CLAIMS

1. A method for wireless communications, comprising: synchronizing, in an aligned clear channel assessment (CCA) period comprising a plurality of Orthogonal Frequency-Division Multiplexing (OFDM) symbol positions, CCA slots across a plurality of base stations to determine availability of an unlicensed spectrum for transmissions in a next transmission interval, wherein a first CCA slot of the CCA slots is aligned with a first OFDM symbol position of the plurality of OFDM symbol positions and a second CCA slot of the CCA slots is aligned with a second OFDM symbol position of the OFDM symbol positions.

2. The method of claim 1, wherein the transmissions comprise downlink transmissions.

3. The method of claim 1, wherein the CCA slots are located in a last subframe of a current gating interval.

4. The method of claim 1, wherein the CCA slots are located in a first subframe of a current gating interval.

5. The method of claim 1, wherein an interval between commencement of adjacent CCA slots is approximately a duration of an OFDM symbol.

6. The method of claim 1, further comprising: identifying one of the CCA slots in which to determine the availability of the unlicensed spectrum, wherein the one CCA slot is identified based at least in part on a pseudo-random selection sequence driven by a randomization seed.

7. The method of claim 6, wherein a subset of the plurality of base stations use the same randomization seed for their pseudo-random selection sequence generation, the subset being associated with a deployment of base stations by a single operator.

8. The method of claim 1, wherein the first OFDM symbol position and the second OFDM symbol position are nonadjacent.

9. An apparatus for wireless communications, comprising: means for synchronizing, in an aligned clear channel assessment (CCA) period comprising a plurality of Orthogonal Frequency-Division Multiplexing (OFDM) symbol positions, CCA slots across a plurality of base stations to determine availability of an unlicensed spectrum for transmissions in a next transmission interval, wherein a first CCA slot of the CCA slots is aligned with a first OFDM symbol position of the plurality of OFDM symbol positions and a second CCA slot of the CCA slots is aligned with a second OFDM symbol position of the OFDM symbol positions.

10. The apparatus of claim 9, wherein the transmissions comprise downlink transmissions.

11. The apparatus of claim 9, wherein the CCA slots are located in a last subframe of a current gating interval.

12. The apparatus of claim 9, wherein the CCA slots are located in a first subframe of a current gating interval.

13. The apparatus of claim 9, wherein an interval between commencement of adjacent CCA slots is approximately a duration of an OFDM symbol.

14. The apparatus of claim 9, further comprising: means for identifying one of the CCA slots in which to determine the availability of unlicensed spectrum, wherein the one CCA slot is identified based at least in part on a pseudo-random selection sequence driven by a randomization seed.

15. The apparatus of claim 14, wherein a subset of the plurality of base stations use the same randomization seed for their pseudo-random selection sequence generation, the subset being associated with a deployment of base stations by a single operator.

16. The apparatus of claim 9, wherein the first OFDM symbol position and the second OFDM symbol position are nonadjacent.

17. An apparatus for wireless communications, comprising: a processor; memory in electronic communication with the processor; and instructions stored in the memory, the instructions being executable by the processor to: synchronize, in an aligned clear channel assessment (CCA) period comprising a plurality of Orthogonal Frequency-Division Multiplexing (OFDM) symbol positions, CCA slots across a plurality of base stations to determine availability of an unlicensed spectrum for transmissions in a next transmission interval, wherein a first CCA slot of the CCA slots is aligned with a first OFDM symbol position of the plurality of OFDM symbol positions and a second CCA slot of the CCA slots is aligned with a second OFDM symbol position of the OFDM symbol positions.

18. The apparatus of claim 17, wherein the transmissions comprise downlink transmissions.

19. The apparatus of claim 17, wherein the CCA slots are located in a last subframe of a current gating interval.

20. The apparatus of claim 17, wherein the CCA slots are located in a first subframe of a current gating interval.

21. The apparatus of claim 17, wherein an interval between commencement of adjacent CCA slots is approximately a duration of an OFDM symbol.

22. The apparatus of claim 17, wherein the instructions are executable by the processor to: identify one of the CCA slots in which to determine the availability of unlicensed spectrum, wherein the one CCA slot is identified based at least in part on a pseudo-random selection sequence driven by a randomization seed.

23. The apparatus of claim 22, wherein a subset of the plurality of base stations use the same randomization seed for their pseudo-random selection sequence generation, the subset being associated with a deployment of base stations by a single operator.

24. The apparatus of claim 17, wherein the first OFDM symbol position and the second OFDM symbol position are nonadjacent.

25. A computer program product for communications by a wireless communications apparatus in a wireless communications system, the computer program product comprising a non-transitory computer-readable medium storing instructions executable by a processor to cause the wireless communications apparatus to: synchronize, in an aligned clear channel assessment (CCA) period comprising a plurality of Orthogonal Frequency-Division Multiplexing (OFDM) symbol positions, CCA slots across a plurality of base stations to determine availability of an unlicensed spectrum for transmissions in a next transmission interval, wherein a first CCA slot of the CCA slots is aligned with a first OFDM symbol position of the plurality of OFDM symbol positions and a second CCA slot of the CCA slots is aligned with a second OFDM symbol position of the OFDM symbol positions.

26. The computer program product of claim 25, wherein the transmissions comprise downlink transmissions.

27. The computer program product of claim 25, wherein the CCA slots are located in a last subframe of a current gating interval.

28. The computer program product of claim 25, wherein the CCA slots are located in a first subframe of a current gating interval.

29. The computer program product of claim 25, wherein an interval between commencement of adjacent CCA slots is approximately a duration of an OFDM symbol.

30. The computer program product of claim 25, wherein the instructions are executable by the

processor to cause the wireless communications apparatus to: identify one of the CCA slots in which to determine the availability of unlicensed spectrum, wherein the one CCA slot is identified based at least in part on a pseudo-random selection sequence driven by a randomization seed.

31. The computer program product of claim 30, wherein a subset of the plurality of base stations use the same randomization seed for their pseudo-random selection sequence generation, the subset being associated with a deployment of base stations by a single operator.

32. The computer program product of claim 25, wherein the first OFDM symbol position and the second OFDM symbol position are nonadjacent.

33. A method for wireless communications, comprising: performing, in an aligned clear channel assessment (CCA) period comprising a plurality of Orthogonal Frequency-Division Multiplexing (OFDM) symbol positions, a CCA during one of a plurality of CCA slots synchronized across a plurality of evolved Node Bs (eNBs) to determine availability of unlicensed spectrum for transmissions in a next transmission interval, wherein a first CCA slot of the CCA slots is aligned with a first OFDM symbol position of the plurality of OFDM symbol positions and a second CCA slot of the CCA slots is aligned with a second OFDM symbol position of the OFDM symbol positions.

34. The method of claim 33, wherein the transmissions comprise downlink transmissions.

35. The method of claim 33, wherein two or more of the eNBs use the same CCA slot to perform CCA during a gating interval.

36. The method of claim 33, further comprising: identifying the one CCA slot based at least in part on a pseudo-random selection sequence generated from a randomization seed.

37. The method of claim 33, further comprising: identifying the one CCA slot based at least in part on coordination information exchanged between at least a subset of the plurality of eNBs over a backhaul.

38. The method of claim 33, further comprising: transmitting, when the unlicensed spectrum is determined to be available, one or more signals before the next transmission interval to reserve the unlicensed spectrum during the next transmission interval.

39. The method of claim 38, wherein each of the one or more signals starts at a boundary of one of the plurality of CCA slots.

40. The method of claim 38, wherein the one or more signals comprise at least one pilot signal for one or both of time-frequency synchronization and channel quality estimation over the unlicensed spectrum.

41. The method of claim 40, wherein the at least one pilot signal is used by a user equipment (UE) to make channel quality measurements on different resource elements to report a channel quality to the respective one of the plurality of eNBs.

42. The method of claim 40, further comprising: receiving at one of the plurality of eNBs a report of a channel quality from a respective UE in response to the one or more signals, the report being based at least on channel quality measurements made by the UE on different resource elements using the at least one pilot signal; and allocating resource elements for transmissions from the one eNB to the respective UE to provide fractional resource reuse among multiple UEs to avoid interference.

43. The method of claim 33, wherein the first OFDM symbol position and the second OFDM symbol position are nonadjacent.

44. An apparatus for wireless communications, comprising: means for performing, in an aligned clear channel assessment (CCA) period comprising a plurality of Orthogonal Frequency-Division Multiplexing (OFDM) symbol positions, a CCA during one of a plurality of CCA slots synchronized across a plurality of evolved Node Bs (eNBs) to determine availability of unlicensed spectrum for transmissions in a next transmission interval, wherein a first CCA slot of the CCA slots is aligned with a first OFDM symbol position of the plurality of OFDM symbol positions and a second CCA slot of the CCA slots is aligned with a second OFDM symbol position of the OFDM symbol positions.

45. The apparatus of claim 44, wherein the transmissions comprise downlink transmissions.

46. The apparatus of claim 44, wherein two or more of the eNBs use the same CCA slot to perform CCA during a gating interval.

47. The apparatus of claim 44, further comprising: means for identifying the one CCA slot based at least in part on a pseudo-random selection sequence generated from a randomization seed.

48. The apparatus of claim 44, further comprising: means for identifying the one CCA slot based at least in part on coordination information exchanged between at least a subset of the plurality of eNBs over a backhaul.

49. The apparatus of claim 44, further comprising: means for transmitting, when the unlicensed

spectrum is determined to be available, one or more signals before the next transmission interval to reserve the unlicensed spectrum during the next transmission interval.

50. The apparatus of claim 49, wherein each of the one or more signals starts at a boundary of one of the plurality of CCA slots.

51. The apparatus of claim 49, wherein the one or more signals comprise at least one pilot signal for one or both of time-frequency synchronization and channel quality estimation over the unlicensed spectrum.

52. The apparatus of claim 51, wherein the at least one pilot signal is used by a user equipment (UE) to make channel quality measurements on different resource elements to report a channel quality to the respective one of the plurality of eNBs.

53. The apparatus of claim 51, further comprising: means for receiving at one of the plurality of eNBs a report of a channel quality from a respective UE in response to the one or more signals, the report being based at least on channel quality measurements made by the UE on different resource elements using the at least one pilot signal; and means for allocating resource elements for transmissions from the one eNB to the respective UE to provide fractional resource reuse among multiple UEs to avoid interference.

54. The apparatus of claim 44, wherein the first OFDM symbol position and the second OFDM symbol position are nonadjacent.

55. An apparatus for wireless communications, comprising: a processor; memory in electronic communication with the processor; and instructions stored in the memory, the instructions being executable by the processor to: perform, in an aligned clear channel assessment (CCA) period comprising a plurality of Orthogonal Frequency-Division Multiplexing (OFDM) symbol positions, a CCA during one of a plurality of CCA slots synchronized across a plurality of evolved Node Bs (eNBs) to determine availability of unlicensed spectrum for transmissions in a next transmission interval, wherein a first CCA slot of the CCA slots is aligned with a first OFDM symbol position of the plurality of OFDM symbol positions and a second CCA slot of the CCA slots is aligned with a second OFDM symbol position of the OFDM symbol positions.

56. The apparatus of claim 55, wherein the transmissions comprise downlink transmissions.

57. The apparatus of claim 55, wherein two or more of the eNBs use the same CCA slot to perform CCA during a gating interval.

58. The apparatus of claim 55, wherein the instructions are further executable by the processor

to: identify the one CCA slot based at least in part on a pseudo-random selection sequence generated from a randomization seed.

59. The apparatus of claim 55, wherein the instructions are further executable by the processor to: identify the one CCA slot based at least in part on coordination information exchanged between at least a subset of the plurality of eNBs over a backhaul.

60. The apparatus of claim 55, wherein the instructions are further executable by the processor to: transmit, when the unlicensed spectrum is determined to be available, one or more signals before the next transmission interval to reserve the unlicensed spectrum during the next transmission interval.

61. The apparatus of claim 60, wherein each of the one or more signals starts at a boundary of one of the plurality of CCA slots.

62. The apparatus of claim 60, wherein the one or more signals comprise at least one pilot signal for one or both of time-frequency synchronization and channel quality estimation over the unlicensed spectrum.

63. The apparatus of claim 62, wherein the at least one pilot signal is used by a user equipment (UE) to make channel quality measurements on different resource elements to report a channel quality to the respective one of the plurality of eNBs.

64. The apparatus of claim 62, wherein the instructions are further executable by the processor to: receive at one of the plurality of eNBs a report of a channel quality from a respective UE in response to the one or more signals, the report being based at least on channel quality measurements made by the UE on different resource elements using the at least one pilot signal; and allocate resource elements for transmissions from the one eNB to the respective UE to provide fractional resource reuse among multiple UEs to avoid interference.

65. The apparatus of claim 55, wherein the first OFDM symbol position and the second OFDM symbol position are nonadjacent.

66. A computer program product for communications by a wireless communications apparatus in a wireless communications system, the computer program product comprising a non-transitory computer-readable medium storing instructions executable by a processor to cause the wireless communications apparatus to: perform, in an aligned clear channel assessment (CCA) period comprising a plurality of Orthogonal Frequency-Division Multiplexing (OFDM) symbol positions, a CCA during one of a plurality of CCA slots synchronized across a plurality of evolved Node Bs (eNBs) to determine availability of unlicensed spectrum for transmissions in a

next transmission interval, wherein a first CCA slot of the CCA slots is aligned with a first OFDM symbol position of the plurality of OFDM symbol positions and a second CCA slot of the CCA slots is aligned with a second OFDM symbol position of the OFDM symbol positions.

67. The computer program product of claim 66, wherein the transmissions comprise downlink transmissions.

68. The computer program product of claim 66, wherein two or more of the eNBs use the same CCA slot to perform CCA during a gating interval.

69. The computer program product of claim 66, wherein the instructions are executable by the processor to cause the wireless communications apparatus to: identify the one CCA slot based at least in part on a pseudo-random selection sequence generated from a randomization seed.

70. The computer program product of claim 66, wherein the instructions are executable by the processor to cause the wireless communications apparatus to: identify the one CCA slot based at least in part on coordination information exchanged between at least a subset of the plurality of eNBs over a backhaul.

71. The computer program product of claim 66, wherein the instructions are executable by the processor to cause the wireless communications apparatus to: transmit, when the unlicensed spectrum is determined to be available, one or more signals before the next transmission interval to reserve the unlicensed spectrum during the next transmission interval.

72. The computer program product of claim 71, wherein each of the one or more signals starts at a boundary of one of the plurality of CCA slots.

73. The computer program product of claim 71, wherein the one or more signals comprise at least one pilot signal for one or both of time-frequency synchronization and channel quality estimation over the unlicensed spectrum.

74. The computer program product of claim 73, wherein the at least one pilot signal is used by a user equipment (UE) to make channel quality measurements on different resource elements to report a channel quality to the respective one of the plurality of eNB s.

75. The computer program product of claim 73, wherein the instructions are executable by the processor to cause the wireless communications apparatus to: receive at one of the plurality of eNBs a report of a channel quality from a respective UE in response to the one or more signals, the report being based at least on channel quality measurements made by the UE on different resource elements using the at least one pilot signal; and allocate resource elements for

transmissions from the one eNB to the respective UE to provide fractional resource reuse among multiple UEs to avoid interference.

76. The computer program product of claim 66, wherein the first OFDM symbol position and the second OFDM symbol position are nonadjacent.