



21 December 2022

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 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 Chakshu.AI's SpoofSense v1.1.0 and its associated cloud component, on a OnePlus Nord2 5G running Android 11. Testing of the passive liveness detection solution was conducted from 14 December to 21 December 2022.

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 photos and videos of their likeness. The test time for each PAD test per Presentation Attack Instrument (PAI) was limited to eight hours. This is considered a Level 1 PAD test effort (first of three levels).

The test method was to apply 1 bona fide subject presentation that alternated with 3 artefact presentations such that each species consisted of 150 Presentation Attacks (PAs) and 50 bona fide presentations. The results were displayed for the tester on the device as "Liveness Confirmed" for a successful attempt or "Please try again" for an unsuccessful attempt.

On the OnePlus Nord2 5G, iBeta was not able to gain a liveness classification with the presentation attacks (PAs). With over 150 PAs for each of 6 species, the total number of attacks was 900, and the Attack Presentation Classification Error Rate (APCER) was 0%. The Bona Fide Presentation Classification Error Rate (BPCER) was also calculated and may be found in the final report.

Chakshu.AI's SpoofSense v1.1.0 application and its associated cloud component, on a OnePlus Nord2 5G, was tested by iBeta 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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