

Title (en)

EPIDERMAL SENSOR SYSTEM AND PROCESS

Title (de)

EPIDERMALES SENSORSYSTEM UND VERFAHREN

Title (fr)

SYSTÈME ET PROCÉDÉ DE CAPTEUR ÉPIDERMIQUE

Publication

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Application

EP 15768202 A 20150327

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Abstract (en)

[origin: WO2015148957A1] Epidermal electronics are sensors with mechanical properties matching human epidermis. Their manufacturing process includes photolithography and dry and wet etching within cleanroom facilities. The high cost of manpower, materials, photo masks, and facilities greatly hinders the commercialization potential of disposable epidermal electronics. In contrast, an embodiment of the invention includes a low cost, high throughput, bench top "cut and paste" method to complete the freeform manufacture of epidermal sensor system (ESS) in minutes. This versatile method works for many types of thin metal and polymeric sheets and is compatible with many tattoo adhesives or medical tapes. The resultant ESS is highly multimaterial and multifunctional and may measure ECG, EMG, skin temperature, skin hydration, as well as respiratory rate. Also, a stretchable planar coil made of serpentine ribbons can be used as a wireless strain gauge and/or a near field communication (NFC) antenna. Other embodiments are described herein.

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