

CLAIMS

1. A method for setting a discovery signal, DRS, comprising:

setting (101) the DRS to occupy a first preset number of consecutive time symbols within one slot, the first preset number being no more than 14;

setting (102) the DRS to at least comprise one or two synchronization signal blocks, SSBs; and

setting the DRS to comprise a second preset number of non-zero power channel state information-reference signals, NZP CSI-RSs, wherein each NZP CSI-RS occupies one time symbol in the DRS, the second preset number being any integer value between 1 and 10;

characterized by setting the DRS to comprise a remaining minimum system information-Control Resource Set, RMSI-CORESET, and a RMSI-physical downlink shared channel, RMSI-PDSCH, wherein the RMSI-CORESET occupies a third preset number of consecutive time symbols in the DRS and the RMSI-PDSCH occupies a fourth preset number of consecutive time symbols in the DRS, and wherein the third preset number is any integer value between 1 and 3, and the fourth preset number is any integer value between 2 and 10.

2. The method of claim 1, wherein each SSB occupies four consecutive time symbols in the DRS.

3. The method of claim 1, wherein:

the DRS further comprises other system information, OSI, and the OSI occupies a fifth preset number of consecutive time symbols in the DRS; and/or

the DRS further comprises paging information, and the paging information occupies a sixth preset number of consecutive time symbols in the DRS;

wherein the fifth preset number is any integer value between 2 and 10, and the sixth preset number is any integer value between 2 and 10.

4. The method of claim 3, wherein:

a last time symbol occupied by the RMSI-PDSCH is located before a first time symbol occupied by the OSI; and/or

the last time symbol occupied by the RMSI-PDSCH is located before a first time symbol occupied by the paging information.

5. A method for transmitting a discovery signal, DRS, characterized by the DRS being set by the method of any one of claims 1 to 4, the method for transmitting being applied to a base station in an unlicensed spectrum and comprising:

transmitting (201) one or more DRSs to a terminal within a periodic DRS measurement time configuration, DMTC, DRS transmission time occupied by all the DRSs within the DMTC being no more than 5 milliseconds.

6. The method of claim 5, further comprising:

selecting (401), from multiple synchronization signal block, SSB, candidate transmission positions, one or two positions as a target transmission position of an SSB; and

transmitting (402) the SSB at the target transmission position, a physical broadcast channel, PBCH, in the transmitted SSB comprising an SSB number corresponding to the target transmission position.

7. The method of claim 6, further comprising:

performing channel detection before the DRS transmission time, and performing continuous DRS transmission within the DRS transmission time responsive to that a channel is detected to be idle.

8. The method of claim 7, further comprising:

configuring a channel detection symbol before each DRS transmission in each slot within the DRS transmission time, performing channel detection through the channel detection symbol respectively, and transmitting a DRS corresponding to the channel detection symbol responsive to that the channel is detected to be idle.

9. A method for receiving a discovery signal, DRS, characterized by the DRS being set by the method of any one of claims 1 to 4, the method for transmitting being applied to a terminal in an unlicensed spectrum and comprising:

receiving (301) one or more DRSs transmitted by a base station within a periodic DRS measurement time configuration, DMTC, DRS transmission time occupied by all the DRSs within the DMTC being no more than 5 milliseconds.

10. The method of claim 9, further comprising:

determining (302) a time domain position corresponding to a synchronization signal block, SSB, in the DRS according to an SSB number indicated by a physical broadcast channel, PBCH, in the SSB.

11. A device for setting a discovery signal, DRS, comprising:

a first setting module (410), configured to set the DRS to occupy a first preset number of consecutive time symbols within one slot, the first preset number being no more than 14; and

a second setting module (420), configured to set the DRS to at least comprise one or two synchronization signal blocks, SSBs;

wherein the second setting module (420) is further configured to set the DRS to comprise a second preset number of non-zero power channel state information-reference signals, NZP CSI-RSs, wherein each NZP CSI-RS occupies one time symbol in the DRS, the second preset number being any integer value between 1 and 10;

characterized in that the second setting module (420) is further configured to set the DRS to comprise a remaining minimum system information-Control Resource Set, RMSI-CORESET, and a RMSI-physical downlink shared channel, RMSI-PDSCH, wherein the RMSI-CORESET occupies a third preset number of consecutive time symbols in the DRS and the RMSI-PDSCH occupies a fourth preset number of consecutive time symbols in the DRS, and wherein the third preset number is any integer value between 1 and 3, and the fourth preset number is any integer value between 2 and 10.

12. A device for transmitting a discovery signal, DRS, characterized by the DRS being set by the method of any one of claims 1 to 4, the device for transmitting being applied to a base station in an unlicensed spectrum and comprising:

a first transmitting module (510), configured to transmit one or more DRSs to a terminal within a periodic DRS measurement time configuration, DMTC, DRS transmission time

occupied by all the DRSs within the DMTC being no more than 5 milliseconds.

13. A device for receiving a discovery signal, DRS, characterized by the DRS being set by the method of any one of claims 1 to 4, the device for transmitting being applied to a terminal in an unlicensed spectrum and comprising:

a receiving module (610), configured to receive one or more DRSs transmitted by a base station within a periodic DRS measurement time configuration, DMTC, DRS transmission time occupied by all the DRSs within the DMTC being no more than 5 milliseconds.