



**CONSULTATION PAPER ISSUED BY
THE INFO-COMMUNICATIONS MEDIA DEVELOPMENT AUTHORITY**

**PUBLIC CONSULTATION ON THE REVISION OF THE TECHNICAL
SPECIFICATION FOR THE INTEGRATED RECEIVER DECODER FOR USE WITH
THE SECOND GENERATION DIGITAL TERRESTRIAL TELEVISION
BROADCASTING SYSTEM**

(Draft IMDA TS DVB-T2 IRD Issue 1, November 2016)

11 November 2016

PROPOSED REVISION TO IDA-MDA TS DVB-T2 IRD ISSUE 1 REV 2 MAY 2014

1 BACKGROUND

The revision of the Technical Specification for Integrated Receiver Decoder for use with the second generation Digital Terrestrial Television Broadcasting System Issue 1 Rev 2 (hereafter termed “TS DVB-T2 IRD” or “Specification”) is prompted by industry feedback to fine-tune requirements (a) country specific selection of languages; (b) for commercial use¹; and (c) other DVB-T2 IRD implementations.

2 PROPOSED CHANGES TO THE TECHNICAL SPECIFICATION

2.1 Introduction

2.1.1 The published TS DVB-T2 IRD comprises 2 parts:

- a) Part A sets out the minimum requirements for DVB-T2 IRD² for use with the second generation Digital Terrestrial Television Broadcasting System (“DVB-T2”), including EMC and safety requirements; and
- b) Part B sets out the additional requirements for DVB-T2 IRDs which are capable of supporting the multi-channel audio feature.

While the Specification has been established to enable manufacturers or suppliers to bring in compatible DVB-T2 Set-Top-Boxes (“STBs”) and Integrated Digital Televisions (“IDTVs”), some of the requirements may not be applicable for other DVB-T2 IRD implementations such as PC cards, dongles, portable TV or similar devices. For these implementations, conformity to a subset of Part A may suffice.

2.2 Proposed Changes to Part A: Basic DVB-T2 IRD Requirements

2.2.1 It is proposed that Part A of the Specification be revised to reflect changes in requirements as listed in Table 1.

¹ The TS DVB-T2 IRD should also cater to commercial use of DVB-T2 receivers for reception of FTA DTT services in hotels, hospitals, shopping malls, out-of-homes, etc.

² DVB-T2 IRDs may be incorporated as a standalone module (e.g. STB), an IDTV or any other similar devices intended for use with the DVB-T2.

Table 1: Changes to Part A of TS DVB-T2 IRD

| | |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| § 1.3 of Part A: Scope – Basic DVB-T2 Requirements Annex D: Basic and Digital Function Keys | To amend § 1.3 of Part A and Annex D to give clarity that the support for Teletext is “Optional”. |
| § 4 of Part A: General Requirements | To revise § 4 to clarify that regardless of power source (AC mains, external AC/DC converter, charger/power adapter or batteries) and equipment classification (fixed, vehicular or portable), DVB-T2 IRD shall be assessed for conformity to the relevant international standards for EMC. |
| § 8.1.3 of Part A: Support for hearing impaired | To amend § 8.1.3 of Part A to give clarity that teletext descriptor will not be used to signal DVB subtitles as defined in Part A § 8.1.1. |
| § 8.2.3 of Part A: Languages and Fonts | The following text has been added to give clarity on the multi-language support for EPG presentation. It is recommended to support the multilingual_service_name_descriptor. When multilingual_service_name_descriptor is present and the user preferred language for EPG presentation does not match any languages that are available, it is recommended to select the first service name appeared in said descriptor. |
| § 8.3 of Part A: Multi-Language Support | To include a footnote that the support of ISO 639 language codes shall be case insensitive. |
| § 9.1 of Part A: RF Input Connector § 9.2 of Part A: RF Output Connector | To amend § 9.1 and § 9.2 of Part A to update the standard for RF connector. |
| § 9.11 of Part A: | To amend § 9.11 of Part A to give clarity on the limitations in storage and extraction of recordings should the DVB-T2 IRD is capable of recording broadcast services in persistent memory ³ . |
| § 10.6.1 of Part A: Addition of multiplex on a network | To amend § 10.6.1 of Part A to give clarity on the receiver behavior during addition of multiplex on a network. |
| §10.11 of Part A: System Software Update (SSU/OTA/OAD) | To include a footnote to clarify that DVB-T2 receivers designed for commercial use (e.g. for Hotel TV system) may have other means of performing software upgrade. |

2.2.2 IMDA invites feedback if revision other than § 10.11 of the Specification is necessary for enabling the use of DVB-T2 receivers in business settings (e.g. reception of FTA DTT services in hotels, hospitals, shopping malls, and out-of-homes).

³ Persistent memory refers to non-volatile storage like Hard Disk Drive (HDD) or flash drive.

2.3 Proposed Part C: Exceptions for Other DVB-T2 IRD Implementations

2.3.1 For facilitating equipment conformity, it is proposed that a Part C on “Exceptions for Other DVB-T2 IRD Implementations” be added to the IMDA TS DVB-T2 IRD. Part C sets out the exceptions to the Part A requirements to which other DVB-T2 IRD implementations, such as PC cards, dongles, portable TV or similar devices, may not need to comply. Such DVB-T2 IRD implementations are required to comply with the minimum requirements defined in Part A, with the exception of those outlined in Table 2.

Table 2: Exceptions for other DVB-T2 IRD implementations

| | |
|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| §5.2.4 of Part A: Active Format Description (AFD) ⁴ | It is recommended ⁵ to comply with this requirement. |
| §7.6 of Part A: Service Identification (SI) and Logical Channel Number (LCN) ⁶ | It is recommended to comply with this requirement. |
| §8.2 of Part A: Electronic Program Guide (EPG) | It is recommended to comply with this requirement. |
| §8.2.1 of Part A: Specification for EPG | |
| §8.2.2 of Part A: EPG Presentation | |
| §8.2.3 of Part A: Languages and Fonts | |
| §8.2.4 of Part A: Parental Lock Feature | |
| §8.2.5 of Part A: Parental Rating Display | |
| §9 of Part A: Interfaces and Connectors | Different RF input connector may be used where appropriate. RF output connector (§9.2) is optional, and may be included where appropriate. Requirements of various output interfaces are optional, and may be included where appropriate (§9.6, §9.8 and §9.10). |
| §10.11 of Part A: System Software Update (SSU/OTA/OAD) | The DVB-T2 IRDs shall comply with §10.11 of IMDA TS DVB-T2 IRD (i.e. System software update (SSU/OTA/OAD)) where applicable. |
| §10.12 of Part A: User system software upgrade | The DVB-T2 IRDs shall be provided with alternative means for enabling system software upgrade. |

2.3.2 IMDA invites comments on the proposed Part C to the Specification for other DVB-T2 IRD implementations, whether Part C reduces the DVB-T2 IRD requirements sufficiently and appropriately, especially for DVB-T2 dongles⁷ connected to home TV, PC cards, portable TV or similar devices.

2.3.3 IMDA invites comments on the relaxation of the LCN, EPG and parental lock requirements for other DVB-T2 IRD implementations.

- a) The LCN SI provides the broadcaster assigned virtual channel number or label for each available FTA DTT service. Other DVB-T2 IRD implementations supporting a subset of the LCN SI, may have different means of channel sorting, indexing, ordering and searching, unlike that of the DVB-T2 STBs and IDTVs.
- b) EPG provides viewers of TVs connected to DVB-T2 STBs; or viewers of IDTVs with continuous updating of menus that display broadcasting schedules for current and upcoming programming, e.g. time, programme title, synopsis and parental guidance information. Typical EPG provides information covering the programming for the next seven days. Other DVB-T2 IRD implementations (including dongles) which support a subset or an alternative EPG, may not have adequate multi-language support (e.g. Chinese fonts), parental lock⁸ and rating display that come as part of the EPG defined in Part A.

2.3.4 IMDA invites comments on measures to be taken by manufacturers and suppliers of other DVB-T2 IRD implementations, as well as the broadcaster to reduce impact to viewers' experience⁹, given that these receivers (including dongles) are intended for different modes of reception. Measures include:

- a) Manufacturers/suppliers publishing advisory note on their websites, printing or labelling it on the packaging of these receivers registered with IMDA, and the sales brochure to ensure consumers awareness; and
- b) Broadcasters informing the public on the reception quality for receivers used beyond residential homes on their websites (e.g. in-tunnel coverage, on the roads, in basement car parks).

⁸ Parental lock feature allows viewers to limit access to services based on rating of the broadcast content, e.g. G for General, PG13 for Parental Guidance 13, NC16 for No Children under 16, M18 for Mature 18, R21 for Restricted 21.

⁹ For example, DVB-T2 dongles connected to home TVs in the place of DVB-T2 STBs may not provide the user experience that can be expected of the set-top box or integrated DTV, made to Part A of the Specification.

3 INVITATION TO COMMENT

- 3.1 IMDA would like to seek views and comments from the industry and the general public on matters relating to the revision of Specification.
- 3.2 Commenting parties must identify the specific areas of the Specification on which they are commenting. Where appropriate, they are encouraged to suggest proposed changes, including drafting language and an explanation of the reasons for the proposed changes.
- 3.3 All views and comments should be submitted in soft copies (Microsoft Word or PDF format) and should reach IMDA by 12 noon, 25 November 2016. Commenting parties are required to include personal or company particulars, correspondence address in their submissions. All views and comments should be addressed to:

**Mr Raymond Lee
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Please submit your soft copies, with the email header "Proposed Revision of the IMDA Technical Specification for DVB-T2 IRD" via email to telecoms_standards@imda.gov.sg.

IMDA reserves the right to make public all or parts of any written comment and to disclose the identity of the source. Commenting parties may request confidential treatment for any part of the comment that the commenting party believes to be proprietary, confidential or commercially sensitive. Any such information should be clearly marked and placed in a separate annex. If IMDA grants the request for confidential treatment, IMDA will consider, but will not publicly disclose the information. If IMDA rejects the request for confidential treatment, it will return the information to the commenting party and will not consider the information as part of its review. As far as possible, commenting parties should limit any request for confidential treatment of information submitted. IMDA will not accept any comment that requests for confidential treatment of all or a substantial part of the comment.

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