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This document contains a **CR on Rel-6 Work Item "TEI7"**, that has been agreed by TSG CN WG1 CN#37 meeting and forwarded to TSG CN Plenary meeting #27 for approval.

TDoc #	Tdoc Title	Spec	CR #	Rev	CAT	C_Version	WI	Rel
N1-050380	Minor Clarifications to EHPLMN handling	23.122	087	1	F	7.0.0	TEI7	Rel-7

**3GPP TSG-CN1 Meeting #37**  
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## 1.2 Definitions and abbreviations

For the purposes of the present document, the abbreviations defined in 3GPP TR 21.905 [36] apply.

**(A/Gb mode only):** Indicates this clause applies only to GSM system. For multi system case this is determined by the current serving radio access network.

**(Iu mode only):** Indicates this clause applies only to UMTS system. For multi system case this is determined by the current serving radio access network.

**Acceptable Cell:** This is a cell that the MS may camp on to make emergency calls. It must satisfy criteria which is defined for A/Gb mode in 3GPP TS 43.022 and for Iu mode in 3GPP TS 25.304.

**Access Technology:** The access technology associated with a PLMN. The MS uses this information to determine what type of radio carrier to search for when attempting to select a specific PLMN (e.g., GSM, UMTS or GSM COMPACT). A PLMN may support more than one access technology.

**Allowable PLMN:** In the case of a MS operating in MS operation mode A or B, this is a PLMN which is not in the list of "forbidden PLMNs" in the MS. In the case of a MS operating in MS operation mode C, this is a PLMN which is not in the list of "forbidden PLMNs" or in the list of "forbidden PLMNs for GPRS service" in the MS

**Available PLMN:** For GERAN A/Gb mode see 3GPP TS 43.022. For UMTS see 3GPP TS 25.304.

**Available PLMN/access technology combination:** This is an available PLMN in a specific access technology.

**Camped on a cell:** The MS (ME if there is no SIM) has completed the cell selection/reselection process and has chosen a cell from which it plans to receive all available services. Note that the services may be limited, and that the PLMN may not be aware of the existence of the MS (ME) within the chosen cell.

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

**CTS MS:** An MS capable of CTS services is a CTS MS.

**EHPLMN:** Any PLMN declared as equivalent to the HPLMN, the HPLMN included, is called an EHPLMN.

**Equivalent HPLMN list:** To allow provision for multiple HPLMN codes, PLMN codes equivalent to the HPLMN code derived from the IMSI are stored on the SIM. This is known as the EHPLMN list.

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

**MS operation mode:** See 3GPP TS 23.060 [27].

**High quality signal:** The high quality signal limit is used in the PLMN selection procedure. It is defined in the appropriate AS specification: 3GPP TS 43.022 for the GSM radio access technology, 3GPP TS 25.304 for the UMTS radio access technology (FDD or TDD mode).

**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 Annex A.

**In A/Gb mode,...:** Indicates this clause applies only to GSM System. For multi system case this is determined by the current serving radio access network.

**In Iu mode,...:** Indicates this clause applies only to UMTS System. For multi system case this is determined by the current serving radio access network.

**Localised Service Area (LSA):** A localised service area consists of a cell or a number of cells. The cells constituting a LSA may not necessarily provide contiguous coverage.

**Location Registration (LR):** An MS which is IMSI attached to non-GPRS services only performs location registration by the Location Updating procedure. A GPRS MS which is IMSI attached to GPRS services or to GPRS and non-GPRS services performs location registration by the Routing Area Update procedure only when in a network of network operation mode I. Both procedures are performed independently by the GPRS MS when it is IMSI attached to GPRS and non-GPRS services in a network of network operation mode II or III (see 3GPP TS 23.060).

**MS:** Mobile Station. The present document makes no distinction between MS and UE.

**Network Type:** The network type associated with HPLMN or a PLMN on the PLMN selector (see 3GPP TS 31.102). The MS uses this information to determine what type of radio carrier to search for when attempting to select a specific PLMN. A PLMN may support more than one network type.

**Registered PLMN (RPLMN):** This is the PLMN on which certain LR outcomes have occurred (see table 1). In a shared network the RPLMN is the PLMN defined by the PLMN identity of the CN operator that has accepted the LR.

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

**Registration Area:** A registration area is an area in which mobile stations may roam without a need to perform location registration. The registration area corresponds to location area (LA) for performing location updating procedure and it corresponds to routing area for performing the routing area update procedure.

The PLMN to which a cell belongs (PLMN identity) is given in the system information transmitted on the BCCH (MCC + MNC part of LAI). In a shared network a cell belongs to all PLMNs given in the system information transmitted on the BCCH.

**Selected PLMN:** This is the PLMN that has been selected according to clause 3.1, either manually or automatically.

**Shared Network:** An MS considers a cell to be part of a shared network, when multiple PLMN identities are received on the BCCH.

**SIM:** Subscriber Identity Module (see 3GPP TS 21.111). The present document makes no distinction between SIM and USIM.

**SoLSA exclusive access:** Cells on which normal camping is allowed only for MS with Localised Service Area (LSA) subscription.

**Suitable Cell:** This is a cell on which an MS may camp. It must satisfy criteria which is defined for A/Gb mode in 3GPP TS 43.022 and for Iu mode in 3GPP TS 25.304.

**Visited PLMN:** This is a PLMN, different from ~~the home~~ [an EHPLMN](#).

===== Next Modification =====

#### 4.4.3.3 In VPLMN

If the MS is in a VPLMN, the MS shall periodically attempt to obtain service on [one of its EHPLMN](#)s or higher priority PLMN/access technology combinations listed in "user controlled PLMN selector" or "operator controlled PLMN selector" by scanning in accordance with the requirements that are applicable to i), ii) and iii) as defined in the Automatic Network Selection Mode in clause 4.4.3.1.1. In the case that the mobile has a stored "Equivalent PLMNs" list the mobile shall only select a PLMN if it is of a higher priority than those of the same country as the current serving PLMN which are stored in the "Equivalent PLMNs" list. For this purpose, a value T minutes may be stored in the SIM, T is either in the range 6 minutes to 8 hours in 6 minute steps or it indicates that no periodic attempts shall be made. If no value is stored in the SIM, a default value of 60 minutes is used.

The attempts to access the [EHPLMN](#) or higher priority PLMN shall be as specified below:

- a) The periodic attempts shall only be performed in automatic mode when the MS is roaming;
- b) After switch on, a period of at least 2 minutes and at most T minutes shall elapse before the first attempt is made;
- c) The MS shall make an attempt if the MS is on the VPLMN at time T after the last attempt;
- d) Periodic attempts shall only be performed by the MS while in idle mode;
- e) If ~~the~~ [an EHPLMN](#) or higher priority PLMN is not found, the MS shall remain on the VPLMN.
- f) In steps i), ii) and iii) the MS shall limit its attempts to access higher priority PLMN/access technology combinations to PLMN/access technology combinations of the same country as the current serving VPLMN, as defined in Annex B.
- g) Only the priority levels of Equivalent PLMNs of the same country as the current serving VPLMN, as defined in Annex B, shall be taken into account to compare with the priority level of a selected PLMN.

- h) If the PLMN of the highest priority PLMN/access technology combination available is the current VPLMN, or one of the PLMNs in the "Equivalent PLMNs" list, the MS shall remain on the current PLMN/access technology combination.