



**CONSULTATION PAPER ISSUED BY THE  
INFO-COMMUNICATIONS DEVELOPMENT AUTHORITY OF SINGAPORE**

**PROPOSED REVISION OF THE IDA ELECTROMAGNETIC COMPATIBILITY AND  
SAFETY FRAMEWORK FOR INFORMATION AND COMMUNICATIONS  
TECHNOLOGY EQUIPMENT**

**23 June 2016**

## BACKGROUND

1 Since July 2005, Electromagnetic Compatibility (“EMC”) requirements for telecommunication or information and communications technology (“ICT”) equipment have been included into every Technical Specification (“TS”) published by IDA, under a generic section of “General Requirements”. This sets out the EMC<sup>1</sup> and safety framework for ICT equipment, whereby conformance with the IEC<sup>2</sup> EMC and safety standards such as the CISPR<sup>3</sup> 22 and the IEC 60950-1 is required, where applicable, alongside the specific section of “Technical Requirements” defined for the technology implemented.

2 In adopting the IEC family of EMC and safety standards, the following are noted:

- a. There are two protection measures defined for EMC, namely, a standard for measuring electromagnetic interference (“EMI”) or emissions; and a standard for testing the electromagnetic susceptibility (“EMS”) or immunity to interference. IEC CISPR 22 is an EMC standard for measuring EMI or emissions from the ICT equipment, while CISPR 24 is its complementary standard for testing its EMS or immunity. Equipment complying with these EMC standards, would imply that it can function satisfactorily in its electromagnetic environment without introducing intolerable interference to anything in that environment, and conversely, without being susceptible to any interference.
- b. IEC 60950-1 is a safety standard for telecommunications terminal equipment, network infrastructure equipment and cable distribution systems, which specifies requirements to reduce risk of fire, electric shock or injury to the users as well as for the service personnel.

3 Streamlining of EMC and safety requirements into every IDA TS for regulating telecommunication or ICT equipment (wired and wireless) is intended to facilitate the one-stop online equipment registration with IDA. Equipment registration is a procedural requirement, whereby equipment manufacturers/suppliers submit a declaration of conformity<sup>4</sup> to an IDA established standard before obtaining IDA’s approval for placing the type of equipment for sale and use in Singapore.

4 The applicability of the IEC EMC and safety standards for declaration of conformity has been guided by the following principles:

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<sup>1</sup> The IDA EMC framework for telecommunication equipment was first established in early 2000. EMC requirements were set out in a standalone Technical Specification entitled EMC Requirements for Telecommunication Equipment (“IDA TS EMC”) together with equipment type approval administrative requirements, which had been superseded since the introduction of the online IDA equipment registration schemes in July 2005. Consequently, the equipment conformance requirements defined in the IDA TS EMC were incorporated into every IDA TS for facilitating ease of equipment registration.

<sup>2</sup> International Electrotechnical Commission (“IEC”) is an international organisation that develops standards for conformity assessment of electrical, electronic and related technologies.

<sup>3</sup> CISPR is the International Special Committee on Radio Interference of the IEC.

<sup>4</sup> Declaration of conformity, also known as Supplier’s Declaration of Conformity (“SDoC”), is a procedure defined in the ISO/IEC 17050-1 by which a supplier gives assurance that its equipment conforms to specified requirements. Where necessary, a “Conformity Testing / Verification Checklist” is provided as an Annex to the IDA Technical Specification for guiding suppliers’ assessment prior to making a declaration of conformity.

- a. IEC standards such as the CISPR 22 (EMI) and IEC 60950-1 (safety testing) are applicable to all types of ICT equipment (including radio-communication equipment, e.g. cellular base stations) that have a dedicated AC mains port or external power supply.
- b. The CISPR 22 (EMI) standard is not applicable to intentional transmissions from radio frequency (“RF”) transmitters nor any spurious emissions related to these transmitters. Intentional transmitters like short range devices and cellular mobile terminals are regulated according to the ITU Radio Regulations for in-band, out-of-band as well as spurious emissions, set out in the IDA standards for radio-communication equipment.
- c. The requirement for ICT equipment to comply with the IEC standards for EMS or immunity to interference has been voluntary, as IDA considers that such equipment should have sufficient level of immunity to interference in order to function as intended.

5 Likewise in March 2013, the IEC EMC and safety standards for audiovisual (“AV”) equipment, CISPR 13 (EMI) and IEC 60065 (safety testing) were incorporated in the IDA-MDA TS for the DVB-T2 Integrated Receiver Decoder (“TS DVB-T2 IRD”) for regulating DVB-T2 receivers and set-top-boxes.

## **REVIEW OF IEC’S DEVELOPMENT OF EMC AND SAFETY STANDARDS FOR AV/ICT EQUIPMENT**

6 Technologies used to produce AV and ICT equipment have converged. With the convergence of technology, IEC, which has been developing separate EMC and safety standards for AV and ICT equipment, deems it necessary to align its standards development for a new family of product standards termed multimedia equipment (“MME”<sup>5</sup>). It is a move in IEC’s approach to the EMC testing methodology from one which is product-based to one which is family-based, covering a multiple of technologies. It is also a move away from the IEC prescriptive-based safety standards to a hazard-based safety standard that will cover both types of AV and ICT equipment.

7 As a result, the IEC EMC standards for AV (CISPR 13 for EMI and CISPR 20 for EMS) and ICT equipment (CISPR 22 for EMI and CISPR 24 for EMS) are scheduled for replacement by the IEC EMC standards for MME (CISPR 32 for EMI and CISPR 35 for EMS). The IEC CISPR 32 for measuring EMI from MME has been ratified by the European Commission (“EC”) as the CELENEC<sup>6</sup> EN 55032 for Europe’s adoption, and the IEC has set a timeline of March 2017 for the withdrawal of CISPR 13 and CISPR 22 standards.

8 However, IEC’s ratification of final draft CISPR 35 for EMS or immunity testing of MME has yet to achieve consensus on the timeline for the replacement of CISPR

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<sup>5</sup> Multimedia equipment (“MME”) includes ITE (telecommunication/ICT), audiovisual, broadcast receiving equipment, entertainment lighting control equipment or a combination of these.

<sup>6</sup> CENELEC is the European Committee for Electrotechnical Standardization, responsible for creating market access standards at the European level, and adopting international standards wherever possible, through its close collaboration with the IEC.

20 (EMS of AV equipment) and CISPR 24 (EMS for ITE) with CISPR 35 (EMS of MME). Nevertheless, some countries have gone ahead with the implementation of their national adoption of the final draft IEC CISPR 35. Since January 2016, Korea's national Radio Research Agency has mandated conformity to KN 32 together with its complementary KN 35 for EMC of MME. UK's equivalent EMS standard, the BSI EN 55035 has also been approved by the British Standards Institution. IDA is of the view that Singapore should await the approval and acceptance of the final draft CISPR 35 as an international standard before recommending it for adoption as an EMS standard for MME.

**Question 1**

*IDA invites views on the position to be taken in not adopting the final draft CISPR 35 for EMS of MME as yet, and aligning with the wider international EMC community. IDA also seeks feedback on any need to adopt the final draft CISPR 35 for EMS along with internationally approved CISPR 32 for EMI, in order to fully streamline the EMC testing methodology for the converged technologies in MME.*

9 AV and ICT technology convergence has also led to the widespread acceptance of the IEC 62368-1 safety standard for AV/ICT equipment, developed in 2010, focusing on applications of hazard-based safety engineering. It is expected that IEC 62368-1 for AV/ICT equipment will be fully required in North America and Europe by mid-2019. However, IEC 62368-1 is not a clear-cut merger of the IEC 60065 for AV equipment and the IEC 60950-1 for telecommunication/ICT equipment. Manufacturers of AV/ICT equipment will be required to identify and eliminate hazards during the product development phase according to IEC 62368-1, whilst compliance with IEC 60065 or IEC 60950-1 continued to be prescriptive, requiring that final products be attested to meet a set of rules.

**Question 2**

*IDA seeks views on market readiness in moving to a completely hazard-based approach to evaluating safety of ICT equipment for use in the home environment.*

**REVIEW OF ITU-T'S DEVELOPMENT OF EMC AND SAFETY STANDARDS FOR HOME NETWORK DEVICES AND RADIO TELECOMMUNICATION TERMINAL EQUIPMENT**

10 Widespread use of the Internet has brought about the use of many devices connected via wired and wireless networks in the homes. These home network devices are usually used in close proximity to each other, increasing the concern of electromagnetic disturbances in the homes. Moreover, ICT enabled facilities have been introduced into home appliances, further increasing the use of network connectivity, and the electromagnetic field ("EMF") phenomenon<sup>7</sup> in home environments that may be congested with electrical/electronic equipment.

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<sup>7</sup> EMF phenomenon refers to the ability of telecommunication or ICT, electrical and electronic equipment to create electromagnetic disturbances that may interfere with functions of telecommunication or ICT equipment and services.

11 Recognising that more EMC related issues could emerge in the home environment, the ITU-T<sup>8</sup> in collaboration with ISO<sup>9</sup>, IEC and ETSI<sup>10</sup>, revised the ITU-T K.74 and published the new ITU-T K.116<sup>11</sup> recommendation in 2015. ITU-T takes into account the propensity of any electrical/electronic equipment to generate EMF when connected to AC/DC power source, which underscores the need for protection of home network devices<sup>12</sup> by means of the IEC/CISPR ICT product family of EMC and safety standards. It is also expected that other electrical/electronic products should comply with the relevant IEC/CISPR product family of EMC and safety standards (e.g. CISPR 14 for household appliances, and CISPR 15 for lighting devices that use RF).

**Question 3**

*It is notable that the EMC standards adopted by IDA precludes other types of electrical/electronic products, suffice to mention that the IDA Radio-communication Regulations<sup>13</sup> may be enforced should any of these products fail to comply with the relevant IEC/CISPR EMC standards and cause interference. IDA invites any comment in this regard.*

12 Home network devices of wired or wireless technologies will have multiple input/output ports, which include AC/DC power ports, ports for access networks, Ethernet ports for home network connections, audiovisual ports, coaxial cable ports, etc. The ITU-T K.74 requires the performance of EMI/emission measurements, and EMS/immunity testing at power, telecommunication, data, audio and visual ports, according to the IEC/CISPR product family of EMC standards (IEC CISPR 32 for EMI, and IEC CISPR 20, CISPR 24 or IEC 61000-4 series of standards for EMS).

**Question 4**

*IDA invites views on requiring ICT equipment compliance with the IEC/CISPR EMS or immunity standards to complement equipment compliance with the EMI or emission standards, as preamble to the growing influence of the EMF phenomenon in the home environment.*

13 Additionally, the ITU-T K.74 requires conformity with IEC 60950-1 or IEC 62368-1 safety standards. This will not only bring about home network devices with expected level of resistibility to overvoltage at the telecommunication, data and power ports, but

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<sup>8</sup> "ITU-T" is the Telecommunication Standardization Sector of the International Telecommunication Union that defines elements in the global infrastructure of ICTs, and establishes standards for interoperability of ICTs for the exchange of voice, video and data messages.

<sup>9</sup> "ISO" is the International Organization for Standardization, an independent and a non-governmental organisation which develops voluntary, consensus-based and market relevant international standards for products, services and systems, to ensure quality, safety and efficiency.

<sup>10</sup> "ETSI" is the European Telecommunications Standards Institute that produces globally applicable standards for ICT, including fixed, mobile, radio, converged, broadcast and Internet technologies.

<sup>11</sup> The 1<sup>st</sup> edition of the ITU-T K.116 (November 2015) sets out EMC requirements and test methods for radio telecommunication terminal equipment.

<sup>12</sup> The 2<sup>nd</sup> edition of the ITU-T K.74 (March 2015) defines requirements for electromagnetic compatibility, resistibility and safety of home network devices. A home network device is a type of electronic or electrical equipment with a primary function of distributing data within the home, between the network termination point and one or more terminal devices. Examples of home network devices include optical network units, routers or broadband modems, set-top-boxes and personal computers with telecommunication ports. Examples of terminal devices are television sets and multimedia equipment.

<sup>13</sup> Under the Telecommunications (Radio-communication) Regulations, section 74-(1), IDA may take enforcement actions to eliminate or reduce interference caused by any electrical, electronic or radio-communication equipment.

will also have a bearing on the application of immunity testing to the EMC phenomena (see Annex A).

14 Separately, the ITU-T K.116 defines EMC requirements that are specific to radio-communication and ancillary equipment such as mobile/portable terminals, and short range devices using Bluetooth, WiFi and other wireless technologies. It also refers to CISPR 32 for methods of measurement and emission limits, and IEC 61000-4 series of standards for immunity testing, and aligns with the EC harmonised EMC standard for radio equipment and services (ETSI EN 301 489-1<sup>14</sup>). Aspects specific to radio equipment include RF exclusion band for radio-communications<sup>15</sup>; and equipment classification for emission and immunity applicability based on fixed, vehicular and portable use.

#### **Question 5**

*IDA invites views and comments on the need to adopt EMC requirements for radio-communication and ancillary equipment in line with the European harmonised EMC standards for radio equipment and services, alongside the requirement to transmit according to the ITU Radio Regulations.*

### **PROPOSED REVISION OF THE IDA EMC AND SAFETY FRAMEWORK FOR ICT EQUIPMENT**

15 IDA plans to adopt EMC and safety requirements for ICT equipment, which includes radio-communication and ancillary equipment, based on the latest ITU-T recommendations, IEC/CISPR and ETSI standards. The practice for EMC continues to be largely in line with North America and Japan, where immunity standards are not mandated (refer to Annex B).

16 Manufacturers/suppliers have been able to bring ICT equipment into the Singapore market without reports of its performance being adversely influenced by any EMF phenomenon. Nevertheless, IDA may recommend that at the minimum, the RF EMF immunity test be applied to the more sensitive equipment for added assurance of susceptibility to interference (e.g. item 5 as shown in Annex A). It will not be onerous for equipment manufacturers/suppliers to fulfil this requirement, as compliance with the full suite of IEC/CISPR immunity standards is mandated in Australia, China, Europe and Korea for AV and ICT equipment (refer to Annex B).

### **IMPLEMENTATION BY OCTOBER 2016**

17 To align with the IEC convergence of EMC and safety standards for AV and ICT equipment, IDA proposes a revision of the “General Requirements” in every TS published by IDA. The table on applicability of EMC and safety requirements given in

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<sup>14</sup> ETSI EN 301 489-1, which is Part 1 to a series of harmonised EMC standards, contains common requirements necessary for demonstrating compliance with the Directive 1999/5/EC (R&TTE Directive) and/or the Directive 2004/108/EC. Part 2 onwards contains deltas present in different technologies covered by the ETSI EN 301 489 series, e.g. a test report for a WiFi device would refer to ETSI EN 301 489-1 and ETSI EN 301 489-17.

<sup>15</sup> The RF exclusion band applies to radio equipment with an operating frequency of up to 2.7 GHz (ITU-T K.116). Exclusion band is product dependent. The frequencies on which the transmitter part of the equipment is intended to operate shall be excluded from radiated emission measurements when performed in transmit mode of operation. There shall be no frequency exclusion band applied to emission measurements of the receiver part of transceivers or the stand alone receiver under test, and/or associated ancillary equipment.



Annex A will be adapted into the “Conformity Assessment Checklist” of each IDA TS. Together with an outline of the technology specific requirements, the Checklist will serve as a guide for manufacturers/suppliers to assess the ICT equipment conformance with the IDA TS, prior to completing online a Supplier’s Declaration of Conformity (“SDoC”) (see paragraph 3 and footnote 4).

18 The SDoC will encompass general and specific technical requirements for compliance as well as for voluntary adoption. For voluntary adoption of the EMC immunity standards, manufacturers/suppliers may publish in the users’ manuals the performance criteria<sup>16</sup> achievable by the ICT equipment under each of the EMF phenomenon given in Annex A (items 5 to 11, where applicable).

19 In terms of transition, IDA proposes to implement the latest IEC/CISPR EMC and safety standards in line with the timelines adopted in major markets for phasing out the use of the standards earmarked by IEC as shown in Annex C.

**Question 6**

*IDA seeks feedback on any issue with IDA’s 31 March 2017 deadline for cessation of acceptance of EMI measurements performed to CISPR 13 or CISPR 22 standards, noting that this is in sync with the tail-end of the IEC 3-year timeline for withdrawal of CISPR 13 and CISPR 22 standards.*

**INVITATION TO COMMENT**

20 IDA would like to seek views and comments from the industry and the general public on matters described in the above paragraphs, and any other issues related to EMC and safety requirements of ICT equipment.

21 All views and comments should be submitted in soft copies (Microsoft Word or PDF Format), and should reach IDA by **12 noon, 8 July 2016**. Respondents are required to include their personal or company particulars, correspondence address, contact number and email address in their submissions. All views and comments should be addressed to:

**Mr Raymond Lee**  
**Director (Resource Management and Standards)**  
**Infocomm Development Authority of Singapore**  
**10 Pasir Panjang Road**  
**#10-01 Mapletree Business City**  
**Singapore 117438**

Please submit your soft copies, with the email header “Proposed Revision of the IDA EMC and Safety Framework for ICT Equipment” via email to [IDA\\_Telecoms\\_Standards@ida.gov.sg](mailto:IDA_Telecoms_Standards@ida.gov.sg).

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<sup>16</sup> The performance criteria for equipment capability to withstand EMS or immunity testing as outlined in items 5 to 11 of Table in Annex A, shall be A for no degradation; B for degradation but self-recovery after interference; or C for degradation and recovery with user-action (clause 8 of ITU-T K.116).

## Applicability of EMC and Safety Requirements

(With reference to ITU-T K.74 and K.116)

Phenomenon	Application	Wired-line equipment	Wireless / Radio and ancillary equipment			Reference standards
			Fixed	Vehicular (DC supply)	Portable (integral battery)	
<b>Electromagnetic Interference (EMI) or Emission Testing Requirement</b>						
1. Radiated emission	Enclosure of equipment (standalone)	M	M	M	M	IEC CISPR 13/22 (Withdrawal by Mar 2017)
2. Conducted emission	DC power input/output port	C	C	C	NA	IEC CISPR 32 ETSI EN 301 489 series of standards
	AC mains input/output port	M	M	NA	C *	
	Telecom port	M	M	NA	NA	
3. Harmonic current emissions	AC mains input port > 16 A per phase	NA in home environments		NA	NA	IEC 61000-3-2
4. Voltage fluctuations and flicker	AC mains input port > 16 A per phase	NA in home environments		NA	NA	IEC 61000-3-3
<b>Electromagnetic Susceptibility (EMS) or Immunity Testing Requirement</b>						
5. RF electromagnetic field (80 MHz to 1 GHz and 1.4 GHz to 2.7 GHz)	Enclosure of equipment	V (80 MHz to 1 GHz)	V	V	V	IEC 61000-4-3 <sup>#</sup>
6. Electrostatic discharge	Enclosure of equipment	V	V	V	V	IEC 61000-4-2 <sup>#</sup>
7. Fast transients common mode	Signal, telecom and control ports, DC and AC power input ports	V	V	NA	V *	IEC 61000-4-4 <sup>#</sup>
8. RF common mode 0.15 MHz to 80 MHz	Signal, telecom and control ports, DC and AC power input ports	V	V	V	V *	IEC 61000-4-6 <sup>#</sup>
9. Transients and surges, vehicular environment	DC power input ports	NA	NA	V	NA	ISO 7637-2
10. Voltage dips and interruptions	AC mains power input ports	V	V	NA	V *	IEC 61000-4-11 <sup>#</sup>
11. Surges, common and differential mode	AC power input ports, telecom ports	V	V	NA	V *	IEC 61000-4-5 <sup>#</sup>
<b>Equipment Safety Testing Requirement</b>						
12. TNV-1; or TNV-3	Ports with voltage ≤ SELV	C	C	C	C *	IEC 60950-1, 60065 or 62368-1
	Ports with voltage ≥ SELV	C	C	C	C *	IEC 60950-1, 60065 or 62368-1
<p>* Applicable with dedicated external power supply (charger/power adapter) for mobile terminals  <sup>#</sup> Or its equivalent immunity test in the IEC CISPR 20/24 standard</p> <p>“<b>M</b>” means that it shall be <b>Mandatory</b> for equipment to comply with the requirement.  “<b>C</b>” means that compliance with the requirement is <b>Conditional</b>, contingent on the relevance of application to equipment.  “<b>V</b>” means that compliance with the requirement is <b>Voluntary</b>.</p> <p>TNV-1: Normal operating voltage not exceeding SELV, <u>subject to overvoltage from telecom networks</u>  TNV-2: Normal operating voltage exceeding SELV, not subject to overvoltage from telecom networks  TNV-3: Normal operating voltage exceeding SELV, <u>subject to overvoltage from telecom networks</u>  SELV: Safety Extra-Low Voltage not exceeding 42.4 V peak or 60 V DC under normal operating conditions</p> <p>Note: Manufacturers, when designing telecom/ICT equipment or network devices for use in home environments according to IEC 60950-1, IEC 60065 or IEC 62368-1, may assume that customer buildings or premises meet the qualifying conditions for equipment resistibility to overvoltage up to 1.5 kV. There should be overvoltage protection installed at the network and power termination points together with earthing and bonding techniques (according to ITU-T K.66 for protection of customer premises from overvoltage). In which case, equipment testing to ITU-T K.21 for resistibility to overvoltage need not apply.</p>						



## Comparison of EMC Regulations

Electromagnetic Compatibility (EMC) Regulations	AV, Sound & TV Broadcast Receivers	Telecom/ICT Equipment, ITE, MME	Unlicensed RF Equipment (SRD)	Cellular Mobile Terminals & Base Stations	Other Radio Equipment (e.g. LMR, UWB)
<b>Electromagnetic Interference (EMI) or Emission</b>					
International Standards	IEC CISPR 13 <sup>Note 1</sup> or CISPR 32	IEC CISPR 22 <sup>Note 1</sup> or CISPR 32	IEC CISPR 22 or 32 is not intended to be applied to intentional transmissions from radio transmitters nor to spurious emissions related to these transmissions.		
Australia / New Zealand	AS/NZS CISPR 13 or 32	AS/NZS CISPR 22 or 32	-	-	-
Canada	BETS-7	ICES 003	-	-	-
China	GB 13837	GB 9254	-	-	-
Chinese Taipei	CNS 13439	CNS 13438	-	-	-
European Union	CENELEC EN 55013 or 55032	CENELEC EN 55022 or 55032	ETSI EN 301 489-1 and 489-3 or 489-17	ETSI EN 301 489-1 and 489-17, 489-24 or 489-23	Relevant ETSI EN 301 489 series of standards
Japan	-	VCCI	-	-	-
Korea	KN 13 or KN 32	KN 22 or 32	KN align with ETSI EN 301 489 series of equipment related standards		
Singapore <sup>Note 2</sup>	IEC CISPR 13 <sup>Note 1</sup> or CISPR 32 <sup>Note 3</sup>	CISPR 22 <sup>Note 1</sup> or CISPR 32	-	CISPR 22 <sup>Note 1</sup> or CISPR 32 or ETSI EN 301 489-23	CISPR 22 <sup>Note 1</sup> or CISPR 32
United States of America	ANSI C3-4 and FCC Part 15 for unintentional radiators	ANSI C3-4 and FCC Part 15 for unintentional radiators	ANSI C3-4 and FCC Part 15 for intentional radiators	ANSI C3-4 and FCC Part 22, 24 (Not related to ETSI EN standards)	ANSI C3-4 and FCC Part 15 for intentional radiators
<b>Electromagnetic Susceptibility (EMS) or Immunity</b>					
International Standards	IEC CISPR 20	IEC CISPR 24	-	-	-
Australia / New Zealand	AS/NZS CISPR 20	AS/NZS CISPR 24	-	-	-
Canada	-	-	-	-	-
China	GB/T 9383	GB/T 17618	-	-	-
Chinese Taipei	-	-	-	-	-
European Union	CENELEC EN 55020	CENELEC EN 55024	ETSI EN 301 489-1 and 489-3 or 489-17	ETSI EN 301 489-1 and 489-17, 489-24 or 489-23	Relevant ETSI EN 301 489 series of standards
Japan	-	-	-	-	-
Korea	KN 35	KN 35	KN align with ETSI EN 301 489 series of equipment related standards		
Singapore	Voluntary Compliance (VC) with the relevant CISPR EMS (immunity) standards				
United States of America	-	-	-	-	-

Note 1: To be withdrawn by 31 March 2017

Note 2: The CISPR EMI (emission) standards are applicable to all types of telecom/ICT equipment with dedicated AC mains port or external power supply.

Note 3: Applicable to DVB-T2 receivers only

**Transition Plan and Timelines  
For  
Implementation of the IEC 62368-1 Safety and CISPR 32 EMC Standards**

Existing Safety Standards	Replacement Safety Standards	Date of Complete Transition
<b>Mandatory Compliance</b>		
IEC 60065 for AV equipment	IEC 62368-1 for AV/ICT/telecom equipment	31 March 2019 <sup>See Note 1</sup>
IEC 60950-1 for telecom/ICT equipment		
IEC CISPR 13 for EMI or emissions from AV equipment	IEC CISPR 32 for MME	31 March 2017 <sup>See Note 2</sup>
IEC CISPR 22 for EMI or emission from telecom/ICT equipment		
<b>Voluntary Compliance</b>		
IEC CISPR 20 for EMS or immunity testing of AV equipment	Final draft IEC CISPR 35 for MME	No IEC timeline for withdrawal of existing CISPR standards
IEC CISPR 24 or IEC 61000-4 series of standards for immunity testing of telecom/ICT equipment		
<p>Note 1: In the next 3 years, IDA may continue to accept AV and telecom/ICT product safety testing done to IEC 60065 and IEC 60950-1. IDA may also accept evaluation of equipment safety done to IEC 62368-1, so long as manufacturers are able to demonstrate in their reports that safety hazards have been appropriately identified and eliminated.</p> <p>Note 2: Before 31 March 2017, IDA may accept equipment registration based on EMC (EMI or emission) testing done to CISPR 32, or CISPR 22/13 standards, as there is no change in the emission requirements, except for flexibility in selecting methods and multiple ports testing.</p>		