network entity. The priority may be used to prioritize a transmission to one of the serving sites in case of conflict.

[0010] The WTRU may report power headroom information for each of transmissions associated with the MAC instance and transmissions associated with the second MAC instance to the first serving site. For example, the power headroom information for each of transmissions associated with the MAC instance and transmissions associated with the second MAC instance to the first serving site may be reported based on determining to scale at least one transmission to one or more of the first serving site or the second serving site.

[0010a] ~~According to a first aspect, there is provided~~Herein disclosed is a method for providing physical layer resources to a plurality of medium access control (MAC) instances that are associated with different serving sites that are independently scheduled, the method comprising: a wireless transmit receive unit (WTRU) utilizing a first physical layer configuration for transmitting to a first serving site associated with a first MAC instance; the WTRU utilizing a second physical layer configuration for transmitting to a second serving site associated with a second MAC instance; and the WTRU allocating at least a portion of the transmission power between a transmission associated with the first MAC instance and a transmission associated with the second MAC instance based on a priority rule, wherein higher priority is given to a transmission that includes uplink control information (UCI) than is given to a transmission that does not include UCI.

[0010b] According to ~~a second~~an aspect, there is provided a wireless transmit receive unit (WTRU) comprising: a plurality of medium access control (MAC) instances, wherein each MAC instance is associated with transmissions corresponding to a different group of one or more cells; a physical layer entity configured to: operate using a first physical layer configuration for transmitting to a first group of one or more cells associated with a first MAC instance, operate using a second physical layer configuration for transmitting to a second group of one or more cells associated with a second MAC instance, and allocate at least a portion of transmission between a first transmission associated with the first MAC instance and a second transmission associated with the second MAC instance based on one or more priority rules, wherein the one or more priority rules comprise prioritizing transmissions including a first type of uplink control information (UCI) over transmissions including a second type of control information.

[0010c] ~~According to a third aspect, there is provided~~Herein disclosed is a method for a wireless transmit receive unit (WTRU) to allocate power among transmissions associated with different medium access control (MAC) instances, the method comprising: the WTRU utilizing a first physical layer configuration for transmitting to a first group of one or more cells associated with a first MAC instance; the WTRU utilizing a second physical layer configuration for transmitting to a second group of one or more cells associated with a second MAC instance; and the WTRU allocating at least a portion of transmission power between a first transmission associated with the first MAC instance and a second transmission associated with the second MAC instance based on tiered priority rules, wherein a primary priority rule of the tiered priority rules corresponds to prioritizing a transmissions that include a first type of uplink control information (UCI) over transmissions including a second type of UCI and a secondary priority rule of the tiered priority rules corresponds to prioritizing a primary MAC instance over a secondary MAC instance on condition that the first transmission associated with the first MAC instance includes the same type of UCI as is included in the second transmission associated with the second MAC instance.

What is claimed:

1. A method for providing physical layer resources to a plurality of medium access control (MAC) instances that are independently scheduled, the method comprising:

a wireless transmit/receive unit (WTRU) utilizing a first physical layer configuration for transmissions associated with a first MAC instance;

the WTRU utilizing a second physical layer configuration for transmissions associated with a second MAC instance; and

the WTRU coordinating transmission power to be allocated for a first transmission sent via the first MAC instance and a second transmission sent via the second MAC instance, wherein at least a portion of the transmission power is allocated between the first MAC instance for the first transmission the second MAC instance for the second transmission based on based on a type of uplink control information, if any, that are included in one or more of the first transmission or the second transmission and based on a type of MAC instance corresponding to each of the first and second MAC instances.

2. The method as in claim 1, wherein the WTRU determines that the first transmission includes first uplink control information, the WTRU determines that the that the second transmission does not include uplink control information, and the WTRU determines that the first transmission is prioritized over the second transmission when allocating at least the portion of the transmission power.

3. The method as in claim 1, wherein the WTRU prioritizes a first type of uplink control information over a second type of uplink control information when allocating at least the portion of the transmission power.

4. The method as in claim 1, wherein a first hybrid automatic repeat request (HARQ) feedback timing relationship is applied for transmissions sent using the first MAC instance and a second HARQ timing relationship is applied for transmission sent using the second MAC instance.

5. The method as in claim 1, wherein the WTRU receives a configuration comprising a maximum transmit power level for transmission sent via the first MAC instance and via the second MAC instance.

6. The method as in claim 5, further comprising the WTRU determining that transmitting according to a first received uplink grant associated with the first transmission sent via the first MAC instance and transmitting according to a second uplink grant associated with the second transmission sent via the second MAC instance would result in the WTRU exceeding the maximum transmit power level.

7. The method as in claim 6, wherein the WTRU coordinating transmission power to be allocated for the first transmission sent via the first MAC instance and the second transmission sent via the second MAC instance comprises the WTRU scaling the second transmission based on the second transmission including lower priority uplink control information than is included in the first transmission.

8. The method as in claim 7, further comprising the WTRU including an indication that the second transmission has been scaled due to power constraints in one or more of the first transmission or the second transmission.

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

a plurality of medium access control (MAC) instances, wherein each MAC instance is associated with independently scheduled transmissions;

a physical layer entity configured to:

operate using a first physical layer configuration for transmitting with a first MAC instance,

operate using a second physical layer configuration for transmitting with a second MAC instance, and

transmission power to be allocated for a first transmission sent via the first MAC instance and a second transmission sent via the second MAC instance, wherein the physical layer entity is

configured to allocate at least a portion of the transmission power between the first MAC instance for the first transmission the second MAC instance for the second transmission based on based on a type of uplink control information, if any, that are present in one or more of the first transmission or the second transmission and based on a type of MAC instance corresponding to each of the first and second MAC instances.

10. The WTRU as in claim 9, wherein the first MAC instance has a higher priority than the second MAC instance for a same type for transmission.

11. The WTRU as in claim 9, wherein the physical layer entity is configured to determine a relative priority between a first uplink grant associated with the first MAC instance and a second uplink grant associated with the second MAC instance based on explicit indications regarding priority received from a network entity.

12. The WTRU as in claim 9, wherein the physical layer entity is configured to report power headroom information for each of transmissions associated with the MAC instance and transmissions associated with the second MAC instance via the first MAC instance.

13. The WTRU as in claim 9, wherein the physical layer entity is configured to prioritize a first type of uplink control information over a second type of uplink control information when allocating at least the portion of the transmission power.

14. The WTRU as in claim 13, wherein the first type of uplink control information corresponds to hybrid automatic repeat request (HARQ) feedback and the second type of uplink control information corresponds to channel quality indicator (CQI) feedback.

15. The WTRU as in claim 9, wherein the physical layer entity is configured to allocate at least a first minimum guaranteed power level configured for first MAC instance to the first transmission

and at least a second minimum guaranteed power level configured for second MAC instance to the second transmission.