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(54) **ELECTRONIC DEVICE, AND METHOD FOR UPDATING EXTERNAL ELECTRONIC DEVICE USING SAME**

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(57) **ABSTRACT**

According to various embodiments of the present disclosure, an electronic device may comprise: a communication circuit, a memory, and at least one processor operatively connected to the communication circuit and the memory, wherein on or more of the ate least one processor is configured to: receive an updating file for updating a second external electronic device from a first external electronic device based on establishing a communication connection with the first external electronic device through the communication circuit; identify whether the second external electronic device needs to be updated, based on the electronic device being safely mounted on the second external electronic device; identify whether a designated condition for transmitting the updating file to the second external electronic device is satisfied, based on state information of the second external electronic device and/or state information of the electronic device based on the second external electronic device needing to be updated; and transmit the updating file received from the first external electronic device to the second external electronic device based on the designated condition for transmitting the updating file to the second external electronic device being satisfied.

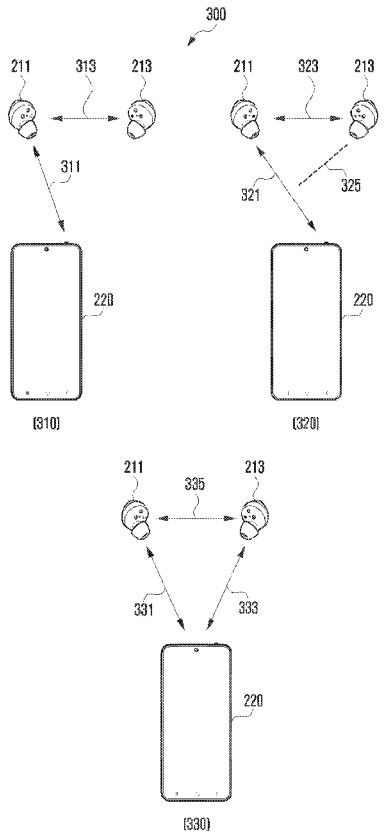


FIG. 1

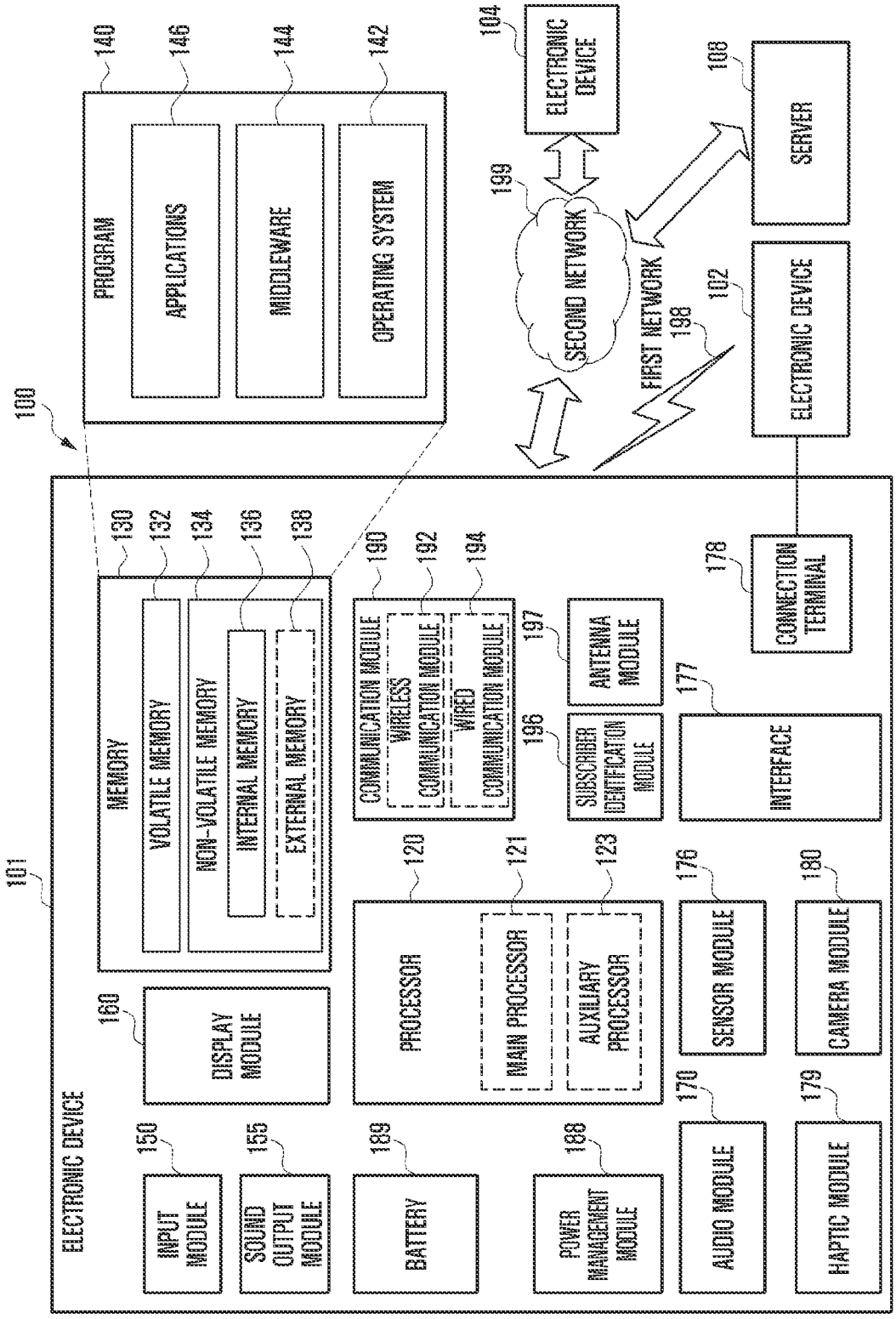

100
101
ELECTRONIC DEVICE
PROGRAM
140
APPLICATIONS
146
MIDDLEWARE
144
OPERATING SYSTEM
142
MEMORY
130
VOLATILE MEMORY
132
NON-VOLATILE MEMORY
134
INTERNAL MEMORY
136
EXTERNAL MEMORY
138
DISPLAY MODULE
160
INPUT MODULE
150
SOUND OUTPUT MODULE
155
PROCESSOR
120
MAIN PROCESSOR
121
AUXILIARY PROCESSOR
123
BATTERY
189
POWER MANAGEMENT MODULE
188
COMMUNICATION MODULE
190
WIRELESS COMMUNICATION MODULE
192
WIRED COMMUNICATION MODULE
194
SUBSCRIBER IDENTIFICATION MODULE
196
ANTENNA MODULE
197
INTERFACE
177
CONNECTION TERMINAL
178
SENSOR MODULE
176
CAMERA MODULE
180
AUDIO MODULE
170
HAPTIC MODULE
179
ELECTRONIC DEVICE
104
SECOND NETWORK
199
FIRST NETWORK
198
SERVER
108
ELECTRONIC DEVICE
102

FIG. 2

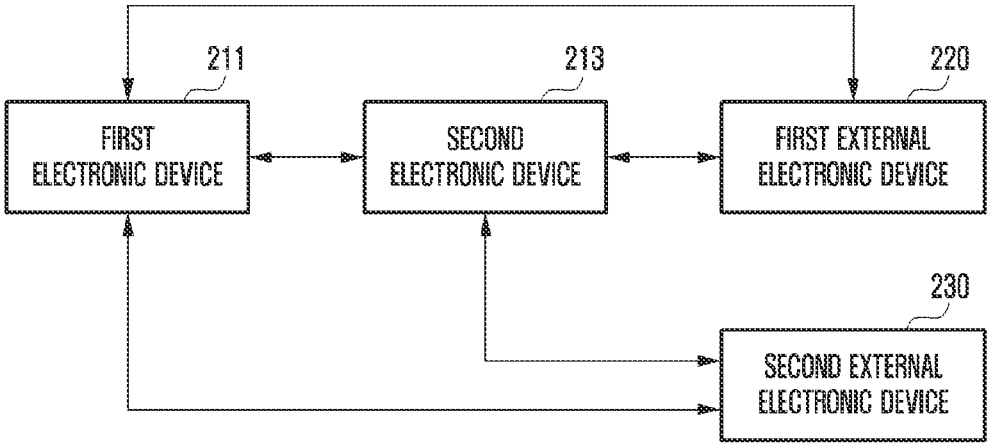

211
213
220
FIRST ELECTRONIC DEVICE
SECOND ELECTRONIC DEVICE
FIRST EXTERNAL ELECTRONIC DEVICE
230
SECOND EXTERNAL ELECTRONIC DEVICE

FIG. 3

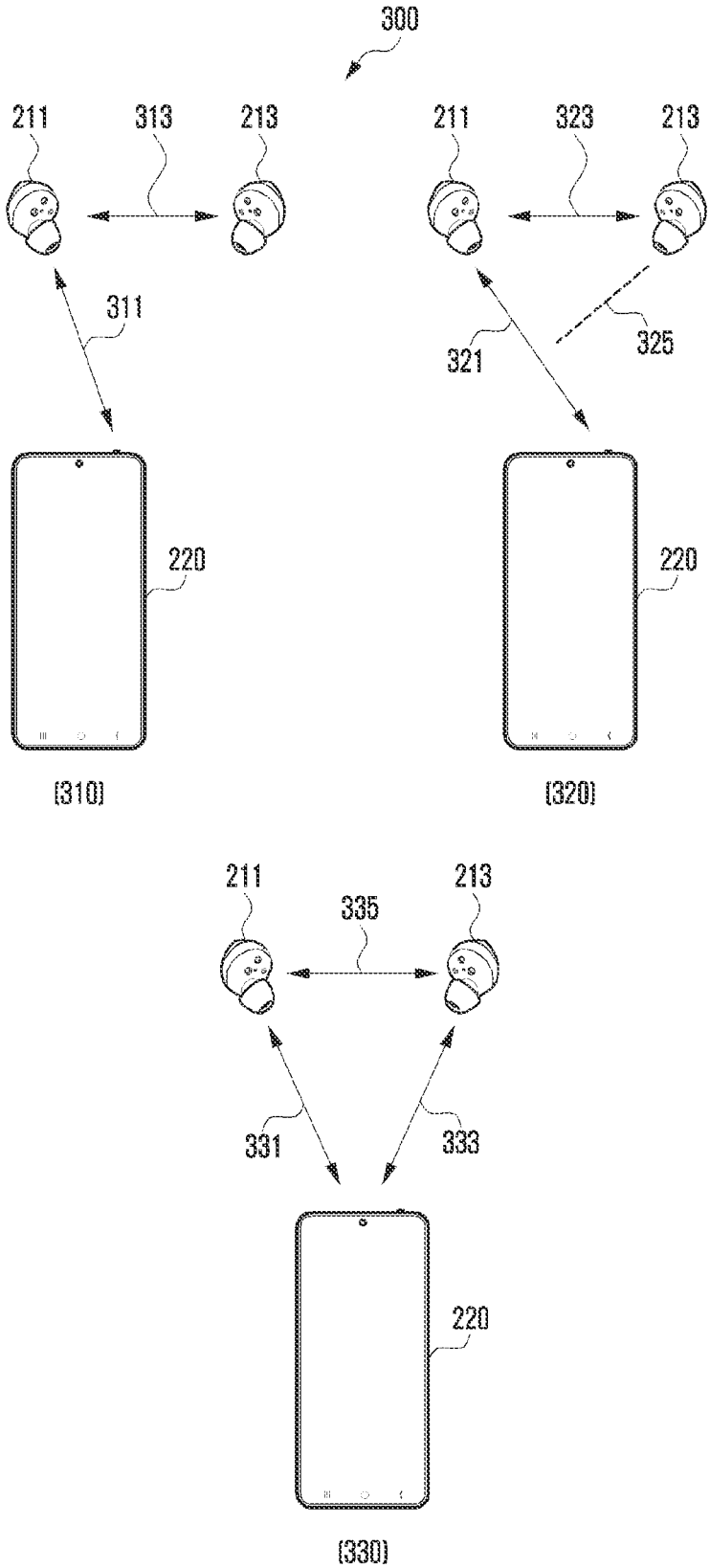
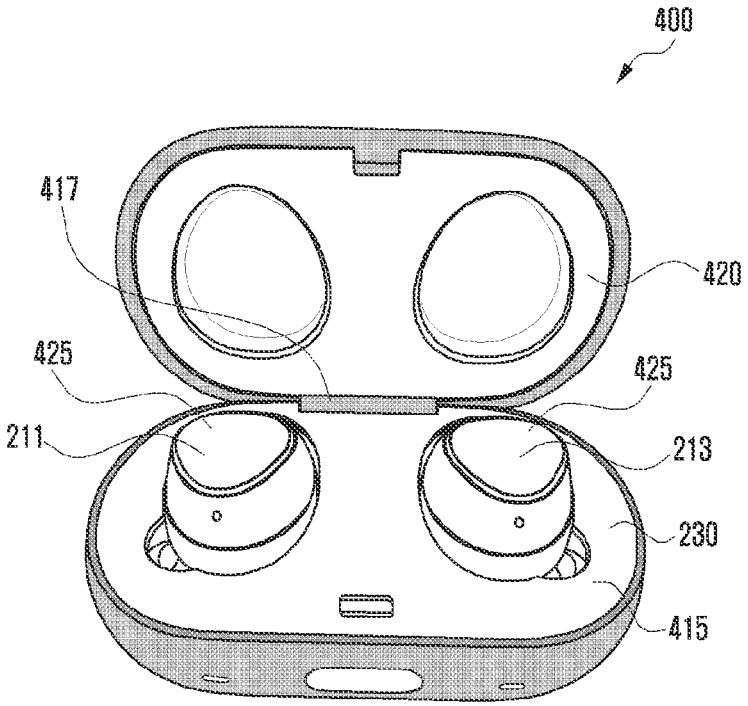
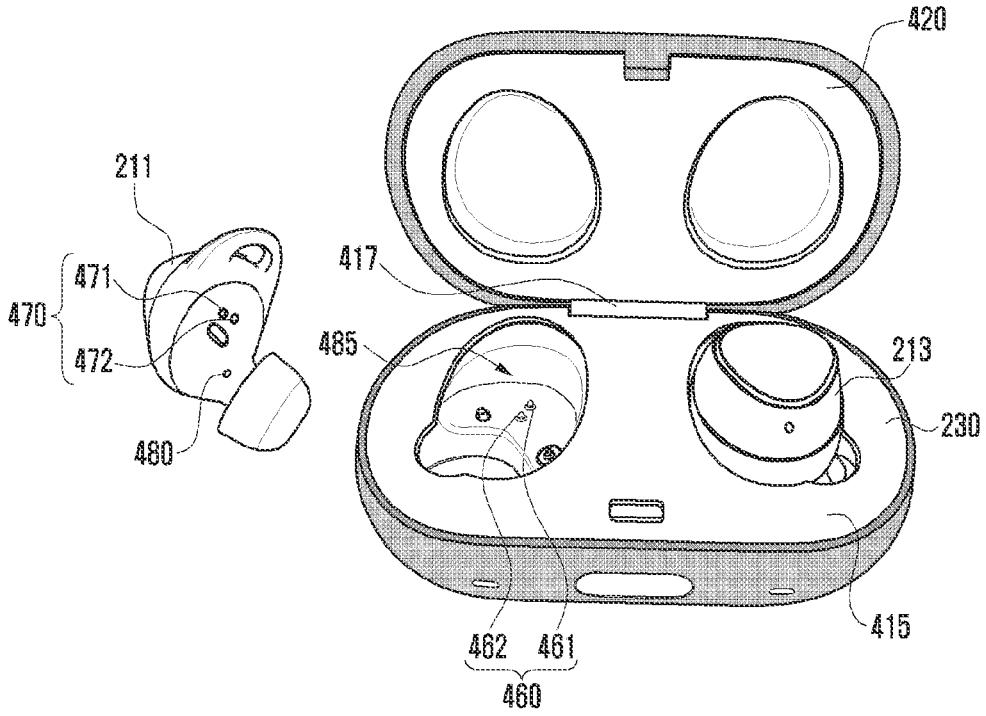

300
211
313
213
311
220
(310)
211
323
213
321
325
220
(320)
211
335
213
331
333
220
(330)

FIG. 4


400
417
420
425
425
211
213
230
415

(410)


420
211
471
470
472
480
417
485
213
230
415
462
461
460

(450)

FIG. 5

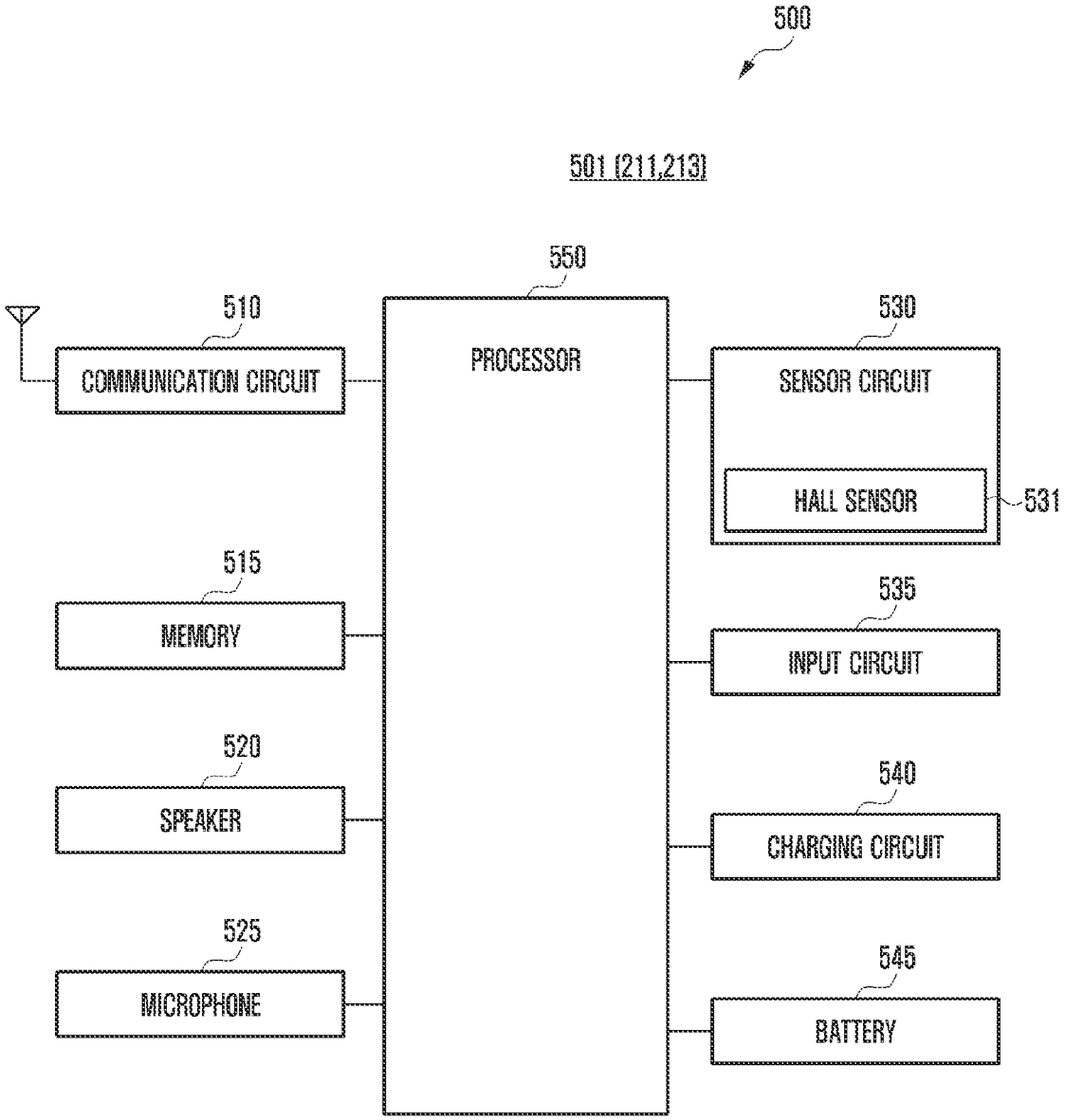

500
501 (211,213)
550
PROCESSOR
510
COMMUNICATION CIRCUIT
530
SENSOR CIRCUIT
HALL SENSOR
531
515
MEMORY
535
INPUT CIRCUIT
520
SPEAKER
540
CHARGING CIRCUIT
525
MICROPHONE
545
BATTERY

FIG. 6

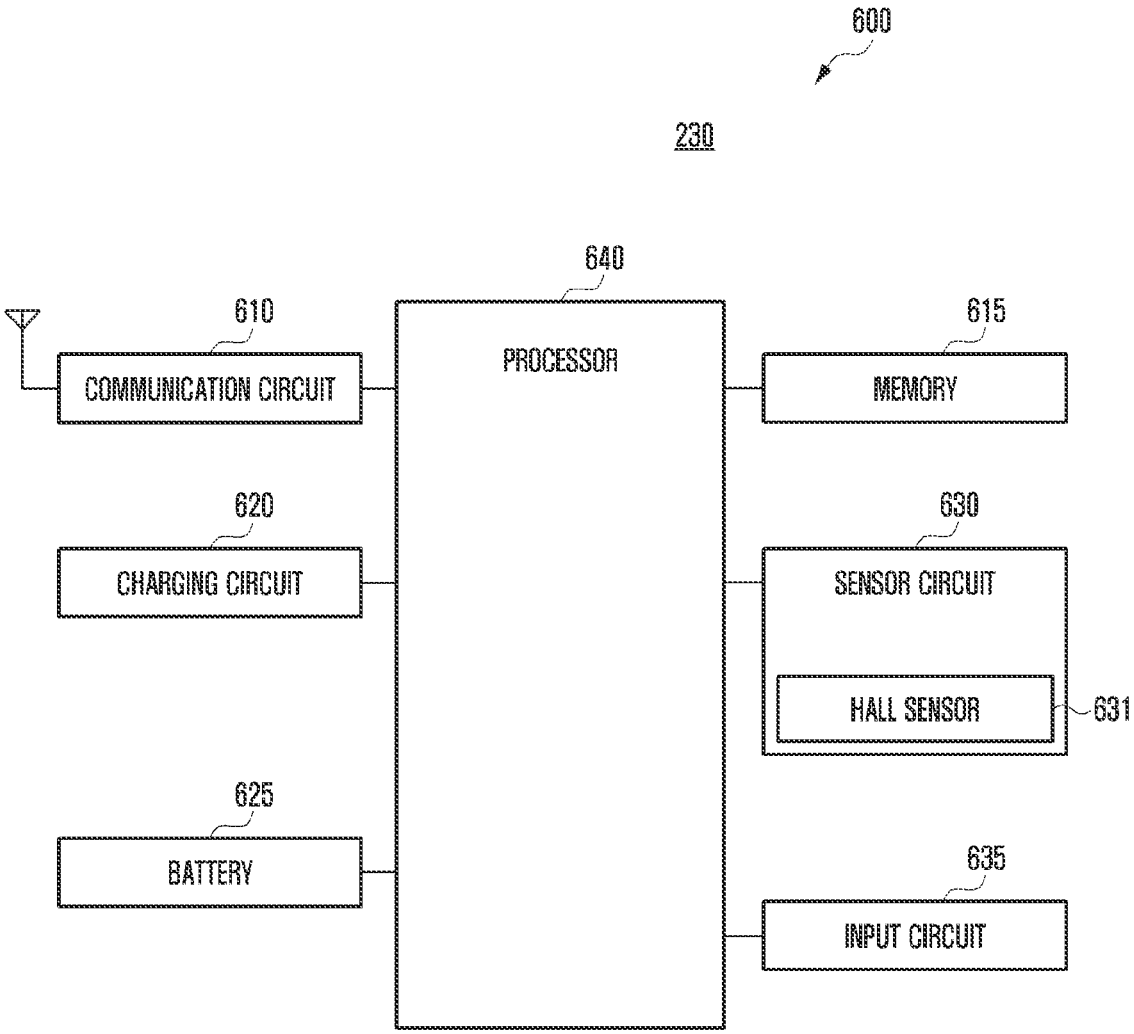

600
230
640
610
COMMUNICATION CIRCUIT
PROCESSOR
615
MEMORY
620
CHARGING CIRCUIT
630
SENSOR CIRCUIT
HALL SENSOR
631
625
BATTERY
635
INPUT CIRCUIT

FIG. 7

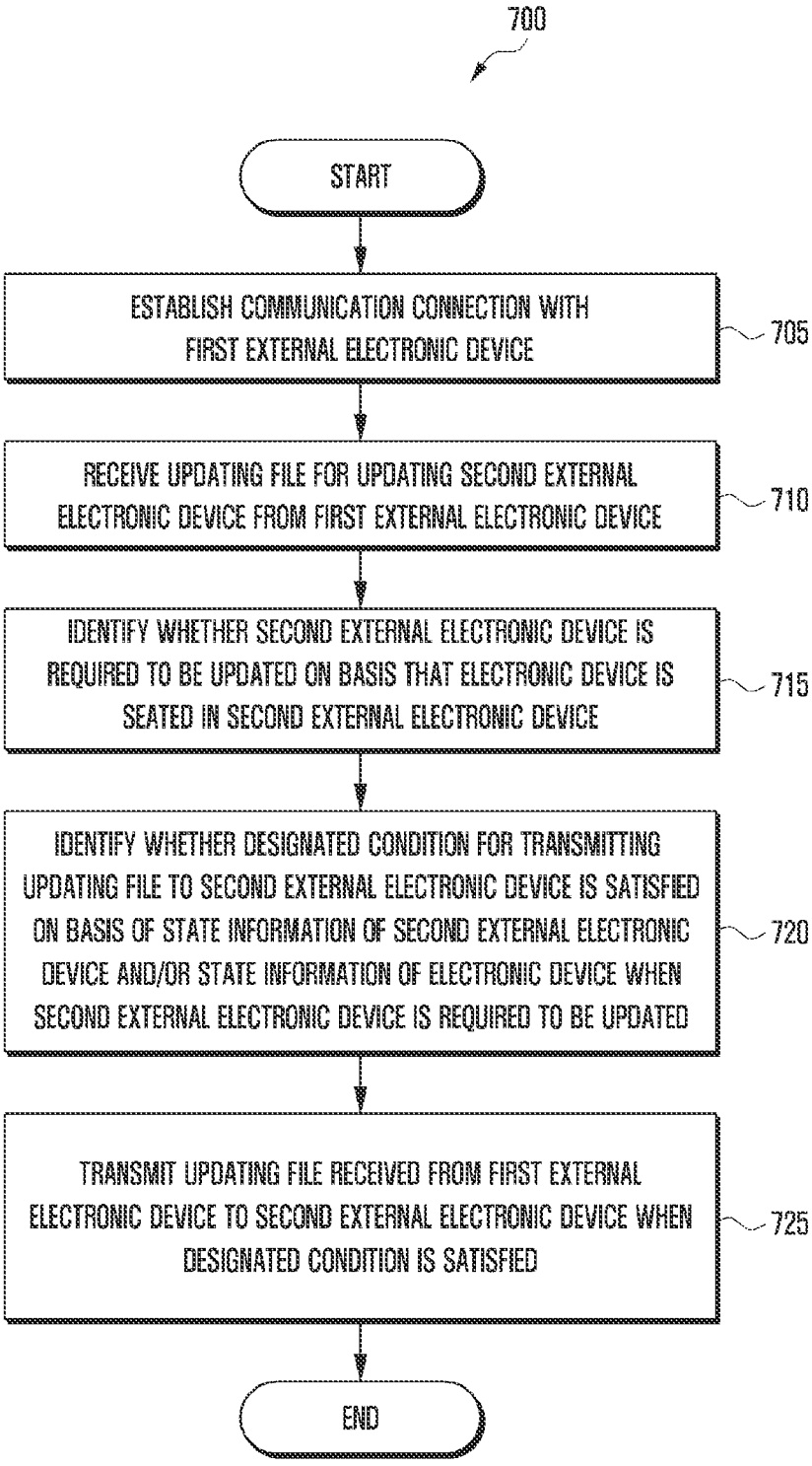

700
START
ESTABLISH COMMUNICATION CONNECTION WITH FIRST EXTERNAL ELECTRONIC DEVICE
705
RECEIVE UPDATING FILE FOR UPDATING SECOND EXTERNAL ELECTRONIC DEVICE FROM FIRST EXTERNAL ELECTRONIC DEVICE
710
IDENTIFY WHETHER SECOND EXTERNAL ELECTRONIC DEVICE IS REQUIRED TO BE UPDATED ON BASIS THAT ELECTRONIC DEVICE IS SEATED IN SECOND EXTERNAL ELECTRONIC DEVICE
715
IDENTIFY WHETHER DESIGNATED CONDITION FOR TRANSMITTING UPDATING FILE TO SECOND EXTERNAL ELECTRONIC DEVICE IS SATISFIED ON BASIS OF STATE INFORMATION OF SECOND EXTERNAL ELECTRONIC DEVICE AND/OR STATE INFORMATION OF ELECTRONIC DEVICE WHEN SECOND EXTERNAL ELECTRONIC DEVICE IS REQUIRED TO BE UPDATED
720
TRANSMIT UPDATING FILE RECEIVED FROM FIRST EXTERNAL ELECTRONIC DEVICE TO SECOND EXTERNAL ELECTRONIC DEVICE WHEN DESIGNATED CONDITION IS SATISFIED
725
END

FIG. 8

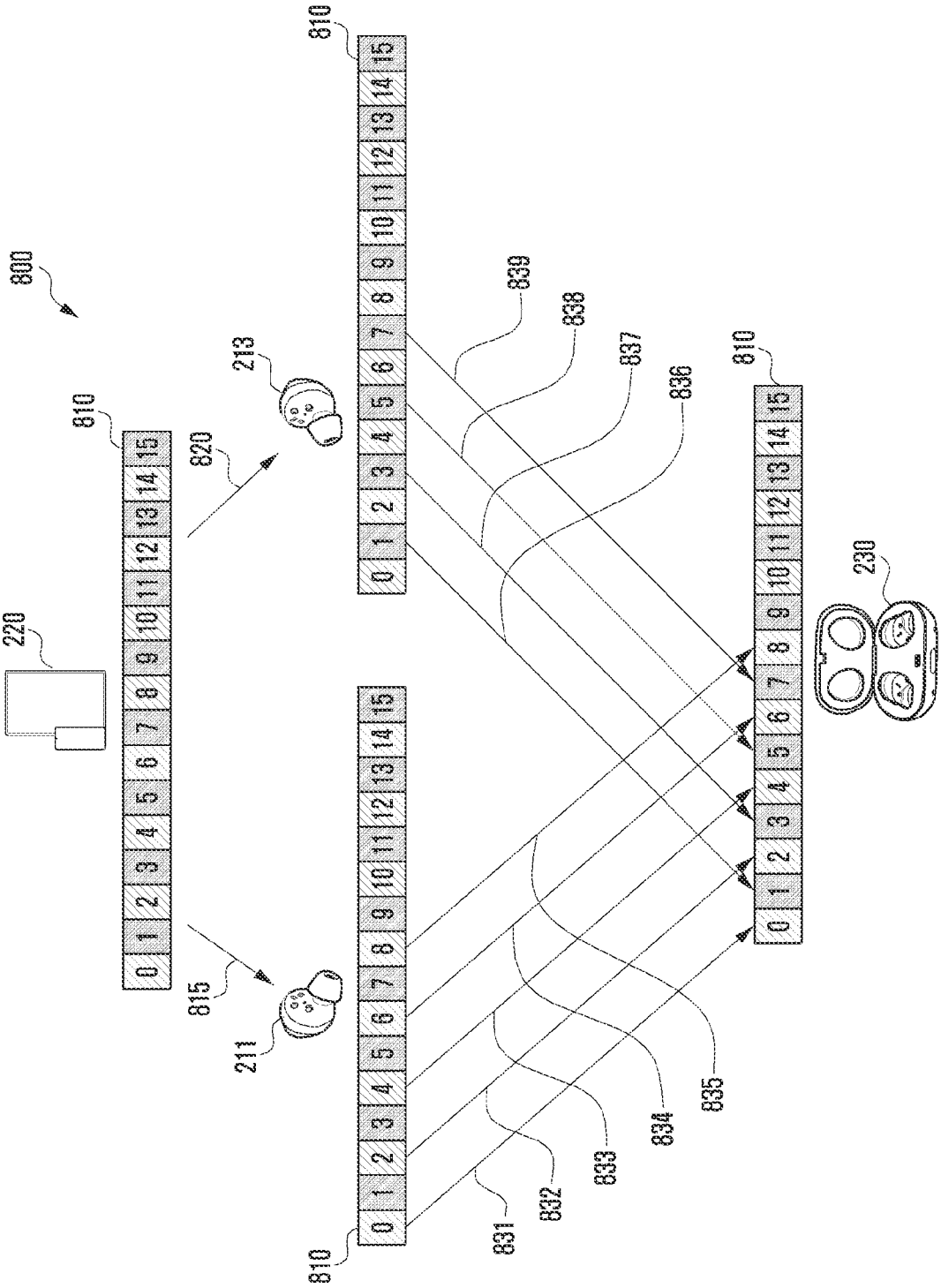

800
810
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
220
213
820
815
211
839
838
837
836
835
834
833
832
831
230

FIG. 9

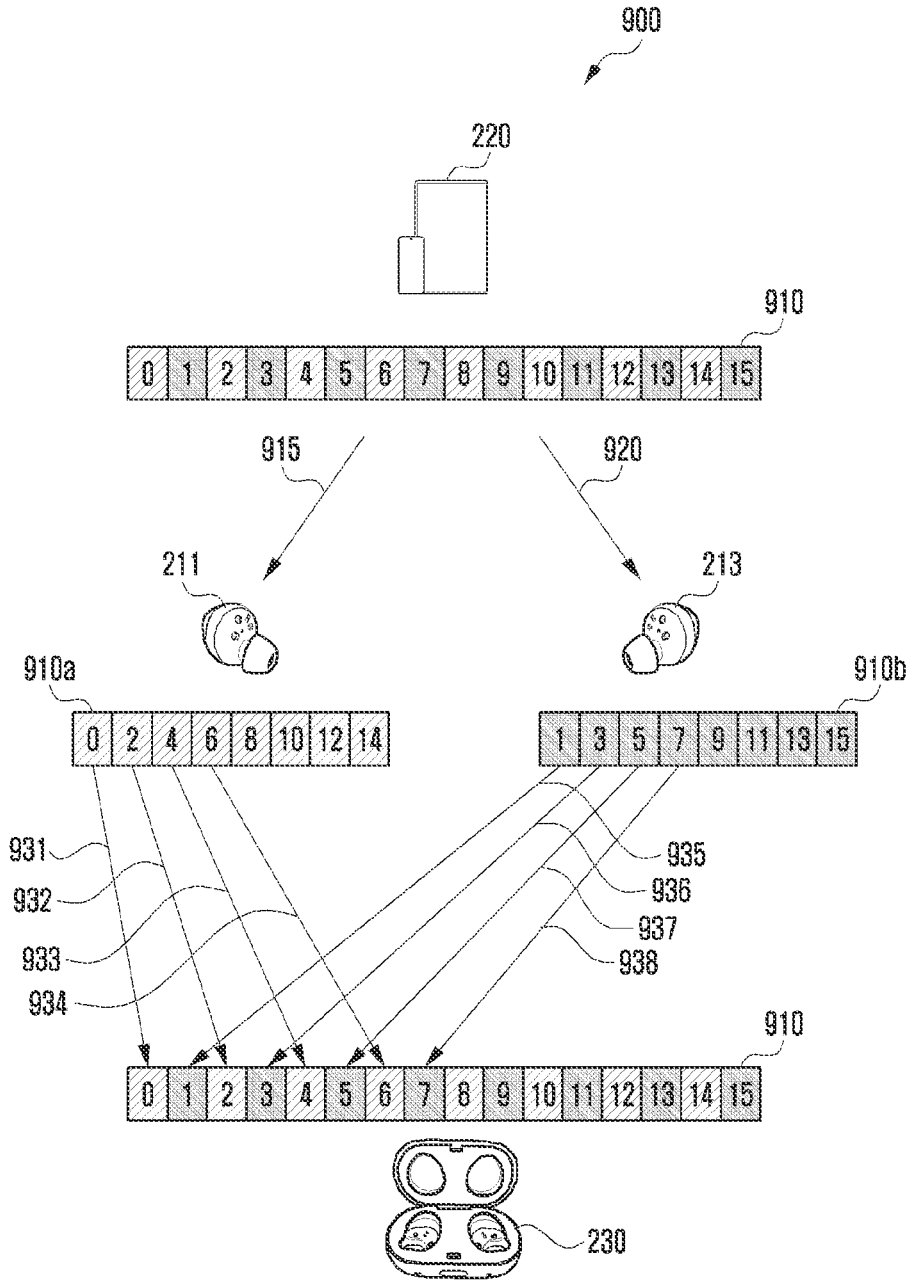

900
220
910
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
915
920
211
213
910a
910b
0 2 4 6 8 10 12 14
1 3 5 7 9 11 13 15
931
932
933
934
935
936
937
938
910
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
230

FIG. 10

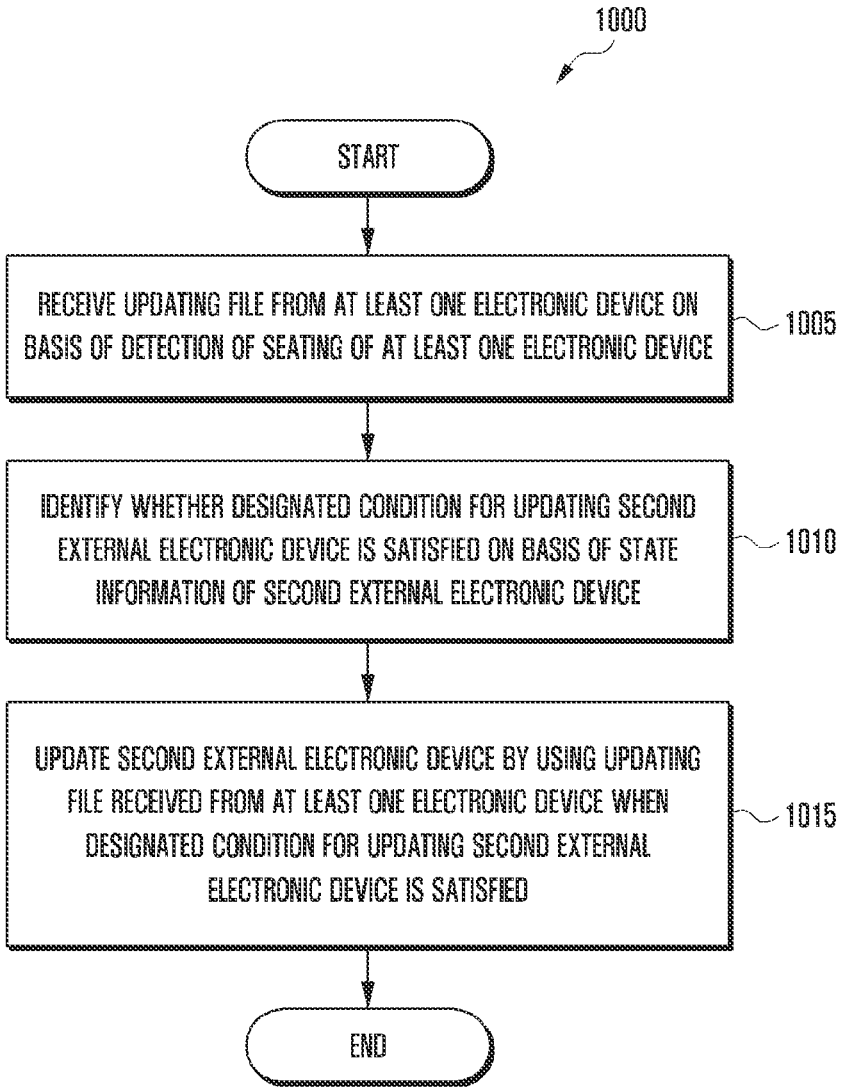

1000
START
RECEIVE UPDATING FILE FROM AT LEAST ONE ELECTRONIC DEVICE ON BASIS OF DETECTION OF SEATING OF AT LEAST ONE ELECTRONIC DEVICE
1005
IDENTIFY WHETHER DESIGNATED CONDITION FOR UPDATING SECOND EXTERNAL ELECTRONIC DEVICE IS SATISFIED ON BASIS OF STATE INFORMATION OF SECOND EXTERNAL ELECTRONIC DEVICE
1010
UPDATE SECOND EXTERNAL ELECTRONIC DEVICE BY USING UPDATING FILE RECEIVED FROM AT LEAST ONE ELECTRONIC DEVICE WHEN DESIGNATED CONDITION FOR UPDATING SECOND EXTERNAL ELECTRONIC DEVICE IS SATISFIED
1015
END

FIG. 11

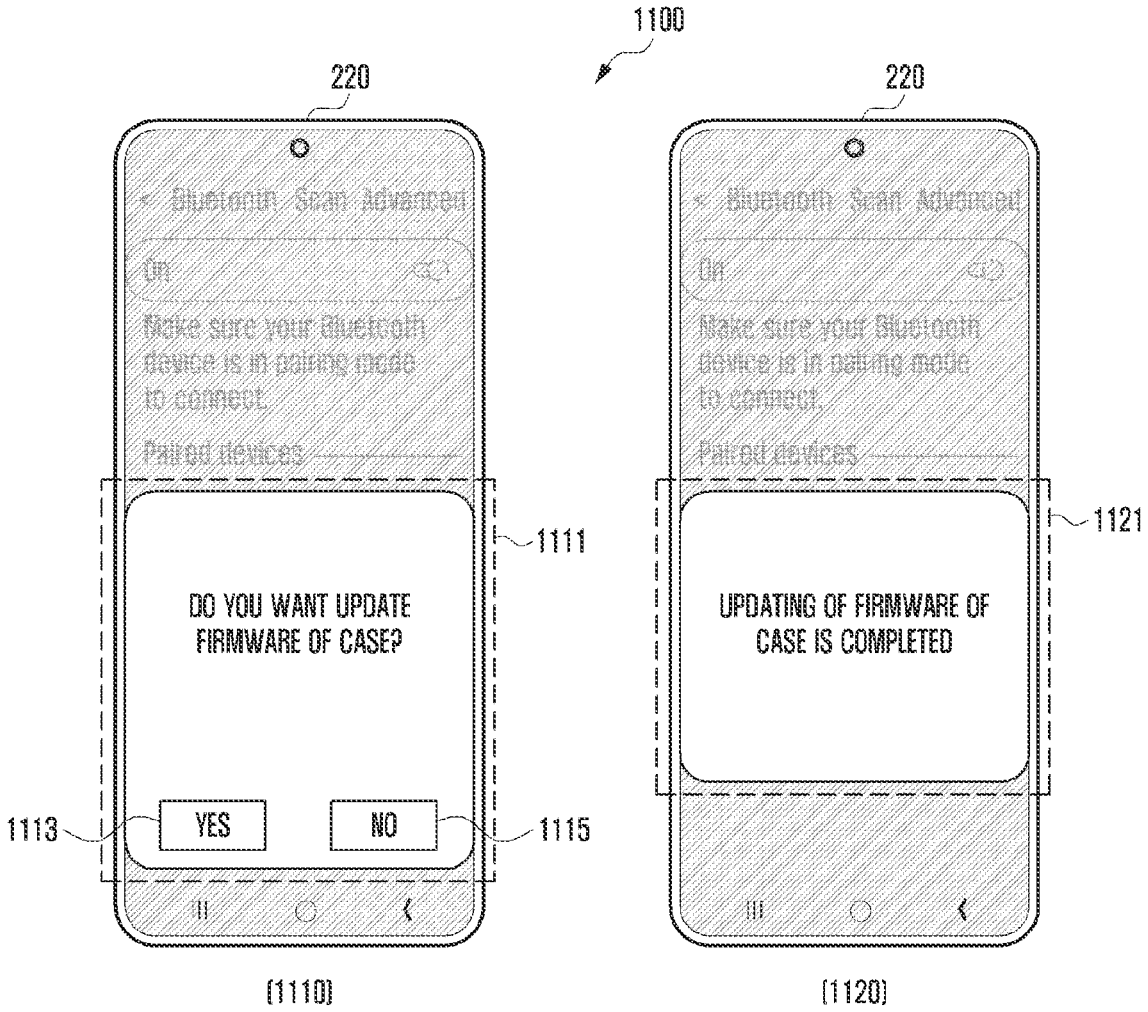

1100
220
220
DO YOU WANT UPDATE FIRMWARE OF CASE?
1111
1113
YES
NO
1115
UPDATING OF FIRMWARE OF CASE IS COMPLETED
1121
(1110)
(1120)

FIG. 12A

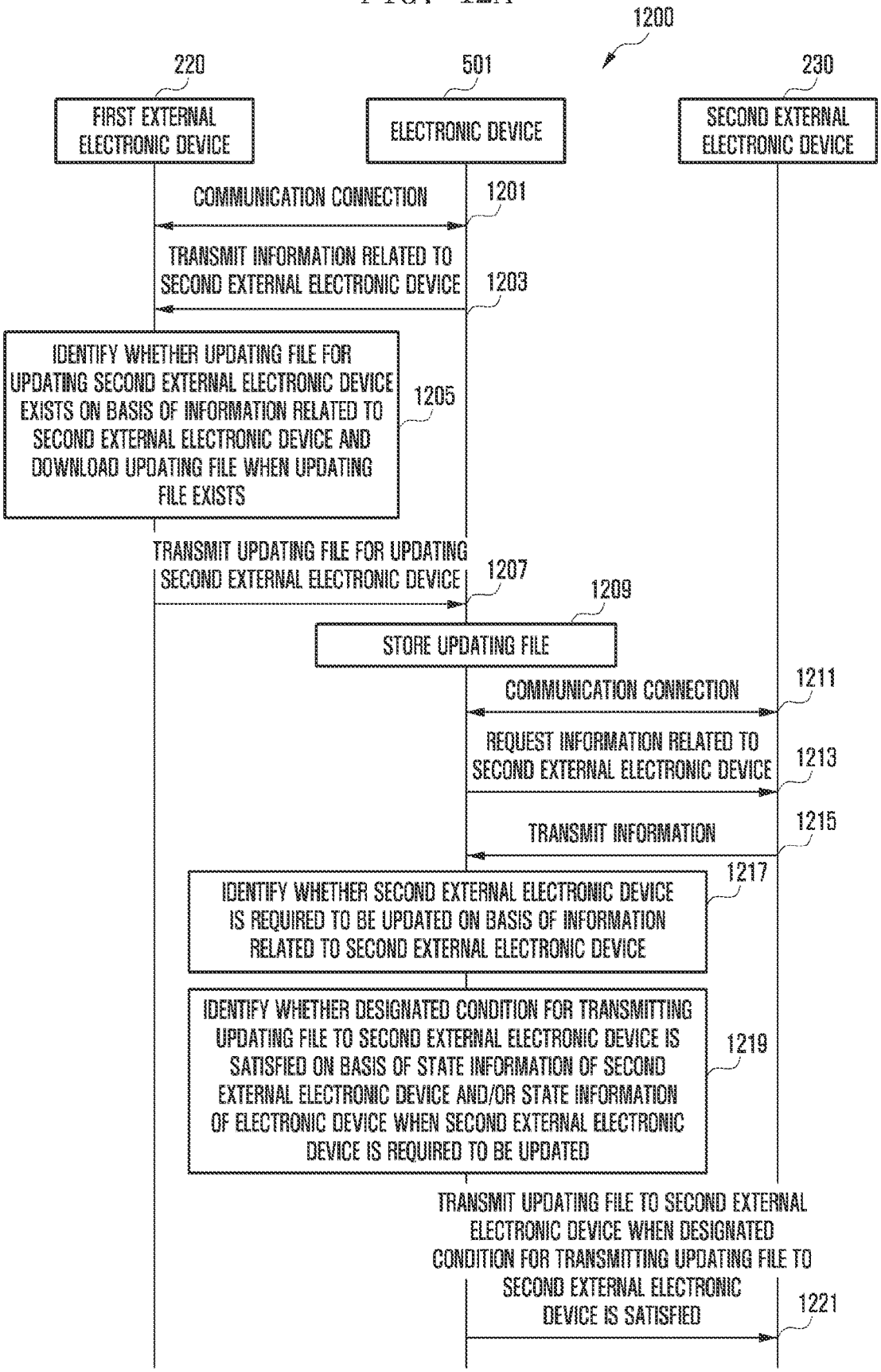

1200
220
501
230
FIRST EXTERNAL ELECTRONIC DEVICE
ELECTRONIC DEVICE
SECOND EXTERNAL ELECTRONIC DEVICE
COMMUNICATION CONNECTION
1201
TRANSMIT INFORMATION RELATED TO SECOND EXTERNAL ELECTRONIC DEVICE
1203
IDENTIFY WHETHER UPDATING FILE FOR UPDATING SECOND EXTERNAL ELECTRONIC DEVICE EXISTS ON BASIS OF INFORMATION RELATED TO SECOND EXTERNAL ELECTRONIC DEVICE AND DOWNLOAD UPDATING FILE WHEN UPDATING FILE EXISTS
1205
TRANSMIT UPDATING FILE FOR UPDATING SECOND EXTERNAL ELECTRONIC DEVICE
1207
1209
STORE UPDATING FILE
COMMUNICATION CONNECTION
1211
REQUEST INFORMATION RELATED TO SECOND EXTERNAL ELECTRONIC DEVICE
1213
TRANSMIT INFORMATION
1215
IDENTIFY WHETHER SECOND EXTERNAL ELECTRONIC DEVICE IS REQUIRED TO BE UPDATED ON BASIS OF INFORMATION RELATED TO SECOND EXTERNAL ELECTRONIC DEVICE
1217
IDENTIFY WHETHER DESIGNATED CONDITION FOR TRANSMITTING UPDATING FILE TO SECOND EXTERNAL ELECTRONIC DEVICE IS SATISFIED ON BASIS OF STATE INFORMATION OF SECOND EXTERNAL ELECTRONIC DEVICE AND/OR STATE INFORMATION OF ELECTRONIC DEVICE WHEN SECOND EXTERNAL ELECTRONIC DEVICE IS REQUIRED TO BE UPDATED
1219
TRANSMIT UPDATING FILE TO SECOND EXTERNAL ELECTRONIC DEVICE WHEN DESIGNATED CONDITION FOR TRANSMITTING UPDATING FILE TO SECOND EXTERNAL ELECTRONIC DEVICE IS SATISFIED
1221

FIG. 12B

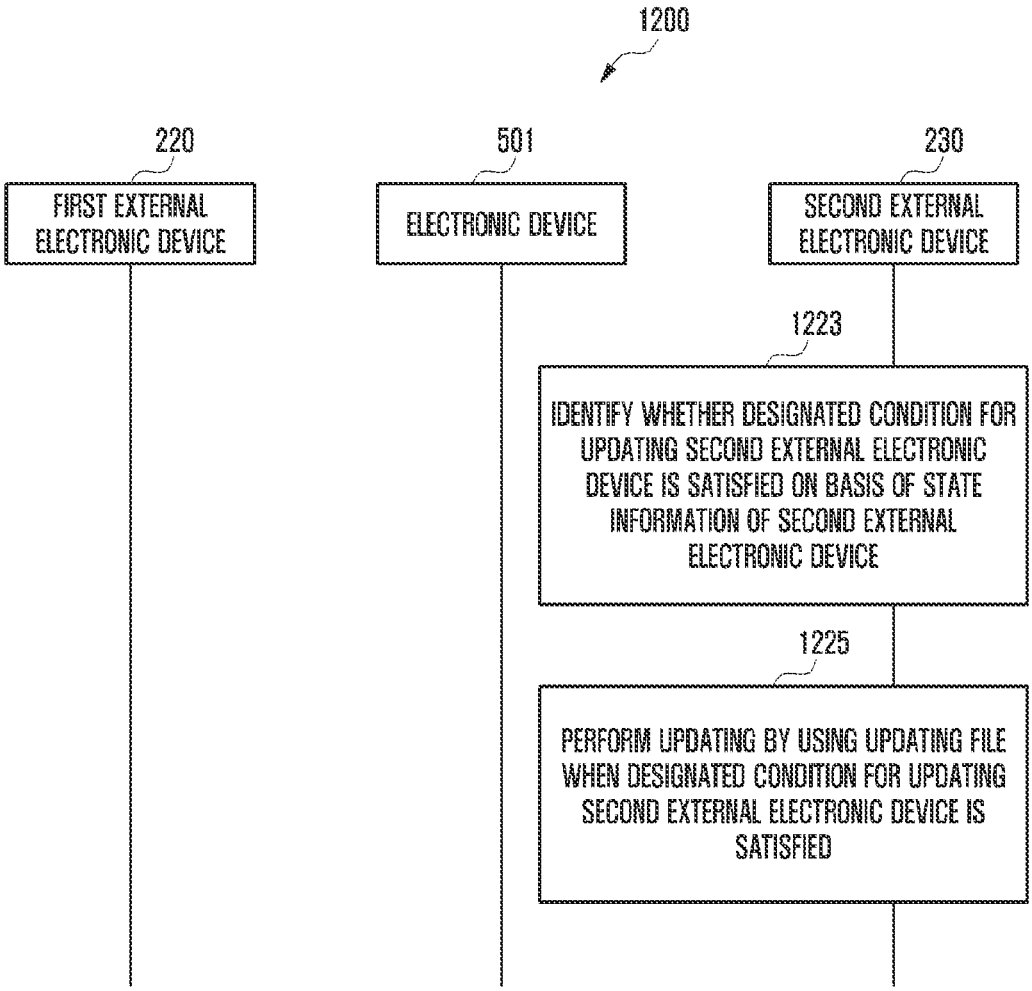

1200
220
FIRST EXTERNAL ELECTRONIC DEVICE
501
ELECTRONIC DEVICE
230
SECOND EXTERNAL ELECTRONIC DEVICE
1223
IDENTIFY WHETHER DESIGNATED CONDITION FOR UPDATING SECOND EXTERNAL ELECTRONIC DEVICE IS SATISFIED ON BASIS OF STATE INFORMATION OF SECOND EXTERNAL ELECTRONIC DEVICE
1225
PERFORM UPDATING BY USING UPDATING FILE WHEN DESIGNATED CONDITION FOR UPDATING SECOND EXTERNAL ELECTRONIC DEVICE IS SATISFIED

FIG. 13A

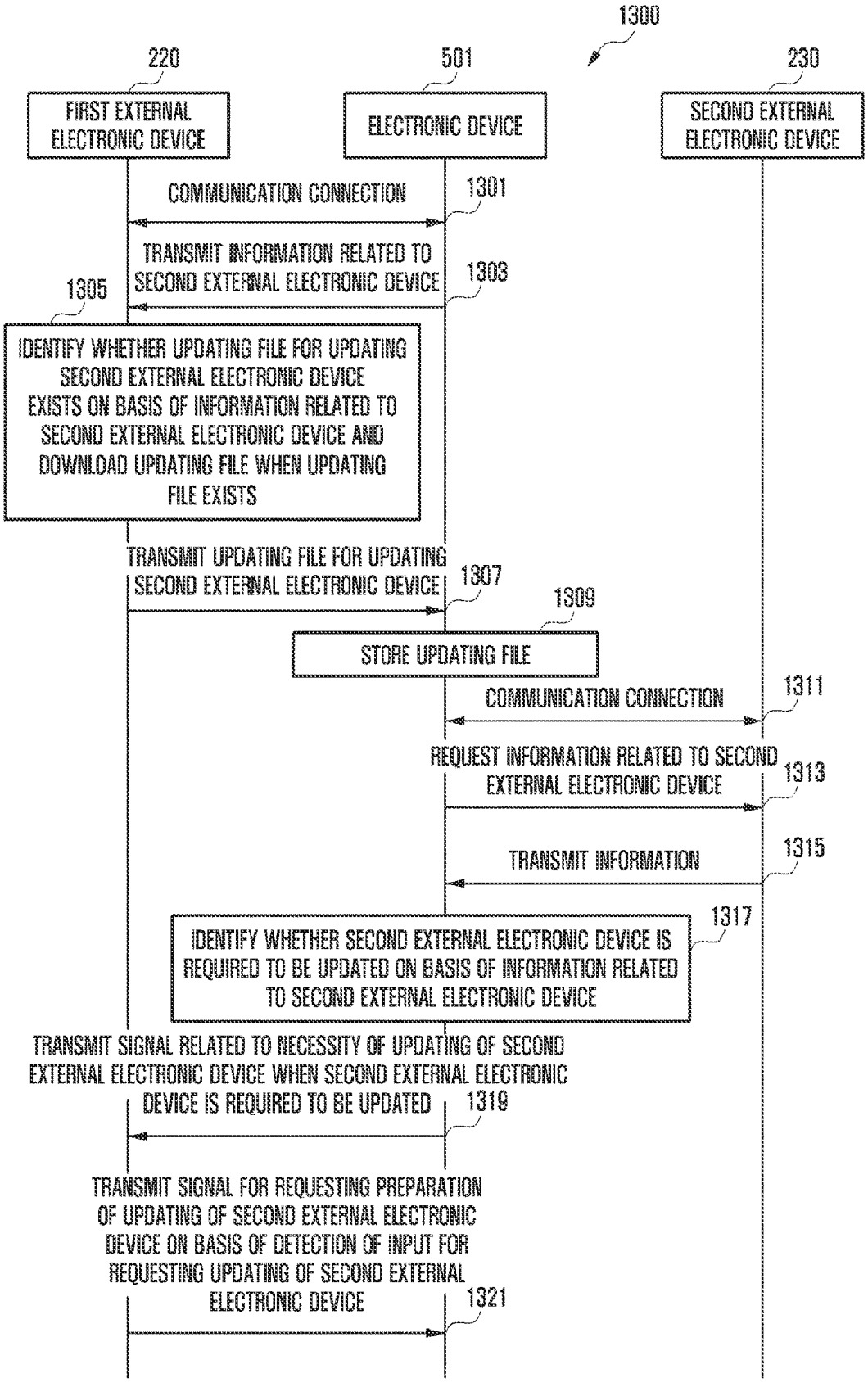

1300
220
501
230
FIRST EXTERNAL ELECTRONIC DEVICE
ELECTRONIC DEVICE
SECOND EXTERNAL ELECTRONIC DEVICE
COMMUNICATION CONNECTION
1301
TRANSMIT INFORMATION RELATED TO SECOND EXTERNAL ELECTRONIC DEVICE
1303
1305
IDENTIFY WHETHER UPDATING FILE FOR UPDATING SECOND EXTERNAL ELECTRONIC DEVICE EXISTS ON BASIS OF INFORMATION RELATED TO SECOND EXTERNAL ELECTRONIC DEVICE AND DOWNLOAD UPDATING FILE WHEN UPDATING FILE EXISTS
TRANSMIT UPDATING FILE FOR UPDATING SECOND EXTERNAL ELECTRONIC DEVICE
1307
1309
STORE UPDATING FILE
COMMUNICATION CONNECTION
1311
REQUEST INFORMATION RELATED TO SECOND EXTERNAL ELECTRONIC DEVICE
1313
TRANSMIT INFORMATION
1315
IDENTIFY WHETHER SECOND EXTERNAL ELECTRONIC DEVICE IS REQUIRED TO BE UPDATED ON BASIS OF INFORMATION RELATED TO SECOND EXTERNAL ELECTRONIC DEVICE
1317
TRANSMIT SIGNAL RELATED TO NECESSITY OF UPDATING OF SECOND EXTERNAL ELECTRONIC DEVICE WHEN SECOND EXTERNAL ELECTRONIC DEVICE IS REQUIRED TO BE UPDATED
1319
TRANSMIT SIGNAL FOR REQUESTING PREPARATION OF UPDATING OF SECOND EXTERNAL ELECTRONIC DEVICE ON BASIS OF DETECTION OF INPUT FOR REQUESTING UPDATING OF SECOND EXTERNAL ELECTRONIC DEVICE
1321

FIG. 13B

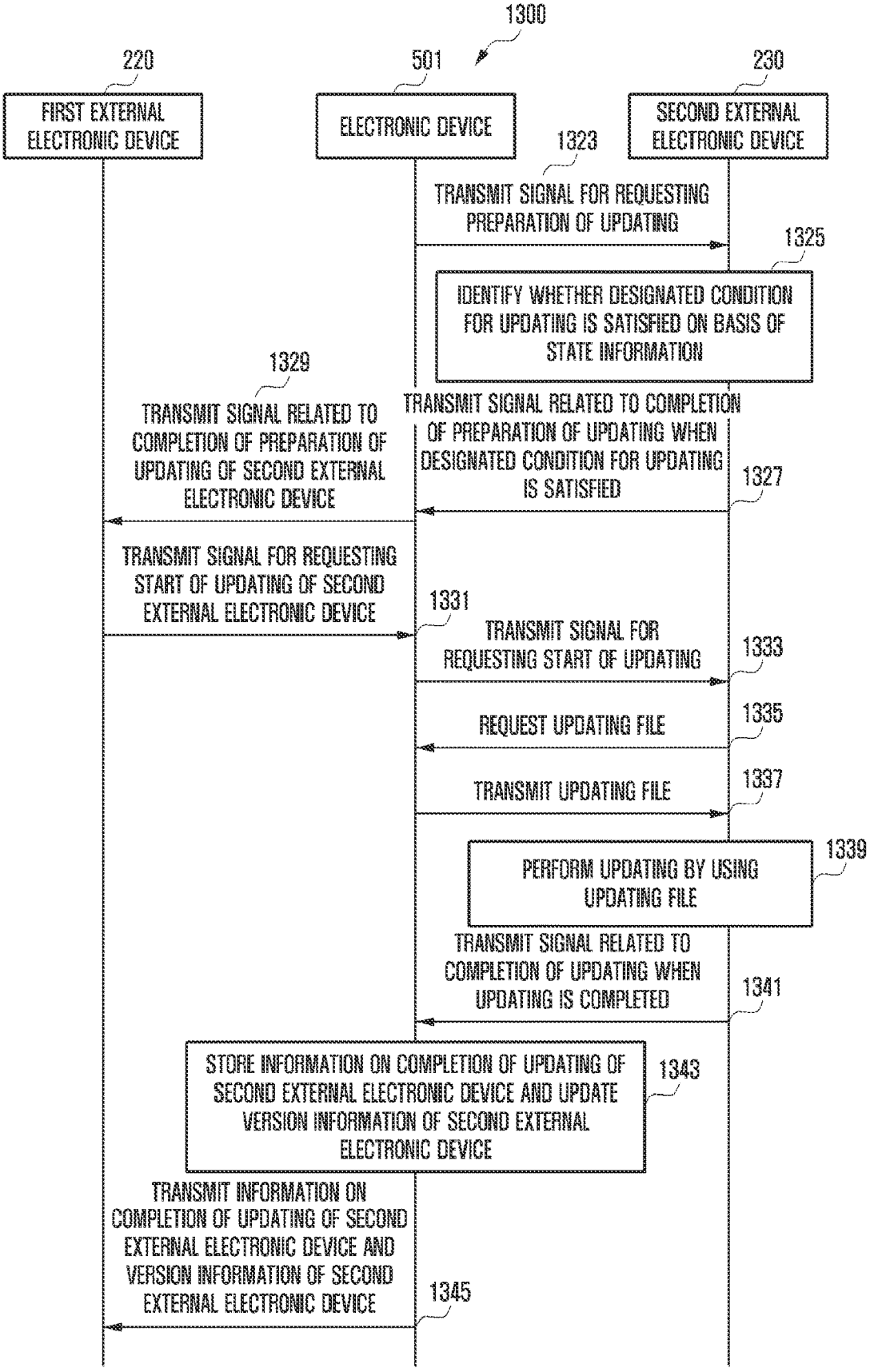

1300
220
501
230
FIRST EXTERNAL ELECTRONIC DEVICE
ELECTRONIC DEVICE
SECOND EXTERNAL ELECTRONIC DEVICE
1323
TRANSMIT SIGNAL FOR REQUESTING PREPARATION OF UPDATING
1325
IDENTIFY WHETHER DESIGNATED CONDITION FOR UPDATING IS SATISFIED ON BASIS OF STATE INFORMATION
1329
TRANSMIT SIGNAL RELATED TO COMPLETION OF PREPARATION OF UPDATING OF SECOND EXTERNAL ELECTRONIC DEVICE
TRANSMIT SIGNAL RELATED TO COMPLETION OF PREPARATION OF UPDATING WHEN DESIGNATED CONDITION FOR UPDATING IS SATISFIED
1327
TRANSMIT SIGNAL FOR REQUESTING START OF UPDATING OF SECOND EXTERNAL ELECTRONIC DEVICE
1331
TRANSMIT SIGNAL FOR REQUESTING START OF UPDATING
1333
REQUEST UPDATING FILE
1335
TRANSMIT UPDATING FILE
1337
PERFORM UPDATING BY USING UPDATING FILE
1339
TRANSMIT SIGNAL RELATED TO COMPLETION OF UPDATING WHEN UPDATING IS COMPLETED
1341
STORE INFORMATION ON COMPLETION OF UPDATING OF SECOND EXTERNAL ELECTRONIC DEVICE AND UPDATE VERSION INFORMATION OF SECOND EXTERNAL ELECTRONIC DEVICE
1343
TRANSMIT INFORMATION ON COMPLETION OF UPDATING OF SECOND EXTERNAL ELECTRONIC DEVICE AND VERSION INFORMATION OF SECOND EXTERNAL ELECTRONIC DEVICE
1345

FIG. 14A

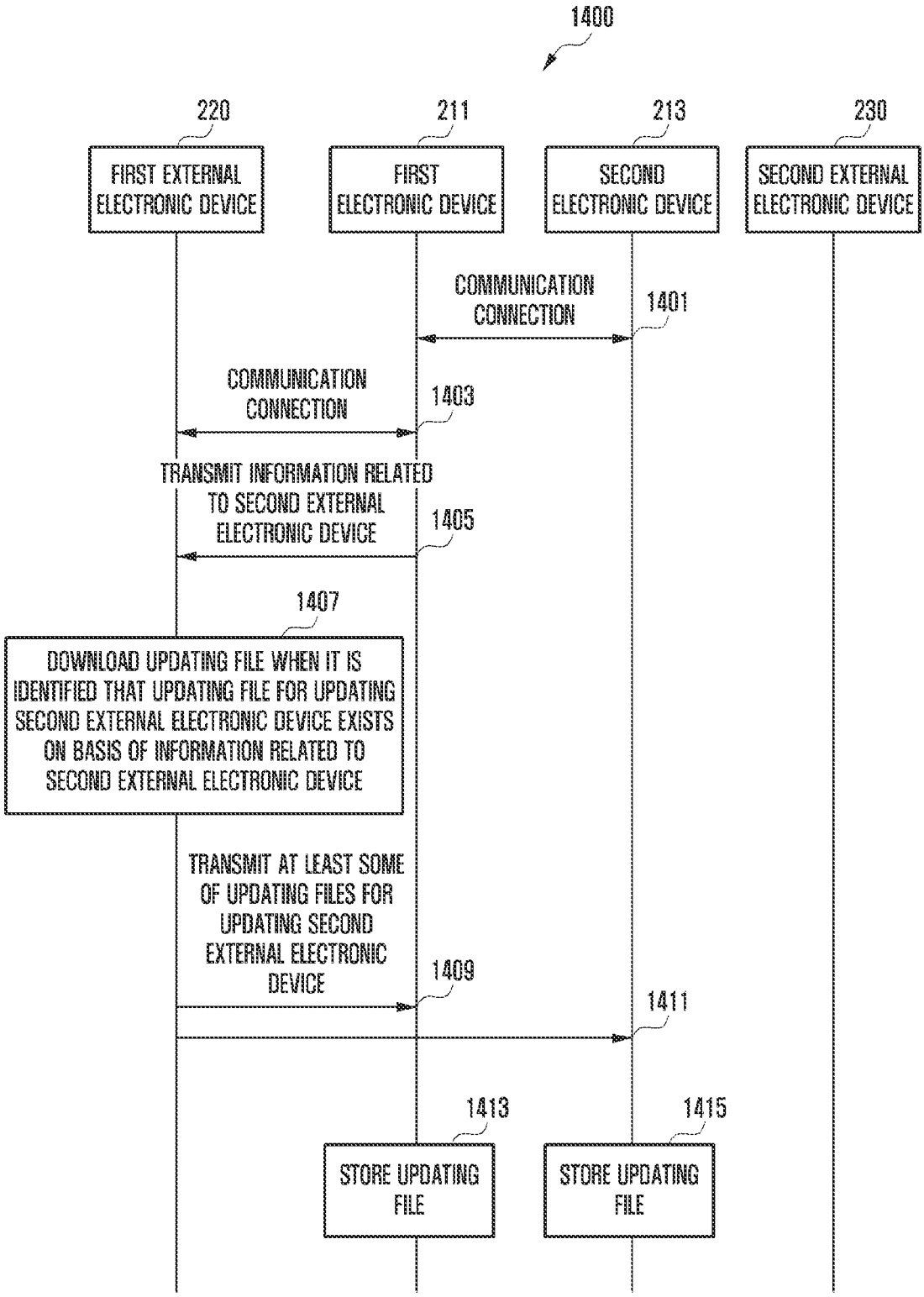
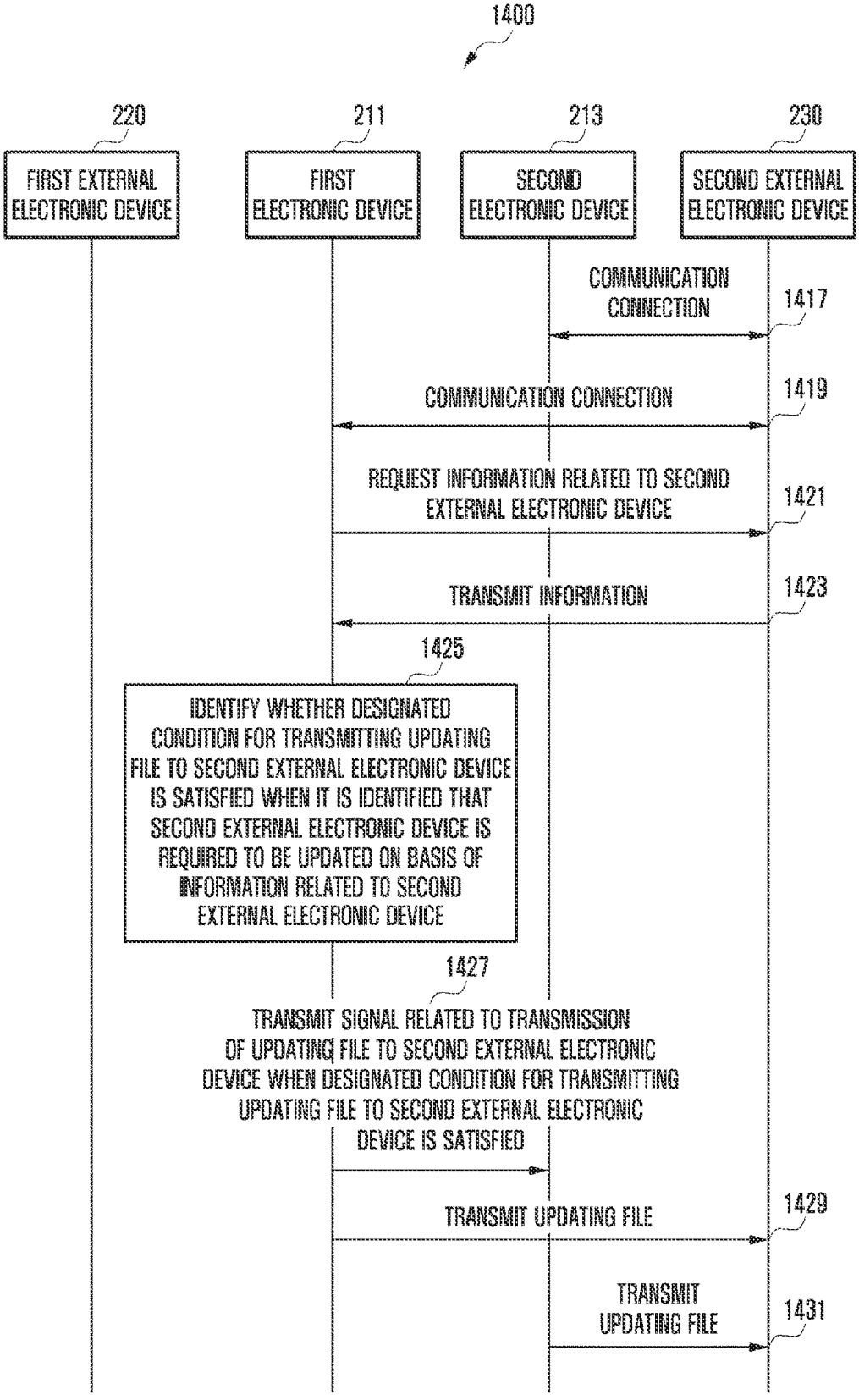

1400
220
211
213
230
FIRST EXTERNAL ELECTRONIC DEVICE
FIRST ELECTRONIC DEVICE
SECOND ELECTRONIC DEVICE
SECOND EXTERNAL ELECTRONIC DEVICE
COMMUNICATION CONNECTION
1401
COMMUNICATION CONNECTION
1403
TRANSMIT INFORMATION RELATED TO SECOND EXTERNAL ELECTRONIC DEVICE
1405
1407
DOWNLOAD UPDATING FILE WHEN IT IS IDENTIFIED THAT UPDATING FILE FOR UPDATING SECOND EXTERNAL ELECTRONIC DEVICE EXISTS ON BASIS OF INFORMATION RELATED TO SECOND EXTERNAL ELECTRONIC DEVICE
TRANSMIT AT LEAST SOME OF UPDATING FILES FOR UPDATING SECOND EXTERNAL ELECTRONIC DEVICE
1409
1411
1413
1415
STORE UPDATING FILE
STORE UPDATING FILE

FIG. 14B


1400
220
211
213
230
FIRST EXTERNAL ELECTRONIC DEVICE
FIRST ELECTRONIC DEVICE
SECOND ELECTRONIC DEVICE
SECOND EXTERNAL ELECTRONIC DEVICE
COMMUNICATION CONNECTION
1417
COMMUNICATION CONNECTION
1419
REQUEST INFORMATION RELATED TO SECOND EXTERNAL ELECTRONIC DEVICE
1421
TRANSMIT INFORMATION
1423
1425
IDENTIFY WHETHER DESIGNATED CONDITION FOR TRANSMITTING UPDATING FILE TO SECOND EXTERNAL ELECTRONIC DEVICE IS SATISFIED WHEN IT IS IDENTIFIED THAT SECOND EXTERNAL ELECTRONIC DEVICE IS REQUIRED TO BE UPDATED ON BASIS OF INFORMATION RELATED TO SECOND EXTERNAL ELECTRONIC DEVICE
1427
TRANSMIT SIGNAL RELATED TO TRANSMISSION OF UPDATING FILE TO SECOND EXTERNAL ELECTRONIC DEVICE WHEN DESIGNATED CONDITION FOR TRANSMITTING UPDATING FILE TO SECOND EXTERNAL ELECTRONIC DEVICE IS SATISFIED
TRANSMIT UPDATING FILE
1429
TRANSMIT UPDATING FILE
1431

ELECTRONIC DEVICE, AND METHOD FOR UPDATING EXTERNAL ELECTRONIC DEVICE USING SAME

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of International Application No. PCT/KR2022/005698 designating the United States, filed on Apr. 21, 2022, in the Korean Intellectual Property Receiving Office and claiming priority to Korean Patent Application No. 10-2021-0060129, filed on May 10, 2021, in the Korean Intellectual Property Office, the disclosures of each of which are incorporated by reference herein in their entireties.

BACKGROUND

Field

[0002] The disclosure relates to an electronic device and a method of updating an external electronic device using the same.

Description of Related Art

[0003] An electronic device, such as a wireless audio device, may output an audio signal received from an external electronic device. The electronic devices may include two electronic devices (e.g., left/right wireless audio devices), and the two electronic devices may be seated in a case and stored and/or charged. The case may be required to be updated to provide new functions, improve performance, and/or correct errors. To this end, the case may be connected to the external electronic device through a wired interface, and the case may be updated by the external electronic device.

[0004] However, the process of connecting the case to the external electronic device to update the case through the wired interface each time the case needs to be updated may inconvenience a user.

SUMMARY

[0005] Embodiments of the disclosure may provide an electronic device that may receive an updating file for updating a case from an external electronic device connected to the electronic device through wireless communication and store the updating file. In case that a designated condition for updating the case is satisfied after the electronic device is seated in the case, the electronic device may transmit the updating file received from the external electronic device to the case so that the case may be updated.

[0006] According to various example embodiments, electronic device includes: a communication circuit; a memory; and at least one processor operatively connected to the communication circuit and the memory, wherein one or more of the at least one processor is configured to: receive an updating file for updating a second external electronic device from a first external electronic device based on a communication connection with the first external electronic device through the communication circuit; identify whether the second external electronic device is required to be updated based on the electronic device being seated in the second external electronic device; identify whether a designated condition for transmitting the updating file to the second external electronic device is satisfied based on state information of the second external electronic device and/or state information of the electronic device based on the second external electronic device being required to be updated; and transmit the updating file, received from the first external electronic device, to the second external electronic device based on the designated condition for transmitting the updating file to the second external electronic device being satisfied.

[0007] According to various example embodiments, a method of updating an external electronic device using an electronic device includes: receiving an updating file for updating a second external electronic device from a first external electronic device based on a communication connection with the first external electronic device; identifying whether the second external electronic device is required to be updated based on the electronic device being seated in the second external electronic device; identifying whether a designated condition for transmitting the updating file to the second external electronic device is satisfied based on state information of the second external electronic device and/or state information of the electronic device based on the second external electronic device being required to be updated; and transmitting the updating file, received from the first external electronic device, to the second external electronic device based on the designated condition for transmitting the updating file to the second external electronic device being satisfied.

[0008] According to various example embodiments, an electronic device includes: a communication circuit; a sensor circuit; a memory; and at least one processor operatively connected to the communication circuit, the sensor circuit, and the memory, wherein one or more of the at least one processor is configured to: receive an updating file from one or more external electronic devices through the communication circuit based on seating of the one or more external electronic devices being detected by the sensor circuit; identify whether a designated condition for updating the electronic device is satisfied based on state information of the electronic device; and update the electronic device using the received updating file based on the designated condition for updating the electronic device being satisfied.

[0009] The electronic device according to various example embodiments of the present disclosure may transmit the updating file, which is received from the external electronic device, to the case in case that the designated condition for updating the case is satisfied after the electronic device is seated in the case. The case may automatically perform the updating operation using the updating file received from the electronic device. Therefore, it is possible to address the problem of the inconvenience of having to connect the case to the external electronic device through the wired interface to update the case.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The above and other aspects, features and advantages of certain embodiments of the present disclosure will be more apparent from the following detailed description, taken in conjunction with the accompanying drawings, in which:

[0011] FIG. **1** is a block diagram illustrating an example electronic device in a network environment according to various embodiments;

[0012] FIG. **2** is a block diagram illustrating an example configuration of a first electronic device, a second electronic

device, a first external electronic device, and a second external electronic device according to various embodiments;

[0013] FIG. **3** is a diagram illustrating an example method of establishing communication connection between the first electronic device, the second electronic device, and the first external electronic device according to various embodiments;

[0014] FIG. **4** is a perspective view illustrating example states in which the first electronic device and the second electronic device are seated in the second external electronic device and detached from the second external electronic device according to various embodiments;

[0015] FIG. **5** is a block diagram illustrating an example configuration of the electronic device according to various embodiments;

[0016] FIG. **6** is a block diagram illustrating an example configuration of the second external electronic device according to various embodiments;

[0017] FIG. **7** is a flowchart illustrating an example method of transmitting an updating file for updating the second external electronic device to the second external electronic device using the electronic device according to various embodiments;

[0018] FIGS. **8** and **9** are diagrams illustrating example operations in FIG. **7** according to various embodiments;

[0019] FIG. **10** is a flowchart illustrating an example method of updating the second external electronic device according to various embodiments;

[0020] FIG. **11** is a diagram illustrating an example user interface related to the update of the second external electronic device according to various embodiments;

[0021] FIGS. **12**A and **12**B are signal flow diagrams illustrating example operations between the electronic device, the first external electronic device, and the second external electronic device according to various embodiments;

[0022] FIGS. **13**A and **13**B are signal flow diagrams illustrating example operations between the electronic device, the first external electronic device, and the second external electronic device according to various embodiments; and

[0023] FIGS. **14**A and **14**B are signal flow diagrams illustrating example operations between the first electronic device, the second electronic device, the first external electronic device, and the second external electronic device according to various embodiments.

DETAILED DESCRIPTION

[0024] FIG. **1** is a block diagram illustrating an example electronic device **101** in a network environment **100** according to various embodiments.

[0025] Referring to FIG. **1**, an electronic device **101** in a network environment **100** may communicate with an electronic device **102** via a first network **198** (e.g., a short-range wireless communication network), or at least one of an electronic device **104** or a server **108** via a second network **199** (e.g., a long-range wireless communication network). According to an embodiment, the electronic device **101** may communicate with the electronic device **104** via the server **108**. According to an embodiment, the electronic device **101** may include a processor **120**, memory **130**, an input module **150**, a sound output module **155**, a display module **160**, an audio module **170**, a sensor module **176**, an interface **177**, a connection terminal **178**, a haptic module **179**, a camera module **180**, a power management module **188**, a battery **189**, a communication module **190**, a subscriber identification module (SIM) **196**, or an antenna module **197**. In various embodiments, at least one of the components (e.g., the connection terminal **178**) may be omitted from the electronic device **101**, or one or more other components may be added in the electronic device **101**. In various embodiments, some of the components (e.g., the sensor module **176**, the camera module **180**, or the antenna module **197**) may be implemented as a single component (e.g., the display module **160**).

[0026] The processor **120** may execute, for example, software (e.g., a program **140**) to control at least one other component (e.g., a hardware or software component) of the electronic device **101** coupled with the processor **120**, and may perform various data processing or computation. According to an embodiment, as at least part of the data processing or computation, the processor **120** may store a command or data received from another component (e.g., the sensor module **176** or the communication module **190**) in volatile memory **132**, process the command or the data stored in the volatile memory **132**, and store resulting data in non-volatile memory **134**. According to an embodiment, the processor **120** may include a main processor **121** (e.g., a central processing unit (CPU) or an application processor (AP)), or an auxiliary processor **123** (e.g., a graphics processing unit (GPU), a neural processing unit (NPU), an image signal processor (ISP), a sensor hub processor, or a communication processor (CP)) that is operable independently from, or in conjunction with, the main processor **121**. For example, when the electronic device **101** includes the main processor **121** and the auxiliary processor **123**, the auxiliary processor **123** may be adapted to consume less power than the main processor **121**, or to be specific to a specified function. The auxiliary processor **123** may be implemented as separate from, or as part of the main processor **121**.

[0027] The auxiliary processor **123** may control at least some of functions or states related to at least one component (e.g., the display module **160**, the sensor module **176**, or the communication module **190**) among the components of the electronic device **101**, instead of the main processor **121** while the main processor **121** is in an inactive (e.g., sleep) state, or together with the main processor **121** while the main processor **121** is in an active state (e.g., executing an application). According to an embodiment, the auxiliary processor **123** (e.g., an image signal processor or a communication processor) may be implemented as part of another component (e.g., the camera module **180** or the communication module **190**) functionally related to the auxiliary processor **123**. According to an embodiment, the auxiliary processor **123** (e.g., the neural processing unit) may include a hardware structure specified for artificial intelligence model processing. An artificial intelligence model may be generated by machine learning. Such learning may be performed, e.g., by the electronic device **101** where the artificial intelligence is performed or via a separate server (e.g., the server **108**). Learning algorithms may include, but are not limited to, e.g., supervised learning, unsupervised learning, semi-supervised learning, or reinforcement learning. The artificial intelligence model may include a plurality of artificial neural network layers. The artificial neural network may be a deep neural network (DNN), a convolutional

neural network (CNN), a recurrent neural network (RNN), a restricted boltzmann machine (RBM), a deep belief network (DBN), a bidirectional recurrent deep neural network (BRDNN), deep Q-network or a combination of two or more thereof but is not limited thereto. The artificial intelligence model may, additionally or alternatively, include a software structure other than the hardware structure.

[0028] The memory **130** may store various data used by at least one component (e.g., the processor **120** or the sensor module **176**) of the electronic device **101**. The various data may include, for example, software (e.g., the program **140**) and input data or output data for a command related thereto. The memory **130** may include the volatile memory **132** or the non-volatile memory **134**. The non-volatile memory **134** may include an internal memory **136** and/or an external memory **138**.

[0029] The program **140** may be stored in the memory **130** as software, and may include, for example, an operating system (OS) **142**, middleware **144**, or an application **146**.

[0030] The input module **150** may receive a command or data to be used by another component (e.g., the processor **120**) of the electronic device **101**, from the outside (e.g., a user) of the electronic device **101**. The input module **150** may include, for example, a microphone, a mouse, a keyboard, a key (e.g., a button), or a digital pen (e.g., a stylus pen).

[0031] The sound output module **155** may output sound signals to the outside of the electronic device **101**. The sound output module **155** may include, for example, a speaker or a receiver. The speaker may be used for general purposes, such as playing multimedia or playing record. The receiver may be used for receiving incoming calls. According to an embodiment, the receiver may be implemented as separate from, or as part of the speaker.

[0032] The display module **160** may visually provide information to the outside (e.g., a user) of the electronic device **101**. The display module **160** may include, for example, a display, a hologram device, or a projector and control circuitry to control a corresponding one of the display, hologram device, and projector. According to an embodiment, the display module **160** may include a touch sensor adapted to detect a touch, or a pressure sensor adapted to measure the intensity of force incurred by the touch.

[0033] The audio module **170** may convert a sound into an electrical signal and vice versa. According to an embodiment, the audio module **170** may obtain the sound via the input module **150**, or output the sound via the sound output module **155** or a headphone of an external electronic device (e.g., an electronic device **102**) (e.g., speaker or headphone) directly (e.g., wiredly) or wirelessly coupled with the electronic device **101**.

[0034] The sensor module **176** may detect an operational state (e.g., power or temperature) of the electronic device **101** or an environmental state (e.g., a state of a user) external to the electronic device **101**, and then generate an electrical signal or data value corresponding to the detected state. According to an embodiment, the sensor module **176** may include, for example, a gesture sensor, a gyro sensor, an atmospheric pressure sensor, a magnetic sensor, an acceleration sensor, a grip sensor, a proximity sensor, a color sensor, an infrared (IR) sensor, a biometric sensor, a temperature sensor, a humidity sensor, or an illuminance sensor.

[0035] The interface **177** may support one or more specified protocols to be used for the electronic device **101** to be coupled with the external electronic device (e.g., the electronic device **102**) directly (e.g., through wires) or wirelessly. According to an embodiment, the interface **177** may include, for example, a high-definition multimedia interface (HDMI), a universal serial bus (USB) interface, a secure digital (SD) card interface, or an audio interface.

[0036] The connection terminal **178** may include a connector via which the electronic device **101** may be physically connected with the external electronic device (e.g., the electronic device **102**). According to an embodiment, the connection terminal **178** may include, for example, an HDMI connector, a USB connector, an SD card connector, or an audio connector (e.g., a headphone connector).

[0037] The haptic module **179** may convert an electrical signal into a mechanical stimulus (e.g., a vibration or a movement) or electrical stimulus which may be recognized by a user via his tactile sensation or kinesthetic sensation. According to an embodiment, the haptic module **179** may include, for example, a motor, a piezoelectric element, or an electric stimulator.

[0038] The camera module **180** may capture a still image or moving images. According to an embodiment, the camera module **180** may include one or more lenses, image sensors, image signal processors, or flashes.

[0039] The power management module **188** may manage power supplied to the electronic device **101**. According to an embodiment, the power management module **188** may be implemented as at least part of, for example, a power management integrated circuit (PMIC).

[0040] The battery **189** may supply power to at least one component of the electronic device **101**. According to an embodiment, the battery **189** may include, for example, a primary cell which is not rechargeable, a secondary cell which is rechargeable, or a fuel cell.

[0041] The communication module **190** may support establishing a direct (e.g., wired) communication channel or a wireless communication channel between the electronic device **101** and the external electronic device (e.g., the electronic device **102**, the electronic device **104**, or the server **108**) and performing communication via the established communication channel. The communication module **190** may include one or more communication processors that are operable independently from the processor **120** (e.g., an application processor (AP)) and supports a direct (e.g., wired) communication or a wireless communication. According to an embodiment, the communication module **190** may include a wireless communication module **192** (e.g., a cellular communication module, a short-range wireless communication module, or a global navigation satellite system (GNSS) communication module) or a wired communication module **194** (e.g., a local area network (LAN) communication module or a power line communication (PLC) module). A corresponding one of these communication modules may communicate with the external electronic device via the first network **198** (e.g., a short-range communication network, such as Bluetooth™ Wi-Fi direct, or infrared data association (IrDA)) or the second network **199** (e.g., a long-range communication network, such as a legacy cellular network, a fifth generation (5G) network, a next-generation communication network, the Internet, or a computer network (e.g., LAN or wide area network (WAN))). These various types of communication modules may be

implemented as a single component (e.g., a single chip), or may be implemented as multi components (e.g., multi chips) separate from each other. The wireless communication module **192** may identify and authenticate the electronic device **101** in a communication network, such as the first network **198** or the second network **199**, using subscriber information (e.g., international mobile subscriber identity (IMSI)) stored in the subscriber identification module **196**.

[0042] The wireless communication module **192** may support a 5G network, after a 4G network, and next-generation communication technology, e.g., new radio (NR) access technology. The NR access technology may support enhanced mobile broadband (eMBB), massive machine type communications (mMTC), or ultra-reliable and low-latency communications (URLLC). The wireless communication module **192** may support a high-frequency band (e.g., the mmWave band) to achieve, e.g., a high data transmission rate. The wireless communication module **192** may support various technologies for securing performance on a high-frequency band, such as, e.g., beamforming, massive multiple-input and multiple-output (massive MIMO), full dimensional MIMO (FD-MIMO), array antenna, analog beam-forming, or large-scale antenna. The wireless communication module **192** may support various requirements specified in the electronic device **101**, an external electronic device (e.g., the electronic device **104**), or a network system (e.g., the second network **199**). According to an embodiment, the wireless communication module **192** may support a peak data rate (e.g., 20 Gbps or more) for implementing eMBB, loss coverage (e.g., 164 dB or less) for implementing mMTC, or U-plane latency (e.g., 0.5 ms or less for each of downlink (DL) and uplink (UL), or a round trip of 1 ms or less) for implementing URLLC.

[0043] The antenna module **197** may transmit or receive a signal or power to or from the outside (e.g., the external electronic device) of the electronic device **101**. According to an embodiment, the antenna module **197** may include an antenna including a radiating element including a conductive material or a conductive pattern formed in or on a substrate (e.g., a printed circuit board (PCB)). According to an embodiment, the antenna module **197** may include a plurality of antennas (e.g., array antennas). In such a case, at least one antenna appropriate for a communication scheme used in the communication network, such as the first network **198** or the second network **199**, may be selected, for example, by the communication module **190** (e.g., the wireless communication module **192**) from the plurality of antennas. The signal or the power may then be transmitted or received between the communication module **190** and the external electronic device via the selected at least one antenna. According to an embodiment, another component (e.g., a radio frequency integrated circuit (RFIC)) other than the radiating element may be additionally formed as part of the antenna module **197**.

[0044] According to various embodiments, the antenna module **197** may form mmWave antenna module. According to an embodiment, the mmWave antenna module may include a printed circuit board, a RFIC disposed on a first surface (e.g., the bottom surface) of the printed circuit board, or adjacent to the first surface and capable of supporting a designated high-frequency band (e.g., an mmwave band), and a plurality of antennas (e.g., array antennas) disposed on a second surface (e.g., the top or a side surface) of the printed circuit board, or adjacent to the second surface and capable of transmitting or receiving signals of the designated high-frequency band.

[0045] At least some of the above-described components may be coupled mutually and communicate signals (e.g., commands or data) therebetween via an inter-peripheral communication scheme (e.g., a bus, general purpose input and output (GPIO), serial peripheral interface (SPI), or mobile industry processor interface (MIPI)).

[0046] According to an embodiment, commands or data may be transmitted or received between the electronic device **101** and the external electronic device **104** via the server **108** coupled with the second network **199**. Each of the electronic devices **102** or **104** may be a device of a same type as, or a different type, from the electronic device **101**. According to an embodiment, all or some of operations to be executed at the electronic device **101** may be executed at one or more of the external electronic devices **102**, **104**, or **108**. For example, if the electronic device **101** should perform a function or a service automatically, or in response to a request from a user or another device, the electronic device **101**, instead of, or in addition to, executing the function or the service, may request the one or more external electronic devices to perform at least part of the function or the service. The one or more external electronic devices receiving the request may perform the at least part of the function or the service requested, or an additional function or an additional service related to the request, and transfer an outcome of the performing to the electronic device **101**. The electronic device **101** may provide the outcome, with or without further processing of the outcome, as at least part of a reply to the request. To that end, a cloud computing, distributed computing, mobile edge computing (MEC), or client-server computing technology may be used, for example. The electronic device **101** may provide ultra low-latency services using, e.g., distributed computing or mobile edge computing. In an embodiment, the external electronic device **104** may include an internet-of-things (IoT) device. The server **108** may be an intelligent server using machine learning and/or a neural network. According to an embodiment, the external electronic device **104** or the server **108** may be included in the second network **199**. The electronic device **101** may be applied to intelligent services (e.g., smart home, smart city, smart car, or healthcare) based on 5G communication technology or IoT-related technology.

[0047] FIG. **2** is a block diagram **200** illustrating an example configuration of a first electronic device **211**, a second electronic device **213**, a first external electronic device **220**, and a second external electronic device **230** according to various embodiments.

[0048] In various embodiments, the first electronic device **211** and the second electronic device **213** include a single set of electronic devices that may be ear wearable type wireless audio devices designed to be worn on a user's ears. For example, the first electronic device **211** (e.g., a first wireless audio device) may be designed to be worn on the user's left ear. The second electronic device **213** (e.g., a second wireless audio device) may be designed to be worn on the user's right ear.

[0049] In various embodiments, the first external electronic device **220** may be the electronic device **101** illustrated in FIG. **1**.

[0050] In various embodiments, the second external electronic device **230** may be a case into which the first electronic device **211** and the second electronic device **213** may be inserted.

[0051] With reference to FIG. **2**, the first electronic device **211** and/or the second electronic device **213** may be in communication connection with the first external electronic device **220** through short-range wireless communication (e.g., Bluetooth, Bluetooth Low Energy (BLE), Wi-Fi, Wi-Fi Direct, Wi-Fi aware, or ultra wide band (UWB)).

[0052] In various embodiments, the first external electronic device **220** may be in communication connection with the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**) through the short-range wireless communication, and the first external electronic device **220** may receive information of the second external electronic device **230** (e.g., identification information of the second external electronic device **230** and/or version information of firmware installed in the second external electronic device **230**) from the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**).

[0053] In an embodiment, the first external electronic device **220** may identify whether an updating file required to update the firmware installed in the second external electronic device **230** exists in a server on the basis of the information of the second external electronic device **230** received from the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**). In case that the updating file required to update the firmware installed in the second external electronic device **230** exists in the server, the first external electronic device **220** may download the updating file from the server and transmit the updating file to the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**). For example, the first external electronic device **220** may transmit the updating file to the first electronic device **211** and the second electronic device **213**. In this case, the first electronic device **211** and the second electronic device **213** may receive the same updating file from the first external electronic device **220** and store the updating file in a memory (e.g., a memory **515** in FIG. **5**).

[0054] As another example, the first external electronic device **220** may transmit the updating file to one electronic device (e.g., the first electronic device **211** or the second electronic device **213**). In this case, one electronic device (e.g., the first electronic device **211** or the second electronic device **213**) may store the updating file, which is received from the first external electronic device **220**, in the memory (e.g., the memory **515** in FIG. **5**).

[0055] As still another example, one electronic device (e.g., the first electronic device **211** or the second electronic device **213**) may divide the updating file received from the first external electronic device **220** into a first updating file and a second updating file. One electronic device (e.g., the first electronic device **211** or the second electronic device **213**) may store the first updating file in the memory. One electronic device (e.g., the first electronic device **211** or the second electronic device **213**) may transmit the second updating file to the other electronic device (e.g., the second electronic device **213** or the first electronic device **211**). The other electronic device (e.g., the second electronic device **213** or the first electronic device **211**) may store the second updating file, which is received from one electronic device (e.g., the first electronic device **211** or the second electronic device **213**), in the memory.

[0056] As still another example, the first external electronic device **220** may divide the updating file into the first updating file and the second updating file. The first external electronic device **220** may transmit the first updating file to the first electronic device **211** and transmit the second updating file to the second electronic device **213**. In this case, the first electronic device **211** may store the first updating file, which is received from the first external electronic device **220**, in the memory (e.g., the memory **515** in FIG. **5**). The second electronic device **213** may store the second updating file, which is received from the first external electronic device **220**, in the memory (e.g., the memory **515** in FIG. **5**).

[0057] In an embodiment, when the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**) are seated in the second external electronic device **230**, whether the second external electronic device **230** is required to be updated may be identified on the basis of the information related to the second external electronic device **230**. For example, the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**) identify that the version information of the updating file for updating the second external electronic device **230** received from the first external electronic device **220** is a higher level version than the version information of the firmware installed in the second external electronic device **230**, the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**) may identify that the second external electronic device **230** is required to be updated. On the basis of the identification indicating that the second external electronic device **230** is required to be updated, the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**) may transmit the updating file for updating the firmware installed in the second external electronic device **230** to the second external electronic device **230**.

[0058] In an embodiment, in case that a designated condition for updating the firmware installed in the second external electronic device **230** is satisfied, the second external electronic device **230** may update the firmware using the updating file received from the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**). For example, on the basis that the communication connection with at least one electronic device (e.g., the first electronic device **211** and/or the second electronic device **213**) is released (e.g., the first electronic device **211** and the second electronic device **213** are detached from the second external electronic device **230**), the designated condition for updating the second external electronic device **230** may include, for example, and without limitation, whether the second external electronic device **230** is in a stand-alone (SA) mode, whether a battery residual amount of the second external electronic device **230** exceeds a designated value, whether a temperature of the second external electronic device **230** exceeds a designated range, whether the second external electronic device **230** is in a state of being stably charged, and/or whether a user input for updating the firmware installed in the second external electronic device **230** through an input device (not illustrated) separately provided in the second external electronic device **230** is detected.

[0059] Various embodiments related to the operations of the first electronic device **211**, the second electronic device **213**, the first external electronic device **220**, and/or the second external electronic device **230** for updating the second external electronic device **230** according to various example embodiments will be described in greater detail below with reference to FIGS. **3** to **14**B.

[0060] FIG. **3** is a diagram **300** illustrating an example method of establishing communication connection between the first electronic device **211**, the second electronic device **213**, and the first external electronic device **220** according to various embodiments. With reference to FIG. **3**, the first electronic device **211** and/or the second electronic device **213** may be in communication connection with the first external electronic device **220** (e.g., the electronic device **101** in FIG. **1**) through short-range wireless communication. The first electronic device **211** and the second electronic device **213** may, for example, be connected to the first external electronic device **220** as one electronic device through the same Bluetooth mac address.

[0061] In various embodiments, the first electronic device **211** and/or the second electronic device **213** may be connected to the first external electronic device **220** through short-range wireless communication through a relay method, a sniffing method, or a true wireless stereo plus (TWS+) method.

[0062] For example, as illustrated in reference numeral <310>, the first electronic device **211** and/or the second electronic device **213** may be in communication connection with the first external electronic device **220** through the relay method. In the case of the communication connection by the relay method, one electronic device (e.g., the first electronic device **211** or the second electronic device **213**) of the first electronic device **211** and the second electronic device **213** may be representatively in communication connection with the first external electronic device **220** using a first communication link **311**. The other electronic device (e.g., the second electronic device **213** or the first electronic device **211**) may be in communication connection with the first electronic device **211** using a second communication link **313**, the first electronic device **211** being in communication connection with the first external electronic device **220** using the first communication link **311**.

[0063] As another example, as illustrated in reference numeral <320>, the first electronic device **211** and/or the second electronic device **213** may be in communication connection with the first external electronic device **220** by the sniffing method. In the case of the communication connection by the sniffing method, one electronic device (e.g., the first electronic device **211** or the second electronic device **213**) of the first electronic device **211** and the second electronic device **213** may be representatively in communication connection with the first external electronic device **220** using a first communication link **321**. The other electronic device (e.g., the second electronic device **213** or the first electronic device **211**) may be in communication connection with one electronic device (e.g., the first electronic device **211** or the second electronic device **213**) using a second communication link **323**, one electronic device (e.g., the first electronic device **211** or the second electronic device **213**) being in communication connection with the first external electronic device **220** using the first communication link **321**. In this case, the other electronic device (e.g., the second electronic device **213** or the first electronic device **211**) may overhear a signal transmitted to one electronic device (e.g., the first electronic device **211** or the second electronic device **213**) being in communication connection with the first external electronic device **220** using the first communication link **321** (**325**). The first external electronic device **220** may identify that the electronic device (e.g., the second electronic device **213** or the first electronic device **211**), which overhears a signal to prevent and/or reduce a malicious user, is a device connected by being paired with the electronic device (e.g., the first electronic device **211** or the second electronic device **213**) being in communication connection using the second communication link **323**.

[0064] As still another example, as illustrated in reference numeral <330>, the first electronic device **211** and/or the second electronic device **213** may be in communication connection with the first external electronic device **220** by the TWS+ method. In the case of the communication connection by the TWS+ method, one electronic device (e.g., the first electronic device **211** or the second electronic device **213**) of the first electronic device **211** and the second electronic device **213** may be in communication connection with the first external electronic device **220** using a first communication link **331**. The other electronic device (e.g., the second electronic device **213** or the first electronic device **211**) may be in communication connection with the first external electronic device **220** using a second communication link **333**. The first electronic device **211** may be in communication connection with the second electronic device **213** using a third communication link **335**.

[0065] The present disclosure is not limited thereto. Although not illustrated, the first electronic device **211** and the second electronic device **213** may have different mac addresses (e.g., Bluetooth mac addresses). In this case, the first electronic device **211** and the second electronic device **213** may be independently in communication connection with the first external electronic device **220**.

[0066] FIG. **4** is includes perspective views **400** illustrating example states in which the first electronic device **211** and the second electronic device **213** are seated in the second external electronic device **230** and detached from the second external electronic device **230** according to various embodiments.

[0067] With reference to FIG. **4**, the first electronic device **211** and the second electronic device **213** according to various embodiments may be ear wearable type wireless audio devices designed to be worn on the user's ears. For example, the first electronic device **211** (e.g., the first wireless audio device) may be designed to be worn on the user's left ear. The second electronic device **213** (e.g., the second wireless audio device) may be designed to be worn on the user's right ear.

[0068] The second external electronic device **230** according to various embodiments may be the case into which the first electronic device **211** and/or the second electronic device **213** may be inserted.

[0069] Reference numeral <410> according to various embodiments is a view illustrating a state in which the first electronic device **211** and/or the second electronic device **213** are seated (e.g., accommodated or mounted) in grooves **485** formed in a first housing structure **415**. Reference numeral <450> according to various embodiments is a view illustrating a state in which the first electronic device **211** is detached (e.g., separated) from the second external electronic device **230**.

[0070] In an embodiment, the second external electronic device **230** may include a housing provided in the form of a case capable of storing the first electronic device **211** and/or the second electronic device **213**.

[0071] In an embodiment, the housing may include the first housing structure **415** having the grooves **485** in which the first electronic device **211** and/or the second electronic device **213** may be seated, a second housing structure **420** configured to serve as a cover for the first housing structure **415**, and a hinge structure **417** configured to couple the first housing structure **415** and the second housing structure **420** so that the first housing structure **415** and the second housing structure **420** are rotatable. For example, in an open state in which the second housing structure **420** has a predetermined angle with respect to the first housing structure **415**, one side of the first housing structure **415** may be connected to one side of the second housing structure **420** by means of the hinge structure **417**. One housing structure of the first housing structure **415** and the second housing structure **420** may include a magnet, and the other structure may include a Hall sensor using the magnet. The second external electronic device **230** may use the Hall sensor and detect a fastened state (e.g., a closed state) or a released state (e.g., an open state) of the first housing structure **415** and the second housing structure **420**. For example, the second external electronic device **230** may further include a physical button (not illustrated) for unfastening the first housing structure **415** and the second housing structure **420**. The first housing structure **415** and the second housing structure **420** may be unfastened by a manipulation of the physical button (not illustrated). However, the present disclosure is not limited thereto.

[0072] In various embodiments, the second external electronic device **230** may include an indicator (e.g., one or more LED devices capable of producing outputs) that indicates a state in which the second external electronic device **230** operates (e.g., a state in which the first electronic device **211** and/or the second electronic device **213** are supplied with power (or charged) and a state in which the first electronic device **211** and/or the second electronic device **213** exchange data (e.g., information of the first electronic device **211** or information of the second electronic device **213**).

[0073] In an embodiment, the first electronic device **211** and/or the second electronic device **213** may be seated in the grooves **485** formed in the first housing structure **415**. In an embodiment, the grooves **485** of the first housing structure **415** may be formed so that earplugs of the first electronic device **211** and/or the second electronic device **213** are inserted into the grooves **485**.

[0074] In an embodiment, when the first electronic device **211** and/or the second electronic device **213** are seated in the grooves **485**, the surfaces of the first electronic device **211** and/or the second electronic device **213** opposite to the earplugs may be exposed when viewed from above the first housing structure **415**.

[0075] In an embodiment, the first electronic device **211** and/or the second electronic device **213** may each include a microphone **480** capable of receiving an input in the form of a sound. Touch sensors **425** may be provided on the surfaces of the first electronic device **211** and/or the second electronic device **213** opposite to the earplugs. The user may control the functions of the first electronic device **211** and/or the second electronic device **213** using the touch sensors **425**.

[0076] In various embodiments, one or more terminals **460** for supplying power to the first electronic device **211** and/or the second electronic device **213** may be provided in each of the grooves **485** of the first housing structure **415**. For example, the one or more terminals **460** may include a first terminal **461** for supplying a high-potential voltage, and a second terminal **462** for supplying a low-potential voltage. In an embodiment, the first electronic device **211** may have terminals **470** that physically come into contact with the one or more terminals **461** and **462** while the first electronic device **211** is seated in the groove **485** of the first housing structure **415**. For example, the terminals **470** may include a third terminal **471** that physically comes into contact with the first terminal **461** while the first electronic device **211** is seated in the groove **485**, and a fourth terminal **472** that physically comes into contact with the second terminal **462** while the first electronic device **211** is seated in the groove **485**.

[0077] In an embodiment, because the grooves **485** of the first housing structure **415** are formed such that the earplugs of the first electronic device **211** and/or the second electronic device **213** are inserted into the grooves **485**, the terminals **470** of the first electronic device **211** may be provided on the surface on which the earplug is provided (e.g., a surface opposite to the touch sensor **425**). Therefore, the terminals **470** of the first electronic device **211** may physically come into contact with the terminals **460** of the second external electronic device **230** while the first electronic device **211** is seated in the groove **485**.

[0078] In various embodiments, the first electronic device **211** and the second external electronic device **230** may define a communication channel using an electrical path created by electrical connection between the first terminal **461** and the third terminal **471** and electrical connection between the second terminal **462** and the fourth terminal **472**. For example, the communication channel between the first electronic device **211** and the second external electronic device **230** may be a communication channel implemented by power line communication (PLC).

[0079] In various embodiments, although not illustrated, the second electronic device **213** may also be seated in the second external electronic device **230** in the same or similar way as the first electronic device **211**. On the basis that the terminals of the second electronic device **213** and the terminals of the second external electronic device **230** physically come into contact with one another, the communication channel may be implemented between the second electronic device **213** and the second external electronic device **230** by the power line communication (PLC).

[0080] In various embodiments, in case that the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**) are seated in the second external electronic device **230**, power management integrated circuits (PMICs) (e.g., charging circuits **540** in FIG. **5**) of the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**) may recognize electrical connection with the second external electronic device **230**. The PMICs of the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**) may transfer information on the recognized electrical connection to processors (e.g., processors **550** in FIG. **5**) of the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**). On the basis of the information on the electrical connection with the

second external electronic device **230**, the processors of the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**) may identify that the electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**) are seated in the second external electronic device **230**.

[0081] In various embodiments, although not illustrated, the second external electronic device **230** may include communication circuits for establishing communication connection with the other electronic devices (e.g., the first electronic device **211**, the second electronic device **213**, and/or the first external electronic device **220**).

[0082] In various embodiments, although not illustrated, the second external electronic device **230** may further include a button (not illustrated) for controlling the first electronic device **211**, the second electronic device **213**, and/or the first external electronic device **220** (e.g., controlling an operation of outputting audio signals of the first electronic device **211** and/or the second electronic device **213** and/or controlling the communication connection with the first external electronic device **220**) that are in communication connection with the second external electronic device **230** through the communication circuits. The second external electronic device **230** may control the other electronic devices (e.g., the first electronic device **211**, the second electronic device **213**, and/or the first external electronic device **220**), which are in communication connection with the second external electronic device **230**, in response to an input to the button (not illustrated). In an embodiment, the button (not illustrated) may be implemented as a pressure sensor or a touch sensor and detect a user input.

[0083] FIG. **5** is a block diagram **500** illustrating an example configuration of an electronic device **501** according to various embodiments.

[0084] The electronic device **501** according to various embodiments may include at least one of the first electronic device **211** and the second electronic device **213** illustrated in FIG. **2**.

[0085] With reference to FIG. **5**, the electronic device **501** may include a communication circuit **510**, the memory **515**, a speaker **520**, a microphone **525**, a sensor circuit **530**, an input circuit **535**, the charging circuit **540**, a battery **545**, and/or the processor (e.g., including processing circuitry) **550**.

[0086] According to various embodiments, the communication circuit **510** may establish a communication channel between the electronic device **501**, e.g., the first electronic device **211** and/or the second electronic device **213** and the first external electronic device (e.g., the electronic device **101** in FIG. **1** and the first external electronic device **220** in FIG. **2**) (e.g., smartphones) and/or the second external electronic device (e.g., the second external electronic device **230** in FIG. **2**) (e.g., the case) and support communication performance through the established communication channel.

[0087] In an embodiment, the communication circuit **510** may include a wireless communication circuit (e.g., a short-range wireless communication circuit or a global navigation satellite system (GNSS) communication circuit), and/or a wired communication circuit (e.g., a local area network (LAN) communication circuit or a power line communication (PLC) circuit).

[0088] According to various embodiments, the memory **515** may store various data used by at least one element (e.g., the sensor circuit **530** and/or the processor **550**) of the electronic device **501**. For example, the data may include software (e.g., a program) and input or output data associated with instructions related thereto. In an embodiment, the memory **515** may store instructions related to various operations executed by the processor **550**.

[0089] In an embodiment, the memory **515** may store information for wireless communication connection between the first external electronic device **220** and/or the second external electronic device **230** and the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**). For example, the memory **515** may store address information of the first electronic device **211**, address information of the second electronic device **213**, address information of the first external electronic device **220**, and/or address information of the second external electronic device **230**.

[0090] In an embodiment, the memory **515** may store information related to the second external electronic device **230** received from the second external electronic device **230** at a designated time point (e.g., identification information, state information, and/or information related to firmware) under the control of the processor **550**. For example, the designated time point may include a time point at which the electronic device **501** is seated in the second external electronic device **230**. For example, the time point at which the electronic device **501** is seated in the second external electronic device **230** may include a time point at which the terminals (e.g., the terminals **470** in FIG. **4**) of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) are physically in contact with the terminals (e.g., the terminals **460** in FIG. **4**) of the second external electronic device **230**, a time point at which the cover (e.g., the second housing structure **420** in FIG. **4**) is detected as being in the closed state in the state in which the terminals **470** of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) are physically in contact with the terminals **460** of the second external electronic device **230**, a time point at which a designated time elapses after the cover **420** is detected as being in the closed state in the state in which the terminals **470** of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) are physically in contact with the terminals **460** of the second external electronic device **230**, or a time point at which the cover **420** is detected as being in the open state from the closed state in the state in which the terminals **470** of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) are physically in contact with the terminals **460** of the second external electronic device **230**. The present disclosure is not limited thereto. The designated time point may include a time point at which a designated time elapses after the processor **550** of the electronic device **501** is booted up as the processor **550**, which is in a sleep mode state of the electronic device **501**, changes in state of charge with the second external electronic device **230** (e.g., a state switches from a charging-off state to a charging-on state) in the state in which the electronic device **501** is seated in the second external electronic device **230**.

[0091] According to various embodiments, the speaker **520** may output an audio signal corresponding to audio data received from the first external electronic device **220** that is in communication connection.

[0092] According to various embodiments, the microphone **525** may include a plurality of microphones. For example, the plurality of microphones may include a first microphone (e.g., an in-ear microphone) (not illustrated), a second microphone (e.g., an outer microphone) (not illustrated), and/or a third microphone (e.g., an outer microphone) (not illustrated). In an embodiment, one of the plurality of microphones, e.g., the first microphone (e.g., the in-ear microphone) may be a microphone mounted in each of the first electronic device **211** and the second electronic device **213** and detect a sound in a human body or a resonance sound in the ear. In an embodiment, at least one of the plurality of microphones, e.g., the second microphone and/or the third microphone (e.g., the outer microphone) may receive voice signals around the electronic device **501** (e.g., the first electronic device **211** and the second electronic device **213**).

[0093] According to various embodiments, the sensor circuit **530** may include a Hall sensor **531**. In an embodiment, the Hall sensor **531** may detect a distance from a magnet included in the second housing structure (e.g., the second housing structure **420** in FIG. **4**) of the second external electronic device **230** after the electronic device is seated in the second external electronic device **230**. The Hall sensor **531** may acquire a sensor signal related to the closed or open state of the cover of the second external electronic device **230** on the basis of the distance from the magnet included in the second housing structure **420** of the second external electronic device **230**. The Hall sensor **531** may transmit the sensor signal, which is related to the closed or open state of the cover of the second external electronic device **230**, to the processor **550**. The processor **550** may identify whether the cover of the second external electronic device **230** is in the closed state and/or the open state on the basis of the sensor signal received from the Hall sensor **531**.

[0094] In various embodiments, although not illustrated, the sensor circuit **530** may include a proximity sensor, a grip sensor, an acceleration sensor, and/or a gyro sensor.

[0095] In an embodiment, the sensor circuit **530** may use the proximity sensor (not illustrated) and/or the grip sensor (not illustrated) and acquire a sensor signal indicating whether the electronic device **501** is worn on a part of the user's body or the electronic device **501** is detached from the user's body. For example, the proximity sensor (not illustrated) may emit an electromagnetic field or electromagnetic waves (e.g., infrared rays) and acquire a sensor signal related to a returning signal. The grip sensor (not illustrated) may acquire a sensor signal related to a change in capacitance or permittivity. The sensor circuit **530** may transmit the sensor signal, which is acquired using the proximity sensor (not illustrated) and/or the grip sensor (not illustrated), to the processor **550**. The processor **550** may identify whether the electronic device **501** is worn on a part of the user's body and/or detached from the user's body on the basis of the sensor signal acquired using the proximity sensor (not illustrated) and/or the grip sensor (not illustrated).

[0096] In an embodiment, the acceleration sensor (not illustrated) and the gyro sensor (not illustrated) may include a six-axis sensor. The six-axis sensor may detect the amount of change in motion of the electronic device **501**. The six-axis sensor may include an inertia sensor. For example, the acceleration sensor may be a three-axis sensor and measure forces applied in x-axis, y-axis, and z-axis directions. The gyro sensor may be a three-axis sensor and measure an angular velocity by detecting a pitch, a roll, and a yaw.

[0097] According to various embodiments, the input circuit **535** may include a touch pad (e.g., the touch sensor **425** in FIG. **4**). A user input, such as a user touch and/or a button input, may be detected through the input circuit **535** of the electronic device **501**, e.g., the input circuit **535** of each of the first electronic device **211** and the second electronic device **213**. On the basis of the user input detected through the input circuit **535**, the processor **550** may transmit control signals related to functions of the first external electronic device **220** (e.g., connecting and disconnecting phone calls) and/or control signals related to audio playback (e.g., temporarily pausing, fast forwarding, rewinding) to the first external electronic device **220**.

[0098] According to various embodiments, the charging circuit **540** may manage power to be supplied to the electronic device **501**. In an embodiment, the charging circuit **540** may be implemented as at least a part of a power management integrated circuit (PMIC).

[0099] In an embodiment, the PMIC may recognize electrical connection with the second external electronic device **230** when the electronic device **501** is seated in the second external electronic device **230**. The PMIC may transfer information on the recognized electrical connection to the processor **550**.

[0100] According to various embodiments, the battery **545** may supply power to at least one element of the electronic device **501**. In an embodiment, the battery **545** may include a primary battery, which is not rechargeable, a secondary battery, which is rechargeable, or a fuel cell.

[0101] According to various embodiments, the processor **550** may include various processing circuitry (as used herein, including the claims, the term "processor" may include various processing circuitry, including at least one processor, wherein one or more processors of the at least one processor may be configured to perform the various functions described herein) and control at least one of the other elements (e.g., hardware or software elements) of the first electronic device **211** and/or the second electronic device **213** connected to the processor **550** by executing software (e.g., a program), and the processor **550** may perform various data processing or computation.

[0102] In an embodiment, on the basis of the communication connection with the first external electronic device **220** through the short-range wireless communication, the processor **550** may receive an updating file for updating the second external electronic device **230** from the first external electronic device **220** and store the updating file in the memory **515**. For example, the updating file may be received by one of the first electronic device **211** and the second electronic device **213**. As another example, the updating file may be received by the first electronic device **211** and the second electronic device **213**. As still another example, among the updating files, a first updating file may be received by the first electronic device **211**, and a second updating file may be received by the second electronic device **213**.

[0103] The present disclosure is not limited thereto. In case that the first electronic device **211** and/or the second electronic device **213** may be in communication connection with the server through the communication circuit **510**, the processor **550** may download an updating file, which is

required to update the firmware installed in the second external electronic device **230**, from the server and store the updating file in the memory **515**.

[0104] In an embodiment, the processor **550** may detect that the electronic device **501** is seated in the second external electronic device **230**. For example, the processor **550** may identify that the electronic device **501** is seated in the second external electronic device **230** in a case in which the terminals **470** of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) are physically in contact with the terminals **460** of the second external electronic device **230**, a case in which the cover (e.g., the second housing structure **420** in FIG. **4**) is detected as being in the closed state in the state in which the terminals **470** of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) are physically in contact with the terminals **460** of the second external electronic device **230**, a case in which a designated time elapses after the cover **420** is detected as being in the closed state in the state in which the terminals **470** of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) are physically in contact with the terminals **460** of the second external electronic device **230**, or a case in which the cover **420** is detected as being in the open state from the closed state in the state in which the terminals **470** of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) are physically in contact with the terminals **460** of the second external electronic device **230**.

[0105] In an embodiment, on the basis that the terminals **470** of the electronic device **501** and the terminals **460** of the second external electronic device **230** are physically in contact with one another, the electronic device **501** and the second external electronic device **230** may perform power line communication (PLC).

[0106] In various embodiments, on the basis of the information on the electrical connection with the second external electronic device **230** received from the PMIC (e.g., the charging circuit **540**), the processor **550** may identify whether the electronic device **501** is seated in the second external electronic device **230** and perform the power line communication (PLC) with the second external electronic device **230**.

[0107] In an embodiment, the processor **550** may receive information of the second external electronic device **230** from the second external electronic device **230** through the PLC communication. For example, the information of the second external electronic device **230** may include identification information of the second external electronic device **230**, state information of the second external electronic device **230**, and/or information related to the firmware. For example, the identification information of the second external electronic device **230** may include a mac address, a device type, a model name, a model number, a serial number, and/or a manufacturer name. The state information of the second external electronic device **230** may include battery state information of the second external electronic device **230**, temperature state information, a current process state, and/or charge state information. The information related to the firmware may include a firmware binary name, a firmware binary, and/or firmware version information.

[0108] In an embodiment, the processor **550** may identify (or determine) whether the second external electronic device **230** is required to be updated on the basis of the information of the second external electronic device **230** received through the PLC communication. For example, the electronic device **501** may identify whether the second external electronic device **230** is required to be updated on the basis of version information of the updating file for updating the second external electronic device **230** received from the first external electronic device **220**, identification information of the second external electronic device **230**, state information of the second external electronic device **230**, and/or information related to the firmware. When the version information of the updating file for updating the second external electronic device **230** received from the first external electronic device **220** is a higher level version than the version information of the firmware installed in the second external electronic device **230**, the processor **550** may identify that the second external electronic device **230** is required to be updated.

[0109] The present disclosure is not limited thereto. The processor **550** may receive, from the first external electronic device **220**, a signal for requesting the identification of whether the second external electronic device **230** is required to be updated. In case that the processor **550** receives, from the first external electronic device **220**, the signal for requesting the identification of whether the second external electronic device **230** is required to be updated, the processor **550** may identify that the second external electronic device **230** is required to be updated on the basis of the information of the second external electronic device **230**.

[0110] In an embodiment, when it is identified that the second external electronic device **230** is required to be updated, the processor **550** may identify whether a designated condition for transmitting the updating file to the second external electronic device **230** is satisfied on the basis of the state information of the second external electronic device **230** and/or the state information of the electronic device **501**. For example, the designated condition may include a case in which the electronic device **501** is seated in the second external electronic device **230**, a case in which the battery residual amount of the electronic device **501** exceeds a designated value, a case in which the battery residual amount of the second external electronic device **230** exceeds a designated value, and/or a case in which sensor information of the electronic device **501** is in a stable state for a designated time (e.g., a state in which a sensor signal related to a motion is not detected after the electronic device **501** is seated in the second external electronic device **230**).

[0111] In an embodiment, in case that the designated condition for transmitting the updating file to the second external electronic device **230** is satisfied, the processor **550** may transmit the updating file, which is received from the first external electronic device **220**, to the second external electronic device **230**.

[0112] The electronic device according to various example embodiments may include a communication circuit, a memory, at least one processor operatively connected to the communication circuit and the memory. One or more of the at least one processor may be configured to: receive the updating file for updating the second external electronic device from the first external electronic device based on the communication connection with the first external electronic device through the communication circuit; identify whether the second external electronic device is required to be updated based on the electronic device being seated in the

second external electronic device; identify whether the designated condition for transmitting the updating file to the second external electronic device is satisfied based on state information of the second external electronic device and/or state information of the electronic device based on the second external electronic device being required to be updated; and transmit the updating file, received from the first external electronic device, to the second external electronic device based on the designated condition for transmitting the updating file to the second external electronic device being satisfied.

[0113] In various example embodiments, one or more of the at least one processor may be configured to transmit the information related to the second external electronic device based on the communication connection with the first external electronic device. The information related to the second external electronic device may include identification information of the second external electronic device, state information, and/or information related to the firmware installed in the second external electronic device.

[0114] In various example embodiments, one or more of the at least one processor may be configured to store at least some of the received updating files in the memory (e.g., the memory **515** of the first electronic device **211** or the memory **515** of the second electronic device **213**) and transmit at least another of the received updating files to a third external electronic device (e.g., the second electronic device **213** or the first electronic device **211**) in communication connection via the communication circuit.

[0115] In various example embodiments, one or more of the at least one processor may be configured to transmit a signal, requesting transmission of at least another of the updating files to the second external electronic device, to the third external electronic device (e.g., the second electronic device **213** or the first electronic device **211**) based on the designated condition for transmitting the updating file to the second external electronic device being satisfied.

[0116] In various example embodiments, one or more of the at least one processor may be configured to: identify that the electronic device is seated in the second external electronic device based on the terminals of the electronic device being physically in contact with the terminals of the second external electronic device, based on the cover (e.g., the second housing structure **420** in FIG. **4**) of the second external electronic device being detected as being in the closed state in the state in which the terminals of the electronic device are physically in contact with the terminals of the second external electronic device, based on a designated time elapsing after the cover is detected as being in the closed state in the state in which the terminals of the electronic device are physically in contact with the terminals of the second external electronic device, or based on the cover being detected as being in the open state from the closed state in the state in which the terminals of the electronic device are physically in contact with the terminals of the second external electronic device.

[0117] In various example embodiments, one or more of the at least one processor may be configured to perform power line communication (PLC) with the second external electronic device based on the electronic device being seated in the second external electronic device.

[0118] In various example embodiments, based on the electronic device being seated in the second external electronic device, one or more of the at least one processor may be configured to: request the information related to the second external electronic device from the second external electronic device through the power line communication and receive the information related to the second external electronic device from the second external electronic device, as a response to the request.

[0119] In various example embodiments, one or more of the at least one processor may be configured to: identify that the second external electronic device is required to be updated based on version information of the updating file received from the first external electronic device being a higher level version than version information of the firmware among the pieces of information related to the second external electronic device received from the second external electronic device.

[0120] In various example embodiments, the state information of the electronic device may include battery information and/or sensor information of the electronic device, and the state information of the second external electronic device may include battery state information and/or charge state information of the second external electronic device.

[0121] In various example embodiments, one or more of the at least one processor may be configured to: determine that the designated condition for transmitting the updating file to the second external electronic device is satisfied based on the electronic device being seated in the second external electronic device, based on the battery residual amount of the electronic device exceeding the designated value, based on the battery residual amount of the second external electronic device exceeding the designated value, based on a state in which a value of the sensor signal of the electronic device does not exceed a specified value being maintained for a designated time, and/or based on the second external electronic device being in a state of being charged.

[0122] Various example embodiments related to an operation of the electronic device **501** according to various embodiments will be described in greater detail below with reference to FIG. **7**.

[0123] FIG. **6** is a block diagram **600** illustrating an example configuration of the second external electronic device **230** according to various embodiments.

[0124] With reference to FIG. **6**, the second external electronic device **230** may include a communication circuit **610**, a memory **615**, a charging circuit **620**, a battery **625**, a sensor circuit **630**, an input circuit **635**, and/or a processor (e.g., including processing circuitry) **640**.

[0125] According to various embodiments, the communication circuit **610** may transmit data to or receive data from the electronic device (e.g., the electronic device **501** in FIG. **5** (e.g., the first electronic device **211** and/or the second electronic device **213** in FIG. **2**) through the wireless communication.

[0126] According to various embodiments, the memory **615** may store data received through the communication circuit **610** of the second external electronic device **230** or information stored while the second external electronic device **230** is manufactured (e.g., the identification information of the second external electronic device **230**).

[0127] In an embodiment, the memory **615** may store information for wireless communication connection between the first electronic device **211** and/or the second electronic device **213** and the second external electronic device **230**. For example, the memory **615** may store address

information of the first electronic device **211** and/or address information of the second electronic device **213**.

[0128] According to various embodiments, the charging circuit **620** may perform an operation related to the transmission of power to the first electronic device **211** and/or the second electronic device **213** (e.g., control of a transmission rate of power) through physical/electrical connection between the first electronic device **211** and/or the second electronic device **213** and the second external electronic device **230**. The second external electronic device **230** may be physically/electrically connected to the first electronic device **211** and/or the second electronic device **213** in various ways. For example, the second external electronic device **230** may have spaces (e.g., the grooves **485** in FIG. **4**) into which the first electronic device **211** and/or the second electronic device **213** may be inserted.

[0129] In an embodiment, in case that the first electronic device **211** or the second electronic device **213** is inserted into the second external electronic device **230**, electrical connection may occur between the terminals of the second external electronic device **230** (e.g., the terminals **460** of the second external electronic device **230** in FIG. **4**) and the terminals of the first electronic device **211** (e.g., the terminals **470** of the first electronic device **211** in FIG. **4**) or between the terminals of the second external electronic device **230** (e.g., the terminals **460** of the second external electronic device **230** in FIG. **4**) and the terminals of the second electronic device **213**.

[0130] For example, as the contact occurs between the terminal of the first electronic device **211** and the terminal of the second external electronic device **230**, electrical connection may be created between the first electronic device **211** and the second external electronic device **230**. The second external electronic device **230** may transmit power to the first electronic device **211** through the electrical connection between the first electronic device **211** and the second external electronic device **230**, and a communication channel may be created between the first electronic device **211** and the second external electronic device **230**. As the contact occurs between the terminal of the second electronic device **213** and the terminal of the second external electronic device **230**, electrical connection may be created between the second electronic device **213** and the second external electronic device **230**. The second external electronic device **230** may transmit power to the second electronic device **213**, and a communication channel may be created between the second electronic device **213** and the second external electronic device **230**.

[0131] In a embodiment, the communication channel between the first electronic device **211** and/or the second electronic device **213** and the second external electronic device **230** may include a communication channel implemented by power line communication (PLC).

[0132] According to various embodiments, the battery **625** may supply power to at least one element of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) and/or the second external electronic device **230**. In an embodiment, the battery **625** may include a primary battery, which is not rechargeable, a secondary battery, which is rechargeable, and/or a fuel cell.

[0133] According to various embodiments, the sensor circuit **630** may include a Hall sensor **631** using a magnetic force. The Hall sensor **631** may detect whether the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) is seated in the second external electronic device **230**. The Hall sensor **631** may detect the open state and/or the closed state of the cover (e.g., the second housing structure **420** in FIG. **4**) of the second external electronic device **230**. The Hall sensor **631** may transmit a sensor signal, which is related to the detection of whether the electronic device **501** is seated, and a sensor signal, which is related to the open state and/or the closed state of the cover of the second external electronic device **230**, to the processor **640**.

[0134] According to various embodiments, the input circuit **635** may include a button for controlling the other electronic devices (e.g., the first electronic device **211**, the second electronic device **213**, and/or the first external electronic device **220**) being in communication connection through the communication circuit **610** (e.g., controlling an operation of outputting audio signals of the first electronic device **211** and/or the second electronic device **213** and controlling the communication connection of the first external electronic device **220**). For example, the button may be implemented as a pressure sensor or a touch sensor.

[0135] According to various embodiments, the processor **640** may include various processing circuitry (as used herein, including the claims, the term "processor" may include various processing circuitry, including at least one processor, wherein one or more processors of the at least one processor may be configured to perform the various functions described herein) and control various components operatively connected to various electronic components (e.g., the communication circuit **610**, the memory **615**, the charging circuit **620**, the battery **625**, the sensor circuit **630**, and/or the input circuit **635**), which are included in the second external electronic device **230**, and operatively connected to the processor **640**.

[0136] In an embodiment, the processor **640** may receive the updating file from the electronic device **501** on the basis of the detection of the seating of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**). The processor **640** may store the updating file, which is received from the electronic device **501**, to the memory **615**. The processor **640** may identify whether the designated condition for updating the second external electronic device **230** is satisfied on the basis of the state information of the second external electronic device **230**. In case that the designated condition for updating the second external electronic device **230** is satisfied, the processor **640** may update the second external electronic device **230** using the updating file received from the electronic device **501**. For example, the second external electronic device **230** may identify (or determine) that the designated condition for updating the second external electronic device **230** is satisfied in a case in which the second external electronic device **230** is in the SA mode, a case in which the battery residual amount of the second external electronic device **230** exceeds a designated value, a case in which a temperature of the second external electronic device **230** is included in a designated range, a case in which the second external electronic device **230** is stably in a state of being charged, and/or a case in which a user input for updating the firmware installed in the second external electronic device **230** is detected. The second external electronic device **230** may update the second external electronic device **230** using the updating file received from the electronic device **501** on

the basis that the designated condition for updating the second external electronic device **230** is satisfied.

[0137] The electronic device (e.g., the second external electronic device **230**) according to various example embodiments may include a communication circuit, a sensor circuit, a memory, and at least one processor operatively connected to the communication circuit, the sensor circuit, and the memory. One or more of the at least one processor \ may be configured to: receive an updating file from at least one external electronic device (e.g., the first electronic device **211** and/or the second electronic device **213**) through the communication circuit based on the seating of at least one external electronic device (e.g., the first electronic device **211** and/or the second electronic device **213**) being detected by the sensor circuit; identify whether the designated condition for updating the electronic device (e.g., the second external electronic device **230**) is satisfied based on state information of the electronic device (e.g., the second external electronic device **230**); and update the electronic device (e.g., the second external electronic device **230**) using the received updating file based on the designated condition for updating the electronic device (e.g., the second external electronic device **230**) being satisfied.

[0138] In various example embodiments, one or more of the at least one processor may be configured to: receive at least some of the updating files from the first external electronic device (e.g., the first electronic device **211** or the second electronic device **213**) among one or more external electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**); receive at least another of the updating files from the second external electronic device (e.g., the second electronic device **213** or the first electronic device **211**) among one or more external electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**); and receive the updating file from one external electronic device (e.g., the first electronic device **211** or the second electronic device **213**) among one or more external electronic devices (e.g., the first electronic device **211** and/or the second electronic device **213**).

[0139] In various example embodiments, the state information of the electronic device (e.g., the second external electronic device **230**) may include information on a communication connection state with at least one external electronic device (e.g., the first electronic device **211** and/or the second electronic device **213**), battery residual amount information, temperature information of the electronic device (e.g., the second external electronic device **230**), and/or charge state information of the electronic device (e.g., the second external electronic device **230**).

[0140] In various example embodiments, one or more of the at least one processor may be configured to: identify that the designated condition for updating the electronic device (e.g., the second external electronic device **230**) is satisfied based on a communication connection with at least one external electronic device (e.g., the first electronic device **211** and/or the second electronic device **213**) being released and/or the battery residual amount exceeding a designated value, based on a temperature of the electronic device (e.g., the second external electronic device **230**) being included in a designated range, based on the electronic device (e.g., the second external electronic device **230**) being stably in a state of being charged, and/or based on an input for updating the electronic device (e.g., the second external electronic device **230**) being detected.

[0141] The electronic device (e.g., the second external electronic device **230**) according to various example embodiments may further include the indicator, and one or more of the at least one processor may be configured to output an updating progress state of the second external electronic device through the indicator.

[0142] Various embodiments related to an operation of the second external electronic device **230** according to various embodiments will be described in greater detail below with reference to FIG. **10**.

[0143] FIG. **7** is a flowchart **700** illustrating an example method of transmitting the updating file for updating the second external electronic device **230** using the electronic device **501** to the second external electronic device **230** according to various embodiments.

[0144] With reference to FIG. **7**, at operation **705**, the electronic device (e.g., the electronic device **501** in FIG. **5**) (e.g., the first electronic device **211** and/or the second electronic device **213** in FIG. **2**) may establish a communication connection with the first external electronic device (e.g., the electronic device **101** in FIG. **1** or the first external electronic device **220** in FIG. **2**). For example, the electronic device **501**, e.g., the first electronic device **211** and/or the second electronic device **213** may establish a communication connection with the first external electronic device **220** through the short-range wireless communication.

[0145] In various embodiments, as illustrated in FIG. **3**, the electronic device **501** may be in communication connection with the first external electronic device **220** through the short-range wireless communication through a relay method, a sniffing method, or a true wireless stereo plus (TWS+) method.

[0146] In an embodiment, at operation **710**, the electronic device **501** may receive the updating file for updating the second external electronic device **230** from the first external electronic device **220**.

[0147] In an embodiment, the electronic device **501** may transfer the information, which is related to the firmware installed in the second external electronic device **230**, to the first external electronic device **220** in order to update the firmware of the second external electronic device **230**. For example, the electronic device **501** may transfer the information, which is related to the firmware installed in the second external electronic device **230**, to the first external electronic device **220** in order to receive the updating file, which is required to update the firmware of the second external electronic device **230**, from the first external electronic device **220**.

[0148] In an embodiment, the information related to the firmware may include, for example, and without limitation, a firmware binary name, a firmware binary, and/or firmware version information.

[0149] In various embodiments, the electronic device **501** may transfer not only the information, which is related to the firmware installed in the second external electronic device **230**, but also the information, which is related to the second external electronic device **230**, to the first external electronic device **220**. The information related to the second external electronic device **230** may include identification information and/or state information of the second external electronic device **230**. For example, the identification information of the second external electronic device **230** may include a mac address, a device type, a model name, a model number, a serial number, and/or a manufacturer name. The state infor-

mation of the second external electronic device **230** may include battery state information (e.g., battery residual amount information), temperature state information, current process state, charge state information, and/or sensor information (e.g., information on the open state and/or the closed state of the cover (e.g., the second housing structure **420** in FIG. **4**)) of the second external electronic device **230**.

[0150] The following <Table 1> according to various embodiments may show serial port profile (SPP) packets of the short-range wireless communication, e.g., Bluetooth communication transmitted to the first external electronic device **220** by the electronic device **501**. For example, with reference to <Table 1>, on the basis of the communication connection with the first external electronic device **220**, the electronic device **501** may transfer battery information (e.g., battery residual amount information) of the electronic device **501**, which is included in the SPP packet, to the first external electronic device **220**. The present disclosure is not limited thereto. On the basis of the communication connection with the first external electronic device **220**, the electronic device **501** may transfer the information of the second external electronic device **230** (e.g., identification information of the second external electronic device **230**, state information, and/or information related to the firmware), which is included in the SSP packet, to the first external electronic device **220**.

TABLE 1

SOM(1 byte)	Header LSB(1 byte)	Header MSB(1 byte)	Msg ID(2 byte)
0xFD	0x0A	0x00	0Xa0
Earbud Battery level(1 byte)	Earbud Battery level(1 byte)	EOM(1 byte)	
0x 64	0x 64	0x DD	

[0151] In an embodiment, the first external electronic device **220** may identify whether the updating file for updating the firmware installed in the second external electronic device **230** exists on the basis of the information related to the second external electronic device **230** received from the electronic device **501** and/or the information related to the firmware installed in the second external electronic device **230**. For example, the first external electronic device **220** may access a server related to the firmware updating or execute an application (e.g., a manager application) related to the firmware updating. The first external electronic device **220** may identify whether the updating file for updating the firmware installed in the second external electronic device **230** exists in the server on the basis of the information related to the second external electronic device **230** received from the electronic device **501** and/or the information (e.g., firmware version information) related to the firmware. When it is identified that the updating file for updating the firmware installed in the second external electronic device **230** exists, the first external electronic device **220** may receive the updating file (e.g., the firmware binary) for updating the firmware of the second external electronic device **230** from the server (or from the server through the application related to the firmware updating) and store the updating file in the memory (e.g., the memory **130** in FIG. **1**).

[0152] In various embodiments, the first external electronic device **220** may display, on a display (e.g., the display module **160** in FIG. **1**), a user interface including information on the presence of the firmware updating file of the second external electronic device **230**, a user interface including information for inquiring whether to download a firmware updating file, and/or a user interface including information related to the completion of downloading of the firmware updating file.

[0153] In an embodiment, the first external electronic device **220** may transmit the updating file for updating the firmware of the second external electronic device **230** to the electronic device **501**. For example, the first external electronic device **220** may identify the state of the communication connection with the electronic device **501** and detect a designated event or transmit the updating file to the electronic device **501** at a designated time point. For example, the first external electronic device **220** may transmit the updating file to the electronic device **501** when a user input (e.g., a designated event) for requesting the downloading of the updating file is detected in the user interface including the information for inquiring whether to download the firmware updating file displayed on the display **160** as the firmware updating file exists.

[0154] In various embodiments, the updating file may be received by the electronic device **501**, e.g., the first electronic device **211** and the second electronic device **213**. The present disclosure is not limited thereto. For example, the updating file may be received by one of the first electronic device **211** and the second electronic device **213**. As another example, among the updating files, the first updating file may be received by the first electronic device **211**, and the second updating file may be received by the second electronic device **213**.

[0155] For example, in case that the electronic device **501** and the first external electronic device **220** are in communication connection by the relay method illustrated in <310> in FIG. **3** or the sniffing method illustrated in <320> in FIG. **3**, the first external electronic device **220** may transmit the updating file to one electronic device (e.g., the first electronic device **211** or the second electronic device **213**) being in communication connection with the first external electronic device **220**, on behalf of the first electronic device **211** and the second electronic device **213**.

[0156] The present disclosure is not limited thereto. One electronic device (e.g., the first electronic device **211** or the second electronic device **213**), which is representatively in communication connection with the first external electronic device **220**, may divide the received updating file into the first updating file and the second updating file, for example. In this case, one electronic device (e.g., the first electronic device **211** or the second electronic device **213**) may store the first updating file, among the updating files, and transmit the second updating file to the other electronic device (e.g., the second electronic device **213** or the first electronic device **211**).

[0157] As still another example, in case that the electronic device **501** and the first external electronic device **220** are in communication connection by the TWS+ method illustrated in <330> in FIG. **3**, the first external electronic device **220** may divide the updating file into the first updating file and the second updating file, for example. The first external electronic device **220** may transmit the first updating file, among the updating files, to the first electronic device **211** and transmit the second updating file to the second electronic device **213**.

[0158] As still another example, in case that the electronic device **501** and the first external electronic device **220** are in communication connection by the TWS+ method illustrated in <330> in FIG. **3**, the first external electronic device **220** may transmit the updating file to the electronic device **501**, e.g., the first electronic device **211** and the second electronic device **213**.

[0159] In various embodiments, the electronic device **501** may receive the updating file from the first external electronic device **220** being in communication connection in a state in which the communication connection with the second external electronic device **230** is released (e.g., a state in which the electronic device **501** is detached from the second external electronic device **230**) or a state in which the communication connection with the second external electronic device **230** is established (e.g., a state in which the electronic device **501** is seated in the second external electronic device **230** and the cover (e.g., the second housing structure **420** in FIG. **4**) of the second external electronic device **230** is opened).

[0160] In an embodiment, at operation **715**, the electronic device **501** may identify whether the second external electronic device **230** is required to be updated on the basis that the electronic device **501** is seated in the second external electronic device **230**.

[0161] In an embodiment, the electronic devices **501** (e.g., the first electronic device **211** and the second electronic device **213**) may be seated in the grooves (e.g., the grooves **485** in FIG. **4**) (e.g., reference numeral <410> in FIG. **4**) of the first housing structure (e.g., the first housing structure **415** in FIG. **4**) of the second external electronic device **230**. For example, the electronic device **501** may use sensor information acquired through the sensor circuit (e.g., the sensor circuit **530** in FIG. **5**) of the electronic device **501** and identify a state in which the electronic device **501** is seated in the second external electronic device **230** or detached from the second external electronic device **230** (e.g., reference numeral <450> in FIG. **4**). For example, the first electronic device **211** and the second electronic device **213** may exchange sensor information with each other. On the basis of the state information, the electronic devices **211** and **213** may each identify the state in which each of the electronic devices **211** and **213** is seated in the second external electronic device **230** or detached from the second external electronic device **230**.

[0162] In various embodiments, the state in which at least one electronic device (e.g., the first electronic device **211** and/or the second electronic device **213**) is seated in the second external electronic device **230** may include the state in which the cover of the second external electronic device **230** is closed or opened in the state in which the terminals of the first electronic device **211** (e.g., the terminals **470** in FIG. **4**) (and/or the terminals of the second electronic device **213**) are physically in contact with the terminals of the second external electronic device **230** (e.g., the terminals **460** in FIG. **4**) and/or the state in which the terminals **470** of the first electronic device **211** (and/or the terminals of the second electronic device **213**) are physically in contact with the terminals **460** of the second external electronic device **230**.

[0163] In an embodiment, on the basis that the terminals **470** of the electronic device **501** and the terminals **460** of the second external electronic device **230** are physically in contact with one another, the electronic device **501** and the second external electronic device **230** may perform power line communication (PLC).

[0164] In an embodiment, the first electronic device **211** and the second electronic device **213** may independently perform the PLC communication with the second external electronic device **230**. For example, the first electronic device **211** and the second electronic device **213** may independently perform an operation of exchanging information (e.g., information on a connected or disconnected state between the first electronic device **211** and/or the second electronic device **213** and the external electronic device **230** and/or information related to the second external electronic device **230**) with the second external electronic device **230** through the PLC communication.

[0165] In an embodiment, the electronic device **501** may receive information of the second external electronic device **230** from the second external electronic device **230** through the PLC communication. For example, the information of the second external electronic device **230** may include identification information of the second external electronic device **230**, state information of the second external electronic device **230**, and/or information related to the firmware. For example, the identification information of the second external electronic device **230** may include a mac address, a device type, a model name, a model number, a serial number, and/or a manufacturer name. The state information of the second external electronic device **230** may include battery state information of the second external electronic device **230**, temperature state information, a current process state, and/or charge state information. The information related to the firmware may include a firmware binary name, a firmware binary, and/or firmware version information.

[0166] In an embodiment, the electronic device **501** may identify whether the second external electronic device **230** is required to be updated on the basis of the information of the second external electronic device **230** received through the PLC communication. For example, the electronic device **501** may identify whether the second external electronic device **230** is required to be updated on the basis of version information of the updating file for updating the second external electronic device **230** received from the first external electronic device **220**, identification information of the second external electronic device **230**, state information of the second external electronic device **230**, and/or information related to the firmware. For example, when the version information of the updating file for updating the second external electronic device **230** received from the first external electronic device **220** is a higher level version than the version information of the firmware installed in the second external electronic device **230**, the electronic device **501** may identify that the second external electronic device **230** is required to be updated.

[0167] In various embodiments, the electronic device **501** may identify whether the second external electronic device **230** is required to be updated on the basis of the information related to the second external electronic device **230** at a designated time point. The designated time point may include a time point at which the electronic device **501** is seated in the second external electronic device **230**. For example, the time point at which the electronic device **501** is seated in the second external electronic device **230** may include a time point at which the terminals (e.g., the termi-

nals **470** in FIG. **4**) of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) are physically in contact with the terminals (e.g., the terminals **460** in FIG. **4**) of the second external electronic device **230**, a time point at which the cover (e.g., the second housing structure **420** in FIG. **4**) is detected as being in the closed state in the state in which the terminals **470** of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) are physically in contact with the terminals **460** of the second external electronic device **230**, a time point at which a designated time elapses after the cover **420** is detected as being in the closed state in the state in which the terminals **470** of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) are physically in contact with the terminals **460** of the second external electronic device **230**, or a time point at which the cover **420** is detected as being in the open state from the closed state in the state in which the terminals **470** of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) are physically in contact with the terminals **460** of the second external electronic device **230**. The present disclosure is not limited thereto. The designated time point may include a time point at which a designated time elapses after the processor **550** of the electronic device **501** is booted up as the processor **550**, which is in a sleep mode state of the electronic device **501**, changes in state of charge with the second external electronic device **230** (e.g., a state switches from a charging-off state to a charging-on state) in the state in which the electronic device **501** is seated in the second external electronic device **230**.

[0168] The following <Table 2> according to various embodiments may show packets of the PLC communication transmitted to the second external electronic device **230** by the electronic device **501**. With reference to the following <Table 2>, the electronic device **501** may transmit, to the second external electronic device **230**, information indicating that the updating file for updating the firmware installed in the second external electronic device **230** exists, temperature information, version information of the firmware, information on the type of electronic device **501** (e.g., left/right wireless audio devices), peer connection information related to the communication connection state between the first electronic device **211** and the second electronic device **213**, and/or a charging type indicating whether the current state is a state in which the charging is required, which are included in the packet.

[0169] In various embodiments, the electronic device **501** may transmit the packets of the PLC communication according to the following <Table 2> to the second external electronic device **230** on the basis that the electronic device **501** is seated in the second external electronic device **230**.

TABLE 2

PLC bit(8 bit/1 Byte)							
7 bit	6 bit	5 bit	4 bit	3 bit	2 bit	1 bit	0 bit
update possible	normal temperature	version			L/R Type	peer connection	charging type
1	1	1	0	1	0	0	1

[0170] In an embodiment, at operation **720**, when it is identified that the second external electronic device **230** is required to be updated, the electronic device **501** may identify whether a designated condition for transmitting the updating file to the second external electronic device **230** is satisfied on the basis of the state information of the second external electronic device **230** and/or the state information of the electronic device **501**.

[0171] In an embodiment, the electronic device **501** may identify whether a designated condition for transmitting the updating file to the second external electronic device **230** is satisfied on the basis of the information related to the updating file received from the first external electronic device **220** and identification information and/or state information of the second external electronic device **230** received from the second external electronic device **230** through the PLC communication. The designated condition may include a case in which the electronic device **501** is seated in the second external electronic device **230**, a case in which the battery residual amount of the electronic device **501** exceeds a designated value, a case in which the battery residual amount of the second external electronic device **230** exceeds a designated value, and/or a case in which sensor information of the electronic device **501** is in a stable state for a designated time (e.g., a state in which a sensor signal related to a motion is not detected after the electronic device **501** is seated in the second external electronic device **230**).

[0172] In an embodiment, at operation **725**, in case that the designated condition for transmitting the updating file to the second external electronic device **230** is satisfied, the electronic device **501** may transmit the updating file, which is received from the first external electronic device **220**, to the second external electronic device **230**. For example, in case that the designated condition for transmitting the updating file to the second external electronic device **230** is satisfied, the electronic device **501** may transmit the updating file (e.g., the firmware binary) to the second external electronic device **230** through the PLC communication.

[0173] As described above with reference to operation **710** according to various embodiments, the updating file for updating the second external electronic device **230** may be stored in the first electronic device **211** and/or the second electronic device **213**.

[0174] In an embodiment, in case that the updating file is stored in one of the first electronic device **211** and the second electronic device **213**, one electronic device, which stores the updating file, may transmit the updating file to the second external electronic device **230** through the PLC communication on the basis that the designated condition for transmitting the updating file to the second external electronic device **230** is satisfied.

[0175] In various embodiments, the configuration has been described in which one electronic device, which stores the updating file, transmits the updating file to the second external electronic device **230** through the PLC communication. However, the present disclosure is not limited thereto. One electronic device, which stores the updating file, may transmit the updating file to the second external electronic device **230** through another wireless communication (e.g., Bluetooth communication) other than the PLC communication.

[0176] In an embodiment, in case that the first updating file, among the updating files, is stored in the first electronic device **211** and the second updating file is stored in the second electronic device **213**, the first electronic device **211** may transmit the first updating file to the second external

electronic device **230** through the PLC communication on the basis that the designated condition for transmitting the updating file to the second external electronic device **230** is satisfied. The second electronic device **213** may transmit the second updating file to the second external electronic device **230** through the PLC communication on the basis that the designated condition for transmitting the updating file to the second external electronic device **230** is satisfied.

[0177] A time point at which whether the second external electronic device **230** according to various embodiments is required to be updated is identified, a time point at which the updating file is transmitted to the second external electronic device **230**, and/or a time point at which the second external electronic device **230** is updated may be identical to or different from one another.

[0178] The present disclosure is not limited thereto. For example, the electronic device **501** may use an application (e.g., a manager application) related to the updating of the firmware installed in the first external electronic device **220** and configure the time point at which whether the second external electronic device **230** is required to be updated is identified, the time point at which the updating file is transmitted to the second external electronic device **230**, and/or the time point at which the second external electronic device **230** is updated. The electronic device **501** may identify whether the second external electronic device **230** is required to be updated and/or transmit the updating file to the second external electronic device **230** on the basis of the configured time point at which whether the second external electronic device **230** is required to be updated is identified and/or the time point at which the updating file is transmitted to the second external electronic device **230**. The second external electronic device **230** may update the second external electronic device **230** on the basis of the configured time point at which the second external electronic device **230** is updated.

[0179] As another example, on the basis of a user input detected by the user interface related to the application (e.g., manager application) related to the firmware updating, the electronic device **501** may identify whether the second external electronic device **230** is required to be updated and/or transmit the updating file to the second external electronic device **230**. The second external electronic device **230** may update the second external electronic device **230** on the basis of the user input detected by the user interface associated with the application (e.g., manager application) related to the firmware updating.

[0180] As still another example, in case that a guide for updating the second external electronic device **230** exists, the electronic device **501** may identify whether the second external electronic device **230** is required to be updated and/or transmit the updating file to the second external electronic device **230** on the basis of the guide. The second external electronic device **230** may update the second external electronic device **230** on the basis of the guide.

[0181] A method of updating the external electronic device (e.g., the second external electronic device **230**) using the electronic device according to various example embodiments may include: receiving the updating file for updating the second external electronic device from the first external electronic device based on the communication connection with the first external electronic device; identifying whether the second external electronic device is required to be updated based on the electronic device being seated in the second external electronic device; identifying whether the designated condition for transmitting the updating file to the second external electronic device is satisfied based on state information of the second external electronic device and/or based on state information of the electronic device based on the second external electronic device being required to be updated; and transmitting the updating file, received from the first external electronic device, to the second external electronic device based on the designated condition for transmitting the updating file to the second external electronic device being satisfied.

[0182] The method of updating the external electronic device (e.g., the second external electronic device **230**) using the electronic device according to various example embodiments may further include: transmitting the information related to the second external electronic device based on the communication connection with the first external electronic device.

[0183] In various example embodiments, the information related to the second external electronic device may include identification information of the second external electronic device, state information, and/or information related to the firmware installed in the second external electronic device.

[0184] In various example embodiments, the identifying of whether the second external electronic device is required to be updated may include: identifying that the electronic device is seated in the second external electronic device based on terminals of the electronic device being physically in contact with terminals of the second external electronic device, based on a cover (e.g., the second housing structure **420** in FIG. **4**) of the second external electronic device being detected as being in a closed state in the state in which the terminals of the electronic device are physically in contact with the terminals of the second external electronic device **230**, based on a designated time elapsing after the cover is detected as being in the closed state in the state in which the terminals of the electronic device are physically in contact with the terminals of the second external electronic device, or based on the cover being detected as being in the open state from the closed state in the state in which the terminals of the electronic device are physically in contact with the terminals of the second external electronic device; and performing power line communication (PLC) with the second external electronic device based on the electronic device being seated in the second external electronic device.

[0185] In various example embodiments, the identifying of whether the second external electronic device is required to be updated may include: requesting the information related to the second external electronic device from the second external electronic device through the power line communication based on the electronic device being seated in the second external electronic device; receiving the information related to the second external electronic device from the second external electronic device as a response to the request; and identifying that the second external electronic device is required to be updated based on the version information of the updating file received from the first external electronic device being a higher level version than the version information of the firmware among the pieces of information related to the second external electronic device received from the second external electronic device.

[0186] In various example embodiments, the identifying of whether the designated condition for transmitting the updating file to the second external electronic device is

satisfied may include: determining that the designated condition for transmitting the updating file to the second external electronic device is satisfied based on the electronic device being seated in the second external electronic device, based on a battery residual amount of the electronic device exceeding a designated value, based on the battery residual amount of the second external electronic device exceeding the designated value, based on a state in which a value of the sensor signal of the electronic device does not exceed a specified value being maintained for a designated time, and/or based on the second external electronic device being in a state of being charged.

[0187] FIGS. **8** and **9** are diagrams **800** and **900** illustrating example operations **710** and **725** in FIG. **7** according to various embodiments.

[0188] In various embodiments, the electronic device (e.g., the electronic device **501** in FIG. **5**) (e.g., the first electronic device (e.g., the first electronic device **211** in FIG. **2**) and/or the second electronic device (e.g., the second electronic device **213** in FIG. **2**) may receive at least some of the updating files for updating the second external electronic device **230** from the first external electronic device **220** (e.g., operation **710** in FIG. **7**. The electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) may transmit at least some of the updating files to the second external electronic device **230** through the PLC communication (e.g., operation **725** in FIG. **7**) in a case in which the designated condition for transmitting the updating file to the second external electronic device **230** is satisfied (e.g., in the state in which the electronic device is seated in the second external electronic device **230**), a case in which the battery residual amount of the electronic device **501** exceeds a designated value, a case in which the battery residual amount of the second external electronic device **230** exceeds a designated value, and/or a case in which sensor information of the electronic device **501** is in a stable state for a designated time (e.g., a state in which a sensor signal related to a motion is not detected after the electronic device **501** is seated in the second external electronic device **230**).

[0189] Hereinafter, an example configuration for receiving at least some of the updating files for the second external electronic device **230** from the first external electronic device **220** and the operation of the electronic device **501**, which transmits at least some of the updating files to the second external electronic device **230**, will be described in greater detail.

[0190] In FIG. **8** according to various embodiments, a description will be made on the assumption that the electronic devices **501**, e.g., the first electronic device **211** and the second electronic device **213** receive the same updating file **810** from the first external electronic device **220**.

[0191] With reference to FIG. **8**, in an embodiment, the first external electronic device **220** may download the updating file **810** for updating the second external electronic device **230** from the server and store the updating file **810** in the memory (e.g., the memory **130** in FIG. **1**). For example, the updating file **810** may divide the data into a plurality of data (e.g., 0th data to 15th data) and store the plurality of data in the memory **130**. However, the present disclosure is not limited thereto.

[0192] In an embodiment, the first electronic device **211** may receive (**815**) the updating file **810** (e.g., 0th data to 15th data) from the first external electronic device **220** and store the received updating file **810** in the memory (e.g., the memory **515** in FIG. **5**) of the first electronic device **211**. The second electronic device **213** may receive (**820**) the updating file **810** (e.g., 0th data to 15th data) from the first external electronic device **220** and store the received updating file **810** in the memory (e.g., the memory **515** in FIG. **5**) of the second electronic device **213**.

[0193] In an embodiment, the first electronic device **211** and/or the second electronic device **213** may transmit at least some of the updating files **810** to the second external electronic device **230** in case that the designated condition for transmitting the updating file **810** to the second external electronic device **230** is satisfied. For example, the first electronic device **211** may transmit (**831**, **832**, **833**, **834**, **835**, . . .) at least some data, e.g., even-numbered data (e.g., 0th data, 2nd data, 4th data, 6th data, 8th data, . . . , 14th data), among the updating files **810** stored in the memory **515** of the first electronic device **211**, to the second external electronic device **230**. The second electronic device **213** may transmit (**836**, **837**, **838**, **839**, . . .) at least some of the remaining data, e.g., odd-numbered data (e.g., 1st data, 3rd data, 5th data, 7th data, . . . , 15th data), among the updating files **810** stored in the memory **515** of the second electronic device **213**, to the second external electronic device **230**.

[0194] In an embodiment, the second external electronic device **230** may store the even-numbered data (e.g., 0th data, 2nd data, 4th data, 6th data, 8th data, . . . , 14th data), which is received from the first electronic device **211**, at even-numbered address numbers (e.g., address number 0, address number 2, address number 4, address number 6, address number 8, . . . , address number 14), among address numbers, in the memory (e.g., the memory **615** in FIG. **6**) of the second external electronic device **230**. The second external electronic device **230** may store the odd-numbered data (e.g., 1st data, 3rd data, 5th data, 7th data, . . . , 15th data), which received from the second electronic device **213**, at odd-numbered address numbers (e.g., address number 1, address number 3, address number 5, address number 7, . . . , address number 15), among the address numbers, in the memory **615** of the second external electronic device **230**.

[0195] In an embodiment, the second external electronic device **230** may update the second external electronic device **230** using the updating file **810** (e.g., 0th data to 15th data) received from the first electronic device **211** and/or the second electronic device **213** and stored in the memory **615**.

[0196] In FIG. **8** according to various embodiments, the configuration has been described in which the first electronic device **211** and the second electronic device **213** each receive all the updating files **810** (e.g., 0th data to 15th data) from the first external electronic device **220** and store the updating files **810** in the memory **515**. However, the present disclosure is not limited thereto. For example, although not illustrated, the updating file **810** may be received by one electronic device **211** or **213** of the first electronic device **211** and the second electronic device **213**. In this case, one electronic device **211** or **213**, which receives the update file **810** from the first external electronic device **220** and stores the update file **810**, may transmit the updating file **810** to the second external electronic device **230** in case that the designated condition for transmitting the updating file **810** to the second external electronic device **230** is satisfied.

[0197] In FIG. **8** according to various embodiments, a configuration has been described in which the second external electronic device **230** receives and stores at least some

(e.g., even-numbered data) of the updating files **810** from the first electronic device **211** and receives and stored at least some (e.g., odd-numbered data) of the updating files **810** from the second electronic device **213** in case that the first electronic device **211** and the second electronic device **213** each store all the updating files **810** (e.g., 0th data to 15th data). However, the present disclosure is not limited thereto. For example, although not illustrated, the second external electronic device **230** may receive 0th data to 15th data included in the updating file **810** from one electronic device **211** or **213** of the first electronic device **211** and the second electronic device **213**. In an embodiment, the second external electronic device **230** may receive 0th data to 15th data, in a lump, included in the updating file **810** or receive a designed number of divided data from one electronic device **211** or **213**.

[0198] In FIG. **9** according to various embodiments, a description will be made on the assumption that the electronic device **501**, e.g., the first electronic device **211** receives at least some (e.g., a first updating file **910***a* (e.g., even-numbered data)) of updating files **910** (e.g., 0th data to 15th data) from the first external electronic device **220**, and the second electronic device **213** receives at least some (e.g., a second updating file **910***b* (e.g., odd-numbered data)) of the updating files **910** from the first external electronic device **220**.

[0199] With reference to FIG. **9**, in an embodiment, the first electronic device **211** may receive (**915**) the first updating file **910***a* from the first external electronic device **220**. The first updating file **910***a* may include the even-numbered data, e.g., 0th data, 2nd data, 4th data, 6th data, . . . , 14th data. The first electronic device **211** may sequentially store the first updating files **910***a*, which include 0th data, 2nd data, 4th data, 6th data, . . . , 14th data received from the first external electronic device **220**, in the memory **515** of the first electronic device **211**. The second electronic device **213** may receive (**920**) the second updating file **910***b* from the first external electronic device **220** (or the first electronic device **211**). The second updating file **910***b* may include the odd-numbered data, e.g., 1st data, 3rd data, 5th data, 7th data, . . . 15th data. The second electronic device **213** may sequentially store the second updating files **910***b*, which include 1st data, 3rd data, 5th data, 7th data, . . . , 15th data received from the first external electronic device **220**, in the memory **515** of the second electronic device **213**.

[0200] In an embodiment, the first electronic device **211** and the second electronic device **213** may transmit the updating files **910***a* and **910***b* to the second external electronic device **230** in case that the designated condition for transmitting the updating files **910***a* and **910***b* to the second external electronic device **230** is satisfied. For example, the first electronic device **211** may transmit (**931**, **932**, **933**, **934**, . . .) the first updating file **910***a* stored in the memory **515** of the first electronic device **211** to the second external electronic device **230**. The second electronic device **213** may transmit (**935**, **936**, **937**, **938**, . . .) the second updating file **910***b* stored in the memory **515** of the second electronic device **213** to the second external electronic device **230**.

[0201] In an embodiment, the second external electronic device **230** may store the first updating file **910***a* (e.g., even-numbered data (e.g., 0th data, 2nd data, 4th data, 6th data, . . . , 14th data)), which is received from the first electronic device **211**, at even-numbered address numbers (e.g., address number 0, address number 2, address number 4, address number 6, . . . , address number 14), among the address numbers, in the memory **615** of the second external electronic device **230**. The second external electronic device **230** may store the second updating file **910***b* (e.g., odd-numbered data (e.g., 1st data, 3rd data, 5th data, 7th data, . . . , 15th data)), which is received from the second electronic device **213**, at odd-numbered address numbers (e.g., address number 1, address number 3, address number 5, address number 7, . . . , address number 15), among the address numbers, in the memory **615** of the second external electronic device **230**.

[0202] In an embodiment, the second external electronic device **230** may update the second external electronic device **230** using the updating file **910** (e.g., 0th data to 15th data) including the first updating file **910***a* and the second updating file **910***b* received from the first electronic device **211** and the second electronic device **213** and stored in the memory **615**.

[0203] In FIG. **9** according to various embodiments, a configuration has been described in which the first updating file **910***a* includes the even-numbered data, and the second updating file **910***b* includes the odd-numbered data. However, the present disclosure is not limited thereto. For example, in various embodiments, the first updating file **910***a* may include 0th data to 7th data, and the second updating file **910***b* may include 8th data to 15th data. In this case, the second external electronic device **230** may store the first updating file **910***a*, which includes 0th data to 7th data received from the first electronic device **211**, at address numbers 0 to 7 among the address numbers in the memory **615** of the second external electronic device **230** and store the second updating file **910***b*, which includes 8th data to 15th data received from the second electronic device **213**, at address numbers 8 to 15 among the address numbers in the memory **615** of the second external electronic device **230**.

[0204] In various embodiments, the updating file **910** may be divided into the first updating file **910***a* and the second updating file **910***b*, and the second external electronic device **230** may quickly receive the updating file for updating the firmware by simultaneously receiving the updating files (e.g., the first updating file **910***a* and the second updating file **910***b*) stored in the respective electronic devices (e.g., the first electronic device **211** and the second electronic device **213**).

[0205] In various embodiments, although not illustrated, a change to a state in which the transmission is impossible (e.g., the transmission of the updating file (e.g., the first updating file **910***a*) is stopped on the basis that the first electronic device **211** is detached from the second external electronic device **230**) may be detected while one electronic device (e.g., the first electronic device **211**) of the first electronic device **211** and the second electronic device **213** transmits the updating file (e.g., the first updating file **910***a*) through the first PLC communication. For example, the first electronic device **211** and the second electronic device **213** may exchange information with each other, and the second electronic device **213** may identify a state in which the transmission of the updating file is stopped on the basis of the information received from the first electronic device **211**. In this case, the second electronic device **213** may then transmit the updating file (e.g., the second updating file **910***b*) to the second external electronic device **230** through the second PLC communication.

[0206] In various embodiments, although not illustrated, in case that the updating files **810** and **910** are stored in one electronic device (e.g., the first electronic device **211** or the second electronic device **213**) of the first electronic device **211** and the second electronic device **213**, one electronic device (e.g., the first electronic device **211** or the second electronic device **213**), which stores the updating files, may transmit the updating files **810** and **910** to the second external electronic device **230** through the PLC communication (e.g., the first PLC communication or the second PLC communication) on the basis that the designated condition for transmitting the updating file to the second external electronic device **230** is satisfied.

[0207] FIG. **10** is a flowchart **1000** illustrating an example method of updating the second external electronic device **230** according to various embodiments.

[0208] With reference to FIG. **10**, at operation **1005**, the second external electronic device (e.g., the second external electronic device **230** in FIG. **6**) may receive the updating file from at least one electronic device (e.g., the first electronic device **211** and/or the second electronic device **213** in FIG. **2**) on the basis of the detection of the seating of at least one electronic device (e.g., the first electronic device **211** and/or the second electronic device **213** in FIG. **2**).

[0209] In various embodiments, the state in which at least one electronic device (e.g., the first electronic device **211** and the second electronic device **213**) is seated in the second external electronic device **230** may include the state in which the cover of the second external electronic device **230** is closed or opened in the state in which the terminals of the first electronic device **211** (e.g., the terminals **470** in FIG. **4**) (and/or the terminals of the second electronic device **213**) are physically in contact with the terminals of the second external electronic device **230** (e.g., the terminals **460** in FIG. **4**) and/or the state in which the terminals **470** of the first electronic device **211** (and/or the terminals of the second electronic device **213**) are physically in contact with the terminals **460** of the second external electronic device **230**.

[0210] In various embodiments, as described above with reference to operation **725** in FIG. **7**, the second external electronic device **230** may receive the updating file through the PLC communication from the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) on the basis that the designated condition for transmitting the updating file to the second external electronic device **230** is satisfied is determined by the electronic device **501**.

[0211] For example, the designated condition may include a case in which the electronic device **501** is seated in the second external electronic device **230**, a case in which the battery residual amount of the electronic device **501** exceeds a designated value, a case in which the battery residual amount of the second external electronic device **230** exceeds a designated value, a case in which sensor information of the electronic device **501** is in a stable state for a designated time (e.g., a state in which a sensor signal related to a motion is not detected after the electronic device **501** is seated in the second external electronic device **230**), and/or a case in which the second external electronic device **230** is stably in a state of being charged. The present disclosure is not limited thereto. The second external electronic device **230** may receive the updating file through the PLC communication from the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) on the basis of the detection of the user input for requesting the updating file.

[0212] In an embodiment, the second external electronic device **230** may store the updating file, which is received from at least one electronic device (e.g., the first electronic device **211** and/or the second electronic device **213**), in the memory (e.g., the memory **615** in FIG. **6**).

[0213] In an embodiment, at operation **1010**, the second external electronic device **230** may identify whether the designated condition for updating the second external electronic device **230** is satisfied on the basis of the state information of the second external electronic device **230**.

[0214] For example, on the basis that the communication connection with at least one electronic device (e.g., the first electronic device **211** and/or the second electronic device **213**) is released (e.g., the first electronic device **211** and the second electronic device **213** are detached from the second external electronic device **230**), the designated condition for updating the second external electronic device **230** may include whether the second external electronic device **230** is in a stand-alone (SA) mode, whether a battery residual amount of the second external electronic device **230** exceeds a designated value, whether a temperature of the second external electronic device **230** exceeds a designated range, whether the second external electronic device **230** is in a state of being stably charged, and/or whether a user input for updating the firmware installed in the second external electronic device **230** through an input device (not illustrated) separately provided in the second external electronic device **230** is detected.

[0215] The present disclosure is not limited thereto. The designated condition may include a case in which the electronic device **501** and the first external electronic device **220** receive the user input for updating the second external electronic device **230** from the first external electronic device **220** through the electronic device **501** in the state in which the electronic device **501** and the first external electronic device **220** are in communication connection.

[0216] Various embodiments related to the configuration in which the second external electronic device **230** is updated in case that the electronic device **501** and the first external electronic device **220** according to various embodiments receive the user input for updating the second external electronic device **230** from the first external electronic device **220** through the electronic device **501** in the state in which the electronic device **501** and the first external electronic device **220** are in communication connection will be described in greater detail below with reference to FIGS. **13**A and **13**B.

[0217] In an embodiment, at operation **1015**, the second external electronic device **230** may update the second external electronic device **230** using the updating file received from at least one electronic device (e.g., the first electronic device **211** and/or the second electronic device **213**) in case that the designated condition for updating the second external electronic device **230** is satisfied.

[0218] In an embodiment, the second external electronic device **230** may identify that the designated condition for updating the second external electronic device **230** is satisfied in a case in which the second external electronic device **230** is in the SA mode, a case in which the battery residual amount of the second external electronic device **230** exceeds a designated value, a case in which a temperature of the

second external electronic device **230** is included in a designated range, a case in which the second external electronic device **230** is stably in a state of being charged, and/or a case in which a user input for updating the firmware installed in the second external electronic device **230** is detected.

[0219] In an embodiment, as described above with reference to FIGS. **8** and **9**, the second external electronic device **230** may update the firmware installed in the second external electronic device **230** on the basis of the updating files **810** and **910** received from the first electronic device **211** and/or the second electronic device **213**. For example, the second external electronic device **230** may update the firmware installed in the second external electronic device **230** on the basis of an address of an area of the memory **615** (e.g., a first area and a second area), which stores the updating file, in case that the first updating file (e.g., even-numbered data) received from the first electronic device **211** is stored in the first area (e.g., even-numbered address numbers among the address numbers in the memory **615**) of the memory (e.g., the memory **615** in FIG. **6**), and the second updating file (e.g., the second updating file (e.g., odd-numbered data)) received from the second electronic device **213** is stored in the second area (e.g., odd-numbered address numbers among the address numbers in the memory **615**) of the memory **615**.

[0220] In various embodiments, although not illustrated, the second external electronic device **230** may transmit, to the electronic device **501**, state information, which is related to the updating of the firmware, such as information on a state before the updating of the firmware is started, information on a failure of the updating while the firmware is updated, and/or information on the completion of the updating of the firmware.

[0221] In various embodiments, although not illustrated, the second external electronic device **230** may include an indicator (e.g., one or more LED devices capable of producing outputs) that indicates an operating state of the second external electronic device **230**. The indicator may output firmware updating progress situations (e.g., preparation of firmware updating, performing of firmware updating, completion of firmware updating, and/or failure of firmware updating).

[0222] The present disclosure is not limited thereto. The electronic device **501** may output the received firmware updating progress situation through an output device such as the speaker (e.g., the speaker **520** in FIG. **5**).

[0223] As another example, the electronic device **501** may transmit the firmware updating progress situation, which is received from the second external electronic device **230**, to the first external electronic device **220** in case that the second external electronic device **230** is updated (e.g., the second external electronic device **230** is updated in the state in which the electronic device **501** is seated in the second external electronic device **230** and the cover of the second external electronic device **230** is in the open state) in the state in which the electronic device **501**, the first external electronic device **220**, and the second external electronic device **230** are in communication connection. The first external electronic device **220** may output the updating progress situation, which is related to the firmware installed in the second external electronic device **230**, on the display (e.g., the display module **160** in FIG. **1**).

[0224] In various embodiments, the user may intuitively identify the firmware updating progress situation as the updating progress situation related to the firmware installed in the second external electronic device **230** is output by the indicator of the second external electronic device **230**, the speaker **520** of the electronic device **501**, and/or the display **160** of the first external electronic device **220**.

[0225] In various embodiments, in case that the designated condition for updating the second external electronic device **230** is satisfied, the second external electronic device **230** is updated by using the updating file (e.g., the updating files **810** and **910** in FIGS. **8** and **9**) received from at least one electronic device (e.g., the first electronic device **211** and/or the second electronic device **213**), which may improve the stability of the updating of the second external electronic device **230**.

[0226] FIG. **11** is a diagram **1100** illustrating an example user interface related to the updating of the second external electronic device **230** according to various embodiments.

[0227] With reference to FIG. **11**, the first external electronic device **220** may receive information related to the updating of the firmware installed in the second external electronic device **230** from the electronic device (e.g., the electronic device **501** in FIG. **5**) (e.g., the first electronic device **211** and/or the second electronic device **213** in FIG. **2**). For example, the information related to the updating of the firmware may include information on the start of the updating of the firmware, information on a failure of the updating during the updating of the firmware, and/or information on the completion of the updating of the firmware. In an embodiment, the first external electronic device **220** may output the information, which is related to the updating of the firmware installed in the second external electronic device **230**, on the display (e.g., the display module **160** in FIG. **1**).

[0228] For example, as illustrated in reference numeral <1110>, in case that the updating file for updating the firmware of the second external electronic device **230** exists, the first external electronic device **220** may display, on the display **160**, a pop-up window **1111** including a notification message (e.g., "Do you want to update firmware of case?") related to the updating of the firmware of the second external electronic device **230**. The first external electronic device **220** may further display an item **1113** (e.g., YES) for updating the firmware of the second external electronic device **230**, and an item **1115** (e.g., NO) for not updating the firmware of the second external electronic device **230**.

[0229] As another example, as illustrated in reference numeral <1120>, in case that the updating of the firmware of the second external electronic device **230** is completed, the first external electronic device **220** may display, on the display **160**, a pop-up window **1121** including a notification message (e.g., "Updating of firmware of case is completed") related to the completion of the updating of the firmware.

[0230] FIGS. **12**A and **12**B are signal flow diagrams **1200** illustrating example operations between the electronic device **501**, the first external electronic device **220**, and the second external electronic device **230** according to various embodiments.

[0231] Because the operation of the electronic device **501** according to various embodiments is identical or similar to the operation of the electronic device **501** illustrated in FIG. **7**, a detailed description thereof may be replaced with the description described with reference to FIG. **7**. Because the

operation of the second external electronic device **230** according to various embodiments is identical or similar to the operation of the second external electronic device **230** illustrated in FIG. **10**, a detailed description thereof may be replaced with the description described with reference to FIG. **10**.

[0232] With reference to FIGS. **12**A and **12**B, at operation **1201**, the electronic device **501** and the first external electronic device **220** may establish a communication connection and be in communication.

[0233] In various embodiments, the electronic device **501** may include at least one of the first electronic device (e.g., the first electronic device **211** in FIG. **2**) and the second electronic device (e.g., the second electronic device **213** in FIG. **2**).

[0234] In an embodiment, as described above with reference to FIG. **3**, the electronic devices **501** (e.g., the first electronic device **211** and the second electronic device **213**) may be in communication connection with the first external electronic device **220** through the short-range wireless communication by the relay method, the sniffing method, or the TWS+ method.

[0235] In an embodiment, at operation **1203**, the electronic device **501** may transmit the information related to the second external electronic device **230** to the first external electronic device **220**. The information related to the second external electronic device **230** may include identification information of the second external electronic device **230**, state information, and/or information related to the firmware. For example, the identification information of the second external electronic device **230** may include a mac address, a device type, a model name, a model number, a serial number, and/or a manufacturer name. The state information of the second external electronic device **230** may include battery state information (e.g., battery residual amount information) of the second external electronic device **230**, temperature state information, a current process state, and/or charge state information. The information related to the firmware may include a firmware binary name, a firmware binary, and/or firmware version information.

[0236] In an embodiment, at operation **1205**, the first external electronic device **220** may identify whether the updating file for updating the second external electronic device **230** exists on the basis of the information related to the second external electronic device **230**, and the first external electronic device **220** may download the updating file in case that updating file exists. For example, the first external electronic device **220** may identify whether the updating file for updating the firmware installed in the second external electronic device **230** exists on the basis of the information related to the second external electronic device **230** received from the electronic device **501** by accessing the server related to the firmware updating or using the application (e.g., manager application) related to the firmware updating. For example, the first external electronic device **220** may download the updating file from the server in case that an updating file, which is a higher level version than the version information of the firmware corresponding to the second external electronic device **230**, exists in the server.

[0237] In an embodiment, at operation **1207**, the first external electronic device **220** may transmit the updating file for updating the second external electronic device **230** to the electronic device **501**. At operation **1209**, the electronic device **501** may store the updating file in the memory (e.g., the memory **515** in FIG. **5**).

[0238] For example, the first external electronic device **220** may transmit the updating file to the electronic device **501** to transmit the updating file to the second external electronic device **230** through the electronic device **501** and allow the second external electronic device **230** to update the firmware. In various embodiments, the first external electronic device **220** may transmit the updating file for updating the second external electronic device **230** to the electronic device **501** at a designated time point or when a designated event is detected. For example, the designated event may include a user input for downloading the updating file. The designated time point may include a time point of the communication connection with the electronic device **501**.

[0239] The configuration has been described in which whether the updating file for updating the second external electronic device **230** exists is identified on the basis that the first external electronic device **220** receives the information related to the second external electronic device **230** from the electronic device **501** at operation **1205** in FIG. **12**A according to various embodiments. However, the present disclosure is not limited thereto.

[0240] For example, the first external electronic device **220** may receive the information related to the second external electronic device **230** and store the information in the memory (e.g., the memory **130** in FIG. **1**) on the basis of the previous communication connection with the electronic device **501**. The first external electronic device **220** may periodically perform the operation of identifying whether the updating file for updating the second external electronic device **230** exists in the server on the basis of the information related to the second external electronic device **230** stored in advance in the memory **130** regardless of whether the first external electronic device **220** is in communication connection with the electronic device **501**. In this case, the first external electronic device **220** may transmit the updating file for updating the second external electronic device **230** to the electronic device **501** at a time point (e.g., operation **1201**) at which the first external electronic device **220** is in communication connection with the electronic device **501**. In an embodiment, the first external electronic device **220** may transmit the updating file to the electronic device **501**, e.g., the first electronic device **211** and the second electronic device **213**. In this case, the first electronic device **211** and the second electronic device **213** may receive the same updating file (e.g., the updating file **810** in FIG. **8**) from the first external electronic device **220** and store the updating file in the memory (e.g., the memory **515** in FIG. **5**).

[0241] The present disclosure is not limited thereto. In an embodiment, the first external electronic device **220** may transmit the updating file to one electronic device (e.g., the first electronic device **211** or the second electronic device **213**) of the first electronic device **211** and the second electronic device **213**. In this case, one electronic device (e.g., the first electronic device **211** or the second electronic device **213**) may store the received updating file in the memory (e.g., the memory **515** in FIG. **5**).

[0242] In an embodiment, one electronic device (e.g., the first electronic device **211** or the second electronic device **213**) may divide the updating files **810** and **910**, which are received from the first external electronic device **220**, into

the first updating file (e.g., the first updating file including even-numbered data) and the second updating file (e.g., the second updating file including odd-numbered data). One electronic device (e.g., the first electronic device **211** or the second electronic device **213**) may store the first updating file in the memory **515**. One electronic device (e.g., the first electronic device **211** or the second electronic device **213**) may transmit the second updating file to the other electronic device (e.g., the second electronic device **213** or the first electronic device **211**). The other electronic device (e.g., the second electronic device **213** or the first electronic device **211**) may store the second updating file in the memory **515**.

[0243] In an embodiment, the first external electronic device **220** may transmit the first updating file (e.g., the first updating file **910***a* in FIG. **9**) of the updating files (e.g., the updating file **910** in FIG. **9**) to the first electronic device **211** and transmit the second updating file (e.g., the second updating file **910***b* in FIG. **9**) of the updating file **910** to the second electronic device **213**. In this case, the first electronic device **211** may store the first updating file **910***a* in the memory **515**. The second electronic device **213** may store the second updating file **910***b* in the memory **515**.

[0244] In an embodiment, at operation **1211**, the electronic device **501** may establish a communication connection and be in communication connection with the second external electronic device **230**. For example, the electronic device **501** may perform the PLC communication with the second external electronic device **230** on the basis that the electronic device **501** is seated in the second external electronic device **230**. For example, in case that the cover of the second external electronic device **230** is in the closed state or the open state in a state in which the terminals (e.g., the terminals **470** in FIG. **4**) of the electronic device **501** are physically in contact with the terminals (e.g., the terminals **460** in FIG. **4**) of the second external electronic device **230** or a state in which the terminals **470** of the electronic device **501** are physically in contact with the terminals **460** of the second external electronic device **230**, the electronic device **501** may identify that the electronic device **501** is seated in the second external electronic device **230**, and the electronic device **501** may perform the PLC communication with the second external electronic device **230**.

[0245] In an embodiment, at operation **1213**, the electronic device **501** may request the information related to the second external electronic device **230**. At operation **1215**, the second external electronic device **230** may transmit the information related to the second external electronic device **230** to the electronic device **501**. For example, the information related to the second external electronic device **230** may include identification information (e.g., a device type, a model name, and/or a manufacturer name) of the second external electronic device **230**, state information (e.g., battery residual amount information, temperature state information, current process state, charge state information, and/or sensor information), and/or information related to the firmware (e.g., a firmware binary name, a firmware binary, and/or firmware version information).

[0246] In various embodiments, the electronic device **501** may be mounted in a plurality of second external electronic devices **230**. Therefore, the identification information of the second external electronic device **230** seated before the communication connection with the first external electronic device **220** (e.g., before operation **1201**) may be different from the identification information of the second external electronic device **230** being in communication connection at operation **1211**. Operation **1213** described above may be an operation of identifying whether the updating file (e.g., operation **1207**) received from the first external electronic device **220** is matched with the updating file for updating the firmware corresponding to the identification information of the second external electronic device **230** being in communication connection at operation **1211**.

[0247] In an embodiment, at operation **1217**, the electronic device **501** may identify whether the second external electronic device **230** is required to be updated on the basis of the information related to the second external electronic device **230**.

[0248] For example, in case that the updating file (e.g., operation **1207**) received from the first external electronic device **220** is matched with the updating file for updating the firmware corresponding to the identification information of the second external electronic device **230** being in communication connection at operation **1211**, the electronic device **501** may identify whether the second external electronic device **230** is required to be updated on the basis of the information related to the second external electronic device **230**. For example, when the electronic device **501** identifies that the version information of the updating file for updating the second external electronic device **230** received from the first external electronic device **220** is a higher level version than the version information of the firmware installed in the second external electronic device **230**, the electronic device **501** may identify that the second external electronic device **230** is required to be updated.

[0249] In an embodiment, at operation **1219**, when it is identified that the second external electronic device **230** is required to be updated, the electronic device **501** may identify whether a designated condition for transmitting the updating file to the second external electronic device **230** is satisfied on the basis of the state information of the second external electronic device **230** and/or the state information of the electronic device **501**. For example, the electronic device **501** may identify that the designated condition for transmitting the updating file to the second external electronic device **230** is satisfied in a case in which the cover (e.g., the second housing structure **420** in FIG. **4**) is a closed or open state, a case in which the battery residual amounts of the electronic device **501** and the second external electronic device **230** exceed a designated value, a case in which a temperature of the second external electronic device **230** is included in a designated range, a case in which the second external electronic device **230** is stably in a state of being charged, and/or a case in which sensor information of the electronic device **501** is in a stable state for a predetermined time or more in a state in which the electronic device **501** is seated, the terminals **470** of the electronic device **501** (e.g., the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) are physically in contact with the terminals **460** of the second external electronic device **230**, and the terminals **470** of the electronic device **501** (e.g., the first electronic device **211** and/or the second electronic device **213**) are physically in contact with the terminals **460** of the second external electronic device **230**.

[0250] In an embodiment, at operation **1221**, the electronic device **501** may transmit the updating file to the second external electronic device **230** in case that the designated

condition for transmitting the updating file to the second external electronic device is satisfied.

[0251] In an embodiment, the updating file for updating the second external electronic device **230** may be stored in the first electronic device **211** and/or the second electronic device **213**. In case that the updating file is stored in one of the first electronic device **211** and the second electronic device **213**, one electronic device, which stores the updating file, may transmit the updating file to the second external electronic device **230** through the PLC communication on the basis that the designated condition for transmitting the updating file to the second external electronic device **230** is satisfied.

[0252] In an embodiment, in case that the updating file (e.g., the updating file **810** in FIG. **8**) is stored in the first electronic device **211** and the second electronic device **213**, the first electronic device **211** and the second electronic device **213** may transmit the updating file **810** to the second external electronic device **230** through the PLC communication. For example, the first electronic device **211** may transmit at least some of the updating files **810** (e.g., even-numbered data of the updating file **810**) to the second external electronic device **230**. The second electronic device **213** may transmit at least some of the updating files **810** (e.g., odd-numbered data of the updating file **810**) to the second external electronic device **230**.

[0253] In an embodiment, the first electronic device **211** may transmit the first updating file **910***a* to the second external electronic device **230** through the PLC communication (e.g., the first PLC communication) in case that the first updating file **910***a* of the updating files is stored in the first electronic device **211** and the second updating file **910***b* is stored in the second electronic device **213**. The second electronic device **213** may transmit the second updating file **910***b* to the second external electronic device **230** through the PLC communication (e.g., the second PLC communication).

[0254] In an embodiment, at operation **1223** (see FIG. **12**B), the second external electronic device **230** may identify whether the designated condition for updating the second external electronic device **230** is satisfied on the basis of the state information of the second external electronic device **230**. At operation **1225**, the second external electronic device **230** may perform the updating using the updating file in case that the designated condition for updating the second external electronic device **230** is satisfied.

[0255] For example, the second external electronic device **230** may identify (or determine) that the designated condition for updating the second external electronic device **230** is satisfied in a case in which the second external electronic device **230** is in the SA mode, a case in which the battery residual amount of the second external electronic device **230** exceeds a designated value, a case in which a temperature of the second external electronic device **230** is included in a designated range, a case in which the second external electronic device **230** is stably in a state of being charged, and/or a case in which a user input for updating the firmware installed in the second external electronic device **230** is detected. Further, the updating may be performed using the updating files **810** and **910** received from the first electronic device **211** and/or the second electronic device **213**.

[0256] FIGS. **13**A and **13**B are signal flow diagrams **1300** illustrating example operations between the electronic device **501**, the first external electronic device **220**, and the second external electronic device **230** according to various embodiments.

[0257] FIGS. **13**A and **13**B according to various embodiments illustrate an example method of updating the second external electronic device **230** in case that the electronic device **501** and the first external electronic device **220** according to various embodiments receive the user input for updating the second external electronic device **230** from the first external electronic device **220** through the electronic device **501** in the state in which the electronic device **501** and the first external electronic device **220** are in communication connection.

[0258] Because operations **1301** to **1317** in FIG. **13**A according to various embodiments are identical or similar to operations **1201** to **1217** in FIG. **12**A described above, a detailed description thereof may be replaced with the description described with reference to FIG. **12**A.

[0259] With reference to FIGS. **13**A and **13**B, at operation **1301**, the electronic device **501** may establish a communication connection and be in communication with the first external electronic device **220**. In various embodiments, the electronic device **501** may include at least one of the first electronic device (e.g., the first electronic device **211** in FIG. **2**) and the second electronic device (e.g., the second electronic device **213** in FIG. **2**). At operation **1303**, the electronic device **501** may transmit information related to the second external electronic device **230** (e.g., identification information, state information, and/or information related to the firmware) to the first external electronic device **220** on the basis that the electronic device **501** is in communication connection with the first external electronic device **220**.

[0260] In an embodiment, at operation **1305**, the first external electronic device **220** may identify whether the updating file for updating the second external electronic device **230** exists on the basis of the information related to the second external electronic device **230**, and the first external electronic device **220** may download the updating file in case that updating file exists. At operation **1307**, the first external electronic device **220** may transmit the downloaded updating file for updating the second external electronic device **230** to the electronic device **501**.

[0261] In an embodiment, at operation **1309**, the electronic device **501** may store the updating file in the memory (e.g., the memory **515** in FIG. **5**). At operation **1311**, the electronic device **501** may establish a communication connection with the second external electronic device **230**. For example, as the electronic device **501** is seated in the second external electronic device **230**, electrical connection may occur between the terminals (e.g., the terminals **460** in FIG. **4**) of the second external electronic device **230** and the terminals (e.g., the terminals **470**) of the first electronic device **211** or between the terminals (e.g., the terminals **460** in FIG. **4**) of the second external electronic device **230** and the terminals of the second electronic device **213**. The electronic device **501** may perform the PLC communication with the second external electronic device **230** on the basis of the occurrence of the electrical connection. For example, in case that the cover of the second external electronic device **230** is in the closed state or the open state in a state in which the terminals **470** of the electronic device **501** are physically in contact with the terminals **460** of the second external electronic device **230** or a state in which the terminals **470** of the electronic device **501** are physically in contact with the

terminals **460** of the second external electronic device **230**, the electronic device **501** may identify that the electronic device **501** is seated in the second external electronic device **230**, and the electronic device **501** may perform the PLC communication with the second external electronic device **230**.

[0262] In an embodiment, at operation **1313**, the electronic device **501** may request the information related to the second external electronic device **230**. At operation **1315**, the second external electronic device **230** may transmit the information to the electronic device **501**. At operation **1317**, the electronic device **501** may identify whether the second external electronic device **230** is required to be updated on the basis of the information related to the second external electronic device **230**.

[0263] In an embodiment, at operation **1319**, the electronic device **501** may transmit a signal related to the necessity of the updating of the second external electronic device **230** to the first external electronic device **220** in case that the second external electronic device **230** is required to be updated. For example, when the electronic device **501** identifies that the version information of the updating file for updating the second external electronic device **230** received from the first external electronic device **220** is a higher level version than the version information of the firmware installed in the second external electronic device **230**, the electronic device **501** may identify that the second external electronic device **230** is required to be updated, and the electronic device **501** may transmit the signal related thereto to the first external electronic device **220**.

[0264] In an embodiment, at operation **1321**, the first external electronic device **220** may transmit a signal for requesting the preparation of the updating of the second external electronic device **230** to the electronic device **501** on the basis of the detection of an input for requesting the updating of the second external electronic device **230**.

[0265] In an embodiment, at operation **1323**, the electronic device **501** may transmit the signal for requesting the preparation of the updating to the second external electronic device **230**. At operation **1325**, the second external electronic device **230** may identify whether the designated condition for the updating is satisfied on the basis of the state information and the reception of the signal for requesting the preparation of the updating from the electronic device **501**. For example, the second external electronic device **230** may identify that the designated condition for updating the second external electronic device **230** is satisfied in a case in which the second external electronic device **230** is in the SA mode, a case in which the battery residual amount of the second external electronic device **230** exceeds a designated value, a case in which a temperature of the second external electronic device **230** is included in a designated range, a case in which the second external electronic device **230** is stably in a state of being charged, and/or a case in which a user input for updating the firmware installed in the second external electronic device **230** is detected.

[0266] In an embodiment, at operation **1327**, the second external electronic device **230** may transmit a signal, which is related to the completion of the preparation of the updating, to the electronic device **501** in case that the designated condition for the updating is satisfied. At operation **1329**, the electronic device **501** may transmit the signal, which is related to the completion of the preparation of the updating of the second external electronic device **230**, to the first external electronic device **220** on the basis that the signal related to the completion of the preparation of the updating is received from the second external electronic device **230**. At operation **1331**, the first external electronic device **220** may transmit a signal for requesting the start of the updating of the second external electronic device **230** to the electronic device **501**.

[0267] For example, the first external electronic device **220** may output a user interface (e.g., reference numeral <1110> in FIG. **11**), which is related to the updating of the second external electronic device **230** on the display (e.g., the display module **160** in FIG. **1**) on the basis of the completion of the preparation of the updating of the second external electronic device **230**. When the user input for requesting the start of the updating of the second external electronic device **230** (e.g., a user input for selecting the item **1113** (e.g., YES) for updating the firmware of the second external electronic device **230** included in the user interface in reference numeral <1110> in FIG. **11**) is detected by the user interface, the first external electronic device **220** may transmit the signal for requesting the start of the updating of the second external electronic device **230** to the electronic device **501**.

[0268] In an embodiment, at operation **1333**, the electronic device **501** may transmit the signal for requesting the start of the updating to the second external electronic device **230**. At operation **1335**, the second external electronic device **230** may request the updating file from the electronic device **501**. At operation **1337**, the electronic device **501** may transmit the updating file to the second external electronic device **230**, as a response to the reception of the request for the updating file from the second external electronic device **230**.

[0269] In an embodiment, the updating file for updating the second external electronic device **230** may be stored in the first electronic device **211** and/or the second electronic device **213**. For example, in case that the updating file is stored in one of the first electronic device **211** and the second electronic device **213**, one electronic device, which stores the updating file, may transmit the updating file to the second external electronic device **230** through the PLC communication. As another example, in case that the updating file is stored in the first electronic device **211** and the second electronic device **213**, the first electronic device **211** may transmit at least some of the updating files (e.g., even-numbered data of the updating file) to the second external electronic device **230**. The second electronic device **213** may transmit at least some of the updating files (e.g., odd-numbered data of the updating file) to the second external electronic device **230**. As still another example, the first electronic device **211** may transmit the first updating file to the second external electronic device **230** through the PLC communication in case that the first updating file (e.g., even-numbered data including the updating file) of the updating files is stored in the first electronic device **211** and the second updating file (e.g., odd-numbered data including the updating file) is stored in the second electronic device **213**. The second electronic device **213** may transmit the second updating file to the second external electronic device **230** through the PLC communication.

[0270] In an embodiment, at operation **1339**, the second external electronic device **230** may perform the updating using the updating file. At operation **1341**, when the updating is completed, the second external electronic device **230** may transmit a single related to the completion of the

updating to the electronic device **501**. At operation **1343**, the electronic device **501** may store information on the completion of the updating of the second external electronic device **230** and update the version information of the second external electronic device **230** stored in the memory (e.g., the memory **515** in FIG. **5**). At operation **1345**, the electronic device **501** may transmit the information on the completion of the updating of the second external electronic device **230** and the version information of the second external electronic device **230** to the first external electronic device **220**. The first external electronic device **220** may update the information of the second external electronic device **230** stored in the memory (e.g., the memory **130** in FIG. **1**) on the basis of the information on the completion of the updating of the second external electronic device **230** and the version information of the second external electronic device **230** received from the electronic device **501**.

[0271] In an embodiment, the first external electronic device **220** may output a user interface (e.g., reference numeral <1120> in FIG. **11**) related to the completion of the updates on the display **160** on the basis of the information on the completion of the updating of the second external electronic device **230** from the electronic device **501**.

[0272] FIGS. **14**A and **14**B are signal flow diagrams **1400** illustrating example operations between the first electronic device **211**, the second electronic device **213**, the first external electronic device **220**, and the second external electronic device **230** according to various embodiments.

[0273] FIGS. **14**A and **14**B according to various embodiments are views illustrating example operation of the electronic device **501** (e.g., the first electronic device **211** and the second electronic device **213**) that receives at least some of the updating files for the second external electronic device **230** from the first external electronic device **220** and transmits at least some of the updating files to the second external electronic device **230**.

[0274] Because operations **1403** to **1409** in FIG. **14**A and operations **1417** to **1425** in FIG. **14**B according to various embodiments are identical or similar to operations **1201** to **1207** and operations **1211** to **1219** in FIG. **12**A described above, a detailed description thereof may be replaced with the description described with reference to FIG. **12**A.

[0275] In FIGS. **14**A and **14**B according to various embodiments, the description will be made on the assumption that the first electronic device **211** of the first and second electronic devices **211** and **213** is representatively in communication connection with the first external electronic device **220**.

[0276] With reference to FIGS. **14**A and **14**B, at operation **1401**, the first electronic device **211** may establish a communication connection and be in communication with the second electronic device **213**. At operation **1403**, the first electronic device **211** may establish a communication connection and be in communication with the first external electronic device **220**. As described above with reference to FIG. **3** according to various embodiments, the first electronic device **211** and/or the second electronic device **213** may be in communication connection with the first external electronic device **220** through the short-range wireless communication by the relay method, the sniffing method, or the TWS+ method.

[0277] In an embodiment, at operation **1405**, the first electronic device **211** may transmit information related to the second external electronic device **230** (e.g., identification information, state information, and/or information related to the firmware) to the first external electronic device **220** on the basis that the electronic device **501** is in communication connection with the first external electronic device **220**.

[0278] In an embodiment, at operation **1407**, the first external electronic device **220** may download the updating file from the server when it is identified that the updating file for updating the second external electronic device **230** exists in the server on the basis of the information related to the second external electronic device **230** received from the first electronic device **211**.

[0279] In an embodiment, at operation **1409**, the first external electronic device **220** may transmit at least some of the updating files for updating the second external electronic device **230** to the first electronic device **211**. At operation **1411**, the first external electronic device **220** may transmit at least some of the updating files for updating of the second external electronic device **230** to the second electronic device **213**. For example, as described above with reference to FIG. **8**, the first external electronic device **220** may transmit all the updating files **810** (e.g., 0th data to 15th data) for updating the second external electronic device **230** to the first electronic device **211** and the second electronic device **213**. As another example, as described above with reference to FIG. **9**, the first external electronic device **220** may transmit at least some **910***a* (e.g., even-numbered data) of the updating files **910** for updating the second external electronic device **230** to the first electronic device **211** and transmit at least some **910***b* (e.g., odd-numbered data) of the updating files **910** to the second electronic device **213**.

[0280] In various embodiments, the configuration has been described in which the first external electronic device **220** transmits the updating file for updating the second external electronic device **230** to the first electronic device **211** (e.g., operation **1409**) and then transmits the updating file to the second electronic device **213** (e.g., operation **1411**). However, the present disclosure is not limited thereto. For example, operations **1409** and **1411** may be simultaneously performed.

[0281] In an embodiment, at operation **1413**, the first electronic device **211** may store the updating files (e.g., all the updating files or at least some of the updating files), which are received from the first external electronic device **220**, in the memory **515** of the first electronic device **211**. At operation **1415**, the second electronic device **213** may store the updating files (e.g., all the updating files or at least some of the updating files), which are received from the first external electronic device **220**, in the memory **515** of the second electronic device **213**.

[0282] In an embodiment, at operations **1417** and **1419**, the first electronic device **211** and the second electronic device **213** may establish and be in communication connection with the second external electronic device **230**. For example, the first electronic device **211** and the second electronic device **213** may perform the PLC communication with the second external electronic device **230** on the basis that the first electronic device **211** and the second electronic device **213** are seated in the second external electronic device **230**.

[0283] In an embodiment, at operation **1421**, the first electronic device **211** may request the information related to the second external electronic device **230**. At operation **1423**, the second external electronic device **230** may transmit the information related to the second external electronic

device **230** (e.g., identification information, state information, and/or information related to the firmware) to the first electronic device **211**.

[0284] In an embodiment, at operation **1425**, the first electronic device **211** may identify whether the designated condition for transmitting the updating file to the second external electronic device **230** is satisfied when it is identified that the second external electronic device **230** is required to be updated on the basis of the information related to the second external electronic device **230**. For example, the designated condition may include a case in which the electronic device **501** is seated in the second external electronic device **230**, a case in which the battery residual amount of the electronic device **501** exceeds a designated value, a case in which the battery residual amount of the second external electronic device **230** exceeds a designated value, and/or a case in which sensor information of the electronic device **501** is in a stable state for a designated time (e.g., a state in which a sensor signal related to a motion is not detected after the electronic device **501** is seated in the second external electronic device **230**). The present disclosure is not limited thereto. The designated condition may include a case in which the electronic device **501** and the first external electronic device **220** receive the user input for requesting the updating file for the second external electronic device **230** from the first external electronic device **220** through the electronic device **501** in the state in which the electronic device **501** and the first external electronic device **220** are in communication connection.

[0285] In an embodiment, in case that the designated condition for transmitting the updating file to the second external electronic device **230** is satisfied, the first electronic device **211**, at operation **1427**, may transmit the signal related to the transmission of the updating file for the second external electronic device **230** (e.g., a signal for requesting the transmission of at least some of the updating files stored in the second electronic device **213** to the second external electronic device **230**) to the second electronic device **213**.

[0286] In an embodiment, at operation **1429**, the first electronic device **211** may transmit the updating file stored in the memory to the second external electronic device **230**. At operation **1431**, the second electronic device **213** may transmit the updating file stored in the memory to the second external electronic device **230** in response to the reception of the signal related to the transmission of the updating file received from the first electronic device **211**.

[0287] In various embodiments, the configuration has been described in which the first electronic device **211** transmits the updating file to the second external electronic device **230** (e.g., operation **1429**), and then the second electronic device **213** transmits the updating file to the second external electronic device **230** (e.g., operation **1431**). However, the present disclosure is not limited thereto. For example, operations **1429** and **1431** may be simultaneously performed.

[0288] In FIGS. **14**A and **14**B according to various embodiments, the description has been made on the assumption that the first electronic device **211** of the first and second electronic devices **211** and **213** is representatively in communication connection with the first external electronic device **220**. However, the present disclosure is not limited thereto. In an embodiment, the second electronic device **213** of the first and second electronic devices **211** and **213** is representatively in communication connection with the first external electronic device **220**. In this case, the operation of the first electronic device **211** may be performed by the second electronic device **213**, and the operation of the second electronic device **213** may be performed by the first electronic device **211**.

[0289] The electronic device according to various embodiments may be one of various types of electronic devices. The electronic devices may include, for example, a portable communication device (e.g., a smartphone), a computer device, a portable multimedia device, a portable medical device, a camera, a wearable device, a home appliance, or the like. According to an embodiment of the disclosure, the electronic devices are not limited to those described above.

[0290] It should be appreciated that various embodiments of the disclosure and the terms used therein are not intended to limit the technological features set forth herein to particular embodiments and include various changes, equivalents, or replacements for a corresponding embodiment. With regard to the description of the drawings, similar reference numerals may be used to refer to similar or related elements. It is to be understood that a singular form of a noun corresponding to an item may include one or more of the things, unless the relevant context clearly indicates otherwise. As used herein, each of such phrases as "A or B," "at least one of A and B," "at least one of A or B," "A, B, or C," "at least one of A, B, and C," and "at least one of A, B, or C," may include any one of, or all possible combinations of the items enumerated together in a corresponding one of the phrases. As used herein, such terms as "1st" and "2nd," or "first" and "second" may be used to simply distinguish a corresponding component from another, and does not limit the components in other aspect (e.g., importance or order). It is to be understood that if an element (e.g., a first element) is referred to, with or without the term "operatively" or "communicatively," as "coupled with," "coupled to," "connected with," or "connected to" another element (e.g., a second element), the element may be coupled with the other element directly (e.g., through wires), wirelessly, or via a third element.

[0291] As used in connection with various embodiments of the disclosure, the term "module" may include a unit implemented in hardware, software, or firmware, or any combination thereof, and may interchangeably be used with other terms, for example, "logic," "logic block," "part," or "circuitry." A module may be a single integral component, or a minimum unit or part thereof, adapted to perform one or more functions. For example, according to an embodiment, the module may be implemented in a form of an application-specific integrated circuit (ASIC).

[0292] Various embodiments as set forth herein may be implemented as software (e.g., the program **140**) including one or more instructions that are stored in a storage medium (e.g., internal memory **136** or external memory **138**) that is readable by a machine (e.g., the electronic device **101**). For example, a processor (e.g., the processor **120**) of the machine (e.g., the electronic device **101**) may invoke at least one of the one or more instructions stored in the storage medium, and execute it, with or without using one or more other components under the control of the processor. This allows the machine to be operated to perform at least one function according to the at least one instruction invoked. The one or more instructions may include a code generated by a compiler or a code executable by an interpreter. The machine-readable storage medium may be provided in the

form of a non-transitory storage medium. Wherein, the "non-transitory" storage medium is a tangible device, and may not include a signal (e.g., an electromagnetic wave), but this term does not differentiate between where data is semi-permanently stored in the storage medium and where the data is temporarily stored in the storage medium.

[0293] According to an embodiment, a method according to various embodiments of the disclosure may be included and provided in a computer program product. The computer program product may be traded as a product between a seller and a buyer. The computer program product may be distributed in the form of a machine-readable storage medium (e.g., compact disc read only memory (CD-ROM)), or be distributed (e.g., downloaded or uploaded) online via an application store (e.g., PlayStore™), or between two user devices (e.g., smart phones) directly. If distributed online, at least part of the computer program product may be temporarily generated or at least temporarily stored in the machine-readable storage medium, such as memory of the manufacturer's server, a server of the application store, or a relay server.

[0294] According to various embodiments, each component (e.g., a module or a program) of the above-described components may include a single entity or multiple entities, and some of the multiple entities may be separately disposed in different components. According to various embodiments, one or more of the above-described components may be omitted, or one or more other components may be added. Alternatively or additionally, a plurality of components (e.g., modules or programs) may be integrated into a single component. In such a case, according to various embodiments, the integrated component may still perform one or more functions of each of the plurality of components in the same or similar manner as they are performed by a corresponding one of the plurality of components before the integration. According to various embodiments, operations performed by the module, the program, or another component may be carried out sequentially, in parallel, repeatedly, or heuristically, or one or more of the operations may be executed in a different order or omitted, or one or more other operations may be added.

[0295] While the disclosure has been illustrated and described with reference to various example embodiments, it will be understood that the various example embodiments are intended to be illustrative, not limiting. It will be further understood by those skilled in the art that various changes in form and detail may be made without departing from the true spirit and full scope of the disclosure, including the appended claims and their equivalents. It will also be understood that any of the embodiment(s) described herein may be used in conjunction with any other embodiment(s) described herein.

What is claimed is:

1. An electronic device comprising:

a communication circuit;

a memory; and

at least one processor operatively connected to the communication circuit and the memory,

wherein one or more of the at least one processor is configured to:

receive an updating file for updating a second external electronic device from a first external electronic device based on establishing a communication connection with the first external electronic device through the communication circuit,

identify whether the second external electronic device is required to be updated based on the electronic device being seated in the second external electronic device,

identify, based on the second external electronic device being required to be updated, whether a designated condition for transmitting the updating file to the second external electronic device is satisfied based on at least one of state information of the second external electronic device or state information of the electronic device, and

transmit the updating file, received from the first external electronic device, to the second external electronic device based on the designated condition for transmitting the updating file to the second external electronic device being satisfied.

2. The electronic device of claim **1**, wherein one or more of the at least one processor is configured to:

transmit information related to the second external electronic device based on the communication connection with the first external electronic device, and

wherein the information related to the second external electronic device includes at least one of identification information of the second external electronic device, state information, or information related to firmware installed in the second external electronic device.

3. The electronic device of claim **1**, wherein one or more of the at least one processor is configured to:

store at least some of the received updating files in the memory, and

transmit at least some of the remaining received updating files to a third external electronic device via the communication connection.

4. The electronic device of claim **3**, wherein one or more of the at least one processor is configured to:

transmit, using the communication circuit, to the third external electronic device, a signal for requesting the transmission of at least some of the remaining updating files to the second external electronic device based on the designated condition for transmitting the updating file to the second external electronic device being satisfied.

5. The electronic device of claim **1**, wherein one or more of the at least one processor is configured to:

identify that the electronic device is seated in the second external electronic device based on a terminal of the electronic device being physically in contact with a terminal of the second external electronic device, based on a cover of the second external electronic device being detected as being in a closed state in the state in which the terminal of the electronic device is physically in contact with the terminal of the second external electronic device, based on a designated time elapsing after the cover is detected as being in the closed state in the state in which the terminal of the electronic device is physically in contact with the terminal of the second external electronic device, or based on the cover being detected as being in an open state from the closed state in the state in which the terminal of the electronic device is physically in contact with the terminal of the second external electronic device.

6. The electronic device of claim 5, wherein one or more of the at least one processor is configured to:

perform power line communication (PLC) with the second external electronic device based on the electronic device being seated in the second external electronic device.

7. The electronic device of claim 6, wherein one or more of the at least one processor is configured to:

request information related to the second external electronic device from the second external electronic device through the power line communication; and

receive the information related to the second external electronic device from the second external electronic device, in response to the request.

8. The electronic device of claim 7, wherein one or more of the at least one processor is configured to:

identify that the second external electronic device is required to be updated based on version information of the updating file received from the first external electronic device being a higher level version than version information of the firmware among the pieces of information related to the second external electronic device received from the second external electronic device.

9. The electronic device of claim 1, wherein the state information of the electronic device includes at least one of battery information or sensor information of the electronic device, and

wherein the state information of the second external electronic device includes at least one of battery state information or charge state information of the second external electronic device.

10. The electronic device of claim 9, wherein one or more of the at least one processor is configured to:

determine that the designated condition for transmitting the updating file to the second external electronic device is satisfied based on the electronic device being seated in the second external electronic device, based on a battery residual amount of the electronic device exceeding a designated value, based on a battery residual amount of the second external electronic device exceeding the designated value, based on a state in which a value of a sensor signal of the electronic device does not exceed a specified value being maintained for a designated time, and/or based on the second external electronic device being in a state of being charged.

11. An electronic device comprising:

a communication circuit;

a sensor circuit;

a memory; and

at least one processor operatively connected to the communication circuit, the sensor circuit, and the memory,

wherein on or more of the at least one processor is configured to:

receive an updating file from one or more external electronic devices through the communication circuit based on seating of the one or more external electronic devices being detected by the sensor circuit,

identify whether a designated condition for updating the electronic device is satisfied based on state information of the electronic device, and

update the electronic device using the received updating file based on the designated condition for updating the electronic device being satisfied.

12. The electronic device of claim 11, wherein one or more of the at least one processor is configured to:

receive at least some of the updating files from a first external electronic device among the one or more external electronic devices and receive at least some of the remaining updating files from a second external electronic device among the one or more external electronic devices, or

receive the updating file from one external electronic device among the one or more external electronic devices.

13. The electronic device of claim 11, wherein the state information of the electronic device includes at least one of information related to a communication connection state with the one or more external electronic devices, battery residual amount information, temperature information of the electronic device, or charge state information of the electronic device.

14. The electronic device of claim 11, wherein one or more of the at least one processor is configured to:

identify that the designated condition for updating the electronic device is satisfied based on the communication connection with the one or more external electronic devices being released and/or the battery residual amount exceeding a designated value, based on a temperature of the electronic device being included in a designated range, based on the electronic device being stably in a state of being charged, and/or an input for updating the electronic device being detected.

15. The electronic device of claim 11, further comprising:

an indicator comprising circuitry,

wherein one or more of the at least one processor is configured to output an updating progress state of the second external electronic device through the indicator.

16. A method of updating an external electronic device using an electronic device, the method comprising:

receiving an updating file for updating a second external electronic device from a first external electronic device based on a communication connection with the first external electronic device;

identifying whether the second external electronic device is required to be updated based on the electronic device being seated in the second external electronic device;

identifying, based on the second external electronic device being required to be updated, whether a designated condition for transmitting the updating file to the second external electronic device is satisfied based on at least one of state information of the second external electronic device or state information of the electronic device; and

transmitting the updating file, received from the first external electronic device, to the second external electronic device based on the designated condition for transmitting the updating file to the second external electronic device being satisfied.

17. The method of claim 16, further comprising:

transmitting information related to the second external electronic device based on the communication connection with the first external electronic device,

wherein the information related to the second external electronic device includes at least one of identification information of the second external electronic device, state information, or information related to firmware installed in the second external electronic device.

18. The method of claim **16**, wherein the identifying of whether the second external electronic device is required to be updated comprises:

identifying that the electronic device is seated in the second external electronic device based on a terminal of the electronic device being physically in contact with a terminal of the second external electronic device, based on a cover of the second external electronic device being detected as being in a closed state in the state in which the terminal of the electronic device is physically in contact with the terminal of the second external electronic device, based on a designated time elapsing after the cover is detected as being in the closed state in the state in which the terminal of the electronic device is physically in contact with the terminal of the second external electronic device, or based on the cover being detected as being in an open state from the closed state in the state in which the terminal of the electronic device is physically in contact with the terminal of the second external electronic device.

19. The method of claim **16**, wherein the identifying of whether the second external electronic device is required to be updated comprises:

performing power line communication (PLC) with the second external electronic device based on the electronic device being seated in the second external electronic device;

requesting information related to the second external electronic device from the second external electronic device through the power line communication;

receiving the information related to the second external electronic device from the second external electronic device, in response to the request; and

identifying that the second external electronic device is required to be updated based on version information of the updating file received from the first external electronic device being a higher level version than version information of the firmware among the pieces of information related to the second external electronic device received from the second external electronic device.

20. The method of claim **16**, wherein identifying whether the designated condition for transmitting the updating file to the second external electronic device is satisfied comprises:

determining that the designated condition for transmitting the updating file to the second external electronic device is satisfied based on the electronic device being seated in the second external electronic device, based on a battery residual amount of the electronic device exceeding a designated value, based on a battery residual amount of the second external electronic device exceeding the designated value, based on a state in which a value of a sensor signal of the electronic device does not exceed a specified value being maintained for a designated time, and/or based on the second external electronic device being in a state of being charged.

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