

LTE Identifiers

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IMSI

International Mobile Subscriber Identity
Identifies the SIM or USIM

PLMN

Public Land Mobile Network

MSIN

Mobile Subscriber
Identification Number

MCC

Mobile Country
Code

MNC

Mobile
Network Code

HLR/HSS
Identity

Subscriber
Identity

3 digits

2 to 3 digits

GUTI

Globally Unique Temporary Identifier

Identifies the UE globally without revealing identity

GUMMEI

Globally Unique Mobile Management Entity Identifier

M-TMSI

MCC

MNC

MME Group
ID

MME Code

*Identifies
the mobile*

3 digits
1 nibble per
digit

2 to 3 digits
1 nibble per
digit

16 bit

8 bit

32 bit

MME
Identifier

S-TMSI
*Used for mobile
paging*

MME
Group ID

MME
Code

MME
Code

M-TMSI

16 bit

8 bit

8 bit

32 bit

IMEISV

International Mobile Equipment Identity with Software Version

Identifies the mobile equipment serial number, hardware model number and software version number

TAC
Type Approval
Code

SNR
Serial Number

SVN
Software Version

8 digits

6 digits

2 digits

Radio Network Temporary Identifier (RNTI)

P-RNTI

- Identifies a group of mobiles in a paging message
- Derived from the IMSI of the user

RA-RNTI

- Assigned in response to a random access preamble
- UE will use the RA-RNTI to initiate the RRC Connection

C-RNTI

- Identifies the mobile within a cell
- Can be temp, semi persistent or permanent

SI-RNTI

- Sent on PDCCH to specify the location of System Information Blocks on the PD-SCH
- Not mobile specific

C-RNTI

Temp C-RNTI

- Allocated during the random access procedure
- May turn into a permanent C-RNTI after contention resolution

Semi persistent C-RNTI

- Used to schedule semi persistent resources via the PDCCH
- SPS-CRNTI is used for scheduling persistent scheduling,

Permanent C-RNTI

- C-RNTI value assigned after contention resolution after a random access
- Used for scheduling dynamic resources

TAI

Tracking Area Identity

Tracking area contains several cells. Typically all cells of a eNodeB would constitute a tracking area.

MCC
Mobile Country Code

MNC
Mobile Network Code

TAC
Tracking Area Code

3 digits

2 to 3 digits

16 bits

PDN ID

Packet Data Network Identity

APN

Access Point Name

<APN-NI>.apn.epc.mnc<MNC>.mcc<MCC>.3gppnetwork.org

APN-NI

APN Network Identifier

APN-OI

APN Operator Identifier

Defines the PDN to which the UE requests connectivity

Defines the PLMN in which the PDN GW is located

LTE Bearer Establishment Identifiers

EPS Bearer ID

- Evolved Packet System Bearer Identifier
- Identifies an EPS bearer (Default or Dedicated) within a UE
- 4 bits

E-RAB ID

- E-UTRAN Radio Access Bearer Identifier
- Identifies an E-RAB per within a UE
- 4 bits

DRB ID

- Data Radio Bearer Identifier
- Identifies a DRB per within a UE
- 4 bits

More LTE Identities

eNB S1AP UE ID

- Uniquely identifies UE within a eNB
- The ID is used over the S1-MME interface
- 32 bit

MME S1AP UE ID

- Uniquely identifies a UE within an MME
- The ID is used over the S1-MME interface
- 32 bit

TEID

- Tunnel Endpoint Identifier
- Endpoint in a GTP Tunnel

Global eNB ID

- Globally identifies the eNB
- PLMN id + eNB ID

Thank You

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Links	Description
EventStudio System Designer	Sequence diagram based systems engineering tool.
VisualEther Protocol Analyzer	Wireshark based visual protocol analysis and system design reverse engineering tool.
Telecom Call Flows	GSM, SIP, H.323, ISUP, LTE and IMS call flows.
TCP/IP Sequence Diagrams	TCP/IP explained with sequence diagrams.
Telecom • Networking • Software	Real-time and embedded systems, call flows and object oriented design articles.