CLAIMS

1. A method for configuring channel access parameters in a wireless communication system, the method comprising:

selecting, at an access point:

a first enhanced distributed channel access (EDCA) parameter for a first subset of stations of a plurality of stations, the first subset of stations having a first transmission capability for transmitting multi-user uplink transmissions, and

a second EDCA parameter for a second subset of stations of the plurality of stations, the second subset of stations having a second transmission capability, the second transmission capability being different from the first transmission capability,

wherein selecting the first EDCA parameter comprises setting a shorter transmission opportunity (TXOP) limit or a larger minimum contention window (CWmin) for the first subset of stations than the TXOP limit or CWmin for the second subset of stations based on the first subset of stations having the first transmission capability for transmitting multi-user uplink transmissions;

generating an information element including the first EDCA parameter or the second EDCA parameter; and

transmitting the information element.

2. The method of claim 1, wherein the information element including the first EDCA parameter comprises at least one of a channel width and a channel center frequency.

3. The method of claim 1, wherein the information element comprises a unique value in an element identifier (ID) field of the information element.

4. The method of claim 3, wherein the ID field of the information element including the first EDCA parameter comprises a variable length of bits, the variable length of bits based on at least one of a type of signal and a service provider.

5. The method of claim 1, wherein the information element comprises an element identifier (ID)

field and an extension field, wherein a value of the element ID field and a value of the extension field uniquely identify a type of information element.

6. The method of claim 1, wherein transmitting the information element comprises transmitting the information element in a physical layer convergence procedure (PLCP) protocol data unit (PPDU) decodable by the first subset of stations of the plurality of stations and wherein the information element has a variable length.

7. The method of claim 1, wherein transmitting the information element comprises transmitting the information element in a physical layer convergence procedure (PLCP) protocol data unit (PPDU) in a multicast or unicast transmission that is only addressed to the first subset of stations.

8. The method of claim 1, wherein each of the second subset of stations is configured to send uplink transmissions in a single-user carrier sense multiple access (CSMA) mode.

9. The method of claim 8, wherein each of the second subset of stations sets a value of 1 in an uplink multi-user disable field in an Operation Mode Indicator (OMI) A-control field included in a frame sent to the access point.

10. The method of claim 1, wherein the first subset of stations are compatible with 802.11ax standard and the second subset of stations are compatible with an 802.11ac or earlier standard.

11. An apparatus for wireless communication, comprising:

a processing system configured to:

select a first enhanced distributed channel access (EDCA) parameter for a first subset of stations of a plurality of stations, the first subset of stations having a first transmission capability for transmitting multi-user uplink transmissions,

select a second EDCA parameter for a second subset of stations of the plurality of stations, the second subset of stations having a second transmission capability, the second transmission capability being different from the first transmission capability,

wherein selecting the first EDCA parameter comprises setting a shorter transmission opportunity (TXOP) limit or a larger minimum contention window (CWmin) for the first subset of stations than the TXOP limit or CWmin for the second subset of stations based on the first subset of stations having the first transmission capability for transmitting multi-user uplink transmissions, and

generate an information element including one of the first EDCA parameter and the second EDCA parameter; and

a transmitter configured to transmit the information element.

12. The apparatus of claim 11, wherein the information element including the first EDCA parameter comprises at least one of a channel width and a channel center frequency.

13. The apparatus of claim 11, wherein the information element comprises a unique value in an element identifier (ID) field of the information element.

14. The apparatus of claim 13, wherein the ID field of the information element including the first EDCA parameter comprises a variable length of bits, the variable length of bits based on at least one of a type of signal and a service provider.

15. The apparatus of claim 11, wherein the information element comprises an element identifier (ID) field and an extension field, wherein a value of the element ID field and a value of the extension field uniquely identify a type of information element.

16. The apparatus of claim 11, wherein the transmitter is further configured to transmit the information element in a physical layer convergence procedure (PLCP) protocol data unit (PPDU) decodable by the first subset of stations of the plurality of stations and wherein the information element has a variable length.

17. The apparatus of claim 11, wherein the transmitter is further configured to transmit the information element in a physical layer convergence procedure (PLCP) protocol data unit (PPDU) in a multicast or unicast transmission that is only addressed to the first subset of

stations.

18. The apparatus of claim 11, wherein each of the second subset of stations is configured to send uplink transmissions in a single-user carrier sense multiple access (CSMA) mode.

19. The apparatus of claim 11, wherein the first subset of stations are compatible with 802.11ax standard.

20. A non-transitory computer-readable medium comprising code that, when executed, causes an apparatus to:

select:

a first enhanced distributed channel access (EDCA) parameter for a first subset of stations of a plurality of stations, the first subset of stations having a first transmission capability for transmitting multi-user uplink transmissions, and

a second EDCA parameter for a second subset of stations of the plurality of stations, the second subset of stations having a second transmission capability, the second transmission capability being different from the first transmission capability,

wherein selecting the first EDCA parameter comprises setting a shorter transmission opportunity (TXOP) limit or a larger minimum contention window (CWmin) for the first subset of stations than the TXOP limit or CWmin for the second subset of stations based on the first subset of stations having the first transmission capability for transmitting multi-user uplink transmissions;

generate an information element including one of the first EDCA parameter and the second EDCA parameter; and

transmit the information element.

21. The non-transitory computer-readable medium of claim 20, wherein the information element including the first EDCA parameter comprises at least one of a channel width and a channel center frequency.

22. The non-transitory computer-readable medium of claim 20, wherein the information element

comprises a unique value in an element identifier (ID) field of the information element.

23. The non-transitory computer-readable medium of claim 22, wherein the ID field of the information element including the first EDCA parameter comprises a variable length of bits, the variable length of bits based on at least one of a type of signal and a service provider.

24. The non-transitory computer-readable medium of claim 20, wherein the information element comprises an element identifier (ID) field and an extension field, wherein a value of the element ID field and a value of the extension field uniquely identify a type of information element.

25. The non-transitory computer-readable medium of claim 20, wherein transmitting the information element comprises transmitting the information element in a physical layer convergence procedure (PLCP) protocol data unit (PPDU) decodable by the first subset of stations of the plurality of stations and wherein the information element has a variable length.

26. The non-transitory computer-readable medium of claim 20, wherein transmitting the information element comprises transmitting the information element in a physical layer convergence procedure (PLCP) protocol data unit (PPDU) in a multicast or unicast transmission that is only addressed to the first subset of stations.

27. The non-transitory computer-readable medium of claim 20, wherein each of the second subset of stations is configured to send uplink transmissions in a single-user carrier sense multiple access (CSMA) mode.

28. The non-transitory computer-readable medium of claim 27, wherein each of the second subset of stations sets a value of 1 in an uplink multi-user disable field in an Operation Mode Indicator (OMI) A-control field included in a frame sent to the apparatus.

29. The non-transitory computer-readable medium of claim 20, further comprising code that, when executed, causes the apparatus to classify a second wireless device into the subset of wireless devices, the subset of wireless devices being one of a plurality of subsets of wireless

devices, wherein the classification is based on a type of the second wireless device and a multi-user uplink capability of the second wireless device.

30. The non-transitory computer-readable medium of claim 20, further comprising code that, when executed, causes the apparatus to transmit an indication of the selection of the EDCA parameter.