CLAIMS

What is claimed is:

1. A method for use in a wireless transmit/receive unit (WTRU) capable of performing device-to-device discovery, the method comprising:

sending a discovery request to initiate a discovery process used to perform radio frequency (RF) proximity detection for a service, wherein the discovery request includes at least one discovery identity comprising a common part and a dedicated part and a time-to-live (TTL) parameter indicating a time interval during which the discovery request is valid, wherein the common part is associated with a public land mobile network (PLMN); and

monitoring a channel for a response to the discovery request.

2. The method of claim 1 wherein the discovery process is initiated by an application running on the WTRU.

~~3. The method of claim 1 wherein the common part is associated with a public land mobile network.~~

~~4~~3. The method of claim 1 wherein the dedicated part is associated with a group, application, or service.

~~5~~4. The method of claim 1 wherein expiration of a validity time period associated with an identity occurs before sending the discovery request.

~~6~~5. The method of claim 1 wherein the response to the discovery request includes an indication that a device associated with the discovery identity is in close proximity to the WTRU.

~~7~~6. The method of claim 1 further comprising:

sending a request for a resource for transmission of a discovery request;

receiving an indication of an available resource.

~~8~~7. The method of claim ~~7~~ 6 wherein the indication is received in the form of a broadcast message.

~~9~~8. The method of claim 1 wherein communication between the WTRU and a device associated with the discovery identity occurs before sending the discovery request.

~~10~~9. The method of claim 1 wherein communication between the WTRU and a device associated with the discovery identity does not occur before sending the discovery request.

~~11~~10. A wireless transmit/receive unit (WTRU) capable of performing device-to-device discovery, the WTRU comprising:

a transmitter configured to transmit a discovery request to initiate a discovery process used to perform radio frequency (RF) proximity detection for a service, wherein the discovery request includes at least one discovery identity comprising a common part and a dedicated part and a time-to-live (TTL) parameter indicating a time interval during which the discovery request is valid, wherein the common part is associated with a public land mobile network (PLMN); and

a receiver configured to receive a channel for a response to the discovery request.

~~12~~11. The WTRU of claim ~~11~~ 10 wherein the discovery process is initiated by an application running on the WTRU.

~~13. The WTRU of claim 11 wherein the common part is associated with a public land mobile network.~~

~~14~~12. The WTRU of claim ~~11~~ 10 wherein the dedicated part is associated with to a group, application, or service.

~~15~~13. The WTRU of claim ~~11~~ 10 wherein expiration of a validity time period associated with an identity occurs before sending the discovery request.

~~16~~14. The WTRU of claim ~~11~~ 10 wherein the response to the discovery request includes an indication that a device associated with the discovery identity is in close proximity to the WTRU.

~~17~~15. The WTRU of claim ~~11~~ 10 further comprising:

the transmitter further configured to send a request for a resource for transmission of a discovery request;

the receiver further configured to receive an indication of an available resource.

~~18~~16. The WTRU of claim ~~17~~ 15 wherein the indication is received in the form of a broadcast message.

~~19~~17. The WTRU of claim ~~11~~ 10 wherein communication between the WTRU and a device associated with the discovery identity occurs before transmitting the discovery request.

~~20~~18. The WTRU of claim ~~11~~ 10 wherein communication between the WTRU and a device associated with the discovery identity does not occur before transmitting the discovery request.