



US 20240251596A1

(19) **United States**

(12) **Patent Application Publication**
YOU

(10) **Pub. No.: US 2024/0251596 A1**

(43) **Pub. Date: Jul. 25, 2024**

(54) **DISPLAY DEVICE AND METHOD OF
MANUFACTURING THE DISPLAY DEVICE**

H10K 59/65 (2006.01)

H10K 71/00 (2006.01)

H10K 77/10 (2006.01)

(71) Applicant: **SAMSUNG DISPLAY CO., LTD.**,
Yongin-si (KR)

(52) **U.S. Cl.**

CPC **H10K 59/121** (2023.02); **H10K 50/844**

(2023.02); **H10K 59/131** (2023.02); **H10K**

59/40 (2023.02); **H10K 59/65** (2023.02);

H10K 71/00 (2023.02); **H10K 77/10**

(2023.02); **H10K 59/1201** (2023.02)

(72) Inventor: **Chungi YOU**, Yongin-si (KR)

(21) Appl. No.: **18/583,853**

(22) Filed: **Feb. 21, 2024**

(57)

ABSTRACT

Related U.S. Application Data

(62) Division of application No. 17/363,752, filed on Jun.
30, 2021, now Pat. No. 11,943,969.

Foreign Application Priority Data

Sep. 4, 2020 (KR) 10-2020-0113214

Publication Classification

(51) **Int. Cl.**

H10K 59/121 (2006.01)

H10K 50/844 (2006.01)

H10K 59/12 (2006.01)

H10K 59/131 (2006.01)

H10K 59/40 (2006.01)

A display device includes: a substrate including an opening area, a display area surrounding the opening area, and a non-display area between the opening area and the display area; a first insulating layer on the substrate, the first insulating layer including a first recess or a first opening overlapping the non-display area; a second insulating layer on the first insulating layer, the second insulating layer including a second opening exposing a first upper surface of the first insulating layer between the first recess or the first opening and the opening area; a conductive pattern between the first insulating layer and the second insulating layer, the conductive pattern including a first layer and a second layer; and a display element on the second insulating layer and overlapping the display area, the display element including a first electrode, an emission layer, and a second electrode.

