**Source: ATIAS Co-Rapporteurs (Orange, Dolby Laboratories, Inc.)**

**Title: Time plan for ATIAS, v0.11**

## Document for: Agreement

## Agenda Item: 14.1

## Introduction

This document presents the time plan for the Terminal Audio quality performance and Test methods for Immersive Audio Services (ATIAS) work item in 3GPP SA4. This document will be updated as necessary.

The update provided in the present document reflects the project plan of the IVAS work item [1] and the necessity to have the ATIAS work in close alignment with the IVAS work item.

## Schedule of ATIAS work

The tentative schedule for the ATIAS work is outlined in the table below.

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| **Month** | **Meeting / date** | **Activity** |
| Mar-2019 | SA#83 (28 Jan – 1 Feb 2019) | **Launch of ATIAS work.** |
| Apr-2019 | SA4#103 (8 – 12 Apr 2019) | Draft skeleton for TS 26.261 v0.0.1 in S4-190426  TS 26.261 v0.0.1 in S4-190543 agreed |
| Jul-2019 | SA4#104 (1 – 5 Jul 2019) | No Tdoc |
| Aug-2019 | SA4#105 (12 – 16 Aug 2019) | Discussion of immersive audio quality evaluations with head-tracking in S4-19053 |
| Sep-2019 | SQ adhoc conf. call on ATIAS (19 September 2019, 15:00-17:00 CEST) | Discussion of ATIAS content in S4-AHQ144 |
| Oct-2019 | SA4#106 (21 – 25 Oct 2019) | Report from SA adhoc conf. call on ATIAS (19th September 2019) in S4-19085  Discussion of ATIAS contents in S4-191116 and test interfaces in S4-191229  pCR to 26.261 (S4-191303)  dCR to 26.260 (S4-191304) |
| Jan-2020 | SA4#107 (20-24 January 2020) | Discussion of proposal for end-to-end tests (S4-200112) and testing interfaces (S4-200125). |
| Apr-2020 | SA4#108-e (2-9 April 2020) | No Tdoc |
| May/June-2020 | SA4#109-e (20 May-3 June 2020) | No Tdoc |
| Aug-2020 | SA4#110-e (19-28 August 2020) | Discussion of test scenarios in S4-201115 |
| Oct-2020 | SQ adhoc conf. call on ATIAS, HaNTE, HInT (19 Oct. 2020, 16:00-17:30 CET)  Submission deadline: 16 Oct. 2020, 23:59 CET  Host: HEAD acoustics | Discussion of draft CR to TS 26.260 on Immersive Speech Communication Systems (S4aQ200155) |
| Nov-2020 | SA4#111-e (12-20 November 2020) | Discussion of updated draft CR to TS 26.260 on Immersive Speech Communication Systems (S4-201309, S4-201612) |
| Jan-2021 | Telco (Jan. 18th, 16:00-17:30 CET; Submission Deadline: Jan. 15th 23:59 CET; Host: Qualcomm Incorporated) | No Tdoc |
| Feb-2021 | SA4#112e | Discussion of evaluation for simplified communication systems for ATIAS (S4-210137) |
| Mar-2021 | Telco (March 15th, 16:00-17:00 CET; Submission Deadline: March 12th 23:59 CET; Host: HEAD acoustics GmbH) | Discussion of next measurements for ATIAS (S4aQ200164) |
| Apr-2021 | SA4#113e | Discussion of objective test results with a conferencing scenario and headphone playback (S4-210531) |
| May-2021 | SA4#114e | Discussion of motion to sound latency measurement (S4-210829) |
| Aug-2021 | SA4#115e | No Tdoc |
| Nov-2021 | SA4#116e | No Tdoc |
| Jan-2022 | SA4#117-e | No Tdoc |
| Apr-2022 | SA4#118-e | Discussion of proposed test method for FOA capture (S4-220482) |
| May-2022 | SA4#119-e | Discussion of objectives and specification structuring (S4-220725) and acoustic sending performance for FOA (S4-220729)No Tdoc |
| Aug-2022 | SA4#120-e | No Tdoc |
| Oct-2022 | Telco (21 October 2022 14:00-17:00 CEST, submission deadline is 20 October 2022, 14:00 CEST, Host: Dolby) | Review of existing test methods for ambisonics in the send direction and proposal of new methods (S4aA220018) |
| Nov-2022 | SA4#121 | Proposal of wind noise testing (S4-221353). LS sent to ETSI STQ on wind noise generator (S4-221516).  Discussion of FOA audio tests (S4-221412). Review of TS 26.260 (S4-221447, S4-221422). Proposal of additional metrics (S4-221449).  CR to TS 26.260 with clarifications of send performance with periphonic array (S4-221426->S4-221518).  Creation of P-doc on ATIAS to collect proposals (S4-221517). |
| ~~Dec-2023~~ | ~~Telco (12 Dec. 2022 16:00-18:00 CET, submission deadline is 9 Dec. 2022, 16:00 CET, Host: Dolby)~~ |  |
| Jan-2023 | Telco (16 Jan. 2023 16:00-18:00 CET, submission deadline is 13 Jan. 2023, 16:00 CET, Host: Dolby) | Discussion of test methods for FOA/MASA audio test (S4aA230006, S4aA230012). |
| Feb-2023 | SA4#122 | Review of inputs (S4-230035, S4-230036, S4-230189, S4-230231, S4-230232, S4-23059) on wind noise generation, stereo capture, FOA/MASA capture  Update of Pdoc (S4-230302) |
| Mar-2023 | Telco (24 March 2023 16:00-18:00 CET, submission deadline is 23 March 2023, 16:00 CET, Host: Dolby) | Discussion on level calculation in S4aA230038. Review of ATIAS Pdoc in S4aA230039 and revision in S4aA230043.. |
| Apr-2023 | SA4#123e | Proposed updates on test methods covering DoA, spatial separation and level calculations were agreed and incorporated in the updated ATIAS-1 Pdoc (S4-230645). |
| May-2023 | SA4#124 | Review of Pdoc updates on stereo testing, DoA, lowest frequency for MASA test signals and general comments on the current ATIAS Pdoc. Update of the ATIAS-1 Pdoc merging all proposed updates in S4-231065. |
| Aug-2023 | SA4#125 | Review of new receiver tests and updated sender tests . Discussion of stereo/binaural performance. Update of ATIAS Pdoc in S4-231418. |
| Oct-2023 | Telco (Telco: 23 October 2023, 16:00 – 18:00 CEST, submission deadline: 20 October 2023, 16:00 CEST, host: HEAD acoustics) | Comments on the ATIAS Pdoc v0.5.0, proposals on receive loudness and frequency sensitivity characteristics, and a discussion on performance of stereo and binaural audio were reviewed and noted (S4aA230107, S4aA230108, S4aA230110). Proposals in S4aA230112 on receive tests for SBA and MASA were agreed to be included in the ATIAS Pdoc. |
| Nov-2023 | SA4#126 | Discussion of UE type definition, structure of TS 26.260, updates to stereo tests, loudness tests and status of ATIAS Pdoc (S4-231701, S4-231718, S4-231751, S4-231869, S4-231840, S4-231879, S4-231855). Update of ATIAS Pdoc (S4-231970) |
| Jan-2024 | Telco (Telco: 12 Jan. 2024, 16:00 – 18:00 CET, submission deadline: 11 January 2024, 16:00 CET, host: HEAD acoustics) | Review of S4aA230133 on intermediate results for virtual microphone test. |
| Feb-2024 | SA4#127 | Review of input documents on stereo capture (S4-240050-> S4-240316), MASA sending freq. resp. (S4-240274), virtual mic testing (S4-240277), update of 26.260 (S4-240226).  Agreement on ATIAS-1 Pdoc (S4-240409). Drafting of CR to 26.260 (S4-240406).  Agreement on exception sheet (S4-240461). |
| Mar-2024 | Telco: March 4, 16:00-18:00 CET (host: HEAD acoustics, deadline: March 1, 16:00 CET) | Agreement on stereo capture (S4aA240010). Discussion on updates to TS 26.260 (S4aA240012).26.260) |
| Mar-2024 | SA#103 (Mar. 2024) | **TSG-SA approval of**  **• Exception sheet for ATIAS** |
| April-2024 | SA4#127bis-e (8-12 April) | Review of inputs on maturity/completion (S4-240534), updates to ATIAS Pdoc (S4-240540), setups for send test (S4-240541), binaural requirements (S4-240542), receiving tests (S4-240679), send directional frequency for MASA (S4-240680), speaker array (S4-240699).  Agreement on ATIAS-1 Pdoc (S4-240760). |
| May-2024 | SA4#128 (20-24 May) | Discussion on test method on TS 26.260 (S4-241042), IVAS bitrates (S4-2401043), Pdoc updates (S4-241102).  Agreement on CR 26.260 (S4-2401244).  Agreement on TS 26.260 v0.1.0 (S4-2401235) and related cover page (S4-241235). |
| June-2024 | Telco (with special powers): June 7, 16:00-19:00 CEST, Host: HEAD acoustics GmbH, deadline: June 6, 16:00 CEST | **Agreement to send:**  **• TS 26.261 on performance requirements**  **• CR to TS 26.260 on test methods**  LS to ITU-T related to P.340 (if hands-free setups are defined) |
| June-2024 | SA#104 (Jun. 2024) | **TSG-SA approval of**  **• TS 26.261 on performance requirements**  **• CR to TS 26.260 on test methods** |

# **Revision history**

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| --- | --- | --- | --- |
| **Date** | **Meeting** | **Subject/Comment** | **Version** |
| 2019-04-02 | SA4#103 | Draft initial version | 0.1 |
| 2019-20-23 | SA4#106 | Added details (S4-191305) | 0.2 |
| 2020-11-22 | SA4#111-e | Alignments with IVAS\_Codec project plan | 0.3 |
| 2020-02-08 | SA4#112-e | Added telco | 0.4 |
| 2022-04-13 | SA4#118-e | Alignments with IVAS\_Codec project plan | 0.5 |
| 2022-11-17 | SA4#121 | Added telco | 0.6 |
| 2023-02-23 | SA4#122 | Added telco | 0.7 |
| 2023-08-23 | SA4#125 | Alignments with IVAS\_Codec project plan; added telco | 0.8 |
| 2023-11-16 | SA4#126 | Added telco | 0.9 |
| 2024-02-01 | SA4#127 | Added exception sheet and telco | 0.10 |
| 2024-05-24 | SA4#128 | Added telco | 0.11 |

# **References**

[1] S4-240369: ” IVAS Permanent document IVAS-2: IVAS Project Plan, v.0.8.0”. IVAS Co-Rapporteur