**Source: Rapporteur**[[1]](#footnote-1)

**Title: ISAR Pdoc on Testing Aspects** **for Phase/Track 2/a, v0.1.0**

**Agenda Item: 14.10**

**1. Introduction**

This Permanent Document describes test plan aspects for the selection testing of IVAS specific ISAR solutions targeted in Phase/Track 2/a of the ISAR work [1]. It covers the organization of the selection tests and the relevant processing and test plan aspects.

## 2 Organization of tests

Working assumption: The selection tests of the IVAS specific ISAR solution will be organized as in-house tests. This is based on the following confirmed prerequisites:

* Number of listening experiments suitable for in-house testing: 4 (confirmed)
* Applicable test methodology: BS.1534 (confirmed)
* Number of candidate solutions suitable for in-house testing: 2 (confirmed)

Availability of suitable cross-checkers with no stake in candidate solution under test (confirmed)

# 3 Processing and test plan aspects

## 3.1 Key Elements

The following bullets constitute key elements of a of the processing and a test plan for IVAS specific split renderer solutions.

* Test methodology
  + BS.1534 (Mushra)
* Difference scenario between assumed and actual end-device poses
  + Static within range [+-20 degrees]
  + Dynamic within range [+-20 degrees]
    - Sinusoidal [0.25 Hz]
    - Triangular [0.5 Hz]
    - Real, i.e., derived from real head tracker trajectories with
* DOF
  + 1-DOF (yaw)
  + 2-DOF (yaw, pitch)
  + 3-DOF (yaw, pitch, roll)
* Rendering simulation
  + Trajectory nullification [2]
  + Unguided end-device pose
* Audio material
  + Categories
    - Clean and noisy speech, music, critical audio items
  + Number of items per experiment
    - [12]
  + Item selection and allocation to experiments
    - Done by Audio SWG
* Test item generation:
  + Selected audio items
  + Processed simulating combo of
    - Difference scenarios (Static, dynamic sinusoidal, dynamic triangular)
    - DOF cases (1-3 DOF)
    - Rendering simulations (trajectory nullification/unguided)
* Requirement on cross-checker
  + Demonstrably not technology contributor of system under test that is exposed by the experiment
* Experiments
  + 4+4 experiments in-house by proponent repeated by cross-checker
    - Experiment 1: Testing against performance requirement for HOA3
      * Hidden reference: Native coding system (IVAS@512kbps rendered to post renderer pose)
      * LP7 anchor: Hidden reference, 7Khz LP filtered
      * 0-DOF native transcoding reference (IVAS@512kbps binaurally rendered to pre-renderer pose, IVAS stereo coded@256kbps)
      * System 1 under test
      * System 2 under test
    - Experiment 2: Testing against performance requirement for MASA
      * Hidden reference: Native coding system (IVAS@512kbps rendered to post renderer pose)
      * LP7 anchor: Hidden reference, 7Khz LP filtered
      * 0-DOF native transcoding reference (IVAS@512kbps binaurally rendered to pre-renderer pose, IVAS stereo coded@256kbps)
      * System 1 under test
      * System 2 under test
    - Experiment 3: Testing against performance requirement for MC 7.1.4
      * Hidden reference: Native coding system (IVAS@512kbps rendered to post renderer pose)
      * LP7 anchor: Hidden reference, 7Khz LP filtered
      * 0-DOF native transcoding reference (IVAS@512kbps binaurally rendered to pre-renderer pose, IVAS stereo coded@256kbps)
      * System 1 under test
      * System 2 under test
    - Experiment 4: Testing against performance requirement for ISM-4
      * Hidden reference: Native coding system (IVAS@512kbps rendered to post renderer pose)
      * LP7 anchor: Hidden reference, 7Khz LP filtered
      * 0-DOF native transcoding reference (IVAS@512kbps binaurally rendered to pre-renderer pose, IVAS stereo coded@256kbps)
      * System 1 under test
      * System 2 under test
* Systems under test
  + System 1:
    - Proponent: Dolby Sweden AB, Ericsson LM, Fraunhofer IIS, Nokia Corporation, NTT, Orange, Panasonic Holdings Corporation, Philips International B.V., Qualcomm Incorporated, VoiceAge Corporation
    - Main contributors to system under test that is exposed by the experiment: [Dolby, Fraunhofer IIS]
  + System 2:
    - Proponent: Huawei
    - Main contributors to system under test that is exposed by the experiment: [Huawei]
* Lab assignment
  + In-house labs
    - Experiment 1: [tba]
    - Experiment 2: [tba]
    - Experiment 3: [tba]
    - Experiment 4: [tba]
  + Cross-check labs
    - Experiment 1: [tba]
    - Experiment 2: [tba]
    - Experiment 3: [tba]
    - Experiment 4: [tba]

# References

[1] Tdoc S4-240403: Work Plan for the ISAR v0.5.0

[2] Tdoc S4-240254: Trajectory Nullification for Binaural Renderer Evaluation, Fraunhofer IIS

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