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T-shirt printer used to create flexible electronic circuits

Nanyang Technological University in Singapore (NTU) says academics have successfully printed complex electronic circuits using a common t-shirt printer. Amongst the circuits created using the approach are a 4bit D/A converter and RFID tags.

Common electronic devices, including resistors, transistors and capacitors, have been created by printing materials such as silver nanoparticles and carbon on flexible substrates such as plastic, aluminium foil and paper.

Associate Professor Joseph Chang believes this approach could enable mass production of cheap disposable electronic circuits. "This means we can have smarter products, such as a carton that tells you exactly when the milk expires, a bandage that prompts you when it is time for a redressing, and smart patches that can monitor life signals like your heart rate.

"We are not competing with high end processors, like those found in smartphones and electronic devices. Instead, we complement them with cheaply printed circuits, making disposable electronics a reality."

Prof Chang's approach – said to be fully additive – enables circuits to be created without the use of toxic chemicals.

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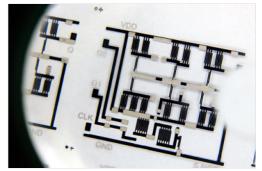
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