

What is claimed is:

1. A wireless communication method, comprising:

transmitting, by an access point (AP), a multi-user ready-to-send (MU-RTS) trigger frame to a plurality of stations (STAs), wherein the MU-RTS trigger frame indicates whether a clear-to-send (CTS) frame response is to be transmitted by each of the plurality of STAs on a primary 20 MHz channel (P20), a primary 40 MHz channel (P40), a primary 80 MHz channel (P80), a primary 160 MHz channel (P160), or a 320 MHz channel, and at least one 20 MHz channel is punctured in the P80, the P160, or the 320 MHz channel.

2. The wireless communication method of statement 1, wherein the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises one 484+242 tone multiple resource unit (MRU), one 996+484 tone MRU, one 996+484+242 tone MRU, one 2x996+484 tone MRU, one 3x996 tone MRU, or one 3x996+484 tone MRU.

3. The wireless communication method of statement 2, wherein the one 484+242 tone MRU results from puncturing any non-primary 20 MHz channel from the P80, the one 996+484 tone MRU results from puncturing any non-primary 40 MHz channel from the P160, the one 996+484+242 tone MRU results from puncturing any non-primary 20 MHz channel from the P160, the one 2x996+484 tone MRU results from puncturing any non-primary 40 MHz channel from any consecutive 240 MHz portion of the 320 MHz channel, the one 3x996 tone MRU results from puncturing any non-primary 80 MHz channel from the 320 MHz channel, or the one 3x996+484 tone MRU results from puncturing any non-primary 40 MHz channel from the 320 MHz channel.

4. The wireless communication method of any one of statements 1 to 3, wherein each user information field of the MU-RTS trigger frame comprises a subfield and an RU allocation subfield, and the subfield and the RU allocation subfield of each user information field in the MU-RTS trigger frame indicate RU allocation information.

5. The wireless communication method of statement 4, wherein the subfield of each user information field in the MU-RTS trigger frame comprises a lower/upper 160 MHz segment subfield.

6. The wireless communication method of statement 4 or 5, wherein the subfield of each user information field in the MU-RTS trigger frame is set to a first value if the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises the one 484+242 tone MRU, the one 996+484 tone MRU, or the one 996+484+242 tone MRU.

wherein the lower/upper 160 MHz segment subfield is set to a first value (such as 0) to indicate the P20, the P40, the P80, or the P160; while the lower/upper 160 MHz segment subfield is set to a second value (such as 1) to indicate the 320 MHz channel.

7. The wireless communication method of any one of statements 4 to 6, wherein the subfield of each user information field in the MU-RTS trigger frame is set to the first value if the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises the one 2x996+484 tone MRU,

~~the one 3x996 tone MRU, or the one 3x996+484 tone RU and the at least one 20 MHz channel is punctured from a lowest frequency 160 MHz channel of the 320 MHz channel.~~

5. The wireless communication method of claim 2, wherein B0 of the RU allocation subfield is set to 1 and B7-B1 of the RU allocation subfield are set to 69 to indicate the 320 MHz channel.

5 6. The wireless communication method of claim 3, wherein when a HE/EHT format subfield of the user information field is set to a second value (such as 1), the RU allocation subfield, together with the lower/upper 160 MHz segment subfield, further indicates whether the CTS frame response is to be sent by the STA indicated by an AID12 subfield on the P80, P160 or 320 MHz channel in which at least one 20 MHz channel is punctured.

10 7. The wireless communication method of claim 6, wherein the P80, P160 or 320 MHz channel in which at least one 20 MHz channel is punctured is one 484+242 tone MRU which results from puncturing any non-primary 20 MHz channel from the P80, one 996+484 tone MRU which results from puncturing any non-primary 40 MHz channel from the P160, one 996+484+242 tone MRU which results from puncturing any non-primary 20 MHz channel from the P160, 2x996+484 tone MRU which results from puncturing
15 any non-primary 40 MHz channel from any consecutive 240 MHz portion of the 320 MHz channel, one 3x996 tone MRU which results from puncturing any non-primary 80 MHz channel from the 320 MHz channel, or one 3x996+484 tone MRU which results from puncturing any non-primary 40 MHz channel from the 320 MHz channel.

8. The wireless communication method of claim 6, wherein the method further comprises:
20 receiving, by the access point (AP), an CTS frame response, wherein the CTS frame response depends on the RU allocation information indicated in the RU allocation subfield, the lower/upper 160 MHz segment subfield of a corresponding user information field in the MU-RTS trigger frame and a channel puncturing pattern indicated in a most recently received information element by the STA.

9. The wireless communication method of claim 8, wherein the information element which indicates the channel puncturing pattern is an EHT Operation element and the EHT Operation element comprises an EHT Operation Information field.

10. The wireless communication method of claim 9, wherein the EHT Operation Information field comprises a Channel Width subfield, a (Channel Center Frequency Segment 0) CCFS0 subfield, a (Channel Center Frequency Segment 1) CCFS1 subfield, and a Punctured Channel Indication subfield.

30 11. The wireless communication method of claim 3, wherein in the user information field addressed to STA2, the lower/upper 160 MHz segment subfield is set to 0, and B0 and B7-B1 of the RU allocation subfield are set to 0 and 67, respectively.

12. The wireless communication method of claim 11, wherein an EHT Operation element received by STA2 indicates that the third lowest frequency 20 MHz channel in the P80 is punctured; and
35 the method further comprises:

receiving, by the access point (AP), a CTS frame response from STA2 in a non-HT duplicate PPDU on a

484+242 tone MRU comprising the P20 and S40.

8. The wireless communication method of any one of statements 4 to 7, wherein the subfield of each user information field in the MU-RTS trigger frame is set to a second value if the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises the one 2x996+484 tone MRU, the one 3x996 tone MRU, or the one 3x996+484 tone RU and the at least one 20 MHz channel is punctured from a second lowest frequency 160 MHz channel of the 320 MHz channel.

9. The wireless communication method of any one of statements 4 to 8, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one 484+242 tone MRU as at least one of the followings:

a first bit is set to 0 if a non-primary 20 MHz channel is punctured from the P80 which is only an 80 MHz channel or a lowest frequency 80 MHz channel of the P160;

the first bit is set to 1 if the non-primary 20 MHz channel is punctured from the P80 which is a second lowest frequency 80 MHz channel of the P160;—

the remaining bits are set to 90 if the punctured non-primary 20 MHz channel is a lowest frequency 20 MHz channel of the P80;

the remaining bits are set to 91 if the punctured non-primary 20 MHz channel is a second lowest frequency 20 MHz channel of the P80;

the remaining bits are set to 92 if the punctured non-primary 20 MHz channel is a third lowest frequency 20 MHz channel of the P80; or

the remaining bits are set to 93 if the punctured non-primary 20 MHz channel is a fourth lowest frequency 20 MHz channel of the P80.

10. The wireless communication method of any one of statements 4 to 9, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one 996+484 tone MRU as at least one of the followings:

the first bit is set to 0 if a non-primary 40 MHz channel is punctured from a lowest frequency 80 MHz channel of the P160; the first bit is set to 1 if the non-primary 40 MHz channel is punctured from a second lowest frequency 80 MHz channel of the P160;

the remaining bits are set to 94 if the punctured non-primary 40 MHz channel is a lowest frequency 40 MHz channel of any 80 MHz channel of the P160; or

the remaining bits are set to 95 if the punctured non-primary 40 MHz channel is a second lowest frequency 40 MHz channel of any 80 MHz channel of the P160.

11. The wireless communication method of any one of statements 4 to 10, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one 996+484+242 tone MRU as at least one of the followings:

the first bit is set to 0 if the non-primary 20 MHz channel is punctured from the lowest frequency 80 MHz channel of the P160;—

the first bit is set to 1 if the non-primary 20 MHz channel is punctured from the second lowest frequency 80 MHz channel of the P160;

the remaining bits are set to 96 if the punctured non-primary 20 MHz channel is a lowest frequency 20 MHz channel of any 80 MHz channel of the P160;

5 the remaining bits are set to 97 if the punctured non-primary 20 MHz channel is a second lowest frequency 20 MHz channel of any 80 MHz channel of the P160;

the remaining bits are set to 98 if the punctured non-primary 20 MHz channel is a third lowest frequency 20 MHz channel of any 80 MHz channel of the P160; or

10 the remaining bits are set to 99 if the punctured non-primary 20 MHz channel is a fourth lowest frequency 20 MHz channel of any 80 MHz channel of the P160.

12. The wireless communication method of any one of statements 4 to 11, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one $2 \times 996 + 484$ tone MRU as at least one of the followings:

15 the first bit is set to 0 if the punctured non-primary 40 MHz channel is a part of a lowest frequency 80 MHz channel of any 160 MHz channel;—

the first bit is set to 1 if the punctured non-primary 40 MHz channel is a part of a second lowest frequency 80 MHz channel of any 160 MHz channel;

the remaining bits are set to 100 if the punctured non-primary 40 MHz channel is a lowest frequency 40 MHz channel of any 80 MHz channel in a lower consecutive 240 MHz portion of the 320 MHz channel;

20 the remaining bits are set to 101 if the punctured non-primary 40 MHz channel is a second lowest frequency 40 MHz channel of any 80 MHz channel in the lower consecutive 240 MHz portion of the 320 MHz channel;

the remaining bits are set to 102 if the punctured non-primary 40 MHz channel is a lowest frequency 40 MHz channel of any 80 MHz channel in an upper consecutive 240 MHz portion of the 320 MHz channel;

25 or

the remaining bits are set to 103 if the punctured non-primary 40 MHz channel is a second lowest frequency 40 MHz channel of any 80 MHz channel in the upper consecutive 240 MHz portion of the 320 MHz channel.

30 13. The wireless communication method of any one of statements 4 to 12, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one 3×996 tone MRU as at least one of the followings:

the first bit is set to 0 if a punctured non-primary 80 MHz channel is a lowest frequency 80 MHz channel of any 160 MHz channel;—

35 the first bit is set to 1 if the punctured non-primary 80 MHz channel is a second lowest frequency 80 MHz channel of any 160 MHz channel; or

the remaining bits are set to 104.

~~14. The wireless communication method of any one of statements 4 to 13, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one $3 \times 996 + 484$ tone MRU as at least one of the followings:~~

~~the first bit is set to 0 if a punctured non-primary 40 MHz channel is a part of a lowest frequency 80 MHz channel of any 160 MHz channel;—~~

~~the first bit is set to 1 if the punctured non-primary 40 MHz channel is a part of a second lowest frequency 80 MHz channel of any 160 MHz channel;~~

~~the remaining bits are set to 105 if the punctured non-primary 40 MHz channel is a lowest frequency 40 MHz channel of any 80 MHz channel; or—~~

~~the remaining bits are set to 106 if the punctured non-primary 40 MHz channel is a second lowest frequency 40 MHz channel of any 80 MHz channel.~~

~~15. The wireless communication method of any one of statements 1 to 14, wherein the MU-RTS trigger frame and/or the CTS frame response is operated in an extremely high throughput (EHT) wireless local area network (WLAN) or a post-EHT WLAN.~~

13. The wireless communication method of any one of claims 1 to 12, wherein the MU-RTS trigger frame comprises a HE/EHT format subfield of a user information field to indicate a HE/EHT subfield.

14. The wireless communication method of any one of claims 1 to 12, wherein when a HE/EHT format subfield of a user information field is set to a second value, an RU allocation subfield, together with a lower/upper 160 MHz segment subfield, indicates how the CTS frame response is to be sent by the STA.

15. A wireless communication method, comprising:

receiving, by a station (STA) of a plurality of STAs, a multi-user ready-to-send (MU-RTS) trigger frame from an access point (AP), wherein the MU-RTS trigger frame indicates whether a clear-to-send (CTS) frame response is to be transmitted by the STA of the plurality of STAs on a primary 20 MHz channel (P20), a primary 40 MHz channel (P40), a primary 80 MHz channel (P80), a primary 160 MHz channel (P160), or a 320 MHz channel, and at least one 20 MHz channel is punctured in the P80, the P160, or the 320 MHz channel.

~~17. The wireless communication method of statement 16, wherein the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises one $484 + 242$ tone multiple resource unit (MRU), one $996 + 484$ tone MRU, one $996 + 484 + 242$ tone MRU, one $2 \times 996 + 484$ tone MRU, one 3×996 tone MRU, or one $3 \times 996 + 484$ tone MRU.~~

~~18. The wireless communication method of statement 17, wherein the one $484 + 242$ tone MRU results from puncturing any non-primary 20 MHz channel from the P80, the one $996 + 484$ tone MRU results from puncturing any non-primary 40 MHz channel from the P160, the one $996 + 484 + 242$ tone MRU results from puncturing any non-primary 20 MHz channel from the P160, the one $2 \times 996 + 484$ tone MRU results from puncturing any non-primary 40 MHz channel from any consecutive 240 MHz portion of the 320 MHz channel, the one 3×996 tone MRU results from puncturing any non-primary 80 MHz channel from the 320~~

MHz channel, or the one $3 \times 996 + 484$ tone MRU results from puncturing any non-primary 40 MHz channel from the 320 MHz channel.

1916. The wireless communication method of any one of statements 16 to 18 claim 15, wherein each user information field of the MU-RTS trigger frame comprises a subfield and an RU allocation subfield, and the subfield and the RU allocation subfield of each user information field in the MU-RTS trigger frame indicate RU allocation information.

2017. The wireless communication method of ~~statement~~ claim 1916, wherein the subfield of each user information field in the MU-RTS trigger frame comprises a lower/upper 160 MHz segment subfield.

18. The wireless communication method of claim 17, wherein the lower/upper 160 MHz segment subfield is set to a first value (such as 0) to indicate the P20, the P40, the P80, or the P160; while the lower/upper 160 MHz segment subfield is set to a second value (such as 1) to indicate the 320 MHz channel.

21. The wireless communication method of statement 19 or 20, wherein the subfield of each user information field in the MU-RTS trigger frame is set to a first value if the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises the one $484 + 242$ tone MRU, the one $996 + 484$ tone MRU, or the one $996 + 484 + 242$ tone MRU.

22. The wireless communication method of any one of statements 19 to 21, wherein the subfield of each user information field in the MU-RTS trigger frame is set to the first value if the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises the one $2 \times 996 + 484$ tone MRU, the one 3×996 tone MRU, or the one $3 \times 996 + 484$ tone RU and the at least one 20 MHz channel is punctured from a lowest frequency 160 MHz channel of the 320 MHz channel.

23. The wireless communication method of any one of statements 19 to 22, wherein the subfield of each user information field in the MU-RTS trigger frame is set to a second value if the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises the one $2 \times 996 + 484$ tone MRU, the one 3×996 tone MRU, or the one $3 \times 996 + 484$ tone RU and the at least one 20 MHz channel is punctured from a second lowest frequency 160 MHz channel of the 320 MHz channel.

24. The wireless communication method of any one of statements 19 to 23, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one $484 + 242$ tone MRU as at least one of the followings:

a first bit is set to 0 if a non-primary 20 MHz channel is punctured from the P80 which is only an 80 MHz channel or a lowest frequency 80 MHz channel of the P160;

the first bit is set to 1 if the non-primary 20 MHz channel is punctured from the P80 which is a second lowest frequency 80 MHz channel of the P160;

the remaining bits are set to 90 if the punctured non-primary 20 MHz channel is a lowest frequency 20 MHz channel of the P80;

the remaining bits are set to 91 if the punctured non-primary 20 MHz channel is a second lowest frequency 20 MHz channel of the P80;

~~the remaining bits are set to 92 if the punctured non-primary 20 MHz channel is a third lowest frequency 20 MHz channel of the P80; or~~

~~the remaining bits are set to 93 if the punctured non-primary 20 MHz channel is a fourth lowest frequency 20 MHz channel of the P80.~~

- 5 25. The wireless communication method of any one of statements 19 to 24, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one 996+484 tone MRU as at least one of the followings:

~~the first bit is set to 0 if a non-primary 40 MHz channel is punctured from a lowest frequency 80 MHz channel of the P160; the first bit is set to 1 if the non-primary 40 MHz channel is punctured from a second~~
10 ~~lowest frequency 80 MHz channel of the P160;~~

~~the remaining bits are set to 94 if the punctured non-primary 40 MHz channel is a lowest frequency 40 MHz channel of any 80 MHz channel of the P160; or~~

~~the remaining bits are set to 95 if the punctured non-primary 40 MHz channel is a second lowest frequency 40 MHz channel of any 80 MHz channel of the P160.~~

- 15 26. The wireless communication method of any one of statements 19 to 25, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one 996+484+242 tone MRU as at least one of the followings:

~~the first bit is set to 0 if the non-primary 20 MHz channel is punctured from the lowest frequency 80 MHz channel of the P160;—~~

- 20 ~~the first bit is set to 1 if the non-primary 20 MHz channel is punctured from the second lowest frequency 80 MHz channel of the P160;~~

~~the remaining bits are set to 96 if the punctured non-primary 20 MHz channel is a lowest frequency 20 MHz channel of any 80 MHz channel of the P160;~~

~~the remaining bits are set to 97 if the punctured non-primary 20 MHz channel is a second lowest frequency~~
25 ~~20 MHz channel of any 80 MHz channel of the P160;~~

~~the remaining bits are set to 98 if the punctured non-primary 20 MHz channel is a third lowest frequency 20 MHz channel of any 80 MHz channel of the P160; or~~

~~the remaining bits are set to 99 if the punctured non-primary 20 MHz channel is a fourth lowest frequency 20 MHz channel of any 80 MHz channel of the P160.~~

- 30 27. The wireless communication method of any one of statements 19 to 26, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one 2x996+484 tone MRU as at least one of the followings:

~~the first bit is set to 0 if the punctured non-primary 40 MHz channel is a part of a lowest frequency 80 MHz channel of any 160 MHz channel;—~~

- 35 ~~the first bit is set to 1 if the punctured non-primary 40 MHz channel is a part of a second lowest frequency 80 MHz channel of any 160 MHz channel;~~

the remaining bits are set to 100 if the punctured non-primary 40 MHz channel is a lowest frequency 40 MHz channel of any 80 MHz channel in a lower consecutive 240 MHz portion of the 320 MHz channel;
the remaining bits are set to 101 if the punctured non-primary 40 MHz channel is a second lowest frequency 40 MHz channel of any 80 MHz channel in the lower consecutive 240 MHz portion of the 320 MHz channel;

the remaining bits are set to 102 if the punctured non-primary 40 MHz channel is a lowest frequency 40 MHz channel of any 80 MHz channel in an upper consecutive 240 MHz portion of the 320 MHz channel;
or

the remaining bits are set to 103 if the punctured non-primary 40 MHz channel is a second lowest frequency 40 MHz channel of any 80 MHz channel in the upper consecutive 240 MHz portion of the 320 MHz channel.

28. The wireless communication method of any one of statements 19 to 27, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one 3x996-tone MRU as at least one of the followings:

the first bit is set to 0 if a punctured non-primary 80 MHz channel is a lowest frequency 80 MHz channel of any 160 MHz channel;

the first bit is set to 1 if the punctured non-primary 80 MHz channel is a second lowest frequency 80 MHz channel of any 160 MHz channel; or

the remaining bits are set to 104.

29. The wireless communication method of any one of statements 19 to 28, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one 3x996+484-tone MRU as at least one of the followings:

the first bit is set to 0 if a punctured non-primary 40 MHz channel is a part of a lowest frequency 80 MHz channel of any 160 MHz channel;

the first bit is set to 1 if the punctured non-primary 40 MHz channel is a part of a second lowest frequency 80 MHz channel of any 160 MHz channel;

the remaining bits are set to 105 if the punctured non-primary 40 MHz channel is a lowest frequency 40 MHz channel of any 80 MHz channel; or

the remaining bits are set to 106 if the punctured non-primary 40 MHz channel is a second lowest frequency 40 MHz channel of any 80 MHz channel.

30. The wireless communication method of any one of statements 16 to 29, wherein the MU-RTS trigger frame and/or the CTS frame response is operated in an extremely high throughput (EHT) wireless local area network (WLAN) or a post-EHT WLAN.

31. An access point (AP), comprising:

a memory;

a transceiver; and

a processor coupled to the memory and the transceiver;

wherein the processor is configured to perform the wireless communication method according to any one of claims 1-14~~control the transceiver to transmit a multi-user ready-to-send (MU-RTS) trigger frame to a plurality of (STAs), wherein the MU-RTS trigger frame indicates whether a clear-to-send (CTS) frame response is to be transmitted by each of the plurality of STAs on a primary 20 MHz channel (P20), a primary 40 MHz channel (P40), a primary 80 MHz channel (P80), a primary 160 MHz channel (P160), or a 320 MHz channel, and at least one 20 MHz channel is punctured in the P80, the P160, or the 320 MHz channel.~~

32. The AP of statement 31, wherein the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises one 484+242 tone multiple resource unit (MRU), one 996+484 tone MRU, one 996+484+242 tone MRU, one 2x996+484 tone MRU, one 3x996 tone MRU, or one 3x996+484 tone MRU.

33. The AP of statement 32, wherein the one 484+242 tone MRU results from puncturing any non-primary 20 MHz channel from the P80, the one 996+484 tone MRU results from puncturing any non-primary 40 MHz channel from the P160, the one 996+484+242 tone MRU results from puncturing any non-primary 20 MHz channel from the P160, the one 2x996+484 tone MRU results from puncturing any non-primary 40 MHz channel from any consecutive 240 MHz portion of the 320 MHz channel, the one 3x996 tone MRU results from puncturing any non-primary 80 MHz channel from the 320 MHz channel, or the one 3x996+484 tone MRU results from puncturing any non-primary 40 MHz channel from the 320 MHz channel.

34. The AP of any one of statements 31 to 33, wherein each user information field of the MU-RTS trigger frame comprises a subfield and an RU allocation subfield, and the subfield and the RU allocation subfield of each user information field in the MU-RTS trigger frame indicate RU allocation information.

35. The AP of statement 34, wherein the subfield of each user information field in the MU-RTS trigger frame comprises a lower/upper 160 MHz segment subfield.

36. The AP of statement 34 or 35, wherein the subfield of each user information field in the MU-RTS trigger frame is set to a first value if the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises the one 484+242 tone MRU, the one 996+484 tone MRU, or the one 996+484+242 tone MRU.

37. The AP of any one of statements 34 to 36, wherein the subfield of each user information field in the MU-RTS trigger frame is set to the first value if the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises the one 2x996+484 tone MRU, the one 3x996 tone MRU, or the one 3x996+484 tone RU and the at least one 20 MHz channel is punctured from a lowest frequency 160 MHz channel of the 320 MHz channel.

38. The AP of any one of statements 34 to 37, wherein the subfield of each user information field in the MU-RTS trigger frame is set to a second value if the P80, the P160 or the 320 MHz channel in which the

at least one 20 MHz channel is punctured comprises the one $2 \times 996 + 484$ tone MRU, the one 3×996 tone MRU, or the one $3 \times 996 + 484$ tone RU and the at least one 20 MHz channel is punctured from a second lowest frequency 160 MHz channel of the 320 MHz channel.

39. The AP of any one of statements 34 to 38, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one $484 + 242$ tone MRU as at least one of the followings:

a first bit is set to 0 if a non-primary 20 MHz channel is punctured from the P80 which is only an 80 MHz channel or a lowest frequency 80 MHz channel of the P160;

the first bit is set to 1 if the non-primary 20 MHz channel is punctured from the P80 which is a second lowest frequency 80 MHz channel of the P160;—

the remaining bits are set to 90 if the punctured non-primary 20 MHz channel is a lowest frequency 20 MHz channel of the P80;

the remaining bits are set to 91 if the punctured non-primary 20 MHz channel is a second lowest frequency 20 MHz channel of the P80;

the remaining bits are set to 92 if the punctured non-primary 20 MHz channel is a third lowest frequency 20 MHz channel of the P80; or

the remaining bits are set to 93 if the punctured non-primary 20 MHz channel is a fourth lowest frequency 20 MHz channel of the P80.

40. The AP of any one of statements 34 to 39, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one $996 + 484$ tone MRU as at least one of the followings:

the first bit is set to 0 if a non-primary 40 MHz channel is punctured from a lowest frequency 80 MHz channel of the P160; the first bit is set to 1 if the non-primary 40 MHz channel is punctured from a second lowest frequency 80 MHz channel of the P160;

the remaining bits are set to 94 if the punctured non-primary 40 MHz channel is a lowest frequency 40 MHz channel of any 80 MHz channel of the P160; or

the remaining bits are set to 95 if the punctured non-primary 40 MHz channel is a second lowest frequency 40 MHz channel of any 80 MHz channel of the P160.

41. The AP of any one of statements 34 to 40, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one $996 + 484 + 242$ tone MRU as at least one of the followings:

the first bit is set to 0 if the non-primary 20 MHz channel is punctured from the lowest frequency 80 MHz channel of the P160;—

the first bit is set to 1 if the non-primary 20 MHz channel is punctured from the second lowest frequency 80 MHz channel of the P160;

the remaining bits are set to 96 if the punctured non-primary 20 MHz channel is a lowest frequency 20

~~MHz channel of any 80 MHz channel of the P160;~~
~~the remaining bits are set to 97 if the punctured non-primary 20 MHz channel is a second lowest frequency~~
~~20 MHz channel of any 80 MHz channel of the P160;~~
~~the remaining bits are set to 98 if the punctured non-primary 20 MHz channel is a third lowest frequency~~
5 ~~20 MHz channel of any 80 MHz channel of the P160; or~~
~~the remaining bits are set to 99 if the punctured non-primary 20 MHz channel is a fourth lowest frequency~~
~~20 MHz channel of any 80 MHz channel of the P160.~~

42. The AP of any one of statements 34 to 41, wherein the RU allocation subfield of each user information
field in the MU-RTS trigger frame is set to indicate the one ~~2x996+484~~ tone MRU as at least one of the
10 followings:

~~the first bit is set to 0 if the punctured non-primary 40 MHz channel is a part of a lowest frequency 80 MHz~~
~~channel of any 160 MHz channel;—~~

~~the first bit is set to 1 if the punctured non-primary 40 MHz channel is a part of a second lowest frequency~~
~~80 MHz channel of any 160 MHz channel;~~

15 ~~the remaining bits are set to 100 if the punctured non-primary 40 MHz channel is a lowest frequency 40~~
~~MHz channel of any 80 MHz channel in a lower consecutive 240 MHz portion of the 320 MHz channel;~~
~~the remaining bits are set to 101 if the punctured non-primary 40 MHz channel is a second lowest frequency~~
~~40 MHz channel of any 80 MHz channel in the lower consecutive 240 MHz portion of the 320 MHz~~
~~channel;~~

20 ~~the remaining bits are set to 102 if the punctured non-primary 40 MHz channel is a lowest frequency 40~~
~~MHz channel of any 80 MHz channel in an upper consecutive 240 MHz portion of the 320 MHz channel;~~
~~or~~

~~the remaining bits are set to 103 if the punctured non-primary 40 MHz channel is a second lowest frequency~~
~~40 MHz channel of any 80 MHz channel in the upper consecutive 240 MHz portion of the 320 MHz~~
25 ~~channel.~~

43. The AP of any one of statements 34 to 42, wherein the RU allocation subfield of each user information
field in the MU-RTS trigger frame is set to indicate the one ~~3x996~~ tone MRU as at least one of the
followings:

~~the first bit is set to 0 if a punctured non-primary 80 MHz channel is a lowest frequency 80 MHz channel~~
30 ~~of any 160 MHz channel;—~~

~~the first bit is set to 1 if the punctured non-primary 80 MHz channel is a second lowest frequency 80 MHz~~
~~channel of any 160 MHz channel; or~~

~~the remaining bits are set to 104.~~

44. The AP of any one of statements 34 to 43, wherein the RU allocation subfield of each user information
field in the MU-RTS trigger frame is set to indicate the one ~~3x996+484~~ tone MRU as at least one of the
35 followings:

~~the first bit is set to 0 if a punctured non-primary 40 MHz channel is a part of a lowest frequency 80 MHz channel of any 160 MHz channel;~~

~~the first bit is set to 1 if the punctured non-primary 40 MHz channel is a part of a second lowest frequency 80 MHz channel of any 160 MHz channel;~~

5 ~~the remaining bits are set to 105 if the punctured non-primary 40 MHz channel is a lowest frequency 40 MHz channel of any 80 MHz channel; or~~

~~the remaining bits are set to 106 if the punctured non-primary 40 MHz channel is a second lowest frequency 40 MHz channel of any 80 MHz channel.~~

10 ~~45. The AP of any one of statements 31 to 44, wherein the MU-RTS trigger frame and/or the CTS frame response is operated in an extremely high throughput (EHT) wireless local area network (WLAN) or a post-EHT WLAN.~~

~~46~~20. A station (STA), comprising:

a memory;

a transceiver; and

15 a processor coupled to the memory and the transceiver;

wherein the processor is configured to perform the wireless communication method according to any one of claims 15-18~~control the transceiver to receive a multi-user ready-to-send (MU-RTS) trigger frame from an access point (AP), wherein the MU-RTS trigger frame indicates whether a clear-to-send (CTS) frame response is to be transmitted by the transceiver on a primary 20 MHz channel (P20), a primary 40 MHz~~
20 ~~channel (P40), a primary 80 MHz channel (P80), a primary 160 MHz channel (P160), or a 320 MHz channel, and at least one 20 MHz channel is punctured in the P80, the P160, or the 320 MHz channel.~~

~~47. The STA of statement 46, wherein the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises one 484+242 tone multiple resource unit (MRU), one 996+484 tone MRU, one 996+484+242 tone MRU, one 2x996+484 tone MRU, one 3x996 tone MRU, or one~~
25 ~~3x996+484 tone MRU.~~

~~48. The STA of statement 47, wherein the one 484+242 tone MRU results from puncturing any non-primary 20 MHz channel from the P80, the one 996+484 tone MRU results from puncturing any non-primary 40 MHz channel from the P160, the one 996+484+242 tone MRU results from puncturing any non-primary 20 MHz channel from the P160, the one 2x996+484 tone MRU results from puncturing any non-primary~~
30 ~~40 MHz channel from any consecutive 240 MHz portion of the 320 MHz channel, the one 3x996 tone MRU results from puncturing any non-primary 80 MHz channel from the 320 MHz channel, or the one 3x996+484 tone MRU results from puncturing any non-primary 40 MHz channel from the 320 MHz channel.~~

~~49. The STA of any one of statements 46 to 48, wherein each user information field of the MU-RTS trigger frame comprises a subfield and an RU allocation subfield, and the subfield and the RU allocation subfield of each user information field in the MU-RTS trigger frame indicate RU allocation information.~~

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50. The STA of statement 49, wherein the subfield of each user information field in the MU-RTS trigger frame comprises a lower/upper 160 MHz segment subfield.

51. The STA of statement 49 or 50, wherein the subfield of each user information field in the MU-RTS trigger frame is set to a first value if the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises the one 484+242 tone MRU, the one 996+484 tone MRU, or the one 996+484+242 tone MRU.

52. The STA of any one of statements 49 to 51, wherein the subfield of each user information field in the MU-RTS trigger frame is set to the first value if the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises the one 2x996+484 tone MRU, the one 3x996 tone MRU, or the one 3x996+484 tone RU and the at least one 20 MHz channel is punctured from a lowest frequency 160 MHz channel of the 320 MHz channel.

53. The STA of any one of statements 49 to 52, wherein the subfield of each user information field in the MU-RTS trigger frame is set to a second value if the P80, the P160 or the 320 MHz channel in which the at least one 20 MHz channel is punctured comprises the one 2x996+484 tone MRU, the one 3x996 tone MRU, or the one 3x996+484 tone RU and the at least one 20 MHz channel is punctured from a second lowest frequency 160 MHz channel of the 320 MHz channel.

54. The STA of any one of statements 49 to 53, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one 484+242 tone MRU as at least one of the followings:

a first bit is set to 0 if a non-primary 20 MHz channel is punctured from the P80 which is only an 80 MHz channel or a lowest frequency 80 MHz channel of the P160;

the first bit is set to 1 if the non-primary 20 MHz channel is punctured from the P80 which is a second lowest frequency 80 MHz channel of the P160;

the remaining bits are set to 90 if the punctured non-primary 20 MHz channel is a lowest frequency 20 MHz channel of the P80;

the remaining bits are set to 91 if the punctured non-primary 20 MHz channel is a second lowest frequency 20 MHz channel of the P80;

the remaining bits are set to 92 if the punctured non-primary 20 MHz channel is a third lowest frequency 20 MHz channel of the P80; or

the remaining bits are set to 93 if the punctured non-primary 20 MHz channel is a fourth lowest frequency 20 MHz channel of the P80.

55. The STA of any one of statements 49 to 54, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one 996+484 tone MRU as at least one of the followings:

the first bit is set to 0 if a non-primary 40 MHz channel is punctured from a lowest frequency 80 MHz channel of the P160; the first bit is set to 1 if the non-primary 40 MHz channel is punctured from a second

lowest frequency 80 MHz channel of the P160;

the remaining bits are set to 94 if the punctured non primary 40 MHz channel is a lowest frequency 40 MHz channel of any 80 MHz channel of the P160; or

the remaining bits are set to 95 if the punctured non primary 40 MHz channel is a second lowest frequency 40 MHz channel of any 80 MHz channel of the P160.

56. The STA of any one of statements 49 to 55, wherein the RU allocation subfield of each user information field in the MU RTS trigger frame is set to indicate the one 996+484+242 tone MRU as at least one of the followings:

the first bit is set to 0 if the non primary 20 MHz channel is punctured from the lowest frequency 80 MHz channel of the P160;—

the first bit is set to 1 if the non primary 20 MHz channel is punctured from the second lowest frequency 80 MHz channel of the P160;

the remaining bits are set to 96 if the punctured non primary 20 MHz channel is a lowest frequency 20 MHz channel of any 80 MHz channel of the P160;

the remaining bits are set to 97 if the punctured non primary 20 MHz channel is a second lowest frequency 20 MHz channel of any 80 MHz channel of the P160;

the remaining bits are set to 98 if the punctured non primary 20 MHz channel is a third lowest frequency 20 MHz channel of any 80 MHz channel of the P160; or

the remaining bits are set to 99 if the punctured non primary 20 MHz channel is a fourth lowest frequency 20 MHz channel of any 80 MHz channel of the P160.

57. The STA of any one of statements 49 to 56, wherein the RU allocation subfield of each user information field in the MU RTS trigger frame is set to indicate the one 2x996+484 tone MRU as at least one of the followings:

the first bit is set to 0 if the punctured non primary 40 MHz channel is a part of a lowest frequency 80 MHz channel of any 160 MHz channel;—

the first bit is set to 1 if the punctured non primary 40 MHz channel is a part of a second lowest frequency 80 MHz channel of any 160 MHz channel;

the remaining bits are set to 100 if the punctured non primary 40 MHz channel is a lowest frequency 40 MHz channel of any 80 MHz channel in a lower consecutive 240 MHz portion of the 320 MHz channel;

the remaining bits are set to 101 if the punctured non primary 40 MHz channel is a second lowest frequency 40 MHz channel of any 80 MHz channel in the lower consecutive 240 MHz portion of the 320 MHz channel;

the remaining bits are set to 102 if the punctured non primary 40 MHz channel is a lowest frequency 40 MHz channel of any 80 MHz channel in an upper consecutive 240 MHz portion of the 320 MHz channel;

or

the remaining bits are set to 103 if the punctured non primary 40 MHz channel is a second lowest frequency

~~40 MHz channel of any 80 MHz channel in the upper consecutive 240 MHz portion of the 320 MHz channel.~~

~~58. The STA of any one of statements 49 to 57, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one 3x996 tone MRU as at least one of the followings:~~

~~the first bit is set to 0 if a punctured non-primary 80 MHz channel is a lowest frequency 80 MHz channel of any 160 MHz channel;—~~

~~the first bit is set to 1 if the punctured non-primary 80 MHz channel is a second lowest frequency 80 MHz channel of any 160 MHz channel; or~~

~~the remaining bits are set to 104.~~

~~59. The STA of any one of statements 49 to 58, wherein the RU allocation subfield of each user information field in the MU-RTS trigger frame is set to indicate the one 3x996+484 tone MRU as at least one of the followings:~~

~~the first bit is set to 0 if a punctured non-primary 40 MHz channel is a part of a lowest frequency 80 MHz channel of any 160 MHz channel;—~~

~~the first bit is set to 1 if the punctured non-primary 40 MHz channel is a part of a second lowest frequency 80 MHz channel of any 160 MHz channel;~~

~~the remaining bits are set to 105 if the punctured non-primary 40 MHz channel is a lowest frequency 40 MHz channel of any 80 MHz channel; or—~~

~~the remaining bits are set to 106 if the punctured non-primary 40 MHz channel is a second lowest frequency 40 MHz channel of any 80 MHz channel.~~

~~60. The STA of any one of statements 46 to 59, wherein the MU-RTS trigger frame and/or the CTS frame response is operated in an extremely high throughput (EHT) wireless local area network (WLAN) or a post-EHT WLAN.~~

~~61. A non-transitory machine-readable storage medium having stored thereon instructions that, when executed by a computer, cause the computer to perform the method of any one of statements 1 to 30.~~

~~62. A chip, comprising:~~

~~a processor, configured to call and run a computer program stored in a memory, to cause a device in which the chip is installed to execute the method of any one of statements 1 to 30.~~

~~63. A computer-readable storage medium, in which a computer program is stored, wherein the computer program causes a computer to execute the method of any one of statements 1 to 30.~~

~~64. A computer program product, comprising a computer program, wherein the computer program causes a computer to execute the method of any one of statements 1 to 30.~~

~~65. A computer program, wherein the computer program causes a computer to execute the method of any one of statements 1 to 30.~~