

What is claimed is:

1. A method for switching a state of a secondary carrier, comprising:

receiving, by a terminal device, a Media Access Control (MAC) Control Element (CE) sent by a network device; and

5 switching, by the terminal device according to the MAC CE, a first secondary carrier of the terminal device from a first state to a second state, wherein one of the first state and the second state is a dormant state, and the other is an activated state, or a deactivated state;

wherein, wherein when the MAC CE is a first MAC CE, the first MAC CE is used for indicating;

10 switching the first secondary carrier from the activated state or the dormant state to the deactivated state, when a value of a bit corresponding to an index of the first secondary carrier in the first MAC CE is a first value, and

switching the first secondary carrier from the deactivated state to the activated state, when the value of the bit corresponding to the index of the first secondary carrier in the first MAC CE
15 is a second value;

wherein when the MAC CE is a second MAC CE, the second MAC CE indicates:

switching the first secondary carrier from the activated state or the deactivated state to the dormant state when a value of a bit corresponding to an index of the first secondary carrier in the second MAC CE is a first value; and

20 switching the first secondary carrier from the dormant state to the activated state when the value of the bit corresponding to the index of the first secondary carrier in the second MAC CE is a second value.

~~2. The method according to claim 1, wherein, when the MAC CE is a first MAC CE, the first MAC CE indicates the terminal device to switch the first secondary carrier from the dormant state to the deactivated state.~~
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~~3. The method according to claim 2, wherein the first MAC CE indicates:~~

~~switching the first secondary carrier from the dormant state to the deactivated state, when~~

a value of a bit corresponding to an index of the first secondary carrier in the first MAC CE is a first value.

4. The method according to claim 2, wherein when the MAC CE is a second MAC CE, the second MAC CE indicates the terminal device to switch the first secondary carrier between the dormant state and other states.—

5. The method according to claim 4, wherein the second MAC CE indicates: switching the first secondary carrier from the activated state or the deactivated state to the dormant state when a value of a bit corresponding to an index of the first secondary carrier in the second MAC CE is a first value; and

switching the first secondary carrier from the dormant state to the activated state when the value of the bit corresponding to the index of the first secondary carrier in the second MAC CE is a second value.

62. The method according to claim 41, wherein the second MAC CE comprises: a R domain bit and C domain bits, wherein the R domain bit is a reserved bit, value of which is 0, and wherein each of the C domain bits corresponds to an index of a secondary carrier.

73. The method according to claim 62, wherein a length of the second MAC CE is 8 bits or 32 bits.

84. The method according to claim 51, wherein a first value in the second MAC CE is 1.

95. The method according to claim 31, wherein a first value in the first MAC CE is 0.

106. The method according to any one of claims 2-1 to 95, wherein a sub-header corresponding to the first MAC CE comprises a first logical channel identifier (LCID), and a sub-header corresponding to the second MAC CE comprises a second LCID, wherein the first LCID is different from the second LCID.

117. The method according to any one of claims 1 to 106, wherein the first state is the activated state, the second state is the dormant state, and the method further comprises:

starting or restarting, by the terminal device, a first timer when the first secondary carrier

enters the dormant state from the activated state; and

switching, by the terminal device, the first secondary carrier from the dormant state to the deactivated state when the first timer expires and no MAC CE for indicating the first secondary carrier to enter into the activated state is received before the first timer expires.

5 ~~128.~~ A method for switching a state of a secondary carrier, comprising:

sending, by a network device, a Media Access Control (MAC) Control Element (CE) to a terminal device, wherein the MAC CE is used for indicating to switch a first secondary carrier of the terminal device from a first state to a second state, one of the first state and the second state is a dormant state, and the other is an activated state or a deactivated state;

10 wherein the MAC CE is a first MAC CE or a second MAC CE, and wherein each of the first and second MAC CEs is configured to control three state changes among the dormant state, the activated state, and the deactivated state;

wherein, wherein when the MAC CE is a first MAC CE, the first MAC CE is used for indicating:

15 switching the first secondary carrier from the activated state or the dormant state to the deactivated state, when a value of a bit corresponding to an index of the first secondary carrier in the first MAC CE is a first value, and

switching the first secondary carrier from the deactivated state to the activated state, when the value of the bit corresponding to the index of the first secondary carrier in the first MAC CE is a second value;

20 wherein when the MAC CE is a second MAC CE, the second MAC CE indicates:

switching the first secondary carrier from the activated state or the deactivated state to the dormant state when a value of a bit corresponding to an index of the first secondary carrier in the second MAC CE is a first value; and

25 switching the first secondary carrier from the dormant state to the activated state when the value of the bit corresponding to the index of the first secondary carrier in the second MAC CE is a second value.

~~13. The method according to claim 12, wherein when the MAC CE is a first MAC CE, the~~

~~first MAC CE indicates the terminal device to switch the first secondary carrier from the dormant state to the deactivated state.~~

~~14. The method according to claim 13, wherein the first MAC CE indicates:~~

~~switching the first secondary carrier from the dormant state to the deactivated state, when a value of a bit corresponding to an index of the first secondary carrier in the first MAC CE is a first value.~~

~~15. The method according to claim 13, wherein when the MAC CE is a second MAC CE, the second MAC CE indicates the terminal device to switch the first secondary carrier between the dormant state and other states.~~

~~16. The method according to claim 15, wherein the second MAC CE indicates:~~

~~switching the first secondary carrier from the activated state or the deactivated state to the dormant state when a value of a bit corresponding to an index of the first secondary carrier in the second MAC CE is a first value; and~~

~~switching the first secondary carrier from the dormant state to the activated state when the value of the bit corresponding to the index of the first secondary carrier in the second MAC CE is a second value.~~

~~179. The method according to claim 15 or 168, wherein the second MAC CE comprises:~~

~~a R domain bit and C domain bits, wherein the R domain bit is a reserved bit, value of which is 0, and wherein each of the C domain bits corresponds to an index of a secondary carrier.~~

~~1810. The method according to claim 179, wherein a length of the second MAC CE is 8 bits or 32 bits.~~

~~1911. A terminal device, comprising units configured to execute any one of claims 1 to 117.~~

~~2012. A network device, comprising units configured to execute any one of claims 12-8 to 1810.~~