

## CLAIMS

What is claimed is:

1. A method for determining physical sidelink feedback channel PSFCH resources, applied to a first communications device, comprising:

determining PSFCH resources in a target object based on obtained PSFCH resource configuration information, wherein the target object comprises at least one of the following: a carrier, a bandwidth part BWP, and a resource pool, and the PSFCH resources comprise PSFCH transmission resources, or PSFCH reception resources, or both PSFCH transmission resources and PSFCH reception resources; and

performing a target operation on feedback information on the PSFCH resources, wherein the target operation comprises at least one of a reception operation and a transmission operation;

wherein in a case that the PSFCH resources are configured through bits of the PSFCH resource configuration information, there is a first correspondence between the bits of the PSFCH resource configuration information and frequency domain resources in a target resource, and the target resource is any one of the following: a carrier, a BWP, or a resource pool;

wherein the first correspondence satisfies any one of the following:

the  $(p+a)$ -th bit of the bits of the PSFCH resource configuration information that are arranged in ascending order of numbers corresponds to the  $p$ -th frequency domain resource of the frequency domain resources in the target resource that are arranged in ascending order of numbers;

the  $(p+a)$ -th bit of the bits of the PSFCH resource configuration information that are arranged in descending order of numbers corresponds to the  $p$ -th frequency domain resource of the frequency domain resources in the target resource that are arranged in descending order of numbers;

the  $(p+a)$ -th bit of the bits of the PSFCH resource configuration information that are arranged in descending order of numbers corresponds to the  $p$ -th frequency domain resource of the frequency domain resources in the target resource that are arranged in ascending order of numbers;

the  $(p+a)$ -th bit of the bits of the PSFCH resource configuration information that are arranged in ascending order of numbers corresponds to the  $p$ -th frequency domain resource of the frequency domain resources in the target resource that are arranged in descending order of numbers;

the  $(p+a)$ -th bit of the bits of the PSFCH resource configuration information that are arranged in ascending order of numbers corresponds to a first frequency domain resource in the target resource, and bits corresponding to the target resource are contiguous;

the (p+a)-th bit of the bits of the PSFCH resource configuration information that are arranged in descending order of numbers corresponds to a first frequency domain resource in the target resource, and bits corresponding to the target resource are contiguous; or

the leftmost bit of a bitmap of the PSFCH resource configuration information refers to the resource block (RB) with the lowest index in the resource pool; wherein

p is an integer ranging from 1 to K, and K is the number of actual frequency domain resources in the target resource; and p+a is an integer ranging from 1 to L, L is the number of bits comprised in the PSFCH resource configuration information, and a is a natural number;

wherein the determining PSFCH resources in a target object based on obtained PSFCH resource configuration information comprises:

determining bits of the PSFCH resource configuration information that correspond to frequency domain resources in the target object as first target bits; and

determining PSFCH resources in the target object based on each value of the first target bits; wherein

in a case that a first bit in the first target bit takes a first value, determining that a second frequency domain resource corresponding to the first bit in the target object is a PSFCH resource; and in a case that the first bit takes a second value, determining that the second frequency domain resource is not a PSFCH resource.

2. The method according to claim 1, wherein the PSFCH resource configuration information comprises L bits, and L satisfies any one of the following:

a value of L is equal to a first number, wherein the first number is the number of actual frequency domain resources in the target resource or the maximum possible number of frequency domain resources in the target resource; or

L is a positive integer.

3. The method according to claim 1,

wherein the first frequency domain resource satisfies at least one of the following:

in a case that the target resource is a carrier or a BWP, the first frequency domain resource is: a reference resource of the target resource, or a specified frequency domain location in at least one frequency domain location of the target resource for synchronization signal block SSB transmission; and

the first frequency domain resource is a central frequency domain resource in the target resource.

4. The method according to claim 1, wherein in a case that the PSFCH resource configuration information further comprises second target bits other than the first target bits, the method further comprises:

ignoring the second target bits.

5. The method according to claim 4, wherein in a case that the target object further comprises a third frequency domain resource and the third frequency domain resource corresponds to none of the bits of the PSFCH resource configuration information, the method further comprises any one of the following:

determining that the third frequency domain resource is a PSFCH resource; or

determining that the third frequency domain resource is not a PSFCH resource.

6. The method according to claim 2, wherein in a case that a value of L is equal to a first number and the first number is the number of actual frequency domain resources in the target resource, before the determining PSFCH resources in a target object based on obtained PSFCH resource configuration information, the method further comprises:

receiving first information, wherein the first information is used to indicate the number of actual frequency domain resources in the target resource; or the first information is used to indicate a first parameter which is used for calculating the number of actual frequency domain resources in the target resource; and

the determining PSFCH resources in a target object based on obtained PSFCH resource configuration information comprises:

determining the PSFCH resources in the target object based on the obtained PSFCH resource configuration information and the first information.

7. The method according to claim 2, wherein in a case that a value of L is equal to a first number and the first number is the number of actual frequency domain resources in the target resource, the PSFCH resource configuration information comprises any one of the following:

a first bitmap or first bit string with L bits; or

N1 second bitmaps or second bit strings, wherein each of the second bitmaps or each of the second bit strings comprises N2 bits, and  $L=N1 \times N2$ ,

wherein the target resource comprises N1 first resources, and the number of actual frequency domain resources in each of the first resources is equal to N2.

8. The method according to claim 1, wherein the target resource satisfies at least one of the following:

in a case that the target object is a resource pool, the target resource is any one of the following: a carrier in which the target object is located, a BWP in which the target object is located, and a resource pool;

in a case that the target object is a BWP, the target resource is a BWP or a carrier in which the target object is located; and

in a case that the target object is a carrier, the target resource is a carrier.

9. The method according to claim 1, wherein the PSFCH resource configuration information is used to indicate at least one of the following:

- a start resource of PSFCH resources in the target object;
- a resource number K of PSFCH resources in the target object;
- a reference resource of PSFCH resources in the target object;
- the target object;
- a start subchannel of PSFCH resources in the target object; and
- the number of subchannels comprised in PSFCH resources in the target object.

10. The method according to claim 9, wherein the determining PSFCH resources in a target object based on obtained PSFCH resource configuration information comprises:

determining K contiguous frequency domain resources starting from a fifth frequency domain resource of the frequency domain resources in the target object as PSFCH resources, wherein

the fifth frequency domain resource is any one of the following: the 1-st frequency domain resource or the last frequency domain resource of the frequency domain resources in the target object that are arranged in descending order of numbers; the reference resource indicated in the PSFCH resource configuration information; or the start resource indicated in the PSFCH resource configuration information.

11. A method for configuring PSFCH resources, applied to a second communications device and comprising:

transmitting PSFCH resource configuration information to a first communications device, wherein the PSFCH resource configuration information is used for determining and configuring PSFCH resources in a target object; the target object comprises at least one of the following: a carrier, a bandwidth part BWP, and a resource pool; and the PSFCH resources comprise PSFCH transmission resources, or PSFCH reception resources, or both PSFCH transmission resources and PSFCH reception resources;

wherein in a case that the PSFCH resources are configured through bits of the PSFCH resource configuration information, there is a first correspondence between the bits of the PSFCH resource configuration information and frequency domain resources in a target resource, and the target resource is any one of the following: a carrier, a BWP, or a resource pool;

wherein the first correspondence satisfies any one of the following:

the (p+a)-th bit of the bits of the PSFCH resource configuration information that are arranged in ascending order of numbers corresponds to the p-th frequency domain resource of the frequency domain resources in the target resource that are arranged in ascending order of numbers;

the (p+a)-th bit of the bits of the PSFCH resource configuration information that are arranged in descending order of numbers corresponds to the p-th frequency domain resource of the frequency domain resources in the target resource that are arranged in descending order of numbers;

the (p+a)-th bit of the bits of the PSFCH resource configuration information that are arranged in descending order of numbers corresponds to the p-th frequency domain resource of the frequency domain resources in the target resource that are arranged in ascending order of numbers;

the (p+a)-th bit of the bits of the PSFCH resource configuration information that are arranged in ascending order of numbers corresponds to the p-th frequency domain resource of the frequency domain resources in the target resource that are arranged in descending order of numbers;

the (p+a)-th bit of the bits of the PSFCH resource configuration information that are arranged in ascending order of numbers corresponds to a first frequency domain resource in the target resource, and bits corresponding to the target resource are contiguous; or

the leftmost bit of a bitmap of the PSFCH resource configuration information refers to the resource block (RB) with the lowest index in the resource pool; wherein

p is an integer ranging from 1 to K, and K is the number of actual frequency domain resources in the target resource; and p+a is an integer ranging from 1 to L, L is the number of bits comprised in the PSFCH resource configuration information, and a is a natural number.

12. The method according to claim 11, wherein the PSFCH resource configuration information comprises L bits, and L satisfies any one of the following:

a value of L is equal to a first number, wherein the first number is the number of actual frequency domain resources in the target resource or the maximum possible number of frequency domain resources in the target resource; or

L is a positive integer.

13. The method according to claim 11,

wherein the first frequency domain resource satisfies at least one of the following:

in a case that the target resource is a carrier or a BWP, the first frequency domain resource is: a reference resource of the target resource, or a specified frequency domain location in at least one frequency domain location of the target resource for synchronization signal block SSB transmission; and

the first frequency domain resource is a central frequency domain resource in the target resource.

14. The method according to claim 12, wherein in a case that a value of L is equal to a first number and the first number is the number of actual frequency domain resources in the target resource, the method further comprises:

transmitting first information to the first communications device, wherein the first information is used to indicate the number of actual frequency domain resources in the target resource; or the first information is used to indicate a first parameter which is used for calculating the number of actual frequency domain resources in the target resource.

15. The method according to claim 12, wherein in a case that a value of L is equal to a first number and the first number is the number of actual frequency domain resources in the target resource, the PSFCH resource configuration information comprises any one of the following:

a first bitmap or first bit string with L bits; or

N1 second bitmaps or second bit strings, wherein each of the second bitmaps or each of the second bit strings comprises N2 bits, and  $L=N1 \times N2$ ,

wherein the target resource comprises N1 first resources, and the number of actual frequency domain resources in each of the first resources is equal to N2.

16. The method according to claim 11, wherein the target resource satisfies at least one of the following:

in a case that the target object is a resource pool, the target resource is any one of the following: a carrier in which the target object is located, a BWP in which the target object is located, and a resource pool;

in a case that the target object is a BWP, the target resource is a BWP or a carrier in which the target object is located; and

in a case that the target object is a carrier, the target resource is a carrier.

17. The method according to claim 11, wherein the PSFCH resource configuration information is used to indicate at least one of the following:

a start resource of PSFCH resources in the target object;

a resource number K of PSFCH resources in the target object;

a reference resource of PSFCH resources in the target object;

the target object;

a start subchannel of PSFCH resources in the target object; and

the number of subchannels comprised in PSFCH resources in the target object.