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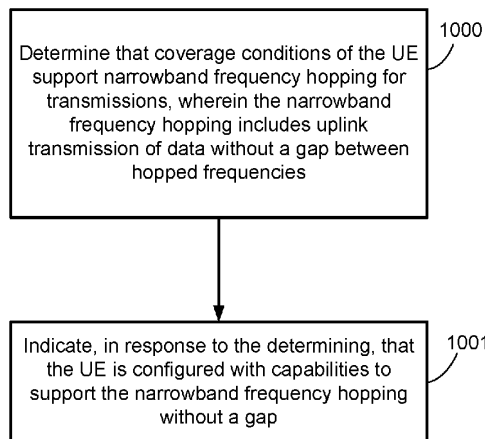
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(54) Title: COVERAGE ENHANCEMENT AND NORMAL MODES SWITCHING RELATED OPTIMIZATION



(57) Abstract: Coverage enhancements and coverage mode switching related optimizations are discussed for user equipments (UEs) that may switch between various coverage extension (CE) and non-CE modes of operation. In such enhancements, paging uncertainty and delays may be reduced by sending pages either simultaneously or using historical information over multiple coverage modes available to UEs. Random access procedures may be improved by providing CE mode random access procedures that are available when normal mode random access attempts fail and before declaring radio link failure. Additional aspects include improvements for more advanced UEs to improve coverage within normal mode operations by leveraging techniques used for narrowband CE mode operations, including transmission repetition and gapless transmission scheduling over hopped narrowband frequencies.

FIG. 10

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