~~CLAIMS~~

~~**What is claimed is:**~~

CLAIMS

1. A method for wireless communication, comprising:

receiving, by a user equipment (UE), a grant indicating allocated uplink resources of an uplink shared channel for an uplink transmission, the allocated uplink resources including resources allocated for transmission of uplink control information (UCI) and ~~lacking~~not including resources allocated for transmission of ~~other~~ uplink shared channel information;

identifying, based at least in part on ~~one or more of~~ a modulation order ~~or~~and a code rate for the UCI indicated in the grant, a ~~number of~~ bits per resource element (BPRE) for the UCI~~; and~~

~~determining, based at least in part on the BPRE, an uplink power for transmission of the UCI.~~

~~2. The method of claim 1~~, wherein the identifying further comprises~~:~~

determining the BPRE based at least in part on a product of the code rate and the modulation order indicated in the grant~~.~~;

determining a power adjustment parameter for calculating an uplink power based at least in part on the BPRE, the modulation order, and an offset, the offset based at least in part on the allocated uplink resources not including the resources allocated for the transmission of the uplink shared channel information;

determining, based at least in part on the power adjustment parameter, the uplink power for the transmission of the UCI; and

transmitting, according to the modulation order and the code rate indicated in the grant, the UCI using the determined uplink power.

~~3~~2. The method of claim 1, wherein the identifying further comprises:

determining the BPRE as a multiple of the code rate, wherein the multiple is a function of the modulation order indicated in the grant.

~~4~~3. The method of claim 1, wherein the identifying further comprises:

identifying the BPRE based at least in part on a mapping between a modulation and coding scheme (MCS) indicated in the grant and a spectral efficiency.

~~5~~4. The method of claim ~~4~~3, wherein the MCS is indicated as an MCS index value in the grant, and wherein the spectral efficiency is mapped to the MCS index value.

~~6~~5. The method of claim ~~5~~4, wherein the mapping is provided in a preconfigured look-up table.

~~7~~6. The method of claim 1, wherein the identifying further comprises:

calculating a transport block size for the transmission of the UCI based at least in part on the code rate, the modulation order, and a number of resource blocks (RBs) allocated for the transmission of the UCI; and

determining the BPRE based on a ratio between the calculated transport block size and a number of resource elements to be used for the transmission of the UCI.

~~8~~7. The method of claim ~~7~~6, wherein the BPRE is determined by dividing the transport block size by the number of resource elements.

~~9~~8. The method of claim ~~8~~7, wherein the number of resource elements is determined based at least in part on the number of RBs indicated in the grant and a number of symbols in transmission period for the transmission of the UCI.

~~10~~9. The method of claim ~~8~~7, wherein the transport block size is determined according to a preconfigured transport block size calculation procedure for uplink shared channel transmission having resources allocated for transmission of other uplink shared channel information.

~~11~~10. The method of claim 1, wherein the identifying further comprises:

identifying a number of RBs for transmission of the UCI indicated in the grant; and

determining the BPRE further based at least in part on the number of RBs, the code rate, and the modulation order.

~~12~~11. The method of claim 1~~, further comprising:~~

~~transmitting the UCI using the determined uplink power.~~

~~13. The method of claim 12~~, wherein the UCI includes one or more of acknowledgment/negative-acknowledgment (ACK/NACK) feedback information, or one or more channel state information (CSI) parts.

~~14~~12. An apparatus for wireless communication, comprising:

means for receiving, by a user equipment (UE), a grant indicating allocated uplink resources of an uplink shared channel for an uplink transmission, the allocated uplink resources including resources allocated for transmission of uplink control information (UCI) and ~~lacking~~not including resources allocated for transmission of ~~other~~ uplink shared channel information;

means for identifying, based at least in part on ~~one or more of~~ a modulation order or a code rate for the UCI indicated in the grant, a ~~number of~~ bits per resource element (BPRE) for the UCI~~; and~~

~~means for determining, based at least in part on the BPRE, an uplink power for transmission of the UCI.~~

~~15. The apparatus of claim 14~~, wherein the means for identifying ~~determines~~further comprises means for determining the BPRE based at least in part on a product of the code rate and the modulation order indicated in the grant~~.~~;

means for determining a power adjustment parameter for calculating an uplink power based at least in part on the BPRE, the modulation order, and an offset, the offset based at least in part on the allocated uplink resources not including the resources allocated for the transmission of the uplink shared channel information;

means for determining, based at least in part on power adjustment parameter, the uplink power for the transmission of the UCI; and

means for transmitting, according to the modulation order and the code rate indicated in the grant, the UCI using the determined uplink power.

~~16~~13. The apparatus of claim ~~14~~12, wherein the means for identifying determines the BPRE as a multiple of the code rate, wherein the multiple is a function of the modulation order indicated in the grant.

~~17~~14. The apparatus of claim ~~14~~12, wherein the means for identifying identifies the BPRE based at least in part on a mapping between a modulation and coding scheme (MCS) indicated in the grant and a spectral efficiency.

~~18~~15. The apparatus of claim ~~17~~14, wherein the MCS is indicated as an MCS index value in the grant, and wherein the spectral efficiency is mapped to the MCS index value.

~~19~~16. The apparatus of claim ~~14~~12, further comprising:

means for calculating a transport block size for the transmission of the UCI based at least in part on the code rate, the modulation order, and a number of resource blocks (RBs) allocated for the transmission of the UCI; and

wherein the means for determining determines the BPRE based on a ratio between the calculated transport block size and a number of resource elements to be used for the transmission of the UCI.

~~20~~17. The apparatus of claim ~~19~~16, wherein the BPRE is determined by dividing the transport block size by the number of resource elements.

~~21~~18. The apparatus of claim ~~20~~17, wherein the number of resource elements is determined based at least in part on the number of RBs indicated in the grant and a number of symbols in transmission period for the transmission of the UCI.

~~22~~19. The apparatus of claim ~~20~~17, wherein the transport block size is determined according to a preconfigured transport block size calculation procedure for uplink shared channel transmission having resources allocated for transmission of other uplink shared channel information.

~~23~~20. The apparatus of claim ~~14~~12, further comprising:

means for identifying a number of RBs for transmission of the UCI indicated in the grant; and

wherein the means for determining determines the BPRE further based at least in part on the number of RBs, the code rate, and the modulation order.

~~24. The apparatus of claim 14, further comprising:~~

~~means for transmitting the UCI using the determined uplink power.~~

~~25~~21. An apparatus for wireless communication, comprising:

a processor;

memory coupled to the processor; and

instructions stored in the memory and executable by the processor to cause the apparatus to:

receive, by a user equipment (UE), a grant indicating allocated uplink resources of an uplink shared channel for an uplink transmission, the allocated uplink resources including resources allocated for transmission of uplink control information (UCI) and ~~lacking~~not including resources allocated for transmission of ~~other~~ uplink shared channel information;

identify, based at least in part on ~~one or more of~~ a modulation order or a code rate for the UCI indicated in the grant, a ~~number of~~ bits per resource element (BPRE) for the UCI~~; and~~

~~determine,~~, wherein the identifying further comprises determining the BPRE based at least in part on ~~the BPRE, an uplink power for transmission~~a product of the ~~UCI.~~code rate;

determine a power adjustment parameter for calculating an uplink power based at least in part on the BPRE, the modulation order, and an offset, the offset based at least in part on the allocated uplink resources not including the resources allocated for the transmission of the uplink shared channel information;

determine, based at least in part on the power adjustment parameter, the uplink power for the transmission of the UCI; and

transmit, according to the modulation order and the code rate indicated in the grant, the UCI using the determined uplink power.

~~26~~22. The apparatus of claim ~~25~~21, wherein the instructions are further executable by the processor to cause the apparatus to:

~~determine the BPRE based at least in part on a product of the code rate and the modulation order indicated in the grant.~~

~~27. The apparatus of claim 25, wherein the instructions are further executable by the processor to cause the apparatus to:~~

determine the BPRE as a multiple of the code rate, wherein the multiple is a function of the modulation order indicated in the grant.

~~28~~23. The apparatus of claim ~~25~~21, wherein the instructions are further executable by the processor to cause the apparatus to:

identify the BPRE based at least in part on a mapping between a modulation and coding scheme (MCS) indicated in the grant and a spectral efficiency.

~~29~~24. The apparatus of claim ~~28~~23, wherein the MCS is indicated as an MCS index value in the grant, and wherein the spectral efficiency is mapped to the MCS index value.

~~30~~25. The apparatus of claim ~~25~~21, wherein the instructions are further executable by the processor to cause the apparatus to:

calculate a transport block size for the transmission of the UCI based at least in part on the code rate, the modulation order, and a number of resource blocks (RBs) allocated for the transmission of the UCI; and

determine the BPRE based on a ratio between the calculated transport block size and a number of resource elements to be used for the transmission of the UCI.

~~31~~26. The apparatus of claim ~~30~~25, wherein the BPRE is determined by dividing the transport block size by the number of resource elements.

~~32~~27. The apparatus of claim ~~31~~26, wherein the number of resource elements is determined based at least in part on the number of RBs indicated in the grant and a number of symbols in transmission period for the transmission of the UCI.

~~33~~28. The apparatus of claim ~~31~~26, wherein the transport block size is determined according to a preconfigured transport block size calculation procedure for uplink shared channel transmission having resources allocated for transmission of other uplink shared channel information.

~~34~~29. The apparatus of claim ~~25~~21, wherein the instructions are further executable by the processor to cause the apparatus to:

identify a number of RBs for transmission of the UCI indicated in the grant; and

determine the BPRE further based at least in part on the number of RBs, the code rate, and the modulation order.

~~35. The apparatus of claim 25, wherein the instructions are further executable by the processor to cause the apparatus to:~~

~~transmit the UCI using the determined uplink power.~~

~~36~~30. A non-transitory computer-readable medium storing code for wireless communication, the code comprising instructions executable by a processor to:

receive, by a user equipment (UE), a grant indicating allocated uplink resources of an uplink shared channel for an uplink transmission, the allocated uplink resources including resources allocated for transmission of uplink control information (UCI) and ~~lacking~~not including resources allocated for transmission of ~~other~~ uplink shared channel information;

identify, based at least in part on ~~one or more of~~ a modulation order or a code rate for the UCI indicated in the grant, a ~~number of~~ bits per resource element (BPRE) for the UCI~~; and~~

~~determine,~~, wherein the identifying further comprises determining the BPRE based at least in part on ~~the BPRE, an uplink power~~ a function of the code rate, a number of resource elements, and the modulation order indicated in the grant, wherein the number of resource elements is based at least in part on a number of resource blocks indicated in the grant and a number of symbols in a transmission period for the transmission of the UCI~~.~~;

determine a power adjustment parameter for calculating an uplink power based at least in part on the BPRE, the modulation order, and an offset, the offset based at least in part on the allocated uplink resources not including the resources allocated for the transmission of the uplink shared channel information;

determine, based at least in part on the power adjustment parameter, the uplink power for the transmission of the UCI; and

transmit, according to the modulation order and the code rate indicated in the grant, the UCI using the determined uplink power.