

CLAIMS

1. A method for wireless communication, comprising:

receiving, at a receiver of a first wireless device, a first transmission from a second wireless device, the first transmission comprising at least a portion of a first transport block (TB), the first TB comprising a set of code blocks (CBs) transmitted in a first transmission time interval (TTI) having a first TTI duration;

transmitting, by a transmitter of the first wireless device to the second wireless device, an indication that a subset of the set of CBs is unsuccessfully received; and

receiving, at the receiver, a retransmission from the second wireless device, the retransmission comprising the subset of the set of CBs in a second TTI having a TTI duration that is selected from the first TTI duration or a second TTI duration that is shorter than the first TTI duration.

2. The method of claim 1, wherein the second TTI includes only the subset of the set of CBs of the first TB.

3. The method of claim 1, further comprising:

receiving, at least partially concurrently with the receiving the retransmission of the subset of the set of CBs, a second transmission comprising at least a portion of a second TB in a third TTI, the third TTI having the first TTI duration.

4. The method of claim 1, further comprising:

identifying a resource block (RB) allocation and the second TTI duration of the second TTI from a set of available RB allocations and a set of available TTI durations.

5. The method of claim 4, wherein the first wireless device is a base station, and wherein the identifying comprises:

determining a number of CBs in the subset of the set of CBs to be retransmitted in the second TTI;

determining the RB allocation and the second TTI duration based at least in part on the number of CBs; and

transmitting control information to a user equipment (UE) indicating the RB allocation and the second TTI duration to be used for the retransmission of the subset of the set of CBs.

6. The method of claim 5, wherein the control information is transmitted in downlink control information (DCI) that provides an uplink grant for the retransmission of the subset of the set of CBs.

7. The method of claim 4, wherein the first wireless device is a user equipment (UE), and wherein the identifying comprises:

receiving control information that indicates the RB allocation and the second TTI duration.

8. The method of claim 7, wherein the control information is received in downlink control information (DCI) that provides a downlink grant for the retransmission of the subset of the set of CBs.

9. The method of claim 1, wherein the receiving the retransmission further comprises:

receiving an indication that the retransmission is responsive to the indication of the subset of the set of CBs and includes only the subset of the set of CBs, or that the retransmission includes the set of CBs.

10. The method of claim 1, wherein the retransmission of the subset of the set of CBs has a same hybrid automatic repeat request (HARQ) index as the first transmission.

11. The method of claim 10, wherein a same HARQ process is shared between the first TTI having the first TTI duration and the second TTI having the first TTI duration or the second TTI duration.

12. A method for wireless communication, comprising:

transmitting, at a transmitter of a first wireless device, a first transmission to a second wireless device, the first transmission comprising at least a portion of a first transport block (TB), the TB comprising a set of code blocks (CBs) transmitted in a first transmission time interval (TTI) having a first TTI duration;

receiving, at a receiver of the first wireless device, an indication that a subset of the set of CBs is unsuccessfully received; and

transmitting, by the transmitter, a retransmission to the second wireless device of the subset of the set of CBs in a second TTI having a TTI duration that is selected from the first TTI duration or a second TTI duration that is shorter than the first TTI duration.

13. The method of claim 12, wherein the second TTI includes only the subset of the set of CBs of the first TB.

14. The method of claim 12, further comprising:

transmitting, at least partially concurrently with the transmitting the retransmission of the subset of the set of CBs, a second transmission comprising at least a portion of a second TB in a third TTI, the third TTI having the first TTI duration.

15. The method of claim 12, further comprising:

identifying a resource block (RB) allocation and the second TTI duration of the second TTI from a set of available RB allocations and a set of available TTI durations.

16. The method of claim 15, wherein the first wireless device is a base station, and wherein the identifying comprises:

determining a number of CBs in the subset of the set of CBs to be retransmitted in the second TTI;

determining the RB allocation and the second TTI duration based at least in part on the number of CBs; and

transmitting control information to a user equipment (UE) indicating the RB allocation and the second TTI duration to be used for the retransmission of the subset of the set of CBs.

17. The method of claim 16, wherein the control information is transmitted in downlink control information (DCI) that provides a downlink grant for the retransmission of the subset of the set of CBs.

18. The method of claim 15, wherein the first wireless device is a user equipment (UE), and wherein the identifying comprises:

receiving control information that indicates the RB allocation and the second TTI duration.

19. The method of claim 18, wherein the control information is transmitted in downlink control information (DCI) that provides an uplink grant for the retransmission of the subset of the set of CBs.

20. The method of claim 12, wherein the transmitting the retransmission further comprises:

transmitting an indication that the retransmission is responsive to the indication of the subset of the set of CBs, and includes only the subset of the set of CBs.

21. The method of claim 12, wherein the retransmission of the subset of the set of CBs has a same hybrid automatic repeat request (HARQ) index as the first transmission.

22. The method of claim 21, wherein a same HARQ process is shared between the first TTI having the first TTI duration and the second TTI having the first TTI duration or the second TTI duration.

23. An apparatus for wireless communication, in a system 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:

receive, at a receiver of a first wireless device, a first transmission from a second wireless device, the first transmission comprising at least a portion of a first TB, the first TB comprising a set of CBs transmitted in a first TTI having a first TTI duration;

transmit, by a transmitter of the first wireless device to the second wireless device, an indication that a subset of the set of CBs is unsuccessfully received; and

receive, at the receiver, a retransmission from the second wireless device, the retransmission comprising the subset of the set of CBs in a second TTI having a TTI duration that is selected from the first TTI duration or a second TTI duration that is shorter than the first TTI duration.

24. The apparatus of claim 23, wherein the second TTI includes only the subset of the set of CBs of the first TB.

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

receive, at least partially concurrently with the receiving the retransmission of the subset of the set of CBs, a second transmission comprising at least a portion of a second TB in a third TTI, the third TTI having the first TTI duration.

26. The apparatus of claim 23, wherein the retransmission of the subset of the set of CBs has a same hybrid automatic repeat request (HARQ) index as the first transmission.

27. An apparatus for wireless communication, in a system 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:

transmit, at a transmitter of a first wireless device, a first transmission to a second wireless device, the first transmission comprising at least a portion of a first TB, the TB comprising a set of CBs transmitted in a first TTI having a first TTI duration;

receive, at a receiver of the first wireless device, an indication that a subset of the set of CBs is unsuccessfully received; and

transmit, by the transmitter, a retransmission to the second wireless device of the subset of the set of CBs in a second TTI having a TTI duration that is selected from the first TTI duration or a second TTI duration that is shorter than the first TTI duration.

28. The apparatus of claim 27, wherein the second TTI includes only the subset of the set of CBs of the first TB.

29. The apparatus of claim 27, wherein the instructions are further executable by the processor to:

transmit, at least partially concurrently with the receiving the retransmission of the subset of the set of CBs, a second transmission comprising at least a portion of a second TB in a third TTI, the third TTI having the first TTI duration.

30. The apparatus of claim 27, wherein the retransmission of the subset of the set of CBs has a same hybrid automatic repeat request (HARQ) index as the first transmission.