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Gyeonggi-do (KR)(72) Inventors: **Seungshik SHIN**, Gyeonggi-do (KR);
Baewon PARK, Gyeonggi-do (KR);
Sungchul PARK, Gyeonggi-do (KR);
Jinsik CHOI, Gyeonggi-do (KR)(21) Appl. No.: **17/742,554**(22) Filed: **May 12, 2022****Related U.S. Application Data**

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ABSTRACT

According to various embodiments, an electronic device may comprise a battery, a multi-coil circuit including a first coil and a second coil, a magnetic field control circuit electrically connected with the multi-coil circuit, a power management module electrically connected with the battery and the magnetic field control circuit, and a processor electrically connected with the multi-coil circuit, the magnetic field control circuit, and the power management module. Upon detecting an external electronic device to receive wireless power, the processor may control the magnetic field control circuit to transmit power having a first characteristic to the external electronic device through the first coil, and upon transmitting the power having the first characteristic, control the magnetic field control circuit to maintain transmission through the first coil based on a first operating frequency and a threshold operating frequency in a designated frequency range, or upon transmitting the power having the first characteristic, adjust an operating voltage based on the first operating frequency and the threshold operating frequency and control the magnetic field control circuit to transmit power having a second characteristic through the first coil and the second coil based on a first frequency varied in response to the adjusted operating voltage. Other embodiments may also be possible.

