

## CLAIMS

What is claimed is:

1. A multi-link communication method, comprising:

5 sending, by a station in a station multi-link device, an information frame on a link corresponding to the station, wherein the information frame is used to indicate one or more stations to which the station multi-link device is to switch for sending the data i; and

receiving, by a part of or all of the one or more stations in the station multi-link device, a downlink message frame sent by an access point multi-link device, on one or more links corresponding to the part of or all of the one or more stations.

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2. A multi-link communication method, comprising:

receiving, by an access point multi-link device, an information frame on a link corresponding to a station in a station multi-link device, wherein the information frame is used to indicate one or more stations to which the station multi-link device is to switch for sending the data; and

15 sending, by the access point multi-link device, a downlink message frame on one or more links corresponding to a part of or all of the one or more stations to which the station multi-link device is to switch for sending the data .

3. The method according to claim 1 or 2, wherein the downlink message frame comprises a synchronization frame, and the synchronization frame is used to assist the one or more stations to  
20 which the station multi-link device is to switch for sending the data, for sending an uplink service.

4. The method according to claim 3, wherein the synchronization frame is a trigger frame.

25 5. The method according to anyone of claims 1 to 4, the station in a station multi-link device and the one or more stations to which the station multi-link device is to switch for sending the data, do not support simultaneous transmitting and receiving.

6. The method according to anyone of claims 1 to 5, the one or more stations to which the  
30 station multi-link device is to switch for sending the data loses the channel state information.

7. The method according to anyone of claims 1 to 6, the station multi-link device is a single radio station.

8. A station multi-link device, comprising one or more stations, wherein

5        a station in the station multi-link device sends an information frame on a link corresponding to the station, wherein the information frame is used to indicate one or more stations to which the station multi-link device is to switch for sending the data; and

         a part of or all of the one or more stations in the station multi-link device receive, a downlink message frame sent by an access point multi-link device, on one or more links corresponding to  
10       the part of or all of the one or more stations.

9. An access point multi-link device, comprising one or more access points, wherein

         an access point in the access point multi-link device receives an information frame on a link corresponding to the access point, wherein the information frame is used to indicate one or more  
15       stations to which the station multi-link device is to switch for sending the data; and

         the access point multi-link device sends a downlink message frame on one or more links corresponding to a part of or all of the one or more stations to which the station multi-link device is to switch for sending the data.

20       10. The multi-link device according to claim 8 or 9, wherein the downlink message frame comprises a synchronization frame, and the synchronization frame is used to assist one or more stations to which the station multi-link device is to switch for sending the data, for sending an uplink service.

25       11. The multi-link device according to claim 10, wherein the synchronization frame is a trigger frame.

         12. The multi-link device according to anyone of claims 8 to 11, the station in a station multi-link device and the one or more stations to which the station multi-link device is to switch for  
30       sending the data, do not support simultaneous transmitting and receiving.

13. The multi-link device according to anyone of claims 8 to 12, the one or more stations to which the station multi-link device is to switch for sending the data loses the channel state information.

5           14. The multi-link device according to anyone of claims 8 to 13, the station multi-link device is a single radio station.

10           15. A computer-readable storage medium, configured to store a computer program, wherein the computer program comprises instructions used to perform the method according to anyone of claims 1 to 7.

16. A computer program, wherein the computer program comprises instructions used for the method according to anyone of claims 1 to 7.