

(51) International Patent Classification:
H02J 17/00 (2006.01)(21) International Application Number:
PCT/CN2015/075179(22) International Filing Date:
27 March 2015 (27.03.2015)

(25) Filing Language: English

(26) Publication Language: English

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: APPARATUS, SYSTEM AND METHOD FOR TRANSFERRING ELECTRICAL ENERGY IN WEARABLE DEVICE

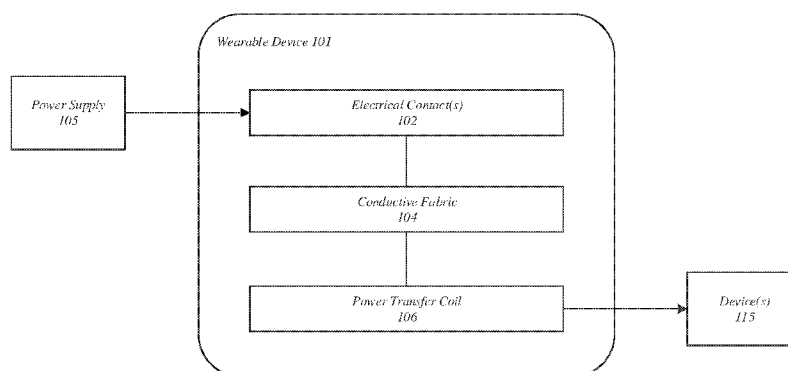
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FIG. 1

(57) Abstract: An apparatus, a system and a method for transferring electrical energy in a wearable device (101). The apparatus includes a conductive fabric (104) to transfer power from a power source (105) to one or more devices (115), one or more electrical contacts (102) to couple the conductive fabric with the power source, and a power transfer coil (106) which coupled with the conductive fabric, the one or more electrical contacts, and the power source, to receive power from the power source via the conductive fabric and to supply power to one or more devices. At least one of the conductive fabric, the one or more electrical contacts, or the power transfer coil is at least partially embedded in a portion of a wearable device.

APPARATUS, SYSTEM AND METHOD FOR TRANSFERRING ELECTRICAL ENERGY IN WEARABLE DEVICE

TECHNICAL FIELD

[0001] Embodiments described herein generally relate techniques to transfer electrical energy.

BACKGROUND

[0002] Modern computing devices continue to evolve in variety of ways. One particular area in which computing devices have evolved is in the area of wearable computing devices that are becoming increasingly popular as stand-alone computing devices and as peripherals used in conjunction with other computing devices. Additionally, many modern computing devices include a plurality of devices and mechanisms enabling on-the-go or mobile functionality. The inclusion of an abundance of features has resulted in an increased reliance upon mobile computing devices for mobile computing tasks. These additional features and functionality require additional power while also remaining mobile.

BRIEF DESCRIPTION OF THE DRAWINGS

- [0003] FIG. 1 illustrates an example embodiment of a computing system.
- [0004] FIG. 2A illustrates an example embodiment of wearable device.
- [0005] FIG. 2B illustrates a second example embodiment of a wearable device.
- [0006] FIG. 2C illustrates a third example embodiment of a wearable device.
- [0007] FIG. 2D illustrates a fourth example embodiment of a wearable device.
- [0008] FIG. 2E illustrates a fifth example embodiment of a wearable device.
- [0009] FIG. 3 illustrates an example embodiment of a first logic flow diagram.
- [0010] FIG. 4 illustrates an example embodiment of a computing device.
- [0011] FIG. 5 illustrates an example embodiment of a computing architecture.

DETAILED DESCRIPTION

[0012] Various embodiments may include a system, apparatus, and techniques to transfer electrical energy in a wearable device. More specifically, various embodiments may include a wearable device having a conductive fabric capable of transferring electrical energy from a source to another device, such as a power transfer coil. For example, a wearable device, such as a shirt may include or at least partially made of conductive fabric. The conductive fabric may be coupled with one or more contacts to couple with a power source. Further, the conductive fabric may be coupled with a power transfer coil. Thus, electrical energy may flow from the source through the contacts and the conductive fabric to the power transfer coil. The power transfer coil may supply the electrical energy to a number of other devices through a wireless power transfer technique, such as induction. Various embodiments are not limited to this example and any number of configurations may be contemplated. These and other details will become more apparent in the follow description.

[0013] Various embodiments also relate to an apparatus or systems for performing these operations. This apparatus may be specially constructed for the required purpose or it may include a general-purpose computer as selectively activated or reconfigured by a computer program stored in the computer. The procedures presented herein are not inherently related to a particular computer or other apparatus. Various general-purpose machines may be used with programs written in accordance with the teachings herein, or it may prove convenient to construct more specialized apparatus to perform the required method. The required structure for a variety of these machines will appear from the description given.

[0014] Reference is now made to the drawings, wherein like reference numerals are used to refer to like elements throughout. In the following description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding thereof. It may be evident, however, that the novel embodiments can be practiced without these specific details. In other instances, well-known structures and devices are shown in block diagram form in order to facilitate a description thereof. The intention is to cover all modifications, equivalents, and alternatives consistent with the claimed subject matter.

[0015] **FIG. 1** illustrates an exemplary embodiment of a computing system 100 in which aspects of the present disclosure may be employed. Computing system 100 may include any

number of components for transferring electrical energy from a source to one or more devices. For example, the computing system 100 may include a wearable device 101 having one or more components such as one or more electrical contacts 102, a conductive fabric 104 and a power transfer coil 106. The computing system 100 may also include a power supply 105 and one or more other devices 115. As will be discussed in more detail below, the power supply 105 may be coupled with the wearable device 101 and its components to transfer electrical energy to the one or more devices 115.

[0016] In embodiments, the wearable device 101 may be any type of computing device that is capable of being worn by a user or person. For example, the wearable device 101 may be wearable apparel such as a shirt, a pair of pants, shoes, a belt, a watch, a pair of glasses, shorts, and so forth. The wearable device 101 may include other wearable computers, such as a wrist computer, a finger computer, a ring computer, an eyeglass computer, a belt-clip computer, an arm-band computer, a shoe computers, clothing computers, or any other wearable computer. Various embodiments are not limited in this manner.

[0017] In some embodiments, the wearable device 101 may include one or more electrical contacts 102 which may include any type of contact capable of coupling with the power supply 105. For example, the electrical contacts 102 may include terminals, snap connectors, a male or female plug, fork terminals, compression connectors, clamp terminals, disconnectable terminals, pin terminals, solder terminals, bolt connectors, magnetic connector or any other type of connector, terminal, or contact that is capable of coupling the power supply 105 with the wearable device 101. Moreover, the electrical contacts 102 may be any type of connector, terminal or contact that may be securely fastened to the power supply 105 such that vibrations, movement and so forth do not cause a disconnection between the power supply 105 and the wearable device 101. In some embodiments, the electrical contacts 102 may be traces and/or induction coils that are capable of receiving electrical energy from the power supply 105 via induction means. Thus, in these embodiments, the one or more electrical contacts 102 may not need to be in physically contact with the power supply 105, but only proximate to the power supply 105 to receive electrical energy. The one or more electrical contacts 102 may be considered proximate to the power supply 105 if it is within a distance such that the electrical contacts receive electrical energy from the power supply 105. For example, the one or more

contacts 102 may be proximate to the power supply 105 when it's within a few inches, feet, centimeters, meters, and so forth.

[0018] Further and as will be discussed in more detail below, the one or more electrical contacts 102 may be embedded and/or coupled with the wearable device 101. For example, the electrical contacts 102 may be sewn into a fabric of the wearable device 101. In another example, the electrical contacts 102 may be glued or fastened by any fastening means into or on the wearable device 101. In third example, the one or more contacts 102 may be sewn between two pieces of fabric of the wearable device 101. Various embodiments are not limited in this manner and the one or contacts 102 may be embedded and/or coupled with the wearable device 101 by any other means.

[0019] The wearable device 101 may also include a conductive fabric 104 which may be any material capable of transferring electrical energy. For example, the conductive fabric 104 may be a conductive textile that makes at least a portion of the wearable device 101, such as an article of clothing. More specifically, an article of clothing may be sewn with a mesh or number of metal (conductive) strands to construct the textile. In another example, the wearable device 101 may be impregnated with carbon and/or metal powders. In a third example, the conductive fabric 104 may include strands of fabric such as cotton, wool, silk, polyester, nylon etc. that is coated with a conductive material such as a metal. In another example, the conductive fabric 104 may be conductive yarn. Various embodiments are not limited to the above-recited examples and other conductive fabrics may be contemplated.

[0020] In some embodiments, the entire wearable device 101 may be made of the conductive fabric 104. In the same or other embodiments, only a portion of the wearable device 101 may be made of the conductive fabric 104. The conductive fabric 104 may be coupled with or connected to the electrical contacts 102. For example, at least a portion of the conductive fabric 104 may be in physical contact with the electrical contacts 102. More specifically, electrical contacts 102 may be sewn into the wearable device 101 using the conductive fabric 104. Various embodiments are not limited in this manner and the electrical contacts 102 may be coupled with the conductive fabric 104 via any other means. The conductive fabric 104 may also be coupled with a power transfer coil 106 which may be capable of conducting electrical energy to the one or more devices 115 via induction means. Various embodiments may include coupling the electrical contacts 102 at one end of the conductive fabric 104 and the power transfer coil(s) 106 at an

opposing end of the conductive fabric 104. However, various embodiments are not limited in this manner.

[0021] As previously mentioned, the wearable device 101 may include a power transfer coil 106 which may be any device capable of wirelessly transferring power. In some embodiments, the power transfer coil 106 may be an induction coil that can wirelessly transfer electrical energy via induction. In another example, the power transfer coil 106 may be a resonant inductive coil to conduct electricity by resonant induction. In a third example, the power transfer coil 106 may include capacitive coupling to capacitively transfer electrical energy. Various embodiments are not limited in this manner and electrical energy may be transferred by other means including magnetodynamic coupling, microwaves, light waves, near-field technologies, and so forth.

[0022] In embodiments, the power transfer coil 106 may be coupled with the conductive fabric 104 physically and/or electrically such that it receives electrical energy conducting through the conductive fabric 106. For example, the power transfer coil 106 may be physically attached to an end of the conductive fabric 104. The conductive fabric 104 may be sewn to the power transfer coil 106, for example. However, various embodiments are not limited in this manner and the power transfer coil 106 and conductive fabric 104 may be coupled in another manner.

[0023] As will be discussed in more detail below, the power transfer coil 106 may be capable of wirelessly transferring electrical energy to one or more other devices 115 that are proximate to the power transfer coil 106. Another device 115 may be considered proximate to the power transfer coil 106 as long as it is within a range to receive electrical energy wirelessly. For example, a device 115 may be proximate to the power transfer coil 106 if it is within a few inches, feet, centimeters, meters, and so forth. In some embodiments, the wirelessly transferring range may be defined by the type of power transfer coil 106, the antenna, and power. Various embodiments are not limited in this manner and other factors may determine the range of the power transfer coil 106 such as interference.

[0024] In embodiments, the electrical energy transferred by the power transfer coil 106 may be provided by the power supply 105. For example, the power supply 105 may be coupled with the power transfer coil 106 via the conductive fabric 104 and the electrical contacts 102. Thus, electrical energy may “flow” from the power supply 105 through the electrical contacts 102 and the conductive fabric 104 to the power transfer coil 106 which may wirelessly transfer the

conductive energy to any other device 115. In some embodiments, the one or more devices 115 may be integrated or part of the wearable device 101. Various embodiments are not limited in this manner.

[0025] FIGs. 2A-2E illustrate example embodiments of wearable devices to wirelessly transfer electrical energy to one or more other devices. As similarly discussed above with respect to FIG. 1, the wearable devices of FIGs. 2A-2E may include one or more contacts 202, conductive fabric 204, and a power transfer coil 206. These components may be the same or similar to the like named components in FIG. 1. In embodiments, the one or more contacts 202 may be coupled with a power supply 205 to receive electrical energy. The electrical energy may be transferred through the one or more contacts 202 to the conductive fabric 204 and the power transfer coil 206. The power transfer coil 206 may wirelessly transfer the electrical energy to one or more other devices such as device 215.

[0026] FIG. 2A illustrates one example embodiment of wearable device 200 as a shirt having the one or more contacts 202 coupled with a power supply 205 in a pocket portion of the shirt. In addition, the shirt may include the power transfer coil 206 in a sleeve or cuff portion of the shirt to wirelessly transfer electrical energy to a device 215. For example, the device 215 may be a watch and the power transfer coil 206 may wirelessly transfer the electrical energy to the watch worn on a wrist of a user. In another example, the device 215 may be a phone held in a hand of a user and the power transfer coil 206 may wirelessly transfer the electrical energy to the phone. Various embodiments are not limited to these examples and the device 215 may be any device at a location proximate to the power transfer coil 106 to wirelessly receive the electrical energy.

[0027] The power transfer coil 206 of FIG. 2A may be coupled with the power supply 205 via the conductive fabric 204 and the one or more contacts 202, as previously discussed. In some embodiments, the conductive fabric 204 may make up a sleeve portion of the shirt, as illustrated in FIG. 2A. The size of the sleeve portion made of conductive fabric 204 may be dependent on the amount of fabric needed to transfer the electrical energy from the power supply 205 to the power transfer coil 206. In one example, the conductive fabric 204 may make up the entire sleeve of the shirt. In another example, the conductive fabric 204 may only make up a portion of the sleeve. Various embodiments are not limited in this manner.

[0028] In operation, the electrical energy may be supplied by the power supply 205 located in the pocket of the shirt which may be coupled with one or more contacts 202 also located in the pocket. The electrical energy may flow through the shirt via the conductive fabric 204 to one or more power transfer coils 206 located in a cuff portion of the shirt, in this example. The power transfer coils 206 can wirelessly transfer the electrical energy to any other device within range to receive the energy. These other devices may use the electrical energy in a number of different ways including supplying power to components of the devices and/or charging a battery of the devices. Various embodiments are not limited in this manner.

[0029] FIG. 2B illustrates a second example embodiment of wearable device 220 as a shirt having the one or more contacts 202 coupled with a power supply 205 in a pocket portion of the shirt. In addition, the shirt may include the power transfer coil 206 in a chest portion of the shirt to wirelessly transfer electrical energy to a device 215 that may also be located around a chest portion of the shirt. For example, the device 215 may be an emergency alert pendent and the power transfer coil 206 may wirelessly transfer the electrical energy to the pendent around their neck. In another example, the device 215 may be a smart badge and the power transfer coil 206 may wirelessly transfer the electrical energy to the smart badge. Various embodiments are not limited to these examples and the device 215 may be any device at a location proximate to the power transfer coil 206 in a chest portion of the shirt to wirelessly receive the electrical energy.

[0030] The power transfer coil 206 of FIG. 2B may be coupled with the power supply 205 via the conductive fabric 204 and the one or more contacts 202, as previously discussed. In some embodiments, the conductive fabric 204 may make up a breast/chest portion of the shirt, as illustrated in FIG. 2B. The size of the chest portion made of conductive fabric 204 may be dependent on the amount of fabric needed to transfer the electrical energy from the power supply 205 to the power transfer coil 206. Various embodiments are not limited in this manner.

[0031] In operation, the electrical energy may be supplied by the power supply 205 located in the pocket of the shirt which may be coupled with one or more contacts 202 also located in the pocket. The electrical energy may flow through the shirt via the conductive fabric 204 to one or more power transfer coils 206 located in the chest portion of the shirt in this example. The power transfer coils 206 can wirelessly transfer the electrical energy to any other device within range to receive the energy.

[0032] FIG. 2C illustrates a third example embodiment of wearable device 240 as a shirt having the one or more contacts 202 coupled with a power supply 205 in a pocket portion of the shirt. In this example, the shirt may include the power transfer coil 206 in a collar or neck portion of the shirt to wirelessly transfer electrical energy to a device 215 that may also be located around a neck portion of the shirt. For example, the device 215 may be a smart badge including a lanyard and the power transfer coil 206 may wirelessly transfer the electrical energy to the smart badge and the lanyard. In another example, the device 215 may be a computing necklace and the power transfer coil 206 may wirelessly transfer the electrical energy to the computing necklace. Various embodiments are not limited to these examples and the device 215 may be any device at a location proximate to the power transfer coil 206 in a collar or neck portion of the shirt to wirelessly receive the electrical energy.

[0033] The power transfer coil 206 of FIG. 2C may be coupled with the power supply 205 via the conductive fabric 204 and the one or more contacts 202, as previously discussed. In some embodiments, the conductive fabric 204 may make up a breast/chest/shoulder portion of the shirt, as illustrated in FIG. 2C. The size of the portion made of conductive fabric 204 may be dependent on the amount of fabric needed to transfer the electrical energy from the power supply 205 to the power transfer coil 206. Various embodiments are not limited in this manner.

[0034] In operation, the electrical energy may be supplied by the power supply 205 located in the pocket of the shirt which may be coupled with one or more contacts 202 also located in the pocket. The electrical energy may flow through the shirt via the conductive fabric 204 to one or more power transfer coils 206 located in the collar portion of the shirt, in this example. The power transfer coils 206 can wirelessly transfer the electrical energy to any other device within range to receive the energy.

[0035] FIG. 2D illustrates a fourth example embodiment of wearable device 260 as a shirt having the one or more contacts 202 coupled with a power supply 205 in a pocket portion of the shirt. In this example, the shirt may include the power transfer coil 206 in a side portion of the shirt to wirelessly transfer electrical energy to a device 215 that may also be located near or around the side portion of the shirt. For example, the device 215 may be a mobile device located in a pants pocket worn by a user and the power transfer coil 206 may wirelessly transfer the electrical energy to the mobile device. In another example, the device 215 may be a watch on a wrist of the user and the power transfer coil 206 may wirelessly transfer the electrical energy to

the watch. Various embodiments are not limited to these examples and the device 215 may be any device at a location proximate to the power transfer coil 206 in a side portion of the shirt to wirelessly receive the electrical energy.

[0036] The power transfer coil 206 of FIG. 2D may be coupled with the power supply 205 via the conductive fabric 204 and the one or more contacts 202, as previously discussed. In some embodiments, the conductive fabric 204 may make up a side portion of the shirt, as illustrated in FIG. 2D. The size of the portion made of conductive fabric 204 may be dependent on the amount of fabric needed to transfer the electrical energy from the power supply 205 to the power transfer coil 206. Various embodiments are not limited in this manner.

[0037] In operation, the electrical energy may be supplied by the power supply 205 located in the pocket of the shirt which may be coupled with one or more contacts 202 also located in the pocket. The electrical energy may flow through the shirt via the conductive fabric 204 to one or more power transfer coils 206 located in the side portion of the shirt, in this example. The power transfer coils 206 can wirelessly transfer the electrical energy to any other device within range to receive the energy.

[0038] FIG. 2E illustrates a fifth example embodiment of wearable device 280 as a shirt having the one or more contacts 202 coupled with a power supply 205 in a pocket portion of the shirt. In this example, the shirt may include two power transfer coils 206-*a* and 206-*b* in portions of the shirt to wirelessly transfer electrical energy to devices 215-*a* and 215-*b*. In this example embodiment, the wearable device 280 may include two portions of conductive fabric 204-*a* and 204-*b* to couple the two power transfer coils 206-*a* and 206-*a* to the power supply 205. In some embodiments, each of the conductive fabrics 204-*a* and 204-*b* may be coupled to a single set of one or more contacts 202. However, various embodiments are not limited in this manner and each of the conductive fabrics 204-*a* and 204-*b* may be coupled to separate contacts 202.

[0039] Each of the power transfer coils 206-*a* and 206-*b* may be capable of wirelessly transferring electrical energy to other devices 215. In some embodiments, the power transfer coils 206-*a* and 206-*b* may wirelessly transfer the electrical using the same means, *e.g.* induction. However, embodiments are not limited in this manner and each of the power transfer coils 206-*a* and 206-*b* may transfer the electrical using different means.

[0040] In operation, the electrical energy may be supplied by the power supply 205 located in the pocket of the shirt which may be coupled with one or more contacts 202 also located in the

pocket. The electrical energy may flow through the shirt via the conductive fabrics 204-*a* and 204-*b* to power transfer coils 206-*a* and 206-*b* located in the side portion and a cuff portion of the shirt, respectively. The power transfer coils 206-*a* and 206-*b* can wirelessly transfer the electrical energy to any other device within range to receive the energy.

[0041] Although, FIGs. 2A-2E illustrated a limited number of components, such as one or two power transfer coils, various embodiments are not limited in this manner. A wearable device may include any number of components including power transfer coils to wirelessly transfer electrical energy to other devices. In some embodiments, for example, an entire article of clothing may be made of the conductive fabric and any number of power transfer coils may be located on the wearable device. Moreover, a wearable device may include any number of power supplies to supply the electrical energy to wirelessly transfer.

[0042] In addition, FIGs. 2A-2E illustrates the wearable device 200-280 as a shirt. However, various embodiments are not limited in this manner and as previously mentioned the wearable device may be a pair of pants or shorts, one or more shoes, underwear, eyeglasses, and so forth. For example, the wearable device may be a pair of pants having at least a portion of conductive fabric, the power supply may be located in a pocket of the pair pants and the power transfer coil may be located on a leg or side of the pair pants. Embodiments are not limited in this manner.

[0043] FIG. 3 illustrates an embodiment of a first logic flow diagram 300. The logic flow 300 may be representative of some or all of the operations executed by one or more embodiments described herein. For example, the logic flow 300 may illustrate operations performed by one or more systems or devices, such as wearable devices of FIGs. 1 and 2A-2E. Various embodiments are not limited in this manner.

[0044] In various embodiments, logic flow 300 may include coupling a power source with one or more devices via a conductive fabric, the conductive fabric coupled with one or more electrical contacts on one end of the conductive fabric and a power transfer coil coupled on an opposing end of the conductive fabric, and wherein one or more of the conductive fabric, the one or more electrical contacts, and the power transfer coil are at least partially embedded within a wearable device at block 305. In other words, a conductive fabric may couple with the power source via the one or more contacts at one end, and with a power transfer coil at another end.

Electrical energy may be supplied by the power source and transferred to the power transfer coil via the one or more contacts and the conductive fabric.

[0045] The logic flow 300 at block 305 may also include transferring electrical energy from the power source to the one or more devices via the conductive fabric, the one or more electrical contacts, and the power transfer coil, the one or more devices to receive the electrical energy from the power transfer coil by induction. Various embodiments are not limited in this manner.

[0046] FIG. 4 illustrates an embodiment of a computing device 405. In various embodiments, computing device 405 may be representative of a computing device or system for use with one or more embodiments described herein, such as those discussed in FIGs. 1-3.

[0047] In various embodiments, computing device 405 may be any type of computing device including a computing device including a personal computer (PC), laptop computer, ultra-laptop computer, netbook computer, ultrabook computer, tablet, touch pad, portable computer, handheld computer, palmtop computer, personal digital assistant (PDA), cellular telephone, combination cellular telephone/PDA, television, smart device (e.g., smart phone, smart tablet or smart television), mobile internet device (MID), messaging device, data communication device, and so forth.

[0048] Examples of a computing device 405 also may include computers that are arranged to be worn by a person, such as a wrist computer, finger computer, ring computer, eyeglass computer, belt-clip computer, arm-band computer, shoe computers, clothing computers, and other wearable computers. In embodiments, for example, a computing device 405 may be implemented as a smart phone capable of executing computer applications, as well as voice communications and/or data communications. Although some embodiments may be described with a computing device 405 implemented as a smart phone by way of example, it may be appreciated that other embodiments may be implemented using other wireless mobile computing devices as well. The embodiments are not limited in this context. In some embodiments, computing device 405 may also be a navigation system, infotainment system, embedded in home appliances, etc.

[0049] As shown in FIG. 4, computing device 405 may include multiple elements. One or more elements may be implemented using one or more circuits, components, registers, processors, software subroutine modules, or any combination thereof, as desired for a given set of design or performance constraints. Although FIG. 4 shows a limited number of elements in a

certain topology by way of example, it can be appreciated that more or less elements in any suitable topology may be used in computing device 405 as desired for a given implementation. The embodiments are not limited in this context.

[0050] In various embodiments, computing device 405 may include one or more processing unit(s) 402. Processing unit(s) 402 may be one or more of any type of computational element, such as but not limited to, a microprocessor, a processor, central processing unit, digital signal processing unit, dual core processor, mobile device processor, desktop processor, single core processor, a system-on-chip (SoC) device, complex instruction set computing (CISC) microprocessor, a reduced instruction set (RISC) microprocessor, a very long instruction word (VLIW) microprocessor, or any other type of processor or processing circuit on a single chip or integrated circuit or processing circuitry. The processing unit(s) 402 may be connected to and communicate with the other elements and components of the computing system via an interconnect 543, such as one or more buses, control lines, and data lines.

[0051] In one embodiment, computing device 405 may include memory 404 to couple to processing unit(s) 402. In various embodiments, the memory 404 may store data and information for use by the computing device 405.

[0052] Memory 404 may be coupled to processing unit(s) 402 via interconnect 853, or by a dedicated communications bus between processing unit(s) 402 and memory 404, as desired for a given implementation. Memory 404 may be implemented using any machine-readable or computer-readable media capable of storing data, including both volatile and non-volatile memory. In some embodiments, the machine-readable or computer-readable medium may include a non-transitory medium. The embodiments are not limited in this context.

[0053] The memory 404 can store instructions and data momentarily, temporarily, or permanently. The memory 404 may also store temporary variables or other intermediate information while the processing unit(s) 402 is executing instructions. The memory 404 is not limited to storing the above discussed data and may store any type of data.

[0054] The computing device 405 may include a transceiver 406 which includes one or more components and circuitry to transmit and receive information using radio-frequency signals. More specifically, the transceiver 406 may include circuitry to produce radio-frequency mobile radio signals which are to be sent and for processing radio-frequency mobile radio signals which have been received. To this end, the transceiver 406 may be coupled to one or more

antenna 816. The transmitted or received mobile radio signals are in one or more particular frequency ranges, which are typically prescribed by the mobile radio standard(s) supported by the radio-frequency assemblies. For example, transceiver 406 may include circuitry to process information according to one or more IEEE standards, one or more peer-to-peer protocols, and so forth. Various embodiments are not limited in this manner and transceiver 406 may transmit or receive information via any standard in any frequency range with one more devices, as previously mentioned.

[0055] In various embodiments, the transceiver 406 may be used to communicate with one or more other devices or stations. The transceiver 406 may send and receive information from the stations as one or more packets, frames, and any other transmission structure in accordance with one or more protocols.

[0056] The computing device 405 may include input/output adapter 408. Examples of I/O adapter 408 may include Universal Serial Bus (USB) ports/adapters, IEEE 1394 Firewire ports/adapters, and so forth. The embodiments are not limited in this context.

[0057] For example, an I/O adapter 408 may also include an input device or sensor, such as one or more buttons, a keyboard, a keypad, a touchscreen display, a touch sensitive device, a microphone, a biometric finger printer reader, biometric eye scanner or any other device used for inputting information into computing device 405. Moreover, the I/O adapter 408 may be a sensor including any hardware or logic to detect one or more touches or inputs on or near a housing of the apparatus, a display of the apparatus including a touchscreen or touch sensitive display.

[0058] In various embodiments, the I/O adapter 408 may include one or more components to output information to a user. For example, the I/O adapter 408 may include a speaker to output an audible noise or a haptic feedback device to output a vibration. The I/O adapter 408 may be located any within or on computing device 405, or may be separate and connected to the computing device 405 via a wired or wireless connection.

[0059] The computing device 405 may also include a display 410. Display 410 may constitute any display device capable of displaying information received from processor units 402, such as liquid crystal display (LCD), cathode ray tube (CRT) display, a projector, and so forth. Various embodiments are not limited in this manner.

[0060] The computing device 405 may also include storage 412. Storage 412 may be implemented as a non-volatile storage device such as, but not limited to, a magnetic disk drive,

optical disk drive, tape drive, an internal storage device, an attached storage device, flash memory, battery backed-up SDRAM (synchronous DRAM), and/or a network accessible storage device. In embodiments, storage 412 may include technology to increase the storage performance enhanced protection for valuable digital media when multiple hard drives are included, for example. Further examples of storage 412 may include a hard disk, floppy disk, Compact Disk Read Only Memory (CD-ROM), Compact Disk Recordable (CD-R), Compact Disk Rewriteable (CD-RW), optical disk, magnetic media, magneto-optical media, removable memory cards or disks, various types of DVD devices, a tape device, a cassette device, or the like. The embodiments are not limited in this context.

[0061] In some embodiments, the computing device 405 may include a power transfer component 414, such an induction coil which may transfer electrical energy using electromagnetic induction. Various embodiments are not limited in this manner.

[0062] FIG. 5 illustrates an embodiment of an exemplary computing architecture 500 suitable for implementing various embodiments as previously described. In one embodiment, the computing architecture 500 may include or be implemented as part of system 100.

[0063] As used in this application, the terms “system” and “component” are intended to refer to a computer-related entity, either hardware, a combination of hardware and software, software, or software in execution, examples of which are provided by the exemplary computing architecture 500. For example, a component can be, but is not limited to being, a process running on a processor, a processor, a hard disk drive, multiple storage drives (of optical and/or magnetic storage medium), an object, an executable, a thread of execution, a program, and/or a computer. By way of illustration, both an application running on a server and the server can be a component. One or more components can reside within a process and/or thread of execution, and a component can be localized on one computer and/or distributed between two or more computers. Further, components may be communicatively coupled to each other by various types of communications media to coordinate operations. The coordination may involve the uni-directional or bi-directional exchange of information. For instance, the components may communicate information in the form of signals communicated over the communications media. The information can be implemented as signals allocated to various signal lines. In such allocations, each message is a signal. Further embodiments, however, may alternatively employ

data messages. Such data messages may be sent across various connections. Exemplary connections include parallel interfaces, serial interfaces, and bus interfaces.

[0064] The computing architecture 500 includes various common computing elements, such as one or more processors, multi-core processors, co-processors, memory units, chipsets, controllers, peripherals, interfaces, oscillators, timing devices, video cards, audio cards, multimedia input/output (I/O) components, power supplies, and so forth. The embodiments, however, are not limited to implementation by the computing architecture 500.

[0065] As shown in FIG. 5, the computing architecture 500 includes a processing unit 504, a system memory 506 and a system bus 508. The processing unit 504 can be any of various commercially available processors.

[0066] The system bus 508 provides an interface for system components including, but not limited to, the system memory 506 to the processing unit 504. The system bus 508 can be any of several types of bus structure that may further interconnect to a memory bus (with or without a memory controller), a peripheral bus, and a local bus using any of a variety of commercially available bus architectures. Interface adapters may connect to the system bus 508 via slot architecture. Example slot architectures may include without limitation Accelerated Graphics Port (AGP), Card Bus, (Extended) Industry Standard Architecture ((E)ISA), Micro Channel Architecture (MCA), NuBus, Peripheral Component Interconnect (Extended) (PCI(X)), PCI Express, Personal Computer Memory Card International Association (PCMCIA), and the like.

[0067] The computing architecture 500 may include or implement various articles of manufacture. An article of manufacture may include a computer-readable storage medium to store logic. Examples of a computer-readable storage medium may include any tangible media capable of storing electronic data, including volatile memory or non-volatile memory, removable or non-removable memory, erasable or non-erasable memory, writeable or re-writable memory, and so forth. Examples of logic may include executable computer program instructions implemented using any suitable type of code, such as source code, compiled code, interpreted code, executable code, static code, dynamic code, object-oriented code, visual code, and the like. Embodiments may also be at least partly implemented as instructions contained in or on a non-transitory computer-readable medium, which may be read and executed by one or more processors to enable performance of the operations described herein.

[0068] The system memory 506 may include various types of computer-readable storage media in the form of one or more higher speed memory units, such as read-only memory (ROM), random-access memory (RAM), dynamic RAM (DRAM), Double-Data-Rate DRAM (DDRAM), synchronous DRAM (SDRAM), static RAM (SRAM), programmable ROM (PROM), erasable programmable ROM (EPROM), electrically erasable programmable ROM (EEPROM), flash memory, polymer memory such as ferroelectric polymer memory, ovonic memory, phase change or ferroelectric memory, silicon-oxide-nitride-oxide-silicon (SONOS) memory, magnetic or optical cards, an array of devices such as Redundant Array of Independent Disks (RAID) drives, solid state memory devices (e.g., USB memory, solid state drives (SSD) and any other type of storage media suitable for storing information. In the illustrated embodiment shown in FIG. 8, the system memory 506 can include non-volatile memory 510 and/or volatile memory 512. A basic input/output system (BIOS) can be stored in the non-volatile memory 510.

[0069] The computer 502 may include various types of computer-readable storage media in the form of one or more lower speed memory units, including an internal (or external) hard disk drive (HDD) 514, a magnetic floppy disk drive (FDD) 516 to read from or write to a removable magnetic disk 518, and an optical disk drive 520 to read from or write to a removable optical disk 522 (e.g., a CD-ROM or DVD). The HDD 514, FDD 516 and optical disk drive 520 can be connected to the system bus 508 by a HDD interface 524, an FDD interface 526 and an optical drive interface 528, respectively. The HDD interface 524 for external drive implementations can include at least one or both of Universal Serial Bus (USB) and IEEE 1394 interface technologies.

[0070] The drives and associated computer-readable media provide volatile and/or nonvolatile storage of data, data structures, computer-executable instructions, and so forth. For example, a number of program modules can be stored in the drives and memory units 510, 512, including an operating system 530, one or more application programs 532, other program modules 534, and program data 536. In one embodiment, the one or more application programs 532, other program modules 534, and program data 536 can include, for example, the various applications and/or components of the computing devices 102 and 104.

[0071] A user can enter commands and information into the computer 502 through one or more wire/wireless input devices, for example, a keyboard 538 and a pointing device, such as a mouse 540. Other input devices may include microphones, infra-red (IR) remote controls, radio-frequency (RF) remote controls, game pads, stylus pens, card readers, dongles, finger print

readers, gloves, graphics tablets, joysticks, keyboards, retina readers, touch screens (e.g., capacitive, resistive, etc.), trackballs, track pads, sensors, styluses, and the like. These and other input devices are often connected to the processing unit 504 through an input device interface 542 that is coupled to the system bus 508, but can be connected by other interfaces such as a parallel port, IEEE 1394 serial port, a game port, a USB port, an IR interface, and so forth.

[0072] A monitor 544 or other type of display device is also connected to the system bus 508 via an interface, such as a video adaptor 546. The monitor 544 may be internal or external to the computer 502. In addition to the monitor 544, a computer typically includes other peripheral output devices, such as speakers, printers, and so forth.

[0073] The computer 502 may operate in a networked environment using logical connections via wire and/or wireless communications to one or more remote computers, such as a remote computer 548. The remote computer 548 can be a workstation, a server computer, a router, a personal computer, portable computer, microprocessor-based entertainment appliance, a peer device or other common network node, and typically includes many or all of the elements described relative to the computer 502, although, for purposes of brevity, only a memory/storage device 550 is illustrated. The logical connections depicted include wire/wireless connectivity to a local area network (LAN) 552 and/or larger networks, for example, a wide area network (WAN) 554. Such LAN and WAN networking environments are commonplace in offices and companies, and facilitate enterprise-wide computer networks, such as intranets, all of which may connect to a global communications network, for example, the Internet.

[0074] When used in a LAN networking environment, the computer 502 is connected to the LAN 552 through a wire and/or wireless communication network interface or adaptor 556. The adaptor 556 can facilitate wire and/or wireless communications to the LAN 552, which may also include a wireless access point disposed thereon for communicating with the wireless functionality of the adaptor 556.

[0075] When used in a WAN networking environment, the computer 502 can include a modem 558, or is connected to a communications server on the WAN 554, or has other means for establishing communications over the WAN 554, such as by way of the Internet. The modem 558, which can be internal or external and a wire and/or wireless device, connects to the system bus 508 via the input device interface 542. In a networked environment, program modules depicted relative to the computer 502, or portions thereof, can be stored in the remote

memory/storage device 550. It will be appreciated that the network connections shown are exemplary and other means of establishing a communications link between the computers can be used.

[0076] The computer 502 is operable to communicate with wire and wireless devices or entities using the IEEE 802 family of standards, such as wireless devices operatively disposed in wireless communication (e.g., IEEE 802.11 over-the-air modulation techniques). This includes at least Wi-Fi (or Wireless Fidelity), WiMax, and Bluetooth™ wireless technologies, among others. Thus, the communication can be a predefined structure as with a conventional network or simply an ad hoc communication between at least two devices. Wi-Fi networks use radio technologies called IEEE 802.11x (a, b, g, n, etc.) to provide secure, reliable, fast wireless connectivity. A Wi-Fi network can be used to connect computers to each other, to the Internet, and to wire networks (which use IEEE 802.3-related media and functions).

[0077] The various elements of the system and devices as previously described with reference to FIGS. 1-4 may include various hardware elements, software elements, or a combination of both. Examples of hardware elements may include devices, logic devices, components, processors, microprocessors, circuits, processor elements (e.g., transistors, resistors, capacitors, inductors, and so forth), integrated circuits, application specific integrated circuits (ASIC), programmable logic devices (PLD), digital signal processors (DSP), field programmable gate array (FPGA), memory units, logic gates, registers, semiconductor device, chips, microchips, chip sets, and so forth. Examples of software elements may include software components, programs, applications, computer programs, application programs, system programs, software development programs, machine programs, operating system software, middleware, firmware, software modules, routines, subroutines, functions, methods, procedures, software interfaces, application program interfaces (API), instruction sets, computing code, computer code, code segments, computer code segments, words, values, symbols, or any combination thereof. However, determining whether an embodiment is implemented using hardware elements and/or software elements may vary in accordance with any number of factors, such as desired computational rate, power levels, heat tolerances, processing cycle budget, input data rates, output data rates, memory resources, data bus speeds and other design or performance constraints, as desired for a given implementation.

[0078] The detailed disclosure now turns to providing examples that pertain to further embodiments. Examples one through twenty-three (1-23) provided below are intended to be exemplary and non-limiting.

[0079] In a first example, a system, device, controller, or an apparatus may include a conductive fabric to transfer power from a power source to one or more devices, one or more electrical contacts to couple the conductive fabric with the power source, and a power transfer coil coupled with the conductive fabric, the one or more electrical contacts, and the power source, the power transfer coil to receive power from the power source via the conductive fabric and to supply power to one or more devices, at least one of the conductive fabric, the one or more electrical contacts, or the power transfer coil at least partially embedded in a portion of a wearable device.

[0080] In a second example and in furtherance of the first example, a system, device, controller, or an apparatus may include the power transfer coil embedded within a cuff of the wearable device, the power transfer coil capable of transferring power from the power source to a wrist watch proximate to the cuff.

[0081] In a third example and in furtherance of any of the previous examples, a system, device, controller, or an apparatus may include the power transfer coil at least partially embedded within a chest portion of the wearable device, the power transfer coil capable of transferring power from the power source to a pendent or a smart badge proximate to the chest portion.

[0082] In a fourth example and in furtherance of any of the previous examples, a system, device, controller, or an apparatus may include the power transfer coil at least partially embedded within a collar portion of the wearable device, the power transfer coil capable of transferring power from the power source to a lanyard or a necklace proximate to the collar portion.

[0083] In a fifth example and in furtherance of any of the previous examples, a system, device, controller, or an apparatus may include the power transfer coil at least partially embedded within a side portion of the wearable device, the power transfer coil capable of transferring power from the power source to one or more devices proximate to the side portion.

[0084] In a sixth example and in furtherance of any of the previous examples, a system, device, controller, or an apparatus may include the one or more contacts comprised in a pocket of

the wearable device, the one or more contacts capable of electrically coupling with the power source.

[0085] In a seventh example and in furtherance of any of the previous examples, a system, device, controller, or an apparatus may include at least one of a shirt, a jacket, a pair of pants, and a belt.

[0086] In an eighth example and in furtherance of any of the previous examples, a system, device, controller, or an apparatus may include the one or more devices at least partially integrated with the wearable device.

[0087] In a ninth example and in furtherance of any of the previous examples, a method may include coupling a power source with one or more devices via a conductive fabric, the conductive fabric coupled with one or more electrical contacts on one end of the conductive fabric and a power transfer coil coupled on an opposing end of the conductive fabric, at least one of the conductive fabric, the one or more electrical contacts, or the power transfer coil is at least partially embedded within a portion of a wearable device, and transferring electrical energy from the power source to the one or more devices via the conductive fabric, the one or more electrical contacts, and the power transfer coil, the one or more devices to receive the electrical energy from the power transfer coil by induction.

[0088] In a tenth example and in furtherance of any of the previous examples, a method may include the power transfer coil embedded in at least one cuff of the wearable device, the power transfer coil capable of transferring power from the power source to a wrist watch proximate to the power transfer coil.

[0089] In an eleventh example and in furtherance of any of the previous examples, a method may include the power transfer coil embedded in a chest portion of the wearable device, the power transfer coil capable of transferring power from the power source to a pendent or a smart badge proximate to the power transfer coil.

[0090] In a twelfth example and in furtherance of any of the previous examples, a method may include the power transfer coil embedded in a collar portion of the wearable device, the power transfer coil capable of transferring power from the power source to a lanyard or a necklace proximate to the power transfer coil.

[0091] In a thirteenth example and in furtherance of any of the previous examples, a method may include the power transfer coil embedded in a side portion of the wearable device, the

power transfer coil capable of transferring power from the power source to a device proximate to the power transfer coil.

[0092] In a fourteenth example and in furtherance of any of the previous examples, a method may include comprising coupling the one or more contacts with the power source in a pocket of the wearable device.

[0093] In a fifteenth example and in furtherance of any of the previous examples, a method may include the wearable device comprising at least one of a shirt, a jacket, a pair of pants, and a belt.

[0094] In a sixteenth example and in furtherance of any of the previous examples, a system, device, apparatus and so forth may include a power source to supply power to one or more remote devices, a conductive fabric at least partially embedded in a wearable device and coupled with the power source, the conductive fabric to transfer power from the power source to one or more devices, one or more electrical contacts at least partially embedded in the wearable device and to couple the conductive fabric with the power source, and a power transfer coil at least partially embedded in the wearable device and coupled with the conductive fabric, the power transfer coil to receive power from the power source via the conductive fabric and to supply power to one or more remote devices.

[0095] In a seventeenth example and in furtherance of any of the previous examples, a system, device, apparatus and so forth may include the power transfer coil at least partially embedded within the wearable device, and capable of transferring power from the power source to the one or more remote devices including a wrist watch proximate to the power transfer coil.

[0096] In an eighteenth example and in furtherance of any of the previous examples, a system, device, apparatus and so forth may include the power transfer coil at least partially embedded in a chest portion of the wearable device, and capable of transferring power from the power source to the one or more remote devices including a pendent or a smart badge proximate to the power transfer coil.

[0097] In a nineteenth example and in furtherance of any of the previous examples, a system, device, apparatus and so forth may include the power transfer coil at least partially embedded within a collar portion of the wearable device, and capable of transferring power from the power source to the one or more remote devices including a lanyard or a necklace proximate to the power transfer coil.

[0098] In a twentieth example and in furtherance of any of the previous examples, a system, device, apparatus and so forth may include the power transfer coil at least partially embedded in one or more side portions of the wearable device, and capable transferring power from the power source to the one or more remote devices proximate to the power transfer coil.

[0099] In a twenty-first example and in furtherance of any of the previous examples, a system, device, apparatus and so forth may include the one or more contacts at least partially embedded in a pocket of the wearable device, and capable of electrically coupling with the power source.

[00100] In a twenty-second example and in furtherance of any of the previous examples, a system, device, apparatus and so forth may include the wearable device comprising at least one of a shirt, a jacket, a pair of pants, and a belt.

[00101] In a twenty-third example and in furtherance of any of the previous examples, a system, device, apparatus and so forth may include the one or more remote devices at least partially integrated with the wearable device.

[00102] Some embodiments may be described using the expression “one embodiment” or “an embodiment” along with their derivatives. These terms mean that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment. The appearances of the phrase “in one embodiment” in various places in the specification are not necessarily all referring to the same embodiment. Further, some embodiments may be described using the expression “coupled” and “connected” along with their derivatives. These terms are not necessarily intended as synonyms for each other. For example, some embodiments may be described using the terms “connected” and/or “coupled” to indicate that two or more elements are in direct physical or electrical contact with each other. The term “coupled,” however, may also mean that two or more elements are not in direct contact with each other, but yet still co-operate or interact with each other.

[00103] It is emphasized that the Abstract of the Disclosure is provided to allow a reader to quickly ascertain the nature of the technical disclosure. It is submitted with the understanding that it will not be used to interpret or limit the scope or meaning of the claims. In addition, in the foregoing Detailed Description, it can be seen that various features are grouped together in a single embodiment for the purpose of streamlining the disclosure. This method of disclosure is not to be interpreted as reflecting an intention that the claimed embodiments require more

features than are expressly recited in each claim. Rather, as the following claims reflect, inventive subject matter lies in less than all features of a single disclosed embodiment. Thus the following claims are hereby incorporated into the Detailed Description, with each claim standing on its own as a separate embodiment. In the appended claims, the terms "including" and "in which" are used as the plain-English equivalents of the respective terms "comprising" and "wherein," respectively. Moreover, the terms "first," "second," "third," and so forth, are used merely as labels, and are not intended to impose numerical requirements on their objects.

[00104] What has been described above includes examples of the disclosed architecture. It is, of course, not possible to describe every conceivable combination of components and/or methodologies, but one of ordinary skill in the art may recognize that many further combinations and permutations are possible. Accordingly, the novel architecture is intended to embrace all such alterations, modifications and variations that fall within the spirit and scope of the appended claims.

LISTING OF CLAIMS

What is claimed is:

1. An apparatus, comprising:
a conductive fabric to transfer power from a power source to one or more devices;
one or more electrical contacts to couple the conductive fabric with the power source; and
a power transfer coil coupled with the conductive fabric, the one or more electrical contacts, and the power source, the power transfer coil to receive power from the power source via the conductive fabric and to supply power to one or more devices, at least one of the conductive fabric, the one or more electrical contacts, or the power transfer coil at least partially embedded in a portion of a wearable device.
2. The apparatus of claim 1, the power transfer coil embedded within a cuff of the wearable device, the power transfer coil capable of transferring power from the power source to a wrist watch proximate to the cuff.
3. The apparatus of claim 1, the power transfer coil at least partially embedded within a chest portion of the wearable device, the power transfer coil capable of transferring power from the power source to a pendent or a smart badge proximate to the chest portion.
4. The apparatus of claim 1, the power transfer coil at least partially embedded within a collar portion of the wearable device, the power transfer coil capable of transferring power from the power source to a lanyard or a necklace proximate to the collar portion.
5. The apparatus of claim 1, the power transfer coil at least partially embedded within a side portion of the wearable device, the power transfer coil capable of transferring power from the power source to one or more devices proximate to the side portion.

6. The apparatus of claim 1, the one or more contacts comprised in a pocket of the wearable device, the one or more contacts capable of electrically coupling with the power source.
7. The apparatus of claim 1, comprising at least one of a shirt, a jacket, a pair of pants, and a belt.
8. The apparatus of claim 1, the one or more devices at least partially integrated with the wearable device.
9. A method, comprising:
 - coupling a power source with one or more devices via a conductive fabric, the conductive fabric coupled with one or more electrical contacts on one end of the conductive fabric and a power transfer coil coupled on an opposing end of the conductive fabric, at least one of the conductive fabric, the one or more electrical contacts, or the power transfer coil is at least partially embedded within a portion of a wearable device; and
 - transferring electrical energy from the power source to the one or more devices via the conductive fabric, the one or more electrical contacts, and the power transfer coil, the one or more devices to receive the electrical energy from the power transfer coil by induction.
10. The method of claim 9, the power transfer coil embedded in at least one cuff of the wearable device, the power transfer coil capable of transferring power from the power source to a wrist watch proximate to the power transfer coil.
11. The method of claim 9, the power transfer coil embedded in a chest portion of the wearable device, the power transfer coil capable of transferring power from the power source to a pendent or a smart badge proximate to the power transfer coil.
12. The method of claim 9, the power transfer coil embedded in a collar portion of the wearable device, the power transfer coil capable of transferring power from the power source to a lanyard or a necklace proximate to the power transfer coil.

13. The method of claim 9, the power transfer coil embedded in a side portion of the wearable device, the power transfer coil capable of transferring power from the power source to a device proximate to the power transfer coil.

14. The method of claim 9, comprising coupling the one or more contacts with the power source in a pocket of the wearable device.

15. The method of claim 9, the wearable device comprising at least one of a shirt, a jacket, a pair of pants, and a belt.

16. A system, comprising:
a power source to supply power to one or more remote devices;
a conductive fabric at least partially embedded in a wearable device and coupled with the power source, the conductive fabric to transfer power from the power source to one or more devices;

one or more electrical contacts at least partially embedded in the wearable device and to couple the conductive fabric with the power source; and

a power transfer coil at least partially embedded in the wearable device and coupled with the conductive fabric, the power transfer coil to receive power from the power source via the conductive fabric and to supply power to one or more remote devices.

17. The system of claim 16, the power transfer coil at least partially embedded within the wearable device, and capable of transferring power from the power source to the one or more remote devices including a wrist watch proximate to the power transfer coil.

18. The system of claim 16, the power transfer coil at least partially embedded in a chest portion of the wearable device, and capable of transferring power from the power source to the one or more remote devices including a pendent or a smart badge proximate to the power transfer coil.

19. The system of claim 16, the power transfer coil at least partially embedded within a collar portion of the wearable device, and capable of transferring power from the power source to the one or more remote devices including a lanyard or a necklace proximate to the power transfer coil.
20. The system of claim 16, the power transfer coil at least partially embedded in one or more side portions of the wearable device, and capable transferring power from the power source to the one or more remote devices proximate to the power transfer coil.
21. The system of claim 16, the one or more contacts at least partially embedded in a pocket of the wearable device, and capable of electrically coupling with the power source.
22. The system of claim 16, the wearable device comprising at least one of a shirt, a jacket, a pair of pants, and a belt.
23. The system of claim 16, the one or more remote devices at least partially integrated with the wearable device.

100

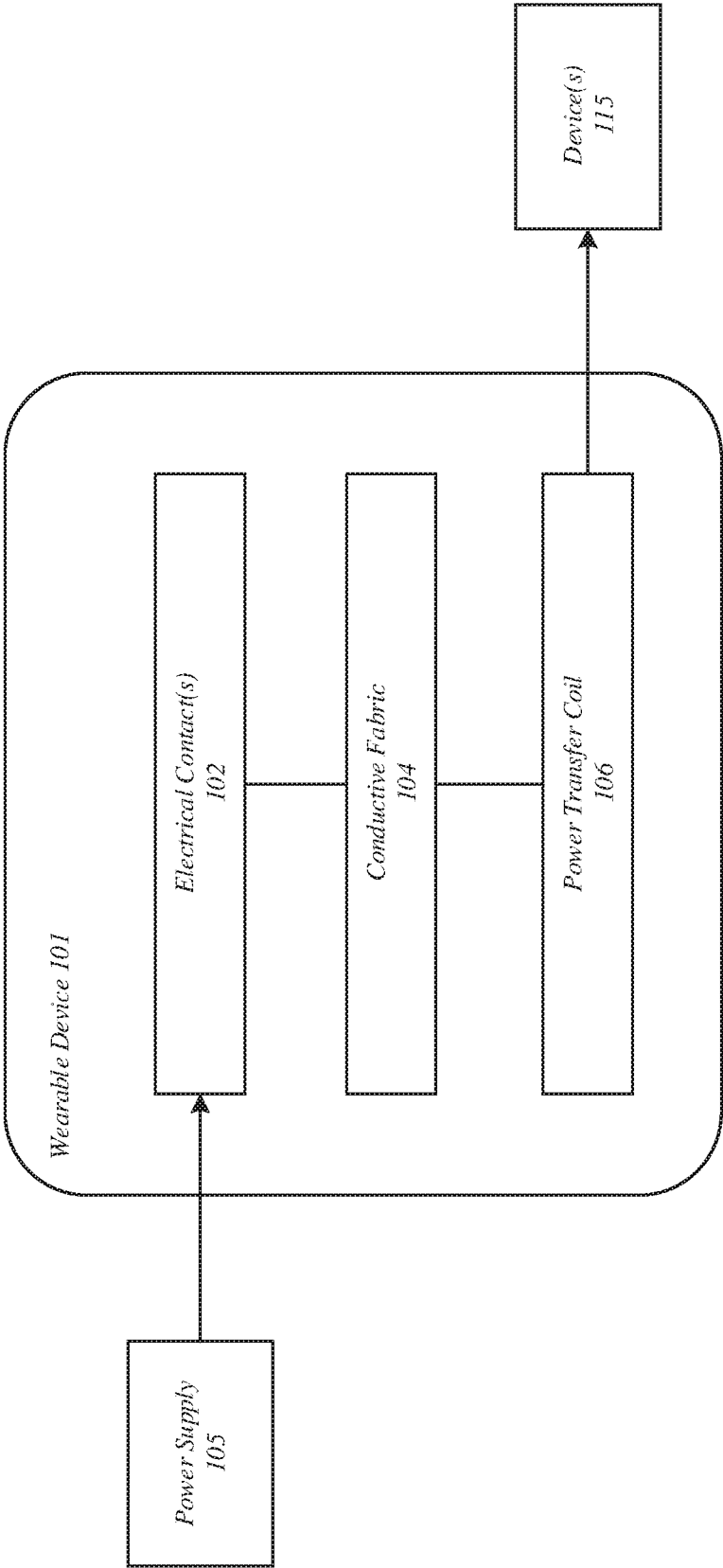


FIG. 1

200

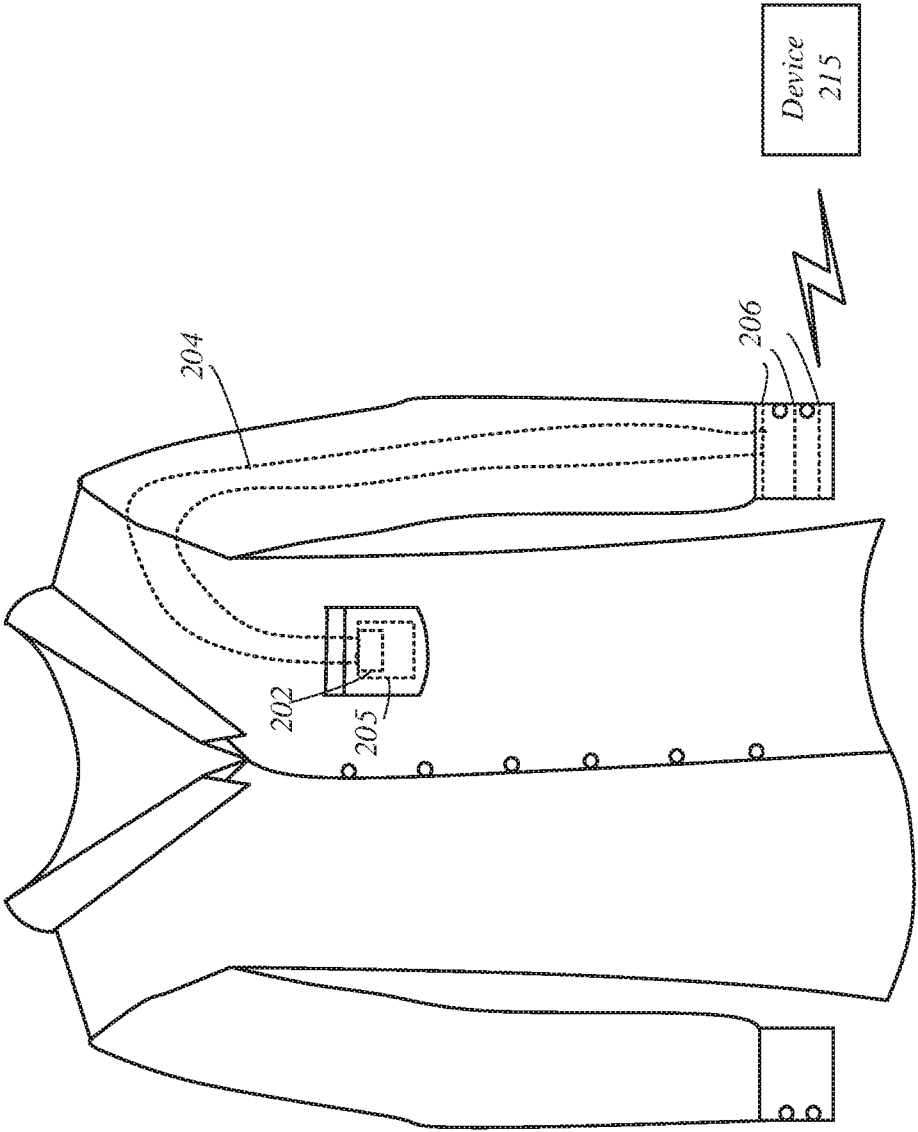


FIG. 2A

220

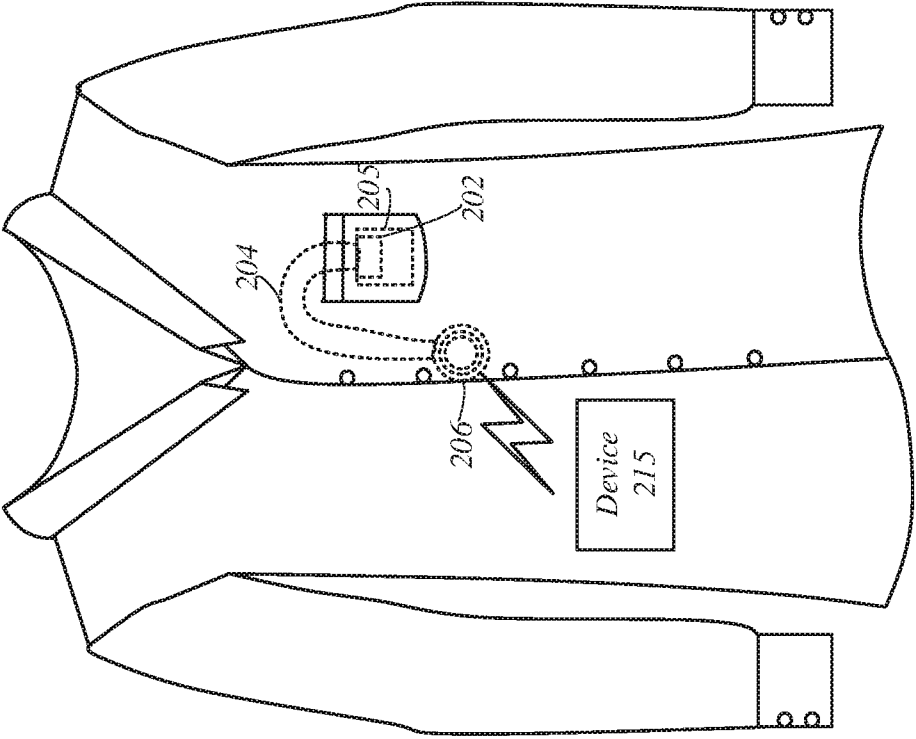


FIG. 2B

240

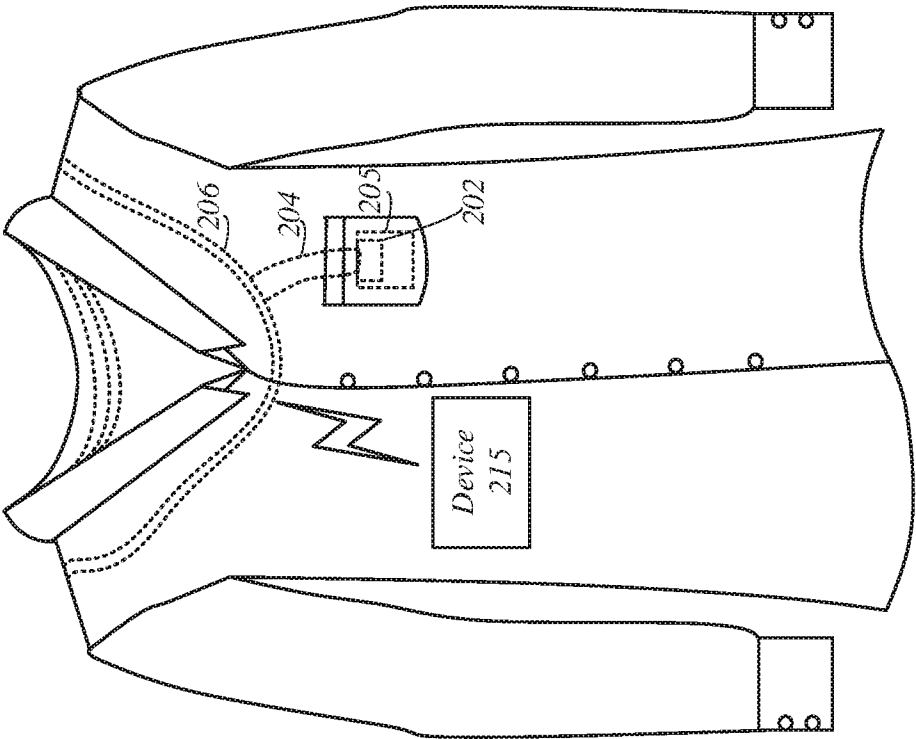


FIG. 2C

260

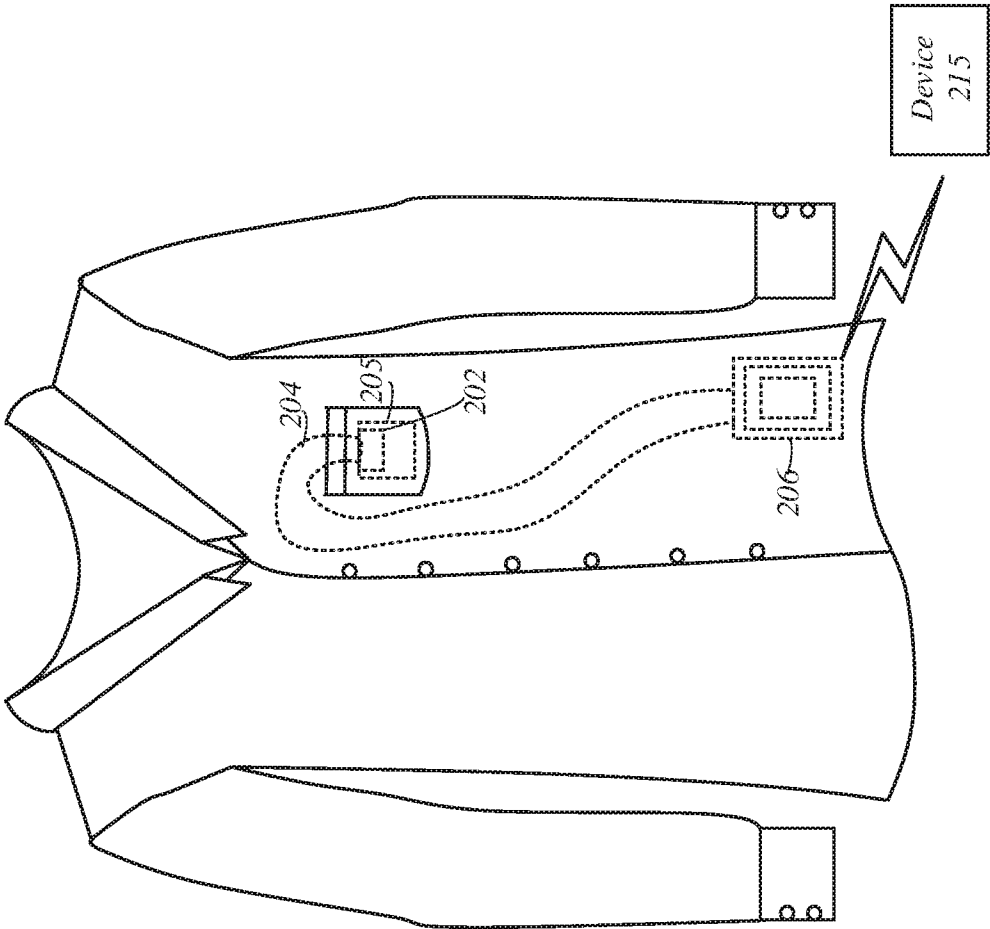


FIG. 2D

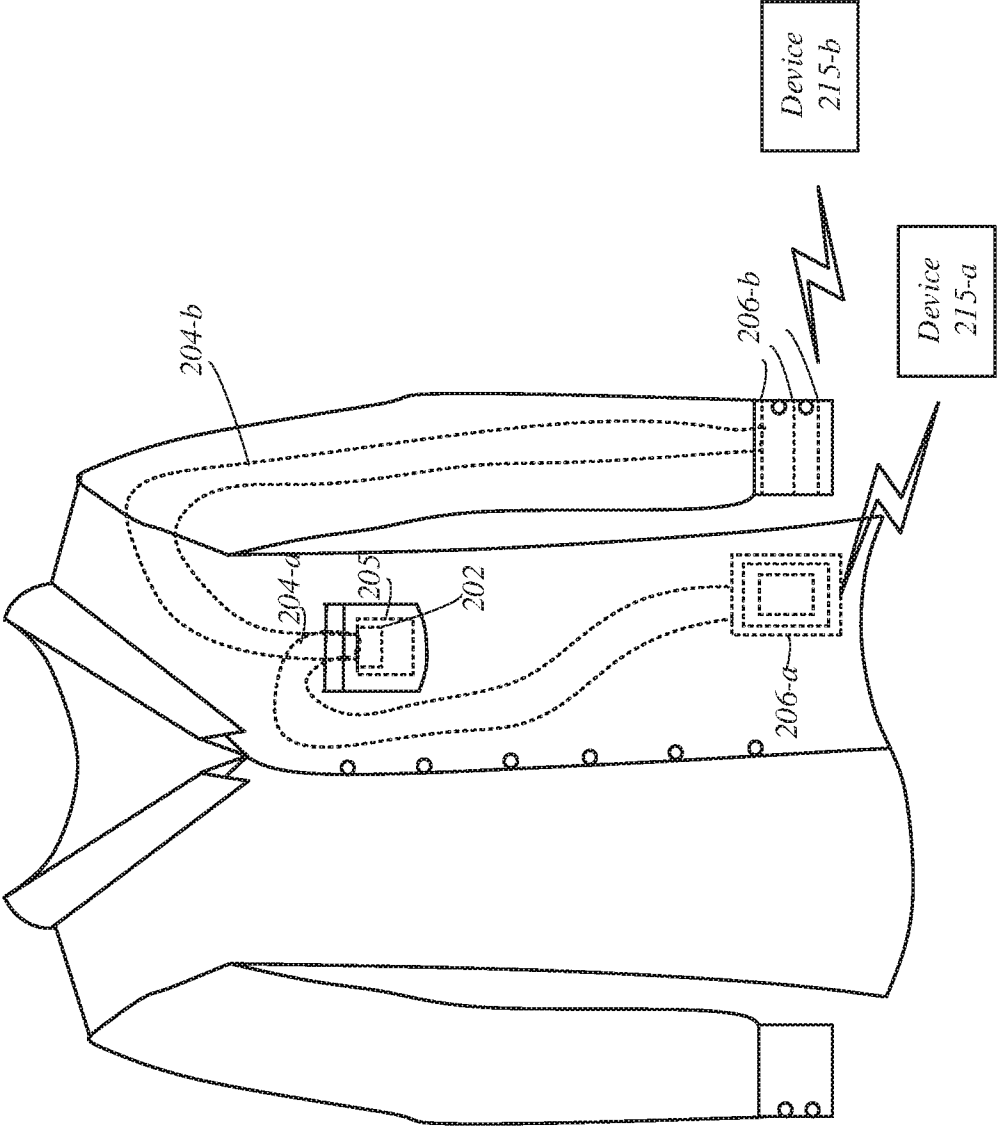


FIG. 2E

300

COUPLE A POWER SOURCE WITH ONE OR MORE DEVICES VIA A CONDUCTIVE FABRIC, THE CONDUCTIVE FABRIC COUPLED WITH ONE OR MORE ELECTRICAL CONTACTS ON ONE END OF THE CONDUCTIVE FABRIC, AND A POWER TRANSFER COIL COUPLED ON AN OPPOSING END OF THE CONDUCTIVE FABRIC, WHEREIN ONE OR MORE OF THE CONDUCTIVE FABRIC, THE ONE OR MORE ELECTRICAL CONTACTS, AND THE POWER TRANSFER COIL ARE AT LEAST PARTIALLY EMBEDDED WITHIN A WEARABLE DEVICE

305

TRANSFER ELECTRICAL ENERGY FROM THE POWER SOURCE TO THE ONE OR MORE DEVICES VIA THE CONDUCTIVE FABRIC, THE ONE OR MORE ELECTRICAL CONTACTS, AND THE POWER TRANSFER COIL, THE ONE OR MORE DEVICES TO RECEIVE THE ELECTRICAL ENERGY FROM THE POWER TRANSFER COIL BY INDUCTION

310

FIG. 3

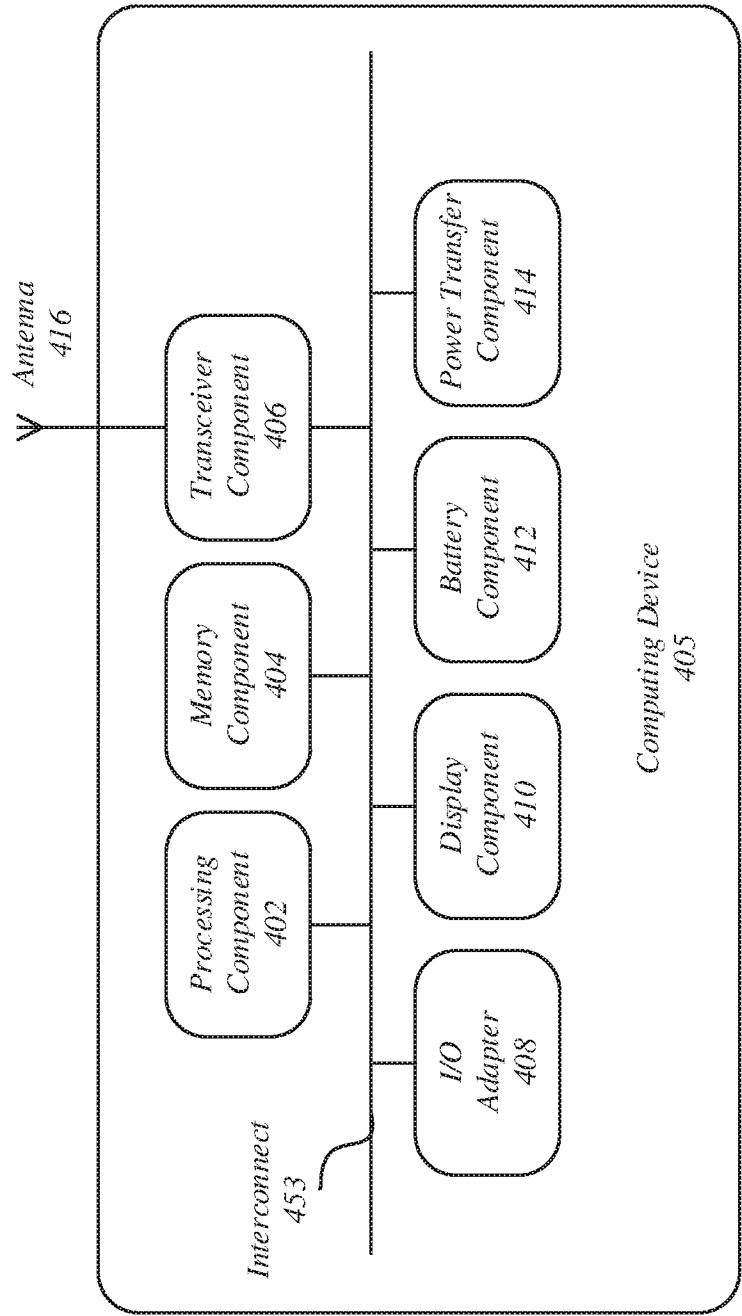
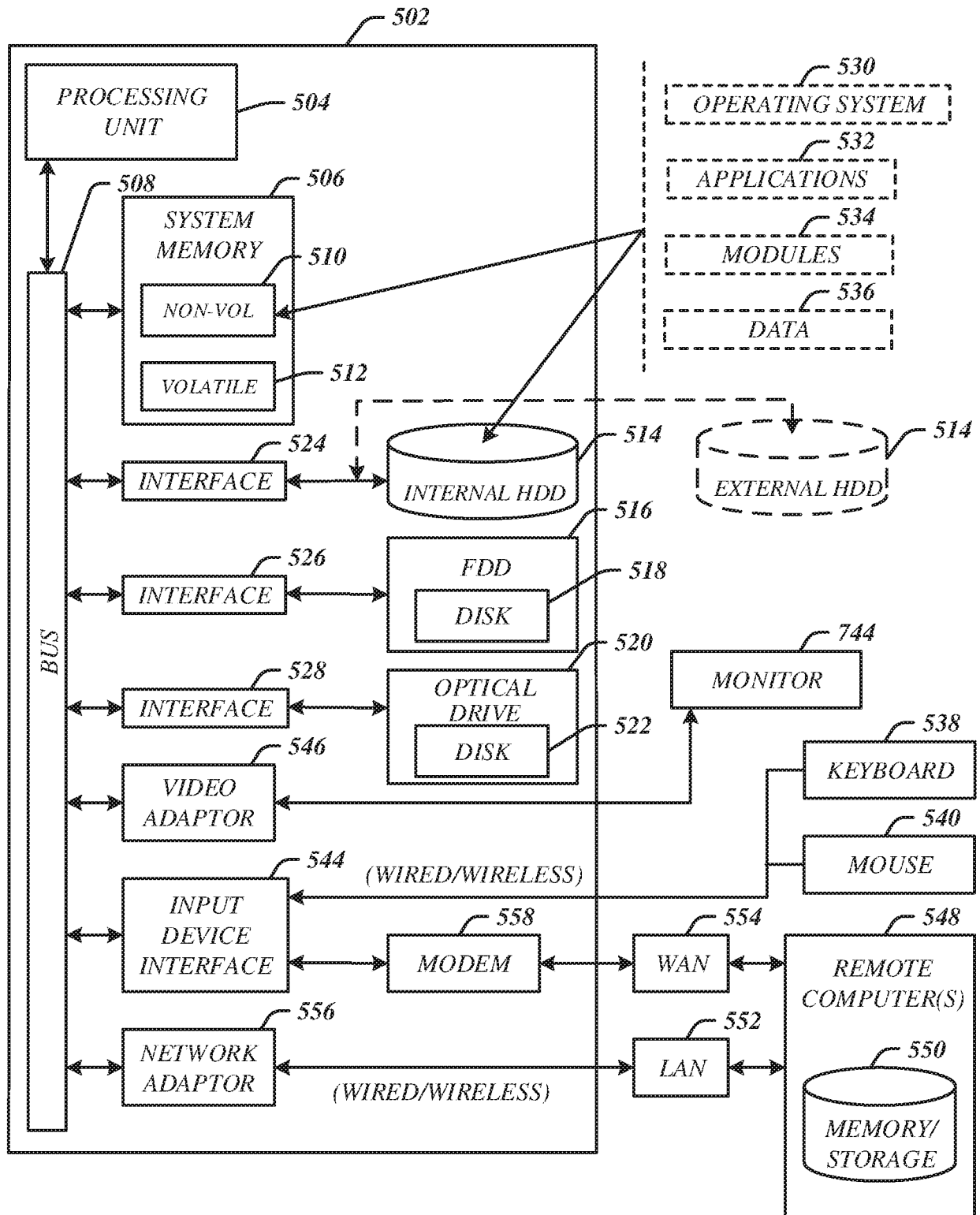


FIG. 4

500**FIG. 5**

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2015/075179**A. CLASSIFICATION OF SUBJECT MATTER**

H02J 17/00(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H02J; H02J17

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNABS, CNTXT, DWPI: wearable, coat, clothing, wearing, shirt, pants, trousers, fabric, fibre, conduct+, coil, electrical device

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2014015470 A1 (ELECTRONICS & TELECOM RES INST) 16 January 2014 (2014-01-16) See description, paragraph 0038 to paragraph 0090 and Figures 1-10	1-23
X	WO 2005055390 A1 (KONINKL PHILIPS ELECTRONICS NVET AL.) 16 June 2005 (2005-06-16) See description, page 2, line 5 to page 5, line 10 and Figures 1-8	1-23



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

“A” document defining the general state of the art which is not considered to be of particular relevance

“E” earlier application or patent but published on or after the international filing date

“L” document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

“O” document referring to an oral disclosure, use, exhibition or other means

“P” document published prior to the international filing date but later than the priority date claimed

“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

“&” document member of the same patent family

Date of the actual completion of the international search

10 December 2015

Date of mailing of the international search report

31 December 2015

Name and mailing address of the ISA/CN

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LI, Lu

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Telephone No. (86-10)62089116

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2015/075179

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
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