

CLAIMS

What is claimed is:

1. A Wireless Transmit/Receive Unit (WTRU) comprising:
 - a transmitter;
 - a receiver; and
 - a processor, coupled to the transmitter and the receiver, configured to:
 - receive a first message that indicates a processing state for the WTRU, wherein the processing state is associated with a particular frequency bandwidth;
 - determine control resource sets to monitor based on the configured processing state, wherein the control resource sets to monitor comprise resources in any one or more of at least time and frequency; and
 - monitor the determined control resource sets.
2. The WTRU of claim 1 wherein the first message comprises Downlink Control Information (DCI).
3. The WTRU of claim 2 further comprising receiving a Radio Resource Control (RRC) message that configures multiple processing states in the WTRU from which the configured processing state is selected.
4. The WTRU of claim 1 wherein the processor is further configured to monitor a control channel using any of: (1) at least the determined minimum amount of resources of the one or more sets of physical resources and (2) a type of signaling structure.
5. The WTRU of claim 1 wherein the determined control resource sets to monitor comprises any of: one or more control channel elements, one or more search spaces, and one or more aggregation levels.
6. The WTRU of claim 1 wherein the control resource sets monitored based on the processing state comprise at least one of: (1) a particular set of resource elements, (2) a particular set of aggregation levels, and (3) a particular set of resource blocks.
7. The WTRU of claim 1 wherein:
 - the processor is configured to determine to transition from a first processing state to a second processing state based on at least one condition, wherein the at least one condition includes reception of a message from a network entity, wherein the message indicates at least one of:
 - an index associated with the second processing state to be configured,

a predefined time at which to transition to the second processing state,
configuration parameters defining a set of actions and/or behavior in the
second processing state, and

a time difference between a time at which the message is received and a
time at which the transition associated with the second processing state is to occur.

8. The WTRU of claim 7 wherein the processor is configured to perform a first number of blind decoding attempts when in a first processing state and perform a second, different number of blind decoding attempts when in a second processing state.

9. The WTRU of claim 7 wherein the processor is configured to decode for a first number of control channel messages when in a first processing state and decode for a second, different number of control channel messages when in a second processing state.

10. The WTRU of claim 7 wherein the at least one condition includes reception of a message from a network entity, wherein the message is signaled via at least one of: (1) a Radio Resource Control (RRC) message, (2) a Medium Access Control (MAC) Control Element (CE), or (3) a wakeup signal.

11. A method implemented in a Wireless Transmit/Receive Unit (WTRU), the method comprising:

receiving a first message that indicates a processing state for the WTRU, wherein the processing state is associated with a particular frequency bandwidth;

determining control resource sets to monitor based on the configured processing state, wherein the control resource sets to monitor comprise resources in any one or more of at least time and frequency; and

monitoring the determined control resource sets.

12. The method of claim 11 wherein the first message comprises Downlink Control Information (DCI).

13. The method of claim 12 further comprising:

receiving a Radio Resource Control (RRC) message that configures multiple processing states in the WTRU from which the configured processing state is selected.

14. The method of claim 11 further comprising:

monitoring a control channel using any of: (1) at least the determined minimum amount of resources of the one or more sets of physical resources and (2) a type of signaling structure.

15. The method of claim 11 wherein the determined control resource sets to monitor comprises any of: one or more control channel elements, one or more search spaces, and one or more aggregation levels.
16. The method of claim 11 wherein the control resource sets monitored based on the processing state comprise at least one of: (1) a particular set of resource elements, (2) a particular set of aggregation levels, and (3) a particular set of resource blocks.
17. The method of claim 11 further comprising:
- determining to transition from a first processing state to a second processing state based on at least one condition, wherein the at least one condition includes reception of a message from a network entity, wherein the message indicates at least one of:
 - an index associated with the second processing state to be configured,
 - a predefined time at which to transition to the second processing state,
 - configuration parameters defining a set of actions and/or behavior in the second processing state, and
 - a time difference between a time at which the message is received and a time at which the transition associated with the second processing state is to occur.
18. The method of claim 17 further comprising:
- performing a first number of blind decoding attempts when in a first processing state and performing a second, different number of blind decoding attempts when in a second processing state.
19. The method of claim 17 further comprising:
- decoding for a first number of control channel messages when in a first processing state and decoding for a second, different number of control channel messages when in a second processing state.
20. The method of claim 17 wherein the at least one condition includes reception of a message from a network entity, wherein the message is signaled via at least one of: (1) a Radio Resource Control (RRC) message, (2) a Medium Access Control (MAC) Control Element (CE), and (3) a wakeup signal.