

Third Party Validation Report

Privoro Privacy Guard Acoustic Validation

Testing organization: Charles M. Salter Associates Inc.

Report Number: AFC 14-9017

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Mike Fong, CEO
Privoro LLC

Subject: **Acoustic Validation Test: Privoro privacy guard**
Salter Project: AFC 14-9017

Thank you for contacting Charles M. Salter Associates, Inc./Audio Forensic Center regarding an independent evaluation of a beta version of the Privoro privacy guard on an iPhone 6. We were asked to measure the effectiveness of protecting the iPhone 6 from recording speech.

We performed the testing at our laboratories in San Francisco. The phone was set up in a configuration that simulated its placement on a large conference table spaced 1 meter from a talker.

We used a sound analysis app to record the speech signal from the iPhone while it was seated in the privacy guard. The app was used to make recordings from the iPhone's three microphones: bottom, front and rear. The bottom microphone is typically used by recording apps such as Apple's "Voice Memos." Potentially, a recording app might use any of these three microphones to surreptitiously record a conversation. Pre-recorded female and male word lists were presented at calibrated sound levels representing both "loud" (84 dB) and "shouted" (89-94 dB) speech. (Note: "normal" conversational speech is 61 dB at 1 meter).

The recordings were analyzed using forensic speech enhancement software. Two criteria were evaluated at various speech levels: (1) protection for **speech intelligibility** (one or more words from the test sequence could be discerned); and (2) protection for **speech presence** (whether any signal could be identified as originating from a talker, even if unintelligible).

Based on these analyses, we conclude:

- For a shouted voice (94 decibels), the bottom microphone is protected for **speech presence** and **speech intelligibility**
- For a shouted voice (89 decibels), the front microphone is protected for **speech intelligibility**.
For a loud voice (84 decibels), the front microphone is protected for **speech presence**
- For a shouted voice (94 decibels), the rear microphone is protected for **speech intelligibility**.
For a shouted voice (89 decibels), the rear microphone is protected for **speech presence**.

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