

## CLAIMS

### What is claimed is:

1. A display screen (100), comprising a display layer (110) and a light shielding layer (120), the display layer (110) having an upper surface (111) and a lower surface (112) opposite to the upper surface (111), the upper surface (111) being configured to face a user, the light shielding layer (120) being arranged to the lower surface (112) of the display layer (110), the light shielding layer (120) having a hole (121) to allow a sensing signal of an optical fingerprint module (210) to pass through, the light shielding layer (120) being configured to block light from penetrating the display layer (110), and the hole (121) being configured to allow a light signal emitted and received by the optical fingerprint module (210) to pass through,  
wherein the display screen (100) further comprises a light shielding sheet (130), the light shielding sheet (130) is disposed between the display layer (110) and the optical fingerprint module (210) in the superposition manner and covers the hole (121) to hide the optical fingerprint module (210); the light shielding sheet (130) comprises a light shielding pigment (131) and a light-transparent material, a light-penetrating passage (133) is formed by the light-transparent material, the optical fingerprint module (210) emits and receives the light signal through the light-penetrating passage (133), and the light shielding pigment (131) has a similar color to the light shielding layer (120).
2. The display screen (100) according to claim 1, wherein the light shielding layer (120) is selected from a group consisting of a lightproof ink layer and a foam layer.
3. The display screen (100) according to claim 1 or 2, wherein the display layer (110) comprises an upper covering plate (114), a touch sensitive layer (115), an organic luminous layer (116), and a lower covering plate (117) superposed in sequence.
4. The display screen (100) according to any one of claims 1 to 3, wherein the light shielding sheet (130) is disposed between the display layer (110) and the light shielding layer (120) in the superposition manner.
5. The display screen (100) according to any one of claims 1 to 3, wherein the light shielding layer (120) has a first surface (123) away from the display layer (110), and the light shielding sheet (130) is affixed to the first surface (123) of the light shielding layer (120).
6. The display screen (100) according to any one of claims 1 to 3, wherein the light shielding sheet (130) is disposed in the hole (121).
7. The display device according to claim 6, wherein the light shielding sheet is fully filled in the hole, a size and shape of the light shielding sheet are consistent with a size and shape of the hole.

8. The display screen (100) according to any one of claims 1 to 3, wherein the optical fingerprint module (210) has a second surface (216) adjacent to the hole (121), and the light shielding sheet (130) is affixed to the second surface (216).

9. The display screen (100) according to any one of claims 1 to 8, wherein the hole (121) is selected from a group consisting of a circular hole, a square hole, an oval hole and an irregular shaped hole, and the irregular shaped hole is in a shape in match with a shape of a contact surface between a finger and the display screen.

10. The display device (100) according to any one of claims 1 to 9, wherein the light-transparent material is selected from a group consisting of resin particles, glass powders, and a mixture of resin particles and glass powders.

11. A display screen (100), comprising a display layer (110) and a light shielding layer (120), the display layer (110) having an upper surface (111) and a lower surface (112) opposite to the upper surface (111), the upper surface (111) being configured to face a user, the light shielding layer (120) being arranged to the lower surface (112) of the display layer (110), the light shielding layer (120) having a hole (121) to allow a sensing signal of a fingerprint module (210) to pass through; characterized in that the display layer (110) comprises an upper covering plate (114), a touch sensitive layer (115), an organic luminous layer (116), and a lower covering plate (117) superposed in sequence,

wherein the display screen (100) further comprises a light shielding sheet (130) disposed between the display layer (110) and the fingerprint module (210) in the superposition manner and covers the hole (121) to hide the fingerprint module (210).

12. The display screen (100) according to claim 11, wherein the light shielding sheet (130) comprises a light shielding pigment (131) and a light-transparent material, a light-penetrating passage (133) is formed by the light-transparent material, the fingerprint module (210) emits and receives the light signal through the light-penetrating passage (133), and the light shielding pigment (131) has a similar color to the light shielding layer (120).

13. The display device according to one of claims 11 to 12, wherein the light shielding sheet (130) is disposed between the display layer (110) and the light shielding layer (120).

14. A display device, comprising a display screen (100) according to claim 1, and further comprising an optical fingerprint module (210) for recognizing fingerprints from a user and a frame (211), the display screen (100) and the optical fingerprint module (210) being fastened to the frame (211), the optical fingerprint module (210) being disposed at a side of the light shielding layer (120) away from the display layer (110) and located at a position corresponding to the hole (121), the optical fingerprint module (210) comprising a light emitter (213) and a light inductor

(212), arranged such that a first light signal emitted by the light emitter (213) and a second light signal received by the light inductor (212) pass through the hole (121).

15. The display device according to claim 14, wherein a size of a granule of the light-transparent material is 1~20 $\mu$ m.

5 16. The display device according to claim 14 or 15, wherein a mass percent of the light-transparent material to the light shielding sheet (130) is 1%~20%.

17. The display device according to any one of claims 14 to 16, wherein the optical fingerprint module (210) has a second surface (216) adjacent to the hole (121), and the light shielding sheet (130) is affixed to the second surface (216).

10 18. The display device according to any one of claims 14 to 16, wherein the light shielding sheet (130) is fully filled in the hole (121), the size and shape of the light shielding sheet (130) are consistent with those of the hole (121), and the light shielding sheet (130) and the light shielding layer (120) are in the same layer and have the same thickness.

19. A mobile terminal, comprising a display device according to any one of claims 14 to 18.

15 20. The mobile terminal according to claim 19, wherein the light shielding sheet (130) is disposed between a bottom (215) of the frame (211) and the light shielding layer (120) in a superposition manner.