

CLAIMS

~~WHAT IS CLAIMED IS:~~

- 1.——_A method of wireless communication at a base station, the method comprising:
——_determining a ~~configuration of a plurality of first~~ discontinuous reception (DRX) ~~configuration~~ and a second DRX configuration for a plurality of DRX groups for communicating with a user equipment (UE);
——_configuring the UE with the first DRX configuration indicating a first DRX group of the plurality of DRX groups for a first set of serving cells; and
——_configuring the UE with the second DRX configuration indicating a second DRX group of the plurality of DRX groups for a second set of serving cells, wherein the UE is configured with DRX parameters associated with the second DRX configuration from among DRX parameters included in the first DRX configuration and the second DRX configuration by indicating an index of the second DRX group in an information element (IE) sent via radio resource control (RRC) signaling.
- 2.——_The method of claim 1-, further comprising:
_transmitting a wakeup signal (WUS) to the UE, wherein the WUS is ~~sent~~transmitted before a DRX on duration of any of the plurality of DRX groups such that the WUS provides an indication for ~~the~~ serving cells in a desired DRX group to enter a power active state.
- 3.——_The method of claim 2, wherein each of the plurality of DRX groups is associated with a unique WUS.
- 4.——_The method of claim 2, ~~wherein~~ further comprising configuring the UE with a single WUS ~~is configured for the UE~~, wherein the single WUS comprises a bitmap indicating which of the plurality of DRX groupgroups is to be activated.
5. ——_The method of claim 2, wherein the WUS causes the UE ~~changes to~~ change serving cells into a DRX group associated with the ~~received~~ WUS to enter the power ~~on~~ active state.

6.——_The method of claim 2, wherein each of the plurality of DRX groups operate in accordance with their respective DRX configurations until a time after an associated WUS is ~~received~~transmitted to the UE.

7.——_The method of claim 1, wherein the first set of serving cells comprise a primary cell (PCell) and the second set of serving cells comprise a secondary cell (SCell).

8.——_The method of claim 1, wherein the first set of serving cells communicate with the UE using a first frequency range and the second set of serving cells communicate with the UE using a second frequency range.

9.——_The method of claim 8, wherein the first frequency range comprises a sub-6 GHZ frequency range and the second frequency range comprises a millimeter Wave (mmW) frequency range.

10.——_The method of claim 1, further comprising:
_signaling DRX parameters for each of the plurality of DRX groups to the UE.

11.——_The method of claim 10, wherein the DRX parameters are signaled in the RRC signaling comprising ~~an information element (the IE) including a list~~ indicating the plurality of DRX groups and respective DRX parameters.

12.——_The method of claim 10, wherein the UE is configured with a first DRX configuration by indicating an index of the first DRX group from among the plurality of DRX groups.

13.——_The method of claim 12, wherein the index of the first DRX group is comprised in an Information Element (IE) in a serving cell configuration for the first set of serving cells.

14.——_The method of claim 12, wherein the index of the first DRX group is comprised in a medium access control-control element (MAC-CE) sent via Physical Downlink Control Channel (PDCCH) of the first set of serving cells.

15.—The method of claim 12, wherein the index of the first DRX group is comprised in a medium access control-control element (MAC-CE) comprising paired parameters, wherein the paired parameters provides an indication to the UE of a new cell index and a new DRX group of an active serving cell.

16.—The method of claim 1, further comprising:

—transmitting a signal in one of the first set of serving cells to the UE, wherein the signal provides an indication for the UE to change a power off-state of serving cells in the second DRX group to a power on-state.

17.—The method of claim 16, wherein the signal comprises ~~an~~ the index of the second DRX group to be activated.

18.—The method of claim 16, wherein the signal comprises at least one of a cross carrier downlink control information (DCI) or a medium access control-control element (MAC-CE).

19.—~~The method of claim 16, wherein a first on-state of the first DRX group is aligned with a second on-state of the second DRX group.~~

20.—~~The method of claim 16~~1, wherein a first DRX cycle of ~~a~~ the first DRX configuration is an integer multiple of a second DRX cycle of ~~a~~ the second DRX configuration.

20. The method of claim 1, further comprising transmitting, to the UE through an active carrier in the first DRX group, a signal that triggers the UE to activate the second DRX group at a time prior to a next scheduled DRX on duration of the second DRX group.

21.—The method of claim 1, wherein a first on-state of the UE is configured with a first DRX configuration for the first DRX group, and configured is aligned with a second on-state of the second DRX configuration ~~for the second DRX group.~~

22. The method of claim 1, wherein each of the first DRX configuration and the second DRX configuration comprises a first set of DRX parameters that is commonly configured between the first DRX group and the second DRX group and a second set of DRX parameters that is configured differently between the first DRX group and the second DRX group.

22.—23. An apparatus for wireless communication, comprising:

—— a memory; and

—— at least one processor coupled to the memory and configured to:

 determine a ~~configuration of a plurality of first~~ discontinuous reception (DRX) configuration and a second DRX configuration for a plurality of DRX groups for communicating with a user equipment (UE);

 —— configure the UE with the first DRX configuration indicating a first DRX group of the plurality of DRX groups for a first set of serving cells; and

 —— configure the UE with the second DRX configuration indicating a second DRX group of the plurality of DRX groups for a second set of serving cells, wherein the UE is configured with DRX parameters associated with the second DRX configuration from among DRX parameters included in the first DRX configuration and the second DRX configuration by indicating an index of the second DRX group in an information element (IE) sent via radio resource control (RRC) signaling.

23.—24. A method of wireless communication at a User Equipment (UE), comprising:

 —— ~~receiving a first DRX group discontinuous reception (DRX) configuration indicating a first DRX group of a plurality of DRX groups~~ for a first set of serving cells;

 —— ~~receiving a second DRX group configuration indicating a second DRX group of the plurality of DRX groups~~ for a second set of serving cells; and

 ——, wherein the UE is configured with DRX parameters associated with the second DRX configuration from among DRX parameters included in the first DRX configuration and the second DRX configuration based on an index of the second DRX group, wherein the index of the second DRX group is comprised in an information element (IE) received via radio resource control (RRC) signaling; and entering a DRX mode based on at least one of the first DRX group

configuration for the first set of serving cells and the second DRX ~~group configuration~~ for the second set of serving cells.

~~24.~~—24. The method of claim 23, further comprising:

~~—receiving signaling of DRX parameters for each of a plurality of DRX groups from a base station.~~

25.—The method of claim 24, further comprising: receiving, from a base station, downlink signaling indicating DRX parameters for each of the plurality of DRX groups.

26. The method of claim 25, wherein the DRX parameters are signaled in the RRC signaling comprising an information element (the IE) including a list indicating the plurality of DRX groups and respective DRX parameters.

~~26.~~—27. The method of claim ~~24~~25, wherein receiving the first DRX ~~group configuration~~ comprises receiving an index associated with the first DRX group ~~from among the plurality of DRX groups.~~

~~27.~~—28. The method of claim ~~23~~24, further comprising:

~~—receiving a signal from one of the first set of serving cells, wherein the signal provides an indication for the UE to change a power off-state of serving cells in the second DRX group to a power on-state.~~

~~28.~~—29. The method of claim ~~23~~24, further comprising:

~~—receiving a wakeup signal (WUS), wherein the WUS is received before a DRX on duration of any of a the plurality of DRX groups such that the WUS provides an indication for the UE to enter a power on-state on a desired DRX group.~~

~~29.~~—30. The method of claim 29, wherein each of the plurality of DRX groups is associated with a unique WUS.

31. The method of claim 24, wherein the first set of serving cells communicate with the UE using a first frequency range and the second set of serving cells communicate with the UE using a second frequency range.

32. The method of claim 31, wherein the first frequency range comprises a sub-6 GHZ frequency range and the second frequency range comprises a millimeter Wave (mmW) frequency range.

33. The method of claim 24, wherein a first DRX cycle of the first DRX configuration is an integer multiple of a second DRX cycle of the second DRX configuration.

34. The method of claim 24, further comprising receiving, from a base station through an active carrier in the first DRX group, a signal that triggers the UE to activate the second DRX group at a time prior to a next scheduled DRX on duration of the second DRX group.

~~30.~~—35. An apparatus for wireless communication, comprising:

—a memory; and

—at least one processor coupled to the memory and configured to:

receive a first ~~DRX group~~discontinuous reception (DRX) configuration indicating a first DRX group of a plurality of DRX groups for a first set of serving cells;

receive a second DRX ~~group~~configuration indicating a second DRX group of the plurality of DRX groups for a second set of serving cells; and

, wherein the apparatus is configured with DRX parameters associated with the second DRX configuration from among DRX parameters included in the first DRX configuration and the second DRX configuration based on an index of the second DRX group, wherein the index of the second DRX group is comprised in an information element (IE) received via radio resource control (RRC) signaling; and enter a DRX mode based on at least one of the first DRX ~~group~~configuration for the first set of serving cells and the second DRX ~~group~~configuration for the second set of serving cells.