

CLAIMS

5 1. A data transmission method, comprising:

sending resource configuration information to a terminal device, the resource configuration information being configured to indicate multiple resource sub-bands for transmitting data in a scheduling unit, the scheduling unit being composed of the multiple resource sub-bands, each of the multiple resource sub-bands being formed by
10 continuous physical resource blocks in a frequency domain and at least two resource sub-bands in the multiple resource sub-bands having different subcarrier spacings; and
communicating the data with the terminal device on the multiple resource sub-bands;

wherein the resource configuration information comprises first position
15 indication information, and the first position indication information is configured to indicate a position of a first resource sub-band in the multiple resource sub-bands on the frequency domain, and communicating the data with the terminal device on the multiple resource sub-bands comprises:

communicating part of the data with the terminal device on the first resource
20 sub-band according to the first position indication information.

2. The method of claim 1, wherein the first position indication information is specifically configured to indicate a starting physical resource block of the first resource sub-band in the frequency domain and a number of the physical resource blocks in the
25 first resource sub-band, or the first position indication information is specifically configured to indicate the starting physical resource block of the first resource sub-band in the frequency domain and an ending physical resource block of the first resource sub-band in the frequency domain.

30 3. A data transmission method, comprising:

receiving resource configuration information sent by a network device, the resource configuration information being configured to indicate multiple resource sub-bands for transmitting data in a scheduling unit, the scheduling unit being composed of the multiple resource sub-bands, each of the multiple resource sub-bands being formed

by continuous physical resource blocks in a frequency domain and at least two resource sub-bands in the multiple resource sub-bands having different subcarrier spacings; and communicating the data with the network device on the multiple resource sub-bands according to the resource configuration information;

5 wherein the resource configuration information comprises first position indication information, the first position indication information is configured to indicate a position of a first resource sub-band in the multiple resource sub-bands on the frequency domain, and communicating the data with the network device on the multiple resource sub-bands according to the resource configuration information comprises:

10 communicating part of the data with the network device on the first resource sub-band according to the first position indication information.

4. The method of claim 3, wherein the first position indication information comprises first indication information and second indication information,

15 the first indication information is configured to indicate frequency-domain reference physical resource blocks comprising the first resource sub-band on the frequency domain in the scheduling unit, and a subcarrier spacing of each frequency-domain reference physical resource block is a multiple of a maximum subcarrier spacing preconfigured by a system; and

20 the second indication information is configured to indicate positions of physical resource blocks of the first resource sub-band in a starting frequency-domain reference physical resource block indicated by the first indication information and positions of the physical resource blocks of the first resource sub-band in an ending frequency-domain reference physical resource block indicated by the first indication information.

25 5. The method of claim 4, wherein the first indication information is a first bit table, each bit in the first bit table corresponds to each frequency-domain reference physical resource block in the scheduling unit, and first values of multiple continuous first bits in the first bit table indicate that frequency-domain reference physical resource blocks corresponding to the first bits comprise the physical resource blocks of the first resource sub-band.

6. The method of claim 4, wherein the first indication information is specifically

configured to indicate a position of the starting frequency-domain reference physical resource block in the frequency domain and a position of the ending frequency-domain reference physical resource block in the frequency domain, or the first indication information is specifically configured to indicate the position of the starting frequency-domain reference physical resource block in the frequency domain and a number of the frequency-domain reference physical resource blocks comprising the first resource sub-band.

7. The method of any one of claims 4-6, wherein the second indication information is a second bit table and a third bit table, each bit in the second bit table and the third bit table corresponds to a physical resource block in the first resource sub-band, a second value of a bit in the second bit table indicates that a physical resource block corresponding to the bit in the second bit table belongs to the starting frequency-domain reference physical resource block, and a third value of a bit in the third bit table indicates that a physical resource block corresponding to the bit in the third bit table belongs to the ending frequency-domain reference physical resource block.

8. The method of claim 3, wherein the first position indication information is specifically configured to indicate a starting physical resource block of the first resource sub-band in the frequency domain and a number of the physical resource blocks in the first resource sub-band, or the first position indication information is specifically configured to indicate the starting physical resource block of the first resource sub-band in the frequency domain and an ending physical resource block of the first resource sub-band in the frequency domain.

9. A network device for data transmission, comprising:

a sending unit, configured to send resource configuration information to a terminal device, the resource configuration information being configured to indicate multiple resource sub-bands for transmitting data in a scheduling unit, the scheduling unit being composed of the multiple resource sub-bands, each of the multiple resource sub-bands being formed by continuous physical resource blocks in a frequency domain and at least two resource sub-bands in the multiple resource sub-bands having different subcarrier spacings; and

a transmission unit, configured to communicate the data with the terminal device on the multiple resource sub-bands;

wherein the resource configuration information comprises first position indication information, and the first position indication information is configured to indicate a position of a first resource sub-band in the multiple resource sub-bands on the frequency domain, and the transmission unit is further configured to communicate part of the data with the terminal device on the first resource sub-band according to the first position indication information.

10. The network device of claim 9, wherein the first position indication information is specifically configured to indicate a starting physical resource block of the first resource sub-band in the frequency domain and a number of the physical resource blocks in the first resource sub-band, or the first position indication information is specifically configured to indicate the starting physical resource block of the first resource sub-band in the frequency domain and an ending physical resource block of the first resource sub-band in the frequency domain.

11. A terminal device for data transmission, comprising:

a receiving unit, configured to receive resource configuration information sent by a network device, the resource configuration information being configured to indicate multiple resource sub-bands for transmitting data in a scheduling unit, the scheduling unit being composed of the multiple resource sub-bands, each of the multiple resource sub-bands being formed by continuous physical resource blocks in a frequency domain and at least two resource sub-bands in the multiple resource sub-bands having different subcarrier spacings; and

a transmission unit, configured to communicate the data with the network device on the multiple resource sub-bands according to the resource configuration information;

wherein the resource configuration information comprises first position indication information, the first position indication information is configured to indicate a position of a first resource sub-band in the multiple resource sub-bands on the frequency domain, and the transmission unit is specifically configured to:

communicate part of the data with the network device on the first resource sub-

band according to the first position indication information.

12. The terminal device of claim 11, wherein the first position indication information further comprises first indication information and second indication information,

5 the first indication information is configured to indicate frequency-domain reference physical resource blocks comprising the first resource sub-band on the frequency domain in the scheduling unit, and a subcarrier spacing of each frequency-domain reference physical resource block is a multiple of a maximum subcarrier spacing preconfigured by a system; and

10 the second indication information is configured to indicate positions of the physical resource blocks of the first resource sub-band in a starting frequency-domain reference physical resource block indicated by the first indication information and positions of the physical resource blocks of the first resource sub-band in an ending frequency-domain reference physical resource block indicated by the first indication
15 information.

13. The terminal device of claim 12, wherein the first indication information is a first bit table, each bit in the first bit table corresponds to each frequency-domain reference physical resource block in the scheduling unit, and first values of multiple continuous
20 first bits in the first bit table indicate that frequency-domain reference physical resource blocks corresponding to the first bits comprise the physical resource blocks of the first resource sub-band.

14. The terminal device of claim 12, wherein the first indication information is
25 specifically configured to indicate a position of the starting frequency-domain reference physical resource block in the frequency domain and a position of the ending frequency-domain reference physical resource block in the frequency domain, or the first indication information is specifically configured to indicate the position of the starting frequency-domain reference physical resource block in the frequency domain and a
30 number of the frequency-domain reference physical resource blocks comprising the first resource sub-band.

15. The terminal device of any one of claims 12-14, wherein the second indication

information is a second bit table and a third bit table, each bit in the second bit table and the third bit table corresponds to a physical resource block in the first resource sub-band, a second value of a bit in the second bit table indicates that a physical resource block corresponding to the bit in the second bit table belongs to the starting frequency-domain reference physical resource block, and a third value of a bit in the third bit table indicates that a physical resource block corresponding to the bit in the third bit table belongs to the ending frequency-domain reference physical resource block.

16. The terminal device of claim 11, wherein the first position indication information is specifically configured to indicate a starting physical resource block of the first resource sub-band in the frequency domain and a number of the physical resource blocks in the first resource sub-band, or the first position indication information is specifically configured to indicate the starting physical resource block of the first resource sub-band in the frequency domain and an ending physical resource block of the first resource sub-band in the frequency domain.