CLAIMS

1. A method of uplink timing reference signal transmission in a user equipment comprising:

controlling the user equipment to have a discontinuous reception (DRX) cycle; and

refraining from transmitting uplink timing reference signal transmissions when the DRX cycle is configured and when not in an active time.

2. The method of claim 1, wherein at least one timing reference signal of the uplink timing reference signal transmissions is a sounding reference signal (SRS).

3. The method of claim 1 or claim 2, wherein the user equipment is part of a long term evolution (LTE) network.

4. The method of any one of claims 1 to 3 further comprising:

refraining from transmitting channel quality indictor (CQI) transmissions when not in active time.

5. The method of any one of claims 1 to 4 further comprising:

using a transmission resource to transmit the uplink timing reference signal transmissions; and

maintaining the transmission resource during both active time and non-active time.

6. The method of claim 1;

wherein the active time occurs during a connected mode of the user equipment.

7. The method of any one of claims 1 to 6 further comprising:

transmitting a scheduling request only during an active time.

8. The method of claim 1, wherein the user equipment monitors a packet data control channel (PSDCCH).

9. The method of any one of claims 1 to 6 further comprising:

transmitting channel quality indicator (CQI) transmissions and an uplink timing reference signal transmission in a same sub-frame during an active time.

10. A user equipment comprising:

a receiver; and

a processor configured to:

control the receiver to have a discontinuous reception (DRX) cycle; and

refrain from transmitting uplink timing reference signal transmissions when the DRX cycle is configured and when not in an active time.

11. The user equipment of claim 10, wherein the user equipment is part of a long term evolution (LTE) network.

12. A network access equipment comprising a processor configured to:

send control information to a user equipment comprising a receiver, the control information to configure the user equipment to control the receiver to have a discontinuous reception (DRX) cycle; and

send control information to the user equipment to configure the user equipment to refrain from transmitting uplink timing reference signal transmissions when the DRX cycle is configured and when not in an active time.

13. The network access equipment of claim 12, wherein the network access equipment is part of a long term evolution (LTE) network.

14. The network access equipment of claim 12, wherein the network access equipment is further configured to:

send control information to the user equipment to configure the user equipment to refrain from transmitting channel quality indictor (CQI) transmissions when not in active time.

CLAIMS

1. A method in a user equipment (UE), comprising:

receiving an instruction;

determining from the instruction whether to operate in a first operation mode or a second operation mode;

wherein when operating with discontinuous reception (DRX) in the first operation mode, the UE transmits a sounding reference signal (SRS) during DRX active time; and

wherein when operating with DRX in the second operation mode, the UE transmits a SRS irrespective of DRX active time; and

maintaining an SRS resource configuration for the user equipment when not in the DRX active time.

2. The method of claim 1, wherein the determining comprises operating in the first operation mode when the received instruction includes an instruction to operate in the first operation mode.

3. The method of claim 1, wherein the determining comprises operating in the second operation mode when the received instruction includes an instruction to operate in the second operation mode.

4. The method of claim 1, wherein the UE operates in the second operation mode in the absence of an instruction to operate in the first operation mode.

5. The method of claim 1, wherein the UE operates in the first operation mode in the absence of an instruction to operate in the second operation mode.

6. The method of claim 1, wherein the received instruction is from a network.

7. The method of claim 1, wherein the method is repeated continuously.

8. The method of claim 1, wherein the method executes when there is a change in SRS period.

9. The method of claim 8, wherein the SRS period changes as a function of mobility of the UE.

10. The method of claim 1, wherein the method executes when there is a change in DRX cycle.

11. The method of claim 10, wherein the DRX cycle changes as a function of channel utilization.

12. The method of claim 1, wherein when operating with discontinuous reception (DRX) in the first operation mode, the UE refrains from transmitting the sounding reference signal (SRS) when not during DRX active time.

13. A user equipment (UE) for a wireless telecommunications system, comprising:

a receiver, the receiver configured to receive an instruction;

a transmitter, the transmitter configured to transmit a sounding reference signal (SRS); and

a processor, the processor configured to perform operations comprising:

determining from the received instruction whether to operate in a first operation mode or a second operation mode;

wherein when operating with discontinuous reception (DRX) in the first operation mode, instructing the transmitter to transmit SRS during DRX active time; and

wherein when operating with DRX in the second operation mode, instructing the transmitter to transmit SRS irrespective of DRX active time; and

maintaining an SRS resource configuration for the user equipment when not in the DRX active time.

14. The UE of claim 13, wherein the determining comprises operating in the first operation mode when the received instruction includes an instruction to operate in the first operation mode.

15. The UE of claim 13, wherein the determining comprises operating in the second operation mode when the received instruction includes an instruction to operate in the second operation mode.

16. The UE of claim 13, wherein the UE operates in the second operation mode in the absence of an instruction to operate in the first operation mode.

17. The UE of claim 13, wherein the UE operates in the first operation mode in the absence of an instruction to operate in the second operation mode.

18. The UE of claim 13, wherein the received instruction is from a network.

19. The UE of claim 13, wherein the processor is configured to repeat the operations continuously.

20. The UE of claim 13, wherein the processor is configured to perform the operations when there is a change in SRS period.

21. The UE of claim 20, wherein the SRS period changes as a function of mobility of the UE.

22. The UE of claim 13, wherein the processor is configured to perform the operations when there is a change in DRX cycle.

23. The UE of claim 22, wherein the DRX cycle changes as a function of channel utilization.

24. The UE of claim 13, wherein when operating with discontinuous reception (DRX) in the first operation mode, the UE refrains from transmitting the sounding reference signal (SRS) when not during DRX active time.

25. A non-transitory machine-readable medium with a set of instructions stored thereon, which when executed, cause a processor to perform operations comprising:

receiving an instruction;

determining from the instruction whether to operate in a first operation mode or a second operation mode;

wherein when operating with discontinuous reception (DRX) in the first operation mode, transmitting a sounding reference signal (SRS) during DRX active time; and

wherein when operating with DRX in the second operation mode, transmitting a SRS irrespective of DRX active time; and

maintaining an SRS resource configuration for the user equipment when not in the DRX active time.

26. The medium of claim 25, wherein the determining comprises operating in the first operation mode when the received instruction includes an instruction to operate in the first operation mode.

27. The medium of claim 25, wherein the determining comprises operating in the second operation mode when the received instruction includes an instruction to operate in the second operation mode.

28. The medium of claim 25, the operations further comprising operating in the second operation mode in the absence of an instruction to operate in the first operation mode.

29. The medium of claim 25, the operations further comprising operating in the first operation mode in the absence of an instruction to operate in the second operation mode.

30. The medium of claim 25, wherein the received instruction is from a network.

31. The medium of claim 25, wherein the operation are repeated continuously.

32. The medium of claim 25, wherein the operations are executed when there is a change in SRS period.

33. The medium of claim 32, wherein the SRS period changes as a function of mobility.

34. The medium of claim 25, wherein the operations are executed when there is a change in DRX cycle.

35. The medium of claim 34, wherein the DRX cycle changes as a function of channel utilization.

36. The medium of claim 25, wherein when operating with discontinuous reception (DRX) in the first operation mode, the UE refrains from transmitting the sounding reference signal (SRS) when not during DRX active time.