

CLAIMS

What is claimed is:

1. ~~—A method for wireless communications, comprising:~~
~~transmitting a first Orthogonal Frequency Division Multiple Access (OFDMA) communications signal to a wireless node in a licensed spectrum; and~~
~~transmitting, concurrently with the transmission of the first OFDMA communications signal, a second OFDMA communications signal to the wireless node in an unlicensed spectrum.~~
2. ~~—The method of claim 1, wherein the transmission of the second OFDMA communications signal in the unlicensed spectrum is time-synchronized with the first OFDMA communications signal in the licensed spectrum, with a fixed offset between a frame structure of the first OFDMA communications signal and a frame structure of the second OFDMA communications signal.~~
3. ~~—The method of claim 2, wherein the fixed offset is equal to zero.~~
4. ~~—The method of claim 1, further comprising:~~
~~receiving, concurrently with the transmission of the first and second OFDMA communications signals, a first Single Carrier Frequency Division Multiple Access (SC-FDMA) communications signal from the wireless node in the licensed spectrum.~~
5. ~~—The method of claim 4, further comprising:~~
~~receiving, concurrently with the transmission of the first and second OFDMA communications signals, a second SC-FDMA communications signal from the wireless node in the unlicensed spectrum.~~
6. ~~—The method of claim 4, wherein the first SC-FDMA communications signal received from the wireless node in the licensed spectrum carries signaling or other control information related to the second OFDMA communications signal transmitted in the unlicensed spectrum.~~
7. ~~—The method of claim 6, further comprising:~~
~~receiving, concurrently with the transmission of the first and second OFDMA communications signals, a second SC-FDMA communications signal from the wireless node in the unlicensed spectrum.~~

8. — ~~The method of claim 1, further comprising:~~

~~receiving, concurrently with the transmission of the first and second OFDMA communications signals, a first SC-FDMA communications signal from the wireless node in the licensed spectrum and a second SC-FDMA communications signal from the wireless node in the unlicensed spectrum.~~

9. — ~~The method of claim 1, wherein the wireless node comprises a user equipment (UE).~~

10. — ~~The method of claim 1, wherein the first and second OFDMA communications signals are transmitted from an evolved Node B (eNB).~~

11. — ~~The method of claim 1, wherein each of the first and second OFDMA communications signals comprises a Long Term Evolution (LTE) signal.~~

12. — ~~An apparatus for wireless communications, comprising:~~

~~means for transmitting a first Orthogonal Frequency Division Multiple Access (OFDMA) communications signal to a wireless node in a licensed spectrum; and~~

~~means for transmitting, concurrently with the transmission of the first OFDMA communications signal, a second OFDMA communications signal to the wireless node in an unlicensed spectrum.~~

13. — ~~The apparatus of claim 12, wherein the transmission of the second OFDMA communications signal in the unlicensed spectrum is time-synchronized with the first OFDMA communications signal in the licensed spectrum, with a fixed offset between a frame structure of the first OFDMA communications signal and a frame structure of the second OFDMA communications signal.~~

14. — ~~The apparatus of claim 13, wherein the fixed offset is equal to zero.~~

15. — ~~The apparatus of claim 12, further comprising:~~

~~means for receiving, concurrently with the transmission of the first and second OFDMA communications signals, a first Single-Carrier Frequency-Division Multiple Access (SC-FDMA) communications signal from the wireless node in the licensed spectrum.~~

16. — ~~The apparatus of claim 15, further comprising:~~

~~means for receiving, concurrently with the transmission of the first and second OFDMA communications signals, a second SC-FDMA communications signal from the wireless node in the unlicensed spectrum.~~

17. — ~~The apparatus of claim 15, wherein the first SC-FDMA communications signal received from the wireless node in the licensed spectrum carries signaling or other control information related to the second OFDMA communications signal transmitted in the unlicensed spectrum.~~

18. — ~~The apparatus of claim 17, further comprising:~~

~~means for receiving, concurrently with the transmission of the first and second OFDMA communications signals, a second SC-FDMA communications signal from the wireless node in the unlicensed spectrum.~~

19. — ~~The apparatus of claim 12, further comprising:~~

~~means for receiving, concurrently with the transmission of the first and second OFDMA communications signals, a first SC-FDMA communications signal from the wireless node in the licensed spectrum and a second SC-FDMA communications signal from the wireless node in the unlicensed spectrum.~~

20. — ~~The apparatus of claim 12, wherein the wireless node comprises a user equipment (UE).~~

21. — ~~The apparatus of claim 12, wherein the first and second OFDMA communications signals are transmitted from an evolved Node B (eNB).~~

22. — ~~The apparatus of claim 12, wherein each of the first and second OFDMA communications signals comprises a Long Term Evolution (LTE) signal.~~

23. — ~~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:~~

~~transmit a first Orthogonal Frequency-Division Multiple Access (OFDMA) communications signal to a wireless node in a licensed spectrum; and~~

~~transmit, concurrently with the transmission of the first OFDMA communications signal, a second OFDMA communications signal to the wireless node in an unlicensed spectrum.~~

24. — ~~The apparatus of claim 23, wherein the transmission of the second OFDMA communications signal in the unlicensed spectrum is time synchronized with the first OFDMA communications signal in the licensed spectrum, with a fixed offset between a frame structure of the first OFDMA communications signal and a frame structure of the second OFDMA communications signal.~~

25. — ~~The apparatus of claim 24, wherein the fixed offset is equal to zero.~~

26. — ~~The apparatus of claim 23, wherein the instructions are executable by the processor to:~~

~~receive, concurrently with the transmission of the first and second OFDMA communications signals, a first Single Carrier Frequency Division Multiple Access (SC-FDMA) communications signal from the wireless node in the licensed spectrum.~~

27. — ~~The apparatus of claim 26, wherein the instructions are executable by the processor to:~~

~~receive, concurrently with the transmission of the first and second OFDMA communications signals, a second SC FDMA communications signal from the wireless node in the unlicensed spectrum.~~

28. — ~~The apparatus of claim 26, wherein the first SC FDMA communications signal received from the wireless node in the licensed spectrum carries signaling or other control information related to the second OFDMA communications signal transmitted in the unlicensed spectrum.~~

29. — ~~The apparatus of claim 28, wherein the instructions are executable by the processor to:~~

~~receive, concurrently with the transmission of the first and second OFDMA communications signals, a second SC FDMA communications signal from the wireless node in the unlicensed spectrum.~~

30. — ~~The apparatus of claim 23, wherein the instructions are executable by the processor to:~~

receive, concurrently with the transmission of the first and second OFDMA communications signals, a first SC-FDMA communications signal from the wireless node in the licensed spectrum and a second SC-FDMA communications signal from the wireless node in the unlicensed spectrum.

31. — The apparatus of claim 23, wherein the wireless node comprises a user equipment (UE).

32. — The apparatus of claim 23, wherein the first and second OFDMA communications signals are transmitted from an evolved Node B (eNB).

33. — The apparatus of claim 23, wherein each of the first and second OFDMA communications signals comprises a Long Term Evolution (LTE) signal.

34. — 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:

transmit a first Orthogonal Frequency-Division Multiple Access (OFDMA) communications signal to a wireless node in a licensed spectrum; and

transmit, concurrently with the transmission of the first OFDMA communications signal, a second OFDMA communications signal to the wireless node in an unlicensed spectrum.

35. — The computer program product of claim 34, wherein the transmission of the second OFDMA communications signal in the unlicensed spectrum is time-synchronized with the first OFDMA communications signal in the licensed spectrum, with a fixed offset between a frame structure of the first OFDMA communications signal and a frame structure of the second OFDMA communications signal.

36. — The computer program product of claim 35, wherein the fixed offset is equal to zero.

37. — The computer program product of claim 34, wherein the instructions are executable by the processor to cause the wireless communications apparatus to:

receive, concurrently with the transmission of the first and second OFDMA communications signals, a first SC-FDMA communications signal from the wireless node in

~~the licensed spectrum and a second SC-FDMA communications signal from the wireless node in the unlicensed spectrum.~~

~~38.—The computer program product of claim 34, wherein the wireless node comprises a user equipment (UE).~~

~~39.—A method for wireless communications, comprising:~~

~~receiving a first SC-FDMA communications signal from a wireless node in a licensed spectrum; and~~

~~receiving, concurrently with the reception of the first SC-FDMA communications signal, a second SC-FDMA signal from the wireless node in an unlicensed spectrum.~~

~~40.—The method of claim 39, wherein the wireless node comprises a user equipment (UE).~~

~~41.—The method of claim 39, wherein the first and second SC-FDMA communications signals are received at an evolved Node B (eNB).~~

~~42.—The method of claim 39, wherein each of the first and second SC-FDMA communications signals comprises a Long Term Evolution (LTE) signal.~~

~~43.—An apparatus for wireless communications, comprising:~~

~~means for receiving a first SC-FDMA communications signal from a wireless node in a licensed spectrum; and~~

~~means for receiving, concurrently with the reception of the first SC-FDMA communications signal, a second SC-FDMA signal from the wireless node in an unlicensed spectrum.~~

~~44.—The apparatus of claim 43, wherein the wireless node comprises a user equipment (UE).~~

~~45.—The method of claim 43, wherein the first and second SC-FDMA communications signals are received at an evolved Node B (eNB).~~

~~46.—The apparatus of claim 43, wherein each of the first and second SC-FDMA communications signals comprises a Long Term Evolution (LTE) signal.~~

~~47.—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:~~

~~receive a first SC-FDMA communications signal from a wireless node in a licensed spectrum; and~~

~~receive, concurrently with the reception of the first SC-FDMA communications signal, a second SC-FDMA signal from the wireless node in an unlicensed spectrum.~~

48. — The apparatus of claim 47, wherein the wireless node comprises a user equipment (UE).

49. — The apparatus of claim 47, wherein the first and second SC-FDMA communications signals are received at an evolved Node B (eNB).

50. — The apparatus of claim 47, wherein each of the first and second SC-FDMA communications signals comprises a Long Term Evolution (LTE) signal.

51. — 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:

~~receive a first SC-FDMA communications signal from a wireless node in a licensed spectrum; and~~

~~receive, concurrently with the reception of the first SC-FDMA communications signal, a second SC-FDMA signal from the wireless node in an unlicensed spectrum.~~

52. — The computer program product of claim 51, wherein the wireless node comprises a user equipment (UE).

53. — A method for wireless communications, comprising:

~~receiving a first Orthogonal Frequency-Division Multiple Access (OFDMA) communications signal from a wireless node in a licensed spectrum; and~~

~~receiving, concurrently with the reception of the first OFDMA communications signal, a second OFDMA communication signal from the wireless node in an unlicensed spectrum.~~

~~54. — The method of claim 53, further comprising:~~

~~transmitting, concurrently with the reception of the first and second OFDMA communications signals, a first SC-FDMA communications signal to the wireless node in the licensed spectrum.~~

~~55. — The method of claim 54, further comprising:~~

~~transmitting, concurrently with the reception of the first and second OFDMA communications signals, a second SC-FDMA communications signal to the wireless node in the unlicensed spectrum.~~

~~56. — The method of claim 54, wherein the first SC-FDMA communications signal transmitted to the wireless node in the licensed spectrum carries signaling or other control information related to the second OFDMA signal received in the unlicensed spectrum.~~

~~57. — The method of claim 56, further comprising:~~

~~transmitting, concurrently with the reception of the first and second OFDMA communications signals, a second SC-FDMA communications signal to the wireless node in the unlicensed spectrum.~~

~~58. — The method of claim 53, further comprising:~~

~~transmitting, concurrently with the reception of the first and second OFDMA communications signals, a first SC-FDMA communications signal to the wireless node in the licensed spectrum and a second SC-FDMA communications signal to the wireless node in the unlicensed spectrum.~~

~~59. — The method of claim 53, wherein the wireless node comprises an evolved Node B (eNB).~~

~~60. — The method of claim 53, wherein the first and second OFDMA communications signals are received at a user equipment (UE).~~

~~61. — The method of claim 53, wherein each of the first and second OFDMA communications signals comprises a Long Term Evolution (LTE) signal.~~

62. — An apparatus for wireless communications, comprising:

means for receiving a first Orthogonal Frequency Division Multiple Access (OFDMA) communications signal from a wireless node in a licensed spectrum; and

means for receiving, concurrently with the reception of the first OFDMA communications signal, a second OFDMA communication signal from the wireless node in an unlicensed spectrum.

63. — The apparatus of claim 62, further comprising:

means for transmitting, concurrently with the reception of the first and second OFDMA communications signals, a first SC-FDMA communications signal to the wireless node in a licensed spectrum.

64. — The apparatus of claim 63, further comprising:

means for transmitting, concurrently with the reception of the first and second OFDMA communications signals, a second SC-FDMA communications signal to the wireless node in the unlicensed spectrum.

65. — The apparatus of claim 63, wherein the first SC-FDMA communications signal transmitted to the wireless node in the licensed spectrum carries signaling or other control information related to the second OFDMA signal received in the unlicensed spectrum.

66. — The apparatus of claim 65, further comprising:

means for transmitting, concurrently with the reception of the first and second OFDMA communications signals, a second SC-FDMA communications signal to the wireless node in the unlicensed spectrum.

67. — The apparatus of claim 62, further comprising:

means for transmitting, concurrently with the reception of the first and second OFDMA communications signals, a first SC-FDMA communications signal to the wireless node in the licensed spectrum and a second SC-FDMA communications signal to the wireless node in the unlicensed spectrum.

68. — The apparatus of claim 62, wherein the wireless node comprises an evolved Node B (eNB).

69. — ~~The apparatus of claim 62, wherein the first and second OFDMA communications signals are received at a user equipment (UE).~~

70. — ~~The apparatus of claim 62, wherein each of the first and second OFDMA communications signals comprises LTE signals.~~

71. — ~~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:~~
~~receive a first Orthogonal Frequency Division Multiple Access (OFDMA) communications signal from a wireless node in a licensed spectrum;~~
~~and~~
~~receive, concurrently with the reception of the first OFDMA communications signal, a second OFDMA communication signal from the wireless node in an unlicensed spectrum.~~

72. — ~~The apparatus of claim 71, wherein the instructions are executable by the processor to:~~
~~transmit, concurrently with the reception of the first and second OFDMA communications signals, a first SC FDMA communications signal to the wireless node in a licensed spectrum.~~

73. — ~~The apparatus of claim 72, wherein the instructions are executable by the processor to:~~
~~transmit, concurrently with the reception of the first and second OFDMA communications signals, a second SC FDMA communications signal to the wireless node in the unlicensed spectrum.~~

74. — ~~The apparatus of claim 72, wherein the first SC FDMA communications signal transmitted to the wireless node in the licensed spectrum carries signaling or other control information related to the second OFDMA signal received in the unlicensed spectrum.~~

75. — The apparatus of claim 74, wherein the instructions are executable by the processor to:

~~transmit, concurrently with the reception of the first and second OFDMA communications signals, a second SC-FDMA communications signal to the wireless node in the unlicensed spectrum.~~

76. — The apparatus of claim 71, wherein the instructions are executable by the processor to:

~~transmit, concurrently with the reception of the first and second OFDMA communications signals, a first SC-FDMA communications signal to the wireless node in the licensed spectrum and a second SC-FDMA communications signal to the wireless node in the unlicensed spectrum.~~

77. — The apparatus of claim 71, wherein the wireless node comprises an evolved Node B (eNB).

78. — The apparatus of claim 71, wherein the first and second OFDMA communications signals are received at a user equipment (UE).

79. — The apparatus of claim 71, wherein each of the first and second OFDMA communications signals comprises LTE signals.

80. — 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:

~~receive a first Orthogonal Frequency-Division Multiple Access (OFDMA) communications signal from a wireless node in a licensed spectrum; and~~

~~receive, concurrently with the reception of the first OFDMA communications signal, a second OFDMA communication signal from the wireless node in an unlicensed spectrum.~~

81. — The computer program product of claim 80, wherein the instructions are executable by the processor to cause the wireless communications apparatus to:

~~transmit, concurrently with the reception of the first and second OFDMA communications signals, a first SC-FDMA communications signal to the wireless node in a licensed spectrum.~~

82. — ~~The computer program product of claim 81, wherein the instructions are executable by the processor to cause the wireless communications apparatus to:~~

~~transmit, concurrently with the reception of the first and second OFDMA communications signals, a second SC-FDMA communications signal to the wireless node in the unlicensed spectrum.~~

83. — ~~The computer program product of claim 80, wherein the wireless node comprises an evolved Node B (eNB).~~

84. — ~~A method for wireless communications, comprising:~~

~~transmitting a first SC-FDMA communications signal to a wireless node in a licensed spectrum; and~~

~~transmitting, concurrently with the transmission of the first SC-FDMA communications signal, a second SC-FDMA communications signal to the wireless node in an unlicensed spectrum.~~

85. — ~~The method of claim 84, wherein the wireless node comprises an evolved Node B (eNB).~~

86. — ~~The method of claim 84, wherein the first and second OFDMA communications signals are received at a user equipment (UE).~~

87. — ~~The method of claim 84, wherein each of the first and second SC-FDMA communications signals comprises a Long Term Evolution (LTE) signal.~~

88. — ~~An apparatus for wireless communications, comprising:~~

~~means for transmitting a first SC-FDMA communications signal to a wireless node in a licensed spectrum; and~~

~~means for transmitting, concurrently with the transmission of the first SC-FDMA communications signal, a second SC-FDMA communications signal to the wireless node in an unlicensed spectrum.~~

89. — The apparatus of claim 88, wherein the wireless node comprises an evolved Node B (eNB).

90. — The apparatus of claim 88, wherein the first and second SC-FDMA communications signals are transmitted from a user equipment (UE).

91. — The apparatus of claim 88, wherein each of the first and second SC-FDMA communications signals comprises a Long Term Evolution (LTE) signal.

92. — 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:
 transmit a first SC-FDMA communications signal to a wireless node in a licensed spectrum; and
 transmit, concurrently with the transmission of the first SC-FDMA communications signal, a second SC-FDMA communications signal to the wireless node in an unlicensed spectrum.

93. — The apparatus of claim 92, wherein the wireless node comprises an evolved Node B (eNB).

94. — The apparatus of claim 92, wherein the first and second SC-FDMA communications signals are transmitted from a user equipment (UE).

95. — The apparatus of claim 92, wherein each of the first and second SC-FDMA communications signals comprises a Long Term Evolution (LTE) signal.

96. — 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:

transmit a first SC-FDMA communications signal to a wireless node in a licensed spectrum; and

transmit, concurrently with the transmission of the first SC-FDMA communications signal, a second SC-FDMA communications signal to the wireless node in an unlicensed spectrum.

97. — The computer program product of claim 96, wherein the wireless node comprises an evolved Node B (eNB).

98. — A method for wireless communications, comprising:

generating a periodic gating interval for a downlink in an unlicensed spectrum; and

synchronizing at least one boundary of the periodic gating interval with at least one boundary of a periodic frame structure associated with a primary component carrier (PCC) of the downlink.

99. — The method of claim 98, wherein the PCC comprises a carrier in a licensed spectrum.

100. — The method of claim 98, wherein the periodic gating interval comprises a listen-before-talk (LBT) frame and the periodic frame structure comprises a Long Term Evolution (LTE) radio frame.

101. — The method of claim 98, wherein a duration of the periodic gating interval is an integral multiple of a duration of the periodic frame structure.

102. — The method of claim 98, wherein a duration of the periodic gating interval is a sub-multiple of a duration of the periodic frame structure.

103. — The method of claim 98, wherein the downlink carries Long Term Evolution (LTE) signals.

104. — An apparatus for wireless communications, comprising:

means for generating a periodic gating interval for a downlink in an unlicensed spectrum; and

means for synchronizing at least one boundary of the periodic gating interval with at least one boundary of a periodic frame structure associated with a primary component carrier (PCC) of the downlink.

105.—The apparatus of claim 104, wherein the PCC comprises a carrier in a licensed spectrum.

106.—The apparatus of claim 104, wherein the periodic gating interval comprises a listen before talk (LBT) frame and the periodic frame structure comprises a Long Term Evolution (LTE) radio frame.

107.—The apparatus of claim 104, wherein a duration of the periodic gating interval is an integral multiple of a duration of the periodic frame structure

108.—The apparatus of claim 104, wherein a duration of the periodic gating interval is a sub-multiple of a duration of the periodic frame structure.

109.—The apparatus of claim 104, wherein the downlink carries Long Term Evolution (LTE) signals.

110.—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:

generate a periodic gating interval for a downlink in an unlicensed spectrum;

and

synchronize at least one boundary of the periodic gating interval with at least one boundary of a periodic frame structure associated with a primary component carrier (PCC) of the cellular downlink.

111.—The apparatus of claim 110, wherein the PCC comprises a carrier in a licensed spectrum.

112.—The apparatus of claim 110, wherein the periodic gating interval comprises a listen before talk (LBT) frame and the periodic frame structure comprises a Long Term Evolution (LTE) radio frame.

113.—The apparatus of claim 110, wherein a duration of the periodic gating interval is an integral multiple of a duration of the periodic frame structure.

114. — ~~The apparatus of claim 110, wherein a duration of the periodic gating interval is a sub-multiple of a duration of the periodic frame structure.~~

115. — ~~The apparatus of claim 110, wherein the downlink carries Long Term Evolution (LTE) signals.~~

116. — ~~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:~~

~~generate a periodic gating interval for a downlink in an unlicensed spectrum;~~
and

~~synchronize at least one boundary of the periodic gating interval with at least one boundary of a periodic frame structure associated with a primary component carrier (PCC) of the cellular downlink.~~

117. — ~~The computer program product of claim 116, wherein the PCC comprises a carrier in a licensed spectrum.~~

118. — ~~The computer program product of claim 116, wherein the periodic gating interval comprises a listen before talk (LBT) frame and the periodic frame structure comprises a Long Term Evolution (LTE) radio frame.~~

1. A method for wireless communications, comprising: receiving a first single carrier frequency division multiple access (SC-FDMA) communications signal from a wireless node in a licensed spectrum; and receiving, concurrently with the reception of the first SC-FDMA communications signal, a second SC-FDMA signal from the wireless node in an unlicensed spectrum.

2. The method of claim 1, wherein the wireless node comprises a user equipment (UE).

3. The method of claim 1, wherein the first and second SC-FDMA communications signals are received at an evolved Node B (eNB).

4. The method of claim 1, wherein each of the first and second SC-FDMA communications signals comprises a Long Term Evolution (LTE) signal.

5. The method of claim 1, wherein the second SC-FDMA communications signal comprises an interleaved signal.

6. The method of claim 1, wherein the second SC-FDMA communications signal

occupies a greater bandwidth than the first SC-FDMA communications signal.

7. An apparatus for wireless communications, comprising: means for receiving a first single carrier frequency division multiple access (SC-FDMA) communications signal from a wireless node in a licensed spectrum; and means for receiving, concurrently with the reception of the first SC-FDMA communications signal, a second SC-FDMA signal from the wireless node in an unlicensed spectrum.

8. The apparatus of claim 7, wherein the wireless node comprises a user equipment (UE).

9. The method of claim 7, wherein the first and second SC-FDMA communications signals are received at an evolved Node B (eNB).

10. The apparatus of claim 7, wherein each of the first and second SC-FDMA communications signals comprises a Long Term Evolution (LTE) signal.

11. The apparatus of claim 7, wherein the second SC-FDMA communications signal comprises an interleaved signal.

12. The apparatus of claim 7, wherein the second SC-FDMA communications signal occupies a greater bandwidth than the first SC-FDMA communications signal.

13. 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: receive a first single carrier frequency division multiple access (SC-FDMA) communications signal from a wireless node in a licensed spectrum; and receive, concurrently with the reception of the first SC-FDMA communications signal, a second SC-FDMA signal from the wireless node in an unlicensed spectrum.

14. The apparatus of claim 13, wherein the wireless node comprises a user equipment (UE).

15. The apparatus of claim 13, wherein the first and second SC-FDMA communications signals are received at an evolved Node B (eNB).

16. The apparatus of claim 13, wherein each of the first and second SC-FDMA communications signals comprises a Long Term Evolution (LTE) signal.

17. The apparatus of claim 13, wherein the second SC-FDMA communications signal comprises an interleaved signal.

18. The apparatus of claim 13, wherein the second SC-FDMA communications signal occupies a greater bandwidth than the first SC-FDMA communications signal.

19. A non-transitory computer-readable medium storing code for wireless communication, the code comprising instructions executable by a processor to: receive a first single carrier frequency division multiple access (SC-FDMA) communications signal from a wireless node in a licensed spectrum; and receive, concurrently with the reception of the first SC-FDMA communications signal, a second SC-FDMA signal from the wireless node in an unlicensed spectrum.

20. The non-transitory computer-readable medium of claim 19, wherein the wireless node comprises a user equipment (UE).

21. The non-transitory computer-readable medium of claim 19, wherein the second SC-FDMA communications signal comprises an interleaved signal.

22. The non-transitory computer-readable medium of claim 19, wherein the second SC-FDMA communications signal occupies a greater bandwidth than the first SC-FDMA communications signal.

23. A method for wireless communications, comprising: transmitting a first single carrier frequency division multiple access (SC-FDMA) communications signal to a wireless node in a licensed spectrum; and transmitting, concurrently with the transmission of the first SC-FDMA communications signal, a second SC-FDMA communications signal to the wireless node in an unlicensed spectrum.

24. The method of claim 23, wherein the wireless node comprises an evolved Node B (eNB).

25. The method of claim 23, wherein the first and second single carrier frequency division multiple access (SC-FDMA) communications signals are transmitted from a user equipment (UE).

26. The method of claim 23, wherein each of the first and second SC-FDMA communications signals comprises a Long Term Evolution (LTE) signal.

27. The method of claim 23, wherein the second SC-FDMA communications signal comprises an interleaved signal.

28. The method of claim 23, wherein the second SC-FDMA communications signal occupies a greater bandwidth than the first SC-FDMA communications signal.

29. An apparatus for wireless communications, comprising: means for transmitting a first single carrier frequency division multiple access (SC-FDMA) communications signal to a wireless node in a licensed spectrum; and means for transmitting, concurrently with the transmission of the first SC-FDMA communications signal, a second SC-FDMA communications signal to the wireless node in an unlicensed spectrum.

30. The apparatus of claim 29, wherein the wireless node comprises an evolved Node B (eNB).

31. The apparatus of claim 29, wherein the first and second SC-FDMA communications signals are transmitted from a user equipment (UE).

32. The apparatus of claim 29, wherein each of the first and second SC-FDMA communications signals comprises a Long Term Evolution (LTE) signal.

33. The apparatus of claim 29, wherein the second SC-FDMA communications signal comprises an interleaved signal.

34. The apparatus of claim 29, wherein the second SC-FDMA communications signal occupies a greater bandwidth than the first SC-FDMA communications signal.

35. 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: transmit a first single carrier frequency division multiple access (SC-FDMA) communications signal to a wireless node in a licensed spectrum; and transmit, concurrently with the transmission of the first SC-FDMA communications signal, a second SC-FDMA communications signal to the wireless node in an unlicensed spectrum.

36. The apparatus of claim 35, wherein the wireless node comprises an evolved Node B (eNB).

37. The apparatus of claim 35, wherein the first and second SC-FDMA communications signals are transmitted from a user equipment (UE).

38. The apparatus of claim 35, wherein each of the first and second SC-FDMA communications signals comprises a Long Term Evolution (LTE) signal.

39. The apparatus of claim 6, wherein the second SC-FDMA communications signal comprises an interleaved signal.

40. The apparatus of claim 6, wherein the second SC-FDMA communications signal occupies a greater bandwidth than the first SC-FDMA communications signal.

41. A non-transitory computer-readable medium storing code for wireless communication, the code comprising instructions executable by a processor to: transmit a first single carrier frequency division multiple access (SC-FDMA) communications signal to a wireless node in a licensed spectrum; and transmit, concurrently with the transmission of the first SC-FDMA communications signal, a second SC-FDMA communications signal to the wireless node in an unlicensed spectrum.

42. The non-transitory computer-readable medium of claim 41, wherein the wireless node comprises an evolved Node B (eNB).

43. The non-transitory computer-readable medium of claim 41, wherein the second SC-FDMA communications signal comprises an interleaved signal.

44. The non-transitory computer-readable medium of claim 41, wherein the second SC-FDMA communications signal occupies a greater bandwidth than the first SC-FDMA communications signal.