



Machine translation

33. (US20180343755) DISPLAY DEVICE AND ELECTRONIC DEVICE INCLUDING THE SAME

National Biblio. Data | Description | **Claims** | Drawings | Documents

**Note:** Text based on automatic Optical Character Recognition processes. Please use the PDF version for legal matters

Claims

1. A display device comprising:
  - a window panel including a front area, and side areas extending from the front area; and
  - a flexible display panel disposed under the window panel, wherein the flexible display panel includes a flat display area corresponding to the front area of the window panel, and flexible display areas extending from the flat display area, wherein the flat display area has a rounded vertex.
2. The display device of **claim 1**, wherein the flat display area has a polygon shape, a vertex of which is rounded.
3. The display device of **claim 1**, wherein the flexible display areas of the flexible display panel correspond to the side areas of the window panel, respectively.
4. The display device of **claim 1**, wherein each of the flat display areas has a rectangular shape.
5. The display device of **claim 1**, wherein the flexible display panel includes:
  - a first flexible display area extending from the flat display area in a horizontal direction;
  - a second flexible display area extending from the flat display area in the horizontal direction;
  - a third flexible display area extending from the flat display area in a vertical direction; and
  - a fourth flexible display area extending from the flat display area in the vertical direction.
6. The display device of **claim 5**, wherein
  - the first flexible display area and the third flexible display area are spaced apart from each other,
  - the third flexible display area and the second flexible display area are spaced apart from each other,
  - the second flexible display area and the fourth flexible display area are spaced apart from each other, and
  - the fourth flexible display area and the first flexible display area are spaced apart from each other.
7. The display device of **claim 5**, wherein
  - a length of the first flexible display area in the vertical direction and a length of the second flexible display area in the vertical direction are shorter than a length of the flat display area in the vertical direction, and
  - a length of the third flexible display area in the horizontal direction and a length of the fourth flexible display area in the horizontal direction are shorter than a length of the flat display area in the horizontal direction.
8. The display device of **claim 1**, wherein the front area of the window panel has a polygon shape, a vertex of which is rounded.
9. The display device of **claim 1**, wherein each of the side areas of the window panel has a rectangular shape.
10. The display device of **claim 1**, wherein the window panel includes:
  - a first side area extending from the front area in a horizontal direction;
  - a second side area extending from the front area in the horizontal direction;
  - a third side area extending from the front area in a vertical direction; and
  - a fourth side area extending from the front area in the vertical direction.
11. The display device of **claim 10**, wherein
  - the first side area and the third side area are spaced apart from each other,
  - the third side area and the second side area are spaced apart from each other,
  - the second side area and the fourth side area are spaced apart from each other, and
  - the fourth side area and the first side area are spaced apart from each other.
12. The display device of **claim 10**, wherein
  - a length of the first side area in the vertical direction and a length of the side area in the vertical direction are shorter than a length of the front area in the vertical direction, and
  - a length of third side area in the horizontal direction and a length of the fourth side area in the horizontal direction are shorter than a length of the front area in the horizontal direction.
13. The display device of **claim 12**, further comprising:
  - a back-side member including:
    - a protrusion region combined with the vertex of the front area; and
    - flat regions combined with the first side area, the second side area, the third side area and the fourth side area, respectively.

14. The display device of **claim 10**, wherein
  - the first side area and the third side area are coupled to each other,
  - the third side area and the second side area are coupled to each other,
  - the second side area and the fourth side area are coupled to each other, and
  - the fourth side area and the first side area are coupled to each other.
15. The display device of **claim 14**, further comprising:
  - a back-side member including a flat region combined with the first side area, the second side area, the third side area and the fourth side area.
16. The display device of **claim 1**, further comprising:
  - a back-side member combined with the window panel and the flexible display panel.
17. The display device of **claim 1**, further comprising:
  - a back-side member combined with the flexible display panel.
18. The display device of **claim 1**, further comprising:
  - a back-side member combined with the window panel.
19. An electronic device comprising:
  - a display device; and
  - a processor which controls the display device,wherein the display device comprising:
  - a window panel including a front area, and side areas extending from the front area; and
  - a flexible display panel disposed under the window panel,wherein the flexible display panel includes a flat display area corresponding to the front area, and flexible display areas extending from the flat display area,
  - wherein the flat display area has a rounded corner.
20. The electronic device of **claim 19**, wherein the flat display area has a polygon shape, a vertex of which is rounded.
21. The electronic device of **claim 19**, wherein the flexible display areas of the flexible display panel correspond to the side areas of the window panel, respectively.
22. The electronic device of **claim 19**, wherein each of the flat display areas has a rectangular shape.
23. The electronic device of **claim 19**, wherein the flexible display panel includes:
  - a first flexible display area extending from the flat display area in a horizontal direction;
  - a second flexible display area extending from the flat display area in the horizontal direction;
  - a third flexible display area extending from the flat display area in a vertical direction; and
  - a fourth flexible display area extending from the flat display area in the vertical direction.
24. The electronic device of **claim 23**, wherein
  - the first flexible display area and the third flexible display area are spaced apart from each other,
  - the third flexible display area and the second flexible display area are spaced apart from each other,
  - the second flexible display area and the fourth flexible display area are spaced apart from each other, and
  - the fourth flexible display area and the first flexible display area are spaced apart from each other.
25. The electronic device of **claim 23**, wherein
  - a length of the first flexible display area in the vertical direction and a length of the second flexible display area in the vertical direction are shorter than a length of the flat display area in the vertical direction, and
  - a length of the third flexible display area in the horizontal direction and a length of the fourth flexible display area in the horizontal direction are shorter than a length of the flat display area in the horizontal direction.
26. The electronic device of **claim 19**, wherein the front area of the window panel has a polygon shape, a vertex of which is rounded.
27. The electronic device of **claim 19**, wherein each of the side areas of the window panel has a rectangular shape.
28. The electronic device of **claim 19**, wherein the window panel includes:
  - a first side area extending from the front area in a horizontal direction;
  - a second side area extending from the front area in the horizontal direction;
  - a third side area extending from the front area in a vertical direction; and
  - a fourth side area extending from the front area in the vertical direction.
29. The electronic device of **claim 28**, wherein
  - the first side area and the third side area are spaced apart from each other,
  - the third side area and the second side area are spaced apart from each other,
  - the second side area and the fourth side area are spaced apart from each other, and
  - the fourth side area and the first side area are spaced apart from each other.
30. The electronic device of **claim 28**, wherein
  - a length of the first side area in the vertical direction and a length of the side area in the vertical direction are shorter than a length of the front area in the vertical direction, and
  - a length of third side area in the horizontal direction and a length of the fourth side area in the horizontal direction are shorter than a length of the front area in the horizontal direction.
31. The electronic device of **claim 30**, further comprising:
  - a back-side member including:
    - a protrusion region combined with a vertex of the front area; and

flat regions combined with the first side area, the second side area, the third side area and the fourth side area, respectively.

**32.** The electronic device of **claim 28**, wherein

the first side area and the third side area are coupled to each other,  
the third side area and the second side area are coupled to each other,  
the second side area and the fourth side area are coupled to each other, and  
the fourth side area and the first side area are coupled to each other.

**33.** The electronic device of **claim 32**, further comprising:

a back-side member including a flat region combined with the first side area, the second side area, the third side area and the fourth side area.

**34.** The electronic device of **claim 19**, further comprising:

a back-side member combined with the window panel and the flexible display panel.

**35.** The electronic device of **claim 19**, further comprising:

a back-side member combined with the flexible display panel.

**36.** The electronic device of **claim 19**, further comprising:

a back-side member combined with the window panel.