



19 September 2024

To whom it may concern,

iBeta Quality Assurance conducted Presentation Attack Detection (PAD) testing in accordance with ISO/IEC 30107-3. iBeta is accredited by NIST/NVLAP (NVLAP Testing Lab Code: 200962) to test and provide results to this PAD standard ([certificate and scope](#) may be downloaded from the NVLAP website).

This testing was conducted with WINNING.I's AeroxSignLoc v1.64 contactless fingerprint application, installed on a Samsung Galaxy S24 Ultra running Android 14. iBeta conducted passive liveness detection testing on the biometric solution from 29 August to 19 September 2024.

Testing was conducted in accordance with the contract for a level of spoofing technique that only utilized simple, readily available methods to create artefacts of the genuine biometric for use in the presentation attack. The subjects for the test effort were cooperative – meaning that they were willing and able to provide any and all biometric samples, including high-quality fingerprint images and molds. The test time for each PAD test per PAI was limited to eight hours. This is considered a Level 1 PAD test effort (first of three levels).

The test method involved enrolling six subjects and having them authenticate five times successfully. Six species of presentation attacks (PAs) were then attempted ten times each per subject. A successful match resulted in the response "Success," and a failure message stated, "Failure." A total of 360 presentation attacks were attempted. At the conclusion of the PAD testing, the subject returned and authenticated five times successfully to verify that the application was still able to recognize the genuine subject.

iBeta was not able to gain unauthorized access with the PAs, yielding an overall Presentation Attack (PA) success rate of 0%, which then equates to the Imposter Attack Presentation Accept Rate (IAPAR) of 0% with the AeroxSignLoc v1.64 application. The bona fide False Non-Match Rate (FNMR) was also calculated and may be found in the final report.

The AeroxSignLoc v1.64 application provided by WINNING.I was installed on a Samsung Galaxy S24 Ultra running Android 14 and tested as a contactless biometric fingerprint recognition system to the ISO 30107-3 Biometric Presentation Attack Detection Standard and was found to be in compliance with Level 1.

Best regards,

A handwritten signature in black ink, appearing to read "Ryan Borgstrom".

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