WHAT IS CLAIMED IS:

1. A method for data transmission comprising:

receiving, by a terminal device, first control information sent by a network device, wherein the first control information is used to schedule the terminal device to perform data transmission;

determining, by the terminal device, according to transmission information of the terminal device and a first mapping relationship, at least one transmission frequency band corresponding to the transmission information, wherein the first mapping relationship comprises a correspondence between a plurality of pieces of transmission information and a plurality of transmission frequency bands, and the transmission information comprises at least one of: an attribute of the first control information, resource type information for the data transmission, and traffic information of the terminal device;

determining, by the terminal device, a target transmission frequency band from the at least one transmission frequency band; and

performing, by the terminal device, the data transmission with the network device on the target transmission frequency band according to the first control information.

2. The method according to claim 1, wherein the first control information comprises frequency band information of the target transmission frequency band, and the first mapping relationship further comprises a correspondence between a plurality of transmission frequency bands and a plurality of pieces of frequency band information, and

determining, by the terminal device, the target transmission frequency band from the at least one transmission frequency band comprises:

according to the frequency band information of the target transmission frequency band, and the first mapping relationship, determining, by the terminal device, the target transmission frequency band to be a transmission frequency band corresponding to the frequency band information from the at least one transmission frequency band.

3. The method according to claim 1 or 2, wherein before the terminal device determines at least one transmission frequency band corresponding to transmission information according to the transmission information of the terminal device and a first mapping relationship, the method further comprises:

receiving, by the terminal device, second control information sent by the network device,

the second control information comprising the first mapping relationship.

4. The method according to any one of claims 1 to 3, wherein the first control information comprises downlink control information DCI or a medium access control element MAC CE.

5. The method according to any one of claims 1 to 4, wherein the second control information comprises a radio resource control RRC signaling or system information.

6. The method according to any one of claims 1 to 5, wherein the first control information is DCI, and the attribute of the first control information comprise any one of:

a DCI format of the DCI, a size of the DCI, and information indicating whether the DCI schedules uplink data or downlink data.

7. The method according to any one of claims 1 to 6, wherein the resource type information comprises any one of:

information indicating that the first control information schedules a common resource or a dedicated resource for the terminal device, information indicating that the first control information schedules a continuous resource or discontinuous resources, or information indicating a resource scheduling unit, wherein the scheduling unit comprises a symbol, a time slot or a subframe.

8. A terminal device, comprising:

a transceiver unit configured to receive first control information sent by a network device, wherein the first control information is used to schedule the terminal device to perform data transmission; and

a determining unit configured to determine, according to transmission information of the terminal device and a first mapping relationship, at least one transmission frequency band corresponding to the transmission information, wherein the first mapping relationship comprises a correspondence between a plurality of pieces of transmission information and a plurality of transmission frequency bands, and the transmission information comprises at least one of: an attribute of the first control information, resource type information for the data transmission, and traffic information of the terminal device;

wherein the determining unit is further configured to determine a target transmission frequency band from the at least one transmission frequency band; and

the transceiver unit is further configured to perform the data transmission with the network device on the target transmission frequency band according to the first control information.

9. The terminal device according to claim 8, wherein the first control information comprises frequency band information of the target transmission frequency band, and the first mapping relationship further comprises a correspondence between a plurality of transmission frequency bands and a plurality of pieces of frequency band information, and

the determining unit is specifically configured to,

according to frequency band information of the target transmission frequency band, and the first mapping relationship, determine the target transmission frequency band to be a transmission frequency band corresponding to the frequency band information from the at least one transmission frequency band.

10. The terminal device according to claim 8 or 9, wherein the transceiver unit is further configured to

receive second control information sent by the network device, wherein the second control information comprises the first mapping relationship.

11. The terminal device according to any one of claims 8 to 10, wherein the first control information comprises downlink control information DCI or a medium access control element MAC CE.

12. The terminal device according to any one of claims 8 to 11, wherein the second control information comprises a radio resource control RRC signaling or system information.

13. The terminal device according to any one of claims 8 to 12, wherein the first control information is DCI, and an attribute of the first control information comprises any one of:

a DCI format of the DCI, a size of the DCI, and information indicating whether the DCI schedules uplink data or downlink data.

14. The terminal device according to any one of claims 8 to 13, wherein the resource type information comprises any one of:

information indicating that the first control information schedules a common resource or a dedicated resource for the terminal device, information indicating that the first control

information schedules a continuous resource or discontinuous resources, or information indicating a resource scheduling unit, wherein the scheduling unit comprises a symbol, a time slot or a subframe.

15. The terminal device according to any one of claims 8 to 14, wherein the traffic information of the terminal device comprises at least one of:

traffic type information of the terminal device, service quality information of the terminal device, and traffic quality information of the terminal device.