



10 October 2023

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 the Integrated Biometrics Columbo 2.0.0 device, its COLUMBO_v1.2.0 firmware, and associated application PAD Validation Program v1.7.0 Config A installed on a Windows 11 desktop PC. The PAD classifier system consisted of both software (AI image processing) and hardware (LES). Testing of the passive fingerprint verification solution was conducted from 2 October to 10 October 2023.

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 cooperative 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 subjects and having them authenticate five times successfully. Six species of presentation attacks (PAs) were then attempted ten times each. A successful match would state "Hi, [subject ID]", or a failure message such as "Detected Spoof." A total of 360 presentation attacks were attempted on the Columbo 2.0.0 device and its PAD Validation Program v1.7.0 Config A software. At the conclusion of the PAD testing, the subject returned and authenticated five times successfully to verify that the capture device and 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 overall combined Imposter Attack Presentation Accept Rate (IAPAR) of 0% on the Columbo 2.0.0 device and its associated software. The bona fide False Non-Match Rate (FNMR) was also calculated and may be found in the final report.

The Integrated Biometrics Columbo 2.0.0 device, used with COLUMBO_v1.2.0 firmware and PAD Validation Program v1.7.0 Config A application, was tested by iBeta as a biometric fingerprint 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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