

CLAIMS

1. A method for wireless communication, comprising: establishing a configuration for communication utilizing a first transmission time interval (TTI) length and a second TTI length that is shorter than the first TTI length; identifying a trigger for a channel state information (CSI) report associated with the second TTI length, wherein the CSI report is associated with a reporting TTI having the first TTI length; identifying a first TTI of the first TTI length based at least in part on the reporting TTI for the CSI report; identifying a reference resource for the CSI report, wherein the reference resource comprises a TTI having the second TTI length within the first TTI and is identified based at least in part on a reporting configuration associated with the second TTI length; generating the CSI report based at least in part on the reference resource; and transmitting the CSI report during the reporting TTI and in response to the identified trigger.
2. The method of claim 1, wherein the identifying the trigger comprises: receiving a downlink control information (DCI) message associated with the first TTI length comprising an aperiodic CSI reporting trigger in the first TTI.
3. The method of claim 2, further comprising: receiving an aperiodic CSI reporting trigger configuration comprising a plurality of indexed entries, wherein at least one of the plurality of indexed entries indicates the trigger for CSI reporting for the second TTI length, wherein the DCI message comprises an index to one of the plurality of indexed entries.
4. The method of claim 2, wherein the reporting configuration comprises a number of TTIs of the second TTI length for which the reference resource precedes the reporting TTI.
5. The method of claim 1, wherein the identifying the trigger comprises: receiving a downlink control information (DCI) message associated with the second TTI length comprising an aperiodic CSI reporting trigger.
6. The method of claim 5, wherein the aperiodic CSI reporting trigger triggers a second CSI report associated with the first TTI length to be transmitted with the CSI report in the reporting TTI, the reporting TTI having the second TTI length.
7. The method of claim 1, wherein a first set of TTIs of the second TTI length have a first number of symbols and a second set of TTIs of the second TTI length have a second number of symbols, and wherein generating the CSI report based at least in part on the reference resource further comprises: generating the CSI report based at least in part on the first number of symbols for the first set of TTIs and the second set of TTIs.
8. The method of claim 1, wherein the generating the CSI report comprises: determining a channel quality indicator (CQI) associated with the second TTI length based on the reference resource.

9. The method of claim 8, wherein the configuration for communication utilizes a third TTI length that is shorter than the first TTI length and different than the second TTI length.
10. The method of claim 9, wherein the generating the CSI report comprises: determining a second CQI associated with the third TTI length based on the reference resource.
11. The method of claim 9, wherein the generating the CSI report comprises: determining that the reference resource has the third TTI length; and adjusting the reference resource to a TTI having the second TTI length that precedes the reference resource.
12. The method of claim 8, wherein determining the CQI is based at least in part on an absence of control channel overhead, a predetermined amount of control channel overhead, an amount of control channel overhead in a TTI associated with the trigger, or a number of available resource elements determined from a ratio of the second TTI length to the first TTI length and a number of available resource elements for the first TTI length.
13. The method of claim 1, further comprising: signaling a CSI processing capability, wherein the CSI processing capability indicates a first number of supported CSI processes for the first TTI length and a second number of supported CSI processes for the second TTI length.
14. The method of claim 1, further comprising: determining that a number of unreported CSI requests exceeds a CSI processing capability threshold; and prioritizing the unreported CSI requests based at least in part on a timing of triggers associated with the unreported CSI requests, a timing of reporting TTIs associated with the unreported CSI requests, a length of TTIs associated with the unreported CSI requests, respective cell indices for a plurality of configured cells associated with the unreported CSI requests, respective traffic types associated with the unreported CSI requests, or a combination thereof.
15. The method of claim 14, wherein unreported CSI requests for CSI reports associated with the second TTI length are prioritized over unreported CSI requests for CSI reports associated with the first TTI length.
16. The method of claim 14, wherein the prioritizing the unreported CSI requests comprises: updating CSI measurements for a first subset of the unreported CSI requests and suppressing updating for CSI measurements for a second subset of the unreported CSI requests.
17. The method of claim 1, further comprising: identifying a first ratio between an energy per resource element (EPRE) for a physical downlink shared channel (PDSCH) associated with the first TTI length and a first reference signal EPRE and a second ratio between an EPRE for a PDSCH associated with the second TTI length and a second reference signal EPRE, wherein the generating the CSI report is based at least in part on the second ratio.

18. The method of claim 17, wherein the second ratio is equal to the first ratio.
19. The method of claim 17, wherein the second ratio is different than the first ratio.
20. The method of claim 1, wherein the transmitting the CSI report comprises: transmitting a physical uplink shared channel (PUSCH) punctured by the generated CSI report.
21. The method of claim 1, wherein the first TTI length is associated with a first traffic type and the second TTI length is associated with a second traffic type.
22. The method of claim 21, wherein a first transmission mode is configured for communications utilizing the first TTI length or the first traffic type and a second transmission mode that is different from the first transmission mode is configured for communications utilizing the second TTI length or the second traffic type.
23. The method of claim 21, wherein the identifying the trigger for the CSI report associated with the second TTI length comprises receiving an aperiodic CSI reporting trigger associated with the second traffic type.
24. The method of claim 1, further comprising: determining that an aperiodic CSI report for the first TTI length is scheduled for the reporting TTI; and transmitting the aperiodic CSI report for the first TTI length in the reporting TTI concurrently with the CSI report for the second TTI length.
25. The method of claim 1, wherein a communications protocol associated with communications utilizing the second TTI length comprises an ultra-low latency (ULL) protocol or an ultra-reliable low latency communications (URLLC) protocol.
26. An apparatus for wireless communication, comprising: means for establishing a configuration for communication via a first transmission time interval (TTI) length and a second TTI length that is shorter than the first TTI length; means for identifying a trigger for a channel state information (CSI) report associated with the second TTI length, wherein the CSI report is associated with a reporting TTI having the first TTI length; means for identifying a first TTI of the first TTI length based at least in part on the reporting TTI for the CSI report; means for identifying a reference resource for the CSI report, wherein the reference resource comprises a TTI having the second TTI length within the first TTI and is identified based at least in part on a reporting configuration associated with the second TTI length; means for generating the CSI report based at least in part on the reference resource; and means for transmitting the CSI report during the reporting TTI and in response to the identified trigger.
27. The apparatus of claim 26, wherein the means for identifying the trigger comprises: means for receiving a downlink control information (DCI) message associated with the first TTI length comprising an aperiodic CSI reporting trigger in the first TTI.

28. The apparatus of claim 27, further comprising: means for receiving an aperiodic CSI reporting trigger configuration comprising a plurality of indexed entries, wherein at least one of the plurality of indexed entries indicates the trigger for CSI reporting for the second TTI length, wherein the DCI message comprises an index to one of the plurality of indexed entries.

29. The apparatus of claim 27, wherein the reporting configuration comprises a number of TTIs of the second TTI length for which the reference resource precedes the reporting TTI.

30. The apparatus of claim 26, wherein the means for identifying the trigger comprise: receiving a downlink control information (DCI) message associated with the second TTI length comprising an aperiodic CSI reporting trigger.

31. The apparatus of claim 30, wherein the aperiodic CSI reporting trigger triggers a second CSI report associated with the first TTI length to be transmitted with the CSI report in the reporting TTI, the reporting TTI having the second TTI length.

32. The apparatus of claim 26, wherein a first set of TTIs of the second TTI length have a first number of symbols and a second set of TTIs of the second TTI length have a second number of symbols, and wherein the means for generating the CSI report based at least in part on the reference resource comprise: means for generating the CSI report based at least in part on the first number of symbols for the first set of TTIs and the second set of TTIs.

33. The apparatus of claim 26, wherein the means for generating the CSI report comprise: means for determining a channel quality indicator (CQI) associated with the second TTI length based on the reference resource.

34. The apparatus of claim 33, wherein the configuration for communication utilizes a third TTI length that is shorter than the first TTI length and different than the second TTI length.

35. The apparatus of claim 34, wherein the means for generating the CSI report comprise: means for determining a second CQI associated with the third TTI length based on the reference resource.

36. The apparatus of claim 34, wherein the means for generating the CSI report comprise: determining that the reference resource has the third TTI length; and means for adjusting the reference resource to a TTI having the second TTI length that precedes the reference resource.

37. The apparatus of claim 33, wherein determining the CQI is based at least in part on an absence of control channel overhead, a predetermined amount of control channel overhead, an amount of control channel overhead in a TTI associated with the trigger, or a number of available resource elements determined from a ratio of the second TTI length to the first TTI

length and a number of available resource elements for the first TTI length.

38. The apparatus of claim 26, further comprising: means for signaling a CSI processing capability, wherein the CSI processing capability indicates a first number of supported CSI processes for the first TTI length and a second number of supported CSI processes for the second TTI length.

39. The apparatus of claim 26, further comprising: means for determining that a number of unreported CSI requests exceeds a CSI processing capability threshold; and means for prioritizing the unreported CSI requests based at least in part on a timing of triggers associated with the unreported CSI requests, a timing of reporting TTIs associated with the unreported CSI requests, a length of TTIs associated with the unreported CSI requests, respective cell indices for a plurality of configured cells associated with the unreported CSI requests, respective traffic types associated with the unreported CSI requests, or a combination thereof.

40. The apparatus of claim 39, wherein unreported CSI requests for CSI reports associated with the second TTI length are prioritized over unreported CSI requests for CSI reports associated with the first TTI length.

41. The apparatus of claim 39, wherein the means for prioritizing the unreported CSI requests comprise: means for updating CSI measurements for a first subset of the unreported CSI requests and suppressing updating for CSI measurements for a second subset of the unreported CSI requests.

42. The apparatus of claim 26, further comprising: means for identifying a first ratio between an energy per resource element (EPRE) for a physical downlink shared channel (PDSCH) associated with the first TTI length and a first reference signal EPRE and a second ratio between an EPRE for a PDSCH associated with the second TTI length and a second reference signal EPRE, wherein the generating the CSI report is based at least in part on the second ratio.

43. The apparatus of claim 42, wherein the second ratio is equal to the first ratio.

44. The apparatus of claim 42, wherein the second ratio is different than the first ratio.

45. The apparatus of claim 26, wherein the means for transmitting the CSI report comprise: means for transmitting a physical uplink shared channel (PUSCH) punctured by the generated CSI report.

46. The apparatus of claim 26, wherein the first TTI length is associated with a first traffic type and the second TTI length is associated with a second traffic type.

47. The apparatus of claim 46, wherein a first transmission mode is configured for

communications utilizing the first TTI length or the first traffic type and a second transmission mode that is different from the first transmission mode is configured for communications utilizing the second TTI length or the second traffic type.

48. The apparatus of claim 46, wherein the means for identifying the trigger for the CSI report associated with the second TTI length comprise means for receiving an aperiodic CSI reporting trigger associated with the second traffic type.

49. The apparatus of claim 26, further comprising: means for determining that an aperiodic CSI report for the first TTI length is scheduled for the reporting TTI; and means for transmitting the aperiodic CSI report for the first TTI length in the reporting TTI concurrently with the CSI report for the second TTI length.

50. The apparatus of claim 26, wherein a communications protocol associated with communications utilizing the second TTI length comprises an ultra-low latency (ULL) protocol or an ultra-reliable low latency communications (URLLC) protocol.

51. An apparatus for wireless communication, comprising: a processor; memory in electronic communication with the processor; and instructions stored in the memory and operable, when executed by the processor, to cause the apparatus to: establish a configuration for communication utilizing a first transmission time interval (TTI) length and a second TTI length that is shorter than the first TTI length; identify a trigger for a channel state information (CSI) report associated with the second TTI length, wherein the CSI report is associated with a reporting TTI having the first TTI length; identify a first TTI of the first TTI length based at least in part on the reporting TTI for the CSI report; identify a reference resource for the second TTI length for the CSI report, wherein the reference resource comprises a TTI having the second TTI length within the first TTI and is identified based at least in part on a reporting configuration associated with the second TTI length; generate the CSI report based at least in part on the reference resource; and transmit the CSI report during the reporting TTI and in response to the identified trigger.

52. The apparatus of claim 51, wherein the instructions executable by the processor to cause the apparatus to identify the trigger comprise instructions executable by the processor to cause the apparatus to: receive a downlink control information (DCI) message associated with the first TTI length comprising an aperiodic CSI reporting trigger in the first TTI.

53. The apparatus of claim 52, wherein the instructions are executable by the processor to: receive an aperiodic CSI reporting trigger configuration comprising a plurality of indexed entries, wherein at least one of the plurality of indexed entries indicates the trigger for CSI reporting for the second TTI length, wherein the DCI message comprises an index to one of the plurality of indexed entries.

54. The apparatus of claim 52, wherein the reporting configuration comprises a number of TTIs of the second TTI length for which the reference resource precedes the reporting TTI.

55. The apparatus of claim 51, wherein the instructions executable by the processor to cause the apparatus to identify the trigger comprise instructions executable by the processor to cause the apparatus to: receive a downlink control information (DCI) message associated with the second TTI length comprising an aperiodic CSI reporting trigger.

56. The apparatus of claim 55, wherein the aperiodic CSI reporting trigger triggers a second CSI report associated with the first TTI length to be transmitted with the CSI report in the reporting TTI, the reporting TTI having the second TTI length.

57. The apparatus of claim 51, wherein a first set of TTIs of the second TTI length have a first number of symbols and a second set of TTIs of the second TTI length have a second number of symbols, and wherein the instructions executable by the processor to cause the apparatus to generate the CSI report comprise instructions executable by the processor to cause the apparatus to: generate the CSI report based at least in part on the first number of symbols for the first set of TTIs and the second set of TTIs.

58. The apparatus of claim 51, wherein the instructions executable by the processor to cause the apparatus to generate the CSI report comprise instructions executable by the processor to cause the apparatus to: determine a channel quality indicator (CQI) associated with the second TTI length based on the reference resource.

59. The apparatus of claim 58, wherein the configuration for communication utilizes a third TTI length that is shorter than the first TTI length and different than the second TTI length.

60. The apparatus of claim 59, wherein the instructions executable by the processor to cause the apparatus to generate the CSI report comprise instructions executable by the processor to cause the apparatus to: determine a second CQI associated with the third TTI length based on the reference resource.

61. The apparatus of claim 59, wherein the instructions executable by the processor to cause the apparatus to generate the CSI report comprise instructions executable by the processor to cause the apparatus to: determine that the reference resource has the third TTI length; and adjust the reference resource to a TTI having the second TTI length that precedes the reference resource.

62. The apparatus of claim 58, wherein determining the CQI is based at least in part on an absence of control channel overhead, a predetermined amount of control channel overhead, an amount of control channel overhead in a TTI associated with the trigger, or a number of available resource elements determined from a ratio of the second TTI length to the first TTI length and a number of available resource elements for the first TTI length.

63. The apparatus of claim 51, wherein the instructions are executable by the processor to: signal a CSI processing capability, wherein the CSI processing capability indicates a first

number of supported CSI processes for the first TTI length and a second number of supported CSI processes for the second TTI length.

64. The apparatus of claim 51, wherein the instructions are executable by the processor to: determine that a number of unreported CSI requests exceeds a CSI processing capability threshold; and prioritize the unreported CSI requests based at least in part on a timing of triggers associated with the unreported CSI requests, a timing of reporting TTIs associated with the unreported CSI requests, a length of TTIs associated with the unreported CSI requests, respective cell indices for a plurality of configured cells associated with the unreported CSI requests, respective traffic types associated with the unreported CSI requests, or a combination thereof.

65. The apparatus of claim 64, wherein unreported CSI requests for CSI reports associated with the second TTI length are prioritized over unreported CSI requests for CSI reports associated with the first TTI length.

66. The apparatus of claim 64, wherein the instructions are executable by the processor to cause the apparatus to prioritize the unreported CSI requests comprise instructions executable by the processor to cause the apparatus to: update CSI measurements for a first subset of the unreported CSI requests and suppressing updating for CSI measurements for a second subset of the unreported CSI requests.

67. The apparatus of claim 51, wherein the instructions are executable by the processor to: identify a first ratio between an energy per resource element (EPRE) for a physical downlink shared channel (PDSCH) associated with the first TTI length and a first reference signal EPRE and a second ratio between an EPRE for a PDSCH associated with the second TTI length and a second reference signal EPRE, wherein the generating the CSI report is based at least in part on the second ratio.

68. The apparatus of claim 67, wherein the second ratio is equal to the first ratio.

69. The apparatus of claim 67, wherein the second ratio is different than the first ratio.

70. The apparatus of claim 51, wherein the instructions executable by the processor to cause the apparatus to transmit the CSI report comprise instructions executable by the processor to cause the apparatus to: transmit a physical uplink shared channel (PUSCH) punctured by the generated CSI report.

71. The apparatus of claim 51, wherein the first TTI length is associated with a first traffic type and the second TTI length is associated with a second traffic type.

72. The apparatus of claim 71, wherein a first transmission mode is configured for communications utilizing the first TTI length or the first traffic type and a second transmission mode that is different from the first transmission mode is configured for

communications utilizing the second TTI length or the second traffic type.

73. The apparatus of claim 71, wherein the identifying the trigger for the CSI report associated with the second TTI length comprises receiving an aperiodic CSI reporting trigger associated with the second traffic type.

74. The apparatus of claim 51, wherein the instructions are executable by the processor to: determine that an aperiodic CSI report for the first TTI length is scheduled for the reporting TTI; and transmit the aperiodic CSI report for the first TTI length in the reporting TTI concurrently with the CSI report for the second TTI length.

75. The apparatus of claim 51, wherein a communications protocol associated with communications utilizing the second TTI length comprises an ultra-low latency (ULL) protocol or an ultra-reliable low latency communications (URLLC) protocol.

76. A non-transitory computer-readable medium storing code for wireless communication, the code comprising instructions executable by a processor to: establish a configuration for communication utilizing a first transmission time interval (TTI) length and a second TTI length that is shorter than the first TTI length; identify a trigger for a channel state information (CSI) report associated with the second TTI length, wherein the CSI report is associated with a reporting TTI having the first TTI length; identify a first TTI of the first TTI length based at least in part on the reporting TTI for the CSI report; identify a reference resource for the CSI report, wherein the reference resource comprises a TTI having the second TTI length within the first TTI and is identified based at least in part on a reporting configuration associated with the second TTI length; generate the CSI report based at least in part on the reference resource; and transmit the CSI report during the reporting TTI and in response to the identified trigger.