Claims

1. A method of wireless communication in a wireless network, comprising:

receiving (1810;1910) a timing variable and a timing offset allowance from a network at a device, the timing variable being received while the device is in a connected mode; and

using the received timing variable and the timing offset allowance for device-to-device, D2D, discovery message authentication by comparing (1815;1915) the received timing variable with a local timing variable to determine whether a difference between the received timing variable and the local timing variable is within the timing offset allowance.

2. The method of claim 1, further comprising:

storing the received timing variable at the device to compare with a local timing variable.

3. The method of claim 1, wherein the timing variable is received from a proximity based service, ProSe, function in the network.

4. The method of claim 1, wherein the timing variable is received with a D2D discovery application code.

5. The method of claim 3, further comprising:

receiving the timing offset allowance from the ProSe function in the network.

6. The method of claim 5, further comprising:

announcing a D2D discovery application code when the difference between the received timing variable and the local timing variable is within the timing offset allowance.

7. The method of claim 5, further comprising:

notifying the ProSe function of an anomaly when the difference is greater than the timing offset allowance.

8. The method of claim 5, wherein the timing variable received from the network is coordinated universal time, UTC.

9. The method of claim 1, further comprising:

requesting D2D discovery resources via a radio resource control, RRC, message when the device is using a network controlled D2D discovery resource allocation scheme,

wherein the timing variable is received via a response to the RRC message.

10. The method of claim 5, further comprising:

synchronizing the timing variable received from the ProSe function with the local timing variable when the difference is less than the timing offset allowance.

11. An apparatus configured for wireless communication, comprising:

at least one processor; and

a memory coupled to the at least one processor, wherein the at least one processor is configured to:

receive (1810;1910) a timing variable and a timing offset allowance from a network at a device, the timing variable being received while the device is in a connected mode; and

use the received timing variable and the timing offset allowance for device-to-device, D2D, discovery message authentication by comparing (1815;1915) the received timing variable with a local timing variable to determine whether a difference between the received timing variable and the local timing variable is within the timing offset allowance.

12. The apparatus of claim 11, wherein the timing variable is received from a proximity based service, ProSe, function in the network.

13. The apparatus of claim 12, wherein the at least one processor is further configured to:

receive the timing offset allowance from the ProSe function in the network.

14. The apparatus of claim 13, wherein the at least one processor is further configured to:

announce a D2D discovery code if the difference between the received timing variable and the local timing variable is within the timing offset allowance.

15. A method of wireless communication in a wireless network, comprising:

entering into a connected mode with a device; and

transmitting a timing variable and a timing offset allowance to the device for use in device-to-device, D2D, discovery message authentication to the device while the device is in the connected mode, wherein the timing variable is used to compare (1815;1915) the timing variable with a local timing variable to determine whether a difference between the timing variable and the local timing variable is within the timing offset allowance.