CLAIMS

1. A method for wireless communication, comprising: receiving, by a user equipment (UE), a grant indicating a plurality of resource elements (REs) of an uplink shared channel allocated to the UE for an uplink transmission; receiving radio resource control (RRC) signaling indicating an allocation cap parameter; setting a maximum number of the plurality of REs to allocate to hybrid automatic repeat request acknowledgement (HARQ-ACK) data based at least in part on the allocation cap parameter; splitting at least a portion of the plurality of REs between the HARQ-ACK data, channel state information part 1 (CSI part 1) data, and CSI part 2 data; generating the uplink transmission based at least in part on the splitting; and transmitting, by the UE, the uplink transmission in the plurality of REs of the uplink shared channel.

2. The method of claim 1, further comprising: calculating a number of the plurality of REs to allocate to the HARQ-ACK data based at least in part on the maximum number.

3. The method of claim 1, further comprising: determining a total number of the plurality of REs that are available for allocation based at least in part on a number of subcarriers associated with the grant and a number of symbol periods associated with the grant.

4. The method of claim 3, further comprising: setting the total number of the plurality of REs that are available for allocation as a maximum number of the plurality of REs that are available to allocate to the HARQ-ACK data.

5. The method of claim 3, wherein splitting of at least the portion of the plurality of REs comprises: allocating a number of the plurality of REs to the HARQ-ACK data; identifying a remaining number of the plurality of REs that are available for allocation based at least in part on determining that the number of the plurality of REs allocated to the HARQ-ACK data is less than the total number of the plurality of REs that are available for allocation; and splitting the remaining number of the plurality of REs between the CSI part 1 data and the CSI part 2 data.

6. The method of claim 1, further comprising: receiving the RRC signaling indicating the allocation cap parameter; and setting a maximum number of the plurality of REs to allocate to the CSI part 1 data based at least in part on the allocation cap parameter.

7. The method of claim 6, further comprising: calculating a number of the plurality of REs to allocate to the CSI part 1 data based at least in part on the maximum number.

8. The method of claim 1, wherein splitting of at least the portion of the plurality of REs comprises: calculating a number of the plurality of REs to allocate to the HARQ-ACK data in proportion to a weighted payload size of the HARQ-ACK data relative to a function of the weighted payload size of the HARQ-ACK data, a weighted payload size of the CSI part 1 data, and a weighted payload size of a reference payload size.

9. The method of claim 1, wherein splitting of at least the portion of the plurality of REs comprises: calculating a number of the plurality of REs to allocate to the CSI part 1 data in proportion to a weighted payload size of the CSI part 1 data relative to a function of a weighted payload size of the HARQ-ACK data, the weighted payload size of the CSI part 1 data, and a weighted payload size of a reference payload size.

10. The method of claim 1, wherein splitting of at least the portion of the plurality of REs comprises: receiving radio resource control (RRC) signaling indicating a weighting factor for the HARQ-ACK data, a weighting factor for the CSI part 1 data, and a weighting factor for the CSI part 2 data; and determining a weighted payload size of the HARQ-ACK data based at least on part on the weighting factor for the HARQ-ACK data, a weighted payload size of the CSI part 1 data based at least on part on the weighting factor for the CSI part 1 data, and a weighted payload size of a reference payload size based at least on part on the weighting factor for the CSI part 2 data.

11. The method of claim 1, wherein splitting of at least the portion of the plurality of REs comprises: calculating a number of the plurality of REs to allocate to the CSI part 2 data based at least in part on a number of the plurality of REs allocated to the HARQ-ACK data and a number of the plurality of REs allocated to the CSI part 1 data.

12. The method of claim 1, wherein splitting of at least the portion of the plurality of REs comprises: calculating a number of the plurality of REs to allocate to the HARQ-ACK data in proportion to a weighted payload size of the HARQ-ACK data relative to a weighted payload size of a reference payload size.

13. The method of claim 1, wherein splitting of at least the portion of the plurality of REs comprises: calculating a number of the plurality of REs to allocate to the CSI part 1 data in proportion to a weighted payload size of the CSI part 1 data relative to a weighted payload size of a reference payload size.

14. The method of claim 1, further comprising: determining a reference payload size based at least on part on a value of a rank indication.

15. The method of claim 1, further comprising: processing the grant to determine that none of the plurality of REs are allocated for transmission of uplink data and that each of the plurality of REs is allocated for transmission of the HARQ-ACK data, or the CSI part 1 data, or the CSI part 2 data.

16. The method of claim 1, further comprising: processing the grant to determine that the uplink transmission is to include non-access stratum data and not to include access stratum data.

17. The method of claim 1, wherein splitting of at least the portion of the plurality of REs comprises: splitting at least the portion of the plurality of REs between the HARQ-ACK data, the

CSI part 1 data, the CSI part 2 data, and uplink data based at least in part on a reference payload size of the CSI part 2 data.

18. A method for wireless communication, comprising: transmitting, by a base station, a grant indicating a plurality of resource elements (REs) of an uplink shared channel allocated to a user equipment (UE) for an uplink transmission; transmitting radio resource control (RRC) signaling indicating an allocation cap parameter; setting a maximum number of the plurality of REs available to allocate to hybrid automatic repeat request acknowledgement (HARQ-ACK) data based at least in part on the allocation cap parameter; splitting at least a portion of the plurality of REs between the HARQ-ACK data, channel state information part 1 (CSI part 1) data, and CSI part 2 data; and monitoring the plurality of REs of the uplink shared channel for the uplink transmission based at least in part on the splitting.

19. The method of claim 18, wherein splitting of at least the portion of the plurality of REs comprises: calculating a number of the plurality of REs allocated to the HARQ-ACK data based at least in part on the maximum number of the plurality of REs available to allocate to the HARQ-ACK data.

20. The method of claim 18, wherein splitting of at least the portion of the plurality of REs comprises: setting a maximum number of the plurality of REs available to allocate to the CSI part 1 data based at least in part on the allocation cap parameter.

21. The method of claim 20, wherein splitting of at least the portion of the plurality of REs comprises: calculating a number of the plurality of REs allocated to the CSI part 1 data based at least in part on the maximum number of the plurality of REs available to allocate to the CSI part 1 data.

22. The method of claim 18, further comprising: determining a total number of the plurality of REs that are available for allocation based at least in part on a number of subcarriers associated with the grant and a number of symbol periods associated with the grant.

23. The method of claim 22, wherein splitting of at least the portion of the plurality of REs comprises: splitting at least the portion of the plurality of REs between the HARQ-ACK data, the CSI part 1 data, and the CSI part 2 data based at least in part on the total number of the plurality of REs that are available for allocation.

24. The method of claim 22, wherein the total number of the plurality of REs that are available for allocation excludes REs of the plurality of REs assigned to at least one reference signal.

25. The method of claim 22, wherein transmitting the grant further comprises: generating the grant to indicate that none of the total number of the plurality of REs are allocated for transmission of uplink data and that each of total number of the plurality of REs is allocated for transmission of the HARQ-ACK data, the CSI part 1 data, or the CSI part 2 data.

26. The method of claim 22, wherein transmitting the grant further comprises: generating the grant to indicate that the uplink transmission is to include non-access stratum data and not to include access stratum data.

27. The method of claim 18, wherein splitting of at least the portion of the plurality of REs comprises: calculating a number of the plurality of REs allocated to the HARQ-ACK data in proportion to a weighted payload size of the HARQ-ACK data relative to a function of the weighted payload size of the HARQ-ACK data, a weighted payload size of the CSI part 1 data, and a weighted payload size of a reference payload size.

28. The method of claim 18, wherein splitting of at least the portion of the plurality of REs comprises: calculating a number of the plurality of REs allocated to the CSI part 1 data in proportion to a weighted payload size of the CSI part 1 data relative to a function of a weighted payload size of the HARQ-ACK data, the weighted payload size of the CSI part 1 data, and a weighted payload size of a reference payload size.

29. The method of claim 18, wherein splitting of at least the portion of the plurality of REs comprises: transmitting radio resource control (RRC) signaling indicating a weighting factor for the HARQ-ACK data, a weighting factor for the CSI part 1 data, and a weighting factor for the CSI part 2 data; and determining a weighted payload size of the HARQ-ACK data based at least on part on the weighting factor for the HARQ-ACK data, a weighted payload size of the CSI part 1 data based at least on part on the weighting factor for the CSI part 1 data, and a weighted payload size of a reference payload size based at least on part on the weighting factor for the CSI part 2 data.

30. The method of claim 18, wherein splitting of at least the portion of the plurality of REs comprises: calculating a number of the plurality of REs allocated to the CSI part 2 data based at least in part on a number of the plurality of REs allocated to the HARQ-ACK data and a number of the plurality of REs allocated to the CSI part 1 data.

31. The method of claim 18, further comprising: determining a reference payload size based at least on part on a value of a rank indication.

32. The method of claim 18, wherein splitting of at least the portion of the plurality of REs comprises: splitting at least the portion of the plurality of REs between the HARQ-ACK data, the CSI part 1 data, the CSI part 2 data, and uplink data based at least in part on a reference payload size of the CSI part 2 data.

33. An apparatus for wireless communication by 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 a grant indicating a plurality of resource elements (REs) of an uplink shared channel allocated to the UE for an

uplink transmission; receive radio resource control (RRC) signaling indicating an allocation cap parameter; set a maximum number of the plurality of REs to allocate to hybrid automatic repeat request acknowledgement (HARQ-ACK) data based at least in part on the allocation cap parameter; split at least a portion of the plurality of REs between the HARQ-ACK data, channel state information part 1 (CSI part 1) data, and CSI part 2 data; generate the uplink transmission based at least in part on the splitting; and transmit the uplink transmission in the plurality of REs of the uplink shared channel.

34. The apparatus of claim 33, wherein the instructions are further executable by the processor to cause the apparatus to: calculate a number of the plurality of REs to allocate to the HARQ-ACK data based at least in part on the maximum number.

35. The apparatus of claim 33, wherein the instructions are further executable by the processor to cause the apparatus to: determine a total number of the plurality of REs that are available for allocation based at least in part on a number of subcarriers associated with the grant and a number of symbol periods associated with the grant.

36. The apparatus of claim 35, wherein the instructions are further executable by the processor to cause the apparatus to: set the total number of the plurality of REs that are available for allocation as a maximum number of the plurality of REs that are available to allocate to the HARQ-ACK data.

37. The apparatus of claim 35, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: allocate a number of the plurality of REs to the HARQ-ACK data; identify a remaining number of the plurality of REs that are available for allocation based at least in part on determining that the number of the plurality of REs allocated to the HARQ-ACK data is less than the total number of the plurality of REs that are available for allocation; and split the remaining number of the plurality of REs between the CSI part 1 data and the CSI part 2 data.

38. The apparatus of claim 33, wherein the instructions are further executable by the processor to cause the apparatus to: receive the RRC signaling indicating the allocation cap parameter; and set a maximum number of the plurality of REs to allocate to the CSI part 1 data based at least in part on the allocation cap parameter.

39. The apparatus of claim 34, wherein the instructions are further executable by the processor to cause the apparatus to: calculate a number of the plurality of REs to allocate to the CSI part 1 data based at least in part on the maximum number.

40. The apparatus of claim 33, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: calculate a number of the plurality of REs to allocate to the HARQ-ACK data in proportion to a weighted payload size of the HARQ-ACK data relative to a function of the weighted payload size of the HARQ-ACK

data, a weighted payload size of the CSI part 1 data, and a weighted payload size of a reference payload size.

41. The apparatus of claim 33, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: calculate a number of the plurality of REs to allocate to the CSI part 1 data in proportion to a weighted payload size of the CSI part 1 data relative to a function of a weighted payload size of the HARQ-ACK data, the weighted payload size of the CSI part 1 data, and a weighted payload size of a reference payload size.

42. The apparatus of claim 33, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: receive radio resource control (RRC) signaling indicating a weighting factor for the HARQ-ACK data, a weighting factor for the CSI part 1 data, and a weighting factor for the CSI part 2 data; and determine a weighted payload size of the HARQ-ACK data based at least on part on the weighting factor for the HARQ-ACK data, a weighted payload size of the CSI part 1 data based at least on part on the weighting factor for the CSI part 1 data, and a weighted payload size of a reference payload size based at least on part on the weighting factor for the CSI part 2 data.

43. The apparatus of claim 33, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: calculate a number of the plurality of REs to allocate to the CSI part 2 data based at least in part on a number of the plurality of REs allocated to the HARQ-ACK data and a number of the plurality of REs allocated to the CSI part 1 data.

44. The apparatus of claim 33, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: calculate a number of the plurality of REs to allocate to the HARQ-ACK data in proportion to a weighted payload size of the HARQ-ACK data relative to a weighted payload size of a reference payload size.

45. The apparatus of claim 33, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: calculate a number of the plurality of REs to allocate to the CSI part 1 data in proportion to a weighted payload size of the CSI part 1 data relative to a weighted payload size of a reference payload size.

46. The apparatus of claim 33, wherein the instructions are further executable by the processor to cause the apparatus to: determine a reference payload size based at least on part on a value of a rank indication.

47. The apparatus of claim 33, wherein the instructions are further executable by the processor to cause the apparatus to: process the grant to determine that none of the plurality of REs are allocated for transmission of uplink data and that each of the plurality of REs is allocated for transmission of the HARQ-ACK data, or the CSI part 1 data, or the CSI part 2 data.

48. The apparatus of claim 33, wherein the instructions are further executable by the processor to cause the apparatus to: process the grant to determine that the uplink transmission is to include non-access stratum data and not to include access stratum data.

49. The apparatus of claim 33, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: split at least the portion of the plurality of REs between the HARQ-ACK data, the CSI part 1 data, the CSI part 2 data, and uplink data based at least in part on a reference payload size of the CSI part 2 data.

50. An apparatus for wireless communication by 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 a grant indicating a plurality of resource elements (REs) of an uplink shared channel allocated to a user equipment (UE) for an uplink transmission; transmit radio resource control (RRC) signaling indicating an allocation cap parameter; set a maximum number of the plurality of REs available to allocate to hybrid automatic repeat request acknowledgement (HARQ-ACK) data based at least in part on the allocation cap parameter; split at least a portion of the plurality of REs between the HARQ-ACK data, channel state information part 1 (CSI part 1) data, and CSI part 2 data; and monitor the plurality of REs of the uplink shared channel for the uplink transmission based at least in part on the splitting.

51. The apparatus of claim 50, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: calculate a number of the plurality of REs allocated to the HARQ-ACK data based at least in part on the maximum number of the plurality of REs available to allocate to the HARQ-ACK data.

52. The apparatus of claim 50, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: set a maximum number of the plurality of REs available to allocate to the CSI part 1 data based at least in part on the allocation cap parameter.

53. The apparatus of claim 52, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: calculate a number of the plurality of REs allocated to the CSI part 1 data based at least in part on the maximum number of the plurality of REs available to allocate to the CSI part 1 data.

54. The apparatus of claim 50, wherein the instructions are further executable by the processor to cause the apparatus to: determine a total number of the plurality of REs that are available for allocation based at least in part on a number of subcarriers associated with the grant and a number of symbol periods associated with the grant.

55. The apparatus of claim 54, wherein the instructions to split at least the portion of the plurality

of REs are executable by the processor to cause the apparatus to: split at least the portion of the plurality of REs between the HARQ-ACK data, the CSI part 1 data, and the CSI part 2 data based at least in part on the total number of the plurality of REs that are available for allocation.

56. The apparatus of claim 54, wherein the total number of the plurality of REs that are available for allocation excludes REs of the plurality of REs assigned to at least one reference signal.

57. The apparatus of claim 54, wherein the instructions to transmit the grant further are executable by the processor to cause the apparatus to: generate the grant to indicate that none of the total number of the plurality of REs are allocated for transmission of uplink data and that each of total number of the plurality of REs is allocated for transmission of the HARQ-ACK data, the CSI part 1 data, or the CSI part 2 data.

58. The apparatus of claim 54, wherein the instructions to transmit the grant further are executable by the processor to cause the apparatus to: generate the grant to indicate that the uplink transmission is to include non-access stratum data and not to include access stratum data.

59. The apparatus of claim 50, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: calculate a number of the plurality of REs allocated to the HARQ-ACK data in proportion to a weighted payload size of the HARQ-ACK data relative to a function of the weighted payload size of the HARQ-ACK data, a weighted payload size of the CSI part 1 data, and a weighted payload size of reference payload size.

60. The apparatus of claim 50, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: calculate a number of the plurality of REs allocated to the CSI part 1 data in proportion to a weighted payload size of the CSI part 1 data relative to a function of a weighted payload size of the HARQ-ACK data, the weighted payload size of the CSI part 1 data, and a weighted payload size of a reference payload size.

61. The apparatus of claim 50, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: transmit radio resource control (RRC) signaling indicating a weighting factor for the HARQ-ACK data, a weighting factor for the CSI part 1 data, and a weighting factor for the CSI part 2 data; and determine a weighted payload size of the HARQ-ACK data based at least on part on the weighting factor for the HARQ-ACK data, a weighted payload size of the CSI part 1 data based at least on part on the weighting factor for the CSI part 1 data, and a weighted payload size of a reference payload size based at least on part on the weighting factor for the CSI part 2 data.

62. The apparatus of claim 50, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: calculate a number of the plurality of REs allocated to the CSI part 2 data based at least in part on a number of the plurality

of REs allocated to the HARQ-ACK data and a number of the plurality of REs allocated to the CSI part 1 data.

63. The apparatus of claim 50, wherein the instructions are further executable by the processor to cause the apparatus to: determine a reference payload size based at least on part on a value of a rank indication.

64. The apparatus of claim 50, wherein the instructions to split at least the portion of the plurality of REs are executable by the processor to cause the apparatus to: split at least the portion of the plurality of REs between the HARQ-ACK data, the CSI part 1 data, the CSI part 2 data, and uplink data based at least in part on a reference payload size of the CSI part 2 data.

65. An apparatus for wireless communication by a user equipment (UE), comprising: means for receiving a grant indicating a plurality of resource elements (REs) of an uplink shared channel allocated to the UE for an uplink transmission; means for receiving radio resource control (RRC) signaling indicating an allocation cap parameter; means for setting a maximum number of the plurality of REs to allocate to hybrid automatic repeat request acknowledgement (HARQ-ACK) data based at least in part on the allocation cap parameter; means for splitting at least a portion of the plurality of REs between the HARQ-ACK data, channel state information part 1 (CSI part 1) data, and CSI part 2 data; means for generating the uplink transmission based at least in part on the splitting; and means for transmitting the uplink transmission in the plurality of REs of the uplink shared channel.

66. An apparatus for wireless communication by a base station, comprising: means for transmitting a grant indicating a plurality of resource elements (REs) of an uplink shared channel allocated to a user equipment (UE) for an uplink transmission; means for transmitting radio resource control (RRC) signaling indicating an allocation cap parameter; means for setting a maximum number of the plurality of REs available to allocate to hybrid automatic repeat request acknowledgement (HARQ-ACK) data based at least in part on the allocation cap parameter; means for splitting at least a portion of the plurality of REs between the HARQ-ACK data, channel state information part 1 (CSI part 1) data, and CSI part 2 data; and means for monitoring the plurality of REs of the uplink shared channel for the uplink transmission based at least in part on the splitting.

67. A non-transitory computer-readable medium storing code for wireless communication by a user equipment (UE), the code comprising instructions executable by a processor to: receive a grant indicating a plurality of REs of an uplink shared channel allocated to the UE for an uplink transmission; receive radio resource control (RRC) signaling indicating an allocation cap parameter; set a maximum number of the plurality of REs to allocate to hybrid automatic repeat request acknowledgement (HARQ-ACK) data based at least in part on the allocation cap parameter; split at least a portion of the plurality of REs between the HARQ-ACK data, channel state information part 1 (CSI part 1) data, and CSI part 2 data; generate the uplink transmission based at least in part on the splitting; and transmit the uplink transmission in the plurality of REs

of the uplink shared channel.

68. A non-transitory computer-readable medium storing code for wireless communication by a base station, the code comprising instructions executable by a processor to: transmit a grant indicating a plurality of resource elements (REs) of an uplink shared channel allocated to a user equipment (UE) for an uplink transmission; transmit radio resource control (RRC) signaling indicating an allocation cap parameter; set a maximum number of the plurality of REs available to allocate to hybrid automatic repeat request acknowledgement (HARQ-ACK) data based at least in part on the allocation cap parameter; split at least a portion of the plurality of REs between the HARQ-ACK data, channel state information part 1 (CSI part 1) data, and CSI part 2 data; and monitor the plurality of REs of the uplink shared channel for the uplink transmission based at least in part on the splitting.