

CLAIMS

What is claimed is:

- 1 1. A method for wireless communications by a user equipment (UE),
2 comprising:
3 transmitting, to a source base station, a band combination indicator that
4 indicates at least one band combination supported by the UE;
5 receiving, in response to transmitting the band combination indicator, a target
6 base station configuration to apply during handover execution and a source base station
7 configuration to apply during handover execution;
8 communicating with the source base station during handover execution using a
9 first band of the at least one band combination indicated in the source base station
10 configuration; and
11 communicating with a target base station during handover execution using a
12 second band of the at least one band combination indicated in the target base station
13 configuration.
- 1 2. The method of claim 1, further comprising:
2 receiving a capability inquiry, wherein the band combination indicator is
3 transmitted based at least in part on the capability inquiry.
- 1 3. The method of claim 1, further comprising:
2 transmitting capability signaling that indicates the UE supports enhanced
3 make before break (eMBB) handover based on a UE-supported carrier aggregation band
4 combination.
- 5 4. The method of claim 1, further comprising:
6 transmitting at least one control message to indicate one or more of intra-
7 frequency handover support for a given band, inter-frequency handover support for intra-
8 band and inter-band combinations, asynchronous handover support, time division
9 multiplexing support, radio frequency chain capability, or any combination thereof.

1 5. The method of claim 4, wherein the at least one control message is an
2 information element indicated for a band combination supporting enhanced make before
3 break (eMBB) handover.

1 6. The method of claim 1, wherein transmitting the band combination
2 indicator comprises:
3 transmitting the band combination indicator to indicate a single band
4 combination supporting handover from a plurality of different band combinations that is
5 supported by the UE for carrier aggregation.

1 7. The method of claim 1, wherein transmitting the band combination
2 indicator comprises:
3 transmitting the band combination indicator to indicate a plurality of different
4 band combinations supported by the UE for carrier aggregation.

1 8. The method of claim 1, wherein transmitting the band combination
2 indicator comprises:
3 transmitting the band combination indicator to indicate a first set of one or
4 more band combinations supported by the UE for the source base station and a second set of
5 one or more band combinations supported by the UE for the target base station.

1 9. The method of claim 8, wherein the first set of one or more band
2 combinations is different than the second set of band combinations.

1 10. The method of claim 1, wherein transmitting the band combination
2 indicator comprises:
3 transmitting the band combination indicator to indicate a plurality of band
4 combinations that are interchangeably supported by the UE for the source base station and the
5 target base station.

1 11. The method of claim 1, wherein transmitting the band combination
2 indicator comprises:
3 transmitting the band combination indicator to indicate a first band
4 combination supported by the UE for the source base station and a second band combination
5 supported by the UE for the target base station; and

6 transmitting a pointer to indicate that one or more of the first band
7 combination, the second band combination, or both, are individually supported by the UE.

1 12. The method of claim 1, wherein transmitting the band combination
2 indicator comprises:
3 transmitting the band combination indicator that comprises a group identifier
4 to indicate a first band combination that is interchangeably supported by the UE for the
5 source base station and the target base station.

1 13. The method of claim 1, further comprising:
2 receiving a handover instruction to handover the UE from the source base
3 station to the target base station; and
4 communicating with the source base station after handover execution using the
5 first band and communicating with the target base station after handover execution using the
6 second band.

1 14. The method of claim 1, further comprising:
2 receiving a time division multiplexing pattern;
3 receiving a handover instruction to handover the UE from the source base
4 station to the target base station; and
5 communicating with the source base station after handover execution using the
6 first band and communicating with the target base station after handover execution using the
7 second band based at least in part on the time division multiplexing pattern.

1 15. The method of claim 1, further comprising:
2 receiving, based at least in part on the band combination indicator, a second
3 target base station configuration to apply after releasing a connection with the source base
4 station by the UE;
5 releasing the connection with the source base station; and
6 communicating with the target base station after releasing the connection
7 using the first band, the second band, or both, based at least in part on the second target base
8 station configuration.

1 16. The method of claim 1, wherein transmitting the band combination
2 indicator comprises:

3 transmitting the band combination indicator that indicates a first band
4 combination that is not a fallback of a different band combination.

1 17. The method of claim 1, wherein transmitting the band combination
2 indicator comprises:

3 transmitting the band combination indicator that indicates at least one
4 enhanced make before break (eMBB) band combination that is a fallback of a non-eMBB
5 band combination.

1 18. The method of claim 1, wherein transmitting the band combination
2 indicator comprises:

3 transmitting the band combination indicator that indicates an enhanced make
4 before break (eMBB) band combination that is a fallback of a different band combination of
5 the at least one band combination.

1 19. The method of claim 1, further comprising:
2 receiving a connection reconfiguration message from the source base station.

1 20. The method of claim 19, further comprising:
2 maintaining a primary cell connection with the source base station based at
3 least in part on the connection reconfiguration message; and
4 releasing or deactivating at least one secondary cell connection with the source
5 base station based at least in part on the connection reconfiguration message.

1 21. The method of claim 19, further comprising:
2 establishing a primary cell connection with the target base station based at
3 least in part on the connection reconfiguration message.

1 22. The method of claim 21, further comprising:
2 establishing at least one secondary cell connection with the target base station
3 based at least in part on the connection reconfiguration message.

1 23. The method of claim 21, further comprising:
2 determining that the connection reconfiguration message instructs the UE to
3 establish a number of connections that exceeds a capability of the UE; and

4 skipping configuring or deactivating at least one secondary cell connection for
5 the target base station to comply with the capability.

1 24. The method of claim 23, wherein the capability is a carrier aggregation
2 capability, a multiple input multiple output (MIMO) capability of the UE, or both.

1 25. The method of claim 1, wherein the handover is an enhanced make
2 before break handover.

1 26. The method of claim 1, wherein the first band and the second band are
2 the same, or the first band and the second band are different, or the first band and the second
3 band at least partially overlap.

1 27. A method for wireless communications by a source base station,
2 comprising:
3 receiving a band combination indicator that indicates at least one band
4 combination supported by a user equipment (UE);
5 transmitting, to the UE, a target base station configuration to apply during
6 handover execution and a source base station configuration to apply during handover
7 execution based at least in part on the band combination indicator; and
8 communicating with the UE during handover execution using a first band of
9 the at least one band combination indicated in the source base station configuration.

1 28. The method of claim 27, further comprising:
2 identifying a maximum UE capability associated with the at least one band
3 combination supported by the UE; and
4 identifying the source base station configuration that is an updated source base
5 station configuration, wherein a combination of the updated source base station configuration
6 and the target base station configuration does not exceed the maximum UE capability, and
7 wherein the source base station configuration is transmitted to the UE based at least in part on
8 the determining.

1 29. The method of claim 28 further comprising:
2 transmitting, to the target base station, the updated source base station
3 configuration, a power sharing configuration for handover, and one or more UE capabilities

4 including an indication that the UE supports enhanced make before break (eMBB) handover;
5 and
6 receiving the target base station configuration in response to transmitting the
7 source base station configuration and the indication.

1 30. The method of claim 27, wherein receiving the band combination
2 indicator comprises:

3 receiving the band combination indicator that indicates a single band
4 combination supporting handover from a plurality of different band combinations that is
5 supported by the UE for carrier aggregation.

1 31. The method of claim 27, further comprising:
2 receiving, from the UE, at least one control message to indicate one or more of
3 intra-frequency handover support for a given band, inter-frequency handover support for
4 intra-band and inter-band combinations, asynchronous handover support, time division
5 multiplexing support, radio frequency chain capability, or any combination thereof.

1 32. The method of claim 31, wherein the at least one control message is an
2 information element indicated for a band combination supporting enhanced make before
3 break (eMBB) handover.

1 33. The method of claim 27, wherein receiving the band combination
2 indicator comprises:
3 receiving the band combination indicator that indicates a plurality of different
4 band combinations supported by the UE.

5 34. The method of claim 27, further comprising:
6 transmitting a capability inquiry to the UE, wherein the band combination
7 indicator is received based at least in part on the capability inquiry.

1 35. The method of claim 27, wherein transmitting the target base station
2 configuration to apply during handover execution comprises:
3 transmitting the target base station configuration to apply during handover
4 execution and a modified source base station configuration to apply during handover
5 execution.

1 36. The method of claim 27, further comprising:
2 transmitting, to the UE, a second target base station configuration to apply
3 after handover of the UE and after release of the source base station by the UE.

1 37. The method of claim 27, wherein the first band is the same as, at least
2 partially overlaps with, or is different than a second band of the at least one band combination
3 indicated in the target base station configuration.

1 38. The method of claim 27, wherein receiving the band combination
2 indicator comprises:
3 receiving the band combination indicator that indicates a first set of one or
4 more band combinations supported by the UE for the source base station and a second set of
5 one or more band combinations supported by the UE for a target base station.

1 39. The method of claim 38, wherein the first set of one or more band
2 combinations is different than the second set of band combinations.

1 40. The method of claim 27, wherein receiving the band combination
2 indicator comprises:
3 receiving the band combination indicator that indicates a plurality of band
4 combinations that are interchangeably supported by the UE for the source base station and a
5 target base station.

1 41. The method of claim 27, wherein receiving the band combination
2 indicator comprises:
3 receiving the band combination indicator that indicates a first band
4 combination supported by the UE for the source base station and a second band combination
5 supported by the UE for a target base station; and
6 receiving a pointer to indicate that one or more of the first band combination,
7 the second band combination, or both, are individually supported by the UE.

1 42. The method of claim 27, wherein receiving the band combination
2 indicator comprises:

3 receiving the band combination indicator that comprises a group identifier to
4 indicate a first band combination that is interchangeably supported by the UE for the source
5 base station and a target base station.

1 43. The method of claim 27, further comprising:
2 transmitting a handover instruction to the UE; and
3 communicating with the UE during and after handover execution using the
4 first band.

1 44. The method of claim 27, further comprising:
2 transmitting a time division multiplexing pattern;
3 transmitting a handover instruction to the UE; and
4 communicating with the UE during and after handover execution using the
5 first band based at least in part on the time division multiplexing pattern.

1 45. The method of claim 27, further comprising:
2 transmitting, based at least in part on the band combination indicator, a second
3 target base station configuration for the UE to apply after releasing a connection with the
4 source base station.

1 46. The method of claim 27, further comprising:
2 receiving at least one control message to indicate one or more of intra-
3 frequency handover support for a given band, inter-frequency handover support for intra-
4 band and inter-band combinations, asynchronous handover support, time division
5 multiplexing support, radio frequency chain capability, or any combination thereof.

1 47. The method of claim 46, wherein the at least one control message is an
2 information element indicated for a band combination supporting enhanced make before
3 break (eMBB) handover.

1 48. The method of claim 27, wherein receiving the band combination
2 indicator comprises:
3 receiving the band combination indicator that indicates a first band
4 combination that is not a fallback of a different band combination.

1 49. The method of claim 27, wherein receiving the band combination
2 indicator comprises:
3 receiving the band combination indicator that indicates at least one enhanced
4 make before break (eMBB) band combination that is a fallback of a non-eMBB band
5 combination.

1 50. The method of claim 27, wherein receiving the band combination
2 indicator comprises:
3 receiving the band combination indicator that indicates at least one band
4 combination that is a fallback of a different band combination and is a supported band
5 combination in enhanced make before break (eMBB).

1 51. The method of claim 27, further comprising:
2 transmitting a connection reconfiguration message to the UE.

1 52. The method of claim 27, wherein the handover is an enhanced make
2 before break (eMBB) handover.

1 53. A method for wireless communications by a target base station,
2 comprising:
3 receiving, from a source base station, a source base station configuration to be
4 applied during handover execution and at least one band combination supported by a user
5 equipment (UE), the source base station configuration indicating a first band of the at least
6 one band combination;
7 transmitting, to the source base station, a target base station configuration to
8 be applied during handover execution based at least in part on the source base station
9 configuration and the at least one band combination, the target base station configuration
10 indicating a second band of the at least one band combination; and
11 communicating with the UE during handover execution using the second band
12 based at least in part on the target base station configuration.

1 54. The method of claim 53, further comprising:
2 receiving an indication of one or more capabilities of the UE associated with
3 the at least one band combination supported by the UE; and

4 determining the target base station configuration based at least in part on the
5 source base station configuration and the one or more capabilities of the UE.

1 55. The method of claim 53, further comprising:
2 receiving an indication that the UE supports enhanced make before break
3 (eMBB) handover.

1 56. The method of claim 53, further comprising:
2 communicating with the UE during and after handover execution using the
3 second band.

1 57. The method of claim 53, further comprising:
2 receiving a time division multiplexing pattern from the source base station;
3 and
4 communicating with the UE during and after handover execution using the
5 second band based at least in part on the time division multiplexing pattern.

1 58. The method of claim 53, further comprising:
2 receiving power sharing information from the source base station, the power
3 sharing information associated with how the UE allocates transmission power between the
4 source base station and target base station during handover execution; and
5 transmitting the target base station configuration to be applied during
6 handover execution based at least in part on the power sharing information.

1 59. The method of claim 53, further comprising:
2 transmitting, to the source base station, a second target base station
3 configuration for the UE to apply after releasing a connection with the source base station.

1 60. The method of claim 59, further comprising:
2 transmitting control signaling or a control element indicating to release the
3 connection with the source base station; and
4 communicating with the UE based at least in part on the second target base
5 station configuration.

1 61. The method of claim 59, further comprising:

2 transmitting, to the UE, a target base station configuration to be applied after
3 handover execution and after release of the source base station.

1 62. The method of claim 59, wherein the first band and the second band
2 are the same, or the first band and the second band are different, or the first band and the
3 second band at least partially overlap.

1 63. An apparatus for wireless communications by a user equipment (UE),
2 comprising:

3 means for transmitting, to a source base station, a band combination indicator
4 that indicates at least one band combination supported by the UE;

5 means for receiving, in response to transmitting the band combination
6 indicator, a target base station configuration to apply during handover execution and a source
7 base station configuration to apply during handover execution;

8 means for communicating with the source base station during handover
9 execution using a first band of the at least one band combination indicated in the source base
10 station configuration; and

11 means for communicating with a target base station during handover execution
12 using a second band of the at least one band combination indicated in the target base station
13 configuration.

1 64. An apparatus for wireless communications by a source base station,
2 comprising:

3 means for receiving a band combination indicator that indicates at least one
4 band combination supported by a user equipment (UE);

5 means for transmitting, to the UE, a target base station configuration to apply
6 during handover execution and a source base station configuration to apply during handover
7 execution based at least in part on the band combination indicator; and

8 means for communicating with the UE during handover execution using a first
9 band of the at least one band combination indicated in the source base station configuration.

1 65. An apparatus for wireless communications by a target base station,
2 comprising:

3 means for receiving, from a source base station, a source base station
4 configuration to be applied during handover execution and at least one band combination
5 supported by a user equipment (UE), the source base station configuration indicating a first
6 band of the at least one band combination;

7 means for transmitting, to the source base station, a target base station
8 configuration to be applied during handover execution based at least in part on the source
9 base station configuration and the at least one band combination, the target base station
10 configuration indicating a second band of the at least one band combination; and

11 means for communicating with the UE during handover execution using the
12 second band based at least in part on the target base station configuration.