

## (19) United States

#### (12) Patent Application Publication (10) Pub. No.: US 2024/0251620 A1 Kim et al. (43) **Pub. Date:**

# Jul. 25, 2024

### (54) DISPLAY DEVICE HAVING CONDUCTIVE PATTERNS WITH REDUCED DISPLAY ELEMENT OVERLAP

(71) Applicant: Samsung Display Co., Ltd., Yongin-si

(72) Inventors: Yang Wan Kim, Yongin-si (KR); Byung Sun Kim, Yongin-si (KR); Jae Yong Lee, Yongin-si (KR); Chung Yi, Yongin-si (KR); Hyung Jun Park, Yongin-si (KR); Su Jin Lee, Yongin-si (KR)

(21) Appl. No.: 18/622,796

(22) Filed: Mar. 29, 2024

#### Related U.S. Application Data

(63) Continuation of application No. 17/806,727, filed on Jun. 13, 2022, now Pat. No. 11,963,410, which is a continuation of application No. 16/909,594, filed on Jun. 23, 2020, now Pat. No. 11,362,166, which is a continuation of application No. 15/469,139, filed on Mar. 24, 2017, now Pat. No. 10,943,967.

(30)Foreign Application Priority Data (KR) ..... 10-2016-0118343

#### **Publication Classification**

(51) Int. Cl. H10K 59/131 (2006.01)H10K 59/121 (2006.01)H10K 59/122 (2006.01)

U.S. Cl. (52)CPC ...... H10K 59/131 (2023.02); H10K 59/1216 (2023.02); H10K 59/122 (2023.02)

#### **ABSTRACT** (57)

A display device includes a substrate including a pixel region and a peripheral region. A plurality of pixels is disposed in the pixel region of the substrate. Each of the plurality of pixels includes a light emitting element. Data lines and scan lines are connected to each of the plurality of pixels. A power line is configured to supply power to the plurality of pixels. The power line includes a plurality of first conductive lines and a plurality of second conductive lines intersecting the plurality of first conductive lines. The plurality of second conductive lines is arranged in a region between adjacent light emitting elements of the plurality of pixels. At least some of the plurality of second conductive lines extend in a direction oblique to a direction of extension of the data lines or the scan lines.

