

CLAIMS

What is claimed is:

CLAIMS

1. A method (1400) for wireless communication at a user equipment-~~(, UE (115, 510),~~ comprising:

receiving (515, 1405) a plurality of downlink grants for a corresponding plurality of data transmissions, wherein each downlink grant identifies resources for receiving the corresponding data transmission and ~~indicates~~includes a downlink assignment indicator for the corresponding data transmission and includes two or more bits indicating whether the corresponding data transmission ~~comprises~~is within a range of a last data transmission for a reporting occasion;

determining-~~(525, 1410),~~ based at least in part on the received downlink grants, that a last downlink grant for the last data transmission associated with the reporting occasion was not received; and

transmitting (530, 1415) a feedback report during the reporting occasion, wherein a format of the feedback report is based at least in part on the last downlink grant for the last data transmission not being received.

2. The method of claim 1, wherein the plurality of data transmissions comprise a set of code block group-~~(, CBG),~~ configured data transmissions and a set of non-CBG configured data transmissions.

3. The method of claim 2, further comprising:

determining, for each of the received downlink grants, whether the corresponding data transmission was the last data transmission of the set of CBG configured data transmissions or the set of non-CBG configured data transmissions.

4. The method of claim 2, wherein each of the set of CBG configured data transmissions and the set of non-CBG configured data transmissions comprises two or more data transmissions.

5. The method of claim 1, wherein the feedback report is generated based at least in part on the failure to receive the last downlink grant-

~~6. The method of claim 5, wherein generating the feedback report comprises:~~

inputting a negative acknowledgment feedback state for the last data transmission based at least in part on the failure to receive the last downlink grant.

~~7~~6. The method of claim 1, wherein the plurality of data transmissions are communicated over an unlicensed radio frequency spectrum band.

~~8~~7. A method (1500) for wireless communication at a base station, (105), comprising:

transmitting (515, 1505) a plurality of downlink ~~grant~~grants for a corresponding plurality of data transmissions, each downlink grant identifying resources for receiving the corresponding data transmission and includes a downlink assignment indicator for the corresponding data transmission and includes two or more bits indicating whether the corresponding data transmission comprises is within a range of a last data transmission for a reporting occasion; and

receiving (530, 1510) a feedback report during the reporting occasion, wherein a format of the feedback report is based at least in part on whether a last downlink grant for the last data transmission associated with the reporting occasion was received.

~~9~~8. The method of claim ~~8~~7, wherein the plurality of data transmissions comprise a set of code block group(, CBG)₂ configured data transmissions and a set of non-CBG configured data transmissions.

~~10. The method of claim 9, and further comprising:~~

configuring each of the plurality of downlink grants to indicate whether the corresponding data transmission was the last data transmission of the set of CBG configured data transmissions or the set of non-CBG configured data transmissions.

~~11. The method of claim 9,~~

9. The method of claim 7, wherein the plurality of data transmissions comprise a set of code block group, CBG, configured data transmissions and a set of non-CBG configured data transmissions, and wherein each of the set of CBG configured data transmissions and the set of non-CBG configured data transmissions comprises two or more data transmissions.

~~12~~10. The method of claim ~~8~~7, further comprising:

encoding two or more bits in a first subset of the plurality of downlink grants to indicate that the corresponding data transmissions are within a range of the last data transmission, and

~~13.—The method of claim 12, further comprising:~~

encoding the two or more bits in a second subset of the plurality of downlink grants to indicate that the corresponding data transmissions are not within a range of the last data transmission.

~~14~~11. The method of claim ~~8~~7, wherein the plurality of data transmissions are communicated over an unlicensed radio frequency spectrum band.

~~15~~12. An apparatus ~~(705)~~ for wireless communication at a user equipment (UE), comprising:

means for receiving ~~(710, 720)~~ a plurality of downlink grants for a corresponding plurality of data transmissions, wherein each downlink grant identifies resources for receiving the corresponding data transmission and ~~indicates~~includes a downlink assignment indicator for the corresponding data transmission and includes two or more bits indicating whether the corresponding data transmission comprises is within a range of a last data transmission for a reporting occasion;

means for determining, ~~(725)~~, based at least in part on the received downlink grants, that a last downlink grant for the last data transmission associated with the reporting occasion was not received; and

means for transmitting ~~(730, 735)~~ a feedback report during the reporting occasion, wherein a format of the feedback report is based at least in part on the last downlink grant for the last data transmission not being received.

~~16~~13. The apparatus of claim ~~15~~, wherein the plurality of data transmissions comprise a set of code block group (CBG)-configured data transmissions and a set of non-CBG-configured data transmissions.

~~17.—The apparatus of claim 16, further comprising:~~

~~means for determining, for each of the received downlink grants, whether the corresponding data transmission was the last data transmission of the set of CBG-configured data transmissions or the set of non-CBG-configured data transmissions.~~

~~18.—The apparatus of claim 16, wherein each of the set of CBG-configured data transmissions and the set of non-CBG-configured data transmissions comprises two or more data transmissions.~~

~~19.—The apparatus of claim 15, wherein the feedback report is generated based at least in part on the failure~~carrying out the method of any one of claims 2 to receive the last downlink grant~~6~~.

~~20.—The apparatus of claim 19, wherein the means for generating the feedback report comprises:~~

~~means for inputting a negative acknowledgment feedback state for the last data transmission based at least in part on the failure to receive the last downlink grant.~~

~~21.—The apparatus of claim 15, wherein the plurality of data transmissions are communicated over an unlicensed radio frequency spectrum band.~~

~~2214. An apparatus (1105) for wireless communication at a base station, comprising:~~

~~means for transmitting (1120, 1130) a plurality of downlink grant for a corresponding plurality of data transmissions, each downlink grant identifying resources for receiving the corresponding data transmission and includes a downlink assignment indicator for the corresponding data transmission and includes two or more bits indicating whether the corresponding data transmission comprises within a range of a last data transmission for a reporting occasion; and~~

~~means for receiving (1110, 1125) a feedback report during the reporting occasion, wherein a format of the feedback report is based at least in part on whether a last downlink grant for the last data transmission associated with the reporting occasion was received.~~

~~2315. The apparatus of claim 22, wherein the plurality of data transmissions comprise a set of code block group (CBG)-configured data transmissions and a set of non-CBG configured data transmissions.~~

~~24.—The apparatus of claim 2314, further comprising:~~

~~means for configuring each carrying out the method of the plurality any one of downlink grants claims 8 to 11 indicate whether the corresponding data transmission was the last data transmission of the set of CBG configured data transmissions or the set of non-CBG configured data transmissions.~~

~~25.—The apparatus of claim 23, wherein each of the set of CBG configured data transmissions and the set of non-CBG configured data transmissions comprises two or more data transmissions.~~

26.—The apparatus of claim 22, further comprising:

means for encoding two or more bits in a first subset of the plurality of downlink grants to indicate that the corresponding data transmissions are within a range of the last data transmission.

27.—The apparatus of claim 26, further comprising:

means for encoding the two or more bits in a second subset of the plurality of downlink grants to indicate that the corresponding data transmissions are not within a range of the last data transmission.

28.—The apparatus of claim 22, wherein the plurality of data transmissions are communicated over an unlicensed radio frequency spectrum band.