CLAIMS:

1. A multi-link device, MLD, for operation in a wireless fidelity, Wi-Fi, system, wherein the MLD comprises a medium access control, MAC, Layer Management entity, MLME, and a station management entity, SME, comprising a processor, configured to:

indicate, by the SME, a selected link identity, ID, to the MLME, wherein the selected link ID indicates the link being used for frame exchange between an access point, AP, affiliated with AP MLD and non-AP STA affiliated with non-AP MLD, and,

a transceiver, configured to:

exchange one or more frames through the link indicated by the selected link ID,

wherein the selected link ID is indicated in the following management services provided by the MLME to the SME: authenticate, deauthenticate, associate, reassociate, disassociate,

wherein the selected link ID is comprised in a common part of a basic variant multi-link element, MLE, and

wherein the selected link ID is 4 bits.

2. The MLD of claim 1, wherein the MLD comprises a single MAC layer and at least two physical, PHY, layers.

3. The MLD of claim 2, wherein the at least two PHY layers correspond to separate frequency bands, and each PHY layer is managed by a physical layer management entity, PLME.

4. The MLD of claim 3, wherein the SME is configured to interact with the MLME and/or the PLME.

5. A method of link operation for multi-link device, MLD, wherein the method is used in a wireless fidelity, Wi-Fi, system, and the MLD comprises a medium access control, MAC, Layer Management entity, MLME, and a station management entity, SME, comprising:

indicating, by the SME, a selected link identity, ID, to the MLME, wherein the selected link ID is used to indicate the link being used for frame exchange between an access point, AP, affiliated with AP MLD and non-AP STA affiliated with non-AP MLD, and, exchanging one or more frames through the link indicated by the selected link ID,

wherein the selected link ID is indicated in the following management services provided by the MLME to the SME: authenticate, deauthenticate, associate, reassociate, disassociate,

wherein the selected link ID is comprised in a common part of a basic variant multi-link element, MLE, and

wherein the selected link ID is 4 bits.

6. The method of claim 5, wherein the MLD comprises a single MAC layer and at least two physical, PHY, layers.

7. The method of claim 6, wherein the at least two PHY layers correspond to separate frequency bands, and each PHY layer is managed by a physical layer management entity, PLME.

8. The method of claim 7, wherein the SME interacts with the MLME and/or the PLME.

9. A non-transitory machine-readable storage medium having stored thereon processor-executable instructions, which when executed by a processor of a communication device, cause the communication device to implement a method of link operation for multi-link, MLD, as claims 5 to 8.

10. A computer program product comprising a non-transitory computer-readable storage medium having computer-readable instructions stored thereon, the computer-readable instructions being executable by a computerized device comprising processing hardware to execute a method of any one of claims 5 to 8.