~~**[0082] WHAT IS CLAIMED IS:**~~

CLAIMS

1.——A method of wireless communication, comprising:

receiving, at a user equipment (UE~~), a first minimum processing time signal~~) from a serving base station, ~~wherein the~~a first ~~minimum processing time~~ signal ~~identifies~~identifying a minimum processing time for the serving base station to process ~~autonomous~~physical uplink (~~AUL~~shared channel (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 a bitmap containing acknowledgment information for a plurality of ~~outstanding AUL~~PUSCH transmissions from the UE; and

identifying, by the UE, whether the plurality of PUSCH transmissions includes one or more acknowledged ~~AUL transmissions of the plurality of outstanding AUL~~PUSCH transmissions having a pending time in excess of the minimum processing time and whether the plurality of PUSCH transmissions includes one or more pending ~~AUL transmissions of the plurality of outstanding AUL~~PUSCH transmissions having the pending time ~~within~~less than the minimum processing time~~.~~, by interpreting the 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 ~~signal~~ includes receiving the first signal identifying the minimum processing time ~~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.

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 ~~minimum processing time~~ signal~~, wherein the second minimum processing time message identifies~~ 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 ~~minimum processing time~~ signal includes receiving the second ~~minimum processing time~~ 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 ~~minimum processing time~~ signal identifying the minimum processing time includes the second ~~minimum processing time~~ signal.

10. ~~——~~ The method of claim 1, wherein the minimum processing time for the base station to process PUSCH transmissions comprises a minimum processing time for the base station to process autonomous uplink (AUL) transmissions, and wherein the plurality of PUSCH transmissions comprises a plurality of AUL transmissions.

11. An apparatus configured for wireless communication, comprising:

means for receiving, at a user equipment (UE~~), a first minimum processing time signal~~) from a serving base station, ~~wherein the~~a first ~~minimum processing time~~ signal ~~identifies~~identifying a minimum processing time for the serving base station to process ~~autonomous~~physical uplink ~~(AUL~~shared channel (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 a bitmap containing acknowledgment information for a plurality of ~~outstanding AUL~~PUSCH transmissions from the UE; and

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

12. The apparatus of claim 11~~. ——— The apparatus of claim 10~~, wherein the means for receiving

the first signal identifying the minimum processing time ~~signal~~ includes means for receiving the first signal identifying the minimum processing time ~~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.

~~12.~~ 13. The apparatus of claim ~~10~~11, 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.~~ 14. The apparatus of claim ~~10~~11, wherein the DFI feedback message further includes updated transmission parameters for the UE.

~~14.~~ 15. The apparatus of claim ~~13~~14, 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.~~ 16. The apparatus of claim ~~13, further including:~~

~~means for receiving, by the UE, a second~~ 11, wherein the minimum processing time ~~signal, wherein the second~~ for the base station to process PUSCH transmissions comprises a

minimum processing time ~~message identifies an update time~~ for the ~~UE to apply the updated transmission parameters;~~base station to process autonomous uplink (AUL) transmissions, and

~~means for 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 means for receiving the DFI with the updated transmission parameters.~~

~~16. The apparatus~~plurality of ~~claim 15, further including:~~

~~means for identifying, by the UE,~~PUSCH transmissions comprises a ~~reference slot for a contention window update according to a first available uplink slot satisfying one or both~~plurality of~~: the minimum processing time, and the update time.~~

~~17. The apparatus of claim 15, wherein the means for receiving the second minimum processing time signal includes receiving the second minimum processing time signal via one of:~~

~~a semi-static~~ 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.~~

~~18. The apparatus of claim 15, wherein the first minimum processing time signal includes the second minimum processing time signal.~~transmissions.

~~19.~~ 17. 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~~), a first minimum processing time signal~~) from a serving base station, ~~wherein the~~a first ~~minimum processing time~~ signal ~~identifies~~identifying a minimum processing time for the serving base station to process ~~autonomous~~physical uplink ~~(AUL~~shared channel (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 a bitmap containing acknowledgment information for a plurality of ~~outstanding 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 PUSCH transmissions includes one or more acknowledged ~~AUL transmissions of the plurality of outstanding AUL~~PUSCH transmissions having a pending time in excess of the minimum processing time and one or more pending ~~AUL transmissions of the plurality of outstanding AUL~~PUSCH transmissions having the pending time ~~within~~less than the minimum processing time~~.~~, by interpreting the bitmap using the minimum processing time identified by the first signal.

~~20.~~ 18. The non-transitory computer-readable medium of claim ~~19~~17, 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.

~~21.~~ 19. The non-transitory computer-readable medium of claim ~~19~~17, further including:

program code executable by the computer for causing the computer to receive, by the UE, a second ~~minimum processing time signal, wherein the second minimum processing time message identifies~~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.

~~22.~~ 20. The non-transitory computer-readable medium of claim ~~21~~19, 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.

~~23.~~ 21. The non-transitory computer-readable medium of claim ~~21~~19, wherein the first signal identifying the minimum processing time ~~signal~~ includes the second signal.

22. The non-transitory computer-readable medium of claim 17, wherein the minimum processing time ~~signal.~~for the base station to process PUSCH transmissions comprises a minimum processing time for the base station to process autonomous uplink (AUL) transmissions, and wherein the plurality of PUSCH transmissions comprises a plurality of AUL transmissions.

~~24.~~ 23. 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~~), a first minimum processing time signal~~) from a serving base station, ~~wherein the~~a first ~~minimum processing time~~ signal ~~identifies~~identifying a minimum processing time for the serving base station to process ~~autonomous~~physical uplink ~~(AUL~~shared channel (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 a bitmap containing acknowledgment information for a plurality of ~~outstanding AUL~~PUSCH transmissions from the UE; and

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

~~25.~~ 24. The apparatus of claim ~~24~~23, wherein the configuration of the at least one processor to receive the first signal identifying the minimum processing time ~~signal~~ includes configuration to receive the first signal identifying the minimum processing time ~~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.~~ 25. The apparatus of claim ~~24~~23, 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.

~~27.~~ 26. The apparatus of claim ~~25~~24, further including configuration of the at least one processor:

to receive, by the UE, a second ~~minimum processing time~~ signal~~, wherein the second minimum processing time message identifies~~ 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.

~~28.~~ 27. The apparatus of claim ~~27~~26, 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.

~~29.~~ 28. The apparatus of claim ~~27~~26, wherein the configuration of the at least one processor to receive the second ~~minimum processing time~~ signal includes configuration of the at least one processor to receive the second ~~minimum processing time~~ 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.

~~30.~~ 29. The apparatus of claim ~~27~~26, wherein the first ~~minimum processing time~~ signal identifying the minimum processing time includes the second ~~minimum processing time~~ signal.

30. The apparatus of claim 24, wherein the minimum processing time for the base station to process PUSCH transmissions comprises a minimum processing time for the base station to process autonomous uplink (AUL) transmissions, and wherein the plurality of PUSCH transmissions comprises a plurality of AUL transmissions.