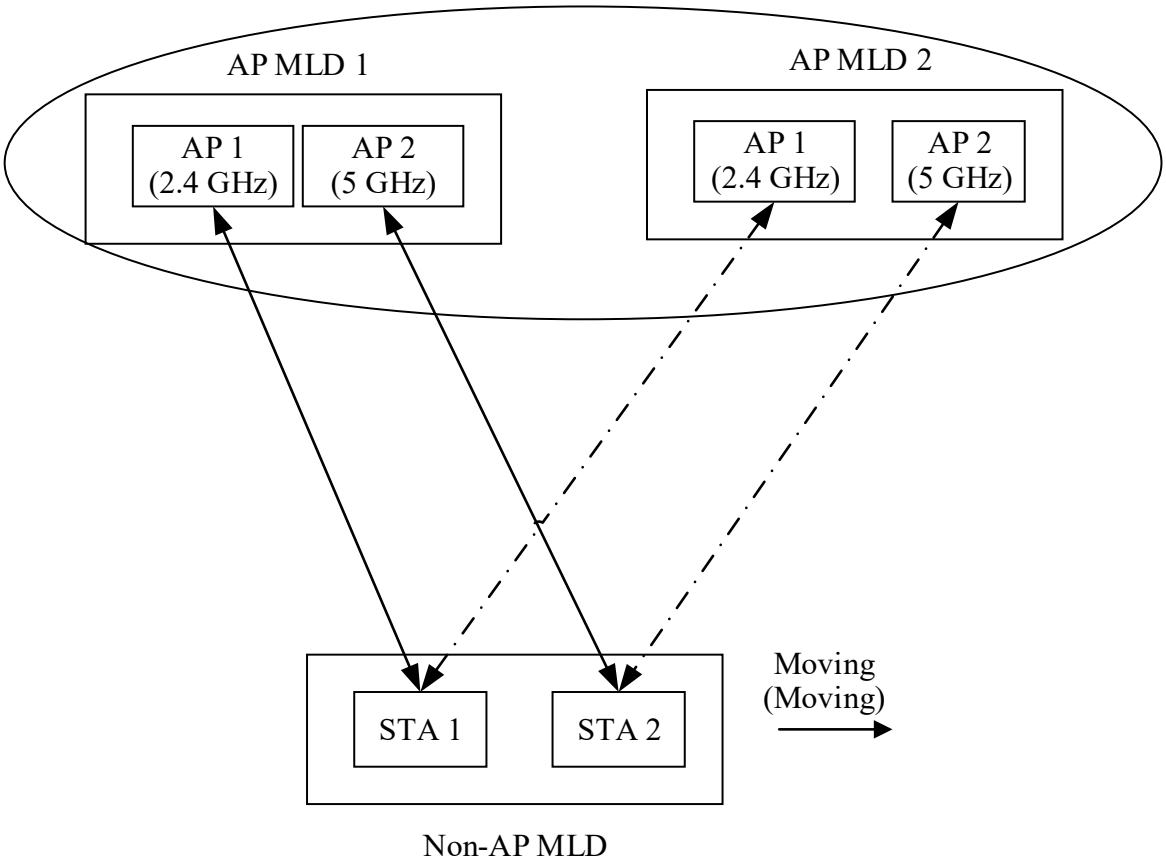
AP MLD 1
AP MLD 2
AP 1
(2.4 GHz)
AP 2
(5 GHz)
AP 1
(2.4 GHz)
AP 2
(5 GHz)
STA 1
STA 2
Moving
(Moving)
Non-AP MLD

FIG. 1

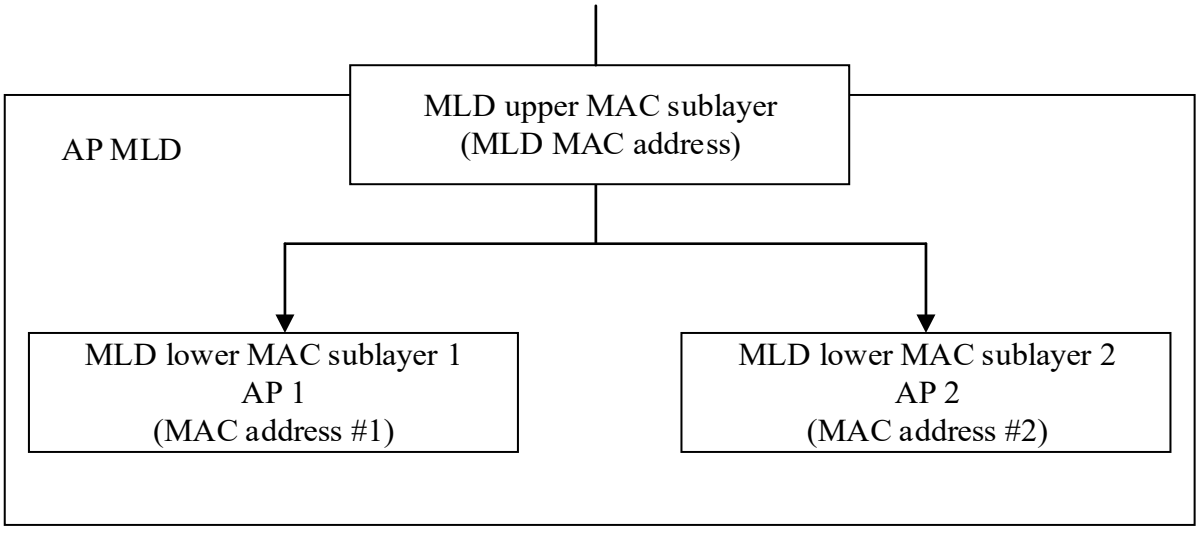
AP MLD
MLD upper MAC sublayer
(MLD MAC address)
MLD lower MAC sublayer 1
AP 1
(MAC address #1)
MLD lower MAC sublayer 2
AP 2
(MAC address #2)

FIG. 2

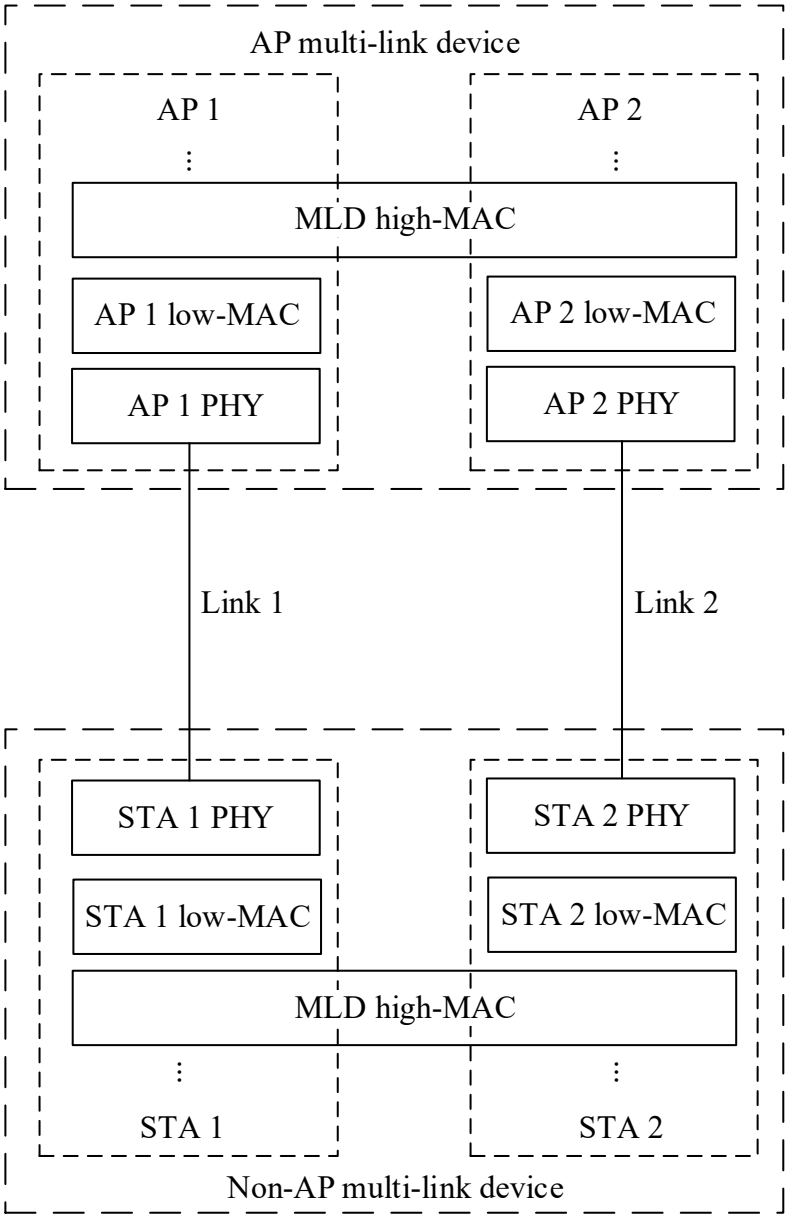
AP multi-link device
AP 1
AP 2
MLD high-MAC
AP 1 low-MAC
AP 2 low-MAC
AP 1 PHY
AP 2 PHY
Link 1
Link 2
STA 1 PHY
STA 2 PHY
STA 1 low-MAC
STA 2 low-MAC
MLD high-MAC
STA 1
STA 2
Non-AP multi-link device

FIG. 3

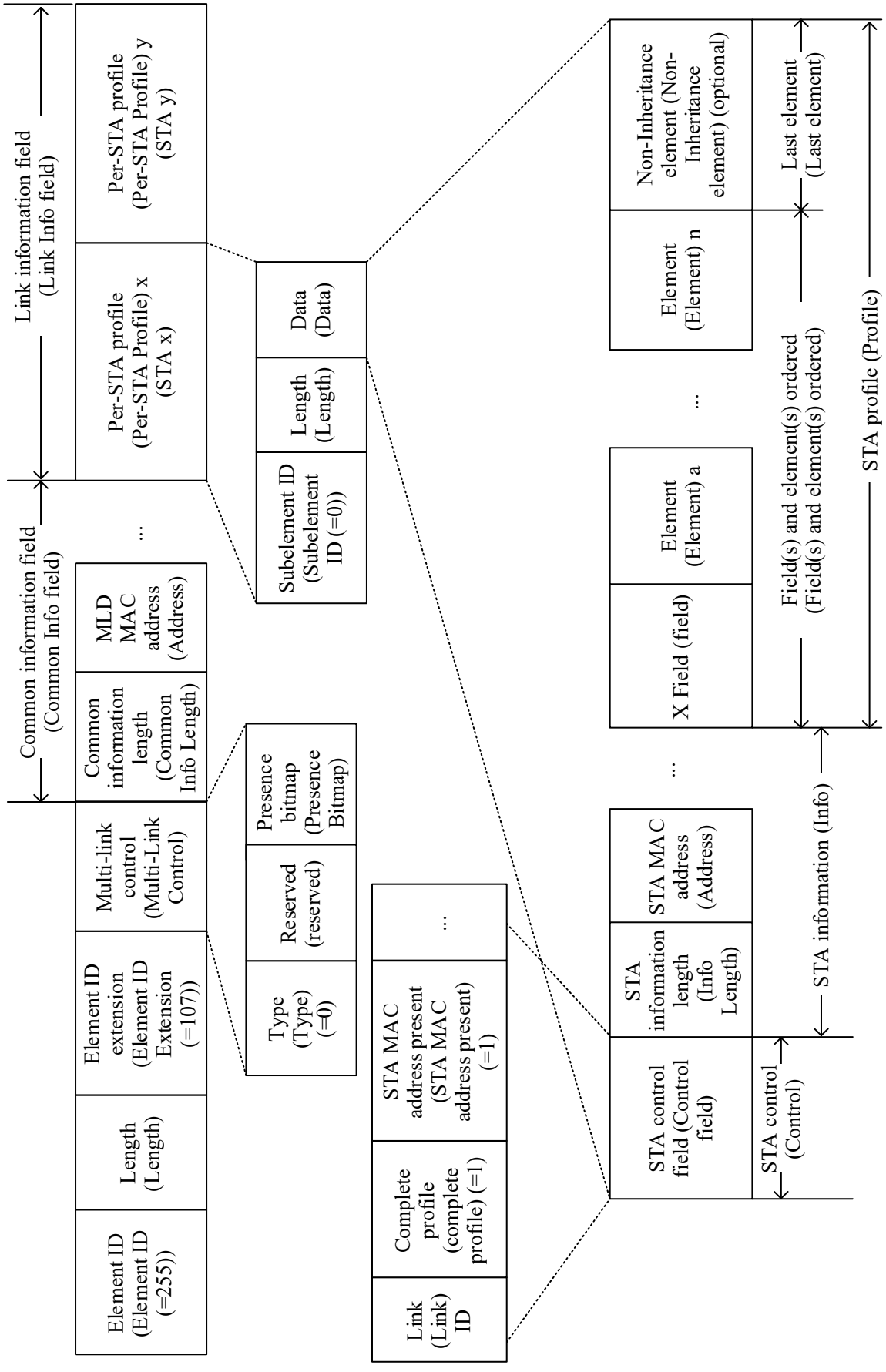
Element ID (Element ID (=255))
Length (Length)
Element ID extension (Element ID Extension (=107))
Multi-link control (Multi-Link Control)
Common information length (Common Info Length)
MLD MAC address (Address)
Common information field (Common Info field)
Link information field (Link Info field)
Per-STA profile (Per-STA Profile) x (STA x)
Per-STA profile (Per-STA Profile) y (STA y)
Type (Type) (=0)
Reserved (reserved)
Presence bitmap (Presence Bitmap)
Link (Link) ID
Complete profile (complete profile) (=1)
STA MAC address present (STA MAC address present) (=1)
Subelement ID (Subelement ID (=0))
Length (Length)
Data (Data)
STA control field (Control field)
STA information length (Info Length)
STA MAC address (Address)
STA control (Control)
STA information (Info)
X Field (field)
Element (Element) a
Element (Element) n
Non-Inheritance element (Non-Inheritance element) (optional)
Last element (Last element)
Field(s) and element(s) ordered (Field(s) and element(s) ordered)
STA profile (Profile)

FIG. 4

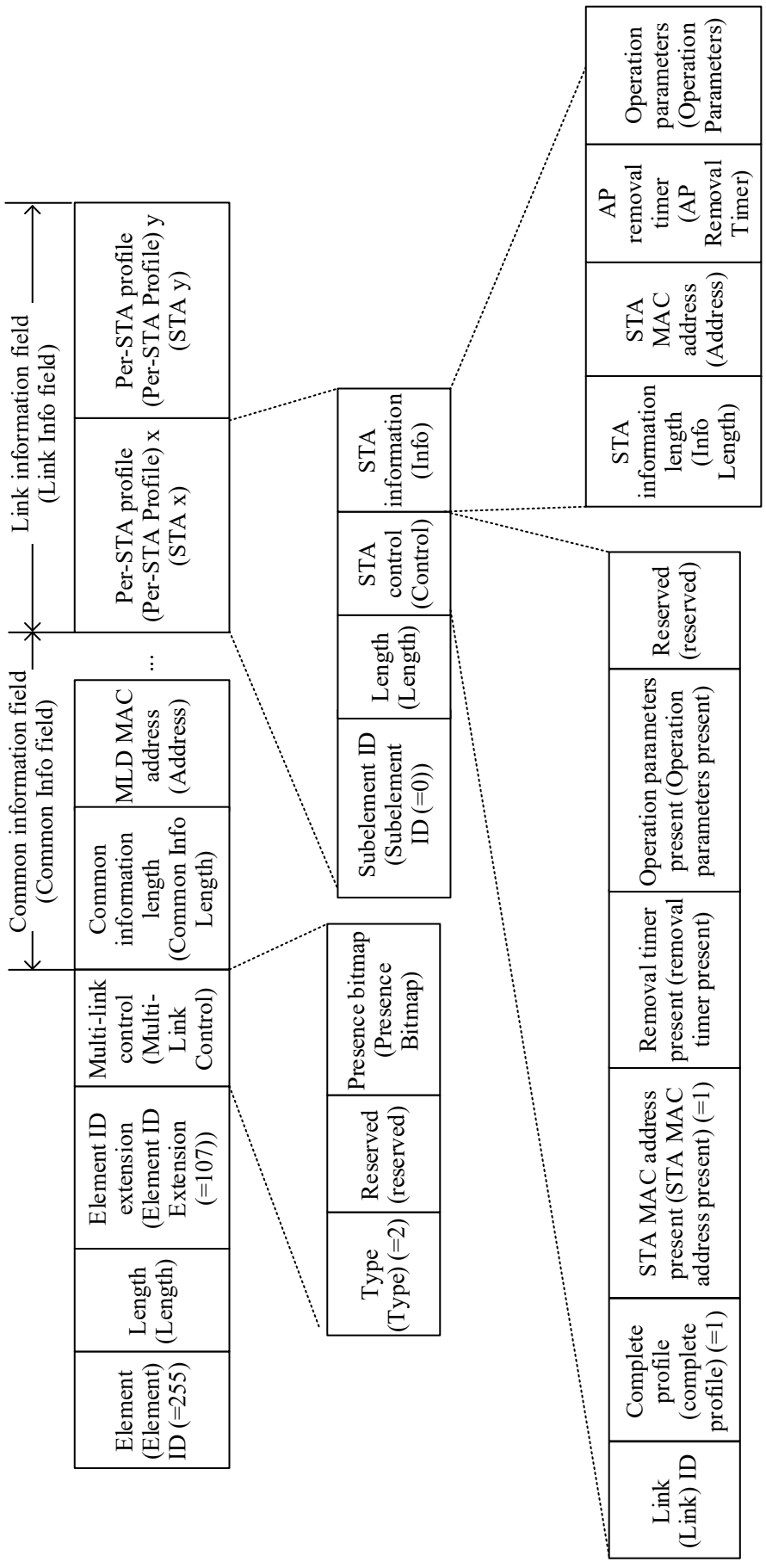
Common information field (Common Info field)
Element (Element) ID (=255)
Length (Length)
Element ID extension (Element ID Extension (=107))
Multi-link control (Multi-Link Control)
Common information length (Common Info Length)
MLD MAC address (Address)
Type (Type) (=2)
Reserved (reserved)
Presence bitmap (Presence Bitmap)
Link (Link) ID
Complete profile (complete profile) (=1)
STA MAC address present (STA MAC address present) (=1)
Removal timer present (removal timer present)
Operation parameters present (Operation parameters present)
Reserved (reserved)
Link information field (Link Info field)
Per-STA profile (Per-STA Profile) x (STA x)
...
Per-STA profile (Per-STA Profile) y (STA y)
Subelement ID (Subelement ID (=0))
Length (Length)
STA control (Control)
STA information (Info)
STA information length (Info Length)
STA MAC address (Address)
AP removal timer (AP Removal Timer)
Operation parameters (Operation Parameters)

FIG. 5

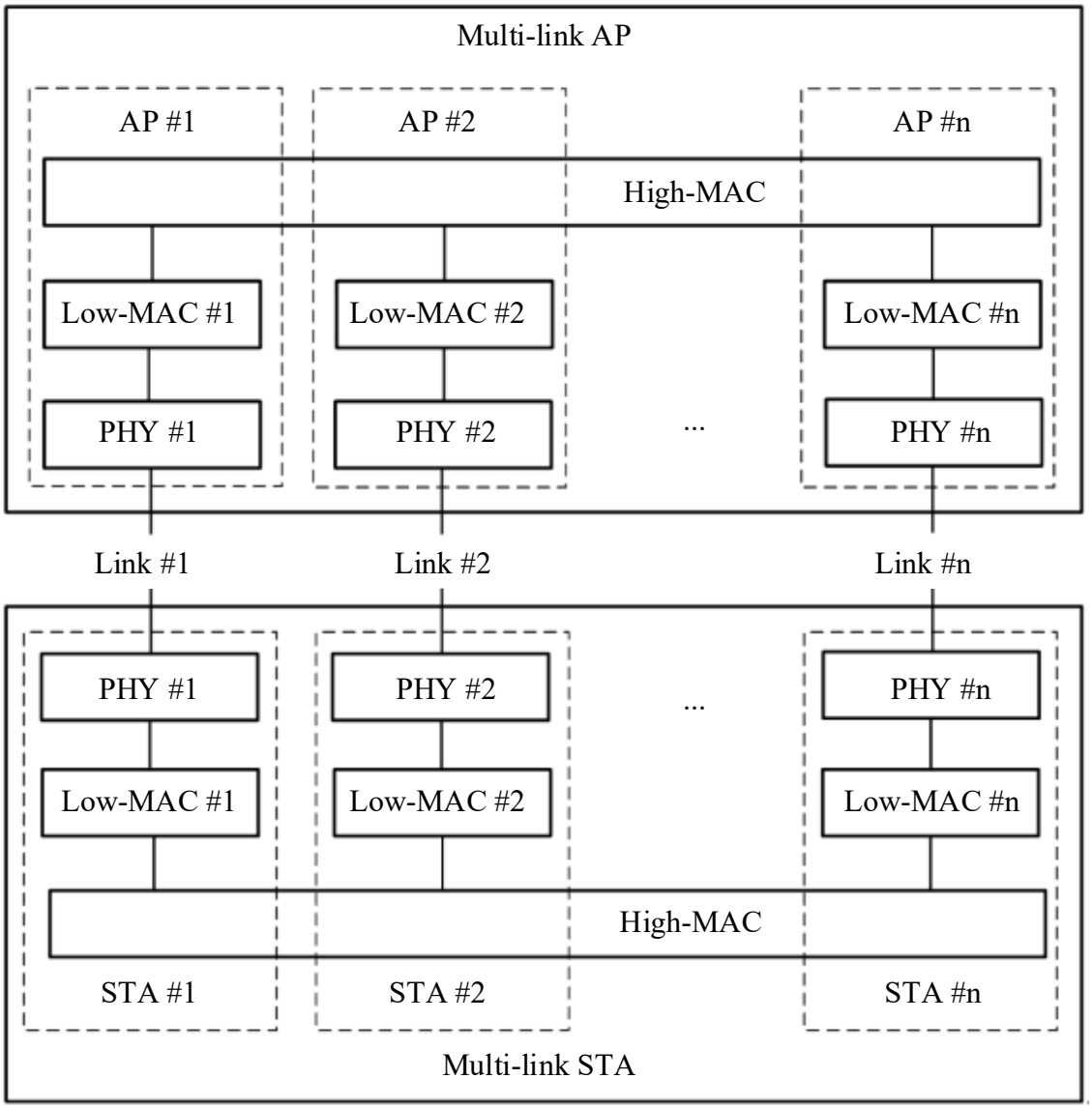
Multi-link AP
AP #1
AP #2
AP #n
High-MAC
Low-MAC #1
Low-MAC #2
Low-MAC #n
PHY #1
PHY #2
...
PHY #n
Link #1
Link #2
Link #n
PHY #1
PHY #2
...
PHY #n
Low-MAC #1
Low-MAC #2
Low-MAC #n
High-MAC
STA #1
STA #2
STA #n
Multi-link STA

FIG. 6

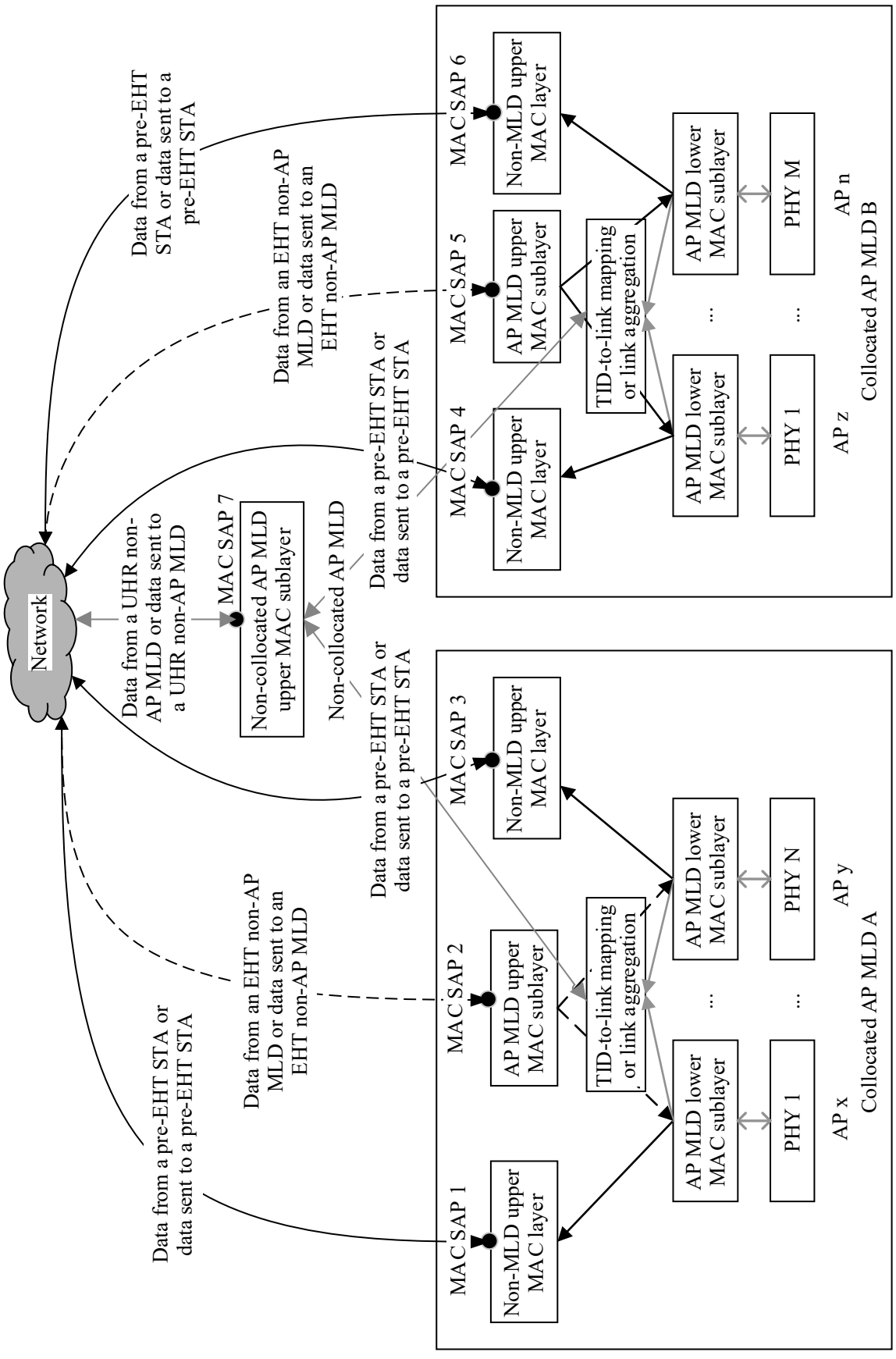
Network
Data from a pre-EHT STA or data sent to a pre-EHT STA
Data from an EHT non-AP MLD or data sent to an EHT non-AP MLD
Data from a pre-EHT STA or data sent to a pre-EHT STA
Data from a UHR non-AP MLD or data sent to a UHR non-AP MLD
MAC SAP 7
Non-collocated AP MLD upper MAC sublayer
Non-collocated AP MLD
Data from a pre-EHT STA or data sent to a pre-EHT STA
Data from an EHT non-AP MLD or data sent to an EHT non-AP MLD
Data from a pre-EHT STA or data sent to a pre-EHT STA
MAC SAP 6
Non-MLD upper MAC layer
MAC SAP 5
AP MLD upper MAC sublayer
TID-to-link mapping or link aggregation
MAC SAP 4
Non-MLD upper MAC layer
AP MLD lower MAC sublayer
PHY 1
AP z
AP MLD lower MAC sublayer
PHY M
AP n
Collocated AP MLD B
MAC SAP 3
Non-MLD upper MAC layer
MAC SAP 2
AP MLD upper MAC sublayer
TID-to-link mapping or link aggregation
MAC SAP 1
Non-MLD upper MAC layer
AP MLD lower MAC sublayer
PHY 1
AP x
AP MLD lower MAC sublayer
PHY N
AP y
Collocated AP MLD A

FIG. 7

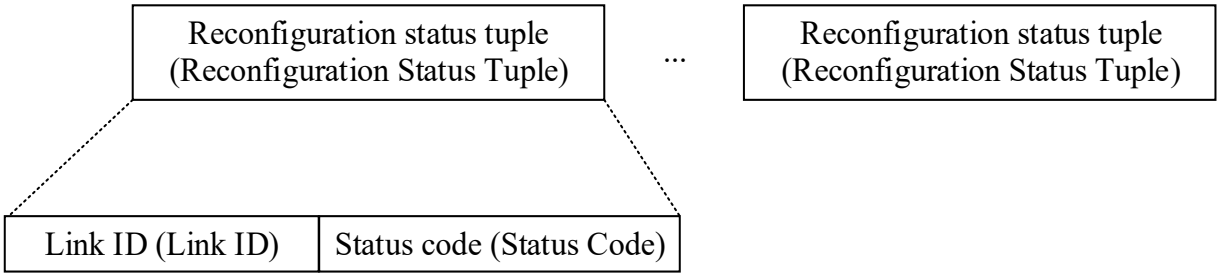

FIG. 8

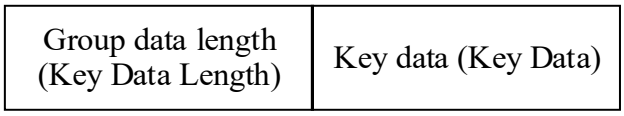

FIG. 9

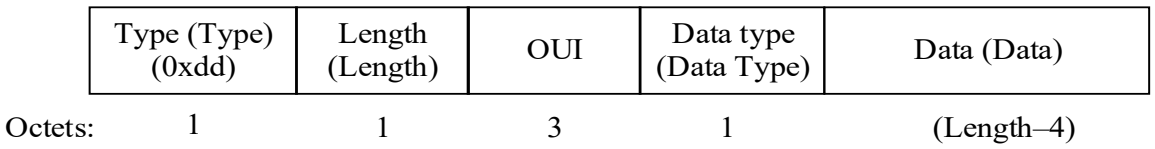

FIG. 10

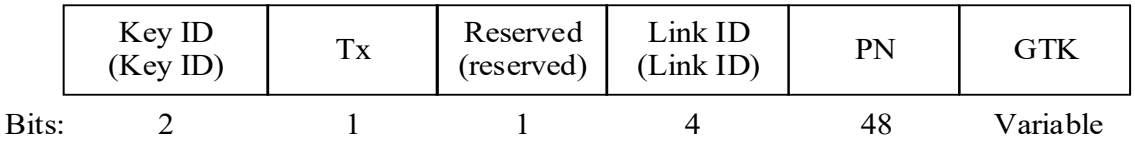

FIG. 11-1

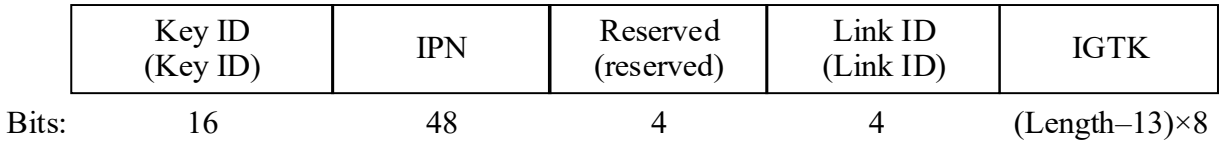

FIG. 11-2

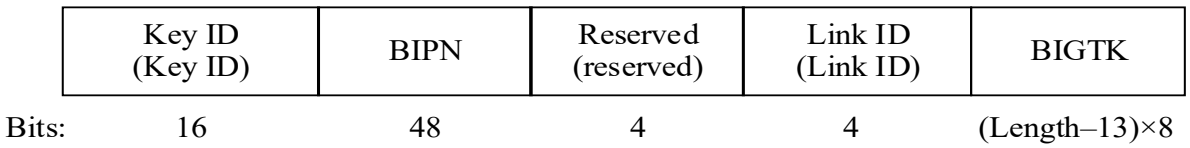

FIG. 11-3

Element ID (element ID)	Length (Length)	Element ID extension (Element ID Extension)	Operating class (Operating Class)	Primary channel number (Primary Channel Number)	Frequency segment 1 channel number (Frequency Segment 1 Channel Number)	OCT operating class (OCT Operating Class) (optional)	OCT primary channel number (OCT Primary Channel Number) (optional)	OCT frequency segment 1 channel number (OCT Frequency Segment 1 Channel Number) (optional)

FIG. 12


Frame extension (Frame Control)
Duration (Duration)
Address 2 (Address 2)
Address 3 (Address 3)
Sequence control (Sequence Control)
HT control (HT Control)
Frame body (Frame Body)
FCS

FIG. 13

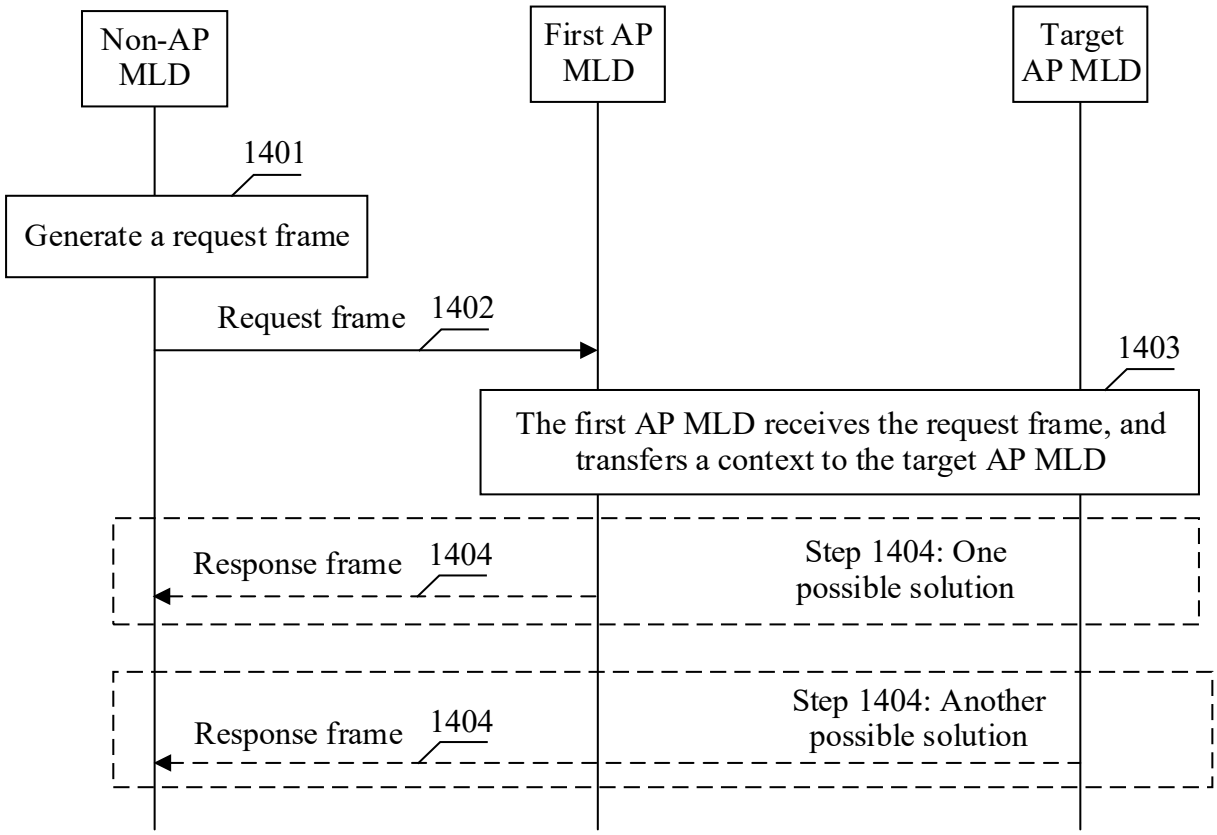
Non-AP MLD
First AP MLD
Target AP MLD
1401
Generate a request frame
Request frame
1402
1403
The first AP MLD receives the request frame, and transfers a context to the target AP MLD
Response frame
1404
Step 1404: One possible solution
Response frame
1404
Step 1404: Another possible solution

FIG. 14

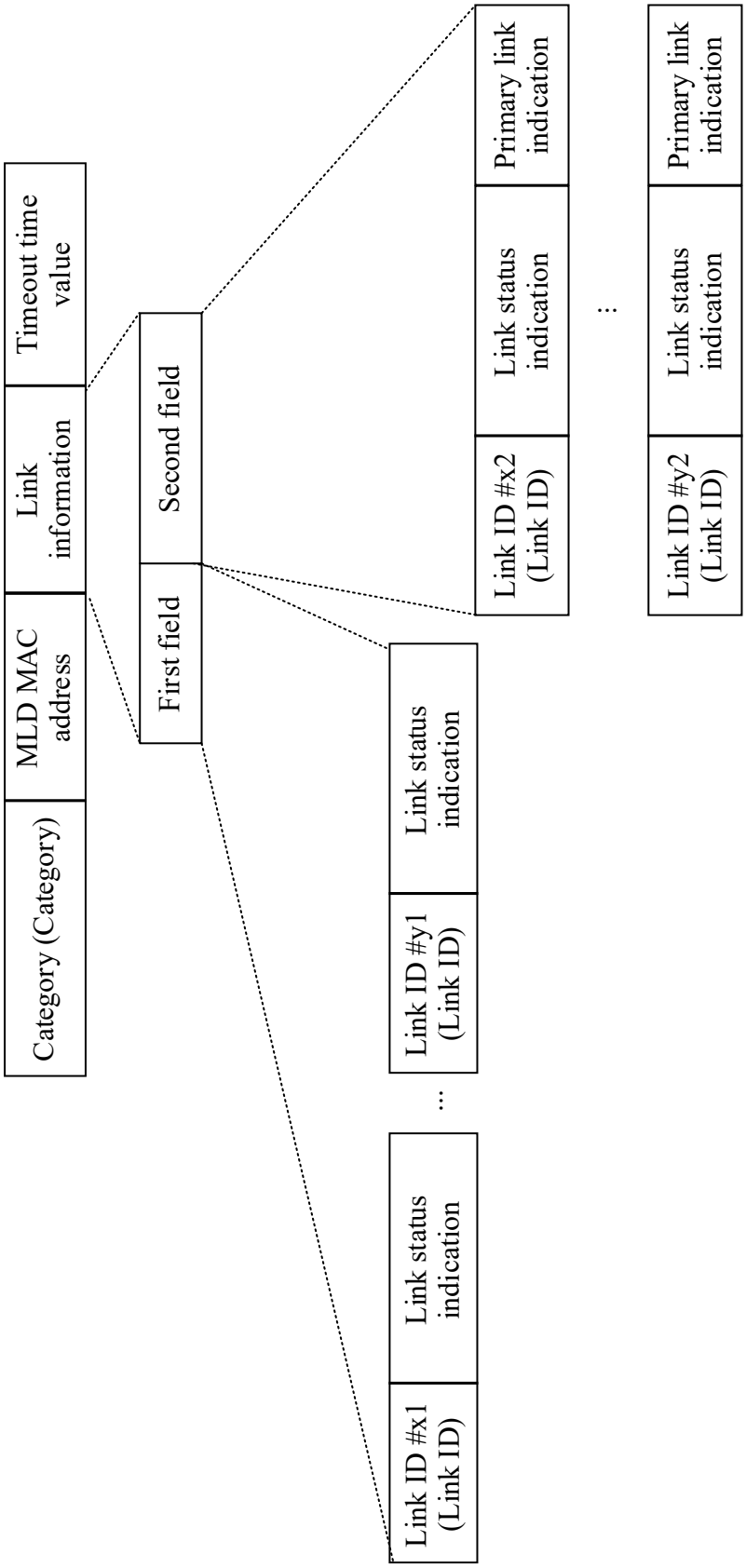
Category (Category)
MLD MAC address
Link information
Timeout time value
First field
Second field
Link ID #x1 (Link ID)
Link status indication
...
Link ID #y1 (Link ID)
Link status indication
Link ID #x2 (Link ID)
Link status indication
Primary link indication
...
Link ID #y2 (Link ID)
Link status indication
Primary link indication

FIG. 15

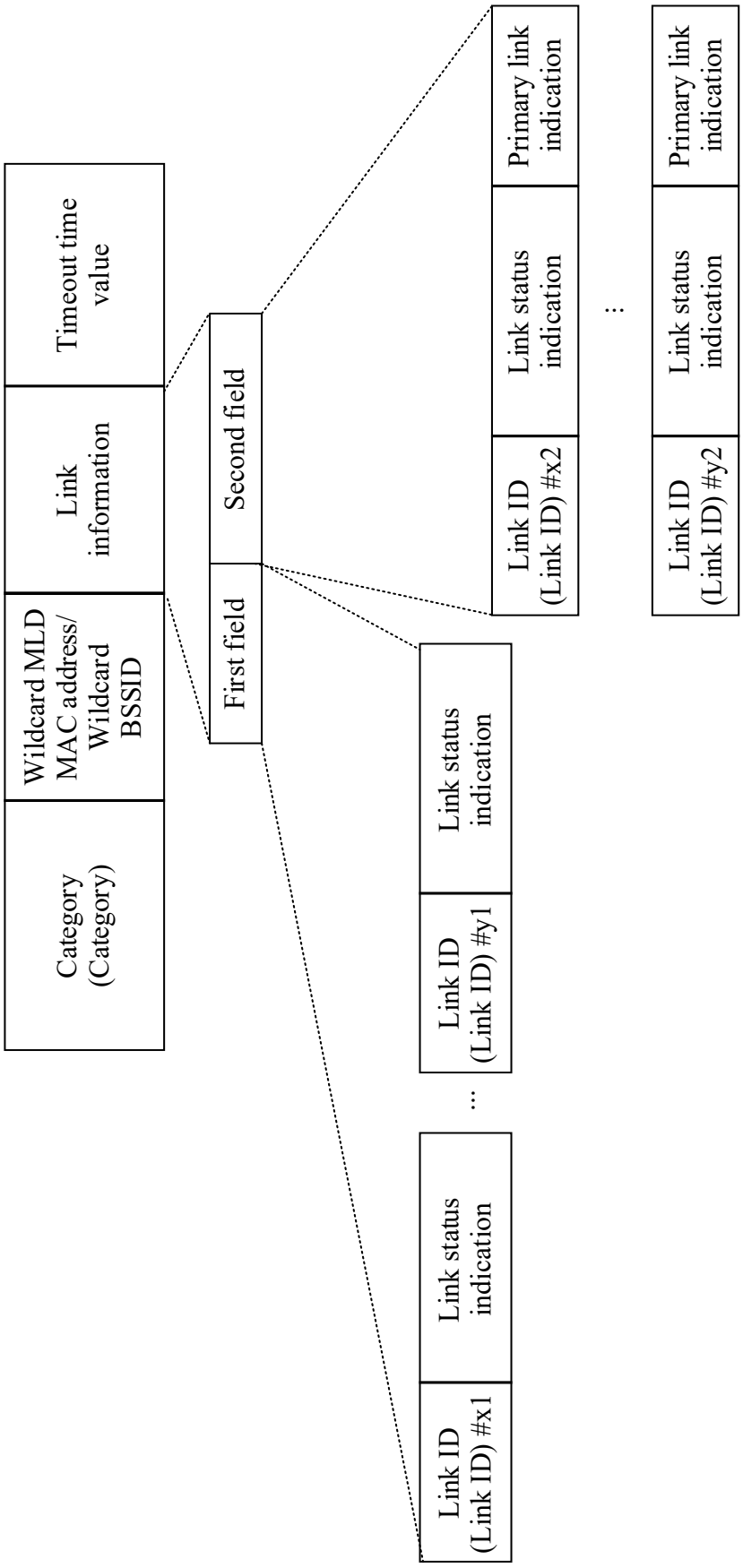
Category (Category)
Wildcard MLD MAC address/ Wildcard BSSID
Link information
Timeout time value
First field
Second field
Link ID (Link ID) #x1
Link status indication
Link ID (Link ID) #y1
Link status indication
Link ID (Link ID) #x2
Link status indication
Primary link indication
Link ID (Link ID) #y2
Link status indication
Primary link indication

FIG. 16

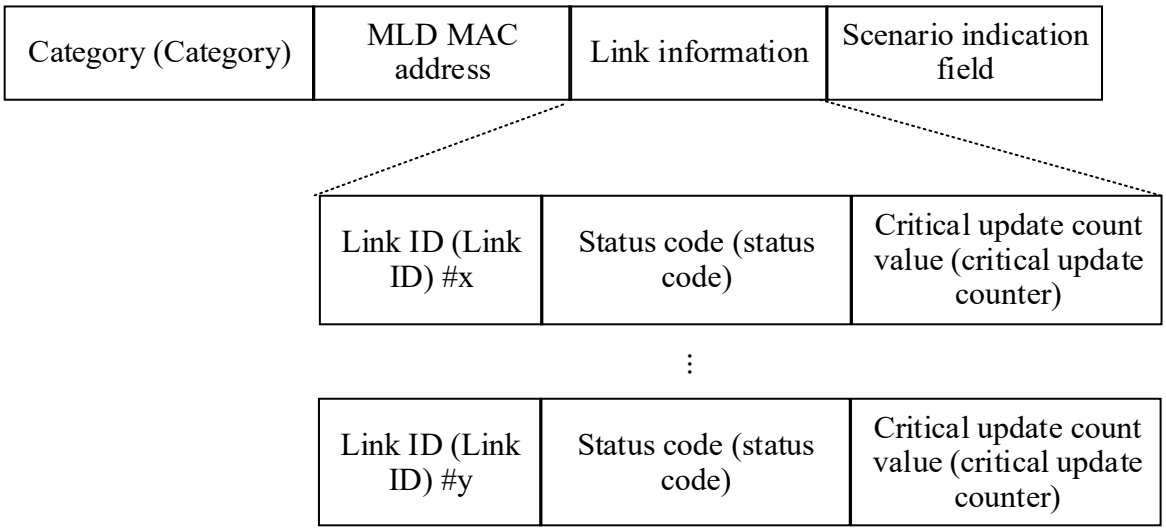
Category (Category)
MLD MAC address
Link information
Scenario indication field
Link ID (Link ID) #x
Status code (status code)
Critical update count value (critical update counter)
Link ID (Link ID) #y
Status code (status code)
Critical update count value (critical update counter)

FIG. 17

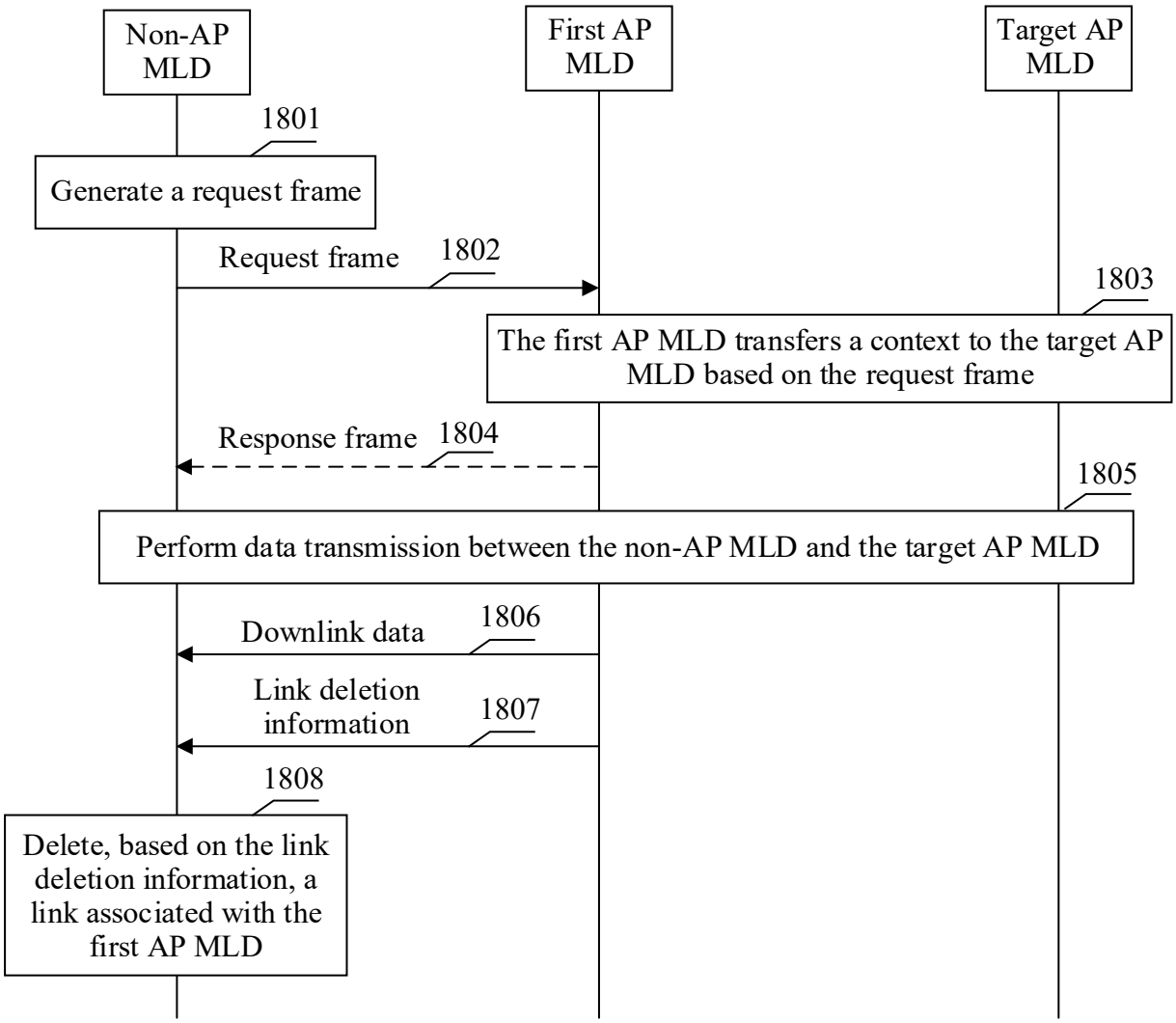
Non-AP MLD
First AP MLD
Target AP MLD
1801
Generate a request frame
Request frame
1802
1803
The first AP MLD transfers a context to the target AP MLD based on the request frame
Response frame
1804
1805
Perform data transmission between the non-AP MLD and the target AP MLD
Downlink data
1806
Link deletion information
1807
1808
Delete, based on the link deletion information, a link associated with the first AP MLD

FIG. 18

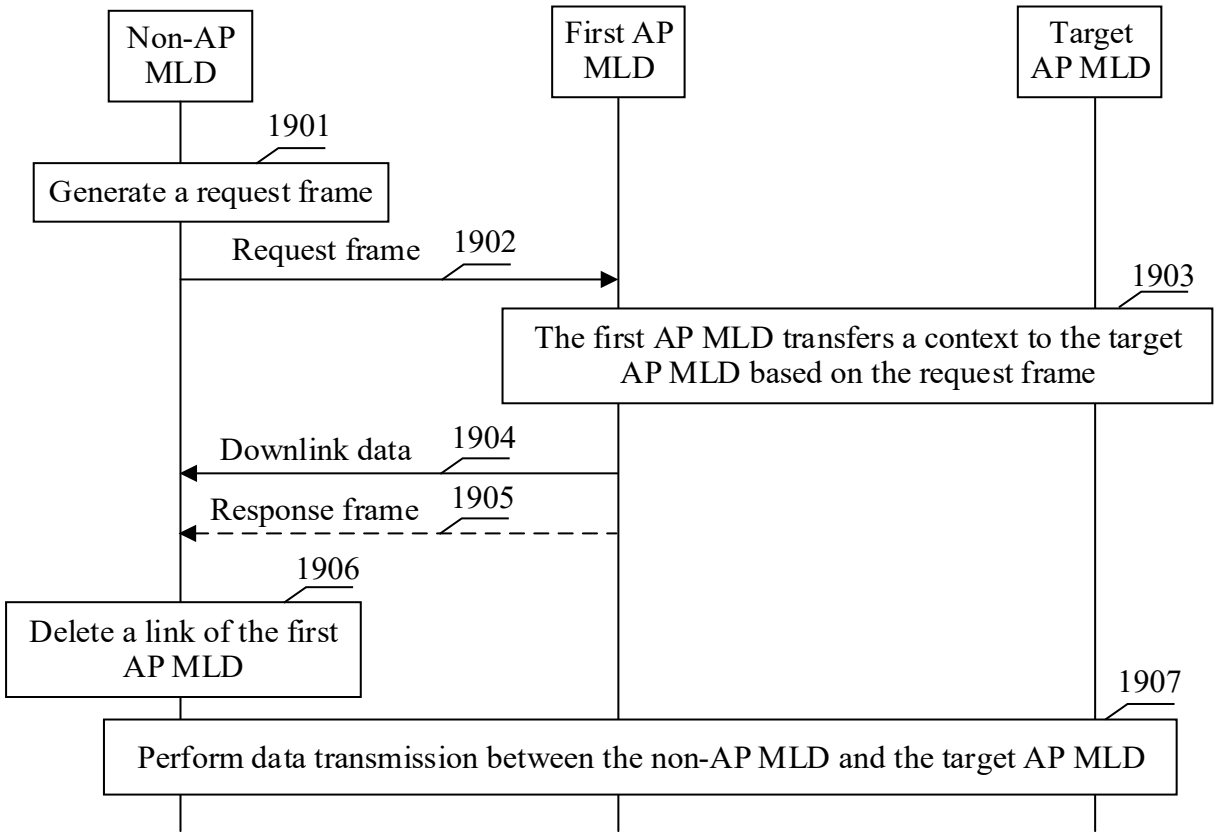
Non-AP MLD
First AP MLD
Target AP MLD
1901
Generate a request frame
Request frame
1902
1903
The first AP MLD transfers a context to the target AP MLD based on the request frame
Downlink data
1904
Response frame
1905
1906
Delete a link of the first AP MLD
1907
Perform data transmission between the non-AP MLD and the target AP MLD

FIG. 19

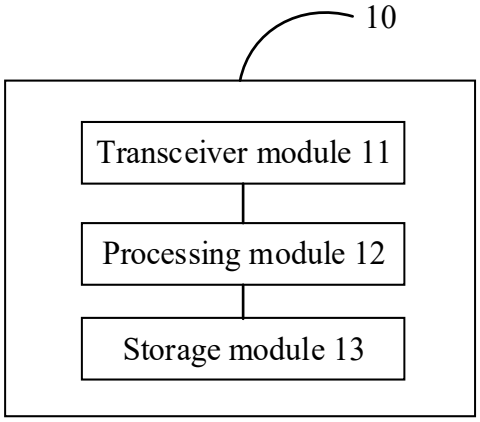
10
Transceiver module 11
Processing module 12
Storage module 13

FIG. 20

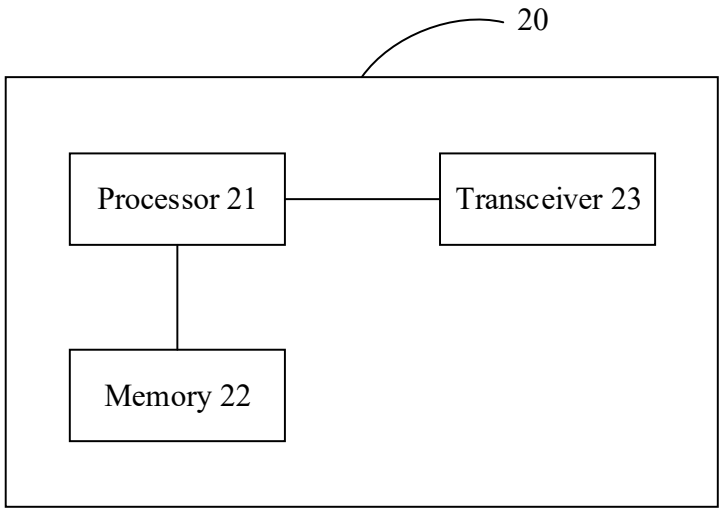
20
Processor 21
Transceiver 23
Memory 22

FIG. 21

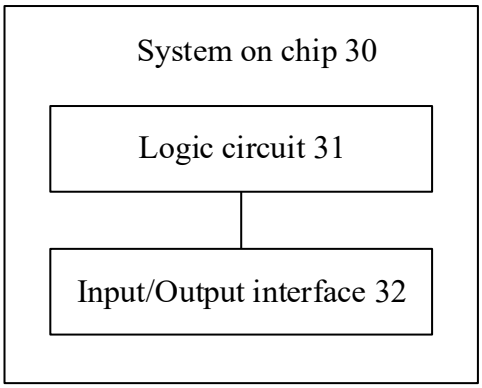
System on chip 30
Logic circuit 31
Input/Output interface 32

FIG. 22