What is claimed is:

1. A wireless charging device, comprising:

a wireless transmitting circuit;

a transmitting coil, comprising multiple pairs of joints, wherein transmitting-coil turns defined by each pair of joints is different; and

a control circuit, configured to select one of the multiple pairs of joints to be electrically coupled with the wireless transmitting circuit;

wherein the wireless charging device is operable in a first wireless charging mode or in a second wireless charging mode, and a charging speed at which the wireless charging device charges a device to-be-charged in the first wireless charging mode is higher than in the second wireless charging mode, wherein

the control circuit is configured to:

control a first pair of joints among the multiple pairs of joints to be electrically coupled with the wireless transmitting circuit to make the wireless transmitting circuit transmit a wireless charging signal through the transmitting coil defined by the first pair of joints, when the wireless charging device charges the device to-be-charged in the first wireless charging mode; and

control a second pair of joints among the multiple pairs of joints to be electrically coupled with the wireless transmitting circuit to make the wireless transmitting circuit transmit a wireless charging signal through the transmitting coil defined by the second pair of joints, when the wireless charging device charges the device to-be-charged in the second wireless charging mode; wherein

transmitting-coil turns defined by the first pair of joints is smaller than transmitting-coil turns defined by the second pair of joints.

2. The wireless charging device of claim 1, further comprising:

a voltage converting circuit, configured to receive an input voltage and convert the input voltage to obtain an input voltage and an input current of the wireless transmitting circuit;

the control circuit being further configured to communicate wirelessly with the device to-be-charged during wireless charging to adjust a transmission power of the wireless transmitting circuit, to make the transmission power of the wireless transmitting circuit match at least one of a charging voltage and a charging current currently required by a battery of the

device to-be-charged.

3. The wireless charging device of claim 2, further comprising:

a charging interface, configured to be coupled with a power supply device, wherein the input voltage received by the voltage converting circuit is provided by the power supply device via the charging interface; and wherein

the control circuit is further configured to communicate with the power supply device to adjust at least one of an output voltage and an output current of the power supply device, to adjust the transmission power of the wireless transmitting circuit.

4. The wireless charging device of claim 3, wherein the charging interface is a universal serial bus (USB) interface or a lightning interface.

5. The wireless charging device of claim 4, wherein the charging interface is a USB interface, and the control circuit is configured to communicate with the power supply device via a data line of the USB interface.

6. The wireless charging device of claim 4, wherein the charging interface is a USB interface supporting a power delivery (PD) communication protocol, and the control circuit is configured to communicate with the power supply device based on the PD communication protocol.

7. The wireless charging device of claim 2, further comprising:

a power supply circuit, configured to receive an alternating current (AC) from outside and generate an output voltage and an output current of the power supply circuit according to the AC, wherein the input voltage received by the voltage converting circuit is the output voltage of the power supply circuit.

8. The wireless charging device of any of claims 1 to 7, wherein the wireless charging device is a wireless charging base.

9. A device to-be-charged, comprising:

a receiving coil, comprising multiple pairs of joints, wherein different pairs of joints define different receiving-coil turns;

a wireless receiving circuit;

a control circuit, configured to select one of the multiple pairs of joints to be electrically coupled with the wireless receiving circuit;

a first charging channel, provided with a step-down circuit, wherein the step-down circuit is configured to receive an output voltage of the wireless receiving circuit and decrease the output voltage of the wireless receiving circuit to obtain an output voltage and an output current of the first charging channel, wherein the battery is charged according to the output voltage and the output current of the first charging channel;

a second charging channel, provided with a converting circuit, wherein the converting circuit is configured to receive the output voltage and an output current of the wireless receiving circuit and conduct at least one of a constant-voltage control and a constant-current control on at least one of the output voltage and the output current of the wireless receiving circuit, to make at least one of an output voltage and an output current of the second charging channel match the at least one of the charging voltage and the charging current currently required by the battery, wherein the battery is charged according to the at least one of the output voltage and the output current of the second charging channel; and

a battery coupled with the first charging channel and the second charging channel; wherein

the control circuit is configured to:

control a first pair of joints among the multiple pairs of joints to be electrically coupled with the wireless receiving circuit to make the wireless receiving circuit receive a wireless charging signal through the receiving coil defined by the first pair of joints, when the battery is charged through the first charging channel; and

control a second pair of joints among the multiple pairs of joints to be electrically coupled with the wireless receiving circuit to make the wireless receiving circuit receive a wireless charging signal through the receiving coil defined by the second pair of joints, when the battery is charged through the second charging channel; wherein

receiving-coil turns defined by the first pair of joints is smaller than receiving-coil turns defined by the second pair of joints.

10. The device to-be-charged of claim 9, further comprising:

a detecting circuit, configured to detect at least one of a voltage and a current in the first charging channel; wherein

the control circuit is configured to:

communicate wirelessly with a wireless charging device according to the at least one of the voltage and the current in the first charging channel detected by the detecting circuit, to adjust a transmission power of the wireless charging device to make the at least one of the output voltage and the output current of the first charging channel match at least one of a charging voltage and a charging current currently required by the battery.

11. The device to-be-charged of claim 9, wherein the battery comprises N cells coupled in series, and N is a positive integer greater than one.

12. The device to-be-charged of any of claims 9 to 11, wherein the step-down circuit is a Buck circuit or a charge pump.

13. The device to-be-charged of any of claims 9 to 11, wherein the control circuit is configured to communicate wirelessly with the wireless charging device based on Bluetooth, wireless fidelity (Wi-Fi), or backscatter modulation.

14. A method for controlling a wireless charging device, wherein the wireless charging device comprises:

a wireless transmitting circuit; and

a transmitting coil, comprising multiple pairs of joints, wherein transmitting-coil turns defined by each pair of joints is different;

wherein the wireless charging device is operable in a first wireless charging mode or in a second wireless charging mode, and a charging speed at which the wireless charging device charges a device to-be-charged in the first wireless charging mode is higher than in the second wireless charging mode;

the method comprising:

controlling a first pair of joints among the multiple pairs of joints to be electrically coupled with the wireless transmitting circuit to make the wireless transmitting circuit transmit a wireless charging signal through the transmitting coil defined by the first pair of joints, when the wireless charging device charges the device to-be-charged in the first wireless charging mode; and

controlling a second pair of joints among the multiple pairs of joints to be

electrically coupled with the wireless transmitting circuit to make the wireless transmitting circuit transmit a wireless charging signal through the transmitting coil defined by the second pair of joints, when the wireless charging device charges the device to-be-charged in the second wireless charging mode; wherein

transmitting-coil turns defined by the first pair of joints is smaller than transmitting-coil turns defined by the second pair of joints.

15. A method for controlling a device to-be-charged, wherein the device to-be-charged comprises:

a receiving coil, comprising multiple pairs of joints, wherein different pairs of joints define different receiving-coil turns;

a wireless receiving circuit;

a first charging channel, provided with a step-down circuit, wherein the step-down circuit is configured to receive an output voltage of the wireless receiving circuit and decrease the output voltage of the wireless receiving circuit to obtain an output voltage and an output current of the first charging channel, wherein a battery of the device to-be-charged is charged according to the output voltage and the output current of the first charging channel; and

a second charging channel, provided with a converting circuit, wherein the converting circuit is configured to receive the output voltage and an output current of the wireless receiving circuit and conduct at least one of a constant-voltage control and a constant-current control on at least one of the output voltage and the output current of the wireless receiving circuit, to make at least one of an output voltage and an output current of the second charging channel match the at least one of the charging voltage and the charging current currently required by the battery, wherein the battery is charged according to the at least one of the output voltage and the output current of the second charging channel;

the method comprising:

controlling a first pair of joints among the multiple pairs of joints to be electrically coupled with the wireless receiving circuit to make the wireless receiving circuit receive a wireless charging signal through the receiving coil defined by the first pair of joints, when the battery of the device to-be-charged is charged through the first charging channel; and

controlling a second pair of joints among the multiple pairs of joints to be electrically coupled with the wireless receiving circuit to make the wireless receiving

circuit receive a wireless charging signal through the receiving coil defined by the second pair of joints, when the battery of the device to-be-charged is charged through the second charging channel; wherein

receiving-coil turns defined by the first pair of joints is smaller than receiving-coil turns defined by the second pair of joints.

16. The method of claim 15, the method further comprising:

detecting at least one of a voltage and a current in the first charging channel; and

communicating wirelessly with a wireless charging device according to the at least one of the voltage and the current in the first charging channel detected, to adjust a transmission power of the wireless charging device to make the at least one of the output voltage and the output current of the first charging channel match at least one of a charging voltage and a charging current currently required by the battery.