

CLAIMS

1. A method for decoding control information in wireless communication, comprising: receiving wireless communications from an access point; determining resources of the wireless communications associated with a search space for control information in the received wireless communications; determining, based on one of multiple possible transmission time interval (TTI) durations configured for a low latency communication technology, one or more control channel element (CCE) sizes defined for the control information; and performing, based on the one or more CCE sizes, one or more of a set of blind decodes over the search space to decode at least low latency control information associated with the low latency communication technology, wherein the low latency communication technology uses the one of the multiple possible TTI durations, which is less than a subframe of a legacy communication technology.
2. The method of claim 1, further comprising receiving an indicator from the access point that the search space includes the low latency control information associated with the low latency communication technology.
3. The method of claim 1, wherein performing the one or more of the set of blind decodes is based at least in part on one or more formats or sizes defined for the low latency control information.
4. The method of claim 1, wherein performing the one or more of the set of blind decodes is based at least in part on one or more formats or sizes defined for control information of the legacy communication technology.
5. The method of claim 1, wherein a number of the set of blind decodes is the same as or less than a legacy number of a set of blind decodes defined for the legacy communication technology.
6. The method of claim 1, further comprising performing one or more of a set of legacy blind decodes over a legacy search space in an attempt to decode at least legacy control information associated with the legacy communication technology.
7. The method of claim 6, wherein the set of blind decodes and the set of legacy blind decodes are based on a similar set of possible sizes for the low latency control information and the legacy control information.
8. The method of claim 6, wherein at least one of the low latency control information or the legacy control information includes an indicator indicating an associated communication technology.
9. The method of claim 6, further comprising: receiving an indicator to reduce a number of blind decoding candidates; and determining the set of blind decodes and the set of legacy blind

decodes based at least in part on the indicator, wherein a number of the set of blind decodes and the set of legacy blind decodes as reduced are equal to a number of the set of legacy blind decodes before reducing.

10. The method of claim 6, further comprising: receiving an indicator to reduce a number of aggregation levels for performing blind decoding; and determining the set of blind decodes and the set of legacy blind decodes based at least in part on the indicator.

11. The method of claim 10, wherein the indicator specifies a first number of aggregation levels for the low latency communication technology and a second number of aggregation levels for the legacy communication technology.

12. The method of claim 6, further comprising: determining the set of legacy blind decodes based on reducing a number of possible sizes for the legacy control information; and determining the set of blind decodes based on determining a difference between a first number of the set of legacy blind decodes prior to reducing the number of possible sizes and a second number of the set of legacy blind decodes after reducing the number of possible sizes.

13. The method of claim 6, wherein the search space and the legacy search space are in contiguous resources of the wireless communications.

14. The method of claim 6, wherein the search space and the legacy search space are in non-contiguous resources of the wireless communications, and further comprising: locating the search space within the wireless communications based on a first assigned radio network temporary identifier; and locating the legacy search space within the wireless communications based on a second assigned radio network temporary identifier.

15. The method of claim 1, wherein the low latency control information includes a first stage grant of a multiple stage grant.

16. The method of claim 15, wherein the first stage grant indicates at least one of information related to one or more additional stage grants in the multiple stage grant or resources scheduled for one or more data channels.

17. The method of claim 15, wherein the first stage grant indicates information related to one or more additional stage grants in the multiple stage grant at a first action time, and a subsequent first stage grant indicates resources scheduled for one or more data channels at a second action time.

18. The method of claim 1, wherein the search space corresponds to a legacy control channel region for the legacy communication technology.

19. The method of claim 18, wherein the low latency control information includes at least one of

one or more uplink grants for the low latency communication technology or a first stage grant of a multiple stage grant.

20. The method of claim 18, wherein the low latency control information includes at least one of one or more grants of a multiple stage grant or a grant scheduling a low latency data channel in a first TTI of the low latency communication technology following the legacy control channel region.

21. The method of claim 18, wherein the low latency control information includes a grant scheduling a low latency control channel in a first TTI of the low latency communication technology following the legacy control channel region.

22. The method of claim 21, further comprising performing one or more of a plurality of low latency blind decodes over a low latency search space defined in the first TTI of the low latency communication technology following the legacy control channel region in an attempt to decode at least a second low latency control information associated with the low latency communication technology.

23. The method of claim 22, wherein a first size of the low latency control information in the legacy control channel region is the same as a second size of the second low latency control information.

24. The method of claim 22, wherein a first number of the set of blind decodes is greater than a second number of the plurality of low latency blind decodes.

25. The method of claim 18, further comprising performing one or more of a set of legacy blind decodes over the search space in an attempt to decode at least legacy control information associated with the legacy communication technology.

26. The method of claim 25, further comprising determining a first number of the set of legacy blind decodes based at least in part on a second number of the set of blind decodes.

27. The method of claim 1, wherein a number of control channel elements or resource element groups defining the low latency control information are different than for legacy control information.

28. The method of claim 27, wherein the number of control channel elements or resource element groups is based on the TTI duration.

29. The method of claim 1, wherein a number of control channel elements or resource element groups defining the low latency control information are the same as for legacy control information of the legacy communication technology.

30. The method of claim 1, wherein a first number of aggregation levels associated with the low latency control information is the same as a second number of aggregation levels associated with legacy control information of the legacy communication technology.

31. The method of claim 1, wherein a first number of aggregation levels associated with the low latency control information includes one or more aggregation levels not supported by the legacy communication technology.

32. An apparatus for decoding control information in wireless communication, comprising: a transceiver for communicating one or more wireless signals via one or more antennas, the transceiver configured to receive wireless communications from an access point; a memory configured to store instructions; and one or more processors communicatively coupled with the transceiver and the memory, wherein the one or more processors are configured to: determine resources of the wireless communications associated with a search space for control information in the received wireless communications; determine, based on one of multiple possible transmission time interval (TTI) durations configured for a low latency communication technology, one or more control channel element (CCE) sizes defined for the control information; and perform, based on the one or more CCE sizes, one or more of a set of blind decodes over the search space to decode at least low latency control information associated with the low latency communication technology, wherein the low latency communication technology utilizes the one of the multiple possible TTI durations, which is less than a subframe of a legacy communication technology.

33. The apparatus of claim 32, wherein the transceiver is further configured to receive an indicator which indicates that the search space includes the low latency control information associated with the low latency communication technology.

34. The apparatus of claim 32, wherein the one or more processors are configured to perform the one or more of the set of blind decodes based at least in part on one or more formats defined for the low latency control information.

35. The apparatus of claim 32, wherein the one or more processors are configured to perform the one or more of the set of blind decodes based at least in part on one or more formats or sizes defined for control information of the legacy communication technology.

36. The apparatus of claim 32, wherein a number of the set of blind decodes is the same as or less than a legacy number of a set of blind decodes defined for the legacy communication technology.

37. The apparatus of claim 32, wherein the one or more processors are further configured to perform one or more of a set of legacy blind decodes over a legacy search space in an attempt to decode at least legacy control information associated with the legacy communication technology.

38. The apparatus of claim 37, wherein the set of blind decodes and the set of legacy blind decodes are based on a similar set of possible sizes for the low latency control information and the legacy control information.

39. The apparatus of claim 37, wherein at least one of the low latency control information or the legacy control information includes an indicator indicating an associated communication technology.

40. The apparatus of claim 37, wherein the transceiver is further configured to receive an indicator to reduce a number of blind decoding candidates; and wherein the one or more processors are further configured to determine the set of blind decodes and the set of legacy blind decodes based at least in part on the indicator, wherein a number of the set of blind decodes and the set of legacy blind decodes as reduced are equal to a number of the set of legacy blind decodes before reducing.

41. The apparatus of claim 37, wherein the transceiver is further configured receive an indicator to reduce a number of aggregation levels for performing blind decoding; and wherein the one or more processors are further configured to determine the set of blind decodes and the set of legacy blind decodes based at least in part on the indicator.

42. The apparatus of claim 41, wherein the indicator specifies a first number of aggregation levels for the low latency communication technology and a second number of aggregation levels for the legacy communication technology.

43. The apparatus of claim 37, wherein the one or more processors are further configured to: determine the set of legacy blind decodes based on reducing a number of possible sizes for the legacy control information; and determine the set of blind decodes based on determining a difference between a first number of the set of legacy blind decodes prior to reducing the number of possible sizes and a second number of the set of legacy blind decodes after reducing the number of possible sizes.

44. The apparatus of claim 37, wherein the search space and the legacy search space are in contiguous resources of the wireless communications.

45. The apparatus of claim 37, wherein the search space and the legacy search space are in non-contiguous resources of the wireless communications, and wherein the one or more processors are further configured to: locate the search space within the wireless communications based on a first assigned radio network temporary identifier; and locate the legacy search space within the wireless communications based on a second assigned radio network temporary identifier.

46. The apparatus of claim 32, wherein the low latency control information includes a first stage grant of a multiple stage grant.

47. The apparatus of claim 46, wherein the first stage grant indicates at least one of information related to one or more additional stage grants in the multiple stage grant or resources scheduled for one or more data channels.

48. The apparatus of claim 46, wherein the first stage grant indicates information related to one or more additional stage grants in the multiple stage grant at a first action time, and a subsequent first stage grant indicates resources scheduled for one or more data channels at a second action time.

49. The apparatus of claim 32, wherein the search space corresponds to a legacy control channel region for the legacy communication technology.

50. The apparatus of claim 49, wherein the low latency control information includes at least one of one or more uplink grants for the low latency communication technology or a first stage grant of a multiple stage grant.

51. The apparatus of claim 49, wherein the low latency control information includes at least one of one or more grants of a multiple stage grant or a grant scheduling a low latency data channel in a first TTI of the low latency communication technology following the legacy control channel region.

52. The apparatus of claim 49, wherein the low latency control information includes a grant scheduling a low latency control channel in a first TTI of the low latency communication technology following the legacy control channel region.

53. The apparatus of claim 52, wherein the one or more processors are further configured to perform one or more of a plurality of low latency blind decodes over a low latency search space defined in the first TTI of the low latency communication technology following the legacy control channel region in an attempt to decode at least a second low latency control information associated with the low latency communication technology.

54. The apparatus of claim 53, wherein a first size of the low latency control information in the legacy control channel region is the same as a second size of the second low latency control information.

55. The apparatus of claim 53, wherein a first number of the set of blind decodes is greater than a second number of the plurality of low latency blind decodes.

56. The apparatus of claim 49, wherein the one or more processors are further configured to perform one or more of a set of legacy blind decodes over the search space in an attempt to decode at least legacy control information associated with the legacy communication technology.

57. The apparatus of claim 56, wherein the one or more processors are further configured to

determine a first number of the set of legacy blind decodes based at least in part on a second number of the set of blind decodes.

58. The apparatus of claim 32, wherein a number of control channel elements or resource element groups defining the low latency control information are different than for legacy control information.

59. The apparatus of claim 58, wherein the number of control channel elements or resource element groups is based on the duration of the TTI.

60. The apparatus of claim 32, wherein a number of control channel elements or resource element groups defining the low latency control information are the same as for legacy control information of the legacy communication technology.

61. The apparatus of claim 32, wherein a first number of aggregation levels associated with the low latency control information is the same as a second number of aggregation levels associated with legacy control information of the legacy communication technology.

62. The apparatus of claim 32, wherein a first number of aggregation levels associated with the low latency control information includes one or more aggregation levels not supported by the legacy communication technology.

63. An apparatus for decoding control information in wireless communication, comprising: a transceiver configured to receive wireless communications from an access point; means for determining resources of the wireless communications associated with a search space for control information in the received wireless communications; means for determining, based on one of multiple possible transmission time interval (TTI) durations configured for a low latency communication technology, one or more control channel element (CCE) sizes defined for the control information; and means for performing, based on the one or more CCE sizes, one or more of a set of blind decodes over the search space to decode at least low latency control information associated with the low latency communication technology, wherein the low latency communication technology utilizes the one of the multiple possible TTI durations, which is less than a subframe of a legacy communication technology.

64. The apparatus of claim 63, wherein the wireless communications include an indicator which indicates that the search space includes the low latency control information associated with the low latency communication technology.

65. The apparatus of claim 63, wherein the means for performing the one or more of the set of blind decodes is based at least in part on one or more formats defined for the low latency control information.

66. The apparatus of claim 63, wherein the means for performing the one or more of the set of

blind decodes is based at least in part on one or more formats or sizes defined for control information of the legacy communication technology.

67. The apparatus of claim 63, further comprising means for performing one or more of a set of legacy blind decodes over a legacy search space in an attempt to decode at least legacy control information associated with the legacy communication technology.

68. The apparatus of claim 67, wherein the set of blind decodes and the set of legacy blind decodes are based on a similar set of possible sizes for the low latency control information and the legacy control information.

69. The apparatus of claim 67, wherein the wireless communications include an indicator to reduce a number of blind decoding candidates; and wherein the means for determining are further configured to determine the set of blind decodes and the set of legacy blind decodes based at least in part on the indicator, wherein a number of the set of blind decodes and the set of legacy blind decodes as reduced are equal to a number of the set of legacy blind decodes before reducing.

70. The apparatus of claim 67, wherein the wireless communications include an indicator to reduce a number of aggregation levels for performing blind decoding; and wherein the means for determining are further configured to determine the set of blind decodes and the set of legacy blind decodes based at least in part on the indicator.

71. The apparatus of claim 67, wherein the search space and the legacy search space are in contiguous resources of the wireless communications.

72. The apparatus of claim 63, wherein the search space corresponds to a legacy control channel region for the legacy communication technology.

73. The apparatus of claim 72, further comprising means for performing one or more of a set of legacy blind decodes over the search space in an attempt to decode at least legacy control information associated with the legacy communication technology.

74. The apparatus of claim 63, wherein a number of control channel elements or resource element groups defining the low latency control information are different than for legacy control information.

75. A non-transitory computer-readable medium comprising computer-executable code for decoding control information in wireless communication, the code comprising: code for receiving wireless communications from an access point; code for determining resources of the wireless communications associated with a search space for control information in the received wireless communications; code for determining, based on one of multiple possible transmission time interval (TTI) durations configured for a low latency communication technology, one or

more control channel element (CCE) sizes defined for the control information; and code for performing, based on the one or more CCE sizes, one or more of a set of blind decodes over the search space to decode at least low latency control information associated with the low latency communication technology, wherein the low latency communication technology utilizes the one of the multiple possible TTI durations, which is less than a subframe of a legacy communication technology.

76. A method for communicating control information in wireless communications, comprising: defining resources associated with a search space for control information transmitted in the wireless communications; determining, based on one of multiple possible transmission time interval (TTI) durations configured for a low latency communication technology, one or more control channel element (CCE) sizes for the control information; encoding, based on the one or more CCE sizes, low latency control information associated with the low latency communication technology for transmission in a legacy control channel region in the search space, wherein the low latency communication technology uses the one of the multiple possible TTI durations, which is less than a subframe of a legacy communication technology; and transmitting the low latency control information in the legacy control channel region.

77. An apparatus for communicating control information in wireless communications, comprising: a transceiver for communicating one or more wireless signals via one or more antennas; a memory configured to store instructions; and one or more processors communicatively coupled with the transceiver and the memory, wherein the one or more processors are configured to: define resources associated with a search space for control information transmitted in the wireless communications; determine, based on one of multiple possible transmission time interval (TTI) durations configured for a low latency communication technology, one or more control channel element (CCE) sizes for the control information; encode, based on the one or more CCE sizes, low latency control information associated with the low latency communication technology for transmission in a legacy control channel region in the search space, wherein the low latency communication technology uses the one of the multiple possible TTI durations, which is less than a subframe of a legacy communication technology; and transmit the low latency control information in the legacy control channel region.

78. An apparatus for communicating control information in wireless communications, comprising: means for defining resources associated with a search space for control information transmitted in the wireless communications; means for determining, based on one of multiple possible transmission time interval (TTI) durations configured for a low latency communication technology, one or more control channel element (CCE) sizes for the control information; means for encoding, based on the one or more CCE sizes, low latency control information associated with the low latency communication technology for transmission in a legacy control channel region in the search space, wherein the low latency communication technology uses the one of the multiple possible TTI durations, which is less than a subframe of a legacy communication technology; and means for transmitting the low latency control information in the legacy control channel region.

79. A non-transitory computer-readable medium comprising computer-executable code for communicating control information in wireless communications, the code comprising: code for defining resources associated with a search space for control information transmitted in the wireless communications; code for determining, based on one of multiple possible transmission time interval (TTI) durations configured for a low latency communication technology, one or more control channel element (CCE) sizes for the control information; code for encoding, based on the one or more CCE sizes, low latency control information associated with the low latency communication technology for transmission in a legacy control channel region in the search space, wherein the low latency communication technology uses the one of the multiple possible TTI durations, which is less than a subframe of a legacy communication technology; and code for transmitting the low latency control information in the legacy control channel region.