CLAIMS

1. A method for wireless communications, comprising: receiving a semi-persistent scheduling (SPS) configuration message from a base station, the SPS configuration message comprising at least one SPS parameter for downlink SPS communications over a shared radio frequency spectrum band; determining that a message was not received on a channel of the shared radio frequency spectrum during a first subframe or slot according to the SPS configuration; identifying, based at least in part on the SPS configuration, a second subframe or slot allocated for the downlink SPS communications, wherein the second subframe or slot replaces the first subframe or slot for transmission of the message; and performing the downlink SPS communications during one or more subframes or slots according to the SPS configuration based at least in part on the determination.

2. The method of claim 1, wherein performing the downlink SPS communications comprises: receiving, based at least in part on the determination, a downlink grant indicating the second subframe or slot that replaces the first subframe or slot for transmission of the message; and receiving the message on the channel during the second subframe or slot in accordance with the downlink grant.

3. The method of claim 2, further comprising: determining that the channel is unavailable for transmission of an acknowledgement/negative acknowledgement (ACK/NACK) message during a third subframe or slot according to the downlink grant; and dropping the ACK/NACK message based at least in part on the channel being unavailable.

4. The method of claim 2, wherein receiving the downlink grant comprises: obtaining a new data indicator (NDI) field of the downlink grant that is set based at least in part on an unavailability of the channel during the first subframe or slot.

5. The method of claim 2, wherein receiving the downlink grant comprises: obtaining a new hybrid automatic repeat request (HARQ) process assignment for the message based at least in part on an unavailability of the channel during the first subframe or slot.

6. The method of claim 2, wherein the downlink grant comprises an indication of an acknowledgement/negative acknowledgement (ACK/NACK) resource associated with the message.

7. The method of claim 6, further comprising: receiving a configuration message indicating a plurality of possible physical uplink control channel (PUCCH) resources for ACK/NACK transmissions, wherein the indication of the ACK/NACK resource in the downlink grant identifies one of the possible PUCCH resources.

8. The method of claim 1, wherein performing the downlink SPS communications comprises: identifying, based at least in part on the determination, a configured window within an SPS period; and receiving a grantless transmission of the message on the channel during the second subframe or slot.

9. The method of claim 8, further comprising: determining, based at least in part on the SPS configuration, a window size of the configured window, wherein the second subframe or slot is identified based at least in part on the determining.

10. The method of claim 8, wherein identifying the second subframe or slot comprises: decoding a plurality of consecutive subframes or slots within the configured window to detect the grantless transmission of the message.

11. The method of claim 8, further comprising: receiving a configuration message indicating a window size associated with the configured window, the window size comprising a plurality of subframes or slots within the configured window.

12. The method of claim 8, further comprising: determining a transmission parameter associated with receiving the message during the first subframe or slot, wherein the grantless transmission is received based at least in part on the transmission parameter.

13. The method of claim 12, wherein the transmission parameter comprises at least one of: a modulation and coding scheme (MCS) to be used for reception of the message during the first subframe or slot, or a resource allocation scheme associated with the reception of the message during the first subframe or slot, or a combination thereof.

14. The method of claim 8, further comprising: transmitting, based at least in part on receiving the message and in accordance with the SPS configuration, at least one of an acknowledgement (ACK) message using a first physical random access channel (PRACH) waveform or a negative acknowledgement (NACK) message using a second PRACH waveform.

15. The method of claim 1, wherein performing the downlink SPS communications comprises: detecting an SPS trigger in a control signal of a subframe or slot, the SPS trigger based at least in part on the SPS parameter; and receiving a downlink message in the subframe or slot in accordance with the SPS trigger.

16. The method of claim 15, further comprising: descrambling a downlink control indicator (DCI) of the control signal using an identifier associated with the SPS configuration to detect the SPS trigger.

17. The method of claim 16, wherein the identifier comprises a group common SPS cell radio network temporary identifier (GC-SPS C-RNTI).

18. The method of claim 15, further comprising: monitoring a plurality of subframes or slots within a configured window within an SPS period to detect the SPS trigger, wherein the plurality of subframes or slots comprise the subframe or slot.

19. The method of claim 15, wherein the at least one SPS parameter comprises an SPS periodicity, or a number of hybrid automatic repeat/request (HARD) processes associated with the SPS configuration, or a combination thereof.

20. The method of claim 15, wherein the SPS configuration message does not identify the subframe or slot for an SPS transmission of the downlink message.

21. The method of claim 15, further comprising: decoding a group common physical downlink control channel (GC-PDCCH) to detect the SPS trigger.

22. The method of claim 21, wherein the GC-PDCCH indicates the SPS trigger for the UE and for at least one additional UE.

23. The method of claim 1, wherein performing the downlink SPS communications comprises: determining that no SPS packet was received at the one or more subframes or slots allocated for the downlink SPS communications; detecting an SPS trigger at a subsequent subframe or slot based at least in part on the determining; and receiving a message on a channel during the subsequent subframe or slot and in accordance with the SPS trigger.

24. A method for wireless communications, comprising: identifying one or more user equipment (UE) for performing downlink semi-persistent scheduling (SPS) communications over a shared radio frequency spectrum band; transmitting an SPS configuration message to the one or more UEs that comprises at least one SPS parameter for the downlink SPS communications over the shared radio frequency spectrum band; determining that a channel of the shared radio frequency spectrum is unavailable for a transmission of a message during a first subframe or slot according to the SPS configuration; identifying a second subframe or slot allocated for the downlink SPS communications, wherein the second subframe or slot replaces the first subframe or slot for transmissions of the message; and performing the downlink SPS communications during one or more subframes or slots according to the SPS configuration based at least in part on the determination.

25. The method of claim 24, wherein performing the downlink SPS communications comprises:

transmitting a downlink grant based at least in part on the unavailability of the channel, the downlink grant indicating the second subframe or slot that replaces the first subframe or slot for transmission of the message; and attempting to transmit the message on the channel during the second subframe or slot in accordance with the downlink grant.

26. The method of claim 25, further comprising: setting a new data indicator (NDI) field of the downlink grant based at least in part on the unavailability of the channel.

27. The method of claim 25, wherein attempting to transmit the message on the channel during the second subframe or slot comprises: determining that the channel is unavailable during the second subframe or slot for transmitting the message; and assigning the message to a new hybrid automatic repeat request (HARQ) process based at least in part on the unavailability of the channel during the second subframe or slot.

28. The method of claim 25, wherein the downlink grant comprises an indication of an acknowledgement/negative acknowledgement (ACK/NACK) resource associated with the message.

29. The method of claim 28, further comprising: transmitting a configuration message indicating a plurality of possible physical uplink control channel (PUCCH) resources for ACK/NACK transmissions, wherein the indication of the ACK/NACK resource in the downlink grant identifies one of the possible PUCCH resources.

30. The method of claim 25, wherein attempting to transmit the message on the channel during the second subframe or slot comprises: determining that the channel is unavailable during the second subframe or slot for transmitting the message; and dropping a packet comprising the message based on the unavailability of the channel during the second subframe or slot.

31. The method of claim 25, wherein attempting to transmit the message on the channel during the second subframe or slot comprises: performing a clear channel assessment (CCA) on the channel prior to the second subframe or slot; and transmitting the message on the channel during the second subframe or slot based on a result of the CCA.

32. The method of claim 24, wherein performing the downlink SPS communications comprises: performing a grantless transmission of the message on the channel during the selected second subframe or slot.

33. The method of claim 32, further comprising: determining a window size associated with a configured window within an SPS period, wherein the second subframe or slot is selected based at least in part on the window size.

34. The method of claim 33, further comprising: transmitting a configuration message indicating a window size associated with the configured window, the window size comprising a plurality of subframes or slots within the configured window.

35. The method of claim 32, further comprising: determining a transmission parameter associated with transmission of the message during the first subframe or slot, wherein the grantless transmission is performed based at least in part on the transmission parameter.

36. The method of claim 35, wherein the transmission parameter comprises at least one of: a modulation and coding scheme (MCS) to be used for transmission of the message during the first subframe or slot, or a resource allocation scheme associated with the transmission of the message during the first subframe or slot, or a combination thereof.

37. The method of claim 32, further comprising: identifying a first physical random access channel (PRACH) waveform to use for acknowledgement (ACK) messages transmitted in accordance with the SPS configuration; and identifying a second PRACH waveform to use for negative acknowledgement (NACK) messages transmitted in accordance with the SPS configuration.

38. The method of claim 32, further comprising: determining that a defined number of user equipment (UE) are associated with active SPS processes; and selecting an SPS periodicity of the SPS configuration based at least in part on the determining.

39. The method of claim 24, wherein performing the downlink SPS communications comprises: selecting a subframe or slot for an SPS transmission of a downlink message to a UE of the one or more UEs; transmitting a control signal during the subframe or slot, the control signal comprising an SPS trigger based at least in part on the SPS parameter for the UE; and transmitting the downlink message to the UE during the subframe or slot in accordance with the SPS trigger.

40. The method of claim 39, wherein the at least one SPS parameter comprises an SPS periodicity, or a number of hybrid automatic repeat/request (HARD) processes associated with the SPS configuration, or a combination thereof.

41. The method of claim 39, wherein the SPS configuration message does not identify the subframe or slot for the SPS transmission of the downlink message.

42. The method of claim 39, further comprising: configuring a group common physical downlink control channel (GC-PDCCH) to indicate the SPS trigger for the UE.

43. The method of claim 42, further comprising: configuring one or more bits in the GC-PDCCH to indicate the SPS trigger for the UE and at least one additional UE.

44. The method of claim 39, further comprising: scrambling a downlink control indicator (DCI) of the control signal using an identifier associated with the SPS configuration to indicate the SPS trigger.

45. The method of claim 44, wherein the identifier comprises a group common SPS cell radio network temporary identifier (GC-SPS C-RNTI).

46. An apparatus for wireless communications, comprising: a processor; memory in electronic communication with the processor; and instructions stored in the memory and executable by the processor to: receive a semi-persistent scheduling (SPS) configuration message from a base station, the SPS configuration message comprising at least one SPS parameter for downlink SPS communications over a shared radio frequency spectrum band; determining that a message was not received on a channel of the shared radio frequency spectrum during a first subframe or slot according to the SPS configuration; identify, based at least in part on the SPS configuration, a second subframe or slot allocated for the downlink SPS communications, wherein the second subframe or slot replaces the first subframe or slot for transmission of the message; and perform the downlink SPS communications during one or more subframes or slots according to the SPS configuration based at least in part on the determination.

47. The apparatus of claim 46, wherein the instructions executable by the processor to perform the downlink SPS communications comprise instructions executable by the processor to: receive, based at least in part on the determination, a downlink grant indicating the second subframe or slot that replaces the first subframe or slot for transmission of the message; and receive the message on the channel during the second subframe or slot in accordance with the downlink grant.

48. An apparatus for wireless communications, comprising: a processor; memory in electronic communication with the processor; and instructions stored in the memory, wherein the instructions are executable by the processor to: identify one or more user equipment (UE) for performing downlink semi-persistent scheduling (SPS) communications over a shared radio frequency spectrum band; transmit an SPS configuration message to the one or more UEs that comprises at least one SPS parameter for the downlink SPS communications over the shared radio frequency spectrum band; determine that a channel of the shared radio frequency spectrum is unavailable for a transmission of a message during a first subframe or slot according to the SPS configuration; identify a second subframe or slot allocated for the downlink SPS communications, wherein the second subframe or slot replaces the first subframe or slot for

transmissions of the message; and perform the downlink SPS communications during one or more subframes or slots according to the SPS configuration based at least in part on the determination.

49. The apparatus of claim 48, wherein the instructions executable by the processor to perform the downlink SPS communications comprise instructions executable by the processor to: transmit a downlink grant based at least in part on the unavailability of the channel, the downlink grant indicating the second subframe or slot that replaces the first subframe or slot for transmission of the message; and attempt to transmit the message on the channel during the second subframe or slot in accordance with the downlink grant.