

CLAIMS

1. A data communication method, comprising:
determining, by a user equipment (UE), a UE's capability, wherein the UE's capability
5 comprises: more than one radio frequency (RF) chain in one component carrier for data communication; and
sending, by the UE, a report including the UE's capability to a base station.
2. The method according to claim 1, further comprising:
10 receiving, by the UE, an instruction on how to use the more than one RF chain in the component carrier for the data communication, from the base station; and
configuring a number of the RF chains to operate in the component carrier according to the instruction.
3. The method according to claim 1 or 2, wherein the report further includes an operating
15 bandwidth of each of the more than one RF chain in the component carrier or an instruction of using which RF chain to operate on which part of bandwidth of the component carrier.
4. The method according to any of claims 1 to 3, wherein each of the more than one RF chain
20 comprises a power amplification (PA).
5. The method according to any of claims 1 to 4, wherein a bandwidth of the component carrier is 80MHz or 40MHz.
6. A data communication method, comprising:
25 receiving from a user equipment (UE), by a base station, a report including a UE's capability, wherein the UE's capability comprises: more than one radio frequency (RF) chain in one component carrier for data communication.
7. The method according to claim 6, further comprising:
30 determining, by the base station, how the UE use the more than one RF chain in the component carrier for data communication based on the report; and
sending, by the base station, an instruction to the UE according to a result of the determination.
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8. The method according to claim 6 or 7, wherein the report further includes an operating
bandwidth of each of the more than one RF chain in the component carrier or an instruction of using which RF chain to operate on which part of bandwidth of the component carrier.
9. The method according to any of claims 6 to 8, wherein each of the more than one RF chain
40 comprises a power amplification (PA).
10. The method according to any of claims 6 to 9, wherein a bandwidth of the component carrier is 80MHz or 40MHz.
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11. A user equipment (UE), comprising:
a processor,
a memory storing program instructions; and
a transceiver;

wherein the program instructions, when executed by the processor, cause the processor to cooperate with the transceiver to:

determine a UE's capability, wherein the UE's capability comprises: more than one radio frequency (RF) chain in one component carrier for data communication; and

send a report including the UE's capability to a base station.

12. The UE according to claim 11, wherein the program instructions, when executed by the processor, further cause the processor to cooperate with the transceiver to:

receive an instruction on how to use the more than one RF chain in the component carrier for the data communication, from the base station; and

configure a number of the RF chains to operate in the component carrier according to the instruction.

13. The UE according to claim 11 or 12, wherein the report further includes an operating bandwidth of each of the more than one RF chain in the component carrier or an instruction of using which RF chain to operate on which part of bandwidth of the component carrier.

14. The UE according to any of claims 11 to 13, wherein each of the more than one RF chain comprises a power amplification (PA).

15. The UE according to any of claims 11 to 14, wherein a bandwidth of the component carrier is 80MHz or 40MHz.

16. A base station, comprising:

a processor,

a memory storing program instructions; and

a transceiver;

wherein the program instructions, when executed by the processor, cause the processor to cooperate with the transceiver to:

receive, from a user equipment (UE), a report including a UE's capability, wherein the UE's capability comprises: more than one radio frequency (RF) chain in one component carrier for data communication.

17. The base station according to claim 16, wherein the program instructions, when executed by the processor, further cause the processor to cooperate with the transceiver to:

determine how the UE use the more than one RF chain in the component carrier for data communication based on the report; and

send an instruction to the UE according to a result of the determination.

18. The base station according to claim 16 or 17, wherein the report further includes an operating bandwidth of each of the more than one RF chain in the component carrier or an instruction of using which RF chain to operate on which part of bandwidth of the component carrier.

19. The base station according to any of claims 16 to 18, wherein each of the more than one RF chain comprises a power amplification (PA).

20. The base station according to any of claims 16 to 19, wherein a bandwidth of the component carrier is 80MHz or 40MHz.