CLAIMS

1. A method for wireless communication by a user equipment (UE), comprising: receiving a first configuration message and a second configuration message, wherein: the first configuration message, in part, configures the UE to communicate coordinated transmissions with a plurality of transmission reception points (TRPs) using a coordinated transmission mode, the second configuration message includes an indication of a first hybrid automatic repeated request acknowledgment (HARQ-ACK) feedback mode or a second HARQ-ACK feedback mode, and the first configuration message and the second configuration message are radio resource control (RRC) messages; receiving one or more physical downlink shared channel (PDSCH) transmissions from the TRPs in accordance with the coordinated transmission mode; selecting a HARQ-ACK feedback mode, from at least the first HARQ-ACK feedback and second HARQ-ACK feedback mode, based on the indication in the second configuration message; and transmitting HARQ-ACK feedback for the at least one or more PDSCH transmissions to at least one of the plurality of TRPs using the selected HARQ-ACK feedback mode.

2. The method of claim 1, wherein: the first HARQ-ACK feedback mode comprises a joint HARQ-ACK feedback mode; and the second HARQ-ACK feedback mode comprises a separate HARQ-ACK feedback mode.

3. The method of claim 2, further comprising: generating HARQ-ACK feedback using a joint codebook when the first HARQ-ACK feedback mode is selected; and transmitting the generated HARQ-ACK feedback to the plurality of TRPs.

4. The method of claim 2, further comprising generating a first HARQ-ACK feedback from a first codebook and a second HARQ-ACK feedback from a second codebook when the second HARQ-ACK feedback mode is selected.

5. The method of claim 4, further comprising transmitting the first HARQ-ACK feedback to a first TRP, and the second HARQ-ACK feedback to a second TRP.

6. The method of claim 4, wherein the first codebook is a semi-static codebook of a first size and the second codebook is a semi-static codebook of a second size that is different from the first size.

7. The method of claim 1, wherein the coordinated transmission mode is one of: a first mode comprising a physical downlink control channel (PDCCH) and a PDSCH, wherein the PDSCH comprises different spatial layers from different TRPs; or a second mode comprising a first PDCCH, a second PDCCH, a first PDSCH and a second PDSCH, wherein the first PDSCH is transmitted from a first TRP, and the second PDSCH is transmitted from a second TRP, and the first PDSCH and the second PDSCH carry different transport blocks (TBs).

8. The method of claim 7, wherein: when the coordinated transmission mode is one of a first set of transmission modes including the first mode, selecting the HARQ feedback mode comprises selecting the first HARQ-ACK feedback mode; and when the coordinated transmission mode is one of a second set of transmission modes including the second mode, selecting the HARQ feedback mode comprises selecting comprises selecting the first HARQ-ACK feedback mode or the second HARQ-ACK feedback mode based at least in part on one or more parameters.

9. The method of claim 8, wherein: the one or more parameters indicate a backhaul condition; and when the parameters indicate a high performance backhaul condition, selecting the HARQ feedback mode comprises selecting the first HARQ-ACK feedback mode, and when the one or more parameters indicate a low performance backhaul condition, selecting the HARQ feedback mode comprises selecting the second HARQ-ACK feedback mode.

10. The method of claim 1, wherein the configuration message in part indicates at least one downlink control information (DCI) indicative of a first codebook and the method comprises: receiving at least one DCI from at least one of the plurality of TRPs; selecting the first codebook based on the at least one DCI; generating HARQ-ACK feedback from the first codebook; and transmitting the HARQ-ACK feedback to the plurality of TRPs.

11. The method of claim 10, wherein the at least one DCI is indicative of the first HARQ-ACK feedback mode or the second HARQ-ACK feedback mode.

12. The method of claim 11, wherein: when the at least one DCI is indicative of a first codebook and the first codebook is indicative of the second HARQ-ACK feedback mode, selecting the HARQ feedback mode comprises selecting the second HARQ-ACK feedback mode.

13. The method of claim 10, further comprising: when two or more of the at least one DCI contain different information, selecting one of the DCIs based on a DCI order, DCI aggregation level, or control resource set identification (CORESET ID), wherein transmitting HARQ-ACK feedback is based on information contained in the selected DCI.

14. The method of claim 1, further comprising: selecting a physical uplink control channel (PUCCH) resource based in part on an index of one or more control channel elements (CCE) in one or more physical downlink control channel (PDCCHs), wherein transmitting the HARQ-ACK feedback comprises transmitting the HARQ-ACK feedback on the selected PUCCH resource.

15. A method for wireless communication by a network entity, comprising: sending a first configuration message and a second configuration message to a user equipment (UE), wherein: the first configuration message, in part, configures the UE to communicate coordinated transmissions with a plurality of transmission reception points (TRPs) using a coordinated transmission mode, the second configuration message includes an indication of a first hybrid automatic repeated request acknowledgment (HARQ-ACK) feedback mode or a second HARQ-ACK feedback mode, and the first configuration message and the second configuration message are radio resource control (RRC) messages; transmitting one or more physical downlink shared channel (PDSCH) transmissions from the plurality of TRPs in accordance with the coordinated transmission mode; determining a HARQ-ACK feedback mode, selected from at least the first HARQ-ACK feedback mode and second HARQ-ACK feedback mode, based on the indication in the second configuration message; and receiving HARQ-ACK feedback for the at least one or more PDSCH transmissions to at least one of the plurality of TRPs using the determined HARQ-ACK feedback mode.

16. The method of claim 15, wherein: the first HARQ-ACK feedback mode comprises a joint HARQ-ACK feedback mode; and the second HARQ-ACK feedback mode comprises a separate HARQ-ACK feedback mode.

17. The method of claim 16, wherein the HARQ-ACK feedback is based a joint codebook when the first HARQ-ACK feedback mode is selected.

18. The method of claim 15, wherein the coordinated transmission mode is one of: a first mode comprising a physical downlink control channel (PDCCH) and a PDSCH, wherein the PDSCH comprises different spatial layers from different TRPs; or a second mode comprising a first PDCCH, a second PDCCH, a first PDSCH and a second PDSCH, wherein the first PDSCH is transmitted from a first TRP, and the second PDSCH is transmitted from a second TRP, and the first PDSCH and the second PDSCH carry different transport blocks (TBs).

19. The method of claim 18, wherein: when the coordinated transmission mode is one of a first set of transmission modes including the first mode, determining the HARQ-ACK feedback mode comprises selecting the first HARQ-ACK feedback mode; and when the coordinated transmission mode is one of a second set of transmission modes including the second mode, determining the HARQ-ACK feedback mode comprises selecting the first HARQ-ACK feedback mode or the second HARQ-ACK feedback mode based at least in part on one or more parameters provided to the UE.

20. The method of claim 19, wherein: the one or more parameters indicate a backhaul condition; and when the parameters indicate a high performance backhaul condition, determining the HARQ-ACK feedback mode comprises selecting the first HARQ-ACK feedback mode, and when the parameters indicate a low performance backhaul condition, determining the HARQ-ACK feedback mode comprises selecting the second HARQ-ACK feedback mode.

21. The method of claim 15, wherein the configuration message in part indicates at least one downlink control information (DCI) indicative of a first codebook.

22. The method of claim 21, wherein the at least one DCI is indicative of the first HARQ-ACK feedback mode or the second HARQ-ACK feedback mode.

23. The method of claim 22, wherein: when the at least one DCI is indicative of a first codebook and the first codebook is indicative of the second HARQ-ACK feedback mode, determining the HARQ-ACK feedback mode comprises the second HARQ-ACK feedback mode.

24. The method of claim 15, further comprising: determining a physical uplink control channel (PUCCH) resource based in part on an index of one or more control channel elements (CCE) in one or more physical downlink control channels (PDCCHs); and monitoring the determined PUCCH resource for the HARQ-ACK feedback.

25. An apparatus for wireless communication, comprising: at least one processor coupled with a memory and configured to: receive a first configuration message and a second configuration message, wherein: the first configuration message, in part, configures a user equipment (UE) to communicate coordinated transmissions with a plurality of transmission reception points (TRPs) using a coordinated transmission mode, the second configuration message includes an indication of a first hybrid automatic repeated request acknowledgment (HARQ-ACK) feedback mode or a second HARQ-ACK feedback mode, and the first configuration message and the second configuration message are radio resource control (RRC) messages; receive one or more physical downlink shared channel (PDSCH)

transmissions from the plurality of TRPs in accordance with the coordinated transmission mode; select a HARQ-ACK feedback mode, from at least first HARQ-ACK feedback mode and the second HARQ-ACK feedback mode, based on the indication in the second configuration message; and transmit HARQ-ACK feedback for the at least one or more PDSCH transmissions to at least one of the plurality of TRPs using the selected HARQ-ACK feedback mode.

26. The apparatus of claim 25, wherein: the first HARQ-ACK feedback mode comprises a joint HARQ-ACK feedback mode; and the second HARQ-ACK feedback mode comprises a separate HARQ-ACK feedback mode.

27. An apparatus for wireless communication, comprising: at least one processor coupled with a memory and configured to: send a first configuration message and a second configuration message to a user equipment (UE), wherein: the first configuration message, in part, configures the UE to communicate coordinated transmissions with a plurality of transmission reception points (TRPs) using a coordinated transmission mode, the second configuration message includes an indication of a first hybrid automatic repeated request acknowledgment (HARQ-ACK) feedback mode or a second HARQ-ACK feedback mode, and the first configuration message and the second configuration message are radio resource control (RRC) messages; transmit one or more physical downlink shared channel (PDSCH) transmissions from the plurality of TRPs in accordance with the coordinated transmission mode; determine a HARQ-ACK feedback mode, selected from at least a first HARQ-ACK feedback mode and a second HARQ-ACK feedback mode, based on the indication in the second configuration message; and receive HARQ-ACK feedback for the at least one or more PDSCH transmissions to at least one of the plurality of TRPs using the determined HARQ-ACK feedback mode.