

1 **Response to R1:** We thank you for the enthusiastic review and thoughtful comments that we will address in our
2 revision.

3 **Response to R2:** We thank you for the positive review.

4 *“Certainly not a breakthrough result however, as separations with slightly stronger assumptions (distribution-specific*
5 *learning, accessing only local information, separation between SI and Fully Interactive) already existed.”*

6 We are puzzled by this statement since none of the mentioned works provides any tools or partial progress toward the
7 solution of the problem we consider. Most notably, [JMNR19] considers a separation of completely unrelated nature
8 and is also subsequent to our work. In particular, “slightly stronger assumptions” is not an accurate description of the
9 relationship between these works.

10 *“Definition 2.1 is actually incorrect.”*

11 Def. 2.1 is the definition of ϵ -LDP from [KLNRS08]. We will clarify that, in the terminology of [JMNR19], it
12 corresponds to compositional ϵ -LDP. The use of this variant of LDP makes our upper bounds stronger and does not
13 affect our lower bounds.

14 *“The way thm. 1.2 is stated its a bit unclear if its for any class C or a specific class of large-margin linear separators.”*

15 It is stated for any class C and the bound is in terms of the margin complexity of C .

16 *“I wasn’t familiar with margin complexity before... so based on 2.5 if the dual class of f contains the all zeros classifier,*
17 *e.g. x such that $f(x) = 0$ for all X , the margin complexity is infinite?”*

18 In our work Boolean functions are $\{-1, +1\}$ -valued (e.g. line 37 or 77) so C cannot include $f(x) = 0$

19 *“In line 254 shouldn’t this be $E[f(x)h(x)] > 1/m$?”*

20 We believe it’s correct as is.

21 **Response to R3:** We appreciate the reviewer’s directness about their lack of familiarity with the area. Our presentation
22 was optimized for readers having basic familiarity with the concept of local differential privacy and interest in this topic.

23 *“The main (8 pages) version of the paper looks like a hastily truncated version of the 15-pages version provided as*
24 *supplementary material.”*

25 That is not true. The 8-page version omits only proofs of some of the results and Section 5 that discusses additional
26 implications of our results.

27 As usual, our presentation defers the formal definition of the standard concepts to the Preliminaries section (to avoid
28 making the overview even longer). To address some of the reviewer’s specific concerns:

29 1. We will add a pointer to Definition 2.1 (LDP) in the introduction.

30 2. Add a more explicit definition of the SQ acronym.