CLAIMS

What is Claimed:

1. A method implemented by a wireless transmit/receive unit (WTRU), the method comprising:

sending an indication of a capability to support search space switching;

receiving configuration information for a first search space and a second search space, wherein the configuration information includes a monitoring periodicity of the first search space and a monitoring periodicity of the second search space;

monitoring the first search space with the monitoring periodicity of the first search space;

receiving a first downlink control information (DCI) in a first physical downlink control channel (PDCCH) transmission in a slot of the first search space, wherein the first DCI comprises an indication of an activation of the second search space;

monitoring, in response to the indication of the activation of the second search space, the second search space using the monitoring periodicity of the second search space; and

receiving a second DCI in a second PDCCH transmission in a slot of the second search space.

2. The method of claim 1, further comprising receiving a message in a physical downlink shared channel (PDSCH) transmission based on the first DCI in the first PDCCH transmission or the second DCI in the second PDCCH transmission.

3. The method of claim 1, wherein the monitoring periodicity of the first search space or the second search space indicates a time slot repetition.

4. The method of claim 1, wherein the configuration information is received from a gNB.

5. The method of claim 1, wherein the configuration information further includes a monitoring offset.

6. The method of claim 1, wherein the configuration information further includes a monitoring pattern that includes a symbol pattern.

7. The method of claim 1, wherein the monitoring periodicity of the first search space is larger than the monitoring periodicity of the second search space.

8. The method of claim 1 further comprising:

stopping the monitoring of the second search space based on a second search space deactivation determination;

monitoring the first search space with the monitoring periodicity of the first search space;

receiving a third DCI, wherein the third DCI includes an updated monitoring periodicity of the first search space; and

monitoring the first search space with the updated monitoring periodicity.

9. A wireless transmit/receive unit (WTRU) comprising:

a transceiver; and

processor, wherein

the transceiver is configured to send an indication of a capability to support search space switching;

the transceiver is configured to receive configuration information for a first search space and a second search space, wherein the configuration information includes a monitoring periodicity of the first search space and a monitoring periodicity of the second search space;

the processor is configured to monitor the first search space with the monitoring periodicity of the first search space;

the transceiver is further configured to receive a first downlink control information (DCI) in a first physical downlink control channel (PDCCH) transmission in a slot of the first search space, wherein the first DCI comprises an indication of an activation of the second search space;

the processor is further configured to, in response to the indication of the activation of the second search space, monitor the second search space using the monitoring periodicity of the second search space; and

the transceiver is further configured to receive a second DCI in a second PDCCH transmission in a slot of the second search space.

10. The WTRU of claim 9, wherein the transceiver is further configured to receive a message in a physical downlink shared channel (PDSCH) transmission based on the first DCI in the first PDCCH transmission or the second DCI in the second PDCCH transmission.

11. The WTRU of claim 9, wherein the monitoring periodicity of the first search space or the second search space indicates a time slot repetition.

12. The WTRU of claim 9, wherein the configuration information is received from a gNB.

13. The WTRU of claim 9, wherein the configuration information further includes a monitoring offset.

14. The WTRU of claim 9, wherein the configuration information further includes a monitoring pattern that includes a symbol pattern.

15. The WTRU of claim 9, wherein the monitoring periodicity of the first search space is larger than the monitoring periodicity of the second search space.

16. The WTRU of claim 9, wherein:

the processor is further configured to stop monitoring the second search space based on a second search space deactivation determination and monitor in the first search space with the monitoring periodicity of the first search space;

the transceiver is further configured to receive a third DCI, wherein the third DCI includes an updated monitoring periodicity of the first search space; and

the processor is further configured to monitor the first search space with the updated monitoring periodicity.