Industry Canada Industrie Canada

Update on Industry Canada's Standards Activities

Regulatory Standards (RSS / ICES)

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Presentation Overview

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Directorate of Regulatory Standards (DRS)

DRS is responsible for developing, maintaining and publishing Industry Canada regulatory standards such as, radiofrequency emission standards (RSS) and noise emissions from equipment and non-radio systems (ICES). The Directorate of Regulatory Standards is responsible for Radio Standards activities in various international forums including the following:

- IEEE & IEC (RF Exposure);
- Standards Committee ANSI C63;
- CISPR/IEC: Special international committee on radio interference - CISPR Standard Development Activities;
- International Telecommunication Union (ITU).

In addition to developing RSS's & ICES standards DRS is responsible for:

- Implementing RF Exposure requirements;
- Perform electromagnetic compatibility (EMC) analysis and implement EMC requirements;
- Assist the Telecommunication Certification Body Council (TCBC) members regarding RSS & ICES standards.

  - Enquiries regarding regulatory standards should be directed to the following e-mail address: res.nmr@ic.gc.ca

Update on RSS Standards (1)

Newly Published

April 2013:

- **RSS-142 (Issue 5) – Narrowband Multipoint Communication Systems in the Bands 1429.5-1430.5 MHz**
  - To remove the frequency band 1493.5-1496.5 MHz to reflect a recent IC policy

June 2013:

- **RSS-244 (Issue 1) –Medical Devices Operating in the Bands 413-457 MHz**
  - new standard to address Medical Micropower Networks (MMNs)

July 2013:

- **RSS-238 (Issue 1) -Commercial Shipborne Radar in the 2900-3100 MHz and 9225-9500 MHz Bands**
  - RSS-238 will replace RSS-138 to reflect its licence-exempt status
  - RSS-238 will apply to all shipborne radar regardless of its power
  - The frequency band 5470-5650 MHz will be removed

October 2013:

- **RSS-130 (Issue 1) – Mobile Broadband Service (MBS) Equipment Operating in the Frequency Bands 698-756 MHz and 777-797 MHz**
  - new standard to address MBS equipment

March 2014:

- **RSS-287 (Issue 2) — Emergency Position Indicating Radio Beacons (EPIRB), Emergency Locator Transmitters (ELT), Personal Locator Beacons (PLB), and Maritime Survivor Locator Devices (MSLD)**

Update on RSS Standards (2)

Soon to be Published

- **RSS-195 (Issue 2) - Wireless Communications Service Equipment Operating in the Bands 2305-2320 MHz and 2345-2360 MHz**

  - update requirements to harmonize with recent FCC Order

  - current mask too stringent

- **RSS-111 (Issue 5) – *Broadband Public Safety Equipment Operating in the Band 4940-4990 MHz***

  - change the transmitter output power to be measured from peak to average
  - add requirement of 13 dB peak to average power ratio
  - add method to measure the equipment's frequency stability
  - add compliance requirement for equipment with multiple antennas
  - remove requirement for receiver standard spurious emissions following decisions made under Regulation Standard Notice 2012-DRS0126

- **RSS-199 (Issue 2) – Broadband Radio Service (BRS) Equipment Operating in the Band 2500-2690 MHz**

  - emission mask will be determined from the frequency block edges instead of from the channel edges
  - method used to measure the equipment's frequency stability is added
  - compliance requirement for equipment with multiple antennas is added
  - requirement for receiver standard spurious emissions has been withdrawn following decisions made under Regulation Standard Notice 2012-DRS0126

Update on RSS Standards (3)

Consultation Completed

- **RSS-102 (Issue 5) - Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)**
  - to revise exemption power thresholds
  - DRS0911 notice released regarding power exemption limits **[Sept 2013]**

- **RSS-222 (Issue 1) – White Space Devices**

Revisions in Progress

- **RSS-Gen - General Requirements for Compliance of Radio Apparatus – Limits and Methods of Measurement**

  - Note change to the title for up-coming issue 4

  - Adopting ANSI C63 method of measurements as normative

Update on RSS Standards (4)

Revisions in Progress (continued)

- **RSS-119 (Issue 12) – Radio Transmitters and Receivers Operating in the Land Mobile and Fixed Service in the Frequency Range 27.41-960 MHz**
  - Review transmitter power to harmonize with SRSP limits
  - Add requirements for equipment with a 6.25 channel bandwidth operating in the frequency bands 806-821/851-866 MHz and 821-824/866-869 is added
  - Clarify the required spectrum efficiency in the VHF bandd. The spectrum efficiency only required in the bands 138-174 MHz, 406.1 MHz – 430 MHz, and 450-470 MHz
  - Modify frequency stability for equipment operating in the frequency bands 406.1-430 MHz, 450-470 MHz, 806-821/851-866 MHz and 821-824/866-869 MHz with occupied bandwidth greater than 20 MHz
  - Frequency bands 764-768 MHz and 794-798 MHz assigned for public safety service have been removed
  - Review with a view to remove the compliance date for equipment, operating in the PS 700 MHz band, to have one voice channel per 6.25 kHz bandwidth.
  - Modify ACP limits for equipment operating in the frequency bands 764-768 MHz and 794-798 MHz
  - Remove requirement for including data port specifications in the user manual
  - Remove requirement for receiver standard spurious emissions as a result of decisions made under Regulatory Standards Notice 2012-DRS0126
  - Plan to send a draft to TCBC for input in May 2014

Update on RSS Standards (5)

Revisions in Progress

- **RSS-131 – Zone Enhancers for the Land Mobile Service**
  - Review the signal boosters specifications and measurement methods provided to harmonize with recent FCC rules

- **RSS-170 – *Mobile Earth Station and Ancillary Terrestrial Component Equipment Operating in the Mobile-Satellite Service Bands* Zone Enhancers for the Land Mobile Service**
  - Add requirements for mobile earths stations installed on ship or aircraft

Revisions in Progress [cont'd]

- **RSS-213 (Issue 3) - 2 GHz Licence-exempt Personal Communications Service Devices (LE-PCS)**
  - update measurement methods to ANSI C63.17
  - Will be published soon after the release of RSS-Gen Issue 4

- **RSS-220 (Issue 2) – Device using Ultra-wideband (UWB) Technology**
  - Under internal review

Update on RSS Standards (7)

New RSS Standards in Development

- **RSS-211 (Issue 1) – Level Probing Radar Devices (LPR)**
  - currently under internal discussion
  - this will affect RSS-210 Annex 11

- **RSS-216 (Issue 1) –Wireless Power Transfer Devices (Wireless Chargers)**
  - Sent to TCBC for comments (comments due by April 17th, 2014)

- **RSS-247 (Issue 1) –Digital Transmission Systems (DTS) & Frequency Hoping Spread Spectrum Systems (FHSS) – Limits and methods of measurement**
  - currently under internal discussion
  - this will affect RSS-210 Annex 8 and Annex 9

  - **SP-5150 MHz — Spectrum Utilization Policy for Licence-exempt Wireless Local Area Networks in the 5 GHz Range (Issue 2)** April 2005
  - http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01158.html

Update on RSS Standards (8)

New RSS Standards in Development (continued)

- **RSS-251 (Issue 1) – Field Disturbance Sensors in the 46.7-46.9GHz(Vehicular Radar) and 76-77GHz (Vehicular and Fixed Radar) Bands**
  - Consolidate vehicular radar devices under one RSS
  - Bring 46.7–46.9 GHz and 76–77 GHz bands from RSS-210 into the new consolidated RSS
  - Consider harmonizing with FCC on:
    - 76-77 GHz band have one emission limit for front, side, and rear radars
    - 76-77 GHz band remove “vehicle not in motion” emission limit
  - Follow 79 GHz band developments at FCC and in Europe
    - FCC Part 15.253
    - ETSI EN 302 264-1 V1.1.1 (2009-04)
    - ECC 19 March 2004 decision on designating 77-81 GHz band for automotive short range radar
    - ETSI TR 102 263 V1.1.2 (2004-02)

Update on RSS Standards (9)

New RSS Standards in Development (continued)

- **??? – multi-use radio spectrum (MURS)**

  – SP 1.7 GHz Spectrum Allocations and Utilization Policy Regarding the Use of Certain Frequency Bands Below 1.7 GHz for a Range of Radio Applications contains the Department's June 2009 decision regarding MURS. In that decision the Department provided for a five year transition period after which MURS was expected to be available. That five year period will be reached in June 2014.

  http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09543.html

  – The Department is currently reviewing its policy decision regarding the use (and certification) of MURS equipment in Canada. We intend to release a Spectrum Advisory Bulletin (SAB) shortly to indicate the next steps with respect to MURS operations in Canada (including information regarding equipment certification). There are currently no Radio Standards Specifications (RSS) for which MURS devices can be certified.

  SABs Link:

  http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h_sf06123.html

Update on RSS Standards (10)

New RSS Standards in Development (continued)

- **??? – Intelligent Transportation Systems (ITS) in the Band 5850–5925 MHz**

  – SP 3-30 GHz — Revisions to Spectrum Utilization Policies in the 3-30 GHz Frequency Range and Further Consultation (October 2004). The purpose of this was to make revisions to spectrum utilization policies in certain bands in the 3-30 GHz frequency range. Also, a number of new spectrum issues are being raised in this document for public comment.

  http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf05617.html

  – In section 3.3. The 5850–5925 MHz band is designated for use by Dedicated Short Range Communication (DSRC) systems to support Intelligent Transportation System applications in the fixed and mobile services.

  – The Department will be consulting to determine the precise definition of use and eligibility for use of ITS applications in the future, including any necessary provisions for transition.

Update on Interference Causing Equipment Standards- ICES (1)

Newly Published

- **ICES-002 (Issue 6) – *Vehicles, Boats and Other Devices Propoelled by an Internal Combustion Engine, Electrical Means or Both***
  - Published March 2013

- **ICES-004 (Issue 4) - *Alternating Current High Voltage Power System***
  - Published June 2013

Revisions in Progress

- **ICES-001 (Issue 5) - ISM Radio Frequency Generator**
  - Internal review
  - Analyzing CISPR 11 ed. 5.1
  - Reviewing the FCC Part 18 rules and MP-5

Update on Interference-Causing Equipment Standards - ICES (2)

Revisions in Progress (continued)

- **ICES-005 (Issue 4) - *Radio Frequency Lighting Devices***
  - monitoring the possible inclusion of LED luminaries (CISPR 15)
  - ICES – 005, FCC Part 18 and CISPR 15 are **not** harmonized in term of applicable limits
  - In CISPR 15, the method of measurements and limits are oriented on the type of RF lighting apparatus in contrast to ICES-005 where they are oriented on the class (A or B) of equipment.

Regulatory Standards Activities

- Our Regulatory Standards will be adopting more ANSI C63 series of standards as normative
  - For example, the C63 committee is currently doing maintenance on C63.4, C63.10 and a new draft of C63.26 which we (DRS) will adopt as a normative test methods.

Current C63 Standards important to our RSS's:

- C63.4-2009 (or 2014) American National Standard for Methods of Measurement of Radio- Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz, **(RSS-Gen, ICES-003 and other RSS's)**
- C63.5-2006 Electromagnetic Compatibility - Radiated Emission Measurements in Electromagnetic Interference (EMI) Control - Calibration of Antennas (9 kHz to 40 GHz), **(RSS-Gen)**
- C63.10-2013 American National Standard for Testing Unlicensed Wireless Devices, **(RSS-210 and other 200 series RSS's)**
- C63.17-2013 Methods of Measurement of the Electromagnetic and Operational Compatibility of Unlicensed Personal Communications Services (UPCS) Devices, **(RSS-213)**
- C63.26-draft: American National Standard of procedures for compliance testing of licensed transmitters, **(RSS-119 and other 100 series RSS's)**

Enquiries Regarding RSS or ICES Standards

- Email address for enquiries: res.nmr@ic.gc.ca
- Industry Canada documents including RSS's and ICES standards are available on the Spectrum Management and Telecommunications website at: http://www.ic.gc.ca/spectrum, under Official Publications.

Thank you !