

domain control area is within the frequency domain range.

[0087] In other words, the network device can send fourth configuration information to the terminal device, indicating a frequency domain range W within the system bandwidth. Then, the first configuration information indicates that the uplink control channel of the terminal device is sent in the first uplink frequency domain control area in the uplink frequency domain control area within the W . The frequency domain range W can include consecutive frequency domain resources, and can also include non-consecutive frequency domain resources, which is not limited in the embodiments of the present disclosure.

[0088] FIG. 7 is a schematic diagram showing a method for transmitting an uplink control channel according to another embodiment of the present disclosure. In this specific scenario, as shown in FIG. 7, for example, the uplink control channel of the terminal device is limited to a frequency domain range W (sub-band), and one downlink time slot corresponds to one fixed uplink time slot. The network device first indicates through the fourth configuration information a frequency domain range W that the uplink control channel of the terminal device can be distributed, and then indicates through the first configuration information that the uplink control channel of the terminal device is scheduled to be sent on the uplink frequency domain control area 2 in the two uplink frequency domain control area within W . The specific position of the uplink control channel of the terminal device in the downlink frequency domain control area 2 is determined in the uplink frequency domain control area (the uplink frequency domain control area 3) where the downlink control channel of the terminal device is located, that is, on the third uplink frequency domain scheduling unit 3.

[0089] Optionally, in the embodiment of the present disclosure, the network device can send the third configuration information and/or the fourth configuration information to the terminal device through high layer signaling (such as RRC signaling), a downlink control channel, a broadcast channel, or a system information block (SIB), which is not limited in the embodiment of the present disclosure.

[0090] FIG. 8 is a schematic flowchart of a method 800 for transmitting an uplink control channel according to an embodiment of the present disclosure. The method 800 can be performed by a terminal device, and the method includes the following steps.

WHAT IS CLAIMED IS:

1. A method for transmitting an uplink control channel, comprising:

sending (S210), by a network device, a downlink control channel to a terminal device on a first downlink frequency domain control area, wherein the downlink control channel comprises first configuration information, and the first configuration information is used to dynamically indicate at least one first uplink frequency domain control area used by the terminal device to send an uplink control channel to the network device; and

receiving (S220), by the network device, an uplink control channel sent by the terminal device on a first uplink frequency domain scheduling unit of each of the at least one first uplink frequency domain control area, wherein a frequency domain position of the first uplink frequency domain scheduling unit in the first uplink frequency domain control area is determined according to the first downlink frequency domain control area.

2. A method for transmitting an uplink control channel, comprising:

receiving (S810), by a terminal device, a downlink control channel sent by a network device on a first downlink frequency domain control area, wherein the downlink control channel comprises first configuration information, and the first configuration information is used to dynamically indicate at least one first uplink frequency domain control area used by the terminal device to send an uplink control channel to the network device; and

sending (S820), by the terminal device, an uplink control channel to the network device on the first uplink frequency domain scheduling unit of each of the at least one first uplink frequency domain control area, wherein a frequency domain position of the first uplink frequency domain scheduling unit in the first uplink frequency domain control area is determined according to the first downlink frequency domain control area.

3. The method according to claim 2, wherein the downlink control channel further comprises second configuration information, and the second configuration information is used to indicate at least one first uplink time domain scheduling unit, and

wherein sending, by the terminal device, an uplink control channel to the network device

on the first uplink frequency domain scheduling unit of each of the at least one first uplink frequency domain control area, comprises:

sending, by the terminal device, the uplink control channel to the network device on the first uplink frequency domain scheduling unit in the corresponding first uplink frequency domain control area of the at least one first uplink time domain scheduling unit.

4. The method according to claim 3, wherein receiving, by the terminal device, a downlink control channel sent by a network device on a first downlink frequency domain control area, comprises:

receiving, by the terminal device, the downlink control channel sent by the network device on the first downlink frequency domain control area of the first downlink time domain scheduling unit;

wherein the second configuration information comprises information about an offset of each first uplink frequency domain control area in the at least one first uplink time domain scheduling unit with respect to the first downlink time domain scheduling unit.

5. The method according to claim 3 or 4, wherein a position of the first uplink frequency domain scheduling unit in each of the first uplink frequency domain control areas is determined according to a frequency domain position of the first downlink frequency domain control area in the first downlink time domain scheduling unit.

6. The method according to any one of claims 3 to 5, wherein the second configuration information is used to indicate N first uplink time domain scheduling units, the first configuration information is used to indicate N first uplink frequency domain control areas, each of the first uplink frequency domain control areas is located in one of the first uplink time domain scheduling units, and any two first uplink frequency domain control areas are located in different first uplink time domain scheduling units.

7. The method according to claim 6, wherein frequency domain positions of any two first uplink frequency domain control areas in corresponding first uplink time domain

scheduling units are the same.

8. The method according to any one of claims 2 to 7, further comprising:

receiving, by the terminal device, fourth configuration information sent by the network device, wherein the fourth configuration information is used to indicate a frequency domain range that the terminal device can use, and the at least one first uplink frequency domain control area is an uplink frequency domain control area within the frequency domain range.

9. The method according to claim 8, wherein receiving, by the terminal device, fourth configuration information sent by the network device comprises:

receiving, by the terminal device, the fourth configuration information sent by the network device through high layer signaling, the downlink control channel, a broadcast channel, or a system information block SIB.

10. A network device, comprising:

a sending module (910) configured to send a downlink control channel to a terminal device on a first downlink frequency domain control area, wherein the downlink control channel comprises first configuration information, and the first configuration information is used to dynamically indicate at least one first uplink frequency domain control area used by the terminal device to send an uplink control channel to the network device; and

a receiving module (920) configured to receive an uplink control channel sent by the terminal device on a first uplink frequency domain scheduling unit of each of the at least one first uplink frequency domain control area, wherein a frequency domain position of the first uplink frequency domain scheduling unit in the first uplink frequency domain control area is determined according to the first downlink frequency domain control area.

11. The network device according to claim 10, wherein the downlink control channel further comprises second configuration information, and the second configuration information is used to indicate at least one first uplink time domain scheduling unit, and

wherein the receiving module is specifically configured to:

receive the uplink control channel sent by the terminal device on the first uplink

frequency domain scheduling unit in the corresponding first uplink frequency domain control area of the at least one first uplink time domain scheduling unit.

12. The network device according to claim 11, wherein the sending module is specifically configured to send the downlink control channel to the terminal device on the first downlink frequency domain control area of the first downlink time domain scheduling unit; and

wherein the second configuration information comprises information about an offset of each first uplink frequency domain control area in the at least one first uplink time domain scheduling unit with respect to the first downlink time domain scheduling unit.

13. The network device according to claim 11 or 12, wherein a position of the first uplink frequency domain scheduling unit in each of the first uplink frequency domain control areas is determined according to a frequency domain location of the first downlink frequency domain control area in the first downlink time domain scheduling unit.

14. The network device according to any one of claims 10 to 13, wherein the sending module is further configured to send fourth configuration information to the terminal device, the fourth configuration information is used to indicate a frequency domain range that the terminal device can use, and the at least one first uplink frequency domain control area is an uplink frequency domain control area within the frequency domain range.

15. The network device according to claim 14, wherein the sending module is specifically configured to:

send the fourth configuration to the terminal device through high layer signaling, the downlink control channel, a broadcast channel, or a system information block SIB.

16. A terminal device, comprising:

a receiving module (1110) configured to receive a downlink control channel sent by a network device on a first downlink frequency domain control area, wherein the downlink control channel comprises first configuration information, and the first configuration information is used to dynamically indicate at least one first uplink frequency domain control

area used by the terminal device to send an uplink control channel to the network device; and

a sending module (1120) configured to send an uplink control channel to the network device on the first uplink frequency domain scheduling unit of each of the at least one first uplink frequency domain control area, wherein a frequency domain position of the first uplink frequency domain scheduling unit in the first uplink frequency domain control area is determined according to the first downlink frequency domain control area.

17. The terminal device according to claim 16, wherein the downlink control channel further comprises second configuration information, and the second configuration information is used to indicate at least one first uplink time domain scheduling unit, and

wherein the sending module (1120) is specifically configured to:

send the uplink control channel to the network device on the first uplink frequency domain scheduling unit in the corresponding first uplink frequency domain control area of the at least one first uplink time domain scheduling unit.

18. The terminal device according to claim 17, wherein the receiving module is specifically configured to:

receive the downlink control channel sent by the network device on the first downlink frequency domain control area of the first downlink time domain scheduling unit; and

wherein the second configuration information comprises information about an offset of each first uplink frequency domain control area in the at least one first uplink time domain scheduling unit with respect to the first downlink time domain scheduling unit.

19. The terminal device according to any one of claims 16 to 18, wherein the receiving module (1110) is further configured to receive fourth configuration information sent by the network device, the fourth configuration information is used to indicate a frequency domain range that the terminal device can use, and the at least one first uplink frequency domain control area is an uplink frequency domain control area within the frequency domain range.

20. The terminal device according to claim 19, wherein the receiving module (1110) is specifically configured to:

receive the fourth configuration information sent by the network device through high layer signaling, the downlink control channel, a broadcast channel, or a system information block SIB.