information) is shared and utilized in the context of co-channel coexistence of both LTE SL and NR SL.

[0004] There is thus a need for a communication apparatus and a communication method for sidelink co-channel coexistence resource selection information sharing to solve the above-mentioned issues. Furthermore, other desirable features and characteristics will become apparent from the subsequent detailed description and the appended claims, taken in conjunction with the accompanying drawings and this background of the disclosure.

SUMMARY

[0005] Non-limiting and exemplary embodiments facilitate providing communication apparatuses and communication methods for multi-link traffic indication map.

[0005a] In an aspect, the present disclosure refers to a first communication apparatus, comprising: circuitry, which, in operation, determines a first plurality of resources used for new radio (NR) sidelink communication based on information relating to a long-term evolution (LTE) sidelink communication; and a transceiver, which, in operation, reports the first plurality of resources to higher layer(s).

[0005b] In an aspect, the present disclosure refers to a communication method performed by a first communication apparatus, comprising: determining a first plurality of resources used for new radio (NR) sidelink communication based on information relating to a long-term evolution (LTE) sidelink communication; and reporting the first plurality of resources to higher layer(s).

[0005c] In an aspect, the present disclosure refers to an integrated circuit, comprising: determination circuitry, which in operation, controls a determination of a first plurality of resources used for new radio (NR) sidelink communication based on information relating to a long-term evolution (LTE) sidelink communication; and report circuitry, which in operation, controls of a report of the first plurality of resources to higher layer(s).

[0006] In a first example, the present disclosure provides a first communication apparatus, comprising: a first module, which, in operation, is configured to select a list of first resources from a first plurality of candidate resources based on information relating to one or more resources of a second plurality of candidate resources received from a second module; and a transceiver, which, in operation, transmits to and/or receive from another communication apparatus a signal in one of the list of first resources

[0007] In a second example, the present disclosure provides a second communication apparatus, comprising: a second module, which, in operation, is configured to select a list of second resources from a second plurality of candidate resources; and a transceiver, which, in operation, transmits a signal comprising information relating to the list of second resources to a first

communication apparatus for use to select a list of first resources from a first plurality of candidate resources.

[0008] In a third example, the present disclosure provides a third communication apparatus, comprising: a transceiver, which, in operation, receives information relating to one or more resources from a first communication apparatus; and a third module, which, in operation, is configured to select a list of third resources from a third plurality of candidate resources based on the information relating to the one or more resources, wherein the third communication apparatus is configured to transmit and/or receive a signal in one of the list of resources through the transceiver.

[0009] In a fourth example, the present disclosure provides a communication method implemented by a first communication apparatus, comprising: selecting, by a first module of the first communication apparatus, a list of first resources from a first plurality of candidate resources based on information relating to one or more resources of a second plurality of candidate resources received from a second module, and transmitting to and/or receiving from another communication apparatus a signal in one of the list of first resources.

[0010] In a fifth example, the present disclosure provides a communication method implemented by a second communication apparatus, comprising: selecting a list of second resources from a second plurality of candidate resources; and transmits a signal comprising information relating to the list of second resources to a first communication apparatus for use to select a list of first resources from a first plurality of candidate resources.

[0011] In a sixth example, the present disclosure provides a communication method implemented by a third communication apparatus, comprising: receiving information relating

to one or more resources from a first communication apparatus; and selecting, by a third module of the third communication apparatus, a list of third resources from a third plurality of candidate resources based on the information relating to the one or more resources from the first communication apparatus, wherein the third communication apparatus is configured to transmit and/or receive a signal in one of the list of third resources.

[0012] Additional benefits and advantages of the disclosed embodiments will become apparent from the specification and drawings. The benefits and/or advantages may be individually obtained by the various embodiments and features of the specification and drawings, which need not all be provided in order to obtain one or more of such benefits and/or advantages.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The accompanying figures, where like reference numerals refer to identical or functionally similar elements throughout the separate views and which together with the detailed description below are incorporated in and form part of the specification, serve to illustrate various embodiments and to explain various principles and advantages in accordance with present embodiments.

[0014] Figure 1 shows an exemplary 3GPP NG-RAN architecture to which exemplary embodiments of the present disclosure may be applied.

[0015] Figure 2 depicts a schematic drawing which shows functional split between NG-RAN and 5GC to which exemplary embodiments of the present disclosure may be applied.

CLAIMS

1. A first communication apparatus, comprising:

circuitry, which, in operation, determines a first plurality of resources used for new radio (NR) sidelink communication based on information relating to a long-term evolution (LTE) sidelink communication; and

a transceiver, which, in operation, reports the first plurality of resources to higher layer(s).

2. The first communication apparatus of claim 1, wherein the first plurality of resources is determined from a first plurality of candidate resources by excluding one or more resources based on the information.

3. The first communication apparatus of claim 2, wherein the first plurality of candidate resources is overlapped with a second plurality of candidate resources used for the LTE sidelink communication.

4. The first communication apparatus of claim 1, wherein the information is transmitted from another communication apparatus.

5. The first communication apparatus of claim 1, wherein the information is a threshold relating to a reference signal received power (RSRP), which is used for excluding one or more resources.

6. The first communication apparatus of claim 1, wherein the information is a threshold relating to a reference signal received power (RSRP), and a priority relating to the RSRP of the LTE sidelink communication is different from a priority relating to the RSRP of the New Rat (NR) sidelink communication.

7. A communication method performed by a first communication apparatus, comprising:

determining a first plurality of resources used for new radio (NR) sidelink communication based on information relating to a long-term evolution (LTE) sidelink communication; and

reporting the first plurality of resources to higher layer(s).

8. The communication method of claim 1, wherein the first plurality of resources is determined from a first plurality of candidate resources by excluding one or more resources based on the information.

9. The communication method of claim 2, wherein the first plurality of candidate resources is overlapped with a second plurality of candidate resources used for the LTE sidelink communication.

10. The communication method of claim 1, wherein the information is transmitted from another communication apparatus.

11. The communication method of claim 1, wherein the information is a threshold relating to a reference signal received power (RSRP), which is used for excluding one or more resources.

12. The communication method of claim 1, wherein the information is a threshold relating to a reference signal received power (RSRP), and a priority relating to the RSRP of the LTE sidelink communication is different from a priority relating to the RSRP of the New Rat (NR) sidelink communication.

13. An integrated circuit, comprising:

determination circuitry, which in operation, controls a determination of a first plurality of resources used for new radio (NR) sidelink communication based on information relating to a long-term evolution (LTE) sidelink communication; and

report circuitry, which in operation, controls of a report of the first plurality of resources to higher layer(s).