

WHAT IS CLAIMED IS:

1. A method for configuring downlink control information, applied to a base station, comprising:

configuring an uplink scheduling Downlink Control Information (DCI) and a downlink scheduling DCI of multi-Transmission Block (TB) transmission to have the same number of bits;

determining a configuring manner for configuring the uplink scheduling DCI and the downlink scheduling DCI to have the same number of bits;

wherein configuring the uplink scheduling DCI and the downlink scheduling DCI of the multi-TB transmission to have the same number of bits comprises:

according to the configuring manner, configuring the uplink scheduling DCI and the downlink scheduling DCI of the multi-TB transmission to have the same number of bits;

wherein according to the configuring manner, configuring the uplink scheduling DCI and the downlink scheduling DCI of the multi-TB transmission to have the same number of bits comprises:

for the uplink scheduling DCI configured based on a maximum uplink TB transmitting number and for the downlink scheduling DCI configured based on a maximum downlink TB transmitting number, adding m bits having a preset value at predetermined positions of a shorter one having a smaller number of bits and selected from a configured uplink scheduling DCI and a configured downlink scheduling DCI, such that the number of bits of the uplink scheduling DCI is the same as the number of bits of the downlink scheduling DCI.

2. The method of claim 1, wherein determining the configuring manner for configuring the uplink scheduling DCI and the downlink scheduling DCI to have the same number of bits comprises:

determining the configuring manner based on indication information, wherein the indication information is sent by a user equipment (UE) or by a network element of a core network.

3. The method of claim 1, wherein according to the configuring manner, configuring the uplink scheduling DCI and the downlink scheduling DCI for the multi-TB transmission to have the same number of bits comprises:

according to a first configuring manner, configuring the uplink scheduling DCI and the downlink scheduling DCI of the multi-TB transmission to have the same number of bits based on the larger of a maximum uplink TB transmitting number and a maximum downlink TB

transmitting number supported by the UE reported by the UE;

or,

according to a second configuring manner, configuring the uplink scheduling DCI and the downlink scheduling DCI of the multi-TB transmission to have the same number of bits based on the larger of a maximum uplink TB transmitting number and a maximum downlink TB transmitting number set by the base station for the UE.

4. The method of claim 1, wherein according to the configuring method, configuring the uplink scheduling DCI and the downlink scheduling DCI of the multi-TB transmission to have the same number of bits comprises:

according to a third configuring manner, for the uplink scheduling DCI configured based on the maximum uplink TB transmitting number supported by the UE reported by the UE and for the downlink scheduling DCI configured based on the maximum downlink TB transmitting number supported by the UE reported by the UE, adding n bits having a preset value at predetermined positions of a shorter one having the smaller number of bits and selected from a configured uplink scheduling DCI and a configured downlink scheduling DCI, such that the number of bits of the uplink scheduling DCI is the same as the number of bits of the downlink scheduling DCI;

or,

according to a fourth configuring manner, for the uplink scheduling DCI configured based on the maximum uplink TB transmitting number set by the base station for the UE and for the downlink scheduling DCI configured based on the maximum downlink TB transmitting number set by the base station for the UE, adding m bits having a preset value at predetermined positions of a shorter one having the smaller number of bits and selected from a configured uplink scheduling DCI and a configured downlink scheduling DCI, such that the number of bits of the uplink scheduling DCI is the same as the number of bits of the downlink scheduling DCI.

5. A method for receiving downlink control information, applied to a user equipment, comprising:

based on a preset blind detection bit number, performing blind detection on an uplink scheduling Downlink Control Information (DCI) and a downlink scheduling DCI of multi-Transmission Block (TB) transmission, wherein the uplink scheduling DCI and the downlink scheduling DCI have the same number of bits;

wherein for the uplink scheduling DCI configured based on a maximum uplink TB transmitting number and for the downlink scheduling DCI configured based on a maximum downlink TB transmitting number, m bits having a preset value are added at predetermined positions of a shorter one having a smaller number of bits and selected from a configured uplink scheduling DCI and a configured downlink scheduling DCI, such that the number of bits of the uplink scheduling DCI is the same as the number of bits of the downlink scheduling DCI.

6. The method of claim 5, comprising:

determining the preset blind detection bit number based on the larger of a maximum uplink TB transmitting number and a maximum downlink TB transmitting number supported by the UE reported by the UE to a base station;

or,

determining the preset blind detection bit number based on the larger of a maximum uplink TB transmitting number and a maximum downlink TB transmitting number set by a base station for the UE.

7. The method of claim 6, wherein determining the preset blind detection bit number based on the larger of the maximum uplink TB transmitting number and the maximum downlink TB transmitting number supported by the UE reported by the UE to the base station comprises:

for the uplink scheduling DCI configured based on the maximum uplink TB transmitting number supported by the UE reported by the UE and for the downlink scheduling DCI configured based on the maximum downlink TB transmitting number supported by the UE reported by the UE, determining the preset blind detection bit number based on the larger of the maximum uplink TB transmitting number and the maximum downlink TB transmitting number supported by the UE;

or,

for the uplink scheduling DCI configured based on the maximum uplink TB transmitting number set by the base station for the UE and for the downlink scheduling DCI configured based on the maximum downlink TB transmitting number set by the base station for the UE, determining the preset blind detection bit number based on the larger of the maximum uplink TB transmitting number and the maximum downlink TB transmitting number set by the base station for the UE.

8. The method of claim 7, comprising:

removing i bits at predetermined positions of the uplink scheduling DCI, and reading data content of the uplink scheduling DCI from which the i bits are removed;

or,

removing j bits at predetermined positions of the downlink scheduling DCI, and reading data content of the downlink scheduling DCI from which the j bits are removed.

9. An apparatus for configuring downlink control information, applied to a base station, comprising:

a setting module, configured to configure an uplink scheduling Downlink Control Information (DCI) and a downlink scheduling DCI of multi-Transmission Block (TB) transmission to have the same number of bits;

wherein the apparatus further comprises:

a first determining module, configured to determine a configuring manner for configuring the uplink scheduling DCI and the downlink scheduling DCI to have the same number of bits;

wherein, the setting module comprises:

a setting submodule, configured to configure the uplink scheduling DCI and the downlink scheduling DCI of the multi-TB transmission to have the same number of bits based on the configuring manner;

wherein the setting submodule is configured to: for the uplink scheduling DCI configured based on a maximum uplink TB transmitting number and for the downlink scheduling DCI configured based on a maximum downlink TB transmitting number, add m bits having a preset value at predetermined positions of a shorter one having a smaller number of bits and selected from a configured uplink scheduling DCI and a configured downlink scheduling DCI, such that the number of bits of the uplink scheduling DCI is the same as the number of bits of the downlink scheduling DCI.

10. The apparatus of claim 9, wherein the first determining module comprises:

a first determination submodule, configured to determine the configuring manner based on indication information, wherein the indication information is sent by a user equipment (UE) or sent by a network element of a core network.

11. The apparatus of claim 9, wherein the setting submodule comprises:

a first setting unit, configured to according to a first configuring manner, configure the uplink

scheduling DCI and the downlink scheduling DCI of the multi-TB transmission to have the same number of bits based on the larger of the maximum uplink TB transmitting number and the maximum downlink TB transmitting number supported by the UE reported by the UE;

or,

a second setting unit, configured to, according to a second configuring manner, configure the uplink scheduling DCI and the downlink scheduling DCI of the multi-TB transmission to have the same number of bits based on the larger of the maximum uplink TB transmitting number and the maximum downlink TB transmitting number set by the base station for the UE.

12. The apparatus of claim 9, wherein the setting submodule comprises:

a third setting unit, configured to, according to a third configuring manner, for the uplink scheduling DCI configured based on the maximum uplink TB transmitting number supported by the UE reported by the UE and for downlink scheduling DCI configured based on the maximum downlink TB transmitting number supported by the UE reported by the UE, add n bits having a preset value at predetermined positions of a shorter one having the smaller number of bits and selected from a configured uplink scheduling DCI and a configured downlink scheduling DCI, such that the number of bits of the uplink scheduling DCI is the same as the number of bits of the downlink scheduling DCI;

or

a fourth setting unit, configured to, according to a fourth configuring manner, for the uplink scheduling DCI configured based on the maximum uplink TB transmitting number set by the base station for the UE and for the downlink scheduling DCI configured based on the maximum downlink TB transmitting number set by the base station for the UE, add m bits having a preset value at predetermined positions of a shorter one having the smaller number of bits and selected from a configured uplink scheduling DCI and a configured downlink scheduling DCI, such that the number of bits of the uplink scheduling DCI is the same as the number of bits of the downlink scheduling DCI.

13. An apparatus for receiving downlink control information, applied to a user equipment, comprising:

a blind detection module, configured to perform blind detection on an uplink scheduling Downlink Control Information (DCI) and a downlink scheduling DCI of multi-Transmission

Block (TB) transmission, wherein the uplink scheduling DCI and the downlink scheduling DCI have the same number of bits;

wherein for the uplink scheduling DCI configured based on a maximum uplink TB transmitting number and for the downlink scheduling DCI configured based on a maximum downlink TB transmitting number, m bits having a preset value are added at predetermined positions of a shorter one having a smaller number of bits and selected from a configured uplink scheduling DCI and a configured downlink scheduling DCI, such that the number of bits of the uplink scheduling DCI is the same as the number of bits of the downlink scheduling DCI.

14. The apparatus of claim 13, comprising:

a second determining module, configured to determine the preset blind detection bit number based on the larger of a maximum uplink TB transmitting number and a maximum downlink TB transmitting number supported by the UE reported by the UE to a base station;

or,

a third determining module, configured to determine the preset blind detection bit number based on the larger of the maximum uplink TB transmitting number and the maximum downlink TB transmitting number set by a base station for the UE.

15. The apparatus of claim 14, wherein the second determining module comprises:

a second determining submodule, configured to for the uplink scheduling DCI configured based on the maximum uplink TB transmitting number supported by the UE reported by the UE and for the downlink scheduling DCI configured based on the maximum downlink TB transmitting number supported by the UE reported by the UE, determine the preset blind detection bit number based on the larger of the maximum uplink TB transmitting number and the maximum downlink TB transmitting number supported by the UE;

or,

a third determining submodule, configured to for the uplink scheduling DCI configured based on the maximum uplink TB transmitting number set by the base station for the UE and for the downlink scheduling DCI configured based on the maximum downlink TB transmitting number set by the base station for the UE, determine the preset blind detection bit number based on the larger of the maximum uplink TB transmitting number and the maximum downlink TB transmitting number set by the base station for the UE.

16. The apparatus of claim 13 or 15, comprising:

a first reading module, configured to remove i bits at predetermined positions of the uplink scheduling DCI, and read data content of the uplink scheduling DCI from which the i bits are removed;

or,

a second reading module, configured to remove j bits at predetermined positions of the downlink scheduling DCI, and read data content of the downlink scheduling DCI from which the j bits are removed.

17. A communication device, comprising a processor, a memory, and executable programs stored on the memory and executable by the processor, wherein the processor is configured to execute the executable programs to execute the method for configuring downlink control information of any one of claims 1 to 4 or the method for receiving downlink control information of any one of claims 5 to 8.

18. A storage medium, having executable programs stored thereon, wherein when the executable programs are executed by a processor, the method for configuring downlink control information of any one of claims 1 to 4 or the method for receiving downlink control information of any one of claims 5 to 8 is implemented.