CLAIMS

What is Claimed:

1. A first wireless transmit/receive unit (WTRU), the first WTRU comprising:

a processor, the processor configured to:

send a first message to a second WTRU, wherein the first message indicates a request to communicate with the second WTRU;

receive a second message from the second WTRU, the second message indicating a first set of least significant bits (LSBs) that is associated with the second WTRU;

generate a security key identifier using a set of most significant bits (MSBs) and the first set of LSBs, wherein the set of MSBs is associated with the first WTRU;

determine that a conflict exists between the first set of LSBs that is associated with the second WTRU and a second set of LSBs that is associated with a third WTRU;

send a third message to the second WTRU using a secure communication link, wherein the secure communication link is associated with the security key identifier; and

send a fourth message to the third WTRU indicating the conflict between the first set of LSBs and the second set of LSBs.

2. The first WTRU of claim 1, wherein the first message comprises a list of supported vehicle to everything (V2X) services.

3. The first WTRU of claim 1, wherein the processor is further configured to send the third message to the second WTRU using the secure communication link if it is determined that the first set of LSBs is different from the second set of LSBs.

4. The first WTRU of claim 1, wherein the processor is further configured to send the third message to the second WTRU using the secure communication link if it is determined that the security key identifier is different from another security key identifier.

5. The first WTRU of claim 1, the processor is further configured to send the third message to the second WTRU using the secure communication link indicating that the first set of LSBs is the same as the second set of LSBs, and

receive a fourth message from the second WTRU, the fourth message indicating a fourth set of LSBs that is associated with the second WTRU.

6. The first WTRU of claim 1, wherein the processor is further configured to receive a fifth message from the third WTRU, the fifth message indicating a third set of LSBs that are associated with the third WTRU.

7. The first WTRU of claim 6, wherein the security key identifier is a first security key identifier, and wherein the processor is further configured to send a sixth message to the third WTRU using a second secure communication link, wherein the second secure communication link is associated with a second security key identifier.

8. A method performed by a first wireless transmit/receive unit (WTRU) for establishing a communication link, the method comprising:

sending a first message to a second WTRU, wherein the first message indicates a request to communicate with the second WTRU;

receiving a second message from the second WTRU, the second message indicating a first set of least significant bits (LSBs) that is associated with the second WTRU;

generating a security key identifier using a set of most significant bits (MSBs) associated with the first WTRU and the first set of LSBs associated with the second WTRU;

determining that a conflict exists between the first set of LSBs that is associated with the second WTRU and a second set of LSBs associated with a third WTRU;

sending a third message to the second WTRU using a secure communication link, wherein the secure communication link is associated with the security key identifier; and

sending a fourth message to the third WTRU indicating the conflict between the first set of LSBs and the second set of LSBs.

9. The method of claim 8, wherein the first message comprises a list of supported vehicle to everything (V2X) services.

10. The method of claim 8, wherein the method further comprises sending the third message to the second WTRU using the secure communication link if it is determined that the first set of LSBs is different from the second set of LSBs.

11. The method of claim 8, wherein the method further comprises sending the third message to the second WTRU using the secure communication link if it is determined that the security key identifier is different from another security key identifier.

12. The method of claim 8, wherein the method further comprises

sending the fourth message to the second WTRU indicating that the first set of LSBs is the same as the second set of LSBs; and

receiving a fifth message from the second WTRU, the fifth message indicating a third set of LSBs that is associated with the second WTRU.

13. The method of claim 12, wherein the method further comprising:

receiving a sixth message from the third WTRU, the sixth message indicating a third set of LSBs that are associated with the third WTRU.

14. The method of claim 13, wherein the security key identifier is a first security key identifier, and wherein the method further comprises sending a seventh message to the third WTRU using a second secure communication link, wherein the second secure communication link is associated with a second security key identifier.

15. A first wireless transmit/receive unit (WTRU) for establishing a communication link, the first WTRU comprising:

a processor, the processor configured to:

send a first message to a second WTRU, wherein the first message indicates a request to communicate with the second WTRU;

receive a second message from the second WTRU, the second message indicating a first set of least significant bits (LSBs) that is associated with the second WTRU;

generate a security key identifier using a set of most significant bits (MSBs) associated with the first WTRU and the first set of LSBs associated with the second WTRU;

determine whether a conflict exists between the first set of LSBs that is associated with the second WTRU and a second set of LSBs that is associated with a third WTRU; and

send a third message to the second WTRU using a secure communication link, wherein

if a conflict is determined to not exist, the secure communication link is associated with the security key identifier, or

if a conflict is determined to exist, indicate the conflict between the firsts set of LSBs and the second set of LSBs.

16. The first WTRU of claim 15, wherein the first message comprises a list of supported vehicle to everything (V2X) services.

17. The first WTRU of claim 15, wherein, if a conflict is determined to exist, the processor is further configured to:

send a fourth message to the third WTRU, the fourth message indicating the conflict.

18. The first WTRU of claim 17, wherein the processor is further configured to receive a fifth message from the third WTRU, the fifth message indicating a third set of LSBs that are associated with the third WTRU.

19. The first WTRU of claim 18, wherein the security key identifier is a first security key identifier, and wherein the processor is further configured to send a sixth message to the third WTRU using a second secure communication link, wherein the second secure communication link is associated with a second security key identifier.