

## **【CLAIMS】**

### **【Claim 1】**

An accessory device, comprising:

a first housing;

a second housing having a first opening and coupled to the first housing;

a display unit configured to display a content through the first opening and having an upper end electrode and a lower end electrode;

a printed circuit board (PCB) configured to mount electronic components comprising a processor; and

an antenna unit electrically connected to the PCB and configured to receive data and power from a portable device received by a mounting structure,

wherein the lower end electrode and a first surface of the PCB come in contact with each other and supply an operating voltage for driving the display unit through the first surface of the PCB.

### **【Claim 2】**

The accessory device of claim 1, further comprising a third housing located under the second housing and configured to cover a second surface of the PCB.

### **【Claim 3】**

The accessory device of claim 1, wherein the electronic components comprise:

a communication unit configured to connect the accessory device and the portable device received in the accessory device by near field communication;

an antenna unit connected to the communication unit and configured to receive power wirelessly from the portable device;

an alternating current (AC) to direct current (DC) converter configured to convert an alternating current applied from the antenna unit to a direct current;

a regulator configured to convert the direct current to a driving operation voltage of the electronic components; and

a display controller connected to the regulator and configured to control the display unit.

**【Claim 4】**

The accessory device of claim 1, wherein the second housing further comprises a second opening spaced apart from the first opening and formed at a position corresponding to a rear camera of the portable device.

**【Claim 5】**

The accessory device of claim 1, wherein the accessory device comprises a bumper type cover configured to protect at least one of a side surface and a rear surface of the portable device.

**【Claim 6】**

An accessory device comprising a front cover, a rear cover configured to receive a portable device, and a connecting portion configured to connect the front cover and the rear cover,

wherein the front cover comprises:

a first housing positioned at an outer surface of the front cover;

a display unit positioned under the first housing and configured to display a content and having an upper end electrode and a lower end electrode;

a first printed circuit board (PCB) configured to mount some electronic components; and

a second housing configured to protect the first PCB, and

wherein the rear cover comprises:

a third housing positioned at an internal surface of the rear cover and having a mounting structure configured to receive the portable device;

a second PCB connected to an antenna unit and configured to mount some of the electronic components; and

a fourth housing configured to protect the second PCB.

**【Claim 7】**

The accessory device of claim 6, further comprising a flexible PCB configured to electrically connect the second PCB and the first PCB,

wherein the flexible PCB is partially located at the connecting portion and is configured to connect the second PCB and the first PCB.

**【Claim 8】**

The accessory device of claim 7, wherein an operating voltage for driving the display unit is supplied from the second PCB to the first PCB through the flexible PCB.

**【Claim 9】**

The accessory device of claim 6, wherein the lower end electrode and the first surface of the first PCB come in contact with each other, and an operating voltage for driving the display unit is supplied through the first surface of the first PCB.

**【Claim 10】**

The accessory device of claim 6, wherein an electrophoretic display controller configured to control the display unit is mounted in the first PCB.

**【Claim 11】**

The accessory device of claim 6, wherein the third housing further has a second opening corresponding to a rear camera of the portable device and a third opening spaced apart from the second opening and corresponding to the second PCB.

**【Claim 12】**

The accessory device of claim 6, wherein at least one of a processor and a near field communication controller configured to control the accessory device is mounted in the second PCB.

**【Claim 13】**

An accessory device, comprising:

a housing comprising a first surface facing in a first direction and a second surface facing in a second direction opposite to the first direction;

a connection structure configured to detachably attach the housing to an external device comprising a front surface and a rear surface and that enables the second surface to face the rear surface of the external device;

a near field wireless communication circuit disposed within the housing and formed to wirelessly receive power and at least one signal through the rear surface of the external device;

a control circuit disposed within the housing and electrically connected to the communication circuit; and

at least one display element comprising a container, a liquid within the container, and a plurality of particles dispersed within the liquid as at least one display element exposed at the first surface of the housing,

wherein the control circuit is configured to move at least a portion of the plurality of particles in order to display at least one of a character and an image on the first surface in response to at least one signal from the external device.

**【Claim 14】**

The accessory device of claim 13, further comprising an at least partially transparent layer configured to form at least a portion of the first surface.

**【Claim 15】**

The accessory device of claim 14, wherein the at least partially transparent

layer further comprises an image or character printed thereon or inserted therein.