

WHAT IS CLAIMED IS:

1. A communication method, comprising:

determining a first message frame, wherein the first message frame comprises first information, and the first information is configured to indicate ~~one or more support capabilities~~ at least one of a support capability of applying a single-type resource unit ~~and/or a multi-type resource unit~~ of a first size to a 4096- Quadrature Amplitude Modulation (QAM), or a support capability of applying a multi-type resource unit of the first size to the 4096-QAM; and

sending the first message frame.

2. The method of claim 1, wherein at least one of the single-type resource unit ~~and/or~~ the multi-type resource unit of the first size is a resource unit smaller than 242-tone.

3. The method of claim 2, wherein the first information comprises a first identifier and a second identifier,

the first identifier is configured to indicate support capabilities of applying the single-type resource unit of the first size and the multi-type resource unit of the first size to a reception of the 4096-QAM; and

the second identifier is configured to indicate support capabilities of applying the single-type resource unit of the first size and the multi-type resource unit of the first size to the transmission of the 4096-QAM.

~~4. The method of claim 2, wherein the first information comprises a third identifier and a fourth identifier,~~

~~at least one bit of the third identifier is configured to indicate a support capability of applying the single-type resource unit of the first size to a reception of the 4096-QAM,~~

~~at least one bit of the third identifier is configured to indicate a support capability of applying the multi-type resource unit of the first size to the reception of the 4096-QAM,~~

~~at least one bit of the fourth identifier is configured to indicate a support capability of applying the single-type resource unit of the first size to a transmission of the 4096-QAM, and~~

~~at least one bit of the fourth identifier is configured to indicate a support capability of applying the multi-type resource unit of the first size to the transmission of the 4096-QAM.~~

~~54.~~ The method of any one of claims 1 to ~~43~~, wherein the first message frame further comprises second information, and the second information is configured to indicate ~~one or more support capabilities~~ at least one of a support capability of applying the single-type

resource unit and/or the multi-type resource unit of the first size to a 1024-QAM or the support capability of applying a multi-type resource unit of the first size to the 1024-QAM.

65. The method of claim 54, wherein the second information comprises a fifth identifier and a sixth identifier,

the fifth identifier is configured to indicate support capabilities of applying the single-type resource unit of the first size and the multi-type resource unit of the first size to a reception of the 1024-QAM; and

the sixth identifier is configured to indicate support capabilities of applying the single-type resource unit of the first size and the multi-type resource unit of the first size to a transmission of the 1024-QAM; or

wherein the second information comprises a seventh identifier and an eighth identifier,

at least one bit of the seventh identifier is configured to indicate a support capability of applying the single-type resource unit of the first size to a reception of the 1024-QAM,

at least one bit of the seventh identifier is configured to indicate a support capability of applying the multi-type resource unit of the first size to the reception of the 1024-QAM,

at least one bit of the eighth identifier is configured to indicate a support capability of applying the single-type resource unit of the first size to a transmission of the 1024-QAM, and

at least one bit of the eighth identifier is configured to indicate a support capability of applying the multi-type resource unit of the first size to the transmission of the 1024-QAM.

~~7. The method of claim 5, wherein the second information comprises a seventh identifier and an eighth identifier,~~

~~at least one bit of the seventh identifier is configured to indicate a support capability of applying the single-type resource unit of the first size to a reception of the 1024-QAM,~~

~~at least one bit of the seventh identifier is configured to indicate a support capability of applying the multi-type resource unit of the first size to the reception of the 1024-QAM,~~

~~at least one bit of the eighth identifier is configured to indicate a support capability of applying the single-type resource unit of the first size to a transmission of the 1024-QAM, and~~

~~at least one bit of the eighth identifier is configured to indicate a support capability of applying the multi-type resource unit of the first size to the transmission of the 1024-QAM.~~

~~QAM.~~

~~86.~~ The method of claim ~~54~~, wherein the second information is configured to indicate that applying at least one of the single-type resource unit ~~and/or~~ the multi-type resource unit of the first size to the 1024-QAM is supported in response to the first formation indicating that applying at least one of the single-type resource unit ~~and/or~~ the multi-type resource unit of the first size to the 4096-QAM is supported.

~~97.~~ The method of claim 2, wherein the first information in the first message frame is further configured to indicate at least one of a support capability ~~one or more support capabilities of~~ applying the single-type resource unit ~~and/or the multi-type resource unit~~ of the first size to a 1024-QAM, or a support capability of applying the multi-type resource unit of the first size to the 1024-QAM.

~~108.~~ The method of claim ~~97~~, wherein the first information comprises a ninth identifier and a tenth identifier,

the ninth identifier is configured to indicate support capabilities of applying the single-type resource unit of the first size and the multi-type resource unit of the first size to a reception of the 4096-QAM and the 1024-QAM, and

the tenth identifier is configured to indicate support capabilities of applying the single-type resource unit of the first size and the multi-type resource unit of the first size to a transmission of the 4096-QAM and the 1024-QAM.

~~149.~~ The method of claim ~~54~~, wherein at least one of the first information ~~and/or~~ the second information is included in an extremely high throughput (EHT) physical layer (PHY) capability information element of the first message frame.

~~1210.~~ A communication method, comprising:

receiving a first message frame, wherein the first message frame comprises first information, and the first information is configured to indicate at least one of a support capability of ~~one or more support capabilities of~~ applying a single-type resource unit ~~and/or a multi-type resource unit~~ of a first size to a 4096-Quadrature Amplitude Modulation (QAM), or a support capability of applying a multi-type resource unit of the first size to the 4096-QAM; and

performing a communication operation based on the first message frame.

~~1311.~~ The method of claim ~~1210~~, wherein at least one of the single-type resource unit ~~and/or~~ the multi-type resource unit of the first size is a resource unit smaller than 242-tone.

~~1412.~~ The method of claim ~~1311~~, wherein the first information comprises a first

identifier and a second identifier,

the first identifier is configured to indicate support capabilities of applying the single-type resource unit of the first size and the multi-type resource unit of the first size to a reception of the 4096-QAM, and

the second identifier is configured to indicate support capabilities of applying the single-type resource unit of the first size and the multi-type resource unit of the first size to a transmission of the 4096-QAM.

~~15. The method of claim 13, wherein the first information comprises a third identifier and a fourth identifier,~~

~~at least one bit of the third identifier is configured to indicate a support capability of applying the single-type resource unit of the first size to a reception of the 4096-QAM,~~

~~at least one bit of the third identifier is configured to indicate a support capability of applying the multi-type resource unit of the first size to the reception of the 4096-QAM,~~

~~at least one bit of the fourth identifier is configured to indicate a support capability of applying the single-type resource unit of the first size to a transmission of the 4096-QAM, and~~

~~at least one bit of the fourth identifier is configured to indicate a support capability of applying the multi-type resource unit of the first size to the transmission of the 4096-QAM.~~

~~16~~13. The method of any one of claims ~~12-10~~ to ~~15~~12, wherein the first message frame comprises second information, and the second information is configured to indicate ~~one or more support capabilities~~at least one of a support capability of applying the single-type resource unit ~~and/or the multi-type resource unit~~ of the first size to a 1024-QAM, or a support capability of applying a multi-type resource unit of the first size to the 1024-QAM.

~~17~~14. The method of claim ~~16~~13, wherein the second information comprises a fifth identifier and a sixth identifier,

the fifth identifier is configured to indicate support capabilities of applying the single-type resource unit and the multi-type resource unit of the first size to a reception of the 1024-QAM, and

the sixth identifier is configured to indicate support capabilities of applying the single-type resource unit and the multi-type resource unit of the first size to a transmission of the 1024-QAM; or

wherein the second information comprises a seventh identifier and an eighth

identifier,

at least one bit of the seventh identifier is configured to indicate a support capability of applying the single-type resource unit of the first size to a reception of the 1024-QAM,

at least one bit of the seventh identifier is configured to indicate a support capability of applying the multi-type resource unit of the first size to the reception of the 1024-QAM,

at least one bit of the eighth identifier is configured to indicate a support capability of applying the single-type resource unit of the first size to a transmission of the 1024-QAM, and

at least one bit of the eighth identifier is configured to indicate a support capability of applying the multi-type resource unit of the first size to the transmission of the 1024-QAM.

~~18. The method of claim 16, wherein the second information comprises a seventh identifier and an eighth identifier,~~

~~at least one bit of the seventh identifier is configured to indicate a support capability of applying the single-type resource unit of the first size to a reception of the 1024-QAM,~~

~~at least one bit of the seventh identifier is configured to indicate a support capability of applying the multi-type resource unit of the first size to the reception of the 1024-QAM,~~

~~at least one bit of the eighth identifier is configured to indicate a support capability of applying the single-type resource unit of the first size to a transmission of the 1024-QAM, and~~

~~at least one bit of the eighth identifier is configured to indicate a support capability of applying the multi-type resource unit of the first size to the transmission of the 1024-QAM.~~

~~19~~15. The method of claim ~~16~~13, wherein the second information is configured to indicate that applying at least one of the single-type resource unit ~~and/or~~ the multi-type resource unit of the first size to the 1024-QAM is supported in response to the first information indicating that applying at least one of the single-type resource unit ~~and/or~~ the multi-type resource unit of the first size to the 4096-QAM is supported.

~~20~~16. The method of claim ~~13~~11, wherein the first information in the first message frame is further configured to indicate at least one of a support capability ~~one or more support capabilities~~ of applying the single-type resource unit ~~and/or the multi-type resource unit~~ of the first size to a 1024-QAM, or a support capability of applying the multi-type resource unit of the first size to the 1024-QAM.

~~21~~17. The method of claim ~~20~~16, wherein the first information comprises a ninth

identifier and a tenth identifier,

the ninth identifier is configured to indicate support capabilities of applying the single-type resource unit of the first size and the multi-type resource unit of the first size to a reception of the 4096-QAM and the 1024-QAM, and

the tenth identifier is configured to indicate support capabilities of applying the single-type resource unit of the first size and the multi-type resource unit of the first size to a transmission of the 4096-QAM and the 1024-QAM.

2218. The method of claim ~~16~~13, wherein at least one of the first information ~~and/or~~ the second information is included in an extremely high throughput (EHT) physical layer (PHY) capability information element of the first message frame.

~~23. A communication apparatus, comprising:~~

~~a processing module, configured to determine a first message frame, wherein the first message frame comprises first information, and the first information is configured to indicate one or more support capabilities of applying a single-type resource unit and/or a multi-type resource unit of a first size to a 4096-Quadrature Amplitude Modulation (QAM); and~~

~~a transceiver module, configured to send the first message frame.~~

~~24. A communication device, comprising:~~

~~a transceiver module, configured to receive a first message frame, wherein the first message frame comprises first information, and the first information is configured to indicate one or more support capabilities of applying a single-type resource unit and/or a multi-type resource unit of a first size to a 4096-Quadrature Amplitude Modulation (QAM); and~~

~~a processing module, configured to control the transceiver module to perform a communication operation based on the first message frame.~~

2519. An electronic device, comprising a memory, a processor and a computer program stored on the memory and executable by the processor, wherein when the computer program is executed by the processor, the method according to any one of claims 1 to ~~11~~9 or the method according to any one of claims ~~12 to 22~~10 to 18 is performed.

2620. A non-transitory computer-readable storage medium, having a computer program stored thereon, wherein when the computer program is executed by a processor, the method according to any one of claims 1 to ~~11~~9 or the method according to any one of claims ~~12 to 22~~10 to 18 is performed.