## CLAIMS

What is claimed is:

1. A random access method, comprising:

receiving, by a terminal device, a synchronization signal and physical broadcast channel block SSB;

determining, by the terminal device, a frequency domain position of a random access occasion based on a frequency domain position of the SSB; and

initiating, by the terminal device, random access based on the random access occasion, wherein the random access occasion comprises a frequency domain resource determined based on the frequency domain position of the random access occasion.

2. The method according to claim 1, wherein a spacing between the frequency domain position of the random access occasion and the frequency domain position of the SSB is a first quantity of frequency domain units; and

the frequency domain position of the random access occasion comprises any one of the following: a frequency domain starting position of the random access occasion, a frequency domain ending position of the random access occasion, or a center frequency of the random access occasion; and the frequency domain position of the SSB comprises any one of the following: a frequency domain starting position of the SSB, a frequency domain ending position of the SSB, or a center frequency of the SSB.

3. The method according to claim 1, wherein a center frequency of the random access occasion is equal to a center frequency of the SSB.

4. The method according to claim 3, wherein the random access occasion is located in last Y symbols of a first half-frame, Y is a positive integer, the first half-frame is a half-frame in which the SSB is located, or the first half-frame is an $N^{th}$ half-frame after a half-frame in which the SSB is located, and N is a positive integer.

5. The method according to any one of claims 2 to 4, wherein a duplex mode of a band on which the SSB is located is time division duplex.

6. The method according to claim 1, wherein a center frequency of the random access occasion is determined based on a center frequency of the SSB and a preset frequency separation.

7. The method according to claim 6, wherein a difference between the center frequency of the random access occasion and the center frequency of the SSB is the preset frequency separation.

8. The method according to claim 6 or 7, wherein a duplex mode of a band on which the SSB is located is frequency division duplex, and an uplink channel bandwidth and a downlink channel bandwidth of the band on which the SSB is located are equal.

9. The method according to any one of claims 1 to 8, wherein the random access occasion comprises a second quantity of frequency domain units in frequency domain.

10. The method according to any one of claims 1 to 9, wherein a subcarrier spacing of the random access occasion is a subcarrier spacing of the SSB, or a subcarrier spacing of the random access occasion is a subcarrier spacing indicated by a master information block MIB corresponding to the SSB.

11. The method according to any one of claims 1 to 10, wherein a time domain periodicity of the random access occasion is determined based on an initial access periodicity of the SSB.

12. The method according to any one of claims 1 to 11, wherein the random access occasion further comprises a time domain resource;

the initiating, by the terminal device, random access based on the random access occasion comprises: sending, by the terminal device, a random access preamble to a network device based on the time domain resource and the frequency domain resource; and

the method further comprises: receiving, by the terminal device, an RAR from the network device based on a random access response RAR window, wherein a start point of the RAR window is a $P^{th}$ symbol after a last symbol of the time domain resource, and P is an integer greater than or equal to 0.

13. The method according to claim 12, wherein the method further comprises:

sending, by the terminal device, a message 3 to the network device based on an uplink resource grant in the RAR, wherein the uplink resource grant comprises an offset value, the offset value is used to determine a frequency domain starting position of an uplink resource of the message 3, and the offset value is an offset value of the uplink resource that is of the message 3 and that is relative to the frequency domain position of the SSB, or the offset value is an offset value of the uplink resource that is of the message 3 and that is relative to the frequency domain position of the random access occasion.

14. The method according to claim 13, wherein the uplink resource grant further comprises a quantity of frequency domain units occupied by the uplink resource of the message 3.

15. The method according to claim 12, wherein the method further comprises:

sending, by the terminal device, a message 3 to the network device based on an uplink resource grant in the RAR, wherein the uplink resource grant indicates an uplink resource of the message 3 in a bandwidth part, and the bandwidth part is determined based on the frequency domain position of the random access occasion.

16. The method according to claim 15, wherein the bandwidth part is Z frequency domain units centered on the center frequency of the random access occasion, and Z is a positive integer.

17. A communication apparatus, comprising:

a communication module, configured to receive a synchronization signal and physical broadcast channel block SSB; and

a processing module, configured to: determine a frequency domain position of a random access occasion based on a frequency domain position the SSB; and initiate random access based on the random access occasion, wherein the random access occasion comprises a frequency domain resource determined based on the frequency domain position of the random access occasion.

18. The apparatus according to claim 17, wherein a spacing between the frequency domain position of the random access occasion and the frequency domain position of the SSB is a first quantity of frequency domain units; and

the frequency domain position of the random access occasion comprises any one of the following: a frequency domain starting position of the random access occasion, a frequency domain ending position of the random access occasion, or a center frequency of the random access occasion; and the frequency domain position of the SSB comprises any one of the following: a frequency domain starting position of the SSB, a frequency domain ending position of the SSB, or a center frequency of the SSB.

19. The apparatus according to claim 17, wherein a center frequency of the random access occasion is equal to a center frequency of the SSB.

20. The apparatus according to claim 17, wherein the random access occasion is located in last Y symbols of a first half-frame, Y is a positive integer, the first half-frame is a half-frame in which the SSB is located, or the first half-frame is an $N^{th}$ half-frame after a half-frame in which the SSB is located, and N is a positive integer.

21. The apparatus according to any one of claims 18 to 20, wherein a duplex mode of a band on which the SSB is located is time division duplex.

22. The apparatus according to claim 17, wherein a center frequency of the random access occasion is determined based on a center frequency of the SSB and a preset frequency separation.

23. The apparatus according to claim 22, wherein a difference between the center frequency of the random access occasion and the center frequency of the SSB is the preset frequency separation.

24. The apparatus according to claim 22 or 23, wherein a duplex mode of a band on which the SSB is located is frequency division duplex, and an uplink channel bandwidth and a downlink channel bandwidth of the band on which the SSB is located are equal.

25. The apparatus according to any one of claims 17 to 24, wherein the random access occasion comprises a second quantity of frequency domain units in frequency domain.

26. The apparatus according to any one of claims 17 to 25, wherein a subcarrier spacing of

the random access occasion is a subcarrier spacing of the SSB, or a subcarrier spacing of the random access occasion is a subcarrier spacing indicated by a master information block MIB corresponding to the SSB.

27. The apparatus according to any one of claims 17 to 26, wherein a time domain periodicity of the random access occasion is determined based on an initial access periodicity of the SSB.

28. The apparatus according to any one of claims 17 to 27, wherein the random access occasion further comprises a time domain resource;

when initiating the random access based on the random access occasion, the processing module is configured to send a random access preamble to a network device based on the time domain resource and the frequency domain resource; and

the processing module is further configured to receive an RAR from the network device based on a random access response RAR window, wherein a start point of the RAR window is a $P^{th}$ symbol after a last symbol of the time domain resource, and P is an integer greater than or equal to 0.

29. The apparatus according to claim 28, wherein the processing module is further configured to:

send a message 3 to the network device based on an uplink resource grant in the RAR, wherein the uplink resource grant comprises an offset value, the offset value is used to determine a frequency domain starting position of an uplink resource of the message 3, and the offset value is an offset value of the uplink resource that is of the message 3 and that is relative to the frequency domain position of the SSB, or the offset value is an offset value of the uplink resource that is of the message 3 and that is relative to the frequency domain position of the random access occasion.

30. The apparatus according to claim 29, wherein the uplink resource grant further comprises a quantity of frequency domain units occupied by the uplink resource of the message 3.

31. The apparatus according to claim 28, wherein the processing module is further configured to:

send a message 3 to the network device based on an uplink resource grant in the RAR, wherein the uplink resource grant indicates an uplink resource of the message 3 in a bandwidth part, and the bandwidth part is determined based on the frequency domain position of the random access occasion.

32. The apparatus according to claim 31, wherein the bandwidth part is Z frequency domain units centered on the center frequency of the random access occasion, and Z is a positive integer.

33. 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 16 is implemented.

34. A communication system, comprising a terminal device and a network device, the network device is configured to communicate with the terminal device, and the terminal device is configured to implement the method according to any one of claims 1 to 16.

35. A chip system, comprising a processor, wherein the processor is configured to execute program instructions or code stored in a memory, to implement the method according to any one of claims 1 to 16.