CLAIMS

1. A method for wireless communication at a wireless device, comprising: identifying an anchor channel for transmission of a synchronization signal and a plurality of physical hopping channels for transmission of data; mapping each physical hopping channel of the plurality of physical hopping channels to a corresponding logical hopping channel of a plurality of logical hopping channels; determining a hopping sequence to be used for communication of data on the plurality of logical hopping channels such that every logical channel within the plurality of logical hopping channels is used an equal number of times within a period of time; and communicating data on the plurality of logical hopping channels in accordance with the hopping sequence.

2. The method of claim 1, further comprising: determining a pseudo-random hopping sequence based at least in part on a physical cell identifier (PCI) associated with the wireless device and a plurality of subframe numbers to be used for the communication of the data, wherein each physical hopping channel of the plurality of physical hopping channels is mapped to a corresponding logical hopping channel of the plurality of logical hopping channels based at least in part on the pseudo-random hopping sequence.

3. The method of claim 1, further comprising: identifying a number of the plurality of logical hopping channels; and determining a modulo of a pseudo-random number with the number of the plurality of logical hopping channels, wherein each physical hopping channel of the plurality of physical hopping channels is mapped to a corresponding logical hopping channel of the plurality of logical hopping channels based at least in part on the modulo of the pseudo-random number.

4. The method of claim 3, further comprising: determining the pseudo-random number using a pseudo-random number generator whose inputs include portions of bit representations of a PCI associated with the wireless device and a plurality of subframe numbers to be used for the communication of the data identifying a number of the plurality of logical hopping channels.

5. The method of claim 4, wherein most significant bits of the PCI and least significant bits of the plurality of subframe numbers are used in determining the pseudo-random number.

6. The method of claim 3, further comprising: determining the pseudo-random number using a permutation function.

7. The method of claim 6, wherein the permutation function comprises a permutation five function.

8. The method of claim 1, wherein the synchronization signal includes at least one of a primary synchronization signal, a secondary synchronization signal, a physical broadcast

channel, a system information block.

9. The method of claim 1, wherein the communication of data is over an unlicensed spectrum.

10. The method of claim 1, wherein the wireless device comprises a user equipment (UE), and wherein communicating data on the plurality of logical hopping channels in accordance with the hopping sequence further comprises: receiving, from a base station, one or more downlink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence; and transmitting, to the base station, one or more uplink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence.

11. The method of claim 1, wherein the wireless device comprises a base station, and wherein communicating data on the plurality of logical hopping channels in accordance with the hopping sequence further comprises: transmitting, to a user equipment (UE), one or more downlink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence; and receiving, from the UE, one or more uplink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence.

12. An apparatus for wireless communication, 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 an anchor channel for transmission of a synchronization signal and a plurality of physical hopping channels for transmission of data; map each physical hopping channel of the plurality of physical hopping channels to a corresponding logical hopping channel of a plurality of logical hopping channels; determine a hopping sequence to be used for communication of data on the plurality of logical hopping channels such that every logical channel within the plurality of logical hopping channels is used an equal number of times within a period of time; and communicate data on the plurality of logical hopping channels in accordance with the hopping sequence.

13. The apparatus of claim 12, wherein the instructions executable by the processor further comprise instructions executable by the processor to: determine a pseudo-random hopping sequence based at least in part on a physical cell identifier (PCI) associated with the apparatus and a plurality of subframe numbers to be used for the communication of the data, wherein each physical hopping channel of the plurality of physical hopping channels is mapped to a corresponding logical hopping channel of the plurality of logical hopping channels based at least in part on the pseudo-random hopping sequence.

14. The apparatus of claim 12, wherein the instructions executable by the processor further comprise instructions executable by the processor to: identify a number of the plurality of logical hopping channels; and determine a modulo of a pseudo-random number with the number of the plurality of logical hopping channels, wherein each physical hopping channel of the plurality of physical hopping channels is mapped to a corresponding logical hopping channel of the plurality of logical hopping channels based at least in part on the modulo of the pseudo-random number.

15. The apparatus of claim 14, wherein the instructions executable by the processor further comprise instructions executable by the processor to: determine the pseudo-random number using a pseudo-random number generator whose inputs include portions of bit representations of a PCI associated with the apparatus and a plurality of subframe numbers to be used for the communication of the data identifying a number of the plurality of logical hopping channels.

16. The apparatus of claim 15, wherein most significant bits of the PCI and least significant bits of the plurality of subframe numbers are used in determining the pseudo-random number.

17. The apparatus of claim 14, wherein the instructions executable by the processor further comprise instructions executable by the processor to: determine the pseudo-random number using a permutation function.

18. The apparatus of claim 17, wherein the permutation function comprises a permutation five function.

19. The apparatus of claim 12, wherein the synchronization signal includes at least one of a primary synchronization signal, a secondary synchronization signal, a physical broadcast channel, a system information block.

20. The apparatus of claim 12, wherein the communication of data is over an unlicensed spectrum.

21. The apparatus of claim 12, wherein the apparatus comprises a user equipment (UE), and wherein the instructions executable by the processor to communicate data on the plurality of logical hopping channels in accordance with the hopping sequence comprise instructions executable by the processor to: receive, from a base station, one or more downlink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence; and transmit, to the base station, one or more uplink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence.

22. The apparatus of claim 12, wherein the apparatus comprises a base station, and wherein the instructions executable by the processor to communicate data on the plurality of logical hopping channels in accordance with the hopping sequence comprise instructions executable by the processor to: transmit, to a user equipment (UE), one or more downlink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence; and receive, from the UE, one or more uplink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence.

23. An apparatus for wireless communication, comprising: means for identifying an anchor channel for transmission of a synchronization signal and a plurality of physical hopping channels for transmission of data; means for mapping each physical hopping channel of the plurality of physical hopping channels to a corresponding logical hopping channel of a

plurality of logical hopping channels; means for determining a hopping sequence to be used for communication of data on the plurality of logical hopping channels such that every logical channel within the plurality of logical hopping channels is used an equal number of times within a period of time; and means for communicating data on the plurality of logical hopping channels in accordance with the hopping sequence.

24. The apparatus of claim 23, further comprising: means for determining a pseudo-random hopping sequence based at least in part on a physical cell identifier (PCI) associated with the apparatus and a plurality of subframe numbers to be used for the communication of the data, wherein each physical hopping channel of the plurality of physical hopping channels is mapped to a corresponding logical hopping channel of the plurality of logical hopping channels based at least in part on the pseudo-random hopping sequence.

25. The apparatus of claim 23, further comprising: means for identifying a number of the plurality of logical hopping channels; and means for determining a modulo of a pseudo-random number with the number of the plurality of logical hopping channels, wherein each physical hopping channel of the plurality of physical hopping channels is mapped to a corresponding logical hopping channel of the plurality of logical hopping channels based at least in part on the modulo of the pseudo-random number.

26. The apparatus of claim 25, further comprising: means for determining the pseudo-random number using a pseudo-random number generator whose inputs include portions of bit representations of a PCI associated with the apparatus and a plurality of subframe numbers to be used for the communication of the data identifying a number of the plurality of logical hopping channels.

27. The apparatus of claim 26, wherein most significant bits of the PCI and least significant bits of the plurality of subframe numbers are used in determining the pseudo-random number.

28. The apparatus of claim 25, further comprising: means for determining the pseudo-random number using a permutation function.

29. The apparatus of claim 28, wherein the permutation function comprises a permutation five function.

30. The apparatus of claim 23, wherein the synchronization signal includes at least one of a primary synchronization signal, a secondary synchronization signal, a physical broadcast channel, a system information block.

31. The apparatus of claim 23, wherein the communication of data is over an unlicensed spectrum.

32. The apparatus of claim 23, wherein the apparatus comprises a user equipment (UE), and wherein the means for communicating data on the plurality of logical hopping channels in

accordance with the hopping sequence further comprises: means for receiving, from a base station, one or more downlink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence; and means for transmitting, to the base station, one or more uplink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence.

33. The apparatus of claim 23, wherein the apparatus comprises a base station, and wherein the means for communicating data on the plurality of logical hopping channels in accordance with the hopping sequence further comprises: means for transmitting, to a user equipment (UE), one or more downlink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence; and means for receiving, from the UE, one or more uplink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence.

34. A non-transitory computer-readable medium storing code for wireless communication at a wireless device, the code comprising instructions executable to: identify an anchor channel for transmission of a synchronization signal and a plurality of physical hopping channels for transmission of data; map each physical hopping channel of the plurality of physical hopping channels to a corresponding logical hopping channel of a plurality of logical hopping channels; determine a hopping sequence to be used for communication of data on the plurality of logical hopping channels such that every logical channel within the plurality of logical hopping channels is used an equal number of times within a period of time; and communicate data on the plurality of logical hopping channels in accordance with the hopping sequence.

35. The non-transitory computer-readable medium of claim 34, wherein the instructions are further executable to: determine a pseudo-random hopping sequence based at least in part on a physical cell identifier (PCI) associated with the wireless device and a plurality of subframe numbers to be used for the communication of the data, wherein each physical hopping channel of the plurality of physical hopping channels is mapped to a corresponding logical hopping channel of the plurality of logical hopping channels based at least in part on the pseudo-random hopping sequence.

36. The non-transitory computer-readable medium of claim 34, wherein the instructions are further executable to: identify a number of the plurality of logical hopping channels; and determine a modulo of a pseudo-random number with the number of the plurality of logical hopping channels, wherein each physical hopping channel of the plurality of physical hopping channels is mapped to a corresponding logical hopping channel of the plurality of logical hopping channels based at least in part on the modulo of the pseudo-random number.

37. The non-transitory computer-readable medium of claim 36, wherein the instructions are further executable to: determine the pseudo-random number using a pseudo-random number generator whose inputs include portions of bit representations of a PCI associated with the wireless device and a plurality of subframe numbers to be used for the communication of the

data identifying a number of the plurality of logical hopping channels.

38. The non-transitory computer-readable medium of claim 37, wherein most significant bits of the PCI and least significant bits of the plurality of subframe numbers are used in determining the pseudo-random number.

39. The non-transitory computer-readable medium of claim 36, wherein the instructions are further executable to: determine the pseudo-random number using a permutation function.

40. The non-transitory computer-readable medium of claim 39, wherein the permutation function comprises a permutation five function.

41. The non-transitory computer-readable medium of claim 34, wherein the synchronization signal includes at least one of a primary synchronization signal, a secondary synchronization signal, a physical broadcast channel, a system information block.

42. The non-transitory computer-readable medium of claim 34, wherein the communication of data is over an unlicensed spectrum.

43. The non-transitory computer-readable medium of claim 34, wherein the wireless device comprises a user equipment (UE), and wherein the instructions to communicate data on the plurality of logical hopping channels in accordance with the hopping sequence are executable to: receive, from a base station, one or more downlink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence; and transmit, to the base station, one or more uplink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence.

44. The non-transitory computer-readable medium of claim 34, wherein the wireless device comprises a base station, and wherein the instructions to communicate data on the plurality of logical hopping channels in accordance with the hopping sequence are executable to: transmit, to a user equipment (UE), one or more downlink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence; and receive, from the UE, one or more uplink transmissions on the plurality of logical hopping channels in accordance with the hopping sequence.