【CLAIMS】

1. A foldable electronic device comprising:

a processor;

a hinge module;

a first housing and a second housing, at least partially coupled to both sides of the hinge module, adapted to rotate about the hinge module to form an unfolded state or a folded state; and

a flexible display disposed on the first housing and the second housing,

wherein the first housing comprises a first lateral member forming at least a portion of an exterior of the foldable electronic device, the first lateral member comprises a first side surface disposed parallel to a folding axis of the hinge module, a second side surface extending in a direction perpendicular to the folding axis from one end of the first side surface, and a third side surface extending in the direction perpendicular to the folding axis from another end of the first side surface,

wherein the second housing comprises a second lateral member forming at least a portion of the exterior of the foldable electronic device, the second lateral member comprises a fourth side surface disposed parallel to the folding axis, a fifth side surface extending in the direction perpendicular to the folding axis from one end of the fourth side surface, and a sixth side surface extending in the direction perpendicular to the folding axis from another end of the fourth side surface,

wherein a first segmentation portion is formed on the first side surface, a second segmentation portion is formed on the second side surface, and a third segmentation portion is formed on the fifth side surface,

wherein an antenna radiator extending along the first side surface and the second side surface and disposed between the first segmentation portion and the second segmentation portion is electrically connected to the processor and operates as an antenna,

wherein the antenna radiator comprises a power supply point, a first point located between the power supply point and the first segmentation portion, and a second point located between the power supply point and the second segmentation portion,

wherein the antenna comprises a power supply unit connected to the power supply point, a first matching circuit connected to the first point, and a second matching circuit

connected to the second point, and

wherein the first point is electrically connected to ground through the first matching circuit, and the second point is electrically connected to the ground through the second matching circuit.

2. The foldable electronic device of claim 1, further comprising:

a fourth segmentation portion formed on the fourth side surface,

wherein, when the first housing and the second housing are in the folded state, the second segmentation portion and the third segmentation portion are disposed to overlap each other, and the first segmentation portion and the fourth segmentation portion are disposed to overlap each other.

3. The foldable electronic device of claim 1,

wherein the first matching circuit is configured to comprise a first switch and/or at least one lumped element, and

wherein the second matching circuit is configured to comprise a second switch and/or at least one lumped element.

4. The foldable electronic device of claim 3, wherein the at least one lumped element comprises a capacitor or an inductor.

5. The foldable electronic device of claim 3, wherein the processor is configured to control the first matching circuit or the second matching circuit to adjust a matching value.

6. The foldable electronic device of claim 5, wherein the processor is further configured to, when the first matching circuit is turned on and the second matching circuit is operated in an open state, control the antenna to operate a second area, which is a conductive portion between the first point and the second segmentation portion, as a main radiation area.

7. The foldable electronic device of claim 5, wherein the processor is further configured to, when the second matching circuit is turned on and the first matching circuit is operated in an open state, control the antenna to operate a first area, which is a conductive portion between the first segmentation portion and the second point, as a main radiation area.

8. The foldable electronic device of claim 5, wherein the processor is further configured to control the antenna to operate in a low band frequency band of 600 MHz to 1200 MHz by adjusting the matching value of the first matching circuit and/or the second matching circuit.

9. The foldable electronic device of claim 5, further comprising:

a third matching circuit connected to a third point located on the first side surface in an opposite direction to the first matching circuit based on the first segmentation portion; and

a fourth matching circuit connected to a fourth point located on the second side surface in a direction opposite to the second matching circuit based on the second segmentation portion.

10. The foldable electronic device of claim 9, wherein the processor is further configured to control the antenna to operate in a mid band frequency band of 1500 MHz to 2200 MHz and or a high band frequency band of 2300 MHz to 2700 MHz by adjusting the matching value of the third matching circuit and/or the fourth matching circuit.

11. A multi-foldable electronic device comprising:

a processor;

a hinge module;

a folding part;

a first housing and a second housing that are at least partially coupled to both sides of the hinge module and form an unfolded state or a folded state through in-folding about a first folding axis of the hinge module, and a third housing disposed in an opposite

direction to the second housing based on a second folding axis of the folding part and forming the unfolded state or the folded state through out-folding about the second folding axis; and

a flexible display disposed on the first housing, the second housing, and the third housing,

wherein the first housing comprises a first lateral member forming at least a portion of an exterior of the multi-foldable electronic device, and the first lateral member comprises a first side surface disposed parallel to the first folding axis of the hinge module, a second side surface extending in a direction perpendicular to the first folding axis from one end of the first side surface, and a third side surface extending in the direction perpendicular to the first folding axis from another end of the first side surface,

wherein the second housing comprises a second lateral member forming at least a portion of the exterior of the multi-foldable electronic device, and the second lateral member comprises a fourth side surface disposed substantially parallel to the second side surface of the first housing and a fifth side surface disposed substantially parallel to the third side surface of the first housing,

wherein the third housing comprises a third lateral member forming at least a portion of the exterior of the multi-foldable electronic device, and the third lateral member comprises a sixth side surface disposed parallel to the second folding axis of the folding part, a seventh side surface extending from one end of the sixth side surface toward the fourth side surface of the second housing in the direction perpendicular to the second folding axis, and an eighth side surface extending from another end of the sixth side surface toward the fifth side surface of the second housing in the direction perpendicular to the second folding axis,

wherein a first segmentation portion is formed on the first side surface, a second segmentation portion is formed on the second side surface, a third segmentation portion is formed on the fourth side surface, and a fourth segmentation portion is formed on the seventh side surface,

wherein, in case that the first housing, the second housing, and the third housing are in a folded state, the second segmentation portion, the third segmentation portion, and the fourth segmentation portion are disposed to overlap one another, and a portion of the first

side surface separated through the first segmentation portion and a portion of the second side surface separated through the second segmentation portion are electrically connected to the processor and operate as an antenna, and

wherein the antenna comprises a power supply unit connected to a power supply point located on the second side surface, a first matching circuit connected to a first point located between the power supply point and the first segmentation portion, and a second matching circuit connected to a second point located between the power supply point and the second segmentation portion.

12. The multi-foldable electronic device of claim 11, wherein the second segmentation portion and the third segmentation portion are disposed on both sides of the first folding axis of the hinge module.

13. The multi-foldable electronic device of claim 11, wherein the third segmentation portion and the fourth segmentation portion are disposed on both sides of the second folding axis of the folding part.

14. The multi-foldable electronic device of claim 11,

wherein the first matching circuit is configured to comprise a first switch and/or at least one lumped element, and

wherein the second matching circuit is configured to comprise a second switch and/or at least one lumped element.

15. The multi-foldable electronic device of claim 14, wherein the processor is configured to:

when the first matching circuit is turned on and the second matching circuit is operated in an open state, control the antenna to operate a second area, which is a conductive portion between the first point and the second segmentation portion, as a main radiation area, and

when the second matching circuit is turned on and the first matching circuit is operated in an open state, control the antenna to operate a first area, which is a conductive

portion between the first segmentation portion and the second point, as the main radiation area.