mation (such as, for example, control information, data and/or metadata) is transmitted in a separate frequency band and/or using a separate or dedicated channel, than used for power transmission.

**[0063]** The rectifier **160** may generate a DC voltage by rectifying an AC voltage (e.g., in a band of tens of Hz).

**[0064]** The constant voltage controller **170** may receive an input of the DC voltage from the rectifier **160**, and may output a DC voltage of a predetermined level under the control of the source controller **140**. The constant voltage controller **170** may include a stabilization circuit to output a DC voltage of a predetermined level, for instance.

**[0065]** The target resonator **210** may receive the electromagnetic energy from the source resonator **110**. For example, the target resonator **210** may receive resonance power from the resonance power transmitter **100**, through the magnetic coupling with the source resonator **110**. The target resonator **210** may resonate within the set resonance bandwidth.

**[0066]** The communication unit **220** may transmit or receive data to or from the communication unit **150**, under a control of the target controller **230**. For example, the communication unit **220** may transmit the ID of the resonance power receiver **200** to the resonance power transmitter **100**. Additionally, the communication unit **220** may receive information regarding the resonance frequencies used in the time intervals, and information on the power amount of the resonance power transmitted in one or more of the time intervals. Furthermore, the communication unit **220** may transmit, to the resonance power transmitter **100**, the resonance frequency having the highest power transmission efficiency among the resonance frequencies used respectively in the time intervals. Similarly to the communication unit **150** in the resonance power transmitter **100**, the communication unit **220** may perform the in-band communication and the out-band communication.

**[0067]** The target controller **230** may detect the resonance frequency having the highest power transmission efficiency among the resonance frequencies used in the time intervals.

**[0068]** Table 1, below, shows power amounts P**1**, P**2**, P**3**, and P**4** of resonance powers received respectively in time intervals T**1**, T**2**, T**3**, and T**4**, and pieces of data received from the resonance power transmitter **100**. It should be appreciated that the specific values shown in Table 1 are merely an example and that other values are possible. The target controller **230** may detect a frequency F**3** as the resonance frequency having the highest power transmission efficiency.

TABLE 1

| | T1 | T2 | T3 | T4 |
|---|---|---|---|---|
| Used resonance frequency | F1 (13.56 MHz) | F2 (13.65 MHz) | F3 (13.60 MHz) | F4 (13.56 MHz) |
| Amount of resonance power transmitted | 100 watt (W) | 100 W | 100 W | 100 W |
| Amount of resonance power received | P1 (80 W) | P2 (85 W) | P3 (92 W) | P4 (90 W) |

**[0069]** The target controller **230** may be configured to control or otherwise direct the communication unit **220** to transmit, to the resonance power transmitter **100**, the resonance frequency having the highest power transmission efficiency among the resonance frequencies used respectively in the time intervals. Under the control of the target controller **230**, the communication unit **220** may transmit, to the resonance power transmitter **100**, the resonance frequency having the highest power transmission efficiency among the resonance frequencies used respectively in the time intervals. Accordingly, the target resonator **210** may receive, from the resonance power transmitter **100**, a resonance power generated using the resonance frequency having the highest power transmission efficiency.

**[0070]** The target controller **230** may include a received power scanning unit **231**, and a processor **233**. The received power scanning unit **231** may measure a power amount of a resonance power received in one or more of the time intervals. The processor **233** may be configured to manage and/or control functions of the target controller **230**.

**[0071]** The rectifier **240** may generate a DC voltage by rectifying an AC voltage.

**[0072]** The DC/DC converter **250** may adjust a level of the DC voltage output from the rectifier **240**, and may provide a DC voltage required by the load **260**.

**[0073]** The load **260** may include a charge battery to supply a power required by the resonance power receiver **200** and to charge the resonance power receiver **200**. The target controller **230** may monitor the load **260**, and may notify the resonance power transmitter **100** of a completion of charging of the resonance power receiver **200** when the charging of the resonance power receiver **200** is completed.

**[0074]** FIG. **3** illustrates an environment in which a plurality of resonance power receivers exist.

**[0075]** As illustrated in FIG. **3**, the resonance power transmitter **100** may transmit a resonance power to a plurality of resonance power receivers **200***a*, **200***b*, and **200***c*. The environment where the resonance power receivers **200***a*, **200***b*, and **200***c* exist may be referred to as a "1-to-N charging environment". In the 1-to-N charging environment, power transmission efficiency may be reduced when the resonance power receivers **200***a*, **200***b*, and **200***c* interfere with each other, when one of the resonance power receivers **200***a*, **200***b*, and **200***c* is removed, and/or when a new device is added. Accordingly, there is provided a method of controlling resonance power transmission based on each of the resonance power receivers **200***a*, **200***b*, and **200***c*. Reference numerals **301**, **303**, **305**, and **307** of FIG. **3** represent magnetic coupling between adjacent resonators.

**[0076]** FIG. **4** illustrates a resonance power transmission system.

**[0077]** Referring to FIG. **4**, the resonance power transmitter **100** may transmit, to the resonance power receivers **200***a*, **200***b*, and **200***c*, a resonance power with resonance frequencies F**1**, F**2**, and FN that are sequentially variable.

**[0078]** The resonance power transmitter **100** may determine an order of the resonance power receivers **200***a*, **200***b*, and **200***c*, and may transmit, to the resonance power receiver **200***a*, a resonance power with resonance frequencies F**1**, F**2**, and FN that are sequentially variable in operation **410**. After receiving a first response from the resonance power receiver **200***a*, the resonance power transmitter **100** may transmit, to the resonance power receiver **200***b*, a resonance power with resonance frequencies F**1**, F**2**, and FN that are sequentially variable in operation **420**. The first response may include information on a resonance frequency having a highest power transmission efficiency among the resonance frequen-