

Supporting Information

Paper-based Touch Sensor with Embedded Micro-Probe Array Fabricated by Double-sided Laser Printing

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Video 1: Demonstration of multiple touch inputs through the paper-based touch sensor.

Video 2: Demonstration of unlocking a box by inputting touch pattern through paper-based touch sensor array to the electronic lock system.

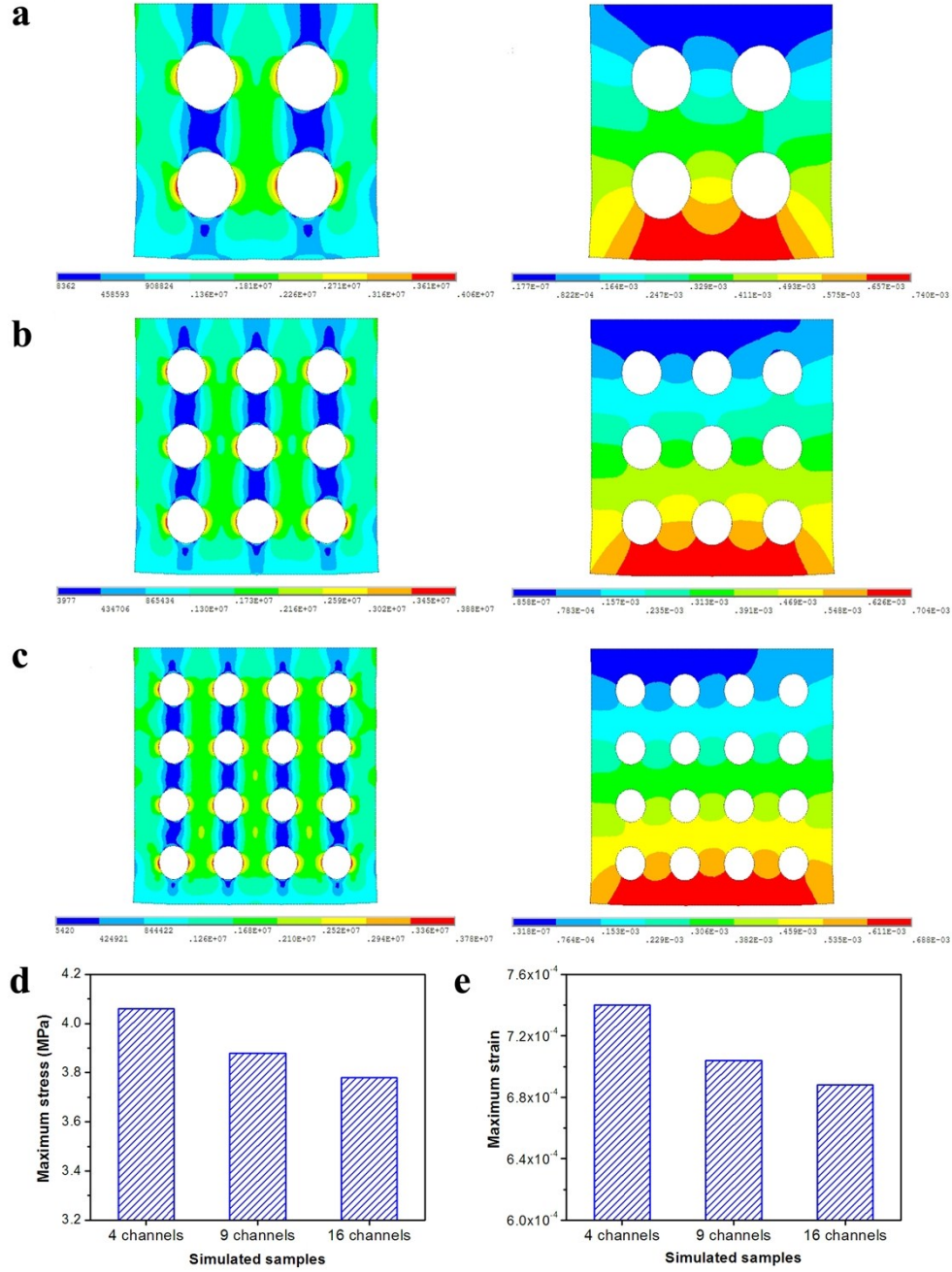


Figure S1. Finite element analysis results of the stress (the left column) and strain (the right column) spatial distribution of the paper substrates with different number of channels under the same tensile force using the software ANSYS 12.0: (a) four channels, (b) nine channels and (c) sixteen channels. The total volume of the channels on each substrate is kept in a constant. (d) The maximum stress in the substrates under the tensile force. (e) The maximum strain in the substrates under the tensile force.

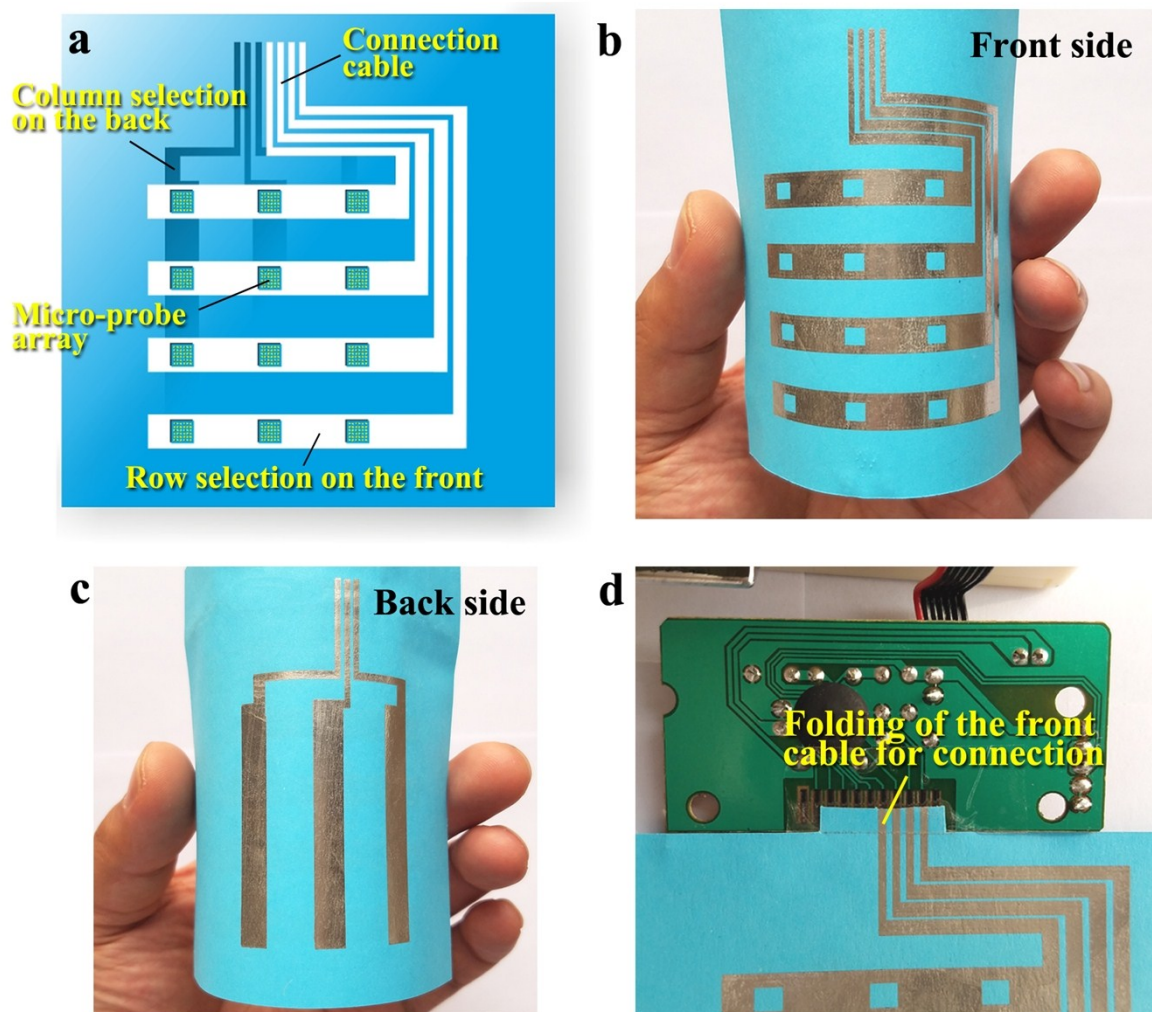


Figure S2. (a) Schematic drawing of the touch sensor array applied in the electronic lock system. Digital photographs of (b) the front side and (c) the back side of the as-fabricated paper-based touch sensor array. (d) Digital photograph of the cable connection between the touch sensor and the circuit board. The cable in the back side was directly connected to the circuit board and the cable in the front side was folded to the back to connect with the circuit board.