【CLAIMS】

【Claim 1】

An electronic device comprising:

a first housing;

a second housing which is foldably coupled to the first housing through a hinge device;

a flexible display disposed to be supported by the first housing and the second housing, the flexible display comprising a folding area which is foldable;

at least one waterproof member disposed between the first housing and the flexible display and/or between the second housing and the flexible display;

at least one support structure disposed between the first housing and the flexible display and/or between the second housing and the flexible display, non-overlapping the at least one waterproof member when the flexible display is viewed from above;

the at least one waterproof member and the at least one support structure disposed side by side between the first housing and the flexible display or between the second housing and the flexible display,

wherein the at least one support structure comprises:

a first part disposed to have a first height, the first part which has the first height is non-overlapping the at least one waterproof member and the folding area when the flexible display is viewed from above,

a second part disposed to have a second height which is larger than the first height and substantially equal to a height of the at least one waterproof member, a portion of the second part which has the second height is overlapping the folding area when the flexible display is viewed from above, and

a stepped structure provided through a height difference between the first part and the second part,

wherein the stepped structure provides a space between the flexible display and the first part of the at least one support structure.

【Claim 2】

The electronic device of claim 1, wherein a size of the second part is disposed to be the same as or larger than the folding area.

【Claim 3】

The electronic device of claim 2, wherein the first part which has the first height and the second part which has the second height larger than the first height, are disconnected from each other.

【Claim 4】

The electronic device of claim 1, wherein the first height is configured to be lower than the height of the at least one waterproof member.

【Claim 5】

The electronic device of claim 4, wherein the first height is configured to be the same as or lower than the height of the at least one waterproof member which is compressed when the flexible display is assembled.

【Claim 6】

The electronic device of claim 1, wherein the at least one support structure is dividedly disposed with reference to a folding axis of the folding area.

【Claim 7】

The electronic device of claim 6, wherein the at least one support structure comprises:

a first member disposed between the first housing and the flexible display; and

a second member disposed between the second housing and the flexible display.

【Claim 8】

The electronic device of claim 7, wherein the first member comprises:

a first sub-member having the first height; and

a second sub-member stacked on the first sub-member and configuring the second height together with the first sub-member.

【Claim 9】

The electronic device of claim 8, wherein the second member comprises:

a third sub-member having the first height; and

a fourth sub-member stacked on the third sub-member and configuring the second height together with the third sub-member.

【Claim 10】

The electronic device of claim 9, wherein at least a part of the second sub-member and at least a part of the fourth sub-member are disposed at a position overlapping the folding area when the flexible display is viewed from above.

【Claim 11】

The electronic device of claim 1, wherein the first part and the second part are integrally configured.

【Claim 12】

The electronic device of claim 1, wherein

the hinge device comprises a first rotation shaft for movement of the first housing, and a second rotation shaft for movement of the second housing,

the first rotation shaft and the second rotation shaft are spaced apart by an interaxial distance, and

a width of the second part is configured to be same as or greater than the interaxial distance between the first rotation shaft and the second rotation shaft.

【Claim 13】

The electronic device of claim 1, wherein the flexible display comprises:

a window layer;

a display panel disposed under the window layer;

a support plate disposed under the display panel and a plurality of openings defined in the support plate and corresponding to the folding area;

a first reinforcing plate disposed under the support plate and corresponding to the first housing; and

a second reinforcing plate disposed under the support plate and corresponding to the second housing.

【Claim 14】

The electronic device of claim 13, wherein the at least one support structure and the at least one waterproof member are disposed between the first reinforcing plate and the first housing and/or between the second reinforcing plate and the second housing.

【Claim 15】

The electronic device of claim 1, wherein the at least one support structure includes at least one of a metal material, a polymer material, a compressible material, an incompressible material, or a heat dissipation member.

【Claim 16】

An electronic device comprising:

a first housing;

a second housing which is foldably coupled to the first housing through a hinge device;

a flexible display disposed to be supported by the first housing and the second housing, the flexible display comprising:

a folding area which is foldable;

a window layer;

a display panel disposed under the window layer;

a support plate disposed under the display panel and comprising a plurality of openings in a part corresponding to the folding area;

a first reinforcing plate disposed under the support plate and corresponding to the first housing; and

a second reinforcing plate disposed under the support plate and corresponding to the second housing;

at least one waterproof member disposed between the first reinforcing plate and the first housing and/or between the second reinforcing plate and the second housing; and

at least one support structure disposed parallel to the at least one waterproof member in between the first reinforcing plate and the first housing and/or between the second reinforcing plate and the second housing, non-overlapping the at least one waterproof member when the flexible display is viewed from above,

wherein the at least one support structure comprises:

a first part disposed to have a first height, the first part which has the first height is non-overlapping the at least one waterproof member and the folding area when the flexible display is viewed from above,

a second part disposed to have a second height which is larger than the first height and substantially equal to a height of the at least one waterproof member, a portion of the second part which has the second height is overlapping the folding area when the flexible display is viewed from above, and

a stepped structure provided through a height difference between the first part and the second part,

wherein the stepped structure provides a space between a first reinforcing plate and the first part and/or between a second reinforcing plate and the first part.

【Claim 17】

The electronic device of claim 16, wherein the first height is configured to be lower than the height of the at least one waterproof member.

【Claim 18】

The electronic device of claim 16, wherein the at least one support structure is dividedly disposed with reference to a folding axis of the folding area.

【Claim 19】

The electronic device of claim 16, wherein the first part and the second part are integrally configured.

【Claim 20】

The electronic device of claim 16, wherein the first part and the second part are separately arranged.