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Digital Video Broadcasting (DVB); Frame structure channel coding and modulation for a second generation digital terrestrial television broadcasting system (DVB-T2)

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**Digital Video Broadcasting (DVB);
Frame structure channel coding and modulation
for a second generation digital terrestrial
television broadcasting system (DVB-T2)**

EBU
OPERATING EUROVISION

DVB[®]
Digital Video
Broadcasting

Reference

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Foreword

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NOTE: The EBU/ETSI JTC Broadcast was established in 1990 to co-ordinate the drafting of standards in the specific field of broadcasting and related fields. Since 1995 the JTC Broadcast became a tripartite body by including in the Memorandum of Understanding also CENELEC, which is responsible for the standardization of radio and television receivers. The EBU is a professional association of broadcasting organizations whose work includes the co-ordination of its members' activities in the technical, legal, programme-making and programme-exchange domains. The EBU has active members in about 60 countries in the European broadcasting area; its headquarters is in Geneva.

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The Digital Video Broadcasting Project (DVB) is an industry-led consortium of broadcasters, manufacturers, network operators, software developers, regulatory bodies, content owners and others committed to designing global standards for the delivery of digital television and data services. DVB fosters market driven solutions that meet the needs and economic circumstances of broadcast industry stakeholders and consumers. DVB standards cover all aspects of digital television from transmission through interfacing, conditional access and interactivity for digital video, audio and data. The consortium came together in 1993 to provide global standardization, interoperability and future proof specifications.

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Modal verbs terminology

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1 Scope

The present document describes a second generation baseline transmission system for digital terrestrial television broadcasting. It specifies the channel coding/modulation system intended for digital television services and generic data streams.

The scope is as follows:

- it gives a general description of the Baseline System for digital terrestrial TV;
- it specifies the digitally modulated signal in order to allow compatibility between pieces of equipment developed by different manufacturers. This is achieved by describing in detail the signal processing at the modulator side, while the processing at the receiver side is left open to different implementation solutions. However, it is necessary in this text to refer to certain aspects of reception.

Versions 1.1.1 and 1.2.1 of the present document [i.7] and [i.8] defined a single profile which incorporates time-slicing but not time-frequency-slicing (TFS). Features which would allow a possible future implementation of TFS (for receivers with two tuners/front-ends) can be found in annex E. It is not intended that a receiver with a single tuner should support TFS.

Version 1.3.1 of the present document [i.9] added a T2-Lite profile. This profile is intended to allow simpler receiver implementations for very low capacity applications such as mobile broadcasting, although it may also be received by conventional stationary receivers. The details of this T2-Lite profile are described in annex I. Version 1.3.1 of the present document [i.9] also introduces a name, which is 'T2-base profile', for the previous single profile.

Version 1.4.1 (the present document) made a number of changes, but all of these are clarifications of particular points, changes in non-normative recommendations, and corrections to the wording; no new technical features have been added and no changes have been made to existing features.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

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The following referenced documents are necessary for the application of the present document.

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| [1] | ETSI TS 101 162: "Digital Video Broadcasting (DVB); Allocation of identifiers and codes for Digital Video Broadcasting (DVB) systems". |
| [2] | ETSI TS 102 992: "Digital Video Broadcasting (DVB); Structure and modulation of optional transmitter signatures (T2-TX-SIG) for use with the DVB-T2 second generation digital terrestrial television broadcasting system". |

2.2 Informative references

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The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ISO/IEC 13818-1: "Information technology - Generic coding of moving pictures and associated audio information: Systems".
- [i.2] ETSI TS 102 606: "Digital Video Broadcasting (DVB); Generic Stream Encapsulation (GSE) Protocol".
- [i.3] ETSI EN 302 307: "Digital Video Broadcasting (DVB); Second generation framing structure, channel coding and modulation systems for Broadcasting, Interactive Services, News Gathering and other broadband satellite applications (DVB-S2)".
- [i.4] ETSI EN 300 468: "Digital Video Broadcasting (DVB); Specification for Service Information (SI) in DVB systems".
- [i.5] ETSI EN 300 744: "Digital Video Broadcasting (DVB); Framing structure, channel coding and modulation for digital terrestrial television".
- [i.6] ETSI TS 102 831: "Digital Video Broadcasting (DVB); Implementation guidelines for a second generation digital terrestrial television broadcasting system (DVB-T2)".
- [i.7] ETSI EN 302 755 (V1.1.1): "Digital Video Broadcasting (DVB); Frame structure channel coding and modulation for a second generation digital terrestrial television broadcasting system (DVB-T2)".
- [i.8] ETSI EN 302 755 (V1.2.1): "Digital Video Broadcasting (DVB); Frame structure channel coding and modulation for a second generation digital terrestrial television broadcasting system (DVB-T2)".
- [i.9] ETSI EN 302 755 (V1.3.1): "Digital Video Broadcasting (DVB); Frame structure channel coding and modulation for a second generation digital terrestrial television broadcasting system (DVB-T2)".

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