DIGITALEUROPE

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DIGITALEUROPE comments to Poland's draft regulation on technical and operational requirements for digital receivers

Executive Summary

The current draft regulation contains multiple technical inaccuracies which make it difficult to understand, implement and enforce. More importantly, it deviates significantly from the European baseline adopted for current and planned DVB-T2/HEVC deployments. In particular, requirements for HbbTV, HFR and HDMI eARC, as well as references to increasing receiver functionality via software update, are not appropriate for regulations establishing a baseline for interoperability.

General remarks

Next generation DTT roll-out is progressing across Europe. Whilst DE members are positive about this rollout, there is however a substantial risk for fragmentation among different Member States because they may implement different variations and put in place diverging technical specifications and requirements on DTT devices.

For the terminal equipment industry, any kind of fragmentation within the European internal market, such as national or even regional specifications, is a considerable disadvantage, as it prevents the emergence of a mass market and makes the development and production process more difficult and leads to additional costs. Thus, any market-specific form of technology becomes a burden for industry and consumers.

Local rules are completely against the European idea of a harmonized market, prevent the free flow of goods within Europe and makes live for EU citizens more complicated. Furthermore, it reduces attractivity for CE-manufacturers to provide products to some member states and this would result in less variety for consumers.

For this reason, industry supports the design and implementation of standards, especially when they are of pan-European importance.

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In order to minimize this risk of fragmentation, and the associated compliance and implementation costs for DIGITALEUROPE members, a more harmonized approach to the formulation of DTT specifications is necessary.

Conclusions

DIGITALEUROPE members remain supporters of DVB-T2 and encourage its adoption. However, for the reasons described above we would recommend taking on board the comments provided in Annex (see below).

DIGITALEUROPE is happy to discuss its concerns on this with local regulators as needed.

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Annex: technical concerns

1. Overview

Following the review of the draft regulation, some concerns were identified with the technical requirements. These concerns fall into three main categories: incorrect references, technical inaccuracies and significant deviation from the common European baseline.

2. Incorrect references

Two references refer to obsolete HDMI and HDCP specification versions. All devices implementing HDMI and HDCP are required to be compliant with the latest version of these specifications. The reference numbers, with the corresponding updated specification references, are as follows:

[28] High-bandwidth Digital Content Protection System, Revision 1.4, 8 July 2009, Digital Content Protection LLC

[30] High-Definition Multimedia Interface, Version 1.4b, 11 October 2011, HDMI Licensing, LLC
In section 12.1 Teletext, there is a reference to PN-ETSI EN 300 743 V1.6.1:2019-04 [11]. As this section refers to EBU Teletext subtitles and not DVB bitmap subtitles, this should instead refer to PN-ETSI EN 300 472 V1.4.1:2017-10.

3. Technical inaccuracies

3.1 Video requirements

The draft regulation related to video coding and ETSI TS 101 154 contains several inaccuracies.

HEVC High Tier is not defined for use with any ETSI TS 101 154 bitstream or receiver profile, and is not supported for DVB services. Therefore, references to High Tier should be removed from draft regulation sections 1, 10 and 13.

There are no HEVC SDTV profiles defined in ETSI TS 101 154. Consequently, list item 3) in draft regulation section 10 should be removed, and references to SDTV should be removed from the draft regulation section 1 paragraph related to DVB-T2 HEVC encoding requirements. The ETSI TS 101 154 50 Hz HEVC HDTV 8-bit receiver profile, required by list item 2) in draft regulation section 10, includes support for resolutions down to 960x540p and includes rules for encoding non-16:9 content.

ETSI TS 101 154 section 5.14 does not only define HDTV profiles, it contains sub-sections defining all HDTV and UHDTV HEVC profiles. Consequently, list item 2) in draft regulation section 10 should be updated accordingly. The ETSI TS 101 154 sections relevant to the 50 Hz HEVC HDTV 8-bit receiver profile are 5.14.1 and 5.14.2.

The ETSI TS 101 154 standard defines bitstream profiles and the corresponding receiver profiles. By referencing these profiles, there is no need to reference details such as codec levels, tiers, profiles or specific luminance resolutions, as those criteria are included in the definition of each ETSI TS 101 154 profile. Those details can be removed from draft regulation sections 1 and 10.

In particular, codec profile and level details can be removed from list item 1) in draft regulation section 10, which only needs to refer to 25 Hz H.264/AVC SDTV and 25 Hz H.264/AVC HDTV profiles.

Within the draft regulation section 1 paragraph related to DVB-T2 HEVC encoding requirements, the reference to level 5.14 should be removed as there is no such HEVC level. This may have been due to confusion with ETSI TS 101 154 section 5.14. In the same paragraph, the reference to HEVC HDR UHDTV profiles is incomplete and should not be combined with references to codec profiles, levels and tiers. The HEVC HDR UHDTV profiles are correctly referenced in draft regulation section 10.

3.2 Audio requirements

Receiver sound format selection is typically related to audio language and accessibility selection and does not consist of selecting the channel output configuration (e.g. 1.0, 2.0, 5.1, 5.1.2, 5.1.4) as indicated in the second list item 1) in draft regulation section 11, which should be removed.

The audio output channel configuration depends on a receiver's hardware and is not something configurable for playback on TV internal loudspeakers, that most commonly offer a 2.0 stereo output. Audio content with channel configurations (e.g. 5.1, 7.1.2) that do not match a receiver's stereo speaker configuration are automatically downmixed to 2.0 before playback.

To enjoy multi-channel (i.e. 5.1 or more) audio output from a receiver with stereo speakers, a user may connect an external audio system to their receiver's digital audio output. Receivers commonly allow the user to configure the format of the digital audio output, offering choices including uncompressed stereo (i.e. PCM) and multichannel bitstream audio (e.g. Dolby AC-3, DTS).

3.3 Subtitle requirements

Where the draft regulation refers to DVB subtitles in section 12.2, it is necessary to include a target receiver subtitle decoder interoperability point. Neither receivers, nor DVB services use all of the features defined in ETSI EN 300 743 V1.6.1. The required interoperability point must be "IRD with "HDTV" subtitling support", as there has been no adoption of the other features by broadcasters or manufacturers. For the avoidance of doubt, this includes support for UHDTV services as defined in ETSI EN 300 743 V1.6.1, Annex B.4.

3.4 Digital interface requirements

In terms of digital interfaces, HDMI outputs are only relevant for STB receivers and not TV receivers. Therefore, such a distinction should be added to draft regulation section 16.2 Digital interface.

Furthermore, as the HDMI 2.1 specification does not include any mandatory features, it is not appropriate to require support for the entire HDMI 2.1 standard in this draft regulation. Instead, the draft regulation could require support on the receiver's HDMI interface for 720p50, 1080p50 and, in the case of UHD receivers, 2160p50 SDR, HDR10 and HLG video formats, received from DVB broadcasts. Manufacturers will implement the relevant HDMI 2.1 features to achieve this.

4. Significant deviations from the common European baseline

There are a number of deviations from the current baseline of features required for DVB-T2/HEVC receivers across the European common market. These deviations place unacceptable constraints on the ability of manufacturers to offer a wide range of products to meet the diverse needs of different consumers, will cause further fragmentation of the European market, and will present a significant burden for both manufacturers and consumers.

4.1 HbbTV

One of the preconditions for HbbTV support is unclear, specifically if a receiver "has interactive functions implemented". While DIGITALEUROPE members are supporters of HbbTV and encourage its adoption, for reasons detailed in a recent statement from DIGITALEUROPE on HbbTV mandates, we would recommend that the legislators consider giving HbbTV a recommended or optional status instead of a mandatory status. We recommend instead, that national bodies develop pragmatic logo programs to promote HbbTV implementation and the benefits of local HbbTV services to consumers, and to foster interoperability through cooperation. Indeed, the current industry-led cooperation between all stakeholders though the HbbTV Association is a far superior approach to individual Member State mandation of selected technologies. Furthermore, a legal obligation to support HbbTV in all connectable TV sets in turn creates a requirement for CE Manufacturers and Regulators to be able to check whether a product in the market is definitively and fully compliant with HbbTV, which is not possible today.

4.2 HDMI eARC

For receiver digital interfaces, mandating support for HDMI eARC is unjustified and inappropriate for regulation intended to define a baseline feature set. As a relatively recent addition to the HDMI standard, HDMI eARC is an advanced and complex feature that manufacturers must have the freedom to offer as they see fit in their product ranges. Widely supported digital interfaces such as S/PDIF or HDMI ARC are sufficient to provide adequate digital audio output, with support for the most common multichannel audio formats. Furthermore, the HDMI ARC interface enables support for advanced formats such as 7.1 multichannel audio and Dolby Atmos. This already goes beyond what is needed as a baseline.

4.3 High Frame Rate (HFR)

High Frame Rate (HFR) is a complex topic, with many technical and commercial considerations. The actual commercial merits are still being evaluated by broadcasters, operators and content creators across Europe. No broadcaster has yet provided a roadmap for the launch of commercial HFR services. Furthermore, it is a cutting edge feature with very significant impact on receiver hardware and software, and should therefore be something manufacturers have the freedom to offer in their product ranges at their own discretion. It is inappropriate for regulation to mandate HFR at this time, as part of any baseline. In addition, the condition specified in draft regulation section 13 for the support of HFR is unclear and likely to be far too broad: “able to display images via HFR technology”.

4.4 Software updates

Regarding the ability to update receiver software, draft regulation should not refer to increasing receiver functionality or updating the version of HbbTV supported by the receiver.

The primary purpose of software updates is to enable easier receiver maintenance. Anything beyond that is at the entire discretion of the manufacturer and it would be inappropriate for regulation to suggest otherwise.

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DIGITALEUROPE represents the digital technology industry in Europe. Our members include some of the world's largest IT, telecoms and consumer electronics companies and national associations from every part of Europe. DIGITALEUROPE wants European businesses and citizens to benefit fully from digital technologies and for Europe to grow, attract and sustain the world's best digital technology companies. DIGITALEUROPE ensures industry participation in the development and implementation of EU policies.

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