

**INFORMATION EXCHANGE ON NEXT-GENERATION VIDEO CODECS****JULY 2022**

**SOURCE:** DVB Technical Module Ad-Hoc Group on Audio-Visual Content (TM-AVC)

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**TITLE:** Next-generation video codecs and the adoption of ITU-T H.266 | ISO/IEC 23090-3 Versatile Video Coding (VVC) and T/AI 109.2-2021: Intelligent Media Coding - Part 2: Video (AVS3) in DVB specifications

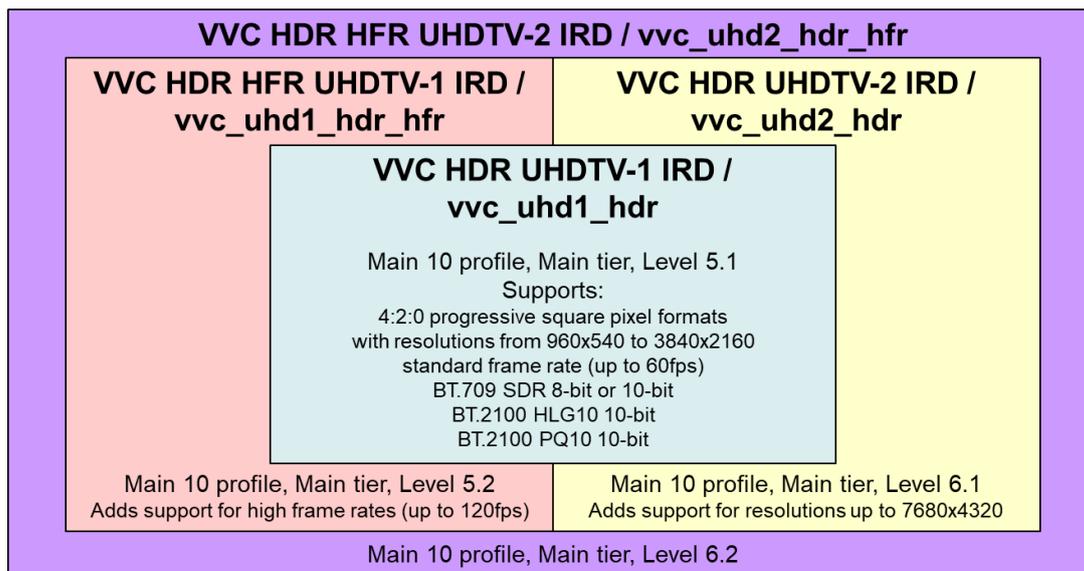
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Dear colleagues in the industry,

DVB would like to take the opportunity to inform your respective organisations about recent milestones reached in DVB's efforts on next-generation video codecs (NGVC), in the interest of encouraging the use of common interoperability/conformance points as far as possible and makes sense among relevant industry organisation specifications. We would also welcome any feedback on the interoperability/conformance points that DVB has specified.

In January we completed the work on the adoption of ITU-T H.266 | ISO/IEC 23090-3 Versatile Video Coding (VVC) and the resulting revised DVB BlueBook specification A001r19 was published in February.

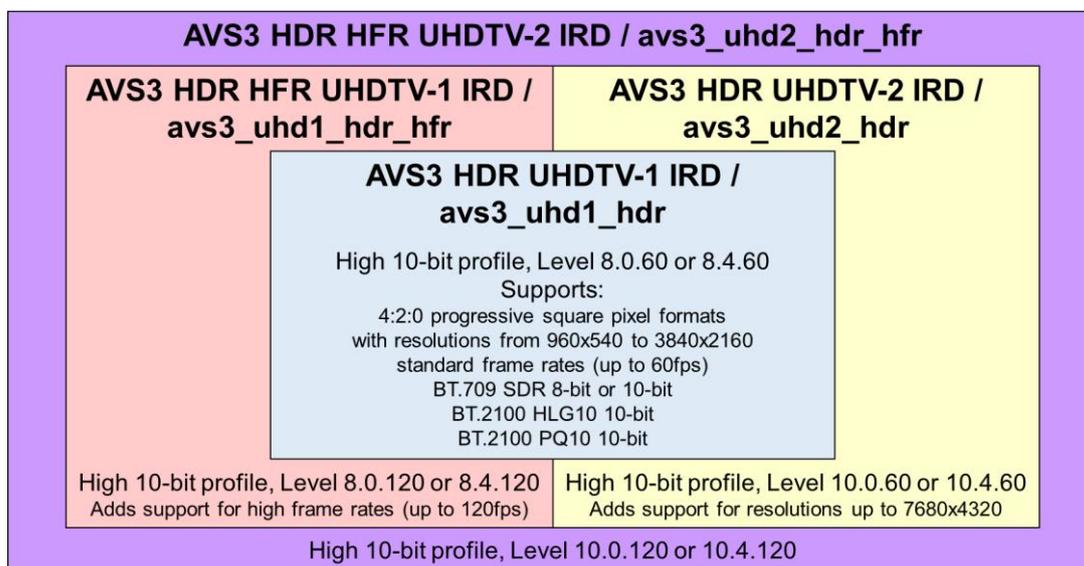
Figure 1 depicts the technical parameters of the four operating points specified for VVC.



**Figure 1: VVC operating point definitions**

In May we completed the work on the adoption of T/AI 109.2-2021: Intelligent Media Coding - Part 2: Video (AVS3) and the resulting revised DVB BlueBook specification A001r20 has just been published.

Figure 2 depicts the technical parameters of the four operating points specified for AVS3.



**Figure 2: AVS3 operating point definitions**

Both of these additions to the DVB BlueBook specification A001 have been made according to the Commercial Requirements for NGVC, which were approved in May 2021. A summary of the NGVC work is published at: <https://dvb.org/news/dvb-prepares-the-way-for-advanced-4k-and-8k-broadcast-and-broadband-television/>.

The overall basis for adding next-generation video codecs is to replicate the equivalent conformance points specified for HEVC (HD, UHD-1 (4K), HDR, HFR) but to add support for UHD-2 (8K video) in addition. The specification extension to add 8K support for HEVC was completed in October 2021, in parallel to the NGVC work. That milestone is already manifested in ETSI TS 101 154 V2.7.1, following the usual process of a periodic update of that specification based on the selected edition of DVB BlueBook A001.

DVB's scope encompasses service delivery over both MPEG-2 Transport Stream as well as DVB-DASH / CMAF. DVB BlueBook specification A001 serves as the basis for codec usage in both of these transport layers but also specifies the carriage in MPEG-2 TS. Carriage over DVB-DASH / CMAF is specified in DVB BlueBook specification A168. In addition, updates to DVB BlueBook specifications A038 (DVB-SI) and A177(DVB-I) have been published to support related signaling of these conformance points.

It is expected that a further revision of A001 will be approved for publication in November 2022. This could include the DVB-specified usage of the AV1 video codec from the Alliance for Open Media (AOM), depending on the progress achieved with confirming its fulfillment of the NGVC Commercial Requirements. It is envisaged that that revision of DVB BlueBook A001 will be the basis of the next revision of ETSI TS 101 154.

MPEG-5 LCEVC is also being considered for inclusion in a subsequent phase of work.

The NGVC work item includes aspects on interoperability and conformance, referred to as V&V (Validation & Verification) in DVB. We are currently working to complete a representative set of sample bitstream asset files that are compliant with the aforementioned DVB BlueBook specifications, for both VVC and AVS3. They will be published at the latest when we commence the promotion of DVB BlueBook A001 to the next revision of ETSI TS 101 154, expected in October. DVB V&V resources are published at: [Verification & Validation - DVB](#).

DVB looks forward to continued dialogue with your respective organizations on the subject of next-generation video codecs and we would appreciate relevant updates from your organizations as and when appropriate.

Sincerely,

Paul Szucs – Vice Chair of DVB TM-AVC sub-group, chair of the NGVC TF.