

(19)
(12)(KR)
(B1)(51) 。 Int. Cl. ⁷
H04B 7/005(45)
(11)
(24)2002 10 12
10 - 0355989
2002 09 26(21) 10 - 2000 - 0080198
(22) 2000 12 22(65) 2002 - 0051360
(43) 2002 06 29

(73)

134

(72)

1 25 804

(74)

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(54)

iple Access)

,

CDMA

,

(CDMA : Code Division Mult

,

,

,

,

C

DMA

.

CDMA

,

가

가

가

가

,

,

가

가

가

.

CDMA(Code Division Multiple Access), (Fading)

1 CDMA

2 CDMA BPSK Mr

3 CDMA

4 CDMA outage

<

100 : 200 :

210 : 220 :

iple Access) , CDMA (CDMA : Code Division Mult

DMA C

가 가 ?'

(TDMA : Time Division Multiple Access) , 가 (Frequency Division Multiple Access)

(Code Division Multiple Access)

(Time Slot)

/

가

. TDMA

CDMA

가

TDMA CDMA

TDMA

()

1

()

가

, TDMA
ellular)GSM(Group Special Mobile) ,
GSM

IS - 54

PDC(Personal Digital Ce

T(Conference of European Postal and Telecommunication Administrations)

가 GSM

82 CEP
"Group Special Mobile"
(Roming), FAX,

E - mail, File

, 가 가

GSM

8

8

ing)

Duplex

8

가

(Slot Stagger

(Interference Diversity)

(Frequency Hopping)
(Discontinuous Transmission)

CDMA

. CDMA

1960

ping)

CDMA

FS(Frequency Ho

CDMA

QUALCOMM 가

IS - 95

CDMA 가 QUALCOMM 가 91

94 4 .

CDMA (CAI : Common Air Interface) IS - 95

CDMA CAI IS - 95 가 9.6kb

/s . 128 1.2288Mchips/s ,

() 가 .

1/2 (Convolution Coding) , 64 (Walsh F

unction Sequence)

가 가 .

5 (Pseudo Random Sequence) (Scramble) 21

가 .

(Pilot) , (Traffic)

가 ,

1/3 , 6 64 (Orthogon

al Walsh Functions) (Mapping) . 307.2 kchip/s

가 1.2288 Mchips/s 4 . 1/3 Walsh

(Mapping)

(near - far problem)

(open - loop control) (closed - loop control)가 , 80

0b/s , Rake receiver가 .

가, , (Fading Margin) , (Forward Error Correction) , 가

RF

가 가 .

3 , ,

TDMA

CDMA

(User) (Base Station) CDMA
(Orthogonal Sequence)

가 가

1 CDMA

(100) (User)(200) (200)
(100)(Base Station)
(100) (200) (SIR:signal energy to int
erference ratio) Beacon

(100) (200) (Orthogona
l Sequences) (Orthogonal Sequence) Mr Mr
(200) (200)
Mr (200) (200)
가 Mr (100) 가 Mt
Mu
가 Mr Mf
Mf(=Mt - Mu)

CDMA (210) (200) (100) Mr
(Orthogonal Sequence) (210)

가

(200) (100)
k Mr

Mr 가 $\log_2 Mr$
k $\log_2 Mr$

QPSK $k+2$ 가 QPSK $\frac{k}{2}$, k QPSK $k+2$
 2 가 $k/2+1$ 가 .

BPSK k k
 $+1$ 가 .

가

. , Mr

가 .

2 CDMA BPSK Mr

, Mr 가
 가 가 .

BPSK $k+1$. 2
 Mr 가

CDMA

Mr

CDMA

, 2

Mr

CDMA

BER 10^{-6}
 3.1dB, 3.7dB, 4.2dB, 4.5dB

CDMA

Mr=8, 16, 32, 64, 128

2.3dB,

(200)

Mr

(

) Fm

alpha

(200)

Mr

If (alpha = Fm) then Mr=1;

If (Fm alpha < = Fm + G8) then Mr=8;

If(Fm+G8 alpha < = Fm+G16) then Mr=16;

If(Fm+16 alpha < = Fm+G32) then Mr=32;

If(Fm+G32 = alpha) then Mr=64;

, Gx 2

CDMA

3 CDMA

(200)

(100)
 (200)

(:S1).

(100)
 (:S2).

(200)

, (100) 가 (:S3). , 가 가
(:S4), Mr (:S5) Mr
(200) (:S6).

(200) (100)
(:S7).

, (200) (200),
(100) .

(200) (100)
(:k) (:S8).

(k)가 k Mr
(:S9) (:S10).

, (BPSK, QPSK) 가 (:
S11).

, (220) k .
, k .

4 CDMA(BPSK)
outage .

outage (Fade Margin) 가
.

4 CDMA outage .

, 가
, 가
, .

, CDMA
, CDMA , 가
가 가 가 가 가 가

(57)

1.

(User) (:Base Station) (CDMA)

,

가

;

Mr (Orthogonal Sequences) ;

;

Mr ,

CDMA .

2.

1 , ,

(Orthogonal Sequence) (k)

;

Mr

;

;

가 ;

,

k

CDMA .

3.

2 , (k) Mr

CDMA .

4.

2 , (PSK)

CDMA .

5.

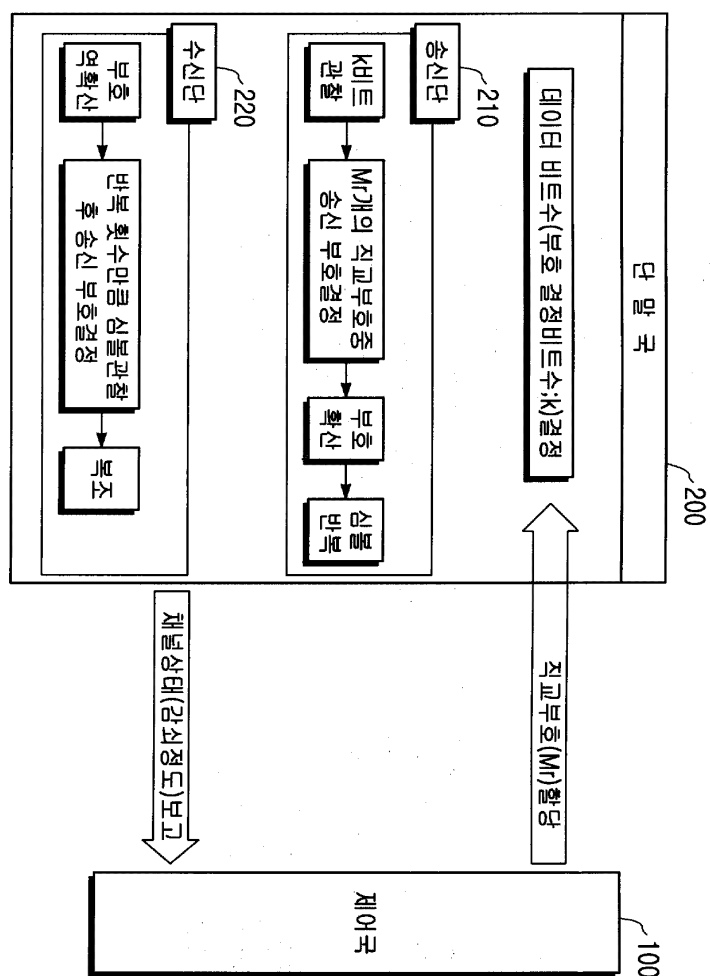
가

CDMA

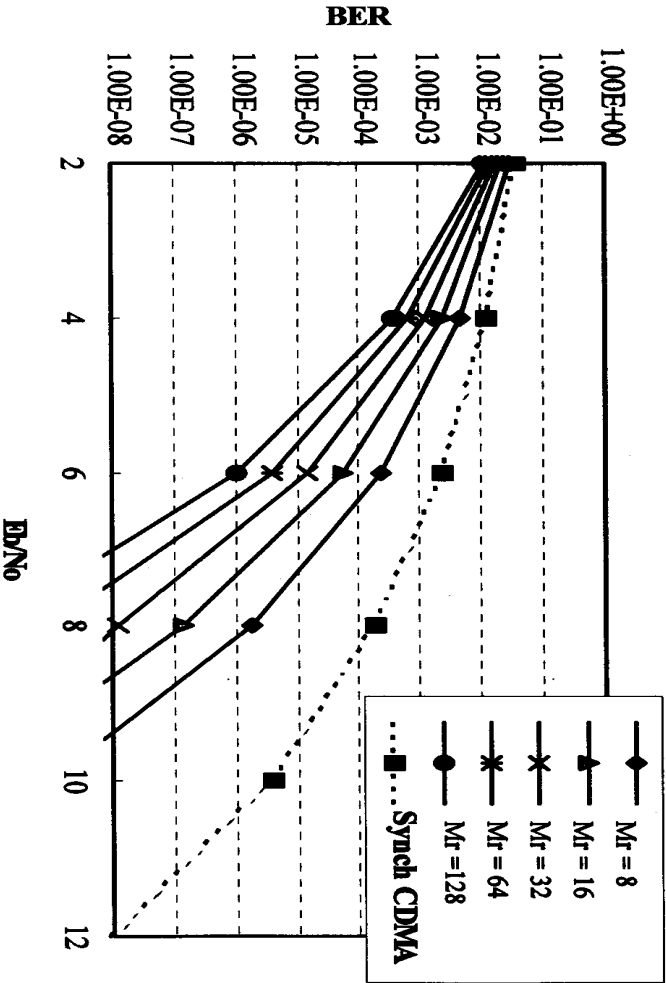
Mr

Mr

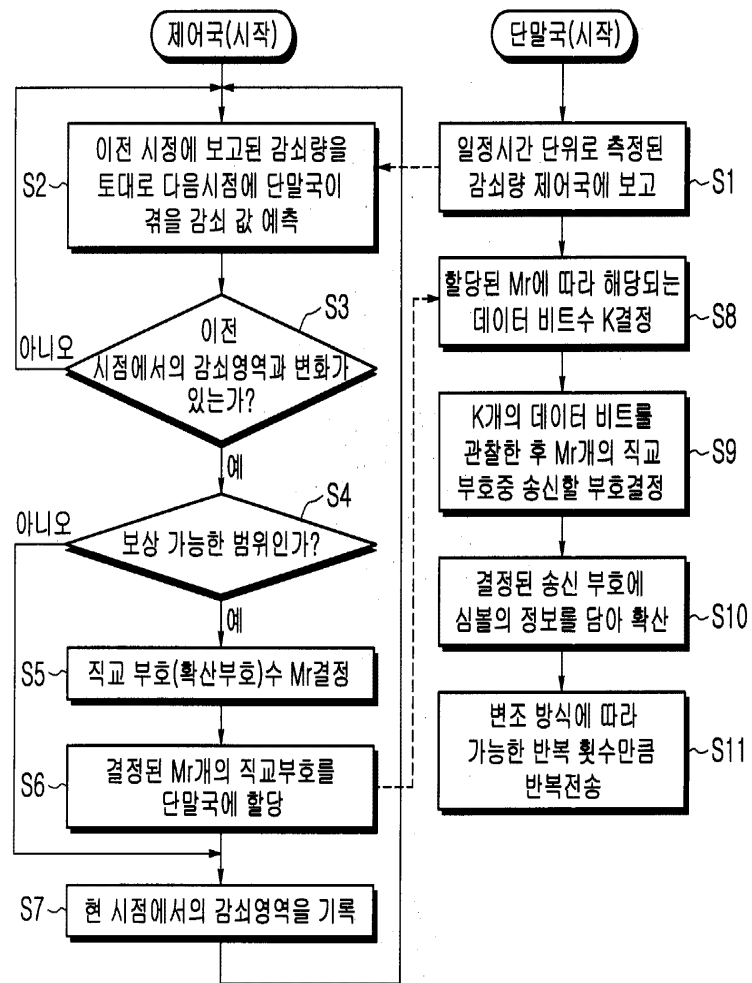
1



2



3



4

