

Claims

What is claimed is:

1. An apparatus for wireless communication, comprising:

a memory that stores instructions; and

5 a processor coupled with the memory, wherein the processor and the memory are configured to:

generate a signaling field, SIG, in a wireless local area network, WLAN, the SIG comprises a resource unit, RU, allocation field, indicating a size and location of each RU or MRU in a frequency resource, and one or more user fields, each of the one or more user

10 fields comprises a station identifier, STA ID, of a scheduled station, STA;

wherein the MRU which comprises multiple RUs is allowed to be assigned to one or more STAs, and the RU allocation field indicates size and location of each RU comprised in the MRU;

wherein the one or more user fields comprise a single RU user field and an MRU user field; the single RU user field corresponds to a RU which is not an MRU; an MRU user field corresponds to an MRU;

transmit the SIG.

2. The apparatus according to claim 1, wherein the MRU is a small MRU, which comprises combination of 26-RU, 52-RU, or 106-RU in a 20 MHz frequency segment; or, the MRU is a large MRU which comprises combination of 242-RU, 484-RU, or 996-RU in a transmission bandwidth.

3. The apparatus according to claim 1, wherein the MRU comprises a first RU and a second RU, the SIG comprises a first user field corresponding to the first RU and a second user field corresponding to the second RU; both of the first user field and the second user field comprising a same ID of the STA.

4. The apparatus according to claim 3, the second user field further includes one or any combination of the following:

the number of RUs assigned to the STA; or,
the size and location of each RU in the MRU assigned to the STA.

5 5. The apparatus according to claim 1, wherein a common field of the SIG comprises information for small MRU allocated in a corresponding 20 MHz frequency segment; and/or information for a number of a large MRU allocated in a bandwidth of the transmission.

6. The apparatus according to claim 1, wherein the SIG comprises a Common-MRU field indicating which 26-RUs are comprised in an MRU in a corresponding 20 MHz frequency segment; and/or indicating which 242-RUs are comprised in an MRU in a bandwidth of the transmission.

10 7. The apparatus according to claim 1, wherein the SIG comprises one or more Common-MRU fields, each Common-MRU field indicating which actual allocated RUs are in an MRU.

15 8. The apparatus according to claim 1, wherein the SIG comprises puncturing information, indicating a non-contiguous large RU and one or more user-fields corresponding to the non-contiguous large RU, each of the one or more user-fields comprises a different station's information.

9. A method for wireless communication, comprising:
generating a signaling field, SIG, in a wireless local area network, WLAN, the SIG comprises a resource unit, RU, allocation field, indicating a size and location of each RU or MRU in a frequency resource, and one or more user fields, each of the one or more user fields comprises a station identifier, STA ID, of a scheduled station, STA;

20 wherein the MRU which comprises multiple RUs is allowed to be assigned to one or more STA, and the RU allocation field indicates size and location of each RU comprised in the MRU;

25 wherein the one or more user fields comprise a single RU user field and an MRU user field; the single RU user field corresponds to a RU which is not an MRU; an MRU user field corresponds to an MRU;

transmitting the SIG.

10. The method according to claim 9, wherein the MRU is a small MRU which comprises combination of 26-RU, 52-RU, or 106-RU in a 20 MHz frequency segment; or, the
5 MRU is a large MRU which comprises combination of 242-RU, 484-RU, or 996-RU in a transmission bandwidth.

11. The method according to claim 9, wherein the MRU comprises a first RU and a second RU, the EHT-SIG comprises a first user field corresponding to the first RU and a second user field corresponding to the second RU; both of the first user field and the second
10 user field comprising a same ID of the STA.

12. The method according to claim 11, the second user field further includes one or any combination of the following:

the number of RUs assigned to the STA; or

the size and location of each RU in the MRU assigned to the STA.

15 13. The method according to claim 9, a common field of the SIG comprises information for small MRU allocated in a corresponding 20 MHz frequency segment; and/or, information for a number of a large MRU allocated in a bandwidth of the transmission.

14. The method according to claim 9, the SIG comprises a Common-MRU field indicating which 26-RUs are comprised in an MRU in a corresponding 20 MHz frequency
20 segment; and/or indicating which 242-RUs are comprised in an MRU in a bandwidth of the transmission.

15. The method according to claim 9, the SIG comprises one or more Common-MRU fields, each Common-MRU field indicating which actual allocated RUs are in a MRU.

16. The method according to claim 9, the SIG comprises puncturing information,
25 indicating a non-contiguous large RU and one or more user-fields corresponding to the non-

contiguous large RU, each of the one or more user-fields comprises a different station's information.

17. A non-transitory computer-readable storage medium comprising instructions which, when executed by a computer unit, the steps of the method of any one of claims 9 to 16 are carried out.

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