Supplementary Information

Paper-based all-solid-state flexible micro-supercapacitors with ultra-high rate and rapid frequency response capabilities

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![Paper Photo](image)

Fig. S1 The digital photograph of inkjet printing paper and its corresponding physical/chemical properties.
Fig. S2 The digital photograph of Dimatix DMP-2800 inkjet printer used in this work.

Fig. S3 ‘Scotch Tape test’ on the paper-based PEDOT: PSS-CNTs/Ag MSCs. The tape before (a) and after (b) peeling demonstrates the strong adhesion between PEDOT: PSS-CNTs/Ag film and paper substrate.
**Fig. S4** Thickness of the paper-based PEDOT: PSS-CNTs/Ag MSCs produced with the different film layer number (1 layer, 5 layers, and 10 layers).

**Fig. S5** Dimensions of the paper-based PEDOT: PSS-CNTs/Ag MSCs produced with the different film layer number (1 layer, 5 layers and 10 layers).
**Fig. S6** Evolution of the area capacitance of paper-based PEDOT: PSS-CNTs/Ag MSCs versus scan rate.

**Fig. S7** Ragone plots showing energy and power densities of paper-based PEDOT: PSS-CNTs/Ag MSCs in comparison to those of (a) reported paper-based MSCs (or SCs) and (b) other micro-supercapacitors and commercially available energy storage devices.
Fig. S8 Self-discharge curves (open-circuit potential versus time) of paper-based PEDOT: PSS-CNTs/Ag MSCs with different PEDOT: PSS-CNTs film layer number obtained immediately after pre-charged to $V_{\text{max}}$.

Fig. S9 Dimensions of the paper-based PEDOT: PSS-CNTs/Ag MSCs produced with the different interspaces between neighbor fingers of 600 $\mu$m, 900 $\mu$m and 1200 $\mu$m, respectively.
**Fig. S10** Impedance phase angle as a function of frequency ranging from 100 kHz to 0.05 Hz for paper-based PEDOT: PSS-CNTs/Ag MSCs with different inter-space between the adjacent fingers.