

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0251630 A1 SONG et al.

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

(54) ELECTRONIC DEVICE

(71) Applicant: SAMSUNG DISPLAY CO., LTD.,

YONGIN-SI (KR)

(72) Inventors: **BOKWANG SONG**, YONGIN-SI

(KR); KWANG SOO BAE, YONGIN-SI (KR); CHEOL-GON LEE, YONGIN-SI (KR); MIN OH CHOI. YONGIN-SI (KR): SOO YEONG HONG, YONGIN-SI (KR)

(21) Appl. No.: 18/510,287

Filed: Nov. 15, 2023 (22)

(30)Foreign Application Priority Data

(KR) 10-2023-0008294

Publication Classification

(51) Int. Cl.

H10K 59/60 (2006.01)H10K 59/122 (2006.01) H10K 59/131 (2006.01)

(52) U.S. Cl.

CPC H10K 59/60 (2023.02); H10K 59/122 (2023.02); H10K 59/131 (2023.02); H10K 59/40 (2023.02)

(57)ABSTRACT

An electronic device includes a display panel including a transmission area and a display area disposed adjacent to the transmission area. An image is displayed in the display area. The electronic device further includes an optical sensor overlapping the transmission area and disposed under the display panel. The display panel includes a light emitting element and a light receiving element, which are disposed in the display area, signal lines electrically connected to the light emitting element or the light receiving element, and a connection line disposed along a periphery of the transmission area. At least one of the signal lines includes a first line and a second line spaced apart from the first line with the transmission area interposed therebetween, and the connection line is connected to each of the first line and the second line.

