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(12) **United States Patent**  
**Huitema et al.**

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(54) **SUPPORT STRUCTURES FOR AN ATTACHABLE, TWO-DIMENSIONAL FLEXIBLE ELECTRONIC DEVICE**

(58) **Field of Classification Search**

CPC ..... H05K 1/14; H05K 1/142; H05K 1/145;  
H05K 1/147; H05K 5/0291; H05K 1/144;  
(Continued)

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(65) **Prior Publication Data**

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"3M Flexible Transparent Touchscreen Concepts" video located on the Internet at <[http://www.youtube.com/watch?v=kCZz4jFok\\_o](http://www.youtube.com/watch?v=kCZz4jFok_o)> (uploaded Jan. 6, 2011).

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**Related U.S. Application Data**

(63) Continuation of application No. 14/850,327, filed on Sep. 10, 2015, now Pat. No. 9,560,751, which is a  
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(51) **Int. Cl.**  
**H05K 1/00** (2006.01)  
**H05K 5/00** (2006.01)  
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(57) **ABSTRACT**

A dynamically flexible article or device, such as an armband, includes a flexible electronic component, such as a flexible electronic display, and a flexible support structure coupled to the flexible electronic component, wherein the flexible support and the flexible electronic component are flexible along two dimensions to thereby be able to conform to a complex curved surface. The flexible support includes bending limiting structure that constrains bending of the flexible electronic component to prevent undesirable bending.

(52) **U.S. Cl.**  
CPC ..... **H05K 1/028** (2013.01); **H05K 1/189**  
(2013.01); **H05K 5/0017** (2013.01);  
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**17 Claims, 36 Drawing Sheets**

