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## (54) SYSTEMS AND METHODS FOR PAGING EARLY INDICATION AND PAGING **SUBGROUPING**

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(57)**ABSTRACT** 

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Systems, methods, and apparatus for paging early indication (PEI) and paging subgrouping are described herein. One described user equipment (UE) includes a set of one or more transceivers and a processor. The processor is configured to transmit, via the set of one or more transceivers, UE assistance information including a preferred time offset between receipt of a PEI by the UE and receipt of a paging occasion (PO) by the UE; transition from a sleep state to an awake state prior to the PO; and monitor for the PEI via the set of one or more transceivers, after transitioning to the awake state.

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> TRANSMIT UE ASSISTANCE INFORMATION INCLUDING A PREFERRED TIME OFFSET BETWEEN RECEIPT OF A PEI BY **402** THE UE AND RECEIPT OF A PO BY THE UE TRANSITION FROM A SLEEP STATE TO AN AWAKE STATE PRIOR TO THE PO MONITOR FOR THE PEI AFTER TRANSITIONING TO THE 406 AWAKE STATE WHEN THE PEI IS RECEIVED AFTER TRANSITIONING TO THE AWAKE STATE AND THE PEI INDICATES THE PO DOES NOT 408 INCLUDE A PAGE FOR THE UE, TRANSITION FROM THE AWAKE STATE TO THE SLEEP STATE WHEN THE PEI IS NOT RECEIVED AFTER TRANSITIONING TO THE AWAKE STATE, OR WHEN THE PEI INDICATES THE PO ^ 410 INCLUDES A PAGE FOR THE UE, REMAIN IN THE AWAKE STATE TO MONITOR THE PO