

GLOBAL SYSTEM FOR MOBILE COMMUNICATION (GSM)

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GSM

ETSI

MAP, MS , NMS , BSS , NSS , GSM :

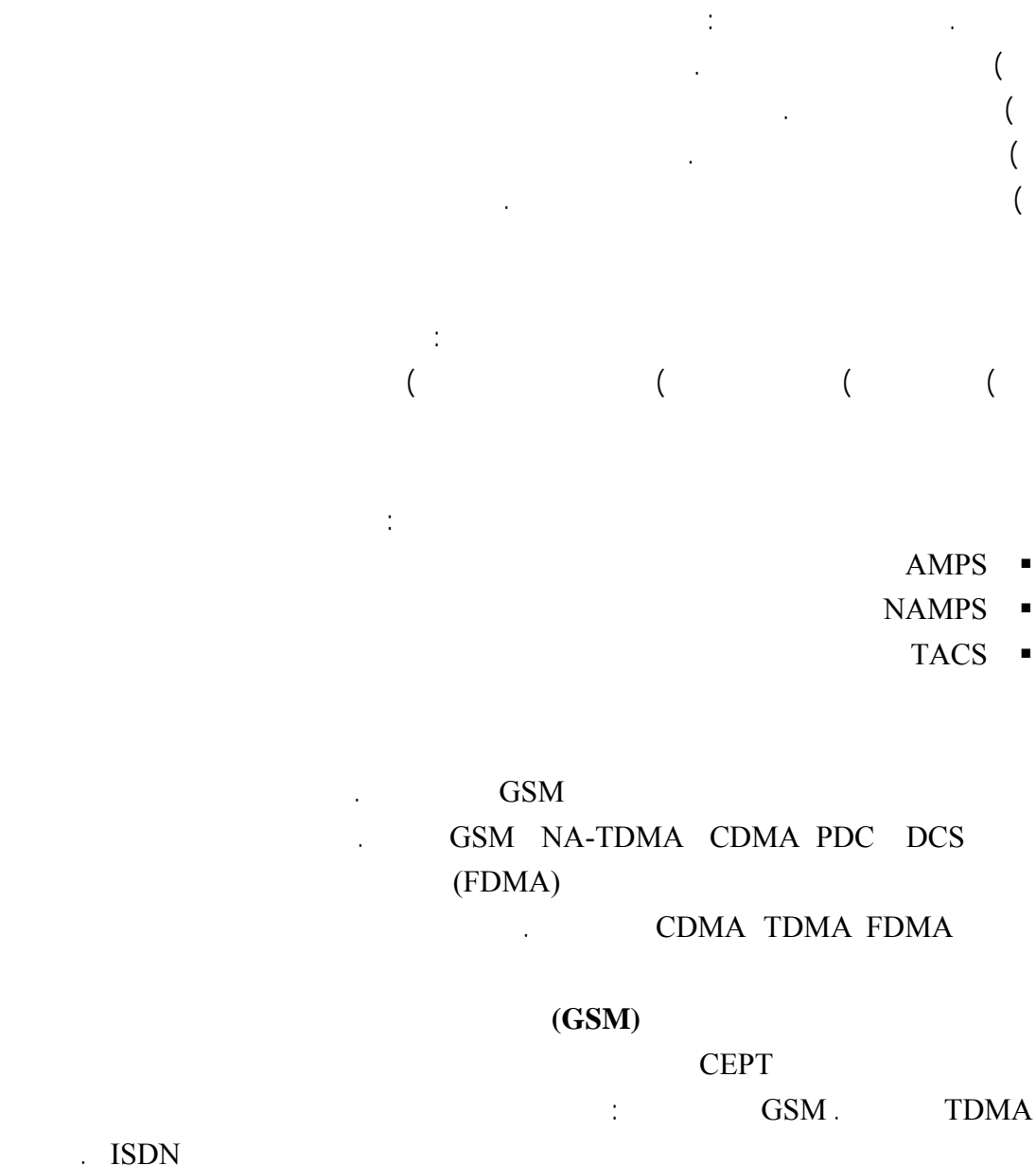
(B)

(A)

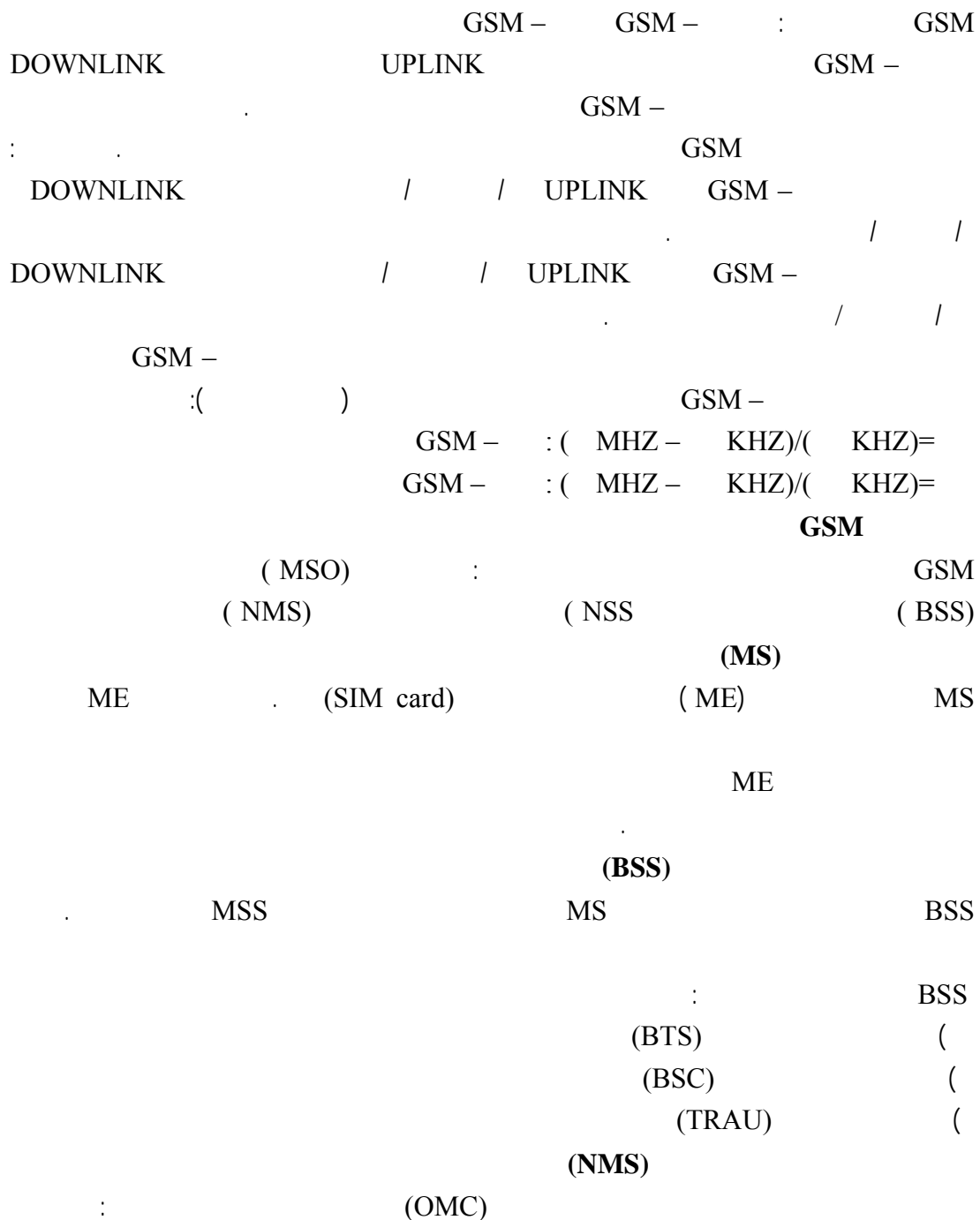
LA

A

B A



Advanced Mobile Phone Service
 Narrow Band AMPS
 Total Access Communication System
 Digital Cellular System at 1800 MHz
 -Personal Digital Cellular
 Narrow Band TDMA
 Frequency Division Multiple Access
 Conference Europeenne des Postes et Telecommunications
 Integrated Services Digital Netwo



Mobile Station
base Station Subsystems
Network Switching Subsystem
Network Management Subsystem
Mobile Equipment
Base Transceiver Station
Transcoding and Rate Adaption Unit (Transcoder Unit)
Operation & Maintenance Center

(
 (
 (
 (NSS)
 GSM NSS
 :
 MSC , VLR , HLR , AUC , EIR , GMSC , SMS GMSC
 (HLR)
 HLR
 HLR PLMN
 : HLR
 ((
 MSC .. MSISDN IMSI
 VLR
 (VLR)
 MS VLR MSC MS
 MSC Location Update LA
 VLR MS LA
 LA LA MS LA VLR
 (update MS VLR) VLR
 VLR HLR VLR LA LA
 VLR
 :
 : (
 IMSI, MSISDN, Mobile Station Category, Bearer Service, Tele Service,
 .Subscriber Status, Barring of Outgoing Calls, Trace Reference, Trace
 Type

Authentication Center

Equipment Identity Register

Gateway MSC

Short Message Service GMSC

International Mobile Subscriber Identity

MobileStation International ISDN Number

Location Area

: (TMSI , RAND, SRES, Kc, CKSN , MSRN , LAI , MSC Number, HLR Number, LA Not allowed flag, IMSI Detached Flag, Handover Number, MNRF , ... Trace Activated Flag, SS

(MSC)

MSC . GSM MSC
 MS MSC . BSC

(GMSC)

PLMN
 MSC . MSC HLR
 MSC HLR
 . MS
 GMSC B MSC MSC

(AUC)

.
 HLR . AUC
 HLR Kc SRES RAND triplet

(EIR)

EIR . EIR
 :
 GSM : (:
 ME : (:
 : (

Temporary Mobile Subscriber Identity
 Ciphering Key Sequence Number
 Mobile Station Roaming Number
 Location Area Identity
 Mobile Not Reachable Flag
 Supplementary Service

(SMS)

GSM

GSM

PLMN

PLMN

GSM

PLMN

MSC/ VLR

PLMN

MSC/VLR

LA

MSC/VLR

MS LA

LA

update

LAI

LA

LA

LA

BTS

LA

()

BTS

TRX

Time slot

TRX

GSM

PSTN/ISDN

GSM

MSC

MSC (

GSM

(

Roaming Number

Circuit-Switch

(

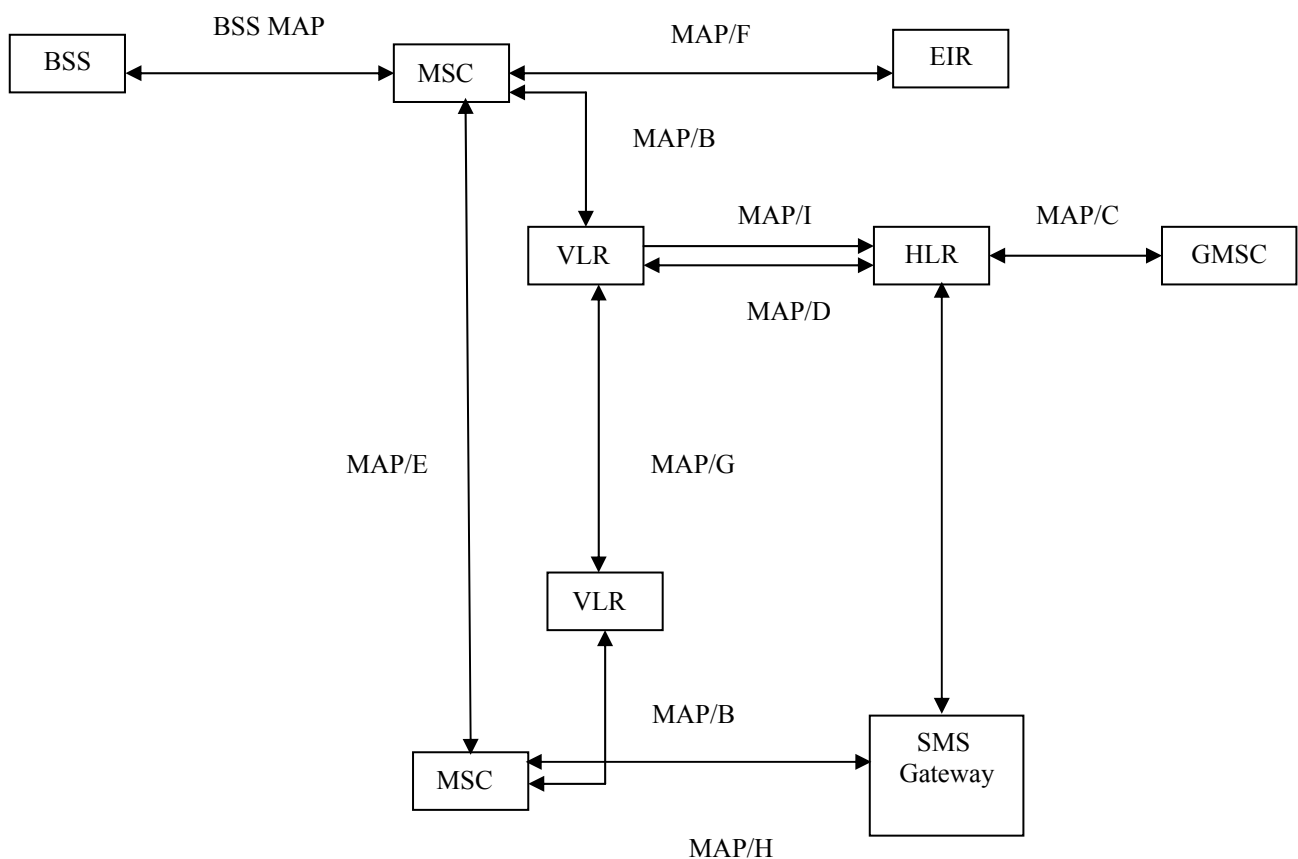
Handover

PLMN

(MAP)

Transmitter-Receiver (Transceiver)

. GSM MAP
 . MAP TCAP . NSS MAP
 ((: MAP
 : MAP (MAP-OPEN , MAP-CLOSE , MAP-DELIMITER , MAP-U-ABORT ,
 MAP-P- ABORT , MAP-NOTICE
 : MAP (MOILITY , OPERATION AND MAINTENANCE , CALL HANDING
 SUPPLEMENTARY , SHORT MESSAGE SERVICE MANAGEMEN
 PRIMITIVE ()
 Request , Indication , Response , Confirm :
 . MAP



Transaction Capabilities Application Part
 Map User Abort
 Map Provider Abort

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[]<http://www.nokia.com>

[]<http://www.etsi.org>