CLAIMS

1. A method for transmitting a physical layer protocol data unit, comprising:

generating, by a first device, a physical layer protocol data unit, PPDU, wherein the PPDU comprises first information carried in a first subcarrier set, the first information comprises data information and pilot information, the first subcarrier set comprises at least one first resource unit RU and/or at least one first multi-resource unit MRU, the data information is carried on a data subcarrier corresponding to the at least one first RU and/or a data subcarrier corresponding to the at least one first MRU, and the pilot information comprises first pilot information carried on a first pilot subcarrier corresponding to the at least one first RU and/or a first pilot subcarrier corresponding to the at least one first MRU; and

sending, by the first device, the PPDU.

2. The method according to claim 1, wherein an index corresponding to the first pilot subcarrier is {−116, −90, −48, −22, 22, 48, 90, 116} or {−116, −90, −48, −22, −10, 10, 22, 48, 90, 116}.

3. The method according to claim 1 or 2, wherein the first subcarrier set comprises Y subcarriers, and the at least one first RU and/or the at least one first MRU comprise/comprises L data subcarriers and K first pilot subcarriers, wherein Y, L, and K are all positive integers, and Y>L+K.

4. The method according to claim 3, wherein the pilot information further comprises second pilot information carried on M second pilot subcarriers, and the M second pilot subcarriers belong to a subcarrier other than the L data subcarriers and the K first pilot subcarriers in the Y subcarriers, wherein M is a positive integer.

5. The method according to claim 3 or 4, wherein the pilot information further comprises third pilot information carried on T third pilot subcarriers, and the T third pilot subcarriers are in a subcarrier set corresponding to a bandwidth corresponding to the PPDU and are different from the Y subcarriers, wherein T is a positive integer.

6. The method according to any one of claims 1 to 5, wherein a subcarrier index range corresponding to the first subcarrier set is the same as a subcarrier index range corresponding to a 242-tone RU; and

the at least one first RU and/or the at least one first MRU comprise/comprises two 106-tone RUs; or

the at least one first RU and/or the at least one first MRU comprise/comprises two 106-tone RUs and one 26-tone RU; or

the at least one first RU and/or the at least one first MRU comprise/comprises a 106+26-tone MRU and one 106-tone RU.

7. The method according to claim 6, wherein subcarrier index ranges corresponding to the two 106-tone RUs comprised in the at least one first RU and/or the at least one first MRU are [–122: –17] and [17: 122] respectively, and pilot subcarrier indexes corresponding to the two 106-tone RUs comprised in the at least one first RU and/or the at least one first MRU are {–116, –90, –48, –22} and {22, 48, 90, 116} respectively; or

subcarrier index ranges corresponding to the two 106-tone RUs and the 26-tone RU that are comprised in the at least one first RU and/or the at least one first MRU are [–122: –17], [17: 122], and [–16: –4, 4: 16] respectively, and pilot subcarrier indexes corresponding to the two 106-tone RUs and the 26-tone RU that are comprised in the at least one first RU and/or the at least one first MRU are {–116, –90, –48, –22}, {22, 48, 90, 116}, and {–10, 10} respectively, wherein

[a: b] represents index values of subcarriers starting from a, ending at b, and comprising a and b, with an increment of 1.

8. The method according to any one of claims 1 to 7, wherein the method further comprises:

mapping, by the first device via a general bit-to-constellation point generation module, X bits corresponding to the data information to the data subcarrier corresponding to the at least one first RU and/or the data subcarrier corresponding to the at least one first MRU, wherein X is a positive integer.

9. The method according to any one of claims 1 to 7, wherein the PPDU comprises at least one physical layer service data unit PSDU, and the at least one PSDU one-to-one corresponds to the at least one first RU and/or the at least one first MRU.

10. The method according to any one of claims 1 to 7, wherein the method further comprises:

allocating, by the first device, X bits corresponding to the data information to the at least one first RU and/or the at least one first MRU, wherein different bits in the X bits are allocated to different RUs or MRUs in the at least one first RU and/or the at least one first MRU, and X is a positive integer.

11. The method according to claim 10, wherein allocating, by the first device, the X bits corresponding to the data information to the at least one first RU and/or the at least one first MRU comprises:

allocating, by the first device, the X bits to the at least one first RU and/or the at least one first MRU in N rounds of allocation processes, wherein in an n^{th} round of allocation process, the first device first allocates, in a predefined order, at least one bit in the X bits to a first RU or a first MRU that is ranked ahead in the at least one first RU and/or the at least one first MRU, and then allocates at least one bit in the X bits to a first RU or a first MRU that is ranked behind in the at

least one first RU and/or the at least one first MRU, wherein N is a positive integer, and n=1, 2, ..., or N.

12. The method according to claim 11, wherein N>1, and in different rounds of allocation processes in the N rounds of allocation processes, numbers of bits allocated by the first device to a same first RU or a same first MRU are the same or different.

13. The method according to claim 11 or 12, wherein the predefined order is any one of the following:

a descending order of numbers of subcarriers comprised in the first RU or the first MRU; or

an ascending order of numbers of subcarriers comprised in the first RU or the first MRU; or

a descending order of frequencies of the first RU or the first MRU; or

an ascending order of frequencies of the first RU or the first MRU.

14. The method according to any one of claims 1 to 13, wherein a pilot sequence corresponding to a pilot subcarrier comprised in the first subcarrier set is obtained by performing a first operation on a pilot sequence corresponding to at least one second RU and/or a pilot sequence corresponding to at least one second MRU, and the first operation comprises one or more of the following: splicing, bit flipping, cyclic shift, or exclusion.

15. The method according to any one of claims 5 to 13, wherein a pilot sequence corresponding to a pilot subcarrier comprised in the bandwidth corresponding to the PPDU is obtained by performing a first operation on a pilot sequence corresponding to at least one second RU and/or a pilot sequence corresponding to at least one second MRU, and the first operation comprises one or more of the following: splicing, bit flipping, cyclic shift, or exclusion.

16. The method according to any one of claims 1 to 15, wherein the PPDU further comprises first indication information, and the first indication information is used to determine that the first subcarrier set comprises the at least one first RU and/or the at least one first MRU.

17. The method according to any one of claims 1 to 16, wherein the PPDU further comprises second indication information, and the second indication information is used to determine the at least one first RU and/or the at least one first MRU.

18. A method for transmitting a physical layer protocol data unit, comprising:

receiving, by a second device, a physical layer protocol data unit PPDU from a first device, wherein the PPDU comprises first information carried in a first subcarrier set, the first information comprises data information and pilot information, the first subcarrier set comprises at least one first resource unit RU and/or at least one first multi-resource unit MRU, the data information is carried on a data subcarrier corresponding to the at least one first RU and/or a data subcarrier corresponding to the at least one first MRU, and the pilot information comprises first pilot information carried on a first pilot subcarrier corresponding to the at least one first RU and/or a

first pilot subcarrier corresponding to the at least one first MRU; and

parsing, by the second device, the PPDU.

19. A communication apparatus, wherein the communication apparatus comprises a unit configured to perform the method according to any one of claims 1 to 17, or comprises a unit configured to perform the method according to claim 18.

20. A communication apparatus, comprising:

a processor, configured to execute computer instructions stored in a memory, to enable the communication apparatus to perform the method according to any one of claims 1 to 17, or enable the communication apparatus to perform the method according to claim 18.

21. A computer-readable storage medium, configured to store a computer program, wherein the computer program comprises instructions for implementing the method according to any one of claims 1 to 17, or comprises instructions for implementing the method according to claim 18.

22. A chip, wherein the chip comprises a processor and an input/output interface, and the processor reads, through the input/output interface, instructions stored in a memory, to the method according to any one of claims 1 to 18.