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## Foreword

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## 1 Scope

The purpose of this report is to identify specialist technical terms used within the 3GPP project for the purposes of specifying service requirements. The motivations for this are:

- To ensure that editors use terminology that is consistent across specifications.
- To provide a reader with convenient reference for technical terms that are used across multiple documents.
- To prevent inconsistent use of terminology across documents.

This document is a collection of terms, definitions and abbreviations related to the baseline documents defining 3GPP objectives and systems framework. This document provides a tool for further work on 3GPP technical documentation and facilitates their understanding.

The terms, definitions and abbreviations as given in this document are either imported from existing documentation (ETSI, ITU or elsewhere) or newly created by 3GPP experts whenever the need for precise vocabulary was identified.

## 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.
- [1] Void
- [2] Void
- [3] "The Path towards UMTS Technologies for the Information Society" Report #2, UMTS Forum.
- [4] 3GPP TS 23.122: "Non-Access-Statum (NAS) functions related to Mobile Station (MS) in idle mode".
- [5] ETSI TR 180 000: "NGN terminology".
- [6] IEC 60050-161: "International Electrotechnical Vocabulary Chapter 161: Electromagnetic compatibility".
- [7] 3GPP TS 23.401: "General Packet Radio Service (GPRS) enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) access".
- [8] 3GPP TS 23.101: "General Universal Mobile Telecommunications System (UMTS) architecture".
- [9] 3GPP TS 23.682: "Architecture enhancements to facilitate communications with packet data networks and applications".

## 3 Terms and definitions

### 0-9

**1.8V technology Smart Card:** A Smart Card operating at  $1.8V \pm 10\%$  and  $3V \pm 10\%$ .

**1.8V technology Terminal:** A terminal operating the Smart Card - Terminal interface at  $1.8V \pm 10\%$  and  $3V \pm 10\%$ .

**3GPP Generic User Profile (GUP):** The 3GPP Generic User Profile is the collection of user related data which affects the way in which an individual user experiences services and which may be accessed in a standardised manner.

**3GPP system:** A telecommunication system conforming to 3GPP specifications, consisting of one or more 3GPP core networks, one or more 3GPP access networks (providing GSM/EDGE, UTRA, E-UTRA, or NR radio access), and/or non-3GPP access networks (such as WLAN), and User Equipment.

**3GPP System core network:** refers in this specification to an evolved GSM core network infrastructure.

**3GPP System coverage:** see coverage area.

**3GPP System IC Card:** An IC card (or 'smartcard') of defined electromechanical specification which contains at least one USIM.

**3GPP System mobile termination:** part of the 3GPP System Mobile Station which provides functions specific to the management of the radio interface (Um).

**3GPP-WLAN Interworking:** Used to generically refer to interworking between the 3GPP system and the WLAN family of standards.

**3V technology Smart Card:** A Smart Card operating at  $3V \pm 10\%$  and  $5V \pm 10\%$ .

**3V technology Terminal:** A terminal operating the Smart Card - Terminal interface at  $3V \pm 10\%$  and  $5V \pm 10\%$ .

### А

A/Gb mode: mode of operation of the MS when connected to the Core Network via GERAN and the A and/or Gb interfaces.

Acceptable Cell: A cell that the UE may camp on to make emergency calls. It must satisfy certain conditions.

Access conditions: A set of security attributes associated with a file.

Access delay: The value of elapsed time between an access request and a successful access (source: ITU-T X.140).

Access Stratum: functional grouping consisting of the parts in the infrastructure and in the user equipment and the protocols between these parts being specific to the access technique (i.e. the way the specific physical media between the User Equipment and the Infrastructure is used to carry information).

Note: For full definition, see 23.101 [8], clause 6.2.

Access Stratum SDU (Service Data Unit): Unit of data transferred over the access stratum SAP (Service Access Point) in the Core Network or in the User Equipment.

Access protocol: A defined set of procedures that is adopted at an interface at a specified reference point between a user and a network to enable the user to employ the services and/or facilities of that network (source: ITU-T I.112).

Accounting: The process of apportioning charges between the Home Environment, Serving Network and User.

Accuracy: A performance criterion that describes the degree of correctness with which a function is performed. (The function may or may not be performed with the desired speed.) (source: ITU-T I.350).

Active communication: a UE is in active communication when it has a CS connection established. For PS active communication is defined by the existence of one or more Activated PDP contexts. Either one or both of the mentioned active communications may occur in the UE.

Active Set: Set of radio links simultaneously involved in a specific communication service between an UE and a UTRAN.

Adjacent Channel Leakage power Ratio (ACLR): The ratio of the average power centered on the assigned channel frequency to the average power centered on an adjacent channel frequency. In both cases the average power is measured with a filter that has Root Raised Cosine (RRC) filter response with roll-off  $\alpha = 0.22$  and a bandwidth equal to the chip rate.

Air Interface User Rate: The user rate between Mobile Termination and IWF. For T services it is the maximum possible AIUR not including padding. For NT services it is the maximum possible AIUR.

ALCAP: Generic name for the transport signalling protocols used to set-up and tear-down transport bearers.

Allowable PLMN: A PLMN which is not in the list of forbidden PLMN in the UE.

Allowed CSG list: A list stored in the UE containing the CSG identities and associated PLMN identities of the CSGs to which the subscriber belongs.

Ancillary equipment: Equipment (apparatus), used in connection with a receiver, transmitter or transceiver is considered as an ancillary equipment (apparatus) if:

- the equipment is intended for use in conjunction with a receiver, transmitter or transceiver to provide additional operational and/or control features to the radio equipment, (e.g. to extend control to another position or location); and
- the equipment cannot be used on a stand alone basis to provide user functions independently of a receiver, transmitter or transceiver; and
- the receiver, transmitter or transceiver to which it is connected, is capable of providing some intended operation such as transmitting and/or receiving without the ancillary equipment (i.e. it is not a sub unit of the main equipment essential to the main equipment basic functions).

Applet: A small program that is intended not to be run on its own, but rather to be embedded inside another application

**Application**: an application is a service enabler deployed by service providers, manufacturers or users. Individual applications will often be enablers for a wide range of services. (UMTS Forum report #2) [3]

Applications / Clients: These are services, which are designed using service capability features.

Application Dedicated File (ADF): an application DF is the entry point to an application on the UICC.

Application Interface: Standardised Interface used by application/clients to access service capability features.

Application protocol: The set of procedures required by the application.

ASCI Generic name to identify the services VGCS, VBS and eMLPP.

**Authentication:** A property by which the correct identity of an entity or party is established with a required assurance. The party being authenticated could be a user, subscriber, home environment or serving network.

Available PLMN: A PLMN where the UE has found a cell that satisfies certain conditions.

Average power: The thermal power as measured through a root raised cosine filter with roll-off  $\alpha = 0.22$  and a bandwidth equal to the chip rate of the radio access mode. The period of measurement shall be one power control group (timeslot) unless otherwise stated.

### В

Band category: A group of operating bands for which the same MSR scenarios apply

**Base Station:** A base station is a network element in radio access network responsible for radio transmission and reception in one or more cells to or from the user equipment. A base station can have an integrated antenna or be connected to an antenna by feeder cables. In UTRAN it terminates the  $I_{ub}$  interface towards the RNC. In GERAN it terminates the Abis interface towards the BSC.

**Baseline capabilities:** Capabilities that are required for a service-less UE to operate within a network. The baseline capabilities for a UE include the capabilities to search for, synchronise with and register (with authentication) to a network. The negotiation of the UE and the network capabilities, as well as the maintenance and termination of the registration are also part of the required baseline capabilities.

**Base Station Controller:** This equipment in the BSS is in charge of controlling the use and the integrity of the radio resources.

Base station receive period: The time during which the base station is receiving data subframes or UpPTS.

**Base Station RF bandwidth:** The bandwidth in which a Base Station transmits and receives multiple carriers and/or RATs simultaneously

Base Station RF bandwidth edge: The frequency of one of the edges of the Base Station RF bandwidth

**Base Station Subsystem:** Either a full network or only the access part of a GERAN offering the allocation, release and management of specific radio resources to establish means of connection between an MS and the GERAN. A Base Station Subsystem is responsible for the resources and transmission/reception in a set of cells.

**Baseline Implementation Capabilities:** Set of Implementation capabilities, in each technical domain, required to enable a UE to support the required Baseline capabilities.

Basic OR Basic Optimal Routeing

Basic telecommunication service: This term is used as a common reference to both bearer services and teleservices.

Bearer: A information transmission path of defined capacity, delay and bit error rate, etc.

Bearer capability: A transmission function which the UE requests to the network.

**Bearer independent protocol**: (UICC) Mechanism by which the ME provides the (U)SIM applications on the UICC with access to the data bearers supported by the ME and the network.

**Bearer service:** A type of telecommunication service that provides the capability of transmission of signals between access points.

**Best effort QoS:** The lowest of all QoS traffic classes. If the guaranteed QoS cannot be delivered, the bearer network delivers the QoS which can also be called best effort QoS.

**Best effort service:** A service model which provides minimal performance guarantees, allowing an unspecified variance in the measured performance criteria.

Billing: A function whereby CDRs generated by the charging function are transformed into bills requiring payment.

**Broadcast:** A value of the service attribute "communication configuration", which denotes unidirectional distribution to all users (source: ITU-T I.113).

**Byte code:** (UICC) A hardware machine independent representation of a primitive computer operation that serves as an instruction to a software program called an interpreter or a virtual machine that simulates the hypothetical computer's central processing unit. code generated by a Java compiler and executed by the Java interpreter.

## С

**Cable, Connector, and Combiner Losses (Transmitter) (dB):** The combined losses of all transmission system components between the transmitter output and the antenna input (all losses in positive dB values).

**Cable, Connector, and Splitter Losses (Receiver) (dB):** The combined losses of all transmission system components between the receiving antenna output and the receiver input.

**CAC** (**Connection Admission Control**): A set of measures taken by the network to balance between the QoS requirements of new connections request and the current network utilisation without affecting the grade of service of existing/already established connections.

Call: a logical association between several users (this could be connection oriented or connection less).

Carrier: The modulated waveform conveying the E-UTRA, UTRA or GSM/EDGE physical channels

Carrier frequency: center frequency of the cell

**Camped on a cell:** The UE is in idle mode and has completed the cell selection/reselection process and has chosen a cell. The UE monitors system information and (in most cases) paging information. Note that the services may be limited, and that the PLMN may not be aware-of the existence of the UE within the chosen cell.

**Capability Class:** A piece of information which indicates general 3GPP System mobile station characteristics (e.g. supported radio interfaces,...) for the interest of the network.

**Card session:** A link between the card and the external world starting with the ATR and ending with a subsequent reset or a deactivation of the card.

CBS DRX cycle: The time interval between successive readings of BMC messages.

**Cell:** Radio network object that can be uniquely identified by a User Equipment from a (cell) identification that is broadcasted over a geographical area from one UTRAN Access Point. A Cell is either FDD or TDD mode.

**Cell Radio Network Temporary Identifier (C-RNTI):** The C-RNTI is a UE identifier allocated by a controlling RNC and it is unique within one cell controlled by the allocating CRNC. C-RNTI can be reallocated when a UE accesses a new cell with the cell update procedure.

**Cellular Text telephone Modem (CTM):** A modulation and coding method intended for transmission of text in voice channels for the application of real time text conversation.

**Channel bandwidth:** The RF bandwidth supporting a single RF carrier with the transmission bandwidth configured in the uplink or downlink of a cell. The channel bandwidth is measured in MHz and is used as a reference for transmitter and receiver RF requirements.

Channel edge: The lowest and highest frequency of the carrier, separated by the channel bandwidth.

**Chargeable Event:** An activity utilising telecommunications network infrastructure and related services for user to user communication (e.g. a single call, a data communication session or a short message), or for user to network communication (e.g. service profile administration), or for inter-network communication (e.g. transferring calls, signalling, or short messages), or for mobility (e.g. roaming or inter-system handover), which the network operator wants to charge for. The cost of a chargeable event may cover the cost of sending, transporting, delivery and storage. The cost of call related signalling may also be included.

**Charged Party:** A user involved in a chargeable event who has to pay parts or the whole charges of the chargeable event, or a third party paying the charges caused by one or all users involved in the chargeable event, or a network operator.

**Charging:** A function whereby information related to a chargeable event is formatted and transferred in order to make it possible to determine usage for which the charged party may be billed.

**Charging Data Record (CDR):** A formatted collection of information about a chargeable event (e.g. time of call setup, duration of the call, amount of data transferred, etc) for use in billing and accounting. For each party to be charged for parts of or all charges of a chargeable event a separate CDR shall be generated, i.e more than one CDR may be generated for a single chargeable event, e.g. because of its long duration, or because more than one charged party is to be charged.

Cipher key: A code used in conjunction with a security algorithm to encode and decode user and/or signalling data.

Closed group: A group with a pre-defined set of members. Only defined members may participate in a closed group.

**Closed Subscriber Group (CSG)**: A Closed Subscriber Group identifies subscribers of an operator who are permitted to access one or more cells of the PLMN but which have restricted access (CSG cells).

**Coded Composite Transport Channel:** A data stream resulting from encoding and multiplexing of one or several transport channels.

Common Channel: A Channel not dedicated to a specific UE.

**Confidentiality:** The avoidance of disclosure of information without the permission of its owner.

Connected Mode: Connected mode is the state of User Equipment switched on and an RRC connection established.

Connection: A communication channel between two or more end-points (e.g. terminal, server etc.).

**Connection mode:** The type of association between two points as required by the bearer service for the transfer of information. A bearer service is either connection-oriented or connectionless. In a connection oriented mode, a logical association called *connection* needs to be established between the source and the destination entities before information can be exchanged between them. Connection oriented bearer services lifetime is the period of time between the

establishment and the release of the connection. In a connectionless mode, no connection is established beforehand between the source and the destination entities; the source and destination network addresses need to be specified in each message. Transferred information cannot be guaranteed of ordered delivery. Connectionless bearer services lifetime is reduced to the transport of one message.

**Connectionless (for a bearer service):** In a connectionless bearer, no connection is established beforehand between the source and the destination entities ; the source and destination network addresses need to be specified in each message. Transferred information cannot be guaranteed of ordered delivery. Connectionless bearer services lifetime is reduced to the transport of one message.

**Connectionless service:** A service which allows the transfer of information among service users without the need for end-to-end call establishment procedures (source: ITU-T I.113).

**Continuous phenomena (continuous disturbance):** Electromagnetic disturbance, the effects of which on a particular device or equipment cannot be resolved into a succession of distinct effects (IEC 60050-161 [6]).

Control channel: A logical channel that carries system control information.

**Controlling RNC:** A role an RNC can take with respect to a specific set of UTRAN access points. There is only one Controlling RNC for any UTRAN access point. The Controlling RNC has the overall control of the logical resources of its UTRAN access point's.

**Conversational service:** An interactive service which provides for bi-directional communication by means of real-time (no store-and-forward) end-to-end information transfer from user to user (source: ITU-T I.113).

**Core network:** An architectural term relating to the part of 3GPP System which is independent of the connection technology of the terminal (eg radio, wired).

Core Network Operator: Operator that offers core network services.

**Corporate code:** Code which when combined with the network and SP codes refers to a unique Corporate. The code is provided in the GID2 file on the (U)SIM (see Annex A.1.) and is correspondingly stored on the ME.

Corporate code group combination of the Corporate code and the associated SP and network codes.

**Corporate personalisation:** Allows a corporate customer to personalise MEs that he provides for his employees or customers use so that they can only be used with the company's own (U)SIMs.

**Coverage area (of a mobile cellular system):** An area where mobile cellular services are provided by that mobile cellular system to the level required of that system.

**Coverage area:** Area over which a 3GPP System service is provided with the service probability above a certain threshold.

**CSG cell**: A cell, part of the PLMN, broadcasting a specific CSG Identity. A CSG cell is accessible by the members of the closed subscribers group for that CSG Identity. All the CSG cells sharing the same identity are identifiable as a single group.

**CSG Identity** (**CSGID**): An identity broadcast by a CSG cell or cells and used by the UE to facilitate access for authorised members of the associated Closed Subscriber Group.

**CSG Indicator**: An indication transmitted on the broadcast channel of the CSG cell that allows the UE to identify such as CSG cell.

CSG manager: A CSG manager can, under the operator's supervision, add, remove and view the list of CSG members.

Current directory: The latest MF or DF selected on the UICC.

Current EF: The latest EF selected.

Current serving cell: This is the cell on which the MS is camped.

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#### D

Data field: Obsolete term for Elementary File.

Data Object: Information coded as TLV objects, i.e. consisting of a Tag, a Length and a Value part.

Dedicated Channel: A channel dedicated to a specific UE.

**De-personalisation:** Is the process of deactivating the personalisation so that the ME ceases to carry out the verification checks.

**Dedicated File (DF):** A file containing access conditions and, optionally, Elementary Files (EFs) or other Dedicated Files (DFs).

Delivered QoS: Actual QoS parameter values with which the content was delivered over the lifetime of a QoS session.

**Demand service:** A type of telecommunication service in which the communication path is established almost immediately, in response to a user request effected by means of user-network signalling (source: ITU-T I.112).

**Dependability:** A performance criterion that describes the degree of certainty (or surety) with which a function is performed regardless of speed or accuracy, but within a given observational interval (source: ITU-T I.350).

Destination user: Entity to which calls to the General Packet Radio Service (GPRS) are directed.

**Directory:** General term for the MF or a DF on the UICC.

**Directory Number:** A string consisting of one or more of the characters from the set {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, \*, #, a, b, c} associated with a nature of address indicator and number plan indicator. When using the public MMI for the control of supplementary services however, \* and # cannot be part of any SC or SI field.

- NOTE 1: No such restriction on the SC and SI fields exists when using other (e.g. menu-driven) MMI for the control of supplementary services.
- NOTE 2: When using the public MMI, certain limitations on the use of one and two digit directory numbers may apply. The use of other MMI can remove these restrictions.

NOTE 3: This definition is not intended to require the support of all these characters in the MMI itself.

**Distribution service:** Service characterised by the unidirectional flow of information from a given point in the network to other (multiple) locations (source: ITU-T I.113).

DL RS power: The resource element power of Downlink Reference Symbol.

Domain: The highest-level group of physical entities. Reference points are defined between domains.

**Domain Specific Access Control**: Access control functionality for access barring in either domain (i.e. CS domain or PS domain).

Donor coupling loss: the coupling loss between the repeater and the donor base station.

**Donor network:** The subscription network from which a number is ported in the porting process. This may or may not be the number range owner network.

**Downlink:** Unidirectional radio link for the transmission of signals from a UTRAN access point to a UE. Also in general the direction from Network to UE.

Downlink operating band: The part of the operating band designated for downlink.

Downlink Pilot Timeslot: Downlink part of the special subframe (for TDD operation)

**Drift RNS:** The role an RNS can take with respect to a specific connection between a UE and UTRAN. An RNS that supports the Serving RNS with radio resources when the connection between the UTRAN and the User Equipment need to use cell(s) controlled by this RNS is referred to as Drift RNS.

#### Е

**Element Manager:** Provides a package of end-user functions for management of a set of closely related types of network elements. These functions can be divided into two main categories.

**Element Management Functions:** Set of functions for management of network elements on an individual basis. These are basically the same functions as supported by the corresponding local terminals.

Elementary File (EF): A file containing access conditions and data and no other files on the UICC.

**Elementary procedure (EP):** The RANAP, RNSAP, NBAP, S1AP, X2AP, PCAP, HNBAP, LPPa, RNA, RUA, RETAP and TMAAP protocols consist of elementary procedures (EPs).

An EP consists of an initiating message and possibly a response message.

Three kinds of EP are used:

- Class 1: Elementary Procedures with response (success or failure).
- Class 2: Elementary Procedures without response.
- Class 3: Elementary Procedures with possibility of multiple responses (RANAP only).

For Class 1 EPs, the types of responses can be as follows:

#### Successful

- A signalling message explicitly indicates that the elementary procedure has been successfully completed with the receipt of the response.

#### Unsuccessful

- A signalling message explicitly indicates that the EP failed.

Class 2 EPs are considered always successful.

Class 3 EPs have one or several response messages reporting both successful and unsuccessful outcome of the requests, and temporary status information about the requests. This type of EP only terminates through response(s) or EP timer expiry.

**End-User:** An End-User is an entity (typically a user), associated with one or multiple subscriptions through identities (e.g. IMSIs, MSISDNs, IMPIs, IMPUs and application-specific identities). In the 3GPP system an End-User is characterised by an End-User Identity.

**End-User Identity (EUI):** An End-User Identity is an identity that uniquely characterises an End-User in the 3GPP system. An End-User Identity is mainly intended for administration purposes of the operator.

**Enterprise Systems:** Information Systems that are used in the telecommunication organisation but are not directly or essentially related to the telecommunications aspects (Call Centre's, Fraud Detection and Prevention Systems, Invoicing etc).

**Equivalent HPLMN / Equivalent Home PLMN (EHPLMN):** Any of the PLMN entries contained in the Equivalent HPLMN list.

**Equivalent HPLMN list:** To allow provision for multiple HPLMN codes, PLMN codes that are present within this list shall replace the HPLMN code derived from the IMSI for PLMN selection purposes. This list is stored on the USIM and is known as the EHPLMN list. The EHPLMN list may also contain the HPLMN code derived from the IMSI. If the HPLMN code derived from the IMSI is not present in the EHPLMN list then it shall be treated as a Visited PLMN for PLMN selection purposes.

**E-UTRAN Radio Access Bearer (E-RAB):** An E-RAB uniquely identifies the concatenation of an S1 Bearer and the corresponding Data Radio Bearer. When an E-RAB exists, there is a one-to-one mapping between this E-RAB and an EPS bearer of the Non Access Stratum as defined in [7].

**Essential UE Requirement (Conditional):** Requirement which has to be implemented under certain Service conditions. e.g. AMR codec in UE which supports speech service

**Essential UE Requirement (Unconditional):** Requirement which has to be implemented in any 3G UE in order to exist in and communicate with 3G network (e.g. Chiprate of 3.84Mcps).

**Evolved Packet Core:** Is a framework for an evolution or migration of the 3GPP system to a higher-data-rate, lower-latency, packet-optimized system that supports, multiple RATs.

**Evolved Packet System:** Is an evolution of the 3G UMTS characterized by higher-data-rate, lower-latency, packetoptimized system that supports multiple RATs. The Evolved Packet System comprises the Evolved Packet Core together with the evolved radio access network (E-UTRA and E-UTRAN).

**Evolved UTRA:** Evolved UTRA is an evolution of the 3G UMTS radio-access technology towards a high-data-rate, low-latency and packet-optimized radio-access technology.

**Evolved UTRAN:** Evolved UTRAN is an evolution of the 3G UMTS radio-access network towards a high-data-rate, low-latency and packet-optimized radio-access network.

Explicit Diversity Gain (dB): The effective gain achieved using diversity techniques.

Extended DRX: A power saving feature where paging cycles can range from seconds to several hours, depending on Radio Access Technology.

**Extra SDU delivery probability:** The ratio of total (unrequested) extra service data units (SDUs) to total service data units received by a destination user in a specified sample (source: ITU-T X.140).

NOTE: the term "user information unit" has been replaced by the term "service data unit".

#### F

File: A named and hierarchically-classified data set on the UICC.

File identifier (FID): The 2-byte name of a file or a directory on the UICC.

Fixed Network User Rate: The user rate between IWF and the fixed network.

**FC** (**Flow Control**): A set of mechanisms used to prevent the network from becoming overloaded by regulating the input rate transmissions.

Flexible Layer One (FLO): GERAN feature that allows the channel coding of the layer one to be configured at call setup.

**Fixed Mobile Convergence (FMC)**: In a given network configuration, the capabilities that provide service and application to the end-user irrespective of the fixed or mobile access technologies and independent of user's location. In the NGN environment, it means to provide NGN services to end-users regardless of the access technology.

**Framework:** A framework defines a set of Application Programming Interface (API) classes for developing applications and for providing system services to those applications.

Frequency layer: set of cells with the same carrier frequency.

Functional group: A set of functions that may be performed by a single equipment (source: ITU-T I.112).

#### G

**Geographical routing:** The conversion of the PDU's geographical area definition, which specifies the area in which the PDU will be broadcast, into an equivalent radio coverage map.

**GERAN Radio Network Temporary Identifier (G-RNTI):** G-RNTI is an MS identifier which is allocated by the Serving BSC and is unique within this SBSC. It is allocated for all MSs having an RRC connection. The G-RNTI is always reallocated when the Serving BSC for the RRC connection is changed and deallocated when the RRC connection is released. The G-RNTI is also used at RLC/MAC during contention resolution.

GPRS MS: An MS capable of GPRS services is a GPRS MS.

**Group:** A set of members allowed to participate in the group call service. The group is defined by a set of rules that identifies a collection of members implicitly or explicitly. These rules may associate members for the purpose of participating in a group call, or may associate members who do not participate in data transfer but do participate in management, security, control, or accounting for the group.

**Group call:** The relationship that exists between the members of a group for the purpose of transferring data. More than one group call may exist in a group. A group call establishes an active group.

**Group call initiator:** A member (or third party) authorised to initiate a group call. More than one member may initiate group calls.

Group call participant: A member of a group participating in a particular group call at a given time.

Group call server: A logical entity that provides the group call service to the members.

**Group call service:** A PTM service in which a relationship exists between participants of the group, and in which a single data unit transmitted by a source participant is received by multiple destination participants; it is a one-in, many-out service.

Group controller: The member (or third party) responsible for the group creation and membership control.

**GSM/EDGE Radio Access Network:** GERAN is a conceptual term identifying that part of the network which consists of BSCs and BTSs between A/Gb or Iu and Um interfaces.

GSM BSS: refers in this specification to the GSM/GPRS access network.

GSM core network: refers in this specification to the GSM NSS and GPRS backbone infrastructure.

GSM coverage: an area where mobile cellular services are provided in accordance with GSM standards

GSM session: That part of the card session dedicated to the GSM operation.

**Guaranteed service:** A service model which provides highly reliable performance, with little or no variance in the measured performance criteria.

#### Н

**Handoff Gain/Loss (dB):** This is the gain/loss factor (+ or -) brought by handoff to maintain specified reliability at the cell boundary.

Handover: The transfer of a user's connection from one radio channel to another (can be the same or different cell).

**Handover:** The process in which the radio access network changes the radio transmitters or radio access mode or radio system used to provide the bearer services, while maintaining a defined bearer service QoS.

**Hard Handover:** Hard handover is a category of handover procedures where all the old radio links in the UE are abandoned before the new radio links are established.

**Heterogeneous Network:** a 3GPP access network consisting of multiple cells with different characteristics (e.g., for the case of E-UTRA: a variety of e-NodeBs, Home e-NodeBs, e-UTRA Relays).

**HE-VASP:** Home Environment Value Added Service Provider. This is a VASP that has an agreement with the Home Environment to provide services. The Home Environment provides services to the user in a managed way, possibly by collaborating with HE-VASPs, but this is transparent to the user. The same service could be provided by more than one HE-VASP and each HE-VASP can provide more than one service.

**Home Environment:** responsible for overall provision and control of the Personal Service Environment of its subscribers.

**HNB Name**: The HNB Name is a broadcast string in free text format that provides a human readable name for the Home NodeB/eNodeB.

**Home PLMN:** This is a PLMN where the MCC and MNC of the PLMN identity match the MCC and MNC of the IMSI. Matching criteria are defined in TS 23.122.

16

**Hybrid cell:** A cell broadcasting a CSG indicator set to false and a specific CSG identity. This cell is accessible as a CSG cell by UEs which are members of the CSG and as a normal cell by all other UEs.

**IC Card:** A card holding an Integrated Circuit containing subscriber, end user, authentication and/or application data for one or more applications.

IC card SIM: Obsolete term for ID-1 SIM.

**ICS proforma:** A document, in the form of a questionnaire, which when completed for an implementation or system becomes an ICS.

ID-000 SIM: A UICC having the form on an ID-000 card (see ISO 7816-1 [24]) that contains a SIM application.

ID-1 SIM: A UICC having the format of an ID-1 card (see ISO 7816-1 [24]) that contains a SIM.

Idle mode: The state of UE switched on but which does not have any established RRC connection.

**IP Flow Mobility**: distribution of IP flows on a UE between 3GPP and WLAN available accesses based on the different characteristics of the IP flows, the operator policies and the capabilities of the available accesses.

**Implementation capability:** A capability that relates to a particular technical domain. Examples: a spreading factor of 128 (in the domain of the physical layer); the A5 algorithm; a 64 bit key length (in the domain of security); a power output of 21 dBm (in the domain of transmitter performance); support of AMR Codec (in the domain of the Codec); support of CHV1 (in the domain of the USIM).

**Implementation Conformance Statement (ICS):** A statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented. The ICS can take several forms: protocol ICS, profile ICS, profile specific ICS, information object ICS, etc.

**Information Data Rate:** Rate of the user information, which must be transmitted over the Air Interface. For example, output rate of the voice codec.

**Initial paging information:** This information indicates if the UE needs to continue to read more paging information and eventually receive a page message.

Initial paging occasion: The paging occasion the UE uses as starting point for its paging DRX cycle.

Integrity: (in the context of security) The avoidance of unauthorised modification of information.

**Inter-cell handover:** A handover between different cells. An inter-cell handover requires network connections to be altered.

Inter PLMN handover: Handover between different PLMNs, ie having different MCC-MNC.

Inter system handover: Handover between networks using different radiosystems, e.g. UMTS - GSM.

**Interactive service:** A service which provides the means for bi-directional exchange of information between users. Interactive services are divided into three classes of services: conversational services, messaging services and retrieval services (source: ITU-T I.113).

Interface: The common boundary between two associated systems (source: ITU-T I.112).

**International Mobile Station Equipment Identity (IMEI):** An "International Mobile Station Equipment Identity" is a unique number which shall be allocated to each individual mobile station equipment in the PLMN and shall be unconditionally implemented by the MS manufacturer.

**International mobile user number (IMUN):** The International Mobile User Number is a diallable number allocated to a 3GPP System user.

**Interference Signal Code Power (ISCP):** Given only interference power is received, the average power of the received signal after despreading and combining.

**Interpreter:** A software program that simulates a hypothetical computer by performing the operations defined by the instructions of this computer.(see also 'byte code' and 'virtual machine').

Interworking WLAN (I-WLAN): A WLAN that interworks with a 3GPP system.

**Intra-cell handover:** A handover within one sector or between different sectors of the same cell. An intra-cell handover does not require network connections to be altered.

Intra PLMN handover: Handover within the same network, ie having the same MCC-MNC regardless of radio access system.

Note: this includes the case of UMTS <>GSM handover where MCC-MNC are the same in both cases.

**IP-Connectivity Access Network (IP-CAN):** The collection of network entities and interfaces that provides the underlying IP transport connectivity between the UE and the IMS entities. An example of an "IP-Connectivity Access Network" is GPRS.

**IP-Connectivity Access Network bearer (IP-CAN bearer):** The data communications bearer provided by the IP-Connectivity Access Network. When using GPRS, the IP-Connectivity Access Network bearers are provided by PDP Contexts.

**IRP Information Model:** An IRP Information Model consists of an IRP Information Service and a Network Resource Model (see below for definitions of IRP Information Service and Network Resource Model).

**IRP Information Service:** An IRP Information Service describes the information flow and support objects for a certain functional area, e.g. the alarm information service in the fault management area. As an example of support objects, for the Alarm IRP there is the alarm record and alarm list.

**IRP Solution Set:** An IRP Solution Set is a mapping of the IRP Information Service to one of several technologies (CORBA/IDL, SNMP/SMI, CMIP/GDMO, etc.). An IRP Information Service can be mapped to several different IRP Solution Sets. Different technology selections may be done for different IRPs.

Inter System Change: a change of radio access between different radio access technologies such as GSM and UMTS.

**IMS Credentials (IMC):** A set of IMS security data and functions for IMS access by a terminal that does not support any 3GPP access technology. The IMC is not including an ISIM or a USIM. The IMC is not used if ISIM or USIM is present.

**IMS Multimedia Telephony:** A service that allows multimedia conversational communications between two or more users. It provides real time bidirectional conversational transfer of media, e.g. speech, video, text or other types of data. The IMS multimedia telephony service includes Supplementary Services and takes account of regulatory requirements.

IMS SIM (ISIM): An application residing on the UICC that provides access to IP Multimedia Services.

Iu: Interconnection point between an RNC or a BSC and a 3G Core Network. It is also considered as a reference point.

Iu-flex: Routing functionality for intra domain connection of RAN nodes to multiple CN nodes.

**Iu mode**: mode of operation of the MS when connected to the Core Network via GERAN or UTRAN and the Iu interface.

Iub: Interface between an RNC and a Node B.

**Iur:** A logical interface between two RNC. Whilst logically representing a point to point link between RNC, the physical realisation may not be a point to point link.

J

<void>

#### Κ

**Key pair:** Key pairs are matching private and public keys. If a block of data is encrypted using the private key, the public key from the pair can be used to decrypt it. The private key is never divulged to any other party, but the public key is available, e.g. in a certificate.

#### L

**Local Service:** Services, which are provided by current roamed to network that are not HE services. The same service can be provided by a network as a local service to inbound roamers and as a HE service to the subscribers of this network.

**Local IP Access (LIPA):** Allows an IP-capable UE connected via a H(e)NB direct access to other IP-capable devices in the local residential/corporate IP network.

**Localised Service Area (LSA):** A LSA is an operator-defined group of cells, for which specific access conditions apply. This may correspond to an area in which the Core Network offers specific services. A LSA may be defined within a PLMN or globally. Therefore, a LSA may offer a non-contiguous radio coverage.

**Location Registration (LR):** The UE registers its presence in a registration area, for instance regularly or when entering a new registration area.

**Logical Channel:** A logical channel is an information stream dedicated to the transfer of a specific type of information over the radio interface. Logical Channels are provided on top of the MAC layer.

**Logical Channel** (UICC): A command/response communication context multiplexed on the physical channel between the ME and the UICC.

**Logical Model:** A Logical Model defines an abstract view of a network or network element by means of information objects representing network element, aggregations of network elements, the topological relationship between the elements, endpoints of connections (termination points), and transport entities (such as connections) that transport information between two or more termination points.

The information objects defined in the Logical Model are used, among others, by connection management functions. In this way a physical implementation independent management is achieved.

**Logical O&M:** Logical O&M is the signalling associated with the control of logical resources (channels, cells,) owned by the RNC but physically implemented in the Node B. The RNC controls these logical resources. A number of O&M procedures physically implemented in Node B impact on the logical resources and therefore require an information exchange between RNC and Node B. All messages needed to support this information exchange are classified as Logical O&M forming an integral part of NBAP.

Lower RF bandwidth edge: The frequency of the lower edge of the Base Station RF bandwidth, used as a frequency reference point for transmitter and receiver requirements

**LSA exclusive access cell:** A UE may only camp on this cell if the cell belongs to the LSAs to which the user has subscribed. Nevertheless, if no other cells are available, the UE of non-LSA users may originate emergency calls from this cell.

**LSA only access:** When LSA only access applies to the user, the UE can only access cells that belong to the LSAs to which the user has subscribed. Outside the coverage area of the subscribed LSAs, the UE may camp on other cells and limited services apply.

**LSA preferential access cell:** A LSA preferential access cell is a cell which is part of the LSA. UEs of users that have subscribed to a LSA of a LSA-preferential-access cell have higher priority to resources than non-LSA users in the same cell.

### Μ

Macro cells: "Macro cells" are outdoor cells with a large cell radius.

**Macro diversity handover:** "Macro diversity" is a operation state in which a User Equipment simultaneously has radio links with two or more UTRAN access points for the sole aim of improving quality of the radio connection or providing seamless.

**Management Infrastructure:** The collection of systems (computers and telecommunications) a 3GPP System Organisation has in order to manage a 3GPP System.

**Mandatory UE Requirement:** Regulatory requirement which is applicable to 3G UEs. It is determined by each country/region and beyond the scope of 3GPP specification (e.g. spurious emission in UK).

Master File (MF): The root directory of the file system hierarchy on the UICC.

Maximum Base Station RF bandwidth: The maximum RF bandwidth supported by a BS within an operating band.

**Maximum output Power:** For UE, this is a measure of the maximum power supported by the UE (i.e. the actual power as would be measured assuming no measurement error) (TS 25.101). For FDD BS, the mean power level per carrier of the base station measured at the antenna connector in a specified reference condition (TS 25.104). For TDD BS this refers to the measure of power when averaged over the transmit timeslot at the maximum power setting (TS 25.105). For LTE: the mean power level per carrier of the base station measured at the antenna connector in a specified reference condition.

**Maximum possible AIUR:** The highest possible AIUR that the multiple TCH/F can provide, e.g. 2 TCH/F using TCH/F9.6 provides a maximum possible AIUR of 19,2 kbit/s.

Maximum throughput: maximum achievable throughput for a reference measurement channel.

**Maximum total output power:** sum of the power of all carriers available at the antenna connector for a specified reference condition.

Maximum Transmitter Power Per Traffic Channel (dBm): The maximum power at the transmitter output for a single traffic channel.

**MBMS-service-associated signalling:** When M2AP messages associated to one MBMS service uses the MBMSservice-associated logical M2-connection for association of the message to the respective MBMS service in eNB and EPC.

**Mean bit rate:** A measure of throughput. The average (mean) bit rate available to the user for the given period of time (source: ITU-T I.210).

**Mean power:** When applied to E-UTRA transmission this is the power measured in the operating system bandwidth of the carrier. The period of measurement shall be at least one subframe (1ms) unless otherwise stated.

**Mean transit delay:** The average transit delay experienced by a (typically) large sample of PDUs within the same service category.

Measurement bandwidth: The bandwidth in which an emission level is specified.

**Medium Access Control:** A sub-layer of radio interface layer 2 providing unacknowledged data transfer service on logical channels and access to transport channels.

**Messaging service:** An interactive service which offers user-to-user communication between individual users via storage units with store-and-forward, mailbox and/or message handling, (e.g., information editing, processing and conversion) functions (source: ITU-T I.113).

**MExE Classmark:** A MExE classmark identifies a category of MExE UE supporting MExE functionality with a minimum level of processing, memory, display, and interactive capabilities. Several MExE classmarks may be defined to differentiate between the functionalities offered by different MExE UEs. A MExE application or applet defined as being of a specific MExE Classmark indicates that it is supportable by a MExE UE of that Classmark.

**MExE executable:** An executable is an applet, application, or executable content, which conforms to the MExE specification and may execute on the ME.

MExE server: A node supporting MExE services in the MExE service environment.

MExE service: a service enhanced (or made possible) by MExE technology.

**MExE service environment:** Depending on the configuration of the PLMN, the operator may be able to offer support to MExE services in various ways. Examples of possible sources are from traditional GSM nodes, IN nodes, operator-specific nodes, operator franchised nodes and services provider nodes, together with access to nodes external (i.e. vendor-specific) to the PLMN depending on the nature of the MExE service. These nodes are considered to constitute the MExE service environment. The MExE service environment shall support direct MExE UE to MExE UE interaction of MExE services.

**MExE service provider:** an organisation which delivers MExE services to the subscriber. This is normally the PLMN operator, but could be an organisation with MExE responsibility (which may have been delegated by the PLMN operator).

**MExE SIM:** A (U)SIM application that is capable of storing a security certificate that is accessible using standard mechanisms.

**MExE subscriber:** The owner of a subscription who has entered into an agreement with a MExE service provider for MExE services.

Micro cells: "Micro cells" are small cells.

**Minimum transmit power:** The minimum controlled output power of the TDD BS is when the power control setting is set to a minimum value. Thei si when the power control indicates a miminum transmit output power is required (TS 25.105).

**Mobile Equipment (ME):** The Mobile Equipment is functionally divided into several entities, i.e. one or more Mobile Terminations (MT) and one or more Terminal Equipments (TE).

**Mobile evaluated handover:** Mobile evaluated handover (MEHO) is a type of handover triggered by an evaluation made in the mobile. The mobile evaluates the necessity of handover based on the measured radio environment and based on criteria defined by the network. When the evaluation meets the hand-off criteria the necessary information is sent from the mobile to the network. The network then decides on the necessity of the handover based on the reported evaluation result and other conditions, e.g. uplink radio environment and/or availability of network resources, the network may then execute the handover.

Mobile Station (MS): A Mobile Station (MS) corresponds to a User Equipment (UE). See 3GPP TS 24.002.

**Mobile number portability:** The ability for a mobile subscriber to change subscription network within the same country whilst retaining their original MSISDN(s).

**Mobile Termination (MT):** The Mobile Termination is the component of the Mobile Equipment (ME) which supports functions specific to management of the PLMN access interface (3GPP or non-3GPP). The MT is realized as a single functional entity..

Mobility: The ability for the user to communicate whilst moving independent of location.

**Mobility Management:** A relation between the mobile station and the UTRAN that is used to set-up, maintain and release the various physical channels.

**MSR Base station:** Base Station characterized by the ability of its receiver and transmitter to process two or more carriers in common active RF components simultaneously in a declared RF bandwidth, where at least one carrier is of a different RAT than the other carrier(s).

**MTC Device:** A MTC Device is a UE equipped for Machine Type Communication, which communicates through a PLMN with MTC Server(s) and/or other MTC Device(s).

NOTE: A MTC Device might also communicate locally (wirelessly, possibly through a PAN, or hardwired) with other entities which provide the MTC Device "raw data" for processing and communication to the MTC Server(s) and/or other MTC Device(s). Local communication between MTC Device(s) and other entities is out of scope of this technical specification.

**MTC Server:** A MTC Server is a server, which communicates to the PLMN itself, and to MTC Devices through the PLMN. The MTC Server can also have an interface which can be accessed by the MTC User. The MTC Server can:

- Provide services for other servers (e.g. The MTC Server is a Services Capability Server [9] for an Application Server [9]), and/or

- Provide services for applications and can host the application (e.g. The MTC Server is an Application Server [x]).

MTC User: A MTC User uses the service provided by the MTC Server.

**MTC Subscriber:** A MTC Subscriber is a subscriber, i.e. a legal entity having a contractual relationship with the network operator to provide service to one or more MTC Devices.

NOTE: Typically a M2M service provider is the party holding subscriptions in order to provide connectivity between MTC Devices and the MTC Server. In practise certain roles can collapse, e.g. the network operator acts as the same time as Service Provider.

**Multi-carrier transmission configuration:** A set of one or more contiguous carriers that a BS is able to transmit simultaneously according to the manufacturer's specification.

**Multi mode terminal:** UE that can obtain service from at least one UTRA radio access mode, and one or more different systems such as GSM bands or possibly other radio systems such IMT-2000 family members.

**Multicast service:** A unidirectional PTM service in which a message is transmitted from a single source entity to all subscribers currently located within a geographical area. The message contains a group identifier indicating whether the message is of interest to all subscribers or to only the subset of subscribers belonging to a specific multicast group.

**Multipoint:** A value of the service attribute "communication configuration", which denotes that the communication involves more than two network terminations (source: ITU-T I.113).

**Multimedia service:** Services that handle several types of media such as audio and video in a synchronised way from the user's point of view. A multimedia service may involve multiple parties, multiple connections, and the addition or deletion of resources and users within a single communication session.

#### Ν

Name: A name is an alpha numeric label used for identification of end users and may be portable.

**Negotiated QoS:** In response to a QoS request, the network shall negotiate each QoS attribute to a level that is in accordance with the available network resources. After QoS negotiation, the bearer network shall always attempt to provide adequate resources to support all of the negotiated QoS profiles.

Network code: MCC and MNC.

Network code group: Same as network code.

**Network connection:** An association established by a network layer between two users for the transfer of data, which provides explicit identification of a set of network data transmissions and agreement concerning the services to be provided by the set (source: ITU-T X.213 / ISO-IEC 8348).

Network Element: A discrete telecommunications entity which can be managed over a specific interface e.g. the RNC.

**Network Manager:** Provides a package of end-user functions with the responsibility for the management of a network, mainly as supported by the EM(s) but it may also involve direct access to the network elements. All communication with the network is based on open and well standardized interfaces supporting management of multi-vendor and multi-technology network elements.

#### Network operator: See PLMN operator.

**Network personalisation:** Allows the network operator to personalise a ME so that it can only be used with that particular network operator's (U)SIMs.

**Network Resource Model:** A protocol independent model describing managed objects representing network resources, e.g. an RNC or NodeB.

**Network service data unit (NSDU):** A unit of data passed between the user and the GPRS network across a Network Service Access Point (NSAP).

Network subset code: digits 6 and 7 of the IMSI.

Network subset code group: Combination of a network subset code and the associated network code.

**Network subset personalisation:** A refinement of network personalisation, which allows network operators to limit the usage of a ME to a subset of (U)SIMs

Network termination: A functional group on the network side of a user-network interface (source: ITU-T I.112).

**Node B:** A logical node responsible for radio transmission / reception in one or more cells to/from the User Equipment. Terminates the Iub interface towards the RNC.

**Nomadic Operating Mode:** Mode of operation where the terminal is transportable but being operated while stationary and may in addition require user co-operation (e.g. close to open spaces, antenna setup...).

Nominal Maximum Output Power: This is the nominal power defined by the UE power class.

Non-Access Stratum: Protocols between UE and the core network that are not terminated in the UTRAN.

Normal GSM operation: Relating to general, CHV related, GSM security related and subscription related procedures.

Normal mode of operation: The mode of operation into which the ME would have gone if it had no personalisation checks to process.

NR: fifth generation radio access technology

NTDD: Narrow TDD - the 1.28 Mcps chip rate UTRA-TDD option

**Number:** A string of decimal digits that uniquely indicates the public network termination point. The number contains the information necessary to route the call to this termination point.

A number can be in a format determined nationally or in an international format. The international format is known as the International Public Telecommunication Number which includes the country code and subsequent digits, but not the international prefix.

**Number portability:** A capability that allows a user to retain the same public telecommunication number when changing from one service provider to another. Additional regulatory constraints may apply in different regions.

Number range owner network: The network to which the number range containing the ported number has been allocated.

### 0

**Occupied bandwidth:** The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage  $\beta/2$  of the total mean power of a given emission.

Offline charging: charging mechanism where charging information does not affect, in real time, the service rendered.

**Offline Charging System:** the entity that collects and processes offline charging information prior to delivery to the Billing Domain.

**Online Charging**: charging mechanism where charging information can affect, in real time, the service rendered and therefore a direct interaction of the charging mechanism with the bearer/session/service control is required.

**Online Charging System:** the entity that performs real-time Credit-Control and includes transaction handling, rating, online correlation and management of subscriber accounts/balances.

One Stop Billing: One bill for all charges incurred using the 3GPP System.

**Open group:** A group that does not have a pre-defined set of members. Any user may participate in an open group.

Open Service Access: Concept for introducing a vendor independent means for introduction of new services.

**Operating band:** A frequency range in which E-UTRA operates (paired or unpaired), that is defined with a specific set of technical requirements. **Operations System:** This abbreviation indicates a generic management system, independent of its location level within the management hierarchy.

**Optional UE Requirement:** Any other requirements than mandatory UE requirement, essential UE requirement (conditional), essential UE requirement (unconditional). It is totally up to individual manufacturer to decide whether it should be implemented or not (e.g. Network initiated MM connection establishment).

**Originating network:** The network where the calling party is located.

**Orthogonal Channel Noise Simulator** a mechanism used to simulate the users or control signals on the other orthogonal channels of a downlink

OSA Interface: Standardised Interface used by application/clients to access service capability features.

**Output power** ( $P_{out}$ ): The mean power of one carrier of the UE, delivered to a load with resistance equal to the nominal load impedance of the transmitter.

#### Ρ

**Packet:** An information unit identified by a label at layer 3 of the OSI reference model (source: ITU-T I.113). A network protocol data unit (NPDU).

Packet data protocol (PDP): Any protocol which transmits data as discrete units known as packets, e.g., IP, or X.25.

**Packet transfer mode:** Also known as packet mode. A transfer mode in which the transmission and switching functions are achieved by packet oriented techniques, so as to dynamically share network transmission and switching resources between a multiplicity of connections (source: ITU-T I.113).

**Padding:** One or more bits appended to a message in order to cause the message to contain the required number of bits or bytes.

Paging: The act of seeking a User Equipment.

Paging DRX cycle: The individual time interval between monitoring Paging Occasion for a specific UE

**Paging Block Periodicity (PBP):** The period of the occurrence of Paging Blocks. (For FDD, PBP = 1).

Paging Message Receiving Occasion: The frame where the UE receives actual paging message.

**Paging occasion:** The frame where the UE monitors in FDD or the paging block, which consists of several frames, for TDD. For Paging Blocks, the value of Paging Occasion is equal to the first frame of the Paging Block.

**Pass band:** The frequency range that the repeater operates in with operational configuration. This frequency range can correspond to one or several consecutive nominal channels. If they are not consecutive each subset of channels shall be considered as an individual pass band.

**Peak bit rate:** A measure of throughput. The maximum bit rate offered to the user for a given time period (to be defined) for the transfer of a bursty signal (source: ITU-T I.210). (The maximum user information transfer rate achievable by a user for a single service data unit transfer.)

**Performance:** The ability to track service and resource usage levels and to provide feedback on the responsiveness and reliability of the network.

**Personal Service Environment:** contains personalised information defining how subscribed services are provided and presented towards the user. Each subscriber of the Home Environment has her own Personal Service Environment. The Personal Service Environment is defined in terms of one or more User Profiles.

**Personalisation:** The process of storing information in the ME and activating the procedures which verify this information against the corresponding information stored in applications on the (U)SIM whenever the ME is powered up or when a UICC containing network access applications (SIM, USIM, etc.) is inserted, in order to limit the applications with which the ME will operate.

Personalisation entity: Network, network subset, SP, Corporate or (U)SIM to which the ME is personalised

**Phonebook:** A dataset of personal or entity attributes. The simplest form is a set of name-subscriber phone number pairs as supported by GSM (U)SIMs.

**Physical channel data stream:** In the uplink, a data stream that is transmitted on one physical channel. In the downlink, a data stream that is transmitted on one physical channel in each cell of the active set.

**Physical Channel:** In FDD mode, a physical channel is defined by code, frequency and, in the uplink, relative phase (I/Q). In TDD mode, a physical channel is defined by code, frequency, and time-slot.

Pico cells: "Pico cells" are cells, mainly indoor cells, with a radius typically less than 50 metres.

PICH Monitoring Occasion: The time instance where the UE monitors PICH within Paging Occasion.

**Pilot Identity:** A service specific public address used for initial contact, associated with a group of publicly addressable identities (e.g. E.164 numbers or SIP URI).

**PLMN Area:** The PLMN area is the geographical area in which a PLMN provides communication services according to the specifications to mobile users. In the PLMN area, the mobile user can set up calls to a user of a terminating network. The terminating network may be a fixed network, the same PLMN, another PLMN or other types of PLMN. Terminating network users can also set up calls to the PLMN. The PLMN area is allocated to a PLMN. It is determined by the service and network provider in accordance with any provisions laid down under national law. In general the PLMN area is restricted to one country. It can also be determined differently, depending on the different telecommunication services, or type of MS. If there are several PLMNs in one country, their PLMN areas may overlap. In border areas, the PLMN areas of different countries may overlap. Administrations will have to take precautions to ensure that cross border coverage is minimised in adjacent countries unless otherwise agreed.

**PLMN Operator:** Public Land Mobile Network operator. The entity which offers telecommunications services over an air interface..

Plug-in SIM: A physical form factor of SIM (see ID-000 SIM).

**point-to-multipoint service:** A service type in which data is sent to "all service subscribers or a pre-defined subset of all subscribers" within an area defined by the Service Requester.

**Point-to-point:** A value of the service attribute "communication configuration", which denotes that the communication involves only two network terminations.

**Point-to-point service:** A service type in which data is sent from a single network termination to another network termination.

**Port:** A particular interface, of the specified equipment (apparatus), with the electromagnetic environment. For example, any connection point on an equipment intended for connection of cables to or from that equipment is considered as a port.

Ported number: A MSISDN that has undergone the porting process.

Ported subscriber: The subscriber of a ported number.

Porting process: A description of the transfer of a number between network operators.

**Power control dynamic range:** The difference between the maximum and the minimum total transmit output power for a specified reference condition (TS 25.104).

**Power Saving Mode:** A mode of operation similar to power-off, allowing a UE to greatly reduce its power consumption while remaining registered with the network, without the need to re-attach or to re-establish PDN connections.

**Predictive service:** A service model which provides reliable performance, but allowing a specified variance in the measured performance criteria.

**Prepay billing**: Billing arrangement between customer and operator/service provider where the customer deposits an amount of money in advance, which is subsequently used to pay for service usage.

**Postpay billing**: Billing arrangement between customer and operator/service provider where the customer periodically receives a bill for service usage in the past period.

Proactive SIM: A SIM, which is capable of issuing commands to the Terminal. Part of SIM Application Toolkit.

**ProSe Communication:** A communication between two or more ProSe-enabled UEs in proximity by means of a ProSe Communication path. Unless explicitly stated otherwise, the term "ProSe Communication" refers to any/all of the following:

- ProSe E-UTRA Communication between only two ProSe-enabled UEs; or
- ProSe Group Communication or ProSe Broadcast Communication among Public Safety ProSe-enabled UEs; or
- ProSe-assisted WLAN direct communication.

**ProSe Discovery:** A process that identifies that a ProSe-enabled UE is in proximity of another, using E-UTRA (with or without E-UTRAN) or EPC.

**ProSe-enabled UE:** a UE that fulfills ProSe requirements for ProSe Discovery and/or ProSe Communication. Unless explicitly stated otherwise, a ProSe-enabled UE refers to any ProSe-enabled UE (i.e. Public Safety or not).

**Protocol:** A formal set of procedures that are adopted to ensure communication between two or more functions within the within the same layer of a hierarchy of functions (source: ITU-T I.112).

**Protocol data unit:** In the reference model for OSI, a unit of data specified in an (N)-protocol layer and consisting of (N)-protocol control information and possibly (N)-user data (source: ITU-T X.200 / ISO-IEC 7498-1).

Public land mobile network: A telecommunications network providing mobile cellular services.

### Q

**QoS profile:** a QoS profile comprises a number of QoS parameters. A QoS profile is associated with each QoS session. The QoS profile defines the performance expectations placed on the bearer network.

**QoS session:** Lifetime of PDP context. The period between the opening and closing of a network connection whose characteristics are defined by a QoS profile. Multiple QoS sessions may exist, each with a different QoS profile.

**Quality of Service:** The collective effect of service performances which determine the degree of satisfaction of a user of a service. It is characterised by the combined aspects of performance factors applicable to all services, such as;

- service operability performance;
- service accessibility performance;
- service retainability performance;
- service integrity performance; and
- other factors specific to each service.

### R

**Radio access bearer:** The service that the access stratum provides to the non-access stratum for transfer of user data between User Equipment and CN.

Radio Access Mode: Mode of the cell, FDD or TDD.

**Radio Access Network Information Management:** Functionality supporting the exchange of information, via the Core Network, between peer application entities located in a GERAN or in a UTRAN access network.

**RAN sharing:** Two or more CN operators share the same RAN, i.e. a RAN node (RNC or BSC) is connected to multiple CN nodes (SGSNs and MSC/VLRs) belonging to different CN operators.

Radio Access Network Application Part: Radio Network Signalling over the Iu.

Radio Access Network Operator: Operator that offers radio access to one or more core network operators.

**Radio Access Technology:** Type of technology used for radio access, for instance E-UTRA, UTRA, GSM, CDMA2000 1xEV-DO (HRPD) or CDMA2000 1x (1xRTT).

Radio Bearer: The service provided by the Layer 2 for transfer of user data between User Equipment and UTRAN.

**Radio communications equipment:** Telecommunications equipment which includes one or more transmitters and/or receivers and/or parts thereof for use in a fixed, mobile or portable application. It can be operated with ancillary equipment but if so, is not dependent on it for basic functionality.

Radio digital unit: Equipment which contains base band and functionality for controlling Radio unit.

Radio equipment: Equipment which contains Radio digital unit and Radio unit.

**Radio frame:** A radio frame is a numbered time interval of 10 ms duration used for data transmission on the radio physical channel. A radio frame is divided into 15 time slots of 0.666 ms duration. The unit of data that is mapped to a radio frame (10 ms time interval) may also be referred to as radio frame.

**Radio interface:** The "radio interface" is the tetherless interface between User Equipment and a UTRAN access point. This term encompasses all the functionality required to maintain such interfaces.

**Radio link:** A "radio link" is a logical association between single User Equipment and a single UTRAN access point. Its physical realisation comprises one or more radio bearer transmissions.

Radio link addition: The procedure where a new radio link is added to the active set.

**Radio Link Control:** A sublayer of radio interface layer 2 providing transparent, unacknowledged and acknowledged data transfer service.

**Radio link removal:** The procedure where a radio link is removed from the active set.

**Radio Link Set:** A set of one or more Radio Links that has a common generation of Transmit Power Control (TPC) commands in the DL

**Radio Network Controller:** This equipment in the RNS is in charge of controlling the use and the integrity of the radio resources.

Radio Network Subsystem Application Part: Radio Network Signalling over the Iur.

**Radio Network Subsystem:** Either a full network or only the access part of a UTRAN offering the allocation and the release of specific radio resources to establish means of connection in between an UE and the UTRAN. A Radio Network Subsystem is responsible for the resources and transmission/reception in a set of cells.

**Radio Network Temporary Identifier:** A Radio Network Temporary Identifier is a generic term of an identifier for a UE when an RRC connection exists. Following types of RNTI are defined: Cell RNTI (C-RNTI), Serving RNC RNTI (S-RNTI), UTRAN RNTI (U-RNTI) and GERAN RNTI (G-RNTI).

**Radio Resource Control:** A sublayer of radio interface Layer 3 existing in the control plane only which provides information transfer service to the non-access stratum. RRC is responsible for controlling the configuration of radio interface Layers 1 and 2.

**Radio system:** the selected 2<sup>nd</sup> or 3<sup>rd</sup> generation radio access technology, eg UTRAN or GERAN.

Radio unit: Equipment which contains transmitter and receiver.

**Rated Output Power:** For FDD BS, rated output power is the mean power level per carrier that the manufacturer has decared to be available at the antenna connector. For TDD BS rated output power is the mean power level per carrier over an active timeslot that the manufacturer has declared to be available at the antenna connector.

**RE power control dynamic range:** The difference between the power of a RE and the average RE power for a BS at maximum output power for a specified reference condition.

**Real time:** Time, typically in number of seconds, to perform the on-line mechanism used for fraud control and cost control.

**Received Signal Code Power:** Given only signal power is received, the average power of the received signal after despreading and combining.

**Receiver Antenna Gain (dBi):** The maximum gain of the receiver antenna in the horizontal plane (specified as dB relative to an isotropic radiator).

**Receiver exclusion band:** The receiver exclusion band is the band of frequencies over which no tests of radiated immunity of a receiver are made. The exclusion band for receivers is expressed relative to the base station receive band.

**Receiver Noise Figure (dB):** Receiver noise figure is the noise figure of the receiving system referenced to the receiver input.

**Receiver Sensitivity (dBm):** This is the signal level needed at the receiver input that just satisfies the required Eb/(No+Io).

**Recipient network:** The network which receives the number in the porting process. This network becomes the subscription network when the porting process is complete.

Record: A string of bytes within an EF handled as a single entity.

Record number: The number, which identifies a record within an EF.

Record pointer: The pointer, which addresses one record in an EF.

Reference bandwidth: The bandwidth in which an emission level is specified.

**Reference configuration:** A combination of functional groups and reference points that shows possible network arrangements (source: ITU-T I.112).

**Reference point:** A conceptual point at the conjunction of two non-overlapping functional groups (source: ITU-T I.112).

**Regionally Provided Service:** A service entitlement to only certain geographical part(s) of a PLMN, as controlled by the network operator.

Registration: This is the process of camping on a cell of the PLMN and doing any necessary LRs.

Registered PLMN (RPLMN): This is the PLMN on which the UE has performed a location registration successfully.

**Registration Area:** A (NAS) registration area is an area in which the UE may roam without a need to perform location registration, which is a NAS procedure.

Relay: Terminal devices capable of ODMA relay communications.

Relay/Seed Gateway: Relay or Seed that communicates with the UTRAN, in either TDD or FDD mode.

Relaylink: Relaylink is a communications link between two ODMA relay nodes.

**Release 99:** A particular version of the 3GPP System standards produced by the 3GPP project. Also: Release 4, Release 5, Release 6 etc..

**Repeater:** A device that receives, amplifies and transmits the radiated or conducted RF carrier both in the down-link direction (from the base station to the mobile area) and in the up-link direction (from the mobile to the base station)

**Requested QoS:** a QoS profile is requested at the beginning of a QoS session. QoS modification requests are also possible during the lifetime of a QoS session.

**Required Eb/(No+Io) (dB):** The ratio between the received energy per information bit to the total effective noise and interference power density needed to satisfy the quality objectives.

**Residual error rate:** A parameter describing service accuracy. The frequency of lost SDUs, and of corrupted or duplicated network SDUs delivered at the user-network interface.

**Restricted local operator services**: communication services provided by an operator that involve either automated or human assistance (e.g., credit card billing, directory assistance, customer care) for which successful authentication is not necessary.

**Retrieval service:** An interactive service which provides the capability of accessing information stored in data base centres. The information will be sent to the user on demand only. The information is retrieved on an individual basis, i.e., the time at which an information sequence is to start is under the control of the user (source ITU-T I.113).

**Roaming:** The ability for a user to function in a serving network different from the home network. The serving network could be a shared network operated by two or more network operator.

Root directory: Obsolete term for Master File.

Root Relay: ODMA relay node where communications originate or terminate.

**RRC Connection:** A point-to-point bi-directional connection between RRC peer entities on the UE and the UTRAN sides, respectively. An UE has either zero or one RRC connection.

**RRC filtered mean power:** The mean power of a UTRA carrier as measured through a root raised cosine filter with roll-off factor a and a bandwidth equal to the chip rate of the radio access mode.

NOTE 1: The RRC filtered mean power of a perfectly modulated UTRA signal is 0.246 dB lower than the mean power of the same signal.

#### S

**S1:** interface between an eNB and an EPC, providing an interconnection point between the EUTRAN and the EPC. It is also considered as a reference point.

**SDU error probability:** The ratio of total incorrect service data units (SDUs) to total successfully transferred service data units plus incorrect service data units in a specified sample (source: ITU-T X.140).

NOTE: the source document term "user information unit" has been replaced by the term "service data unit".

**SDU loss probability:** The ratio of total lost service data units (SDUs) to total transmitted service data units in a specified sample (source: ITU-T X.140).

NOTE: the source document term "user information unit" has been replaced by the term "service data unit".

**SDU misdelivery probability:** The ratio of total misdelivered service data units (SDUs) to total service data units transferred between a specified source and destination user in a specified sample (source: ITU-T X.140).

NOTE: the source document term "user information unit" has been replaced by the term "service data unit".

**SDU transfer delay:** The value of elapsed time between the start of transfer and successful transfer of a specified service data unit (SDU) (source: ITU-T X.140).

NOTE: the source document term "user information unit" has been replaced by the term "service data unit".

**SDU transfer rate:** The total number of successfully transferred service data units (SDUs) in a transfer sample divided by the input/output time for that sample. The input/output time is the larger of the input time or the output time for the sample (source: ITU-T X.140).

NOTE: the source document term "user information unit" has been replaced by the term "service data unit".

Seamless handover: "Seamless handover" is a handover without perceptible interruption of the radio connection.

**Sector:** A "sector" is a sub-area of a cell. All sectors within one cell are served by the same base station. A radio link within a sector can be identified by a single logical identification belonging to that sector.

**Secured Packet:** The information flow on top of which the level of required security has been applied. An Application Message is transformed with respect to a chosen Transport Layer and chosen level of security into one or more Secured Packets.

Security: The ability to prevent fraud as well as the protection of information availability, integrity and confidentiality.

Seed: Deployed ODMA relay node with or without a display/keypad.

**Selected IP Traffic Offload (SIPTO):** Offload of selected types of IP traffic (e.g. internet traffic) towards a defined IP network close to the UE's point of attachment to the access network. SIPTO is applicable to traffic offload for the macro-cellular access network and for the H(e)NB subsystem.

Selected PLMN: This is the PLMN that has been selected by the non-access stratum, either manually or automatically.

Service: a component of the portfolio of choices offered by service providers to a user, a functionality offered to a user.

Service-less UE: A UE that has only the Baseline capabilities.

Service Access Point: A conceptual point where a protocol layer offers access to its services to upper layer.

**Service Area:** The Service Area is defined in the same way as the Service Area according to ITU-T Recommendation Q.1001 [4]. In contrast to the PLMN area it is not based on the coverage of a PLMN. Instead it is based on the area in which a fixed network user can call a mobile user without knowing his location. The Service Area can therefore change when the signalling system is being extended, for example.

Service attribute: A specified characteristic of a telecommunication service (source: ITU-T I.112).

NOTE: the value(s) assigned to one or more service attributes may be used to distinguish that telecommunications service from others.

Service bit rate: The bit rate that is available to a user for the transfer of user information (source: ITU-T I.113).

Service Capabilities: Bearers defined by parameters, and/or mechanisms needed to realise services. These are within networks and under network control.

Service Capability Feature: Functionality offered by service capabilities that are accessible via the standardised application interface

**Service Capability Server:** Network functionality providing open interfaces towards the functionality offered by 3GPP System service capabilities.

**Service category or service class:** A service offered to the users described by a set of performance parameters and their specified values, limits or ranges. The set of parameters provides a comprehensive description of the service capability.

**Service Continuity:** The uninterrupted user experience of a service that is using an active communication (e.g. an ongoing voice call) when a UE undergoes a radio access technology change or a CS/PS domain change without, as far as possible, the user noticing the change.

NOTE: In particular Service Continuity encompasses the possibility that after a RAT / domain change the user experience is maintained by a different telecommunication service (e.g. tele- or bearer service) than before the RAT / domain change.

**Service Control:** The ability of the user, home environment or serving environment to determine what a particular service does, for a specific invocation of that service, within the limitations of that service.

Service Data Unit (SDU): In the reference model for OSI, an amount of information whose identity is preserved when transferred between peer (N+1)-layer entities and which is not interpreted by the supporting (N)-layer entities (source: ITU-T X.200 / ISO-IEC 7498-1).

**Service delay:** The time elapsed from the invocation of the service request, to the corresponding service request indication at the Service Receiver, indicating the arrival of application data.

**Service Enabler**: a capability which may be used, either by itself or in conjunction with other service enablers, to provide a service to the end user.

**Service Execution Environment:** A platform on which an application or programme is authorised to perform a number of functionalities; examples of service execution environments are the user equipment, integrated circuit card and a network platform or any other server.

**Service Feature:** Functionality that a 3GPP System shall offer to enable provision of services. Services, are made up of different service features.

**Service Implementation Capabilities:** Set of implementation capabilities, in each technical domain, required to enable a UE to support a set of UE Service Capabilities.

**Service model:** A general characterisation of services based upon a QoS paradigm, without specifying the actual performance targets.

**Service Provider:** A Service Provider is either a network operator or an other entity that provides services to a subscriber (e.g. a MVNO)

Service receiver: The entity which receives the service request indication primitive, containing the SDU.

Service relationship: The association between two or more entities engaged in the provision of services.

Service request: This is defined as being one invocation of the service through a service request primitive.

Service requester: The entity which requests the initiation of a GPRS operation, through a service request.

**Service Specific Entities:** Entities dedicated to the provisioning of a given (set of) service(s). The fact that they are implemented or not in a given PLMN should have limited impact on all the other entities of the PLMN.

Service subscriber: Entity which subscribes to the General Packet Radio Service (GPRS) service.

Services (of a mobile cellular system): The set of unctions that the mobile cellular system can make available to the user.

**Serving BSS:** A role a BSS can take with respect to a specific connection between an MS and GERAN. There is one Serving BSS for each MS that has a connection to GERAN. The Serving BSS is in charge of the RRC connection between an MS and the GERAN. The Serving BSS terminates the Iu for this connection.

Serving Network: The serving network provides the user with access to the services of home environment.

**Serving RNS:** A role an RNS can take with respect to a specific connection between an UE and UTRAN. There is one Serving RNS for each UE that has a connection to UTRAN. The Serving RNS is in charge of the RRC connection between a UE and the UTRAN. The Serving RNS terminates the Iu for this connection.

Settlement: Payment of amounts resulting from the accounting process.

**Shared Channel:** A radio resource (transport channel or physical channel) that can be shared dynamically between several UEs.

Shared Network: When two or more network operator sharing network elements.

Short File Identifier (SFI): A 5-bit abbreviated name for a file in a directory on the UICC.

Short time: Time, typically in number of minutes, to perform the off-line mechanism used for accounting.

**Signalling:** The exchange of information specifically concerned with the establishment and control of connections, and with management, in a telecommunications network (source: ITU-T I.112).

**Signalling connection:** An acknowledged-mode link between the user equipment and the core network to transfer higher layer information between the entities in the non-access stratum.

**Signalling link:** Provides an acknowledged-mode link layer to transfer the UE-UTRAN signalling messages as well as UE - Core Network signalling messages (using the signalling connection.

**SIM application toolkit procedures:** The portion of the communication protocol between the ME and the UICC that enables applications on the UICC to send commands to the ME.

**SIM code:** Code which when combined with the network and NS codes refers to a unique SIM. The code is provided by the digits 8 to 15 of the IMSI

(U)SIM code group: Combination of the (U)SIM code and the associated network subset and network codes (it is equivalent to the IMSI).

(U)SIM personalisation: Enables a user to personalise a ME so that it may only be used with particular (U)SIM(s).

**Simultaneous use of services:** The concurrent use of a circuit-mode service (voice or data) and packet-mode services (GPRS) by a single mobile station.

**Soft Handover:** Soft handover is a category of handover procedures where the radio links are added and abandoned in such manner that the UE always keeps at least one radio link to the UTRAN.

**SP code:** code which when combined with the network code refers to a unique SP. The code is provided in the GID1 file on the SIM (see Annex A.1.) and is correspondingly stored on the ME.

SP code group: Combination of the SP code and the associated network code.

**SP personalisation:** Allows the service provider to personalise a ME so that it can only be used with that particular service provider's (U)SIMs.

**Speed:** A performance criterion that describes the time interval required to perform a function or the rate at which the function is performed. (The function may or may not be performed with the desired accuracy.) (source: ITU-T I.350).

**SRNC Radio Network Temporary Identifier (S-RNTI):** S-RNTI is UE identifier which is allocated by the Serving RNC and unique within this SRNC. It is allocated for all UEs having a RRC connection. S-RNTI is reallocated always when the Serving RNC for the RRC connection is changed and deallocated when the RRC connection is released.

SRNS Relocation: The change of Iu instance and transfer of the SRNS role to another RNS.

Stratum: Grouping of protocols related to one aspect of the services provided by one or several domains.

**Steering of Roaming:** A technique whereby a roaming UE is encouraged to roam to a preferred VPLMN by the HPLMN.

**Sub Network Management Functions:** Set of functions that are related to a network model for a set of network elements constituting a clearly defined sub-network, which may include relations between the network elements. This model enables additional functions on the sub-network level (typically in the areas of network topology presentation, alarm correlation, service impact analysis and circuit provisioning).

**Subscribed QoS:** The network will not grant a QoS greater than the subscribed. The QoS profile subscription parameters are held in the HLR. An end user may have several QoS subscriptions. For security and the prevention of damage to the network, the end user cannot directly modify the QoS subscription profile data.

**Subscriber:** A Subscriber is an entity (associated with one or more users) that is engaged in a Subscription with a service provider. The subscriber is allowed to subscribe and unsubscribe services, to register a user or a list of users authorised to enjoy these services, and also to set the limits relative to the use that associated users make of these services.

Subscription: A subscription describes the commercial relationship between the subscriber and the service provider.

**Subscription Management (SuM):** set of capabilities that allow Operators, Service Providers, and indirectly subscribers, to provision, control, monitor the Subscription Profile.

Suitable Cell: This is a cell on which an UE may camp. It must satisfy certain conditions.

**Supplementary service:** A service which modifies or supplements a basic telecommunication service. Consequently, it cannot be offered to a user as a standalone service. It must be offered together with or in association with a basic telecommunication service. The same supplementary service may be common to a number of basic telecommunication services.

**System Area:** The System Area is defined as the group of PLMN areas accessible by MSs. Interworking of several PLMNs and interworking between PLMNs and fixed network(s) permit public land mobile communication services at international level.

### Т

**Teleaction service:** A type of telecommunication service that uses short messages, requiring a low transmission rate, between the user and the network (source: ITU-T I.112).

**Telecommunication port:** Ports which are intended to be connected to telecommunication networks (e.g. public switched telecommunication networks, integrated services digital networks), local area networks (e.g. Ethernet, Token Ring) and similar networks.

**Telecommunication service:** What is offered by a PLMN operator or service provider to its customers in order to satisfy a specific telecommunication requirement. (source: ITU-T I.112). Telecommunication services are divided into two broad families: bearer services and teleservices (source: ITU-T I.210).

**Teleservice:** Is a type of telecommunication service that provides the complete capability, including terminal equipment functions, for communication between users according to standardised protocols and transmission capabilities established by agreement between operators.

**Terminal:** A device into which a UICC can be inserted and which is capable of providing access to 3GPP System services to users, either alone or in conjunction with a UICC.

**Terminal Equipment (TE):** Equipment that provides the functions necessary for the operation of the access protocols by the user. A functional group on the user side of a user-network interface (source: ITU-T I.112).

**Test environment:** A "test environment" is the combination of a test propagation environment and a deployment scenario, which together describe the parameters necessary to perform a detailed analysis of a radio transmission technology.

Text conversation: Real time transfer of text between users in at least two locations.

**Text Telephony:** An audiovisual conversation service providing bi-directional real time transfer of text and optionally audio between users in two locations. Audio may be transmitted alternating with text or simultaneously with text. (Source ITU-T F.703)

**Transient phenomenon:** Pertaining to or designating a phenomenon or a quantity which varies between two consecutive steady states during a time interval short compared with the time-scale of interest (IEC 60050-161 [6]).

**Throughput:** A parameter describing service speed. The number of data bits successfully transferred in one direction between specified reference points per unit time (source: ITU-T I.113).

Toolkit applet: An application on the UICC that generates proactive commands to the ME.

**Total Conversation**: An audiovisual conversation service providing bi-directional symmetric real-time transfer of motion video, text and voice between users in two or more locations. (source ITU-T F.703)

**Total power dynamic range:** The difference between the maximum and the minimum total transmit output power for a specified reference condition (TS25.104).

Traffic channel: A "traffic channel" is a logical channel which carries user information.

**Transit delay:** A parameter describing service speed. The time difference between the instant at which the first bit of a protocol data unit (PDU) crosses one designated boundary (reference point), and the instant at which the last bit of the PDU crosses a second designated boundary (source: ITU-T I.113).

**Transmission bandwidth:** Bandwidth of an instantaneous transmission from a UE or BS, measured in Resource Block units.

**Transmission bandwidth configuration:** The highest transmission bandwidth allowed for uplink or downlink in a given channel bandwidth, measured in Resource Block units.

**Transmission Time Interval:** Transmission Time Interval is defined as the inter-arrival time of Transport Block Sets, i.e. the time it shall take to transmit a Transport Block Set.

**Transmitter Antenna Gain (dBi):** The maximum gain of the transmitter antenna in the horizontal plane (specified as dB relative to an isotropic radiator.

**Transmitter exclusion band:** The transmitter exclusion band is the band of frequencies over which no tests of radiated immunity of a transmitter are made. The exclusion band for transmitters is expressed relative to the carrier frequencies used (the carrier frequencies of the base stations activated transmitter(s).

Transmitter OFF period: The time period during which the BS transmitter is not allowed to transmit.

**Transmitter ON period:** The time period during which the BS transmitter is transmitting data and/or reference symbols, i.e. data subframes or DwPTS.

**Transmitter transient period:** The time period during which the transmitter is changing from the OFF period to the ON period or vice versa.

**Transport Block:** Transport Block is defined as the basic data unit exchanged between L1 and MAC. An equivalent term for Transport Block is "MAC PDU".

**Transport Block Set:** Transport Block Set is defined as a set of Transport Blocks that is exchanged between L1 and MAC at the same time instance using the same transport channel. An equivalent term for Transport Block Set is "MAC PDU Set".

Transport Block Set Size: Transport Block Set Size is defined as the number of bits in a Transport Block Set.

Transport Block Size: Transport Block Size is defined as the size (number of bits) of a Transport Block.

**Transport channel:** The channels offered by the physical layer to Layer 2 for data transport between peer L1 entities are denoted as Transport Channels. Different types of transport channels are defined by how and with which characteristics data is transferred on the physical layer, e.g. whether using dedicated or common physical channels.

**Transport Format:** A Transport Format is defined as a format offered by L1 to MAC for the delivery of a Transport Block Set during a Transmission Time Interval on a Transport Channel. The Transport Format constitutes of two parts – one dynamic part and one semi-static part.

**Transport Format Combination:** A Transport Format Combination is defined as the combination of currently valid Transport Formats on all Transport Channels of an UE, i.e. containing one Transport Format from each Transport Channel.

**Transport Format Combination Set:** A Transport Format Combination Set is defined as a set of Transport Format Combinations to be used by an UE.

**Transport Format Combination Indicator (TFCI):** A Transport Format Combination Indicator is a representation of the current Transport Format Combination.

**Transport Format Identification (TFI in UTRAN, TFIN in GERAN):** A label for a specific Transport Format within a Transport Format Set.

**Transport Format Set:** A set of Transport Formats. For example, a variable rate DCH has a Transport Format Set (one Transport Format for each rate), whereas a fixed rate DCH has a single Transport Format.

### U

**UE Service Capabilities:** Capabilities that can be used either singly or in combination to deliver services to the user. The characteristic of UE Service Capabilities is that their logical function can be defined in a way that is independent of the implementation of the 3GPP System (although all UE Service Capabilities are of course constrained by the implementation of the 3GPP System). Examples: a data bearer of 144 kbps; a high quality speech teleservice; an IP teleservice; a capability to forward a speech call.

**UICC:** a physically secure device, an IC card (or 'smart card'), that can be inserted and removed from the terminal. It may contain one or more applications. One of the applications may be a USIM.

**Universal Subscriber Identity Module (USIM):** An application residing on the UICC used for accessing services provided by mobile networks, which the application is able to register on with the appropriate security.

Universal Terrestrial Radio Access Network (UTRAN): UTRAN is a conceptual term identifying that part of the network which consists of RNCs and Node Bs between Iu and Uu interfaces.

**Usage Parameter Control (UPC):** Set of actions taken by the network to monitor and control the offered traffic and the validity of the connection with respect to the traffic contract negotiated between the user and the network.

**Uplink:** An "uplink" is a unidirectional radio link for the transmission of signals from a UE to a base station, from a Mobile Station to a mobile base station or from a mobile base station to a base station.

Uplink operating band: The part of the operating band designated for uplink.

Uplink Pilot Timeslot: Uplink part of the special subframe (for TDD operation)

**Upper RF bandwidth edge:** The frequency of the upper edge of the Base Station RF bandwidth, used as a frequency reference point for transmitter and receiver requirements

**URA updating:** URA updating is a family of procedures that updates the UTRAN registration area of a UE when a RRC connection exists and the position of the UE is known on URA level in the UTRAN.

**User:** An entity, not part of the 3GPP System, which uses 3GPP System services. Example: a person using a 3GPP System mobile station as a portable telephone.

**User-network interface:** The interface between the terminal equipment and a network termination at which interface the access protocols apply (source: ITU-T I.112).

**User-user protocol:** A protocol that is adopted between two or more users in order to ensure communication between them (source: ITU-T I.112).

**User access or user network access:** The means by which a user is connected to a telecommunication network in order to use the services and/or facilities of that network (source: ITU-T I.112).

**User Equipment (UE):** Allows a user access to network services. For the purpose of 3GPP specifications the interface between the UE and the network is the radio interface. A User Equipment can be subdivided into a number of domains, the domains being separated by reference points. Currently the User Equipment is subdivided into the UICC domain and the ME Domain. The ME Domain can further be subdivided into one or more Mobile Termination (MT) and Terminal Equipment (TE) components showing the connectivity between multiple functional groups.

In the context of Fixed Broadband Access to IMS, TISPAN defines the term UE in ETSI TR180 000 [5].

**User Interface Profile:** Contains information to present the personalised user interface within the capabilities of the terminal and serving network.

User Services Profile: Contains identification of subscriber services, their status and reference to service preferences.

UTRA Radio access mode: the selected UTRA radio access mode ie UTRA-FDD;UTRA-TDD.

UTRA-NTDD: Time Division Duplex UTRA access mode 1.28 Mcps option

UTRA-TDD: Time Division Duplex UTRA Radio access mode (Includes UTRA-NTDD and UTRA-WTDD)

UTRA-WTDD: Time Division Duplex UTRA access mode 3.84 Mcps option

**UTRAN access point:** A conceptual point within the UTRAN performing radio transmission and reception. A UTRAN access point is associated with one specific cell, i.e. there exists one UTRAN access point for each cell. It is the UTRAN-side end point of a radio link.

**UTRAN Registration Area:** The UTRAN Registration Area is an area covered by a number of cells. The URA is only internally known in the UTRAN.

**UTRAN Radio Network Temporary Identifier:** The U-RNTI is a unique UE identifier that consists of two parts, an SRNC identifier and a C-RNTI. U-RNTI is allocated to an UE having a RRC connection. It identifies the UE within UTRAN and is used as an UE identifier in cell update, URA update, RRC connection reestablishment and (UTRAN originated) paging messages and associated responses on the radio interface.

**User Profile:** Is the set of information necessary to provide a user with a consistent, personalised service environment, irrespective of the user's location or the terminal used (within the limitations of the terminal and the serving network).

Uu: The Radio interface between UTRAN and the User Equipment.

#### V

Value Added Service Provider: Provides services other than basic telecommunications service for which additional charges may be incurred.

**Variable bit rate service:** A type of telecommunication service characterised by a service bit rate specified by statistically expressed parameters which allow the bit rate to vary within defined limits (source: ITU-T I.113).

Virtual Home Environment: A concept for personal service environment portability across network boundaries and between terminals.

**Virtual Machine:** A software program that simulates a hypothetical computer central processing unit. The programs executed by a virtual machine are represented as byte codes, which are primitive operations for this hypothetical computer.

**Visited PLMN:** This is a PLMN different from the HPLMN (if the EHPLMN list is not present or is empty) or different from an EHPLMN (if the EHPLMN list is present).

**Visited PLMN of home country:** This is a Visited PLMN where the MCC part of the PLMN identity is the same as the MCC of the IMSI.

#### W

WTDD: Wide TDD – the 3.84 Mcps chip rate UTRA-TDD option.

**WLAN UE: WLAN User Equipment:** – a UE (equipped with UICC card including (U)SIM) utilized by a subscriber capable of accessing a WLAN network. A WLAN UE may include entities whose configuration, operation and software environment are not under the exclusive control of the 3GPP system operator, such as a laptop computer or PDA with a WLAN card, UICC card reader and suitable software applications.

### Х

<void>

### Y

<void>

### Ζ

<void>

## 4 Abbreviations

#### 0-9

| CDMA2000 1x Radio Transmission Technology |
|---|
| 2 <sup>nd</sup> Generation                |
| Three Dimensional                         |
| 3 <sup>rd</sup> Generation                |
| Third Generation Partnership Project      |
| 5 <sup>th</sup> Generation                |
| Fifth Generation Core network             |
| 5G System                                 |
| 8-state Phase Shift Keying                |
|   |

### А

| A-SGW | Access Signalling Gateway                                |
|-------|--|
| A3    | Authentication algorithm A3                              |
| A38   | A single algorithm performing the functions of A3 and A8 |
| A5/1  | Encryption algorithm A5/1                                |
| A5/2  | Encryption algorithm A5/2                                |
| A5/X  | Encryption algorithm A5/0-7                              |
| A8    | Ciphering key generating algorithm A8                    |
| AAL   | ATM Adaptation Layer                                     |
| AAL2  | ATM Adaptation Layer type 2                              |
| AAL5  | ATM Adaptation Layer type 5                              |
| AB    | Access Burst   |
| AC    | Access Class (C0 to C15)                                 |
|       | Access Condition   |
|       | Application Context                                      |

| 100          | Authentication Centre   |
|--------------|---|
| ACC<br>ACELP | Automatic Congestion Control  |
| ACELF        | Algebraic Code Excited Linear Prediction<br>Associated Control Channel                        |
| ACIR         | Adjacent Channel Interference Ratio   |
| ACK          | Acknowledgement   |
| ACL          | APN Control List  |
| ACLR         | Adjacent Channel Leakage Power Ratio  |
| ACM          | Accumulated Call Meter  |
|              | Address Complete Message  |
| ACMmax       | ACM (Accumulated Call Meter) maximal value  |
| ACRR         | Adjacent Channel Rejection Ratio  |
| ACS          | Adjacent Channel Selectivity  |
| ACU          | Antenna Combining Unit  |
| ADC          | Administration Centre   |
| ADCH         | Analogue to Digital Converter<br>Associated Dedicated Channel                                 |
| ADF          | Application Dedicated File  |
| ADM          | Access condition to an EF which is under the control of the authority which creates this file |
| ADN          | Abbreviated Dialling Numbers  |
| ADPCM        | Adaptive Differential Pulse Code Modulation   |
| AE           | Application Entity  |
| AEC          | Acoustic Echo Control   |
| AEF          | Additional Elementary Functions   |
| AESA         | ATM End System Address  |
| AFC          | Automatic Frequency Control   |
| AGCH<br>AGV  | Access Grant CHannel<br>Automated Guided Vehicle  |
| AGV          | Action indicator  |
| AI           | Acquisition Indicator   |
| AICH         | Acquisition Indicator Channel   |
| AID          | Application IDentifier  |
| AIUR         | Air Interface User Rate   |
| AK           | Anonymity Key   |
| AKA          | Authentication and Key Agreement  |
| AKI          | Asymmetric Key Index  |
| ALCAP        | Access Link Control Application Protocol  |
| ALSI         | Application Level Subscriber Identity   |
| ALW          | ALWays  |
| AM<br>AMF    | Acknowledged Mode<br>Authentication Management Field  |
| AMN          | Artificial Mains Network  |
| AMR          | Adaptive Multi Rate   |
| AMR-WB       | Adaptive Multi Rate Wide Band   |
| AN           | Access Network  |
| ANP          | Access Network Provider   |
| AoC          | Advice of Charge  |
| AoCC         | Advice of Charge Charging   |
| AoCI         | Advice of Charge Information  |
| AP           | Access preamble   |
| APDU<br>API  | Application Protocol Data Unit<br>Application Programming Interface                           |
| APN          | Access Point Name   |
| AR           | Augmented Reality   |
| ARFCN        | Absolute Radio Frequency Channel Number   |
| ARP          | Address Resolution Protocol   |
| ARQ          | Automatic Repeat ReQuest  |
| ARR          | Access Rule Reference   |
| AS           | Access Stratum  |
| ASC          | Access Service Class  |
| ASCI         | Advanced Speech Call Items  |
| ASE          | Application Service Element   |
|              |   |

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| ASN.1      | Abstract Syntax Notation One  |
|------------|-------------------------------|
| AT command | ATtention Command             |
| ATM        | Asynchronous Transfer Mode    |
| ATR        | Answer To Reset               |
| ATT (flag) | Attach                        |
| AU         | Access Unit                   |
| AuC        | Authentication Centre         |
| AUT(H)     | Authentication                |
| AUTN       | Authentication token          |
| AWGN       | Additive White Gaussian Noise |
|            |                               |

#### В

| DIGDU      |  |
|------------|--|
| B-ISDN     | Broadband ISDN   |
| BA         | BCCH Allocation  |
| BAIC       | Barring of All Incoming Calls  |
| BAOC       | Barring of All Outgoing Calls  |
| BC         | Band Category  |
| BCC        | Base Transceiver Station (BTS) Colour Code   |
| BCCH       | Broadcast Control Channel  |
| BCD        | Binary Coded Decimal   |
| BCF        | Base station Control Function  |
| BCFE       | Broadcast Control Functional Entity  |
| BCH        | Broadcast Channel  |
| BCIE       | Bearer Capability Information Element  |
| BDN        | Barred Dialling Number   |
| BER        | Bit Error Ratio  |
|            | Basic Encoding Rules (of ASN.1)  |
| BFI        | Bad Frame Indication   |
| BG         | Border Gateway   |
| BGT        | Block Guard Time   |
| BI         | all Barring of Incoming call   |
| BIC        | Baseline Implementation Capabilities   |
| BIC-Roam   | Barring of Incoming Calls when Roaming outside the home PLMN country                   |
| BID        | Binding Identity   |
| BLER       | Block Error Ratio  |
| Bm         | Full-rate traffic channel  |
| BMC        | Broadcast/Multicast Control  |
| BN         | Bit Number   |
| BO         | all Barring of Outgoing call   |
| BOC        | Bell Operating Company   |
| BOIC       | Barring of Outgoing International Calls  |
| BOIC-exHC  | Barring of Outgoing International Calls except those directed to the Home PLMN Country |
| BPSK       | Binary Phase Shift Keying  |
| BS         | Base Station   |
| 00         | Basic Service (group)  |
|            | Bearer Service   |
| BSG        | Basic Service Group  |
| BSC        | Base Station Controller  |
| BSIC       | Base transceiver Station Identity Code   |
| BSIC-NCELL | BSIC of an adjacent cell   |
|            | •  |
| BSR        | Buffer Status Report   |
| BSS        | Base Station Subsystem   |
| BSSAP      | Base Station Subsystem Application Part  |
| BSSGP      | Base Station Subsystem GPRS Protocol   |
| BSSMAP     | Base Station Subsystem Management Application Part                                     |
| BSSOMAP    | Base Station Subsystem Operation and Maintenance Application Part                      |
| BTFD       | Blind Transport Format Detection   |
| BTS        | Base Transceiver Station   |
| BVC        | BSS GPRS Protocol Virtual Connection   |

| BVCI | BSS GPRS Protocol Virtual Connection Identifier |
|------|---|
| BW   | Bandwidth                                       |
| BWT  | Block Waiting Time                              |

### С

| С      | Conditional   |
|--------|---|
| C-     | Control-  |
| C/I    | Carrier-to-Interference Power Ratio   |
| CA     | Carrier Aggregation   |
| C-APDU | Command APDU  |
| C-RNTI | Cell Radio Network Temporary Identity   |
| C-TPDU | Command TPDU  |
| CA     | Capacity Allocation   |
| CA     | Cell Allocation   |
|        | Certification Authority   |
| CAA    |   |
| CAA    | Capacity Allocation Acknowledgement   |
| CAD    | Card Acceptance Device  |
| CAI    | Charge Advice Information   |
| CAMEL  | Customised Application for Mobile network Enhanced Logic  |
| CAP    | CAMEL Application Part  |
| CAZAC  | Constant Amplitude Zero Auto-Correlation  |
| CB     | Cell Broadcast  |
| CBC    | Cell Broadcast Centre   |
|        | Cipher Block Chaining   |
| CBCH   | Cell Broadcast CHannel  |
| CBMI   | Cell Broadcast Message Identifier   |
| CBR    | Constant Bit Rate   |
| CBS    | Cell Broadcast Service  |
| CC     | Call Control  |
|        | Country Code  |
|        | Cryptographic Checksum  |
|        | Component Carrier   |
| CC/PP  | Composite Capability/Preference Profiles  |
| CCBS   | Completion of Calls to Busy Subscriber  |
| CCCH   | Common Control Channel  |
|        |   |
| CCE    | Control Channel Element   |
| CCF    | Call Control Function   |
| CCH    | Control Channel   |
| CCI    | Capability / Configuration Identifier   |
| CCITT  | Comité Consultatif International Télégraphique et Téléphonique (The International Telegraph and |
|        | Telephone Consultative Committee)   |
| CCK    | Corporate Control Key   |
| CCM    | Certificate Configuration Message   |
|        | Current Call Meter  |
| CCO    | Cell Change Order   |
| CCP    | Capability/Configuration Parameter  |
| CCPCH  | Common Control Physical Channel   |
| Cct    | Circuit   |
| CCTrCH | Coded Composite Transport Channel   |
| CD     | Capacity Deallocation   |
|        | Collision Detection   |
| CDA    | Capacity Deallocation Acknowledgement   |
| CDCH   | Control-plane Dedicated CHannel   |
| CDMA   | Code Division Multiple Access   |
| CDN    | Coupling/Decoupling Network   |
| CDR    | Charging Data Record  |
| CDUR   | Chargeable DURation   |
| CED    | called station identifier   |
|        |   |
| CEIR   | Central Equipment Identity Register   |
| CEND   | end of charge point   |

| CEPT         | Conférence des administrations Européennes des Postes et Telecommunications |
|--------------|---|
| CF           | Conversion Facility   |
| CI           | all Call Forwarding services  |
| CFB          | Call Forwarding on mobile subscriber Busy                                   |
| CFN          | Connection Frame Number   |
| CFNRc        | Call Forwarding on mobile subscriber Not Reachable                          |
| CFNRy        | Call Forwarding on No Reply   |
| CFU          | Call Forwarding Unconditional   |
| CGI          | Common Gateway Interface  |
| 001          | Cell Global Identifier  |
| CHAP         | Challenge Handshake Authentication Protocol                                 |
| CHP          | CHarging Point  |
| CHV          | Card Holder Verification information  |
| CI           | Cell Identity   |
|              | CUG index   |
| CID          | Cell-ID (positioning method)  |
| CIM          | Common Information Model  |
| CIR          | Carrier to Interference Ratio   |
| СК           | Cipher Key  |
| CKSN         | Ciphering Key Sequence Number   |
| CLA          | CLAss   |
| CLI          | Calling Line Identity   |
| CLIP         | Calling Line Identification Presentation                                    |
| CLIR         | Calling Line Identification Restriction                                     |
| CLK          | Clock   |
| CM           | Connection Management   |
| CMAS         | Commercial Mobile Alert Service   |
| CMC          | Connection Mobility Control   |
| CMD          | Command   |
| CMIP         | Common Management Information Protocol                                      |
| CMISE        | Common Management Information Service                                       |
| CMM          | Channel Mode Modify   |
| CN           | Core Network  |
|              | Comfort Noise   |
| CNAP         | Calling Name Presentation   |
| CNG          | Calling Tone  |
| CNL          | Co-operative Network List   |
| CNTR         | Counter   |
| CLNP<br>CLNS | Connectionless network protocol   |
| CLNS<br>COLI | Connectionless network service<br>COnnected Line Identity                   |
| COLP         | COnnected Line identification Presentation                                  |
| COLR         | COnnected Line identification Restriction                                   |
| COLK         | COMplete  |
| CONNACK      | Connect Acknowledgement   |
| CONS         | Connection-oriented network service   |
| CORBA        | Common Object Request Broker Architecture                                   |
| CP           | Cyclic prefix   |
| CP-Admin     | Certificate Present (in the MExE SIM)-Administrator                         |
| CP-TP        | Certificate Present (in the MExE SIM)-Third Party                           |
| CPBCCH       | COMPACT Packet BCCH   |
| CPICH        | Common Pilot Channel  |
| CPCH         | Common Packet Channel   |
| CPCS         | Common Part Convergence Sublayer  |
| CPS          | Common Part Sublayer  |
| CPU          | Central Processing Unit   |
| C-plane      | Control Plane   |
| C/R          | Command/Response field bit  |
| CQI          | Channel Quality Indicator   |
| CRC          | Cyclic Redundancy Check   |
| CRE          | Call Ree-establishment procedure  |
| CRNC         | Controlling Radio Network Controller  |
|              |   |

| CS-GW   | Circuit Switched Gateway  |
|---|---|
| CS  | Circuit Switched  |
|   | Coding Scheme   |
| CSCF  | Call Server Control Function  |
| CSD   | Circuit Switched Data   |
| CSE   | Camel Service Environment   |
| CSG   | Closed Subscriber Group   |
| CSGID   | Closed Subscriber Group Identity  |
| CSI   | Channel State Information   |
| CSPDN   | Circuit Switched Public Data Network  |
| CT  | Call Transfer supplementary service   |
|   | Channel Tester  |
|   | Channel Type  |
| CTCH  | Common Traffic Channel  |
| CTDMA   | Code Time Division Multiple Access  |
| CTFC  | Calculated Transport Format Combination   |
| CTM   | Cellular Text telephone Modem   |
| CTR   | Common Technical Regulation   |
| CTS   | Cordless Telephony System   |
| CUG   | Closed User Group   |
| CW  | Call Waiting  |
|   | Continuous Wave (unmodulated signal)  |
| CWI   | Character Waiting Integer   |
| CWT   | Character Waiting Time  |
| C-RNTI  | Cell RNTI   |
| CT<br>CTCH<br>CTDMA<br>CTFC<br>CTM<br>CTR<br>CTS<br>CUG<br>CW<br>CWI<br>CWI | Call Transfer supplementary service<br>Channel Tester<br>Channel Type<br>Common Traffic Channel<br>Code Time Division Multiple Access<br>Calculated Transport Format Combination<br>Cellular Text telephone Modem<br>Common Technical Regulation<br>Cordless Telephony System<br>Closed User Group<br>Call Waiting<br>Continuous Wave (unmodulated signal)<br>Character Waiting Integer<br>Character Waiting Time |

#### D

| DAC       | Digital to Analog Converter                  |
|-----------|--|
| DAD       | Destination ADress                           |
| DAM       | DECT Authentication Module                   |
| DB        | Dummy Burst                                  |
| DC        | Dedicated Control (SAP)                      |
|           | Direct Current                               |
| DCA       | Dynamic Channel Allocation                   |
| DCCH      | Dedicated Control Channel                    |
| DCE       | Data Circuit terminating Equipment           |
| DCF       | Data Communication Function                  |
| DCH       | Dedicated Channel                            |
| DCI       | Downlink Control Information                 |
| DCK       | Depersonalisation Control Key                |
| DCN       | Data Communication Network                   |
| DCS       | Data Coding Scheme                           |
| DCS1800   | Digital Cellular Network at 1800MHz          |
| DC-HSDPA  | Dual Cell HSDPA                              |
| DDI       | Direct Dial In                               |
| DDoS      | Distributed Denial of Service                |
| DECT      | Digital Enhanced Cordless Telecommunications |
| DET       | Detach                                       |
| DES       | Data Encryption Standard                     |
| DF        | Dedicated File                               |
| DFT       | Discrete Fourier Transformation              |
| DHCP      | Dynamic Host Configuration Protocol          |
| DHO       | Diversity Handover                           |
| diff-serv | Differentiated services                      |
| DISC      | Disconnect                                   |
| DL        | Data Layer                                   |
|           | Downlink (Forward Link)                      |
| DLCI      | Data Link Connection Identifier              |
| DLD       | Data Link Discriminator                      |
|           |  |

| DL-SCH  | Downlink Shared channel                                      |
|---------|--|
| Dm      | Control channel (ISDN terminology applied to mobile service) |
| DMR     | Digital Mobile Radio   |
| DMTF    | Distributed Management Task Force                            |
| DN      | Data Network   |
|         | Distinguished Name   |
|         | Destination Network  |
| DNIC    | Data Network Identifier                                      |
| DNS     | Directory Name Service                                       |
| DO      | Data Object  |
| DP      | Dial/Dialled Pulse   |
| DPCCH   | Dedicated Physical Control Channel                           |
| DPCH    | Dedicated Physical Channel                                   |
| DPDCH   | Dedicated Physical Data Channel                              |
| DRAC    | Dynamic Resource Allocation Control                          |
| DRB     | Data Radio Bearer  |
| DRNC    | Drift Radio Network Controller                               |
| DRNS    | Drift RNS  |
| DRX     | Discontinuous Reception                                      |
| DS-CDMA | Direct-Sequence Code Division Multiple Access                |
| DSAC    | Domain Specific Access Control                               |
| DSCH    | Downlink Shared Channel                                      |
| DSE     | Data Switching Exchange                                      |
| DSI     | Digital Speech Interpolation                                 |
| DSS1    | Digital Subscriber Signalling No1                            |
| DTAP    | Direct Transfer Application Part                             |
| DTCH    | Dedicated Traffic Channel                                    |
| DTE     | Data Terminal Equipment                                      |
| DTMF    | Dual Tone Multiple Frequency                                 |
| DTT     | Digital Terrestrial Television                               |
| DTX     | Discontinuous Transmission                                   |
| DUT     | Device Under Test  |
| DwPTS   | Downlink Pilot Timeslot                                      |
|         |  |

### Е

| E-CID      | Enhanced Cell-ID (positioning method)                            |
|------------|--|
| E-GGSN     | Enhanced GGSN  |
| E-HLR      | Enhanced HLR   |
| E-RAB      | E-UTRAN Radio Access Bearer                                      |
| E-SMLC     | Enhanced Serving Mobile Location Centre                          |
| E-TM       | E-UTRA Test Model  |
| E2E        | End-to-End   |
| EA         | External Alarms  |
| EAB        | Extended Access Barring  |
| EAP        | Extensible Authentication Protocol                               |
| EARFCN     | E-UTRA Absolute Radio Frequency Channel Number                   |
| EBSG       | Elementary Basic Service Group                                   |
| ECB        | Electronic Code-book   |
| ECC        | Emergency Call Code  |
|            | Elliptic Curve Cryptography                                      |
| ECEF       | Earth Centred, Earth Fixed                                       |
| EC-EGPRS   | Extended Coverage EGPRS [deprecated: replaced by EC-GSM-IoT]     |
| ECGI       | E-UTRAN Cell Global Identifier                                   |
| EC-GSM-IoT | Extended Coverage GSM Internet of Things                         |
| ECI        | Earth-Centered-Inertial  |
| ECM        | Error Correction Mode (facsimile)                                |
|            | EPS Connection Management  |
| Ec/No      | Ratio of energy per modulating bit to the noise spectral density |
| ECSD       | Enhanced CSD   |
| ECT        | Explicit Call Transfer supplementary service                     |

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| ECTRAEuropean Committee of Telecommunications Regulatory AffairsEDCError Detection Code byteEDGEEnhanced Data rates for GSM EvolutioneDRXExtended Discontinous ReceptionEELElectric Echo LossEFElementary File (on the UICC)EFREnhanced Full RateEFSError free secondsEGPRSEnhanced GPRSEHPLMNEquivalent Home PLMNEIREquivalent Identity Centre<br>Equivalent Isotropic Radiated PowerELEcho LossEFElementary File (on the UICC)EMElementary FileEMElementary FileEMElementary FileEMElementary FileEMElectroMagnetic CompatibilityeMLPPenhanced MBBEMCElectroMagnetic CompatibilityeMLPPenhanced Multi-Level Precedence and Pre-emptionEMMIElectrical Man Machine InterfaceeNAEvolved Node BEPElementary ProcedureEPAElementary ProcedureEPAElementary FileEVOLVEd Davket CoreEPREEnergy Per Resource ElementE-UTRANEvolved UTRA<br>Evolved Utiversal Terrestrial Radio AccessE-UTRANEvolved UtraN<br>Evolved Universal Terrestrial Radio AccessEPRCHEhnanced Power Control<br>Equivalent Radiated PowerEPREEnergy Per Resource ElementE-UTRANEvolved UTRAN<br>Evolved UtraN<br>Evolved UtraN<br>Evolved UtraN<br>Evolved UtraN<br>Evolved UtraN<br>Evolved UtraN<br>Evolved UtraN<br>Evolved Utr   |          |  |
|--|----------|--|
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| EHPLMNEquivalent Home PLMNEIREquipment Identity Centre<br>Equipment Identity RegisterEIRPEquivalent Isotropic Radiated PowerELEcho LossEFElementary FileEMElementary FileEMElement ManagereMBBEnhanced MBBEMCElectroMagnetic CompatibilityeMLPPenhanced Multi-Level Precedence and Pre-emptionEMMIElectrical Man Machine InterfaceeNBE-UTRAN Node B<br>evolved Node BEPElementary ProcedureEPAExtended Pedestrian A modelEPCEnhanced UTRA<br>Evolved Packet CoreEPREEnergy Per Resource ElementE-UTRANEvolved UTRA<br>Evolved UTRA<br>Evolved Universal Terrestrial Radio AccessE-UTRANEvolved UTRAN<br>Evolved Universal Terrestrial Radio Access NetworkEPSEvolved Power Control ChannelEPROMErasable Programmable Read Only MemoryERPEar Reference Point<br>Equivalent Radiated PowerERPElectrostatic dischargeETNSEuropean Telecommunications Numbering SpaceETRETSI Technical ReportETSIEuropean Telecommunications StandardsETSIEuropean Telecommunication St                    | EFS      | Error free seconds                     |
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| ERPEar Reference Point<br>Equivalent Radiated PowerERRErrorESDElectrostatic dischargeETNSEuropean Telecommunications Numbering SpaceETRETSI Technical ReportETSEuropean Telecommunication StandardETSIEuropean Telecommunications Standards Instituteetuelementary time unitETUExtended Typical Urban model  | EPCCH    | Enhanced Power Control Channel         |
| Equivalent Radiated PowerERRErrorESDElectrostatic dischargeETNSEuropean Telecommunications Numbering SpaceETRETSI Technical ReportETSEuropean Telecommunication StandardETSIEuropean Telecommunications StandardETSIEuropean Telecommunications StandardETSIEuropean Telecommunications Standards Instituteetuelementary time unitETUExtended Typical Urban model  | EPROM    | Erasable Programmable Read Only Memory |
| ERRErrorESDElectrostatic dischargeETNSEuropean Telecommunications Numbering SpaceETRETSI Technical ReportETSEuropean Telecommunication StandardETSIEuropean Telecommunications Standards Instituteetuelementary time unitETUExtended Typical Urban model   | ERP      | Ear Reference Point                    |
| ESDElectrostatic dischargeETNSEuropean Telecommunications Numbering SpaceETRETSI Technical ReportETSEuropean Telecommunication StandardETSIEuropean Telecommunications Standards Instituteetuelementary time unitETUExtended Typical Urban model   |          | Equivalent Radiated Power              |
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| ETNSEuropean Telecommunications Numbering SpaceETRETSI Technical ReportETSEuropean Telecommunication StandardETSIEuropean Telecommunications Standards Instituteetuelementary time unitETUExtended Typical Urban model   | ESD      | Electrostatic discharge                |
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| ETSEuropean Telecommunication StandardETSIEuropean Telecommunications Standards Instituteetuelementary time unitETUExtended Typical Urban model  |          |  |
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| ETU Extended Typical Urban model   |          | •                                      |
| 51   |          | •                                      |
|  |          |  |
|  |          |  |
| ELU End-User Identity  |          |  |
| EUI End-User Identity<br>EVA Extended Vehicular A model  |          |  |
| EVA Extended Vehicular A model   | F7 A TAT | Litor vector ivragilitude              |
| ELU End-User Identity  |          |  |
|  |          |  |
|  |          | -                                      |

#### F

| FA      | Full Allocation                           |
|---------|---|
|         | Fax Adaptor                               |
| FAC     | Final Assembly Code                       |
| FACCH   | Fast Associated Control CHannel           |
| FACCH/F | Fast Associated Control Channel/Full rate |
| FACCH/H | Fast Associated Control Channel/Half rate |
| FACH    | Forward Access Channel                    |
| FAUSCH  | Fast Uplink Signalling Channel            |
| FAX     | Facsimile                                 |
| FB      | Frequency correction Burst                |

| FBI   | Feedback Information                  |
|-------|---------------------------------------|
| FCC   | Federal Communications Commission     |
| FCCH  | Frequency Correction CHannel          |
| FCI   | File Control Information              |
| FCP   | File Control Parameter                |
| FCS   | Frame Check Sequence                  |
| FDD   | Frequency Division Duplex             |
| FDM   | Frequency Division Multiplex          |
| FDMA  | Frequency Division Multiple Access    |
| FDN   | Fixed Dialling Number                 |
| FDR   | False transmit format Detection Ratio |
| FEC   | Forward Error Correction              |
| FER   | Frame Erasure Rate, Frame Error Rate  |
| FFS   | For Further Study                     |
| FFT   | Fast Fourier Transformation           |
| FH    | Frequency Hopping                     |
| FLO   | Flexible Layer One                    |
| FM    | Fault Management                      |
| FMC   | Fixed Mobile Convergence              |
| FN    | Frame Number                          |
| FNUR  | Fixed Network User Rate               |
| FP    | Frame Protocol                        |
| FPLMN | Forbidden PLMN                        |
| FR    | Full Rate                             |
| FRC   | Fixed Reference Channel               |
| FTAM  | File Transfer Access and Management   |
| ftn   | forwarded-to number                   |

#### G

| G-RNTI  | GERAN Radio Network Temporary Identity   |
|---------|--|
| GAGAN   | GPS Aided Geo Augmented Navigation   |
| GBR     | Guaranteed Bit Rate  |
| GC      | General Control (SAP)  |
| GCR     | Group Call Register  |
| GERAN   | GSM EDGE Radio Access Network  |
| GGSN    | Gateway GPRS Support Node  |
| GID1    | Group Identifier (level 1)   |
| GID2    | Group Identifier (level 2)   |
| GLONASS | GLObal'naya NAvigatsionnaya Sputnikovaya Sistema (Engl.: Global Navigation Satellite System) |
| GMLC    | Gateway Mobile Location Centre   |
| GMM     | GPRS Mobility Management   |
| GMSC    | Gateway MSC  |
| GMSK    | Gaussian Minimum Shift Keying  |
| GNSS    | Global Navigation Satellite System   |
| GP      | Guard Period   |
| GPA     | GSM PLMN Area  |
| GPRS    | General Packet Radio Service   |
| GPS     | Global Positioning System  |
| GRA     | GERAN Registration Area  |
| GSA     | GSM System Area  |
| GSIM    | GSM Service Identity Module  |
| GSM     | Global System for Mobile communications  |
| GSN     | GPRS Support Nodes   |
| GT      | Global Title   |
| GTP     | GPRS Tunneling Protocol  |
| GTP-U   | GPRS Tunnelling Protocol for User Plane  |
| GTT     | Global Text Telephony  |
| GUMMEI  | Globally Unique MME Identifier   |
| GUP     | 3GPP Generic User Profile  |
|         |  |

### Η

I

| H-CSCF   | Home CSCF   |
|--|---|
| HANDO  | Handover  |
| HARQ   | Hybrid ARQ, Hybrid Automatic Repeat Request   |
| HCS  | Hierarchical Cell Structure   |
| HDLC   | High Level Data Link Control  |
| HE   | Home Environment  |
| HE-VASP  | Home Environment Value Added Service Provider   |
| HF   | Human Factors   |
| HFN  | HyperFrame Number   |
| HHO  | Hard Handover   |
| HLC  | High Layer Compatibility  |
| HLR  | Home Location Register  |
| HN   | Home Network  |
| НО   | Handover  |
| HOLD   | Call hold   |
| HPLMN  | Home Public Land Mobile Network   |
| HPS  | Handover Path Switching   |
| HPU  | Hand Portable Unit  |
| HR   | Half Rate   |
| HRPD   | CDMA2000 High Rate Packet Data  |
| HRR  | Handover Resource Reservation   |
| HSCSD  | High Speed Circuit Switched Data  |
| HSDPA  | High Speed Downlink Packet Access   |
| HSN  | Hopping Sequence Number   |
| HSPA   | High Speed Packet Access  |
| HSS  | Home Subscriber Server  |
| HSUPA  | High Speed Uplink Packet Access   |
| HTTP   | Hyper Text Transfer Protocol  |
| HTTPS  | Hyper Text Transfer Protocol Secure (https is http/1.1 over SSL, i.e. port 443)   |
| TITI   | Home Units  |
| HU   | Home Units  |
| HU   | Home Units  |
|  |   |
| I-Block  | Information Block   |
| I-Block<br>I-ETS   | Information Block<br>Interim European Telecommunications Standard   |
| I-Block<br>I-ETS<br>I/O  | Information Block<br>Interim European Telecommunications Standard<br>Input/Output   |
| I-Block<br>I-ETS<br>I/O<br>I   | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)   |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA   | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)   |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM  | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message  |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA   | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit  |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC  | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)   |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)  | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG   |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB   | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)   |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB<br>ICC  | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)<br>Integrated Circuit Card  |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB<br>ICC<br>ICCID   | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)   |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB<br>ICC  | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)<br>Integrated Circuit Card<br>Integrated Circuit Card Identification<br>Interface Control Document  |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB<br>ICC<br>ICCID<br>ICD  | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)<br>Integrated Circuit Card<br>Integrated Circuit Card Identification  |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB<br>ICC<br>ICCID<br>ICD<br>ICD<br>ICGW   | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)<br>Integrated Circuit Card<br>Integrated Circuit Card Identification<br>Interface Control Document<br>Incoming Call Gateway   |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB<br>ICC<br>ICCID<br>ICD<br>ICD<br>ICGW<br>ICI  | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)<br>Integrated Circuit Card<br>Integrated Circuit Card Identification<br>Interface Control Document<br>Incoming Call Gateway<br>Incoming Call Information  |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB<br>ICC<br>ICCID<br>ICD<br>ICD<br>ICGW<br>ICI<br>ICI   | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)<br>Integrated Circuit Card<br>Integrated Circuit Card Identification<br>Interface Control Document<br>Incoming Call Gateway<br>Incoming Call Information<br>Inter-Cell Interference Coordination  |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB<br>ICC<br>ICCID<br>ICD<br>ICCD<br>ICCD<br>ICCW<br>ICI<br>ICIC<br>ICM<br>ICMP<br>ICS   | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)<br>Integrated Circuit Card<br>Integrated Circuit Card<br>Integrated Circuit Card Identification<br>Interface Control Document<br>Incoming Call Gateway<br>Incoming Call Information<br>Inter-Cell Interference Coordination<br>In-Call Modification   |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB<br>ICC<br>ICCID<br>ICD<br>ICD<br>ICD<br>ICGW<br>ICI<br>ICIC<br>ICM<br>ICMP<br>ICS<br>ICT  | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)<br>Integrated Circuit Card<br>Integrated Circuit Card Identification<br>Interface Control Document<br>Incoming Call Gateway<br>Incoming Call Information<br>Inter-Cell Interference Coordination<br>Internet Control Message Protocol<br>In-Channel Selectivity<br>Incoming Call Timer  |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB<br>ICC<br>ICCID<br>ICD<br>ICD<br>ICD<br>ICGW<br>ICI<br>ICIC<br>ICM<br>ICMP<br>ICS<br>ICT<br>ID  | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)<br>Integrated Circuit Card<br>Integrated Circuit Card Identification<br>Interface Control Document<br>Incoming Call Gateway<br>Incoming Call Information<br>Inter-Cell Interference Coordination<br>Inter-Cell Interference Coordination<br>Internet Control Message Protocol<br>In-Channel Selectivity<br>Incoming Call Timer<br>Identifier  |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB<br>ICC<br>ICCID<br>ICD<br>ICD<br>ICC<br>ICCID<br>ICD<br>ICGW<br>ICI<br>ICIC<br>ICM<br>ICIC<br>ICMP<br>ICS<br>ICT<br>ID<br>IDFT                | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)<br>Integrated Circuit Card<br>Integrated Circuit Card Identification<br>Interface Control Document<br>Incoming Call Gateway<br>Incoming Call Information<br>Inter-Cell Interference Coordination<br>Internet Control Message Protocol<br>In-Channel Selectivity<br>Incoming Call Timer<br>Identifier<br>Inverse Discrete Fourier Transform  |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB<br>ICC<br>ICCID<br>ICD<br>ICC<br>ICCID<br>ICD<br>ICGW<br>ICI<br>ICIC<br>ICIC<br>ICM<br>ICIC<br>ICM<br>ICMP<br>ICS<br>ICT<br>ID<br>IDFT<br>IDL | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)<br>Integrated Circuit Card<br>Integrated Circuit Card Identification<br>Interface Control Document<br>Incoming Call Gateway<br>Incoming Call Information<br>Inter-Cell Interference Coordination<br>Inter-Cell Interference Coordination<br>Internet Control Message Protocol<br>In-Channel Selectivity<br>Incoming Call Timer<br>Identifier<br>Inverse Discrete Fourier Transform<br>Interface Definition Language                               |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB<br>ICC<br>ICCID<br>ICD<br>ICD<br>ICGW<br>ICI<br>ICIC<br>ICIC<br>ICM<br>ICM<br>ICM<br>ICM<br>ICM<br>ICM<br>I                                   | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)<br>Integrated Circuit Card<br>Integrated Circuit Card Identification<br>Interface Control Document<br>Incoming Call Gateway<br>Incoming Call Information<br>Inter-Cell Interference Coordination<br>Inter-Cell Interference Coordination<br>Internet Control Message Protocol<br>In-Channel Selectivity<br>Incoming Call Timer<br>Identifier<br>Inverse Discrete Fourier Transform<br>Interface Definition Language<br>Integrated Digital Network |
| I-Block<br>I-ETS<br>I/O<br>I<br>IA<br>IAM<br>IC<br>IC(pref)<br>ICB<br>ICC<br>ICCID<br>ICD<br>ICC<br>ICCID<br>ICD<br>ICGW<br>ICI<br>ICIC<br>ICIC<br>ICM<br>ICIC<br>ICM<br>ICMP<br>ICS<br>ICT<br>ID<br>IDFT<br>IDL | Information Block<br>Interim European Telecommunications Standard<br>Input/Output<br>Information frames (RLP)<br>Incoming Access (closed user group SS)<br>Initial Address Message<br>Integrated Circuit<br>Interlock Code (CUG SS)<br>Interlock Code of the preferential CUG<br>Incoming Calls Barred (within the CUG)<br>Integrated Circuit Card<br>Integrated Circuit Card Identification<br>Interface Control Document<br>Incoming Call Gateway<br>Incoming Call Information<br>Inter-Cell Interference Coordination<br>Inter-Cell Interference Coordination<br>Internet Control Message Protocol<br>In-Channel Selectivity<br>Incoming Call Timer<br>Identifier<br>Inverse Discrete Fourier Transform<br>Interface Definition Language                               |

| ma       |   |
|----------|---|
| IEC      | International Electrotechnical Commission         |
| IED      | Information Element Data                          |
| IEEE     | Institute of Electrical and Electronics Engineers |
| IEI      | Information Element Identifier                    |
| IEIDL    | Information Element Identifier Data Length        |
| IETF     | Internet Engineering Task Force                   |
| IF       | Infrastructure                                    |
| IFD      | Interface Device                                  |
| IFOM     | IP FlOw Mobility                                  |
| IFS      | Information Field Sizes                           |
| IFSC     | Information Field Size for the UICC               |
| IFSD     | Information Field Size for the Terminal           |
| IHOSS    | Internet Hosted Octet Stream Service              |
| IIOP     | Internet Inter-ORB Protocol                       |
| IK       |   |
|          | Integrity key                                     |
| IM       | Intermodulation                                   |
| 77.6     | IP Multimedia                                     |
| IMA      | Inverse Multiplexing on ATM                       |
| IMC      | IMS Credentials                                   |
| IMEI     | International Mobile Equipment Identity           |
| IMGI     | International mobile group identity               |
| IMPI     | IP Multimedia Private Identity                    |
| IMPU     | IP Multimedia PUblic identity                     |
| IMS      | IP Multimedia Subsystem                           |
| IMSI     | International Mobile Subscriber Identity          |
| IMT-2000 | International Mobile Telecommunications 2000      |
| IMUN     | International Mobile User Number                  |
| IN       | Intelligent Network                               |
|          | Interrogating Node                                |
| INAP     | Intelligent Network Application Part              |
| INF      | INFormation field                                 |
| IoT      | Internet of Things                                |
| IP       | Internet Protocol                                 |
| IP-CAN   | IP-Connectivity Access Network                    |
|          | IP Multicast                                      |
| IP-M     |   |
| IPv4     | Internet Protocol Version 4                       |
| IPv6     | Internet Protocol Version 6                       |
| IR       | Infrared  |
| IRP      | Integration Reference Point                       |
| IS       | Interface Specification                           |
| ISC      | International Switching Centre                    |
| ISCP     | Interference Signal Code Power                    |
| ISDN     | Integrated Services Digital Network               |
| ISIM     | IM Services Identity Module                       |
| ISO      | International Organisation for Standardisation    |
| ISP      | Internet Service Provider                         |
| ISUP     | ISDN User Part                                    |
| IT       | Information Technology                            |
| ITC      | Information Transfer Capability                   |
| ITU      | International Telecommunication Union             |
| ITU-R    | Radiocommunication Sector of the ITU              |
| IUI      | International USIM Identifier                     |
| IUT      | Implementation Under Test                         |
| IWF      | InterWorking Function                             |
| I-WLAN   | Interworking WLAN                                 |
| IWMSC    | InterWorking MSC                                  |
| IWU      | Inter Working Unit                                |
| 100      |   |
|          |   |

### J

JAR file Java Archive File

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| JCRE  | Java Card <sup>TM</sup> Run Time Environment     |
|-------|--|
| JD    | Joint Detection                                  |
| JNDI  | Java Naming Directory Interface                  |
| JP    | Joint Predistortion                              |
| JPEG  | Joint Photographic Experts Group                 |
| JTAPI | Java Telephony Application Programming Interface |
| JVM   | Java <sup>™</sup> Virtual Machine                |

### Κ

| k    | Windows size                                |
|------|---|
| Κ    | Constraint length of the convolutional code |
|      | USIM Individual key                         |
| kbps | kilo-bits per second                        |
| Kc   | Ciphering key                               |
| Ki   | Individual subscriber authentication key    |
| KPI  | Key Performance Indicator                   |
| KSI  | Key Set Identifier                          |
| ksps | kilo-symbols per second                     |

#### L

| L1             | Lover 1 (physical lover)                              |
|----------------|---|
| L1<br>L2       | Layer 1 (physical layer)<br>Layer 2 (data link layer) |
| L2<br>L2ML     |   |
| L2NIL<br>L2R   | Layer 2 Management Link                               |
| L2R<br>L2R BOP | Layer 2 Relay<br>L2R Bit Orientated Protocol          |
| L2R GOP        | L2R Character Orientated Protocol                     |
| L2R COP<br>L3  |   |
| LS<br>LA       | Layer 3 (network layer)<br>Location Area              |
| LA<br>LAC      |   |
| LAC            | Link Access Control<br>Location Area Code             |
| LAI            | Location Area Identity                                |
| LAN            | Local Area Network                                    |
| LAPB           | Link Access Protocol Balanced                         |
| LAPDm          | Link Access Protocol on the Dm channel                |
| LATA           | Local Access and Transport Area                       |
| LAIA           | Location Area Update                                  |
| LAU            | Load Balancing  |
| LCD            | Low Constrained Delay                                 |
| LCD            | Logical Channel Group                                 |
| LCO            | Local Communication Network                           |
| LCP            | Link Control Protocol                                 |
| LCR            | Low Chip Rate   |
| LCS            | Location Services                                     |
| LCSC           | LCS Client  |
| LCSS           | LCS Server  |
| LE             | Local Exchange  |
| LEN            | LENgth  |
| LI             | Language Indication                                   |
|                | Lawful Interception                                   |
|                | Length Indicator                                      |
|                | Line Identity   |
| LIPA           | Local IP Access                                       |
| LLC            | Logical Link Control                                  |
|                | Low Layer Compatibility                               |
| Lm             | Traffic channel with capacity lower than a Bm         |
| LMSI           | Local Mobile Station Identity                         |
| LMU            | Location Measurement Unit                             |
| LN             | Logical Name  |
| LNA            | Low Noise Amplifier                                   |
|                | ĩ   |

| LND   | Last Number Dialled            |
|-------|--------------------------------|
| LNS   | L2TP Network Server            |
| LPLMN | Local PLMN                     |
| LPP   | LTE Positioning Protocol       |
| LPPa  | LTE Positioning Protocol Annex |
| LR    | Location Register              |
|       | Location Registration          |
| LSA   | Localised Service Area         |
| LSB   | Least Significant Bit          |
| LSTR  | Listener SideTone Rating       |
| LTE   | Local Terminal Emulator        |
|       | Long Term Evolution            |
| LTZ   | Local Time Zone                |
| LU    | Local Units                    |
|       | Location Update                |
| LV    | Length and Value               |

#### Μ

| M     | Mandatory  |
|-------|--|
| M     | Mandatory  |
| MA    | Mobile Allocation  |
|       | Multiple Access  |
| MAC   | Medium Access Control (protocol layering context)                      |
|       | Message authentication code (encryption context)                       |
| MAC-A | MAC used for authentication and key agreement (TSG T WG3 context)      |
| MAC-I | MAC used for data integrity of signalling messages (TSG T WG3 context) |
| MACN  | Mobile Allocation Channel Number                                       |
| MAF   | Mobile Additional Function   |
| MAH   | Mobile Access Hunting supplementary service                            |
| MAHO  | Mobile Assisted Handover   |
| MAI   | Mobile Allocation Index  |
| MAIO  | Mobile Allocation Index Offset   |
| MAP   | Mobile Application Part  |
| MBB   | Mobile Broadband   |
| MBMS  | Multimedia Broadcast and Multicast Service                             |
| MBSFN | Multimedia Broadcast multicast service Single Frequency Network        |
| MCC   | Mobile Country Code  |
| MCCH  | Multicast Control Channel  |
| MCE   | Multi-cell/multicast Coordination Entity                               |
| MCH   | Multicast channel  |
| MCI   | Malicious Call Identification supplementary service                    |
| MCML  | Multi-Class Multi-Link PPP   |
| Mcps  | Mega-chips per second  |
| MCS   | Modulation and Coding Scheme   |
| MCU   | Media Control Unit   |
| MD    | Mediation Device   |
| MDL   | (mobile) Management (entity) - Data Link (layer)                       |
| MDS   | Multimedia Distribution Service  |
| MDT   | Minimization of Drive Tests  |
| ME    | Maintenance Entity   |
|       | Mobile Equipment   |
| MEF   | Maintenance Entity Function  |
| MEHO  | Mobile evaluated handover  |
| MER   | Message Error Ratio  |
| MExE  | Mobile Execution Environment   |
| MF    | Master File  |
|       | MultiFrame   |
| MGCF  | Media Gateway Control Function   |
| MGCP  | Media Gateway Control Part   |
|       |  |

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| MGT         | Mobile Global Title   |
|-------------|---|
| MGW         | Mobile Global The<br>Media GateWay                                    |
| MHEG        | •   |
|             | Multimedia and Hypermedia Information Coding Expert Group             |
| MHS         | Message Handling System   |
| MIB         | Management Information Base   |
| MIC         | Master Information Block  |
| MIC         | Mobile Interface Controller   |
| MIM         | Management Information Model  |
| MIMO        | Multiple Input Multiple Output<br>Mobile IP                           |
| MIP         |   |
| MIPS        | Million Instructions Per Second                                       |
| MLC         | Mobile Location Centre  |
| MM          | Man Machine   |
|             | Mobility Management<br>Multimedia                                     |
| MME         |   |
| MME         | Mobile Management Entity<br>Man Machine Interface                     |
| MMI         |   |
| mMTC        | Massive MTC   |
| MNC         | Mobile Network Code   |
| MNO         | Mobile Network Operator   |
| MNP         | Mobile Number Portability<br>Mabile Originated                        |
| MO          | Mobile Originated   |
| MO-LR       | Mobile Originating Location Request                                   |
| MO-SMS      | Mobile Originated Short Message Service<br>Mobile Originated Handover |
| MOHO<br>MOS | 6   |
|             | Mean Opinion Score  |
| MoU<br>MP   | Memorandum of Understanding<br>Multi-link PPP                         |
| MPEG        | Multi-link FFF<br>Moving Pictures Experts Group                       |
| MPEG        | (mobile) Management (entity) - PHysical (layer) [primitive]           |
| MPTY        | MultiParTY  |
| MRF         | Multir all T<br>Media Resource Function                               |
| MRP         | Mouth Reference Point   |
| MKF<br>MS   | Mobile Station  |
| MSA         | Mobile Station<br>MCH Subframe Allocation                             |
| MSB         | Most Significant Bit  |
| MSC         | Most Significant Bit<br>Mobile Switching Centre                       |
| MSCM        | Mobile Switching Centre<br>Mobile Station Class Mark                  |
| MSCU        | Mobile Station Control Unit   |
| MSCO        | Maximum Sensitivity Degradation                                       |
| MSE         | MExE Service Environment  |
| MSID        | Mobile Station Identifier   |
| MSD         | Maximum Sensitivity Degradation                                       |
| MSI         | MCH Scheduling Information  |
| MSIN        | Mobile Station Identification Number                                  |
| MSISDN      | Mobile Subscriber ISDN Number   |
| MSP         | Multiple Subscriber Profile   |
| MSR         | Multi-Standard Radio  |
| MSRN        | Mobile Station Roaming Number   |
| MT          | Mobile Terminated   |
|             | Mobile Termination  |
| MTC         | Machine-Type Communications   |
| МТСН        | Multicast Traffic Channel   |
| MT-LR       | Mobile Terminating Location Request                                   |
| MT-SMS      | Mobile Terminated Short Message Service                               |
| MTM         | Mobile-To-Mobile (call)   |
| MTP         | Message Transfer Part   |
| MTP3-B      | Message Transfer Part level 3   |
| MTU         | Maximum Transfer Unit   |
| MU          | Mark Up   |
| MUI         | Mobile User Identifier  |
| MUMS        | Multi User Mobile Station   |
|             |   |

MVNO Mobile Virtual Network Operator

### Ν

| NACC      | Network Assisted Cell Change  |
|-----------|---|
| NACK      | Negative Acknowledgement  |
| NAD       | Node Address byte   |
| NAI       | Network Access Identifier   |
| NAS       | Non-Access Stratum  |
| NBAP      | Node B Application Part   |
| NBAI      | Normal Burst  |
| NCELL     | Neighbouring (of current serving) Cell  |
| NBAP      | Node B Application Part   |
| NBIN      | A parameter in the hopping sequence   |
| NCC       | Network (PLMN) Colour Code  |
| NCH       | Notification CHannel  |
| NCK       | Network Control Key   |
| NCP       | Network Control Protocol  |
| NDC       | National Destination Code   |
| NDUB      | Network Determined User Busy  |
| NE        | Network Element   |
| NEF       | Network Element Function  |
| NEHO      | Network evaluated handover  |
| NET       | NETwork   |
| NEV       | NEVer   |
| NF        | Network Function  |
| NGCN      | Network Function<br>Next Generation Corporate Network (TSs originating pre-Release-15)  |
| NUCI      | Next Generation Corporate Network (TSs originating pre-Kelease 15)<br>Next Generation Core Network (TSs originating Release 15 onwards) |
| NGMN      | Next Generation Mobile Networks   |
| NI-LR     | Network Induced Location Request  |
| NIC       |   |
| NIC       | Network Independent Clocking  |
| NHZ<br>NM | Network Identity and Time Zone  |
| NMC       | Network Management Centre   |
| NMR       | Network Management Centre<br>Network Measurement Results  |
| NMO       | Network Mode of Operation   |
| NMS       | -   |
| NMSI      | Network Management Subsystem<br>National Mobile Station Identifier  |
| NNI       | Network-Node Interface  |
| NO        | Network Operator  |
| NP        | Network Performance   |
| NPA       | Numbering Plan Area   |
| NPI       |   |
| NRI       | Numbering Plan Identifier<br>Network Resource Identifier  |
| NRM       | Network Resource Model  |
| NRT       | Non-Real Time   |
| NSAP      | Network Service Access Point  |
| NSAPI     | Network Service Access Point Identifier   |
| NSCK      | Network Subset Control Key  |
| NSDU      | Network service data unit   |
| NSS       | Network Sub System  |
| Nt        | Notification (SAP)  |
| NT        | Network Termination   |
| TAT       | Non Transparent   |
| NTAAB     | New Type Approval Advisory Board  |
| NTDD      | Narrow-band Time Division Duplexing   |
| NUA       | Network User Access   |
| NUI       | National User / USIM Identifier   |
| 1101      | Network User Identification   |
| NUP       | National User Part (SS7)  |
| NW        | Network   |
| 1111      | TOTACIA   |

| 0         | Optional   |
|-----------|--|
| O&M       | Operations & Maintenance                                       |
| OA        | Outgoing Access (CUG SS)                                       |
| OACSU     | Off-Air-Call-Set-Up  |
| OCB       | Outgoing Calls Barred within the CUG                           |
| OCCCH     | ODMA Common Control Channel                                    |
| OCF       | Open Card Framework  |
| OCI       | Outgoing Call Information                                      |
| OCNG      | OFDMA Channel Noise Generator                                  |
| OCNS      | Orthogonal Channel Noise Simulator                             |
| OCS       | Online Charging System   |
| OCT       | Outgoing Call Timer  |
| OD        | Optional for operators to implement for their aim              |
| ODB       | Operator Determined Barring                                    |
| ODCCH     | ODMA Dedicated Control Channel                                 |
| ODCH      | ODMA Dedicated Channel   |
| OLR       | Overall Loudness Rating  |
| ODMA      | Opportunity Driven Multiple Access                             |
| ODTCH     | ODMA Dedicated Traffic Channel                                 |
| OID       | Object Identifier  |
| OFCS      | Offline Charging System  |
| OFDM      | Orthogonal Frequency Division Multiplex                        |
|           | Orthogonal Frequency Division Multiplexing                     |
| OFDMA     | Orthogonal Frequency Division Multiple Access                  |
| OFM       | Operational Feature Monitor                                    |
| OMC       | Operation and Maintenance Centre                               |
| OML       | Operations and Maintenance Link                                |
| OOB       | Out-of-band  |
| OPLMN     | Operator Controlled PLMN (Selector List)                       |
| OR        | Optimal Routeing   |
| ORACH     | ODMA Random Access CHannel                                     |
| ORLCF     | Optimal Routeing for Late Call Forwarding                      |
| OS        | Operations System  |
| OSA       | Open Service Access  |
| OSI       | Open System Interconnection                                    |
| OSI RM    | OSI Reference Model  |
| OSP       | Octet Stream Protocol  |
| OSP:IHOSS | Octet Stream Protocol for Internet Hosted Octet Stream Service |
| OTA       | Over-The-Air   |
| OTDOA     | Observed Time Difference Of Arrival (positioning method)       |
| OTP       | One Time Password  |
| OVSF      | Orthogonal Variable Spreading Factor                           |
|           |  |

#### Ρ

| P-CCPCH<br>P-CPIH<br>P-RNTI<br>P-TMSI | Primary Common Control Physical Channel<br>Primary Common Pilot Channel<br>Paging RNTI<br>Packet TMSI |
|---------------------------------------|---|
| PA                                    | Power Amplifier   |
| PAPR                                  | Peak-to-Average Power Ratio   |
| PABX                                  | Private Automatic Branch eXchange   |
| PACCH                                 | Packet Associated Control Channel   |
| PAD                                   | Packet Assember/Disassembler  |
| PAGCH                                 | Packet Access Grant Channel   |
| PAP                                   | Password Authentication Protocol  |
| PAR                                   | Peak to Average Ratio   |
| PB                                    | Pass Band   |
| PBID                                  | PhoneBook IDentifier  |

| DDCCU  | Destrat Dress deset Control Channel                     |
|--------|---|
| PBCCH  | Packet Broadcast Control Channel                        |
| PBCH   | Physical Broadcast Channel                              |
| PBP    | Paging Block Periodicity                                |
| PBX    | Private Branch eXchange                                 |
| PC     | Power Control   |
|        | Personal Computer                                       |
| PCB    | Protocol Control Byte                                   |
| PCCC   | Parallel Concatenated Convolutional Code                |
| PCCCH  | Packet Common Control Channel                           |
| PCCH   | Paging Control Channel                                  |
| PCDE   | Peak Code Domain Error                                  |
| PCell  | Primary Cell  |
| PCFICH | Physical control format indicator channel               |
| PCG    | Project Co-ordination Group                             |
| РСН    | Paging Channel  |
| PCK    | Personalisation Control Key                             |
| PCM    | Pulse Code Modulation                                   |
| PCMCIA | Personal Computer Memory Card International Association |
| PCPCH  | Physical Common Packet Channel                          |
| PCS    | Personal Communication System                           |
| PCU    | Packet Control Unit                                     |
| PD     | Protocol Discriminator                                  |
| 1D     | Public Data   |
| PDCCH  | Physical Downlink Control Channel                       |
| PDCP   | Packet Data Convergence Protocol                        |
| PDCH   | Packet Data Convergence Protocol                        |
|        |   |
| PDH    | Plesiochronous Digital Hierarchy                        |
| PDN    | Public Data Network                                     |
| חסח    | Packet Data Network                                     |
| PDP    | Packet Data Protocol                                    |
| PDSCH  | Physical Downlink Shared Channel                        |
| PDTCH  | Packet Data Traffic Channel                             |
| PDU    | Protocol Data Unit                                      |
| PG     | Processing Gain   |
| PH     | Packet Handler  |
|        | PHysical (layer)  |
| PHF    | Packet Handler Function                                 |
| PHI    | Packet Handler Interface                                |
| PHICH  | Physical hybrid-ARQ indicator channel                   |
| PHS    | Personal Handyphone System                              |
| PHY    | Physical layer  |
| PhyCH  | Physical Channel  |
| PI     | Page Indicator  |
|        | Presentation Indicator                                  |
| PICH   | Page Indicator Channel                                  |
| PICS   | Protocol Implementation Conformance Statement           |
| PID    | Packet Identification                                   |
| PIN    | Personal Identification Number                          |
| PIXT   | Protocol Implementation eXtra information for Testing   |
| PKCS   | Public-Key Cryptography Standards                       |
| PL     | Preferred Languages                                     |
| PLMN   | Public Land Mobile Network                              |
| PMCH   | Physical Multicast Channel                              |
| PMD    | Physical Media Dependent                                |
| PMI    | Precoding Matrix Indicator                              |
| PN     | Pseudo Noise  |
| PNE    | Présentation des Normes Européennes                     |
| PNP    | Private Numbering Plan                                  |
| POI    | Point Of Interconnection (with PSTN)                    |
| PoR    | Proof of Receipt  |
| POTS   | Plain Old Telephony Service                             |
| PP     | Point-to-Point  |
| 11     | I Oline to I Oline                                      |

| PPCH     | Packet Paging Channel                               |
|----------|---|
| PPE      | Primative Procedure Entity                          |
| PPF      | Paging Proceed Flag                                 |
| PPM      | Parts Per Million                                   |
| PPP      | Point-to-Point Protocol                             |
| PPS      | Protocol and Parameter Select (response to the ATR) |
| PRACH    | Physical Random Access Channel                      |
|          | Packet Random Access Channel                        |
| PRB      | Physical Resource Block                             |
| Pref CUG | Preferential CUG                                    |
| ProSe    | Proximity-based Services                            |
| PRS      | Positioning Reference Signal                        |
| PS       | Packet Switched                                     |
|          | Location Probability                                |
| PSC      | Primary Synchronisation Code                        |
|          | Packet Scheduling                                   |
| PSCH     | Physical Shared Channel                             |
| PSE      | Personal Service Environment                        |
| PSM      | Power Saving Mode                                   |
| PSPDN    | Packet Switched Public Data Network                 |
| PSTN     | Public Switched Telephone Network                   |
| PTCCH    | Packet Timing advance Control Channel               |
| PTM      | Point-to-Multipoint                                 |
| PTM-G    | PTM Group Call                                      |
| PTM-M    | PTM Multicast                                       |
| PTP      | Point to point                                      |
| PU       | Payload Unit  |
| PUCCH    | Physical Uplink Control Channel                     |
| PUCT     | Price per Unit Currency Table                       |
| PUK      | PIN Unblocking Key                                  |
| PUSCH    | Physical Uplink Shared Channel                      |
| PVC      | Permanent Virtual Circuit                           |
| PW       | Pass Word   |
| PWS      | Public Warning System                               |
|          |   |

### Q

| QAFQ - Adapter FunctionQAMQuadrature Amplitude ModulationQCIQoS Class IdentifierQoEQuality of ExperienceQoSQuality of ServiceQPSKQuadrature (Quaternary) Phase Shift KeyingQZSSQuasi-Zenith Satellite System | QA   | Q (Interface) - Adapter                    |
|--|------|--|
| QCIQoS Class IdentifierQoEQuality of ExperienceQoSQuality of ServiceQPSKQuadrature (Quaternary) Phase Shift Keying   | QAF  | Q - Adapter Function                       |
| QoEQuality of ExperienceQoSQuality of ServiceQPSKQuadrature (Quaternary) Phase Shift Keying  | QAM  | Quadrature Amplitude Modulation            |
| QoSQuality of ServiceQPSKQuadrature (Quaternary) Phase Shift Keying  | QCI  | QoS Class Identifier                       |
| QPSK Quadrature (Quaternary) Phase Shift Keying  | QoE  | Quality of Experience                      |
|  | QoS  | Quality of Service                         |
| QZSS Quasi-Zenith Satellite System   | QPSK | Quadrature (Quaternary) Phase Shift Keying |
|  | QZSS | Quasi-Zenith Satellite System              |

### R

| R       | Value of Reduction of the MS transmitted RF power relative to the maximum allowed output power of the highest power class of MS (A) |
|---------|---|
| R-APDU  | Response APDU   |
| R-Block | Receive-ready Block   |
| R-PDCCH | Relay Physical Downlink Control Channel   |
| R-SGW   | Roaming Signalling Gateway  |
| R-TPDU  | Response TPDU   |
| R99     | Release 1999  |
| RA      | Routing Area  |
|         | Random mode request information field   |
| RA-RNTI | Random Access RNTI  |
| RAB     | Radio Access Bearer   |

|         | Random Access Burst  |
|---------|--|
| RAC     | Routing Area Code  |
| RACH    | Random Access Channel  |
| RADIUS  | Remote Authentication Dial In User Service   |
| RAI     | Routing Area Identity  |
| RAN     | Radio Access Network   |
| RANAP   | Radio Access Network Application Part  |
| RAND    | RANDom number (used for authentication)  |
| RAT     | Radio Access Technology  |
| RAU     | Routing Area Update  |
| RB      | Radio Bearer   |
| RBC     | Radio Bearer Control   |
| RBER    | Residual Bit Error Ratio   |
| RDF     | Resource Description Format  |
| RDI     | Restricted Digital Information   |
| RE      | Resource Element   |
| REC     | RECommendation   |
| REG     | Resource Element Group   |
| REJ     | REJect(ion)  |
| REL     | RELease  |
| Rel-4   | Release 4  |
| Rel-5   | Release 5  |
| REQ     | REQuest  |
| RES     | -  |
| KES     | user RESponse $64$ bit signed RESponse that is the output of the function f2 in a $26$ AKA |
| RET     | 64-bit signed RESponse that is the output of the function f2 in a 3G AKA                   |
| RETAP   | Remote Electrical Tilting<br>Remote Electrical Tilting Application Part                    |
|         | Remote Electrical Tilting Application Part   |
| RF      | Radio Frequency<br>Request For Comments  |
| RFC     | Request For Comments   |
| DECU    | Radio Frequency Channel  |
| RFCH    | Radio Frequency CHannel  |
| RFE     | Routing Functional Identity  |
| RFN     | Reduced TDMA Frame Number  |
| RFU     | Reserved for Future Use  |
| RI      | Rank Indication  |
| RIM     | RAN Information Management   |
| RL      | Radio Link   |
| RLC     | Radio Link Control   |
| RLCP    | Radio Link Control Protocol  |
| RLP     | Radio Link Protocol  |
| RLR     | Receiver Loudness Rating   |
| RLS     | Radio Link Set   |
| RMS     | Root Mean Square (value)   |
| RN      | Relay Node   |
| RNC     | Radio Network Controller   |
| RNL     | Radio Network Layer  |
| RNS     | Radio Network Subsystem  |
| RNSAP   | Radio Network Subsystem Application Part   |
| RNTABLE | Table of 128 integers in the hopping sequence  |
| RNTI    | Radio Network Temporary Identity   |
| ROHC    | Robust Header Compression  |
| RPLMN   | Registered Public Land Mobile Network  |
| RPOA    | Recognised Private Operating Agency  |
| RR      | Radio Resources  |
| RRC     | Radio Resource Control   |
| RRM     | Radio Resource Management  |
| RS      | Reference Symbol   |
| RSA     | Algorithm invented by Rivest, Adleman and Shamir   |
| RSCP    | Received Signal Code Power   |
| RSE     | Radio System Entity  |
| RSL     | Radio Signalling Link  |
| RSRQ    | Reference Signal Received Quality  |
|         |  |

| RSSI   | Received Signal Strength Indicator  |
|--------|-------------------------------------|
| RST    | Reset                               |
| RSTD   | Reference Signal Time Difference    |
| RSVP   | Resource ReserVation Protocol       |
| RSZI   | Regional Subscription Zone Identity |
| RT     | Real Time                           |
| RTE    | Remote Terminal Emulator            |
| RTP    | Real Time Protocol                  |
| RU     | Resource Unit                       |
| RWB    | Resolution Bandwidth                |
| RX     | Receive                             |
| RXLEV  | Received signal level               |
| RXQUAL | Received Signal Quality             |

## S

| S1AP     | S1 Application Protocol   |
|----------|---|
| S1-MME   | S1 for the control plane  |
| S1-U     | S1 for the user plane   |
| S-Block  | Supervisory Block   |
| S-CCPCH  | Secondary Common Control Physical Channel   |
| S-CPICH  | Secondary Common Pilot Channel  |
| S-CSCF   | Serving CSCF  |
| S-GW     | Serving Gateway   |
| S-RNTI   | SRNC Radio Network Temporary Identity   |
| S-TMSI   | SAE Temporary Mobile Station Identifier   |
| SAAL     | Signalling ATM Adaptation Layer   |
| SABM     | Set Asynchronous Balanced Mode  |
| SACCH    | Slow Associated Control Channel   |
| SACCH/C4 | Slow Associated Control CHannel/SDCCH/4   |
| SACCH/C8 | Slow Associated Control CHannel/SDCCH/8   |
| SACCH/T  | Slow Associated Control CHannel/Traffic channel                                     |
| SACCH/TF | Slow Associated Control CHannel/Traffic channel Full rate                           |
| SACCH/TH | Slow Associated Control CHannel/Traffic channel Half rate                           |
| SAD      | Source Address  |
| SAE      | System Architecture Evolution   |
| SAP      | Service Access Point  |
| SAPI     | Service Access Point Identifier   |
| SAR      | Segmentation and Reassembly   |
| SAT      | SIM Application Toolkit   |
| SB       | Synchronization Burst   |
| SBAS     | Space Based Augmentation System   |
| SBLP     | Service Based Local Policy  |
| SBSC     | Serving Base Station Controller   |
| SBSS     | Serving Base Station Subsystem  |
| SC       | Service Centre (used for SMS)   |
|          | Service Code  |
| SC-FDMA  | Single-Carrier Frequency Division Multiple Access                                   |
| SCCH     | Synchronisation Control Channel   |
| SCCP     | Signalling Connection Control Part  |
| SCell    | Secondary Cell  |
| SCF      | Service Control Function (IN context), Service Capability Feature (VHE/OSA context) |
| SCH      | Synchronisation Channel   |
| SCI      | Subscriber Controlled Input   |
| SCN      | Sub-Channel Number  |
| SCP      | Service Control Point   |
| SCTP     | S Common Transport Protocol   |
| SCUDIF   | Service Change and UDI/RDI Fallback   |
| SDCCH    | Stand-Alone Dedicated Control Channel   |
| SDH      | Synchronous Digital Hierarchy   |
|          |   |

| SDL     | Specification Description Language                            |
|---------|---|
| SDMA    | Spatial Division Multiple Access                              |
| SDN     | Service Dialling Number                                       |
| SDP     | Service Discovery Protocol (Bluetooth related)                |
|         | Session Description Protocol                                  |
| SDT     | SDL Development Tool  |
| SDU     | Service Data Unit   |
| SE      | Security Environment  |
|         | Sending Entity  |
|         | Support Entity  |
| SEF     | Support Entity Function                                       |
| SET     | SUPL Enabled Terminal   |
| SF      | Spreading Factor  |
| SFH     | Slow Frequency Hopping  |
| SFI     | Short EF Identifier   |
| SFN     | System Frame Number   |
| SGSN    | Serving GPRS Support Node                                     |
| SHCCH   | Shared Channel Control Channel                                |
| SI      | Screening Indicator   |
|         | Service Interworking  |
|         | Supplementary Information (SIA = Supplementary Information A) |
|         | System Information  |
| SI-RNTI | System Information RNTI                                       |
| SIB     | System Information Block                                      |
| SIC     | Service Implementation Capabilities                           |
| SID     | SIlence Descriptor  |
| SIM     | GSM Subscriber Identity Module                                |
| SIP     | Session Initiated Protocol                                    |
| SIPTO   | Selected IP Traffic Offload                                   |
| SIR     | Signal-to-Interference Ratio                                  |
| SLA     | Service Level Agreement                                       |
| SLP     | SUPL Location Platform  |
| SLPP    | Subscriber LCS Privacy Profile                                |
| SLR     | Send Loudness Rating  |
| SLTM    | Signalling Link Test Message                                  |
| SM      | Session Management  |
|         | Short Message   |
| SMDS    | Switched Multimegabit Data Service                            |
| SME     | Short Message Entity  |
| SMG     | Special Mobile Group  |
| SMI     | Structure of Management Information (RFC 1155)                |
| SMLC    | Serving Mobile Location Centre                                |
| SMS     | Short Message Service   |
| SMS-CB  | SMS Cell Broadcast  |
| SMS-PP  | Short Message Service/Point-to-Point                          |
| SMS-SC  | Short Message Service - Service Centre                        |
| Smt     | Short message terminal  |
| SN      | Serial Number   |
|         | Serving Network   |
|         | Sequence Number   |
|         | Subscriber Number   |
| SNDCP   | Sub-Network Dependent Convergence Protocol                    |
| SNMP    | Simple Network Management Protocol                            |
| SNR     | Serial NumbeR   |
|         | Signal-to-Noise Ratio   |
| SOA     | Suppress Outgoing Access (CUG SS)                             |
| SoLSA   | Support of Localised Service Area                             |
| SON     | Self Organizing Networks                                      |
| SoR     | Steering of Roaming   |
| SP      | Switching Point   |
|         | Service Provider  |
| SPC     | Signalling Point Code   |
| -       |   |

Т

|                      | Commence Destaurantial CUC   |
|----------------------|--|
| abau                 | Suppress Preferential CUG  |
| SPCK                 | Service Provider Control Key   |
| SPI                  | Security Parameters Indication   |
| SQN                  | Sequence number  |
| SR                   | Scheduling Request   |
| SRB                  | Signalling Radio Bearer  |
| SRES                 | Signed RESponse (authentication value returned by the SIM or by the USIM in 2G AKA)                              |
| SRNC                 | Serving Radio Network Controller   |
| SRNS                 | Serving RNS  |
| SRS                  | Sounding Reference Signal  |
| SS                   | Supplementary Service  |
| 00                   | System Simulator   |
| 0.07                 |  |
| SS7                  | Signalling System No. 7  |
| SSC                  | Secondary Synchronisation Code   |
|                      | Supplementary Service Control string   |
| SSCOP                | Service Specific Connection Oriented Protocol  |
| SSCF                 | Service Specific Co-ordination Function  |
| SSCF-NNI             | Service Specific Coordination Function – Network Node Interface  |
| SSCS                 | Service Specific Convergence Sublayer  |
| SSDT                 | Site Selection Diversity Transmission  |
| SSE                  | Service Specific Entities  |
| SSE                  | Service Switching Function   |
| SSN                  | Sub-System Number  |
|                      |  |
| SSSAR                | Service Specific Segmentation and Re-assembly sublayer   |
| STC                  | Signalling Transport Converter   |
| STMR                 | SideTone Masking Rating  |
| STP                  | Signalling Transfer Point  |
| STTD                 | Space Time Transmit Diversity  |
| SuM                  | Subscription Management  |
| SUPL                 | Secure User Plane Location   |
| SV                   | Space Vehicle  |
| SVC                  | Switched virtual circuit   |
| SVN                  | Software Version Number  |
| SW                   | Status Word  |
| 5 **                 | Software   |
| SW1/SW2              | Status Word 1/Status Word 2  |
| 5 W 1/5 W 2          | Status word 1/Status word 2  |
| -                    |  |
| TECW                 |  |
| T-SGW                | Transport Signalling Gateway   |
| Т                    | Timer  |
|                      | Transparent  |
|                      | Type only  |
| TA                   | Terminal Adaptation  |
|                      | Timing Advance   |
|                      | Tracking Area  |
| TAC                  | Type Approval Code   |
| TAF                  | Terminal Adaptation Function   |
| TAR                  | Toolkit Application Reference  |
| TB                   | Transport Block  |
| TBD                  | To Be Defined  |
|                      |  |
| TBF                  | Temporary Block Flow   |
| TBR                  | Technical Basis for Regulation   |
| TC                   | Transaction Capabilities   |
|                      | TransCoder   |
|                      | Transmission Convergence   |
| TCH                  | Traffic Channel  |
| TCH/F                | A full rate TCH  |
| TCH/F2,4             | A full rate data TCH ( $\leq 2,4$ kbit/s)  |
|                      | A full rate data $1 CH (\geq 2,4 KOU/8)$   |
| TCH/F4.8             |  |
| TCH/F4,8<br>TCH/F9,6 | A full rate data TCH ( $\leq$ 2,4kbit/s)<br>A full rate data TCH (4,8kbit/s)<br>A full rate data TCH (9,6kbit/s) |

| TCU/ES   | A full rate Speech TCU                              |
|----------|---|
| TCH/FS   | A full rate Speech TCH                              |
| TCH/H    | A half rate TCH                                     |
| TCH/H2,4 | A half rate data TCH ( $\leq 2,4$ kbit/s)           |
| TCH/H4,8 | A half rate data TCH (4,8kbit/s)                    |
| TCH/HS   | A half rate Speech TCH                              |
| TC-TR    | Technical Committee Technical Report                |
| TCI      | Transceiver Control Interface                       |
| TCP      | Transmission Control Protocol                       |
| TD-CDMA  | Time Division-Code Division Multiple Access         |
| TDD      | Time Division Duplex(ing)                           |
| TDMA     | Time Division Multiple Access                       |
| TDoc     | Temporary Document                                  |
| TE       | Terminal Equipment                                  |
| TE9      | Terminal Equipment 9 (ETSI sub-technical committee) |
| Tei      | Terminal endpoint identifier                        |
| TEID     | Tunnel End Point Identifier                         |
| TF       | Transport Format                                    |
| TFA      | TransFer Allowed                                    |
| TFC      | Transport Format Combination                        |
| TFCI     | Transport Format Combination Indicator              |
| TFCS     | Transport Format Combination Set                    |
| TFI      | Transport Format Indicator                          |
|          | Temporary Flow Identity                             |
| TFIN     | Transport Format INdicator                          |
| TFP      | TransFer Prohibited                                 |
| TFS      | Transport Format Set                                |
| TFT      | Traffic Flow Template                               |
| TI       | Transaction Identifier                              |
| TLLI     | Temporary Logical Link Identity                     |
| TLM      | TeLeMetry word                                      |
| TLS      | Transport Layer Security                            |
| TLV      | Tag Length Value                                    |
| TM       | Telecom Management                                  |
|          | Transparent Mode                                    |
| TMA      | Tower Mounted Amplifier                             |
| TMAAP    | Tower Mounted Amplifier application part            |
| TMF      | Telecom Management Forum                            |
| TMN      | Telecom Management Network                          |
| TMSI     | Temporary Mobile Subscriber Identity                |
| TN       | Termination Node                                    |
|          | Timeslot Number                                     |
| TNL      | Transport Network Layer                             |
| ТО       | Telecom Operations Map                              |
| TOA      | Time of Arrival                                     |
| TON      | Type Of Number                                      |
| TP       | Third Party   |
| TPC      | Transmit Power Control                              |
| TPDU     | Transfer Protocol Data Unit                         |
| TR       | Technical Report                                    |
| TRAU     | Transcoder and Rate Adapter Unit                    |
| TrCH     | Transport Channel                                   |
| TRX      | Transceiver   |
| TS       | Technical Specification                             |
|          | Teleservice   |
|          | Time Slot   |
| TSC      | Training Sequence Code                              |
| TSDI     | Transceiver Speech & Data Interface                 |
| TSG      | Technical Specification Group                       |
| TSN      | Time-Sensitive Networking                           |
| TSTD     | Time Switched Transmit Diversity                    |
| TTCN     | TTCN-2 or TTCN-3                                    |
| TTCN-2   | Tree and Tabular Combined Notation version 2        |
|          |   |

#### 3GPP TR 21.905 version 16.1.0 Release 16

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| TTCN-3 | Testing and Test Control Notation version 3                              |
|--------|--|
| TTI    | Transmission Timing Interval   |
| TUP    | Telephone User Part (SS7)  |
| TV     | Type and Value   |
| TX     | Transmit   |
| TXPWR  | Transmit PoWeR; Tx power level in the MS_TXPWR_REQUEST and MS_TXPWR_CONF |
|        | parameters   |

### U

| U-plane<br>U-RNTI<br>UARFCN<br>UARFN<br>UART<br>UAV<br>UCS2<br>UDD<br>UDI<br>UDD<br>UDUB<br>UDUB<br>UDCH<br>UE<br>UE <sub>R</sub><br>UEM | User plane<br>UTRAN Radio Network Temporary Identity<br>UTRA Absolute Radio Frequency Channel Number<br>UTRA Absolute Radio Frequency Number<br>Universal Asynchronous Receiver and Transmitter<br>Unmanned Aerial Vehicle<br>Universal Character Set 2<br>Unconstrained Delay Data<br>Unrestricted Digital Information<br>User Datagram Protocol<br>User Determined User Busy<br>User-plane Dedicated CHannel<br>User Equipment<br>User Equipment with ODMA relay operation enabled<br>operating band Unwanted Emissions Mask |
|--|--|
| UHD  | Ultra-High Definition  |
| UI   | User Interface   |
|  | Unnumbered Information (Frame)   |
| UIA  | 3G Integrity Algorithm   |
| UIC  | Union Internationale des Chemins de Fer  |
| UL   | Uplink (Reverse Link)  |
| UL-SCH   | Uplink Shared channel  |
| UM<br>UML  | Unacknowledged Mode  |
| UMS  | Unified Modelling Language   |
| UMSC   | User Mobility Server   |
| UMTS   | UMTS Mobile Services Switching Centre<br>Universal Mobile Telecommunications System  |
| UNI  | User-Network Interface   |
| UP   | User Plane   |
| UPCMI  | Uniform PCM Interface (13-bit)   |
| UPE  | User Plane Entity  |
| UPD  | Up to date   |
| UpPTS  | Uplink Pilot Timeslot  |
| UPT  | Universal Personal Telecommunication   |
| URA  | User Registration Area   |
| Clur   | UTRAN Registration Area  |
| URAN   | UMTS Radio Access Network  |
| URB  | User Radio Bearer  |
| URI  | Uniform Resource Identifier  |
| URL  | Uniform Resource Locator   |
| URLLC  | Ultra-Reliable Low Latency Communication   |
| USAT   | USIM Application Toolkit   |
| USB  | Universal Serial Bus   |
| USC  | UE Service Capabilities  |
| USCH   | Uplink Shared Channel  |
| USF  | Uplink State Flag  |
| USIM   | Universal Subscriber Identity Module   |
| USSD   | Unstructured Supplementary Service Data  |
| UT   | Universal Time   |
|  |  |

| UTRA  | Universal Terrestrial Radio Access         |
|-------|--|
| UTRAN | Universal Terrestrial Radio Access Network |
| UUI   | User-to-User Information                   |
| UUS   | Uu Stratum                                 |
|       | User-to-User Signalling                    |

#### V

| V        | Value only                                   |
|----------|--|
| V2X      | Vehicle-to-Everything                        |
| VA       | Voice Activity factor                        |
| VAD      | Voice Activity Detection                     |
| VAP      | Videotex Access Point                        |
| VASP     | Value Added Service Provider                 |
| VBR      | Variable Bit Rate                            |
| VBS      | Voice Broadcast Service                      |
| VC       | Virtual Circuit                              |
| VGCS     | Voice Group Call Service                     |
| VHE      | Virtual Home Environment                     |
| VLAN     | Virtual LAN                                  |
| VLR      | Visitor Location Register                    |
| VMSC     | Visited MSC                                  |
| VoIP     | Voice Over IP                                |
| VPLMN    | Visited Public Land Mobile Network           |
| VPN      | Virtual Private Network                      |
| VR       | Virtual Reality                              |
| VRB      | Virtual Resource Block                       |
| VSC      | Videotex Service Centre                      |
| V(SD)    | Send state variable                          |
| VTX host | The components dedicated to Videotex service |

#### W

| WA      | Wide Area                                 |
|---------|---|
| WAAS    | Wide Area Augmentation System             |
| WAE     | Wireless Application Environment          |
| WAP     | Wireless Application Protocol             |
| WBEM    | Web Based Enterprise Management           |
| WCDMA   | Wideband Code Division Multiple Access    |
| WDP     | Wireless Datagram Protocol                |
| WG      | Working Group                             |
| WGS-84  | World Geodetic System 1984                |
| WIM     | Wireless Identity Module                  |
| WIN     | Wireless Intelligent Network              |
| WLAN    | Wireless Local Area Network               |
| WLAN UE | WLAN User Equipment                       |
| WPA     | Wrong Password Attempts (counter)         |
| WS      | Work Station                              |
| WSP     | Wireless Session Protocol                 |
| WTA     | Wireless Telephony Applications           |
| WTAI    | Wireless Telephony Applications Interface |
| WTDD    | Wideband Time Division Duplexing          |
| WTLS    | Wireless Transport Layer Security         |
| WTP     | Wireless Transaction Protocol             |
| WTX     | Waiting Time eXtenstion                   |
| WWT     | Work Waiting Time                         |
| WWW     | World Wide Web                            |

### Х

| X2-C | X2-Control plane   |
|------|--|
| X2-U | X2-User plane  |
| XID  | eXchange IDentifier  |
| XMAC | exXpected Message Authentication Code (calculated by the USIM application in 3G AKA) |
| XML  | eXtensible Markup Language   |
| XRES | EXpected user RESponse   |
|      |  |

#### Y

<void>

#### Ζ

ZC

Zone Code

# 5 Equations

ETSI

| $\frac{CPICH\_E_c}{I_{or}}$               | The ratio of the received energy per PN chip of the CPICH to the total transmit power spectral density at the Node_B (SS) antenna connector.   |  |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|--|--|
| DPCH_E <sub>c</sub>                       | Average energy per PN chip for DPCH.   |  |  |  |  |  |  |  |  |
| $\frac{DPCH\_E_c}{I_{or}}$                | The ratio of the transmit energy per PN chip of the DPCH to the total transmit power spectral density at the Node_B antenna connector.   |  |  |  |  |  |  |  |  |
| $\frac{\underline{DPCCH\_E_{c}}}{I_{or}}$ | The ratio of the transmit energy per PN chip of the DPCCH to the total transmit power spectral density at the Node B antenna connector.  |  |  |  |  |  |  |  |  |
| $\frac{DPDCH\_E_{c}}{I_{or}}$             | The ratio of the transmit energy per PN chip of the DPDCH to the total transmit power spectral density at the Node B antenna connector.  |  |  |  |  |  |  |  |  |
| E <sub>c</sub>                            | Average energy per PN chip.  |  |  |  |  |  |  |  |  |
| $\frac{E_c}{I_{or}}$                      | The ratio of the average transmit energy per PN chip for different fields or physical channels to the total transmit power spectral density.   |  |  |  |  |  |  |  |  |
| Fuw                                       | Frequency of unwanted signal   |  |  |  |  |  |  |  |  |
| Io  | The total received power spectral density, including signal and interference, as measured at the UE antenna connector.   |  |  |  |  |  |  |  |  |
| I oac                                     | The power spectral density of the adjacent frequency channel as measured at the UE antenna connector.  |  |  |  |  |  |  |  |  |
| I <sub>oc</sub>                           | The power spectral density of a band limited white noise source (simulating interference from cells, which are not defined in a test procedure) as measured at the UE antenna connector. The power spectral density of a band limited white noise source (simulating interference from other cells) as measured at the UE antenna connector. |  |  |  |  |  |  |  |  |
| I <sub>or</sub>                           | The total transmit power spectral density of the Forward down link at the base stationNode_B antenna connector.  |  |  |  |  |  |  |  |  |
| Î <sub>or</sub>                           | The received power spectral density of the down link as measured at the UE antenna connector.  |  |  |  |  |  |  |  |  |
| Iouw                                      | Unwanted signal power level.   |  |  |  |  |  |  |  |  |
| OCNS_E <sub>c</sub>                       | Average energy per PN chip for the OCNS.   |  |  |  |  |  |  |  |  |
| $\frac{OCNS\_E_c}{I_{or}}$                | The ratio of the average transmit energy per PN chip for the OCNS to the total transmit power spectral density.  |  |  |  |  |  |  |  |  |
| $P - CCPCH \_E_c$                         | Average* energy per PN chip for P-CCPCH.   |  |  |  |  |  |  |  |  |
| $P - CCPCH \frac{E_c}{I_o}$               | The ratio of the received P-CCPCH energy per chip to the total received power spectral density at the UE antenna connector.  |  |  |  |  |  |  |  |  |
| $\frac{P - CCPCH_E_c}{I_{or}}$            | The ratio of the average* transmit energy per PN chip for the P-CCPCH to the total transmit power spectral density.  |  |  |  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |  |  |

| $P - CPICH \_E_c$                   | Average* energy per PN chip for P-CPICH.  |
|-------------------------------------|---|
| PICH_E <sub>c</sub>                 | Average* energy per PN chip for PICH.   |
| $\frac{PICH\_E_c}{I_{or}}$          | The ratio of the received energy per PN chip of the PICH to the total transmit power spectral density at the <u>Node B</u> (SS) antenna connector.          |
| PCCPCH $\frac{E_c}{I_o}$            | The ratio of the received PCCPCH energy per chip to the total received power spectral density at the UE antenna connector.                                  |
| $\frac{PCCPCH\_E_c}{I_{or}}$        | The ratio of the average transmit energy per PN chip for the PCCPCH to the total transmit power spectral density.   |
| $\frac{\sum DPCH_{-}E_{c}}{I_{or}}$ | The ratio of the sum DPCH_Ex for one service in case of multicode to the total tramsmit power spectral density of the downlink at the BS antenna connector. |
| $S - CCPCH_E_c$                     | Average energy per PN chip for S-CCPCH.   |
| $S - CPICH_E_c$                     | Average* energy per PN chip for S-CPICH.  |
| SCH_E <sub>c</sub>                  | Average* energy per PN chip for SCH.  |
| SCCPCH_E <sub>c</sub>               | Average energy per PN chip for SCCPCH.  |

\*Note: Averaging period for energy/power of discontinuously transmitted channels should be defined.

## Annex A: Change history

| TSG SA# | SA Doc.   | SA1 Doc   | Spec   | CR   | Rev | Rel   | Cat | Subject/Comment  | Old   | New   | WI          |
|---------|-----------|-----------|--------|------|-----|-------|-----|--|-------|-------|-------------|
| SP-07   | -         | -         | 21.905 | -    | -   | -     | -   | Approved at SA#07 as version 3.0.0   |       | 3.0.0 |             |
| SP-08   | SP-000209 | S1-000369 | 21.905 | 0001 |     | R99   | В   | New Abbreviations and<br>Definitions for R99, language<br>alignment and editorial<br>changes                   | 3.0.0 | 3.1.0 |             |
| 08/2000 | -         | -         | 21.905 | -    | -   | -     | -   | MCC correction of CR001<br>implementation; editorial<br>update.  | 3.1.0 | 3.1.1 |             |
| SP-09   | SP-000380 | S1-000477 | 21.905 | 0002 |     | R99   | D   | New Abbreviations and<br>Definitions for R99   | 3.1.1 | 3.2.0 |             |
| SP-09   | SP-000381 | S1-000627 | 21.905 | 0003 |     | R4    | D   | Change of Name of MExE   | 3.1.1 | 4.0.0 |             |
| SP-10   | SP-000659 | S1-000731 | 21.905 | 0004 |     | Rel-4 | В   | Introduces ASCI definition   | 4.0.0 | 4.1.0 | ASCI        |
| SP-10   | SP-000659 | S1-000736 | 21.905 | 0005 | 1   | Rel-4 | В   | Inclusion of GSM 01.04 v<br>7.0.0 acronyms and<br>abbreviations in the<br>vocabulary                           | 4.0.0 | 4.1.0 | CORREC<br>T |
| SP-11   | SP-010038 | S1-010233 | 21.905 | 0006 |     | Rel-4 | D   | Editorial changes and new definitions  | 4.1.0 | 4.2.0 | Vocab       |
| SP-11   | SP-010038 | S1-010234 | 21.905 | 0007 |     | Rel-4 | В   | Inclusion of commonly used definition contained in 23.122  | 4.1.0 | 4.2.0 | Vocab       |
| SP-12   | SP-010256 | S1-010366 | 21.905 | 0008 |     | Rel-4 | F   | Corrections to the<br>vocabulary requested by<br>RAN-4   | 4.2.0 | 4.3.0 | Vocab       |
| SP-12   | SP-010256 | S1-010582 | 21.905 | 0009 |     | Rel-4 | F   | CR to 21.905 on Definitions<br>in 22.101 subscription and<br>service provider                                  | 4.2.0 | 4.3.0 | Vocab       |
| SP-12   | SP-010258 | S1-010537 | 21.905 | 0010 |     | Rel-5 | D   | Addition of definition of<br>Service Provider and<br>Subscription. Modification of<br>definition of Subscriber | 4.3.0 | 5.0.0 | Vocab       |
| SP-13   | SP-010430 | S1-010649 | 21.905 | 0013 |     | Rel-5 | В   | CR to 21.905v5.0.0 (Rel-5)<br>on Alignment of definitions<br>requested by RAN 4                                | 5.0.0 | 5.1.0 | Vocab       |
| SP-13   | SP-010431 | S1-010838 | 21.905 | 0016 |     | Rel-5 | В   | CR to 21.905 version 5.0.0<br>Nomenclature for GTT   | 5.0.0 | 5.1.0 | GTT         |
| SP-14   | SP-010671 | S1-011276 | 21.905 | 0021 | 1   | Rel-5 | F   | Defintion of Local Services  | 5.1.0 | 5.2.0 | IMS         |
| SP-15   | SP-020046 | S1-020393 | 21.905 | 0030 |     | Rel-5 | В   | CR to 21.905: new definition of the term 'service'   | 5.2.0 | 5.3.0 | TEI         |
| SP-15   | SP-020063 |           | 21.905 | 0031 |     | Rel-5 | В   | CR 21.905 Rel. 5<br>Introduction of new<br>abbreviations derived of the<br>approval of 3GPP TS 23.236          | 5.2.0 |       | PSS-E       |
| SP-15   | SP-020046 | S1-020452 | 21.905 | 0032 |     | Rel-5 | В   | CR 21.905 Rel.5 B<br>Introduction of the definitions<br>of "pre-pay" and "post-pay"<br>billing                 | 5.2.0 |       | TEI         |
| SP-15   | SP-020046 | S1-020526 | 21.905 | 0033 |     | Rel-5 | F   | CR to 21.905: Replacement<br>of the term UMTS with 3GPP<br>system  | 5.2.0 | 5.3.0 | TEI         |
| SP-15   | SP-020046 | S1-020527 | 21.905 | 0034 |     | Rel-5 | В   | CR to 21.905: missing abbreviations  | 5.2.0 |       | TEI         |
| SP-15   | SP-020046 | S1-020528 | 21.905 | 0035 |     | Rel-5 | В   | CR to 21.905: new definition of the term 'application'   | 5.2.0 | 5.3.0 | TEI         |
| SP-15   | SP-020046 | S1-020617 | 21.905 | 0036 |     | Rel-5 | В   | CR to 21905: definitions of<br>online and offline charging   | 5.2.0 | 5.3.0 | TEI         |
| SP-15   | SP-020046 |           | 21.905 | 0037 |     | Rel-5 | В   | CR to 21.905: Improved<br>definition of the term<br>"application"  | 5.2.0 | 5.3.0 | TEI         |
| SP-16   | SP-020243 | S1-020973 | 21.905 | 0038 |     | Rel-5 | F   | CR to 21.905 5.3.0 - removal<br>of obsolete reference  | 5.3.0 | 5.4.0 | Vocab       |
| SP-17   | SP-020596 |           | 21.905 | 0039 | 1   | Rel-5 | F   | Addition of GERAN definitions and abbreviations  | 5.4.0 | 5.5.0 | TEI         |

| SP-17         SP-02055         S1-021762         21.905         0041         Re+6         B         CR 12 3.905 delimitons         5.4.0         6.0.0         TEI           SP-17         SP-020555         S1-021715         21.905         0042         Re+6         F         Enhancement of the<br>definition of the Subscriber         5.4.0         6.0.0         6.0.0         TEI           SP-18         SP-020564         S1-022264         21.905         0043         Re+6         R         CR 12.905 delimiton of the Subscriber         6.0.0         6.1.0         WLAN           SP-18         SP-020566         S1-022264         21.905         0044         Re+6         R         CR 12.905 delimiton of the Delimiton of the 2.0         6.0.0         6.1.0         WLAN           SP-19         SP-300247         S1-3030391         21.905         0047         -         Re+6         C CR collon of the Definiton of the 2.0         6.3.0         GLP           SP-20         SP-3030240         S1-303071         21.905         0052         -         Re+6         C Crection of the Definiton of the 2.0         6.3.0         GLP           SP-22         SP-30064         S1-303071         21.905         0052         -         Re+6         F         Cantrain 19.42.Analerex   | SP-17 | SP-020596 |                  | 21.905 | 0040 | 1 | Rel-5 | F | Addition of missing  | 5.4.0 | 5.5.0  | TEI    |
|---|-------|-----------|------------------|--------|------|---|-------|---|--|-------|--------|--------|
| SP-17         SP-020655         S1-021715         21:905         0042         Rel-6         F         Enhancement of the<br>definition of the "Subscriber"         5.40         6.0.0         7EI           SP-18         SP-020654         S1-02223         21:905         0043         Rel-6         D         Update to 26P TR 21:905         6.0.0         6.1.0         TEI           SP-18         SP-020666         S1-022264         21:905         0044         Rel-6         D         Update to 26P TR 21:905         6.0.0         6.1.0         WLAN           SP-18         SP-020666         S1-022264         21:905         0044         Rel-6         D         CR on Entities of the mobile         6.0.0         6.1.0         WLAN           SP-20         SP-030042         S1-030376         21:905         0050         -         Rel-6         A         Carcericin of acronyms in<br>acronym of 30PP Generic         6.2.0         6.3.0         6.4.0         OAM-CH           SP-21         SP-030465         S1-03037         21:905         0052         -         Rel-6         F         Carrection of the Definition of<br>acronym of abarration of the definition of<br>AM and IP-CAN bearar         6.4.0         6.5.0         FEI           SP-22         SP-030694         S1-031311         21   | CD 17 |           | <u>81 001760</u> | 21.005 | 0044 |   | Dalic | В | GSM/GPRS abbreviations   | 540   | 600    | TEI    |
| SP-18         SP-020864         S1-02223         21.905         0.043         Rel-6         D         Update to SP TR 21.905, for 0.005         6.0.0         6.1.0         TEIE           SP-18         SP-020666         S1-022264         21.905         0.044         Rel-6         B         CR 10 21.905 to Introduce         6.0.0         6.1.0         VLAN           SP-18         SP-020012         S1-030238         21.905         0.044         Rel-6         B         CR 10 21.905 to Introduce         6.0.0         6.1.0         6.2.0         0.4.1           SP-19         SP-030247         S1-030278         21.905         0.047         -         Rel-6         A         CR on Entities of the mobile         6.1.0         6.2.0         6.3.0         GUP           SP-20         SP-030240         S1-030971         21.905         0.052         -         Rel-6         A         Correction of actoryms in         6.2.0         6.3.0         CA           SP-21         SP-030245         S1-030971         21.905         0.052         -         Rel-6         F         Terminology additions for IP         6.4.0         0.4.0         CA           SP-22         SP-030264         S1-0401311         21.905         0.055         -  |       |           |                  |        |      |   |       |   | from TR 22.951   |       |        |        |
| SP-18         SP-020654         S1-02223         21.905         0043         Reife         D         Update to 3GPP TR 21.905,<br>Specifications         6.0.0         6.1.0         TEl6           SP-18         SP-020666         S1-022264         21.905         0044         Reife         B         CR to 21.905         bit of 3GPP         Specifications         6.0.0         6.1.0         WLAN           SP-19         SP-030012         S1-030381         21.905         0046         -         Reife         A         CR on Entities of the mobile<br>system         6.1.0         6.2.0         OM-AR           SP-20         SP-030247         S1-030391         21.905         0060         -         Reife         A         Correction of acronyms in<br>CR 2006         6.2.0         G.3.0         GLP           SP-20         SP-030240         S1-030371         21.905         0052         -         Reife         A         Correction of acronyms in<br>CA 200         6.3.0         6.4.0         GA.0         GA.0<  | SP-17 | SP-020555 | S1-021715        | 21.905 | 0042 |   | Rel-6 | F |  | 5.4.0 | 6.0.0  | TEI    |
| SP-18         SP-020666         S1-02224         21.905         0044         Rel-6         B         CR to 21.905 to introduce         6.0.0         6.1.0         6.2.0         AAAA           SP-19         SP-030012         S1-030238         21.905         0046         -         Rel-6         A         CR on Entities of the mobile         6.1.0         6.2.0         G.3.0         GUP           SP-20         SP-030240         S1-030376         21.905         0060         -         Rel-6         B         Addition of the definition and acromyme of 3GPP Generic         6.3.0         TEIA           SP-21         SP-030246         S1-030376         21.905         0050         -         Rel-6         A         Correction of acromyms in fortal backet for the Definition of the Definition fortal backet for the Definition for the Flexible         6.5.0         Vocab           SP-23         SP-040107         S1-040115         21.905         0056         -         Rel-6         F         Add Subscription Machine to the Flexible         6.5.0         6.6.0         SLO         6.6.0         SLO         6.6.0         SLO         6.6.0         SLO         SLO         6.6.0         SLO         SLO         SLO         <   | SP-18 | SP-020654 | S1-022223        | 21.905 | 0043 |   | Rel-6 | D | Update to 3GPP TR 21.905,<br>Vocabulary for 3GPP   | 6.0.0 | 6.1.0  | TEI6   |
| SP-20         SP-3030247         S1-030391         21.905         0047         -         Rel-6         B         Addition of the definition and acronym of 3GPP Generic User Profile           SP-20         SP-030240         S1-030576         21.905         0050         -         Rel-6         A         Correction of acronyms in TR21.905         6.2.0         6.3.0         TE4           SP-21         SP-030545         S1-030576         21.905         0052         -         Rel-6         A         Correction of acronyms in TR21.905         6.2.0         6.3.0         FL4           SP-23         SP-030684         S1-03111         21.905         0056         -         Rel-6         F         Terminology additors for IP-CAN bearer         6.4.0         6.5.0         6.6.0         FL0           SP-23         SP-040077         S1-040115         21.905         0056         -         Rel-6         F         Add Subscription         6.5.0         6.6.0         FL0   | SP-18 | SP-020666 | S1-022264        | 21.905 | 0044 |   | Rel-6 | В | CR to 21.905 to introduce  | 6.0.0 | 6.1.0  | WLAN   |
| SP-20         SP-300247         S1-030391         21.905         0047         -         Ref-6         B         Addition of the definition and<br>acronym of 3GPP Generic<br>User Profile         6.2.0         6.3.0         GUP           SP-20         SP-030240         S1-030676         21.905         0050         -         Rel-6         A         Correction of acronyms in<br>TR21.905         6.2.0         6.3.0         6.4.0         A         A           SP-21         SP-030646         S1-03071         21.905         0052         -         Rel-6         F         Terminology additions for IP-<br>CAN and IP-CAN bearer         6.4.0         6.5.0         TEI6           SP-22         SP-030694         S1-03111         21.905         0055         -         Rel-6         F         Modified base station<br>difficition and Abbreviation         6.4.0         6.5.0         Vocab           SP-23         SP-040107         S5-042112         21.905         0056         -         Rel-6         F         Add Subscription<br>Management (SuM)<br>Definition and Abbreviation<br>to SA1's 21.905- Align with<br>SA's 21.905 Addition WLAN<br>UE definition and classes of<br>eguipment and abbreviation         6.6.0         6.7.0         WuAN   | SP-19 | SP-030012 | S1-030238        | 21.905 | 0046 | - | Rel-6 | A |  | 6.1.0 | 6.2.0  | OAM-AR |
| SP-20         SP-030240         S1-030576         21.905         0050         -         Rel-6         A         Correction of acronyms in<br>Correction of the Definition of<br>CDR         6.2.0         6.3.0         TEl4           SP-21         SP-030456         S1-030971         21.905         0052         -         Rel-6         A         Correction of the Definition of<br>CDR         6.3.0         6.4.0         0A/CH           SP-22         SP-030694         S1-031114         21.905         0053         -         Rel-6         F         Terminology additions for IP-<br>CAN and IP-CAN bearer         6.4.0         6.5.0         Vocab           SP-23         SP-040087         S1-040115         21.905         0056         -         Rel-6         F         Add Subscription<br>Management (SUM)         6.5.0         6.6.0         SUM           SP-24         SP-040087         S1-040507         21.905         0057         -         Rel-6         F         Indicision of ANP<br>abbreviation as requested by<br>SA's 221.905         6.6.0         6.7.0         Vocab           SP-24         SP-040266         S1-040507         21.905         0057         -         Rel-6         F         Introluction of ANP<br>abbreviation as requested by<br>SA's 221.905         6.6.0         6.7.0         WLAN  | SP-20 | SP-030247 | S1-030391        | 21.905 | 0047 | - | Rel-6 | В | acronym of 3GPP Generic  | 6.2.0 | 6.3.0  | GUP    |
| SP-21         SP-030466         S1-030971         21.905         0052         -         Rel-6         A         Correction of the Definition of Long         6.4.0         6.4.0         CA.0           SP-22         SP-030694         S1-031145         21.905         0053         -         Rel-6         F         Terminology additions for IP-<br>CAN and IP-CAN bearer         6.4.0         6.5.0         TEI6           SP-23         SP-040087         S1-040115         21.905         0055         -         Rel-6         F         Modified base station<br>definition         6.4.0         6.5.0         Vocab           SP-23         SP-040087         S1-040115         21.905         0056         -         Rel-6         F         Add Subscription<br>Management (SuM)<br>Definition and Abbreviation<br>to SA1's 21.905         6.6.0         6.6.0         SuM           SP-24         SP-040286         S1-040507         21.905         0057         -         Rel-6         F         Inclusion of ANP<br>abbreviation as requested by<br>SA3         6.6.0         6.7.0         Vocab           SP-24         SP-040286         S1-040507         21.905         0067         -         Rel-6         F         Inclusion of ANP<br>abbreviation and abbreviation<br>to adupment and abbreviation         6.6.0         6.7.0         Vocab <td>SP-20</td> <td>SP-030240</td> <td>S1-030576</td> <td>21.905</td> <td>0050</td> <td>-</td> <td>Rel-6</td> <td>A</td> <td>Correction of acronyms in</td> <td>6.2.0</td> <td>6.3.0</td> <td>TEI4</td>   | SP-20 | SP-030240 | S1-030576        | 21.905 | 0050 | - | Rel-6 | A | Correction of acronyms in  | 6.2.0 | 6.3.0  | TEI4   |
| SP-22         SP-030694         S1-031311         21.905         0054         -         ReI-6         F         Modified base station<br>definition         6.4.0         6.5.0         Vocab           SP-23         SP-040087         S1-040115         21.905         0055         -         ReI-6         B         Acronyms for the Flexible<br>Layer One         6.5.0         6.6.0         FLOGER           SP-23         SP-040107         S5-042112         21.905         0056         -         ReI-6         F         Add Subscription<br>Management (SuM)<br>Definition and Abbreviation<br>to SA1's 21.905 - Align with<br>SA5's 32.1401, 32.171/2/         6.6.0         6.7.0         Vocab           SP-24         SP-040286         S1-040507         21.905         0057         -         ReI-6         F         Inclusion of ANP<br>abbreviation as requested by<br>SA3         6.6.0         6.7.0         Vocab           SP-24         SP-040276         -         21.905         0058         2         ReI-6         F         TR 21.905 Addition WLAN         6.6.0         6.7.0         WLAN           SP-24         SP-0400476         -         21.905         0058         2         ReI-6         F         TR 21.905 Addition WLAN         6.6.0         6.7.0         WLAN           SP-250055  | SP-21 | SP-030456 | S1-030971        | 21.905 | 0052 | - | Rel-6 | A | Correction of the Defintion of CDR   | 6.3.0 | 6.4.0  |        |
| SP-23         SP-040087         S1-040115         21.905         0055         -         Rel6         B         Acronyms for the Flexible<br>Layer One         6.5.0         6.6.0         FLOGER           SP-23         SP-040107         S5-042112         21.905         0056         -         Rel-6         F         Add Subscription<br>Management (SuM)<br>Definition and Abbreviation<br>to SA1's 21.905         6.5.0         6.6.0         SuM           SP-24         SP-040286         S1-040507         21.905         0057         -         Rel-6         F         Add Subscription<br>SA5's 32.140(1, 32.171/2)         6.6.0         6.7.0         Vocab           SP-24         SP-040286         S1-040507         21.905         0058         2         Rel-6         F         Inclusion of ANP<br>abbreviation as requested by<br>SA3         6.6.0         6.7.0         WLAN           SP-24         SP-040476         -         21.905         0058         2         Rel-6         F         Inclusion of ANP<br>abbreviation and classes of<br>equipment and abbreviation         6.0.0         6.7.0         WLAN           SP-28         SP-050058         S1-050781         21.905         0066         Rel-6         F         Definition and abbreviation<br>for DSAC         6.9.0         6.9.0         0.002           S   | _     |           |                  |        |      |   |       |   | CAN and IP-CAN bearer  |       |        |        |
| SP-23         SP-040107         S5-042112         21.905         0056         -         Rel-6         F         Add Subscription<br>Management (SuM)<br>Definition and Abbreviation<br>to SA1's 21.905         6.6.0         SuM           SP-24         SP-040286         S1-040507         21.905         0057         -         Rel-6         F         Industry (N)<br>Acronym)         6.6.0         6.7.0         Vocab           SP-24         SP-040286         S1-040507         21.905         0057         -         Rel-6         F         Inclusion of ANP<br>abbreviation as requested by<br>SA3         6.6.0         6.7.0         Vocab           SP-24         SP-040476         -         21.905         0061         Rel-6         F         TR 21.905         Addition WLAN<br>UE definition and classes of<br>equipment and abbreviation         6.6.0         6.7.0         WLAN           SP-27         SP-050059         S1-050143         21.905         0062         Rel-6         A         Introduction of RAN<br>Information Management         6.8.0         6.9.0         6.10.0         Vocab           SP-28         SP-0500515         S1-050781         21.905         0066         Rel-6         A         Abbreviation for SCUDIF         6.9.0         6.10.0         Vocab           SP-29         SP-060031   |       |           |                  |        |      |   |       |   | definition   |       |        |        |
| Image in the image in |       |           |                  |        |      |   |       |   | Layer One  |       |        |        |
| SP-24         SP-040476         -         21.905         0058         2         Rel-6         F         TR 21.905 Addition WLAN<br>SA3         6.6.0         6.7.0         WLAN           SP-24         SP-050055         S1-050143         21.905         0061         -         Rel-6         F         TR 21.905 Addition WLAN         6.6.0         6.7.0         WLAN           SP-27         SP-050055         S1-050143         21.905         0061         -         Rel-6         A         Introduction of RAN         6.7.0         6.8.0         FEI5           SP-28         SP-050293         S1-050780         21.905         0065         Rel-6         F         Correction of OSA acronym         6.8.0         6.9.0         Vocab           SP-29         SP-050515         S1-050781         21.905         0066         Rel-6         F         Definition and abbreviation<br>for DSAC         6.9.0         6.10.0         Vocab           SP-29         SP-06033         S1-060262         21.905         0067         Rel-7         F         Correction of terminology         7.0.0         7.1.0         NSP-CR           SP-31         SP-060428         -         21.905         0067         Rel-7         F         TISPAN UE definition   |       |           |                  |        |      |   |       |   | Management (SuM)<br>Definition and Abbreviation<br>to SA1's 21.905 - Align with<br>SA5's 32.140/1, 32.171/2/<br>& 3GPP Work Plan (WI<br>Acronym) |       |        |        |
| SP-27         SP-050055         S1-050143         21.905         0061         -         Rel-6         A         Introduction of RAN<br>Information Management         6.7.0         6.8.0         TEIS           SP-28         SP-0500213         S1-050487         21.905         0062         -         Rel-6         F         Correction of OSA acronym         6.8.0         6.9.0         Vocab           SP-29         SP-050509         S1-050780         21.905         0065         -         Rel-6         A         Abbreviation for SCUDIF         6.9.0         6.10.0         Vocab           SP-29         SP-050515         S1-050781         21.905         0066         -         Rel-7         F         Definition and abbreviation<br>for DSAC         6.9.0         6.10.0         Vocab           SP-29         SP-050524         S1-050828         21.905         0067         -         Rel-7         B         Introduction of SBLP<br>abbreviation         6.9.0         7.0.0         Vocab           SP-31         SP-060428         -         21.905         0071         3         Rel-7         F         TISPAN UE definition<br>User Equipment and User<br>Equipment and User         7.0.0         7.0.0         7.0.0         7.0.0         7.0.0         7.0.0         7.0.0  |       | SP-040286 | S1-040507        | 21.905 | 0057 | - |       | F | abbreviation as requested by SA3   | 6.6.0 | 6.7.0  |        |
| SP-27         SP-050055         S1-050143         21.905         0061         -         Rel-6         A         Introduction of RAN Information Management         6.7.0         6.8.0         TEI5           SP-28         SP-050213         S1-050487         21.905         0062         -         Rel-6         F         Correction of OSA acronym         6.8.0         6.9.0         Vocab           SP-29         SP-050509         S1-050780         21.905         0066         -         Rel-6         A         Abbreviation for SCUDIF         6.9.0         6.10.0         Vocab           SP-29         SP-050515         S1-050781         21.905         0066         -         Rel-7         F         Definition and abbreviation for SSLP         6.9.0         6.10.0         Vocab           SP-29         SP-050524         S1-050828         21.905         0067         -         Rel-7         F         Correction of terminology         7.0.0         7.1.0         NSP-CR           SP-32         SP-06033         S1-060266         21.905         0069         1         Rel-7         F         TispAN UE definition         7.1.0         7.2.0         7.3.0         Vocab           SP-35         SP-070135         S1-070248         21.905  | SP-24 | SP-040476 | -                | 21.905 | 0058 | 2 | Rel-6 | F | UE definition and classes of   | 6.6.0 | 6.7.0  | WLAN   |
| SP-28         SP-050213         S1-050487         21.905         0062         -         Rel-6         F         Correction of OSA acronym         6.8.0         6.9.0         Vocab           SP-29         SP-050509         S1-050780         21.905         0065         -         Rel-6         A         Abbreviation for SCUDIF         6.9.0         6.10.0         Vocab           SP-29         SP-050515         S1-050781         21.905         0066         -         Rel-7         B         Introduction of SBLP for DSAC         6.9.0         6.10.0         Vocab           SP-29         SP-050524         S1-050828         21.905         0067         -         Rel-7         B         Introduction of SBLP for DSAC         6.9.0         7.0.0         Vocab           SP-31         SP-060033         S1-060266         21.905         0069         1         Rel-7         F         TISPAN UE definition         7.1.0         NSP-CR           SP-35         SP-070231         -         21.905         0071         3         Rel-7         F         Terminology clarification for User Equipment and User Equipment and User         7.3.0         Vocab           SP-35         SP-070135         S1-070248         21.905         0072         -  | SP-27 | SP-050055 | S1-050143        | 21.905 | 0061 | - | Rel-6 | A | Introduction of RAN  | 6.7.0 | 6.8.0  | TEI5   |
| SP-29         SP-050515         S1-050781         21.905         0066         -         Rel-6         F         Definition and abbreviation<br>for DSAC         6.9.0         6.10.0         Vocab           SP-29         SP-050524         S1-050828         21.905         0067         -         Rel-7         B         Introduction of SBLP<br>abbreviation         6.9.0         6.10.0         Vocab           SP-31         SP-060033         S1-060266         21.905         0068         -         Rel-7         F         Correction of terminology         7.0.0         7.1.0         NSP-CR           SP-32         SP-060428         -         21.905         0069         1         Rel-7         F         TISPAN UE definition         7.1.0         7.2.0         FBI           SP-35         SP-070231         -         21.905         0071         3         Rel-7         F         Terminology clarification for<br>User Equipment and User<br>Equipment and User         7.3.0         Vocab           SP-35         SP-070135         S1-070248         21.905         0072         -         Rel-8         D         Adding FMC to terms and<br>abbreviations         8.0.0         8.1.0         8.1.0         8.1.0         8.1.0         8.1.0         8.1.0         8.1.0         8.   | SP-28 | SP-050213 | S1-050487        | 21.905 | 0062 | - | Rel-6 | F |  | 6.8.0 | 6.9.0  | Vocab  |
| SP-29         SP-050524         S1-050828         21.905         0067         -         Rel-7         B         Introduction of SBLP<br>abbreviation         6.9.0         7.0.0         Vocab           SP-31         SP-060033         S1-060266         21.905         0068         -         Rel-7         F         Correction of terminology         7.0.0         7.1.0         NSP-CR           SP-32         SP-060428         -         21.905         0069         1         Rel-7         F         Correction of terminology         7.0.0         7.1.0         NSP-CR           SP-35         SP-070231         -         21.905         0071         3         Rel-7         F         Terminology clarification for<br>User Equipment and User<br>Equipment components         7.3.0         Vocab           SP-35         SP-070135         S1-070248         21.905         0072         -         Rel-8         D         Addition of "Steering of<br>Roaming" to definitions and<br>abbreviations         8.0.0         8.1.0         8.1.0         TEI           SP-37         SP-070562         S1-070949         21.905         76         Rel-8         B         To define 'Service Continuity'<br>in the vocabulary         8.1.0         8.2.0         TEI8           SP-37         SP-070562   |       |           |                  |        |      | - |       | A |  | 6.9.0 |        |        |
| SP-31         SP-060033         S1-060266         21.905         0068         -         Rel-7         F         Correction of terminology         7.0.0         7.1.0         NSP-CR           SP-32         SP-060428         -         21.905         0069         1         Rel-7         F         Correction of terminology         7.0.0         7.1.0         NSP-CR           SP-32         SP-060428         -         21.905         0071         3         Rel-7         F         TISPAN UE definition         7.1.0         7.2.0         FBI           SP-35         SP-070231         -         21.905         0071         3         Rel-7         F         Terminology clarification for User Equipment and User Equipment components         7.3.0         Vocab           SP-35         SP-070135         S1-070248         21.905         0072         -         Rel-8         D         Addition fmom tormonents         7.3.0         Vocab           SP-36         SP-070475         S1-070442         21.905         0074         1         Rel-8         A         Addition of "Steering of Roaming" to definitions and abbreviations         8.1.0         8.1.0         8.2.0         TEI           SP-37         SP-070562         S1-070986         21.905         <  | SP-29 | SP-050515 | S1-050781        | 21.905 | 0066 | - | Rel-6 | F |  | 6.9.0 | 6.10.0 | Vocab  |
| SP-32         SP-060428         -         21.905         0069         1         Rel-7         F         TISPAN UE definition         7.1.0         7.2.0         FBI           SP-35         SP-070231         -         21.905         0071         3         Rel-7         F         TISPAN UE definition         7.1.0         7.2.0         FBI           SP-35         SP-070231         -         21.905         0071         3         Rel-7         F         Terminology clarification for<br>User Equipment and User<br>Equipment components         7.3.0         Vocab           SP-35         SP-070135         S1-070248         21.905         0072         -         Rel-8         D         Adding FMC to terms and<br>abbreviations         7.3.0         8.0.0         Vocab           SP-36         SP-070475         S1-070442         21.905         0074         1         Rel-8         A         Addition of "Steering of<br>Roaming" to definitions and<br>abbreviations         8.0.0         8.1.0         8.2.0         TEI           SP-37         SP-070562         S1-070949         21.905         76         Rel-8         B         To define 'Service Continuity'<br>in the vocabulary         8.1.0         8.2.0         TEI8           SP-37         SP-070562         S1-071986   | SP-29 | SP-050524 | S1-050828        | 21.905 | 0067 | - | Rel-7 | В |  | 6.9.0 | 7.0.0  | Vocab  |
| SP-35         SP-070231         -         21.905         0071         3         Rel-7         F         Terminology clarification for<br>User Equipment and User<br>Equipment components         7.2.0         7.3.0         Vocab           SP-35         SP-070135         S1-070248         21.905         0072         -         Rel-8         D         Adding FMC to terms and<br>abbreviations         7.3.0         8.0.0         Vocab           SP-36         SP-070475         S1-070442         21.905         0074         1         Rel-8         D         Addition of "Steering of<br>Roaming" to definitions and<br>abbreviations         8.0.0         8.1.0         TEI           SP-37         SP-070562         S1-070949         21.905         76         Rel-8         B         To define 'Service Continuity'<br>in the vocabulary         81.0         8.2.0         TEI8           SP-37         SP-070562         S1-070986         21.905         77         Rel-8         B         Proposal to add E-UTRA<br>and E-UTRAN         81.0         8.2.0         TEI8           SP-37         SP-070562         S1-071102         21.905         75         1         Rel-8         B         Proposal to add E-UTRA<br>and E-UTRAN         8.1.0         8.2.0         TEI8   |       |           |                  | 21.905 |      | - |       | F | Correction of terminology  |       |        |        |
| SP-35         SP-070135         S1-070248         21.905         0072         -         Rel-8         D         Adding FMC to terms and abbreviations         7.3.0         8.0.0         Vocab           SP-36         SP-070475         S1-070442         21.905         0074         1         Rel-8         D         Adding FMC to terms and abbreviations         7.3.0         8.0.0         Vocab           SP-36         SP-070475         S1-070442         21.905         0074         1         Rel-8         A         Addition of "Steering of Roaming" to definitions and abbreviations         8.0.0         8.1.0         TEI           SP-37         SP-070562         S1-070949         21.905         76         Rel-8         B         To define 'Service Continuity' 8.1.0         8.2.0         TEI8           SP-37         SP-070562         S1-070986         21.905         77         Rel-8         B         Proposal to add E-UTRA and E-UTRA         8.1.0         8.2.0         TEI8           SP-37         SP-070562         S1-071102         21.905         75         1         Rel-8         B         Proposal to add Evolved Packet System Evolved Packet Core         8.1.0         8.2.0         TEI8  | SP-32 | SP-060428 | -                | 21.905 | 0069 | 1 | Rel-7 | F | TISPAN UE definition   | 7.1.0 | 7.2.0  | FBI    |
| SP-35         SP-070135         S1-070248         21.905         0072         -         Rel-8         D         Adding FMC to terms and abbreviations         7.3.0         8.0.0         Vocab           SP-36         SP-070475         S1-070442         21.905         0074         1         Rel-8         A         Addition of "Steering of Roaming" to definitions and abbreviations         8.0.0         8.1.0         TEI           SP-37         SP-070562         S1-070949         21.905         76         Rel-8         B         To define 'Service Continuity' 8.1.0         8.2.0         TEI8           SP-37         SP-070562         S1-070986         21.905         77         Rel-8         B         Proposal to add E-UTRA and E-UTRA         8.1.0         8.2.0         TEI8           SP-37         SP-070562         S1-071102         21.905         75         1         Rel-8         B         Proposal to add E-UTRA and E-UTRA         8.1.0         8.2.0         TEI8           SP-37         SP-070562         S1-071102         21.905         75         1         Rel-8         B         Proposal to add Evolved Packet System Evolved Packet Core         8.1.0         8.2.0         TEI8   | SP-35 | SP-070231 | -                | 21.905 | 0071 | 3 | Rel-7 | F | User Equipment and User  | 7.2.0 | 7.3.0  | Vocab  |
| SP-36SP-070475S1-07044221.90500741Rel-8AAddition of "Steering of<br>Roaming" to definitions and<br>abbreviations8.0.08.1.0TEISP-37SP-070562S1-07094921.90576Rel-8BTo define 'Service Continuity'<br>in the vocabulary8.1.08.2.0TEI8SP-37SP-070562S1-07098621.90577Rel-8BProposal to add E-UTRA<br>and E-UTRAN8.1.08.2.0TEI8SP-37SP-070562S1-07110221.905751Rel-8BProposal to add Evolved<br>Packet System Evolved<br>Packet Core8.1.08.2.0TEI8  | SP-35 | SP-070135 | S1-070248        | 21.905 | 0072 | - | Rel-8 | D | Adding FMC to terms and  | 7.3.0 | 8.0.0  | Vocab  |
| SP-37SP-070562S1-07098621.90577Rel-8BProposal to add E-UTRA<br>and E-UTRAN8.1.08.2.0TEI8SP-37SP-070562S1-07110221.905751Rel-8BProposal to add Evolved<br>Packet System Evolved<br>Packet Core8.1.08.2.0TEI8   | SP-36 | SP-070475 | S1-070442        | 21.905 | 0074 | 1 | Rel-8 | A | Addition of "Steering of Roaming" to definitions and   | 8.0.0 | 8.1.0  | TEI    |
| SP-37         SP-070562         S1-070986         21.905         77         Rel-8         B         Proposal to add E-UTRA<br>and E-UTRAN         8.1.0         8.2.0         TEI8           SP-37         SP-070562         S1-071102         21.905         75         1         Rel-8         B         Proposal to add Evolved<br>Packet System Evolved<br>Packet Core         8.1.0         8.2.0         TEI8   | SP-37 |           |                  | 21.905 | 76   |   | Rel-8 | В |  | 8.1.0 | 8.2.0  | TEI8   |
| SP-37SP-070562S1-07110221.905751Rel-8BProposal to add Evolved<br>Packet System Evolved<br>Packet Core8.1.08.2.0TEI8   | SP-37 | SP-070562 | S1-070986        | 21.905 | 77   |   | Rel-8 | В | Proposal to add E-UTRA   | 8.1.0 | 8.2.0  | TEI8   |
|   | SP-37 | SP-070562 | S1-071102        | 21.905 | 75   | 1 | Rel-8 | В | Proposal to add Evolved<br>Packet System Evolved   | 8.1.0 | 8.2.0  | TEI8   |
|   | SP-37 | SP-070562 | S1-071233        | 21.905 | 78   | 2 | Rel-8 | С |  | 8.1.0 | 8.2.0  | TEI8   |

| SP-38 | SP-070848 | S1-071893 | 21.905 | 0079 | 1 | Rel-8  | В | Addition of definitions of an<br>End-User and End-User<br>Identity                    | 8.2.0  | 8.3.0  | EUI            |
|-------|-----------|-----------|--------|------|---|--------|---|---|--------|--------|----------------|
| SP-39 | SP-080045 | S1-080276 | 21.905 | 0080 | 2 | Rel-8  | F | Proposal to add abbreviation<br>for Evolved Packet Core                               | 8.3.0  | 8.4.0  | TEI8           |
| SP-39 | SP-080045 | S1-080275 | 21.905 | 0081 | 2 | Rel-8  | F | Correction of UICC definition   | 8.3.0  | 8.4.0  | TEI8           |
| SP-40 | SP-080298 | S1-080565 | 21.905 | 0082 | 1 | Rel-8  | В | Addition of definition of Pilot<br>Identity   | 8.4.0  | 8.5.0  | TEI8           |
| SP-41 | SP-080493 | S1-082395 | 21.905 | 0083 | 2 | Rel-8  | В | Add definitions and<br>abbreviations related to<br>Home NodeB and Home<br>eNodeB      | 8.5.0  | 8.6.0  | TEI8           |
| SP-42 | SP-080769 | S1-083441 | 21.905 | 0089 | 1 | Rel-9  | В | Addition of definition of IMS<br>Credentials and IMC<br>abbreviation                  | 8.6.0  | 9.0.0  | CIMS_3G<br>PP2 |
| SP-43 | SP-090080 | S1-090167 | 21.905 | 0092 | 1 | Rel-9  | A | Introduce the definition of<br>CSG manager (Mirror CR to<br>rel-9)                    | 9.0.0  | 9.1.0  | HomeNB         |
| SP-43 | SP-090081 | S1-090160 | 21.905 | 0094 | 2 | Rel-9  | A | Editorial changes in IMC definition   | 9.0.0  | 9.1.0  | CIMS_3G<br>PP2 |
| SP-44 | SP-090373 | S1-091277 | 21.905 | 0095 | 1 | Rel-9  | F | Align definition of Allowed<br>CSG list   | 9.1.0  | 9.2.0  | TEI-9          |
| SP-45 | SP-090484 | S1-093342 | 21.905 | 0098 | - | Rel-10 | В | Definition for Local IP<br>Access and Selected IP<br>Traffic Offload                  | 9.2.0  | 10.0.0 | LIPA_SIP<br>TO |
| SP-46 | SP-090844 | S1-094274 | 21.905 | 0101 | 1 | Rel-10 | A | Clarify the term "Active Set"<br>in 21.905  | 10.0.0 | 10.1.0 | TEI9           |
| SP-46 | SP-090848 | S1-094467 | 21.905 | 0102 | 3 | Rel-10 | В | Adding IFOM ( IP Flow<br>Mobility)  | 10.0.0 | 10.1.0 | IFOM           |
| SP-47 | SP-100188 | S1-100438 | 21.905 | 0103 | 1 | Rel-10 | A | Adding definition of IMS<br>Multimedia Telephony                                      | 10.1.0 | 10.2.0 | TEI10          |
| SP-47 | SP-100189 | S1-100248 | 21.905 | 0104 | 4 | Rel-10 | В | Definition of Heterogeneous networks  | 10.1.0 | 10.2.0 | TEI10          |
| SP-51 | SP-110091 |           | 21.905 | 105  | 4 | Rel-10 | F | Addition of new terms and abbreviations   | 10.2.0 | 10.3.0 | TEI10          |
| SP-54 | SP-110825 |           | 21.905 | 106  |   | Rel-11 | В | Adding of MTC terms and definitions   | 10.3.0 | 11.0.0 | SIMTC          |
|       |           |           |        |      |   |        |   | Remove unwanted character<br>formatting from definition of<br>"Elementary procedure". | 11.0.0 | 11.0.1 |                |
| SP-56 | SP-120318 |           | 21.905 | 107  | 1 | Rel-11 | F | Removal of invalid reference  | 11.0.1 | 11.1.0 | TEI11          |
| SP-57 | SP-120521 |           | 21.905 | 108  | 1 | Rel-11 |   | Update MTC definitions  | 11.1.0 | 11.2.0 | SIMTC          |
| SP-58 | SP-120783 |           | 21.905 | 109  | 1 | Rel-11 |   | Correction of the definition of the term "3GPP system"                                | 11.2.0 | 11.3.0 | OAM11          |
| SP-60 | SP-130315 |           | 21.905 | 110  | 3 | Rel-12 |   | Add common definitions<br>from ProSe  | 11.3.0 | 12.0.0 | ProSe          |
| SP-70 | SP-150711 |           | 21.905 | 0111 |   | Rel-13 |   | Correction and addition of<br>definitions for Online and<br>Offline Charging          | 12.0.0 | 13.0.0 | TEI13          |
| SP-70 | SP-150841 |           | 21.905 | 0112 |   | Rel-13 |   | Definition of extended DRX<br>and Power Saving Mode in<br>the 3GPP vocabulary         | 12.0.0 | 13.0.0 | eDRX           |

|         | Change history |           |      |     |     |   |         |  |  |  |
|---------|----------------|-----------|------|-----|-----|---|---------|--|--|--|
| Date    | Meeting        | TDoc      | CR   | Rev | Cat | Subject/Comment   | New     |  |  |  |
|         |                |           |      |     |     |   | version |  |  |  |
| 2016-06 | SA#72          | SP-160466 | 0113 |     | F   | Correction of 3GPP vocabulary due to renaming to EC-GSM-IoT   | 13.1.0  |  |  |  |
|         |                |           |      |     |     | (i.e. change abbreviation EC-GPRS to EC-GSM-IoT)              |         |  |  |  |
| 2017-03 | SA#75          |           |      |     |     | Promotion to Release 14 without technical change              | 14.0.0  |  |  |  |
| 2017-06 | SA#76          | SP-170410 | 0114 |     | F   | Update to the definition of TTCN                              | 14.1.0  |  |  |  |
| 2017-06 | SA#76          | SP-170575 | 0115 |     | В   | Proposed Definition for Restricted Local Operator Services    | 14.1.1  |  |  |  |
| 2018-03 | SA#79          | SP-180179 | 0116 | 3   | В   | Addition of 5G in the definition of 3GPP system               | 15.0.0  |  |  |  |
| 2018-12 | SA#82          | SP-181167 | 0117 | 2   | В   | Add new terms and abbreviations                               | 15.1.0  |  |  |  |
| 2019-06 | SA#84          | SP-190569 | 0118 |     | В   | Add new general abbreviations                                 | 16.0.0  |  |  |  |
|         |                |           |      |     |     | MCC Note: CR cover sheet wrongly shows CR number as "1118".   |         |  |  |  |
| 2024-03 | SA#103         | SP-240281 | 0124 | 1   | Α   | Change of abbreviation of DN from Destination Network to Data | 16.1.0  |  |  |  |
|         |                |           |      |     |     | Network and Distinguished Name                                |         |  |  |  |

# History

|         | Document history |             |  |  |  |  |  |  |  |
|---------|------------------|-------------|--|--|--|--|--|--|--|
| V16.0.0 | November 2020    | Publication |  |  |  |  |  |  |  |
| V16.1.0 | April 2024       | Publication |  |  |  |  |  |  |  |
|         |                  |             |  |  |  |  |  |  |  |
|         |                  |             |  |  |  |  |  |  |  |
|         |                  |             |  |  |  |  |  |  |  |