

## CLAIMS

### What is claimed is:

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1. A method for wireless communication at a user equipment (UE), comprising:

identifying a channel quality indication (CQI) table that provides one or more parameters associated with one or more modulation orders for transmissions between the UE and a base station;

receiving radio resource control (RRC) signaling that includes signaled modulation order information;

receiving, from the base station, control information for a downlink transmission, the control information including a first index value for a first entry in a modulation and coding scheme (MCS) table, wherein the first entry in the MCS table indicates a first modulation order different than the signaled modulation order information and independently of the one or more modulation orders of the CQI table; and

determining a rate matching parameter for the downlink transmission based at least in part on at least one of the first modulation order or the CQI table.

~~2. The method of claim 1, further comprising:~~

~~discarding the control information when the first modulation order exceeds a maximum modulation order of the one or more modulation orders of the CQI table.~~

~~3. The method of claim 2, further comprising:~~

~~setting a power of receive circuitry based at least in part on the maximum modulation order of the one or more modulation orders of the CQI table.~~

42. The method of claim 1, wherein the first index value is a six-bit index value that identifies the first entry from 64 available entries of the MCS table.

53. The method of claim 1, wherein the determining the rate matching parameter comprises:

determining that the first modulation order exceeds a maximum modulation order of the one or more modulation orders of the CQI table; and

determining the rate matching parameter based on a highest entry in the MCS table that has a modulation order that is supported by the UE.

64. The method of claim 1, wherein the rate matching parameter is based at least in part on a highest supported modulation order supported by the UE for a radio frequency band or band combination used for the downlink transmission.

~~7. The method of claim 1, further comprising:  
receiving radio resource control (RRC) signaling that includes a signaled modulation order that is different than a modulation order indicated in the first entry in the MCS table.~~

85. The method of claim 1, further comprising:  
determining a first transport block size for the downlink transmission based at least in part on the first modulation order;  
comparing the first transport block size to a maximum transport block size that is identified based at least in part on a maximum modulation order of the one or more modulation orders of the CQI table;  
receiving the downlink transmission when the first transport block size is less than or equal to the maximum transport block size; and  
discarding the control information when the first transport block size exceeds the maximum transport block size.

96. The method of claim 1, wherein the control information is first control information and the downlink transmission is a first downlink transmission, and wherein the method further comprises:

receiving the first downlink transmission based at least in part on the determined rate matching parameter and the first modulation order;

receiving, from the base station, second control information for a second downlink transmission, the second control information including a second index value for a second entry in the MCS table; and

receiving the second downlink transmission based at least in part on the first modulation order and the determined rate matching parameter.

~~107.~~ The method of claim 1, further comprising:

transmitting, to the base station, a capability indication that indicates the UE is capable of operating at a modulation order that exceeds a maximum modulation order indicated by the CQI table.

~~118.~~ The method of claim ~~107~~, further comprising:

receiving, responsive to the capability indication, a modulation order indication that indicates that the base station will transmit one or more downlink transmissions having the modulation order that exceeds the maximum modulation order indicated by the CQI table; and

processing the control information based on the modulation order indication.

~~129.~~ The method of claim ~~118~~, further comprising:

selecting an operating power for one or more receive components of the UE based at least in part on the modulation order indication.

10. The method of claim 1, further comprising:

determining a transport block size for the downlink transmission based at least in part on the first modulation order and a scaling value applied to a number of allocated resource elements.

~~1311.~~ A method for wireless communication at a ~~base station, user equipment (UE)~~, comprising:

identifying a channel quality indication (CQI) table that provides one or more parameters associated with one or more modulation orders for transmissions between the UE and a base station;

receiving, from the ~~base station and a user equipment (UE);~~

~~transmitting, to the UE,~~ control information for a downlink transmission, the control information including a first index value for a first entry in a modulation and coding scheme (MCS) table, wherein the first entry in the MCS table indicates a first modulation order independently of the one or more modulation orders of the CQI table; ~~and~~

determining a rate matching parameter for the downlink transmission based at least in part on at least one of the first modulation order or the CQI table; and

discarding the control information when the first modulation order exceeds a

maximum modulation order of the one or more modulation orders of the CQI table.

12. The method of claim 11, further comprising:

setting a power of receive circuitry based at least in part on the maximum modulation order of the one or more modulation orders of the CQI table.

13. A method for wireless communication at a base station, comprising:

identifying a channel quality indication (CQI) table that provides one or more parameters associated with one or more modulation orders for transmissions between the base station and a user equipment (UE);

transmitting radio resource control (RRC) signaling that includes signaled modulation order information;

transmitting, to the UE, control information for a downlink transmission, the control information including a first index value for a first entry in a modulation and coding scheme (MCS) table, wherein the first entry in the MCS table indicates a first modulation order different than the signaled modulation order information and independently of the one or more modulation orders of the CQI table; and

transmitting the downlink transmission to the UE using the first modulation order.

14. The method of claim 13, wherein the first index value is a six-bit index value that identifies the first entry from 64 available entries of the MCS table.

15. The method of claim 13, wherein the first modulation order is selected to be at or below a maximum modulation order of the one or more modulation orders of the CQI table.

16. The method of claim 13, further comprising:

determining a highest modulation order supported by the UE for a radio frequency band or band combination to be used for the downlink transmission;

selecting the first modulation order as the highest modulation order, wherein the first modulation order corresponds to or exceeds a maximum modulation order of the one or more modulation orders of the CQI table; and

transmitting the downlink transmission using the highest modulation order supported by the UE.

17. The method of claim 13, further comprising:

~~transmitting radio resource control (RRC) signaling that includes a signaled modulation order that is different than a modulation order indicated in the first entry in the MCS table.~~

~~18. The method of claim 13, further comprising:~~

determining a first transport block size for the downlink transmission that is less than or equal to a maximum transport block size that is identified based at least in part on a maximum modulation order of the one or more modulation orders of the CQI table, and wherein the downlink transmission uses the first transport block size.

~~19~~18. The method of claim 13, wherein the control information is first control information and the downlink transmission is a first downlink transmission, and wherein the method further comprises:

transmitting, to the UE, second control information for a second downlink transmission, the second control information including a second index value for a second entry in the MCS table; and

transmitting the second downlink transmission using the first modulation order.

~~20~~19. The method of claim 13, further comprising:

receiving, from the UE, a capability indication that indicates the UE is capable of operating at a modulation order that exceeds a maximum modulation order indicated by the CQI table.

~~21~~20. The method of claim ~~20~~19, further comprising:

transmitting, responsive to the capability indication, a modulation order indication that indicates that the base station will transmit one or more downlink transmissions having the modulation order that exceeds the maximum modulation order indicated by the CQI table.

2221. An apparatus for wireless communication, comprising:  
~~means for identifying a processor;~~  
memory coupled with the processor; and  
instructions stored in the memory and operable, when executed by the  
processor, to cause the apparatus to:

identify a channel quality indication (CQI) table that provides one or more parameters associated with one or more modulation orders for transmissions between a user equipment (UE) and a base station;

~~means for receiving~~receive radio resource control (RRC) signaling that includes signaled modulation order information;

receive, from the base station, control information for a downlink transmission, the control information including a first index value for a first entry in a modulation and coding scheme (MCS) table, wherein the first entry in the MCS table indicates a first modulation order different than the signaled modulation order information and independently of the one or more modulation orders of the CQI table; and

~~means for determining~~determine a rate matching parameter for the downlink transmission based at least in part on at least one of the first modulation order or the CQI table.

2322. The apparatus of claim 22, ~~further comprising:~~  
~~means for discarding the control information when the first modulation order exceeds a maximum modulation order of the one or more modulation orders of the CQI table.~~

24. — The apparatus of claim 23, ~~further comprising:~~  
~~means for setting a power of receive circuitry based at least in part on the maximum modulation order of the one or more modulation orders of the CQI table.~~

25. — ~~The apparatus of claim 22~~21, further comprising:  
at least one antenna for receiving the control information for the downlink transmission, and wherein the first index value is a six-bit index value that identifies the first entry from 64 available entries of the MCS table.

23. The apparatus of claim 21, wherein the instructions are further

executable by the processor to cause to the apparatus to:

determine a transport block size for the downlink transmission based at least in part on the first modulation order and a scaling value applied to a number of allocated resource elements.

2624. An apparatus for wireless communication, comprising:

~~means for identifying~~ a processor;

memory coupled with the processor; and

instructions stored in the memory and operable, when executed by the processor, to cause the apparatus to:

identify a channel quality indication (CQI) table that provides one or more parameters associated with one or more modulation orders for transmissions between a ~~base station and a user equipment (UE);~~ and a base station;

~~means for transmitting, to receive, from the UE~~ base station, control information for a downlink transmission, the control information including a first index value for a first entry in a modulation and coding scheme (MCS) table, wherein the first entry in the MCS table indicates a first modulation order independently of the one or more modulation orders of the CQI table; and

~~means~~ determine a rate matching parameter for ~~transmitting~~ the downlink transmission based at least in part on at least one of the first modulation order or the CQI table; and

discard the control information when the first modulation order exceeds a maximum modulation order of the one or more modulation orders of the CQI table.

25. The apparatus of claim 24, wherein the instructions are further executable by the processor to cause to the apparatus to:

set a power of receive circuitry based at least in part on the maximum modulation order of the one or more modulation orders of the CQI table.

26. An apparatus for wireless communication, comprising:

a processor;

memory coupled with the processor; and

instructions stored in the memory and operable, when executed by the processor, to cause the apparatus to:

identify a channel quality indication (CQI) table that provides one or more parameters associated with one or more modulation orders for transmissions between a base station and a user equipment (UE);

transmit radio resource control (RRC) signaling that includes signaled modulation order information;

transmit, to the UE, control information for a downlink transmission, the control information including a first index value for a first entry in a modulation and coding scheme (MCS) table, wherein the first entry in the MCS table indicates a first modulation order different than the signaled modulation order information and independently of the one or more modulation orders of the CQI table; and

transmit the downlink transmission to the UE using the first modulation order.

27. The apparatus of claim 26, further comprising:

at least one antenna for transmitting the control information for the downlink transmission, and wherein the first index value is a six-bit index value that identifies the first entry from 64 available entries of the MCS table.

28. The apparatus of claim 26, wherein the instructions are further comprising executable by the processor to cause to the apparatus to:

~~means for transmitting~~ transmit radio resource control (RRC) signaling that includes a signaled modulation order that is different than a modulation order indicated in the first entry in the MCS table.

29. The apparatus of claim 26, wherein the instructions are further comprising executable by the processor to cause to the apparatus to:

~~means for receiving~~ receive, from the UE, a capability indication that indicates the UE is capable of operating at a modulation order that exceeds a maximum modulation order indicated by the CQI table.

30. The apparatus of claim 29, the instructions are further

~~comprising~~ executable by the processor to cause the apparatus to:

~~means for transmitting~~ transmit, responsive to the capability indication, a modulation order indication that indicates that the base station will transmit one or more downlink transmissions having the modulation order that exceeds the maximum modulation order indicated by the CQI table.