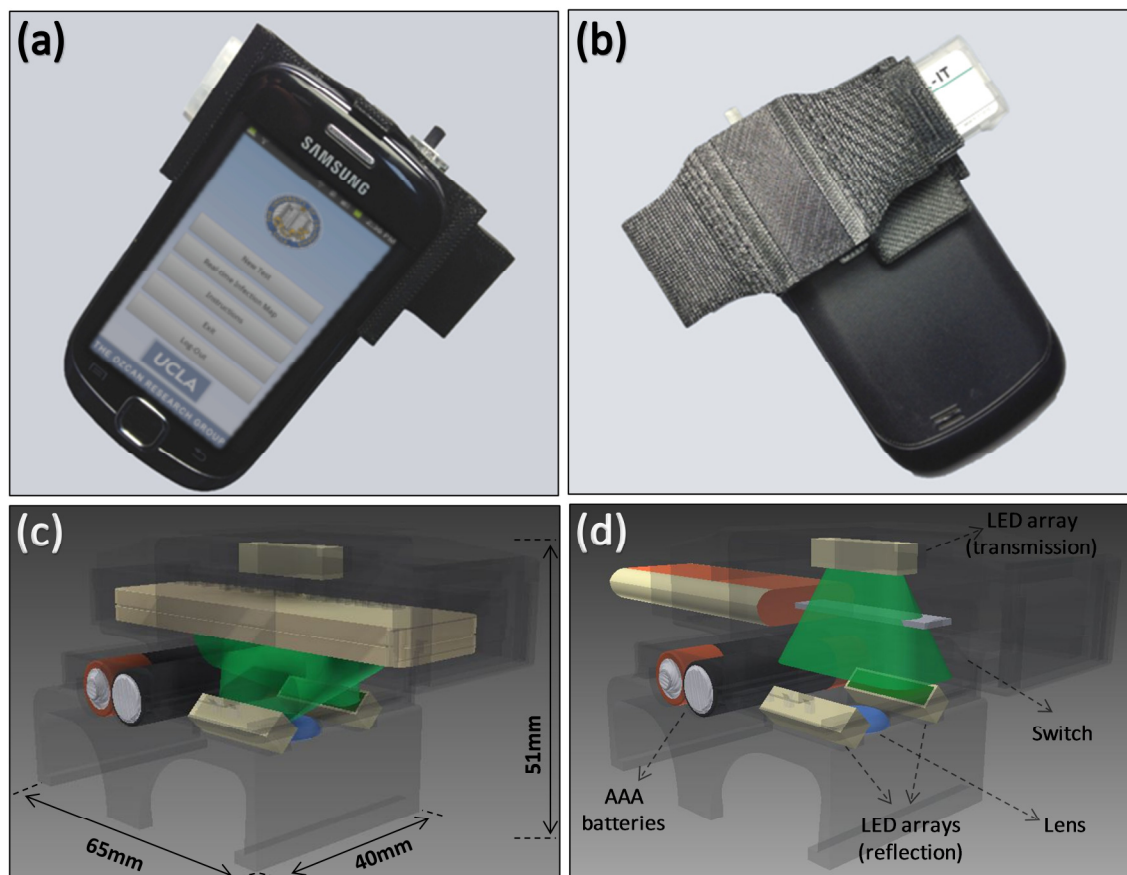
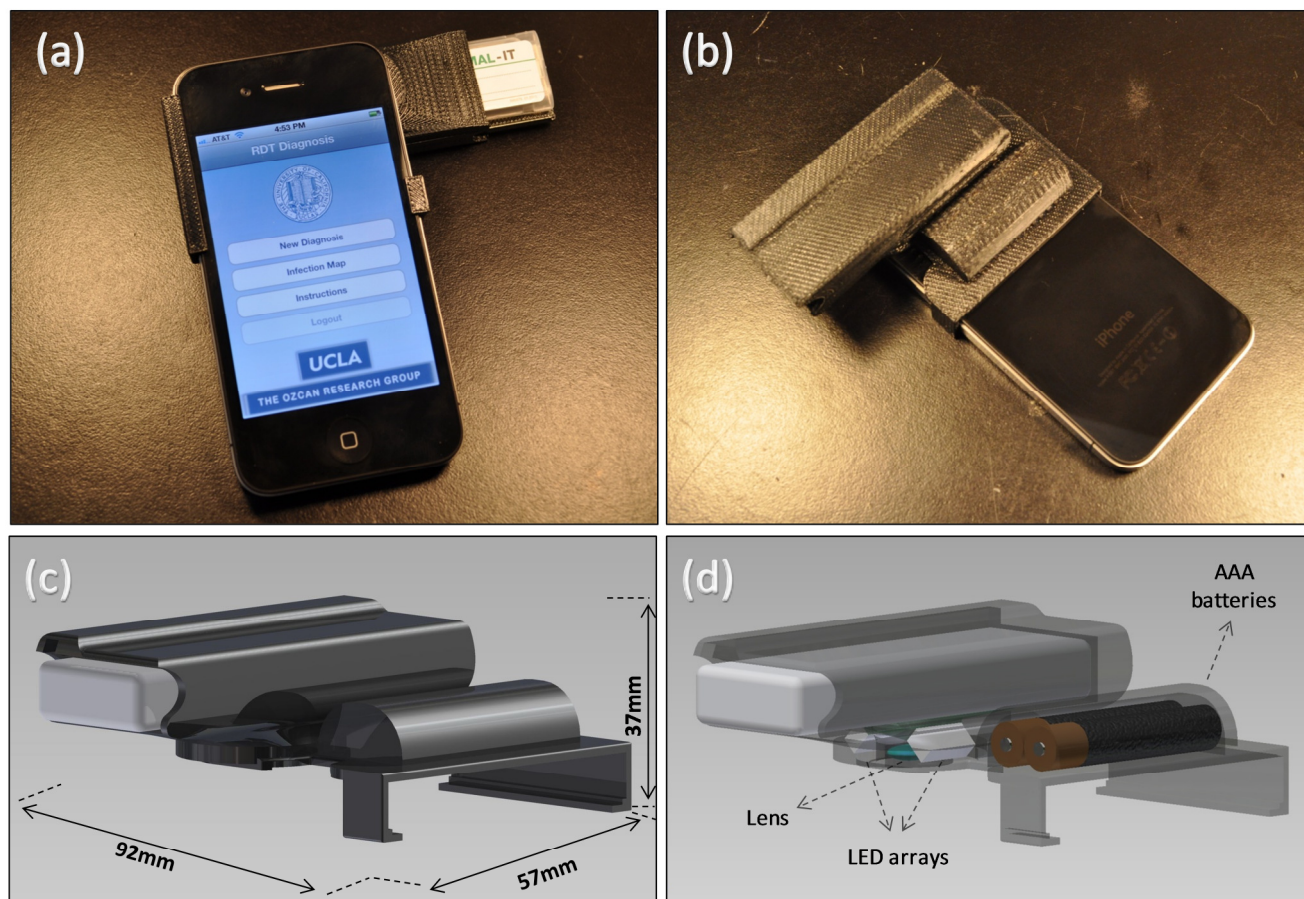


## SUPPLEMENTARY FIGURES



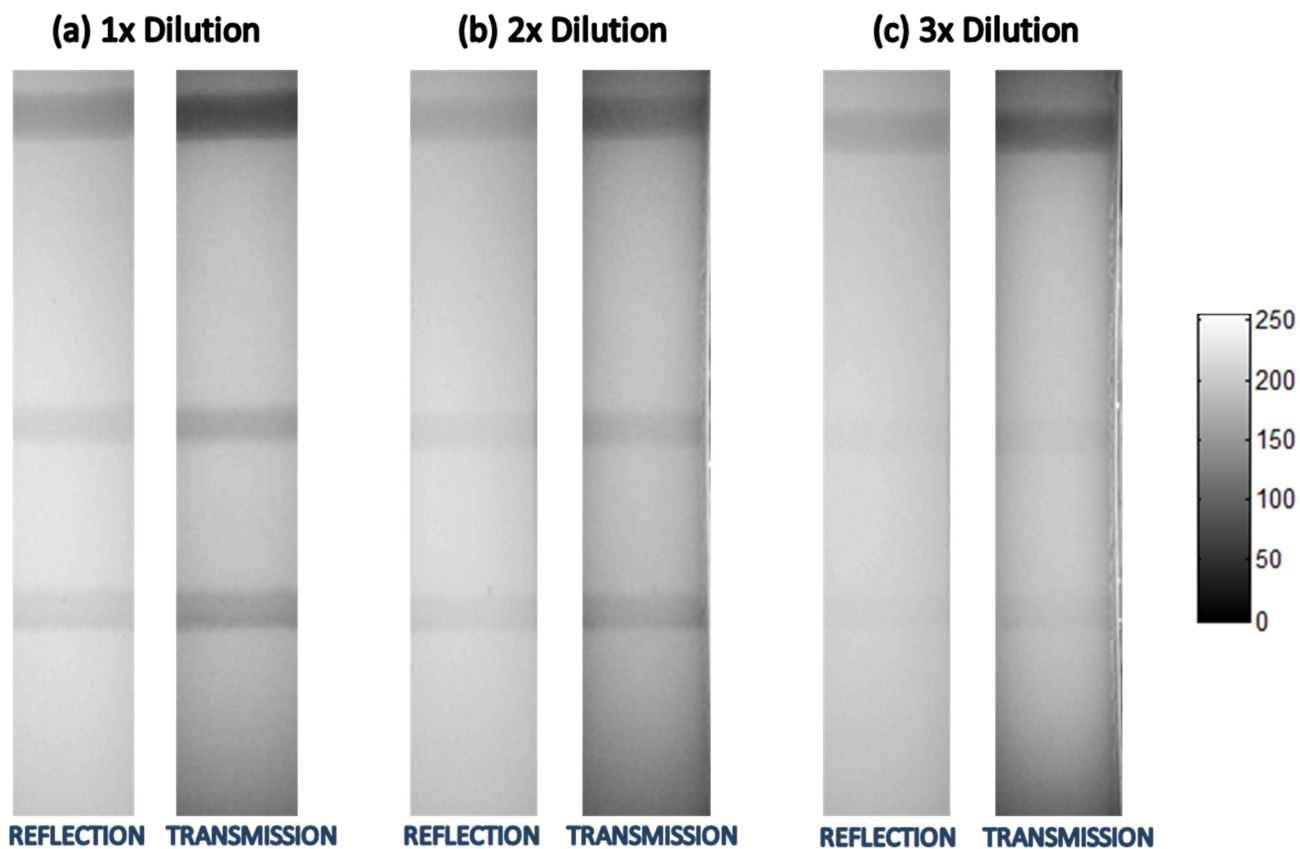
**Supplementary Figure 1.** (a-b) Different views of our smart RDT reader prototype installed on another Android phone (Samsung Galaxy Fit GT-S5670). Weighing ~60 grams, this RDT attachment also utilizes same three LED arrays (2 for reflection and 1 for transmission mode) with diffusers which are powered by AAA batteries and controlled by a mechanical switch located on the top of the attachment. Depending on the type of the RDT of interest, users can switch between these two illumination schemes to acquire reflection (c) as well as transmission images (d) to be evaluated by the android RDT application running on the cellphone.

## SUPPLEMENTARY FIGURES



**Supplementary Figure 2.** Our RDT reader attachment was also designed and installed on an iPhone. This design weighs only 56 grams including two AAA batteries.

## SUPPLEMENTARY FIGURES



**Supplementary Figure 3.** Digitally processed reflection and transmission images of Optimal-IT Malaria RDTs that were automatically acquired by the Smart RDT reader shown in Fig. 1 of main text. These RDTs were activated with 3 different batches of Positive Control Well Antigen (PCWA) at dilution levels of (a) PCWA/20 $\mu$ l (1x Dilution); (b) PCWA/40 $\mu$ l (2x Dilution); (c) PCWA/60 $\mu$ l (3x Dilution).