CLAIMS

What is claimed is:

1. An information transmission method, comprising:

reporting, by a terminal device, a first capability and/or a second capability to a network device, wherein

the first capability comprises at least one or more of the following: a maximum radio frequency processing bandwidth supported by the terminal device, a maximum radio frequency processing capability supported by the terminal device, a maximum channel bandwidth supported by the terminal device, that the terminal device supports information transmission on N resource blocks, that the terminal device supports a bandwidth decrease, or that the terminal device supports scheduling limitation, wherein N is an integer greater than 0; and

the second capability comprises at least one or more of the following: a maximum baseband processing bandwidth supported by the terminal device, a maximum baseband processing capability supported by the terminal device, that the terminal device supports information transmission on M resource blocks, that the terminal device does not support a bandwidth decrease, a maximum transport block size supported by the terminal device, a maximum modulation and coding scheme MCS index supported by the terminal device, a scaling factor, or that the terminal device does not supports scheduling limitation, wherein M is an integer greater than 0;

obtaining, by the terminal device, a resource allocated by the network device; and

sending or receiving, by the terminal device, information on the resource.

2. The method according to claim 1, wherein the reporting, by a terminal device, a first capability and/or a second capability to a network device comprises:

reporting, by the terminal device, the first capability to the network device based on a first capability parameter, and/or reporting, by the terminal device, the second capability to the network device based on a second capability parameter;

reporting, by the terminal device, the first capability or the second capability to the network device based on a third capability parameter; or

reporting, by the terminal device, the first capability and the second capability to the network device based on a fourth capability parameter.

3. The method according to claim 2, wherein

the first capability is indicated by the first capability parameter or the third capability parameter, and the second capability is predefined; or

the first capability is predefined, and the second capability is indicated by the second

capability parameter or the third capability parameter.

4. The method according to any one of claims 1 to 3, wherein the method further comprises:

sending, by the terminal device, a fifth capability parameter to the network device, wherein

the fifth capability parameter indicates that the terminal device supports reporting of the first capability and/or the second capability, or the fifth capability parameter indicates that the terminal device does not support reporting of the first capability and/or the second capability; or

the fifth capability parameter indicates that the terminal device supports reporting of the first capability and/or the second capability, or the fifth capability parameter indicates a third capability of the terminal device, wherein the third capability comprises at least the maximum channel bandwidth supported by the terminal device.

5. An information transmission method, comprising:

obtaining, by a network device, a first capability and/or a second capability of a terminal device, wherein

the first capability comprises at least one or more of the following: a maximum radio frequency processing bandwidth supported by the terminal device, a maximum radio frequency processing capability supported by the terminal device, a maximum channel bandwidth supported by the terminal device, that the terminal device supports information transmission on N resource blocks, that the terminal device supports a bandwidth decrease, or that the terminal device supports scheduling limitation, wherein N is an integer greater than 0; and

the second capability comprises at least one or more of the following: a maximum baseband processing bandwidth supported by the terminal device, a maximum baseband processing capability supported by the terminal device, that the terminal device supports information transmission on M resource blocks, that the terminal device does not supports a bandwidth decrease, a maximum transport block size supported by the terminal device, a maximum modulation and coding scheme MCS index supported by the terminal device, a scaling factor, or that the terminal device does not supports scheduling limitation, wherein M is an integer greater than 0;

indicating, by the network device, an allocated resource to the terminal device; and

receiving or sending, by the network device, information on the resource.

6. The method according to claim 5, wherein the obtaining, by a network device, a first capability and/or a second capability of a terminal device comprises:

receiving, by the network device, a first capability parameter of the terminal device, wherein the first capability parameter indicates the first capability; and/or receiving, by the network device, a second capability parameter of the terminal device, wherein the second capability parameter indicates the second capability;

receiving, by the network device, a third capability parameter of the terminal device, wherein the third capability parameter indicates the first capability or the second capability; or

receiving, by the network device, a fourth capability parameter of the terminal device, wherein the fourth capability parameter indicates the first capability and the second capability.

7. The method according to claim 6, wherein

the first capability is indicated by the first capability parameter or the third capability parameter, and the second capability is predefined; or

the second capability is indicated by the second capability parameter or the third capability parameter, and the first capability is predefined.

8. The method according to any one of claims 5 to 7, wherein the method further comprises:

receiving, by the network device, a fifth capability parameter of the terminal device, wherein

the fifth capability parameter indicates that the terminal device supports reporting of the first capability and/or the second capability, or the fifth capability parameter indicates that the terminal device does not support reporting of the first capability and/or the second capability; or

the fifth capability parameter indicates that the terminal device supports reporting of the first capability and/or the second capability, or the fifth capability parameter indicates a third capability of the terminal device, wherein the third capability comprises at least the maximum channel bandwidth supported by the terminal device.

9. An information transmission method, comprising:

reporting, by a terminal device, a fourth capability to a network device, wherein

the fourth capability comprises that the terminal device supports a bandwidth part BWP being greater than a first characteristic parametric value of the terminal device, and the first characteristic parametric value comprises at least one or more of the following: a maximum radio frequency processing bandwidth, a maximum radio frequency processing capability, a maximum channel bandwidth, a maximum baseband processing bandwidth, a maximum baseband processing capability, or a resource bandwidth specified by scheduling limitation; and/or

the fourth capability comprises that the terminal device supports a minimum bandwidth part BWP value being greater than or equal to a second characteristic parametric value of the terminal device, and the second characteristic parametric value comprises at least one or more of the following: a bandwidth of a synchronization signal block, a bandwidth of a control resource set, or X resource blocks, wherein X is a positive integer greater than 1;

obtaining, by the terminal device, a resource allocated by the network device; and

sending or receiving, by the terminal device, information on the resource.

10. The method according to claim 9, wherein the reporting, by a terminal device, a fourth capability to a network device comprises:

reporting, by the terminal device, the fourth capability to the network device based on a sixth capability parameter.

11. An information transmission method, comprising:

obtaining, by a network device, a fourth capability of a terminal device, wherein

the fourth capability comprises that the terminal device supports a bandwidth part BWP being greater than a first characteristic parametric value of the terminal device, and the first characteristic parametric value comprises at least one or more of the following: a maximum radio frequency processing bandwidth, a maximum radio frequency processing capability, a maximum channel bandwidth, a maximum baseband processing bandwidth, a maximum baseband processing capability, or a resource bandwidth specified by scheduling limitation; and/or

the fourth capability comprises that the terminal device supports a minimum bandwidth part BWP value being greater than or equal to a second characteristic parametric value of the terminal device, and the second characteristic parametric value comprises at least one or more of the following: a bandwidth of a synchronization signal block, a bandwidth of a control resource set, or X resource blocks, wherein X is a positive integer greater than 1;

indicating, by the network device, an allocated resource to the terminal device; and

receiving or sending, by the network device, information on the resource.

12. The method according to claim 11, wherein the obtaining, by a network device, a fourth capability of a terminal device comprises:

obtaining, by the network device, the fourth capability of the terminal device based on a sixth capability parameter.

13. An information transmission apparatus, comprising a module configured to perform the method according to any one of claims 1 to 4 or claims 5 to 8; comprising a module configured to perform the method according to claim 9 or 10 or claim 11 or 12.

14. An information transmission apparatus, comprising a processor and a communication interface, wherein the communication interface is configured to: receive a signal from another communication apparatus other than the communication apparatus, and transmit the signal to the processor, or send a signal from the processor to another communication apparatus other than the communication apparatus; and the processor is configured to implement, by using a logic circuit or by executing code instructions, the method according to any one of claims 1 to 4 or claims 5 to 8, the method according to claim 9 or 10 or claim 11 or 12.

15. A computer-readable storage medium, wherein the computer-readable storage medium stores a computer program, and when the computer program is run, the method according to any one of claims 1 to 4 or claims 5 to 8 is implemented, the method according to claim 9 or 10 or claim 11 or 12 is implemented.

16. A computer program product, wherein the computer program product comprises computer program code, and when the computer program code is run, the method according to any one of claims 1 to 4 or claims 5 to 8 is implemented, the method according to claim 9 or 10 or claim 11 or 12 is implemented.