CLAIMS

1. A method for wireless communication at a user equipment (UE) that is capable of operating according to a first transmission efficiency operating mode and a second transmission efficiency operating mode, the first transmission efficiency operating mode corresponding to a first capability associated with emissions and the second transmission efficiency operating mode corresponding to a second capability associated with emissions, the method comprising:

transmitting, to a base station, an indication of a capability of the UE to operate according to the first transmission efficiency operating mode and the second transmission efficiency operating mode;

identifying a frequency allocation for uplink transmission by the UE, the frequency allocation comprising a set of resource blocks;

determining that a power level associated with using the first transmission efficiency operating mode for the frequency allocation is less than a power associated with using the second transmission efficiency operating mode for the frequency allocation; and

selecting, by the UE, a subset of the set of resource blocks for transmission according to the first transmission efficiency operating mode based at least in part on the determining; and

transmitting to the base station according to the first transmission efficiency operating mode or the second transmission efficiency operating mode based at least in part on the transmitted indication of the capability.

2. The method of claim 1, wherein transmitting according to the first transmission efficiency operating mode or the second transmission efficiency operating mode comprises:

transmitting, to the base station, according to the first transmission efficiency operating mode;

determining to switch to transmitting according to the second transmission efficiency operating mode; and

transmitting, to the base station, according to the second transmission efficiency operating mode based at least in part on the determining.

3. The method of claim 2, wherein determining to switch comprises:

receiving, from the base station, a command to switch to the second transmission efficiency operating mode; and

determining to switch to transmitting according to the second transmission efficiency operating mode in response the received command.

4. The method of claim 2, wherein determining to switch comprises:

identifying, by the UE, a change in one or more UE operating condition; and

determining, by the UE, to switch to transmitting according to the second transmission efficiency operating mode based at least in part on the identified change.

5. The method of claim 1, wherein the indication of the capability comprises a first index identifying the first transmission efficiency operating mode, or a second index identifying the second transmission efficiency operating mode, or a combination thereof.

6. The method of claim 1, wherein the indication of the capability comprises a value for each of a set of parameters for the UE that are associated with the first transmission efficiency operating mode, or a second index identifying the second transmission efficiency operating mode, or a combination thereof.

7. The method of claim 6, wherein the set of parameters comprise one or more of a power headroom, or a maximum power reduction, or an indication of an antenna configuration, or a battery level, or an adjacent channel leakage ratio, or an error vector magnitude, or a specific absorption rate, or a maximum permissible exposure, or a switching speed or latency between the first transmission efficiency operating mode and the second transmission efficiency operating mode, or a transmission bandwidth for the first or second transmission efficiency operating mode.

8. The method of claim 1, further comprising:

receiving, from the base station, a configuration identifying a first bandwidth for the UE;

identifying that the first bandwidth configured for the UE is associated with the first transmission efficiency operating mode; and

determining to operate according to the first transmission efficiency operating mode based at least in part on the identifying.

9. The method of claim 8, wherein the configuration of the first bandwidth comprising a first bandwidth part configuration for the UE.

10. The method of claim 1, further comprising:

receiving, from the base station, a grant of uplink resources in a first bandwidth;

identifying that the first bandwidth is associated with the first transmission efficiency operating mode; and

transmitting, to the base station, on the uplink resources according to the first transmission efficiency operating mode based at least in part on the identifying.

11. The method of claim 1, further comprising:

receiving, from the base station, an indication for the UE to use the first transmission efficiency operating mode; and

transmitting to the base station according to the first transmission efficiency operating mode based at least in part on the received indication.

12. The method of claim 11, wherein receiving the indication comprises:

receiving the indication in a configuration, a scheduling grant, a semi-persistent layer 1 signaling, or a media access control (MAC) control element.

13. The method of claim 1, further comprising:

receiving, from the base station, an instruction for the UE to transmit sounding reference signals using the first transmission efficiency operating mode; and

transmitting the sounding reference signals according to the first transmission efficiency operating mode.

14. The method of claim 1, further comprising:

receiving, from the base station, an indication that the UE is permitted to select one of the first transmission efficiency operating mode or the second transmission efficiency operating mode;

selecting, based at least in part on the received indication, to transmit according to the first transmission efficiency operating mode; and

transmitting to the base station according to the selected first transmission efficiency operating mode.

15. The method of claim 14, wherein receiving the indication comprises:

receiving the indication in a configuration, a scheduling grant, a semi-persistent layer 1 signaling, or a media access control (MAC) control element.

16. The method of claim 1, wherein:

the first capability associated with emissions comprises a first adjacent channel leakage ratio, or a first error vector magnitude, or a first specific absorption rate, or a first maximum permissible exposure, or a combination thereof; and

the second capability associated with emissions comprises a second adjacent channel leakage ratio, or a second error vector magnitude, or a second specific absorption rate, or a second maximum permissible exposure, or a combination thereof.

17. A method for wireless communication at a base station, comprising:

receiving, from a user equipment (UE), an indication of a capability of the UE to operate according to a first transmission efficiency operating mode and a second transmission efficiency operating mode, the first transmission efficiency operating mode corresponding to a first capability associated with emissions and the second transmission efficiency operating mode corresponding to a second capability associated with emissions that is relaxed relative to the first capability associated with emissions;

identifying a frequency allocation for uplink transmission by the UE, the frequency allocation comprising a set of resource blocks;

determining that a power level associated with using the first transmission efficiency operating mode for the frequency allocation is less than a power associated with using the second transmission efficiency operating mode for the frequency allocation; and

selecting, by the UE, a subset of the set of resource blocks for transmission according to the first transmission efficiency operating mode based at least in part on the determining; and

receiving signals from the UE according to the first transmission efficiency operating mode or the second transmission efficiency operating mode based at least in part on the received indication of the capability.

18. The method of claim 17, further comprising:

receiving, from the UE, uplink signals according to the first transmission efficiency operating mode;

transmitting, to the UE, a command to switch to the second transmission efficiency operating mode; and

receiving, from the UE, uplink signals according to the second transmission efficiency operating mode.

19. The method of claim 17, wherein the indication of the capability comprises a first index identifying the first transmission efficiency operating mode, or a second index identifying the second transmission efficiency operating mode, or a combination thereof.

20. The method of claim 17, wherein the indication of the capability comprises a value for each of a set of parameters for the UE that are associated with the first transmission efficiency operating mode, or the second index identifying the second transmission efficiency operating mode, or a combination thereof.

21. The method of claim 20, wherein the set of parameters comprise one or more of a power headroom, or a maximum power reduction, or an indication of an antenna configuration, or a battery level.

22. The method of claim 20, wherein:

the first capability associated with emissions comprises a first adjacent channel leakage ratio, or a first error vector magnitude, or a first specific absorption rate, or a first maximum permissible exposure, or a combination thereof; and

the second capability associated with emissions comprises a second adjacent channel leakage ratio, or a second error vector magnitude, or a second specific absorption rate, or a second maximum permissible exposure, or a combination thereof.

23. An apparatus for wireless communication at a user equipment (UE) that is capable of operating according to a first transmission efficiency operating mode and a second transmission efficiency operating mode, comprising:

a processor,

memory coupled with the processor; and

instructions stored in the memory and executable by the processor to cause the apparatus to:

transmit, to a base station, an indication of a capability of the UE to operate according to the first transmission efficiency operating mode and the second transmission efficiency operating mode;

identify a frequency allocation for uplink transmission by the UE, the frequency allocation comprising a set of resource blocks;

determine that a power level associated with using the first transmission efficiency operating mode for the frequency allocation is less than a power associated with using the second transmission efficiency operating mode for the frequency allocation; and

select, by the UE, a subset of the set of resource blocks for transmission according to the first transmission efficiency operating mode based at least in part on the determining; and

transmit to the base station according to the first transmission efficiency operating mode or the second transmission efficiency operating mode based at least in part on the transmitted indication of the capability.

24. The apparatus of claim 23, wherein the instructions are further executable by the processor to cause the apparatus to:

transmit, to the base station, according to the first transmission efficiency operating mode;

determine to switch to transmitting according to the second transmission efficiency operating mode; and

transmit, to the base station, according to the second transmission efficiency operating mode based at least in part on the determining.

25. The apparatus of claim 24, wherein the instructions are further executable by the processor to cause the apparatus to:

receive, from the base station, a command to switch to the second transmission efficiency operating mode; and

determine to switch to transmitting according to the second transmission efficiency operating mode in response the received command.

26. The apparatus of claim 24, wherein the instructions are further executable by the processor to cause the apparatus to:

identify, by the UE, a change in one or more UE operating condition; and

determine, by the UE, to switch to transmitting according to the second transmission efficiency operating mode based at least in part on the identified change.

27. The apparatus of claim 23, wherein the indication of the capability comprises a first index identifying the first transmission efficiency operating mode, or a second index identifying the second transmission efficiency operating mode, or a combination thereof.

28. The apparatus of claim 23, wherein the indication of the capability comprises a value for each of a set of parameters for the UE that are associated with the first transmission efficiency operating mode, or the second index identifying the second transmission efficiency operating mode, or a combination thereof.

29. The apparatus of claim 28, wherein the set of parameters comprise one or more of a power headroom, or a maximum power reduction, or an indication of an antenna configuration, or a battery level, or an adjacent channel leakage ratio, or an error vector magnitude, or a specific absorption rate, or a maximum permissible exposure, or a switching speed or latency between the first transmission efficiency operating mode and the second transmission efficiency operating mode, or a transmission bandwidth for the first or second transmission efficiency operating mode.

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

receive, from the base station, a configuration identifying a first bandwidth for the UE;

identify that the first bandwidth configured for the UE is associated with the first transmission efficiency operating mode; and

determine to operate according to the first transmission efficiency operating mode based at least in part on the identifying.

31. The apparatus of claim 30, wherein the configuration of the first bandwidth comprising a first bandwidth part configuration for the UE.

32. The apparatus of claim 23, wherein the instructions are further executable by the processor to cause the apparatus to:

receive, from the base station, a grant of uplink resources in a first bandwidth;

identify that the first bandwidth is associated with the first transmission efficiency operating mode; and

transmit, to the base station, on the uplink resources according to the first transmission efficiency operating mode based at least in part on the identifying.

33. The apparatus of claim 23, wherein the instructions are further executable by the processor to cause the apparatus to:

receive, from the base station, an indication for the UE to use the first transmission efficiency operating mode; and

transmit to the base station according to the first transmission efficiency operating mode based at least in part on the received indication.

34. The apparatus of claim 33, wherein the instructions to receive the indication are executable by the processor to cause the apparatus to:

receive the indication in a configuration, a scheduling grant, a semi-persistent layer 1 signaling, or a media access control (MAC) control element.

35. The apparatus of claim 23, wherein the instructions are further executable by the processor to cause the apparatus to:

receive, from the base station, an instruction for the UE to transmit sounding reference signals using the first transmission efficiency operating mode; and

transmit the sounding reference signals according to the first transmission efficiency operating mode.

36. The apparatus of claim 23, wherein the instructions are further executable by the processor to cause the apparatus to:

receive, from the base station, an indication that the UE is permitted to select one of the first transmission efficiency operating mode or the second transmission efficiency operating mode;

select, based at least in part on the received indication, to transmit according to the first transmission efficiency operating mode; and

transmit to the base station according to the selected first transmission efficiency operating mode.

37. The apparatus of claim 36, wherein the instructions to receive the indication are executable by the processor to cause the apparatus to:

receive the indication in a configuration, a scheduling grant, a semi-persistent layer 1 signaling, or a media access control (MAC) control element.

38. The apparatus of claim 23, wherein:

the first capability associated with emissions comprises a first adjacent channel leakage ratio, or a first error vector magnitude, or a first specific absorption rate, or a first maximum permissible exposure, or a combination thereof; and

the second capability associated with emissions comprises a second adjacent channel leakage ratio, or a second error vector magnitude, or a second specific absorption rate, or a second maximum permissible exposure, or a combination thereof.

39. An apparatus for wireless communication at a base station, comprising:

a processor,

memory coupled with the processor; and

instructions stored in the memory and executable by the processor to cause the apparatus to:

receive, from a user equipment (UE), an indication of a capability of the UE to operate according to a first transmission efficiency operating mode and a second transmission efficiency operating mode, the first transmission efficiency operating mode corresponding to a first capability associated with emissions and the second transmission efficiency operating mode corresponding to a second capability associated with emissions that is relaxed relative to the first capability associated with emissions;

identifying a frequency allocation for uplink transmission by the UE, the frequency allocation comprising a set of resource blocks;

determining that a power level associated with using the first transmission efficiency operating mode for the frequency allocation is less than a power associated with using the second transmission efficiency operating mode for the frequency allocation; and

selecting, by the UE, a subset of the set of resource blocks for transmission according to the first transmission efficiency operating mode based at least in part on the determining; and

receive signals from the UE according to the first transmission efficiency operating mode or the second transmission efficiency operating mode based at least in part on the received indication of the capability.

40. The apparatus of claim 39, wherein the instructions are further executable by the processor to cause the apparatus to:

receive, from the UE, uplink signals according to the first transmission efficiency operating mode;

transmit, to the UE, a command to switch to the second transmission efficiency operating mode; and

receive, from the UE, uplink signals according to the second transmission efficiency operating mode.

41. The apparatus of claim 39, wherein the indication of the capability comprises a first index identifying the first transmission efficiency operating mode, or a second index identifying the second transmission efficiency operating mode, or a combination thereof.

42. The apparatus of claim 39, wherein the indication of the capability comprises a value for each of a set of parameters for the UE that are associated with the first transmission efficiency operating mode, or the second index identifying the second transmission efficiency operating mode, or a combination thereof.

43. The apparatus of claim 42, wherein the set of parameters comprise one or more of a power headroom, or a maximum power reduction, or an indication of an antenna configuration, or a battery level, or an adjacent channel leakage ratio, or an error vector magnitude, or a specific absorption rate, or a maximum permissible exposure, or a switching speed or latency between the first transmission efficiency operating mode and the second transmission efficiency operating mode, or a transmission bandwidth for the first or second transmission efficiency operating mode.

44. The apparatus of claim 39, wherein:

the first capability associated with emissions comprises a first adjacent channel leakage ratio, or a first error vector magnitude, or a first specific absorption rate, or a first maximum permissible exposure, or a combination thereof; and

the second capability associated with emissions comprises a second adjacent channel leakage ratio, or a second error vector magnitude, or a second specific absorption rate, or a second maximum permissible exposure, or a combination thereof.

45. An apparatus for wireless communication at a user equipment (UE) that is capable of operating according to a first transmission efficiency operating mode and a second transmission efficiency operating mode, the first transmission efficiency operating mode corresponding to a first capability associated with emissions and the second transmission efficiency operating mode corresponding to a second capability associated with emissions, comprising:

means for transmitting, to a base station, an indication of a capability of the UE to operate according to the first transmission efficiency operating mode and the second transmission efficiency operating mode;

means for identifying a frequency allocation for uplink transmission by the UE, the frequency allocation comprising a set of resource blocks;

means for determining that a power level associated with using the first transmission efficiency operating mode for the frequency allocation is less than a power associated with using the second transmission efficiency operating mode for the frequency allocation; and

means for selecting, by the UE, a subset of the set of resource blocks for transmission according to the first transmission efficiency operating mode based at least in part on the determining; and

means for transmitting to the base station according to the first transmission efficiency operating mode or the second transmission efficiency operating mode based at least in part on the transmitted indication of the capability.

46. The apparatus of claim 45, wherein the means for transmitting according to the first transmission efficiency operating mode or the second transmission efficiency operating mode comprises:

means for transmitting, to the base station, according to the first transmission efficiency operating mode;

means for determining to switch to transmitting according to the second transmission efficiency operating mode; and

means for transmitting, to the base station, according to the second transmission efficiency operating mode based at least in part on the determining.

47. The apparatus of claim 46, wherein the instructions are further executable by the processor to cause the apparatus to:

means for receiving, from the base station, a command to switch to the second transmission efficiency operating mode; and

means for determining to switch to transmitting according to the second transmission efficiency operating mode in response the received command.

48. The apparatus of claim 46, wherein the instructions are further executable by the processor to cause the apparatus to:

means for identifying, by the UE, a change in one or more UE operating condition; and

means for determining, by the UE, to switch to transmitting according to the second transmission efficiency operating mode based at least in part on the identified change.

49. The apparatus of claim 45, wherein the indication of the capability comprises a first index identifying the first transmission efficiency operating mode, or a second index identifying the second transmission efficiency operating mode, or a combination thereof.

50. The apparatus of claim 45, wherein the indication of the capability comprises a value for each of a set of parameters for the UE that are associated with the first transmission efficiency operating mode, or a second index identifying the second transmission efficiency operating mode, or a combination thereof.

51. The apparatus of claim 48, wherein a set of parameters comprise one or more of a power headroom, or a maximum power reduction, or an indication of an antenna configuration, or a battery level, or an adjacent channel leakage ratio, or an error vector magnitude, or a specific absorption rate, or a maximum permissible exposure, or a switching

speed or latency between the first transmission efficiency operating mode and the second transmission efficiency operating mode, or a transmission bandwidth for the first or second transmission efficiency operating mode.

52. The apparatus of claim 45, further comprising:

means for receiving, from the base station, a configuration identifying a first bandwidth for the UE;

means for identifying that the first bandwidth configured for the UE is associated with the first transmission efficiency operating mode; and

means for determining to operate according to the first transmission efficiency operating mode based at least in part on the identifying.

53. The apparatus of claim 50, wherein a configuration of the first bandwidth comprising a first bandwidth part configuration for the UE.

54. The apparatus of claim 45, further comprising:

means for receiving, from the base station, a grant of uplink resources in a first bandwidth;

means for identifying that the first bandwidth is associated with the first transmission efficiency operating mode; and

means for transmitting, to the base station, on the uplink resources according to the first transmission efficiency operating mode based at least in part on the identifying.

55. The apparatus of claim 45, further comprising:

means for receiving, from the base station, an indication for the UE to use the first transmission efficiency operating mode; and

means for transmitting to the base station according to the first transmission efficiency operating mode based at least in part on the received indication.

56. The apparatus of claim 53, wherein the means for receiving the indication comprises:

means for receiving the indication in a configuration, a scheduling grant, a semi-persistent layer 1 signaling, or a media access control (MAC) control element.

57. The apparatus of claim 45, further comprising:

means for receiving, from the base station, an instruction for the UE to transmit sounding reference signals using the first transmission efficiency operating mode; and

means for transmitting the sounding reference signals according to the first transmission efficiency operating mode.

58. The apparatus of claim 45, further comprising:

means for receiving, from the base station, an indication that the UE is permitted to select one of the first transmission efficiency operating mode or the second transmission efficiency operating mode;

means for selecting, based at least in part on the received indication, to transmit according to the first transmission efficiency operating mode; and

means for transmitting to the base station according to the selected first transmission efficiency operating mode.

59. The apparatus of claim 56, wherein the means for receiving the indication comprises:

means for receiving the indication in a configuration, a scheduling grant, a semi-persistent layer 1 signaling, or a media access control (MAC) control element.

60. The apparatus of claim 45, wherein:

the first capability associated with emissions comprises a first adjacent channel leakage ratio, or a first error vector magnitude, or a first specific absorption rate, or a first maximum permissible exposure, or a combination thereof; and

the second capability associated with emissions comprises a second adjacent channel leakage ratio, or a second error vector magnitude, or a second specific absorption rate, or a second maximum permissible exposure, or a combination thereof.

61. An apparatus for wireless communication at a base station, comprising:

means for receiving, from a user equipment (UE), an indication of a capability of the UE to operate according to a first transmission efficiency operating mode and a second transmission efficiency operating mode, the first transmission efficiency operating mode corresponding to a first capability associated with emissions and the second transmission

efficiency operating mode corresponding to a second capability associated with emissions that is relaxed relative to the first capability associated with emissions;

means for identifying a frequency allocation for uplink transmission by the UE, the frequency allocation comprising a set of resource blocks;

means for determining that a power level associated with using the first transmission efficiency operating mode for the frequency allocation is less than a power associated with using the second transmission efficiency operating mode for the frequency allocation; and

means for selecting, by the UE, a subset of the set of resource blocks for transmission according to the first transmission efficiency operating mode based at least in part on the determining; and

means for receiving signals from the UE according to the first transmission efficiency operating mode or the second transmission efficiency operating mode based at least in part on the received indication of the capability.

62. The apparatus of claim 61, further comprising:

means for receiving, from the UE, uplink signals according to the first transmission efficiency operating mode;

means for transmitting, to the UE, a command to switch to the second transmission efficiency operating mode; and

means for receiving, from the UE, uplink signals according to the second transmission efficiency operating mode.

63. The apparatus of claim 61, wherein the indication of the capability comprises a first index identifying the first transmission efficiency operating mode, or a second index identifying the second transmission efficiency operating mode, or a combination thereof.

64. The apparatus of claim 61, wherein the indication of the capability comprises a value for each of a set of parameters for the UE that are associated with the first transmission efficiency operating mode, or a second index identifying the second transmission efficiency operating mode, or a combination thereof.

65. The apparatus of claim 64, wherein the set of parameters comprise one or more of a power headroom, or a maximum power reduction, or an indication of an antenna

configuration, or a battery level, or an adjacent channel leakage ratio, or an error vector magnitude, or a specific absorption rate, or a maximum permissible exposure, or a switching speed or latency between the first transmission efficiency operating mode and the second transmission efficiency operating mode, or a transmission bandwidth for the first or second transmission efficiency operating mode.

66. The apparatus of claim 61, wherein:

the first capability associated with emissions comprises a first adjacent channel leakage ratio, or a first error vector magnitude, or a first specific absorption rate, or a first maximum permissible exposure, or a combination thereof; and

the second capability associated with emissions comprises a second adjacent channel leakage ratio, or a second error vector magnitude, or a second specific absorption rate, or a second maximum permissible exposure, or a combination thereof.

67. A non-transitory computer-readable medium storing code for wireless communication at a user equipment (UE) that is capable of operating according to a first transmission efficiency operating mode and a second transmission efficiency operating mode, the first transmission efficiency operating mode corresponding to a first capability associated with emissions and the second transmission efficiency operating mode corresponding to a second capability associated with emissions, the method comprising, the code comprising instructions executable by a processor to:

transmit, to a base station, an indication of a capability of the UE to operate according to the first transmission efficiency operating mode and the second transmission efficiency operating mode;

identifying a frequency allocation for uplink transmission by the UE, the frequency allocation comprising a set of resource blocks;

determining that a power level associated with using the first transmission efficiency operating mode for the frequency allocation is less than a power associated with using the second transmission efficiency operating mode for the frequency allocation; and

selecting, by the UE, a subset of the set of resource blocks for transmission according to the first transmission efficiency operating mode based at least in part on the determining; and

transmit to the base station according to the first transmission efficiency operating mode or the second transmission efficiency operating mode based at least in part on the transmitted indication of the capability.

68. A non-transitory computer-readable medium storing code for wireless communication at a base station, the code comprising instructions executable by a processor to:

receive, from a user equipment (UE), an indication of a capability of the UE to operate according to a first transmission efficiency operating mode and a second transmission efficiency operating mode, the first transmission efficiency operating mode corresponding to a first capability associated with emissions and the second transmission efficiency operating mode corresponding to a second capability associated with emissions that is relaxed relative to the first capability associated with emissions;

identifying a frequency allocation for uplink transmission by the UE, the frequency allocation comprising a set of resource blocks;

determining that a power level associated with using the first transmission efficiency operating mode for the frequency allocation is less than a power associated with using the second transmission efficiency operating mode for the frequency allocation; and

selecting, by the UE, a subset of the set of resource blocks for transmission according to the first transmission efficiency operating mode based at least in part on the determining; and

receive signals from the UE according to the first transmission efficiency operating mode or the second transmission efficiency operating mode based at least in part on the received indication of the capability.