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(73) 가 161

(72) 126 404
2 965 - 5
128 - 1101
108 - 1003
2 104 704

(74) :

(54)

OFDM(Orthogonal Frequency Division Multiplexing,) IP
ATM Cell
(MAC : Medium Access Control,) .

P , OFDM(Orthogonal Frequency Division Multiplexing,) I
ATM Cell MAC(Medium Access Control,)
, 가 가
,
MAC .

2

1 LAN ,

2 TDMA/TDD ,

3 PDU ,

4 2 ,

5 ,

6 5 MAC .

MAC(Medium Access Control, Orthogonal Frequency Division Multiplexing, (LAN : Local Area Network) MAC) IP , OFDM(ATM Cell)

(LAN : Local Area Network) CSMA/CA(Carrier Sense Multiple Access / Contention Avoidance) , OFDM(Orthogonal Frequency Division Multiplexing, 가) MAC

ATM Cell , OFDM IP MAC

ing,) IP , OFDM(Orthogonal Frequency Division Multiplexing) ATM Cell MAC(Medium Access Control)

cess Control,) , 가 가
 , MAC .
 ;
 ; 가 가
 , MAC
 가 .
 , OFDM(Orthogonal Frequency Division Multiplexing,) IP
 ATM Cell MAC(Medium Access Control,) , MAC ,
 가 가 , MAC
 , MAC 가 .
 , .
 1 LAN , .
 (Ethernet) (110) (120) ,
 (160) (170) (70) (120) . N (130 ~ 150)
 (120) N (130 ~ 150) (120)
 t) (120) (120) (Time Slo
 (120)
 lex) . TDMA / TDD(Time Division Multiple Access / Time Division Dup
 1 OFDM OFDM 64 TDMA / TDD 48
 / QPSK(Quadrature Phase Shift Keying,) BPSK(Binary Phase Shift Keying,) / QAM(Quadrature Amplitude Modulation,)
) 가 OFDM 가 가 가
 가 .
 [1] . 'h'가 16 (hexadecimal) .
 [1] OFDM

[1]

Code				
8/h ~ F/h	-	-	-	
1/h	64 QAM	3/4	54 Mbps	216(27)
2/h	16 QAM	9/16	27 Mbps	108(13.5)
3/h	16QAM	3/4	36 Mbps	144(18)
4/h	QPSK	1/2	12 Mbps	48(6)
5/h	QPSK	3/4	18 Mbps	72(9)
6/h	BPSK	1/2	6 Mbps	24(3)
7/h	BPSK	3/4	9 Mbps	36(4.5)

[1]

Convolutional

[1] 가 , OFDM , 54 가 , 가 54 가 Zero 가 OFDM (120) (130 ~ 150) [1] 가 BPSK 1/2 , 3 가 MAC 2 TDMA/TDD 가 2 가 가 OFDM - BPSK , [1] OFDM 54 3 가 OFDM 가 OFDM

3 PDU(Protocol Data Unit)

PDU , C - PDU MAC
 IP ATM Cell 가

3 , Frag. 가 IP 48 IP (ATM Cell) , CRC PDU
 가

PDU [2]

[2] PDU

[2]

00/h	
8x/h	
9x/h	
Ax/h	가
01/h	IP packet / ATM Cell
02/h	
03/h ~ 7F/h	

PDU PDU 가 , PDU
 , 가

3 C - PDU 가 , CRC C - PDU
 가

C - PDU [3]

[3] C - PDU

[3]

00/h	reserved	
01/h	association Request	
02/h	association Response	association Request
03/h	association Confirm	association Response
04/h	disassociation Request	association
05/h ~ 7F/h	reserved	
80/h	Resource Request	
81/h	Alive request	
82/h	Alive response	Alive request
83/h	ACK	Acknowledgement
84/h ~ FF/h	reserved	reserved

4

9 + 6*n OFDM 가 n

[4]

[4]

[4]

	4 , 4 16
	. 0/h : x dB 1/h : x + y dB F/h : x + 15y dB
	0/h : not busy 1/h : busy :
CRC	

6

[5]

[5]

[5]

	[6]
	[1] Code
	MAC PDU 13
	PDU , 64

[5] [6] 가 가
 , C - PDU 가 . 가 가
 [6] .

[6]

[6]

0x	PDU	PDU
01/h		Empty PDU
02/h		
03/h		가
04/h		PDU ACK
05/h ~ 7F/h		
8x	PDU	PDU
81/h		Empty PDU
82/h		
83/h		-
84/h		PDU ACK
85/h ~ FF/h		

2 , 3 4 ,
 MAC OFDM OFDM Zero -
 Padding , 가

5 (510), M
 AC (520) (530) .
 (530) TCP/IP IP (530) OS
 (530) IP ATM cell MAC (520)
 (500)

(500) (Preamble)

가 IP MAC (530) MAC MAC (520)

6 5 MAC (610), PDU (615), TDMA / TDD MAC (605), (630),
 C - PDU (635), C - PDU (640), (620), 1 (625), (630),
 (655), PDU (660), (665) (645), 2 (650), TDMA / TDD (670)

, IP

6 (605) IP (605)

SRAM IP (605) (605)
 가 가 (605)

IP (610) 48 PDU Frag.
 (645) PDU (615) 4 PDU TDMA/TDD (620)
 (645) PDU TDMA/TDD (620) PDU PDU / (61
 5) MAC MAC MAC 가 1
 (625) 1 (625) MAC (625) MAC
 FIFO(First In First Out) 1 (625) MAC (6

45) MAC (6) C - PDU TDMA/TDD (630) MAC C - PDU (635) C - PDU MAC

IP

6 2 (650) FIFO(First In First Out) 2 (650) 2 (650)
 TDD (655)가 C - PDU PDU , C - PDU , TDMA/
 (640) C - PDU (640) C - PDU C - PDU
 (645) (645)가
 C - PDU (640) (645) 가

PDU PDU (660) IP PDU (660) PDU IP IP
 48 IP IP IP (605) IP (665)가

(605) , MAC (605) IP
(670) MAC

가 가

MAC TDMA/TDD (665)
가 가 PDU

PDU (615) PDU가 ,
TDMA/TDD (620) 1 TDMA/TDD (625) PDU

25Mbps MAC , OFDM
가
가
가

(57)

1.

OFDM(Orthogonal Frequency Division Multiplexing,) IP ATM
(Cell) MAC(Medium Access Control,)

TDMA/TDD(Time Division Multiple Access / Time Division Duplex)

;

(On) , TDMA/TDD

MAC OFDM 가

2.

1 ,

MAC , 3 ,

MAC 54 LAN ,

3.

MAC(Medium Access Control,) ,

(On) , TDMA/TDD

OFDM 가

MAC

4.

3 ,

MAC , PDU(Protocol Data Unit) ,

IP , ;

가 IP 48 , ,

Frag. ;

IP ATM Cell , , ;

PDU , , CRC

PDU

5.

3 ,

MAC , C - PDU ,

MAC , , ;

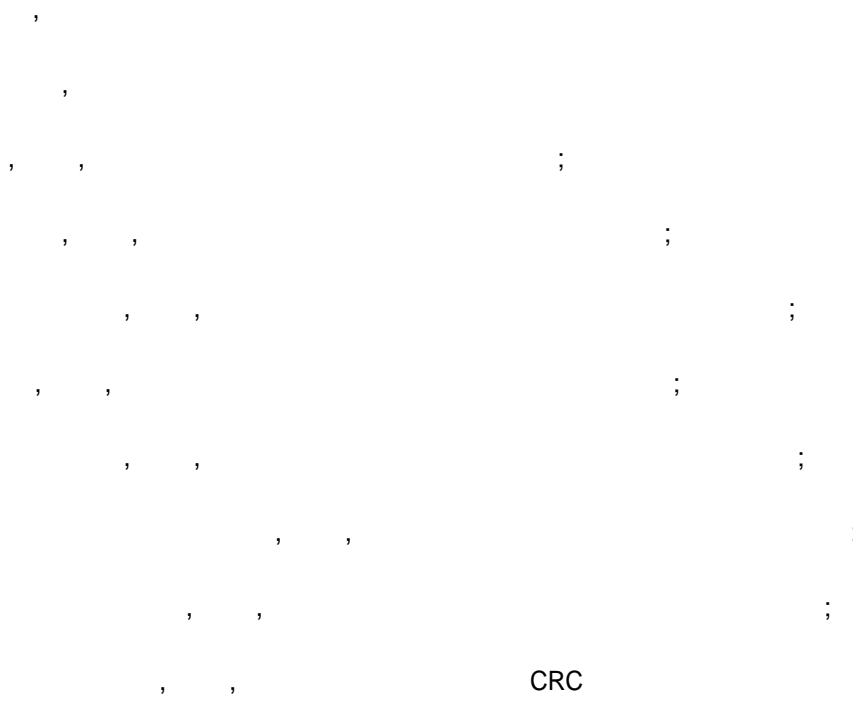
MAC , , ;

C - PDU , , CRC

C - PDU

6.

3



7.

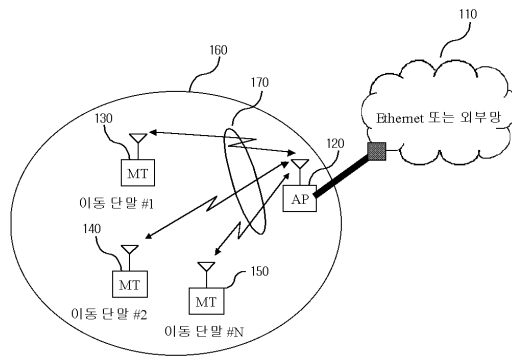
OFDM(Orthogonal Frequency Division Multiplexing,) IP ATM
 (Cell) MAC(Medium Access Control,)

TDMA/TDD(Time Division Multiple Access / Time Division Duplex)
 ;

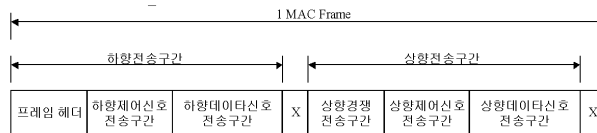
(On) , TDMA/TDD

MAC OFDM 가

1

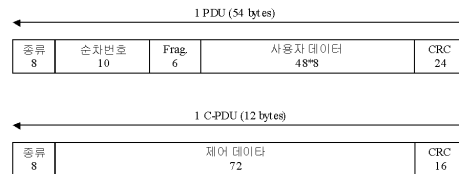


2

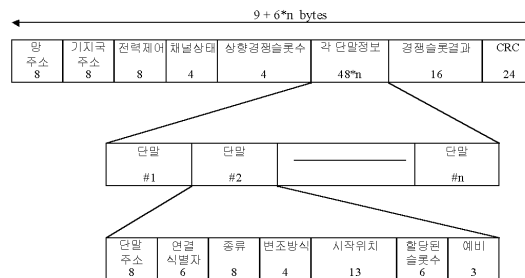


X: 송수신전환시간

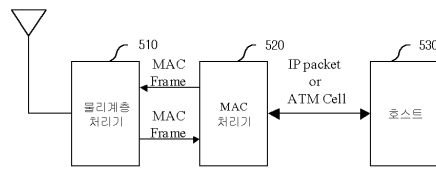
3



4



5



6

