CLAIMS

1. A method for performing measurement reporting at a user equipment, comprising:

receiving, from a master node, a message comprising a measurement configuration for a secondary node comprising an RRC release message or a SIB message and wherein the message comprises one or more of a subcarrier spacing of synchronization signal blocks, SSBs to be measured; a bitmap of transmitted SSBs to be measured; an NR frequency band number; or an SSB-RSSI measurement configuration;

entering an inactive state;

performing measurements according to the measurement configuration for the secondary node immediately after entering the inactive state;

generating a measurement report based on the measurements;

transmitting, to the master node, an RRC resume request message;

receiving, from the master node, an RRC resume message comprising a request for measurement reporting;

transmitting, to the master node, an RRC resume complete message comprising the measurement report; and

receiving data from the secondary node.

2. The method of claim 1, wherein the RRC resume request message comprises anin indication that the measurement report is available.

3. The method of claim 1, further comprising: transmitting, to the master node, abeam measurement report.

4. The method of claim 1, wherein the RRC release message comprises:a

frequency associated with the secondary node;

an SSB measurement time configuration (SMTC) associated with the secondary node;

a cell level measurement configuration including threshold and maximum beam number to derive cell quality;

a layer 3 beam level measurement configuration including threshold and maximum beam number for reporting;

a cell quality threshold;

a timer configured to control how long the user equipment can perform measurements in the inactive state; and

a validity area.

5. The method of claim 1, wherein the RRC release message further comprises oneor more of:

a beam measurement results validity timer configured to control how long measured beam measurement results are kept; or

one or more L3 filter coefficients.

6. The method of claim 4, wherein the validity area comprises a list of cellidentifiers.

7. The method of claim 4, wherein the validity area comprises a list of RAN notification areas (RNAs).

8. The method of claim 4, wherein the validity area comprises a list of tracking areas (TAs).

9. The method of claim 1, wherein the message comprising the measurement configuration comprises a system information broadcast (SIB) 4 message.

10. The method of claim 1, wherein with the SIB message has a periodicityshorter than a SIB4 message.

11. The method of claim 10, further comprising: sending, to the master node, a preamble comprising a request for the SIB message prior to receiving the message comprising the SIB message.

12. A user equipment configured to perform measurement reporting, comprising:a

memory comprising computer-executable instructions;

one or more processors configured to execute the computer-executable instructions and cause the user equipment to:

receive, from a master node, a message comprising a measurement configuration for a secondary node comprising an RRC release message or a SIB message and wherein the message comprises one or more of a subcarrier spacing of synchronization signal blocks, SSBs to be measured; a bitmap of transmitted SSBs to be measured; an NR frequency band number; or an SSB-RSSI measurement configuration;

enter an inactive state;

perform measurements according to the measurement configuration for

the secondary node immediately after entering the inactive state;
generate a measurement report based on the measurements;
transmit, to the master node, an RRC resume request message;
receive, from the master node, an RRC resume message comprising a request for measurement reporting;
transmit, to the master node, an RRC resume complete message comprising the measurement report; and
receive data from the secondary node.

13. The user equipment of claim 12, wherein the RRC resume request message comprises an in indication that the measurement report is available.

14. The user equipment of claim 12, wherein the one or more processors are further configured to cause the user equipment to: transmit, to the master node, a beam measurement report.

15. The user equipment of claim 12, wherein the RRC release message comprises:a
frequency associated with the secondary node;
an SSB measurement time configuration (SMTC) associated with the secondary node;
a cell level measurement configuration including threshold and maximum beam number to derive cell quality;
a layer 3 beam level measurement configuration including threshold and maximum beam number for reporting;
a cell quality threshold;
a timer configured to control how long the user equipment can perform measurements in the inactive state; and
a validity area.

16. The user equipment of claim 12, wherein the RRC release message further comprises one or more of:
a beam measurement results validity timer configured to control how long measured beam measurement results are kept; or
one or more L3 filter coefficients.

17. The user equipment of claim 15, wherein the validity area comprises a list of cell identifiers.

18. The user equipment of claim 15, wherein the validity area comprises a list of RAN notification areas (RNAs).

19. The user equipment of claim 15 wherein the validity area comprises a list of tracking areas (TAs).

20. The user equipment of claim 12, wherein the message comprising the measurement configuration comprises a system information broadcast (SIB) 4 message.

21. The user equipment of claim 12, wherein with the SIB message has a periodicity shorter than a SIB4 message.

22. The user equipment of claim 21, wherein the one or more processors are further configured to cause the user equipment to: send, to the master node, a preamble comprising a request for the SIB message prior to receiving the message comprising the SIB message.

23. A user equipment configured to perform measurement reporting, comprising: means for receiving, from a master node, a message comprising a measurement configuration for a secondary node comprising an RRC release message or a SIB message and wherein the message comprises one or more of a subcarrier spacing of synchronization signal blocks, SSBs to be measured; a bitmap of transmitted SSBs to be measured; an NR frequency band number; or an SSB-RSSI measurement configuration;
means for entering an inactive state;
means for performing measurements according to the measurement configuration for the secondary node immediately entering the inactive state;
means for generating a measurement report based on the measurements;
means for transmitting, to the master node, an RRC resume request message;
means for receiving, from the master node, an RRC resume message comprising a request for measurement reporting;
means for transmitting, to the master node, an RRC resume complete message comprising the measurement report; and
means for receiving data from the secondary node.

24. The user equipment of claim 23, wherein the RRC resume request message comprises an in indication that the measurement report is available.

25. A non-transitory computer-readable medium comprising computer-executable instructions that, when executed by one or more processors of a user equipment, cause the user equipment to perform a method for performing measurement reporting, the method comprising:

receiving, from a master node, a message comprising a measurement configuration for a secondary node comprising an RRC release message or a SIB message and wherein the message comprises one or more of a subcarrier spacing of synchronization signal blocks, SSBs to be measured; a bitmap of transmitted SSBs to be measured; an NR frequency band number; or an SSB-RSSI measurement configuration;

entering an inactive state;

performing measurements according to the measurement configuration for the secondary node immediately after entering the inactive state;

generating a measurement report based on the measurements;

transmitting, to the master node, an RRC resume request message;

receiving, from the master node, an RRC resume message comprising a request for measurement reporting;

transmitting, to the master node, an RRC resume complete message comprising the measurement report; and

receiving data from the secondary node.

26. The non-transitory computer-readable medium of claim 25, wherein the RRC resume request message comprises an in indication that the measurement report is available.