

## (19) United States

# (12) Patent Application Publication (10) Pub. No.: US 2024/0237207 A1 Cheng et al.

Jul. 11, 2024 (43) **Pub. Date:** 

### (54) CIRCUIT BOARD

(71) Applicant: AUO Corporation, Hsinchu (TW)

(72) Inventors: Yun Cheng, Hsinchu (TW); Hao-An Chuang, Hsinchu (TW)

Assignee: AUO Corporation, Hsinchu (TW)

Appl. No.: 18/499,216

(22)Filed: Nov. 1, 2023

#### (30)Foreign Application Priority Data

Jan. 11, 2023 (TW) ...... 112101177

## **Publication Classification**

(51) Int. Cl. H05K 1/11 (2006.01) (52) U.S. Cl. CPC ...... *H05K 1/111* (2013.01)

#### (57)ABSTRACT

A circuit board includes a substrate, an insulating structure, a pad structure and a side wire. The substrate has a first surface, a second surface opposite to the first surface, and a side surface. The insulating structure is located above the first surface of the substrate. The pad structure is located in the insulating structure. The insulating structure includes an opening on the pad structure and a removal region between the pad structure and the side surface of the substrate. At least a portion of the insulating structure in the removal region is removed, and the horizontal distance between the removal region and the pad structure is H, 0<H≤10 micrometers. The side wire is filled into the opening of the insulating structure, and extends from the pad structure to the second surface of the substrate.

