CLAIMS

1. A method of wireless communication, comprising:

receiving, at a user equipment (UE) from a serving base station, a first signal identifying a minimum processing time for the serving base station to process autonomous uplink physical uplink shared channel (AUL PUSCH) transmissions from the UE;

receiving, at the UE, a downlink feedback information (DFI) message from the serving base station, wherein the DFI message includes an autonomous uplink downlink feedback information (AUL-DFI) bitmap containing acknowledgment information for a plurality of AUL PUSCH transmissions from the UE; and

identifying, by the UE, whether the plurality of AUL PUSCH transmissions includes one or more acknowledged AUL PUSCH transmissions having a pending time in excess of the minimum processing time and whether the plurality of AUL PUSCH transmissions includes one or more pending AUL PUSCH transmissions having the pending time less than the minimum processing time, by interpreting the AUL-DFI bitmap using the minimum processing time identified by the first signal.

2. The method of claim 1, wherein the receiving the first signal identifying the minimum processing time includes receiving the first signal identifying the minimum processing time via one of: a semi-static autonomous uplink (AUL) configuration message; an activation/deactivation downlink control information (DCI) signal; the DFI message; or a system information broadcast signal from the serving base station.

3. The method of claim 1, further including: identifying, by the UE, uplink data for retransmission based on the acknowledgement information associated with the one or more acknowledged AUL PUSCH transmissions; and monitoring, by the UE, a subsequent DFI message for the acknowledgement information associated with the one or more pending AUL PUSCH transmissions.

4. The method of claim 1, wherein the DFI feedback message further includes updated transmission parameters for the UE.

5. The method of claim 4, wherein the updated transmission parameters include one or more of: a modulation and coding scheme (MCS); a resource allocation; a delta change MCS; a delta change resource allocation; a precoding matrix indicator (PMI); a transmit power control (TPC) message; and a rank indicator.

6. The method of claim 4, further including: receiving, by the UE, a second signal identifying an update time for the UE to apply the updated transmission parameters; and updating, by the UE, transmission operations according to the updated transmission parameters, wherein the UE updates the transmission operations at the update time after the receiving the DFI with the updated transmission parameters.

7. The method of claim 6, further including: identifying, by the UE, a reference slot for a contention window update according to a first available uplink slot satisfying one or both of: the minimum processing time, and the update time.

8. The method of claim 6, wherein the receiving the second signal includes receiving the second signal via one of: a semi-static autonomous uplink (AUL) configuration message; an activation/deactivation downlink control information (DCI) signal; the DFI message; or a system information broadcast signal from the serving base station.

9. The method of claim 6, wherein the first signal identifying the minimum processing time includes the second signal.

10. An apparatus configured for wireless communication, comprising:

means for receiving, at a user equipment (UE) from a serving base station, a first signal identifying a minimum processing time for the serving base station to process autonomous uplink physical uplink shared channel (AUL PUSCH) transmissions from the UE;

means for receiving, at the UE, a downlink feedback information (DFI) message from the serving base station, wherein the DFI message includes an autonomous uplink downlink feedback information (AUL-DFI) bitmap containing acknowledgment information for a plurality of AUL PUSCH transmissions from the UE; and

means for identifying, by the UE, whether the plurality of AUL PUSCH transmissions includes one or more acknowledged AUL PUSCH transmissions having a pending time in excess of the minimum processing time and whether the plurality of AUL PUSCH transmissions includes one or more pending AUL PUSCH transmissions having the pending time less than the minimum processing time, by interpreting the AUL-DFI bitmap using the minimum processing time identified by the first signal.

11. The apparatus of claim 10, wherein the means for receiving the first signal identifying the minimum processing time includes means for receiving the first signal identifying the minimum processing time via one of: a semi-static autonomous uplink (AUL) configuration message; an activation/deactivation downlink control information (DCI) signal; the DFI message; or a system information broadcast signal from the serving base station.

12. The apparatus of claim 10, further including: means for identifying, by the UE, uplink data for retransmission based on the acknowledgement information associated with the one or more acknowledged AUL PUSCH transmissions; and means for monitoring, by the UE, a subsequent DFI message for the acknowledgement information associated with the one or more pending AUL PUSCH transmissions.

13. The apparatus of claim 10, wherein the DFI feedback message further includes updated transmission parameters for the UE.

14. The apparatus of claim 13, wherein the updated transmission parameters include one or more of: a modulation and coding scheme (MCS); a resource allocation; a delta change MCS; a delta change resource allocation; a precoding matrix indicator (PMI); a transmit power control (TPC) message; and a rank indicator.

15. A non-transitory computer-readable medium having program code recorded thereon, the program code comprising:

program code executable by a computer for causing the computer to receive, at a user equipment (UE) from a serving base station, a first signal identifying a minimum processing time for the serving base station to process autonomous uplink physical uplink shared channel (AUL PUSCH) transmissions from the UE;

program code executable by the computer for causing the computer to receive, at the UE, a downlink feedback information (DFI) message from the serving base station, wherein the DFI message includes an autonomous uplink downlink feedback information (AUL-DFI) bitmap containing acknowledgment information for a plurality of AUL PUSCH transmissions from the UE; and

program code executable by the computer for causing the computer to identify, by the UE, whether the plurality of AUL PUSCH transmissions includes one or more acknowledged AUL PUSCH transmissions having a pending time in excess of the minimum processing time and one or more pending AUL PUSCH transmissions having the pending time less than the minimum processing time, by interpreting the AUL-DFI bitmap using the minimum processing time identified by the first signal.

16. The non-transitory computer-readable medium of claim 15, further including: program code executable by the computer for causing the computer to identify, by the UE, uplink data for retransmission based on the acknowledgement information associated with the one or more acknowledged AUL PUSCH transmissions; and program code executable by the computer for causing the computer to monitor, by the UE, a subsequent DFI message for the acknowledgement information associated with the one or more pending AUL PUSCH transmissions.

17. The non-transitory computer-readable medium of claim 15, further including: program code executable by the computer for causing the computer to receive, by the UE, a second signal identifying an update time for the UE to apply the updated transmission parameters; and program code executable by the computer for causing the computer to update, by the UE, transmission operations according to the updated transmission parameters, wherein the UE updates the transmission operations at the update time after the program code executable by the computer for causing the computer to receive the DFI with the updated transmission parameters, and wherein the DFI feedback message further includes updated transmission parameters for the UE.

18. The non-transitory computer-readable medium of claim 17, further including: program code executable by the computer for causing the computer to identify, by the UE, a

reference slot for a contention window update according to a first available uplink slot satisfying one or both of: the minimum processing time, and the update time.

19. The non-transitory computer-readable medium of claim 17, wherein the first signal identifying the minimum processing time includes the second signal.

20. An apparatus configured for wireless communication, the apparatus comprising:

at least one processor; and

a memory coupled to the at least one processor, wherein the at least one processor is configured:

to receive, at a user equipment (UE) from a serving base station, a first signal identifying a minimum processing time for the serving base station to process autonomous uplink physical uplink shared channel (AUL PUSCH) transmissions from the UE;

to receive, at the UE, a downlink feedback information (DFI) message from the serving base station, wherein the DFI message includes an autonomous uplink downlink feedback information (AUL-DFI) bitmap containing acknowledgment information for a plurality of AUL PUSCH transmissions from the UE; and

to identify, by the UE, whether the plurality of AUL PUSCH transmissions includes one or more acknowledged AUL PUSCH transmissions having a pending time in excess of the minimum processing time and whether the plurality of AUL PUSCH transmissions includes one or more pending AUL PUSCH transmissions having the pending time less than the minimum processing time, by interpreting the AUL-DFI bitmap using the minimum processing time identified by the first signal.

21. The apparatus of claim 20, wherein the configuration of the at least one processor to receive the first signal identifying the minimum processing time includes configuration to receive the first signal identifying the minimum processing time via one of: a semi-static autonomous uplink (AUL) configuration message; an activation/deactivation downlink control information (DCI) signal; the DFI message; or a system information broadcast signal from the serving base station.

22. The apparatus of claim 20, further including configuration of the at least one processor: to identify, by the UE, uplink data for retransmission based on the acknowledgement information associated with the one or more acknowledged AUL PUSCH transmissions; and to monitor, by the UE, a subsequent DFI message for the acknowledgement information associated with the one or more pending AUL PUSCH transmissions.

23. The apparatus of claim 21, further including configuration of the at least one processor: to receive, by the UE, a second signal identifying an update time for the UE to apply the updated transmission parameters; and to update, by the UE, transmission operations according to the updated transmission parameters, wherein the UE updates the transmission

operations at the update time after the configuration of the at least one processor to receive the DFI with the updated transmission parameters, and wherein the DFI feedback message further includes updated transmission parameters for the UE.

24. The apparatus of claim 23, further including configuration of the at least one processor to identify, by the UE, a reference slot for a contention window update according to a first available uplink slot satisfying one or both of: the minimum processing time, and the update time.

25. The apparatus of claim 23, wherein the configuration of the at least one processor to receive the second signal includes configuration of the at least one processor to receive the second signal via one of: a semi-static autonomous uplink (AUL) configuration message; an activation/deactivation downlink control information (DCI) signal; the DFI message; or a system information broadcast signal from the serving base station.

26. The apparatus of claim 23, wherein the first signal identifying the minimum processing time includes the second signal.