Age Assurance Technology Trial

Document Sensitivity: Public, Basic, High

Age Verification Test Report: Share Ring

Introduction

This report summarizes the results of the independent evaluation of the Age Assurance Software Solution (referred to as the Target of Evaluation, or ToE), performed as part of the Age Assurance Technology Trial. The evaluation focused on the core properties required by ISO 27566-1: functionality, performance, privacy, security and acceptability.

The objective of this test was to assess the readiness and effectiveness of the solution in real-world conditions, to inform regulatory, industry and public stakeholders.

Disclaimer

The inclusion of this test report in the suite of Age Assurance Technology Trial (AATT) documents does not constitute endorsement, certification or approval of any product, service or provider. The findings are based on self-declared information, interviews and test results submitted by participating organisations, and while evaluated under structured criteria, not all claims have been independently verified in full by the Trial team.

This report reflects the status of the technology at the time of testing and within the scope of the Trial. No guarantee is given as to the completeness, accuracy or continued applicability of the findings. The Trial was a technical evaluation only and did not assess legal or regulatory compliance. Inclusion of a test report does not imply market readiness or regulatory acceptance. Any person considering the use of the technology described in this test report should ask the provider for up-to-date evidence of independent conformity assessment of their products or services and should not rely on this test report.

The AATT, Age Check Certification Scheme, nor any of the AATT contractors do not accept any liability for any statements or assessments relied upon in this test report.

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Amendment register

VERSION	VERSION DATE	AMENDMENT DESCRIPTION
0.9	30 June 2025	Initial draft
1.0	4 July 2025	Approved for release
1.1	8 July, 2025	Minor update to references
1.2	21 July 2025	Minor update to test schedule

Approvals:
This document has been approved for release by:
Mark Pedersen

References

Document	Location (URL address or Other)
ALM Octane – Test Cases	Test Case Execution Dashboard

Glossary

Term	Meaning
ToE	Target of Evaluation

Target of Evaluation

Product Name and Provider

- **Product Name**: N/A
- **Provider Name**: Share Ring
- **Version Number/Description**: Current version at time of testing

Provider's Practice Statement

Purpose and Overview

- To verify whether a user is over an age threshold (e.g., 18+) using government-issued IDs and cryptographic proofs of age, with a privacy-preserving design.

Methods of Age Verification

- Document Verification:
    - User uploads a government-issued ID (passport, driver's licence, etc.).
    - OCR extracts date of birth.
    - Checks authenticity (e.g., expiry date, tampering, template match).
- Selfie Verification & Liveness:
    - Real-time selfie captured and compared to the ID photo.
    - Passive liveness detection prevents spoofing or replay attacks.
- Zero Knowledge Proof (ZKP) Age Confirmation:
    - After verification, a cryptographic proof is generated that asserts only whether the user is over the configured threshold, without sharing the date of birth or personal details.
    - This proof can be presented to relying parties via QR code or digital credential.
- Threshold Logic:
    - The system can be configured to output only binary pass/fail confirmation for specific age thresholds.

Privacy & Data Protection

- Data Minimization: Only the minimal data necessary for age confirmation is processed.
- ZKP Implementation: Prevents overexposure of personal data—relying parties see only the binary result.
- Retention:
  - By default, no long-term storage of IDs or selfies after verification is completed.
  - Retention is configurable by clients if they have lawful basis.
- Encryption in transit and at rest.
- GDPR and Australian Privacy Act compliant.
- Data subject rights supported (access, correction, deletion).

Security & Certification

- ISO 27001 certified controls and information security management.
- SOC 2 controls applied.
- Continuous penetration testing and vulnerability assessments.
- Cryptographic security for the ZKP proofs.

Accessibility & Ease of Use

- Mobile-first experience but desktop supported.
- User flow: capture ID photo + selfie, receive proof.
- Simple step-by-step guides with visual cues.
- Multilingual support available.
- Designed to be intuitive for users with limited digital skills.

Human Rights & Inclusion

- No requirement for a bank account or other secondary data sources.
- ZKP approach reduces privacy risk for vulnerable users.

- Consent is explicitly requested at each step.
- Inclusive design principles used in UI.

Technology Readiness Assessment (TRL)

TRL	Definition
TRL 1	**Basic Research**: Initial scientific research has been conducted. Principles are qualitatively postulated and observed. Focus is on new discovery rather than applications.
TRL 2	**Applied Research**: Initial practical applications are identified. Potential of material or process to solve a problem, satisfy a need or find application is confirmed.
TRL 3	**Critical Function or Proof of Concept Established**: Applied research advances and early-stage development begins. Studies and laboratory measurements validate an
TRL 4	**Lab Testing/Validation of Alpha Prototype Component/Process**: Design, development and lab testing of components/processes. Results provide evidence that performance targets may be attainable based on projected or modelled systems.
TRL 5	**Laboratory Testing of Integrated/Semi-Integrated System**: System Component and/or process validation is achieved in a relevant environment.
TRL 6	**Prototype System Verified**: System/process prototype demonstration in an operational environment (beta prototype system level).
TRL 7	**Integrated Pilot System Demonstrated**: System/process prototype demonstration in an operational environment (integrated pilot system level).
TRL 8	**System Incorporated in Commercial Design**: Actual system/process completed and qualified through test and demonstration (pre-commercial demonstration).
TRL 9	**System Proven and Ready for Full Commercial Deployment**: Actual system proven through successful operations in operating environment and ready for full commercial deployment.

The vendor rates the ToE to be at TRL 9.

Testing Scope and Approach

The evaluation process followed principles defined in ISO/IEC 29119-2:2023, utilising two test levels to structure the test activities required:

- System testing
- Acceptance testing

System testing comprised the following activities:

Manual functional testing was used to test:

- the **interoperability** aspects of the ToE by a combination of manual tests, such as to confirm that a given technology works on various device platforms
- **the robustness** of the system with respect to variations in input quality and presentation attack detection features based on ISO/IEC 30107
- **privacy aspects** of the system in terms of revealing unnecessary Personally Identifiable Information in results.

Manual functional testing was conducted in a laboratory setting. The test environment provided direct integration with the ToE, simulating the use of the system in a typical age assurance setting (e.g. a public-facing web application).

All lab testing executed through framework portal on multiple devices and browsers. Testing performed through the purpose built testing framework and connected to the specified vendor endpoint.

Static reviews were used on evaluation of features relating to privacy, data security, compliance with human rights requirements and technology readiness assessment. Dynamic testing of these features for each participating technology was beyond the scope of the current trial; however dynamic testing of these features is recommended for any technology being deployed.

Static reviews comprised a review of the provider's practice statement and interviews with the provider to clarify any additional details.

Acceptance testing comprised the following activities:

Field trials in schools:

As part of the School Testing initiative, participating students received a structured and age-appropriate briefing outlining the objectives of the Age Assurance Technology Trial. This introductory session explained the role of age estimation technologies in enhancing online safety and supporting regulatory compliance within digital environments.

Students were shown how to access the designated test platform via the KJR website. Participants provided the required demographic details needed for analysing the results and were instructed on how to access the assigned age assurance service provider service. Students then were left to complete their assigned age assurance tasks independently.

Accuracy metrics were calculated for across all three age gates by aggregating the true and false classification results. These metrics were used to quantify the system's overall performance, including true positive and true negative rates.

Test Schedule

The testing reported in this document occurred during the period 26/03/2025 to 11/05/2025.

Evaluation Results

System Testing: Manual Functional Testing

The Age Verification scenarios are listed in the table below:

Test Scenarios	Results
System correctly verifies user	Pass
Consent Provided but T&C not Accepted	Pass
Device Camera Permissions Denied	Pass
User Attempts to Use Photo to Verify Rather Than Real Time Capture	Pass
User Signs into Share Ring Me App through Trial Website	Pass
AATT System Successfully Registers Share Ring Verification When it is NOT Focused on User's Screen	Pass

Table 1: Aggregated Manual Functional Test Results

Acceptance Tests: Schools

Table 3 below shows the performance of the system for each age gate, including:

- the actual subject age and the number of subject (samples) for that age
- the false positive rate: the percentage of subjects who passed the gate incorrectly
- the false negative rate: the percentage of subjects who were blocked incorrectly
- the true positive rate: the percentage of subjects who correctly passed the gate
- the true negative rate: the percentage of subjects who were correctly blocked
- the mean absolute error: for systems that provide an age estimate, the average difference (both higher and lower) between the subjects' actual age and estimated age in years
- the absolute error standard deviation: the margin of error in years

Note: In general age estimation systems perform better when the subject's age is further away from the actual age gate being assessed. Accuracy will tend to decline as the subject's actual age approaches the gate being assessed. Where the number of samples for a given age is less than 30, the performance cannot be said to be statistically significant. Entries with less than 30 samples have been included for completeness but should not be taken as definitive indicators of performance for that age.

Where the system has high accuracy (greater than 80%), entries have been highlighted in green. Where the system has low accuracy (less than 50%) and a false positive rate less than 20%, these entries have been highlighted in amber as this performance indicates a significant number of subjects have been blocked incorrectly, but a low number of subjects passed the gate incorrectly.

Where the system has low accuracy (less than 50%) or a false positive rate greater than 20%, these entries have been highlighted in red, as this performance indicates a significant number of subjects have passed the gate incorrectly.

Results:

Age gate 16

Subject age	Samples	FPR	FNR	TPR	TNR	Accuracy
12	9	0.00%	N/A	N/A	100.00%	100.00%
13	5	0.00%	N/A	N/A	100.00%	100.00%
14	5	0.00%	N/A	N/A	100.00%	100.00%

Table 2: Aggregated School Field Trial Results

In assessing accuracy, we observe that system performed perfectly for the Age 16 gate. The number of samples for each age tested is low. No sample data for ages above the age gate was available, so it is not possible to evaluate the system's performance in terms of false negatives. Overall, in schools testing, the performance of the ToE demonstrates the feasibility of the verification process, even if the limited data means that the testing is not comprehensive.

Response Time

Figure 1: Task Completion Times

The median task completion time was slightly higher than the typical performance for age verification systems (1-2 mins). There were 3 subjects who took > 10 mins to complete the task. These have been identified as outliers using the interquartile range method and excluded.

Evaluator Observations

- Manual lab testing confirmed robust operation across varied scenarios (e.g., device permission denials, attempts to use photos instead of live capture). All test cases passed.
- School testing showed 100% accuracy at the Age 16 gate, with no false positives in the available data. However, the sample sizes were very small, and no test cases for users over the threshold were included, so false negative performance could not be assessed.
- The platform emphasizes privacy by design, storing credentials locally under user control and only sharing minimal age attestations. Data is encrypted end-to-end and anchored to blockchain for tamper-proof validation. No AI/ML bias exists, as age verification relies solely on verified credentials issued by trusted parties.
- Performance in terms of response time appears to be higher than expected.
- The evaluation determined the ToE to be at TRL 8, indicating a lower readiness level than the vendor's self-declared TRL 9.

Vendor Comments on Evaluation Results

TBC