the present disclosure that various modifications to the disclosed embodiments can be made while remaining within the scope of the invention.

In a first aspect, the present disclosure provides a method performed by a communication device, comprising: receiving information from a first communication node; determining, based on the information from the first communication node, whether the first communication node is associated with a different public land mobile network, PLMN, identifier than that of the communication device; and associating a lowest priority value to a second communication node in communication node reselection, wherein the second communication node is in a same frequency with the first communication node.

In a second aspect, the present disclosure provides a method performed by a first communication node, comprising: generating system information comprising public land mobile network, PLMN, information of the first communication node; sending information to a communication device, wherein when the PLMN information indicates to the communication device that the communication device is associated with a different PLMN identifier than that of the first communication node, the system information triggers the communication device to associate a lowest priority value to a second communication node in communication node reselection, and wherein the second communication node is in a same frequency with the first communication node.

In a third aspect, the present disclosure provides a non-transitory computer-readable medium having stored thereon computer-executable instructions for carrying out the methods according to the first or second aspect.

In a fourth aspect, the present disclosure provides a communication device, comprising: a transceiver configured to: receive information from a first communication node; and a processor configured to: determine, based on the information from the first communication node, whether the first communication node is associated with a different public land mobile network, PLMN, identifier than that of the communication device; and associate a lowest priority value to a second communication node in communication node reselection, wherein the second communication node is in a same frequency with the first communication node.

In a fifth aspect, the present disclosure provides a first communication node, comprising: a processor configured to: generate system information comprising public land mobile network, PLMN, information of the first communication node; and a transceiver

configured to: send information to a communication device, wherein when the PLMN information indicates to the communication device that the communication device is associated with a different PLMN identifier than that of the first communication node, the system information triggers the communication device to associate a lowest priority value to a second communication node in communication node reselection, and wherein the second communication node is in a same frequency with the first communication node.

In one example ~~embodiment~~, a method performed by a communication device includes: receiving information from a first communication node; and decreasing a probability of selecting a second communication node, in communication node selection or reselection, in response to the information indicating a condition.

In one ~~embodiment~~example, a method performed by a first communication node includes: sending information to a communication device, wherein the communication device is configured to decrease a probability of selecting a second communication node, in communication node selection or reselection, in response to the information indicating a condition.

In one ~~embodiment~~example, a communication device includes: a transceiver configured to: receive information from a first communication node; and a processor configured to: decrease a probability of selecting a second communication node, in communication node selection or reselection, in response to the information indicating a condition.

In one ~~embodiment~~example, a first communication node includes: a transceiver configured to: send information to a communication device, wherein the communication device is configured to decrease a probability of selecting a second communication node, in communication node selection or reselection, in response to the information indicating a condition.

BRIEF DESCRIPTION OF THE DRAWINGS

Various exemplary embodiments of the invention are described in detail below with reference to the following Figures. The drawings are provided for purposes of illustration only and merely depict exemplary embodiments of the invention to facilitate the reader's understanding of the invention. Therefore, the drawings should not be considered limiting of the

breadth, scope, or applicability of the invention. It should be noted that for clarity and ease of illustration these drawings are not necessarily drawn to scale.

Figure 1 illustrates an exemplary wireless communication network in which techniques disclosed herein may be implemented, in accordance with some embodiments.

CLAIMS

1. A method performed by a communication device, comprising:

receiving information from a first communication node; ~~and~~

determining, based on the information from the first communication node, whether the first communication node is associated with a different public land mobile network, PLMN, identifier than that of the communication device; and

associating a lowest priority value to a second communication node in communication node reselection, wherein the second communication node is in a same frequency with the first communication node.

~~decreasing a probability of selecting a second communication node, in communication node selection or reselection, in response to the information indicating a condition.~~

~~2. The method of claim 1, wherein the condition in the first communication node is one of:~~

~~when the first communication node is associated with a different associated public land mobile network identifier than that of the communication device,~~

~~when a radio resource control procedure fails due to a listen before talk failure,~~

~~when a transmission of either a random access channel, scheduling request, physical uplink control channel, or physical uplink shared channel fails due to a listen before talk failure,~~

~~when a radio link failure is triggered due to a listen before talk failure, and~~

~~when measurement results reflecting the listen before talk failure ratio or interference strength or channel occupancy ratio reach a threshold.~~

~~3. The method of claim 1, further comprising:~~

~~associating a lowest possible priority value to the second communication node .~~

~~4. The method of claim 1, further comprising:~~

~~associating a new priority value to the second communication node, wherein the new priority value is determined by applying a factor to an original priority value previously associated with the second communication node.~~

5. The method of claim 1, further comprising:

associating a new priority value to the second communication node by applying an offset value to an original priority value previously associated with the second communication node, wherein the new priority value is lower than the original priority value.

6. The method of claim 1, further comprising:

associating a new priority value to a third communication node by applying an offset value to an original priority value associated with the third communication node, wherein the new priority value is greater than the original priority value.

7. The method of claim 6, wherein the third communication node is in a same frequency with the first communication node.

8. The method of claim 6, wherein the third communication node is in a different frequency that that of the first communication node.

9. The method of claim 1, further comprising:

applying an offset value to a criteria value to produce an offset criteria value used for the selecting, wherein the criteria value is associated with one of: a communication node ranking criteria, an inter frequency communication node selection criteria, an inter radio access technology communication node selection criteria, an inter-frequency communication node measurement criteria, and an inter radio access technology communication node measurement criteria.

10. The method of claim 1, further comprising:

associating a new priority value to the second communication node by applying an offset value to a communication node ranking criterion based on which the communication device ranks the second communication node, wherein the new priority value is lower than an original priority value previously associated with the second communication node.

11. The method of claim 1, further comprising:

associating a new priority value to a third communication node by applying an offset value to a communication node ranking criteria based on which the communication device ranks the third communication node, wherein the new priority value is greater than an original priority value previously associated with the third communication node.

12. The method of claim 1, further comprising:

associating a new value to the first communication node by applying an offset value to a measurement rule, wherein a condition to trigger an intra-frequency measurement is more difficult to satisfy.

13. The method of claim 1, further comprising:

associating a new value to a third communication node by applying an offset value to an inter-frequency communication node selection criteria value based on which the communication device selects the third communication node, wherein a condition for selection of the third communication node is more easily satisfied.

14. The method of claim 1, further comprising:

associating a new value to a third communication node in radio access technologies different than that of the first communication node by applying an offset value to an inter radio access technology communication node selection criteria value based on which the communication device selects the third communication node, wherein a condition for selection of the third communication node is more easily satisfied .

15. The method of claim 1, further comprising:

associating a new value to the first communication node by applying an offset value to an inter-frequency measurement criteria value based on which the communication device initiates an inter-frequency measurement, wherein a condition to trigger the inter-frequency measurement is more easily satisfied.

16. The method of claim 1, further comprising:

~~associating a new value to the first communication node by applying an offset value to an inter-radio access technology measurement criteria value based on which the communication device initiates an inter-radio access technology measurement, wherein a condition to trigger the inter-radio access technology measurement is more easily satisfied.~~

~~17~~2. The method of claim 1, further comprising:

barring the second communication node, from communication node selection or reselection.

~~18. The method of claim 1, wherein the second communication node is in a same frequency with the first communication node.~~

~~19. The method of claim 1, wherein the second communication node is in a different frequency that that of the first communication node.~~

~~20~~3. The method of claim 1, further comprising:

receiving an instruction signal from the first communication node to read system information of a neighboring communication node, wherein the system information comprises a cell identity or a public land mobile network identity.

~~21~~4. The method of claim 1, further comprising:

determining an anchor frequency resource based on a total number of paging frames associated with the communication device and a number of paging occasions associated with the communication device;

determining, sequentially starting with the anchor frequency resource, whether a frequency resource is to be used for paging among a predetermined set of possible frequency resources for paging.

~~22~~5. The method of claim 1, further comprising:

sending, to the first communication node, a supported band and a supported bandwidth for the communication device.

~~23~~6. A method performed by a first communication node, comprising:

generating system information comprising public land mobile network, PLMN, information of the first communication node;

sending information to a communication device, wherein when the PLMN information indicates to the communication device that the communication device is associated with a different PLMN identifier than that of the first communication node, the system information triggers the communication device to associate a lowest priority value to a second communication node in ~~configured to decrease a probability of selecting a second communication node, in communication node selection or~~ communication node reselection, and wherein the second communication node is in a same frequency with the first communication node~~in response to the information indicating a condition~~.

~~24~~7. The method of claim 23, wherein the communication device is further configured to:

bar the second communication node, from communication node selection or reselection~~apply an offset value, based on the information, to a criteria value associated with the second communication node to produce an offset criteria value used for the selecting the second communication node~~.

~~25. The method of claim 24, wherein the criteria value is a priority of a frequency associated with the second communication node.~~

~~26. The method of claim 24, wherein the criteria value is part of the information.~~

~~27. The method of claim 24, wherein the offset value is part of the information.~~

~~28~~8. A non-transitory computer-readable medium having stored thereon computer-executable instructions for carrying out any one of the methods of claims 1 through ~~27~~7.

~~29~~9. A communication device, comprising:

a transceiver configured to:

receive information from a first communication node; and

a processor configured to:

determine, based on the information from the first communication node, whether the first communication node is associated with a different public land mobile network, PLMN, identifier than that of the communication device; and

associate a lowest priority value to a second communication node in communication node reselection, wherein the second communication node is in a same frequency with the first communication node~~decrease a probability of selecting a second communication node, in communication node selection or reselection, in response to the information indicating a condition~~.

10. The communication device of claim 9, wherein the processor is further configured to:

bar the second communication node, from communication node selection or reselection.

11. The communication device of claim 9, wherein the transceiver is further configured to:

receive an instruction signal from the first communication node to read system information of a neighboring communication node, wherein the system information comprises a cell identity or a public land mobile network identity.

12. The communication device of claim 9, wherein the processor is further configured to:

determine an anchor frequency resource based on a total number of paging frames associated with the communication device and a number of paging occasions associated with the communication device;

determine, sequentially starting with the anchor frequency resource, whether a frequency resource is to be used for paging among a predetermined set of possible frequency resources for paging.

13. The communication device of claim 9, wherein the transceiver is further configured to:

send, to the first communication node, a supported band and a supported bandwidth for the communication device.

~~30~~14. A first communication node, comprising:

a processor configured to:

generate system information comprising public land mobile network, PLMN, information of the first communication node; and

a transceiver configured to:

send information to a communication device, wherein when the PLMN information indicates to the communication device that the communication device is associated with a different PLMN identifier than that of the first communication node, the system information triggers the communication device to associate a lowest priority value to ~~the communication device is configured to decrease a probability of selecting~~ a second communication node~~,~~ in communication node ~~selection or~~ reselection, and wherein the second communication node is in a same frequency with the first communication node~~in response to the information indicating a condition~~.

15. The first communication node of claim 14, wherein the communication device is further configured to: bar the second communication node, from communication node selection or reselection.