CLAIMS

1. A method for wireless communications at a user equipment (UE), comprising:

receiving system information from a base station, the system information including a first bandwidth indication;

transmitting a connection establishment request to the base station based at least in part on the system information;

receiving, from the base station responsive to the connection establishment request, a plurality of indications of UE-specific channel bandwidths corresponding to respective ones of a plurality of subcarrier spacings (SCSs), the plurality of indications of UE-specific channel bandwidths including an indication of a UE-specific channel bandwidth, wherein the UE-specific channel bandwidth is less than or equal to a cell-specific channel bandwidth and is based at least in part on a maximum supported bandwidth of the UE; and

communicating with the base station using the UE-specific channel bandwidth.

2. The method of claim 1, wherein the transmitting the connection establishment request further comprises:

transmitting the maximum supported bandwidth of the UE to the base station.

3. The method of claim 2, wherein the maximum supported bandwidth of the UE is less than the cell-specific channel bandwidth.

4. The method of claim 2, wherein the maximum supported bandwidth of the UE is a maximum supported bandwidth part (BWP) bandwidth that is less than or equal to a full bandwidth capability of the UE.

5. The method of claim 4, further comprising:

determining the maximum supported BWP bandwidth of the UE to include with the connection establishment request based at least in part on the full bandwidth capability of the UE, the cell-specific channel bandwidth, a current data usage of the UE, a power consumption mode of the UE, a thermal status of the UE, or any combinations thereof.

6. The method of claim 1, wherein the first bandwidth indication corresponds to the cell-specific channel bandwidth or a maximum channel bandwidth supported by the base station.

7. The method of claim 1, wherein the first bandwidth indication is a minimum bandwidth supported by the base station.

8. The method of claim 1, wherein the first bandwidth indication is a placeholder indication of bandwidth.

9. The method of claim 1, wherein the receiving the plurality of indications of the UE-specific channel bandwidths comprises:

receiving UE-specific radio resource control (RRC) signaling that includes the plurality of indications of the UE-specific channel bandwidths.

10. The method of claim 1, wherein the UE-specific channel bandwidth is a subset of the maximum supported bandwidth of the UE.

11. The method of claim 1, wherein the UE-specific channel bandwidth is a first UE-specific channel bandwidth, and wherein the method further comprises:

receiving, subsequent to communicating with the base station using the first UE-specific channel bandwidth, a bandwidth reconfiguration message from the base station that indicates a second UE-specific channel bandwidth that has a different bandwidth than the first UE-specific channel bandwidth, a different location within the cell-specific channel bandwidth, or any combination thereof.

12. The method of claim 1, wherein the connection establishment request includes one or more of the maximum supported bandwidth of the UE, a maximum carrier aggregation supported by the UE, a UE capability to dynamically or semi-statically reconfigure the UE-specific channel bandwidth within the cell-specific channel bandwidth, a maximum modulation and coding scheme (MCS) supported by the UE, a UE processing timeline capability, or any combinations thereof.

13. The method of claim 1, wherein the communicating with the base station using the UE-specific channel bandwidth comprises transmitting one or more uplink transmissions to the base station using a first subset of resource blocks within the UE-specific channel bandwidth.

14. The method of claim 13, wherein the first subset of resource blocks and a second subset of resource blocks occupy alternating resource blocks within the UE-specific channel bandwidth.

15. A method for wireless communications at a user equipment (UE), comprising:

receiving first system information from a first base station, the first system information including a first cell-specific channel bandwidth;

transmitting a first connection establishment request to the first base station based at least in part on the first system information, the first connection establishment request indicating a maximum supported bandwidth of the UE that is less than the first cell-specific channel bandwidth; and

receiving, from the first base station responsive to the first connection establishment request, an indication that the first connection establishment request indicating the maximum supported bandwidth of the UE is rejected.

16. The method of claim 15, further comprising:

transmitting a second connection establishment request to a second base station based at least in part on second system information of the second base station, the second connection establishment request indicating the maximum supported bandwidth of the UE; and

receiving, from the second base station responsive to the second connection establishment request, a connection establishment response to establish a connection with the second base station.

17. The method of claim 15, wherein the indication from the first base station is received prior to the UE camping on the first base station.

18. The method of claim 15, wherein the first connection establishment request is a random access message transmitted to the first base station as part of a random access procedure, and

wherein the indication is received in a random access response from the first base station as part of the random access procedure.

19. The method of claim 18, wherein the maximum supported bandwidth of the UE is transmitted in a physical uplink shared channel (PUSCH) transmission, and the indication is received in a physical downlink shared channel (PDSCH) transmission, as part of the random access procedure.

20. A method for wireless communications at a base station, comprising:

transmitting system information to at least a first user equipment (UE) of a plurality of UEs in a broadcast transmission, the system information including a first bandwidth indication;

receiving a connection establishment request from the first UE;

determining, based at least in part on the connection establishment request, a first UE-specific channel bandwidth for communications with the first UE, wherein the first UE-specific channel bandwidth is less than or equal to a cell-specific channel bandwidth and is based at least in part on a maximum supported bandwidth of the first UE; and

transmitting a connection establishment response to the first UE that includes a plurality of indications of UE-specific channel bandwidths corresponding to respective ones of a plurality of subcarrier spacings (SCSs), the plurality of indications of UE-specific channel bandwidths including an indication of the first UE-specific channel bandwidth.

21. The method of claim 20, wherein the transmitting the connection establishment response comprises:

transmitting UE-specific radio resource control (RRC) signaling to the first UE that includes the plurality of indications of the UE-specific channel bandwidths.

22. The method of claim 20, wherein the first UE-specific channel bandwidth is different than a second UE-specific channel bandwidth of a second UE of the plurality of UEs.

23. The method of claim 20, wherein the connection establishment request includes an indication of the maximum supported bandwidth of the first UE.

24. The method of claim 23, wherein the maximum supported bandwidth of the first UE is less than or equal to the cell-specific channel bandwidth.

25. The method of claim 23, wherein the maximum supported bandwidth of the first UE is a maximum supported bandwidth part (BWP) bandwidth that is less than or equal to a full bandwidth capability of the first UE.

26. The method of claim 20, wherein the first bandwidth indication corresponds to the cell-specific channel bandwidth or a maximum channel bandwidth supported by the base station.

27. The method of claim 20, wherein the first bandwidth indication is a minimum bandwidth supported by the base station.

28. The method of claim 20, wherein the first bandwidth indication is a placeholder indication of bandwidth.

29. The method of claim 20, wherein the first UE-specific channel bandwidth is a subset of the maximum supported bandwidth of the first UE.

30. The method of claim 20, further comprising:

determining, subsequent to transmitting the connection establishment response, a second UE-specific channel bandwidth for communications with the first UE, the second UE-specific channel bandwidth having a different bandwidth than the first UE-specific channel bandwidth, a different location within the cell-specific channel bandwidth, or any combination thereof; and

transmitting an indication of the second UE-specific channel bandwidth to the first UE.

31. The method of claim 20, wherein the connection establishment request includes one or more of the maximum supported bandwidth of the first UE, a maximum carrier aggregation supported by the first UE, a capability of the first UE to dynamically or semi-statically reconfigure the first UE-specific channel bandwidth within the cell-specific channel bandwidth, a maximum modulation and coding scheme (MCS) supported by the first UE, a first UE processing timeline capability, or any combinations thereof.

32. The method of claim 20, further comprising:

configuring the first UE to use a first subset of resource blocks within the first UE-specific channel bandwidth.

33. The method of claim 32, wherein the first subset of resource blocks and a second subset of resource blocks occupy alternating resource blocks within the first UE-specific channel bandwidth.

34. A method for wireless communications at a base station, comprising:

transmitting system information to at least a first user equipment (UE) of a plurality of UEs in a broadcast transmission, the system information including a cell-specific channel bandwidth;

receiving a connection establishment request from the first UE, the connection establishment request indicating a maximum supported bandwidth of the first UE that is less than the cell-specific channel bandwidth;

determining, based at least in part on the maximum supported bandwidth of the first UE, to reject the connection establishment request from the first UE; and

transmitting, to the first UE, an indication that the connection establishment request indicating the maximum supported bandwidth of the UE is rejected.

35. The method of claim 34, wherein the indication is transmitted to the first UE prior to the first UE camping on the base station.

36. The method of claim 34, wherein the connection establishment request is a random access message transmitted to the base station as part of a random access procedure, and wherein the indication is transmitted in a random access response as part of the random access procedure.

37. The method of claim 34, wherein the indication includes an identification of one or more other base stations that are configured to support the maximum supported bandwidth of the first UE.

38. An apparatus for wireless communications at a user equipment (UE), comprising:

a processor, memory in electronic communication with the processor; and

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

receive system information from a base station, the system information including a first bandwidth indication;

transmit a connection establishment request to the base station based at least in part on the system information;

receive, from the base station responsive to the connection establishment request, a plurality of indications of UE-specific channel bandwidths corresponding to respective ones of a plurality of subcarrier spacings (SCSs), the plurality of indications of UE-specific channel bandwidths including an indication of a UE-specific channel bandwidth, wherein the UE-specific channel bandwidth is less than or equal to a cell-specific channel bandwidth and is based at least in part on a maximum supported bandwidth of the UE; and

communicate with the base station using the UE-specific channel bandwidth.

39. The apparatus of claim 38, wherein the connection establishment request includes the maximum supported bandwidth of the UE.

40. The apparatus of claim 39, wherein the maximum supported bandwidth of the UE is less than or equal to the cell-specific channel bandwidth.

41. The apparatus of claim 39, wherein the maximum supported bandwidth of the UE is a maximum supported bandwidth part (BWP) bandwidth that is less than or equal to a full bandwidth capability of the UE.

42. The apparatus of claim 41, wherein the instructions are further executable by the processor to cause the apparatus to:

determine the maximum supported BWP bandwidth of the UE to include with the connection establishment request based at least in part on the full bandwidth capability of the UE, the cell-specific channel bandwidth, a current data usage of the UE, a power consumption mode of the UE, a thermal status of the UE, or any combinations thereof.

43. The apparatus of claim 38, wherein the first bandwidth indication corresponds to the cell-specific channel bandwidth or a maximum channel bandwidth supported by the base station.

44. The apparatus of claim 38, wherein the first bandwidth indication is a minimum bandwidth supported by the base station.

45. The apparatus of claim 38, wherein the first bandwidth indication is a placeholder indication of bandwidth.

46. The apparatus of claim 38, wherein the plurality of indications of the UE-specific channel bandwidths is received in UE-specific radio resource control (RRC) signaling that includes the plurality of indications of the UE-specific channel bandwidths.

47. The apparatus of claim 38, wherein the connection establishment request includes one or more of the maximum supported bandwidth of the UE, a maximum carrier aggregation supported by the UE, a UE capability to dynamically or semi-statically reconfigure the UE-specific channel bandwidth within the cell-specific channel bandwidth, a maximum modulation and coding scheme (MCS) supported by the UE, a UE processing timeline capability, or any combinations thereof.

48. The apparatus of claim 38, wherein the communicating with the base station using the UE-specific channel bandwidth comprises transmitting one or more uplink transmissions to the base station using a first subset of resource blocks within the UE-specific channel bandwidth.

49. The apparatus of claim 48, wherein the first subset of resource blocks and a second subset of resource blocks occupy alternating resource blocks within the UE-specific channel bandwidth.

50. An apparatus for wireless communications at a user equipment (UE), comprising:

a processor, memory in electronic communication with the processor; and

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

receive first system information from a first base station, the first system information including a first cell-specific channel bandwidth;

transmit a first connection establishment request to the first base station based at least in part on the first system information, the first connection establishment request indicating a maximum supported bandwidth of the UE that is less than the first cell-specific channel bandwidth; and

receive, responsive to the first connection establishment request, an indication from the first base station that the first connection establishment request indicating the maximum supported bandwidth of the UE is rejected.

51. The apparatus of claim 50, wherein the instructions are further executable by the processor to cause the apparatus to:

transmit a second connection establishment request to a second base station based at least in part on second system information of the second base station, the second connection establishment request indicating the maximum supported bandwidth of the UE; and

receive, responsive to the second connection establishment request, a connection establishment response from the second base station to establish a connection with the second base station.

52. The apparatus of claim 50, wherein the indication from the first base station is received prior to the UE camping on the first base station.

53. The apparatus of claim 50, wherein the first connection establishment request is a random access message transmitted to the first base station as part of a random access procedure, and wherein the indication is received in a random access response from the first base station as part of the random access procedure.

54. The apparatus of claim 53, wherein the maximum supported bandwidth of the UE is transmitted in a physical uplink shared channel (PUSCH) transmission, and the indication is received in a physical downlink shared channel (PDSCH) transmission, as part of the random access procedure.

55. An apparatus for wireless communications at a base station, comprising:

a processor, memory in electronic communication with the processor; and

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

transmit system information to at least a first user equipment (UE) of a plurality of UEs in a broadcast transmission, the system information including a first bandwidth indication;

receive a connection establishment request from the first UE;

determine, based at least in part on the connection establishment request, a first UE-specific channel bandwidth for communications with the first UE, wherein the first UE-specific channel bandwidth is less than or equal to a cell-specific channel bandwidth and is based at least in part on a maximum supported bandwidth of the first UE; and

transmit a connection establishment response to the first UE that includes a plurality of indications of UE-specific channel bandwidths corresponding to respective ones of a plurality of subcarrier spacings (SCSs), the plurality of indications of UE-specific channel bandwidths including an indication of the first UE-specific channel bandwidth.

56. The apparatus of claim 55, wherein the connection establishment response is provided via UE-specific radio resource control (RRC) signaling to the first UE that includes the plurality of indications of the UE-specific channel bandwidths.

57. The apparatus of claim 55, wherein the first UE-specific channel bandwidth is different than a second UE-specific channel bandwidth of a second UE of the plurality of UEs.

58. The apparatus of claim 55, wherein the connection establishment request includes an indication of the maximum supported bandwidth of the first UE.

59. The apparatus of claim 58, wherein the maximum supported bandwidth of the first UE is less than or equal to the cell-specific channel bandwidth.

60. The apparatus of claim 58, wherein the maximum supported bandwidth of the first UE is a maximum supported bandwidth part (BWP) bandwidth that is less than or equal to a full bandwidth capability of the first UE.

61. The apparatus of claim 55, wherein the first bandwidth indication corresponds to the cell-specific channel bandwidth or a maximum channel bandwidth supported by the base station.

62. The apparatus of claim 55, wherein the first bandwidth indication is a minimum bandwidth supported by the base station.

63. The apparatus of claim 55, wherein the first bandwidth indication is a placeholder indication of bandwidth.

64. The apparatus of claim 55, wherein the first UE-specific channel bandwidth is a subset of the maximum supported bandwidth of the first UE.

65. An apparatus for wireless communications at a base station, comprising:

a processor, memory in electronic communication with the processor; and

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

transmit system information to at least a first user equipment (UE) of a plurality of UEs in a broadcast transmission, the system information including a cell-specific channel bandwidth;

receive a connection establishment request from the first UE, the connection establishment request indicating a maximum supported bandwidth of the first UE that is less than the cell-specific channel bandwidth;

determine, based at least in part on the maximum supported bandwidth of the first UE, to reject the connection establishment request from the first UE; and

transmit, to the first UE, an indication that the connection establishment request indicating the maximum supported bandwidth of the UE is rejected.

66. The apparatus of claim 65, wherein the indication is transmitted to the first UE prior to the first UE camping on the base station.

67. The apparatus of claim 65, wherein the connection establishment request is a random access message transmitted to the base station as part of a random access procedure, and wherein the indication is transmitted in a random access response as part of the random access procedure.

68. The apparatus of claim 65, wherein the indication includes an identification of one or more other base stations that are configured to support the maximum supported bandwidth of the first UE.