



28 March 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 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 SenseTime International PTE LTD's Liveness application v3.3.1, with the associated backend cloud component, kliveness v1015. Testing of the active liveness solution was conducted from 7 March to 28 March 2024, on a Galaxy S20+ 5G running Android 11 and an iPhone 13 Pro running iOS 15.0.

Testing was conducted in accordance with the contract for a level of spoofing technique that only utilized mid-level methods to create an artefact 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 biometric facial samples. The test time for each PAD test per Presentation Attack Instrument (PAI) was limited to 24 hours. This is considered a Level 2 PAD test effort (second of three levels).

The test method was to apply 1 bona fide subject presentation that alternated with 3 artefact presentations such that the presentation of each species consisted of 150 Presentation Attacks (PAs) and 50 bona fide presentations on each device, or until 24 hours had passed per device. The results were displayed for the tester on the device as "Successful detection" (Android) or "Success" (iOS) for a successful attempt, or "HACK" / "LiveColor Hack"(Android) or "HACK" / "110:Color fail"(iOS) for an unsuccessful attempt.

iBeta was not able to gain a liveness classification with the presentation attacks (PAs) on the Galaxy S20+ 5G or iPhone 13 Pro. With 150 PAs for each of 5 species, the total number of attacks was 1500 (750 per device), 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.

SenseTime International PTE LTD's Liveness v3.3.1 application, evaluated on a Galaxy S20+ 5G running Android 11 and an iPhone 13 Pro running iOS 15.0, used with backend component kliveness v1015, was tested by iBeta with its backend cloud components to the ISO 30107-3 Biometric Presentation Attack Detection Standard and found to be in compliance with Level 2.

Best regards,

A handwritten signature in black ink, appearing to read "Ryan Borgstrom", written in a cursive style.

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