

US 20240237470A9

(19) United States

(12) Patent Application Publication BAE et al.

n

(10) Pub. No.: US 2024/0237470 A9

(48) Pub. Date: Jul. 11, 2024 CORRECTED PUBLICATION

(54) DISPLAY DEVICE WITH STACKED COLOR FILTERS

(71) Applicant: **SAMSUNG DISPLAY CO., LTD.,** YONGIN-SI (KR)

(72) Inventors: KWANG SOO BAE, YONGIN-SI

(KR); GEE-BUM KIM, YONGIN-SI

(KR); **BOKWANG SONG**,

YONGIN-SI (KR); MIN OH CHOI, YONGIN-SI (KR); SOO YEONG

HONG, YONGIN-SI (KR)

(21) Appl. No.: **18/468,578**

(22) Filed: **Sep. 15, 2023**

Prior Publication Data

(15) Correction of US 2024/0138227 A1 Apr. 25, 2024See (22) FiledSee (30) Foreign Application data

(65) US 2024/0138227 A1 Apr. 25, 2024

(30) Foreign Application Priority Data

Oct. 21, 2022 (KR) 10-2022-0136676

Publication Classification

(51) Int. Cl.

H10K 59/38 (2006.01) *H10K 59/40* (2006.01)

(52) U.S. Cl.

CPC *H10K 59/38* (2023.02); *H10K 59/40*

(2023.02)

(57) ABSTRACT

A display device has a base layer, including light-emitting regions of first to third colors, respectively, at least one light-receiving region, and a non-light-emitting region surrounding the light-emitting regions and the at least one light-receiving region; a display element layer disposed on the base layer, including first to third light-emitting elements each corresponding to the light-emitting regions of the first to third colors, respectively, and a light-receiving element corresponding to the at least one light-receiving region; and a color filter layer disposed on the display element layer and including first to third color filters, first regions each having one color filter corresponding to a respective one of the first to third color filters disposed therein and each overlapping a respective one of the first to third color light-emitting regions, and a second region in which two different color filters of the first to third color filters are stacked.

