give notice of this determination to persons who are likely to be affected by it. No person shall manufacture, import, distribute, lease, offer for sale, sell, install or use equipment for which such a notice has been given.

If ISED determines that a unit of equipment causes or suffers from interference or adverse effects of electromagnetic energy, ISED may order the person(s) in possession or control of the equipment to cease or modify operation of the equipment until such time as it can operate without causing or being affected by such interference or such adverse effects.

3.5 Transition period

When an ICES standard (including this one) is re-issued, the transition period stated within the new issue of that standard shall apply. In general, within the transition period, compliance with both the existing issue and the new issue is acceptable. After the transition period expires, the equipment, if still manufactured, imported, distributed, leased, offered for sale, or sold in Canada, shall comply with the new issue of the applicable ICES standard.

3.6 Classification of equipment

3.6.1 General

Where the applicable ICES standard differentiates between Class A and Class B equipment, the definition in this section shall apply.

3.6.2 Class A equipment

Equipment that is, by virtue of its characteristics, highly unlikely to be used in a residential environment, including a home business shall be classified as Class A and shall comply with the Class A limits specified in the applicable ICES standard. Characteristics considered 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 that would effectively preclude the use of such equipment in a residential environment.

3.6.3 Class B equipment

Equipment that cannot be classified as Class A shall comply with the Class B limits specified in the applicable ICES standard.

3.7 Category I radio apparatus integration within interference-causing equipment

This section only applies to interference-causing equipment that incorporates one or more Category I radio apparatus modules or subassemblies/subcircuits.

Radio apparatus is classified as either Category I or Category II equipment (see section 2). Pursuant to subsections 4(2) of the [Radiocommunication Act](#) and 21(1) of the [Radiocommunication Regulations](#), Category I radio apparatus requires a technical acceptance certificate (TAC) issued by the Certification and Engineering Bureau of ISED, or a certificate issued by a recognized certification body (see Radio Standards Specification RSS-Gen, [General Requirements for Compliance of Radio Apparatus](#)).

The certification procedures are set out in Radio Standards Procedure RSP-100, [Certification of Radio Apparatus](#). The following requirements apply:

- a. If the interference-causing equipment incorporates an already certified Category I radio apparatus module, then the equipment (host) does not require certification. However, the combination of interference-causing equipment (host) and radio module(s) (i.e. complete product model) shall meet the RF exposure requirements in RSS-102, [Radio Frequency \(RF\) Exposure Compliance of Radiocommunication Apparatus \(All Frequency Bands\)](#). The module(s) label shall be clearly visible at all times when installed in the host or the host unit shall be labelled as per the requirements in RSS-Gen and RSP-100.
- b. If the interference-causing equipment incorporates Category I radio apparatus modules or subassemblies/subcircuits that have not been previously certified, the combination of interference-causing equipment (host) and radio modules (i.e. complete product model) shall be certified and each unit labelled as per the requirements in RSS-Gen and RSP-100.

3.8 Special authorization

3.8.1 General

The requirements of the applicable ICES standard do not apply to interference-causing equipment for which the manufacturer, importer, or owner has been granted special permission by the Minister of Innovation, Science and Economic Development (the Minister). This special permission may be granted to exempt from specific requirements in the applicable ICES standard or from demonstrating compliance with the entire applicable ICES standard.

The Minister may grant special permission where:

- a. the manufacturer, importer or owner has presented a written application giving:

- i. a description of the equipment, including functional description and frequencies of operation;
 - ii. the reasons for the request;
 - iii. an analysis based on sound engineering principles demonstrating that the equipment will not pose a significant risk to radiocommunication;
 - iv. a guarantee of compliance with all the conditions the Minister may set in the special permission; and
- b. the Minister is satisfied that the equipment will not pose a significant risk to radiocommunication.

Please send any inquiries for special permission by email or postal mail to the addresses listed in the preface.

3.8.2 Validity

The special permission is valid only if:

- a. the equipment bears a label, either affixed on each unit or displayed electronically by each unit (see annex B for e-labelling requirements), stating that it is operating under special permission and setting out the conditions of that special permission and
- b. the equipment complies with all conditions set out in the special permission

The Minister may revoke or amend the special permission granted under this section at any time without prior notice.

3.9 Multifunction equipment

Multifunction equipment is equipment that is capable of multiple functions or modes of operation. If the interference-causing equipment is subject to more than one ICES standard, the following requirements shall apply:

- a. If the equipment can only operate one of its functions at a time, it shall comply with each applicable ICES standard while the corresponding mode of operation or function is active.

- b. If the equipment is capable of operating two or more of its functions at a time, it shall comply with each applicable ICES standard in all modes of operation that the end-user may employ, provided these comply with the intended use of the equipment, as specified by the manufacturer. Emissions maximization investigations may be performed to determine the mode of operation (with one or multiple functions operated at the same time) that corresponds to the highest emission relative to the limit specified in the applicable ICES standard; the final compliance measurement shall then be performed with the equipment in that mode of operation. This shall be repeated for each applicable ICES standard.

3.10 Combination equipment

If two or more units of interference-causing equipment, which are already compliant with the applicable ICES standard, are combined in a new product and this product is subsequently marketed in Canada, then the combined equipment is also subject to the applicable ICES standard and shall comply with that standard.

Note: While each component product would have been verified to comply with the applicable emissions limits, the combination of multiple such products may result in higher emissions. As such, the combined equipment needs to be verified for compliance with the applicable requirements.

If the combined equipment is subject to more than one ICES standard, the requirements set out in section 3.9 shall apply.

4. Technical requirements

4.1 Radio apparatus

If the equipment includes radio apparatus modules or subassemblies/subcircuits, it shall comply with both the applicable ICES standard and with the RSS standard(s) that apply to the specific wireless technology used in the equipment.

The emissions from the radio transmitter shall not be considered when assessing compliance with the limits specified in the applicable ICES standard. This can be done either by:

- a. Switching off the radiocommunication function of the equipment (if possible and if it does not change in any way the typical non-radiocommunication emissions); or by
- b. Disregarding the emissions due to the fundamental components of modulation of the radio apparatus portion of the equipment and its related unwanted emissions. At these emission frequencies, the equipment shall meet the requirements of the applicable RSS(s). Additionally, the equipment shall meet all the other applicable requirements set out in [RSS-Gen](#) (e.g. those related to RF exposure and labelling).

See section 3.7 for other administrative and technical requirements applicable to equipment that incorporates Category I radio apparatus.

4.2 CISPR quasi-peak and CISPR average detectors

The CISPR quasi-peak detector and CISPR average detector shall comply with the characteristics specified in CAN/CSA-CISPR 16-1-1:15.

As an alternative to CISPR quasi-peak or average measurement, compliance with emissions limits may be demonstrated using a measuring instrument employing a peak detector function properly adjusted for factors such as pulse desensitization, as required, with a measurement bandwidth equal to, or greater than, the applicable CISPR quasi-peak bandwidth or 1 MHz bandwidth, for measurement below or above 1 GHz, respectively.

4.3 Validation of the radiated emissions test site

Test sites used for compliance radiated emission measurements shall meet all requirements for construction and site validation specified in the normative test methods listed in the applicable ICES standard.

The test site validation shall be confirmed at regular intervals, according to the normative standard listed in the applicable ICES standard, but at least once in any three-year period. The date of each radiated emissions test documented in the test report shall be at most three years (or the required shorter time period, if so specified in the applicable ICES standard or the normative references listed therein) after the date of the most recent successful test site validation.

These requirements apply for each frequency range where radiated emissions limits are specified, if site validation requirements exist.

4.4 Battery, direct current (DC) or alternating current (AC) mains operation

4.4.1 Battery powered without wired recharge capability

The AC mains (power lines) conducted emissions requirements do not apply to interference-causing equipment that is exclusively powered from a battery and that has no capability to charge or recharge its battery by means of a wired connection to the AC mains (e.g. through an external AC mains power adapter).

4.4.2 Battery powered with wired recharge capability

Interference-causing equipment that is exclusively powered from a battery, but is capable of recharging its battery while connected to the AC mains (e.g. through an external AC mains power adapter) shall be tested as follows:

- a. If the main function(s) of the equipment is(are) disabled while in battery charging mode of operation, then:

- i. the equipment shall be placed in battery charging mode of operation and tested for conducted emissions at its AC mains terminals (or the AC mains terminals of the external device, as appropriate) and for radiated emissions; and
 - ii. the equipment shall be placed in its normal mode(s) of operation and tested for radiated emissions and conducted emissions on interfaces other than AC mains (power line), as required (per the applicable ICES standard).
- b. If the equipment is capable of operating its main function(s) while in battery charging mode of operation, then:
- i. The equipment shall be placed in battery charging mode of operation and tested for conducted emissions at its AC mains terminals (or the AC mains terminals of the external device, as appropriate); and
 - ii. The equipment shall be placed in its normal mode(s) of operation and tested for radiated emissions, conducted emissions at its AC mains terminals (or the AC mains terminals of the external device, as appropriate), and conducted emissions on interfaces other than AC mains (power line), as required (per the applicable ICES standard). The equipment shall be connected to AC mains for all test cases.

4.4.3 AC mains powered (exclusively or in addition to battery powered)

Interference-causing equipment that is exclusively powered from AC mains or can be powered from both battery and AC mains shall be tested while powered from AC mains for all test cases.

4.4.4 AC mains powered through another device

If the equipment connects to AC mains through another device (e.g. an external AC mains power adapter) and that external device is not usually supplied with the equipment under test, then it shall be tested with a typical external device, as per the recommendation provided to end users by the manufacturer (e.g. in the user manual of the equipment), or with a device representative of typical applications (where there are no specific manufacturer's instructions). In this case, the AC mains conducted emissions test case shall be performed on the AC mains power cord of the external device, while this external device is powering the interference-causing equipment under test.

4.4.5 DC powered from a DC network

The AC mains (power lines) conducted emissions requirements do not apply to interference-causing equipment that is exclusively powered from a DC network or both from a battery and DC network, such as a 48 V_{DC} network in a telecommunication central office building. However, if the interference-causing equipment is designed to be powered from an external device (e.g. a USB key), then AC mains (power lines) conducted emissions requirements apply (see section 4.4.4).

5. Administrative requirements

5.1 Equipment used for demonstration, research or exportation purposes

5.1.1 General

Interference-causing equipment used solely for purposes of research and development, experimentation, demonstration, assessment of marketability, or intended exclusively for exportation is exempt from the requirement to demonstrate compliance with the applicable ICES standard. Such equipment shall not be leased, sold, or offered for sale in Canada, nor shall it be distributed with the intention to be leased, sold, or offered for sale in Canada.

Note: Interference-causing equipment that is offered free of charge, e.g. promotional USB sticks at a conference, is still subject to the applicable ICES standards since such equipment is still subjected to the “manufacture,” “importation,” or “distribution” activities, all of which are listed in article 4 of the *Radiocommunication Act* (see section 3.2).

If the equipment incorporates a radio module or subassembly/subcircuit, it may be subject to a developmental licence. Inquiries related to licensing may be made through the ISED district or regional offices. Contact information for ISED’s regional licensing offices is listed in the Radio Information Circular 66 (RIC-66), [Addresses and Telephone Numbers of Regional and District Offices](#).

5.1.2 Equipment used for demonstration or research purposes

The requirements herein apply to interference-causing equipment that is used solely for purposes of research and development, experimentation, demonstration or assessment of marketability. Each unit of such equipment shall be labelled and its shipping documentation shall be accompanied by the following declaration, in both English and French:

a. Marking on the unit itself:

*“Demo unit. Not to be leased, sold or offered for sale in Canada.
Matériel de démonstration. Ne doit pas être loué, vendu ou mis en vente au Canada.”*

b. Declaration accompanying the unit:

*“This equipment is a prototype unit which is intended for purposes of research and development, experimentation, demonstration or assessment of marketability. It cannot be leased, sold, or offered for sale in Canada.
Ce matériel est un prototype destiné à la recherche et au développement, à l’expérimentation, à la démonstration ou à l’évaluation de sa commercialité. Il ne peut être loué, vendu ou mis en vente au Canada.”*

5.1.3 Equipment intended exclusively for exportation

Each unit of equipment intended exclusively for exportation, while shipped within Canada, shall be labelled and its shipping documentation shall be accompanied by a declaration such as the following, in both English and French:

- a. Marking on the unit itself or on its packaging:

*“For exportation only. Not to be leased, sold or offered for sale in Canada.
Aux fins d’exportation seulement. Ne doit pas être loué, vendu ou mis en vente au Canada.”*

- b. Declaration accompanying the unit:

*“This equipment is intended exclusively for exportation. It cannot be leased, sold, or offered for sale in Canada.
Ce matériel est destiné uniquement à l’exportation. Il ne peut être loué, vendu ou mis en vente au Canada.”*

5.2 Test report

The test report shall comply with all requirements set out in this document, including those stated in:

- [annex A](#), and
- the applicable ICES standard.

Additionally, for equipment that includes radio apparatus modules or subassemblies/subcircuits that were not separately certified (i.e. uncertified Category I radio apparatus) or that do not require certification (i.e. Category II radio apparatus), if the test report is a combined report, which covers both the ICES and RSS requirements, then the test report shall also comply with all requirements set out in:

- [RSS-Gen](#), and
- specific RSS standard(s) that apply to the wireless technology and the equipment’s operating frequency.

In case a new issue of the applicable ICES standard is published and the equipment continues to be manufactured, imported, distributed, leased, offered for sale, or sold in Canada after the stated transition period expires (see section 3.5), the manufacturer or importer shall update the test report with additional test results or engineering analysis, if required, such that the test report demonstrates compliance with the new issue of the applicable ICES standard.

The manufacturer or importer shall retain a copy of the test report for as long as the interference-causing equipment is manufactured, imported, distributed, leased, offered for sale, or sold in Canada and shall make the test report available to ISED upon request.

5.3 Labelling and user manual requirements

5.3.1 General

The manufacturer, importer or distributor shall meet the labelling and user manual requirements set out in this section for every unit of interference-causing equipment.

5.3.2 Requirements for equipment not incorporating radio apparatus or terminal equipment

These requirements are only applicable to equipment not incorporating radio apparatus or terminal equipment modules.

Each unit of an interference-causing equipment model shall bear a label, which represents the manufacturer's or importer's self-declaration of compliance with ISED's ICES standard applicable to the equipment. This label shall be permanently affixed to each unit of the equipment or displayed electronically as per annex B and its text must be indelible and clearly legible. However, if the equipment is too small or if it is not otherwise practical to place the label on the equipment and if e-labelling has not been implemented, upon agreement with ISED, the label shall alternatively be placed in a prominent location in the user manual supplied with the equipment and/or on its packaging. If the label is placed in the user manual and this manual is not supplied with the equipment, the user manual shall be readily available for the entire period in which the equipment is manufactured, imported, distributed, leased, offered for sale, or sold in Canada (e.g. on the manufacturer's website).

The ISED compliance label shall include the word "Canada" (or "CAN") and a reference to the applicable standard, in both English and French. If the applicable ICES standard differentiates between Class A and Class B equipment, the label shall also include the Class of the equipment. An example is given below:

CAN ICES-00x (y) / NMB-00x (y)

Where x is the number of the applicable ICES standard; and
y is either "A" or "B", but not both, to identify the applicable Class of the equipment.

The Class must only be included on the ISED label if the applicable ICES standard has different limits for Class A and Class B equipment. Below is an example of a label for cases where the applicable ICES standard makes no such differentiation:

CAN ICES-00x / NMB-00x

Note: The actual format of the label is left at the manufacturer discretion. For example, any of the following label formats would be acceptable for digital interference-causing equipment, subject to ICES-003, [Information Technology Equipment \(Including Digital Apparatus\) — Limits and Methods of Measurement](#), which is not intended for residential applications:

- Canada ICES-003 (A) / NMB-003 (A)
- Canada ICES-3 (A) / NMB-3 (A)
- CAN ICES3(A)/NMB3(A)

5.3.3 Requirements for equipment incorporating radio apparatus or terminal equipment

These requirements are only applicable to equipment incorporating radio apparatus or terminal equipment modules or subassemblies/subcircuits.

Interference-causing equipment incorporating radio apparatus modules or subassemblies/subcircuits shall comply with the labelling and other administrative requirements (e.g. user manual notice, if applicable) set out in [RSS-Gen](#), [RSP-100](#) and the other RSS standard(s) applicable to the specific wireless technology and operating frequency used by the equipment.

Interference-causing equipment incorporating terminal equipment modules or subassemblies/subcircuits shall comply with the labelling and other administrative requirements (e.g. user manual notice, if applicable) set out in DC-01, [*Procedure for Declaration of Conformity and Registration of Terminal Equipment*](#).

Annex A (normative) — Test report contents

The test report shall include the following:

- a. Identification of the applicable ICES standard(s), including the issue number and publication date.
- b. The date when the test report was issued.
- c. Identification (e.g. name, address) of the manufacturer of the equipment under test (EUT) and of the test laboratory.
- d. Identification of the EUT, including the model number, marketing name, brand name, and unit serial number as used for each applicable test case.
- e. Description of the EUT and its configuration, operation, and arrangement for each specific test case, as applicable.
- f. A record of the tests and results, including engineering analyses (if applicable), demonstrating compliance with the requirements in the applicable ICES standard. The test report shall indicate the date each test was performed.
- g. Where applicable, the test report shall clearly identify which Class of limits (Class A or Class B) was used to demonstrate compliance of the equipment.
- h. Where the applicable ICES standard allows the use of alternative options (e.g. test methods), the test report shall clearly indicate which option was used for measurements for each test case.
- i. A list of the test equipment used for each test case, including manufacturer or brand name, model number, serial number, and calibration due date.
- j. Identification (e.g. address) and short description of the test site used for radiated emissions, including information on site validation, as follows:
 1. what standard was used for test site validation assessment, including version/edition and publication date (e.g. ANSI C63.4-2014), for each applicable frequency range;
 2. the date of the last successful site validation measurements, for each applicable frequency range;
 3. if the testing laboratory is recognized by ISED, instead of the information specified in 1) and 2) above, the test report may include the ISED Conformity Assessment Body Identification Number (CAB ID) or, for test reports produced before March 15, 2019, the ISED site registration number.
- k. The calculated measurement instrumentation uncertainty for each test case, as applicable.

Annex B (normative) — Electronic labelling (e-labelling)

B1. General

Instead of a physical label on the device itself, ISED allows devices with an integrated display screen to present the required label information electronically (e-label). Devices without an integrated display screen are allowed to present the e-labelling information through an audio message or a host device display screen, where such a host device is connected via physical connection, Bluetooth, Wi-Fi, etc., if this connection to a host device that incorporates a display is mandatory for use.

B2. Information to be displayed

The e-label shall display the following information:

- a. the model identification number; and
- b. any other information required to be provided on the surface of the device unless such information is permitted to be included in the user manual or other packaging inserts.

B3. Accessibility

B3.1. Instructions to access the e-label

Users shall be provided clear instructions on how to access the regulatory information stored electronically (e-label). These instructions shall meet the following requirements:

- a. be provided in the user manual, operating instructions or packaging material (e.g. on the bags used to pack the device or on accompanying leaflets), or on a website related to the product
- b. not require the use of special access codes or accessories
- c. not include more than three steps from the device's main menu; and
- d. the test report shall include the instructions for accessing information as part of the label exhibit (i.e. in the section demonstrating compliance with the labelling requirements).

B3.2. Accessibility to the e-label

The e-label shall meet the following requirements:

- a. be easily accessible by the user; and
- b. not be modifiable by the user (e.g. if stored in the firmware or software menus).

B4. Labelling for importation and purchasing

Products utilizing e-labels are required to have a physical label on the product packaging at the time of importation, offering for sale and sale. The following conditions shall apply:

- a. For devices imported in bulk (not packaged individually), a removable adhesive label or, for devices in protective bags, a label on the bags is acceptable to meet the physical label requirement.
- b. Any removable label shall survive normal shipping and handling and may only be removed by the customer, after purchase. For devices already imported in individual packages ready for sale, the information may alternatively be provided on the package and shall contain:
 - i. the model identification number; and
 - ii. any other information required to be provided on the surface of the product unless such information is permitted to be included in the user manual or other packaging inserts.

B5. Security

The information to be displayed on the e-label, as specified in section B2, shall meet the following security requirements:

- a. be programmed by the responsible party (e.g. manufacturer); and
- b. not be modifiable or removable during the course of normal authorized activities by a third-party (i.e. the typical user), such as installation of applications or accessing the menus.

B6. User manual and packaging

All the information required to be on the packaging or in the user manual as per the applicable standards shall be provided, even if the packaging components and user manual are provided electronically. Such information may be included in the device's e-label. The following considerations shall apply when providing such information on the e-label:

- a. if the user manual is provided by other electronic media (e.g. CD or online) then, as an option, this information may also be provided as part of the e-label; and
- b. the e-label format shall clearly differentiate between the information required to be on the surface of the device and the information required to be in the user manual or on packaging inserts.