

CLAIMS

1. A communication method, applied to a first terminal device, wherein the method comprises:
receiving a first measurement result from a second terminal device, wherein the first
measurement result comprises a channel busy ratio CBR that is of each carrier in a first carrier list
and that is obtained by the second terminal device through measurement, or the first measurement
result comprises a second carrier list, the second carrier list comprises at least one first carrier in
the first carrier list, and a CBR that is of the first carrier and that is obtained by the second terminal
device through measurement is less than a corresponding CBR threshold; and

determining a candidate carrier based on the first measurement result and a second
measurement result, wherein the second measurement result comprises a CBR that is of each
carrier in the first carrier list and that is obtained by the first terminal device through measurement,
or the second measurement result comprises a CBR that is of each carrier in the second carrier list
and that is obtained by the first terminal device through measurement, and the candidate carrier is
used to send data through a sidelink between the first terminal device and the second terminal
device.

2. The method according to claim 1, wherein the first carrier list is a carrier list configured by
an upper layer of the first terminal device, a carrier list supported by a network, a carrier list
supported by the first terminal device, or an intersection set of any two or three of the foregoing
lists; and

before the receiving a first measurement result from a second terminal device, the method
further comprises:

determining the first carrier list; and

sending the first carrier list to the second terminal device.

3. The method according to claim 1, wherein the first carrier list is a carrier list supported by
both the first terminal device and the second terminal device;

before the receiving a first measurement result from a second terminal device, the method
further comprises:

sending a configuration message to the second terminal device, wherein the configuration
message comprises the first carrier list and a feedback periodicity, and the configuration message
is used by the second terminal device to periodically feed back the CBR of each carrier in the first
carrier list based on the feedback periodicity; and

the receiving a first measurement result from a second terminal device comprises:

receiving the first measurement result fed back by the second terminal device based on the
feedback periodicity.

4. The method according to claim 1, wherein the first carrier list is a carrier list configured by an upper layer of the second terminal device, a carrier list supportable by a network, a carrier list supportable by the second terminal device, or an intersection set of any two or three of the foregoing lists.

5. The method according to any one of claims 1 to 4, wherein the first measurement result comprises the CBR that is of each carrier in the first carrier list and that is obtained by the second terminal device through measurement; and

the determining a candidate carrier based on the first measurement result and a second measurement result comprises:

for any carrier in the first carrier list, determining the carrier as the candidate carrier when the carrier meets a first condition; or

if there is no sidelink grant on all carriers in the first carrier list, for any carrier in the first carrier list, determining the carrier as the candidate carrier when the carrier meets the first condition; or

if there is a sidelink grant on a part of or all carriers in the first carrier list, for any carrier that triggers carrier selection in the first carrier list, determining the carrier as the candidate carrier when the carrier meets a second condition, and for any carrier that does not trigger carrier selection in the first carrier list, determining the carrier as the candidate carrier when the carrier meets the first condition, wherein

the first condition is that a CBR that is of the carrier and that is obtained by the first terminal device through measurement is less than a first CBR carrier selection threshold corresponding to the carrier, and a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a second CBR carrier selection threshold corresponding to the carrier, or the first condition is that an average value of a CBR that is of the carrier and that is obtained by the first terminal device through measurement and a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a first CBR carrier selection threshold corresponding to the carrier or a second CBR carrier selection threshold corresponding to the carrier; and

the second condition is that a CBR that is of the carrier and that is obtained by the first terminal device through measurement is less than a first CBR carrier keeping threshold corresponding to the carrier, and a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a second CBR carrier keeping threshold corresponding to the carrier, or the second condition is that an average value of a CBR that is of the carrier and that is obtained by the first terminal device through measurement and a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less

than a first CBR carrier keeping threshold corresponding to the carrier or a second CBR carrier keeping threshold corresponding to the carrier.

6. The method according to any one of claims 1 to 4, wherein the first measurement result comprises the second carrier list; and

5 the determining a candidate carrier based on the first measurement result and a second measurement result comprises:

for any carrier in the second carrier list, determining the carrier as the candidate carrier when the carrier meets a first condition; or

10 if there is no sidelink grant on all carriers in the second carrier list, for any carrier in the second carrier list, determining the carrier as the candidate carrier when the carrier meets the first condition; or

if there is a sidelink grant on a part of or all carriers in the second carrier list, for any carrier that triggers carrier selection in the second carrier list, determining the carrier as the candidate carrier when the carrier meets a second condition, and for any carrier that does not trigger carrier selection in the second carrier list, determining the carrier as the candidate carrier when the carrier meets the first condition, wherein

the first condition is that a CBR that is of the carrier and that is obtained by the first terminal device through measurement is less than a first CBR carrier selection threshold corresponding to the carrier; and

20 the second condition is that a CBR that is of the carrier and that is obtained by the first terminal device through measurement is less than a first CBR carrier keeping threshold corresponding to the carrier.

7. The method according to any one of claims 1 to 4, wherein the first measurement result further comprises a CBR of each carrier in the second carrier list.

25 8. The method according to claim 7, wherein the determining a candidate carrier based on the first measurement result and a second measurement result comprises:

for any carrier in the second carrier list, determining the carrier as the candidate carrier when the carrier meets a first condition; or

30 if there is no sidelink grant on all carriers in the second carrier list, for any carrier in the second carrier list, determining the carrier as the candidate carrier when the carrier meets the first condition; or

if there is a sidelink grant on a part of or all carriers in the second carrier list, for any carrier that triggers carrier selection in the second carrier list, determining the carrier as the candidate carrier when the carrier meets a second condition, and for any carrier that does not trigger carrier selection in the second carrier list, determining the carrier as the candidate carrier when the carrier

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meets the first condition, wherein

the first condition is that an average value of a CBR that is of the carrier and that is obtained by the first terminal device through measurement and a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a first CBR carrier selection threshold corresponding to the carrier or a second CBR carrier selection threshold corresponding to the carrier; and

the second condition is that an average value of a CBR that is of the carrier and that is obtained by the first terminal device through measurement and a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a first CBR carrier keeping threshold corresponding to the carrier or a second CBR carrier keeping threshold corresponding to the carrier.

9. The method according to claim 5 or 8, wherein the first measurement result further comprises the second CBR carrier selection threshold and/or the second CBR carrier keeping threshold.

10. The method according to claim 5, 8, or 9, wherein before the receiving a first measurement result from a second terminal device, the method further comprises:

sending a priority of the data or a priority of a logical channel corresponding to the data to the second terminal device, wherein the priority of the data or the priority of the logical channel corresponding to the data is used by the second terminal device to determine the second CBR carrier selection threshold and/or the second CBR carrier keeping threshold.

11. The method according to claim 5 or 8, wherein before the receiving a first measurement result from a second terminal device, the method further comprises:

sending the second CBR carrier selection threshold and/or the second CBR carrier keeping threshold to the second terminal device.

12. A communication method, applied to a second terminal device, wherein the method comprises:

determining a first measurement result, wherein the first measurement result comprises a channel busy ratio CBR that is of each carrier in a first carrier list and that is obtained by the second terminal device through measurement, or the first measurement result comprises a second carrier list, the second carrier list comprises at least one first carrier in the first carrier list, and a CBR that is of the first carrier and that is obtained by the second terminal device through measurement is less than a corresponding CBR threshold; and

sending the first measurement result to a first terminal device, wherein the first measurement result is used by the first terminal device to determine a candidate carrier, and the candidate carrier is used to send data through a sidelink between the first terminal device and the second terminal

device.

13. The method according to claim 12, wherein the first carrier list is a carrier list configured by an upper layer of the first terminal device, a carrier list supportable by a network, a carrier list supportable by the first terminal device, or an intersection set of any two or three of the foregoing lists; and

before the determining a first measurement result, the method further comprises:
receiving the first carrier list from the first terminal device.

14. The method according to claim 12, wherein the first carrier list is a carrier list supported by both the first terminal device and the second terminal device;

before the determining a first measurement result, the method further comprises:
receiving a configuration message from the first terminal device, wherein the configuration message comprises the first carrier list and a feedback periodicity, and the configuration message is used by the second terminal device to periodically feed back the CBR of each carrier in the first carrier list based on the feedback periodicity; and

the sending the first measurement result to a first terminal device comprises:
sending the first measurement result to the first terminal device based on the feedback periodicity.

15. The method according to claim 12, wherein the first carrier list is a carrier list configured by an upper layer of the second terminal device, a carrier list supportable by a network, a carrier list supportable by the second terminal device, or an intersection set of any two or three of the foregoing lists.

16. The method according to any one of claims 12 to 15, wherein the first measurement result further comprises a CBR of each carrier in the second carrier list.

17. The method according to any one of claims 12 to 16, wherein the determining a first measurement result comprises:

measuring the CBR of each carrier in the first carrier list; and

for any carrier in the first carrier list, determining the carrier as the first carrier when the carrier meets a third condition; or

if there is no sidelink grant on all carriers in the first carrier list, for any carrier in the first carrier list, determining the carrier as the first carrier when the carrier meets the third condition; or
if there is a sidelink grant on a part of or all carriers in the first carrier list, for any carrier that triggers carrier selection in the first carrier list, determining the carrier as the first carrier when the carrier meets a fourth condition, and for any carrier that does not trigger carrier selection in the first carrier list, determining the carrier as the first carrier when the carrier meets the third condition,

wherein

the third condition is that a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a second CBR carrier selection threshold corresponding to the carrier; and

5 the fourth condition is that a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a second CBR carrier keeping threshold corresponding to the carrier.

18. The method according to claim 17, wherein the first measurement result further comprises the second CBR carrier selection threshold and/or the second CBR carrier keeping threshold.

10 19. The method according to claim 17 or 18, wherein before the determining a first measurement result, the method further comprises:

receiving, from the first terminal device, a priority of the data or a priority of a logical channel corresponding to the data; and

15 determining the second CBR carrier selection threshold and/or the second CBR carrier keeping threshold based on the priority of the data or the priority of the logical channel corresponding to the data.

20. The method according to claim 17, wherein before the determining a first measurement result, the method further comprises:

receiving the second CBR carrier selection threshold and/or the second CBR carrier keeping threshold from the first terminal device.

20 21. A communication method, applied to a first terminal device, wherein the method comprises:

25 measuring a CBR of each carrier in a first carrier list, wherein the first carrier list is a carrier list configured by an upper layer of the first terminal device, a carrier list supportable by a network, a carrier list supportable by the first terminal device, or an intersection set of any two or three of the foregoing lists;

30 sending a first measurement result to a second terminal device, wherein the first measurement result comprises the CBR of each carrier in the first carrier list, or the first measurement result comprises a second carrier list, the second carrier list comprises at least one first carrier in the first carrier list, and a CBR that is of the first carrier and that is obtained by the first terminal device through measurement is less than a corresponding CBR threshold; and

35 receiving information about a candidate carrier from the second terminal device, wherein the candidate carrier is obtained by the second terminal device based on the first measurement result and measurement performed by the second terminal device on a CBR of each carrier in the first carrier list or the second carrier list, and the candidate carrier is used to send data through a sidelink between the first terminal device and the second terminal device.

22. The method according to claim 21, wherein before the sending a first measurement result to a second terminal device, the method further comprises:

for any carrier in the first carrier list, determining the carrier as the first carrier when the carrier meets a first condition; or

5 if there is no sidelink grant on all carriers in the first carrier list, for any carrier in the first carrier list, determining the carrier as the first carrier when the carrier meets the first condition; or

if there is a sidelink grant on a part of or all carriers in the first carrier list, for any carrier that triggers carrier selection in the first carrier list, determining the carrier as the first carrier when the carrier meets a second condition, and for any carrier that does not trigger carrier selection in the
10 first carrier list, determining the carrier as the first carrier when the carrier meets the first condition, wherein

the first condition is that a CBR that is of the carrier and that is obtained by the first terminal device through measurement is less than a first CBR carrier selection threshold corresponding to the carrier; and

15 the second condition is that a CBR that is of the carrier and that is obtained by the first terminal device through measurement is less than a first CBR carrier keeping threshold corresponding to the carrier.

23. The method according to claim 21 or 22, wherein the first measurement result further comprises a CBR of each carrier in the second carrier list.

20 24. The method according to any one of claims 21 to 23, wherein the first measurement result further comprises one or more of the following threshold information: the first CBR carrier selection threshold, the first CBR carrier keeping threshold, a second CBR carrier selection threshold, or a second CBR carrier keeping threshold, and the threshold information is used by the second terminal device to determine the candidate carrier.

25 25. The method according to any one of claims 21 to 23, wherein the first measurement result further comprises a priority of the data or a priority of a logical channel corresponding to the data, the priority of the data or the priority of the logical channel corresponding to the data is used by the second terminal device to determine a second CBR carrier selection threshold and/or a second CBR carrier keeping threshold, and the second CBR carrier selection threshold and/or the second
30 CBR carrier keeping threshold are/is used by the second terminal device to determine the candidate carrier.

26. A communication method, applied to a second terminal device, wherein the method comprises:

receiving a first measurement result from a first terminal device, wherein the first
35 measurement result comprises a CBR that is of each carrier in a first carrier list and that is obtained

by the first terminal device through measurement, or the first measurement result comprises a second carrier list, the first carrier list is a carrier list configured by an upper layer of the first terminal device, a carrier list supportable by a network, a carrier list supportable by the first terminal device, or an intersection set of any two or three of the foregoing lists, the second carrier list comprises at least one first carrier in the first carrier list, and a CBR that is of the first carrier and that is obtained by the first terminal device through measurement is less than a corresponding CBR threshold;

measuring a CBR of each carrier in the first carrier list or the second carrier list, to obtain a second measurement result;

determining a candidate carrier based on the first measurement result and the second measurement result, wherein the candidate carrier is used to send data through a sidelink between the first terminal device and the second terminal device; and

sending information about the candidate carrier to the first terminal device.

27. The method according to claim 26, wherein the first measurement result comprises the CBR of each carrier in the first carrier list; and

the determining a candidate carrier based on the first measurement result and the second measurement result comprises:

for any carrier in the first carrier list, determining the carrier as the candidate carrier when the carrier meets a third condition; or

if there is no sidelink grant on all carriers in the first carrier list, for any carrier in the first carrier list, determining the carrier as the candidate carrier when the carrier meets the third condition; or

if there is a sidelink grant on a part of or all carriers in the first carrier list, for any carrier that triggers carrier selection in the first carrier list, determining the carrier as the candidate carrier when the carrier meets a fourth condition, and for any carrier that does not trigger carrier selection in the first carrier list, determining the carrier as the candidate carrier when the carrier meets the third condition, wherein

the third condition is that a CBR that is of the carrier and that is obtained by the first terminal device through measurement is less than a first CBR carrier selection threshold corresponding to the carrier, and a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a second CBR carrier selection threshold corresponding to the carrier, or the third condition is that an average value of a CBR that is of the carrier and that is obtained by the first terminal device through measurement and a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a first CBR carrier selection threshold corresponding to the carrier or a second CBR carrier selection threshold

corresponding to the carrier; and

the fourth condition is that a CBR that is of the carrier and that is obtained by the first terminal device through measurement is less than a first CBR carrier keeping threshold corresponding to the carrier, and a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a second CBR carrier keeping threshold corresponding to the carrier, or the fourth condition is that an average value of a CBR that is of the carrier and that is obtained by the first terminal device through measurement and a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a first CBR carrier keeping threshold corresponding to the carrier or a second CBR carrier keeping threshold corresponding to the carrier.

28. The method according to claim 26, wherein the first measurement result further comprises a CBR of each carrier in the second carrier list.

29. The method according to claim 26 or 28, wherein the first measurement result comprises the second carrier list; and

the determining a candidate carrier based on the first measurement result and the second measurement result comprises:

for any carrier in the second carrier list, determining the carrier as the candidate carrier when the carrier meets a third condition; or

if there is no sidelink grant on all carriers in the second carrier list, for any carrier in the second carrier list, determining the carrier as the candidate carrier when the carrier meets the third condition; or

if there is a sidelink grant on a part of or all carriers in the second carrier list, for any carrier that triggers carrier selection in the second carrier list, determining the carrier as the candidate carrier when the carrier meets a fourth condition, and for any carrier that does not trigger carrier selection in the second carrier list, determining the carrier as the candidate carrier when the carrier meets the third condition, wherein

the third condition is that a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a second CBR carrier selection threshold corresponding to the carrier; and

the fourth condition is that a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a second CBR carrier keeping threshold corresponding to the carrier.

30. The method according to claim 28, wherein the determining a candidate carrier based on the first measurement result and the second measurement result comprises:

for any carrier in the second carrier list, determining the carrier as the candidate carrier when

the carrier meets a third condition; or

if there is no sidelink grant on all carriers in the second carrier list, for any carrier in the second carrier list, determining the carrier as the candidate carrier when the carrier meets the third condition; or

5 if there is a sidelink grant on a part of or all carriers in the second carrier list, for any carrier that triggers carrier selection in the second carrier list, determining the carrier as the candidate carrier when the carrier meets a fourth condition, and for any carrier that does not trigger carrier selection in the second carrier list, determining the carrier as the candidate carrier when the carrier meets the third condition, wherein

10 the third condition is that an average value of a CBR that is of the carrier and that is obtained by the first terminal device through measurement and a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a first CBR carrier selection threshold corresponding to the carrier or a second CBR carrier selection threshold corresponding to the carrier; and

15 the fourth condition is that an average value of a CBR that is of the carrier and that is obtained by the first terminal device through measurement and a CBR that is of the carrier and that is obtained by the second terminal device through measurement is less than a first CBR carrier keeping threshold corresponding to the carrier or a second CBR carrier keeping threshold corresponding to the carrier.

20 31. The method according to any one of claims 26 to 30, wherein the first measurement result further comprises one or more of the following: the first CBR carrier selection threshold, the first CBR carrier keeping threshold, the second CBR carrier selection threshold, or the second CBR carrier keeping threshold.

25 32. The method according to claim 27, 29, or 30, wherein the first measurement result further comprises a priority of the data or a priority of a logical channel corresponding to the data; and the method further comprises:

determining the second CBR carrier selection threshold and/or the second CBR carrier keeping threshold based on the priority of the data or the priority of the logical channel corresponding to the data.

30 33. A communication apparatus, comprising units configured to perform steps of the method according to any one of claims 1 to 11, any one of claims 12 to 20, any one of claims 21 to 25, or any one of claims 26 to 32.

35 34. A communication apparatus, comprising a processor, wherein the processor is coupled to a memory, 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, any one of claims 12 to 20, any one of claims 21 to 25, or any one of claims 26 to 32.

5 35. A computer-readable storage medium, wherein the computer-readable storage 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, any one of claims 12 to 20, any one of claims 21 to 25, or any one of claims 26 to 32.

10 36. A computer program product, comprising computer program instructions, wherein the computer program instructions enable a computer to perform the method according to any one of claims 1 to 11, any one of claims 12 to 20, any one of claims 21 to 25, or any one of claims 26 to 32.

15 37. A chip, comprising a processor, configured to invoke a computer program from a memory and run the computer program, to enable a communication apparatus on which the chip is installed to perform the method according to any one of claims 1 to 11, any one of claims 12 to 20, any one of claims 21 to 25, or any one of claims 26 to 32.