

[6] There is thus a need for communication apparatuses and methods that can solve the above mentioned issue. 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

[7] This disclosure presents a non-limiting example which facilitates implementation of CORESET#0 for RedCap devices in 5G NR based communications.

[8] In one aspect, the techniques disclosed herein provide a communication apparatus. The communication apparatus comprises a receiver, which in operation, receives a physical downlink control channel (PDCCH) on a control resource set zero (CORESET#0) of which time and frequency resources are defined based on a minimum bandwidth configuration associated with one or more UEs in a set of normal (non-RedCap) UEs and RedCap UEs, and receives a system information block type 1 (SIB1) physical downlink shared channel (PDSCH) which is scheduled based on the CORESET#0; and circuitry, which in operation, determines control information and parameters from the PDCCH on CORESET#0 to read SIB1, for initial access, handover, or beam failure recovery, wherein the RedCap UEs support a bandwidth that is at least equal to a maximum bandwidth of CORESET#0 defined in Rel-15/16, and wherein the CORESET#0 is used to configure for all types of non-RedCap and RedCap UEs.

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[9] In another aspect, the techniques disclosed herein provide a communication apparatus. The communication apparatus includes a base station which comprises circuitry, which in operation, configures a control resource set zero (CORESET#0) of which time and frequency resources are defined based on a minimum bandwidth configuration associated with one or more UEs in a set of normal (non-RedCap) UEs and the RedCap UEs, generates a physical downlink control channel (PDCCH) on the CORESET#0, and schedules a system information block type 1 (SIB1) physical downlink shared channel (PDSCH) based on the CORESET#0; and a transmitter, which in operation, transmits the PDCCH

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