**3GPP TSG SA WG4 Meeting #127 *S4-240043***

**Sophia Antipolis, FR, 29 January - 2nd February 2024**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **26.511** | **CR** | 0009 | **rev** | **-** | **Current version:** | **16.2.0** |  |
|  | | | | | | | | |
| *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 |  |

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| ***Title:*** | [5GMS3] Correction on IMSC 1.1. AVC and HEVC signaling | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, Hisilicon, Qualcomm, Tencent, Dolby | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GMS3 | | | | |  | ***Date:*** | | | January 3 2024 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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:*** | | Corrections on the Description of ISO BMFF signaling for IMSC1.1, AVC and HEVC | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Editorial change for HEVC and AVC tracks to use correct terminology. Im2t is not defined in 14496-30 rephrase and reference correct sections of 23000-19 for IMSC 1.1 tracks. | | | | | | | | |
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| ***Consequences if not approved:*** | | Incorrect text, inconsistent interpretation and implementation. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.1.3.1 AVC-HD sample entry referencing  4.2.1.3.2 AVC-FullHD sample entry referencing  4.2.1.3.3 AVC-UHD Sample entry referencing  4.2.2.3.1 HEVC-HD Sample entry referencing  4.2.2.3.2 HEVC-FullHD Sample entry referencing  4.5.1.2 ISO BMFF File Format  5.2.8.4 Subtitle media profiles | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  |  | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  |  | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  |  | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

# ===== CHANGE =====

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] ITU-T Recommendation H.264 (06/2019): "Advanced video coding for generic audiovisual services".

[3] ITU-T Recommendation H.265 (02/2018): "High efficiency video coding".

[4] 3GPP TS 26.117: "5G Media Streaming (5GMS); Speech and audio profiles".

[5] 3GPP TS 26.501: "5G Media Streaming (5GMS); General description and architecture".

[6] 3GPP TS 26.307: "Presentation Layer for 3GPP Services".

[7] ISO/IEC 23000-19: "Information Technology Multimedia Application Format (MPEG-A) – Part 19: Common Media Application Format (CMAF) for segmented media".

[8] ISO/IEC 23001-7: "MPEG systems technologies - Part 7: Common encryption in ISO base media file format files".

[9] CTA-5003: "Web Application Video Ecosystem (WAVE): Device Playback Capabilities Specification", available at <https://cdn.cta.tech/cta/media/media/resources/standards/pdfs/cta-5003-final.pdf>.

[10] 3GPP TS 26.512: " 5G Media Streaming (5GMS); Protocols".

[11] IETF RFC 6381: The 'Codecs' and 'Profiles' Parameters for "Bucket" Media Types.

[12] 3GPP TS 26.116: "Television (TV) over 3GPP Services; Video Profiles".

[13] 3GPP TS 26.118: "Virtual Reality (VR) profiles for streaming applications".

[14] ISO/IEC 14496-12: "Information technology - Coding of audio-visual objects -Part 12: ISO base media file format".

[15] ISO/IEC 14496-15: "Information technology - Coding of audio-visual objects - Part 15: Carriage of network abstraction layer (NAL) unit structured video in the ISO base media file format".

[16] W3C IMSC1.1: "TTML Profiles for Internet Media Subtitles and Captions 1.1", available at <http://www.w3.org/TR/ttml-imsc1.1>.

[17] ISO/IEC 14496-30: "Information technology - Coding of audio-visual objects - Part 30: Timed text and other visual overlays in ISO base media file format".

[18] W3C Media Capabilities: "Media Capabilities", available at <https://w3c.github.io/media-capabilities/>

[19] CTA-5000-B: " Web Application Video Ecosystem - Web Media API Snapshot 2019", available at <https://cdn.cta.tech/cta/media/media/resources/standards/pdfs/cta-5000-b-final_v2.pdf>.

[20] ISO/IEC 23009-1: "Information Technology - Dynamic Adaptive Streaming Over HTTP (DASH) - Part 1: Media Presentation Description and Segment Formats".

[21] 3GPP TS 26.247: "Transparent end-to-end Packet-switched Streaming Service (PSS); Progressive Download and Dynamic Adaptive Streaming over HTTP (3GP-DASH)".

[22] IETF RFC 8216: "HTTP Live Streaming".

[23] W3C TTML Media Type Definition and Profile Registry, available at https://www.w3.org/TR/ttml-profile-registry/

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##### 4.2.1.3.1 AVC-HD

4.2.1.3.1.1 ISO BMFF File Format

If AVC-HD media is provided in a bitstream that is decodable by a decoder capable of the **AVC-HD-Dec** decoding capabilities as defined in clause 4.2.1.1 and the media is encapsulated in an ISO BMFF Track [14], then the file format track shall conform with the requirements of the sample entry 'avc1' or 'avc3' as defined in ISO/IEC 14496-15 [15] and shall contain a sample entry with name 'avc1' or 'avc3'.

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##### 4.2.1.3.2 AVC-FullHD

4.2.1.3.2.1 ISO BMFF File Format

If AVC-FullHD media is provided in a bitstream that is decodable by a decoder capable of the **AVC-FullHD-Dec** decoding capabilities as defined in clause 4.2.1.1 and the media is encapsulated in an ISO BMFF Track [14], then the file format track shall conform with the requirements of the sample entry 'avc1' or 'avc3' as defined in ISO/IEC 14496-15 [15] and shall contain a sample entry with name 'avc1' or 'avc3'.

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##### 4.2.1.3.3 AVC-UHD

4.2.1.3.3.1 ISO BMFF File Format

If AVC-UHD media is provided in a bitstream that is decodable by a decoder capable of the **AVC-UHD-Dec** decoding capabilities as defined in clause 4.2.1.1 and the media is encapsulated in an ISO BMFF Track [14], then the file format track shall conform with the requirements of the sample entry 'avc1' or 'avc3' as defined in ISO/IEC 14496-15 [15] and shall contain a sample entry with name 'avc1' or 'avc3'.

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##### 4.2.2.3.1 HEVC-HD

4.2.2.3.1.1 ISO BMFF File Format

If HEVC-HD media is provided in a bitstream that is decodable by a decoder capable of the **HEVC-HD-Dec** decoding capabilities as defined in clause 4.2.1.1 and the media is encapsulated in an ISO BMFF Track [14], then the file format track shall conform with the requirements of the sample entryas defined in ISO/IEC 14496-15 [15] and shall contain a sample entry with name 'hvc1' or 'hev3'.

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##### 4.2.2.3.2 HEVC-FullHD

4.2.2.3.2.1 ISO BMFF File Format

If HEVC-FullHD media is provided in a bitstream that is decodable by a decoder capable of the **HEVC-FullHD-Dec** decoding capabilities as defined in clause 4.2.1.1 and the media is encapsulated in an ISO BMFF Track [14], then the file format track shall conform with the requirements of the sample entry 'hvc1' or 'hev1' as defined in ISO/IEC 14496-15 [15] and shall contain a sample entry with name 'hvc1' or 'hev3'.

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#### 4.5.1.2 ISO BMFF File Format

If an IMSC1.1 Text Track is provided in a bitstream that is decodable by a decoder capable of the IMSC1.1-TEXT-DEC decoding capabilities as defined in clause 4.5.1.1 and the media is encapsulated in an ISO BMFF Track [14], then the file format track shall conform with the requirements of the sample entry 'stpp'as defined in ISO/IEC 14496-30 [17].

The XMLSubtitleSampleEntry shall contain a MIMEBox as specified in ISO/IEC 14496-12 and its content\_type field shall be constrained as follows.

- The type shall be "application".

- The subtype shall be "ttml+xml".

The codecs parameter of the content\_type field of the MIMEbox within the XMLSubtitleSampleEntry box shall contain the value "im2t", which signals that an IMSC1.1 text processor is required, as specified in the W3C, TTML Media Type Definition and Profile Registry [23].

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#### 5.2.8.4 Subtitle media profiles

For IMSC1.1 Text Tracks:

- the <profiles> parameter is defined in ISO/IEC 23000-19 [7] as application/mp4

- the <codecs> parameter is defined in ISO/IEC 23000-19 [7] as 'stpp.ttml.im2t'.