

CLAIMS

1. A method of wireless communication performed by a user equipment (UE), comprising:
 - monitoring a wakeup signal search space (WUS-SS) set for a physical downlink control channel (PDCCH) wakeup signal (WUS), wherein the WUS-SS is associated with a configuration that indicates whether PDCCH overbooking is permitted for a slot associated with the WUS-SS set; and
 - detecting the PDCCH WUS in the WUS-SS set based at least in part on monitoring the WUS-SS set.
2. The method of claim 1, further comprising:
 - receiving a signaling communication that includes an indication of the WUS-SS set,
 - wherein monitoring the WUS-SS set for the PDCCH WUS comprises:
 - monitoring the WUS-SS set based at least in part on the indication of the WUS-SS set.
3. The method of claim 2, wherein the indication of the WUS-SS set comprises:
 - a search space set identifier associated with the WUS-SS set.
4. The method of claim 2, wherein the signaling communication comprises at least one of:
 - a radio resource control (RRC) communication,
 - a medium access control (MAC) control element (MAC-CE) communication, or
 - a downlink control information (DCI) communication.
5. The method of claim 1, wherein the WUS-SS set is associated with a search space type, wherein the search space type comprises:
 - a common search space (CSS), or
 - a UE-specific search space (USS).
6. The method of claim 5, wherein the CSS is a default search space type for the WUS-SS set.
7. The method of claim 5, wherein the search space type, associated with the WUS-SS set, is indicated in a signaling communication.
8. The method of claim 1, wherein the WUS-SS set is associated with a WUS common search space (CSS) type;
 - wherein the WUS CSS type, associated with the WUS-SS set, is indicated by:

a cell-specific radio resource control (RRC) configuration included in a signaling communication, or
a UE-specific RRC configuration included in the signaling communication.

9. The method of claim 1, wherein a search space type, associated with the WUS-SS set, comprises:

a common search space (CSS);
wherein a CSS type, associated with the WUS-SS set, is indicated by a UE-specific RRC configuration; and
wherein the CSS type, associated with the WUS-SS set, is indicated as a Type3-PDCCH CSS set in the UE-specific RRC configuration.

10. The method of claim 1, wherein the configuration indicates that the PDCCH overbooking is not permitted for the slot associated with the WUS-SS set.

11. The method of claim 1, wherein at least one of:

a blind decode limit, for the slot associated with the WUS-SS set, is lower relative to a blind decode limit for another slot that is not associated with the WUS-SS set, or
a control channel element (CCE) limit, for the slot associated with the WUS-SS set, is lower relative to a CCE limit for the other slot that is not associated with the WUS-SS set.

12. The method of claim 1, wherein the PDCCH WUS is configured to be monitored in a search space set by the UE; and

wherein an aggregation level and a quantity of PDCCH candidates, for the PDCCH WUS in the search space set, are configured separately from an aggregation level and a quantity of PDCCH candidates for another search space set associated with the UE; and

wherein the aggregation level and the quantity of PDCCH candidates, for the PDCCH WUS in the search space set, are configured separately from an aggregation level and a quantity of PDCCH candidates that are not for the PDCCH WUS in the search space set associated with the UE.

13. The method of claim 1, wherein the PDCCH WUS is configured to be monitored in a search space set for the UE; and

at least one of:

aggregation levels, for the PDCCH WUS, include a subset of available aggregation levels that are not configured for the PDCCH WUS in the search space set,
or

a quantity of PDCCH candidates per aggregation level, for the PDCCH WUS, includes a subset of a quantity of PDCCH candidates per aggregation level that are not configured for the PDCCH WUS in the search space set.

14. The method of claim 1, wherein the WUS-SS set is located in one or more symbols at a beginning of the slot.

15. The method of claim 1, wherein respective occasions, of the WUS-SS set, are included in span of one or more symbols in a fixed location in a plurality of slots.

16. The method of claim 1, wherein respective occasions, of the WUS-SS set, are included in different locations in a plurality of slots.

17. The method of claim 1, wherein the PDCCH WUS is monitored for in the slot wherein the slot includes respective pluralities of occasions of one or more search space sets; and wherein monitoring the PDCCH WUS comprises:
monitoring a single occasion, of the pluralities of occasions of one or more search space sets, in the slot.

18. The method of claim 1, wherein the PDCCH WUS is monitored for in the slot; wherein the slot includes respective pluralities of occasions of more than one search space sets;
wherein the more than one search space sets are included in one or more control resource sets (CORESETs); and
wherein monitoring the PDCCH WUS comprises:
monitoring at most one respective search space set occasion for each CORESET of the one or more CORESETs.

19. The method of claim 1, wherein the WUS-SS set is included in the slot and no other search space sets are included in the slot.

20. The method of claim 1, wherein the WUS-SS set is included in the slot and no other PDCCHs are monitored in the slot.

21. The method of claim 1, wherein monitoring the WUS-SS set for the PDCCH WUS comprises:
transitioning out of a power-saving mode for a WUS occasion; and
monitoring the WUS-SS set during the WUS occasion.

22. The method of claim 21, wherein the WUS occasion corresponds to one or more slots that include WUS-SS occasions included in the WUS-SS set.

23. The method of claim 1, wherein monitoring the WUS-SS set for the PDCCH WUS comprises:

monitoring the WUS-SS set in one or more slots that include the slot.

24. A user equipment (UE) for wireless communication, comprising:

a memory; and

one or more processors operatively coupled to the memory, the memory and the one or more processors configured to:

monitor a wakeup signal search space (WUS-SS) set for a physical downlink control channel (PDCCH) wakeup signal (WUS), wherein the WUS-SS is associated with a configuration that indicates whether PDCCH overbooking is permitted for a slot associated with the WUS-SS set; and

detect the PDCCH WUS in the WUS-SS set based at least in part on monitoring the WUS-SS set.

25. The UE of claim 24, wherein the one or more processors are further configured to:

receive a signaling communication that includes an indication of the WUS-SS set,

wherein one or more processors, when monitoring the WUS-SS set for the PDCCH WUS, are to:

monitor the WUS-SS set based at least in part on the indication of the WUS-SS set.

26. The UE of claim 24, wherein the WUS-SS set is associated with a search space type,

wherein the search space type comprises:

a common search space (CSS), or

a UE-specific search space (USS).

27. A non-transitory computer-readable medium storing one or more instructions for wireless communication, the one or more instructions comprising:

one or more instructions that, when executed by one or more processors of a user equipment (UE), cause the one or more processors to:

monitor a wakeup signal search space (WUS-SS) set for a physical downlink control channel (PDCCH) wakeup signal (WUS), wherein the WUS-SS is associated with a configuration that indicates whether PDCCH overbooking is permitted for a slot associated with the WUS-SS set; and

detect the PDCCH WUS in the WUS-SS set based at least in part on monitoring the WUS-SS set.

28. The non-transitory computer-readable medium of claim 27, wherein the WUS-SS set is associated with a search space type,

wherein the search space type comprises:

a common search space (CSS), or

a UE-specific search space (USS).

29. An apparatus for wireless communication, comprising:

means for monitoring a wakeup signal search space (WUS-SS) set for a physical downlink control channel (PDCCH) wakeup signal (WUS), wherein the WUS-SS is associated with a configuration that indicates whether PDCCH overbooking is permitted for a slot associated with the WUS-SS set; and

means for detecting the PDCCH WUS in the WUS-SS set based at least in part on monitoring the WUS-SS set.

30. The apparatus of claim 29, wherein the WUS-SS set is associated with a search space type,

wherein the search space type comprises:

a common search space (CSS), or

a user equipment (UE)-specific search space (USS).