



US 20240215336A1

(19) **United States**

(12) **Patent Application Publication**
ZHANG et al.

(10) **Pub. No.: US 2024/0215336 A1**

(43) **Pub. Date: Jun. 27, 2024**

(54) **DISPLAY PANEL AND MANUFACTURING METHOD THEREOF, AND DISPLAY DEVICE**

(52) **U.S. Cl.**
CPC **H10K 59/124** (2023.02); **H10K 59/1201** (2023.02)

(71) Applicant: **Shenzhen China Star Optoelectronics Semiconductor Display Technology Co., Ltd.**, Shenzhen (CN)

(72) Inventors: **Lei ZHANG**, Shenzhen (CN); **Shijian QIN**, Shenzhen (CN)

(73) Assignee: **Shenzhen China Star Optoelectronics Semiconductor Display Technology Co., Ltd.**, Shenzhen (CN)

(21) Appl. No.: **18/194,114**

(22) Filed: **Mar. 31, 2023**

(30) **Foreign Application Priority Data**

Dec. 27, 2022 (CN) 202211691002.0

Publication Classification

(51) **Int. Cl.**
H10K 59/124 (2006.01)
H10K 59/12 (2006.01)

(57) **ABSTRACT**

The present invention provides a display panel and a manufacturing method thereof, and a display device. The display panel includes a light emitting device layer and an array substrate. The array substrate includes a substrate layer, an insulation module, a first conductive layer and a second conductive layer. The insulation module is disposed on the substrate layer. The first conductive layer and the second conductive layer are disposed in the insulation module at different layers. The first conductive layer includes pad layers, and orthographic projections of the pad layers and the second conductive layer on the substrate layer are not overlapped. Alternatively, first grooves are provided on a surface of the substrate layer facing the conductive structure, and orthographic projections of the first grooves and the second conductive layer on the substrate layer are overlapped.

