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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**  23rd Meeting: San Diego, USA, 19–26 February 2016 | Document: JCTVC-W0007 |

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| *Title:* | **JCT-VC AHG report: SCC extensions text editing (AHG7))** | | |
| *Status:* | Input Document to JCT-VC | | |
| *Purpose:* | Report | | |
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| *Source:* | Ad Hoc Group | | |

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# Abstract

This document reports on the work of the JCT-VC ad hoc group on SCC extensions text editing (AHG7) between the 22nd JCT-VC meeting in Geneva, Switzerland (October 2015).and the 23nd JCT-VC meeting in San Diego, USA (February 2016).

# Introduction

At the 22nd meeting of the ITU-T/ISO/IEC Joint Collaborative Team on Video Coding (JCT-VC), AHG7 on SCC extensions text editing was established with the following mandates:

* Produce and finalize HEVC screen content coding extensions draft 5 and test model 6 text.
* Gather and address comments for refinement of the test model text.
* Coordinate with AHG8 to address issues relating to mismatches between software and text.

# Status

The fifth specification text draft (JCTVC-V1005) for the High Efficiency Video Coding Screen Content Coding (HEVC SCC) extensions was produced by the editing ad hoc group as an output document following the decisions taken at the 22nd JCT-VC meeting in Geneva, Switzerland (October 2015).

The text of JCTVC-V1005 was submitted to ISO/IEC JTC1/SC29 as an output document WG11 N15776 Study Text of ISO/IEC DIS 23008-2:201X 3rd Edition

The following is a list of changes with respect to JCTVC-U1005-v1:

* Added constraints on the range of palette escape samples to disallow nonsense values (JCTVC-V0041)
* Allowed zero size for palette initialization in PPS, so palette initialization can be explicitly disabled at the PPS level (JCTVC-V0042)
* Integrated restriction for maximum palette predictor size (JCTVC-V0043)
* Modified the formula for computing PaletteMaxRun including consideration of copy\_above\_indices\_for\_final\_run\_flag (JCTVC-V0065)
* Removed special treatments of IBC as different from inter (w.r.t. usage for predicting intra regions and TMVP disabling) (JCTVC-V0066)
* Moved the SPS level IBC mode check aspect to the PPS level; MV & referencing picture based memory bandwidth constraint rather than AMVR based; if the decoder detects the prohibited case, the decoding process will convert so that list 0 uniprediction is used (and the converted motion data is stored) (JCTVC-V0048)
* When the merge candidate references the current picture, round it to an integer value (JCTVC-V0049)
* When conversion to uniprediction is performed due to 8x8 biprediction, only do that conversion if TwoVersionsOfCurrDecPicFlag is equal to 1 (JCTVC-V0056)
* About sps\_max\_num\_reorder\_pics and sps\_max\_dec\_pic\_buffering\_minus1 when IBC is used (JCTVC-V0050)
* About sps\_max\_dec\_pic\_buffering\_minus1 when IBC is used (JCTVC-V0057)
* Editorial improvements in palette run coding (JCTVC-V0060)
* Decoding process for intra\_boundary\_filtering\_disabled\_flag (previously missing)
* (HEVC\_ERRATA): Added a constraint that the reference layer active SPS (specified by sps\_scaling\_list\_ref\_layer\_id or pps\_scaling\_list\_ref\_layer\_id) shall have scaling\_list\_enabled\_flag = 1 (JCTVC-V0011)
* Generalized Constant and Non-Constant Luminance Code Points (JCTVC-V0035)
* Clarification of colour description semantics (especially for transfer\_characteristics) (JCTVC-V0036)
* New High Throughput Profiles for HEVC (JCTVC-V0039)
* HEVC corrigendum: On parsing of bitstream partition nesting SEI message (JCTVC-V0062)
* Fixes to colour remapping information SEI message (JCTVC-V0064)
* New HEVC scalable format range extension profiles (JCTVC-V0098)
* (HEVC\_ERRATA): Replaced undefined variable "Log2MaxTrafoSize" with "MaxTbLog2SizeY" (Ticket #1363)

The screen content coding test model6 (SCM 6) **(**document JCTVC-V1014) was released on 10th February 2016. Its main changes were modification of the restriction on the use of 8×8 bi-prediction with IBC, conversion of 8×8 bi-prediction to uni-prediction when the restriction is in effect, removing special treatments of IBC as different from inter when using constrained intra prediction, rounding merge candidates to integers when they reference the current picture, and allowing zero size for palette predictor initialization in the PPS.

JCTVC-V0096 proposes editorial improvements to address the feedback and comments related to the SCC draft text 5. It also summarizes known open issues.

# Recommendations

The recommendations of the HEVC SCC extension draft text AHG are to:

* Approve the documents JCTVC-V1005 and JCTVC-V1014 as JCT-VC outputs
* Address the comments and feedback on SCC extensions text specification as appropriate
* Compare the HEVC SCC extensions document with the HEVC SCC extensions software and resolve any discrepancies that may exist, in collaboration with the SCC extension software development (AHG8)