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**Source:** SA1  
**Title:** CR to 22. 011 on Multimode terminals with 3GPP capability (Rel-7)  
**Document for:** Approval  
**Agenda Item:** 7.1.3

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Meeting	SA Doc	TS No.	CR No	Rev	Rel	Cat	Subject	Vers. Current	Vers New	SA1 Doc
SP-24	SP-040299	22.011	062	-	Rel-7	F	Multimode terminals with 3GPP capability	6.3.0	7.0.0	S1-040445

CR-Form-v7

## CHANGE REQUEST

⌘ **22.011 CR 062** ⌘ rev **-** ⌘ Current version: **6.3.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Multimode terminals with 3GPP capability ⌘		
<b>Source:</b>	⌘ SA1 (SA1 (Motorola)) ⌘		
<b>Work item code:</b>	⌘ TEI7 ⌘	<b>Date:</b>	⌘ 30/04/2004 ⌘
<b>Category:</b>	⌘ <b>F</b> ⌘	<b>Release:</b>	⌘ Rel-7 ⌘
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)		<b>2</b> (GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)		<b>R96</b> (Release 1996)
	<b>B</b> (addition of feature),		<b>R97</b> (Release 1997)
	<b>C</b> (functional modification of feature)		<b>R98</b> (Release 1998)
	<b>D</b> (editorial modification)		<b>R99</b> (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		<b>Rel-4</b> (Release 4)
			<b>Rel-5</b> (Release 5)
			<b>Rel-6</b> (Release 6)

<b>Reason for change:</b>	⌘ Different type's of Multi-mode terminals combining different technologies and systems in one terminal can be produced and will be produced. Currently the 3GPP specifications do not contain any requirements for such terminal's interaction with the 3GPP system. It is proposed to correct this. ⌘
<b>Summary of change:</b>	⌘ It is not possible to foresee all possible Multi-mode terminal configurations and provide a detailed technical specification for network and system selection for all possible multi-mode terminal configurations. Therefore a generic set of requirements for network and system selection for Multi-mode terminals with 3GPP Capability is specified. It is specified that these requirements are mandatory for a 3GPP capable multi-mode terminal, unless otherwise is explicitly specified elsewhere in the 3GPP Technical Specifications ⌘
<b>Consequences if not approved:</b>	⌘ Risk of multi-mode terminals appearing in the market that are not compliant to the 3GPP specifications ⌘

<b>Clauses affected:</b>	⌘ 3.2.3 (new) ⌘										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	⌘	X	⌘	X	⌘	X	Other core specifications	⌘
Y	N										
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		Test specifications									
		O&M Specifications									
<b>Other comments:</b>	⌘										

### **How to create CRs using this form:**

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/>. For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

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# 1 Scope

The purpose of this TS is to describe the service access procedures as presented to the user.

Definitions and procedures are provided in this TS for international roaming, national roaming and regionally provided service. These are mandatory in relation to the technical realization of the Mobile Station (UE).

## 1.1 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] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [3] 3GPP TS 23.122: "Non Access Stratum functions related to Mobile Station (MS) in idle mode".
- [4] ITU-T Recommendation Q.1001: "General aspects of Public Land Mobile Networks".
- [5] 3GPP TS 22.043: "Support of Localised Service Area (SoLSA). Stage 1".
- [6] 3GPP TS 22.234: "Requirements on 3GPP system to wireless local area network (WLAN) interworking".

## 1.2 Definitions and abbreviations

In addition to those below, abbreviations used in this 3GPP TS are listed in 3GPP TR 21.905 [2].

### PLMN

A Public Land Mobile Network (PLMN) is a network established and operated by an Administration or RPOA for the specific purpose of providing land mobile communication services to the public. It provides communication possibilities for mobile users. For communications between mobile and fixed users, interworking with a fixed network is necessary.

A PLMN may provide service in one, or a combination, of frequency bands.

As a rule, a PLMN is limited by the borders of a country. Depending on national regulations there may be more than one PLMN per country.

A relationship exists between each subscriber and his home PLMN (HPLMN). If communications are handled over another PLMN, this PLMN is referred to as the visited PLMN (VPLMN).

### 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 UE.

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 minimized in adjacent countries unless otherwise agreed.

NOTE 1: ITU-T Recommendation Q.1001 [4] does not contain a definition of the PLMN area.

### **System Area**

The System Area is defined as the group of PLMN areas accessible by UEs.

Interworking of several PLMNs and interworking between PLMNs and fixed network(s) permit public land mobile communication services at international level.

NOTE 2: The System Area according to [4] Recommendation Q.1001 corresponds to the System Area.

### **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.

### **Regionally Provided Service**

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

### **Localised Service Area (LSA)**

The localised service area concept shall give the operator a basis to offer subscribers different services (e.g. tariffs or access rights) depending on the location of the subscriber. A LSA consists of a cell or a number of cells within a PLMN. (3GPP TS 22.043 [5]).

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## **2 Roaming**

### **2.1 General requirements**

A UE with a valid IMSI may roam and access service in the area authorized by the entitlement of the subscription.

If a communication has been established, the UE will in principle not suffer an interruption within the PLMN area (provided the entitlement of the subscription allows it). Exceptions are possible if no network resources or radio coverage are available locally.

However, if the UE leaves the PLMN area, an established communication may terminate. If the user then wants to continue, another network providing service has to be selected and a new communication has to be established (see clause 3).

### **2.2 International roaming**

International roaming is a service whereby an UE of a given PLMN is able to obtain service from a PLMN of another country.

The availability of International Roaming is subject to inter-PLMN agreements.

## 2.3 National roaming

National Roaming is a service whereby an UE of a given PLMN is able to obtain service from another PLMN of the same country, anywhere, or on a regional basis.

The availability of National Roaming depends on the home PLMN of the requesting UE and the visited PLMN; it does not depend on subscription arrangements.

## 2.4 Roaming in shared networks

Mechanisms shall be specified to enable flexible allocation of visiting roamers among core network operators that have roaming agreements with the same roaming partners. The core network operators shall be able to pre-define their relative share of visiting roamers and distribute the visiting roamers that apply automatic network selection to different core networks connected to the radio access network accordingly.

When network sharing exists between different operators and a user roams into the shared network it shall be possible for that user to register with a core network operator (among the network sharing partners) that the user's home operator has a roaming agreement with, even if the operator is not operating a radio access network in that area.

The selection of a core network operator among those connected to the shared radio access network can either be manual (i.e. performed by the user after receiving a list of available core network operators) or automatic (i.e. performed by the UE according to user and operator preferred settings). For further information see subclause 3.2.

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# 3 Provisions for providing continuity of service

## 3.1 Location registration

PLMNs shall provide a location registration function with the main purpose of providing continuity of service to UEs over the whole system area. The location registration function shall be such as to allow:

- Fixed subscribers to call a UE by only using the directory number of the UE irrespective of where the UE is located in the system area at the time of the call.
- UEs to access the system irrespective of the location of the UE.
- UEs to identify when a change in location area has taken place in order to initiate automatic location updating procedures.

## 3.2 Network selection

### 3.2.1 General

The UE shall support both manual and automatic network selection mechanisms (modes). The UE shall select the last mode used, as the default mode, at every switch-on.

**NOTE:** By defaulting to the last mode used, e.g. manual network selection, the undesired automatic selection of an adjacent PLMN instead of the desired HPLMN in border areas, can be avoided at switch-on.

The user shall be given the opportunity to change mode at any time.

Except as defined below, the MMI shall be at the discretion of the UE manufacturer.

The UE shall contain display functions by which Available PLMNs and the Selected PLMN can be indicated.

In shared networks a radio access network can be part of more than one PLMN. This shall be transparent to the user, i.e. the UE shall be able to indicate those PLMNs to the user, and the UE shall support network selection among those PLMNs, as in non-shared networks.

## 3.2.2 Procedures

### 3.2.2.1 General

In the following procedures the UE selects and attempts registration on PLMNs.

In this TS, the term "PLMN Selection" defines an UE based procedure, whereby candidate PLMNs are chosen, one at a time, for attempted registration.

A User Controlled PLMN Selector data field exists on the USIM to allow the user to indicate a preference for network selection. It shall be possible for the user to update the User Controlled PLMN Selector data field, but it shall not be possible to update this data field over the radio interface, e.g. using SIM Application Toolkit.

It shall be possible to have an Operator Controlled PLMN Selector list and a User Controlled PLMN Selector list stored on the SIM/USIM card. Both PLMN Selector lists may contain a list of preferred PLMNs in priority order. It shall be possible to have an associated Access Technology identifier e.g., UTRAN, or GERAN associated with each entry in the PLMN Selector lists.

**NOTE 1:** A PLMN in a Selector list, including HPLMN, may have multiple occurrences, with different access technology identifiers.

It shall be possible to handle cases where one network operator accepts access from access networks with different network IDs. It shall also be possible to indicate to the UE that a group of PLMNs are equivalent to the registered PLMN regarding PLMN selection, cell selection/re-selection and handover.

If registration on a PLMN is successful, the UE shall indicate this PLMN (the "registered PLMN") and be capable of making and receiving calls on it. The identity of the registered PLMN shall be stored on the SIM/USIM. However, if registration is unsuccessful, the UE shall ensure that there is no registered PLMN stored in the SIM/USIM.

If a registration is unsuccessful because the IMSI is unknown in the home network, or the UE is illegal, then the UE shall not allow any further registration attempts on any network, until the UE is next powered-up or a SIM/USIM is inserted.

If the registration is unsuccessful due to the lack to service entitlement, specific behaviour by the UE may be required, see subclause 3.2.2.4.

To avoid unnecessary registration attempts, lists of forbidden PLMNs and LAs are maintained in the UE, see subclause 3.2.2.4 and 3GPP TS 23.122 [3].

Registration attempts shall not be made by UEs without a SIM/USIM inserted.

An UE/ME which has not successfully registered shall nevertheless be able to make emergency call attempts on an available PLMN(which supports the emergency call teleservice), without the need for the user to select a PLMN. An available PLMN is determined by radio characteristics (3GPP TS 23.122 [3]).

### 3.2.2.2 At switch-on or recovery from lack of coverage

If the UE is within coverage (at switch-on) or returns to coverage of the PLMN on which it is already registered (as indicated by the registered PLMN stored in the SIM/USIM), the UE shall perform a location update to a new location area if necessary.

If there is no registered PLMN stored in the SIM/USIM, or if this PLMN is unavailable and no equivalent PLMN is available, or the attempted registration fails, the UE shall follow one of the following procedures for network selection:

#### **A) Automatic network selection mode**

The UE shall select and attempt registration on other PLMNs, if available and allowable and the location area is not in the list of "forbidden LAs for roaming" (see 3GPP TS 23.122 [3]), in the following order:

- i) HPLMN for preferred access technologies in the order specified. It shall be possible to configure a voice capable UE so that it shall not attempt registration on a PLMN if all cells identified as belonging to the PLMN do not support the corresponding voice service;

- ii) each PLMN in the "User Controlled PLMN Selector" data field in the USIM (in priority order) . It shall be possible to configure a voice capable UE so that it shall not attempt registration on a PLMN if all cells identified as belonging to the PLMN do not support the corresponding voice service;
- iii) each PLMN in the "Operator Controlled PLMN Selector" data field in the SIM/USIM (in priority order). It shall be possible to configure a voice capable UE so that it shall not attempt registration on a PLMN if all cells identified as belonging to the PLMN do not support the corresponding voice service;
- iv) other PLMN/access technology combinations with sufficient received signal quality (see 3GPP TS 23.122 [3]) in random order. It shall be possible to configure a voice capable UE so that it shall not attempt registration on a PLMN if all cells identified as belonging to the PLMN do not support the corresponding voice service;
- v) all other PLMN/access technology combinations in order of decreasing signal quality. It shall be possible to configure a voice capable UE so that it shall not attempt registration on a PLMN if all cells identified as belonging to the PLMN do not support the corresponding voice service.

In the case of a UE operating in UE operation mode A or B, an allowable PLMN is one which is not in the "Forbidden PLMN" data field in the SIM/USIM . This data field may be extended in the ME memory.(see subclause 3.2.2.4). In the case of a UE operating in UE operation mode C, an allowable PLMN is one which is not in the "Forbidden PLMN" data field in the SIM/USIM or in the list of "forbidden PLMNs for GPRS service" in the ME.

If successful registration is achieved, the UE shall indicate the selected PLMN.

If registration cannot be achieved on any PLMN, the UE shall indicate "no service" to the user, wait until a new PLMN is detected, or new location areas of an allowed PLMN are found which are not in the forbidden LA list(s), and then repeat the procedure. When registration cannot be achieved, different (discontinuous) PLMN search schemes may be used in order to minimize the access time while maintaining battery life, e.g. by prioritising the search in favour of BCCH carriers which have a high probability of belonging to an available and allowable PLMN.

## **B) Manual network selection mode**

The UE shall indicate PLMNs, including "Forbidden PLMNs", which are available. If there are none, this shall also be indicated.

Any available PLMN's shall be presented in the following order:

- i) HPLMN;
- ii) PLMNs contained in the "User Controlled PLMN Selector" data field in the SIM/USIM (in priority order);
- iii) PLMNs contained in the "Operator Controlled PLMN Selector" data field in the SIM/USIM (in priority order);
- iv) other PLMN/access technology combinations with sufficient received signal level (see 3GPP TS 23.122 [3]) in random order;
- v) all other PLMN/access technology combinations in order of decreasing signal strength.

If a PLMN does not support voice services then this shall be indicated to the user.

The user may select his desired PLMN and the UE shall attempt registration on this PLMN. (This may take place at any time during the presentation of PLMNs.)

If the registration cannot be achieved on the selected PLMN, the UE shall indicate "No Service". The user may then select and attempt to register on another or the same PLMN following the above procedure. The UE shall not attempt to register on a PLMN which has not been selected by the user.

Once the UE has registered on a PLMN selected by the user, the UE shall not automatically register on a different PLMN unless:

- i) The new PLMN is declared as an equivalent PLMN by the registered PLMN;

or,



- ii) The user selects automatic mode.

If a PLMN is selected but the UE cannot register on it because registration is rejected with the cause "PLMN not allowed", the UE shall add the PLMN to the "Forbidden PLMN" list (subclause 3.2.2.4.1). The UE shall not re-attempt to register on that network unless the same PLMN is selected again by the user.

If a PLMN is selected but the UE cannot register for PS services on it because registration is rejected with the cause "GPRS services not allowed in this PLMN", the UE shall not re-attempt to register for PS on that network. The PLMN is added to the list "Forbidden PLMN's for GPRS services". The UE shall not re-attempt to register for PS on that network unless the same PLMN is selected again by the user. The reception of the cause "GPRS services not allowed in this PLMN", does not affect the CS service.

If a PLMN is selected but the UE cannot register on it for other reasons, the UE shall, upon detection of a new LA (not in a forbidden LA list) of the selected PLMN, attempt to register on the PLMN.

If the UE is registered on a PLMN but loses coverage, different (discontinuous) carrier search schemes may be used to minimize the time to find a new valid BCCH carrier and maintain battery life, e.g. by prioritizing the search in favour of BCCH carriers of the registered PLMN.

### 3.2.2.3 User reselection

At any time, the user may request the UE to initiate reselection and registration onto an alternative available PLMN, according to the following procedures, dependent upon the operating mode.

#### A) Automatic Network Selection Mode

The UE shall follow the procedure defined in clause 3.2.2.2.A) above.

#### B) Manual Network Selection Mode

The procedure of 3.2.2.2 B) is followed.

### 3.2.2.4 Mobile Station reactions to indications of service restriction from the network

Different types of UE behaviour is required to support, for example, national roaming, regionally provided service and temporary international roaming restrictions. The behaviour to be followed by the UE is indicated by the network.

#### 3.2.2.4.1 "Permanent" PLMN restriction

When a registration attempt by the UE is rejected by a network with an indication of "permanent" PLMN restriction, the PLMN identity shall be written to a list of "Forbidden PLMNs" stored in a data field in the SIM/USIM.

If a successful registration (whilst in manual mode) is achieved on a PLMN in the "Forbidden PLMN" list, the PLMN shall be deleted from the list.

When in automatic mode, the UE may indicate any PLMNs which will not be selected due to their presence in the "Forbidden PLMN" list.

If a UE receives an equivalent PLMN list containing a PLMN which is included in the "Forbidden PLMN" list, this PLMN shall be removed from the equivalent PLMN list before this is stored by the UE.

#### 3.2.2.4.2 "Partial" and "temporary" PLMN restrictions

When a registration attempt by the UE is rejected by a network due to a "partial" or a "temporary" PLMN restriction, the UE shall perform one of the following procedures determined by the indication in the location update reject cause sent by the network (see 3GPP TS 23.122 [3]):

- i) The UE shall store the location area identity in the list of "forbidden LAs for regional provision of service" and shall enter the limited service state and remain in that state until it moves to a cell in a location area where service is allowed.
- ii) The UE shall store the location area identity in the list of "forbidden LAs for roaming" and shall use one of the following procedures according to the PLMN selection Mode:

A) Automatic network selection mode:

The procedure of 3.2.2.2. A).

B) Manual network selection mode:

The procedure of 3.2.2.2.B).

- iii) The UE shall store the location area identity in the list of "forbidden LAs for roaming" and shall search for a suitable cell in the same PLMN. (Note: A suitable cell will belong to a different LA which is not in the "forbidden LAs for roaming").

### 3.2.2.4.3 PLMN restrictions for PS services

When a registration attempt for PS services by the UE is rejected by the network with the cause "GPRS services not allowed in this PLMN", the PLMN identity shall be written to a list of "forbidden PLMNs for GPRS service" in the ME. This list is deleted when the UE is switched off or when the SIM/USIM is removed; the maximum number of possible entries in this list is implementation dependent, but must be at least one entry (see 3GPP TS 23.122 [3]).

If a successful registration (whilst in manual mode) is achieved on a PLMN in the "forbidden PLMNs for GPRS service" list, the PLMN shall be deleted from the list.

### 3.2.2.5 Periodic network selection attempts

A UE in Automatic Mode shall make periodic attempts to look for a higher priority PLMN of the same country as the currently received PLMN. For the ranking of PLMNs the UE shall use the order used in subclause 3.2.2.2. Moreover, periodic network selection shall not lead to change of access technology within the registered PLMN.

In the case that the UE has stored a list of equivalent PLMNs, the UE shall only select a PLMN if it has a higher priority than all the PLMNs, in the list of equivalent PLMNs, which are of the same country as the currently registered PLMN.

**NOTE:** In the context of this 3GPP TS, the term country is to be interpreted not as a political entity but as a single Mobile Country Code (MCC). For instance the USA has multiple MCC. The USA case is in fact treated as an exception in the 3GPP specifications. For all other countries, multiple MCCs may be used, however the specifications have not taken this into account and there could be adverse effects such as the UE being unable to detect that multiple MCCs are within the same country.

The UE shall only make reselection attempts while in idle mode for circuit services.

The interval between attempts shall be stored in the SIM/USIM. Only the service provider shall be able to select for which of the previous situations, periodic network selection shall be attempted and to set the interval, which shall be between 6 minutes and 8 hours, with a step size of 6 minutes. One value shall be designated to indicate that no periodic attempts shall be made.

In the absence of a permitted value in the SIM/USIM, or the SIM/USIM is phase 1 and therefore does not contain the datafield, then a default value of 60 minutes, shall be used by the UE.

**NOTE:** Use of values less than 60 minutes may result in excessive ME battery drain.

### 3.2.2.6 Investigation PLMN Scan

The operator shall be able to control by SIM/USIM configuration whether an UE that is capable shall perform an investigation scan. This investigation scan shall be performed after each successful PLMN selection as well as during limited service state. The investigation scan shall search for a higher prioritised PLMN that does not offer CS voice service. If such a PLMN is available, the user shall be informed. This enables the user to switch to such a PLMN using manual selection if the user so prefers. The investigation scan shall not be performed when no SIM/USIM is inserted.

### 3.2.3 Network selection for Multi-mode terminals with 3GPP Capability

Different type's of Multi-mode terminals combining different technologies and systems in one terminal can be produced. It is not possible to foresee all possible configurations and provide a detailed technical specification for network and system selection for all possible multi-mode terminal configurations. The following provides the generic requirements for network and system selection for Multi-mode terminals with 3GPP Capability. These requirements are mandatory for a 3GPP capable multi-mode terminal, unless otherwise is explicitly specified elsewhere in the 3GPP Technical Specifications.

- a multi-mode terminal, when in 3GPP mode of operation shall be compliant to the 3GPP specifications, including PLMN selection, cell selection and re-selection, paging reception etc.,
  - As consequence, the multi-mode terminal when entering 3GPP mode of operation shall act as if it were a 3GPP only UE which had just been switched-on. Similarly, when leaving the 3GPP mode of operation the multimode terminal shall act as if it were a 3GPP only UE which had just been switched-off

When the multimode terminal is in 3GPP mode, the switching between modes in the multi-mode terminal is considered an overlay functionality selecting mode of operation. For the design of the overlay functionality the following requirements shall be fulfilled:

- The overlay functionality shall include a mechanism to avoid ping-pong between systems, e.g., a timer or hysteresis function
- The overlay functionality shall not include network priority mechanisms, which conflict with the network priority mechanisms specified in 3GPP specifications, e.g., the Periodic network selection attempts scanning within 3GPP based systems for PLMNs of higher priority than the current serving PLMN.
- Any functionality in the overlay system, such as background scan of other systems, shall not impact the fulfilment of 3GPP protocol requirements (in particular in regards to paging, cell selection, cell re-selection and PLMN selection)
- As specified in this technical specification, the 3GPP technical specification provides the capability for the user to set their own 3GPP PLMN selection preferences; as well as the user can manually select any 3GPP PLMN. This has been done to ensure a fair competition environment. These principles shall be maintained in the design of the overlay functionality.