**3GPP TSG SA WG4 #111 *S4-201425***

**11th – 20th November 2020 revision of S4-201397**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **Pseudo CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **26.955** | **CR** | **<CR#>** | **rev** | **1** | **Current version:** | **0.3.1** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | pCR26.955: Overview on EVC | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Qualcomm Incorporated, Samsung | | | | | | | | | |
| ***Source to TSG:*** | SA4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | FS\_5GVideo | | | | |  | ***Date:*** | | | 2020-11-09 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The study item asks for information around MPEG defined new codecs. EVC is not yet added. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Addition of references  Addition of basic information around EVC | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | EVC information not provided as indicated in the study item description | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |
| ***56*** | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**===== CHANGE =====**

Add to references

[X] ISO/IEC 23094-1, "Information technology — General video coding — Part 1: Essential video coding"

[Y] ISO/IEC 23094-4, " Information technology — General video coding — Part 4: Conformance and Reference software for Essential Video Coding".

[W] ISO/IEC JTC 1/SC 29/WG 04 output document N0027, "Updated Verification Test Plan for Essential Video Coding for SDR Content", Online meeting, Oct. 2020.

[V] ISO/IEC JTC 1/SC 29/WG 04 output document N0030, "Report on Essential Video Coding compression performance verification testing for HDR/WCG content", Online meeting, Oct. 2020.

**===== CHANGE =====**

## 9.3 Essential Video Coding (EVC)

### 9.3.1 Overview

The development of the MPEG-5 Essential Video Coding (EVC) standard is completed and its specification has been published in October 2020 as ISO/IEC 23094-1 [X].

The main goal of the EVC standard is to provide significantly improved compression capability over existing video coding standards with timely publication of commercial terms. The EVC standard has been developed to provide a video codec for emerging delivery protocols and networks, such as 5G, enabling the delivery of high-quality video services to an ever-growing audience by providing improved coding performance.

The MPEG-5 EVC defines two important profiles, "Baseline" profile and "Main" profile. It was the design objective that the "Baseline" profile contains only technologies that are older than 20 years or otherwise freely available for use in the standard. The "Main" profile includes additional tools, each of which can be either cleanly disabled or switched to the corresponding baseline tool on an individual basis. Additionally, for still image coding, "Main Still Picture" and "Baseline Still Picture" profiles, which employ the same coding tools as in the corresponding video profiles, are defined.

MPEG is currently conducting verification tests [W] with formal subjective testing on SDR content to confirm that the EVC Main profile achieves significant rate reduction vs. HEVC and the EVC Baseline profile achieves significant rate reduction vs. AVC for equal subjective video quality. For HDR content, verification test results reported in [V] show that the EVC Main profile provides around 36% of bitrate reduction for HDR content at UHD resolution and 35% for HDR content at HD resolution. The preliminary testing result showed promising coding performance [W]. Application areas especially targeted for the use of EVC include ultra-high definition 4K and 8K video, video with a high dynamic range and wide colour gamut, and video for immersive media applications such as 360° omnidirectional video, as well as conventional standard-definition and high-definition video content.