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(19) **United States**(12) **Patent Application Publication**  
**Chuah et al.**(10) **Pub. No.: US 2022/0369460 A1**(43) **Pub. Date: Nov. 17, 2022**(54) **THREE DIMENSIONAL FOLDABLE  
SUBSTRATE WITH VERTICAL SIDE  
INTERFACE***H05K 1/02* (2006.01)*H05K 1/18* (2006.01)*H05K 3/36* (2006.01)*H05K 3/30* (2006.01)(71) Applicant: **Intel Corporation**, Santa Clara, CA  
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*2203/166* (2013.01)(72) Inventors: **Tin Poay Chuah**, Bayan Lepas (MY);  
**Bok Eng Cheah**, BUKIT GAMBIR  
(MY); **Jackson Chung Peng Kong**,  
Tanjung Tokong (MY)(21) Appl. No.: **17/828,142**(22) Filed: **May 31, 2022**

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**ABSTRACT****Related U.S. Application Data**(63) Continuation of application No. 16/887,902, filed on  
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An electronic device and associated methods are disclosed. In one example, the electronic device includes a first rigid substrate, a second rigid substrate, a flexible substrate comprising a first portion attached to the first rigid substrate, a second portion attached to the second rigid substrate, a middle portion connecting the first portion to the second portion, wherein the middle portion is bent, and metallic traces therethrough, and a component forming a direct interface with the middle portion of the flexible substrate, the component electrically coupled to the metallic traces. In selected examples, the device further includes a casing.

