

What is claimed is:

1. A method for D2D communication, comprising:

receiving, by a remote user equipment, a D2D discovery message sent by a relay user equipment, and acquiring a discontinuous reception parameter of the relay user equipment; and

5 sending a communication request message to the relay user equipment based on the discontinuous reception parameter of the relay user equipment,

wherein the receiving, by the remote user equipment, the D2D discovery message sent by the relay user equipment, and acquiring the discontinuous reception parameter of the relay user equipment, comprises one of:

10 acquiring, by the remote user equipment, a layer 2 user identification of the relay user equipment contained in the D2D discovery message, and determining the discontinuous reception parameter of the relay user equipment through the layer 2 user identification of the relay user equipment;

determining the discontinuous reception parameter of the relay user equipment through a
15 preset field value contained in the D2D discovery message; or

determining the discontinuous reception parameter of the relay user equipment through information of discontinuous reception explicitly broadcast in the D2D discovery message,

wherein the determining the discontinuous reception parameter of the relay user equipment through the layer 2 user identification of the relay user equipment, comprises:

20 determining a discontinuous transmission start offset value based on any of the following manners:

the discontinuous transmission start offset value is equal to the layer 2 user identification of the relay user equipment; or

the discontinuous transmission start offset value is acquired by modulo of the layer 2 user
25 identification of the relay user equipment with a preset value.

2. The method according to claim 1, wherein the acquiring, by the remote user equipment, the layer 2 user identification of the relay user equipment contained in the D2D discovery message, comprises:

receiving, by the remote user equipment, a UE-to-Network Relay Discovery
30 Announcement message broadcast by the relay user equipment, and acquiring the layer 2 user identification of the relay user equipment; or

sending, by the remote user equipment, a UE-to-Network Relay Discovery Solicitation message to the relay user equipment, receiving a UE-to-Network Relay Discovery Response message replied by the relay user equipment, and acquiring the layer 2 user identification of the relay user equipment.

5 3. The method according to claim 2, wherein the determining the discontinuous reception parameter of the relay user equipment through the layer 2 user identification of the relay user equipment, comprises:

 using a discontinuous reception configuration of a cellular network or using a discontinuous reception configuration specified by a network; and

10 by modulo of the layer 2 user identification of the relay user equipment with a period of the discontinuous reception, acquiring a discontinuous reception start offset value, wherein the period of the discontinuous reception is a period of discontinuous reception in the discontinuous reception configuration of the cellular network or the discontinuous reception configuration specified by the network.

15 4. The method according to claim 1, wherein the communication request message contains related information of a discontinuous reception parameter of the remote user equipment;

 the method further comprises:

20 receiving, by the remote user equipment, a communication acceptance message sent by the relay user equipment after the relay user equipment determines the discontinuous reception parameter of the remote user equipment.

 5. A remote user equipment, comprising:

25 a processor, a memory, a transceiver, and a bus, wherein the processor, the memory, and the transceiver are connected through the bus, wherein the transceiver is used for receiving and sending signals and communicating with a relay user equipment, the memory is used for storing a group of program codes, and the processor is used for calling the program codes stored in the memory to perform the following operations:

 receiving a D2D discovery message sent by the relay user equipment through the transceiver to acquire a discontinuous reception parameter of the relay user equipment; and

30 sending a communication request message to the relay user equipment through the transceiver based on the discontinuous reception parameter of the relay user equipment,

wherein when acquiring the discontinuous reception parameter of the relay user equipment, the processor is specifically used for one of:

acquiring a layer 2 user identification of the relay user equipment contained in the D2D discovery message, and determining the discontinuous reception parameter of the relay user equipment through the layer 2 user identification of the relay user equipment;

determining the discontinuous reception parameter of the relay user equipment through a preset field value contained in the D2D discovery message; or

determining the discontinuous reception parameter of the relay user equipment through information of discontinuous reception explicitly broadcast in the D2D discovery message,

wherein when determining the discontinuous reception parameter of the relay user equipment through the layer 2 user identification of the relay user equipment, the processor is specifically used for:

determining a discontinuous transmission start offset value based on any of the following manners:

the discontinuous transmission start offset value is equal to the layer 2 user identification of the relay user equipment; or

the discontinuous transmission start offset value is acquired by modulo of the layer 2 user identification of the relay user equipment with a preset value.

6. The remote user equipment according to claim 5, wherein when acquiring the layer 2 user identification of the relay user equipment contained in the D2D discovery message, the processor is specifically used for:

receiving a UE-to-Network Relay Discovery Announcement message broadcast by the relay user equipment through the transceiver and acquiring the layer 2 user identification of the relay user equipment; or

sending a UE-to-Network Relay Discovery Solicitation message to the relay user equipment through the transceiver, receiving a UE-to-Network Relay Discovery Response message replied by the relay user equipment, and acquiring the layer 2 user identification of the relay user equipment.

7. The remote user equipment according to claim 6, wherein when determining the discontinuous reception parameter of the relay user equipment through the layer 2 user identification of the relay user equipment, the processor is specifically used for:

using a discontinuous reception configuration of a cellular network or using a discontinuous reception configuration specified by a network; and

by modulo of the layer 2 user identification of the relay user equipment with a period of the discontinuous reception, acquiring a discontinuous reception start offset value, wherein the
5 period of the discontinuous reception is a period of discontinuous reception in the discontinuous reception configuration of the cellular network or the discontinuous reception configuration specified by the network.

8. The remote user equipment according to claim 5, wherein the communication request message contains related information of a discontinuous reception parameter of the remote user
10 equipment;

the processor is further used for:

receiving, through the transceiver, a communication acceptance message sent by the relay user equipment after the relay user equipment determines the discontinuous reception parameter of the remote user equipment.

15 9. A relay user equipment, comprising:

a processor, a memory, a transceiver, and a bus, wherein the processor, the memory, and the transceiver are connected through the bus, wherein the transceiver is used for receiving and sending signals and communicating with a remote user equipment, the memory is used for storing a group of program codes, and the processor is used for calling the program codes
20 stored in the memory to perform the following operations:

receiving a communication request message sent by the remote user equipment through the transceiver, and acquiring related information of a discontinuous reception parameter of the remote user equipment;

determining the discontinuous reception parameter of the remote user equipment
25 according to the communication request message; and

sending a communication request acceptance message to the remote user equipment through the transceiver based on the discontinuous reception parameter of the remote user equipment,

wherein when determining the discontinuous reception parameter of the remote user
30 equipment according to the communication request message, the processor is specifically used for one of:

acquiring a layer 2 user identification of the remote user equipment contained in the communication request message, and determining the discontinuous reception parameter of the remote user equipment through the layer 2 user identification of the remote user equipment;

5 determining the discontinuous reception parameter of the remote user equipment through preset information contained in the communication request message; or

determining the discontinuous reception parameter of the remote user equipment through information of discontinuous transmission explicitly broadcast in the communication request message,

10 wherein when determining the discontinuous reception parameter of the remote user equipment through the layer 2 user identification of the remote user equipment, the processor is specifically used for:

determining a discontinuous transmission start offset value based on any of the following manners:

15 the discontinuous transmission start offset value is equal to the layer 2 user identification of the remote user equipment; or

the discontinuous transmission start offset value is acquired by modulo of the layer 2 user identification of the remote user equipment with a preset value.

20 10. The relay user equipment according to claim 9, wherein when determining the discontinuous reception parameter of the remote user equipment through the layer 2 user identification of the remote user equipment, the processor is specifically used for:

using a discontinuous reception configuration of a cellular network or using a discontinuous reception configuration specified by a network; and

25 by modulo of the layer 2 user identification of the remote user equipment with a period of the discontinuous reception, acquiring a discontinuous reception start offset value, wherein the period of the discontinuous reception is a period of discontinuous reception in the discontinuous reception configuration of the cellular network or the discontinuous reception configuration specified by the network.

11. The relay user equipment according to claim 9, wherein the processor is further used for:

30 before the transceiver receives the communication request message sent by the remote user equipment, sending a D2D discovery message to the remote user equipment through the

transceiver, wherein the D2D discovery message contains related information of a discontinuous reception parameter of the relay user equipment.

12. The relay user equipment according to claim 11, wherein the processor is further used for:

5 after both the remote user equipment and the relay user equipment acquire a discontinuous transmission parameter of the other:

reconfiguring the discontinuous reception parameter of the relay user equipment or reconfiguring the discontinuous reception parameter of the remote user equipment;

10 sending the reconfigured discontinuous reception parameter of the relay user equipment and/or the reconfigured discontinuous reception parameter of the remote user equipment to the remote user equipment through the transceiver; and

performing information transmission, through the transceiver, with the remote user equipment based on the reconfigured discontinuous reception parameter of the relay user equipment or the reconfigured discontinuous reception parameter of the remote user equipment.

15 13. A non-transitory computer storage medium, including a set of program codes for executing the method according to claim 1.

14. The non-transitory computer storage medium of claim 13, wherein the receiving, by the remote user equipment, the D2D discovery message sent by the relay user equipment, and acquiring the discontinuous reception parameter of the relay user equipment, comprises one of:

20 acquiring, by the remote user equipment, a layer 2 user identification of the relay user equipment contained in the D2D discovery message, and determining the discontinuous reception parameter of the relay user equipment through the layer 2 user identification of the relay user equipment;

25 determining the discontinuous reception parameter of the relay user equipment through a preset field value contained in the D2D discovery message; or

determining the discontinuous reception parameter of the relay user equipment through information of discontinuous reception explicitly broadcast in the D2D discovery message.