

CLAIMS

1. A communication apparatus, comprising:
circuitry, which, in operation, generates a physical layer protocol data unit
5 (PPDU) comprising two signal field content channels in each 80 MHz frequency segment, each of the two signal field content channels comprising a plurality of resource unit (RU) allocation subfields, wherein a value of each of the plurality of RU allocation subfields is indicative of sizes of component RUs of a large-size RU combination; and
10 a transmitter, which, in operation, transmits the generated PPDU.
2. The communication apparatus according to claim 1, wherein a frequency position of the component RUs of the large-size RU combination is based on both of the value of each of the plurality of the RU allocation subfields and positions of each
15 of the plurality of the RU allocation subfields in the two signal field content channels.
3. The communication apparatus according to claim 1, wherein for a PPDU bandwidth (BW) equal to or larger than 80 MHz frequency segment, frequency-domain positions of component RUs of the large-size RU combination depend on
20 one of (i) a RU allocation subfield index, and (ii) the RU allocation subfield index and an EHT-SIG content channel (CC) index.
4. The communication apparatus according to claim 3, wherein the PPDU BW is equal to or larger than 80 MHz, and the large-size RU combination is a combination
25 of one 484-tone RU and one 242-tone RU, the frequency-domain positions of components RUs of the large-size RU combination depend on the RU allocation subfield index and the EHT-SIG CC index.
5. The communication apparatus according to claim 3, wherein the PPDU BW is one of 160 MHz, 80+80 MHz, 320 MHz and 160+160 MHz, and the large-size RU combination is a combination of one 996-tone RU and one 484-tone RU, the frequency-domain positions of component RUs of the large-size RU combination depend on the RU allocation subfield index; wherein the PPDU BW is one of 240 MHz and 160+80 MHz, and the large-size RU combination is a combination of one
30 996-tone RU and one 484-tone RU, the frequency-domain positions of component RUs of the large-size RU combination depend on the RU allocation subfield index and the EHT-SIG CC index.
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6. The communication apparatus according to claim 3, wherein the PPDU BW is one of 240 MHz, 160+80 MHz, 320 MHz and 160+160 MHz, and the large-size RU combination is a combination of two 996-tone RUs, the frequency-domain positions of component RUs of the large-size RU combination depend on the RU allocation subfield index.

7. The communication apparatus according to claim 3, wherein the PPDU BW is 320 MHz or 160+160 MHz, and the large-size RU combination is a combination of two 996-tone RUs and one 484-tone RU, the frequency-domain positions of component RUs of the large-size RU combination depend on the RU allocation subfield index; wherein the PPDU BW is 240 MHz or 160+80 MHz, and the large-size RU combination is a combination of two 996-tone RUs and one 484-tone RU, the frequency-domain positions of component RUs of the large-size RU combination depend on the RU allocation subfield index and the EHT-SIG CC index.

8. The communication apparatus according to claim 3, wherein the PPDU BW is 320 MHz or 160+160 MHz and the large-size RU combination is one of a combination of three 996-tone RUs or a combination of three 996-tone RUs and one 484-tone RU, the frequency-domain positions of component RUs of the large-size RU combination depend on the RU allocation subfield index.

9. The communication apparatus according to claim 1, wherein a frequency position of the component RUs of the large-size RU combination is located within a defined 160 MHz segment.

10. A communication method comprising:
generating a physical layer protocol data unit (PPDU) comprising two signal field content channels in each 80 MHz frequency segment, each of the two signal field content channels comprising a plurality of resource unit (RU) allocation subfields, wherein a value of each of the plurality of RU allocation subfields is able to indicate sizes of component RUs of a large-size RU combination; and
transmitting the generated PPDU.

11. The communication method according to claim 10, wherein the value of each of the plurality of RU allocation subfields is not able to indicate information on frequency-domain positions of the component RUs of the large-size RU combination.

12. The communication method according to claim 10, wherein for a PPDU bandwidth (BW) equal to or larger than 80 MHz, frequency-domain positions of component RUs of the large-size RU combination depend on one of (i) a RU allocation subfield index, and (ii) the RU allocation subfield index and an EHT-SIG content channel (CC) index.

13. The communication method according to claim 12, wherein the PPDU BW is equal to or larger than 80 MHz, and the large-size RU combination is a combination of one 484-tone RU and one 242-tone RU, the frequency-domain positions of components RUs of the large-size RU combination depend on the RU allocation subfield index and the EHT-SIG CC index.

14. The communication method according to claim 12, wherein the PPDU BW is one of 160 MHz, 80+80 MHz, 320 MHz and 160+160 MHz, and the large-size RU combination is a combination of one 996-tone RU and one 484-tone RU, the frequency-domain positions of component RUs of the large-size RU combination depend on the RU allocation subfield index; wherein the PPDU BW is one of 240 MHz and 160+80 MHz, and the large-size RU combination is a combination of one 996-tone RU and one 484-tone RU, the frequency-domain positions of component RUs of the large-size RU combination depend on the RU allocation subfield index and the EHT-SIG CC index.

15. The communication method according to claim 12, wherein the PPDU BW is one of 240 MHz, 160+80 MHz, 320 MHz and 160+160 MHz, and the large-size RU combination is a combination of two 996-tone RUs, the frequency-domain positions of component RUs of the large-size RU combination depend on the RU allocation subfield index.

16. A communication apparatus, comprising:
a receiver, which, in operation, receives a physical layer protocol data unit (PPDU) comprising two signal field content channels in each 80 MHz frequency segment, each of the two signal field content channels comprising a plurality of resource unit (RU) allocation subfields, wherein a value of each of the plurality of RU allocation subfields is indicative of sizes of component RUs of a large-size RU combination; and
circuitry, which, in operations, decodes the PPDU.

17. The communication apparatus according to claim 16, wherein a frequency position of the component RUs of the large-size RU combination is based on both of the value of each of the plurality of the RU allocation subfields and positions of each
5 of the plurality of the RU allocation subfields in the two signal field content channels.

18. The communication apparatus according to claim 16, wherein a frequency position of the component RUs of the large-size RU combination is located within a defined 160 MHz segment.
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