CLAIMS

1. A method for measurement reporting performed by a wireless device, the method comprising:

receiving, from a network, a message indicating that the wireless device is to transition from a connected state to a dormant state, the message comprising a beam measurement configuration for performing at least one beam measurement while the wireless device is in the dormant state;

based on the beam measurement configuration, performing the at least one beam measurement while operating in the dormant state; and

reporting a result of the at least one beam measurement to the network, wherein the reporting is done after a transition from the dormant state to a connected state.

2. The method of Claim 1, wherein the dormant state comprises one of:

a Radio Resource Control Idle, RRC_IDLE, state with stored context;

a RRC_IDLE state without stored context; or

an Radio Resource Control Inactive, RRC_INACTIVE, state.

3. The method of Claim 1, wherein the at least one beam measurement comprises at least one measurement performed on at least one reference signal that is beamformed by the network, the at least one reference signal comprising at least one of:

a Synchronization Signal Block, SSB, and

a Channel State Information-Reference Signal, CSI-RS, resource.

4. The method of Claim 1, wherein the at least one beam measurement comprises at least one of:

Reference Signal Received Power, RSRP;

Reference Signal Received Quality, RSRQ; and

Signal-to Interference Noise Ratio, SINR.

5. The method of Claim 1, wherein the result of the at least one beam measurement is reported in a RRCResumeComplete message.

6. The method of Claim 1, wherein the result of the at least one beam measurement is reported in a UEInformationResponse message.

7. The method of Claim 1, wherein the message comprising the beam measurement configuration comprises a RRCRelease message.

8. The method of Claim 1, wherein performing the at least one beam measurement while operating in the dormant state comprises performing the at least one beam measurement on a per cell and/or per carrier frequency while in the dormant state.

9. The method of Claim 1, wherein performing the at least one beam measurement while operating in the dormant state comprises performing the at least one beam measurement on at least one cell or carrier having synchronization signal blocks (SSBs) outside a sync raster while in the dormant state.

10. The method of Claim 1, wherein:

the beam measurement configuration is obtained from a source network node; and

the reporting of the result of the at least one beam measurement is transmitted to a target network node that is different from a source node.

11. The method of Claim 1, wherein:

the beam measurement configuration is obtained from a network node; and

the reporting of the result of the at least one beam measurement is transmitted to the network node.

12. A method performed by a base station for configuring measurement reporting, the method comprising:

transmitting, to a wireless device, a message indicating that the wireless device is to transition from a connected state to a dormant state, the message comprising a beam measurement configuration to a wireless device, the beam measurement configuration configuring the wireless device to perform at least one beam measurement while the wireless device is operating in the dormant state;

receiving, from the wireless device, a reporting of a result of the at least one beam measurement, wherein the reporting is received after a transition of the wireless device from the dormant state to a connected state.

13. A wireless device comprising:

processing circuitry configured to:

receive, from a network, a message indicating that the wireless device is to transition from a connected state to a dormant state, the message comprising a beam measurement configuration for performing at least one beam measurement while the wireless device is in the dormant state;

based on the beam measurement configuration, perform the at least one beam measurement while operating in the dormant state; and

report a result of the at least one beam measurement to the network, wherein the reporting is done after a transition from the dormant state to a connected state.

14. The wireless device of Claim 13, wherein the dormant state comprises one of:

a Radio Resource Control Idle, RRC_IDLE, state with stored context;

a RRC_IDLE state without stored context, or

a Radio Resource Control Inactive, RRC_INACTIVE, state.

15. The wireless device of Claim 13, wherein the at least one beam measurement comprises at least one measurement performed on at least one reference signal that is beamformed by the network, the at least one reference signal comprising at least one of:

a Synchronization Signal Block, SSB, and

a Channel State Information-Reference Signal, CSI-RS, resource.

16. The wireless device of Claim 13, wherein the at least one beam measurement comprises at least one of:

Reference Signal Received Power, RSRP;

Reference Signal Received Quality, RSRQ; and

Signal-to Interference Noise Ratio, SINR.

17. The wireless device of Claim 13, wherein the result of the at least one beam measurement is reported in a RRCComplete message or a UEInformationResponse message.

18. The wireless device of Claim 13, wherein the message comprising the beam measurement configuration comprises a RRCRelease message.

19. The wireless device of Claim 13, wherein when performing the at least one beam measurement while operating in the dormant state the processing circuitry is configured to perform at least one of the following steps:

perform the at least one beam measurement on a per cell and/or per carrier frequency while in the dormant state; and

perform the at least one beam measurement on at least one cell or carrier having synchronization signal blocks (SSBs) outside a sync raster while in the dormant state.

20. The wireless device of Claim 13, wherein:

the beam measurement configuration is obtained from a source network node and the reporting of the result of the at least one beam measurement is transmitted to a target network node that is different from a source node; or

the beam measurement configuration is obtained from a network node and the reporting of the result of the at least one beam measurement is transmitted to the network node.