Management Frames 00

Frame Types

- Association Request — 0000 (1)
- Association Response — 0001 (2)
- Reassociation Request — 0010 (3)
- Reassociation Response — 0011 (4)
- Probe Request — 0100 (5)
- Probe Response — 0101 (6)
- Reserved — 0110-0111
- Beacon — 1000 (7)
- ATIM — 1001 (ad-hoc only)
- Disassociation — 1010 (8)
- Authentication — 1011 (9)
- Deauthentication — 1100 (10)
- Reserved — 1101-1111

Information Fields and Information Elements (with IE ID)* — Size (Octets)

Field (frame refs)	Type	IE ID	Size (Octets)
(9) Authentication Algorithm Number	Fixed		2
(9) Authentication Transaction Seq #	Fixed		2
(6)(7) Beacon Interval	Fixed		2
(3) Current AP MAC Address	Fixed		6
(1)(3) Listen Interval	Fixed		2
(8)(10) Reason Code	Fixed		2
(2)(4) Association ID (AID)	Fixed		2
(2)(4)(9) Status Code	Fixed		2
(6)(7) Timestamp	Fixed		8
(1)(3)(5)(6)(7) SSID	Optional	0	2 - 34
(1)(2)(3)(4)(5)(6)(7) Supported Rates	Optional	1	3 - 10
(1)(2)(3)(4)(5)(6)(7) Ex Supported Rates	Optional	50	3 - 257
(6)(7) FH Parameter Set	Optional	2	7
(6)(7) DS Parameter Set	Optional	3	3
(6)(7) CF Parameter Set	Optional	4	8
(6)(7) IBSS Parameter Set	Optional	6	4
(1)(2)(3)(4)(6)(7) Capability Information	Fixed		2
(7) Traffic Indication Map (TIM)	Optional	5	7 - 256
(9) Challenge Text	Optional	16	3 - 255
(6)(7) ERP Information	Optional	42	3

Information Fields and Information Elements — Orig Standard

Field (frame refs)	Type	IE ID	Orig Standard
(9) Authentication Algorithm Number	Fixed		.11
(9) Authentication Transaction Seq #	Fixed		.11
(6)(7) Beacon Interval	Fixed		.11
(3) Current AP Address	Fixed		.11
(1)(3) Listen Interval	Fixed		.11
(8)(10) Reason Code	Fixed		.11
(2)(4) Association ID (AID)	Fixed		.11
(2)(4)(9) Status Code	Fixed		.11
(6)(7) Timestamp	Fixed		.11
(1)(3)(5)(6)(7) SSID	Optional	0	.11
(1)(2)(3)(4)(5)(6)(7) Supported Rates	Optional	1	.11
(1)(2)(3)(4)(5)(6)(7) Ex Supported Rates	Optional	50	.11g
(6)(7) FH Parameter Set	Optional	2	.11
(6)(7) DS Parameter Set	Optional	3	.11
(6)(7) CF Parameter Set	Optional	4	.11
(6)(7) IBSS Parameter Set	Optional	6	.11
(1)(2)(3)(4)(6)(7) Capability Information	Fixed		.11
(7) Traffic Indication Map (TIM)	Optional	5	.11
(9) Challenge Text	Optional	16	.11
(6)(7) ERP Information	Optional	42	.11g

Information Fields and Information Elements (third block)

Field (frame refs)	Type	IE ID
(9) Authentication Algorithm Number	Fixed	
(9) Authentication Transaction Seq #	Fixed	
(6)(7) Beacon Interval	Fixed	
(3) Current AP Address	Fixed	
(1)(3) Listen Interval	Fixed	
(8)(10) Reason Code	Fixed	
(2)(4) Association ID (AID)	Fixed	
(2)(4)(9) Status Code	Fixed	
(6)(7) Timestamp	Fixed	
(1)(3)(5)(6)(7) SSID	Optional	0
(1)(2)(3)(4)(5)(6)(7) Supported Rates	Optional	1
(1)(2)(3)(4)(5)(6)(7) Ex Supported Rates	Optional	50
(6)(7) FH Parameter Set	Optional	2
(6)(7) DS Parameter Set	Optional	3
(6)(7) CF Parameter Set	Optional	4
(6)(7) IBSS Parameter Set	Optional	6
(1)(2)(3)(4)(6)(7) Capability Information	Fixed	
(7) Traffic Indication Map (TIM)	Optional	5
(9) Challenge Text	Optional	16
(6)(7) ERP Information	Optional	42

Authentication Table

Auth Tran Sequence #	Auth Algorithm	Status Code	Challenge Text
1	Open System	Reserved	Not Present
2	Open System	Status	Not Present
1	Shared Key	Reserved	Not Present
2	Shared Key	Status	Present
3	Shared Key	Reserved	Present
4	Shared Key	Status	Not Present

Reason Codes

- 0 – Reserved
- 1 – Unspecified Reason
- 2 – Previous authentication no longer valid
- 3 – Deauthenicated because sending station has left
- 4 – Disassociated due to inactivity
- 5 – Disassociation because the AP is overloaded
- 6 – Class 2 frame received from a non-authenticated STA
- 7 – Class 3 frame received from a non-authenticated STA
- 8 – Disassociated because sending station has left the BSS
- 9 – STA requesting (re)association is not authenticated with responding STA
- 10 – 65,535

Status Codes

- 0 – Successful
- 1 – Unspecified Failure
- 2 – 9 Reserved
- 10 – Cannot support all requested capabilities
- 11 – Reassociation denied due to inability to confirm association
- 12 – Association denied due to reason outside the standard
- 13 – Responding STA doesn't support the specified auth algorithm
- 14 – Received an authentication frame with authentication transaction sequence number out of expected sequence
- 15 – Authentication rejected because of challenge failure
- 16 – Authentication rejected due to timeout waiting for next frame in sequence
- 17 – Association denied because the AP is unable to handle additional associated STA's
- 18 – Association denied due to requesting STA not supporting all of the data rates in the BSSBasicRateSetparameter
- 19 – Association denied due to requesting station not supporting Short Preamble
- 20 – Assocication denied due to requesting STA not supporting PBCC
- 21 – Association denied due to requesting STA not supporting Channel Agility
- 22 – 24 Reserved
- 25 – Association denied due to requesting STA not supporting Short Time Slot
- 26 – Assoction denied due to requesting STA not supporting DSSS-OFDM
- 27 – 65,535 Reserved

Station

CF Pollable	CF-Poll Request	
0	0	Not CF-Pollable
0	1	CF-Pollable – not desiring to be on CF Poll list
1	0	CF-Pollable – desiring to be on CF-Poll list
1	1	CF-Pollable – desiring never to be polled

Access Point

CF Pollable	CF-Poll Request	
0	0	No Point Coordinator
0	1	Point coordinator for delivery only (does not poll)
1	0	Point coordinator for delivery and polling
1	1	Reserved

Capability Information Field Format

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ESS	IBSS	CF Poll-able	CF Poll Req	Privacy / Protected	Short Preamble	PBCC	Channel Agility	Reserved	Reserved	Short Slot Time	Reserved	Reserved	DSSS-OFDM	Reserved	Reserved

* Fixed fields are required to be present in their respective frame types while others are optional depending on the circumstances