**3GPP TSG-SA WG4 Meeting #132S4-250833**

**Japan, Fukuoka, 19 – 23 May 2025 *revision of S4-250476***

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| *CR-Form-v12.2* | | | | | | | | |
| **PSEUDO CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** |  | | | | | | | | | |
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| ***Source to WG:*** | Apple Inc. | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | At SA4#130, comments were open for the added Multiview Extended 10 profile and hence was decided to keep this added profile in square brackets. Given these have been resolved, the square brackets should be removed. | | | | | | | | |
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| ***Summary of change:*** | | Removed square brackets from Multiview Extended 10 profiles. | | | | | | | | |
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| ***Consequences if not approved:*** | | Multiview Extended 10 profile will not be supported. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.2.1, 5.2.2, 5.3.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* First Change \* \* \* \*

5.2.1 Codec & profile

This specification defines capabilities based on the following video codecs and video codec profiles:

- AVC/H.264 Progressive High Profile [h264],

- HEVC/H.265 Main Profile Main Tier [h265],

- HEVC/H.265 Main-10 Profile Main Tier [h265].

- HEVC/H.265 Multiview Main 10 Main Tier [h265].

- HEVC/H.265 Multiview Extended 10 Tier [h265].

5.2.2 Codec & profile & Levels

This specification defines capabilities based on the following video codec profile and levels:

- AVC/H.264 Progressive High Profile Level 3.1,

- AVC/H.264 Progressive High Profile Level 4.0,

- AVC/H.264 Progressive High Profile Level 4.2,

- AVC/H.264 Progressive High Profile Level 5.1,

- AVC/H.264 Progressive High Profile Level 6.1,

- HEVC/H.265 Main Profile Main Tier Level 3.1,

- HEVC/H.265 Main-10 Profile Main Tier Level 4.1,

- HEVC/H.265 Main-10 Profile Main Tier Level 5.1,

- HEVC/H.265 Main 10 Profile Main Tier, Level 5.2,

- HEVC/H.265 Main-10 Profile Main Tier Level 6.0,

- HEVC/H.265 Main-10 Profile Main Tier Level 6.1,

- HEVC/H.265 Multiview Main 10 Profile Main Tier Level 5.1,

- HEVC/H.265 Multiview Extended 10 Profile Main Tier Level 5.1.

\* \* \* Next Change \* \* \* \*

5.3.2 HEVC Decoding Capabilities

The following decoding capabilities are defined:

- **HEVC-HD-Dec**: the capability to decode bitstreams conforming to both, HEVC/ITU-T H.265 Main Profile, Main Tier, Level 3.1 [h265] bitstreams with *progressive* constraints as defined in clause 4.5.3.

- **HEVC-FullHD-Dec**: the capability to decode bitstreams conforming to HEVC/ITU-T H.265 Main 10 Profile, Main Tier, Level 4.1 [h265] bitstreams with *progressive* and *VUI* constraints as defined in clause 4.5.3.

- **HEVC-UHD-Dec**: the capability to decode bitstreams conforming to HEVC/ITU-T H.265 Main 10 Profile, Main Tier, Level 5.1 [h265] bitstreams with *progressive* and *VUI* constraints as defined in clause 4.5.3.

- **HEVC-8K-Dec**: the capability to decode bitstreams conforming to HEVC/ITU-T H.265 Main10 Profile, Main Tier, Level 6.1 [h265] bitstreams with *progressive* and *VUI* constraints as defined in clause 4.5.3 and further constraints:

- the bitstream does not exceed the maximum luma picture size in samples of 33,554,432,

- the maximum VCL Bit Rate is constrained to be 80 Mbps with CpbVclFactor and CpbNalFactor being fixed to be 1000 and 1100, respectively.

**MV-HEVC-Dual-layers-UHD420-Dec**: the capability to decode bitstreams with

* an HEVC/ITU-T H.265 Main 10 Profile base layer (layer\_id=0),
* and a single enhancement layer that is tagged:
  + either as an HEVC/ITU-T H.265 Multiview Main 10 layer
  + or as an HEVC/ITU-T H.265 Multiview Extended 10 layer

(layer\_id=1) [h265].

Each layer shall conform to Main Tier, Level 5.1.

NOTE: Both layers are in 4:2:0 format and inter-layer prediction is possible.

NOTE: For this decoding capability the Multiview Main 10 and Multiview Extended 10 profiles are functionally equivalent.

The device should be capable of supporting single layer decoding of HEVC/ITU-T H.265 Main 10 Profile bitstreams at Main Tier, Level 5.2. All layers shall follow the *progressive* and *VUI* constraints as defined in clause 4.5.3.

Editor’s Note: The removal of brackets for Extended 10 is subject to verification that we can playback such content on receivers. For this purpose, we recommend check using the VET-AM1008-v1 with direct http link to the test streams: <https://www.itu.int/wftp3/av-arch/jvet-site/bitstream_exchange/HEVCMultiview/under_test/>.

- **HEVC-Frame-Packed-Stereo-Dec**: the capability to decode bitstreams conforming to HEVC/ITU-T H.265 Main 10 Profile, Main Tier, Level 6.0 [h265] bitstreams with *frame-packing* and *VUI* *constraints* as defined in clause 4.5.3

NOTE: The increase from Level 5.2 for MV-HEVC-UHD-Dec to Level 6.0 in HEVC-Frame-Packed-Stereo-Dec is only to handle larger buffers per frame. There is no increase in the pixels/second between the two capabilities.

\* \* \* End of Changes \* \* \* \*