1. A user equipment (UE), comprising:

a receiver configured to receive a time division duplex (TDD) uplink and downlink configuration that configures a first symbol set having at least one symbol that is configured as a downlink symbol that is usable for uplink transmission in a subband, wherein the UE is configured to select a first physical random access channel (PRACH) occasion (RO) from an RO group; and

a transmitter configured to transmit a random access preamble in the first RO,

wherein the RO group comprises ROs associated with a synchronization signal (SS) and physical broadcast channel (PBCH) block (SSB) index in an SSB-RO mapping cycle, and the ROs depend on whether the RO group includes an RO in the first symbol set.

2. The UE according to claim 1, wherein:

the receiver is configured to receive an information block indicating a first RO set, and

each RO in the first RO set is mapped to the SSB index, and at least one RO of the RO group belongs to the first RO set.

3. The UE according to claim 1, wherein:

the receiver is configured to receive first signaling that indicates a PRACH mask index value, and

of the ROs associated with the SSB index in the SSB-RO mapping cycle, only an RO indicated by the PRACH mask index value belongs to the RO group.

4. The UE according to claim 1, wherein a number of ROs in the RO group in the first symbol set is inversely correlated with a number of the ROs associated with the SSB index in the SSB-RO mapping cycle.

5. The UE according to claim 1, wherein in response to the RO group not including the RO in the first symbol set, the RO group includes all ROs associated with the SSB index in the SSB-RO mapping cycle, and in response to the RO group including the RO in the first symbol set, the RO group includes some ROs associated with the SSB index in the SSB-RO mapping cycle.

6. The UE according to claim 1, wherein:

the receiver is configured to receive an information block, and

the information block indicates whether the first symbol set is used for random access, in response to the first symbol set being used for the random access, the RO group include the RO in the first symbol set, and in response to the first symbol set not being used for the random access, the RO group does not include the RO in the first symbol set.

7. The UE according to claim 1, wherein in response to the RO group not including the RO in the first symbol set, the UE selects the first RO from the RO group with an equal probability, and in response to the RO group including the RO in the first symbol set, the UE preferentially selects the first RO from a plurality of ROs of the RO group.

8. A method, comprising:

receiving, by a user equipment (UE), a time division duplex (TDD) uplink and downlink configuration that configures a first symbol set having at least one symbol that is configured as a downlink symbol that is usable for uplink transmission in a subband;

selecting a first physical random access channel (PRACH) occasion (RO) from an RO group; and

transmitting a random access preamble in the first RO,

wherein the RO group comprises ROs associated with a synchronization signal (SS) and physical broadcast channel (PBCH) block (SSB) index in an SSB-RO mapping cycle, and the ROs depend on whether the RO group includes an RO in the first symbol set.

9. The method according to claim 8, comprising:

receiving an information block indicating a first RO set,

wherein each RO in the first RO set is mapped to the SSB index, and at least one RO of the RO group belongs to the first RO set.

10. The method according to claim 8, comprising:

receiving first signaling that indicates a PRACH mask index value, and

wherein of the ROs associated with the SSB index in the SSB-RO mapping cycle, only an RO indicated by the PRACH mask index value belongs to the RO group.

11. The method according to claim 8, wherein a number of ROs in the RO group in the first symbol set is inversely correlated with a number of the ROs associated with the SSB index in the SSB-RO mapping cycle.

12. The method according to claim 8, wherein in response to the RO group not including the RO in the first symbol set, the RO group includes all ROs associated with the SSB index in the SSB-RO mapping cycle, and in response to the RO group including the RO in the first symbol set, the RO group includes some ROs associated with the SSB index in the SSB-RO mapping cycle.

13. The method according to claim 8, comprising:

receiving an information block,

wherein the information block indicates whether the first symbol set is used for random access, in response to the first symbol set being used for the random access, the RO group include the RO in the first symbol set, and in response to the first symbol set not being used for the random access, the RO group does not include the RO in the first symbol set.

14. The method according to claim 8, comprising:

in response to the RO group not including the RO in the first symbol set, selecting the first RO from the RO group with an equal probability; and

in response to the RO group including the RO in the first symbol set, preferentially selecting the first RO from a plurality of ROs of the RO group.

15. A base station, comprising:

a transmitter configured to transmit a time division duplex (TDD) uplink and downlink configuration that configures a first symbol set having at least one symbol that is configured as a downlink symbol that is usable for uplink transmission in a subband, wherein a first physical random access channel (PRACH) occasion (RO) is selected from an RO group; and

a receiver configured to receive a random access preamble in the first RO,

wherein the RO group comprises ROs associated with a synchronization signal (SS) and physical broadcast channel (PBCH) block (SSB) index in an SSB-RO mapping cycle, and the ROs depend on whether the RO group includes an RO in the first symbol set.

16. A method, comprising:

transmitting, by a base station, a time division duplex (TDD) uplink and downlink configuration that configures a first symbol set having at least one symbol that is configured as a downlink symbol that is usable for uplink transmission in a subband, wherein a first physical random access channel (PRACH) occasion (RO) is selected from an RO group; and

receiving a random access preamble in the first RO,

wherein the RO group comprises ROs associated with a synchronization signal (SS) and physical broadcast channel (PBCH) block (SSB) index in an SSB-RO mapping cycle, and the ROs depend on whether the RO group includes an RO in the first symbol set.