

(General Packet Radio Service ; , GPRS)
, GPRS , (Grob
al System for Mobile Communications ; , GSM)

GPRS

GPRS (single source entity)가
가 (Point to Multipoint ; , PTM)
가 가
가 (Multicast Group) (Grou
p Identifier)가

GPRS , (Authentication) (ciphering) ,
가 가

, GPRS (ETSI : European Telec
ommunications Standard Institute) (Universal M
obile Telecommunications System ; , UMTS)
가 UMTS , (Authentication)
(ciphering)가 가 , 가 가

가 , 가 가

가 UMTS

ervice)가 (Distribution Se

(HiFi Audio Broadcasting)가

(Remote Downloading)가

ational Mobile Group Identity ; , IMG I) (Intern

, IMG I 가 , IMG I GPRS

IMG I GPRS 가 , PTM 가 IMG I PTM

IMGI 가 (Authentication) .

(User Entity ; , UE)가 (Idle mode)
(, UTRAN)

PTM , (Unidirectional), 가
(MCH : Multicast Channel)
(MCH) (Logical Channe

Channel) (mapping) (DCH : Dedicated Channel) (FACH : Forward Access
가 (MCH) ,
(Dedicated Channel) (Idle mode)

, (DCH) (Connected mode) , (FAC
H) 가

가 가 가
(MCCH) (MCH) (MTCH) , (MCH) ,
(MCH) (MCCH)

가 가

(Multicast Traffic Channel ; , MTCH) (Logical c
 hannel) (Multicast Channel ; , MCH)
 (Multicast Control Channel ; , MCCH) (Transport channel) (Mul
 (Physical Multicast Channel ; , PMCH) (Physical channel)

MTCH가 , GPRS MCH MTCH가
 (Logical channel)

1

description) PTM MTCH (Unidirectional), (MCH)
 가 가 가 (Subs
 가
 IMGI가 가

(Transport channel)

가 가

가 가

가 가

가

가

, UE가

가

가

(Idle mode)

(Sleep mode)

(Sleep mode)

MCCH가

(Common Radio Link)

가

가

(Higher Layer)

(reliable/unreliable data transfer) 가

가

가

MCH 가 , MCH
 , 가 MCH

MTCH (Bearer Capability)
 가 , MTCH (Scheduling)
 (Multiplexing)

MTCH (Scheduling) (Multiplexing) MAC 2
 duling) , MCCH (Sleep mode) (Scheduling)

MCCH IMGI
 , MCCH MCH 가
 , UE MCCH MCH

MCCH 가 , 가

MCCH
 , MCCH , 가 가
 , 가 가 가 (Sleep mode)

(Common Radio Link) , 가 가 MCCH가
 , IMGI
 가 가 ,
 (Broadcast Channel ; , BCH)
 , MCCH

MCH MCCH
 MCCH MCH MCH 가
 , MCH (Multi - code Mechanism) , MCH
 가

MCH 가 , MCCH MCH

MCH

BCH

가 , UE 가

가

UE BCH

, MCCH

MCCH MCCH MCCH 가 MCCH , 가

, MCH 가 (Multi - code) 가

UE가

, UE IMGI BCH , UE UTRAN MCCH

가 가 , MCCH IMGI

가 , 가 MC

MCH

MCCH MCH

, MCCH MCH

3

3

MCH (Physical Multicast Channel ; , PMCH)

가

가 가 가

MCH
PMCH

MCCH
(Pilot bit)가

MCH
가

PMCH
(Multi - code)

MCCH
(Physical Multicast Control Channel ; , PM
, PMCH)
CCH)
가

PMCCH

TFCI
가

H
CH

PMCCH
, TFCI
PM

가
(Multicast Paging Cycle)

가
, TFCI
PMCCH

3
TFCI
가 PMCH

, MCH
, MCCH
UE

MCH

4
MAC

MAC
(SAP : Service Access Point)

5

5
T_AWAKE),
(MT_SLEEP)

UE
, UE
(MT_NULL),
(M

,
(MT_NULL)
,
(MT_NULL)
가
(MT_AWAKE)

(MT_AWAKE)
가

MCCH
,
(MT_SLEEP)

MCH
(MT_SLEEP)
MCCH
MCH

(Access Stratum ; , AS)

(Non - Access Stratum ; , NAS)
가

NAS AS
AS

NAS
, NAS AS

NAS AS

ation) (ciphering) , 가 가 , (Higher Layer) (Authentic
 (RRC : Radio Resource Control Layer) (Scheduling)
 (Medium Access Control Layer ; , MAC) (Mult
 iplexing) (Demultiplexing) , (Physical Layer) (multi - code) 가
 , 가 (UE)가
 6
 6 , UE가 , UE가
 UE (Ciphering Key)
 UE - NAS(1) UTRAN 가 , UE - AS(2) UTRAN 가
 UE - AS(2) (Dedicated Control Channel : DCCH) UTRAN
 UE - AS(2) IMGI UTRAN
 UTRAN 가 (Group member) (Authentication) , UTRAN
 가 (Random number)
 UE - AS(2)가 UTRAN , UTRAN
 UE - AS(2) (Ciphering Key)
 DCCH
 7 (UE)
 7 UE - NAS(1) UE - AS(2) , UE UTR
 AN

(2) UE - NAS(1) UE - AS(2) (RRC) , UE - AS
UE - NAS(1) . UE - NAS(1) IMGI UE - AS(2)

UE - AS(2) UTRAN

8 (UTRAN)

8 UTRAN - AS(3)가 UE - AS(2) UTRAN - NAS(4)

UTRAN - NAS(4) UTRAN - AS(3) , IMGI, UE

, UTRAN - NAS(4) , UTRAN - AS(3)

UTRAN - NAS(4) UTRAN - AS(3) (RRC)

UTRAN IMGI, UE
UE - AS , UE - AS(2) MTCH

9 (UE)

UE - AS(2) MTCH 가 UE - NAS(1)

10 (UE)

NAS(1) IMGI UE - NAS(1)가 UE - AS(2) UE -

UE - NAS(1) UE - AS(2) (RRC)

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MCH PMCH , MCCH
PMCCCH (Secondary CCPCH)

MTCH

ing) , (Schedul

MCCH 가 MCH

, 가 가 가 . ,

(57)

1.

가 가 가 (MTCH) ; ,

(MCH) (MCCH) (MCH) ;

(MCH) (MCCH)

2.

1 , (MCCH) , 가 가
가 가 (IMGI)

3.

2 , (IMGI) (MCCH) (MCH)

4.

1 , , (MCH)
가

5.

1 , (MCH)
TFCI 가

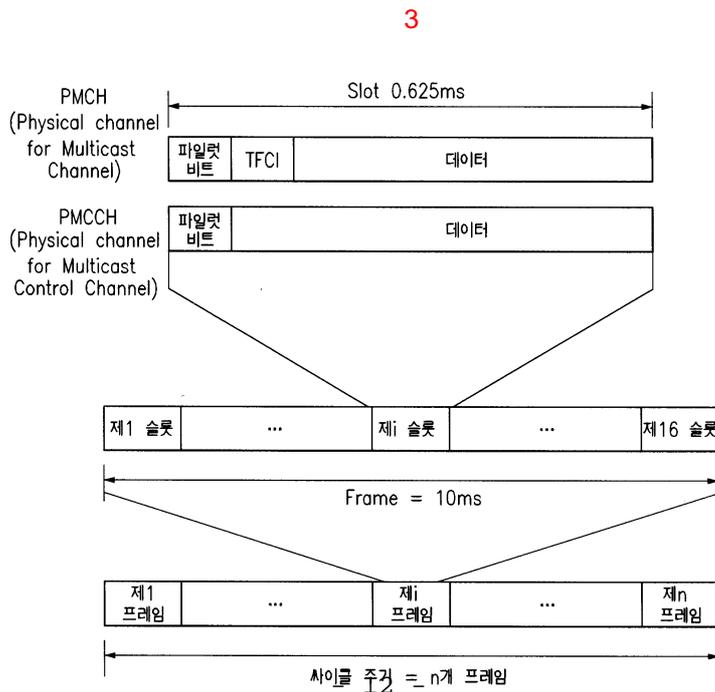
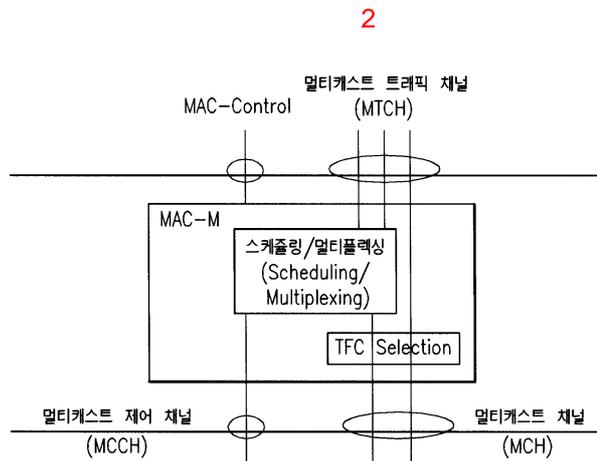
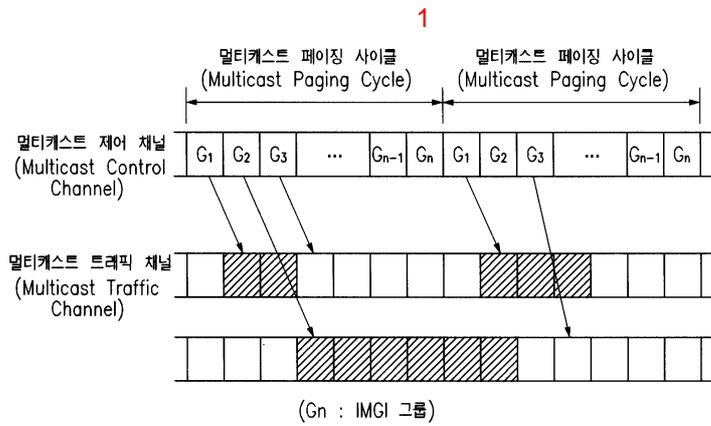
6.

1 , ,
TFCI 가

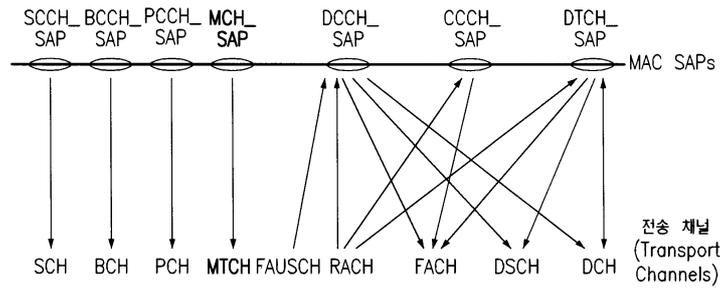
7.

가 , 가

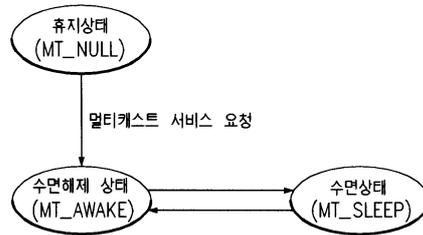
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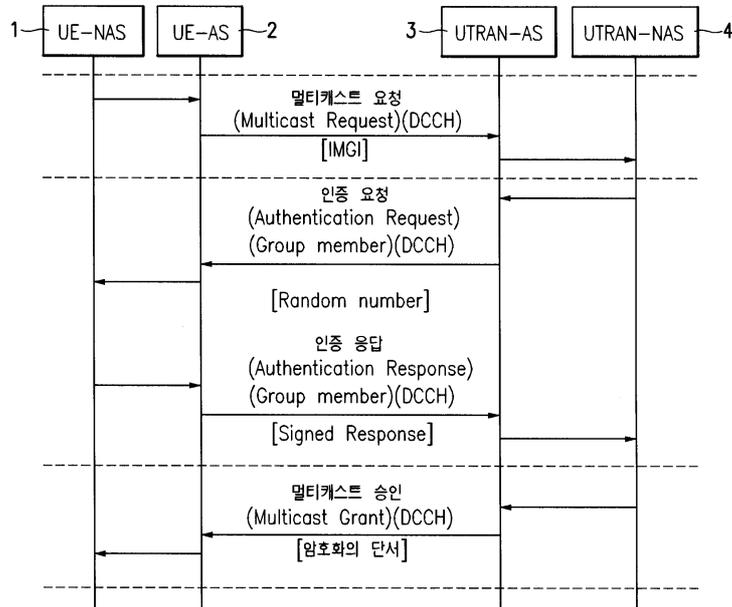
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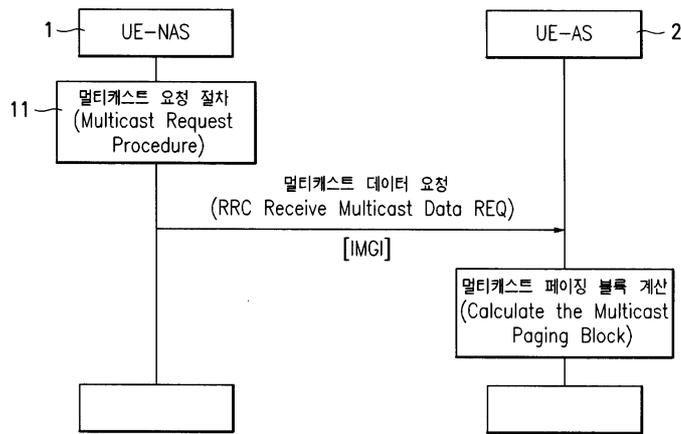
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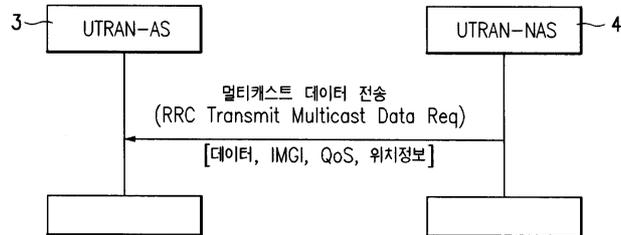
6



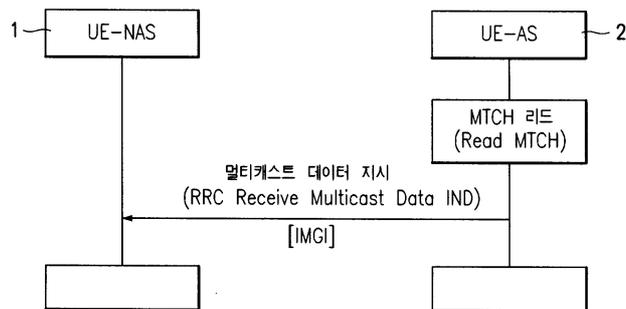
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8



9



10

