CLAIMS

~~What is claimed is:~~

1. A network device accessing method applied by a terminal apparatus or applied by a chip in the terminal apparatus, wherein the method comprises:

receiving~~, by a terminal apparatus,~~ first information from a network device, wherein the first information indicates whether a reduced capability REDCAP terminal is allowed to access the network device, and the REDCAP terminal comprises a first-type REDCAP terminal and a second-type REDCAP terminal, wherein the first-type REDCAP terminal and the second-type REDCAP terminal operate in a same frequency range, and a bandwidth of the second-type REDCAP terminal is less than that of the first-type REDCAP terminal and/or a number of receive antennas of the second-type REDCAP terminal is less than that of the first-type REDCAP terminal; and

determining~~, by the terminal apparatus~~ based on the first information, whether to access the network device, wherein the terminal apparatus is the first-type REDCAP terminal or the second-type REDCAP terminal.

2. The method according to claim 1, wherein the first information comprises first indication information and second indication information, wherein

the first indication information indicates whether the first-type REDCAP terminal is allowed to access the network device, and the second indication information indicates whether the second-type REDCAP terminal is allowed to access the network device; or

the first indication information indicates whether the first-type REDCAP terminal is allowed to access the network device, and the first indication information and the second indication information indicate whether the second-type REDCAP terminal is allowed to access the network device.

~~3. The method according to claim 2, wherein the first indication information indicates whether the first-type REDCAP terminal is allowed to access the network device, and the second indication information indicates whether the second-type REDCAP terminal is allowed to access the network device; and~~

~~the first indication information comprises a spare field in a master information block MIB, and the second indication information comprises a reserved field in an additional physical broadcast channel PBCH payload; or~~

~~the first indication information comprises an cellBarred field in a master information block MIB, and the second indication information comprises a spare field in the MIB or comprises a reserved field in an additional physical broadcast channel PBCH payload.~~

~~4. The method according to claim 2, wherein the first indication information indicates whether the first-type REDCAP terminal is allowed to access the network device, and the first indication information and the second indication information indicate whether the second-type REDCAP terminal is allowed to access the network device; and~~

~~the first indication information comprises a spare field in a MIB, and the second indication information comprises a reserved field in an additional PBCH payload.~~

~~5. The method according to claim 3 or 4, wherein the first information is comprised in a synchronization signal/physical broadcast channel block SSB, and the SSB comprises the MIB and the additional PBCH payload.~~

~~6~~3. The method according to claim 2, wherein

the first indication information is comprised in a reserved field in downlink control information DCI, and the second indication information is comprised in the reserved field in the DCI;

the first indication information is comprised in a reserved field in DCI, and the second indication information is comprised in a system information block type 1 SIB1 information block;

the first indication information is comprised in a SIB1 information block, and the second indication information is comprised in a reserved field in DCI; or

the first indication information is comprised in a SIB1 information block, and the second indication information is comprised in the SIB1 information block, wherein

the DCI is used for scheduling the SIB1.

~~7. The method according to claim 2, wherein~~

~~the first indication information comprises a spare field in a MIB, a reserved field in an additional PBCH payload, or an cellBarred field in the MIB, and the second indication information is comprised in a reserved field in DCI or the second indication information is comprised in a SIB1 information block; or~~

~~the first indication information is comprised in a reserved field in DCI or the first indication information is comprised in a SIB1 information block, and the second indication information comprises a spare field in a MIB, a reserved field in an additional PBCH payload, or an cellBarred~~

~~field in the MIB, wherein~~

~~the DCI is used for scheduling the SIB1.~~

~~8. The method according to any one of claims 1 to 7, wherein the first information indicates that the first-type REDCAP terminal and/or the second-type REDCAP terminal are/is allowed to access the network device; and~~

~~the method further comprises:~~

~~sending, by the terminal apparatus, second information to the network device, wherein the second information indicates that the terminal apparatus is the first-type REDCAP terminal or the second-type REDCAP terminal.~~

~~9. The method according to claim 8, wherein~~

~~the second information is carried on a physical random access channel PRACH, a resource of the PRACH corresponds to the first-type REDCAP terminal or the second-type REDCAP terminal, and the resource of the PRACH comprises at least one of the following: a time domain resource of the PRACH, a frequency domain resource of the PRACH, or a code domain resource of the PRACH; or~~

~~the second information is carried in a Msg3, a MsgA, or radio resource control RRC signaling.~~

~~10~~4. The method according to any one of claims 1 to ~~7~~3, wherein the first information indicates that the first-type REDCAP terminal and the second-type REDCAP terminal are allowed to access the network device; and

the method further comprises:

sending~~, by the terminal apparatus,~~ second information to the network device, wherein the second information indicates that the terminal apparatus is a REDCAP terminal; and

sending~~, by the terminal apparatus,~~ third information to the network device, wherein the third information indicates that the terminal apparatus is the first-type REDCAP terminal or the second-type REDCAP terminal.

~~11~~5. The method according to claim ~~10~~4, wherein the second information is carried on a PRACH, a resource of the PRACH corresponds to the REDCAP terminal, and the resource of the PRACH comprises at least one of the following: a time domain resource of the PRACH, a frequency domain resource of the PRACH, or a code domain resource of the PRACH; and

the third information is carried in a Msg3, a MsgA, or RRC signaling.

6. The method according to any one of claims 1-5, wherein the number of receive antennas

of the second-type REDCAP terminal is 1, the number of receive antennas of the first-type REDCAP terminal is 2.

~~12~~7. A network device accessing method applied by a network device or applied by a chip in the network device, wherein the method comprises:

determining~~, by a network device,~~ first information, wherein the first information indicates whether a reduced capability REDCAP terminal is allowed to access the network device, and the REDCAP terminal comprises a first-type REDCAP terminal and a second-type REDCAP terminal, wherein the first-type REDCAP terminal and the second-type REDCAP terminal operate in a same frequency range, and a bandwidth of the second-type REDCAP terminal is less than that of the first-type REDCAP terminal and/or a number of receive antennas of the second-type REDCAP terminal is less than that of the first-type REDCAP terminal; and

sending~~, by the network device,~~ the first information to a terminal apparatus.

~~13~~8. The method according to claim ~~12~~7, wherein the first information comprises first indication information and second indication information, wherein

the first indication information indicates whether the first-type REDCAP terminal is allowed to access the network device, and the second indication information indicates whether the second-type REDCAP terminal is allowed to access the network device; or

the first indication information indicates whether the first-type REDCAP terminal is allowed to access the network device, and the first indication information and the second indication information indicate whether the second-type REDCAP terminal is allowed to access the network device.

~~14. The method according to claim 13, wherein the first indication information indicates whether the first-type REDCAP terminal is allowed to access the network device, and the second indication information indicates whether the second-type REDCAP terminal is allowed to access the network device; and~~

~~the first indication information comprises a spare field in a master information block MIB, and the second indication information comprises a reserved field in an additional physical broadcast channel PBCH payload; or~~

~~the first indication information comprises an cellBarred field in a MIB, and the second indication information comprises a spare field in the MIB or comprises a reserved field in an additional PBCH payload.~~

~~15. The method according to claim 13, wherein the first indication information indicates whether the first-type REDCAP terminal is allowed to access the network device, and the first indication information and the second indication information indicate whether the second-type REDCAP terminal is allowed to access the network device; and~~

~~the first indication information comprises a spare field in a MIB, and the second indication information comprises a reserved field in an additional PBCH payload.~~

~~16. The method according to claim 14 or 15, wherein the first information is comprised in a synchronization signal/physical broadcast channel block SSB, and the SSB comprises the MIB and the additional PBCH payload.~~

~~17~~9. The method according to claim ~~13~~7 or 8, wherein

the first indication information is comprised in a reserved field in downlink control information DCI, and the second indication information is comprised in the reserved field in the DCI;

the first indication information is comprised in a reserved field in DCI, and the second indication information is comprised in a system information block type 1 SIB1 information block;

the first indication information is comprised in a SIB1 information block, and the second indication information is comprised in a reserved field in DCI; or

the first indication information is comprised in a SIB1 information block, and the second indication information is comprised in the SIB1 information block, wherein

the DCI is used for scheduling the SIB1.

~~18. The method according to claim 13, wherein~~

~~the first indication information comprises a spare field in a MIB, a reserved field in an additional PBCH payload, or an cellBarred field in the MIB, and the second indication information is comprised in a reserved field in DCI or the second indication information is comprised in a SIB1 information block; or~~

~~the first indication information is comprised in a reserved field in DCI or the first indication information is comprised in a SIB1 information block, and the second indication information comprises a spare field in a MIB, a reserved field in an additional PBCH payload, or an cellBarred field in the MIB, wherein~~

~~the DCI is used for scheduling the SIB1.~~

~~19. The method according to any one of claims 12 to 18, wherein the first information~~

~~indicates that the first-type REDCAP terminal and/or the second-type REDCAP terminal are/is allowed to access the network device; and~~

~~the method further comprises:~~

~~receiving, by the network device, second information from the terminal apparatus, wherein the second information indicates that the terminal apparatus is the first-type REDCAP terminal or the second-type REDCAP terminal.~~

~~20. The method according to claim 19, wherein~~

~~the second information is carried on a physical random access channel PRACH, a resource of the PRACH corresponds to the first-type REDCAP terminal or the second-type REDCAP terminal, and the resource of the PRACH comprises at least one of the following: a time domain resource of the PRACH, a frequency domain resource of the PRACH, or a code domain resource of the PRACH; or~~

~~the second information is carried in a Msg3, a MsgA, or radio resource control RRC signaling.~~

~~21~~10. The method according to any one of claims 7~~12~~ to 9~~18~~, wherein the first information indicates that the first-type REDCAP terminal and the second-type REDCAP terminal are allowed to access the network device; and

the method further comprises:

receiving~~, by the network device,~~ second information from the terminal apparatus, wherein the second information indicates that the terminal apparatus is a REDCAP terminal; and

receiving~~, by the network device,~~ third information from the terminal apparatus, wherein the third information indicates that the terminal apparatus is the first-type REDCAP terminal or the second-type REDCAP terminal.

~~22~~11. The method according to claim ~~21~~10, wherein the second information is carried on a PRACH, a resource of the PRACH corresponds to the REDCAP terminal, and the resource of the PRACH comprises at least one of the following: a time domain resource of the PRACH, a frequency domain resource of the PRACH, or a code domain resource of the PRACH; and

the third information is carried in a Msg3, a MsgA, or RRC signaling.

12. The method according to any one of claims 7-11, wherein the number of receive antennas of the second-type REDCAP terminal is 1, the number of receive antennas of the first-type REDCAP terminal is 2.

~~23~~13. A communication apparatus, wherein the communication apparatus comprises a

receiving module and a processing module, wherein

the receiving module is configured to receive first information ~~from a network device~~, wherein the first information indicates whether a reduced capability REDCAP terminal is allowed to access ~~the~~ a network device, and the REDCAP terminal comprises a first-type REDCAP terminal and a second-type REDCAP terminal, wherein the first-type REDCAP terminal and the second-type REDCAP terminal operate in a same frequency range, and a bandwidth of the second-type REDCAP terminal is less than that of the first-type REDCAP terminal and/or a number of receive antennas of the second-type REDCAP terminal is less than that of the first-type REDCAP terminal; and

the processing module is configured to determine, based on the first information, whether to access the network device, wherein the communication apparatus ~~is~~ belongs to the first-type REDCAP terminal or the second-type REDCAP terminal.

~~24~~14. The communication apparatus according to claim ~~23~~13, wherein the first information comprises first indication information and second indication information, wherein

the first indication information indicates whether the first-type REDCAP terminal is allowed to access the network device, and the second indication information indicates whether the second-type REDCAP terminal is allowed to access the network device; or

the first indication information indicates whether the first-type REDCAP terminal is allowed to access the network device, and the first indication information and the second indication information indicate whether the second-type REDCAP terminal is allowed to access the network device.

~~25. The communication apparatus according to claim 24, wherein the first indication information indicates whether the first-type REDCAP terminal is allowed to access the network device, and the second indication information indicates whether the second-type REDCAP terminal is allowed to access the network device; and~~

~~the first indication information comprises a spare field in a master information block MIB, and the second indication information comprises a reserved field in an additional physical broadcast channel PBCH payload; or~~

~~the first indication information comprises an cellBarred field in a master information block MIB, and the second indication information comprises a spare field in the MIB or comprises a reserved field in an additional physical broadcast channel PBCH payload.~~

~~26. The communication apparatus according to claim 24, wherein the first indication information indicates whether the first-type REDCAP terminal is allowed to access the network device, and the first indication information and the second indication information indicate whether the second-type REDCAP terminal is allowed to access the network device; and~~

~~the first indication information comprises a spare field in a MIB, and the second indication information comprises a reserved field in an additional PBCH payload.~~

~~27. The communication apparatus according to claim 25 or 26, wherein the first information is comprised in a synchronization signal/physical broadcast channel block SSB, and the SSB comprises the MIB and the additional PBCH payload.~~

~~28~~15. The communication apparatus according to claim ~~24~~14, wherein

the first indication information is comprised in a reserved field in downlink control information DCI, and the second indication information is comprised in the reserved field in the DCI;

the first indication information is comprised in a reserved field in DCI, and the second indication information is comprised in a system information block type 1 SIB1 information block;

the first indication information is comprised in a SIB1 information block, and the second indication information is comprised in a reserved field in DCI; or

the first indication information is comprised in a SIB1 information block, and the second indication information is comprised in the SIB1 information block, wherein

the DCI is used for scheduling the SIB1.

~~29. The communication apparatus according to claim 24, wherein~~

~~the first indication information comprises a spare field in a MIB, a reserved field in an additional PBCH payload, or an cellBarred field in the MIB, and the second indication information is comprised in a reserved field in DCI or the second indication information is comprised in a SIB1 information block; or~~

~~the first indication information is comprised in a reserved field in DCI or the first indication information is comprised in a SIB1 information block, and the second indication information comprises a spare field in a MIB, a reserved field in an additional PBCH payload, or an cellBarred field in the MIB, wherein~~

~~the DCI is used for scheduling the SIB1.~~

~~30. The communication apparatus according to any one of claims 23 to 29, wherein the first~~

~~information indicates that the first-type REDCAP terminal and/or the second-type REDCAP terminal are/is allowed to access the network device; and~~

~~the communication apparatus further comprises a sending module, wherein~~

~~the sending module is configured to send second information to the network device, wherein the second information indicates that the communication apparatus is the first-type REDCAP terminal or the second-type REDCAP terminal.~~

~~31. The communication apparatus according to claim 30, wherein~~

~~the second information is carried on a physical random access channel PRACH, a resource of the PRACH corresponds to the first-type REDCAP terminal or the second-type REDCAP terminal, and the resource of the PRACH comprises at least one of the following: a time domain resource of the PRACH, a frequency domain resource of the PRACH, or a code domain resource of the PRACH; or~~

~~the second information is carried in a Msg3, a MsgA, or radio resource control RRC signaling.~~

~~32~~16. The communication apparatus according to any one of claims ~~23~~ 13 to 15~~29~~, wherein the first information indicates that the first-type REDCAP terminal and the second-type REDCAP terminal are allowed to access the network device; and

the communication apparatus further comprises a sending module, wherein

the sending module is configured to send second information to the network device, wherein the second information indicates that the communication apparatus is a REDCAP terminal; and

the sending module is further configured to send third information to the network device, wherein the third information indicates that the communication apparatus is the first-type REDCAP terminal or the second-type REDCAP terminal.

~~33~~17. The communication apparatus according to claim ~~32~~16, wherein the second information is carried on a PRACH, a resource of the PRACH corresponds to the REDCAP terminal, and the resource of the PRACH comprises at least one of the following: a time domain resource of the PRACH, a frequency domain resource of the PRACH, or a code domain resource of the PRACH; and

the third information is carried in a Msg3, a MsgA, or RRC signaling.

18. The communication apparatus according to any one of claims 13-17, wherein the number of receive antennas of the second-type REDCAP terminal is 1, the number of receive antennas of the first-type REDCAP terminal is 2.

~~34~~19. A communication apparatus, wherein the communication apparatus comprises a processing module and a sending module, wherein

the processing module is configured to determine first information, wherein the first information indicates whether a reduced capability REDCAP terminal is allowed to access the communication apparatus, and the REDCAP terminal comprises a first-type REDCAP terminal and a second-type REDCAP terminal, wherein the first-type REDCAP terminal and the second-type REDCAP terminal operate in a same frequency range, and a bandwidth of the second-type REDCAP terminal is less than that of the first-type REDCAP terminal and/or a number of receive antennas of the second-type REDCAP terminal is less than that of the first-type REDCAP terminal; and

the sending module is configured to send the first information to a terminal apparatus.

~~35~~20. The communication apparatus according to claim ~~34~~19, wherein the first information comprises first indication information and second indication information, wherein

the first indication information indicates whether the first-type REDCAP terminal is allowed to access the communication apparatus, and the second indication information indicates whether the second-type REDCAP terminal is allowed to access the communication apparatus; or

the first indication information indicates whether the first-type REDCAP terminal is allowed to access the communication apparatus, and the first indication information and the second indication information indicate whether the second-type REDCAP terminal is allowed to access the communication apparatus.

~~36. The communication apparatus according to claim 35, wherein the first indication information indicates whether the first-type REDCAP terminal is allowed to access the communication apparatus, and the second indication information indicates whether the second-type REDCAP terminal is allowed to access the communication apparatus; and~~

~~the first indication information comprises a spare field in a master information block MIB, and the second indication information comprises a reserved field in an additional physical broadcast channel PBCH payload; or~~

~~the first indication information comprises an cellBarred field in a MIB, and the second indication information comprises a spare field in the MIB or comprises a reserved field in an additional PBCH payload.~~

~~37. The communication apparatus according to claim 35, wherein the first indication~~

~~information indicates whether the first-type REDCAP terminal is allowed to access the communication apparatus, and the first indication information and the second indication information indicate whether the second-type REDCAP terminal is allowed to access the communication apparatus; and~~

~~the first indication information comprises a spare field in a MIB, and the second indication information comprises a reserved field in an additional PBCH payload.~~

~~38. The communication apparatus according to claim 36 or 37, wherein the first information is comprised in a synchronization signal/physical broadcast channel block SSB, and the SSB comprises the MIB and the additional PBCH payload.~~

~~39~~21. The communication apparatus according to claim ~~35~~20, wherein

the first indication information is comprised in a reserved field in downlink control information DCI, and the second indication information is comprised in the reserved field in the DCI;

the first indication information is comprised in a reserved field in DCI, and the second indication information is comprised in a system information block type 1 SIB1 information block;

the first indication information is comprised in a SIB1 information block, and the second indication information is comprised in a reserved field in DCI; or

the first indication information is comprised in a SIB1 information block, and the second indication information is comprised in the SIB1 information block, wherein

the DCI is used for scheduling the SIB1.

~~40. The communication apparatus according to claim 35, wherein~~

~~the first indication information comprises a spare field in a MIB, a reserved field in an additional PBCH payload, or an cellBarred field in the MIB, and the second indication information is comprised in a reserved field in DCI or the second indication information is comprised in a SIB1 information block; or~~

~~the first indication information is comprised in a reserved field in DCI or the first indication information is comprised in a SIB1 information block, and the second indication information comprises a spare field in a MIB, a reserved field in an additional PBCH payload, or an cellBarred field in the MIB, wherein~~

~~the DCI is used for scheduling the SIB1.~~

~~41. The communication apparatus according to any one of claims 34 to 40, wherein the first~~

~~information indicates that the first-type REDCAP terminal and/or the second-type REDCAP terminal are/is allowed to access the communication apparatus; and~~

~~the communication apparatus further comprises a receiving module, wherein~~

~~the receiving module is configured to receive second information from the terminal apparatus, wherein the second information indicates that the terminal apparatus is the first-type REDCAP terminal or the second-type REDCAP terminal.~~

~~42. The communication apparatus according to claim 41, wherein~~

~~the second information is carried on a physical random access channel PRACH, a resource of the PRACH corresponds to the first-type REDCAP terminal or the second-type REDCAP terminal, and the resource of the PRACH comprises at least one of the following: a time domain resource of the PRACH, a frequency domain resource of the PRACH, or a code domain resource of the PRACH; or~~

~~the second information is carried in a Msg3, a MsgA, or radio resource control RRC signaling.~~

~~43~~22. The communication apparatus according to any one of claims ~~34~~ 19 to 21~~40~~, wherein the first information indicates that the first-type REDCAP terminal and the second-type REDCAP terminal are allowed to access the communication apparatus; and

the communication apparatus further comprises a receiving module, wherein

the receiving module is configured to receive second information from the terminal apparatus, wherein the second information indicates that the terminal apparatus is a REDCAP terminal; and

the receiving module is further configured to receive third information from the terminal apparatus, wherein the third information indicates that the terminal apparatus is the first-type REDCAP terminal or the second-type REDCAP terminal.

~~44~~23. The communication apparatus according to claim ~~43~~22, wherein the second information is carried on a PRACH, a resource of the PRACH corresponds to the REDCAP terminal, and the resource of the PRACH comprises at least one of the following: a time domain resource of the PRACH, a frequency domain resource of the PRACH, or a code domain resource of the PRACH; and

the third information is carried in a Msg3, a MsgA, or RRC signaling.

24. The communication apparatus according to any one of claims 19-23, wherein the number of receive antennas of the second-type REDCAP terminal is 1, the number of receive antennas of the first-type REDCAP terminal is 2.

~~45~~25. A communication apparatus, comprising a processor, wherein the processor is coupled to a memory, and the memory is configured to store a program or instructions; and when the program or the instructions are executed by the processor, the apparatus is enabled to perform the method according to any one of claims 1 to ~~11~~ 6 or the method according to any one of claims ~~12~~ 7 to ~~1~~2~~2~~2.

~~46~~26. A computer-readable medium comprising instructions which, when executed by a processor of an apparatus, cause the apparatus to carry out the method according to any one of claims~~, wherein the computer-readable medium stores a computer program or instructions; and when the computer program or the instructions are executed, a computer is enabled to perform the method according to any one of claims~~ 1 to ~~11~~ 6 or ~~the method according to~~ any one of claims ~~12~~ 7 to ~~1~~2~~2~~2.

~~47. A chip, comprising a processor, wherein the processor is coupled to a memory, and the memory is configured to store a program or instructions; and when the program or the instructions are executed by the processor, the chip is enabled to perform the method according to any one of claims 1 to 11 or the method according to any one of claims 12 to 22.~~

~~48~~27. A communication system, comprising the apparatus according to any one of claims ~~23~~ 13 to ~~33~~ 18 and/or the apparatus according to any one of claims ~~34~~ 19 to ~~44~~24.