3GPP TSG -??? Meeting #nn XX-yyxxxx

Location, Country, Date

**Source: 3GPP SA4**

**Title: EVS Codec Extension for Immersive Voice and Audio, Phase 2**

**Document for: Approval**

**Agenda Item: xxx**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title: EVS Codec Extension for Immersive Voice and Audio, Phase 2

{Free text. It has to be the same as in the "Title:" section above. Studies have to start by "Study on"}

Acronym: IVAS\_Codec\_Ph2

IVAS\_Codec\_Ph2

{Propose an acronym. Final acronym to be confirmed at the plenary. The sign "-" is a level separator between (Feature)-(Building Block)-(Work Task). The sign "\_" can be freely used. Studies have to start by "FS\_". Each acronym level has to be simple and short, 7 characters max recommended}

Unique identifier:

{A number to be provided by MCC at the plenary}

Potential target Release: Rel-19

{ Replace XX by the intended Release, e.g. Rel-19. Note that this field indicates the proposed Release at the time of submission of the WID to TSG approval. It can later be changed without a need to revise the WID. The updated target Release is indicated in the Work Plan}

# 1 Impacts

{For Normative work, identify the anticipated impacts. For a Study, identify the scope of the study}

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  | X |  | X |  |
| No | X |  | X |  |  |
| Don't know |  |  |  |  |  |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

{Tick one or more box(es). The full structure of all existing Work Items is shown in the 3GPP Work Plan in <https://ftp.3gpp.org/Information/WORK_PLAN>}

|  |  |
| --- | --- |
|  | Study  |
|  | Normative – Stage 1 |
|  | Normative – Stage 2 |
|  | Normative – Stage 3 |
|  | Normative – Other\* |

**\* Other = e.g. testing**

## 2.2 Parent Work Item

{"Parent" Work Item refers to the related, earlier-Stage, Work Item, e.g. the related Stage 1 Work Item shall be indicated here when a Stage 2 normative Work Item or Study Item is presented. "Parent" Work Item can also refer to the related preceding Study Item e.g. the related Study Item and the earlier-stage Work Item shall be indicated here when a normative-work Work Items is started. List here all parent Work Items of which requirements are either fully or partially covered by the proposed Item. }

{This section is mandatory to be filled out by the rapporteur. This section is to be filled with care: it indicates to the companies monitoring the parent Work Item that it will be addressed in this study/work item.}

For a brand-new topic, use “N/A” in the table below. Otherwise indicate the parent Work Item.

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| IVAS\_Codec | SA4 | 770024 | EVS Codec Extension for Immersive Voice and Audio Services |

### 2.3 Other related Work Items and dependencies

{List here other Work Items which relate to the proposed one, such as a Work Item in an earlier Release if further enhancing the feature from the previous Release)}

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
| 470030 | EVS\_Codec | Basis for the Codec |
| 830005 | ATIAS | ATIAS interfaces with IVAS on capture and on renderer sides  |
| 990025 | ISAR | Split Rendering operation is integrated into the IVAS codec |

**Dependency on non-3GPP (draft) specification:**

{This section is to be typically used to identify the IETF dependencies. Delete the header "Dependency on non-3GPP (draft) specification:" if no such dependency}

# 3 Justification

While the IVAS codec is completed in Rel-18, enabling services with immersive audio communication, several aspects and areas where the codec should be enhanced were identified.

In addition, the task of converting the floating-point code to the fixed-point code is still ongoing.

This conversion task is being handled by a 3rd party contracted by ETSI on behalf of SA4, and could not be completed by Rel-18 as initially expected. The expectation now is that this task will be completed in Rel-19 timeframe.

Furthermore, full characterization can only be accomplished once the fixed-point specification is available. Therefore initiating a Phase 2 development for IVAS\_Codec is necessary.

# 4 Objective

The overall objective of this work item is to enhance the set of IVAS specifications. The following objectives should be achieved with the work item:

* A fixed-point C-code that is expected to deliver the same functionalities and similar performances as the floating point C-code in TS 26.258.
	+ Verified interworking performances between floating point and fixed-point C-codes, i.e. fl-fl, fl-fx, fx-fl, fx-fx all should have comparable performances.
* Conduct the characterization tests on the fixed-point C-code and complement the TR 26.997.
* Enhancements to the code conformance test procedure and requirements
* Define relevant tiers to be implementable on a wide range of UEs and other end-user devices to address various needs in terms of balancing user experience and implementation complexity / cost. The tiers can be functionality levels with increasing complexity/memory requirements.
* Enhancements to the RTP payload formats and SDP negotiation
* Definition of the RTP Payload Format for the split rendering operation
* Integration of the enhancements into the relevant system specifications such as 26.114, 26.119, ...

# 5 Expected Output and Time scale

***{If this WID covers both stage 2 and stage 3, clearly indicate the different completion dates.}***

|  |
| --- |
| New specifications {One line per specification. Create/delete lines as needed} |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
| TS | 26.251 | Codec for Immersive Voice and Audio Services - ANSI C code (fixed-point) | SA#107 (March 2025) | SA#108 (June 2025) |  |

{Note 1: Only TSs may contain normative provisions. Study Items shall create or impact only TRs.
"Internal TR" is intended for 3GPP internal use only whereas "External TR" may be transposed by OPs.}

{Note 2: The first listed Rapporteur is the specification primary Rapporteur. Secondary Rapporteur(s) are possible for particular aspect(s) of the TS/TR. In this case, their responsibility has to be provided as "Remarks".}

|  |
| --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| 26.114 | Additional support for the IVAS Codec | SA#108 (June 2025) |  |
| 26.119 | Additional support for the IVAS Codec | SA#108 (June 2025) |  |
| 26.249 | Moving out ISAR Fixed-Point Code to 26.251 | SA#108 (June 2025) |  |
| 26.250 | Definition of relevant tiers for implementation | SA#108 (June 2025) |  |
| 26.253 | Enhancements to the RTP Payload Format | SA#108 (June 2025) |  |
| 26.997 | Performance characterization of the IVAS Codec in fixed-point | SA#108 (June 2025) |  |

# 6 Work item Rapporteur(s)

Su, Huan-yu, Huawei Technologies Co Ltd., su.huanyu@huawei.com

# 7 Work item leadership

SA4

# 8 Aspects that involve other WGs

None

# 9 Supporting Individual Members

{At least 4 supporting Individual Members are needed. There is an expectation that these companies will provide resources to progress the work. Note that having 4 supporting companies is a necessary but not sufficient condition: the usual TSG approval process by consensus is needed for the WID approval}

|  |
| --- |
| Supporting IM name |
| Ericsson LM |
| Qualcomm Incorporated |
| Huawei Technologies Co Ltd |
| LG Electronics Inc. |
| Dolby Laboratories Inc. |
| Nokia Corporation |
| Fraunhofer IIS |
| VoiceAge Corporation |
| Orange |
| Samsung Electronics Co., Ltd |
| ZTE Corporation |
| Philips International B.V. |
| Xiaomi |
| Panasonic |
| NTT |