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| **Joint Collaborative Team on Video Coding (JCT-VC)**  **of ITU-T SG 16 WP 3 and ISO/IEC JTC 1/SC 29/WG 11**  35th Meeting: Geneva, CH, 22–27 March 2019 | Document: JCTVC-AI0002-v1 |

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| *Title:* | **JCT-VC AHG report: HEVC test model editing and errata reporting (AHG2)** | | |
| *Status:* | AHG report input to JCT-VC | | |
| *Purpose:* | AHG report | | |
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| *Source:* | AHG | | |

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# Abstract

This document reports the work of the JCT-VC ad hoc group on (HEVC and AVC) test model editing and errata reporting (AHG2) between the 34th meeting in Marrakech, MA (Jan. 2019) and the 35th meeting in Geneva, CH (Mar. 2019).

# Mandate

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| **Title and Email Reflector** | **Chairs** | **Meeting** |
| **Test model editing and errata reporting (AHG2)**  ([jct-vc@lists.rwth-aachen.de](mailto:jct-vc@lists.rwth-aachen.de))   * Develop proposed improvements to the JCTVC-AB1002 HEVC Test Model 16 (HM 16) Update 9 of Encoder Description * Collect reports of errata for the HEVC and AVC specification and the published HDR-related technical reports. * Gather and address comments for refinement of these documents. * Coordinate with AHG3 on software development and software technical evaluation to address issues relating to mismatches between software and text. | B. Bross, C. Rosewarne (co‑chairs), J.‑R. Ohm, K. Sharman, G. J. Sullivan, A. Tourapis, Y.‑K. Wang (vice‑chairs) | N |

# Status of AHG2 work

## New HEVC and AVC draft texts

The following HEVC and AVC draft texts should have been generated:

Remains valid – not updated: [JCTVC-AG1005](http://phenix.int-evry.fr/jct/doc_end_user/current_document.php?id=10830) Additional Supplemental Enhancement Information for HEVC (Draft 3) [J. Boyce, H.-M. Oh, G. J. Sullivan, A. Tourapis, Y.-K. Wang] (WG 11 preliminary draft for FDIS [N xxxxx](http://phenix.it-sudparis.eu/mpeg/doc_end_user/current_document.php?id=62087&id_meeting=174)) [2018-xx-xx] (4 weeks)

WG 11 should have issued a FDIS for this, N18277: Text of ISO/IEC FDIS 23008-2 (4th edition). However, it had not yet been available on the WG 11 website as of 3/19/2019.

Remains valid – not updated: [JCTVC-AG1006](http://phenix.int-evry.fr/jct/doc_end_user/current_document.php?id=10862) Additional Supplemental Enhancement Information for AVC (Draft 4) [C. Fogg, W. Husak, G. J. Sullivan, A. M. Tourapis, Y.-K. Wang] (WG 11 FDAM [N xxxxx](http://phenix.it-sudparis.eu/mpeg/doc_end_user/current_document.php?id=63281&id_meeting=175)) [2018-12-14] (9 weeks)

WG 11 should have issued a FDIS for this, N18281: Updated Text of ISO/IEC FDIS 14496-10:201X Advanced Video Coding (9th ed.). However, it had not yet been available on the WG 11 website as of 3/19/2019.

[JCTVC-AH1012](http://phenix.int-evry.fr/jct/doc_end_user/current_document.php?id=10921) Annotated regions and fisheye video information SEI messages for HEVC (Draft 2) (J. Boyce, Y.-K. Wang, G. J. Sullivan) [N 17662](http://phenix.it-sudparis.eu/mpeg/doc_end_user/current_document.php?id=62088&id_meeting=174) in WG 11 [2019-03-01] (6 weeks)

This output document had not yet been available on the JCT-VC website as of 3/19/2019.

WG 11 should have issued a DAM for this, N18272: Text of ISO/IEC 23008-2:201x/DAM1 Additional supplemental enhancement information. However, it had not yet been available on the WG 11 website as of 3/19/2019.

## New HEVC text or software bugs

### Some potential text bugs

JCTVC-AI0022 reports a couple of potential text bugs.

### A potential mismatch between text and software

There was a report of a potential mismatch between text and software. The following was sent by the reporter, through Mayumi Koike, on February 18, 2019:

*I found a discrepancy between the published H.264 standard and the 3DAVC reference software.*

*If you take a look at section I.7.3.2.1.5 of H.264 (04/17), here is the syntax of seq\_parameter\_set\_mvcd\_extension():*

|  |  |  |
| --- | --- | --- |
| *seq\_parameter\_set\_mvcd\_extension( ) {* | ***C*** | ***Descriptor*** |
| ***num\_views\_minus1*** | *0* | *ue(v)* |
| *for( i = 0, NumDepthViews = 0; i <= num\_views\_minus1; i++ ) {* |  |  |
| ***view\_id****[ i ]* | *0* | *ue(v)* |
| ***depth\_view\_present\_flag****[ i ]* | *0* | *u(1)* |
| *DepthViewId[ NumDepthViews ] = view\_id[ i ]* |  |  |
| *NumDepthViews += depth\_view\_present\_flag[ i ]* |  |  |
| ***texture\_view\_present\_flag****[ i ]* | *0* | *u(1)* |
| *}* |  |  |
| *…continued* | | |

*The reference code in ISO IEC 14496-5 2001 Amd 35 doesn’t correspond to this specification (file ISO IEC 14496-5 2001 Amd 35\3DV-ATM\_v14.0\lencod\src\parset.c):*

|  |
| --- |
| *if(****sps****->****profile\_idc****==ThreeDV\_HIGH )*  *{*  *if (****p\_Vid****->is\_depth==0)*  *{*  ***len****+=u\_1 ("SPS: depth\_view\_present\_flag",****p\_Vid****->p\_DualInp->ViewPresentFlag[****i****],****bitstream****);*  ***len****+=u\_1 ("SPS: texture\_view\_present\_flag",****p\_Inp****->ViewPresentFlag[****i****],****bitstream****);*  *}*  *else*  *{*  ***len****+=u\_1 ("SPS: depth\_view\_present\_flag",****p\_Inp****->ViewPresentFlag[****i****],****bitstream****);*  ***len****+=u\_1 ("SPS: texture\_view\_present\_flag",****p\_Vid****->p\_DualInp->ViewPresentFlag[****i****],****bitstream****);*  *}*  *}*  *}* |

*You can see that in the specification the syntax elements depth\_view\_present\_flag and texture\_view\_present\_flag are present unconditionally, while the reference software writes these flags only if profile\_idc is equal 138.*

*Which one I should trust?*

# Recommendations

The recommendations of the HEVC test model editing and errata reporting AHG are for JCT-VC to:

1. Encourage the use of the issue tracker to report issues with the text of both the HEVC specification and the encoder description.
2. Confirm resolutions of the bugs mentioned above and other open tickets (if any) in the issue tracker and close them.