



US 20240224428A1

(19) **United States**(12) **Patent Application Publication****Lang et al.**(10) **Pub. No.: US 2024/0224428 A1**(43) **Pub. Date:****Jul. 4, 2024**(54) **THREE-DIMENSIONAL CIRCUIT BOARD
PROCESSING APPARATUS**

(57)

ABSTRACT(71) Applicant: **Simetric Semiconductor Solutions
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Kei Ming Yip, Shenzhen (CN)(21) Appl. No.: **18/092,912**(22) Filed: **Jan. 3, 2023****Publication Classification**(51) **Int. Cl.**
H05K 3/00 (2006.01)(52) **U.S. Cl.**
CPC ... **H05K 3/0085** (2013.01); **H05K 2203/1518**
(2013.01); **H05K 2203/1545** (2013.01); **H05K**
2203/1572 (2013.01)

The present invention discloses a three-dimensional circuit board processing apparatus, including an input module, a vertical processing module, and an output module, which are arranged in sequence. The vertical processing module includes a conveying unit and a processing assembly. A vertical conveying port is arranged on each of two sides of the vertical processing module. The input module is connected to one end of the conveying unit, and the output module is connected to another end of the conveying unit. The input module and/or the output module are/is a flippable module. According to embodiments of the present invention, by arranging the flippable input module and/or output module, the circuit board may enter and exit the vertical processing module vertically, and may be uniformly processed through the vertical processing module, thereby enhancing the processing quality of the circuit board and improving the automation performance of three-dimensional processing.

