CLAIMS

1. A method of wireless communication, comprising:

receiving, by a user equipment (UE), a downlink control information (DCI) message for scheduling a first communication signal, the DCI message including a cyclic prefix (CP) extension length configuration associated with a gap duration for a selected listen-before-talk (LBT) type to be used for transmitting the scheduled first communication signal, wherein the CP extension length configuration is based on at least one of a symbol duration or the gap duration; and

transmitting, by the UE, the first communication signal including a CP extension having a length determined based on the received CP extension length configuration to provide the gap duration for the selected LBT type.

2. The method of claim 1, wherein the first communication signal includes one or more symbols, and wherein a beginning symbol of the one or more symbols is prepended with the CP extension.

3. The method of claim 2, wherein transmitting the first communication signal includes:

transmitting, by the UE, the one or more symbols in an uplink direction based on a first symbol boundary.

4. The method of claim 1, wherein the CP extension length configuration further indicates that the length of the CP extension corresponds to a symbol duration subtracted by the gap duration of 25 microseconds (μs).

5. The method of claim 4, further comprising:

communicating, by the UE, with another wireless communication device before the first communication signal, a second communication signal in an uplink direction, the first communication signal and the second communication signal spaced apart by the gap duration.

6. The method of claim 1, wherein the CP extension length configuration further indicates that the length of the CP extension corresponds to a symbol duration subtracted by the gap duration and a timing advance, and wherein the gap duration is 16 microseconds (μs) or 25 μs.

7. The method of claim 6, further comprising:

communicating, by the UE, with another wireless communication device before the first communication signal, a second communication signal in a downlink direction, the first communication signal and the second communication signal spaced apart by the gap duration.

8. The method of claim 1, wherein the CP extension length configuration indicates whether the CP extension is configured to provide the gap duration for no LBT as the selected LBT type or a category two LBT as the selected LBT type.

9. The method of claim 1, wherein the CP extension length configuration indicates the length of the CP extension corresponds to at least one of:

a symbol duration subtracted by a 25 microseconds (μs) gap duration;

the symbol duration subtracted by the 25 μs gap duration and a timing advance; or

the symbol duration subtracted by a 16 μs gap duration and the timing advance.

10. The method of claim 1, wherein transmitting the first communication signal includes:

transmitting, by the UE, a physical uplink shared channel (PUSCH) signal in response to the DCI message.

11. The method of claim 1, wherein transmitting the first communication signal includes:

transmitting, by the UE, a physical uplink control channel (PUCCH) signal in response to the DCI message and a downlink communication signal associated with the DCI message.

12. The method of claim 1, wherein receiving the CP extension length configuration includes:

receiving, by the UE, a semi-static configuration indicating a set of CP extension lengths for communicating the first communication signal.

13. The method of claim 1, further comprising:

receiving, by the UE, a plurality of scheduling grants for communications in consecutive periods, each scheduling grant of the plurality of scheduling grants including a CP extension length configuration;

determining, by the UE, whether to include a CP extension in a third communication signal based on a signal detection in a first period of the consecutive periods; and

transmitting, by the UE, the third communication signal during a second period of the consecutive periods, the second period adjacent to the first period.

14. An apparatus comprising:

means for receiving, by a user equipment (UE), a downlink control information (DCI) message for scheduling a first communication signal, the DCI message including a cyclic prefix (CP) extension length configuration associated with a gap duration for a selected listen-before-talk (LBT) type to be used for transmitting the scheduled first communication signal, wherein the CP extension length configuration is based on at least one of a symbol duration or the gap duration; and

means for transmitting, by the UE, the first communication signal including a CP extension having a length based on the CP extension length configuration to provide the gap duration for the selected LBT type.

15. The apparatus of claim 14, wherein the first communication signal includes one or more symbols, and wherein a beginning symbol of the one or more symbols is prepended with the CP extension.

16. The apparatus of claim 15, wherein the means for transmitting the first communication signal includes:

means for transmitting, by the UE, the one or more symbols in an uplink direction based on a first symbol boundary.

17. The apparatus of claim 14, wherein the CP extension length configuration further indicates that the length of the CP extension corresponds to a symbol duration subtracted by the gap duration of 25 microseconds (μs).

18. The apparatus of claim 17, further comprising:

means for communicating, by the UE, with another wireless communication device before the first communication signal, a second communication signal in an uplink direction, the first communication signal and the second communication signal spaced apart by the gap duration.

19. The apparatus of claim 14, wherein the CP extension length configuration further indicates that the length of the CP extension corresponds to a symbol duration subtracted by the

gap duration and a timing advance, and wherein the gap duration is 16 microseconds (μs) or 25 μs.

20. The apparatus of claim 19, further comprising:

means for communicating, by the UE, with another wireless communication device before the first communication signal, a second communication signal in a downlink direction, the first communication signal and the second communication signal spaced apart by the gap duration.

21. The apparatus of claim 14, wherein the CP extension length configuration indicates whether the CP extension is configured to provide the gap duration for no LBT as the selected LBT type or a category two LBT as the selected LBT type.

22. The apparatus of claim 14, wherein the CP extension length configuration indicates the length of the CP extension corresponds to at least one of:

a symbol duration subtracted by a 25 microseconds (μs) gap duration;

the symbol duration subtracted by the 25 μs gap duration and a timing advance; or

the symbol duration subtracted by a 16 μs gap duration and the timing advance.

23. The apparatus of claim 14, wherein the means for transmitting the first communication signal includes:

means for transmitting, by the UE, a physical uplink shared channel (PUSCH) signal in response to the DCI message.

24. The apparatus of claim 14, wherein the means for transmitting the first communication signal includes:

means for transmitting, by the UE, a physical uplink control channel (PUCCH) signal in response to the DCI message and a downlink communication signal associated with the DCI message.

25. The apparatus of claim 14, wherein the means for receiving the CP extension length configuration includes:

means for receiving, by the UE, a semi-static configuration indicating a set of CP extension lengths for communicating the first communication signal.

26. The apparatus of claim 14, further comprising:

means for receiving, by the UE, a plurality of scheduling grants for communications in consecutive periods, each scheduling grant of the plurality of scheduling grants including a CP extension length configuration;

means for determining, by the UE, whether to include a CP extension in a third communication signal based on a signal detection in a first period of the consecutive periods; and

means for transmitting, by the UE, the third communication signal during a second period of the consecutive periods, the second period adjacent to the first period.

27. A non-transitory computer-readable medium having program code recorded thereon, the program code comprising:

code for causing the UE to implement the method according to any of claims 1 to 13.