[7] According to the agreements, in step 1, when the ratio of identified candidate resource to the total number of resources in a resource selection window, is less than X%, all configured thresholds are increased by Y dB and the resource identification procedure is repeated. The value and the configurability of X is for further study, with at least one value of X is 20. Y is 3. Other conditions to stop reference signal received power (RSRP) are also for further study.

[8] However, there has been no discussion on communication apparatuses and methods for Mode 2 resource (re-)selection for packet delay budget limited scenario, for example, when $T2_{min}$ > remaining PDB.

[9] There is thus a need for communication apparatuses and methods that provide feasible technical solutions for Mode 2 resource (re-)selection for PDB-limited scenario. 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

[10] This disclosure presents a non-limiting example which facilitates providing communication apparatuses and methods for Mode 2 resource (re-)selection for PDB-limited scenario.

[11] In one aspect, there is provided a communication apparatus comprising: circuitry which, in operation, determines a candidate resource ratio from a plurality of candidate resource ratios, and identifies a plurality of candidate resources based on the candidate resource ratio; and a transmitter, which, in operation, transmits a Physical Sidelink Shared Channel (PSSCH) on at least one resource selected from the plurality of candidate resources.

[12] In another aspect, there is provided a communication method comprising: determining a candidate resource ratio from a plurality of candidate resource ratios; identifying a plurality of candidate resources based on the candidate resource ratio; and transmitting a Physical Sidelink Shared Channel (PSSCH) on at least one resource selected from the plurality of candidate resources.

[13] It should be noted that general or specific examples may be implemented as a system, a method, an integrated circuit, a computer program, a storage medium, or any selective combination thereof.

[14] Additional benefits and advantages of the disclosed examples will become apparent from the specification and drawings. The benefits and/or advantages may be individually obtained by the various examples 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

[15] Embodiments of the disclosure will be better understood and readily apparent to one of ordinary skilled in the art from the following written description, by way of example only, and in conjunction with the drawings, in which:

[16] Fig. 1 shows an exemplary 3GPP NR-RAN architecture.

[17] Fig. 2 depicts a schematic drawing which shows functional split between NG-RAN and 5GC.

[18] Fig. 3 depicts a sequence diagram for RRC connection setup/reconfiguration procedures.

[19] Fig. 4 depicts a schematic drawing showing usage scenarios of Enhanced mobile broadband (eMBB), Massive Machine Type Communications (mMTC) and Ultra Reliable and Low Latency Communications (URLLC).

[20] Fig. 5 shows a block diagram showing an exemplary 5G system architecture for V2X communication in a non-roaming scenario.

[21] Fig. 6 depicts a schematic diagram 600 illustrating a V2X resource sensing & selection process according to various embodiments.

[22] Figs. 7A and 7B illustrate flow diagrams illustrating a non-PDB-limited scenario and a PDB-limited scenario of resource (re-)selection process respectively according to various embodiments.