

Claims

What is claimed is:

1. A method in a User Equipment, UE, (16) in communication with an Evolved Node B,
5 eNB, (14, 20), the method comprising:
 sending (304) an In-Device Coexistence, IDC, indication to the eNB (14, 20)
 including information of problematic uplink carrier aggregation combinations.
2. A method according to claim 1, wherein the UE (16) only indicates an uplink carrier
10 aggregation combination as problematic if the uplink carrier aggregation combination is a
 combination of uplink carriers supported by the UE (16), measurement objects are
 configured for all corresponding downlink carriers, and the UE (16) experiences or expects
 to experience IDC problems due to the uplink carrier aggregation combination.
- 15 3. A method according to claim 2, wherein the problematic uplink carrier aggregation
 combination is an uplink carrier aggregation combination for which the UE (16) experiences
 IDC problems.
4. A method according to any one of claims 1 - 3, wherein a problematic uplink carrier
20 aggregation combination is identified by a set of measurement object identities for all of the
 corresponding downlink carriers for the uplink carrier aggregation combination.
5. A method according to any one of claims 1 - 3, wherein the IDC indication
 comprises, for each problematic uplink carrier aggregation combination, a set of
25 measurement object identities for all of the corresponding downlink carriers for the
 problematic uplink carrier aggregation combination.
6. A method in an Evolved Node B, eNB, (14, 20) in communication with a User
Equipment, UE, (16), the method comprising:
30 receiving (304) an In-Device Coexistence, IDC, indication from the UE (16) including
 information of problematic uplink carrier aggregation combinations.
7. A method according to claim 6, wherein the eNB (14, 20) deduces frequencies to
 avoid for uplink carrier aggregation from the received information of problematic uplink
35 carrier aggregation combinations.

8. A method according to claim 6 or 7, wherein the UE (16) only indicates an uplink carrier aggregation combination as problematic if the uplink carrier aggregation combination is a combination of uplink carriers supported by the UE (16), measurement objects are configured for all corresponding downlink carriers, and the UE (16) experiences or expects
5 to experience IDC problems due to the uplink carrier aggregation combination.

9. A method according to claim 8, wherein the problematic uplink carrier aggregation combination is an uplink carrier aggregation combination for which the UE (16) experiences IDC problems.

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10. A method according to any one of claims 6 - 9, wherein a problematic uplink carrier aggregation combination is identified by a set of measurement object identities for all of the corresponding downlink carriers for the uplink carrier aggregation combination.

15 11. A method according to any one of claims 6 - 9, wherein the IDC indication comprises, for each problematic uplink carrier aggregation combination, a set of measurement object identities for all of the corresponding downlink carriers for the problematic uplink carrier aggregation combination.

20 12. A User Equipment, UE, (16) for communication with an Evolved Node B, eNB, (14, 20), the UE (16) comprising:

at least one transceiver (26);

at least one processor (22); and

memory (24) storing instructions executable by the at least one processor (22)

25 whereby the UE (16) is operable to:

send, via the at least one transceiver (26), an In-Device Coexistence, IDC, indication to the eNB (14, 20) including information of problematic uplink carrier aggregation combinations.

30 13. A UE (16) according to claim 12, wherein the UE (16) only indicates an uplink carrier aggregation combination as problematic if the uplink carrier aggregation combination is a combination of uplink carriers supported by the UE (16), measurement objects are configured for all corresponding downlink carriers, and the UE (16) experiences or expects to experience IDC problems due to the uplink carrier aggregation combination.

14. A UE (16) according to claim 13, wherein the problematic uplink carrier aggregation combination is an uplink carrier aggregation combination for which the UE (16) experiences IDC problems.

5 15. A UE (16) according to any one of claims 12 - 14, wherein a problematic uplink carrier aggregation combination is identified by a set of measurement object identities for all of the corresponding downlink carriers for the uplink carrier aggregation combination.

16. A UE (16) according to any one of claims 12 - 14, wherein the IDC indication
10 comprises, for each problematic uplink carrier aggregation combination, a set of measurement object identities for all of the corresponding downlink carriers for the problematic uplink carrier aggregation combination.

17. An Evolved Node B, eNB, (14, 20) for communication with a User Equipment, UE,
15 (16), the eNB (14, 20) comprising:

at least one communication interface (42, 44);

at least one processor (38); and

memory (40) storing instructions executable by the at least one processor (38)
whereby the eNB (14, 20) is operable to receive (104, 204, 304), via the at least one
20 communication interface (42, 44), an In-Device Coexistence, IDC, indication from the UE
(16) including information of problematic uplink carrier aggregation combinations.

18. An eNB (14, 20) according to claim 17, wherein the eNB (14, 20) is adapted to
deduce frequencies to avoid for uplink carrier aggregation from the received information of
25 problematic uplink carrier aggregation combinations.

19. An eNB (14, 20) according to claim 17 or 18, wherein the UE (16) only indicates an
uplink carrier aggregation combination as problematic if the uplink carrier aggregation
combination is a combination of uplink carriers supported by the UE (16), measurement
30 objects are configured for all corresponding downlink carriers, and the UE (16) experiences
or expects to experience IDC problems due to the uplink carrier aggregation combination.

20. An eNB (14, 20) according to claim 19, wherein the problematic uplink carrier
aggregation combination is an uplink carrier aggregation combination for which the UE (16)
35 experiences IDC problems.

21. An eNB (14, 20) according to any one of claims 17 - 20, wherein a problematic uplink carrier aggregation combination is identified by a set of measurement object identities for all of the corresponding downlink carriers for the uplink carrier aggregation combination.
- 5 22. An eNB (14, 20) according to any one of claims 17 - 20, wherein the IDC indication comprises, for each problematic uplink carrier aggregation combination, a set of measurement object identities for all of the corresponding downlink carriers for the problematic uplink carrier aggregation combination.