

## CLAIMS

1. A wireless transmit/receive unit (WTRU) comprising:  
a transceiver; and  
a processor;

wherein the transceiver is configured to receive configuration information indicating a plurality of physical uplink control channel (PUCCH) resources for transmitting uplink control information (UCI) and one or more thresholds associated with a number of hybrid automatic repeat request (HARQ) bits to be included in the UCI, wherein each of the plurality of PUCCH resources is associated with at least one PUCCH format and a respective number of orthogonal frequency division multiplexing (OFDM) symbols,

wherein the transceiver is configured to receive a physical downlink control channel (PDCCH) transmission, the PDCCH transmission indicating to transmit the UCI,

wherein the processor is configured to determine one ~~or more short transmission time interval (sTTI) physical uplink control channel (sPUCCH) of the plurality of PUCCH~~ resources for transmitting ~~uplink control information (UCI)~~the UCI, wherein the determination is made based on a number of ~~hybrid automatic repeat request (HARQ)~~HARQ bits to be included in the UCI and ~~based on a configured~~the one or more thresholds, ~~associated with the number of HARQ bits; wherein~~

~~the processor is further configured to determine a format associated with the UCI based on one or more symbols for the UCI and based on the number of HARQ bits; and~~

wherein the transceiver is configured to transmit the UCI using the ~~one or more~~ determined ~~sPUCCH-PUCCH~~ resources and one of the at least one PUCCH ~~the determined~~ formats that is associated with the determined PUCCH resource.

2. The WTRU of claim 1, wherein the transceiver is further configured to receive ~~an~~ short transmission time interval (sTTI) physical downlink control channel (sPDCCH) transmission, wherein a downlink sTTI gap is configured between an sPDCCH region and an uplink sTTI for the ~~sPUCCH~~.

3. The WTRU of claim 2, wherein a ~~set of candidate sPDCCH regions includes a plurality of sTTIs~~ time duration of the sPDCCH region is defined by a plurality of sTTIs.

4. The WTRU of claim 2, wherein a downlink sTTI length is shorter than an uplink sTTI length.

5. The WTRU of claim 1, wherein ~~a downlink short transmission time interval (sTTI) is further configured to overlap with a downlink transmission time interval (TTI)~~ each of the PUCCH resources is associated with a respective number of physical resource blocks (PRBs) or a respective number of subcarriers.

6. The WTRU of claim 1, wherein the ~~transceiver is further configured to transmit, using sPUCCH resources, first information in an uplink sTTI concurrently with second information in an uplink TTI~~ configuration information indicates a starting symbol within a slot for at least one of the plurality of PUCCH resources.

7. The WTRU of claim ~~6~~1, wherein ~~the sTTI is one of a plurality of uplink sTTIs that overlaps with the uplink TTI~~ at least a first format of the plurality of formats is associated with a number of OFDM symbols that is different from the number of OFDM symbols with which at least a second format of the plurality of formats is associated.

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

receiving configuration information indicating a plurality of physical uplink control channel (PUCCH) resources for transmitting uplink control

information (UCI) and one or more thresholds associated with a number of hybrid automatic repeat request (HARQ) bits to be included in the UCI, wherein each of the plurality of PUCCH resources is associated with at least one format and a respective number of orthogonal frequency division multiplexing (OFDM) symbols;

receiving a physical downlink control channel (PDCCH) transmission, the PDCCH transmission indicating to transmit the UCI;

determining one ~~or more~~ short transmission time interval (sTTI) physical uplink control channel (PUCCH) of the plurality of PUCCH resources for transmitting the uplink control information (UCI) UCI, wherein the determination is made based on a the number of hybrid automatic repeat request (HARQ) HARQ bits to be included in the UCI and based on a configured one or more thresholds associated with the number of HARQ bits; and

determining a format associated with the UCI based on one or more symbols for the UCI and based on the number of HARQ bits; and

transmitting the UCI using the one or more determined sPUCCH PUCCH resources and one of the at least one PUCCH formats that is associated with the determined PUCCH resource and the determined format.

9. The method of claim 8, further comprising receiving a short transmission time interval (—sTTI) physical downlink control channel

(sPDCCH) transmission, wherein a downlink sTTI gap is configured between an sPDCCH region and an uplink sTTI for the sPUCCH.

10. The method of claim 9, wherein ~~a set of candidate sPDCCH regions includes a plurality of sTTIs~~ time duration of the sPDCCH region is defined by a plurality of sTTIs.

11. The method of claim 9, wherein a downlink sTTI length is shorter than an uplink sTTI length.

12. The method of claim 8, wherein ~~a downlink short transmission time interval (sTTI) partially overlaps with a downlink transmission time interval (TTI)~~ each of the PUCCH resources is associated with a respective number of physical resource blocks (PRBs) or a respective number of subcarriers.

13. The method of claim 8, ~~further comprising:~~  
~~transmitting, using the sPUCCH resources, first information in an uplink sTTI concurrently with second information in an uplink TTI wherein~~ the configuration information indicates a starting symbol within a slot for at least one of the plurality of PUCCH resources.

14. The method of claim ~~138~~, wherein ~~the sTTI is one of a plurality of uplink sTTIs that overlaps with the uplink TTI~~ at least a first format of the plurality of formats is associated with a number of OFDM symbols that is different from the number of OFDM symbols with which at least a second format of the plurality of formats is associated.