CLAIMS

What is claimed is:

1. A resource determining method, comprising:

determining, in a time unit n based on at least two resource reservation period parameters $\{P'_1, P'_2, \dots, P'_T\}$, a sensing time unit set corresponding to a candidate time unit t_y, wherein the sensing time unit set comprises: $\left\{\{t_{y-1\times P'_1}, t_{y-2\times P'_1}, \dots, t_{y-\cancel{M_1}M\times P'_1}\}, \{t_{y-1\times P'_2}, t_{y-2\times P'_2}, \dots, t_{y-\cancel{M_2}M\times P'_2}\}, \dots, \{t_{y-1\times P'_T}, t_{y-2\times P'_T}, \dots, t_{y-\cancel{M_T}M\times P'_T}\}\right\}$, wherein T is a positive integer greater than or equal to 2, M is a positive integer greater than or equal to 2, ~~$M_1, M_2, \dots, M_T$ each are a positive integer greater than or equal to 1, $M_1, M_2, \dots, M_T$ are not all equal to 1,~~ the candidate time unit t_y is located in a resource selection window after the time unit n, and the sensing time unit set is located before the time unit n; and

excluding, based on a sensing result in the sensing time unit set, an unavailable candidate resource unit in the candidate time unit t_y.

~~2. A resource determining method, comprising:~~

~~determining, in a time unit n based on at least one resource reservation period parameter $\{P'_1, P'_2, \dots, P'_T\}$, a sensing time unit set corresponding to a candidate time unit t_y, wherein the sensing time unit set comprises: a first set $\left\{\{t_{y-1\times P'_1}, t_{y-2\times P'_1}, \dots, t_{y-M_1\times P'_1}\}, \{t_{y-1\times P'_2}, t_{y-2\times P'_2}, \dots, t_{y-M_2\times P'_2}\}, \dots, \{t_{y-1\times P'_T}, t_{y-2\times P'_T}, \dots, t_{y-M_T\times P'_T}\}\right\}$, and K_i time units in an interval $(t_{y-j_i\times P_i-Q}, t_{y-j_i\times P_i})$ corresponding to any time unit $t_{y-j_i\times P_i}$ in the first set, wherein $j_i = 1,2, \dots, M_i$, $i = 1,2, \dots, T$, T is a positive integer greater than or equal to 1, Q is a positive integer greater than or equal to 1, for $i = 1,2, \dots, T$, K_i is a positive integer greater than or equal to 1, and M_1 to M_T each are a positive integer greater than or equal to 1; and the candidate time unit t_y is located in a resource selection window after the time unit n, and the sensing time unit set is located before the time unit n; and~~

~~excluding, based on a sensing result in the sensing time unit set, an unavailable candidate resource unit in the candidate time unit t_y.~~

~~3. The method according to claim 1 or 2, wherein values of $M_1, M_2, \dots, M_T$ are all equal.~~

~~4. The method according to any one of claims 1 to 3, wherein M is determined based on one or more values of the at least one resource reservation period parameter $\{P_1', P_2', \dots, P_T'\}$; and/or~~

~~M_t is determined based on P_t, wherein $i = 1,2, \dots, T$.~~

~~5. The method according to any one of claims 1 to 4, wherein M is determined based on an energy saving state level; and/or~~

~~$M_1, M_2, \dots, M_T$ are determined based on the energy saving state level.~~

~~6. The method according to any one of claims 1 to 5, wherein M or $M_1, M_2, \dots, M_T$ are determined based on a congestion control measurement parameter, and the congestion control measurement parameter is at least one of a channel busy ratio CBR and a channel occupancy ratio CR.~~

~~7. The method according to any one of claims 1 to 3, wherein when a priority value of to-be-sent sidelink information is less than a first threshold, M is a first value or $M_1, M_2, \dots, M_T$ each are a first value; and/or~~

~~when the priority value of the to-be-sent sidelink information is greater than or equal to the first threshold, M is a second value or $M_1, M_2, \dots, M_T$ each are a second value, wherein~~

~~the first value is greater than the second value.~~

~~8~~2. The method according to ~~any one of claims 1 to 3~~claim 1, ~~wherein M or $M_1, M_2, \dots, M_T$ are preconfigured; or~~

~~the method~~ further comprises:

receiving first configuration signaling ~~from a network device~~, wherein the first configuration signaling indicates configuration information of M ~~or $M_1, M_2, \dots, M_T$~~.

~~9~~3. The method according to ~~any one of claims 1 and 3 to 8~~claim 1 or 2, further comprising:

converting at least two resource reservation period intervals $\{P_1, P_2, \dots, P_T\}$ to obtain the at least two resource reservation period parameters $\{P_1', P_2', \dots, P_T'\}$, wherein

the at least two resource reservation period intervals $\{P_1, P_2, \dots, P_T\}$ are preconfigured~~, or~~.

4. The method according to claim 1 or 2, ~~the method~~ further comprises:

receiving second configuration signaling ~~from the network device~~, wherein the second configuration signaling indicates the at least two resource reservation period intervals $\{P_1, P_2, \dots, P_T\}$; and

converting at least two resource reservation period intervals $\{P_1, P_2, \dots, P_T\}$ to obtain the at least two resource reservation period parameters $\{P_1', P_2', \dots, P_T'\}$.

~~10. The method according to any one of claims 2 to 8, further comprising:~~

~~converting at least one resource reservation period interval $\{P_1, P_2, \dots, P_T\}$ to obtain the at least one resource reservation period parameter $\{P'_1, P'_2, \dots, P'_T\}$, wherein~~

~~the at least one resource reservation period interval $\{P_1, P_2, \dots, P_T\}$ is preconfigured, or the method further comprises: receiving second configuration signaling from the network device, wherein the second configuration signaling indicates the at least one resource reservation period interval $\{P_1, P_2, \dots, P_T\}$.~~

~~11~~5. The method according to claim ~~9 or 10~~3 or 4, wherein the second configuration signaling further comprises configuration information of a sidelink resource pool, and the resource selection window, the sensing time unit set, and the time unit n belong to the sidelink resource pool.

~~12~~6. The method according to any one of claims ~~8~~ 2 to ~~11~~4, wherein the first configuration signaling or the second configuration signaling is a system information block SIB, radio resource control RRC signaling, or physical layer control information.

7. The method according to any one of claims 1 to 6, wherein M is equal to 2, the sensing time unit set comprises $\left\{\{t_{y-1\times P'_i}, t_{y-2\times P'_i}\}\right\}$, P'_i is a resource reservation period parameter of the at least two resource reservation period parameters, and $i = 1,2, \dots, T$.

8. The method according to any one of claims 1 to 7, wherein M is determined based on one or more values of the at least one resource reservation period parameter $\{P'_1, P'_2, \dots, P'_T\}$.

~~13. The method according to any one of claims 1 to 12, further comprising:~~

~~determining, based on a received signal strength indicator RSSI in each time unit in a measurement time window $[n-a, n-1]$, a congestion control parameter corresponding to the time unit n, or determining, based on RSSIs in time units at intervals of K time units in a measurement time window $[n-a, n-1]$, a congestion control parameter corresponding to the time unit n, wherein a and K are both positive integers greater than 1.~~

~~14. The method according to claim 13, wherein the RSSI in one time unit is a linear average value of total received powers of sidelink subchannels on N symbols in the time unit, wherein~~

~~N is greater than or equal to 1 and less than or equal to a total quantity of symbols for mapping a PSCCH and a PSSCH in the time unit; N is a quantity of symbols for mapping a PSCCH in the time unit; N is determined based on the energy saving state level; N is indicated by the configuration information of the resource pool; or N is predefined.~~

~~15. The method according to claim 13 or 14, wherein different subcarrier spacings correspond~~

~~to different values of a, and the different values of a are predefined, or are configured by the network device.~~

~~16. A congestion control parameter measurement method, comprising:~~

~~determining, based on a received signal strength indicator RSSI in at least one time unit in a measurement time window $[n-a, n-1]$, a congestion control parameter corresponding to a time unit n, wherein a is a positive integer greater than 1, and the RSSI in one of the at least one time unit is a linear average value of total received powers of sidelink subchannels on some symbols in the time unit; and~~

~~determining a sidelink transmission parameter based on the congestion control parameter.~~

~~17. The method according to claim 16, wherein the at least one time unit is all time units in the measurement time window $[n-a, n-1]$, or the at least one time unit is time units at intervals of K time units in the measurement time window $[n-a, n-1]$, wherein K is a positive integer greater than 1.~~

~~18. The method according to claim 16 or 17, wherein the RSSI in one of the at least one time unit is a linear average value of total received powers of sidelink subchannels on N symbols in the time unit, wherein~~

~~N is greater than or equal to 1 and less than or equal to a total quantity of symbols for mapping a PSCCH and a PSSCH in the time unit; N is a quantity of symbols for mapping a PSCCH in the time unit; N is determined based on the energy saving state level; N is indicated by the configuration information of the resource pool; or N is predefined.~~

~~19~~9. A communication apparatus, comprising:

a processing module, configured to determine, in a time unit n based on at least two resource reservation period parameters $\{P'_1, P'_2, \dots, P'_T\}$, a sensing time unit set corresponding to a candidate time unit t_y, wherein the sensing time unit set comprises: $\left\{\{t_{y-1\times P'_1}, t_{y-2\times P'_1}, \dots, t_{y-M\sout{M_1}\times P'_1}\}, \{t_{y-1\times P'_2}, t_{y-2\times P'_2}, \dots, t_{y-M\sout{M_2}\times P'_2}\}, \dots, \{t_{y-1\times P'_T}, t_{y-2\times P'_T}, \dots, t_{y-M\sout{M_T}\times P'_T}\}\right\}$, wherein T is a positive integer greater than or equal to 2, ~~$M_1, M_2, \dots, M_T$ each are a positive integer greater than or equal to 1, $M_1, M_2, \dots, M_T$ are not all equal to 1~~ M is a positive integer greater than or equal to 2, the candidate time unit t_y is located in a resource selection window after the time unit n, and the sensing time unit set is located before the time unit n; and

the processing module is further configured to exclude, based on a sensing result in the

sensing time unit set, an unavailable candidate resource unit in the candidate time unit t_y.

~~20. A communication apparatus, comprising:~~

~~a processing module, configured to determine, in a time unit n based on at least one resource reservation period parameter $\{P'_1, P'_2, \dots, P'_T\}$, a sensing time unit set corresponding to a candidate time unit t_y, wherein the sensing time unit set comprises: a first set $\left\{\{t_{y-1\times P'_1}, t_{y-2\times P'_1}, \dots, t_{y-M_1\times P'_1}\}, \{t_{y-1\times P'_2}, t_{y-2\times P'_2}, \dots, t_{y-M_2\times P'_2}\}, \dots, \{t_{y-1\times P'_T}, t_{y-2\times P'_T}, \dots, t_{y-M_T\times P'_T}\}\right\}$, and K_i time units in an interval $(t_{y-j_i\times P_i-Q}, t_{y-j_i\times P_i})$ corresponding to any time unit $t_{y-j_i\times P_i}$ in the first set, wherein $j_i = 1,2,\dots,M_i$, $i = 1,2,\dots,T$, T is a positive integer greater than or equal to 1, Q is a positive integer greater than or equal to 1, for $i = 1,2,\dots,T$, K_i is a positive integer greater than or equal to 1, and M_1 to M_T each are a positive integer greater than or equal to 1; and the candidate time unit t_y is located in a resource selection window after the time unit n, and the sensing time unit set is located before the time unit n; and~~

~~the processing module is further configured to exclude, based on a sensing result in the sensing time unit set, an unavailable candidate resource unit in the candidate time unit t_y.~~

~~21. The apparatus according to claim 19 or 20, wherein values of $M_1, M_2, \dots, M_T$ are all equal.~~

~~22. The apparatus according to any one of claims 19 to 21, wherein M is determined based on one or more values of the at least one resource reservation period parameter $\{P'_1, P'_2, \dots, P'_T\}$; and/or~~

~~M_i is determined based on P_i, wherein $i = 1,2,\dots,T$.~~

~~23. The apparatus according to any one of claims 19 to 22, wherein M is determined based on an energy saving state level; and/or~~

~~$M_1, M_2, \dots, M_T$ are determined based on the energy saving state level.~~

~~24. The apparatus according to any one of claims 19 to 23, wherein M or $M_1, M_2, \dots, M_T$ are determined based on a congestion control measurement parameter, and the congestion control measurement parameter is at least one of a channel busy ratio CBR and a channel occupancy ratio CR.~~

~~25. The apparatus according to any one of claims 19 to 21, wherein when a priority value of to-be-sent sidelink information is less than a first threshold, M is a first value or $M_1, M_2, \dots, M_T$ each are a first value; and/or~~

~~when the priority value of the to-be-sent sidelink information is greater than or equal to the first threshold, M is a second value or $M_1, M_2, \ldots, M_I$ each are a second value, wherein the first value is greater than the second value.~~

~~26~~10. The apparatus according to ~~any one of claims 19 to 21~~claim 9, ~~wherein M or $M_1, M_2, \ldots, M_I$ are preconfigured; or the apparatus~~ further comprises:

a transceiver module, configured to receive first configuration signaling ~~from a network device~~, wherein the first configuration signaling indicates configuration information of M ~~or $M_1, M_2, \ldots, M_I$~~.

~~27~~11. The apparatus according to ~~any one of claims 19 and 21 to 26~~claim 9 or 10, wherein the processing module is further configured to:

convert at least two resource reservation period intervals $\{P_1, P_2, \ldots, P_T\}$ to obtain the at least two resource reservation period parameters $\{P'_1, P'_2, \ldots, P'_T\}$~~, wherein the at least two resource reservation period intervals $\{P_1, P_2, \ldots, P_I\}$ are preconfigured, or~~.

12. The appatatus~~the method~~ according to claim 11, ~~further comprises:~~wherein the transceiver module is further configured to ~~receiv~~inge second configuration signaling ~~from the network device~~, wherein the second configuration signaling indicates the at least two resource reservation period intervals $\{P_1, P_2, \ldots, P_T\}$.

~~28. The apparatus according to any one of claims 20 to 26, wherein the processing module is further configured to:~~

~~convert at least one resource reservation period interval $\{P_1, P_2, \ldots, P_I\}$ to obtain the at least one resource reservation period parameter $\{P'_1, P'_2, \ldots, P'_I\}$, wherein the at least one resource reservation period interval $\{P_1, P_2, \ldots, P_I\}$ is preconfigured, or the method further comprises: receiving second configuration signaling from the network device, wherein the second configuration signaling indicates the at least one resource reservation period interval $\{P_1, P_2, \ldots, P_I\}$.~~

~~29~~13. The apparatus according to claim ~~27 or 28~~12, wherein the second configuration signaling further comprises configuration information of a sidelink resource pool, and the resource selection window, the sensing time unit set, and the time unit n belong to the sidelink resource pool.

~~30~~14. The apparatus according to any one of claims ~~26~~ 9 to ~~29~~13, wherein the first configuration signaling or the second configuration signaling is a system information block SIB,

radio resource control RRC signaling, or physical layer control information.

15. The apparatus according to any one of claims 9 to 14, wherein M is equal to 2, the sensing time unit set comprises $\left\{\{t_{y-1\times P_i'}, t_{y-2\times P_i'}\}\right\}$, P_i' is a resource reservation period parameter of the at least two resource reservation period parameters, and $i = 1,2,\dots,T$.

16. The apparutus according to any one of claims 9 to 15, wherein M is determined based on one or more values of the at least one resource reservation period parameter $\{P_1', P_2', \dots, P_T'\}$.

~~31. The apparatus according to any one of claims 9 to 30, wherein the processing module is further configured to:~~

~~determine, based on a received signal strength indicator RSSI in each time unit in a measurement time window $[n-a, n-1]$, a congestion control parameter corresponding to the time unit n, or determine, based on RSSIs in time units at intervals of K time units in a measurement time window $[n-a, n-1]$, a congestion control parameter corresponding to the time unit n, wherein a and K are both positive integers greater than 1.~~

~~32. The apparatus according to claim 31, wherein the RSSI in one time unit is a linear average value of total received powers of sidelink subchannels on N symbols in the time unit, wherein~~

~~N is greater than or equal to 1 and less than or equal to a total quantity of symbols for mapping a PSCCH and a PSSCH in the time unit; N is a quantity of symbols for mapping a PSCCH in the time unit; N is determined based on the energy saving state level; N is indicated by the configuration information of the resource pool; or N is predefined.~~

~~33. The apparatus according to claim 31 or 32, wherein different subcarrier spacings correspond to different values of a, and the different values of a are predefined, or are configured by the network device.~~

~~34. A communication apparatus, comprising:~~

~~a processing module, configured to determine, based on a received signal strength indicator RSSI in at least one time unit in a measurement time window $[n-a, n-1]$, a congestion control parameter corresponding to a time unit n, wherein a is a positive integer greater than 1, and the RSSI in one of the at least one time unit is a linear average value of total received powers of sidelink subchannels on some symbols in the time unit; and~~

~~the processing module is further configured to determine a sidelink transmission parameter based on the congestion control parameter.~~

~~35. The apparatus according to claim 34, wherein the at least one time unit is all time units in the measurement time window $[n-a, n-1]$, or the at least one time unit is time units at intervals of K time units in the measurement time window $[n-a, n-1]$, wherein K is a positive integer greater than 1.~~

~~36. The apparatus according to claim 34 or 35, wherein the RSSI in one of the at least one time unit is a linear average value of total received powers of sidelink subchannels on N symbols in the time unit, wherein~~

~~N is greater than or equal to 1 and less than or equal to a total quantity of symbols for mapping a PSCCH and a PSSCH in the time unit; N is a quantity of symbols for mapping a PSCCH in the time unit; N is determined based on the energy saving state level; N is indicated by the configuration information of the resource pool; or N is predefined.~~

~~37~~17. A computer-readable storage medium, comprising instructions, wherein when the instructions are run on a computer, the computer is enabled to perform the method according to any one of claims 1 to ~~18~~8 or according to any one of claims 9 to 16.

18. An apparatus comprising a processor and a storage medium storing instructions for execution by the processor such that, when the instruction are executed, the processor is configured to cause the apparatus to carry out the method according to any one of claims 1 to 8 or according to any one of claims 9 to 16.